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

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Addendum

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

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

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

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

The following example illustrates the changes :-

September 2002

NEIC ***01*** *18:45:41.7±1.7,21.70S×179.55W,h600^{km},mb4.6/6,*
Error ellipse: s-maj=75.5km s-min=25.7km az=151.0
IDC ***01*** *18:45:46.3±2.6,21.76S×179.70W,h627^{km}±37^{km},mb3.5/4,*
mb1 3.7/4,mb1mx3.2/14,Error ellipse: s-maj=83.2km
s-min=20.6km az=159.0
ISC 01 18:45:43.1±2.7**,22.3S**±0.2×**179.6W**±0.3**,h613**^{km}±42^{km}**,**
n22,σ**1**^{s}**15**/21**,mb4.4**/9**,1C,South of Fiji Islands**

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

Epicentral Estimates

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

Observational Data

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

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

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

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

IDC **01** *00:14:51.9±1.2, 39.83N×16.30E, mb3.7/6, mb1 3.8/13, mb1mx3.7/27, ML3.4/6, MS3.0/2, Ms1 3.1/2, ms1mx2.6/25, Error ellipse: s-maj=17.5km s-min=13.8km az=77.0*
ROM **01** *00:14:53.3±0.4, 39.60N×16.14E, h10^{km}±3^{km}, MD3.2/11, ML3.3/12, Error ellipse: s-maj=2.8km s-min=1.3km az=90.0*
NEIC **01** *00:14:53.4, 39.60N×16.14E, h10^{km}, MD3.3(PDG), MD3.2(ROM), After ROM.*
PDG **01** *00:14:54.7±1.0, 39.59N×16.20E, h40^{km}±11^{km}*
THE **01** *00:14:58.4, 39.70N×16.42E, h20^{km}*
ISC 01 00:14:54.8±0.3**, 39.69N**±0.02×**16.18E**±0.02**, h53**^{km}±6^{km}**, n104, σ1^{s}16**/147**, mb3.7**/5**, MS2.9**/2**, 16C, Southern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MGR	Morigerati	0.65	313	⇑iPG	P	00 15 07.5	-0.6
MGR				SG	S	00 15 16.9	-1.1
MGR	Morigerati	0.65	313	⇑iPg	P	00 15 07.5	-0.6
MGR				eSg	S	00 15 16.9	-1.1
TIP	Timpagrande	0.68	138	eP	P	00 15 09.0	+0.5
SLCN	Sala Consilina	0.81	329	ePG	P	00 15 10.1	-0.1
SLCN				SG	S	00 15 23.7	+2.0
SLCN	Sala Consilina	0.81	329	ePg	P	00 15 10.1	-0.1
SLCN				eSg	S	00 15 23.7	+2.0
SGO	Sicignano	1.09	323	ePN	P	00 15 14.1	-0.1
SGO	Sicignano	1.09	323	ePg	P	00 15 14.1	-0.1
MRLC	Muro Lucano	1.19	334	ePN	P	00 15 16.6	+1.2
MRLC				SN	S	00 15 33.8	+3.1
MRLC	Muro Lucano	1.19	334	ePg	P	00 15 16.6	+1.2
MRLC				eSg	S	00 15 33.8	+3.0
BRT	Bari-Castellan	1.42	33	ePN	P	00 15 19.6	+0.7
	473nm,0.6s						
BRT	Bari-Castellan	1.42	33	ePg	P	00 15 19.6	+0.7
CSSN	Cassano Irpino	1.46	323	ePN	P	00 15 19.9	+0.5
	289nm,0.4s						
CSSN	Cassano Irpino	1.46	323	ePg	P	00 15 19.9	+0.5
SCLL	Scilla	1.48	194	⇑iPN	P	00 15 18.1	-1.5
SCLL				SN	S	00 15 35.3	-2.7
	723nm,0.5s						
SCLL	Scilla	1.48	194	⇑iPg	P	00 15 18.1	-1.5
SCLL				eSg	S	00 15 35.3	-2.6
MSI	Messina ING	1.56	198	ePN	P	00 15 19.1	-1.7
MSI				SN	S	00 15 38.0	-2.0
	2µm,0.5s						
MSI	Messina ING	1.56	198	ePg	P	00 15 19.1	-1.7
MSI				eSg	S	00 15 38.0	-2.0
SOI	Samo	1.62	183	ePN	P	00 15 20.5	-1.1
	243nm,0.3s						
SOI	Samo	1.62	183	ePg	P	00 15 20.5	-1.1
LCI	Lecce	1.62	66	ePN	P	00 15 22.9	+1.3
LCI	Lecce	1.62	66	ePg	P	00 15 22.9	+1.3
ATN	Antennamare	1.63	200	ePN	P	00 15 20.2	-1.5
	169nm,0.3s						
ATN	Antennamare	1.63	200	ePg	P	00 15 20.2	-1.5
FG5	Orsara di Pugl	1.73	337	ePN	P	00 15 25.0	+1.8
FG5	Orsara di Pugl	1.73	337	ePg	P	00 15 25.1	+1.9
FGMS	Monte Sant'Ang	2.02	355	ePN	P	00 15 28.0	+0.8
	418nm,0.6s						
FGMS	Monte Sant'Ang	2.02	355	ePg	P	00 15 28.1	+0.9
RGNG	Rignano Grg	2.03	347	ePN	P	00 15 28.3	+1.0
RGNG	Rignano Grg	2.03	347	ePg	P	00 15 28.3	+1.0
MNO	Monte Soro	2.10	214	ePN	P	00 15 27.9	-0.5
	868nm,0.4s						
MNO	Monte Soro	2.10	214	ePg	P	00 15 27.9	-0.4
GIB	Gibilmanna	2.39	225	ePN	P	00 15 31.3	-1.1
	48nm,0.5s						
GIB	Gibilmanna	2.39	225	ePg	P	00 15 31.3	-1.1
CSLB	Castelbuono	2.41	224	ePN	P	00 15 32.0	-0.7
	70nm,0.5s						
CSLB	Castelbuono	2.41	224	ePn	P	00 15 32.0	-0.8
CII	Carovilli	2.48	326	eP	P	00 15 34.4	+0.6
VAE	Valguarnera	2.61	213	Pn	P	00 15 37.1	+1.6
	12nm,0.3s,baz=27,slow=16,SNR=53						
VAE				Sn	S	00 16 12.0	+5.9
	14nm,0.3s,baz=111,slow=11,SNR=3.9						
KEK	Kerkira	2.79	88	eP	P	00 15 39.3	+1.1
SRN	Sarande	2.95	85	ePn	P	00 15 41.8	+1.3
SRN				i Sn	S	00 16 13.4	-1.5
IGT	Igoumenitsa	3.21	92	ePn	P	00 15 44.6	+0.5
IGT				eSn	S	00 16 20.3	-1.2
ULC	Ulcinj	3.25	45	⇑iPn	P	00 15 44.5	-0.2
ULC				eSn	S	00 16 22.7	+0.2
HCY	Herceg Novi	3.27	32	⇑iPn	P	00 15 45.5	+0.6
HCY				eSn	S	00 16 22.8	0.0
BUM	Brajici-Budva	3.32	37	ePn	P	00 15 45.3	-0.3
BUM				eSn	S	00 16 24.3	0.0
QSH	Qafa e Shtames	3.38	56	ePn	P	00 16 04.0	+18
STON	Ston	3.38	19	i Pn	P	00 15 46.0	-0.5
STON				i Sn	S	00 16 25.3	-0.4
AQU	L'Aquila	3.39	323	eP	P	00 15 47.9	+1.3
LSK	Leskovik	3.43	81	ePn	P	00 15 48.8	+1.6
LSK				i Sn	S	00 16 26.5	-0.5
TTG	Podgorica	3.59	39	⇑iPn	P	00 15 49.5	-0.1
TTG				eSn	S	00 16 30.7	-0.4
JAN	Janina	3.61	89	eP	P	00 15 51.2	+1.5
BRY	Bratogost	3.67	28	⇑iPn	P	00 15 50.3	-0.2
BRY				eSn	S	00 16 33.1	+0.2
VLS	Valsamata	3.76	112	eP	P	00 15 51.9	+0.1
MNS	Montasola	3.77	317	ePN	P	00 15 52.8	+0.8
	12nm,0.4s						
MNS	Montasola	3.77	317	ePn	P	00 15 52.8	+0.8
NKY	Niksic	3.77	33	⇑iPn	P	00 15 52.2	+0.2
NKY				eSn	S	00 16 35.5	-0.2
NRCA	Norcia	3.90	325	ePN	P	00 15 55.3	+1.6
	13nm,0.6s						
NRCA	Norcia	3.90	325	ePn	P	00 15 55.3	+1.6
MEV	Metsovon	3.90	87	ePn	P	00 15 56.5	+2.7
MEV				eSn	S	00 16 37.5	-1.3
UPM	Unac-Piva	4.07	29	⇑iPn	P	00 15 56.2	+0.1
UPM				eSn	S	00 16 42.4	-0.6
PVY	Plav	4.08	43	⇑iPn	P	00 15 56.7	+0.4
PVY				eSn	S	00 16 42.5	-0.8
FNA	Florina	4.13	73	ePn	P	00 15 58.2	+1.2
FNA				eSn	S	00 16 44.4	-0.1
IVA	Berane	4.24	40	⇑iPn	P	00 15 59.1	+0.5
IVA				eSn	S	00 16 46.3	-1.0
KZN	Kozani	4.34	80	eP	P	00 16 02.3	+2.3
PLE	Pljevlja	4.37	33	⇑iPn	P	00 16 00.6	+0.2
PLE				eSn	S	00 16 49.7	-0.8
EVR	Evrytania	4.44	98	eP	P	00 16 03.4	+2.0
RLS	Riolos of Patr	4.44	110	eP	P	00 16 02.9	+1.5
SKO	Skopje	4.60	59	ePn	P	00 16 23.0	+19
LIT	Litokhoron	4.87	83	ePn	P	00 16 08.7	+1.2
LIT				eSn	S	00 17 01.8	-1.5
GRG	Griva	4.92	73	ePn	P	00 16 08.7	+0.5
GRG				eSn	S	00 17 02.7	-1.8
NVLJ	Novalja	4.96	349	i Pn	P	00 16 08.8	0.0
NVLJ				i Sn	S	00 17 04.0	-1.6
ITM	Ithomi	5.16	117	eP	P	00 16 12.3	+0.8
KNT	Kendrikon	5.34	72	ePn	P	00 16 14.2	+0.3
LKR	Lokris	5.40	99	eP	P	00 16 16.2	+1.4
XOR	Xorichti	5.43	91	ePn	P	00 16 16.1	+0.9
NEO	Neokhori	5.46	92	eP	P	00 16 16.4	+0.7
SOH	Sokhos	5.61	76	ePn	P	00 16 18.2	+0.5
SOH				eSn	S	00 17 19.2	-2.4
PLG	Polygyros	5.62	81	eP	P	00 16 18.2	+0.3
PAIG	Paliouri	5.78	85	ePn	P	00 16 20.0	-0.1
SRS	Serrai	5.84	74	ePn	P	00 16 21.1	+0.2
SRS				eSn	S	00 17 25.4	-1.9
BOJS	Bojanci	5.85	354	i Pn	P	00 16 21.4	+0.4
BOJS				eSn	S	00 17 24.4	-3.3
	comp=Z,12nm,0.5s						
AOS	Alonnisos	5.99	93	ePn	P	00 16 23.4	+0.5
OUR	Ouranopolis	6.03	81	ePn	P	00 16 23.6	+0.1
VLI	Veliai	6.09	117	eP	P	00 16 25.2	+0.7
VISS	Visnje	6.19	351	ePn	P	00 16 25.6	-0.2
VISS				eSn	S	00 17 32.1	-3.9
	comp=Z,7.0nm,0.4s						
LEGS	Legarje	6.29	355	ePn	P	00 16 27.2	+0.1
LEGS				eSn	S	00 17 35.5	-3.0
GOLS	Golise	6.33	357	ePn	P	00 16 27.6	-0.2
GOLS				eSn	S	00 17 34.5	-5.0
OBKA	Obir	6.92	351	⇑iPN	P	00 16 35.8	-0.3
OBKA				i SN	S	00 17 51.1	-3.1
ARSA	Arzberg	7.57	357	⇑iPN	P	00 16 43.9	-1.2
ARSA				i SN	S	00 18 07.3	-3.1
ALN	Alexandroupoli	7.64	78	ePn	P	00 16 45.6	-0.4
VAM	Vamos	7.67	121	eP	P	00 16 45.3	-1.2
THR6	Thira Island,	8.00	112	ePn	P	00 16 51.6	+0.5
IDI	Anoyia	8.20	120	Pn	P	00 16 51.6	-2.2
	comp=Z,0.9nm,0.3s,baz=311,slow=15,SNR=12						
IDI				Sn	S	00 18 17.6	-8.5
	comp=Z,1.3nm,0.3s,baz=193,slow=21,SNR=7.4						
MOA	Molln	8.27	351	⇑iPN	P	00 16 54.3	-0.5
MOA				i SN	S	00 18 23.4	-4.4
DAVOX	Davos	8.44	329	Pn	P	00 16 55.3	-1.8
	comp=Z,0.1nm,0.3s,baz=157,slow=18,SNR=1.9						
DAVOX				Sn	S	00 18 20.9	-11
	baz=150,slow=20,SNR=1.6						
MLR	Muntele Rosu	9.24	48	Pn	P	00 17 04.6	-3.5
	comp=Z,0.0nm,0.3s,baz=213,slow=6.5,SNR=2.3						
MLR				Sn	S	00 18 46.0	-5.7
	baz=108,slow=20,SNR=1.8						
GERES	GERESS Array B	9.32	350	Pn	P	00 17 07.6	-1.6
	comp=Z,0.2nm,0.3s,baz=174,slow=12,SNR=8.2						
GERES				Sn	S	00 18 46.8	-6.9
	comp=Z,0.5nm,0.3s,baz=168,slow=25,SNR=25						
KHC	Kasperske Hory	9.62	350	eP	P	00 17 21.0	+7.8
KHC				x	x	00 18 52.0	
ESDC	Sonseca Array	15.51	276	Pn	P	00 18 36.2	+4.8
	baz=84,slow=11,SNR=2.9						
EIL	Elat	18.36	117	P	P	00 19 06.2	-1.1
	comp=Z,0.2nm,0.3s,baz=349,slow=34,SNR=3.5						
HFS	Hagfors	20.52	356	P	P	00 19 30.5	-0.4
	comp=Z,3.3nm,0.9s,baz=216,slow=12,SNR=3.8						
NOA	NORSAR Array B	21.59	353	P	P	00 19 43.1	+1.4
	comp=Z,0.4nm,0.8s,mb2.9,baz=171,slow=11,SNR=2.3						
NOA				LR	LR	00 29 23.7	
	comp=Z,19nm,18.2s,MS2.5,baz=200,slow=41						
FINES	FINESS Array B	22.62	12	P	P	00 19 52.8	+1.1
	comp=Z,3.3nm,0.7s,mb3.9,baz=170,slow=12,SNR=15						
ZAL	Zalesovo	47.21	49	P	P	00 23 25.5	+1.5
	comp=Z,0.7nm,0.5s,mb3.9,baz=85,slow=12,SNR=4.2						
ZAL				LR	LR	00 44 36.2	
	comp=Z,33nm,18.2s,MS3.3,baz=110,slow=38						
MKAR	Makanchi Array	47.40	59	P	P	00 23 27.1	+1.5
	comp=Z,2.1nm,0.8s,mb4.1,baz=278,slow=6.4,SNR=14						
SONM	Songino Array	62.09	50	P	P	00 25 13.1	+0.9
	comp=Z,0.8nm,0.8s,mb3.9,baz=288,slow=7.8,SNR=6.3						

JMA **01** *00:22:27.8±0.1, 43.54N×145.95E, h83^{km}±1^{km}, M3.5*
ISC 01 00:22:27.9±2.0**, 43.56N**±0.09×**146.0E**±0.1**, h80**^{km}±11^{km}**, n7, σ0^{s}47**/14**, 4C-1D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NEM2	Nemuro 2	0.24	218	⇓P	P	00 22 40.1	+0.1
NEM2				S	S	00 22 49.3	+0.3
JRA	Rausu	0.71	303	⇑P	P	00 22 43.9	0.0
JRA				eS	S	00 22 56.2	+0.4
JNK	Nakash	0.90	272	⇑P	P	00 22 45.6	-0.3
JNK				eS	S	00 22 58.2	-1.2
JAK	Akkeshi	1.07	239	⇑P	P	00 22 47.8	-0.3
JAK				eS	S	00 23 03.0	-0.2
JTKR	Abashiri--Toko	1.54	286	⇑P	P	00 22 53.9	-0.3
JTKR				eS	S	00 23 13.8	+0.2
JAR	Ashorobuto	1.61	261	P	P	00 22 55.4	+0.2
JAR				eS	S	00 23 16.2	+1.0
JOB	Onbets	1.68	248	P	P	00 22 56.0	-0.1
JOB				eS	S	00 23 16.9	+0.1

NEIC **01** *00:24:27.8±3.9, 33.24S×176.43W, h38^{km}±32^{km}, mb4.6/2, Error ellipse: s-maj=31.5km s-min=21.6km az=218.0*
IDC **01** *00:24:29.5±8.5, 33.59S×176.36W, h58^{km}±84^{km}, mb3.8/3, mb1 4.2/4, mb1mx3.9/11, ML3.8/1, MS3.6/2, Ms1 3.6/2, ms1mx3.3/14, Error ellipse: s-maj=96.1km s-min=35.4km az=166.0*
ISC 01 00:24:33.1±1.6**, 34.1S**±0.1×**176.4W**±0.2**, h113**^{km}±14^{km}**, n27, σ1^{s}13**/25**, mb4.2**/5**, 1C-1D, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	5.55	229	P	P	00 25 53.9	-0.7
PUZ	Puketiti	5.91	226	P	P	00 25 58.9	-0.5
PUZ				S	S	00 27 09.2	+2.8
MWZ	Matawai	6.52	227	P	P	00 26 06.9	-0.9
MWZ				S	S	00 27 24.3	+3.1
URZ	Urewera	6.73	229	P	P	00 26 11.2	+0.4
	1.8nm,0.3s,baz=221,slow=13,SNR=12						
URZ				S	S	00 27 28.3	+1.9
	12nm,0.3s,baz=144,slow=20,SNR=21						
URZ	Urewera	6.73	229	P	P	00 26 10.8	+0.1
KNZ	Kokohu	6.89	222	P	P	00 26 12.8	-0.1
BFZ	Birch Farm	8.84	219	S	S	00 28 18.5	+0.8
MRZ	Mangatainoka R	9.19	222	P	P	00 26 42.8	-1.1
MRZ				S	S	00 28 26.2	+0.2
NNZ	Nelson	10.81	226	S	S	00 29 04.7	-0.2
THZ	Tophouse	11.43	225	P	P	00 27 14.3	+0.5
THZ				S	S	00 29 19.0	-0.6
KHZ	Kahutara	11.50	220	S	S	00 29 20.1	-1.3
LTZ	Lake Taylor	12.44	222	S	S	00 29 39.9	-3.8
MQZ	McQueen's Vall	12.87	218	S	S	00 29 51.4	-2.2
STKA	Stephens Creek	35.14	262	LR	LR	00 43 59.8	
	comp=Z,144nm,18.5s,baz=24,slow=33						
ASAR	Alice Springs	44.37	270	P	P	00 32 34.9	+1.0
	2.8nm,0.8s,mb4.1,baz=113,slow=7.2,SNR=13						
ASAR				LR	LR	00 49 00.4	
	comp=Z,48nm,18.6s,baz=297,slow=33						
WRAB	Tennant Creek	45.67	275	eP	P	00 32 43.5	-0.8
	10.0nm,1.2s,mb4.4						
WRA	Warramunga Arr	45.68	275	P	P	00 32 44.0	-0.3
	2.6nm,0.8s,mb4.0,baz=115,slow=7.7,SNR=7.9						
QSPA	South Pole Qui	56.08	180	eP	P	00 34 09.9	+7.8
	7.9nm,1.2s,mb4.6						
SNAA	Sanae	74.48	178	⇓i	P	00 36 01.5	+1.5
VNA2	Neumayer--Watz	75.03	176		P	00 36 07.8	+4.6
VNA1	Neumayer--Stat	75.25	176	⇑i	Px	00 36 40.2	
NVAR	Mina Array Bea	90.01	42	P	P	00 37 20.9	-0.1
	0.3nm,0.3s,mb3.9,baz=221,slow=9.6,SNR=6.4						
ZRNK	Zerenda	130.76	313	eP	PKPdf	00 43 33.3	+2.7
FINES	FINESS Array B	149.03	339	PKPbc	PKPdf	00 44 08.6	+5.9
	1.8nm,0.6s,baz=90,slow=3.8,SNR=12						
NB2	NORSAR Subarra	152.55	352	PKP		00 44 17.0	
	0.2nm,0.7s,baz=25,slow=2.9						
NOA	NORSAR Array B	152.55	352	PKPbc	PKPdf	00 44 17.2	+9.2
	0.9nm,0.7s,baz=14,slow=4.1,SNR=3.9						
BRTR	Keskin Array B	155.39	292	PKPab	PKPab	00 44 42.4	+1.4
	0.6nm,0.8s,baz=117,slow=3.2,SNR=4.7						

NEIC **01** *00:24:41.6, 15.18N×94.58W, h16^{km}, MD3.9(MEX), After MEX.*
MEX 01 00:24:41.6±0.9**, 15.18N×94.58W, h16**^{km}±14^{km}**, MD3.9, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HUIG	Huatulco	1.59	292	i P	Pn	00 25 05.8	-3.5
HUIG				eS	Sn	00 25 23.8	-5.7
CMIG	Matias Romero	1.92	351	eP	Pn	00 25 09.7	-4.3
CMIG				eS	Sn	00 25 32.6	-5.4
SCX	San Cristobal	2.42	50	i P	Pn	00 25 18.5	-2.8
SCX				i S	Sn	00 25 46.8	-4.0
CCIG	Comitan	2.59	65	i P	Pn	00 25 19.5	-4.2
CCIG				i S	Sn	00 25 50.1	-4.9
OXX	Oaxaca	2.80	313	i P	Pn	00 25 27.8	+1.2
VHO	Vista Hermosa	2.80	312	i P	Pn	00 25 23.4	-3.2
VHO				i S	Sn	00 25 55.8	-4.6
EVV	El Vigia	3.34	347	eP	Pn	00 25 33.0	-1.3
EVV				i S	Sn	00 26 12.0	-2.0
PPM	Popocatepetl	5.47	316	eP	Pn	00 26 01.0	-3.5

IDC 01 00:52:56.2±2.4**, 17.16S×175.57W, mb4.0**/4**, mb1 4.3**/4**, mb1mx3.9**/14**, Error ellipse: s-maj=160.0km s-min=26.4km az=148.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	41.37	241	P	P	01 00 44.1	-1.5
	1.5nm,0.5s,baz=84,slow=8.6,SNR=4.2						
WB2	Warramunga Arr	47.43	258	eP	P	01 01 33.4	-1.3
WRA	Warramunga Arr	47.44	258	P	P	01 01 33.2	-1.5
	0.8nm,0.4s,baz=97,slow=7.4,SNR=10						
ASAR	Alice Springs	47.60	253	P	P	01 01 34.2	-1.8
	7.0nm,0.6s,baz=89,slow=8.4,SNR=70						
ASPA	Alice Springs	47.61	253	eP	P	01 01 34.0	-2.1
NVAR	Mina Array Bea	77.02	43	P	P	01 04 51.8	-1.0
	0.2nm,0.7s,baz=228,slow=12,SNR=2.7						
BRTR	Keskin Array B	146.13	318	PKPbc	PKPbc	01 12 36.6	-2.0
	0.6nm,0.8s,baz=83,slow=4.4,SNR=4.0						

GUC 01 01:37:31.2±0.7**, 34.94S×70.44W, h5**^{km}**, MD3.7, ML2.3, 2D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFDO	San Fernando	0.58	304	eP	Pg	01 37 42.5	-0.3
SFDO				i S	Sg	01 37 51.9	+1.4
CICH	Cipreses	0.62	1	i P	Pg	01 37 43.0	-0.6
CICH				i S	Sg	01 37 52.6	+0.6
NICH	Los Niches	0.66	265	eP	Pg	01 37 44.3	0.0
NICH				i S	Sg	01 37 54.8	+1.7
CACH	El Canelo	0.84	351	⇓iP	Pb	01 37 47.0	-0.8
CACH				i S	Sg	01 37 59.3	+0.2
CHCH	Chadas Angostu	1.02	350	⇓iP	Pb	01 37 50.6	-0.4
LMEL	Las Melosas	1.11	10	eP	Pb	01 37 52.0	-0.5
LNV	Longovilo	1.27	320	i P	Pb	01 37 54.5	-0.8
LNV				i S	Sb	01 38 12.3	+0.5
TACH	Talagante	1.35	342	i P	Pb	01 37 56.0	-0.6
FCH	Farellones	1.62	4	eP	Pn	01 38 00.3	-0.3
FCH				i S	Sb	01 38 23.1	+1.3
FCH				AMP		01 38 26.8	
	comp=N,65nm,0.1s						

NEIC **01** *02:23:29.9±2.2, 4.71S×153.60E, mb4.4/1, Error ellipse: s-maj=40.2km s-min=20.9km az=86.0*
IDC **01** *02:23:31.2±8.6, 4.74S×153.53E, h143^{km}±58^{km}, mb3.6/4, mb1 3.9/5, mb1mx3.5/15, Error ellipse: s-maj=72.1km s-min=31.7km az=78.0*
ISC 01 02:23:29.0±5.4**, 4.7S**±0.2×**153.6E**±0.3**, h145**^{km}±39^{km}**, n8, σ0^{s}63**/9**, mb4.0**/5**, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	7.93	234	P	P	02 25 22.5	-0.1
	8.8nm,0.3s,baz=50,slow=6.4,SNR=23						
PMG				S	S	02 26 51.1	0.0
	4.8nm,0.3s,baz=134,slow=13,SNR=6.3						
WRAB	Tennant Creek	24.11	230	eP	P	02 28 32.7	0.0
	9.1nm,0.7s,mb4.4						
WB2	Warramunga Arr	24.11	230	eP	P	02 28 33.5	+0.8
WRA	Warramunga Arr	24.12	230	P	P	02 28 33.7	+0.9
	3.1nm,0.4s,mb4.2,baz=54,slow=10.0,SNR=40						
WRA				pP		02 29 01.2	
	1.2nm,0.8s,baz=52,slow=10,SNR=3.4						
ASAR	Alice Springs	26.77	223	P	P	02 28 57.1	-0.2
	0.4nm,0.4s,mb3.4,baz=54,slow=9.1,SNR=5.5						
ASAR				pP	pP	02 29 25.8	-1.7
	0.6nm,0.8s,baz=51,slow=8.6,SNR=3.5						
STKA	Stephens Creek	29.27	201	P	P	02 29 19.6	-0.2
	1.1nm,0.5s,mb3.8,baz=17,slow=11,SNR=3.9						
FITZ	Fitzroy Crossi	30.43	242	P	P	02 29 28.8	-1.4
	2.8nm,0.9s,mb4.0,baz=75,slow=12,SNR=4.9						
TGY	Tagaytay City	37.46	300	P	P	02 30 30.4	+0.2
	406nm,0.7s,baz=93,slow=16,SNR=4.0						

SOF **01** *02:46:15.6, 45.59N×27.04E, h20^{km}, MD3.0*
BUC 01 02:46:20.6±1.1**, 45.12N×27.34E, h44**^{km}**, MD2.8**/1**, 2C-3D, Error ellipse: s-maj=17.9km s-min=12.1km az=62.0, Romania**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BRD	Bordesti	0.48	333	⇑iP	P	02 46 32.6	+1.3
HARR	Harsova	0.60	135	⇓iP	P	02 46 32.6	-0.3
TIRR	Tirgusor	1.01	131	⇓iP	P	02 46 39.4	+0.8
MLR	Muntele Rosu	1.05	291	i S	S	02 46 52.2	-0.6
BUC1	Bucharest	1.21	231	⇑iP	P	02 46 42.0	+0.6
PSN	Preselentsi	1.56	157	i P	P	02 46 50.3	+3.9
MTUR	Matau	1.61	275	⇓iP	P	02 46 46.2	-0.9
PRD	Provadia	1.92	179	i P	P	02 46 56.5	+5.0
SZH	Strazhica	2.11	209	i P	P	02 46 55.5	+1.3
KDZ	Kurdzhali	3.74	203	P	P	02 47 18.5	+1.1
VTS	Vitosha	3.91	231	i P	P	02 47 18.7	-1.1
RZN	Rozhen	3.93	210	i P	P	02 47 20.0	0.0
MMB	Musomiste	4.40	218	P	P	02 47 26.3	-0.4
KKB	Krupnik	4.49	225	P	P	02 47 27.5	-0.4

NEIC **01** *02:48:24.5, 34.13S×72.27W, h39^{km}, MD3.6(GUC), After GUC.*
GUC 01 02:48:24.5±0.7**, 34.13S×72.27W, h39**^{km}±2^{km}**, MD3.6, ML2.6, 1D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LNV	Longovilo	0.73	77	⇓iP	P	02 48 38.7	+0.3
LNV				i S	S	02 48 49.4	+0.9
LCCH	Las Cruces	0.87	42	eP	P	02 48 40.8	+0.4
LCCH				i S	S	02 48 52.7	+0.7
SFDO	San Fernando	1.14	115	eP	P	02 48 44.6	+0.4
SFDO				i S	S	02 49 00.5	+1.6
TACH	Talagante	1.20	67	eP	P	02 48 45.5	+0.5
TACH				i S	S	02 49 01.5	+1.0
CHCH	Chadas Angostu	1.35	82	eP	P	02 48 47.9	+0.6
CHCH				i S	S	02 49 06.3	+2.0
RCDM	Rinconada Maip	1.37	63	eP	P	02 48 47.9	+0.3
RCDM				AMP		02 49 12.2	
	comp=N,120nm,0.1s						
CACH	El Canelo	1.38	90	eP	P	02 48 49.1	+1.4
CACH				i S	S	02 49 08.4	+3.4
CICH	Cipreses	1.54	98	eP	P	02 48 51.1	+1.1
CICH				i S	S	02 49 10.7	+1.7
PCH	Pirque	1.54	71	i P	P	02 48 51.3	+1.3
CLCH	Cerro Calan	1.61	64	eP	P	02 48 51.8	+0.7
CLCH				AMP		02 49 22.1	
	comp=E,105nm,0.3s						
LMEL	Las Melosas	1.74	81	eP	P	02 48 54.0	+1.2
LMEL				i S	S	02 49 15.8	+1.9
LMEL				AMP		02 49 23.7	
	comp=N,122nm,0.2s						
FCH	Farellones	1.83	65	eP	P	02 48 55.1	+1.0
FCH				AMP		02 49 26.6	
	comp=E,89nm,0.3s						

NIED **01** *02:49:00, 37.00N×141.90E, h35^{km}, Mw5.7 Best double couple: M$_0$3.62×10^{17} NP1:φ$_s$20°, δ67°, λ82°. NP2:φ$_s$220°, δ24°, λ109°.*
BJI **01** *02:49:25.9, 36.94N×141.56E, h32^{km}, mB5.5, mb5.3, Ms5.4, Msz5.3*
JMA **01** *02:49:26.0±0.2, 36.92N×141.78E, h31^{km}±3^{km}, M5.6*
JMA Felt III J1.
MOS **01** *02:49:28.7±0.9, 37.17N×141.56E, h41^{km}, mb5.6/68, MS5.6/37, Error ellipse: s-maj=7.3km s-min=4.7km az=101.8*
NEIC **01** *02:49:28.6±0.1, 36.96N×141.61E, mb5.3/120, MS5.1/88, MW5.6, MW5.7(NIED), Error ellipse: s-maj=3.9km s-min=2.8km az=162.0, Moment Tensor Solution. s35 Moment tensor: Scale 10^{17}Nm; M$_{rr}$1.73; M$_{\theta\theta}$-0.52; M$_{\phi\phi}$-1.21; M$_{r\theta}$0.73; M$_{\theta\phi}$-0.58; M$_{\phi r}$2.43; Best double couple: M$_0$3×10^{17} NP1:φ$_s$217°, δ17°, λ107°. NP2:φ$_s$19°, δ74°, λ85°. Principal axes: T 3.13, Plg61°, Azm282°; N -.24, Plg5°, Azm20°; P -2.89, Plg29°, Azm113°;*
NEIC Felt in Chiba, Fukushima and Tokyo Prefectures. Recorded [3 JMA] in Fukushima, Ibaraki, Miyagi and Tochigi; [2 JMA] in Chiba, Gumma, Iwate, Saitama, Tokyo and Yamagata; [1 JMA] in Akita, Aomori, Kanagawa, Nagano, Shizuoka and Yamanashi Prefectures.
IDC **01** *02:49:28.2±0.5, 36.89N×141.58E, h35^{km}±3^{km}, mb4.9/23, mb1 5.1/27, mb1mx5.0/28, ML4.6/4, MS5.1/19, Ms1 5.1/19, ms1mx5.0/28 Error ellipse: s-maj=9.0km s-min=7.0km az=115.0*
HRVD **01** *02:49:28.6±0.1, 36.97N×141.80E, h31^{km}, MW5.7/73, Centroid moment Tensor Solution. LP body waves: s59, c133; Mantle waves: s73, c164; Half duration: 1^{s}7 Moment tensor: Scale 10^{17}Nm; M$_{rr}$2.59±.05; M$_{\theta\theta}$-0.26±.04; M$_{\phi\phi}$-2.32±.04; M$_{r\theta}$0.90±.07; M$_{\theta\phi}$-1.25±.03; M$_{\phi r}$3.01±.06; Best double couple: M$_0$4.18×10^{17} NP1: φ$_s$214°, δ21°, λ104°. NP2:φ$_s$18°, δ70°, λ85°. Principal axes: T 4.04, Plg65°, Azm279°; N .29, Plg5°, Azm20°; P -4.32, Plg24°, Azm113°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
CSEM **01** *02:49:35.0, 38.28N×140.77E, h33^{km}, mb5.7*
ISC 01 02:49:27.2±0.1**, 36.93N**±0.02×**141.68E**±0.02**, h36**^{km}**,**

h36^{km}±.6^{km}:pP-P,n647,σ0^{s}.97/656,mb5.3/177,MS5.3/138, 60C-26D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.73**	**284**	⇓P	**P**	**02 49 41.3**	**+0.3**
JFK	**Kawauchi**	**0.78**	**304**	⇓P	**P**	**02 49 41.6**	**-0.1**
JFK				*e*S	**S**	**02 49 52.8**	**+0.5**
JHO	**Hitachi**	**0.95**	**251**	⇓P	**P**	**02 49 44.2**	**+0.1**
JMM	**Marumori**	**1.17**	**323**	⇓P	**P**	**02 49 47.4**	**+0.1**
JMM				*e*S	**S**	**02 50 02.4**	**+0.1**
JFT	**Otama**	**1.22**	**299**	⇓P	**P**	**02 49 49.2**	**+1.2**
JFT				*e*S	**S**	**02 50 05.3**	**+1.6**
JIO	**Ouri**	**1.54**	**350**	⇓P	**P**	**02 49 52.2**	**-0.5**
JOU	**Okura**	**1.65**	**331**	⇓P	**P**	**02 49 54.4**	**+0.3**
JOU				*e*S	**S**	**02 50 15.6**	**+1.4**
JFY	**Yanaizu**	**1.65**	**287**	⇓P	**P**	**02 49 55.2**	**+1.0**
JYS	**Shirataka**	**1.82**	**316**	⇓P	**P**	**02 49 57.5**	**+0.9**
JYS				*e*S	**S**	**02 50 22.3**	**+3.7**
JKT	**Katashina**	**1.96**	**266**	P	**P**	**02 49 59.9**	**+1.3**
JHK	**Hiroka**	**2.15**	**279**	P	**P**	**02 50 02.6**	**+1.2**
JYK	**Kaneyama**	**2.24**	**333**	⇓P	**P**	**02 50 03.0**	**+0.4**
JRY	**Ryogami san**	**2.42**	**249**	P	**P**	**02 50 05.8**	**+0.6**
JAW	**Awa shima**	**2.46**	**309**	P	**P**	**02 50 07.6**	**+1.9**
JGK	**Kuni**	**2.47**	**262**	P	**P**	**02 50 07.8**	**+1.9**
JOM	**Ohasama**	**2.56**	**353**	P	**P**	**02 50 06.9**	**-0.2**
MAJO	**Matsushiro**	**2.82**	**263**	*e*P	**P**	**02 50 12.4**	**+1.5**
MAT	**Matsushiro**	**2.82**	**263**	P	**P**	**02 50 11.5**	**+0.6**
MAT				S	**S**	**02 50 47.9**	**+3.9**
MAT	**Matsushiro**	**2.82**	**263**	P	**P**	**02 50 12.6**	**+1.7**
MAT	**Matsushiro**	**2.82**	**263**	*e*P	**P**	**02 50 12.0**	**+1.1**
MAT				*e*S	**S**	**02 50 48.0**	**+4.0**
JIM2	**Oshima 3**	**2.87**	**220**	P	**P**	**02 50 12.4**	**+0.8**
JNG	**Nsakai**	**2.93**	**261**	⇓P	**P**	**02 50 14.1**	**+1.7**
JSD	**Sado**	**2.94**	**293**	P	**P**	**02 50 12.4**	**-0.2**
JNT	**Takato**	**3.05**	**251**	P	**P**	**02 50 15.8**	**+1.7**
JIZS	**Izushimoda**	**3.17**	**227**	P	**P**	**02 50 16.7**	**+0.8**
JKO	**Kozu shima**	**3.44**	**218**	P	**P**	**02 50 21.7**	**+2.1**
JNY	**Yasuok**	**3.47**	**244**	P	**P**	**02 50 22.3**	**+2.2**
JTT	**Ttatey**	**3.51**	**266**	P	**P**	**02 50 24.6**	**+3.9**
JGN	**Niukaw**	**3.59**	**260**	P	**P**	**02 50 24.1**	**+2.3**
JGF	**Kuroka**	**3.74**	**250**	P	**P**	**02 50 26.4**	**+2.5**
HMMJ	**Hamamatsu 2**	**3.83**	**238**	P	**P**	**02 50 26.7**	**+1.5**
JAO	**Obara**	**3.95**	**246**	P	**P**	**02 50 28.7**	**+1.8**
JHJ	**Hachijo jima 2**	**4.11**	**203**	Pn	**P**	**02 50 29.1**	**-0.2**
	626nm,0.3s,baz=75,slow=2.3,SNR=82						
JHJ				Sn	**S**	**02 51 14.8**	**-2.0**
	1µm,0.3s,baz=62,slow=22,SNR=12						
JHS	**Saijyo**	**7.21**	**257**	P	**P**	**02 51 14.5**	**+1.7**
ASAJ	**Asahikawa**	**7.21**	**5**	Pn	**P**	**02 51 10.4**	**-2.4**
	13nm,0.3s,baz=253,slow=9.6,SNR=23						
ASAJ				Sn	**S**	**02 52 32.6**	**-1.8**
	18nm,0.3s,baz=160,slow=31,SNR=3.8						
ASAJ				LR	LR	02 54 46.7	
	comp=Z,17µm,20.2s,baz=185,slow=44						
ASAJ	**Asahikawa**	**7.21**	**5**	P	**P**	**02 51 10.4**	**-2.4**
ASAJ						02 52 32.7	
ASAJ				pmax	pmax		
	comp=Z,13nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,17µm,20.2s						
YUK	**Yuzh-Kuril'sk**	**7.78**	**23**	*e*P	**P**	**02 51 16.9**	**-3.8**
YUK				*e*S	**S**	**02 52 37.0**	**-11**
YUK				pmax	pmax		
	comp=N,220nm,0.4s						
YUK				pmax	pmax		
	comp=Z,410nm,0.4s						
YUK				pmax	pmax		
	comp=E,220nm,0.3s						
YUK				smax			
	comp=N,2µm,0.5s						
YUK				smax			
	comp=E,3µm,0.5s						
YUK				smax			
	comp=N,5µm,3.0s						
YUK				smax			
	comp=E,15µm,2.5s						
YUK				MLR	MLR		
	comp=N,11µm,17.0s						
YUK				MLR	MLR		
	comp=E,11µm,15.0s						
JKU	**Kubokawa**	**7.93**	**245**	P	**P**	**02 51 24.4**	**+1.6**
JHM	**Kurahashi**	**7.96**	**252**	P	**P**	**02 51 24.5**	**+1.2**
UWA2	**Uwa jima 2**	**8.30**	**246**	P	**P**	**02 51 29.4**	**+1.4**
JKI	**Kunimi**	**8.90**	**251**	P	**P**	**02 51 38.2**	**+1.9**
KUR	**Kuril'sk**	**9.51**	**27**	⇓*i*P	**P**	**02 51 52.0**	**+7.3**
KUR				*i* S	**S**	**02 53 19.5**	**-12**
KUR				pmax	pmax		
	comp=N,140nm,0.8s						
KUR				pmax	pmax		
	comp=E,200nm,0.8s						
KUR				pmax	pmax		
	comp=Z,310nm,0.8s						
KUR				smax			
	comp=N,230nm,0.5s						
KUR				smax			
	comp=E,450nm,0.5s						
JNU	**Nakatsue**	**9.64**	**250**	Pn	**P**	**02 51 47.6**	**+1.1**
JNU				Sn	**S**	**02 53 39.9**	**+5.1**
	baz=179,slow=33,SNR=1.2						
VLA	**Vladivostok**	**9.72**	**312**	⇑*i*P	**P**	**02 51 46.0**	**-1.6**
VLA				*i*		02 53 42.0	
VLA				pmax	pmax		
	comp=N,9µm,6.0s						
VLA				pmax	pmax		
	comp=E,6µm,6.0s						
VLA				pmax	pmax		
	comp=Z,5µm,6.0s						
VLA				MLR	MLR		
	comp=E,13µm,15.0s						
VLA				MLR	MLR		
	comp=Z,16µm,15.0s						
VLA				MLR	MLR		
	comp=N,13µm,17.0s						
CBIJ	**Chichi jima**	**9.81**	**177**	Pn	**P**	**02 51 45.4**	**-3.5**
	comp=N,39nm,0.3s,baz=306,slow=11,SNR=14						
CBIJ				Sn	**S**	**02 53 26.2**	**-13**
	comp=N,193nm,0.3s,baz=320,slow=23,SNR=9.0						
YSS	**Yuzh-Sakhalins**	**10.05**	**4**	⇑*i*P	**P**	**02 51 50.2**	**-1.9**
YSS				*e*S	**S**	**02 53 42.0**	**-2.7**
YSS				pmax	pmax		
	comp=N,170nm,1.1s						
YSS				pmax	pmax		
	comp=Z,170nm,1.1s						
YSS				smax			
	comp=N,190nm,1.0s						
YSS				MLR	MLR		
	comp=Z,9µm,15.0s						
YSS				MLR	MLR		
	comp=N,9µm,16.0s						
YSS				MLR	MLR		
	comp=E,7µm,14.0s						
YSS	**Yuzh-Sakhalins**	**10.05**	**4**	*e*P	**P**	**02 51 49.2**	**-2.9**
	comp=E,100nm,0.8s						
JUR	**Ureshino**	**10.36**	**252**	P	**P**	**02 51 57.9**	**+1.5**
KS15	**Wonju Array Si**	**11.02**	**277**	*e*P	**P**	**02 52 07.8**	**+2.4**
MDJ	**Mudanjiang**	**11.95**	**314**	P	**P**	**02 52 16.9**	**-1.0**
MDJ				AP		02 52 23.9	
MDJ				XP		02 52 28.6	
MDJ				S	**S**	**02 54 32.2**	**+1.3**
MDJ				SS	SS	02 54 46.7	+1.2
MDJ				AMB	AMB		
	comp=Z,147nm,0.8s						
MDJ				LR	LR		
	comp=N,9µm,20.1s						
MDJ				LR	LR		
	comp=E,9µm,17.6s						
MDJ				LR	LR		
	comp=Z,17µm,20.1s						
MDJ	**Mudanjiang**	**11.95**	**314**	*e*P	**P**	**02 52 17.8**	**0.0**
	comp=Z,120nm,0.7s						
INCN	**Inchon**	**12.02**	**277**	*e*P	**P**	**02 52 21.8**	**+2.9**
	comp=Z,24nm,0.6s						
CN2	**Changchun**	**14.14**	**304**	*e*P	**P**	**02 52 46.1**	**-0.8**
CN2				*e*S	**S**	**02 55 24.4**	**+0.9**
CN2				AMB	AMB		
	comp=Z,50nm,1.3s						
CN2				LR	LR		
	comp=N,6µm,19.0s						
CN2				LR	LR		
	comp=E,13µm,19.0s						
CN2				LR	LR		
	comp=Z,12µm,21.0s						
SNY	**Shenyang**	**14.83**	**295**	⇑P	**P**	**02 52 55.3**	**-0.6**
SNY				XP		02 53 00.7	
SNY				S	**S**	**02 55 44.7**	**+5.0**
SNY				XS		02 55 49.7	
SNY				AMB	AMB		
	comp=Z,60nm,1.2s						
SNY				LR	LR		
	comp=N,9µm,13.1s						
SNY				LR	LR		
	comp=E,20µm,14.7s						
SNY				LR	LR		
	comp=Z,22µm,15.7s						
JOW	**Kunigami**	**15.19**	**232**	Pn	**P**	**02 52 59.2**	**-1.5**
	comp=Z,1.3nm,0.3s,baz=56,slow=10,SNR=14						
JOW				Sn	**S**	**02 55 45.5**	**-2.7**
	baz=20,slow=19,SNR=1.7						
JOW				LR	LR	02 58 30.9	
	comp=Z,7µm,21.1s,baz=157,slow=36						
DL2	**Dalian**	**15.95**	**283**	⇑P	**P**	**02 53 10.6**	**+0.2**
DL2				AMB	AMB		
	comp=Z,50nm,0.8s						
DL2				AMB	AMB		
	comp=Z,900nm,7.1s						
DL2				LR	LR		
	comp=N,3µm,14.2s						
DL2				LR	LR		
	comp=E,7µm,18.8s						
DL2				LR	LR		
	comp=Z,8µm,18.7s						
SKR	**Severo-Kuril's**	**17.20**	**32**	*e*P	**P**	**02 53 20.0**	**-6.1**
SKR				*e*S	**S**	**02 56 38.0**	**+3.3**
SKR				pmax	pmax		
	comp=Z,160nm,0.9s						
SKR				pmax	pmax		
	comp=N,160nm,1.0s						
SKR				pmax	pmax		
	comp=E,160nm,1.0s						
SKR				smax			
	comp=N,2µm,20.0s						
SKR				smax			
	comp=E,4µm,20.0s						
SKR				MLR	MLR		
	comp=N,3µm,18.0s						
SKR				MLR	MLR		
	comp=E,5µm,18.0s						
SKR				MLR	MLR		
	comp=Z,5µm,18.0s						
SSE	**Sheshan**	**17.95**	**257**	P	**P**	**02 53 35.9**	**+0.3**
SSE				AP		02 53 45.2	
SSE				XP		02 53 48.8	
SSE				S	**S**	**02 56 52.4**	**+0.7**
SSE				AMB	AMB		
	comp=Z,42nm,0.9s						
SSE				AMB	AMB		
	comp=Z,1µm,9.3s						
SSE				LR	LR		
	comp=N,6µm,20.7s						
SSE				LR	LR		
	comp=E,7µm,20.7s						
SSE				LR	LR		
	comp=Z,11µm,21.6s						
NJ2	**Nanjing**	**19.42**	**262**	*e*P	**P**	**02 53 49.6**	**-3.6**
NJ2				S	**S**	**02 57 24.0**	**-1.0**
NJ2				AMB	AMB		
	comp=Z,30nm,0.7s						
NJ2				AMB	AMB		
	comp=Z,630nm,6.8s						
NJ2				LR	LR		
	comp=N,6µm,20.4s						
NJ2				LR	LR		
	comp=E,4µm,16.8s						
NJ2				LR	LR		
	comp=Z,6µm,18.8s						
TIA	**Tai'an**	**19.73**	**275**	P	**P**	**02 53 53.1**	**-3.4**
TIA				AP		02 54 01.0	
TIA				S	**S**	**02 57 27.6**	**-4.1**
TIA				LR	LR		
	comp=N,10µm,14.0s						
TIA				LR	LR		
	comp=E,8µm,14.0s						
PET	**Petropavlovsk**	**19.99**	**31**	⇓*i*P	**P**	**02 53 59.5**	**+0.3**
PET				*e*S	**S**	**02 57 36.2**	**-0.9**
PET				pmax	pmax		
	comp=Z,114nm,1.2s						
PET				pmax	pmax		
	comp=Z,500nm,8.1s						
PET				smax			
	comp=E,2µm,9.3s						
PET				smax			
	comp=N,2µm,15.6s						
PET				smax			
	comp=E,2µm,11.5s						
PET				MLR	MLR		
	comp=Z,6µm,20.0s						
PET	**Petropavlovsk**	**19.99**	**31**	*e*P	**P**	**02 53 58.8**	**-0.4**
	comp=Z,163nm,1.3s						
HIA	**Hailar**	**20.13**	**315**	*e*P	**P**	**02 53 56.1**	**-4.6**
	comp=Z,85nm,1.2s						
HIA				LR	LR		
	comp=Z,14µm,19.0s,MS5.3						
BJI	**Beijing**	**20.19**	**287**	P	**P**	**02 53 58.5**	**-2.9**
BJI				S	**S**	**02 57 32.1**	**-8.9**
BJI				AMB	AMB		
	comp=Z,2µm,6.0s						
BJI				LR	LR		
	comp=N,3µm,14.3s,MS5.2						
BJI				LR	LR		
	comp=E,7µm,14.3s,MS5.2						
BJI				LR	LR		
	comp=Z,5µm,22.8s						
BJT	**Baijiatuau**	**20.19**	**287**	*e*P	**P**	**02 53 58.6**	**-2.8**
BJT				pmax	pmax		
	comp=Z,60nm,0.7s						
BJT	**Baijiatuau**	**20.19**	**287**	*e*P	**P**	**02 53 58.6**	**-2.8**
	comp=Z,60nm,0.7s						
TATO	**Taipei**	**20.98**	**241**	P	**P**	**02 54 07.5**	**-2.1**
	comp=Z,43nm,0.7s						
CLNS	**Chul'man**	**22.86**	**336**	*e*P	**P**	**02 54 26.5**	**-1.6**
CLNS				*e*		02 54 41.3	
CLNS				*e*PPP	PPP	02 54 55.6	-12
CLNS				*e*		02 58 17.5	
CLNS				*e*S	**S**	**02 58 30.9**	**+0.1**
CLNS				*e*SS	SS	02 59 31.6	+16
CLNS				*e*		03 05 44.2	
CLNS				pmax	pmax		
	comp=Z,85nm,1.1s,mb5.1						
CLNS				pmax	pmax		
	comp=N,46nm,1.0s						
CLNS				pmax	pmax		
	comp=E,28nm,1.0s						
CLNS				smax			
	comp=N,3µm,11.1s						
CLNS				smax			
	comp=Z,704nm,11.3s						
CLNS				smax			
	comp=E,256nm,10.6s						
CLNS				MLR	MLR		
	comp=Z,12µm,15.0s,MS5.4						
CLNS				MLR	MLR		
	comp=N,7µm,17.0s,MS5.2						
CLNS				MLR	MLR		
	comp=E,1µm,13.0s,MS5.2						
QZH	**Quanzhou**	**23.07**	**245**	⇓*i*P	**P**	**02 54 27.6**	**-2.8**
QZH				XP		02 54 41.0	
QZH				S	**S**	**02 58 32.0**	**-2.8**
QZH				XS		02 58 47.0	
QZH				AMB	AMB		
	comp=Z,130nm,0.8s,mb5.4						
QZH				AMB	AMB		
	comp=Z,1µm,4.7s						
QZH				LR	LR		
	comp=N,8µm,13.2s,MS5.5						
QZH				LR	LR		
	comp=E,6µm,13.5s,MS5.5						
QZH				LR	LR		
	comp=Z,12µm,14.9s,MS5.5						
TIY	**Taiyuan**	**23.24**	**281**	⇑P	**P**	**02 54 26.0**	**-6.0**
TIY				XP		02 54 42.0	
TIY				PP	PP	02 55 04.0	+0.7
TIY				S	**S**	**02 58 42.0**	**+4.3**
TIY				LR	LR		
	comp=E,8µm,15.0s						
TIY				LR	LR		
	comp=Z,10µm,15.0s,MS5.4						
MA2	**Magadan**	**23.41**	**12**	*c i*P	**P**	**02 54 33.7**	**+0.3**
MA2				*e*		02 55 09.6	
MA2				*e*S	**S**	**02 58 39.0**	**-1.5**
MA2				*e*SS	SS	02 59 22.2	-6.4
MA2				*e*SSS	SSS	02 59 45.3	+0.6
MA2				pmax	pmax		
	comp=Z,70nm,1.1s,mb5.0						
MA2				pmax	pmax		
	comp=N,50nm,1.2s						
MA2				pmax	pmax		
	comp=E,20nm,1.3s						
MA2				MLR	MLR		
	comp=Z,16µm,18.0s,MS5.5						
MA2	**Magadan**	**23.41**	**12**	*e*P	**P**	**02 54 32.9**	**-0.5**
	comp=Z,95nm,1.1s,mb5.1						
WHN	**Wuhan**	**23.56**	**262**	⇓P	**P**	**02 54 34.5**	**-0.7**
WHN				S	**S**	**02 58 44.0**	**+0.6**
WHN				AMB	AMB		
	comp=Z,2µm,8.8s						
WHN				LR	LR		
	comp=Z,21µm,21.4s,MS5.6						
HHC	**Hu-ho-hao-te**	**23.71**	**289**	*e*P	**P**	**02 54 37.7**	**+1.2**
HHC				AP		02 54 46.4	
HHC				XP		02 54 50.6	
HHC				PP	PP	02 55 08.4	-1.5
HHC				S	**S**	**02 58 45.5**	**-0.4**
HHC				XS		02 58 57.7	
HHC				SS	SS	02 59 31.6	-4.4
HHC				AMB	AMB		
	comp=Z,826nm,6.5s						
HHC				LR	LR		
	comp=N,3µm,14.3s						
HHC				LR	LR		
	comp=E,2µm,22.0s						
HHC				LR	LR		
	comp=Z,2µm,20.2s						
BTO	**Baotou**	**24.89**	**288**	*e*P	**P**	**02 54 47.0**	**-0.9**
BTO				S	**S**	**02 59 09.8**	**+3.8**
BTO				AMB	AMB		
	comp=Z,70nm,0.6s,mb5.4						
YAK	**Yakutsk**	**26.22**	**347**	*e*P	**P**	**02 54 58.5**	**-1.7**
YAK				*e**PP	pP	02 55 11.5	+1.4
YAK				*e*PPP	PPP	02 55 44.3	-11
YAK				*e*		02 58 26.3	
YAK				*e*S	**S**	**02 59 26.6**	**-1.2**
YAK				*e*		03 05 53.8	
YAK				pmax	pmax		
	comp=N,18nm,0.9s						
YAK				pmax	pmax		
	comp=Z,85nm,0.9s,mb5.3						
YAK				pmax	pmax		
	comp=E,10.0nm,0.8s						
YAK				smax			
	comp=N,27nm,1.0s						
YAK				smax			
	comp=Z,10.0nm,1.1s						
YAK				smax			
	comp=E,25nm,1.3s						
YAK				MLR	MLR		
	comp=Z,5µm,14.0s,MS5.2						
YAK				MLR	MLR		
	comp=N,5µm,16.0s,MS5.2						
YAK				MLR	MLR		
	comp=E,1µm,13.0s,MS5.2						
YAK	**Yakutsk**	**26.22**	**347**	*e*P	**P**	**02 54 58.7**	**-1.5**
	comp=E,261nm,0.9s,mb5.8						
XAN	**Xi'an**	**26.76**	**274**	P	**P**	**02 55 03.8**	**-1.7**
XAN				XP	sP	02 55 14.4	-5.4
XAN				PP	PP	02 55 45.8	-4.9
XAN				S	**S**	**02 59 36.0**	**-1.0**
XAN				SS	SS	03 00 51.1	+0.8
XAN				AMB	AMB		
	comp=Z,28nm,0.6s,mb5.0						
XAN				AMB	AMB		
	comp=Z,1µm,10.0s						
XAN				LR	LR		
	comp=N,3µm,17.6s						
XAN				LR	LR		
	comp=E,3µm,23.2s						
XAN				LR	LR		
	comp=Z,5µm,19.2s,MS5.0						
SEY	**Seymchan**	**26.85**	**11**	*e*P	**P**	**02 55 07.2**	**+1.2**
SEY				*e*		02 55 50.4	
SEY				*e*PPP	PPP	02 56 05.7	+2.0
SEY						02 58 28.5	
SEY				*e*S	**S**	**02 59 40.2**	**+2.1**
SEY				*e*SS	SS	03 00 46.6	-5.5
SEY				pmax	pmax		
	comp=N,150nm,1.2s						
SEY				pmax	pmax		
	comp=Z,360nm,1.2s,mb5.8						
SEY				pmax	pmax		
	comp=E,160nm,1.4s						
SEY				smax			
	comp=N,8µm,10.1s						
SEY				smax			
	comp=E,8µm,12.0s						
SEY				MLR	MLR		
	comp=N,27µm,17.0s,MS5.9						
SEY				MLR	MLR		
	comp=Z,34µm,17.0s,MS6.0						
SEY				MLR	MLR		
	comp=E,8µm,18.0s,MS5.9						
FX1	**Attu Island--F**	**27.12**	**44**	P	**P**	**02 55 09.4**	**+0.8**
	comp=E,30nm,0.7s,mb4.9,baz=311,slow=5.8,SNR=8.7						
FX1				S	**S**	**02 59 45.5**	**+2.8**
	comp=E,4.5nm,0.6s,baz=90,slow=22,SNR=1.7						
FX1				LR	LR	03 04 01.2	
	comp=E,125nm,19.8s,baz=25,slow=32						
FX1	**Attu Island--F**	**27.12**	**44**	*e*P	**P**	**02 55 09.3**	**+0.6**
ENH	**Enshi**	**27.54**	**266**	*e*P	**P**	**02 55 11.1**	**-1.6**
	comp=E,111nm,0.7s,mb5.6						
ENH				LR	LR		
	comp=Z,7µm,19.0s,MS5.2						
SMY	**Shemya**	**27.59**	**45**	*e*P	**P**	**02 55 12.8**	**-0.1**
SMY	**Shemya**	**27.59**	**45**	PFAKE		02 55 20.0	+7.1
SMY				LR	LR		
	comp=Z,6µm,20.0s,MS5.1						
BOD	**Bodaibo**	**27.73**	**328**	*e*P	**P**	**02 55 11.9**	**-2.2**
SONM	**Songino Array**	**28.02**	**304**	P	**P**	**02 55 15.5**	**-1.3**
	comp=Z,76nm,1.0s,mb5.3,baz=102,slow=6.9,SNR=236						
SONM				PcP	PcP	02 58 30.9	-0.4
	comp=Z,6.2nm,0.8s,baz=117,slow=2.5,SNR=4.9						
SONM				S	**S**	**02 59 55.5**	**-1.7**
	comp=Z,1.9nm,1.0s,baz=180,slow=24,SNR=2.1						
GZH	**Guangzhou**	**28.03**	**248**	P	**P**	**02 55 10.9**	**-6.3**
GZH				S	**S**	**02 59 48.4**	**-9.2**
GZH				AMB	AMB		
	comp=Z,1µm,7.7s						
GZH				LR	LR		
	comp=N,5µm,14.1s,MS5.3						
GZH				LR	LR		
	comp=E,2µm,12.9s,MS5.3						
GZH				LR	LR		
	comp=Z,5µm,19.6s						
TGY	**Tagaytay City**	**29.32**	**225**	P	**P**	**02 55 28.3**	**-0.4**
	comp=Z,142nm,0.5s,mb6.0,baz=206,slow=20,SNR=3.0						
TGY	**Tagaytay City**	**29.32**	**225**	P	**P**	**02 55 28.3**	**-0.4**
TGY				pmax	pmax		
	comp=Z,142nm,0.5s						
LZH	**Lanzhou**	**30.30**	**280**	⇑P	**P**	**02 55 35.0**	**-2.2**
LZH				AP	pP	02 55 45.2	-2.2
LZH				XP	sP	02 55 49.1	-2.9
LZH				PP	PP	02 56 33.5	-3.4
LZH				*e*S	**S**	**03 00 27.5**	**-6.0**
LZH				AMB	AMB		
	comp=Z,125nm,1.5s,mb5.4						
LZH				AMB	AMB		
	comp=Z,579nm,6.2s						
LZH				LR	LR		
	comp=N,6µm,12.9s						
LZH				LR	LR		
	comp=Z,11µm,17.1s,MS5.5						
ZAK	**Zakamensk**	**30.50**	**308**	⇓*i*P	**P**	**02 55 37.7**	**-1.2**
GYA	**Guiyang**	**31.42**	**261**	⇑*i*P	**P**	**02 55 45.5**	**-1.7**
GYA				AP	pP	02 55 56.8	-0.6
GYA				XP	sP	02 55 58.7	-3.4
GYA				S	**S**	**03 00 48.5**	**-2.7**
GYA				XS		03 01 05.8	
GYA				SS	SS	03 02 34.9	-5.1
GYA				AMB	AMB		
	comp=Z,100nm,0.9s,mb5.7						
GYA				AMB	AMB		
	comp=Z,590nm,4.5s						
GYA				LR	LR		
	comp=N,5µm,20.4s,MS5.4						
GYA				LR	LR		
	comp=E,6µm,20.3s,MS5.4						
GYA				LR	LR		
	comp=Z,8µm,21.3s,MS5.4						

CD2	**Chengdu**	**31.89**	**270**	P	**P**	**02 55 49.4**	**-2.0**
CD2				PPP	PPP	02 57 10.5	-2.1
CD2				S	**S**	**03 00 49.5**	**-9.1**
CD2				XS		03 01 14.9	
CD2				AMB	AMB		
	comp=Z,70nm,0.9s,mb5.5						
CD2				AMB	AMB		
	comp=Z,790nm,6.9s						
CD2				LR	LR		
	comp=Z,8µm,13.2s,MS5.6						
MOY	**Mondy**	**32.17**	**310**	*e*P	**P**	**02 55 53.0**	**-0.6**
GTA	**Gaotai**	**32.80**	**287**	⇑P	**P**	**02 55 59.0**	**-0.2**
GTA				AP	pP	02 56 07.8	-1.6
GTA				XP	sP	02 56 12.3	-1.7
GTA				PP	PP	02 57 08.7	-0.6
GTA				PPP	PPP	02 57 25.4	+0.2
GTA				PCP	PcP	02 58 44.3	+0.5
GTA				S	**S**	**03 01 12.8**	**+0.1**
GTA				XS		03 01 29.9	
GTA				SCP		03 02 23.6	
GTA				PCS		03 02 27.3	
GTA				SS	SS	03 03 12.5	+0.2
GTA				SCS	ScS	03 06 22.7	+0.4
GTA				AMB	AMB		
	comp=Z,329nm,7.2s						
GTA				LR	LR		
	comp=N,2µm,16.7s,MS5.0						
GTA				LR	LR		
	comp=E,2µm,17.9s,MS5.0						
GTA				LR	LR		
	comp=Z,3µm,24.3s						
QIZ	**Qiongzhong**	**33.08**	**246**	P	**P**	**02 56 02.4**	**+0.6**
QIZ				XP	sP	02 56 15.6	-1.1
QIZ				S	**S**	**03 01 20.3**	**+3.0**
QIZ				XS		03 01 35.5	
QIZ				AMB	AMB		
	comp=Z,28nm,1.3s,mb5.0						
QIZ				AMB	AMB		
	comp=Z,595nm,8.4s						
QIZ				LR	LR		
	comp=N,3µm,17.9s						
QIZ				LR	LR		
	comp=Z,3µm,19.3s,MS5.1						
QIZ	**Qiongzhong**	**33.08**	**246**	*e*P	**P**	**02 56 03.3**	**+1.4**
	comp=Z,18nm,0.8s,mb5.0						
QIZ				LR	LR		
	comp=Z,4µm,19.0s,MS5.1						
KMI	**Kunming**	**35.16**	**262**	⇑*e*P	**P**	**02 56 18.6**	**-1.0**
KMI				AP	pP	02 56 29.4	-0.5
KMI				XP	sP	02 56 33.3	-1.2
KMI				PP	PP	02 57 40.6	+1.6
KMI				S	**S**	**03 01 47.7**	**-1.7**
KMI				XS		03 02 08.0	
KMI				SS	SS	03 04 04.0	-2.6
KMI				AMB	AMB		
	comp=Z,100nm,1.1s,mb5.7						
KMI				AMB	AMB		
	comp=Z,642nm,6.5s						
KMI				LR	LR		
	comp=N,3µm,18.6s,MS5.3						
KMI				LR	LR		
	comp=E,5µm,22.4s,MS5.3						
KMI				LR	LR		
	comp=Z,8µm,21.1s,MS5.5						
TIXI	**Tiksi**	**35.42**	**353**	*e*P	**P**	**02 56 17.8**	**-3.6**
TIXI				*e*S	**S**	**03 01 50.2**	**-2.7**
TIXI				*e*SS	SS	03 04 04.0	-8.1
TIXI				pmax	pmax		
	comp=Z,31nm,1.4s,mb5.0						
TIXI	**Tiksi**	**35.42**	**353**	*e*P	**P**	**02 56 20.9**	**-0.5**
KKTK	**Khon Kaen**	**39.98**	**250**	PG	**P**	**02 57 02.0**	**+2.0**
KKTK				SG	Px	02 59 11.0	
WMQ	**Urumqi**	**41.08**	**297**	P	**P**	**02 57 09.5**	**+0.6**
WMQ				AP	pP	02 57 19.3	0.0
WMQ				XP	sP	02 57 23.2	-0.6
WMQ				PP	PP	02 58 47.8	+1.1
WMQ				XS		03 03 35.5	
WMQ				AMB	AMB		
	comp=Z,34nm,1.4s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,545nm,9.7s						
WMQ				LR	LR		
	comp=N,1µm,19.0s,MS5.2						
WMQ				LR	LR		
	comp=E,4µm,22.0s,MS5.2						
WMQ				LR	LR		
	comp=Z,5µm,22.0s,MS5.3						
CHG	**Chiang Mai**	**41.48**	**256**	⇑P	**P**	**02 57 12.2**	**-0.2**
	comp=Z,34nm,1.1s,mb4.9						
CM31	**Chiang Mai Arr**	**41.68**	**256**	*e*P	**P**	**02 57 13.6**	**-0.5**
	comp=Z,15nm,0.7s,mb4.7						
CM31				LR	LR		
	comp=Z,5µm,20.0s,MS5.4						
CMAR	**Chiang Mai Arr**	**41.68**	**256**	P	**P**	**02 57 13.7**	**-0.4**
	comp=Z,15nm,0.9s,mb4.6,baz=48,slow=5.8,SNR=62						
CMAR				S	**S**	**03 03 26.8**	**-1.4**
	comp=Z,0.7nm,0.4s,baz=127,slow=36,SNR=2.5						
CMAR				LR	LR	03 16 40.6	
	comp=Z,5µm,18.4s,MS5.4,baz=55,slow=39						
CMAR	**Chiang Mai Arr**	**41.68**	**256**	P	**P**	**02 57 13.7**	**-0.4**
CMAR				S	**S**	**03 03 26.8**	**-1.4**
CMAR				pmax	pmax		
	comp=Z,15nm,0.9s						
CMAR				MLR	MLR		
	comp=Z,5µm,18.4s						
ZAL	**Zalesovo**	**42.16**	**312**	P	**P**	**02 57 16.9**	**-0.7**
	comp=Z,54nm,0.9s,mb5.2,baz=290,slow=7.6,SNR=98						
ZAL				S	**S**	**03 03 33.4**	**-1.3**
	comp=Z,1.2nm,0.7s,baz=176,slow=16,SNR=1.8						
ZAL				LR	LR	03 16 11.8	
	comp=Z,8µm,18.1s,MS5.7,baz=294,slow=38						
ZAL	**Zalesovo**	**42.16**	**312**	P	**P**	**02 57 16.9**	**-0.7**
ZAL				S	**S**	**03 03 33.4**	**-1.3**
ZAL				pmax	pmax		
	comp=Z,54nm,0.9s						
ZAL				MLR	MLR		
	comp=Z,8µm,18.1s						
ZAL	**Zalesovo**	**42.16**	**312**	P	**P**	**02 57 16.9**	**-0.7**
ZAL				S	**S**	**03 03 33.4**	**-1.3**
ZAL				LR	LR	03 16 11.8	
BDT	**Bhumibol Dam**	**42.34**	**254**	P	**P**	**02 57 18.0**	**-1.5**
NST	**Nakhon Sawan**	**42.42**	**251**	P	**P**	**02 57 20.6**	**+0.4**
LSA	**Lhasa**	**42.43**	**275**	P	**P**	**02 57 21.4**	**+1.2**
LSA				AP	pP	02 57 32.3	+1.7
LSA				PP	PP	02 59 04.1	+2.8
LSA				S	**S**	**03 03 39.7**	**+0.6**
LSA				AMB	AMB		
	comp=Z,30nm,1.0s,mb4.9						
LSA				AMB	AMB		
	comp=Z,750nm,9.7s						
LSA				LR	LR		
	comp=N,840nm,20.8s,MS5.1						
LSA				LR	LR		
	comp=E,2µm,16.7s,MS5.1						
LSA				LR	LR		
	comp=Z,3µm,16.7s,MS5.3						
LSA	**Lhasa**	**42.43**	**275**	*e*P	**P**	**02 57 21.3**	**+1.1**
	comp=Z,38nm,0.8s,mb5.1						
LSA				LR	LR		
	comp=Z,3µm,20.0s,MS5.2						
NVS	**Novosibirsk**	**43.07**	**314**	*i* P	**P**	**02 57 23.7**	**-1.3**
NVS				*i*	pP	02 57 33.6	-1.8
NVS				*i* S	**S**	**03 03 48.7**	**+0.7**
NVS				*i*		03 04 08.3	
NVS				pmax	pmax		
	comp=E,82nm,1.2s						
NVS				pmax	pmax		
	comp=Z,84nm,1.2s,mb5.3						
NVS				smax			
	comp=N,72nm,2.9s						
NVS				smax			
	comp=E,153nm,2.9s						
SHL	**Shillong**	**43.62**	**270**	*i* P	**P**	**02 57 28.0**	**-1.9**
SHL				*i* S	**S**	**03 03 55.2**	**-1.4**
MKAR	**Makanchi Array**	**44.36**	**302**	P	**P**	**02 57 34.9**	**-0.7**
	comp=E,72nm,0.9s,mb5.4,baz=88,slow=8.8,SNR=134						
MKAR				pP	pP	02 57 45.6	-0.4
	comp=E,36nm,0.7s,baz=86,slow=8.6,SNR=8.1						
MKAR				S	**S**	**03 04 08.3**	**+1.3**
	comp=E,0.6nm,0.9s,baz=334,slow=26,SNR=3.0						
MKAR				LR	LR	03 16 28.1	
	comp=E,3µm,19.7s,MS5.2,baz=86,slow=37						
MKAR	**Makanchi Array**	**44.36**	**302**	P	**P**	**02 57 34.9**	**-0.6**
MKAR				*PP	pP	02 57 45.6	-0.4
MKAR				S	**S**	**03 04 08.3**	**+1.4**
MKAR				pmax	pmax		
	comp=Z,72nm,0.9s						
MKAR				MLR	MLR		
	comp=Z,3µm,19.7s						
NNT	**Nongplab**	**44.65**	**248**	P	**P**	**02 57 39.0**	**+0.7**
TTA	**Tatalina**	**45.38**	**35**	*e*P	**P**	**02 57 44.0**	**+0.5**
SVW	**Sparrevohn**	**45.45**	**37**	*e*P	**P**	**02 57 45.1**	**+1.0**
KURK	**Kurchatov**	**46.17**	**308**	P	**P**	**02 57 49.5**	**-0.4**
	comp=Z,644nm,0.6s						
KURK	**Kurchatov**	**46.17**	**308**	*e*P	**P**	**02 57 49.0**	**-0.9**
	comp=Z,126nm,1.1s,mb5.8						
KURK				LR	LR		
	comp=Z,2µm,20.0s,MS5.0						
IMA	**Indian Mountai**	**46.67**	**30**	*e*P	**P**	**02 57 54.7**	**+1.1**
RSO	**Redoubt South**	**46.85**	**38**	*e*P	**P**	**02 57 56.0**	**+0.8**
KDAK	**Kodiak Island**	**47.03**	**42**	PFAKE		02 58 10.0	+13
KDAK				LR	LR		
	comp=Z,852nm,21.0s,MS4.7						
SPU	**Mount Spurr**	**47.19**	**37**	*e*P	**P**	**02 57 58.3**	**+0.6**
PKI	**Pulchoki**	**47.90**	**276**	*e*P	**P**	**02 58 03.5**	**-0.4**
	comp=Z,158nm,1.0s,mb6.0						
KKN	**Kakani**	**47.91**	**276**	*e*P	**P**	**02 58 03.9**	**-0.1**
	comp=Z,143nm,0.6s,mb6.2						
FIB	**Fire Island**	**48.10**	**37**	PFAKE		02 58 20.0	+15
FIB				LR	LR		
	comp=Z,2µm,22.0s,MS5.1						
DMN	**Daman**	**48.13**	**276**	*e*P	**P**	**02 58 05.5**	**-0.1**
	comp=Z,180nm,1.0s,mb6.1						
GKN	**Gorkha**	**48.33**	**277**	*e*P	**P**	**02 58 07.1**	**-0.1**
	comp=Z,408nm,0.8s						
PMR	**Palmer**	**48.58**	**37**	*e*P	**P**	**02 58 08.4**	**-0.2**
PMR				LR	LR		
	comp=Z,2µm,22.0s,MS5.0						
MCK	**McKinley**	**48.60**	**34**	*e*P	**P**	**02 58 08.1**	**-0.7**
MCK				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.9						
MCK	**McKinley**	**48.60**	**34**	*e*P	**P**	**02 58 08.1**	**-0.7**
	comp=Z,12nm,1.0s,mb4.9						
AAA	**Alma-Ata**	**48.82**	**299**	*e*P	**P**	**02 58 10.0**	**-0.8**
AAA				*e*S	**S**	**03 05 15.0**	**+4.6**
AAA				pmax	pmax		
	comp=Z,1µm,6.0s						
AAA				smax			
	comp=N,2µm,16.0s						
AAA				smax			
	comp=E,2µm,16.0s						
SML	**Sawmill**	**48.95**	**36**	*e*P	**P**	**02 58 11.0**	**-0.5**
COLA	**College**	**49.05**	**32**	*e*P	**P**	**02 58 14.9**	**+2.7**
IPM	**Ipoh**	**49.20**	**239**	⇑*e*P	**P**	**02 58 14.0**	**-0.1**
	comp=E,35nm,1.0s,mb5.3						
KOLN	**Koldanda**	**49.26**	**277**	*e*P	**P**	**02 58 14.3**	**0.0**
	comp=E,247nm,1.1s,mb6.1						
ILAR	**Eielson Array**	**49.47**	**32**	P	**P**	**02 58 14.1**	**-1.3**
	comp=E,18nm,0.8s,mb5.2,baz=267,slow=5.9,SNR=81						
ILAR				pP	pP	02 58 24.4	-1.5
	comp=E,15nm,0.8s,baz=268,slow=5.5,SNR=11						
ILAR				S	**S**	**03 05 19.9**	**+0.8**
	comp=E,0.2nm,0.9s,baz=45,slow=2.0,SNR=2.6						
ILAR	**Eielson Array**	**49.47**	**32**	P	**P**	**02 58 14.1**	**-1.3**
ILAR				*PP	pP	02 58 24.5	-1.4
ILAR				S	**S**	**03 05 19.9**	**+0.8**
ILAR				pmax	pmax		
	comp=Z,18nm,0.8s						
TKM2	**Tokmak 2**	**49.87**	**299**	P	**P**	**02 58 19.2**	**+0.4**
	SNR=62						
THY	**Trims Highway**	**50.04**	**34**	*e*P	**P**	**02 58 18.4**	**-1.4**
KAKA	**Kakadu**	**50.13**	**192**	*e*P	**P**	**02 58 16.6**	**-4.6**
	comp=Z,68nm,0.9s,mb5.7						
DIV	**Divide**	**50.23**	**37**	*e*P	**P**	**02 58 21.1**	**-0.3**
	comp=Z,168nm,1.1s,mb6.0						
DIV				LR	LR		
	comp=Z,5µm,20.0s,MS5.5						
EYAK	**Cordova Ski Ar**	**50.30**	**38**	*e*P	**P**	**02 58 21.6**	**-0.3**
KBK	**Karagaybulak**	**50.40**	**298**	P	**P**	**02 58 22.8**	**-0.1**
	SNR=39						
CHMS	**Chumysh**	**50.44**	**299**	P	**P**	**02 58 22.8**	**-0.5**
	SNR=12						
VOSK	**Vostochnaya**	**50.51**	**312**	P	**P**	**02 58 22.4**	**-1.2**
VOSK				pmax	pmax		
	comp=Z,143nm,1.5s,mb5.7						
VOSK	**Vostochnaya**	**50.51**	**312**	*i* P	**P**	**02 58 22.5**	**-1.1**
USP	**Ospenovka**	**50.54**	**299**	P	**P**	**02 58 23.4**	**-0.5**
	SNR=27						
FRU	**Bishkek**	**50.58**	**299**	*e*P	**P**	**02 58 24.0**	**-0.3**
FRU				*e*		03 05 44.0	
FRU				MLR	MLR		
	comp=Z,8µm,19.0s,MS5.8						
KSH	**Kashi**	**50.65**	**294**	*e*P	**P**	**02 58 26.0**	**+1.2**
KSH				*e*AP	pP	02 58 36.4	+1.1
KSH				*e*XP	sP	02 58 40.8	+1.1
KSH				*e*PCP	PcP	02 59 43.3	+1.2
KSH				*e*PP	PP	03 00 22.3	+0.7
KSH				*e*PPP	PPP	03 01 20.7	+0.4
KSH				*e*SCP		03 03 35.8	
KSH				*e*PCS		03 03 39.5	
KSH				*e*S	**S**	**03 05 36.4**	**+0.6**
KSH				*e*PS	PS	03 05 44.0	-5.1
KSH				*e*XS		03 05 53.8	
KSH				*e*SCS	ScS	03 08 10.7	+1.1
KSH				*e*SS	SS	03 09 07.3	-0.3
KSH				AMB	AMB		
	comp=Z,50nm,0.9s,mb5.4						
AAK	**Ala-Archa**	**50.73**	**299**	P	**P**	**02 58 25.2**	**-0.2**
	SNR=12						
AAK	**Ala-Archa**	**50.73**	**299**	*e*P	**P**	**02 58 23.9**	**-1.5**
	comp=Z,19nm,0.7s,mb5.1						
AAK				LR	LR		
	comp=Z,3µm,19.0s,MS5.3						
BVA0	**Borovoye Array**	**50.80**	**312**	P	**P**	**02 58 24.8**	**-1.0**
UCH	**Uchtor**	**50.84**	**298**	P	**P**	**02 58 26.8**	**+0.6**
	SNR=14						
BRVK	**Borovoye**	**50.86**	**312**	⇑*i*P	**P**	**02 58 25.4**	**-0.8**
BRVK				LR	LR		
	comp=Z,1µm,19.0s,MS5.0						
EKS2	**Erkin-Say**	**51.23**	**299**	P	**P**	**02 58 28.8**	**-0.3**
	SNR=13						
AML	**Almayashu**	**51.45**	**298**	P	**P**	**02 58 31.3**	**+0.5**
	SNR=50						
ZRNK	**Zerenda**	**51.63**	**313**	*e*P	**P**	**02 58 31.2**	**-0.9**
ZRNK				pmax	pmax		
	comp=Z,91nm,1.2s,mb5.6						
ZRNK	**Zerenda**	**51.63**	**313**	*e*P	**P**	**02 58 31.2**	**-0.9**
	comp=Z,91nm,1.2s,mb5.6						
DLH	**Dalhousie**	**53.23**	**286**	*e*P	**P**	**02 58 48.0**	**+3.7**
KKAR	**Karatay Array**	**53.36**	**300**	*i* P	**P**	**02 58 44.0**	**-1.1**
KKAR				pmax	pmax		
	comp=Z,95nm,1.1s,mb5.6						
NDI	**New Delhi**	**53.91**	**281**	*e*P	**P**	**02 58 46.5**	**-2.8**
INK	**Inuvik**	**54.38**	**27**	P	**P**	**02 58 51.8**	**-0.5**
	comp=Z,27nm,1.1s,mb5.1,baz=283,slow=7.1,SNR=21						
INK				S	**S**	**03 06 28.4**	**+2.0**
	comp=Z,1.4nm,0.7s,baz=309,slow=32,SNR=2.4						
INK	**Inuvik**	**54.38**	**27**	P	**P**	**02 58 51.8**	**-0.5**
INK				S	**S**	**03 06 28.4**	**+2.0**
INK				pmax	pmax		
	comp=Z,27nm,1.1s						
VIS	**Vishakhapatnam**	**54.43**	**266**	*e*P	**P**	**02 58 51.2**	**-2.1**
BHPL	**Bhopal**	**56.30**	**275**	*e*P	**P**	**02 59 05.0**	**-1.7**
BHPL				*e*	pP	02 59 17.1	-0.4
	comp=Z,54nm,1.2s						
SIT	**Sitka**	**56.32**	**41**	PFAKE		02 59 20.0	+14
SIT				LR	LR		
	comp=Z,1µm,20.0s,MS5.0						
ARU	**Arti**	**56.58**	**319**	P	**P**	**02 59 07.9**	**-0.4**
	comp=Z,345nm,0.6s,SNR=23						
ARU	**Arti**	**56.58**	**319**	⇑*i*P	**P**	**02 59 07.2**	**-1.1**
ARU				*i*	pP	02 59 17.4	-1.6
ARU				*e*		02 59 58.3	
ARU				*i*		03 01 11.6	
ARU				*e*PPP	PPP	03 02 25.9	-8.3
ARU				*i* S	**S**	**03 06 56.4**	**+0.5**
ARU				*i* SS		03 07 13.2	
ARU				*e*		03 08 50.3	
ARU				*e*SSS	SSS	03 12 56.7	+0.8
ARU				pmax	pmax		
	comp=Z,77nm,1.4s,mb5.5						
ARU				MLR	MLR		
	comp=N,1µm,18.0s,MS5.6						
ARU				MLR	MLR		
	comp=E,4µm,18.0s,MS5.6						
ARU				MLR	MLR		
	comp=Z,5µm,18.0s,MS5.7						
ARU	**Arti**	**56.58**	**319**	*e*P	**P**	**02 59 07.1**	**-1.2**
	comp=Z,48nm,0.8s,mb5.6						
ARU				LR	LR		
	comp=Z,1µm,19.0s,MS5.0						
FITZ	**Fitzroy Crossi**	**56.79**	**198**	*e*P	**P**	**02 59 09.5**	**-0.8**
	comp=Z,17nm,0.5s,mb5.3						
FITZ				*e*S	**S**	**03 07 03.3**	**+4.1**
CTA	**Charters Tower**	**56.87**	**175**	*e*P	**P**	**02 59 10.0**	**-0.9**
	comp=Z,6.1nm,0.9s,mb4.6						
CTA				*e*S	**S**	**03 07 00.0**	**-0.2**
CTAO	**Charters Tower**	**56.87**	**175**	PFAKE		02 59 20.0	+9.1
CTAO				LR	LR		
	comp=Z,909nm,20.0s,MS4.9						
AJM	**Ajmer**	**56.94**	**280**	⇑*i*P	**P**	**02 59 10.0**	**-1.4**
WRAB	**Tennant Creek**	**56.98**	**188**	PFAKE		02 59 20.0	+8.3
WRAB				LR	LR		
	comp=Z,430nm,20.0s,MS4.5						
WB2	**Warramunga Arr**	**56.99**	**188**	⇑*i*P	**P**	**02 59 09.5**	**-2.2**
WRA	**Warramunga Arr**	**56.99**	**188**	P	**P**	**02 59 09.8**	**-2.0**
	comp=Z,20nm,0.5s,mb5.4,baz=6.1,slow=7.3,SNR=104						
WRA				S	**S**	**03 06 59.9**	**-1.9**
	comp=Z,0.6nm,1.0s,baz=176,slow=20,SNR=3.0						
WRA				LR	LR	03 22 15.9	
	comp=Z,1µm,21.9s,MS5.0,baz=35,slow=35						
AB31	**Akbulak array**	**58.17**	**310**	*i* P	**P**	**02 59 18.1**	**-1.5**
AB31				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.8						
HYB	**Hyderabad**	**58.42**	**269**	*i* P	**P**	**02 59 21.0**	**-0.8**
HYB				*e*	pP	02 59 32.0	-0.5
HYB				*e*S	**S**	**03 07 20.0**	**-0.5**
HYB	**Hyderabad**	**58.42**	**269**	*e*P	**P**	**02 59 21.0**	**-0.8**
HYB				*e*	pP	02 59 32.0	-0.5
HYB				*e*S	**S**	**03 07 20.0**	**-0.5**
LATR	**Latur**	**59.48**	**271**	*e*P	**P**	**02 59 28.5**	**-0.6**
MDRS	**Chennai**	**59.49**	**263**	*i* P	**P**	**02 59 29.0**	**-0.3**
CUD	**Cuddapah**	**59.87**	**266**	*e*P	**P**	**02 59 29.9**	**-2.0**
CUD				*e*		03 08 06.9	
CUD				*e*		03 17 24.8	
ASAR	**Alice Springs**	**60.72**	**188**	P	**P**	**02 59 35.8**	**-1.8**
	comp=Z,21nm,0.8s,mb5.3,baz=10,slow=6.5,SNR=136						
ASAR				pP	pP	02 59 47.4	-0.9
	comp=Z,27nm,0.9s,baz=8.8,slow=7.7,SNR=17						
ASAR				S	**S**	**03 07 46.9**	**-3.2**
	comp=Z,0.2nm,0.3s,baz=44,slow=40,SNR=2.8						
ASAR				LR	LR	03 24 43.9	
	comp=Z,651nm,21.2s,MS4.8,baz=1.1,slow=35						
ASAR				PKP2bc		03 29 00.2	
	comp=Z,6.4nm,1.2s,baz=153,slow=2.0,SNR=4.4						
ASAR	**Alice Springs**	**60.72**	**188**	P	**P**	**02 59 35.8**	**-1.8**
ASAR				pP	pP	02 59 47.4	-0.9
ASAR				S	**S**	**03 07 46.9**	**-3.2**
ASAR				LR	LR	03 24 43.9	
ASAR				⇑*e*		03 29 00.2	
ASPA	**Alice Springs**	**60.72**	**188**	⇑*i*P	**P**	**02 59 35.8**	**-1.8**
POO	**Poona**	**61.59**	**273**	*e*P	**P**	**02 59 42.6**	**-0.8**
POO				*e*	pP	02 59 55.9	+1.7
	comp=Z,85nm,1.2s						
KAD	**Karad**	**61.98**	**271**	*e*P	**P**	**02 59 45.0**	**-1.1**
LVZ	**Lovozero**	**62.29**	**336**	P	**P**	**02 59 46.3**	**-1.3**
	comp=Z,189nm,0.8s,mb6.3,SNR=12						
LVZ	**Lovozero**	**62.29**	**336**	*ce*P	**P**	**02 59 45.9**	**-1.7**
LVZ				*i*		03 00 25.6	
LVZ				*i*		03 02 03.8	
LVZ				*i* PPP	PPP	03 03 31.3	-5.1
LVZ				*e*S	**S**	**03 08 10.7**	**+1.2**
LVZ				*e*SS	SS	03 12 08.7	-6.2
LVZ				pmax	pmax		
	comp=Z,31nm,0.9s,mb5.4						
LVZ				pmax	pmax		
	comp=N,10.0nm,1.0s						
LVZ				pmax	pmax		
	comp=E,8.0nm,1.2s						
LVZ				pmax	pmax		
	comp=Z,255nm,3.3s						
LVZ				pmax	pmax		
	comp=N,80nm,3.0s						
LVZ				pmax	pmax		
	comp=E,171nm,5.1s						
LVZ				smax			
	comp=Z,197nm,13.8s						
LVZ				smax			
	comp=N,671nm,17.7s						
LVZ				smax			
	comp=E,199nm,11.5s						
LVZ				MLR	MLR		
	comp=Z,4µm,17.0s,MS5.6						
LVZ				MLR	MLR		
	comp=N,1µm,18.0s,MS5.5						
LVZ				MLR	MLR		
	comp=E,3µm,18.0s,MS5.5						
BJO	**Bjornoya**	**62.58**	**345**	*e*P	**P**	**02 59 51.0**	**+1.6**
BJO				*e*SS	SS	03 12 18.7	-0.7
BJO				AMS	AMS	03 31 08.5	
	comp=Z,2µm,17.1s,MS5.4						
APA	**Apatity**	**62.87**	**336**	⇓*i*P	**P**	**02 59 49.7**	**-1.7**
APA				*i*	pP	03 00 01.8	-0.4
APA				pmax	pmax		
	comp=Z,26nm,0.8s,mb5.4						
APA				pmax	pmax		
	comp=Z,700nm,8.0s						
NOUC	**Port Laguerre**	**63.14**	**154**	*e*P	**P**	**02 59 54.8**	**+1.0**
KEV	**Kevo**	**63.62**	**339**	*e*P	**P**	**02 59 55.1**	**-1.1**
KEV				pmax	pmax		
	comp=Z,48nm,0.9s,mb5.5						
KEV	**Kevo**	**63.62**	**339**	*e*P	**P**	**02 59 55.1**	**-1.1**
	comp=Z,48nm,0.9s,mb5.5						
YKA	**Yellowknife Ar**	**63.79**	**30**	P	**P**	**02 59 56.0**	**-1.4**
	comp=Z,6.6nm,0.9s,mb4.7,baz=296,slow=6.7,SNR=27						
YKA				S	**S**	**03 08 29.1**	**+0.9**
	comp=Z,0.5nm,0.8s,baz=200,slow=34,SNR=2.6						
YKA				LR	LR	03 26 50.0	
	comp=Z,917nm,21.5s,MS4.9,baz=285,slow=35						
YKA				PKPPKP		03 28 50.9	
	comp=Z,0.5nm,0.8s,baz=117,slow=2.8,SNR=3.6						
YKA	**Yellowknife Ar**	**63.79**	**30**	P	**P**	**02 59 56.0**	**-1.4**
YKA				S	**S**	**03 08 29.1**	**+0.9**
YKA				LR	LR	03 26 50.0	
YKA				P’P’		03 28 50.9	
ARCES	**ARCESS Array B**	**64.17**	**339**	P	**P**	**02 59 58.9**	**-0.9**
	comp=Z,12nm,0.6s,mb5.2,baz=47,slow=8.5,SNR=95						
ARCES				LR	LR	03 33 03.0	
	comp=Z,3µm,18.1s,MS5.5,baz=0.8,slow=41						
ARCES	**ARCESS Array B**	**64.17**	**339**	P	**P**	**02 59 58.9**	**-0.9**
ARCES				pmax	pmax		
	comp=Z,12nm,0.6s						
ARCES				MLR	MLR		
	comp=Z,3µm,18.1s						
ARE0	**ARCESS Array S**	**64.17**	**339**	*e*P	**P**	**02 59 58.8**	**-1.0**
KTK1	**Kautokeino**	**65.13**	**340**	⇑*i*P	**P**	**03 00 05.0**	**-1.0**
KTK1				AMb	AMB	03 00 07.1	
	comp=Z,76nm,1.0s,mb5.7						
KTK1				*e*pP	pP	03 00 16.1	-0.8
KTK1	**Kautokeino**	**65.13**	**340**	⇑*i*P	**P**	**03 00 05.0**	**-1.0**
	comp=Z,76nm,1.0s,mb5.7						
TRO	**Tromso**	**65.88**	**341**	*e*P	**P**	**03 00 08.3**	**-2.5**
TRO				*e*PP	PP	03 02 32.6	-5.6
TRO				*e*S	S	03 08 53.7	-0.1
TRO				*e*SS	SS	03 13 08.2	-2.1
TRO				AMS	AMS	03 34 27.7	
	comp=Z,2µm,17.5s,MS5.4						
TRO	**Tromso**	**65.88**	**341**	*e*P	**P**	**03 00 08.3**	**-2.5**
TRO				LR	LR		
	comp=Z,2231µm,17.5s						
DAG	**Danmarks Havn**	**65.90**	**355**	⇓*i*P	**P**	**03 00 09.7**	**-1.1**
	comp=Z,46nm,1.3s,mb5.3						
OCWA	**Octopus Mounta**	**66.27**	**47**	PFAKE		03 00 30.0	+16
OCWA				LR	LR		
	comp=Z,922nm,21.0s,MS5.0						
GNW	**Green Mountain**	**67.15**	**47**	P	**P**	**03 00 17.5**	**-1.7**
MOS	**Moscow**	**67.46**	**324**	*e*P	**P**	**03 00 19.6**	**-1.4**
MOS				*e*		03 00 37.5	
MOS				*e*		03 00 46.7	
MOS				*e*		03 02 43.5	
MOS				*e*S	S	03 09 11.5	-1.6
MOS				*e*		03 09 31.3	
MOS				*e*		03 10 06.2	
MOS				*e*SS	SS	03 13 31.2	-4.0
MOS				pmax	pmax		
	comp=E,221nm,1.3s						
MOS				pmax	pmax		
	comp=Z,307nm,1.3s,mb6.2						
RPW	**Rockport**	**67.47**	**46**	*e*P	**P**	**03 00 20.2**	**-0.9**
LON	**Longmire**	**68.17**	**47**	*e*P	**P**	**03 00 26.2**	**+0.6**
OBN	**Obninsk**	**68.31**	**323**	*c i*P	**P**	**03 00 25.2**	**-1.1**
OBN				*i*	pP	03 00 36.5	-0.7
OBN				*i*		03 02 56.1	
OBN				pmax	pmax		
	comp=Z,137nm,1.5s,mb5.8						

OBN				MLR	MLR		
	comp=Z,3µm,16.0s,MS5.6						
OBN	**Obninsk**	**68.31**	**323**	⇑*i*P	**P**	**03 00 25.2**	**-1.1**
OBN				LR	LR		
	comp=Z,3µm,16.0s,MS5.6						
COR	**Corvallis**	**68.38**	**50**	*e*P	**P**	**03 00 25.4**	**-1.5**
	comp=Z,46nm,1.0s,mb5.5						
COR				LR	LR		
	comp=Z,722nm,21.0s,MS4.9						
PUL	**Pulkovo**	**68.39**	**330**	*e*P	**P**	**03 00 24.0**	**-2.7**
PUL				*i*		03 00 50.0	
PUL				*i*		03 02 58.7	
PUL				*e*S	S	03 09 24.6	+0.5
PUL				pmax	pmax		
	comp=Z,109nm,0.6s,mb6.1						
PUL				pmax	pmax		
	comp=N,103nm,0.7s						
PUL				pmax	pmax		
	comp=E,196nm,1.3s						
PUL				smax			
	comp=Z,91nm,14.3s						
PUL				smax			
	comp=N,367nm,14.8s						
PUL				smax			
	comp=E,490nm,11.3s						
PUL				MLR	MLR		
	comp=Z,4µm,16.0s,MS5.7						
PUL	**Pulkovo**	**68.39**	**330**	*e*P	**P**	**03 00 26.8**	**+0.1**
STKA	**Stephens Creek**	**68.45**	**180**	*e*P	**P**	**03 00 26.5**	**-1.1**
	comp=Z,5.2nm,0.6s,mb4.7						
STKA				*i* S	S	03 09 26.0	+0.7
STKA	**Stephens Creek**	**68.45**	**180**	P	**P**	**03 00 27.0**	**-0.6**
	comp=Z,8.5nm,0.8s,mb4.8,baz=344,slow=7.5,SNR=15						
STKA				S	S	03 09 25.1	-0.2
	comp=Z,1.3nm,0.8s,baz=306,slow=12,SNR=2.5						
STKA				PKPPKP		03 28 41.2	
	comp=Z,4.3nm,1.1s,baz=280,slow=4.9,SNR=2.8						
STKA				LR	LR	03 29 04.7	
	comp=Z,1µm,20.2s,MS5.1,baz=98,slow=35						
KAF	**Kangasniemi**	**68.50**	**333**	*e*P	**P**	**03 00 25.9**	**-1.5**
KAF				pmax	pmax		
	comp=Z,23nm,0.4s,mb5.6						
KAF	**Kangasniemi**	**68.50**	**333**	*e*P	**P**	**03 00 25.9**	**-1.5**
	comp=Z,23nm,0.4s,mb5.5						
FORT	**Forrest**	**68.55**	**193**	⇑*i*P	**P**	**03 00 27.4**	**-0.9**
	comp=Z,158nm,0.6s,mb6.1						
MAK	**Makhachkala**	**68.69**	**308**	*e*P	**P**	**03 00 29.0**	**+0.1**
MAK				*e*		03 03 03.0	
MAK				*e*S	S	03 09 32.0	+4.0
MAK				pmax	pmax		
	comp=Z,1µm,6.5s						
MAK				smax			
	comp=E,1µm,12.0s						
MAK				MLR	MLR		
	comp=N,2µm,13.0s						
MAK				MLR	MLR		
	comp=Z,4µm,13.0s,MS5.8						
EBG	**Ellensburg**	**68.81**	**47**	P	**P**	**03 00 31.1**	**+1.5**
FINES	**FINESS Array B**	**69.01**	**332**	P	**P**	**03 00 29.4**	**-1.1**
	comp=Z,49nm,1.0s,mb5.4,baz=76,slow=7.9,SNR=76						
FINES				LR	LR	03 33 00.2	
	comp=Z,3µm,19.0s,MS5.5,baz=237,slow=38						
FINES	**FINESS Array B**	**69.01**	**332**	P	**P**	**03 00 29.4**	**-1.1**
FINES				pmax	pmax		
	comp=Z,49nm,1.0s						
FINES				MLR	MLR		
	comp=Z,3µm,19.0s						
HBO	**Huckleberry Mo**	**69.37**	**50**	P	**P**	**03 00 34.5**	**+1.5**
MOR8	**Moi Rana**	**69.53**	**340**	*e*P	**P**	**03 00 31.4**	**-2.2**
MOR8				AMb	AMB	03 00 34.1	
	comp=Z,101nm,1.6s,mb5.5						
MOR8				*e*pP	pP	03 00 42.9	-1.7
HUMO	**Hull Mountain**	**69.62**	**52**	*e*P	**P**	**03 00 34.0**	**-0.6**
	comp=Z,6.9nm,1.0s,mb4.5						
DPW	**Davenport**	**69.66**	**45**	*e*P	**P**	**03 00 34.2**	**-0.5**
HAWA	**Hanford**	**69.69**	**47**	*e*P	**P**	**03 00 36.1**	**+1.1**
HAWA				LR	LR		
	comp=Z,727nm,20.0s,MS4.9						
NEW	**Newport**	**70.06**	**44**	*e*P	**P**	**03 00 37.3**	**+0.1**
	comp=Z,16nm,1.1s,mb4.9						
NEW				LR	LR		
	comp=Z,771nm,20.0s,MS5.0						
YBH	**Yreka Blue Hor**	**70.24**	**52**	*e*P	**P**	**03 00 39.3**	**+0.9**
YBH				pmax	pmax		
	comp=Z,13nm,1.0s						
YBH	**Yreka Blue Hor**	**70.24**	**52**	*e*P	**P**	**03 00 39.3**	**+0.9**
	comp=Z,13nm,1.1s,mb4.8						
JMIC	**Jan Mayen**	**70.28**	**350**	*e*P	**P**	**03 00 39.0**	**+0.8**
JMIC				*e*S	S	03 09 46.6	+0.3
JMIC				AMS	AMS	03 35 30.4	
	comp=Z,542nm,15.8s,MS4.9						
JMIC	**Jan Mayen**	**70.28**	**350**	*e*P	**P**	**03 00 39.0**	**+0.8**
JMIC				LR	LR		
	comp=Z,542µm,15.8s						
GOF	**Gofitskoye**	**70.33**	**312**	⇓*i*P	**P**	**03 00 38.0**	**-0.9**
GOF				pmax	pmax		
	comp=Z,120nm,1.4s,mb5.6						
GOF				pmax	pmax		
	comp=Z,1µm,4.0s						
VSU	**Vasula**	**70.65**	**330**	⇑*i*P	**P**	**03 00 40.0**	**-0.6**
LNOR	**Lincton Mounta**	**70.70**	**47**	*e*P	**P**	**03 00 42.3**	**+1.2**
SUMG	**Summit**	**70.79**	**0**	*e*P	**P**	**03 00 41.8**	**+0.5**
	comp=Z,50nm,1.2s,mb5.3						
WDC	**Whiskeytown Da**	**70.96**	**53**	*e*P	**P**	**03 00 43.7**	**+0.9**
WDC				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.9						
WDC	**Whiskeytown Da**	**70.96**	**53**	*e*P	**P**	**03 00 43.7**	**+0.9**
	comp=Z,16nm,1.0s,mb4.9						
ZEI	**Tsey**	**71.04**	**310**	⇑*e*P	**P**	**03 00 41.9**	**-1.4**
ZEI				*i* *PP	pP	03 00 53.2	-1.0
ZEI				*e*		03 03 20.0	
ZEI				*e*S	S	03 09 56.0	+0.4
ZEI				*e*PS	PS	03 10 16.0	-12
ZEI				*e*		03 10 40.0	
ZEI				pmax	pmax		
	comp=Z,300nm,8.0s						
ZEI				MLR	MLR		
	comp=Z,2µm,17.0s,MS5.5						
TI2	**Plekhanov**	**71.07**	**308**	⇑*i*P	**P**	**03 00 43.0**	**-0.5**
TI2				*e*S	S	03 09 58.0	+2.1
TI2				MLR	MLR		
	comp=N,1µm,15.0s,MS5.5						
TI2				MLR	MLR		
	comp=E,2µm,15.0s,MS5.5						
TI2				MLR	MLR		
	comp=Z,2µm,15.0s,MS5.5						
NSS	**Namsos**	**71.46**	**339**	*e*S	S	03 09 58.6	-1.4
NSS				AMS	AMS	03 38 49.7	
	comp=Z,3µm,22.3s,MS5.4						
HOPS	**Hopland**	**71.47**	**55**	PFAKE		03 01 00.0	+14
HOPS				LR	LR		
	comp=Z,1µm,22.0s,MS5.2						
MOD	**Modoc**	**71.66**	**51**	*e*P	**P**	**03 00 46.2**	**-0.7**
	comp=Z,19nm,1.1s,mb4.9						
MOD				LR	LR		
	comp=Z,781nm,21.0s,MS5.0						
KLBR	**Kellerberrin**	**71.75**	**201**	⇓*i*P	**P**	**03 00 46.7**	**-0.9**
	comp=Z,23nm,0.8s,mb5.2						
OHCM	**Honcut**	**72.32**	**54**	*e*P	**P**	**03 00 50.9**	**+0.1**
WVOR	**Wild Horse Val**	**72.40**	**50**	*e*P	**P**	**03 00 52.1**	**+0.8**
	comp=Z,15nm,1.2s,mb4.8						
WVOR				LR	LR		
	comp=Z,1µm,22.0s,MS5.2						
MSO	**Missoula**	**72.64**	**44**	PFAKE		03 01 00.0	+7.4
MSO				LR	LR		
	comp=Z,432nm,20.0s,MS4.7						
TRON	**Trondheim**	**72.72**	**339**	*e*P	**P**	**03 00 53.6**	**+0.9**
TRON				*e*pP	pP	03 01 03.6	-0.1
ASMM	**Slate Mountain**	**73.12**	**54**	*e*P	**P**	**03 00 54.0**	**-1.6**
SOC	**Sochi**	**73.13**	**312**	*i* P	**P**	**03 00 54.7**	**-0.9**
SOC				*e*	pP	03 01 06.6	+0.1
SOC				*e*		03 03 38.3	
SOC				*e*PPP	PPP	03 05 19.8	-4.2
SOC				*e*S	S	03 10 18.6	-0.8
SOC				*e*		03 10 59.1	
SOC				*e*SS	SS	03 14 59.0	-4.4
SOC				pmax	pmax		
	comp=Z,42nm,1.0s,mb5.3						
SOC				pmax	pmax		
	comp=N,8.0nm,0.9s						
SOC				pmax	pmax		
	comp=E,8.0nm,0.8s						
SOC				MLR	MLR		
	comp=Z,3µm,18.0s,MS5.6						
SOC				MLR	MLR		
	comp=N,2µm,20.0s,MS5.5						
SOC				MLR	MLR		
	comp=E,1µm,16.0s,MS5.5						
WCN	**Washoe City**	**73.45**	**53**	*e*P	**P**	**03 00 58.5**	**+0.9**
WCN				pmax	pmax		
	comp=Z,28nm,1.3s,mb5.0						
WCN	**Washoe City**	**73.45**	**53**	*e*P	**P**	**03 00 58.5**	**+0.9**
	comp=Z,28nm,1.4s,mb5.0						
FFC	**Flin Flon**	**73.68**	**33**	*e*P	**P**	**03 00 57.9**	**-0.6**
FFC				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.2						
FFC	**Flin Flon**	**73.68**	**33**	*e*P	**P**	**03 00 57.9**	**-0.6**
	comp=Z,30nm,1.1s,mb5.1						
FFC				*e*pP	pP	03 01 07.5	-2.0
FFC				LR	LR		
	comp=Z,229nm,22.0s,MS4.4						
CMB	**Columbia Colle**	**73.75**	**55**	*e*P	**P**	**03 00 59.5**	**+0.1**
CMB				pmax	pmax		
	comp=Z,32nm,1.0s,mb5.2						
CMB	**Columbia Colle**	**73.75**	**55**	*e*P	**P**	**03 00 59.5**	**+0.2**
	comp=Z,32nm,1.0s,mb5.2						
CMB				*e*pP	pP	03 01 09.3	-1.0
CMB				LR	LR		
	comp=Z,1µm,21.0s,MS5.2						
ANN	**Anapa**	**73.76**	**314**	*e*P	**P**	**03 00 57.5**	**-1.7**
ANN				*e*		03 01 11.8	
ANN				*e*S	S	03 10 26.9	+0.4
ANN				pmax	pmax		
	comp=Z,111nm,1.4s,mb5.6						
ANN				MLR	MLR		
	comp=Z,2µm,16.6s,MS5.4						
ANN				MLR	MLR		
	comp=N,3µm,19.9s,MS5.6						
ANN				MLR	MLR		
	comp=E,1µm,16.8s,MS5.6						
TOO	**Toolangi**	**74.21**	**177**	*e*P	**P**	**03 01 02.7**	**+0.7**
	comp=E,5.4nm,0.8s,mb4.5						
DOMB	**Dombas**	**74.22**	**339**	*e*P	**P**	**03 01 01.1**	**-0.4**
DOMB				AMb	AMB	03 01 03.4	
	comp=Z,70nm,1.1s,mb5.5						
MOL	**Molde**	**74.23**	**340**	*e*P	**P**	**03 01 05.0**	**+3.5**
MOL				AMb	AMB	03 01 08.7	
	comp=Z,59nm,1.1s,mb5.4						
HLID	**Hailey**	**74.28**	**47**	*e*P	**P**	**03 01 03.2**	**+0.9**
	comp=Z,10nm,1.1s,mb4.7						
HLID				LR	LR		
	comp=Z,645nm,22.0s,MS4.9						
NB2	**NORSAR Subarra**	**74.36**	**337**	P	**P**	**03 01 01.9**	**-0.5**
	comp=Z,38nm,0.7s,mb5.4,baz=40,slow=5.8						
NB2	**NORSAR Subarra**	**74.36**	**337**	P	**P**	**03 01 01.9**	**-0.5**
	baz=40,slow=6.2						
NOA	**NORSAR Array B**	**74.36**	**337**	P	**P**	**03 01 01.8**	**-0.6**
	comp=Z,24nm,0.6s,mb5.3,baz=39,slow=5.9,SNR=86						
NOA				pP	pP	03 01 13.3	0.0
	comp=Z,27nm,0.9s,baz=39,slow=5.8,SNR=7.6						
NOA				S	S	03 10 34.5	+1.6
	comp=Z,1.0nm,0.8s,baz=172,slow=3.1,SNR=2.3						
NOA				LR	LR	03 36 12.8	
	comp=Z,3µm,21.8s,MS5.5,baz=40,slow=38						
NOA	**NORSAR Array B**	**74.36**	**337**	P	**P**	**03 01 01.8**	**-0.6**
NOA				*PP	pP	03 01 13.3	0.0
NOA				S	S	03 10 34.6	+1.7
NOA				pmax	pmax		
	comp=Z,24nm,0.6s						
NOA				MLR	MLR		
	comp=Z,3µm,21.8s						
NOA	**NORSAR Array B**	**74.36**	**337**	P	**P**	**03 01 01.8**	**-0.6**
NOA				pP	pP	03 01 13.3	0.0
NOA				S	S	03 10 34.5	+1.6
NOA				LR	LR	03 36 12.8	
BMN	**Battle Mountai**	**74.41**	**51**	*e*P	**P**	**03 01 04.4**	**+1.3**
	comp=Z,23nm,1.1s,mb5.0						
BMN				LR	LR		
	comp=Z,635nm,21.0s,MS4.9						
MCMT	**McKenzie Canyo**	**74.44**	**45**	*e*P	**P**	**03 00 58.0**	**-5.2**
AKASG	**Malin Array Be**	**74.51**	**322**	P	**P**	**03 01 02.2**	**-1.3**
	comp=Z,14nm,0.4s,mb5.2,baz=45,slow=6.1,SNR=94						
AKASG				S	S	03 10 33.6	-1.1
	comp=Z,0.3nm,0.3s,baz=170,slow=36,SNR=2.3						
AKASG				LR	LR	03 37 08.0	
	comp=Z,3µm,18.3s,MS5.6,baz=55,slow=38						
AKASG	**Malin Array Be**	**74.51**	**322**	P	**P**	**03 01 02.2**	**-1.2**
AKASG				S	S	03 10 33.7	-1.1
AKASG				pmax	pmax		
	comp=Z,14nm,0.4s						
AKASG				MLR	MLR		
	comp=Z,3µm,18.3s						
NAO01	**NORSAR Array S**	**74.62**	**337**	*e*P	**P**	**03 01 02.9**	**-0.9**
	comp=Z,12nm,0.6s,mb5.0						
NAO01				LR	LR		
	comp=Z,4µm,22.0s,MS5.7						
BOZ	**Bozeman (W)**	**74.64**	**44**	*e*P	**P**	**03 01 04.6**	**+0.3**
	comp=Z,19nm,1.0s,mb5.0						
BOZ				LR	LR		
	comp=Z,612nm,19.0s,MS4.9						
NVAR	**Mina Array Bea**	**74.88**	**53**	P	**P**	**03 01 06.5**	**+0.7**
	comp=Z,21nm,0.9s,mb5.1,baz=297,slow=3.9,SNR=97						
NVAR				pP	pP	03 01 16.3	-0.5
	comp=Z,6.0nm,0.8s,baz=314,slow=3.2,SNR=6.9						
NVAR				S	S	03 10 44.7	+5.6
	comp=Z,0.1nm,0.3s,baz=203,slow=38,SNR=2.1						
NVAR				LR	LR	03 28 13.1	
	comp=Z,594nm,21.3s,MS4.9,baz=65,slow=31						
MNV	**Mina**	**74.97**	**53**	*e*P	**P**	**03 01 06.9**	**+0.5**
MNV				pmax	pmax		
	comp=Z,28nm,1.2s,mb5.1						
MNV	**Mina**	**74.97**	**53**	*e*P	**P**	**03 01 06.9**	**+0.5**
	comp=Z,28nm,1.2s,mb5.1						
GUMT	**Gumushane**	**75.08**	**309**	*e*P	**P**	**03 01 07.0**	**0.0**
SUW	**Suwalki**	**75.09**	**328**	*e*P	**P**	**03 01 06.2**	**-0.5**
SUW				*e**PP	pP	03 01 14.2	-3.5
SUW				*e*		03 03 52.2	
SUW				*e*S	S	03 10 43.1	+1.9
SUW				pmax	pmax		
	comp=Z,200nm,1.2s,mb5.9						
SUW				MLR	MLR		
	comp=Z,4µm,18.2s,MS5.8						
MTUM	**Tungsten Hills**	**75.33**	**54**	*e*P	**P**	**03 01 09.9**	**+1.4**
KELT	**Kelkit**	**75.40**	**309**	*i* P	**P**	**03 01 00.6**	**-8.2**
ELK	**Elko**	**75.45**	**50**	*e*P	**P**	**03 01 10.4**	**+1.3**
	comp=Z,7.4nm,0.8s,mb4.7						
ELK				LR	LR		
	comp=Z,722nm,19.0s,MS5.0						
SIM	**Simferopol’**	**75.55**	**316**	α*i*P	**P**	**03 01 09.0**	**-0.6**
SIM				*e*	pP	03 01 21.0	+0.5
SIM				*e*S	S	03 10 46.0	-0.5
SIM				*e*		03 11 08.0	
SIM				*e*PS	PS	03 11 49.0	+21
SIM				pmax	pmax		
	comp=Z,37nm,0.9s,mb5.3						
SIM				MLR	MLR		
	comp=Z,2µm,17.3s,MS5.5						
YMR	**Madison River**	**75.60**	**45**	*e*P	**P**	**03 01 11.5**	**+1.6**
HYA	**Hoyanger**	**75.75**	**339**	*e*P	**P**	**03 01 11.8**	**+1.5**
HYA				AMb	AMB	03 01 18.1	
	comp=Z,72nm,1.4s,mb5.4						
HYA	**Hoyanger**	**75.75**	**339**	*e*P	**P**	**03 01 11.8**	**+1.5**
	comp=Z,72nm,1.4s,mb5.4						
TPH	**Tonopah**	**75.78**	**53**	*e*P	**P**	**03 01 11.9**	**+1.0**
	comp=Z,41nm,1.0s,mb5.3						
TPH				LR	LR		
	comp=Z,961nm,22.0s,MS5.1						
MIB	**Mutribah**	**75.93**	**297**	*e*P	**P**	**03 01 11.2**	**-0.8**
MIB				AMb	AMB	03 01 13.6	
	comp=Z,72nm,0.8s,mb5.6						
KBD	**Kabd**	**76.03**	**296**	*e*P	**P**	**03 01 12.4**	**-0.2**
QRN	**Al-Qurain**	**76.11**	**295**	*e*P	**P**	**03 01 12.7**	**-0.4**
QRN				AMb	AMB	03 01 21.3	
	comp=Z,84nm,0.6s,mb5.9						
RDF	**Al-Radifah**	**76.28**	**296**	*e*P	**P**	**03 01 13.8**	**-0.2**
RDF				AMb	AMB	03 01 16.1	
	comp=Z,101nm,0.9s,mb5.8						
MOOW	**Moose Ponds**	**76.30**	**45**	*e*P	**P**	**03 01 14.8**	**+1.0**
HVU	**Hansel Valley**	**76.32**	**48**	*e*P	**P**	**03 01 14.4**	**+0.4**
TPAW	**Teton Pass**	**76.34**	**46**	*e*P	**P**	**03 01 15.0**	**+0.9**
RST	**Umm Al-Ruwaisa**	**76.35**	**297**	*e*P	**P**	**03 01 13.8**	**-0.6**
RST				AMb	AMB	03 01 16.1	
	comp=Z,70nm,1.1s,mb5.5						
SNOW	**Snow King Moun**	**76.47**	**46**	*e*P	**P**	**03 01 15.8**	**+1.0**
ELZG	**Elazig**	**76.55**	**308**	*i* P	**P**	**03 01 15.8**	**+0.4**
ASK	**Askoy**	**76.59**	**339**	*e*P	**P**	**03 01 16.1**	**+0.9**
ASK				AMb	AMB	03 01 21.0	
	comp=Z,106nm,1.2s,mb5.6						
DAC	**Darwin (Calif)**	**76.59**	**55**	*e*P	**P**	**03 01 16.6**	**+1.0**
	comp=Z,20nm,1.1s,mb5.0						
DAC				LR	LR		
	comp=Z,756nm,19.0s,MS5.0						
RUND	**Rundenannen**	**76.59**	**339**	*e*P	**P**	**03 01 16.0**	**+0.8**
RUND				AMb	AMB	03 01 18.7	
	comp=Z,113nm,1.2s,mb5.7						
RUND				*e*pP	pP	03 01 26.1	0.0
BER	**Bergen**	**76.63**	**339**	*e*P	**P**	**03 01 15.9**	**+0.6**
ODD1	**Odda**	**76.64**	**339**	*e*P	**P**	**03 01 15.1**	**-0.3**
ODD1				*e*pP	pP	03 01 26.3	-0.1
ODD1				AMb	AMB	03 01 28.4	
	comp=Z,77nm,1.3s,mb5.5						
ODD1	**Odda**	**76.64**	**339**	*e*P	**P**	**03 01 15.1**	**-0.3**
	comp=Z,77nm,1.3s,mb5.5						
BGU	**Big Grassy Mou**	**76.69**	**49**	*e*P	**P**	**03 01 16.6**	**+0.5**
AHID	**Auburn Hatcher**	**76.70**	**46**	*e*P	**P**	**03 01 17.4**	**+1.2**
	comp=Z,42nm,1.7s,mb5.1						
AHID				LR	LR		
	comp=Z,898nm,22.0s,MS5.0						
DGMT	**Dagmar**	**76.78**	**39**	PFAKE		03 01 30.0	+14
DGMT				LR	LR		
	comp=Z,906nm,21.0s,MS5.1						
SPUT	**South Promonto**	**76.80**	**48**	*e*P	**P**	**03 01 16.2**	**-0.6**
LAO	**LASA Array**	**76.91**	**41**	*e*P	**P**	**03 01 17.4**	**+0.1**
	comp=Z,24nm,1.0s,mb5.1						
LAO				LR	LR		
	comp=Z,1µm,22.0s,MS5.1						
SVSK	**Karacayir**	**76.93**	**310**	*e*P	**P**	**03 01 17.5**	**0.0**
TOKT	**Tokat**	**76.96**	**311**	*e*P	**P**	**03 01 18.1**	**+0.4**
MYA	**Malataya**	**77.00**	**308**	*e*P	**P**	**03 01 16.8**	**-1.2**
MALT	**Malatya**	**77.01**	**308**	*e*P	**P**	**03 01 18.8**	**+0.8**
MALT	**Malatya**	**77.01**	**308**	*e*P	**P**	**03 01 18.6**	**+0.6**
	comp=Z,64nm,1.3s,mb5.4						
TPNV	**Topopah Spring**	**77.06**	**53**	*e*P	**P**	**03 01 18.5**	**+0.2**
	comp=Z,34nm,1.0s,mb5.2						
TPNV				LR	LR		
	comp=Z,1µm,22.0s,MS5.1						
KIS	**Kishinev**	**77.11**	**320**	*e*P	**P**	**03 01 17.0**	**-1.4**
KIS				*e*		03 01 38.0	
KIS				*e*		03 04 10.0	
KIS				*e*S	S	03 11 03.0	-0.4
KIS				*e*		03 11 22.0	
KIS				*e*PS	PS	03 12 02.0	+15
KIS				MLR	MLR		
	comp=Z,6µm,16.0s,MS6.0						
KIS				MLR	MLR		
	comp=N,3µm,17.0s,MS5.8						
KIS				MLR	MLR		
	comp=E,3µm,17.0s,MS5.8						
KIS				MLR	MLR		
	comp=Z,6µm,16.0s						
HWUT	**Hardware Ranch**	**77.14**	**47**	*e*P	**P**	**03 01 19.4**	**+0.7**
	comp=Z,31nm,1.3s,mb5.1						
HWUT				LR	LR		
	comp=Z,659nm,19.0s,MS5.0						
DUG	**Dugway**	**77.26**	**49**	*e*P	**P**	**03 01 20.0**	**+0.6**
	comp=Z,29nm,1.1s,mb5.1						
DUG				LR	LR		
	comp=Z,700nm,21.0s,MS5.0						
WAR	**Warsaw**	**77.26**	**327**	*e*P	**P**	**03 01 19.5**	**+0.4**
WAR				*e*		03 01 25.1	
WAR				*e*S	S	03 11 09.3	+4.4
WAR				MLR	MLR		
	comp=Z,3µm,17.2s,MS5.7						
BYBT	**Boyabat**	**77.32**	**313**	*e*P	**P**	**03 01 20.1**	**+0.4**
BZK	**Bozkurt**	**77.47**	**313**	*e*P	**P**	**03 01 18.8**	**-1.7**
TCUT	**Toone Canyon**	**77.54**	**48**	*e*P	**P**	**03 01 21.2**	**+0.4**
BW06	**Boulder Array**	**77.58**	**46**	PFAKE		03 01 30.0	+8.9
BW06				LR	LR		
	comp=Z,887nm,22.0s,MS5.0						
PDAR	**Pinedale Array**	**77.58**	**46**	P	**P**	**03 01 21.1**	**0.0**
	comp=Z,3.5nm,0.8s,mb4.4,baz=315,slow=2.1,SNR=32						
PDAR				S	S	03 11 12.1	+3.4
	comp=Z,0.1nm,0.4s,baz=197,slow=20,SNR=2.4						
PDAR				LR	LR	03 31 12.4	
	comp=Z,507nm,21.2s,MS4.8,baz=332,slow=32						
PDAR	**Pinedale Array**	**77.58**	**46**	P	**P**	**03 01 21.1**	**0.0**
PDAR				S	S	03 11 12.1	+3.4
PDAR				LR	LR	03 31 12.4	
KMY	**Karmoy**	**77.62**	**339**	*e*P	**P**	**03 01 20.4**	**-0.6**
BSD	**Bornholm Skovb**	**77.64**	**332**	*i* P	**P**	**03 01 21.2**	**+0.1**
	comp=Z,97nm,1.2s,mb5.6						
BSD				*i*	pP	03 01 31.5	-0.6
BSD				*i*		03 11 31.9	
	comp=Z,2µm,20.0s						
SNART	**Snartemo**	**77.75**	**337**	*e*P	**P**	**03 01 22.2**	**+0.5**
SNART				AMb	AMB	03 01 23.9	
	comp=Z,91nm,1.4s,mb5.5						
SNART				*e*pP	pP	03 01 32.0	-0.7
SNART	**Snartemo**	**77.75**	**337**	*e*P	**P**	**03 01 22.2**	**+0.5**
	comp=Z,91nm,1.4s,mb5.5						
JLU	**Jordanelle**	**77.83**	**48**	*e*P	**P**	**03 01 23.4**	**+0.9**
NLU	**North Lily Min**	**77.85**	**49**	*e*P	**P**	**03 01 23.5**	**+0.8**
TOS	**Tosya**	**78.03**	**313**	*e*P	**P**	**03 01 20.4**	**-3.2**
DAU	**Daniels Canyon**	**78.06**	**48**	*e*P	**P**	**03 01 24.5**	**+0.7**
MPU	**Maple Canyon**	**78.08**	**49**	*e*P	**P**	**03 01 24.8**	**+0.9**
GKP	**Gorka Klasztor**	**78.11**	**330**	*e*P	**P**	**03 01 23.5**	**-0.2**
GKP				*e*		03 04 18.0	
GKP				*e*S	S	03 11 14.3	+0.3
GKP				*e**SS		03 11 28.9	
GKP				MLR	MLR		
	comp=Z,2µm,20.8s,MS5.5						
COP	**Copenhagen**	**78.11**	**333**	*i* P	**P**	**03 01 21.9**	**-1.8**
	comp=Z,23nm,0.7s,mb5.2						
COP				*i*		03 04 21.9	
	comp=Z,2µm,19.0s						
GZT	**Gaziantep**	**78.13**	**308**	*i* P	**P**	**03 01 24.3**	**+0.1**
KWP	**Kalwaria**	**78.34**	**324**	*e*P	**P**	**03 01 25.4**	**+0.3**
KWP				*e**PP	pP	03 01 36.1	0.0
KWP				*e*		03 04 22.1	
KWP				*e*S	S	03 11 17.0	+0.4
KWP				*e**SS		03 11 33.2	
KWP				pmax	pmax		
	comp=Z,300nm,1.3s,mb6.1						
KWP				MLR	MLR		
	comp=Z,4µm,18.1s,MS5.8						
KAHT	**Ahir Dag**	**78.40**	**308**	*i* P	**P**	**03 01 26.4**	**+0.7**
MUD	**Monsted U’grnd**	**78.64**	**335**	*i* P	**P**	**03 01 26.0**	**-0.6**
	comp=Z,42nm,1.1s,mb5.3						
MUD				*e*		03 15 50.2	
	comp=Z,4µm,19.0s						
MSU	**Marysvale**	**78.68**	**50**	*e*P	**P**	**03 01 28.4**	**+1.2**
SAFT	**Safranbolu**	**78.69**	**313**	*i* P	**P**	**03 01 26.7**	**-0.5**
ELDT	**Eldivan**	**78.73**	**312**	*i* P	**P**	**03 01 27.5**	**+0.1**
PFO	**Pinyon Flat Ob**	**78.92**	**56**	PFAKE		03 01 40.0	+11
PFO				LR	LR		
	comp=Z,581nm,21.0s,MS4.9						
AVNT	**Avonos**	**78.94**	**310**	*i* P	**P**	**03 01 28.3**	**-0.3**
VRI	**Vrincioaia**	**78.95**	**320**	⇑*i*P	**P**	**03 01 30.0**	**+1.5**
BRTR	**Keskin Array B**	**79.08**	**312**	P	**P**	**03 01 29.1**	**-0.3**
	comp=Z,17nm,0.9s,mb5.0,baz=90,slow=3.7,SNR=60						
BRTR				pP	pP	03 01 39.4	-1.0
	comp=Z,33nm,1.2s,baz=135,slow=3.5,SNR=7.1						
BRTR				PP	PP	03 04 25.3	-5.1
	comp=Z,2.1nm,0.9s,baz=56,slow=10,SNR=2.9						
BRTR				LR	LR	03 42 36.9	
	comp=Z,1µm,20.1s,MS5.2,baz=25,slow=40						
HARR	**Harsova**	**79.10**	**318**	⇑*i*P	**P**	**03 01 29.5**	**+0.1**
HARR	**Harsova**	**79.10**	**318**	⇑*i*P	**P**	**03 01 29.5**	**+0.1**
OJC	**Ojcow**	**79.25**	**326**	*e*P	**P**	**03 01 30.1**	**+0.1**
OJC				*e*	pP	03 01 39.6	-1.4
OJC				*e*		03 04 27.5	
OJC				*e*S	S	03 11 23.2	-2.9
OJC				*e*SS	SS	03 16 30.5	-5.5
OJC				MLR	MLR		
	comp=Z,3µm,17.6s,MS5.7						
KAMT	**Kaman**	**79.26**	**311**	*i* P	**P**	**03 01 30.9**	**+0.5**
SRU	**San Rafael**	**79.32**	**49**	*e*P	**P**	**03 01 31.4**	**+0.7**
ULM	**Lac du Bonnet**	**79.47**	**33**	P	**P**	**03 01 30.5**	**-0.8**
	comp=Z,14nm,1.1s,mb4.8,baz=314,slow=8.3,SNR=9.6						
ULM				S	S	03 11 27.9	-0.6
	comp=Z,0.4nm,0.4s,baz=148,slow=15,SNR=1.6						
ULM	**Lac du Bonnet**	**79.47**	**33**	*e*P	**P**	**03 01 30.2**	**-1.0**
	comp=Z,16nm,1.0s,mb4.9						
ULM				LR	LR		
	comp=Z,993nm,20.0s,MS5.2						
SGKT	**Sivrigoynuk**	**79.48**	**313**	*i* P	**P**	**03 01 31.5**	**0.0**
CEYT	**Ceyhan**	**79.49**	**308**	*e*P	**P**	**03 01 32.6**	**+1.0**
ANTO	**Ankara**	**79.50**	**312**	*e*P	**P**	**03 01 32.2**	**+0.6**
LOD	**Lodumlu**	**79.50**	**312**	*e*P	**P**	**03 01 31.3**	**-0.3**
NIG	**Nigde**	**79.51**	**310**	*i* P	**P**	**03 01 33.1**	**+1.4**
ISR	**Istrita**	**79.55**	**319**	⇑*i*P	**P**	**03 01 32.6**	**+0.8**
ISR	**Istrita**	**79.55**	**319**	⇑*i*P	**P**	**03 01 32.6**	**+0.9**
PSN	**Preselentsi**	**79.64**	**317**	P	pP	03 01 43.0	-0.3
RSSD	**Black Hills**	**79.76**	**42**	*e*P	**P**	**03 01 32.2**	**-0.8**
RSSD				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						

RSSD	**Black Hills**	**79.76**	**42**	eP	**P**	**03 01 32.2**	**-0.8**
	comp=Z,7.5nm,1.0s,mb4.6						
MDU	**Mudurnu**	**80.04**	**313**	eP	**P**	**03 01 35.2**	**+0.7**
RAC	**Raciborz**	**80.05**	**327**	eP	**P**	**03 01 35.2**	**+0.8**
RAC				e		03 04 37.9	
RAC				eS	S	03 11 38.1	+3.5
RAC				MLR	MLR		
	comp=Z,4µm,18.1s,MS5.8						
KECS	**Kecovo**	**80.19**	**325**	eP	**P**	**03 01 36.2**	**+1.1**
KECS				epP	pP	03 01 46.0	-0.2
BSEG	**Bad Segeberg**	**80.25**	**333**	eP	**P**	**03 01 35.7**	**+0.4**
BSEG				e*PP	pP	03 01 47.2	+0.8
BSEG				pmax	pmax		
	comp=Z,72nm,1.2s,mb5.5						
OKC	**Ostrava-Krasne**	**80.25**	**327**	⇑iP	**P**	**03 01 35.6**	**+0.1**
OKC				epP	pP	03 01 46.6	+0.1
OKC				LR		03 40 10.0	
	comp=Z,3.3nm,17.4s						
KSP	**Ksiaz**	**80.30**	**328**	eP	**P**	**03 01 35.9**	**+0.2**
KSP				e*PP	pP	03 01 45.9	-0.8
KSP				e		03 04 34.0	
KSP				eS	S	03 11 36.0	-1.2
KSP				MLR	MLR		
	comp=Z,6µm,19.2s,MS6.0						
KSP	**Ksiaz**	**80.30**	**328**	eP	**P**	**03 01 35.9**	**+0.2**
KSP				epP	pP	03 01 45.9	-0.8
KSP				e		03 02 08.3	
KSP				ePP	PP	03 04 34.0	-6.2
KSP				eS	S	03 11 36.0	-1.2
KSP				eSS	SS	03 16 38.0	-14
KSP				LR	LR		
	comp=Z,6µm,19.2s,MS6.0						
BUC1	**Bucharest**	**80.34**	**319**	⇓iP	**P**	**03 01 36.7**	**+0.7**
BUC1	**Bucharest**	**80.34**	**319**	⇓iP	**P**	**03 01 36.7**	**+0.7**
LIKS	**Likavka**	**80.41**	**326**	e	**P**	**03 01 31.2**	**-5.1**
MORC	**Moravsky Berou**	**80.56**	**327**	eP	**P**	**03 01 37.1**	**0.0**
	comp=Z,64nm,1.2s,mb5.4						
DPC	**Dobruska-Polom**	**80.66**	**328**	⇑iP	**P**	**03 01 38.2**	**+0.6**
DPC				epP	pP	03 01 48.8	+0.1
DPC				eS	S	03 11 41.6	+0.7
DPC				eXS		03 11 58.8	
DPC				LR		03 40 40.0	
	comp=Z,2.9nm,18.1s						
DPC	**Dobruska-Polom**	**80.66**	**328**	⇑iP	**P**	**03 01 38.2**	**+0.6**
DPC				e*PP	pP	03 01 48.8	+0.1
DPC				e		03 11 41.6	
DPC				MLR	MLR		
	comp=Z,3µm,18.1s,MS5.7						
KIZT	**Kizilcal**	**80.67**	**312**	eP	**P**	**03 01 38.5**	**+0.6**
UPC	**Upice**	**80.67**	**328**	⇑iP	**P**	**03 01 38.0**	**+0.3**
UPC				epP	pP	03 01 48.8	+0.1
HRT	**Hereke**	**80.70**	**315**	eP	**P**	**03 01 37.8**	**-0.2**
MZLS	**Mizel**	**80.82**	**293**	P	**P**	**03 01 39.1**	**+0.1**
ESKT	**Eskisehir**	**80.87**	**313**	i P	**P**	**03 01 36.9**	**-2.0**
ESKT	**Eskisehir**	**80.87**	**313**	eP	**P**	**03 01 37.2**	**-1.7**
PSZ	**Piszkesteto**	**80.87**	**325**	⇑eP	**P**	**03 01 39.3**	**+0.6**
PSZ	**Piszkesteto**	**80.87**	**325**	eP	**P**	**03 01 38.9**	**+0.2**
PSZ				pmax	pmax		
	comp=Z,75nm,1.2s,mb5.5						
PSZ	**Piszkesteto**	**80.87**	**325**	eP	**P**	**03 01 38.9**	**+0.1**
	comp=Z,75nm,1.2s,mb5.5						
ISK	**Istanbul-Kandi**	**80.89**	**315**	eP	**P**	**03 01 38.5**	**-0.5**
RAYN	**Ar Rayn**	**80.89**	**292**	P	**P**	**03 01 39.7**	**+0.3**
	comp=Z,157nm,1.3s,mb5.8,SNR=23						
VYHS	**Vyhne**	**80.93**	**326**	i P	**P**	**03 01 39.6**	**+0.5**
VYHS				ePP	PP	03 04 43.1	-2.8
VYHS				eS	S	03 11 46.7	+2.9
YLV	**Yalova**	**81.04**	**314**	eP	**P**	**03 01 37.8**	**-2.0**
WUAZ	**Wupatki**	**81.05**	**52**	eP	**P**	**03 01 41.1**	**+1.1**
	comp=Z,44nm,1.1s,mb5.3						
SZH	**Strazhica**	**81.12**	**318**	P	**P**	**03 01 40.0**	**-0.2**
ARSS	**Ar Rass**	**81.16**	**296**	P	**P**	**03 01 40.2**	**-0.5**
BRG	**Berggiesshubel**	**81.25**	**330**	eP	**P**	**03 01 40.8**	**+0.1**
BRG				i	pP	03 01 52.1	+0.3
BRG				e		03 04 48.0	
BRG				i S	S	03 11 51.0	+4.0
BRG				i SS	SS	03 17 02.0	-4.1
BRG				pmax	pmax		
	comp=Z,37nm,1.3s,mb5.2						
BRG				MLR	MLR		
	comp=N,2µm,20.0s,MS5.6						
BRG				MLR	MLR		
	comp=E,2µm,20.0s,MS5.6						
BRG				MLR	MLR		
	comp=Z,3µm,20.9s,MS5.7						
BRG	**Berggiesshubel**	**81.25**	**330**	eP	**P**	**03 01 40.8**	**+0.1**
	comp=Z,37nm,1.3s,mb5.2						
BRG				i	pP	03 01 52.1	+0.3
BRG				ePP	PP	03 04 48.0	-0.5
BRG				i S	S	03 11 51.0	+4.0
BRG				i SS	SS	03 17 02.0	-4.1
BRG				LR	LR		
	comp=Z,3µm,20.9s,MS5.7						
IKL	**Isikli**	**81.26**	**309**	i P	**P**	**03 01 40.5**	**-0.6**
PVCC	**Panska Ves**	**81.26**	**329**	⇑iP	**P**	**03 01 41.1**	**+0.4**
PVCC				epP	pP	03 01 49.2	-2.6
PVCC				LR		03 42 50.0	
	comp=Z,3.2nm,17.1s						
CLL	**Collm**	**81.29**	**330**	⇑P	**P**	**03 01 40.7**	**-0.2**
	comp=Z,logA/T=1.8,mb5.5						
CLL				i *SP	sP	03 01 52.1	-3.8
CLL				i		03 02 29.3	
CLL				ePP	PP	03 04 43.0	-5.8
CLL				ePPP	PPP	03 06 50.0	+10
CLL				eS	S	03 11 47.0	-0.5
CLL				eSCS	ScS	03 12 07.0	+3.7
CLL				ePS	PS	03 12 28.0	-12
CLL				ePPS	PPS	03 12 43.0	-18
CLL				eSS	SS	03 17 12.0	+5.3
CLL	**Collm**	**81.29**	**330**	⇑iP	**P**	**03 01 40.7**	**-0.2**
CLL				i	pP	03 01 52.1	+0.1
CLL				eS	S	03 11 47.0	-0.5
CLL				pmax	pmax		
	comp=Z,77nm,1.2s,mb5.5						
CLL				MLR	MLR		
	comp=Z,3µm,17.0s,MS5.8						
CLL	**Collm**	**81.29**	**330**	⇑iP	**P**	**03 01 40.7**	**-0.2**
	comp=Z,77nm,1.2s,mb5.5						
CLL				i	pP	03 01 52.1	+0.1
CLL				i		03 02 29.3	
CLL				eS	S	03 11 47.0	-0.5
CLL				LR	LR		
	comp=Z,3µm,17.0s,MS5.8						
HILS	**Ha’il**	**81.30**	**298**	P	**P**	**03 01 41.9**	**+0.5**
ULDT	**Uludag**	**81.45**	**314**	i P	**P**	**03 01 41.9**	**-0.1**
SMOL	**Smolenice**	**81.55**	**326**	i P	**P**	**03 01 43.2**	**+0.9**
SMOL				epP	pP	03 01 54.3	+0.9
SMOL				ePP	PP	03 04 48.5	-2.5
SRO	**Srobarova**	**81.67**	**325**	i P	**P**	**03 01 43.8**	**+0.9**
SRO				e	pP	03 01 55.3	+1.3
SRO				ePP	PP	03 04 50.1	-1.8
PRU	**Pruhonice**	**81.68**	**329**	⇑iP	**P**	**03 01 43.1**	**+0.1**
	comp=Z,58nm,1.3s,mb5.3						
PRU				epP	pP	03 01 54.3	+0.3
PRU				eS	S	03 11 53.6	+2.1
PRU				eXS		03 12 12.6	
PRU				LR		03 40 50.0	
	comp=Z,2.8nm,17.0s						
ISCO	**Idaho Springs**	**81.77**	**46**	eP	**P**	**03 01 44.8**	**+1.1**
	comp=Z,7.3nm,0.9s,mb4.6						
ISCO				LR	LR		
	comp=Z,672nm,20.0s,MS5.0						
CLZ	**Clausthal**	**81.89**	**332**	eP	**P**	**03 01 44.5**	**+0.5**
	comp=Z,90nm,1.3s,mb5.5						
ZST	**Bratislava**	**81.93**	**326**	eP	**P**	**03 01 45.1**	**+0.8**
ZST				epP	pP	03 01 55.6	+0.2
ZST				e		03 02 05.9	
ZST				ePP	PP	03 04 51.9	-2.1
ZST				eS	S	03 12 09.2	+15
ISP	**Isparta**	**82.16**	**312**	eP	**P**	**03 01 43.1**	**-2.6**
ISP	**Isparta**	**82.16**	**312**	⇑iP	**P**	**03 01 45.3**	**-0.4**
CSS	**Prodhromos**	**82.30**	**308**	eP	**P**	**03 01 46.3**	**-0.1**
	comp=Z,22nm,0.7s,mb5.2						
NKC	**Novy Kostel**	**82.35**	**330**	⇑iP	**P**	**03 01 46.5**	**+0.1**
NKC				epP	pP	03 01 56.9	-0.6
NKC				LR		03 41 50.0	
	comp=Z,2.8nm,15.5s						
MOX	**Moxa**	**82.36**	**331**	i P	**P**	**03 01 46.2**	**-0.2**
	comp=Z,logA/T=1.5,mb5.2						
MOX				pP	pP	03 02 00.0	+2.5
MOX				PP	PP	03 04 58.0	+0.6
MOX				S	S	03 12 01.0	+2.6
MOX				L		03 41 35.0	
MOX	**Moxa**	**82.36**	**331**	eP	**P**	**03 01 46.2**	**-0.2**
MOX				pmax	pmax		
	comp=Z,47nm,1.6s,mb5.2						
MOX				MLR	MLR		
	comp=Z,2µm,18.0s,MS5.5						
MOX	**Moxa**	**82.36**	**331**	eP	**P**	**03 01 46.2**	**-0.2**
	comp=Z,47nm,1.6s,mb5.2						
MOX				LR	LR		
	comp=Z,2µm,18.0s,MS5.5						
AFFS	**‘Afif**	**82.50**	**294**	P	**P**	**03 01 47.6**	**-0.1**
KDZ	**Kurdzhali**	**82.51**	**317**	P	**P**	**03 01 48.5**	**+1.1**
ALN	**Alexandroupoli**	**82.68**	**316**	eP	**P**	**03 01 48.2**	**-0.1**
KHC	**Kasperske Hory**	**82.75**	**329**	⇑iP	**P**	**03 01 48.8**	**+0.4**
KHC				epP	pP	03 02 00.1	+0.6
KHC				eS	S	03 12 05.2	+2.9
KHC				eXS		03 12 23.9	
KHC				LR		03 42 40.0	
	comp=Z,3.0nm,16.2s						
KHC	**Kasperske Hory**	**82.75**	**329**	⇑iP	**P**	**03 01 48.8**	**+0.4**
KHC				e*PP	pP	03 02 00.1	+0.6
KHC				e		03 12 05.2	
KHC				MLR	MLR		
	comp=Z,3µm,16.2s,MS5.8						
BOLS	**Boljevac**	**82.80**	**321**	⇓iP	**P**	**03 01 49.0**	**+0.2**
BEO	**Belgrade**	**82.84**	**322**	⇑iP	**P**	**03 01 49.4**	**+0.4**
RZN	**Rozhen**	**82.86**	**318**	i P	**P**	**03 01 47.3**	**-1.9**
MANT	**Manisa**	**82.89**	**313**	i P	**P**	**03 01 49.0**	**-0.4**
GEC2	**GERESS Array S**	**82.91**	**328**	eP	**P**	**03 01 49.4**	**+0.1**
GEC2				pmax	pmax		
	comp=Z,24nm,1.2s,mb5.1						
GEC2	**GERESS Array S**	**82.91**	**328**	eP	**P**	**03 01 49.4**	**+0.1**
	comp=Z,24nm,1.2s,mb5.1						
GERES	**GERESS Array B**	**82.91**	**328**	P	**P**	**03 01 48.9**	**-0.4**
	comp=Z,3.9nm,0.5s,mb4.7,baz=45,slow=3.8,SNR=49						
GERES				pP	pP	03 02 00.2	-0.1
	comp=Z,13nm,0.9s,baz=43,slow=5.4,SNR=15						
GERES				PP	PP	03 04 59.4	-2.5
	comp=Z,1.4nm,0.8s,baz=45,slow=5.6,SNR=3.9						
GERES				S	S	03 12 06.8	+2.8
	comp=Z,0.1nm,0.3s,baz=266,slow=20,SNR=2.4						
GERES	**GERESS Array B**	**82.91**	**328**	P	**P**	**03 01 48.9**	**-0.4**
GERES				*PP	pP	03 02 00.2	-0.2
GERES						03 04 59.4	
GERES				S	S	03 12 06.8	+2.8
GERES				pmax	pmax		
	comp=Z,4.0nm,0.5s						
WET	**Wettzell**	**83.03**	**329**	eP	**P**	**03 01 50.3**	**+0.5**
WET				pmax	pmax		
	comp=Z,30nm,1.2s,mb5.2						
WET	**Wettzell**	**83.03**	**329**	eP	**P**	**03 01 50.3**	**+0.5**
	comp=Z,30nm,1.2s,mb5.2						
VTS	**Vitosha**	**83.03**	**319**	i P	**P**	**03 01 50.3**	**+0.3**
AKS	**Akhisar**	**83.06**	**314**	eP	**P**	**03 01 50.3**	**+0.1**
SDCO	**Great Sand Dun**	**83.20**	**47**	eP	**P**	**03 01 52.1**	**+1.1**
	comp=Z,17nm,1.1s,mb5.0						
SDCO				LR	LR		
	comp=Z,719nm,20.0s,MS5.0						
ELL	**Elmali**	**83.24**	**311**	P	**P**	**03 01 51.9**	**+0.7**
GRA1	**Grafenberg Arr**	**83.27**	**330**	eP	**P**	**03 01 51.7**	**+0.6**
	comp=Z,104nm,1.3s,mb5.7						
GRA1				epP	pP	03 02 03.3	+1.1
GRA1				ePP	PP	03 05 09.6	+4.9
GRA1				eSS	SS	03 17 31.2	-4.9
GRA1				LR	LR		
	comp=Z,2µm,19.2s,MS5.4						
GRF	**Grafenberg Arr**	**83.27**	**330**	eP	**P**	**03 01 51.7**	**+0.6**
GRF				e*PP	pP	03 02 03.3	+1.1
GRF				e		03 05 09.6	
GRF				eSS	SS	03 17 31.2	-4.9
GRF				pmax	pmax		
	comp=Z,104nm,1.3s,mb5.7						
GRF				MLR	MLR		
	comp=Z,2µm,19.2s,MS5.4						
ESK	**Eskdalemuir**	**83.33**	**341**	PFAKE		03 02 00.0	+8.8
ESK				LR	LR		
	comp=Z,548nm,20.0s,MS4.9						
ARSA	**Arzberg**	**83.35**	**326**	⇑iP	**P**	**03 01 51.9**	**+0.4**
GRUS	**Gruza**	**83.39**	**321**	⇓iP	**P**	**03 01 52.0**	**+0.2**
MOA	**Molln**	**83.44**	**327**	⇑iP	**P**	**03 01 51.6**	**-0.4**
MMB	**Musomiste**	**83.46**	**318**	i P	**P**	**03 01 52.7**	**+0.5**
DIVS	**Divcibare**	**83.59**	**322**	⇓iP	**P**	**03 01 52.9**	**+0.1**
KKB	**Krupnik**	**83.61**	**319**	i P	**P**	**03 01 53.7**	**+0.7**
KDAG	**Bornova**	**83.69**	**314**	i P	**P**	**03 01 53.1**	**-0.3**
IZM	**Izmir**	**83.70**	**314**	i P	**P**	**03 01 54.3**	**+0.8**
AYDN	**Tasoluk**	**83.84**	**313**	i P	**P**	**03 01 55.0**	**+0.8**
SRS	**Serrai**	**83.87**	**318**	eP	**P**	**03 01 54.2**	**-0.1**
LOS	**Limnos**	**83.88**	**316**	eP	**P**	**03 01 54.3**	**-0.1**
ZFRI	**Zfri**	**83.90**	**304**	P	**P**	**03 01 55.1**	**+0.4**
GROS	**Grobnik**	**83.96**	**326**	eP	**P**	**03 01 54.4**	**-0.2**
GROS				e	pP	03 02 06.2	+0.4
GROS				e		03 12 18.9	
YER	**Yerkesik**	**83.96**	**312**	i P	**P**	**03 01 56.4**	**+1.6**
DALT	**Dalyan (Mudla)**	**83.99**	**312**	eP	**P**	**03 01 51.6**	**-3.4**
PERS	**Pernice**	**84.00**	**326**	eP	**P**	**03 01 55.0**	**+0.2**
PERS				e	pP	03 02 06.6	+0.7
PERS				e		03 05 10.9	
KBRS	**Khaybar**	**84.06**	**298**	P	**P**	**03 01 56.3**	**+0.7**
MLSB	**Milas**	**84.15**	**313**	eP	**P**	**03 01 56.8**	**+1.0**
PRNI	**Paran**	**84.15**	**304**	P	**P**	**03 01 56.5**	**+0.5**
SIND	**Sindeldorf**	**84.18**	**331**	eP	**P**	**03 01 55.5**	**-0.1**
KZIT	**Kziot**	**84.20**	**304**	P	**P**	**03 01 56.5**	**+0.3**
SOH	**Sokhos**	**84.20**	**318**	eP	**P**	**03 01 55.8**	**-0.2**
OUR	**Ouranopolis**	**84.21**	**317**	eP	**P**	**03 01 55.9**	**-0.1**
KNT	**Kendrikon**	**84.21**	**318**	eP	**P**	**03 01 56.2**	**+0.2**
VAY	**Valandovo**	**84.27**	**319**	⇑iP	**P**	**03 01 56.7**	**+0.4**
TOD	**Tromm**	**84.28**	**331**	eP	**P**	**03 01 56.4**	**+0.2**
TOD	**Tromm**	**84.28**	**331**	eP	**P**	**03 01 56.2**	**0.0**
PPT	**Papeete**	**84.39**	**117**	eS	S	03 12 23.3	+3.9
PPT				eSS	SS	03 17 49.4	-3.5
PPT				eR		03 27 55.5	
	comp=Z,4µm,26.8s,baz=311						
SKO	**Skopje**	**84.40**	**320**	⇑iP	**P**	**03 01 58.0**	**+1.1**
SWS	**Schriesheim**	**84.42**	**331**	eP	**P**	**03 01 56.8**	**-0.1**
KBA	**Koelnbreinsper**	**84.43**	**327**	⇑iP	**P**	**03 01 57.3**	**+0.3**
TBKS	**Tabuk**	**84.44**	**301**	P	**P**	**03 01 58.0**	**+0.5**
FUR	**Furstenfeldbru**	**84.45**	**329**	eP	**P**	**03 01 57.9**	**+0.9**
FUR				e*PP	pP	03 02 09.2	+1.0
FUR				pmax	pmax		
	comp=Z,77nm,1.2s,mb5.7						
FUR	**Furstenfeldbru**	**84.45**	**329**	eP	**P**	**03 01 57.9**	**+0.9**
	comp=Z,77nm,1.2s,mb5.7						
FUR				epP	pP	03 02 09.2	+1.0
CRES	**Cresnjevec ost**	**84.46**	**325**	eP	**P**	**03 01 57.0**	**-0.2**
CRES				e	pP	03 02 08.5	+0.2
CRES				e		03 17 29.0	
PDKS	**Podkum**	**84.47**	**326**	eP	**P**	**03 01 57.2**	**0.0**
PDKS				e		03 07 07.5	
ANMO	**Albuquerque**	**84.48**	**50**	eP	**P**	**03 01 59.2**	**+1.7**
ANMO	**Albuquerque**	**84.48**	**50**	PFAKE		03 02 10.0	+12
ANMO				LR	LR		
	comp=Z,598nm,19.0s,MS5.0						
JMQS	**Jabal Moqyreh**	**84.48**	**302**	P	**P**	**03 01 58.0**	**+0.4**
KMTI	**Karmit**	**84.49**	**304**	P	**P**	**03 01 57.7**	**0.0**
BDRM	**Kayabasi**	**84.50**	**313**	i P	**P**	**03 01 57.7**	**+0.1**
ABH	**Alteburg**	**84.53**	**332**	eP	**P**	**03 01 57.7**	**+0.3**
THE	**Thessaloniki**	**84.55**	**318**	eP	**P**	**03 01 57.0**	**-0.8**
HDH	**Heidenheim**	**84.55**	**330**	eP	**P**	**03 01 57.4**	**-0.1**
MBH	**Mount Berech**	**84.56**	**303**	P	**P**	**03 01 58.5**	**+0.5**
EIL	**Elat**	**84.61**	**303**	P	**P**	**03 01 58.4**	**+0.1**
GRG	**Griva**	**84.62**	**318**	eP	**P**	**03 01 57.9**	**-0.1**
PAIG	**Paliouri**	**84.66**	**317**	eP	**P**	**03 01 58.1**	**-0.1**
TATS	**Tathlith**	**84.78**	**290**	P	**P**	**03 01 59.9**	**+0.6**
KTD	**Kalmit**	**84.79**	**332**	eP	**P**	**03 01 58.5**	**-0.2**
STU	**Stuttgart**	**84.80**	**331**	eP	**P**	**03 01 59.0**	**+0.2**
STU				pmax	pmax		
	comp=Z,76nm,1.2s,mb5.7						
STU	**Stuttgart**	**84.80**	**331**	eP	**P**	**03 01 59.0**	**+0.2**
	comp=Z,76nm,1.2s,mb5.7						
STU				epP	pP	03 02 10.4	+0.5
JMOS	**Jabal al Moall**	**84.83**	**303**	P	**P**	**03 01 59.6**	**+0.2**
RUP	**Ruppelstein**	**84.86**	**332**	eP	**P**	**03 01 59.4**	**+0.3**
RUP	**Ruppelstein**	**84.86**	**332**	eP	**P**	**03 01 59.2**	**+0.1**
BUCH	**Bad Urach**	**85.00**	**330**	⇑eP	**P**	**03 02 00.1**	**+0.3**
WTTA	**Wattenberg**	**85.02**	**328**	⇓iP	**P**	**03 02 00.3**	**+0.4**
HAQS	**Haql**	**85.02**	**303**	P	**P**	**03 02 00.4**	**+0.1**
LBG	**Lerchenberg**	**85.05**	**331**	eP	**P**	**03 02 00.2**	**+0.2**
AOS	**Alonnisos**	**85.08**	**316**	eP	**P**	**03 02 00.6**	**+0.2**
LANF	**Langenberg**	**85.17**	**332**	eP	**P**	**03 01 59.6**	**-1.0**
MOTA	**Moosalm**	**85.17**	**329**	⇑iP	**P**	**03 02 00.7**	**+0.1**
LIT	**Litokhoron**	**85.18**	**318**	eP	**P**	**03 02 00.2**	**-0.7**
SQTA	**Sankt Quirin**	**85.23**	**329**	⇑iP	**P**	**03 02 01.1**	**+0.2**
WLF	**Walferdange**	**85.23**	**333**	eP	**P**	**03 02 02.3**	**+1.4**
WLF				pmax	pmax		
	comp=Z,67nm,1.4s,mb5.6						
WLF	**Walferdange**	**85.23**	**333**	eP	**P**	**03 02 02.3**	**+1.4**
	comp=Z,67nm,1.4s,mb5.6						
FNA	**Florina**	**85.28**	**319**	eP	**P**	**03 02 00.4**	**-1.0**
BDAS	**Al Bad‘**	**85.30**	**302**	P	**P**	**03 02 01.7**	**0.0**
XOR	**Xorichti**	**85.32**	**317**	eP	**P**	**03 02 01.0**	**-0.6**
AYUS	**‘Aynunah**	**85.34**	**302**	P	**P**	**03 02 02.0**	**+0.1**
GIVF	**Givet**	**85.34**	**334**	eP	**P**	**03 02 01.4**	**0.0**
OHR	**Ohrid**	**85.35**	**319**	⇑iP	**P**	**03 02 01.7**	**0.0**
SCHQ	**Schefferville**	**85.38**	**16**	P	**P**	**03 02 01.4**	**-0.1**
	comp=Z,11nm,1.0s,mb5.0,baz=350,slow=4.8,SNR=6.3						
SCHQ				S	S	03 12 26.4	-1.9
	comp=Z,1.6nm,0.9s,baz=213,slow=18,SNR=2.4						
SCHQ	**Schefferville**	**85.38**	**16**	eP	**P**	**03 02 01.7**	**+0.3**
	comp=Z,29nm,1.2s,mb5.3						
SCHQ				LR	LR		
	comp=Z,1µm,22.0s,MS5.3						
GUT	**Gutenstein**	**85.40**	**330**	eP	**P**	**03 02 02.0**	**+0.2**
BFO	**Black Forest**	**85.50**	**331**	eP	**P**	**03 02 02.4**	**+0.2**
BFO				e*PP	pP	03 02 14.2	+0.8
BFO				pmax	pmax		
	comp=Z,92nm,1.2s,mb5.8						
BFO	**Black Forest**	**85.50**	**331**	eP	**P**	**03 02 02.4**	**+0.2**
	comp=Z,92nm,1.2s,mb5.8						
BFO				epP	pP	03 02 14.2	+0.8
SPAK	**Spaichingen**	**85.51**	**330**	eP	**P**	**03 02 02.2**	**-0.1**
DMUB	**Kingscourt**	**85.55**	**342**	eP	**P**	**03 02 03.1**	**+0.8**
BAIF	**Baives**	**85.60**	**334**	eP	**P**	**03 02 02.4**	**-0.3**
	comp=Z,94nm,1.4s,mb5.5						
STON	**Ston**	**85.62**	**322**	i P	**P**	**03 02 03.1**	**+0.1**
DAVA	**Damuels**	**85.72**	**329**	⇑iP	**P**	**03 02 03.6**	**+0.3**
CBKS	**Cedar Bluff**	**85.76**	**43**	eP	**P**	**03 02 02.3**	**-1.4**
CBKS				LR	LR		
	comp=Z,531nm,20.0s,MS4.9						
UMJS	**Umm Lajj**	**85.78**	**298**	P	**P**	**03 02 05.0**	**+0.8**
WLS	**Welschbruch**	**85.81**	**331**	eP	**P**	**03 02 03.8**	**+0.1**
DJNS	**Zahran al Janu**	**85.83**	**289**	P	**P**	**03 02 05.7**	**+1.1**
CDF	**Champ du Feu**	**85.84**	**331**	eP	**P**	**03 02 03.9**	**0.0**
	comp=Z,113nm,1.2s,mb5.7						
LIBD	**Limburg**	**85.93**	**331**	eP	**P**	**03 02 04.6**	**+0.3**
LIBD	**Limburg**	**85.93**	**331**	eP	**P**	**03 02 04.5**	**+0.2**
NAMS	**An Nimas**	**85.95**	**291**	P	**P**	**03 02 06.1**	**+1.0**
KIZ	**Kirchzarten**	**85.97**	**331**	eP	**P**	**03 02 04.4**	**-0.1**
BLJS	**Baljurashi**	**85.97**	**292**	P	**P**	**03 02 06.1**	**+0.9**
FELD	**Feldberg**	**86.00**	**331**	eP	**P**	**03 02 04.7**	**0.0**
ECH	**Echery**	**86.05**	**331**	⇑eP	**P**	**03 02 05.0**	**+0.1**
MEV	**Metsovon**	**86.08**	**318**	eP	**P**	**03 02 06.0**	**+0.7**
DCN	**Croghan**	**86.15**	**342**	eP	**P**	**03 02 05.9**	**+0.6**
MOF	**Molkenrain**	**86.35**	**331**	eP	**P**	**03 02 05.9**	**-0.5**
THEF	**They Montfort**	**86.48**	**332**	⇑eP	**P**	**03 02 06.9**	**-0.1**
HINF	**Hinteralfeld**	**86.49**	**331**	eP	**P**	**03 02 06.6**	**-0.5**
	comp=Z,34nm,1.2s,mb5.2						
BBS	**Basel-Blauen**	**86.53**	**331**	eP	**P**	**03 02 07.2**	**-0.1**
HAU	**Haudompre**	**86.53**	**332**	eP	**P**	**03 02 06.9**	**-0.4**
HAU				eR			
	comp=Z,3µm,21.0s						
MEZF	**Maizieres J’vi**	**86.60**	**333**	eP	**P**	**03 02 07.9**	**+0.3**
	comp=Z,134nm,1.3s,mb5.7						
LTHS	**Al Lith**	**86.62**	**293**	P	**P**	**03 02 08.7**	**+0.4**
IGT	**Igoumenitsa**	**86.74**	**319**	eP	**P**	**03 02 07.8**	**-0.7**
VAI	**Varese**	**87.32**	**329**	eP	**P**	**03 02 11.2**	**0.0**
JFWS	**Jewell Farm**	**87.54**	**35**	PFAKE		03 02 20.0	+7.7
JFWS				LR	LR		
	comp=Z,2µm,22.0s,MS5.4						
MCGN	**Macugnaga**	**87.57**	**330**	eP	**P**	**03 02 14.2**	**+1.8**
CABF	**La Chapelle**	**87.78**	**331**	eP	**P**	**03 02 13.3**	**-0.1**
NRCA	**Norcia**	**87.84**	**325**	eP	**P**	**03 02 14.0**	**+0.3**
ASS	**Assisi**	**87.87**	**325**	eP	**P**	**03 02 14.8**	**+0.9**
AQU	**L’Aquila**	**88.08**	**324**	eP	**P**	**03 02 15.0**	**+0.1**
AQU				pmax	pmax		
	comp=Z,50nm,1.0s,mb5.7						
AQU	**L’Aquila**	**88.08**	**324**	eP	**P**	**03 02 15.6**	**+0.7**
CII	**Carovilli**	**88.14**	**323**	P	**P**	**03 02 15.6**	**+0.4**
	comp=Z,28nm,1.0s,mb5.4						
TBI	**Tubuai**	**88.29**	**121**	eS	S	03 12 57.0	+0.3
TBI				eSS	SS	03 18 43.3	-6.6
TBI				eR		03 29 51.7	
	comp=Z,5µm,23.2s,baz=318						
FLN	**La Foliniere**	**88.29**	**336**	eP	**P**	**03 02 15.7**	**-0.1**
	comp=Z,56nm,1.1s,mb5.4						
FLN				eR			
	comp=Z,4µm,19.5s						
LDF	**La Druitiere**	**88.32**	**336**	eP	**P**	**03 02 16.0**	**+0.1**
	comp=Z,69nm,1.1s,mb5.5						
PTQR	**Pietraquaria**	**88.33**	**324**	eP	**P**	**03 02 16.5**	**+0.4**
SSF	**Saint Saulge**	**88.38**	**333**	eP	**P**	**03 02 16.2**	**0.0**
	comp=Z,70nm,1.3s,mb5.5						
MNS	**Montasola**	**88.39**	**325**	eP	**P**	**03 02 15.7**	**-0.6**
LPL	**La Plagne**	**88.43**	**330**	eP	**P**	**03 02 16.4**	**-0.1**
	comp=Z,24nm,1.0s,mb5.1						
LPG	**La Plagne**	**88.44**	**330**	eP	**P**	**03 02 16.7**	**+0.1**
	comp=Z,17nm,0.9s,mb5.0						
HYF	**Humbligny**	**88.51**	**333**	eP	**P**	**03 02 17.3**	**+0.4**
SGO	**Sicignano**	**88.54**	**322**	eP	**P**	**03 02 17.1**	**-0.1**
SMF	**Signal de Mont**	**88.60**	**332**	eP	**P**	**03 02 16.9**	**-0.4**
	comp=Z,100nm,1.4s,mb5.6						
AVF	**Avril sur Loir**	**88.66**	**333**	eP	**P**	**03 02 17.6**	**0.0**
	comp=Z,94nm,1.3s,mb5.7						
GRR	**Gorron**	**88.74**	**336**	eP	**P**	**03 02 18.0**	**+0.1**
	comp=Z,89nm,1.2s,mb5.7						
TIP	**Timpagrande**	**88.86**	**320**	eP	**P**	**03 02 18.4**	**-0.4**
BGF	**Bois d’Agland**	**89.04**	**333**	eP	**P**	**03 02 19.5**	**+0.1**
	comp=Z,49nm,1.4s,mb5.4						
MBDF	**Montbardon**	**89.07**	**330**	eP	**P**	**03 02 19.9**	**+0.3**
	comp=Z,13nm,0.8s,mb5.0						
WMOK	**Wichita Mounta**	**89.20**	**46**	eP	**P**	**03 02 20.6**	**+0.2**
	comp=Z,14nm,1.1s,mb5.2						
WMOK				LR	LR		
	comp=Z,638nm,20.0s,MS5.0						
PLDF	**La Plantade**	**89.25**	**332**	eP	**P**	**03 02 19.6**	**-0.8**
ORIF	**Oris-en-Rattie**	**89.27**	**330**	eP	**P**	**03 02 20.4**	**-0.1**
ORIF				eR			
	comp=Z,2µm,20.5s						
GRI	**Girifalco**	**89.30**	**320**	eP	**P**	**03 02 21.3**	**+0.4**
AGO	**Saint Agoulin**	**89.37**	**333**	eP	**P**	**03 02 20.6**	**-0.4**
SGMF	**Saint Gilles**	**89.40**	**337**	eP	**P**	**03 02 20.9**	**-0.2**
	comp=Z,22nm,0.7s,mb5.3						
TCF	**Toulx Ste Croi**	**89.50**	**333**	eP	**P**	**03 02 21.9**	**+0.3**
	comp=Z,48nm,1.4s,mb5.3						
ROSF	**Rostrenen**	**89.55**	**337**	eP	**P**	**03 02 21.7**	**-0.1**
	comp=Z,20nm,0.8s,mb5.2						
PYM	**Petit Puy Mans**	**89.67**	**332**	eP	**P**	**03 02 21.5**	**-0.9**
VIVF	**Saint-Julien-l**	**89.79**	**331**	eP	**P**	**03 02 22.8**	**-0.2**
	comp=Z,31nm,1.1s,mb5.2						
QUIF	**Quistinic**	**89.89**	**337**	eP	**P**	**03 02 22.9**	**-0.5**
	comp=Z,14nm,0.9s,mb5.0						
PGF	**Pioggiola**	**89.91**	**327**	eP	**P**	**03 02 23.0**	**-0.6**
	comp=Z,60nm,1.2s,mb5.5						
LTX	**Lajitas**	**90.01**	**53**	eP	**P**	**03 02 24.8**	**+0.3**
	comp=Z,15nm,0.9s,mb5.3						
LTX				LR	LR		
	comp=Z,1µm,22.0s,MS5.3						
TXAR	**Lajitas Array**	**90.01**	**53**	P	**P**	**03 02 24.8**	**+0.4**
	comp=Z,22nm,1.0s,mb5.4,baz=306,slow=3.1,SNR=71						
TXAR				S	S	03 12 55.1	-17
	comp=Z,0.1nm,0.3s,baz=143,slow=50,SNR=2.1						
TXAR				LR	LR	03 36 25.5	
	comp=Z,1µm,21.9s,MS5.2,baz=255,slow=31						
LBL	**Lubilhac**	**90.02**	**332**	eP	**P**	**03 02 22.4**	**-1.6**
SOI	**Samo**	**90.06**	**320**	eP	**P**	**03 02 24.6**	**+0.2**
MFF	**Saint Martin d**	**90.06**	**335**	eP	**P**	**03 02 24.4**	**+0.2**
	comp=Z,86nm,1.4s,mb5.6						
FRF	**La Foret Royal**	**90.08**	**329**	eP	**P**	**03 02 24.1**	**-0.3**
	comp=Z,41nm,1.1s,mb5.4						
SMRF	**Simiane la Rot**	**90.17**	**330**	eP	**P**	**03 02 24.7**	**-0.1**
	comp=Z,32nm,1.3s,mb5.2						
LMR	**La Mourre**	**90.32**	**329**	eP	**P**	**03 02 25.5**	**0.0**
	comp=Z,58nm,1.2s,mb5.5						
RJF	**Les Rejaudoux**	**90.60**	**333**	eP	**P**	**03 02 27.0**	**+0.3**
	comp=Z,36nm,1.2s,mb5.3						
RJF				eR			
	comp=Z,2µm,17.8s						
CAF	**Calviac**	**90.72**	**333**	eP	**P**	**03 02 27.9**	**+0.6**
	comp=Z,45nm,1.1s,mb5.4						
LASF	**Ste Croix**	**90.76**	**331**	eP	**P**	**03 02 28.9**	**+1.3**
	comp=Z,46nm,1.2s,mb5.4						
SLM	**Saint Louis**	**90.86**	**38**	eP	**P**	**03 02 28.8**	**+0.6**
SLM				pmax	pmax		
	comp=Z,16nm,0.7s,mb5.5						
SLM	**Saint Louis**	**90.86**	**38**	eP	**P**	**03 02 28.8**	**+0.6**
	comp=Z,16nm,0.7s,mb5.5						
LFF	**La Frestale**	**91.19**	**333**	eP	**P**	**03 02 30.0**	**+0.5**
	comp=Z,48nm,1.2s,mb5.4						
JCT	**Junction City**	**91.62**	**49**	eP	**P**	**03 02 31.5**	**-0.4**

	comp=Z,4.8nm,0.3s,mb5.3						
JCT				LR	LR		
	comp=Z,760nm,22.0s,MS5.1						
MTLF	Montolieu	92.02	332	eP	P	03 02 33.5	+0.1
	comp=Z,48nm,1.3s,mb5.4						
MIAR	Mount Ida	92.25	43	PFAKE		03 02 50.0	+15
MIAR				LR	LR		
	comp=Z,794nm,20.0s,MS5.2						
PQI	Presque Isle	92.61	20	PFAKE		03 02 50.0	+14
PQI				LR	LR		
	comp=Z,5µm,21.0s,MS5.9						
ERPA	Erie	92.61	30	PFAKE		03 02 50.0	+14
ERPA				LR	LR		
	comp=Z,789nm,22.0s,MS5.1						
MLS	Moulis	92.77	332	eP	P	03 02 36.9	+0.1
ACSO	Alum Creek Sta	92.95	33	PFAKE		03 02 50.0	+12
ACSO				LR	LR		
	comp=Z,1µm,22.0s,MS5.2						
EPF	Esparros	92.98	333	eP	P	03 02 37.7	-0.1
	comp=Z,16nm,1.1s,mb5.0						
RESF	Ens	93.18	333	eP	P	03 02 39.7	+1.0
ETSF	Etsaut	93.43	333	eP	P	03 02 39.7	-0.1
	comp=Z,12nm,0.9s,mb5.0						
NATX	Nacogdoches	93.72	45	PFAKE		03 02 50.0	+8.6
NATX				LR	LR		
	comp=Z,1µm,21.0s,MS5.3						
WVT	Waverly	94.01	38	P	P	03 02 42.6	0.0
WVT				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb5.0						
WVT	Waverly	94.01	38	P	P	03 02 42.6	0.0
	comp=Z,6.3nm,1.0s,mb5.0						
WVL	Waterville	94.06	22	PFAKE		03 02 50.0	+7.4
WVL				LR	LR		
	comp=Z,7µm,22.0s,MS6.1						
BINY	Binghamton	94.07	27	PFAKE		03 02 50.0	+7.3
BINY				LR	LR		
	comp=Z,2µm,22.0s,MS5.5						
HKT	Hockley	94.38	47	PFAKE		03 03 00.0	+16
HKT				LR	LR		
	comp=Z,613nm,19.0s,MS5.1						
EMMW	East Machias	94.56	20	PFAKE		03 03 00.0	+15
EMMW				LR	LR		
	comp=Z,6µm,22.0s,MS6.0						
MCWV	Mont Chateau	94.75	31	PFAKE		03 03 00.0	+14
MCWV				LR	LR		
	comp=Z,1µm,22.0s,MS5.3						
HRV	Harvard--Oak R	95.33	24	PFAKE		03 03 00.0	+12
HRV				LR	LR		
	comp=Z,1µm,19.0s,MS5.3						
SWET	Sewanee	95.67	37	eP	P	03 02 50.5	+0.3
BLA	Blacksburg	96.57	33	PFAKE		03 03 10.0	+16
BLA				LR	LR		
	comp=Z,1µm,19.0s,MS5.3						
LRAL	Lakeview Retre	96.88	39	PFAKE		03 03 10.0	+14
LRAL				LR	LR		
	comp=Z,936nm,20.0s,MS5.3						
CBN	Corbin	96.99	30	PFAKE		03 03 10.0	+14
CBN				LR	LR		
	comp=Z,1µm,22.0s,MS5.3						
ESDC	Sonseca Array	97.48	334	P	P	03 02 58.0	-0.4
	comp=Z,0.9nm,0.7s,mb4.3,baz=22,slow=4.3,SNR=6.6						
ESDC				LR	LR	03 51 30.1	
	comp=Z,2µm,20.6s,MS5.7,baz=40,slow=38						
RKT	Rikitea	98.51	112	ePP	PP	03 06 47.0	-20
RKT				eSKSac		03 13 40.2	
RKT				ePS	PS	03 15 57.1	-3.0
RKT				eSS	SS	03 21 21.2	+6.1
RKT				eR		03 35 07.4	
	comp=Z,5µm,27.0s,baz=307						
NHSC	New Hope	100.12	35	PFAKE		03 03 20.0	+10
NHSC				LR	LR		
	comp=Z,1µm,21.0s,MS5.4						
DRV	Dumont d'Urvil	103.28	181	Pdif	Pdif	03 03 21.0	-2.8
DWPF	Disney	103.67	38	PFAKE		03 03 40.0	+14
DWPF				LR	LR		
	comp=Z,586nm,21.0s,MS5.1						
CASY	Casey	105.64	193	PFAKE		03 08 00.0	
CASY				LR	LR		
	comp=Z,664nm,20.0s,MS5.2						
BBSR	BB Station	106.78	23	PFAKE		03 08 00.0	
BBSR				LR	LR		
	comp=Z,598nm,19.0s,MS5.2						
JTS	JuntasAbangare	115.80	53	PFAKE		03 08 20.0	+14
JTS				LR	LR		
	comp=Z,77nm,19.0s,MS4.3						
MAW	Mawson	119.54	206	PKP	PKPdf	03 08 11.8	-0.7
	comp=Z,1.7nm,0.7s,baz=99,slow=6.7,SNR=3.2						
MAW	Mawson	119.54	206	PKIKP	PKPdf	03 08 11.8	-0.7
MAW				pmax	pmax		
	comp=Z,2.0nm,0.7s						
SDV	Santo Domingo	125.27	40	ePKPdf	PKPdf	03 08 25.7	+0.9
DBIC	Dimbokro	126.51	317	PKP	PKPdf	03 08 27.5	+0.3
	comp=Z,5.6nm,0.6s,baz=94,slow=2.8,SNR=13						
DBIC	Dimbokro	126.51	317	PKP	PKPdf	03 08 27.5	+0.3
DBIC				LR	LR		
	comp=Z,1µm,20.0s,MS5.6						
ROSC	El Rosal	126.55	47	PKP	PKPdf	03 08 30.0	+2.7
	comp=Z,22nm,1.2s,baz=184,slow=19,SNR=4.9						
QSPA	South Pole Qui	126.67	180	ePKP	PKPdf	03 08 27.3	+1.4
QSPA				e		03 10 36.5	
QSPA				LR	LR		
	comp=Z,340nm,21.7s,MS5.0						
LIC	Lamto	126.98	317	ePKIKP	PKPdf	03 08 27.8	-0.4
	comp=Z,50nm,1.2s						
TSUM	Tsumeb	128.33	274	PFAKE		03 08 40.0	+9.4
TSUM				LR	LR		
	comp=Z,1µm,19.0s,MS5.5						
SUR	Sutherland	131.82	257	PFAKE		03 08 50.0	+13
SUR				LR	LR		
	comp=Z,181nm,21.0s,MS4.8						
SNAA	Sanae	140.71	197	ePKHKP		03 08 44.7	
SNAA	Sanae	140.71	197	eP	PKPdf	03 08 47.6	-4.5
SNAA				e		03 11 51.5	
VNA2	Neumayer--Watz	142.28	196	e	PKPdf	03 08 57.4	+2.6
VNA1	Neumayer--Stat	142.68	196	eP	PKPdf	03 08 57.7	+2.3
VNA1				e		03 12 01.6	
SAML	Samuel	144.17	45	ePKPdf	PKPdf	03 08 58.6	-1.1
ARE	Arequipa	144.29	64	eP	PKPbc	03 09 03.0	+3.7
PLCA	Paso Flores	154.68	109	PKPbc	PKPdf	03 09 24.1	+8.8
	comp=Z,4.0nm,1.0s,baz=303,slow=1.4,SNR=4.9						
PLCA	Paso Flores	154.68	109	PKPbc	PKPdf	03 09 24.1	+8.8
PLCA				LR	LR		
	comp=Z,640nm,21.0s,MS5.4						
BDFB	Brasilia	157.11	25	PKPab	PKPab	03 09 51.6	-0.6
	comp=Z,7.1nm,1.1s,baz=349,slow=6.4,SNR=5.8						
BDFB	Brasilia	157.11	25	PKP2	PKPab	03 09 51.6	-0.7
BDFB				pmax	pmax		
	comp=Z,7.0nm,1.1s						
EFI	East Falkland	159.68	143	PFAKE		03 09 30.0	+8.7
EFI				LR	LR		
	comp=Z,453nm,20.0s,MS5.3						
CPUP	Villa Florida	160.70	62	PFAKE		03 09 40.0	+17
CPUP				LR	LR		
	comp=Z,904nm,21.0s						

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*NEIC **01** 02:59:28.3,35.02S×70.47W,h1^{km},ML2.6(GUC),After GUC.*

GUC 01 02:59:28.3±0.6**,35.02S×70.47W,h1**^{km}±2^{km}**,MD3.7, ML2.6,2D,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFDO	San Fernando	0.61	312	eP	Pg	02 59 40.5	+0.1
SFDO				i S	Sg	02 59 50.1	+1.6
CICH	Cipreses	0.70	3	⇓iP	Pg	02 59 42.5	+0.2
CICH				i S	Sg	02 59 54.1	+2.4
CACH	El Canelo	0.91	353	i P	Pg	02 59 45.9	-0.6
CACH				i S	Sg	02 59 59.3	+0.8
CHCH	Chadas Angostu	1.10	352	i P	Pb	02 59 49.1	-0.6
LMEL	Las Melosas	1.19	11	eP	Pb	02 59 51.0	-0.3
LNV	Longovilo	1.32	323	i P	Pb	02 59 52.9	-0.7
LNV				i S	Sb	03 00 11.1	+0.3
PCH	Pirque	1.40	358	eP	Pb	02 59 54.6	-0.3
PCH				i S	Sb	03 00 14.3	+1.2
TACH	Talagante	1.42	344	eP	Pb	02 59 55.0	-0.2
TACH				i S	Sb	03 00 14.7	+0.9
RCDM	Rinconada Maip	1.56	349	eP	Pn	02 59 57.3	+0.1
RCDM				i S	Sb	03 00 18.6	+0.9
RCDM				AMP		03 00 26.4	
	comp=E,194nm,0.2s						
CLCH	Cerro Calan	1.62	358	AMP		03 00 30.8	
	comp=E,129nm,0.9s						
FCH	Farellones	1.70	5	⇓eP	Pn	03 00 00.1	+0.9
FCH				AMP		03 00 36.2	
	comp=E,96nm,0.3s						
JACH	Jahuel	2.34	357	i P	Pn	03 00 10.3	+1.9
JACH				i S	Sn	03 00 41.0	+2.8

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*IDC **01** 03:13:59.1±1.4,36.95N×141.74E,mb3.4/3,mb1 3.7/4, mb1mx3.4/23,ML3.5/1,Error ellipse: s-maj=43.4km s-min=26.8km az=100.0*

*JMA **01** 03:14:02.7±0.1,36.94N×141.68E,h33^{km}±3^{km},M3.6*

ISC 01 03:14:01.5±1.6**,36.90N**±0.04×**141.74E**±0.08**,h32**^{km}±11^{km}**, n12,**$\sigma 0\overset{s}{.}$**87**/20**,mb3.4**/3**,5C,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONAJ	Iwakimizuishiy	0.78	285	⇑P	Pn	03 14 16.6	+0.3
ONAJ				eS	Sb	03 14 26.0	-0.9
JFK	Kawauchi	0.84	304	⇑P	Pn	03 14 17.1	0.0
JHO	Hitachi	0.98	253	P	Pn	03 14 19.7	+0.5
JHO				eS	Sn	03 14 31.8	-0.3
JMM	Marumori	1.23	322	⇑P	Pn	03 14 22.9	+0.2
JMM				eS	Sn	03 14 37.1	-1.2
JFT	Otama	1.28	299	⇑P	Pn	03 14 24.7	+1.2
JFT				eS	Sn	03 14 39.8	+0.1
JIO	Ouri	1.58	349	⇑P	Pn	03 14 27.9	+0.1
JIO				eS	Sn	03 14 45.2	-2.2
JOU	Okura	1.70	330	P	Pn	03 14 30.3	+0.9
JOU				eS	Sn	03 14 50.8	+0.6
MAT	Matsushiro	2.86	264	P	Pn	03 14 47.1	+1.0
MAT				eS	Sn	03 15 20.5	+0.7
JHJ	Hachijo jima 2	4.10	204	Pn	Pn	03 15 03.8	+0.2
	8.6nm,0.3s,baz=78,slow=20,SNR=16						
JHJ				Sn	Sn	03 15 48.7	-2.4
	25nm,0.3s,baz=269,slow=21,SNR=5.0						
SONM	Songino Array	28.08	304	P	P	03 19 52.3	+0.2
	0.2nm,0.3s,mb3.2,baz=112,slow=7.8,SNR=3.2						
ILAR	Eielson Array	49.47	32	P	P	03 22 50.3	0.0
	0.3nm,0.7s,mb3.4,baz=279,slow=6.7,SNR=5.2						
WRA	Warramunga Arr	56.96	188	P	P	03 23 46.4	0.0
	0.3nm,0.4s,mb3.7,baz=4.4,slow=7.2,SNR=5.6						

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*IDC **01** 03:14:31.5±1.4,36.87N×141.79E,mb3.4/4,mb1 3.6/5, mb1mx3.4/23,ML3.4/1,Error ellipse: s-maj=38.9km s-min=23.5km az=96.0*

*JMA **01** 03:14:36.5±0.2,36.96N×141.64E,h35^{km}±3^{km},M3.5*

ISC 01 03:14:33.3±1.8**,36.87N**±0.04×**141.79E**±0.08**,h26**^{km}±11^{km}**, n13,**$\sigma 0\overset{s}{.}$**76**/16**,mb3.3**/4**,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONAJ	Iwakimizuishiy	0.82	286	eS	Sb	03 14 59.2	-0.4
JHO	Hitachi	1.01	255	eS	Sb	03 15 05.0	0.0
JMM	Marumori	1.27	322	P	Pn	03 14 56.0	+0.4
JMM				eS	Sn	03 15 10.2	-1.7
JFT	Otama	1.32	300	eS	Sn	03 15 12.9	-0.4
JIO	Ouri	1.62	348	eS	Sn	03 15 20.4	-0.3
JOU	Okura	1.74	329	eS	Sn	03 15 24.3	+0.6
JFY	Yanaizu	1.75	288	eS	Sn	03 15 24.5	+0.5
MAT	Matsushiro	2.90	265	P	Pn	03 15 21.1	+2.3
MAT				eS	Sn	03 15 53.5	+0.3
JHJ	Hachijo jima 2	4.09	204	Pn	Pn	03 15 35.2	-0.5
	6.4nm,0.3s,baz=28,slow=18,SNR=2.4						
JHJ				Sn	Sn	03 16 22.5	-0.9
	22nm,0.3s,baz=280,slow=22,SNR=3.4						
SONM	Songino Array	28.12	304	P	P	03 20 25.3	+0.3
	0.5nm,0.6s,mb3.3,baz=111,slow=9.0,SNR=4.5						
MKAR	Makanchi Array	44.46	302	P	P	03 22 43.5	-0.2
	0.3nm,0.5s,mb3.2,baz=72,slow=9.1,SNR=3.5						
ILAR	Eielson Array	49.47	32	P	P	03 23 23.1	+0.3
	0.3nm,0.8s,mb3.4,baz=259,slow=6.2,SNR=4.3						
WRA	Warramunga Arr	56.94	188	P	P	03 24 18.9	0.0
	0.2nm,0.6s,mb3.4,baz=19,slow=7.2,SNR=3.2						

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*ATH **01** 03:24:53.5,40.95N×20.75E,h16^{km}±6^{km},MD3.5/6*

*TIR **01** 03:24:55.8,40.71N×20.65E,h11^{km},Ml2.6*

*THE **01** 03:24:56.6,40.77N×20.82E,h10^{km},ML3.0*

*NEIC **01** 03:24:58.0±1.3,40.70N×20.73E,h13^{km}±10^{km}, MD3.5(ATH),MD2.7(PDG),Error ellipse: s-maj=11.7km s-min=5.0km az=71.0*

*PDG **01** 03:24:59.9±0.1,40.78N×20.31E,h13^{km}*

ISC 01 03:24:56.1±0.4**,40.76N**±0.02×**20.78E**±0.02**,h2**^{km}±3^{km}**, n41,**$\sigma 1\overset{s}{.}$**20**/70**,12C-2D,Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBN	Korca	0.14	177	ePg	Pg	03 24 58.9	+0.1
KBN				i Sg	Sg	03 25 01.9	+1.2
OHR	Ohrid	0.35	2	i Pg	Pg	03 25 03.0	-0.1
OHR				i Sg	Sg	03 25 09.1	+1.3
OHR	Ohrid	0.35	2	i Pg	Pg	03 25 06.3	+3.2
OHR				i Sg	Sg	03 25 13.9	+6.1
FNA	Florina	0.45	87	ePg	Pg	03 25 05.4	+0.2
FNA				eSg	Sg	03 25 12.0	+0.7
BIA	Bitola	0.49	58	⇓iPg	Pg	03 25 06.3	+0.5
BIA				i Sg	Sg	03 25 13.9	+1.5
LSK	Leskovik	0.62	193	i Pg	Pg	03 25 07.1	-1.5
LSK				i Sg	Sg	03 25 17.2	+0.3
TPE	Tepelena	0.75	232	i Pg	Pg	03 25 08.1	-2.9
TPE				i Sg	Sg	03 25 20.4	-0.6
KZN	Kozani	0.88	121	⇑iPN	Pn	03 25 12.6	-2.6
KZN				eSN	Sn	03 25 27.0	-1.7
KZN	Kozani	0.88	121	⇑ePn	Pn	03 25 12.6	-2.6
KZN				eSn	Sn	03 25 27.0	-1.7
TIR	Tirane	0.91	311	⇓iPg	Pg	03 25 13.5	-0.7
TIR				i Sg	Sg	03 25 25.5	-0.8
QSH	Qafa e Shtames	1.01	319	i Pg	Pg	03 25 16.0	-0.2
QSH				i Sg	Sg	03 25 32.0	+2.3
MEV	Metsovon	1.03	160	ePg	Pg	03 25 15.8	-0.9
	comp=Z,14nm,0.2s						
MEV				eSg	Sg	03 25 31.2	+0.7
SRN	Sarande	1.06	214	i Pg	Pg	03 25 16.4	-0.9
SRN				i Sg	Sg	03 25 34.2	+2.8
JAN	Janina	1.10	177	ePN	Pn	03 25 17.5	-0.9
GRG	Griva	1.25	80	ePb	Pb	03 25 19.1	-0.9
GRG				eSb	Sb	03 25 36.9	+0.5
IGT	Igoumenitsa	1.27	196	ePb	Pb	03 25 21.0	+0.6
IGT				eSb	Sb	03 25 39.7	+2.6
KEK	Kerkira	1.29	216	ePN	Pn	03 25 20.9	-0.1
KEK				eSN	Sn	03 25 40.0	+1.0
SKO	Skopje	1.31	22	i Pn	Pn	03 25 22.3	+0.9
SKO				i Sg	Sg	03 25 39.5	-0.2
SKO				Lg		03 25 42.5	
	comp=Z,0.1nm,0.7s						
LIT	Litokhoron	1.46	116	ePb	Pb	03 25 23.2	-0.5
LIT				eSb	Sb	03 25 43.7	+1.1
KNT	Kendrikon	1.65	75	ePb	Pb	03 25 25.9	-1.1
ULC	Ulcinj	1.67	317	⇑iPg	Pg	03 25 26.4	-2.9
ULC				eSg	Sg	03 25 48.4	-3.2
THE	Thessaloniki	1.67	94	ePb	Pb	03 25 26.0	-1.2
PVY	Plav	1.93	342	⇑iPn	Pn	03 25 31.8	+1.5
PVY				eSn	Sn	03 25 57.9	+2.5
EVR	Evrytania	2.00	156	ePN	Pn	03 25 32.7	+1.4
EVR	Evrytania	2.00	156	ePn	Pn	03 25 33.0	+1.7
TTG	Podgorica	2.02	326	⇑iPn	Pn	03 25 31.9	+0.4
TTG				eSn	Sn	03 25 57.7	+0.1
LKD	Levkas	2.05	183	ePn	Pn	03 25 32.6	+0.6
LKD				eSn	Sn	03 26 00.3	+1.8
BUM	Brajici-Budva	2.09	318	⇑iPn	Pn	03 25 32.4	-0.1
BUM				eSn	Sn	03 25 58.6	-0.8
SRS	Serrai	2.16	80	ePn	Pn	03 25 32.6	-0.9
IVA	Berane	2.21	343	⇑iPn	Pn	03 25 36.0	+1.7
IVA				eSn	Sn	03 26 04.4	+1.9
XOR	Xorichti	2.32	126	ePn	Pn	03 25 34.9	-0.9
PAIG	Paliouri	2.37	110	ePn	Pn	03 25 35.3	-1.2
NEO	Neokhori	2.37	127	ePN	Pn	03 25 35.8	-0.8
HCY	Herceg Novi	2.40	315	⇑iPn	Pn	03 25 36.8	-0.2
HCY				eSn	Sn	03 26 05.3	-2.1
NKY	Niksic	2.45	328	⇑iPn	Pn	03 25 38.2	+0.6
NKY				eSn	Sn	03 26 07.7	-0.8
OUR	Ouranopolis	2.48	99	ePn	Pn	03 25 37.5	-0.6
	comp=Z,1.0nm,0.7s						
VLS	Valsamata	2.58	183	ePN	Pn	03 25 38.7	-0.9
BRY	Bratogost	2.71	323	⇑iPn	Pn	03 25 41.6	+0.2
BRY				eSn	Sn	03 26 13.6	-1.7
PLE	Pljevlja	2.77	339	⇑iPn	Pn	03 25 43.6	+1.4
PLE				eSn	Sn	03 26 16.9	+0.3
UPM	Unac-Piva	2.81	331	⇑iPn	Pn	03 25 43.6	+0.8
UPM				eSn	Sn	03 26 17.1	-0.6
AOS	Alonnisos	2.86	123	ePn	Pn	03 25 42.7	-0.9

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*IDC **01** 03:46:03.2±1.3,33.29N×69.73E,mb3.8/6,mb1 4.0/8, mb1mx3.7/21,ML4.0/2,Error ellipse: s-maj=31.0km s-min=25.1km az=57.0*

*NNC **01** 03:46:08.5±2.0,33.86N×69.45E,Error ellipse: s-maj=24.7km s-min=19.4km az=110.0*

*NEIC **01** 03:46:09.7±4.0,33.40N×69.77E,h44^{km}±33^{km},mb3.9/3, Error ellipse: s-maj=27.7km s-min=17.4km az=202.0*

ISC 01 03:46:08.2±0.8**,33.33N**±0.04×**69.87E**±0.07**,h60**^{km}±10^{km}**, n41,**$\sigma 1\overset{s}{.}$**34**/45**,mb3.7**/7**,9C-3D,Southeastern Afghanistan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SBDP	Sheikh Budin	1.30	142	⇑P	P	03 46 32.4	+1.8
DRP	Derazinda	1.61	170	⇓P	P	03 46 35.7	+0.8
THW	Thamme Wali	1.66	108	⇓P	P	03 46 39.0	+3.4
CEP	Cherat	1.77	73	⇑P	P	03 46 41.7	+4.6
CHCP	Chirah Chowk	2.85	83	⇑P	P	03 46 55.9	+3.5
DLH	Dalhousie	5.19	97	eP	P	03 47 29.0	+3.9
DLH				e		03 48 34.0	
JASL	Jaisalmer	6.45	172	eP	P	03 47 40.9	-1.8
KLP	Kalpa	7.31	102	eP	P	03 47 57.5	+2.9
KLP				e		03 49 18.8	
	comp=N,381nm,0.8s						
KHET	Khetri	7.32	134	eP	P	03 47 53.6	-1.2
KHET				eS	S	03 49 16.1	-1.1
KHET				e		03 49 21.7	
	comp=E,17nm,0.4s						
KHET				e		03 49 21.9	
	comp=N,39nm,0.5s						
KUDL	Kundal	7.69	130	eP	P	03 47 59.1	-0.8
AYAN	Aya Nagar	7.89	126	eP	P	03 48 02.0	-0.6
AML	Almayashu	9.29	18	P	P	03 48 22.5	+0.6
	SNR=12						
UCH	Uchtor	9.61	21	P	P	03 48 26.6	+0.4
	SNR=9.9						
KK31	Karatay Array	9.77	3	⇑Pn	P	03 48 25.3	-3.1
	comp=N,2.7nm,0.4s,baz=197,slow=15,SNR=66						
KK31				⇓Sn	S	03 50 15.0	-2.6
	comp=N,5.2nm,0.7s,baz=190,slow=23,SNR=4.4						
EKS2	Erkin-Say	9.81	17	P	P	03 48 29.7	+0.8
	SNR=7.4						
AAK	Ala-Archa	9.97	20	P	P	03 48 31.8	+0.6
	SNR=5.0						
AAK	Ala-Archa	9.97	20	eP	P	03 48 30.6	-0.6
	comp=N,6.5nm,0.6s						
TKM2	Tokmak 2	10.58	24	P	P	03 48 40.2	+0.8
	SNR=8.5						
KOLN	Koldanda	13.06	111	eP	P	03 49 11.6	-1.1
	comp=N,13nm,0.5s						
KOLN				eS	S	03 51 36.3	-0.7
GKN	Gorkha	13.77	109	eP	P	03 49 21.9	-0.1
	comp=N,25nm,0.6s						
GKN				eS	S	03 51 54.3	+0.4
DMN	Daman	14.32	109	eP	P	03 49 28.3	-0.8
	comp=N,17nm,0.6s						
KKN	Kakani	14.38	109	eP	P	03 49 29.3	-0.6
	comp=N,29nm,0.6s						
PKI	Pulchoki	14.57	109	eP	P	03 49 31.0	-1.5
	comp=N,18nm,0.5s						
MK31	Makanchi Array	16.44	31	⇑P	P	03 49 56.5	+0.4
	comp=N,2.4nm,0.7s,baz=206,slow=9.6,SNR=22						
MKAR	Makanchi Array	16.44	31	Pn	P	03 49 55.6	-0.5
	comp=N,0.4nm,0.3s,baz=216,slow=12,SNR=11						
MKAR	Makanchi Array	16.44	31	Pn	P	03 49 55.6	-0.5
AB31	Akbulak array	17.55	338	⇑P	P	03 50 06.1	-3.9
	comp=N,0.5nm,0.4s,baz=155,slow=14,SNR=24						
KURK	Kurchatov	18.52	18	eP	P	03 50 21.2	-0.7
VOSK	Vostochnaya	19.40	2	⇑P	P	03 50 30.5	-1.3
	comp=N,3.4nm,0.7s						
ZRNK	Zerenda	19.62	358	⇑P	P	03 50 33.5	-0.7
	comp=N,1.8nm,0.5s						
ZRNK	Zerenda	19.62	358	eP	P	03 50 33.4	-0.8
	comp=N,2.7nm,0.6s						
BVA0	Borovoye Array	19.69	1	⇑P	P	03 50 35.1	+0.1
	comp=N,0.4nm,0.7s,baz=172,slow=14,SNR=21						
BVAR	Borovoye Array	19.69	1	P	P	03 50 32.9	-2.1
	comp=N,0.7nm,0.3s,baz=173,slow=12,SNR=12						
BRVK	Borovoye	19.72	1	eP	P	03 50 35.7	+0.4
	comp=N,3.6nm,0.7s						
ZAL	Zalesovo	23.17	23	P	P	03 51 12.1	+2.3
	comp=N,2.0nm,0.3s,mb4.0,baz=195,slow=3.7,SNR=2.1						
BRTR	Keskin Array B	29.66	293	P	P	03 52 11.1	+0.8
	comp=N,0.3nm,0.5s,mb3.3,baz=124,slow=8.9,SNR=4.0						
SONM	Songino Array	30.97	51	P	P	03 52 25.0	+3.3
	comp=N,0.2nm,0.5s,mb3.2,baz=252,slow=9.1,SNR=2.5						
BJT	Baijiatuau	37.39	66	eP	P	03 53 18.7	+1.8
	comp=N,8.5nm,1.1s,mb4.5						
ARCES	ARCESS Array B	43.74	339	P	P	03 54 09.1	+0.3
	comp=N,1.6nm,0.9s,mb3.8,baz=130,slow=9.5,SNR=5.1						
WRA	Warramunga Arr	81.14	121	P	P	03 58 20.0	+1.1
	comp=N,0.7nm,0.8s,mb3.6,baz=322,slow=5.2,SNR=4.9						
ASAR	Alice Springs	83.23	124	P	P	03 58 32.5	+2.9
	comp=N,0.9nm,0.8s,mb3.8,baz=307,slow=4.5,SNR=6.0						

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*LDG **01** 03:50:28.5±0.0,45.97N×2.81E,h4^{km},Md2.5/2,Ml2.4/15, Error ellipse: s-maj=0.6km s-min=0.5km az=112.0*

*STR **01** 03:50:28.6±0.5,45.95N×2.85E,h5^{km}±1^{km},Ml2.5,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*NEIC **01** 03:50:28.5,45.97N×2.81E,h4^{km},ML2.5(STR), ML2.4(LDG),After LDG.*

ISC 01 03:50:26.7±0.3**,45.96N**±0.02×**2.80E**±0.03**,h9**^{km}±4^{km}**,n24,** $\sigma 1\overset{s}{.}$**14**/52**,France**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AGO	Saint Agoulin	0.25	68	Pg	Pg	03 50 33.1	+1.1
AGO				Sg	Sg	03 50 36.4	+0.9
PYM	Petit Puy Mans	0.25	144	Pg	Pg	03 50 33.3	+1.3
PYM				Sg	Sg	03 50 36.8	+1.2
TCF	Toulx Ste Croi	0.53	309	ePg	Pg	03 50 38.6	+1.3
TCF				eSg	Sg	03 50 45.5	+1.1
	8.3nm,0.2s						
PLDF	La Plantade	0.57	88	Pg	Pg	03 50 39.3	+1.0
PLDF				Sg	Sg	03 50 46.7	+0.7
BGF	Bois d'Agland	0.60	3	ePg	Pg	03 50 39.9	+1.1
BGF				eSg	Sg	03 50 47.8	+0.9
	22nm,0.3s						
LBL	Lubilhac	0.79	156	Pg	Pg	03 50 43.7	+1.1
LBL				Sg	Sg	03 50 53.8	+0.6
AVF	Avril sur Loir	0.92	25	ePg	Pg	03 50 45.5	+0.4
AVF				ePn	Pn	03 50 46.0	+0.5
AVF				eSg	Sg	03 50 57.0	-0.4
	14nm,0.2s						
SMF	Signal de Mont	1.00	46	ePg	Pg	03 50 46.9	+0.2
SMF				ePn	Pn	03 50 47.4	+0.7
SMF				eSg	Sg	03 50 59.9	-0.2
	10.0nm,0.2s						
RJF	Les Rejaudoux	1.11	234	ePn	Pn	03 50 49.5	+1.2
RJF				ePg	Pg	03 50 49.6	+0.7
RJF				eSg	Sg	03 51 04.1	+0.4
	6.2nm,0.2s						
CAF	Calviac	1.15	207	ePn	Pn	03 50 49.9	+1.0
CAF				ePg	Pg	03 50 50.3	+0.5
CAF				eSg	Sg	03 51 05.7	+0.5
	16nm,0.2s						
SSF	Saint Saulge	1.21	24	ePg	Pg	03 50 50.8	-0.1
SSF				eSg	Sg	03 51 06.5	-0.5
	15nm,0.2s						
HYF	Humbligny	1.32	355	ePg	Pg	03 50 53.0	0.0
HYF				eSg	Sg	03 51 10.0	-0.6
VIVF	Saint-Julien-l	1.72	129	ePn	Pn	03 50 57.6	+0.6
VIVF				ePg	Pg	03 51 00.4	-0.7
VIVF				eSg	Sg	03 51 21.6	-2.4
	2.6nm,0.2s						
LFF	La Frestale	1.77	236	ePn	Pn	03 50 58.5	+0.8
LFF				ePg	Pg	03 51 01.6	-0.4
LFF				eSg	Sg	03 51 25.0	-0.6
	6.7nm,0.3s						
LASF	Ste Croix	2.02	158	ePn	Pn	03 51 01.9	+0.5
LASF				ePg	Pg	03 51 05.8	-1.4
LASF				eSg	Sg	03 51 32.3	-1.9
	2.8nm,0.3s						
MFF	Saint Martin d	2.14	289	ePn	Pn	03 51 03.3	+0.3
MFF				ePg	Pg	03 51 08.1	-1.3
MFF				eSn	Sn	03 51 29.0	-0.9
MFF				eSg	Sg	03 51 36.0	-2.0
	3.6nm,0.2s						
CABF	La Chapelle	2.37	73	ePn	Pn	03 51 06.5	+0.1

CABF				*e*Sg	Sg	03 51 43.2	-2.6
	1.6nm,0.2s						
MTLF	**Montolieu**	2.65	189	*e*Pg	Pg	03 51 18.1	-1.5
MTLF				*e*Sg	Sg	03 51 51.7	-3.2
	2.9nm,0.2s						
LPG	**La Plagne**	2.81	98	*e*Sg	Sg	03 51 56.3	-3.9
	0.7nm,0.2s						
MEZF	**Maizieres J'vi**	2.97	30	*e*Pg	Pg	03 51 23.3	-2.8
HAU	**Haudompre**	3.18	49	*e*Pg	Pg	03 51 27.2	-3.0
HINF	**Hinteralfeld**	3.35	55	*e*Sg	Sg	03 52 13.4	-4.7
	1.2nm,0.2s						
EPF	**Esparros**	3.41	212	*e*Sg	Sg	03 52 15.9	-4.4
	1.9nm,0.2s						
GRR	**Gorron**	3.48	316	*e*Pg	Pg	03 51 32.6	-3.6
GRR				*e*Sn	Sn	03 52 00.0	-3.9
	1.0nm,0.2s						

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*LDG **01** 03:57:05.2±0.0, 45.96N×2.82E, h6^{km}, Md2.5/2, Ml2.3/14, Error ellipse: s-maj=0.8km s-min=0.5km az=102.0*

*STR **01** 03:57:05.0±0.6, 45.96N×2.84E, h5^{km}±1^{km}, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 01 03:57:03.5±0.3, **45.95N**±0.02×**2.80E**±0.03, **h12**^{km}±5^{km}, **n21**, σ**1^{s}00**/41, **France**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PYM	**Petit Puy Mans**	0.24	144	Pg	Pg	03 57 10.2	+1.4
PYM				Sg	Sg	03 57 13.7	+1.4
AGO	**Saint Agoulin**	0.25	65	Pg	Pg	03 57 10.0	+1.1
AGO				Sg	Sg	03 57 13.0	+0.4
TCF	**Toulx Ste Croi**	0.54	310	*e*Pg	Pg	03 57 15.3	+0.9
TCF				*e*Sg	Sg	03 57 22.2	+0.6
	7.6nm,0.2s						
PLDF	**La Plantade**	0.57	87	Pg	Pg	03 57 14.8	-0.3
PLDF				Sg	Sg	03 57 23.6	+0.8
BGF	**Bois d'Agland**	0.61	3	*e*Pg	Pg	03 57 16.6	+0.7
BGF				*e*Sg	Sg	03 57 24.2	0.0
	16nm,0.3s						
LBL	**Lubilhac**	0.78	156	Pg	Pg	03 57 20.3	+1.1
LBL				Sg	Sg	03 57 30.4	+0.8
AVF	**Avril sur Loir**	0.93	24	*e*Pg	Pg	03 57 22.2	+0.1
AVF				*e*Pn	Pn	03 57 22.8	+0.6
AVF				*e*Sg	Sg	03 57 33.8	-0.7
	11nm,0.2s						
SMF	**Signal de Mont**	1.00	45	*e*Pg	Pg	03 57 23.6	0.0
SMF				*e*Pn	Pn	03 57 24.0	+0.7
SMF				*e*Sg	Sg	03 57 37.2	+0.1
	6.9nm,0.2s						
RJF	**Les Rejaudoux**	1.11	235	*e*Pg	Pg	03 57 26.2	+0.5
RJF				*e*Sn	Sn	03 57 40.3	+0.3
RJF				*e*Sg	Sg	03 57 40.9	+0.4
	5.9nm,0.2s						
CAF	**Calviac**	1.15	207	*e*Pn	Pn	03 57 26.7	+1.4
CAF				*e*Pg	Pg	03 57 27.2	+0.8
CAF				*e*Sg	Sg	03 57 41.8	+0.1
	13nm,0.2s						
SSF	**Saint Saulge**	1.22	23	*e*Pg	Pg	03 57 27.6	-0.3
SSF				*e*Sg	Sg	03 57 43.1	-1.1
	10nm,0.2s						
HYF	**Humbligny**	1.33	355	*e*Pg	Pg	03 57 29.8	-0.3
HYF				*e*Sg	Sg	03 57 47.2	-0.6
VIVF	**Saint-Julien-l**	1.71	129	*e*Pg	Pg	03 57 36.9	-0.8
VIVF				*e*Sg	Sg	03 57 58.6	-1.9
	2.0nm,0.2s						
LFF	**La Frestale**	1.77	236	*e*Sg	Sg	03 58 01.7	-0.7
	5.1nm,0.3s						
LASF	**Ste Croix**	2.01	158	*e*Pn	Pn	03 57 38.1	+0.3
LASF				*e*Pg	Pg	03 57 42.6	-1.1
LASF				*e*Sg	Sg	03 58 09.2	-1.4
	2.5nm,0.3s						
MFF	**Saint Martin d**	2.15	289	*e*Sg	Sg	03 58 12.6	-2.4
	2.5nm,0.2s						
CABF	**La Chapelle**	2.37	73	*e*Sg	Sg	03 58 19.2	-3.4
	1.6nm,0.2s						
MTLF	**Montolieu**	2.64	189	*e*Pg	Pg	03 57 54.6	-1.6
MTLF				*e*Sg	Sg	03 58 28.5	-2.9
	2.3nm,0.2s						
MEZF	**Maizieres J'vi**	2.98	30	*e*Sg	Sg	03 58 38.0	-4.8
	7.6nm,0.5s						
HAU	**Haudompre**	3.18	48	*e*Sg	Sg	03 58 44.4	-5.1
	1.8nm,0.2s						
HINF	**Hinteralfeld**	3.35	55	*e*Sg	Sg	03 58 49.4	-5.7
	0.7nm,0.2s						

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*LDG **01** 04:23:29.2±0.1, 43.07N×0.64W, h14^{km}, Md1.9/2, Error ellipse: s-maj=2.8km s-min=1.2km az=6.0*

*STR **01** 04:23:29.1±0.1, 43.08N×0.66W, h5^{km}±1^{km}, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*MDD **01** 04:23:30.0±0.7, 43.07N×0.63W, h9^{km}±11^{km}, mbLg0.8/3, Error ellipse: s-maj=5.7km s-min=2.1km az=7.0, PRXIMO*

ISC 01 04:23:29.2±0.7, **43.08N**±0.07×**0.63W**±0.04, **h13**^{km}±6^{km}, **n9**, σ**0^{s}38**/17, **Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
REYF	**Montagne du Re**	0.17	93	Pg	Pg	04 23 33.4	+0.1
REYF				Sg	Sg	04 23 36.5	+0.4
REYF	**Montagne du Re**	0.17	93	P	Pg	04 23 33.6	+0.2
REYF				S	Sg	04 23 36.5	+0.4
ETSF	**Etsaut**	0.19	165	*e*Pg	Pg	04 23 33.7	+0.1
ETSF				*e*Sg	Sg	04 23 36.4	-0.1
	19nm,0.2s						
LARF	**Larrau**	0.27	261	P	Pg	04 23 34.9	-0.1
LARF				S	Sg	04 23 39.1	+0.2
SJPF	**Ste Jean**	0.44	275	*e*Pg	Pg	04 23 37.9	-0.4
SJPF				*e*Sg	Sg	04 23 44.0	-0.4
	4.7nm,0.3s						
VIEF	**Viey**	0.52	112	Pg	Pg	04 23 39.4	-0.3
VIEF				Sg	Sg	04 23 47.0	+0.2
VIEF	**Viey**	0.52	112	P	Pb	04 23 39.6	0.0
VIEF				S	Sb	04 23 46.9	+0.3
EALK	**Alkurruntz**	0.66	283	Pg	Pg	04 23 43.5	+0.9
	SNR=7.9						
EALK				Lg		04 23 50.5	
	1.1nm,0.1s,SNR=7.9						
EPF	**Esparros**	0.71	94	*e*Pg	Pg	04 23 42.9	-0.6
EPF				*e*Sg	Sg	04 23 52.8	-0.3
	0.7nm,0.2s						

IDC 01 04:25:28.0±4.6, **0.82N**×**98.42E**, **mb3.3**/3, **mb1 3.5**/3, **mb1mx3.4**/15, **Error ellipse: s-maj=181.0km s-min=29.6km az=57.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	40.80	122	P	P	04 33 11.3	-1.7
	0.3nm,0.6s,baz=302,slow=9.2,SNR=3.7						
SONM	**Songino Array**	47.34	7	P	P	04 34 04.0	-1.4
	0.1nm,0.4s,baz=169,slow=7.3,SNR=2.4						
MKAR	**Makanchi Array**	47.91	345	P	P	04 34 07.7	-2.3
	0.3nm,0.5s,baz=149,slow=9.0,SNR=3.1						

NNC 01 04:36:26.4±3.7, **40.30N**×**66.57E**, **h32**^{km}±22^{km}, **mpv3.5, 8C-2D, Error ellipse: s-maj=24.1km s-min=20.9km az=29.0, Southeastern Uzbekistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KK31	**Karatay Array**	4.07	45	⇓Pn	Pn	04 37 28.7	+0.6
	3.9nm,0.3s,baz=247,slow=14,SNR=26						
KK31				⇑Pg	Pn	04 37 41.1	+13
	11nm,0.9s,baz=229,slow=17,SNR=25						
KK31				⇑Lg		04 38 35.5	
	11nm,0.3s,baz=228,slow=28,SNR=5.3						
AB31	**Akbulak array**	10.11	334	⇑P	P	04 38 50.1	-2.3
	0.7nm,0.3s						
AB31				⇑S	S	04 40 39.3	-6.4
	2.1nm,0.7s,baz=147,slow=24,SNR=4.6						
ZRNK	**Zerenda**	12.76	7	⇑P	P	04 39 26.3	-2.0
	0.7nm,0.3s						
ZRNK				⇑S	S	04 41 45.6	-4.6
	1.4nm,0.5s						
VOSK	**Vostochnaya**	12.79	12	⇓S	S	04 41 51.0	+0.2
	2.1nm,0.7s						
BVA0	**Borovoye Array**	12.99	10	⇑S	S	04 41 54.5	-1.2
	0.3nm,0.6s,baz=216,slow=24,SNR=4.1						
MK31	**Makanchi Array**	13.11	55	⇑P	P	04 39 30.7	-2.3
	0.9nm,0.8s,baz=245,slow=12,SNR=5.5						

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*NEIC **01** 04:42:39.0±1.0, 53.58S×140.39E, h10^{km}, mb4.4/2, Error ellipse: s-maj=81.3km s-min=14.9km az=86.0*

*IDC **01** 04:42:42.4±4.7, 53.01S×140.54E, mb4.1/4, mb1 4.3/4, mb1mx4.1/9, MS3.7/1, Ms1 3.7/1, ms1mx3.1/16, Error ellipse: s-maj=160.0km s-min=50.4km az=104.0*

ISC 01 04:42:37.2±1.3, **53.5S**±0.1×**14 1E**± , **h10**^{km}, **n9**, σ**0^{s}44**/7, **mb4.2**/6, **MS3.6**/1, **West of Macquarie Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	21.66	3	P	P	04 47 30.0	+0.3
	6.4nm,0.8s,mb4.1,baz=162,slow=10,SNR=12						
STKA	**Stephens Creek**	21.66	3	*e*P	P	04 47 30.5	+0.7
NWAO	**Narrogin (SRO)**	26.46	312	LR	LR	04 55 57.9	
	comp=Z,178nm,20.4s,MS3.6,baz=142,slow=30						
ASAR	**Alice Springs**	30.24	348	P	P	04 48 50.1	-0.1
	1.1nm,0.6s,mb3.8,baz=165,slow=10,SNR=12						
WRA	**Warramunga Arr**	33.87	350	P	P	04 49 21.4	-0.6
	1.9nm,0.9s,mb4.0,baz=172,slow=7.5,SNR=8.3						
WRAB	**Tennant Creek**	33.88	350	*e*P	P	04 49 21.6	-0.4
	4.7nm,0.8s,mb4.5						
QSPA	**South Pole Qui**	36.58	180	*e*P	P	04 49 44.5	0.0
	6.8nm,1.2s,mb4.3						
FITZ	**Fitzroy Crossi**	37.20	336	P	P	04 49 50.9	+0.6
	5.7nm,1.0s,mb4.3,baz=192,slow=8.8,SNR=3.0						
GERES	**GERESS Array B**	146.99	284	PKPbc	PKPbc	05 02 25.4	+6.8
	0.2nm,0.3s,baz=153,slow=2.2,SNR=4.0						

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*JMA **01** 04:50:37.8±0.2, 36.93N×141.69E, h32^{km}±3^{km}, M3.5*

ISC 01 04:50:37.6±2.0, **36.98N**±0.07×**141.7E**±0.1, **h29**^{km}±8^{km}, **n7**, σ**0^{s}73**/14, **5D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	0.74	280	⇓P	Pb	04 50 51.9	0.0
ONAJ				*e*S	Sb	04 51 01.4	-0.4
JFK	**Kawauchi**	0.77	300	⇓P	Pb	04 50 52.5	+0.1
JFK				*e*S	Sb	04 51 02.6	0.0
JHO	**Hitachi**	0.99	248	⇓P	Pn	04 50 54.8	-0.9
JHO				*e*S	Sn	04 51 07.2	-1.6
JMM	**Marumori**	1.15	321	⇓P	Pn	04 50 58.2	+0.3
JMM				*e*S	Sn	04 51 12.5	-0.3
JFT	**Otama**	1.22	296	P	Pn	04 50 59.9	+0.9
JFT				*e*S	Sn	04 51 15.1	+0.4
JIO	**Ouri**	1.50	349	⇓P	Pn	04 51 03.2	+0.2
JIO				*e*S	Sn	04 51 20.8	-0.9
MAT	**Matsushiro**	2.85	262	P	Pn	04 51 23.2	+0.9
MAT				*e*S	Sn	04 51 57.2	+1.2

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*BJI **01** 04:55:25.1, 53.72S×140.40E, h2^{km}, mB5.2, mb4.6, Ms5.0, Msz4.6*

*SYO **01** 04:55:26.6, 53.82S×140.12E, h10^{km}, MB4.8, MS4.8*

*HRVD **01** 04:55:28.3±0.2, 53.65S×140.74E, h12^{km}, MW5.2/60, Centroid moment Tensor Solution. LP body waves: s41,c62;Mantle waves: s60,c103; Half duration: 1^{s}0 Moment tensor: Scale 10^{16}Nm; M$_{rr}$-1.28±.19; M$_{\theta\theta}$1.52±.20; M$_{\phi\phi}$-0.24±.22; M$_{r\theta}$-1.07±.49; M$_{\theta\phi}$-7.68±.15; M$_{\phi r}$0.22±.51; Best double couple: M$_0$7.8×10^{16} NP1:φ$_s$357°, δ82°, λ0°. NP2:φ$_s$267°, δ90°, λ172°. Principal axes: T 8.46, Plg6°, Azm222°; N -1.32, Plg82°, Azm86°; P -7.14, Plg5°, Azm312°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*IDC **01** 04:55:28.5±0.6, 53.50S×140.39E, mb4.7/11, mb1 4.8/11, mb1mx4.7/14, MS4.6/13, Ms1 4.6/13, ms1mx4.6/17 Error ellipse: s-maj=24.6km s-min=17.4km az=95.0*

*NEIC **01** 04:55:28.3±0.3, 53.65S×140.87E, h10^{km}, mb4.6/9, MS4.8/11, Error ellipse: s-maj=13.5km s-min=8.0km az=99.0*

ISC 01 04:55:27.1±0.5, **53.67S**±0.06×**140.5E**±0.2, **h10**^{km}, **(h14**^{km}±1.5^{km}**:pP-P)**, **n118**, σ**1^{s}20**/45, **mb4.8**/17, **MS4.7**/29, **3C-4D, West of Macquarie Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TOO	**Toolangi**	16.46	14	*e*P	P	04 59 20.1	+0.6
	22nm,0.9s						
TOO				*e*S	S	05 02 26.6	+4.8
ADE	**Adelaide**	18.74	355	P	P	04 59 48.1	+0.1
CASY	**Casey**	19.35	218	*e*P	P	04 59 54.1	-0.9
	21nm,1.0s						
STKA	**Stephens Creek**	21.79	2	*e*P	P	05 00 19.8	-1.1
	28nm,0.8s,mb4.8						
STKA				*i* S	S	05 04 25.6	+8.8
STKA	**Stephens Creek**	21.79	2	P	P	05 00 19.9	-1.0
	35nm,0.8s,mb4.8,baz=174,slow=11,SNR=62						
STKA				LR	LR	05 07 11.8	
	comp=Z,1µm,19.5s,MS4.3,baz=179,slow=32						
RPZ	**Rata Peaks**	22.32	76	P	P	05 00 26.1	-0.1
	48nm,0.9s,mb4.9,baz=54,slow=12,SNR=6.8						
RPZ				LR	LR	05 07 19.3	
	comp=Z,5µm,18.6s,MS5.0,baz=236,slow=32						
FORT	**Forrest**	24.59	334	*e*P	P	05 00 49.6	+1.4
	89nm,0.7s,mb5.4						
FORT				*e*S	S	05 05 11.9	+5.7
ARMA	**Armidale**	24.59	24	*e*P	P	05 00 47.2	-1.1
NWAO	**Narrogin (SRO)**	26.55	312	LR	LR	05 09 10.8	
	comp=Z,2µm,19.7s,MS4.7,baz=151,slow=31						
URZ	**Urewera**	29.35	73	P	P	05 01 27.5	-4.5
	33nm,0.9s,mb5.1,baz=229,slow=3.4,SNR=8.1						
URZ				LR	LR	05 12 22.5	
	comp=Z,1µm,19.2s,MS4.6,baz=202,slow=34						
ASAR	**Alice Springs**	30.37	348	P	P	05 01 39.6	-1.5
	9.0nm,0.7s,mb4.6,baz=166,slow=9.7,SNR=70						
ASAR				PcP	PcP	05 04 40.2	-1.0
	0.7nm,0.8s,baz=149,slow=5.3,SNR=3.4						
ASAR				LR	LR	05 13 05.1	
	comp=Z,524nm,19.7s,MS4.2,baz=168,slow=35						
ASPA	**Alice Springs**	30.37	348	*e*P	P	05 01 39.8	-1.4
CTA	**Charters Tower**	33.81	10	P	P	05 02 11.5	+0.2
	4.5nm,1.0s,mb4.3,baz=184,slow=18,SNR=2.4						
CTA				LR	LR	05 16 06.6	
	comp=Z,1µm,18.1s,MS4.7,baz=190,slow=37						
WB2	**Warramunga Arr**	33.99	350	*e*P	P	05 02 11.0	-1.9
WRA	**Warramunga Arr**	33.99	350	P	P	05 02 11.0	-1.9
	11nm,0.7s,mb4.9,baz=174,slow=7.7,SNR=82						
WRA				LR	LR	05 15 17.8	
	comp=Z,540nm,19.6s,MS4.3,baz=145,slow=35						
QSPA	**South Pole Qui**	36.45	180	*e*P	P	05 02 33.4	+0.2
	29nm,1.0s,mb5.2						
QSPA				*e*		05 02 47.4	
QSPA				*e*		05 03 55.3	
QSPA				LR	LR		
	comp=Z,1µm,22.0s,MS4.7						
FITZ	**Fitzroy Crossi**	37.32	336	*e*P	P	05 02 40.4	-0.8
	comp=Z,8.4nm,0.9s,mb4.6						
FITZ	**Fitzroy Crossi**	37.32	336	P	P	05 02 41.2	0.0
	comp=Z,5.8nm,0.8s,mb4.5,baz=188,slow=8.8,SNR=13						
MAW	**Mawson**	37.71	218	P	P	05 02 44.3	+0.4
	comp=Z,2.8nm,0.7s,mb4.1,baz=72,slow=8.4,SNR=4.2						
MAW				LR	LR	05 16 58.3	
	comp=Z,3µm,19.4s,MS5.0,baz=86,slow=34						
KAKA	**Kakadu**	41.37	348	*e*P	P	05 03 14.1	-0.7
	comp=Z,7.6nm,0.6s,mb4.5						
PMG	**Port Moresby**	44.46	9	P	P	05 03 40.3	+0.3
	comp=Z,5.7nm,0.7s,mb4.4,baz=177,slow=17,SNR=3.3						
PMG	**Port Moresby**	44.46	9	P	P	05 03 40.4	+0.3
	comp=Z,3.1nm,0.6s,mb4.2						
SYO	**Syowa Base**	44.84	210	⇓P	P	05 03 39.3	-3.1
SYO	**Syowa Base**	44.84	210	⇑pP	P	05 03 41.3	-1.1
SNAA	**Sanae**	52.31	194	*e*	P	05 04 38.6	-1.7
SNAA	**Sanae**	52.31	194	*e*	P	05 04 40.1	-0.2
SNAA	**Sanae**	52.31	194	⇓*i*P	P	05 04 35.5	-4.8
SNAA				*e*	pP	05 04 38.6	-4.8
SNAA				*e*	pP	05 04 40.1	-3.3
VNA2	**Neumayer--Watz**	53.61	193	*e*	P	05 04 54.3	+4.4
VNA2	**Neumayer--Watz**	53.61	193	P	P	05 04 49.8	-0.1
VNA2				*e*	pP	05 04 54.3	+1.3
VNA1	**Neumayer--Stat**	53.98	192	*e*	P	05 04 57.9	+5.3
VNA1	**Neumayer--Stat**	53.98	192	*e*	P	05 04 59.2	+6.6
VNA1	**Neumayer--Stat**	53.98	192	⇓*i*P	P	05 04 54.9	+2.3
VNA1				*e*	pP	05 04 57.9	+2.3
VNA1				*e*	pP	05 04 59.2	+3.6
TBI	**Tubuai**	59.77	89	*e*L		05 20 38.3	
TBI				*e*R		05 22 29.1	
	comp=Z,775nm,24.5s,baz=221						
PPT	**Papeete**	64.15	85	*e*L		05 22 15.7	
PPT				*e*R		05 24 50.0	
	comp=Z,912nm,31.5s,baz=226						
RKT	**Rikitea**	68.53	100	*e*L		05 23 44.1	
RKT				*e*R		05 27 10.6	
	comp=Z,382nm,28.2s						
SUR	**Sutherland**	79.70	228	*e*P	P	05 07 35.0	-1.2
	comp=Z,46nm,1.4s,mb5.2						
CMAR	**Chiang Mai Arr**	80.23	320	P	P	05 07 40.9	+1.6
	comp=Z,0.8nm,0.4s,mb4.0,baz=176,slow=4.8,SNR=8.6						
CMAR				LR	LR	05 40 56.1	
	comp=Z,268nm,18.8s,MS4.6,baz=175,slow=34						
CBIJ	**Chichi jima**	80.43	2	LR	LR	05 39 05.9	
	comp=Z,456nm,21.2s,MS4.8,baz=350,slow=33						
JOW	**Kunigami**	80.86	349	LR	LR	05 44 02.2	
	comp=Z,231nm,19.3s,MS4.5,baz=112,slow=36						
PLCA	**Paso Flores**	82.24	157	P	P	05 07 53.6	+4.3
	comp=Z,12nm,1.2s,mb4.7,baz=142,slow=9.3,SNR=5.4						
KMI	**Kunming**	85.00	326	*e*P	P	05 08 05.8	+2.1
KMI				AP	pP	05 08 10.5	+3.6
KMI				PP	PP	05 11 25.2	+2.9
KMI				S	S	05 18 34.7	+3.4
KMI				XS		05 18 45.0	
KMI				SS	SS	05 24 11.1	+3.7
KMI				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.6						
KMI				AMB	AMB		
	comp=Z,146nm,4.1s						
KMI				LR	LR		
	comp=N,262nm,20.4s,MS4.7						
KMI				LR	LR		
	comp=E,180nm,20.9s,MS4.7						
KMI				LR	LR		
	comp=Z,288nm,23.3s,MS4.6						
SSE	**Sheshan**	86.06	343	P	P	05 08 08.9	+0.1
SSE				S	S	05 18 43.8	+2.4
SSE				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.6						
SSE				LR	LR		
	comp=N,63nm,28.2s,MS4.0						
SSE				LR	LR		
	comp=E,50nm,28.2s,MS4.0						
SSE				LR	LR		
	comp=Z,128nm,22.8s						
JNU	**Nakatsue**	86.83	352	LR	LR	05 46 49.5	
	comp=Z,137nm,21.2s,MS4.3,baz=16,slow=36						
NJ2	**Nanjing**	87.41	342	*e*P	P	05 08 16.3	+0.9
NJ2				AP	pP	05 08 22.0	+3.4
NJ2				S	S	05 18 56.0	+1.8
ENH	**Enshi**	87.82	334	PFAKE		05 08 30.0	+13
ENH				LR	LR		
	comp=Z,315nm,22.0s,MS4.7						
SHL	**Shillong**	89.41	317	*e*P	P	05 08 25.0	-0.1
LZH	**Lanzhou**	94.85	331	*e*P	P	05 08 51.2	+1.3
LZH				PP	PP	05 12 43.5	+2.5
LZH				LR	LR		
	comp=N,351nm,15.2s						
LZH				LR	LR		
	comp=Z,493nm,17.8s,MS5.0						
BJI	**Beijing**	95.66	341	P	P	05 08 54.1	+0.5
BJI				LR	LR		
	comp=Z,247nm,23.3s,MS4.6						
KMBO	**Kilima Mbogo**	96.93	259	LR	LR	05 44 06.0	
	comp=Z,297nm,18.8s,MS4.8,baz=98,slow=30						
CN2	**Changchun**	97.94	349	*e*P	P	05 09 05.7	+1.9
MDJ	**Mudanjiang**	98.35	352	P	P	05 09 08.1	+2.5
MDJ				SS	SS	05 27 19.9	+2.1
MDJ				LR	LR		
	comp=E,125nm,25.2s						
MDJ				LR	LR		
	comp=Z,157nm,24.1s,MS4.4						
BRVK	**Borovoye**	121.28	318	PFAKE		05 14 30.0	+7.3
BRVK				LR	LR		
	comp=Z,33nm,19.0s,MS4.0						
ZRNK	**Zerenda**	121.71	318	PKPdf	PKPdf	05 14 24.2	+0.7
WDC	**Whiskeytown Da**	125.14	68	PKPdf	PKPdf	05 14 29.1	-1.3
NVAR	**Mina Array Bea**	126.03	72	PKP	PKPdf	05 14 31.1	-1.0
	comp=Z,1.0nm,0.8s,baz=206,slow=3.1,SNR=4.5						
TPH	**Tonopah**	126.39	73	PKPdf	PKPdf	05 14 29.1	-3.6
MALT	**Malatya**	126.45	287	PKPdf	PKPdf	05 14 31.8	-1.0
PMR	**Palmer**	127.60	35	PFAKE		05 14 40.0	+5.5
PMR				LR	LR		
	comp=Z,425nm,19.0s,MS5.2						
TXAR	**Lajitas Array**	128.18	91	PKP	PKPdf	05 14 36.5	0.0
	comp=Z,0.3nm,0.9s,baz=315,slow=1.8,SNR=4.0						
MCK	**McKinley**	129.17	33	PFAKE		05 14 50.0	+13
MCK				LR	LR		
	comp=Z,214nm,20.0s,MS4.8						
MSU	**Marysvale**	129.59	76	*e*PKPpre		05 14 26.6	
MSU				*e*PKiKP		05 14 40.4	
BRTR	**Keskin Array B**	130.15	285	PKP	PKPdf	05 14 40.9	+0.9
	comp=Z,0.3nm,0.4s,baz=180,slow=8.6,SNR=3.7						
COLA	**College**	130.29	32	PFAKE		05 14 50.0	+10
COLA				LR	LR		
	comp=Z,245nm,21.0s,MS4.9						
DUG	**Dugway**	130.35	74	*e*PKPdf	PKPdf	05 14 36.4	-3.9
ILAR	**Eielson Array**	130.53	33	PKP	PKPdf	05 14 40.1	+0.1
	comp=Z,0.4nm,0.8s,baz=301,slow=3.0,SNR=5.2						
WMOK	**Wichita Mounta**	134.92	90	PKPdf	PKPdf	05 14 49.0	-0.1
WMOK				LR	LR		
	comp=Z,294nm,20.0s,MS5.0						
MIAR	**Mount Ida**	137.89	95	PFAKE		05 15 00.0	+5.5
MIAR				LR	LR		
	comp=Z,215nm,20.0s,MS4.9						
AKASG	**Malin Array Be**	139.25	295	PKP	PKPdf	05 14 53.1	-3.4
	comp=Z,0.6nm,0.5s,baz=122,slow=2.1,SNR=4.1						
OXF	**Oxford**	140.32	98	PFAKE		05 15 10.0	+11
OXF				LR	LR		
	comp=Z,116nm,20.0s,MS4.6						
YKA	**Yellowknife Ar**	141.51	46	PKhKP		05 14 52.4	
	comp=Z,0.7nm,0.8s,baz=245,slow=3.0,SNR=4.3						
YKA				PKP	PKPdf	05 14 58.4	-1.6
	comp=Z,1.1nm,0.8s,baz=240,slow=3.8,SNR=7.9						
WVT	**Waverly**	142.38	98	*e*PKPpre		05 14 54.1	
WVT				LR	LR		
	comp=Z,169nm,20.0s,MS4.8						
VYHS	**Vyhne**	143.89	286	*e*PKP	PKPdf	05 15 01.5	-3.0
VYHS				*e*		05 15 06.6	
VYHS				*e*		05 15 09.8	
VYHS				*e*		05 15 15.1	
KOLL	**Kolacno**	144.18	286	*e*PKP	PKPdf	05 15 03.4	-1.7
OJC	**Ojcow**	144.21	289	*e*PKP	PKPdf	05 14 57.9	-7.2
OJC				*i*		05 15 07.4	
FFC	**Flin Flon**	144.50	62	*e*PKPpre		05 14 55.9	
NHSC	**New Hope**	144.65	109	PKPdf	PKPdf	05 15 03.4	-3.0
WCI	**Wyandotte Cave**	144.69	97	*e*PKPdf	PKPdf	05 15 02.6	-3.8
ARSA	**Arzberg**	145.16	282	⇑*i*P	PKPbc	05 15 06.2	+2.1
MORC	**Moravsky Berou**	145.27	287	*e*PKPdf	PKPdf	05 15 03.7	-3.2
JFWS	**Jewell Farm**	145.27	87	*e*PKPdf	PKPdf	05 15 03.1	-4.0
FINES	**FINESS Array B**	145.39	310	PKPbc	PKPbc	05 15 05.3	+1.0
	comp=Z,4.8nm,1.0s,baz=129,slow=12,SNR=7.3						
VRAC	**Vranov**	145.58	286	PKPbc	PKPbc	05 15 07.7	+2.6
	comp=Z,3.8nm,0.6s,baz=53,slow=6.2,SNR=5.4						
ULM	**Lac du Bonnet**	145.86	72	PKPbc	PKPbc	05 15 09.1	+3.2
	comp=Z,6.2nm,0.7s,baz=271,slow=2.7,SNR=12						
ULM	**Lac du Bonnet**	145.86	72	*e*PKPdf	PKPdf	05 15 03.9	-4.0
ULM				PKPbc	PKPbc	05 15 09.1	+3.2
DPC	**Dobruska-Polom**	146.23	288	*e*PKP	PKPdf	05 15 09.3	+0.7
KBA	**Koelnbreinsper**	146.34	281	⇑*i*P	PKPbc	05 15 07.6	+0.6
PGF	**Pioggiola**	146.40	271	*e*PKIKP	PKPdf	05 15 08.9	-0.2
UPC	**Upice**	146.48	288	*e*PKP	PKPdf	05 15 09.9	+0.9
GERES	**GERESS Array B**	147.02	284	PKPbc	PKPdf	05 15 10.6	+0.7
	comp=Z,5.4nm,1.0s,baz=135,slow=1.9,SNR=18						
PRU	**Pruhonice**	147.08	286	*e*PKP	PKPdf	05 15 12.0	+2.0
ARCES	**ARCESS Array B**	147.22	324	PKPbc	PKPdf	05 15 09.7	0.0
	comp=Z,2.3nm,0.7s,baz=45,slow=1.7,SNR=12						
KHC	**Kasperske Hory**	147.23	284	*e*PKP	PKPdf	05 15 12.5	+2.2
PVCC	**Panska Ves**	147.31	287	*e*PKP	PKPdf	05 15 12.2	+1.8
WTTA	**Wattenberg**	147.44	280	⇓*i*P	PKPdf	05 15 10.0	-0.7
BLA	**Blacksburg**	147.45	104	*e*PKPbc	PKPdf	05 15 10.2	-0.8
FWV	**Forest Hill**	147.47	103	*e*PKPbc	PKPdf	05 15 11.8	+0.8
ACSO	**Alum Creek Sta**	147.95	97	*e*PKPdf	PKPdf	05 15 08.9	-2.8
DAVOX	**Davos**	148.22	278	PKPbc	PKPdf	05 15 15.4	+3.5
	comp=Z,12nm,0.9s,baz=134,slow=9.6,SNR=6.9						
FRF	**La Foret Royal**	148.39	270	*e*PKIKP	PKPdf	05 15 11.9	-0.4
	comp=Z,20nm,0.8s						
NKC	**Novy Kostel**	148.39	285	*e*PKP	PKPdf	05 15 19.6	+7.5
CLL	**Collm**	148.54	287	*e*PKP2	PKPab	05 15 19.0	+0.5
GRA1	**Grafenberg Arr**	148.85	284	*e*PKP	PKPdf	05 15 16.3	+3.5
MBDF	**Montbardon**	148.97	272	*e*PKIKP	PKPdf	05 15 12.9	-0.3
	comp=Z,18nm,0.9s						
LPG	**La Plagne**	149.40	274	*e*PKIKP	PKPdf	05 15 14.0	+0.1
	comp=Z,16nm,1.0s						
LPL	**La Plagne**	149.42	274	*e*PKIKP	PKPdf	05 15 13.4	-0.5
ORIF	**Oris-en-Rattie**	149.60	272	*e*PKIKP	PKPdf	05 15 13.6	-0.6
ORIF				*e*R			
	comp=Z,350nm,22.0s						
LASF	**Ste Croix**	150.34	269	*e*PKIKP	PKPdf	05 15 15.2	-0.2
	comp=Z,44nm,1.3s						
MTLF	**Montolieu**	150.90	266	*e*PKIKP	PKPdf	05 15 16.4	+0.1

	comp=Z,30nm,1.3s						
HFS	**Hagfors**	**150.95**	**304**	PKPab	PKPab	05 15 28.8	+0.6
	comp=Z,1.6nm,0.6s,baz=146,slow=5.3,SNR=3.7						
SSPA	**Standing Stone**	**151.20**	**101**	*e*PKPbc	PKPdf	05 15 21.1	+4.3
SSPA				LR	LR		
	comp=Z,156nm,19.0s,MS4.8						
EPF	**Esparros**	**151.83**	**264**	*e*PKIKP	PKPdf	05 15 20.5	+2.8
CAF	**Calviac**	**151.88**	**269**	*e*PKIKP	PKPdf	05 15 19.6	+1.9
	comp=Z,17nm,1.1s						
SSF	**Saint Saulge**	**152.13**	**274**	*e*PKIKP	PKPdf	05 15 20.8	+2.8
ESDC	**Sonseca Array**	**152.23**	**254**	PKPbc	PKPdf	05 15 24.7	+6.3
	comp=Z,2.5nm,0.7s,baz=107,slow=1.5,SNR=7.2						
ESDC				PKPab	PKPab	05 15 33.7	-0.6
	comp=Z,2.2nm,0.8s,baz=139,slow=3.3,SNR=3.8						
ETSF	**Etsaut**	**152.28**	**263**	*e*PKIKP	PKPdf	05 15 20.4	+2.1
	comp=Z,6.3nm,0.9s						
NOA	**NORSAR Array B**	**152.31**	**306**	PKPab	PKPab	05 15 34.2	+0.3
	comp=Z,1.9nm,0.9s,baz=100,slow=4.4,SNR=3.3						
TCF	**Toulx Ste Croi**	**152.51**	**272**	*e*PKIKP	PKPdf	05 15 21.3	+2.8
SJPF	**Ste Jean**	**152.80**	**263**	*e*PKIKP	PKPdf	05 15 21.1	+2.1
	comp=Z,16nm,0.9s						

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*NEIC **01** 05:04:32.8, 35.01S×70.55W, h5^{km}, ML3.0(GUC), After GUC.*

GUC 01 05:04:32.8±0.8**, 35.01S×70.55W, h5^{km}, MD3.8, ML3.0, 5C-2D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFDO	**San Fernando**	**0.55**	**316**	⇓*i*P	Pg	05 04 43.9	+0.1
SFDO				*i* S	Sg	05 04 52.4	+1.3
NICH	**Los Niches**	**0.56**	**270**	*e*P	Pg	05 04 43.7	-0.3
NICH				*i* S	Sg	05 04 52.5	+1.1
CICH	**Cipreses**	**0.70**	**9**	⇓*i*P	Pg	05 04 45.9	-0.8
CICH				*i* S	Sg	05 04 55.5	-0.5
CACH	**El Canelo**	**0.89**	**357**	⇑*i*P	Pb	05 04 49.3	-1.1
CACH				*i* S	Sb	05 05 02.4	0.0
CHCH	**Chadas Angostu**	**1.08**	**356**	*i* P	Pb	05 04 52.9	-0.6
CHCH				*i* S	Sb	05 05 08.1	+0.3
LMEL	**Las Melosas**	**1.19**	**14**	⇑*i*P	Pb	05 04 54.6	-0.9
LMEL				*i* S	Sb	05 05 11.3	+0.2
LMEL				AMP		05 05 11.9	
	comp=N,366nm,0.2s						
LNV	**Longovilo**	**1.27**	**326**	⇑*i*P	Pb	05 04 56.1	-0.7
LNV				*i* S	Sb	05 05 13.6	+0.3
PCH	**Pirque**	**1.39**	**1**	⇑*i*P	Pb	05 04 58.4	-0.4
PCH				*i* S	Sb	05 05 17.1	+0.5
TACH	**Talagante**	**1.39**	**347**	*e*P	Pb	05 04 58.0	-0.9
TACH				*i* S	Sb	05 05 17.1	+0.3
ANTU	**Antumapu**	**1.44**	**357**	*e*P	Pn	05 04 58.8	-0.8
ANTU				*i* S	Sb	05 05 18.2	0.0
ANTU				AMP		05 05 21.3	
	comp=E,386nm,0.8s						
RCDM	**Rinconada Maip**	**1.53**	**352**	*e*P	Pn	05 05 00.7	-0.3
RCDM				*i* S	Sb	05 05 21.5	+0.6
RCDM				AMP		05 05 22.6	
	comp=E,613nm,0.2s						
DSCH	**Colegio Aleman**	**1.61**	**359**	*e*P	Pn	05 05 01.7	-0.3
DSCH				*i* S	Sb	05 05 24.6	+1.5
DSCH				AMP		05 05 27.8	
	comp=N,388nm,0.4s						
CLCH	**Cerro Calan**	**1.61**	**0**	⇑*i*P	Pn	05 05 02.0	0.0
CLCH				*i* S	Sb	05 05 23.5	+0.3
CLCH				AMP		05 05 29.9	
	comp=E,294nm,0.5s						
FCH	**Farellones**	**1.69**	**7**	*e*P	Pn	05 05 03.4	+0.2
FCH				*i* S	Sn	05 05 26.5	+1.0
FCH				AMP		05 05 28.0	
	comp=E,232nm,0.2s						
LCCH	**Las Cruces**	**1.75**	**331**	*e*P	Pn	05 05 04.1	+0.1

IDC 01 05:24:18.5±2.1**, 2.92S×128.92E, mb3.6**/2**, mb1 3.9**/3**, mb1mx3.6**/15**, ML3.4**/1**, Error ellipse: s-maj=111.0km s-min=28.8km az=68.0, Ceram Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.73**	**163**	P	P	05 28 26.7	-1.8
	0.1nm,0.3s,baz=343,slow=12,SNR=7.5						
ASAR	**Alice Springs**	**21.18**	**167**	P	P	05 29 04.8	-3.1
	1.9nm,0.5s,baz=351,slow=12,SNR=18						
MKAR	**Makanchi Array**	**64.25**	**326**	P	P	05 34 56.2	-1.5
	0.4nm,0.9s,baz=121,slow=8.4,SNR=2.3						

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*NEIC **01** 07:16:06.2±0.9, 13.98N×145.61E, h106^{km}±7^{km}, mb4.2/1, Error ellipse: s-maj=23.8km s-min=10.1km az=104.0*

*IDC **01** 07:16:08.2±3.6, 14.06N×145.66E, h124^{km}±32^{km}, mb3.5/10, mb1 3.7/10, mb1mx3.6/19, MS3.3/1, Ms1 3.3/1, ms1mx2.7/18, Error ellipse: s-maj=32.4km s-min=15.9km az=97.0*

ISC 01 07:16:05.2±0.9**, 13.99N**±0.08×**145.6E**±0.2**, h109**^{km}±7^{km}**, n18, $\sigma0^{s}99$**/18**, mb3.7**/10**, 1C, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.80**	**240**	*e*P	**P**	**07 16 24.1**	**-0.6**
SAPN	**Saipan**	**1.23**	**7**	⇑*e*P	**P**	**07 16 29.5**	**+0.3**
SAPN				*e*S	**S**	**07 16 46.0**	**-1.3**
ANA2	**Anatahan**	**2.34**	**3**	*e*P	**P**	**07 16 44.3**	**+1.1**
ANAT	**Anatahan**	**2.35**	**2**	*e*P	**P**	**07 16 44.4**	**+1.0**
JOW	**Kunigami**	**20.62**	**311**	P	**P**	**07 20 38.6**	**+0.9**
	12nm,0.6s,baz=129,slow=14,SNR=5.9						
JNU	**Nakatsue**	**23.28**	**327**	LR	LR	07 29 31.2	
	comp=Z,74nm,18.3s,baz=255,slow=34						
WRAB	**Tennant Creek**	**35.48**	**198**	*e*P	**P**	**07 22 52.3**	**-0.9**
	2.2nm,0.6s,mb4.2						
WRA	**Warramunga Arr**	**35.49**	**198**	P	**P**	**07 22 53.0**	**-0.3**
	1.0nm,0.6s,mb3.9,baz=22,slow=9.5,SNR=8.2						
WRA				ScP		07 28 54.9	
	0.6nm,0.8s,baz=15,slow=5.1,SNR=4.5						
ASAR	**Alice Springs**	**39.13**	**197**	P	**P**	**07 23 24.6**	**+0.9**
	0.2nm,0.5s,mb3.2,baz=22,slow=13,SNR=4.6						
STKA	**Stephens Creek**	**45.76**	**185**	P	**P**	**07 24 18.4**	**+0.9**
	2.5nm,1.1s,mb3.8,baz=343,slow=14,SNR=3.2						
SONM	**Songino Array**	**46.81**	**324**	P	**P**	**07 24 25.8**	**+0.2**
	0.8nm,0.6s,mb3.6,baz=135,slow=8.7,SNR=3.5						
ILAR	**Eielson Array**	**67.91**	**25**	P	**P**	**07 26 52.0**	**-1.8**
	0.8nm,0.5s,mb3.8,baz=252,slow=5.7,SNR=26						
YKA	**Yellowknife Ar**	**82.19**	**28**	P	**P**	**07 28 15.0**	**-0.1**
	0.4nm,0.5s,mb3.5,baz=286,slow=5.1,SNR=4.8						
NVAR	**Mina Array Bea**	**86.13**	**52**	P	**P**	**07 28 36.7**	**+1.3**
	0.4nm,0.8s,mb3.4,baz=270,slow=5.4,SNR=3.6						
NVAR	**Mina Array Bea**	**86.13**	**52**	P	**P**	**07 28 36.7**	**+1.3**
ARCES	**ARCESS Array B**	**86.92**	**342**	P	**P**	**07 28 38.4**	**-0.1**
	0.5nm,0.5s,mb3.7,baz=63,slow=11,SNR=4.9						
FINES	**FINESS Array B**	**91.09**	**335**	P	**P**	**07 28 56.4**	**-1.9**
	1.8nm,0.9s,mb4.2,baz=108,slow=6.0,SNR=4.8						
FINES	**FINESS Array B**	**91.09**	**335**	P	**P**	**07 28 56.4**	**-1.9**

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*NEIC **01** 07:29:40.0, 59.87N×153.28W, h114^{km}, After AEIC.*

*IDC **01** 07:29:43.0±6.7, 60.29N×153.14W, h135^{km}±64^{km}, mb2.7/1, mb1 3.3/5, mb1mx3.0/23, Error ellipse: s-maj=57.1km s-min=25.4km az=35.0*

ISC 01 07:29:37.6±0.4**, 59.87N**±0.03×**153.22W**±0.06**, h128**^{km}±3^{km}**, n76, $\sigma0^{s}74$**/90**, mb3.2**/1**, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ILS	**Iliamna Low So**	**0.11**	**41**	P	**P**	**07 29 55.2**	**+0.1**
IVS	**Iliamna South**	**0.15**	**26**	P	**P**	**07 29 55.3**	**+0.2**
OPT	**Oil Point**	**0.22**	**182**	P	**P**	**07 29 55.5**	**+0.3**
OPT				S	**S**	**07 30 07.6**	**-1.2**
ILIM	**Iliamna**	**0.25**	**32**	P	**P**	**07 29 55.4**	**+0.1**
AUL	**Augustine Lava**	**0.50**	**193**	P	**P**	**07 29 56.7**	**+0.2**
AUL				S	**S**	**07 30 10.3**	**-0.5**
AUE	**Augustine Isla**	**0.52**	**189**	P	**P**	**07 29 56.8**	**+0.1**
AGU	**Augustine-Summ**	**0.53**	**192**	P	**P**	**07 29 56.9**	**+0.2**
AUI	**Augustine Isla**	**0.55**	**191**	P	**P**	**07 29 56.9**	**+0.1**
AUI				S	**S**	**07 30 10.1**	**-1.3**
RSO	**Redoubt South**	**0.64**	**21**	P	**P**	**07 29 57.8**	**+0.5**
REF	**Redoubt East F**	**0.67**	**22**	P	**P**	**07 29 58.1**	**+0.5**
NCT	**North Crescent**	**0.71**	**12**	P	**P**	**07 29 58.3**	**+0.4**
NCT				S	**S**	**07 30 13.2**	**-0.1**
DFR	**Drift River**	**0.77**	**20**	P	**P**	**07 29 58.8**	**+0.4**
RDT	**Redoubt**	**0.81**	**30**	P	**P**	**07 29 59.1**	**+0.4**
HOM	**Homer**	**0.82**	**104**	P	**P**	**07 29 59.7**	**+0.9**
HOM				S	**S**	**07 30 15.8**	**+0.8**
MCNL	**McNeil River**	**0.89**	**220**	P	**P**	**07 29 59.3**	**-0.1**
CNPM	**China Poot**	**1.06**	**108**	P	**P**	**07 30 01.5**	**+0.4**
BRLK	**Bradley Lake**	**1.18**	**94**	P	**P**	**07 30 02.8**	**+0.5**
BRLK				S	**S**	**07 30 21.5**	**+0.4**
BKG	**Blockade Glaci**	**1.29**	**21**	P	**P**	**07 30 04.3**	**+0.7**
CKL	**Chakachamna La**	**1.40**	**18**	P	**P**	**07 30 05.5**	**+0.8**
KAPH	**Katmai Pasha**	**1.40**	**205**	P	**P**	**07 30 05.0**	**+0.2**
SPU	**Mount Spurr**	**1.44**	**23**	P	**P**	**07 30 05.9**	**+0.8**
CKN	**Chakachatna No**	**1.45**	**20**	P	**P**	**07 30 06.4**	**+1.0**
BGL	**Barrier Glacie**	**1.46**	**16**	P	**P**	**07 30 06.4**	**+1.0**
CRP	**Crater Peak**	**1.50**	**20**	P	**P**	**07 30 06.7**	**+0.9**
KAHG	**Katmai Hook Gl**	**1.54**	**207**	P	**P**	**07 30 06.6**	**+0.2**
SLKM	**Skilak Lake**	**1.63**	**66**	P	**P**	**07 30 08.1**	**+0.7**
SLKM				S	**S**	**07 30 29.5**	**-0.6**
SVW	**Sparrevohn**	**1.72**	**317**	P	**P**	**07 30 08.3**	**-0.1**
SVW				S	**S**	**07 30 31.0**	**-0.9**
SEW	**Seward**	**1.91**	**81**	P	**P**	**07 30 10.8**	**+0.2**
SEW				S	**S**	**07 30 34.5**	**-1.3**
KABR	**Katmai Barrier**	**1.97**	**208**	P	**P**	**07 30 11.5**	**+0.1**
FIB	**Fire Island**	**1.99**	**48**	P	**P**	**07 30 13.2**	**+1.5**
FIB				S	**S**	**07 30 38.4**	**+0.8**
MGLS	**Mageik LS**	**1.99**	**214**	P	**P**	**07 30 12.4**	**+0.7**
SUA	**Susitna One**	**2.01**	**36**	P	**P**	**07 30 13.3**	**+1.4**
MPA	**Moose Pass**	**2.02**	**71**	P	**P**	**07 30 12.7**	**+0.6**
ANCK	**Angle Creek**	**2.05**	**216**	P	**P**	**07 30 12.8**	**+0.4**
RC01	**Rabbit Creek A**	**2.11**	**53**	P	**P**	**07 30 13.6**	**+0.4**
RC01				S	**S**	**07 30 39.5**	**-0.9**
CAHL	**Cahill**	**2.12**	**212**	P	**P**	**07 30 13.9**	**+0.5**
KDAK	**Kodiak Island**	**2.12**	**171**	P	**P**	**07 30 12.4**	**-0.9**
KDAK				S	**S**	**07 30 38.3**	**-2.3**
KJL	**Kejulik**	**2.19**	**215**	P	**P**	**07 30 14.9**	**+0.6**
PMS	**Palmer South**	**2.27**	**51**	*e*P	**P**	**07 30 16.4**	**+1.1**
PMR	**Palmer**	**2.65**	**48**	P	**P**	**07 30 20.4**	**+0.1**
LTI	**Latouche**	**2.70**	**84**	P	**P**	**07 30 21.1**	**0.0**
KNK	**Knik Glacier**	**2.81**	**55**	P	**P**	**07 30 21.9**	**-0.5**
GHO	**Glory Hole Cre**	**2.84**	**46**	P	**P**	**07 30 22.7**	**-0.1**
CUT	**Chulitna**	**2.92**	**28**	P	**P**	**07 30 24.2**	**+0.3**
SML	**Sawmill**	**3.08**	**49**	P	**P**	**07 30 25.2**	**-0.8**
GLI	**Glacier Island**	**3.21**	**69**	P	**P**	**07 30 27.9**	**+0.3**
TT01	**Tatalina**	**3.33**	**337**	P	**P**	**07 30 28.8**	**-0.6**
TTA	**Tatalina**	**3.35**	**338**	*e*P	**P**	**07 30 28.6**	**-1.0**
HIN	**Hinchinbrook I**	**3.40**	**78**	P	**P**	**07 30 30.1**	**-0.2**
FID	**Port Fidalgo**	**3.47**	**72**	P	**P**	**07 30 29.6**	**-1.6**
SCM	**Sheep Creek Mo**	**3.49**	**53**	P	**P**	**07 30 30.8**	**-0.6**
VLZ	**Valdez**	**3.63**	**67**	P	**P**	**07 30 32.9**	**-0.4**
EYAK	**Cordova Ski Ar**	**3.79**	**76**	P	**P**	**07 30 34.9**	**-0.6**
KTH	**Kantishna Hill**	**3.85**	**15**	P	**P**	**07 30 36.1**	**-0.2**
TRF	**Thorofare Moun**	**3.85**	**20**	P	**P**	**07 30 36.1**	**-0.2**
DIV	**Divide**	**3.89**	**68**	P	**P**	**07 30 36.6**	**-0.3**
KLU	**Klutina**	**3.94**	**62**	P	**P**	**07 30 36.6**	**-0.9**
SGAM	**Sherman Glacie**	**4.05**	**78**	P	**P**	**07 30 38.7**	**-0.2**
DHY	**Denali Highway**	**4.26**	**39**	P	**P**	**07 30 41.4**	**-0.4**
MCK	**McKinley**	**4.37**	**26**	P	**P**	**07 30 43.4**	**+0.1**
BMRM	**Bremner River**	**4.41**	**72**	P	**P**	**07 30 43.5**	**-0.3**
GLB	**Gilahina Butte**	**4.89**	**67**	P	**P**	**07 30 49.6**	**-0.6**
WAX	**Waxell Ridge**	**5.21**	**79**	P	**P**	**07 30 55.0**	**+0.5**
HDA	**Harding Lake**	**5.41**	**30**	P	**P**	**07 30 56.7**	**-0.5**
CCB	**Clear Creek Bu**	**5.42**	**25**	P	**P**	**07 30 56.4**	**-0.9**
COLA	**College**	**5.61**	**24**	P	**P**	**07 30 59.1**	**-0.7**
ILAR	**Eielson Array**	**5.73**	**28**	P	**P**	**07 31 00.8**	**-0.7**
	3.2nm,0.3s,baz=216,slow=13,SNR=282						
ILAR				S	**S**	**07 32 01.4**	**-5.2**
	1.1nm,0.3s,baz=217,slow=22,SNR=5.3						
IL1	**Eielson Array**	**5.73**	**28**	P	**P**	**07 31 00.5**	**-1.0**
IMA	**Indian Mountai**	**6.22**	**358**	*e*P	**P**	**07 31 08.4**	**+0.2**
BCA3	**Beaver Creek A**	**6.34**	**55**	P	**P**	**07 31 09.8**	**0.0**
COLD	**Coldfoot**	**7.51**	**9**	P	**P**	**07 31 25.0**	**-0.6**
BM3	**Burnt Mountain**	**8.48**	**23**	P	**P**	**07 31 36.6**	**-2.1**
DLBC	**Dease Lake**	**11.97**	**87**	P	**P**	**07 32 29.4**	**+4.6**
	0.7nm,0.3s,baz=273,slow=7.7,SNR=34						
DLBC				S	**S**	**07 34 38.8**	**+2.7**
	0.1nm,0.3s,baz=267,slow=19,SNR=3.3						
INK	**Inuvik**	**12.01**	**37**	P	**P**	**07 32 25.1**	**-0.1**
	0.1nm,0.3s,baz=217,slow=10,SNR=6.7						
YKA	**Yellowknife Ar**	**18.61**	**65**	P	**P**	**07 33 47.2**	**+0.2**
	0.1nm,0.3s,baz=277,slow=10.0,SNR=7.1						
SONM	**Songino Array**	**54.78**	**306**	P	**P**	**07 38 56.7**	**+1.0**
	0.1nm,0.4s,mb3.2,baz=38,slow=9.0,SNR=4.1						

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*BER **01** 07:39:43.5±1.2, 59.42N×13.33E, ML2.1(NAO)*

NAO 01 07:39:42.0±3.8**, 59.39N×13.26E, ML2.1, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HFS	**Hagfors**	**0.78**	**16**	Pg	Pg	07 39 56.5	-1.0
	baz=190,slow=18						
HFS				Lg		07 40 06.0	
	baz=194,slow=37						
HFS				Rg		07 40 11.0	
	baz=199,slow=56						
NC6	**NORSAR Subarra**	**1.63**	**327**	Pn	Pn	07 40 11.2	-0.9
NC6				Lg		07 40 33.4	
NB2	**NORSAR Subarra**	**1.94**	**329**	Pn	Pn	07 40 16.1	-0.5
NB2				Lg		07 40 43.0	

IDC 01 07:59:40.4±3.5**, 52.58N×34.93E, mb1 3.3**/3**, mb1mx3.1**/19**, ML3.2**/3**, Error ellipse: s-maj=38.5km s-min=12.3km az=111.0, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AKASG	**Malin Array Be**	**4.02**	**244**	Pn	Pn	08 00 42.0	-2.6
	1.0nm,0.3s,baz=65,slow=15,SNR=2.9						
AKASG				Pg	Pg	08 00 52.0	-8.7
	2.0nm,0.3s,baz=55,slow=16,SNR=4.4						
AKASG				Sn	Sn	08 01 27.3	-5.8
	1.4nm,0.3s,baz=340,slow=34,SNR=2.9						
AKASG				Lg		08 01 44.8	
	1.9nm,0.3s,baz=69,slow=28,SNR=4.2						
FINES	**FINESS Array B**	**10.10**	**335**	Pn	P	08 02 01.1	-8.5
	0.1nm,0.3s,baz=152,slow=15,SNR=2.7						
FINES				Sn	S	08 03 51.7	-13
	0.2nm,0.3s,baz=162,slow=22,SNR=2.5						
FINES				Lg		08 04 59.3	
	0.1nm,0.3s,baz=157,slow=32,SNR=2.6						
ARCES	**ARCESS Array B**	**17.57**	**349**	P	P	08 03 44.8	-3.1
	0.2nm,0.3s,baz=163,slow=9.4,SNR=9.7						

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*ATH **01** 08:04:55.4, 36.66N×28.67E, h33^{km}, MD2.7/3*

*ISK **01** 08:04:59.0, 36.73N×28.74E, h23^{km}, MD3.1*

ISC 01 08:04:57.4±0.8**, 36.55N**±0.04×**28.65E**±0.05**, h28**^{km}±5^{km}**, n13, $\sigma0^{s}90$**/23**, 1C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DALT	**Dalyan (Mudla)**	**0.22**	**358**	*i* PG	**Pb**	**08 05 03.5**	**-0.2**
DALT				*i* SG	**Sb**	**08 05 07.4**	**-0.5**
ARG	**Arkhangelos**	**0.54**	**232**	*e*PN	**Pn**	**08 05 08.3**	**-0.8**
ARG				*e*SN	**Sn**	**08 05 18.0**	**+0.8**
YER	**Yerkesik**	**0.65**	**334**	*i* PG	**Pb**	**08 05 10.2**	**0.0**
YER				*i* SG	**Sb**	**08 05 19.0**	**0.0**
KSL	**Kastellorizon**	**0.85**	**117**	*e*PN	**Pn**	**08 05 12.8**	**-0.9**
MLSB	**Milas**	**1.02**	**317**	PG	**Pn**	**08 05 16.5**	**+0.4**
MLSB				SG	**Sb**	**08 05 31.0**	**+1.5**
ELL	**Elmali**	**1.03**	**79**	PG	**Pn**	**08 05 17.1**	**+0.8**
ELL				SG	**Sn**	**08 05 30.3**	**+0.4**
BDRM	**Kayabasi**	**1.09**	**298**	*i* P	**Pn**	**08 05 16.6**	**-0.6**
BDRM				*i* S	**Sn**	**08 05 31.4**	**0.0**
DNZL	**Cakiroluk**	**1.18**	**16**	*i* P	**Pn**	**08 05 12.8**	**-5.6**
DNZL				*i* S	**Sn**	**08 05 33.9**	**+0.2**
DENT	**Denizli**	**1.24**	**14**	PG	**Pn**	**08 05 18.6**	**-0.6**
AYDN	**Tasoluk**	**1.27**	**331**	*i* P	**Pn**	**08 05 19.9**	**+0.3**
AYDN				*i* S	**Sn**	**08 05 36.3**	**+0.5**
KARP	**Karpathos**	**1.56**	**231**	*e*PN	**Pn**	**08 05 24.0**	**+0.2**
MANT	**Manisa**	**1.94**	**358**	*i* P	**Pn**	**08 05 32.1**	**+2.9**
MANT				*i* S	**Sn**	**08 05 57.3**	**+4.4**
KDAG	**Bornova**	**2.15**	**330**	⇑*i*P	**Pn**	**08 05 31.1**	**-1.2**
KDAG				*i* S	**Sn**	**08 05 56.0**	**-2.3**

JMA 01 08:21:46.2±0.3**, 21.54N×124.24E, h48**^{km}**, M3.8, Southeast of Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**2.54**	**351**	P	P	08 22 26.0	+0.1
HATJ				S	S	08 22 55.8	+0.1
JKRS	**Kuro-shima**	**2.69**	**356**	P	P	08 22 28.8	+0.7
JKRS				S	S	08 23 00.7	+1.0
JIJ	**Ishigaki jima**	**2.81**	**358**	P	P	08 22 29.6	-0.2
JIJ				S	S	08 23 02.1	-0.6
IRIF	**Iriomote-Funau**	**2.82**	**351**	P	P	08 22 30.3	+0.4
IRIF				S	S	08 23 02.8	-0.1
JTJ	**Tarama**	**3.12**	**8**	P	P	08 22 34.2	+0.1
JTJ				S	S	08 23 10.8	+0.4
YOJ	**Yonaguni jima**	**3.12**	**339**	P	P	08 22 34.3	+0.1
YOJ				S	S	08 23 10.6	+0.1
JKE	**Kume jima 2**	**5.30**	**26**	S	S	08 24 01.4	-4.1

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*HEL **01** 08:22:53.5±0.2, 59.80N×22.32E, ML2.0, ML2.6(UPP), ML2.2(NAO), Explosion*

*BER **01** 08:22:53.8±5.8, 59.87N×22.19E, ML2.2(NAO), Suspected explosion*

*IDC **01** 08:22:54.4±1.6, 59.92N×22.28E, mb1 2.9/4, mb1mx2.9/21, ML2.8/4, Error ellipse: s-maj=21.8km s-min=6.3km az=159.0*

*NAO **01** 08:22:55.8±2.5, 60.14N×22.07E, ML2.2*

ISC 01 08:22:52.2±0.5**, 59.94N**±0.07×**22.32E**±0.06**, n22, $\sigma1^{s}27$**/33**, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AAL	**Aland**	**1.19**	**282**	*e*P	**Pb**	**08 23 15.1**	**-0.1**
AAL				*e*S	**Sb**	**08 23 32.5**	**+1.4**
PVF	**Pernaja**	**1.87**	**70**	*e*P	**Pn**	**08 23 27.4**	**+1.8**
PVF				*e*S	**Sn**	**08 23 50.3**	**0.0**
NRTU	**Norrtaelje**	**1.88**	**263**	*e*P	**Pn**	**08 23 26.2**	**+0.3**
NRTU				*e*S	**Sn**	**08 23 50.5**	**-0.1**
FLYU	**Flymyra**	**2.23**	**277**	*e*P	**Pn**	**08 23 32.1**	**+1.2**
FIA0	**FINESS Array S**	**2.38**	**49**	*e*P	**Pn**	**08 23 36.2**	**+3.1**
FIA0				*e*S	**Sn**	**08 24 05.4**	**+2.0**
FIA0				MSG		08 24 09.8	
	comp=Z,6.5nm,0.1s						
FIA0	**FINESS Array S**	**2.38**	**49**	Pn	**Pn**	**08 23 36.1**	**+3.0**
	baz=232,slow=16						
FIA0				Lg		08 24 08.4	
	baz=226,slow=37						
FINES	**FINESS Array B**	**2.38**	**49**	Pn	**Pn**	**08 23 36.1**	**+3.1**
	comp=Z,2.0nm,0.3s,baz=234,slow=14,SNR=73						
FINES				Lg		08 24 08.8	
	comp=Z,4.7nm,0.3s,baz=234,slow=22,SNR=26						
NYNU	**Nynaeshamn**	**2.39**	**249**	*e*P	**Pn**	**08 23 33.4**	**+0.2**
KEF	**Keuruu**	**2.56**	**28**	*e*P	**Pn**	**08 23 39.6**	**+4.1**
KEF				MSG		08 24 16.1	
	comp=Z,3.2nm,0.1s						
BACU	**Backbrunna**	**2.63**	**270**	*e*P	**Pn**	**08 23 37.0**	**+0.5**
VJF	**Virojoki**	**2.68**	**75**	*e*P	**Pn**	**08 23 38.3**	**+1.0**
VJF				*e*S	**Sn**	**08 24 09.8**	**-1.1**
VSU	**Vasula**	**2.71**	**121**	*e*P	**Pn**	**08 23 38.4**	**+0.6**
VSU				*e*S	**Sn**	**08 24 08.7**	**-3.2**
KAF	**Kangasniemi**	**2.92**	**40**	MSG		08 24 23.9	
	comp=Z,4.7nm,0.2s						
NRAU	**Nora**	**3.70**	**267**	*e*P	**Pn**	**08 23 51.8**	**0.0**
OSKU	**Oskarshamn**	**4.26**	**232**	*e*P	**Pn**	**08 23 58.6**	**-1.2**
HFS	**Hagfors**	**4.33**	**276**	*e*P	**Pn**	**08 24 00.5**	**-0.3**
HFS				*e*PG	**Pg**	**08 24 09.9**	**-8.7**
HFS				*e*SB		08 25 04.3	
HFS	**Hagfors**	**4.33**	**276**	Pn	**Pn**	**08 24 00.2**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=108,slow=12,SNR=11						
HFS				Pg	**Pg**	**08 24 10.5**	**-8.1**
	comp=Z,0.2nm,0.3s,baz=96,slow=15,SNR=11						
HFS				Lg		08 25 06.8	
	comp=Z,0.3nm,0.3s,baz=93,slow=30,SNR=6.8						
HFS	**Hagfors**	**4.33**	**276**	Pn	**Pn**	**08 24 00.5**	**-0.3**
	baz=129,slow=12						
HFS				Pg	**Pg**	**08 24 09.9**	**-8.7**
	baz=101,slow=18						
HFS				Lg		08 25 04.3	
	baz=100,slow=28						
NOA	**NORSAR Array B**	**5.60**	**286**	Pn	**Pn**	**08 24 17.5**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=95,slow=13,SNR=2.5						
NOA				Lg		08 25 45.5	
	comp=Z,0.6nm,0.3s,baz=118,slow=7.6,SNR=4.4						
ARA0	**ARCESS Array S**	**9.73**	**7**	Pn	**P**	**08 25 13.8**	**-2.4**
	baz=186,slow=16						
ARA0				Sn	**Sn**	**08 26 58.6**	**-8.8**
	baz=192,slow=28						
ARA0				Lg		08 27 56.0	
	baz=176,slow=37						
ARA0	**ARCESS Array S**	**9.73**	**7**	*e*P	**P**	**08 25 13.8**	**-2.4**
ARA0				*e*S	**Sn**	**08 26 58.6**	**-8.8**
ARA0				*e*SG		08 27 56.0	
ARCES	**ARCESS Array B**	**9.73**	**7**	Pn	**P**	**08 25 13.8**	**-2.3**
	comp=Z,0.2nm,0.3s,baz=184,slow=14,SNR=13						
ARCES				Sn	**Sn**	**08 27 00.2**	**-7.3**
	comp=Z,0.1nm,0.3s,baz=191,slow=24,SNR=3.4						

IDC 01 08:26:22.9±1.8**, 16.59S×179.47E, mb3.8**/5**, mb1 4.1**/5**, mb1mx3.9**/14**, Error ellipse: s-maj=215.0km s-min=25.7km az=150.0, Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.53**	**239**	P	P	08 33 38.1	-2.3
	4.3nm,1.1s,baz=78,slow=10.0,SNR=2.8						
ASAR	**Alice Springs**	**43.22**	**253**	P	P	08 34 26.4	-1.2
	0.9nm,0.8s,baz=85,slow=8.0,SNR=5.5						
NVAR	**Mina Array Bea**	**79.90**	**45**	P	P	08 38 33.7	-1.6
	0.5nm,0.8s,baz=219,slow=6.6,SNR=4.8						
TXAR	**Lajitas Array**	**87.02**	**58**	P	P	08 39 11.4	-0.5
	0.2nm,0.7s,baz=180,slow=2.5,SNR=4.0						
PDAR	**Pinedale Array**	**87.81**	**44**	P	P	08 39 14.2	-1.1
	0.7nm,0.9s,baz=207,slow=3.3,SNR=5.2						

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*IDC **01** 08:33:09.0±1.2, 15.58S×179.01E, mb4.1/10, mb1 4.4/10, mb1mx4.3/15, MS3.9/11, Ms1 3.9/11, ms1mx3.7/21, Error ellipse: s-maj=69.5km s-min=18.6km az=150.0*

*NEIC **01** 08:33:14.7±0.5, 15.49S×178.92E, h35^{km}, mb4.4/2, Error ellipse: s-maj=29.1km s-min=12.8km az=146.0*

ISC 01 08:33:13.1±0.7**, 15.5S**±0.2×**178.9E**±0.2**, h33**^{km}**, n22, $\sigma0^{s}80$**/13**, mb4.1**/12**, MS3.9**/11**, Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**21.04**	**109**	LR	LR	08 43 43.2	
	comp=Z,183nm,20.8s,MS3.4,baz=294,slow=30						
PPT	**Papeete**	**30.30**	**98**	*e*L		08 45 34.2	
PPT				*e*R		08 46 51.8	
	107nm,25.5s						
TBI	**Tubuai**	**30.82**	**110**	*e*L		08 45 51.6	
TBI				*e*R		08 47 12.5	
	177nm,34.0s						
CTA	**Charters Tower**	**31.37**	**257**	LR	LR	08 49 23.1	
	comp=Z,187nm,19.0s,MS3.8,baz=74,slow=31						
STKA	**Stephens Creek**	**37.62**	**238**	P	**P**	**08 40 25.8**	**-1.0**
	5.6nm,0.7s,mb4.4,baz=53,slow=8.9,SNR=8.5						
STKA				LR	LR	08 54 38.6	
	comp=Z,107nm,20.6s,MS3.6,baz=26,slow=34						
WRA	**Warramunga Arr**	**42.57**	**257**	P	**P**	**08 41 08.6**	**+0.7**
	0.7nm,0.7s,mb3.5,baz=91,slow=9.0,SNR=7.7						
ASAR	**Alice Springs**	**43.01**	**252**	P	**P**	**08 41 10.2**	**-1.2**
	2.0nm,0.7s,mb3.9,baz=80,slow=8.5,SNR=7.2						
ASAR				LR	LR	08 56 55.4	
	comp=Z,138nm,19.0s,MS3.9,baz=88,slow=33						
FITZ	**Fitzroy Crossi**	**50.90**	**259**	LR	LR	09 02 31.3	
	comp=Z,54nm,18.5s,MS3.6,baz=180,slow=35						
CBIJ	**Chichi jima**	**55.32**	**320**	LR	LR	09 04 48.2	
	comp=Z,135nm,19.3s,MS4.0,baz=305,slow=34						
QSPA	**South Pole Qui**	**74.56**	**180**	*e*P	**P**	**08 44 50.6**	**+0.8**
	5.7nm,1.2s,mb4.4						
YBH	**Yreka Blue Hor**	**78.34**	**41**	P	**P**	**08 45 11.8**	**-0.1**
	4.0nm,1.0s,mb4.3,baz=199,slow=3.2,SNR=5.3						
NVAR	**Mina Array Bea**	**79.53**	**45**	P	**P**	**08 45 18.6**	**+0.1**
	1.2nm,0.8s,mb3.9,baz=214,slow=7.4,SNR=8.0						
NVAR				LR	LR	09 13 26.3	
	comp=Z,88nm,19.4s,MS4.1,baz=270,slow=30						
ILAR	**Eielson Array**	**84.15**	**14**	P	**P**	**08 45 40.8**	**-1.1**
	1.8nm,0.9s,mb4.2,baz=239,slow=7.0,SNR=9.5						
ILAR				LR	LR	09 19 31.4	
	comp=Z,31nm,18.2s,MS3.7,baz=66,slow=33						
HLID	**Hailey**	**84.55**	**42**	*e*P	**P**	**08 45 44.2**	**-0.2**
	2.3nm,0.9s,mb4.3						
CMAR	**Chiang Mai Arr**	**85.61**	**290**	P	**P**	**08 45 52.0**	**+1.8**
	1.2nm,0.3s,mb4.5,baz=117,slow=10,SNR=4.2						
TXAR	**Lajitas Array**	**86.93**	**59**	P	**P**	**08 45 56.4**	**0.0**
	0.4nm,0.8s,mb3.7,baz=225,slow=1.8,SNR=4.6						
TXAR				LR	LR	09 17 22.9	
	comp=Z,89nm,18.4s,MS4.2,baz=180,slow=30						
TXAR	**Lajitas Array**	**86.93**	**59**	P	**P**	**08 45 56.4**	**0.0**
TXAR				LR	LR	09 17 22.9	
PDAR	**Pinedale Array**	**87.42**	**44**	P	**P**	**08 45 58.3**	**-0.1**
	1.2nm,0.8s,mb4.2,baz=207,slow=3.3,SNR=5.6						

SONM	**Songino Array**	**90.03**	**320**	P	**P**	**08 46 11.2**	**+0.4**
	0.8nm,1.2s,mb3.9,baz=72,slow=4.6,SNR=2.5						
YKA	**Yellowknife Ar**	**93.24**	**25**	LR	LR	09 23 17.0	
	comp=Z,53nm,20.1s,MS4.0,baz=150,slow=32						
PLCA	**Paso Flores**	**94.88**	**134**	LR	LR	09 18 06.7	
	comp=Z,94nm,20.7s,MS4.2,baz=182,slow=28						
GERES	**GERESS Array B**	**144.57**	**343**	PKP	PKPdf	08 52 47.0	+0.7
	0.4nm,0.4s,baz=315,slow=1.9,SNR=4.7						

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*TAP **01** 08:45:30.0,21.27N×119.98E,h62^{km}±2^{km},ML3.6*

IDC 01 08:45:27.4±1.2,21.14N×120.47E,mb3.6/4,mb1 3.8/4,mb1mx3.6/19,MS3.0/1,Ms1 3.2/1,ms1mx2.5/20,Error ellipse: s-maj=62.4km s-min=24.3km az=75.0,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**20.43**	**266**	LR	LR	08 59 38.0	
	comp=Z,45nm,19.5s,baz=185,slow=42						
MKAR	**Makanchi Array**	**40.12**	**319**	P	P	08 53 04.7	-1.9
	0.3nm,0.6s,baz=111,slow=10,SNR=3.6						
WRA	**Warramunga Arr**	**43.03**	**161**	P	P	08 53 28.6	-2.1
	1.1nm,0.7s,baz=342,slow=8.9,SNR=7.5						
ASAR	**Alice Springs**	**46.42**	**163**	P	P	08 53 56.1	-1.7
	0.6nm,0.5s,baz=344,slow=7.0,SNR=12						
ILAR	**Eielson Array**	**72.21**	**27**	P	P	08 56 54.1	-1.7
	0.2nm,0.5s,baz=264,slow=5.2,SNR=7.1						

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*IDC **01** 08:55:17.0±6.1,17.30S×178.97W,h537^{km}±73^{km},mb3.5/8,mb1 3.8/8,mb1mx3.6/15,Error ellipse: s-maj=73.5km s-min=22.4km az=156.0*

*NEIC **01** 08:55:17.8±1.9,17.73S×178.80W,h561^{km}±21^{km},mb3.8/6,Error ellipse: s-maj=27.6km s-min=11.7km az=151.0*

ISC 01 08:55:20.1±3.7,17.7S±0.3×179.0W±0.2,h600^{km}±47^{km},n24,$\sigma 0^{s}.53$/19,mb3.8/13,2D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**14.40**	**250**	*e*P	**P**	**08 58 22.1**	**-0.3**
ARMA	**Armidale**	**29.60**	**239**	*e*P	**P**	**09 00 40.2**	**+0.4**
CTAO	**Charters Tower**	**32.96**	**260**	P	**P**	**09 01 08.0**	**-0.3**
	3.2nm,0.8s,mb4.0						
STKA	**Stephens Creek**	**38.28**	**241**	⇓*i*P	**P**	**09 01 52.8**	**+0.8**
	4.1nm,0.6s,mb4.1						
STKA	**Stephens Creek**	**38.28**	**241**	P	**P**	**09 01 52.9**	**+0.9**
	5.0nm,0.5s,mb4.3,baz=91,slow=9.6,SNR=33						
WB2	**Warramunga Arr**	**44.14**	**259**	*e*P	**P**	**09 02 38.1**	**-0.5**
WRAB	**Tennant Creek**	**44.14**	**259**	*e*P	**P**	**09 02 38.3**	**-0.4**
	3.2nm,0.6s,mb4.0						
WRA	**Warramunga Arr**	**44.15**	**259**	P	**P**	**09 02 38.3**	**-0.4**
	1.6nm,0.5s,mb3.8,baz=97,slow=6.9,SNR=61						
ASAR	**Alice Springs**	**44.34**	**254**	P	**P**	**09 02 40.5**	**+0.3**
	17nm,0.5s,mb4.9,baz=89,slow=8.1,SNR=452						
ASPA	**Alice Springs**	**44.35**	**254**	⇓*i*P	**P**	**09 02 40.3**	**+0.1**
FITZ	**Fitzroy Crossi**	**52.54**	**260**	P	**P**	**09 03 42.0**	**+0.9**
	2.1nm,0.9s,mb3.5,baz=90,slow=5.1,SNR=4.9						
NVAR	**Mina Array Bea**	**79.63**	**44**	P	**P**	**09 06 27.9**	**+0.4**
	1.4nm,0.7s,mb3.4,baz=226,slow=8.9,SNR=13						
MNV	**Mina**	**79.73**	**44**	*e*P	**P**	**09 06 27.6**	**-0.3**
	1.1nm,0.7s,mb3.3						
TPNV	**Topopah Spring**	**80.25**	**46**	*e*P	**P**	**09 06 30.6**	**0.0**
	0.7nm,0.7s,mb3.1						
ELK	**Elko**	**82.86**	**43**	*e*P	**P**	**09 06 43.8**	**0.0**
	2.6nm,1.0s,mb3.7						
ILAR	**Eielson Array**	**85.79**	**13**	P	**P**	**09 06 56.8**	**-0.7**
	0.7nm,0.4s,mb3.6,baz=229,slow=5.3,SNR=13						
TXAR	**Lajitas Array**	**86.32**	**58**	P	**P**	**09 07 01.8**	**+0.8**
	1.5nm,0.8s,mb3.7,baz=221,slow=5.8,SNR=21						
PDAR	**Pinedale Array**	**87.55**	**44**	P	**P**	**09 07 06.5**	**+0.1**
	0.9nm,0.5s,mb3.7,baz=217,slow=2.5,SNR=11						
SNAA	**Sanae**	**90.83**	**179**	*e*P	**P**	**09 07 20.0**	**-1.0**
BVAR	**Borovoye Array**	**116.34**	**321**	PKP	PKPdf	09 12 57.5	+1.5
	0.8nm,0.4s,baz=86,slow=0.6,SNR=4.6						
ARCES	**ARCESS Array B**	**126.00**	**350**	PKP	PKPdf	09 13 16.4	+2.1
	1.3nm,0.8s,slow=1.2,SNR=6.3						
BRTR	**Keskin Array B**	**144.25**	**315**	PKP	PKPdf	09 13 51.1	+2.6
	1.8nm,0.8s,baz=162,slow=3.9,SNR=6.6						
CLL	**Collm**	**145.13**	**347**	*e*PKP1	PKPbc	09 13 53.0	+2.4
GERES	**GERESS Array B**	**147.26**	**344**	PKPbc	PKPdf	09 13 59.2	+5.9
	3.0nm,0.7s,baz=27,slow=3.0,SNR=14						

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*NEIC **01** 09:31:34.7,45.93S×167.03E,h81^{km},ML4.0(WEL),After WEL.*

NEIC Felt at Riverton.

WEL 01 09:31:33.7±0.3,45.88S×166.93E,h83^{km}±1^{km},ML4.0/6,2C,Error ellipse: s-maj=2.6km s-min=1.5km az=90.0,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.43**	**22**	PN	P	09 31 46.9	-0.3
DCZ				SN	S	09 31 57.1	-0.3
WHZ	**Wether Hill Ro**	**0.71**	**92**	⇑PN	P	09 31 49.5	-0.4
WHZ				SN	S	09 32 00.8	-1.2
WHZ				SN	S	09 32 01.0	-1.0
WHZ	**Wether Hill Ro**	**0.71**	**92**	P	P	09 31 49.5	-0.4
WHZ				S	S	09 32 01.0	-0.9
MLZ	**Mavora Lakes**	**1.02**	**59**	⇑PN	P	09 31 53.0	-0.3
MLZ				SN	S	09 32 07.3	-0.9
MLZ	**Mavora Lakes**	**1.02**	**59**	P	P	09 31 53.0	-0.3
MLZ				S	S	09 32 07.3	-0.9
MSZ	**Milford Sound**	**1.39**	**31**	PN	P	09 31 57.8	-0.4
MSZ				SN	S	09 32 15.8	-0.6
WKZ	**Wanaka**	**1.81**	**55**	PN	P	09 32 03.8	+0.2
WKZ				SN	S	09 32 24.0	-1.6
TUZ	**Tuapeka**	**1.89**	**93**	PN	P	09 32 04.0	-0.6
TUZ				SN	S	09 32 24.8	-2.7
TUZ	**Tuapeka**	**1.89**	**93**	*e*P	P	09 32 04.0	-0.7
JCZ	**Jackson Bay**	**2.22**	**36**	PN	P	09 32 09.3	0.0
LBZ	**Lake Benmore**	**2.74**	**58**	PN	P	09 32 14.5	-2.1
LBZ				SN	S	09 32 45.5	-3.2
ODZ	**Otahua Downs**	**2.74**	**74**	PN	P	09 32 14.3	-2.3
ODZ				SN	S	09 32 44.0	-4.7
ODZ	**Otahua Downs**	**2.74**	**74**	*e*P	P	09 32 14.3	-2.3
RPZ	**Rata Peaks**	**3.64**	**55**	PN	P	09 32 26.0	-3.1
RPZ				SN	S	09 33 05.8	-5.3
RPZ	**Rata Peaks**	**3.64**	**55**	*e*P	P	09 32 26.0	-3.1
WVZ	**Waitaha Valley**	**3.91**	**46**	SN	S	09 33 13.6	-4.0
MQZ	**McQueen's Vall**	**4.61**	**64**	SN	S	09 33 27.7	-7.5
LTZ	**Lake Taylor**	**4.92**	**53**	PN	P	09 32 43.1	-3.6
LTZ				SN	S	09 33 37.4	-5.5
DSZ	**Denniston Nort**	**5.43**	**42**	PN	P	09 32 51.0	-2.7
THZ	**Tophouse**	**5.96**	**49**	PN	P	09 32 57.1	-3.9
THZ				SN	S	09 34 01.0	-7.6
NNZ	**Nelson**	**6.60**	**47**	SN	S	09 34 18.6	-5.8

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*IDC **01** 09:45:50.2±5.0,43.82N×148.10E,h80^{km}±42^{km},mb3.4/5,mb1 3.5/6,mb1mx3.3/23,ML2.7/1,Error ellipse: s-maj=99.7km s-min=28.1km az=175.0*

ISC 01 09:45:49.8±4.1,44.0N±0.7×148.0E±0.3,h85^{km}±36^{km},n6,$\sigma 1^{s}.25$/6,mb3.5/5,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAJ	**Asahikawa**	**3.93**	**274**	P	**P**	**09 46 49.2**	**+0.1**
	0.4nm,0.3s,baz=288,slow=30,SNR=2.2						
SONM	**Songino Array**	**28.99**	**293**	P	**P**	**09 51 43.3**	**+0.1**
	0.6nm,0.6s,mb3.4,baz=77,slow=8.3,SNR=5.8						
ILAR	**Eielson Array**	**40.94**	**36**	P	**P**	**09 53 24.4**	**-0.6**
	0.2nm,0.7s,mb3.1,baz=266,slow=8.6,SNR=4.7						
MKAR	**Makanchi Array**	**45.06**	**298**	P	**P**	**09 53 57.5**	**-1.1**
	1.5nm,0.8s,mb3.8,baz=56,slow=8.7,SNR=6.3						
FINES	**FINESS Array B**	**64.99**	**333**	P	**P**	**09 56 23.4**	**+1.2**
	2.3nm,1.1s,mb3.9,baz=80,slow=21,SNR=2.4						
TXAR	**Lajitas Array**	**82.00**	**57**	P	**P**	**09 58 02.1**	**+0.3**
	0.2nm,0.5s,mb3.2,baz=287,slow=3.5,SNR=6.0						

PGC 01 09:54:59.0,64.85N×139.19W,h1^{km},ML2.6/3,1D,Ogilvie Mountains, Yukon Territory,Southern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DAWY	**Dawson**	**0.79**	**186**	⇓P	Pg	09 55 13.3	-1.5
DAWY				S	Sg	09 55 23.3	-2.2
DAWY				Trac		09 55 24.9	
	comp=Z,130nm,0.1s						
INK	**Inuvik**	**4.14**	**31**	Pn	Pn	09 56 02.6	-2.3
INK				Sn	Sn	09 56 49.1	-5.5
INK				Trac		09 57 18.1	
	comp=Z,4.0nm,0.3s						
WHY	**Whitehorse**	**4.65**	**153**	Pn	Pn	09 56 10.2	-1.8
WHY				Sn	Sn	09 57 03.4	-4.1
WHY				Sg	Sg	09 57 23.6	-10
WHY				Trac		09 57 28.9	
	comp=Z,3.0nm,0.3s						
DLBC	**Dease Lake**	**7.77**	**142**	Trac		09 59 08.6	
	comp=Z,1.0nm,0.6s						
DLBC	**Dease Lake**	**7.77**	**142**	Sg	Sg	09 59 05.0	-13
YKW3	**Yellowknife Ar**	**11.11**	**91**	Pn	P	09 57 39.5	-2.4

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*MDD **01** 10:08:04.6±1.4,36.71N×7.48W,h6^{km}±7^{km},mbLg2.3/10,Error ellipse: s-maj=9.7km s-min=7.7km az=22.0,PRXIMO*

INMG 01 10:08:04.4±1.0,36.68N×7.41W,h12^{km}±5^{km},ML2.5,Error ellipse: s-maj=5.4km s-min=4.1km az=156.0,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PALC	**Alcoutim**	**0.79**	**356**	*e*Pg	Pg	10 08 18.4	-1.9
PALC				*e*Sg	Sg	10 08 29.3	-1.6
	128nm,0.4s						
PALC	**Alcoutim**	**0.79**	**356**	Pg	Pg	10 08 18.4	-1.9
PALC				Lg		10 08 29.3	
	64nm,0.4s						
EGRO	**El Granado**	**0.86**	**356**	Pg	Pg	10 08 20.1	-1.6
	18nm,0.3s,SNR=22						
EGRO				Lg		10 08 31.8	
	62nm,0.2s,SNR=25						
EMIN	**Mina Concepcio**	**1.24**	**28**	Pg	Pg	10 08 26.5	-2.7
	9.0nm,0.4s,SNR=25						
EMIN				Lg		10 08 43.8	
	13nm,0.1s,SNR=7.9						
PTEO	**Sao Teotonio**	**1.36**	**310**	*e*P	Pn	10 08 27.6	-1.8
PTEO				*e*S	Sb	10 08 44.9	-1.8
	54nm,0.6s						
PTEO	**Sao Teotonio**	**1.36**	**310**	P	Pn	10 08 27.6	-1.8
PTEO				S	Sb	10 08 44.9	-1.8
	27nm,0.6s						
PBEJ	**Beja**	**1.40**	**345**	*e*Pg	Pg	10 08 29.0	-3.4
PBEJ				*e*Sg	Sg	10 08 46.5	-4.6
	37nm,0.4s						
PBEJ	**Beja**	**1.40**	**345**	Pg	Pg	10 08 29.0	-3.4
PBEJ				Lg		10 08 46.5	
	19nm,0.4s						
MOE	**Montemor**	**1.99**	**338**	*e*Pn	Pn	10 08 38.3	0.0
MOE				*e*Pg	Pg	10 08 40.1	-4.1
MOE				*e*Sn	Sn	10 09 00.6	-2.7
MOE				*e*Sg	Sg	10 09 04.3	-6.5
EBAD	**Badajoz**	**2.10**	**8**	Pg	Pg	10 08 41.6	-4.8
	SNR=7.9						
EBAD				Lg		10 09 09.5	
	3.8nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**2.70**	**56**	Pn	Pn	10 08 48.3	-0.3
	SNR=7.9						
EADA				Pg	Pg	10 08 55.5	-2.8
	3.3nm,0.6s,SNR=6.2						
EADA				Sn	Sn	10 09 20.2	-1.3
	SNR=7.9						
EADA				Lg		10 09 30.4	
	5.0nm,0.2s,SNR=7.5						
PTOM	**Tomar**	**3.04**	**345**	*e*Pg	Pg	10 08 58.6	-6.6
PTOM				*e*Sg	Sg	10 09 37.2	-8.6
	18nm,0.4s						
PTOM	**Tomar**	**3.04**	**345**	Pg	Pg	10 08 58.6	-6.6
PTOM				Lg		10 09 37.2	
	9.1nm,0.4s						
PCBR	**Castelo Branco**	**3.16**	**359**	*e*Pn	Pn	10 08 52.1	-2.9
PCBR				*e*Pg	Pg	10 09 00.9	-6.6
PCBR				*e*Sn	Sn	10 09 28.6	-4.4
PCBR				*e*Sg	Sg	10 09 43.9	-5.8
	11nm,0.7s						
PCBR	**Castelo Branco**	**3.16**	**359**	Pn	Pn	10 08 52.1	-2.9
PCBR				Pg	Pg	10 09 00.9	-6.6
PCBR				Sn	Sn	10 09 28.6	-4.4
PCBR				Lg		10 09 43.9	
	5.4nm,0.7s						
MTE	**Manteigas**	**3.72**	**358**	*e*Sn	Sn	10 09 42.8	-4.4
MTE				*e*Sg	Sg	10 10 00.9	-7.4
	20nm,0.6s						
MTE	**Manteigas**	**3.72**	**358**	Sn	Sn	10 09 42.8	-4.4
MTE				Lg		10 10 00.9	
	10nm,0.6s						

KRSC 01 10:08:27.2±1.7,49.34N×156.09E,h67^{km}±17^{km},ML4.2,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.34**	**1**	*i* P	P	10 08 53.0	+2.5
SKR				*e*S	S	10 09 06.6	-1.2
ALID	**Alaid**	**1.57**	**347**	*e*P	P	10 08 52.9	-0.7
ALID				*i* S	S	10 09 11.6	-1.4
PAU	**Pauzhetka**	**2.18**	**12**	*e*P	P	10 09 01.4	-0.6
PAU				*e*S	S	10 09 25.3	-2.4
PAU				Smax			
	700nm,0.3s						
MIPR	**Malaya Ipel'ka**	**2.97**	**8**	*e*P	P	10 09 14.3	+1.2
GRL	**Gorelyy**	**3.45**	**21**	*e*P	P	10 09 20.6	+0.7
GRL				*e*S	S	10 09 59.4	-0.4
RUS	**Russkaya**	**3.46**	**25**	*e*P	P	10 09 19.3	-0.6
RUS				*i* S	S	10 09 58.2	-1.7
PET	**Petropavlovsk**	**4.03**	**23**	*e*P	P	10 09 28.3	+0.4
PET				*i* S	S	10 10 13.1	-1.1
UGLR	**Uglovaya**	**4.24**	**23**	*e*P	P	10 09 32.4	+1.6
UGLR				*e*S	S	10 10 19.1	-0.4
AVH	**Avacha**	**4.27**	**22**	*e*P	P	10 09 32.9	+1.6
AVH				*e*S	S	10 10 21.6	+1.4
KOK	**Koryaka**	**4.27**	**21**	*e*P	P	10 09 32.7	+1.4
KOK				*e*S	S	10 10 20.7	+0.5
SMAR	**Somma**	**4.28**	**22**	*e*P	P	10 09 33.3	+1.8
SMAR				*e*S	S	10 10 21.6	+1.0
SDLR	**Sedlovina**	**4.32**	**23**	*e*P	P	10 09 32.7	+0.8
SDLR				*e*S	S	10 10 20.4	-1.0
NLC	**Nalytchevo**	**4.35**	**27**	*e*P	P	10 09 31.3	-1.1
NLC				*e*S	S	10 10 20.5	-1.7
SPN	**Mys Shipunski**	**4.50**	**32**	*e*P	P	10 09 34.0	-0.5
SPN				*e*S	S	10 10 23.3	-2.8
GNL	**Ganaly**	**4.51**	**14**	*e*P	P	10 09 36.1	+1.4
GNL				*e*S	S	10 10 26.6	+0.3
MKZ	**Mys Kozlova**	**6.28**	**32**	*e*P	P	10 09 57.9	-1.3
MKZ				*e*S	S	10 11 04.9	-5.4
TUMR	**Tumrok**	**6.45**	**21**	*e*P	P	10 10 02.3	+0.7
TUMR				*e*S	S	10 11 10.1	-4.4
KBTR	**Krutoberegovo**	**8.00**	**28**	*e*P	P	10 10 22.3	-0.6
BKI	**Bering**	**8.43**	**42**	S	S	10 11 54.2	-9.4
BKI				Smax			
	10.0nm,0.8s						

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*MDD **01** 10:14:56.7±1.8,36.68N×7.52W,h7^{km}±11^{km},mbLg1.7/5,Error ellipse: s-maj=13.5km s-min=12.1km az=84.0,PRXIMO*

*INMG **01** 10:14:57.2±1.2,36.71N×7.60W,ML1.8,Error ellipse: s-maj=7.7km s-min=6.5km az=131.0*

ISC 01 10:14:55.1±2.0,36.69N±0.09×7.52W±0.09,h7^{km},n9,$\sigma 1^{s}.14$/15,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PALC	**Alcoutim**	**0.78**	**3**	*e*Pg	**Pg**	**10 15 11.0**	**+0.3**
PALC				*e*Sg	**Sg**	**10 15 21.6**	**+0.5**
	24nm,0.2s						
PALC	**Alcoutim**	**0.78**	**3**	Pg	**Pg**	**10 15 11.0**	**+0.3**
PALC				Lg		10 15 21.6	
	12nm,0.2s						
EGRO	**El Granado**	**0.85**	**2**	Pg	**Pg**	**10 15 13.5**	**+1.4**
	5.7nm,0.3s,SNR=5.9						
EGRO				Lg		10 15 24.4	
	21nm,0.3s,SNR=13						
EMIN	**Mina Concepcio**	**1.28**	**32**	Pg	**Pg**	**10 15 19.5**	**-1.2**
	1.9nm,0.4s,SNR=18						
EMIN				Lg		10 15 36.5	
	4.3nm,0.3s,SNR=8.4						
PTEO	**Sao Teotonio**	**1.29**	**312**	*e*P	**Pb**	**10 15 19.2**	**-0.1**
PTEO				*e*S	**Sb**	**10 15 36.6**	**+0.6**
	12nm,0.3s						
PTEO	**Sao Teotonio**	**1.29**	**312**	P	**Pb**	**10 15 19.2**	**-0.1**
PTEO				S	**Sb**	**10 15 36.6**	**+0.6**
	5.8nm,0.3s						
PBEJ	**Beja**	**1.37**	**348**	*e*P	**Pb**	**10 15 21.6**	**+0.9**
PBEJ				*e*S	**Sb**	**10 15 39.3**	**+1.1**
	8.1nm,0.2s						
PBEJ	**Beja**	**1.37**	**348**	P	**Pb**	**10 15 21.6**	**+0.9**
PBEJ				S	**Sb**	**10 15 39.3**	**+1.1**
	4.1nm,0.2s						
MOE	**Montemor**	**1.95**	**341**	*e*Pg	**Pg**	**10 15 32.2**	**-1.9**
MOE				*e*Sg	**Sg**	**10 15 58.0**	**-2.1**

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*NEIC **01** 10:18:39.0±0.5,51.85N×179.33E,h102^{km}±4^{km},mb4.3/10,Error ellipse: s-maj=13.0km s-min=5.7km az=180.0*

*IDC **01** 10:18:42.1±8.0,52.00N×179.37E,h124^{km}±74^{km},mb3.7/14,mb1 4.0/14,mb1mx3.7/27,Error ellipse: s-maj=34.6km s-min=11.7km az=175.0*

ISC 01 10:18:38.0±0.6,52.0N±0.1×179.34E±0.05,h105^{km}±4^{km},n54,$\sigma 0^{s}.85$/57,mb4.1/22,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KIMD	**Kanaga Island**	**2.13**	**94**	P	**P**	**10 19 13.2**	**+0.1**
KIKV	**Kanaga Island**	**2.16**	**90**	P	**P**	**10 19 13.6**	**+0.1**
KIWB	**Kanaga Island**	**2.18**	**91**	P	**P**	**10 19 13.7**	**0.0**
KINC	**Kanaga Island**	**2.19**	**89**	P	**P**	**10 19 14.0**	**+0.2**
ADAG	**Mount Adagdak**	**2.51**	**88**	P	**P**	**10 19 18.2**	**0.0**
GSTD	**Great Sitkin T**	**2.79**	**86**	P	**P**	**10 19 21.8**	**-0.3**
GSTD				S	**S**	**10 19 55.9**	**+0.7**
GSTR	**Great Sitkin T**	**2.85**	**85**	P	**P**	**10 19 22.8**	**0.0**
GSMY	**Great Sitkin M**	**2.85**	**86**	P	**P**	**10 19 22.9**	**0.0**
GSIG	**Igitkin Island**	**2.93**	**87**	P	**P**	**10 19 23.7**	**-0.3**
GSIG				S	**S**	**10 19 58.3**	**-0.2**
SMY	**Shemya**	**3.31**	**286**	P	**P**	**10 19 28.6**	**-0.4**
SMY				S	**S**	**10 20 07.6**	**-0.1**
FX1	**Attu Island--F**	**3.90**	**286**	P	**P**	**10 19 36.4**	**-0.7**
ATKA	**Atka Island**	**4.00**	**84**	P	**P**	**10 19 38.2**	**-0.3**
ATKA				S	**S**	**10 20 22.8**	**-1.7**
NIKO	**Nikolski**	**7.29**	**77**	P	**P**	**10 20 23.4**	**-0.1**
MCIR	**Makushin Cirqu**	**8.55**	**71**	P	**P**	**10 20 42.2**	**+1.7**
UNV	**Unalaska Valle**	**8.77**	**72**	P	**P**	**10 20 45.0**	**+1.6**
SPU	**Mount Spurr**	**18.13**	**48**	*e*P	**P**	**10 22 45.9**	**+2.0**
SML	**Sawmill**	**20.02**	**48**	*e*P	**P**	**10 23 03.0**	**-1.3**
MCK	**McKinley**	**20.34**	**42**	*e*P	**P**	**10 23 07.5**	**-0.1**
	6.6nm,0.9s						
EYAK	**Cordova Ski Ar**	**20.99**	**52**	*e*P	**P**	**10 23 12.6**	**-1.6**
DIV	**Divide**	**21.07**	**51**	*e*P	**P**	**10 23 15.0**	**0.0**
	67nm,0.9s,mb5.0						
COLA	**College**	**21.20**	**40**	*e*P	**P**	**10 23 19.0**	**+2.8**
	3.5nm,0.8s,mb3.7						
ILAR	**Eielson Array**	**21.54**	**40**	P	**P**	**10 23 19.1**	**-0.5**
	0.2nm,0.6s,baz=246,slow=10.0,SNR=4.1						
ILAR	**Eielson Array**	**21.54**	**40**	P	**P**	**10 23 19.1**	**-0.5**
ASAJ	**Asahikawa**	**25.57**	**267**	P	**P**	**10 23 59.3**	**+0.9**
	9.1nm,0.8s,mb4.3,baz=95,slow=32,SNR=3.6						
INK	**Inuvik**	**27.67**	**36**	P	**P**	**10 24 17.6**	**+0.1**
	1.2nm,0.4s,mb3.8,baz=261,slow=9.7,SNR=16						
DLBC	**Dease Lake**	**29.01**	**57**	P	**P**	**10 24 30.6**	**+1.0**
	0.9nm,0.7s,mb3.5,baz=297,slow=14,SNR=4.0						
YKA	**Yellowknife Ar**	**35.68**	**47**	P	**P**	**10 25 28.0**	**+0.6**
	3.5nm,0.7s,mb4.4,baz=284,slow=7.6,SNR=52						
HUMO	**Hull Mountain**	**39.29**	**80**	P	**P**	**10 25 55.5**	**-2.3**
NEW	**Newport**	**39.77**	**69**	P	**P**	**10 26 01.8**	**+0.2**
	2.2nm,0.7s,mb4.1,baz=289,slow=7.3,SNR=6.3						
NEW	**Newport**	**39.77**	**69**	*e*P	**P**	**10 26 00.7**	**-0.9**
	1.8nm,0.7s,mb4.0						
YBH	**Yreka Blue Hor**	**39.94**	**81**	P	**P**	**10 26 03.9**	**+0.8**
	1.8nm,0.7s,mb4.0,baz=345,slow=5.2,SNR=10						
MOD	**Modoc**	**41.31**	**79**	*e*P	**P**	**10 26 15.3**	**+0.9**
	2.4nm,0.6s,mb4.2						
OHCM	**Honcut**	**42.11**	**83**	*e*P	**P**	**10 26 21.5**	**+0.6**
HLID	**Hailey**	**43.90**	**74**	*e*P	**P**	**10 26 35.3**	**0.0**
MCMT	**McKenzie Canyo**	**44.10**	**71**	*e*P	**P**	**10 26 35.5**	**-1.4**
BOZ	**Bozeman (W)**	**44.34**	**70**	*e*P	**P**	**10 26 38.3**	**-0.6**
	4.6nm,0.6s,mb4.4						
NVAR	**Mina Array Bea**	**44.62**	**82**	P	**P**	**10 26 42.6**	**+1.4**
	3.2nm,0.6s,mb4.2,baz=297,slow=7.3,SNR=34						
MNV	**Mina**	**44.72**	**82**	*e*P	**P**	**10 26 42.3**	**+0.3**
	1.6nm,0.5s,mb4.0						
SONM	**Songino Array**	**45.36**	**295**	P	**P**	**10 26 48.2**	**+1.3**
	0.8nm,0.5s,mb3.7,baz=61,slow=8.1,SNR=9.1						
TPNV	**Topopah Spring**	**46.82**	**82**	*e*P	**P**	**10 26 59.1**	**+0.4**
	5.6nm,0.7s,mb4.4						
DUG	**Dugway**	**46.87**	**76**	*e*P	**P**	**10 26 59.0**	**0.0**
	3.8nm,0.5s,mb4.4						
BW06	**Boulder Array**	**47.23**	**72**	*e*P	**P**	**10 27 01.1**	**-0.7**
	3.2nm,0.5s,mb4.3						
PDAR	**Pinedale Array**	**47.23**	**72**	P	**P**	**10 27 01.4**	**-0.4**
	4.1nm,0.5s,mb4.4,baz=324,slow=3.2,SNR=65						
MSU	**Marysvale**	**48.31**	**78**	*e*P	**P**	**10 27 10.8**	**+0.6**
SRU	**San Rafael**	**48.92**	**76**	*e*P	**P**	**10 27 14.7**	**-0.3**
ULM	**Lac du Bonnet**	**50.33**	**56**	P	**P**	**10 27 24.8**	**-0.8**
	2.5nm,0.5s,mb4.4,baz=309,slow=7.9,SNR=9.8						
SDCO	**Great Sand Dun**	**52.81**	**74**	P	**P**	**10 27 44.1**	**-0.3**
LAZ	**Ladron**	**54.06**	**78**	*e*P	**P**	**10 27 53.5**	**-0.2**
MKAR	**Makanchi Array**	**58.77**	**307**	P	**P**	**10 28 26.1**	**-0.8**
	1.4nm,1.0s,mb4.0,baz=32,slow=7.5,SNR=6.0						
WMOK	**Wichita Mounta**	**58.83**	**72**	P	**P**	**10 28 26.4**	**-1.2**
TXAR	**Lajitas Array**	**59.70**	**80**	P	**P**	**10 28 33.1**	**-0.5**
	1.7nm,0.6s,mb4.2,baz=298,slow=4.6,SNR=35						
TXAR				PcP	PcP	10 29 18.6	-0.6
	0.5nm,0.5s,baz=281,slow=4.6,SNR=5.1						
CMAR	**Chiang Mai Arr**	**69.81**	**274**	P	**P**	**10 29 38.8**	**-0.2**
	0.3nm,0.3s,mb3.6,baz=22,slow=9.8,SNR=4.3						
ASAR	**Alice Springs**	**85.14**	**221**	P	**P**	**10 31 03.8**	**+0.5**
	0.3nm,0.5s,mb3.5,baz=22,slow=5.5,SNR=4.3						
MAW	**Mawson**	**146.22**	**218**	PKPbc	PKPbc	10 38 06.4	+1.9
	1.4nm,0.7s,baz=80,slow=6.1,SNR=2.8						

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*HEL **01** 10:18:53.7±0.2,59.74N×22.30E,ML2.0,ML2.6(UPP),ML2.4(NAO),Explosion*

*IDC **01** 10:18:54.5±1.6,59.92N×22.32E,mb1 3.0/4,mb1mx2.9/21,ML2.8/4,Error ellipse: s-maj=22.0km s-min=6.3km az=159.0*

*BER **01** 10:18:54.1±3.5,59.89N×22.16E,ML2.4(NAO),Suspected explosion*

*NAO **01** 10:18:55.3±2.2,60.10N×22.07E,ML2.4*

ISC 01 10:18:52.8±0.5,59.83N±0.06×22.26E±0.06,n20,$\sigma 1^{s}.28$/30,Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAL	**Aland**	**1.19**	**288**	*e*P	**Pb**	**10 19 15.1**	**-0.9**
AAL				*e*S	**Sb**	**10 19 31.5**	**-0.3**
NRTU	**Norrtaelje**	**1.84**	**267**	*e*P	**Pn**	**10 19 26.2**	**+0.2**
PVF	**Pernaja**	**1.94**	**67**	*e*P	**Pn**	**10 19 27.6**	**+0.3**
PVF				*e*S	**Sn**	**10 19 53.0**	**+0.3**
PVF				MSG		10 19 56.5	
	comp=Z,9.6nm,0.1s						
NYNU	**Nynaeshamn**	**2.33**	**251**	*e*P	**Pn**	**10 19 33.4**	**+0.4**
FIA0	**FINESS Array S**	**2.48**	**48**	*e*P	**Pn**	**10 19 36.1**	**+1.0**
FIA0				*e*S	**Sn**	**10 20 08.5**	**+2.0**
FIA0				MSG		10 20 09.8	
	comp=Z,7.4nm,0.1s						
FIA0	**FINESS Array S**	**2.48**	**48**	Pn	**Pn**	**10 19 36.1**	**+1.0**
	baz=227,slow=16						
FIA0				Lg		10 20 08.7	
	baz=228,slow=37						
FINES	**FINESS Array B**	**2.48**	**48**	Pn	**Pn**	**10 19 36.1**	**+1.0**
	comp=Z,2.1nm,0.3s,baz=234,slow=14,SNR=62						
FINES				Lg		10 20 08.6	
	comp=Z,4.9nm,0.3s,baz=235,slow=22,SNR=24						
KEF	**Keuruu**	**2.67**	**27**	*e*P	**Pn**	**10 19 39.9**	**+2.1**
KEF				*e*S	**Sn**	**10 20 14.2**	**+2.9**
KEF				MSG		10 20 16.2	
	comp=Z,4.6nm,0.2s						
VJF	**Virojoki**	**2.74**	**73**	*e*P	**Pn**	**10 19 37.6**	**-1.2**
VJF				*e*S	**Sn**	**10 20 11.2**	**-1.9**
GOTU	**Gotland**	**2.88**	**223**	*e*P	**Pn**	**10 19 40.7**	**-0.2**
GOTU				*e*S	**Sn**	**10 20 18.7**	**+1.8**
VIKU	**Vikbolandet**	**3.16**	**247**	*e*P	**Pn**	**10 19 44.4**	**-0.4**
SUF	**Sumiainen**	**3.45**	**31**	*e*P	**Pn**	**10 19 50.4**	**+1.4**
SUF				MSG		10 20 38.8	
	comp=Z,2.3nm,0.2s						
BYXU	**Byxelkrok**	**3.75**	**229**	*e*P	**Pn**	**10 19 52.9**	**-0.3**
ASKU	**Askersund**	**3.92**	**259**	*e*P	**Pn**	**10 19 55.4**	**-0.2**
HFS	**Hagfors**	**4.32**	**278**	*e*P	**Pn**	**10 19 59.5**	**-1.7**
HFS				*e*SB	**Sb**	**10 21 04.0**	**+1.5**
HFS	**Hagfors**	**4.32**	**278**	Pn	**Pn**	**10 20 01.0**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=108,slow=13,SNR=12						
HFS				Pg	**Pg**	**10 20 10.2**	**-8.7**
	comp=Z,0.2nm,0.3s,baz=96,slow=15,SNR=11						
HFS				Lg		10 21 08.3	
	comp=Z,0.3nm,0.3s,baz=96,slow=30,SNR=7.5						
HFS	**Hagfors**	**4.32**	**278**	Pn	**Pn**	**10 19 59.5**	**-1.7**

	baz=105,slow=10						
HFS				Lg		10 21 04.0	
	baz=94,slow=37						
NOA	NORSAR Array B	5.60	287	Pn	Pn	10 20 17.4	-2.0
	comp=Z,0.3nm,0.3s,baz=323,slow=19,SNR=2.2						
NOA				Lg		10 21 46.6	
	comp=Z,0.7nm,0.3s,baz=112,slow=14,SNR=3.8						
ARA0	ARCESS Array S	9.84	7	Pn	P	10 21 13.8	-4.7
	baz=184,slow=16						
ARA0				Sn	Sn	10 22 59.1	-12
	baz=196,slow=22						
ARA0				Lg		10 23 56.0	
	baz=182,slow=37						
ARCES	ARCESS Array B	9.84	7	Pn	P	10 21 13.8	-4.7
	comp=Z,0.2nm,0.3s,baz=183,slow=14,SNR=11						
ARCES				Sn	Sn	10 22 59.7	-11
	comp=Z,0.2nm,0.3s,baz=191,slow=23,SNR=3.1						

MAN 01 10:23:18.0, 18.75N×120.73E, h30^{km}, mb3.5, ML2.2, MS1.6, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	Pasuquin	0.43	194	eP	Pb	10 23 28.8	+1.4
PIP				i S	Sb	10 23 36.1	+2.3
APYP	Conner	1.00	151	eP	Pn	10 23 36.3	+0.1
APYP				eS	Sn	10 23 49.8	+0.4
ABRA	Dolores	1.09	181	eP	Pn	10 23 37.9	+0.4
SGCP	Mt. Cagua	1.34	112	eP	Pn	10 23 40.8	-0.3

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*IDC **01** 10:54:41.1±0.8, 55.99S×26.32W, mb4.3/5, mb1 4.4/5, mb1mx4.2/12, MS3.5/2, Ms1 3.5/2, ms1mx3.3/12, Error ellipse: s-maj=87.5km s-min=23.0km az=48.0*

*NEIC **01** 10:54:53.2±3.1, 56.17S×26.93W, h94^{km}±27^{km}, mb4.3/7, Error ellipse: s-maj=28.1km s-min=10.0km az=220.0*

ISC 01 10:54:51.9±3.7, 56.1S±0.2×27.1W±0.3, h95^{km}±33^{km}, n25, σ1^{s}14/17, mb4.1/8, 3C-1D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	16.69	158	⇓iP	P	10 58 41.2	+0.5
VNA3	Neumayer Olymp	16.89	161	⇑iP	P	10 58 43.6	+0.5
VNA2	Neumayer--Watz	17.09	158	⇑iP	P	10 58 45.7	+0.1
SNAA	Sanae	18.64	156	⇑iP	P	10 59 00.1	-4.0
EFI	East Falkland	18.69	271	eP	P	10 59 03.8	-1.0
	57nm,1.3s						
PMSA	Palmer Station	19.88	229	P	P	10 59 18.1	+0.5
	13nm,0.6s						
TRQA	Tornquist	29.41	293	eP	P	11 00 47.2	-1.0
	1.4nm,0.6s,mb3.8						
PLCA	Paso Flores	32.07	280	LR	LR	11 12 22.6	
	comp=Z,104nm,20.8s,baz=170,slow=33						
QSPA	South Pole Qui	34.11	180	eP	P	11 01 27.5	-1.2
	5.0nm,0.6s,mb4.5						
CPUP	Villa Florida	36.91	311	P	P	11 01 53.3	+0.3
	2.1nm,0.6s,mb4.2,baz=168,slow=8.2,SNR=8.2						
CPUP				LR	LR	11 15 55.3	
	comp=Z,63nm,19.4s,baz=338,slow=34						
MAW	Mawson	40.04	143	P	P	11 02 17.0	-1.6
	0.9nm,0.5s,mb3.9,baz=246,slow=10.0,SNR=4.5						
MAW	Mawson	40.04	143	eP	P	11 02 16.6	-2.0
	1.6nm,0.6s,mb4.0						
SBA	Scott Base	45.99	184	P	P	11 03 09.7	+3.2
	0.7nm,0.6s,mb3.6						
LPAZ	La Paz	50.48	305	P	P	11 03 43.9	+1.9
	6.7nm,0.5s,mb4.8,baz=146,slow=1.2,SNR=18						
LPAZ	La Paz	50.48	305	eP	P	11 03 43.4	+1.4
	6.4nm,0.5s,mb4.8						
STKA	Stephens Creek	91.80	170	P	P	11 07 51.2	+1.3
	1.4nm,0.7s,mb4.3,baz=243,slow=4.5,SNR=3.5						
STKA	Stephens Creek	91.80	170	P	P	11 07 51.2	+1.3
ASAR	Alice Springs	98.89	162	P	P	11 08 21.6	-0.7
	0.2nm,0.5s,mb3.9,baz=183,slow=4.4,SNR=8.3						
NVAR	Mina Array Bea	121.48	293	PKP	PKPdf	11 13 36.4	+2.6
	0.2nm,0.4s,baz=150,slow=2.9,SNR=5.6						
FINES	FINESS Array B	124.44	28	PKP	PKPdf	11 13 39.6	+0.8
	0.9nm,0.6s,baz=135,slow=2.7,SNR=4.0						
ARCES	ARCESS Array B	131.01	22	PKP	PKPdf	11 13 52.2	+1.2
	1.0nm,0.6s,baz=243,slow=2.7,SNR=8.9						
YKA	Yellowknife Ar	136.28	318	PKP	PKPdf	11 14 02.3	+1.3
	0.3nm,0.4s,baz=129,slow=2.0,SNR=11						
INK	Inuvik	145.91	320	PKPbc	PKPbc	11 14 20.7	+2.0
	2.6nm,0.5s,baz=72,slow=2.7,SNR=18						
SML	Sawmill	150.13	305	ePKPbc	PKPdf	11 14 32.1	+7.3
ILAR	Eielson Array	150.22	312	PKPbc	PKPdf	11 14 32.0	+7.2
	2.5nm,0.6s,baz=139,slow=2.6,SNR=81						

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*ISK **01** 11:06:14.8, 34.64N×32.59E, h5^{km}, MD3.8, ML3.8*

*NIC **01** 11:06:16.2±0.4, 34.56N×32.44E, h31^{km}, ML3.7, MW3.6*

NIC Felt earthquake; Maximum Intensity 2; Felt I=III MM at Pafos Airport and I =II MM at Pafos.

*IDC **01** 11:06:18.8±5.8, 34.44N×31.66E, h33^{km}±54^{km}, mb3.6/2, mb1 3.7/7, mb1mx3.5/21, ML3.7/5, Error ellipse: s-maj=44.6km s-min=25.5km az=63.0*

*GII **01** 11:06:20.6±0.9, 34.61N×32.58E, h25^{km}±30^{km}, ML3.3/7, Mw3.2/9*

ISC 01 11:06:16.3±0.9, 34.61N±0.02×32.54E±0.04, h12^{km}±6^{km}, n42, σ1^{s}00/56, mb3.8/2, 1D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SZAC	Souni-Zanaja	0.32	62	P	Pb	11 06 23.3	-0.1
	27nm,0.4s						
SZAC				S	Sb	11 06 29.4	+1.3
PPCY	Paphos	0.32	329	⇓P	Pb	11 06 23.1	-0.3
AKMC	Akamas	0.45	337	P	Pb	11 06 25.5	-0.2
ALFC	Alevga	0.55	5	P	Pb	11 06 26.0	-1.4
ALFC				S	Sb	11 06 33.8	-1.1
LEF	Lefka	0.58	29	i PG	Pg	11 06 26.4	-1.7
LEF				i SG	Sg	11 06 34.5	-1.6
CSS	Prodhromos	0.74	61	P	Pb	11 06 29.6	-1.0
	27nm,0.3s						
CSS				S	Sb	11 06 39.9	-0.4
MAMC	Mammari	0.79	44	P	Pb	11 06 31.3	-0.1
PHNC	Paralimni	1.29	72	P	Pb	11 06 42.5	+2.5
IKL	Isikli	1.88	29	i PN	Pn	11 06 47.7	-0.8
IKL				i SN	Sn	11 07 13.3	+1.0
HDMB	Hadim	2.35	359	i PN	Pn	11 06 56.2	+0.8
MEST	Erdemli	2.37	33	i P	Pn	11 06 55.4	-0.2
HNTI	Hanita	2.67	124	Pn	Pn	11 06 59.5	-0.3
HNTI				Sn	Sn	11 07 31.4	-0.9
HAF	Haifa	2.76	131	Pn	Pn	11 07 00.9	-0.3
OFRI	‘Ofer	2.84	134	Pn	Pn	11 07 02.7	+0.4
HRI	Mount Hermon	2.97	116	Pn	Pn	11 07 04.4	+0.2
ELL	Elmali	3.03	316	ePN	Pn	11 07 05.8	+0.8
KSHT	Keshet	3.17	120	Pn	Pn	11 07 07.9	+0.9
MMLI	Mount Malkishu	3.23	131	Pn	Pn	11 07 08.4	+0.4
HTY	Hatay	3.30	62	PN	Pn	11 07 09.3	+0.4
KONT	Konya--Tatoy	3.33	358	PN	Pn	11 07 10.1	+0.7
HMDT	Nahal Hemdat	3.42	132	Pn	Pn	11 07 11.4	+0.8
COBT	Iskenderun	3.58	57	i P	Pn	11 07 12.7	-0.1
COBT				i S	Sn	11 07 50.9	-4.5
DRGI	Dragot	3.84	141	Pn	Pn	11 07 17.8	+1.3
DALT	Dalyan (Mudla)	3.84	305	ePN	Pn	11 07 16.5	-0.1
NIG	Nigde	3.87	25	PN	Pn	11 07 16.7	-0.3
MKRJ	Makawir	4.00	139	Pn	Pn	11 07 20.2	+1.3
KZIT	Kziot	4.01	157	Pn	Pn	11 07 19.4	+0.5
KZIT				Sn	Sn	11 08 05.7	-0.6
MZDA	Masada	4.05	143	Pn	Pn	11 07 20.7	+1.1
MZDA				Sn	Sn	11 08 07.3	-0.1
YER	Yerkesik	4.28	307	PN	Pn	11 07 22.9	+0.1
KIZT	Kizilcal	4.30	353	ePN	Pn	11 07 23.3	+0.2
ASF	Jabal al Asfar	4.38	122	Pn	Pn	11 07 25.0	+0.9
	6.1nm,0.3s,baz=184,slow=6.4,SNR=21						
ASF				Sn	Sn	11 08 23.1	+7.4
	5.2nm,0.3s,baz=346,slow=21,SNR=6.4						
PRNI	Paran	4.72	153	Pn	Pn	11 07 29.0	-0.1
PRNI				Sn	Sn	11 08 23.1	-1.4
KMTI	Karmit	4.85	157	Pn	Pn	11 07 30.7	-0.3
KMTI				Sn	Sn	11 08 26.0	-1.8
BRTR	Keskin Array B	5.18	9	Pn	Pn	11 07 37.8	+2.2
	0.5nm,0.3s,baz=183,slow=15,SNR=15						
BRTR				Sn	Sn	11 08 39.5	+3.5
	0.2nm,0.3s,baz=177,slow=26,SNR=5.6						
MBH	Mount Berech	5.20	157	Pn	Pn	11 07 36.3	+0.4
AQBJ	Aqaba	5.31	156	Pn	Pn	11 07 38.0	+0.6
EIL	Elat	5.33	157	Pn	Pn	11 07 37.5	-0.1
	2.0nm,0.3s,baz=340,slow=17,SNR=18						
EIL				Sn	Sn	11 08 36.9	-2.8
	5.5nm,0.3s,baz=118,slow=34,SNR=8.2						
EIL	Elat	5.33	157	Pn	Pn	11 07 37.7	+0.1
AKASG	Malin Array Be	16.27	352	Pn	P	11 10 05.7	-0.3
	0.8nm,0.3s,baz=175,slow=11,SNR=11						
GERES	GERESS Array B	19.93	321	P	P	11 10 45.3	-5.4
	0.3nm,0.3s,baz=112,slow=11,SNR=4.6						
ARCES	ARCESS Array B	35.20	356	P	P	11 13 08.8	-3.1
	1.7nm,1.1s,mb3.9,baz=170,slow=10,SNR=4.9						
MKAR	Makanchi Array	39.02	56	P	P	11 13 48.9	+4.6
	1.0nm,0.8s,mb3.6,baz=270,slow=6.1,SNR=7.2						

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*NIED **01** 11:07:00, 28.80N×129.80E, h20^{km}, Mw5.1 Best double couple: M$_0$5.5×10^{16} NP1:φ$_s$314°, δ60°, λ-125°. NP2: φ$_s$189°, δ45°, λ-45°.*

*JMA **01** 11:07:20.9±0.1, 28.85N×129.85E, h45^{km}, M5.2*

JMA Felt III J1.

*BJI **01** 11:07:23.1, 28.73N×130.29E, h75^{km}, mB4.9, mb4.6, Ms4.9, Msz4.6*

*MOS **01** 11:07:23.8±1.1, 29.22N×129.78E, h33^{km}, mb5.4/4, MS4.9/5, Error ellipse: s-maj=32.9km s-min=14.6km az=91.2*

*HRVD **01** 11:07:24.1±0.3, 28.82N×129.97E, h15^{km}±1^{km}, MW5.2/62, Centroid moment Tensor Solution. LP body waves: s34,c44;Mantle waves: s62,c114; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M$_{rr}$-1.44±.15; M$_{\theta\theta}$0.23±.11; M$_{\phi\phi}$1.21±.12; M$_{r\theta}$6.03±.74; M$_{\theta\phi}$-3.37±.10; M$_{\phi r}$1.65±.44; Best double couple: M$_0$7.02×10^{16} NP1: φ$_s$170°, δ30°, λ-11°. NP2:φ$_s$270°, δ84°, λ-120°. Principal axes: T 6.03, Plg33°, Azm25°; N 1.98, Plg30°, Azm273°; P -8.01, Plg43°, Azm151°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*IDC **01** 11:07:24.6±1.3, 28.88N×130.00E, h55^{km}±12^{km}, mb4.3/21, mb1 4.5/24, mb1mx4.4/32, MS4.8/7, Ms1 4.8/7, ms1mx4.3/22 Error ellipse: s-maj=15.1km s-min=7.7km az=111.0*

*NEIC **01** 11:07:24.1±0.8, 28.78N×130.10E, h51^{km}±7^{km}, mb4.9/24, MW5.1(NIED), Error ellipse: s-maj=8.0km s-min=5.9km az=120.0*

NEIC Recorded [3 JMA] on Nakano-shima; [2 JMA] on Amami-oshima and Kikaiga-shima; [1 JMA] on Kuchino-shima.

ISC 01 11:07:21.8±0.2, 28.80N±0.02×130.22E±0.03, h51^{km}, h51^{km}±6.0^{km}:pP-P, n159, σ1^{s}34/163, mb4.7/44, MS4.8/18, 6C-4D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JZK	Kikaishima	0.53	204	P	P	11 07 32.4	-1.2
JZK				S	S	11 07 41.6	-0.4
JAM	Amami Oshima	0.67	235	P	P	11 07 31.5	-3.7
JAM				S	S	11 07 39.7	-5.4
JNN	Nakanoshima	1.08	344	P	P	11 07 38.4	-2.5
JNN				eS	S	11 07 52.5	-2.5
JTK	Tokunoshima	1.51	228	P	P	11 07 44.9	-2.1
JKC	Kuchinoerabu	1.66	359	P	P	11 07 47.4	-1.6
JKC				S	S	11 08 07.8	-1.4
JTN	Tanegashima 3	1.96	19	P	P	11 07 53.6	+0.3
JTN				eS	S	11 08 19.8	+3.1
JOW	Kunigami	2.61	222	P	P	11 08 01.9	-0.8
JOW				S	S	11 08 34.1	+0.9
	370nm,0.3s,baz=120,slow=29,SNR=13						
JOW	Kunigami	2.61	222	P	P	11 08 01.2	-1.4
JIH	Iheya	2.66	229	P	P	11 08 01.6	-1.7
JNAR	Kushima--Naru	2.86	18	P	P	11 08 06.2	0.0
JTZ	Takazaki	3.18	13	P	P	11 08 10.0	-0.6
NAH1	Naha	3.43	222	P	P	11 08 13.3	-0.9
JAGN	Aguni-jima	3.44	231	P	P	11 08 12.7	-1.6
JJT2	Tamagusuku 2	3.44	220	P	P	11 08 13.7	-0.7
JTSN	Tsuno	3.61	18	P	P	11 08 15.6	-1.1
JKE	Kume jima 2	3.92	232	P	P	11 08 19.0	-2.1
JKIT	Kitakata	3.96	15	P	P	11 08 21.0	-0.6
JNU	Nakatsue	4.34	7	P	P	11 08 27.1	+0.1
	105nm,0.3s,baz=197,slow=8.4,SNR=152						
JNU				S	S	11 09 18.3	+1.3
	30nm,0.3s,baz=236,slow=30,SNR=1.7						
JNU	Nakatsue	4.34	7	P	P	11 08 27.1	0.0
JUS	Usuki	4.45	17	S	S	11 09 19.2	-0.4
UWA2	Uwa jima 2	4.86	25	P	P	11 08 31.6	-2.7
JFA	Akaike	4.92	6	P	P	11 08 34.9	-0.3
JNA	Nagahama	5.12	22	P	P	11 08 35.3	-2.6
JHIK	Hikimi	5.89	14	P	P	11 08 46.5	-2.2
JAI	Aioi	6.15	35	P	P	11 08 50.8	-1.5
JJS	Sakaide	6.39	29	P	P	11 08 54.2	-1.5
JTJ	Tarama	6.44	231	P	P	11 08 52.8	-3.7
JIJ	Ishigaki jima	7.01	232	P	P	11 09 00.2	-4.2
IRIF	Iriomote-Funau	7.32	234	P	P	11 09 03.6	-5.1
JWT	Wachi	7.81	33	P	P	11 09 14.1	-1.4
JKY	Yasaka	7.96	30	P	P	11 09 16.5	-1.1
SSE	Sheshan	8.17	288	P	P	11 09 21.9	+1.5
SSE				XP		11 09 39.7	
SSE				S	S	11 10 54.0	+1.8
SSE				AMB	AMB		
	comp=Z,52nm,1.1s						
SSE				LR	LR		
	comp=N,3μm,11.5s						
SSE				LR	LR		
	comp=E,3μm,11.5s						
SSE				LR	LR		
	comp=Z,3μm,13.0s						
TATO	Taipei	8.68	246	P	P	11 09 24.7	-2.7
KS15	Wonju Array Si	8.84	348	eP	P	11 09 31.4	+1.8
INCN	Inchon	9.16	342	eP	P	11 09 34.5	+0.3
	comp=Z,183nm,1.0s						
JHJ	Hachijo jima 2	9.27	60	P	P	11 09 36.1	+0.6
	comp=Z,81nm,0.3s,baz=255,slow=14,SNR=28						
JHJ				LR	LR	11 12 58.4	
	comp=Z,2μm,18.7s,baz=290,slow=35						
MAJO	Matsushiro	10.23	39	eP	P	11 09 48.3	-0.5
	comp=Z,61nm,0.5s						
MAT	Matsushiro	10.23	39	P	P	11 09 46.8	-2.0
MAT				S	S	11 11 41.6	-1.6
MAT	Matsushiro	10.23	39	eP	P	11 09 47.0	-1.8
	comp=Z,25nm,0.5s						
MAT				eS	S	11 11 42.0	-1.1
QZH	Quanzhou	11.07	252	⇑iP	P	11 10 03.6	+3.4
QZH				LR	LR		
	comp=N,3μm,13.0s						
QZH				LR	LR		
	comp=E,8μm,11.6s						
QZH				LR	LR		
	comp=Z,7μm,12.0s						
DL2	Dalian	12.35	327	P	P	11 10 18.3	+1.0
DL2				S	S	11 12 38.7	+4.5
DL2				AMB	AMB		
	comp=Z,20nm,1.0s						
DL2				AMB	AMB		
	comp=Z,330nm,8.6s						
DL2				LR	LR		
	comp=N,2μm,13.7s						
DL2				LR	LR		
	comp=E,2μm,13.9s						
DL2				LR	LR		
	comp=Z,2μm,14.0s						
WHN	Wuhan	13.91	281	P	P	11 10 39.0	+1.0
WHN				LR	LR		
	comp=N,1μm,5.9s						
WHN				LR	LR		
	comp=E,3μm,12.3s						
WHN				LR	LR		
	comp=Z,4μm,14.7s						
SNY	Shenyang	14.08	339	⇑P	P	11 10 39.2	-0.8
SNY				AP		11 10 51.5	
SNY				S	S	11 13 22.1	+6.6
SNY				XS		11 13 33.1	
SNY				AMB	AMB		
	comp=Z,40nm,2.1s						
SNY				LR	LR		
	comp=N,6μm,12.0s						
SNY				LR	LR		
	comp=E,3μm,10.8s						
SNY				LR	LR		
	comp=Z,8μm,11.0s						
CN2	Changchun	15.45	347	eP	P	11 10 59.8	+1.9
CN2				AMB	AMB		
	comp=Z,20nm,1.1s						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,7μm,14.0s						
CN2				LR	LR		
	comp=E,3μm,14.0s						
CN2				LR	LR		
	comp=Z,7μm,14.0s						
MDJ	Mudanjiang	15.79	358	P	P	11 11 05.9	+3.7
MDJ				AP		11 11 16.2	
MDJ				XP		11 11 21.4	
MDJ				AMB	AMB		
	comp=Z,9.0nm,0.8s						
MDJ				AMB	AMB		
	comp=Z,475nm,5.0s						
MDJ				LR	LR		
	comp=N,2μm,12.4s						
MDJ				LR	LR		
	comp=E,929nm,12.4s						
MDJ				LR	LR		
	comp=Z,2μm,12.7s						
MDJ	Mudanjiang	15.79	358	eP	P	11 11 05.8	+3.6
	comp=Z,15nm,0.7s						
BJT	Baijiatuau	16.09	318	eP	P	11 11 07.5	+1.4
	comp=Z,93nm,0.9s						
BJI	Beijing	16.10	318	P	P	11 11 06.5	+0.3
BJI				S	S	11 14 05.9	+3.1
BJI				AMB	AMB		
	comp=Z,26nm,1.8s						
BJI				AMB	AMB		
	comp=Z,215nm,4.2s						
BJI				LR	LR		
	comp=N,3μm,12.2s						
BJI				LR	LR		
	comp=E,2μm,12.2s						
BJI				LR	LR		
	comp=Z,1μm,18.9s						
PVCP	Virac	16.15	202	eP	P	11 11 11.3	+4.4
CNP	Catarman	17.02	199	eP	P	11 11 18.9	+1.0
TIY	Taiyuan	17.31	305	eP	P	11 11 21.4	0.0
TIY				S	S	11 14 39.0	+8.6
TIY				LR	LR		
	comp=N,3μm,12.0s						
TIY				LR	LR		
	comp=Z,2μm,14.0s						
BESP	Borongan	17.69	196	eP	P	11 11 26.3	0.0
ENH	Enshi	18.11	280	eP	P	11 11 30.9	-0.4
	comp=Z,23nm,0.7s						
ASAJ	Asahikawa	18.21	30	P	P	11 11 31.8	-0.7
	comp=Z,1.9nm,0.3s,baz=251,slow=12,SNR=12						
ASAJ				LR	LR	11 18 52.6	
	comp=Z,2μm,20.5s,baz=162,slow=38						
XAN	Xi’an	18.90	291	P	P	11 11 39.3	-1.6
XAN				S	S	11 15 13.7	+7.3
XAN				AMB	AMB		
	comp=Z,366nm,8.7s						
XAN				LR	LR		
	comp=N,1μm,13.0s						
XAN				LR	LR		
	comp=E,799nm,12.8s						
XAN				LR	LR		
	comp=Z,2μm,12.3s						
MSLP	Maasin	19.24	196	eP	P	11 11 46.7	+1.9
HHC	Hu-ho-hao-te	19.42	313	eP	P	11 11 47.7	+1.1
HHC				AP		11 12 01.1	
HHC				XP		11 12 09.4	
HHC				AMB	AMB		
	comp=Z,16nm,0.8s						
HHC				AMB	AMB		
	comp=Z,548nm,7.7s						
HHC				LR	LR		
	comp=N,809nm,14.3s						
HHC				LR	LR		
	comp=E,928nm,15.5s						
HHC				LR	LR		
	comp=Z,1μm,16.1s						
GUIM	Jordan	19.44	203	eP	P	11 11 48.3	+1.3
BUTP	Butuan	20.20	193	eP	P	11 11 55.1	+0.1
BTO	Baotou	20.31	311	eP	P	11 11 56.7	+0.6
BTO				AMB	AMB		
	comp=Z,48nm,1.6s						
BTO				LR	LR		
	comp=N,2μm,9.2s						
BTO				LR	LR		
	comp=E,1μm,14.3s						
YSS	Yuzh-Sakhalins	20.60	25	⇑iP	P	11 12 02.0	+3.0
YSS				pmax	pmax		
	comp=Z,500nm,1.8s						
YSS	Yuzh-Sakhalins	20.60	25	eP	P	11 11 58.1	-0.9
	comp=Z,64nm,0.6s						
QIZ	Qiongzhong	20.99	247	eP	P	11 12 03.6	+0.4
QIZ				AP		11 12 17.1	
QIZ				S	S	11 15 48.4	-0.7
QIZ				AMB	AMB		
	comp=Z,32nm,1.3s						
QIZ				LR	LR		
	comp=N,1μm,15.1s,MS4.6						
QIZ				LR	LR		
	comp=E,1μm,16.1s,MS4.6						
QIZ				LR	LR		
	comp=Z,2μm,17.8s,MS4.5						
QIZ	Qiongzhong	20.99	247	eP	P	11 12 03.6	+0.4
	comp=Z,51nm,1.1s						
GYA	Guiyang	21.00	269	⇑iP	P	11 12 02.7	-0.6
GYA				PP	PP	11 12 26.6	-0.5
GYA				AMB	AMB		
	comp=Z,30nm,1.1s						
GYA				LR	LR		
	comp=N,3μm,14.7s,MS4.8						
GYA				LR	LR		
	comp=E,1μm,13.2s,MS4.8						
GYA				LR	LR		
	comp=Z,740nm,12.6s,MS4.3						
BUKP	Musuan	21.37	194	eP	P	11 12 07.1	0.0
HIA	Hailar	21.96	341	P	P	11 12 14.2	+1.6
	comp=Z,4.6nm,0.4s,mb4.3						
CD2	Chengdu	23.03	282	⇓iP	P	11 12 23.1	-0.3
CD2				AMB	AMB		
	comp=Z,60nm,0.9s,mb5.0						
CD2				LR	LR		
	comp=N,4μm,15.6s						
CD2				LR	LR		
	comp=Z,2μm,11.4s,MS4.8						
LZH	Lanzhou	23.37	295	⇓P	P	11 12 27.9	+1.3
LZH				AP		11 12 40.4	
LZH				AMB	AMB		
	comp=Z,66nm,1.3s,mb4.9						
LZH				AMB	AMB		
	comp=Z,243nm,4.7s						
LZH				LR	LR		
	comp=N,1μm,10.2s						
LZH				LR	LR		
	comp=Z,2μm,12.4s,MS4.8						
KMI	Kunming	24.75	268	eP	P	11 12 39.7	-0.4
KMI				PP	PP	11 13 16.2	-1.7
KMI				AMB	AMB		
	comp=Z,25nm,1.2s,mb4.6						
KMI				AMB	AMB		
	comp=Z,60nm,4.3s						
KMI				LR	LR		
	comp=N,2μm,18.0s,MS4.7						
KMI				LR	LR		
	comp=E,1μm,18.0s,MS4.7						
KMI				LR	LR		
	comp=Z,1μm,15.0s,MS4.5						
SONM	Songino Array	26.48	322	P	P	11 12 56.0	-0.1
	comp=Z,19nm,0.8s,mb4.7,baz=138,slow=8.4,SNR=38						
SONM				ScP		11 19 59.9	
	comp=Z,1.7nm,0.9s,baz=134,slow=2.4,SNR=4.6						
GTA	Gaotai	27.19	301	eP	P	11 13 03.8	+1.1
GTA				AP	pP	11 13 17.6	+2.0
GTA				PP	PP	11 13 53.8	+3.2
GTA				PPP	PPP	11 14 06.0	+3.3
GTA				AMB	AMB		
	comp=Z,97nm,5.7s						
GTA				LR	LR		
	comp=N,996nm,16.4s,MS4.5						
GTA				LR	LR		
	comp=E,753nm,17.1s,MS4.5						
GTA				LR	LR		
	comp=Z,959nm,15.2s,MS4.5						
NANT	Nan	28.72	256	⇑P	P	11 13 12.0	-4.6
ZAK	Zakamensk	29.65	324	⇓iP	P	11 13 25.0	+0.4
CHG	Chiang Mai	30.21	258	⇑P	P	11 13 28.8	-1.2
	comp=Z,13nm,0.9s,mb4.7						
CMAR	Chiang Mai Arr	30.37	257	P	P	11 13 30.2	-1.1
	comp=Z,3.6nm,0.8s,mb4.2,baz=59,slow=6.5,SNR=19						
PET	Petropavlovsk	31.98	33	eP	P	11 13 47.9	+2.7
PET				eS	S	11 18 56.9	+4.9
PET				smax			

	comp=E,300nm,31.0s						
PET				smax			
	comp=N,200nm,21.1s						
PET				MLR	MLR		
	comp=Z,1µm,15.0s,MS4.7						
PET				MLR	MLR		
	comp=Z,1µm,18.0s						
NNT	**Nongplab**	**32.63**	**247**	P	**P**	**11 13 53.0**	**+1.8**
YAK	**Yakutsk**	**33.23**	**360**	*e*P	**P**	**11 13 54.9**	**-1.1**
SHL	**Shillong**	**34.16**	**274**	*e*P	**P**	**11 14 02.0**	**-2.3**
WMQ	**Urumqi**	**36.98**	**306**	*e*P	**P**	**11 14 30.8**	**+2.8**
WMQ				AP	pP	11 14 43.0	+1.6
WMQ				PP	PP	11 15 58.1	+2.9
WMQ				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.5						
WMQ				LR	LR		
	comp=N,400nm,19.0s,MS4.5						
WMQ				LR	LR		
	comp=E,578nm,19.0s,MS4.5						
WMQ				LR	LR		
	comp=Z,669nm,20.0s,MS4.4						
SEY	**Seymchan**	**37.06**	**17**	*e*P	**P**	**11 14 30.4**	**+1.9**
SEY						11 15 51.5	
SEY				*e*PPP	PPP	11 16 11.1	-5.3
SEY				*e*S	**S**	**11 20 07.4**	**-2.8**
SEY				*e*SSS	SSS	11 23 06.4	-7.6
SEY						11 24 42.4	
SEY				pmax	pmax		
	comp=E,10.0nm,1.0s						
SEY				pmax	pmax		
	comp=Z,40nm,1.0s,mb5.2						
SEY				MLR	MLR		
	comp=N,3µm,22.0s,MS5.1						
SEY				MLR	MLR		
	comp=Z,4µm,22.0s,MS5.2						
SEY				MLR	MLR		
	comp=E,2µm,19.0s,MS5.1						
PKI	**Pulchoki**	**39.34**	**279**	*e*P	**P**	**11 14 47.0**	**-0.9**
KKN	**Kakani**	**39.41**	**280**	*e*P	**P**	**11 14 47.8**	**-0.6**
	comp=E,60nm,1.0s,mb5.3						
FX1	**Attu Island--F**	**39.59**	**40**	*e*P	**P**	**11 14 52.0**	**+2.3**
DMN	**Daman**	**39.60**	**279**	*e*P	**P**	**11 14 49.5**	**-0.5**
	comp=E,25nm,0.7s,mb5.1						
GKN	**Gorkha**	**39.92**	**280**	*e*P	**P**	**11 14 52.0**	**-0.7**
	comp=E,36nm,0.7s,mb5.2						
KOLN	**Koldanda**	**40.86**	**280**	*e*P	**P**	**11 15 00.1**	**-0.4**
	comp=E,14nm,0.6s,mb4.8						
MKAR	**Makanchi Array**	**41.21**	**309**	P	**P**	**11 15 01.7**	**-1.4**
	comp=E,2.0nm,0.6s,mb4.0,baz=96,slow=10.0,SNR=11						
MKAR				PcP	PcP	11 17 01.6	-0.5
	comp=E,2.4nm,0.7s,baz=90,slow=1.2,SNR=5.4						
TIXI	**Tiksi**	**42.90**	**359**	⇓*i*P	**P**	**11 15 15.2**	**-1.5**
TIXI				pmax	pmax		
	comp=Z,25nm,1.8s,mb4.6						
TIXI				MLR	MLR		
	comp=Z,906nm,12.0s,MS4.9						
KURK	**Kurchatov**	**44.23**	**314**	*e*P	**P**	**11 15 27.8**	**+0.1**
	comp=Z,3.5nm,0.6s,mb4.3						
FITZ	**Fitzroy Crossi**	**46.84**	**186**	*e*P	**P**	**11 15 49.8**	**+1.0**
	comp=Z,18nm,0.9s,mb5.0						
FITZ	**Fitzroy Crossi**	**46.84**	**186**	P	**P**	**11 15 49.2**	**+0.4**
	comp=Z,22nm,0.8s,mb5.1,baz=12,slow=7.1,SNR=14						
WRAB	**Tennant Creek**	**48.61**	**175**	P	**P**	**11 15 59.0**	**-3.7**
	comp=Z,38nm,0.9s,mb5.4						
WRA	**Warramunga Arr**	**48.62**	**175**	P	**P**	**11 16 03.1**	**+0.3**
	comp=Z,12nm,0.9s,mb5.0,baz=354,slow=8.2,SNR=8.3						
WB2	**Warramunga Arr**	**48.62**	**175**	*e*P	**P**	**11 16 03.5**	**+0.8**
ZRNK	**Zerenda**	**50.41**	**317**	*e*P	**P**	**11 16 14.5**	**-1.5**
	comp=Z,8.0nm,0.5s,mb5.0						
CTA	**Charters Tower**	**51.01**	**160**	*e*P	**P**	**11 16 22.1**	**+1.1**
	comp=Z,5.4nm,0.9s,mb4.5						
CTA	**Charters Tower**	**51.01**	**160**	P	**P**	**11 16 22.2**	**+1.2**
	comp=Z,3.8nm,0.6s,mb4.5,baz=342,slow=10,SNR=4.7						
CTAO	**Charters Tower**	**51.01**	**160**	*e*P	**P**	**11 16 21.6**	**+0.6**
	comp=Z,21nm,1.2s,mb5.0						
ASAR	**Alice Springs**	**52.28**	**176**	P	**P**	**11 16 31.4**	**+0.8**
	comp=Z,6.4nm,0.6s,mb4.8,baz=10.0,slow=13,SNR=19						
ASPA	**Alice Springs**	**52.28**	**176**	*e*P	**P**	**11 16 31.5**	**+1.0**
ANM	**Nome**	**53.41**	**29**	*e*P	**P**	**11 16 40.4**	**+2.0**
ARU	**Arti**	**56.50**	**321**	⇑*e*P	**P**	**11 17 00.4**	**-0.5**
ARU	**Arti**	**56.50**	**321**	P	**P**	**11 16 57.3**	**-3.6**
	comp=Z,8.4nm,0.6s,mb5.0						
SVW	**Sparrevohn**	**57.63**	**34**	*e*P	**P**	**11 17 10.5**	**+1.6**
SPU	**Mount Spurr**	**59.36**	**33**	*e*P	**P**	**11 17 22.1**	**+1.2**
KDAK	**Kodiak Island**	**59.41**	**37**	*e*P	**P**	**11 17 21.6**	**+0.3**
	comp=Z,26nm,0.6s,mb5.4						
MCK	**McKinley**	**60.57**	**30**	*e*P	**P**	**11 17 29.1**	**0.0**
	comp=Z,7.5nm,0.6s,mb5.0						
PMR	**Palmer**	**60.72**	**33**	*e*P	**P**	**11 17 30.8**	**+0.6**
COLA	**College**	**60.92**	**29**	*e*P	**P**	**11 17 33.6**	**+2.1**
SML	**Sawmill**	**61.07**	**32**	*e*P	**P**	**11 17 32.9**	**+0.3**
STKA	**Stephens Creek**	**61.30**	**169**	P	**P**	**11 17 31.8**	**-2.8**
STKA				*e*	pP	11 17 42.7	-5.9
ILAR	**Eielson Array**	**61.34**	**29**	P	**P**	**11 17 34.4**	**0.0**
	comp=Z,3.2nm,0.6s,mb4.6,baz=270,slow=3.3,SNR=41						
INK	**Inuvik**	**65.83**	**24**	P	**P**	**11 18 04.9**	**+1.2**
	comp=Z,5.3nm,0.5s,mb4.8,baz=303,slow=7.5,SNR=30						
KEV	**Kevo**	**67.70**	**339**	*e*P	**P**	**11 18 14.8**	**-0.6**
ARCES	**ARCESS Array B**	**68.27**	**339**	P	**P**	**11 18 17.4**	**-1.6**
	comp=Z,3.2nm,0.8s,mb4.4,baz=74,slow=7.0,SNR=17						
ARCES				LR	LR	11 56 51.2	
	comp=Z,600nm,18.6s,MS4.8,baz=180,slow=44						
DLBC	**Dease Lake**	**70.77**	**33**	P	**P**	**11 18 33.6**	**-0.8**
	comp=Z,12nm,1.3s,mb4.7,baz=203,slow=20,SNR=3.0						
KAF	**Kangasniemi**	**71.11**	**331**	*e*P	**P**	**11 18 37.2**	**+0.8**
	comp=Z,0.1nm,0.1s,mb3.7						
FINES	**FINESS Array B**	**71.50**	**331**	P	**P**	**11 18 37.2**	**-1.6**
	comp=Z,2.2nm,0.3s,mb4.5,baz=91,slow=5.9,SNR=26						
FINES				LR	LR	11 55 31.0	
	comp=Z,503nm,18.4s,MS4.8,baz=204,slow=40						
FINES	**FINESS Array B**	**71.50**	**331**	P	**P**	**11 18 37.2**	**-1.6**
FINES				LR	LR	11 55 31.0	
MALT	**Malatya**	**74.08**	**305**	*e*P	**P**	**11 18 54.1**	**-0.3**
	comp=Z,6.9nm,0.8s,mb4.6						
AKASG	**Malin Array Be**	**74.73**	**320**	P	**P**	**11 18 57.7**	**-0.1**
	comp=Z,1.9nm,0.4s,mb4.3,baz=55,slow=6.4,SNR=10						
AKASG				LR	LR	11 54 42.3	
	comp=Z,839nm,18.2s,MS5.1,baz=50,slow=38						
YKA	**Yellowknife Ar**	**75.45**	**26**	P	**P**	**11 19 03.3**	**+1.5**
	comp=Z,5.7nm,0.6s,mb4.7,baz=304,slow=6.0,SNR=46						
BRTR	**Keskin Array B**	**76.85**	**308**	P	**P**	**11 19 10.3**	**+0.1**
	comp=Z,4.9nm,0.8s,mb4.5,baz=103,slow=5.1,SNR=20						
HFS	**Hagfors**	**77.36**	**333**	P	**P**	**11 19 12.1**	**-0.5**
	comp=Z,1.9nm,0.5s,mb4.3,baz=72,slow=4.7,SNR=14						
NB2	**NORSAR Subarra**	**77.79**	**334**	P	**P**	**11 19 13.4**	**-1.5**
	comp=Z,5.1nm,1.1s,mb4.4,baz=52,slow=5.6						
NOA	**NORSAR Array B**	**77.79**	**334**	P	**P**	**11 19 13.7**	**-1.2**
	comp=Z,4.6nm,1.0s,mb4.3,baz=50,slow=5.5,SNR=7.6						
NOA				LR	LR	11 58 52.8	
	comp=Z,474nm,18.1s,MS4.9,baz=20,slow=40						
SUMG	**Summit**	**78.59**	**357**	*e*P	**P**	**11 19 20.5**	**+1.4**
	comp=Z,9.1nm,0.6s,mb4.9						
CMW	**Cultus Mountai**	**79.62**	**40**	P	**P**	**11 19 21.8**	**-3.4**
JCW	**Jim Creek**	**79.85**	**40**	P	**P**	**11 19 22.4**	**-4.0**
OKC	**Ostrava-Krasne**	**81.28**	**323**	LR		11 58 40.0	
	comp=Z,0.7nm,17.1s						
VYHS	**Vyhne**	**81.66**	**321**	*e*P	**P**	**11 19 37.9**	**+1.9**
VYHS				*e*	pP	11 19 55.9	+5.3
DPC	**Dobruska-Polom**	**81.94**	**324**	LR		11 59 20.0	
	comp=Z,1.0nm,15.5s						
NEW	**Newport**	**82.49**	**38**	P	**P**	**11 19 43.2**	**+3.0**
	comp=Z,10nm,0.9s,mb4.7,baz=274,slow=4.5,SNR=15						
NEW	**Newport**	**82.49**	**38**	P	**P**	**11 19 43.2**	**+3.0**
PVCC	**Panska Ves**	**82.73**	**325**	LR		12 01 10.0	
	comp=Z,1.0nm,14.4s						
CLL	**Collm**	**83.04**	**326**	P	**P**	**11 19 44.0**	**+1.0**
CLL	**Collm**	**83.04**	**326**	*e*P	**P**	**11 19 44.0**	**+1.0**
PRU	**Pruhonice**	**83.08**	**324**	LR		12 00 10.0	
	comp=Z,0.8nm,13.0s						
NKC	**Novy Kostel**	**83.99**	**325**	LR		12 01 30.0	
	comp=Z,1.4nm,16.1s						
KHC	**Kasperske Hory**	**84.10**	**324**	*e*P	**P**	**11 19 49.7**	**+1.4**
KHC				LR		12 00 40.0	
	comp=Z,0.7nm,15.9s						
KHC	**Kasperske Hory**	**84.10**	**324**	*e*P	**P**	**11 19 49.7**	**+1.4**
KHC				LR	LR		
	comp=Z,700nm,15.9s,MS5.1						
GERES	**GERESS Array B**	**84.21**	**324**	P	**P**	**11 19 50.1**	**+1.2**
	comp=Z,1.5nm,0.6s,mb4.3,baz=63,slow=6.0,SNR=9.3						
GRA1	**Grafenberg Arr**	**84.94**	**325**	*e*P	**P**	**11 19 54.7**	**+2.1**
	comp=Z,38nm,1.4s,mb5.3						
GRA1				LR	LR		
	comp=Z,600nm,18.5s,MS5.0						
GRF	**Grafenberg Arr**	**84.94**	**325**	*e*P	**P**	**11 19 54.7**	**+2.1**
GRF				pmax	pmax		
	comp=Z,38nm,1.4s,mb5.3						
GRF				MLR	MLR		
	comp=Z,600nm,18.5s,MS5.0						
FFC	**Flin Flon**	**85.51**	**27**	*e*P	**P**	**11 19 56.9**	**+1.7**
	comp=Z,7.4nm,0.9s,mb4.9						
EKA	**Eskdalemuir Ar**	**87.20**	**335**	P	**P**	**11 20 03.4**	**-0.1**
	comp=Z,0.9nm,0.4s,mb4.3,baz=44,slow=4.4,SNR=5.9						
ULM	**Lac du Bonnet**	**91.33**	**28**	P	**P**	**11 20 24.9**	**+1.7**
	comp=Z,4.1nm,0.7s,mb4.9,baz=311,slow=5.1,SNR=7.8						
ULM	**Lac du Bonnet**	**91.33**	**28**	*e*P	**P**	**11 20 24.6**	**+1.4**
	comp=Z,20nm,1.1s,mb5.4						
ESDC	**Sonseca Array**	**99.63**	**326**	LR	LR	12 15 54.7	
	comp=Z,536nm,18.3s,MS5.1,baz=30,slow=41						
QSPA	**South Pole Qui**	**118.57**	**180**	*e*PKP	PKPdf	11 26 06.0	+2.7
QSPA				LR	LR		
	comp=Z,260nm,21.1s,MS4.8						
SNAA	**Sanae**	**130.11**	**198**	*e*	PKPdf	11 26 31.4	+5.8
VNA2	**Neumayer--Watz**	**131.74**	**197**	*e*	PKPdf	11 26 38.9	+10
VNA3	**Neumayer Olymp**	**132.12**	**196**	*e*	PKPdf	11 26 39.2	+10
VNA1	**Neumayer--Stat**	**132.14**	**197**	*e*	PKPdf	11 26 39.7	+10
NNA	**Nana**	**149.73**	**62**	PKPbc	PKPdf	11 27 07.5	+5.6
BDFB	**Brasilia**	**166.80**	**353**	PKPab	PKPab	11 28 28.7	+1.3
	comp=Z,3.2nm,0.5s,baz=248,slow=1.8,SNR=5.2						
CPUP	**Villa Florida**	**172.86**	**72**	PKP	PKPdf	11 27 21.1	-4.4
	comp=Z,1.6nm,0.9s,baz=86,slow=3.2,SNR=3.8						

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*BJI **01** 11:07:27.0, 17.75N×147.40E, h50^{km}, mB5.3, mb5.1,*
Ms5.1, Msz4.8
*MOS **01** 11:07:28.4±0.9, 17.95N×146.68E, h33^{km}, mb5.5/18,*
MS4.7/6, Error ellipse: s-maj=29.9km s-min=9.7km
az=116.3
*HRVD **01** 11:07:28.4±0.2, 17.96N×147.49E, h14^{km}, MW5.2/62,*
Centroid moment Tensor Solution. LP body waves:
s37,c55;Mantle waves: s62,c110; Half duration: 1^{s}0
Moment tensor: Scale 10^{16}Nm; M$_{rr}$4.75±.17; M$_{\theta\theta}$1.39±.16;
M$_{\phi\phi}$-6.14±.14; M$_{r\theta}$-0.24±.42; M$_{\theta\phi}$0.53±.11; M$_{\phi r}$5.14±.29;
Best double couple: M$_0$7.51×10^{16} NP1:φ$_s$174°,δ23°,λ87°.
NP2:φ$_s$357°,δ67°,λ91°. Principal axes: T 6.79, Plg68°,
Azm269°; N 1.43, Plg1°, Azm177°; P -8.22, Plg22°,
Azm86°; nsta1 refers to body waves, cutoff=40s. nsta2
refers to surface waves, cutoff=50s.
*IDC **01** 11:07:28.8±2.3, 17.90N×147.09E, h30^{km}±15^{km}, mb4.6/24,*
mb1 4.7/27, mb1mx4.7/29, ML5.0/2, MS4.4/7, Ms1 4.5/7,
ms1mx4.2/22 Error ellipse: s-maj=16.5km s-min=11.5km
az=104.0
*NEIC **01** 11:07:28.4±0.2, 17.96N×147.16E, mb5.1/49, Error*
ellipse: s-maj=6.4km s-min=4.4km az=125.0
*SYO **01** 11:07:29.7, 17.97N×147.10E, h41^{km}, MB5.1*
ISC 01 11:07:29.9±0.8**, 17.92N**±0.03×**147.04E**±0.04**, h54**^{km}±7^{km}**,**
h42^{km}±3.1^{km}**:pP-P, n217,** σ1^{s}**03**/207**, mb5.0**/92**, MS4.6**/22**,**
10C-7D, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	 ISC	Time h m s	Res ISC
ANA2	**Anatahan**	**2.02**	**219**	*e*P	**P**	**11 08 04.0**	**+1.8**
ANAT	**Anatahan**	**2.04**	**221**	*e*P	**P**	**11 08 04.2**	**+1.7**
SAPN	**Saipan**	**2.96**	**205**	⇓*e*P	**P**	**11 08 16.1**	**+0.6**
SAPN				*e*S	**S**	**11 08 52.7**	**+2.7**
GUMO	**Guam**	**4.78**	**206**	*e*P	**P**	**11 08 40.7**	**-0.6**
CBIJ	**Chichi jima**	**10.18**	**335**	Pn	**P**	**11 09 54.4**	**-1.6**
	73nm,0.3s,baz=302,slow=10,SNR=9.7						
CBIJ				Sn	**S**	**11 11 47.2**	**-2.4**
	11nm,0.3s,baz=276,slow=22,SNR=3.9						
JHJ	**Hachijo jima 2**	**16.48**	**338**	Pn	**P**	**11 11 20.6**	**+1.6**
	baz=251,slow=22,SNR=2.6						
JOW	**Kunigami**	**19.47**	**300**	P	**P**	**11 11 56.6**	**+1.5**
	5.4nm,0.3s,baz=157,slow=18,SNR=3.3						
JOW				LR	LR	11 18 44.3	
	comp=Z,2µm,18.8s,baz=295,slow=35						
MAJO	**Matsushiro**	**20.13**	**339**	⇑*e*P	**P**	**11 12 00.4**	**-1.6**
MAJO				*e*		11 12 07.4	
MAT	**Matsushiro**	**20.13**	**339**	P	**P**	**11 12 00.4**	**-1.6**
MAT				S	**S**	**11 15 48.9**	**+8.8**
MAT	**Matsushiro**	**20.13**	**339**	*e*P	**P**	**11 12 00.0**	**-2.0**
	39nm,1.2s						
MAT				*e*S	**S**	**11 15 49.0**	**+8.9**
JNU	**Nakatsue**	**20.98**	**319**	LR	LR	11 18 41.9	
	comp=Z,1µm,21.2s,MS4.3,baz=134,slow=32						
WAU	**Wau**	**25.10**	**181**	*e*P	**P**	**11 12 49.7**	**-1.7**
KS15	**Wonju Array Si**	**25.71**	**323**	⇑*e*P	**P**	**11 12 55.9**	**-1.0**
SSE	**Sheshan**	**26.86**	**304**	P	**P**	**11 13 07.8**	**+0.3**
SSE				AMB	AMB		
	comp=Z,33nm,1.1s,mb4.8						
QZH	**Quanzhou**	**27.35**	**290**	P	**P**	**11 13 11.4**	**-0.7**
QZH				AMB	AMB		
	comp=Z,90nm,1.0s,mb5.2						
NJ2	**Nanjing**	**29.06**	**304**	*e*P	**P**	**11 13 27.4**	**0.0**
NJ2				AP	pP	11 13 39.5	-1.5
NJ2				XP	sP	11 13 44.8	-2.8
NJ2				AMB	AMB		
	comp=Z,450nm,7.2s						
NJ2				LR	LR		
	comp=N,1µm,18.8s						
NJ2				LR	LR		
	comp=E,4µm,13.1s						
NJ2				LR	LR		
	comp=Z,3µm,16.0s,MS5.0						
MDJ	**Mudanjiang**	**30.38**	**335**	P	**P**	**11 13 38.8**	**-0.2**
MDJ				AMB	AMB		
	comp=Z,17nm,1.1s,mb4.7						
CN2	**Changchun**	**31.58**	**329**	*e*P	**P**	**11 13 50.7**	**+1.1**
CN2				*e*S	**S**	**11 18 57.4**	**+4.1**
CN2				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.9						
CN2				LR	LR		
	comp=N,2µm,15.0s,MS4.9						
CN2				LR	LR		
	comp=E,1µm,15.0s,MS4.9						
CN2				LR	LR		
	comp=Z,1µm,17.0s,MS4.6						
KAKA	**Kakadu**	**33.68**	**206**	*e*P	**P**	**11 14 07.3**	**-0.8**
	comp=Z,7.7nm,0.6s,mb4.8						
BJI	**Beijing**	**34.58**	**316**	P	**P**	**11 14 14.9**	**-0.6**
BJI				AMB	AMB		
	comp=Z,39nm,1.3s,mb5.2						
BJI				LR	LR		
	comp=N,804nm,17.9s,MS4.7						
BJI				LR	LR		
	comp=E,1µm,16.7s,MS4.7						
BJI				LR	LR		
	comp=Z,632nm,18.9s,MS4.4						
PET	**Petropavlovsk**	**36.19**	**12**	*e*P	**P**	**11 14 32.2**	**+3.1**
PET				*e*S	**S**	**11 20 09.7**	**+5.1**
PET				*e*SS	SS	11 22 34.3	+3.5
PET				pmax	pmax		
	comp=Z,33nm,1.0s,mb5.2						
PET				smax			
	comp=E,700nm,5.0s						
PET				smax			
	comp=E,300nm,14.4s						
PET				MLR	MLR		
	comp=Z,1µm,15.0s,MS4.8						
PET				MLR	MLR		
	comp=Z,1µm,18.0s						
CTA	**Charters Tower**	**37.78**	**181**	P	**P**	**11 14 42.4**	**-0.4**
	comp=Z,1.9nm,0.3s,mb4.3,baz=31,slow=13,SNR=3.1						
HHC	**Hu-ho-hao-te**	**38.05**	**314**	*e*P	**P**	**11 14 45.2**	**+0.3**
HHC				AP	pP	11 14 58.2	-0.7
HHC				XP	sP	11 15 01.7	-3.8
HHC				PP	PP	11 16 17.2	+1.6
HHC				S	**S**	**11 20 34.5**	**+1.3**
HHC				PCS		11 20 51.0	
HHC				SS	SS	11 23 13.4	+0.5
HHC				AMB	AMB		
	comp=Z,16nm,1.6s,mb4.5						
HHC				AMB	AMB		
	comp=Z,190nm,8.9s						
HHC				LR	LR		
	comp=N,432nm,20.2s,MS4.4						
HHC				LR	LR		
	comp=E,383nm,19.6s,MS4.4						
HHC				LR	LR		
	comp=Z,431nm,17.2s,MS4.3						
GYA	**Guiyang**	**38.21**	**290**	⇑*i*P	**P**	**11 14 47.2**	**+0.9**
GYA				AP	pP	11 14 59.8	-0.6
GYA				XP	sP	11 15 04.6	-2.3
GYA				PP	PP	11 16 18.4	+0.8
GYA				S	**S**	**11 20 33.2**	**-2.5**
GYA				XS		11 20 58.1	
GYA				SS	SS	11 23 17.0	+0.5
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.9						
GYA				AMB	AMB		
	comp=Z,280nm,4.8s						
GYA				LR	LR		
	comp=N,2µm,13.8s,MS5.2						
GYA				LR	LR		
	comp=E,1µm,14.7s,MS5.2						
GYA				LR	LR		
	comp=Z,1µm,12.9s,MS4.8						
HIA	**Hailar**	**38.26**	**331**	*e*P	**P**	**11 14 46.2**	**-0.2**
	comp=Z,69nm,0.8s,mb5.4						
HIA				pP	pP	11 14 55.7	-4.8
WRAB	**Tennant Creek**	**39.62**	**199**	*e*P	**P**	**11 14 57.1**	**-1.0**
	comp=Z,38nm,1.0s,mb5.1						
WB2	**Warramunga Arr**	**39.63**	**199**	*e*P	**P**	**11 14 57.2**	**-0.9**
WRA	**Warramunga Arr**	**39.63**	**199**	P	**P**	**11 14 57.0**	**-1.2**
	comp=Z,12nm,1.0s,mb4.5,baz=25,slow=8.5,SNR=49						
WRA				PcP	PcP	11 17 05.3	+0.3
	comp=Z,5.0nm,0.7s,baz=17,slow=3.5,SNR=7.7						
WRA				ScP		11 20 52.6	
	comp=Z,2.1nm,0.9s,baz=17,slow=4.3,SNR=5.8						
FX1	**Attu Island--F**	**40.42**	**24**	P	**P**	**11 15 03.1**	**-1.3**
FITZ	**Fitzroy Crossi**	**41.52**	**212**	*e*P	**P**	**11 15 12.9**	**-1.0**
	comp=Z,3.7nm,0.6s,mb4.2						
FITZ	**Fitzroy Crossi**	**41.52**	**212**	P	**P**	**11 15 12.4**	**-1.4**
	comp=Z,3.2nm,0.7s,mb4.0,baz=24,slow=5.5,SNR=34						
KMI	**Kunming**	**41.69**	**288**	*e*P	**P**	**11 15 16.6**	**+1.5**
KMI				AP	pP	11 15 24.5	-4.8
KMI				XP	sP	11 15 29.4	-6.3
KMI				LR	LR		
	comp=N,383nm,17.6s,MS4.5						
KMI				LR	LR		
	comp=E,378nm,14.7s,MS4.5						
KMI				LR	LR		
	comp=Z,452nm,15.8s,MS4.5						
MA2	**Magadan**	**41.69**	**3**	*e*P	**P**	**11 15 14.8**	**+0.1**
MA2				*e*S	**S**	**11 21 31.8**	**+4.4**
MA2				*e*SSS	SSS	11 25 20.5	+7.6
MA2				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.4						
MA2				pmax	pmax		
	comp=N,7.0nm,0.9s						
MA2				MLR	MLR		
	comp=Z,700nm,27.0s,MS4.4						
MA2	**Magadan**	**41.69**	**3**	P	**P**	**11 15 14.7**	**0.0**
LZH	**Lanzhou**	**42.14**	**304**	⇑P	**P**	**11 15 18.6**	**-0.1**
LZH				AP	pP	11 15 30.5	-2.4
LZH				XP	sP	11 15 35.6	-3.7
LZH				PP	PP	11 17 00.3	+0.5
LZH				*e*S	**S**	**11 21 34.5**	**+0.2**
LZH				AMB	AMB		
	comp=Z,41nm,1.4s,mb4.9						
LZH				AMB	AMB		
	comp=Z,253nm,6.1s						
LZH				LR	LR		
	comp=N,965nm,13.1s						
LZH				LR	LR		
	comp=Z,1µm,17.2s,MS4.9						
CLNS	**Chul'man**	**42.26**	**342**	*e*P	**P**	**11 15 19.5**	**+0.1**
CLNS				pmax	pmax		
	comp=Z,43nm,1.1s,mb5.0						
CLNS				pmax	pmax		
	comp=N,35nm,1.3s						
CLNS				pmax	pmax		
	comp=E,12nm,0.9s						
ASAR	**Alice Springs**	**43.27**	**198**	P	**P**	**11 15 27.6**	**-0.6**
	comp=E,3.9nm,0.7s,mb4.2,baz=22,slow=7.4,SNR=28						
ASAR				PcP	PcP	11 17 17.5	+0.5
	comp=E,6.4nm,0.9s,baz=21,slow=5.2,SNR=4.7						
ASAR				ScP		11 21 05.7	
	comp=E,1.3nm,0.9s,baz=22,slow=4.4,SNR=4.0						
ASPA	**Alice Springs**	**43.27**	**198**	*e*P	**P**	**11 15 27.5**	**-0.7**
SONM	**Songino Array**	**44.55**	**321**	P	**P**	**11 15 38.7**	**+0.6**
	comp=E,19nm,1.0s,mb4.9,baz=131,slow=10,SNR=14						
SONM				PcP	PcP	11 17 21.6	+0.6
	comp=E,5.0nm,0.7s,baz=143,slow=6.2,SNR=5.0						
SONM				ScP		11 21 10.2	
	comp=E,1.2nm,0.9s,baz=153,slow=2.8,SNR=4.3						
NST	**Nakhon Sawan**	**44.87**	**274**	⇑P	**P**	**11 15 43.0**	**+1.9**
	comp=E,67nm,0.8s,mb5.5						
CM31	**Chiang Mai Arr**	**45.59**	**279**	*e*P	**P**	**11 15 48.1**	**+1.3**
	comp=E,33nm,0.9s,mb5.3						
CMAR	**Chiang Mai Arr**	**45.59**	**279**	P	**P**	**11 15 48.0**	**+1.2**
	comp=E,19nm,0.8s,mb5.1,baz=71,slow=6.6,SNR=52						
CMAR				PcP	PcP	11 17 25.4	+0.4
	comp=E,4.1nm,1.0s,baz=140,slow=2.0,SNR=4.7						
CMAR				LR	LR	11 32 30.8	
	comp=E,386nm,19.8s,MS4.3,baz=80,slow=33						
BDT	**Bhumibol Dam**	**45.70**	**277**	P	**P**	**11 15 48.0**	**+0.3**
YAK	**Yakutsk**	**45.73**	**349**	*e*P	**P**	**11 15 46.8**	**-0.5**
YAK				*e**PP	pP	11 15 57.6	-3.9
YAK				*e*		11 17 23.0	
YAK				*e*		11 17 31.3	
YAK				*e*PPP	PPP	11 18 15.6	-3.2
YAK				*e*S	**S**	**11 22 27.4**	**+1.5**
YAK				*e*		11 25 41.5	
YAK				pmax	pmax		
	comp=N,12nm,0.9s						
YAK				pmax	pmax		
	comp=E,5.0nm,0.9s						
YAK				pmax	pmax		
	comp=Z,45nm,0.9s,mb5.4						
YAK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
YAK				smax			
	comp=E,96nm,7.7s						
YAK				smax			
	comp=N,18nm,8.0s						
YAK				MLR	MLR		
	comp=Z,273nm,15.0s,MS4.3						
YAK				MLR	MLR		
	comp=N,168nm,12.0s						
NNT	**Nongplab**	**45.85**	**270**	P	**P**	**11 15 51.5**	**+2.6**
GTA	**Gaotai**	**46.03**	**308**	*e*P	**P**	**11 15 48.9**	**-1.1**
GTA				AP	pP	11 16 00.5	-3.8
GTA				XP	sP	11 16 04.6	-6.0
GTA				PCP	PcP	11 17 27.3	+1.0
GTA				PP	PP	11 17 36.5	-2.1
GTA				PPP	PPP	11 18 20.2	-2.9
GTA				SCP		11 21 17.6	
GTA				PCS		11 21 20.9	
GTA				S	**S**	**11 22 29.3**	**-1.3**
GTA				SCS	ScS	11 25 37.4	-0.6
GTA				AMB	AMB		
	comp=Z,104nm,4.2s						
GTA				LR	LR		
	comp=N,194nm,16.0s,MS4.4						
GTA				LR	LR		
	comp=E,313nm,14.8s,MS4.4						
GTA				LR	LR		
	comp=Z,447nm,16.4s,MS4.5						
BOD	**Bodaibo**	**46.73**	**336**	*e*P	**P**	**11 15 53.9**	**-1.3**
ZAK	**Zakamensk**	**47.53**	**323**	⇑*i*P	**P**	**11 16 01.3**	**-0.4**
ZAK				*e*		11 17 31.5	
STKA	**Stephens Creek**	**49.78**	**186**	*e*P	**P**	**11 16 17.5**	**-1.9**
	comp=Z,6.4nm,1.0s,mb4.6						
STKA	**Stephens Creek**	**49.78**	**186**	P	**P**	**11 16 17.6**	**-1.8**
	comp=Z,4.7nm,0.9s,mb4.5,baz=21,slow=13,SNR=6.3						
SHL	**Shillong**	**51.50**	**289**	*e*S	**P**	**11 16 32.5**	**+0.1**
FORT	**Forrest**	**51.74**	**201**	*e*P	**P**	**11 16 33.8**	**-0.4**
	comp=Z,26nm,0.6s,mb5.3						
CNB	**Canberra Magne**	**52.98**	**178**	*e*P	**P**	**11 16 42.6**	**-0.9**
	comp=Z,29nm,1.1s,mb5.1						
TIXI	**Tiksi**	**54.79**	**353**	⇓*i*P	**P**	**11 16 55.5**	**-0.7**
TIXI				pmax	pmax		
	comp=Z,15nm,0.9s,mb5.0						
WMQ	**Urumqi**	**55.78**	**311**	P	**P**	**11 17 03.9**	**+0.2**
WMQ				AP	pP	11 17 16.6	-1.8
WMQ				XP	sP	11 17 21.9	-2.7
WMQ				PP	PP	11 19 10.2	+0.2
WMQ				S	**S**	**11 24 45.9**	**+1.1**
WMQ				XS		11 25 07.3	
WMQ				AMB	AMB		
	comp=Z,49nm,1.2s,mb5.4						
WMQ				AMB	AMB		
	comp=Z,63nm,9.0s						
WMQ				LR	LR		
	comp=N,549nm,19.0s,MS4.7						
WMQ				LR	LR		
	comp=E,197nm,22.0s,MS4.7						
WMQ				LR	LR		
	comp=Z,175nm,22.0s,MS4.1						
KLBR	**Kellerberrin**	**56.68**	**210**	*e*P	**P**	**11 17 09.3**	**-1.1**
	comp=Z,12nm,0.9s,mb4.9						
PKI	**Pulchoki**	**57.16**	**292**	*e*P	**P**	**11 17 12.9**	**-0.9**
	comp=Z,91nm,1.1s,mb5.7						
KKN	**Kakani**	**57.25**	**292**	*e*P	**P**	**11 17 13.5**	**-1.0**

	comp=Z,82nm,0.9s,mb5.8						
DMN	**Daman**	**57.42**	**292**	*e*P	**P**	**11 17 15.2**	**-0.5**
	comp=Z,79nm,0.9s,mb5.7						
GKN	**Gorkha**	**57.80**	**292**	*e*P	**P**	**11 17 18.1**	**-0.2**
	comp=Z,248nm,1.1s,mb6.1						
KOLN	**Koldanda**	**58.74**	**292**	*e*P	**P**	**11 17 25.0**	**+0.2**
	comp=Z,132nm,1.1s,mb5.9						
ZAL	**Zalesovo**	**59.42**	**323**	P	**P**	**11 17 28.7**	**-0.5**
	comp=Z,12nm,0.8s,mb5.0,baz=284,slow=7.7,SNR=17						
ZAL				PcP	PcP	11 18 16.3	+0.1
	comp=Z,11nm,1.0s,baz=283,slow=5.2,SNR=6.4						
ZAL	**Zalesovo**	**59.42**	**323**	*i* P	**P**	**11 17 28.7**	**-0.5**
ZAL				pmax	pmax		
	comp=Z,12nm,0.8s						
MKAR	**Makanchi Array**	**59.92**	**314**	P	**P**	**11 17 32.4**	**-0.3**
	comp=Z,17nm,0.8s,mb5.1,baz=94,slow=8.1,SNR=25						
MKAR				PcP	PcP	11 18 18.3	-0.1
	comp=Z,6.2nm,0.8s,baz=90,slow=7.3,SNR=4.2						
MKAR				ScP		11 22 14.8	
	comp=Z,1.6nm,0.8s,baz=101,slow=6.2,SNR=4.2						
MKAR				LR	LR	11 44 13.5	
	comp=Z,431nm,18.5s,MS4.6,baz=102,slow=37						
MKAR				PKP2bc		11 47 06.2	
	comp=Z,1.5nm,1.1s,baz=333,slow=3.2,SNR=5.2						
MKAR	**Makanchi Array**	**59.92**	**314**	*i* P	**P**	**11 17 31.8**	**-0.9**
MKAR				pmax	pmax		
	comp=Z,29nm,1.0s						
MKAR	**Makanchi Array**	**59.92**	**314**	P	**P**	**11 17 32.4**	**-0.3**
MKAR				PcP	PcP	11 18 18.3	-0.1
MKAR				ScP		11 22 14.8	
MKAR				LR	LR	11 44 13.4	
MKAR				⇑*e*		11 47 06.2	
NVS	**Novosibirsk**	**60.49**	**323**	*i* P	**P**	**11 17 34.4**	**-2.1**
NVS				*i*		11 18 18.8	
NVS				*e*S	**S**	**11 26 04.2**	**+18**
NVS				pmax	pmax		
	comp=Z,25nm,0.8s,mb5.3						
NVS				pmax	pmax		
	comp=E,25nm,0.9s						
KURK	**Kurchatov**	**62.70**	**318**	P	**P**	**11 17 50.7**	**-0.7**
	comp=E,226nm,0.7s,SNR=25						
KURK	**Kurchatov**	**62.70**	**318**	*i* P	**P**	**11 17 50.4**	**-1.0**
KURK				pmax	pmax		
	comp=Z,86nm,1.8s,mb5.6						
KURK	**Kurchatov**	**62.70**	**318**	*e*P	**P**	**11 17 50.1**	**-1.3**
	comp=Z,36nm,0.8s,mb5.6						
COLA	**College**	**63.41**	**26**	P	**P**	**11 17 51.8**	**-4.1**
ILAR	**Eielson Array**	**63.78**	**26**	P	**P**	**11 17 56.0**	**-2.3**
	comp=Z,9.6nm,0.9s,mb4.8,baz=255,slow=5.7,SNR=19						
ILAR				PKP2bc		11 46 55.0	
	comp=Z,0.8nm,1.1s,baz=315,slow=1.2,SNR=4.8						
ILAR	**Eielson Array**	**63.78**	**26**	P	**P**	**11 17 56.0**	**-2.3**
ILAR				⇑*e*		11 46 55.0	
KSH	**Kashi**	**64.36**	**306**	*e*P	**P**	**11 18 03.1**	**+0.6**
KSH				*e*AP	pP	11 18 18.2	+0.8
KSH				*e*XP	sP	11 18 23.0	-0.5
KSH				*e*PCP	PcP	11 18 35.1	-1.4
KSH				*e*PP	PP	11 20 31.2	+4.9
KSH				*e*PPP	PPP	11 22 07.0	+7.8
KSH				*e*SCP		11 22 33.1	
KSH				*e*PCS		11 22 38.4	
KSH				*e*S	**S**	**11 26 42.0**	**+7.0**
KSH				*e*PS	PS	11 27 13.7	+11
KSH				*e*SCS	ScS	11 27 53.0	+4.9
KSH				LR	LR		
	comp=N,540nm,11.6s,MS5.2						
KSH				LR	LR		
	comp=E,700nm,12.4s,MS5.2						
TKM2	**Tokmak 2**	**64.53**	**310**	P	**P**	**11 18 04.0**	**+0.5**
	SNR=15						
KZA	**Kyzart**	**64.81**	**309**	P	**P**	**11 18 06.8**	**+1.5**
	SNR=9.8						
HYB	**Hyderabad**	**64.89**	**281**	*i* P	**P**	**11 18 07.0**	**+0.7**
HYB	**Hyderabad**	**64.89**	**281**	*e*P	**P**	**11 18 07.0**	**+0.7**
KBK	**Karagaybulak**	**65.01**	**309**	P	**P**	**11 18 07.2**	**+0.5**
	SNR=8.8						
CHMS	**Chumysh**	**65.15**	**310**	P	**P**	**11 18 07.6**	**+0.1**
	SNR=7.5						
FRU	**Bishkek**	**65.25**	**309**	*e*P	**P**	**11 18 09.0**	**+0.8**
FRU				pmax	pmax		
	comp=Z,80nm,1.6s,mb5.5						
USP	**Ospenovka**	**65.32**	**310**	P	**P**	**11 18 08.6**	**0.0**
	SNR=9.0						
AAK	**Ala-Archa**	**65.35**	**309**	P	**P**	**11 18 09.1**	**+0.3**
	SNR=5.3						
AAK	**Ala-Archa**	**65.35**	**309**	*e*P	**P**	**11 18 07.3**	**-1.5**
	comp=Z,12nm,0.9s,mb4.9						
UCH	**Uchtor**	**65.35**	**309**	P	**P**	**11 18 10.2**	**+1.3**
	SNR=21						
EKS2	**Erkin-Say**	**65.88**	**309**	P	**P**	**11 18 12.6**	**+0.4**
	SNR=7.8						
AML	**Almayashu**	**65.96**	**309**	P	**P**	**11 18 13.9**	**+1.1**
	SNR=14						
VOSK	**Vostochnaya**	**67.53**	**320**	P	**P**	**11 18 21.3**	**-1.1**
VOSK				pmax	pmax		
	comp=Z,32nm,1.3s,mb5.2						
BVA0	**Borovoye Array**	**67.89**	**321**	*i* P	**P**	**11 18 24.1**	**-0.5**
BVA0				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
KKAR	**Karatay Array**	**68.25**	**310**	*i* P	**P**	**11 18 26.7**	**-0.4**
KKAR				pmax	pmax		
	comp=Z,37nm,0.9s,mb5.4						
ZRNK	**Zerenda**	**68.72**	**321**	P	**P**	**11 18 29.2**	**-0.7**
ZRNK				pmax	pmax		
	comp=Z,228nm,2.6s,mb5.6						
ZRNK	**Zerenda**	**68.72**	**321**	*e*P	**P**	**11 18 28.7**	**-1.1**
	comp=Z,16nm,0.8s,mb5.0						
INK	**Inuvik**	**69.59**	**23**	P	**P**	**11 18 35.2**	**+0.3**
	comp=Z,9.6nm,1.0s,mb4.7,baz=288,slow=4.7,SNR=4.0						
INK	**Inuvik**	**69.59**	**23**	P	**P**	**11 18 35.2**	**+0.3**
DLBC	**Dease Lake**	**71.24**	**33**	P	**P**	**11 18 44.9**	**-0.2**
	comp=Z,10nm,1.0s,mb4.7,baz=242,slow=4.4,SNR=13						
PPT	**Papeete**	**71.63**	**116**	*e*P	**P**	**11 18 47.3**	**-0.8**
PPT				*e*S	S	11 28 00.4	-1.7
PPT				*e*R		11 40 03.8	
	comp=Z,694nm,23.0s,baz=294						
TBI	**Tubuai**	**74.34**	**121**	*e*S	S	11 28 31.9	-0.8
TBI				*e*R		11 41 03.9	
	comp=Z,242nm,31.8s						
ARU	**Arti**	**74.44**	**325**	P	**P**	**11 19 04.8**	**+0.9**
	comp=Z,319nm,1.1s,SNR=16						
ARU	**Arti**	**74.44**	**325**	⇓*i*P	**P**	**11 19 03.8**	**-0.1**
ARU				*i*		11 19 13.2	
ARU				*e*		11 21 44.0	
ARU				*e*S	S	11 28 37.9	+4.8
ARU				*e*		11 29 10.6	
ARU				*e*SS	SS	11 33 23.9	+1.4
ARU				pmax	pmax		
	comp=Z,49nm,1.1s,mb5.3						
ARU	**Arti**	**74.44**	**325**	*e*P	**P**	**11 19 03.8**	**-0.1**
	comp=Z,86nm,1.1s,mb5.6						
AB31	**Akbulak array**	**74.78**	**317**	*i* P	**P**	**11 19 05.3**	**-0.7**
AB31				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.6						
OCWA	**Octopus Mounta**	**76.16**	**44**	*e*P	**P**	**11 19 14.3**	**+0.4**
	comp=Z,39nm,1.3s,mb5.2						
KEBM	**Edson Butte**	**77.05**	**49**	*e*P	**P**	**11 19 19.6**	**+0.5**
KEBM				*e*	pP	11 19 37.3	+2.9
GNW	**Green Mountain**	**77.09**	**44**	*e*P	**P**	**11 19 19.3**	**+0.1**
KBO	**Bosley Butte**	**77.27**	**50**	*e*P	**P**	**11 19 20.4**	**+0.1**
KBO				*e*	pP	11 19 39.7	+4.0
RPW	**Rockport**	**77.75**	**43**	P	**P**	**11 19 20.5**	**-2.3**
KHMM	**Horse Mountain**	**77.93**	**51**	*e*P	**P**	**11 19 25.1**	**+1.1**
LON	**Longmire**	**77.94**	**45**	*e*P	**P**	**11 19 20.4**	**-3.5**
YKA	**Yellowknife Ar**	**78.08**	**28**	P	**P**	**11 19 24.0**	**-0.3**
	comp=Z,7.5nm,0.9s,mb4.6,baz=292,slow=5.4,SNR=9.9						
HUMO	**Hull Mountain**	**78.10**	**49**	*e*P	**P**	**11 19 25.2**	**+0.4**
	comp=Z,18nm,1.2s,mb4.9						
YBH	**Yreka Blue Hor**	**78.48**	**50**	P	**P**	**11 19 27.8**	**+0.8**
	comp=Z,16nm,1.0s,mb4.9,baz=320,slow=1.6,SNR=21						
YBH	**Yreka Blue Hor**	**78.48**	**50**	*e*P	**P**	**11 19 27.3**	**+0.4**
	comp=Z,21nm,1.2s,mb4.9						
ETW	**Entiat**	**78.72**	**44**	P	**P**	**11 19 28.5**	**+0.3**
EBG	**Ellensburg**	**78.73**	**44**	P	**P**	**11 19 28.9**	**+0.7**
HOPS	**Hopland**	**78.87**	**53**	*e*P	**P**	**11 19 28.1**	**-1.1**
	comp=Z,23nm,1.4s,mb4.9						
WDC	**Whiskeytown Da**	**78.88**	**51**	*e*P	**P**	**11 19 28.8**	**-0.4**
	comp=Z,18nm,1.2s,mb4.9						
VGB	**Gordon Butte**	**78.94**	**46**	*e*P	**P**	**11 19 29.9**	**+0.5**
NSHM	**Saint Helena R**	**79.34**	**53**	P	**P**	**11 19 26.8**	**-4.9**
GBL	**Gable Mountain**	**79.55**	**44**	P	**P**	**11 19 33.5**	**+0.8**
HAWA	**Hanford**	**79.56**	**45**	*e*P	**P**	**11 19 31.0**	**-1.7**
	comp=Z,25nm,1.4s,mb5.0						
OHCM	**Honcut**	**79.98**	**52**	*e*P	**P**	**11 19 35.0**	**-0.1**
DPW	**Davenport**	**80.04**	**43**	*e*P	**P**	**11 19 35.1**	**-0.2**
MOD	**Modoc**	**80.18**	**49**	*e*P	**P**	**11 19 35.7**	**-0.5**
	comp=Z,14nm,1.1s,mb4.8						
LNOR	**Lincton Mounta**	**80.53**	**45**	*e*P	**P**	**11 19 38.2**	**+0.3**
NEW	**Newport**	**80.63**	**42**	P	**P**	**11 19 38.9**	**+0.4**
	comp=Z,26nm,1.3s,mb5.0,baz=270,slow=2.9,SNR=13						
NEW	**Newport**	**80.63**	**42**	*e*P	**P**	**11 19 38.8**	**+0.3**
	comp=Z,21nm,1.2s,mb4.9						
ASMM	**Slate Mountain**	**80.72**	**52**	*e*P	**P**	**11 19 37.5**	**-1.6**
CMB	**Columbia Colle**	**81.15**	**53**	*e*P	**P**	**11 19 39.8**	**-1.6**
	comp=Z,32nm,1.3s,mb5.1						
WVOR	**Wild Horse Val**	**81.23**	**48**	*e*P	**P**	**11 19 41.9**	**+0.2**
	comp=Z,22nm,1.1s,mb5.0						
WCN	**Washoe City**	**81.28**	**52**	*e*P	**P**	**11 19 42.9**	**+0.8**
	comp=Z,22nm,1.4s,mb4.9						
APA	**Apatity**	**82.19**	**339**	⇑*i*P	**P**	**11 19 46.4**	**+0.2**
APA				*i*	pP	11 19 57.0	-4.6
APA				*e*S	S	11 29 58.0	+2.4
APA				pmax	pmax		
	comp=Z,31nm,1.0s,mb5.2						
OMM	**Old Mammoth Mi**	**82.33**	**53**	P	**P**	**11 19 45.2**	**-2.3**
NVAR	**Mina Array Bea**	**82.61**	**52**	P	**P**	**11 19 49.7**	**+0.8**
	comp=Z,6.0nm,0.9s,mb4.6,baz=260,slow=6.1,SNR=26						
NVAR				LR	LR	11 51 52.8	
	comp=Z,173nm,20.8s,MS4.4,baz=25,slow=32						
NVAR	**Mina Array Bea**	**82.61**	**52**	P	**P**	**11 19 49.7**	**+0.8**
NVAR				LR	LR	11 51 52.8	
MNV	**Mina**	**82.73**	**52**	*e*P	**P**	**11 19 50.0**	**+0.5**
	comp=Z,14nm,1.2s,mb4.8						
MTUM	**Tungsten Hills**	**82.73**	**53**	P	**P**	**11 19 50.5**	**+1.0**
KEV	**Kevo**	**83.06**	**342**	*e*P	**P**	**11 19 51.0**	**+0.4**
KEV				pmax	pmax		
	comp=Z,11nm,0.5s,mb5.1						
KEV	**Kevo**	**83.06**	**342**	*e*P	**P**	**11 19 51.0**	**+0.4**
	comp=Z,11nm,0.5s,mb5.1						
TPH	**Tonopah**	**83.53**	**52**	*e*P	**P**	**11 19 51.5**	**-2.2**
	comp=Z,13nm,1.2s,mb5.0						
ARCES	**ARCESS Array B**	**83.62**	**342**	P	**P**	**11 19 54.3**	**+0.9**
	comp=Z,15nm,0.6s,mb5.3,baz=69,slow=6.9,SNR=24						
DAC	**Darwin (Calif)**	**83.79**	**54**	*e*P	**P**	**11 19 58.9**	**+3.9**
	comp=Z,8.2nm,1.0s,mb4.8						
HLID	**Hailey**	**83.85**	**46**	*e*P	**P**	**11 19 55.8**	**+0.7**
	comp=Z,27nm,1.4s,mb5.2						
ELK	**Elko**	**84.17**	**49**	*e*P	**P**	**11 19 57.2**	**+0.4**
	comp=Z,14nm,1.0s,mb5.1						
TPNV	**Topopah Spring**	**84.61**	**53**	*e*P	**P**	**11 19 58.0**	**-1.1**
	comp=Z,11nm,1.2s,mb4.9						
BOZ	**Bozeman (W)**	**85.03**	**44**	*e*P	**P**	**11 20 01.1**	**+0.2**
	comp=Z,7.1nm,0.9s,mb4.8						
PFO	**Pinyon Flat Ob**	**85.50**	**56**	*e*P	**P**	**11 20 02.4**	**-1.1**
	comp=Z,22nm,1.4s,mb5.2						
HVU	**Hansel Valley**	**85.58**	**48**	*e*P	**P**	**11 20 05.3**	**+1.5**
BGU	**Big Grassy Mou**	**85.69**	**48**	*e*P	**P**	**11 20 04.1**	**-0.2**
MOS	**Moscow**	**85.80**	**328**	*e*P	**P**	**11 20 04.9**	**+0.4**
MOS				*e*		11 23 23.8	
MOS				*e*S	S	11 30 33.8	+2.2
MOS				*e*SS	SS	11 36 10.5	-2.3
MOS				pmax	pmax		
	comp=Z,500nm,1.8s						
MOS				pmax	pmax		
	comp=Z,320nm,1.8s						
YMR	**Madison River**	**85.81**	**44**	*e*P	**P**	**11 20 06.6**	**+1.8**
SPUT	**South Promonto**	**85.97**	**48**	P	**P**	**11 20 06.6**	**+0.9**
DUG	**Dugway**	**86.10**	**49**	*e*P	**P**	**11 20 04.9**	**-1.4**
	comp=Z,20nm,1.1s,mb5.3						
NEN	**Nelson**	**86.11**	**54**	*e*P	**P**	**11 20 07.5**	**+1.0**
TPAW	**Teton Pass**	**86.24**	**46**	*e*P	**P**	**11 20 08.7**	**+1.7**
REDW	**Red Top Meadow**	**86.36**	**46**	*e*P	**P**	**11 20 08.0**	**+0.5**
RKT	**Rikitea**	**86.38**	**116**	*e*S	S	11 30 36.7	-1.3
SNOW	**Snow King Moun**	**86.39**	**45**	*e*P	**P**	**11 20 09.0**	**+1.3**
AHID	**Auburn Hatcher**	**86.40**	**46**	*e*P	**P**	**11 20 07.5**	**-0.3**
	comp=Z,19nm,1.0s,mb5.3						
HWUT	**Hardware Ranch**	**86.49**	**47**	*e*P	**P**	**11 20 09.0**	**+0.8**
	comp=Z,18nm,1.1s,mb5.2						
OBN	**Obninsk**	**86.62**	**327**	*c i*P	**P**	**11 20 08.3**	**-0.2**
OBN				*e*		11 23 30.6	
OBN				*e*SS	SS	11 36 24.3	-0.2
OBN				pmax	pmax		
	comp=Z,50nm,1.3s,mb5.6						
OBN				MLR	MLR		
	comp=Z,500nm,17.0s,MS5.0						
NLU	**North Lily Min**	**86.71**	**49**	*e*P	**P**	**11 20 09.6**	**+0.3**
TCUT	**Toone Canyon**	**86.78**	**48**	*e*P	**P**	**11 20 08.2**	**-1.5**
JLU	**Jordanelle**	**86.93**	**48**	*e*P	**P**	**11 20 11.0**	**+0.6**
MPU	**Maple Canyon**	**87.01**	**49**	*e*P	**P**	**11 20 12.0**	**+1.2**
DAU	**Daniels Canyon**	**87.14**	**48**	*e*P	**P**	**11 20 12.2**	**+0.8**
MSU	**Marysvale**	**87.14**	**50**	*e*P	**P**	**11 20 10.3**	**-1.1**
ZEI	**Tsey**	**87.28**	**314**	*e*P	**P**	**11 20 12.0**	**0.0**
ZEI				*e*		11 30 34.0	
ZEI				*e*S	S	11 30 46.0	0.0
ZEI				MLR	MLR		
	comp=Z,500nm,16.0s,MS5.0						
PDAR	**Pinedale Array**	**87.46**	**46**	P	**P**	**11 20 13.7**	**+0.8**
	comp=Z,1.3nm,0.9s,mb4.1,baz=297,slow=3.3,SNR=6.5						
PDAR				LR	LR	11 56 24.3	
	comp=Z,130nm,19.6s,MS4.3,baz=329,slow=34						
KAF	**Kangasniemi**	**87.65**	**336**	*e*P	**P**	**11 20 09.5**	**-3.8**
LAO	**LASA Array**	**88.11**	**41**	*e*P	**P**	**11 20 16.0**	**+0.2**
	comp=Z,32nm,1.3s,mb5.4						
FINES	**FINESS Array B**	**88.12**	**336**	P	**P**	**11 20 15.2**	**-0.4**
	comp=Z,11nm,0.8s,mb5.1,baz=101,slow=9.7,SNR=12						
FINES	**FINESS Array B**	**88.12**	**336**	*i* P	**P**	**11 20 18.1**	**+2.5**
FINES				pmax	pmax		
	comp=Z,11nm,0.8s						
SRU	**San Rafael**	**88.13**	**49**	*e*P	**P**	**11 20 16.3**	**+0.1**
CASY	**Casey**	**88.28**	**194**	*e*P	**P**	**11 20 16.5**	**+0.3**
	comp=Z,11nm,1.2s,mb5.0						
WUAZ	**Wupatki**	**88.81**	**53**	*e*P	**P**	**11 20 20.6**	**+1.1**
	comp=Z,16nm,1.0s,mb5.3						
PV10	**Paradox Valley**	**89.48**	**50**	*e*P	**P**	**11 20 23.6**	**+1.0**
SOC	**Sochi**	**89.77**	**316**	*e*P	**P**	**11 20 27.0**	**+3.2**
SOC				*e*S	S	11 31 13.9	+4.8
SOC				pmax	pmax		
	comp=Z,21nm,1.0s,mb5.4						
SOC				pmax	pmax		
	comp=N,10.0nm,0.8s						
SOC				pmax	pmax		
	comp=E,16nm,1.2s						
SOC				MLR	MLR		
	comp=Z,585nm,24.0s,MS4.9						
SOC				MLR	MLR		
	comp=N,686nm,25.0s,MS5.2						
SOC				MLR	MLR		
	comp=E,633nm,20.0s,MS5.2						
TUC	**Tucson**	**90.42**	**56**	*e*P	**P**	**11 20 27.6**	**+0.4**
	comp=E,14nm,1.4s,mb5.1						
RSSD	**Black Hills**	**90.59**	**43**	*e*P	**P**	**11 20 28.1**	**+0.4**
	comp=E,4.5nm,0.8s,mb4.8						
SDCO	**Great Sand Dun**	**92.30**	**49**	*e*P	**P**	**11 20 37.1**	**+1.4**
	comp=E,6.6nm,1.1s,mb4.9						
AKASG	**Malin Array Be**	**92.67**	**326**	P	**P**	**11 20 36.4**	**-0.7**
	comp=E,2.8nm,0.8s,mb4.7,baz=45,slow=4.7,SNR=6.2						
ANMO	**Albuquerque**	**92.74**	**52**	⇓*e*P	**P**	**11 20 39.0**	**+1.2**
ANMO	**Albuquerque**	**92.74**	**52**	⇓*e*P	**P**	**11 20 39.0**	**+1.2**
ANMO	**Albuquerque**	**92.74**	**52**	*e*P	**P**	**11 20 38.8**	**+1.0**
	comp=E,6.5nm,1.2s,mb4.9						
MALT	**Malatya**	**92.88**	**312**	*e*P	**P**	**11 20 37.5**	**-0.9**
HFS	**Hagfors**	**93.58**	**339**	P	**P**	**11 20 40.9**	**-0.1**
	comp=E,3.2nm,0.5s,mb5.0,baz=72,slow=4.7,SNR=4.8						
NB2	**NORSAR Subarra**	**93.74**	**340**	P	**P**	**11 20 41.0**	**-0.7**
	comp=E,4.9nm,1.0s,mb4.9,baz=41,slow=4.8						
NOA	**NORSAR Array B**	**93.74**	**340**	P	**P**	**11 20 41.5**	**-0.2**
	comp=E,1.5nm,0.6s,mb4.6,baz=45,slow=4.6,SNR=5.2						
NOA	**NORSAR Array B**	**93.74**	**340**	P	**P**	**11 20 41.5**	**-0.2**
SUW	**Suwalki**	**93.80**	**331**	*e*P	**P**	**11 20 41.9**	**-0.2**
BRTR	**Keskin Array B**	**95.57**	**315**	P	**P**	**11 20 50.0**	**-0.5**
	comp=E,4.4nm,0.8s,mb5.0,baz=90,slow=2.5,SNR=7.6						
KWP	**Kalwaria**	**96.71**	**327**	*e*P	**P**	**11 20 55.3**	**-0.2**
KWP				*e**PP	pP	11 21 03.9	-7.4
TXAR	**Lajitas Array**	**97.22**	**56**	P	**P**	**11 20 59.6**	**+1.3**
	comp=E,1.5nm,1.1s,mb4.3,baz=270,slow=2.5,SNR=4.9						
TXAR				PKKPbc		11 37 43.3	
	comp=E,0.4nm,1.0s,baz=108,slow=5.7,SNR=3.6						
TXAR				LR	LR	12 03 34.0	
	comp=E,140nm,18.6s,MS4.5,baz=205,slow=35						
KECS	**Kecovo**	**98.57**	**327**	*e*P	**P**	**11 20 59.4**	**-4.6**
DPC	**Dobruska-Polom**	**99.39**	**331**	*e*PP	PP	11 25 09.2	-4.5
VYHS	**Vyhne**	**99.40**	**328**	*e*P	**P**	**11 21 08.3**	**+0.5**
VYHS				*e*		11 21 16.9	
VYHS				*e*PP	PP	11 25 09.2	-4.6
PVCC	**Panska Ves**	**100.08**	**331**	*e*PP	PP	11 25 17.1	-2.0
CLL	**Collm**	**100.22**	**333**	*i* PP	PP	11 25 17.5	-2.8
CLL				*i* *PPP		11 25 26.2	
CLL	**Collm**	**100.22**	**333**	*i* PP	PP	11 25 17.5	-2.8
PRU	**Pruhonice**	**100.47**	**331**	*e*PP	PP	11 25 20.0	-2.3
KHC	**Kasperske Hory**	**101.52**	**331**	*e*PP	PP	11 25 28.0	-2.2
KHC	**Kasperske Hory**	**101.52**	**331**	*e*PP	PP	11 25 28.0	-2.2
GERES	**GERESS Array B**	**101.66**	**331**	PP	PP	11 25 29.6	-1.6
	comp=E,1.6nm,0.9s,baz=59,slow=7.8,SNR=7.0						
EKA	**Eskdalemuir Ar**	**102.78**	**343**	PP	PP	11 25 38.2	-1.4
	comp=E,2.4nm,1.1s,baz=54,slow=7.2,SNR=5.1						
SYO	**Syowa Base**	**112.84**	**202**	⇓PKiKP		11 26 02.1	
SYO	**Syowa Base**	**112.84**	**202**	⇓PP	PP	11 26 50.1	-3.7
ESDC	**Sonseca Array**	**116.63**	**335**	PP	PP	11 27 16.0	-5.3
	comp=E,0.4nm,0.4s,baz=28,slow=8.3,SNR=4.8						
LSZ	**Lusaka**	**121.56**	**263**	*e*PKPdf	PKPdf	11 26 20.5	+2.2
SNAA	**Sanae**	**123.41**	**191**	*e*PKPdf	PKPdf	11 26 21.5	+0.8
SDV	**Santo Domingo**	**134.25**	**57**	*e*PKPdf	PKPdf	11 26 43.8	+1.0
PLCA	**Paso Flores**	**140.54**	**133**	PKhKP		11 26 49.4	
	comp=E,1.1nm,0.6s,baz=146,slow=13,SNR=3.9						
PLCA				PKP	PKPdf	11 26 56.5	+2.8
	comp=E,3.0nm,0.9s,baz=184,slow=3.9,SNR=5.5						
PLCA	**Paso Flores**	**140.54**	**133**	PKP	PKPdf	11 26 56.5	+2.8
DBIC	**Dimbokro**	**143.03**	**309**	PKhKP		11 26 57.3	
	comp=E,38nm,1.3s,baz=318,slow=1.0,SNR=7.2						
LPAZ	**La Paz**	**146.38**	**93**	PKPbc	PKPbc	11 27 08.2	+2.6
	comp=E,7.0nm,0.8s,baz=322,slow=0.5,SNR=12						
LPAZ	**La Paz**	**146.38**	**93**	*e*PKP	PKPdf	11 27 07.7	+3.3
TRQA	**Tornquist**	**147.67**	**134**	*e*PKPbc	PKPdf	11 27 10.6	+4.7
SAML	**Samuel**	**149.32**	**77**	*e*PKPbc	PKPdf	11 27 14.7	+5.5

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*HEL **01** 11:21:08.0±0.2,59.71N×22.29E,ML2.1,ML2.7(UPP), ML2.3(NAO),Explosion*

*BER **01** 11:21:09.7±3.5,59.94N×22.13E,ML2.3(NAO), Suspected explosion*

*NAO **01** 11:21:10.8±2.4,60.13N×22.06E,ML2.3*

*IDC **01** 11:21:10.5±1.6,60.04N×22.23E,mb1 2.9/4, mb1mx2.8/21,ML2.8/4,Error ellipse: s-maj=22.0km s-min=6.2km az=160.0*

ISC 01 11:21:07.0±0.9**,59.71N**±0.09×**22.30E**±0.06**,n20,**σ**0^{s}86**/32**,**
Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAL	**Aland**	**1.25**	**293**	*e*P	**Pb**	**11 21 30.2**	**-1.0**
AAL				*e*S	**Sb**	**11 21 46.5**	**-1.3**
NRTU	**Norrtaelje**	**1.86**	**271**	*e*P	**Pn**	**11 21 41.1**	**+0.7**
PVF	**Pernaja**	**1.97**	**63**	*e*P	**Pn**	**11 21 42.5**	**+0.6**
PVF				*e*S	**Sn**	**11 22 07.2**	**-0.5**
PVF				MSG		11 22 11.7	
	comp=Z,11nm,0.1s						
GRAU	**Graesoe**	**1.99**	**290**	*e*P	**Pn**	**11 21 42.3**	**0.0**
GRAU				*e*S	**Sn**	**11 22 08.0**	**-0.2**
FLYU	**Flymyra**	**2.26**	**283**	*e*P	**Pn**	**11 21 46.4**	**+0.3**
FIA0	**FINESS Array S**	**2.55**	**45**	*e*P	**Pn**	**11 21 51.2**	**+1.0**
FIA0				*e*S	**Sn**	**11 22 22.0**	**-0.4**
FIA0				MSG		11 22 24.8	
	comp=Z,9.2nm,0.1s						
FIA0	**FINESS Array S**	**2.55**	**45**	Pn	**Pn**	**11 21 51.2**	**+0.9**
	baz=226,slow=16						
FIA0				Lg		11 22 23.9	
	baz=233,slow=22						
FINES	**FINESS Array B**	**2.55**	**45**	Pn	**Pn**	**11 21 51.2**	**+1.0**
	comp=Z,2.1nm,0.3s,baz=233,slow=14,SNR=52						
FINES				Lg		11 22 23.9	
	comp=Z,5.2nm,0.3s,baz=235,slow=22,SNR=24						
BACU	**Backbrunna**	**2.63**	**275**	*e*P	**Pn**	**11 21 52.1**	**+0.6**
OSTU	**Oestervaala**	**2.65**	**284**	*e*P	**Pn**	**11 21 52.1**	**+0.4**
IGGU	**Iggoen**	**2.74**	**297**	*e*P	**Pn**	**11 21 53.1**	**+0.1**
VJF	**Virojoki**	**2.76**	**70**	*e*P	**Pn**	**11 21 53.4**	**+0.1**
VJF				*e*S	**Sn**	**11 22 26.0**	**-1.7**
KEF	**Keuruu**	**2.76**	**26**	*e*P	**Pn**	**11 21 54.5**	**+1.1**
KEF				*e*S	**Sn**	**11 22 28.8**	**+0.9**
KEF				MSG		11 22 32.6	
	comp=Z,4.8nm,0.3s						
HFS	**Hagfors**	**4.35**	**279**	*e*P	**Pn**	**11 22 15.3**	**-0.6**
HFS				*e*PG	**Pg**	**11 22 25.3**	**-8.6**
HFS				*e*SB	**Sb**	**11 23 18.9**	**+1.1**
HFS	**Hagfors**	**4.35**	**279**	Pn	**Pn**	**11 22 16.3**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=107,slow=13,SNR=12						
HFS				Pg	**Pg**	**11 22 25.3**	**-8.7**
	comp=Z,0.2nm,0.3s,baz=97,slow=14,SNR=11						
HFS				Lg		11 23 21.9	
	comp=Z,0.3nm,0.3s,baz=96,slow=30,SNR=7.7						
HFS	**Hagfors**	**4.35**	**279**	Pn	**Pn**	**11 22 15.3**	**-0.6**
	baz=103,slow=11						
HFS				Pg	**Pg**	**11 22 25.3**	**-8.6**
	baz=98,slow=16						
HFS				Lg		11 23 18.9	
	baz=92,slow=28						
NOA	**NORSAR Array B**	**5.66**	**288**	Pn	**Pn**	**11 22 32.7**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=17,slow=14,SNR=2.1						
NOA				Lg		11 24 00.6	
	comp=Z,0.6nm,0.3s,baz=20,slow=18,SNR=3.8						
ARA0	**ARCESS Array S**	**9.96**	**7**	Pn	**P**	**11 23 28.6**	**-5.6**
	baz=180,slow=16						
ARA0				Sn	**Sn**	**11 25 13.3**	**-15**
	baz=191,slow=28						
ARA0	**ARCESS Array S**	**9.96**	**7**	*e*P	**P**	**11 23 28.6**	**-5.6**
ARA0				*e*		11 25 13.3	
ARCES	**ARCESS Array B**	**9.96**	**7**	Pn	**P**	**11 23 28.6**	**-5.6**
	comp=Z,0.2nm,0.3s,baz=184,slow=14,SNR=10						
ARCES				Sn	**Sn**	**11 25 12.4**	**-16**
	comp=Z,0.2nm,0.3s,baz=196,slow=23,SNR=3.1						

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*NAO **01** 11:28:53.2±3.8,62.31N×28.72E,ML2.4*

*BER **01** 11:28:56.7±3.1,60.95N×28.91E,ML2.4(NAO), Suspected explosion*

HEL 01 11:28:55.5±0.4**,60.92N×28.96E,ML1.5,ML2.4**(NAO),
Explosion,Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VJF	**Virojoki**	**0.79**	**242**	*e*P	Pg	11 29 09.8	-1.4
VJF				*e*S	Sg	11 29 19.9	-1.8
FIA0	**FINESS Array S**	**1.49**	**292**	*e*P	Pn	11 29 21.4	-2.3
FIA0				*e*S	Sb	11 29 41.9	-1.4
FIA0	**FINESS Array S**	**1.49**	**292**	Pn	Pn	11 29 21.4	-2.2
	baz=112,slow=16						
FIA0				Lg		11 29 42.1	
	baz=110,slow=37						
FIA0				Rg		11 29 49.2	
	baz=118,slow=37						
PVF	**Pernaja**	**1.57**	**258**	*e*P	Pn	11 29 22.7	-2.0
PVF				*e*S	Sb	11 29 43.8	-1.6
KAF	**Kangasniemi**	**1.75**	**315**	*e*P	Pn	11 29 26.5	-0.9
KAF				*e*S	Sn	11 29 48.5	-2.2
SUF	**Sumiainen**	**2.25**	**325**	*e*P	Pn	11 29 34.3	-0.1
SUF				MSG		11 30 07.5	
	comp=Z,2.3nm,0.1s						
KEF	**Keuruu**	**2.33**	**304**	*e*P	Pn	11 29 35.2	-0.4
KEF				MSG		11 30 07.4	
	comp=Z,1.4nm,0.1s						
HFS	**Hagfors**	**7.57**	**271**	Lg		11 32 51.2	
	baz=64,slow=28						
HFS	**Hagfors**	**7.57**	**271**	*e*SG		11 32 51.2	
HFS	**Hagfors**	**7.57**	**271**	Lg		11 32 51.2	
	baz=64,slow=28						

IDC 01 11:39:02.3±3.1**,18.20N×147.17E,mb3.7**/6**,mb1 3.8**/6**,**
mb1mx3.7/20**,Error ellipse: s-maj=101.0km**
s-min=23.2km az=80.0,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**39.94**	**199**	P	P	11 46 37.4	-2.8
	1.3nm,1.1s,baz=31,slow=8.8,SNR=6.5						
ASAR	**Alice Springs**	**43.58**	**198**	P	P	11 47 09.3	-0.7
	0.5nm,0.8s,baz=21,slow=8.1,SNR=5.7						
SONM	**Songino Array**	**44.41**	**321**	P	P	11 47 15.1	-1.4
	0.3nm,0.4s,baz=126,slow=10.0,SNR=2.5						
CMAR	**Chiang Mai Arr**	**45.67**	**278**	P	P	11 47 24.9	-2.0
	0.4nm,0.5s,baz=66,slow=6.1,SNR=4.4						
MKAR	**Makanchi Array**	**59.81**	**314**	P	P	11 49 10.0	-1.8
	1.1nm,1.0s,baz=106,slow=8.8,SNR=5.7						
BVAR	**Borovoye Array**	**67.75**	**321**	P	P	11 50 01.2	-2.5
	1.4nm,0.6s,baz=90,slow=7.4,SNR=9.3						

IDC 01 11:43:29.0±1.2**,17.94N×147.33E,mb3.6**/6**,mb1 3.8**/6**,**
mb1mx3.7/19**,Error ellipse: s-maj=43.3km**
s-min=23.6km az=101.0,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**39.75**	**199**	P	P	11 51 03.5	-1.8
	0.7nm,0.8s,baz=33,slow=8.9,SNR=5.4						

ASAR	**Alice Springs**	**43.38**	**198**	P	P	11 51 33.3	-1.8
	0.3nm,0.7s,baz=24,slow=7.4,SNR=2.9						
CMAR	**Chiang Mai Arr**	**45.86**	**279**	P	P	11 51 53.5	-1.6
	0.4nm,0.4s,baz=69,slow=5.4,SNR=4.1						
MKAR	**Makanchi Array**	**60.10**	**314**	P	P	11 53 38.6	-1.8
	0.5nm,0.6s,baz=90,slow=8.8,SNR=5.3						
ILAR	**Eielson Array**	**63.64**	**26**	P	P	11 54 02.1	-1.8
	0.3nm,1.0s,baz=249,slow=6.5,SNR=3.3						
FINES	**FINESS Array B**	**88.22**	**336**	P	P	11 56 20.2	-2.7
	1.4nm,0.7s,baz=121,slow=11,SNR=3.8						

WEL 01 11:51:59.4±0.3**, 45.09S**×**167.42E, h94**^{km}±3^{km}**, ML4.3**/7**, 2C-4D, Error ellipse: s-maj=2.9km s-min=1.5km az=90.0, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.43**	**205**	PN	P	11 52 13.6	-0.6
DCZ				SN	S	11 52 24.6	-0.6
MSZ	**Milford Sound**	**0.55**	**41**	⇑PN	P	11 52 15.0	-0.1
MSZ				SN	S	11 52 26.2	-0.7
MLZ	**Mavora Lakes**	**0.59**	**116**	⇓PN	P	11 52 15.1	-0.4
MLZ				SN	S	11 52 26.9	-0.6
WHZ	**Wether Hill Ro**	**0.89**	**155**	⇓PN	P	11 52 18.1	-0.3
WHZ				SN	S	11 52 31.9	-0.6
WKZ	**Wanaka**	**1.17**	**78**	⇓PN	P	11 52 21.3	-0.4
WKZ				SN	S	11 52 37.0	-1.2
JCZ	**Jackson Bay**	**1.39**	**44**	⇑PN	P	11 52 23.4	-1.1
JCZ				SN	S	11 52 40.9	-2.2
TUZ	**Tuapeka**	**1.78**	**120**	⇓PN	P	11 52 28.6	-0.8
TUZ				SN	S	11 52 49.2	-2.3
ODZ	**Otahua Downs**	**2.29**	**90**	PN	P	11 52 34.2	-2.0
ODZ				SN	S	11 52 59.2	-4.3
RPZ	**Rata Peaks**	**2.94**	**64**	PN	P	11 52 41.7	-3.6
RPZ				SN	S	11 53 14.8	-5.0
WVZ	**Waitaha Valley**	**3.12**	**51**	PN	P	11 52 43.9	-3.9
WVZ				SN	S	11 53 18.6	-5.6
LTZ	**Lake Taylor**	**4.19**	**58**	PN	P	11 52 57.8	-4.7
DSZ	**Denniston Nort**	**4.62**	**45**	PN	P	11 53 04.1	-4.3
THZ	**Tophouse**	**5.20**	**52**	PN	P	11 53 11.1	-5.0
THZ				SN	S	11 54 08.1	-7.3

*MOS **01** 12:02:29.8±0.7, 17.84N×146.75E, h33^{km}, mb5.8/20, MS5.0/16, Error ellipse: s-maj=26.1km s-min=7.7km az=115.4*

*IDC **01** 12:02:30.2±2.4, 17.91N×147.17E, h27^{km}±15^{km}, mb5.0/24, mb1 5.0/27, mb1mx5.0/28, ML4.7/3, MS4.7/24, Ms1 4.7/24, ms1mx4.6/29, Error ellipse: s-maj=15.9km s-min=11.0km az=89.0*

*BJI **01** 12:02:32.3, 18.21N×146.93E, h41^{km}, mB5.5, mb5.2, Ms5.0, Msz4.8*

*HRVD **01** 12:02:34.4±0.2, 17.91N×147.43E, h15^{km}, MW5.4/65, Centroid moment Tensor Solution. LP body waves: s54,c94;Mantle waves: s65,c125; Half duration: 1^{s}2 Moment tensor: Scale 10^{17}Nm; M$_{rr}$0.80±.02; M$_{\theta\theta}$0.15±.02; M$_{\phi\phi}$-0.94±.02; M$_{r\theta}$0.15±.06; M$_{\theta\phi}$0.02±.01; M$_{\phi r}$1.17±.05; Best double couple: M$_0$1.47×10^{17} NP1:ϕ_s169°,δ19°,λ74°. NP2:ϕ_s6°,δ72°,λ95°. Principal axes: T 1.4, Plg63°, Azm284°; N .13, Plg5°, Azm184°; P -1.53, Plg27°, Azm92°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **01** 12:02:34.4±0.7, 17.89N×147.00E, h61^{km}±6^{km}, mb5.2/75 Error ellipse: s-maj=5.0km s-min=4.5km az=94.0*

ISC 01 12:02:32.5±0.6**, 17.93N**±0.03×**147.00E**±0.03**, h54**^{km}±5^{km}**, h45**^{km}±1.4^{km}**: pP-P, n366,** σ**1**^{s}**08**/303**, mb5.3**/122**, MS4.8**/107**, 17C-10D, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SARN	**Sarigan**	**1.70**	**224**	*e*P	**P**	**12 03 01.8**	**+1.4**
ANA2	**Anatahan**	**2.01**	**218**	⇑*e*P	**P**	**12 03 06.0**	**+1.4**
ANAT	**Anatahan**	**2.03**	**219**	*e*P	**P**	**12 03 06.4**	**+1.4**
SAPN	**Saipan**	**2.96**	**204**	⇓*i*P	**P**	**12 03 18.1**	**-0.1**
SAPN				*e*S	**S**	**12 03 54.9**	**+2.3**
GUMO	**Guam**	**4.78**	**206**	*e*P	**P**	**12 03 42.2**	**-1.7**
CBIJ	**Chichi jima**	**10.14**	**335**	Pn	**P**	**12 04 59.4**	**+1.2**
	13nm,0.3s,baz=103,slow=23,SNR=4.2						
CBIJ				Sn	**S**	**12 06 50.1**	**-1.3**
	16nm,0.3s,baz=275,slow=19,SNR=4.4						
JHJ	**Hachijo jima 2**	**16.45**	**338**	Pn	**P**	**12 06 24.8**	**+3.6**
	11nm,0.3s,baz=185,slow=14,SNR=6.7						
JOW	**Kunigami**	**19.43**	**300**	P	**P**	**12 06 57.7**	**+0.5**
	7.2nm,0.3s,baz=129,slow=11,SNR=35						
JOW				LR	LR	12 13 46.5	
	comp=Z,5μm,18.7s,baz=247,slow=35						
MAJO	**Matsushiro**	**20.10**	**339**	*e*P	**P**	**12 07 03.0**	**-1.3**
	326nm,0.8s						
MAJO				LR	LR		
	comp=Z,845nm,20.0s,MS4.1						
MAT	**Matsushiro**	**20.10**	**339**	P	**P**	**12 07 02.3**	**-2.0**
MAT				S	**S**	**12 10 48.0**	**+5.9**
MAT	**Matsushiro**	**20.10**	**339**	*e*P	**P**	**12 07 02.0**	**-2.3**
	comp=Z,56nm,0.8s						
MAT				*e*S	**S**	**12 10 48.0**	**+5.9**
MAT				LR	LR		
	comp=Z,2μm,19.0s,MS4.5						
JNU	**Nakatsue**	**20.94**	**319**	P	**P**	**12 07 12.9**	**-0.1**
	comp=Z,78nm,1.0s,baz=120,slow=11,SNR=21						
JNU				LR	LR	12 14 26.1	
	comp=Z,2μm,18.7s,MS4.5,baz=134,slow=34						
KWAJ	**Kwajalein Atol**	**21.99**	**112**	PFAKE		12 07 30.0	+6.4
KWAJ				LR	LR		
	comp=Z,681nm,21.0s,MS4.0						
PVCP	**Virac**	**22.40**	**262**	*e*P	**P**	**12 07 31.0**	**+3.4**
BBP	**Basco**	**23.77**	**280**	*e*P	**P**	**12 07 44.5**	**+3.5**
CVP	**Callao Caves**	**23.97**	**273**	*e*P	**P**	**12 07 45.0**	**+2.1**
CAUP	**Cauayan**	**24.04**	**271**	*e*P	**P**	**12 07 46.5**	**+2.9**
POLP	**Polilio Island**	**24.25**	**266**	*e*P	**P**	**12 07 49.0**	**+3.2**
BALP	**Baler**	**24.43**	**269**	*e*P	**P**	**12 07 49.2**	**+1.8**
APYP	**Conner**	**24.51**	**274**	*e*P	**P**	**12 07 47.7**	**-0.5**
SNPH	**Sibulan**	**24.60**	**253**	*e*P	**P**	**12 07 51.0**	**+1.9**
TATO	**Taipei**	**24.73**	**291**	*e*P	**P**	**12 07 50.5**	**+0.2**
LQP	**Lukban**	**24.76**	**265**	⇓*e*P	**P**	**12 07 52.1**	**+1.4**
ABRA	**Dolores**	**25.03**	**273**	*e*P	**P**	**12 07 54.4**	**+1.2**
TGY	**Tagaytay City**	**25.33**	**265**	P	**P**	**12 07 59.1**	**+3.0**
	comp=Z,240nm,1.0s,mb5.7,baz=298,slow=20,SNR=3.0						
KS15	**Wonju Array Si**	**25.68**	**323**	*e*P	**P**	**12 07 58.4**	**-0.7**
SCZP	**Santa Cruz**	**26.01**	**269**	*e*P	**P**	**12 07 54.1**	**-8.2**
ASAJ	**Asahikawa**	**26.36**	**353**	P	**P**	**12 08 08.4**	**+3.0**
	comp=Z,35nm,0.7s,mb5.0,baz=263,slow=9.8,SNR=11						
ASAJ				LR	LR	12 19 50.2	
	comp=Z,1μm,18.9s,MS4.5,baz=328,slow=39						
INCN	**Inchon**	**26.44**	**322**	*e*P	**P**	**12 08 05.5**	**-0.7**
	comp=Z,301nm,1.3s,mb5.7						
SSE	**Sheshan**	**26.82**	**304**	P	**P**	**12 08 09.5**	**-0.2**
SSE				AP	pP	12 08 22.4	-0.8
SSE				XP	sP	12 08 28.5	-1.3
SSE				S	**S**	**12 12 39.6**	**-0.5**
SSE				XS		12 13 01.8	
SSE				AMB	AMB		
	comp=Z,40nm,1.2s,mb4.8						
SSE				AMB	AMB		
	comp=Z,260nm,11.0s						
SSE				LR	LR		
	comp=N,1μm,32.9s,MS4.3						
SSE				LR	LR		
	comp=E,910nm,33.0s,MS4.3						
SSE				LR	LR		
	comp=Z,1μm,32.4s,MS4.2						
QZH	**Quanzhou**	**27.31**	**290**	⇓*i*P	**P**	**12 08 13.9**	**-0.4**
QZH				AP	pP	12 08 24.4	-3.5
QZH				PP	PP	12 08 59.2	-3.6
QZH				*e*S	**S**	**12 12 47.4**	**-0.8**
QZH				XS		12 13 05.0	
QZH				AMB	AMB		
	comp=Z,170nm,1.0s,mb5.5						
QZH				LR	LR		
	comp=N,3μm,17.2s,MS5.1						
QZH				LR	LR		
	comp=E,3μm,15.6s,MS5.1						
QZH				LR	LR		
	comp=Z,5μm,20.2s,MS5.1						
NJ2	**Nanjing**	**29.02**	**304**	*e*P	**P**	**12 08 30.6**	**+1.0**
NJ2				AP	pP	12 08 42.6	-0.7
NJ2				XP	sP	12 08 48.3	-1.6
NJ2				S	**S**	**12 13 18.3**	**+2.8**
NJ2				AMB	AMB		
	comp=Z,100nm,0.7s,mb5.7						
NJ2				AMB	AMB		
	comp=Z,690nm,7.4s						
NJ2				LR	LR		
	comp=Z,20μm,17.0s,MS5.8						
MDJ	**Mudanjiang**	**30.35**	**335**	P	**P**	**12 08 41.1**	**-0.1**
MDJ				AP	pP	12 08 51.0	-4.0
MDJ				XP	sP	12 08 56.8	-4.9
MDJ				S	**S**	**12 13 38.6**	**+2.2**
MDJ				AMB	AMB		
	comp=Z,36nm,1.3s,mb4.9						
MDJ				AMB	AMB		
	comp=Z,324nm,3.8s						
MDJ				LR	LR		
	comp=N,1μm,15.9s,MS4.7						
MDJ				LR	LR		
	comp=E,717nm,18.0s,MS4.7						
MDJ				LR	LR		
	comp=Z,1μm,20.1s,MS4.6						
MDJ	**Mudanjiang**	**30.35**	**335**	*e*P	**P**	**12 08 40.8**	**-0.4**
	comp=Z,40nm,1.1s,mb5.1						
DL2	**Dalian**	**30.39**	**319**	*e*P	**P**	**12 08 37.0**	**-4.7**
DL2				S	**S**	**12 13 36.7**	**-0.5**
DL2				LR	LR		
	comp=E,600nm,16.3s						
DL2				LR	LR		
	comp=Z,610nm,21.8s						
SNY	**Shenyang**	**31.11**	**325**	⇑P	**P**	**12 08 45.4**	**-2.6**
SNY				AP	pP	12 08 54.3	-7.5
SNY				XS		12 14 10.4	
SNY				AMB	AMB		
	comp=Z,60nm,1.0s,mb5.4						
SNY				LR	LR		
	comp=N,2μm,16.7s						
SNY				LR	LR		
	comp=Z,2μm,19.1s,MS4.7						
CN2	**Changchun**	**31.55**	**329**	*e*P	**P**	**12 08 51.4**	**-0.4**
CN2				*e*AP	pP	12 09 03.8	-1.9
CN2				PP	PP	12 09 52.7	-4.7
CN2				PCP	PcP	12 11 42.4	-1.1
CN2				*e*S	**S**	**12 13 56.5**	**+1.2**
CN2				SS	SS	12 15 45.9	-0.8
CN2				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.9						
CN2				AMB	AMB		
	comp=Z,400nm,9.0s						
CN2				LR	LR		
	comp=N,2μm,18.0s,MS4.9						
CN2				LR	LR		
	comp=E,1μm,18.0s,MS4.9						
CN2				LR	LR		
	comp=Z,2μm,21.0s,MS4.8						
GZH	**Guangzhou**	**31.89**	**285**	P	**P**	**12 08 52.0**	**-3.0**
GZH				LR	LR		
	comp=N,599nm,16.3s,MS4.7						
GZH				LR	LR		
	comp=E,1μm,16.7s,MS4.7						
GZH				LR	LR		
	comp=Z,2μm,18.6s,MS4.9						
WHN	**Wuhan**	**32.19**	**299**	*e*P	**P**	**12 08 57.2**	**-0.4**
WHN				PP	PP	12 10 06.0	+0.2
WHN				LR	LR		
	comp=N,390nm,15.0s,MS5.1						
WHN				LR	LR		
	comp=E,3μm,17.2s,MS5.1						
WHN				LR	LR		
	comp=Z,4μm,18.9s,MS5.1						
KKM	**Kota Kinabalu**	**32.28**	**252**	⇓*e*P	**P**	**12 08 59.0**	**+0.4**
KAKA	**Kakadu**	**33.68**	**206**	*e*P	**P**	**12 09 08.9**	**-1.7**
	comp=Z,10nm,0.7s,mb4.9						
BJT	**Baijiatuau**	**34.53**	**316**	*e*P	**P**	**12 09 15.8**	**-1.9**
	comp=Z,70nm,1.0s,mb5.5						
BJT				LR	LR		
	comp=Z,2μm,19.0s,MS4.9						
BJI	**Beijing**	**34.54**	**316**	P	**P**	**12 09 16.9**	**-0.9**
BJI				AP	pP	12 09 30.2	-1.6
BJI				XP	sP	12 09 36.0	-2.6
BJI				S	**S**	**12 14 37.6**	**-4.2**
BJI				XS		12 15 03.8	
BJI				AMB	AMB		
	comp=Z,76nm,1.2s,mb5.5						
BJI				AMB	AMB		
	comp=Z,333nm,3.8s						
BJI				LR	LR		
	comp=N,1μm,19.9s,MS4.8						
BJI				LR	LR		
	comp=E,1μm,16.9s,MS4.8						
BJI				LR	LR		
	comp=Z,1μm,18.0s,MS4.7						
QIZ	**Qiongzhong**	**35.22**	**278**	P	**P**	**12 09 24.8**	**+1.0**
QIZ				AP	pP	12 09 37.1	-0.7
QIZ				PP	PP	12 10 46.8	+2.8
QIZ				*e*S	**S**	**12 15 00.7**	**+8.2**
QIZ				AMB	AMB		
	comp=Z,36nm,0.9s,mb5.3						
QIZ				LR	LR		
	comp=E,1μm,19.2s						
QIZ				LR	LR		
	comp=Z,2μm,20.1s,MS4.9						
QIZ	**Qiongzhong**	**35.22**	**278**	*e*P	**P**	**12 09 24.4**	**+0.7**
	comp=Z,28nm,0.9s,mb5.2						
QIZ				LR	LR		
	comp=Z,2μm,19.0s,MS5.0						
PET	**Petropavlovsk**	**36.18**	**12**	*e*P	**P**	**12 09 33.9**	**+2.3**
PET				*e*S	**S**	**12 15 10.8**	**+3.8**
PET				*e*SS	SS	12 17 30.8	-2.3
PET				pmax	pmax		
	comp=Z,100nm,10.9s						
PET				smax			
	comp=E,500nm,14.2s						
PET				smax			
	comp=N,200nm,12.3s						
PET				MLR	MLR		
	comp=Z,900nm,21.0s,MS4.5						
PET				MLR	MLR		
	comp=Z,800nm,16.0s						
PET				MLR	MLR		
	comp=Z,1μm,16.4s						
ENH	**Enshi**	**36.22**	**297**	*e*P	**P**	**12 09 31.9**	**-0.2**
	comp=Z,17nm,0.7s,mb5.1						
ENH				LR	LR		
	comp=Z,1μm,20.0s,MS4.8						
XAN	**Xi’an**	**37.55**	**303**	P	**P**	**12 09 40.5**	**-2.8**
XAN				LR	LR		
	comp=N,526nm,18.4s,MS4.5						
XAN				LR	LR		
	comp=E,613nm,20.5s,MS4.5						
XAN				LR	LR		
	comp=Z,1μm,20.6s,MS4.7						
CTA	**Charters Tower**	**37.79**	**181**	*e*P	**P**	**12 09 44.3**	**-1.1**
	comp=Z,11nm,1.4s,mb4.4						
CTA				*i* S	**S**	**12 15 34.7**	**+2.8**
CTA	**Charters Tower**	**37.79**	**181**	P	**P**	**12 09 44.1**	**-1.3**
	comp=Z,42nm,1.4s,mb5.0,baz=356,slow=6.2,SNR=5.3						
CTA				LR	LR	12 23 54.5	
	comp=Z,1μm,20.5s,MS4.6,baz=12,slow=34						
CTAO	**Charters Tower**	**37.79**	**181**	*e*P	**P**	**12 09 44.3**	**-1.1**
	comp=Z,34nm,1.4s,mb4.9						
CTAO				LR	LR		
	comp=Z,1μm,21.0s,MS4.6						
HHC	**Hu-ho-hao-te**	**38.02**	**314**	*e*P	**P**	**12 09 46.2**	**-0.9**
HHC				AP	pP	12 09 59.9	-1.3
HHC				XP	sP	12 10 05.3	-2.6
HHC				PP	PP	12 11 17.2	-0.6
HHC				S	**S**	**12 15 34.7**	**-0.4**
HHC				PCS		12 15 52.5	
HHC				XS		12 15 57.3	
HHC				SS	SS	12 18 11.1	-3.5
HHC				SCS	ScS	12 19 49.4	-2.4
HHC				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.7						
HHC				LR	LR		
	comp=N,616nm,19.6s,MS4.6						
HHC				LR	LR		
	comp=E,531nm,17.2s,MS4.6						
HHC				LR	LR		
	comp=Z,799nm,18.4s,MS4.6						
GYA	**Guiyang**	**38.17**	**290**	⇑*i*P	**P**	**12 09 48.9**	**+0.4**
GYA				AP	pP	12 10 01.4	-1.3
GYA				XP	sP	12 10 06.8	-2.5
GYA				PP	PP	12 11 20.9	+1.2
GYA				S	**S**	**12 15 38.4**	**+0.8**
GYA				XS		12 15 59.2	
GYA				SS	SS	12 18 18.6	+0.5
GYA				AMB	AMB		
	comp=Z,50nm,0.8s,mb5.3						
GYA				AMB	AMB		
	comp=Z,360nm,6.0s						
GYA				LR	LR		
	comp=N,1μm,20.1s,MS4.8						
GYA				LR	LR		
	comp=E,880nm,18.6s,MS4.8						
GYA				LR	LR		
	comp=Z,860nm,20.7s,MS4.5						
HIA	**Hailar**	**38.22**	**331**	*e*P	**P**	**12 09 48.6**	**-0.1**
	comp=Z,137nm,0.9s,mb5.7						
HIA				*e*PcP	PcP	12 12 02.5	-0.3
HIA				LR	LR		
	comp=Z,2μm,20.0s,MS4.9						
BTO	**Baotou**	**38.97**	**313**	*e*P	**P**	**12 09 55.1**	**+0.1**
BTO				AMB	AMB		
	comp=Z,68nm,1.0s,mb5.3						
WRAB	**Tennant Creek**	**39.63**	**199**	*e*P	**P**	**12 09 58.4**	**-2.2**
	comp=Z,62nm,1.0s,mb5.3						
WB2	**Warramunga Arr**	**39.63**	**199**	*e*P	**P**	**12 09 59.0**	**-1.7**
WB2				*e*		12 12 07.8	
WRA	**Warramunga Arr**	**39.64**	**199**	P	**P**	**12 09 59.3**	**-1.5**
	comp=Z,22nm,1.1s,mb4.8,baz=26,slow=8.6,SNR=57						
WRA				PcP	PcP	12 12 07.6	0.0
	comp=Z,8.3nm,0.6s,baz=16,slow=3.4,SNR=12						
WRA				ScP		12 15 53.8	
	comp=Z,2.2nm,0.9s,baz=13,slow=3.8,SNR=6.7						
WRA				LR	LR	12 25 06.1	
	comp=Z,730nm,18.4s,MS4.5,baz=345,slow=34						
FX1	**Attu Island--F**	**40.42**	**24**	P	**P**	**12 10 09.9**	**+2.9**
SMY	**Shemya**	**40.68**	**25**	PFAKE		12 10 20.0	+11
SMY				LR	LR		
	comp=Z,1μm,20.0s,MS4.8						
CD2	**Chengdu**	**41.19**	**297**	P	**P**	**12 10 14.1**	**+0.6**
CD2				AP	pP	12 10 25.8	-1.9
CD2				PP	PP	12 11 54.6	+2.5
CD2				AMB	AMB		
	comp=Z,50nm,1.3s,mb5.0						
CD2				LR	LR		
	comp=N,1μm,15.6s						
CD2				LR	LR		
	comp=Z,2μm,21.6s						
FITZ	**Fitzroy Crossi**	**41.52**	**212**	*e*P	**P**	**12 10 15.9**	**-0.5**
	comp=Z,15nm,1.3s,mb4.5						
FITZ				*e*		12 12 13.7	
FITZ	**Fitzroy Crossi**	**41.52**	**212**	P	**P**	**12 10 15.0**	**-1.3**
	comp=Z,4.7nm,0.4s,mb4.4,baz=22,slow=8.3,SNR=47						
FITZ				PcP	PcP	12 12 13.6	-0.1
	comp=Z,7.2nm,0.8s,baz=8.6,slow=4.4,SNR=3.5						
FITZ				LR	LR	12 28 02.4	
	comp=Z,181nm,18.3s,MS4.0,baz=178,slow=37						
KMI	**Kunming**	**41.65**	**288**	*e*P	**P**	**12 10 16.1**	**-1.2**
KMI				AP	pP	12 10 29.4	-2.2
KMI				XP	sP	12 10 34.0	-4.1
KMI				PP	PP	12 11 56.8	-0.4
KMI				PCS		12 16 06.8	
KMI				S	**S**	**12 16 30.9**	**+1.2**
KMI				XS		12 16 49.2	
KMI				SS	SS	12 19 30.8	-0.5
KMI				AMB	AMB		
	comp=Z,19nm,1.0s,mb4.7						
KMI				AMB	AMB		
	comp=Z,147nm,5.5s						
KMI				LR	LR		
	comp=N,614nm,18.2s,MS4.6						
KMI				LR	LR		
	comp=E,594nm,22.1s,MS4.6						
KMI				LR	LR		
	comp=Z,776nm,23.4s,MS4.5						
MA2	**Magadan**	**41.68**	**3**	*e*P	**P**	**12 10 17.7**	**+0.6**
MA2				*e*		12 12 05.0	
MA2				*e*PPP	PPP	12 12 36.0	+7.2
MA2				*e*S	**S**	**12 16 32.8**	**+3.1**
MA2				*e*SSS	SSS	12 20 21.5	+6.4
MA2				pmax	pmax		
	comp=N,20nm,1.1s						
MA2				pmax	pmax		
	comp=E,10.0nm,1.1s						
MA2				pmax	pmax		
	comp=Z,30nm,1.1s,mb4.8						
MA2				MLR	MLR		
	comp=Z,300nm,21.0s,MS4.1						
LZH	**Lanzhou**	**42.10**	**304**	⇓P	**P**	**12 10 21.5**	**+0.6**
LZH				AP	pP	12 10 34.9	-0.3
LZH				XP	sP	12 10 40.8	-0.9
LZH				PP	PP	12 12 02.5	+0.5
LZH				*e*S	**S**	**12 16 37.6**	**+1.4**
LZH				XS		12 16 57.7	
LZH				SS	SS	12 19 39.5	+0.1
LZH				AMB	AMB		
	comp=Z,56nm,1.3s,mb5.0						
LZH				AMB	AMB		
	comp=Z,317nm,5.7s						
LZH				LR	LR		
	comp=N,957nm,13.0s						
LZH				LR	LR		
	comp=Z,2μm,17.4s,MS5.0						
KKTK	**Khon Kaen**	**42.17**	**275**	P	**P**	**12 10 23.0**	**+1.2**
CLNS	**Chul’man**	**42.23**	**342**	*e*P	**P**	**12 10 21.4**	**-0.3**
CLNS				pmax	pmax		
	comp=Z,107nm,1.4s,mb5.3						
CLNS				pmax	pmax		
	comp=N,90nm,1.5s						
CLNS				pmax	pmax		
	comp=E,31nm,1.2s						
CLNS				MLR	MLR		
	comp=Z,900nm,15.0s,MS4.8						
CLNS				MLR	MLR		
	comp=N,700nm,16.0s,MS4.6						
CLNS				MLR	MLR		
	comp=E,100nm,16.0s,MS4.6						
ASAR	**Alice Springs**	**43.28**	**198**	P	**P**	**12 10 29.9**	**-0.9**
	comp=E,8.5nm,0.7s,mb4.6,baz=21,slow=8.0,SNR=62						
ASAR				PcP	PcP	12 12 19.1	-0.4
	comp=E,6.9nm,0.7s,baz=22,slow=4.0,SNR=8.2						
ASAR				ScP		12 16 09.0	
	comp=E,2.0nm,0.8s,baz=16,slow=3.7,SNR=6.4						
ASAR				LR	LR	12 29 10.6	
	comp=E,586nm,18.9s,MS4.5,baz=18,slow=37						
ASPA	**Alice Springs**	**43.28**	**198**	*e*P	**P**	**12 10 29.4**	**-1.4**
NANT	**Nan**	**43.85**	**279**	⇓P	**P**	**12 10 34.5**	**-1.0**
SONM	**Songino Array**	**44.51**	**321**	P	**P**	**12 10 40.5**	**+0.1**
	comp=E,33nm,0.9s,mb5.2,baz=133,slow=9.4,SNR=197						
SONM				PcP	PcP	12 12 23.8	+0.4
	comp=E,15nm,0.9s,baz=146,slow=4.5,SNR=6.8						
SONM				ScP		12 16 11.3	
	comp=E,4.4nm,1.1s,baz=124,slow=4.5,SNR=6.6						
NST	**Nakhon Sawan**	**44.83**	**274**	⇑P	**P**	**12 10 45.0**	**+1.7**
	comp=E,160nm,0.5s,mb6.1						
SEY	**Seymchan**	**45.11**	**3**	*e*P	**P**	**12 10 46.2**	**+1.3**
SEY						12 12 25.9	
SEY						12 12 34.6	
SEY				*e*S	**S**	**12 17 23.6**	**+4.0**
SEY						12 20 40.4	
SEY				*e*SSS	SSS	12 21 45.1	+8.9
SEY				pmax	pmax		
	comp=Z,60nm,1.0s,mb5.4						
SEY				pmax	pmax		
	comp=N,30nm,0.8s						
SEY				pmax	pmax		
	comp=E,10.0nm,0.9s						
SEY				smax			
	comp=N,830nm,10.4s						
SEY				smax			
	comp=E,1μm,11.3s						
SEY				MLR	MLR		
	comp=Z,1μm,17.0s,MS4.9						
CHG	**Chiang Mai**	**45.50**	**279**	⇑P	**P**	**12 10 49.1**	**+0.4**
	comp=Z,23nm,0.9s,mb5.1						
CM31	**Chiang Mai Arr**	**45.55**	**278**	*e*P	**P**	**12 10 49.6**	**+0.6**
	comp=Z,67nm,0.9s,mb5.6						
CM31				LR	LR		
	comp=Z,999nm,21.0s,MS4.7						
CMAR	**Chiang Mai Arr**	**45.55**	**278**	P	**P**	**12 10 50.4**	**+1.4**
	comp=Z,46nm,0.8s,mb5.5,baz=71,slow=6.5,SNR=242						
CMAR				PcP	PcP	12 12 27.9	+0.6
	comp=Z,11nm,0.9s,baz=111,slow=1.8,SNR=7.1						
CMAR				LR	LR	12 28 12.2	
	comp=Z,586nm,19.9s,MS4.5,baz=85,slow=34						
BDT	**Bhumibol Dam**	**45.66**	**277**	P	**P**	**12 10 51.0**	**+1.1**
	comp=Z,36nm,0.6s,mb5.5						
KGM	**Kluang**	**45.67**	**255**	⇑*e*P	**P**	**12 10 50.0**	**-0.1**
YAK	**Yakutsk**	**45.70**	**349**	*e*P	**P**	**12 10 49.2**	**-0.5**
YAK				*e*		12 12 28.7	
YAK				*e*		12 12 34.8	
YAK				*e*S	**S**	**12 17 26.7**	**-1.4**
YAK				*e*		12 20 43.1	
YAK				*e*SS	SS	12 20 51.1	+6.6
YAK				*e*SSS	SSS	12 21 44.4	-5.3

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YAK                                 pmax   pmax
      comp=N,30nm,0.9s
YAK                                 pmax   pmax
      comp=E,9.0nm,0.9s
YAK                                 pmax   pmax
      comp=Z,68nm,0.9s,mb5.6
YAK                                 pmax   pmax
      comp=Z,6.0nm,0.8s,mb4.6
YAK                                 smax
      comp=E,75nm,7.4s
YAK                                 smax
      comp=N,49nm,7.5s
YAK                                 MLR    MLR
      comp=Z,500nm,17.0s,MS4.5
YAK                                 MLR    MLR
      comp=N,400nm,18.0s,MS4.5
YAK                                 MLR    MLR
      comp=E,200nm,18.0s,MS4.5
NNT   Nongplab          45.81 270   P      P       12 10 53.0 +1.8
GTA   Gaotai            45.99 308  eP      P       12 10 52.4 +0.1
GTA                                 AP     pP      12 11 05.5 -1.1
GTA                                 XP     sP      12 11 10.7 -2.3
GTA                                 PCP    PcP     12 12 29.5 +0.8
GTA                                 PP     PP      12 12 40.8  0.0
GTA                                 PPP    PPP     12 13 25.3 +0.1
GTA                                 SCP            12 16 18.3
GTA                                 PCS            12 16 22.7
GTA                                 S      S       12 17 33.2 +0.7
GTA                                 XS             12 17 54.9
GTA                                 SCS    ScS     12 20 40.9 +0.6
GTA                                 SS     SS      12 20 48.3 -1.7
GTA                                 AMB    AMB
      comp=Z,186nm,6.1s
GTA                                 LR     LR
      comp=N,362nm,17.1s,MS4.6
GTA                                 LR     LR
      comp=E,487nm,17.5s,MS4.6
GTA                                 LR     LR
      comp=Z,767nm,18.6s,MS4.7
BOD   Bodaibo           46.70 336  eP      P       12 10 56.3 -1.3
IPM   Ipoh              46.86 259⇓eP      P       12 11 01.5 +2.1
      comp=Z,66nm,1.2s,mb5.4
ZAK   Zakamensk         47.50 323  i P     P       12 11 03.3 -0.7
ZAK                                e               12 12 33.5
IRK   Irkutsk           47.83 326  eP      P       12 11 06.3 -0.2
IRK                                e               12 12 34.5
ARMA  Armidale          48.28 175  eP      P       12 11 09.5 -0.8
MOY   Mondy             49.36 324  eP      P       12 11 18.2 -0.2
MOY                                e               12 12 40.6
STKA  Stephens Creek    49.80 186  eP      P       12 11 19.3 -2.7
      comp=Z,8.4nm,0.6s,mb5.0
STKA  Stephens Creek    49.80 186   P      P       12 11 20.1 -1.9
      comp=Z,12nm,1.0s,mb4.9,baz=356,slow=8.1,SNR=15
STKA                                LR     LR      12 33 38.4
      comp=Z,1µm,19.2s,MS4.9,baz=6.2,slow=38
SHL   Shillong          51.46 289  eP      P       12 11 34.0 -0.7
SHL                                e               12 16 44.0
FORT  Forrest           51.74 201  eP      P       12 11 36.4 -0.4
      comp=Z,90nm,0.9s,mb5.7
LSA   Lhasa             51.99 294  eP      P       12 11 39.5 +0.9
      comp=Z,31nm,0.7s,mb5.3
LSA                                 LR     LR
      comp=Z,647nm,22.0s,MS4.6
CNB   Canberra Magne    53.00 178⇓iP      P       12 11 45.7 -0.4
      comp=Z,69nm,1.3s,mb5.4
ADE   Adelaide          53.19 189  eP      P       12 11 47.4 -0.2
TIXI  Tiksi             54.77 353⇑iP      P       12 11 57.2 -1.4
TIXI                               eS      S       12 19 34.1 +0.6
TIXI                               e               12 21 39.1
TIXI                                pmax   pmax
      comp=Z,33nm,0.9s,mb5.4
TIXI                                MLR    MLR
      comp=Z,280nm,18.0s,MS4.4
TOO   Toolangi          55.22 181  eP      P       12 12 01.5 -0.9
      comp=Z,12nm,1.1s,mb4.8
WMQ   Urumqi            55.74 311   P      P       12 12 06.0  0.0
WMQ                                 AP     pP      12 12 18.7 -2.1
WMQ                                 XP     sP      12 12 24.0 -3.0
WMQ                                 PP     PP      12 14 12.3 +0.1
WMQ                                 S      S       12 19 48.0 +1.2
WMQ                                 XS             12 20 09.4
WMQ                                 AMB    AMB
      comp=Z,97nm,1.2s,mb5.7
WMQ                                 LR     LR
      comp=N,800nm,20.0s,MS4.8
WMQ                                 LR     LR
      comp=E,404nm,22.0s,MS4.8
WMQ                                 LR     LR
      comp=Z,493nm,22.0s,MS4.5
ANM   Nome              56.42  23  eP      P       12 12 12.2 +1.6
KLBR  Kellerberrin      56.68 210  eP      P       12 12 10.7 -2.2
      comp=Z,14nm,0.7s,mb5.1
PKI   Pulchoki          57.11 292  eP      P       12 12 15.5 -0.6
      comp=Z,136nm,1.0s,mb6.0
KKN   Kakani            57.21 292  eP      P       12 12 16.3 -0.5
      comp=Z,189nm,0.9s,mb6.1
DMN   Daman             57.38 292  eP      P       12 12 17.4 -0.5
      comp=Z,232nm,1.2s,mb6.1
GKN   Gorkha            57.76 292  eP      P       12 12 20.2 -0.4
      comp=Z,443nm,1.1s,mb6.4
KOLN  Koldanda          58.70 292  eP      P       12 12 26.4 -0.7
      comp=Z,200nm,0.9s,mb6.1
SVW   Sparrevohn        58.88  29  eP      P       12 12 28.0 +0.1
KDAK  Kodiak Island     59.32  33  eP      P       12 12 27.6 -3.4
      comp=Z,27nm,1.1s,mb5.2
KDAK                                LR     LR
      comp=Z,131nm,22.0s,MS4.0
ZAL   Zalesovo          59.38 323   P      P       12 12 30.7 -0.8
      comp=Z,25nm,0.7s,mb5.3,baz=278,slow=7.4,SNR=126
ZAL                                 PcP    PcP     12 13 18.1 -0.5
      comp=Z,9.4nm,0.8s,baz=294,slow=4.3,SNR=4.5
ZAL                                 LR     LR      12 38 51.4
      comp=Z,783nm,19.3s,MS4.8,baz=282,slow=37
MKAR  Makanchi Array    59.88 314   P      P       12 12 34.4 -0.6
      comp=Z,34nm,0.7s,mb5.5,baz=90,slow=8.5,SNR=176
MKAR                                PcP    PcP     12 13 19.9 -0.9
      comp=Z,23nm,0.8s,baz=108,slow=3.8,SNR=8.4
MKAR                                ScP            12 17 19.8
      comp=Z,5.9nm,1.0s,baz=104,slow=5.0,SNR=7.4
MKAR                                LR     LR      12 39 15.5
      comp=Z,729nm,19.0s,MS4.8,baz=100,slow=37
MKAR  Makanchi Array    59.88 314  i P     P       12 12 34.4 -0.6
MKAR                                pmax   pmax
      comp=Z,81nm,1.1s
NVS   Novosibirsk       60.46 323  i P     P       12 12 37.2 -1.7
NVS                                eS      S       12 20 56.2 +7.9
NVS                                 pmax   pmax
      comp=E,67nm,1.4s
NVS                                 pmax   pmax
      comp=Z,93nm,1.4s,mb5.6
NVS                                 smax
      comp=N,72nm,2.7s
SLKM  Skilak Lake       61.22  30  eP      P       12 12 41.2 -2.8
IMA   Indian Mountai    61.47  24  eP      P       12 12 36.4 -9.1
      comp=N,25nm,0.7s,mb5.5
PMR   Palmer            62.01  29  eP      P       12 12 47.2 -2.0
SML   Sawmill           62.43  29  eP      P       12 12 50.2 -1.9
URZ   Urewera           62.64 154   LR     LR      12 37 47.1
      comp=N,818nm,20.1s,MS4.9,baz=345,slow=34
MCK   McKinley          62.66  27  eP      P       12 12 51.4 -2.2
      comp=N,24nm,1.4s,mb5.1
KURK  Kurchatov         62.66 318   P      P       12 12 52.8 -0.9
      comp=N,439nm,0.8s
KURK  Kurchatov         62.66 318   P      P       12 12 52.6 -1.1
KURK                                pmax   pmax
      comp=Z,184nm,1.8s,mb5.9
KURK  Kurchatov         62.66 318⇑iP      P       12 12 52.1 -1.6
      comp=Z,33nm,0.6s,mb5.6
EYAK  Cordova Ski Ar    63.39  31  eP      P       12 12 57.5 -0.9
COLA  College           63.41  26  eP      P       12 12 58.0 -0.5
DIV   Divide            63.49  30  eP      P       12 12 58.5 -0.6
      comp=Z,78nm,1.0s,mb5.8
DIV                                 LR     LR
      comp=Z,2µm,20.0s,MS5.2
ILAR  Eielson Array     63.79  26   P      P       12 12 58.6 -2.3
      comp=Z,16nm,1.0s,mb5.0,baz=259,slow=5.4,SNR=69
ILAR                                LR     LR      12 39 43.2
      comp=Z,230nm,19.4s,MS4.4,baz=273,slow=35
ILAR                                PKPPKP         12 42 04.1
      comp=Z,1.4nm,1.1s,baz=36,slow=1.2,SNR=6.8
ULHL  Ulahol            64.03 309   P      P       12 13 03.7 +0.9
      SNR=7.4
KSH   Kashi             64.32 306  eP      P       12 13 06.0 +1.2
KSH                                eAP     pP      12 13 19.4 -0.4
KSH                                eXP     sP      12 13 25.1 -0.8
KSH                                ePCP    PcP     12 13 40.7 +1.8
KSH                                ePP     PP      12 15 30.4 +1.9
KSH                                ePPP    PPP     12 17 04.4 +3.1
KSH                                eSCP            12 17 39.2
KSH                                eS      S       12 21 38.0 +1.0
KSH                                 AMB    AMB
      comp=Z,60nm,0.7s,mb5.7
KSH                                 LR     LR
      comp=N,460nm,14.0s,MS5.2
KSH                                 LR     LR
      comp=E,1µm,17.2s,MS5.2
TKM2  Tokmak 2          64.49 310   P      P       12 13 05.7 -0.1
      SNR=48
KZA   Kyzart            64.77 309   P      P       12 13 08.6 +1.0
      SNR=72
BHPL  Bhopal            64.81 288  eP      P       12 13 07.5 -0.7
BHPL                               e               12 13 09.7
      comp=Z,62nm,1.6s
HYB   Hyderabad         64.85 281  i P     P       12 13 08.0 -0.6
HYB   Hyderabad         64.85 281  eP      P       12 13 08.0 -0.6
KBK   Karagaybulak      64.97 309   P      P       12 13 09.3 +0.3
      SNR=22
RAR   Rarotonga         65.06 124   LR     LR      12 35 02.2
      comp=Z,561nm,19.9s,MS4.8,baz=283,slow=30
CHMS  Chumysh           65.11 310   P      P       12 13 09.8  0.0
      SNR=13
RPZ   Rata Peaks        65.19 161   P      P       12 13 08.0 -2.4
      comp=Z,20nm,0.9s,mb5.2,baz=106,slow=12,SNR=3.9
RPZ                                 LR     LR      12 38 15.5
      comp=Z,723nm,19.5s,MS4.9,baz=325,slow=33
FRU   Bishkek           65.21 309  i P     P       12 13 11.0 +0.5
FRU                                 pmax   pmax
      comp=Z,140nm,1.6s,mb5.7
USP   Ospenovka         65.28 310   P      P       12 13 10.6 -0.4
      SNR=33
AAK   Ala-Archa         65.31 309   P      P       12 13 11.3 +0.2
      SNR=14
AAK   Ala-Archa         65.31 309  eP      P       12 13 09.3 -1.8
      comp=Z,18nm,0.8s,mb5.2
AAK                                 LR     LR
      comp=Z,168nm,20.0s,MS4.2
UCH   Uchtor            65.31 309   P      P       12 13 11.6 +0.4
      SNR=94
EKS2  Erkin-Say         65.84 309   P      P       12 13 14.8 +0.3
      SNR=16
AML   Almayashu         65.92 309   P      P       12 13 15.6 +0.6
      SNR=53
AJM   Ajmer             66.78 292⇓iP      P       12 13 20.0 -0.7
NIL   Nilore            66.98 300   P      P       12 13 22.5 +0.6
      comp=Z,250nm,0.8s,mb6.3,SNR=23
VOSK  Vostochnaya       67.49 320   P      P       12 13 23.5 -1.2
VOSK                                pmax   pmax
      comp=Z,66nm,1.3s,mb5.5
BVA0  Borovoye Array    67.85 321   P      P       12 13 26.2 -0.8
BVAR  Borovoye Array    67.85 321   P      P       12 13 26.5 -0.5
      comp=Z,81nm,0.6s,mb5.9,baz=90,slow=7.4,SNR=437
BRVK  Borovoye          67.91 321⇑iP      P       12 13 26.6 -0.8
      comp=Z,67nm,0.8s,mb5.7
BRVK                                LR     LR
      comp=Z,159nm,20.0s,MS4.2
KKAR  Karatay Array     68.20 310   P      P       12 13 29.0 -0.4
KKAR                                pmax   pmax
      comp=Z,54nm,0.8s,mb5.6
ZRNK  Zerenda           68.69 321   P      P       12 13 31.0 -1.2
ZRNK                                pmax   pmax
      comp=Z,60nm,1.1s,mb5.4
ZRNK  Zerenda           68.69 321⇑iP      P       12 13 31.3 -0.9
      comp=Z,47nm,0.9s,mb5.4
KAD   Karad             68.95 282  eP      P       12 13 33.7 -0.7
KAD                                e               12 13 36.7
      comp=Z,66nm,1.7s
POO   Poona             68.99 283  eP      P       12 13 33.9 -0.8
POO                                e               12 13 37.0
      comp=Z,92nm,1.9s
INK   Inuvik            69.59  23   P      P       12 13 36.5 -1.0
      comp=Z,16nm,0.8s,mb5.0,baz=260,slow=6.1,SNR=16
PPT   Papeete           71.67 116  eP      P       12 13 47.8 -3.1
PPT                                eS      S       12 23 05.2 +0.1
PPT                                eSS     SS      12 27 38.8 -4.5
PPT                                eR              12 35 05.6
      comp=Z,1µm,22.5s,baz=298
TBI   Tubuai            74.38 121  eS      S       12 23 37.3 +1.7
TBI                                eSS     SS      12 28 09.7  -15
TBI                                eR              12 35 47.2
      comp=Z,326nm,28.2s,baz=313
ARU   Arti              74.40 325   P      P       12 14 06.9 +0.7
      comp=Z,663nm,1.2s,mb6.4,SNR=67
ARU   Arti              74.40 325⇑iP      P       12 14 06.1 -0.1
ARU                                i               12 14 16.3
ARU                                i       pP      12 14 19.7 -1.9
ARU                                i               12 16 50.6
ARU                                ePPP    PPP     12 18 31.6 -8.3
ARU                                eS      S       12 23 39.8 +4.6
ARU                                e               12 24 11.8
ARU                                eSS     SS      12 28 31.3 +6.8
ARU                                 pmax   pmax
      comp=Z,123nm,1.2s,mb5.7
ARU                                 MLR    MLR
      comp=Z,600nm,17.0s,MS5.0
ARU                                 MLR    MLR
      comp=N,200nm,18.0s,MS4.8
ARU                                 MLR    MLR
      comp=E,400nm,18.0s,MS4.8
ARU   Arti              74.40 325⇑iP      P       12 14 05.9 -0.3
      comp=E,114nm,1.0s,mb5.8
ARU                                 LR     LR
      comp=Z,160nm,20.0s,MS4.3
AB31  Akbulak array     74.74 317   P      P       12 14 07.6 -0.7
AB31                                pmax   pmax
      comp=Z,41nm,0.8s,mb5.4
OCWA  Octopus Mounta    76.17  44   PFAKE          12 14 30.0  +13
OCWA                                LR     LR
      comp=Z,534nm,20.0s,MS4.8
KEBM  Edson Butte       77.07  49  eP      P       12 14 22.5 +0.8
GNW   Green Mountain    77.10  44  eP      P       12 14 22.4 +0.6
KBO   Bosley Butte      77.29  50  eP      P       12 14 21.2 -1.7
COR   Corvallis         77.43  47   PFAKE          12 14 30.0 +6.4
COR                                 LR     LR
      comp=Z,550nm,19.0s,MS4.9
MBW   Mount Baker       77.44  43   P      P       12 14 24.4 +0.7
JCW   Jim Creek         77.55  43   P      P       12 14 25.2 +0.9
RPW   Rockport          77.77  43  eP      P       12 14 25.8 +0.4
KHMM  Horse Mountain    77.95  51  eP      P       12 14 27.1 +0.5
LON   Longmire          77.96  45  eP      P       12 14 26.7 +0.2
FMW   Mount Fremont     78.01  44   P      P       12 14 27.5 +0.7
YKA   Yellowknife Ar    78.08  28   P      P       12 14 26.3 -0.5
      comp=Z,8.5nm,0.8s,mb4.7,baz=289,slow=5.5,SNR=37
YKA                                 LR     LR      12 50 45.6
      comp=Z,299nm,18.3s,MS4.7,baz=275,slow=37
YKA   Yellowknife Ar    78.08  28   P      P       12 14 26.3 -0.5
YKA                                 LR     LR      12 50 45.6
HUMO  Hull Mountain     78.12  49  eP      P       12 14 28.1 +0.6
      comp=Z,21nm,1.3s,mb4.9
YBH   Yreka Blue Hor    78.50  50  eP      P       12 14 30.0 +0.4
      comp=Z,24nm,1.0s,mb5.1
NLW   Nelson Butte      78.62  43  eP      P       12 14 28.9 -1.2
HOPS  Hopland           78.89  53  eP      P       12 14 31.2 -0.6
      comp=Z,14nm,1.2s,mb4.8
HOPS                                LR     LR
      comp=Z,491nm,19.0s,MS4.9
WDC   Whiskeytown Da    78.90  51  eP      P       12 14 32.1 +0.3
      comp=Z,14nm,1.1s,mb4.8
VIPM  Ingram Point      79.31  47   P      P       12 14 34.7 +0.8
HAWA  Hanford           79.57  45  eP      P       12 14 32.7 -2.6
      comp=Z,12nm,1.0s,mb4.8
HAWA                                LR     LR
      comp=Z,469nm,20.0s,MS4.8
MOD   Modoc             80.20  49  eP      P       12 14 38.7 -0.2
      comp=Z,18nm,1.1s,mb4.9
LNOR  Lincton Mounta    80.55  45  eP      P       12 14 41.2 +0.6
NEW   Newport           80.65  42  eP      P       12 14 41.0  0.0
      comp=Z,16nm,0.9s,mb5.0
NEW                                 LR     LR
      comp=Z,691nm,20.0s,MS5.0
ASMM  Slate Mountain    80.73  52  eP      P       12 14 39.8 -1.9
CMB   Columbia Colle    81.17  53  eP      P       12 14 43.9 -0.1
      comp=Z,7.3nm,0.8s,mb4.7
CMB                                 LR     LR
      comp=Z,446nm,19.0s,MS4.8
WVOR  Wild Horse Val    81.25  48  eP      P       12 14 44.6 +0.2
      comp=Z,43nm,1.4s,mb5.2
WVOR                                LR     LR
      comp=Z,664nm,21.0s,MS5.0
LVZ   Lovozero          81.59 339   P      P       12 14 45.6  0.0
      comp=Z,255nm,0.9s,mb6.2,SNR=12
APA   Apatity           82.16 339⇓iP      P       12 14 48.2 -0.4
APA                                i               12 14 57.2
APA                                i S     S       12 25 01.0 +3.2
APA                                 pmax   pmax
      comp=Z,62nm,0.9s,mb5.5
APA                                 smax
      comp=N,500nm,14.0s
APA                                 smax
      comp=E,600nm,14.0s
APA                                 MLR    MLR
      comp=Z,300nm,17.0s,MS4.7
NVAR  Mina Array Bea    82.63  52   P      P       12 14 51.9 +0.4
      comp=Z,2.8nm,0.7s,mb4.4,baz=266,slow=5.4,SNR=23
NVAR                                LR     LR      12 49 55.7
      comp=Z,283nm,18.2s,MS4.7,baz=20,slow=34
NVAR  Mina Array Bea    82.63  52   P      P       12 14 51.9 +0.3
NVAR                                LR     LR      12 49 55.7
MNV   Mina              82.75  52  eP      P       12 14 52.5 +0.3
      comp=Z,16nm,1.1s,mb5.0
BMN   Battle Mountai    82.85  50  eP      P       12 14 53.7 +1.1
      comp=Z,18nm,1.2s,mb5.0
BMN                                 LR     LR
      comp=Z,509nm,21.0s,MS4.9
KEV   Kevo              83.04 342  eP      P       12 14 52.9 -0.1
KEV                                 pmax   pmax
      comp=Z,36nm,0.7s,mb5.5
KEV   Kevo              83.04 342  eP      P       12 14 52.9 -0.1
      comp=Z,36nm,0.7s,mb5.5
MSO   Missoula          83.13  43   PFAKE          12 15 10.0  +16
MSO                                 LR     LR
      comp=Z,284nm,20.0s,MS4.6
TPH   Tonopah           83.55  52  eP      P       12 14 56.1 -0.2
      comp=Z,17nm,1.1s,mb5.1
TPH                                 LR     LR
      comp=Z,401nm,21.0s,MS4.8
ARCES ARCESS Array B    83.59 342   P      P       12 14 56.2 +0.5
      comp=Z,38nm,0.8s,mb5.6,baz=64,slow=4.9,SNR=88
ARCES                               LR     LR      12 56 59.6
      comp=Z,697nm,19.6s,MS5.0,baz=2.3,slow=39
ARCES ARCESS Array B    83.59 342   P      P       12 14 56.2 +0.5
ARCES                               LR     LR      12 56 59.6
ARE0  ARCESS Array S    83.59 342   P      P       12 14 55.1 -0.7
DAC   Darwin (Calif)    83.81  54  eP      P       12 14 58.2 +0.6
      comp=Z,12nm,1.5s,mb4.8
DAC                                 LR     LR
      comp=Z,362nm,19.0s,MS4.8
HLID  Hailey            83.87  46  eP      P       12 14 58.3 +0.6
      comp=Z,14nm,1.2s,mb5.0
HLID                                LR     LR
      comp=Z,463nm,20.0s,MS4.9
MWC   Mount Wilson      84.07  56  eP      P       12 14 59.3 +0.4
ELK   Elko              84.19  49  eP      P       12 14 60.0 +0.6
      comp=Z,25nm,1.1s,mb5.3
ELK                                 LR     LR
      comp=Z,485nm,19.0s,MS4.9
TPNV  Topopah Spring    84.64  53  eP      P       12 15 02.2 +0.5
      comp=Z,7.7nm,0.8s,mb4.9
TPNV                                LR     LR
      comp=Z,310nm,20.0s,MS4.7
BOZ   Bozeman (W)       85.04  44  eP      P       12 15 04.1 +0.5
      comp=Z,10.0nm,1.1s,mb4.9
BOZ                                 LR     LR
      comp=Z,257nm,21.0s,MS4.6
HVU   Hansel Valley     85.60  48  eP      P       12 15 06.8 +0.5
BAR   Barrett           85.64  57  eP      P       12 15 06.2 -0.6
MOS   Moscow            85.77 328  eP      P       12 15 07.1 +0.2
MOS                                e               12 18 24.3
MOS                                eS      S       12 25 35.3 +1.5
MOS                                ePS     PS      12 26 39.4 -0.5
MOS                                 pmax   pmax
      comp=Z,700nm,1.7s
MOS                                 pmax   pmax
      comp=Z,484nm,1.8s,mb6.4
MOS                                 pmax   pmax
      comp=N,196nm,1.3s
MOS                                 pmax   pmax
      comp=E,137nm,1.0s
YMR   Madison River     85.83  44  eP      P       12 15 09.7 +2.3
SPUT  South Promonto    85.99  48  eP      P       12 15 09.0 +0.7
LDFC  Landfair          86.11  55  eP      P       12 15 09.8 +0.7
DUG   Dugway            86.11  49  eP      P       12 15 09.5 +0.6
      comp=E,41nm,1.4s,mb5.5
DUG                                 LR     LR
      comp=Z,344nm,19.0s,MS4.8
TPAW  Teton Pass        86.26  46  eP      P       12 15 10.9 +1.3
MOOW  Moose Ponds       86.31  45  eP      P       12 15 10.7 +0.9
REDW  Red Top Meadow    86.37  46  eP      P       12 15 12.9 +2.8
SNOW  Snow King Moun    86.40  45  eP      P       12 15 12.1 +1.9
AHID  Auburn Hatcher    86.42  46  eP      P       12 15 10.7 +0.3
      comp=Z,24nm,1.2s,mb5.3
AHID                                LR     LR
      comp=Z,341nm,22.0s,MS4.7
RKT   Rikitea           86.43 116  eSS     tx      12 30 51.6
RKT                                eR              12 41 51.3
      comp=Z,806nm,33.2s
HWUT  Hardware Ranch    86.51  47  eP      P       12 15 11.7 +0.9
      comp=Z,17nm,1.0s,mb5.2
HWUT                                LR     LR
      comp=Z,498nm,21.0s,MS4.9
OBN   Obninsk           86.59 327  eP      P       12 15 10.7 -0.2
OBN                                eS      S       12 25 37.1 -4.6
OBN                                 pmax   pmax
      comp=Z,145nm,1.8s,mb5.9
OBN                                 MLR    MLR
      comp=Z,600nm,16.0s,MS5.1
OBN   Obninsk           86.59 327  eP      P       12 15 10.2 -0.7
      comp=Z,16nm,0.5s,mb5.5
NLU   North Lily Min    86.73  49  eP      P       12 15 12.3 +0.3
TCUT  Toone Canyon      86.79  48  eP      P       12 15 12.2  0.0
JLU   Jordanelle        86.95  48  eP      P       12 15 14.1 +1.0
MPU   Maple Canyon      87.03  49  eP      P       12 15 13.7 +0.2
FFC   Flin Flon         87.07  33  eP      P       12 15 13.2  0.0
      comp=Z,23nm,1.1s,mb5.3
FFC                                 LR     LR
      comp=Z,87nm,20.0s,MS4.2
DAU   Daniels Canyon    87.15  48  eP      P       12 15 15.1 +1.0
MSU   Marysvale         87.16  50  eP      P       12 15 15.6 +1.5
ZEI   Tsey              87.24 314  eP      P       12 15 13.0 -1.4
ZEI                                e               12 18 36.0
ZEI                                eS      S       12 25 47.0 -1.2
ZEI                                 MLR    MLR
      comp=Z,1µm,18.0s,MS5.3
BW06  Boulder Array     87.47  46   PFAKE          12 15 30.0  +14
BW06                                LR     LR
      comp=Z,218nm,20.0s,MS4.6
PDAR  Pinedale Array    87.47  46   P      P       12 15 15.6 +0.1
      comp=Z,0.9nm,0.7s,baz=315,slow=2.1,SNR=9.1
PDAR                                LR     LR      12 51 39.0
      comp=Z,165nm,18.8s,baz=309,slow=34
KAF   Kangasniemi       87.62 336  eP      P       12 15 14.7 -1.0
KAF                                 pmax   pmax
      comp=Z,36nm,1.2s,mb5.5
KAF   Kangasniemi       87.62 336  eP      P       12 15 14.7 -1.0
      comp=Z,36nm,1.2s,mb5.5
FINES FINESS Array B    88.09 336   P      P       12 15 16.9 -1.1
      comp=Z,13nm,0.6s,mb5.4,baz=117,slow=8.5,SNR=66
FINES                               LR     LR      12 59 09.7
      comp=Z,331nm,18.1s,MS4.8,baz=60,slow=39
LAO   LASA Array        88.12  41  eP      P       12 15 19.7 +1.2
      comp=Z,19nm,0.9s,mb5.3
LAO                                 LR     LR
      comp=Z,549nm,20.0s,MS5.0
SRU   San Rafael        88.15  49  eP      P       12 15 18.9 +0.1
CASY  Casey             88.29 194  eP      P       12 15 19.4 +0.6
      comp=Z,27nm,1.3s,mb5.3
CASY                                LR     LR
      comp=Z,289nm,19.0s,MS4.7
WUAZ  Wupatki           88.83  53  eP      P       12 15 23.4 +1.3
      comp=Z,43nm,1.3s,mb5.6
HASS  Wahat al Ahsa’    88.86 296   P      P       12 15 24.0 +1.4
PV10  Paradox Valley    89.50  50  eP      P       12 15 26.0 +0.7
SUMG  Summit            89.64   2  eP      P       12 15 27.6 +2.5
      comp=Z,23nm,1.0s,mb5.5
SOC   Sochi             89.73 316  eP      P       12 15 17.2 -9.0
SOC                                e       pP      12 15 28.4  -14
SOC                                e               12 18 57.3
SOC                                ePPP    PPP     12 21 00.7 +0.2
SOC                                e               12 25 52.5
SOC                                eS      S       12 26 03.7 -7.6
SOC                                 pmax   pmax
      comp=Z,15nm,0.7s,mb5.4
SOC                                 pmax   pmax
      comp=N,16nm,0.8s
SOC                                 pmax   pmax
      comp=E,27nm,1.0s
SOC                                 MLR    MLR
      comp=Z,768nm,27.0s,MS5.0
SOC                                 MLR    MLR
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       comp=N,503nm,19.0s
SOC                                 MLR     MLR
       comp=E,661nm,18.0s
PV01   Paradox Valley     89.94  50 eP      P        12 15 27.9 +0.6
ERZM   Erzurum            90.10 312 i P     P        12 15 27.9 -0.1
TUC    Tucson             90.45  56 eP      P        12 15 31.6 +1.7
       comp=E,12nm,1.2s,mb5.1
RSSD   Black Hills        90.60  43 eP      P        12 15 30.7 +0.4
       comp=E,6.3nm,0.9s,mb5.0
ANN    Anapa              90.69 318 eP      P        12 15 28.7 -2.0
ANN                                 pmax    pmax
       comp=Z,46nm,1.6s,mb5.6
ISCO   Idaho Springs      91.38  47 eP      P        12 15 35.9 +1.8
       comp=Z,8.7nm,1.1s,mb5.0
ISCO                                LR      LR
       comp=Z,503nm,21.0s,MS4.9
KELT   Kelkit             91.48 313 i P     P        12 15 35.0 +0.5
SDCO   Great Sand Dun     92.31  49 eP      P        12 15 39.4 +1.1
       comp=Z,7.0nm,1.0s,mb5.0
SDCO                                LR      LR
       comp=Z,476nm,19.0s,MS5.0
ELZG   Elazig             92.37 312 i P     P        12 15 39.0 +0.4
ULM    Lac du Bonnet      92.52  35 P       P        12 15 38.8 -0.2
       comp=Z,35nm,1.4s,mb5.6,baz=301,slow=8.0
ULM    Lac du Bonnet      92.52  35 eP      P        12 15 39.2 +0.2
       comp=Z,39nm,1.4s,mb5.6
ULM                                 LR      LR
       comp=Z,696nm,19.0s,MS5.1
AKASG  Malin Array Be     92.63 326 P       P        12 15 38.1 -1.4
       comp=Z,8.9nm,1.0s,mb5.2,baz=45,slow=4.6,SNR=27
AKASG                               LR      LR       13 00 05.1
       comp=Z,482nm,18.5s,MS5.0,baz=35,slow=37
ANMO   Albuquerque        92.76  52 eP      P        12 15 41.8 +1.4
       comp=Z,12nm,1.3s,mb5.2
MALT   Malatya            92.84 312 eP      P        12 15 40.7 -0.1
       comp=Z,11nm,1.0s,mb5.2
RAYN   Ar Rayn            93.02 296 P       P        12 15 41.0 -0.9
       comp=Z,107nm,0.8s,mb6.3,SNR=16
NB2    NORSAR Subarra     93.71 340 P       P        12 15 43.3 -0.8
       comp=Z,13nm,1.1s,mb5.3,baz=46,slow=4.6
NB2    NORSAR Subarra     93.71 340 P       P        12 15 43.3 -0.8
       baz=46,slow=4.6
NOA    NORSAR Array B     93.71 340 P       P        12 15 44.0 -0.1
       comp=Z,3.5nm,0.7s,mb4.9,baz=45,slow=4.4,SNR=12
NOA                                 PP      PP       12 19 23.3 -9.3
       comp=Z,2.5nm,0.8s,baz=46,slow=8.6,SNR=4.0
NOA                                 LR      LR       13 02 01.6
       comp=Z,414nm,19.9s,MS4.9,baz=45,slow=38
NOA    NORSAR Array B     93.71 340 P       P        12 15 44.0 -0.1
NOA                                 PP      PP       12 19 23.3 -9.3
NOA                                 LR      LR       13 02 01.6
SUW    Suwalki            93.77 331 eP      P        12 15 44.6 +0.1
SUW                                 e*PP    pP       12 15 59.1 -1.3
GZT    Gaziantep          93.87 311 i P     P        12 15 44.8 -0.6
BOYT   Boyabat            93.88 316 i P     P        12 15 45.2 -0.2
ARSS   Ar Rass            94.08 299 P       P        12 15 46.2 -0.4
KAHT   Ahir Dag           94.25 312 i P     P        12 15 47.1  0.0
HILS   Ha'il              94.71 301 P       P        12 15 49.4 -0.1
AVNT   Avonos             95.14 313 i P     P        12 15 50.5 -0.7
ELDT   Eldivan            95.30 315 i P     P        12 15 51.7 -0.2
BRTR   Keskin Array B     95.53 315 P       P        12 15 52.5 -0.4
       comp=Z,16nm,1.0s,mb5.4,baz=90,slow=3.7,SNR=45
BRTR                                LR      LR       13 07 11.0
       comp=Z,192nm,18.9s,MS4.6,baz=65,slow=41
BRTR   Keskin Array B     95.53 315 P       P        12 15 52.5 -0.4
BRTR                                LR      LR       13 07 11.0
KWP    Kalwaria           96.68 327 eP      P        12 15 57.8 -0.1
KWP                                 MLR     MLR
       comp=Z,900nm,20.9s,MS5.2
GKP    Gorka Klasztor     96.95 332 eP      P        12 15 58.3 -0.8
GKP                                 MLR     MLR
       comp=Z,800nm,19.2s,MS5.2
LTX    Lajitas            97.24  56 PFAKE            12 16 10.0 +9.0
LTX                                 LR      LR
       comp=Z,427nm,19.0s,MS5.0
TXAR   Lajitas Array      97.24  56 P       P        12 16 00.7 -0.3
       comp=Z,0.4nm,0.8s,baz=225,slow=3.8,SNR=3.3
TXAR                                PP      PP       12 19 54.7 -5.8
       comp=Z,0.4nm,0.8s,baz=256,slow=7.4,SNR=3.7
TXAR                                LR      LR       12 58 56.3
       comp=Z,252nm,18.1s,MS4.7,baz=320,slow=35
TXAR   Lajitas Array      97.24  56 P       P        12 16 00.7 -0.3
TXAR                                PP      PP       12 19 54.7 -5.8
TXAR                                LR      LR       12 58 56.3
KBRS   Khaybar            97.42 300 P       P        12 16 01.9 +0.1
OJC    Ojcow              97.77 329 eP      P        12 16 02.4 -0.5
WMOK   Wichita Mounta     98.51  49 eP      P        12 16 07.8 +1.1
       comp=Z,2.4nm,0.9s,mb4.7
OKC    Ostrava-Krasne     98.83 329 ePDIF   P        12 16 07.6 -0.1
OKC                                 LR               13 05 30.0
       comp=Z,0.9nm,16.3s
KSP    Ksiaz              99.03 331 eP      P        12 16 07.5 -1.1
KSP                                 ePP     PP       12 20 07.5 -5.8
KSP                                 eS      S        12 27 33.5 +2.3
KSP                                 LR      LR
       comp=Z,1µm,17.8s,MS5.4
PSZ    Piszkesteto        99.20 327 eP      P        12 16 09.2 -0.2
       comp=Z,12nm,1.3s,mb5.3
DPC    Dobruska-Polom     99.36 331 ePDIF   P        12 16 10.1 +0.1
DPC                                 ePP     PP       12 20 13.0 -2.9
DPC                                 LR               13 05 10.0
       comp=Z,0.7nm,16.7s
BSEG   Bad Segeberg       99.37 336 eP      P        12 16 09.4 -0.6
VYHS   Vyhne              99.37 328 ePP     PP       12 20 11.0 -5.1
VYHS   Vyhne              99.37 328 PDIF    P        12 16 10.1 -0.1
VYHS                                e                12 16 15.0
VYHS                                ePP     PP       12 20 10.7 -5.4
VYHS   Vyhne              99.37 328 eP      P        12 16 10.1 -0.1
VYHS                                e                12 20 10.7
VYHS   Vyhne              99.37 328 eP      P        12 16 10.1 -0.1
VYHS                                e                12 16 15.0
VYHS                                ePP     PP       12 20 10.7 -5.4
UPC    Upice              99.39 331 ePDIF   P        12 16 10.5 +0.3
UPC                                 ePP     PP       12 20 11.9 -4.3
JCT    Junction City      99.75  54 PFAKE            12 16 20.0 +7.7
JCT                                 LR      LR
       comp=Z,270nm,20.0s,MS4.8
JFWS   Jewell Farm        99.83  39 PFAKE            12 16 20.0 +7.6
JFWS                                LR      LR
       comp=Z,634nm,20.0s,MS5.1
PVCC   Panska Ves        100.04 331 ePDIF   P        12 16 13.5 +0.3
PVCC                                ePP     PP       12 20 19.3 -2.1
PVCC                                LR               13 07 20.0
       comp=Z,0.5nm,16.3s
BRG    Berggiesshubel    100.08 332 eP      P        12 16 13.5 +0.2
BRG                                 pmax    pmax
       comp=Z,24nm,1.6s
BRG    Berggiesshubel    100.08 332 eP      P        12 16 13.5 +0.2
       comp=Z,24nm,1.6s
CLL    Collm             100.19 333 P       P        12 16 13.1 -0.7
CLL                                 e*PP             12 16 31.0
CLL                                 e                12 20 13.0
CLL                                 i PP    PP       12 20 18.9 -3.7
CLL    Collm             100.19 333 i P     P        12 16 13.1 -0.7
CLL                                 i                12 20 18.9
PRU    Pruhonice         100.43 331 ePDIF   P        12 16 15.4 +0.5
PRU                                 ePP     PP       12 20 22.0 -2.6
PRU                                 L                13 05 30.0
CLZ    Clausthal         100.91 334 eP      P        12 16 17.1  0.0
NKC    Novy Kostel       101.21 332 ePDIF   P        12 16 19.4 +1.0
NKC                                 ePP     PP       12 20 27.9 -2.7
NKC                                 LR               13 07 00.0
       comp=Z,0.6nm,17.1s
MOX    Moxa              101.27 333 i P     P        12 16 18.6 -0.1
       comp=Z,logA/T=1.2
MOX                                 PP      PP       12 20 24.0 -7.0
MOX                                 L                13 05 40.0
MOX    Moxa              101.27 333 eP      P        12 16 18.6 -0.1
MOX                                 e                12 20 24.5
MOX                                 pmax    pmax
       comp=Z,25nm,1.7s
MOX                                 MLR     MLR
       comp=Z,500nm,19.0s,MS5.0
MOX    Moxa              101.27 333 eP      P        12 16 18.6 -0.1
       comp=Z,25nm,1.7s
MOX                                 e                12 20 24.5
MOX                                 LR      LR
       comp=Z,500nm,19.0s,MS5.0
KHC    Kasperske Hory    101.48 331 ePDIF   P        12 16 20.1 +0.4
KHC                                 ePP     PP       12 20 29.3 -3.2
KHC                                 LR               13 05 40.0
       comp=Z,0.7nm,19.2s
GEC2   GERESS Array S    101.63 331 eP      P        12 16 19.9 -0.4
GERES  GERESS Array B    101.63 331 P       P        12 16 20.1 -0.2
       comp=Z,0.5nm,0.4s,baz=45,slow=5.7,SNR=10
GERES                               PP      PP       12 20 29.5 -4.1
       comp=Z,4.0nm,1.0s,baz=45,slow=5.7,SNR=9.6
GRA1   Grafenberg Arr    102.14 332 eP      Pdif     12 16 23.3 +0.7
       comp=Z,18nm,0.7s
GRA1                                e                12 20 36.3
GRA1                                LR      LR
       comp=Z,500nm,18.9s,MS5.1
GRF    Grafenberg Arr    102.14 332 eP      Pdif     12 16 23.3 +0.7
GRF                                 e                12 20 36.3
GRF                                 pmax    pmax
       comp=Z,18nm,0.7s
GRFO   Grafenberg        102.14 332 eP      Pdif     12 16 23.4 +0.8
HKT    Hockley           103.02  52 PFAKE            12 16 40.0  +13
HKT                                 LR      LR
       comp=Z,420nm,19.0s,MS5.0
MAW    Mawson            104.20 203 PP      PP       12 20 49.4 -2.9
       comp=Z,3.1nm,0.9s,baz=83,slow=7.7,SNR=4.8
MAW    Mawson            104.20 203 PFAKE            12 16 40.0 +8.7
MAW                                 LR      LR
       comp=Z,640nm,20.0s,MS5.2
GIVF   Givet             104.48 336 ePP     PP       12 20 50.7 -4.3
BAIF   Baives            104.76 336 ePP     PP       12 20 52.9 -4.3
CDF    Champ du Feu      104.82 334 ePP     PP       12 20 52.9 -4.8
HINF   Hinteralfeld      105.46 333 ePP     PP       12 20 55.3 -7.1
ACSO   Alum Creek Sta    105.77  38 PFAKE            12 21 00.0
ACSO                                LR      LR
       comp=Z,757nm,20.0s,MS5.2
ERPA   Erie              106.18  35 PFAKE            12 21 00.0
ERPA                                LR      LR
       comp=Z,278nm,20.0s,MS4.8
CABF   La Chapelle       106.72 333 ePP     PP       12 21 02.6 -9.4
LOR    Lormes            107.14 335 ePP     PP       12 21 08.1 -7.0
       comp=Z,36nm,1.2s
LPL    La Plagne         107.29 332 ePP     PP       12 21 12.2 -4.0
LPG    La Plagne         107.29 332 ePP     PP       12 21 12.2 -4.1
       comp=Z,47nm,1.4s
SSF    Saint Saulge      107.45 335 ePP     PP       12 21 10.3 -7.0
       comp=Z,33nm,1.3s
FLN    La Foliniere      107.56 338 ePP     PP       12 21 10.7 -7.4
       comp=Z,23nm,1.0s
LDF    La Druitiere      107.58 338 ePP     PP       12 21 11.4 -6.8
       comp=Z,24nm,1.2s
SMF    Signal de Mont    107.64 334 ePP     PP       12 21 09.8 -8.9
       comp=Z,35nm,1.4s
MBDF   Montbardon        107.88 331 ePP     PP       12 21 13.5 -6.9
       comp=Z,47nm,1.3s
MCWV   Mont Chateau      107.95  36 PFAKE            12 21 10.0
MCWV                                LR      LR
       comp=Z,746nm,19.0s,MS5.3
ORIF   Oris-en-Rattie    108.13 332 ePP     PP       12 21 16.0 -6.3
VIVF   Saint-Julien-l    108.71 333 ePP     PP       12 21 18.7 -8.3
SGMF   Saint Gilles      108.72 339 ePP     PP       12 21 19.7 -7.2
       comp=Z,67nm,1.5s
FRF    La Foret Royal    108.83 331 ePP     PP       12 21 19.0 -8.9
       comp=Z,157nm,1.7s
ROSF   Rostrenen         108.89 340 ePP     PP       12 21 17.1  -11
       comp=Z,26nm,1.2s
LMR    La Mourre         109.07 331 ePP     PP       12 21 19.1  -11
MFF    Saint Martin d    109.25 337 ePP     PP       12 21 22.2 -8.8
       comp=Z,24nm,1.1s
BLA    Blacksburg        109.27  39 PFAKE            12 21 10.0
BLA                                 LR      LR
       comp=Z,611nm,22.0s,MS5.1
RJF    Les Rejaudoux     109.68 335 ePP     PP       12 21 23.1  -11
LASF   Ste Croix         109.69 333 ePP     PP       12 21 24.5  -10
       comp=Z,38nm,1.4s
LFF    La Frestale       110.29 335 ePP     PP       12 21 30.3 -8.0
MTLF   Montolieu         110.99 333 ePP     PP       12 21 35.2 -8.0
       comp=Z,41nm,1.3s
NHSC   New Hope          112.14  42 PFAKE            12 21 20.0  +18
NHSC                                LR      LR
       comp=Z,388nm,22.0s,MS5.0
ETSF   Etsaut            112.51 335 ePP     PP       12 21 42.4  -12
DWPF   Disney            114.49  47 PFAKE            12 21 20.0  +13
DWPF                                LR      LR
       comp=Z,372nm,19.0s,MS5.0
ESDC   Sonseca Array     116.60 335 PP      PP       12 22 13.9  -10
       comp=Z,2.8nm,0.8s,baz=35,slow=6.4,SNR=5.6
ESLA   Sonseca Array     116.60 335 PFAKE            12 21 20.0 +9.2
ESLA                                LR      LR
       comp=Z,2µm,20.0s,MS5.7
EVO    Evora             119.14 338 ePKIKP  PKPdf    12 21 15.9 +0.2
       comp=Z,23nm,1.2s
LSZ    Lusaka            121.53 263 ePKPdf  PKPdf    12 21 23.2 +2.4
SNAA   Sanae             123.42 191 ⇑i      PKPdf    12 21 39.0  +16
SNAA   Sanae             123.42 191 ePKPdf  PKPdf    12 21 22.4 -0.8
SNAA                                ⇑iP              12 21 39.0
VNA2   Neumayer--Watz    124.84 190 ⇑i      PKPdf    12 21 47.0  +21
VNA3   Neumayer Olymp    124.92 189 ⇑i      PKPdf    12 21 46.5  +20
VNA1   Neumayer--Stat    125.22 190 ⇑i      PKPdf    12 21 48.2  +22
OTAV   Otavalo           131.81  73 ePKPdf  PKPdf    12 21 40.8  0.0
SDV    Santo Domingo     134.27  57 ePKPdf  PKPdf    12 21 47.6 +2.2
PLCA   Paso Flores       140.58 133 PKhKP            12 21 52.0
       comp=Z,2.3nm,1.0s,baz=139,slow=2.1,SNR=4.4
PLCA                                PKP     PKPdf    12 21 58.4 +2.2
       comp=Z,5.3nm,1.0s,baz=237,slow=4.4,SNR=7.6
DBIC   Dimbokro          142.99 309 PKhKP            12 21 58.0
       comp=Z,8.0nm,0.7s,baz=21,slow=3.9,SNR=11
DBIC                                PP      PP       12 25 11.7 -3.1
       comp=Z,22nm,1.3s,baz=59,slow=12,SNR=3.7
DBIC   Dimbokro          142.99 309 ePKPpre          12 21 59.3
KIC    Kosan Boka        143.11 308 eP      PKPbc    12 22 00.0 +0.6
       comp=Z,534nm,1.8s
TIC    Toumodi           143.13 309 eP      PKPbc    12 21 58.3 -1.2
       comp=Z,167nm,1.2s
LIC    Lamto             143.41 309 ePKIKP  PKPdf    12 21 59.5 -2.3
       comp=Z,93nm,1.1s
LIC    Lamto             143.41 309 eP      PKPbc    12 22 00.8 +0.5
       comp=Z,144nm,1.3s
LPAZ   La Paz            146.41  93 PKPbc   PKPbc    12 22 09.7 +1.5
       comp=Z,7.0nm,0.7s,baz=359,slow=1.0,SNR=19
LPAZ   La Paz            146.41  93 ePKPdf  PKPdf    12 22 09.6 +2.7
LPAZ                                LR      LR
       comp=Z,235nm,19.0s,MS5.0
TRQA   Tornquist         147.71 134 ePKPbc  PKPdf    12 22 11.2 +2.7
SAML   Samuel            149.36  77 ePKPdf  PKPdf    12 22 12.8 +0.9
SAML                                ePKPbc  PKPdf    12 22 17.3 +5.5
CPUP   Villa Florida     156.00 115 PKP     PKPdf    12 22 22.6 +1.7
       comp=Z,1.5nm,0.8s,baz=204,slow=5.9,SNR=3.1
BDFB   Brasilia          165.44  83 PKPab   PKPab    12 23 29.8 -2.1
       comp=Z,1.0nm,0.4s,baz=32,slow=2.4,SNR=1.6
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*IDC **01** 12:09:38.8±2.7, 18.29N×147.12E, mb3.9/9, mb1 4.1/9, mb1mx3.9/20, Error ellipse: s-maj=81.8km s-min=27.6km az=175.0*

*NEIC **01** 12:09:46.9±2.2, 18.03N×146.93E, h68^{km}±22^{km}, mb4.0/2, Error ellipse: s-maj=18.0km s-min=17.6km az=194.0*

ISC 01 12:09:43.3±3.8**, 18.0N**±0.2×**147.0E**±0.2**, h53**^{km}±37^{km}**, n14, σ0.^{s}97**/14**, mb3.9**/10**, Mariana Islands region**

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Code   Station Name         Δ°  AZ°   Phase ID              Time     Res
                                    Op      ISC          h  m  s    ISC
GUMO   Guam                4.87 206 P       P        12 10 56.0 +0.1
MAJO   Matsushiro         20.03 339 eP      P        12 14 19.2 +4.7
       7.4nm,0.8s
WB2    Warramunga Arr     39.72 199 eP      P        12 17 11.7 -0.7
ASPA   Alice Springs      43.37 198 eP      P        12 17 48.9 +6.5
SONM   Songino Array      44.46 321 P       P        12 17 51.1 +0.2
       0.9nm,0.7s,mb3.6,baz=140,slow=10,SNR=3.7
CMAR   Chiang Mai Arr     45.57 278 P       P        12 18 00.9 +0.8
       0.8nm,0.5s,mb3.9,baz=72,slow=6.0,SNR=5.3
MKAR   Makanchi Array     59.84 314 P       P        12 19 45.6 -0.1
       1.1nm,0.7s,mb4.0,baz=74,slow=10,SNR=5.9
ILAR   Eielson Array      63.70  26 P       P        12 20 08.9 -2.3
       0.3nm,0.8s,mb3.4,baz=217,slow=4.7,SNR=4.4
BVAR   Borovoye Array     67.80 321 P       P        12 20 37.2 -0.4
       4.9nm,1.0s,mb4.5,baz=95,slow=7.6,SNR=9.2
ZRNK   Zerenda            68.64 321 P       P        12 20 41.7 -1.1
       1.4nm,0.8s,mb3.9
YKA    Yellowknife Ar     77.99  28 P       P        12 21 37.7 +0.4
       0.3nm,0.6s,mb3.4,baz=284,slow=5.7,SNR=3.8
NVAR   Mina Array Bea     82.56  52 P       P        12 22 03.5 +1.3
       0.4nm,0.8s,mb3.5,baz=254,slow=6.6,SNR=2.6
ARCES  ARCESS Array B     83.52 342 P       P        12 22 07.8 +1.5
       1.8nm,0.8s,mb4.2,baz=34,slow=5.1,SNR=7.8
FINES  FINESS Array B     88.03 336 P       P        12 22 28.2 -0.4
       1.7nm,0.9s,mb4.3,baz=70,slow=4.9,SNR=5.5
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*IDC **01** 12:13:23.2±1.6, 15.31S×178.58E, mb4.1/7, mb1 4.4/7, mb1mx4.1/15, Error ellipse: s-maj=98.3km s-min=21.9km az=147.0*

*NEIC **01** 12:13:28.5±1.0, 15.31S×178.49E, h35^{km}, mb4.3/3, Error ellipse: s-maj=51.2km s-min=13.7km az=148.0*

ISC 01 12:13:26.9±1.3**, 15.3S**±0.4×**178.5E**±0.3**, h33**^{km}**, n10, σ0.^{s}68**/10**, mb4.0**/9**, Fiji Islands**

```
Code   Station Name         Δ°  AZ°   Phase ID              Time     Res
                                    Op      ISC          h  m  s    ISC
STKA   Stephens Creek     37.38 237 eP      P        12 20 37.8 -0.6
       7.1nm,0.7s,mb4.6
STKA   Stephens Creek     37.38 237 P       P        12 20 38.3 -0.1
       8.6nm,0.7s,mb4.7,baz=78,slow=8.1,SNR=3.7
WRAB   Tennant Creek      42.20 257 P       P        12 21 18.2 -0.4
       2.4nm,0.8s,mb3.9
ASAR   Alice Springs      42.67 252 P       P        12 21 22.8 +0.3
       2.8nm,0.8s,mb4.0,baz=79,slow=9.0,SNR=16
YBH    Yreka Blue Hor     78.46  41 P       P        12 25 25.9 -0.4
       0.4nm,0.4s,mb3.7,baz=255,slow=3.4,SNR=6.1
NVAR   Mina Array Bea     79.69  45 P       P        12 25 33.1 +0.1
       0.5nm,0.7s,mb3.5,baz=228,slow=8.9,SNR=5.2
ENH    Enshi              80.31 305 eP      P        12 25 35.9 -0.7
       1.6nm,0.5s,mb4.2
ILAR   Eielson Array      84.06  14 P       P        12 25 54.5 -0.6
       0.8nm,0.8s,mb3.9,baz=233,slow=4.5,SNR=6.9
CMAR   Chiang Mai Arr     85.16 291 P       P        12 26 03.2 +1.6
       1.6nm,0.9s,mb4.2,baz=104,slow=3.7,SNR=3.4
PDAR   Pinedale Array     87.57  45 P       P        12 26 13.6 +0.6
       0.7nm,0.7s,mb4.0,baz=244,slow=3.7,SNR=6.8
```

IDC 01 12:14:42.5±3.1**, 1.13N**×**123.75E, mb4.1**/3**, mb1 4.2**/4**, mb1mx3.7**/17**, ML3.7**/1**, Error ellipse: s-maj=120.0km s-min=52.9km az=72.0, Minahassa Peninsula, Sulawesi**

```
Code   Station Name         Δ°  AZ°   Phase ID              Time     Res
                                    Op      ISC          h  m  s    ISC
FITZ   Fitzroy Crossi     19.20 175 P       P        12 19 08.5 -2.2
       0.2nm,0.3s,baz=1.1,slow=8.3,SNR=5.2
WRA    Warramunga Arr     23.38 154 P       P        12 19 52.0 -2.0
       4.7nm,0.5s,baz=332,slow=10,SNR=38
WB2    Warramunga Arr     23.38 154 eP      P        12 19 53.0 -1.0
ASAR   Alice Springs      26.55 159 P       P        12 20 22.8 -1.3
       1.4nm,0.5s,baz=336,slow=9.5,SNR=9.1
ASAR                                PcP     PcP      12 23 46.7 -2.6
       0.3nm,0.3s,baz=346,slow=2.0,SNR=7.1
STKA   Stephens Creek     36.93 154 P       P        12 21 53.7 -1.4
       1.0nm,0.3s,baz=342,slow=7.0,SNR=6.1
```

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*NAO **01** 13:04:10.0±4.8, 60.85N×28.98E, ML2.3*

*BER **01** 13:04:12.2±2.7, 60.71N×28.73E, ML2.3(NAO), Suspected explosion*

HEL 01 13:04:11.4±0.6**, 60.71N**×**28.87E, ML1.5, ML2.3**(NAO)**, Explosion, Finland-Karelia border region**

```
Code   Station Name         Δ°  AZ°   Phase ID              Time     Res
                                    Op      ISC          h  m  s    ISC
VJF    Virojoki            0.67 256 eP      Pg       13 04 23.3 -1.5
VJF                                 eS      Sg       13 04 32.4 -1.4
PVF    Pernaja             1.49 265 eP      Pn       13 04 38.6 -0.9
PVF                                 eS      Sb       13 04 57.3 -1.9
FIA0   FINESS Array S      1.54 300 eP      Pn       13 04 38.1 -2.2
FIA0                                eS      Sb       13 04 58.5 -2.1
FIA0   FINESS Array S      1.54 300 Pn      Pn       13 04 38.3 -2.0
       baz=126,slow=16
FIA0                                Lg               13 04 59.0
       baz=118,slow=28
FIA0                                Rg               13 05 06.2
       baz=122,slow=37
KAF    Kangasniemi         1.87 320 eP      Pn       13 04 44.2 -0.7
KAF                                 eS      Sn       13 05 08.8 -0.8
KAF                                 MSG              13 05 11.1
       comp=Z,2.3nm,0.1s
SUF    Sumiainen           2.40 328 MSG              13 05 30.3
       comp=Z,0.9nm,0.1s
KEF    Keuruu              2.41 309 MSG              13 05 25.8
       comp=Z,2.4nm,0.2s
ARA0   ARCESS Array S      8.97 352 Lg               13 08 48.0
       baz=157,slow=37
ARA0   ARCESS Array S      8.97 352 eSG              13 08 48.0
ARA0   ARCESS Array S      8.97 352 Lg               13 08 48.0
       baz=157,slow=37
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*HEL **01** 13:05:23.4±0.3, 59.67N×22.32E, ML1.9, ML2.6(UPP), ML2.1(NAO), Explosion*

*IDC **01** 13:05:23.7±2.8, 59.76N×22.34E, mb1 3.0/3, mb1mx2.8/20, ML2.8/3, Error ellipse: s-maj=38.8km s-min=11.0km az=168.0*

*BER **01** 13:05:25.8±2.9, 59.93N×22.28E, ML2.1(NAO), Suspected explosion*

*NAO **01** 13:05:26.5±3.0, 60.11N×22.18E, ML2.1*

ISC 01 13:05:22.6±0.8**, 59.71N**±0.09×**22.29E**±0.07**, n19, σ0.^{s}80**/27**, Baltic States - Belarus - Northwestern Russia**

```
Code   Station Name         Δ°  AZ°   Phase ID              Time     Res
                                    Op      ISC          h  m  s    ISC
AAL    Aland               1.25 293 eP      Pb       13 05 45.4 -1.3
AAL                                 eS      Sb       13 06 02.9 -0.3
NRTU   Norrtaelje          1.85 270 eP      Pn       13 05 56.4 +0.5
PVF    Pernaja             1.97  63 eP      Pn       13 05 57.3 -0.3
PVF                                 eS      Sn       13 06 23.6 +0.1
PVF                                 MSG              13 06 27.0
       comp=Z,8.0nm,0.1s
GRAU   Graesoe             1.98 290 eP      Pn       13 05 57.5 -0.3
FLYU   Flymyra             2.26 283 eP      Pn       13 06 02.5 +0.9
NYNU   Nynaeshamn          2.31 254 eP      Pn       13 06 03.7 +1.3
FIA0   FINESS Array S      2.55  45 eP      Pn       13 06 06.5 +0.6
FIA0                                eS      Sn       13 06 37.9 -0.2
FIA0                                MSG              13 06 42.5
       comp=Z,4.3nm,0.1s
FIA0   FINESS Array S      2.55  45 Pn      Pn       13 06 06.3 +0.4
       baz=230,slow=14
FIA0                                Lg               13 06 38.9
       baz=228,slow=28
FINES  FINESS Array B      2.55  45 Pn      Pn       13 06 06.0 +0.1
       comp=Z,1.4nm,0.3s,baz=229,slow=13,SNR=22
FINES                               Sn      Sn       13 06 39.1 +0.9
       comp=Z,4.3nm,0.3s,baz=230,slow=22,SNR=19
BACU   Backbrunna          2.62 275 eP      Pn       13 06 07.4 +0.5
OSTU   Oestervaala         2.64 284 eP      Pn       13 06 07.4 +0.2
VJF    Virojoki            2.76  70 eP      Pn       13 06 08.8 -0.1
VJF                                 eS      Sn       13 06 42.1 -1.4
KEF    Keuruu              2.77  26 eP      Pn       13 06 09.7 +0.7
KEF                                 eS      Sn       13 06 44.2 +0.7
KEF                                 MSG              13 06 48.4
       comp=Z,3.1nm,0.3s
HFS    Hagfors             4.35 279 eP      Pn       13 06 31.1 -0.4
HFS                                 eSG     Sg       13 07 38.3 -9.0
HFS    Hagfors             4.35 279 Pn      Pn       13 06 31.1 -0.4
       baz=102,slow=10
HFS                                 Lg               13 07 38.3
       baz=80,slow=37
NOA    NORSAR Array B      5.65 288 Pn      Pn       13 06 48.0 -1.9
       comp=Z,0.2nm,0.3s,baz=137,slow=12,SNR=2.1
NOA                                 Lg               13 08 17.9
       comp=Z,0.3nm,0.3s,baz=108,slow=16,SNR=2.6
ARA0   ARCESS Array S      9.96   7 Pn      P        13 07 44.7 -5.1
       baz=189,slow=14
ARA0                                Sn      Sn       13 09 29.9  -14
       baz=188,slow=28
ARA0   ARCESS Array S      9.96   7 eP      P        13 07 44.7 -5.1
ARA0                                e                13 09 29.9
ARCES  ARCESS Array B      9.96   7 Pn      P        13 07 44.8 -5.0
       comp=Z,0.1nm,0.3s,baz=184,slow=13,SNR=7.2
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*CSEM **01** 13:18:37.2, 0.16N×123.32E, h33^{km}, mb5.6*

*BJI **01** 13:18:42.9, 0.72S×124.15E, h149^{km}, mB5.2, mb5.3*

*DJA **01** 13:18:42.8±1.3, 0.48N×123.98E, h71^{km}±9^{km}, mb6.0/1, ML6.1/2, Error ellipse: s-maj=72.2km s-min=26.1km az=134.0*

*MOS **01** 13:18:48.7±0.9, 0.14N×123.55E, h142^{km}, mb5.3/17, Error ellipse: s-maj=22.4km s-min=8.4km az=115.4*

*IDC **01** 13:18:50.6±0.6, 0.13N×123.62E, h136^{km}±4^{km}, mb4.9/25, mb1 5.0/27, mb1mx4.9/28, MS4.1/9, Ms1 4.1/9, ms1mx3.8/26, Error ellipse: s-maj=13.9km s-min=6.3km az=72.0*

*SYO **01** 13:18:50.6, 0.13N×123.63E, h135^{km}, MB5.3*

*NEIC **01** 13:18:52.0±0.8, 0.12N×123.63E, h149^{km}±8^{km}, mb5.2/44, Error ellipse: s-maj=7.7km s-min=4.5km az=65.0*

*HRVD **01** 13:18:52.0±0.2, 0.16N×123.78E, h124^{km}±1^{km}, MW5.3/68, Centroid moment Tensor Solution. LP body waves:*

s54,c88;Mantle waves: s68,c138; Half duration: 1^{s}1 Moment tensor: Scale 10^{17}Nm; M_{rr}0.88±.02; $M_{\theta\theta}$-0.78±.03; $M_{\phi\phi}$-0.09±.03; $M_{r\theta}$0.71±.02; $M_{\theta\phi}$-0.40±.03; $M_{\phi r}$0.03±.02; Best double couple: $M_0$1.16×10^{17} NP1: ϕ_s231°,δ29°,λ65°. NP2:ϕ_s79°,δ64°,λ103°. Principal axes: T 1.15, Plg68°, Azm14°; N .03, Plg12°, Azm253°; P -1.18, Plg18°, Azm159°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

ISC 01 13:18:49.6±0.2**,0.06N**±0.02×**123.64E**±0.03**,h142**^{km}**, h142**^{km}±2.3^{km}**:pP-P,n327,**σ**1^{s}25**/290**,mb5.2**/96**,34C-16D, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TANI	Tanete Lipujan	5.49	231	⇓ePn	P	13 20 10.9	+0.5
	627nm,0.3s						
TANI				⇑eSn	S	13 21 16.5	+3.5
NINI	Niniconang	5.91	221	⇑iPn	P	13 20 17.1	+1.2
	2μm,0.4s						
NINI				⇓eSn	S	13 21 25.2	+2.3
KCP	Kidapawan	7.05	12	eP	P	13 20 35.7	+4.3
MATI	Mati	7.32	21	eP	P	13 20 34.8	-0.2
PAGZ	Pagadian	7.74	358	eP	P	13 20 41.6	+0.9
IPIL	Ipil	7.75	352	eP	P	13 20 42.5	+1.8
BUKP	Musuan	7.89	10	eP	P	13 20 44.6	+1.8
DCPH	Dipolog City	8.47	358	⇓eP	P	13 20 55.4	+5.0
BUTP	Butuan	9.07	13	eP	P	13 21 01.8	+3.5
SNPH	Sibulan	9.23	358	eP	P	13 21 05.0	+4.6
KKM	Kota Kinabalu	9.50	309	⇓eP	P	13 21 06.5	+2.5
	258nm,0.5s						
MSLP	Maasin	10.08	7	eP	P	13 21 15.9	+4.1
BATP	Bataraza	10.45	326	eP	P	13 21 19.9	+3.2
GUIM	Jordan	10.55	354	eP	P	13 21 21.9	+3.9
PPR	Puerto Princes	10.82	333	⇑iP	P	13 21 24.7	+3.2
OCLP	Ormoc	10.96	5	eP	P	13 21 26.0	+2.6
CUYO	Cuyo Island	11.03	346	eP	P	13 21 29.4	+5.1
PLP	Palo	11.11	7	eP	P	13 21 29.6	+4.2
KEDI	Kedomdong	11.33	221	⇑eP	P	13 21 31.2	+3.0
	407nm,1.1s						
RCP	Roxas	11.46	356	⇑eP	P	13 21 34.0	+4.0
BESP	Borongan	11.60	9	eP	P	13 21 35.3	+3.5
ENPP	El Nido	11.84	339	eP	P	13 21 39.7	+4.8
RATI	Rata	11.89	223	⇑eP	P	13 21 39.0	+3.4
INGI	Ingas	12.22	224	⇑eP	P	13 21 43.7	+3.8
KELI	Kelakatan	12.28	228	⇑eP	P	13 21 42.4	+1.8
OTRP	Odiongan	12.33	353	eP	P	13 21 51.4	+10
BUSP	Coron	12.35	344	eP	P	13 21 47.3	+5.8
CNP	Catarman	12.41	5	eP	P	13 21 47.2	+4.9
SJMP	San Jose	12.57	349	eP	P	13 21 50.0	+5.6
AUQP	San Andres	13.21	356	eP	P	13 22 02.2	+9.5
BOAC	Boac	13.43	352	eP	P	13 22 01.3	+5.8
PVCP	Virac	13.46	2	eP	P	13 22 00.1	+4.3
GQP	Guinayangan	13.80	355	⇑eP	P	13 22 03.2	+2.8
LUBP	Lubang	13.99	346	eP	P	13 22 07.3	+4.5
LQP	Lukban	14.11	352	⇓eP	P	13 22 09.3	+5.0
TGY	Tagaytay City	14.21	349	P	P	13 22 08.4	+2.9
	54nm,0.3s,baz=196,slow=2.4,SNR=17						
ARP	Angono	14.59	350	eP	P	13 22 15.8	+5.4
POLP	Polilio Island	14.67	353	eP	P	13 22 13.7	+2.3
QVPH	Quezon City--P	14.72	350	i P	P	13 22 16.2	+4.2
KAKA	Kakadu	15.37	146	⇓iP	P	13 22 19.2	-1.0
	434nm,0.6s						
KAKA				eSCP		13 30 38.8	
BALP	Baler	15.71	353	eP	P	13 22 26.4	+1.9
SCZP	Santa Cruz	16.04	347	eP	P	13 22 30.4	+1.8
BCPH	Baguio City Da	16.49	350	⇑eP	P	13 22 35.1	+0.9
BOLP	Bolinao	16.63	347	eP	P	13 22 37.7	+1.9
CAUP	Cauayan	16.87	354	eP	P	13 22 41.0	+2.2
PALP	Palanan	16.94	356	eP	P	13 22 42.9	+3.4
CVP	Callao Caves	17.62	354	⇓eP	P	13 22 48.8	+1.0
ABRA	Dolores	17.71	351	eP	P	13 22 48.0	-0.9
APYP	Conner	17.84	353	eP	P	13 22 51.0	+0.5
SGCP	Mt. Cagua	18.14	355	eP	P	13 22 53.9	+0.3
FITZ	Fitzroy Crossi	18.16	174	eP	P	13 22 52.7	-1.1
	93nm,0.9s						
FITZ				eS	S	13 26 13.8	+5.2
FITZ				eSCP		13 30 44.0	
FITZ	Fitzroy Crossi	18.16	174	P	P	13 22 53.1	-0.8
	17nm,0.3s,baz=5.1,slow=7.9,SNR=435						
FITZ				S	S	13 26 13.1	+4.5
	baz=352,slow=19,SNR=4.2						
FITZ				ScP		13 30 43.8	
	0.6nm,0.3s,baz=283,slow=3.0,SNR=5.7						
PIP	Pasuquin	18.39	351	⇑eP	P	13 22 56.0	-0.4
BBP	Basco	20.32	355	eP	P	13 23 17.6	+1.2
KGM	Kluang	20.41	276	⇓eP	P	13 23 18.5	+1.1
WRAB	Tennant Creek	22.47	153	⇓iP	P	13 23 37.5	-0.2
	332nm,0.7s,mb5.9						
WRA	Warramunga Arr	22.47	153	P	P	13 23 38.2	+0.5
	43nm,0.5s,mb5.1,baz=337,slow=10,SNR=196						
WRA				S	S	13 27 33.4	+3.6
	33nm,1.0s,baz=336,slow=16,SNR=7.0						
WRA				ScP		13 30 53.7	
	14nm,1.0s,baz=334,slow=2.8,SNR=12						
WRA				ScS	ScS	13 34 36.5	+1.1
	4.6nm,0.8s,baz=292,slow=4.5,SNR=12						
WRA	Warramunga Arr	22.47	153	P	P	13 23 38.2	+0.5
WRA				S	S	13 27 33.4	+3.6
WRA				SS	ScS	13 34 36.5	+1.0
WB2	Warramunga Arr	22.48	153	eP	P	13 23 37.5	-0.2
WB2				eS	S	13 27 31.8	+1.9
WB2				eSCP		13 30 53.6	
WB2				eSCS	ScS	13 34 35.9	+0.4
IPM	Ipoh	23.03	282	⇑eP	P	13 23 46.0	+2.7
	62nm,1.0s,mb5.0						
QIZ	Qiongzhong	23.21	325	P	P	13 23 47.0	+2.1
QIZ				PP	PP	13 24 28.6	+7.9
QIZ				XP		13 24 32.4	
QIZ				S	S	13 27 58.2	+16
QIZ				XS		13 28 47.0	
QIZ				AMB	AMB		
	comp=Z,126nm,1.0s,mb5.3						
QIZ				AMB	AMB		
	comp=Z,669nm,7.1s						
QIZ	Qiongzhong	23.21	325	eP	P	13 23 46.6	+1.7
	comp=Z,132nm,0.9s,mb5.4						
WAU	Wau	24.16	108	eP	P	13 23 55.8	+1.7
TATO	Taipei	24.86	355	eP	P	13 24 00.1	-0.5
	comp=Z,74nm,0.9s,mb5.2						
QZH	Quanzhou	25.21	349	⇑iP	P	13 24 05.1	+1.2
QZH				AP	pP	13 24 33.2	-0.1
QZH				eS	S	13 28 22.6	+6.3
ASPA	Alice Springs	25.61	158	⇓iP	P	13 24 07.6	0.0
ASPA				eS	S	13 28 25.6	+2.8
ASPA				eSCP		13 31 02.3	
ASPA				eSCS	ScS	13 34 49.0	+1.0
ASAR	Alice Springs	25.61	158	P	P	13 24 07.5	0.0
	comp=Z,96nm,0.7s,mb5.5,baz=344,slow=15,SNR=240						
ASAR				pP	pP	13 24 38.2	+1.2
	comp=Z,56nm,0.8s,baz=329,slow=7.6,SNR=5.0						
ASAR				PcP	PcP	13 27 35.2	-0.1
	comp=Z,13nm,0.5s,baz=343,slow=2.2,SNR=7.2						
ASAR				S	S	13 28 27.1	+4.3
	comp=Z,7.1nm,0.9s,baz=349,slow=19,SNR=2.6						
ASAR				ScP		13 31 02.1	
	comp=Z,14nm,0.8s,baz=340,slow=2.1,SNR=14						
ASAR				ScS	ScS	13 34 49.2	+1.2
	comp=Z,1.6nm,0.7s,baz=315,slow=5.1,SNR=9.1						
ASAR				P3KPbc		13 56 59.6	
	comp=Z,0.5nm,0.7s,baz=148,slow=4.5,SNR=7.5						
ASAR	Alice Springs	25.61	158	P	P	13 24 07.5	0.0
ASAR				pP	pP	13 24 38.2	+1.2
ASAR				PcP	PcP	13 27 35.2	-0.1
ASAR				S	S	13 28 27.1	+4.3
ASAR				ScP		13 31 02.1	
ASAR				ScS	ScS	13 34 49.2	+1.2
ASAR				e		13 56 59.6	
KKTK	Khon Kaen	26.14	309	⇑P	P	13 24 13.0	+0.5
KKTK				SG	sP	13 25 00.0	+1.4
NNT	Nongplab	26.78	299	P	P	13 24 19.2	+0.8
JOW	Kunigami	26.99	9	P	P	13 24 18.6	-1.6
	comp=Z,49nm,0.7s,mb5.2,baz=186,slow=8.2						
JOW				LR	LR	13 34 43.8	
	comp=Z,444nm,19.1s,baz=235,slow=35						
NST	Nakhon Sawan	27.91	305	P	P	13 24 29.3	+0.5
RAB	Rabaul	28.81	99	eP	P	13 24 37.8	+1.0
NANT	Nan	29.22	311	⇑P	P	13 24 39.0	-1.4
	comp=Z,75nm,0.5s,mb5.7						
BDT	Bhumibol Dam	29.66	306	P	P	13 24 46.0	+1.6
	comp=Z,22nm,0.8s,mb4.9						
CTA	Charters Tower	29.86	133	eP	P	13 24 46.6	+0.6
	comp=Z,12nm,0.8s,mb4.7						
CTA				epP	pP	13 25 20.7	+4.4
CTA				i S	S	13 29 33.9	+2.8
CTA				eSCP		13 31 15.0	
CTA	Charters Tower	29.86	133	P	P	13 24 46.2	+0.2
	comp=Z,15nm,0.9s,mb4.7,baz=321,slow=9.6,SNR=14						
CTA				pP	pP	13 25 20.6	+4.2
	comp=Z,17nm,0.8s,baz=318,slow=7.6,SNR=4.7						
CTA				ScP		13 31 16.4	
	comp=Z,21nm,0.9s,baz=298,slow=6.2,SNR=8.4						
CTAO	Charters Tower	29.86	133	eP	P	13 24 46.5	+0.4
	comp=Z,18nm,0.9s,mb4.8						
CM31	Chiang Mai Arr	30.38	308	eP	P	13 24 51.2	+0.6
	comp=Z,71nm,1.2s,mb5.3						
CMAR	Chiang Mai Arr	30.38	308	P	P	13 24 50.6	0.0
	comp=Z,20nm,0.8s,mb4.9,baz=134,slow=7.1,SNR=87						
CMAR				pP	pP	13 25 17.0	-4.0
	comp=Z,5.3nm,0.8s,baz=136,slow=7.6,SNR=2.4						
CMAR				PcP	PcP	13 27 47.9	+0.8
	comp=Z,13nm,0.7s,baz=139,slow=2.2,SNR=21						
CMAR				ScP		13 31 17.1	
	comp=Z,4.6nm,0.8s,baz=161,slow=2.9,SNR=12						
CMAR				PKiKP		13 35 18.2	
	comp=Z,0.8nm,0.7s,baz=300,slow=1.5,SNR=5.1						
CMAR				LR	LR	13 36 59.0	
	comp=Z,468nm,20.0s,baz=120,slow=36						
CHG	Chiang Mai	30.58	309	⇑P	P	13 24 53.0	+0.6
	comp=Z,62nm,0.8s,mb5.4						
GYA	Guiyang	30.92	329	⇑iP	P	13 24 55.6	+0.2
GYA				AP	pP	13 25 25.6	-0.3
GYA				XP	sP	13 25 42.3	0.0
GYA				PP	PP	13 26 11.6	+9.3
GYA				S	S	13 30 01.9	+14
GYA				XS		13 30 54.4	
GYA				AMB	AMB		
	comp=Z,50nm,1.1s,mb5.2						
GYA				AMB	AMB		
	comp=Z,260nm,3.9s						
GYA				LR	LR		
	comp=N,890nm,16.8s						
GYA				LR	LR		
	comp=E,900nm,15.7s						
GYA				LR	LR		
	comp=Z,540nm,13.5s						
SSE	Sheshan	30.95	356	P	P	13 24 57.3	+1.7
SSE				AP	pP	13 25 29.3	+3.2
SSE				XP	sP	13 25 44.9	+2.3
SSE				PP	PP	13 26 09.8	+7.2
SSE				S	S	13 29 51.0	+2.8
SSE				AMB	AMB		
	comp=Z,50nm,1.3s,mb5.1						
SSE				LR	LR		
	comp=N,386nm,29.9s						
SSE				LR	LR		
	comp=E,258nm,29.8s						
SSE				LR	LR		
	comp=Z,566nm,25.6s						
FORT	Forrest	30.96	173	⇓iP	P	13 24 54.9	-0.7
	comp=Z,1μm,0.6s						
FORT				eS	S	13 29 48.5	+0.3
FORT				eSCP		13 31 19.0	
WHN	Wuhan	31.57	345	eP	P	13 25 00.5	-0.5
WHN				LR	LR		
	comp=Z,1μm,18.2s						
KLBR	Kellerberrin	31.97	190	⇓iP	P	13 25 03.6	-0.9
	comp=Z,44nm,0.5s,mb5.5						
KLBR				ePcP	PcP	13 27 51.5	+0.3
KMI	Kunming	32.08	322	eP	P	13 25 06.7	+1.2
KMI				AP	pP	13 25 35.3	-0.9
KMI				XP	sP	13 25 50.6	-2.1
KMI				PP	PP	13 26 16.5	-0.3
KMI				S	S	13 30 05.7	-0.2
KMI				AMB	AMB		
	comp=Z,25nm,1.7s,mb4.7						
KMI				AMB	AMB		
	comp=Z,267nm,5.7s						
KMI				LR	LR		
	comp=N,306nm,14.5s						
KMI				LR	LR		
	comp=E,389nm,15.7s						
KMI				LR	LR		
	comp=Z,577nm,32.1s						
NJ2	Nanjing	32.14	352	eP	P	13 25 06.2	+0.3
NJ2				AP	pP	13 25 36.5	-0.1
NJ2				XP	sP	13 25 53.1	0.0
NJ2				S	S	13 30 08.0	+1.3
NJ2				AMB	AMB		
	comp=Z,480nm,6.0s						
NJ2				LR	LR		
	comp=N,6μm,16.8s						
NJ2				LR	LR		
	comp=E,4μm,10.7s						
NJ2				LR	LR		
	comp=Z,7μm,20.0s						
CBIJ	Chichi jima	32.26	32	P	P	13 25 05.5	-1.5
	comp=Z,568nm,0.4s,baz=226,slow=5.6,SNR=16						
ENH	Enshi	32.92	337	eP	P	13 25 13.1	+0.3
	comp=Z,148nm,1.1s,mb5.6						
NWAO	Narrogin (SRO)	33.36	190	P	P	13 25 16.3	-0.1
	comp=Z,41nm,0.6s,mb5.3,baz=20,slow=8.9,SNR=64						
JNU	Nakatsue	33.58	11	P	P	13 25 16.4	-1.9
	comp=Z,18nm,0.6s,mb5.0,baz=162,slow=2.3,SNR=8.0						
CD2	Chengdu	36.02	330	⇑iP	P	13 25 40.1	+1.1
CD2				S	S	13 31 08.8	+2.2
CD2				SS	SS	13 33 52.2	+13
STKA	Stephens Creek	36.02	154	⇓iP	P	13 25 39.3	+0.3
	comp=Z,82nm,0.6s,mb5.5						
STKA				eS	S	13 31 08.0	+1.4
STKA				i SCP		13 31 37.0	
STKA	Stephens Creek	36.02	154	P	P	13 25 39.6	+0.6
	comp=Z,118nm,0.7s,mb5.6,baz=328,slow=8.3,SNR=272						
STKA				pP	pP	13 26 12.3	+2.0
	comp=Z,72nm,1.1s,baz=332,slow=7.9,SNR=2.8						
STKA				ScP		13 31 37.1	
	comp=Z,31nm,0.9s,baz=327,slow=6.1,SNR=12						
STKA	Stephens Creek	36.02	154	eP	P	13 25 39.0	0.0
STKA				⇓iP		13 25 39.3	
STKA				eS	S	13 31 08.0	+1.4
STKA				i ScP		13 31 37.0	
JHJ	Hachijo jima 2	36.23	23	P	P	13 25 39.0	-1.7
	comp=Z,182nm,0.9s,mb5.7,baz=193,slow=9.7,SNR=7.3						
XAN	Xi’an	36.51	339	P	P	13 25 42.9	-0.1
XAN				AMB	AMB		
	comp=Z,53nm,1.5s,mb5.0						
XAN				AMB	AMB		
	comp=Z,243nm,9.6s						
XAN				LR	LR		
	comp=N,258nm,16.7s						
XAN				LR	LR		
	comp=E,587nm,18.7s						
XAN				LR	LR		
	comp=Z,570nm,19.7s						
KS15	Wonju Array Si	37.40	6	eP	P	13 25 50.8	+0.3
ADE	Adelaide	37.59	160	eP	P	13 25 53.6	+1.5
DL2	Dalian	38.70	357	P	P	13 26 02.9	+1.6
DL2				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.1						
MAJO	Matsushiro	38.73	19	eP	P	13 26 00.3	-1.3
	comp=Z,120nm,0.9s,mb5.5						
MAT	Matsushiro	38.73	19	P	P	13 26 00.2	-1.4
MAT				eS	S	13 31 56.0	+8.3
MAT	Matsushiro	38.73	19	⇑iP	P	13 26 00.3	-1.3
	comp=Z,97nm,0.9s,mb5.4						
MAT				S	S	13 31 56.0	+8.3
SHL	Shillong	39.78	312	i P	P	13 26 10.6	+0.2
LZH	Lanzhou	40.29	335	⇑P	P	13 26 15.3	+0.9
LZH				AP	pP	13 26 46.5	+0.3
LZH				XP	sP	13 27 02.3	-0.7
LZH				PP	PP	13 27 53.6	+1.2
LZH				S	S	13 32 12.4	+1.5
LZH				AMB	AMB		
	comp=Z,156nm,1.5s,mb5.4						
LZH				AMB	AMB		
	comp=Z,414nm,5.9s						
LZH				LR	LR		
	comp=N,1μm,13.2s						
LZH				LR	LR		
	comp=Z,1μm,17.3s						
ARMA	Armidale	40.34	141	eP	P	13 26 16.4	+1.5
ARMA				epP	pP	13 26 50.5	+3.9
BJT	Baijiatuau	40.35	351	eP	P	13 26 13.9	-0.9
	comp=Z,63nm,1.0s,mb5.2						
BJI	Beijing	40.37	351	P	P	13 26 12.1	-2.9
BJI				AP	pP	13 26 43.0	-3.8
BJI				S	S	13 32 13.5	+1.5
BJI				AMB	AMB		
	comp=Z,21nm,1.0s,mb4.7						
BJI				AMB	AMB		
	comp=Z,242nm,4.2s						
SNY	Shenyang	41.58	360	⇑P	P	13 26 23.4	-1.6
SNY				AMB	AMB		
	comp=Z,20nm,0.7s,mb4.9						
SNY				LR	LR		
	comp=N,400nm,21.2s						
SNY				LR	LR		
	comp=E,280nm,15.9s						
SNY				LR	LR		
	comp=Z,370nm,19.6s						
HHC	Hu-ho-hao-te	42.05	346	eP	P	13 26 29.2	+0.3
HHC				AP	pP	13 27 02.6	+1.8
HHC				XP	sP	13 27 18.0	+0.6
HHC				PP	PP	13 28 12.7	+1.7
HHC				PCS		13 32 11.8	
HHC				S	S	13 32 37.5	+0.7
HHC				AMB	AMB		
	comp=Z,35nm,1.2s,mb4.9						
HHC				AMB	AMB		
	comp=Z,176nm,5.2s						
HHC				LR	LR		
	comp=N,152nm,19.0s						
HHC				LR	LR		
	comp=E,135nm,19.0s						
HHC				LR	LR		
	comp=Z,150nm,18.4s						
BTO	Baotou	42.21	345	eP	P	13 26 30.2	0.0
TOO	Toolangi	42.54	154	eP	P	13 26 34.9	+2.0
	comp=Z,40nm,1.1s,mb5.0						
CNB	Canberra Magne	42.59	148	eP	P	13 26 35.5	+2.1
	comp=Z,38nm,0.7s,mb5.1						
LSA	Lhasa	42.74	316	P	P	13 26 35.7	+1.1
LSA				S	S	13 32 48.9	+1.9
LSA				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.0						
LSA				AMB	AMB		
	comp=Z,210nm,4.5s						
LSA				LR	LR		
	comp=E,380nm,34.2s						
LSA				LR	LR		
	comp=Z,270nm,34.2s						
LSA	Lhasa	42.74	316	eP	P	13 26 36.0	+1.4
	comp=Z,23nm,0.7s,mb4.9						
CN2	Changchun	43.58	2	eP	P	13 26 40.6	-0.6
CN2				eAP	pP	13 27 09.0	-4.2
CN2				PCP	PcP	13 28 26.9	+0.1
CN2				eS	S	13 33 00.4	+1.4
CN2				SS	SS	13 36 15.4	+4.8
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,200nm,14.0s						
CN2				LR	LR		
	comp=E,300nm,14.0s						
CN2				LR	LR		
	comp=Z,400nm,14.0s						
MDJ	Mudanjiang	44.68	6	P	P	13 26 49.3	-0.7
MDJ				AP	pP	13 27 18.8	-3.3
MDJ				PP	PP	13 28 37.1	-0.1
MDJ				S	S	13 33 18.6	+3.8
MDJ				AMB	AMB		
	comp=Z,75nm,0.8s,mb5.4						
MDJ				AMB	AMB		
	comp=Z,205nm,4.2s						
MDJ				LR	LR		
	comp=N,335nm,26.7s						
MDJ				LR	LR		
	comp=Z,437nm,30.2s						
MDJ	Mudanjiang	44.68	6	eP	P	13 26 49.2	-0.7
	comp=Z,68nm,0.9s,mb5.3						
GTA	Gaotai	44.82	334	eP	P	13 26 51.5	+0.3
GTA				AP	pP	13 27 21.5	-1.8
GTA				XP	sP	13 27 38.1	-1.6
GTA				PCP	PcP	13 28 31.8	+0.7
GTA				PP	PP	13 28 39.4	+0.7
GTA				PCS		13 32 22.8	
GTA				S	S	13 33 18.1	+1.2
GTA				SCS	ScS	13 36 32.2	+1.3
GTA				AMB	AMB		
	comp=Z,23nm,1.3s,mb4.7						
GTA				AMB	AMB		
	comp=Z,154nm,4.9s						
GTA				LR	LR		
	comp=N,132nm,15.2s						
GTA				LR	LR		
	comp=E,137nm,14.4s						
GTA				LR	LR		
	comp=Z,150nm,14.1s						
PKI	Pulchoki	45.75	310	eP	P	13 26 58.3	-0.4
	comp=Z,69nm,1.0s,mb5.2						
KKN	Kakani	45.96	310	eP	P	13 27 00.3	0.0
	comp=Z,66nm,0.8s,mb5.3						
DMN	Daman	46.00	310	eP	P	13 27 00.8	+0.1
	comp=Z,139nm,1.1s,mb5.5						
GKN	Gorkha	46.55	310	eP	P	13 27 04.8	-0.2
	comp=Z,70nm,0.7s,mb5.4						
CUD	Cuddapah	46.63	290	eP	P	13 27 06.1	+0.4
CUD				e	pP	13 27 42.4	+4.3
ASAJ	Asahikawa	47.01	19	P	P	13 27 08.4	+0.1
	comp=Z,99nm,0.8s,mb5.5,baz=236,slow=11,SNR=38						
ASAJ				LR	LR	13 44 57.1	
	comp=Z,167nm,18.7s,baz=324,slow=33						
KOLN	Koldanda	47.24	309	eP	P	13 27 10.4	0.0
	comp=Z,176nm,0.9s,mb5.7						
HYB	Hyderabad	47.59	294	i P	P	13 27 11.5	-1.7
	comp=Z,160nm,1.0s,mb5.6						
HYB				epP	pP	13 27 44.0	-1.7
HYB				esP	sP	13 28 02.0	+0.3
HYB				ePcP	PcP	13 28 43.0	+1.9
HYB				e		13 28 51.0	
HYB	Hyderabad	47.59	294	eP	P	13 27 11.5	-1.7
	comp=Z,160nm,1.0s,mb5.6						
HYB				e	pP	13 27 44.0	-1.7
HIA	Hailar	49.13	357	eP	P	13 27 23.5	-1.2
	comp=Z,31nm,0.8s,mb5.0						
YSS	Yuzh-Sakhalins	49.61	17	⇑eP	P	13 27 27.0	-1.4
YSS				pmax	pmax		
	comp=Z,110nm,1.1s,mb5.4						
SONM	Songino Array	49.89	345	P	P	13 27 30.2	-0.4
	comp=Z,21nm,0.7s,mb4.9,baz=159,slow=8.6,SNR=40						
SONM				pP	pP	13 28 01.6	-1.7
	comp=Z,16nm,0.8s,baz=158,slow=8.6,SNR=5.6						
SONM				ScP		13 32 30.8	
	comp=Z,2.0nm,0.8s,baz=169,slow=4.1,SNR=4.0						
BHPL	Bhopal	50.44	301	eP	P	13 27 35.6	+0.5
BHPL				e		13 27 35.9	
POO	Poona	52.20	294	eP	P	13 27 45.0	-3.4
SONA	Sohna	52.62	306	eP	P	13 27 49.4	-2.0
SONA				e		13 27 51.8	
	comp=Z,82nm,1.1s						
ZAK	Zakamensk	53.06	344	⇑iP	P	13 27 52.9	-1.4
ZAK				e		13 29 00.0	
KLP	Kalpa	53.11	311	eP	P	13 27 54.5	-0.5
KLP				e		13 28 00.8	
	comp=Z,147nm,1.5s						
KHET	Khetri	53.58	306	eP	P	13 27 56.6	-1.8
KHET				e		13 27 59.7	
	comp=Z,82nm,1.9s						
AJM	Ajmer	53.95	303	⇑iP	P	13 27 59.0	-2.1
WMQ	Urumqi	54.07	328	P	P	13 28 02.0	+0.2
WMQ				AP	pP	13 28 34.6	-0.4
WMQ				XP	sP	13 28 50.5	-0.1
WMQ				PP	PP	13 30 06.8	+0.7
WMQ				S	S	13 35 25.1	0.0
WMQ				AMB	AMB		
	comp=Z,77nm,0.8s,mb5.5						
WMQ				AMB	AMB		
	comp=Z,122nm,9.5s						
WMQ				LR	LR		
	comp=N,99nm,22.0s						
WMQ				LR	LR		
	comp=E,96nm,22.0s						
WMQ				LR	LR		
	comp=Z,165nm,20.0s						
CLNS	Chul’man	56.61	1	eP	P	13 28 18.1	-1.8
CLNS				pmax	pmax		
	comp=Z,37nm,0.9s,mb5.2						
CLNS				pmax	pmax		
	comp=N,25nm,1.0s						
CLNS				pmax	pmax		
	comp=E,10.0nm,0.9s						
BOD	Bodaibo	58.09	354	eP	P	13 28 27.5	-2.7
KSH	Kashi	58.56	318	eP	P	13 28 34.0	+0.3

KSH				*e*AP	pP	13 29 08.0	+0.6
KSH				*e*XP	sP	13 29 23.0	-0.1
KSH				*e*PP	PP	13 30 45.0	-1.6
KSH				*e*S	**S**	**13 36 23.2**	**-1.2**
KSH				*e*SCS	ScS	13 38 07.0	+1.6
KSH				AMB	AMB		
	comp=Z,110nm,1.4s,mb5.5						
KSH				LR	LR		
	comp=N,210nm,5.8s						
KSH				LR	LR		
	comp=E,250nm,3.9s						
MKAR	**Makanchi Array**	**58.90**	**328**	P	**P**	**13 28 34.8**	**-1.3**
	comp=E,39nm,0.6s,mb5.5,baz=123,slow=7.9,SNR=136						
MKAR				pP	pP	13 29 07.4	-2.3
	comp=E,8.8nm,0.6s,baz=129,slow=7.8,SNR=2.5						
MKAR				PcP	PcP	13 29 22.7	-0.7
	comp=E,25nm,0.5s,baz=156,slow=3.3,SNR=20						
MKAR				ScP		13 33 10.0	
	comp=E,3.7nm,0.7s,baz=117,slow=5.4,SNR=5.7						
MKAR				P4KPbc		14 05 41.4	
	comp=E,1.0nm,0.7s,baz=114,slow=5.3,SNR=12						
MKAR	**Makanchi Array**	**58.90**	**328**	*i* P	**P**	**13 28 34.7**	**-1.3**
MKAR				pmax	pmax		
	comp=Z,19nm,0.6s						
MKAR	**Makanchi Array**	**58.90**	**328**	P	**P**	**13 28 34.8**	**-1.3**
MKAR				pP	pP	13 29 07.4	-2.3
MKAR				PcP	PcP	13 29 22.7	-0.8
MKAR				ScP		13 33 10.0	
PET	**Petropavlovsk**	**60.29**	**24**	⇑*i*P	**P**	**13 28 45.3**	**-0.1**
PET				*e**PP	pP	13 29 31.3	+12
PET				*e*S	**S**	**13 36 56.3**	**+10**
PET				pmax	pmax		
	comp=Z,136nm,1.3s,mb5.6						
PET				pmax	pmax		
	comp=Z,100nm,10.8s						
PET				pmax	pmax		
	comp=Z,52nm,1.3s,mb5.2						
PET				pmax	pmax		
	comp=Z,100nm,25.8s						
PET				smax			
	comp=E,100nm,15.9s						
PET				smax			
	comp=N,100nm,11.6s						
KZA	**Kyzart**	**60.32**	**320**	P	**P**	**13 28 46.0**	**+0.2**
	SNR=16						
TKM2	**Tokmak 2**	**60.54**	**321**	P	**P**	**13 28 46.8**	**-0.4**
	SNR=25						
RPZ	**Rata Peaks**	**60.66**	**142**	P	**P**	**13 28 49.0**	**+0.9**
	comp=N,39nm,0.9s,mb5.2,baz=145,slow=4.3,SNR=14						
RPZ				pP	pP	13 29 23.9	+1.8
	comp=N,95nm,1.1s,baz=2.5,slow=5.9,SNR=5.2						
KBK	**Karagaybulak**	**60.81**	**321**	P	**P**	**13 28 49.4**	**+0.3**
	SNR=5.5						
UCH	**Uchtor**	**60.87**	**320**	P	**P**	**13 28 49.7**	**+0.1**
	SNR=17						
AAK	**Ala-Archa**	**61.09**	**320**	P	**P**	**13 28 50.8**	**-0.2**
	SNR=8.2						
AAK	**Ala-Archa**	**61.09**	**320**	*e*P	**P**	**13 28 49.6**	**-1.4**
	comp=N,10nm,0.8s,mb4.7						
FRU	**Bishkek**	**61.11**	**321**	*e*P	**P**	**13 28 51.0**	**-0.2**
FRU				pmax	pmax		
	comp=Z,60nm,2.0s,mb5.1						
AML	**Almayashu**	**61.35**	**320**	P	**P**	**13 28 52.7**	**-0.1**
	SNR=17						
USP	**Ospenovka**	**61.41**	**321**	P	**P**	**13 28 52.2**	**-0.9**
	SNR=16						
EKS2	**Erkin-Say**	**61.56**	**320**	P	**P**	**13 28 53.8**	**-0.4**
	SNR=10						
YAK	**Yakutsk**	**61.98**	**3**	⇑*e*P	**P**	**13 28 55.3**	**-1.4**
YAK				*e*		13 29 48.0	
YAK				pmax	pmax		
	comp=Z,125nm,0.8s,mb5.8						
YAK				pmax	pmax		
	comp=N,37nm,1.1s						
YAK				pmax	pmax		
	comp=E,3.0nm,0.9s						
YAK				pmax	pmax		
	comp=Z,29nm,0.9s,mb5.1						
YAK				pmax	pmax		
	comp=N,17nm,1.1s						
YAK				pmax	pmax		
	comp=E,10.0nm,1.1s						
YAK	**Yakutsk**	**61.98**	**3**	*e*P	**P**	**13 28 55.3**	**-1.4**
	comp=E,270nm,0.8s,mb6.1						
URZ	**Urewera**	**62.10**	**134**	P	**P**	**13 28 57.4**	**-0.4**
	comp=E,9.4nm,0.4s,mb5.0,baz=269,slow=8.8,SNR=14						
URZ				PcP	PcP	13 29 37.3	+0.9
	comp=E,48nm,1.1s,baz=237,slow=7.0,SNR=3.6						
ZAL	**Zalesovo**	**62.52**	**335**	P	**P**	**13 28 58.4**	**-2.1**
	comp=E,10nm,0.6s,mb4.9,baz=261,slow=6.1,SNR=42						
ZAL				pP	pP	13 29 37.1	+2.6
	comp=E,5.7nm,0.6s,baz=305,slow=7.1,SNR=2.5						
ZAL				LR	LR	13 57 27.1	
	comp=E,224nm,18.7s,baz=243,slow=37						
ZAL	**Zalesovo**	**62.52**	**335**	*i* P	**P**	**13 28 58.4**	**-2.0**
ZAL				pmax	pmax		
	comp=Z,11nm,0.6s						
MA2	**Magadan**	**63.01**	**15**	*c i*P	**P**	**13 29 03.3**	**-0.2**
MA2				*e**PP	pP	13 29 48.2	+10
MA2				*e*S	**S**	**13 37 19.9**	**-0.7**
MA2				*e*		13 38 06.0	
MA2				pmax	pmax		
	comp=N,40nm,0.9s						
MA2				pmax	pmax		
	comp=E,20nm,0.9s						
MA2				pmax	pmax		
	comp=Z,90nm,0.9s,mb5.6						
MA2	**Magadan**	**63.01**	**15**	*c i*P	**P**	**13 29 03.4**	**-0.1**
KURK	**Kurchatov**	**63.24**	**330**	P	**P**	**13 29 03.1**	**-2.1**
	comp=Z,922nm,0.6s,SNR=56						
KURK	**Kurchatov**	**63.24**	**330**	*i* P	**P**	**13 29 03.4**	**-1.8**
KURK				pmax	pmax		
	comp=Z,40nm,0.7s,mb5.4						
KURK	**Kurchatov**	**63.24**	**330**	*e*P	**P**	**13 29 03.3**	**-1.9**
	comp=Z,128nm,0.8s,mb5.8						
NVS	**Novosibirsk**	**63.81**	**335**	*i* P	**P**	**13 29 05.5**	**-3.3**
NVS				*e*S	**S**	**13 37 24.8**	**-5.8**
NVS				pmax	pmax		
	comp=N,21nm,0.8s						
NVS				pmax	pmax		
	comp=E,16nm,0.8s						
NVS				pmax	pmax		
	comp=Z,33nm,0.8s,mb5.2						
NVS				smax			
	comp=E,15nm,1.8s						
NVS				smax			
	comp=E,16nm,1.9s						
KKAR	**Karatay Array**	**63.88**	**319**	*i* P	**P**	**13 29 08.4**	**-1.1**
KKAR				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.5						
SEY	**Seymchan**	**66.29**	**14**	*i* P	**P**	**13 29 25.4**	**+0.7**
SEY				pmax	pmax		
	comp=N,70nm,1.1s						
SEY				pmax	pmax		
	comp=E,50nm,1.1s						
SEY				pmax	pmax		
	comp=Z,250nm,1.1s,mb6.0						
FX1	**Attu Island--F**	**66.78**	**30**	*e*P	**P**	**13 29 28.0**	**+0.1**
SMY	**Shemya**	**67.17**	**31**	P	**P**	**13 29 30.2**	**-0.1**
	comp=Z,102nm,0.9s,mb5.7						
VOSK	**Vostochnaya**	**68.30**	**329**	P	**P**	**13 29 35.3**	**-2.0**
VOSK				pmax	pmax		
	comp=Z,13nm,0.7s,mb4.8						
BVA0	**Borovoye Array**	**68.76**	**329**	P	**P**	**13 29 38.5**	**-1.6**
BVAR	**Borovoye Array**	**68.76**	**329**	P	**P**	**13 29 38.6**	**-1.6**
	comp=Z,17nm,0.8s,mb4.9,baz=135,slow=8.4,SNR=47						
BVAR				PcP	PcP	13 30 03.7	-0.1
	comp=Z,4.3nm,0.5s,baz=121,slow=8.6,SNR=4.7						
BRVK	**Borovoye**	**68.83**	**329**	*e*P	**P**	**13 29 38.9**	**-1.7**
	comp=Z,42nm,1.1s,mb5.1						
ZRNK	**Zerenda**	**69.45**	**328**	P	**P**	**13 29 42.6**	**-1.7**
ZRNK				pmax	pmax		
	comp=Z,15nm,0.7s,mb4.8						
ZRNK	**Zerenda**	**69.45**	**328**	*e*P	**P**	**13 29 42.4**	**-1.9**
	comp=Z,28nm,0.6s,mb5.2						
TIXI	**Tiksi**	**71.55**	**2**	⇑*i*P	**P**	**13 29 54.8**	**-1.9**
TIXI				pmax	pmax		
	comp=Z,139nm,1.2s,mb5.6						
AB31	**Akbulak array**	**73.07**	**322**	*i* P	**P**	**13 30 04.4**	**-1.6**
AB31				pmax	pmax		
	comp=Z,2.0nm,0.5s						
HASS	**Wahat al Ahsa'**	**75.46**	**296**	P	**P**	**13 30 18.7**	**-1.5**
ARU	**Arti**	**76.41**	**329**	P	**P**	**13 30 23.3**	**-1.6**
	comp=Z,243nm,0.7s,mb5.9,SNR=22						
ARU	**Arti**	**76.41**	**329**	⇑*i*P	**P**	**13 30 23.0**	**-1.9**
ARU				*i*		13 30 32.7	
ARU				*e*		13 31 11.5	
ARU				*i*		13 33 16.5	
ARU				*e*PPP	PPP	13 35 04.5	-3.4
ARU				*e*S	S	13 39 51.3	-5.5
ARU				pmax	pmax		
	comp=Z,36nm,0.9s,mb5.0						
ARU	**Arti**	**76.41**	**329**	*e*P	**P**	**13 30 22.9**	**-2.0**
	comp=Z,32nm,0.8s,mb5.0						
QRN	**Al-Qurain**	**77.46**	**299**	*e*P	**P**	**13 30 30.0**	**-1.4**
QRN				AMb	AMB	13 30 31.1	
	comp=Z,30nm,0.3s,mb5.4						
KBD	**Kabd**	**77.71**	**300**	*e*P	**P**	**13 30 31.2**	**-1.4**
RDF	**Al-Radifah**	**77.80**	**299**	*e*P	**P**	**13 30 32.1**	**-1.1**
RDF				AMb	AMB	13 30 36.0	
	comp=Z,30nm,0.9s,mb5.0						
UNV	**Unalaska Valle**	**78.18**	**35**	*e*P	**P**	**13 30 34.6**	**-0.1**
	comp=Z,97nm,0.8s,mb5.5						
RST	**Umm Al-Ruwaisa**	**78.35**	**300**	*e*P	**P**	**13 30 34.7**	**-1.5**
RST				AMb	AMB	13 30 39.3	
	comp=Z,53nm,0.6s,mb5.4						
RAYN	**Ar Rayn**	**79.10**	**294**	P	**P**	**13 30 39.9**	**-0.4**
	comp=Z,134nm,0.7s,mb5.7,SNR=22						
MAW	**Mawson**	**79.27**	**200**	*e*P	**P**	**13 30 41.9**	**+1.5**
	comp=Z,12nm,0.8s,mb4.6						
MAW	**Mawson**	**79.27**	**200**	P	**P**	**13 30 42.3**	**+1.9**
	comp=Z,14nm,0.8s,mb4.7,baz=54,slow=6.3,SNR=21						
MAW				LR	LR	13 59 59.0	
	comp=Z,103nm,21.4s,baz=291,slow=31						
MZLS	**Mizel**	**79.41**	**294**	P	**P**	**13 30 41.1**	**-0.9**
KAMS	**Al Khamasin**	**79.72**	**291**	P	**P**	**13 30 43.9**	**+0.2**
DJNS	**Zahran al Janu**	**80.54**	**288**	P	**P**	**13 30 48.3**	**+0.1**
TATS	**Tathlith**	**80.70**	**290**	P	**P**	**13 30 48.8**	**-0.2**
AFFS	**‘Afif**	**81.42**	**294**	P	**P**	**13 30 52.6**	**-0.1**
ANM	**Nome**	**81.86**	**24**	*e*P	**P**	**13 30 55.5**	**+1.4**
NAMS	**An Nimas**	**81.88**	**289**	P	**P**	**13 30 55.6**	**+0.5**
SDPT	**Sand Point**	**81.94**	**34**	*e*P	**P**	**13 30 54.7**	**0.0**
ZEI	**Tsey**	**82.42**	**313**	*e*P	**P**	**13 30 56.0**	**-1.5**
ZEI				*i* *PP	pP	13 31 34.0	+0.7
ZEI				*e*		13 31 46.0	
ZEI				*e*S	S	13 40 50.0	-10
ZEI				MLR	MLR		
	comp=Z,200nm,20.0s						
BLJS	**Baljurashi**	**82.49**	**290**	P	**P**	**13 30 59.1**	**+0.9**
HILS	**Ha’il**	**82.73**	**297**	P	**P**	**13 30 59.6**	**+0.2**
LTHS	**Al Lith**	**83.62**	**290**	P	**P**	**13 31 04.6**	**+0.5**
BEST	**Besiri**	**83.93**	**308**	*i* P	**P**	**13 31 05.2**	**-0.1**
KBRS	**Khaybar**	**84.91**	**296**	P	**P**	**13 31 11.1**	**+0.7**
SVW	**Sparrevohn**	**85.47**	**29**	*e*P	**P**	**13 31 12.6**	**+0.3**
SOC	**Sochi**	**85.55**	**314**	*i* P	**P**	**13 31 11.7**	**-1.4**
SOC				*e**PP	pP	13 32 00.5	+11
SOC				*e*		13 34 33.1	
SOC				*e*S	S	13 41 21.8	-9.2
SOC				*e**SS		13 42 51.1	
SOC				*e*SS	SS	13 47 12.1	-1.1
SOC				*e*SSS	SSS	13 50 35.6	-7.4
SOC				pmax	pmax		
	comp=N,22nm,0.9s						
SOC				pmax	pmax		
	comp=Z,35nm,0.9s,mb5.1						
SOC				pmax	pmax		
	comp=E,6.0nm,0.4s						
TTA	**Tatalina**	**85.55**	**27**	*e*P	**P**	**13 31 13.8**	**+1.2**
ELZG	**Elazig**	**85.77**	**308**	*i* P	**P**	**13 31 14.6**	**+0.3**
YNBS	**Yanbu‘ al Bahr**	**86.00**	**294**	P	**P**	**13 31 16.4**	**+0.5**
MALT	**Malatya**	**86.20**	**308**	*e*P	**P**	**13 31 16.8**	**+0.3**
	comp=E,17nm,0.9s,mb4.8						
KMBO	**Kilima Mbogo**	**86.39**	**269**	P	**P**	**13 31 17.9**	**0.0**
	comp=E,3.8nm,0.6s,mb4.3,baz=67,slow=7.9,SNR=18						
VOR	**Voronezh**	**86.50**	**322**	⇑*i*P	**P**	**13 31 16.5**	**-1.0**
VOR				pmax	pmax		
	comp=E,120nm,1.3s						
VOR				pmax	pmax		
	comp=Z,150nm,1.3s,mb5.6						
KDAK	**Kodiak Island**	**86.62**	**32**	*e*P	**P**	**13 31 18.7**	**+0.8**
	comp=Z,20nm,0.7s,mb5.0						
GZT	**Gaziantep**	**86.84**	**307**	*i* P	**P**	**13 31 19.8**	**+0.3**
IMA	**Indian Mountai**	**86.97**	**24**	*e*P	**P**	**13 31 20.5**	**+1.1**
IMA				*e*P		13 31 20.8	
SPU	**Mount Spurr**	**87.19**	**29**	*e*P	**P**	**13 31 20.5**	**-0.2**
ASF	**Jabal al Asfar**	**87.20**	**302**	P	**P**	**13 31 22.2**	**+0.7**
	comp=Z,15nm,0.8s,mb4.8,baz=342,slow=4.0,SNR=20						
ANN	**Anapa**	**87.26**	**315**	*e*P	**P**	**13 31 19.7**	**-1.6**
ANN				*e*		13 41 27.6	
ANN				pmax	pmax		
	comp=Z,49nm,0.6s,mb5.5						
KAHT	**Ahir Dag**	**87.39**	**307**	*i* P	**P**	**13 31 22.2**	**0.0**
MOS	**Moscow**	**87.70**	**326**	*e*P	**P**	**13 31 19.7**	**-3.5**
MOS				pmax	pmax		
	comp=Z,86nm,0.7s,mb5.7						
COBT	**Iskenderun**	**87.86**	**306**	*i* P	**P**	**13 31 24.6**	**+0.2**
SYO	**Syowa Base**	**87.91**	**201**	⇓P	**P**	**13 31 24.8**	**+0.9**
SYO	**Syowa Base**	**87.91**	**201**	⇑P	PP	13 35 05.5	+11
SLKM	**Skilak Lake**	**88.04**	**30**	*e*P	**P**	**13 31 24.4**	**-0.3**
OBN	**Obninsk**	**88.27**	**325**	*c i*P	**P**	**13 31 24.8**	**-1.1**
OBN				*i* *PP	sP	13 32 21.0	+3.1
OBN				*e*		13 34 54.9	
OBN				pmax	pmax		
	comp=Z,90nm,1.7s,mb5.3						
OBN	**Obninsk**	**88.27**	**325**	*e*P	**P**	**13 31 24.6**	**-1.3**
	comp=Z,22nm,0.6s,mb5.2						
PMR	**Palmer**	**88.62**	**29**	*e*P	**P**	**13 31 26.9**	**-0.5**
MCK	**McKinley**	**88.80**	**26**	*e*P	**P**	**13 31 27.9**	**-0.3**
	comp=Z,15nm,0.9s,mb4.9						
HAQS	**Haql**	**88.84**	**299**	P	**P**	**13 31 29.6**	**+0.3**
BOYT	**Boyabat**	**89.01**	**311**	*i* P	**P**	**13 31 29.2**	**-0.6**
AVNT	**Avonos**	**89.01**	**309**	*i* P	**P**	**13 31 29.1**	**-0.7**
COLA	**College**	**89.31**	**25**	*e*P	**P**	**13 31 29.8**	**-0.8**
MEST	**Erdemli**	**89.56**	**306**	*i* P	**P**	**13 31 31.5**	**-0.9**
ILAR	**Eielson Array**	**89.72**	**25**	P	**P**	**13 31 31.2**	**-1.3**
	comp=Z,4.0nm,0.6s,mb4.5,baz=245,slow=5.0,SNR=98						
ILAR				PKKPbc		13 49 06.3	
	comp=Z,0.5nm,0.7s,baz=120,slow=2.7,SNR=12						
ILAR				LR	LR	14 08 28.8	
	comp=Z,52nm,20.4s,baz=93,slow=33						
BRTR	**Keskin Array B**	**89.96**	**310**	P	**P**	**13 31 33.1**	**-1.1**
	comp=Z,4.7nm,0.8s,mb4.5,baz=125,slow=5.4,SNR=27						
BRTR				pP	pP	13 32 09.1	-1.7
	comp=Z,0.6nm,0.7s,baz=290,slow=20,SNR=1.4						
BRTR				sP	sP	13 32 24.5	-1.9
	comp=Z,4.2nm,1.1s,baz=146,slow=4.5,SNR=2.1						
QSPA	**South Pole Qui**	**89.99**	**180**	*e*P	**P**	**13 31 35.1**	**+1.6**
	comp=Z,20nm,1.1s,mb5.0						
QSPA				LR	LR		
	comp=Z,120nm,21.8s						
THY	**Trims Highway**	**90.22**	**27**	*e*P	**P**	**13 31 35.6**	**+0.7**
DIV	**Divide**	**90.23**	**29**	*e*P	**P**	**13 31 35.6**	**+0.5**
	comp=Z,86nm,1.0s,mb5.6						
SGKT	**Sivrigoynuk**	**91.17**	**310**	*i* P	Px	13 32 09.1	
HENT	**Hendek**	**92.04**	**311**	*i* P	Px	13 31 53.1	
ESKT	**Eskisehir**	**92.12**	**309**	*i* P	Px	13 32 08.8	
KEV	**Kevo**	**92.25**	**340**	*e*P	**P**	**13 31 42.2**	**-2.0**
KEV				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.9						
KEV	**Kevo**	**92.25**	**340**	*e*P	**P**	**13 31 42.2**	**-2.0**
	comp=Z,7.6nm,0.6s,mb4.9						
AKASG	**Malin Array Be**	**92.76**	**321**	P	**P**	**13 31 45.5**	**-1.5**
	comp=Z,4.3nm,0.5s,mb4.9,baz=66,slow=4.6,SNR=18						
AKASG				LR	LR	14 16 01.0	
	comp=Z,92nm,21.0s,baz=40,slow=37						
ARCES	**ARCESS Array B**	**92.80**	**340**	P	**P**	**13 31 45.2**	**-1.5**
	comp=Z,8.1nm,0.6s,mb5.1,baz=85,slow=5.4,SNR=52						
ARCES				PKiKP		13 36 35.1	
	comp=Z,1.3nm,0.8s,SNR=4.5						
ARCES				PKKPbc		13 48 58.6	
	comp=Z,0.9nm,0.5s,baz=270,slow=3.6,SNR=8.4						
ARCES				LR	LR	14 20 12.2	
	comp=Z,100nm,18.6s,baz=274,slow=40						
ARCES	**ARCESS Array B**	**92.80**	**340**	P	**P**	**13 31 45.2**	**-1.5**
ARE0	**ARCESS Array S**	**92.80**	**340**	*e*P	**P**	**13 31 45.3**	**-1.4**
KAF	**Kangasniemi**	**93.39**	**332**	*e*P	**P**	**13 31 47.0**	**-2.5**
KAF				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb5.0						
KAF	**Kangasniemi**	**93.39**	**332**	*e*P	**P**	**13 31 47.0**	**-2.5**
	comp=Z,8.2nm,0.6s,mb5.0						
ULDT	**Uludag**	**93.41**	**310**	*i* P	**P**	**13 31 40.9**	**-9.3**
FINES	**FINESS Array B**	**93.57**	**331**	P	**P**	**13 31 48.9**	**-1.5**
	comp=Z,2.9nm,0.5s,mb4.6,baz=90,slow=7.6,SNR=20						
FINES				PKiKP		13 36 36.5	
	comp=Z,1.1nm,0.6s,baz=90,slow=3.8,SNR=5.7						
FINES				LR	LR	14 17 20.9	
	comp=Z,101nm,18.5s,baz=85,slow=38						
INK	**Inuvik**	**94.68**	**21**	P	**P**	**13 31 55.5**	**+0.2**
	comp=Z,12nm,0.7s,mb5.2,baz=289,slow=4.5,SNR=34						
SUW	**Suwalki**	**96.10**	**324**	*e*P	**P**	**13 32 00.4**	**-1.6**
KWP	**Kalwaria**	**97.04**	**320**	*e*P	**P**	**13 32 05.9**	**-0.6**
HFS	**Hagfors**	**99.78**	**331**	P	**P**	**13 32 16.8**	**-1.8**
	comp=Z,5.0nm,0.5s,mb5.2,baz=108,slow=4.7,SNR=39						
HFS	**Hagfors**	**99.78**	**331**	P	**P**	**13 32 16.8**	**-1.8**
NB2	**NORSAR Subarra**	**100.65**	**333**	P	P	13 32 20.0	-2.5
	comp=Z,1.9nm,0.5s,baz=73,slow=4.5						
NB2	**NORSAR Subarra**	**100.65**	**333**	P	P	13 32 20.0	-2.5
	baz=73,slow=4.4						
NOA	**NORSAR Array B**	**100.65**	**333**	P	P	13 32 20.7	-1.8
	comp=Z,1.9nm,0.6s,baz=73,slow=4.5,SNR=11						
KSP	**Ksiaz**	**100.85**	**322**	*e*P	P	13 32 23.1	-0.6
SNAA	**Sanae**	**100.90**	**195**	⇓*i*P	P	13 32 21.2	-2.3
SNAA				*e*Pdif	P	13 32 24.5	+1.0
BRG	**Berggiesshubel**	**102.28**	**322**	*e*P	Pdif	13 32 29.7	-0.3
BRG				pmax	pmax		
	comp=Z,7.0nm,1.0s						
BRG	**Berggiesshubel**	**102.28**	**322**	*e*P	Pdif	13 32 29.7	-0.3
	comp=Z,6.7nm,1.0s						
GERES	**GERESS Array B**	**102.97**	**320**	P	Pdif	13 32 32.9	-0.2
	comp=Z,0.3nm,0.3s,baz=90,slow=4.0,SNR=7.0						
GERES				PKiKP		13 36 52.9	
	comp=Z,0.8nm,0.6s,baz=90,slow=2.7,SNR=5.1						
YKA	**Yellowknife Ar**	**104.09**	**24**	Pdiff	Pdif	13 32 38.5	+0.8
	comp=Z,0.9nm,0.6s,baz=299,slow=4.4,SNR=11						
YKA				PKiKP		13 36 54.5	
	comp=Z,0.9nm,0.7s,baz=305,slow=1.7,SNR=7.3						
YKA				PKKPbc		13 48 26.2	
	comp=Z,0.5nm,0.6s,baz=120,slow=2.7,SNR=5.3						
YKA	**Yellowknife Ar**	**104.09**	**24**	Pdif	Pdif	13 32 38.5	+0.8
EKA	**Eskdalemuir Ar**	**109.96**	**331**	PKiKP		13 37 06.1	
	comp=Z,1.1nm,0.7s,baz=333,slow=3.7,SNR=4.9						
NVAR	**Mina Array Bea**	**111.64**	**48**	PKiKP		13 37 11.2	
	comp=Z,1.6nm,0.7s,baz=274,slow=1.7,SNR=14						
TPH	**Tonopah**	**112.56**	**48**	*e*PKiKP		13 37 11.2	
HLID	**Hailey**	**112.58**	**42**	*e*PKiKP		13 37 12.4	
ELK	**Elko**	**113.08**	**45**	*e*PKiKP		13 37 13.2	
FFC	**Flin Flon**	**113.89**	**27**	PKiKP		13 37 11.5	
HVU	**Hansel Valley**	**114.40**	**43**	*e*PKiKP		13 37 15.7	
BGU	**Big Grassy Mou**	**114.56**	**44**	*e*PKiKP		13 37 15.1	
DUG	**Dugway**	**115.00**	**45**	*e*PKiKP		13 37 17.0	
HWUT	**Hardware Ranch**	**115.29**	**43**	*e*PKiKP		13 37 15.7	
MSU	**Marysvale**	**116.11**	**46**	*e*PKPdf	PKPdf	13 37 19.8	+3.5
PDAR	**Pinedale Array**	**116.13**	**41**	PKP	PKPdf	13 37 18.4	+2.3
	comp=Z,1.5nm,0.8s,SNR=13						
PDAR				PKKPbc		13 47 53.4	
	comp=Z,1.6nm,0.8s,baz=121,slow=5.9,SNR=13						
SRU	**San Rafael**	**117.06**	**45**	*e*PKPdf	PKPdf	13 37 20.6	+2.6
WUAZ	**Wupatki**	**117.85**	**49**	*e*PKPdf	PKPdf	13 37 22.9	+3.3
ESDC	**Sonseca Array**	**118.05**	**316**	PKP	PKPdf	13 37 21.9	+2.0
	comp=Z,0.5nm,0.5s,baz=18,slow=2.8,SNR=4.7						
RSSD	**Black Hills**	**118.96**	**37**	*e*PKPdf	PKPdf	13 37 23.4	+1.9
ULM	**Lac du Bonnet**	**119.64**	**28**	PKP	PKPdf	13 37 23.8	+1.1
	comp=Z,7.0nm,0.7s,baz=310,slow=2.0,SNR=15						
PVRL	**Vila Real**	**119.82**	**319**	*e*PKPdf	PKPdf	13 37 26.2	+2.9
MTE	**Manteigas**	**120.14**	**318**	*e*PKPdf	PKPdf	13 37 26.4	+2.5
PVIS	**Viseu**	**120.22**	**319**	*e*PKPdf	PKPdf	13 37 27.0	+2.9
PCBR	**Castelo Branco**	**120.37**	**318**	*e*PKPdf	PKPdf	13 37 27.0	+2.6
SDCO	**Great Sand Dun**	**121.20**	**44**	*e*PKPdf	PKPdf	13 37 28.9	+2.9
PALC	**Alcoutim**	**121.51**	**315**	*e*PKPdf	PKPdf	13 37 29.3	+2.6
PBEJ	**Beja**	**121.51**	**316**	*e*PKPdf	PKPdf	13 37 29.5	+2.8
ANMO	**Albuquerque**	**121.76**	**48**	*c i*PKIKP	PKPdf	13 37 30.4	+3.2
ANMO	**Albuquerque**	**121.76**	**48**	*e*PKPdf	PKPdf	13 37 30.4	+3.2
PTEO	**Sao Teotonio**	**122.34**	**316**	*e*PKPdf	PKPdf	13 37 30.7	+2.4
SCHQ	**Schefferville**	**124.62**	**7**	PKP	PKPdf	13 37 34.0	+1.7
	comp=Z,14nm,0.8s,baz=39,slow=3.8,SNR=11						
TXAR	**Lajitas Array**	**126.27**	**53**	PKP	PKPdf	13 37 38.6	+2.5
	comp=Z,1.9nm,0.6s,baz=225,slow=1.8,SNR=6.1						
KSU1	**Kansas State U**	**126.39**	**39**	*e*PKPdf	PKPdf	13 37 37.7	+1.6
WMOK	**Wichita Mounta**	**127.40**	**44**	*e*PKPdf	PKPdf	13 37 39.9	+1.7
JFWS	**Jewell Farm**	**127.53**	**31**	*e*PKPdf	PKPdf	13 37 39.2	+1.1
KIC	**Kosan Boka**	**128.10**	**278**	*e*PKP1	PKPdf	13 37 41.6	+1.5
	comp=Z,38nm,0.8s						
DBIC	**Dimbokro**	**128.18**	**278**	PKP	PKPdf	13 37 42.4	+2.2
	comp=Z,7.1nm,0.6s,baz=103,slow=1.8,SNR=12						
DBIC	**Dimbokro**	**128.18**	**278**	PKP	PKPdf	13 37 42.4	+2.2
TIC	**Toumodi**	**128.35**	**278**	*e*PKP1	PKPdf	13 37 42.4	+1.8
	comp=Z,34nm,0.7s						
LIC	**Lamto**	**128.39**	**278**	*e*PKP1	PKPdf	13 37 42.4	+1.8
	comp=Z,63nm,0.9s						
JCT	**Junction City**	**128.78**	**50**	*e*PKPdf	PKPdf	13 37 43.3	+2.4
SADO	**Sadowa**	**131.00**	**21**	PKP	PKPdf	13 37 46.4	+1.6
	comp=Z,3.9nm,0.6s,baz=270,slow=1.8,SNR=7.1						
MIAR	**Mount Ida**	**131.06**	**41**	*e*PKPdf	PKPdf	13 37 47.5	+2.3
HKT	**Hockley**	**132.03**	**48**	*e*PKPdf	PKPdf	13 37 51.0	+3.8
BINY	**Binghamton**	**134.36**	**20**	*e*PKPdf	PKPdf	13 37 53.1	+1.9
SWET	**Sewanee**	**135.36**	**35**	*e*PKPdf	PKPdf	13 37 54.1	+0.9
LRAL	**Lakeview Retre**	**136.24**	**38**	*e*PKPdf	PKPdf	13 37 56.5	+1.7
PLCA	**Paso Flores**	**137.51**	**164**	PKP	PKPdf	13 37 59.3	+2.3
	comp=Z,6.0nm,0.9s,baz=227,slow=2.6,SNR=9.4						
TRQA	**Tornquist**	**141.84**	**173**	*e*PKPpre		13 38 02.6	
JCR	**Jicaral**	**149.75**	**70**	*e*P	PKPdf	13 38 27.5	+8.8
LAJ	**Bijagual**	**150.67**	**70**	*e*P	PKPdf	13 38 29.1	+9.0
LCR2	**La Lucha 2**	**150.82**	**70**	*e*P	PKPdf	13 38 29.7	+9.4
ICR	**Volcan Irazu**	**150.91**	**69**	*e*P	PKPdf	13 38 30.8	+10
URSC	**Urasca**	**151.00**	**69**	*e*P	PKPdf	13 38 30.3	+10
CPUP	**Villa Florida**	**153.87**	**178**	PKP	PKPdf	13 38 27.6	+3.2
	comp=Z,4.2nm,0.9s,baz=205,slow=1.3,SNR=9.7						
CPUP				PKPbc	PKPdf	13 38 35.6	+11
	comp=Z,7.7nm,0.8s,baz=128,slow=2.0,SNR=14						
CPUP	**Villa Florida**	**153.87**	**178**	*e*PKPdf	PKPdf	13 38 27.5	+3.1
LPAZ	**La Paz**	**160.13**	**145**	PKP	PKPdf	13 38 37.1	+4.6
	comp=Z,2.2nm,0.4s,baz=334,slow=0.6,SNR=7.9						
LPAZ				PKPab	PKPab	13 39 17.6	+1.9
	comp=Z,3.3nm,0.4s,baz=226,slow=1.7,SNR=5.2						
LPAZ	**La Paz**	**160.13**	**145**	*e*PKPdf	PKPdf	13 38 36.0	+3.5
ROSC	**El Rosal**	**161.40**	**75**	PKP	PKPdf	13 38 37.8	+3.8
	comp=Z,14nm,0.8s,baz=102,slow=23,SNR=9.2						
ROSC				PKPab	PKPab	13 39 23.6	+2.2
	comp=Z,20nm,0.5s,baz=138,slow=14,SNR=5.6						
BDFB	**Brasilia**	**162.46**	**208**	PKP	PKPdf	13 38 36.6	+1.7
	comp=Z,3.4nm,0.8s,baz=154,slow=3.5,SNR=3.4						
BDFB				PKPab	PKPab	13 39 27.0	+1.1
	comp=Z,7.2nm,0.8s,baz=140,slow=5.2,SNR=5.7						
SAML	**Samuel**	**168.86**	**143**	*e*PKPdf	PKPdf	13 38 42.4	+2.1

BJI ***01*** *13:19:38.8, 39.11N×91.87E, h16^{km}, ML3.8, Ms3.1*

IDC ***01*** *13:19:42.3±1.9, 39.60N×92.17E, mb3.1/2, mb1 3.5/4, mb1mx3.3/22, ML4.0/2, Error ellipse: s-maj=34.2km s-min=21.4km az=56.0*

ISC 01 13:19:41.7±1.1**, 39.7N**±0.1×**91.9E**±0.1**, h16^{km}, n6, σ0^{s}96**/9**, mb2.9**/1**, 1C-1D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GTA	**Gaotai**	**6.10**	**91**	P	**Pn**	**13 21 10.6**	**-2.9**
GTA				PG	**Pn**	**13 21 30.2**	**+17**
GTA				SG	Sn	13 22 50.1	+26
GTA				Smax			
	comp=N,38nm,0.6s						
GTA				Smax			
	comp=E,19nm,0.7s						
GTA				LR	LR		
	comp=N,55nm,5.3s						
GTA				LR	LR		
	comp=E,72nm,5.0s						
MK31	**Makanchi Array**	**9.95**	**318**	⇑Pn	**P**	**13 22 08.1**	**+1.0**
	comp=E,1.4nm,0.4s,baz=126,slow=14,SNR=62						
MK31				⇓Sn	**Sn**	**13 23 58.4**	**-1.1**
	comp=E,4.0nm,0.6s,baz=132,slow=22,SNR=10						
MKAR	**Makanchi Array**	**9.95**	**318**	Pn	**P**	**13 22 07.8**	**+0.8**
	comp=E,1.4nm,0.3s,baz=128,slow=13,SNR=63						
MKAR				Sn	**Sn**	**13 23 58.6**	**-0.9**
	comp=E,1.9nm,0.3s,baz=124,slow=24,SNR=9.6						
MKAR				Lg		13 25 06.5	
	comp=E,0.1nm,0.3s,baz=135,slow=26,SNR=2.8						
SONM	**Songino Array**	**13.20**	**47**	Pn	**P**	**13 22 51.2**	**+0.2**
	comp=E,0.1nm,0.3s,baz=230,slow=15,SNR=5.3						
SONM				Lg		13 26 39.9	
	comp=E,0.1nm,0.3s,baz=236,slow=22,SNR=4.3						
BVAR	**Borovoye Array**	**19.83**	**319**	P	**P**	**13 24 15.6**	**+1.1**
	comp=E,1.2nm,0.8s,baz=126,slow=13,SNR=5.6						
CMAR	**Chiang Mai Arr**	**22.06**	**162**	P	**P**	**13 24 36.9**	**-0.6**
	comp=E,0.2nm,0.4s,mb2.9,baz=337,slow=14,SNR=2.8						

NIC ***01*** *14:09:47.7±0.3, 34.68N×32.60E, h25^{km}, ML3.6, MW3.2*

GII ***01*** *14:09:50.2±0.6, 34.54N×32.86E, h5^{km}±30^{km}, ML2.9/5, Mw3.1/5*

ISC 01 14:09:46.8±0.7**, 34.59N**±0.03×**32.53E**±0.05**, h14^{km}**±4^{km}**, n22, σ1^{s}00**/35**, 1C-3D, Cyprus region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PPCY	**Paphos**	**0.33**	**333**	P	**Pg**	**14 09 54.7**	**+0.9**

	41nm,0.5s						
PPCY				S	**Sg**	**14 09 57.6**	**-1.0**
SZAC	**Souni-Zanaja**	**0.34**	**60**	⇓P	**Pg**	**14 09 53.9**	**0.0**
	31nm,0.2s						
SZAC				S	**Sg**	**14 09 58.4**	**-0.3**
AKMC	**Akamas**	**0.47**	**339**	P	**Pb**	**14 09 56.3**	**0.0**
ALFC	**Alevga**	**0.57**	**6**	⇓P	**Pb**	**14 09 56.7**	**-1.3**
	46nm,0.2s						
ALFC				S	**Sb**	**14 10 04.7**	**-1.0**
CSS	**Prodhromos**	**0.76**	**60**	⇑P	**Pb**	**14 10 00.1**	**-1.1**
	16nm,0.3s						
CSS				S	**Sb**	**14 10 10.8**	**-0.4**
MAMC	**Mammari**	**0.81**	**44**	P	**Pb**	**14 10 02.5**	**+0.3**
MAMC				S	**Sb**	**14 10 13.5**	**+0.8**
PHNC	**Paralimni**	**1.30**	**71**	⇓P	**Pb**	**14 10 12.7**	**+2.1**
PHNC				S	**Sb**	**14 10 28.7**	**+1.7**
IKL	**Isikli**	**1.90**	**29**	*i* PN	**Pn**	**14 10 18.8**	**-0.4**
IKL				*i* SN	**Sn**	**14 10 42.9**	**-0.1**
HDMB	**Hadim**	**2.37**	**359**	*e*PN	**Pn**	**14 10 27.8**	**+1.8**
HDMB				*e*SN	**Sn**	**14 10 55.0**	**-0.1**
MEST	**Erdemli**	**2.39**	**33**	*i* P	**Pn**	**14 10 25.6**	**-0.6**
MEST				*i* S	**Sn**	**14 10 57.4**	**+1.8**
HNTI	**Hanita**	**2.66**	**124**	Pn	**Pn**	**14 10 29.5**	**-0.6**
HNTI				Sn	**Sn**	**14 11 00.9**	**-1.6**
OFRI	**‘Ofer**	**2.84**	**133**	Pn	**Pn**	**14 10 32.3**	**-0.3**
KSHT	**Keshet**	**3.17**	**119**	Pn	**Pn**	**14 10 37.7**	**+0.4**
KSHT				Sn	**Sn**	**14 11 13.3**	**-2.0**
MMLI	**Mount Malkishu**	**3.23**	**131**	Pn	**Pn**	**14 10 38.0**	**-0.2**
HMDT	**Nahal Hemdat**	**3.42**	**132**	Pn	**Pn**	**14 10 41.0**	**+0.1**
COBT	**Iskenderun**	**3.60**	**57**	*i* P	**Pn**	**14 10 41.5**	**-1.9**
DRGI	**Dragot**	**3.83**	**140**	Pn	**Pn**	**14 10 47.3**	**+0.6**
MKRJ	**Makawir**	**4.00**	**138**	Pn	**Pn**	**14 10 50.1**	**+1.0**
MZDA	**Masada**	**4.04**	**143**	Pn	**Pn**	**14 10 50.0**	**+0.2**
PRNI	**Paran**	**4.71**	**153**	Pn	**Pn**	**14 10 59.8**	**+0.6**
PRNI				Sn	**Sn**	**14 11 54.4**	**0.0**
GZT	**Gaziantep**	**4.93**	**54**	*i* P	**Pn**	**14 11 10.9**	**+8.6**
GZT				*i* S	**Sn**	**14 12 06.0**	**+6.2**
MBH	**Mount Berech**	**5.19**	**156**	Pn	**Pn**	**14 11 07.0**	**+1.0**

NIED ***01*** *14:10:00,28.90N×129.90E,h29*^{km}*,Mw4.6 Best double couple: M*$_0$*9.65×10*^{15} *NP1:*ϕ_s*274°,δ82°,λ-139°. NP2:* ϕ_s*177°,δ49°,λ-11°.*

MOS ***01*** *14:10:16.0±1.9,28.70N×130.43E,h33*^{km}*,mb4.8/6,Error ellipse: s-maj=22.5km s-min=14.2km az=99.4*

IDC ***01*** *14:10:16.7±4.2,28.90N×129.99E,h17*^{km}*±26*^{km}*,mb4.1/23, mb1 4.3/27,mb1mx4.3/31,ML4.4/4,MS3.9/12,Ms1 3.9/12, ms1mx3.6/32,Error ellipse: s-maj=16.0km s-min=12.6km az=93.0*

JMA ***01*** *14:10:18.1±0.1,28.87N×129.86E,h42*^{km}*,M4.7*

JMA Felt II J1.

BJI ***01*** *14:10:21.1,28.75N×130.06E,h75*^{km}*,mB4.7,mb4.3, Ms4.2,Msz4.0*

NEIC ***01*** *14:10:22.0±0.9,28.80N×129.92E,h60*^{km}*±8*^{km}*,mb4.6/29, MW4.6(NIED),Error ellipse: s-maj=7.6km s-min=6.2km az=95.0*

NEIC Recorded [2 JMA] on Nakano-shima and Kikaiga-shima; [1 JMA] on Kuchino-shima and O-shima.

ISC 01 14:10:18.5±0.4,**28.82N**±0.02×**130.01E**±0.03,**h42**^{km}±3^{km},**n117,**σ**1**^{s}**31**/133,**mb4.4**/55,**MS4.0**/17,**1C-3D,Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JZK	**Kikaishima**	**0.51**	**184**	P	**P**	**14 10 29.5**	**0.0**
JZK				S	**S**	**14 10 38.7**	**+1.5**
JAM	**Amami Oshima**	**0.55**	**221**	P	**P**	**14 10 28.6**	**-1.4**
JAM				S	**S**	**14 10 37.0**	**-1.1**
JNN	**Nakanoshima**	**1.02**	**353**	P	**P**	**14 10 35.3**	**-1.3**
JNN				*e*S	**S**	**14 10 48.5**	**-1.4**
JTK	**Tokunoshima**	**1.40**	**222**	P	**P**	**14 10 42.0**	**0.0**
JTK				*e*S	**S**	**14 11 00.9**	**+1.5**
JKC	**Kuchinoerabu**	**1.64**	**6**	P	**P**	**14 10 44.2**	**-1.2**
JKC				*e*S	**S**	**14 11 04.4**	**-1.1**
JTN	**Tanegashima 3**	**2.01**	**25**	P	**P**	**14 10 50.4**	**-0.3**
JTN				*e*S	**S**	**14 11 16.5**	**+1.8**
JOW	**Kunigami**	**2.51**	**218**	Pn	**P**	**14 10 58.0**	**+0.2**
	150nm,0.3s,baz=55,slow=9.3,SNR=353						
JOW				Sn	**S**	**14 11 28.8**	**+1.3**
	174nm,0.3s,baz=148,slow=26,SNR=9.2						
JOW	**Kunigami**	**2.51**	**218**	P	**P**	**14 10 58.1**	**+0.2**
JOW				*e*S	**S**	**14 11 27.5**	**0.0**
JIH	**Iheya**	**2.54**	**226**	P	**P**	**14 10 58.6**	**+0.3**
JAGN	**Aguni-jima**	**3.31**	**228**	P	**P**	**14 11 09.8**	**+0.5**
JJT2	**Tamagusuku 2**	**3.35**	**217**	P	**P**	**14 11 09.7**	**0.0**
JKE	**Kume jima 2**	**3.79**	**230**	P	**P**	**14 11 15.9**	**-0.1**
JNU	**Nakatsue**	**4.35**	**10**	Pn	**P**	**14 11 23.9**	**+0.1**
	41nm,0.3s,baz=198,slow=9.0,SNR=148						
JNU				Sn	**S**	**14 12 18.4**	**+4.4**
	2.5nm,0.3s,baz=169,slow=14,SNR=2.0						
TATO	**Taipei**	**8.52**	**245**	P	**P**	**14 12 19.1**	**-3.1**
KS15	**Wonju Array Si**	**8.78**	**349**	*e*P	**P**	**14 12 27.5**	**+1.8**
INCN	**Inchon**	**9.09**	**343**	*e*P	**P**	**14 12 32.1**	**+2.0**
	49nm,1.0s						
JHJ	**Hachijo jima 2**	**9.42**	**61**	Pn	**P**	**14 12 32.8**	**-1.8**
	25nm,0.3s,baz=207,slow=10,SNR=12						
NJ2	**Nanjing**	**10.15**	**291**	*e*P	**P**	**14 12 46.6**	**+1.9**
NJ2				AP		14 12 53.5	
NJ2				S	**S**	**14 14 38.0**	**-0.4**
NJ2				LR	LR		
	comp=N,7µm,20.0s						
NJ2				LR	LR		
	comp=E,2µm,10.7s						
NJ2				LR	LR		
	comp=Z,4µm,10.7s						
MAJO	**Matsushiro**	**10.34**	**40**	*e*P	**P**	**14 12 44.6**	**-2.6**
	comp=Z,11nm,0.5s						
MAT	**Matsushiro**	**10.34**	**40**	P	**P**	**14 12 43.5**	**-3.7**
MAT				*e*S	**S**	**14 14 44.2**	**+1.4**
MAT	**Matsushiro**	**10.34**	**40**	*e*P	**P**	**14 12 44.0**	**-3.2**
	comp=Z,8.5nm,0.4s						
CBIJ	**Chichi jima**	**10.90**	**96**	LR	LR	14 16 01.4	
	comp=Z,269nm,21.2s,baz=43,slow=32						
WHN	**Wuhan**	**13.72**	**281**	*e*P	**P**	**14 13 30.1**	**-2.5**
WHN				LR	LR		
	comp=Z,740nm,12.8s						
SNY	**Shenyang**	**13.99**	**340**	⇑P	**P**	**14 13 36.3**	**+0.3**
SNY				PP	PP	14 13 47.8	+0.7
SNY				S	**S**	**14 16 19.5**	**+8.7**
SNY				XS		14 16 28.1	
SNY				LR	LR		
	comp=N,1µm,11.4s						
SNY				LR	LR		
	comp=E,620nm,9.8s						
SNY				LR	LR		
	comp=Z,2µm,11.3s						
CN2	**Changchun**	**15.39**	**347**	*e*P	**P**	**14 13 58.6**	**+4.4**
CN2				*e*S	**S**	**14 16 48.7**	**+5.0**
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,2µm,12.0s						
CN2				LR	LR		
	comp=E,500nm,12.0s						
CN2				LR	LR		
	comp=Z,2µm,16.0s						
MDJ	**Mudanjiang**	**15.77**	**359**	P	**P**	**14 14 01.9**	**+2.8**
MDJ				AP		14 14 12.9	
MDJ				PP	PP	14 14 16.8	+4.9
MDJ				S	**S**	**14 16 56.5**	**+4.1**
MDJ				SS	SS	14 17 14.2	+2.4
MDJ				AMB	AMB		
	comp=Z,8.0nm,0.7s						
MDJ				AMB	AMB		
	comp=Z,108nm,3.5s						
MDJ				LR	LR		
	comp=N,169nm,19.5s						
MDJ				LR	LR		
	comp=E,149nm,17.5s						
MDJ				LR	LR		
	comp=Z,243nm,16.4s						
BJT	**Baijiatuau**	**15.95**	**318**	*e*P	**P**	**14 14 02.8**	**+1.3**
	comp=Z,49nm,0.9s						
BJI	**Beijing**	**15.96**	**318**	P	**P**	**14 14 02.9**	**+1.3**
BJI				AMB	AMB		
	comp=Z,8.0nm,0.6s						
BJI				LR	LR		
	comp=N,633nm,15.1s						
BJI				LR	LR		
	comp=E,460nm,13.6s						
BJI				LR	LR		
	comp=Z,278nm,17.6s						
TGY	**Tagaytay City**	**16.90**	**212**	LR	LR	14 21 02.5	
	comp=Z,181nm,20.9s,baz=184,slow=38						
ENH	**Enshi**	**17.92**	**280**	*e*P	**P**	**14 14 28.2**	**+2.0**
	comp=Z,8.7nm,0.8s						
ASAJ	**Asahikawa**	**18.28**	**30**	Pn	**P**	**14 14 27.9**	**-2.8**
	comp=Z,0.9nm,0.3s,baz=232,slow=24,SNR=9.7						
ASAJ				LR	LR	14 21 49.5	
	comp=Z,477nm,20.7s,baz=133,slow=38						
XAN	**Xi’an**	**18.72**	**291**	P	**P**	**14 14 36.4**	**+0.3**
XAN				PP	PP	14 14 57.1	+4.8
XAN				AMB	AMB		
	comp=Z,17nm,0.8s						
XAN				LR	LR		
	comp=N,141nm,13.7s						
XAN				LR	LR		
	comp=E,216nm,11.9s						
XAN				LR	LR		
	comp=Z,242nm,12.2s						
HHC	**Hu-ho-hao-te**	**19.27**	**313**	*e*P	**P**	**14 14 42.9**	**+0.5**
HHC				AP		14 14 53.4	
HHC				XP		14 15 04.1	
HHC				S	**S**	**14 18 11.7**	**-0.5**
HHC				SS	SS	14 18 39.3	+0.2
HHC				AMB	AMB		
	comp=Z,22nm,0.8s						
HHC				AMB	AMB		
	comp=Z,202nm,5.6s						
HHC				LR	LR		
	comp=N,215nm,16.3s						
HHC				LR	LR		
	comp=E,159nm,15.2s						
HHC				LR	LR		
	comp=Z,203nm,16.7s						
GUMO	**Guam**	**20.50**	**135**	P	**P**	**14 14 56.9**	**+1.3**
	comp=Z,510nm,1.4s						
YSS	**Yuzh-Sakhalins**	**20.66**	**25**	P	**P**	**14 14 53.2**	**-3.8**
YSS				*e*		14 15 07.0	
YSS	**Yuzh-Sakhalins**	**20.66**	**25**	*e*P	**P**	**14 14 56.8**	**-0.3**
	comp=Z,33nm,1.0s						
GYA	**Guiyang**	**20.81**	**269**	⇓*i*P	**P**	**14 14 59.5**	**+0.7**
GYA				AP		14 15 12.6	
GYA				XP		14 15 22.4	
GYA				S	**S**	**14 18 43.2**	**-0.5**
GYA				XS		14 19 04.6	
GYA				AMB	AMB		
	comp=Z,10.0nm,1.2s						
GYA				LR	LR		
	comp=N,140nm,13.4s,MS3.9						
GYA				LR	LR		
	comp=E,320nm,12.8s,MS3.9						
GYA				LR	LR		
	comp=Z,250nm,14.0s,MS3.7						
HIA	**Hailar**	**21.88**	**342**	*e*P	**P**	**14 15 10.7**	**+1.4**
	comp=Z,6.6nm,0.9s,mb4.1						
CD2	**Chengdu**	**22.85**	**282**	*e*P	**P**	**14 15 20.0**	**+0.9**
LZH	**Lanzhou**	**23.20**	**295**	*e*P	**P**	**14 15 24.5**	**+2.1**
LZH				AP		14 15 38.4	
LZH				XP		14 15 45.6	
LZH				PP	PP	14 15 56.5	+2.6
LZH				*e*S	**S**	**14 19 27.1**	**-0.2**
LZH				XS		14 19 50.4	
LZH				SS	SS	14 20 14.6	-0.1
LZH				AMB	AMB		
	comp=Z,27nm,1.3s,mb4.5						
LZH				AMB	AMB		
	comp=Z,121nm,5.1s						
LZH				LR	LR		
	comp=N,379nm,10.3s						
LZH				LR	LR		
	comp=Z,835nm,12.4s,MS4.4						
KMI	**Kunming**	**24.56**	**268**	*e*P	**P**	**14 15 36.7**	**+0.9**
KMI				PP	PP	14 16 13.2	+0.6
KMI				S	**S**	**14 19 49.9**	**-1.1**
KMI				XS		14 20 14.4	
KMI				SS	SS	14 20 46.7	-1.5
KMI				AMB	AMB		
	comp=Z,9.0nm,1.3s,mb4.1						
KMI				AMB	AMB		
	comp=Z,107nm,4.9s						
KMI				LR	LR		
	comp=N,394nm,14.3s,MS4.0						
KMI				LR	LR		
	comp=E,172nm,17.2s,MS4.0						
KMI				LR	LR		
	comp=Z,220nm,15.5s,MS3.8						
SONM	**Songino Array**	**26.35**	**323**	P	**P**	**14 15 51.0**	**-1.4**
	comp=Z,13nm,1.1s,mb4.4,baz=135,slow=10,SNR=23						
SONM				ScP		14 22 56.1	
	comp=Z,0.3nm,0.8s,baz=135,slow=3.5,SNR=3.9						
GTA	**Gaotai**	**27.02**	**301**	*e*P	**P**	**14 16 02.3**	**+3.6**
GTA				AP	pP	14 16 16.2	+6.3
GTA				XP	sP	14 16 21.8	+6.7
GTA				PCP	PcP	14 19 21.9	+2.3
GTA				AMB	AMB		
	comp=Z,2.0nm,0.8s,mb3.7						
GTA				AMB	AMB		
	comp=Z,59nm,4.2s						
GTA				LR	LR		
	comp=N,165nm,18.3s,MS3.8						
GTA				LR	LR		
	comp=E,153nm,17.5s,MS3.8						
GTA				LR	LR		
	comp=Z,192nm,17.5s,MS3.7						
ZAK	**Zakamensk**	**29.52**	**324**	⇓*e*P	**P**	**14 16 20.4**	**-0.6**
CM31	**Chiang Mai Arr**	**30.19**	**257**	*e*P	**P**	**14 16 26.7**	**-0.6**
	comp=Z,1.0nm,0.5s,mb3.8						
CMAR	**Chiang Mai Arr**	**30.19**	**257**	P	**P**	**14 16 26.5**	**-0.8**
	comp=Z,1.3nm,0.8s,mb3.7,baz=60,slow=6.2,SNR=12						
CMAR				PcP	PcP	14 19 28.8	+1.1
	comp=Z,0.3nm,0.4s,baz=4.5,slow=0.6,SNR=3.4						
PKI	**Pulchoki**	**39.16**	**279**	*e*P	**P**	**14 17 42.9**	**-1.0**
	comp=Z,14nm,0.7s,mb4.8						
KKN	**Kakani**	**39.22**	**280**	*e*P	**P**	**14 17 43.7**	**-0.7**
	comp=Z,16nm,0.7s,mb4.9						
DMN	**Daman**	**39.41**	**279**	*e*P	**P**	**14 17 45.1**	**-0.9**
	comp=Z,18nm,0.9s,mb4.8						
GKN	**Gorkha**	**39.73**	**280**	*e*P	**P**	**14 17 48.7**	**0.0**
	comp=Z,13nm,0.7s,mb4.8						
KOLN	**Koldanda**	**40.68**	**280**	*e*P	**P**	**14 17 55.2**	**-1.3**
	comp=Z,8.7nm,0.6s,mb4.5						
MKAR	**Makanchi Array**	**41.05**	**309**	P	**P**	**14 17 59.7**	**+0.3**
	comp=Z,1.0nm,0.5s,mb3.7,baz=91,slow=10.0,SNR=13						
MKAR				PcP	PcP	14 19 57.9	-1.4
	comp=Z,0.8nm,0.6s,baz=86,slow=1.9,SNR=5.2						
MKAR				LR	LR	14 36 52.2	
	comp=Z,121nm,18.1s,MS3.8,baz=206,slow=39						
MKAR	**Makanchi Array**	**41.05**	**309**	*i* P	**P**	**14 18 02.9**	**+3.5**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZAL	**Zalesovo**	**41.21**	**320**	P	**P**	**14 18 00.1**	**-0.5**
	comp=Z,1.5nm,0.5s,mb3.9,baz=280,slow=12,SNR=4.8						
ZAL	**Zalesovo**	**41.21**	**320**	*i* P	**P**	**14 18 04.6**	**+4.0**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
TIXI	**Tiksi**	**42.88**	**359**	⇓*i*P	**P**	**14 18 13.5**	**-0.5**
TIXI				pmax	pmax		
	comp=Z,14nm,2.0s,mb4.3						
TIXI				MLR	MLR		
	comp=Z,185nm,13.0s,MS4.2						
KURK	**Kurchatov**	**44.09**	**314**	*e*P	**P**	**14 18 26.4**	**+2.2**
FITZ	**Fitzroy Crossi**	**46.84**	**186**	*e*P	**P**	**14 18 45.8**	**-0.6**
	comp=Z,6.5nm,0.8s,mb4.6						
WRAB	**Tennant Creek**	**48.65**	**175**	*e*P	**P**	**14 18 59.4**	**-1.1**
	comp=Z,10.0nm,0.9s,mb4.8						
WRA	**Warramunga Arr**	**48.66**	**175**	P	**P**	**14 18 59.9**	**-0.7**
	comp=Z,4.9nm,0.7s,mb4.6,baz=350,slow=8.3,SNR=41						
WB2	**Warramunga Arr**	**48.66**	**175**	*e*P	**P**	**14 18 59.6**	**-1.0**
BVAR	**Borovoye Array**	**49.44**	**317**	P	**P**	**14 19 05.7**	**-0.4**
	comp=Z,3.1nm,0.6s,mb4.5,baz=94,slow=9.6,SNR=22						
BVAR				PcP	PcP	14 20 27.9	-0.3
	comp=Z,2.0nm,0.4s,baz=108,slow=2.5,SNR=6.6						
BRVK	**Borovoye**	**49.51**	**317**	*e*P	**P**	**14 19 06.3**	**-0.4**
	comp=Z,5.3nm,0.6s,mb4.8						
ZRNK	**Zerenda**	**50.27**	**317**	*e*P	**P**	**14 19 11.4**	**-1.1**
	comp=Z,3.9nm,0.6s,mb4.6						
CTA	**Charters Tower**	**51.09**	**160**	P	**P**	**14 19 18.8**	**-0.4**
	comp=Z,2.5nm,0.6s,mb4.3,baz=346,slow=12,SNR=3.6						
CTA				LR	LR	14 40 06.6	
	comp=Z,126nm,19.1s,MS4.0,baz=13,slow=35						
ASAR	**Alice Springs**	**52.32**	**175**	P	**P**	**14 19 28.1**	**-0.3**
	comp=Z,3.2nm,0.5s,mb4.5,baz=10.0,slow=14,SNR=54						
ASAR				LR	LR	14 41 24.0	
	comp=Z,58nm,18.5s,MS3.6,baz=352,slow=36						
ASPA	**Alice Springs**	**52.32**	**175**	*e*P	**P**	**14 19 27.7**	**-0.7**
ARU	**Arti**	**56.37**	**321**	*e*P	**P**	**14 19 56.1**	**-1.4**
ARU				MLR	MLR		
	comp=N,100nm,16.0s,MS4.2						
ARU				MLR	MLR		
	comp=E,100nm,16.0s,MS4.2						
ARU				MLR	MLR		
	comp=Z,200nm,16.0s,MS4.3						
ARU	**Arti**	**56.37**	**321**	*e*P	**P**	**14 19 55.9**	**-1.6**
	comp=Z,1.5nm,0.6s,mb4.2						
RSO	**Redoubt South**	**59.16**	**34**	P	**P**	**14 20 15.7**	**-1.4**
MCK	**McKinley**	**60.64**	**30**	*e*P	**P**	**14 20 27.3**	**0.0**
	comp=Z,2.6nm,0.6s,mb4.5						
PMR	**Palmer**	**60.80**	**33**	*e*P	**P**	**14 20 26.9**	**-1.5**
	comp=Z,9.9nm,1.1s,mb4.8						
COLA	**College**	**60.99**	**29**	*e*P	**P**	**14 20 28.3**	**-1.3**
COLA	**College**	**60.99**	**29**	*e*P	**P**	**14 20 30.3**	**+0.7**
	comp=Z,3.1nm,0.7s,mb4.5						
SML	**Sawmill**	**61.15**	**32**	*e*P	**P**	**14 20 29.4**	**-1.3**
STKA	**Stephens Creek**	**61.36**	**169**	P	**P**	**14 20 31.6**	**-1.0**
	comp=Z,1.0nm,0.4s,mb4.3,baz=308,slow=12,SNR=3.8						
STKA				LR	LR	14 45 49.2	
	comp=Z,122nm,19.7s,MS4.1,baz=24,slow=35						
ILAR	**Eielson Array**	**61.41**	**29**	P	**P**	**14 20 30.6**	**-1.9**
	comp=Z,1.6nm,0.8s,mb4.2,baz=270,slow=5.3,SNR=16						
DIV	**Divide**	**62.47**	**33**	*e*P	**P**	**14 20 39.0**	**-0.5**
	comp=Z,26nm,0.9s,mb5.4						
INK	**Inuvik**	**65.89**	**24**	P	**P**	**14 21 00.8**	**-0.8**
	comp=Z,2.5nm,0.6s,mb4.4,baz=278,slow=5.7,SNR=6.8						
INK				LR	LR	14 48 01.7	
	comp=Z,70nm,21.3s,MS3.8,baz=308,slow=34						
KEV	**Kevo**	**67.61**	**338**	*e*P	**P**	**14 21 10.8**	**-1.7**
ARCES	**ARCESS Array B**	**68.18**	**338**	P	**P**	**14 21 14.5**	**-1.6**
	comp=Z,0.8nm,0.5s,mb4.0,baz=69,slow=8.1,SNR=7.4						
ARCES				LR	LR	14 58 22.7	
	comp=Z,148nm,18.3s,MS4.2,baz=271,slow=42						
OBN	**Obninsk**	**68.76**	**322**	P	**P**	**14 21 20.0**	**+0.1**
OBN				*e*		14 21 45.1	
OBN				*e*S	S	14 30 25.5	+6.7
OBN				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
OBN				MLR	MLR		
	comp=Z,100nm,14.0s,MS4.2						
SOC	**Sochi**	**70.96**	**310**	*e*P	**P**	**14 21 36.9**	**+3.4**
SOC				*e*	pP	14 21 51.3	+5.3
SOC				*e*		14 24 11.0	
SOC				*e*S	S	14 30 47.6	+2.8
SOC				*e*		14 31 37.7	
SOC				pmax	pmax		
	comp=Z,15nm,0.7s,mb5.0						
SOC				pmax	pmax		
	comp=N,27nm,1.1s						
SOC				pmax	pmax		
	comp=E,11nm,0.6s						
SOC				MLR	MLR		
	comp=Z,199nm,21.0s,MS4.3						
SOC				MLR	MLR		
	comp=N,105nm,20.0s,MS4.2						
SOC				MLR	MLR		
	comp=E,87nm,19.0s,MS4.2						
KAF	**Kangasniemi**	**71.00**	**331**	*e*P	**P**	**14 21 34.1**	**+0.7**
FINES	**FINESS Array B**	**71.39**	**331**	P	**P**	**14 21 33.8**	**-2.0**
	comp=E,0.9nm,0.4s,mb4.1,baz=73,slow=6.0,SNR=14						
FINES				LR	LR	14 56 15.0	
	comp=E,98nm,19.1s,MS4.1,baz=64,slow=39						
ANN	**Anapa**	**72.02**	**312**	*e*P	**P**	**14 21 46.2**	**+6.5**
ANN				pmax	pmax		
	comp=Z,26nm,0.9s,mb5.2						
MALT	**Malatya**	**73.92**	**305**	*e*P	**P**	**14 21 52.5**	**+1.4**
	comp=Z,3.0nm,0.7s,mb4.3						
AKASG	**Malin Array Be**	**74.59**	**320**	P	**P**	**14 21 54.4**	**-0.3**
	comp=Z,1.6nm,0.6s,mb4.2,baz=50,slow=4.8,SNR=4.0						
AKASG				LR	LR	14 57 38.8	
	comp=Z,138nm,18.2s,MS4.3,baz=60,slow=38						
YKA	**Yellowknife Ar**	**75.51**	**26**	P	**P**	**14 22 00.0**	**+0.3**
	comp=Z,2.7nm,0.8s,mb4.2,baz=304,slow=5.6,SNR=15						
BRTR	**Keskin Array B**	**76.69**	**308**	P	**P**	**14 22 06.4**	**-0.5**
	comp=Z,1.5nm,0.7s,mb4.0,baz=104,slow=4.9,SNR=8.6						
NB2	**NORSAR Subarra**	**77.69**	**334**	P	**P**	**14 22 09.4**	**-2.6**
	comp=Z,4.2nm,1.0s,mb4.3,baz=51,slow=5.3						
NOA	**NORSAR Array B**	**77.69**	**334**	P	**P**	**14 22 09.8**	**-2.2**
	comp=Z,1.6nm,0.7s,mb4.0,baz=49,slow=5.4,SNR=5.7						
NOA				LR	LR	14 59 44.5	
	comp=Z,64nm,19.6s,MS4.0,baz=30,slow=38						
NOA	**NORSAR Array B**	**77.69**	**334**	P	**P**	**14 22 09.8**	**-2.2**
NOA				LR	LR	14 59 44.5	
SUMG	**Summit**	**78.56**	**356**	*e*P	**P**	**14 22 16.5**	**-0.1**
	comp=Z,7.1nm,0.6s,mb4.8						
OJC	**Ojcow**	**80.05**	**322**	*e*P	**P**	**14 22 28.1**	**+3.0**
DPW	**Davenport**	**82.22**	**39**	*e*P	**P**	**14 22 37.8**	**+1.2**
YBH	**Yreka Blue Hor**	**82.94**	**46**	P	**P**	**14 22 41.8**	**+1.4**
	comp=Z,2.1nm,0.8s,mb4.2,baz=164,slow=3.8,SNR=3.8						
YBH	**Yreka Blue Hor**	**82.94**	**46**	*e*P	**P**	**14 22 42.5**	**+2.2**
	comp=Z,2.7nm,1.0s,mb4.2						
MOX	**Moxa**	**84.02**	**326**	*e*P	**P**	**14 22 44.0**	**-1.6**
MOX				L		15 04 13.0	
GERES	**GERESS Array B**	**84.08**	**323**	P	**P**	**14 22 47.4**	**+1.4**
	comp=Z,0.5nm,0.5s,mb3.9,baz=27,slow=3.0,SNR=3.7						
HLID	**Hailey**	**86.90**	**41**	*e*P	**P**	**14 23 01.7**	**+1.7**
	comp=Z,3.1nm,0.9s,mb4.5						
EKA	**Eskdalemuir Ar**	**87.10**	**335**	P	**P**	**14 23 00.8**	**+0.1**
	comp=Z,1.3nm,0.7s,mb4.3,baz=56,slow=3.0,SNR=4.9						
BOZ	**Bozeman (W)**	**87.17**	**38**	*e*P	**P**	**14 22 58.4**	**-2.8**
	comp=Z,5.1nm,1.3s,mb4.6						
NVAR	**Mina Array Bea**	**87.58**	**47**	P	**P**	**14 23 05.3**	**+1.9**
	comp=Z,0.6nm,0.6s,mb4.0,baz=289,slow=4.7,SNR=8.5						
NVAR	**Mina Array Bea**	**87.58**	**47**	P	**P**	**14 23 05.3**	**+1.9**
ELK	**Elko**	**88.12**	**44**	*e*P	**P**	**14 23 07.2**	**+1.3**
	comp=Z,9.3nm,2.0s,mb4.7						
TPNV	**Topopah Spring**	**89.77**	**47**	*e*P	**P**	**14 23 15.8**	**+2.0**
	comp=Z,3.3nm,1.1s,mb4.6						
HWUT	**Hardware Ranch**	**89.77**	**41**	*e*P	**P**	**14 23 15.1**	**+1.4**
	comp=Z,1.7nm,0.6s,mb4.5						
DUG	**Dugway**	**89.92**	**43**	*e*P	**P**	**14 23 17.4**	**+2.9**
	comp=Z,1.9nm,0.8s,mb4.5						
BW06	**Boulder Array**	**90.16**	**39**	*e*P	**P**	**14 23 14.9**	**-0.7**
	comp=Z,1.3nm,0.8s,mb4.3						
PDAR	**Pinedale Array**	**90.16**	**39**	P	**P**	**14 23 16.9**	**+1.4**
	comp=Z,0.9nm,0.7s,mb4.2,baz=12,slow=1.2,SNR=8.3						
PDAR	**Pinedale Array**	**90.16**	**39**	P	**P**	**14 23 16.9**	**+1.4**
MSU	**Marysvale**	**91.36**	**44**	*e*P	**P**	**14 23 22.0**	**+0.7**
ULM	**Lac du Bonnet**	**91.40**	**27**	P	**P**	**14 23 21.4**	**+0.3**
	comp=Z,2.0nm,0.7s,mb4.6,baz=270,slow=7.1,SNR=2.7						
ULM	**Lac du Bonnet**	**91.40**	**27**	P	**P**	**14 23 21.0**	**-0.2**
PV10	**Paradox Valley**	**93.33**	**42**	*e*P	**P**	**14 23 33.2**	**+2.9**
PV01	**Paradox Valley**	**93.77**	**42**	P	**P**	**14 23 34.7**	**+2.4**

HEL ***01*** *14:12:22.9±0.2,59.70N×22.28E,ML1.8,ML2.2(UPP), ML2.0(NAO),Explosion*

BER ***01*** *14:12:23.5±4.1,59.80N×22.35E,ML2.0(NAO), Suspected explosion*

IDC ***01*** *14:12:24.2±2.1,59.84N×22.28E,mb1 2.9/4, mb1mx2.9/21,ML2.5/4,Error ellipse: s-maj=34.1km s-min=8.3km az=163.0*

NAO ***01*** *14:12:25.7±2.9,60.12N×22.13E,ML2.0*

ISC 01 14:12:22.2±0.9,**59.75N**±0.09×**22.27E**±0.06,**n22,**σ**0**^{s}**98**/32, **Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAL	**Aland**	**1.22**	**291**	*e*P	**Pb**	**14 12 44.9**	**-1.0**
AAL				*e*S	**Sb**	**14 13 00.8**	**-1.2**
NRTU	**Norrtaelje**	**1.84**	**269**	*e*P	**Pn**	**14 12 56.0**	**+0.6**
GRAU	**Graesoe**	**1.96**	**289**	*e*P	**Pn**	**14 12 57.0**	**0.0**
GRAU				*e*S	**Sn**	**14 13 23.0**	**+0.4**
PVF	**Pernaja**	**1.96**	**65**	*e*P	**Pn**	**14 12 57.5**	**+0.4**
PVF				*e*S	**Sn**	**14 13 21.8**	**-0.9**
PVF				MSG		14 13 27.2	
	comp=Z,5.0nm,0.1s						
FLYU	**Flymyra**	**2.24**	**282**	*e*P	**Pn**	**14 13 01.6**	**+0.7**
FIA0	**FINESS Array S**	**2.53**	**46**	Pn	**Pn**	**14 13 05.9**	**+0.7**
	baz=217,slow=16						
FIA0				Lg		14 13 38.2	
	baz=221,slow=28						
FIA0	**FINESS Array S**	**2.53**	**46**	*e*P	**Pn**	**14 13 06.0**	**+0.9**
FIA0				*e*S	**Sn**	**14 13 37.0**	**-0.2**
FIA0				MSG		14 13 41.4	
	comp=Z,3.2nm,0.1s						
FINES	**FINESS Array B**	**2.53**	**46**	Pn	**Pn**	**14 13 06.0**	**+0.8**
	comp=Z,0.6nm,0.3s,baz=227,slow=13,SNR=46						
FINES				Sn	**Sn**	**14 13 38.5**	**+1.4**
	comp=Z,2.3nm,0.3s,baz=235,slow=23,SNR=18						
BACU	**Backbrunna**	**2.61**	**274**	*e*P	**Pn**	**14 13 09.3**	**+3.0**
OSTU	**Oestervaala**	**2.62**	**283**	*e*P	**Pn**	**14 13 06.9**	**+0.4**
IGGU	**Iggoen**	**2.71**	**297**	*e*P	**Pn**	**14 13 07.8**	**+0.1**
KEF	**Keuruu**	**2.73**	**27**	*e*P	**Pn**	**14 13 09.2**	**+1.1**

KEF				*e*S	**Sn**	**14 13 42.6**	**+0.3**
KEF				MSG		14 13 46.1	
	comp=Z,2.0nm,0.2s						
VJF	**Virojoki**	**2.76**	**71**	*e*P	**Pn**	**14 13 08.4**	**0.0**
VJF				*e*S	**Sn**	**14 13 41.5**	**-1.5**
KAF	**Kangasniemi**	**3.08**	**38**	MSG		14 13 56.4	
	comp=Z,1.9nm,0.2s						
FALU	**Falun**	**3.31**	**286**	*e*P	**Pn**	**14 13 16.6**	**+0.4**
HFS	**Hagfors**	**4.33**	**279**	*e*P	**Pn**	**14 13 29.6**	**-1.2**
HFS				*e*SG	**Sg**	**14 14 37.5**	**-8.8**
HFS	**Hagfors**	**4.33**	**279**	Pn	**Pn**	**14 13 31.4**	**+0.6**
	comp=Z,0.0nm,0.3s,baz=103,slow=13,SNR=6.6						
HFS				Pg	**Pg**	**14 13 38.9**	**-10**
	comp=Z,0.1nm,0.3s,baz=96,slow=15,SNR=6.4						
HFS				Lg		14 14 37.3	
	comp=Z,0.1nm,0.3s,baz=93,slow=30,SNR=6.7						
HFS	**Hagfors**	**4.33**	**279**	Pn	**Pn**	**14 13 29.6**	**-1.2**
	baz=103,slow=11						
HFS				Lg		14 14 37.5	
	baz=98,slow=28						
NOA	**NORSAR Array B**	**5.63**	**288**	Pn	**Pn**	**14 13 46.9**	**-2.2**
	comp=Z,0.2nm,0.3s,baz=125,slow=7.6,SNR=2.7						
NOA				Lg		14 15 14.5	
	comp=Z,0.2nm,0.3s,baz=315,slow=27,SNR=2.8						
ARA0	**ARCESS Array S**	**9.92**	**7**	Pn	**P**	**14 14 43.8**	**-5.0**
	baz=193,slow=14						
ARA0				Sn	**Sn**	**14 16 29.6**	**-13**
	baz=202,slow=28						
ARA0	**ARCESS Array S**	**9.92**	**7**	*e*P	**P**	**14 14 43.8**	**-5.0**
ARA0				*e*S	**Sn**	**14 16 29.6**	**-13**
ARCES	**ARCESS Array B**	**9.92**	**7**	Pn	**P**	**14 14 44.3**	**-4.5**
	comp=Z,0.1nm,0.3s,baz=184,slow=14,SNR=6.4						

ECX 01 15:10:29.3±0.4, 30.62N×114.14W, h4^{km}, MD3.8, ML3.6, 3D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SPX	**San Pedro Mart**	**1.22**	**291**	*e*P	Pb	15 10 50.3	-2.2
SPX				*e*S	Sb	15 11 07.3	-1.1
EMX	**El Mayor**	**1.66**	**326**	*e*P	Pn	15 10 58.1	-1.3
EMX				*e*S	Sb	15 11 19.8	-1.5
EMX				⇓*e*		15 11 53.8	
	comp=E,316nm,1.0s						
RDX	**Rancho Dowling**	**2.03**	**311**	*e*P	Pn	15 11 03.9	-0.7
RDX				⇓*e*		15 11 38.5	
	comp=N,287nm,0.9s						
RDX				⇓*e*		15 11 49.1	
	comp=E,270nm,0.8s						
ECNX	**Esteban Cantu**	**2.35**	**297**	*e*P	Pn	15 11 08.4	-0.8
ECNX				*e*S	Sn	15 11 39.0	+0.1
PGX	**Piedras Gordas**	**2.38**	**305**	*e*P	Pn	15 11 08.8	-0.9
PGX				*e*S	Sn	15 11 40.1	+0.3
ENX	**Ensenada**	**2.50**	**301**	*e*P	Pn	15 11 10.6	-0.9
ENX				*e*S	Sn	15 11 46.4	+3.6
CBX	**Cerro Bola**	**2.74**	**309**	*e*P	Pn	15 11 20.1	+5.3
CBX				*e*S	Sn	15 11 46.7	-2.1

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*MAN **01** 15:12:24.4, 11.72N×125.29E, h58^{km}, mb5.0, ML3.9, MS4.3*

*IDC **01** 15:12:27.9±4.3, 11.53N×125.11E, h104^{km}±37^{km}, mb3.8/9, mb1 3.9/10, mb1mx3.7/19, MS2.9/1, Ms1 2.9/1, ms1mx2.7/24, Error ellipse: s-maj=52.5km s-min=14.3km az=66.0*

*NEIC **01** 15:12:28.1±2.2, 11.55N×125.05E, h102^{km}±19^{km}, mb4.5/9, Error ellipse: s-maj=32.4km s-min=10.0km az=62.0*

ISC 01 15:12:23.5±0.4, 11.73N±0.03×125.34E±0.05, h78^{km}±3^{km}, n56, σ1ˢ01/65, mb4.3/20, 4C-2D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.16**	**142**	*e*P	**P**	**15 12 34.5**	**-0.4**
BESP				*e*S	**S**	**15 12 42.1**	**-1.3**
PLP	**Palo**	**0.66**	**212**	*e*P	**P**	**15 12 37.9**	**-0.9**
PLP				*i* S	**S**	**15 12 47.3**	**-2.8**
OCLP	**Ormoc**	**0.98**	**227**	*e*P	**P**	**15 12 42.9**	**+0.4**
CNP	**Catarman**	**1.02**	**320**	*e*P	**P**	**15 12 43.4**	**+0.4**
CNP				*e*S	**S**	**15 12 57.9**	**+0.4**
MSLP	**Maasin**	**1.65**	**197**	*e*P	**P**	**15 12 53.0**	**+1.8**
MMPH	**Masbate**	**1.79**	**291**	⇓*i*P	**P**	**15 12 53.7**	**+0.6**
MMPH				*i* S	**S**	**15 13 15.8**	**+0.9**
SCPH	**Surigao**	**1.94**	**176**	*e*P	**P**	**15 12 55.6**	**+0.5**
SCPH				*e*S	**S**	**15 13 19.3**	**+1.0**
LLP	**Lapu-Lapu**	**1.94**	**224**	⇑*e*P	**P**	**15 12 53.0**	**-2.2**
LLP				*e*S	**S**	**15 13 17.0**	**-1.5**
PVCP	**Virac**	**2.19**	**328**	*e*P	**P**	**15 12 58.8**	**+0.2**
TBP	**Tagbilaran**	**2.49**	**216**	*e*P	**P**	**15 13 03.1**	**+0.2**
TBP				*e*S	**S**	**15 13 21.1**	**-11**
RCP	**Roxas**	**2.55**	**267**	⇑*e*P	**P**	**15 13 03.8**	**+0.1**
BUTP	**Butuan**	**2.75**	**174**	*e*P	**P**	**15 13 08.4**	**+1.8**
GUIM	**Jordan**	**2.91**	**248**	*e*P	**P**	**15 13 08.5**	**-0.3**
GUIM				*e*S	**S**	**15 13 42.1**	**-0.5**
AUQP	**San Andres**	**3.05**	**302**	*e*P	**P**	**15 13 11.9**	**+1.2**
OTRP	**Odiongan**	**3.31**	**281**	*e*P	**P**	**15 13 14.0**	**-0.2**
GQP	**Guinayangan**	**3.56**	**308**	⇑*e*P	**P**	**15 13 17.5**	**-0.2**
BIPH	**Bislig**	**3.66**	**164**	⇑*i*P	**P**	**15 13 19.4**	**+0.3**
BIPH				*i* S	**S**	**15 13 59.6**	**-1.7**
DCPH	**Dipolog City**	**3.69**	**212**	⇓*e*P	**P**	**15 13 19.7**	**+0.2**
BOAC	**Boac**	**3.82**	**297**	*e*P	**P**	**15 13 20.9**	**-0.5**
BUKP	**Musuan**	**3.83**	**184**	*e*P	**P**	**15 13 23.5**	**+2.0**
SJMP	**San Jose**	**4.19**	**280**	*e*P	**P**	**15 13 27.4**	**+0.9**
PAGZ	**Pagadian**	**4.31**	**207**	*e*P	**P**	**15 13 28.9**	**+0.8**
CUYO	**Cuyo Island**	**4.33**	**259**	*e*P	**P**	**15 13 28.0**	**-0.4**
POLP	**Polilio Island**	**4.46**	**312**	*e*P	**P**	**15 13 31.6**	**+1.4**
IPIL	**Ipil**	**4.77**	**215**	*e*P	**P**	**15 13 34.9**	**+0.4**
MATI	**Mati**	**4.84**	**169**	*e*P	**P**	**15 13 36.9**	**+1.5**
TGY	**Tagaytay City**	**4.90**	**299**	P	**P**	**15 13 37.8**	**+1.5**
	13nm,0.3s,baz=42,slow=1.2,SNR=4.6						
TGY				LR	LR	15 15 47.6	
	comp=Z,146nm,21.3s,baz=249,slow=42						
BUSP	**Coron**	**5.04**	**274**	*e*P	**P**	**15 13 38.5**	**+0.2**
LUBP	**Lubang**	**5.36**	**292**	*e*P	**P**	**15 13 43.3**	**+0.7**
BALP	**Baler**	**5.41**	**318**	*e*P	**P**	**15 13 44.1**	**+0.7**
ENPP	**El Nido**	**5.82**	**265**	*e*P	**P**	**15 13 49.6**	**+0.7**
PALP	**Palanan**	**6.01**	**332**	*e*P	**P**	**15 13 50.6**	**-1.0**
CAUP	**Cauayan**	**6.21**	**327**	*e*P	**P**	**15 13 52.2**	**-2.1**
APYP	**Conner**	**7.27**	**327**	*e*P	**P**	**15 14 07.6**	**-1.6**
ENH	**Enshi**	**23.60**	**324**	*e*P	**P**	**15 17 27.3**	**-0.9**
	5.0nm,0.7s,mb4.0						
CMAR	**Chiang Mai Arr**	**26.33**	**288**	P	**P**	**15 17 53.1**	**-1.0**
	1.1nm,0.7s,mb3.4,baz=95,slow=7.6,SNR=9.9						
WRAB	**Tennant Creek**	**32.69**	**164**	P	**P**	**15 18 51.4**	**+0.7**
	3.6nm,1.0s,mb4.2						
WRA	**Warramunga Arr**	**32.69**	**164**	P	**P**	**15 18 48.9**	**-2.0**
	0.3nm,0.6s,mb3.3,baz=345,slow=9.1,SNR=6.7						
WRA				PcP	PcP	15 21 33.8	-1.2
	0.2nm,0.5s,baz=338,slow=2.7,SNR=4.9						
ASAR	**Alice Springs**	**36.16**	**167**	P	**P**	**15 19 19.6**	**-0.8**
	0.7nm,0.3s,mb4.0,baz=342,slow=7.0,SNR=13						
LSA	**Lhasa**	**36.45**	**305**	*e*P	**P**	**15 19 22.5**	**-0.3**
	2.6nm,0.4s,mb4.5						
SONM	**Songino Array**	**39.34**	**340**	P	**P**	**15 19 48.0**	**+1.3**
	0.9nm,0.4s,mb4.0,baz=159,slow=9.9,SNR=18						
PKI	**Pulchoki**	**40.57**	**299**	*e*P	**P**	**15 19 56.5**	**-0.5**
	9.3nm,0.5s,mb4.8						
KKN	**Kakani**	**40.73**	**299**	*e*P	**P**	**15 19 58.3**	**-0.1**
	6.9nm,0.5s,mb4.8						
DMN	**Daman**	**40.84**	**299**	*e*P	**P**	**15 19 58.9**	**-0.4**
	5.1nm,0.5s,mb4.7						
GKN	**Gorkha**	**41.34**	**299**	*e*P	**P**	**15 20 02.6**	**-0.8**
	7.5nm,0.4s,mb4.9						
KOLN	**Koldanda**	**42.17**	**299**	*e*P	**P**	**15 20 09.8**	**-0.5**
	4.2nm,0.4s,mb4.5						
MKAR	**Makanchi Array**	**50.32**	**322**	P	**P**	**15 21 14.6**	**+0.2**
	3.3nm,0.6s,mb4.5,baz=120,slow=8.2,SNR=21						
ZAL	**Zalesovo**	**52.92**	**331**	P	**P**	**15 21 33.6**	**-0.3**
	2.4nm,0.9s,mb4.2,baz=267,slow=7.3,SNR=11						
KURK	**Kurchatov**	**54.36**	**325**	P	**P**	**15 21 44.6**	**+0.1**
	95nm,0.6s,SNR=18						
KURK	**Kurchatov**	**54.36**	**325**	*e*P	**P**	**15 21 43.9**	**-0.5**
	9.3nm,0.6s,mb5.0						
BRVK	**Borovoye**	**60.03**	**325**	*e*P	**P**	**15 22 24.2**	**-0.2**
	5.6nm,1.1s,mb4.5						
ZRNK	**Zerenda**	**60.71**	**325**	*e*P	**P**	**15 22 28.0**	**-1.1**
	6.7nm,1.2s,mb4.5						
ARCES	**ARCESS Array B**	**82.52**	**340**	P	**P**	**15 24 39.6**	**+0.9**
	1.9nm,0.4s,mb4.3,baz=79,slow=6.9,SNR=37						
KAF	**Kangasniemi**	**83.92**	**332**	*e*P	**P**	**15 24 48.8**	**+2.9**
FINES	**FINESS Array B**	**84.18**	**332**	P	**P**	**15 24 47.8**	**+0.6**
	1.0nm,0.3s,mb4.1,baz=95,slow=5.0,SNR=16						
AKASG	**Malin Array Be**	**84.87**	**321**	P	**P**	**15 24 50.1**	**-0.8**
	2.0nm,0.6s,mb4.3,baz=59,slow=4.8,SNR=11						

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*IDC **01** 15:13:36.0±0.6, 61.01S×160.03E, mb4.8/13, mb1 4.9/14, mb1mx4.8/15, ML4.8/1, MS5.2/13, Ms1 5.2/13, ms1mx5.1/18, Error ellipse: s-maj=23.0km s-min=16.3km az=69.0*

*SYO **01** 15:13:37.7, 60.95S×160.56E, h10^{km}, MB5.0, MS5.4*

*BJI **01** 15:13:38.0, 60.90S×160.20E, h10^{km}, mB5.4, mb5.2, Ms5.5, Msz5.2*

*HRVD **01** 15:13:38.1±0.1, 60.84S×160.56E, h12^{km}, MW5.8/78, Centroid moment Tensor Solution. LP body waves: s72,c154;Mantle waves: s78,c157; Half duration: 2ˢ0 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.35±.08; $M_{\theta\theta}$-3.50±.08; $M_{\phi\phi}$3.84±.09; $M_{r\theta}$-0.44±.21; $M_{\theta\phi}$4.82±.07; $M_{\phi r}$-1.22±.22; Best double couple: $M_0$6.18×10^{17} NP1: ϕ_s252°,δ81°,λ7°. NP2:ϕ_s161°,δ84°,λ171°. Principal axes: T 6.47, Plg11°, Azm116°; N -.59, Plg79°, Azm305°; P -5.89, Plg2°, Azm207°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **01** 15:13:38.1±0.3, 60.94S×160.16E, h10^{km}, mb4.9/16, MS5.4/77 Error ellipse: s-maj=13.5km s-min=7.8km az=80.0*

*MOS **01** 15:13:38.5±2.3, 61.22S×161.37E, h10^{km}, mb5.2/10, Error ellipse: s-maj=55.9km s-min=15.5km az=87.7*

ISC 01 15:13:36.6±0.3, 60.94S±0.04×160.2E±0.1, h10^{km}, n195, σ1ˢ34/84, mb4.8/21, MS5.4/98, 7C-6D, Macquarie Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DRV	**Dumont d'Urvil**	**10.58**	**229**	P	**P**	**15 16 13.0**	**+1.9**
DRV				R		15 18 00.0	
TUZ	**Tuapeka**	**16.00**	**25**	P	**P**	**15 17 20.1**	**-2.9**
MLZ	**Mavora Lakes**	**16.31**	**20**	P	**P**	**15 17 24.3**	**-2.7**
MSZ	**Milford Sound**	**16.93**	**19**	P	**P**	**15 17 32.7**	**-2.1**
WKZ	**Wanaka**	**16.96**	**22**	P	**P**	**15 17 36.2**	**+0.9**
ODZ	**Otahua Downs**	**17.08**	**26**	P	**P**	**15 17 34.3**	**-2.4**
SBA	**Scott Base**	**17.13**	**175**	*e*P	**P**	**15 17 37.1**	**-0.1**
SBA				pmax	pmax		
	comp=Z,320nm,1.8s						
SBA	**Scott Base**	**17.13**	**175**	*e*P	**P**	**15 17 37.1**	**-0.1**
	comp=Z,317nm,1.8s						
LBZ	**Lake Benmore**	**17.61**	**24**	P	**P**	**15 17 42.5**	**-0.9**
JCZ	**Jackson Bay**	**17.65**	**21**	P	**P**	**15 17 45.4**	**+1.6**
RPZ	**Rata Peaks**	**18.43**	**26**	P	**P**	**15 17 53.1**	**-0.6**
	comp=Z,3.0nm,0.3s,baz=167,slow=14,SNR=13						
RPZ				LR	LR	15 24 20.3	
	comp=Z,19µm,18.0s,baz=202,slow=35						
KHZ	**Kahutara**	**20.23**	**30**	P	**P**	**15 18 13.5**	**-0.8**
CASY	**Casey**	**22.19**	**235**	*e*P	**P**	**15 18 35.1**	**+1.0**
	comp=Z,78nm,1.2s,mb5.0						
CNZ	**Chateau**	**23.77**	**31**	P	**P**	**15 18 51.3**	**+1.7**
NGZ	**Ngauruhoe**	**23.80**	**31**	P	**P**	**15 18 51.2**	**+1.3**
MGZ	**Maungaku**	**23.95**	**31**	P	**P**	**15 18 53.2**	**+1.8**
URZ	**Urewera**	**25.05**	**33**	P	**P**	**15 19 03.0**	**+1.0**
	comp=Z,12nm,0.8s,mb4.5,baz=175,slow=6.2,SNR=3.9						
URZ				LR	LR	15 27 58.1	
	comp=Z,6µm,19.2s,MS5.1,baz=335,slow=34						
TOO	**Toolangi**	**25.16**	**332**	*e*P	**P**	**15 19 04.2**	**+1.1**
	comp=Z,13nm,0.8s,mb4.5						
TOO				*e*S	**S**	**15 23 37.8**	**+13**
MIR	**Mirnyy**	**28.89**	**230**	*ce*P	**P**	**15 19 44.0**	**+7.0**
MIR				*e*S	**S**	**15 24 37.0**	**+11**
MIR				pmax	pmax		
	comp=Z,600nm,5.2s						
MIR				smax			
	comp=E,1µm,11.0s						
QSPA	**South Pole Qui**	**29.16**	**180**	*e*P	**P**	**15 19 38.5**	**-0.8**
	comp=E,32nm,1.3s,mb4.9						
QSPA				LR	LR		
	comp=Z,2µm,20.9s,MS4.8						
STKA	**Stephens Creek**	**31.53**	**329**	*e*P	**P**	**15 20 01.1**	**+0.3**
	comp=Z,8.8nm,1.0s,mb4.5						
STKA				*e*S	**S**	**15 25 14.5**	**+6.5**
STKA	**Stephens Creek**	**31.53**	**329**	P	**P**	**15 20 00.2**	**-0.6**
	comp=Z,6.5nm,0.8s,mb4.5,baz=154,slow=10,SNR=9.8						
STKA				LR	LR	15 30 17.5	
	comp=Z,13µm,19.8s,MS5.6,baz=155,slow=32						
STKA	**Stephens Creek**	**31.53**	**329**	*e*P	**P**	**15 20 01.1**	**+0.3**
	comp=Z,8.8nm,1.0s,mb4.5						
STKA				*e*P		15 20 02.0	
STKA				*e*S	**S**	**15 25 14.5**	**+6.5**
FORT	**Forrest**	**36.85**	**310**	*e*P	**P**	**15 20 47.1**	**+0.6**
	comp=Z,70nm,0.8s,mb5.5						
FORT				*e*S	**S**	**15 26 34.0**	**+3.6**
MAW	**Mawson**	**38.54**	**218**	*e*P	**P**	**15 21 00.0**	**-0.3**
	comp=Z,12nm,0.9s,mb4.6						
MAW				*e*PP	PP	15 22 28.6	-3.5
MAW				*e*S	**S**	**15 26 53.1**	**-2.6**
MAW	**Mawson**	**38.54**	**218**	P	**P**	**15 21 00.1**	**-0.2**
	comp=Z,12nm,0.9s,mb4.7,baz=126,slow=9.9,SNR=14						
MAW				LR	LR	15 37 18.6	
	comp=Z,10µm,18.4s,MS5.7,baz=120,slow=37						
MAW	**Mawson**	**38.54**	**218**	*e*P	**P**	**15 21 01.0**	**+0.7**
MAW				pmax	pmax		
	comp=Z,27nm,1.0s						
MAW	**Mawson**	**38.54**	**218**	*e*P	**P**	**15 21 00.0**	**-0.3**
	comp=Z,12nm,0.9s,mb4.6						
MAW				*e*P		15 21 00.9	
MAW				*e*PP	PP	15 22 28.6	-3.5
MAW				*e*S	**S**	**15 26 53.1**	**-2.6**
NOUC	**Port Laguerre**	**39.04**	**9**	*e*P	**P**	**15 21 07.2**	**+2.2**
NOUC	**Port Laguerre**	**39.04**	**9**	*e*P	**P**	**15 21 07.2**	**+2.2**
DZM	**Mont Dzumac**	**39.08**	**9**	*e*P	**P**	**15 21 05.5**	**+0.1**
DZM	**Mont Dzumac**	**39.08**	**9**	*e*P	**P**	**15 21 05.5**	**+0.1**
NWAO	**Narrogin (SRO)**	**39.41**	**295**	P	**P**	**15 21 06.7**	**-1.3**
	comp=Z,6.9nm,1.1s,mb4.3,baz=146,slow=10,SNR=5.3						
KLBR	**Kellerberrin**	**40.32**	**297**	*e*P	**P**	**15 21 15.0**	**-0.5**
	comp=Z,50nm,1.7s,mb5.0						
ASAR	**Alice Springs**	**41.44**	**322**	P	**P**	**15 21 24.1**	**-0.7**
	comp=Z,30nm,0.8s,mb5.0,baz=162,slow=8.2,SNR=162						
ASAR				LR	LR	15 36 21.1	
	comp=Z,2µm,19.1s,MS5.0,baz=158,slow=33						
ASPA	**Alice Springs**	**41.44**	**322**	*e*P	**P**	**15 21 24.4**	**-0.3**
ASPA				*e*S	**S**	**15 27 46.1**	**+6.5**
CTA	**Charters Tower**	**41.98**	**340**	*e*P	**P**	**15 21 29.0**	**-0.2**
	comp=Z,13nm,1.0s,mb4.5						
CTA				*e*S	**S**	**15 27 50.3**	**+2.7**
CTA	**Charters Tower**	**41.98**	**340**	P	**P**	**15 21 28.9**	**-0.3**
	comp=Z,17nm,0.9s,mb4.7,baz=172,slow=8.4,SNR=7.4						
CTAO	**Charters Tower**	**41.98**	**340**	*e*P	**P**	**15 21 28.5**	**-0.6**
	comp=Z,21nm,1.0s,mb4.7						
CTAO				LR	LR		
	comp=Z,4µm,19.0s,MS5.3						
SYO	**Syowa Base**	**43.57**	**207**	⇓P	**P**	**15 21 40.8**	**-0.7**
SYO	**Syowa Base**	**43.57**	**207**	⇑pP	pP	15 21 43.9	-0.6
WB2	**Warramunga Arr**	**44.82**	**324**	⇓*i*P	**P**	**15 21 51.2**	**-1.1**
WB2				*e*S	**S**	**15 28 21.2**	**-7.8**
WRA	**Warramunga Arr**	**44.83**	**324**	P	**P**	**15 21 50.8**	**-1.6**
	comp=Z,20nm,0.8s,mb5.0,baz=162,slow=6.5,SNR=75						
WRA				PcP	PcP	15 23 32.4	-2.3
	comp=Z,2.4nm,1.1s,baz=152,slow=2.0,SNR=2.8						
WRA				LR	LR	15 39 28.9	
	comp=Z,2µm,21.5s,MS5.0,baz=130,slow=35						
WRAB	**Tennant Creek**	**44.83**	**324**	*e*P	**P**	**15 21 51.4**	**-1.0**
	comp=Z,49nm,1.1s,mb5.2						
NVL	**N'lazarevskaya**	**46.72**	**194**	⇓*e*P	**P**	**15 22 06.0**	**-0.6**
NVL				*e*S	**S**	**15 28 58.0**	**+2.5**
NVL				pmax	pmax		
	comp=Z,272nm,4.3s						
NVL				MLR	MLR		
	comp=Z,17µm,15.0s,MS6.1						
MAIT	**Maitri**	**46.72**	**194**	*e*P	**P**	**15 22 05.4**	**-1.2**
SNAA	**Sanae**	**47.15**	**187**	⇓*i*	**P**	**15 22 07.4**	**-2.6**
SNAA	**Sanae**	**47.15**	**187**	⇑*i*	**P**	**15 22 10.5**	**+0.5**
SNAA	**Sanae**	**47.15**	**187**	*e*P	**P**	**15 22 07.8**	**-2.2**
SNAA				pmax	pmax		
	comp=Z,47nm,1.3s						
SNAA	**Sanae**	**47.15**	**187**	⇑*i*P	**P**	**15 22 10.5**	**+0.5**
VNA2	**Neumayer--Watz**	**48.13**	**185**		**P**	**15 22 20.2**	**+2.4**
VNA2	**Neumayer--Watz**	**48.13**	**185**	⇑*i*	**P**	**15 22 22.2**	**+4.4**
VNA2	**Neumayer--Watz**	**48.13**	**185**	⇑*i*	**P**	**15 22 33.4**	**+16**
VNA1	**Neumayer--Stat**	**48.45**	**185**	⇑*i*	**P**	**15 22 21.1**	**+0.9**
VNA1	**Neumayer--Stat**	**48.45**	**185**	⇓*i*	**P**	**15 22 24.3**	**+4.1**
FITZ	**Fitzroy Crossi**	**49.31**	**315**	*e*P	**P**	**15 22 27.1**	**-0.4**
	comp=Z,25nm,1.1s,mb5.2						
FITZ				*e*S	**S**	**15 29 39.3**	**+6.6**
FITZ	**Fitzroy Crossi**	**49.31**	**315**	P	**P**	**15 22 27.3**	**-0.2**
	comp=Z,19nm,1.0s,mb5.1,baz=174,slow=11,SNR=12						
FITZ				LR	LR	15 40 02.8	
	comp=Z,2µm,20.5s,MS5.1,baz=265,slow=32						
TBI	**Tubuai**	**50.93**	**66**	*e*S	**S**	**15 29 57.5**	**+2.5**
TBI				*e*L		15 34 08.9	
TBI				*e*R		15 36 56.9	
	comp=Z,4µm,28.8s,baz=205						
KAKA	**Kakadu**	**52.26**	**325**	*e*P	**P**	**15 22 49.2**	**-0.8**
	comp=Z,16nm,0.8s,mb5.0						
PPT	**Papeete**	**55.96**	**62**	*e*S	**S**	**15 31 02.2**	**-1.1**
PPT				*e*L		15 36 18.3	
PPT				*e*R		15 39 14.7	
	comp=Z,5µm,25.8s,baz=208						
RKT	**Rikitea**	**57.87**	**80**	*e*S	**S**	**15 31 31.5**	**+3.1**
RKT				*e*L		15 37 32.5	
RKT				*e*R		15 40 25.6	
	comp=Z,6µm,28.8s,baz=210						
EFI	**East Falkland**	**63.63**	**155**	PFAKE		15 24 20.0	+11
EFI				LR	LR		
	comp=Z,447nm,20.0s,MS4.6						
PLCA	**Paso Flores**	**70.58**	**141**	P	**P**	**15 24 51.9**	**-1.4**
	comp=Z,1.9nm,0.7s,mb4.1,baz=206,slow=7.1,SNR=3.8						
PLCA	**Paso Flores**	**70.58**	**141**	*e*P	**P**	**15 24 51.2**	**-2.1**
	comp=Z,9.2nm,1.2s,mb4.6						
PLCA				LR	LR		
	comp=Z,2µm,21.0s,MS5.4						
GUMO	**Guam**	**75.28**	**345**	PFAKE		15 25 30.0	+8.7
GUMO				LR	LR		
	comp=Z,2µm,20.0s,MS5.3						
TGY	**Tagaytay City**	**81.05**	**322**	LR	LR	16 00 54.5	
	comp=Z,542nm,21.4s,MS4.9,baz=170,slow=35						
BOSA	**Boshof**	**83.54**	**219**	PFAKE		15 26 20.0	+14
BOSA				LR	LR		
	comp=Z,1µm,19.0s,MS5.3						
CPUP	**Villa Florida**	**87.85**	**147**	P	**P**	**15 26 26.4**	**-0.6**
	comp=Z,2.0nm,1.0s,mb4.3,baz=121,slow=4.3,SNR=3.9						
CPUP	**Villa Florida**	**87.85**	**147**	*e*P	**P**	**15 26 26.4**	**-0.5**
	comp=Z,5.7nm,1.1s,mb4.7						
CPUP				LR	LR		
	comp=Z,1µm,19.0s,MS5.4						
QIZ	**Qiongzhong**	**89.32**	**313**	PFAKE		15 26 50.0	+16
QIZ				LR	LR		
	comp=Z,412nm,20.0s,MS4.8						
JOW	**Kunigami**	**91.23**	**332**	P	**P**	**15 26 43.2**	**+0.4**
	comp=Z,23nm,1.2s,mb5.4,baz=157,slow=7.0,SNR=2.0						
JOW				LR	LR	16 06 15.5	
	comp=Z,1µm,20.6s,MS5.3,baz=153,slow=35						
CM31	**Chiang Mai Arr**	**92.97**	**304**	PFAKE		15 27 00.0	+9.0
CM31				LR	LR		
	comp=Z,980nm,20.0s,MS5.3						
CMAR	**Chiang Mai Arr**	**92.97**	**304**	P	**P**	**15 26 51.1**	**+0.2**
	comp=Z,1.3nm,0.8s,mb4.4,baz=189,slow=3.7,SNR=8.9						
CMAR				LR	LR	16 07 40.0	
	comp=Z,661nm,18.7s,MS5.1,baz=165,slow=35						
LPAZ	**La Paz**	**93.93**	**134**	P	**P**	**15 26 55.7**	**+0.3**
	comp=Z,2.0nm,0.2s,mb5.1,baz=175,slow=1.6,SNR=4.4						
LPAZ				LR	LR	15 59 40.8	
	comp=Z,943nm,21.6s,MS5.2,baz=32,slow=29						
LPAZ	**La Paz**	**93.93**	**134**	*e*P	**P**	**15 26 56.0**	**+0.6**
	comp=Z,2.7nm,0.2s,mb5.3						
LPAZ				LR	LR		
	comp=Z,1µm,22.0s,MS5.3						
TSUM	**Tsumeb**	**94.67**	**215**	PFAKE		15 27 10.0	+11
TSUM				LR	LR		
	comp=Z,3µm,20.0s,MS5.7						
JHJ	**Hachijo jima 2**	**95.19**	**343**	P	**P**	**15 27 01.0**	**+0.1**
	comp=Z,74nm,0.8s,baz=165,slow=5.1,SNR=2.7						
JHJ				LR	LR	16 04 58.3	
	comp=Z,297nm,19.8s,baz=102,slow=32						
JNU	**Nakatsue**	**96.74**	**336**	LR	LR	16 08 09.4	
	comp=Z,841nm,21.2s,MS5.2,baz=168,slow=34						
SSE	**Sheshan**	**97.07**	**327**	P	**P**	**15 27 11.7**	**+2.2**
SSE				S	S	15 38 31.9	+3.0
SSE				LR	LR		
	comp=N,228nm,42.9s,MS4.9						
SSE				LR	LR		
	comp=E,796nm,42.9s,MS4.9						
KMI	**Kunming**	**97.49**	**310**	*e*P	**P**	**15 27 14.3**	**+2.8**
KMI				XP	sP	15 27 19.7	+4.0
KMI				SKS	SKS	15 37 54.9	+2.3
KMI				S	S	15 38 37.8	+5.2
KMI				XS		15 38 44.6	
KMI				AMB	AMB		
	comp=Z,3.0nm,1.3s,mb4.6						
KMI				AMB	AMB		
	comp=Z,82nm,6.9s						
KMI				LR	LR		
	comp=N,577nm,26.9s						
KMI				LR	LR		
	comp=E,491nm,20.6s						
KMI				LR	LR		
	comp=Z,1µm,24.5s,MS5.2						
NJ2	**Nanjing**	**98.60**	**325**	*e*P	**P**	**15 27 20.3**	**+3.9**
NJ2				AP	pP	15 27 25.6	+6.0
NJ2				XP	sP	15 27 28.0	+7.4
NJ2				SKS	SKS	15 37 56.0	-2.2
NJ2				S	S	15 38 41.0	-0.8
MAJO	**Matsushiro**	**98.79**	**342**	PFAKE		15 27 30.0	+13
MAJO				LR	LR		
	comp=Z,548nm,20.0s,MS5.0						
ENH	**Enshi**	**99.80**	**317**	PFAKE		15 27 30.0	+8.1
ENH				LR	LR		
	comp=Z,484nm,20.0s,MS5.0						
SAML	**Samuel**	**102.46**	**136**	PFAKE		15 27 50.0	+16
SAML				LR	LR		
	comp=Z,733nm,20.0s,MS5.2						
LSA	**Lhasa**	**106.16**	**302**	PFAKE		15 32 10.0	
LSA				LR	LR		
	comp=Z,352nm,21.0s,MS4.9						
BJT	**Baijiatuau**	**106.82**	**326**	PFAKE		15 32 10.0	
BJT				LR	LR		
	comp=Z,447nm,20.0s,MS5.0						
BJI	**Beijing**	**106.84**	**326**	PDIF	Pdif	15 27 57.8	+4.9
BJI				S		15 39 57.0	
BJI				LR	LR		
	comp=N,744nm,18.9s,MS5.3						
BJI				LR	LR		
	comp=E,473nm,18.0s,MS5.3						
BJI				LR	LR		
	comp=Z,755nm,23.7s						
LZH	**Lanzhou**	**107.02**	**315**	*e*PDIF	Pdif	15 27 56.5	+2.7
LZH				*e*PP	PP	15 32 27.2	+3.7
LZH				S		15 39 56.3	
LZH				LR	LR		
	comp=N,1µm,18.0s						
LZH				LR	LR		
	comp=Z,2µm,20.3s,MS5.6						
MDJ	**Mudanjiang**	**108.10**	**338**	PDIF	Pdif	15 27 59.9	+1.6
MDJ				PP	PP	15 32 33.8	+2.8
MDJ				S		15 40 07.6	
MDJ				LR	LR		
	comp=E,936nm,26.7s						
MDJ				LR	LR		
	comp=Z,673nm,24.5s,MS5.1						
CN2	**Changchun**	**108.14**	**334**	*e*PDIF	Pdif	15 28 03.4	+4.9
CN2				PP	PP	15 32 37.4	+6.1
CN2				LR	LR		
	comp=N,300nm,18.0s,MS5.0						
CN2				LR	LR		
	comp=E,300nm,18.0s,MS5.0						
CN2				LR	LR		
	comp=Z,500nm,18.0s,MS5.1						
GTA	**Gaotai**	**111.40**	**314**	*e*PKP	PKPdf	15 32 07.5	-5.5
GTA				XPKP		15 32 13.9	
GTA				PPP	PPP	15 35 18.4	+1.9
GTA				PKS	PKS	15 35 43.1	-2.7
GTA				SKS	SKS	15 39 18.3	+23
GTA				SKKS		15 39 49.8	
GTA				SS	SS	15 48 30.8	+5.2
GTA				PP	PP		
	comp=Z,70nm,9.1s						
GTA				LR	LR		
	comp=N,228nm,22.1s,MS4.8						
GTA				LR	LR		
	comp=E,162nm,19.8s,MS4.8						
GTA				LR	LR		
	comp=Z,454nm,35.7s						
SMY	**Shemya**	**113.86**	**9**	PFAKE		15 32 30.0	+12
SMY				LR	LR		
	comp=Z,2µm,21.0s,MS5.8						
HIA	**Hailar**	**114.58**	**332**	PFAKE		15 32 30.0	+11
HIA				LR	LR		
	comp=Z,806nm,21.0s,MS5.3						
SONM	**Songino Array**	**116.78**	**322**	PKP	PKPdf	15 32 20.1	-3.3
	comp=Z,0.1nm,0.5s,baz=117,slow=3.2,SNR=2.9						
HOPS	**Hopland**	**117.36**	**59**	PFAKE		15 32 30.0	+5.3
HOPS				LR	LR		
	comp=Z,2µm,20.0s,MS5.7						
DAC	**Darwin (Calif)**	**117.43**	**64**	PFAKE		15 32 30.0	+5.1
DAC				LR	LR		
	comp=Z,1µm,19.0s,MS5.6						

CMB	**Columbia Colle**	**117.69**	**61**	PFAKE		15 32 40.0	+15
CMB				LR	LR		
	comp=Z,2µm,19.0s,MS5.7						
TEIG	**Tepich**	**117.92**	**99**	PFAKE		15 32 40.0	+14
TEIG				LR	LR		
	comp=Z,1.0nm,22.0s						
LTX	**Lajitas**	**118.09**	**80**	PFAKE		15 32 40.0	+14
LTX				LR	LR		
	comp=Z,2µm,21.0s,MS5.6						
TPNV	**Topopah Spring**	**118.58**	**65**	PFAKE		15 32 40.0	+13
TPNV				LR	LR		
	comp=Z,1µm,19.0s,MS5.5						
NVAR	**Mina Array Bea**	**118.91**	**63**	PKP	PKPdf	15 32 27.0	-0.8
	comp=Z,0.1nm,0.3s,baz=207,slow=2.0,SNR=2.1						
TPH	**Tonopah**	**119.09**	**64**	PFAKE		15 32 40.0	+12
TPH				LR	LR		
	comp=Z,1µm,20.0s,MS5.5						
WMQ	**Urumqi**	**119.73**	**307**	*e*PKP	PKPdf	15 32 27.9	-1.2
WMQ				PP	PP	15 33 55.4	+1.8
WMQ				PKS	PKS	15 36 03.3	+1.5
WMQ				PP	PP		
	comp=Z,60nm,9.0s						
WMQ				LR	LR		
	comp=N,952nm,32.0s,MS5.3						
WMQ				LR	LR		
	comp=E,728nm,35.0s,MS5.3						
WMQ				LR	LR		
	comp=Z,943nm,35.0s,MS5.2						
ZAK	**Zakamensk**	**119.98**	**322**	*e*PKIKP	PKPdf	15 32 27.0	-2.4
JCT	**Junction City**	**120.91**	**82**	PFAKE		15 32 40.0	+8.1
JCT				LR	LR		
	comp=Z,602nm,20.0s,MS5.2						
BMN	**Battle Mountai**	**121.04**	**62**	PFAKE		15 32 40.0	+8.1
BMN				LR	LR		
	comp=Z,1µm,21.0s,MS5.6						
COR	**Corvallis**	**121.94**	**55**	PFAKE		15 32 40.0	+6.5
COR				LR	LR		
	comp=Z,918nm,22.0s,MS5.4						
WVOR	**Wild Horse Val**	**122.08**	**60**	PFAKE		15 32 40.0	+6.2
WVOR				LR	LR		
	comp=Z,1µm,20.0s,MS5.6						
ELK	**Elko**	**122.16**	**63**	PFAKE		15 32 40.0	+6.0
ELK				LR	LR		
	comp=Z,2µm,21.0s,MS5.7						
HKT	**Hockley**	**122.40**	**86**	PFAKE		15 32 40.0	+5.4
HKT				LR	LR		
	comp=Z,980nm,19.0s,MS5.5						
DUG	**Dugway**	**122.78**	**65**	PFAKE		15 32 40.0	+4.9
DUG				LR	LR		
	comp=Z,813nm,22.0s,MS5.3						
KDAK	**Kodiak Island**	**124.00**	**28**	PFAKE		15 32 50.0	+13
KDAK				LR	LR		
	comp=Z,239nm,20.0s,MS4.8						
SDCO	**Great Sand Dun**	**124.12**	**73**	PFAKE		15 32 50.0	+12
SDCO				LR	LR		
	comp=Z,1µm,20.0s,MS5.5						
AAK	**Ala-Archa**	**124.19**	**297**	PFAKE		15 32 50.0	+12
AAK				LR	LR		
	comp=Z,146nm,21.0s,MS4.6						
OCWA	**Octopus Mounta**	**124.21**	**52**	PFAKE		15 32 50.0	+12
OCWA				LR	LR		
	comp=Z,669nm,19.0s,MS5.3						
MKAR	**Makanchi Array**	**124.32**	**306**	PKP	PKPdf	15 32 33.4	-4.7
	comp=Z,1.2nm,0.7s,baz=124,slow=4.4,SNR=9.2						
MKAR	**Makanchi Array**	**124.32**	**306**	*i* PKIKP	PKPdf	15 32 36.3	-1.7
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NATX	**Nacogdoches**	**124.45**	**86**	PFAKE		15 32 50.0	+11
NATX				LR	LR		
	comp=Z,737nm,20.0s,MS5.3						
HWUT	**Hardware Ranch**	**124.47**	**65**	PFAKE		15 32 50.0	+12
HWUT				LR	LR		
	comp=Z,1µm,20.0s,MS5.5						
DBIC	**Dimbokro**	**124.70**	**198**	PFAKE		15 32 50.0	+10
DBIC				LR	LR		
	comp=Z,2µm,22.0s,MS5.7						
HLID	**Hailey**	**124.80**	**62**	PFAKE		15 32 50.0	+11
HLID				LR	LR		
	comp=Z,1µm,20.0s,MS5.5						
YAK	**Yakutsk**	**124.84**	**343**	⇓*i*PKIKP	PKPdf	15 32 41.5	+3.0
YAK				pmax	pmax		
	comp=Z,17nm,1.4s						
YAK				MLR	MLR		
	comp=Z,400nm,19.0s,MS5.1						
WMOK	**Wichita Mounta**	**124.88**	**80**	PFAKE		15 32 50.0	+11
WMOK				LR	LR		
	comp=Z,2µm,21.0s,MS5.7						
HAWA	**Hanford**	**124.94**	**56**	PFAKE		15 32 50.0	+11
HAWA				LR	LR		
	comp=Z,749nm,19.0s,MS5.4						
AHID	**Auburn Hatcher**	**125.61**	**65**	PFAKE		15 32 50.0	+10
AHID				LR	LR		
	comp=Z,1µm,21.0s,MS5.5						
ISCO	**Idaho Springs**	**125.72**	**71**	PFAKE		15 32 50.0	+9.2
ISCO				LR	LR		
	comp=Z,950nm,19.0s,MS5.5						
BW06	**Boulder Array**	**126.29**	**66**	PFAKE		15 32 50.0	+8.3
BW06				LR	LR		
	comp=Z,804nm,21.0s,MS5.4						
PDAR	**Pinedale Array**	**126.29**	**66**	PKP	PKPdf	15 32 42.1	+0.4
	comp=Z,0.3nm,0.5s,baz=270,slow=1.5,SNR=6.9						
MIAR	**Mount Ida**	**127.25**	**85**	PFAKE		15 32 50.0	+6.2
MIAR				LR	LR		
	comp=Z,914nm,21.0s,MS5.4						
NEW	**Newport**	**127.42**	**57**	PFAKE		15 32 50.0	+6.2
NEW				LR	LR		
	comp=Z,840nm,22.0s,MS5.4						
FIB	**Fire Island**	**127.59**	**28**	PFAKE		15 32 50.0	+6.2
FIB				LR	LR		
	comp=Z,1µm,20.0s,MS5.5						
MSO	**Missoula**	**127.61**	**60**	PFAKE		15 32 50.0	+5.8
MSO				LR	LR		
	comp=Z,693nm,21.0s,MS5.3						
BOZ	**Bozeman (W)**	**127.66**	**62**	PFAKE		15 32 50.0	+5.6
BOZ				LR	LR		
	comp=Z,911nm,20.0s,MS5.5						
CBKS	**Cedar Bluff**	**127.69**	**76**	PFAKE		15 32 50.0	+5.4
CBKS				LR	LR		
	comp=Z,1µm,20.0s,MS5.5						
DWPF	**Disney**	**127.88**	**100**	PFAKE		15 32 50.0	+4.7
DWPF				LR	LR		
	comp=Z,728nm,19.0s,MS5.4						
SIT	**Sitka**	**128.02**	**39**	PFAKE		15 32 50.0	+5.3
SIT				LR	LR		
	comp=Z,1µm,20.0s,MS5.7						
PMR	**Palmer**	**128.20**	**28**	PFAKE		15 32 50.0	+5.0
PMR				LR	LR		
	comp=Z,437nm,20.0s,MS5.1						
DIV	**Divide**	**128.60**	**30**	PFAKE		15 33 00.0	+14
DIV				LR	LR		
	comp=Z,2µm,21.0s,MS5.9						
KURK	**Kurchatov**	**128.92**	**306**	*e*PKIKP	PKPdf	15 32 45.5	-1.1
ZAL	**Zalesovo**	**129.13**	**312**	PKP	PKPdf	15 32 46.1	-0.8
	comp=Z,0.8nm,0.5s,baz=148,slow=18,SNR=3.7						
LRAL	**Lakeview Retre**	**129.23**	**91**	PFAKE		15 33 00.0	+12
LRAL				LR	LR		
	comp=Z,671nm,20.0s,MS5.3						
OXF	**Oxford**	**129.25**	**88**	PFAKE		15 33 00.0	+12
OXF				LR	LR		
	comp=Z,449nm,20.0s,MS5.2						
MCK	**McKinley**	**130.12**	**27**	*e*PKIKP	PKPdf	15 32 48.1	-0.5
NVS	**Novosibirsk**	**130.40**	**312**	*e*PKIKP	PKPdf	15 32 47.5	-1.8
NVS				pmax	pmax		
	comp=N,8.0nm,1.5s						
NVS				pmax	pmax		
	comp=Z,6.0nm,1.5s						
LAO	**LASA Array**	**130.84**	**65**	PFAKE		15 33 00.0	+10
LAO				LR	LR		
	comp=Z,1µm,21.0s,MS5.5						
CCM	**Cathedral Cave**	**131.18**	**84**	PFAKE		15 33 00.0	+8.7
CCM				LR	LR		
	comp=Z,576nm,21.0s,MS5.2						
ILAR	**Eielson Array**	**131.47**	**27**	PKP	PKPdf	15 32 49.8	-1.3
	comp=Z,1.8nm,0.9s,baz=284,slow=3.1,SNR=12						
NHSC	**New Hope**	**132.61**	**98**	PFAKE		15 33 00.0	+5.8
NHSC				LR	LR		
	comp=Z,572nm,20.0s,MS5.3						
DGMT	**Dagmar**	**133.09**	**65**	PFAKE		15 33 00.0	+5.4
DGMT				LR	LR		
	comp=Z,1µm,20.0s,MS5.7						
TIXI	**Tiksi**	**134.08**	**347**	*i* PKIKP	PKPdf	15 32 53.1	-2.6
TIXI				pmax	pmax		
	comp=Z,10.0nm,2.0s						
ZRNK	**Zerenda**	**134.50**	**302**	*e*PKIKP	PKPdf	15 32 54.4	-2.7
JFWS	**Jewell Farm**	**135.41**	**80**	PFAKE		15 33 10.0	+11
JFWS				LR	LR		
	comp=Z,2µm,21.0s,MS5.8						
BLA	**Blacksburg**	**135.79**	**94**	PFAKE		15 33 10.0	+10
BLA				LR	LR		
	comp=Z,615nm,22.0s,MS5.3						
FWV	**Forest Hill**	**135.89**	**93**	*e*PKPdf	PKPdf	15 32 57.3	-2.8
ACSO	**Alum Creek Sta**	**136.89**	**89**	PFAKE		15 33 10.0	+8.3
ACSO				LR	LR		
	comp=Z,667nm,21.0s,MS5.3						
MCWV	**Mont Chateau**	**137.98**	**92**	PFAKE		15 33 10.0	+6.1
MCWV				LR	LR		
	comp=Z,737nm,20.0s,MS5.4						
CBN	**Corbin**	**138.05**	**96**	PFAKE		15 33 10.0	+5.9
CBN				LR	LR		
	comp=Z,712nm,20.0s,MS5.4						
ULM	**Lac du Bonnet**	**138.12**	**69**	PFAKE		15 33 10.0	+6.2
ULM				LR	LR		
	comp=Z,1µm,20.0s,MS5.6						
FFC	**Flin Flon**	**138.54**	**60**	PFAKE		15 33 10.0	+5.6
FFC				LR	LR		
	comp=Z,339nm,22.0s,MS5.0						
ZEI	**Tsey**	**138.57**	**274**	*e*PKIKP	PKPdf	15 33 07.0	+2.1
YKA	**Yellowknife Ar**	**138.93**	**45**	PKhKP		15 32 54.8	
	comp=Z,0.8nm,0.8s,baz=221,slow=2.3,SNR=3.0						
YKA	**Yellowknife Ar**	**138.93**	**45**	PKP	PKPdf	15 32 54.8	-10
BBSR	**BB Station**	**139.26**	**114**	PFAKE		15 33 20.0	+14
BBSR				LR	LR		
	comp=Z,608nm,19.0s,MS5.4						
SSPA	**Standing Stone**	**139.69**	**93**	PKPdf	PKPdf	15 33 04.1	-2.8
ERPA	**Erie**	**139.79**	**90**	PFAKE		15 33 20.0	+13
ERPA				LR	LR		
	comp=Z,677nm,19.0s,MS5.4						
BRTR	**Keskin Array B**	**141.25**	**262**	PKhKP		15 33 02.0	
	comp=Z,0.8nm,0.7s,baz=153,slow=2.8,SNR=4.4						
BRTR				PKP	PKPdf	15 33 07.2	-2.4
	comp=Z,1.6nm,1.0s,baz=134,slow=4.1,SNR=4.3						
ARU	**Arti**	**141.29**	**300**	*i* PKIKP	PKPdf	15 33 11.2	+2.0
ARU				pmax	pmax		
	comp=Z,7.0nm,1.4s						
ARU	**Arti**	**141.29**	**300**	PFAKE		15 33 20.0	+11
ARU				LR	LR		
	comp=Z,162nm,20.0s,MS4.8						
BINY	**Binghamton**	**141.81**	**93**	PFAKE		15 33 20.0	+10
BINY				LR	LR		
	comp=Z,2µm,20.0s,MS5.8						
SIM	**Simferopol’**	**144.95**	**268**	*i* PKIKP	PKPdf	15 33 20.0	+4.2
SIM				pmax	pmax		
	comp=Z,80nm,10.4s						
WVL	**Waterville**	**146.65**	**96**	PFAKE		15 33 30.0	+13
WVL				LR	LR		
	comp=Z,4µm,21.0s,MS6.2						
EMMW	**East Machias**	**147.82**	**98**	PFAKE		15 33 30.0	+9.3
EMMW				LR	LR		
	comp=Z,3µm,20.0s,MS6.1						
TIP	**Timpagrande**	**148.64**	**243**	*e*PKPbc	PKPdf	15 33 25.9	+3.7
SKO	**Skopje**	**148.79**	**252**	*i* PKP	PKPdf	15 33 25.0	+2.7
PQI	**Presque Isle**	**148.96**	**95**	PFAKE		15 33 30.0	+7.6
PQI				LR	LR		
	comp=Z,4µm,20.0s,MS6.2						
KIS	**Kishinev**	**149.00**	**266**	*e*PKHKP		15 33 24.0	
KIS				*e*		15 33 30.0	
KIS				*e*		15 37 00.0	
KIS				*e*PPP	PPP	15 40 36.0	+16
MLR	**Muntele Rosu**	**149.31**	**261**	PKPbc	PKPdf	15 33 23.2	+0.1
	comp=Z,8.7nm,0.8s,baz=173,slow=1.6,SNR=16						
MOS	**Moscow**	**150.27**	**286**	*e*PKIKP	PKPdf	15 33 27.7	+3.5
MOS				pmax	pmax		
	comp=Z,208nm,1.7s						
OBN	**Obninsk**	**150.42**	**284**	*i* PKIKP	PKPdf	15 33 24.3	-0.1
OBN				pmax	pmax		
	comp=Z,55nm,1.2s						
OBN	**Obninsk**	**150.42**	**284**	*e*PKPbc	PKPdf	15 33 27.9	+3.4
AKASG	**Malin Array Be**	**151.30**	**272**	PKPbc	PKPdf	15 33 27.6	+1.8
	comp=Z,4.9nm,0.7s,baz=96,slow=1.7,SNR=9.6						
AKASG				PKPab	PKPab	15 33 38.0	-1.2
	comp=Z,5.0nm,0.7s,baz=86,slow=2.0,SNR=7.0						
SCHQ	**Schefferville**	**154.73**	**83**	PFAKE		15 33 40.0	+9.4
SCHQ				LR	LR		
	comp=Z,3µm,21.0s,MS6.0						
OJC	**Ojcow**	**155.57**	**262**	*e*PKIKP	PKPdf	15 33 28.0	-3.8
OJC				MLR	MLR		
	comp=Z,400nm,20.2s,MS5.2						
OJC	**Ojcow**	**155.57**	**262**	*e*PKP	PKPdf	15 33 28.7	-3.1
OJC				*i*		15 33 50.6	
OJC				*e*SKKS		15 44 12.1	
OJC				*e*SKSP		15 47 41.4	
OJC				*e*SS	SS	15 56 55.7	-23
OJC				LR	LR		
	comp=Z,400nm,20.2s,MS5.2						
OKC	**Ostrava-Krasne**	**156.12**	**260**	*e*SS	SS	15 57 31.8	+7.1
OKC				*e*x	x	16 04 02.0	
OKC				*e*x	x	16 07 33.9	
OKC				*e*x	x	16 13 43.2	
OKC				L		17 00 00.0	
ESDC	**Sonseca Array**	**156.56**	**212**	PKPab	PKPab	15 34 00.9	-1.0
	comp=Z,1.8nm,0.8s,baz=174,slow=4.5,SNR=4.3						
ESLA	**Sonseca Array**	**156.56**	**212**	PFAKE		15 33 40.0	+6.5
ESLA				LR	LR		
	comp=Z,4µm,21.0s,MS6.3						
DPC	**Dobruska-Polom**	**157.33**	**259**	*e*SS	SS	15 57 48.1	+11
DPC				*e*x	x	16 03 50.9	
DPC				*e*x	x	16 07 46.9	
DPC				*e*x	x	16 13 27.6	
DPC				LR		16 46 30.0	
	comp=Z,0.7nm,25.2s						
KHC	**Kasperske Hory**	**157.80**	**253**	*e*x	x	15 54 10.0	
KHC				*e*SS	SS	15 57 53.1	+11
KHC				*e*x	x	16 05 03.1	
KHC				*e*x	x	16 13 25.4	
KHC				LR		16 52 50.0	
	comp=Z,0.8nm,22.4s						
PRU	**Pruhonice**	**157.94**	**256**	*e*SS	SS	15 57 51.3	+7.5
PRU				*e*x	x	16 04 22.5	
PRU				*e*x	x	16 07 59.9	
PRU				*e*x	x	16 13 28.9	
PRU				LR		16 58 20.0	
	comp=Z,0.7nm,17.0s						
PVCC	**Panska Ves**	**158.29**	**257**	*e*SS	SS	15 57 59.6	+12
PVCC				*e*x	x	16 04 32.6	
PVCC				*e*x	x	16 13 25.2	
PVCC				LR		16 52 50.0	
	comp=Z,0.7nm,22.4s						
BRG	**Berggiesshubel**	**158.81**	**257**	*e*PKP2	PKPab	15 34 12.0	+0.8
BRG				*i*		15 58 06.0	
BRG				MLR	MLR		
	comp=N,460nm,24.6s,MS5.3						
BRG				MLR	MLR		
	comp=E,320nm,24.6s,MS5.3						
BRG				MLR	MLR		
	comp=Z,890nm,26.9s,MS5.5						
NKC	**Novy Kostel**	**159.09**	**254**	*e*SS	SS	15 58 08.4	+12
NKC				*e*x	x	16 04 36.6	
NKC				*e*x	x	16 13 16.7	
NKC				LR		16 43 20.0	
	comp=Z,0.8nm,24.9s						
CLL	**Collm**	**159.55**	**257**	*e*PKP2	PKPab	15 34 15.0	+0.6
CLL				*e**PPKP2		15 34 22.0	
CLL				*e*		15 46 49.0	
CLL				*e*PPS	PPS	15 51 35.0	+18
CLL				*e*SS	SS	15 58 03.0	+2.0
CLL				*e*		15 59 51.0	
CLL				*e*SSS	SSS	16 04 22.0	+13
CLL				*e*		16 08 36.0	
CLL				*e*		16 13 06.0	
NAO01	**NORSAR Array S**	**165.13**	**283**	PFAKE		15 33 50.0	+7.9
NAO01				LR	LR		
	comp=Z,973nm,19.0s						

IDC ***01*** *15:56:24.8±12.0, 6.35S×130.05E, h102^{km}±134^{km}, mb3.4/3, mb1 3.5/5, mb1mx3.4/12, ML3.7/2, Error ellipse: s-maj=89.8km s-min=46.4km az=39.0*

ISC 01 15:56:29.1±3.4**, 6.6S**±0.1×**129.9E**±0.2**, h168**^{km}±35^{km}**, n6, σ1**^{s}**29**/9**, mb3.5**/3**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.13**	**200**	P	**P**	**15 59 18.9**	**+1.6**
FITZ				S	**S**	**16 01 28.3**	**-1.3**
	3.6nm,0.3s,baz=156,slow=13,SNR=10						
WRA	**Warramunga Arr**	**13.93**	**162**	P	**P**	**15 59 38.7**	**-1.7**
	0.6nm,0.3s,baz=344,slow=13,SNR=21						
WRA				S	**S**	**16 02 07.0**	**-4.2**
	2.2nm,0.3s,baz=331,slow=23,SNR=12						
ASAR	**Alice Springs**	**17.38**	**168**	P	**P**	**16 00 24.4**	**+1.6**
	0.2nm,0.3s,baz=337,slow=12,SNR=13						
ASAR				S	**S**	**16 03 29.5**	**+0.8**
	0.3nm,0.3s,baz=352,slow=27,SNR=5.5						
CMAR	**Chiang Mai Arr**	**39.40**	**310**	P	**P**	**16 03 44.8**	**+0.6**
	0.4nm,0.5s,mb3.3,baz=139,slow=7.9,SNR=5.3						
SONM	**Songino Array**	**58.05**	**342**	P	**P**	**16 06 05.7**	**-1.0**
	0.2nm,0.4s,mb3.3,baz=153,slow=6.1,SNR=3.5						
MKAR	**Makanchi Array**	**67.85**	**327**	P	**P**	**16 07 11.1**	**-0.1**
	1.0nm,0.4s,mb3.9,baz=117,slow=7.9,SNR=21						

JMA ***01*** *15:58:20.8±0.1, 36.91N×141.68E, h33^{km}±3^{km}, M3.8*

IDC ***01*** *15:58:22.9±5.8, 36.77N×141.88E, h39^{km}±53^{km}, mb3.3/4, mb1 3.5/4, mb1mx3.2/22, Error ellipse: s-maj=38.5km s-min=25.9km az=81.0*

NEIC ***01*** *15:58:23.7±1.1, 36.81N×141.77E, h45^{km}, mb4.5/1, Error ellipse: s-maj=23.9km s-min=16.7km az=155.0*

ISC 01 15:58:18.2±1.5**, 36.88N**±0.05×**141.83E**±0.09**, h17**^{km}±9^{km}**, n15, σ1**^{s}**11**/22**, mb3.6**/5**, 3D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.85**	**285**	⇓P	**Pb**	**15 58 34.9**	**+0.8**
JFK	**Kawauchi**	**0.90**	**303**	P	**Pb**	**15 58 35.5**	**+0.5**
JFK				*e*S	**Sb**	**15 58 45.9**	**-0.6**
JHO	**Hitachi**	**1.05**	**255**	P	**Pb**	**15 58 37.8**	**+0.3**
JHO				*e*S	**Sb**	**15 58 50.1**	**-0.6**
JMM	**Marumori**	**1.28**	**320**	⇓P	**Pn**	**15 58 41.3**	**-0.2**
JMM				*e*S	**Sb**	**15 58 55.9**	**-1.6**
JFT	**Otama**	**1.35**	**298**	⇓P	**Pn**	**15 58 43.0**	**+0.5**
JFT				*e*S	**Sn**	**15 58 58.5**	**-1.5**
MAJO	**Matsushiro**	**2.93**	**264**	*e*P	**Pn**	**15 59 06.3**	**+1.2**
MAT	**Matsushiro**	**2.93**	**264**	P	**Pn**	**15 59 06.0**	**+0.9**
MAT				S	**Sn**	**15 59 41.5**	**+1.3**
MAT	**Matsushiro**	**2.93**	**264**	*e*P	**Pn**	**15 59 06.0**	**+0.9**
MAT				*e*S	**Sn**	**15 59 42.0**	**+1.8**
JHJ	**Hachijo jima 2**	**4.11**	**205**	Pn	**Pn**	**15 59 22.1**	**+0.2**
JHJ				Sn	**Sn**	**16 00 07.3**	**-2.9**
TATO	**Taipei**	**21.05**	**241**	P	**P**	**16 03 04.3**	**+0.5**
	11nm,0.4s,mb4.5						
SONM	**Songino Array**	**28.14**	**304**	P	**P**	**16 04 11.2**	**-0.2**
	0.5nm,0.7s,mb3.2,baz=107,slow=9.2,SNR=5.2						
MKAR	**Makanchi Array**	**44.48**	**302**	P	**P**	**16 06 31.7**	**+1.5**
	0.7nm,1.0s,mb3.4,baz=96,slow=8.0,SNR=2.8						
MKAR	**Makanchi Array**	**44.48**	**302**	P	**P**	**16 06 31.7**	**+1.5**
ILAR	**Eielson Array**	**49.45**	**32**	P	**P**	**16 07 08.9**	**0.0**
	0.2nm,0.4s,mb3.5,baz=277,slow=7.3,SNR=4.3						
WRA	**Warramunga Arr**	**56.96**	**188**	P	**P**	**16 08 03.5**	**-1.7**
	0.3nm,0.5s,mb3.6,baz=5.4,slow=7.4,SNR=4.9						

ISK ***01*** *16:10:10.0, 38.44N×39.29E, h5^{km}, MD3.5, ML3.3*

ISC 01 16:10:11.4±0.4**, 38.43N**±0.03×**39.30E**±0.03**, h5**^{km}**, n23, σ1**^{s}**15**/35**, 1C, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ELZG	**Elazig**	**0.26**	**286**	⇑*i*P	**Pg**	**16 10 15.9**	**-0.7**
ELZG				*i* S	**Sg**	**16 10 24.1**	**+4.1**
MALT	**Malatya**	**0.69**	**261**	*i* PG	**Pg**	**16 10 24.1**	**-1.2**
MALT				*i* SG	**Sg**	**16 10 35.3**	**+0.7**
MYA	**Malataya**	**0.69**	**262**	*i* PG	**Pg**	**16 10 24.0**	**-1.3**
MYA				*i* SG	**Sg**	**16 10 35.3**	**+0.8**
DIY	**Diyarbakir**	**0.90**	**126**	*i* PG	**Pg**	**16 10 28.9**	**-0.5**
DIY				*i* SG	**Sg**	**16 10 42.2**	**+0.7**
BINT	**Bingol**	**1.03**	**64**	*i* PG	**Pg**	**16 10 30.8**	**-1.2**
EZC	**Erzincan**	**1.38**	**17**	*i* PN	**Pn**	**16 10 35.8**	**-1.5**
EZC				*i* SN	**Sn**	**16 10 55.0**	**-1.1**
BEST	**Besiri**	**1.64**	**108**	*i* P	**Pn**	**16 10 40.6**	**-0.5**
BEST				*i* S	**Sb**	**16 11 05.8**	**+3.1**
KELT	**Kelkit**	**1.72**	**359**	*i* P	**Pn**	**16 10 43.2**	**+1.0**
KELT				*i* S	**Sn**	**16 11 07.9**	**+3.1**
BTMT	**Batman**	**1.74**	**97**	*i* PN	**Pn**	**16 10 41.5**	**-1.0**
GZT	**Gaziantep**	**1.74**	**233**	*i* P	**Pn**	**16 10 42.2**	**-0.3**
VRT	**Varto**	**1.88**	**67**	*i* PN	**Pn**	**16 10 45.1**	**+0.6**
GUMT	**Gumushane**	**2.04**	**4**	*i* PN	**Pn**	**16 10 46.5**	**-0.2**
GUMT				*i* SN	**Sn**	**16 11 13.7**	**+0.9**
KAHT	**Ahir Dag**	**2.07**	**248**	*i* P	**Pn**	**16 10 47.2**	**0.0**
KAHT				*i* S	**Sg**	**16 11 23.0**	**+2.6**
GAZ	**Gaziantep**	**2.08**	**234**	*i* PN	**Pn**	**16 10 46.9**	**-0.4**
EZM	**Erzurum**	**2.18**	**47**	*i* PN	**Pn**	**16 10 48.7**	**-0.1**
ERZM	**Erzurum**	**2.18**	**47**	*i* P	**Pn**	**16 10 49.2**	**+0.3**
SVST	**Sivas**	**2.27**	**307**	*i* P	**Pg**	**16 10 57.9**	**+1.3**
SVST				*i* S	**Sg**	**16 11 25.5**	**-1.3**
SVSK	**Karacayir**	**2.33**	**310**	*e*PN	**Pn**	**16 10 50.7**	**-0.2**
COBT	**Iskenderun**	**3.08**	**233**	*i* P	**Pn**	**16 11 07.1**	**+5.4**
COBT				*i* S	**Sg**	**16 11 51.2**	**-2.8**
VANB	**Van**	**3.21**	**86**	*e*PN	**Pn**	**16 11 04.0**	**+0.5**
TVAN	**Van**	**3.22**	**87**	*i* P	**Pn**	**16 11 08.5**	**+4.8**
CTKT	**Corum**	**4.12**	**304**	*i* P	**Pn**	**16 11 18.4**	**+2.0**
CTKT				*i* S	**Pg**	**16 11 27.7**	**-5.9**
BOYT	**Boyabat**	**4.51**	**313**	*i* P	**Pg**	**16 11 33.9**	**-7.6**

NEIC ***01*** *16:18:03.0, 35.03S×70.51W, h3^{km}, ML2.7(GUC), After GUC.*

GUC 01 16:18:03.0±0.8**, 35.03S**×**70.51W, h3**^{km}**, MD3.5, ML2.7, 7C-2D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFDO	**San Fernando**	**0.58**	**315**	⇓*i*P	Pg	16 18 14.5	-0.1
SFDO				*i* S	Sg	16 18 23.7	+1.3
CICH	**Cipreses**	**0.71**	**6**	⇓*i*P	Pg	16 18 16.3	-0.8
CICH				*i* S	Sg	16 18 27.0	+0.4
CACH	**El Canelo**	**0.91**	**356**	⇑*i*P	Pb	16 18 19.9	-1.1
CACH				*i* S	Sg	16 18 33.6	+0.3
CHCH	**Chadas Angostu**	**1.10**	**354**	⇑*i*P	Pb	16 18 23.5	-0.7
CHCH				*i* S	Sb	16 18 39.5	+0.7
LMEL	**Las Melosas**	**1.20**	**12**	⇑*i*P	Pb	16 18 25.0	-1.0
LMEL				*i* S	Sb	16 18 42.4	+0.5
LMEL				AMP		16 18 44.9	
	comp=N,146nm,0.1s						
LNV	**Longovilo**	**1.30**	**325**	⇑*i*P	Pb	16 18 26.5	-1.2
LNV				*i* S	Sb	16 18 45.0	+0.3
PCH	**Pirque**	**1.40**	**0**	*e*P	Pb	16 18 28.5	-1.0
PCH				*i* S	Sb	16 18 48.4	+0.8
TACH	**Talagante**	**1.41**	**346**	⇑*i*P	Pn	16 18 28.6	-1.0
RCDM	**Rinconada Maip**	**1.55**	**351**	*i* P	Pn	16 18 31.0	-0.7
RCDM				*i* S	Sb	16 18 52.1	+0.1
RCDM				AMP		16 18 58.6	
	comp=E,274nm,0.2s						
CLCH	**Cerro Calan**	**1.63**	**359**	*e*P	Pn	16 18 32.4	-0.3
CLCH				*i* S	Sb	16 18 54.6	+0.4
CLCH				AMP		16 19 02.4	
	comp=E,171nm,0.8s						
FCH	**Farellones**	**1.70**	**6**	⇑*i*P	Pn	16 18 34.4	+0.6
FCH				*i* S	Sn	16 18 57.5	+1.1
FCH				AMP		16 19 08.3	
	comp=N,130nm,0.2s						
LCCH	**Las Cruces**	**1.78**	**330**	⇑*i*P	Pn	16 18 34.8	-0.1
LCCH				*i* S	Sn	16 18 59.1	+0.9
JACH	**Jahuel**	**2.34**	**358**	*e*P	Pn	16 18 44.0	+1.1

IDC ***01*** *16:31:16.3±2.1, 28.39N×54.12E, mb3.7/13, mb1 3.9/13, mb1mx3.8/22, Error ellipse: s-maj=48.4km s-min=20.5km az=10.0*

THR ***01*** *16:31:20.1±0.5, 28.41N×54.02E, h36^{km}±3^{km}, ML3.6*

NEIC ***01*** *16:31:23.1±7.1, 28.14N×54.10E, h70^{km}±67^{km}, mb4.6/2, Error ellipse: s-maj=22.7km s-min=16.3km az=173.0*

ISC 01 16:31:15.4±1.3**, 28.33N**±0.08×**54.17E**±0.06**, h11**^{km}±8^{km}**, n27, σ1**^{s}**25**/29**, mb3.7**/14**, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**1.04**	**268**	*e*PG	**Pg**	**16 31 37.8**	**+1.5**
GHIR				AMP		16 32 01.7	
	comp=N,1µm,0.6s						
GHIR				AMP		16 32 02.5	
	comp=E,2µm,0.7s						
KRBR	**Kerman**	**2.81**	**53**	*e*PN	**Pb**	**16 32 05.5**	**+0.3**
KRBR				*e*SG	**Sg**	**16 32 47.8**	**-1.1**
KRBR				AMP		16 32 55.9	
	comp=E,178nm,0.6s						
KRBR				AMP		16 33 00.4	
	comp=N,213nm,0.7s						
NASN	**Na’in**	**4.61**	**346**	*e*PN	**Pn**	**16 32 28.5**	**+1.7**
HASS	**Wahat al Ahsa’**	**5.07**	**233**	P	**Pn**	**16 32 36.3**	**+3.0**
HASS				S	**Sn**	**16 33 33.5**	**+0.7**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZHSF	Zahedan	5.93	76	*e*PN	Pn	16 32 49.4	+4.0
ASAO	Ashtian	7.14	331	*e*PN	Pn	16 33 02.6	+0.1
MZLS	Mizel	9.11	244	P	P	16 33 29.3	-0.7
RAYN	Ar Rayn	9.15	240	Pn	P	16 33 29.7	-0.7
	comp=N,61nm,0.4s,SNR=17						
AFFS	‘Afif	10.95	249	P	P	16 33 53.6	-1.6
HILS	Ha’il	10.99	268	P	P	16 33 53.0	-2.8
BRTR	Keskin Array B	20.41	309	P	P	16 35 55.1	-0.1
	comp=N,1.5nm,0.6s,baz=128,slow=12,SNR=5.0						
IDI	Anoyia	25.77	293	P	P	16 36 48.9	+0.9
	comp=N,2.2nm,0.6s,mb3.9,baz=56,slow=5.4,SNR=3.9						
BVAR	Borovoye Array	27.44	21	P	P	16 37 04.3	+1.1
	comp=N,0.3nm,0.4s,mb3.2,baz=214,slow=5.3,SNR=3.3						
MKAR	Makanchi Array	28.70	42	P	P	16 37 14.9	+0.4
	comp=N,0.3nm,0.5s,mb3.3,baz=232,slow=9.4,SNR=8.3						
AKASG	Malin Array Be	29.24	327	P	P	16 37 18.2	-1.2
	comp=N,0.4nm,0.4s,mb3.5,baz=135,slow=8.1,SNR=4.1						
ZAL	Zalesovo	33.98	33	P	P	16 37 59.9	-1.2
	comp=N,0.8nm,0.3s,mb4.1,baz=117,slow=12,SNR=4.0						
GERES	GERESS Array B	37.11	315	P	P	16 38 24.7	-3.0
	comp=N,0.6nm,0.5s,mb3.7,baz=260,slow=23,SNR=4.7						
FINES	FINESS Array B	38.03	338	P	P	16 38 34.4	-0.9
	comp=N,0.9nm,0.5s,mb3.7,baz=149,slow=14,SNR=6.2						
FINES	FINESS Array B	38.03	338	P	P	16 38 34.4	-0.9
CLL	Collm	38.37	318	P	P	16 38 38.0	-0.2
CMAR	Chiang Mai Arr	42.05	93	P	P	16 39 09.8	+0.8
	comp=N,0.4nm,0.8s,mb3.1,baz=288,slow=8.3,SNR=4.2						
NOA	NORSAR Array B	43.41	331	P	P	16 39 19.4	-0.2
	comp=N,0.9nm,0.7s,mb3.6,baz=46,slow=13,SNR=2.8						
ARCES	ARCESS Array B	44.44	346	P	P	16 39 28.4	+0.6
	comp=N,0.9nm,0.8s,mb3.6,baz=156,slow=8.9,SNR=2.9						
SONM	Songino Array	44.55	49	P	P	16 39 30.4	+1.4
	comp=N,0.7nm,1.0s,mb3.5,baz=256,slow=5.1,SNR=5.7						
BOSA	Boshof	63.02	208	P	P	16 41 41.4	-3.5
	comp=N,6.4nm,1.3s,mb4.6						
YKA	Yellowknife Ar	89.05	355	P	P	16 44 12.6	+1.2
	comp=N,0.5nm,0.7s,mb4.0,baz=3.4,slow=5.0,SNR=5.0						
WRAB	Tennant Creek	91.06	112	*e*P	P	16 44 18.3	-3.5
	comp=N,4.0nm,0.9s,mb4.8						

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*NEIC **01** 16:38:21.6±3.3, 37.50N×72.65E, h84^{km}±27^{km}, mb3.4/2, Error ellipse: s-maj=37.5km s-min=12.3km az=48.0*

*NNC **01** 16:38:24.4±4.6, 37.41N×71.56E, h96^{km}±54^{km}, mpv3.5, Error ellipse: s-maj=42.4km s-min=18.9km az=28.0*

*IDC **01** 16:38:25.8±7.9, 37.67N×72.75E, h118^{km}±66^{km}, mb3.3/6, mb1 3.4/8, mb1mx3.2/21, Error ellipse: s-maj=53.6km s-min=24.4km az=28.0*

*MOS **01** 16:38:26.4±1.0, 37.73N×72.66E, h138^{km}, mb3.8/2, Error ellipse: s-maj=37.0km s-min=20.0km az=91.8*

ISC 01 16:38:17.9±1.2**, 37.35N**±0.07×**72.5E**±0.1**, h68**^{km}±13^{km}**, n20, σ1**^{s}**09**/22**, mb3.6**/6**, 6C-1D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NIL	Nilore	3.74	171	Pn	P	16 39 13.8	-0.8
	102nm,0.8s,SNR=8.0						
AAK	Ala-Archa	5.49	15	*e*P	P	16 39 37.6	-1.3
	1.9nm,0.4s						
KK31	Karatay Array	5.95	346	⇑P	P	16 39 46.8	+1.6
	1.3nm,0.2s,baz=157,slow=11,SNR=34						
KK31				⇑S	S	16 40 52.9	0.0
	3.2nm,0.3s,baz=172,slow=22,SNR=5.8						
MK31	Makanchi Array	11.89	34	⇓P	P	16 41 15.8	+9.3
	0.3nm,0.5s,baz=203,slow=15,SNR=8.3						
MKAR	Makanchi Array	11.89	34	P	P	16 41 06.4	-0.1
	0.0nm,0.3s,baz=205,slow=12,SNR=2.5						
AB31	Akbulak array	14.99	327	⇑P	P	16 41 46.1	-0.9
	0.9nm,0.7s,baz=157,slow=9.4,SNR=8.7						
AB31				⇑S	S	16 44 24.1	-7.5
	0.3nm,0.4s,baz=132,slow=25,SNR=3.7						
VOSK	Vostochnaya	15.41	356	⇑P	P	16 41 55.5	+3.1
	7.3nm,2.1s						
ZRNK	Zerenda	15.79	352	⇑P	P	16 41 58.0	+0.7
	2.4nm,0.8s						
ZRNK	Zerenda	15.79	352	*e*P	P	16 41 58.0	+0.8
	3.6nm,0.8s						
LSA	Lhasa	17.29	111	*e*P	P	16 42 17.2	+1.1
	1.1nm,0.6s						
ZAL	Zalesovo	18.63	23	P	P	16 42 30.1	-2.1
	0.5nm,0.3s,baz=157,slow=12,SNR=7.1						
ZAL	Zalesovo	18.63	23	P	P	16 42 30.1	-2.1
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKASG	Malin Array Be	33.38	308	P	P	16 44 52.0	+0.4
	comp=Z,0.4nm,0.4s,mb3.6,baz=115,slow=6.9,SNR=2.9						
FINES	FINESS Array B	37.48	325	P	P	16 45 26.1	-0.1
	comp=Z,0.4nm,0.4s,mb3.7,baz=98,slow=9.8,SNR=4.6						
ARCES	ARCESS Array B	40.84	337	P	P	16 45 54.0	+0.1
	comp=Z,4.2nm,1.1s,mb4.2,baz=108,slow=7.7,SNR=7.2						
ARCES	ARCESS Array B	40.84	337	P	P	16 45 54.1	+0.1
ARCES				pmax	pmax		
	comp=Z,4.0nm,1.1s						
NOA	NORSAR Array B	44.45	322	P	P	16 46 23.2	-0.2
	comp=Z,0.6nm,0.7s,mb3.4,baz=94,slow=8.4,SNR=3.0						
NOA	NORSAR Array B	44.45	322	P	P	16 46 23.2	-0.2
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	Yellowknife Ar	80.34	3	P	P	16 50 21.2	-1.3
	comp=Z,0.4nm,0.4s,mb3.6,baz=351,slow=5.7,SNR=5.4						
WRA	Warramunga Arr	81.41	123	P	P	16 50 30.1	+1.0
	comp=Z,0.3nm,1.0s,mb3.1,baz=331,slow=5.6,SNR=4.9						

IDC 01 16:53:30.5±5.3**, 21.74N×144.45E, mb3.5**/4**, mb1 3.7**/4**, mb1mx3.4**/21**, Error ellipse: s-maj=200.0km s-min=31.5km az=73.0, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	42.59	194	P	P	17 01 28.6	-1.6
	0.9nm,0.6s,baz=16,slow=8.8,SNR=17						
ASAR	Alice Springs	46.29	193	P	P	17 01 57.8	-2.1
	0.3nm,0.9s,baz=13,slow=7.3,SNR=8.0						
STKA	Stephens Creek	53.38	183	P	P	17 02 51.6	-2.6
	1.2nm,0.9s,baz=17,slow=11,SNR=3.0						
MKAR	Makanchi Array	55.54	313	P	P	17 03 07.5	-2.2
	0.3nm,0.6s,baz=111,slow=6.3,SNR=4.0						

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*LDG **01** 17:04:38.8±0.1, 44.44N×6.79E, h2^{km}, Md3.1/1, Ml2.9/16, Error ellipse: s-maj=2.2km s-min=1.2km az=65.0*

*STR **01** 17:04:38.7±0.1, 44.46N×6.79E, h5^{km}±1^{km}, Ml2.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*NEIC **01** 17:04:38.8, 44.44N×6.79E, h2^{km}, ML3.1(GEN), ML2.9(LDG), ML2.7(STR), After LDG.*

ISC 01 17:04:37.3±0.2**, 44.45N**±0.01×**6.73E**±0.02**, h10**^{km}±2^{km}**, n50, σ0**^{s}**89**/96**, 11C-4D, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SURF	Saint Ours	0.07	64	Pg	Pg	17 04 40.2	+0.7
PZZ	Prazzo	0.27	79	⇓P	Pg	17 04 43.7	+0.8
MBDF	Montbardon	0.28	6	*e*Pg	Pg	17 04 43.8	+0.7
MBDF				*e*Sg	Sg	17 04 48.3	+1.3
	230nm,0.3s						
RRL	Cesana Torines	0.47	5	⇑P	Pg	17 04 47.6	+0.7
RRL				S	Sg	17 04 53.9	+0.7
STV	Sta Anna Valdi	0.47	116	⇑P	Pg	17 04 47.1	+0.1
STV				S	Sg	17 04 52.9	-0.4
STV2	Anna di Valdie	0.47	116	⇑P	Pg	17 04 47.0	+0.1
STV2				S	Sg	17 04 52.9	-0.5
ENR	Entracque	0.54	114	⇑P	Pg	17 04 48.2	-0.1
ENR				S	Sg	17 04 54.9	-0.7
BHB	Bricherasio	0.54	44	⇑P	Pg	17 04 48.5	+0.2
BHB				S	Sg	17 04 55.0	-0.6
BNI	Bardonecchia	0.60	356	*e*P	Pb	17 04 49.5	+0.1
FENE	Fenestrelle	0.62	22	⇓P	Pb	17 04 50.1	+0.3
FENE				S	Sg	17 04 58.0	-0.3
MVIF	Mont Vial	0.63	151	Pg	Pg	17 04 50.3	+0.2
MVIF				Sg	Sg	17 04 59.1	+0.5
AUTN	L’Aution	0.68	132	Pg	Pg	17 04 51.1	+0.2
AUTN				Sg	Sg	17 05 00.1	+0.1
AURF	Auriere	0.71	143	Pg	Pg	17 04 51.6	0.0
CALN	Calern	0.71	171	Pg	Pg	17 04 52.1	+0.5
CALN				Sg	Sg	17 05 02.2	+1.1
SAOF	Saorge	0.75	128	Pg	Pg	17 04 52.1	-0.3
ORIF	Oris-en-Rattie	0.77	308	*e*Pg	Pg	17 04 53.0	+0.3
ORIF				*e*Sg	Sg	17 05 02.4	-0.5
	76nm,0.2s						
RSP	Reno Superiore	0.79	28	⇓P	Pb	17 04 53.2	+0.6
RSP				S	Sb	17 05 03.2	0.0
MONE	Monesi	0.82	117	⇑P	Pb	17 04 53.3	+0.1
MONE				S	Sb	17 05 03.5	-0.6
ROB	Roburent	0.83	101	⇑P	Pb	17 04 53.7	+0.4
ROB				S	Sb	17 05 03.6	-0.8
REVF	Revere	0.85	147	Pg	Pg	17 04 54.6	+0.3
REVF				Sg	Sg	17 05 06.3	+0.7
GDM	Grand’Maison	0.87	330	Pg	Pg	17 04 55.8	+1.1
FRF	La Foret Royal	0.89	184	*e*Pg	Pg	17 04 55.1	-0.1
FRF				*e*Pn	Pn	17 04 56.6	+0.9
FRF				*e*Sg	Sg	17 05 06.4	-0.8
	115nm,0.2s						
NEGI	Negi	0.93	130	P	Pb	17 04 55.6	+0.7
NEGI				S	Sb	17 05 07.0	-0.1
SMRF	Simiane la Rot	0.96	241	*e*Pn	Pn	17 04 57.6	+1.0
SMRF				*e*Sn	Sn	17 05 11.9	+1.6
	102nm,0.3s						
IMI	Imperia	0.99	123	⇑P	Pb	17 04 56.6	+0.5
IMI				S	Sb	17 05 08.6	-0.4
RORO		1.02	109	⇑P	Pb	17 04 56.6	+0.1
RORO				S	Sb	17 05 09.0	-0.7
LPG	La Plagne	1.04	1	*e*Pg	Pg	17 04 58.0	-0.2
LPG				*e*Sg	Sg	17 05 13.4	+1.2
	20nm,0.2s						
LSD	Ceresole Reale	1.05	17	⇓P	Pb	17 04 57.7	+0.6
GRN	Grenoble	1.06	319	Pg	Pg	17 04 59.2	+0.8
GRN				Sg	Sg	17 05 13.7	+1.1
LPL	La Plagne	1.06	0	*e*Pg	Pg	17 04 58.4	-0.2
LPL				*e*Sg	Sg	17 05 13.2	+0.4
	23nm,0.3s						
FIN	Finale Ligure	1.09	102	⇑P	Pb	17 04 58.0	+0.3
LMR	La Mourre	1.13	188	*e*Pg	Pg	17 04 59.1	-0.8
LMR				*e*Sg	Sg	17 05 14.3	-0.7
	100nm,0.2s						
RSL	Roselend	1.24	357	Pg	Pg	17 05 02.0	-0.1
TRAV		1.28	34	P	Pb	17 05 01.3	+0.3
PCP	Pian Castagno	1.30	85	⇑P	Pb	17 05 01.8	+0.4
VIVF	Saint-Julien-l	1.52	286	*e*Pn	Pn	17 05 06.2	+1.5
VIVF				*e*Pg	Pg	17 05 08.1	+0.3
VIVF				*e*Sn	Sn	17 05 25.0	+0.3
	32nm,0.4s						
MCGN	Macugnaga	1.75	30	*e*Pg	Pg	17 05 11.1	-1.1
MCGN				*e*Sg	Sg	17 05 32.0	-3.6
LASF	Ste Croix	2.10	261	*e*Pn	Pn	17 05 13.7	+0.8
LASF				*e*Pg	Pg	17 05 18.7	-0.5
LASF				*e*Sn	Sn	17 05 39.6	+0.3
	7.6nm,0.3s						
CABF	La Chapelle	2.21	348	*e*Pg	Pg	17 05 20.1	-1.2
CABF				*e*Sg	Sg	17 05 49.0	-1.8
	17nm,0.6s						
PGF	Pioggiola	2.52	138	*e*Pn	Pn	17 05 18.5	-0.5
PGF				*e*Sn	Sn	17 05 48.3	-1.7
	14nm,0.2s						
SMF	Signal de Mont	2.99	318	*e*Pn	Pn	17 05 26.4	+0.7
SMF				*e*Pg	Pg	17 05 36.0	-1.0
SMF				*e*Sn	Sn	17 06 02.2	+0.3
SMF				*e*Sg	Sg	17 06 13.2	-3.6
	12nm,0.5s						
AVF	Avril sur Loir	3.33	316	*e*Pn	Pn	17 05 30.5	0.0
AVF				*e*Sg	Sg	17 06 24.4	-3.8
	6.1nm,0.5s						
CAF	Calviac	3.36	280	*e*Pn	Pn	17 05 31.0	0.0
MTLF	Montolieu	3.45	253	*e*Pn	Pn	17 05 32.6	+0.4
MTLF				*e*Pg	Pg	17 05 43.6	-2.5
MTLF				*e*Sn	Sn	17 06 11.5	-2.0
MTLF				*e*Sg	Sg	17 06 27.8	-4.3
	3.4nm,0.4s						
BGF	Bois d’Agland	3.45	309	*e*Pn	Pn	17 05 32.5	+0.3
BGF				*e*Pg	Pg	17 05 42.6	-3.5
BGF				*e*Sg	Sg	17 06 26.3	-5.8
	14nm,0.4s						
SSF	Saint Saulge	3.45	320	*e*Pn	Pn	17 05 32.8	+0.6
SSF				*e*Pg	Pg	17 05 43.6	-2.6
SSF				*e*Sg	Sg	17 06 29.3	-2.9
	5.1nm,0.4s						
LOR	Lormes	3.46	326	*e*Pn	Pn	17 05 33.0	+0.7
LOR				*e*Pg	Pg	17 05 43.1	-3.2
LOR				*e*Sn	Sn	17 06 11.8	-2.0
LOR				*e*Sg	Sg	17 06 26.3	-6.1
	6.7nm,0.4s						
TCF	Toulx Ste Croi	3.68	302	*e*Pn	Pn	17 05 35.9	+0.5
CDF	Champ du Feu	3.98	5	*e*Pn	Pn	17 05 39.6	-0.1
MFF	Saint Martin d	5.29	296	*e*Sn	Sn	17 06 52.4	-7.6
	1.0nm,0.2s						

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*MAN **01** 17:06:50.2, 14.61N×119.57E, h54^{km}, mb3.9, ML2.7, MS2.3*

*IDC **01** 17:06:51.1±2.2, 14.96N×119.87E, h74^{km}±19^{km}, mb3.0/4, mb1 3.3/4, mb1mx3.0/18, Error ellipse: s-maj=36.5km s-min=22.4km az=47.0*

ISC 01 17:06:50.5±0.7**, 14.66N**±0.04×**119.69E**±0.08**, h75**^{km}±9^{km}**, n13, σ1**^{s}**15**/22**, mb3.3**/3**, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LUBP	Lubang	1.06	149	*e*P	P	17 07 10.5	+0.2
LUBP				*e*S	S	17 07 25.0	0.0
LUBP	Lubang	1.06	149	*e*P	P	17 07 10.8	+0.5
LUBP				*e*S	S	17 07 24.9	-0.1
SCZP	Santa Cruz	1.13	11	*e*P	P	17 07 11.4	+0.2
SCZP				*e*S	S	17 07 24.7	-1.9
TGY	Tagaytay City	1.33	114	P	P	17 07 15.0	+1.1
	57nm,0.3s,baz=192,slow=1.2,SNR=9.5						
TGY				S	S	17 07 31.2	0.0
	115nm,0.3s,baz=209,slow=23,SNR=11						
BOLP	Bolinao	1.73	7	*e*P	P	17 07 20.1	+0.8
BOLP				*e*S	S	17 07 41.1	+0.8
POLP	Polilio Island	2.18	88	*e*P	P	17 07 26.8	+1.4
POLP				*e*S	S	17 07 50.1	-1.1
SJMP	San Jose	2.59	147	*e*P	P	17 07 30.5	-0.6
SJMP				*e*S	S	17 07 55.2	-6.2
SJMP	San Jose	2.59	147	*e*P	P	17 07 32.1	+1.0
SJMP				*e*S	S	17 07 59.2	-2.2
BUSP	Coron	2.68	169	*e*P	P	17 07 33.5	+1.0
BUSP				*e*S	S	17 08 02.4	-1.5
CMAR	Chiang Mai Arr	20.24	284	P	P	17 11 21.2	-0.9
	0.1nm,0.5s,baz=105,slow=14,SNR=2.4						
WRA	Warramunga Arr	37.28	157	P	P	17 13 57.6	+0.5
	0.3nm,0.6s,mb3.4,baz=334,slow=9.9,SNR=4.9						
ASAR	Alice Springs	40.54	160	P	P	17 14 25.4	+1.3
	0.3nm,0.5s,mb3.3,baz=334,slow=7.1,SNR=12						
ILAR	Eielson Array	78.32	26	P	P	17 18 40.9	-2.9
	0.3nm,0.6s,mb3.2,baz=260,slow=5.5,SNR=5.0						

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*MDD **01** 17:11:02.4±2.0, 36.46N×7.42W, h3^{km}±9^{km}, mbLg2.0/6, Error ellipse: s-maj=13.4km s-min=10.8km az=3.0, PRXIMO*

*INMG **01** 17:11:02.1±1.2, 36.43N×7.22W, h12^{km}±16^{km}, ML2.2, Error ellipse: s-maj=10.2km s-min=5.4km az=103.0*

ISC 01 17:11:01.9±1.7**, 36.52N**±0.09×**7.40W**±0.07**, h12**^{km}**, n11, σ1**^{s}**19**/19**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PALC	Alcoutim	0.94	356	*e*P	Pb	17 11 21.0	+1.3
PALC				*e*S	Sb	17 11 35.5	+3.6
	17nm,0.1s						
PALC	Alcoutim	0.94	356	P	Pb	17 11 21.0	+1.3
PALC				S	Sb	17 11 35.5	+3.6
	8.4nm,0.1s						
EGRO	El Granado	1.01	356	Pg	Pg	17 11 21.9	-0.4
	1.2nm,0.1s,SNR=7.9						
EGRO				Lg		17 11 37.3	
	4.0nm,0.1s,SNR=7.9						
EMIN	Mina Concepcio	1.37	25	Pg	Pg	17 11 28.5	-0.9
	0.1nm,0.0s,SNR=7.9						
EMIN				Lg		17 11 46.8	
	1.0nm,0.1s,SNR=7.9						
PTEO	Sao Teotonio	1.48	314	*e*P	Pn	17 11 29.0	+0.6
PTEO				*e*S	Sb	17 11 47.4	+0.1
	19nm,0.3s						
PTEO	Sao Teotonio	1.48	314	P	Pn	17 11 29.0	+0.6
PTEO				S	Sb	17 11 47.4	+0.1
	9.6nm,0.3s						
PBEJ	Beja	1.55	346	*e*Pg	Pg	17 11 31.6	-1.3
PBEJ				*e*Sg	Sg	17 11 53.9	+0.3
	14nm,0.1s						
PBEJ	Beja	1.55	346	Pg	Pg	17 11 31.6	-1.3
PBEJ				Lg		17 11 53.9	
	7.1nm,0.1s						
MOE	Montemor	2.14	339	*e*Pg	Pg	17 11 42.4	-2.3
MOE				*e*Sg	Sg	17 12 12.4	-0.8
EBAD	Badajoz	2.25	8	Pn	Pn	17 11 40.7	+1.2
	0.7nm,0.1s,SNR=7.9						
EBAD				Sn	Sn	17 12 09.3	+1.9
	0.7nm,0.1s,SNR=7.9						
EBAD				Lg		17 12 17.1	
	5.0nm,0.2s,SNR=7.9						
EADA	Adamuz	2.78	53	Pn	Pn	17 11 48.0	+0.8
	0.3nm,0.1s,SNR=4.0						
EADA				Sn	Sn	17 12 19.6	-1.3
	5.2nm,1.1s,SNR=5.0						

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*IDC **01** 17:12:00.0±0.7, 20.54S×68.98W, h114^{km}±5^{km}, mb3.8/9, mb1 4.1/11, mb1mx3.9/16, Error ellipse: s-maj=20.7km s-min=14.8km az=63.0*

*NEIC **01** 17:12:00.3±0.4, 20.59S×68.95W, mb4.2/6, Error ellipse: s-maj=13.3km s-min=8.0km az=70.0*

ISC 01 17:11:55.8±1.2**, 20.48S**±0.06×**69.00W**±0.08**, h90**^{km}±11^{km}**, h114**^{km}±3.1^{km}**: pP-P, n33, σ0**^{s}**81**/32**, mb4.2**/15**, 1C, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPAZ	La Paz	4.25	11	P	P	17 13 06.1	+6.5
	8.5nm,0.3s,baz=158,slow=0.7,SNR=79						
LPAZ				S	S	17 13 48.5	+0.2
	5.8nm,0.3s,baz=229,slow=14,SNR=5.6						
LPAZ	La Paz	4.25	11	*e*P	P	17 13 06.6	+7.0
LPAZ				S	S	17 13 48.5	+0.2
ARE	Arequipa	4.64	329	⇑*i*P	P	17 13 06.5	+1.4
ARE				*e*S	S	17 13 57.0	-1.1
NNA	Nana	11.31	317	*e*P	P	17 14 35.4	-0.5
CPUP	Villa Florida	12.19	121	P	P	17 14 48.0	+0.4
	0.5nm,0.3s,baz=321,slow=12,SNR=12						
CPUP	Villa Florida	12.19	121	*e*P	P	17 14 47.7	+0.1
SAML	Samuel	12.76	27	*e*P	P	17 14 54.9	-0.2
	105nm,1.0s						
TRQA	Tornquist	18.55	162	*e*P	P	17 16 07.6	-0.2
	32nm,1.0s						
PLCA	Paso Flores	20.24	183	P	P	17 16 25.4	-0.5
	12nm,0.8s,baz=2.2,slow=12,SNR=28						
PLCA	Paso Flores	20.24	183	*e*P	P	17 16 25.3	-0.6
BDFB	Brasilia	20.51	80	P	P	17 16 29.7	+0.8
	8.6nm,0.4s,baz=255,slow=11,SNR=9.6						
OTAV	Otavalo	22.57	335	*e*P	P	17 16 54.3	+4.8
	2.1nm,0.6s,mb3.6						
USHA	Ushuaia	34.30	179	P	P	17 18 35.2	-0.2
	4.5nm,0.8s,mb4.4,baz=310,slow=9.8,SNR=3.2						
JCT	Junction City	58.69	329	*e*P	P	17 21 45.4	-1.0
	3.9nm,1.0s,mb4.4						
TXAR	Lajitas Array	59.75	325	P	P	17 21 52.7	-1.0
	0.2nm,0.5s,mb3.4,baz=151,slow=8.0,SNR=3.7						
LIC	Lamto	68.18	74	*e*P	P	17 22 48.4	-0.6
	92nm,1.7s,mb5.3						
TIC	Toumodi	68.37	74	*e*P	P	17 22 49.8	-0.4
	66nm,0.9s						
KIC	Kosan Boka	68.50	74	*e*P	P	17 22 50.5	-0.5
	37nm,0.7s,mb5.3						
DBIC	Dimbokro	68.52	74	P	P	17 22 50.5	-0.7
	9.1nm,0.9s,mb4.6,baz=212,slow=8.1,SNR=8.8						
DBIC				pP	pP	17 23 19.0	+4.5
	5.1nm,0.9s,baz=225,slow=4.3,SNR=2.7						
DBIC	Dimbokro	68.52	74	P	P	17 22 50.5	-0.7
DBIC				pP	pP	17 23 19.0	+4.5
QSPA	South Pole Qui	69.71	180	*e*P	P	17 22 57.8	+0.4
	4.9nm,1.0s,mb4.3						
TPNV	Topopah Spring	72.44	322	*e*P	P	17 23 15.9	+1.5
	3.4nm,1.0s,mb4.1						
PDAR	Pinedale Array	73.19	330	P	P	17 23 19.3	+0.7
	0.4nm,0.5s,mb3.5,baz=138,slow=11,SNR=3.7						
ULM	Lac du Bonnet	74.32	342	P	P	17 23 24.4	-0.7
	3.2nm,0.8s,mb4.1						
ULM				pP	pP	17 23 54.9	+6.1
NVAR	Mina Array Bea	74.64	322	P	P	17 23 28.6	+1.4
	0.8nm,0.6s,mb3.6,baz=144,slow=7.4,SNR=8.6						
NVAR				sP	sP	17 24 08.4	+7.8
	0.7nm,0.8s,baz=187,slow=8.2,SNR=3.1						
HLID	Hailey	76.14	328	*e*P	P	17 23 37.0	+1.4
	2.3nm,0.8s,mb4.0						
YBH	Yreka Blue Hor	79.36	322	P	P	17 23 52.7	-0.7
	0.8nm,0.3s,mb4.0,baz=91,slow=6.8,SNR=4.5						
YKA	Yellowknife Ar	90.20	341	P	P	17 24 47.4	+0.5
	4.0nm,1.1s,mb4.5,baz=134,slow=4.9,SNR=9.8						
YKA				pP	pP	17 25 16.4	+5.0
	2.5nm,0.7s,baz=135,slow=4.9,SNR=12						
YKA	Yellowknife Ar	90.20	341	P	P	17 24 47.4	+0.5
YKA				pP	pP	17 25 16.4	+5.0
ASAR	Alice Springs	130.78	208	PKP	PKPdf	17 30 58.0	+0.7
	0.6nm,0.6s,baz=127,slow=1.9,SNR=8.4						
WRA	Warramunga Arr	133.79	211	PKP	PKPdf	17 31 04.0	+1.0
	0.8nm,0.6s,baz=155,slow=1.9,SNR=12						
MKAR	Makanchi Array	144.85	35	PKP	PKPdf	17 31 23.8	+1.7
	3.3nm,0.9s,baz=328,slow=3.2,SNR=18						
MKAR				pPKP		17 31 55.5	
	1.1nm,0.7s,baz=312,slow=4.1,SNR=4.5						
SONM	Songino Array	152.45	7	PKPbc	PKPdf	17 31 43.6	+9.3
	1.2nm,0.6s,baz=310,slow=1.5,SNR=13						
SONM				pPKPbc		17 32 13.5	
	0.9nm,0.8s,baz=333,slow=1.9,SNR=4.0						

IDC 01 17:40:14.2±2.1**, 6.63S×130.10E, mb4.1**/1**, mb1 4.2**/4**, mb1mx3.8**/12**, ML4.0**/3**, Error ellipse: s-maj=86.0km s-min=26.8km az=77.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	12.21	200	Pn	P	17 43 09.2	-3.2
	0.7nm,0.3s,baz=16,slow=8.9,SNR=37						
WRA	Warramunga Arr	13.86	163	Pn	P	17 43 32.0	-2.6
	1.4nm,0.3s,baz=346,slow=14,SNR=50						
WRA				Sn	S	17 45 54.7	-16
	1.3nm,0.3s,baz=330,slow=23,SNR=8.6						
ASAR	Alice Springs	17.33	168	P	P	17 44 18.1	-1.2
	0.5nm,0.3s,baz=355,slow=12,SNR=31						
ASAR				S	S	17 47 19.5	-12
	0.2nm,0.3s,baz=348,slow=23,SNR=5.5						
MKAR	Makanchi Array	67.97	327	P	P	17 51 15.2	-2.1
	0.9nm,0.4s,baz=121,slow=7.6,SNR=16						

WEL 01 18:10:53.3±0.1**, 37.35S×177.54E, h128**^{km}±2^{km}**, ML3.5**/1**, 1D, Error ellipse: s-maj=3.4km s-min=1.9km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	0.97	200	⇓PN	P	18 11 15.9	-0.2
URZ				SN	S	18 11 32.9	-0.3
MWZ	Matawai	0.99	180	PN	P	18 11 16.0	-0.2
MWZ				SN	S	18 11 33.2	-0.3
KNZ	Kokohu	1.68	176	PN	P	18 11 23.2	-0.5
KNZ				SN	S	18 11 45.9	-1.0

GUC 01 18:13:24.8±0.6**, 35.03S×70.48W, h2**^{km}**, MD3.5, ML2.3, 4C-1D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFDO	San Fernando	0.60	313	⇓*i*P	Pg	18 13 37.1	+0.2
SFDO				*i* S	Sg	18 13 46.3	+1.4
CICH	Cipreses	0.71	4	⇑*i*P	Pg	18 13 39.0	+0.1
CICH				*i* S	Sg	18 13 50.4	+2.1
CACH	El Canelo	0.91	354	⇑*i*P	Pb	18 13 42.6	-0.4
CACH				*e*S	Sg	18 13 56.4	+1.2
CHCH	Chadas Angostu	1.10	352	*e*P	Pb	18 13 45.8	-0.4
CHCH				*i* S	Sb	18 14 01.2	+0.3
LNV	Longovilo	1.32	324	⇑*i*P	Pb	18 13 49.1	-0.8
LNV				*i* S	Sb	18 14 07.6	+0.5
TACH	Talagante	1.42	344	*e*P	Pn	18 13 50.1	-1.6
RCDM	Rinconada Maip	1.56	350	*e*P	Pn	18 13 53.4	-0.3
RCDM				AMP		18 14 16.8	
	comp=E,65nm,0.2s						
LCCH	Las Cruces	1.79	329	⇑*i*P	Pn	18 13 57.6	+0.6
LCCH				*i* S	Sn	18 14 21.9	+1.2

IDC 01 18:23:32.7±6.8**, 6.34S×147.57E, mb3.5**/3**, mb1 3.7**/4**, mb1mx3.5**/13**, ML3.4**/1**, Error ellipse: s-maj=103.0km s-min=64.5km az=27.0, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.65	222	P	P	18 27 54.0	-0.3
	0.1nm,0.3s,baz=48,slow=12,SNR=6.2						
ASAR	Alice Springs	21.67	216	P	P	18 28 24.9	-2.1
	0.7nm,0.6s,baz=52,slow=8.4,SNR=13						

FITZ	**Fitzroy Crossi**	**24.38**	**239**	P	P	18 28 51.8	-2.1
	1.6nm,0.9s,baz=48,slow=14,SNR=3.3						
STKA	**Stephens Creek**	**26.01**	**192**	P	P	18 29 07.7	-1.6
	1.2nm,0.8s,baz=339,slow=8.6,SNR=2.7						

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*CASC **01** 18:26:11.4±1.9, 13.52N×93.41W, MD4.8, ML4.3*
*MEX **01** 18:26:18.7±1.0, 13.85N×93.34W, h87^{km}±110^{km}, MD4.5*
*NEIC **01** 18:26:33.1±1.5, 14.76N×92.67W, h116^{km}±14^{km}, mb3.9/13, Error ellipse: s-maj=20.5km s-min=7.2km az=51.0*
*IDC **01** 18:26:34.2±4.2, 14.93N×92.59W, h117^{km}±42^{km}, mb3.6/4, mb1 4.0/6, mb1mx3.6/20, MS3.5/2, Ms1 3.5/2, ms1mx2.9/20, Error ellipse: s-maj=42.6km s-min=21.2km az=66.0*
ISC 01 18:26:16.1±1.9**, 13.99N**±0.06×**93.32W**±0.04**, h15**^{km}±15^{km}**, n50, σ1$\overset{s}{.}$34**/57**, mb4.0**/13**, MS3.5**/2**, 2C, Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAT	**Jato**	**1.67**	**79**	*e*P	**Pn**	**18 26 45.5**	**+0.5**
JAT				*e*S	**Sn**	**18 27 06.3**	**+0.1**
JAT				AML	AML	18 27 13.3	
	comp=N,7μm,0.6s						
FUG	**Fuego 3**	**2.45**	**79**	*e*P	**Pn**	**18 26 55.3**	**-1.0**
CCIG	**Comitan**	**2.55**	**27**	*i* P	**Pn**	**18 26 58.4**	**+0.7**
CCIG				*i* S	**Sn**	**18 27 31.1**	**+2.5**
IXG	**Ixpaco**	**2.79**	**86**	*e*P	**Pn**	**18 26 59.8**	**-1.3**
IXG				AML	AML	18 27 44.4	
	comp=N,6μm,0.5s						
SCX	**San Cristobal**	**2.81**	**14**	*i* P	**Pn**	**18 27 03.5**	**+2.2**
SCX				*i* S	**Sn**	**18 27 36.0**	**+0.8**
NBG	**Las Nubes**	**2.94**	**78**	⇑*e*P	**Pn**	**18 27 03.7**	**+0.4**
NBG				*e*S	**Sn**	**18 27 47.9**	**+9.2**
NBG				AML	AML	18 27 51.9	
	comp=E,2μm,0.5s						
CMIG	**Matias Romero**	**3.43**	**334**	*e*P	**Pn**	**18 27 11.0**	**+0.9**
CMIG				*i* S	**Sn**	**18 27 50.9**	**0.0**
SNJE	**San Jose**	**3.61**	**92**	*e*S	**Sn**	**18 27 56.7**	**+1.2**
MRL	**Marmol**	**3.67**	**73**	⇑*e*P	**Pn**	**18 27 13.2**	**-0.5**
MRL				AML	AML	18 28 21.3	
	comp=N,138nm,0.6s						
OXX	**Oaxaca**	**4.49**	**314**	*e*P	**Pn**	**18 27 25.0**	**-0.3**
OXX				*i* S	**Sn**	**18 28 16.0**	**-1.8**
VHO	**Vista Hermosa**	**4.49**	**313**	*e*P	**Pn**	**18 27 26.0**	**+0.7**
VHO				*i* S	**Sn**	**18 28 17.2**	**-0.6**
EVV	**El Vigia**	**4.85**	**337**	*e*P	**Pn**	**18 27 34.2**	**+3.9**
PPM	**Popocatepetl**	**7.16**	**315**	*e*P	**Pn**	**18 28 04.5**	**+1.5**
PPM				*i* S	**Sn**	**18 29 24.6**	**-0.2**
TEIG	**Tepich**	**7.85**	**37**	P	**Pn**	**18 28 10.2**	**-2.4**
	comp=N,0.0nm,0.3s,baz=128,slow=19,SNR=4.8						
TEIG				S	**Sn**	**18 29 24.6**	**-17**
	comp=N,0.0nm,0.3s,baz=102,slow=24,SNR=3.8						
JTS	**JuntasAbangare**	**8.97**	**113**	P	**P**	**18 28 37.2**	**+9.0**
	comp=N,1.3nm,0.3s,baz=283,slow=18,SNR=3.7						
JTS				S	**Sn**	**18 30 17.1**	**+7.2**
	comp=N,0.8nm,0.3s,baz=144,slow=19,SNR=3.0						
JTS	**JuntasAbangare**	**8.97**	**113**	P	**P**	**18 28 37.2**	**+9.0**
JTS				S	**Sn**	**18 30 17.1**	**+7.2**
HKT	**Hockley**	**16.05**	**352**	P	**P**	**18 30 04.8**	**+1.8**
	comp=N,2.8nm,0.8s						
JCT	**Junction City**	**17.46**	**341**	*e*P	**P**	**18 30 18.8**	**-2.0**
	comp=N,4.3nm,0.7s						
LTX	**Lajitas**	**18.02**	**330**	*e*P	**P**	**18 30 32.1**	**+4.2**
	comp=N,20nm,1.3s						
TXAR	**Lajitas Array**	**18.02**	**330**	P	**P**	**18 30 32.7**	**+4.8**
	comp=N,0.2nm,0.3s,baz=151,slow=16,SNR=5.7						
TXAR	**Lajitas Array**	**18.02**	**330**	P	**P**	**18 30 32.7**	**+4.8**
MIAR	**Mount Ida**	**20.46**	**359**	*e*P	**P**	**18 30 53.8**	**-2.1**
	comp=N,9.2nm,0.9s						
CLNB	**Carlsbad**	**20.59**	**334**	*e*P	**P**	**18 30 58.2**	**+0.9**
GDL2	**Guadalupe Moun**	**20.75**	**333**	*e*P	**P**	**18 31 00.9**	**+2.1**
WMOK	**Wichita Mounta**	**21.23**	**348**	*e*P	**P**	**18 31 04.7**	**+0.8**
	comp=N,1.4nm,0.5s,mb3.5						
CPRX	**Cap Rock**	**21.25**	**335**	*e*P	**P**	**18 31 05.3**	**+1.3**
SDV	**Santo Domingo**	**22.80**	**100**	*e*P	**P**	**18 31 22.0**	**+2.3**
	comp=N,3.4nm,0.6s,mb4.0						
BNM	**Barren Site**	**23.41**	**331**	*e*P	**P**	**18 31 27.8**	**+2.3**
LAZ	**Ladron**	**23.86**	**331**	*e*P	**P**	**18 31 32.8**	**+3.0**
TUC	**Tucson**	**24.23**	**322**	*e*P	**P**	**18 31 38.2**	**+4.7**
	comp=N,1.3nm,0.6s,mb3.5						
SDCO	**Great Sand Dun**	**26.02**	**338**	*e*P	**P**	**18 31 51.8**	**+1.4**
	comp=N,8.0nm,1.1s,mb4.2						
PV01	**Paradox Valley**	**27.59**	**333**	*e*P	**P**	**18 32 07.1**	**+2.3**
RSSD	**Black Hills**	**31.39**	**345**	*e*P	**P**	**18 32 38.5**	**-0.1**
	comp=N,1.8nm,0.8s,mb4.0						
PDAR	**Pinedale Array**	**31.91**	**337**	P	**P**	**18 32 43.2**	**0.0**
	comp=N,0.3nm,0.7s,mb3.2,baz=135,slow=8.4,SNR=4.3						
MNV	**Mina**	**32.79**	**322**	*e*P	**P**	**18 32 53.7**	**+2.8**
	comp=N,2.2nm,0.9s,mb4.1						
ELK	**Elko**	**32.81**	**328**	*e*P	**P**	**18 32 51.4**	**+0.3**
	comp=N,0.9nm,0.7s,mb3.8						
NVAR	**Mina Array Bea**	**32.88**	**322**	P	**P**	**18 32 54.6**	**+2.9**
	comp=N,1.8nm,0.8s,mb4.1,baz=135,slow=8.9,SNR=12						
REDW	**Red Top Meadow**	**32.91**	**336**	*e*P	**P**	**18 32 53.0**	**+1.0**
LOHW	**Long Hollow**	**33.03**	**337**	*e*P	**P**	**18 32 54.4**	**+1.4**
TPAW	**Teton Pass**	**33.06**	**336**	*e*P	**P**	**18 32 51.3**	**-1.9**
TPAW				*e*		18 33 03.0	
MOOW	**Moose Ponds**	**33.20**	**337**	*e*P	**P**	**18 32 56.1**	**+1.7**
ULM	**Lac du Bonnet**	**36.22**	**357**	LR	LR	18 50 38.2	
	comp=N,48nm,18.1s,MS3.3,baz=330,slow=41						
YKA	**Yellowknife Ar**	**50.74**	**347**	P	**P**	**18 35 16.5**	**-0.7**
	comp=N,4.1nm,0.6s,mb4.5,baz=151,slow=7.5,SNR=32						
YKW3	**Yellowknife Ar**	**50.81**	**347**	*e*P	**P**	**18 35 17.3**	**-0.5**
PLCA	**Paso Flores**	**58.40**	**160**	P	**P**	**18 36 19.8**	**+6.3**
	comp=N,3.0nm,1.1s,mb4.2						
INK	**Inuvik**	**60.09**	**344**	*e*P	**P**	**18 36 24.2**	**-0.5**
	comp=N,2.9nm,0.7s,mb4.4						
ILAR	**Eielson Array**	**62.34**	**337**	P	**P**	**18 36 40.4**	**+0.3**
	comp=N,1.2nm,0.9s,mb4.0,baz=136,slow=3.0,SNR=7.4						
NOA	**NORSAR Array B**	**84.76**	**28**	LR	LR	19 16 49.4	
	comp=N,29nm,18.5s,MS3.7,baz=210,slow=36						
CM31	**Chiang Mai Arr**	**145.56**	**339**	*e*PKPdf	PKPdf	18 45 57.6	-0.7
CMAR	**Chiang Mai Arr**	**145.56**	**339**	PKP	PKPdf	18 45 57.3	-1.0
	comp=N,2.2nm,0.8s,baz=340,slow=3.6,SNR=17						

DJA 01 18:38:22.6±0.9**, 8.73S**×**115.73E, h106**^{km}±6^{km}**, MD5.5**/4**, 4C-3D, Error ellipse: s-maj=27.1km s-min=10.8km az=176.0, Bali region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RATI	**Rata**	**0.20**	**273**	⇓*i*Pn	P	18 38 37.3	-0.4
	102nm,0.2s						
RATI				⇑*i*Sn	S	18 38 48.2	-0.8
KEDI	**Kedomdong**	**0.45**	**57**	⇓*i*Pn	P	18 38 38.5	-0.4
	89nm,0.2s						
KEDI				⇑*i*Sn	S	18 38 50.3	-0.8
INGI	**Ingas**	**0.58**	**262**	*e*Pn	P	18 38 39.5	-0.3
	225nm,0.2s						
INGI				⇑*i*Sn	S	18 38 52.3	-0.5
KELI	**Kelakatan**	**1.33**	**293**	⇓*i*Pn	P	18 38 47.4	-0.2
KELI				⇑*i*Sn	S	18 39 04.6	-1.8

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*BJI **01** 18:40:07.3, 34.70N×74.94E, h25^{km}, mb3.5, ML3.7*
*IDC **01** 18:40:08.1±0.9, 35.41N×74.55E, mb4.0/9, mb1 4.2/11, mb1mx4.0/19, ML3.9/3, MS2.8/1, Ms1 2.8/1, ms1mx2.2/29, Error ellipse: s-maj=24.7km s-min=19.9km az=49.0*
*MOS **01** 18:40:11.7±0.9, 35.50N×74.56E, h33^{km}, mb4.4/5, Error ellipse: s-maj=26.4km s-min=10.4km az=91.8*
*NEIC **01** 18:40:11.6±0.6, 35.38N×74.60E, h25^{km}, mb3.6/5, Error ellipse: s-maj=16.5km s-min=6.8km az=57.0*
*NNC **01** 18:40:16.0±3.6, 35.32N×73.44E, h70^{km}±37^{km}, mpv3.9, Error ellipse: s-maj=40.0km s-min=23.0km az=52.0*
ISC 01 18:40:08.2±2.0**, 35.38N**±0.03×**74.60E**±0.09**, h13**^{km}±14^{km}**, n52, σ1$\overset{s}{.}$19**/57**, mb3.9**/10**, 6C-1D, Northwestern Kashmir**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**4.27**	**14**	*e*P	**Pn**	**18 41 22.5**	**+8.1**
KSH				S	**Sn**	**18 42 23.1**	**+19**
KSH				Smax			
	comp=N,100nm,1.0s						
KSH				Smax			
	comp=E,60nm,0.7s						
KLP	**Kalpa**	**4.90**	**141**	*e*P	**Pn**	**18 41 25.7**	**+2.3**
KKR	**Kurukshetra**	**5.72**	**160**	*e*P	**Pn**	**18 41 34.7**	**-0.3**
KKR				*e*		18 43 26.9	
	comp=Z,79nm,0.3s						
RTK	**Rohtak**	**6.52**	**166**	*e*P	**Pn**	**18 41 47.6**	**+1.5**
RTK				*e*		18 43 48.5	
	comp=Z,54nm,0.3s						
BHGR	**Bahadurgarh**	**6.96**	**163**	*e*P	**Pn**	**18 41 54.1**	**+1.7**
BHGR				*e*		18 44 08.4	
	comp=Z,175nm,0.2s						
NDI	**New Delhi**	**7.04**	**161**	*e*P	**Pn**	**18 41 52.0**	**-1.5**
NDI				*e*		18 43 46.5	
AYAN	**Aya Nagar**	**7.21**	**162**	*e*P	**Pn**	**18 41 56.9**	**+1.0**
AYAN				*e*		18 43 22.1	
AYAN				*e*		18 43 60.0	
	comp=Z,16nm,0.4s						
KHET	**Khetri**	**7.36**	**172**	*e*P	**Pn**	**18 41 57.6**	**-0.4**
KHET				*e*		18 44 05.1	
	comp=Z,19nm,0.4s						
KHET				*e*		18 44 13.4	
	comp=N,22nm,0.3s						
KUDL	**Kundal**	**7.39**	**167**	*e*P	**Pn**	**18 41 58.6**	**+0.2**
KUDL				*e*S	**Sn**	**18 43 22.6**	**-0.4**
KUDL				*e*		18 44 10.8	
	comp=Z,21nm,0.6s						
SONA	**Sohna**	**7.42**	**163**	*e*P	**Pn**	**18 42 00.5**	**+1.7**
SONA				*e*S	**Sn**	**18 43 22.1**	**-1.5**
SONA				*e*		18 44 16.7	
	comp=E,38nm,0.7s						
KK31	**Karatay Array**	**8.33**	**339**	⇑P	**P**	**18 42 10.5**	**-1.1**
	comp=E,3.5nm,0.6s,baz=155,slow=12,SNR=44						
KK31				⇓S	**Sn**	**18 43 41.7**	**-4.8**
	comp=E,7.5nm,0.8s,baz=155,slow=25,SNR=5.0						
KKAR	**Karatay Array**	**8.33**	**339**	*e*P	**P**	**18 42 10.5**	**-1.1**
KKAR				S	**Sn**	**18 43 41.7**	**-4.8**
KKAR				smax			
	comp=Z,1.0nm,0.3s						
KOLN	**Koldanda**	**10.79**	**132**	*e*P	**P**	**18 42 44.6**	**-0.8**
	comp=Z,8.3nm,0.3s						
GKN	**Gorkha**	**11.27**	**128**	*e*P	**P**	**18 42 51.1**	**-0.9**
	comp=Z,25nm,0.4s						
KKN	**Kakani**	**11.83**	**127**	*e*P	**P**	**18 42 58.2**	**-1.5**
	comp=Z,50nm,0.8s						
DMN	**Daman**	**11.84**	**128**	*e*P	**P**	**18 42 58.3**	**-1.5**
	comp=Z,15nm,0.3s						
PKI	**Pulchoki**	**12.07**	**127**	*e*P	**P**	**18 43 00.8**	**-2.0**
	comp=Z,26nm,0.5s						
MK31	**Makanchi Array**	**12.78**	**25**	⇑P	**P**	**18 43 22.7**	**+10**
	comp=Z,0.9nm,0.6s,baz=203,slow=11,SNR=11						
MKAR	**Makanchi Array**	**12.78**	**25**	Pn	**P**	**18 43 12.5**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=180,slow=12,SNR=4.2						
LSA	**Lhasa**	**15.06**	**107**	*e*P	**P**	**18 43 41.9**	**-0.4**
	comp=Z,3.6nm,0.9s						
KURK	**Kurchatov**	**15.60**	**10**	⇑P	**P**	**18 43 52.9**	**+3.7**
	comp=Z,5.1nm,1.4s,baz=217,slow=9.3,SNR=9.1						
KURK	**Kurchatov**	**15.60**	**10**	*i* P	**P**	**18 43 52.9**	**+3.7**
KURK				pmax	pmax		
	comp=Z,7.0nm,1.4s						
KURK	**Kurchatov**	**15.60**	**10**	*e*P	**P**	**18 43 53.0**	**+3.8**
	comp=Z,6.2nm,0.9s						
AB31	**Akbulak array**	**17.55**	**327**	⇑P	**P**	**18 44 11.1**	**-2.9**
	comp=Z,1.3nm,0.7s,baz=140,slow=9.7,SNR=15						
BVA0	**Borovoye Array**	**17.89**	**352**	⇑P	**P**	**18 44 19.4**	**+1.3**
	comp=Z,0.4nm,0.8s,baz=157,slow=11,SNR=9.6						
BVA0	**Borovoye Array**	**17.89**	**352**	*i* P	**P**	**18 44 19.4**	**+1.3**
BVAR	**Borovoye Array**	**17.89**	**352**	P	**P**	**18 44 19.1**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=161,slow=10,SNR=11						
BRVK	**Borovoye**	**17.93**	**352**	*e*P	**P**	**18 44 19.5**	**+0.9**
	comp=Z,2.3nm,0.8s						
ZRNK	**Zerenda**	**18.00**	**349**	⇑P	**P**	**18 44 19.6**	**0.0**
	comp=Z,1.5nm,0.7s						
ZRNK	**Zerenda**	**18.00**	**349**	P	**P**	**18 44 19.5**	**-0.1**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ZRNK	**Zerenda**	**18.00**	**349**	*e*P	**P**	**18 44 17.6**	**-2.0**
	comp=Z,1.0nm,0.5s						
ZAL	**Zalesovo**	**19.88**	**18**	P	**P**	**18 44 40.3**	**-1.5**
	comp=Z,2.2nm,0.3s,baz=175,slow=5.3,SNR=18						
ZAL				LR	LR	18 53 18.1	
	comp=Z,27nm,20.1s,baz=3.0,slow=40						
ZAL	**Zalesovo**	**19.88**	**18**	P	**P**	**18 44 40.3**	**-1.6**
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ZAL				MLR	MLR		
	comp=Z,27nm,20.1s						
NVS	**Novosibirsk**	**20.36**	**14**	*e*P	**P**	**18 44 45.2**	**-1.7**
GTA	**Gaotai**	**20.41**	**71**	*e*P	**P**	**18 44 49.0**	**+1.5**
GTA				AP		18 44 56.0	
GTA				XP		18 44 59.0	
GTA				AMB	AMB		
	comp=Z,2.0nm,0.8s						
ZAK	**Zakamensk**	**25.61**	**45**	*e*P	**P**	**18 45 39.5**	**+1.0**
SONM	**Songino Array**	**26.63**	**52**	P	**P**	**18 45 49.8**	**+1.7**
	comp=Z,0.8nm,0.6s,mb3.4,baz=251,slow=8.5,SNR=9.1						
CM31	**Chiang Mai Arr**	**27.37**	**122**	*e*P	**P**	**18 45 55.4**	**+0.3**
	comp=Z,4.7nm,1.0s,mb4.0						
TIA	**Tai'an**	**34.30**	**76**	*e*P	**P**	**18 46 50.5**	**-5.7**
AKASG	**Malin Array Be**	**35.91**	**310**	P	**P**	**18 47 09.6**	**-0.2**
	comp=Z,2.2nm,0.7s,mb4.2,baz=102,slow=9.2,SNR=3.2						
AKASG	**Malin Array Be**	**35.91**	**310**	P	**P**	**18 47 09.6**	**-0.2**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.7s						
FINES	**FINESS Array B**	**40.04**	**326**	P	**P**	**18 47 43.7**	**-0.6**
	comp=Z,0.4nm,0.4s,mb3.5,baz=120,slow=15,SNR=4.9						
ARCES	**ARCESS Array B**	**43.30**	**337**	P	**P**	**18 48 11.0**	**+0.3**
	comp=Z,6.2nm,1.1s,mb4.2,baz=106,slow=8.8,SNR=9.4						
ARCES	**ARCESS Array B**	**43.30**	**337**	P	**P**	**18 48 11.0**	**+0.3**
ARCES				pmax	pmax		
	comp=Z,6.0nm,1.1s						
ILAR	**Eielson Array**	**75.02**	**17**	P	**P**	**18 51 50.4**	**-0.1**
	comp=Z,0.8nm,0.4s,mb4.0,baz=301,slow=4.7,SNR=8.3						
ILAR	**Eielson Array**	**75.02**	**17**	P	**P**	**18 51 50.4**	**-0.1**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
DBIC	**Dimbokro**	**77.58**	**269**	P	**P**	**18 52 06.7**	**+0.8**
	comp=Z,7.0nm,1.1s,mb4.5,baz=34,slow=3.6,SNR=2.1						
DBIC	**Dimbokro**	**77.58**	**269**	P	**P**	**18 52 06.7**	**+0.8**
DBIC				pmax	pmax		
	comp=Z,7.0nm,1.1s						
WRA	**Warramunga Arr**	**78.93**	**124**	P	**P**	**18 52 14.1**	**+0.9**
	comp=Z,0.6nm,0.5s,mb3.8,baz=326,slow=5.7,SNR=13						
WRA	**Warramunga Arr**	**78.93**	**124**	P	**P**	**18 52 14.1**	**+0.9**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ASAR	**Alice Springs**	**81.23**	**127**	P	**P**	**18 52 26.1**	**+0.7**
	comp=Z,0.5nm,0.7s,mb3.6,baz=306,slow=5.8,SNR=6.2						
YKA	**Yellowknife Ar**	**82.18**	**4**	P	**P**	**18 52 29.8**	**+0.3**
	comp=Z,0.4nm,0.5s,mb3.6,baz=341,slow=5.6,SNR=4.4						

IDC 01 18:41:15.6±2.2**, 5.10N**×**127.69E, mb3.4**/3**, mb1 3.6**/3**, mb1mx3.4**/16**, Error ellipse: s-maj=149.0km s-min=26.2km az=67.0, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.73**	**165**	P	P	18 46 48.0	-1.6
	0.5nm,0.7s,baz=346,slow=10,SNR=5.0						
ASAR	**Alice Springs**	**29.23**	**168**	P	P	18 47 19.3	-2.2
	0.2nm,0.4s,baz=354,slow=7.6,SNR=11						
MKAR	**Makanchi Array**	**56.99**	**324**	P	P	18 51 03.0	-2.4
	0.2nm,0.5s,baz=116,slow=8.7,SNR=6.7						

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*IDC **01** 18:55:38.7±2.3, 59.83N×25.85E, mb1 3.1/3, mb1mx3.0/19, ML2.6/3, Error ellipse: s-maj=23.0km s-min=8.8km az=132.0*
*NAO **01** 18:55:42.9±4.5, 60.19N×25.23E, ML2.2*
*HEL **01** 18:55:43.7±0.1, 60.18N×25.19E, ML2.0, ML2.0(UPP), ML2.2(NAO), Explosion*
*BER **01** 18:55:43.2±3.3, 60.12N×25.44E, ML2.2(NAO)*
ISC 01 18:55:42.3±0.5**, 60.18N**±0.04×**25.20E**±0.06**, n27, σ1$\overset{s}{.}$17**/40**, Finland**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PVF	**Pernaja**	**0.49**	**41**	*e*P	**Pg**	**18 55 52.4**	**+0.3**
PVF				*e*S	**Sg**	**18 55 58.7**	**0.0**
VJF	**Virojoki**	**1.23**	**72**	*e*P	**Pb**	**18 56 05.2**	**-0.8**
VJF				*e*S	**Sb**	**18 56 20.9**	**-1.4**
FIA0	**FINESS Array S**	**1.34**	**18**	*e*P	**Pb**	**18 56 08.0**	**0.0**
FIA0				*e*S	**Sb**	**18 56 25.3**	**-0.4**
FIA0	**FINESS Array S**	**1.34**	**18**	Pn	**Pn**	**18 56 07.9**	**-0.4**
	baz=194,slow=14						
FIA0				Lg		18 56 25.4	
	baz=183,slow=37						
FINES	**FINESS Array B**	**1.34**	**18**	Pn	**Pn**	**18 56 08.0**	**-0.3**
	4.2nm,0.3s,baz=194,slow=17,SNR=140						
FINES				Lg		18 56 30.0	
	8.6nm,0.3s,baz=190,slow=24,SNR=37						
VSU	**Vasula**	**1.89**	**155**	*e*P	**Pn**	**18 56 17.2**	**+1.1**
VSU				*e*S	**Sn**	**18 56 42.0**	**+1.0**
KEF	**Keuruu**	**2.00**	**356**	*e*P	**Pn**	**18 56 19.9**	**+2.2**
KEF				*e*S	**Sn**	**18 56 46.1**	**+2.2**
KEF				MSG		18 56 49.0	
	comp=Z,9.0nm,0.1s						
KAF	**Kangasniemi**	**2.02**	**15**	*e*P	**Pn**	**18 56 19.5**	**+1.6**
KAF				*e*S	**Sn**	**18 56 45.6**	**+1.5**
KAF				MSG		18 56 48.4	
	comp=Z,6.2nm,0.1s						
SUF	**Sumiainen**	**2.59**	**10**	MSG		18 57 03.4	
	comp=Z,6.4nm,0.2s						
AAL	**Aland**	**2.60**	**272**	*e*P	**Pn**	**18 56 26.8**	**+0.6**
AAL				*e*S	**Sn**	**18 57 00.6**	**+1.6**
GRAU	**Graesoe**	**3.32**	**276**	*e*P	**Pn**	**18 56 36.2**	**-0.3**
NRTU	**Norrtaelje**	**3.34**	**264**	*e*P	**Pn**	**18 56 37.0**	**+0.2**
FLYU	**Flymyra**	**3.66**	**272**	*e*P	**Pn**	**18 56 40.8**	**-0.5**
NYNU	**Nynaeshamn**	**3.84**	**255**	*e*P	**Pn**	**18 56 44.1**	**+0.2**
IGGU	**Iggoen**	**3.96**	**284**	*e*P	**Pn**	**18 56 44.9**	**-0.7**
OSTU	**Oestervaala**	**4.03**	**274**	*e*P	**Pn**	**18 56 46.2**	**-0.3**
BACU	**Backbrunna**	**4.08**	**269**	*e*P	**Pn**	**18 56 47.4**	**+0.1**
ARNU	**Arnoeviken**	**4.11**	**295**	*e*P	**Pn**	**18 56 47.8**	**+0.1**
VIKU	**Vikbolandet**	**4.67**	**253**	*e*P	**Pn**	**18 56 56.2**	**+0.6**
FALU	**Falun**	**4.67**	**278**	*e*P	**Pn**	**18 56 54.9**	**-0.8**
HFS	**Hagfors**	**5.75**	**275**	Pn	**Pn**	**18 57 10.0**	**-0.9**
	baz=79,slow=14						
HFS				Sn	**Sn**	**18 58 13.8**	**-4.7**
	baz=71,slow=28						
HFS				Lg		18 58 43.5	
	baz=74,slow=28						
HFS	**Hagfors**	**5.75**	**275**	*e*P	**Pn**	**18 57 10.0**	**-0.9**
HFS				*e*S	**Sn**	**18 58 13.8**	**-4.7**
HFS				*e*SG	**Sg**	**18 58 43.5**	**-10**
HFS	**Hagfors**	**5.75**	**275**	Pn	**Pn**	**18 57 09.7**	**-1.3**
	comp=Z,0.0nm,0.3s,baz=94,slow=13,SNR=3.7						
HFS				Sn	**Sn**	**18 58 14.6**	**-4.0**
	comp=Z,0.1nm,0.3s,baz=80,slow=27,SNR=7.8						
HFS				Lg		18 58 45.9	
	comp=Z,0.1nm,0.3s,baz=83,slow=25,SNR=5.7						
NOA	**NORSAR Array B**	**6.94**	**283**	Pn	**Pn**	**18 57 24.9**	**-2.8**
	comp=Z,0.1nm,0.3s,baz=119,slow=24,SNR=2.5						
NOA				Sn	**Sn**	**18 58 43.1**	**-5.3**
	comp=Z,0.2nm,0.3s,baz=247,slow=19,SNR=2.6						
ARA0	**ARCESS Array S**	**9.40**	**1**	Pn	**P**	**18 57 58.5**	**-3.6**
	baz=180,slow=14						
ARA0				Sn	**Sn**	**18 59 40.6**	**-9.1**
	baz=183,slow=22						
ARA0	**ARCESS Array S**	**9.40**	**1**	*e*P	**P**	**18 57 58.5**	**-3.6**
ARA0				*e*S	**Sn**	**18 59 40.6**	**-9.1**
ARCES	**ARCESS Array B**	**9.40**	**1**	Pn	**P**	**18 57 58.5**	**-3.5**
	comp=Z,0.1nm,0.3s,baz=183,slow=13,SNR=7.1						

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*IDC **01** 19:07:49.3±3.8, 14.10N×92.97W, mb3.7/3, mb1 4.0/4, mb1mx3.8/18, ML3.1/2, Error ellipse: s-maj=69.1km s-min=40.3km az=154.0*
*MEX **01** 19:07:51.3±1.0, 13.87N×93.28W, h7^{km}±129^{km}, MD4.4*
*NEIC **01** 19:07:54.6±11.0, 14.13N×93.23W, h32^{km}±61^{km}, MD4.4(MEX), Error ellipse: s-maj=69.3km s-min=19.4km az=170.0*
ISC 01 19:07:49.2±3.4**, 13.9N**±0.1×**93.2W**±0.1**, h24**^{km}±27^{km}**, n12, σ1$\overset{s}{.}$15**/16**, mb3.6**/4**, Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CCIG	**Comitan**	**2.62**	**23**	*i* P	**Pn**	**19 08 32.0**	**+1.0**
CCIG				*i* S	**Sn**	**19 09 01.8**	**-0.5**
SCX	**San Cristobal**	**2.91**	**11**	*i* P	**Pn**	**19 08 35.0**	**-0.1**
SCX				*i* S	**Sn**	**19 09 11.0**	**+1.3**
CMIG	**Matias Romero**	**3.59**	**334**	*e*P	**Pn**	**19 08 43.9**	**-0.9**
CMIG				*i* S	**Sn**	**19 09 26.3**	**-0.7**
OXX	**Oaxaca**	**4.66**	**314**	*e*P	**Pn**	**19 09 00.0**	**0.0**
OXX				*i* S	**Sn**	**19 10 00.0**	**+6.0**
TEIG	**Tepich**	**7.89**	**36**	Pn	**Pn**	**19 09 41.6**	**-3.8**
	0.0nm,0.3s,baz=322,slow=19,SNR=2.0						
TEIG				Sn	**Sn**	**19 11 08.4**	**-6.5**
	0.0nm,0.3s,baz=307,slow=20,SNR=3.2						
TXAR	**Lajitas Array**	**18.19**	**329**	P	**P**	**19 12 03.9**	**+1.8**
	0.2nm,0.3s,baz=139,slow=9.6,SNR=3.5						
MIAR	**Mount Ida**	**20.59**	**359**	*e*P	**P**	**19 12 29.1**	**-0.1**
	1.6nm,0.7s						
WMOK	**Wichita Mounta**	**21.39**	**347**	*e*P	**P**	**19 12 35.1**	**-2.3**
	0.9nm,0.5s,mb3.4						
PDAR	**Pinedale Array**	**32.07**	**337**	P	**P**	**19 14 16.1**	**-0.4**
	0.5nm,0.4s,mb3.7,baz=142,slow=15,SNR=5.7						
NVAR	**Mina Array Bea**	**33.05**	**322**	P	**P**	**19 14 26.8**	**+1.6**
	0.4nm,0.7s,mb3.5,baz=139,slow=9.8,SNR=4.3						
YKA	**Yellowknife Ar**	**50.89**	**347**	P	**P**	**19 16 50.1**	**-0.1**
	1.1nm,0.7s,mb3.9,baz=148,slow=7.4,SNR=8.2						
CMAR	**Chiang Mai Arr**	**145.72**	**339**	PKPbc	PKPbc	19 27 30.1	+2.7
	0.7nm,0.8s,baz=341,slow=3.6,SNR=4.5						

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*NEIC **01** 19:09:40.9±0.9, 17.69N×145.46E, h262^{km}±9^{km}, mb3.9/3, Error ellipse: s-maj=16.2km s-min=8.8km az=79.0*
*IDC **01** 19:09:45.8±6.2, 17.63N×145.55E, h320^{km}±65^{km}, mb3.2/11, mb1 3.4/12, mb1mx3.3/22, Error ellipse: s-maj=25.4km s-min=12.1km az=78.0*
ISC 01 19:09:39.6±1.0**, 17.62N**±0.08×**145.5E**±0.1**, h267**^{km}±8^{km}**, n24, σ0$\overset{s}{.}$91**/26**, mb3.7**/16**, 1C, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SAPN	**Saipan**	**2.40**	**175**	⇑*e*P	**P**	**19 10 28.3**	**+0.8**
SAPN				*e*S	**S**	**19 11 04.8**	**+0.2**
GUMO	**Guam**	**4.06**	**189**	P	**P**	**19 10 49.6**	**+4.2**
GUMO				*e*S	**S**	**19 11 34.9**	**-1.6**
JOW	**Kunigami**	**18.41**	**303**	P	**P**	**19 13 38.2**	**+0.7**
	1.6nm,0.3s,baz=125,slow=15,SNR=7.2						
CTA	**Charters Tower**	**37.48**	**179**	P	**P**	**19 16 30.6**	**+1.0**
	1.6nm,0.7s,mb3.6,baz=335,slow=14,SNR=2.8						
WRAB	**Tennant Creek**	**38.90**	**197**	*e*P	**P**	**19 16 41.2**	**-0.1**
	3.9nm,0.6s,mb4.0						
WB2	**Warramunga Arr**	**38.91**	**197**	*e*P	**P**	**19 16 41.4**	**0.0**
WRA	**Warramunga Arr**	**38.91**	**197**	P	**P**	**19 16 41.3**	**-0.1**
	2.1nm,0.7s,mb3.7,baz=18,slow=8.6,SNR=25						
FITZ	**Fitzroy Crossi**	**40.53**	**210**	*e*P	**P**	**19 16 55.0**	**+0.2**
	2.3nm,1.4s,mb3.2						
FITZ	**Fitzroy Crossi**	**40.53**	**210**	P	**P**	**19 16 54.5**	**-0.3**
	0.9nm,0.4s,mb3.4,baz=181,slow=9.5,SNR=5.7						
ASAR	**Alice Springs**	**42.58**	**196**	P	**P**	**19 17 10.9**	**-0.4**
	0.3nm,0.4s,mb2.9,baz=19,slow=6.4,SNR=12						
ASPA	**Alice Springs**	**42.58**	**196**	*e*P	**P**	**19 17 12.3**	**+0.9**
SONM	**Songino Array**	**43.90**	**322**	P	**P**	**19 17 22.1**	**+0.5**
	0.4nm,0.5s,mb2.9,baz=141,slow=6.3,SNR=5.0						
CMAR	**Chiang Mai Arr**	**44.22**	**279**	P	**P**	**19 17 25.2**	**+0.7**
	1.4nm,0.9s,mb3.2,baz=75,slow=6.4,SNR=11						
LSA	**Lhasa**	**50.85**	**294**	*e*P	**P**	**19 18 17.2**	**+1.9**
	3.9nm,0.6s,mb3.9						
PKI	**Pulchoki**	**55.94**	**292**	*e*P	**P**	**19 18 51.9**	**-0.4**
	10nm,0.5s,mb4.5						
KKN	**Kakani**	**56.04**	**292**	*e*P	**P**	**19 18 53.0**	**0.0**
DMN	**Daman**	**56.20**	**292**	*e*P	**P**	**19 18 54.0**	**-0.2**
	6.6nm,0.4s,mb4.4						
GKN	**Gorkha**	**56.60**	**292**	*e*P	**P**	**19 18 56.6**	**-0.3**
	5.6nm,0.4s,mb4.3						
KOLN	**Koldanda**	**57.53**	**292**	*e*P	**P**	**19 19 03.1**	**-0.4**
MKAR	**Makanchi Array**	**59.10**	**314**	P	**P**	**19 19 13.6**	**-0.5**
	0.5nm,0.5s,mb3.2,baz=94,slow=8.1,SNR=9.2						
ILAR	**Eielson Array**	**64.68**	**26**	P	**P**	**19 19 49.2**	**-1.4**
	0.9nm,0.5s,mb3.7,baz=247,slow=6.3,SNR=9.8						
BVAR	**Borovoye Array**	**67.21**	**321**	P	**P**	**19 20 05.9**	**-0.9**
	0.8nm,0.5s,mb3.7,baz=112,slow=8.0,SNR=4.9						
NVAR	**Mina Array Bea**	**83.92**	**52**	P	**P**	**19 21 42.6**	**+1.5**
	0.5nm,0.6s,mb3.5,baz=268,slow=5.0,SNR=5.5						
FINES	**FINESS Array B**	**87.80**	**335**	P	**P**	**19 21 57.1**	**-2.2**
	2.3nm,1.0s,mb4.0,baz=180,slow=1.9,SNR=3.9						

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*IDC **01** 20:00:44.0±0.8, 8.78S×157.33E, mb4.4/11, mb1 4.6/12, mb1mx4.5/14, ML3.6/1, MS4.3/5, Ms1 4.2/5, ms1mx3.8/15, Error ellipse: s-maj=30.7km s-min=18.6km az=120.0*
*BJI **01** 20:00:45.5, 8.80S×157.30E, h10^{km}, mB5.3, mb4.6, Ms4.4, Msz4.4*
*NEIC **01** 20:00:45.5±0.4, 8.81S×157.34E, h10^{km}, mb4.8/10, MS4.7/1, Error ellipse: s-maj=14.8km s-min=7.6km az=124.0*
*HRVD **01** 20:00:45.5±0.6, 9.18S×157.63E, h21^{km}±1^{km}, MW4.8/33, Centroid moment Tensor Solution. LP body waves: s8,c10;Mantle waves: s33,c41; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.50±.28; $M_{\theta\theta}$-1.40±.19; $M_{\phi\phi}$-1.11±.19; $M_{r\theta}$0.66±.31; $M_{\theta\phi}$0.69±.11; $M_{\phi r}$0.04±.34; Best double couple: $M_0$2.31×10^{16} NP1:ϕ_s316°, δ39°, λ102°. NP2:ϕ_s120°, δ52°, λ80°. Principal axes: T 2.62, Plg80°,*

Azm347°; N -.61, Plg8°, Azm126°; P -2.01, Plg6°, Azm217°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

ISC 01 20:00:44.3±0.6**, 8.81S**±0.08×**157.3E**±0.1**, h10$^{\text{km}}$, (h22$^{\text{km}}$**±4.3$^{\text{km}}$**:pP-P), n49, σ0^{s}95**/46**, mb4.6**/26**, MS4.3**/9**, 1D, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**15.49**	**222**	*e*P	**P**	**20 04 20.5**	**-4.2**
	6.2nm,1.1s						
CTA	**Charters Tower**	**15.49**	**222**	Pn	**P**	**20 04 24.7**	**0.0**
	0.2nm,0.3s,baz=60,slow=12,SNR=4.2						
CTA	**Charters Tower**	**15.49**	**222**	Pn	**P**	**20 04 24.7**	**0.0**
CTAO	**Charters Tower**	**15.49**	**222**	*e*P	**P**	**20 04 24.6**	**-0.1**
WRAB	**Tennant Creek**	**24.81**	**241**	*e*P	**P**	**20 06 07.4**	**-0.7**
	20nm,1.0s,mb4.6						
WB2	**Warramunga Arr**	**24.81**	**241**	*e*P	**P**	**20 06 07.9**	**-0.2**
WRA	**Warramunga Arr**	**24.82**	**241**	P	**P**	**20 06 07.3**	**-0.9**
	13nm,1.0s,mb4.4,baz=66,slow=9.6,SNR=31						
WRA				LR	LR	20 15 38.1	
	comp=Z,692nm,18.4s,MS4.2,baz=50,slow=36						
ASAR	**Alice Springs**	**26.83**	**234**	P	**P**	**20 06 24.6**	**-2.3**
	4.2nm,1.1s,mb3.9,baz=64,slow=9.1,SNR=16						
ASAR				LR	LR	20 16 33.6	
	comp=Z,500nm,18.3s,MS4.1,baz=53,slow=35						
ASPA	**Alice Springs**	**26.83**	**234**	*e*P	**P**	**20 06 27.1**	**+0.2**
STKA	**Stephens Creek**	**27.20**	**210**	*e*P	**P**	**20 06 30.9**	**+0.6**
	14nm,0.6s,mb4.7						
STKA	**Stephens Creek**	**27.20**	**210**	P	**P**	**20 06 31.5**	**+1.3**
	16nm,0.6s,mb4.7,baz=36,slow=12,SNR=51						
STKA				LR	LR	20 16 38.3	
	comp=Z,363nm,21.5s,MS3.9,baz=25,slow=35						
STKA	**Stephens Creek**	**27.20**	**210**	*e*P	**P**	**20 06 30.3**	**0.0**
FITZ	**Fitzroy Crossi**	**32.11**	**250**	*e*P	**P**	**20 07 14.5**	**+0.3**
CN2	**Changchun**	**59.81**	**334**	*e*P	**P**	**20 10 51.5**	**-0.7**
ENH	**Enshi**	**60.15**	**312**	*e*P	**P**	**20 10 53.5**	**-1.2**
XAN	**Xi’an**	**62.60**	**316**	P	**P**	**20 11 10.3**	**-0.9**
XAN				AP	pP	20 11 23.1	+8.8
XAN				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.8						
KMI	**Kunming**	**62.93**	**304**	*e*P	**P**	**20 11 13.6**	**+0.1**
KMI				S	**S**	**20 19 43.9**	**+2.2**
KMI				AMB	AMB		
	comp=Z,7.0nm,1.9s,mb4.5						
KMI				AMB	AMB		
	comp=Z,128nm,4.4s						
KMI				LR	LR		
	comp=N,105nm,17.9s,MS4.2						
KMI				LR	LR		
	comp=E,95nm,17.9s,MS4.2						
KMI				LR	LR		
	comp=Z,129nm,14.3s,MS4.2						
CMAR	**Chiang Mai Arr**	**63.64**	**296**	P	**P**	**20 11 18.7**	**+0.4**
	comp=Z,2.2nm,0.7s,mb4.3,baz=127,slow=5.2,SNR=16						
CD2	**Chengdu**	**64.73**	**310**	*e*P	**P**	**20 11 25.2**	**-0.1**
HHC	**Hu-ho-hao-te**	**64.91**	**323**	*e*P	**P**	**20 11 28.7**	**+2.4**
HHC				AP	pP	20 11 35.8	+6.4
HHC				XP	sP	20 11 41.0	+10
HHC				AMB	AMB		
	comp=Z,8.0nm,0.6s,mb4.9						
HHC				AMB	AMB		
	comp=Z,108nm,4.8s						
LZH	**Lanzhou**	**67.21**	**315**	⇓P	**P**	**20 11 42.1**	**+1.0**
LZH				AP	pP	20 11 46.1	+1.9
LZH				XP	sP	20 11 50.6	+5.2
LZH				AMB	AMB		
	comp=Z,39nm,1.3s,mb5.3						
LZH				LR	LR		
	comp=N,224nm,12.3s						
LZH				LR	LR		
	comp=Z,297nm,15.2s,MS4.6						
GTA	**Gaotai**	**71.63**	**316**	*e*P	**P**	**20 12 08.3**	**+0.1**
GTA				AP	pP	20 12 16.1	+4.8
GTA				XP	sP	20 12 18.8	+6.4
GTA				PP	PP	20 14 53.6	+4.6
GTA				S	S	20 21 32.3	+6.1
GTA				XS		20 21 43.3	
GTA				AMB	AMB		
	comp=Z,5.0nm,1.1s,mb4.4						
GTA				AMB	AMB		
	comp=Z,31nm,4.2s						
GTA				LR	LR		
	comp=N,44nm,16.0s,MS4.0						
GTA				LR	LR		
	comp=E,40nm,14.4s,MS4.0						
SONM	**Songino Array**	**72.10**	**327**	P	**P**	**20 12 11.1**	**+0.3**
	comp=E,2.7nm,1.0s,mb4.1,baz=137,slow=5.5,SNR=16						
SHL	**Shillong**	**72.19**	**300**	*e*P	**P**	**20 12 12.0**	**+0.2**
YAK	**Yakutsk**	**73.82**	**347**	*e*P	**P**	**20 12 19.8**	**-0.8**
	comp=E,21nm,0.9s,mb5.1						
LSA	**Lhasa**	**74.19**	**304**	*e*P	**P**	**20 12 24.7**	**+1.2**
	comp=E,5.5nm,1.0s,mb4.4						
PKI	**Pulchoki**	**78.32**	**300**	*e*P	**P**	**20 12 47.6**	**+0.9**
KKN	**Kakani**	**78.49**	**301**	*e*P	**P**	**20 12 48.1**	**+0.4**
	comp=E,12nm,1.0s,mb4.8						
DMN	**Daman**	**78.59**	**300**	*e*P	**P**	**20 12 48.8**	**+0.6**
	comp=E,42nm,1.4s,mb5.2						
GKN	**Gorkha**	**79.10**	**301**	*e*P	**P**	**20 12 51.0**	**0.0**
	comp=E,36nm,1.2s,mb5.2						
KOLN	**Koldanda**	**79.92**	**300**	*e*P	**P**	**20 12 54.5**	**-0.9**
	comp=E,13nm,1.0s,mb4.8						
QSPA	**South Pole Qui**	**81.18**	**180**	*e*P	**P**	**20 13 02.1**	**+1.0**
	comp=E,13nm,1.1s,mb4.8						
QSPA				LR	LR		
	comp=Z,320nm,21.0s,MS4.7						
SML	**Sawmill**	**81.97**	**23**	*e*P	**P**	**20 13 04.6**	**-0.9**
MCK	**McKinley**	**82.89**	**21**	*e*P	**P**	**20 13 08.4**	**-1.8**
	comp=Z,6.7nm,1.1s,mb4.6						
MAW	**Mawson**	**83.62**	**203**	P	**P**	**20 13 14.5**	**+0.6**
	comp=Z,5.5nm,1.0s,mb4.6,baz=58,slow=6.7,SNR=6.8						
ILAR	**Eielson Array**	**84.22**	**21**	P	**P**	**20 13 15.2**	**-1.8**
	comp=Z,0.6nm,0.6s,mb3.9,baz=266,slow=5.4,SNR=8.4						
MKAR	**Makanchi Array**	**86.28**	**318**	P	**P**	**20 13 27.7**	**0.0**
	comp=Z,2.0nm,0.7s,mb4.5,baz=99,slow=6.6,SNR=21						
MKAR	**Makanchi Array**	**86.28**	**318**	P	**P**	**20 13 27.7**	**0.0**
ZAL	**Zalesovo**	**86.97**	**326**	P	**P**	**20 13 30.0**	**-0.8**
	comp=Z,0.8nm,0.6s,mb4.1,baz=284,slow=5.8,SNR=6.2						
ZAL	**Zalesovo**	**86.97**	**326**	P	**P**	**20 13 30.0**	**-0.8**
DLBC	**Dease Lake**	**88.53**	**30**	LR	LR	20 48 15.9	
	comp=Z,200nm,19.4s,MS4.5,baz=236,slow=32						
NVAR	**Mina Array Bea**	**91.04**	**51**	P	**P**	**20 13 51.0**	**+0.5**
	comp=Z,0.9nm,0.8s,mb4.1,baz=233,slow=5.1,SNR=5.3						
NVAR	**Mina Array Bea**	**91.04**	**51**	P	**P**	**20 13 51.0**	**+0.5**
NEW	**Newport**	**93.56**	**42**	LR	LR	20 51 45.9	
	comp=Z,125nm,18.7s,MS4.4,baz=117,slow=33						
YKA	**Yellowknife Ar**	**96.86**	**28**	P	**P**	**20 14 17.1**	**+0.6**
	comp=Z,1.0nm,0.9s,mb4.3,baz=275,slow=4.7,SNR=3.5						
YKA	**Yellowknife Ar**	**96.86**	**28**	P	**P**	**20 14 17.1**	**+0.6**
BOZ	**Bozeman (W)**	**96.96**	**45**	*e*P	**P**	**20 14 19.0**	**+1.6**
	comp=Z,3.7nm,0.8s,mb4.9						
ESDC	**Sonseca Array**	**145.00**	**334**	PKP	PKPdf	20 20 23.1	-2.1
	comp=Z,1.5nm,0.9s,baz=27,slow=2.8,SNR=4.5						
BDFB	**Brasilia**	**145.08**	**134**	PKPbc	PKPbc	20 20 23.7	+0.4
	comp=Z,7.2nm,0.8s,baz=257,slow=4.2,SNR=6.1						

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*MDD **01** 20:34:27.4±1.8, 36.92N×8.31W, mbLg1.5/5, Error ellipse: s-maj=12.9km s-min=6.1km az=15.0, PRXIMO*

INMG 01 20:34:27.9±0.6**, 36.94N**×**8.32W, h4$^{\text{km}}$**±5$^{\text{km}}$**, ML1.4, Error ellipse: s-maj=3.6km s-min=2.4km az=16.0, West of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PTEO	**Sao Teotonio**	**0.69**	**332**	*e*Pg	Pg	20 34 40.4	-1.2
PTEO				*e*Sg	Sg	20 34 50.0	-0.8
	5.3nm,0.2s						
PTEO	**Sao Teotonio**	**0.69**	**332**	Pg	Pg	20 34 40.4	-1.2
PTEO				Lg		20 34 50.0	
	2.7nm,0.2s						
PALC	**Alcoutim**	**0.85**	**52**	*e*P	Pb	20 34 43.6	-1.2
PALC				*e*S	Sg	20 34 55.1	-1.2
	4.8nm,0.2s						
PALC	**Alcoutim**	**0.85**	**52**	P	Pb	20 34 43.6	-1.2
PALC				S	Sg	20 34 55.1	-1.2
	2.4nm,0.2s						
EGRO	**El Granado**	**0.89**	**48**	P	Pb	20 34 43.6	-1.9
	3.8nm,0.1s,SNR=9.3						
EGRO				S	Sb	20 34 56.3	-1.2
	3.3nm,0.1s,SNR=7.2						
PBEJ	**Beja**	**1.14**	**18**	*e*P	Pb	20 34 48.4	-1.4
PBEJ				*e*S	Sb	20 35 04.3	-0.5
	4.1nm,0.1s						
PBEJ	**Beja**	**1.14**	**18**	P	Pb	20 34 48.4	-1.4
PBEJ				S	Sb	20 35 04.3	-0.5
	2.0nm,0.1s						
EMIN	**Mina Concepcio**	**1.55**	**57**	P	Pn	20 34 54.6	-1.8
	0.4nm,0.1s,SNR=9.5						
EMIN				S	Sb	20 35 15.3	-1.4
	0.8nm,0.2s,SNR=7.9						
MOE	**Montemor**	**1.58**	**359**	*e*Sg	Sg	20 35 18.1	-2.5
EBAD	**Badajoz**	**2.09**	**29**	P	Pn	20 35 04.8	+0.7
	0.6nm,0.1s,SNR=4.0						
EBAD				S	Sn	20 35 30.5	-0.3
	1.1nm,0.1s,SNR=6.4						
PCBR	**Castelo Branco**	**2.97**	**13**	*e*Sg	Sg	20 35 59.9	-6.9
EADA	**Adamuz**	**3.21**	**66**	S	Sn	20 35 54.5	-4.9
	0.6nm,0.3s,SNR=7.9						

DJA 01 20:47:10.8±1.2**, 9.32S**×**115.08E, h80$^{\text{km}}$, MD5.8**/4**, 5C-3D, Error ellipse: s-maj=35.2km s-min=12.5km az=9.0, South of Bali**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
INGI	**Ingas**	**0.50**	**7**	⇑*i*Pn	P	20 47 21.4	-3.3
INGI				⇑*i*Sn	S	20 47 30.6	-4.5
RATI	**Rata**	**0.74**	**37**	⇑*i*Pn	P	20 47 26.6	-0.6
RATI				⇓*i*Sn	S	20 47 35.7	-3.6
KELI	**Kelakatan**	**1.25**	**332**	⇓*i*Pn	P	20 47 32.5	-0.7
KELI				⇑*i*Sn	S	20 47 48.7	-1.3
KEDI	**Kedomdong**	**1.31**	**51**	⇑*i*Pn	P	20 47 37.7	+3.5
KEDI				⇓*i*Sn	S	20 47 49.5	-2.0

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*IDC **01** 20:50:46.9±1.1, 4.92N×127.20E, mb4.1/7, mb1 4.3/7, mb1mx4.0/19, MS3.3/1, Ms1 3.3/1, ms1mx2.9/21, Error ellipse: s-maj=84.0km s-min=15.7km az=71.0*

*NEIC **01** 20:50:48.5±0.6, 4.83N×126.97E, h10$^{\text{km}}$, mb4.3/6, Error ellipse: s-maj=39.1km s-min=7.2km az=71.0*

*MAN **01** 20:51:14.1, 6.12N×125.98E, h5$^{\text{km}}$*

ISC 01 20:50:49.4±0.7**, 5.0N**±0.1×**127.5E**±0.2**, h33$^{\text{km}}$, n24, σ1^{s}23**/23**, mb4.1**/12**, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MATI	**Mati**	**2.33**	**327**	*e*P	**P**	**20 51 31.0**	**+5.0**
GSPH	**General Santos**	**2.79**	**293**	*e*P	**P**	**20 51 29.0**	**-3.7**
BUKP	**Musuan**	**3.78**	**320**	*e*P	**P**	**20 51 48.5**	**+1.7**
BUTP	**Butuan**	**4.39**	**335**	*e*P	**P**	**20 52 04.0**	**+8.5**
PAGZ	**Pagadian**	**5.00**	**305**	*e*P	**P**	**20 52 05.7**	**+1.5**
IPIL	**Ipil**	**5.66**	**300**	*e*P	**P**	**20 52 13.5**	**+0.3**
TGY	**Tagaytay City**	**11.15**	**325**	LR	LR	20 58 22.9	
	comp=Z,133nm,18.6s,baz=206,slow=41						
FITZ	**Fitzroy Crossi**	**23.01**	**185**	*e*P	**P**	**20 55 52.8**	**+0.2**
	1.9nm,0.6s,mb3.7						
FITZ	**Fitzroy Crossi**	**23.01**	**185**	P	**P**	**20 55 54.2**	**+1.6**
	1.9nm,0.5s,mb3.8,baz=342,slow=5.0,SNR=10						
WRAB	**Tennant Creek**	**25.65**	**165**	*e*P	**P**	**20 56 18.6**	**+0.6**
	7.8nm,0.7s,mb4.3						
WRA	**Warramunga Arr**	**25.66**	**165**	P	**P**	**20 56 18.2**	**+0.1**
	5.9nm,0.7s,mb4.2,baz=343,slow=10,SNR=41						
WB2	**Warramunga Arr**	**25.66**	**165**	*e*P	**P**	**20 56 19.0**	**+0.8**
MBWA	**Marble Bar**	**27.07**	**196**	*e*P	**P**	**20 56 28.4**	**-2.8**
	5.7nm,0.8s,mb4.2						
ASAR	**Alice Springs**	**29.14**	**168**	P	**P**	**20 56 49.5**	**-0.3**
	1.6nm,0.6s,mb3.9,baz=358,slow=8.8,SNR=35						
ASPA	**Alice Springs**	**29.14**	**168**	*e*P	**P**	**20 56 49.4**	**-0.4**
STKA	**Stephens Creek**	**39.02**	**161**	*e*P	**P**	**20 58 16.0**	**+1.3**
	4.5nm,0.6s,mb4.4						
STKA	**Stephens Creek**	**39.02**	**161**	P	**P**	**20 58 16.1**	**+1.3**
	8.2nm,0.8s,mb4.5,baz=342,slow=7.7,SNR=16						
STKA	**Stephens Creek**	**39.02**	**161**	*e*P	**P**	**20 58 15.9**	**+1.2**
SONM	**Songino Array**	**46.38**	**340**	P	**P**	**20 59 15.5**	**+1.0**
	1.0nm,0.8s,mb3.8,baz=158,slow=6.7,SNR=7.2						
MKAR	**Makanchi Array**	**57.00**	**324**	P	**P**	**21 00 33.0**	**-1.3**
	0.4nm,0.4s,mb3.8,baz=117,slow=7.6,SNR=19						
KURK	**Kurchatov**	**61.13**	**327**	*e*P	**P**	**21 01 00.6**	**-2.2**
	1.0nm,0.4s,mb4.3						
BVAR	**Borovoye Array**	**66.72**	**326**	P	**P**	**21 01 38.9**	**-0.3**
	1.0nm,0.6s,mb4.0,baz=117,slow=6.6,SNR=5.3						
BRVK	**Borovoye**	**66.79**	**326**	*e*P	**P**	**21 01 39.4**	**-0.3**
	1.7nm,0.7s,mb4.2						
ZRNK	**Zerenda**	**67.45**	**326**	*e*P	**P**	**21 01 42.8**	**-1.0**
	1.2nm,0.5s,mb4.2						

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*NEIC **01** 20:52:54.5, 31.01S×71.30W, h58$^{\text{km}}$, MD3.4(GUC), After GUC.*

GUC 01 20:52:54.5±0.9**, 31.01S**×**71.30W, h58$^{\text{km}}$**±4$^{\text{km}}$**, MD3.4, ML3.4, 3C-2D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.30**	**124**	⇓*i*P	P	20 53 04.8	+0.3
CMCH				*i* S	S	20 53 12.7	+0.9
CMCH				AMP		20 53 13.7	
	comp=E,8µm,0.6s						
OVCH	**Ovalle**	**0.41**	**12**	⇓*i*P	P	20 53 05.8	+0.4
OVCH				*i* S	S	20 53 14.3	+0.9
OVCH				AMP		20 53 15.2	
	comp=E,4µm,0.1s						
ILCH	**Illapel**	**0.64**	**170**	*i* P	P	20 53 08.0	+0.1
ILCH				*i* S	S	20 53 18.2	+0.3
ILCH				AMP		20 53 19.4	
	comp=N,3µm,0.2s						
TLL	**Tololo Astrono**	**0.94**	**27**	⇑*i*P	P	20 53 12.5	+0.7
TLL				*i* S	S	20 53 26.1	+1.4
TLL				AMP		20 53 27.1	
	comp=E,1µm,0.4s						
LSCH	**La Serena**	**1.09**	**2**	*i* P	P	20 53 14.2	+0.2
LSCH				*i* S	S	20 53 28.4	-0.1
LSCH				AMP		20 53 29.6	
	comp=E,870nm,0.3s						
FCH	**Farellones**	**2.47**	**160**	⇑*i*P	P	20 53 33.6	+0.4
FCH				*i* S	S	20 54 03.1	+0.9
FCH				AMP		20 54 10.8	
	comp=E,156nm,0.2s						
RCDM	**Rinconada Maip**	**2.51**	**171**	*e*P	P	20 53 33.2	-0.6
RCDM				*i* S	S	20 54 03.3	0.0
RCDM				AMP		20 54 12.2	
	comp=E,325nm,0.2s						
LMEL	**Las Melosas**	**2.98**	**162**	⇑*i*P	P	20 53 40.8	+0.3
LMEL				*i* S	S	20 54 15.4	+0.2
LMEL				AMP		20 54 23.2	
	comp=N,227nm,0.3s						

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*SYO **01** 20:58:32.4, 55.83S×27.47W, h95$^{\text{km}}$, MB5.0*

*BJI **01** 20:58:33.7, 55.80S×27.50W, h107$^{\text{km}}$, mB4.9*

*HRVD **01** 20:58:33.7±0.6, 55.84S×27.07W, h126$^{\text{km}}$±9$^{\text{km}}$, MW4.9/34, Centroid moment Tensor Solution. LP body waves: s8,c9; Mantle waves: s34,c40; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.79±.29; $M_{\theta\theta}$0.45±.36; $M_{\phi\phi}$0.33±.28; $M_{r\theta}$-2.43±.20; $M_{\theta\phi}$1.28±.25; $M_{\phi r}$0.75±.16; Best double couple: $M_0$2.86×10^{16} NP1:ϕ_s197°, δ29°, λ-164°. NP2: ϕ_s93°, δ82°, λ-62°. Principal axes: T 2.51, Plg32°, Azm160°; N .71, Plg28°, Azm269°; P -3.22, Plg45°, Azm31°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*IDC **01** 20:58:33.1±2.0, 55.89S×27.50W, h99$^{\text{km}}$±16$^{\text{km}}$, mb4.5/11, mb1 4.6/11, mb1mx4.6/13, MS3.8/5, Ms1 3.7/5, ms1mx3.6/12 Error ellipse: s-maj=19.5km s-min=14.7km az=31.0*

*NEIC **01** 20:58:33.7±1.9, 55.84S×27.49W, h107$^{\text{km}}$±17$^{\text{km}}$, mb5.0/17, Error ellipse: s-maj=11.3km s-min=7.5km az=223.0*

ISC 01 20:58:28.3±2.9**, 55.76S**±0.07×**27.5W**±0.1**, h69$^{\text{km}}$**±27$^{\text{km}}$**, n71, σ1^{s}15**/37**, mb4.9**/23**, 2C-5D, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**17.12**	**158**	⇓*i*	**P**	**21 02 25.2**	**+1.2**
VNA2	**Neumayer--Watz**	**17.52**	**158**	⇓*i*	**P**	**21 02 29.9**	**+0.9**
SNAA	**Sanae**	**19.07**	**156**	⇑*i*	**P**	**21 02 45.1**	**-2.3**
PMSA	**Palmer Station**	**19.98**	**228**	*e*P	**P**	**21 02 57.1**	**-0.1**
	78nm,0.7s						
USHA	**Ushuaia**	**23.12**	**255**	P	**P**	**21 03 29.0**	**+0.5**
	9.9nm,0.7s,mb4.3,baz=88,slow=7.7,SNR=8.8						
USHA				LR	LR	21 10 02.5	
	comp=Z,222nm,21.4s,baz=83,slow=30						
TRQA	**Tornquist**	**29.07**	**293**	*e*P	**P**	**21 04 23.1**	**-0.9**
	3.6nm,0.7s,mb4.1						
SYO	**Syowa Base**	**31.91**	**141**	⇓P	**P**	**21 04 47.0**	**-1.7**
SYO	**Syowa Base**	**31.91**	**141**	⇑pP	pP	21 05 07.3	+1.9
SYO	**Syowa Base**	**31.91**	**141**	⇓sP	sP	21 05 17.1	+3.4
SYO	**Syowa Base**	**31.91**	**141**	⇓PnPn		21 05 48.4	
QSPA	**South Pole Qui**	**34.50**	**180**	*e*P	**P**	**21 05 10.5**	**-0.5**
	54nm,0.5s,mb5.6						
QSPA				*e*		21 11 17.8	
QSPA				LR	LR		
	comp=Z,170nm,21.3s						
CPUP	**Villa Florida**	**36.51**	**311**	P	**P**	**21 05 28.9**	**+0.3**
	comp=Z,16nm,0.9s,mb5.0,baz=147,slow=7.0,SNR=27						
CPUP				LR	LR	21 20 22.5	
	comp=Z,49nm,18.9s,baz=165,slow=36						
CPUP	**Villa Florida**	**36.51**	**311**	*e*P	**P**	**21 05 28.4**	**-0.2**
	comp=Z,23nm,1.0s,mb5.0						
MAW	**Mawson**	**40.48**	**144**	P	**P**	**21 06 00.7**	**-0.5**
	comp=Z,4.9nm,0.5s,mb4.6,baz=222,slow=7.8,SNR=33						
MAW				LR	LR	21 19 31.8	
	comp=Z,95nm,21.2s,baz=44,slow=31						
MAW	**Mawson**	**40.48**	**144**	*e*P	**P**	**21 06 00.4**	**-0.8**
	comp=Z,7.1nm,0.6s,mb4.7						
SUR	**Sutherland**	**40.71**	**75**	P	**P**	**21 06 05.0**	**+1.5**
	comp=Z,27nm,0.9s,mb5.1,baz=232,slow=6.8,SNR=6.6						
SUR	**Sutherland**	**40.71**	**75**	*e*P	**P**	**21 06 05.5**	**+2.0**
	comp=Z,40nm,1.0s,mb5.2						
BDFB	**Brasilia**	**43.03**	**330**	P	**P**	**21 06 24.3**	**+1.6**
	comp=Z,5.2nm,0.6s,mb4.5,baz=157,slow=4.2,SNR=8.0						
BDFB				LR	LR	21 20 59.6	
	comp=Z,112nm,18.4s,baz=243,slow=31						
BOSA	**Boshof**	**46.04**	**76**	*e*P	**P**	**21 06 46.9**	**+0.3**
	comp=Z,12nm,0.8s,mb4.7						
TSUM	**Tsumeb**	**49.67**	**61**	P	**P**	**21 07 15.4**	**+0.5**
	comp=Z,18nm,0.7s,mb5.1,baz=192,slow=7.4,SNR=45						
TSUM	**Tsumeb**	**49.67**	**61**	*e*P	**P**	**21 07 15.1**	**+0.2**
	comp=Z,20nm,0.8s,mb5.1						
LPAZ	**La Paz**	**50.09**	**305**	P	**P**	**21 07 19.7**	**+1.5**
	comp=Z,8.0nm,0.3s,mb5.1,baz=124,slow=3.3,SNR=22						
LPAZ	**La Paz**	**50.09**	**305**	*e*P	**P**	**21 07 19.1**	**+0.9**
	comp=Z,7.2nm,0.4s,mb5.0						
CASY	**Casey**	**54.24**	**161**	*e*P	**P**	**21 07 47.5**	**-1.1**
	comp=Z,13nm,0.9s,mb5.0						
SAML	**Samuel**	**54.49**	**315**	*e*P	**P**	**21 07 50.1**	**-1.0**
	comp=Z,21nm,1.0s,mb5.1						
NNA	**Nana**	**57.98**	**299**	P	**P**	**21 08 15.5**	**-0.5**
	comp=Z,5.9nm,0.8s,mb4.7						
LIC	**Lamto**	**64.49**	**25**	*e*P	**P**	**21 08 58.9**	**-1.0**
	comp=Z,70nm,0.9s,mb5.5						
KIC	**Kosan Boka**	**64.69**	**25**	*e*P	**P**	**21 09 00.4**	**-0.8**
	comp=Z,75nm,0.9s,mb5.5						
TIC	**Toumodi**	**64.89**	**25**	*e*P	**P**	**21 09 01.2**	**-1.3**
	comp=Z,281nm,1.3s,mb5.9						
DBIC	**Dimbokro**	**64.96**	**25**	P	**P**	**21 09 01.8**	**-1.1**
	comp=Z,8.3nm,0.6s,mb4.8,baz=182,slow=8.8,SNR=12						
DBIC	**Dimbokro**	**64.96**	**25**	*e*P	**P**	**21 09 01.5**	**-1.5**
	comp=Z,11nm,0.8s,mb4.7						
SDV	**Santo Domingo**	**73.69**	**315**	*e*P	**P**	**21 09 56.3**	**-0.1**
	comp=Z,12nm,0.9s,mb4.6						
KMBO	**Kilima Mbogo**	**75.07**	**69**	P	**P**	**21 10 08.5**	**+4.2**
	comp=Z,0.4nm,0.8s,baz=34,slow=20,SNR=4.2						
KLBR	**Kellerberrin**	**88.06**	**151**	*e*P	**P**	**21 11 13.4**	**+1.6**
	comp=Z,41nm,1.7s,mb5.2						
FORT	**Forrest**	**91.30**	**159**	*e*P	**P**	**21 11 28.9**	**+1.8**
	comp=Z,16nm,0.4s,mb5.5						
STKA	**Stephens Creek**	**92.22**	**171**	*e*P	**P**	**21 11 31.7**	**+0.4**
	comp=Z,2.3nm,0.6s,mb4.6						
STKA	**Stephens Creek**	**92.22**	**171**	P	**P**	**21 11 31.5**	**+0.2**
	comp=Z,2.4nm,0.7s,mb4.6,baz=140,slow=3.7,SNR=14						
STKA				LR	LR	21 52 02.0	
	comp=Z,116nm,19.8s,baz=204,slow=35						
ESDC	**Sonseca Array**	**97.14**	**18**	P	**P**	**21 11 55.9**	**+2.4**
	comp=Z,0.6nm,0.5s,mb4.3,baz=195,slow=4.8,SNR=5.5						
ASPA	**Alice Springs**	**99.31**	**163**	*e*P	**P**	**21 12 04.3**	**+0.6**
ASAR	**Alice Springs**	**99.32**	**163**	P	**P**	**21 12 02.5**	**-1.2**
	comp=Z,3.4nm,0.7s,mb5.0,baz=186,slow=3.6,SNR=35						
ASAR				PP	PP	21 16 04.6	-5.0
	comp=Z,1.1nm,0.7s,baz=186,slow=6.4,SNR=6.6						
ASAR				PKKP	PKKP	21 28 25.9	+5.5
	comp=Z,0.4nm,0.7s,baz=30,slow=1.9,SNR=6.0						
WRA	**Warramunga Arr**	**103.03**	**162**	P	Pdif	21 12 20.1	-0.3
	comp=Z,0.4nm,0.5s,baz=195,slow=4.5,SNR=7.3						
WRA				PP	PP	21 16 35.0	-3.4
	comp=Z,1.7nm,0.8s,baz=188,slow=6.1,SNR=8.2						
WRA				PKKPbc		21 28 15.7	
	comp=Z,0.2nm,0.3s,baz=359,slow=2.9,SNR=8.6						
BRTR	**Keskin Array B**	**108.32**	**45**	PP	PP	21 17 14.2	-3.0
	comp=Z,0.4nm,0.4s,baz=194,slow=10,SNR=4.4						
FINES	**FINESS Array B**	**124.19**	**28**	PKP	PKPdf	21 17 17.9	-0.2
	comp=Z,2.2nm,0.5s,baz=162,slow=6.0,SNR=29						
KOLN	**Koldanda**	**124.21**	**90**	*e*P	PKPdf	21 17 18.4	-0.5
	comp=Z,5.6nm,0.5s						
DMN	**Daman**	**124.94**	**91**	*e*P	PKPdf	21 17 19.8	-0.5
	comp=Z,2.2nm,0.5s						
GKN	**Gorkha**	**124.97**	**91**	*e*P	PKPdf	21 17 19.1	-1.2
KKN	**Kakani**	**125.17**	**91**	*e*P	PKPdf	21 17 20.8	+0.1
CMAR	**Chiang Mai Arr**	**125.31**	**111**	PKP	PKPdf	21 17 21.8	+0.6
	comp=Z,2.2nm,0.7s,baz=228,slow=3.9,SNR=16						
ARCES	**ARCESS Array B**	**130.72**	**22**	PKP	PKPdf	21 17 30.4	+0.2
	comp=Z,2.0nm,0.5s,baz=201,slow=1.8,SNR=32						
ARCES				SKPbc		21 20 41.4	
	comp=Z,5.2nm,1.1s,baz=12,slow=22,SNR=2.3						
ARCES	**ARCESS Array B**	**130.72**	**22**	PKP	PKPdf	21 17 30.4	+0.2
ARCES				SKPbc		21 20 41.4	
ARU	**Arti**	**131.61**	**48**	*e*PKPdf	PKPdf	21 17 31.7	-0.5
KMI	**Kunming**	**132.76**	**109**	*e*PKP	PKPdf	21 17 38.0	+2.7
KMI				PP	PP	21 20 06.1	+1.7
KMI				LR	LR		
	comp=Z,47nm,18.3s						
ZRNK	**Zerenda**	**134.04**	**57**	*e*PKPdf	PKPdf	21 17 37.1	+0.3
YKA	**Yellowknife Ar**	**135.85**	**318**	PKP	PKPdf	21 17 39.9	0.0
	comp=Z,3.1nm,0.9s,baz=127,slow=2.3,SNR=8.5						
YKA				SKPbc		21 21 01.8	
	comp=Z,3.7nm,0.9s,baz=123,slow=2.1,SNR=8.1						
MKAR	**Makanchi Array**	**136.93**	**71**	PKhKP		21 17 34.1	
	comp=Z,0.5nm,0.6s,baz=262,slow=4.8,SNR=5.5						
MKAR				PKP	PKPdf	21 17 44.1	+1.7
	comp=Z,0.7nm,0.6s,baz=194,slow=1.6,SNR=6.6						
MKAR				SKPbc		21 21 05.2	
	comp=Z,0.6nm,0.6s,baz=236,slow=3.7,SNR=8.8						
MKAR	**Makanchi Array**	**136.93**	**71**	PKP	PKPdf	21 17 34.1	-8.2
MKAR				PKP	PKPdf	21 17 44.1	+1.7
MKAR				SKPbc		21 21 05.2	
WMQ	**Urumqi**	**137.99**	**78**	*e*PKP	PKPdf	21 17 45.5	+1.1
WMQ				LR	LR		
	comp=E,67nm,22.0s						
WMQ				LR	LR		
	comp=Z,123nm,22.0s						
LZH	**Lanzhou**	**141.80**	**100**	*e*PKP	PKPdf	21 17 52.4	+1.1
LZH				XPKP		21 18 29.6	
LZH				*e*PP	PP	21 21 02.5	+2.6
LZH				SS	SS	21 39 25.7	+1.2
LZH				PP	PP		
	comp=Z,105nm,6.2s						
LZH				LR	LR		
	comp=E,219nm,18.3s						
LZH				LR	LR		
	comp=Z,298nm,20.0s						
GTA	**Gaotai**	**141.88**	**93**	*e*PKP	PKPdf	21 17 54.2	+2.8
GTA				XPKP		21 18 30.9	
GTA				PP	PP	21 21 04.6	+4.3
GTA				SKS	SKS	21 24 52.8	+0.4
GTA				SKKS		21 27 44.2	
GTA				PP	PP		
	comp=Z,46nm,9.5s						
GTA				LR	LR		
	comp=N,41nm,15.6s						
GTA				LR	LR		
	comp=E,45nm,18.6s						
GTA				LR	LR		
	comp=Z,42nm,18.3s						
ZAL	**Zalesovo**	**142.35**	**64**	PKhKP		21 17 48.7	
	comp=Z,0.9nm,0.4s,baz=207,slow=5.6,SNR=3.9						
ZAL				PKP	PKPdf	21 17 53.4	+1.7
	comp=Z,1.6nm,0.4s,baz=212,slow=1.2,SNR=4.5						
ZAL				SKPbc		21 21 21.8	
	comp=Z,1.3nm,0.7s,baz=183,slow=2.1,SNR=4.8						
INK	**Inuvik**	**145.48**	**321**	*e*PKPdf	PKPdf	21 17 57.6	+0.9
DAWY	**Dawson**	**146.48**	**312**	*e*PKPdf	PKPdf	21 18 00.1	+1.6
NJ2	**Nanjing**	**146.62**	**121**	*e*PKP	PKPdf	21 18 00.1	+0.3
NJ2				APKP		21 18 27.0	
NJ2				XPKP		21 18 36.6	
NJ2				PP	PP	21 21 30.0	+1.1
NJ2				PKS	PKS	21 21 34.0	0.0
NJ2				PPP	PPP	21 24 50.0	+3.3
NJ2				LR	LR		
	comp=N,20µm,22.5s						
NJ2				LR	LR		
	comp=E,28µm,25.8s						
NJ2				LR	LR		
	comp=Z,23µm,22.0s						
DIV	**Divide**	**148.36**	**305**	*e*PKPbc	PKPdf	21 18 06.8	+5.2

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HHC	**Hu-ho-hao-te**	149.45	102	*e*PKP	PKPdf	21 18 05.8	+1.8
HHC				APKP		21 18 31.4	
HHC				XP		21 18 42.7	
HHC				PP	PP	21 21 42.7	-1.9
HHC				SKS	SKS	21 25 02.7	-0.6
HHC				SKKS		21 28 19.7	
HHC				SS	SS	21 40 44.3	-6.3
SML	**Sawmill**	149.74	306	*e*PKPbc	PKPdf	21 18 09.4	+5.6
ILAR	**Eielson Array**	149.81	312	PKP	PKPdf	21 18 03.5	-0.3
	comp=Z,0.5nm,0.8s,baz=32,slow=2.4,SNR=4.5						
ILAR				PKPbc	PKPdf	21 18 09.4	+5.5
	comp=Z,11nm,0.8s,baz=129,slow=1.5,SNR=80						
MCK	**McKinley**	150.47	310	*e*PKPbc	PKPdf	21 18 11.6	+6.7
KDAK	**Kodiak Island**	150.55	297	*e*PKPbc	PKPdf	21 18 11.6	+6.4
SONM	**Songino Array**	150.85	86	PKP	PKPdf	21 18 07.0	+1.0
	comp=Z,0.4nm,0.7s,baz=162,slow=3.9,SNR=3.9						
SONM				PKPbc	PKPdf	21 18 12.6	+6.6
	comp=Z,17nm,0.7s,baz=220,slow=3.7,SNR=119						
BJI	**Beijing**	151.40	108	PKP	PKPdf	21 18 09.0	+1.9

KRSC 01 20:59:33.3±0.7, 53.73N×160.33E, h69^{km}±4^{km}, ML4.0, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KII	**Karymskiy**	0.60	301	*i* P	P	20 59 47.7	+0.4
KII				*e*S	S	20 59 57.2	-0.3
SPN	**Mys Shipunski**	0.66	196	*i* P	P	20 59 48.5	+0.7
SPN				*i* S	S	20 59 59.2	+0.6
NLC	**Nalytchevo**	0.81	227	*i* P	P	20 59 50.1	+0.5
NLC				*i* S	S	21 00 02.4	+0.7
SDLR	**Sedlovina**	0.97	243	*i* P	P	20 59 52.4	+0.7
SDLR				*i* S	S	21 00 06.3	+1.0
SMAR	**Somma**	1.03	243	*e*P	P	20 59 53.1	+0.8
SMAR				*e*S	S	21 00 07.3	+0.8
UGLR	**Uglovaya**	1.04	240	*i* P	P	20 59 53.4	+0.9
UGLR				*i* S	S	21 00 08.1	+1.3
AVH	**Avacha**	1.06	245	*i* P	P	20 59 53.8	+1.0
AVH				*i* S	S	21 00 08.2	+1.0
KOK	**Koryaka**	1.10	247	*e*P	P	20 59 54.1	+0.8
KOK				*e*S	S	21 00 08.4	+0.2
MKZ	**Mys Kozlova**	1.17	44	*i* P	P	20 59 54.8	+0.6
MKZ				*i* S	S	21 00 10.5	+0.7
PET	**Petropavlovsk**	1.23	236	*i* P	P	20 59 55.4	+0.4
PET				*i* S	S	21 00 11.6	+0.4
GNL	**Ganaly**	1.42	270	*e*P	P	20 59 57.7	0.0
GNL				*e*S	S	21 00 14.8	-0.9
TUMR	**Tumrok**	1.56	356	*i* P	P	21 00 00.3	+0.7
TUMR				*e*S	S	21 00 20.2	+1.2
RUS	**Russkaya**	1.70	221	*e*P	P	21 00 01.3	-0.2
RUS				*e*S	S	21 00 21.6	-0.6
GRL	**Gorelyy**	1.80	230	*e*P	P	21 00 03.8	+1.0
GRL				*e*S	S	21 00 26.0	+1.4
KMNR	**Kamenistaya**	2.03	359	*i* P	P	21 00 07.1	+1.1
KMNR				*e*S	S	21 00 31.6	+1.5
ZLN	**Zelenaya**	2.31	7	*e*P	P	21 00 11.3	+1.4
ZLN				*e*S	S	21 00 39.2	+2.1
KOZ	**Kozyrevsk**	2.35	354	*e*P	P	21 00 10.9	+0.4
KOZ				*e*S	S	21 00 38.6	+0.5
LGNR	**Loginova**	2.37	5	*e*P	P	21 00 12.6	+1.9
LGNR				*e*S	S	21 00 41.4	+2.8
ESO	**Esso**	2.39	337	*i* P	P	21 00 11.0	-0.1
ESO				*e*S	S	21 00 40.6	+1.3
CIRR	**Tsirk**	2.40	6	*e*P	P	21 00 12.8	+1.5
CIRR				*e*S	S	21 00 41.9	+2.4
KRSR	**Krestovskiy**	2.50	3	*e*P	P	21 00 13.3	+0.7
KRSR				*e*S	S	21 00 42.8	+0.9
KLY	**Klyuchi**	2.60	4	*e*P	P	21 00 13.7	-0.3
KLY				*e*S	S	21 00 42.6	-1.8
SRDR	**Sredinnyy**	2.62	352	*e*P	P	21 00 14.1	-0.2
SRDR				*e*S	S	21 00 43.5	-1.4
KBTR	**Krutoberegovo**	2.87	29	*e*P	P	21 00 17.4	-0.4
KBTR				*e*S	S	21 00 49.4	-1.8
KBG	**Krutoberegovo**	2.88	27	*e*P	P	21 00 18.1	+0.2
KBG				*e*S	S	21 00 53.1	+1.6
KBG				Smax			
	520nm,0.8s						
SVLR	**Shiveluch**	2.90	10	*e*P	P	21 00 20.5	+2.3
SVLR				*e*S	S	21 00 55.0	+3.0
PAU	**Pauzhetka**	3.12	225	*e*P	P	21 00 24.0	+2.6
PAU				*e*S	S	21 01 00.9	+3.3
BKI	**Bering**	3.61	64	*e*P	P	21 00 26.8	-1.4
BKI				*e*S	S	21 01 06.0	-3.8
BKI				Smax			
	20nm,0.4s						

*IDC **01** 21:00:56.4±3.9, 14.22N×92.32W, mb3.6/4, mb1 4.0/5, mb1mx3.8/18, ML4.5/1, Error ellipse: s-maj=143.0km s-min=67.3km az=49.0*

*MEX **01** 21:01:00.9±0.3, 13.88N×93.38W, h33^{km}±999^{km}, MD4.4*

*NEIC **01** 21:01:13.2±1.4, 14.90N×92.35W, h107^{km}±12^{km}, mb3.8/1, Error ellipse: s-maj=27.2km s-min=10.5km az=48.0*

ISC 01 21:01:04.9±2.0, 14.3N±0.2×93.1W±0.1, h56^{km}±16^{km}, n17, σ1^{s}49/21, mb3.7/4, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCX	**San Cristobal**	2.50	11	*i* P	**P**	**21 01 44.0**	**-0.1**
SCX				*i* S	**S**	**21 02 17.5**	**+4.1**
SCX	**San Cristobal**	2.50	11	*i* P	**P**	**21 01 44.0**	**-0.1**
SCX				*i* S	**S**	**21 02 18.0**	**+4.6**
CMIG	**Matias Romero**	3.27	329	*i* P	**P**	**21 01 51.8**	**-3.1**
CMIG				*e*S	**S**	**21 02 31.6**	**-1.3**
CMIG	**Matias Romero**	3.27	329	*i* P	**P**	**21 01 51.8**	**-3.1**
CMIG				*i* S	**S**	**21 02 34.6**	**+1.8**
OXX	**Oaxaca**	4.44	309	*e*P	**P**	**21 02 06.0**	**-5.4**
OXX				*i* S	**S**	**21 03 03.0**	**+0.7**
EVV	**El Vigia**	4.67	333	*e*P	**P**	**21 02 12.0**	**-2.6**
TEIG	**Tepich**	7.53	37	P	**P**	**21 02 47.1**	**-7.3**
JTS	**JuntasAbangare**	8.93	115	P	**P**	**21 03 14.6**	**+0.8**
LTX	**Lajitas**	17.87	329	P	**P**	**21 05 12.8**	**+1.6**
	8.6nm,1.5s						
TXAR	**Lajitas Array**	17.87	329	P	**P**	**21 05 14.1**	**+2.8**
	0.3nm,0.3s,baz=148,slow=12,SNR=7.0						
GDL2	**Guadalupe Moun**	20.58	332	*e*P	**P**	**21 05 41.9**	**+0.4**
PDAR	**Pinedale Array**	31.72	337	P	**P**	**21 07 25.2**	**-0.5**
	0.2nm,0.4s,mb3.3,baz=146,slow=9.0,SNR=2.9						
NVAR	**Mina Array Bea**	32.77	322	P	**P**	**21 07 35.7**	**+0.9**
	0.6nm,0.7s,mb3.6,baz=148,slow=8.5,SNR=5.0						
NVAR	**Mina Array Bea**	32.77	322	P	**P**	**21 07 35.7**	**+0.9**
YKA	**Yellowknife Ar**	50.51	347	P	**P**	**21 09 57.8**	**-1.4**
	2.0nm,0.7s,mb4.2,baz=150,slow=7.2,SNR=9.1						
ILAR	**Eielson Array**	62.15	337	P	**P**	**21 11 21.1**	**-1.2**
	0.5nm,0.9s,mb3.6,baz=154,slow=6.2,SNR=4.9						
CMAR	**Chiang Mai Arr**	145.36	340	PKPbc	PKPbc	21 20 37.8	-0.1
	0.6nm,0.6s,baz=341,slow=3.2,SNR=5.8						

WEL 01 21:23:11.9±0.6, 38.57S×174.89E, h187^{km}±9^{km}, ML3.5/4, Error ellipse: s-maj=6.4km s-min=3.6km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BKZ	**Black Stump Fm**	1.39	116	*e*PN	P	21 23 44.9	+1.1
TSZ	**Takapari Road**	1.71	151	*e*PN	P	21 23 47.2	+0.3
TSZ				SN	S	21 24 13.3	-0.5
URZ	**Urewera**	1.77	81	PN	P	21 23 47.2	-0.3
URZ				SN	S	21 24 13.0	-1.9
URZ				SN	S	21 24 13.0	-1.9
MRZ	**Mangatainoka R**	2.16	166	PN	P	21 23 51.5	-0.2
MRZ				SN	S	21 24 20.0	-2.3
KIW	**Kapiti Island**	2.29	180	PN	P	21 23 52.9	-0.3
KIW				SN	S	21 24 22.8	-2.1
CAW	**Cannon Point**	2.54	177	PN	P	21 23 55.3	-0.7
MRW	**Makara Radio**	2.67	183	PN	P	21 23 56.6	-0.8
MRW				SN	S	21 24 30.7	-1.9
NNZ	**Nelson**	2.89	203	PN	P	21 23 59.4	-0.8
QRZ	**Quartz Range**	2.90	218	PN	P	21 23 60.0	-0.3
TUWZ	**Tuamarina**	2.95	194	PN	P	21 24 00.3	-0.5
THZ	**Tophouse**	3.54	205	PN	P	21 24 06.5	-1.6
THZ				SN	S	21 24 50.2	-1.3
KHZ	**Kahutara**	3.98	195	PN	P	21 24 12.0	-1.7
LTZ	**Lake Taylor**	4.66	204	PN	P	21 24 20.1	-2.2

DJA 01 22:48:35.7±1.1, 8.62S×114.87E, h123^{km}±8^{km}, MD5.6/3, ML3.2/1, 2C-4D, Error ellipse: s-maj=50.6km s-min=11.6km az=16.0, Bali region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KELI	**Kelakatan**	0.55	317	⇑*i*Pn	P	22 48 54.3	-0.1
	29nm,0.2s						
KELI				⇑*i*Sn	S	22 49 07.5	-1.2
RATI	**Rata**	0.66	99	⇓*i*Pn	P	22 48 54.9	-0.3
	108nm,0.2s						
RATI				⇓*i*Sn	S	22 49 09.0	-1.1
KEDI	**Kedomdong**	1.23	84	⇓*i*Pn	P	22 49 00.0	-0.8
	29nm,0.2s						
KEDI				⇓*i*Sn	S	22 49 17.9	-1.7

*ISK **01** 22:52:56.0, 37.02N×27.69E, h5^{km}, MD3.4*

*ATH **01** 22:52:57.1, 36.86N×27.58E, h10^{km}, MD3.1/3*

ISC 01 22:52:56.3±0.7, 36.94N±0.03×27.66E±0.04, h5^{km}±5^{km}, n15, σ0^{s}87/24, 5C, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDRM	**Kayabasi**	0.21	307	⇑*i*P	**Pg**	**22 53 00.8**	**+0.2**
BDRM				*i* S	**Sg**	**22 53 05.3**	**+1.9**
MLSB	**Milas**	0.37	15	*i* PG	**Pg**	**22 53 02.1**	**-1.6**
MLSB				*i* SG	**Sg**	**22 53 08.0**	**-0.7**
YER	**Yerkesik**	0.54	68	*i* PG	**Pg**	**22 53 06.1**	**-0.9**
YER				*i* SG	**Sg**	**22 53 14.6**	**+0.4**
AYDN	**Tasoluk**	0.74	14	⇑*i*P	**Pg**	**22 53 10.1**	**-1.1**
AYDN				*i* S	**Sg**	**22 53 21.7**	**+0.7**
DALT	**Dalyan (Mudla)**	0.80	102	PG	**Pg**	**22 53 12.5**	**+0.2**
DALT				SG	**Sg**	**22 53 24.7**	**+1.6**
ARG	**Arkhangelos**	0.81	152	*e*PB	**Pb**	**22 53 12.0**	**-0.5**
SMG	**Samos**	1.01	320	*e*PB	**Pb**	**22 53 16.7**	**+0.8**
DNZL	**Cakiroluk**	1.34	55	⇑*i*P	**Pb**	**22 53 20.9**	**-0.6**
DNZL				*i* S	**Sb**	**22 53 38.5**	**-0.3**
DENT	**Denizli**	1.37	53	PN	**Pn**	**22 53 21.3**	**-0.8**
DENT				SN	**Sn**	**22 53 41.3**	**+0.6**
KARP	**Karpathos**	1.44	196	*e*PB	**Pb**	**22 53 22.5**	**-0.8**
IZM	**Izmir**	1.49	348	PN	**Pn**	**22 53 24.0**	**+0.2**
KDAG	**Bornova**	1.50	348	⇑*i*P	**Pn**	**22 53 23.3**	**-0.6**
KDAG				*i* S	**Sb**	**22 53 42.7**	**-0.6**
MANT	**Manisa**	1.71	24	⇑*i*P	**Pn**	**22 53 26.4**	**-0.6**
MANT				*i* S	**Sn**	**22 53 50.6**	**+1.2**
ELL	**Elmali**	1.82	95	*e*PN	**Pn**	**22 53 29.8**	**+1.3**
AKS	**Akhisar**	1.94	4	*e*PN	**Pn**	**22 53 30.6**	**+0.3**

IDC 01 23:32:47.6±13.0, 5.85S×110.63E, h343^{km}±140^{km}, mb3.0/4, mb1 3.1/4, mb1mx2.9/16, Error ellipse: s-maj=354.0km s-min=17.2km az=55.0, Java Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	26.76	335	P	P	23 37 57.4	-1.7
	1.1nm,0.7s,baz=176,slow=8.9,SNR=6.2						
ASAR	**Alice Springs**	28.56	131	P	P	23 38 12.2	-2.9
	0.1nm,0.3s,baz=306,slow=9.2,SNR=4.3						
STKA	**Stephens Creek**	38.84	136	P	P	23 39 41.2	-0.8
	1.1nm,0.6s,baz=307,slow=8.9,SNR=7.0						
MKAR	**Makanchi Array**	58.12	337	P	P	23 42 06.0	-2.1
	0.5nm,0.4s,baz=149,slow=7.8,SNR=13						

BJI 01 23:40:39.1, 25.62N×97.87E, h21^{km}, ML3.4, Ms3.5, Msz3.3, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMI	**Kunming**	4.43	95	*e*PG	Pn	23 41 58.6	+12
KMI				SG	Sn	23 42 52.4	+14
KMI				Smax			
	comp=N,35nm,0.8s						
KMI				Smax			
	comp=E,16nm,1.0s						
KMI				LR	LR		
	comp=N,185nm,6.8s						
KMI				LR	LR		
	comp=E,363nm,4.9s						
KMI				LR	LR		
	comp=Z,258nm,6.8s						

*NEIC **01** 23:43:09.3±5.0, 3.41N×122.65E, h490^{km}±73^{km}, mb4.3/9, Error ellipse: s-maj=26.8km s-min=11.2km az=56.0*

*IDC **01** 23:43:12.7±2.6, 3.41N×122.80E, h541^{km}±31^{km}, mb3.3/6, mb1 3.4/6, mb1mx3.0/19, Error ellipse: s-maj=59.5km s-min=14.3km az=65.0*

ISC 01 23:43:08.6±0.8, 3.5N±0.2×122.7E±0.2, h500^{km}, n21, σ0^{s}58/21, mb4.1/13, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	18.70	149	*e*P	**P**	**23 46 57.2**	**+1.6**
	14nm,0.6s						
FITZ	**Fitzroy Crossi**	21.60	172	*e*P	**P**	**23 47 23.0**	**+0.1**
	2.4nm,0.6s,mb3.9						
FITZ	**Fitzroy Crossi**	21.60	172	P	**P**	**23 47 22.8**	**0.0**
	2.4nm,0.5s,mb4.0,baz=3.1,slow=9.3,SNR=8.5						
WRAB	**Tennant Creek**	25.89	154	*e*P	**P**	**23 48 00.8**	**-0.7**
	9.5nm,0.7s,mb4.3						
WRA	**Warramunga Arr**	25.89	154	P	**P**	**23 48 00.8**	**-0.7**
	3.9nm,0.4s,mb4.2,baz=335,slow=9.5,SNR=16						
WB2	**Warramunga Arr**	25.90	154	*e*P	**P**	**23 48 01.0**	**-0.6**
ASPA	**Alice Springs**	29.07	159	*e*P	**P**	**23 48 29.6**	**+0.2**
ASAR	**Alice Springs**	29.07	159	P	**P**	**23 48 29.4**	**0.0**
	2.2nm,0.6s,mb3.8,baz=339,slow=7.6,SNR=26						
ASAR				ScP		23 54 10.2	
	0.7nm,0.9s,baz=340,slow=2.8,SNR=4.9						
FORT	**Forrest**	34.41	172	*e*P	**P**	**23 49 14.9**	**+0.2**
	49nm,0.7s,mb5.0						
KLBR	**Kellerberrin**	35.16	187	*e*P	**P**	**23 49 20.2**	**-0.7**
	37nm,1.9s,mb4.5						
NWAO	**Narrogin (SRO)**	36.55	188	P	**P**	**23 49 32.5**	**+0.1**
	3.5nm,0.6s,mb4.0,baz=0.4,slow=4.3,SNR=5.1						
STKA	**Stephens Creek**	39.45	154	*e*P	**P**	**23 49 57.0**	**+0.9**
	2.9nm,0.9s,mb3.7						
STKA	**Stephens Creek**	39.45	154	P	**P**	**23 49 56.5**	**+0.4**
	1.9nm,0.5s,mb3.8,baz=325,slow=9.3,SNR=7.9						
PKI	**Pulchoki**	42.93	308	*e*P	**P**	**23 50 24.1**	**0.0**
	4.9nm,0.6s,mb4.1						
KKN	**Kakani**	43.13	308	*e*P	**P**	**23 50 26.1**	**+0.4**
	6.6nm,0.6s,mb4.2						
DMN	**Daman**	43.18	308	*e*P	**P**	**23 50 26.4**	**+0.3**
	2.7nm,0.4s,mb4.0						
GKN	**Gorkha**	43.73	308	*e*P	**P**	**23 50 30.5**	**+0.1**
KOLN	**Koldanda**	44.45	307	*e*P	**P**	**23 50 36.3**	**+0.3**
	16nm,0.7s,mb4.5						
MKAR	**Makanchi Array**	55.57	327	P	**P**	**23 51 57.6**	**-0.3**
	1.0nm,0.5s,mb3.5,baz=127,slow=7.8,SNR=17						
MKAR				PcP	PcP	23 52 48.7	-1.7
	0.7nm,0.6s,baz=125,slow=5.4,SNR=6.6						
MKAR	**Makanchi Array**	55.57	327	P	**P**	**23 51 57.6**	**-0.3**
MKAR				PcP	PcP	23 52 48.7	-1.7
KURK	**Kurchatov**	59.88	329	*e*P	**P**	**23 52 26.4**	**-0.7**

*MOS **01** 23:54:23.0±1.9, 49.86N×87.68E, h15^{km}, mb3.8/1, Error ellipse: s-maj=28.1km s-min=15.6km az=104.2*

*NNC **01** 23:54:24.9±3.6, 49.82N×87.79E, h26^{km}±18^{km}, mpv3.8, Error ellipse: s-maj=25.0km s-min=16.5km az=102.0*

ISC 01 23:54:24.5±1.2, 49.93N±0.06×87.5E±0.1, h15^{km}, n10, σ1^{s}71/18, 9C-1D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARTR	**Artybash**	1.88	356	*e*PN	**Pn**	**23 54 55.2**	**-1.3**
ARTR				*e*S	**Sn**	**23 55 21.9**	**+1.9**
UKR	**Ust'-Kan**	2.02	301	*e*PN	**Pg**	**23 55 02.3**	**-2.7**
UKR				*e*S	**Sg**	**23 55 34.4**	**+2.4**
TASR	**Tashtagol**	2.84	5	*e*PN	**Pn**	**23 55 12.0**	**+1.7**
TASR				*e*S	**Sn**	**23 55 49.4**	**+4.8**
MK31	**Makanchi Array**	4.69	230	⇑Pn	**Pn**	**23 55 37.5**	**+1.1**
	6.2nm,0.3s,baz=55,slow=14,SNR=445						
MK31				⇑Pg	**Pg**	**23 55 51.4**	**-6.7**
	baz=56,slow=15						
MK31				⇓Sn	**Sn**	**23 56 35.2**	**+4.0**
	5.4nm,0.3s,baz=58,slow=28,SNR=10.0						
MK31				⇑Lg		23 56 56.7	
	26nm,0.6s,baz=65,slow=30						
MKAR	**Makanchi Array**	4.69	230	PN	**Pn**	**23 55 37.5**	**+1.0**
MKAR				*i*		23 56 35.1	
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.2s						
MKAR				smax			
	comp=Z,2.0nm,0.2s						
MKAR				smax			
	comp=Z,21nm,0.6s						
NVS	**Novosibirsk**	5.57	334	*e*PN	**Pn**	**23 55 47.9**	**-1.1**
NVS				*e*	rx	23 56 04.1	
NVS				*e*S	**Sg**	**23 57 19.8**	**-10**
KURK	**Kurchatov**	5.75	281	⇑Pn	**Pn**	**23 55 51.7**	**+0.3**
	comp=Z,6.6nm,0.9s						
KURK				⇑Sn	**Sn**	**23 57 00.7**	**+2.8**
	comp=Z,4.3nm,0.6s,baz=100,slow=16,SNR=5.2						
KURK				⇑Lg		23 57 30.6	
	comp=Z,12nm,0.7s,baz=358,slow=17,SNR=8.0						
VOSK	**Vostochnaya**	10.72	291	⇑Pn	**P**	**23 56 58.8**	**-1.7**
	comp=Z,0.4nm,0.3s						
VOSK				⇑Sn	**S**	**23 58 58.8**	**-2.3**
	comp=Z,1.4nm,0.8s						
ZRNK	**Zerenda**	11.94	292	⇑Sn	**S**	**23 59 26.7**	**-4.2**
	comp=Z,2.5nm,0.9s						
ZRNK	**Zerenda**	11.94	292	P	**P**	**23 57 15.7**	**-1.3**

*GII **02** 00:12:40.8±0.8, 29.00N×32.65E, h25^{km}±30^{km}, ML2.6/4, Mw2.7/4*

*SNSN **02** 00:12:41.1, 28.77N×32.98E, h17^{km}, Ml2.9*

ISC 02 00:12:39.0±1.7, 28.98N±0.08×32.9E±0.1, h10^{km}, n12, σ0^{s}64/17, Egypt

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HAQS	**Haql**	1.79	87	P	**Pn**	**00 13 09.9**	**-0.2**
HAQS				S	**Sn**	**00 13 32.3**	**-0.8**
EIL	**Elat**	1.93	69	Pn	**Pn**	**00 13 12.5**	**+0.4**
MBH	**Mount Berech**	1.94	65	Pn	**Pn**	**00 13 13.0**	**+0.6**
JMOS	**Jabal al Moall**	1.95	84	P	**Pn**	**00 13 12.8**	**+0.3**
JMOS				S	**Sn**	**00 13 37.3**	**0.0**
KMTI	**Karmit**	1.95	54	Pn	**Pn**	**00 13 13.3**	**+0.8**
KMTI				Sn	**Sn**	**00 13 37.5**	**+0.2**
BDAS	**Al Bad'**	2.02	105	P	**Pn**	**00 13 12.5**	**-0.9**
AQBJ	**Aqaba**	2.03	68	Pn	**Pn**	**00 13 14.1**	**+0.5**
HRFI	**Mount Harif**	2.15	60	Pn	**Pn**	**00 13 14.9**	**-0.5**
HRFI				Sn	**Sn**	**00 13 43.4**	**+1.1**
PRNI	**Paran**	2.29	53	Pn	**Pn**	**00 13 18.0**	**+0.6**
KZIT	**Kziot**	2.32	34	Pn	**Pn**	**00 13 17.5**	**-0.4**
KZIT				Sn	**Sn**	**00 13 45.3**	**-1.5**
ZFRI	**Zfri**	2.53	51	Pn	**Pn**	**00 13 20.8**	**-0.1**
JMQS	**Jabal Moqyreh**	2.62	91	P	**Pn**	**00 13 22.0**	**-0.1**

*NEIC **02** 00:14:49.9, 49.38N×6.87E, h1^{km}, ML2.8(LDG), ML2.3(STR), After STR.*

*LDG **02** 00:14:50.5±0.1, 49.39N×6.88E, h1^{km}, Md2.9/1, Ml2.8/15, Error ellipse: s-maj=1.8km s-min=1.4km az=146.0, Suspected Mining induced.*

*BGR **02** 00:14:50.2±0.3, 49.38N×6.90E, h1^{km}, ML2.1/1, Error ellipse: s-maj=2.2km s-min=1.1km az=107.0*

*BNS **02** 00:14:51.9±1.7, 49.45N×6.95E, h1^{km}, ML2.2*

ISC 02 00:14:48.3±0.2, 49.37N±0.01×6.84E±0.03, n54, σ1^{s}05/98, Germany

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RUP	**Ruppelstein**	0.36	23	*e*Pg	**Pg**	**00 14 56.9**	**+1.4**
	SNR=28						
RUP	**Ruppelstein**	0.36	23	Pg	**Pg**	**00 14 57.1**	**+1.5**
RUP				Sg	**Sg**	**00 15 01.8**	**+1.4**
WLF	**Walferdange**	0.54	304	*e*Pg	**Pg**	**00 15 01.4**	**+2.4**
ABH	**Alteburg**	0.69	41	*e*Pg	**Pg**	**00 15 02.4**	**+0.3**
	SNR=2.5						
ABH				*e*Sg	**Sg**	**00 15 11.2**	**-0.1**
	SNR=3.2						
ABH	**Alteburg**	0.69	41	Pg	**Pg**	**00 15 02.0**	**-0.1**
ABH				Sg	**Sg**	**00 15 11.3**	**0.0**
LANF	**Langenberg**	0.74	121	*e*Pg	**Pg**	**00 15 03.2**	**+0.1**
	SNR=7.1						
LANF	**Langenberg**	0.74	121	Pg	**Pg**	**00 15 03.4**	**+0.3**
KTD	**Kalmit**	0.81	93	*e*Pg	**Pg**	**00 15 05.4**	**+0.8**
	SNR=5.5						
KTD	**Kalmit**	0.81	93	Pg	**Pg**	**00 15 05.0**	**+0.4**
KTD				Sg	**Sg**	**00 15 16.2**	**+0.8**
BGG	**Burgeitz**	0.90	21	*e*Pg	**Pg**	**00 15 06.5**	**+0.2**
BGG				*e*Sg	**Sg**	**00 15 18.1**	**-0.2**
	63nm,0.3s						
CDF	**Champ du Feu**	1.00	163	*e*Pg	**Pg**	**00 15 08.2**	**0.0**
CDF				*e*Pn	**Pn**	**00 15 09.4**	**+0.1**
CDF				*e*Sg	**Sg**	**00 15 21.7**	**+0.2**
	33nm,0.4s						
WLS	**Welschbruch**	1.01	160	*e*Pg	**Pg**	**00 15 09.7**	**+1.2**
	SNR=12						
WLS	**Welschbruch**	1.01	160	Pg	**Pg**	**00 15 09.7**	**+1.2**
WLS				Sg	**Sg**	**00 15 23.4**	**+1.4**
RFYF	**Reffroy**	1.16	231	*e*Pg	**Pg**	**00 15 13.0**	**+1.5**
	baz=44						
RFYF				*e*Sg	**Sg**	**00 15 28.3**	**+1.3**
	42nm,0.3s						
ECH	**Echery**	1.17	170	*e*Pg	**Pg**	**00 15 12.5**	**+0.9**
	SNR=8.5						
ECH				*e*Sg	**Sg**	**00 15 27.4**	**+0.1**
	SNR=5.6						
ECH	**Echery**	1.17	170	Pg	**Pg**	**00 15 12.5**	**+0.8**
ECH				Sg	**Sg**	**00 15 28.6**	**+1.3**
STB	**Steinbach**	1.23	0	*e*Pg	**Pg**	**00 15 14.1**	**+1.3**
STB				*e*Sg	**Sg**	**00 15 29.6**	**+0.3**
	29nm,0.7s						
THEF	**They Montfort**	1.27	207	*e*Pg	**Pg**	**00 15 14.6**	**+1.0**
	SNR=9.6						
THEF				*e*Sg	**Sg**	**00 15 31.0**	**+0.4**
	SNR=3.9						
THEF	**They Montfort**	1.27	207	Pg	**Pg**	**00 15 14.4**	**+0.7**
THEF				Sg	**Sg**	**00 15 31.2**	**+0.6**
TOD	**Tromm**	1.30	79	*e*Pg	**Pg**	**00 15 13.8**	**-0.5**
	SNR=9.7						
TOD				*e*Sg	**Sg**	**00 15 31.0**	**-0.7**
	SNR=4.0						
TOD	**Tromm**	1.30	79	Pg	**Pg**	**00 15 13.7**	**-0.6**
TOD				Sg	**Sg**	**00 15 31.5**	**-0.2**
KLL	**Kalltalsperre**	1.33	345	*e*Pg	**Pg**	**00 15 14.6**	**-0.1**
KLL				*e*Sg	**Sg**	**00 15 31.2**	**-1.2**
HAU	**Haudompre**	1.40	194	*e*Pg	**Pg**	**00 15 16.9**	**+0.7**
HAU				*e*Sn	**Sn**	**00 15 34.2**	**-0.4**
	36nm,0.6s						
BFO	**Black Forest**	1.43	136	*e*Pg	**Pg**	**00 15 16.7**	**-0.2**
	SNR=11						
BFO				*e*Sg	**Sg**	**00 15 35.2**	**-0.7**
	SNR=4.8						
BFO	**Black Forest**	1.43	136	*e*Pg	**Pg**	**00 15 16.7**	**-0.1**
BFO				*e*Sg	**Sg**	**00 15 35.2**	**-0.7**
MEZF	**Maizieres J'vi**	1.46	234	*e*Pg	**Pg**	**00 15 18.5**	**+1.0**
MEZF				*e*Sg	**Sg**	**00 15 37.2**	**+0.2**
	27nm,0.5s						
GIVF	**Givet**	1.50	300	*e*Pn	**Pn**	**00 15 17.2**	**+0.6**
GIVF				*e*Sn	**Sn**	**00 15 36.8**	**-0.3**
	34nm,0.5s						
HGN	**Heimansgroeve**	1.52	338	*e*Pg	**Pg**	**00 15 19.2**	**+0.7**
	SNR=5.7						
HGN				*e*Sg	**Sg**	**00 15 38.3**	**-0.4**
	SNR=2.6						
HGN	**Heimansgroeve**	1.52	338	*e*Pg	**Pg**	**00 15 18.5**	**-0.1**
	12nm,0.7s						
HGN				*e*Sg	**Sg**	**00 15 38.1**	**-0.7**
MOF	**Molkenrain**	1.53	173	*e*Pg	**Pg**	**00 15 19.1**	**+0.3**
	SNR=6.0						
MOF				*e*Sg	**Sg**	**00 15 39.2**	**0.0**
	SNR=4.5						
MOF	**Molkenrain**	1.53	173	Pg	**Pg**	**00 15 18.9**	**+0.1**
MOF				Sg	**Sg**	**00 15 39.7**	**+0.5**
HINF	**Hinteralfeld**	1.55	180	*e*Pn	**Pn**	**00 15 17.7**	**+0.4**
HINF				*e*Pg	**Pg**	**00 15 19.2**	**0.0**
HINF				*e*Sg	**Sg**	**00 15 39.3**	**-0.6**
	36nm,0.5s						
BNS	**Bensberg**	1.61	8	*e*Sg	**Sg**	**00 15 40.2**	**-1.8**
SFTF	**Sexfontaines**	1.66	226	*e*Pn	**Pn**	**00 15 19.7**	**+0.8**
SFTF				*e*Pg	**Pg**	**00 15 22.1**	**+0.6**
SFTF				*e*Sg	**Sg**	**00 15 43.5**	**-0.2**
	17nm,0.4s						
FELD	**Feldberg**	1.68	152	*e*Pg	**Pg**	**00 15 21.7**	**-0.1**
	SNR=6.8						
FELD				*e*Sg	**Sg**	**00 15 43.1**	**-1.2**
	SNR=8.5						
FELD	**Feldberg**	1.68	152	Pg	**Pg**	**00 15 21.5**	**-0.3**
BAIF	**Baives**	1.84	293	*e*Pn	**Pn**	**00 15 23.2**	**+1.7**
BAIF				*e*Pg	**Pg**	**00 15 25.2**	**+0.1**
BAIF				*e*Sg	**Sg**	**00 15 49.9**	**+0.2**
	28nm,0.6s						
WTSB	**Winterswijk**	2.60	359	*e*Sg	**Sg**	**00 16 12.7**	**-2.3**
	12nm,3.1s						

CABF	**La Chapelle**	**2.80**	**191**	*e*Pn	**Pn**	**00 15 35.1**	**-0.1**
CABF				*e*Sg	**Sg**	**00 16 20.0**	**-1.6**
	22nm,0.6s						
GRF	**Grafenberg Arr**	**2.87**	**82**	*e*Sg	**Sg**	**00 16 20.0**	**-3.9**
	SNR=1.8						
LOR	**Lormes**	**2.89**	**225**	*e*Pn	**Pn**	**00 15 35.7**	**-0.8**
	baz=47						
LOR				*e*Sn	**Sn**	**00 16 10.7**	**-1.8**
LOR				*e*Sg	**Sg**	**00 16 22.1**	**-2.5**
	19nm,0.7s,baz=40						
SSF	**Saint Saulge**	**3.21**	**225**	*e*Pn	**Pn**	**00 15 40.2**	**-0.7**
SSF				*e*Pg	**Pg**	**00 15 51.3**	**-1.0**
SSF				*e*Sn	**Sn**	**00 16 15.4**	**-5.0**
SSF				*e*Sg	**Sg**	**00 16 31.1**	**-4.0**
	9.8nm,0.5s						
MOX	**Moxa**	**3.34**	**66**	*e*Pg	**Pg**	**00 15 50.8**	**-4.1**
MOX				*e*Sg	**Sg**	**00 16 33.9**	**-5.5**
	SNR=2.1						
MOX	**Moxa**	**3.34**	**66**	*e*Pg	**Pg**	**00 15 50.8**	**-4.1**
MOX				*e*Sg	**Sg**	**00 16 33.6**	**-5.7**
CLZ	**Clausthal**	**3.35**	**41**	*e*Sg	**Sg**	**00 16 35.3**	**-4.4**
	SNR=2.2						
SMF	**Signal de Mont**	**3.39**	**218**	*e*Sn	**Sn**	**00 16 22.4**	**-2.6**
SMF				*e*Sg	**Sg**	**00 16 37.4**	**-3.6**
	7.0nm,0.4s						
AVF	**Avril sur Loir**	**3.48**	**224**	*e*Sn	**Sn**	**00 16 24.2**	**-3.1**
	7.8nm,0.6s						
WERD	**Werda**	**3.70**	**71**	*e*Sg	**Sg**	**00 16 46.8**	**-4.5**
	SNR=4.2						
NKC	**Novy Kostel**	**3.73**	**74**	*e*PG	**Pg**	**00 15 57.6**	**-5.3**
NKC				*e*x	x	00 16 46.8	
CLL	**Collm**	**4.40**	**61**	*e*Sg	**Sn**	**00 17 04.0**	**+13**
KHC	**Kasperske Hory**	**4.42**	**91**	*e*PN	**Pn**	**00 15 56.2**	**-2.0**
KHC				*e*x	x	00 16 04.5	
KHC				*e*SN	**Sn**	**00 16 45.9**	**-5.2**
KHC				*e*SG	**Sg**	**00 17 06.6**	**-8.9**
BRG	**Berggiesshubel**	**4.81**	**69**	*e*Sg	**Sg**	**00 17 20.5**	**-8.0**
PRU	**Pruhonice**	**5.04**	**80**	*e*SG	**Sg**	**00 17 30.1**	**-6.0**
GRR	**Gorron**	**5.17**	**262**	*e*Sn	**Sn**	**00 17 05.5**	**-4.6**
	4.9nm,0.6s						

IDC 02 00:19:28.2±7.7**, 31.56S**×**179.22E, h518**^{km}±102^{km}**, mb2.9**/2**, mb1 3.2**/3**, mb1mx3.0**/12**, Error ellipse: s-maj=124.0km s-min=38.3km az=6.0, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.91**	**194**	P	P	00 21 14.6	-0.4
	1.7nm,0.3s,baz=27,slow=8.7,SNR=10						
URZ				S	S	00 22 40.1	+0.2
	0.9nm,0.3s,baz=287,slow=22,SNR=6.8						
ASAR	**Alice Springs**	**40.68**	**270**	P	P	00 26 23.5	-0.9
	0.5nm,0.5s,baz=103,slow=7.9,SNR=5.4						
WRA	**Warramunga Arr**	**41.78**	**275**	P	P	00 26 32.1	-1.2
	1.6nm,0.6s,baz=111,slow=8.1,SNR=7.3						
FINES	**FINESS Array B**	**145.35**	**338**	PKPbc	PKPbc	00 38 06.3	-0.4
	0.9nm,0.6s,baz=45,slow=3.9,SNR=15						

OTT 02 00:28:21.1±0.1**, 64.66N**×**110.63W, h1**^{km}**, MN3.4**/15**, Blast, Ekati Mine, Nt Mining explosion., Northwest Territories**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EKTN	**Ekati Mine**	**0.04**	**15**	PG	Pg	00 28 21.3	-0.6
LDGN	**Lac de Gras No**	**0.05**	**69**	PG	Pg	00 28 22.4	+0.3
DVKN	**Diavik Mine**	**0.21**	**137**	PG	Pg	00 28 24.6	-0.6
DVKN				Trac		00 28 31.1	
	comp=Z,315nm,0.1s						
ACKN	**Achilles Lake**	**0.35**	**343**	PG	Pg	00 28 26.9	-1.1
ACKN				SG	Sg	00 28 33.0	+0.4
ACKN				Trac		00 28 35.5	
	comp=Z,244nm,0.1s						
LGSN	**Lac de Gras So**	**0.39**	**146**	PG	Pg	00 28 28.1	-0.8
LGSN				Trac		00 28 37.0	
	comp=Z,220nm,0.1s						
YMBN	**Yamba Lake**	**0.44**	**300**	Trac		00 28 38.5	
	comp=Z,436nm,0.1s						
MCKN	**MacKay Lake No**	**0.50**	**158**	PG	Pg	00 28 29.8	-1.3
MCKN				SG	Sg	00 28 37.6	0.0
MCKN				Trac		00 28 40.4	
	comp=Z,518nm,0.1s						
GLWN	**Glow Worm Lake**	**0.56**	**83**	PG	Pg	00 28 31.3	-1.0
GLWN				SG	Sg	00 28 39.5	-0.4
GLWN				Trac		00 28 42.7	
	comp=Z,230nm,0.1s						
COWN	**Contwyoto Lake**	**0.65**	**339**	PG	Pg	00 28 32.8	-1.4
COWN				SG	Sg	00 28 43.2	+0.4
COWN				Trac		00 28 44.8	
	comp=Z,130nm,0.1s						
NODN	**Nodinka Narrow**	**0.72**	**192**	PG	Pg	00 28 33.6	-1.8
NODN				SG	Sg	00 28 43.8	-1.1
NODN				Trac		00 28 46.1	
	comp=Z,140nm,0.1s						
MLON	**Marlo Lake**	**0.76**	**155**	PG	Pg	00 28 34.8	-1.5
MLON				SG	Sg	00 28 46.6	+0.1
MLON				Trac		00 28 48.1	
	comp=Z,83nm,0.1s						
BOXN	**Box Lake**	**0.91**	**153**	PG	Pg	00 28 37.4	-1.8
BOXN				SG	Sg	00 28 52.1	+1.0
BOXN				Trac		00 28 54.9	
	comp=Z,159nm,0.1s						
CAMN	**Camsell Lake**	**0.94**	**187**	PG	Pg	00 28 37.7	-2.1
CAMN				SG	Sg	00 28 50.4	-1.9
CAMN				Trac		00 28 53.6	
	comp=Z,70nm,0.1s						
MGTN	**Margaret Lake**	**1.08**	**155**	PG	Pg	00 28 40.5	-2.1
MGTN				SG	Sg	00 28 56.4	-0.7
MGTN				Trac		00 28 58.5	
	comp=Z,545nm,0.1s						
LUPN	**Lupin Mine**	**1.11**	**347**	PG	Pg	00 28 41.4	-1.9
LUPN				SG	Sg	00 28 55.1	-3.1
LUPN				Trac		00 29 01.8	
	comp=Z,230nm,0.2s						
SNPN	**Snap Lake**	**1.15**	**186**	PG	Pg	00 28 41.7	-2.4
SNPN				SG	Sg	00 28 57.3	-2.2
SNPN				Trac		00 29 03.8	
	comp=Z,840nm,0.1s						
IHLN	**Indian Hill La**	**1.36**	**185**	PG	Pg	00 28 45.0	-3.3
IHLN				SG	Sg	00 29 03.0	-3.5
IHLN				Trac		00 29 07.2	
	comp=Z,136nm,0.1s						
KNDN	**Kennady Lake**	**1.40**	**153**	PG	Pg	00 28 45.9	-3.1
KNDN				SG	Sg	00 29 06.0	-1.5
KNDN				Trac		00 29 08.1	
	comp=Z,172nm,0.2s						
DSMN	**Discovery Mine**	**2.07**	**226**	PN	Pn	00 28 55.3	-2.1
DSMN				PG	Pg	00 28 57.3	-5.2
DSMN				SG	Sg	00 29 24.9	-5.1
DSMN				Trac		00 29 28.1	
	comp=Z,132nm,0.1s						
YKW3	**Yellowknife Ar**	**2.76**	**222**	PN	Pn	00 29 04.4	-2.8
YKW3				SN	Sn	00 29 39.0	-2.7
YKW3				SG	Sg	00 29 45.4	-7.5
YKW3				Trac		00 29 54.1	
	comp=Z,72nm,0.2s						
YKW3				Trac		00 29 54.1	
	comp=Z,81nm,0.2s						
FNBB	**Fort Nelson**	**8.23**	**231**	PN	P	00 30 20.1	-4.4
FNBB				SN	Sn	00 31 41.7	-17
FNBB				LG		00 32 36.3	
FNBB				Trac		00 32 52.6	
	comp=E,9.4nm,0.6s						
FCC	**Fort Churchill**	**9.81**	**119**	PN	P	00 30 40.3	-5.9
FCC				SN	Sn	00 32 25.4	-13
FCC				Trac		00 32 29.1	
	comp=Z,2.5nm,0.2s						
INK	**Inuvik**	**9.82**	**302**	PN	P	00 30 41.3	-4.9
INK				SN	Sn	00 32 25.6	-13
INK				Trac		00 32 38.8	
	comp=Z,0.9nm,0.1s						
SILO	**Sutton Inlier**	**16.41**	**116**	PN	P	00 32 06.9	-6.9
SILO				SN	S	00 34 58.5	-18
ULM	**Lac du Bonnet**	**16.41**	**145**	SN	S	00 35 00.9	-16

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*NEIC **02** 01:19:04.0, 35.00S×70.49W, h3^{km}, ML2.7(GUC), After GUC.*

GUC 02 01:19:04.0±0.8**, 35.00S**×**70.49W, h3**^{km}**, MD3.5, ML2.7, 7C-6D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFDO	**San Fernando**	**0.58**	**311**	⇓*i*P	Pg	01 19 15.6	+0.1
SFDO				*i* S	Sg	01 19 24.5	+1.3
NICH	**Los Niches**	**0.61**	**269**	⇓*i*P	Pg	01 19 16.2	0.0
NICH				*i* S	Sg	01 19 25.2	+0.9
CICH	**Cipreses**	**0.68**	**5**	⇓*i*P	Pg	01 19 16.7	-0.8
CICH				*i* S	Sg	01 19 26.7	+0.2
CACH	**El Canelo**	**0.88**	**354**	⇑*i*P	Pb	01 19 20.4	-1.2
CACH				*i* S	Sg	01 19 33.8	+0.4
CHCH	**Chadas Angostu**	**1.07**	**353**	⇓*i*P	Pb	01 19 24.0	-0.8
CHCH				*i* S	Sb	01 19 39.4	+0.4
LMEL	**Las Melosas**	**1.17**	**12**	⇑*i*P	Pb	01 19 25.5	-1.0
LMEL				*i* S	Sb	01 19 42.4	+0.5
LMEL				AMP		01 19 44.9	
	comp=N,148nm,0.2s						
LNV	**Longovilo**	**1.29**	**323**	⇓*i*P	Pb	01 19 27.8	-0.8
LNV				*i* S	Sb	01 19 45.8	+0.5
PCH	**Pirque**	**1.37**	**359**	⇑*i*P	Pb	01 19 29.3	-0.7
PCH				*i* S	Sb	01 19 48.1	+0.3
TACH	**Talagante**	**1.39**	**344**	⇑*i*P	Pb	01 19 29.6	-0.7
TACH				*i* S	Sb	01 19 48.9	+0.5
RCDM	**Rinconada Maip**	**1.53**	**350**	⇑*i*P	Pn	01 19 31.9	-0.3
RCDM				*i* S	Sb	01 19 52.6	+0.3
RCDM				AMP		01 19 54.6	
	comp=E,318nm,0.1s						
CLCH	**Cerro Calan**	**1.60**	**359**	⇑*i*P	Pn	01 19 33.1	-0.2
CLCH				*i* S	Sb	01 19 54.2	-0.1
FCH	**Farellones**	**1.67**	**6**	⇓*i*P	Pn	01 19 34.5	+0.2
FCH				*i* S	Sb	01 19 57.5	+1.0
FCH				AMP		01 19 59.4	
	comp=E,165nm,0.1s						
LCCH	**Las Cruces**	**1.76**	**329**	⇑*i*P	Pn	01 19 35.8	+0.1
LCCH				*i* S	Sn	01 19 59.2	+0.3

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*STR **02** 01:19:54.8±0.1, 42.82N×0.26W, h5^{km}±1^{km}, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LDG **02** 01:19:55.0±0.1, 42.81N×0.27W, h4^{km}, Md2.5/3, Ml2.2/5, Error ellipse: s-maj=1.7km s-min=0.8km az=6.0*

*MDD **02** 01:19:56.0±0.2, 42.87N×0.26W, h3^{km}±7^{km}, mbLg1.7/13, Error ellipse: s-maj=3.1km s-min=1.5km az=4.0, PRXIMO*

ISC 02 01:19:54.4±0.3**, 42.90N**±0.02×**0.24W**±0.02**, h11**^{km}±3^{km}**, n35, σ1^{s}01**/63**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VIEF	**Viey**	**0.19**	**94**	Pg	**Pg**	**01 19 59.5**	**+0.8**
VIEF				Sg	**Sg**	**01 20 02.7**	**+1.2**
VIEF	**Viey**	**0.19**	**94**	P	**Pg**	**01 19 59.6**	**+1.0**
VIEF				S	**Sg**	**01 20 02.7**	**+1.2**
REYF	**Montagne du Re**	**0.21**	**326**	Pg	**Pg**	**01 20 00.3**	**+1.3**
REYF				Sg	**Sg**	**01 20 04.1**	**+2.1**
REYF	**Montagne du Re**	**0.21**	**326**	P	**Pg**	**01 20 00.3**	**+1.3**
REYF				S	**Sg**	**01 20 03.9**	**+1.9**
ETSF	**Etsaut**	**0.24**	**270**	*e*Pg	**Pg**	**01 19 59.4**	**-0.1**
ETSF				*e*Sg	**Sg**	**01 20 02.8**	**-0.1**
	50nm,0.2s						
FDAF	**Les Forges d'A**	**0.26**	**252**	Pg	**Pg**	**01 19 59.5**	**-0.4**
FDAF				Sg	**Sg**	**01 20 02.8**	**-0.7**
FDAF	**Les Forges d'A**	**0.26**	**252**	P	**Pg**	**01 19 59.5**	**-0.3**
FDAF				S	**Sg**	**01 20 02.8**	**-0.7**
RESF	**Ens**	**0.43**	**102**	Pg	**Pg**	**01 20 03.6**	**+0.4**
RESF				Sg	**Sg**	**01 20 09.9**	**+0.8**
RESF	**Ens**	**0.43**	**102**	P	**Pg**	**01 20 03.6**	**+0.4**
RESF				S	**Sg**	**01 20 09.9**	**+0.8**
EPF	**Esparros**	**0.44**	**72**	*e*Pg	**Pg**	**01 20 04.6**	**+1.1**
EPF				*e*Sg	**Sg**	**01 20 11.4**	**+1.9**
	28nm,0.2s						
LARF	**Larrau**	**0.57**	**285**	Pg	**Pg**	**01 20 05.7**	**-0.2**
LARF				Sg	**Sg**	**01 20 14.0**	**+0.4**
LARF	**Larrau**	**0.57**	**285**	P	**Pb**	**01 20 06.0**	**0.0**
LARF				S	**Sg**	**01 20 13.7**	**0.0**
ORDF	**Ordiarp**	**0.60**	**302**	Pg	**Pg**	**01 20 07.0**	**+0.4**
ORDF				Sg	**Sg**	**01 20 16.1**	**+1.4**
ORDF	**Ordiarp**	**0.60**	**302**	P	**Pb**	**01 20 07.2**	**+0.7**
ORDF				S	**Sb**	**01 20 15.8**	**+1.1**
MELF	**Melles**	**0.73**	**92**	Pg	**Pg**	**01 20 09.2**	**+0.1**
MELF				Sg	**Sg**	**01 20 19.4**	**+0.4**
MELF	**Melles**	**0.73**	**92**	P	**Pb**	**01 20 09.3**	**+0.6**
MELF				S	**Sb**	**01 20 19.0**	**+0.5**
SJPF	**Ste Jean**	**0.76**	**287**	*e*Pg	**Pg**	**01 20 10.2**	**+0.6**
SJPF				*e*Sg	**Sg**	**01 20 20.0**	**+0.2**
	12nm,0.2s						
OSSF	**Osses**	**0.83**	**296**	S	**Sb**	**01 20 22.2**	**+0.8**
EALK	**Alkurruntz**	**0.99**	**290**	Pg	**Pg**	**01 20 13.7**	**-0.5**
	3.1nm,0.3s,SNR=9.6						
EALK				Lg		01 20 27.4	
	10nm,0.2s,SNR=12						
SALF	**Salau**	**1.06**	**97**	Pg	**Pg**	**01 20 15.1**	**-0.5**
SALF				Sg	**Sg**	**01 20 30.0**	**+0.3**
SALF	**Salau**	**1.06**	**97**	P	**Pb**	**01 20 15.5**	**+1.2**
SALF				S	**Sb**	**01 20 29.4**	**+1.5**
ESAC	**San Caprasio**	**1.19**	**188**	Pg	**Pg**	**01 20 18.9**	**+0.7**
	10nm,0.2s,SNR=5.4						
ESAC				Lg		01 20 34.2	
	37nm,0.2s,SNR=18						
EMIR	**Miracle**	**1.63**	**126**	Pg	**Pg**	**01 20 26.7**	**-0.3**
	1.0nm,0.2s,SNR=7.9						
EMIR				Lg		01 20 48.9	
	2.3nm,0.1s,SNR=7.9						
VALF	**Valcebollere**	**1.73**	**106**	S	**Sn**	**01 20 52.8**	**+5.7**
EPOB	**Poblet**	**1.83**	**147**	Pg	**Pg**	**01 20 30.1**	**-0.8**
	1.4nm,0.3s,SNR=5.7						
EPOB				Lg		01 20 52.6	
	1.4nm,0.3s,SNR=7.9						
MTLF	**Montolieu**	**1.85**	**75**	*e*Pn	**Pn**	**01 20 26.5**	**0.0**
MTLF				*e*Pg	**Pg**	**01 20 30.6**	**-0.8**
MTLF				*e*Sg	**Sg**	**01 20 55.0**	**-1.1**
	2.2nm,0.2s						
LFF	**La Frestale**	**2.16**	**19**	*e*Pg	**Pg**	**01 20 36.6**	**-1.0**
LFF				*e*Sg	**Sg**	**01 21 05.4**	**-1.0**
	4.7nm,0.3s						
EJON	**La Jonquera**	**2.35**	**100**	Pg	**Pg**	**01 20 40.3**	**-1.0**
	0.7nm,0.1s,SNR=7.9						
EJON				Lg		01 21 11.7	
	14nm,0.5s,SNR=7.6						
ELAN	**Lanestosa**	**2.37**	**279**	Pg	**Pg**	**01 20 40.0**	**-1.7**
	0.3nm,0.2s,SNR=7.9						
ELAN				Lg		01 21 09.8	
	3.9nm,0.4s,SNR=7.9						
ETOR	**Torete**	**2.48**	**214**	Pn	**Pn**	**01 20 36.3**	**+0.8**
	0.3nm,0.1s,SNR=7.9						
ETOR				Pg	**Pg**	**01 20 41.5**	**-2.5**
	0.4nm,0.3s,SNR=7.9						
ETOR				Sn	**Sn**	**01 21 05.4**	**-0.7**
	0.8nm,0.2s,SNR=7.9						
ETOR				Lg		01 21 15.5	
	1.6nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**2.54**	**184**	Pg	**Pg**	**01 20 41.8**	**-3.3**
	0.4nm,0.2s,SNR=7.9						
EMOS				Sn	**Sn**	**01 21 07.0**	**-0.5**
	0.7nm,0.2s,SNR=4.0						
CAF	**Calviac**	**2.62**	**39**	*e*Pn	**Pn**	**01 20 37.5**	**0.0**
CAF				*e*Pg	**Pg**	**01 20 45.4**	**-1.4**
CAF				*e*Sg	**Sg**	**01 21 20.3**	**-1.5**
	2.0nm,0.2s						
RJF	**Les Rejaudoux**	**2.72**	**27**	*e*Pg	**Pg**	**01 20 46.9**	**-1.8**
RJF				*e*Sg	**Sg**	**01 21 23.1**	**-1.8**
	1.6nm,0.2s						
LASF	**Ste Croix**	**3.20**	**67**	*e*Sg	**Sg**	**01 21 37.4**	**-3.7**
	0.9nm,0.3s						
ESDC	**Sonseca Array**	**4.27**	**222**	Pn	**Pn**	**01 21 00.9**	**-0.1**
	0.5nm,0.2s,baz=40,slow=13,SNR=4.9						

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*IDC **02** 01:24:35.9±0.7, 5.64S×154.45E, h84^{km}±6^{km}, mb4.6/17, mb1 4.8/18, mb1mx4.8/19, MS3.7/9, Ms1 3.7/9, ms1mx3.6/17, Error ellipse: s-maj=16.5km s-min=12.0km az=98.0*

*MOS **02** 01:24:36.1±1.2, 5.38S×154.06E, h89^{km}, mb4.7/9, Error ellipse: s-maj=27.9km s-min=17.4km az=73.6*

*BJI **02** 01:24:37.3, 5.86S×154.86E, h142^{km}, mB5.0, mb4.9*

*HRVD **02** 01:24:39.8±0.3, 5.70S×154.37E, h85^{km}±3^{km}, MW5.0/54, Centroid moment Tensor Solution. LP body waves: s25,c32;Mantle waves: s54,c76; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M$_{rr}$2.88±.15; M$_{\theta\theta}$-1.10±.14; M$_{\phi\phi}$-1.79±.14; M$_{r\theta}$-1.38±.10; M$_{\theta\phi}$1.80±.12; M$_{\phi r}$0.74±.11; Best double couple: M$_0$3.46×10^{16} NP1:φ$_s$152°, δ34°, λ109°. NP2:φ$_s$310°, δ59°, λ78°. Principal axes: T 3.32, Plg73°, Azm188°; N .28, Plg11°, Azm316°; P -3.6, Plg13°, Azm48°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **02** 01:24:39.8±0.9, 5.67S×154.36E, h120^{km}±8^{km}, mb5.0/40 Error ellipse: s-maj=7.4km s-min=5.2km az=86.0*

*SYO **02** 01:24:41.5, 5.71S×154.32E, h136^{km}, MB5.0*

ISC 02 01:24:38.2±1.2**, 5.68S**±0.04×**154.37E**±0.06**, h118**^{km}±10^{km}**, h84**^{km}±2.7^{km}**:pP-P, n108, σ0^{s}83**/102**, mb4.9**/62**, 16C-3D, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAB	**Rabaul**	**2.65**	**304**	*e*P	**P**	**01 25 20.5**	**-0.2**
WAU	**Wau**	**7.78**	**257**	*e*P	**P**	**01 26 29.8**	**-0.3**
PMG	**Port Moresby**	**8.05**	**242**	⇓*i*P	**P**	**01 26 34.4**	**+0.7**
PMG				*e*S	**S**	**01 28 04.2**	**+0.6**
CTA	**Charters Tower**	**16.35**	**208**	*e*P	**P**	**01 28 24.7**	**+2.5**
	11nm,0.8s						
CTA	**Charters Tower**	**16.35**	**208**	P	**P**	**01 28 22.8**	**+0.6**
	0.4nm,0.3s,baz=30,slow=13,SNR=2.8						
CTA				LR	LR	01 33 52.3	
	comp=Z,184nm,20.9s,baz=39,slow=34						
CTAO	**Charters Tower**	**16.35**	**208**	*e*P	**P**	**01 28 22.5**	**+0.3**
	18nm,0.9s						
NOUC	**Port Laguerre**	**19.99**	**146**	⇑*i*P	**P**	**01 29 02.7**	**-0.9**
DZM	**Mont Dzumac**	**20.05**	**146**	⇑*i*P	**P**	**01 29 03.5**	**-0.7**
KAKA	**Kakadu**	**22.77**	**251**	*e*P	**P**	**01 29 31.2**	**-0.1**
	46nm,0.9s,mb4.8						
WRAB	**Tennant Creek**	**24.08**	**232**	*e*P	**P**	**01 29 44.7**	**+0.8**
	98nm,0.6s,mb5.3						
WB2	**Warramunga Arr**	**24.08**	**232**	⇑*i*P	**P**	**01 29 44.9**	**+1.0**
WRA	**Warramunga Arr**	**24.09**	**232**	P	**P**	**01 29 44.1**	**+0.1**
	37nm,0.6s,mb4.9,baz=56,slow=10,SNR=306						
WRA				pP		01 30 02.6	
	26nm,1.1s,baz=63,slow=11,SNR=3.9						
WRA				ScP		01 36 54.2	
	1.3nm,0.7s,baz=56,slow=2.6,SNR=6.7						
WRA				LR	LR	01 39 38.7	
	comp=Z,165nm,18.5s,baz=45,slow=37						
WRA	**Warramunga Arr**	**24.09**	**232**	P	**P**	**01 29 44.1**	**+0.1**
WRA				*PP		01 30 02.6	
WRA				pmax	pmax		
	comp=Z,37nm,0.6s						
WRA				pmax	pmax		
	comp=N,26nm,1.2s						
WRA				pmax	pmax		
	comp=N,1.0nm,0.7s						
WRA				MLR	MLR		
	comp=Z,165nm,18.5s						
ARMA	**Armidale**	**24.74**	**186**	⇑*i*P	**P**	**01 29 51.2**	**+1.0**
ASAR	**Alice Springs**	**26.61**	**226**	P	**P**	**01 30 07.4**	**-0.2**
	comp=Z,122nm,1.2s,mb5.3,baz=59,slow=8.8,SNR=154						
ASAR				pP	pP	01 30 26.9	-6.1
	comp=Z,14nm,0.6s,baz=55,slow=12,SNR=6.2						
ASAR				ScP		01 37 01.2	
	comp=Z,1.0nm,0.7s,baz=46,slow=3.1,SNR=5.0						
ASAR				LR	LR	01 40 13.0	
	comp=Z,149nm,18.0s,baz=8.8,slow=35						
ASPA	**Alice Springs**	**26.61**	**226**	⇑*i*P	**P**	**01 30 07.4**	**-0.2**
STKA	**Stephens Creek**	**28.67**	**203**	⇑*i*P	**P**	**01 30 25.3**	**-0.9**
	comp=Z,19nm,0.6s,mb4.9						
STKA	**Stephens Creek**	**28.67**	**203**	P	**P**	**01 30 25.3**	**-0.9**
	comp=Z,23nm,0.6s,mb5.0,baz=9.8,slow=9.0,SNR=43						
STKA				LR	LR	01 40 50.3	
	comp=Z,219nm,21.5s,baz=24,slow=34						
FITZ	**Fitzroy Crossi**	**30.65**	**244**	⇑*i*P	**P**	**01 30 42.7**	**-1.1**
	comp=Z,42nm,0.9s,mb5.2						
TOO	**Toolangi**	**32.76**	**193**	⇑*i*P	**P**	**01 31 01.8**	**-0.2**
	comp=Z,4.3nm,0.7s,mb4.4						
FORT	**Forrest**	**35.13**	**222**	⇑*i*P	**P**	**01 31 21.7**	**-0.7**
	comp=Z,230nm,0.6s						
MBWA	**Marble Bar**	**36.92**	**242**	*e*P	**P**	**01 31 36.5**	**-1.0**
	comp=Z,16nm,0.7s,mb5.1						
TAU	**Tasmania Unive**	**37.60**	**189**	*e*P	**P**	**01 31 43.6**	**+0.7**
	comp=Z,90nm,1.2s,mb5.5						
URZ	**Urewera**	**38.45**	**151**	P	**P**	**01 31 50.2**	**+0.1**
	comp=Z,56nm,1.1s,mb5.3,baz=15,slow=6.7,SNR=10						
RPZ	**Rata Peaks**	**40.63**	**161**	P	**P**	**01 32 07.6**	**-0.4**
	comp=Z,43nm,0.8s,mb5.3,baz=0.4,slow=18,SNR=9.2						
RPZ				LR	LR	01 45 03.7	
	comp=Z,43nm,20.5s,baz=356,slow=30						
JOW	**Kunigami**	**41.03**	**323**	P	**P**	**01 32 12.2**	**+0.8**
	comp=Z,23nm,0.8s,mb5.1,baz=140,slow=8.1,SNR=8.6						
KLBR	**Kellerberrin**	**42.87**	**228**	⇑*i*P	**P**	**01 32 25.6**	**-1.0**
	comp=Z,24nm,0.5s,mb5.2						
KS15	**Wonju Array Si**	**49.50**	**332**	*e*P	**P**	**01 33 18.9**	**+0.2**
INCN	**Inchon**	**50.13**	**331**	*e*P	**P**	**01 33 23.3**	**-0.2**
	comp=Z,89nm,1.0s,mb5.7						
QIZ	**Qiongzhong**	**50.26**	**300**	P	**P**	**01 33 25.4**	**+0.6**
	comp=Z,8.6nm,0.9s,mb4.7						
CN2	**Changchun**	**55.75**	**335**	*e*P	**P**	**01 34 04.9**	**-0.1**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
ENH	**Enshi**	**55.90**	**312**	*e*P	**P**	**01 34 05.2**	**-1.1**
	comp=Z,27nm,1.0s,mb5.2						
GYA	**Guiyang**	**56.17**	**307**	⇑*i*P	**P**	**01 34 08.4**	**+0.1**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.7						
BJT	**Baijiatuau**	**57.48**	**326**	*e*P	**P**	**01 34 17.4**	**+0.1**
	comp=Z,11nm,0.7s,mb5.0						
BJI	**Beijing**	**57.49**	**326**	P	**P**	**01 34 18.4**	**+1.0**
BJI				S	**S**	**01 42 10.9**	**+7.4**
BJI				AMB	AMB		
	comp=Z,12nm,0.8s,mb5.0						
BJI				LR	LR		
	comp=Z,93nm,36.9s						
XAN	**Xi'an**	**58.34**	**316**	P	**P**	**01 34 21.5**	**-1.9**
XAN				AMB	AMB		
	comp=Z,15nm,0.8s,mb5.1						
KMI	**Kunming**	**58.77**	**304**	*e*P	**P**	**01 34 27.6**	**+1.1**
KMI				AMB	AMB		
	comp=Z,32nm,1.0s,mb5.3						
KMI				AMB	AMB		
	comp=Z,99nm,4.0s						
KMI				LR	LR		
	comp=N,116nm,15.7s						
KMI				LR	LR		
	comp=E,76nm,18.0s						
KMI				LR	LR		
	comp=Z,126nm,17.6s						
CM31	**Chiang Mai Arr**	**59.67**	**295**	*e*P	**P**	**01 34 33.4**	**+0.7**
	comp=Z,18nm,0.8s,mb5.2						
CMAR	**Chiang Mai Arr**	**59.67**	**295**	P	**P**	**01 34 33.0**	**+0.2**
	comp=Z,15nm,0.9s,mb5.0,baz=112,slow=5.3,SNR=61						
CMAR				pP	pP	01 34 54.1	-7.4
	comp=Z,7.6nm,1.0s,baz=113,slow=5.5,SNR=4.4						
CMAR	**Chiang Mai Arr**	**59.67**	**295**	P	**P**	**01 34 33.0**	**+0.2**
CMAR				*PP	pP	01 34 54.1	-7.4
CMAR				pmax	pmax		
	comp=Z,15nm,0.9s						
CMAR				pmax	pmax		
	comp=N,8.0nm,1.0s						
CD2	**Chengdu**	**60.50**	**310**	P	**P**	**01 34 38.3**	**0.0**
CD2				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.5						
HHC	**Hu-ho-hao-te**	**60.67**	**324**	*e*P	**P**	**01 34 40.5**	**+1.1**
HHC				AP	pP	01 35 15.9	+7.7
HHC				XP	sP	01 35 28.4	+7.1
HHC				PP	PP	01 36 58.2	+1.8
HHC				PCS		01 39 24.1	
HHC				S	**S**	**01 42 46.9**	**+2.3**
HHC				XS		01 43 43.4	
HHC				SS	SS	01 46 47.9	+1.5
HHC				AMB	AMB		
	comp=Z,14nm,0.8s,mb5.0						
HHC				AMB	AMB		
	comp=Z,91nm,6.3s						
HIA	**Hailar**	**62.48**	**335**	*e*P	**P**	**01 34 50.4**	**-0.9**
	comp=Z,24nm,1.1s,mb5.1						
LZH	**Lanzhou**	**62.95**	**315**	⇑P	**P**	**01 34 54.8**	**+0.1**
LZH				AP	pP	01 35 29.8	+6.1
LZH				AMB	AMB		
	comp=Z,35nm,1.3s,mb5.1						
GTA	**Gaotai**	**67.36**	**317**	⇑P	**P**	**01 35 23.8**	**+0.8**
GTA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.7						
GTA				LR	LR		
	comp=N,50nm,17.9s						
GTA				LR	LR		
	comp=E,43nm,16.0s						
GTA				LR	LR		
	comp=Z,48nm,15.6s						
CASY	**Casey**	**67.64**	**198**	*e*P	**P**	**01 35 23.2**	**-1.1**
	comp=Z,19nm,1.0s,mb4.9						
UNV	**Unalaska Valle**	**67.78**	**24**	*e*P	**P**	**01 35 25.6**	**+0.4**
	comp=Z,50nm,0.6s,mb5.5						

SONM	Songino Array	67.90	327	P	P	01 35 25.8	-0.3
	comp=Z,10nm,0.7s,mb4.8,baz=135,slow=5.6,SNR=49						
SHL	Shillong	68.10	300	⇑ *i*P	P	01 35 28.0	+0.2
LSA	Lhasa	70.02	304	*e*P	P	01 35 40.5	+1.0
	comp=Z,16nm,0.9s,mb4.8						
YAK	Yakutsk	70.15	348	*e*P	P	01 35 39.1	-0.5
	comp=Z,28nm,0.6s,mb5.3						
ZAK	Zakamensk	71.06	328	⇑ *i*P	P	01 35 45.3	0.0
ZAK				*e*		01 36 21.6	
SBA	Scott Base	72.42	177	*e*P	P	01 35 53.8	+0.8
	comp=Z,24nm,1.0s,mb5.0						
PKI	Pulchoki	74.23	301	*e*P	P	01 36 04.5	+0.1
	comp=Z,40nm,1.1s,mb5.1						
KKN	Kakani	74.39	301	*e*P	P	01 36 05.6	+0.2
	comp=Z,22nm,0.8s,mb4.9						
DMN	Daman	74.50	301	*e*P	P	01 36 06.5	+0.6
	comp=Z,77nm,1.1s,mb5.3						
GKN	Gorkha	75.00	301	*e*P	P	01 36 09.0	+0.2
	comp=Z,60nm,1.1s,mb5.2						
KOLN	Koldanda	75.83	300	*e*P	P	01 36 13.6	+0.1
	comp=Z,27nm,0.7s,mb5.1						
KDAK	Kodiak Island	76.26	26	*e*P	P	01 36 15.6	+0.3
	comp=Z,18nm,0.9s,mb4.8						
HYB	Hyderabad	78.26	289	*i* P	P	01 36 26.5	-0.6
HYB				*e*		01 36 50.5	
SLKM	Skilak Lake	78.81	25	*e*P	P	01 36 29.4	+0.1
TIXI	Tiksi	78.98	352	*e*P	P	01 36 30.2	+0.2
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.4						
PMR	Palmer	79.84	24	*e*P	P	01 36 34.5	-0.4
	comp=Z,17nm,0.8s,mb4.9						
SML	Sawmill	80.28	24	*e*P	P	01 36 37.4	+0.1
DIV	Divide	80.99	25	*e*P	P	01 36 41.4	+0.4
	comp=Z,50nm,0.8s,mb5.4						
MCK	McKinley	81.08	22	*e*P	P	01 36 40.5	-0.9
	comp=Z,25nm,1.0s,mb5.0						
MKAR	Makanchi Array	82.02	319	P	P	01 36 46.2	-0.4
	comp=Z,11nm,0.9s,mb4.7,baz=103,slow=5.8,SNR=37						
MKAR				LR	LR	02 10 17.6	
	comp=Z,23nm,19.5s,baz=239,slow=33						
MKAR	Makanchi Array	82.02	319	*i* P	P	01 36 46.6	0.0
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
COLA	College	82.09	21	*e*P	P	01 36 45.6	-1.0
	comp=Z,18nm,0.8s,mb5.0						
ILAR	Eielson Array	82.39	22	P	P	01 36 46.8	-1.4
	comp=Z,7.7nm,0.7s,mb4.6,baz=248,slow=5.3,SNR=38						
ILAR				pP	pP	01 37 10.4	-8.2
	comp=Z,1.8nm,0.8s,baz=248,slow=5.6,SNR=2.7						
ILAR				LR	LR	02 07 54.8	
	comp=Z,58nm,19.7s,baz=249,slow=32						
ILAR	Eielson Array	82.39	22	P	P	01 36 46.8	-1.4
ILAR				*PP	pP	01 37 10.4	-8.2
ILAR				pmax	pmax		
	comp=Z,8.0nm,0.7s						
ILAR				pmax	pmax		
	comp=N,2.0nm,0.8s						
ZAL	Zalesovo	82.76	326	P	P	01 36 49.5	-0.7
	comp=N,2.6nm,0.9s,mb4.1,baz=266,slow=4.8,SNR=14						
ZAL	Zalesovo	82.76	326	P	P	01 36 49.6	-0.7
ZAL				pmax	pmax		
	comp=Z,3.0nm,0.9s						
QSPA	South Pole Qui	84.28	180	*e*P	P	01 36 58.1	+0.7
	comp=Z,54nm,0.9s,mb5.4						
DAWY	Dawson	84.95	24	*e*P	P	01 37 01.9	+0.9
MAW	Mawson	85.36	203	⇑ *i*P	P	01 37 03.4	+0.4
	comp=Z,30nm,0.7s,mb5.3						
MAW	Mawson	85.36	203	P	P	01 37 03.7	+0.7
	comp=Z,34nm,0.7s,mb5.4,baz=92,slow=6.5,SNR=76						
MAW				LR	LR	02 10 35.4	
	comp=Z,77nm,21.8s,baz=232,slow=32						
MAW	Mawson	85.36	203	⇑ *i*P	P	01 37 03.4	+0.4
	comp=Z,19nm,0.8s,mb5.1						
KURK	Kurchatov	85.42	322	*i* P	P	01 37 03.0	-0.6
KURK				pmax	pmax		
	comp=Z,100nm,4.0s						
KURK	Kurchatov	85.42	322	*e*P	P	01 37 02.7	-1.0
	comp=Z,4.3nm,0.9s,mb4.4						
KURK				*e*		01 37 25.8	
AAK	Ala-Archa	86.40	313	*e*P	P	01 37 07.6	-1.0
	comp=Z,4.1nm,1.0s,mb4.3						
DLBC	Dease Lake	87.33	31	P	P	01 37 13.9	+1.2
	comp=Z,5.5nm,1.0s,mb4.5,baz=237,slow=9.3,SNR=3.0						
DLBC	Dease Lake	87.33	31	P	P	01 37 13.9	+1.2
DLBC	Dease Lake	87.33	31	*e*P	P	01 37 13.9	+1.2
YBH	Yreka Blue Hor	88.47	48	P	P	01 37 20.2	+1.6
	comp=Z,3.3nm,1.2s,mb4.2,baz=52,slow=11,SNR=4.0						
YBH	Yreka Blue Hor	88.47	48	P	P	01 37 20.2	+1.6
YBH				pmax	pmax		
	comp=Z,3.0nm,1.2s						
INK	Inuvik	88.72	21	*e*P	P	01 37 17.3	-1.8
	comp=Z,4.4nm,0.8s,mb4.5						
INK				*e*		01 37 41.2	
BVA0	Borovoye Array	90.88	323	*i* P	P	01 37 28.3	-1.3
BRVK	Borovoye	90.95	323	*e*P	P	01 37 28.3	-1.7
	comp=Z,6.2nm,1.1s,mb4.7						
BRVK				*e*		01 37 50.3	
NVAR	Mina Array Bea	91.40	52	P	P	01 37 34.0	+1.6
	comp=Z,2.2nm,0.7s,mb4.4,baz=273,slow=4.1,SNR=4.9						
ZRNK	Zerenda	91.70	323	P	P	01 37 31.5	-1.9
ZRNK				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.4						
ZRNK	Zerenda	91.70	323	*e*P	P	01 37 31.3	-2.1
	comp=Z,1.5nm,0.6s,mb4.4						
BAR	Barrett	92.15	58	*e*P	P	01 37 37.4	+1.4
PFO	Pinyon Flat Ob	92.42	57	*e*P	P	01 37 38.6	+1.4
	comp=Z,11nm,1.0s,mb5.0						
SYO	Syowa Base	93.36	199	⇓ P	P	01 37 40.2	-0.4
SYO	Syowa Base	93.36	199	⇑ PcP	PcP	01 37 41.0	-0.3
SYO	Syowa Base	93.36	199	⇓ pP	pP	01 38 12.9	+1.2
YKA	Yellowknife Ar	95.47	28	P	P	01 37 50.4	+0.1
	comp=Z,0.8nm,0.6s,mb4.3,baz=271,slow=4.5,SNR=5.4						
YKA				pP	pP	01 38 12.6	-8.8
	comp=Z,1.4nm,0.8s,baz=270,slow=4.5,SNR=3.5						
YKA				LR	LR	02 15 19.9	
	comp=Z,45nm,20.1s,baz=265,slow=32						
YKA	Yellowknife Ar	95.47	28	P	P	01 37 50.4	0.0
YKA				*PP	pP	01 38 12.6	-8.9
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA				pmax	pmax		
	comp=N,1.0nm,0.8s						
YKA	Yellowknife Ar	95.47	28	P	P	01 37 50.4	+0.1
YKA				pP	pP	01 38 12.7	-8.8
PDAR	Pinedale Array	98.28	48	P	P	01 38 03.5	-0.1
	comp=N,0.6nm,0.7s,mb4.3,baz=218,slow=1.9,SNR=5.9						
SNAA	Sanae	101.36	187	P	P	01 38 15.4	-1.4
	comp=N,3.6nm,1.1s						
GERES	GERESS Array B	125.61	329	PKP	PKPdf	01 43 27.6	+1.7
	comp=N,1.0nm,0.7s,baz=90,slow=1.3,SNR=9.4						
GERES	GERESS Array B	125.61	329	PKIKP	PKPdf	01 43 27.6	+1.8
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BDFB	Brasilia	149.34	134	PKPbc	PKPdf	01 44 14.6	+5.1
	comp=Z,1.6nm,0.6s,baz=260,slow=6.1,SNR=2.9						
BDFB	Brasilia	149.34	134	PKHKP		01 44 14.6	
BDFB				pmax	pmax		
	comp=Z,2.0nm,0.6s						
DBIC	Dimbokro	159.32	274	PKPab	PKPab	01 45 03.4	-0.4
	comp=Z,5.8nm,0.9s,baz=46,slow=5.5,SNR=3.6						
DBIC	Dimbokro	159.32	274	PKP2	PKPab	01 45 03.4	-0.4
DBIC				pmax	pmax		
	comp=Z,6.0nm,0.9s						

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*IDC **02** 01:25:22.4±5.7, 18.35S×178.06W, $h526^{km}\pm60^{km}$, mb3.6/7, mb1 3.8/7, mb1mx3.6/15, Error ellipse: s-maj=37.2km s-min=23.8km az=22.0*

*NEIC **02** 01:25:22.5±4.3, 18.32S×178.14W, $h522^{km}\pm45^{km}$, mb4.4/9, Error ellipse: s-maj=27.9km s-min=15.7km az=64.0*

ISC 02 01:25:21.8±4.6**, 18.3S**±0.1×**178.2W**±0.2**,** $\mathbf{h527}^{km}\pm50^{km}$**, n32,** $\sigma 0^{s}.$**81**/25**, mb4.2**/13**, 1C-1D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	20.31	191	P	P	01 29 21.5	-1.0
	5.9nm,0.3s,baz=295,slow=2.9,SNR=11						
CTA	Charters Tower	33.62	261	P	P	01 31 20.1	+0.4
	2.4nm,0.4s,mb4.1,baz=54,slow=8.7,SNR=4.9						
CTAO	Charters Tower	33.62	261	*e*P	P	01 31 19.8	+0.2
	13nm,1.2s,mb4.3						
TOO	Toolangi	37.11	231	*e*PCP	P	01 31 49.8	+1.4
STKA	Stephens Creek	38.65	242	P	P	01 32 02.4	+1.5
	5.8nm,0.5s,mb4.3,baz=100,slow=13,SNR=4.1						
STKA	Stephens Creek	38.65	242	*e*P	P	01 32 02.3	+1.3
STKA	Stephens Creek	38.65	242	*e*PCP	P	01 32 02.3	+1.4
WB2	Warramunga Arr	44.79	260	*e*PCP	P	01 32 49.1	-0.9
WRAB	Tennant Creek	44.79	260	*e*P	P	01 32 49.4	-0.6
	9.3nm,0.7s,mb4.4						
WRA	Warramunga Arr	44.80	260	P	P	01 32 49.3	-0.8
	5.2nm,0.7s,mb4.2,baz=92,slow=7.7,SNR=14						
WRA				PcP	PcP	01 34 20.1	-1.1
	1.3nm,0.5s,baz=97,slow=2.9,SNR=3.9						
WRA	Warramunga Arr	44.80	260	P	P	01 32 49.3	-0.8
WRA				PcP	PcP	01 34 20.1	-1.1
ASAR	Alice Springs	44.91	255	P	P	01 32 51.1	+0.2
	27nm,0.5s,mb5.0,baz=90,slow=8.7,SNR=76						
ASAR				PcP	PcP	01 34 20.9	-0.7
	2.5nm,0.5s,baz=106,slow=3.6,SNR=5.7						
ASPA	Alice Springs	44.92	255	*e*PCP	P	01 32 51.1	+0.1
GUMO	Guam	48.31	308	P	P	01 33 18.1	+1.1
	224nm,1.3s						
MBWA	Marble Bar	58.21	256	*e*P	P	01 34 26.6	-0.8
	32nm,1.2s,mb4.4						
CASY	Casey	65.88	205	*e*P	P	01 35 16.2	-0.1
CASY				*i*		01 35 23.4	
MAJO	Matsushiro	68.37	323	*e*P	P	01 35 30.5	-1.6
	4.7nm,0.5s,mb4.3						
QSPA	South Pole Qui	71.75	180	*e*P	P	01 35 51.9	+0.5
QSPA				*e*P		01 35 52.0	
QSPA				LR	LR		
	comp=Z,90nm,22.0s						
MDJ	Mudanjiang	78.65	325	*e*P	P	01 36 30.8	+0.8
	comp=Z,13nm,0.8s,mb4.3						
MAW	Mawson	83.57	200	P	P	01 36 55.5	+0.8
	comp=Z,1.3nm,0.6s,mb3.7,baz=30,slow=5.1,SNR=4.2						
BJT	Baijiatuau	84.23	315	*e*P	P	01 36 58.9	+0.4
	comp=Z,6.6nm,0.6s,mb4.3						
ENH	Enshi	84.69	304	P	P	01 37 00.4	-0.7
	comp=Z,16nm,1.0s,mb4.5						
TXAR	Lajitas Array	86.01	58	P	P	01 37 07.8	+0.3
	comp=Z,0.5nm,0.6s,mb3.3,baz=212,slow=5.9,SNR=7.1						
SYO	Syowa Base	88.82	193	⇑ P	P	01 37 19.0	-0.8
SNAA	Sanae	90.19	179	*e*P	P	01 37 25.9	-0.1
	comp=Z,2.2nm,0.9s,mb4.0						
MKAR	Makanchi Array	109.58	314	PKiKP		01 42 51.5	
	comp=Z,0.6nm,0.5s,baz=113,slow=0.8,SNR=4.0						
MKAR	Makanchi Array	109.58	314	PKPdf		01 42 51.5	
BRTR	Keskin Array B	145.23	315	PKPbc	PKPbc	01 44 01.1	+1.0
	comp=Z,3.8nm,0.7s,baz=135,slow=3.5,SNR=22						
CLL	Collm	145.90	347	⇓ *i*PKP1	PKPbc	01 44 02.3	+0.9
BRG	Berggiesshubel	146.11	346	*i* P	PKPdf	01 44 03.4	+3.2
KHC	Kasperske Hory	147.82	345	*e*PKP	PKPdf	01 44 07.0	+4.0
GERES	GERESS Array B	148.06	345	PKPbc	PKPdf	01 44 08.3	+5.0
	comp=Z,1.1nm,0.6s,baz=27,slow=3.0,SNR=11						

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*NEIC **02** 01:43:04.6, 34.36N×25.54E, $h27^{km}$, MD3.8(ATH), After ATH.*

*ATH **02** 01:43:05.1, 34.39N×25.54E, $h29^{km}\pm6^{km}$, MD3.7/8*

*THE **02** 01:43:08.4, 34.50N×25.56E, $h20^{km}$, ML3.6*

ISC 02 01:43:05.8±1.9**, 34.51N**±0.10×**25.54E**±0.08**,** $\mathbf{h15}^{km}\pm19^{km}$**, n43,** $\sigma 0^{s}.$**87**/20**, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
XRY	Khrisi	0.39	19	*e*PN	Pn	01 43 15.2	-1.2
NPS	Neapolis	0.76	5	*e*PN	Pn	01 43 22.0	+0.3
NPS				*e*SN	Sn	01 43 34.5	+1.8
GVD	Gavdhos	1.24	286	*e*PN	Pn	01 43 30.0	+1.4
VAM	Vamos	1.42	310	*e*PN	Pn	01 43 32.5	+1.3
KARP	Karpathos	1.69	52	*e*PN	Pn	01 43 36.1	+1.1
THR6	Thira Island,	1.85	357	*e*Pb	Pn	01 43 37.7	+0.4
THR3	Thira Island,	1.90	357	*e*Pb	Pn	01 43 37.8	-0.2
THR5	Thira Island,	1.91	355	*e*Pb	Pn	01 43 38.3	+0.1
THR5				*e*Sb	Sn	01 44 01.6	-0.5
THR4	Thira Island,	1.95	357	*e*Pb	Pn	01 43 38.4	-0.4
APE	Apeiranthos	2.56	360	*e*Pb	Pb	01 43 51.2	+0.3
KYTH	Kithira	2.70	312	*e*Pn	Pn	01 43 49.5	0.0
ARG	Arkhangelos	2.72	50	*e*Pn	Pn	01 43 49.6	-0.1
VLI	Veliai	3.06	317	*e*PN	Pn	01 43 54.0	-0.6
VLI	Veliai	3.06	317	*e*Pn	Pn	01 43 53.4	-1.2
AYDN	Tasoluk	3.67	30	*i* P	Pn	01 44 02.9	-0.5
PTL	Penteli	3.78	340	*e*PN	Pn	01 44 03.9	-1.0
PTL	Penteli	3.78	340	*e*Pn	Pn	01 44 04.0	-0.9
ITM	Ithomi	3.96	313	*e*PN	Pn	01 44 06.2	-1.2
DNZL	Cakiroluk	4.26	41	*i* P	Px	01 44 13.0	
MANT	Manisa	4.66	31	*i* P	Px	01 44 12.0	
VLS	Valsamata	5.42	314	*e*Pn	Px	01 44 24.7	
LKD	Levkas	5.74	318	*e*Pn	Px	01 44 31.6	
	comp=Z,2.5nm,0.1s						
LKD				*e*Sn	Sx	01 45 34.8	
MEV	Metsovon	6.29	328	*e*Pn	Px	01 44 37.8	
MEV				*e*Sn	Sx	01 45 48.8	
OFRI	‘Ofer	8.11	101	Sn	Sx	01 46 23.3	
HNTI	Hanita	8.15	97	Sn	Sx	01 46 24.6	
SLTI	Sal’it	8.26	103	Sn	Sx	01 46 27.0	
KZIT	Kziot	8.28	113	Pn	Px	01 45 01.4	
KZIT				Sn	Sx	01 46 27.2	
TIP	Timpagrande	8.44	306	*e*Pn	Px	01 45 05.8	
SVTA	Shivta	8.44	112	Sn	Sx	01 46 31.4	
MMLI	Mount Malkishu	8.51	101	Pn	Px	01 45 04.8	
MMLI				Sn	Sx	01 46 34.1	
HMDT	Nahal Hemdat	8.65	102	Sn	Sx	01 46 37.4	
DRGI	Dragot	8.77	107	Sn	Sx	01 46 40.4	
MZDA	Masada	8.86	108	Sn	Sx	01 46 41.7	
KMTI	Karmit	8.93	117	Sn	Sx	01 46 43.8	
MKRJ	Makawir	8.98	106	Sn	Sx	01 46 46.2	
PRNI	Paran	9.01	115	Sn	Sx	01 46 45.4	
HRFI	Mount Harif	9.19	116	Pn	Px	01 45 14.7	
HRFI				Sn	Sx	01 46 51.7	
MBH	Mount Berech	9.23	118	Sn	Sx	01 46 52.4	
EIL	Elat	9.33	119	Pn	Px	01 45 16.5	
EIL				Sn	Sx	01 46 53.9	
HAQS	Haql	9.66	122	P	Px	01 45 20.7	
HAQS				S	Sx	01 47 01.3	
JMOS	Jabal al Moall	9.72	121	P	Px	01 45 21.9	
BDAS	Al Bad‘	10.16	124	P	Px	01 45 26.4	
JMQS	Jabal Moqyreh	10.44	120	P	Px	01 45 31.7	

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*INMG **02** 01:57:18.0±1.1, 36.57N×7.70W, $h13^{km}\pm4^{km}$, ML1.7, Error ellipse: s-maj=7.4km s-min=4.3km az=106.0*

MDD 02 01:57:17.7±1.5**, 36.50N**×**7.62W,** $\mathbf{h28}^{km}\pm25^{km}$**, mbLg1.9**/9**, 1C, Error ellipse: s-maj=20.3km s-min=7.3km az=24.0, PRXIMO, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ERIP	Rio Piedras	0.92	18	P	Pn	01 57 33.8	-1.1
	15nm,0.1s,SNR=7.9						
ERIP				S	Sb	01 57 45.6	-1.3
	27nm,0.1s,SNR=7.9						
PALC	Alcoutim	0.97	7	*i* P	Pn	01 57 34.6	-1.1
PALC				*e*S	Sb	01 57 46.7	-1.7
	12nm,0.1s						
PALC	Alcoutim	0.97	7	⇑ P	Pn	01 57 34.6	-1.1
PALC				S	Sb	01 57 46.7	-1.7
	6.2nm,0.1s						
EGRO	El Granado	1.04	6	P	Pn	01 57 35.5	-1.1
	SNR=11						
EGRO				S	Sb	01 57 48.6	-1.7
	7.1nm,0.1s,SNR=21						
PTEO	Sao Teotonio	1.37	320	*e*P	Pn	01 57 39.8	-1.6
PTEO				*e*S	Sn	01 57 56.3	-2.4
	2.8nm,0.2s						
PTEO	Sao Teotonio	1.37	320	P	Pn	01 57 39.8	-1.6
PTEO				S	Sn	01 57 56.3	-2.4
	1.4nm,0.2s						
ESPR	Espera	1.46	75	P	Pn	01 57 41.6	-1.1
	1.1nm,0.1s,SNR=7.9						
ESPR				S	Sn	01 57 58.2	-2.9
	8.6nm,0.3s,SNR=7.9						
EMIN	Mina Concepcio	1.48	31	P	Pn	01 57 41.3	-1.6
	0.4nm,0.1s,SNR=7.0						
EMIN				S	Sn	01 57 58.6	-2.8
	1.1nm,0.1s,SNR=11						
PBEJ	Beja	1.54	353	*e*P	Pn	01 57 42.3	-1.5
PBEJ				*e*S	Sn	01 58 00.3	-2.7
	2.7nm,0.2s						
PBEJ	Beja	1.54	353	P	Pn	01 57 42.3	-1.5
PBEJ				S	Sn	01 58 00.3	-2.7
	1.4nm,0.2s						
MOE	Montemor	2.10	344	*e*Sn	Sn	01 58 14.2	-3.2
EBAD	Badajoz	2.30	12	P	Pn	01 57 52.6	-2.1
	0.4nm,0.1s,SNR=6.4						
EBAD				S	Sn	01 58 19.7	-2.8
	0.6nm,0.0s,SNR=7.9						
EADA	Adamuz	2.94	55	P	Pn	01 58 01.9	-1.9
	0.4nm,0.1s,SNR=7.5						
EADA				S	Sn	01 58 34.0	-4.6
	1.3nm,0.1s,SNR=5.6						
PTOM	Tomar	3.18	349	*e*Pn	Pn	01 58 04.7	-2.5
PCBR	Castelo Branco	3.34	2	*e*Pn	Pn	01 58 07.1	-2.4
PCBR				*e*Sn	Sn	01 58 43.7	-5.0
	1.1nm,0.2s						
PCBR	Castelo Branco	3.34	2	Pn	Pn	01 58 07.1	-2.4
PCBR				Sn	Sn	01 58 43.7	-5.0
	0.6nm,0.2s						
EQES	Quesada	3.86	69	P	Pn	01 58 14.8	-2.1
	0.1nm,0.1s,SNR=7.9						
EQES				S	Sn	01 58 56.3	-5.5
	0.3nm,0.1s,SNR=7.9						
MTE	Manteigas	3.90	1	*e*Sn	Sn	01 58 57.2	-5.6
	2.2nm,0.4s						
MTE	Manteigas	3.90	1	Sn	Sn	01 58 57.2	-5.6
	1.1nm,0.4s						
PVIS	Viseu	4.22	357	*e*Pn	Pn	01 58 19.1	-2.8
PVIS				*e*Sn	Sn	01 59 04.5	-6.4
	1.2nm,0.1s						
	1.3nm,0.2s						
PVIS	Viseu	4.22	357	Pn	Pn	01 58 19.1	-2.8
PVIS				Sn	Sn	01 59 04.5	-6.4
	0.6nm,0.1s						
ESDC	Sonseca Array	4.29	41	P	Pn	01 58 20.4	-2.5
	1.3nm,0.1s,baz=226,slow=14,SNR=3.7						
PVRL	Vila Real	4.77	359	*e*Sn	Sn	01 59 18.5	-6.4
	2.4nm,0.1s						
PVRL	Vila Real	4.77	359	Sn	Sn	01 59 18.5	-6.4
	1.2nm,0.1s						
ETOB	Tobarra	5.28	64	P	Pn	01 58 33.2	-3.7
	0.1nm,0.1s,SNR=7.9						
ETOB				S	Sn	01 59 28.9	-8.6
	0.6nm,0.1s,SNR=7.9						
PBRG	Braganca	5.34	7	*e*Sn	Sn	01 59 32.1	-7.1
ELOB	Lobios	5.37	356	S	Sn	01 59 33.3	-6.7
	0.7nm,0.1s,SNR=6.2						
ECAL	Calabor	5.48	7	P	Pn	01 58 36.6	-3.1
	0.2nm,0.1s,SNR=7.9						
ECAL				S	Sn	01 59 36.2	-6.4
	1.4nm,0.3s,SNR=7.9						

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*SOF **02** 02:05:37.9, 45.71N×27.27E, $h100^{km}$, MD2.9*

*BUC **02** 02:05:40.6±0.2, 45.28N×27.27E, $h9^{km}\pm2^{km}$, MD3.4, Error ellipse: s-maj=3.8km s-min=1.6km az=51.0*

*NEIC **02** 02:05:40.2±1.1, 45.39N×27.49E, $h20^{km}\pm18^{km}$, Error ellipse: s-maj=14.6km s-min=11.0km az=66.0*

ISC 02 02:05:41.4±0.7**, 45.26N**±0.03×**27.30E**±0.05**,** $\mathbf{h7}^{km}\pm6^{km}$**, n28,** $\sigma 1^{s}.$**23**/43**, 9C-8D, Romania**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BRD	Bordesti	0.35	328	⇓ *i*P	Pg	02 05 48.3	-0.2
BRD				S	Sg	02 05 55.1	+1.9
BRD	Bordesti	0.35	328	⇓ *i*P	Pg	02 05 48.4	-0.1
BRD				*i* S	Sg	02 06 02.4	+9.2
ISR	Istrita	0.55	256	⇑ *i*P	Pg	02 05 52.0	-0.5
ISR				*i* S	Sg	02 06 01.6	+1.8
ISR	Istrita	0.55	256	⇑ *e*P	Pg	02 05 52.3	-0.2
ISR				*i* S	Sg	02 06 11.4	+12
HARR	Harsova	0.73	141	⇓ *i*P	Pg	02 05 55.8	-0.2
HARR				*i* S	Sg	02 06 06.8	+1.1
HARR	Harsova	0.73	141	⇓ *i*P	Pg	02 05 55.9	-0.1
HARR				*i* S	Sg	02 06 09.1	+3.4
VRI	Vrincioaia	0.73	327	⇓ *i*P	Pg	02 05 55.4	-0.6
VRI				S	Sg	02 06 05.7	0.0
VRI	Vrincioaia	0.73	327	⇑ *i*P	Pg	02 05 55.7	-0.3
MLR	Muntele Rosu	0.98	284	⇑ *i*P	Pb	02 06 00.1	-0.2
MLR				S	Sb	02 06 15.2	+2.0
MLR	Muntele Rosu	0.98	284	⇑ *i*P	Pb	02 06 00.6	+0.4
MLR				*i* S	Sb	02 06 15.5	+2.4
PPE	Popeni	1.07	21	⇓ *i*P	Pb	02 05 55.9	-6.0
PPE				*i* S	Sb	02 06 10.1	-5.8
TIRR	Tirgusor	1.13	135	⇓ *i*P	Pb	02 06 02.6	-0.2
TIRR				S	Sb	02 06 20.2	+2.7
SNX	Sinaia	1.26	275	⇑ *i*P	Pb	02 06 04.6	-0.5
SNX				S	Sb	02 06 21.3	0.0
SNX	Sinaia	1.26	275	⇓ *i*P	Pb	02 06 04.9	-0.1
SNX				*i* S	Sb	02 06 23.3	+2.0
BUC1	Bucharest	1.28	225	⇑ *i*P	Pb	02 06 05.3	-0.1
BUC1				*i* S	Sb	02 06 23.4	+1.5
BUC1	Bucharest	1.28	225	⇑ *i*P	Pb	02 06 05.0	-0.4
BUC1				*i* S	Sb	02 06 23.8	+1.8
PSN	Preselentsi	1.70	158	P	Pn	02 06 13.0	+1.3
IAS	Iasi	1.94	5	S	Sn	02 06 40.4	+0.3
PRD	Provadia	2.06	178	P	Pn	02 06 17.5	+0.7
SZH	Strazhica	2.22	207	P	Pn	02 06 19.0	-0.1
PVL	Pavlikeni	2.48	215	P	Pn	02 06 24.0	+1.1
BURAR	Bucovina Array	2.76	329	⇑ *i*P	Pn	02 06 25.9	-1.0
PGB	Panagyurishte	3.53	221	P	Pn	02 06 36.5	-1.3
KDZ	Kurdzhali	3.86	201	P	Pn	02 06 41.5	-1.0
VTS	Vitosha	3.98	229	P	Pn	02 06 41.8	-2.4
RZN	Rozhen	4.03	209	P	Pn	02 06 43.0	-1.9
MMB	Musomiste	4.49	217	*e*P	Pn	02 06 50.0	-1.5
KKB	Krupnik	4.57	224	P	Pn	02 06 50.5	-2.0

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*ATH **02** 02:06:43.2, 36.91N×27.70E, $h10^{km}$, MD3.0/3*

*ISK **02** 02:06:44.1, 37.00N×27.94E, $h3^{km}$, MD3.2*

ISC 02 02:06:43.5±0.7**, 36.93N**±0.04×**27.83E**±0.04**,** $\mathbf{h11}^{km}\pm5^{km}$**, n13,** $\sigma 0^{s}.$**93**/19**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.34	294	*i* P	Pg	02 06 50.2	-0.3
BDRM				*i* S	Sg	02 06 55.7	+0.5
MLSB	Milas	0.37	353	*i* PG	Pg	02 06 51.1	0.0
MLSB				*i* SG	Sg	02 06 56.5	+0.3
YER	Yerkesik	0.41	60	*i* PG	Pg	02 06 51.5	-0.5
DALT	Dalyan (Mudla)	0.67	104	PG	Pg	02 06 56.0	-0.9
DALT				SG	Sg	02 07 05.9	+0.1
AYDN	Tasoluk	0.73	3	*i* P	Pb	02 06 57.1	-0.6
AYDN				*i* S	Sb	02 07 06.0	-1.4
ARG	Arkhangelos	0.75	162	*e*PB	Pb	02 06 58.0	0.0
SMG	Samos	1.11	315	*e*PB	Pb	02 07 03.2	-1.0
DNZL	Cakiroluk	1.23	52	*i* P	Pb	02 07 06.5	+0.2
DNZL				*i* S	Sb	02 07 23.2	+1.3
DENT	Denizli	1.26	49	PN	Pn	02 07 06.6	-0.4
DENT				*e*SN	Sn	02 07 22.6	-1.4
KARP	Karpathos	1.48	202	*e*PB	Pb	02 07 10.0	-0.5
IZM	Izmir	1.53	343	PN	Pn	02 07 12.3	+1.4
ELL	Elmali	1.68	96	PN	Pn	02 07 14.6	+1.7
AKS	Akhisar	1.95	360	*e*PN	Pn	02 07 18.7	+1.9

GUC 02 02:34:05.7±0.8**, 37.41S**×**73.25W,** $\mathbf{h40}^{km}$**, ML3.7, 2C-4D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CCHI	Chillan	1.24	50	⇓ *i*P	P	02 34 27.9	+1.0
CCHI				*i* S	S	02 34 43.8	+1.1
CCHI				AMP		02 34 49.3	
	comp=E,3µm,0.5s						
CCHI				AMP		02 34 49.5	
	comp=E,5µm,0.5s						
COCH	Cobquecura	1.33	16	*e*P	P	02 34 28.7	+0.5
COCH				*i* S	S	02 34 46.4	+1.4
COCH				AMP		02 34 51.5	
	comp=E,1µm,0.6s						
SFDO	San Fernando	3.33	34	⇑ *i*P	P	02 34 56.1	-0.5
CICH	Cipreses	3.85	38	⇑ *i*P	P	02 35 04.1	+0.1
CHCH	Chadas Angostu	4.07	32	*e*P	P	02 35 05.9	-1.2
LMEL	Las Melosas	4.34	36	⇓ *i*P	P	02 35 10.6	-0.4
PCH	Pirque	4.39	31	⇓ *i*P	P	02 35 10.4	-1.3
FCH	Farellones	4.74	32	⇓ *i*P	P	02 35 15.2	-1.4
FCH				*i* S	S	02 36 09.2	-1.9

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*IDC **02** 03:03:46.7±10.0, 20.49S×177.64W, $h380^{km}\pm102^{km}$, mb3.7/4, mb1 3.9/5, mb1mx3.5/13, Error ellipse: s-maj=68.5km s-min=30.1km az=6.0*

*NEIC **02** 03:03:51.4±4.1, 20.73S×177.72W, $h429^{km}\pm45^{km}$, mb4.3/8, Error ellipse: s-maj=36.2km s-min=17.0km az=193.0*

ISC 02 03:03:48.0±1.2**, 20.6S**±0.2×**177.8W**±0.2**,** $\mathbf{h400}^{km}$**, n19,** $\sigma 0^{s}.$**83**/15**, mb4.0**/11**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	18.14	193	P	P	03 07 35.2	+0.6
	1.7nm,0.3s,baz=270,slow=18,SNR=7.3						

CTA	Charters Tower	33.66	264	*e*P	P	03 09 56.0	+1.1
	5.6nm,0.4s,mb4.2						
CTAO	Charters Tower	33.66	264	*e*P	P	03 09 55.9	+1.0
	7.6nm,0.5s,mb4.3						
PMG	Port Moresby	35.54	283	*e*P	P	03 10 11.7	+0.9
	18nm,1.0s,mb4.3						
ASAR	Alice Springs	44.67	257	P	P	03 11 24.9	0.0
	10nm,0.5s,mb4.4,baz=89,slow=8.2,SNR=99						
ASAR				PcP	PcP	03 13 00.0	+0.1
	1.0nm,0.7s,baz=102,slow=4.4,SNR=4.8						
ASPA	Alice Springs	44.68	257	*e*P	P	03 11 24.8	-0.1
WB2	Warramunga Arr	44.76	262	*e*P	P	03 11 25.2	-0.4
WRAB	Tennant Creek	44.76	262	*e*P	P	03 11 24.8	-0.8
	8.8nm,0.7s,mb4.2						
WRA	Warramunga Arr	44.77	262	P	P	03 11 25.5	-0.2
	3.0nm,0.3s,mb4.1,baz=96,slow=7.6,SNR=59						
KAKA	Kakadu	48.20	271	*e*P	P	03 11 51.7	-0.5
	28nm,1.3s,mb4.4						
FITZ	Fitzroy Crossi	53.20	262	*e*P	P	03 12 29.1	-0.2
	3.5nm,1.0s,mb3.5						
MBWA	Marble Bar	58.01	257	*e*P	P	03 13 01.4	-1.5
	13nm,0.9s,mb4.2						
MCK	McKinley	87.03	12	*e*P	P	03 15 41.4	-8.6
	2.5nm,1.1s,mb3.9						
PDAR	Pinedale Array	88.91	43	P	P	03 15 58.8	-0.5
	0.3nm,0.7s,mb3.1,baz=270,slow=3.0,SNR=3.5						
CMAR	Chiang Mai Arr	90.32	290	P	P	03 16 08.2	+1.8
	0.8nm,0.4s,mb3.9,baz=139,slow=2.0,SNR=4.6						
MKAR	Makanchi Array	111.40	313	PKiKP		03 21 36.1	
	0.4nm,0.5s,baz=252,slow=3.4,SNR=3.8						
AKASG	Malin Array Be	143.19	331	PKP	PKPdf	03 22 32.9	-1.9
	0.4nm,0.3s,baz=40,slow=4.1,SNR=4.8						
BRTR	Keskin Array B	147.04	312	PKPbc	PKPdf	03 22 45.0	+3.2
	1.2nm,0.7s,baz=131,slow=3.7,SNR=7.9						
GERES	GERESS Array B	150.34	345	PKPbc	PKPdf	03 22 53.4	+6.7
	0.8nm,0.8s,baz=45,slow=1.9,SNR=6.7						

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*NNC **02** 03:10:59.5±1.6, 38.75N×70.41E, mpv3.6, Error ellipse: s-maj=16.2km s-min=13.3km az=108.0*

ISC 02 03:10:56.0±2.3**, 38.3N**±0.2×**69.8E**±0.1**, h33^{km}, n15, σ$0\overset{s}{.}94$**/17**, 1C-1D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KK31	Karatay Array	4.86	6	Pn	Pn	03 12 09.9	+1.1
	4.0nm,0.3s,baz=178,slow=12,SNR=100						
KK31				Sn	Sn	03 13 05.5	+0.8
	baz=179,slow=26						
KK31				⇑Lg		03 13 16.0	
	147nm,0.7s,baz=178,slow=29,SNR=18						
AML	Almayashu	4.88	37	P	P	03 12 09.0	0.0
	SNR=83						
EKS2	Erkin-Say	5.34	33	P	P	03 12 15.6	+0.2
	SNR=11						
UCH	Uchtor	5.36	41	P	P	03 12 15.7	+0.1
	SNR=100						
AAK	Ala-Archa	5.64	38	P	P	03 12 20.1	+0.4
	SNR=22						
KZA	Kyzart	5.65	46	P	P	03 12 20.1	+0.3
	SNR=21						
KBK	Karagaybulak	5.89	40	P	P	03 12 23.6	+0.4
	SNR=105						
CHMS	Chumysh	6.04	37	P	P	03 12 25.1	-0.2
	SNR=6.0						
USP	Ospenovka	6.14	34	P	P	03 12 25.7	-1.0
	SNR=31						
ULHL	Ulahol	6.33	49	P	P	03 12 26.0	-3.4
	SNR=5.8						
TKM2	Tokmak 2	6.41	42	P	P	03 12 30.4	-0.1
	SNR=8.7						
MK31	Makanchi Array	12.54	43	P	P	03 13 50.1	-4.7
	2.6nm,0.8s,baz=229,slow=12,SNR=18						
AB31	Akbulak array	13.07	330	Pn	P	03 14 04.1	+2.2
	3.3nm,0.5s,baz=150,slow=10,SNR=101						
AB31				⇓Sn	S	03 16 25.9	-1.1
	2.4nm,0.6s,baz=148,slow=23,SNR=5.2						
VOSK	Vostochnaya	14.48	3	P	P	03 14 19.4	-0.8
ZRNK	Zerenda	14.69	358	P	P	03 14 21.9	-1.2

DJA 02 03:14:05.7±1.0**, 8.55S×115.96E, h42^{km}**±9^{km}**, MD4.9**/2**, ML3.7**/1**, 4C-2D, Error ellipse: s-maj=27.0km s-min=15.2km az=151.0, Bali region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEDI	Kedomdong	0.17	67	⇑*i*Pg	P	03 14 12.4	-0.5
	909nm,0.2s						
KEDI				⇑*i*Sg	S	03 14 17.3	-0.6
RATI	Rata	0.45	248	⇑*i*Pg	P	03 14 15.3	-0.6
	3µm,0.2s						
RATI				⇑*i*Sg	S	03 14 22.9	-0.2
KELI	Kelakatan	1.49	283	⇓*i*Pg	P	03 14 29.5	-1.0
	71nm,1.1s						
KELI				⇓*i*Sg	S	03 14 46.3	-2.6

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*THE **02** 03:20:15.6, 40.79N×21.77E, h5^{km}, ML2.8*

*ATH **02** 03:20:17.5, 40.64N×21.85E, h3^{km}, MD3.0/5*

*NEIC **02** 03:20:18.0, 40.60N×21.86E, h4^{km}, MD3.0(ATH), After ATH.*

ISC 02 03:20:15.0±0.3**, 40.77N**±0.02×**21.78E**±0.02**, h5^{km}, n19, σ$1\overset{s}{.}04$**/32**, 2C, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FNA	Florina	0.31	272	*e*Pg	Pg	03 20 21.0	-0.1
FNA				*e*Sg	Sg	03 20 25.7	+0.4
BIA	Bitola	0.43	305	⇑*i*Pg	Pg	03 20 24.2	+0.7
BIA				*i* Sg	Sg	03 20 30.1	+0.9
KZN	Kozani	0.47	181	*e*Pg	Pg	03 20 23.0	-1.3
KZN				*e*Sg	Sg	03 20 28.5	-2.0
VAY	Valandovo	0.81	47	⇑*i*Pg	Pg	03 20 30.8	-0.3
VAY				*i*		03 20 32.3	
VAY				*i* Sg	Sg	03 20 41.6	-0.3
OHR	Ohrid	0.82	295	*i* Pg	Pg	03 20 30.3	-1.0
OHR				*i*		03 20 30.9	
OHR				*i* Sg	Sg	03 20 42.3	+0.1
OHR				*i*		03 20 43.2	
THE	Thessaloniki	0.91	99	*e*Pg	Pg	03 20 32.5	-0.6
THE				*e*Sg	Sg	03 20 46.2	+0.9
KNT	Kendrikon	0.93	65	*e*Pg	Pg	03 20 33.2	-0.4
KNT				*e*Sg	Sg	03 20 46.2	+0.3
MEV	Metsovon	1.07	203	*e*Pg	Pg	03 20 35.4	-1.1
	comp=Z,8.0nm,0.3s						
MEV				*e*Sg	Sg	03 20 52.1	+1.3
SOH	Sokhos	1.19	87	*e*Pb	Pb	03 20 38.3	+0.6
SOH				*e*Sb	Sb	03 20 55.9	+2.6
SKO	Skopje	1.23	348	*i* Pg	Pg	03 20 38.2	-1.2
SKO				*i* Sg	Sg	03 20 55.0	-0.8
JAN	Janina	1.32	213	*e*PB	Pb	03 20 41.2	+1.3
PLG	Polygyros	1.33	107	*e*PG	Pg	03 20 40.6	-0.9
SRS	Serrai	1.41	75	*e*Pb	Pb	03 20 41.0	-0.4
SRS				*e*Sb	Sb	03 21 01.2	+1.6
PAIG	Paliouri	1.68	120	*e*Pb	Pb	03 20 45.1	-0.9
PAIG				*e*Sb	Sb	03 21 08.0	+0.6
XOR	Xorichti	1.77	142	*e*Pb	Pb	03 20 46.2	-1.4
XOR				*e*Sb	Sb	03 21 09.8	-0.3
KEK	Kerkira	1.85	236	*e*PB	Pb	03 20 51.8	+2.9
EVR	Evrytania	1.85	179	*e*PB	Pb	03 20 50.5	+1.5
LKD	Levkas	2.24	203	*e*Pn	Pn	03 20 53.5	+0.3
AOS	Alonnisos	2.27	134	*e*Pn	Pn	03 20 53.4	-0.3

WEL 02 03:34:17.0±0.6**, 45.03S×167.67E, h108^{km}**±4^{km}**, ML3.5**/1**, Error ellipse: s-maj=6.2km s-min=5.9km az=90.0, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MLZ	Mavora Lakes	0.48	132	PN	P	03 34 33.0	-0.6
MLZ				SN	S	03 34 46.1	0.0
MLZ				SN	S	03 34 46.2	+0.1
TUZ	Tuapeka	1.66	125	PN	P	03 34 45.8	-0.3
TUZ				SN	S	03 35 06.4	-1.5
TUZ				SN	S	03 35 06.4	-1.5
ODZ	Otahua Downs	2.11	91	PN	P	03 34 51.1	-0.7
ODZ				SN	S	03 35 16.3	-1.6

IDC 02 03:56:49.1±2.0**, 1.12S×132.47E, mb3.9**/3**, mb1 4.1**/4**, mb1mx3.8**/15**, ML3.7**/1**, Error ellipse: s-maj=102.0km s-min=15.5km az=78.0, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.79	175	P	P	04 01 11.7	-0.7
	0.2nm,0.3s,baz=355,slow=12,SNR=48						
WRA				S	S	04 04 42.4	+2.7
	0.1nm,0.3s,baz=349,slow=21,SNR=4.8						
ASAR	Alice Springs	22.45	177	P	P	04 01 51.5	+0.1
	4.3nm,1.0s,baz=3.2,slow=12,SNR=14						
STKA	Stephens Creek	31.78	165	P	P	04 03 14.4	-3.1
	0.7nm,0.4s,baz=337,slow=12,SNR=2.9						
MKAR	Makanchi Array	64.80	324	P	P	04 07 29.4	-2.6
	0.9nm,0.4s,baz=113,slow=9.2,SNR=5.3						

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*NEIC **02** 04:01:42.0, 35.00S×70.54W, h2^{km}, ML3.2(GUC), After GUC.*

GUC 02 04:01:42.0±0.7**, 35.00S×70.54W, h2^{km}**±3^{km}**, MD3.9, ML3.2, 10C-4D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFDO	San Fernando	0.55	315	⇓*i*P	Pg	04 01 52.9	-0.1
SFDO				*i* S	Sg	04 02 01.5	+1.3
NICH	Los Niches	0.56	270	⇓*i*P	Pg	04 01 53.5	+0.2
NICH				*i* S	Sg	04 02 02.2	+1.4
CICH	Cipreses	0.69	8	⇓*i*P	Pg	04 01 54.4	-1.3
CICH				*i* S	Sg	04 02 03.9	-1.1
CACH	El Canelo	0.88	357	⇑*i*P	Pg	04 01 58.0	-1.6
CACH				*i* S	Sg	04 02 11.0	-0.4
CHCH	Chadas Angostu	1.07	355	⇑*i*P	Pb	04 02 01.9	-1.0
LMEL	Las Melosas	1.19	14	⇑*i*P	Pb	04 02 03.1	-1.7
LMEL				*i* S	Sb	04 02 19.8	-0.7
LMEL				AMP		04 02 22.3	
	comp=N,302nm,0.6s						
LNV	Longovilo	1.27	325	⇑*i*P	Pb	04 02 05.2	-1.1
LNV				*i* S	Sb	04 02 22.5	-0.4
PCH	Pirque	1.38	1	⇑*i*P	Pb	04 02 07.2	-0.9
PCH				*i* S	Sb	04 02 26.3	+0.2
TACH	Talagante	1.39	346	⇑*i*P	Pb	04 02 07.2	-1.1
TACH				*i* S	Sb	04 02 26.2	0.0
ANTU	Antumapu	1.43	357	*i* P	Pn	04 02 07.9	-1.1
ANTU				*i* S	Sb	04 02 27.6	0.0
ANTU				AMP		04 02 29.7	
	comp=E,775nm,0.3s						
RCDM	Rinconada Maip	1.52	352	*i* P	Pn	04 02 09.5	-0.8
RCDM				*i* S	Sb	04 02 30.1	-0.2
RCDM				AMP		04 02 32.2	
	comp=N,459nm,0.4s						
SAN	Santiago	1.55	356	*i* S	Sb	04 02 31.4	+0.4
DSCH	Colegio Aleman	1.60	359	⇑*i*P	Pn	04 02 11.0	-0.4
DSCH				*i* S	Sb	04 02 32.7	+0.2
DSCH				AMP		04 02 36.6	
	comp=N,1µm,0.7s						
CLCH	Cerro Calan	1.60	0	⇑*i*P	Pn	04 02 10.8	-0.6
CLCH				*i* S	Sb	04 02 32.9	+0.3
CLCH				AMP		04 02 37.8	
	comp=E,643nm,0.5s						
FCH	Farellones	1.68	7	*e*P	Pn	04 02 12.5	-0.1
FCH				*i* S	Sb	04 02 34.6	-0.3
FCH				AMP		04 02 50.1	
	comp=N,407nm,0.3s						
LCCH	Las Cruces	1.75	331	⇓*i*P	Pn	04 02 13.1	-0.3
LCCH				*e*S	Sn	04 02 36.5	0.0
PEL	Peldehue	1.86	356	*i* P	Pn	04 02 14.6	-0.5
PEL				*i* S	Sn	04 02 40.9	+1.5
CCHI	Chillan	2.03	218	⇑*i*P	Pn	04 02 17.1	-0.4
CCHI				AMP		04 02 49.0	
	comp=E,411nm,0.5s						
CCHI				AMP		04 02 49.2	
	comp=E,697nm,0.5s						
IHA	Instituto Hidr	2.17	335	*e*P	Pn	04 02 19.8	+0.2
IHA				*i* S	Sn	04 02 48.5	+1.1
JACH	Jahuel	2.31	359	⇑*i*P	Pn	04 02 22.5	+0.9

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*LDG **02** 04:06:17.8±0.1, 42.81N×0.27W, h2^{km}, Md2.2/2, Ml1.9/2, Error ellipse: s-maj=2.8km s-min=1.1km az=2.0*

*STR **02** 04:06:17.6±0.1, 42.83N×0.27W, h5^{km}±1^{km}, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*MDD **02** 04:06:18.4±0.4, 42.83N×0.27W, mbLg1.3/6, Error ellipse: s-maj=5.0km s-min=1.8km az=2.0, PRXIMO SIN SOLUCIN*

ISC 02 04:06:17.7±0.6**, 42.88N**±0.04×**0.25W**±0.03**, h10^{km}**±8^{km}**, n19, σ$0\overset{s}{.}77$**/29**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VIEF	Viey	0.20	90	P	Pg	04 06 22.4	+0.2
VIEF				S	Sg	04 06 25.4	+0.3
REYF	Montagne du Re	0.21	331	Pg	Pg	04 06 22.9	+0.6
REYF				Sg	Sg	04 06 26.7	+1.4
REYF	Montagne du Re	0.21	331	P	Pg	04 06 23.1	+0.9
REYF				S	Sg	04 06 26.6	+1.3
ETSF	Etsaut	0.22	274	*e*Pg	Pg	04 06 22.2	-0.3
ETSF				*e*Sg	Sg	04 06 25.5	-0.2
	16nm,0.3s						
FDAF	Les Forges d'A	0.24	254	Pg	Pg	04 06 22.1	-0.7
FDAF				Sg	Sg	04 06 25.4	-0.8
FDAF	Les Forges d'A	0.24	254	P	Pg	04 06 22.3	-0.5
FDAF				S	Sg	04 06 25.5	-0.6
RESF	Ens	0.44	100	Pg	Pg	04 06 26.5	-0.2
RESF				Sg	Sg	04 06 32.4	-0.3
RESF	Ens	0.44	100	P	Pg	04 06 26.5	-0.2
RESF				S	Sg	04 06 32.6	-0.1
EPF	Esparros	0.46	71	*e*Pg	Pg	04 06 27.5	+0.5
EPF				*e*Sg	Sg	04 06 34.0	+0.7
	8.7nm,0.2s						
LARF	Larrau	0.56	286	Pg	Pg	04 06 28.7	-0.3
LARF				Sg	Sg	04 06 36.8	+0.3
LARF	Larrau	0.56	286	P	Pg	04 06 29.0	0.0
LARF				S	Sg	04 06 36.4	-0.2
SJPF	Ste Jean	0.75	288	*e*Pg	Pg	04 06 33.1	+0.4
SJPF				*e*Sg	Sg	04 06 43.2	+0.4
	4.7nm,0.3s						
EALK	Alkurruntz	0.98	291	Pg	Pg	04 06 36.5	-0.7
	4.3nm,0.8s,SNR=5.7						
EALK				Lg		04 06 51.1	
	2.6nm,0.2s,SNR=8.6						
SALF	Salau	1.07	96	S	Sb	04 06 52.4	+0.8
ESAC	San Caprasio	1.17	188	Pg	Pg	04 06 41.7	+0.5
	SNR=7.9						
ESAC				Lg		04 06 56.9	
	11nm,0.2s,SNR=8.8						
EMIR	Miracle	1.64	126	Lg		04 07 12.5	
	0.7nm,0.1s,SNR=7.9						
EPOB	Poblet	1.82	147	Lg		04 07 16.7	
	0.8nm,0.2s,SNR=7.9						
MTLF	Montolieu	1.87	75	*e*Sg	Sg	04 07 17.3	-2.6
	0.8nm,0.2s						
LFF	La Frestale	2.18	19	*e*Sg	Sg	04 07 28.8	-1.4
	3.1nm,0.4s						

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*LDG **02** 04:16:32.0±0.1, 42.89N×0.30W, h13^{km}, Md1.5/2, Ml1.4/1, Error ellipse: s-maj=9.2km s-min=2.2km az=175.0*

*STR **02** 04:16:32.5±0.2, 42.79N×0.26W, h2^{km}±1^{km}, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 02 04:16:31.3±0.7**, 42.98N**±0.08×**0.29W**±0.04**, h13^{km}, n6, σ$0\overset{s}{.}83$**/11**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ETSF	Etsaut	0.21	247	*e*Pg	Pg	04 16 36.8	+0.6
ETSF				*e*Sg	Sg	04 16 40.1	+0.7
	6.1nm,0.2s						
VIEF	Viey	0.25	113	Pg	Pg	04 16 36.9	+0.1
VIEF				Sg	Sg	04 16 40.0	-0.5
FDAF	Les Forges d'A	0.26	231	Pg	Pg	04 16 36.8	-0.2
FDAF				Sg	Sg	04 16 40.1	-0.7
EPF	Esparros	0.47	84	*e*Pg	Pg	04 16 42.1	+1.2
EPF				*e*Sg	Sg	04 16 48.3	+1.0
	3.0nm,0.2s						
SJPF	Ste Jean	0.70	281	*e*Pg	Pg	04 16 45.5	+0.1
SJPF				*e*Sg	Sg	04 16 54.1	-0.7
	0.8nm,0.2s						
MTLF	Montolieu	1.87	78	*e*Sg	Sg	04 17 31.9	-1.8
	0.4nm,0.2s						

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*IDC **02** 04:21:27.6±1.6, 1.58N×126.26E, mb4.1/4, mb1 4.2/5, mb1mx3.9/16, ML3.7/1, Error ellipse: s-maj=105.0km s-min=22.0km az=67.0*

*NEIC **02** 04:21:48.4±3.8, 1.25N×126.29E, h195^{km}±39^{km}, mb4.3/4, Error ellipse: s-maj=53.3km s-min=15.4km az=68.0*

ISC 02 04:21:43.5±5.2**, 1.3N**±0.2×**126.0E**±0.5**, h157^{km}**±52^{km}**, n13, σ$1\overset{s}{.}03$**/13**, mb4.1**/7**, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	Kakadu	15.30	156	*e*P	P	04 25 13.2	+0.7
	13nm,0.8s						
FITZ	Fitzroy Crossi	19.28	181	P	P	04 25 57.6	-0.8
	0.2nm,0.3s,baz=5.2,slow=11,SNR=4.8						
WRAB	Tennant Creek	22.64	159	*e*P	P	04 26 30.9	-1.0
	21nm,0.8s,mb4.6						
WRA	Warramunga Arr	22.64	159	P	P	04 26 31.0	-1.0
	11nm,0.7s,mb4.4,baz=337,slow=11,SNR=42						
WB2	Warramunga Arr	22.65	159	*e*P	P	04 26 31.0	-1.0
ASPA	Alice Springs	25.98	163	*e*P	P	04 27 05.4	+1.8
ASAR	Alice Springs	25.98	163	P	P	04 27 05.7	+2.1
	2.5nm,0.5s,mb4.1,baz=346,slow=12,SNR=20						
STKA	Stephens Creek	36.16	157	P	P	04 28 31.9	-0.6
	1.1nm,0.6s,mb3.7,baz=320,slow=11,SNR=3.1						
STKA	Stephens Creek	36.16	157	*e*P	P	04 28 31.9	-0.7
MKAR	Makanchi Array	59.13	326	P	P	04 31 29.5	-0.4
	0.6nm,0.5s,mb3.7,baz=124,slow=7.9,SNR=9.3						
KURK	Kurchatov	63.39	328	*e*P	P	04 31 58.0	-0.3
	2.6nm,0.7s,mb4.2						
ZRNK	Zerenda	69.66	327	P	P	04 32 38.5	+0.7
	1.1nm,0.5s,mb3.8						
MAW	Mawson	81.23	200	P	P	04 33 43.3	+0.4

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*IDC **02** 04:23:29.6±2.7, 22.05S×65.78W, h257^{km}±21^{km}, mb3.6/7, mb1 3.7/10, mb1mx3.6/16, Error ellipse: s-maj=40.0km s-min=13.9km az=34.0*

*NEIC **02** 04:23:29.1±1.0, 22.15S×65.86W, h255^{km}±11^{km}, mb4.0/12, Error ellipse: s-maj=16.1km s-min=9.0km az=58.0*

*SYO **02** 04:23:29.9, 22.12S×65.73W, h265^{km}, MB4.0*

ISC 02 04:23:28.4±0.9**, 22.14S**±0.08×**65.8W**±0.1**, h263^{km}**±9^{km}**, n32, σ$1\overset{s}{.}01$**/30**, mb4.0**/15**, 2D, Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPAZ	La Paz	6.22	339	P	P	04 25 01.8	+1.6
	2.8nm,0.3s,baz=146,slow=5.4,SNR=23						
LPAZ				S	S	04 26 11.5	-0.5
	0.6nm,0.3s,baz=324,slow=20,SNR=9.7						
LPAZ	La Paz	6.22	339	*e*Pn	P	04 25 01.5	+1.3
	8.1nm,0.4s						
LPAZ				*e*S	S	04 26 11.1	-0.9
ARE	Arequipa	7.79	316	*e*P	P	04 25 18.0	-1.8
CPUP	Villa Florida	8.79	120	P	P	04 25 32.4	-0.1
	0.1nm,0.3s,baz=321,slow=12,SNR=4.9						
CPUP	Villa Florida	8.79	120	*e*Pn	P	04 25 32.9	+0.4
SAML	Samuel	13.36	11	*e*P	P	04 26 29.9	+0.4
NNA	Nana	14.59	312	*e*P	P	04 26 46.3	+1.5
	5.1nm,0.7s						
BDFB	Brasilia	18.03	72	P	P	04 27 23.2	+0.5
	1.2nm,0.3s,baz=261,slow=11,SNR=11						
PLCA	Paso Flores	18.96	191	*e*P	P	04 27 31.8	-0.2
	4.4nm,0.8s						
EFI	East Falkland	30.09	170	P	P	04 29 13.8	-1.8
SNAA	Sanae	60.74	161	*e*P	P	04 33 13.6	-0.5
	4.8nm,1.4s,mb3.8						
WVT	Waverly	61.58	340	*e*P	P	04 33 18.0	-2.2
	5.1nm,0.5s,mb4.4						
TXAR	Lajitas Array	62.83	323	P	P	04 33 27.9	-0.6
	0.3nm,0.5s,mb3.2,baz=143,slow=7.0,SNR=7.1						
CCM	Cathedral Cave	64.47	338	*e*P	P	04 33 37.6	-1.4
	6.4nm,0.6s,mb4.4						
DBIC	Dimbokro	66.18	72	P	P	04 33 49.4	-0.8
	3.4nm,0.8s,mb4.2,baz=242,slow=5.9,SNR=8.2						
QSPA	South Pole Qui	68.05	180	*e*P	P	04 34 02.6	+1.8
	2.5nm,0.8s,mb4.0						
ANMO	Albuquerque	68.64	325	*e*P	P	04 34 04.8	-0.4
	3.4nm,1.0s,mb4.0						
SDCO	Great Sand Dun	70.30	327	*e*P	P	04 34 15.8	+0.7
	2.2nm,0.7s,mb4.0						
MSU	Marysvale	74.36	324	*e*P	P	04 34 40.2	+1.0
SYO	Syowa Base	74.88	159	⇓P	P	04 34 42.2	+0.7
SYO	Syowa Base	74.88	159	⇓PcP	PcP	04 34 51.6	-2.8
TPNV	Topopah Spring	75.59	320	*e*P	P	04 34 47.1	+0.9
	5.4nm,1.0s,mb4.1						
PDAR	Pinedale Array	76.13	328	P	P	04 34 49.3	+0.3
	0.6nm,0.5s,mb3.5,baz=124,slow=7.4,SNR=10						
HWUT	Hardware Ranch	76.28	326	*e*P	P	04 34 49.6	-0.3
	2.0nm,0.6s,mb3.9						
ULM	Lac du Bonnet	76.83	341	P	P	04 34 52.1	-0.6
	1.7nm,0.5s,mb4.0,baz=106,slow=8.3,SNR=4.4						
TSUM	Tsumeb	77.10	106	P	P	04 34 55.0	+0.2
	1.5nm,0.4s,mb4.1,baz=175,slow=3.2,SNR=4.6						
TSUM	Tsumeb	77.10	106	*e*P	P	04 34 54.6	-0.2
	2.7nm,0.7s,mb4.1						
NVAR	Mina Array Bea	77.79	320	P	P	04 34 59.5	+1.2
	3.0nm,1.2s,mb3.9,baz=182,slow=6.1,SNR=4.4						
YKA	Yellowknife Ar	92.77	340	P	P	04 36 12.1	+0.4
	1.1nm,0.7s,mb3.9,baz=130,slow=4.4,SNR=5.5						
ASAR	Alice Springs	130.59	204	PKP	PKPdf	04 42 10.3	+1.6
	0.5nm,0.5s,baz=180,slow=2.7,SNR=6.4						
WRA	Warramunga Arr	133.77	207	PKP	PKPdf	04 42 16.7	+2.0
	0.7nm,0.3s,baz=158,slow=1.7,SNR=10						
MKAR	Makanchi Array	144.40	39	PKP	PKPdf	04 42 34.5	+1.4
	0.5nm,0.4s,baz=341,slow=2.6,SNR=8.9						

MAN 02 04:23:53.0, 9.20N×126.89E, h11^{km}, mb4.6, ML3.5, MS3.4, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BIPH	Bislig	1.13	208	⇓*e*P	Pb	04 24 13.0	-1.2
BIPH				*i* S	Sb	04 24 26.6	-2.2
BUTP	Butuan	1.27	260	*e*P	Pb	04 24 15.4	-1.2
SCPH	Surigao	1.50	293	*e*P	Pn	04 24 18.7	-1.4
SCPH				*e*S	Sb	04 24 39.9	+0.5
MSLP	Maasin	2.21	295	*e*P	Pn	04 24 31.5	+1.3
BUKP	Musuan	2.23	234	*e*P	Pn	04 24 31.5	+1.0
BUKP				*e*S	Sn	04 24 59.5	+1.2
PLP	Palo	2.71	316	*e*P	Pn	04 24 37.3	-0.1
TBP	Tagbilaran	3.03	280	*e*P	Pn	04 24 42.5	+0.6
PAGZ	Pagadian	3.72	249	*e*P	Pn	04 24 52.0	+0.3

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*NEIC **02** 04:26:43.9, 30.57S×69.95W, h121^{km}, MD3.5(GUC), After GUC.*

GUC 02 04:26:43.9±1.1**, 30.57S×69.95W, h121^{km}**±20^{km}**, MD3.5, ML3.5, 2C-3D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TLL	Tololo Astrono	0.84	298	⇓*i*P	P	04 27 05.9	+1.2
TLL				*i* S	S	04 27 21.6	+1.3
TLL				AMP		04 27 23.9	
	comp=N,796nm,0.4s						
CMCH	Combarbala	1.09	236	⇓*i*P	P	04 27 07.2	0.0
CMCH				*i* S	S	04 27 24.7	+0.2
CMCH				AMP		04 27 25.4	
	comp=E,4µm,0.6s						
LSCH	La Serena	1.30	300	⇓*i*P	P	04 27 09.5	-0.1
LSCH				*i* S	S	04 27 28.5	-0.6
LSCH				AMP		04 27 29.4	
	comp=E,622nm,0.2s						
FCH	Farellones	2.76	186	⇑*i*P	P	04 27 28.8	+0.8
FCH				*i* S	S	04 28 01.9	+0.6
FCH				AMP		04 28 03.4	
	comp=N,71nm,0.4s						
RCDM	Rinconada Maip	3.00	194	*i* S	S	04 28 04.2	-2.7
RCDM				AMP		04 28 08.0	
	comp=E,124nm,0.1s						
CPCH	Copiapo	3.22	354	⇑*i*P	P	04 27 33.2	-0.9
CPCH				*i* S	S	04 28 10.1	-2.1

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*IDC **02** 04:33:48.2±8.1, 27.97S×179.17W, h426^{km}±83^{km}, mb3.2/3, mb1 3.6/4, mb1mx3.3/12, Error ellipse: s-maj=70.7km s-min=32.0km az=26.0*

ISC 02 04:33:40.6±2.7**, 27.8S**±0.1×**178.5W**±0.4**, h400^{km}, n13, σ$1\overset{s}{.}20$**/10**, mb3.6**/3**, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PUZ	Puketiti	10.63	194	P	P	04 36 08.5	+1.5
PUZ				S	S	04 38 01.2	-1.7
MWZ	Matawai	11.05	197	P	P	04 36 11.6	-0.3
URZ	Urewera	11.09	198	P	P	04 36 13.1	+0.7
	14nm,0.3s,baz=288,slow=4.3,SNR=38						
URZ				S	S	04 38 13.9	+1.3

	3.6nm,0.3s,baz=260,slow=22,SNR=16						
URZ	Urewera	11.09	198	P	P	04 36 10.7	-1.6
MTW	Mount Morrison	14.24	199	P	P	04 36 47.1	-0.1
CTA	Charters Tower	33.03	276	P	P	04 39 43.2	+1.3
	2.6nm,0.4s,mb3.9,baz=92,slow=12,SNR=5.2						
ASAR	Alice Springs	42.87	264	P	P	04 41 03.0	0.0
	0.8nm,0.7s,mb3.2,baz=92,slow=6.6,SNR=9.0						
WRA	Warramunga Arr	43.62	270	P	P	04 41 07.2	-1.8
	1.3nm,0.4s,mb3.6,baz=106,slow=8.6,SNR=32						
FINES	FINESS Array B	142.53	341	PKhKP		04 52 26.6	
	0.4nm,0.4s,baz=90,slow=7.6,SNR=3.8						
NB2	NORSAR Subarra	146.09	352	PKP		04 52 38.0	
	0.7nm,0.6s,baz=17,slow=2.9						
NOA	NORSAR Array B	146.09	352	PKPbc	PKPbc	04 52 37.9	+4.5
	1.2nm,0.8s,baz=28,slow=2.8,SNR=3.7						
AKASG	Malin Array Be	148.93	325	PKPbc	PKPdf	04 52 45.9	+9.2
	3.2nm,0.7s,baz=42,slow=3.4,SNR=11						
BRTR	Keskin Array B	150.89	303	PKPbc	PKPdf	04 52 50.8	+11
	0.5nm,0.4s,baz=147,slow=4.3,SNR=4.0						

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*IDC **02** 04:37:09.9±26.0, 21.48N×142.88E, h446^{km}±300^{km}, mb3.2/7, mb1 3.4/7, mb1mx3.1/22, Error ellipse: s-maj=87.4km s-min=28.7km az=55.0*

ISC 02 04:37:04.5±0.9, 21.5N±0.1×142.8E±0.4, h400^{km}, n7, σ0.^{s}37/7, mb3.5/7, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	42.00	192	P	P	04 44 20.1	0.0
	1.4nm,0.6s,mb3.5,baz=15,slow=8.3,SNR=16						
ASAR	Alice Springs	45.71	191	P	P	04 44 50.2	+0.6
	0.7nm,0.9s,mb3.0,baz=18,slow=14,SNR=2.7						
STKA	Stephens Creek	53.07	181	P	P	04 45 44.1	-0.6
	1.6nm,0.7s,mb3.4,baz=24,slow=10.0,SNR=4.4						
BVAR	Borovoye Array	62.62	320	P	P	04 46 49.5	-0.1
	1.6nm,0.3s,mb4.0,baz=106,slow=8.1,SNR=7.5						
ARCES	ARCESS Array B	79.02	341	P	P	04 48 26.4	+0.3
	1.3nm,0.7s,mb3.7,baz=68,slow=9.2,SNR=7.3						
FINES	FINESS Array B	83.23	334	P	P	04 48 47.7	-0.3
	0.7nm,0.5s,mb3.6,baz=117,slow=8.5,SNR=7.6						
NVAR	Mina Array Bea	83.53	51	P	P	04 48 50.2	+0.1
	0.7nm,0.7s,mb3.5,baz=254,slow=5.0,SNR=5.0						

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*IDC **02** 04:39:43.7±13.0, 5.58S×151.50E, h72^{km}±114^{km}, mb4.0/7, mb1 4.3/7, mb1mx4.1/14, MS3.2/2, Ms1 3.2/2, ms1mx2.9/23, Error ellipse: s-maj=57.0km s-min=32.8km az=91.0*

*NEIC **02** 04:39:43.5±2.2, 5.52S×151.48E, h72^{km}±17^{km}, mb4.6/10, Error ellipse: s-maj=23.3km s-min=11.9km az=105.0*

ISC 02 04:39:42.5±3.1, 5.5S±0.1×151.4E±0.2, h75^{km}±23^{km}, n28, σ1.^{s}03/24, mb4.3/15, 2C, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WAU	Wau	4.98	248	*e*P	P	04 40 56.8	+0.4
PMG	Port Moresby	5.70	227	*e*P	P	04 41 06.8	+0.5
PMG				*e*S	S	04 42 09.7	-1.4
CTA	Charters Tower	15.32	199	LR	LR	04 48 05.1	
	comp=Z,66nm,20.2s,baz=47,slow=33						
KAKA	Kakadu	20.04	248	*e*P	P	04 44 10.6	-1.6
	23nm,0.5s						
WRAB	Tennant Creek	21.91	228	*e*P	P	04 44 32.7	+1.7
	35nm,0.7s,mb4.8						
WB2	Warramunga Arr	21.91	228	⇑*i*P	P	04 44 32.8	+1.8
WRA	Warramunga Arr	21.92	228	P	P	04 44 33.1	+2.1
	14nm,0.4s,mb4.6,baz=52,slow=9.9,SNR=105						
ASAR	Alice Springs	24.68	221	P	P	04 44 57.9	-0.1
	7.6nm,0.6s,mb4.3,baz=56,slow=9.1,SNR=63						
ASAR	Alice Springs	24.68	221	P	P	04 44 57.9	-0.1
STKA	Stephens Creek	27.78	198	P	P	04 45 25.7	-0.9
FITZ	Fitzroy Crossi	28.08	241	⇑*i*P	P	04 45 28.3	-1.1
	7.7nm,0.3s,mb4.7						
FITZ	Fitzroy Crossi	28.08	241	P	P	04 45 28.5	-1.0
	12nm,0.4s,mb4.8,baz=60,slow=3.7,SNR=36						
MBWA	Marble Bar	34.39	240	*e*P	P	04 46 24.0	-0.7
	15nm,0.5s,mb5.1						
MBWA				*e*		04 46 27.0	
URZ	Urewera	40.11	148	LR	LR	04 59 52.7	
	comp=Z,50nm,20.4s,baz=217,slow=30						
ENH	Enshi	53.62	314	*e*P	P	04 48 51.7	-7.0
	8.3nm,1.2s,mb4.6						
HIA	Hailar	61.11	337	*e*P	P	04 49 50.9	-0.3
	4.5nm,0.6s,mb4.7						
SONM	Songino Array	66.18	329	P	P	04 50 25.5	+1.0
	0.8nm,0.5s,mb3.8,baz=139,slow=5.2,SNR=5.8						
MKAR	Makanchi Array	79.93	319	P	P	04 51 45.7	+0.7
	0.4nm,0.6s,mb3.5,baz=100,slow=7.4,SNR=3.8						
MCK	McKinley	82.06	23	P	P	04 51 54.4	-1.4
	2.2nm,0.9s,mb4.0						
ILAR	Eielson Array	83.35	22	P	P	04 52 01.9	-0.5
	1.5nm,0.8s,mb3.9,baz=249,slow=5.4,SNR=11						
KURK	Kurchatov	83.46	322	*e*P	P	04 52 02.9	-0.4
	2.1nm,1.0s,mb3.9						
MAW	Mawson	84.37	203	P	P	04 52 07.8	+0.3
	1.7nm,0.6s,mb4.0						
BVAR	Borovoye Array	88.96	323	P	P	04 52 29.8	-0.2
	1.0nm,0.7s,mb4.0,baz=80,slow=9.0,SNR=3.9						
ZRNK	Zerenda	89.77	323	P	P	04 52 34.4	+0.5
	1.5nm,0.9s,mb4.1						
VGB	Gordon Butte	92.38	45	P	P	04 52 39.7	-6.4
GERES	GERESS Array B	123.91	328	PKP	PKPdf	04 58 34.4	+2.1
	0.9nm,0.5s,baz=45,slow=1.9,SNR=7.4						
EKA	Eskdalemuir Ar	126.29	342	PKP	PKPdf	04 58 38.7	+2.1
	0.7nm,0.6s,baz=14,slow=3.4,SNR=3.6						
BDFB	Brasilia	151.53	138	PKPbc	PKPdf	04 59 30.5	+7.8
	1.2nm,0.5s,baz=20,slow=20,SNR=4.0						

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*IDC **02** 04:40:34.9±10.0, 55.72N×159.11W, h57^{km}±82^{km}, mb3.4/5, mb1 3.6/7, mb1mx3.4/23, ML3.8/2, Error ellipse: s-maj=67.2km s-min=25.2km az=27.0*

*NEIC **02** 04:40:35.3, 55.45N×158.83W, h33^{km}, ML3.7(AEIC), After AEIC.*

ISC 02 04:40:34.8±0.7, 55.6N±0.1×159.0W±0.1, h76^{km}±7^{km}, n42, σ0.^{s}76/43, mb3.5/5, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SDPT	Sand Point	0.86	251	P	P	04 40 51.6	-0.5
SDPT				S	S	04 41 04.5	-0.7
ANPB	Aniakchak Plen	1.25	20	P	P	04 40 57.5	+0.4
ANPK	Aniakchak Peak	1.32	23	P	P	04 40 58.4	+0.3
ANPK				S	S	04 41 16.9	+1.6
PS1A	Pavlof South-1	1.55	263	P	P	04 41 01.3	+0.1
PVV	Pavlof Volcano	1.58	262	P	P	04 41 01.6	0.0
PN6	Pavlof North-6	1.64	265	P	P	04 41 00.6	-1.8
HAG	Hague Volcano	1.66	260	P	P	04 41 02.8	+0.2
DOL	Dolgoi Island	1.68	254	P	P	04 41 02.5	-0.4
PN7A	Pavlof North-7	1.69	264	P	P	04 41 03.9	+0.9
BLHA	Black Hill	1.71	274	P	P	04 41 04.0	+0.6
DTNA	Dutton South F	1.89	257	P	P	04 41 05.7	-0.1
DRIA	Deer Island	1.96	251	P	P	04 41 06.0	-0.6
BALA	Baldy Mountain	2.18	260	P	P	04 41 11.0	+1.3
FALS	False Pass	2.62	255	P	P	04 41 16.2	+0.3
SSLN	Shishaldin Nor	2.95	256	P	P	04 41 20.1	-0.5
SSLW	Shishaldin Wes	3.04	256	P	P	04 41 21.8	+0.1
KJL	Kejulik	3.09	37	P	P	04 41 22.4	0.0
CAHL	Cahill	3.18	39	P	P	04 41 23.6	-0.1
ANCK	Angle Creek	3.23	36	P	P	04 41 24.6	+0.2
WESN	West Dahl Nort	3.36	254	P	P	04 41 26.7	+0.5
KABR	Katmai Barrier	3.36	40	P	P	04 41 25.8	-0.4
WESE	West Dahl East	3.39	252	P	P	04 41 27.0	+0.3
WPOG	Pogromni	3.43	255	P	P	04 41 27.4	+0.1
KAIC	Katmai Ikaglui	3.60	36	P	P	04 41 29.6	+0.1
KAHC	Katmai Hardscr	3.74	34	P	P	04 41 31.4	-0.1
KAPH	Katmai Pasha	3.92	39	P	P	04 41 33.9	-0.2
KDAK	Kodiak Island	4.16	56	*e*P	P	04 41 34.1	-3.2
MCNL	McNeil River	4.38	34	P	P	04 41 40.2	-0.2
UNV	Unalaska Valle	4.68	251	P	P	04 41 44.8	+0.3
RSO	Redoubt South	5.88	32	*e*P	P	04 42 01.6	+0.5
RC01	Rabbit Creek A	7.34	38	P	P	04 42 21.3	-0.1
ILAR	Eielson Array	10.96	28	P	P	04 43 08.0	-2.4
	0.3nm,0.3s,baz=218,slow=15,SNR=10						
ILAR				S	S	04 45 08.1	-3.8
	0.2nm,0.3s,baz=223,slow=22,SNR=6.3						
INK	Inuvik	17.28	33	P	P	04 44 31.4	-0.7
	0.2nm,0.3s,baz=228,slow=13,SNR=11						
YKA	Yellowknife Ar	23.44	55	P	P	04 45 38.6	+1.4
	0.2nm,0.4s,mb2.8,baz=270,slow=8.5,SNR=4.4						
PDAR	Pinedale Array	34.05	91	pP	pP	04 47 34.0	+2.3
	0.3nm,0.5s,baz=323,slow=4.5,SNR=4.3						
ULM	Lac du Bonnet	37.27	71	P	P	04 47 40.7	+0.3
	1.3nm,0.4s,mb4.2,baz=309,slow=11,SNR=6.9						
ULM	Lac du Bonnet	37.27	71	P	P	04 47 40.7	+0.3
TXAR	Lajitas Array	46.94	100	P	P	04 49 00.0	+0.6
	0.6nm,0.8s,mb3.4,baz=308,slow=5.6,SNR=6.6						
BVAR	Borovoye Array	64.30	329	P	P	04 51 03.4	-0.3
	0.8nm,0.6s,mb3.7,baz=45,slow=8.2,SNR=3.9						
BVAR	Borovoye Array	64.30	329	P	P	04 51 03.4	-0.3
MKAR	Makanchi Array	65.70	319	P	P	04 51 12.3	-0.5
	0.4nm,0.5s,mb3.5,baz=56,slow=5.2,SNR=4.4						
QSPA	South Pole Qui	145.41	180	*e*P	PKPdf	05 00 03.8	+1.9

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*THR **02** 04:41:03.3±1.4, 35.32N×54.35E, h14^{km}±17^{km}, ML4.1*

ISC 02 04:41:00.1±1.1, 35.62N±0.09×54.39E±0.08, h14^{km}, n6, σ0.^{s}96/9, 2C, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DAMV	Damavand	1.97	271	*e*PG	Pg	04 41 38.5	-0.9
DAMV				*e*SG	Sg	04 42 05.7	-0.1
DAMV				AMP		04 42 15.8	
	comp=N,1μm,0.6s						
DAMV				AMP		04 42 16.8	
	comp=E,1μm,0.5s						
THKV	Tehran--Karaj	2.87	277	*e*PN	Pn	04 41 51.8	+5.5
THKV				AMP		04 42 42.2	
	comp=E,757nm,0.6s						
THKV				AMP		04 42 45.1	
	comp=N,956nm,0.6s						
NASN	Na’in	3.10	205	*e*PN	Pn	04 41 50.4	+0.7
ASAO	Ashtian	3.73	255	*e*PN	Pn	04 42 01.9	+3.3
ASAO				*e*PG	Pg	04 42 08.8	-5.9
KRBR	Kerman	5.97	160	*e*PN	Pn	04 42 29.5	-0.8
AB31	Akbulak array	14.22	15	⇑Pn	P	04 44 23.3	+0.2
	comp=N,1.2nm,0.7s,baz=210,slow=13,SNR=5.4						
AB31				⇑Sn	S	04 46 52.7	-8.9
	comp=N,2.9nm,0.9s,baz=200,slow=23,SNR=3.8						

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*MAN **02** 04:54:57.5, 7.24N×127.50E, h11^{km}, mb4.6, ML3.5, MS3.5*

*IDC **02** 04:55:09.9±7.1, 7.20N×126.73E, h92^{km}±68^{km}, mb3.5/6, mb1 3.7/7, mb1mx3.5/19, ML4.4/1, MS2.8/1, Ms1 2.8/1, ms1mx2.5/18, Error ellipse: s-maj=52.1km s-min=16.2km az=79.0*

*NEIC **02** 04:55:13.0±6.4, 7.21N×126.77E, h125^{km}±64^{km}, mb4.3/2, Error ellipse: s-maj=49.3km s-min=12.9km az=80.0*

ISC 02 04:55:04.8±1.6, 7.25N±0.06×127.0E±0.2, h61^{km}±17^{km}, n17, σ1.^{s}23/19, mb3.8/8, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MATI	Mati	0.80	248	*e*P	P	04 55 19.6	-0.9
MATI				*e*S	S	04 55 31.8	-0.3
BIPH	Bislig	1.12	326	⇑*e*P	P	04 55 23.1	-1.7
BIPH				*e*S	S	04 55 40.5	+0.9
BUKP	Musuan	2.02	288	*e*P	P	04 55 38.9	+1.6
BUTP	Butuan	2.19	321	*e*P	P	04 55 38.1	-1.5
CGP	Cagayan de Oro	2.58	298	*e*P	P	04 55 46.7	+1.5
CGP				*e*S	S	04 56 23.6	+8.2
TBP	Tagbilaran	3.94	308	*e*P	P	04 56 05.0	+0.7
TGY	Tagaytay City	9.04	319	LR	LR	05 02 13.0	
	comp=Z,52nm,18.5s,baz=175,slow=48						
JOW	Kunigami	19.51	3	P	P	04 59 30.9	+1.1
	1.8nm,0.3s,baz=201,slow=9.3,SNR=5.9						
FITZ	Fitzroy Crossi	25.23	183	P	P	05 00 26.7	-0.1
	2.0nm,0.7s,mb3.8,baz=350,slow=7.7,SNR=4.2						
WRAB	Tennant Creek	27.97	165	*e*P	P	05 00 53.6	+1.6
	6.7nm,0.9s,mb4.3						
WRA	Warramunga Arr	27.97	165	P	P	05 00 53.5	+1.5
	0.6nm,0.4s,mb3.6,baz=342,slow=11,SNR=9.1						
ASAR	Alice Springs	31.46	168	P	P	05 01 22.6	-0.4
	0.4nm,0.6s,mb3.4,slow=8.1,SNR=3.3						
ASAR				PcP	PcP	05 04 14.9	-0.1
	0.3nm,0.4s,baz=355,slow=2.7,SNR=4.3						
STKA	Stephens Creek	41.33	161	P	P	05 02 45.4	-0.9
	1.8nm,0.7s,mb3.8,baz=344,slow=11,SNR=4.7						
STKA	Stephens Creek	41.33	161	*e*P	P	05 02 44.6	-1.7
STKA				*e*	pP	05 02 57.8	-4.2
MKAR	Makanchi Array	54.86	324	P	P	05 04 29.9	-1.4
	0.7nm,0.4s,mb4.0,baz=111,slow=7.3,SNR=12						
ZRNK	Zerenda	65.29	326	P	P	05 05 40.5	-2.0
	2.9nm,1.0s,mb4.3						
ILAR	Eielson Array	81.83	26	P	P	05 07 19.1	+0.6
	0.3nm,0.6s,mb3.4,baz=251,slow=4.8,SNR=5.9						

MEX 02 05:02:04.5±0.9, 15.92N×95.56W, MD3.8, 1C, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HUIG	Huatulco	0.55	254	⇑*i*P	Pg	05 02 14.3	-1.1
HUIG				*i* S	Sg	05 02 22.7	-0.1
OXX	Oaxaca	1.61	316	*e*P	Pn	05 02 35.0	+0.7
OXX				*i* S	Sb	05 02 54.0	-1.6
VHO	Vista Hermosa	1.61	316	*i* P	Pn	05 02 31.2	-3.1
VHO				*i* S	Sb	05 02 50.2	-5.4

MAN 02 05:13:34.8, 7.17N×127.36E, mb4.2, ML3.0, MS2.7, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MATI	Mati	1.12	258	*e*P	Pb	05 13 56.2	-0.5
KCP	Kidapawan	2.26	266	⇓*e*P	Pn	05 14 15.2	+1.3
KCP				*i* S	Sn	05 14 42.9	0.0
BUKP	Musuan	2.38	287	*e*P	Pn	05 14 16.4	+0.7
MSLP	Maasin	3.84	320	*e*P	Pn	05 14 36.0	-0.5
PAGZ	Pagadian	4.00	280	*e*P	Pn	05 14 37.9	-0.8

IDC 02 05:15:42.1±2.2, 4.50S×129.44E, mb3.6/1, mb1 3.6/4, mb1mx3.5/15, ML3.4/3, Error ellipse: s-maj=95.4km s-min=28.7km az=74.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	14.02	195	Pn	P	05 19 03.2	-1.3
	0.3nm,0.3s,baz=11,slow=13,SNR=7.5						
WRA	Warramunga Arr	16.07	163	Pn	P	05 19 30.3	-1.0
	0.2nm,0.3s,baz=342,slow=11,SNR=12						
ASAR	Alice Springs	19.54	168	P	P	05 20 10.5	-3.6
	0.1nm,0.3s,baz=345,slow=7.9,SNR=4.8						
MKAR	Makanchi Array	65.84	326	P	P	05 26 29.6	-2.0
	0.3nm,0.4s,baz=110,slow=7.3,SNR=4.4						

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*LDG **02** 05:24:52.1±0.2, 51.55N×16.26E, h1^{km}, Ml4.7/18, Error ellipse: s-maj=5.8km s-min=3.0km az=175.0, Suspected Mining induced.*

*MOS **02** 05:24:52.3±1.1, 51.63N×16.17E, h10^{km}, mb4.4/2, Error ellipse: s-maj=9.7km s-min=5.8km az=85.9*

*BJI **02** 05:24:53.9, 51.50N×16.10E, h5^{km}, mB4.8, mb4.6, Ms4.4, Msz4.3*

*BGR **02** 05:24:53.3±0.5, 51.58N×16.20E, h1^{km}, ML4.5/12, Error ellipse: s-maj=5.6km s-min=4.4km az=13.0*

*ZUR_RM **02** 05:24:53, 51.52N×16.08E, h15^{km}, Mw3.4/11, Moment Tensor Solution. s11 Moment tensor: Scale 10^{14}Nm; M$_{rr}$-3.20; M$_{\theta\theta}$-0.51; M$_{\phi\phi}$-0.53; M$_{r\theta}$0.18; M$_{\theta\phi}$0.03; M$_{\phi r}$0.08; Best double couple: M$_0$1.37×10^{14} NP1:φ$_s$237°,δ49°,λ-89°. NP2:φ$_s$56°,δ41°,λ-91°. Principal axes: T .942, Plg4°, Azm326°; N .86, Plg1°, Azm57°; P -1.803, Plg86°, Azm155°;*

*NEIC **02** 05:24:53.9±0.2, 51.52N×16.08E, h5^{km}, mb4.5/11, ML4.5(SZGRF), ML4.3(VIE) Error ellipse: s-maj=3.9km s-min=3.5km az=124.0*

*IDC **02** 05:24:54.4±0.5, 51.51N×16.11E, mb4.0/5, mb1 4.1/16, mb1mx4.0/26, ML3.9/10, Error ellipse: s-maj=9.4km s-min=6.3km az=109.0*

*PRU **02** 05:24:55.1, 51.47N×16.12E, - Neic M4.5*

*WAR **02** 05:24:55.0, 51.51N×16.13E, ML3.9, Mining Induced*

ISC 02 05:24:51.9±0.2, 51.47N±0.01×16.08E±0.02, n178, σ1.^{s}51/302, mb4.5/22, MS4.1/4, 18C-5D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	Ksiaz	0.64	168	*i* PG	Pg	05 25 07.4	+2.7
KSP				*i* SG	Sg	05 25 16.0	+2.7
KSP	Ksiaz	0.64	168	*i* Pg	Pg	05 25 07.4	+2.7
KSP				*i*		05 25 08.0	
KSP				*i* Sg	Sg	05 25 16.0	+2.7
KSP				*e*		05 25 21.3	
UPC	Upice	0.97	183	*e*PG	Pg	05 25 13.4	+2.2
DPC	Dobruska-Polom	1.13	172	*e*PG	Pg	05 25 16.2	+1.7
DPC				*e*SG	Sg	05 25 31.4	+1.8
	2μm,0.8s						
DPC	Dobruska-Polom	1.13	172	*e*P	Pg	05 25 16.2	+1.7
DPC				*e*		05 25 31.4	
DPC				smax			
	comp=N,2μm,0.8s						
PVCC	Panska Ves	1.34	226	*e*PG	Pg	05 25 20.2	+1.5
BRG	Berggiesshubel	1.47	247	*i* P	Pn	05 25 21.5	+1.8
BRG				*i*		05 25 43.4	
BRG	Berggiesshubel	1.47	247	*i* Pn	Pn	05 25 21.5	+1.8
BRG				*i* Pg	Pg	05 25 23.0	+1.8
BRG				*i* Sg	Sg	05 25 43.4	+2.5
RUE	Ruedersdorf	1.74	306	*e*Pn	Pn	05 25 24.0	+0.4
RUE				*e*Pb	Pb	05 25 27.5	+3.0
RUE				*e*Pg	Pg	05 25 28.9	+2.3
RUE				*e*Sn	Sn	05 25 50.1	+3.3
PRU	Pruhonice	1.78	214	*i* PN	Pn	05 25 25.8	+1.7
PRU				PG	Pg	05 25 28.3	+0.9
PRU				*i* x	x	05 25 31.2	
PRU				*e*x	x	05 25 45.1	
PRU				*e*SG	Sg	05 25 51.1	+0.1
	comp=N,1μm,0.6s						
PRU				L		05 26 20.0	
PRU	Pruhonice	1.78	214	*i* P	Pn	05 25 25.8	+1.7
PRU				*e*		05 25 51.1	
PRU				smax			
	comp=N,1μm,0.6s						
PRU				MLR	MLR		
	comp=Z,2μm,3.2s						
RAC	Raciborz	1.93	135	*e*PN	Pn	05 25 26.0	-0.3
RAC				*e*PN	Pn	05 25 31.0	+4.7
RAC				*e*S	Sn	05 25 56.0	+4.3
RAC	Raciborz	1.93	135	*e*Pg	Pg	05 25 30.6	+0.1
RAC				*e*Sg	Sg	05 25 56.4	+0.2
CLL	Collm	1.93	266	*e*Pn	Pn	05 25 27.3	+1.0
CLL				*e*Sg	Sg	05 25 57.4	+1.2
CLL	Collm	1.93	266	⇓*i*PN	Pn	05 25 27.4	+1.1
	comp=Z,logA/T=2.1						
CLL				*e*PG	Pg	05 25 31.0	+0.5
CLL				*i*		05 25 34.9	
CLL				*i* SG	Sg	05 25 57.7	+1.5
CLL				*e*L		05 26 07.0	
CLL	Collm	1.93	266	⇓*i*P	Pn	05 25 27.4	+1.1
CLL				*i*		05 25 57.7	
CLL				pmax	pmax		
	comp=Z,68nm,0.6s						
CLL	Collm	1.93	266	⇓*i*Pn	Pn	05 25 27.4	+1.1
CLL				*e*Pg	Pg	05 25 31.0	+0.5
CLL				*i* Sg	Sg	05 25 57.7	+1.5
GKP	Gorka Klasztor	1.94	21	*e*PN	Pn	05 25 28.0	+1.7
GKP				*e*S	Sn	05 25 57.0	+5.3
GKP	Gorka Klasztor	1.94	21	*e*Pn	Pn	05 25 27.6	+1.3
GKP				*e*Pg	Pg	05 25 35.3	+4.8
GKP				*e*Sn	Sn	05 25 56.6	+4.9
GKP				*e*Sg	Sg	05 26 08.3	+12
MORC	Moravsky Berou	1.94	151	*e*Pn	Pn	05 25 27.5	+1.1
MORC				*e*Sn	Sn	05 25 55.2	+3.4
OKC	Ostrava-Krasne	2.10	140	*e*PN	Pn	05 25 29.1	+0.4
OKC				*e*PG	Pg	05 25 33.8	0.0
OKC				*e*SG	Sg	05 26 00.4	-1.4
OKC	Ostrava-Krasne	2.10	140	*e*P	Pn	05 25 29.1	+0.4
OKC				*e*		05 26 00.4	
VRAC	Vranov	2.19	171	Pn	Pn	05 25 31.8	+1.8
	comp=Z,8.8nm,0.3s,baz=342,slow=14,SNR=49						
VRAC				Lg		05 26 04.1	
	comp=Z,48nm,0.3s,baz=48,slow=17,SNR=14						
NKC	Novy Kostel	2.61	243	*e*Pn	Pn	05 25 37.8	+1.8
NKC				*e*Sg	Sg	05 26 21.5	+2.7
NKC	Novy Kostel	2.61	243	*e*PN	Pn	05 25 37.8	+1.8
NKC				*e*PG	Pg	05 25 45.5	+1.5
NKC				*e*SG	Sg	05 26 21.0	+2.1
NKC	Novy Kostel	2.61	243	*e*P	Pn	05 25 37.8	+1.8
NKC				*e*		05 26 21.0	
OJC	Ojcow	2.67	117	*e*PN	Pn	05 25 36.0	-0.9
OJC				*i* PG	Pg	05 25 45.4	+0.2
OJC				*i* SG	Sg	05 26 19.7	-1.1
OJC	Ojcow	2.67	117	*e*P	Pn	05 25 35.7	-1.2
OJC				*i*		05 26 19.7	
OJC	Ojcow	2.67	117	*e*Pn	Pn	05 25 35.7	-1.2
OJC				*i* Pg	Pg	05 25 45.4	+0.2
OJC				*i* Sg	Sg	05 26 19.7	-1.1
KHC	Kasperske Hory	2.84	215	*e*PN	Pn	05 25 40.6	+1.3
KHC				*e*PG	Pg	05 25 47.2	-1.3
KHC				*e*x	x	05 26 07.5	
KHC				*e*SN	Sn	05 26 15.0	+0.3
KHC				*e*SG	Sg	05 26 26.0	-0.4
KHC	Kasperske Hory	2.84	215	*e*P	Pn	05 25 40.6	+1.3
KHC				*e*		05 26 15.0	
MOX	Moxa	2.94	255	*e*Pn	Pn	05 25 41.7	+1.1
MOX				*e*Sg	Sg	05 26 29.5	-0.1
MOX	Moxa	2.94	255	*i* P	Pn	05 25 41.8	+1.2
MOX				Pg	Pg	05 25 50.0	-0.5
MOX				Sg	Sg	05 26 30.0	+0.4
MOX	Moxa	2.94	255	*e*Pn	Pn	05 25 41.8	+1.2
MOX				*e*Pg	Pg	05 25 50.4	-0.1
MOX				*e*Sg	Sg	05 26 30.1	+0.5
GERES	GERESS Array B	3.04	211	Pn	Pn	05 25 43.9	+1.7
	comp=Z,5.8nm,0.3s,baz=29,slow=14,SNR=97						
GERES				Pg	Pg	05 25 52.2	-0.4
	comp=Z,18nm,0.3s,baz=30,slow=14,SNR=82						
GERES				Lg		05 26 31.7	
	comp=Z,19nm,0.3s,baz=28,slow=26,SNR=6.8						
SMOL	Smolenice	3.09	163	*e*PG	Pg	05 25 53.3	-0.2
SMOL				*e*SG	Sg	05 26 34.1	-0.5
WET	Wettzell	3.10	223	*e*Pn	Pn	05 25 44.4	+1.4
LIKS	Likavka	3.11	140	*e*SG	Sg	05 26 35.3	0.0
VKA	Vienna	3.21	177	⇑*i*PN	Pn	05 25 46.7	+2.1
VKA				*i* PG	Pg	05 25 55.3	-0.7
VKA				*i* SG	Sg	05 26 39.0	+0.1
KOLL	Kolacno	3.26	152	*e*PN	Pn	05 25 46.7	+1.4
KOLL				*e*PG	Pg	05 25 55.9	-1.1
KOLL				*e*SB	Sb	05 26 36.8	+5.9
KOLL	Kolacno	3.26	152	*e*P	Pn	05 25 46.7	+1.4
KOLL				*e*		05 26 36.8	
ZST	Bratislava	3.35	168	*e*PG	Pg	05 25 58.0	-0.7
ZST				*e*SG	Sg	05 26 41.3	-2.0
NIE	Niedzica	3.40	126	*e*PN	Pn	05 25 47.0	-0.2
NIE				*e*PN	Pg	05 26 00.0	+0.3
NIE				*e*S	Sg	05 26 43.0	-2.0
VYHS	Vyhne	3.47	148	*i* PN	Pn	05 25 48.9	+0.6
VYHS				*e*PG	Pg	05 26 01.6	+0.4
VYHS				*e*SG	Sg	05 26 44.9	-2.5
RGN	Rugen	3.50	333	*e*Pn	Pn	05 25 44.7	-4.0
RGN				*e*Pb	Pb	05 25 54.1	-0.4
GRA1	Grafenberg Arr	3.57	242	*e*Pn	Pn	05 25 51.1	+1.4
GRA1				*e*Sg	Sg	05 26 50.2	-0.6
GRF	Grafenberg Arr	3.57	242	*e*Pn	Pn	05 25 51.1	+1.5
GRF				*e*Sg	Sg	05 26 50.2	-0.6
BSD	Bornholm Skovb	3.71	350	*i* P	Pn	05 25 50.2	-1.5
BSD				*i* S	Sn	05 26 31.9	-4.9
BSD				*i* LG		05 26 50.9	
MOA	Molln	3.81	199	⇑*i*PN	Pn	05 25 54.6	+1.5
MOA				*i* SG	Sg	05 26 57.9	-0.9
	comp=Z,270nm,0.6s						
MOA	Molln	3.81	199	*e*Pn	Pn	05 25 54.4	+1.3
MOA				*e*Sg	Sg	05 26 57.6	-1.2
KECS	Kecovo	4.13	135	*e*PN	Pn	05 25 58.1	+0.5
KECS				*e*PG	Pg	05 26 13.6	-0.7
KECS				*e*SG	Sg	05 27 04.5	-4.8
ARSA	Arzberg	4.24	185	⇑*i*PN	Pn	05 26 01.2	+2.0
ARSA				*i* SG	Sg	05 27 09.3	-3.8
	comp=Z,239nm,0.6s						
ARSA	Arzberg	4.24	185	*e*Pn	Pn	05 26 00.9	+1.7
CRVS	Cervenica-Dubn	4.31	125	*e*PN	Pn	05 26 00.6	+0.4
CRVS				*e*PG	Pg	05 26 17.2	-0.7
CRVS				*e*SG	Sg	05 27 12.7	-2.7
PSZ	Piszkesteto	4.33	144	⇑*i*Sn	Pn	05 26 01.4	+0.9
PSZ				*e*	Sg	05 27 17.4	+1.2
PSZ				*e*		05 27 17.4	
PSZ	Piszkesteto	4.33	144	*e*Pn	Pn	05 26 01.0	+0.5
PSZ				*e*Pg	Pg	05 26 17.4	-1.0
KWP	Kalwaria	4.61	111	*e*PN	Pn	05 26 04.0	-0.4
KWP				*e*PG	Pg	05 26 18.0	-5.9
KWP				*e*SN	Sg	05 27 27.0	+1.6
KWP				*e*SG	Sx	05 27 47.0	
KWP	Kalwaria	4.61	111	*e*Pn	Pn	05 26 03.6	-0.8
KWP				*e*Pg	Pg	05 26 18.5	-5.4
KWP				*e*Sn	Sg	05 27 26.6	+1.2

KWP				eSg	Sx	05 27 46.6	
COP	Copenhagen	4.75	334	iP	Pn	05 26 17.6	+11
COP				i		05 26 28.3	
COP				iS	Sn	05 26 59.0	-4.0
KBA	Koelnbreinsper	4.75	203	⇑iPN	Pn	05 26 07.6	+1.2
KBA				iSG	Sg	05 27 26.8	-3.1
	comp=Z,139nm,0.7s						
KBA	Koelnbreinsper	4.75	203	ePn	Pn	05 26 07.9	+1.5
PERS	Pernice	4.88	188	ePn	Pn	05 26 09.9	+1.6
PERS				eSn	Sg	05 27 26.5	-7.9
UZH	Uzhgorod	4.91	123	eP	Pn	05 26 12.0	+3.3
UZH				eS	Sn	05 27 00.0	-7.1
TOD	Tromm	5.00	251	P	Pn	05 26 09.6	-0.4
SUW	Suwalki	5.01	57	ePN	Pn	05 26 09.0	-1.1
SUW				ePG	Pg	05 26 28.0	-3.9
SUW				eSN	Sn	05 27 04.0	-5.6
SUW	Suwalki	5.01	57	eP	Pn	05 26 08.8	-1.3
SUW				e		05 27 04.1	
SUW	Suwalki	5.01	57	ePn	Pn	05 26 08.8	-1.3
SUW				ePg	Pg	05 26 28.3	-3.6
SUW				eSn	Sn	05 27 04.1	-5.5
OBKA	Obir	5.07	192	⇑iPN	Pn	05 26 12.0	+1.1
OBKA				iSG	Sg	05 27 37.7	-2.9
	comp=Z,119nm,0.7s						
OBKA	Obir	5.07	192	ePn	Pn	05 26 12.3	+1.4
OBKA				eSg	Sg	05 27 38.6	-2.0
OBKA	Obir	5.07	192	⇑iPn	Pn	05 26 12.0	+1.1
	comp=Z,119nm,0.7s						
OBKA				iSg	Sg	05 27 37.7	-2.9
WATA	Walderalm	5.08	217	⇓iPN	Pn	05 26 12.2	+1.2
WATA				iSG	Sg	05 27 38.6	-2.3
	comp=Z,113nm,0.7s						
WATA	Walderalm	5.08	217	⇓iPn	Pn	05 26 12.2	+1.2
	comp=Z,113nm,0.7s						
WATA				iSg	Sg	05 27 38.6	-2.3
WTTA	Wattenberg	5.11	216	⇑iPN	Pn	05 26 12.5	+0.9
WTTA				iSG	Sg	05 27 40.1	-2.0
	comp=Z,120nm,0.9s						
WTTA	Wattenberg	5.11	216	ePn	Pn	05 26 13.6	+2.0
WTTA	Wattenberg	5.11	216	⇑iPn	Pn	05 26 12.5	+0.9
	comp=Z,120nm,0.9s						
WTTA				iSg	Sg	05 27 40.1	-2.0
STU	Stuttgart	5.19	241	eSg	Sg	05 27 40.8	-3.7
STU	Stuttgart	5.19	241	ePn	Pn	05 26 11.3	-1.3
STU				eS	Sg	05 27 40.9	-3.6
MOTA	Moosalm	5.25	220	⇑iPN	Pn	05 26 14.5	+1.0
MOTA				iSG	Sg	05 27 45.7	-1.1
	comp=Z,101nm,0.7s						
MOTA	Moosalm	5.25	220	⇑iPn	Pn	05 26 14.5	+1.0
	comp=Z,101nm,0.7s						
MOTA				iSg	Sg	05 27 45.7	-1.1
SQTA	Sankt Quirin	5.31	219	⇑iPN	Pn	05 26 15.6	+1.2
SQTA				iSG	Sg	05 27 48.2	-0.5
	comp=Z,63nm,0.6s						
SQTA	Sankt Quirin	5.31	219	⇑iPn	Pn	05 26 15.6	+1.2
	comp=Z,63nm,0.6s						
SQTA				iSg	Sg	05 27 48.2	-0.5
LVV	L'vov	5.32	105	eP	Pn	05 26 21.0	+6.5
LVV				eS	Sn	05 27 15.0	-2.5
LJU	Ljubljana	5.53	191	iPn	Pn	05 26 18.8	+1.4
LJU				eSn	Sn	05 27 26.5	+3.9
KTD	Kalmit	5.55	250	P	Pn	05 26 17.5	-0.2
VOY	Vojsko	5.63	196	ePn	Pn	05 26 19.3	+0.4
VOY				e	rx	05 26 37.7	
VOY				e	rx	05 26 45.2	
VOY				eSn	Sg	05 27 56.7	-2.7
HLG	Helgoland	5.66	302	ePn	Pn	05 26 18.4	-0.8
WTSB	Winterswijk	5.79	279	⇑iP	Pn	05 26 21.2	+0.1
WTSB				eS	Sg	05 28 03.2	-1.4
DAVA	Damuels	5.82	226	⇑iPN	Pn	05 26 21.7	+0.1
DAVA				iSG	Sg	05 28 04.4	-1.3
	comp=Z,89nm,0.7s						
DAVA	Damuels	5.82	226	ePn	Pn	05 26 22.0	+0.4
DAVA	Damuels	5.82	226	⇑iPn	Pn	05 26 21.7	+0.1
	comp=Z,89nm,0.7s						
DAVA				iSg	Sg	05 28 04.4	-1.3
CEY	Cerknica	5.84	191	iPn	Pn	05 26 22.1	+0.3
LANF	Langenberg	5.87	248	P	Pn	05 26 22.5	+0.3
LANF				S	Sg	05 27 58.1	-9.0
BOJS	Bojanci	6.00	186	ePn	Pn	05 26 25.1	+1.1
RUP	Ruppelstein	6.01	256	P	Pn	05 26 21.0	-3.2
DAVOX	Davos	6.21	223	Pn	Pn	05 26 27.6	+0.5
	comp=Z,1.3nm,0.3s,baz=16,slow=12,SNR=11						
DAVOX				Lg		05 28 14.4	
	comp=Z,2.6nm,0.3s,baz=207,slow=20,SNR=4.2						
FELD	Feldberg	6.36	239	P	Pn	05 26 32.5	+3.4
FELD				S	Sg	05 28 16.1	-7.4
WLS	Welschbruch	6.41	245	P	Pn	05 26 30.9	+1.1
WLS				S	Sg	05 28 13.1	-12
CDF	Champ du Feu	6.45	245	ePn	Pn	05 26 29.0	-1.5
CDF				ePg	Pg	05 26 54.4	-6.3
CDF				eSg	Sg	05 28 19.2	-7.5
	comp=Z,328nm,1.0s						
WLF	Walferdange	6.58	258	eSg	Sg	05 28 25.8	-5.1
WLF	Walferdange	6.58	258	ePn	Pn	05 26 26.8	-5.5
WLF				ePg	Pg	05 26 58.2	-4.9
WLF				eS	Sg	05 28 26.0	-4.9
ECH	Echery	6.62	244	P	Pn	05 26 34.4	+1.5
ECH				S	Sg	05 28 19.0	-13
HINF	Hinteralfeld	7.02	242	ePn	Pn	05 26 35.5	-2.9
HINF				eSg	Sg	05 28 35.3	-10
	comp=Z,130nm,0.7s						
HAU	Haudompre	7.20	245	ePn	Pn	05 26 39.3	-1.6
HAU				ePg	Pg	05 27 07.5	-8.0
HAU				eSg	Sg	05 28 41.4	-10
	comp=Z,137nm,0.9s						
GIVF	Givet	7.27	264	eSg	Sg	05 28 44.6	-9.2
	comp=Z,215nm,1.0s						
RFYF	Reffroy	7.40	252	ePn	Pn	05 26 41.0	-2.7
RFYF				eSg	Sg	05 28 48.3	-10
	comp=Z,502nm,1.6s						
BAIF	Baives	7.66	264	ePn	Pn	05 26 42.9	-4.5
BAIF				eSg	Sg	05 28 55.5	-11
	comp=Z,156nm,1.1s						
MEZF	Maizieres J'vi	7.70	252	eSg	Sg	05 28 55.9	-12
	comp=Z,397nm,1.4s						
SFTF	Sexfontaines	7.85	250	ePn	Pn	05 26 46.2	-3.9
SFTF				eSg	Sg	05 29 02.7	-11
	comp=Z,329nm,1.3s						
CABF	La Chapelle	8.17	237	ePn	P	05 26 52.0	-2.5
CABF				eSg	Sg	05 29 13.2	-11
	comp=Z,293nm,1.1s						
AKASG	Malin Array Be	8.32	90	Pn	P	05 26 52.7	-3.9
	comp=Z,6.6nm,0.3s,baz=278,slow=12,SNR=40						
AKASG				Pg	P	05 27 30.4	+34
	comp=Z,2.0nm,0.3s,baz=279,slow=15,SNR=12						
AKASG				Sn	Sn	05 28 22.4	-10
	comp=Z,3.5nm,0.3s,baz=277,slow=24,SNR=4.3						
AKASG				Lg		05 29 22.1	
	comp=Z,0.7nm,0.3s,baz=280,slow=26,SNR=4.2						
LPL	La Plagne	8.60	230	eSg	Sg	05 29 25.9	-12
	comp=Z,122nm,1.4s						
LPG	La Plagne	8.61	230	ePn	P	05 26 59.4	-1.2
LPG				eSg	Sg	05 29 26.5	-12
	comp=Z,203nm,1.3s						
HFS	Hagfors	8.79	352	Pn	P	05 26 59.5	-3.6
	comp=Z,0.1nm,0.3s,baz=168,slow=14,SNR=7.5						
HFS				Sn	Sn	05 28 41.5	-2.5
	comp=Z,0.2nm,0.3s,baz=173,slow=23,SNR=3.1						
HFS				Lg		05 29 34.0	
	comp=Z,0.2nm,0.3s,baz=165,slow=29,SNR=3.7						
BNI	Bardonecchia	8.97	228	ePn	P	05 27 03.5	-2.2
BNI				eSn	Sn	05 28 41.1	-7.6
BNI				eLg		05 29 49.0	
KONO	Kongsberg	8.98	338	eP	P	05 27 09.0	+3.3
LOR	Lormes	9.01	247	ePn	P	05 27 03.7	-2.5
LOR				ePg	P	05 27 40.0	+34
LOR				eSg	Sg	05 29 38.5	-13
MBDF	Montbardon	9.18	226	eP	P	05 27 10.1	+1.6
MBDF				eSg	Sg	05 29 44.1	-13
	comp=Z,101nm,1.4s						
SSF	Saint Saulge	9.33	247	ePn	P	05 27 07.9	-2.7
SSF				eSg	Sg	05 29 48.9	-13
	comp=Z,63nm,1.1s						
SMF	Signal de Mont	9.37	244	eSg	Sg	05 29 51.4	-12
	comp=Z,202nm,1.3s						
ORIF	Oris-en-Rattie	9.45	230	ePn	P	05 27 09.8	-2.5
KIS	Kishinev	9.46	113	eP	P	05 27 10.0	-2.4
AVF	Avril sur Loir	9.56	246	ePn	P	05 27 11.4	-2.4
AVF				eSg	Sg	05 29 56.0	-14
	comp=Z,99nm,1.0s						
NAO01	NORSAR Array S	9.83	345	ePn	P	05 27 05.3	-12
NAO01				eS	Sn	05 28 56.5	-13
NB2	NORSAR Subarra	9.96	346	P	P	05 27 14.2	-5.0
	comp=Z,1.0nm,0.6s,baz=160,slow=10						
NOA	NORSAR Array B	9.96	346	Pn	P	05 27 16.1	-3.1
	comp=Z,0.4nm,0.3s,baz=158,slow=12,SNR=5.1						
NOA				Sn	Sn	05 29 17.9	+4.9
	comp=Z,0.5nm,0.3s,baz=320,slow=14,SNR=3.6						
NOA				Lg		05 30 08.3	
	comp=Z,0.6nm,0.3s,baz=41,slow=20,SNR=4.8						
NOA	NORSAR Array B	9.96	346	Pn	P	05 27 16.1	-3.1
NOA				Sn	Sn	05 29 17.9	+4.9
NOA				Lg		05 30 08.3	
FRF	La Foret Royal	10.16	222	ePn	P	05 27 19.0	-2.9
TCF	Toulx Ste Croi	10.50	246	eSg	Sx	05 30 25.3	
	comp=Z,59nm,0.9s						
FINES	FINESS Array B	11.41	25	Pn	P	05 27 34.1	-4.8
	comp=Z,0.7nm,0.3s,baz=180,slow=13,SNR=14						
FINES				Sn	S	05 29 38.5	-10
	comp=Z,1.3nm,0.3s,baz=210,slow=21,SNR=6.5						
PUL	Pulkovo	11.55	38	eP	P	05 27 39.6	-1.3
KAF	Kangasniemi	12.03	24	eP	P	05 27 41.1	-6.3
KAF				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KAF	Kangasniemi	12.03	24	eP	P	05 27 41.1	-6.3
	comp=Z,1.0nm,0.3s						
EKA	Eskdalemuir Ar	12.11	296	Pn	P	05 27 43.6	-4.8
	comp=Z,0.4nm,0.3s,baz=95,slow=13,SNR=9.9						
ESK	Eskdalemuir	12.13	296	eP	P	05 27 43.4	-5.4
OBN	Obninsk	12.78	65	eP	P	05 27 52.8	-4.7
OBN				pmax	pmax		
	comp=Z,13nm,0.9s						
OBN	Obninsk	12.78	65	P	P	05 27 50.6	-6.8
MOS	Moscow	13.47	63	eP	P	05 27 58.6	-8.0
MOS				eS	S	05 30 32.9	-5.3
MOS				MLR	MLR		
	comp=Z,400nm,2.0s						
MOS				MLR	MLR		
	comp=N,700nm,2.9s						
BRTR	Keskin Array B	16.95	127	Pn	P	05 28 54.0	+2.2
	comp=N,0.2nm,0.3s,baz=284,slow=5.1,SNR=3.9						
APA	Apatity	18.26	21	⇑iP	P	05 29 03.4	-4.6
APA				eS	S	05 32 27.4	-2.3
APA				pmax	pmax		
	comp=Z,7.0nm,0.7s						
ESDC	Sonseca Array	18.26	238	P	P	05 29 11.0	+2.8
	comp=Z,0.3nm,0.3s,baz=50,slow=11,SNR=4.4						
ESLA	Sonseca Array	18.26	238	P	P	05 29 09.1	+0.9
	comp=Z,1.2nm,0.9s						
ARCES	ARCESS Array B	18.66	10	Pn	P	05 29 07.3	-5.6
	comp=Z,0.6nm,0.3s,baz=186,slow=12,SNR=23						
LVZ	Lovozero	18.81	22	eP	P	05 29 16.1	+1.4
LVZ	Lovozero	18.81	22	eP	P	05 29 16.0	+1.3
LVZ				pmax	pmax		
	comp=Z,13nm,1.0s						
KEV	Kevo	19.05	12	eP	P	05 29 10.8	-6.8
KEV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZEI	Tsey	20.73	104	eP	P	05 29 31.0	-5.3
ZEI				e		05 29 37.0	
ZEI				e		05 30 06.0	
ZEI				eS	S	05 33 16.0	-7.8
ZEI				pmax	pmax		
	comp=Z,50nm,4.0s						
ZEI				MLR	MLR		
	comp=Z,200nm,14.0s,MS3.6						
ZEI				MLR	MLR		
	comp=Z,200nm,20.0s						
ARU	Arti	25.17	62	⇑iP	P	05 30 19.2	-0.7
ARU				e		05 30 49.7	
ARU				eS	S	05 34 44.4	+1.1
ARU				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.4						
ARU	Arti	25.17	62	eP	P	05 30 17.1	-2.9
	comp=Z,15nm,1.4s,mb4.5						
ZRNK	Zerenda	31.86	66	eP	P	05 31 20.1	-0.3
	comp=Z,3.6nm,0.8s,mb4.3						
BRVK	Borovoye	32.55	65	eP	P	05 31 26.1	-0.3
	comp=Z,5.6nm,0.8s,mb4.5						
KURK	Kurchatov	38.22	66	eP	P	05 32 13.8	-1.0
	comp=Z,4.8nm,0.8s,mb4.3						
MKAR	Makanchi Array	42.25	69	P	P	05 32 48.4	+0.4
	comp=Z,1.4nm,0.8s,mb3.8,baz=297,slow=5.4,SNR=12						
MKAR	Makanchi Array	42.25	69	P	P	05 32 48.4	+0.4
WMQ	Urumqi	47.07	70	eP	P	05 33 28.7	+2.0
WMQ				PP	PP	05 35 19.0	+1.9
WMQ				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.8						
WMQ				LR	LR		
	comp=N,600nm,20.0s,MS4.6						
WMQ				LR	LR		
	comp=E,401nm,22.0s,MS4.6						
WMQ				LR	LR		
	comp=Z,503nm,22.0s,MS4.4						
SCHQ	Schefferville	47.07	308	P	P	05 33 25.3	-1.3
	comp=Z,24nm,1.3s,mb5.2						
SONM	Songino Array	54.95	55	P	P	05 34 26.9	+0.4
	comp=Z,1.9nm,1.0s,mb4.1,baz=297,slow=8.3,SNR=11						
YKA	Yellowknife Ar	59.88	336	P	P	05 35 00.7	-0.4
	comp=Z,2.1nm,0.7s,mb4.3,baz=31,slow=6.5,SNR=8.0						
LZH	Lanzhou	61.49	67	eP	P	05 35 15.4	+3.0
LZH				AP	pP	05 35 17.0	+4.5
LZH				AMB	AMB		
	comp=Z,26nm,1.5s,mb5.1						
LZH				LR	LR		
	comp=N,263nm,14.7s						
LZH				LR	LR		
	comp=Z,345nm,17.8s,MS4.6						
DLBC	Dease Lake	67.01	341	P	P	05 35 41.8	-6.2
CN2	Changchun	67.17	48	eP	P	05 35 49.5	+0.2
MDJ	Mudanjiang	68.41	45	P	P	05 35 55.1	-2.0
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.6s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,129nm,5.0s						
KMI	Kunming	68.75	76	eP	P	05 35 59.7	+0.2
KMI				XP	sP	05 36 04.3	+4.8
KMI				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.7						
ENH	Enshi	68.95	68	P	P	05 35 57.2	-3.5
	comp=Z,4.3nm,0.8s,mb4.7						
CMAR	Chiang Mai Arr	71.38	84	P	P	05 36 15.5	-0.1
	comp=Z,0.9nm,0.4s,mb4.3,baz=315,slow=7.7,SNR=7.7						
NJ2	Nanjing	72.87	60	eP	P	05 36 22.9	-1.3
SSE	Sheshan	74.86	59	P	P	05 36 36.2	+0.4
SSE				XP	sP	05 36 40.6	+4.8
SSE				S	S	05 46 12.1	-0.6
SSE				AMB	AMB		
	comp=Z,14nm,1.0s,mb5.0						
SSE				AMB	AMB		
	comp=Z,17nm,12.0s						
SSE				LR	LR		
	comp=N,23nm,17.7s,MS3.9						
SSE				LR	LR		
	comp=E,44nm,17.6s,MS3.9						
SSE				LR	LR		
	comp=Z,30nm,15.1s,MS3.7						
PDAR	Pinedale Array	74.96	322	P	P	05 36 36.9	+0.7
	comp=Z,0.8nm,0.7s,mb3.8,baz=44,slow=5.4,SNR=8.7						
HLID	Hailey	76.08	325	eP	P	05 36 43.7	+1.3
	comp=Z,2.4nm,0.8s,mb4.4						
HWUT	Hardware Ranch	76.72	322	eP	P	05 36 47.6	+1.4
	comp=Z,9.4nm,1.4s,mb4.7						
WMOK	Wichita Mounta	76.94	310	eP	P	05 36 47.9	+0.4
	comp=Z,4.1nm,1.4s,mb4.4						
BGU	Big Grassy Mou	77.87	323	eP	P	05 36 54.5	+2.0
DUG	Dugway	78.42	323	eP	P	05 36 57.0	+1.5
	comp=Z,6.9nm,1.0s,mb4.7						
SRU	San Rafael	78.46	320	eP	P	05 36 54.6	-1.1
PV10	Paradox Valley	78.49	319	eP	P	05 36 58.0	+2.1
PV01	Paradox Valley	78.50	319	eP	P	05 36 57.3	+1.3
MSU	Marysvale	79.63	321	eP	P	05 37 04.4	+2.3
ANMO	Albuquerque	80.29	315	eP	P	05 37 06.8	+1.0
	comp=Z,2.8nm,1.1s,mb4.1						
TXAR	Lajitas Array	83.72	310	P	P	05 37 24.4	+0.7
	comp=Z,8.3nm,1.4s,mb4.8,baz=63,slow=2.8,SNR=8.3						

IDC 02 05:53:57.9±2.8, 9.50S×156.21E, mb4.0/4, mb1 4.1/4, mb1mx3.9/11, Error ellipse: s-maj=71.3km s-min=31.9km az=106.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WB2	Warramunga Arr	23.52	241	eP	P	05 59 08.6	-2.0
WRA	Warramunga Arr	23.53	241	P	P	05 59 09.7	-1.0
	5.2nm,0.9s,baz=66,slow=9.5,SNR=16						
ASAR	Alice Springs	25.54	234	P	P	05 59 27.1	-3.0
	1.0nm,0.8s,baz=62,slow=10,SNR=7.2						
STKA	Stephens Creek	26.07	209	eP	P	05 59 32.7	-2.2
	4.6nm,0.7s						
STKA	Stephens Creek	26.07	209	P	P	05 59 33.9	-1.0
	5.2nm,0.7s,baz=34,slow=14,SNR=17						
SONM	Songino Array	72.08	327	P	P	06 05 24.9	-1.0
	0.8nm,0.9s,baz=124,slow=5.2,SNR=4.3						

MAN 02 05:56:31.2, 9.18N×127.00E, h9^{km}, mb4.6, ML3.5, MS3.5, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	Bislig	1.17	212	⇑eP	Pb	05 56 52.4	-0.9
BIPH				eS	Sb	05 57 05.9	-2.5
BUTP	Butuan	1.37	261	eP	Pn	05 56 55.3	-1.3
SCPH	Surigao	1.60	292	eP	Pn	05 56 58.7	-1.2
SCPH				eS	Sb	05 57 17.2	-3.6
BUKP	Musuan	2.31	236	eP	Pn	05 57 10.7	+0.6
BUKP				eS	Sn	05 57 39.0	+0.2
MSLP	Maasin	2.31	294	eP	Pn	05 57 05.1	-4.9
PLP	Palo	2.80	315	eP	Pn	05 57 16.8	-0.2
TBP	Tagbilaran	3.13	280	eP	Pn	05 57 22.1	+0.4

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*BJI **02** 06:07:42.9, 22.58N×120.84E, h24^{km}, ML4.2, Ms4.2*

*IDC **02** 06:07:49.1±1.2, 23.16N×120.62E, mb3.7/5, mb1 3.9/5, mb1mx3.7/19, Error ellipse: s-maj=73.6km s-min=24.1km az=68.0*

*TAP **02** 06:07:50.9, 23.20N×120.50E, h8^{km}, ML4.3*

TAP Felt IV J at Nanshi, IV J at Dapu, II J at Jiashian, II J at Tsaushan, II J at Shinhua, II J at Tauyuan, I J at Jiali, II J at Chiayi, I J at Alishan, I J at Tsauling, I J at Lidau, I J at Gukeng, II J at Szhu, I J at Dacheng.

*NEIC **02** 06:07:52.7±4.2, 23.11N×120.57E, h24^{km}±33^{km}, mb4.5/1, ML4.5(TAP), Error ellipse: s-maj=17.4km s-min=11.8km az=113.0*

NEIC Recorded [4 TAP] in Chia-i and T'ai-nan; [2 TAP] in Kao-hsiung and Yun-lin; [1 TAP] in Chang-hua Counties.

ISC 02 06:07:51.7±0.3, 23.19N±0.01×120.46E±0.02, h11^{km}±2^{km}, n63, σ1^{s}19/102, mb3.9/6, 8C-11D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHN1	Nanshi	0.06	90	⇑iP	Pg	06 07 52.6	-1.5
CHN3	Shinhua	0.14	218	iP	Pg	06 07 55.4	+0.2
CHN3				S	Sg	06 07 59.5	+2.1
SGST	Jiashian	0.15	132	⇑iP	Pg	06 07 54.6	-0.7
WTP	Ta-pu	0.15	67	⇑iP	Pg	06 07 54.3	-1.1
CHN4	Tsaushan	0.21	37	⇑iP	Pg	06 07 55.4	-1.0
CHN4				S	Sg	06 07 59.4	0.0
SCLT	Jiali	0.24	268	⇑iP	Pg	06 07 57.6	+0.6
SCLT				S	Sg	06 08 04.1	+3.6
STYT	Tauyuan	0.28	95	⇓iP	Pg	06 07 56.8	-0.8
CHN8	Yiju	0.28	305	⇑iP	Pg	06 07 57.6	0.0
CHN8				S	Sg	06 08 03.9	+2.3
CHY	Chiayi	0.31	354	⇑iP	Pg	06 07 58.2	-0.1
CHY				S	Sg	06 08 04.0	+1.3
TWM1	Shoushan	0.36	185	⇓iP	Pg	06 08 00.8	+1.5
ALS	Alishan	0.45	44	⇓iP	Pg	06 07 59.9	-1.1
ALS				S	Sg	06 08 07.5	+0.3
CHN5	Tsauling	0.46	26	⇓iP	Pg	06 08 00.1	-1.0
CHN5				S	Sg	06 08 08.2	+0.9
SGLT	Jiouru	0.46	176	eP	Pg	06 08 02.5	+1.3
SSD	Sandimen	0.47	160	⇓iP	Pg	06 08 01.1	-0.1
SSD				S	Sg	06 08 09.0	+1.5
WSF	Szhu	0.50	334	eP	Pg	06 08 01.6	-0.4
WSF				S	Sg	06 08 10.2	+1.5
WGK	Gukeng	0.51	11	eP	Pg	06 08 01.8	-0.3
WGK				S	Sg	06 08 10.5	+1.6
ELDTW	Lidau	0.51	89	⇓iP	Pg	06 08 01.0	-1.2
ELDTW				S	Sg	06 08 08.6	-0.5
TWG	Pinlang	0.67	123	⇓iP	Pb	06 08 04.6	-0.4
TWG				S	Sb	06 08 14.6	+0.6
WTCT	Ta-ch'eng	0.69	346	eP	Pb	06 08 04.6	-0.8
WTCT				S	Sb	06 08 15.7	+0.9
WNT	Mingjian	0.72	17	⇓iP	Pb	06 08 05.3	-0.5
WNT				S	Sb	06 08 16.6	+1.1
WDGT	Dungji	0.74	276	⇑iP	Pb	06 08 05.5	-0.6
WDGT				S	Sb	06 08 17.1	+1.1
ECL	Taimali	0.74	142	eP	Pb	06 08 05.7	-0.5
ECL				S	Sb	06 08 16.3	+0.2
TTN	Taitung	0.77	124	eP	Pb	06 08 06.5	-0.1
TTN				S	Sb	06 08 19.8	+3.0
TWF1	Yuli	0.79	78	⇓iP	Pb	06 08 05.8	-1.2
TWF1				S	Sb	06 08 16.6	-0.8
TYC	Yuchr	0.80	27	⇓iP	Pb	06 08 06.6	-0.6
TYC				S	Sb	06 08 19.0	+1.1
SMLT	Sun Moon Lake	0.80	30	⇓iP	Pb	06 08 06.6	-0.6
SMLT				S	Sb	06 08 18.8	+1.0
SCZT	Fangliau	0.82	170	P	Pb	06 08 07.5	0.0
SCZT				S	Sb	06 08 21.4	+2.9
CHKT	Chengkung	0.84	96	eP	Pb	06 08 07.4	-0.4
CHKT				S	Sb	06 08 21.4	+2.5
TWP	Hsiaoliuchiu	0.84	186	eP	Pb	06 08 09.3	+1.4
EHY	Hungye	0.85	68	eP	Pb	06 08 07.0	-1.1
EHY				S	Sb	06 08 19.0	-0.4
EAST	Anshuo	0.88	156	eP	Pb	06 08 08.4	0.0
EAST				S	Sb	06 08 22.7	+2.8
PNG	Penghu	0.91	295	eP	Pb	06 08 08.0	-1.1
PNG				S	Sb	06 08 21.4	+0.3
TAW	Tawu	0.92	154	eP	Pb	06 08 09.2	0.0
TAW				S	Sb	06 08 22.4	+1.3
TCU	Taichung	0.98	12	eP	Pb	06 08 09.4	-0.9
TCU				S	Sb	06 08 23.6	+0.7
ESL	Shilin	1.09	55	eP	Pb	06 08 11.2	-1.0
ESL				S	Sb	06 08 26.5	+0.3
HEN	Hengchun	1.20	168	eP	Pb	06 08 13.6	-0.5
NSY	Sanyi	1.26	13	eP	Pb	06 08 14.5	-0.5
NSY				S	Sb	06 08 32.7	+1.7
TWK1	Hengchun	1.28	165	eP	Pb	06 08 15.0	-0.4
HWA	Hwalien	1.31	53	eP	Pb	06 08 15.9	-0.1
TWD	Chiawan	1.37	49	P	Pn	06 08 16.4	-0.5
TWD				S	Sb	06 08 35.4	+1.0
NNS	Nan Shan	1.50	34	eP	Pn	06 08 18.0	-0.8
NNS				S	Sb	06 08 39.7	+1.6
NSTT	Nanjuang	1.52	19	eP	Pn	06 08 17.6	-1.5
NSTT				S	Sb	06 08 38.7	-0.1
HSN	Hsinchu	1.68	16	S	Sn	06 08 44.8	+1.9
ENA	Nanau	1.71	43	eP	Pn	06 08 21.4	-0.3
ENA				S	Sn	06 08 46.0	+2.4
ENTT	Nioudou	1.77	35	eP	Pn	06 08 23.1	+0.6
TWE	Neicheng	1.89	36	eP	Pn	06 08 24.6	+0.3
TWE				S	Sn	06 08 49.8	+1.6
TWC	Suao	1.91	42	eP	Pn	06 08 25.1	+0.5
TWC				S	Sn	06 08 51.0	+2.3
TATO	Taipei	2.02	28	ePn	Pn	06 08 25.6	-0.5
TATO				eSn	Sn	06 08 55.5	+4.0
TWA	Mucha	2.06	30	eP	Pn	06 08 25.8	-1.0
TWS1	Kuangyinshan	2.10	24	eP	Pn	06 08 25.9	-1.5
NWF	Wu-fen Shan	2.23	32	eP	Pn	06 08 27.2	-2.0
TWB1	Santiao Chiao	2.29	37	eP	Pn	06 08 29.6	-0.4
QZH	Quanzhou	2.44	316	eP	Pn	06 08 30.7	-1.6
QZH				PG	Pg	06 08 36.8	-3.8
QZH				S	Sn	06 08 59.8	-2.6
QZH				Smax			
	comp=N,690nm,0.5s						
QZH				Smax			
	comp=E,520nm,0.4s						
PCYT	Pengchaiyu	2.84	31	eP	Pn	06 08 36.2	-1.8
NJ2	Nanjing	8.95	351	eP	P	06 10 03.6	-0.3
NJ2				AP		06 10 06.5	
NJ2				XP		06 10 09.1	
NJ2				S	Sn	06 11 45.8	+0.1
NJ2				LR	LR		
	comp=N,236nm,10.2s						
NJ2				LR	LR		
	comp=E,1µm,9.6s						
QIZ	Qiongzhong	10.74	249	eP	P	06 10 26.1	-2.5
MKAR	Makanchi Array	38.60	317	P	P	06 15 14.7	-1.8
	comp=E,0.4nm,0.7s,mb3.3,baz=117,slow=8.1,SNR=4.5						
WRAB	Tennant Creek	44.95	161	eP	P	06 16 04.4	-4.5
	comp=E,6.8nm,1.0s,mb4.4						
WRA	Warramunga Arr	44.95	161	P	P	06 16 04.7	-4.2
	comp=E,0.8nm,0.6s,mb3.8,baz=344,slow=8.9,SNR=8.1						
ASAR	Alice Springs	48.37	163	P	P	06 16 32.6	-3.2
	comp=E,0.8nm,0.7s,mb3.9,baz=333,slow=7.1,SNR=6.0						
STKA	Stephens Creek	58.37	159	P	P	06 17 46.1	-3.5

	comp=E,0.7nm,0.6s,mb3.9,baz=329,slow=12,SNR=4.1						
YKA	**Yellowknife Ar**	84.14	22	P	P	06 20 21.7	-2.0
	comp=E,0.5nm,0.4s,mb4.0,baz=312,slow=4.9,SNR=4.6						
YKA	**Yellowknife Ar**	84.14	22	P	P	06 20 21.7	-2.0

DJA 02 06:22:23.4±0.9**,8.34S×115.65E,h49**^{km}±10^{km}**,MD5.2**/4**,**
ML4.5/1**,4C-4D,Error ellipse: s-maj=19.6km**
s-min=7.9km az=169.0,Bali region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RATI	**Rata**	0.40	197	⇓*i*Pn	P	06 22 32.5	-1.0
	5µm,0.2s						
RATI				⇓*i*Sn	S	06 22 40.7	0.0
KEDI	**Kedomdong**	0.48	107	⇑*i*Pn	P	06 22 33.8	-0.6
KEDI				⇑*i*Sn	S	06 22 40.4	-1.9
INGI	**Ingas**	0.69	226	⇓*i*Pn	P	06 22 36.5	-0.5
	4µm,0.2s						
INGI				⇓*i*Sn	S	06 22 45.8	-1.2
KELI	**Kelakatan**	1.15	276	⇑*i*Pn	P	06 22 42.6	-0.8
	596nm,0.2s						
KELI				⇑*i*Sn	S	06 22 56.5	-1.8

DJA 02 06:25:40.0±1.0**,8.60S×115.71E,h80**^{km}±7^{km}**,MD5.2**/3**,**
ML3.3/1**,5C-1D,Error ellipse: s-maj=33.2km**
s-min=11.4km az=178.0,Bali region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RATI	**Rata**	0.22	234	⇑*i*Pn	P	06 25 51.6	-0.2
	432nm,0.2s						
RATI				⇑*i*Sn	S	06 26 00.2	-0.5
KEDI	**Kedomdong**	0.41	75	⇓*i*Pn	P	06 25 52.3	-0.7
	66nm,0.2s						
KEDI				⇑*i*Sn	S	06 26 02.3	-0.6
KELI	**Kelakatan**	1.27	287	⇑*i*Pn	P	06 26 02.4	-0.2
	34nm,0.2s						
KELI				⇑*i*Sn	S	06 26 17.6	-2.0

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*NIED **02** 06:27:00,42.50N×145.20E,h32^{km},Mw3.8 Best double couple: M$_0$5.85×10^{14} NP1:φ$_s$53°,δ54°,λ76°. NP2:φ$_s$257°, δ38°,λ109°.*
*JMA **02** 06:27:25.9,42.48N×145.20E,h42^{km}±1^{km},M3.6*
ISC 02 06:27:26.7±1.3**,42.53N**±0.08×**145.19E**±0.09**,h43**^{km}±45^{km}**,**
n8,σ**0^{s}32**/16**,Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAK	**Akkeshi**	0.59	322	P	**P**	**06 27 38.6**	**-0.2**
JAK				*e*S	**S**	**06 27 47.8**	**+0.4**
NEM2	**Nemuro 2**	0.93	26	P	**P**	**06 27 43.4**	**-0.1**
NEM2				*e*S	**S**	**06 27 55.6**	**-0.2**
JOB	**Onbets**	1.06	291	P	**P**	**06 27 45.2**	**-0.2**
JOB				*e*S	**S**	**06 27 59.1**	**-0.1**
JNK	**Nakash**	1.11	342	P	**P**	**06 27 45.8**	**-0.2**
JNK				*e*S	**S**	**06 28 00.6**	**+0.3**
JAR	**Ashorobuto**	1.29	307	P	**P**	**06 27 48.2**	**-0.5**
JAR				*e*S	**S**	**06 28 04.9**	**-0.2**
JCH	**Churui**	1.35	274	P	**P**	**06 27 49.4**	**-0.2**
JCH				*e*S	**S**	**06 28 06.1**	**-0.4**
JRA	**Rausu**	1.41	358	P	**P**	**06 27 50.4**	**0.0**
JRA				*e*S	**S**	**06 28 08.4**	**+0.5**
JEM	**Erimo**	1.59	252	P	**P**	**06 27 53.4**	**+0.4**
JEM				*e*S	**S**	**06 28 13.1**	**+0.6**

DJA 02 06:30:15.4±1.0**,8.52S×115.98E,h108**^{km}±7^{km}**,MD5.2**/4**,**
ML4.4/1**,5C-2D,Error ellipse: s-maj=29.3km**
s-min=14.4km az=179.0,Bali region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	0.13	76	*e*Pn	P	06 30 30.2	-0.3
	91nm,0.2s						
KEDI				⇓*i*Sn	S	06 30 40.7	-1.2
RATI	**Rata**	0.49	246	⇑*i*Pn	P	06 30 31.9	-0.2
	600nm,0.2s						
RATI				⇑*i*Sn	S	06 30 44.6	-0.1
INGI	**Ingas**	0.88	250	⇑*i*Pn	P	06 30 34.8	-0.7
	704nm,0.2s						
INGI				⇓*i*Sn	S	06 30 52.0	+1.4
KELI	**Kelakatan**	1.51	281	⇑*i*Pn	P	06 30 42.4	-0.2
KELI				⇑*i*Sn	S	06 31 01.2	-1.8

IDC 02 06:36:12.7±1.9**,3.79S×130.93E,mb3.7**/2**,mb1 3.8**/5**,**
mb1mx3.7/12**,ML3.6**/3**,Error ellipse: s-maj=112.0km**
s-min=24.3km az=72.0,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	15.14	200	Pn	P	06 39 47.9	-1.8
	0.3nm,0.3s,baz=360,slow=8.6,SNR=9.1						
FITZ				Sn	S	06 42 32.4	-6.7
	0.1nm,0.3s,baz=27,slow=16,SNR=2.4						
WRA	**Warramunga Arr**	16.40	169	Pn	P	06 40 02.3	-3.6
	0.2nm,0.3s,baz=349,slow=14,SNR=10						
WRA				Sn	S	06 42 58.3	-10
	0.2nm,0.3s,baz=356,slow=24,SNR=6.7						
ASAR	**Alice Springs**	19.97	172	P	P	06 40 47.4	-2.2
	0.4nm,0.3s,baz=353,slow=10,SNR=18						
STKA	**Stephens Creek**	29.69	161	P	P	06 42 20.6	-2.0
	1.2nm,0.8s,baz=338,slow=11,SNR=4.0						
MKAR	**Makanchi Array**	66.08	326	P	P	06 47 01.6	-2.2
	0.2nm,0.4s,baz=117,slow=7.9,SNR=3.0						

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*ISK **02** 06:44:17.7,36.92N×27.49E,h5^{km},MD3.5,ML3.4*
*ATH **02** 06:44:19.8,36.91N×27.55E,h9^{km}±3^{km},MD3.6/9*
*NEIC **02** 06:44:20.2,36.92N×27.50E,h18^{km},MD3.6(ATH),After ATH.*
ISC 02 06:44:19.6±0.7**,36.91N**±0.03×**27.54E**±0.04**,h8**^{km}±5^{km}**,**
n27,σ**0^{s}97**/33**,1C,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	0.17	334	*i* P	**Pg**	**06 44 24.0**	**+0.6**
BDRM				*i* S	**Sg**	**06 44 27.1**	**+1.2**
MLSB	**Milas**	0.43	26	*i* PG	**Pg**	**06 44 27.5**	**-0.9**
MLSB				*i* SG	**Sg**	**06 44 34.3**	**+0.1**
NISR	**Nisiros**	0.44	228	*e*PB	**Pb**	**06 44 29.3**	**0.0**
YER	**Yerkesik**	0.64	69	*i* PG	**Pg**	**06 44 31.6**	**-0.8**
YER				*i* SG	**Sg**	**06 44 42.4**	**+1.4**
AYDN	**Tasoluk**	0.80	20	*i* P	**Pb**	**06 44 34.9**	**-0.4**
AYDN				*i* S	**Sb**	**06 44 46.4**	**+0.3**
ARG	**Arkhangelos**	0.84	145	*e*Pn	**Pn**	**06 44 35.5**	**-2.0**
ARG				*e*Sn	**Sn**	**06 44 50.0**	**0.0**
DALT	**Dalyan (Mudla)**	0.89	99	PG	**Pg**	**06 44 35.9**	**-1.6**
SMG	**Samos**	0.98	325	*e*PB	**Pb**	**06 44 38.4**	**0.0**
KARP	**Karpathos**	1.39	193	*e*PB	**Pb**	**06 44 46.0**	**+0.5**
DNZL	**Cakiroluk**	1.43	57	*i* P	**Pn**	**06 44 46.1**	**+0.1**
DNZL				*i* S	**Sb**	**06 44 56.5**	**-8.0**
DENT	**Denizli**	1.46	54	PN	**Pn**	**06 44 46.4**	**0.0**
IZM	**Izmir**	1.50	352	PN	**Pn**	**06 44 46.2**	**-0.9**
KDAG	**Bornova**	1.51	352	⇑*i*P	**Pn**	**06 44 46.1**	**-1.1**
APE	**Apeiranthos**	1.62	276	PN	**Pn**	**06 44 47.8**	**-0.9**
APE	**Apeiranthos**	1.62	276	*e*PG	**Pg**	**06 44 49.2**	**-2.8**
APE	**Apeiranthos**	1.62	276	*e*Pn	**Pn**	**06 44 49.0**	**+0.3**
MANT	**Manisa**	1.77	27	*e*P	**Pn**	**06 44 49.8**	**-1.2**
KSL	**Kastellorizon**	1.81	114	*e*PN	**Pn**	**06 44 53.2**	**+1.7**
ELL	**Elmali**	1.91	94	PN	**Pn**	**06 44 53.6**	**+0.8**
AKS	**Akhisar**	1.98	6	PN	**Pn**	**06 44 54.3**	**+0.4**
KHL	**Karahalli**	2.12	47	*e*PN	**Pn**	**06 44 56.5**	**+0.7**
NPS	**Neapolis**	2.27	224	*e*PN	**Pn**	**06 45 00.0**	**+2.0**
ISP	**Isparta**	2.54	68	*e*PN	**Pn**	**06 45 01.9**	**0.0**
MKIT	**Kithairon Oros**	3.63	292	*e*PN	**Pn**	**06 45 18.1**	**+0.7**
MKIT	**Kithairon Oros**	3.63	292	*e*Pn	**Pn**	**06 45 18.0**	**+0.6**
VLI	**Veliai**	3.70	268	*e*PN	**Pn**	**06 45 19.0**	**+0.6**
TIP	**Timpagrande**	8.80	288	*e*Pn	**P**	**06 46 29.6**	**-0.6**

IDC 02 06:44:22.5±9.4**,30.65S×177.61W,h57**^{km}±87^{km}**,mb4.1**/4**,**
mb1 4.2/5**,mb1mx4.0**/10**,ML3.3**/1**,Error ellipse:**
s-maj=69.3km s-min=55.3km az=159.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	**Urewera**	8.75	208	P	P	06 46 26.8	-2.1
	0.3nm,0.3s,baz=148,slow=15,SNR=5.2						
URZ				S	S	06 48 02.6	-4.4
	0.8nm,0.3s,baz=133,slow=16,SNR=6.7						
CTA	**Charters Tower**	34.17	279	P	P	06 51 03.2	-1.3
	3.1nm,0.5s,baz=98,slow=11,SNR=6.3						
STKA	**Stephens Creek**	34.75	257	P	P	06 51 08.8	-0.5
	3.1nm,0.5s,baz=92,slow=10,SNR=13						
ASAR	**Alice Springs**	43.43	267	P	P	06 52 19.5	-2.1
	1.1nm,0.4s,baz=105,slow=7.3,SNR=16						
WRA	**Warramunga Arr**	44.44	272	P	P	06 52 26.8	-3.1
	2.3nm,0.3s,baz=110,slow=8.1,SNR=73						
FINES	**FINESS Array B**	145.50	340	PKPbc	PKPbc	07 03 52.7	-1.4
	0.9nm,0.6s,baz=90,slow=3.8,SNR=4.9						

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*NAO **02** 06:55:21.6±5.3,69.59N×17.12E,h20^{km}±29^{km},ML2.4*
*BER **02** 06:55:21.1±5.0,69.78N×16.80E,h15^{km}±18^{km},MD2.7, ML2.3,ML2.4(NAO)*
HEL 02 06:55:29.9±0.2**,68.22N×20.23E,ML2.2**(UPP)**,**
Explosion,Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUA	**Kurravaara**	0.27	171	*i* P	Pg	06 55 35.4	+0.1
KUA				*i* S	Sg	06 55 38.2	-0.8
NIKU	**Nikkaluokta**	0.57	232	*i* P	Pg	06 55 40.3	-1.0
KIF	**Kilpisjarvi**	0.81	15	*e*P	Pg	06 55 48.0	+1.9
MASU	**Masugnsbyn**	1.02	138	*e*P	Pb	06 55 48.4	-1.7
SALU	**Saltoluokta**	1.07	218	*e*P	Pb	06 55 48.9	-2.1
KTK1	**Kautokeino**	1.36	53	*e*P	Pb	06 55 59.2	+3.2
KTK1				*e*S	Sg	06 56 28.7	+14
KTK1				AML	AML	06 56 42.4	
	comp=Z,50nm,0.4s						
TRO	**Tromso**	1.49	342	*e*P	Px	06 55 34.5	
TRO				*e*S	Sx	06 55 45.2	
TRO				AML	AML	06 55 47.4	
	comp=Z,115nm,0.5s						
PAJU	**Pajala**	1.63	136	*e*P	Pn	06 55 58.9	-1.1
ARA0	**ARCESS Array S**	2.32	53	Pn	Pn	06 56 07.7	-2.2
	baz=266,slow=12						
ARA0				Sn	Sn	06 56 43.0	+3.4
	baz=264,slow=22						
ARA0				Lg		06 56 54.0	
	baz=274,slow=28						
LOF	**Lofoten**	2.50	271	*e*	Pn	06 55 49.7	-23
LOF				*e*Sg	Sg	06 56 21.4	-32
LOF				AML	AML	06 56 23.3	
	comp=Z,39nm,0.3s						
KEV	**Kevo**	2.89	55	*e*SB	Sb	06 56 56.1	-2.0
MOR8	**Moi Rana**	3.05	230	*e*P	Pn	06 56 13.0	-7.3
MOR8				*e*S	Sn	06 56 53.9	-4.2
STOK	**Stokkvaagen**	3.38	239	*e*Sg	Sg	06 57 13.6	-8.9
STOK				AML	AML	06 57 24.4	
	comp=Z,12nm,0.5s						
APA0	**Apatity Array**	4.86	91	Pn	Pn	06 56 48.5	+2.5
	baz=299,slow=12						
APA0				Sn	Sg	06 57 57.0	-15
	baz=296,slow=28						
NSS	**Namsos**	4.98	226	*e*	Sn	06 58 01.5	+15
FIA0	**FINESS Array S**	7.25	157	Sn	Sg	06 59 07.5	-24
	baz=351,slow=22						
FIA0				Lg		07 00 04.2	
	baz=350,slow=22						
HFS	**Hagfors**	8.60	202	Lg		07 00 23.7	
	baz=4.3,slow=37						
HFS	**Hagfors**	8.60	202	Lg		07 00 23.7	
	baz=4.3,slow=37						

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*WAR **02** 07:02:16.3,51.45N×16.17E,ML2.6,Mining Induced*
*PRU **02** 07:02:17.2,51.40N×16.15E*
ISC 02 07:02:16.7±1.6**,51.38N**±0.06×**16.02E**±0.07**,n8,**σ**0^{s}80**/14**,**
Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	**Ksiaz**	0.56	162	*e*PG	**Pg**	**07 02 28.0**	**+0.1**
KSP				*e*SG	**Sg**	**07 02 36.0**	**+0.6**
UPC	**Upice**	0.87	180	*e*PG	**Pg**	**07 02 34.1**	**0.0**
DPC	**Dobruska-Polom**	1.04	169	*e*PG	**Pg**	**07 02 36.7**	**-0.9**
DPC				*e*SG	**Sg**	**07 02 51.3**	**-0.2**
PVCC	**Panska Ves**	1.25	228	*e*PG	**Pg**	**07 02 42.0**	**+0.3**
PVCC				*e*SG	**Sg**	**07 03 00.0**	**+1.6**
PRU	**Pruhonice**	1.68	215	*e*SG	**Sg**	**07 03 12.7**	**+0.1**
	8.2nm,0.4s						
CLL	**Collm**	1.90	269	*e*PG	**Pg**	**07 02 54.0**	**-0.6**
CLL				*e*SG	**Sg**	**07 03 20.0**	**+0.1**
NKC	**Novy Kostel**	2.54	245	*e*SG	**Sg**	**07 03 41.1**	**-0.2**
KHC	**Kasperske Hory**	2.74	216	*e*PN	**Pn**	**07 03 03.5**	**+0.8**
KHC				*e*SN	**Sn**	**07 03 37.0**	**0.0**
KHC				*e*SG	**Sg**	**07 03 45.6**	**-2.4**

GUC 02 07:04:02.2±0.6**,34.92S×70.46W,h3**^{km}±2^{km}**,MD3.5,**
ML2.2,2D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CICH	**Cipreses**	0.60	3	⇓*i*P	Pg	07 04 14.7	+0.5
CICH				*i* S	Sg	07 04 23.9	+1.7
CACH	**El Canelo**	0.81	352	*i* P	Pg	07 04 18.1	-0.3
CACH				*i* S	Sg	07 04 29.9	+0.7
CHCH	**Chadas Angostu**	1.00	351	⇓*i*P	Pb	07 04 21.5	-0.2
CHCH				*i* S	Sb	07 04 35.8	+0.7
LMEL	**Las Melosas**	1.09	11	*e*P	Pb	07 04 23.1	-0.2
LMEL				*i* S	Sb	07 04 38.6	+0.8
LMEL				AMP		07 04 40.2	
	comp=N,80nm,0.2s						
LNV	**Longovilo**	1.24	321	*i* P	Pb	07 04 25.0	-0.9
LNV				*i* S	Sb	07 04 42.1	-0.1
ANTU	**Antumapu**	1.36	354	*i* P	Pb	07 04 27.7	-0.2
ANTU				*i* S	Sb	07 04 46.6	+1.1
ANTU				AMP		07 04 48.6	
	comp=E,71nm,0.3s						
RCDM	**Rinconada Maip**	1.46	349	*e*P	Pn	07 04 29.3	-0.2
RCDM				*i* S	Sb	07 04 49.6	+1.3
RCDM				AMP		07 04 57.9	
	comp=E,86nm,0.2s						

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*NEIC **02** 07:12:59.3,34.90S×70.44W,h2^{km},ML2.6(GUC),After GUC.*
GUC 02 07:12:59.3±0.8**,34.90S×70.44W,h2**^{km}±2^{km}**,MD3.8,**
ML2.6,2C-4D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFDO	**San Fernando**	0.55	301	⇓*i*P	Pg	07 13 10.7	+0.4
SFDO				*i* S	Sg	07 13 19.3	+1.7
CICH	**Cipreses**	0.58	2	⇓*i*P	Pg	07 13 11.1	+0.2
CICH				*i* S	Sg	07 13 20.2	+1.6
NICH	**Los Niches**	0.65	261	⇓*i*P	Pg	07 13 12.0	-0.3
NICH				*i* S	Sg	07 13 22.2	+1.2
CACH	**El Canelo**	0.79	351	⇑*i*P	Pg	07 13 14.8	-0.4
CACH				*i* S	Sg	07 13 26.9	+1.2
CHCH	**Chadas Angostu**	0.98	350	*i* P	Pb	07 13 18.3	-0.3
CHCH				*i* S	Sb	07 13 32.0	+0.2
LMEL	**Las Melosas**	1.07	11	*e*P	Pb	07 13 19.8	-0.4
LMEL				*i* S	Sb	07 13 35.4	+1.0
LMEL				AMP		07 13 37.0	
	comp=E,163nm,0.2s						
LNV	**Longovilo**	1.24	319	⇑*i*P	Pb	07 13 22.5	-0.5
LNV				*i* S	Sb	07 13 39.8	+0.6
PCH	**Pirque**	1.28	357	*e*P	Pb	07 13 23.2	-0.5
TACH	**Talagante**	1.31	342	*e*P	Pb	07 13 23.8	-0.4
ANTU	**Antumapu**	1.34	353	*e*P	Pb	07 13 24.2	-0.5
ANTU				AMP		07 13 59.9	
	comp=E,168nm,0.4s						
RCDM	**Rinconada Maip**	1.44	348	*e*P	Pn	07 13 25.8	-0.6
RCDM				*i* S	Sb	07 13 45.4	+0.2
RCDM				AMP		07 13 54.0	
	comp=E,197nm,0.1s						
DSCH	**Colegio Aleman**	1.50	356	*i* P	Pn	07 13 26.6	-0.8
DSCH				*i* S	Sb	07 13 46.8	-0.2
DSCH				AMP		07 13 57.6	
	comp=N,206nm,0.7s						
CLCH	**Cerro Calan**	1.50	357	*e*P	Pn	07 13 27.1	-0.2
CLCH				AMP		07 13 53.6	
	comp=N,166nm,0.6s						
FCH	**Farellones**	1.57	5	*e*P	Pn	07 13 28.6	+0.3
FCH				*i* S	Sb	07 13 50.0	+1.0
LCCH	**Las Cruces**	1.70	326	⇓*i*P	Pn	07 13 30.4	+0.2
LCCH				*i* S	Sb	07 13 53.4	+0.6
CCHI	**Chillan**	2.16	218	*e*P	Pn	07 13 36.5	-0.1
CCHI				*i* S	Sn	07 14 05.1	+0.8
CCHI				AMP		07 14 12.7	
	comp=E,128nm,0.7s						

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*IDC **02** 07:23:09.0±1.7,7.71N×127.69E,mb3.8/5,mb1 4.0/5, mb1mx3.8/17,Error ellipse: s-maj=119.0km s-min=21.4km az=70.0*
*MAN **02** 07:23:11.3,7.41N×127.25E,h1^{km},mb4.7,ML3.6,MS3.6*
ISC 02 07:23:14.7±1.0**,7.28N**±0.09×**127.20E**±0.08**,h33**^{km}**,n10,**
σ**1^{s}20**/11**,mb3.7**/5**,1D,Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MATI	**Mati**	0.99	251	*e*P	**P**	**07 23 31.6**	**-0.6**
MATI				*e*S	**S**	**07 23 44.3**	**-0.9**
KCP	**Kidapawan**	2.11	263	⇓*e*P	**P**	**07 23 50.0**	**+1.7**
BUKP	**Musuan**	2.20	286	*e*P	**P**	**07 23 50.7**	**+1.1**
BUTP	**Butuan**	2.29	317	*e*P	**P**	**07 23 51.2**	**+0.3**
TBP	**Tagbilaran**	4.08	306	*e*P	**P**	**07 24 15.2**	**-1.1**
FITZ	**Fitzroy Crossi**	25.26	183	P	**P**	**07 28 40.9**	**+1.2**
	8.1nm,1.2s,mb4.1,baz=9.5,slow=11,SNR=5.2						
WRA	**Warramunga Arr**	27.95	166	P	**P**	**07 29 04.4**	**-0.1**
	0.5nm,0.5s,mb3.4,baz=348,slow=10,SNR=10						
ASAR	**Alice Springs**	31.44	168	P	**P**	**07 29 36.2**	**+0.7**
	0.3nm,0.6s,mb3.3,baz=352,slow=7.1,SNR=4.3						
ASAR				PcP	PcP	07 32 27.4	-1.0
	0.2nm,0.5s,baz=356,slow=2.7,SNR=4.1						
STKA	**Stephens Creek**	41.29	161	P	**P**	**07 30 56.4**	**-2.5**
	1.3nm,0.7s,mb3.7,baz=346,slow=8.3,SNR=3.8						
MKAR	**Makanchi Array**	54.96	324	P	**P**	**07 32 41.3**	**-3.6**
	0.5nm,0.5s,mb3.8,baz=124,slow=7.8,SNR=9.5						
MKAR				PcP	PcP	07 33 43.4	-2.9
	0.7nm,0.8s,baz=104,slow=5.0,SNR=3.9						

IDC 02 07:52:53.3±7.3**,2.54S×102.03E,mb3.5**/3**,mb1 3.6**/3**,**
mb1mx3.4/14**,Error ellipse: s-maj=403.0km**
s-min=28.8km az=52.0,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	35.97	121	P	P	07 59 56.0	-2.0
	0.3nm,0.4s,baz=304,slow=9.0,SNR=5.2						
ASAR	**Alice Springs**	37.30	127	P	P	08 00 07.6	-1.6
	0.2nm,0.4s,baz=300,slow=7.9,SNR=3.1						
MKAR	**Makanchi Array**	52.12	343	P	P	08 02 05.4	-2.1
	1.1nm,0.9s,baz=144,slow=8.1,SNR=6.0						
TXAR	**Lajitas Array**	143.85	40	PKP	PKPdf	08 12 29.9	-3.1
	0.1nm,0.6s,baz=270,slow=0.9,SNR=4.0						

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*ISK **02** 08:21:27.9,35.51N×29.71E,h30^{km},MD3.6*
ISC 02 08:21:27.9±2.0**,35.5N**±0.2×**29.7E**±0.1**,h30**^{km}**,n13,**
σ**0^{s}93**/13**,Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ELL	**Elmali**	1.29	9	*i* PN	**Pn**	**08 21 49.6**	**-0.6**
DALT	**Dalyan (Mudla)**	1.53	328	PN	**Pn**	**08 21 54.2**	**+0.5**
YER	**Yerkesik**	1.99	327	PN	**Pn**	**08 22 00.1**	**-0.2**
BCK	**Bucak**	2.12	21	PN	**Pn**	**08 22 01.6**	**-0.5**
DNZL	**Cakiroluk**	2.27	348	*i* P	**Pn**	**08 22 07.1**	**+2.9**
BDRM	**Kayabasi**	2.39	312	*i* P	**Pn**	**08 21 59.4**	**-6.5**
AYDN	**Tasoluk**	2.61	327	*i* P	**Pn**	**08 22 08.4**	**-0.7**
LEF	**Lefka**	2.67	97	PN	**Pn**	**08 22 09.4**	**-0.6**
HDMB	**Hadim**	2.73	56	*e*PN	**Pn**	**08 22 10.9**	**+0.1**
MANT	**Manisa**	3.14	344	*i* P	**Pn**	**08 22 27.7**	**+11**
IKL	**Isikli**	3.36	76	PN	**Pn**	**08 22 19.3**	**-0.5**
MEST	**Erdemli**	3.81	72	*i* P	**Pn**	**08 22 27.8**	**+1.7**
KIZT	**Kizilcal**	3.84	27	PN	**Pn**	**08 22 26.1**	**-0.4**

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*HEL **02** 08:31:53.9±0.2,59.92N×22.24E,ML1.8,ML2.5(UPP), ML2.2(NAO),Explosion*
*IDC **02** 08:31:53.3±1.8,59.82N×22.45E,mb1 3.1/4, mb1mx3.0/18,ML2.8/4,Error ellipse: s-maj=23.6km s-min=6.5km az=157.0*
*BER **02** 08:31:54.1±4.2,59.90N×22.17E,ML2.2(NAO), Suspected explosion*
*NAO **02** 08:31:55.9±2.4,60.19N×22.03E,ML2.2*
ISC 02 08:31:52.6±0.5**,60.06N**±0.05×**22.25E**±0.05**,n21,**σ**1^{s}37**/33**,**
Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AAL	**Aland**	1.14	277	*e*P	**Pb**	**08 32 15.0**	**+0.1**
AAL				*e*S	**Sb**	**08 32 32.4**	**+2.3**
PVF	**Pernaja**	1.86	73	*e*P	**Pn**	**08 32 27.6**	**+1.6**
PVF				*e*S	**Sn**	**08 32 51.4**	**+0.8**
NRTU	**Norrtaelje**	1.87	260	*e*P	**Pn**	**08 32 25.9**	**-0.1**
GRAU	**Graesoe**	1.88	280	*e*P	**Pn**	**08 32 27.3**	**+1.0**
FLYU	**Flymyra**	2.19	274	*e*P	**Pn**	**08 32 31.9**	**+1.2**
FIA0	**FINESS Array S**	2.34	52	*e*P	**Pn**	**08 32 36.0**	**+3.1**
FIA0				*e*SG	**Sg**	**08 33 08.7**	**-1.8**
FIA0	**FINESS Array S**	2.34	52	Pn	**Pn**	**08 32 36.1**	**+3.2**
	baz=216,slow=14						
FIA0				Lg		08 33 08.5	
	baz=227,slow=28						
FINES	**FINESS Array B**	2.34	52	Pn	**Pn**	**08 32 35.9**	**+3.1**
	2.3nm,0.3s,baz=226,slow=14,SNR=106						
FINES				Lg		08 33 08.4	
	5.6nm,0.3s,baz=230,slow=24,SNR=34						
KEF	**Keuruu**	2.47	30	*e*SG	**Sg**	**08 33 13.7**	**-1.1**
KEF				MSG		08 33 16.1	
	comp=Z,1.8nm,0.1s						
BACU	**Backbrunna**	2.60	268	*e*P	**Pn**	**08 32 36.9**	**+0.3**
BACU				*e*S	**Sn**	**08 33 10.3**	**+1.0**
VJF	**Virojoki**	2.68	77	*e*P	**Pn**	**08 32 37.8**	**0.0**
VJF				*e*S	**Sn**	**08 33 11.9**	**+0.5**
VSU	**Vasula**	2.80	123	*e*S	**Sn**	**08 33 12.5**	**-1.9**
KAF	**Kangasniemi**	2.85	42	*e*SB	**Sb**	**08 33 23.1**	**+3.3**
KAF				MSG		08 33 24.1	
	comp=Z,4.8nm,0.2s						
SUF	**Sumiainen**	3.27	33	*e*SB	**Sb**	**08 33 33.8**	**+2.0**
SUF				MSG		08 33 35.4	
	comp=Z,2.0nm,0.2s						
HFS	**Hagfors**	4.29	275	*e*P	**Pn**	**08 33 00.2**	**-0.4**
HFS				*e*SG	**Sg**	**08 34 03.9**	**-11**
HFS	**Hagfors**	4.29	275	Pn	**Pn**	**08 33 00.1**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=90,slow=12,SNR=13						
HFS				Pg	**Pg**	**08 33 08.2**	**-10**
	comp=Z,0.2nm,0.3s,baz=92,slow=15,SNR=12						
HFS				Sn	**Sn**	**08 33 50.6**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=101,slow=30,SNR=2.5						
HFS				Lg		08 34 03.7	
	comp=Z,0.2nm,0.3s,baz=93,slow=27,SNR=8.0						
HFS	**Hagfors**	4.29	275	Pn	**Pn**	**08 33 00.2**	**-0.4**
	baz=104,slow=11						
HFS				Lg		08 34 03.9	
	baz=94,slow=28						
NOA	**NORSAR Array B**	5.54	285	Pn	**Pn**	**08 33 17.4**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=253,slow=9.8,SNR=2.5						
NOA				Sn	**Sn**	**08 34 21.8**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=123,slow=21,SNR=2.8						
NOA				Lg		08 34 41.8	
	comp=Z,0.4nm,0.3s,baz=28,slow=21,SNR=3.1						
ARA0	**ARCESS Array S**	9.62	7	Pn	**P**	**08 34 13.4**	**-1.7**
	baz=192,slow=14						
ARA0				Sn	**Sn**	**08 35 58.4**	**-6.8**
	baz=194,slow=28						
ARA0	**ARCESS Array S**	9.62	7	*e*P	**P**	**08 34 13.4**	**-1.7**
ARA0				*e*S	**Sn**	**08 35 58.4**	**-6.8**
ARCES	**ARCESS Array B**	9.62	7	Pn	**P**	**08 34 13.8**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=186,slow=12,SNR=7.8						
ARCES				Sn	**Sn**	**08 35 58.5**	**-6.7**
	comp=Z,0.1nm,0.3s,baz=192,slow=21,SNR=2.7						

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*JMA **02** 09:12:11.2±0.5,24.11N×121.95E,h16^{km},M2.7*
TAP 02 09:12:09.9,24.82N×121.94E,h6^{km}**,ML3.4,Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	1.04	110	P	Pb	09 12 30.3	+0.4
YOJ				S	Sb	09 12 43.5	0.0
IRIF	**Iriomote-Funau**	1.70	106	P	Pn	09 12 39.4	-0.9
IRIF				*e*S	Sn	09 13 01.3	-1.2
JKRS	**Kuro-shima**	1.97	107	P	Pn	09 12 43.8	-0.4
JIJ	**Ishigaki jima**	2.06	102	P	Pn	09 12 45.1	-0.3
JIJ				*e*S	Sn	09 13 11.4	-0.2

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*HEL **02** 10:02:23.2±0.2,59.87N×22.27E,ML1.8,ML2.2(UPP), ML2.2(NAO),Explosion*

*IDC **02** 10:02:23.5±1.8,59.85N×22.43E,mb1 2.9/4, mb1mx2.9/18,ML2.6/4,Error ellipse: s-maj=23.8km s-min=6.5km az=158.0*
*BER **02** 10:02:24.7±4.0,59.95N×22.19E,ML2.2(NAO), Suspected explosion*
*NAO **02** 10:02:25.4±2.7,60.15N×22.09E,ML2.2*
ISC 02 10:02:23.0±0.6,**60.12N**±0.07×**22.25E**±0.06,**n22**,σ**1^{s}10**/34, **Finland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AAL	**Aland**	1.13	274	*e*P	Pb	10 02 44.5	-0.5
AAL				*e*S	Sb	10 03 01.6	+1.4
PVF	**Pernaja**	1.85	75	*e*P	Pn	10 02 56.9	+0.7
PVF				*e*S	Sn	10 03 21.2	+0.6
GRAU	**Graesoe**	1.86	278	*e*P	Pn	10 02 56.7	+0.2
GRAU				*e*S	Sn	10 03 22.6	+1.6
FLYU	**Flymyra**	2.19	272	*e*P	Pn	10 03 01.6	+0.6
FIA0	**FINESS Array S**	2.30	53	*e*P	Pn	10 03 05.4	+2.7
FIA0				*e*SG	Sg	10 03 38.2	-1.4
FIA0				MSG		10 03 40.5	
	comp=Z,4.9nm,0.1s						
FIA0	**FINESS Array S**	2.30	53	Pn	Pn	10 03 05.5	+2.9
	baz=220,slow=14						
FIA0				Lg		10 03 37.9	
	baz=234,slow=28						
FINES	**FINESS Array B**	2.30	53	Pn	Pn	10 03 05.6	+2.9
	comp=Z,0.8nm,0.3s,baz=232,slow=14,SNR=30						
FINES				Lg		10 03 38.1	
	comp=Z,3.2nm,0.3s,baz=228,slow=23,SNR=21						
KEF	**Keuruu**	2.42	31	*e*SG	Sg	10 03 43.7	+0.3
KEF				MSG		10 03 45.7	
	comp=Z,2.4nm,0.1s						
OSTU	**Oestervaala**	2.56	275	*e*P	Pn	10 03 06.4	+0.1
BACU	**Backbrunna**	2.60	266	*e*P	Pn	10 03 06.5	-0.4
VJF	**Virojoki**	2.67	79	*e*P	Pn	10 03 07.4	-0.6
VJF				*e*S	Sn	10 03 41.6	+0.1
KAF	**Kangasniemi**	2.81	43	*e*SB	Sb	10 03 52.5	+3.6
KAF				MSG		10 03 54.4	
	comp=Z,2.8nm,0.2s						
ARNU	**Arnoeviken**	2.86	306	*e*P	Pn	10 03 12.4	+1.8
NRAU	**Nora**	3.68	265	*e*P	Pn	10 03 21.5	-0.8
BREU	**Bredtraesk**	4.16	337	*e*P	Pn	10 03 33.2	+4.1
HFS	**Hagfors**	4.28	274	*e*P	Pn	10 03 29.8	-1.0
HFS				*e*SG	Sg	10 04 34.9	-11
HFS	**Hagfors**	4.28	274	Pn	Pn	10 03 30.9	0.0
	comp=Z,0.0nm,0.3s,baz=95,slow=17,SNR=7.0						
HFS				Pg	Pg	10 03 38.9	-10
	comp=Z,0.1nm,0.3s,baz=95,slow=17,SNR=6.7						
HFS				Sn	Sn	10 04 21.0	-1.3
	comp=Z,0.0nm,0.3s,baz=102,slow=28,SNR=2.3						
HFS				Lg		10 04 34.9	
	comp=Z,0.1nm,0.3s,baz=59,slow=26,SNR=4.0						
HFS	**Hagfors**	4.28	274	Pn	Pn	10 03 29.8	-1.0
	baz=102,slow=9.3						
HFS				Lg		10 04 34.9	
	baz=71,slow=28						
NOA	**NORSAR Array B**	5.52	284	Pn	Pn	10 03 47.0	-1.4
	comp=Z,0.2nm,0.3s,baz=37,slow=11,SNR=2.8						
NOA				Sn	Sn	10 04 49.4	-4.2
	comp=Z,0.2nm,0.3s,baz=90,slow=12,SNR=2.3						
NOA				Lg		10 05 14.6	
	comp=Z,0.2nm,0.3s,baz=301,slow=8.1,SNR=2.5						
ARA0	**ARCESS Array S**	9.55	7	Pn	P	10 04 43.8	-0.8
	baz=194,slow=16						
ARA0				Sn	Sn	10 06 28.6	-5.4
	baz=188,slow=28						
ARA0	**ARCESS Array S**	9.55	7	*e*P	P	10 04 43.8	-0.8
ARA0				*e*S	Sn	10 06 28.6	-5.4
ARCES	**ARCESS Array B**	9.55	7	Pn	P	10 04 43.9	-0.8
	comp=Z,0.1nm,0.3s,baz=192,slow=14,SNR=6.0						
ARCES				Sn	Sn	10 06 28.8	-5.1
	comp=Z,0.1nm,0.3s,baz=190,slow=27,SNR=2.3						

IDC 02 10:08:06.7±3.7,**21.10S**×**175.47W**,**mb3.8**/3,**mb1 4.0**/3, **mb1mx3.8**/10,**Error ellipse: s-maj=183.0km s-min=48.4km az=147.0,Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	39.67	245	P	P	10 15 40.1	-2.1
	0.9nm,0.6s,baz=95,slow=9.5,SNR=5.0						
ASAR	**Alice Springs**	46.69	257	P	P	10 16 37.3	-1.9
	0.7nm,0.4s,baz=83,slow=6.1,SNR=23						
WRA	**Warramunga Arr**	46.86	262	P	P	10 16 38.9	-1.7
	0.6nm,0.5s,baz=99,slow=6.2,SNR=20						
AKASG	**Malin Array Be**	144.65	333	PKP	PKPdf	10 27 43.7	-3.2
	0.9nm,0.4s,baz=38,slow=4.2,SNR=7.2						
BRTR	**Keskin Array B**	148.98	313	PKPbc	PKPdf	10 27 57.4	+2.9
	1.0nm,0.7s,baz=135,slow=4.1,SNR=4.8						

GUC 02 10:11:00.2±0.6,**34.72S**×**70.24W**,**h2**^{km}±2^{km},**MD3.5, ML2.3,3C-4D,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CICH	**Cipreses**	0.42	340	⇓*i*P	Pg	10 11 09.3	+0.6
CICH				*i* S	Sg	10 11 15.6	+1.3
SFDO	**San Fernando**	0.64	279	⇓*i*P	Pg	10 11 13.4	+0.3
SFDO				*i* S	Sg	10 11 23.1	+1.5
CACH	**El Canelo**	0.67	334	⇑*i*P	Pg	10 11 13.4	-0.1
CACH				*i* S	Sg	10 11 23.1	+0.7
CHCH	**Chadas Angostu**	0.85	336	⇑*i*P	Pg	10 11 17.0	-0.3
CHCH				*i* S	Sg	10 11 29.6	+1.0
LMEL	**Las Melosas**	0.87	2	⇑*i*P	Pg	10 11 16.9	-0.6
LMEL				*i* S	Sg	10 11 28.9	-0.2
LMEL				AMP		10 11 30.6	
	comp=N,194nm,0.1s						
PCH	**Pirque**	1.12	348	⇓*i*P	Pb	10 11 21.3	-0.6
PCH				*i* S	Sb	10 11 37.2	+0.5
TACH	**Talagante**	1.21	331	*i* P	Pb	10 11 22.9	-0.5
TACH				*i* S	Sb	10 11 39.5	+0.2
LNV	**Longovilo**	1.23	308	⇓*i*P	Pb	10 11 23.0	-0.8
LNV				*i* S	Sb	10 11 40.5	+0.6
RCDM	**Rinconada Maip**	1.31	339	*i* P	Pb	10 11 24.4	-0.8
RCDM				*i* S	Sb	10 11 42.9	+0.6
RCDM				AMP		10 11 44.3	
	comp=E,148nm,0.1s						
CLCH	**Cerro Calan**	1.34	349	*e*P	Pb	10 11 25.0	-0.7
CLCH				*i* S	Sb	10 11 43.8	+0.6
CLCH				AMP		10 11 48.5	
	comp=E,99nm,0.7s						
FCH	**Farellones**	1.39	358	*e*P	Pb	10 11 26.1	-0.4
FCH				*i* S	Sb	10 11 45.8	+1.3
FCH				AMP		10 11 47.9	
	comp=N,85nm,0.2s						

DJA 02 10:26:58.6±1.0,**9.60S**×**116.61E**,**h33**^{km},**MD4.5**/1, **ML4.2**/2,**1C-2D,Error ellipse: s-maj=21.7km s-min=19.7km az=150.0,Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	1.21	336	⇓*i*Pn	Pn	10 27 18.6	-0.8
	135nm,0.2s						
KEDI				*e*Sn	Sn	10 27 33.1	-1.6
RATI	**Rata**	1.37	309	⇑*e*Pn	Pn	10 27 20.5	-1.3
RATI	**Rata**	1.37	309	*e*P	P	10 27 21.1	-0.5
RATI				*e*Sn	Sn	10 27 36.2	-2.7
INGI	**Ingas**	1.64	298	⇓*i*Pn	Pn	10 27 24.6	-1.0
	346nm,0.2s						
INGI				*e*Sn	Sn	10 27 43.0	-2.7

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*LDG **02** 10:44:05.9±0.1,44.20N×7.24E,h6^{km},Md2.4/1,Ml2.5/9, Error ellipse: s-maj=2.0km s-min=1.2km az=65.0*
*STR **02** 10:44:06.2±0.1,44.19N×7.23E,h5^{km}±1^{km},Ml2.5,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **02** 10:44:06.2,44.19N×7.23E,h5^{km},ML2.7(GEN), ML2.5(STR),ML2.5(LDG),After STR.*
ISC 02 10:44:05.7±0.2,**44.19N**±0.02×**7.24E**±0.03,**h18**^{km}±3^{km}, **n35**,σ**0^{s}80**/68,**Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STV	**Sta Anna Valdi**	0.08	46	P	Pb	10 44 08.8	-0.5
STV				S	Sb	10 44 10.5	-1.1
STV2	**Anna di Valdie**	0.09	46	P	Pb	10 44 08.8	-0.5
STV2				S	Sb	10 44 10.5	-1.1
ENR	**Entracque**	0.14	73	P	Pb	10 44 09.6	-0.2
ENR				S	Sb	10 44 12.0	-0.5
AUTN	**L'Aution**	0.23	145	Pg	Pb	10 44 11.1	-0.1
AUTN				Sg	Sb	10 44 15.0	+0.1
MVIF	**Mont Vial**	0.30	192	Pg	Pb	10 44 12.0	-0.2
MVIF				Sg	Sb	10 44 16.6	0.0
SAOF	**Saorge**	0.30	131	Pg	Pb	10 44 12.4	+0.1
SAOF				Sg	Sb	10 44 17.0	+0.2
AURF	**Auriere**	0.30	168	Pg	Pb	10 44 12.3	-0.1
AURF				Sg	Sb	10 44 16.9	0.0
PZZ	**Prazzo**	0.33	343	P	Pb	10 44 12.2	-0.6
PZZ				S	Sb	10 44 16.8	-0.9
MONE	**Monesi**	0.39	106	P	Pb	10 44 14.0	+0.2
MONE				S	Sb	10 44 19.5	+0.3
SURF	**Saint Ours**	0.42	314	Pg	Pb	10 44 14.2	-0.2
SURF				Sg	Sb	10 44 20.5	+0.2
REVF	**Revere**	0.46	168	Pg	Pb	10 44 15.3	+0.4
REVF				Sg	Sb	10 44 21.9	+0.7
ROB	**Roburent**	0.47	76	P	Pb	10 44 15.6	+0.5
ROB				S	Sb	10 44 21.9	+0.4
NEGI	**Negi**	0.48	135	P	Pb	10 44 15.6	+0.3
NEGI				S	Sb	10 44 22.0	+0.2
CALN	**Calern**	0.50	210	Pg	Pb	10 44 15.9	+0.2
CALN				Sg	Sb	10 44 22.7	+0.2
IMI	**Imperia**	0.54	120	P	Pb	10 44 16.8	+0.4
IMI				S	Sb	10 44 24.2	+0.5
RORO		0.60	97	P	Pb	10 44 17.4	+0.1
RORO				S	Sb	10 44 25.8	+0.4
MBDF	**Montbardon**	0.64	328	*e*Pg	Pb	10 44 18.0	0.0
MBDF				*e*Sg	Sb	10 44 26.8	+0.4
	17nm,0.2s						
BHB	**Bricherasio**	0.66	1	P	Pb	10 44 17.5	-0.8
BHB				S	Sb	10 44 26.0	-1.0
FIN	**Finale Ligure**	0.70	88	P	Pb	10 44 19.4	+0.4
FIN				S	Sb	10 44 28.8	+0.6
FRF	**La Foret Royal**	0.76	215	*e*Pg	Pb	10 44 19.9	-0.2
FRF				*e*Pn	Pn	10 44 21.5	0.0
FRF				*e*Sg	Sb	10 44 29.7	-0.2
	46nm,0.2s						
RRL	**Cesana Torines**	0.80	336	P	Pb	10 44 20.7	-0.1
RRL				S	Sb	10 44 30.8	-0.4
FENE	**Fenestrelle**	0.85	352	P	Pb	10 44 21.4	-0.3
RSP	**Reno Superiore**	0.97	1	P	Pb	10 44 22.8	-0.8
PCP	**Pian Castagno**	1.00	69	P	Pb	10 44 25.2	+0.9
LMR	**La Mourre**	1.00	212	*e*Pg	Pb	10 44 24.4	+0.1
LMR				*e*Pn	Pn	10 44 24.8	-0.2
LMR				*e*Sg	Sb	10 44 37.2	+0.2
	40nm,0.2s						
ORIF	**Oris-en-Rattie**	1.22	307	*e*Pg	Pb	10 44 28.1	+0.2
ORIF				*e*Sg	Sb	10 44 45.9	+2.7
	11nm,0.3s						
SMRF	**Simiane la Rot**	1.22	261	*e*Pg	Pb	10 44 29.3	+1.4
SMRF				*e*Sg	Sb	10 44 45.0	+1.8
	19nm,0.3s						
LSD	**Ceresole Reale**	1.27	357	P	Pn	10 44 29.2	+0.3
LPG	**La Plagne**	1.36	345	*e*Pg	Pn	10 44 31.1	+1.1
LPG				*e*Sg	Sb	10 44 49.6	+2.4
	4.4nm,0.2s						
TRAV		1.38	15	P	Pn	10 44 29.5	-0.8
LPL	**La Plagne**	1.38	345	*e*Pg	Pn	10 44 31.5	+1.2
LPL				*e*Sg	Sb	10 44 48.9	+1.0
	9.1nm,0.5s						
VIVF	**Saint-Julien-l**	1.95	291	*e*Pn	Pn	10 44 39.1	+0.5
VIVF				*e*Sn	Sn	10 45 01.8	-1.0
VIVF				*e*Sg	Sn	10 45 07.7	+4.9
	5.3nm,0.3s						
PGF	**Pioggiola**	2.08	141	*e*Pn	Pn	10 44 39.5	-0.9
PGF				*e*Sn	Sn	10 45 03.9	-2.1
	3.5nm,0.2s						
LASF	**Ste Croix**	2.44	269	*e*Pn	Pn	10 44 44.9	-0.6
LASF				*e*Sn	Sn	10 45 13.4	-1.7
	3.2nm,0.3s						
MTLF	**Montolieu**	3.73	259	*e*Pn	Pn	10 45 02.3	-1.6
MTLF				*e*Sn	Sn	10 45 44.6	-3.4
	1.2nm,0.2s						

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*NEIC **02** 10:46:51.7,34.94S×70.48W,h2^{km},ML2.6(GUC),After GUC.*
GUC 02 10:46:51.7±0.6,**34.94S**×**70.48W**,**h2**^{km}±2^{km},**MD3.6, ML2.6,2D,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFDO	**San Fernando**	0.55	306	⇓*i*P	Pg	10 47 02.8	+0.2
SFDO				*i* S	Sg	10 47 11.6	+1.7
CICH	**Cipreses**	0.61	4	⇓*i*P	Pg	10 47 04.2	+0.2
CICH				*i* S	Sg	10 47 14.2	+2.0
CACH	**El Canelo**	0.82	353	*i* P	Pg	10 47 08.1	-0.1
CACH				*i* S	Sg	10 47 20.3	+1.2
CHCH	**Chadas Angostu**	1.01	352	*i* P	Pb	10 47 11.0	-0.6
CHCH				*i* S	Sb	10 47 25.6	+0.6
LMEL	**Las Melosas**	1.11	12	*e*P	Pb	10 47 13.2	0.0
LMEL				*i* S	Sb	10 47 28.8	+0.9
LMEL				AMP		10 47 32.5	
	comp=N,129nm,0.1s						
LNV	**Longovilo**	1.25	321	*e*P	Pb	10 47 14.3	-1.2
TACH	**Talagante**	1.33	343	*i* P	Pb	10 47 16.4	-0.6
CLCH	**Cerro Calan**	1.54	358	*e*P	Pn	10 47 19.9	-0.3
CLCH				AMP		10 47 50.4	
	comp=E,308nm,0.5s						
FCH	**Farellones**	1.61	6	*e*P	Pn	10 47 22.4	+1.1
FCH				*i* S	Sb	10 47 44.5	+2.1
FCH				AMP		10 47 47.0	
	comp=E,151nm,0.2s						

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*IDC **02** 10:56:52.0±3.9,26.60S×132.05E,mb1 3.5/3, mb1mx3.3/9,ML3.1/3,Error ellipse: s-maj=34.8km s-min=19.9km az=69.0*
*AUST **02** 10:56:55.0,26.55S×131.89E,ML2.8*
*NEIC **02** 10:56:54.0,26.55S×131.89E,ML2.8(AUST),After AUST.*
ISC 02 10:56:50.1±0.7,**26.71S**±0.05×**132.13E**±0.08,**h10**^{km},**n12**, σ**1^{s}39**/25,**South Australia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASPA	**Alice Springs**	3.43	28	*e*P	Pn	10 57 46.7	+1.9
ASPA				*e*		10 57 55.6	
ASPA				*e*S	Sn	10 58 26.5	+0.5
ASAR	**Alice Springs**	3.43	28	Pn	Pn	10 57 46.9	+2.0
	0.6nm,0.3s,baz=209,slow=12,SNR=34						
ASAR				Pg	Pg	10 57 55.4	-3.3
	1.7nm,0.3s,baz=205,slow=16,SNR=34						
ASAR				Sn	Sn	10 58 26.4	+0.3
	1.6nm,0.3s,baz=206,slow=23,SNR=8.1						
ASAR				Lg		10 58 36.9	
	3.6nm,0.3s,baz=213,slow=28,SNR=12						
FORT	**Forrest**	5.40	220	*e*P	Pn	10 58 13.6	+0.9
FORT				*e*S	Sn	10 59 15.1	-0.6
	20nm,0.4s						
FORT	**Forrest**	5.40	220	*e*P	Pn	10 58 13.6	+0.9
	20nm,0.4s						
FORT				*e*S	Sn	10 59 15.1	-0.6
WRA	**Warramunga Arr**	7.04	17	Pn	Pn	10 58 34.8	-1.0
	0.5nm,0.3s,baz=196,slow=14,SNR=74						
WRA				Sn	Sn	10 59 50.7	-6.0
	0.9nm,0.3s,baz=199,slow=23,SNR=8.6						
WRA				Lg		11 00 33.0	
	0.7nm,0.3s,baz=202,slow=29,SNR=4.8						
WB2	**Warramunga Arr**	7.04	17	*e*P	Pn	10 58 35.5	-0.3
WB2				*e*S	Sn	10 59 49.7	-7.1
WRAB	**Tennant Creek**	7.05	17	*e*Pn	Pn	10 58 34.8	-1.1
WRAB				*e*Sn	Sn	10 59 50.5	-6.4
QIS	**Mount Isa**	9.19	50	*e*P	P	10 59 06.4	+0.6
QIS				*e*S	Sn	11 00 45.0	-5.4
	0.8nm,0.2s						
QIS	**Mount Isa**	9.19	50	*e*P	P	10 59 06.4	+0.6
	0.8nm,0.2s						
QIS				*e*S	Sn	11 00 45.0	-5.4
STKA	**Stephens Creek**	9.74	124	*e*P	P	10 59 14.6	+1.3
STKA				*e*S	Sn	11 01 02.6	-1.2
STKA	**Stephens Creek**	9.74	124	Pn	P	10 59 14.7	+1.4
	0.2nm,0.3s,baz=296,slow=12,SNR=5.7						
STKA				Sn	Sn	11 01 01.3	-2.5
	0.6nm,0.3s,baz=273,slow=19,SNR=6.4						
STKA				Lg		11 02 03.0	
	0.1nm,0.3s,baz=30,slow=24,SNR=2.0						
STKA	**Stephens Creek**	9.74	124	*e*Pn	P	10 59 14.3	+1.0
STKA				*e*S	Sn	11 01 02.6	-1.2

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*HEL **02** 11:02:53.1±0.3,59.85N×22.30E,ML2.3(UPP), ML2.3(NAO),Explosion*
*IDC **02** 11:02:53.2±2.4,59.78N×22.36E,mb1 2.9/4, mb1mx2.8/18,ML2.8/4,Error ellipse: s-maj=37.7km s-min=8.5km az=162.0*
*NAO **02** 11:02:55.5±2.5,60.13N×22.11E,ML2.3*
*BER **02** 11:02:56.0±4.2,60.04N×22.21E,ML2.3(NAO), Suspected explosion*
ISC 02 11:02:52.2±0.5,**60.04N**±0.04×**22.24E**±0.05,**n30**,σ**1^{s}35**/49, **Finland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AAL	**Aland**	1.14	278	*e*P	Pb	11 03 14.7	+0.2
AAL				*e*S	Sb	11 03 30.2	+0.6
AAL	**Aland**	1.14	278	*e*P	Pb	11 03 14.7	+0.2
AAL				*e*S	Sb	11 03 30.2	+0.6
NRTU	**Norrtaelje**	1.86	260	*e*P	Pn	11 03 25.8	+0.2
NRTU				*e*S	Sn	11 03 50.6	+0.4
NRTU	**Norrtaelje**	1.86	260	*e*P	Pn	11 03 25.8	+0.2
NRTU				*e*S	Sn	11 03 50.6	+0.4
PVF	**Pernaja**	1.87	73	*e*P	Pn	11 03 27.1	+1.3
PVF				*e*S	Sn	11 03 52.0	+1.6
GRAU	**Graesoe**	1.87	281	*e*P	Pn	11 03 26.8	+1.0
GRAU	**Graesoe**	1.87	281	*e*P	Pn	11 03 26.8	+1.0
FLYU	**Flymyra**	2.19	274	*e*P	Pn	11 03 31.4	+1.1
FLYU	**Flymyra**	2.19	274	*e*P	Pn	11 03 31.4	+1.1
FIA0	**FINESS Array S**	2.35	52	*e*P	Pn	11 03 35.8	+3.2
FIA0				*e*SG	Sg	11 04 08.3	-2.2
FIA0	**FINESS Array S**	2.35	52	Pn	Pn	11 03 35.7	+3.0
	baz=222,slow=14						
FIA0				Lg		11 04 08.2	
	baz=227,slow=37						
FINES	**FINESS Array B**	2.35	52	Pn	Pn	11 03 35.8	+3.1
	2.0nm,0.3s,baz=230,slow=14,SNR=41						
FINES				Sn	Sn	11 04 08.4	+5.7
	4.8nm,0.3s,baz=238,slow=22,SNR=27						
KEF	**Keuruu**	2.49	30	*e*SG	Sg	11 04 14.0	-1.0
KEF				MSG		11 04 17.1	
	comp=Z,2.8nm,0.1s						
OSTU	**Oestervaala**	2.56	276	*e*P	Pn	11 03 36.6	+0.9
OSTU	**Oestervaala**	2.56	276	*e*P	Pn	11 03 36.6	+0.9
BACU	**Backbrunna**	2.59	268	*e*P	Pn	11 03 36.8	+0.6
BACU	**Backbrunna**	2.59	268	*e*P	Pn	11 03 36.8	+0.6
VJF	**Virojoki**	2.69	77	*e*P	Pn	11 03 37.6	0.0
VJF				*e*S	Sn	11 04 11.9	+0.6
VSU	**Vasula**	2.80	123	*e*P	Pn	11 03 38.1	-0.9
VSU				*e*S	Sn	11 04 11.9	-2.1
KAF	**Kangasniemi**	2.87	42	*e*SB	Sb	11 04 22.5	+2.7
KAF				MSG		11 04 23.4	
	comp=Z,4.4nm,0.2s						
SUF	**Sumiainen**	3.28	33	*e*SB	Sb	11 04 33.0	+1.1
SUF				MSG		11 04 36.1	
	comp=Z,1.9nm,0.2s						
HFS	**Hagfors**	4.28	275	Pn	Pn	11 03 60.0	-0.2
	baz=83,slow=16						
HFS				Sn	Sn	11 04 51.0	-0.6
	baz=95,slow=28						
HFS				Lg		11 05 05.0	
	baz=72,slow=28						
HFS	**Hagfors**	4.28	275	*e*P	Pn	11 03 60.0	-0.2
HFS				*e*S	Sn	11 04 51.0	-0.6
HFS				*e*SG	Sg	11 05 05.0	-10
HFS	**Hagfors**	4.28	275	*e*P	Pn	11 03 60.0	-0.2
HFS				*e*S	Sn	11 04 51.0	-0.6
HFS				*e*SG	Sg	11 05 05.0	-10
HFS	**Hagfors**	4.28	275	Pn	Pn	11 04 00.9	+0.7
	comp=Z,0.1nm,0.3s,baz=101,slow=14,SNR=12						
HFS				Pg	Pg	11 04 08.6	-9.2
	comp=Z,0.2nm,0.3s,baz=100,slow=14,SNR=14						
HFS				Lg		11 05 03.4	
	comp=Z,0.2nm,0.3s,baz=96,slow=30,SNR=8.1						
NOA	**NORSAR Array B**	5.54	285	Pn	Pn	11 04 15.7	-2.2
	comp=Z,0.2nm,0.3s,baz=5.2,slow=16,SNR=2.4						
NOA				Sn	Sn	11 05 20.1	-3.1
	comp=Z,0.2nm,0.3s,baz=123,slow=24,SNR=2.4						
NOA				Lg		11 05 44.5	
	comp=Z,0.5nm,0.3s,baz=58,slow=17,SNR=5.2						
ARA0	**ARCESS Array S**	9.63	7	Pn	P	11 05 13.3	-1.6
	baz=195,slow=14						
ARA0				Sn	Sn	11 06 57.4	-7.8
	baz=196,slow=28						
ARA0	**ARCESS Array S**	9.63	7	*e*P	P	11 05 13.3	-1.6
ARA0				*e*S	Sn	11 06 57.4	-7.8
ARA0	**ARCESS Array S**	9.63	7	*e*P	P	11 05 13.3	-1.6
ARA0				*e*S	Sn	11 06 57.4	-7.8
ARCES	**ARCESS Array B**	9.63	7	Pn	P	11 05 13.2	-1.8
	comp=Z,0.2nm,0.3s,baz=186,slow=14,SNR=9.9						

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*WAR **02** 11:26:02.1,50.20N×19.13E,ML2.5,Mining Induced*
*PRU **02** 11:26:03.5,50.12N×19.01E*
ISC 02 11:26:00.3±0.6,**50.12N**±0.03×**18.97E**±0.03,**n11**,σ**0^{s}85**/21, **Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OJC	**Ojcow**	0.55	79	*e*PG	Pg	11 26 11.0	-0.2
OJC				*e*SG	Sg	11 26 17.0	-1.5
OKC	**Ostrava-Krasne**	0.60	242	*e*PG	Pg	11 26 16.6	+4.3
OKC				*e*SG	Sg	11 26 26.3	+6.0
NIE	**Niedzica**	1.12	128	*e*PG	Pg	11 26 23.0	+0.3
NIE				*e*SG	Sg	11 26 39.0	+1.3
VYHS	**Vyhne**	1.63	183	*e*PG	Pg	11 26 32.5	-0.4
VYHS				*e*SG	Sg	11 26 54.7	+0.1
DPC	**Dobruska-Polom**	1.71	279	*e*PG	Pg	11 26 33.3	-1.2
DPC				*e*SG	Sg	11 26 58.2	+0.8
KSP	**Ksiaz**	1.85	294	*e*PG	Pg	11 26 38.0	+0.7
KSP				*e*(SG)	Sg	11 27 02.0	-0.1
CRVS	**Cervenica-Dubn**	2.03	126	*e*PG	Pg	11 26 41.6	+0.7
CRVS				*e*SG	Sg	11 27 08.1	+0.1
ZST	**Bratislava**	2.28	213	*e*SG	Sg	11 27 15.7	-0.6
SRO	**Srobarova**	2.35	191	*e*SG	Sg	11 27 17.6	-1.0
PRU	**Pruhonice**	2.85	269	*e*SG	Sg	11 27 34.0	-1.4
	6.7nm,0.5s						
KHC	**Kasperske Hory**	3.64	256	*e*PN	Pn	11 27 00.0	+0.9
KHC				*e*PG	Pg	11 27 13.0	0.0
KHC				*e*SN	Sn	11 27 45.0	+1.6
KHC				*e*SG	Sg	11 28 01.4	-0.1

GUC 02 11:38:12.9±0.6,**34.97S**×**70.49W**,**h4**^{km}±2^{km},**MD3.7, ML2.4,1C-1D,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFDO	**San Fernando**	0.56	310	⇓*i*P	Pg	11 38 24.5	+0.4
SFDO				*i* S	Sg	11 38 33.0	+1.5
CICH	**Cipreses**	0.65	5	⇑*i*P	Pg	11 38 26.3	+0.3
CICH				*i* S	Sg	11 38 36.7	+2.0
CACH	**El Canelo**	0.86	354	*e*P	Pb	11 38 29.3	-0.7
CACH				*i* S	Sg	11 38 42.2	+0.7
CHCH	**Chadas Angostu**	1.04	353	*e*P	Pb	11 38 32.7	-0.5
CHCH				*i* S	Sb	11 38 47.2	+0.2
LMEL	**Las Melosas**	1.15	12	*e*P	Pb	11 38 34.5	-0.4
LMEL				AMP		11 38 53.9	
	comp=N,137nm,0.1s						
LNV	**Longovilo**	1.27	323	*i* P	Pb	11 38 35.7	-1.2
LNV				*i* S	Sb	11 38 53.7	+0.3
TACH	**Talagante**	1.37	344	*e*P	Pb	11 38 37.9	-0.7
FCH	**Farellones**	1.65	6	*e*P	Pn	11 38 43.4	+0.6
FCH				*i* S	Sb	11 39 07.8	+3.2
FCH				AMP		11 39 08.9	
	comp=E,93nm,0.2s						

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*BER **02** 11:42:12.6±2.5,57.48N×7.37E,h14^{km}±13^{km},MD2.5, ML2.2,ML2.7(NAO)*
*NAO **02** 11:42:15.6±6.0,57.70N×7.38E,h36^{km}±60^{km},ML2.7*
ISC 02 11:42:12.1±1.8,**57.72N**±0.10×**7.55E**±0.10,**h10**^{km},**n9**, σ**1^{s}32**/15,**North Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BLS5	**Blasjo**	1.80	342	*e*P	Pn	11 42 45.5	+1.9
BLS5				*e*S	Sn	11 43 09.2	+2.6
BLS5				AML	AML	11 43 19.4	
	comp=Z,28nm,0.2s						
KMY	**Karmoy**	1.92	322	*e*P	Pn	11 42 44.8	-0.5
KMY				*e*S	Sn	11 43 08.9	-0.9
ODD1	**Odda**	2.25	348	*e*P	Pn	11 42 50.7	+0.7
ODD1				*e*S	Sn	11 43 18.9	+0.9
ODD1				AML	AML	11 43 30.7	
	comp=Z,30nm,0.2s						

EGD	**Espegrend**	2.83	336	*e*S	Sn	11 43 31.2	-1.5
ASK	**Askoy**	3.02	337	*e*S	Sn	11 43 36.0	-1.7
NC6	**NORSAR Subarra**	3.64	32	Pn	Pn	11 43 10.0	+0.2
NC6				Sn	Sn	11 43 54.5	+1.3
NC6				Lg		11 44 13.2	
NB2	**NORSAR Subarra**	3.82	28	Pn	Pn	11 43 13.2	+0.9
NB2				Sn	Sn	11 43 56.9	-0.8
NB2				Lg		11 44 18.7	
HFS	**Hagfors**	4.00	50	Pn	Pn	11 43 15.8	+0.9
	baz=239,slow=14						
HFS				Sn	Sn	11 44 00.9	-1.3
	baz=238,slow=28						
HFS				Lg		11 44 22.6	
	baz=245,slow=37						
FIA0	**FINESS Array S**	10.09	61	Pn	P	11 44 37.7	-2.4
	baz=250,slow=14						

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*HEL **02** 12:01:53.5±0.1, 59.89N×22.27E, ML1.8, ML2.2(UPP), ML2.2(NAO), Explosion*
*BER **02** 12:01:54.2±4.7, 59.90N×22.23E, ML2.2(NAO), Suspected explosion*
*NAO **02** 12:01:55.5±2.3, 60.15N×22.06E, ML2.2*
ISC 02 12:01:52.8±0.5, **60.02N**±0.05×**22.30E**±0.05, **n19**, σ1^{s}**22**/29, **Finland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AAL	**Aland**	1.17	279	*e*P	Pb	12 02 14.8	-0.7
AAL				*e*S	Sb	12 02 30.9	-0.1
PVF	**Pernaja**	1.85	72	*e*P	Pn	12 02 27.2	+1.1
PVF				*e*S	Sn	12 02 51.5	+1.0
GRAU	**Graesoe**	1.91	281	*e*P	Pn	12 02 26.8	0.0
GRAU				*e*S	Sn	12 02 53.3	+1.4
FLYU	**Flymyra**	2.22	275	*e*P	Pn	12 02 31.8	+0.5
FIA0	**FINESS Array S**	2.34	51	*e*P	Pn	12 02 35.8	+2.7
FIA0				*e*SG	Sg	12 03 08.4	-2.3
FIA0	**FINESS Array S**	2.34	51	Pn	Pn	12 02 35.8	+2.7
	baz=217,slow=16						
FIA0				Lg		12 03 08.3	
	baz=227,slow=28						
KEF	**Keuruu**	2.49	29	*e*SG	Sg	12 03 13.8	-1.9
KEF				MSG		12 03 17.1	
	comp=Z,2.7nm,0.1s						
OSTU	**Oestervaala**	2.59	277	*e*P	Pn	12 02 36.6	-0.1
IGGU	**Iggoen**	2.61	291	*e*P	Pn	12 02 37.6	+0.7
VJF	**Virojoki**	2.67	76	*e*P	Pn	12 02 38.0	+0.2
VJF				*e*S	Sn	12 03 11.7	+0.4
VSU	**Vasula**	2.76	123	*e*P	Pn	12 02 38.2	-0.9
VSU				*e*S	Sn	12 03 12.8	-0.9
KAF	**Kangasniemi**	2.86	41	*e*SB	Sb	12 03 22.6	+2.3
FALU	**Falun**	3.26	281	*e*P	Pn	12 02 46.4	+0.2
SUF	**Sumiainen**	3.28	33	*e*SB	Sb	12 03 33.2	+0.7
SUF				MSG		12 03 35.2	
	comp=Z,1.8nm,0.2s						
ROTU	**Roteberg**	3.48	297	*e*P	Pn	12 02 49.0	-0.3
HFS	**Hagfors**	4.31	275	Pn	Pn	12 03 00.0	-1.1
	baz=101,slow=10						
HFS				Sn	Sn	12 03 49.2	-3.7
	baz=105,slow=37						
HFS				Lg		12 04 03.7	
	baz=96,slow=28						
HFS	**Hagfors**	4.31	275	*e*P	Pn	12 03 00.0	-1.1
HFS				*e*S	Sn	12 03 49.2	-3.7
HFS				*e*SG		12 04 03.7	
ARA0	**ARCESS Array S**	9.65	7	Pn	P	12 04 12.9	-2.9
	baz=182,slow=16						
ARA0				Sn	Sn	12 05 58.6	-7.6
	baz=195,slow=28						
ARA0	**ARCESS Array S**	9.65	7	*e*P	P	12 04 12.9	-2.9
ARA0				*e*S	Sn	12 05 58.6	-7.6

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*BGR **02** 12:23:04.5±0.9, 51.47N×16.21E, h1^{km}, ML3.2/6, Error ellipse: s-maj=12.2km s-min=8.9km az=156.0*
*WAR **02** 12:23:05.9, 51.52N×16.06E, ML3.1, Mining Induced*
*NEIC **02** 12:23:05.6±0.6, 51.46N×16.12E, h5^{km}, ML3.2(SZGRF), ML2.9(CLL), Error ellipse: s-maj=7.1km s-min=5.6km az=213.0*
*PRU **02** 12:23:06.3, 51.48N×16.04E*
*IDC **02** 12:23:07.0±0.7, 51.40N×16.05E, mb1 3.3/6, mb1mx3.2/18, ML3.0/6, Error ellipse: s-maj=12.8km s-min=6.9km az=105.0*
ISC 02 12:23:02.5±0.5, **51.52N**±0.02×**16.10E**±0.03, **n39**, σ1^{s}**29**/82, **1C, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	**Ksiaz**	0.69	170	*e*PG	Pg	12 23 18.0	+1.6
KSP				*e*SG	Sg	12 23 27.0	+1.4
KSP	**Ksiaz**	0.69	170	*i* Pg	Pg	12 23 18.5	+2.1
KSP				*e*Sg	Sg	12 23 27.4	+1.8
UPC	**Upice**	1.02	183	*e*PG	Pg	12 23 24.4	+1.5
UPC				*e*SG	Sg	12 23 37.7	+1.3
DPC	**Dobruska-Polom**	1.18	173	*e*PG	Pg	12 23 27.1	+1.0
DPC				*e*SG	Sg	12 23 42.4	+0.5
	43nm,0.2s						
PVCC	**Panska Ves**	1.39	225	*e*PG	Pg	12 23 30.7	+0.5
PVCC				*e*SG	Sg	12 23 50.3	+1.6
BRG	**Berggiesshubel**	1.50	245	*e*Pg	Pg	12 23 33.0	+0.5
BRG				*e*Sg	Sg	12 23 53.0	+0.4
BRG	**Berggiesshubel**	1.50	245	*i* Pn	Pn	12 23 32.0	+1.2
BRG				*i* Pg	Pg	12 23 33.0	+0.5
BRG				*i* Sg	Sg	12 23 53.1	+0.5
PRU	**Pruhonice**	1.83	213	PN	Pn	12 23 36.6	+1.1
PRU				*i* PG	Pg	12 23 38.4	-0.6
PRU				*i* x	x	12 23 54.8	
PRU				SG	Sg	12 24 01.7	-1.6
	88nm,0.6s						
CLL	**Collm**	1.95	265	*e*Pn	Pn	12 23 37.8	+0.6
CLL	**Collm**	1.95	265	*i* PN	Pn	12 23 37.9	+0.7
	logA/T=1.5						
CLL				*e*PG	Pg	12 23 41.0	-0.4
CLL				*i*		12 23 44.7	
CLL				*i* SG	Sg	12 24 07.1	-0.3
CLL	**Collm**	1.95	265	*i* Pn	Pn	12 23 37.9	+0.7
CLL				*e*Pg	Pg	12 23 41.0	-0.4
CLL				*i* Sg	Sg	12 24 07.1	-0.3
MORC	**Moravsky Berou**	1.98	152	*e*Pn	Pn	12 23 38.4	+0.8
MORC				*e*Sn	Sn	12 24 04.2	+0.8
OKC	**Ostrava-Krasne**	2.13	141	*e*PG	Pg	12 23 44.1	-1.0
OKC				*e*SG	Sg	12 24 12.1	-1.4
VRAC	**Vranov**	2.24	172	Pn	Pn	12 23 43.4	+2.0
	1.6nm,0.3s,baz=335,slow=12,SNR=13						
VRAC				Lg		12 24 16.2	
	10nm,0.3s,baz=59,slow=18,SNR=19						
TANN	**Tannenbergstha**	2.55	246	*e*Pn	Pn	12 23 47.5	+1.7
TANN				*e*Sg	Sg	12 24 26.4	-1.1
NKC	**Novy Kostel**	2.65	242	*e*PN	Pn	12 23 48.6	+1.4
NKC				*e*PG	Pg	12 23 54.7	-0.7
NKC				*e*SG	Sg	12 24 30.7	0.0
GUNZ	**Gunzen**	2.65	245	*e*Sg	Sg	12 24 30.4	-0.3
OJC	**Ojcow**	2.68	118	*e*PN	Pn	12 23 47.0	-0.7
OJC				*e*PG	Pg	12 23 57.0	+0.9
OJC				*e*SN	Sn	12 24 19.0	-2.4
OJC				*e*SG	Sg	12 24 32.0	+0.1
OJC	**Ojcow**	2.68	118	*e*Pn	Pn	12 23 47.5	-0.2
OJC				*e*Pg	Pg	12 23 56.6	+0.5
OJC				*e*Sn	Sn	12 24 19.3	-2.1
OJC				*e*Sg	Sg	12 24 31.6	-0.3
KHC	**Kasperske Hory**	2.89	215	*e*PN	Pn	12 23 51.3	+0.7
KHC				*e*PG	Pg	12 23 57.9	-2.3
KHC				*e*SN	Sn	12 24 26.3	-0.3
KHC				*e*SG	Sg	12 24 36.9	-1.8
MOX	**Moxa**	2.96	254	*e*Pn	Pn	12 23 53.1	+1.5
MOX				*e*Sg	Sg	12 24 40.4	-0.6
MOX	**Moxa**	2.96	254	*i* P	Pn	12 23 53.9	+2.2
MOX				Pg	Pg	12 24 01.0	-0.6
MOX				Sg	Sg	12 24 40.0	-1.1
MOX	**Moxa**	2.96	254	*e*Pn	Pn	12 23 53.9	+2.2
MOX				*e*Pg	Pg	12 24 00.8	-0.8
MOX				*e*Sg	Sg	12 24 40.1	-1.0
GEC2	**GERESS Array S**	3.09	211	*e*Pn	Pn	12 23 55.5	+1.9
GEC2				*e*Sg	Sg	12 24 41.4	-4.1
GEC2	**GERESS Array S**	3.09	211	*e*Pn	Pn	12 23 55.5	+2.0
GEC2				*e*Sg	Sg	12 24 41.4	-4.0
GERES	**GERESS Array B**	3.09	211	Pn	Pn	12 23 55.5	+2.0
	1.6nm,0.3s,baz=26,slow=13,SNR=27						
GERES				Pg	Pg	12 24 01.2	-3.1
	3.6nm,0.3s,baz=31,slow=17,SNR=24						
GERES				Sn	Sn	12 24 30.4	-1.3
	2.7nm,0.3s,baz=36,slow=18,SNR=6.4						
GERES				Lg		12 24 40.8	
	6.0nm,0.3s,baz=34,slow=26,SNR=7.6						
SMOL	**Smolenice**	3.13	164	*e*SG	Sg	12 24 46.5	-0.3
ZST	**Bratislava**	3.39	169	*e*SG	Sg	12 24 55.4	-0.1
VYHS	**Vyhne**	3.51	149	*e*PG	Pg	12 24 11.7	-0.9
VYHS				*e*SG	Sg	12 24 59.4	0.0
GRF	**Grafenberg Arr**	3.61	241	*e*Sg	Sg	12 25 01.0	-1.6
MOA	**Molln**	3.86	199	⇑*i*PN	Pn	12 24 05.7	+1.2
MOA				*i* SG	Sg	12 25 09.5	-1.7
	0.1nm,0.0s						
CRVS	**Cervenica-Dubn**	4.33	125	*e*PG	Pg	12 24 29.1	+0.1
CRVS				*e*SG	Sg	12 25 28.2	+1.5
KWP	**Kalwaria**	4.62	112	*e*PN	Pg	12 24 32.0	-2.7
KWP				*e*SN	Sg	12 25 33.0	-3.3
KWP	**Kalwaria**	4.62	112	P	Pn	12 24 14.4	-0.8
KWP				*e*Pg	Pg	12 24 29.7	-5.0
KWP				*e*Sn	Sn	12 24 59.6	-11
DAVOX	**Davos**	6.26	223	Lg		12 26 22.7	
	0.5nm,0.3s,baz=155,slow=23,SNR=3.0						
AKASG	**Malin Array Be**	8.30	91	Pn	P	12 25 05.0	-2.1
	1.5nm,0.3s,baz=284,slow=11,SNR=4.0						
HFS	**Hagfors**	8.74	352	Pn	P	12 25 15.6	+2.5
	0.0nm,0.3s,baz=192,slow=14,SNR=2.8						
NOA	**NORSAR Array B**	9.91	346	Pn	P	12 25 28.7	-0.5
	0.1nm,0.3s,baz=162,slow=14,SNR=2.7						
FINES	**FINESS Array B**	11.36	25	Pn	P	12 25 46.0	-3.0
	0.2nm,0.3s,baz=212,slow=11,SNR=5.2						
FINES				Sn	S	12 27 46.9	-11
	0.2nm,0.3s,baz=208,slow=20,SNR=3.9						

IDC 02 12:35:50.9±14.0, **17.91S**×**178.27W**, **mb3.7**/5, **mb1 3.9**/5, **mb1mx3.8**/12, **Error ellipse: s-maj=285.0km s-min=46.8km az=59.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	**Urewera**	20.67	190	P	P	12 40 32.5	-2.5
	3.1nm,0.5s,baz=175,slow=22,SNR=5.5						
STKA	**Stephens Creek**	38.74	241	P	P	12 43 16.1	-2.6
	1.0nm,0.5s,baz=58,slow=18,SNR=4.0						
WRA	**Warramunga Arr**	44.76	260	P	P	12 44 06.3	-2.0
	0.2nm,0.3s,baz=94,slow=7.9,SNR=9.0						
ASAR	**Alice Springs**	44.92	254	P	P	12 44 08.7	-0.8
	0.9nm,0.6s,baz=90,slow=8.1,SNR=24						
FITZ	**Fitzroy Crossi**	53.16	261	P	P	12 45 10.6	-2.6
	0.6nm,0.5s,baz=90,slow=20,SNR=4.3						

MEX 02 12:49:07.9±0.9, **16.21N**×**98.12W**, **h10**^{km}, **MD3.6, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	0.18	357	*i* P	Pg	12 49 11.1	-0.8
PNIG				*i* S	Sg	12 49 14.2	-0.5
VHO	**Vista Hermosa**	1.58	57	*i* P	Pn	12 49 32.2	-3.9
VHO				*i* S	Sb	12 49 51.5	-5.2
OXX	**Oaxaca**	1.59	57	*e*P	Pn	12 49 33.0	-3.3
OXX				*i* S	Sb	12 49 53.0	-4.1

SKHL 02 13:00:41.5±1.2, **54.45N**×**123.02E**, **h12**^{km}±5^{km}, **mb4.4**/3, **Southeastern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TUP	**Tupik**	1.79	270	*e*rx	rx	13 01 11.0	
TUP				*e*Pg	Pg	13 01 13.9	-3.4
TUP				AMB	AMB	13 01 14.1	
	211nm,0.2s						
TUP				*e*Sn	Sn	13 01 36.6	+1.2
TUP				*e*Sg	Sg	13 01 37.6	-3.6
TUP				A		13 01 46.5	
	2μm,0.5s						
KROS	**Kirovskiy**	2.31	89	*e*Sg	Sg	13 01 53.0	-5.4
ZEA	**Zeya**	2.59	104	*e*Pn	Pn	13 01 23.1	-0.9
ZEA				*e*Pg	Pg	13 01 27.9	-5.4
ZEA				AMB	AMB	13 01 30.0	
	35nm,0.3s						
ZEA				pP		13 01 31.6	
ZEA				sP		13 01 37.3	
ZEA				*e*Sg	Sg	13 02 01.0	-6.8
ZEA				A		13 02 02.1	
	2μm,0.7s						
ZEA				A		13 02 02.5	
	1μm,0.5s						
ZEA				A		13 02 02.5	
	3μm,1.0s						
YASR	**Yasnyy**	3.16	110	*e*rx	rx	13 02 26.9	
YASR				A		13 02 27.5	
	480nm,0.5s						
BMKR	**Bomnak**	3.40	83	*i* Sg	Sg	13 02 27.5	-7.2
EKMR	**Ekimchan**	6.05	99	*e*Pn	Pn	13 02 09.7	-3.3
EKMR				AMB	AMB	13 02 13.2	
	11nm,0.4s						
EKMR				*e*Sg	Sg	13 03 50.9	-12
EKMR				A		13 03 54.5	
	34nm,0.5s						
EKMR				A		13 03 54.5	
	32nm,0.5s						
KLR	**Kul'dur**	7.52	130	*e*Pn	Pn	13 02 30.0	-3.7
KLR				*e*Sg	Sg	13 04 37.2	-15
GRNR	**Gornyy**	8.95	109	*e*rx	rx	13 04 46.0	
GRNR				*e*Sg	Sg	13 05 21.1	-18
GRNR				A		13 05 24.8	
	39nm,0.8s						
NKL	**Nikolayevsk**	10.53	90	*e*rx	rx	13 06 14.5	

DJA 02 13:17:05.0±1.0, **8.12S**×**115.29E**, **h31**^{km}±6^{km}, **MD4.4**/1, **1C-2D, Error ellipse: s-maj=22.5km s-min=10.9km az=155.0, Bali region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RATI	**Rata**	0.65	159	⇑*e*Pg	Pb	13 17 16.1	-1.7
RATI				*e*Sg	Sb	13 17 25.8	-0.8
INGI	**Ingas**	0.71	192	⇓*i*Pg	Pb	13 17 17.3	-1.6
INGI				*e*Sg	Sb	13 17 27.8	-0.6
KEDI	**Kedomdong**	0.89	114	⇓*i*Pn	Pn	13 17 20.4	-1.1
KEDI				*e*Sn	Sn	13 17 29.1	-4.3
KEDI				*e*S	Sn	13 17 33.1	-0.3

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*NEIC **02** 13:25:13.2±1.9, 15.72S×167.71E, h146^{km}±15^{km}, mb4.7/16, Error ellipse: s-maj=16.2km s-min=11.8km az=219.0*
*IDC **02** 13:25:14.7±3.5, 15.75S×167.60E, h156^{km}±28^{km}, mb4.3/10, mb1 4.3/10, mb1mx4.2/15, MS3.2/1, Ms1 3.2/1, ms1mx2.8/17, Error ellipse: s-maj=23.2km s-min=18.3km az=56.0*
ISC 02 13:25:11.3±1.2, **15.73S**±0.08×**167.6E**±0.1, **h141**^{km}±11^{km}, **n36**, σ0^{s}**87**/40, **mb4.6**/21, **3C-3D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	2.02	163	⇑*i*P	P	13 25 47.0	+0.6
BKM				S	S	13 26 12.1	-1.2
DZM	**Mont Dzumac**	6.41	190	⇑*e*P	P	13 26 44.8	+0.5
DZM				*e*S	S	13 27 57.0	+0.3
DZM	**Mont Dzumac**	6.41	190	⇑*e*P	P	13 26 44.8	+0.5
DZM				*e*S	S	13 27 57.0	+0.3
NOUC	**Port Laguerre**	6.46	191	⇑*e*P	P	13 26 45.9	+0.8
NOUC				*e*S	S	13 27 57.7	-0.3
NOUC	**Port Laguerre**	6.46	191	⇑*e*P	P	13 26 45.9	+0.8
NOUC				*e*S	S	13 27 57.7	-0.3
ARMA	**Armidale**	20.71	222	*e*P	P	13 29 45.1	+3.1
CTA	**Charters Tower**	20.79	255	*e*P	P	13 29 45.2	+2.3
	18nm,0.8s						
CTA	**Charters Tower**	20.79	255	P	P	13 29 44.6	+1.7
	21nm,0.8s,baz=80,slow=12,SNR=19						
CTAO	**Charters Tower**	20.79	255	*e*P	P	13 29 45.1	+2.2
	26nm,0.8s						
URZ	**Urewera**	23.95	161	P	P	13 30 14.5	+1.0
	8.0nm,0.8s,mb4.3,baz=59,slow=5.1,SNR=2.6						
RPZ	**Rata Peaks**	28.05	175	P	P	13 30 51.0	-0.4
	9.7nm,0.8s,mb4.6,baz=26,slow=22,SNR=3.9						
RPZ	**Rata Peaks**	28.05	175	P	P	13 30 51.0	-0.4
STKA	**Stephens Creek**	28.63	231	⇓*i*P	P	13 30 57.4	+0.7
	18nm,0.7s,mb4.9						
STKA	**Stephens Creek**	28.63	231	P	P	13 30 56.8	0.0
	22nm,0.7s,mb5.0,baz=52,slow=7.3,SNR=60						
STKA				PcP	PcP	13 34 03.3	-0.9
	0.7nm,0.6s,baz=199,slow=5.8,SNR=2.8						
TOO	**Toolangi**	29.27	218	*e*P	P	13 31 02.3	-0.1
	4.6nm,0.8s,mb4.3						
WB2	**Warramunga Arr**	31.92	257	*e*P	P	13 31 24.8	-1.1
WRAB	**Tennant Creek**	31.92	257	*e*P	P	13 31 24.4	-1.5
	15nm,0.9s,mb4.7						
WRA	**Warramunga Arr**	31.93	257	P	P	13 31 24.3	-1.7
	8.0nm,0.9s,mb4.5,baz=78,slow=5.9,SNR=59						
WRA				PcP	PcP	13 34 12.2	-0.8
	1.1nm,0.8s,baz=94,slow=3.2,SNR=4.9						
ASAR	**Alice Springs**	32.66	251	P	P	13 31 31.9	-0.4
	22nm,0.8s,mb4.9,baz=79,slow=9.1,SNR=186						
ASAR				PcP	PcP	13 34 14.2	-0.7
	0.9nm,0.8s,baz=71,slow=3.2,SNR=4.4						
ASAR				ScP		13 37 44.2	
	1.8nm,0.9s,baz=99,slow=4.0,SNR=12						
ASPA	**Alice Springs**	32.66	251	⇓*i*P	P	13 31 31.8	-0.4
FORT	**Forrest**	39.10	240	⇓*i*P	P	13 32 27.2	+0.8
	112nm,0.9s,mb5.5						
FITZ	**Fitzroy Crossi**	40.18	260	*e*P	P	13 32 36.0	+0.6
	25nm,0.8s,mb4.9						
FITZ	**Fitzroy Crossi**	40.18	260	P	P	13 32 35.4	0.0
	27nm,0.7s,mb5.0,baz=102,slow=3.8,SNR=92						
FITZ				LR	LR	13 47 26.6	
	comp=Z,32nm,21.7s,baz=266,slow=33						
MBWA	**Marble Bar**	45.63	256	*e*P	P	13 33 19.9	+0.3
	25nm,1.0s,mb4.8						
KLBR	**Kellerberrin**	47.93	242	*e*P	P	13 33 37.1	-0.3
	38nm,1.6s,mb4.8						
NWAO	**Narrogin (SRO)**	48.54	240	*e*P	P	13 33 41.9	-0.3
	39nm,1.1s,mb5.0						
MUN	**Mundaring**	49.28	241	*e*P	P	13 33 47.8	0.0
	5.3nm,0.8s,mb4.2						
MAJO	**Matsushiro**	58.95	332	*e*P	P	13 34 57.1	-1.2
	12nm,0.9s,mb4.7						
SBA	**Scott Base**	62.14	180	*e*P	P	13 35 19.1	-0.3
	6.2nm,1.1s,mb4.3						
ASAJ	**Asahikawa**	63.80	340	P	P	13 35 30.9	+0.2
	2.1nm,0.4s,mb4.3,baz=214,slow=6.8,SNR=4.6						
MDJ	**Mudanjiang**	69.32	332	*e*P	P	13 36 06.5	+1.1
	13nm,0.8s,mb4.7						
QSPA	**South Pole Qui**	74.30	180	*e*P	P	13 36 34.2	-0.1
	7.6nm,1.0s,mb4.4						
SONM	**Songino Array**	83.50	324	P	P	13 37 25.1	+0.5
	1.9nm,0.8s,mb3.9,baz=157,slow=9.4,SNR=14						
SNAA	**Sanae**	92.57	183	*e*P	P	13 38 06.3	-1.0
	2.2nm,0.8s,mb4.3						
MKAR	**Makanchi Array**	98.16	316	P	P	13 38 33.8	+0.4
	0.4nm,0.8s,mb3.9,baz=98,slow=4.5,SNR=3.6						
ARCES	**ARCESS Array B**	121.30	345	PKP	PKPdf	13 43 47.5	+0.3
	1.2nm,0.8s,slow=3.6,SNR=4.7						

IDC 02 13:28:37.5±4.7, **52.90S**×**15.43E**, **mb4.2**/2, **mb1 4.3**/2, **mb1mx3.9**/11, **2C, Error ellipse: s-maj=468.0km s-min=128.0km az=32.0, Southwest of Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNAA	**Sanae**	20.48	196	⇑*i*	P	13 33 29.2	+10
VNA2	**Neumayer--Watz**	20.77	201		P	13 33 33.7	+12
VNA3	**Neumayer Olymp**	21.51	202	⇑*i*	P	13 33 33.4	+3.7
STKA	**Stephens Creek**	83.45	136	P	P	13 41 06.6	-1.3
	2.0nm,0.8s,baz=226,slow=7.1,SNR=3.7						
ASAR	**Alice Springs**	86.97	126	P	P	13 41 24.8	-0.8
	1.1nm,0.8s,baz=207,slow=4.6,SNR=16						
PDAR	**Pinedale Array**	142.57	277	PKP	PKPdf	13 48 11.5	-1.9
	0.5nm,0.6s,baz=129,slow=4.6,SNR=6.3						

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*ISK **02** 13:41:58.8, 34.57N×32.51E, h9^{km}, MD3.6*
*NIC **02** 13:42:01.8±0.4, 34.70N×32.56E, h22^{km}, ML3.6, MW3.2*
NIC Felt earthquake; Maximum Intensity 2; Felt I=II MM at Pafos.
*NEIC **02** 13:42:01.8, 34.70N×32.56E, h22^{km}, ML3.6(NIC), After NIC.*
NEIC Felt [II] at Paphos.
*GII **02** 13:42:05.1±0.7, 34.69N×32.61E, h25^{km}±30^{km}, ML3.1/9, Mw3.2/10*
ISC 02 13:42:01.0±0.6, **34.61N**±0.02×**32.52E**±0.04, **h13**^{km}±4^{km}, **n33**, σ0^{s}**87**/50, **4C-3D, Cyprus region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PPCY	**Paphos**	0.30	332	⇑P	Pg	13 42 08.3	+0.8
PPCY				S	Sg	13 42 11.9	0.0
SZAC	**Souni-Zanaja**	0.33	65	⇓P	Pb	13 42 08.6	+0.3
SZAC				S	Sg	13 42 13.2	+0.5
AKMC	**Akamas**	0.44	339	P	Pb	13 42 10.4	+0.3
AKMC				S	Sb	13 42 17.5	+1.2
ALFC	**Alevga**	0.55	7	⇓P	Pb	13 42 10.6	-1.3
	50nm,0.2s						
ALFC				S	Sb	13 42 18.9	-0.5
ALFC	**Alevga**	0.55	7	⇓*i*P	Pb	13 42 10.6	-1.3
ALFC				S	Sb	13 42 18.9	-0.5
LEF	**Lefka**	0.59	31	*i* PG	Pg	13 42 11.2	-1.8
LEF				*i* SG	Sg	13 42 21.0	0.0
CSS	**Prodhromos**	0.75	62	P	Pb	13 42 14.7	-0.8
	13nm,0.4s						
CSS				S	Sb	13 42 24.8	-0.6
MAMC	**Mammari**	0.80	46	P	Pb	13 42 16.7	+0.4
MAMC				S	Sb	13 42 27.8	+1.1
PHNC	**Paralimni**	1.30	72	⇑P	Pb	13 42 23.3	-1.6
PHNC				S	Sb	13 42 46.7	+5.3
IKL	**Isikli**	1.88	30	*i* PN	Pn	13 42 32.4	-0.8
IKL				*i* SN	Sn	13 42 57.2	+0.2
HDMB	**Hadim**	2.34	359	*i* PN	Pn	13 42 39.6	-0.3
MEST	**Erdemli**	2.37	33	⇑*i*P	Pn	13 42 40.7	+0.4
MEST				*i* S	Sn	13 43 11.4	+1.9
HNTI	**Hanita**	2.69	124	Pn	Pn	13 42 44.7	-0.1
HNTI				Sn	Sn	13 43 17.4	0.0
HAF	**Haifa**	2.78	131	Pn	Pn	13 42 45.9	-0.2
OFRI	**'Ofer**	2.86	133	Pn	Pn	13 42 47.0	-0.3
KSDI	**Kefar Szold**	2.97	118	Pn	Pn	13 42 48.8	-0.1
HRI	**Mount Hermon**	2.99	116	Pn	Pn	13 42 49.0	-0.1
SLTI	**Sal'it**	3.17	138	Sn	Sn	13 43 28.8	-0.9
KSHT	**Keshet**	3.19	120	Pn	Pn	13 42 52.5	+0.6
MMLI	**Mount Malkishu**	3.25	131	Pn	Pn	13 42 53.0	+0.2
MMLI				Sn	Sn	13 43 31.8	0.0
HTY	**Hatay**	3.32	62	PN	Pn	13 42 53.2	-0.6
HMDT	**Nahal Hemdat**	3.44	132	Pn	Pn	13 42 56.1	+0.6
COBT	**Iskenderun**	3.59	57	⇑*i*P	Pn	13 42 58.1	+0.5
COBT				*i* S	Sn	13 43 34.2	-6.1
DRGI	**Dragot**	3.86	141	Pn	Pn	13 43 02.6	+1.1
NIG	**Nigde**	3.88	25	*e*PN	Pn	13 43 02.0	+0.3
KZIT	**Kziot**	4.02	156	Pn	Pn	13 43 04.3	+0.5
KZIT				Sn	Sn	13 43 50.5	-0.7
MZDA	**Masada**	4.07	143	Pn	Pn	13 43 05.5	+1.1
MZDA				Sn	Sn	13 43 52.2	-0.3
SVTA	**Shivta**	4.08	154	Pn	Pn	13 43 06.0	+1.5
YER	**Yerkesik**	4.26	307	*e*PN	Pn	13 43 06.1	-1.1
KIZT	**Kizilcal**	4.29	353	*e*PN	Pn	13 43 06.1	-1.4
PRNI	**Paran**	4.74	153	Pn	Pn	13 43 14.6	+0.6
PRNI				Sn	Sn	13 44 09.0	-0.4
MBH	**Mount Berech**	5.22	156	Pn	Pn	13 43 22.3	+1.6
EIL	**Elat**	5.34	157	*e*Pn	Pn	13 43 20.0	-2.4
	8.9nm,0.4s						

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*IGQ **02** 13:56:59.3, 1.20S×78.38W, h15^{km}±2^{km}, mb4.2, Error ellipse: s-maj=1.2km s-min=0.8km az=18.4*
ISC 02 13:56:59.9±0.4, **1.20S**±0.03×**78.38W**±0.05, **h8**^{km}±7^{km}, **n27**, σ0^{s}**58**/33, **20C-5D, Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PISA	**Pisayambo**	0.14	358	⇑P	Pg	13 57 03.6	+0.6
RUN2	**Runtun**	0.22	189	⇑P	Pg	13 57 04.5	0.0
JUIV	**Juive**	0.24	201	⇑P	Pg	13 57 04.9	+0.1
ULBA	**Ulba**	0.25	186	⇑P	Pg	13 57 04.9	-0.1
RETU	**Refugio**	0.26	195	⇑P	Pg	13 57 05.4	+0.2
CUSU	**Cusua**	0.26	203	⇑P	Pg	13 57 05.4	+0.2
PATA	**Patacocha**	0.30	190	⇑P	Pg	13 57 06.3	+0.2
ARRY	**Arrayan**	0.31	194	⇑P	Pg	13 57 06.0	-0.3
IGUA	**Igualata**	0.39	222	⇑P	Pg	13 57 08.4	+0.7
MARY	**Rancho Maria**	0.48	347	⇑P	Pg	13 57 09.4	-0.1
TAMB	**Tambo**	0.50	1	⇑P	Pg	13 57 09.7	-0.3
VC1	**Cotopaxi 1**	0.56	358	⇑P	Pg	13 57 10.8	-0.2
NAS1	**Nasa**	0.57	350	⇑P	Pg	13 57 11.4	0.0
QIL1	**Quilotoa**	0.66	303	⇓P	Pg	13 57 13.2	+0.2
QIL1				S	Sg	13 57 21.9	0.0
ANTI	**Antisana**	0.78	16	⇑P	Pb	13 57 14.0	-1.3

JUA2	San Juan 2	1.01	347	⇑P	Pb	13 57 19.0	-0.1
CGGP	Crater GGP	1.04	348	⇑P	Pb	13 57 19.8	0.0
GGP	Refugio Guagua	1.04	348	⇑P	Pb	13 57 19.6	-0.1
PINO	Pino	1.06	348	⇑P	Pb	13 57 20.0	-0.1
YANA	Yana	1.09	350	⇑P	Pb	13 57 20.3	-0.3
YANA				S	Sb	13 57 35.0	+0.2
EPALM	Reventador vol	1.18	34	⇓P	Pb	13 57 21.5	-0.6
EPALM				S	Sb	13 57 37.6	+0.3
JOR1	San Jorge 1	1.22	348	⇑P	Pb	13 57 18.9	-4.0
JOR1				S	Sb	13 57 31.1	-7.5
ELAGU	Cayambe Volc	1.23	18	P	Pb	13 57 22.1	-0.9
CAYR	Refugio Cayamb	1.27	17	⇓P	Pb	13 57 23.4	-0.2
CAYA	Cayambe	1.32	17	⇓P	Pb	13 57 24.2	-0.4
CAYA				S	Sb	13 57 44.2	+2.6
CONE	Cono NE Rev Vo	1.34	33	⇓P	Pb	13 57 24.7	-0.2
CONE				S	Sb	13 57 43.0	+0.9
COTA	Cotacachi	1.53	2	P	Pn	13 57 28.0	+0.4

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*WAR **02** 13:58:28.9, 51.46N×16.08E, ML2.6, Mining Induced*
*PRU **02** 13:58:29.0, 51.42N×16.08E*
ISC 02 13:58:26.3±1.3**, 51.46N**±0.06×**16.05E**±0.06**, n9, σ1^{s}22**/19**, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	Ksiaz	0.64	166	ePG	Pg	13 58 40.0	+1.0
KSP				eSG	Sg	13 58 49.0	+1.5
UPC	Upice	0.95	181	ePG	Pg	13 58 46.9	+1.6
UPC				eSG	Sg	13 58 59.3	+1.3
DPC	Dobruska-Polom	1.12	171	ePG	Pg	13 58 49.2	+0.5
DPC				eSG	Sg	13 59 03.5	-0.2
	10nm,0.3s						
PVCC	Panska Ves	1.32	226	ePG	Pg	13 58 54.0	+1.4
PVCC				eSG	Sg	13 59 11.0	+0.8
PRU	Pruhonice	1.76	214	PG	Pg	13 59 00.5	-0.8
PRU				ex	x	13 59 18.9	
PRU				SG	Sg	13 59 24.7	-0.1
	12nm,0.4s						
CLL	Collm	1.92	267	ePG	Pg	13 59 05.0	+0.5
CLL				eSG	Sg	13 59 31.0	+1.0
OKC	Ostrava-Krasne	2.10	140	ePG	Pg	13 59 07.1	-1.1
OKC				eSG	Sg	13 59 35.0	-1.3
NKC	Novy Kostel	2.59	243	ePG	Pg	13 59 17.4	-0.6
NKC				eSG	Sg	13 59 52.1	-0.5
KHC	Kasperske Hory	2.82	215	ePG	Pg	13 59 20.3	-2.2
KHC				eSN	Sn	13 59 45.5	-3.1
KHC				eSG	Sg	13 59 57.9	-2.2

GUC 02 14:10:57.0±0.3**, 34.93S×70.57W, h2^{km}±1^{km}, MD3.5, ML2.1, 1D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CICH	Cipreses	0.62	12	⇓iP	Pg	14 11 09.8	+0.4
CICH				iS	Sg	14 11 19.5	+1.8
CACH	El Canelo	0.81	358	iP	Pg	14 11 13.0	-0.2
CACH				iS	Sg	14 11 25.1	+1.1
CHCH	Chadas Angostu	1.00	356	iP	Pb	14 11 16.0	-0.6
CHCH				iS	Sb	14 11 32.0	+2.0
LMEL	Las Melosas	1.12	16	eP	Pb	14 11 18.4	-0.3
LMEL				iS	Sb	14 11 34.7	+1.1
LMEL				AMP		14 11 35.8	
	comp=E,82nm,0.2s						
LNV	Longovilo	1.19	324	iP	Pb	14 11 19.2	-0.8
LNV				iS	Sb	14 11 36.0	+0.3

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*ISK **02** 14:36:54.4, 36.92N×27.47E, h8^{km}, MD3.8, ML3.8*
*NEIC **02** 14:36:55.9, 36.91N×27.44E, h25^{km}, MD3.7(ATH), After ATH.*
*ATH **02** 14:36:55.9, 36.91N×27.44E, h25^{km}±3^{km}, MD3.7/9*
*THE **02** 14:36:58.6, 37.16N×27.52E, h10^{km}*
ISC 02 14:36:55.1±0.3**, 36.92N**±0.02×**27.50E**±0.03**, h8^{km}, n43, σ1^{s}14**/61**, 1C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.15	343	iP	Pg	14 36 59.5	+1.1
BDRM				iS	Sg	14 37 02.8	+2.2
NISR	Nisiros	0.43	224	ePB	Pb	14 37 04.8	+0.3
MLSB	Milas	0.43	31	iPG	Pg	14 37 03.7	-0.2
MLSB				iSG	Sg	14 37 10.4	+0.7
YER	Yerkesik	0.66	71	iPG	Pg	14 37 07.4	-1.0
YER				iSG	Sg	14 37 18.3	+1.0
AYDN	Tasoluk	0.80	22	⇑iP	Pb	14 37 02.8	-8.0
AYDN				iS	Sb	14 37 22.0	+0.5
ARG	Arkhangelos	0.87	144	ePN	Pn	14 37 11.5	-1.9
ARG				eSN	Sn	14 37 25.5	-0.8
DALT	Dalyan (Mudla)	0.93	99	iPG	Pg	14 37 13.5	-0.1
DALT				iSG	Sg	14 37 26.1	+0.1
SMG	Samos	0.95	326	ePN	Pn	14 37 14.2	-0.3
KARP	Karpathos	1.40	191	ePB	Pb	14 37 20.0	-1.1
DNZL	Cakiroluk	1.45	58	iP	Pn	14 37 21.8	0.0
DNZL				iS	Sb	14 37 42.5	+2.0
DENT	Denizli	1.48	55	iPN	Pn	14 37 22.7	+0.6
IZM	Izmir	1.48	353	iPN	Pn	14 37 21.4	-0.8
KDAG	Bornova	1.49	353	iP	Pn	14 37 21.8	-0.5
APE	Apeiranthos	1.58	276	PN	Pn	14 37 23.4	-0.2
APE	Apeiranthos	1.58	276	ePN	Pn	14 37 23.8	+0.2
THR1	Thera Island	1.73	252	ePb	Pb	14 37 30.3	+3.5
THR1				eSb	Sb	14 37 54.5	+6.0
THR4	Thira Island,	1.75	255	ePb	Pb	14 37 29.7	+2.6
THR4				eSb	Sb	14 37 55.2	+6.0
THR3	Thira Island,	1.76	254	ePb	Pb	14 37 30.9	+3.7
THR3				eSb	Sb	14 37 55.0	+5.5
MANT	Manisa	1.78	28	iP	Pn	14 37 25.8	-0.6
MANT				iS	Sn	14 37 56.0	+6.6
THR6	Thira Island,	1.78	252	ePb	Pb	14 37 30.4	+2.7
THR6				eSb	Sb	14 37 56.5	+6.5
THR5	Thira Island,	1.80	254	ePb	Pb	14 37 31.4	+3.4
KSL	Kastellorizon	1.85	114	ePN	Pn	14 37 29.0	+1.6
ELL	Elmali	1.94	94	PN	Pn	14 37 28.7	-0.1
AKS	Akhisar	1.97	7	PN	Pn	14 37 28.7	-0.5
NPS	Neapolis	2.25	223	ePB	Pb	14 37 35.0	-0.7
AYVA	Ayvalik	2.47	345	iP	Pn	14 37 42.6	+6.4
AYVA				iS	Sg	14 38 20.0	+2.7
PRK	Paraskevi	2.51	338	ePN	Pn	14 37 36.8	-0.2
XRY	Khrisi	2.51	216	ePB	Pb	14 37 39.5	-0.6
BCK	Bucak	2.53	77	PN	Pn	14 37 36.8	-0.3
ISP	Isparta	2.57	68	ePN	Pn	14 37 37.4	-0.3
BALB	Balikesir	2.73	6	ePN	Pn	14 37 40.1	0.0
ALT	Altintas	2.96	43	ePN	Pn	14 37 42.7	-0.7
ULDT	Uludag	3.46	21	iP	Pn	14 37 50.3	-0.2
ULDT				iS	Sg	14 38 48.9	-1.5
LPK	Lapseki	3.49	351	ePN	Pn	14 37 50.7	-0.2
KIZT	Kizilcal	3.98	59	PN	Pn	14 37 58.1	+0.3
HDMB	Hadim	4.00	88	PN	Pn	14 37 58.8	+0.8
ALN	Alexandroupoli	4.13	345	ePn	Pn	14 37 59.1	-0.8
ALN				eSn	Sn	14 38 45.7	-3.3
XOR	Xorichti	4.18	307	ePn	Pn	14 38 00.8	+0.1
XOR				eSn	Sn	14 38 49.3	-1.0
IKL	Isikli	5.03	96	ePN	Pn	14 38 12.8	+0.1
CSS	Prodhromos	5.12	111	ePn	Pn	14 38 09.5	-4.5
SRS	Serrai	5.18	325	ePn	Pn	14 38 13.9	-0.9
SRS				eSn	Sn	14 39 13.9	-1.6
KNT	Kendrikon	5.54	321	ePn	Pn	14 38 19.3	-0.7
KNT				eSn	Sn	14 39 22.6	-2.1
MEV	Metsovon	5.70	302	ePn	Pn	14 38 23.1	+1.0

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*IDC **02** 14:38:50.3±1.9, 11.62N×126.70E, mb4.0/5, mb1 4.0/5, mb1mx3.7/17, Error ellipse: s-maj=174.0km s-min=25.9km az=69.0*
*MAN **02** 14:39:03.6, 10.99N×125.38E, h78^{km}, mb4.7, ML3.6, MS3.5*
ISC 02 14:39:03.1±0.8**, 10.97N**±0.05×**125.3E**±0.1**, h106^{km}**±6^{km}**, n17, σ0^{s}84**/19**, mb3.9**/5**, Leyte**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BESP	Borongan	0.64	11	eP	P	14 39 20.1	-0.5
OCLP	Ormoc	0.70	276	eP	P	14 39 22.1	+0.9
MSLP	Maasin	0.95	208	eP	P	14 39 24.1	+0.4
MSLP				eS	S	14 39 38.4	-0.8
CNP	Catarman	1.66	337	eP	P	14 39 32.8	+0.8
BUTP	Butuan	2.01	171	eP	P	14 39 37.1	+0.5
CGP	Cagayan de Oro	2.58	194	eP	P	14 39 44.1	-0.1
CGP				eS	S	14 40 13.7	-1.4
PVCP	Virac	2.84	337	eP	P	14 39 47.7	-0.1
BUKP	Musuan	3.08	185	eP	P	14 39 51.8	+0.7
PAGZ	Pagadian	3.64	212	eP	P	14 40 00.2	+1.5
MATI	Mati	4.11	167	eP	P	14 40 01.1	-3.9
POLP	Polilio Island	4.98	319	eP	P	14 40 17.4	+0.5
BALP	Baler	5.97	323	eP	P	14 40 28.5	-1.9
ASAR	Alice Springs	35.44	166	P	P	14 45 51.2	+0.2
	0.2nm,0.4s,mb3.3,baz=348,slow=7.3,SNR=8.2						
MKAR	Makanchi Array	50.90	323	P	P	14 47 55.6	+0.3
	1.8nm,0.4s,mb4.5,baz=125,slow=8.3,SNR=27						
BVAR	Borovoye Array	60.56	325	P	P	14 49 04.6	0.0
	1.2nm,0.8s,mb4.0,baz=106,slow=10,SNR=4.7						
ARCES	ARCESS Array B	83.21	340	P	P	14 51 18.1	-0.4
	2.3nm,0.9s,mb4.0,baz=83,slow=7.3,SNR=5.4						
FINES	FINESS Array B	84.83	332	P	P	14 51 26.2	-0.5
	1.3nm,0.9s,mb3.9,baz=90,slow=4.2,SNR=5.0						

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*HEL **02** 15:02:23.9±0.2, 59.87N×22.27E, ML1.7, ML2.4(UPP), ML2.1(NAO), Explosion*
*IDC **02** 15:02:24.1±1.7, 59.87N×22.42E, mb1 3.0/4, mb1mx2.9/18, ML2.6/4, Error ellipse: s-maj=23.3km s-min=6.5km az=157.0*
*BER **02** 15:02:25.6±4.2, 59.95N×22.26E, ML2.1(NAO), Suspected explosion*
*NAO **02** 15:02:26.4±2.4, 60.15N×22.12E, ML2.1*
ISC 02 15:02:23.5±0.6**, 60.13N**±0.06×**22.20E**±0.06**, n22, σ1^{s}26**/33**, Finland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AAL	Aland	1.11	274	eP	Pb	15 02 45.2	0.0
AAL				eS	Sb	15 03 02.5	+2.5
GRAU	Graesoe	1.84	278	eP	Pn	15 02 57.2	+0.6
NRTU	Norrtaelje	1.85	258	eP	Pn	15 02 56.2	-0.6
PVF	Pernaja	1.87	75	eP	Pn	15 02 57.6	+0.6
PVF				eS	Sn	15 03 22.1	+0.4
FLYU	Flymyra	2.16	272	eP	Pn	15 03 02.0	+0.7
FIA0	FINESS Array S	2.32	53	eP	Pn	15 03 06.2	+2.8
FIA0				eSG	Sg	15 03 38.7	-1.9
FIA0	FINESS Array S	2.32	53	Pn	Pn	15 03 06.2	+2.7
	baz=221,slow=14						
FIA0				Lg		15 03 38.9	
	baz=232,slow=28						
FINES	FINESS Array B	2.32	53	Pn	Pn	15 03 06.2	+2.8
	1.5nm,0.3s,baz=229,slow=13,SNR=87						
FINES				Lg		15 03 38.5	
	4.5nm,0.3s,baz=230,slow=22,SNR=33						
NYNU	Nynaeshamn	2.41	244	eP	Pn	15 03 03.4	-1.4
KEF	Keuruu	2.42	31	eSG	Sg	15 03 44.3	+0.1
KEF				MSG		15 03 47.6	
	comp=Z,1.9nm,0.1s						
OSTU	Oestervaala	2.54	275	eP	Pn	15 03 07.0	+0.4
BACU	Backbrunna	2.58	266	eP	Pn	15 03 09.6	+2.4
VJF	Virojoki	2.69	79	eP	Pn	15 03 08.2	-0.7
VJF				eS	Sn	15 03 42.3	-0.4
KAF	Kangasniemi	2.82	43	eSB	Sb	15 03 53.1	+3.3
KAF				MSG		15 03 55.9	
	comp=Z,2.4nm,0.2s						
SUF	Sumiainen	3.22	34	eSB	Sb	15 04 02.9	+1.5
SUF				MSG		15 04 07.2	
	comp=Z,1.2nm,0.2s						
HFS	Hagfors	4.26	274	eP	Pn	15 03 31.3	+0.2
HFS				eSG	Sg	15 04 37.5	-7.7
HFS	Hagfors	4.26	274	Pn	Pn	15 03 31.1	0.0
	comp=Z,0.0nm,0.3s,baz=96,slow=14,SNR=16						
HFS				Pg	Pg	15 03 38.6	-10
	comp=Z,0.1nm,0.3s,baz=90,slow=16,SNR=10						
HFS				Sn	Sn	15 04 22.2	0.0
	comp=Z,0.0nm,0.3s,baz=93,slow=24,SNR=2.9						
HFS				Lg		15 04 34.4	
	comp=Z,0.2nm,0.3s,baz=87,slow=31,SNR=7.3						
HFS	Hagfors	4.26	274	Pn	Pn	15 03 31.3	+0.2
	baz=114,slow=12						
HFS				Lg		15 04 37.5	
	baz=86,slow=37						
NOA	NORSAR Array B	5.50	284	Pn	Pn	15 03 47.7	-0.9
	comp=Z,0.2nm,0.3s,baz=154,slow=14,SNR=3.3						
NOA				Sn	Sn	15 04 51.0	-2.5
	comp=Z,0.1nm,0.3s,baz=235,slow=1.1,SNR=2.7						
NOA				Lg		15 05 14.9	
	comp=Z,0.3nm,0.3s,baz=63,slow=17,SNR=4.1						
ARA0	ARCESS Array S	9.55	7	Pn	P	15 04 44.0	-1.1
	baz=185,slow=14						
ARA0				Sn	Sn	15 06 28.2	-6.3
	baz=191,slow=22						
ARA0	ARCESS Array S	9.55	7	eP	P	15 04 44.0	-1.1
ARA0				eS	Sn	15 06 28.2	-6.3
ARCES	ARCESS Array B	9.55	7	Pn	P	15 04 44.0	-1.2
	comp=Z,0.1nm,0.3s,baz=186,slow=13,SNR=7.4						
ARCES				Sn	Sn	15 06 28.6	-5.9
	comp=Z,0.1nm,0.3s,baz=189,slow=23,SNR=2.8						

TIF 02 15:10:23.5, 40.99N×42.85E, h12^{km}, Mpv4.0, 2D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AKH	Akhalkalaki	0.64	49	⇓iP	Pb	15 10 36.5	+0.4
AKH				iS	Sb	15 10 46.1	+1.3
BAW	Bavra	0.73	80	eP	Pb	15 10 38.0	+0.4
BAW				iS	Sb	15 10 50.0	+2.7
STE	Stepanavan	1.17	89	eP	Pb	15 10 45.0	-0.2
STE				eS	Sb	15 11 01.0	+0.8
MTA	Mtatsminda	1.62	64	⇓iP	Pn	15 10 54.0	+1.8
MTA				S	Sn	15 11 16.8	+3.7

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*ISK **02** 15:10:27.9, 39.13N×40.41E, h9^{km}, MD2.8*
ISC 02 15:10:28.3±0.7**, 39.13N**±0.05×**40.40E**±0.05**, h9^{km}, n9, σ0^{s}96**/14**, 1C, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BINT	Bingol	0.27	165	iPG	Pg	15 10 33.4	-0.4
BINT				iSG	Sg	15 10 37.9	+0.4
PTK	Pertek	0.82	253	iPG	Pg	15 10 44.2	-0.6
PTK				iSG	Sg	15 10 56.2	+0.4
VRT	Varto	0.88	90	iPG	Pg	15 10 45.0	-0.9
EZM	Erzurum	1.07	44	PG	Pg	15 10 49.0	-0.7
ERZM	Erzurum	1.07	44	iP	Pb	15 10 49.5	+0.9
BTMT	Batman	1.27	137	ePN	Pn	15 10 52.0	-0.2
ELZG	Elazig	1.28	241	iP	Pb	15 10 51.1	-1.0
ELZG				iS	Sb	15 11 14.2	+5.8
KELT	Kelkit	1.35	319	iP	Pb	15 10 57.3	+4.0
KELT				iS	Sb	15 11 25.2	+15
BEST	Besiri	1.41	151	⇑iP	Pn	15 10 55.6	+1.3
BEST				iS	Pn	15 10 55.6	+1.3

IDC 02 15:18:13.7±1.4**, 7.64S×122.22E, mb3.6**/2**, mb1 3.8**/4**, mb1mx3.6**/13**, ML3.2**/2**, Error ellipse: s-maj=152.0km s-min=22.6km az=59.0, Flores Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	10.92	163	Pn	P	15 20 51.0	-3.3
WRA	Warramunga Arr	16.96	137	Pn	P	15 22 10.4	-3.6
	0.1nm,0.3s,baz=309,slow=13,SNR=4.3						
ASAR	Alice Springs	19.48	146	P	P	15 22 43.2	-1.8
	0.1nm,0.3s,baz=325,slow=12,SNR=24						
STKA	Stephens Creek	30.12	146	P	P	15 24 25.5	-2.0
	1.0nm,1.0s,baz=330,slow=14,SNR=2.0						
MKAR	Makanchi Array	64.77	331	P	P	15 28 54.0	-2.3
	0.2nm,0.6s,baz=137,slow=7.6,SNR=3.6						

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*JMA **02** 15:44:53.1±0.4, 22.71N×121.59E, h38^{km}*
TAP 02 15:44:48.5, 22.77N×121.34E, h20^{km}±1^{km}, ML3.1, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	2.28	42	P	Pn	15 45 28.1	+2.4
YOJ				eS	Sn	15 45 53.8	+0.3
IRIF	Iriomote-Funau	2.69	54	P	Pn	15 45 33.7	+2.1
IRIF				S	Sn	15 46 03.9	-0.1
JKRS	Kuro-shima	2.85	59	P	Pn	15 45 35.4	+1.4
JKRS				S	Sn	15 46 06.4	-1.7
JIJ	Ishigaki jima	3.02	58	P	Pn	15 45 37.6	+1.3
JIJ				eS	Sn	15 46 11.2	-1.2

IDC 02 15:47:39.8±1.9**, 0.75S×127.99E, mb3.4**/3**, mb1 3.6**/3**, mb1mx3.4**/13**, Error ellipse: s-maj=126.0km s-min=24.8km az=67.0, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	20.06	162	P	P	15 52 15.3	-2.3
	0.4nm,0.7s,baz=342,slow=12,SNR=8.4						
ASAR	Alice Springs	23.49	166	P	P	15 52 51.1	-1.1
	0.9nm,0.6s,baz=344,slow=11,SNR=15						
MKAR	Makanchi Array	61.94	326	P	P	15 58 01.4	-2.3
	0.4nm,0.4s,baz=112,slow=7.8,SNR=9.3						

GUC 02 15:50:19.9±0.5**, 34.97S×70.48W, h1^{km}±2^{km}, MD3.6, ML2.3, 1D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFDO	San Fernando	0.56	308	iP	Pg	15 50 31.3	+0.2
SFDO				iS	Sg	15 50 40.3	+1.7
CICH	Cipreses	0.65	5	⇓iP	Pg	15 50 33.1	+0.3
CICH				iS	Sg	15 50 43.2	+1.8
CACH	El Canelo	0.85	353	iP	Pg	15 50 36.8	-0.1
CHCH	Chadas Angostu	1.04	352	iP	Pb	15 50 40.0	-0.3
LMEL	Las Melosas	1.14	12	eP	Pb	15 50 41.4	-0.6
LMEL				iS	Sb	15 50 58.0	+0.8
LMEL				AMP		15 51 02.8	
	comp=N,83nm,0.1s						
LNV	Longovilo	1.27	322	iP	Pb	15 50 43.1	-1.1
LNV				iS	Sb	15 51 00.9	0.0
PCH	Pirque	1.34	359	eP	Pb	15 50 45.0	-0.6
FCH	Farellones	1.64	6	eP	Pn	15 50 50.2	+0.2
FCH				iS	Sb	15 51 13.3	+1.5
FCH				AMP		15 51 27.0	
	comp=E,93nm,0.2s						

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*HEL **02** 16:02:53.7±0.1, 59.90N×22.24E, ML1.9, ML2.5(UPP), ML2.3(NAO), Explosion*
*IDC **02** 16:02:54.0±1.7, 59.89N×22.40E, mb1 3.0/4, mb1mx2.9/18, ML2.8/4, Error ellipse: s-maj=22.9km s-min=6.4km az=157.0*
*BER **02** 16:02:54.6±3.7, 59.93N×22.22E, ML2.3(NAO), Suspected explosion*
*NAO **02** 16:02:55.3±2.1, 60.12N×22.05E, ML2.3*
ISC 02 16:02:52.5±0.5**, 60.02N**±0.04×**22.25E**±0.05**, n26, σ1^{s}25**/42**, Finland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AAL	Aland	1.14	279	eP	Pb	16 03 15.0	+0.2
NRTU	Norrtaelje	1.86	261	eP	Pn	16 03 26.0	+0.2
NRTU				eS	Sn	16 03 50.4	0.0
PVF	Pernaja	1.88	72	eP	Pn	16 03 27.5	+1.4
PVF				eS	Sn	16 03 52.1	+1.3
GRAU	Graesoe	1.88	281	eP	Pn	16 03 27.0	+0.9
FLYU	Flymyra	2.19	275	eP	Pn	16 03 31.3	+0.7
FIA0	FINESS Array S	2.36	51	Pn	Pn	16 03 36.0	+2.9
	baz=226,slow=16						
FIA0				Lg		16 04 08.4	
	baz=232,slow=22						
FIA0	FINESS Array S	2.36	51	eP	Pn	16 03 36.2	+3.1
FIA0				eSG	Sg	16 04 08.6	-2.5
FINES	FINESS Array B	2.36	51	Pn	Pn	16 03 35.9	+2.9
	2.3nm,0.3s,baz=234,slow=14,SNR=86						
FINES				Lg		16 04 08.4	
	5.8nm,0.3s,baz=235,slow=22,SNR=31						
NYNU	Nynaeshamn	2.39	247	eP	Pn	16 03 33.1	-0.4
KEF	Keuruu	2.50	29	eSG	Sg	16 04 14.6	-1.1
KEF				MSG		16 04 15.9	
	comp=Z,3.5nm,0.1s						
OSTU	Oestervaala	2.57	277	eP	Pn	16 03 36.8	+0.8
OSTU				eS	Sn	16 04 13.2	+4.8
IGGU	Iggoen	2.59	291	eP	Pn	16 03 37.8	+1.5
BACU	Backbrunna	2.59	268	eP	Pn	16 03 36.9	+0.5
VJF	Virojoki	2.69	77	eP	Pn	16 03 37.9	+0.1
VJF				eS	Sn	16 04 11.9	+0.3
VSU	Vasula	2.79	122	eP	Pn	16 03 38.5	-0.6
VSU				eS	Sn	16 04 12.3	-1.6
KAF	Kangasniemi	2.88	42	eSB	Sb	16 04 22.1	+1.6
KAF				MSG		16 04 23.6	
	comp=Z,5.9nm,0.3s						
FALU	Falun	3.23	281	eP	Pn	16 03 46.3	+0.9
SUF	Sumiainen	3.29	33	eSB	Sb	16 04 34.0	+1.5
SUF				MSG		16 04 35.7	
	comp=Z,2.1nm,0.2s						
ROTU	Roteberg	3.46	297	eP	Pn	16 03 49.2	+0.6
HFS	Hagfors	4.29	275	eP	Pn	16 03 59.5	-0.9
HFS				ePG	Pg	16 04 09.6	-8.4
HFS				eS	Sn	16 04 49.8	-2.2
HFS				eSG		16 05 04.7	
HFS	Hagfors	4.29	275	Pn	Pn	16 04 00.3	-0.2
	comp=Z,0.1nm,0.3s,baz=90,slow=17,SNR=16						
HFS				Pg	Pg	16 04 09.9	-8.1
	comp=Z,0.2nm,0.3s,baz=94,slow=19,SNR=14						
HFS				Sn	Sn	16 04 51.1	-0.8
	comp=Z,0.1nm,0.3s,baz=96,slow=29,SNR=2.8						
HFS				Lg		16 05 05.1	
	comp=Z,0.2nm,0.3s,baz=87,slow=28,SNR=6.3						
HFS	Hagfors	4.29	275	Pn	Pn	16 03 59.5	-0.9
	baz=83,slow=14						
HFS				Pg	Pg	16 04 09.6	-8.4
	baz=97,slow=16						
HFS				Sn	Sn	16 04 49.8	-2.2
	baz=101,slow=22						
HFS				Lg		16 05 04.7	
	baz=91,slow=37						
NOA	NORSAR Array B	5.54	285	Pn	Pn	16 04 17.4	-0.8
	comp=Z,0.3nm,0.3s,baz=95,slow=13,SNR=2.8						
NOA				Sn	Sn	16 05 20.2	-3.4
	comp=Z,0.2nm,0.3s,baz=271,slow=19,SNR=2.7						
NOA				Lg		16 05 44.7	
	comp=Z,0.7nm,0.3s,baz=76,slow=15,SNR=4.8						
ARA0	ARCESS Array S	9.65	7	Pn	P	16 05 13.5	-1.9
	baz=183,slow=16						
ARA0				Sn	Sn	16 06 58.0	-7.8
	baz=189,slow=28						
ARA0				Lg		16 07 55.2	
	baz=174,slow=37						
ARA0	ARCESS Array S	9.65	7	eP	P	16 05 13.5	-1.9
ARA0				eS	Sn	16 06 58.0	-7.8
ARA0				eSG		16 07 55.2	
ARCES	ARCESS Array B	9.65	7	Pn	P	16 05 13.6	-1.9
	comp=Z,0.2nm,0.3s,baz=184,slow=14,SNR=12						
ARCES				Sn	Sn	16 06 57.9	-8.0
	comp=Z,0.1nm,0.3s,baz=184,slow=26,SNR=2.9						

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*GUC **02** 16:03:07.7±0.9, 30.93S×71.68W, h28^{km}±5^{km}, MD4.2, ML4.0*
*NEIC **02** 16:03:07.7, 30.93S×71.68W, h28^{km}, ML4.0(GUC), After GUC.*
ISC 02 16:03:07.7±0.9**, 30.92S**±0.03×**71.71W**±0.08**, h28^{km}, n15, σ0^{s}88**/26**, 1C-1D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OVCH	Ovalle	0.53	55	eP	Pb	16 03 18.2	-0.4
OVCH				iS	Sb	16 03 26.3	+0.3
OVCH				AMP		16 03 27.0	
	comp=N,5µm,0.2s						
CMCH	Combarbala	0.66	113	⇑iP	Pb	16 03 20.0	-0.6
CMCH				iS	Sb	16 03 29.0	-0.4
CMCH				AMP		16 03 29.6	
	comp=N,19µm,0.3s						
ILCH	Illapel	0.85	147	eP	Pb	16 03 22.2	-1.7
ILCH				iS	Sb	16 03 33.2	-1.8
ILCH				AMP		16 03 33.8	
	comp=N,7µm,0.2s						
TLL	Tololo Astrono	1.08	47	⇓iP	Pn	16 03 27.3	+0.2
TLL				iS	Sn	16 03 41.9	+0.7
LSCH	La Serena	1.08	22	eP	Pn	16 03 26.8	-0.3
LSCH				iS	Sn	16 03 41.1	-0.1
JACH	Jahuel	2.00	152	eP	Pn	16 03 40.5	+0.2
PEL	Peldehue	2.39	159	eP	Pn	16 03 46.2	+0.4
PEL				iS	Sn	16 04 15.5	+1.1
PEL				AMP		16 04 24.8	
	comp=N,2µm,0.4s						
VACH	Vallenar	2.47	20	iP	Pn	16 03 39.3	-7.7
VACH				iS	Sn	16 04 09.2	-7.4
CLCH	Cerro Calan	2.67	158	eP	Pn	16 03 50.0	+0.3
CLCH				iS	Sn	16 04 22.3	+0.8
CLCH				AMP		16 04 33.9	
	comp=N,1µm,0.7s						

FCH	Farellones	2.69	154	eP	Pn	16 03 50.9	+0.8
FCH				i S	Sn	16 04 23.5	+1.4
FCH				AMP		16 04 36.8	
	comp=E,472nm,0.3s						
TACH	Talagante	2.81	167	i P	Pn	16 03 51.5	-0.3
PCH	Pirque	2.88	160	eP	Pn	16 03 52.6	-0.3
MDZ	Mendoza	3.12	130	eP	Pn	16 03 59.3	+3.0
MDZ				i S	Sn	16 04 41.1	+8.0
CHCH	Chadas Angostu	3.14	164	eP	Pn	16 03 55.3	-1.2
LMEL	Las Melosas	3.19	157	eP	Pn	16 03 56.8	-0.4
LMEL				i S	Sn	16 04 34.5	-0.2
LMEL				AMP		16 04 45.3	
	comp=N,500nm,1.1s						

IDC 02 16:53:21.3±40.0, 15.45S×169.99W, mb4.0/3, mb1 4.2/3, mb1mx3.9/11, Error ellipse: s-maj=797.0km s-min=185.3km az=80.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	46.87	241	P	P	17 01 54.2	-1.0
	1.0nm,0.6s,baz=84,slow=9.5,SNR=5.8						
WRA	Warramunga Arr	53.03	257	P	P	17 02 39.9	-2.8
	0.4nm,0.5s,baz=97,slow=6.9,SNR=14						
ASAR	Alice Springs	53.22	252	P	P	17 02 41.9	-2.2
	3.9nm,0.5s,baz=90,slow=8.0,SNR=161						

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*NIED **02** 16:53:00, 36.90N×141.70E, h35^{km}, Mw4.1 Best double couple: M$_0$1.45×10^{15} NP1:φ$_s$18°, δ74°, λ84°. NP2:φ$_s$219°, δ18°, λ110°.*

*JMA **02** 16:53:29.9±0.2, 36.93N×141.72E, h33^{km}±3^{km}, M4.2*

*IDC **02** 16:53:30.6±4.8, 36.99N×141.98E, h35^{km}±37^{km}, mb3.9/10, mb1 4.0/11, mb1mx3.8/21, ML3.7/1, MS3.2/3, Ms1 3.2/3, ms1mx2.8/31, Error ellipse: s-maj=38.5km s-min=14.4km az=84.0*

*NEIC **02** 16:53:32.2±2.8, 36.82N×141.80E, h52^{km}±18^{km}, mb4.4/6, Error ellipse: s-maj=29.6km s-min=14.3km az=96.0*

ISC 02 16:53:29.4±1.1, 36.92N±0.04×141.79E±0.09, h38^{km}±8^{km}, n38, σ1^{s}03/45, mb4.3/19, MS3.4/2, 6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	0.82	283	⇓P	P	16 53 44.4	-0.1
ONAJ				eS	S	16 53 54.1	-1.5
JFK	Kawauchi	0.86	302	⇓P	P	16 53 44.9	-0.2
JFK				eS	S	16 53 55.0	-1.7
JHO	Hitachi	1.03	253	⇓P	P	16 53 47.4	-0.1
JHO				eS	S	16 53 59.7	-1.3
JMM	Marumori	1.24	320	⇓P	P	16 53 50.6	+0.1
JFT	Otama	1.31	298	P	P	16 53 52.4	+0.8
JIO	Ouri	1.58	347	⇓P	P	16 53 55.6	+0.2
JOU	Okura	1.70	329	P	P	16 53 57.6	+0.4
JFY	Yanaizu	1.74	287	⇓P	P	16 53 58.4	+0.7
JYS	Shirataka	1.89	314	P	P	16 54 00.9	+1.0
MAJO	Matsushiro	2.91	264	ePn	P	16 54 15.1	+0.8
MAT	Matsushiro	2.91	264	P	P	16 54 15.6	+1.2
MAT				S	S	16 54 53.7	+5.3
MAT	Matsushiro	2.91	264	eP	P	16 54 16.0	+1.6
MAT				eS	S	16 54 54.0	+5.6
JHJ	Hachijo jima 2	4.13	204	Pn	P	16 54 32.6	+0.9
JHJ				Sn	S	16 55 17.9	-1.6
ASAJ	Asahikawa	7.22	5	Pn	P	16 55 12.4	-2.8
	1.4nm,0.3s,baz=243,slow=18,SNR=8.9						
ASAJ				Sn	S	16 56 32.5	-4.3
	1.4nm,0.3s,baz=107,slow=23,SNR=3.3						
ASAJ				Lg		16 57 03.8	
	0.7nm,0.3s,baz=346,slow=32,SNR=3.9						
ASAJ				LR	LR	16 58 59.4	
	comp=Z,84nm,19.1s,baz=176,slow=46						
JNU	Nakatsue	9.72	250	Pn	P	16 55 51.2	+1.5
MDJ	Mudanjiang	12.02	314	P	P	16 56 22.2	+1.1
	12nm,1.1s						
HIA	Hailar	20.20	315	eP	P	16 58 05.1	+1.5
	7.1nm,1.2s						
YAK	Yakutsk	26.25	347	eP	P	16 59 02.0	-0.6
	14nm,0.7s,mb4.6						
ENH	Enshi	27.63	266	eP	P	16 59 14.3	-1.3
	10nm,0.7s,mb4.6						
SONM	Songino Array	28.10	304	P	P	16 59 19.1	-0.6
	4.5nm,1.0s,mb4.1,baz=105,slow=9.1,SNR=26						
ZAL	Zalesovo	42.23	312	P	P	17 01 21.1	+0.8
	2.0nm,0.9s,mb3.8,baz=286,slow=8.3,SNR=10						
ZAL				LR	LR	17 20 32.8	
	comp=Z,37nm,18.6s,MS3.3,baz=355,slow=38						
LSA	Lhasa	42.52	276	P	P	17 01 23.2	+0.2
	1.8nm,0.7s,mb3.9						
MKAR	Makanchi Array	44.44	302	P	P	17 01 38.3	0.0
	2.3nm,0.8s,mb4.0,baz=86,slow=9.6,SNR=23						
KKN	Kakani	48.00	276	ePg	P	17 02 07.4	+0.7
	14nm,0.8s,mb5.0						
DMN	Daman	48.22	276	ePg	P	17 02 10.4	+2.0
	2.8nm,0.4s,mb4.6						
GKN	Gorkha	48.42	277	ePg	P	17 02 10.2	+0.2
	28nm,1.0s,mb5.2						
KOLN	Koldanda	49.35	277	ePg	P	17 02 16.8	-0.3
	9.6nm,0.8s,mb4.8						
ARU	Arti	56.65	319	P	P	17 03 10.1	-0.8
	1.8nm,0.6s,mb4.3						
FITZ	Fitzroy Crossi	56.80	198	P	P	17 03 12.9	+0.4
	2.3nm,1.1s,mb4.1,baz=240,slow=6.2,SNR=4.8						
WRA	Warramunga Arr	56.99	188	P	P	17 03 13.2	-0.6
	0.8nm,0.6s,mb4.0,baz=5.6,slow=7.0,SNR=17						
ASAR	Alice Springs	60.71	188	P	P	17 03 38.5	-1.1
	0.5nm,0.6s,mb3.8,baz=4.3,slow=4.4,SNR=6.3						
ARCES	ARCESS Array B	64.22	340	P	P	17 04 00.8	-1.3
	0.9nm,0.7s,mb3.9,baz=37,slow=6.1,SNR=4.2						
FINES	FINESS Array B	69.06	332	P	P	17 04 33.2	+0.3
	2.2nm,0.6s,mb4.3,baz=63,slow=6.2,SNR=72						
FCC	Fort Churchill	73.97	27	P	P	17 05 06.3	+4.1
	13nm,1.0s,mb4.8						
NB2	NORSAR Subarra	74.41	337	P	P	17 05 04.7	0.0
	1.1nm,0.6s,mb4.0,baz=40,slow=5.8						
NOA	NORSAR Array B	74.41	337	P	P	17 05 05.2	+0.4
	1.4nm,0.6s,mb4.0,baz=43,slow=5.9,SNR=7.9						
NOA				LR	LR	17 41 47.4	
	comp=Z,20nm,18.3s,MS3.5,baz=220,slow=39						
NOA	NORSAR Array B	74.41	337	P	P	17 05 05.2	+0.4
NOA				LR	LR	17 41 47.4	
AKASG	Malin Array Be	74.58	322	P	P	17 05 06.0	+0.1
	0.8nm,0.4s,mb4.0,baz=46,slow=5.8,SNR=4.8						

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*IDC **02** 17:00:02.6±1.3, 31.69S×68.00W, mb3.5/1, mb1 4.1/2, mb1mx3.8/11, ML4.3/1, MS3.3/1, Ms1 3.3/1, ms1mx2.8/15, Error ellipse: s-maj=57.9km s-min=31.8km az=154.0*

*GUC **02** 17:00:05.0±0.8, 31.43S×67.68W, h4^{km}±17^{km}, MD4.2, ML4.6*

*NEIC **02** 17:00:05.0, 31.43S×67.68W, h4^{km}, mb4.8/1, ML4.6(GUC), After GUC.*

ISC 02 17:00:05.4±1.9, 31.40S±0.05×67.49W±0.05, h24^{km}±17^{km}, n30, σ0^{s}90/31, mb4.1/2, MS3.2/1, 1C-3D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MDZ	Mendoza	1.88	218	i P	Pn	17 00 37.2	+0.6
MDZ				i S	Sn	17 00 59.2	-0.5
JACH	Jahuel	2.93	243	⇓iP	Pn	17 00 51.8	+0.2
JACH				i S	Sn	17 01 27.2	+0.8
CMCH	Combarbala	3.02	273	⇓iP	Pn	17 00 52.8	0.0
CMCH				i S	Sn	17 01 28.4	-0.1
FCH	Farellones	3.05	230	⇑iP	Pn	17 00 53.7	+0.3
FCH				i S	Sn	17 01 31.3	+1.8
FCH				AMP		17 01 34.5	
	comp=E,962nm,0.4s						
TLL	Tololo Astrono	3.11	292	eP	Pn	17 00 54.9	+0.7
TLL				i S	Sn	17 01 32.2	+1.3
TLL				AMP		17 01 37.2	
	comp=E,2µm,0.5s						
ILCH	Illapel	3.15	265	eP	Pn	17 00 50.6	-4.2
PEL	Peldehue	3.22	236	eP	Pn	17 00 54.3	-1.4
PEL				i S	Sn	17 01 32.7	-1.0
PEL				AMP		17 01 38.4	
	comp=N,1µm,0.6s						
CLCH	Cerro Calan	3.26	232	eP	Pn	17 00 56.3	+0.1
CLCH				AMP		17 01 42.7	
	comp=N,2µm,0.6s						
DSCH	Colegio Aleman	3.28	232	AMP		17 01 41.9	
	comp=N,2µm,0.4s						
LMEL	Las Melosas	3.35	222	eP	Pn	17 00 57.5	-0.1
LMEL				AMP		17 01 49.2	
	comp=E,390nm,0.8s						
PCH	Pirque	3.38	228	⇓iP	Pn	17 00 57.9	-0.1
RCDM	Rinconada Maip	3.49	233	eP	Pn	17 00 59.3	-0.3
LSCH	La Serena	3.56	294	i S	Sn	17 01 42.3	-0.1
LSCH				AMP		17 01 48.0	
	comp=N,1µm,0.5s						
CHCH	Chadas Angostu	3.67	226	eP	Pn	17 01 02.1	-0.1
TACH	Talagante	3.68	231	eP	Pn	17 01 01.4	-0.8
CACH	El Canelo	3.77	223	eP	Pn	17 01 03.9	+0.4
CICH	Cipreses	3.82	220	eP	Pn	17 01 05.1	+0.9
LCCH	Las Cruces	4.02	238	eP	Pn	17 01 05.0	-2.1
TRQA	Tornquist	8.04	147	eP	P	17 02 04.3	+0.7
LVC	Limon Verde	8.84	351	eP	P	17 02 14.0	-0.8
PLCA	Paso Flores	9.64	194	Lg		17 04 58.6	
	comp=N,0.2nm,0.3s,baz=318,slow=19,SNR=2.2						
CPUP	Villa Florida	10.24	63	Pn	P	17 02 37.4	+3.3
	comp=N,0.5nm,0.3s,baz=263,slow=12,SNR=12						
CPUP				Lg		17 05 45.5	
	comp=N,0.5nm,0.3s,baz=1.0,slow=19,SNR=2.9						
SAML	Samuel	22.70	11	P	P	17 05 02.8	-3.8
SAML				e		17 05 17.5	
BDFB	Brasilia	23.71	53	LR	LR	17 15 56.2	
	comp=N,72nm,18.5s,MS3.2,baz=291,slow=39						
PMSA	Palmer Station	33.46	177	eP	P	17 06 44.1	-0.3
	comp=N,9.4nm,0.8s,mb4.8						
SNAA	Sanae	52.58	159	eP	P	17 09 18.7	-0.2
TXAR	Lajitas Array	69.51	327	P	P	17 11 13.3	-0.9
	comp=N,0.2nm,0.4s,mb3.4,baz=156,slow=8.9,SNR=3.3						
TXAR	Lajitas Array	69.51	327	P	P	17 11 13.3	-0.9
ASAR	Alice Springs	121.54	203	PKP	PKPdf	17 18 57.5	-4.5
	comp=N,0.2nm,0.4s,baz=150,slow=1.3,SNR=5.9						
WRA	Warramunga Arr	124.82	205	PKP	PKPdf	17 19 04.2	-4.3
	comp=N,0.4nm,0.4s,baz=157,slow=1.8,SNR=22						

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*HEL **02** 17:03:53.8±0.1, 59.87N×22.27E, ML1.9, ML2.7(UPP), ML2.3(NAO), Explosion*

*BER **02** 17:03:54.7±4.6, 59.92N×22.26E, ML2.3(NAO)*

*NAO **02** 17:03:55.6±2.4, 60.12N×22.09E, ML2.3*

*IDC **02** 17:03:55.1±1.5, 60.00N×22.28E, mb1 3.1/4, mb1mx3.0/18, ML2.8/4, Error ellipse: s-maj=21.0km s-min=5.9km az=160.0*

ISC 02 17:03:52.7±0.5, 60.04N±0.04×22.26E±0.05, n23, σ1^{s}28/39, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AAL	Aland	1.14	278	eP	Pb	17 04 15.1	+0.1
NRTU	Norrtaelje	1.86	260	eP	Pn	17 04 26.2	0.0
NRTU				eS	Sn	17 04 51.2	+0.5
PVF	Pernaja	1.87	73	eP	Pn	17 04 27.4	+1.3
PVF				eS	Sn	17 04 52.2	+1.4
GRAU	Graesoe	1.88	281	eP	Pn	17 04 27.5	+1.1
GRAU				eS	Sn	17 04 53.0	+1.9
FLYU	Flymyra	2.19	274	eP	Pn	17 04 31.5	+0.7
FIA0	FINESS Array S	2.35	51	eP	Pn	17 04 36.2	+3.2
FIA0				eSG	Sg	17 05 08.7	-2.1
FIA0	FINESS Array S	2.35	51	Pn	Pn	17 04 36.0	+3.0
	baz=224,slow=16						
FIA0				Lg		17 05 08.5	
	baz=229,slow=37						
FINES	FINESS Array B	2.35	51	Pn	Pn	17 04 36.0	+3.0
	2.3nm,0.3s,baz=233,slow=14,SNR=82						
FINES				Lg		17 05 08.8	
	6.0nm,0.3s,baz=232,slow=22,SNR=31						
NYNU	Nynaeshamn	2.40	246	eP	Pn	17 04 33.2	-0.6
KEF	Keuruu	2.48	30	eSG	Sg	17 05 14.4	-0.9
KEF				MSG		17 05 16.1	
	comp=Z,3.7nm,0.1s						
OSTU	Oestervaala	2.57	276	eP	Pn	17 04 37.0	+0.8
BACU	Backbrunna	2.60	268	eP	Pn	17 04 37.0	+0.4
VJF	Virojoki	2.69	77	eP	Pn	17 04 38.3	+0.4
VJF				eS	Sn	17 05 12.2	+0.6
VSU	Vasula	2.79	123	eP	Pn	17 04 38.4	-1.0
VSU				eS	Sn	17 05 12.8	-1.5
KAF	Kangasniemi	2.86	42	eSB	Sb	17 05 23.0	+2.8
KAF				MSG		17 05 24.8	
	comp=Z,3.7nm,0.1s						
SUF	Sumiainen	3.28	33	eSB	Sb	17 05 33.4	+1.2
SUF				MSG		17 05 35.8	
	comp=Z,1.8nm,0.1s						
HFS	Hagfors	4.29	275	eP	Pn	17 05 00.2	-0.4
HFS				ePG	Pg	17 05 09.5	-8.8
HFS				eS	Sn	17 05 51.2	-1.0
HFS				eSG	Sg	17 06 05.5	-10
HFS	Hagfors	4.29	275	Pn	Pn	17 05 01.2	+0.5
	comp=Z,0.1nm,0.3s,baz=106,slow=13,SNR=15						
HFS				Pg	Pg	17 05 10.5	-7.7
	comp=Z,0.2nm,0.3s,baz=98,slow=15,SNR=13						
HFS				Lg		17 06 08.2	
	comp=Z,0.3nm,0.3s,baz=90,slow=30,SNR=8.4						
HFS	Hagfors	4.29	275	Pn	Pn	17 05 00.2	-0.4
	baz=93,slow=12						
HFS				Pg	Pg	17 05 09.5	-8.8
	baz=101,slow=18						
HFS				Sn	Sn	17 05 51.2	-1.0
	baz=98,slow=22						
HFS				Lg		17 06 05.5	
	baz=94,slow=37						
NOA	NORSAR Array B	5.54	285	Pn	Pn	17 05 17.5	-0.9
	comp=Z,0.3nm,0.3s,baz=107,slow=12,SNR=2.9						
NOA				Sn	Sn	17 06 20.3	-3.5
	comp=Z,0.2nm,0.3s,baz=100,slow=15,SNR=2.2						
NOA				Lg		17 06 46.0	
	comp=Z,0.6nm,0.3s,baz=76,slow=15,SNR=4.5						
ARA0	ARCESS Array S	9.63	7	Pn	P	17 06 13.7	-1.7
	baz=189,slow=14						
ARA0				Sn	Sn	17 07 57.7	-7.9
	baz=190,slow=28						
ARA0	ARCESS Array S	9.63	7	eP	P	17 06 13.7	-1.7
ARA0				eS	Sn	17 07 57.7	-7.9
ARCES	ARCESS Array B	9.63	7	Pn	P	17 06 13.9	-1.5
	comp=Z,0.1nm,0.3s,baz=181,slow=14,SNR=10.0						
ARCES				Sn	Sn	17 07 57.3	-8.3
	comp=Z,0.1nm,0.3s,baz=192,slow=21,SNR=3.4						

IDC 02 17:08:09.9±33.0, 4.29S×150.18E, h521^{km}±225^{km}, mb2.9/4, mb1 3.1/5, mb1mx2.9/11, Error ellipse: s-maj=363.0km s-min=53.8km az=36.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	16.16	193	P	P	17 11 31.2	0.0
	0.7nm,0.3s,baz=30,slow=13,SNR=9.3						
WB2	Warramunga Arr	21.91	223	eP	P	17 12 24.9	-1.0
WRA	Warramunga Arr	21.92	223	P	P	17 12 25.2	-0.7
	1.4nm,0.6s,baz=47,slow=9.3,SNR=39						
ASAR	Alice Springs	24.86	218	P	P	17 12 50.8	-1.7
	0.7nm,0.4s,baz=50,slow=8.9,SNR=32						
FITZ	Fitzroy Crossi	27.66	238	P	P	17 13 15.5	-1.8
	3.5nm,1.1s,baz=76,slow=3.9,SNR=6.1						
STKA	Stephens Creek	28.60	195	P	P	17 13 23.7	-1.7
	0.7nm,0.4s,baz=17,slow=14,SNR=4.2						

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*TAP **02** 17:27:52.2, 24.83N×122.80E, h114^{km}±1^{km}, ML3.0*

JMA 02 17:27:55.4±0.4, 24.92N×122.42E, h114^{km}, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.70	130	P	P	17 28 14.3	0.0
YOJ				S	S	17 28 28.9	+0.2
IRIF	Iriomote-Funau	1.33	116	P	P	17 28 20.6	-0.3
IRIF				S	S	17 28 39.4	-0.7
JKRS	Kuro-shima	1.60	115	P	P	17 28 24.2	+0.1
JKRS				S	S	17 28 44.8	-0.9
JIJ	Ishigaki jima	1.66	109	eS	S	17 28 45.9	-1.1
JTJ	Tarama	2.09	97	eS	S	17 28 57.2	+0.7

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*NEIC **02** 17:51:18.2±3.5, 6.07S×145.57E, h127^{km}±15^{km}, mb4.5/6, Error ellipse: s-maj=54.9km s-min=20.1km az=184.0*

*IDC **02** 17:51:51.4±22.0, 7.65S×144.57E, h334^{km}±147^{km}, mb3.2/2, mb1 3.1/5, mb1mx2.9/10, Error ellipse: s-maj=210.0km s-min=42.5km az=27.0*

ISC 02 17:51:19.3±2.2, 6.3S±0.2×145.4E±0.1, h122^{km}±17^{km}, n13, σ0^{s}37/14, mb4.4/5, 1D, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WAU	Wau	1.64	129	⇓iP	P	17 51 48.6	-0.3
PMG	Port Moresby	3.52	151	eP	P	17 52 13.6	+0.1
PMG				eS	S	17 52 55.2	+0.3
CTA	Charters Tower	13.73	177	P	P	17 54 38.1	+8.3
	1.4nm,0.3s,baz=360,slow=14,SNR=18						
CTAO	Charters Tower	13.73	177	eP	P	17 54 37.8	+7.9
	6.3nm,0.5s						
KAKA	Kakadu	14.34	243	eP	P	17 54 38.2	+0.4
	12nm,0.5s						
WRAB	Tennant Creek	17.31	217	P	P	17 55 14.5	-0.5
	3.9nm,0.9s						
WRA	Warramunga Arr	17.33	217	P	P	17 55 15.0	-0.1
	0.2nm,0.3s,baz=37,slow=11,SNR=17						
ASAR	Alice Springs	20.52	212	P	P	17 55 49.4	-0.4
	0.1nm,0.3s,baz=44,slow=9.8,SNR=11						
FITZ	Fitzroy Crossi	22.60	237	P	P	17 56 11.0	+0.6
	3.6nm,0.7s,mb3.8,baz=40,slow=5.6,SNR=12						
STKA	Stephens Creek	25.70	188	P	P	17 56 39.5	-0.3
	0.6nm,0.4s,mb3.3,baz=9.2,slow=10,SNR=3.5						
YSS	Yuzh-Sakhalins	53.08	358	P	P	18 00 14.7	-12
	46nm,1.3s,mb5.3						
CASY	Casey	64.56	195	eP	P	18 01 40.5	-4.8
	11nm,0.5s,mb5.0						
QSPA	South Pole Qui	83.67	180	eP	P	18 03 35.2	+0.3
	2.7nm,0.5s,mb4.3						

GUC 02 17:57:07.9±0.7, 34.70S×70.27W, h5^{km}±2^{km}, MD3.9, ML2.9, 3C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CICH	Cipreses	0.40	341	⇓iP	Pg	17 57 16.2	+0.3
CICH				i S	Sg	17 57 22.6	+1.4
SFDO	San Fernando	0.62	278	i P	Pg	17 57 20.4	+0.1
SFDO				i S	Sg	17 57 30.2	+1.6
CACH	El Canelo	0.64	334	⇑iP	Pg	17 57 20.4	-0.4
CACH				i S	Sg	17 57 30.2	+0.9
CHCH	Chadas Angostu	0.83	337	i P	Pb	17 57 23.9	-0.5
CHCH				i S	Sg	17 57 36.5	+1.0
LMEL	Las Melosas	0.85	4	⇑iP	Pb	17 57 23.8	-1.0
LMEL				i S	Sg	17 57 36.0	-0.3
LMEL				AMP		17 57 37.4	
	comp=N,781nm,0.2s						
PCH	Pirque	1.09	349	i P	Pb	17 57 28.3	-0.7
PCH				i S	Sb	17 57 43.6	+0.2
TACH	Talagante	1.18	332	i P	Pb	17 57 29.9	-0.5
TACH				i S	Sb	17 57 46.3	+0.4
RCDM	Rinconada Maip	1.29	339	eP	Pb	17 57 31.6	-0.6
RCDM				AMP		17 57 51.2	
	comp=E,483nm,0.2s						
CLCH	Cerro Calan	1.32	350	eP	Pb	17 57 31.7	-1.1
CLCH				i S	Sb	17 57 50.3	+0.4
CLCH				AMP		17 57 56.4	
	comp=E,450nm,0.6s						
FCH	Farellones	1.37	359	⇑iP	Pb	17 57 33.1	-0.5
FCH				i S	Sb	17 57 52.8	+1.5
FCH				AMP		17 57 54.8	
	comp=N,275nm,0.2s						
LCCH	Las Cruces	1.63	318	eP	Pn	17 57 37.6	+0.1
LCCH				i S	Sb	17 57 59.5	+0.6

DJA 02 18:53:42.8±0.8, 9.40S×115.21E, h15^{km}, MD5.4/2, 2C-2D, Error ellipse: s-maj=16.4km s-min=10.4km az=177.0, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
INGI	Ingas	0.58	354	⇑iPg	Pg	18 53 52.8	-1.9
INGI				eSg	Sg	18 54 02.3	-0.3
RATI	Rata	0.74	25	⇑iPg	Pg	18 53 54.7	-3.2
	68nm,0.1s						
RATI				eSg	Sg	18 54 05.5	-2.4
KEDI	Kedomdong	1.27	45	⇓iPn	Pn	18 54 04.0	-2.1
KEDI				eSn	Sn	18 54 19.1	-3.8
KELI	Kelakatan	1.37	329	⇓iPn	Pn	18 54 05.3	-2.2

IDC 02 18:58:48.4±5.1, 16.25S×175.97W, mb4.1/3, mb1 4.3/3, mb1mx4.0/11, Error ellipse: s-maj=158.0km s-min=100.2km az=153.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	41.47	240	P	P	19 06 38.0	-0.8
	1.3nm,0.5s,baz=68,slow=8.9,SNR=7.0						
WRA	Warramunga Arr	47.24	258	P	P	19 07 23.2	-2.2
	0.5nm,0.5s,baz=95,slow=7.9,SNR=25						
ASAR	Alice Springs	47.49	253	P	P	19 07 25.4	-2.1
	4.5nm,0.4s,baz=89,slow=7.6,SNR=158						
ASAR				PcP	PcP	19 08 55.6	-2.5
	0.9nm,1.1s,baz=105,slow=4.1,SNR=4.2						

DJA 02 19:04:05.1±1.0, 7.85S×113.83E, h33^{km}, MD4.6/2, ML4.3/2, 1C-3D, Error ellipse: s-maj=35.4km s-min=20.7km az=25.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KELI	Kelakatan	0.75	119	⇓iPg	P	19 04 16.4	-2.8
INGI	Ingas	1.62	127	⇓iPn	Pn	19 04 31.3	-0.5
	172nm,0.2s						
INGI				eSn	Sn	19 04 48.9	-2.8
RATI	Rata	1.90	117	⇓ePn	Pn	19 04 34.6	-1.2
	282nm,0.2s						
RATI				eSn	Sn	19 04 54.6	-4.1
KEDI	Kedomdong	2.35	106	⇑ePn	Pn	19 04 40.5	-1.8
KEDI				eSn	Sn	19 05 06.4	-3.8

MAN 02 19:06:16.5, 10.19N×121.99E, h6^{km}, mb4.4, ML3.3, MS3.1, 1C-1D, Panay

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AAP	Anini-y	0.23	349	⇓iP	Pg	19 06 22.5	+1.3
GUIM	Jordan	0.73	54	eP	Pg	19 06 30.0	-1.1
GUIM				eS	Sg	19 06 41.3	+0.3
CUYO	Cuyo Island	1.16	304	eP	Pb	19 06 39.0	+0.5
RCP	Roxas	1.55	29	⇑eP	Pn	19 06 45.4	+0.6
RCP				eS	Sb	19 07 05.5	+0.5
SJMP	San Jose	2.41	339	eP	Pn	19 06 56.0	-1.1
BUSP	Coron	2.51	316	eP	Pn	19 06 57.7	-0.8
PAGZ	Pagadian	2.71	149	eP	Pn	19 07 01.6	+0.3
ENPP	El Nido	2.71	292	eP	Pn	19 07 00.7	-0.7
MSLP	Maasin	2.83	91	eP	Pn	19 06 58.4	-4.7

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*MDD **02** 19:10:22.7±1.1, 37.36N×8.51W, mbLg1.6/6, Error ellipse: s-maj=10.1km s-min=3.1km az=17.0, PRXIMO*

INMG 02 19:10:22.4±0.6, 37.34N×8.54W, h12^{km}±3^{km}, ML1.4, Error ellipse: s-maj=3.7km s-min=1.8km az=31.0, Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PTEO	Sao Teotonio	0.25	325	ePg	Pg	19 10 27.2	-0.7
PTEO				eSg	Sg	19 10 31.1	-0.4
	14nm,0.1s						
PTEO	Sao Teotonio	0.25	325	Pg	Pg	19 10 27.2	-0.7
PTEO				Lg		19 10 31.1	
	7.0nm,0.1s						
PALC	Alcoutim	0.86	81	eP	Pb	19 10 37.8	-0.9
PALC				eS	Sb	19 10 49.5	-0.4
	10.0nm,0.2s						
PALC	Alcoutim	0.86	81	P	Pb	19 10 37.8	-0.9
PALC				S	Sb	19 10 49.5	-0.4
	5.0nm,0.2s						
EGRO	El Granado	0.86	77	Pg	Pg	19 10 37.9	-1.9
	6.0nm,0.9s,SNR=8.4						
EGRO				Lg		19 10 49.8	
	4.5nm,0.1s,SNR=21						
PBEJ	Beja	0.87	38	eP	Pb	19 10 38.3	-0.6
PBEJ				eS	Sb	19 10 49.7	-0.5
	6.5nm,0.1s						
PBEJ	Beja	0.87	38	P	Pb	19 10 38.3	-0.6
PBEJ				S	Sb	19 10 49.7	-0.5
	3.2nm,0.1s						
MOE	Montemor	1.19	7	eS	Sb	19 10 59.5	0.0
EMIN	Mina Concepcio	1.55	73	Pg	Pg	19 10 49.1	-4.2
	SNR=7.9						
EMIN				Lg		19 11 10.9	
	0.9nm,0.1s,SNR=7.4						

EBAD	**Badajoz**	**1.86**	**40**	Pg	Pg	19 10 56.3	-3.2
	SNR=7.9						
EBAD				Lg		19 11 19.4	
	1.4nm,0.1s,SNR=8.0						

*NEIC **02** 19:23:50.1, 35.02S×70.52W, h5^{km}, ML3.7(GUC), After GUC.*

NEIC Felt [III] at Los Quenes.

GUC 02 19:23:50.1±1.0**, 35.02S×70.52W, h5^{km}, MD3.7, ML3.7, 6C-6D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFDO	**San Fernando**	**0.57**	**315**	⇑*i*P	Pg	19 24 01.3	-0.2
SFDO				*i* S	Sg	19 24 10.7	+1.5
NICH	**Los Niches**	**0.58**	**271**	⇓*i*P	Pg	19 24 01.3	-0.4
NICH				*i* S	Sg	19 24 11.0	+1.5
CICH	**Cipreses**	**0.70**	**7**	⇓*i*P	Pg	19 24 03.0	-1.1
CICH				*i* S	Sg	19 24 13.6	+0.1
CHCH	**Chadas Angostu**	**1.09**	**354**	⇓*i*P	Pb	19 24 10.2	-0.8
CHCH				*i* S	Sb	19 24 25.2	-0.1
LMEL	**Las Melosas**	**1.20**	**13**	⇑*i*P	Pb	19 24 11.9	-1.0
LMEL				AMP		19 24 31.2	
	comp=N,866nm,0.1s						
LNV	**Longovilo**	**1.29**	**325**	⇑*i*P	Pb	19 24 13.5	-0.9
LNV				*i* S	Sb	19 24 31.6	+0.4
PCH	**Pirque**	**1.39**	**0**	⇑*i*P	Pb	19 24 15.6	-0.7
PCH				*i* S	Sb	19 24 34.4	+0.2
TACH	**Talagante**	**1.40**	**346**	⇓*i*P	Pn	19 24 15.5	-0.9
TACH				*i* S	Sb	19 24 34.9	+0.4
ANTU	**Antumapu**	**1.45**	**356**	AMP		19 24 38.7	
	comp=E,2µm,0.4s						
RCDM	**Rinconada Maip**	**1.54**	**351**	*e*P	Pn	19 24 17.9	-0.5
RCDM				*i* S	Sb	19 24 38.3	-0.3
RCDM				AMP		19 24 41.3	
	comp=E,2µm,0.1s						
DSCH	**Colegio Aleman**	**1.62**	**359**	AMP		19 24 45.9	
	comp=N,3µm,0.6s						
CLCH	**Cerro Calan**	**1.62**	**360**	⇑*i*P	Pn	19 24 19.4	-0.1
CLCH				AMP		19 24 44.1	
	comp=E,2µm,0.3s						
FCH	**Farellones**	**1.70**	**7**	⇓*i*P	Pn	19 24 21.0	+0.4
FCH				AMP		19 24 47.3	
	comp=N,695nm,0.2s						
LCCH	**Las Cruces**	**1.77**	**330**	⇓*i*P	Pn	19 24 21.5	-0.1
PEL	**Peldehue**	**1.87**	**356**	AMP		19 24 55.6	
	comp=N,2µm,0.6s						
CCHI	**Chillan**	**2.02**	**218**	⇑*i*P	Pn	19 24 25.0	-0.3
CCHI				AMP		19 25 05.4	
	comp=N,592nm,0.6s						

IDC 02 19:44:59.6±4.5**, 8.25S×125.67E, mb4.2**/1**, mb1 4.2**/3**, mb1mx3.8**/10**, ML3.5**/2**, Error ellipse: s-maj=69.2km s-min=45.4km az=76.0, Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**9.79**	**180**	*e*P	P	19 47 26.9	+2.0
	1.4nm,0.3s						
FITZ				*e*S	Sn	19 49 15.8	-1.1
FITZ	**Fitzroy Crossi**	**9.79**	**180**	Pn	P	19 47 23.8	-1.1
FITZ				Sn	Sn	19 49 16.2	-0.7
WRA	**Warramunga Arr**	**14.34**	**145**	Pn	P	19 48 22.0	-4.2
	0.2nm,0.3s,baz=319,slow=14,SNR=13						
WRA				Sn	S	19 51 02.6	-4.4
	0.3nm,0.3s,baz=320,slow=28,SNR=6.3						
WB2	**Warramunga Arr**	**14.34**	**145**	*e*P	P	19 48 22.1	-4.2
WB2				*e*S	S	19 51 01.7	-5.5
ASPA	**Alice Springs**	**17.24**	**154**	*e*P	P	19 49 06.1	+2.5
ASAR	**Alice Springs**	**17.24**	**154**	P	P	19 49 02.2	-1.3
	0.4nm,0.3s,baz=329,slow=9.8,SNR=35						
ASAR				S	S	19 52 15.7	+0.9
	0.1nm,0.3s,baz=315,slow=20,SNR=4.2						
STKA	**Stephens Creek**	**27.79**	**150**	*e*P	P	19 50 50.8	-1.7
	1.3nm,0.6s						
STKA	**Stephens Creek**	**27.79**	**150**	P	P	19 50 50.2	-2.2
	1.8nm,0.6s,baz=340,slow=9.1,SNR=7.7						

WEL 02 19:46:20.4±0.7**, 35.27S×177.87E, h33^{km}, ML3.8**/1**, Error ellipse: s-maj=9.7km s-min=4.3km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.31**	**171**	P*	Pb	19 46 56.5	-4.9
MXZ				S*	Sb	19 47 23.0	-6.7
PUZ	**Puketiti**	**2.81**	**174**	PN	Pn	19 47 02.4	-1.9
PUZ				SN	Sn	19 47 33.1	-4.3
PUZ				SN	Sn	19 47 33.3	-4.1
URZ	**Urewera**	**3.04**	**191**	P*	Pb	19 47 06.2	-7.6
URZ				S*	Sb	19 47 41.9	-9.0
MWZ	**Matawai**	**3.07**	**185**	P*	Pb	19 47 06.0	-8.2
MWZ				S*	Sb	19 47 41.1	-10

*LDG **02** 19:47:55.1±0.1, 44.40N×81.17E, h10^{km}, Mb4.4/18, Ms3.1/1, Error ellipse: s-maj=4.4km s-min=3.1km az=9.0*

*IDC **02** 19:47:57.8±0.9, 44.50N×81.20E, mb4.1/8, mb1 4.3/12, mb1mx4.1/20, ML4.0/4, MS3.4/2, Ms1 3.4/2, ms1mx2.7/28, Error ellipse: s-maj=15.3km s-min=11.3km az=107.0*

*BJI **02** 19:47:58.3, 44.30N×81.40E, h27^{km}, mB4.6, mb4.3, ML4.8*

*NNC **02** 19:48:00.3±3.1, 44.42N×81.36E, h26^{km}±14^{km}, mpv4.1, Error ellipse: s-maj=22.6km s-min=16.5km az=33.0*

*MOS **02** 19:48:00.9±0.7, 44.54N×81.01E, h33^{km}, mb4.5/8, Error ellipse: s-maj=14.0km s-min=8.0km az=103.3*

*NEIC **02** 19:48:01.2±2.0, 44.46N×81.06E, h27^{km}±14^{km}, mb4.3/21, Error ellipse: s-maj=9.0km s-min=5.8km az=196.0*

ISC 02 19:48:00.1±0.7**, 44.50N**±0.04×**81.12E**±0.06**, h35^{km}**±6^{km}**, n97, $\sigma 0^{s}$92**/113**, mb4.3**/31**, MS3.6**/3**, 14C-5D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**2.43**	**19**	⇓Pn	**P**	**19 48 41.0**	**+2.7**
	13nm,0.2s,baz=197,slow=14,SNR=9725						
MK31				⇑Pg	**P**	**19 48 46.0**	**+7.7**
	88nm,0.3s,baz=191,slow=15,SNR=7.0						
MK31				⇑Lg		19 49 17.2	
	862nm,0.5s,baz=191,slow=26,SNR=8.3						
MKAR	**Makanchi Array**	**2.43**	**19**	Pn	**P**	**19 48 39.1**	**+0.8**
	15nm,0.3s,baz=201,slow=13,SNR=501						
MKAR				Pg	**P**	**19 48 47.6**	**+9.4**
	131nm,0.3s,baz=195,slow=16,SNR=104						
MKAR				Lg		19 49 14.6	
	284nm,0.3s,baz=195,slow=28,SNR=11						
MKAR				LR	LR	19 49 55.7	
	comp=Z,360nm,18.7s,baz=181,slow=49						
MKAR	**Makanchi Array**	**2.43**	**19**	PN	**P**	**19 48 39.1**	**+0.8**
MKAR						19 48 47.7	
MKAR				pmax	pmax		
	comp=Z,15nm,0.3s						
MKAR				pmax	pmax		
	comp=Z,131nm,0.3s						
MKAR				MLR	MLR		
	comp=Z,360nm,18.7s						
AAA	**Alma-Ata**	**3.26**	**249**	*e*PN	**P**	**19 48 50.5**	**+0.5**
AAA				*e*		19 49 45.5	
AAA				pmax	pmax		
	comp=Z,800nm,0.5s						
AAA				smax			
	comp=N,1200µm,0.5s						
ULHL	**Ulahol**	**4.21**	**239**	P	**P**	**19 49 03.3**	**-0.3**
	SNR=17						
TKM2	**Tokmak 2**	**4.31**	**250**	P	**P**	**19 49 04.9**	**0.0**
	SNR=78						
WMQ	**Urumqi**	**4.78**	**96**	*e*P	**P**	**19 49 08.0**	**-3.6**
WMQ				S	**S**	**19 50 00.5**	**-6.1**
WMQ				SG	**S**	**19 50 20.0**	**+13**
KBK	**Karagaybulak**	**4.85**	**250**	P	**P**	**19 49 12.9**	**+0.3**
	SNR=90						
CHMS	**Chumysh**	**4.85**	**254**	P	**P**	**19 49 12.3**	**-0.4**
	SNR=55						
KZA	**Kyzart**	**4.92**	**243**	P	**P**	**19 49 14.5**	**+0.8**
	SNR=18						
USP	**Ospenovka**	**4.94**	**258**	P	**P**	**19 49 13.6**	**-0.3**
	SNR=70						
FRU	**Bishkek**	**5.00**	**253**	⇑*i*PN	**P**	**19 49 14.5**	**-0.3**
FRU				*i*		19 49 30.0	
FRU				pmax	pmax		
	comp=Z,460nm,1.7s						
AAK	**Ala-Archa**	**5.17**	**251**	P	**P**	**19 49 16.8**	**-0.3**
	SNR=19						
AAK	**Ala-Archa**	**5.17**	**251**	*e*Pn	**P**	**19 49 15.5**	**-1.6**
	comp=Z,17nm,0.3s						
AAK				*e*		19 49 25.2	
AAK				*e*Pb	**P**	**19 49 29.9**	**+13**
AAK				*e*Pg	**P**	**19 49 34.7**	**+18**
AAK				*e*Sg	**S**	**19 50 42.2**	**+26**
UCH	**Uchtor**	**5.33**	**247**	P	**P**	**19 49 20.0**	**+0.7**
	SNR=34						
EKS2	**Erkin-Say**	**5.64**	**254**	P	**P**	**19 49 23.5**	**-0.2**
	SNR=68						
AML	**Almayashu**	**5.91**	**249**	P	**P**	**19 49 28.2**	**+0.7**
	SNR=32						
KURK	**Kurchatov**	**6.44**	**346**	⇓Pn	**P**	**19 49 35.8**	**+0.9**
	comp=Z,7.2nm,0.7s,baz=227,slow=10,SNR=65						
KURK				⇓Pg	**P**	**19 49 51.2**	**+16**
	comp=Z,17nm,0.7s						
KURK				⇑Sn	**S**	**19 50 50.9**	**+2.7**
	comp=Z,48nm,0.9s,baz=135,slow=15,SNR=6.0						
KURK				⇑Lg		19 51 30.6	
	comp=Z,293nm,0.8s,baz=93,slow=8.8,SNR=8.7						
KURK	**Kurchatov**	**6.44**	**346**	Pn	**P**	**19 49 35.7**	**+0.7**
	comp=Z,114nm,0.4s,SNR=39						
KURK	**Kurchatov**	**6.44**	**346**	*e*PN	**P**	**19 49 35.8**	**+0.8**
KURK						19 50 50.9	
KURK				pmax	pmax		
	comp=Z,7.0nm,0.6s						
KURK				smax			
	comp=Z,15nm,0.6s						
KURK				smax			
	comp=Z,234nm,0.8s						
KURK	**Kurchatov**	**6.44**	**346**	*e*Pn	**P**	**19 49 35.3**	**+0.4**
	comp=Z,10nm,0.3s						
KURK				*e*Pb	**P**	**19 49 52.1**	**+17**
KURK				*e*Pg	**P**	**19 50 01.4**	**+26**
KURK				*e*Sn	**S**	**19 50 51.1**	**+2.9**
KURK				*e*Sg	**S**	**19 51 26.9**	**+39**
ZAL	**Zalesovo**	**9.74**	**13**	Pn	**P**	**19 50 20.7**	**-0.1**
	comp=Z,2.5nm,0.3s,baz=198,slow=7.2,SNR=18						
ZAL				Sn	**S**	**19 52 09.9**	**-0.2**
	comp=Z,6.0nm,0.3s,baz=60,slow=25,SNR=3.3						
ZAL				Lg		19 53 09.5	
	comp=Z,3.3nm,0.3s,baz=262,slow=6.7,SNR=3.8						
ZAL	**Zalesovo**	**9.74**	**13**	P	**P**	**19 50 20.7**	**-0.1**
ZAL						19 52 09.9	
ZAL				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ZAL				smax			
	comp=N,6.0nm,0.3s						
NVS	**Novosibirsk**	**10.44**	**7**	*e*P	**P**	**19 50 30.7**	**+0.4**
NVS				*e*S	**S**	**19 52 22.0**	**-5.1**
VOSK	**Vostochnaya**	**10.61**	**324**	⇑Pn	**P**	**19 50 32.1**	**-0.5**
	comp=N,3.9nm,0.4s						
VOSK				⇓Lg		19 53 38.9	
	comp=N,184nm,1.1s						
BVA0	**Borovoye Array**	**11.07**	**324**	⇑Pn	**P**	**19 50 38.7**	**-0.3**
	comp=N,0.7nm,0.5s						
BVA0				⇑Lg		19 53 55.7	
	comp=N,28nm,1.2s,baz=130,slow=28,SNR=10						
BVA0	**Borovoye Array**	**11.07**	**324**	P	**P**	**19 50 38.6**	**-0.4**
BVAR	**Borovoye Array**	**11.07**	**324**	Pn	**P**	**19 50 38.5**	**-0.5**
	comp=N,1.0nm,0.3s,baz=153,slow=14,SNR=13						
BVAR				Lg		19 53 52.2	
	comp=N,5.8nm,0.3s,baz=259,slow=32,SNR=5.2						
BRVK	**Borovoye**	**11.14**	**324**	*e*P	**P**	**19 50 39.3**	**-0.6**
	comp=N,2.4nm,0.4s						
BRVK				*e*S	**S**	**19 52 44.5**	**+0.2**
ZRNK	**Zerenda**	**11.62**	**321**	⇑Pn	**P**	**19 50 45.4**	**-1.1**
	comp=N,8.8nm,0.8s						
ZRNK				⇑Lg		19 54 13.6	
	comp=N,156nm,1.1s						
ZRNK	**Zerenda**	**11.62**	**321**	P	**P**	**19 50 45.8**	**-0.7**
ZRNK				pmax	pmax		
	comp=Z,8.0nm,0.9s						
ZRNK	**Zerenda**	**11.62**	**321**	*e*P	**P**	**19 50 45.1**	**-1.4**
	comp=Z,1.4nm,0.4s						
ZAK	**Zakamensk**	**16.08**	**61**	*e*P	**P**	**19 51 46.2**	**+1.4**
GKN	**Gorkha**	**16.71**	**169**	*e*P	**P**	**19 51 44.1**	**-8.9**
	comp=Z,10nm,0.5s						
LSA	**Lhasa**	**16.78**	**148**	P	**P**	**19 51 53.2**	**-0.7**
LSA	**Lhasa**	**16.78**	**148**	*e*P	**P**	**19 51 49.3**	**-4.6**
	comp=Z,7.4nm,0.8s						
KOLN	**Koldanda**	**16.82**	**172**	*e*P	**P**	**19 51 42.1**	**-12**
	comp=Z,19nm,1.0s						
KKN	**Kakani**	**17.01**	**167**	*e*P	**P**	**19 51 48.3**	**-8.5**
	comp=Z,14nm,0.7s						
DMN	**Daman**	**17.16**	**168**	*e*P	**P**	**19 51 49.1**	**-10**
	comp=Z,3.9nm,0.5s						
PKI	**Pulchoki**	**17.24**	**167**	*e*P	**P**	**19 51 51.1**	**-8.6**
	comp=Z,12nm,0.7s						
SONM	**Songino Array**	**17.79**	**70**	P	**P**	**19 52 05.8**	**-0.7**
	comp=Z,1.2nm,0.3s,baz=269,slow=11,SNR=19						
ARU	**Arti**	**18.57**	**318**	⇓*i*P	**P**	**19 52 17.4**	**+1.3**
ARU				pmax	pmax		
	comp=Z,7.0nm,0.7s						
ARU	**Arti**	**18.57**	**318**	*e*P	**P**	**19 52 16.7**	**+0.6**
	comp=Z,12nm,0.9s						
SHL	**Shillong**	**20.81**	**152**	⇑*i*P	**P**	**19 52 34.5**	**-6.4**
BOD	**Bodaibo**	**24.26**	**45**	*e*P	**P**	**19 53 12.0**	**-2.6**
ENH	**Enshi**	**26.48**	**113**	P	**P**	**19 53 35.7**	**-0.2**
	comp=Z,4.1nm,0.8s,mb4.0						
SOC	**Sochi**	**29.55**	**283**	*e*P	**P**	**19 53 55.7**	**-7.7**
SOC				*e*		19 57 06.7	
SOC				*e*S	**S**	**19 58 44.3**	**-10**
SOC				*e*SS	SS	20 00 30.0	+1.0
SOC				*e*SSS	SSS	20 00 46.9	-2.8
SOC				pmax	pmax		
	comp=Z,25nm,1.0s,mb4.9						
SOC				pmax	pmax		
	comp=N,9.0nm,0.6s						
SOC				pmax	pmax		
	comp=E,10.0nm,0.6s						
SOC				MLR	MLR		
	comp=Z,110nm,19.0s,MS3.5						
SOC				MLR	MLR		
	comp=N,36nm,14.0s						
SOC				MLR	MLR		
	comp=E,107nm,23.0s						
OBN	**Obninsk**	**30.15**	**307**	*e*P	**P**	**19 54 06.0**	**-2.6**
OBN				*e*		19 55 07.1	
OBN				*e*SS	SS	20 00 42.6	-0.5
OBN				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.3						
OBN				MLR	MLR		
	comp=Z,100nm,19.0s,MS3.5						
AKASG	**Malin Array Be**	**34.92**	**299**	P	**P**	**19 54 50.2**	**0.0**
	comp=Z,2.1nm,0.5s,mb4.4,baz=67,slow=8.4,SNR=7.1						
AKASG	**Malin Array Be**	**34.92**	**299**	P	**P**	**19 54 50.3**	**0.0**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
BRTR	**Keskin Array B**	**35.15**	**279**	P	**P**	**19 54 53.0**	**+0.7**
	comp=Z,1.3nm,0.6s,mb4.0,baz=90,slow=7.4,SNR=9.1						
BRTR	**Keskin Array B**	**35.15**	**279**	P	**P**	**19 54 53.1**	**+0.8**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KAF	**Kangasniemi**	**35.87**	**319**	*e*P	**P**	**19 54 58.2**	**0.0**
	comp=Z,0.3nm,0.3s,mb3.7						
FINES	**FINESS Array B**	**35.94**	**318**	P	**P**	**19 54 59.1**	**+0.3**
	comp=Z,0.6nm,0.4s,mb3.9,baz=100,slow=12,SNR=6.0						
FINES	**FINESS Array B**	**35.94**	**318**	*e*P	**P**	**19 54 59.1**	**+0.3**
KEV	**Kevo**	**36.79**	**332**	*e*P	**P**	**19 55 05.7**	**-0.2**
KEV				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.0						
KEV	**Kevo**	**36.79**	**332**	*e*P	**P**	**19 55 05.7**	**-0.2**
	comp=Z,1.0nm,0.4s,mb4.0						
ARCES	**ARCESS Array B**	**37.25**	**331**	P	**P**	**19 55 11.1**	**+1.4**
	comp=Z,9.0nm,0.8s,mb4.7,baz=90,slow=9.5,SNR=44						
ARCES	**ARCESS Array B**	**37.25**	**331**	P	**P**	**19 55 11.1**	**+1.4**
ARCES				pmax	pmax		
	comp=Z,9.0nm,0.8s						
ARCES	**ARCESS Array B**	**37.25**	**331**	P	**P**	**19 55 11.1**	**+1.4**
MORC	**Moravsky Berou**	**42.41**	**301**	*e*P	**P**	**19 55 54.0**	**+1.4**
	comp=Z,2.4nm,0.7s,mb3.9						
NB2	**NORSAR Subarra**	**43.12**	**318**	P	**P**	**19 55 59.0**	**+0.7**
	comp=Z,3.2nm,0.5s,mb4.3,baz=80,slow=7.9						
NOA	**NORSAR Array B**	**43.12**	**318**	P	**P**	**19 55 59.0**	**+0.8**
	comp=Z,2.5nm,0.5s,mb4.2,baz=80,slow=8.1,SNR=13						
NOA	**NORSAR Array B**	**43.12**	**318**	P	**P**	**19 55 59.1**	**+0.8**
NOA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
CLL	**Collm**	**44.67**	**304**	⇑P	**P**	**19 56 11.7**	**+0.8**
	comp=Z,logA/T=0.9,mb4.5						
CLL				*i* *SP	sP	19 56 20.3	-5.1
CLL	**Collm**	**44.67**	**304**	⇑*i*P	**P**	**19 56 11.7**	**+0.8**
CLL				*i*	pP	19 56 20.3	-0.8
CLL				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.5						
CLL	**Collm**	**44.67**	**304**	⇑*i*P	**P**	**19 56 11.7**	**+0.8**
	comp=Z,5.0nm,0.6s,mb4.5						
CLL				*i*	pP	19 56 20.3	-0.8
GERES	**GERESS Array B**	**45.09**	**301**	P	**P**	**19 56 15.4**	**+1.1**
	comp=Z,0.5nm,0.5s,mb3.6,baz=72,slow=8.4,SNR=6.8						
GERES	**GERESS Array B**	**45.09**	**301**	P	**P**	**19 56 15.4**	**+1.1**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
PGF	**Pioggiola**	**50.73**	**295**	*e*P	**P**	**19 56 58.0**	**-0.3**
LPG	**La Plagne**	**50.79**	**299**	*e*P	**P**	**19 56 59.3**	**+0.6**
	comp=Z,16nm,0.8s,mb4.7						
LPL	**La Plagne**	**50.79**	**299**	*e*P	**P**	**19 56 59.3**	**+0.6**
	comp=Z,16nm,0.7s,mb4.8						
MBDF	**Montbardon**	**51.13**	**298**	*e*P	**P**	**19 57 01.1**	**-0.2**
	comp=Z,4.3nm,0.7s,mb4.2						
ORIF	**Oris-en-Rattie**	**51.60**	**299**	*e*P	**P**	**19 57 04.5**	**-0.4**
	comp=Z,8.2nm,0.7s,mb4.5						
LOR	**Lormes**	**51.76**	**302**	*e*P	**P**	**19 57 04.9**	**-1.1**
	comp=Z,3.8nm,0.6s,mb4.2						
SMF	**Signal de Mont**	**52.06**	**302**	*e*P	**P**	**19 57 07.6**	**-0.6**
AVF	**Avril sur Loir**	**52.29**	**302**	*e*P	**P**	**19 57 09.7**	**-0.2**
VIVF	**Saint-Julien-l**	**52.39**	**299**	*e*P	**P**	**19 57 10.4**	**-0.3**
	comp=Z,9.9nm,0.8s,mb4.5						
BGF	**Bois d'Agland**	**52.70**	**302**	*e*P	**P**	**19 57 12.8**	**-0.3**
LASF	**Ste Croix**	**53.28**	**299**	*e*P	**P**	**19 57 17.2**	**-0.2**
	comp=Z,13nm,1.0s,mb4.5						
LDF	**La Druitiere**	**53.51**	**305**	*e*P	**P**	**19 57 18.2**	**-0.8**
	comp=Z,2.7nm,0.4s,mb4.2						
FLN	**La Foliniere**	**53.64**	**306**	*e*P	**P**	**19 57 19.2**	**-0.8**
	comp=Z,4.5nm,0.5s,mb4.4						
GRR	**Gorron**	**54.04**	**305**	*e*P	**P**	**19 57 22.1**	**-0.8**
	comp=Z,5.9nm,0.6s,mb4.4						
RJF	**Les Rejaudoux**	**54.12**	**301**	*e*P	**P**	**19 57 23.4**	**-0.2**
LFF	**La Frestale**	**54.78**	**301**	*e*P	**P**	**19 57 28.2**	**-0.2**
	comp=Z,7.7nm,0.7s,mb4.5						
SGMF	**Saint Gilles**	**55.09**	**306**	*e*P	**P**	**19 57 30.1**	**-0.5**
ROSF	**Rostrenen**	**55.46**	**306**	*e*P	**P**	**19 57 33.1**	**-0.2**
	comp=Z,3.1nm,0.5s,mb4.3						
QUIF	**Quistinic**	**55.61**	**306**	*e*P	**P**	**19 57 34.1**	**-0.3**
	comp=Z,6.8nm,0.7s,mb4.5						
EPF	**Esparros**	**56.01**	**299**	*e*P	**P**	**19 57 36.9**	**-0.4**
ETSF	**Etsaut**	**56.64**	**299**	*e*P	**P**	**19 57 41.5**	**-0.4**
	comp=Z,4.5nm,0.6s,mb4.3						
SJPF	**Ste Jean**	**56.94**	**300**	*e*P	**P**	**19 57 43.7**	**-0.3**
EVO	**Evora**	**63.78**	**299**	*e*P	**P**	**19 58 36.5**	**+5.9**
	comp=Z,56nm,1.5s,mb5.1						
DLBC	**Dease Lake**	**74.22**	**16**	LR	LR	20 34 18.3	
	comp=Z,52nm,18.4s,MS3.9,baz=326,slow=38						
WRAB	**Tennant Creek**	**80.43**	**130**	*e*P	**P**	**20 00 11.6**	**+1.7**
	comp=Z,2.8nm,0.7s,mb4.3						
WRA	**Warramunga Arr**	**80.43**	**130**	P	**P**	**20 00 11.8**	**+1.9**
	comp=Z,0.6nm,0.5s,mb3.8,baz=333,slow=5.1,SNR=17						
WRA	**Warramunga Arr**	**80.43**	**130**	P	**P**	**20 00 11.8**	**+2.0**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ASAR	**Alice Springs**	**83.22**	**133**	P	**P**	**20 00 26.8**	**+2.5**
	comp=Z,0.5nm,0.6s,mb3.7,baz=324,slow=4.9,SNR=7.7						

GUC 02 19:57:35.7±0.6**, 34.87S×70.43W, h3^{km}, MD3.8, ML2.1, 3D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFDO	**San Fernando**	**0.55**	**298**	⇓*i*P	Pg	19 57 46.8	+0.2
SFDO				*i* S	Sg	19 57 55.3	+1.5
CICH	**Cipreses**	**0.55**	**1**	⇓*i*P	Pg	19 57 47.0	+0.2
CICH				*i* S	Sg	19 57 56.0	+1.8
NICH	**Los Niches**	**0.67**	**259**	⇓*i*P	Pg	19 57 48.9	-0.1
NICH				*i* S	Sg	19 57 59.6	+1.6
CACH	**El Canelo**	**0.77**	**350**	*e*P	Pg	19 57 50.7	-0.3
CHCH	**Chadas Angostu**	**0.96**	**349**	*i* P	Pb	19 57 53.9	-0.7
LMEL	**Las Melosas**	**1.04**	**11**	*e*P	Pb	19 57 55.7	-0.3
LMEL				*i* S	Sb	19 58 10.7	+0.8
LMEL				AMP		19 58 13.3	
	comp=N,86nm,0.3s						
LNV	**Longovilo**	**1.22**	**318**	*i* P	Pb	19 57 58.5	-0.6
PCH	**Pirque**	**1.25**	**357**	*e*P	Pb	19 57 59.2	-0.4
TACH	**Talagante**	**1.29**	**341**	*e*P	Pb	19 57 59.6	-0.6
FCH	**Farellones**	**1.55**	**4**	*e*P	Pn	19 58 04.4	+0.1
FCH				AMP		19 58 27.9	
	comp=E,62nm,0.3s						

WEL 02 20:06:01.7±0.2**, 38.52S×176.12E, h130^{km}**±2^{km}**, ML3.6**/2**, Error ellipse: s-maj=2.0km s-min=1.9km az=0.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MGZ	**Maungaku**	**0.66**	**223**	PN	P	20 06 21.8	-0.2
BKZ	**Black Stump Fm**	**0.71**	**156**	PN	P	20 06 22.4	+0.1
BKZ				SN	S	20 06 37.7	-0.4
TWVZ	**Taurewa**	**0.77**	**224**	PN	P	20 06 22.6	-0.2
NGZ	**Ngauruhoe**	**0.77**	**212**	PN	P	20 06 22.7	0.0
CNZ	**Chateau**	**0.81**	**213**	PN	P	20 06 23.1	0.0
URZ	**Urewera**	**0.82**	**72**	PN	P	20 06 23.1	-0.1
URZ				SN	S	20 06 39.2	-0.4
TUVZ	**Tukino**	**0.83**	**206**	PN	P	20 06 23.3	+0.1
WNVZ	**Wahianoa**	**0.90**	**207**	PN	P	20 06 23.8	-0.1
MWZ	**Matawai**	**1.12**	**81**	PN	P	20 06 25.9	-0.2
MWZ				SN	S	20 06 44.3	-0.2
TSZ	**Takapari Road**	**1.54**	**185**	PN	P	20 06 29.4	-1.3
MRZ	**Mangatainoka R**	**2.18**	**191**	PN	P	20 06 35.9	-2.5
MRZ				SN	S	20 07 04.0	-2.3
MTW	**Mount Morrison**	**2.68**	**190**	PN	P	20 06 41.2	-3.7

*IDC **02** 20:28:40.9±2.4, 4.89S×102.66E, mb3.9/8, mb1 4.0/8, mb1mx3.8/15, Error ellipse: s-maj=116.0km s-min=16.0km az=53.0*

ISC 02 20:28:44.1±2.3**, 4.8S**±0.5×**102.8E**±0.6**, h33^{km}, n9, $\sigma 0^{s}$45**/8**, mb3.9**/8**, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**25.99**	**122**	P	**P**	**20 34 15.5**	**-0.4**
	1.5nm,0.9s,mb3.5,baz=294,slow=10.0,SNR=3.1						
WRA	**Warramunga Arr**	**34.23**	**119**	P	**P**	**20 35 28.6**	**-0.5**
	0.3nm,0.4s,mb3.5,baz=300,slow=10.0,SNR=8.1						
ASAR	**Alice Springs**	**35.40**	**125**	P	**P**	**20 35 39.2**	**+0.1**
	0.4nm,0.5s,mb3.6,baz=292,slow=6.9,SNR=9.7						
STKA	**Stephens Creek**	**45.25**	**131**	P	**P**	**20 37 01.1**	**+0.8**
	2.1nm,0.5s,mb4.2,baz=298,slow=9.0,SNR=9.2						
SONM	**Songino Array**	**52.51**	**3**	P	**P**	**20 37 56.5**	**+0.3**
	1.4nm,0.9s,mb3.9,baz=172,slow=10,SNR=3.1						
MKAR	**Makanchi Array**	**54.47**	**343**	P	**P**	**20 38 10.8**	**0.0**
	1.9nm,0.5s,mb4.3,baz=151,slow=8.9,SNR=32						
ZAL	**Zalesovo**	**60.43**	**348**	P	**P**	**20 38 53.0**	**+0.3**
	1.5nm,0.5s,mb4.2,baz=220,slow=4.3,SNR=7.0						
BVAR	**Borovoye Array**	**63.76**	**339**	P	**P**	**20 39 14.3**	**-0.7**
	0.6nm,0.6s,mb3.8,baz=140,slow=12,SNR=7.2						
TXAR	**Lajitas Array**	**145.07**	**43**	PKP	PKPdf	20 48 19.6	+0.8
	0.5nm,0.5s,baz=333,slow=2.0,SNR=3.9						

*NEIC **02** 20:52:28.1, 34.68N×32.57E, h36^{km}, ML3.5(NIC), After NIC.*

NIC 02 20:52:28.1±0.3**, 34.68N×32.57E, h36^{km}, ML3.5, MW3.0, 4C-2D, Cyprus region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SZAC	**Souni-Zanaja**	**0.27**	**74**	⇓P	P	20 52 35.2	-0.5
	28nm,0.3s						
SZAC				S	S	20 52 41.9	+0.9
SZAC	**Souni-Zanaja**	**0.27**	**74**	⇓*i*P	P	20 52 35.2	-0.5
SZAC				S	S	20 52 41.9	+0.9
PPCY	**Paphos**	**0.27**	**318**	P	P	20 52 36.0	+0.3
PPCY				S	S	20 52 41.2	+0.1
PPCY	**Paphos**	**0.27**	**318**	*i* P	P	20 52 36.0	+0.3
PPCY				S	S	20 52 41.2	+0.1
AKMC	**Akamas**	**0.40**	**330**	P	P	20 52 37.7	+0.5
ALFC	**Alevga**	**0.47**	**3**	⇑P	P	20 52 38.2	-0.1
	11nm,0.4s						
ALFC				S	S	20 52 46.1	+0.6
ALFC	**Alevga**	**0.47**	**3**	⇑*i*P	P	20 52 38.2	-0.1
ALFC				S	S	20 52 46.1	+0.6
CSS	**Prodhromos**	**0.69**	**66**	⇑P	P	20 52 41.3	0.0
	6.1nm,0.4s						
CSS				S	S	20 52 52.2	+1.3
CSS	**Prodhromos**	**0.69**	**66**	⇑*i*P	P	20 52 41.3	0.0
CSS				S	S	20 52 52.2	+1.3

MAMC	**Mammari**	**0.72**	**47**	P	P	20 52 42.9	+1.1
MAMC				S	S	20 52 56.4	+4.6
PHNC	**Paralimni**	**1.25**	**75**	P	P	20 52 53.9	+4.7

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*IDC **02** 21:11:37.5±1.8, 7.05N×126.50E, mb3.6/4, mb1 3.8/4, mb1mx3.6/16, Error ellipse: s-maj=111.0km s-min=24.2km az=69.0*

*MAN **02** 21:11:48.2, 7.21N×126.64E, h45^{km}, mb4.4, ML3.3, MS3.1*

ISC 02 21:11:43.1±1.8**, 7.05N**±0.07×**126.9E**±0.2**, h55**^{km}±19^{km}**, n12, σ1^{s}31**/15**, mb3.5**/4**, 1D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MATI	**Mati**	**0.68**	**262**	*e*P	**P**	**21 11 55.6**	**-1.3**
MATI				*e*S	**S**	**21 12 04.0**	**-3.2**
KCP	**Kidapawan**	**1.83**	**269**	⇓*i*P	**P**	**21 12 14.1**	**+1.2**
KCP				*i* S	**S**	**21 12 37.7**	**+2.8**
BUKP	**Musuan**	**2.04**	**294**	*e*P	**P**	**21 12 16.4**	**+0.8**
BUTP	**Butuan**	**2.31**	**326**	*e*P	**P**	**21 12 21.2**	**+1.6**
SCPH	**Surigao**	**3.07**	**332**	*i* P	**P**	**21 12 31.7**	**+1.3**
SCPH				*i* S	**S**	**21 13 04.6**	**-1.6**
PAGZ	**Pagadian**	**3.62**	**283**	*e*P	**P**	**21 12 38.5**	**+0.5**
MSLP	**Maasin**	**3.69**	**326**	*e*P	**P**	**21 12 39.1**	**0.0**
BESP	**Borongan**	**4.76**	**342**	*e*P	**P**	**21 12 59.5**	**+5.3**
FITZ	**Fitzroy Crossi**	**25.02**	**183**	P	**P**	**21 17 03.8**	**+0.1**
	1.6nm,0.8s,mb3.6,baz=33,slow=17,SNR=4.3						
WRA	**Warramunga Arr**	**27.79**	**165**	P	**P**	**21 17 29.2**	**-0.1**
	0.4nm,0.6s,mb3.2,baz=343,slow=11,SNR=12						
ASAR	**Alice Springs**	**31.27**	**168**	P	**P**	**21 18 00.4**	**+0.2**
	0.2nm,0.3s,mb3.4,baz=344,slow=7.0,SNR=4.2						
ASAR				PcP	PcP	21 20 53.4	-0.2
	0.3nm,0.5s,baz=344,slow=1.9,SNR=4.8						
MKAR	**Makanchi Array**	**54.99**	**324**	P	**P**	**21 21 08.9**	**-2.2**
	0.5nm,0.5s,mb3.9,baz=119,slow=7.3,SNR=8.7						

GUC 02 21:25:51.2±0.4**, 34.88S**×**70.29W, h3**^{km}±2^{km}**, MD3.5, ML2.1, 1D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CICH	**Cipreses**	**0.57**	**349**	⇓*i*P	Pg	21 26 03.1	+0.4
CICH				*i* S	Sg	21 26 11.9	+1.7
SFDO	**San Fernando**	**0.65**	**294**	*e*P	Pg	21 26 04.6	+0.4
SFDO				*i* S	Sg	21 26 14.5	+1.6
CACH	**El Canelo**	**0.81**	**342**	*i* P	Pg	21 26 06.9	-0.4
CACH				*i* S	Sg	21 26 19.0	+1.0
CHCH	**Chadas Angostu**	**0.99**	**343**	*e*P	Pb	21 26 10.2	-0.6
CHCH				*i* S	Sb	21 26 25.1	+1.1
LMEL	**Las Melosas**	**1.04**	**4**	*e*P	Pb	21 26 11.1	-0.3
LMEL				*i* S	Sb	21 26 26.2	+0.9
LMEL				AMP		21 26 28.9	
	comp=N,72nm,0.2s						
RCDM	**Rinconada Maip**	**1.46**	**343**	AMP		21 26 40.1	
	comp=E,107nm,0.3s						
FCH	**Farellones**	**1.55**	**0**	*e*P	Pn	21 26 19.9	0.0
FCH				AMP		21 26 44.4	
	comp=N,40nm,0.2s						

SKHL 02 21:48:11.5±0.1**, 50.92N**×**144.16E, h15**^{km}±2^{km}**, mb4.3**/3**, Sakhalin Island**

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*NIED **02** 22:01:00, 42.20N×142.90E, h53^{km}, Mw4.3 Best double couple: M$_0$3.29×10^{15} NP1:φ$_s$25°, δ68°, λ85°. NP2:φ$_s$219°, δ22°, λ103°.*

*MOS **02** 22:01:18.9±1.6, 42.23N×142.81E, h62^{km}, mb4.6/11, Error ellipse: s-maj=20.0km s-min=10.0km az=98.6*

*BJI **02** 22:01:19.5, 42.08N×143.03E, h91^{km}, mB5.0, mb4.5*

*SKHL **02** 22:01:20.3±0.5, 42.13N×143.06E, h33^{km}, mb5.3/1*

*JMA **02** 22:01:21.0±0.1, 42.24N×142.92E, h54^{km}±1^{km}, M4.1 Broadband fault plane solution: P waves. NP1:φ$_s$218°, δ11°, λ113°. NP2:φ$_s$14°, δ80°, λ86°. Principal axes: T Plg55°, Azm279°; N Plg4°, Azm15°; P Plg35°, Azm108°;*

JMA Felt II J1.

*NEIC **02** 22:01:21.4±1.0, 42.38N×142.86E, h64^{km}±9^{km}, mb4.5/13, MW4.3(NIED) Error ellipse: s-maj=11.7km s-min=8.1km az=111.0*

NEIC Recorded [2 JMA] in the Monbetsu-Shizunai area and [1 JMA] in the Chitose and Obihiro areas.

*IDC **02** 22:01:22.6±2.1, 42.24N×142.83E, h80^{km}±16^{km}, mb3.9/17, mb1 4.1/18, mb1mx4.0/24, MS3.3/5, Ms1 3.3/5, ms1mx3.2/23, Error ellipse: s-maj=19.8km s-min=16.3km az=81.0*

ISC 02 22:01:19.3±0.3**, 42.18N**±0.03×**142.91E**±0.04**, h67**^{km}±2^{km}**, n101, σ1^{s}06**/115**, mb4.4**/43**, 13C-7D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.15**	**311**	⇑P	**P**	**22 01 29.2**	**-0.1**
JNBK				*e*S	**S**	**22 01 36.0**	**-0.7**
JEM	**Erimo**	**0.25**	**132**	⇑P	**P**	**22 01 30.4**	**+0.5**
JEM				*e*S	**S**	**22 01 37.5**	**-0.2**
JCH	**Churui**	**0.55**	**38**	⇑P	**P**	**22 01 32.6**	**+0.1**
JCH				*e*S	**S**	**22 01 40.8**	**-1.3**
JBT2	**Biratori 2**	**0.72**	**326**	⇓P	**P**	**22 01 34.5**	**+0.2**
JBT2				*e*S	**S**	**22 01 45.6**	**+0.1**
JOB	**Onbets**	**0.99**	**43**	⇑P	**P**	**22 01 39.1**	**+1.3**
JOB				*e*S	**S**	**22 01 52.5**	**+0.9**
JFR	**Furan**	**1.01**	**347**	⇓P	**P**	**22 01 37.7**	**-0.3**
JFR				*e*S	**S**	**22 01 51.1**	**-0.8**
JEW	**Eniwo**	**1.26**	**302**	⇓P	**P**	**22 01 42.2**	**+0.8**
JEW				*e*S	**S**	**22 01 57.7**	**-0.1**
JAR	**Ashorobuto**	**1.28**	**29**	⇑P	**P**	**22 01 41.9**	**+0.2**
JAR				*e*S	**S**	**22 01 58.3**	**0.0**
JAB	**Ashibetsu**	**1.41**	**339**	⇓P	**P**	**22 01 43.9**	**+0.3**
JNB	**Noboribetsu**	**1.41**	**282**	⇓P	**P**	**22 01 43.3**	**-0.3**
JNB				*e*S	**S**	**22 02 00.8**	**-0.7**
JKB	**Kayabe**	**1.43**	**259**	⇓P	**P**	**22 01 44.1**	**+0.4**
JKB				*e*S	**S**	**22 02 01.5**	**-0.3**
ASAJ	**Asahikawa**	**1.95**	**353**	P	**P**	**22 01 52.1**	**+1.4**
	137nm,0.3s,baz=255,slow=7.0,SNR=269						
ASAJ				S	**S**	**22 02 16.4**	**+2.4**
YUK	**Yuzh-Kuril'sk**	**2.85**	**48**	*e*P	**P**	**22 02 03.6**	**+0.1**
YUK				AMB	AMB	22 02 05.6	
	210nm,0.2s						
YUK				AMB	AMB	22 02 05.6	
	90nm,0.2s						
YUK				AMB	AMB	22 02 05.6	
	360nm,0.3s						
YUK				sP		22 02 18.5	
YUK				*i* S	**S**	**22 02 35.7**	**-1.0**
YUK				A		22 02 48.5	
	3μm,0.9s						
YUK				A		22 02 48.5	
	3μm,0.9s						
YUK				A		22 02 48.5	
	950nm,0.4s						
YUK				A		22 02 48.5	
	940nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**2.85**	**48**	*e*PN	**P**	**22 02 03.6**	**+0.1**
YUK				*i* S	**S**	**22 02 35.7**	**-1.0**
YUK				pmax	pmax		
	comp=Z,360nm,0.3s						
YUK				pmax	pmax		
	comp=N,210nm,0.2s						
YUK				pmax	pmax		
	comp=E,90nm,0.2s						
YUK				smax			
	comp=E,940nm,0.4s						
YUK				smax			
	comp=N,950nm,0.5s						
YUK				smax			
	comp=N,3μm,0.8s						
YUK				smax			
	comp=E,3μm,1.0s						
KUR	**Kuril'sk**	**4.71**	**48**	*e*P	**P**	**22 02 20.0**	**-10**
KUR				*e*S	**S**	**22 03 20.0**	**-3.5**
KUR				A		22 03 40.0	
	comp=E,256nm,0.9s						
KUR				A		22 03 40.0	
	comp=E,284nm,0.9s						
YSS	**Yuzh-Sakhalins**	**4.77**	**359**	⇑*i*P	**P**	**22 02 31.9**	**+1.5**
YSS				*e*S	**S**	**22 03 26.0**	**+1.1**
YSS				A		22 03 30.0	
	comp=E,50nm,1.0s						
YSS	**Yuzh-Sakhalins**	**4.77**	**359**	*e*Pn	**P**	**22 02 27.2**	**-3.2**
MAJO	**Matsushiro**	**6.71**	**214**	*e*Pn	**P**	**22 03 00.6**	**+3.4**
MAT	**Matsushiro**	**6.71**	**214**	P	**P**	**22 02 58.3**	**+1.0**
MAT				S	**S**	**22 04 18.1**	**+5.2**
JHJ	**Hachijo jima 2**	**9.38**	**196**	P	**P**	**22 03 31.4**	**-2.5**
	comp=E,17nm,0.3s,baz=64,slow=20,SNR=3.3						
JHJ				S	**S**	**22 05 09.1**	**-10**
	comp=E,26nm,0.3s,baz=251,slow=21,SNR=3.3						
MDJ	**Mudanjiang**	**9.99**	**289**	*e*Pn	**P**	**22 03 44.1**	**+1.9**
CN2	**Changchun**	**12.89**	**283**	*e*P	**P**	**22 04 21.2**	**+0.1**
JNU	**Nakatsue**	**13.13**	**230**	LR	LR	22 09 30.5	
	comp=E,80nm,21.4s,baz=247,slow=37						
HIA	**Hailar**	**17.61**	**302**	*e*P	**P**	**22 05 20.8**	**-0.7**
	comp=E,6.7nm,0.8s						
MA2	**Magadan**	**18.08**	**13**	P	**P**	**22 05 24.3**	**-2.9**
MA2				pmax	pmax		
	comp=Z,30nm,1.2s						
BJI	**Beijing**	**20.23**	**273**	P	**P**	**22 05 48.6**	**-2.6**
BJI				AMB	AMB		
	comp=Z,9.0nm,1.0s						
BJI				LR	LR		
	comp=N,182nm,15.4s						
BJI				LR	LR		
	comp=E,90nm,15.4s						
BJI				LR	LR		
	comp=Z,85nm,29.1s						
BJT	**Baijiatuau**	**20.24**	**273**	*e*P	**P**	**22 05 48.4**	**-2.9**
	comp=Z,11nm,0.8s						
YAK	**Yakutsk**	**21.39**	**343**	*e*P	**P**	**22 05 59.9**	**-2.9**
YAK				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.3						
HHC	**Hu-ho-hao-te**	**23.44**	**277**	*e*P	**P**	**22 06 21.6**	**-1.4**
HHC				AP		22 06 41.7	
HHC				PP	PP	22 06 54.8	-2.0
HHC				S	**S**	**22 10 24.1**	**-3.9**
HHC				PCS		22 13 48.5	
HHC				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.4						
HHC				LR	LR		
	comp=N,109nm,16.6s						
HHC				LR	LR		
	comp=E,84nm,16.7s						
HHC				LR	LR		
	comp=Z,90nm,14.3s						
SONM	**Songino Array**	**26.25**	**295**	P	**P**	**22 06 49.9**	**+0.2**
	comp=Z,6.5nm,0.7s,mb4.2,baz=90,slow=8.6,SNR=15						
XAN	**Xi'an**	**27.81**	**264**	P	**P**	**22 07 03.9**	**-0.2**
XAN				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.0						
ZAK	**Zakamensk**	**28.30**	**301**	⇑*i*P	**P**	**22 07 08.1**	**-0.3**
ZAK				*e*		22 11 54.4	
ENH	**Enshi**	**29.28**	**257**	P	**P**	**22 07 11.7**	**-5.5**
	comp=Z,5.2nm,0.6s,mb4.3						
GTA	**Gaotai**	**32.49**	**280**	P	**P**	**22 07 45.9**	**+0.5**
GTA				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.2						
GTA				AMB	AMB		
	comp=Z,39nm,5.7s						
GTA				LR	LR		
	comp=N,36nm,13.3s						
GTA				LR	LR		
	comp=E,40nm,14.1s						
GTA				LR	LR		
	comp=Z,35nm,17.1s						
KMI	**Kunming**	**37.12**	**256**	*e*P	**P**	**22 08 25.5**	**+0.4**
KMI				AMB	AMB		
	comp=Z,8.0nm,1.1s,mb4.6						
ZAL	**Zalesovo**	**39.49**	**308**	P	**P**	**22 08 44.9**	**+0.4**
	comp=Z,9.1nm,1.0s,mb4.6,baz=294,slow=9.0,SNR=44						
ZAL	**Zalesovo**	**39.49**	**308**	P	**P**	**22 08 44.9**	**+0.4**
ZAL				pmax	pmax		
	comp=Z,9.0nm,1.0s						
WMQ	**Urumqi**	**39.78**	**292**	*e*P	**P**	**22 08 47.5**	**+0.6**
WMQ				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.7						
WMQ				LR	LR		
	comp=E,42nm,22.0s						
WMQ				LR	LR		
	comp=Z,41nm,21.0s						
NVS	**Novosibirsk**	**40.29**	**309**	*e*P	**P**	**22 08 50.2**	**-0.8**
MKAR	**Makanchi Array**	**42.55**	**298**	P	**P**	**22 09 09.9**	**+0.3**
	comp=Z,6.9nm,0.7s,mb4.5,baz=81,slow=9.9,SNR=43						
MKAR				LR	LR	22 26 34.6	
	comp=Z,26nm,19.7s,baz=118,slow=36						
MKAR	**Makanchi Array**	**42.55**	**298**	P	**P**	**22 09 09.9**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,7.0nm,0.7s						
MKAR				MLR	MLR		
	comp=Z,26nm,19.7s						
MKAR	**Makanchi Array**	**42.55**	**298**	P	**P**	**22 09 09.9**	**+0.3**
MKAR				LR	LR	22 26 34.6	
LSA	**Lhasa**	**43.11**	**271**	*e*P	**P**	**22 09 16.8**	**+2.3**
	comp=Z,4.1nm,0.7s,mb4.3						
KURK	**Kurchatov**	**43.83**	**304**	P	**P**	**22 09 20.0**	**0.0**
	comp=Z,8.4nm,0.8s,mb4.5,baz=80,slow=7.2,SNR=37						
KURK	**Kurchatov**	**43.83**	**304**	Pn	**P**	**22 09 20.6**	**+0.6**
	comp=Z,130nm,0.6s,SNR=28						
KURK	**Kurchatov**	**43.83**	**304**	*e*P	**P**	**22 09 19.8**	**-0.2**
COLA	**College**	**44.16**	**35**	*e*P	**P**	**22 09 24.3**	**+1.8**
VOSK	**Vostochnaya**	**47.84**	**309**	⇑P	**P**	**22 09 51.5**	**-0.2**
	comp=Z,7.1nm,1.2s,mb4.3						
BVA0	**Borovoye Array**	**48.09**	**309**	P	**P**	**22 09 53.8**	**+0.1**
	comp=Z,0.3nm,0.3s,mb3.5,baz=82,slow=10,SNR=60						
BVA0	**Borovoye Array**	**48.09**	**309**	P	**P**	**22 09 53.8**	**+0.1**
BVAR	**Borovoye Array**	**48.09**	**309**	P	**P**	**22 09 53.7**	**0.0**
	comp=Z,3.9nm,0.3s,mb4.7,baz=80,slow=9.6,SNR=67						
BVAR				PcP	PcP	22 11 21.0	+0.2
	comp=Z,5.6nm,1.0s,baz=90,slow=4.4,SNR=4.4						
BRVK	**Borovoye**	**48.13**	**309**	*e*P	**P**	**22 09 53.9**	**-0.1**
	comp=Z,11nm,1.2s,mb4.5						
KKN	**Kakani**	**48.48**	**272**	*e*P	**P**	**22 09 57.4**	**+0.3**
	comp=Z,13nm,0.6s,mb5.0						
PKI	**Pulchoki**	**48.51**	**272**	*e*P	**P**	**22 09 57.5**	**+0.2**
	comp=Z,12nm,0.7s,mb4.9						
DMN	**Daman**	**48.71**	**272**	*e*P	**P**	**22 09 59.0**	**+0.2**
	comp=Z,11nm,0.6s,mb4.9						
GKN	**Gorkha**	**48.84**	**273**	*e*P	**P**	**22 10 00.8**	**+0.9**
	comp=Z,11nm,0.5s,mb5.1						
ZRNK	**Zerenda**	**48.90**	**310**	⇓P	**P**	**22 09 59.9**	**0.0**
	comp=Z,6.1nm,1.0s,mb4.5						
ZRNK	**Zerenda**	**48.90**	**310**	*e*Pn	**P**	**22 09 59.8**	**-0.2**
	comp=Z,6.2nm,0.8s,mb4.6						
ZRNK				*e*		22 10 28.4	
INK	**Inuvik**	**49.31**	**29**	P	**P**	**22 10 03.1**	**+0.2**
	comp=Z,1.5nm,0.4s,mb4.2,baz=302,slow=8.7,SNR=8.3						
INK	**Inuvik**	**49.31**	**29**	P	**P**	**22 10 03.1**	**+0.2**
INK				pmax	pmax		
	comp=Z,2.0nm,0.4s						
INK	**Inuvik**	**49.31**	**29**	*e*P	**P**	**22 10 02.8**	**-0.1**
	comp=Z,2.6nm,0.7s,mb4.3						
KOLN	**Koldanda**	**49.74**	**273**	*e*P	**P**	**22 10 07.3**	**+0.5**
	comp=Z,7.2nm,0.3s,mb5.1						
ARU	**Arti**	**53.35**	**316**	⇑*i*P	**P**	**22 10 32.8**	**-0.7**
ARU				*i*		22 11 39.8	
ARU				*i*		22 12 29.7	
ARU				*e*PPP	PPP	22 13 40.6	-3.6
ARU				*e*S	**S**	**22 17 48.3**	**-10**
ARU				*e*SS	SS	22 21 39.0	+0.5
ARU				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.9						
ARU	**Arti**	**53.35**	**316**	*e*P	**P**	**22 10 32.7**	**-0.8**
	comp=Z,13nm,1.0s,mb4.9						
RES	**Resolute Bay**	**57.34**	**15**	*e*P	**P**	**22 11 00.7**	**-1.5**
	comp=Z,4.8nm,0.5s,mb4.8						
KEV	**Kevo**	**59.06**	**339**	*e*P	**P**	**22 11 11.6**	**-2.5**
KEV				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.3						
KEV	**Kevo**	**59.06**	**339**	*e*P	**P**	**22 11 11.6**	**-2.5**
	comp=Z,1.0nm,0.3s,mb4.3						
ARCES	**ARCESS Array B**	**59.60**	**339**	P	**P**	**22 11 16.6**	**-1.4**
	comp=Z,0.9nm,0.5s,mb4.1,baz=48,slow=8.0,SNR=15						
ARCES	**ARCESS Array B**	**59.60**	**339**	P	**P**	**22 11 16.6**	**-1.3**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRA	**Warramunga Arr**	**62.31**	**189**	P	**P**	**22 11 36.2**	**-0.7**
	comp=Z,0.4nm,0.5s,mb3.7,baz=6.1,slow=6.9,SNR=15						
KAF	**Kangasniemi**	**64.28**	**332**	*e*P	**P**	**22 11 47.2**	**-1.9**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.2						
KAF	**Kangasniemi**	**64.28**	**332**	*e*P	**P**	**22 11 47.2**	**-1.9**
	comp=Z,1.5nm,0.5s,mb4.1						
FINES	**FINESS Array B**	**64.82**	**332**	P	**P**	**22 11 51.6**	**-1.0**
	comp=Z,3.6nm,0.4s,mb4.6,baz=72,slow=7.4,SNR=89						
FINES				LR	LR	22 40 13.3	
	comp=Z,43nm,20.5s,baz=107,slow=36						
FINES	**FINESS Array B**	**64.82**	**332**	P	**P**	**22 11 51.7**	**-0.9**
FINES				pmax	pmax		
	comp=Z,4.0nm,0.4s						
FINES				MLR	MLR		
	comp=Z,43nm,20.5s						
ASAR	**Alice Springs**	**66.04**	**189**	P	**P**	**22 12 01.9**	**+0.8**
	comp=Z,0.3nm,0.5s,baz=5.2,slow=6.3,SNR=5.1						
NB2	**NORSAR Subarra**	**69.89**	**337**	P	**P**	**22 12 23.2**	**-1.2**
	comp=Z,1.3nm,0.5s,mb4.0,baz=35,slow=6.2						
NOA	**NORSAR Array B**	**69.89**	**337**	P	**P**	**22 12 23.7**	**-0.7**
	comp=Z,5.0nm,1.1s,mb4.3,baz=37,slow=6.1,SNR=10.0						
NOA				LR	LR	22 45 05.7	
	comp=Z,21nm,18.8s,baz=60,slow=38						
NOA	**NORSAR Array B**	**69.89**	**337**	P	**P**	**22 12 23.7**	**-0.7**
NOA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
NOA				MLR	MLR		
	comp=Z,21nm,18.8s						
NOA	**NORSAR Array B**	**69.89**	**337**	P	**P**	**22 12 23.7**	**-0.7**
NOA				LR	LR	22 45 05.7	
SOC	**Sochi**	**70.35**	**311**	*e*P	**P**	**22 12 30.1**	**+2.6**
SOC				*e*	pP	22 12 48.0	+2.3
SOC				*e*		22 15 05.2	
SOC				*e*PPP	PPP	22 16 39.2	-7.0
SOC				*e*SS	SS	22 26 02.6	-4.0
SOC				*e*SSS	SSS	22 29 14.4	+1.9
SOC				pmax	pmax		
	comp=Z,16nm,0.8s,mb4.9						
SOC				pmax	pmax		
	comp=N,12nm,0.7s						
SOC				pmax	pmax		
	comp=E,18nm,0.9s						
AKASG	**Malin Array Be**	**70.95**	**322**	P	**P**	**22 12 30.4**	**-0.5**
	comp=E,0.9nm,0.4s,mb4.0,baz=42,slow=5.9,SNR=16						
AKASG	**Malin Array Be**	**70.95**	**322**	P	**P**	**22 12 30.4**	**-0.6**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
PDAR	**Pinedale Array**	**73.28**	**47**	P	**P**	**22 12 45.5**	**+0.6**
	comp=Z,0.5nm,0.6s,mb3.5,SNR=4.4						
UMR	**Umm Al-Rimmam**	**74.35**	**296**	*e*P	**P**	**22 12 51.7**	**+0.3**
UMR				AMb	AMB	22 12 52.7	
	comp=Z,18nm,0.5s,mb5.1						
QRN	**Al-Qurain**	**74.73**	**295**	*e*P	**P**	**22 12 54.0**	**+0.3**
QRN				AMb	AMB	22 12 54.5	
	comp=Z,25nm,0.4s,mb5.2						
RDF	**Al-Radifah**	**74.86**	**295**	*e*P	**P**	**22 12 54.7**	**+0.3**
RDF				AMb	AMB	22 12 55.6	
	comp=Z,18nm,0.5s,mb5.0						
RST	**Umm Al-Ruwaisa**	**74.87**	**296**	*e*P	**P**	**22 12 53.7**	**-0.6**
RST				AMb	AMB	22 12 55.2	
	comp=Z,14nm,0.6s,mb4.9						
BRTR	**Keskin Array B**	**76.31**	**311**	P	**P**	**22 13 02.9**	**+0.5**
	comp=Z,1.9nm,1.0s,mb3.8,baz=83,slow=3.7,SNR=6.3						
BRTR				LR	LR	22 48 19.9	
	comp=Z,24nm,18.9s,baz=290,slow=37						
BRTR	**Keskin Array B**	**76.31**	**311**	P	**P**	**22 13 02.9**	**+0.5**
BRTR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
BRTR				MLR	MLR		
	comp=Z,24nm,18.9s						
CLL	**Collm**	**77.20**	**330**	P	**P**	**22 13 06.0**	**-1.1**
PRU	**Pruhonice**	**77.69**	**329**	*e*P	**P**	**22 13 11.4**	**+1.6**
KHC	**Kasperske Hory**	**78.75**	**329**	*e*P	**P**	**22 13 16.5**	**+0.8**
GERES	**GERESS Array B**	**78.94**	**329**	P	**P**	**22 13 16.7**	**0.0**
	comp=Z,0.5nm,0.6s,mb3.6,baz=45,slow=5.7,SNR=7.3						
GERES	**GERESS Array B**	**78.94**	**329**	P	**P**	**22 13 16.7**	**0.0**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
DAVOX	**Davos**	**82.10**	**330**	P	**P**	**22 13 33.7**	**+0.1**
	comp=Z,0.9nm,0.5s,mb3.9,baz=337,slow=7.7,SNR=3.1						
IDI	**Anoyia**	**84.31**	**313**	P	**P**	**22 13 45.1**	**+0.1**
	comp=Z,8.8nm,0.9s,mb4.6,baz=27,slow=6.8,SNR=4.7						
TXAR	**Lajitas Array**	**86.10**	**53**	P	**P**	**22 13 56.0**	**+2.2**
	comp=Z,0.4nm,0.5s,mb3.6,baz=293,slow=4.1,SNR=6.0						
SNAA	**Sanae**	**146.00**	**199**	⇑*i*P	PKPdf	22 20 47.8	-1.3
SNAA	**Sanae**	**146.00**	**199**	⇑*i*	PKPdf	22 20 51.0	+1.9
VNA2	**Neumayer--Watz**	**147.57**	**198**	⇑*i*P	PKPdf	22 20 59.9	+8.1
VNA1	**Neumayer--Stat**	**147.97**	**198**	⇑*i*P	PKPdf	22 20 59.5	+7.1

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*NNC **02** 22:07:10.8±24.0, 41.95N×74.51E, mpv4.0, Error ellipse: s-maj=292.5km s-min=87.8km az=11.0*

*IDC **02** 22:07:10.8±2.7, 40.08N×77.19E, mb3.7/4, mb1 3.8/7, mb1mx3.6/20, ML3.3/3, MS3.1/1, Ms1 3.1/1, ms1mx2.3/24, Error ellipse: s-maj=42.6km s-min=24.4km az=160.0*

*BJI **02** 22:07:11.2, 40.66N×77.13E, h15^{km}, ML4.3, Ms3.7*

*MOS **02** 22:07:15.7±0.4, 40.36N×77.07E, h33^{km}, mb4.3/2, Error ellipse: s-maj=53.2km s-min=19.2km az=87.5*

*NEIC **02** 22:07:37.4±1.1, 44.01N×75.07E, h10^{km}, mb4.9/1, Error ellipse: s-maj=16.9km s-min=14.1km az=80.0*

ISC 02 22:07:16.0±1.1**, 40.31N**±0.07×**77.5E**±0.1**, h50**^{km}±12^{km}**, n26, σ1^{s}02**/26**, mb3.6**/4**, 2D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.39**	**236**	⇓*i*PG	**P**	**22 07 38.3**	**-1.2**
KSH				SG	**S**	**22 07 57.8**	**+0.8**
KSH				Smax			
	comp=N,2μm,0.4s						
KSH				Smax			
	comp=E,3μm,0.6s						
ULHL	**Ulahol**	**2.14**	**335**	P	**P**	**22 07 49.5**	**-0.5**
	SNR=61						
KZA	**Kyzart**	**2.42**	**317**	P	**P**	**22 07 54.1**	**0.0**
	SNR=53						
UCH	**Uchtor**	**2.93**	**312**	P	**P**	**22 08 01.4**	**+0.2**
	SNR=57						
TKM2	**Tokmak 2**	**2.96**	**332**	P	**P**	**22 08 02.5**	**+0.9**
	SNR=21						
AAA	**Alma-Ata**	**2.98**	**353**	*e*PN	**P**	**22 08 00.0**	**-2.0**
AAA				pmax	pmax		
	comp=Z,300nm,0.5s						
KBK	**Karagaybulak**	**3.00**	**322**	P	**P**	**22 08 03.2**	**+0.8**
	SNR=64						
AAK	**Ala-Archa**	**3.21**	**317**	P	**P**	**22 08 05.0**	**-0.3**
	SNR=66						
AAK	**Ala-Archa**	**3.21**	**317**	*e*Sn	**S**	**22 08 43.4**	**+0.7**
AAK	**Ala-Archa**	**3.21**	**317**	*e*Pn	**P**	**22 08 03.0**	**-2.2**
CHMS	**Chumysh**	**3.36**	**324**	P	**P**	**22 08 07.8**	**+0.4**
	SNR=20						
AML	**Almayashu**	**3.37**	**304**	P	**P**	**22 07 58.9**	**-8.5**
	SNR=6.8						
EKS2	**Erkin-Say**	**3.62**	**312**	P	**P**	**22 08 11.6**	**+0.5**
	SNR=20						
USP	**Ospenovka**	**3.69**	**324**	P	**P**	**22 08 12.4**	**+0.4**
	SNR=16						
MK31	**Makanchi Array**	**7.37**	**27**	Pn	**P**	**22 09 03.3**	**-0.2**
	comp=Z,4.3nm,0.5s,baz=199,slow=14,SNR=55						
MK31				⇓Lg		22 11 05.2	
	comp=Z,31nm,0.9s,baz=204,slow=27,SNR=4.5						
MKAR	**Makanchi Array**	**7.37**	**27**	Pn	**P**	**22 09 03.5**	**0.0**
	comp=Z,0.9nm,0.3s,baz=198,slow=14,SNR=51						
MKAR				Lg		22 11 05.0	
	comp=Z,1.4nm,0.3s,baz=208,slow=29,SNR=3.8						
MKAR	**Makanchi Array**	**7.37**	**27**	P	**P**	**22 09 03.5**	**0.0**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BVAR	**Borovoye Array**	**13.60**	**342**	Pn	**P**	**22 10 25.3**	**-2.5**
	comp=Z,0.4nm,0.3s,baz=127,slow=7.4,SNR=5.2						
BVAR				Lg		22 14 10.8	
	comp=Z,0.2nm,0.3s,baz=145,slow=18,SNR=5.1						
ZAL	**Zalesovo**	**14.50**	**18**	Pn	**P**	**22 10 41.1**	**+1.4**
	comp=Z,0.2nm,0.3s,baz=108,slow=11,SNR=1.9						
ZAL				Lg		22 14 57.4	
	comp=Z,0.2nm,0.3s,baz=143,slow=17,SNR=4.2						
ZAL				LR	LR	22 17 26.6	
	comp=Z,66nm,19.2s,baz=263,slow=42						
SONM	**Songino Array**	**22.02**	**60**	P	**P**	**22 12 10.4**	**+3.0**
	comp=Z,0.6nm,0.6s,mb3.2,baz=278,slow=10,SNR=3.0						
FINES	**FINESS Array B**	**37.39**	**322**	P	**P**	**22 14 24.6**	**-0.8**
	comp=Z,0.9nm,0.5s,mb3.9,baz=117,slow=13,SNR=5.2						
FINES	**FINESS Array B**	**37.39**	**322**	P	**P**	**22 14 24.6**	**-0.8**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MDJ	**Mudanjiang**	**38.16**	**66**	P	Px	22 15 00.2	
	comp=Z,15nm,0.6s						
ARCES	**ARCESS Array B**	**39.73**	**334**	P	**P**	**22 14 44.9**	**+0.1**
	comp=Z,3.4nm,1.0s,mb4.0,baz=106,slow=8.8,SNR=6.1						
ARCES	**ARCESS Array B**	**39.73**	**334**	P	**P**	**22 14 44.9**	**+0.1**
ARCES				pmax	pmax		
	comp=Z,3.0nm,1.0s						
GERES	**GERESS Array B**	**44.99**	**303**	P	**P**	**22 15 27.7**	**-0.2**
	comp=Z,0.4nm,0.8s,mb3.3,baz=79,slow=6.8,SNR=4.1						

GUC 02 22:16:47.6±0.8**, 33.23S**×**70.24W, h5**^{km}±2^{km}**, MD3.6,**

ML2.3,4C,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FCH	**Farellones**	0.11	205	⇑iP	Pg	22 16 50.8	+0.9
FCH				iS	Sg	22 16 53.3	+1.9
FCH				AMP		22 16 54.7	
	comp=E,691nm,0.2s						
CLCH	**Cerro Calan**	0.30	237	⇑iP	Pg	22 16 53.9	+0.3
CLCH				iS	Sg	22 16 58.8	+1.1
CLCH				AMP		22 17 02.0	
	comp=E,2μm,0.7s						
DSCH	**Colegio Aleman**	0.33	239	eP	Pg	22 16 54.1	0.0
DSCH				iS	Sg	22 16 59.5	+1.0
DSCH				AMP		22 17 03.2	
	comp=N,1μm,0.5s						
PCH	**Pirque**	0.45	211	eP	Pg	22 16 57.0	+0.3
PCH				iS	Sg	22 17 04.1	+1.3
LMEL	**Las Melosas**	0.62	177	⇑iP	Pg	22 17 00.0	+0.1
LMEL				iS	Sg	22 17 09.9	+1.8
LMEL				AMP		22 17 14.7	
	comp=N,109nm,0.5s						
CHCH	**Chadas Angostu**	0.78	206	iP	Pg	22 17 02.9	-0.3
CHCH				iS	Sg	22 17 14.6	+0.9
CACH	**El Canelo**	0.93	199	eP	Pb	22 17 05.8	-0.1
CICH	**Cipreses**	1.10	188	⇑iP	Pb	22 17 08.9	+0.2
CICH				iS	Sb	22 17 24.2	+1.0
SFDO	**San Fernando**	1.52	205	iP	Pn	22 17 15.0	-0.6

IDC ***02*** *22:36:55.2±1.8, 1.44N×126.90E, mb3.6/4, mb1 3.8/5, mb1mx3.7/14, ML3.8/1, Error ellipse: s-maj=121.0km s-min=23.2km az=68.0*

ISC 02 22:36:58.1±1.6**, 1.4N**±0.3×**126.9E**±0.6**, h33^{km}, n5, σ0^{s}.99**/5**, mb3.6**/4**, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	19.41	183	P	P	22 41 24.1	-0.3
	0.2nm,0.3s,baz=15,slow=8.7,SNR=6.0						
WRA	**Warramunga Arr**	22.44	161	P	P	22 41 55.8	+0.2
	0.6nm,0.3s,mb3.5,baz=334,slow=9.7,SNR=18						
ASAR	**Alice Springs**	25.84	165	P	P	22 42 29.6	+1.1
	0.6nm,0.4s,mb3.5,baz=348,slow=13,SNR=8.0						
STKA	**Stephens Creek**	35.92	158	P	P	22 43 56.5	-1.1
	0.4nm,0.3s,mb3.8,baz=315,slow=2.9,SNR=4.7						
MKAR	**Makanchi Array**	59.54	326	P	P	22 47 00.8	0.0
	0.2nm,0.4s,mb3.5,baz=110,slow=6.5,SNR=6.5						

DJA 02 22:38:18.5±1.0**, 9.54S×115.81E, h7^{km}±6^{km}, MD4.5**/1**, ML4.1**/4**, 1C-3D, Error ellipse: s-maj=18.9km s-min=13.6km az=151.0, South of Bali**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RATI	**Rata**	0.86	341	⇓ePg	Pg	22 38 33.8	-1.9
	626nm,0.2s						
RATI				eSg	Sg	22 38 44.9	-2.3
INGI	**Ingas**	0.97	317	⇑iPg	Pg	22 38 35.2	-2.8
	316nm,0.2s						
INGI				eSg	Sg	22 38 47.2	-3.8
KEDI	**Kedomdong**	1.09	16	⇓ePn	Pn	22 38 37.1	-3.0
	444nm,0.2s						
KEDI				eSn	Sn	22 38 51.0	-4.6
KELI	**Kelakatan**	1.85	315	⇓ePn	Pn	22 38 48.5	-2.6
	53nm,0.2s						

IDC ***02*** *22:45:23.1±12.0, 15.97S×176.04W, h312^{km}±118^{km}, mb3.9/7, mb1 4.1/7, mb1mx3.9/12, Error ellipse: s-maj=95.2km s-min=32.3km az=160.0*

NEIC ***02*** *22:45:23.3±2.2, 16.15S×175.91W, h324^{km}±22^{km}, mb4.5/14, Error ellipse: s-maj=17.0km s-min=7.3km az=165.0*

ISC 02 22:45:26.9±1.6**, 16.3S**±0.2×**175.8W**±0.1**, h385^{km}**±16^{km}**, n42, σ0^{s}.92**/25**, mb4.3**/18**, 2C-2D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	6.04	255	Pn	P	22 47 00.6	+0.6
	2μm,0.9s,SNR=63						
RAR	**Rarotonga**	15.97	110	P	P	22 48 51.0	-1.4
CTA	**Charters Tower**	36.18	258	P	P	22 51 55.5	-0.6
	7.9nm,1.1s,mb4.0,baz=41,slow=8.5,SNR=3.5						
CTAO	**Charters Tower**	36.18	258	eP	P	22 51 53.6	-2.5
	11nm,1.0s,mb4.2						
CNB	**Canberra Magne**	36.37	232	eP	P	22 51 58.5	+1.0
	21nm,0.6s,mb4.6						
PMG	**Port Moresby**	36.69	276	eP	P	22 51 59.0	-1.3
	40nm,1.1s,mb4.7						
TOO	**Toolangi**	40.11	230	⇑iP	P	22 52 29.4	+1.2
	15nm,1.0s,mb4.3						
STKA	**Stephens Creek**	41.58	240	⇓iP	P	22 52 40.9	+0.7
	6.2nm,0.9s,mb3.9						
STKA	**Stephens Creek**	41.58	240	P	P	22 52 41.0	+0.7
	7.0nm,0.7s,mb4.1,baz=75,slow=8.5,SNR=25						
WB2	**Warramunga Arr**	47.36	258	eP	P	22 53 25.4	-0.5
WRAB	**Tennant Creek**	47.37	258	eP	P	22 53 25.7	-0.2
	29nm,0.7s,mb4.7						
WRA	**Warramunga Arr**	47.38	258	P	P	22 53 25.9	-0.1
	12nm,0.5s,mb4.5,baz=91,slow=7.0,SNR=23						
ASAR	**Alice Springs**	47.62	253	P	P	22 53 27.9	+0.1
	30nm,0.5s,mb4.9,baz=86,slow=8.0,SNR=590						
ASPA	**Alice Springs**	47.62	253	⇓iP	P	22 53 27.8	-0.1
KAKA	**Kakadu**	50.15	267	⇑iP	P	22 53 46.9	-0.2
	28nm,0.6s,mb4.8						
FORT	**Forrest**	52.94	244	eP	P	22 54 06.5	-0.9
	59nm,0.6s,mb5.0						
FITZ	**Fitzroy Crossi**	55.75	259	eP	P	22 54 28.1	+0.5
	5.4nm,0.6s,mb4.0						
FITZ	**Fitzroy Crossi**	55.75	259	P	P	22 54 27.7	+0.1
	4.4nm,0.6s,mb4.0,baz=102,slow=4.0,SNR=11						
MBWA	**Marble Bar**	60.88	255	eP	P	22 55 02.1	-0.3
	16nm,1.0s,mb4.4						
KLBR	**Kellerberrin**	61.77	243	eP	P	22 55 08.2	+0.1
	13nm,0.6s,mb4.6						
NWAO	**Narrogin (SRO)**	62.16	241	P	P	22 55 11.3	+0.6
	16nm,1.1s,mb4.5						
SBA	**Scott Base**	62.20	184	eP	P	22 55 10.0	-0.3
	4.5nm,1.2s,mb3.9						
TXAR	**Lajitas Array**	83.04	57	P	P	22 57 14.9	+3.2
	0.5nm,0.5s,mb3.5,baz=211,slow=7.3,SNR=5.8						
COLA	**College**	83.67	12	P	P	22 57 13.4	-0.7
	11nm,0.9s,mb4.6						
PDAR	**Pinedale Array**	84.48	43	P	P	22 57 20.8	+2.1
	0.4nm,0.7s,mb3.3,baz=202,slow=3.2,SNR=3.9						
ARCES	**ARCESS Array B**	125.13	351	PKP	PKPdf	23 03 44.1	+2.5
	2.0nm,0.8s,slow=3.6,SNR=5.7						
FINES	**FINESS Array B**	132.26	346	PKP	PKPdf	23 03 58.9	+3.4
	0.6nm,0.7s,baz=50,slow=11,SNR=3.4						
KWP	**Kalwaria**	143.49	340	ePKPdf	PKPdf	23 04 16.5	+0.5
CLL	**Collm**	144.35	350	iPKIKP	PKPdf	23 04 19.3	+1.9
	logA/T=0.9						
UPC	**Upice**	144.55	347	ePKP	PKPdf	23 04 20.6	+2.8
DPC	**Dobruska-Polom**	144.63	347	ePKP	PKPdf	23 04 20.8	+2.9
OKC	**Ostrava-Krasne**	144.66	344	ePKP	PKPdf	23 04 20.2	+2.2
PVCC	**Panska Ves**	144.83	348	ePKP	PKPdf	23 04 21.2	+3.0
MORC	**Moravsky Berou**	144.88	345	ePKPdf	PKPdf	23 04 20.9	+2.6
MOX	**Moxa**	145.20	352	iP	PKPdf	23 04 22.1	+3.2
	logA/T=0.8						
MOX	**Moxa**	145.20	352	eP	PKPdf	23 04 22.1	+3.2
BRTR	**Keskin Array B**	145.31	318	PKP	PKPdf	23 04 23.4	+4.0
	3.1nm,0.7s,baz=95,slow=2.8,SNR=17						
PRU	**Pruhonice**	145.35	348	PKP	PKPdf	23 04 22.7	+3.5
	6.0nm,0.9s						
NKC	**Novy Kostel**	145.48	351	ePKP	PKPdf	23 04 23.2	+3.8
GRA1	**Grafenberg Arr**	146.19	352	ePKP	PKPdf	23 04 26.9	+6.3
KHC	**Kasperske Hory**	146.35	349	ePKP	PKPdf	23 04 26.6	+5.7
GERES	**GERESS Array B**	146.60	349	PKPbc	PKPbc	23 04 26.7	+3.6
	0.5nm,0.6s,baz=27,slow=3.0,SNR=8.2						

NEIC ***02*** *23:02:30.3, 36.54N×22.19E, h9^{km}, ML3.4(ATH), After ATH.*

ATH ***02*** *23:02:30.4, 36.54N×22.19E, h9^{km}±2^{km}, MD3.6/13, ML3.4*

THE ***02*** *23:02:32.1, 36.56N×22.24E, h10^{km}*

ISC 02 23:02:30.8±0.8**, 36.51N**±0.04×**22.16E**±0.05**, h9^{km}, n28, σ1^{s}.06**/42**, 1C, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VLI	**Veliai**	0.66	71	⇑iPB	Pb	23 02 42.5	-1.6
VLI				eSB	Sb	23 02 51.5	-1.6
ITM	**Ithomi**	0.69	345	ePB	Pb	23 02 43.8	-0.8
ITM				eSB	Sb	23 02 52.0	-2.0
KYTH	**Kithira**	0.75	108	ePB	Pb	23 02 44.5	-1.0
KYTH				eSB	Sb	23 02 53.4	-2.2
NAIG	**Nisos Aigina**	1.64	40	ePB	Pg	23 03 01.5	-2.1
NSAL	**Nisos Salamina**	1.74	36	ePN	Pg	23 03 02.5	-3.1
MKIT	**Kithairon Oros**	1.89	27	ePN	Pn	23 03 03.8	+0.2
ATH	**Athens Observa**	1.92	40	ePN	Pn	23 03 04.5	+0.5
VAM	**Vamos**	1.99	123	ePG	Pn	23 03 07.0	+1.9
PTL	**Penteli**	2.05	41	ePN	Pn	23 03 06.0	0.0
MPAR	**Parnis Oros**	2.07	37	ePN	Pn	23 03 06.5	+0.4
VLS	**Valsamata**	2.08	324	ePN	Pn	23 03 07.5	+1.2
EVR	**Evrytania**	2.42	354	ePg	Pn	23 03 14.5	+3.3
THR5	**Thira Island,**	2.58	91	ePn	Pn	23 03 13.6	+0.2
THR5				eSn	Sn	23 03 46.0	+0.8
THR4	**Thira Island,**	2.61	90	ePn	Pn	23 03 14.4	+0.4
THR4				eSn	Sn	23 03 45.8	-0.3
THR3	**Thira Island,**	2.62	91	ePn	Pn	23 03 14.8	+0.8
THR3				eSn	Sn	23 03 47.0	+0.7
THR6	**Thira Island,**	2.62	92	ePn	Pn	23 03 14.4	+0.4
THR6				eSn	Sn	23 03 47.5	+1.3
APE	**Apeiranthos**	2.77	77	ePN	Pn	23 03 17.0	+0.9
XOR	**Xorichti**	2.97	16	ePn	Pn	23 03 18.7	-0.3
XOR				eSn	Sn	23 03 56.1	+1.0
AOS	**Alonnisos**	2.99	27	ePn	Pn	23 03 18.6	-0.7
AOS				eSn	Sn	23 03 56.0	+0.4
MEV	**Metsovon**	3.35	348	ePn	Pn	23 03 25.3	+0.8
	comp=Z,1.5nm,0.4s						
MEV				eSn	Sn	23 04 06.0	+1.2
PAIG	**Paliouri**	3.62	19	ePn	Pn	23 03 27.8	-0.4
PAIG				eSn	Sn	23 04 12.4	+0.9
KEK	**Kerkira**	3.70	331	ePN	Pn	23 03 28.7	-0.7
KEK	**Kerkira**	3.70	331	ePn	Pn	23 03 28.5	-0.9
FNA	**Florina**	4.31	352	ePn	Pn	23 03 38.9	+0.8
SOH	**Sokhos**	4.41	12	ePn	Pn	23 03 38.9	-0.5
SOH				eSn	Sn	23 04 32.5	+1.0
KNT	**Kendrikon**	4.68	7	ePn	Pn	23 03 43.2	-0.2
KNT				eSn	Sn	23 04 38.7	+0.2
SRS	**Serrai**	4.74	13	ePn	Pn	23 03 44.0	-0.1
SRS				eSn	Sn	23 04 39.7	-0.1
TIP	**Timpagrande**	5.03	304	ePn	Pn	23 03 46.3	-2.0

MAN 02 23:10:58, 14.11N×122.45E, h9^{km}, mb4.0, ML2.8, MS2.4, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GQP	**Guinayangan**	0.20	181	⇑iP	Pg	23 11 02.9	+0.5
GQP				iS	Sg	23 11 07.2	+1.9
POLP	**Polilio Island**	0.79	321	eP	Pb	23 11 12.0	-1.4
POLP				eS	Sb	23 11 22.6	-1.4
BOAC	**Boac**	0.88	222	eP	Pb	23 11 15.5	+0.6
BOAC				eS	Sb	23 11 28.9	+2.4
ARP	**Angono**	1.33	289	⇓iP	Pb	23 11 22.0	-0.7
PVCP	**Virac**	1.73	107	eP	Pn	23 11 28.1	-0.4
BALP	**Baler**	1.83	333	eP	Pn	23 11 29.8	-0.1

JMA 02 23:20:18.0±0.4**, 28.33N×143.65E, M4.2, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	1.79	227	P	Pn	23 20 50.6	+0.2
CBIJ				S	Sn	23 21 13.7	-0.4
JHHJ	**Haha-jima-NKT**	2.14	218	P	Pn	23 20 55.8	+0.4
JHHJ				S	Sn	23 21 17.8	-5.3
JHJ2	**Mitsune**	5.80	326	P	Pn	23 21 47.6	+0.3
BSO1	**Boso 1**	6.70	341	P	Pn	23 22 01.1	+1.0

GUC 02 23:42:28.9±0.8**, 35.00S×70.47W, h4^{km}, MD3.7, ML2.2, 1C-1D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFDO	**San Fernando**	0.59	310	⇑iP	Pg	23 42 40.7	0.0
SFDO				iS	Sg	23 42 49.8	+1.2
CICH	**Cipreses**	0.68	3	⇓iP	Pg	23 42 42.4	0.0
CICH				iS	Sg	23 42 53.3	+1.9
CACH	**El Canelo**	0.88	353	iP	Pb	23 42 45.9	-0.6
CHCH	**Chadas Angostu**	1.07	352	iP	Pb	23 42 49.3	-0.3
LNV	**Longovilo**	1.30	323	iP	Pb	23 42 52.8	-0.8
LNV				iS	Sb	23 43 10.9	+0.5
RCDM	**Rinconada Maip**	1.53	349	eP	Pn	23 42 57.2	0.0
RCDM				iS	Sb	23 43 18.1	+1.0
RCDM				AMP		23 43 22.1	
	comp=E,70nm,0.4s						
FCH	**Farellones**	1.67	5	eP	Pn	23 42 59.8	+0.7
FCH				AMP		23 43 35.8	
	comp=N,42nm,0.5s						

BJI ***03*** *00:04:10.7, 40.77N×15.65E, h6^{km}, mb4.3, Ms4.2, Msz4.0*

LDG ***03*** *00:04:12.7±0.1, 40.76N×15.76E, h10^{km}, Ml3.8/2, ms3.5/7, Error ellipse: s-maj=4.1km s-min=3.6km az=50.0*

ZUR_RM ***03*** *00:04:12, 40.70N×15.68E, h12^{km}, Mw4.5/32, Moment Tensor Solution. s32 Moment tensor: Scale 10^{15}Nm; M_{rr}-4.47; $M_{\theta\theta}$0.16; $M_{\phi\phi}$4.31; $M_{r\theta}$1.07; $M_{\theta\phi}$-2.40; $M_{\phi r}$-3.48; Best double couple: $M_0$6.14×10^{15} NP1:ϕ_s341°, δ63°, λ-85°. NP2:ϕ_s149°, δ27°, λ-101°. Principal axes: T 6.589, Plg18°, Azm67°; N -.899, Plg5°, Azm158°; P -5.69, Plg71°, Azm263°;*

NEIC ***03*** *00:04:12.8, 40.70N×15.68E, h5^{km}, mb4.1/1, ML4.3(PDG), ML4.1(ROM), ML3.8(LDG), After ROM.*

ROM ***03*** *00:04:12.7±0.1, 40.70N×15.68E, h5^{km}, MD4.0/6, ML4.1, Error ellipse: s-maj=1.1km s-min=0.8km az=90.0*

PDG ***03*** *00:04:13.2±0.7, 40.74N×15.72E, h13^{km}±1^{km}*

THE ***03*** *00:04:14.2, 40.56N×15.88E, h6^{km}*

MOS ***03*** *00:04:14.2±1.1, 40.93N×15.76E, h17^{km}, mb4.6/5, Error ellipse: s-maj=8.1km s-min=5.0km az=69.7*

IDC ***03*** *00:04:17.3±3.7, 40.93N×15.67E, h27^{km}±26^{km}, mb4.0/9, mb1 4.1/21, mb1mx4.0/28, ML3.9/12, MS3.7/14, Ms1 3.7/14, ms1mx3.5/27, Error ellipse: s-maj=14.8km s-min=11.9km az=71.0*

ISC 03 00:04:12.2±0.1**, 40.76N**±0.01×**15.71E**±0.01**, h10^{km}, n311, σ1^{s}.23**/393**, mb4.7**/21**, MS3.7**/15**, 29C-13D, Southern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MRLC	**Muro Lucano**	0.17	270	ePG	Pg	00 04 16.8	+0.8
MRLC				SG	Sg	00 04 18.0	-0.5
MRLC	**Muro Lucano**	0.17	270	ePg	Pg	00 04 16.8	+0.8
MRLC				eSg	Sg	00 04 18.0	-0.6
SGO	**Sicignano**	0.36	238	⇑iPG	Pg	00 04 18.9	-0.8
SGO				SG	Sg	00 04 25.2	+0.6
SGO	**Sicignano**	0.36	238	⇑iPg	Pg	00 04 18.9	-0.7
SGO				eSg	Sg	00 04 25.2	+0.6
SLCN	**Sala Consilina**	0.37	189	⇑iPG	Pg	00 04 19.8	0.0
SLCN				SG	Sg	00 04 24.6	-0.3
SLCN	**Sala Consilina**	0.37	189	⇑iPg	Pg	00 04 19.8	0.0
SLCN				eSg	Sg	00 04 24.6	-0.3
FG4	**Candela**	0.40	339	ePG	Pg	00 04 22.5	+2.0
FG4				SG	Sg	00 04 29.9	+3.9
	1μm,0.5s						
FG4	**Candela**	0.40	339	ePg	Pg	00 04 22.5	+2.1
FG4				eSg	Sg	00 04 29.9	+3.9
CSSN	**Cassano Irpino**	0.53	282	ePG	Pg	00 04 23.3	+0.3
CSSN				SG	Sg	00 04 32.7	+2.6
CSSN	**Cassano Irpino**	0.53	282	ePg	Pg	00 04 23.3	+0.3
CSSN				eSg	Sg	00 04 32.7	+2.6
FG5	**Orsara di Pugl**	0.62	328	ePG	Pg	00 04 26.4	+1.6
FG5				SG	Sg	00 04 37.0	+3.8
FG5	**Orsara di Pugl**	0.62	328	ePg	Pg	00 04 26.4	+1.6
FG5				eSg	Sg	00 04 37.0	+3.8
MGR	**Morigerati**	0.63	191	⇑iPG	Pg	00 04 23.7	-1.2
MGR				SG	Sg	00 04 34.8	+1.5
MGR	**Morigerati**	0.63	191	⇑iPg	Pg	00 04 23.7	-1.2
MGR				eSg	Sg	00 04 34.8	+1.5
MRB1	**Monte Rocchett**	0.67	304	ePG	Pg	00 04 26.9	+1.2
IPES	**Pescosannita**	0.82	306	ePG	Pg	00 04 29.6	+1.0
ORI	**Oriolo Calabro**	0.89	141	ePG	Pg	00 04 31.0	+0.9
ORI	**Oriolo Calabro**	0.89	141	ePg	Pg	00 04 31.0	+0.9
FGMS	**Monte Sant'Ang**	0.97	11	ePG	Pg	00 04 32.5	+0.9
FGMS	**Monte Sant'Ang**	0.97	11	ePg	Pg	00 04 32.5	+0.9
ISOR	**Termini**	1.06	261	ePG	Pg	00 04 33.4	0.0
ISOR				SG	Sg	00 04 48.8	+1.2
FG2	**Serracapriola**	1.13	339	ePN	Pn	00 04 35.6	+1.6
BRT	**Bari-Castellan**	1.14	83	ePN	Pn	00 04 34.3	+0.1
BRT	**Bari-Castellan**	1.14	83	ePg	Pg	00 04 34.3	-0.8
SGG	**Gregorio Mates**	1.19	303	ePN	Pn	00 04 37.2	+2.3
SGG	**Gregorio Mates**	1.19	303	ePg	Pg	00 04 37.2	+1.2
IPOZ	**Pozzuoli**	1.21	274	ePN	Pn	00 04 36.3	+1.1
CPI2	**Carpinone**	1.34	309	ePN	Pn	00 04 38.0	+1.0
CPI2	**Carpinone**	1.34	309	ePg	Pg	00 04 38.0	-1.0
MSC	**Monte Massico**	1.39	289	ePN	Pn	00 04 38.4	+0.7
CII	**Carovilli**	1.44	313	ePN	Pn	00 04 40.5	+2.1
CII	**Carovilli**	1.44	313	ePg	Pg	00 04 40.5	-0.4
SDI	**San Donato**	1.72	304	ePN	Pn	00 04 43.4	+0.9
SDI	**San Donato**	1.72	304	ePg	Pg	00 04 43.4	-3.2
INTR	**Introdacqua**	1.85	313	ePN	Pn	00 04 47.8	+3.5
INTR	**Introdacqua**	1.85	313	ePg	Pg	00 04 47.8	-1.3
LCI	**Lecce**	1.88	102	ePN	Pn	00 04 45.3	+0.6
LCI	**Lecce**	1.88	102	ePg	Pg	00 04 45.3	-4.4
PTQR	**Pietraquaria**	2.15	307	ePN	Pn	00 04 50.0	+1.4
PTQR	**Pietraquaria**	2.15	307	ePg	Pg	00 04 50.0	-5.2
SLNA	**Salina**	2.29	197	ePN	Pn	00 04 50.2	-0.4
	1μm,0.5s						
SLNA	**Salina**	2.29	197	ePg	Pg	00 04 50.2	-7.8
AQU	**L'Aquila**	2.36	313	ePN	Pn	00 04 54.6	+3.0
AQU	**L'Aquila**	2.36	313	ePn	Pn	00 04 54.6	+3.1
CERT	**Cerreto**	2.38	301	ePN	Pn	00 04 53.1	+1.3
CERT	**Cerreto**	2.38	301	ePn	Pn	00 04 53.1	+1.2
TERO	**Teramo**	2.44	320	ePN	Pn	00 04 55.1	+2.3
TERO	**Teramo**	2.44	320	ePn	Pn	00 04 55.1	+2.3
SCLL	**Scilla**	2.50	180	ePN	Pn	00 04 54.6	+1.0
	551nm,0.7s						
SCLL	**Scilla**	2.50	180	ePn	Pn	00 04 54.6	+1.0
MA9	**Marino**	2.51	295	ePN	Pn	00 04 54.7	+0.9
	257nm,0.7s						
MA9	**Marino**	2.51	295	ePn	Pn	00 04 54.6	+0.8
MSI	**Messina ING**	2.55	183	ePN	Pn	00 04 54.8	+0.5
	2μm,0.6s						
MSI	**Messina ING**	2.55	183	ePn	Pn	00 04 54.8	+0.4
STON	**Ston**	2.58	34	iPn	Pn	00 04 55.9	+1.0
STON				iSn	Sn	00 05 30.0	+3.4
HCY	**Herceg Novi**	2.69	50	⇑iPn	Pn	00 04 57.0	+0.7
HCY				eSn	Sn	00 05 32.1	+2.8
SOI	**Samo**	2.69	174	ePN	Pn	00 04 56.4	0.0
	360nm,0.5s						
SOI	**Samo**	2.69	174	ePn	Pn	00 04 56.4	+0.1
MTTG	**Motta San Giov**	2.75	180	ePn	Pn	00 04 58.4	+1.2
MNS	**Montasola**	2.80	307	ePn	Pn	00 04 59.0	+1.2
NRCA	**Norcia**	2.84	318	ePn	Pn	00 05 00.5	+2.0
BUM	**Brajici-Budva**	2.85	56	⇑iPn	Pn	00 04 59.1	+0.5
BUM				eSn	Sn	00 05 35.4	+2.1
ECTS	**Castiglione**	2.91	189	ePn	Pn	00 05 00.6	+1.1
ULC	**Ulcinj**	2.92	64	⇑iPn	Pn	00 05 00.0	+0.3
ULC				eSn	Sn	00 05 37.5	+2.2
MNO	**Monte Soro**	2.93	196	ePn	Pn	00 05 00.8	+1.1
BRY	**Bratogost**	3.01	44	⇑iPn	Pn	00 05 01.4	+0.5
BRY				eSn	Sn	00 05 39.7	+2.2
GIB	**Gibilmanna**	3.06	206	ePn	Pn	00 05 02.8	+1.2
PRZA	**Preza**	3.07	76	ePn	Pn	00 05 05.0	+3.3
TOLF	**Tolfa**	3.08	296	ePn	Pn	00 05 02.4	+0.5
CSLB	**Castelbuono**	3.09	205	ePn	Pn	00 05 02.5	+0.4
TTG	**Podgorica**	3.15	57	⇑iPn	Pn	00 05 03.2	+0.4
TTG				eSn	Sn	00 05 42.4	+1.6
TIR	**Tirane**	3.20	78	ePn	Pn	00 05 05.3	+1.7
NKY	**Niksic**	3.21	49	⇑iPn	Pn	00 05 04.2	+0.6
NKY				eSn	Sn	00 05 44.4	+2.1
CING	**Cingoli**	3.22	325	ePn	Pn	00 05 04.3	+0.5
QSH	**Qafa e Shtames**	3.26	75	ePn	Pn	00 05 05.4	+1.0
KEK	**Kerkira**	3.30	107	eP	Pn	00 05 05.0	0.0
PUK	**Puka**	3.40	66	ePn	Pn	00 05 07.8	+1.4
UPM	**Unac-Piva**	3.42	43	⇑iPn	Pn	00 05 08.2	+1.5
UPM				eSn	Sn	00 05 49.6	+2.0
VAE	**Valguarnera**	3.42	198	Pn	Pn	00 05 10.1	+3.3
	4.6nm,0.3s,baz=272,slow=3.2,SNR=31						
ARV	**Arcevia**	3.43	324	ePn	Pn	00 05 07.7	+0.8
MURB	**Monte Urbino**	3.45	318	ePn	Pn	00 05 09.7	+2.6
AGST	**Augusta-Monte**	3.51	186	ePn	Pn	00 05 08.2	+0.2
BCI	**Bajram Curri**	3.64	62	ePn	Pn	00 05 11.5	+1.6
FSSB	**Fossombrone**	3.66	324	ePn	Pn	00 05 10.8	+0.7
PVY	**Plav**	3.68	59	⇑iPn	Pn	00 05 11.8	+1.3
PVY				eSn	Sn	00 05 55.4	+1.0
PLE	**Pljevlja**	3.76	46	⇑iPn	Pn	00 05 12.7	+1.1
PLE				eSn	Sn	00 05 57.2	+0.8
IVA	**Berane**	3.78	55	⇑iPn	Pn	00 05 13.2	+1.5
IVA				eSn	Sn	00 05 57.6	+0.8
LSK	**Leskovik**	3.78	98	ePn	Pn	00 05 13.0	+1.2
MAON	**Monte Argentar**	3.82	297	ePn	Pn	00 05 12.1	-0.3
NVLJ	**Novalja**	3.86	351	iPn	Pn	00 05 12.9	0.0
NVLJ				iSn	Sn	00 05 58.9	0.0
OHR	**Ohrid**	3.87	83	⇑iPn	Pn	00 05 14.0	+0.9
OHR				iPb	Pb	00 05 20.0	-0.3
OHR				iPg	Pg	00 05 26.2	-3.3
OHR				iSn	Sn	00 06 01.0	+1.8
OHR				iSb	Sb	00 06 14.0	+6.5
OHR				iSg	Sg	00 06 21.4	+0.3
NVSS	**Nova Varos 2**	4.05	46	⇓iPn	Pn	00 05 16.0	+0.4
NVSS				Sn	Sn	00 06 04.6	+1.0
JAN	**Janina**	4.09	104	eP	Pn	00 05 17.0	+0.8
SFI	**Santa Sofia**	4.25	319	ePn	Pn	00 05 20.8	+2.2
GRFL	**Gerfalco**	4.26	306	ePn	Pn	00 05 20.1	+1.4
BIA	**Bitola**	4.26	85	⇑iPn	Pn	00 05 21.6	+2.9
BIA				iPb	Pb	00 05 32.5	+5.5
BIA				iSn	Sn	00 06 19.0	+10
BIA				iSg	Sg	00 06 41.1	+6.9
FNA	**Florina**	4.30	88	ePn	Pn	00 05 18.9	-0.3
FNA				eSn	Sn	00 06 09.6	-0.5
MEV	**Metsovon**	4.33	101	ePn	Pn	00 05 18.6	-1.1
SKO	**Skopje**	4.48	72	⇑iPn	Pn	00 05 22.8	+1.0
	comp=Z,0.1nm,0.7s						
SKO				i		00 05 29.2	
SKO				iPg	Pg	00 05 40.0	-1.6
SKO				iSn	Sn	00 06 19.9	+5.3
SKO				i		00 06 25.4	
SKO				iSg	Sg	00 06 50.3	+8.9
VLS	**Valsamata**	4.57	123	eP	Pn	00 05 23.0	-0.1
DIVS	**Divcibare**	4.60	42	⇑iPn	Pn	00 05 24.2	+0.7
DIVS				Sn	Sn	00 06 18.8	+1.1
KZN	**Kozani**	4.64	94	eP	Pn	00 05 26.0	+1.9
SISC	**Sisak**	4.74	6	iPn	Pn	00 05 25.5	+0.1
GRUS	**Gruza**	4.85	48	⇓iPn	Pn	00 05 26.8	-0.3
GRUS				Sn	Sg	00 07 09.3	+15
KNDS	**Knezji Dol**	4.87	349	ePn	Pn	00 05 27.4	+0.1
BARS	**Barje**	5.01	64	⇓iPn	Pn	00 05 29.7	+0.3
EVR	**Evrytania**	5.04	109	eP	Pn	00 05 31.0	+1.3
CEY	**Cerknica**	5.07	350	ePn	Pn	00 05 30.6	+0.5
VAY	**Valandovo**	5.22	82	iPn	Pn	00 05 31.5	-0.7
VAY				iPb	Pb	00 05 42.4	-0.9
VAY				iPg	Pg	00 05 52.2	-4.2
VAY				iSn	Sn	00 06 30.8	-2.4
VAY				iSb	Sb	00 06 49.4	+2.8
VAY				iSg	Sg	00 07 00.0	-6.0
CESS	**Cesta pri Krsk**	5.22	358	iPn	Pn	00 05 32.3	0.0
HOPOS	**Hopovo Monaste**	5.32	33	ePn	Pb	00 05 47.5	+2.4
HOPOS				eSn	Sb	00 06 47.4	-2.2
PGF	**Pioggiola**	5.34	292	ePn	Pn	00 05 33.1	-0.8
PGF				eSn	Sn	00 06 28.9	-7.3
	comp=Z,21nm,0.5s						
LJU	**Ljubljana**	5.36	351	ePn	Pn	00 05 34.2	+0.1
LJU				eSn	Sn	00 06 32.8	-3.9
SVIS	**Svilajnac**	5.39	47	ePn	Pn	00 05 34.8	+0.1
VOY	**Vojsko**	5.44	347	ePn	Pn	00 05 35.3	0.0
VOY				eSn	Sn	00 06 36.9	-1.8
KNT	**Kendrikon**	5.46	83	ePn	Pn	00 05 34.8	-0.8
KNT				eSn	Sn	00 06 38.9	-0.3
THE	**Thessaloniki**	5.52	89	ePn	Pn	00 05 36.0	-0.4
THE				eSn	Sn	00 06 39.6	-1.1
BOLS	**Boljevac**	5.56	54	⇓iPn	Pn	00 05 36.6	-0.4
BOLS				Sn	Sg	00 07 26.8	+9.5
KKB	**Krupnik**	5.66	76	iP	Pn	00 05 39.0	+0.5
KKB	**Krupnik**	5.66	76	⇓iP	Pn	00 05 39.0	+0.5
SOH	**Sokhos**	5.80	87	ePn	Pn	00 05 39.8	-0.6
OBKA	**Obir**	5.81	352	⇑iPN	Pn	00 05 39.9	-0.7
OBKA				iSN	Sn	00 06 45.1	-3.0
PERS	**Pernice**	5.89	356	iPn	Pn	00 05 41.6	-0.2
PLG	**Polygyros**	5.90	91	eP	Pn	00 05 41.5	-0.4
XOR	**Xorichti**	5.91	101	ePn	Pn	00 05 41.4	-0.5
XOR				eSn	Sn	00 06 48.2	-2.3
VTS	**Vitosha**	5.91	69	iP	Pn	00 05 42.5	+0.6
VTS	**Vitosha**	5.91	69	⇓iP	Pn	00 05 42.5	+0.6
SRS	**Serrai**	5.98	84	ePn	Pn	00 05 42.2	-0.7
SRS				eSn	Sn	00 06 50.4	-2.0
ITM	**Ithomi**	6.02	124	eP	Pn	00 05 43.0	-0.5
MMB	**Musomiste**	6.11	80	iP	Pn	00 05 44.5	-0.3
PAIG	**Paliouri**	6.14	95	ePn	Pn	00 05 43.7	-1.6

PAIG				eSn	Sn	00 06 53.6	-2.9
MKIT	Kithairon Oros	6.38	111	eP	Pn	00 05 47.8	-0.8
AOS	Alonnisos	6.47	102	ePn	Pn	00 05 49.3	-0.7
ARSA	Arzberg	6.50	359	⇑iPN	Pn	00 05 49.0	-1.2
ARSA				i SN	Sn	00 07 02.1	-3.1
PCP	Pian Castagno	6.50	308	P	Pn	00 05 50.1	-0.2
FIN	Finale Ligure	6.53	304	P	Pn	00 05 50.2	-0.5
KBA	Koelnbreinsper	6.55	346	⇑iPN	Pn	00 05 50.5	-0.5
KBA				i SN	Sn	00 07 02.8	-3.7
PGB	Panagyurishte	6.58	71	i P	Pn	00 05 51.5	0.0
NSAL	Nisos Salamina	6.65	113	eP	Pn	00 05 51.5	-0.9
NEGI	Negi	6.69	300	P	Pn	00 05 51.5	-1.5
MPAR	Parnis Oros	6.73	110	eP	Pn	00 05 53.0	-0.6
NAIG	Nisos Aigina	6.74	114	⇑iP	Pn	00 05 52.3	-1.3
MONE	Monesi	6.76	302	P	Pn	00 05 53.5	-0.5
ROB	Roburent	6.79	304	P	Pn	00 05 54.1	-0.2
ATH	Athens Observa	6.80	112	eP	Pn	00 05 53.5	-1.0
SAOF	Saorge	6.85	301	eP	Pn	00 05 54.6	-0.6
RZN	Rozhen	6.85	79	i P	Pn	00 05 55.5	+0.2
RZN	Rozhen	6.85	79	⇓iP	Pn	00 05 55.5	+0.2
PTL	Penteli	6.87	111	eP	Pn	00 05 54.5	-1.0
REVF	Revere	6.87	298	eP	Pn	00 05 54.3	-1.2
PLD	Plovdiv	6.89	76	eP	Pn	00 05 56.0	+0.2
AUTN	L'Aution	6.94	301	eP	Pn	00 05 56.1	-0.3
VLI	Veliai	6.94	123	eP	Pn	00 05 56.5	0.0
SOP	Sopron	6.95	5	i Pnc		00 05 55.7	
SOP				eSn	Sn	00 07 11.9	-4.7
AURF	Auriere	6.96	299	eP	Pn	00 05 55.3	-1.4
ENR	Entracque	7.04	302	P	Pn	00 05 58.0	+0.1
MVIF	Mont Vial	7.08	299	eP	Pn	00 05 57.5	-0.9
STV2	Anna di Valdie	7.11	302	P	Pn	00 05 58.6	-0.3
STV	Sta Anna Valdi	7.11	302	P	Pn	00 05 59.2	+0.3
MOA	Molln	7.17	352	⇑iPN	Pn	00 05 58.9	-0.8
MOA				i SN	Sn	00 07 18.6	-3.4
CALN	Calern	7.20	297	eP	Pn	00 05 59.2	-0.9
LOS	Limnos	7.21	93	ePn	Pn	00 05 59.4	-0.8
SQTA	Sankt Quirin	7.23	335	⇑iPN	Pn	00 05 59.6	-1.0
SQTA				i SN	Sn	00 07 19.9	-3.7
KYTH	Kithira	7.28	126	eP	Pn	00 06 01.0	-0.2
FRF	La Foret Royal	7.29	296	ePn	Pn	00 05 59.6	-1.9
LMR	La Mourre	7.32	294	ePn	Pn	00 05 59.7	-2.1
DAVOX	Davos	7.35	327	Pn	Pn	00 06 02.1	-0.1
	comp=Z,2.2nm,0.3s,baz=158,slow=18,SNR=24						
DAVOX				Sn	Sn	00 07 21.1	-5.6
	comp=Z,0.7nm,0.3s,baz=343,slow=19,SNR=1.5						
PZZ	Prazzo	7.37	303	P	Pn	00 06 02.4	-0.2
KDZ	Kurdzhali	7.38	80	i P	Pn	00 06 01.5	-1.1
RDO	Rodhopi	7.45	84	eP	Pn	00 06 03.0	-0.6
DIM	Dimitrovgrad	7.50	77	i P	Pn	00 06 05.5	+1.2
ZST	Bratislava	7.51	7	ePN	Pn	00 06 03.2	-1.2
ZST				ePG	Pg	00 06 36.8	-5.2
ZST				eSN	Sn	00 07 25.3	-5.2
ZST				eSG	Sg	00 08 31.9	+10
ZST	Bratislava	7.51	7	eP	Pn	00 06 03.2	-1.2
ZST				e		00 07 25.3	
TRAV		7.52	312	P	Pn	00 06 04.8	+0.2
SURF	Saint Ours	7.54	303	eP	Pn	00 06 04.7	-0.3
PVL	Pavlikeni	7.58	68	i P	Pn	00 06 03.0	-2.5
RSP	Reno Superiore	7.60	308	P	Pn	00 06 05.6	-0.1
FENE	Fenestrelle	7.65	307	P	Pn	00 06 06.1	-0.4
MBDF	Montbardon	7.68	304	ePn	Pn	00 06 04.2	-2.7
DAVA	Damuels	7.76	329	⇑iPN	Pn	00 06 06.6	-1.4
DAVA				i SN	Sn	00 07 31.1	-5.8
PSZ	Piszkesteto	7.76	21	⇑ePn	Pn	00 06 07.3	-0.7
PSZ				i Sg	Sg	00 08 35.1	+4.5
RRL	Cesana Torines	7.77	305	P	Pn	00 06 08.3	+0.2
LSD	Ceresole Reale	7.83	310	P	Pn	00 06 09.7	+0.8
ALN	Alexandroupoli	7.84	86	ePn	Pn	00 06 08.1	-1.0
SMOL	Smolenice	7.85	8	ePN	Pn	00 06 08.4	-0.9
SMOL				eSN	Sn	00 07 33.3	-5.9
SZH	Strazhica	8.02	68	i P	P	00 06 12.0	+0.5
VYHS	Vyhne	8.05	15	ePn	P	00 06 11.6	-0.5
VYHS				eSg	Sg	00 08 34.6	-5.7
KOLL	Kolacno	8.05	13	ePN	P	00 06 11.3	-0.8
LPG	La Plagne	8.09	309	ePn	P	00 06 10.2	-2.3
LPG				eSn	Sn	00 07 34.2	-11
	comp=Z,17nm,0.8s						
LPL	La Plagne	8.11	309	ePn	P	00 06 10.3	-2.5
SMRF	Simiane la Rot	8.16	297	ePn	P	00 06 11.6	-2.0
GEC2	GERESS Array S	8.21	351	ePn	P	00 06 12.7	-1.6
GEC2				eSn	Sn	00 07 39.3	-8.9
GERES	GERESS Array B	8.21	351	Pn	P	00 06 12.3	-2.0
	comp=Z,1.1nm,0.3s,baz=168,slow=13,SNR=33						
GERES				Sn	Sn	00 07 40.0	-8.1
	comp=Z,2.8nm,0.3s,baz=172,slow=28,SNR=9.2						
PRK	Paraskevi	8.25	97	eP	P	00 06 14.5	-0.3
RSL	Roselend	8.26	310	eP	P	00 06 16.3	+1.3
ORIF	Oris-en-Rattie	8.33	303	ePn	P	00 06 18.2	+2.2
ORIF				eR			
	comp=Z,419nm,12.8s						
KECS	Kecovo	8.44	22	ePN	P	00 06 18.2	+0.7
KHC	Kasperske Hory	8.51	350	eP	P	00 06 15.6	-2.8
KHC				e		00 07 48.4	
KHC	Kasperske Hory	8.51	350	ePn	P	00 06 15.6	-2.8
KHC				e		00 06 32.0	
KHC				eSn	Sn	00 07 48.4	-7.1
VAM	Vamos	8.56	126	eP	P	00 06 17.5	-1.6
OCF	Saint Nazaire	8.57	300	eP	P	00 06 18.2	-1.0
OG26	St.-Nazaire-De	8.57	300	eP	P	00 06 18.2	-1.0
VRAC	Vranov	8.58	4	Pn	P	00 06 18.6	-0.8
	comp=Z,0.8nm,0.3s,baz=172,slow=13,SNR=4.4						
VRAC				Lg		00 08 50.1	
	comp=Z,1.0nm,0.3s,baz=303,slow=17,SNR=3.3						
WET	Wettzell	8.62	348	eP	P	00 06 18.0	-2.0
WET				e		00 07 51.2	
WET				MLR	MLR		
	comp=E,2µm,19.1s						
THR5	Thira Island,	8.70	117	ePn	P	00 06 19.1	-1.9
THR4	Thira Island,	8.71	116	ePn	P	00 06 19.7	-1.5
THR3	Thira Island,	8.74	117	ePn	P	00 06 20.3	-1.3
THR6	Thira Island,	8.77	117	ePn	P	00 06 20.1	-1.8
MLR	Muntele Rosu	8.85	54	Pn	P	00 06 23.6	+0.4
	baz=290,slow=12						
MLR	Muntele Rosu	8.85	54	⇓P	P	00 06 24.8	+1.6
MLR	Muntele Rosu	8.85	54	⇓P	P	00 06 24.8	+1.7
PRD	Provadia	9.04	70	i P	P	00 06 25.5	-0.3
IDI	Anoyia	9.07	124	Pn	P	00 06 24.8	-1.4
	comp=E,1.6nm,0.3s,baz=315,slow=14,SNR=20						
IDI				Sn	Sn	00 08 03.5	-5.8
	comp=E,0.9nm,0.3s,baz=338,slow=19,SNR=2.0						
VIVF	Saint-Julien-l	9.09	300	ePn	P	00 06 26.0	-0.4
CABF	La Chapelle	9.10	313	ePn	P	00 06 25.8	-0.8
CRVS	Cervenica-Dubn	9.11	25	ePN	P	00 06 28.3	+1.6
CRVS				e		00 09 18.4	
BFO	Black Forest	9.22	328	ePn	P	00 06 29.0	+0.7
BFO				eSn	Sn	00 08 08.7	-4.5
KDAG	Bornova	9.23	101	i P	P	00 06 28.0	-0.4
PRU	Pruhonice	9.27	355	ePn	P	00 06 26.7	-2.3
PRU				eSn	Sn	00 08 05.3	-9.1
KOLS	Kolonicke sedl	9.41	27	ePN	P	00 06 32.1	+1.2
KOLS				e		00 07 19.9	
GRA1	Grafenberg Arr	9.48	342	ePn	P	00 06 32.7	+0.9
GRA1				eSn	Sn	00 08 10.6	-8.9
GRF	Grafenberg Arr	9.48	342	eP	P	00 06 32.7	+0.9
GRF				e		00 08 10.6	
GRF				MLR	MLR		
	comp=E,1µm,14.8s						
HINF	Hinteralfeld	9.49	321	ePn	P	00 06 29.4	-2.6
VRI	Vrincioaia	9.52	54	⇓iP	P	00 06 32.5	+0.2
VRI	Vrincioaia	9.52	54	⇓iP	P	00 06 32.5	+0.2
DPC	Dobruska-Polom	9.61	2	eP	P	00 06 29.5	-4.0
PSN	Preselentsi	9.71	68	i P	P	00 06 34.0	-0.9
CDF	Champ du Feu	9.73	325	ePn	P	00 06 31.7	-3.5
NKC	Novy Kostel	9.75	348	ePn	P	00 06 33.7	-1.8
NKC				eSn	Sn	00 08 16.4	-10
HARR	Harsova	9.81	62	⇓iP	P	00 06 36.0	-0.4
HARR	Harsova	9.81	62	⇓iP	P	00 06 36.0	-0.4
BDRM	Kayabasi	9.86	108	i P	P	00 06 36.8	-0.2
HAU	Haudompre	9.87	320	ePn	P	00 06 34.2	-2.9
HAU				eR			
	comp=E,745nm,17.5s						
OJC	Ojcow	9.89	15	eP	P	00 06 50.8	+13
OJC				eS	Sn	00 08 57.3	+28
KSP	Ksiaz	10.10	2	eP	P	00 06 49.5	+9.2
LBL	Lubilhac	10.17	300	eP	P	00 06 40.1	-1.1
MANT	Manisa	10.17	99	i P	P	00 06 41.9	+0.7
PLDF	La Plantade	10.23	305	eP	P	00 06 41.5	-0.6
ULDT	Uludag	10.25	89	i P	P	00 06 40.8	-1.6
MOX	Moxa	10.29	345	i P	P	00 06 40.6	-2.4
MOX				S	S	00 08 30.0	-10
MOX				QM		00 10 23.0	
MOX				RM		00 11 26.0	
MOX	Moxa	10.29	345	ePn	P	00 06 40.6	-2.4
MOX				eSn	S	00 08 30.7	-8.8
SMF	Signal de Mont	10.41	308	eP	P	00 06 45.6	+1.0
PYM	Petit Puy Mans	10.52	303	eP	P	00 06 44.5	-1.6
AGO	Saint Agoulin	10.57	304	eP	P	00 06 47.0	+0.2
CLL	Collm	10.72	351	ePN	P	00 06 47.0	-1.8
CLL				eSN	S	00 08 40.0	-10
CLL				e		00 09 09.0	
CLL				eSG		00 10 06.0	
CLL				e		00 10 17.0	
CLL				eL		00 10 38.0	
CLL	Collm	10.72	351	ePn	P	00 06 47.0	-1.8
CLL				eSn	S	00 08 40.0	-10
CLL				eSg		00 10 06.0	
LOR	Lormes	10.73	311	eP	P	00 06 49.6	+0.7
LOR				eR			
	comp=E,436nm,17.0s						
ARG	Arkhangelos	10.73	111	eP	P	00 06 48.9	-0.1
DNZL	Cakiroluk	10.79	102	i P	P	00 06 49.4	-0.4
KIS	Kishinev	11.33	52	eP	P	00 06 55.0	-2.1
KIS				MLR	MLR		
	comp=Z,500nm,13.0s						
KIS				MLR	MLR		
	comp=Z,600nm,13.0s						
HENT	Hendek	11.52	85	i P	P	00 06 59.4	-0.4
ESKT	Eskisehir	11.66	91	i P	P	00 07 01.7	0.0
AKASG	Malin Array Be	13.69	39	Pn	P	00 07 27.5	-1.1
	comp=Z,0.8nm,0.3s,baz=233,slow=13,SNR=6.0						
BRTR	Keskin Array B	13.74	88	Pn	P	00 07 29.7	+0.3
	comp=Z,0.2nm,0.3s,baz=271,slow=12,SNR=21						
BRTR				LR	LR	00 13 03.1	
	comp=Z,124nm,20.1s,baz=265,slow=38						
SIM	Simferopol'	14.13	67	eP	P	00 07 39.6	+5.1
SIM				eS	S	00 10 16.0	+3.6
SIM				MLR	MLR		
	comp=Z,200nm,18.0s						
BOYT	Boyabat	14.49	81	i P	P	00 07 40.7	+1.4
MEST	Erdemli	14.99	100	i P	P	00 07 47.2	+1.5
ESDC	Sonseca Array	15.07	272	Pn	P	00 07 46.6	-0.3
	comp=Z,0.1nm,0.3s,baz=74,slow=14,SNR=3.1						
ESDC				LR	LR	00 13 05.8	
	comp=Z,197nm,18.3s,baz=105,slow=35						
ANN	Anapa	16.44	69	eP	P	00 08 06.9	+2.4
ANN				eS	S	00 11 13.3	+6.7
ANN				pmax	pmax		
	comp=Z,28nm,0.8s						
ANN				MLR	MLR		
	comp=Z,198µm,15.0s						
ANN				MLR	MLR		
	comp=N,208µm,16.2s						
ANN				MLR	MLR		
	comp=E,151µm,19.2s						
SOC	Sochi	18.00	73	eP	P	00 08 24.9	+0.8
SOC				eS	S	00 11 42.0	-0.3
SOC				pmax	pmax		
	comp=N,18nm,0.9s						
SOC				pmax	pmax		
	comp=Z,33nm,0.9s						
SOC				pmax	pmax		
	comp=E,39nm,0.8s						
SOC				MLR	MLR		
	comp=Z,116nm,21.0s						
SOC				MLR	MLR		
	comp=N,53nm,17.0s						
SOC				MLR	MLR		
	comp=E,85nm,17.0s						
ASF	Jabal al Asfar	19.04	110	P	P	00 08 36.5	-0.3
	comp=E,0.2nm,0.3s,baz=149,slow=15,SNR=7.9						
EIL	Elat	19.18	119	P	P	00 08 35.4	-3.1
	comp=E,0.4nm,0.3s,baz=337,slow=26,SNR=9.4						
EIL	Elat	19.18	119	P	P	00 08 35.4	-3.1
EKA	Eskdalemuir Ar	19.19	326	P	P	00 08 37.7	-0.7
	comp=E,0.2nm,0.3s,baz=135,slow=13,SNR=7.5						
HFS	Hagfors	19.44	357	P	P	00 08 41.3	-0.1
	comp=E,0.1nm,0.3s,baz=170,slow=9.0,SNR=9.7						
HAQS	Haql	19.57	121	P	P	00 08 41.1	-1.9
JMOS	Jabal al Moall	19.61	120	P	P	00 08 42.3	-1.2
QURS	Qurayyt al Mil	19.77	111	P	P	00 08 49.2	+3.9
OBN	Obninsk	19.93	37	eP	P	00 08 44.5	-2.3
OBN				pmax	pmax		
	comp=Z,14nm,0.9s						
OBN				MLR	MLR		
	comp=Z,200nm,16.0s						
JMQS	Jabal Moqyreh	20.30	119	P	P	00 08 52.4	+1.5
AYUS	'Aynunah	20.37	122	P	P	00 08 52.2	+0.5
GOF	Gofitskoye	20.43	69	⇑iP	P	00 08 51.0	-1.1
GOF				pmax	pmax		
	comp=Z,20nm,1.0s						
NB2	NORSAR Subarra	20.50	354	P	P	00 08 52.4	-0.4
	comp=Z,7.5nm,1.0s,baz=169,slow=10						
NOA	NORSAR Array B	20.50	354	P	P	00 08 52.6	-0.1
	comp=Z,6.2nm,0.9s,baz=173,slow=10,SNR=16						
NOA				LR	LR	00 17 21.8	
	comp=Z,82nm,18.4s,MS3.1,baz=175,slow=39						
ZEI	Tsey	21.09	75	eP	P	00 08 55.0	-3.9
ZEI				e		00 09 00.0	
ZEI				eS	S	00 12 44.0	-4.7
ZEI				MLR	MLR		
	comp=Z,200nm,16.0s,MS3.6						
TBKS	Tabuk	21.18	120	P	P	00 09 04.7	+4.7
DBAS	Duba	21.50	123	P	P	00 09 07.7	+4.5
FINES	FINESS Array B	21.66	14	P	P	00 09 03.7	-0.9
	comp=Z,3.4nm,0.5s,mb4.0,baz=182,slow=12,SNR=19						
FINES				LR	LR	00 17 58.5	
	comp=Z,94nm,21.4s,MS3.2,baz=182,slow=38						
FINES	FINESS Array B	21.66	14	P	P	00 09 03.7	-0.9
FINES				LR	LR	00 17 58.5	
KAF	Kangasniemi	22.33	13	ep	P	00 09 10.3	-1.0
	comp=Z,5.2nm,0.7s,mb4.1						
KAF	Kangasniemi	22.33	13	eP	P	00 09 10.3	-1.0
KAF				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.0						
RST	Umm Al-Ruwaisa	27.80	104	eP	P	00 10 03.7	+0.3
RST				AMb	AMB	00 10 04.9	
	comp=Z,33nm,0.7s,mb5.1						
MIB	Mutribah	27.90	103	eP	P	00 10 04.0	-0.2
MIB				AML	AML	00 10 06.2	
	comp=Z,29nm,0.7s						
UMR	Umm Al-Rimmam	28.31	103	eP	P	00 10 08.4	+0.5
UMR				AMb	AMB	00 10 09.6	
	comp=Z,25nm,0.6s,mb5.0						
ARCES	ARCESS Array B	29.30	7	P	P	00 10 15.3	-1.3
	comp=Z,0.9nm,0.6s,mb3.7,baz=180,slow=8.5,SNR=5.5						
ARCES				LR	LR	00 23 08.4	
	comp=Z,124nm,21.8s,MS3.5,slow=39						
ARCES	ARCESS Array B	29.30	7	P	P	00 10 15.3	-1.3
ARCES				LR	LR	00 23 08.4	
ARU	Arti	31.78	46	eP	P	00 10 40.1	+1.6
ARU				e		00 11 47.1	
ARU				ePPP	PPP	00 11 58.1	-0.7
ARU				i		00 13 25.3	
ARU				eS	S	00 15 53.8	+6.4
ARU				e		00 21 05.4	
ARU				MLR	MLR		
	comp=Z,100nm,16.0s,MS3.6						
ARU				MLR	MLR		
	comp=N,40nm,14.0s,MS3.7						
ARU				MLR	MLR		
	comp=E,100nm,15.0s,MS3.7						
DBIC	Dimbokro	38.60	214	P	P	00 11 39.7	+2.5
	comp=E,6.0nm,1.0s,mb4.3,baz=341,slow=9.3,SNR=6.1						
DBIC				LR	LR	00 29 00.9	
	comp=E,74nm,20.9s,MS3.5,baz=23,slow=38						
TIC	Toumodi	38.69	214	eP	P	00 11 39.2	+1.2
	comp=E,110nm,1.5s,mb5.4						
KIC	Kosan Boka	38.83	214	eP	P	00 11 41.8	+2.6
	comp=E,97nm,1.4s,mb5.3						
LIC	Lamto	39.07	214	eP	P	00 11 43.9	+2.7
	comp=E,79nm,1.5s,mb5.2						
NVS	Novosibirsk	45.70	48	eP	P	00 12 34.8	+0.1
NVS				pmax	pmax		
	comp=Z,12nm,1.3s,mb4.7						
NVS				pmax	pmax		
	comp=E,5.0nm,1.1s						
ZAL	Zalesovo	46.78	49	P	P	00 12 44.0	+0.8
	comp=E,4.6nm,0.5s,mb4.6,baz=94,slow=7.3,SNR=31						
ZAL				LR	LR	00 34 49.9	
	comp=E,168nm,20.4s,MS4.0,baz=93,slow=39						
ZAL	Zalesovo	46.78	49	i P	P	00 12 44.6	+1.3
ZAL				pmax	pmax		
	comp=Z,5.0nm,0.5s						
MKAR	Makanchi Array	47.16	59	P	P	00 12 46.9	+0.5
	comp=Z,4.6nm,0.5s,mb4.7,baz=285,slow=6.9,SNR=48						
MKAR				LR	LR	00 35 59.4	
	comp=Z,64nm,18.0s,MS3.6,baz=292,slow=40						
MKAR	Makanchi Array	47.16	59	i P	P	00 12 46.9	+0.5
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.5s						
SCHQ	Schefferville	54.02	315	LR	LR	00 37 40.1	
	comp=Z,86nm,18.0s,MS3.9,baz=77,slow=37						
KOLN	Koldanda	56.31	81	eP	P	00 13 54.6	-0.8
	comp=Z,19nm,0.8s,mb5.2						
GKN	Gorkha	56.96	80	eP	P	00 13 59.2	-0.9
	comp=Z,47nm,0.8s,mb5.6						
DMN	Daman	57.52	80	eP	P	00 14 03.6	-0.5
	comp=Z,34nm,0.8s,mb5.4						
KKN	Kakani	57.55	80	eP	P	00 14 03.4	-0.9
	comp=Z,21nm,0.7s,mb5.3						
PKI	Pulchoki	57.77	80	eP	P	00 14 04.9	-0.9
	comp=Z,24nm,0.8s,mb5.3						
SONM	Songino Array	61.68	50	P	P	00 14 32.4	0.0
	comp=Z,2.1nm,0.7s,mb4.4,baz=297,slow=8.3,SNR=7.7						
GTA	Gaotai	61.86	61	eP	P	00 14 33.4	-0.4
GTA				AP	pP	00 14 37.1	+0.2
GTA				XP	sP	00 14 39.0	+1.0
GTA				AMB	AMB		
	comp=Z,2.0nm,0.8s,mb4.3						
GTA				LR	LR		
	comp=N,47nm,16.4s,MS4.0						
GTA				LR	LR		
	comp=E,64nm,12.5s,MS4.0						
GTA				LR	LR		
	comp=Z,89nm,15.2s,MS4.0						
YKA	Yellowknife Ar	69.65	338	LR	LR	00 44 52.2	
	comp=Z,42nm,18.4s,MS3.7,baz=140,slow=35						
ULM	Lac du Bonnet	71.39	321	LR	LR	00 46 42.6	
	comp=Z,105nm,18.6s,MS4.1,baz=19,slow=36						
DLBC	Dease Lake	77.12	342	LR	LR	00 50 09.6	
	comp=Z,93nm,18.9s,MS4.1,baz=121,slow=36						
PDAR	Pinedale Array	83.28	323	P	P	00 16 40.9	+0.7
	comp=Z,1.1nm,0.9s,mb3.9,baz=72,slow=4.7,SNR=7.3						
PDAR				LR	LR	00 57 56.2	
	comp=Z,52nm,18.2s,MS3.9,baz=247,slow=39						
TXAR	Lajitas Array	90.48	310	P	P	00 17 17.1	+1.6
	comp=Z,0.6nm,1.0s,mb3.9,baz=45,slow=1.8,SNR=3.9						
CPUP	Villa Florida	95.05	240	LR	LR	00 57 48.3	
	comp=Z,75nm,20.7s,MS4.2,baz=251,slow=34						
ASAR	Alice Springs	126.06	92	PKP	PKPdf	00 23 15.2	-2.9
	comp=Z,0.3nm,0.4s,baz=270,slow=0.9,SNR=3.6						

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*NEIC **03** 00:24:09.2±2.0, 21.38S×178.78W, h565km±23km, mb4.3/13, Error ellipse: s-maj=15.1km s-min=10.9km az=175.0*

*IDC **03** 00:24:11.1±2.2, 21.60S×178.72W, h588km±25km, mb3.7/8, mb1 3.9/9, mb1mx3.8/13, Error ellipse: s-maj=32.2km s-min=11.5km az=159.0*

ISC 03 00:24:07.5±1.0**, 21.41S**±0.08×**178.83W**±0.09**, h554**km±12km**, n86, σ0s71**/30**, mb4.2**/18**, 2D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	Nonsavu	4.69	321	P	P	00 25 35.7	0.0
	3µm,0.5s						
URZ	Urewera	17.16	191	P	P	00 27 36.2	-1.2
	6.9nm,0.3s,baz=329,slow=3.9,SNR=20						
URZ				S	S	00 30 26.2	-0.5
	0.6nm,0.3s,baz=150,slow=20,SNR=2.1						
CTA	Charters Tower	32.64	266	eP	P	00 29 56.7	+1.1
	6.4nm,0.4s,mb4.5						
CTA	Charters Tower	32.64	266	P	P	00 29 56.8	+1.2
	8.6nm,0.4s,mb4.6,baz=92,slow=12,SNR=20						
CTAO	Charters Tower	32.64	266	eP	P	00 29 56.4	+0.8
	8.6nm,0.4s,mb4.6						
STKA	Stephens Creek	36.70	245	P	P	00 30 30.6	+1.4
	3.2nm,0.4s,mb4.2,baz=88,slow=11,SNR=10						
ASAR	Alice Springs	43.56	258	P	P	00 31 24.9	+0.5
	16nm,0.5s,mb4.8,baz=97,slow=7.9,SNR=228						
ASAR				PcP	PcP	00 32 60.0	-0.1
	3.0nm,0.7s,baz=101,slow=3.7,SNR=9.8						
ASAR				S	S	00 37 14.9	+0.8
	2.1nm,1.0s,baz=92,slow=16,SNR=7.0						
ASPA	Alice Springs	43.56	258	eP	P	00 31 24.8	+0.4
WB2	Warramunga Arr	43.70	263	⇓iP	P	00 31 25.3	-0.2
WRAB	Tennant Creek	43.70	263	eP	P	00 31 24.9	-0.6
	6.1nm,0.6s,mb4.3						
WRA	Warramunga Arr	43.71	263	P	P	00 31 25.4	-0.2
	5.0nm,0.3s,mb4.5,baz=96,slow=7.6,SNR=203						
WRA				S	S	00 37 14.3	-2.0
	0.8nm,0.8s,baz=102,slow=17,SNR=6.8						
KAKA	Kakadu	47.27	272	eP	P	00 31 52.2	-0.7
	8.6nm,0.4s,mb4.6						
FORT	Forrest	48.23	247	eP	P	00 31 59.7	-0.3
	28nm,0.5s,mb5.0						
FITZ	Fitzroy Crossi	52.14	263	eP	P	00 32 29.0	+0.1
	2.6nm,0.3s,mb4.0						
FITZ	Fitzroy Crossi	52.14	263	P	P	00 32 29.3	+0.3
	3.6nm,0.4s,mb4.1,baz=168,slow=4.3,SNR=27						
MBWA	Marble Bar	56.90	258	eP	P	00 33 01.5	-0.6
	7.5nm,0.5s,mb4.2						
SBA	Scott Base	56.92	184	eP	P	00 33 02.8	+1.2
	4.2nm,0.8s,mb3.7						
QSPA	South Pole Qui	68.66	180	eP	P	00 34 17.5	+0.8
	8.4nm,0.9s,mb4.3						
QSPA				e		00 36 28.9	
YBH	Yreka Blue Hor	81.48	39	P	P	00 35 28.7	+0.6
	3.4nm,0.7s,mb3.9,baz=275,slow=11,SNR=6.3						
WVOR	Wild Horse Val	84.32	40	P	P	00 35 41.5	-0.9
	3.1nm,1.0s,mb3.8						
HLID	Hailey	87.52	41	eP	P	00 35 57.7	+0.2
	3.0nm,1.0s,mb4.0						
TXAR	Lajitas Array	88.20	58	P	P	00 36 01.7	+0.6
	1.5nm,0.8s,mb3.8,baz=217,slow=6.3,SNR=15						
TXAR	Lajitas Array	88.20	58	P	P	00 36 01.7	+0.6
MCMT	McKenzie Canyo	89.14	41	eP	P	00 36 05.2	0.0
BW06	Boulder Array	90.15	44	eP	P	00 36 09.2	-0.6
	1.6nm,0.7s,mb4.0						
PDAR	Pinedale Array	90.15	44	P	P	00 36 09.6	-0.3
	1.8nm,0.7s,mb4.0,baz=224,slow=2.5,SNR=18						
BOZ	Bozeman (W)	90.31	40	eP	P	00 36 10.2	-0.3
	2.3nm,0.8s,mb4.1						
MKAR	Makanchi Array	111.25	313	PKiKP		00 41 38.4	
	0.3nm,0.5s,baz=127,slow=0.4,SNR=6.7						
MKAR	Makanchi Array	111.25	313	PKPdf	PKPdf	00 41 38.4	+0.3
BVAR	Borovoye Array	119.27	320	PKP	PKPdf	00 41 54.0	+0.4
	1.2nm,0.4s,baz=58,slow=0.9,SNR=7.6						
ARU	Arti	125.50	325	ePKPdf	PKPdf	00 42 06.2	+0.7
ARCES	ARCESS Array B	129.67	349	PKP	PKPdf	00 42 13.6	+0.4
	1.4nm,0.4s,baz=42,slow=1.9,SNR=20						
FINES	FINESS Array B	136.41	343	PKhKP		00 42 17.4	
	1.9nm,1.0s,baz=90,slow=3.8,SNR=4.5						
FINES				PKP	PKPdf	00 42 24.9	-1.0
	1.3nm,0.7s,baz=90,slow=2.8,SNR=7.4						
FINES	FINESS Array B	136.41	343	PKP	PKPdf	00 42 17.4	-8.5
FINES				PKP	PKPdf	00 42 24.9	-1.0
NB2	NORSAR Subarra	139.78	352	PKP		00 42 24.6	
	0.6nm,0.5s,baz=14,slow=3.1						
NOA	NORSAR Array B	139.78	352	PKhKP		00 42 25.3	
	0.7nm,0.6s,baz=15,slow=4.6,SNR=4.1						
NOA	NORSAR Array B	139.78	352	PKP	PKPdf	00 42 25.3	-6.8
NAMS	An Nimas	141.52	274	P	PKPdf	00 42 34.7	-1.5
BLJS	Baljurashi	142.21	275	P	PKPdf	00 42 38.4	+0.9
LTHS	Al Lith	143.37	275	P	PKPbc	00 42 41.0	+2.6
SUW	Suwalki	143.40	338	ePKPdf	PKPdf	00 42 37.5	-0.9
AKASG	Malin Array Be	143.42	330	PKP	PKPdf	00 42 37.5	-1.0
	13nm,0.4s,baz=40,slow=4.2,SNR=111						
MALT	Malatya	143.85	306	ePKPdf	PKPdf	00 42 41.0	+1.3
BSEG	Bad Segeberg	146.78	350	ePKPbc	PKPbc	00 42 48.1	+1.7
BSEG				ePKPab	PKPab	00 42 51.1	-1.5
BRTR	Keskin Array B	146.86	311	PKPbc	PKPbc	00 42 48.6	+1.6
	3.4nm,0.6s,baz=135,slow=4.3,SNR=25						
KWP	Kalwaria	147.06	334	ePKPbc	PKPdf	00 42 49.1	+4.3
OJC	Ojcow	147.71	337	eP	PKPdf	00 42 55.4	+10
KOLS	Kolonicke sedl	147.79	334	ePKP	PKPdf	00 42 51.9	+5.9
KOLS				e		00 42 55.9	
DBAS	Duba	147.82	287	P	PKPdf	00 42 52.7	+6.0
CRVS	Cervenica-Dubn	148.14	334	ePKP	PKPdf	00 42 52.5	+6.0
EIL	Elat	148.51	292	ePKPbc	PKPdf	00 42 53.1	+5.4
BDAS	Al Bad'	148.52	290	P	PKPdf	00 42 54.3	+6.5
HAQS	Haql	148.60	291	P	PKPdf	00 42 54.6	+6.7
UPC	Upice	148.70	342	ePKPbc	PKPdf	00 42 53.7	+6.3
UPC				ePKPab	PKPab	00 42 59.8	-0.5
DPC	Dobruska-Polom	148.74	341	ePKPbc	PKPdf	00 42 53.6	+6.2
DPC				ePKPab	PKPab	00 42 59.9	-0.6
CSS	Prodhromos	148.75	303	ePKPbc	PKPdf	00 42 53.7	+5.8
CLL	Collm	148.76	346	⇓iPKP1	PKPdf	00 42 53.3	+5.9
CLL				i PKP2	PKPab	00 42 59.2	-1.3
CLZ	Clausthal	148.79	349	ePKPbc	PKPdf	00 42 53.4	+5.9

MORC	**Moravsky Berou**	148.86	339	ePKPbc	PKPdf	00 42 53.6	+6.0
MORC				ePKPab	PKPab	00 43 00.2	-0.7
KECS	**Kecovo**	148.87	335	ePKP	PKPdf	00 42 54.0	+6.3
BRG	**Berggiesshubel**	148.93	344	i P	PKPdf	00 42 54.2	+6.5
BRG				e		00 43 00.4	
PVCC	**Panska Ves**	149.08	343	ePKPbc	PKPdf	00 42 54.3	+6.3
VYHS	**Vyhne**	149.49	337	ePKP	PKPdf	00 42 55.6	+6.9
VYHS				e		00 43 03.3	
PRU	**Pruhonice**	149.58	343	eP	PKPdf	00 42 55.5	+6.7
MOX	**Moxa**	149.69	347	eP	PKPdf	00 42 55.8	+6.9
NKC	**Novy Kostel**	149.89	346	ePKPbc	PKPdf	00 42 56.5	+7.2
NKC				ePKPab	PKPab	00 43 03.7	-1.5
SMOL	**Smolenice**	149.98	338	ePKP	PKPdf	00 42 57.5	+8.0
SMOL				e		00 43 06.0	
ZST	**Bratislava**	150.37	338	ePKP	PKPdf	00 42 55.9	+5.8
KHC	**Kasperske Hory**	150.62	343	eP	PKPdf	00 42 58.0	+7.6
GRA1	**Grafenberg Arr**	150.67	347	ePKPbc	PKPdf	00 42 57.7	+7.2
GRA1				ePKPab	PKPab	00 43 07.3	-1.2
WET	**Wettzell**	150.79	344	ePKPbc	PKPdf	00 42 58.5	+7.8
GEC2	**GERESS Array S**	150.85	343	ePKPbc	PKPdf	00 42 58.3	+7.5
GERES	**GERESS Array B**	150.85	343	PKPbc	PKPdf	00 42 58.4	+7.6
	2.9nm,0.7s,baz=45,slow=1.9,SNR=28						
GIVF	**Givet**	151.22	355	ePKIKP	PKPdf	00 42 59.0	+7.7
	10nm,0.4s						
BAIF	**Baives**	151.31	356	ePKIKP	PKPdf	00 42 59.1	+7.7
	4.2nm,0.6s						
STU	**Stuttgart**	151.95	349	ePKPbc	PKPdf	00 43 00.4	+8.1
FUR	**Furstenfeldbru**	152.09	345	ePKPab	PKPab	00 43 13.3	-1.2
CDF	**Champ du Feu**	152.61	351	ePKIKP	PKPdf	00 43 00.9	+7.6
	4.5nm,0.7s						
FLN	**La Foliniere**	152.67	2	ePKIKP	PKPdf	00 43 01.6	+8.3
	4.8nm,0.5s						
LDF	**La Druitiere**	152.85	2	ePKIKP	PKPdf	00 43 02.2	+8.6
	3.6nm,0.5s						
GRR	**Gorron**	153.03	3	ePKIKP	PKPdf	00 43 02.3	+8.4
	6.9nm,0.6s						
SGMF	**Saint Gilles**	153.05	5	ePKIKP	PKPdf	00 43 01.7	+7.8
HAU	**Haudompre**	153.14	352	ePKIKP	PKPdf	00 43 02.2	+8.2
LOR	**Lormes**	154.11	356	ePKIKP	PKPdf	00 43 01.9	+6.6
SSF	**Saint Saulge**	154.34	356	ePKIKP	PKPdf	00 43 03.8	+8.2
	7.6nm,1.0s						
MFF	**Saint Martin d**	154.84	2	ePKIKP	PKPdf	00 43 03.9	+7.6

MAN 03 01:33:42.6, 11.26N×125.77E, h31^{km}, mb4.3, ML3.1, MS2.9, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BESP	**Borongan**	0.47	316	eP	Pb	01 33 53.8	+1.3
BESP				eS	Sb	01 34 02.1	+2.6
OCLP	**Ormoc**	1.16	260	eP	Pn	01 34 02.8	-0.2
MSLP	**Maasin**	1.44	219	eP	Pn	01 34 07.8	+0.9
SCPH	**Surigao**	1.50	191	eP	Pn	01 34 08.1	+0.3
SCPH				eS	Sn	01 34 25.7	-0.7
TBP	**Tagbilaran**	2.44	230	eP	Pn	01 34 20.2	-1.1
TBP				eS	Sn	01 34 50.8	+0.4

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*NEIC **03** 01:55:55.0, 14.00N×93.30W, h24^{km}, MD4.2(MEX), After MEX.*

MEX 03 01:55:55.0±0.6, 14.09N×93.32W, h7^{km}±52^{km}, MD4.2, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CCIG	**Comitan**	2.46	28	i P	Pn	01 56 33.0	-3.2
CCIG				i S	Sn	01 57 01.7	-5.2
SCX	**San Cristobal**	2.71	14	i P	Pn	01 56 36.0	-3.9
SCX				i S	Sn	01 57 09.0	-4.3
CMIG	**Matias Romero**	3.34	333	i P	Pn	01 56 44.6	-4.2
CMIG				i S	Sn	01 57 24.6	-4.6
OXX	**Oaxaca**	4.42	313	eP	Pn	01 57 00.0	-4.2
EVV	**El Vigia**	4.76	336	eP	Pn	01 57 05.0	-3.9
EVV				i S	Sn	01 58 02.0	-3.1

IDC 03 02:33:17.0±12.0, 23.04S×177.23W, h424^{km}±132^{km}, mb3.5/4, mb1 3.6/5, mb1mx3.4/11, Error ellipse: s-maj=216.0km s-min=60.8km az=76.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	**Urewera**	15.93	196	P	P	02 36 38.5	-1.4
	1.0nm,0.3s,baz=267,slow=6.2,SNR=5.8						
URZ				S	S	02 39 24.0	+0.2
	0.4nm,0.3s,baz=315,slow=20,SNR=2.4						
CTA	**Charters Tower**	34.04	268	eP	P	02 39 24.3	-0.8
	4.7nm,0.3s						
CTA	**Charters Tower**	34.04	268	P	P	02 39 24.1	-1.0
	5.9nm,0.4s,baz=97,slow=11,SNR=18						
STKA	**Stephens Creek**	37.41	247	P	P	02 39 51.6	-1.5
	1.3nm,0.5s,baz=90,slow=8.1,SNR=4.2						
ASAR	**Alice Springs**	44.69	259	P	P	02 40 50.6	-1.4
	1.6nm,0.5s,baz=103,slow=7.6,SNR=18						
ASPA	**Alice Springs**	44.70	259	eP	P	02 40 50.5	-1.5
WB2	**Warramunga Arr**	45.01	264	eP	P	02 40 52.7	-1.8
WRA	**Warramunga Arr**	45.02	264	P	P	02 40 52.9	-1.7
	1.3nm,0.3s,baz=94,slow=8.3,SNR=22						
FORT	**Forrest**	49.00	249	eP	P	02 41 23.3	-1.7
	17nm,0.5s						

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*BJI **03** 02:46:56.5, 50.75N×87.59E, h10^{km}, ML4.2*
*MOS **03** 02:47:00.5±1.4, 49.66N×88.88E, h15^{km}, mb4.3/5, Error ellipse: s-maj=22.2km s-min=10.4km az=116.5*
*LDG **03** 02:47:03.6±0.1, 49.96N×88.21E, h10^{km}, Mb4.3/16, Error ellipse: s-maj=14.1km s-min=3.6km az=20.0*
*IDC **03** 02:47:03.1±1.9, 49.89N×88.58E, mb3.8/5, mb1 4.0/8, mb1mx3.8/19, ML3.8/3, Error ellipse: s-maj=24.4km s-min=11.5km az=101.0*
*NNC **03** 02:47:05.5±3.4, 49.91N×88.27E, mpv4.1, Error ellipse: s-maj=27.1km s-min=16.6km az=85.0*
*NEIC **03** 02:47:06.1±1.2, 49.96N×88.26E, h10^{km}, mb4.3/13, Error ellipse: s-maj=20.6km s-min=11.0km az=113.0*

ISC 03 02:47:03.9±0.5, 49.98N±0.04×88.29E±0.07, h10^{km}, n53, σ1^{s}03/67, mb4.2/22, MS3.3/1, 6C-6D, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AKAR	**Aktash**	0.55	309	ePG	Pg	02 47 15.7	+0.7
ARTR	**Artybash**	1.93	341	ePN	Pg	02 47 42.1	-0.4
ARTR				eS	Sg	02 48 10.9	+2.7
UKR	**Ust'-Kan**	2.44	294	ePN	Pg	02 47 50.6	-2.1
UKR				eS	Sg	02 48 23.7	-1.6
ELT	**Yel'tsovka**	3.53	340	ePN	Pb	02 48 05.8	-0.3
ELT				e	Pg	02 48 14.3	0.0
ELT				eS	Sg	02 48 57.0	-4.3
ZAL	**Zalesovo**	4.51	333	Pn	Pn	02 48 17.4	+3.4
	4.6nm,0.3s,baz=236,slow=9.6,SNR=12						
ZAL				Sn	Sn	02 49 11.2	+4.1
	4.0nm,0.3s,baz=126,slow=24,SNR=5.9						
ZAL				Lg		02 49 30.6	
	7.4nm,0.3s,baz=301,slow=24,SNR=11						
ZAL	**Zalesovo**	4.51	333	i PN	Pn	02 48 17.4	+3.4
ZAL				pmax	pmax		
	comp=Z,12nm,0.3s						
MK31	**Makanchi Array**	5.11	234	⇑Pn	Pn	02 48 24.1	+1.6
	comp=Z,6.8nm,0.3s,baz=58,slow=13,SNR=548						
MK31				Pg	Pg	02 48 37.0	-9.0
	comp=Z,28nm,0.6s,baz=60,slow=17,SNR=9.9						
MK31				⇓Sn	Sn	02 49 22.8	+0.5
	comp=Z,12nm,0.3s,baz=51,slow=26,SNR=5.3						
MK31				⇑Lg		02 49 45.1	
	comp=Z,44nm,0.5s,baz=53,slow=27,SNR=7.3						
MKAR	**Makanchi Array**	5.11	234	Pn	Pn	02 48 24.1	+1.6
	comp=Z,16nm,0.3s,baz=47,slow=15,SNR=748						
MKAR				Sn	Sn	02 49 23.3	+1.0
	comp=Z,17nm,0.3s,baz=40,slow=32,SNR=8.8						
MKAR				Lg		02 49 44.8	
	comp=Z,39nm,0.3s,baz=56,slow=26,SNR=15						
MKAR	**Makanchi Array**	5.11	234	i PN	Pn	02 48 24.1	+1.6
MKAR				pmax	pmax		
	comp=Z,22nm,0.3s						
NVS	**Novosibirsk**	5.77	330	ePN	Pn	02 48 34.0	+2.3
NVS				e		02 48 53.9	
NVS				eS	Sg	02 50 09.7	-6.2
KURK	**Kurchatov**	6.24	280	⇑Pn	Pn	02 48 39.1	+0.8
	comp=Z,10.0nm,0.7s						
KURK				⇓Sn	Sn	02 49 51.9	+1.5
	comp=Z,18nm,0.6s,baz=350,slow=16,SNR=4.9						
KURK				⇓Lg		02 50 22.6	
	comp=Z,22nm,0.6s,baz=350,slow=16,SNR=4.9						
KURK	**Kurchatov**	6.24	280	Pn	Pn	02 48 38.9	+0.6
	comp=Z,181nm,0.8s,SNR=7.7						
KURK	**Kurchatov**	6.24	280	i PN	Pn	02 48 38.7	+0.4
KURK				pmax	pmax		
	comp=Z,10.0nm,0.7s						
KURK	**Kurchatov**	6.24	280	ePn	Pn	02 48 38.7	+0.4
	comp=Z,19nm,0.6s						
KURK				eSn	Sn	02 49 50.1	-0.3
KURK				e		02 50 20.7	
VOSK	**Vostochnaya**	11.17	291	⇑Pn	P	02 49 45.6	-1.1
	comp=Z,1.3nm,0.6s						
VOSK				⇓Sn	S	02 51 53.9	+1.3
	comp=Z,3.0nm,0.8s						
BVAR	**Borovoye Array**	11.56	292	Pn	P	02 49 50.3	-1.7
	comp=Z,0.6nm,0.3s,baz=96,slow=15,SNR=8.0						
BVAR				Sn	S	02 51 58.2	-4.1
	comp=Z,1.1nm,0.3s,baz=97,slow=24,SNR=7.2						
BVAR				Lg		02 53 20.9	
	baz=102,slow=27,SNR=2.3						
BRVK	**Borovoye**	11.63	292	Pn	P	02 49 50.8	-2.2
AAK	**Ala-Archa**	12.03	238	ePn	P	02 49 57.0	-1.4
	comp=Z,7.3nm,0.6s						
SONM	**Songino Array**	12.11	93	Lg		02 53 22.4	
	comp=Z,0.1nm,0.3s,baz=291,slow=32,SNR=2.7						
ZRNK	**Zerenda**	12.38	291	⇑Pn	P	02 50 03.0	-0.1
	comp=Z,3.2nm,0.8s						
ZRNK				⇑Sn	S	02 52 21.8	-0.4
	comp=Z,1.9nm,0.6s						
KK31	**Karatay Array**	14.02	247	⇓P	P	02 50 21.7	-2.9
	comp=Z,1.9nm,0.4s,baz=52,slow=14,SNR=37						
AB31	**Akbulak array**	18.34	279	⇓P	P	02 51 19.6	-0.3
	comp=Z,1.4nm,0.7s,baz=73,slow=7.1,SNR=15						
TIXI	**Tiksi**	28.40	26	eP	P	02 52 55.8	-4.1
TIXI				e		02 53 52.0	
TIXI				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.3						
NJ2	**Nanjing**	28.91	117	eP	P	02 53 03.8	-1.2
SOC	**Sochi**	33.38	278	eP	P	02 53 50.3	+6.0
SOC				e		02 54 52.2	
SOC				e		02 56 24.9	
SOC				eS	S	02 59 07.7	+3.6
SOC				eSSS	SSS	03 01 39.5	+8.1
SOC				pmax	pmax		
	comp=N,20nm,0.9s						
SOC				pmax	pmax		
	comp=Z,22nm,0.9s,mb5.1						
SOC				pmax	pmax		
	comp=E,13nm,0.6s						
SOC				MLR	MLR		
	comp=Z,41nm,16.0s,MS3.2						
SOC				MLR	MLR		
	comp=N,44nm,19.0s,MS3.4						
SOC				MLR	MLR		
	comp=E,69nm,23.0s,MS3.4						
FINES	**FINESS Array B**	35.48	313	P	P	02 54 01.2	-0.9
	comp=E,1.1nm,0.8s,mb3.9,baz=104,slow=7.9,SNR=3.7						
FINES	**FINESS Array B**	35.48	313	i P	P	02 54 02.3	+0.2
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
SIM	**Simferopol'**	36.29	283	eP	P	02 54 02.0	-7.2
SIM				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6						
AKASG	**Malin Array Be**	36.83	295	P	P	02 54 13.7	+0.1
	comp=Z,0.3nm,0.4s,mb3.5,baz=57,slow=8.6,SNR=5.4						
BRTR	**Keskin Array B**	39.27	276	P	P	02 54 34.4	+0.2
	comp=Z,0.8nm,0.5s,mb3.7,baz=76,slow=6.5,SNR=6.7						
BRTR	**Keskin Array B**	39.27	276	P	P	02 54 34.4	+0.2
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NB2	**NORSAR Subarra**	42.49	315	P	P	02 55 01.0	+0.7
	comp=Z,0.6nm,0.5s,mb3.5,baz=62,slow=7.9						
NOA	**NORSAR Array B**	42.49	315	P	P	02 55 00.4	+0.1
	comp=Z,0.8nm,0.6s,mb3.5,baz=63,slow=7.7,SNR=5.4						
NOA	**NORSAR Array B**	42.49	315	P	P	02 55 00.4	+0.1
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
HINF	**Hinteralfeld**	51.03	301	eP	P	02 56 08.2	+0.4
HAU	**Haudompre**	51.20	301	eP	P	02 56 09.3	+0.2
	comp=Z,3.3nm,0.5s,mb4.2						
CABF	**La Chapelle**	52.15	300	eP	P	02 56 16.5	+0.2
LPG	**La Plagne**	52.43	299	eP	P	02 56 19.3	+0.9
	comp=Z,2.6nm,0.4s,mb4.2						
LPL	**La Plagne**	52.43	299	eP	P	02 56 19.0	+0.6
	comp=Z,1.8nm,0.4s,mb4.0						
MBDF	**Montbardon**	52.88	298	eP	P	02 56 22.7	+0.9
	comp=Z,5.1nm,0.6s,mb4.3						
ORIF	**Oris-en-Rattie**	53.27	299	eP	P	02 56 24.9	+0.2
SSF	**Saint Saulge**	53.31	302	eP	P	02 56 24.5	-0.5
	comp=Z,1.8nm,0.7s,mb3.8						
AVF	**Avril sur Loir**	53.56	302	eP	P	02 56 25.8	-1.0
	comp=Z,3.2nm,0.7s,mb4.0						
BGF	**Bois d'Agland**	53.98	302	eP	P	02 56 29.8	0.0
	comp=Z,6.1nm,0.8s,mb4.3						
VIVF	**Saint-Julien-l**	53.99	299	eP	P	02 56 30.0	+0.1
	comp=Z,3.6nm,0.5s,mb4.2						
LDF	**La Druitiere**	54.34	305	eP	P	02 56 32.1	-0.3
	comp=Z,5.9nm,0.6s,mb4.4						
FLN	**La Foliniere**	54.43	306	eP	P	02 56 32.8	-0.3
	comp=Z,2.8nm,0.3s,mb4.3						
TCF	**Toulx Ste Croi**	54.49	302	eP	P	02 56 33.5	-0.1
	comp=Z,3.0nm,0.7s,mb4.1						
MFF	**Saint Martin d**	55.58	303	eP	P	02 56 41.5	0.0
	comp=Z,4.6nm,0.5s,mb4.4						
LFF	**La Frestale**	56.14	301	eP	P	02 56 45.4	-0.2
	comp=Z,6.7nm,0.7s,mb4.5						
QUIF	**Quistinic**	56.36	306	eP	P	02 56 47.2	+0.1
ESDC	**Sonseca Array**	62.23	299	P	P	02 57 27.9	+0.1
	comp=Z,0.8nm,0.5s,mb4.1,baz=41,slow=6.4,SNR=5.1						
EVO	**Evora**	65.28	301	eP	P	02 57 47.7	-0.1
	comp=Z,18nm,1.0s,mb4.7						

OTT 03 03:45:23.3±0.1, 59.95N×76.71W, h18^{km}, MN2.5/7, 33km east from Puvirnituq, Qc Boothia Ungava Seismic Zone., Northern Quebec

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FRB	**Frobisher Bay**	5.43	42	PN	Pn	03 46 42.7	-2.7
FRB				SN	Sn	03 47 41.4	-6.8
FRB				Trac		03 47 48.0	
	comp=Z,1.0nm,0.1s						
LG4Q	**La Grande 4**	6.50	166	PN	Pn	03 46 57.3	-3.3
LG4Q				SN	Sn	03 48 06.8	-8.2
LG4Q				Trac		03 49 07.1	
	comp=Z,1.6nm,0.3s						
SILO	**Sutton Inlier**	7.06	223	PN	Pn	03 47 04.6	-3.9
SILO				SN	Sn	03 48 20.1	-9.0
SILO				Trac		03 49 04.9	
	comp=Z,1.1nm,0.2s						
SCHQ	**Schefferville**	7.40	130	PN	Pn	03 47 08.1	-5.1
VIMO	**Victor Mine**	8.14	212	PN	P	03 47 21.8	-1.8
VIMO				SN	Sn	03 48 45.8	-10
VIMO				Trac		03 48 55.8	
	comp=Z,0.4nm,0.1s						
FCC	**Fort Churchill**	8.95	270	PN	P	03 47 30.9	-4.0
FCC				Trac		03 49 18.0	
	comp=Z,2.3nm,0.6s						
MALO	**McAlpine Lake**	10.10	191	PN	P	03 47 48.1	-2.4
MALO				Trac		03 49 43.7	
	comp=Z,1.4nm,0.3s						
KAPO	**Kapuskasing**	11.04	200	PN	P	03 47 58.6	-4.7
KAPO				Trac		03 49 24.0	
	comp=Z,0.6nm,0.1s						
KAPO				SN	S	03 49 54.5	-13

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*NEIC **03** 03:48:43.8±0.4, 51.60N×16.15E, h5^{km}, ML3.2(SZGRF), ML3.1(VIE), ML2.9(CLL), ML2.6(BRG), Error ellipse: s-maj=5.7km s-min=4.6km az=68.0*
*BGR **03** 03:48:44.6±0.7, 51.48N×16.16E, h1^{km}, ML3.2/7, Error ellipse: s-maj=8.9km s-min=5.6km az=166.0*
*PRU **03** 03:48:45.7, 51.49N×16.06E*
*WAR **03** 03:48:45.7, 51.50N×16.09E, ML3.1, Mining Induced*
*IDC **03** 03:48:45.3±0.6, 51.52N×15.93E, mb1 3.4/8, mb1mx3.3/19, ML3.1/8, Error ellipse: s-maj=11.7km s-min=6.1km az=102.0*
*MOS **03** 03:48:47.7±1.4, 51.30N×15.88E, h11^{km}, mb4.0/1, Error ellipse: s-maj=13.1km s-min=7.2km az=83.1*

ISC 03 03:48:45.2±0.3, 51.38N±0.02×15.98E±0.03, n56, σ1^{s}11/105, 4C, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	**Ksiaz**	0.58	160	i PG	Pg	03 48 58.0	+1.3
KSP				i SG	Sg	03 49 07.1	+2.7
KSP	**Ksiaz**	0.58	160	i Pg	Pg	03 48 58.0	+1.3
KSP				eSg	Sg	03 49 07.1	+2.7
UPC	**Upice**	0.88	178	ePG	Pg	03 49 04.1	+1.4
DPC	**Dobruska-Polom**	1.06	168	ePG	Pg	03 49 06.8	+0.5
DPC				eSG	Sg	03 49 21.5	+1.1
	48nm,0.3s						
DPC	**Dobruska-Polom**	1.06	168	eP	Pg	03 49 06.8	+0.5
DPC				e		03 49 21.5	
DPC				smax			
	comp=N,48nm,0.3s						
PVCC	**Panska Ves**	1.23	227	ePG	Pg	03 49 10.8	+0.9
BRG	**Berggiesshubel**	1.38	249	ePn	Pn	03 49 12.1	+0.3
BRG				eSg	Sg	03 49 32.9	+1.7
BRG	**Berggiesshubel**	1.38	249	eP	Pb	03 49 11.6	0.0
BRG				i		03 49 33.6	
BRG	**Berggiesshubel**	1.38	249	ePn	Pb	03 49 11.6	0.0
BRG				i Pg	Pg	03 49 13.3	+0.5
BRG				i Sg	Sg	03 49 33.6	+2.5
PRU	**Pruhonice**	1.67	214	PN	Pn	03 49 16.2	+0.3
PRU				PG	Pg	03 49 17.9	-0.6
PRU				i x	x	03 49 20.1	
PRU				i x	x	03 49 35.3	
PRU				SG	Sg	03 49 41.4	+0.6
	comp=N,44nm,0.4s						
PRU	**Pruhonice**	1.67	214	P	Pn	03 49 16.2	+0.3
PRU				i		03 49 35.3	
PRU				smax			
	comp=N,45nm,0.4s						
RUE	**Ruedersdorf**	1.75	310	ePn	Pn	03 49 18.4	+1.4
RUE				eSn	Sn	03 49 40.9	+0.5
CLL	**Collm**	1.87	269	i PN	Pn	03 49 17.9	-0.8
CLL				i PG	Pg	03 49 21.3	-1.2
CLL				i		03 49 25.1	
CLL				i SG	Sg	03 49 47.3	-0.1
CLL	**Collm**	1.87	269	i P	Pn	03 49 17.9	-0.8
CLL				i		03 49 47.3	
CLL	**Collm**	1.87	269	i Pn	Pn	03 49 17.9	-0.8
CLL				i Pg	Pg	03 49 21.3	-1.2
CLL				i Sg	Sg	03 49 47.3	-0.1
MORC	**Moravsky Berou**	1.89	148	ePn	Pn	03 49 18.3	-0.8
MORC				eSn	Sn	03 49 45.8	+1.8
RAC	**Raciborz**	1.92	132	eP	Pn	03 49 21.0	+1.5
RAC				eS	Sn	03 49 48.0	+3.3
GKP	**Gorka Klasztor**	2.04	22	eP	Pn	03 49 25.0	+3.8
GKP				eS	Sn	03 49 48.0	+0.2
GKP	**Gorka Klasztor**	2.04	22	eP	Pg	03 49 25.1	-0.9
GKP				e		03 49 53.4	
GKP	**Gorka Klasztor**	2.04	22	ePg	Pg	03 49 25.1	-0.9
GKP				eSn	Sn	03 49 47.7	-0.1
GKP				eSg	Sg	03 49 53.4	+0.2
OKC	**Ostrava-Krasne**	2.08	137	ePN	Pn	03 49 20.8	-0.9
OKC				ePG	Pg	03 49 25.3	-1.4
OKC				eSG	Sg	03 49 52.4	-1.9
OKC	**Ostrava-Krasne**	2.08	137	eP	Pn	03 49 20.8	-0.9
OKC				e		03 49 52.4	
VRAC	**Vranov**	2.11	169	Pn	Pn	03 49 22.3	+0.1
	comp=N,2.4nm,0.3s,baz=339,slow=15,SNR=10						
VRAC				Lg		03 49 55.4	
	comp=N,6.7nm,0.3s,baz=77,slow=18,SNR=11						
TANN	**Tannenbergstha**	2.43	248	ePn	Pn	03 49 27.2	+0.5
TANN				eSg	Sg	03 50 05.8	-0.2
WERD	**Werda**	2.50	249	ePn	Pn	03 49 28.0	+0.2
NKC	**Novy Kostel**	2.52	244	ePN	Pn	03 49 28.5	+0.5
NKC				ePG	Pg	03 49 34.8	-0.7
NKC				eSG	Sg	03 50 09.1	+0.1
GUNZ	**Gunzen**	2.52	248	ePn	Pn	03 49 28.3	+0.1
GUNZ				eSg	Sg	03 50 08.6	-0.7
OJC	**Ojcow**	2.69	114	ePG	Pg	03 49 35.0	-3.9
OJC				eSG	Sg	03 50 11.0	-3.8
OJC	**Ojcow**	2.69	114	ePg	Pg	03 49 35.3	-3.6
OJC				eSg	Sg	03 50 10.9	-3.9
KHC	**Kasperske Hory**	2.73	215	ePN	Pn	03 49 31.1	0.0
KHC				ePG	Pg	03 49 37.6	-2.1
KHC				eSN	Sn	03 50 06.2	+0.9
KHC				eSG	Sg	03 50 16.0	-0.1
KHC	**Kasperske Hory**	2.73	215	eP	Pn	03 49 31.1	0.0
KHC				e		03 50 06.2	
MOX	**Moxa**	2.85	257	ePn	Pn	03 49 32.7	-0.2
MOX				eSg	Sg	03 50 20.1	-0.1
MOX	**Moxa**	2.85	257	i P	Pn	03 49 33.2	+0.4
MOX				Pg	Pg	03 49 41.0	-1.2
MOX				Sg	Sg	03 50 20.0	-0.2
MOX	**Moxa**	2.85	257	ePn	Pn	03 49 33.2	+0.4
MOX				ePg	Pg	03 49 40.6	-1.6
MOX				eSg	Sg	03 50 20.2	0.0
GEC2	**GERESS Array S**	2.93	211	ePn	Pn	03 49 35.1	+1.1
GEC2				eSg	Sg	03 50 21.6	-1.3
GEC2	**GERESS Array S**	2.93	211	ePn	Pn	03 49 35.1	+1.1
GEC2				eSg	Sg	03 50 21.6	-1.2
GERES	**GERESS Array B**	2.93	211	Pn	Pn	03 49 34.4	+0.4
	comp=N,2.4nm,0.3s,baz=29,slow=12,SNR=78						
GERES				Pg	Pg	03 49 41.3	-2.5
	comp=N,4.5nm,0.3s,baz=29,slow=16,SNR=17						
GERES				Lg		03 50 21.5	
	comp=N,3.8nm,0.3s,baz=30,slow=27,SNR=4.1						
WET	**Wettzell**	3.00	223	ePn	Pn	03 49 35.1	+0.2
LIKS	**Likavka**	3.08	138	eSG	Sg	03 50 28.7	+0.9
VKA	**Vienna**	3.13	176	⇑iPG	Pg	03 49 45.7	-2.0
VKA				i SG	Sg	03 50 29.9	+0.5
ZST	**Bratislava**	3.27	167	ePN	Pn	03 49 41.6	+2.8
ZST				eSG	Sg	03 50 34.9	+0.7
VYHS	**Vyhne**	3.43	146	ePN	Pn	03 49 40.9	-0.2
VYHS				ePG	Pg	03 49 50.3	-3.4
VYHS				eSG	Sg	03 50 39.8	+0.3
GRA1	**Grafenberg Arr**	3.47	243	ePn	Pn	03 49 42.4	+0.7
GRA1				eSg	Sg	03 50 40.0	-0.9
GRF	**Grafenberg Arr**	3.47	243	ePn	Pn	03 49 42.4	+0.8
GRF				eSg	Sg	03 50 40.0	-0.8
MOA	**Molln**	3.71	198	⇑iPN	Pn	03 49 45.4	+0.4
MOA				i SG	Sg	03 50 49.0	+0.3
	comp=N,18nm,0.6s						
ARSA	**Arzberg**	4.15	184	⇑iPN	Pn	03 49 52.0	+0.8
ARSA				i SG	Sg	03 51 00.8	-2.5
	comp=N,18nm,0.7s						
CRVS	**Cervenica-Dubn**	4.31	123	ePG	Pg	03 50 05.8	-5.5
CRVS				eSG	Sg	03 51 07.7	-1.1
KBA	**Koelnbreinsper**	4.64	203	⇑iPN	Pn	03 49 58.7	+0.5
KBA				i SG	Sg	03 51 18.3	-1.4
	comp=N,8.5nm,0.6s						
KWP	**Kalwaria**	4.64	110	ePN	Pg	03 50 10.0	-7.9
KWP				ePG	Px	03 50 29.0	
KOLS	**Kolonicke sedl**	4.73	119	ePG	Pg	03 50 15.1	-4.6
DAVOX	**Davos**	6.10	223	Pn	Pn	03 50 18.6	-0.3
	comp=N,0.3nm,0.3s,baz=3.6,slow=19,SNR=3.5						
DAVOX				Lg		03 52 02.4	
	comp=N,0.3nm,0.3s,baz=307,slow=18,SNR=3.3						
AKASG	**Malin Array Be**	8.38	89	Pn	P	03 50 46.2	-4.6
	comp=N,1.2nm,0.3s,baz=278,slow=12,SNR=7.0						
AKASG				Lg		03 53 19.1	
	comp=N,0.1nm,0.3s,baz=270,slow=26,SNR=3.0						
HFS	**Hagfors**	8.87	353	Pn	P	03 50 49.5	-8.0
	comp=N,0.0nm,0.3s,baz=170,slow=16,SNR=4.3						
HFS				Sn	Sn	03 52 27.5	-12
	comp=N,0.0nm,0.3s,baz=172,slow=22,SNR=2.9						
NOA	**NORSAR Array B**	10.03	347	Pn	P	03 51 04.4	-9.1
	comp=N,0.1nm,0.3s,baz=313,slow=22,SNR=2.5						
FINES	**FINESS Array B**	11.51	25	Pn	P	03 51 25.5	-8.3
	comp=N,0.2nm,0.3s,baz=210,slow=11,SNR=5.4						
FINES				Sn	S	03 53 26.9	-17
	comp=N,0.2nm,0.3s,baz=220,slow=22,SNR=3.6						
ARCES	**ARCESS Array B**	18.76	10	Pn	P	03 52 58.6	-8.9
	comp=N,0.1nm,0.3s,baz=189,slow=14,SNR=5.9						

KRSC 03 04:04:59.3±0.4, 49.23N×155.96E, h40^{km}±11^{km}, ML3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	1.46	4	eP	P	04 05 23.1	-0.5
SKR				eS	S	04 05 40.1	-1.6
PAU	**Pauzhetka**	2.31	13	eS	S	04 06 01.4	-1.6
PAU				Smax			
	260nm,0.2s						
GRL	**Gorelyy**	3.58	21	eP	P	04 05 53.6	-0.3
GRL				eS	S	04 06 33.1	-2.4
RUS	**Russkaya**	3.59	26	eP	P	04 05 53.6	-0.4
RUS				eS	S	04 06 32.9	-2.8

UGLR	**Uglovaya**	**4.37**	**23**	*e*P	P	04 06 06.2	+1.2
UGLR				*e*S	S	04 06 54.6	-0.8
AVH	**Avacha**	**4.40**	**22**	*e*P	P	04 06 05.7	+0.3
AVH				*e*S	S	04 06 53.7	-2.4
KOK	**Koryaka**	**4.40**	**21**	*e*P	P	04 06 07.6	+2.2
KOK				*e*S	S	04 06 57.0	+0.9
SMAR	**Somma**	**4.42**	**23**	*e*P	P	04 06 07.6	+2.0
SMAR				*e*S	S	04 06 57.7	+1.2
SDLR	**Sedlovina**	**4.45**	**23**	*e*P	P	04 06 05.9	-0.2
SDLR				*e*S	S	04 06 54.6	-2.8
GNL	**Ganaly**	**4.64**	**15**	*e*P	P	04 06 09.5	+0.7
GNL				*e*S	S	04 07 00.7	-1.4
SPN	**Mys Shipunski**	**4.64**	**32**	*e*P	P	04 06 08.8	0.0
SPN				*e*S	S	04 06 58.8	-3.4
MKZ	**Mys Kozlova**	**6.42**	**32**	*e*P	P	04 06 31.6	-2.2
MKZ				*e*S	S	04 07 41.3	-5.3

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*GUC **03** 04:55:43.7±0.8, 35.01S×70.51W, h2^{km}±2^{km}, MD4.1, ML3.6*
*NEIC **03** 04:55:43.7, 35.01S×70.51W, h2^{km}, ML3.6(GUC), After GUC.*
NEIC Felt [II] at Los Quenes.
ISC 03 04:55:43.3±1.1**, 35.04S**±0.03×**70.47W**±0.06**, h2**^{km}±6^{km}**, n18, σ0^{s}55**/30**, 4C-3D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFDO	**San Fernando**	**0.62**	**314**	⇑*i*P	**Pg**	**04 55 55.7**	**0.0**
SFDO				*i* S	**Sg**	**04 56 04.3**	**+0.4**
NICH	**Los Niches**	**0.62**	**273**	⇓*i*P	**Pg**	**04 55 55.7**	**-0.1**
NICH				*i* S	**Sg**	**04 56 04.4**	**+0.2**
CICH	**Cipreses**	**0.72**	**3**	⇓*i*P	**Pg**	**04 55 57.6**	**-0.1**
CICH				*i* S	**Sg**	**04 56 08.1**	**+0.8**
CACH	**El Canelo**	**0.93**	**353**	⇑*i*P	**Pb**	**04 56 01.2**	**-0.6**
CACH				*i* S	**Sg**	**04 56 14.1**	**-0.2**
CHCH	**Chadas Angostu**	**1.12**	**352**	*i* P	**Pb**	**04 56 04.4**	**-0.6**
CHCH				*i* S	**Sb**	**04 56 19.6**	**-0.2**
LMEL	**Las Melosas**	**1.21**	**11**	*e*P	**Pb**	**04 56 06.1**	**-0.5**
LMEL				*i* S	**Sb**	**04 56 23.1**	**+0.5**
LNV	**Longovilo**	**1.33**	**324**	⇓*i*P	**Pb**	**04 56 07.8**	**-0.9**
LNV				*i* S	**Sb**	**04 56 25.6**	**-0.5**
PCH	**Pirque**	**1.42**	**358**	*i* P	**Pb**	**04 56 10.1**	**-0.1**
PCH				*i* S	**Sb**	**04 56 29.1**	**+0.5**
TACH	**Talagante**	**1.44**	**344**	⇑*i*P	**Pn**	**04 56 10.1**	**-0.4**
TACH				*i* S	**Sb**	**04 56 29.2**	**0.0**
ANTU	**Antumapu**	**1.48**	**355**	*i* P	**Pn**	**04 56 10.8**	**-0.2**
ANTU				AMP		04 56 33.2	
	comp=E,2µm,0.6s						
DSCH	**Colegio Aleman**	**1.64**	**357**	*e*P	**Pn**	**04 56 13.1**	**-0.3**
DSCH				AMP		04 56 38.3	
	comp=E,2µm,0.3s						
CLCH	**Cerro Calan**	**1.64**	**358**	*e*P	**Pn**	**04 56 13.0**	**-0.4**
CLCH				AMP		04 56 38.6	
	comp=N,772nm,0.7s						
FCH	**Farellones**	**1.72**	**5**	*e*P	**Pn**	**04 56 15.2**	**+0.8**
FCH				AMP		04 56 40.5	
	comp=N,1µm,0.2s						
LCCH	**Las Cruces**	**1.81**	**329**	*e*P	**Pn**	**04 56 15.7**	**-0.1**
LCCH				*i* S	**Sn**	**04 56 39.9**	**+0.3**
PEL	**Peldehue**	**1.90**	**355**	*e*P	**Pn**	**04 56 16.5**	**-0.6**
PEL				AMP		04 56 45.6	
	comp=N,1µm,0.3s						
CCHI	**Chillan**	**2.03**	**220**	⇑*i*P	**Pn**	**04 56 19.3**	**+0.3**
CCHI				*i* S	**Sn**	**04 56 46.0**	**+0.8**
CCHI				AMP		04 56 50.4	
	comp=N,540nm,0.7s						
COCH	**Cobquecura**	**2.18**	**239**	*e*P	**Pn**	**04 56 20.4**	**-0.6**
COCH				*i* S	**Sn**	**04 56 48.8**	**-0.2**
COCH				AMP		04 56 53.3	
	comp=E,430nm,0.2s						
JACH	**Jahuel**	**2.36**	**357**	*e*P	**Pn**	**04 56 25.4**	**+1.8**

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*PGC **03** 05:01:33.9, 62.03N×124.07W, h1^{km}, MN4.3/8, Mackenzie Mountains, Northwest Territories*
*IDC **03** 05:01:34.5±1.8, 62.14N×124.27W, h9^{km}±12^{km}, mb3.9/10, mb1 4.2/16, mb1mx4.1/24, ML4.0/6, MS3.4/8, Ms1 3.4/8, ms1mx3.2/18, Error ellipse: s-maj=12.4km s-min=6.9km az=138.0*
*NEIC **03** 05:01:34.0, 62.03N×124.07W, h1^{km}, mb4.2/29, ML4.3(PGC), After PGC.*
ISC 03 05:01:31.3±0.3**, 62.10N**±0.03×**124.23W**±0.06**, h1**^{km}**, n116, σ1^{s}36**/138**, mb4.2**/28**, MS3.5**/6**, 1C-3D, Northwest Territories**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FNBB	**Fort Nelson**	**3.28**	**169**	⇑Pn	**Pn**	**05 02 24.4**	**-0.5**
FNBB				Sg	**Sg**	**05 03 13.3**	**-7.3**
FNBB				Trac		05 03 17.4	
	comp=Z,575nm,0.2s						
YKW3	**Yellowknife Ar**	**4.51**	**80**	Pn	**Pn**	**05 02 41.0**	**-1.3**
YKW3				Pn	**Pn**	**05 02 42.0**	**-0.4**
YKW3				Pg	**Pg**	**05 02 55.2**	**-6.1**
YKW3				Pg	**Pg**	**05 02 55.5**	**-5.8**
YKW3				Sg	**Sg**	**05 03 52.9**	**-8.5**
YKW3				Sg	**Sg**	**05 03 52.9**	**-8.5**
YKW3				Trac		05 04 01.4	
	comp=Z,1µm,0.7s						
YKW3				Trac		05 04 01.4	
	comp=Z,1µm,0.7s						
YKW3				Trac		05 04 01.6	
	comp=Z,1µm,0.6s						
YKW3				Trac		05 04 01.6	
	comp=Z,1µm,0.6s						
YKW3	**Yellowknife Ar**	**4.51**	**80**	*e*Pn	**Pn**	**05 02 42.5**	**+0.2**
YKW3				*e*Pg	**Pg**	**05 02 56.5**	**-4.8**
YKW3				*e*Sg	**Sg**	**05 03 53.0**	**-8.4**
YKA	**Yellowknife Ar**	**4.51**	**81**	Pn	**Pn**	**05 02 40.9**	**-1.5**
	2.2nm,0.3s,baz=267,slow=13,SNR=51						
YKA				Pg	**Pg**	**05 02 56.6**	**-4.8**
	26nm,0.3s,baz=266,slow=17,SNR=53						
YKA				Sn	**Sn**	**05 03 34.8**	**-1.5**
	24nm,0.3s,baz=262,slow=21,SNR=4.4						
YKA				Lg		05 03 53.0	
	59nm,0.3s,baz=266,slow=30,SNR=6.0						
YKA				LR	LR	05 04 47.0	
	comp=Z,510nm,18.7s,baz=265,slow=42						
YKA	**Yellowknife Ar**	**4.51**	**81**	Pn	**Pn**	**05 02 40.9**	**-1.5**
YKA				Pg	**Pg**	**05 02 56.6**	**-4.8**
YKA				Sn	**Sn**	**05 03 34.8**	**-1.5**
YKA				Lg		05 03 53.0	
YKA				LR	LR	05 04 47.0	
DLBC	**Dease Lake**	**4.67**	**221**	Pn	**Pn**	**05 02 44.8**	**+0.1**
	11nm,0.3s,baz=39,slow=12,SNR=205						
DLBC				Sn	**Sn**	**05 03 39.0**	**-1.5**
	48nm,0.3s,baz=144,slow=25,SNR=13						
DLBC				Lg		05 04 00.0	
	79nm,0.3s,baz=151,slow=26,SNR=4.9						
DLBC	**Dease Lake**	**4.67**	**221**	⇓Pn	**Pn**	**05 02 45.0**	**+0.3**
DLBC				Sn	**Sn**	**05 03 37.5**	**-2.9**
DLBC				Sg	**Sg**	**05 03 58.8**	**-8.2**
DLBC				Trac		05 04 01.2	
	comp=Z,323nm,0.5s						
DLBC	**Dease Lake**	**4.67**	**221**	*e*Pn	**Pn**	**05 02 44.5**	**-0.2**
DLBC				*e*		05 02 56.4	
DLBC				*e*Sn	**Sn**	**05 03 36.2**	**-4.3**
WHY	**Whitehorse**	**5.32**	**259**	Pn	**Pn**	**05 02 53.8**	**0.0**
WHY				Sn	**Sn**	**05 03 55.9**	**-0.8**
WHY				Sg	**Sg**	**05 04 22.0**	**-6.5**
WHY				Trac		05 04 23.1	
	comp=Z,422nm,0.9s						
BMBC	**Bull Mountain**	**6.17**	**169**	⇑Pn	**Pn**	**05 03 03.0**	**-2.9**
BMBC				Sn	**Sn**	**05 04 10.1**	**-8.0**
BMBC				Sg	**Sg**	**05 04 43.4**	**-13**
BMBC				Trac		05 04 49.6	
	comp=Z,532nm,0.3s						
DAWY	**Dawson**	**7.16**	**293**	Pn	**Pn**	**05 03 19.0**	**-0.7**
DAWY				Sn	**Sn**	**05 04 39.0**	**-3.6**
DAWY				Trac		05 05 43.0	
	comp=Z,91nm,0.6s						
DAWY	**Dawson**	**7.16**	**293**	*e*Pn	**Pn**	**05 03 19.0**	**-0.7**
DAWY				*e*Sg	**Sg**	**05 05 24.9**	**-4.7**
INK	**Inuvik**	**7.34**	**332**	Pn	**Pn**	**05 03 20.3**	**-2.1**
	5.3nm,0.3s,baz=146,slow=10,SNR=102						
INK				Sn	**Sn**	**05 04 42.7**	**-4.6**
	3.5nm,0.3s,baz=132,slow=15,SNR=2.7						
INK				LR	LR	05 06 04.3	
	comp=Z,60nm,18.3s,baz=145,slow=37						
INK	**Inuvik**	**7.34**	**332**	Pn	**Pn**	**05 03 20.1**	**-2.2**
INK				Trac		05 05 01.4	
	comp=Z,56nm,0.6s						
INK				Trac		05 05 01.4	
	comp=Z,56nm,0.6s						
INK	**Inuvik**	**7.34**	**332**	*e*Pn	**Pn**	**05 03 20.6**	**-1.8**
	0.2nm,0.2s						
FSB	**Fort Saint Jam**	**7.65**	**180**	Pn	**Pn**	**05 03 25.0**	**-1.6**
FSB				Sg	**Sg**	**05 05 28.0**	**-18**
FSB				Trac		05 05 44.9	
	comp=Z,76nm,0.4s						
FSB				Trac		05 05 44.9	
	comp=Z,76nm,0.4s						
RUBB	**Prince Rupert**	**8.42**	**205**	Pn	**P**	**05 03 35.1**	**-2.3**
RUBB				Sg	**Sg**	**05 05 56.0**	**-16**
RUBB				Trac		05 06 05.3	
	comp=Z,39nm,0.7s						
BNAB	**Bonilla**	**9.28**	**204**	Pn	**P**	**05 03 49.1**	**-0.2**
BNAB				Sg	**Sg**	**05 06 20.9**	**-19**
BNAB				Trac		05 06 35.2	
	comp=Z,60nm,1.2s						
VIB	**Van Inlet**	**9.92**	**210**	Pn	**P**	**05 03 58.5**	**+0.5**
VIB				Trac		05 06 56.1	
	comp=Z,19nm,1.1s						
BBB	**Bella Bella**	**10.16**	**194**	Pn	**P**	**05 03 59.8**	**-1.5**
	0.3nm,0.3s,baz=24,slow=17,SNR=7.6						
BBB				Lg		05 06 52.5	
	1.2nm,0.3s,baz=325,slow=23,SNR=3.5						
BBB	**Bella Bella**	**10.16**	**194**	Pn	**P**	**05 03 59.9**	**-1.5**
BBB				Sg	S	05 06 49.0	+52
BBB				Trac		05 06 59.8	
	comp=Z,35nm,0.8s						
EDM	**Edmonton**	**10.62**	**142**	⇓Pn	**P**	**05 04 04.4**	**-3.2**
EDM				Sg	S	05 07 01.7	+53
EDM				Trac		05 07 10.8	
	comp=Z,282nm,0.7s						
EDM				Trac		05 07 10.8	
	comp=Z,282nm,0.7s						
COLA	**College**	**10.89**	**295**	Pn	**P**	**05 04 12.1**	**+0.9**
MCK	**McKinley**	**11.35**	**289**	*e*Pn	**P**	**05 04 18.0**	**+0.4**
	9µm,1.2s						
PHC	**Port Hardy**	**11.56**	**190**	P	**P**	**05 04 19.2**	**-1.2**
PHC				Trac		05 07 47.0	
	comp=Z,11nm,0.7s						
LLLB	**Lillooet**	**11.60**	**173**	P	**P**	**05 04 19.1**	**-1.8**
LLLB				Trac		05 07 44.8	
	comp=Z,19nm,0.6s						
HOLB	**Holberg**	**11.69**	**192**	Trac		05 07 41.6	
	comp=Z,63nm,1.3s						
MAYB	**Maynard**	**11.84**	**189**	P	**P**	**05 04 23.2**	**-1.1**
MAYB				Trac		05 08 19.2	
	comp=Z,51nm,1.5s						
WOSB	**Woss**	**12.04**	**187**	P	**P**	**05 04 25.9**	**-1.0**
WOSB				Trac		05 08 25.2	
	comp=Z,52nm,1.5s						
CBB	**Campbell River**	**12.12**	**183**	Trac		05 08 02.2	
	comp=Z,9.0nm,1.1s						
WPB	**Watts Point**	**12.49**	**177**	P	**P**	**05 04 35.0**	**+2.1**
WPB				Trac		05 08 49.6	
	comp=Z,8.0nm,0.8s						
SHB	**Sechelt**	**12.54**	**179**	Trac		05 08 20.1	
	comp=Z,29nm,0.8s						
BTB	**Buttle Lake**	**12.69**	**184**	P	**P**	**05 04 36.0**	**+0.4**
BTB				Trac		05 08 24.7	
	comp=Z,26nm,0.9s						
HOPB	**Hope**	**12.84**	**172**	P	**P**	**05 04 35.2**	**-2.5**
HOPB				Trac		05 08 33.7	
	comp=Z,24nm,0.6s						
PNT	**Penticton**	**13.07**	**167**	⇓P	**P**	**05 04 37.5**	**-3.3**
PNT				Trac		05 08 30.9	
	comp=Z,31nm,0.6s						
MGB	**Mount Grey**	**13.14**	**181**	P	**P**	**05 04 42.7**	**+1.1**
MGB				Trac		05 08 38.2	
	comp=Z,37nm,1.3s						
VDB	**Vedder Mountai**	**13.16**	**174**	P	**P**	**05 04 40.5**	**-1.5**
VDB				Trac		05 08 59.7	
	comp=Z,16nm,1.2s						
IMA	**Indian Mountai**	**13.39**	**300**	*e*P	**P**	**05 04 45.9**	**+1.0**
FFC	**Flin Flon**	**13.75**	**112**	*e*Pn	**P**	**05 04 43.1**	**-6.4**
	23nm,0.7s						
FFC				*e*Sn	**S**	**05 07 08.8**	**-15**
RPW	**Rockport**	**13.77**	**172**	*e*Pn	**P**	**05 04 50.2**	**+0.4**
NLW	**Nelson Butte**	**14.23**	**169**	*e*Pn	**P**	**05 04 55.5**	**-0.3**
NEW	**Newport**	**14.44**	**161**	Pn	**P**	**05 04 57.6**	**-0.9**
	0.8nm,0.3s,baz=357,slow=15,SNR=4.0						
NEW				Sn	**S**	**05 07 28.9**	**-12**
	0.4nm,0.3s,baz=46,slow=14,SNR=2.0						
NEW				Lg		05 09 06.2	
	0.8nm,0.3s,baz=80,slow=12,SNR=5.1						
NEW	**Newport**	**14.44**	**161**	*e*Pn	**P**	**05 04 57.5**	**-1.1**
	2.2nm,0.4s						
GNW	**Green Mountain**	**14.59**	**176**	*e*Pn	**P**	**05 04 59.5**	**-1.2**
FCC	**Fort Churchill**	**15.17**	**89**	P	**P**	**05 05 04.0**	**-4.1**
FCC				S	**S**	**05 07 38.2**	**-20**
FCC				Trac		05 09 42.1	
	comp=Z,104nm,0.8s						
FCC				Trac		05 09 42.1	
	comp=Z,104nm,0.8s						
HAWA	**Hanford**	**15.97**	**168**	*e*Pn	**P**	**05 05 18.4**	**-0.2**
	6.0nm,0.8s						
RES	**Resolute Bay**	**16.32**	**28**	P	**P**	**05 05 23.2**	**+0.4**
RES				S	**S**	**05 08 08.3**	**-16**
RES				Trac		05 10 10.5	
	comp=Z,61nm,1.1s						
RES				Trac		05 10 10.5	
	comp=Z,61nm,1.1s						
RES	**Resolute Bay**	**16.32**	**28**	*e*P	**P**	**05 05 24.7**	**+1.9**
	24nm,0.7s						
LNOR	**Lincton Mounta**	**16.62**	**165**	*e*P	**P**	**05 05 28.3**	**+1.4**
HRY	**Holter Researc**	**16.98**	**150**	*e*P	**P**	**05 05 27.0**	**-4.3**
SSOR	**Sweet Springs**	**17.31**	**176**	*e*P	**P**	**05 05 35.8**	**+0.2**
DGMT	**Dagmar**	**17.68**	**131**	*e*P	**P**	**05 05 36.8**	**-3.4**
	24nm,0.5s						
BOZ	**Bozeman (W)**	**18.02**	**150**	*e*P	**P**	**05 05 42.5**	**-2.0**
	17nm,0.8s						
MCMT	**McKenzie Canyo**	**18.54**	**154**	*e*P	**P**	**05 05 49.4**	**-1.4**
LAO	**LASA Array**	**18.56**	**138**	*e*P	**P**	**05 05 47.9**	**-3.2**
	18nm,0.7s						
QLMT	**Earthquake Lak**	**18.84**	**151**	*e*P	**P**	**05 05 54.9**	**+0.4**
YMR	**Madison River**	**19.10**	**150**	*e*P	**P**	**05 05 57.5**	**-0.2**
HLID	**Hailey**	**19.45**	**158**	*e*P	**P**	**05 06 01.2**	**-0.6**
	5.3nm,0.9s						
HUMO	**Hull Mountain**	**19.54**	**177**	*e*P	**P**	**05 06 04.0**	**+1.1**
	6.2nm,0.8s						
ULM	**Lac du Bonnet**	**19.55**	**114**	P	**P**	**05 06 00.7**	**-2.2**
	1.1nm,0.3s,baz=316,slow=12,SNR=23						
ULM				Lg		05 11 37.0	
	0.4nm,0.3s,baz=229,slow=18,SNR=5.4						
ULM	**Lac du Bonnet**	**19.55**	**114**	P	**P**	**05 05 59.8**	**-3.1**
ULM				S	**S**	**05 09 21.2**	**-17**
ULM				Trac		05 11 43.0	
	comp=Z,49nm,0.9s						
ULM				Trac		05 11 43.0	
	comp=Z,49nm,0.9s						
WVOR	**Wild Horse Val**	**19.98**	**168**	*e*P	**P**	**05 06 09.2**	**+1.4**
	9.3nm,1.0s						
MOOW	**Moose Ponds**	**20.02**	**150**	*e*P	**P**	**05 06 09.6**	**+1.4**
LOHW	**Long Hollow**	**20.19**	**150**	*e*P	**P**	**05 06 10.8**	**+0.9**
TPAW	**Teton Pass**	**20.22**	**151**	*e*P	**P**	**05 06 10.7**	**+0.4**
WUWY	**Wally Ulrich**	**20.22**	**151**	*e*P	**P**	**05 06 11.4**	**+1.1**
SNOW	**Snow King Moun**	**20.29**	**151**	*e*P	**P**	**05 06 12.4**	**+1.3**
REDW	**Red Top Meadow**	**20.37**	**151**	*e*P	**P**	**05 06 12.7**	**+0.9**
MOD	**Modoc**	**20.37**	**172**	*e*P	**P**	**05 06 12.9**	**+1.1**
	4.6nm,0.6s						
YBH	**Yreka Blue Hor**	**20.42**	**177**	P	**P**	**05 06 13.9**	**+1.5**
	2.6nm,0.6s,baz=344,slow=4.3,SNR=5.4						
YBH	**Yreka Blue Hor**	**20.42**	**177**	*e*P	**P**	**05 06 14.4**	**+2.0**
	10nm,1.2s						
BW06	**Boulder Array**	**21.23**	**149**	*e*P	**P**	**05 06 21.0**	**+0.2**
	6.8nm,0.7s,mb4.1						
PDAR	**Pinedale Array**	**21.23**	**149**	P	**P**	**05 06 21.1**	**+0.4**
	7.9nm,1.0s,mb4.0,baz=352,slow=5.6,SNR=29						
HVU	**Hansel Valley**	**21.48**	**156**	*e*P	**P**	**05 06 23.6**	**+0.3**
RSSD	**Black Hills**	**21.54**	**137**	*e*P	**P**	**05 06 23.1**	**-0.8**
	16nm,0.7s,mb4.6						
WDC	**Whiskeytown Da**	**21.58**	**176**	*e*P	**P**	**05 06 26.6**	**+2.3**
	13nm,1.2s,mb4.2						
HWUT	**Hardware Ranch**	**21.89**	**154**	*e*P	**P**	**05 06 28.4**	**+1.1**
	11nm,1.2s,mb4.2						
ELK	**Elko**	**22.07**	**162**	*e*P	**P**	**05 06 30.9**	**+1.7**
	4.9nm,1.0s,mb3.9						
BMN	**Battle Mountai**	**22.11**	**166**	*e*P	**P**	**05 06 31.5**	**+1.9**
	6.3nm,1.0s,mb4.0						
BGU	**Big Grassy Mou**	**22.26**	**157**	*e*P	**P**	**05 06 34.7**	**+3.6**
TCUT	**Toone Canyon**	**22.39**	**154**	*e*P	**P**	**05 06 34.5**	**+2.2**
JLU	**Jordanelle**	**22.88**	**154**	*e*P	**P**	**05 06 39.0**	**+2.0**
DUG	**Dugway**	**23.01**	**157**	*e*P	**P**	**05 06 40.8**	**+2.5**
	5.7nm,0.7s,mb4.2						
DAU	**Daniels Canyon**	**23.10**	**154**	*e*P	**P**	**05 06 40.7**	**+1.5**
NLU	**North Lily Min**	**23.38**	**156**	*e*P	**P**	**05 06 43.1**	**+1.1**
MNV	**Mina**	**23.99**	**168**	*e*P	**P**	**05 06 50.2**	**+2.3**
	14nm,1.3s,mb4.3						
TPH	**Tonopah**	**24.44**	**167**	*e*P	**P**	**05 06 53.6**	**+1.3**
	7.2nm,1.1s,mb4.1						
SRU	**San Rafael**	**24.50**	**154**	*e*P	**P**	**05 06 55.2**	**+2.3**
FRB	**Frobisher Bay**	**24.72**	**61**	P	**P**	**05 06 56.0**	**+1.3**
	11nm,0.9s,mb4.6,baz=10,slow=12,SNR=5.3						
FRB				LR	LR	05 16 38.3	
	comp=Z,137nm,19.2s,MS3.5,baz=86,slow=37						
MSU	**Marysvale**	**24.76**	**157**	*e*P	**P**	**05 06 57.4**	**+2.1**
ISCO	**Idaho Springs**	**25.04**	**144**	*e*P	**P**	**05 06 59.4**	**+1.4**
	6.5nm,1.0s,mb4.3						
PV10	**Paradox Valley**	**25.53**	**151**	*e*P	**P**	**05 07 04.2**	**+1.6**
SDCO	**Great Sand Dun**	**27.00**	**146**	*e*P	**P**	**05 07 16.5**	**+0.3**
	1.4nm,0.7s,mb3.8						
NEN	**Nelson**	**27.13**	**163**	*e*P	**P**	**05 07 18.3**	**+0.9**
ANMO	**Albuquerque**	**29.40**	**149**	*e*P	**P**	**05 07 39.3**	**+1.2**
	5.3nm,1.0s,mb4.3						
SCHQ	**Schefferville**	**29.96**	**77**	LR	LR	05 20 31.3	
	comp=Z,72nm,18.6s,MS3.3,baz=82,slow=38						
SADO	**Sadowa**	**31.14**	**103**	LR	LR	05 20 12.9	
	comp=Z,59nm,18.7s,MS3.3,baz=234,slow=36						
WVT	**Waverly**	**34.46**	**122**	*e*P	**P**	**05 08 21.2**	**-1.2**
	3.7nm,0.7s,mb4.4						
JCT	**Junction City**	**35.41**	**142**	*e*P	**P**	**05 08 30.1**	**-0.4**
	3.9nm,0.7s,mb4.5						
LTX	**Lajitas**	**35.45**	**148**	P	**P**	**05 08 30.5**	**-0.4**
	1.6nm,0.4s,mb4.3						
TXAR	**Lajitas Array**	**35.45**	**148**	P	**P**	**05 08 30.8**	**-0.1**
	2.1nm,1.0s,mb4.0,baz=345,slow=6.1,SNR=10						
NOA	**NORSAR Array B**	**52.57**	**25**	P	**P**	**05 10 47.5**	**-0.4**
	2.1nm,1.0s,mb4.0,baz=333,slow=6.8,SNR=3.1						
NOA				LR	LR	05 33 27.3	
	comp=Z,39nm,19.7s,MS3.5,baz=345,slow=36						
FINES	**FINESS Array B**	**54.72**	**17**	P	**P**	**05 11 02.1**	**-1.7**
	1.9nm,0.8s,mb4.2,baz=11,slow=9.7,SNR=3.8						
FINES				LR	LR	05 37 08.6	
	comp=Z,31nm,18.9s,MS3.4,baz=31,slow=39						
KHC	**Kasperske Hory**	**64.12**	**29**	*e*P	**P**	**05 12 08.5**	**-0.2**
GERES	**GERESS Array B**	**64.42**	**29**	P	**P**	**05 12 10.8**	**+0.2**
	0.5nm,0.7s,mb3.9,baz=326,slow=4.8,SNR=4.0						
BRVK	**Borovoye**	**64.61**	**350**	*e*P	**P**	**05 12 11.3**	**-0.6**
	3.9nm,0.9s,mb4.6						
ZRNK	**Zerenda**	**64.81**	**351**	*e*P	**P**	**05 12 13.4**	**+0.2**
	4.6nm,1.0s,mb4.7						
AKASG	**Malin Array Be**	**65.58**	**18**	P	**P**	**05 12 17.9**	**-0.2**
	2.2nm,0.7s,mb4.5,baz=343,slow=6.3,SNR=14						
KURK	**Kurchatov**	**66.07**	**344**	P	**P**	**05 12 21.2**	**-0.1**
	1.2nm,0.4s,mb4.5						
MKAR	**Makanchi Array**	**69.39**	**341**	P	**P**	**05 12 42.1**	**-0.1**
	0.3nm,0.5s,mb3.7,baz=9.5,slow=7.4,SNR=3.6						
BRTR	**Keskin Array B**	**76.95**	**17**	P	**P**	**05 13 27.5**	**+0.9**
	1.5nm,0.9s,mb4.1,slow=3.7,SNR=6.5						
SAML	**Samuel**	**84.92**	**120**	*e*P	**P**	**05 14 08.7**	**-0.4**
	7.1nm,1.0s,mb4.8						
BDFB	**Brasilia**	**97.38**	**109**	LR	LR	06 02 05.9	
	comp=Z,64nm,18.3s,MS4.2,baz=109,slow=37						
ASAR	**Alice Springs**	**116.16**	**269**	PKP	PKPdf	05 20 18.4	+0.4
	0.6nm,0.8s,baz=30,slow=0.9,SNR=4.9						
STKA	**Stephens Creek**	**119.53**	**257**	PKP	PKPdf	05 20 23.5	-0.7
	1.0nm,0.5s,baz=225,slow=1.4,SNR=2.9						
QSPA	**South Pole Qui**	**151.94**	**180**	*e*P	PKPdf	05 21 28.2	+7.0

IDC 03 06:29:53.5±8.1**, 30.67S**×**136.81E, mb1 3.2**/3**, mb1mx3.2**/8**, ML2.8**/3**, Error ellipse: s-maj=149.0km s-min=20.9km az=37.0, South Australia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**4.27**	**108**	Pn	Pn	06 30 59.5	-1.7
	0.4nm,0.3s,baz=304,slow=12,SNR=7.1						
STKA				Sn	Sn	06 31 50.7	-1.9
	0.2nm,0.3s,baz=238,slow=13,SNR=2.1						
STKA				Lg		06 32 10.0	
	0.2nm,0.3s,baz=295,slow=19,SNR=2.9						
ASAR	**Alice Springs**	**7.43**	**339**	Pn	Pn	06 31 44.8	-1.2
	0.2nm,0.3s,baz=162,slow=7.9,SNR=5.6						
WRA	**Warramunga Arr**	**10.91**	**348**	Pn	P	06 32 29.6	-4.4
	0.1nm,0.3s,baz=178,slow=13,SNR=3.6						

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*IDC **03** 07:09:00.9±2.2, 7.26N×126.37E, mb3.7/5, mb1 3.9/5, mb1mx3.7/16, Error ellipse: s-maj=143.0km s-min=24.5km az=67.0*
ISC 03 07:09:03.4±1.0**, 7.38N**±0.09×**127.24E**±0.09**, h33**^{km}**, n12, σ1^{s}47**/15**, mb3.6**/5**, 1C, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MATI	**Mati**	**1.06**	**246**	*e*P	**P**	**07 09 21.0**	**-0.9**
BIPH	**Bislig**	**1.18**	**313**	⇑*i*P	**P**	**07 09 23.5**	**-0.1**
BIPH				*i* S	**S**	**07 09 39.5**	**+0.7**
BUKP	**Musuan**	**2.21**	**283**	*e*P	**P**	**07 09 39.8**	**+1.4**
BUTP	**Butuan**	**2.25**	**315**	*e*P	**P**	**07 09 42.6**	**+3.6**
CTBH	**Cotabato--PC H**	**2.97**	**267**	*e*P	**P**	**07 09 46.9**	**-2.3**
CTBH				*e*S	**S**	**07 10 24.9**	**+0.8**
TBP	**Tagbilaran**	**4.05**	**305**	*e*P	**P**	**07 10 02.9**	**-1.7**
TBP				*e*S	**S**	**07 10 56.1**	**+4.5**
SNPH	**Sibulan**	**4.42**	**297**	*e*P	**P**	**07 10 10.0**	**+0.2**
FITZ	**Fitzroy Crossi**	**25.36**	**184**	P	**P**	**07 14 28.9**	**-0.5**
	0.9nm,0.5s,mb3.6,baz=9.4,slow=13,SNR=4.3						
WRA	**Warramunga Arr**	**28.03**	**166**	P	**P**	**07 14 53.0**	**-0.8**
	0.3nm,0.4s,mb3.2,baz=342,slow=10.0,SNR=5.7						
ASAR	**Alice Springs**	**31.53**	**168**	P	**P**	**07 15 26.7**	**+1.7**
	0.2nm,0.4s,mb3.3,baz=342,slow=7.0,SNR=1.8						
STKA	**Stephens Creek**	**41.37**	**161**	P	**P**	**07 16 50.9**	**+2.8**
	2.0nm,0.7s,mb3.9,baz=350,slow=11,SNR=3.2						
MKAR	**Makanchi Array**	**54.90**	**324**	P	**P**	**07 18 30.3**	**-2.8**
	0.6nm,0.5s,mb3.9,baz=123,slow=7.9,SNR=7.2						

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*MAN **03** 07:17:33.3, 10.34N×125.90E, h9^{km}, mb4.4, ML3.3, MS3.1*
*IDC **03** 07:17:34.1±3.2, 9.21N×125.20E, mb3.6/3, mb1 3.8/3, mb1mx3.6/15, MS3.3/2, Ms1 3.3/2, ms1mx2.8/17, Error ellipse: s-maj=279.0km s-min=27.7km az=65.0*
ISC 03 07:17:31.5±1.0**, 10.34N**±0.04×**126.01E**±0.07**, h9**^{km}**, n21, σ1^{s}03**/24**, mb3.5**/3**, MS3.2**/2**, 2C, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.76**	**222**	*i* P	**Pb**	**07 17 46.8**	**+0.4**
SCPH				*i* S	**Sb**	**07 17 56.7**	**+0.2**
MSLP	**Maasin**	**1.15**	**260**	*e*P	**Pb**	**07 17 52.7**	**-0.4**
MSLP				*e*S	**Sb**	**07 18 09.1**	**+1.1**
PLP	**Palo**	**1.30**	**309**	*i* P	**Pb**	**07 17 55.2**	**-0.4**
PLP				*i* S	**Sb**	**07 18 12.3**	**0.0**
BESP	**Borongan**	**1.37**	**336**	*e*P	**Pn**	**07 17 57.3**	**+0.4**
BESP				*e*S	**Sb**	**07 18 17.6**	**+3.3**
BUTP	**Butuan**	**1.42**	**196**	*e*P	**Pn**	**07 17 58.2**	**+0.6**
OCLP	**Ormoc**	**1.54**	**297**	*e*P	**Pn**	**07 18 00.4**	**+1.0**
LLP	**Lapu-Lapu**	**2.01**	**269**	*e*P	**Pn**	**07 18 03.8**	**-2.2**
TBP	**Tagbilaran**	**2.21**	**253**	⇑*e*P	**Pn**	**07 18 09.2**	**+0.2**
TBP				*e*S	**Sn**	**07 18 36.5**	**-0.1**
CNP	**Catarman**	**2.52**	**329**	*e*P	**Pn**	**07 18 13.6**	**+0.1**
BUKP	**Musuan**	**2.62**	**201**	*e*P	**Pn**	**07 18 16.2**	**+1.4**
SNPH	**Sibulan**	**2.91**	**250**	*e*P	**Pn**	**07 18 18.5**	**-0.4**
GUIM	**Jordan**	**3.37**	**275**	*e*P	**Pn**	**07 18 25.4**	**-0.1**
RCP	**Roxas**	**3.42**	**291**	⇑*e*P	**Pn**	**07 18 26.0**	**-0.2**
PVCP	**Virac**	**3.71**	**331**	*e*P	**Pn**	**07 18 30.8**	**+0.6**
IPIL	**Ipil**	**4.24**	**233**	*e*P	**Pn**	**07 18 35.6**	**-2.2**
CAUP	**Cauayan**	**7.72**	**329**	*e*P	**Pn**	**07 19 24.7**	**-2.1**
FITZ	**Fitzroy Crossi**	**28.27**	**181**	LR	LR	07 34 51.4	
	comp=Z,28nm,19.3s,MS2.9,baz=83,slow=38						
WRA	**Warramunga Arr**	**31.19**	**165**	P	**P**	**07 23 47.4**	**-6.2**
	0.2nm,0.4s,mb3.3,baz=342,slow=9.4,SNR=3.6						
ASAR	**Alice Springs**	**34.67**	**167**	P	**P**	**07 24 18.0**	**-5.8**
	0.3nm,0.4s,mb3.6,baz=352,slow=7.2,SNR=6.6						
STKA	**Stephens Creek**	**44.55**	**161**	LR	LR	07 44 36.3	
	comp=Z,66nm,18.5s,MS3.6,baz=27,slow=37						
MKAR	**Makanchi Array**	**51.81**	**323**	P	**P**	**07 26 47.0**	**+5.1**
	0.5nm,0.5s,mb3.7,baz=135,slow=6.9,SNR=4.7						

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*IDC **03** 07:19:41.7±0.8, 4.33N×125.97E, mb4.5/7, mb1 4.6/7, mb1mx4.2/16, MS3.6/4, Ms1 3.7/4, ms1mx3.2/16, Error ellipse: s-maj=60.0km s-min=12.9km az=72.0*
*NEIC **03** 07:19:44.8±0.5, 4.22N×126.09E, h20^{km}, mb4.8/7, Error ellipse: s-maj=30.0km s-min=8.2km az=74.0*
ISC 03 07:19:44.8±0.6**, 4.21N**±0.09×**126.0E**±0.2**, h33**^{km}**, n20, σ0^{s}94**/20**, mb4.7**/13**, MS3.8**/3**, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	11.04	333	LR	LR	07 28 18.6	
	comp=Z,181nm,18.7s,baz=156,slow=47						
KAKA	**Kakadu**	17.95	159	*e*P	P	07 23 51.8	-1.8
	33nm,0.6s						
FITZ	**Fitzroy Crossi**	22.17	181	*e*P	P	07 24 39.3	-0.4
	28nm,0.6s,mb4.9						
FITZ	**Fitzroy Crossi**	22.17	181	P	P	07 24 39.6	-0.1
	35nm,0.7s,mb4.9,baz=11,slow=8.9,SNR=42						
JOW	**Kunigami**	22.60	5	P	P	07 24 43.2	-0.8
	34nm,0.7s,mb4.9,baz=283,slow=27,SNR=5.3						
WRAB	**Tennant Creek**	25.34	161	*e*P	P	07 25 10.4	-0.2
	145nm,0.7s,mb5.6						
WRAB				*e*S	S	07 29 41.2	+9.0
WRA	**Warramunga Arr**	25.35	162	P	P	07 25 11.0	+0.3
	83nm,0.6s,mb5.4,baz=342,slow=10,SNR=216						
WRA				S	S	07 29 43.7	+11
	7.0nm,1.0s,baz=340,slow=18,SNR=8.1						
WB2	**Warramunga Arr**	25.35	161	*e*P	P	07 25 10.4	-0.3
WB2				*e*		07 29 42.9	
MBWA	**Marble Bar**	25.96	194	*e*P	P	07 25 16.4	+0.1
	15nm,0.8s,mb4.6						
ASPA	**Alice Springs**	28.75	165	*e*P	P	07 25 41.5	-0.2
ASAR	**Alice Springs**	28.75	165	P	P	07 25 41.5	-0.2
	9.1nm,0.6s,mb4.7,baz=347,slow=7.8,SNR=101						
FORT	**Forrest**	34.84	177	*e*P	P	07 26 34.6	-0.4
	35nm,0.5s,mb5.5						
STKA	**Stephens Creek**	38.82	159	P	P	07 27 09.2	+0.7
	11nm,0.6s,mb4.7,baz=340,slow=7.5,SNR=24						
ARMA	**Armidale**	42.24	146	*e*P	P	07 27 38.3	+1.4
MKAR	**Makanchi Array**	56.77	325	P	P	07 29 26.0	-2.1
	1.0nm,0.9s,mb3.9,baz=124,slow=5.2,SNR=3.7						
MKAR				LR	LR	07 54 56.0	
	comp=Z,58nm,18.2s,MS3.7,baz=263,slow=37						
KURK	**Kurchatov**	60.97	328	P	P	07 29 58.7	+1.5
	3.0nm,0.6s,mb4.6						
BVAR	**Borovoye Array**	66.55	327	P	P	07 30 33.8	+0.2
	0.4nm,0.5s,mb3.7,baz=135,slow=6.1,SNR=3.9						
ARCES	**ARCESS Array B**	89.77	340	P	P	07 32 41.0	+0.2
	1.6nm,0.8s,mb4.4,baz=107,slow=9.4,SNR=2.9						
ARCES				LR	LR	08 15 22.8	
	comp=Z,37nm,21.5s,MS3.8,baz=273,slow=37						
QSPA	**South Pole Qui**	94.11	180	*e*P	P	07 33 02.2	+1.6
	1.9nm,0.8s,mb4.6						
NOA	**NORSAR Array B**	98.06	334	LR	LR	08 20 37.1	
	comp=Z,39nm,19.6s,MS3.9,baz=60,slow=37						

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*NEIC **03** 07:26:18.3, 17.01N×100.23W, h20^{km}, MD3.6(MEX), After MEX.*

MEX 03 07:26:17.8±0.7**, 17.06N×100.22W, h10^{km}, MD3.7, Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	0.34	123	*i* P	Pg	07 26 24.0	-0.9
ACX				*i* S	Sg	07 26 30.0	+0.3
ZIIG	**Zihuatanejo**	1.31	295	*i* P	Pb	07 26 37.8	-4.3
ZIIG				*i* S	Sb	07 26 55.1	-3.6
PLIG	**Platanillo**	1.49	27	*i* P	Pn	07 26 40.4	-4.4
PLIG				*i* S	Sb	07 26 59.4	-4.6
PLIG	**Platanillo**	1.49	27	*i* P	Pn	07 26 40.4	-4.4
PLIG				*i* S	Sb	07 27 00.1	-4.0
IIZ	**Mezontepec**	2.31	24	*e*P	Pn	07 26 54.0	-2.6
PPM	**Popocatepetl**	2.51	37	*e*P	Pn	07 27 00.0	+0.7

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*FUNV **03** 07:27:16.7, 10.76N×62.36W, h81^{km}, MW3.1*

*TRN **03** 07:27:17.9, 10.81N×62.46W, h68^{km}, MD3.7, Md4.4(FDF)*

ISC 03 07:27:15.3±0.4**, 10.75N**±0.02×**62.48W**±0.02**, h93**^{km}±5^{km}**, n35, σ1^{s}23**/66**, 3C-5D, Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	0.27	112	⇑*e*P	P	07 27 28.6	-0.4
GUIV				*e*S	S	07 27 36.7	-2.7
GUNV	**Guanoco**	0.74	218	⇑*e*P	P	07 27 34.3	+1.5
GUNV				*e*S	S	07 27 46.8	+1.1
CRUV	**Carupano**	0.75	264	⇓*e*P	P	07 27 33.7	+0.9
CRUV				*e*S	S	07 27 45.8	+0.1
ITEV	**Isla Los Testi**	0.88	313	*e*P	P	07 27 34.7	+0.6
ITEV				*e*S	S	07 27 47.6	-0.5
ALNG	**Atlantic LNG**	0.96	126	*e*P	P	07 27 36.2	+1.1
ALNG				*e*S	S	07 27 49.5	-0.3
BUAY	**Buenos Aires**	1.01	129	*e*P	P	07 27 38.6	+3.0
BUAY				*e*S	S	07 27 49.9	-1.0
TRN	**Trinidad (W)**	1.06	95	*e*P	P	07 27 37.5	+1.3
TRN				*e*S	S	07 27 50.6	-1.3
TPP	**Pointe-a-Pierr**	1.10	113	*e*P	P	07 27 38.5	+1.9
TPP				*e*S	S	07 27 52.9	+0.2
SIPA	**Siparia**	1.13	122	*e*P	P	07 27 39.2	+2.1
SIPA				*e*S	S	07 27 51.8	-1.6
TBH	**Brigand Hill**	1.42	101	*e*P	P	07 27 42.1	+1.5
TBH				*e*S	S	07 27 58.5	-0.8
GRW	**Mount Saint Ca**	1.61	30	*e*P	P	07 27 44.2	+1.1
GRW				*e*S	S	07 28 01.9	-1.7
GRHS	**Sauteurs**	1.68	29	*e*P	P	07 27 44.6	+0.7
GRHS				*e*S	S	07 28 04.4	-0.7
TPR	**Prospect**	1.73	75	*e*P	P	07 27 45.9	+1.4
TPR				*e*S	S	07 28 06.6	+0.4
BOT	**Bacolet**	1.78	76	*e*P	P	07 27 46.2	+1.0
GRCU	**Cariacou**	1.98	30	⇑*i*P	P	07 27 48.7	+0.8
GRCU				*e*S	S	07 28 12.1	+0.1
PCRV	**Puerto La Cruz**	2.20	255	*e*P	P	07 27 52.0	+1.2
IBAV	**Isla La Blanqu**	2.32	298	⇓*e*P	P	07 27 53.9	+1.4
IBAV				*e*S	S	07 28 20.2	+0.1
RIOV	**Rio Grande**	2.75	166	*e*P	P	07 27 58.0	-0.4
RIOV				*e*S	S	07 28 27.6	-3.1
GURV	**El Guri**	3.03	191	*e*P	P	07 28 02.2	-0.2
GURV				*e*S	S	07 28 34.4	-3.4
CUPV	**Cœpira**	3.33	258	*e*P	P	07 28 07.5	+1.0
CUPV				*e*S	S	07 28 44.9	-0.2
ORCV	**Isla La Orchil**	3.79	287	⇓*e*P	P	07 28 13.8	+1.0
ORCV				*e*S	S	07 28 54.6	-2.0
BIM	**Bigot**	3.99	20	*e*P	P	07 28 15.7	+0.2
BIM				*e*S	S	07 29 00.3	-1.0
MERV	**Las Mercedes**	4.04	249	*e*P	P	07 28 16.8	+0.5
MERV				*e*S	S	07 29 01.0	-1.8
MVM	**Montagne Vaucl**	4.08	22	⇓*e*P	P	07 28 17.3	+0.4
FDF	**Fort de France**	4.17	18	*e*P	P	07 28 18.0	0.0
FDF				*e*S	S	07 29 00.3	-5.5
CRM	**Caravelle**	4.26	21	*e*P	P	07 28 19.8	+0.5
CRM				*e*S	S	07 29 05.2	-2.9
DSTT	**Stowe**	4.61	14	*e*P	P	07 28 24.5	+0.4
DSTT				*e*S	S	07 29 15.1	-1.8
MDN	**Morne-Daniel**	4.66	13	*e*P	P	07 28 25.0	+0.2
MDN				*e*S	S	07 29 13.2	-4.8
MDN				*e*S	S	07 29 15.7	-2.4
BBL	**Barber's Block**	4.85	12	*e*P	P	07 28 28.0	+0.7
BBL				*e*S	S	07 29 19.5	-3.2
LUEV	**Luepa**	4.98	168	*e*P	P	07 28 27.4	-1.7
LUEV				*e*S	S	07 29 19.6	-6.4
CAOV	**Caicara del Or**	5.10	228	*e*P	P	07 28 30.8	+0.1
CAOV				*e*S	S	07 29 24.7	-4.1
MGG	**Marie-Galante**	5.26	12	*e*P	P	07 28 33.6	+0.7
DEG	**La Desirade**	5.70	14	*e*P	P	07 28 38.9	0.0
BAUV	**El Baul**	5.77	252	⇓*e*P	P	07 28 40.0	+0.1
BAUV				*e*S	S	07 29 41.4	-3.9
PAYV	**Puerto Ayacuch**	7.37	224	*e*P	P	07 28 59.8	-2.2
PAYV				*e*S	S	07 30 17.0	-7.6

IDC 03 07:32:02.8±2.0**, 2.43N×126.42E, mb3.5**/4**, mb1 3.7**/4**, mb1mx3.6**/14**, Error ellipse: s-maj=118.0km s-min=24.7km az=69.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	20.41	182	P	P	07 36 41.4	-2.9
	2.7nm,1.0s,baz=315,slow=8.6,SNR=3.5						
WRA	**Warramunga Arr**	23.55	161	P	P	07 37 14.0	-1.9
	1.0nm,0.6s,baz=340,slow=11,SNR=5.9						
ASAR	**Alice Springs**	26.94	165	P	P	07 37 47.2	-0.7
	0.2nm,0.4s,baz=349,slow=12,SNR=4.4						
MKAR	**Makanchi Array**	58.45	326	P	P	07 42 00.3	-2.6
	0.3nm,0.5s,baz=131,slow=7.9,SNR=5.3						

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*IDC **03** 08:10:20.7±0.9, 7.34N×126.78E, mb4.0/8, mb1 4.1/8, mb1mx4.0/18, MS3.4/1, Ms1 3.4/1, ms1mx2.7/25, Error ellipse: s-maj=60.6km s-min=16.2km az=74.0*

*MAN **03** 08:10:26.4, 7.50N×126.82E, h1^{km}, MS4.0*

*NEIC **03** 08:10:29.6±0.6, 7.35N×126.93E, h70^{km}, mb4.5/2, Error ellipse: s-maj=37.0km s-min=10.5km az=73.0*

ISC 03 08:10:26.0±1.2**, 7.35N**±0.06×**127.11E**±0.09**, h55**^{km}±12^{km}**, n21, σ1^{s}16**/25**, mb4.1**/10**, MS3.4**/1**, 1C, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	0.93	244	*e*P	P	08 10 41.8	-1.3
BIPH	**Bislig**	1.11	318	⇑*e*P	P	08 10 44.0	-1.5
BIPH				*e*S	S	08 10 59.9	-0.2
KCP	**Kidapawan**	2.03	260	*e*P	P	08 10 59.7	+1.2
KCP				*e*S	S	08 11 29.0	+6.4
BUKP	**Musuan**	2.09	285	*e*P	P	08 11 00.7	+1.4
BUTP	**Butuan**	2.18	318	*e*P	P	08 11 01.9	+1.4
CTBH	**Cotabato--PC H**	2.84	268	*e*P	P	08 11 08.0	-1.9
CTBH				*e*S	S	08 11 43.0	-0.1
PAGZ	**Pagadian**	3.72	278	*e*P	P	08 11 18.9	-3.5
TBP	**Tagbilaran**	3.96	306	*e*P	P	08 11 25.5	-0.2
TBP				*e*S	S	08 12 13.7	+2.3
SNPH	**Sibulan**	4.31	298	*e*P	P	08 11 31.0	+0.3
FITZ	**Fitzroy Crossi**	25.33	183	P	P	08 15 50.1	+0.6
	3.8nm,1.0s,mb3.9,baz=9.1,slow=13,SNR=2.8						
JNU	**Nakatsue**	25.88	7	P	P	08 15 54.9	+0.4
	6.1nm,0.7s,mb4.2,baz=192,slow=4.8,SNR=6.1						
WRA	**Warramunga Arr**	28.04	165	P	P	08 16 14.1	-0.3
	0.8nm,0.5s,mb3.6,baz=340,slow=11,SNR=6.7						
ASAR	**Alice Springs**	31.54	168	P	P	08 16 46.1	+0.7
	0.4nm,0.5s,mb3.5,baz=357,slow=8.5,SNR=7.0						
CTAO	**Charters Tower**	33.15	146	P	P	08 17 01.2	+1.8
	12nm,1.1s,mb4.7						
STKA	**Stephens Creek**	41.39	161	P	P	08 18 08.6	0.0
	1.8nm,0.7s,mb3.8,baz=340,slow=12,SNR=2.9						
STKA	**Stephens Creek**	41.39	161	P	P	08 18 08.6	0.0
MKAR	**Makanchi Array**	54.84	324	P	P	08 19 51.7	-1.3
	1.4nm,0.7s,mb4.1,baz=127,slow=8.1,SNR=14						
MKAR				LR	LR	08 42 51.3	
	comp=Z,32nm,18.9s,MS3.4,baz=293,slow=36						
MKAR	**Makanchi Array**	54.84	324	P	P	08 19 51.7	-1.3
MKAR				LR	LR	08 42 51.3	
BVAR	**Borovoye Array**	64.53	326	P	P	08 20 59.5	+0.1
	1.0nm,0.6s,mb4.0,baz=108,slow=9.4,SNR=3.8						
ZRNK	**Zerenda**	65.27	326	P	P	08 21 02.6	-1.6
	3.0nm,0.6s,mb4.5						
AKASG	**Malin Array Be**	89.33	321	P	P	08 23 16.6	-1.0
	0.7nm,0.5s,mb4.2,baz=60,slow=4.8,SNR=6.4						

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*IDC **03** 08:44:06.9±6.4, 0.45S×123.38E, h66^{km}±58^{km}, mb3.6/5, mb1 3.8/6, mb1mx3.6/13, ML3.8/1, Error ellipse: s-maj=103.0km s-min=18.7km az=65.0*

*NEIC **03** 08:44:12.7±0.7, 0.45S×123.48E, h130^{km}, mb4.3/2, Error ellipse: s-maj=74.7km s-min=11.5km az=66.0*

ISC 03 08:44:07.8±0.7**, 0.4S**±0.2×**123.3E**±0.5**, h100**^{km}**, n9, σ0^{s}83**/9**, mb3.9**/7**, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	17.73	173	P	P	08 48 10.5	+0.7
	0.2nm,0.3s,baz=354,slow=11,SNR=4.6						
WRAB	**Tennant Creek**	22.21	152	P	P	08 48 56.8	-0.2
WRA	**Warramunga Arr**	22.21	152	P	P	08 48 56.6	-0.4
	2.3nm,0.9s,mb3.5,baz=329,slow=10,SNR=12						
WRA				PcP	PcP	08 52 52.1	+0.7
	0.3nm,0.5s,baz=330,slow=2.0,SNR=5.9						
ASAR	**Alice Springs**	25.30	157	P	P	08 49 27.1	+0.3
	1.6nm,0.5s,mb3.7,baz=340,slow=14,SNR=23						
ASAR				PcP	PcP	08 52 59.0	+1.0
	1.0nm,0.5s,baz=348,slow=2.1,SNR=17						
STKA	**Stephens Creek**	35.75	153	P	P	08 50 58.6	-0.5
	2.5nm,1.0s,mb4.1,baz=327,slow=11,SNR=5.0						
STKA				PcP	PcP	08 53 25.7	+0.5
	1.6nm,1.0s,baz=333,slow=4.5,SNR=3.3						
SONM	**Songino Array**	50.26	345	P	P	08 52 57.7	+1.8
	0.4nm,0.5s,mb3.6,baz=174,slow=8.9,SNR=3.9						
MKAR	**Makanchi Array**	59.12	328	P	P	08 54 00.6	+0.3
	1.2nm,0.5s,mb4.2,baz=122,slow=8.6,SNR=16						
MKAR				PcP	PcP	08 54 49.1	+1.6
	0.8nm,0.5s,baz=143,slow=3.8,SNR=6.3						
KURK	**Kurchatov**	63.48	330	*e*P	P	08 54 28.3	-1.3
	3.7nm,0.7s,mb4.4						
ZRNK	**Zerenda**	69.67	328	*e*P	P	08 55 07.8	-0.8
	2.1nm,0.7s,mb4.1						

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*NEIC **03** 08:47:56.8, 18.07N×100.28W, h66^{km}, MD3.7(MEX), After MEX.*

MEX 03 08:47:58.0±1.2**, 18.02N×100.20W, h62**^{km}±25^{km}**, MD3.7, Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLIG	**Platanillo**	0.76	61	*i* P	P	08 48 12.0	-1.2
PLIG				*i* S	S	08 48 22.4	-2.1
ACX	**Acapulco**	1.18	167	*i* P	P	08 48 16.0	-2.7
ACX				*i* S	S	08 48 33.0	-1.2
IIZ	**Mezontepec**	1.48	38	*e*P	P	08 48 23.0	0.0
IIZ				*i* S	S	08 48 40.0	-1.4
PPM	**Popocatepetl**	1.82	55	*e*P	P	08 48 26.0	-1.7
PPM				*i* P		08 48 27.2	
PPM				*i* S	S	08 48 47.2	-2.4
PPM	**Popocatepetl**	1.82	55	*i* P	P	08 48 27.2	-0.5
PPM				*i* S	S	08 48 46.8	-2.7

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*IDC **03** 08:49:55.0±1.3, 53.59N×167.62W, mb4.0/9, mb1 4.3/9, mb1mx4.0/21, MS3.7/11, Ms1 3.7/11, ms1mx3.5/32, Error ellipse: s-maj=47.6km s-min=24.0km az=150.0*

*NEIC **03** 08:49:59.0, 53.48N×167.30W, h3^{km}, mb4.2/7, ML4.4(PMR), ML4.2(AEIC), After AEIC.*

NEIC Felt at Okmok.

ISC 03 08:49:58.6±0.7**, 53.42N**±0.07×**167.28W**±0.09**, h28**^{km}±5^{km}**, n69, σ0^{s}83**/65**, mb4.1**/14**, MS3.7**/11**, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MGOD	**Makushin Gods**	0.45	33	P	Pb	08 50 07.4	-0.7
OKER	**East Rim**	0.46	275	P	Pb	08 50 08.7	+0.4
OKCE	**Okmok Cone E**	0.53	271	P	Pb	08 50 09.8	+0.5
MSW	**Makushin Switc**	0.58	31	P	Pb	08 50 09.5	-0.6
MCIR	**Makushin Cirqu**	0.58	23	P	Pb	08 50 09.9	-0.3
MNAT	**Makushin Natee**	0.59	37	P	Pb	08 50 09.8	-0.5
UNV	**Unalaska Valle**	0.63	47	P	Pb	08 50 10.3	-0.7
UNV				S	Sb	08 50 18.9	-0.6
MTBL	**Makushin Table**	0.66	33	P	Pb	08 50 11.1	-0.3
NIKO	**Nikolski**	1.04	245	P	Pn	08 50 17.1	-0.5
NIKO				S	Sb	08 50 31.8	+0.6
LVA	**Lava Point**	1.05	44	P	Pn	08 50 17.8	+0.1
AKLV	**Akutan Long Va**	1.08	46	P	Pn	08 50 17.9	-0.2
AKLV				S	Sn	08 50 32.9	+0.6
AKGG	**Akutan Green G**	1.09	44	P	Pn	08 50 18.4	+0.1
AKGG				S	Sn	08 50 33.2	+0.7
AHB	**Akutan Harbor**	1.12	51	P	Pn	08 50 18.4	-0.1
AKA	**Akutan**	1.15	51	P	Pn	08 50 19.0	-0.1
WESS	**West Dahl Sout**	1.85	54	P	Pn	08 50 29.6	+0.6
WFAR	**Faris Peak**	1.86	52	P	Pn	08 50 30.0	+0.8
WPOG	**Pogromni**	1.91	51	P	Pn	08 50 30.6	+0.7
WESE	**West Dahl East**	1.91	55	P	Pn	08 50 30.4	+0.5
WESN	**West Dahl Nort**	1.97	53	P	Pn	08 50 31.6	+0.9
WTUG	**Tugumak**	2.23	49	P	Pn	08 50 34.9	+0.4
SSLW	**Shishaldin Wes**	2.30	53	P	Pn	08 50 36.5	+1.0
FALS	**False Pass**	2.69	56	P	Pn	08 50 41.9	+0.8
DTNA	**Dutton South F**	3.42	58	P	Pn	08 50 51.9	+0.5
DOL	**Dolgoi Island**	3.62	59	P	Pn	08 50 54.5	+0.3
ATKA	**Atka Island**	4.37	257	P	Pn	08 51 05.9	+0.9
SDPT	**Sand Point**	4.42	61	P	Pn	08 51 05.3	-0.4
SVW	**Sparrevohn**	9.95	35	*e*P	P	08 52 24.1	+1.3
RSO	**Redoubt South**	10.60	43	P	P	08 52 31.9	+0.2
TTA	**Tatalina**	11.22	27	*e*P	P	08 52 39.3	-0.8
SPU	**Mount Spurr**	11.30	40	P	P	08 52 39.0	-2.3
SLKM	**Skilak Lake**	11.68	46	P	P	08 52 47.1	+0.7
MCK	**McKinley**	14.02	35	P	P	08 53 19.4	+2.1
IMA	**Indian Mountai**	14.37	23	*e*P	P	08 53 21.7	-0.1
	27nm,1.0s						
COLA	**College**	15.12	33	*e*P	P	08 53 31.7	0.0
	9.1nm,1.0s						
DAWY	**Dawson**	17.80	42	*e*P	P	08 54 06.0	+0.3
DLBC	**Dease Lake**	21.27	61	P	P	08 54 48.6	+3.9
	4.4nm,0.8s,mb3.9,baz=272,slow=9.2,SNR=6.2						
DLBC				LR	LR	09 02 06.5	
	comp=Z,148nm,18.9s,MS3.4,baz=54,slow=34						
DLBC	**Dease Lake**	21.27	61	*e*P	P	08 54 46.0	+1.4
INK	**Inuvik**	21.77	34	P	P	08 54 48.3	-1.3
	3.9nm,0.6s,mb4.0,baz=261,slow=9.6,SNR=24						
INK				LR	LR	09 04 10.3	
	comp=Z,234nm,18.4s,MS3.6,baz=72,slow=39						
INK	**Inuvik**	21.77	34	*e*P	P	08 54 48.2	-1.5
	4.3nm,0.6s,mb4.1						
BBB	**Bella Bella**	23.52	77	LR	LR	09 02 15.4	
	comp=Z,111nm,21.1s,MS3.3,baz=48,slow=31						
YKA	**Yellowknife Ar**	28.60	50	P	P	08 55 52.4	-1.6
	0.5nm,0.5s,mb3.5,baz=274,slow=8.0,SNR=4.5						
YKA				LR	LR	09 07 24.2	
	comp=Z,108nm,20.9s,MS3.4,baz=285,slow=37						
YKA	**Yellowknife Ar**	28.60	50	P	P	08 55 52.4	-1.6
YKA				LR	LR	09 07 24.1	
NEW	**Newport**	31.55	79	*e*P	P	08 56 20.1	-0.3
	12nm,1.3s,mb4.5						
YBH	**Yreka Blue Hor**	31.75	93	P	P	08 56 23.8	+1.6
	2.5nm,0.8s,mb4.1,baz=333,slow=6.8,SNR=4.5						
WVOR	**Wild Horse Val**	33.77	89	*e*P	P	08 56 40.4	+0.6
	2.4nm,0.8s,mb4.2						
CHMT	**Chamberlain Mo**	34.49	78	*e*P	P	08 56 45.2	-0.8
MCMT	**McKenzie Canyo**	35.85	81	*e*P	P	08 56 57.2	-0.3
BOZ	**Bozeman (W)**	36.12	79	*e*P	P	08 56 59.3	-0.5
	1.4nm,0.6s,mb4.1						
PDAR	**Pinedale Array**	38.98	82	P	P	08 57 24.3	+0.4
	1.1nm,0.8s,mb3.7,baz=315,slow=6.3,SNR=12						
JLU	**Jordanelle**	39.17	86	*e*P	P	08 57 26.4	+0.8
PV10	**Paradox Valley**	42.02	87	*e*P	P	08 57 49.6	+0.7
PV01	**Paradox Valley**	42.46	87	*e*P	P	08 57 52.4	-0.2
ULM	**Lac du Bonnet**	42.55	64	P	P	08 57 52.1	-1.0
	3.5nm,1.0s,mb4.0,baz=270,slow=7.3,SNR=3.7						
ULM				LR	LR	09 16 00.8	
	comp=Z,108nm,19.0s,MS3.8,baz=242,slow=37						
SDCO	**Great Sand Dun**	44.55	85	P	P	08 58 09.8	+0.4
LAZ	**Ladron**	45.82	89	*e*P	P	08 58 20.2	+0.6
JNU	**Nakatsue**	47.72	271	LR	LR	09 14 51.2	
	comp=Z,394nm,21.7s,MS4.3,baz=109,slow=32						
WMOK	**Wichita Mounta**	50.58	83	*e*P	P	08 58 55.4	-1.2
	2.5nm,0.8s,mb4.2						
LTX	**Lajitas**	51.49	91	*e*P	P	08 59 03.0	-0.6
	12nm,1.4s,mb4.6						
TXAR	**Lajitas Array**	51.49	91	P	P	08 59 03.1	-0.5
	2.4nm,0.5s,mb4.4,baz=304,slow=5.9,SNR=57						
TXAR				LR	LR	09 18 35.8	
	comp=Z,42nm,18.7s,MS3.5,baz=285,slow=33						
SONM	**Songino Array**	51.84	301	pP	pP	08 59 11.7	-2.8
	1.5nm,1.1s,baz=63,slow=5.5,SNR=3.7						
SCHQ	**Schefferville**	53.80	45	LR	LR	09 24 00.0	
	comp=Z,61nm,18.7s,MS3.7,baz=111,slow=38						
MSNY	**Massena**	56.87	58	*e*P	P	08 59 41.4	-1.4
ACCN	**Adirondack Com**	58.62	58	*e*P	P	08 59 53.0	-2.2
BVAR	**Borovoye Array**	63.57	325	pP	pP	09 00 34.6	-2.4
	1.4nm,0.7s,baz=90,slow=4.4,SNR=3.9						
MKAR	**Makanchi Array**	63.99	314	LR	LR	09 29 16.7	
	comp=Z,79nm,18.4s,MS3.9,baz=265,slow=37						
BRTR	**Keskin Array B**	85.48	344	LR	LR	09 43 45.5	
	comp=Z,22nm,18.1s,MS3.6,baz=50,slow=38						
WRA	**Warramunga Arr**	88.65	233	P	P	09 02 49.2	-1.1
	2.1nm,0.8s,mb4.5,baz=38,slow=6.1,SNR=5.6						
ASAR	**Alice Springs**	92.04	232	P	P	09 03 06.0	-0.1
	0.3nm,0.8s,mb3.7,baz=35,slow=5.5,SNR=3.3						
ASF	**Jabal al Asfar**	92.21	340	LR	LR	09 53 42.7	
	comp=Z,37nm,18.1s,MS3.9,baz=193,slow=42						

IDC 03 08:50:19.6±6.8**, 30.82N×141.67E, mb3.7**/4**, mb1 3.8**/5**, mb1mx3.7**/18**, ML2.9**/1**, Error ellipse: s-maj=259.0km s-min=21.4km az=69.0, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	2.80	325	Pn	Pn	08 51 04.2	-2.1
	4.9nm,0.3s,baz=222,slow=16,SNR=5.1						
JHJ				Sn	Sn	08 51 36.8	-4.5
	14nm,0.3s,baz=244,slow=22,SNR=4.0						
SONM	**Songino Array**	31.80	312	P	P	08 56 46.3	-1.5
	0.8nm,0.7s,baz=127,slow=7.2,SNR=3.9						
MKAR	**Makanchi Array**	47.82	307	P	P	08 58 58.9	-1.7
	0.4nm,0.5s,baz=90,slow=9.0,SNR=5.6						
WRA	**Warramunga Arr**	50.96	189	P	P	08 59 22.8	-2.3
	1.2nm,0.9s,baz=6.7,slow=7.6,SNR=14						
ASAR	**Alice Springs**	54.69	189	P	P	08 59 50.4	-2.4
	0.3nm,0.5s,baz=8.2,slow=6.7,SNR=7.6						

NEIC 03 08:52:26.0, 53.41N×167.25W, h10^{km}, ML3.5(AEIC)**, After AEIC., Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MGOD	**Makushin Gods**	0.45	29	P	Pg	08 52 34.5	-0.6
OKER	**East Rim**	0.48	276	P	Pg	08 52 35.8	0.0
OKCE	**Okmok Cone E**	0.55	273	P	Pg	08 52 36.8	-0.3
OKCE				S	Sg	08 52 44.8	+0.3
MSW	**Makushin Switc**	0.58	28	P	Pg	08 52 36.8	-0.8
MNAT	**Makushin Natee**	0.58	35	P	Pg	08 52 36.9	-0.9
MNAT				S	Sg	08 52 45.2	-0.4
MCIR	**Makushin Cirqu**	0.59	21	P	Pg	08 52 37.5	-0.3
UNV	**Unalaska Valle**	0.63	45	P	Pb	08 52 37.5	-1.1
UNV				S	Sg	08 52 46.0	-1.0
MTBL	**Makushin Table**	0.66	31	P	Pb	08 52 38.4	-0.7
LVA	**Lava Point**	1.04	43	P	Pb	08 52 44.9	-0.8
NIKO	**Nikolski**	1.06	247	P	Pb	08 52 44.2	-1.8
NIKO				S	Sb	08 52 59.0	-0.8
AKLV	**Akutan Long Va**	1.08	45	P	Pb	08 52 45.1	-1.2
AKGG	**Akutan Green G**	1.09	43	P	Pb	08 52 45.5	-0.9
AHB	**Akutan Harbor**	1.11	49	P	Pb	08 52 45.8	-1.0
AHB				S	Sb	08 53 01.4	+0.3
AKA	**Akutan**	1.14	50	P	Pb	08 52 46.4	-1.0
AKA				S	Sb	08 53 01.9	-0.2
WESS	**West Dahl Sout**	1.84	53	P	Pn	08 52 56.6	-1.3

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*PRU **03** 08:59:40.4, 51.47N×16.07E*

*WAR **03** 08:59:40.2, 51.51N×16.06E, ML2.7, Mining Induced*

ISC 03 08:59:36.7±1.0**, 51.53N**±0.05×**16.06E**±0.04**, n11, σ1^{s}09**/21**, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	0.71	168	*e*PG	Pg	08 59 53.0	+2.3
KSP				*e*SG	Sg	09 00 02.0	+1.8
UPC	**Upice**	1.03	182	*e*PG	Pg	08 59 58.7	+1.5
DPC	**Dobruska-Polom**	1.20	172	*e*PG	Pg	09 00 01.4	+0.9
DPC				*e*SG	Sg	09 00 16.3	-0.2
	13nm,0.2s						
PVCC	**Panska Ves**	1.38	224	*e*PG	Pg	09 00 05.2	+1.0
PVCC				*e*SG	Sg	09 00 23.8	+1.2
PRU	**Pruhonice**	1.82	213	*e*PG	Pg	09 00 12.6	-0.5
PRU				*i* x	x	09 00 29.9	
PRU				SG	Sg	09 00 36.5	-0.9
	6.7nm,0.3s						
CLL	**Collm**	1.93	264	*e*PG	Pg	09 00 15.0	-0.2
CLL				*i* SG	Sg	09 00 41.4	+0.5
OKC	**Ostrava-Krasne**	2.15	141	*e*PG	Pg	09 00 19.9	+0.3
OKC				*e*SG	Sg	09 00 47.0	-1.4
NKC	**Novy Kostel**	2.63	242	*e*PG	Pg	09 00 29.8	+0.6
OJC	**Ojcow**	2.71	118	*e*PG	Pg	09 00 30.0	-0.7
OJC				*e*SG	Sg	09 01 06.0	-0.8
KHC	**Kasperske Hory**	2.88	214	*e*PG	Pg	09 00 32.5	-1.7
KHC				*e*SN	Sn	09 01 00.0	-0.6
KHC				*e*SG	Sg	09 01 10.6	-2.1
MOX	**Moxa**	2.94	254	Pg	Pg	09 00 35.0	-0.4
MOX				Sg	Sg	09 01 14.0	-0.6

CASC 03 09:02:36.9±2.0**, 13.06N×90.06W, h18**^{km}±8^{km}**, MD3.6, ML3.7, 6C-3D, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	**San Blas**	0.89	29	⇓*e*P	Pb	09 02 53.5	0.0
SBLS				*e*S	Sb	09 03 06.0	+1.2
SNJE	**San Jose**	0.92	29	⇑*e*P	Pb	09 02 54.1	+0.1
SNJE				*e*S	Sb	09 03 07.8	+2.1
RTR	**El Retiro**	0.93	26	⇑*e*P	Pb	09 02 54.2	+0.1
RTR				*e*S	Sb	09 03 08.1	+2.1
BOQS	**Boqueron**	1.01	48	*e*P	Pb	09 02 56.0	+0.4
BOQS				*e*S	Sb	09 03 09.8	+1.3
SNET	**Serv Nac Est T**	1.02	52	*e*P	Pb	09 02 56.1	+0.4
SNET				*e*S	Sb	09 03 09.5	+0.8
RBDL	**Robledal**	1.11	19	*e*P	Pb	09 02 57.8	+0.5
RBDL				*e*S	Sb	09 03 12.9	+1.7
LFRS	**El Faro**	1.12	60	⇑*e*P	Pb	09 02 57.0	-0.4
LFRS				*e*S	Sb	09 03 11.8	+0.1

IXG	**Ixpaco**	**1.17**	**341**	⇓*e*P	Pb	09 02 56.9	-1.4
IXG				*e*S	Sb	09 03 11.4	-1.6
IXG				AML	AML	09 03 17.6	
	comp=N,4µm,0.5s						
LBRS	**Las Brisas**	**1.20**	**56**	*e*P	Pb	09 02 58.0	-0.7
LBRS				*e*S	Sb	09 03 14.1	+0.2
LCBS	**La Ceiba**	**1.21**	**61**	⇓*e*P	Pb	09 02 58.2	-0.7
LCBS				*e*S	Sb	09 03 13.8	-0.3
SNVI	**San Vicente**	**1.31**	**65**	⇑*e*P	Pn	09 03 00.1	-0.5
SNVI				*e*S	Sb	09 03 18.5	+1.4
MTO2	**Montecristo 2**	**1.50**	**27**	⇑*e*P	Pn	09 03 03.1	-0.1
MTO2				*e*S	Sn	09 03 22.7	+0.3
NBG	**Las Nubes**	**1.54**	**350**	*e*P	Pn	09 03 03.6	-0.3
NBG				*e*S	Sn	09 03 23.4	-0.1
NBG				AML	AML	09 03 29.4	
	comp=E,1µm,0.3s						
BLLM	**Bellamira**	**1.82**	**78**	*e*P	Pn	09 03 03.1	-4.7
CAHU	**Cacacuatique**	**1.94**	**68**	*e*P	Pn	09 03 09.4	-0.1
JAT	**Jato**	**1.98**	**309**	*e*P	Pn	09 03 08.9	-1.2
JAT				*e*S	Sn	09 03 34.6	+0.1
JAT				AML	AML	09 03 44.6	
	comp=E,263nm,0.3s						
MRL	**Marmol**	**2.03**	**10**	⇑*e*P	Pn	09 03 10.9	+0.1
MRL				*e*S	Sn	09 03 38.1	+2.3
CNCH	**Conchagua**	**2.18**	**84**	*e*P	Pn	09 03 12.6	-0.4

*IDC **03** 09:24:59.5±0.9, 17.17S×179.15W, h506^{km}±9^{km}, mb4.4/20, mb1 4.5/21, mb1mx4.5/21, Error ellipse: s-maj=13.8km s-min=8.6km az=151.0*

*BJI **03** 09:25:01.3, 16.98S×179.27W, h528^{km}, mB4.7, mb4.5*

*MOS **03** 09:25:01.5±1.1, 17.49S×179.21W, h536^{km}, mb5.0/1, Error ellipse: s-maj=31.9km s-min=17.8km az=4.8*

*HRVD **03** 09:25:02.0±0.3, 16.99S×179.15W, h547^{km}±2^{km}, MW5.4/48, Centroid moment Tensor Solution. LP body waves: s48,c69; Half duration: 1^{s}2 Moment tensor: Scale 10^{17}Nm; M$_{rr}$0.16±.04; M$_{\theta\theta}$0.08±.07; M$_{\phi\phi}$-0.24±.07; M$_{r\theta}$-1.01±.06; M$_{\theta\phi}$1.14±.05; M$_{\phi r}$-0.03±.07; Best double couple: M$_{0}$1.54×10^{17} NP1:φ$_{s}$182°,δ49°,λ174°. NP2: φ$_{s}$276°,δ85°,λ41°. Principal axes: T 1.56, Plg32°, Azm147°; N -.04, Plg48°, Azm281°; P -1.52, Plg24°, Azm41°; nsta1 refers to body waves, cutoff=40s.*

*NEIC **03** 09:25:02.0±0.1, 17.14S×179.21W, mb4.9/54 Error ellipse: s-maj=6.7km s-min=3.3km az=144.0*

*SYO **03** 09:25:02.4, 17.03S×179.22W, h537^{km}, MB4.9*

ISC 03 09:25:00.9±0.2**, 17.23S**±0.04×**179.21W**±0.04**, h536**^{km}**, h536**^{km}±2.2^{km}**:pP-P, n404, σ0**^{s}**87**/186**, mb4.9**/80**, 18C-58D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**2.67**	**259**	P	**P**	**09 26 15.6**	**+2.3**
	10µm,1.0s						
DZM	**Mont Dzumac**	**14.35**	**248**	*e*P	**P**	**09 28 03.1**	**-0.8**
DZM	**Mont Dzumac**	**14.35**	**248**	*e*P	**P**	**09 28 03.0**	**-0.8**
NOUC	**Port Laguerre**	**14.48**	**248**	*e*P	**P**	**09 28 05.5**	**+0.3**
NOUC	**Port Laguerre**	**14.48**	**248**	*e*P	**P**	**09 28 05.5**	**+0.3**
RAR	**Rarotonga**	**18.77**	**105**	P	**P**	**09 28 47.0**	**+0.1**
	4.9nm,0.3s,baz=256,slow=6.8,SNR=22						
RAR	**Rarotonga**	**18.77**	**105**	*e*P	**P**	**09 28 46.7**	**-0.3**
	196nm,0.9s						
URZ	**Urewera**	**21.20**	**188**	P	**P**	**09 29 08.0**	**-1.5**
	29nm,0.3s,mb5.4,baz=335,slow=2.2,SNR=74						
URZ				S	**S**	**09 32 28.5**	**-0.9**
	22nm,0.9s,baz=107,slow=19,SNR=4.7						
URZ	**Urewera**	**21.20**	**188**	P	**P**	**09 29 07.6**	**-1.9**
QRZ	**Quartz Range**	**24.57**	**195**	*e*P	**P**	**09 29 39.9**	**-0.1**
NNZ	**Nelson**	**24.74**	**193**	*e*P	**P**	**09 29 40.0**	**-1.5**
THZ	**Tophouse**	**25.37**	**194**	*e*P	**P**	**09 29 45.6**	**-1.4**
THZ				S	**S**	**09 33 32.1**	**-4.1**
LTZ	**Lake Taylor**	**26.49**	**194**	P	**P**	**09 29 54.8**	**-2.0**
RPZ	**Rata Peaks**	**27.66**	**195**	P	**P**	**09 30 06.3**	**-0.9**
	13nm,0.5s,mb4.8,baz=47,slow=6.6,SNR=14						
PAE	**Paea**	**28.25**	**95**	*e*P	**P**	**09 30 11.7**	**-0.9**
	142nm,0.7s,mb5.7						
PPT	**Papeete**	**28.26**	**95**	P	**P**	**09 30 11.9**	**-0.7**
	82nm,0.6s,mb5.6,baz=239,slow=5.3,SNR=22						
PPT	**Papeete**	**28.26**	**95**	*e*P	**P**	**09 30 12.0**	**-0.7**
	68nm,0.8s,mb5.3						
TIAR	**Tiarei**	**28.48**	**95**	*e*P	**P**	**09 30 13.9**	**-0.7**
	233nm,0.9s,mb5.8						
TBI	**Tubuai**	**28.52**	**107**	*e*P	**P**	**09 30 14.9**	**0.0**
	198nm,0.7s,mb5.8						
TVO	**Taravao**	**28.56**	**96**	*e*P	**P**	**09 30 14.6**	**-0.6**
	134nm,0.7s,mb5.7						
JCZ	**Jackson Bay**	**28.63**	**198**	P	**P**	**09 30 14.4**	**-1.2**
JCZ				sP		09 31 45.6	
JCZ				*e*E		09 33 10.0	
MSZ	**Milford Sound**	**29.42**	**199**	*e*P	**P**	**09 30 22.6**	**+0.2**
ARMA	**Armidale**	**29.64**	**238**	⇓*i*P	**P**	**09 30 25.3**	**+0.9**
CTA	**Charters Tower**	**32.81**	**260**	⇓*i*P	**P**	**09 30 51.5**	**+0.1**
	18nm,0.9s,mb4.6						
CTA				*e*PCP	PcP	09 33 21.7	+0.6
CTA				*e*SCP		09 36 18.2	
CTA	**Charters Tower**	**32.81**	**260**	P	**P**	**09 30 51.6**	**+0.2**
	21nm,0.8s,mb4.7,baz=87,slow=11,SNR=14						
CTA				PcP	PcP	09 33 21.6	+0.6
	11nm,0.6s,baz=101,slow=2.9,SNR=5.1						
CTA				ScP		09 36 18.2	
	9.9nm,0.8s,baz=105,slow=3.1,SNR=5.4						
CTAO	**Charters Tower**	**32.81**	**260**	*e*P	**P**	**09 30 51.1**	**-0.3**
	39nm,1.0s,mb4.9						
CTAO				*e*		09 32 22.4	
CTAO				*e*PcP	PcP	09 33 21.5	+0.5
CTAO				*e*ScP		09 36 18.0	
CNB	**Canberra Magne**	**33.25**	**231**	⇓*i*P	**P**	**09 30 56.1**	**+1.1**
	90nm,1.2s,mb5.2						
CNB				*i* SCP		09 36 20.5	
PMG	**Port Moresby**	**33.60**	**279**	⇓*e*P	**P**	**09 30 59.1**	**+1.0**
	75nm,1.0s,mb5.2						
WAU	**Wau**	**34.66**	**282**	*e*P	**P**	**09 31 08.7**	**+1.8**
TOO	**Toolangi**	**37.02**	**230**	*e*P	**P**	**09 31 27.4**	**+1.2**
	37nm,1.2s,mb4.8						
TOO				*e*S	**S**	**09 36 35.2**	**+0.2**
STKA	**Stephens Creek**	**38.30**	**240**	P	**P**	**09 31 37.9**	**+1.3**
	51nm,0.9s,mb5.1,baz=68,slow=7.2,SNR=47						
STKA				PcP	PcP	09 33 38.3	+0.9
	14nm,0.9s,baz=71,slow=5.0,SNR=4.2						
STKA				ScP		09 36 38.1	
	12nm,0.9s,baz=61,slow=4.1,SNR=8.3						
STKA	**Stephens Creek**	**38.30**	**240**	P	**P**	**09 31 37.9**	**+1.3**
STKA				PcP	PcP	09 33 38.3	+0.9
STKA				ScP		09 36 38.1	
RKT	**Rikitea**	**41.81**	**106**	*e*P	**P**	**09 32 04.8**	**-0.3**
	144nm,1.0s,mb5.5						
HON	**Honolulu**	**43.59**	**29**	*e*P	**P**	**09 32 18.3**	**-0.9**
KIP	**Kipapa**	**43.67**	**29**	*e*P	**P**	**09 32 17.1**	**-2.7**
	110nm,1.0s,mb5.3						
HKL	**Haleakala**	**43.91**	**32**	*e*P	**P**	**09 32 20.9**	**-0.8**
WB2	**Warramunga Arr**	**44.00**	**259**	⇓*i*P	**P**	**09 32 21.5**	**-0.8**
WB2				*e*PCP	PcP	09 33 57.1	+0.5
WB2				*e*SCP		09 37 00.2	
WB2				*e*S	**S**	**09 38 13.1**	**-2.7**
WB2				*e*SCS	ScS	09 41 24.6	+4.7
WRAB	**Tennant Creek**	**44.00**	**259**	*e*P	**P**	**09 32 21.7**	**-0.6**
	40nm,1.1s,mb4.9						
WRAB				*e*ScP		09 36 59.9	
WRA	**Warramunga Arr**	**44.01**	**259**	P	**P**	**09 32 21.6**	**-0.8**
	19nm,0.9s,mb4.6,baz=91,slow=8.1,SNR=223						
WRA				PcP	PcP	09 33 57.0	+0.3
	13nm,0.9s,baz=88,slow=3.6,SNR=11						
WRA				ScP		09 37 00.2	
	19nm,1.1s,baz=85,slow=4.1,SNR=15						
WRA				PKiKP		09 40 54.2	
	0.5nm,0.5s,baz=46,slow=0.4,SNR=5.7						
ASAR	**Alice Springs**	**44.25**	**254**	P	**P**	**09 32 24.1**	**-0.1**
	170nm,1.1s,mb5.5,baz=88,slow=7.9,SNR=601						
ASAR				PcP	PcP	09 33 57.9	+0.4
	10nm,0.5s,baz=103,slow=3.9,SNR=10						
ASAR				ScP		09 37 01.6	
	21nm,0.7s,baz=99,slow=4.2,SNR=34						
ASAR				S	**S**	**09 38 17.4**	**-1.8**
	4.5nm,0.9s,baz=86,slow=15,SNR=8.6						
ASPA	**Alice Springs**	**44.25**	**254**	⇓*i*P	**P**	**09 32 24.1**	**-0.2**
ASPA				*e*PCP	PcP	09 33 57.6	+0.1
ASPA				*e*SCP		09 37 01.4	
ASPA				*e*S	**S**	**09 38 17.2**	**-2.1**
ASPA				*e*SCS	ScS	09 41 25.3	+3.8
KAKA	**Kakadu**	**46.88**	**269**	⇓*i*P	**P**	**09 32 44.0**	**-0.6**
	30nm,0.5s,mb5.1						
FORT	**Forrest**	**49.61**	**244**	*e*P	**P**	**09 33 04.3**	**-0.7**
	116nm,1.0s,mb5.3						
FORT				*e*PCP	PcP	09 34 16.9	+0.2
FITZ	**Fitzroy Crossi**	**52.39**	**260**	⇓*i*P	**P**	**09 33 25.3**	**-0.1**
	12nm,0.6s,mb4.4						
FITZ				*e*S	**S**	**09 40 12.5**	**+1.8**
FITZ	**Fitzroy Crossi**	**52.39**	**260**	P	**P**	**09 33 25.5**	**+0.1**
	14nm,0.6s,mb4.5,baz=161,slow=2.0,SNR=43						
KLBR	**Kellerberrin**	**58.45**	**243**	*e*P	**P**	**09 34 06.5**	**-0.8**
	27nm,0.7s,mb4.6						
NWAO	**Narrogin (SRO)**	**58.86**	**242**	P	**P**	**09 34 09.5**	**-0.5**
	6.1nm,0.5s,mb4.1,baz=122,slow=5.1,SNR=12						
SBA	**Scott Base**	**61.05**	**183**	⇑*i*P	**P**	**09 34 25.4**	**+1.6**
	82nm,1.0s,mb5.0						
SBA				*e*PcP	PcP	09 34 59.9	-0.8
SBA				*e*pP	pP	09 36 16.2	+4.3
CASY	**Casey**	**66.43**	**205**	*e*P	**P**	**09 34 58.6**	**+0.5**
	62nm,1.0s,mb5.1						
MAT	**Matsushiro**	**66.91**	**324**	P	**P**	**09 35 00.9**	**-0.7**
MAT	**Matsushiro**	**66.91**	**324**	*e*P	**P**	**09 35 01.0**	**-0.6**
SMY	**Shemya**	**69.91**	**356**	*e*P	**P**	**09 35 17.4**	**-1.9**
ASAJ	**Asahikawa**	**70.32**	**332**	P	**P**	**09 35 22.5**	**+0.6**
	6.6nm,0.4s,mb4.5,baz=220,slow=9.2,SNR=5.2						
YSS	**Yuzh-Sakhalins**	**72.47**	**334**	*e*P	**P**	**09 35 34.1**	**-0.3**
	7.5nm,0.6s,mb4.3						
QSPA	**South Pole Qui**	**72.82**	**180**	⇑*e*P	**P**	**09 35 36.8**	**+1.1**
	210nm,1.1s,mb5.5						
SDPT	**Sand Point**	**74.02**	**11**	*e*P	**P**	**09 35 40.7**	**-2.2**
SAO	**San Andreas Ge**	**76.47**	**44**	*e*P	**P**	**09 35 57.1**	**+0.2**
LRV	**Little Rabbit**	**76.57**	**45**	*e*P	**P**	**09 35 57.8**	**+0.4**
LKC	**Lake Chabot**	**76.61**	**43**	*e*P	**P**	**09 35 58.1**	**+0.5**
NJ2	**Nanjing**	**76.92**	**310**	*e*P	**P**	**09 35 58.0**	**-1.4**
NJ2				PP	PP	09 38 57.8	-4.4
NJ2				AMB	AMB		
	comp=Z,290nm,5.0s						
MDJ	**Mudanjiang**	**77.20**	**325**	P	**P**	**09 36 01.2**	**+0.6**
MDJ				AP	pP	09 37 54.1	-1.5
MDJ				XP	sP	09 38 48.8	-0.9
MDJ				PP	PP	09 39 05.1	+0.8
MDJ				S	S	09 45 14.1	+7.8
MDJ				AMB	AMB		
	comp=Z,19nm,1.2s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,111nm,6.6s						
MWC	**Mount Wilson**	**77.45**	**48**	⇓*i*P	**P**	**09 36 02.0**	**-0.2**
CMB	**Columbia Colle**	**77.87**	**44**	⇓*i*P	**P**	**09 36 04.0**	**-0.4**
	comp=Z,41nm,1.0s,mb4.7						
WDC	**Whiskeytown Da**	**77.92**	**41**	⇓*i*P	**P**	**09 36 04.4**	**-0.2**
	comp=Z,58nm,1.4s,mb4.7						
ASMM	**Slate Mountain**	**78.11**	**43**	*e*P	**P**	**09 36 04.3**	**-1.4**
PFO	**Pinyon Flat Ob**	**78.29**	**49**	*e*P	**P**	**09 36 06.7**	**0.0**
	comp=Z,26nm,1.4s,mb4.4						
YBH	**Yreka Blue Hor**	**78.48**	**40**	P	**P**	**09 36 08.0**	**+0.4**
	comp=Z,32nm,0.9s,mb4.6,baz=170,slow=5.7,SNR=39						
YBH	**Yreka Blue Hor**	**78.48**	**40**	⇓*i*P	**P**	**09 36 07.6**	**+0.1**
	comp=Z,37nm,1.0s,mb4.7						
OMM	**Old Mammoth Mi**	**78.58**	**45**	⇓*i*P	**P**	**09 36 08.0**	**-0.1**
MTUM	**Tungsten Hills**	**78.72**	**45**	*e*P	**P**	**09 36 09.3**	**+0.4**
DAC	**Darwin (Calif)**	**78.83**	**46**	⇓*i*P	**P**	**09 36 09.4**	**-0.1**
	comp=Z,41nm,1.4s,mb4.6						
HUMO	**Hull Mountain**	**78.85**	**39**	⇓*i*P	**P**	**09 36 09.6**	**+0.1**
	comp=Z,43nm,1.1s,mb4.7						
BEKR	**Beckwourth**	**78.90**	**42**	⇓*i*P	**P**	**09 36 09.8**	**0.0**
	comp=Z,8.2nm,0.7s,mb4.2						
WCN	**Washoe City**	**78.98**	**43**	⇓*i*P	**P**	**09 36 10.5**	**+0.2**
	comp=Z,41nm,0.9s,mb4.8						
CN2	**Changchun**	**79.02**	**323**	⇑P	**P**	**09 36 10.9**	**+0.5**
CN2				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.4						
PAHR	**Pah Rah Range**	**79.44**	**43**	*e*P	**P**	**09 36 12.9**	**+0.3**
MNV	**Mina**	**79.57**	**44**	⇓*i*P	**P**	**09 36 13.2**	**-0.1**
	comp=Z,52nm,1.0s,mb4.8						
LDFC	**Landfair**	**79.98**	**49**	⇓*i*P	**P**	**09 36 16.1**	**+0.6**
TPH	**Tonopah**	**80.01**	**45**	*e*P	**P**	**09 36 15.8**	**+0.2**
	comp=Z,40nm,1.0s,mb4.7						
MOD	**Modoc**	**80.06**	**40**	⇓*i*P	**P**	**09 36 15.9**	**+0.1**
	comp=Z,36nm,0.8s,mb4.8						
TPNV	**Topopah Spring**	**80.10**	**46**	*e*P	**P**	**09 36 16.3**	**+0.1**
	comp=Z,26nm,0.9s,mb4.5						
TPNV				*e*pP	pP	09 38 13.7	+1.5
TPNV				*e*PP	PP	09 39 26.6	-1.7
RSO	**Redoubt South**	**80.31**	**13**	*e*P	**P**	**09 36 15.2**	**-1.5**
SVW	**Sparrevohn**	**80.33**	**11**	*e*P	**P**	**09 36 15.6**	**-1.2**
KMOR	**Kings Mountain**	**80.33**	**36**	P	**P**	**09 36 17.6**	**+0.4**
NEN	**Nelson**	**80.45**	**48**	*e*P	**P**	**09 36 18.1**	**+0.2**
NEN				*e*PP	PP	09 39 27.3	-4.1
SPU	**Mount Spurr**	**81.11**	**13**	*e*P	**P**	**09 36 19.2**	**-1.6**
BMN	**Battle Mountai**	**81.23**	**43**	⇓*i*P	**P**	**09 36 22.2**	**+0.3**
	comp=Z,71nm,1.2s,mb5.0						
OCWA	**Octopus Mounta**	**81.23**	**34**	⇓*i*P	**P**	**09 36 22.3**	**+0.6**
	comp=Z,211nm,1.4s,mb5.4						
WVOR	**Wild Horse Val**	**81.39**	**41**	⇓*i*P	**P**	**09 36 22.8**	**+0.2**
	comp=Z,66nm,1.0s,mb5.0						
STW	**Striped Peak**	**81.75**	**34**	P	**P**	**09 36 25.1**	**+0.8**
VGB	**Gordon Butte**	**81.81**	**37**	*e*P	**P**	**09 36 24.6**	**-0.1**
GNW	**Green Mountain**	**81.85**	**35**	*e*P	**P**	**09 36 24.1**	**-0.7**
TUC	**Tucson**	**81.89**	**53**	⇓*i*P	**P**	**09 36 26.6**	**+1.2**
	comp=Z,44nm,1.1s,mb4.8						
LON	**Longmire**	**81.93**	**36**	⇓*i*P	**P**	**09 36 24.3**	**-0.9**
TTA	**Tatalina**	**81.94**	**10**	*e*P	**P**	**09 36 24.4**	**-0.6**
PMR	**Palmer**	**82.13**	**14**	*e*P	**P**	**09 36 25.1**	**-0.8**
PGC	**Sidney**	**82.17**	**34**	⇓*e*P	**P**	**09 36 26.1**	**-0.2**
	comp=Z,163nm,1.4s,mb5.3						
SML	**Sawmill**	**82.50**	**14**	*e*P	**P**	**09 36 26.5**	**-1.3**
DIV	**Divide**	**82.55**	**16**	⇓*e*P	**P**	**09 36 27.1**	**-1.0**
	comp=Z,266nm,1.2s,mb5.7						
HTW	**Haystack Looko**	**82.57**	**35**	P	**P**	**09 36 28.1**	**-0.3**
ELK	**Elko**	**82.69**	**43**	⇓*i*P	**P**	**09 36 29.4**	**+0.2**
	comp=Z,40nm,1.0s,mb4.9						
BJI	**Beijing**	**82.77**	**316**	*e*P	**P**	**09 36 30.6**	**+0.9**
BJI				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.7						
WUAZ	**Wupatki**	**82.88**	**50**	⇓*e*P	**P**	**09 36 31.2**	**+0.9**
	comp=Z,54nm,1.0s,mb5.0						
TNA	**Tin City**	**82.98**	**5**	*e*P	**P**	**09 36 30.1**	**-0.1**
HAWA	**Hanford**	**83.02**	**37**	*e*P	**P**	**09 36 31.1**	**+0.3**
	comp=Z,63nm,1.0s,mb5.1						
RPW	**Rockport**	**83.08**	**35**	*e*P	**P**	**09 36 30.4**	**-0.7**
ENH	**Enshi**	**83.26**	**304**	*e*P	**P**	**09 36 33.3**	**+0.9**
LNOR	**Lincton Mounta**	**83.46**	**38**	*e*P	**P**	**09 36 32.3**	**-0.7**
WTV	**Waterville**	**83.51**	**36**	P	**P**	**09 36 32.8**	**-0.4**
NLW	**Nelson Butte**	**83.51**	**35**	*e*P	**P**	**09 36 32.7**	**-0.5**
MSU	**Marysvale**	**83.68**	**47**	⇓*e*P	**P**	**09 36 35.3**	**+1.1**
DUG	**Dugway**	**84.04**	**45**	⇓*e*P	**P**	**09 36 35.8**	**-0.2**
	comp=Z,23nm,1.4s,mb4.5						
DUG				*e*PP	PP	09 39 57.4	-2.9
GYA	**Guiyang**	**84.04**	**300**	P	**P**	**09 36 37.3**	**+1.0**
GYA				AP	pP	09 38 32.5	-1.1
GYA				S	S	09 46 12.4	-3.2
GYA				XS		09 49 41.8	
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.5						
GYA				AMB	AMB		
	comp=Z,140nm,4.7s						
MCK	**McKinley**	**84.05**	**13**	⇓*i*P	**P**	**09 36 34.1**	**-1.4**
	comp=Z,21nm,0.9s,mb4.7						
MCK				*e*pP	pP	09 38 31.8	-1.0
MAW	**Mawson**	**84.24**	**200**	P	**P**	**09 36 37.8**	**+1.5**
	comp=Z,62nm,0.8s,mb5.2,baz=126,slow=6.0,SNR=160						
MAW				PKKPbc		09 54 47.3	
	comp=Z,0.5nm,0.6s,baz=11,slow=6.6,SNR=3.5						
NLU	**North Lily Min**	**84.42**	**45**	*e*P	**P**	**09 36 37.9**	**0.0**
THY	**Trims Highway**	**84.50**	**14**	*e*P	**P**	**09 36 37.2**	**-0.5**
PNT	**Penticton**	**84.61**	**35**	P	**P**	**09 36 38.5**	**-0.1**
HLID	**Hailey**	**84.62**	**41**	⇓*i*P	**P**	**09 36 39.3**	**+0.5**
	comp=Z,29nm,0.9s,mb4.8						
MPU	**Maple Canyon**	**84.75**	**45**	*e*P	**P**	**09 36 39.9**	**+0.5**
MPU				*e*PP	PP	09 40 04.2	-1.7
HVU	**Hansel Valley**	**84.81**	**44**	⇓*i*P	**P**	**09 36 39.9**	**+0.2**
SRU	**San Rafael**	**85.10**	**47**	*e*P	**P**	**09 36 41.4**	**+0.2**
SRU				*e*PP	PP	09 40 05.0	-3.7
JLU	**Jordanelle**	**85.15**	**45**	⇓*i*P	**P**	**09 36 41.5**	**+0.2**
JLU				*e*pP	pP	09 38 37.8	-1.2
JLU				*e*PP	PP	09 40 06.9	-2.2
DAU	**Daniels Canyon**	**85.19**	**45**	*e*P	**P**	**09 36 42.2**	**+0.7**
IMA	**Indian Mountai**	**85.24**	**10**	*e*P	**P**	**09 36 40.8**	**-0.4**
	comp=Z,278nm,2.1s,mb5.4						
IMA				*e*pP	pP	09 38 38.8	0.0
COLA	**College**	**85.28**	**13**	*e*P	**P**	**09 36 39.9**	**-1.5**
TCUT	**Toone Canyon**	**85.41**	**45**	⇓*i*P	**P**	**09 36 42.1**	**-0.5**
TCUT				*e*pP	pP	09 38 40.3	-0.1
NEW	**Newport**	**85.42**	**36**	P	**P**	**09 36 42.0**	**-0.5**
	comp=Z,16nm,0.8s,mb4.6,baz=236,slow=3.5,SNR=28						
NEW				PP	PP	09 40 07.7	-3.3
	comp=Z,8.2nm,1.2s,baz=259,slow=7.2,SNR=4.8						
NEW	**Newport**	**85.42**	**36**	*e*P	**P**	**09 36 42.1**	**-0.3**
	comp=Z,19nm,1.0s,mb4.6						
NEW				*e*PP	PP	09 40 07.6	-3.3
DLBC	**Dease Lake**	**85.51**	**24**	P	**P**	**09 36 42.8**	**+0.1**
	comp=Z,15nm,0.8s,mb4.7,baz=210,slow=7.0,SNR=21						
DLBC	**Dease Lake**	**85.51**	**24**	⇓*e*P	**P**	**09 36 42.7**	**+0.1**
HWUT	**Hardware Ranch**	**85.53**	**44**	⇓*i*P	**P**	**09 36 42.9**	**-0.3**
	comp=Z,10nm,1.1s,mb4.4						
LAZ	**Ladron**	**85.54**	**52**	*e*P	**P**	**09 36 44.2**	**+0.8**
LENM	**Lemitar**	**85.57**	**52**	*e*P	**P**	**09 36 44.0**	**+0.5**
PV10	**Paradox Valley**	**85.82**	**48**	*e*P	**P**	**09 36 45.0**	**+0.4**
PV10				*e*PP	PP	09 40 08.2	-6.2
BNM	**Barren Site**	**85.83**	**53**	*e*P	**P**	**09 36 45.4**	**+0.6**
PV01	**Paradox Valley**	**86.05**	**48**	*e*P	**P**	**09 36 46.1**	**+0.4**
MCMT	**McKenzie Canyo**	**86.22**	**41**	*e*P	**P**	**09 36 46.8**	**+0.4**
MCMT				*e*PP	PP	09 40 14.1	-3.6
HHC	**Hu-ho-hao-te**	**86.26**	**315**	*e*P	**P**	**09 36 49.2**	**+2.5**
HHC				AP	pP	09 38 46.3	+1.7
HHC				XP	sP	09 39 41.0	+3.1
HHC				PP	PP	09 40 16.7	-1.3
HHC				SKS	SKS	09 46 19.8	-0.7
HHC				S	S	09 46 32.4	-3.7
HHC				XS		09 49 58.6	
HHC				AMB	AMB		
	comp=Z,19nm,0.8s,mb4.8						
HHC				AMB	AMB		
	comp=Z,133nm,10.1s						
ANMO	**Albuquerque**	**86.28**	**52**	*e*P	**P**	**09 36 47.2**	**+0.3**
	comp=Z,21nm,1.0s,mb4.7						
ANMO				pP	pP	09 38 44.8	-0.1
LTX	**Lajitas**	**86.28**	**58**	*e*P	**P**	**09 36 48.5**	**+1.4**
	comp=Z,71nm,1.6s,mb5.0						
TXAR	**Lajitas Array**	**86.28**	**58**	P	**P**	**09 36 48.5**	**+1.4**
	comp=Z,12nm,0.9s,mb4.5,baz=223,slow=6.8,SNR=114						
TXAR				PKKPbc		09 54 43.1	
	comp=Z,0.2nm,0.4s,baz=130,slow=3.0,SNR=9.7						
AHID	**Auburn Hatcher**	**86.37**	**43**	⇓*i*P	**P**	**09 36 47.4**	**+0.3**
	comp=Z,20nm,1.0s,mb4.7						
DAWY	**Dawson**	**86.65**	**16**	*e*P	**P**	**09 36 47.5**	**-0.5**
TPAW	**Teton Pass**	**86.80**	**43**	*e*P	**P**	**09 36 49.7**	**+0.5**
TPAW				*e*pP	pP	09 38 47.9	+0.6
TPAW				*e*PP	PP	09 40 19.2	-3.6
GDL2	**Guadalupe Moun**	**86.80**	**55**	*e*P	**P**	**09 36 50.3**	**+0.9**
REDW	**Red Top Meadow**	**86.81**	**43**	*e*P	**P**	**09 36 49.9**	**+0.7**
KMI	**Kunming**	**86.85**	**297**	*e*P	**P**	**09 36 50.4**	**+0.6**
KMI				AP	pP	09 38 50.4	+2.4
KMI				S	S	09 46 42.4	+0.5
KMI				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.2						
SNOW	**Snow King Moun**	**86.92**	**43**	⇓*i*P	**P**	**09 36 50.4**	**+0.7**
WUWY	**Wally Ulrich**	**86.96**	**43**	*e*P	**P**	**09 36 50.2**	**+0.3**
CHMT	**Chamberlain Mo**	**86.98**	**39**	*e*P	**P**	**09 36 49.5**	**-0.4**
MOOW	**Moose Ponds**	**87.05**	**42**	⇓*i*P	**P**	**09 36 50.6**	**+0.2**
LOHW	**Long Hollow**	**87.08**	**43**	⇓*i*P	**P**	**09 36 50.6**	**+0.1**
QLMT	**Earthquake Lak**	**87.11**	**41**	*e*P	**P**	**09 36 51.5**	**+0.9**
YMR	**Madison River**	**87.33**	**42**	⇓*i*P	**P**	**09 36 52.7**	**+1.1**
BOZ	**Bozeman (W)**	**87.37**	**40**	⇓*i*P	**P**	**09 36 51.8**	**0.0**
	comp=Z,22nm,1.2s,mb4.7						
PDAR	**Pinedale Array**	**87.39**	**44**	P	**P**	**09 36 52.0**	**0.0**
	comp=Z,19nm,0.8s,mb4.8,baz=217,slow=2.9,SNR=135						
PDAR				PP	PP	09 40 24.0	-3.7
	comp=Z,3.1nm,0.9s,baz=259,slow=7.6,SNR=8.0						
PDAR				PKKPbc		09 54 39.9	
	comp=Z,0.7nm,0.9s,baz=90,slow=3.0,SNR=4.5						
CPRX	**Cap Rock**	**87.51**	**54**	*e*P	**P**	**09 36 53.4**	**+0.7**
HRY	**Holter Researc**	**87.74**	**39**	*e*P	**P**	**09 36 53.6**	**+0.1**
SDCO	**Great Sand Dun**	**88.10**	**50**	*e*P	**P**	**09 36 55.8**	**+0.4**
	comp=Z,13nm,1.2s,mb4.5						
ISCO	**Idaho Springs**	**88.84**	**48**	*e*P	**P**	**09 36 59.4**	**+0.6**
	comp=Z,26nm,1.8s,mb4.8						
SYO	**Syowa Base**	**89.64**	**193**	⇓P	**P**	**09 37 01.9**	**0.0**
SYO	**Syowa Base**	**89.64**	**193**	⇓PcP	PcP	09 37 02.8	-0.1
JCT	**Junction City**	**89.82**	**58**	*e*P	**P**	**09 37 03.8**	**+0.2**
	comp=Z,5.4nm,0.6s,mb4.5						
LZH	**Lanzhou**	**89.88**	**308**	⇓P	**P**	**09 37 05.6**	**+1.9**
LZH				AP	pP	09 39 04.2	+1.5
LZH				PP	PP	09 40 50.7	+3.2
LZH				AMB	AMB		
	comp=Z,31nm,1.2s,mb5.0						
LAO	**LASA Array**	**91.20**	**41**	*e*P	**P**	**09 37 10.1**	**+0.6**
	comp=Z,52nm,0.9s,mb5.5						
LAO				*e*PP	PP	09 40 54.3	-3.3
SNAA	**Sanae**	**91.29**	**179**	*e*	pP	09 39 08.1	-0.5
SNAA	**Sanae**	**91.29**	**179**	*e*	sP	09 40 01.3	-0.1
SNAA	**Sanae**	**91.29**	**179**	*e*	PP	09 40 55.6	-2.1
SNAA	**Sanae**	**91.29**	**179**	⇑*i*P	**P**	**09 37 09.1**	**-0.3**
SNAA				*e*	pP	09 39 08.1	-0.5
SNAA				*e*		09 40 01.3	
SNAA				*e*		09 40 55.6	
INK	**Inuvik**	**91.44**	**15**	P	**P**	**09 37 09.2**	**-0.9**
	comp=Z,8.7nm,0.8s,mb4.7,baz=213,slow=4.9,SNR=15						
INK	**Inuvik**	**91.44**	**15**	*e*P	**P**	**09 37 08.9**	**-1.2**
	comp=Z,22nm,1.1s,mb5.0						
VNA3	**Neumayer Olymp**	**91.46**	**177**	*e*	sP	09 40 09.8	+7.6
VNA3	**Neumayer Olymp**	**91.46**	**177**	*e*	PP	09 41 04.4	+5.4
RSSD	**Black Hills**	**91.61**	**44**	⇓*i*P	**P**	**09 37 11.1**	**-0.4**
	comp=Z,18nm,1.1s,mb5.0						
VNA2	**Neumayer--Watz**	**91.89**	**177**	*e*	pP	09 39 12.4	+1.0
VNA2	**Neumayer--Watz**	**91.89**	**177**	*e*	sP	09 40 07.1	+2.9
VNA2	**Neumayer--Watz**	**91.89**	**177**	*e*	PP	09 41 01.7	-0.7
VNA2	**Neumayer--Watz**	**91.89**	**177**	⇑*i*P	**P**	**09 37 15.0**	**+2.8**
VNA2				*e*	pP	09 39 12.4	+1.0
VNA2				*e*		09 40 07.1	
VNA2				*e*		09 41 01.7	
MAIT	**Maitri**	**91.89**	**184**	*e*P	**P**	**09 37 12.9**	**+0.7**
VNA1	**Neumayer--Stat**	**92.12**	**177**	*e*	pP	09 39 15.3	+2.8
VNA1	**Neumayer--Stat**	**92.12**	**177**	*e*	sP	09 40 08.2	+2.9
VNA1	**Neumayer--Stat**	**92.12**	**177**	*e*	PP	09 41 01.4	-2.8
VNA1	**Neumayer--Stat**	**92.12**	**177**	⇑*i*P	**P**	**09 37 16.1**	**+2.9**
VNA1				*e*	pP	09 39 15.3	+2.8
VNA1				*e*		09 40 08.2	
VNA1				*e*		09 41 01.4	
SONM	**Songino Array**	**92.54**	**319**	P	**P**	**09 37 16.1**	**+0.5**
	comp=Z,0.9nm,0.5s,mb4.0,baz=108,slow=3.9,SNR=11						
SONM				PKKPbc		09 54 27.0	
	comp=Z,0.8nm,0.9s,baz=297,slow=2.8,SNR=4.9						
DGMT	**Dagmar**	**93.17**	**40**	*e*P	**P**	**09 37 18.5**	**0.0**
	comp=Z,54nm,1.0s,mb5.5						
DGMT				*e*PP	PP	09 41 08.6	-4.3
GTA	**Gaotai**	**94.02**	**310**	*e*P	**P**	**09 37 19.3**	**-3.4**
GTA				AP	pP	09 39 22.6	+0.5
GTA				AMB	AMB		
	comp=Z,1.0nm,0.5s,mb4.2						
YKA	**Yellowknife Ar**	**94.04**	**25**	P	**P**	**09 37 21.2**	**-1.0**
	comp=Z,5.8nm,0.6s,mb4.9,baz=246,slow=4.3,SNR=14						
YKA	**Yellowknife Ar**	**94.04**	**25**	P	**P**	**09 37 21.2**	**-1.0**
KSU1	**Kansas State U**	**95.11**	**51**	*e*P	**P**	**09 37 28.3**	**+0.7**
ULM	**Lac du Bonnet**	**98.89**	**40**	P	**P**	**09 37 44.0**	**-0.4**
	comp=Z,2.1nm,1.0s,mb4.4,baz=230,slow=8.9,SNR=3.2						
MKAR	**Makanchi Array**	**108.12**	**314**	PKiKP		09 42 28.1	
	comp=Z,1.2nm,0.6s,baz=89,slow=1.0,SNR=14						
MKAR				PKKPbc		09 53 42.4	
	comp=Z,13nm,1.2s,baz=276,slow=3.4,SNR=24						
BVAR	**Borovoye Array**	**115.84**	**321**	PKP	PKPdf	09 42 42.9	+0.8
	comp=Z,3.5nm,0.6s,baz=135,slow=2.1,SNR=18						
BVAR				PKKPbc		09 53 18.1	
	comp=Z,0.5nm,0.5s,baz=252,slow=4.7,SNR=4.4						
ZRNK	**Zerenda**	**116.68**	**321**	*e*PKPdf	PKPdf	09 42 44.1	+0.3
BDFB	**Brasilia**	**121.84**	**121**	PKP	PKPdf	09 42 55.9	+1.3
	comp=Z,7.0nm,0.7s,baz=263,slow=1.0,SNR=8.9						
ARU	**Arti**	**121.87**	**326**	*i* PKIKP	PKPdf	09 42 54.6	+0.9
ARU				*e*SS	tx	10 00 58.3	
CAM4	**Nova Friburgo**	**122.13**	**131**	(P)	PKPdf	09 42 56.1	+1.0
CAM4				*i*		09 42 57.1	
CAM4				*i*		09 42 58.3	
CAM4				*i*		09 44 21.0	
CAM4	**Nova Friburgo**	**122.13**	**131**	P	PKPdf	09 42 56.1	+1.0
CAM4				*i*		09 42 57.1	
CAM4				*i*		09 42 58.3	
CAM4				*i*		09 44 20.9	
CAM3	**Guarapari**	**124.63**	**131**	(P)	PKPdf	09 43 00.3	+0.3
CAM3				*i*		09 43 03.8	
KEV	**Kevo**	**125.06**	**349**	*e*pkp	PKPdf	09 42 58.5	-1.0
ARCES	**ARCESS Array B**	**125.52**	**350**	PKP	PKPdf	09 43 00.9	+0.5
	comp=Z,11nm,0.9s,baz=35,slow=0.8,SNR=29						
ARCES				PKKPbc		09 52 40.5	
	comp=Z,4.5nm,0.9s,baz=202,slow=3.0,SNR=18						
KAF	**Kangasniemi**	**131.71**	**344**	*e*pkp	PKPdf	09 43 12.5	+0.1
FINES	**FINESS Array B**	**132.33**	**344**	PKP	PKPdf	09 43 14.4	+0.8
	comp=Z,2.6nm,0.6s,baz=124,slow=6.9,SNR=7.7						
FINES				SKPbc		09 45 53.7	
	comp=Z,7.5nm,0.8s,baz=104,slow=7.9,SNR=13						
OBN	**Obninsk**	**133.35**	**332**	*d* *i*PKIKP	PKPdf	09 43 16.0	+0.4
OBN				*i*		09 45 57.5	

OBN				pmax	pmax		
	comp=Z,6.0nm,1.0s						
QRN	**Al-Qurain**	**135.39**	**294**	*e*P	PKPdf	09 43 23.5	+3.3
QRN				AMb	AMB	09 43 24.8	
	comp=Z,46nm,0.8s						
NB2	**NORSAR Subarra**	**135.61**	**353**	PKP		09 43 21.6	
	comp=Z,1.4nm,0.7s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**135.61**	**353**	PKP	PKPdf	09 43 21.1	+1.4
	comp=Z,1.7nm,0.6s,baz=15,slow=4.1,SNR=7.8						
NOA				SKPbc		09 46 04.3	
	comp=Z,3.5nm,0.8s,baz=11,slow=4.5,SNR=10						
RDF	**Al-Radifah**	**135.69**	**294**	*e*P	PKPdf	09 43 24.1	+3.4
RST	**Umm Al-Ruwaisa**	**136.12**	**295**	*e*P	PKPdf	09 43 24.7	+3.2
RST				AMb	AMB	09 43 25.3	
	comp=Z,24nm,0.8s						
HFS	**Hagfors**	**136.15**	**351**	PKhKP		09 43 15.1	
	comp=Z,2.6nm,0.6s,baz=56,slow=5.3,SNR=6.4						
HFS				PKP	PKPdf	09 43 22.4	+1.8
	comp=Z,4.0nm,0.7s,baz=72,slow=4.6,SNR=4.4						
HFS				SKPbc		09 46 06.0	
	comp=Z,13nm,1.0s,baz=315,slow=2.1,SNR=8.9						
LSZ	**Lusaka**	**137.89**	**221**	*e*PKPdf	PKPdf	09 43 27.1	+2.0
LSZ				*e*SKP		09 46 13.9	
SOC	**Sochi**	**137.95**	**317**	*e*PKIKP	PKPdf	09 43 31.4	+6.9
SOC				*e*		09 46 26.5	
SOC				*e*SSS	SSS	10 09 06.9	-1.3
SOC				pmax	pmax		
	comp=Z,24nm,1.0s						
SOC				pmax	pmax		
	comp=N,11nm,0.6s						
SOC				pmax	pmax		
	comp=E,9.0nm,0.5s						
ANN	**Anapa**	**138.82**	**320**	*e*PKHKP		09 43 10.4	
ANN				pmax	pmax		
	comp=Z,43nm,1.5s						
AKASG	**Malin Array Be**	**139.61**	**332**	PKhKP		09 43 23.4	
	comp=Z,0.6nm,0.3s,baz=42,slow=3.8,SNR=4.4						
AKASG				SKPbc		09 46 15.1	
	comp=Z,0.6nm,0.3s,baz=41,slow=2.9,SNR=8.0						
KMBO	**Kilima Mbogo**	**139.71**	**247**	PKhKP		09 43 24.1	
	comp=Z,4.4nm,0.8s,baz=48,slow=23,SNR=9.4						
KMBO				PKP	PKPdf	09 43 31.3	+2.8
	comp=Z,5.2nm,0.9s,baz=40,slow=1.2,SNR=6.4						
KMBO	**Kilima Mbogo**	**139.71**	**247**	*e*PKPdf	PKPdf	09 43 24.3	-4.1
KMBO				PKP	PKPdf	09 43 31.3	+2.8
TSUM	**Tsumeb**	**140.21**	**205**	*e*PKPdf	PKPdf	09 43 25.9	-3.2
TSUM				*e*		09 46 19.0	
EKA	**Eskdalemuir Ar**	**141.85**	**4**	PKhKP		09 43 27.4	
	comp=Z,2.1nm,0.6s,baz=323,slow=2.8,SNR=5.5						
EKA				SKPbc		09 46 22.8	
	comp=Z,1.9nm,0.9s,slow=2.1,SNR=5.1						
CTKT	**Corum**	**142.56**	**316**	*i* P	PKPdf	09 43 32.9	+0.2
BSEG	**Bad Segeberg**	**142.63**	**351**	*e*PKHKP		09 43 30.6	
KWP	**Kalwaria**	**143.15**	**336**	*e*PKIKP	PKPdf	09 43 33.6	+0.3
COBT	**Iskenderun**	**143.27**	**309**	*i* P	PKPbc	09 43 34.9	+2.0
KBRS	**Khaybar**	**143.32**	**290**	P	PKPbc	09 43 35.3	+2.0
AVNT	**Avonos**	**143.37**	**313**	*i* P	PKPbc	09 43 34.7	+1.7
ELDT	**Eldivan**	**143.54**	**316**	*i* P	PKPbc	09 43 35.6	+2.2
OJC	**Ojcow**	**143.72**	**339**	⇓*i*PKIKP	PKPdf	09 43 34.9	+0.6
BRTR	**Keskin Array B**	**143.77**	**315**	PKP	PKPdf	09 43 35.4	+0.6
	comp=Z,15nm,0.9s,baz=117,slow=2.8,SNR=52						
BRTR				SKPbc		09 46 26.6	
	comp=Z,4.3nm,1.0s,baz=135,slow=3.5,SNR=5.8						
KOLS	**Kolonicke sedl**	**143.88**	**336**	*e*PKP	PKPdf	09 43 36.2	+1.6
KOLS				*e*		09 46 27.5	
ASF	**Jabal al Asfar**	**144.18**	**301**	PKP	PKPdf	09 43 37.7	+2.0
	comp=Z,6.7nm,0.8s,baz=331,slow=2.0,SNR=13						
ASF				SKPbc		09 46 28.7	
	comp=Z,4.2nm,0.9s,baz=262,slow=3.7,SNR=4.4						
VRI	**Vrincioaia**	**144.21**	**328**	⇑*i*P	PKPdf	09 43 37.3	+2.0
VRI	**Vrincioaia**	**144.21**	**328**	⇑*i*P	PKPdf	09 43 37.4	+2.1
CRVS	**Cervenica-Dubn**	**144.22**	**337**	*e*PKP	PKPdf	09 43 38.7	+3.5
CRVS	**Cervenica-Dubn**	**144.22**	**337**	*i* PKIKP	PKPdf	09 43 37.0	+1.8
CRVS	**Cervenica-Dubn**	**144.22**	**337**	*e*PKIKP	PKPdf	09 43 38.7	+3.5
KSP	**Ksiaz**	**144.25**	**343**	*e*PKPdf	PKPdf	09 43 36.9	+1.7
KSP				*e*sPKP		09 46 28.5	
HARR	**Harsova**	**144.39**	**326**	⇑*i*P	PKPdf	09 43 38.4	+2.8
HARR	**Harsova**	**144.39**	**326**	⇑*i*P	PKPdf	09 43 38.4	+2.7
SGKT	**Sivrigoynuk**	**144.39**	**317**	*i* P	PKPdf	09 43 37.5	+1.7
OKC	**Ostrava-Krasne**	**144.59**	**341**	*e*PKP	PKPdf	09 43 37.7	+1.9
UPC	**Upice**	**144.63**	**343**	*e*PKP	PKPdf	09 43 37.8	+1.9
CLL	**Collm**	**144.64**	**347**	⇓*i*PKIKP	PKPdf	09 43 37.6	+1.7
	comp=Z,logA/T=2.0						
CLL				*e*		09 46 29.0	
CLL	**Collm**	**144.64**	**347**	*i* PKIKP	PKPdf	09 43 37.6	+1.7
CLL				pmax	pmax		
	comp=Z,98nm,1.0s						
CLZ	**Clausthal**	**144.64**	**350**	*e*PKPbc	PKPbc	09 43 37.8	+1.5
DPC	**Dobruska-Polom**	**144.68**	**343**	*e*PKP	PKPdf	09 43 38.2	+2.2
MEST	**Erdemli**	**144.81**	**310**	*i* P	PKPdf	09 43 38.8	+2.1
BRG	**Berggiesshubel**	**144.83**	**346**	*i* P	PKPdf	09 43 38.6	+2.4
BRG				*e*		09 46 28.9	
MORC	**Moravsky Berou**	**144.83**	**341**	*e*PKPdf	PKPdf	09 43 38.9	+2.6
MLR	**Muntele Rosu**	**144.86**	**329**	PKP	PKPdf	09 43 38.9	+2.5
	comp=Z,4.3nm,0.5s,baz=18,slow=5.2,SNR=15						
MLR				SKPbc		09 46 29.2	
	comp=Z,12nm,1.1s,baz=7.3,slow=2.1,SNR=5.8						
MLR	**Muntele Rosu**	**144.86**	**329**	⇑*i*P	PKPdf	09 43 38.3	+1.8
MLR	**Muntele Rosu**	**144.86**	**329**	⇑*i*P	PKPdf	09 43 38.3	+1.8
KECS	**Kecovo**	**144.93**	**337**	*i* PKP	PKPdf	09 43 39.2	+2.7
KECS	**Kecovo**	**144.93**	**337**	*i* PKP2	PKPab	09 43 39.5	-1.1
PVCC	**Panska Ves**	**144.99**	**345**	*e*PKP	PKPdf	09 43 39.2	+2.7
WTSB	**Winterswijk**	**145.02**	**354**	*i* PKP	PKPdf	09 43 38.9	+2.3
	comp=Z,59nm,0.8s						
TBKS	**Tabuk**	**145.37**	**295**	P	PKPdf	09 43 41.7	+3.8
PRU	**Pruhonice**	**145.49**	**344**	*e*PKP	PKPdf	09 43 40.4	+3.0
VYHS	**Vyhne**	**145.52**	**339**	*e*PKP	PKPdf	09 43 40.6	+3.1
VYHS	**Vyhne**	**145.52**	**339**	*i* PKP2	PKPab	09 43 40.9	-2.0
VRAC	**Vranov**	**145.53**	**342**	PKPbc	PKPbc	09 43 40.8	+2.1
	comp=Z,22nm,1.1s,baz=46,slow=4.1,SNR=9.5						
MOX	**Moxa**	**145.56**	**348**	*i* P	PKPdf	09 43 40.5	+3.0
	comp=Z,logA/T=1.4						
MOX	**Moxa**	**145.56**	**348**	*e*PKP	PKPdf	09 43 40.5	+3.0
MBAR	**Mbarara**	**145.59**	**242**	*e*PKPbc	PKPbc	09 43 41.6	+1.7
PSZ	**Piszkesteto**	**145.62**	**337**	⇑*e*PKP/p		09 43 41.5	
PSZ	**Piszkesteto**	**145.62**	**337**	*e*PKPbc	PKPbc	09 43 39.7	+0.7
ESKT	**Eskisehir**	**145.73**	**317**	*i* P	PKPdf	09 43 40.8	+2.6
NKC	**Novy Kostel**	**145.77**	**347**	*e*PKP	PKPdf	09 43 41.3	+3.4
JMQS	**Jabal Moqyreh**	**145.82**	**296**	P	PKPdf	09 43 42.9	+4.2
DBAS	**Duba**	**146.05**	**293**	P	PKPdf	09 43 43.0	+3.9
CSS	**Prodhromos**	**146.07**	**308**	*e*PKPbc	PKPbc	09 43 42.5	+2.0
HGN	**Heimansgroeve**	**146.29**	**354**	*e*PKP	PKPdf	09 43 40.1	+1.4
	comp=Z,0.3nm,0.5s						
ZST	**Bratislava**	**146.36**	**340**	*e*PKP	PKPdf	09 43 43.8	+4.9
ZST	**Bratislava**	**146.36**	**340**	*e*PKP2	PKPab	09 43 43.9	-2.2
JMOS	**Jabal al Moall**	**146.42**	**297**	P	PKPdf	09 43 44.3	+4.7
EIL	**Elat**	**146.44**	**298**	*e*PKPbc	PKPbc	09 43 43.9	+2.4
ULDT	**Uludag**	**146.50**	**319**	*i* P	PKPdf	09 43 43.5	+4.1
KHC	**Kasperske Hory**	**146.53**	**345**	*e*PKP	PKPdf	09 43 40.0	+0.9
KHC				x	x	09 43 43.6	
KHC	**Kasperske Hory**	**146.53**	**345**	*e*PKP	PKPdf	09 43 40.0	+0.9
KHC				*e*		09 43 43.6	
GRA1	**Grafenberg Arr**	**146.54**	**348**	*e*PKPbc	PKPbc	09 43 43.7	+2.6
GRA1				*e*PKPab	PKPab	09 43 46.2	-0.6
GRF	**Grafenberg Arr**	**146.54**	**348**	*e*PKP2	PKPab	09 43 43.7	-3.1
BDAS	**Al Bad‘**	**146.59**	**296**	P	PKPdf	09 43 44.3	+4.4
HAQS	**Haql**	**146.60**	**297**	P	PKPdf	09 43 44.8	+4.9
GEC2	**GERESS Array S**	**146.76**	**344**	*e*PKP2	PKPab	09 43 44.2	-3.4
GERES	**GERESS Array B**	**146.76**	**344**	PKPbc	PKPbc	09 43 44.2	+2.6
	comp=Z,39nm,1.2s,baz=27,slow=3.0,SNR=34						
GIVF	**Givet**	**147.05**	**355**	*e*PKP1	PKPdf	09 43 44.5	+4.6
	comp=Z,32nm,0.7s						
BAIF	**Baives**	**147.14**	**356**	*e*PKP1	PKPdf	09 43 44.8	+4.7
	comp=Z,32nm,0.8s						
RUP	**Ruppelstein**	**147.22**	**352**	PKP	PKPdf	09 43 45.3	+5.1
WLF	**Walferdange**	**147.36**	**354**	*e*PKPbc	PKPdf	09 43 46.0	+5.5
MOA	**Molln**	**147.52**	**343**	⇓*i*P	PKPdf	09 43 46.2	+5.4
ARSA	**Arzberg**	**147.69**	**341**	⇑*i*P	PKPdf	09 43 46.3	+5.2
MANT	**Manisa**	**147.79**	**317**	*i* P	PKPdf	09 43 47.2	+5.7
LANF	**Langenberg**	**147.82**	**351**	PKP	PKPdf	09 43 46.8	+5.6
DNZL	**Cakiroluk**	**147.90**	**315**	*i* P	PKPdf	09 43 48.0	+6.3
FUR	**Furstenfeldbru**	**147.97**	**347**	*e*PKP2	PKPab	09 43 52.0	-0.4
FUR	**Furstenfeldbru**	**147.97**	**347**	*e*PKPbc	PKPdf	09 43 47.5	+6.0
FUR				*e*PKPab	PKPab	09 43 52.0	-0.4
BFO	**Black Forest**	**148.38**	**350**	*e*PKHKP		09 43 48.1	
BFO	**Black Forest**	**148.38**	**350**	*e*PKP2	PKPab	09 43 52.8	-1.2
WLS	**Welschbruch**	**148.44**	**352**	PKP	PKPdf	09 43 48.3	+6.1
CDF	**Champ du Feu**	**148.45**	**352**	*e*PKP1	PKPdf	09 43 48.4	+6.2
	comp=Z,46nm,0.8s						
KBA	**Koelnbreinsper**	**148.48**	**343**	⇓*i*P	PKPdf	09 43 48.1	+5.8
FLN	**La Foliniere**	**148.53**	**2**	*e*PKP1	PKPdf	09 43 48.1	+5.7
	comp=Z,67nm,0.8s						
GRUS	**Gruza**	**148.54**	**332**	⇑*i*P	PKPdf	09 43 49.0	+6.5
MEZF	**Maizieres J’vi**	**148.62**	**355**	*e*PKP1	PKPdf	09 43 48.6	+6.1
ECH	**Echery**	**148.66**	**352**	PKP	PKPdf	09 43 48.7	+6.1
KDAG	**Bornova**	**148.68**	**318**	*i* P	PKPdf	09 43 48.9	+5.9
WATA	**Walderalm**	**148.69**	**346**	⇓*i*P	PKPdf	09 43 48.7	+6.0
DIVS	**Divcibare**	**148.70**	**333**	⇑*i*P	PKPdf	09 43 49.3	+6.5
LDF	**La Druitiere**	**148.71**	**1**	*e*PKP1	PKPdf	09 43 48.5	+5.9
	comp=Z,25nm,0.4s						
WTTA	**Wattenberg**	**148.74**	**346**	⇑*i*P	PKPdf	09 43 49.3	+6.6
MOTA	**Moosalm**	**148.79**	**346**	⇓*i*P	PKPdf	09 43 49.2	+6.4
THEF	**They Montfort**	**148.80**	**353**	PKP	PKPdf	09 43 49.2	+6.4
ROSF	**Rostrenen**	**148.80**	**5**	*e*PKP1	PKPdf	09 43 48.6	+5.8
	comp=Z,35nm,0.8s						
FELD	**Feldberg**	**148.87**	**351**	PKP	PKPdf	09 43 49.3	+6.4
SQTA	**Sankt Quirin**	**148.88**	**346**	⇓*i*P	PKPdf	09 43 49.7	+6.7
GRR	**Gorron**	**148.90**	**2**	*e*PKP1	PKPdf	09 43 49.2	+6.2
	comp=Z,65nm,0.7s						
SGMF	**Saint Gilles**	**148.94**	**4**	*e*PKP1	PKPdf	09 43 49.0	+6.0
	comp=Z,74nm,0.9s						
HAU	**Haudompre**	**148.97**	**353**	*e*PKP1	PKPdf	09 43 48.9	+5.8
	comp=Z,34nm,0.8s						
MOF	**Molkenrain**	**149.02**	**352**	PKP	PKPdf	09 43 49.5	+6.3
LJU	**Ljubljana**	**149.08**	**341**	*i* PKPbc	PKPdf	09 43 50.0	+6.7
LJU				*e*PKPab	PKPab	09 43 55.8	-1.2
HINF	**Hinteralfeld**	**149.09**	**352**	*e*PKP1	PKPdf	09 43 49.6	+6.3
PTCC	**Patocco-Chiusa**	**149.10**	**343**	*e*PKP	PKPdf	09 43 49.4	+6.0
DAVA	**Damuels**	**149.10**	**348**	⇑*i*P	PKPdf	09 43 50.1	+6.8
QUIF	**Quistinic**	**149.22**	**5**	*e*PKP1	PKPdf	09 43 49.7	+6.2
GMNA	**Gemona**	**149.25**	**343**	*e*PKP	PKPdf	09 43 49.9	+6.3
VOY	**Vojsko**	**149.28**	**342**	*e*PKPbc	PKPdf	09 43 45.2	+1.5
VOY				*e*		09 43 49.4	
BOJS	**Bojanci**	**149.33**	**340**	*e*PKPbc	PKPdf	09 43 51.0	+7.2
CEY	**Cerknica**	**149.38**	**341**	*i* PKPbc	PKPdf	09 43 50.7	+6.9
CEY				*e*		09 45 58.2	
CSO	**Casso**	**149.50**	**344**	⇓*i*Pg	PKPdf	09 43 50.4	+6.4
LOMF	**Lomont**	**149.55**	**352**	PKP	PKPdf	09 43 51.1	+7.0
DAVOX	**Davos**	**149.59**	**348**	PKPbc	PKPdf	09 43 51.8	+7.7
	comp=Z,63nm,0.6s,baz=283,slow=0.3,SNR=58						
TRI	**Trieste**	**149.61**	**342**	*e*PKP	PKPdf	09 43 51.0	+6.8
FAU	**Forcella Aurin**	**149.62**	**345**	⇓*i*Pg	PKPdf	09 43 51.1	+6.9
BRMO	**Bormio**	**149.77**	**347**	*e*PKP	PKPdf	09 43 52.2	+7.7
CTI	**Castel Tesino**	**149.88**	**345**	*e*PKP	PKPdf	09 43 51.6	+7.0
LOR	**Lormes**	**149.94**	**356**	*e*PKP1	PKPdf	09 43 52.0	+7.3
	comp=Z,97nm,0.8s						
HYF	**Humbligny**	**150.01**	**357**	*e*PKP1	PKPdf	09 43 52.5	+7.7
SSF	**Saint Saulge**	**150.17**	**356**	*e*PKP1	PKPdf	09 43 52.5	+7.5
	comp=Z,85nm,0.8s						
CABF	**La Chapelle**	**150.38**	**353**	*e*PKP1	PKPdf	09 43 53.5	+8.1
	comp=Z,111nm,1.0s						
AVF	**Avril sur Loir**	**150.45**	**356**	*e*PKP1	PKPdf	09 43 52.8	+7.3
	comp=Z,14nm,0.4s						
SMF	**Signal de Mont**	**150.56**	**356**	*e*PKP1	PKPdf	09 43 53.0	+7.4
VAI	**Varese**	**150.68**	**349**	*e*PKP	PKPdf	09 43 53.4	+7.6
MFF	**Saint Martin d**	**150.70**	**1**	*e*PKP1	PKPdf	09 43 53.4	+7.6
	comp=Z,92nm,0.9s						
BGF	**Bois d’Agland**	**150.71**	**357**	*e*PKP1	PKPdf	09 43 53.7	+7.8
	comp=Z,59nm,0.7s						
MCGN	**Macugnaga**	**150.74**	**350**	*e*PKP	PKPdf	09 43 54.5	+8.6
TCF	**Toulx Ste Croi**	**151.00**	**358**	*e*PKP1	PKPdf	09 43 54.2	+7.9
	comp=Z,61nm,1.0s						
OG05	**Jujurieux**	**151.01**	**353**	PKP	PKPdf	09 43 54.7	+8.4
AGO	**Saint Agoulin**	**151.20**	**357**	PKP	PKPdf	09 43 55.2	+8.6
TRAV		**151.21**	**350**	P	PKPdf	09 43 56.3	+10
RSL	**Roselend**	**151.21**	**351**	PKP	PKPdf	09 43 55.2	+8.6
RSL				PKP	PKPdf	09 43 55.6	+9.0
PLDF	**La Plantade**	**151.25**	**356**	PKP	PKPdf	09 43 55.1	+8.4
LSD	**Ceresole Reale**	**151.36**	**351**	P	PKPdf	09 43 55.4	+8.6
LPL	**La Plagne**	**151.36**	**351**	*e*PKP1	PKPdf	09 43 56.1	+9.3
	comp=Z,36nm,0.8s						
LPG	**La Plagne**	**151.38**	**351**	*e*PKP1	PKPdf	09 43 56.1	+9.2
	comp=Z,37nm,0.8s						
PYM	**Petit Puy Mans**	**151.50**	**357**	PKP	PKPdf	09 43 55.8	+8.8
ZCCA	**Zocca**	**151.63**	**345**	*e*PKP	PKPdf	09 43 57.1	+10
RSP	**Reno Superiore**	**151.64**	**350**	P	PKPdf	09 43 55.0	+7.8
GRAM		**151.72**	**346**	P	PKPdf	09 43 55.4	+8.1
FENE	**Fenestrelle**	**151.79**	**351**	P	PKPdf	09 43 56.0	+8.6
SFI	**Santa Sofia**	**151.81**	**343**	*e*PKP	PKPdf	09 43 57.0	+9.4
VALM		**151.81**	**346**	P	PKPdf	09 43 55.7	+8.2
BNI	**Bardonecchia**	**151.83**	**351**	*e*PKPbc	PKPdf	09 43 56.4	+8.9
CODM		**151.87**	**346**	P	PKPdf	09 43 55.7	+8.1
BACM		**151.92**	**346**	P	PKPdf	09 43 55.4	+7.8
RRL	**Cesana Torines**	**151.94**	**351**	P	PKPdf	09 43 56.8	+9.2
BHB	**Bricherasio**	**151.94**	**350**	P	PKPdf	09 43 55.0	+7.3
PCP	**Pian Castagno**	**152.00**	**348**	P	PKPdf	09 43 55.9	+8.1
RJF	**Les Rejaudoux**	**152.00**	**359**	*e*PKP1	PKPdf	09 43 56.5	+8.8
	comp=Z,39nm,0.8s						
LBL	**Lubilhac**	**152.01**	**356**	PKP	PKPdf	09 43 57.1	+9.4
VINC	**Vinca**	**152.03**	**346**	P	PKPdf	09 43 55.5	+7.7
ORIF	**Oris-en-Rattie**	**152.07**	**352**	*e*PKP1	PKPdf	09 43 57.1	+9.3
	comp=Z,27nm,0.7s						
MBDF	**Montbardon**	**152.13**	**351**	*e*PKP1	PKPdf	09 43 57.1	+9.2
	comp=Z,43nm,0.7s						
MAIM		**152.16**	**345**	P	PKPdf	09 43 55.0	+7.0
VIVF	**Saint-Julien-l**	**152.27**	**354**	*e*PKP1	PKPdf	09 43 57.4	+9.3
	comp=Z,26nm,0.8s						
PZZ	**Prazzo**	**152.29**	**350**	P	PKPdf	09 43 56.0	+7.8
ROB	**Roburent**	**152.37**	**349**	P	PKPdf	09 43 56.7	+8.4
CAF	**Calviac**	**152.37**	**358**	*e*PKP1	PKPdf	09 43 57.5	+9.3
	comp=Z,17nm,0.7s						
LFF	**La Frestale**	**152.38**	**0**	*e*PKP1	PKPdf	09 43 57.4	+9.1
	comp=Z,21nm,0.7s						
FIN	**Finale Ligure**	**152.39**	**348**	P	PKPdf	09 43 56.5	+8.2
NRCA	**Norcia**	**152.41**	**340**	*e*PKP	PKPdf	09 43 57.5	+9.2
RORO		**152.51**	**349**	P	PKPdf	09 43 56.4	+7.9
STV2	**Anna di Valdie**	**152.51**	**350**	P	PKPdf	09 43 56.4	+7.9
STV	**Sta Anna Valdi**	**152.51**	**350**	P	PKPdf	09 43 56.2	+7.7
ENR	**Entracque**	**152.51**	**350**	P	PKPdf	09 43 55.8	+7.3
MONE	**Monesi**	**152.60**	**349**	P	PKPdf	09 43 57.1	+8.5
SAOF	**Saorge**	**152.72**	**349**	PKP	PKPdf	09 43 57.8	+9.0
IMI	**Imperia**	**152.74**	**349**	P	PKPdf	09 43 57.6	+8.8
NEGI	**Negi**	**152.83**	**349**	P	PKPdf	09 43 57.1	+8.2
SBF	**Sospel**	**152.86**	**349**	*e*PKP1	PKPdf	09 43 58.0	+9.0
	comp=Z,39nm,0.8s						
SMRF	**Simiane la Rot**	**153.03**	**352**	*e*PKP1	PKPdf	09 43 59.6	+10
	comp=Z,20nm,0.8s						
LASF	**Ste Croix**	**153.11**	**355**	*e*PKP1	PKPdf	09 43 59.4	+10
	comp=Z,20nm,0.8s						
FRF	**La Foret Royal**	**153.29**	**351**	*e*PKP1	PKPdf	09 43 59.7	+10
LMR	**La Mourre**	**153.53**	**351**	*e*PKP1	PKPdf	09 43 59.2	+9.3
PGF	**Pioggiola**	**153.81**	**346**	*e*PKP1	PKPdf	09 44 00.3	+10
	comp=Z,21nm,0.9s						
SJPF	**Ste Jean**	**154.14**	**3**	*e*PKP1	PKPdf	09 44 01.0	+10
	comp=Z,27nm,1.2s						
ETSF	**Etsaut**	**154.39**	**2**	*e*PKP1	PKPdf	09 44 01.2	+10
	comp=Z,22nm,1.0s						
PBRG	**Braganca**	**154.67**	**13**	*e*PKPab	PKPab	09 44 19.8	-0.7
PVIS	**Viseu**	**155.42**	**16**	*e*PKPab	PKPab	09 44 22.5	-1.3
MTE	**Manteigas**	**155.81**	**16**	*e*PKPab	PKPab	09 44 23.5	-1.9
PTOM	**Tomar**	**156.30**	**18**	*e*PKPab	PKPab	09 44 26.5	-1.1
PCBR	**Castelo Branco**	**156.35**	**16**	*e*PKPab	PKPab	09 44 26.9	-0.9
ESDC	**Sonseca Array**	**157.26**	**10**	PKPab	PKPab	09 44 30.6	-1.1
	comp=Z,1.1nm,0.6s,baz=338,slow=3.9,SNR=7.5						
EVO	**Evora**	**157.42**	**18**	*e*PKIKP	PKPdf	09 43 57.1	+1.9
	comp=Z,16nm,0.9s						
LIC	**Lamto**	**167.67**	**152**	*e*PKIKP	PKPdf	09 44 06.6	+0.8
	comp=Z,33nm,0.9s						
DBIC	**Dimbokro**	**168.14**	**152**	PKP	PKPdf	09 44 07.5	+1.4
	comp=Z,8.3nm,0.8s,baz=106,slow=2.2,SNR=7.5						
DBIC				PKPab	PKPab	09 45 20.1	+0.5
	comp=Z,11nm,0.9s,baz=190,slow=6.2,SNR=8.6						
DBIC	**Dimbokro**	**168.14**	**152**	PKP	PKPdf	09 44 07.5	+1.4
DBIC				PKPab	PKPab	09 45 20.1	+0.5

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*LDG **03** 09:25:30.6±0.1, 45.78N×6.49E, h5^{km}, Md2.4/2, Ml2.7/16,*
Error ellipse: s-maj=2.0km s-min=1.4km az=91.0
*STR **03** 09:25:30.7±0.1, 45.77N×6.51E, h5^{km}±1^{km}, Ml2.6, Error*
ellipse: s-maj=0.0km s-min=0.0km az=1.0
*NEIC **03** 09:25:30.7, 45.77N×6.51E, h5^{km}, ML2.7(LDG),*
ML2.6(STR), ML2.4(GEN), After STR.
*ZUR **03** 09:25:31.0, 45.82N×6.54E, h5^{km}, ML1.7/6*
ISC 03 09:25:29.0±0.2, **45.80N**±0.01×**6.43E**±0.02, **h8**^{km}±3^{km}, **n41,**
σ1^{s}**16**/75, **6C, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RSL	**Roselend**	**0.18**	**129**	Pg	**Pg**	**09 25 33.7**	**+0.9**
RSL				Sg	**Sg**	**09 25 35.7**	**+0.3**
LPL	**La Plagne**	**0.36**	**143**	*e*Pg	**Pg**	**09 25 37.1**	**+0.9**
LPL				*e*Sg	**Sg**	**09 25 40.1**	**-1.0**
	89nm,0.2s						
LPG	**La Plagne**	**0.38**	**143**	*e*Pg	**Pg**	**09 25 37.7**	**+1.0**
LPG				*e*Sg	**Sg**	**09 25 41.4**	**-0.4**
	63nm,0.3s						
EMV	**Vieux Emosson**	**0.42**	**51**	⇑*i*Pg	**Pg**	**09 25 38.4**	**+0.9**
	16nm,0.6s						
EMV				*i* Sg	**Sg**	**09 25 43.3**	**+0.1**
	16nm,0.6s						
SALAN	**Lac Salanfe**	**0.51**	**48**	⇑*i*Pg	**Pg**	**09 25 40.1**	**+0.8**
	4.2nm,0.2s						
SALAN				*i* Sg	**Sg**	**09 25 46.1**	**-0.2**
	4.2nm,0.2s						
OG01	**Vacheresse**	**0.56**	**19**	Pg	**Pg**	**09 25 41.4**	**+1.2**
LSD	**Ceresole Reale**	**0.62**	**123**	P	**Pg**	**09 25 41.5**	**+0.1**
LSD				S	**Sg**	**09 25 48.0**	**-1.6**
GDM	**Grand’Maison**	**0.64**	**200**	Pg	**Pg**	**09 25 42.7**	**+1.0**
GDM				Sg	**Sg**	**09 25 50.9**	**+0.7**
AIGLE	**Aigle**	**0.66**	**34**	⇑*i*Pg	**Pg**	**09 25 42.8**	**+0.7**
	2.4nm,0.6s						
GRYON	**Gryon**	**0.66**	**46**	⇑*i*Pg	**Pg**	**09 25 42.7**	**+0.5**
	1.5nm,0.2s						
GRYON				*e*Sg	**Sg**	**09 25 50.6**	**-0.4**
	1.5nm,0.2s						
OG05	**Jujurieux**	**0.72**	**290**	Pg	**Pg**	**09 25 45.6**	**+2.2**
GRN	**Grenoble**	**0.73**	**221**	Pg	**Pg**	**09 25 45.6**	**+1.9**
GRN				Sg	**Sg**	**09 25 55.8**	**+2.2**
GIMEL	**Gimel**	**0.74**	**351**	⇑*e*Pg	**Pg**	**09 25 45.9**	**+2.0**
	0.3nm,0.1s						
CABF	**La Chapelle**	**0.84**	**344**	*e*Pg	**Pg**	**09 25 47.3**	**+1.4**
CABF				*e*Sg	**Sg**	**09 25 57.8**	**+0.6**
	29nm,0.2s						
RSP	**Reno Superiore**	**0.87**	**138**	P	**Pb**	**09 25 46.4**	**+0.5**
RSP				S	**Sb**	**09 25 56.4**	**-1.1**
FENE	**Fenestrelle**	**0.89**	**150**	P	**Pb**	**09 25 46.8**	**+0.6**
FENE				S	**Sb**	**09 25 56.9**	**-1.1**
RRL	**Cesana Torines**	**0.92**	**164**	P	**Pb**	**09 25 47.8**	**+1.1**
RRL				S	**Sb**	**09 25 58.6**	**-0.2**
ORIF	**Oris-en-Rattie**	**0.96**	**204**	*e*Pg	**Pg**	**09 25 48.4**	**+0.2**
ORIF				*e*Sg	**Sg**	**09 25 59.7**	**-1.4**
	27nm,0.2s						
TRAV		**0.97**	**107**	P	**Pb**	**09 25 48.1**	**+0.5**
TRAV				S	**Sb**	**09 25 59.0**	**-1.3**
LKBD	**Leukerbad**	**1.02**	**54**	⇑*i*Pg	**Pg**	**09 25 49.6**	**+0.2**
	1.0nm,0.5s						
MBDF	**Montbardon**	**1.10**	**167**	*e*Sg	**Sg**	**09 26 02.2**	**-3.5**
	19nm,0.4s						
BHB	**Bricherasio**	**1.13**	**148**	P	**Pb**	**09 25 50.9**	**+0.6**
BHB				S	**Sb**	**09 26 03.8**	**-1.0**
PZZ	**Prazzo**	**1.38**	**160**	P	**Pn**	**09 25 54.9**	**+0.3**
PZZ				S	**Sb**	**09 26 10.5**	**-1.7**
VIVF	**Saint-Julien-l**	**1.56**	**233**	*e*Pn	**Pn**	**09 25 57.6**	**+0.5**
VIVF				*e*Pg	**Pg**	**09 26 00.5**	**+0.4**
VIVF				*e*Sg	**Sg**	**09 26 21.2**	**+0.4**
	56nm,0.2s						
LOMF	**Lomont**	**1.58**	**10**	Pn	**Pn**	**09 25 57.8**	**+0.4**
LOMF				Pg	**Pg**	**09 26 01.1**	**+0.6**
LOMF				Sg	**Sg**	**09 26 23.2**	**+1.7**
COLF	**Collangettes**	**1.94**	**263**	Pn	**Pn**	**09 26 04.1**	**+1.6**
COLF				Pg	**Pg**	**09 26 07.6**	**-0.1**
PLDF	**La Plantade**	**1.97**	**276**	Pn	**Pn**	**09 26 04.6**	**+1.6**
PLDF				Pg	**Pg**	**09 26 08.1**	**-0.2**
SMF	**Signal de Mont**	**1.98**	**296**	*e*Pg	**Pg**	**09 26 08.2**	**-0.4**
SMF				*e*Sg	**Sg**	**09 26 34.6**	**-0.5**
	8.1nm,0.2s						
HINF	**Hinteralfeld**	**2.04**	**8**	*e*Pg	**Pg**	**09 26 08.6**	**-1.1**
HINF				*e*Sg	**Sg**	**09 26 34.6**	**-2.3**
	6.9nm,0.2s						
HAU	**Haudompre**	**2.21**	**359**	*e*Pn	**Pn**	**09 26 06.7**	**+0.3**
HAU				*e*Sg	**Sg**	**09 26 41.1**	**-1.4**
	8.6nm,0.2s						
FRF	**La Foret Royal**	**2.24**	**176**	*e*Sg	**Sg**	**09 26 37.8**	**-5.9**
	3.7nm,0.3s						
LOR	**Lormes**	**2.30**	**311**	*e*Pg	**Pg**	**09 26 14.1**	**-0.8**
LOR				*e*Sg	**Sg**	**09 26 43.7**	**-1.9**
	7.5nm,0.2s						
LBL	**Lubilhac**	**2.31**	**257**	Pn	**Pn**	**09 26 09.3**	**+1.5**
AVF	**Avril sur Loir**	**2.35**	**296**	*e*Pg	**Pg**	**09 26 14.9**	**-1.0**
AVF				*e*Sg	**Sg**	**09 26 44.9**	**-2.3**
	13nm,0.6s						
SSF	**Saint Saulge**	**2.38**	**303**	*e*Pn	**Pn**	**09 26 09.7**	**+0.8**
SSF				*e*Pg	**Pg**	**09 26 15.5**	**-1.0**
SSF				*e*Sg	**Sg**	**09 26 46.3**	**-2.0**
	4.9nm,0.3s						
LMR	**La Mourre**	**2.47**	**179**	*e*Sg	**Sg**	**09 26 44.8**	**-6.3**
	2.5nm,0.2s						
LASF	**Ste Croix**	**2.51**	**228**	*e*Pn	**Pn**	**09 26 10.6**	**-0.2**
LASF				*e*Pg	**Pg**	**09 26 16.8**	**-2.3**
LASF				*e*Sg	**Sg**	**09 26 49.7**	**-2.9**
	6.5nm,0.3s						
BGF	**Bois d’Agland**	**2.60**	**288**	*e*Pn	**Pn**	**09 26 13.3**	**+1.3**
BGF				*e*Pg	**Pg**	**09 26 19.8**	**-1.1**
CDF	**Champ du Feu**	**2.68**	**12**	*e*Pn	**Pn**	**09 26 12.6**	**-0.6**
CDF				*e*Sg	**Sg**	**09 26 55.6**	**-2.5**
	3.1nm,0.3s						
MEZF	**Maizieres J’vi**	**2.86**	**341**	*e*Pn	**Pn**	**09 26 15.7**	**-0.1**
MTLF	**Montolieu**	**3.88**	**232**	*e*Sg	**Sg**	**09 27 32.5**	**-5.8**
	1.8nm,0.3s						

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*NAO **03** 09:31:31.4±5.6, 58.44N×7.85E, h21^{km}±34^{km}, ML2.9*
*IDC **03** 09:31:33.0±2.9, 58.52N×7.62E, h20^{km}±12^{km}, mb1 3.3/5,*
mb1mx3.1/18, ML3.4/4, Error ellipse: s-maj=25.1km
s-min=18.0km az=150.0
BER 03 09:31:29.5±4.0, **58.36N**×**7.65E, h2**^{km}±10^{km}, **MD2.9,**
ML2.8, MW2.7, ML2.9(NAO), **1D, Southern Norway**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNART	**Snartemo**	**0.23**	**264**	⇓*i*P	Pg	09 31 34.1	-0.1
SNART				*e*S	Sg	09 31 37.8	+0.4
STAV	**Stavanger**	**1.17**	**300**	*e*P	Pb	09 31 49.3	-2.8
STAV				*e*S	Sb	09 32 04.5	-3.1
STAV				AML	AML	09 32 06.0	
	comp=Z,222nm,0.2s						
BLS5	**Blasjo**	**1.23**	**330**	*e*P	Pb	09 31 52.4	-0.8
BLS5				*e*Pg	Pg	09 31 53.2	-0.9
BLS5				*e*S	Sb	09 32 08.7	-0.7
BLS5				AML	AML	09 32 12.1	
	comp=Z,220nm,0.4s						
KMY	**Karmoy**	**1.52**	**305**	*e*P	Pn	09 31 54.3	-3.5
KMY				*e*S	Sb	09 32 15.2	-2.4
KMY				AML	AML	09 32 16.4	
	comp=Z,127nm,0.2s						
ODD1	**Odda**	**1.64**	**342**	*e*P	Pn	09 31 56.5	-3.1
ODD1				*e*Pg	Pg	09 31 58.6	-3.7
ODD1				*e*S	Sb	09 32 19.7	-1.6
ODD1				AML	AML	09 32 25.4	
	comp=Z,258nm,0.4s						
MUD	**Monsted U’grnd**	**2.08**	**156**	*i* P	Pn	09 32 01.0	-4.9
MUD				*i* S	Sn	09 32 26.8	-6.0
MUD				*e*LG		09 32 31.5	
OSL	**Oslo**	**2.23**	**44**	*e*P	Pn	09 32 05.6	-2.5
OSL				*e*S	Sn	09 32 33.3	-3.4
OSL				AML	AML	09 32 47.4	
	comp=Z,88nm,0.3s						
EGD	**Espegrend**	**2.28**	**328**	*e*P	Pn	09 32 05.8	-3.0
EGD				*e*Pg	Pg	09 32 09.8	-5.3
EGD				*e*Sg	Sg	09 32 40.4	-5.1
EGD				AML	AML	09 32 46.8	
	comp=Z,99nm,0.7s						
BER	**Bergen**	**2.35**	**331**	*e*Pg	Pg	09 32 14.2	-2.1
BER				*e*Sg	Sg	09 32 42.1	-5.6
BER				AML	AML	09 32 47.9	
	comp=Z,117nm,0.4s						
RUND	**Rundenannen**	**2.37**	**331**	*e*P	Pn	09 32 07.3	-2.6
RUND				*e*Sg	Sg	09 32 43.7	-4.6
RUND				AML	AML	09 32 48.8	
	comp=Z,248nm,0.5s						
ASK	**Askoy**	**2.47**	**330**	*e*P	Pn	09 32 08.3	-3.1
ASK				*e*Pg	Pg	09 32 12.7	-6.1
ASK				*e*Sg	Sg	09 32 45.3	-6.4
ASK				AML	AML	09 32 52.0	
	comp=Z,60nm,0.5s						
HYA	**Hoyanger**	**2.91**	**346**	*e*P	Pn	09 32 15.8	-1.9
HYA				*e*Sg	Sg	09 32 59.0	-7.3
HYA				AML	AML	09 33 05.3	
	comp=Z,105nm,0.4s						
SUE	**Sulen**	**3.07**	**333**	*e*P	Pn	09 32 16.7	-3.3
SUE				*e*Sg	Sg	09 33 02.6	-9.2
SUE				AML	AML	09 33 08.5	
	comp=Z,72nm,0.4s						
NBO	**NORSAR Subarra**	**3.11**	**29**	Pn	Pn	09 32 17.9	-2.7
NBO				Pg	Pg	09 32 24.5	-7.1
NBO				Lg		09 33 05.3	
NB2	**NORSAR Subarra**	**3.23**	**32**	Pn	Pn	09 32 19.4	-3.0
NB2				Lg		09 33 10.1	
NOA	**NORSAR Array B**	**3.23**	**32**	Pn	Pn	09 32 19.1	-3.2

	comp=Z,2.4nm,0.3s,baz=207,slow=12,SNR=13						
NOA				Pg	Pg	09 32 26.5	-7.6
	comp=Z,3.8nm,0.3s,baz=202,slow=14,SNR=16						
NOA				Sn	Sn	09 32 53.1	-9.0
	comp=Z,3.5nm,0.3s,baz=46,slow=26,SNR=4.4						
NOA				Lg		09 33 13.3	
	comp=Z,11nm,0.3s,baz=144,slow=14,SNR=7.2						
FOO	Floro	3.50	339	eP	Pn	09 32 26.3	+0.2
FOO				eSg	Sg	09 33 17.2	-8.8
FOO				AML	AML	09 33 21.1	
	comp=Z,57nm,0.5s						
HFS	Hagfors	3.58	58	Pn	Pn	09 32 23.5	-3.7
	baz=245,slow=16						
HFS				Sn	Sn	09 33 04.1	-6.6
	baz=240,slow=28						
HFS				Lg		09 33 20.4	
	baz=236,slow=37						
HFS	Hagfors	3.58	58	Pn	Pn	09 32 23.5	-3.6
	comp=Z,0.2nm,0.3s,baz=238,slow=14,SNR=54						
HFS				Sn	Sn	09 33 03.0	-7.6
	comp=Z,1.6nm,0.3s,baz=236,slow=21,SNR=16						
HFS				Lg		09 33 22.6	
	comp=Z,2.9nm,0.3s,baz=237,slow=30,SNR=16						
DOMB	Dombas	3.76	10	eP	Pn	09 32 27.7	-2.0
DOMB				eSg	Sg	09 33 25.7	-8.9
DOMB				AML	AML	09 33 33.9	
	comp=Z,76nm,0.3s						
MOL	Molde	4.22	359	eP	Pn	09 32 34.8	-1.6
MOL				eSg	Sg	09 33 44.4	-5.7
MOL				AML	AML	09 33 47.2	
	comp=Z,35nm,0.7s						
BSD	Bornholm Skovb	5.16	126	i P	Pn	09 32 42.3	-7.3
BSD				i S	Sn	09 33 36.3	-14
EKA	Eskdalemuir Ar	6.66	248	Pn	Pn	09 33 01.3	-10
	comp=Z,0.4nm,0.3s,baz=54,slow=11,SNR=5.4						
EKA				Sn	Sn	09 34 11.5	-17
	comp=Z,0.9nm,0.3s,baz=59,slow=24,SNR=5.7						
FIA0	FINESS Array S	9.75	64	Pn	P	09 33 47.5	-6.2
	baz=263,slow=12						
FIA0				Sn	Sn	09 35 29.6	-15
	baz=260,slow=22						
FIA0				Lg		09 36 31.1	
	baz=262,slow=28						
FINES	FINESS Array B	9.75	64	Pn	P	09 33 48.0	-5.7
	comp=Z,0.6nm,0.3s,baz=265,slow=12,SNR=17						
FINES				Sn	Sn	09 35 30.7	-14
	comp=Z,0.5nm,0.3s,baz=258,slow=20,SNR=5.6						
FINES				Lg		09 36 33.9	
	comp=Z,0.8nm,0.3s,baz=255,slow=22,SNR=5.5						
ARA0	ARCESS Array S	13.60	27	Pn	P	09 34 38.2	-7.3
	baz=214,slow=14						
ARCES	ARCESS Array B	13.60	27	Pn	P	09 34 38.2	-7.3
	comp=Z,0.1nm,0.3s,baz=212,slow=14,SNR=9.1						
ARCES				Lg		09 38 33.0	
	comp=Z,0.1nm,0.3s,baz=216,slow=23,SNR=4.3						

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*IDC **03** 09:51:45.7±1.6, 7.19N×126.90E, mb3.7/5, mb1 3.8/5, mb1mx3.7/16, Error ellipse: s-maj=103.0km s-min=23.0km az=68.0*

ISC 03 09:51:49.9±1.9**, 7.22N**±0.09×**127.2E**±0.1**, h47**^{km}±21^{km}**, n9,** σ**0**^{s}.**95**/11**, mb3.5**/5**, 1C, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MATI	Mati	0.98	254	eP	P	09 52 07.1	-0.4
BIPH	Bislig	1.27	319	⇑eP	P	09 52 10.8	-0.9
BIPH				eS	S	09 52 28.8	+0.9
BUKP	Musuan	2.23	287	eP	P	09 52 27.0	+1.9
CTBH	Cotabato--PC H	2.94	270	eP	P	09 52 33.7	-1.6
CTBH				eS	S	09 53 09.8	+0.1
FITZ	Fitzroy Crossi	25.21	184	P	P	09 57 13.5	+0.4
	0.9nm,0.4s,mb3.7,baz=14,slow=7.3,SNR=7.8						
WRA	Warramunga Arr	27.89	166	P	P	09 57 37.3	-0.5
	0.4nm,0.3s,mb3.5,baz=344,slow=11,SNR=14						
ASAR	Alice Springs	31.39	168	P	P	09 58 09.4	+0.7
	0.2nm,0.6s,mb3.1,baz=0.6,slow=9.7,SNR=4.4						
ASAR				PcP	PcP	10 01 02.2	+0.6
	0.3nm,0.4s,baz=341,slow=2.3,SNR=6.4						
STKA	Stephens Creek	41.23	161	P	P	09 59 32.6	+0.6
	0.7nm,0.4s,mb3.6,baz=345,slow=12,SNR=2.8						
MKAR	Makanchi Array	55.01	324	P	P	10 01 17.8	-1.2
	0.3nm,0.4s,mb3.7,baz=109,slow=6.0,SNR=10						

IDC 03 10:09:30.8±9.0**, 1.93N**×**126.09E, mb3.7**/3**, mb1 3.9**/3**, mb1mx3.6**/12**, Error ellipse: s-maj=168.0km s-min=137.9km az=71.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.19	160	P	P	10 14 39.2	-1.2
	2.4nm,0.6s,baz=339,slow=11,SNR=23						
ASAR	Alice Springs	26.55	164	P	P	10 15 10.8	-1.5
	0.2nm,0.3s,baz=339,slow=7.5,SNR=4.4						
STKA	Stephens Creek	36.70	158	P	P	10 16 39.4	-2.1
	1.5nm,0.6s,baz=323,slow=5.1,SNR=3.2						

DJA 03 10:16:15.1±0.9**, 9.12S**×**117.32E, h80**^{km}**, MD4.7**/3**, ML4.1**/3**, 6C-2D, Error ellipse: s-maj=37.5km s-min=18.6km az=12.0, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEDI	Kedomdong	1.35	298	⇑ePn	P	10 16 38.8	-0.1
	73nm,0.2s						
KEDI				⇑eSn	S	10 16 55.4	-1.2
RATI	Rata	1.81	282	⇑ePn	P	10 16 44.0	-1.0
	124nm,0.2s						
RATI				⇓eSn	S	10 17 06.0	-1.0
INGI	Ingas	2.17	278	⇑ePn	P	10 16 49.0	-0.9
	277nm,0.2s						
INGI				⇑eSn	S	10 17 14.5	-1.2
KELI	Kelakatan	2.94	288	⇑ePn	P	10 17 00.1	-0.6
KELI				⇓eSn	S	10 17 32.3	-2.6

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*IDC **03** 10:47:18.4±1.3, 9.17N×126.76E, mb4.1/7, mb1 4.3/7, mb1mx4.0/17, Error ellipse: s-maj=103.0km s-min=17.3km az=70.0*

*MAN **03** 10:47:22.6, 9.14N×126.74E, h4^{km}*

ISC 03 10:47:18.7±0.7**, 9.18N**±0.04×**127.04E**±0.06**, h10**^{km}**, n23,** σ**1**^{s}.**45**/29**, mb4.0**/7**, 3C-1D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BIPH	Bislig	1.20	214	⇑eP	Pb	10 47 40.8	-0.3
BIPH				i S	Sb	10 47 54.2	-2.3
BUTP	Butuan	1.42	261	eP	Pn	10 47 42.5	-2.2
SCPH	Surigao	1.64	291	i P	Pn	10 47 47.4	-0.5
SCPH				i S	Sn	10 48 04.7	-4.6
BUKP	Musuan	2.35	237	eP	Pn	10 47 59.4	+1.4
BUKP				eS	Sn	10 48 27.0	-0.2
MSLP	Maasin	2.35	294	eP	Pn	10 47 59.6	+1.6
MATI	Mati	2.35	199	eP	Pn	10 48 00.5	+2.4
PLP	Palo	2.83	314	eP	Pn	10 48 06.2	+1.4
PLP				eS	Sn	10 48 37.3	-2.1
BESP	Borongan	2.87	327	eP	Pn	10 48 08.5	+3.0
KCP	Kidapawan	2.90	222	⇓eP	Pn	10 48 07.2	+1.3
KCP				i S	Sn	10 48 42.0	+0.9
OCLP	Ormoc	3.03	308	eP	Pn	10 48 10.8	+3.0
TBP	Tagbilaran	3.18	279	⇑eP	Pn	10 48 10.1	+0.2
TBP				eS	Sn	10 48 47.5	-0.7
LLP	Lapu-Lapu	3.23	291	eP	Pn	10 48 09.0	-1.6
DCPH	Dipolog City	3.69	261	⇑eP	Pn	10 48 16.9	-0.3
PAGZ	Pagadian	3.86	250	eP	Pn	10 48 20.7	+1.3
GUIM	Jordan	4.62	288	eP	Pn	10 48 31.7	+1.4
OTRP	Odiongan	5.86	303	eP	Pn	10 48 51.4	+3.6
FITZ	Fitzroy Crossi	27.15	183	P	P	10 53 03.7	-0.6
	6.7nm,1.1s,mb4.1,baz=356,slow=11,SNR=7.4						
WRA	Warramunga Arr	29.82	166	P	P	10 53 27.2	-1.3
	0.8nm,0.5s,mb3.7,baz=346,slow=9.1,SNR=12						
ASAR	Alice Springs	33.33	168	P	P	10 53 58.5	-0.8
	0.8nm,0.5s,mb3.9,baz=354,slow=6.5,SNR=26						
STKA	Stephens Creek	43.14	162	P	P	10 55 21.7	+0.4
	1.2nm,0.5s,mb3.9,baz=346,slow=8.2,SNR=5.0						
MKAR	Makanchi Array	53.35	323	P	P	10 56 38.5	-2.0
	1.5nm,0.5s,mb4.1,baz=123,slow=7.9,SNR=15						
BVAR	Borovoye Array	62.99	326	P	P	10 57 45.3	-2.6
	1.1nm,0.7s,mb4.1,baz=143,slow=7.2,SNR=4.8						
ARCES	ARCESS Array B	85.47	340	P	P	10 59 58.1	+0.5
	5.3nm,1.1s,mb4.6,baz=80,slow=5.3,SNR=5.9						

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*LDG **03** 11:05:46.7±0.1, 49.38N×6.91E, h1^{km}, Md2.6/1, Ml2.7/5, Error ellipse: s-maj=3.0km s-min=1.7km az=104.0, Suspected Mining induced.*

*NEIC **03** 11:05:46.8, 49.34N×6.90E, h1^{km}, ML2.7(LDG), ML2.1(STR), After STR.*

*BGR **03** 11:05:47.3±0.3, 49.35N×6.91E, h1^{km}, ML1.6/2, Error ellipse: s-maj=2.2km s-min=2.2km az=80.0*

ISC 03 11:05:46.1±0.5**, 49.33N**±0.02×**6.91E**±0.04**, n19,** σ**0**^{s}.**57**/36**, Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RUP	Ruppelstein	0.39	14	ePg	Pg	11 05 53.7	-0.1
	SNR=7.0						
RUP				eSg	Sg	11 05 59.3	+0.3
	SNR=4.1						
RUP	Ruppelstein	0.39	14	Pg	Pg	11 05 53.5	-0.3
RUP				Sg	Sg	11 05 59.2	+0.2
WLF	Walferdange	0.60	305	ePg	Pg	11 05 58.4	+0.4
	SNR=3.0						
WLF				eSg	Sg	11 06 06.0	-0.1
	SNR=4.8						
LANF	Langenberg	0.68	120	ePg	Pg	11 06 00.2	+0.5
	SNR=2.1						
KTD	Kalmit	0.77	90	ePg	Pg	11 06 02.2	+0.8
	SNR=2.1						
CDF	Champ du Feu	0.94	165	ePg	Pg	11 06 04.7	-0.3
CDF				ePn	Pn	11 06 06.1	-0.3
CDF				eSg	Sg	11 06 18.1	+0.5
	13nm,0.2s						
WLS	Welschbruch	0.96	162	ePg	Pg	11 06 06.2	+1.0
	SNR=9.5						
WLS				eSg	Sg	11 06 19.2	+1.2
	SNR=4.9						
WLS	Welschbruch	0.96	162	Pg	Pg	11 06 06.0	+0.8
RFYF	Reffroy	1.18	234	ePg	Pg	11 06 10.5	+0.9
RFYF				eSg	Sg	11 06 25.5	+0.2
	19nm,0.2s						
THEF	They Montfort	1.26	209	ePg	Pg	11 06 11.1	-0.1
	SNR=2.9						
THEF				eSg	Sg	11 06 27.6	-0.5
	SNR=5.7						
THEF	They Montfort	1.26	209	Pg	Pg	11 06 11.1	-0.1
THEF				Sg	Sg	11 06 27.5	-0.5
TOD	Tromm	1.26	76	ePg	Pg	11 06 10.4	-0.9
	SNR=2.2						
TOD				eSg	Sg	11 06 27.4	-0.8
	SNR=2.1						
BFO	Black Forest	1.37	136	ePg	Pg	11 06 13.7	+0.3
	SNR=2.7						
BFO				eSg	Sg	11 06 31.7	+0.2
	SNR=2.5						
HAU	Haudompre	1.37	196	ePg	Pg	11 06 12.8	-0.7
HAU				eSg	Sg	11 06 30.7	-1.1
	7.6nm,0.2s						
MOF	Molkenrain	1.48	174	ePg	Pg	11 06 15.5	-0.2
	SNR=4.5						
MOF				eSg	Sg	11 06 35.2	-0.3
	SNR=2.6						
MOF	Molkenrain	1.48	174	Pg	Pg	11 06 15.5	-0.2
MOF				Sg	Sg	11 06 35.4	0.0
HINF	Hinteralfeld	1.51	182	ePg	Pg	11 06 16.0	-0.2
HINF				eSg	Sg	11 06 36.5	+0.1
	17nm,0.3s						
FELD	Feldberg	1.62	153	ePg	Pg	11 06 18.2	-0.2
FELD				eSg	Sg	11 06 39.6	-0.4
FELD	Feldberg	1.62	153	Pg	Pg	11 06 17.8	-0.7
FELD				Sg	Sg	11 06 39.7	-0.4

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*ISK **03** 11:21:16.1, 36.93N×27.79E, h10^{km}, MD3.8, ML3.8*

*IDC **03** 11:21:16.4±1.6, 36.70N×28.06E, mb3.9/3, mb1 3.8/6, mb1mx3.7/18, ML3.5/3, MS2.9/2, Ms1 3.0/2, ms1mx2.5/19, Error ellipse: s-maj=34.2km s-min=19.8km az=162.0*

*ATH **03** 11:21:17.4, 36.91N×27.82E, h2^{km}, MD3.7/5*

*NEIC **03** 11:21:18.0, 36.97N×27.78E, h26^{km}, mb4.1/8, MD3.7(ATH), After ATH.*

ISC 03 11:21:17.7±0.4**, 36.96N**±0.02×**27.82E**±0.02**, h17**^{km}±4^{km}**, n82,** σ**1**^{s}.**03**/104**, mb4.1**/6**, MS2.7**/1**, 3C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.32	289	⇑iP	Pb	11 21 24.2	-0.4
BDRM				i S	Sb	11 21 29.7	+0.4
MLSB	Milas	0.34	354	i PG	Pb	11 21 24.2	-0.8
MLSB				i SG	Sb	11 21 29.5	-0.3
MLSB	Milas	0.34	354	Pg	Pb	11 21 24.2	-0.8
MLSB				Sg	Sb	11 21 29.2	-0.6
YER	Yerkesik	0.41	64	i PG	Pb	11 21 25.2	-0.9
YER				i SG	Sb	11 21 31.1	-0.7
YER	Yerkesik	0.41	64	Pg	Pb	11 21 25.2	-0.9
YER				Sg	Sb	11 21 31.2	-0.6
NISR	Nisiros	0.66	238	ePB	Pb	11 21 30.5	+0.1
DALT	Dalyan (Mudla)	0.68	106	i PG	Pb	11 21 29.7	-1.1
DALT				i SG	Sb	11 21 40.8	+1.1
DALT	Dalyan (Mudla)	0.68	106	Pg	Pb	11 21 29.7	-1.1
DALT				Sg	Sb	11 21 41.7	+2.0
AYDN	Tasoluk	0.70	4	i P	Pb	11 21 31.1	0.0
AYDN				i S	Sb	11 21 39.5	-0.8
ARG	Arkhangelos	0.78	162	ePn	Pn	11 21 31.5	-2.4
ARG				eSn	Sn	11 21 46.2	+1.1
SMG	Samos	1.09	314	ePG	Pb	11 21 38.2	+0.5
SMG				eSB	Sb	11 21 54.1	+2.7
DNZL	Cakiroluk	1.22	53	⇑iP	Pb	11 21 39.9	0.0
DNZL				i S	Sb	11 21 59.1	+3.9
DENT	Denizli	1.25	50	i PN	Pn	11 21 40.1	-0.5
DENT				i SN	Sn	11 21 58.8	+1.8
DENT	Denizli	1.25	50	Pn	Pn	11 21 40.1	-0.5
DENT				Sg	Sb	11 21 58.1	+2.0
IZM	Izmir	1.50	343	i PN	Pn	11 21 44.0	-0.2
IZM				i SN	Sn	11 22 04.0	+0.5
KARP	Karpathos	1.51	201	ePB	Pb	11 21 44.0	-0.9
KDAG	Bornova	1.51	343	⇑iP	Pn	11 21 44.0	-0.3
KDAG				i S	Sn	11 22 06.5	+2.9
KSL	Kastellorizon	1.63	119	ePB	Pb	11 21 48.0	+1.0
MANT	Manisa	1.64	21	i P	Pn	11 21 46.4	+0.3
MANT				i S	Sn	11 22 09.1	+2.2
APE	Apeiranthos	1.84	274	PN	Pn	11 21 48.1	-0.9
AKS	Akhisar	1.92	360	i PN	Pn	11 21 49.8	-0.3
KHL	Karahalli	1.92	44	PN	Pn	11 21 50.3	+0.2
SANT	Santorini	1.99	254	ePn	Pn	11 21 56.6	+5.4
SANT				eSn	Sn	11 22 24.1	+8.2
THR1	Thera Island	1.99	254	eP	Pn	11 21 57.1	+6.0
THR4	Thira Island,	2.01	256	eP	Pn	11 21 57.8	+6.3
THR4	Thira Island,	2.01	256	P	Pn	11 21 57.8	+6.3
THR4				S	Sn	11 22 25.8	+9.4
THR3	Thira Island,	2.02	255	eP	Pn	11 21 57.5	+5.9
THR3	Thira Island,	2.02	255	P	Pn	11 21 57.5	+5.9
THR3				S	Sn	11 22 26.0	+9.3
THR6	Thira Island,	2.04	254	eP	Pn	11 21 58.3	+6.4
THR5	Thira Island,	2.06	256	eP	Pn	11 21 58.5	+6.3
BCK	Bucak	2.26	76	ePN	Pn	11 21 55.9	+0.8
NPS	Neapolis	2.46	227	ePN	Pn	11 22 00.0	+2.0
PRK	Paraskevi	2.59	332	ePn	Pn	11 21 59.4	-0.4
BALB	Balikesir	2.68	1	PN	Pn	11 22 01.5	+0.5
XRY	Khrisi	2.70	220	ePb	Pb	11 22 06.0	+0.7
DST	Dursunbey	2.72	13	PN	Pn	11 22 00.9	-0.7
ALT	Altintas	2.77	40	PN	Pn	11 22 02.6	+0.3
IDI	Anoyia	2.90	236	Pn	Pn	11 22 04.1	-0.1
	2.0nm,0.3s,baz=58,slow=19,SNR=12						
IDI				Sn	Sn	11 22 42.2	+3.2
	5.7nm,0.3s,baz=304,slow=22,SNR=6.8						
HDMB	Hadim	3.73	89	PN	Pn	11 22 15.9	-0.1
KIZT	Kizilcal	3.74	58	PN	Pn	11 22 16.6	+0.5
KONT	Konya--Tatoy	3.74	73	ePN	Pn	11 22 15.3	-0.8
AOS	Alonnisos	3.82	307	eP	Pn	11 22 18.4	+1.3
ALN	Alexandroupoli	4.17	341	eP	Pn	11 22 20.6	-1.7
NEO	Neokhori	4.32	304	ePn	Pn	11 22 24.3	0.0
PAIG	Paliouri	4.40	314	eP	Pn	11 22 26.2	+0.7
LEF	Lefka	4.50	113	ePN	Pn	11 22 25.8	-1.1
OUR	Ouranopolis	4.52	319	eP	Pn	11 22 27.2	0.0
RDO	Rodhopi	4.54	338	ePn	Pn	11 22 27.1	-0.4
ANTO	Ankara	4.87	52	ePN	Pn	11 22 31.6	-0.5
CSS	Prodhromos	4.89	112	ePn	Pn	11 22 31.9	-0.5
CSS				eSn	Sn	11 23 33.0	+3.6
SOH	Sokhos	5.20	319	eP	Pn	11 22 36.6	-0.2
SRS	Serrai	5.30	323	eP	Pn	11 22 37.9	-0.3
BRTR	Keskin Array B	5.34	57	Pn	Pn	11 22 38.5	-0.3
	0.8nm,0.3s,baz=239,slow=14,SNR=14						
BRTR				Sn	Sn	11 23 40.7	+0.1
	0.3nm,0.3s,baz=4.2,slow=33,SNR=2.8						
BRTR	Keskin Array B	5.34	57	Pn	Pn	11 22 38.5	-0.3
BRTR				Sn	Sn	11 23 40.7	+0.1
NVR	Nevrokopi	5.36	326	ePn	Pn	11 22 38.5	-0.5
KNT	Kendrikon	5.68	319	eP	Pn	11 22 43.3	-0.3
GRG	Griva	5.81	315	eP	Pn	11 22 46.0	+0.6
GRG	Griva	5.81	315	P	Pn	11 22 46.0	+0.6
GRG				S	Sn	11 23 50.3	-2.2
MLR	Muntele Rosu	8.64	351	LR	LR	11 27 29.4	
	comp=Z,79nm,18.4s,baz=351,slow=42						
TIP	Timpagrande	9.00	288	ePn	P	11 23 29.6	-0.4
EIL	Elat	9.40	139	Sn	Sn	11 25 11.2	-11
	0.4nm,0.3s,baz=17,slow=30,SNR=2.4						
EIL	Elat	9.40	139	Pn	P	11 23 34.4	-1.1
GERES	GERESS Array B	15.72	324	Pn	P	11 25 04.8	+4.8
	0.2nm,0.3s,baz=135,slow=11,SNR=7.0						
GERES				Pg	P	11 26 10.0	+70
	0.6nm,0.3s,baz=74,slow=29,SNR=11						
GERES				Lg		11 29 44.9	
	0.5nm,0.3s,baz=38,slow=30,SNR=9.7						
MBDF	Montbardon	17.69	303	eP	P	11 25 34.3	+9.4
	5.2nm,0.7s						
CLL	Collm	17.81	328	eP	P	11 25 32.0	+5.7
	8.0nm,0.9s						
CLL				i		11 25 35.1	
MOX	Moxa	17.95	325	eP	P	11 25 32.0	+4.0
LPG	La Plagne	17.96	305	eP	P	11 25 38.8	+11
	9.5nm,0.8s						
LPL	La Plagne	17.98	305	eP	P	11 25 38.2	+10
	8.0nm,0.6s						
SMF	Signal de Mont	20.26	306	eP	P	11 25 54.0	-1.1
	22nm,1.0s						
LOR	Lormes	20.47	308	eP	P	11 25 56.0	-1.2
	20nm,1.2s						
SSF	Saint Saulge	20.62	307	eP	P	11 26 00.8	+2.0
	11nm,0.8s						
AVF	Avril sur Loir	20.63	306	eP	P	11 25 57.9	-0.9
	16nm,1.1s						
BGF	Bois d'Agland	20.88	305	eP	P	11 26 00.9	-0.6
MFF	Saint Martin d	22.87	304	eP	P	11 26 23.1	+1.8
	15nm,1.1s,mb4.0						
FLN	La Foliniere	23.72	309	eP	P	11 26 29.9	+0.3
GRR	Gorron	23.84	308	eP	P	11 26 30.6	-0.1
	30nm,0.9s,mb4.4						
HFS	Hagfors	24.90	343	P	P	11 26 40.5	-0.4
	3.0nm,0.8s,mb3.9,baz=135,slow=8.2,SNR=3.8						
NOA	NORSAR Array B	26.29	342	LR	LR	11 38 03.9	
	comp=Z,22nm,18.7s,MS2.7,baz=55,slow=38						
ARU	Arti	28.33	37	P	P	11 27 08.2	-4.3
	18nm,0.8s,mb4.8						
MKAR	Makanchi Array	40.99	58	P	P	11 29 00.3	-0.9
	2.0nm,0.9s,mb3.8,baz=278,slow=6.8,SNR=11						
MKAR	Makanchi Array	40.99	58	P	P	11 29 00.3	-1.0
SONM	Songino Array	56.68	52	P	P	11 31 01.6	-0.8
	0.9nm,0.7s,mb3.9,baz=288,slow=7.8,SNR=5.4						

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*IDC **03** 11:26:45.8±1.8, 26.73N×96.55E, mb3.5/4, mb1 3.7/4, mb1mx3.6/17, Error ellipse: s-maj=79.9km s-min=23.0km az=68.0*

*NEIC **03** 11:26:54.7±0.7, 26.75N×96.26E, h80^{km}, Error ellipse: s-maj=16.6km s-min=10.4km az=10.0*

ISC 03 11:26:55.6±4.6**, 26.7N**±0.2×**96.1E**±0.3**, h109**^{km}±53^{km}**, n9,** σ**0**^{s}.**90**/10**, mb3.5**/4**, Myanmar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SHL	Shillong	3.98	255	eP	P	11 27 57.0	+1.1
SHL				eS	S	11 28 48.0	+6.1
PKI	Pulchoki	9.60	278	eP	P	11 29 11.1	-1.1
	8.5nm,0.5s						
KKN	Kakani	9.73	279	eP	P	11 29 14.3	+0.4
	14nm,0.7s						
DMN	Daman	9.87	278	eP	P	11 29 14.8	-1.0
	5.2nm,0.5s						
KOLN	Koldanda	11.21	278	eP	P	11 29 33.5	-0.2
SONM	Songino Array	22.60	18	P	P	11 31 46.7	-0.8
	1.3nm,1.0s,mb3.2,baz=201,slow=11,SNR=3.6						
MKAR	Makanchi Array	22.87	335	P	P	11 31 51.8	+1.7
	1.6nm,0.8s,mb3.4,baz=131,slow=11,SNR=12						
WRA	Warramunga Arr	59.33	137	P	P	11 36 48.1	-0.6
	0.5nm,0.5s,mb3.8,baz=328,slow=7.5,SNR=12						
ASAR	Alice Springs	61.95	140	P	P	11 37 06.8	+0.5
	0.3nm,0.5s,mb3.6,baz=323,slow=6.8,SNR=7.6						

ISC 03 11:36:28.8±3.5**, 36.3N**±0.2×**71.1E**±0.5**, h33**^{km}**, n11,** σ**0**^{s}.**48**/12**, 2C, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AML	Almayashu	6.14	19	P	P	11 38 00.1	+0.6
	SNR=43						
UCH	Uchtor	6.47	23	P	P	11 38 04.4	+0.2
	SNR=12						
EKS2	Erkin-Say	6.66	18	P	P	11 38 07.0	+0.1
	SNR=6.7						
KK31	Karatay Array	6.78	357	⇑P	P	11 38 08.5	0.0
	3.0nm,0.4s,baz=177,slow=13,SNR=37						
KK31				⇑S	S	11 39 17.1	-8.2
	11nm,0.5s,baz=179,slow=21,SNR=18						
AAK	Ala-Archa	6.83	22	P	P	11 38 09.5	+0.2
	SNR=6.2						
USP	Ospenovka	7.42	20	P	P	11 38 16.2	-1.2
	SNR=7.3						
KOLN	Koldanda	13.63	125	eP	P	11 39 42.1	0.0
	6.0nm,0.4s						
GKN	Gorkha	14.18	122	eP	P	11 39 49.0	-0.3
DMN	Daman	14.74	122	eP	P	11 39 57.5	+0.7
	13nm,0.4s						
KKN	Kakani	14.75	121	eP	P	11 39 56.7	-0.1
	16nm,0.5s						
PKI	Pulchoki	14.98	122	eP	P	11 39 59.5	-0.3
	14nm,0.5s						

IDC 03 11:46:39.8±2.4**, 6.89N**×**124.83E, mb3.4**/3**, mb1 3.6**/3**, mb1mx3.5**/16**, Error ellipse: s-maj=212.0km s-min=27.6km az=64.0, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	28.26	161	P	P	11 52 35.1	-1.9
	0.1nm,0.3s,baz=341,slow=9.1,SNR=9.1						
ASAR	Alice Springs	31.64	164	P	P	11 53 04.7	-2.4
	0.2nm,0.4s,baz=340,slow=7.1,SNR=6.4						
MKAR	Makanchi Array	53.90	325	P	P	11 56 05.0	-2.2
	0.2nm,0.4s,baz=132,slow=8.8,SNR=4.4						

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*IDC **03** 12:10:54.4±4.0, 35.48N×23.21E, h86^{km}±29^{km}, mb3.4/3, mb1 3.5/6, mb1mx3.3/20, Error ellipse: s-maj=75.1km s-min=32.6km az=36.0*

*NEIC **03** 12:10:55.0, 36.24N×23.79E, h24^{km}, ML3.5(ATH), After ATH.*

*ATH **03** 12:10:55.0, 36.24N×23.79E, h24^{km}±2^{km}, MD3.5/14, ML3.5*

*THE **03** 12:10:59.6, 36.39N×23.83E, h20^{km}, ML3.2*

ISC 03 12:10:55.4±0.5**, 36.26N**±0.03×**23.75E**±0.03**, h24**^{km}**, n47,** σ**1**^{s}.**14**/62**, mb3.5**/3**, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KYTH	Kithira	0.57	272	ePN	Pn	12 11 07.8	-0.1
VLI	Veliai	0.80	305	ePN	Pn	12 11 11.6	+0.5
VLI				eSN	Sn	12 11 21.9	-0.3
VAM	Vamos	0.93	156	ePN	Pn	12 11 12.4	-0.6
THR5	Thira Island,	1.30	83	ePb	Pb	12 11 19.9	+0.8
THR5				eSb	Sb	12 11 36.0	+0.6
THR6	Thira Island,	1.34	85	ePb	Pb	12 11 20.7	+1.1
THR6				eSb	Sb	12 11 36.1	-0.2
IDI	Anoyia	1.34	136	P	Pn	12 11 17.9	-1.0
	32nm,0.3s,baz=324,slow=13,SNR=76						
IDI				S	Sn	12 11 33.6	-2.6
	55nm,0.3s,baz=306,slow=23,SNR=16						
THR3	Thira Island,	1.34	83	ePb	Pb	12 11 20.6	+0.9
THR3				eSb	Sb	12 11 36.9	+0.3
THR4	Thira Island,	1.35	81	ePb	Pb	12 11 20.7	+0.9
THR4				eSb	Sb	12 11 36.3	-0.4
THR1	Thera Island	1.39	85	ePb	Pb	12 11 21.2	+0.7
THR1				eSb	Sb	12 11 37.8	0.0
NAIG	Nisos Aigina	1.51	352	ePN	Pn	12 11 22.5	+1.2
APE	Apeiranthos	1.65	60	ePN	Pn	12 11 24.5	+1.2
NSAL	Nisos Salamina	1.66	352	ePB	Pb	12 11 24.5	-0.6
ATH	Athens Observa	1.71	359	ePB	Pb	12 11 25.1	-0.8

ITM	Ithomi	1.73	303	ePN	Pn	12 11 26.7	+2.3
PTL	Penteli	1.79	3	ePN	Pn	12 11 26.5	+1.2
NPS	Neapolis	1.82	123	ePB	Pb	12 11 25.3	-2.4
MPAR	Parnis Oros	1.89	360	ePN	Pn	12 11 28.0	+1.3
XRY	Khrisi	2.11	130	ePN	Pn	12 11 30.0	+0.2
LKR	Lokris	2.46	346	ePN	Pn	12 11 35.7	+0.8
RLS	Riolos of Patr	2.56	315	ePB	Pb	12 11 39.0	-1.4
KARP	Karpathos	2.86	103	ePB	Pb	12 11 42.5	-3.1
SMG	Samos	2.87	59	ePN	Pn	12 11 41.3	+0.6
AOS	Alonnisos	2.91	2	ePn	Pn	12 11 41.7	+0.5
	comp=Z,3.1nm,0.2s						
AOS				eSn	Sn	12 12 14.4	-1.4
EVR	Evrytania	3.07	330	ePN	Pn	12 11 44.8	+1.3
NEO	Neokhori	3.07	352	ePN	Pn	12 11 44.5	+0.9
XOR	Xorichti	3.13	352	ePn	Pn	12 11 45.4	+1.0
XOR				eSn	Sn	12 12 20.2	-1.3
VLS	Valsamata	3.16	308	ePN	Pn	12 11 45.0	+0.1
VLS	Valsamata	3.16	308	ePn	Pn	12 11 44.9	0.0
PAIG	Paliouri	3.66	359	ePn	Pn	12 11 52.1	+0.2
PAIG				eSn	Sn	12 12 32.9	-2.0
LIT	Litokhoron	3.96	346	ePn	Pn	12 11 56.7	+0.5
LIT				eSn	Sn	12 12 41.4	-1.1
MEV	Metsovon	4.04	331	ePn	Pn	12 11 58.9	+1.5
	comp=Z,3.0nm,0.3s						
MEV				eSn	Sn	12 12 44.8	+0.3
JAN	Janina	4.09	327	ePN	Pn	12 11 59.7	+1.6
PLG	Polygyros	4.11	357	ePN	Pn	12 11 58.8	+0.4
IGT	Igoumenitsa	4.24	321	ePn	Pn	12 12 00.8	+0.7
IGT				eSn	Sn	12 12 48.6	-0.9
SOH	Sokhos	4.56	356	ePn	Pn	12 12 04.8	0.0
SOH				eSn	Sn	12 12 56.5	-1.3
KEK	Kerkira	4.65	319	ePn	Pn	12 12 05.0	-1.0
GRG	Griva	4.81	348	ePn	Pn	12 12 08.3	+0.1
SRS	Serrai	4.85	359	ePn	Pn	12 12 09.2	+0.3
KNT	Kendrikon	4.94	353	ePn	Pn	12 12 11.0	+0.9
	comp=Z,2.0nm,0.4s						
KNT				eSn	Sn	12 13 05.7	-1.5
STON	Ston	8.08	327	i Pn	P	12 12 49.9	-4.4
STON				i Sn	Sn	12 14 16.1	-10
BRTR	Keskin Array B	8.54	63	P	P	12 13 06.5	+5.9
	0.2nm,0.3s,baz=249,slow=16,SNR=2.8						
EIL	Elat	11.47	122	P	Px	12 13 35.8	
	0.4nm,0.3s,baz=234,slow=25,SNR=5.0						
EIL				S	Sx	12 15 35.4	
	0.6nm,0.3s,baz=80,slow=30,SNR=3.5						
GERES	GERESS Array B	14.57	333	P	P	12 14 26.4	+4.5
	0.2nm,0.3s,baz=149,slow=11,SNR=9.4						
HFS	Hagfors	24.75	348	P	P	12 16 13.1	-3.1
	3.8nm,1.1s,mb3.9,baz=158,slow=8.0,SNR=5.9						
NOA	NORSAR Array B	26.05	346	P	P	12 16 26.0	-2.3
	0.4nm,0.6s,mb3.2,baz=150,slow=12,SNR=2.6						
MKAR	Makanchi Array	44.14	57	P	P	12 19 00.3	-3.3
	0.4nm,0.5s,mb3.5,baz=270,slow=6.8,SNR=8.9						
MKAR				pP	pP	12 19 16.4	+5.6
	1.6nm,0.8s,baz=278,slow=6.4,SNR=7.0						
MKAR	Makanchi Array	44.14	57	P	P	12 19 00.3	-3.3
MKAR				pP	pP	12 19 16.4	+5.6

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*IDC **03** 12:16:48.4±0.6, 15.23S×173.39W, mb4.9/15, mb1 5.0/16, mb1mx4.9/18, ML4.7/1, MS5.1/18, Ms1 5.1/18, ms1mx5.1/20, Error ellipse: s-maj=29.1km s-min=14.8km az=138.0*

*HRVD **03** 12:16:49.7±0.1, 15.01S×173.00W, h12^{km}, MW5.6/71, Centroid moment Tensor Solution. LP body waves: s63,c126;Mantle waves: s71,c159; Half duration: 1^{s}5 Moment tensor: Scale 10^{17}Nm; M_{rr}0.54±.03; $M_{\theta\theta}$0.97±.03; $M_{\phi\phi}$-1.51±.03; $M_{r\theta}$0.49±.08; $M_{\theta\phi}$1.46±.02; $M_{\phi r}$2.01±.08; Best double couple: $M_0 2.84\times10^{17}$ NP1:ϕ_s112°,δ41°,λ10°. NP2:ϕ_s14°,δ83°,λ131°. Principal axes: T 2.68, Plg38°, Azm320°; N .33, Plg41°, Azm189°; P -3.01, Plg27°, Azm73°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*SYO **03** 12:16:49.2, 15.28S×173.34W, h10^{km}, MB5.4, MS5.3*

*NEIC **03** 12:16:49.7±0.2, 15.19S×173.38W, h10^{km}, mb5.3/57, MS5.3/80, MW5.6, Error ellipse: s-maj=10.3km s-min=4.6km az=144.0, Moment Tensor Solution. s24 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.37; $M_{\theta\theta}$-0.12; $M_{\phi\phi}$0.50; $M_{r\theta}$1.04; $M_{\theta\phi}$-0.13; $M_{\phi r}$2.46; Best double couple: $M_0 2.7\times10^{17}$ NP1:ϕ_s321°,δ8°,λ-151°. NP2:ϕ_s202°,δ86°,λ-83°. Principal axes: T 2.68, Plg41°, Azm286°; N .06, Plg7°, Azm22°; P -2.74, Plg48°, Azm119°;*

*BJI **03** 12:16:50.8, 14.85S×172.79W, h29^{km}, mB5.6, mb5.2, Ms5.3, Msz5.1*

*MOS **03** 12:16:53.0±1.4, 15.08S×173.67W, h33^{km}, mb5.5/9, MS5.3/15, Error ellipse: s-maj=22.3km s-min=16.1km az=106.1*

*ORF **03** 12:17:08.2, 10.02S×179.73W, h30^{km}, mb6.0*

ISC 03 12:16:48.2±0.2**, 15.22S**±0.06×**173.35W**±0.04**, h10^{km}, (h14^{km}**±2.1^{km}**:pP-P), n457, σ0^{s}97**/184**, mb5.2**/85**, MS5.2**/113**, 27C-11D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	8.62	252	Pn	P	12 19 04.2	+8.2
	3µm,1.5s,SNR=97						
RAR	Rarotonga	14.21	117	Pn	P	12 20 04.7	-7.1
	3.4nm,0.3s,baz=281,slow=7.7,SNR=14						
RAR				Sn	S	12 22 30.9	-20
	0.4nm,0.3s,baz=266,slow=15,SNR=1.9						
RAR				LR	LR	12 24 00.8	
	comp=Z,11µm,20.2s,baz=306,slow=30						
RAR				T		12 34 33.3	
	39nm,0.3s,baz=103,slow=20,SNR=7.2						
RAR	Rarotonga	14.21	117	ePn	P	12 20 04.5	-7.4
	86nm,1.0s						
BKM	Butte a Klehm	17.82	260	⇑iP	P	12 21 05.0	+6.9
DZM	Mont Dzumac	20.31	247	eP	P	12 21 30.8	+3.6
DZM	Mont Dzumac	20.31	247	eP	P	12 21 30.8	+3.5
NOUC	Port Laguerre	20.44	247	eP	P	12 21 35.2	+6.5
NOUC	Port Laguerre	20.44	247	eP	P	12 21 35.1	+6.5
PAE	Paea	22.93	99	eP	P	12 21 53.6	-0.2
	360nm,1.5s,mb5.6						
PPT	Papeete	22.93	99	eP	P	12 21 54.1	+0.3
	90nm,1.3s,mb5.0						
PPT	Papeete	22.93	99	eL		12 26 17.0	
PPT				eR		12 27 04.7	
	16µm,25.0s,baz=265						
TIAR	Tiarei	23.15	99	eP	P	12 21 56.4	+0.5
	270nm,1.2s,mb5.5						
TVO	Taravao	23.25	100	eP	P	12 21 56.9	0.0
	202nm,1.2s,mb5.4						
TBI	Tubuai	23.93	113	eL		12 26 46.6	
TBI				eR		12 27 40.6	
	16µm,26.5s,baz=285						
URZ	Urewera	24.45	198	P	P	12 22 09.6	+1.2
	12nm,0.6s,mb4.5,baz=355,slow=5.4,SNR=9.9						
RKT	Rikitea	37.01	108	eL		12 32 13.8	
RKT				eR		12 33 41.4	
	9µm,25.5s,baz=282						
CTA	Charters Tower	38.73	257	eP	P	12 24 14.0	-0.5
	7.9nm,1.2s,mb4.3						
CTA	Charters Tower	38.73	257	P	P	12 24 14.2	-0.3
	5.8nm,0.8s,mb4.3,baz=143,slow=6.1,SNR=4.5						
CTA				LR	LR	12 37 46.0	
	comp=Z,3µm,21.3s,MS5.1,baz=79,slow=32						
CTAO	Charters Tower	38.73	257	eP	P	12 24 14.1	-0.4
	19nm,1.2s,mb4.7						
CTAO				LR	LR		
	comp=Z,4µm,22.0s,MS5.2						
CNB	Canberra Magne	38.90	232	eP	P	12 24 15.0	-0.8
	comp=Z,32nm,1.0s,mb5.0						
TOO	Toolangi	42.62	231	eP	P	12 24 45.6	-0.8
	comp=Z,20nm,1.0s,mb4.8						
STKA	Stephens Creek	44.17	240	P	P	12 24 58.5	-0.6
	comp=Z,21nm,1.1s,mb4.8,baz=81,slow=7.6,SNR=23						
STKA				LR	LR	12 41 15.2	
	comp=Z,2µm,21.1s,MS5.0,baz=71,slow=33						
STKA	Stephens Creek	44.17	240	P	P	12 24 58.5	-0.6
STKA				LR	LR	12 41 15.2	
WB2	Warramunga Arr	49.92	257	eP	P	12 25 42.6	-1.8
WRAB	Tennant Creek	49.92	257	eP	P	12 25 42.3	-2.1
	comp=Z,57nm,1.4s,mb5.4						
WRA	Warramunga Arr	49.93	257	P	P	12 25 42.7	-1.8
	comp=Z,6.4nm,0.8s,mb4.7,baz=91,slow=7.1,SNR=82						
WRA				LR	LR	12 44 53.4	
	comp=Z,3µm,20.9s,MS5.2,baz=105,slow=34						
ASAR	Alice Springs	50.21	252	P	P	12 25 44.7	-1.9
	comp=Z,22nm,0.7s,mb5.3,baz=87,slow=8.2,SNR=130						
ASAR				LR	LR	12 45 16.3	
	comp=Z,4µm,20.6s,MS5.5,baz=90,slow=34						
ASPA	Alice Springs	50.21	252	⇑iP	P	12 25 44.5	-2.2
FORT	Forrest	55.54	243	eP	P	12 26 24.2	-2.0
	comp=Z,51nm,0.5s,mb5.8						
FITZ	Fitzroy Crossi	58.29	258	eP	P	12 26 48.3	+2.4
	comp=Z,9.0nm,1.5s,mb4.6						
FITZ	Fitzroy Crossi	58.29	258	LR	LR	12 49 48.9	
	comp=Z,2µm,20.8s,MS5.2,baz=96,slow=34						
CBIJ	Chichi jima	60.26	314	LR	LR	12 48 41.6	
	comp=Z,2µm,18.9s,MS5.2,baz=139,slow=32						
SBA	Scott Base	63.44	185	eP	P	12 27 22.2	+2.1
	comp=Z,50nm,1.4s,mb5.5						
KLBR	Kellerberrin	64.36	242	eP	P	12 27 25.7	-1.1
	comp=Z,82nm,1.7s,mb5.5						
MUN	Mundaring	65.66	242	eP	P	12 27 32.9	-2.3
	comp=Z,9.4nm,1.0s,mb4.8						
JHJ	Hachijo jima 2	65.66	318	LR	LR	12 49 59.4	
	comp=Z,1µm,20.2s,MS5.1,baz=112,slow=30						
SMY	Shemya	68.53	352	PFAKE		12 28 00.0	+7.0
SMY				LR	LR		
	comp=Z,4µm,20.0s,MS5.7						
MAJO	Matsushiro	68.83	320	eP	P	12 27 54.8	-0.3
	comp=Z,231nm,2.0s,mb5.8						
MAJO				LR	LR		
	comp=Z,3µm,22.0s,MS5.4						
MAT	Matsushiro	68.83	320	P	P	12 27 54.4	-0.7
MAT				S	S	12 37 00.0	+2.5
MAT	Matsushiro	68.83	320	eP	P	12 27 54.0	-1.1
	comp=Z,100nm,1.5s,mb5.5						
MAT				eS	S	12 37 00.0	+2.5
MAT				LR	LR		
	comp=Z,2µm,20.0s,MS5.4						
JOW	Kunigami	70.41	306	LR	LR	12 52 47.4	
	comp=Z,2µm,21.6s,MS5.3,baz=124,slow=31						
CASY	Casey	70.59	205	eP	P	12 28 05.0	-0.4
	comp=Z,16nm,1.1s,mb4.8						
CASY				LR	LR		
	comp=Z,1µm,22.0s,MS5.1						
TGY	Tagaytay City	71.21	291	LR	LR	12 54 40.2	
	comp=Z,2µm,19.8s,MS5.4,baz=20,slow=32						
ASAJ	Asahikawa	71.41	328	P	P	12 28 10.3	-0.4
	comp=Z,27nm,1.1s,mb5.1,baz=202,slow=9.8,SNR=5.3						
ASAJ				LR	LR	12 53 31.2	
	comp=Z,1µm,21.9s,MS5.0,baz=157,slow=31						
HOPS	Hopland	71.50	39	PFAKE		12 28 20.0	+8.7
HOPS				LR	LR		
	comp=Z,2µm,19.0s,MS5.3						
JNU	Nakatsue	71.71	313	P	P	12 28 13.3	+0.6
	comp=Z,38nm,1.2s,mb5.2,baz=65,slow=6.6,SNR=6.5						
JNU				LR	LR	12 54 42.4	
	comp=Z,1µm,19.6s,MS5.1,baz=128,slow=32						
PET	Petropavlovsk	72.12	343	eP	P	12 28 13.0	-1.8
PET				eS	S	12 37 35.1	-0.4
PET				ePPS	PPS	12 38 19.3	-1.3
PET				pmax	pmax		
	comp=Z,200nm,13.4s						
PET				pmax	pmax		
	comp=Z,48nm,1.6s,mb5.2						
PET				pmax	pmax		
	comp=Z,100nm,12.2s						
PET				smax			
	comp=N,200nm,10.0s						
PET				MLR	MLR		
	comp=Z,800nm,18.0s,MS5.0						
CMB	Columbia Colle	72.60	41	eP	P	12 28 16.9	-1.0
	comp=Z,14nm,1.2s,mb4.8						
CMB				LR	LR		
	comp=Z,1µm,21.0s,MS5.2						
ASMM	Slate Mountain	72.88	41	P	P	12 28 15.9	-3.6
YSS	Yuzh-Sakhalins	73.35	330	αeP	P	12 28 21.9	-0.2
YSS				e		12 28 43.5	
YSS				eS	S	12 37 52.0	+2.4
YSS				ePPS	PPS	12 38 32.0	-6.0
YSS				SS	SS	12 42 23.0	-11
YSS				pmax	pmax		
	comp=E,50nm,1.2s						
YSS				pmax	pmax		
	comp=Z,90nm,1.2s,mb5.6						
YSS				smax			
	comp=N,800nm,13.0s						
YSS				MLR	MLR		
	comp=N,500nm,17.0s						
YSS				MLR	MLR		
	comp=Z,400nm,17.0s,MS4.8						
YSS	Yuzh-Sakhalins	73.35	330	eP	P	12 28 22.1	0.0
	comp=Z,84nm,1.4s,mb5.5						
MTUM	Tungsten Hills	73.38	43	eP	P	12 28 22.4	-0.1
DAC	Darwin (Calif)	73.42	44	PFAKE		12 28 30.0	+7.2
DAC				LR	LR		
	comp=Z,2µm,20.0s,MS5.5						
YBH	Yreka Blue Hor	73.43	37	P	P	12 28 24.0	+1.3
	comp=Z,8.1nm,0.8s,mb4.7,baz=219,slow=8.2,SNR=9.6						
YBH	Yreka Blue Hor	73.43	37	eP	P	12 28 22.7	0.0
	comp=Z,34nm,1.4s,mb5.1						
BEKR	Beckwourth	73.70	40	eP	P	12 28 23.8	-0.5
	comp=Z,58nm,1.8s,mb5.2						
WCN	Washoe City	73.74	41	eP	P	12 28 24.2	-0.3
	comp=Z,30nm,1.3s,mb5.1						
HUMO	Hull Mountain	73.83	36	eP	P	12 28 24.3	-0.8
	comp=Z,23nm,1.3s,mb5.0						
MNV	Mina	74.26	42	eP	P	12 28 26.8	-0.8
	comp=Z,26nm,1.4s,mb5.0						
MNV				LR	LR		
	comp=Z,2µm,21.0s,MS5.3						
TPH	Tonopah	74.67	43	eP	P	12 28 29.1	-0.8
	comp=Z,64nm,1.5s,mb5.3						
TPH				LR	LR		
	comp=Z,2µm,21.0s,MS5.4						
TPNV	Topopah Spring	74.70	44	eP	P	12 28 29.5	-0.6
	comp=Z,210nm,1.2s,mb5.9						
TPNV				LR	LR		
	comp=Z,3µm,21.0s,MS5.5						
KDAK	Kodiak Island	74.73	11	PFAKE		12 28 40.0	+10
KDAK				LR	LR		
	comp=Z,356nm,20.0s,MS4.7						
QSPA	South Pole Qui	74.83	180	eP	P	12 28 31.7	+1.6
	comp=Z,32nm,1.0s,mb5.2						
QSPA				LR	LR		
	comp=Z,1µm,18.1s,MS5.2						
COR	Corvallis	74.90	35	PFAKE		12 28 40.0	+8.8
COR				LR	LR		
	comp=Z,1µm,20.0s,MS5.2						
MOD	Modoc	74.95	38	eP	P	12 28 31.0	-0.5
	comp=Z,38nm,1.3s,mb5.2						
NEN	Nelson	74.97	46	eP	P	12 28 31.8	0.0
BMN	Battle Mountai	75.98	41	eP	P	12 28 37.0	-0.4
	comp=Z,53nm,1.6s,mb5.2						
BMN				LR	LR		
	comp=Z,1µm,22.0s,MS5.1						
BMW	Boistfort Moun	76.16	33	eP	P	12 28 38.1	-0.1
TUC	Tucson	76.24	51	eP	P	12 28 38.8	-0.3
	comp=Z,35nm,1.5s,mb5.1						
TUC				LR	LR		
	comp=Z,2µm,21.0s,MS5.3						
WVOR	Wild Horse Val	76.26	38	eP	P	12 28 38.5	-0.5
	comp=Z,21nm,1.1s,mb5.0						
WVOR				LR	LR		
	comp=Z,2µm,22.0s,MS5.4						
OCWA	Octopus Mounta	76.50	32	PFAKE		12 28 50.0	+10
OCWA				LR	LR		
	comp=Z,386nm,20.0s,MS4.7						
ERK	Elk Rock	76.52	34	P	P	12 28 40.7	+0.4
VLA	Vladivostok	76.69	322	⇓iP	P	12 28 39.0	-2.3
VLA				e		12 28 55.0	
VLA				i S	S	12 38 29.0	+2.3
VLA				i		12 38 51.0	
VLA				eSS	SS	12 43 24.0	-1.3
VLA				pmax	pmax		
	comp=N,500nm,6.0s						
VLA				pmax	pmax		
	comp=Z,600nm,6.0s						
VLA				pmax	pmax		
	comp=E,300nm,4.0s						
VLA				smax			
	comp=E,1µm,8.0s						
VLA				smax			
	comp=N,1µm,10.0s						
VLA				MLR	MLR		
	comp=N,700nm,18.0s,MS5.2						
VLA				MLR	MLR		
	comp=E,700nm,18.0s,MS5.2						
VLA				MLR	MLR		
	comp=Z,700nm,18.0s,MS5.0						
INCN	Inchon	76.95	315	eP	P	12 28 44.6	+1.7
	comp=Z,12nm,0.6s,mb5.0						
GNW	Green Mountain	77.07	32	eP	P	12 28 43.2	-0.1
LON	Longmire	77.09	34	eP	P	12 28 44.2	+0.8
FMW	Mount Fremont	77.28	33	P	P	12 28 44.8	+0.3
WUAZ	Wupatki	77.34	48	eP	P	12 28 45.5	+0.4
	comp=Z,44nm,1.5s,mb5.2						
GSM	Grass Mountain	77.38	33	P	P	12 28 45.3	+0.3
ELK	Elko	77.42	41	eP	P	12 28 45.1	-0.3
	comp=Z,34nm,1.6s,mb5.0						
ELK				LR	LR		
	comp=Z,1µm,22.0s,MS5.2						
MIR	Mirnyy	77.61	204	⇑eP	P	12 28 45.0	-0.9
MIR				pmax	pmax		
	comp=Z,25nm,1.2s,mb5.0						
SLKM	Skilak Lake	77.72	11	eP	P	12 28 45.7	-1.0
SSE	Sheshan	77.88	307	P	P	12 28 47.0	-1.2
SSE				S	S	12 38 38.3	-1.6
SSE				AMB	AMB		
	comp=Z,38nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,242nm,7.9s						
SSE				LR	LR		
	comp=N,606nm,33.0s,MS4.8						
SSE				LR	LR		
	comp=E,600nm,33.0s,MS4.8						
SSE				LR	LR		
	comp=Z,915nm,23.3s						
JCW	Jim Creek	77.94	32	P	P	12 28 48.2	+0.1
SPU	Mount Spurr	78.02	10	eP	P	12 28 47.0	-1.2
HAWA	Hanford	78.10	35	eP	P	12 28 49.0	-0.1
	comp=Z,51nm,1.4s,mb5.3						
HAWA				LR	LR		
	comp=Z,991nm,20.0s,MS5.1						
MSU	Marysvale	78.27	45	eP	P	12 28 50.8	+0.7
RPW	Rockport	78.32	32	eP	P	12 28 51.1	+0.9
FIB	Fire Island	78.34	11	PFAKE		12 29 00.0	+10
FIB				LR	LR		
	comp=Z,2µm,21.0s,MS5.5						
LNOR	Lincton Mounta	78.49	36	eP	P	12 28 51.1	0.0
SIT	Sitka	78.64	20	PFAKE		12 29 00.0	+8.3
SIT				LR	LR		
	comp=Z,733nm,19.0s,MS5.0						
WTV	Waterville	78.67	34	P	P	12 28 51.9	-0.3
DUG	Dugway	78.70	43	eP	P	12 28 52.2	-0.3
	comp=Z,29nm,1.5s,mb5.0						
DUG				LR	LR		
	comp=Z,2µm,21.0s,MS5.3						
NLW	Nelson Butte	78.70	33	eP	P	12 28 51.8	-0.5
MDJ	Mudanjiang	78.91	322	P	P	12 28 54.2	+0.7
MDJ				AP	pP	12 28 58.7	+2.0
MDJ				PCP	PcP	12 29 01.5	-1.2
MDJ				PP	PP	12 31 48.8	-5.3
MDJ				S	S	12 38 56.7	+6.2
MDJ				XS		12 39 02.4	
MDJ				AMB	AMB		
	comp=Z,25nm,1.6s,mb4.9						
MDJ				AMB	AMB		
	comp=Z,457nm,7.6s						
MDJ				LR	LR		
	comp=N,591nm,21.3s,MS5.2						
MDJ				LR	LR		
	comp=E,1µm,21.3s,MS5.2						
MDJ				LR	LR		
	comp=Z,2µm,20.8s,MS5.4						
MDJ	Mudanjiang	78.91	322	eP	P	12 28 54.5	+1.0
	comp=Z,91nm,1.8s,mb5.4						
BGU	Big Grassy Mou	78.93	42	eP	P	12 28 53.5	-0.2
PMR	Palmer	78.93	12	eP	P	12 28 51.5	-1.8
NLU	North Lily Min	79.06	43	eP	P	12 28 54.6	+0.1
DIV	Divide	79.21	13	eP	P	12 28 54.1	-0.7
	comp=Z,91nm,1.0s,mb5.7						
DIV				LR	LR		
	comp=Z,2µm,20.0s,MS5.5						
SML	Sawmill	79.29	12	eP	P	12 28 54.7	-0.5
MPU	Maple Canyon	79.39	43	eP	P	12 28 56.3	+0.1
HLID	Hailey	79.46	39	eP	P	12 28 56.9	+0.4
	comp=Z,74nm,1.6s,mb5.4						
HLID				LR	LR		
	comp=Z,617nm,20.0s,MS4.9						
SPUT	South Promonto	79.51	42	eP	P	12 28 57.7	+0.8
HVU	Hansel Valley	79.54	41	eP	P	12 28 57.3	+0.2
SRU	San Rafael	79.68	45	eP	P	12 28 57.9	0.0
DPW	Davenport	79.71	34	eP	P	12 28 57.8	-0.1
JLU	Jordanelle	79.80	43	eP	P	12 28 58.5	+0.1
DAU	Daniels Canyon	79.83	43	eP	P	12 28 59.0	+0.4
LAZ	Ladron	79.91	50	eP	P	12 28 59.6	+0.4
LENM	Lemitar	79.93	50	eP	P	12 28 59.5	+0.2
TCUT	Toone Canyon	80.09	43	eP	P	12 28 59.3	-0.6
NJ2	Nanjing	80.09	307	eP	P	12 29 01.4	+1.2
NJ2				AP	pP	12 29 11.8	+8.4
NJ2				XP	sP	12 29 15.7	+11
NJ2				PP	PP	12 32 05.5	+1.6
NJ2				S	S	12 39 02.0	-1.2
NJ2				XS		12 39 21.0	
BNM	Barren Site	80.18	51	eP	P	12 29 00.7	+0.1
HWUT	Hardware Ranch	80.23	42	eP	P	12 29 00.4	-0.3
	comp=Z,37nm,1.6s,mb5.1						
HWUT				LR	LR		
	comp=Z,2µm,22.0s,MS5.5						
PV10	Paradox Valley	80.35	46	eP	P	12 29 01.2	-0.3
KLR	Kul'dur	80.39	327	⇓iP	P	12 29 01.9	+0.5
KLR				e		12 32 05.5	
KLR				eS	S	12 39 05.0	-1.0
KLR				pmax	pmax		
	comp=Z,130nm,2.6s,mb5.4						
KLR				MLR	MLR		
	comp=E,800nm,17.0s						
LTX	Lajitas	80.47	56	eP	P	12 29 02.3	0.0
	comp=E,54nm,1.5s,mb5.2						
LTX				LR	LR		
	comp=Z,1µm,20.0s,MS5.3						
TXAR	Lajitas Array	80.47	56	P	P	12 29 02.4	+0.1
	comp=Z,5.0nm,1.1s,mb4.4,baz=225,slow=5.3,SNR=39						
TXAR				LR	LR	12 56 47.4	
	comp=Z,1µm,21.0s,MS5.3,baz=280,slow=30						
NEW	Newport	80.53	34	PFAKE		12 29 10.0	+7.8
NEW				LR	LR		
	comp=Z,802nm,20.0s,MS5.1						
PV01	Paradox Valley	80.56	46	eP	P	12 29 02.7	+0.1
ANMO	Albuquerque	80.65	50	P	P	12 29 03.2	+0.1
ANMO				S	S	12 39 14.4	+5.5
ANMO	Albuquerque	80.65	50	d iP	P	12 29 02.9	-0.2
ANMO				pmax	pmax		
	comp=Z,6.0nm,1.6s						
ANMO	Albuquerque	80.65	50	eP	P	12 29 03.3	+0.2
	comp=Z,45nm,1.6s,mb5.2						
ANMO				LR	LR		
	comp=Z,1µm,21.0s,MS5.3						
MCK	McKinley	80.94	11	eP	P	12 29 02.8	-1.2
	comp=Z,16nm,1.0s,mb4.9						
CN2	Changchun	80.98	320	⇑P	P	12 29 05.9	+1.3
CN2				eS	S	12 39 14.2	+2.0
CN2				AMB	AMB		
	comp=Z,50nm,1.3s,mb5.3						
CN2				AMB	AMB		
	comp=Z,200nm,6.0s						
CN2				LR	LR		
	comp=N,600nm,21.0s,MS5.2						
CN2				LR	LR		
	comp=E,1µm,21.0s,MS5.2						
CN2				LR	LR		
	comp=Z,1µm,23.0s,MS5.2						
GDL2	Guadalupe Moun	81.08	53	eP	P	12 29 05.5	+0.1
MCMT	McKenzie Canyo	81.08	39	eP	P	12 29 05.5	+0.4
AHID	Auburn Hatcher	81.11	41	eP	P	12 29 05.6	+0.3
AHID				LR	LR		
	comp=Z,867nm,22.0s,MS5.1						
SNY	Shenyang	81.17	318	⇑iP	P	12 29 06.8	+1.1
SNY				S	S	12 39 18.9	+4.7
SNY				AMB	AMB		
	comp=Z,50nm,1.9s,mb5.1						
SNY				AMB	AMB		
	comp=Z,480nm,5.9s						
SNY				LR	LR		
	comp=N,690nm,15.3s						
SNY				LR	LR		
	comp=Z,780nm,21.7s						
THY	Trims Highway	81.26	12	eP	P	12 29 04.6	-1.0
CLNB	Carlsbad	81.48	53	P	P	12 29 08.3	+0.8
MSO	Missoula	81.51	37	PFAKE		12 29 20.0	+13
MSO				LR	LR		
	comp=Z,726nm,20.0s,MS5.0						
REDW	Red Top Meadow	81.57	41	eP	P	12 29 08.0	+0.3
TPAW	Teton Pass	81.57	41	eP	P	12 29 07.4	-0.3
SNOW	Snow King Moun	81.68	41	eP	P	12 29 08.6	+0.3
WUWY	Wally Ulrich	81.72	41	eP	P	12 29 08.8	+0.2
CPRX	Cap Rock	81.80	53	eP	P	12 29 09.7	+0.6
MOOW	Moose Ponds	81.83	41	eP	P	12 29 09.2	+0.1
LOHW	Long Hollow	81.85	41	eP	P	12 29 09.1	0.0

QLMT	Earthquake Lak	81.95	39	eP	P	12 29 10.5	+0.8
CHMT	Chamberlain Mo	81.95	37	eP	P	12 29 08.5	-1.1
BW06	Boulder Array	82.10	42	eP	P	12 29 10.2	-0.3
	comp=Z,67nm,1.6s,mb5.3						
BW06				LR	LR		
	comp=Z,1μm,20.0s,MS5.2						
PDAR	Pinedale Array	82.10	42	P	P	12 29 10.4	0.0
	comp=Z,1.3nm,0.7s,baz=243,slow=3.3,SNR=16						
PDAR				LR	LR	12 58 34.1	
	comp=Z,895nm,20.4s,baz=248,slow=30						
YMR	Madison River	82.15	40	eP	P	12 29 11.6	+0.9
COLA	College	82.17	11	eP	P	12 29 09.8	-0.6
LCCM	Lewis and Clar	82.20	38	P	P	12 29 11.0	+0.1
BOZ	Bozeman (W)	82.25	39	eP	P	12 29 11.2	0.0
	comp=Z,77nm,1.6s,mb5.4						
BOZ				LR	LR		
	comp=Z,1μm,21.0s,MS5.2						
IMA	Indian Mountai	82.38	8	eP	P	12 29 11.7	+0.3
SDCO	Great Sand Dun	82.56	48	eP	P	12 29 13.2	+0.2
	comp=Z,61nm,1.4s,mb5.4						
SDCO				LR	LR		
	comp=Z,2μm,19.0s,MS5.4						
HRY	Holter Researc	82.68	38	eP	P	12 29 13.4	0.0
QIZ	Qiongzhong	82.88	292	P	P	12 29 15.9	+0.9
QIZ				XP	sP	12 29 29.3	+10
QIZ				S	S	12 39 37.8	+5.6
QIZ				XS		12 39 54.5	
QIZ				AMB	AMB		
	comp=Z,322nm,7.0s						
QIZ				LR	LR		
	comp=E,679nm,22.4s						
QIZ				LR	LR		
	comp=Z,931nm,25.7s,MS5.0						
DAWY	Dawson	83.23	14	eP	P	12 29 16.0	+0.1
ISCO	Idaho Springs	83.37	46	eP	P	12 29 17.8	+0.6
	comp=Z,37nm,1.5s,mb5.2						
ISCO				LR	LR		
	comp=Z,1μm,20.0s,MS5.2						
JCT	Junction City	84.01	56	P	P	12 29 20.5	-0.1
	comp=Z,8.4nm,0.9s,mb4.9						
JCT				LR	LR		
	comp=Z,1μm,20.0s,MS5.3						
BJT	Baijiatuau	85.37	313	eP	P	12 29 28.9	+1.7
	comp=Z,96nm,1.6s,mb5.7						
BJI	Beijing	85.38	313	P	P	12 29 28.6	+1.4
BJI				SKS	SKS	12 39 50.2	-3.7
BJI				AMB	AMB		
	comp=Z,45nm,2.0s,mb5.2						
BJI				LR	LR		
	comp=N,415nm,21.8s,MS4.9						
BJI				LR	LR		
	comp=E,451nm,25.2s,MS4.9						
BJI				LR	LR		
	comp=Z,991nm,25.2s,MS5.1						
LAO	LASA Array	86.04	39	eP	P	12 29 31.0	+0.6
	comp=Z,115nm,1.4s,mb5.9						
LAO				LR	LR		
	comp=Z,771nm,22.0s,MS5.1						
RSSD	Black Hills	86.30	42	P	P	12 29 31.2	-0.5
RSSD				pSKSac		12 40 06.6	
RSSD	Black Hills	86.30	42	eP	P	12 29 31.2	-0.5
	comp=Z,54nm,1.5s,mb5.5						
RSSD				LR	LR		
	comp=Z,1μm,20.0s,MS5.3						
WMOK	Wichita Mounta	86.36	53	eP	P	12 29 31.3	-0.9
	comp=Z,20nm,1.3s,mb5.2						
WMOK				LR	LR		
	comp=Z,1μm,21.0s,MS5.3						
ENH	Enshi	86.86	302	eP	P	12 29 36.8	+2.0
	comp=Z,42nm,1.4s,mb5.5						
HKT	Hockley	87.05	58	P	P	12 29 35.2	-0.5
	comp=Z,63nm,1.5s,mb5.6						
HKT				LR	LR		
	comp=Z,1μm,20.0s,MS5.3						
HIA	Hailar	87.08	323	eP	P	12 29 35.9	+0.5
	comp=Z,34nm,1.4s,mb5.4						
CBKS	Cedar Bluff	87.14	49	PFAKE		12 29 50.0	+14
CBKS				LR	LR		
	comp=Z,858nm,19.0s,MS5.2						
TIY	Taiyuan	87.17	310	⇓P	P	12 29 34.0	-2.1
TIY				LR	LR		
	comp=N,1μm,11.0s						
MAW	Mawson	87.98	199	eP	P	12 29 40.3	+1.0
	comp=N,13nm,1.0s,mb5.1						
MAW				eSKS	SKS	12 39 59.1	-11
MAW	Mawson	87.98	199	P	P	12 29 40.4	+1.1
	comp=N,18nm,1.0s,mb5.2,baz=112,slow=5.6,SNR=24						
MAW				LR	LR	13 09 14.1	
	comp=N,1μm,18.4s,MS5.4,baz=118,slow=36						
GYA	Guiyang	88.00	298	P	P	12 29 43.2	+2.8
GYA				AP	pP	12 29 46.8	+3.2
GYA				XP	sP	12 29 50.2	+5.6
GYA				S	S	12 40 29.9	+8.0
GYA				XS		12 40 40.6	
GYA				AMB	AMB		
	comp=Z,350nm,6.3s						
GYA				LR	LR		
	comp=N,360nm,15.9s,MS5.1						
GYA				LR	LR		
	comp=E,500nm,17.4s,MS5.1						
GYA				LR	LR		
	comp=Z,460nm,18.0s,MS4.9						
DGMT	Dagmar	88.06	38	eP	P	12 29 40.4	+0.3
	comp=Z,95nm,1.4s,mb5.8						
DGMT				LR	LR		
	comp=Z,1μm,20.0s,MS5.4						
INK	Inuvik	88.08	14	P	P	12 29 40.1	+0.4
	comp=Z,13nm,1.1s,mb5.0,baz=228,slow=5.3,SNR=11						
INK	Inuvik	88.08	14	eP	P	12 29 39.3	-0.5
	comp=Z,25nm,1.3s,mb5.3						
CLNS	Chul'man	88.10	331	eP	P	12 29 36.5	-3.6
CLNS				pmax	pmax		
	comp=Z,17nm,1.1s,mb5.2						
CLNS				pmax	pmax		
	comp=N,11nm,1.0s						
CLNS				pmax	pmax		
	comp=E,9.0nm,1.1s						
CLNS				MLR	MLR		
	comp=Z,900nm,15.0s,MS5.3						
CLNS				MLR	MLR		
	comp=N,700nm,17.0s,MS5.2						
CLNS				MLR	MLR		
	comp=E,100nm,13.0s,MS5.2						
XAN	Xi'an	88.56	306	P	P	12 29 43.9	+1.0
XAN				SKS	SKS	12 40 12.0	-2.8
XAN				AMB	AMB		
	comp=Z,15nm,2.0s,mb5.0						
XAN				AMB	AMB		
	comp=Z,339nm,7.7s						
XAN				LR	LR		
	comp=N,237nm,22.0s,MS4.9						
XAN				LR	LR		
	comp=E,400nm,22.0s,MS4.9						
XAN				LR	LR		
	comp=Z,669nm,22.0s,MS5.0						
NATX	Nacogdoches	88.59	57	eP	P	12 29 43.0	0.0
NATX				LR	LR		
	comp=Z,1μm,22.0s,MS5.3						
HHC	Hu-ho-hao-te	88.94	313	eP	P	12 29 46.2	+1.7
HHC				AP	pP	12 29 50.9	+3.2
HHC				PP	PP	12 33 19.9	+3.4
HHC				SKS	SKS	12 40 14.7	-2.2
HHC				S	S	12 40 35.0	+4.7
HHC				XS		12 40 42.6	
HHC				PS	PS	12 41 43.7	+5.2
HHC				SS	SS	12 46 30.3	+4.1
HHC				AMB	AMB		
	comp=Z,41nm,1.6s,mb5.5						
HHC				LR	LR		
	comp=N,184nm,22.0s,MS4.6						
HHC				LR	LR		
	comp=E,215nm,25.6s,MS4.6						
YAK	Yakutsk	88.96	337	eP	P	12 29 43.7	-0.4
YAK				eS	S	12 40 31.5	+1.5
YAK				pmax	pmax		
	comp=Z,13nm,1.1s,mb5.2						
YAK				pmax	pmax		
	comp=N,8.0nm,1.3s						
YAK				pmax	pmax		
	comp=E,7.0nm,1.3s						
YAK				smax			
	comp=N,165nm,17.0s						
YAK				smax			
	comp=Z,71nm,19.1s						
YAK				smax			
	comp=E,59nm,15.4s						
YKA	Yellowknife Ar	89.91	23	P	P	12 29 48.2	-0.3
	comp=E,7.9nm,1.1s,mb5.0,baz=236,slow=4.5,SNR=8.3						
YKA				LR	LR	13 06 39.0	
	comp=E,475nm,19.0s,MS4.9,baz=245,slow=33						
YKA	Yellowknife Ar	89.91	23	P	P	12 29 48.2	-0.3
YKA				LR	LR	13 06 39.0	
BTO	Baotou	89.95	312	eP	P	12 29 51.7	+2.4
KMI	Kunming	90.99	296	eP	P	12 29 57.2	+2.8
KMI				PP	PP	12 33 34.0	+0.8
KMI				SKS	SKS	12 40 26.5	-3.1
KMI				S	S	12 40 54.5	+5.2
KMI				SS	SS	12 46 59.1	+2.8
KMI				AMB	AMB		
	comp=Z,16nm,1.3s,mb5.2						
KMI				AMB	AMB		
	comp=Z,296nm,9.2s						
KMI				LR	LR		
	comp=N,298nm,16.5s,MS5.0						
KMI				LR	LR		
	comp=E,490nm,19.6s,MS5.0						
KMI				LR	LR		
	comp=Z,553nm,18.4s,MS5.0						
NANT	Nan	91.08	289	P	P	12 30 00.0	+5.0
JTS	JuntasAbangare	91.13	80	eP	P	12 29 56.4	+1.0
	comp=Z,32nm,1.2s,mb5.5						
FFC	Flin Flon	91.93	33	PFAKE		12 30 10.0	+12
FFC				LR	LR		
	comp=Z,137nm,20.0s,MS4.4						
CHG	Chiang Mai	92.69	289	P	P	12 30 06.6	+4.2
SYO	Syowa Base	92.79	191	⇑P	P	12 29 59.8	-1.9
SYO	Syowa Base	92.79	191	⇑PcP	PcP	12 30 02.0	-0.7
SYO	Syowa Base	92.79	191	⇓pP	pP	12 30 06.4	+1.5
EFI	East Falkland	93.02	146	PFAKE		12 30 10.0	+6.9
EFI				LR	LR		
	comp=Z,670nm,20.0s,MS5.1						
VNA3	Neumayer Olymp	93.03	175	⇑iP	P	12 30 07.6	+4.8
VNA3	Neumayer Olymp	93.03	175	⇓i	P	12 30 12.8	+10
SNAA	Sanae	93.08	177	⇑iP	P	12 30 04.2	+1.2
SNAA	Sanae	93.08	177		P	12 30 09.2	+6.2
LZH	Lanzhou	93.15	306	⇑P	P	12 30 05.1	+1.0
LZH				SKS	SKS	12 40 38.0	-3.7
LZH				eS	S	12 41 09.2	+1.2
LZH				SS	SS	12 47 29.2	+1.9
LZH				AMB	AMB		
	comp=Z,39nm,1.5s,mb5.6						
LZH				AMB	AMB		
	comp=Z,265nm,9.1s						
LZH				LR	LR		
	comp=N,879nm,15.2s						
LZH				LR	LR		
	comp=Z,1μm,18.1s,MS5.4						
CCM	Cathedral Cave	93.18	52	eP	P	12 30 02.9	-1.3
	comp=Z,10nm,1.1s,mb5.2						
CCM				LR	LR		
	comp=Z,2μm,22.0s,MS5.4						
VNA2	Neumayer--Watz	93.53	175	⇑iP	P	12 30 10.3	+5.2
VNA2	Neumayer--Watz	93.53	175	⇑i	P	12 30 15.6	+11
OXF	Oxford	93.61	55	eP	P	12 30 06.4	+0.1
	comp=Z,63nm,1.1s,mb6.0						
OXF				LR	LR		
	comp=Z,1μm,20.0s,MS5.4						
VNA1	Neumayer--Stat	93.73	175	⇑iP	P	12 30 11.3	+5.3
VNA1	Neumayer--Stat	93.73	175	⇑i	P	12 30 16.4	+10
ULM	Lac du Bonnet	93.76	39	P	P	12 30 06.1	-0.5
	comp=Z,5.4nm,1.1s,mb4.9,baz=241,slow=6.2,SNR=6.1						
ULM				LR	LR	13 07 23.6	
	comp=Z,973nm,19.6s,MS5.3,baz=243,slow=32						
FVM	French Village	93.78	52	eP	P	12 30 06.1	-0.9
	comp=Z,34nm,1.3s,mb5.6						
ULN	Ulaanbaatar	94.33	318	sP	sP	12 30 36.3	+23
SONM	Songino Array	94.74	318	P	P	12 30 12.5	+1.4
	comp=Z,5.5nm,1.3s,mb4.8,baz=90,slow=4.9,SNR=11						
SONM				PP	PP	12 33 58.9	-3.1
	comp=Z,1.9nm,1.1s,baz=124,slow=4.5,SNR=6.3						
TIXI	Tiksi	94.84	344	eP	P	12 30 10.9	-0.2
TIXI				e		12 33 59.5	
TIXI				e		12 40 49.8	
TIXI				pmax	pmax		
	comp=Z,14nm,1.4s,mb5.2						
LRAL	Lakeview Retre	95.16	57	PFAKE		12 30 20.0	+6.5
LRAL				LR	LR		
	comp=Z,759nm,20.0s,MS5.2						
JFWS	Jewell Farm	95.27	47	PFAKE		12 30 30.0	+16
JFWS				LR	LR		
	comp=Z,2μm,21.0s,MS5.6						
EYMN	Ely	95.81	42	PFAKE		12 30 30.0	+14
EYMN				LR	LR		
	comp=Z,167nm,21.0s,MS4.5						
GTA	Gaotai	97.10	309	eP	P	12 30 23.9	+1.8
GTA				AP	pP	12 30 27.9	+2.6
GTA				SKS	SKS	12 40 59.7	-3.2
GTA				S	S	12 41 48.4	+6.7
GTA				XS		12 41 55.2	
GTA				AMB	AMB		
	comp=Z,56nm,7.2s						
GTA				LR	LR		
	comp=N,187nm,19.8s,MS4.9						
GTA				LR	LR		
	comp=E,392nm,21.3s,MS4.9						
GTA				LR	LR		
	comp=Z,637nm,22.4s,MS5.0						
ZAK	Zakamensk	97.41	320	eP	P	12 30 23.6	+0.4
ZAK				e		12 34 16.7	
DWPF	Disney	98.67	63	PFAKE		12 30 40.0	+11
DWPF				LR	LR		
	comp=Z,1μm,19.0s,MS5.3						
ACSO	Alum Creek Sta	99.94	51	PFAKE		12 30 50.0	+15
ACSO				LR	LR		
	comp=Z,1μm,20.0s,MS5.5						
ROSC	El Rosal	99.95	88	LR	LR	13 06 20.5	
	comp=Z,954nm,20.3s,MS5.3,baz=33,slow=30						
NHSC	New Hope	100.76	59	PFAKE		12 30 50.0	+11
NHSC				LR	LR		
	comp=Z,1μm,20.0s,MS5.5						
BLA	Blacksburg	101.33	54	PFAKE		12 30 50.0	+8.7
BLA				LR	LR		
	comp=Z,1μm,22.0s,MS5.4						
MCWV	Mont Chateau	102.20	52	PFAKE		12 31 00.0	+15
MCWV				LR	LR		
	comp=Z,2μm,22.0s,MS5.6						
ERPA	Erie	102.50	50	PFAKE		12 31 00.0	+14
ERPA				LR	LR		
	comp=Z,1μm,20.0s,MS5.4						
CBN	Corbin	103.88	54	PFAKE		12 31 00.0	+7.4
CBN				LR	LR		
	comp=Z,2μm,22.0s,MS5.7						
BINY	Binghamton	105.46	50	PFAKE		12 35 20.0	
BINY				LR	LR		
	comp=Z,1μm,20.0s,MS5.5						
SAML	Samuel	106.77	104	PFAKE		12 35 30.0	
SAML				LR	LR		
	comp=Z,884nm,20.0s,MS5.3						
NCB	Newcomb	106.92	48	PFAKE		12 35 30.0	
NCB				LR	LR		
	comp=Z,2μm,21.0s,MS5.6						
PALK	Pallekele	107.21	273	PFAKE		12 35 30.0	
PALK				LR	LR		
	comp=Z,166nm,19.0s,MS4.6						
HRV	Harvard--Oak R	108.75	50	PFAKE		12 35 30.0	
HRV				LR	LR		
	comp=Z,1μm,20.0s,MS5.5						
MKAR	Makanchi Array	110.73	315	PKiKP		12 35 22.0	
	comp=Z,0.7nm,0.7s,baz=63,slow=2.7,SNR=6.6						
MKAR				PP	PP	12 35 56.6	-6.3
	comp=Z,1.5nm,1.0s,baz=104,slow=5.0,SNR=4.7						
PQI	Presque Isle	111.41	46	PFAKE		12 35 40.0	+14
PQI				LR	LR		
	comp=Z,4μm,19.0s,MS6.0						
EMMW	East Machias	111.80	48	PFAKE		12 35 40.0	+14
EMMW				LR	LR		
	comp=Z,6μm,21.0s,MS6.2						
KURK	Kurchatov	113.03	319	ePKP	PKPdf	12 35 26.7	-2.0
BBSR	BB Station	113.60	61	PFAKE		12 35 40.0	+10
BBSR				LR	LR		
	comp=Z,679nm,20.0s,MS5.2						
AAK	Ala-Archa	116.40	310	PFAKE		12 35 50.0	+14
AAK				LR	LR		
	comp=Z,152nm,21.0s,MS4.6						
BVAR	Borovoye Array	117.77	322	PKP	PKPdf	12 35 36.0	-1.8
	comp=Z,0.9nm,0.6s,baz=90,slow=3.0,SNR=9.0						
BRVK	Borovoye	117.82	322	ePKPdf	PKPdf	12 35 36.1	-1.8
BRVK				LR	LR		
	comp=Z,188nm,20.0s,MS4.7						
ZRNK	Zerenda	118.60	322	ePKPdf	PKPdf	12 35 37.1	-2.4
ARU	Arti	123.21	328	i PKIKP	PKPdf	12 35 46.3	-2.0
ARU				i		12 37 23.5	
ARU				e		12 42 44.4	
ARU				ePS	PS	12 47 17.2	-5.0
ARU				eSS	SS	12 54 14.8	+2.6
ARU	Arti	123.21	328	ePKPdf	PKPdf	12 35 46.0	-2.3
ARU				LR	LR		
	comp=Z,266nm,21.0s,MS4.9						
ARCES	ARCESS Array B	124.44	352	PKP	PKPdf	12 35 48.8	-1.7
	comp=Z,3.0nm,0.8s,baz=27,slow=2.7,SNR=6.9						
RCBR	Riachuelo	132.94	113	PFAKE		12 36 20.0	+12
RCBR				LR	LR		
	comp=Z,1μm,20.0s,MS5.5						
OBN	Obninsk	133.97	337	i PKIKP	PKPdf	12 36 06.7	-2.1
OBN				e		12 43 12.4	
OBN				pmax	pmax		
	comp=Z,7.0nm,1.0s						
OBN				MLR	MLR		
	comp=Z,500nm,19.0s,MS5.2						
GOF	Gofitskoye	137.29	322	ePKIKP	PKPdf	12 36 15.0	-0.2
ZEI	Tsey	137.93	318	i PKIKP	PKPdf	12 36 14.0	-2.5
ZEI				pmax	pmax		
	comp=Z,500nm,10.0s						
ZEI				MLR	MLR		
	comp=Z,1μm,20.0s,MS5.5						
ESK	Eskdalemuir	139.26	9	PFAKE		12 36 30.0	+11
ESK				LR	LR		
	comp=Z,211nm,21.0s,MS4.9						
SOC	Sochi	140.09	322	ePKIKP	PKPdf	12 36 21.9	+1.5
SOC				e		12 39 17.0	
SOC				ePPP	PPP	12 42 16.2	-7.5
SOC				eSS	SS	12 57 30.4	-7.4
SOC				eSSS	SSS	13 02 44.3	-8.0
SOC				pmax	pmax		
	comp=Z,25nm,1.0s						
SOC				pmax	pmax		
	comp=N,7.0nm,0.6s						
SOC				pmax	pmax		
	comp=E,5.0nm,0.4s						
SOC				MLR	MLR		
	comp=Z,682nm,21.0s,MS5.4						
SOC				MLR	MLR		
	comp=N,446nm,24.0s,MS5.3						
SOC				MLR	MLR		
	comp=E,513nm,21.0s,MS5.3						
AKASG	Malin Array Be	140.19	338	PKP	PKPdf	12 36 17.9	-2.4
	comp=E,1.0nm,0.6s,baz=28,slow=2.6,SNR=14						
ANN	Anapa	140.68	325	ePKIKP	PKPdf	12 36 20.3	-1.2
ANN				e		12 39 17.0	
ANN				pmax	pmax		
	comp=Z,30nm,1.1s						
ANN				MLR	MLR		
	comp=Z,437nm,21.0s,MS5.2						
ANN				MLR	MLR		
	comp=N,700nm,22.0s,MS5.5						
ANN				MLR	MLR		
	comp=E,373nm,19.0s,MS5.5						
MZLS	Mizel	142.74	290	P	PKPdf	12 36 23.6	-2.0
PTK	Pertek	142.82	316	eP	PKPdf	12 36 20.9	-4.4
LSZ	Lusaka	142.97	216	PKPdf	PKPdf	12 36 24.6	-1.6
KIS	Kishinev	143.33	334	ePKIKP	PKPdf	12 36 22.0	-3.9
KIS				MLR	MLR		
	comp=Z,600nm,20.0s,MS5.4						
KIS				MLR	MLR		
	comp=Z,600nm,20.0s						
OJC	Ojcow	143.49	346	⇓iPKP	PKPdf	12 36 21.9	-4.2
OJC				ePP	PP	12 39 24.9	-14
OJC				eSS	SS	12 57 53.6	-24
OJC				LR	LR		
	comp=Z,900nm,22.6s,MS5.5						
KSP	Ksiaz	143.62	350	ePKIKP	PKPdf	12 36 22.0	-4.3
KSP				eSS	SS	12 58 16.0	-3.0
KSP				MLR	MLR		
	comp=Z,2μm,22.4s,MS5.7						
CLL	Collm	143.64	353	ePKIKP	PKPdf	12 36 22.0	-4.3
	comp=Z,logA/T=1.1						
CLL				e		12 37 35.0	
CLL				ePP	PP	12 39 59.0	+19
CLL				e		12 41 21.0	
CLL	Collm	143.64	353	ePKIKP	PKPdf	12 36 22.0	-4.3
CLL				pmax	pmax		
	comp=Z,18nm,1.5s						
CLL				MLR	MLR		
	comp=Z,600nm,17.3s,MS5.4						
MYA	Malataya	143.76	316	eP	PKPbc	12 36 24.5	+1.7
MYA	Malataya	143.76	316	P	PKPbc	12 36 24.5	+1.7
KVT	Kavak	143.76	321	eP	PKPbc	12 36 22.3	-0.4
KVT	Kavak	143.76	321	P	PKPbc	12 36 22.2	-0.5
MALT	Malatya	143.77	315	eP	PKPbc	12 36 23.0	+0.2
MALT	Malatya	143.77	315	P	PKPbc	12 36 23.0	+0.2
SVSK	Karacayir	143.84	319	eP	PKPbc	12 36 23.7	+0.7
SVSK	Karacayir	143.84	319	P	PKPbc	12 36 23.7	+0.7
BRG	Berggiesshubel	143.95	352	ePKIKP	PKPdf	12 36 25.1	-1.8
BRG				pmax	pmax		
	comp=Z,7.0nm,1.4s						
BRG				MLR	MLR		
	comp=N,360nm,23.2s,MS5.3						
BRG				MLR	MLR		
	comp=E,420nm,23.2s,MS5.3						
BRG				MLR	MLR		
	comp=Z,530nm,23.2s,MS5.2						
UPC	Upice	143.99	350	ePKP	PKPdf	12 36 24.2	-2.7
KOLS	Kolonicke sedl	144.02	342	i PKP	PKPdf	12 36 26.9	-0.1
KOLS				e		12 36 36.0	
KOLS				ePP	PP	12 39 36.5	-5.4
DPC	Dobruska-Polom	144.09	349	ePKP	PKPdf	12 36 24.1	-3.0
DPC				LR		13 38 50.0	
	comp=Z,0.8nm,21.0s						
TSUM	Tsumeb	144.14	198	ePKPdf	PKPdf	12 36 25.5	-2.7
TSUM				LR	LR		
	comp=Z,847nm,20.0s,MS5.5						
PVCC	Panska Ves	144.20	351	ePKP	PKPdf	12 36 24.3	-3.0
PVCC				LR		13 38 40.0	
	comp=Z,0.7nm,21.4s						
OKC	Ostrava-Krasne	144.22	347	ePKP	PKPdf	12 36 24.6	-2.8
OKC				epPKP		12 36 33.5	
OKC				LR		13 40 30.0	
	comp=Z,0.6nm,18.8s						
BYBT	Boyabat	144.29	323	eP	PKPbc	12 36 26.3	+2.1
BYBT	Boyabat	144.29	323	P	PKPbc	12 36 26.3	+2.1
MORC	Moravsky Berou	144.41	348	ePKPdf	PKPdf	12 36 25.1	-2.6
MOX	Moxa	144.44	355	i P	PKPbc	12 36 24.9	+0.6
	comp=Z,logA/T=1.2						
MOX				L		12 52 15.0	
MOX	Moxa	144.44	355	ePKP	PKPdf	12 36 24.9	-2.8
MOX				LR	LR		
	comp=Z,300nm,18.0s,MS5.1						
PRU	Pruhonice	144.73	351	ePKP	PKPdf	12 36 26.0	-2.3
PRU				ex	x	12 36 35.6	
PRU				LR		13 39 20.0	
	comp=Z,0.9nm,20.0s						
AFFS	'Afif	144.75	290	P	PKPbc	12 36 28.9	+2.8
NKC	Novy Kostel	144.76	354	LR		13 41 30.0	
	comp=Z,0.4nm,19.3s						
KECS	Kecovo	144.92	344	i PKP	PKPdf	12 36 26.9	-1.8
KECS				e		12 36 33.4	
VRAC	Vranov	145.04	349	PKPbc	PKPbc	12 36 27.5	+1.4
	comp=Z,29nm,1.2s,baz=5.6,slow=5.7,SNR=13						
GAZ	Gaziantep	145.18	315	eP	PKPbc	12 36 28.4	+1.6
GAZ	Gaziantep	145.18	315	P	PKPbc	12 36 28.4	+1.6
GIVF	Givet	145.18	2	ePKP1	PKPbc	12 36 26.8	+0.4
BAIF	Baives	145.19	3	ePKP1	PKPbc	12 36 27.1	+0.7
HILS	Ha'il	145.21	296	P	PKPbc	12 36 29.3	+2.1
VYHS	Vyhne	145.33	346	i PKP	PKPdf	12 36 27.8	-1.6
VYHS				e		12 36 37.5	
KOLL	Kolacno	145.35	346	i PKP	PKPdf	12 36 28.2	-1.2
KOLL				e		12 36 38.0	
GRA1	Grafenberg Arr	145.42	355	ePKPbc	PKPbc	12 36 28.0	+1.0
GRF	Grafenberg Arr	145.42	355	ePKIKP	PKPdf	12 36 28.0	-1.5
GRFO	Grafenberg	145.42	355	PKPbc	PKPbc	12 36 28.3	+1.3
ABH	Alteburg	145.42	359	⇑eP	PKPbc	12 36 27.9	+0.9
CANT	Cankiri	145.50	322	eP	PKPbc	12 36 30.1	+2.6
CANT	Cankiri	145.50	322	P	PKPbc	12 36 30.1	+2.5
PSZ	Piszkesteto	145.60	344	⇑ePKP/p		12 36 28.9	
PSZ	Piszkesteto	145.60	344	ePKPbc	PKPbc	12 36 28.6	+1.1
RUP	Ruppelstein	145.61	360	eP	PKPbc	12 36 28.6	+1.1
RUP	Ruppelstein	145.61	360	PKP	PKPdf	12 36 28.4	-1.4
SMOL	Smolenice	145.63	347	ePKP	PKPdf	12 36 28.5	-1.4
SMOL				e		12 36 38.2	
SAFT	Safranbolu	145.63	324	eP	PKPbc	12 36 28.6	+0.8
SAFT	Safranbolu	145.63	324	P	PKPbc	12 36 28.6	+0.8
WLF	Walferdange	145.64	1	ePKPbc	PKPbc	12 36 28.8	+1.3
KMBO	Kilima Mbogo	145.65	244	PKPbc	PKPbc	12 36 30.9	+2.2
	comp=Z,7.4nm,1.1s,baz=73,slow=3.3,SNR=12						
KMBO	Kilima Mbogo	145.65	244	ePKPbc	PKPbc	12 36 30.9	+2.2

TOD	Tromm	145.66	358	eP	PKPbc	12 36 28.6	+1.0
TOD	Tromm	145.66	358	PKP	PKPdf	12 36 28.7	-1.2
KHC	Kasperske Hory	145.71	352	ePKP	PKPdf	12 36 28.9	-1.1
KHC				ex	x	12 36 37.8	
KHC				LR		13 39 40.0	
	comp=Z,0.6nm,20.8s						
KHC	Kasperske Hory	145.71	352	ePKP2	PKPab	12 36 28.9	-0.9
KHC				MLR	MLR		
	comp=Z,600nm,20.8s,MS5.3						
MLR	Muntele Rosu	145.72	336	PKPbc	PKPbc	12 36 29.8	+1.9
	comp=Z,42nm,1.1s,baz=18,slow=5.0,SNR=45						
WET	Wettzell	145.78	353	ePKP2	PKPab	12 36 29.0	-1.1
SWS	Schriesheim	145.79	358	eP	PKPbc	12 36 28.9	+1.0
SIND	Sindeldorf	145.88	357	eP	PKPbc	12 36 29.2	+1.0
GEC2	GERESS Array S	145.97	352	ePKP2	PKPab	12 36 29.7	-1.1
GERES	GERESS Array B	145.97	352	PKPbc	PKPbc	12 36 29.7	+1.3
	comp=Z,9.2nm,1.0s,baz=27,slow=3.0,SNR=47						
KTD	Kalmit	145.97	358	eP	PKPbc	12 36 29.5	+1.1
ROSF	Rostrenen	145.98	12	ePKP1	PKPbc	12 36 29.1	+0.7
	comp=Z,124nm,1.5s						
ZST	Bratislava	146.00	347	i PKP	PKPdf	12 36 31.0	+0.5
ZST				e		12 36 39.4	
FLN	La Foliniere	146.04	8	ePKP1	PKPbc	12 36 29.3	+0.7
	comp=Z,191nm,1.4s						
FLN				eR			
	comp=Z,796nm,20.2s						
BRTR	Keskin Array B	146.04	321	PKPbc	PKPbc	12 36 30.3	+1.4
	comp=Z,42nm,1.1s,baz=135,slow=1.7,SNR=85						
VKA	Vienna	146.09	348	⇑iPKP	PKPdf	12 36 30.4	-0.3
SGMF	Saint Gilles	146.19	11	ePKP1	PKPbc	12 36 29.7	+0.8
	comp=Z,192nm,1.6s						
KAMT	Kaman	146.22	321	eP	PKPbc	12 36 29.6	+0.3
KAMT	Kaman	146.22	321	P	PKPbc	12 36 29.6	+0.3
LDF	La Druitiere	146.25	8	ePKP1	PKPbc	12 36 30.0	+0.9
	comp=Z,120nm,1.4s						
LANF	Langenberg	146.32	359	PKP	PKPdf	12 36 30.9	-0.2
GRR	Gorron	146.35	9	ePKP1	PKPbc	12 36 30.6	+1.3
	comp=Z,80nm,1.3s						
QUIF	Quistinic	146.40	12	ePKP1	PKPbc	12 36 30.8	+1.4
NIG	Nigde	146.40	318	eP	PKPbc	12 36 32.0	+2.2
NIG	Nigde	146.40	318	P	PKPbc	12 36 32.0	+2.2
ANTO	Ankara	146.46	322	eP	PKPbc	12 36 32.1	+2.3
ANTO	Ankara	146.46	322	P	PKPbc	12 36 32.1	+2.2
LOD	Lodumlu	146.47	322	eP	PKPbc	12 36 32.6	+2.7
LOD	Lodumlu	146.47	322	P	PKPbc	12 36 32.6	+2.8
HDH	Heidenheim	146.60	356	eP	PKPbc	12 36 31.6	+1.7
SOP	Sopron	146.60	348	ePKP/p	PKPdf	12 36 32.1	+0.5
MEZF	Maizieres J'vi	146.78	2	ePKP1	PKPbc	12 36 32.2	+1.9
BUCH	Bad Urach	146.79	357	⇑eP	PKPbc	12 36 32.1	+1.8
MOA	Molln	146.86	351	⇑iP	PKPbc	12 36 32.6	+2.1
WLS	Welschbruch	146.89	359	PKP	PKPdf	12 36 32.4	+0.4
CDF	Champ du Feu	146.90	359	ePKP1	PKPbc	12 36 32.5	+1.9
	comp=Z,101nm,1.2s						
FUR	Furstenfeldbru	146.93	354	ePKP2	PKPab	12 36 32.4	-2.1
BFO	Black Forest	146.95	358	ePKP2	PKPab	12 36 32.7	-1.9
MDU	Mudurnu	146.98	324	eP	PKPbc	12 36 32.4	+1.4
MDU	Mudurnu	146.98	324	P	PKPbc	12 36 32.4	+1.4
THEF	They Montfort	147.08	1	PKP	PKPdf	12 36 32.7	+0.3
ECH	Echery	147.09	359	PKP	PKPdf	12 36 32.7	+0.3
SPAK	Spaichingen	147.16	357	eP	PKPdf	12 36 33.3	+0.8
GUT	Gutenstein	147.18	357	eP	PKPdf	12 36 33.3	+0.8
ARSA	Arzberg	147.22	349	⇑iP	PKPdf	12 36 33.3	+0.7
HAU	Haudompre	147.31	0	ePKP1	PKPdf	12 36 33.6	+0.9
	comp=Z,177nm,1.3s						
HAU				eR			
	comp=Z,699nm,23.0s						
KIZ	Kirchzarten	147.34	358	eP	PKPdf	12 36 33.4	+0.6
FELD	Feldberg	147.42	358	⇑eP	PKPdf	12 36 34.4	+1.5
MOF	Molkenrain	147.46	359	PKP	PKPdf	12 36 33.9	+0.9
HINF	Hinteralfeld	147.50	360	ePKP1	PKPdf	12 36 34.0	+1.0
UBR	Uberruh	147.50	356	eP	PKPdf	12 36 33.9	+0.8
KIZT	Kizilcal	147.64	322	i P	PKPdf	12 36 32.2	-1.4
KIZT	Kizilcal	147.64	322	P	PKPdf	12 36 32.2	-1.3
ASF	Jabal al Asfar	147.72	307	PKPbc	PKPdf	12 36 36.1	+2.2
	comp=Z,8.1nm,1.0s,baz=327,slow=0.7,SNR=7.1						
KBA	Koelnbreinsper	147.75	351	⇑iP	PKPdf	12 36 34.3	+0.8
MOTA	Moosalm	147.75	354	⇑iP	PKPdf	12 36 35.4	+1.9
KBRS	Khaybar	147.77	294	P	PKPdf	12 36 38.9	+4.7
ESKT	Eskisehir	147.82	323	eP	PKPdf	12 36 34.5	+0.7
ESKT	Eskisehir	147.82	323	P	PKPdf	12 36 34.5	+0.7
DAVA	Damuels	147.91	356	⇓iP	PKPdf	12 36 35.6	+1.9
KONT	Konya--Tatoy	147.93	320	eP	PKPdf	12 36 35.2	+1.1
KONT	Konya--Tatoy	147.93	320	P	PKPdf	12 36 35.2	+1.2
LOR	Lormes	147.96	4	ePKP1	PKPdf	12 36 35.3	+1.5
	comp=Z,62nm,1.3s						
LOR				eR			
	comp=Z,1μm,20.2s						
LOMF	Lomont	147.96	360	PKP	PKPdf	12 36 35.2	+1.4
IKL	Isikli	148.07	316	eP	PKPdf	12 36 35.9	+1.6
IKL	Isikli	148.07	316	P	PKPdf	12 36 35.9	+1.5
SSF	Saint Saulge	148.14	4	ePKP1	PKPdf	12 36 35.8	+1.7
	comp=Z,104nm,1.4s						
MFF	Saint Martin d	148.20	9	ePKP1	PKPdf	12 36 35.6	+1.4
	comp=Z,37nm,1.0s						
EDRB	Edirne	148.29	331	eP	PKPdf	12 36 36.7	+2.2
EDRB	Edirne	148.29	331	P	PKPdf	12 36 36.6	+2.1
AVF	Avril sur Loir	148.40	4	ePKP1	PKPdf	12 36 36.2	+1.7
	comp=Z,76nm,1.2s						
DAVOX	Davos	148.42	356	PKPbc	PKPdf	12 36 36.8	+2.3
	comp=Z,12nm,0.9s,baz=326,slow=4.4,SNR=2.3						
SVIS	Svilajnac	148.48	340	⇓iP	PKPdf	12 36 37.5	+2.7
LJU	Ljubljana	148.56	349	ePKPdf	PKPdf	12 36 30.0	-4.8
LJU				ePKPbc	PKPdf	12 36 36.7	+1.9
LJU				e		12 36 52.9	
LJU	Ljubljana	148.56	349	ePKPbc	PKPdf	12 36 36.7	+1.9
LJU				e		12 36 52.9	
SMF	Signal de Mont	148.58	4	ePKP1	PKPdf	12 36 36.6	+1.8
	comp=Z,121nm,1.5s						
BOLS	Boljevac	148.63	338	⇓iP	PKPdf	12 36 37.3	+2.3
BRMO	Bormio	148.68	355	ePKP	PKPdf	12 36 38.4	+3.4
VOY	Vojsko	148.68	350	ePKPdf	PKPdf	12 36 30.5	-4.5
VOY				e		12 36 52.5	
CABF	La Chapelle	148.70	1	ePKP1	PKPdf	12 36 36.7	+1.7
	comp=Z,96nm,1.2s						
MMLI	Mount Malkishu	148.73	308	P	PKPdf	12 36 38.7	+3.2
HMDT	Nahal Hemdat	148.74	308	P	PKPdf	12 36 38.6	+3.1
JAVS	Javornik	148.79	350	ePKPbc	PKPdf	12 36 37.2	+2.0
JAVS				e		12 36 53.0	
TCF	Toulx Ste Croi	148.80	6	ePKP1	PKPdf	12 36 37.3	+2.1
	comp=Z,14nm,0.9s						
OFRI	'Ofer	148.98	309	P	PKPdf	12 36 38.9	+3.0
GRUS	Gruza	149.01	340	⇓iP	PKPdf	12 36 38.3	+2.7
CSS	Prodhromos	149.01	314	ePKPbc	PKPdf	12 36 38.8	+2.9
TRI	Trieste	149.02	350	ePKP	PKPdf	12 36 38.7	+3.2
SLTI	Sal'it	149.11	308	P	PKPdf	12 36 39.3	+3.2
DRGI	Dragot	149.12	307	P	PKPdf	12 36 39.4	+3.2
ISP	Isparta	149.13	321	eP	PKPdf	12 36 38.1	+2.1
ISP	Isparta	149.13	321	P	PKPdf	12 36 38.0	+2.1
LEF	Lefka	149.23	315	eP	PKPdf	12 36 39.4	+3.2
LEF	Lefka	149.23	315	P	PKPdf	12 36 39.4	+3.2
PLDF	La Plantade	149.24	4	PKP	PKPdf	12 36 39.0	+3.1
MZDA	Masada	149.27	306	P	PKPdf	12 36 39.7	+3.3
MCGN	Macugnaga	149.34	358	ePKP	PKPdf	12 36 40.0	+4.0
VAI	Varese	149.39	357	ePKP	PKPdf	12 36 39.5	+3.3
TBKS	Tabuk	149.45	300	P	PKPdf	12 36 41.4	+4.6
BARS	Barje	149.56	338	⇑iP	PKPdf	12 36 40.0	+3.5
RJF	Les Rejaudoux	149.70	7	ePKP1	PKPdf	12 36 39.7	+3.0
	comp=Z,140nm,1.5s						
RJF				eR			
	comp=Z,1μm,18.8s						
ZFRI	Zfri	149.72	305	P	PKPdf	12 36 41.0	+3.8
LPL	La Plagne	149.80	360	ePKP1	PKPdf	12 36 41.2	+4.4
LPG	La Plagne	149.81	360	ePKP1	PKPdf	12 36 41.3	+4.5
	comp=Z,69nm,1.3s						
NVLJ	Novalja	149.93	348	i PKP	PKPdf	12 36 40.1	+3.0
PRNI	Paran	149.94	305	P	PKPdf	12 36 41.5	+4.0
LBL	Lubilhac	149.94	5	PKP	PKPdf	12 36 41.3	+4.3
LFF	La Frestale	149.96	8	ePKP1	PKPdf	12 36 40.3	+3.2
CAF	Calviac	150.13	7	ePKP1	PKPdf	12 36 41.0	+3.7
	comp=Z,54nm,1.4s						
AQBJ	Aqaba	150.15	304	P	PKPdf	12 36 41.9	+4.0
KZIT	Kziot	150.19	306	P	PKPdf	12 36 41.9	+4.0
MBH	Mount Berech	150.23	304	P	PKPdf	12 36 42.1	+4.1
EIL	Elat	150.25	304	P	PKPdf	12 36 42.1	+4.1
KMTI	Karmit	150.26	305	P	PKPdf	12 36 41.9	+3.9
BNI	Bardonecchia	150.26	360	ePKPbc	PKPdf	12 36 42.0	+4.5
JMOS	Jabal al Moall	150.31	303	P	PKPdf	12 36 43.1	+5.0
ORIF	Oris-en-Rattie	150.39	1	ePKP1	PKPdf	12 36 42.2	+4.5
ORIF				eR			
	comp=Z,757nm,22.5s						
VIVF	Saint-Julien-l	150.41	3	ePKP1	PKPdf	12 36 42.1	+4.3
	comp=Z,95nm,1.3s						
SKO	Skopje	150.44	337	i PKP	PKPdf	12 36 42.0	+4.1
BOB	Bobbio (Coli)	150.45	356	ePKP	PKPdf	12 36 48.4	+11
HAQS	Haql	150.50	303	P	PKPdf	12 36 43.4	+5.0
VAY	Valandovo	150.55	335	i PKP	PKPdf	12 36 41.5	+3.4
BDAS	Al Bad'	150.58	301	P	PKPdf	12 36 43.5	+4.9
MBDF	Montbardon	150.59	360	ePKP1	PKPdf	12 36 42.6	+4.6
	comp=Z,101nm,1.5s						
ERBM	Eremo	150.72	354	ePKP	PKPdf	12 36 43.4	+5.1
ZCCA	Zocca	150.73	354	ePKP	PKPdf	12 36 44.0	+5.7
GSCL	Gusciola	150.77	354	ePKP	PKPdf	12 36 43.4	+5.1
SURF	Saint Ours	150.83	360	PKP	PKPdf	12 36 43.6	+5.2
FNVD	Fontana Vidola	150.90	353	ePKP	PKPdf	12 36 43.8	+5.3
SFI	Santa Sofia	151.07	352	ePKP	PKPdf	12 36 44.0	+5.2
MLSB	Milas	151.10	323	eP	PKPdf	12 36 43.9	+4.9
MLSB	Milas	151.10	323	P	PKPdf	12 36 43.9	+4.8
LASF	Ste Croix	151.14	4	ePKP1	PKPdf	12 36 43.9	+5.0
	comp=Z,80nm,1.3s						
ARV	Arcevia	151.31	350	ePKP	PKPdf	12 36 44.4	+5.2
AUTN	L'Aution	151.31	359	PKP	PKPdf	12 36 44.0	+4.9
SAOF	Saorge	151.32	359	PKP	PKPdf	12 36 44.1	+5.0
SMRF	Simiane la Rot	151.32	2	ePKP1	PKPdf	12 36 44.6	+5.4
	comp=Z,76nm,1.4s						
SJPF	Ste Jean	151.39	12	ePKP1	PKPdf	12 36 44.1	+4.8
AURF	Auriere	151.42	359	PKP	PKPdf	12 36 43.9	+4.6
OHR	Ohrid	151.42	337	⇑iPKP	PKPdf	12 36 44.2	+4.8
SBF	Sospel	151.44	359	ePKP1	PKPdf	12 36 44.0	+4.7
VILF	Villemus	151.45	1	PKP	PKPdf	12 36 46.3	+7.0
MBAR	Mbarara	151.47	239	PFAKE		12 36 50.0	+10
MBAR				LR	LR		
	comp=Z,307nm,21.0s,MS5.1						
CALN	Calern	151.56	360	PKP	PKPdf	12 36 44.5	+5.0
REVF	Revere	151.57	359	PKP	PKPdf	12 36 44.1	+4.6
MURB	Monte Urbino	151.60	351	ePKP	PKPdf	12 36 44.5	+4.9
TREF	Trevaresse	151.67	2	PKP	PKPdf	12 36 47.0	+7.3
MTLF	Montolieu	151.72	7	ePKP1	PKPdf	12 36 44.9	+5.1
ETSF	Etsaut	151.73	11	ePKP1	PKPdf	12 36 46.6	+6.8
	comp=Z,112nm,1.3s						
FRF	La Foret Royal	151.75	0	ePKP1	PKPdf	12 36 44.6	+4.8
PUYF	Puyloubier	151.77	1	PKP	PKPdf	12 36 45.4	+5.6
GRFL	Gerfalco	151.92	353	ePKP	PKPdf	12 36 44.9	+4.8
NRCA	Norcia	151.92	350	ePKP	PKPdf	12 36 45.3	+5.2
LMR	La Mourre	151.98	0	ePKP1	PKPdf	12 36 45.4	+5.2
MNS	Montasola	152.43	350	ePKP	PKPdf	12 36 46.2	+5.4
PGF	Pioggiola	152.69	356	ePKP1	PKPdf	12 36 46.8	+5.6
	comp=Z,39nm,1.2s						
MRLC	Muro Lucano	153.42	345	ePKP	PKPdf	12 36 40.8	-1.5
ESDC	Sonseca Array	153.92	19	PKPbc	PKPdf	12 36 50.0	+7.1
	comp=Z,3.2nm,1.1s,baz=2.0,slow=4.3,SNR=2.1						
ESDC				PKPab	PKPab	12 37 02.0	-1.7
	comp=Z,12nm,1.2s,baz=326,slow=4.2,SNR=4.2						

IDC 03 12:31:59.6±2.2**,3.25N**×**124.14E,mb3.5**/4**,mb1 3.6**/4**, mb1mx3.5**/14**,Error ellipse: s-maj=314.0km s-min=23.7km az=63.0,Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	25.13	157	P	P	12 37 27.2	-0.8
	0.3nm,0.3s,baz=337,slow=9.8,SNR=6.3						
ASAR	Alice Springs	28.39	161	P	P	12 37 55.8	-2.2
	0.1nm,0.5s,baz=333,slow=8.1,SNR=3.0						
STKA	Stephens Creek	38.67	156	P	P	12 39 24.5	-2.4
	1.6nm,1.0s,baz=7.6,slow=15,SNR=3.1						
MKAR	Makanchi Array	56.51	327	P	P	12 41 43.7	-2.3
	0.5nm,0.3s,baz=129,slow=8.8,SNR=9.6						

IDC 03 12:39:55.9±8.1**,16.95S**×**172.68W,mb3.6**/2**,mb1 3.8**/2**, mb1mx3.7**/11**,Error ellipse: s-maj=386.0km s-min=64.9km az=143.0,Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	50.19	258	P	P	12 48 53.5	-2.3
	0.3nm,0.9s,baz=96,slow=8.4,SNR=4.2						
ASAR	Alice Springs	50.31	253	P	P	12 48 55.0	-1.7
	0.9nm,0.5s,baz=87,slow=8.1,SNR=14						
BRTR	Keskin Array B	147.79	320	PKPbc	PKPdf	12 59 42.5	+0.5
	1.5nm,1.0s,baz=146,slow=5.2,SNR=3.9						

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*NEIC **03** 12:49:17.6±0.7,25.11N×123.07E,h154^{km}±7^{km},mb4.0/4, Error ellipse: s-maj=12.3km s-min=8.5km az=56.0*

*JMA **03** 12:49:19.4±0.2,24.96N×123.07E,h146^{km}±3^{km},M3.9*

*IDC **03** 12:49:19.9±7.6,25.27N×123.32E,h179^{km}±87^{km},mb3.6/6, mb1 3.7/7,mb1mx3.5/21,MS4.5/2,Ms1 4.4/2,ms1mx3.7/25, Error ellipse: s-maj=81.5km s-min=13.2km az=60.0*

ISC 03 12:49:16.4±0.4**,25.09N**±0.06×**123.05E**±0.04**,h158**^{km}±3^{km}**, n26,**σ**0^{s}82**/34**,mb3.9**/11**,Northeast of Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.62	183	P	P	12 49 40.3	+0.6
YOJ				S	S	12 49 56.7	-0.9
IRIF	Iriomote-Funau	0.97	140	P	P	12 49 42.7	+0.9
IRIF				S	S	12 50 00.5	-0.9
JKRS	Kuro-shima	1.22	134	P	P	12 49 45.4	+1.4
JKRS				S	S	12 50 04.7	-0.7
JIJ	Ishigaki jima	1.23	126	P	P	12 49 45.1	+0.9
JIJ				S	S	12 50 04.0	-1.6
HATJ	Hateruma jima	1.23	146	P	P	12 49 44.8	+0.6
HATJ				S	S	12 50 04.8	-0.9
TATO	Taipei	1.42	266	ePn	P	12 49 46.9	+0.8
TATO				eSn	S	12 50 08.6	-0.5
JTJ	Tarama	1.56	106	P	P	12 49 49.1	+1.6
JTJ				S	S	12 50 11.6	0.0
JMJ	Miyako jima 2	2.05	97	S	S	12 50 21.4	+0.3
JOGS	Gusukube	2.16	98	P	P	12 49 55.5	+1.2
JOGS				S	S	12 50 23.8	+0.4
JKE	Kume jima 2	3.59	69	P	P	12 50 13.2	+0.9
JKE				eS	S	12 50 54.9	-0.4
JOW	Kunigami	5.01	69	P	P	12 50 30.8	-0.2
	5.2nm,0.3s,baz=102,slow=13,SNR=8.6						
JOW				S	S	12 51 25.7	-2.8
	6.1nm,0.3s,baz=124,slow=25,SNR=2.9						
SONM	Songino Array	26.25	334	P	P	12 54 38.0	-0.5
	0.4nm,0.4s,mb3.4,baz=143,slow=7.2,SNR=3.3						
MKAR	Makanchi Array	38.90	314	P	P	12 56 28.0	0.0
	1.0nm,0.5s,mb3.8,baz=102,slow=10,SNR=3.4						
ZAL	Zalesovo	40.44	326	LR	LR	13 16 11.0	
	comp=Z,615nm,22.0s,baz=296,slow=40						
FITZ	Fitzroy Crossi	43.00	176	eP	P	12 57 01.4	-0.5
	3.1nm,1.1s,mb3.9						
WRAB	Tennant Creek	46.08	165	eP	P	12 57 26.2	-0.2
	5.6nm,0.5s,mb4.5						
MBWA	Marble Bar	46.08	184	P	P	12 57 25.5	-1.0
	2.7nm,0.6s,mb4.0						
WRA	Warramunga Arr	46.09	165	P	P	12 57 26.5	0.0
	6.9nm,0.6s,mb4.5,baz=347,slow=8.8,SNR=115						
WB2	Warramunga Arr	46.09	165	eP	P	12 57 26.7	+0.2
BVAR	Borovoye Array	48.07	320	P	P	12 57 41.4	-0.1
	0.7nm,0.5s,mb3.6,baz=108,slow=4.6,SNR=3.6						
BRVK	Borovoye	48.14	320	P	P	12 57 41.4	-0.6
	1.7nm,0.6s,mb3.9						
ZRNK	Zerenda	48.86	319	eP	P	12 57 47.2	-0.4
	1.9nm,0.6s,mb3.9						
ASAR	Alice Springs	49.59	167	P	P	12 57 54.4	+0.8
	0.9nm,0.5s,mb3.6,baz=354,slow=8.2,SNR=30						
ASPA	Alice Springs	49.59	167	eP	P	12 57 54.2	+0.6
STKA	Stephens Creek	59.35	162	P	P	12 59 03.9	-0.4
	1.6nm,0.5s,mb4.1,baz=335,slow=11,SNR=3.4						
URZ	Urewera	80.85	140	LR	LR	13 30 19.5	
	comp=Z,261nm,21.4s,baz=31,slow=30						

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*NIC **03** 13:11:54.6±0.5,34.56N×32.44E,h35^{km},ML3.4,MW3.4*

*NEIC **03** 13:11:54.6,34.56N×32.44E,h35^{km},ML3.4(NIC),After NIC.*

*ISK **03** 13:11:55.8,34.83N×32.34E,h28^{km},MD3.6*

*GII **03** 13:11:56.7±0.4,34.31N×32.54E,h25^{km}±30^{km},ML2.9/13, Mw2.9/6*

ISC 03 13:11:52.4±0.4**,34.48N**±0.04×**32.45E**±0.05**,h57**^{km}±12^{km}**, n34,**σ**0^{s}93**/47**,2C-4D,Cyprus region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPCY	Paphos	0.42	348	P	P	13 12 03.4	+0.1
SZAC	Souni-Zanaja	0.45	52	⇓P	P	13 12 04.0	+0.3
AKMC	Akamas	0.56	350	⇑P	P	13 12 05.0	+0.2
ALFC	Alevga	0.69	10	⇑P	P	13 12 06.3	-0.1
	58nm,0.3s						
ALFC				S	S	13 12 15.9	-0.9
LEF	Lefka	0.74	29	i PG	P	13 12 07.4	+0.4
LEF				i SG	S	13 12 15.9	-1.9
LEF	Lefka	0.74	29	Pg	P	13 12 07.4	+0.4
LEF				Sg	S	13 12 15.4	-2.4
CSS	Prodhromos	0.87	56	⇓P	P	13 12 09.1	+0.4
	22nm,0.2s						
CSS				S	S	13 12 21.4	+0.4
MAMC	Mammari	0.94	42	⇓P	P	13 12 10.7	+1.1
	35nm,0.3s						
MAMC				S	S	13 12 22.4	-0.1
PHNC	Paralimni	1.41	68	⇓P	P	13 12 18.4	+2.1
	5.9nm,0.3s						
PHNC				S	S	13 12 37.4	+3.5
IKL	Isikli	2.03	30	i PN	P	13 12 25.7	+0.9
IKL				i SN	S	13 12 47.3	-1.6
IKL	Isikli	2.03	30	Pn	P	13 12 25.7	+0.9
IKL				Sg	S	13 12 47.7	-1.2
HDMB	Hadim	2.48	1	PN	P	13 12 29.8	-1.5
HNTI	Hanita	2.66	121	Pn	P	13 12 34.2	+0.4
HNTI				Sn	S	13 13 03.9	-1.2
HAF	Haifa	2.73	128	Pn	P	13 12 35.2	+0.3
OFRI	'Ofer	2.81	130	Pn	P	13 12 36.9	+0.8
KSDI	Kefar Szold	2.96	115	Pn	P	13 12 38.6	+0.4
KSDI				Sn	S	13 13 11.3	-1.3
HRI	Mount Hermon	2.99	113	Pn	P	13 12 39.5	+1.0
ELL	Elmali	3.07	318	ePN	P	13 12 39.1	-0.5
SLTI	Sal'it	3.11	135	Pn	P	13 12 40.9	+0.6
SLTI				Sn	S	13 13 15.1	-1.3
KSHT	Keshet	3.17	117	Pn	P	13 12 42.5	+1.4
MMLI	Mount Malkishu	3.21	128	Pn	P	13 12 41.7	+0.1
HMDT	Nahal Hemdat	3.40	130	Pn	P	13 12 45.2	+1.0
DRGI	Dragot	3.79	139	Pn	P	13 12 50.7	+0.9
DALT	Dalyan (Mudla)	3.86	307	ePN	P	13 12 50.8	+0.1
KZIT	Kziot	3.92	155	Pn	P	13 12 52.1	+0.5
KZIT				Sn	S	13 13 34.8	-2.0
MASH	Mash'abbe Sade	3.99	150	Pn	P	13 12 53.0	+0.4
MZDA	Masada	4.00	141	Pn	P	13 12 52.7	0.0
DENT	Denizli	4.28	321	ePN	P	13 12 56.9	+0.2
YER	Yerkesik	4.30	309	PN	P	13 12 57.5	+0.6
KHL	Karahalli	4.51	329	ePN	P	13 12 58.7	-1.1
PRNI	Paran	4.65	152	Pn	P	13 13 01.8	0.0
PRNI				Sn	S	13 13 53.6	-1.4
KMTI	Karmit	4.77	156	Pn	P	13 13 03.2	-0.3
MBH	Mount Berech	5.12	155	Pn	P	13 13 08.3	-0.1
AQBJ	Aqaba	5.22	154	Pn	P	13 13 09.4	-0.4

IDC 03 13:16:28.8±2.0**,15.26S**×**173.75W,mb3.9**/4**,mb1 4.2**/5**, mb1mx4.1**/11**,ML4.3**/1**,MS4.0**/4**,Ms1 4.0**/4**,ms1mx3.7**/16**, Error ellipse: s-maj=129.0km s-min=28.7km az=149.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	Rarotonga	14.54	116	Pn	P	13 19 41.4	-17
	1.3nm,0.3s,baz=245,slow=9.8,SNR=3.6						
RAR				LR	LR	13 24 11.3	
	comp=Z,356nm,20.6s,baz=249,slow=32						
RAR				T		13 34 05.8	
	5.3nm,0.3s,baz=130,slow=16,SNR=6.0						
PPT	Papeete	23.30	99	eL		13 25 42.1	
PPT				eR		13 26 46.1	
	572nm,25.8s,baz=268						
TBI	Tubuai	24.27	113	eL		13 26 11.2	
TBI				eR		13 27 06.0	
	615nm,25.8s,baz=285						
CTA	Charters Tower	38.34	257	LR	LR	13 36 49.2	
	comp=Z,264nm,19.5s,baz=298,slow=32						
STKA	Stephens Creek	43.81	240	P	P	13 24 36.2	-2.0
	1.4nm,0.3s,baz=117,slow=6.8,SNR=2.9						
WB2	Warramunga Arr	49.53	257	eP	P	13 25 21.7	-1.9
WRA	Warramunga Arr	49.54	257	P	P	13 25 22.0	-1.6
	0.3nm,0.3s,baz=89,slow=7.0,SNR=12						
ASAR	Alice Springs	49.83	252	P	P	13 25 23.9	-2.0
	2.6nm,0.6s,baz=88,slow=7.8,SNR=45						
ASAR				LR	LR	13 44 19.3	
	comp=Z,186nm,18.8s,baz=107,slow=34						
ASPA	Alice Springs	49.83	252	eP	P	13 25 22.3	-3.5
FITZ	Fitzroy Crossi	57.90	258	LR	LR	13 49 04.3	
	comp=Z,116nm,18.5s,baz=96,slow=34						
TXAR	Lajitas Array	80.82	56	P	P	13 28 45.1	-1.1
	0.2nm,0.4s,baz=216,slow=7.8,SNR=2.9						
KHC	Kasperske Hory	145.69	351	eP	PKPbc	13 36 08.0	-1.8
BRTR	Keskin Array B	145.84	321	PKPbc	PKPbc	13 36 09.4	-1.1
	4.0nm,1.0s,baz=117,slow=2.8,SNR=11						
GERES	GERESS Array B	145.96	351	PKPbc	PKPbc	13 36 09.6	-0.9
	0.9nm,0.7s,slow=3.9,SNR=5.0						

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*IDC **03** 13:30:25.1±2.3,0.25N×121.97E,h207^{km}±21^{km},mb3.9/6, mb1 4.1/7,mb1mx3.8/15,Error ellipse: s-maj=77.9km s-min=9.2km az=66.0*

*NEIC **03** 13:30:25.8±4.1,0.19N×121.88E,h215^{km}±44^{km},mb4.4/11, Error ellipse: s-maj=27.3km s-min=9.7km az=64.0*

ISC 03 13:30:22.0±2.7**,0.3N**±0.1×**121.9E**±0.2**,h194**^{km}±27^{km}**,n24,** σ**0^{s}82**/25**,mb4.2**/16**,Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	16.57	141	eP	P	13 34 04.5	-0.3
	34nm,1.7s						
FITZ	Fitzroy Crossi	18.61	169	eP	P	13 34 27.0	0.0
	10nm,0.6s						
FITZ	Fitzroy Crossi	18.61	169	P	P	13 34 27.1	0.0
	1.8nm,0.3s,baz=3.6,slow=6.3,SNR=64						
MBWA	Marble Bar	21.38	186	P	P	13 34 55.2	+0.3
	2.6nm,0.6s,mb3.9						
WRAB	Tennant Creek	23.49	149	eP	P	13 35 15.5	0.0
	6.6nm,0.6s,mb4.3						
WRA	Warramunga Arr	23.49	149	P	P	13 35 15.4	-0.1
	5.9nm,0.5s,mb4.4,baz=324,slow=11,SNR=105						
WRA				PcP	PcP	13 38 55.8	-1.1
	0.3nm,0.5s,baz=326,slow=2.0,SNR=5.2						
WB2	Warramunga Arr	23.50	149	eP	P	13 35 15.3	-0.3
ASPA	Alice Springs	26.49	155	eP	P	13 35 43.1	-0.2
ASAR	Alice Springs	26.49	155	P	P	13 35 43.0	-0.4
	3.1nm,0.6s,mb4.1,baz=344,slow=14,SNR=76						
ASAR				PcP	PcP	13 39 02.5	-0.9
	0.8nm,0.4s,baz=346,slow=2.1,SNR=16						
ASAR				S	S	13 40 01.7	+0.6
	0.5nm,0.8s,baz=338,slow=23,SNR=4.3						
ASAR				ScP		13 42 23.6	
	0.2nm,0.6s,baz=344,slow=2.7,SNR=4.5						
FORT	Forrest	31.41	170	eP	P	13 36 26.7	-0.4
	38nm,0.6s,mb5.2						
KLBR	Kellerberrin	31.91	187	eP	P	13 36 30.8	-0.6
	17nm,1.2s,mb4.4						
ENH	Enshi	32.10	340	P	P	13 36 33.7	+0.6
	4.7nm,0.6s,mb4.2						
STKA	Stephens Creek	37.00	152	P	P	13 37 15.1	+0.5
	5.1nm,0.6s,mb4.2,baz=321,slow=8.8,SNR=12						
LSA	Lhasa	41.41	318	eP	P	13 37 53.7	+2.8
	4.6nm,0.6s,mb4.1						
TOO	Toolangi	43.49	152	eP	P	13 38 09.5	+1.6
	2.4nm,0.9s,mb3.6						
SONM	Songino Array	49.27	346	P	P	13 38 53.4	+0.6
	4.7nm,0.6s,mb4.0,baz=165,slow=8.8,SNR=41						
MKAR	Makanchi Array	57.82	329	P	P	13 39 55.5	+0.2
	4.0nm,0.3s,mb4.5,baz=126,slow=8.5,SNR=37						
MKAR	Makanchi Array	57.82	329	P	P	13 39 55.5	+0.2
ZAL	Zalesovo	61.63	336	P	P	13 40 19.7	-1.4
	1.6nm,0.6s,mb3.9						
ZAL	Zalesovo	61.63	336	P	P	13 40 19.7	-1.4
KURK	Kurchatov	62.20	330	P	P	13 40 24.8	-0.2
	56nm,0.6s,SNR=8.0						
KURK	Kurchatov	62.20	330	eP	P	13 40 24.5	-0.5
	5.3nm,0.6s,mb4.3						
BVAR	Borovoye Array	67.69	329	P	P	13 41 00.2	0.0
	0.7nm,0.4s,mb3.6,baz=141,slow=9.5,SNR=6.0						
ZRNK	Zerenda	68.37	329	eP	P	13 41 02.8	-1.6
	1.8nm,0.7s,mb3.8						

IDC 03 14:04:23.1±4.8**,22.04S**×**173.98W,mb4.2**/3**,mb1 4.4**/3**, mb1mx4.0**/11**,Error ellipse: s-maj=239.0km s-min=60.8km az=155.0,Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	37.09	266	eP	P	14 11 37.2	0.0
	5.1nm,1.9s						
CTA	Charters Tower	37.09	266	P	P	14 11 36.9	-0.3
	3.5nm,0.5s,baz=96,slow=9.7,SNR=11						
ASAR	Alice Springs	47.84	258	P	P	14 13 01.4	-3.4
	0.7nm,0.3s,baz=91,slow=7.1,SNR=40						

ASPA	**Alice Springs**	**47.84**	**258**	*e*P	P	14 13 01.4	-3.4
WB2	**Warramunga Arr**	**48.10**	**263**	*e*P	P	14 13 04.8	-2.1
WRA	**Warramunga Arr**	**48.12**	**263**	P	P	14 13 05.0	-2.0
	1.3nm,0.3s,baz=100,slow=7.3,SNR=74						
KAKA	**Kakadu**	**51.80**	**271**	*e*P	P	14 13 36.7	+1.5
	4.9nm,0.6s						
FITZ	**Fitzroy Crossi**	**56.55**	**262**	*e*P	P	14 14 09.4	-0.6
	1.7nm,0.5s						
BRTR	**Keskin Array B**	**150.63**	**313**	PKPbc	PKPdf	14 24 17.4	+3.9
	1.0nm,0.8s,baz=135,slow=1.7,SNR=4.0						

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*THR **03** 14:08:52.7±0.3, 26.53N×54.35E, h41^{km}±8^{km}, ML4.0*

*IDC **03** 14:08:53.3±0.9, 26.86N×54.64E, mb4.2/15, mb1 4.3/17, mb1mx4.2/24, ML3.8/2, Error ellipse: s-maj=22.7km s-min=15.9km az=15.0*

*KISR **03** 14:08:55.0±1.1, 27.08N×54.79E, h33^{km}, ML4.1*

*NEIC **03** 14:09:00.7±1.5, 26.94N×54.57E, h55^{km}±13^{km}, mb4.4/19, Error ellipse: s-maj=9.3km s-min=5.1km az=177.0*

ISC 03 14:08:53.3±1.6**, 26.85N**±0.06×**54.56E**±0.05**, h10**^{km}±9^{km}**, n67, σ1^{s}01**/69**, mb4.2**/33**, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GHIR	**Ghir-Karzin**	**2.00**	**316**	*e*PG	**Pg**	**14 09 30.8**	**-2.4**
GHIR				*e*SG	**Sg**	**14 09 58.7**	**-1.1**
GHIR				AMP		14 10 09.6	
	comp=E,1μm,0.5s						
GHIR				AMP		14 10 14.9	
	comp=N,1μm,0.6s						
KRBR	**Kerman**	**3.67**	**31**	*e*PN	**Pn**	**14 09 53.9**	**+2.5**
KRBR				AMP		14 10 56.7	
	comp=N,173nm,0.6s						
KRBR				AMP		14 11 04.0	
	comp=E,135nm,0.5s						
NASN	**Na'in**	**6.12**	**346**	*e*PN	**Pn**	**14 10 26.5**	**+0.5**
ZHSF	**Zahedan**	**6.14**	**62**	*e*PN	**Pn**	**14 10 27.2**	**+1.0**
QRN	**Al-Qurain**	**6.17**	**289**	*e*P	**Pn**	**14 10 28.9**	**+2.1**
QRN				*e*S	**Sn**	**14 11 37.2**	**-1.1**
QRN				AML	AML	14 11 39.5	
	comp=Z,47nm,0.3s						
KBD	**Kabd**	**6.49**	**292**	*e*P	**Pn**	**14 10 32.0**	**+0.7**
RDF	**Al-Radifah**	**6.54**	**290**	*e*P	**Pn**	**14 10 32.4**	**+0.5**
RDF				AML	AML	14 11 47.9	
	comp=Z,41nm,0.4s						
RST	**Umm Al-Ruwaisa**	**7.17**	**293**	*e*P	**Pn**	**14 10 41.9**	**+1.0**
RAYN	**Ar Rayn**	**8.84**	**250**	Pn	**P**	**14 11 03.6**	**-0.5**
	comp=Z,133nm,0.4s,SNR=35						
MZLS	**Mizel**	**8.90**	**254**	P	**P**	**14 11 04.8**	**-0.2**
AFFS	**'Afif**	**10.85**	**257**	P	**P**	**14 11 33.6**	**+1.8**
KAMS	**Al Khamasin**	**11.22**	**237**	P	**P**	**14 11 35.0**	**-2.0**
TATS	**Tathlith**	**12.51**	**237**	P	**P**	**14 11 52.0**	**-2.4**
YNBS	**Yanbu' al Bahr**	**15.15**	**264**	P	**P**	**14 12 31.6**	**+2.4**
TBKS	**Tabuk**	**16.03**	**279**	P	**P**	**14 12 43.6**	**+3.0**
ASF	**Jabal al Asfar**	**16.26**	**293**	Pn	**P**	**14 12 44.9**	**+1.5**
	comp=Z,0.3nm,0.3s,baz=326,slow=11,SNR=2.9						
EIL	**Elat**	**17.50**	**284**	P	**P**	**14 13 01.1**	**+2.0**
	comp=Z,0.2nm,0.3s,baz=93,slow=16,SNR=3.3						
MALT	**Malatya**	**17.73**	**314**	*e*P	**P**	**14 13 03.0**	**+1.2**
	comp=Z,2.9nm,0.7s						
BRTR	**Keskin Array B**	**21.63**	**312**	P	**P**	**14 13 46.2**	**+0.6**
	comp=Z,7.4nm,0.8s,mb4.2,baz=131,slow=13,SNR=17						
BRTR				pP		14 13 49.8	
	comp=Z,20nm,1.2s,baz=124,slow=13,SNR=19						
AAK	**Ala-Archa**	**22.64**	**41**	*e*P	**P**	**14 13 55.8**	**+0.1**
	comp=Z,5.4nm,0.8s,mb4.0						
IDI	**Anoyia**	**26.69**	**296**	P	**P**	**14 14 34.7**	**+0.3**
	comp=Z,7.9nm,0.7s,mb4.3,baz=74,slow=18,SNR=6.0						
BVAR	**Borovoye Array**	**28.69**	**20**	P	**P**	**14 14 51.6**	**-0.8**
	comp=Z,0.9nm,0.6s,mb3.7,baz=207,slow=6.6,SNR=6.3						
BVAR				sP	sP	14 14 57.6	+0.9
	comp=Z,2.7nm,0.9s,baz=202,slow=8.0,SNR=4.4						
MKAR	**Makanchi Array**	**29.57**	**40**	P	**P**	**14 14 59.9**	**-0.5**
	comp=Z,0.8nm,0.5s,mb3.7,baz=229,slow=8.6,SNR=9.8						
MKAR	**Makanchi Array**	**29.57**	**40**	P	**P**	**14 14 59.9**	**-0.5**
ZAL	**Zalesovo**	**35.05**	**31**	P	**P**	**14 15 47.0**	**-1.2**
	comp=Z,3.5nm,0.6s,mb4.5,baz=139,slow=9.1,SNR=5.8						
OJC	**Ojcow**	**35.33**	**321**	*e*P	**P**	**14 15 50.7**	**+0.1**
MORC	**Moravsky Berou**	**36.43**	**319**	*e*P	**P**	**14 15 59.1**	**-0.8**
	comp=Z,3.0nm,0.6s,mb4.4						
GERES	**GERESS Array B**	**38.40**	**316**	P	**P**	**14 16 16.4**	**-0.1**
	comp=Z,0.7nm,0.6s,mb3.6,baz=141,slow=8.5,SNR=5.1						
KHC	**Kasperske Hory**	**38.58**	**316**	*e*P	**P**	**14 16 17.5**	**-0.4**
FINES	**FINESS Array B**	**39.53**	**339**	P	**P**	**14 16 25.4**	**-0.3**
	comp=Z,4.3nm,0.9s,mb4.2,baz=140,slow=15,SNR=10.0						
FINES	**FINESS Array B**	**39.53**	**339**	P	**P**	**14 16 25.4**	**-0.3**
PGF	**Pioggiola**	**40.10**	**305**	*e*P	**P**	**14 16 30.6**	**0.0**
SBF	**Sospel**	**41.41**	**307**	*e*P	**P**	**14 16 42.1**	**+0.7**
	comp=Z,21nm,0.7s,mb4.6						
FRF	**La Foret Royal**	**41.94**	**306**	*e*P	**P**	**14 16 45.4**	**-0.3**
	comp=Z,5.3nm,0.7s,mb4.0						
MBDF	**Montbardon**	**42.01**	**308**	*e*P	**P**	**14 16 46.7**	**+0.4**
	comp=Z,12nm,0.7s,mb4.3						
BNI	**Bardonecchia**	**42.13**	**308**	*e*P	**P**	**14 16 46.2**	**-1.0**
	comp=Z,5.5nm,0.9s,mb4.2						
LPG	**La Plagne**	**42.15**	**309**	*e*P	**P**	**14 16 47.7**	**+0.3**
	comp=Z,13nm,0.8s,mb4.3						
LPL	**La Plagne**	**42.16**	**309**	*e*P	**P**	**14 16 47.8**	**+0.2**
	comp=Z,13nm,0.7s,mb4.3						
CDF	**Champ du Feu**	**42.37**	**313**	*e*P	**P**	**14 16 49.5**	**+0.3**
HINF	**Hinteralfeld**	**42.51**	**312**	*e*P	**P**	**14 16 49.6**	**-0.8**
CABF	**La Chapelle**	**42.79**	**311**	*e*P	**P**	**14 16 52.6**	**-0.1**
	comp=Z,12nm,0.6s,mb4.5						
HFS	**Hagfors**	**43.35**	**332**	P	**P**	**14 16 56.3**	**-0.8**
	comp=Z,8.2nm,1.0s,mb4.4,baz=117,slow=9.9,SNR=7.8						
HFS	**Hagfors**	**43.35**	**332**	P	**P**	**14 16 56.3**	**-0.8**
LASF	**Ste Croix**	**44.01**	**307**	*e*P	**P**	**14 17 02.4**	**-0.2**
	comp=Z,13nm,0.9s,mb4.4						
SMF	**Signal de Mont**	**44.33**	**310**	*e*P	**P**	**14 17 04.5**	**-0.7**
	comp=Z,10nm,0.7s,mb4.3						
SSF	**Saint Saulge**	**44.62**	**311**	*e*P	**P**	**14 17 06.8**	**-0.7**
AVF	**Avril sur Loir**	**44.68**	**310**	*e*P	**P**	**14 17 06.9**	**-1.1**
	comp=Z,3.5nm,0.6s,mb4.0						
BAIF	**Baives**	**44.69**	**315**	*e*P	**P**	**14 17 08.4**	**+0.4**
	comp=Z,21nm,0.9s,mb4.7						
NB2	**NORSAR Subarra**	**44.87**	**332**	P	**P**	**14 17 08.1**	**-1.2**
	comp=Z,1.8nm,0.7s,mb4.0,baz=118,slow=7.9						
NOA	**NORSAR Array B**	**44.87**	**332**	P	**P**	**14 17 08.4**	**-1.0**
	comp=Z,2.0nm,0.6s,mb4.1,baz=121,slow=8.1,SNR=12						
BGF	**Bois d'Agland**	**44.99**	**310**	*e*P	**P**	**14 17 09.9**	**-0.6**
	comp=Z,12nm,0.7s,mb4.5						
MTLF	**Montolieu**	**45.13**	**305**	*e*P	**P**	**14 17 12.0**	**+0.4**
	comp=Z,13nm,0.8s,mb4.5						
SONM	**Songino Array**	**45.26**	**48**	P	**P**	**14 17 12.7**	**+0.1**
	comp=Z,1.0nm,0.5s,mb3.9,baz=271,slow=9.5,SNR=13						
CAF	**Calviac**	**45.36**	**308**	*e*P	**P**	**14 17 13.4**	**-0.1**
	comp=Z,8.2nm,0.7s,mb4.4						
TCF	**Toulx Ste Croi**	**45.40**	**310**	*e*P	**P**	**14 17 13.2**	**-0.5**
	comp=Z,5.9nm,0.7s,mb4.2						
RJF	**Les Rejaudoux**	**45.78**	**308**	*e*P	**P**	**14 17 16.9**	**+0.1**
ARCES	**ARCESS Array B**	**45.95**	**346**	P	**P**	**14 17 17.9**	**0.0**
	comp=Z,1.5nm,0.6s,mb4.1,baz=149,slow=9.1,SNR=9.9						
LFF	**La Frestale**	**46.30**	**308**	*e*P	**P**	**14 17 20.9**	**0.0**
ETSF	**Etsaut**	**47.14**	**305**	*e*P	**P**	**14 17 30.4**	**+2.8**
	comp=Z,17nm,0.9s,mb4.7						
GRR	**Gorron**	**47.71**	**312**	*e*P	**P**	**14 17 31.9**	**0.0**
DBIC	**Dimbokro**	**59.77**	**262**	P	**P**	**14 19 01.4**	**+0.2**
	comp=Z,6.8nm,0.7s,mb4.8,baz=47,slow=7.2,SNR=9.3						
DBIC	**Dimbokro**	**59.77**	**262**	P	**P**	**14 19 01.4**	**+0.2**
LIC	**Lamto**	**60.13**	**261**	*e*P	**P**	**14 19 02.1**	**-1.5**
FITZ	**Fitzroy Crossi**	**82.14**	**115**	*e*P	**P**	**14 21 16.5**	**+0.5**
	comp=Z,2.9nm,0.7s,mb4.3						
FITZ	**Fitzroy Crossi**	**82.14**	**115**	P	**P**	**14 21 15.6**	**-0.5**
	comp=Z,2.1nm,0.5s,mb4.3,baz=169,slow=7.0,SNR=6.0						
WRA	**Warramunga Arr**	**90.19**	**112**	P	**P**	**14 21 55.5**	**-0.2**
	comp=Z,0.5nm,0.6s,mb4.1,baz=312,slow=4.2,SNR=7.2						
ASAR	**Alice Springs**	**91.60**	**116**	P	**P**	**14 22 02.0**	**-0.1**
	comp=Z,0.5nm,0.6s,mb4.0,baz=301,slow=4.8,SNR=11						

IDC 03 14:17:35.2±7.8**, 15.55S**×**173.69W, mb3.7**/2**, mb1 3.9**/2**, mb1mx3.6**/10**, MS3.7**/4**, Ms1 3.7**/4**, ms1mx3.6**/14**, Error ellipse: s-maj=338.0km s-min=64.1km az=140.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAR	**Rarotonga**	**14.36**	**115**	LR	LR	14 24 47.2	
	comp=Z,254nm,19.1s,baz=236,slow=30						
PPT	**Papeete**	**23.20**	**98**	*e*L		14 26 52.0	
PPT				*e*R		14 27 51.8	
	269nm,24.2s,baz=271						
URZ	**Urewera**	**24.03**	**198**	LR	LR	14 30 10.2	
	comp=Z,82nm,20.4s,baz=189,slow=31						
TBI	**Tubuai**	**24.10**	**113**	*e*L		14 27 17.8	
TBI				*e*R		14 28 15.5	
	331nm,27.2s,baz=280						
WRA	**Warramunga Arr**	**49.53**	**257**	P	P	14 26 27.8	-2.3
	0.5nm,0.8s,baz=94,slow=7.8,SNR=9.8						
ASAR	**Alice Springs**	**49.80**	**252**	P	P	14 26 30.5	-1.5
	0.9nm,0.5s,baz=87,slow=8.0,SNR=29						
ASAR				LR	LR	14 45 02.3	
	comp=Z,112nm,19.4s,baz=169,slow=33						
INK	**Inuvik**	**88.48**	**14**	LR	LR	15 11 38.8	
	comp=Z,72nm,18.1s,baz=241,slow=37						
BRTR	**Keskin Array B**	**146.10**	**321**	PKPbc	PKPbc	14 37 16.8	-0.9
	0.9nm,0.4s,baz=135,slow=1.7,SNR=4.2						

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*NEIC **03** 14:29:01.5±2.5, 56.17S×27.34W, h124^{km}±22^{km}, mb4.2/6, Error ellipse: s-maj=20.9km s-min=8.9km az=53.0*

*IDC **03** 14:29:13.1±6.8, 55.78S×27.45W, h216^{km}±61^{km}, mb3.8/4, mb1 3.8/4, mb1mx3.6/10, MS3.6/3, Ms1 3.6/3, ms1mx3.4/14, Error ellipse: s-maj=45.0km s-min=21.1km az=49.0*

ISC 03 14:28:59.3±3.6**, 56.1S**±0.1×**27.3W**±0.4**, h119**^{km}±36^{km}**, n23, σ0^{s}75**/14**, mb4.2**/9**, 4C, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**16.76**	**158**	⇑*i*	**P**	**14 32 47.9**	**+0.2**
VNA3	**Neumayer Olymp**	**16.95**	**160**	⇑*i*	**P**	**14 32 49.7**	**-0.4**
VNA2	**Neumayer--Watz**	**17.16**	**158**	⇑*i*	**P**	**14 32 53.3**	**+0.7**
SNAA	**Sanae**	**18.71**	**156**	⇑*i*	**P**	**14 33 05.3**	**-5.3**
SNAA	**Sanae**	**18.71**	**156**	*e*P	**P**	**14 33 04.8**	**-5.8**
	3.2nm,0.5s						
USHA	**Ushuaia**	**23.12**	**256**	LR	LR	14 40 42.3	
	comp=Z,194nm,21.5s,baz=48,slow=30						
TRQA	**Tornquist**	**29.30**	**293**	P	**P**	**14 34 52.2**	**-0.1**
	2.4nm,0.6s,mb4.0						
QSPA	**South Pole Qui**	**34.15**	**180**	*e*P	**P**	**14 35 32.7**	**-1.4**
	6.1nm,0.6s,mb4.6						
CPUP	**Villa Florida**	**36.81**	**311**	P	**P**	**14 35 57.1**	**0.0**
	2.9nm,0.7s,mb4.3,baz=168,slow=7.1,SNR=8.0						
CPUP				LR	LR	14 48 03.3	
	comp=Z,97nm,20.5s,baz=145,slow=31						
MAW	**Mawson**	**40.13**	**144**	P	**P**	**14 36 30.6**	**+6.2**
	2.4nm,1.0s,mb4.0,baz=290,slow=7.7,SNR=4.0						
BDFB	**Brasilia**	**43.39**	**330**	LR	LR	14 50 56.7	
	comp=Z,69nm,19.1s,baz=112,slow=30						
LVC	**Limon Verde**	**45.28**	**300**	*e*P	**P**	**14 37 07.7**	**+1.2**
	4.4nm,0.6s,mb4.4						
SBA	**Scott Base**	**46.02**	**184**	*e*P	**P**	**14 37 11.5**	**-0.1**
	2.3nm,0.9s,mb3.9						
SAML	**Samuel**	**54.80**	**315**	*e*P	**P**	**14 38 18.3**	**-0.8**
	9.9nm,1.3s,mb4.7						
DBIC	**Dimbokro**	**65.24**	**25**	P	**P**	**14 39 29.9**	**-0.4**
	6.0nm,1.1s,mb4.3,baz=191,slow=10,SNR=4.0						
ASAR	**Alice Springs**	**98.95**	**163**	P	**P**	**14 42 28.4**	**+1.2**
	0.4nm,0.8s,mb4.0,baz=181,slow=4.2,SNR=8.8						
PDAR	**Pinedale Array**	**120.33**	**302**	PKP	PKPdf	14 47 36.8	+1.0
	0.3nm,0.5s,baz=135,slow=4.2,SNR=4.0						
FINES	**FINESS Array B**	**124.46**	**28**	PKP	PKPdf	14 47 44.1	+0.8
	0.9nm,0.5s,baz=180,slow=3.8,SNR=9.3						
ARCES	**ARCESS Array B**	**131.01**	**22**	PKP	PKPdf	14 47 56.9	+1.3
	0.6nm,0.5s,baz=180,slow=2.4,SNR=9.9						
MKAR	**Makanchi Array**	**136.95**	**72**	PKP	PKPdf	14 48 09.5	+2.4
	0.2nm,0.6s,baz=180,slow=2.4,SNR=3.8						
MKAR	**Makanchi Array**	**136.95**	**72**	PKP	PKPdf	14 48 09.5	+2.4
INK	**Inuvik**	**145.81**	**321**	PKPbc	PKPbc	14 48 24.5	+1.5
	4.1nm,0.5s,baz=106,slow=4.4,SNR=21						
SONM	**Songino Array**	**150.78**	**87**	PKPbc	PKPdf	14 48 37.8	+7.2
	2.2nm,0.6s,baz=228,slow=3.2,SNR=18						

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*IDC **03** 14:53:16.3±0.6, 15.16S×173.46W, mb4.6/13, mb1 4.8/14, mb1mx4.7/16, ML4.5/1, MS4.6/9, Ms1 4.6/9, ms1mx4.5/10, Error ellipse: s-maj=34.7km s-min=15.5km az=140.0*

*BJI **03** 14:53:20.2, 15.00S×173.50W, h24^{km}, mB5.2, mb5.0, Ms5.0, Msz4.7*

*HRVD **03** 14:53:20.2±0.2, 15.00S×172.95W, h16^{km}±1^{km}, MW5.2/68, Centroid moment Tensor Solution. LP body waves: s47,c70;Mantle waves: s68,c118; Half duration: 1^{s}0 Moment tensor: Scale 10^{17}Nm; M$_{rr}$0.24±.02; M$_{\theta\theta}$0.26±.02; M$_{\phi\phi}$-0.50±.02; M$_{r\theta}$0.22±.05; M$_{\theta\phi}$0.48±.01; M$_{\phi r}$0.61±.06; Best double couple: M$_{0}$.91×10^{17} NP1:φ$_{s}$114°, δ42°, λ15°. NP2:φ$_{s}$13°, δ80°, λ131°. Principal axes: T .89, Plg40°, Azm321°; N .03, Plg40°, Azm184°; P -.92, Plg24°, Azm72°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*SYO **03** 14:53:20.7, 14.91S×173.47W, h24^{km}, MB5.0, MS4.8*

*NEIC **03** 14:53:20.2±0.2, 15.02S×173.54W, mb5.0/32, MS4.8/12, Error ellipse: s-maj=11.5km s-min=5.2km az=141.0*

*MOS **03** 14:53:21.1±1.2, 14.98S×173.66W, h33^{km}, mb4.8/5, Error ellipse: s-maj=25.4km s-min=22.6km az=68.6*

ISC 03 14:53:18.3±0.3**, 15.22S**±0.08×**173.43W**±0.06**, h24**^{km}**, h24**^{km}±.4^{km}**:pP-P, n199, σ1^{s}01**/99**, mb4.8**/48**, MS4.7**/28**, 11C-17D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**8.55**	**252**	Pn	**P**	**14 55 32.1**	**+8.4**
	1μm,1.1s,SNR=31						
RAR	**Rarotonga**	**14.28**	**117**	Pn	**P**	**14 56 32.2**	**-9.0**
	2.1nm,0.3s,baz=256,slow=8.3,SNR=11						
RAR				LR	LR	15 00 27.7	
	comp=Z,3μm,20.7s,baz=309,slow=30						
RAR				T		15 11 10.2	
	7.3nm,0.3s,baz=88,slow=4.4,SNR=4.2						
PPT	**Papeete**	**23.00**	**99**	*e*L		15 02 29.1	
PPT				*e*R		15 03 32.9	
	4μm,25.2s,baz=264						
TBI	**Tubuai**	**24.00**	**113**	*e*L		15 02 58.4	
TBI				*e*R		15 03 55.1	
	4μm,26.5s,baz=283						
URZ	**Urewera**	**24.43**	**198**	P	**P**	**14 58 36.1**	**-0.3**
	8.8nm,0.6s,mb4.3,baz=0.2,slow=10,SNR=7.9						
ARMA	**Armidale**	**35.41**	**239**	*e*P	**P**	**15 00 14.3**	**-0.4**
CTA	**Charters Tower**	**38.66**	**257**	*e*P	**P**	**15 00 42.3**	**+0.3**
	4.0nm,0.8s,mb4.2						
CTA	**Charters Tower**	**38.66**	**257**	P	**P**	**15 00 41.6**	**-0.4**
	4.5nm,1.0s,mb4.1,baz=85,slow=13,SNR=3.6						
CTAO	**Charters Tower**	**38.66**	**257**	*e*P	**P**	**15 00 42.2**	**+0.2**
	5.9nm,0.7s,mb4.4						
CNB	**Canberra Magne**	**38.84**	**232**	*e*P	**P**	**15 00 42.7**	**-0.7**
	24nm,1.0s,mb4.9						
TOO	**Toolangi**	**42.56**	**231**	*e*P	**P**	**15 01 13.2**	**-0.9**
	15nm,0.9s,mb4.7						
STKA	**Stephens Creek**	**44.10**	**240**	P	**P**	**15 01 26.5**	**-0.2**
	15nm,0.8s,mb4.8,baz=84,slow=7.0,SNR=26						
STKA				LR	LR	15 17 32.9	
	comp=Z,602nm,21.6s,MS4.5,baz=64,slow=33						
WB2	**Warramunga Arr**	**49.85**	**257**	*e*P	**P**	**15 02 10.8**	**-1.2**
WRAB	**Tennant Creek**	**49.85**	**257**	*e*P	**P**	**15 02 11.1**	**-0.9**
	30nm,1.4s,mb5.1						
WRA	**Warramunga Arr**	**49.86**	**257**	P	**P**	**15 02 10.7**	**-1.3**
	11nm,1.2s,mb4.8,baz=90,slow=6.8,SNR=28						
WRA				LR	LR	15 21 11.6	
	comp=Z,725nm,20.5s,MS4.7,baz=80,slow=34						
ASAR	**Alice Springs**	**50.14**	**252**	P	**P**	**15 02 13.1**	**-1.1**
	21nm,1.0s,mb5.1,baz=86,slow=8.4,SNR=37						
ASAR				LR	LR	15 21 45.0	
	comp=Z,1μm,21.2s,MS4.8,baz=90,slow=34						
ASPA	**Alice Springs**	**50.14**	**252**	*e*P	**P**	**15 02 12.6**	**-1.6**
FORT	**Forrest**	**55.47**	**243**	⇑*i*P	**P**	**15 02 52.3**	**-1.5**
	46nm,0.6s,mb5.7						
MBWA	**Marble Bar**	**63.38**	**254**	P	**P**	**15 03 49.1**	**+0.7**
SBA	**Scott Base**	**63.43**	**185**	*e*P	**P**	**15 03 50.5**	**+2.4**
	26nm,1.4s,mb5.2						
MAJO	**Matsushiro**	**68.78**	**320**	*e*P	**P**	**15 04 22.4**	**-0.4**
	36nm,1.8s,mb5.0						
MAT	**Matsushiro**	**68.78**	**320**	P	**P**	**15 04 22.4**	**-0.4**
MAT				S	S	15 13 24.0	+0.6
MAT	**Matsushiro**	**68.78**	**320**	*e*P	**P**	**15 04 22.0**	**-0.8**
	19nm,1.2s,mb4.9						
MAT				*e*S	S	15 13 24.0	+0.6
PET	**Petropavlovsk**	**72.09**	**343**	*e*P	**P**	**15 04 34.4**	**-8.2**
PET				*e*S	S	15 14 00.2	-1.6
PET				*e*PPS	PPS	15 14 44.0	-4.7
PET				pmax	pmax		
	comp=Z,100nm,17.5s						
PET				MLR	MLR		
	comp=Z,200nm,17.0s,MS4.5						
YSS	**Yuzh-Sakhalins**	**73.31**	**330**	*e*P	**P**	**15 04 50.0**	**+0.1**
YSS				*e*S	S	15 14 21.0	+5.3
YSS				MLR	MLR		
	comp=Z,300nm,18.0s,MS4.6						
YSS	**Yuzh-Sakhalins**	**73.31**	**330**	*e*P	**P**	**15 04 50.4**	**+0.5**
	comp=Z,14nm,1.0s,mb4.8						
YBH	**Yreka Blue Hor**	**73.47**	**37**	P	**P**	**15 04 50.8**	**-0.1**
	comp=Z,5.5nm,0.9s,mb4.5,baz=251,slow=5.0,SNR=6.0						
TPH	**Tonopah**	**74.72**	**43**	*e*P	**P**	**15 04 58.3**	**+0.1**
	comp=Z,7.1nm,1.0s,mb4.5						
QSPA	**South Pole Qui**	**74.83**	**180**	*e*P	**P**	**15 05 01.0**	**+3.0**
	comp=Z,15nm,0.8s,mb5.0						
QSPA				LR	LR		
	comp=Z,300nm,18.3s,MS4.6						
TUC	**Tucson**	**76.30**	**51**	*e*P	**P**	**15 05 07.2**	**-0.2**
	comp=Z,9.9nm,1.4s,mb4.5						
WVOR	**Wild Horse Val**	**76.31**	**39**	*e*P	**P**	**15 05 06.5**	**-0.7**
	comp=Z,15nm,1.2s,mb4.8						
WVOR				LR	LR		
	comp=Z,538nm,20.0s,MS4.8						
ELK	**Elko**	**77.46**	**41**	*e*P	**P**	**15 05 12.4**	**-1.2**
	comp=Z,2.1nm,0.9s,mb4.1						
ELK				LR	LR		
	comp=Z,448nm,22.0s,MS4.7						
SSE	**Sheshan**	**77.82**	**307**	P	**P**	**15 05 16.3**	**+0.5**
SSE				S	S	15 15 05.4	-0.3
SSE				AMB	AMB		
	comp=Z,28nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,207nm,7.0s						
SSE				LR	LR		
	comp=N,126nm,31.4s,MS4.2						
SSE				LR	LR		
	comp=E,158nm,31.4s,MS4.2						
SSE				LR	LR		
	comp=Z,244nm,30.6s,MS4.3						
MSU	**Marysvale**	**78.31**	**45**	*e*P	**P**	**15 05 18.4**	**+0.1**
DUG	**Dugway**	**78.75**	**43**	*e*P	**P**	**15 05 20.8**	**+0.1**
	comp=Z,14nm,1.2s,mb4.8						
DUG				LR	LR		
	comp=Z,533nm,21.0s,MS4.8						
MDJ	**Mudanjiang**	**78.86**	**322**	P	**P**	**15 05 22.3**	**+1.1**
MDJ				AP	pP	15 05 29.0	+0.2
MDJ				S	S	15 15 23.9	+7.4
MDJ				XS		15 15 31.7	
MDJ				AMB	AMB		
	comp=Z,137nm,8.8s						
MDJ				LR	LR		
	comp=N,195nm,19.9s,MS4.8						
MDJ				LR	LR		
	comp=E,366nm,20.4s,MS4.8						
MDJ				LR	LR		
	comp=Z,521nm,20.9s,MS4.8						
DIV	**Divide**	**79.22**	**13**	*e*P	**P**	**15 05 21.8**	**-1.0**
	comp=Z,65nm,1.1s,mb5.5						
HLID	**Hailey**	**79.50**	**39**	*e*P	**P**	**15 05 24.6**	**-0.2**
	comp=Z,17nm,1.1s,mb4.9						
HLID				*e*PcP	PcP	15 05 32.6	-0.5
HLID				LR	LR		
	comp=Z,296nm,22.0s,MS4.6						
HVU	**Hansel Valley**	**79.59**	**42**	*e*P	**P**	**15 05 25.5**	**+0.3**
HVU				*e*	pP	15 05 32.5	-0.4
DPW	**Davenport**	**79.75**	**34**	*e*P	**P**	**15 05 26.1**	**+0.1**
JLU	**Jordanelle**	**79.85**	**43**	*e*P	**P**	**15 05 27.0**	**+0.3**
JLU				*e*	pP	15 05 34.0	-0.3
DAU	**Daniels Canyon**	**79.88**	**43**	*e*P	**P**	**15 05 26.7**	**-0.1**
LAZ	**Ladron**	**79.96**	**50**	*e*P	**P**	**15 05 27.7**	**+0.3**
NJ2	**Nanjing**	**80.03**	**307**	*e*P	**P**	**15 05 29.1**	**+1.3**
TCUT	**Toone Canyon**	**80.13**	**43**	*e*P	**P**	**15 05 27.6**	**-0.6**
TCUT				*e*	pP	15 05 35.4	-0.3
BNM	**Barren Site**	**80.23**	**51**	*e*P	**P**	**15 05 28.6**	**-0.3**
BNM				*e*pP	pP	15 05 36.8	+0.3
HWUT	**Hardware Ranch**	**80.28**	**42**	P	**P**	**15 05 27.1**	**-1.8**
	comp=Z,1.5nm,0.4s,mb4.3						
LTX	**Lajitas**	**80.53**	**56**	*e*P	**P**	**15 05 30.0**	**-0.5**
LTX				*e*pP	pP	15 05 37.9	-0.3
TXAR	**Lajitas Array**	**80.53**	**56**	P	**P**	**15 05 29.9**	**-0.7**
	comp=Z,0.6nm,0.5s,mb3.8,baz=225,slow=5.3,SNR=9.6						
TXAR				LR	LR	15 33 14.5	
	comp=Z,373nm,20.4s,MS4.7,baz=185,slow=30						
PV01	**Paradox Valley**	**80.62**	**46**	*e*P	**P**	**15 05 30.6**	**-0.2**
ANMO	**Albuquerque**	**80.70**	**50**	*di*P	**P**	**15 05 30.5**	**-0.8**
ANMO				pmax	pmax		
	comp=Z,2.0nm,1.4s						
ANMO	**Albuquerque**	**80.70**	**50**	*e*P	**P**	**15 05 31.1**	**-0.3**
	comp=Z,0.8nm,0.4s,mb4.0						
ANMO				*e*pP	pP	15 05 39.1	+0.2
ANMO				LR	LR		
	comp=Z,512nm,22.0s,MS4.8						
CN2	**Changchun**	**80.93**	**320**	⇑P	**P**	**15 05 33.9**	**+1.6**
CN2				*e*XP	sP	15 05 45.3	+2.9
CN2				*e*S	S	15 15 39.5	+1.4
CN2				AMB	AMB		
	comp=Z,20nm,1.1s,mb5.0						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,300nm,15.0s,MS4.9						
CN2				LR	LR		
	comp=E,300nm,15.0s,MS4.9						
CN2				LR	LR		
	comp=Z,500nm,16.0s,MS5.0						
MCK	**McKinley**	**80.95**	**11**	*e*P	**P**	**15 05 31.1**	**-0.9**
	comp=Z,12nm,1.0s,mb4.8						
SNY	**Shenyang**	**81.12**	**318**	⇑P	**P**	**15 05 34.9**	**+1.5**
SNY				AMB	AMB		
	comp=Z,20nm,1.6s,mb4.8						
MCMT	**McKenzie Canyo**	**81.13**	**39**	*e*P	**P**	**15 05 33.1**	**-0.3**
GDL2	**Guadalupe Moun**	**81.13**	**53**	P	**P**	**15 05 35.7**	**+2.1**
REDW	**Red Top Meadow**	**81.61**	**41**	P	**P**	**15 05 35.4**	**-0.5**
REDW				*e*pP	pP	15 05 43.6	+0.1
TPAW	**Teton Pass**	**81.62**	**41**	*e*P	**P**	**15 05 35.9**	**0.0**
TPAW				*e*pP	pP	15 05 43.9	+0.3
MOOW	**Moose Ponds**	**81.87**	**41**	*e*P	**P**	**15 05 36.9**	**-0.3**
MOOW				*e*pP	pP	15 05 44.7	-0.1
LOHW	**Long Hollow**	**81.89**	**41**	*e*P	**P**	**15 05 37.1**	**-0.2**
LOHW				*e*pP	pP	15 05 45.2	+0.2
CHMT	**Chamberlain Mo**	**82.00**	**37**	*e*P	**P**	**15 05 38.1**	**+0.3**
QLMT	**Earthquake Lak**	**82.00**	**39**	*e*P	**P**	**15 05 39.2**	**+1.4**
BW06	**Boulder Array**	**82.15**	**42**	*e*P	**P**	**15 05 39.0**	**+0.3**
	comp=Z,20nm,1.4s,mb4.9						
BW06				*e*pP	pP	15 05 45.9	-0.4
PDAR	**Pinedale Array**	**82.15**	**42**	P	**P**	**15 05 37.9**	**-0.8**
	comp=Z,1.0nm,0.8s,mb3.8,baz=234,slow=2.4,SNR=7.7						
PDAR				LR	LR	15 35 01.7	
	comp=Z,277nm,20.0s,MS4.6,baz=248,slow=30						
COLA	**College**	**82.19**	**11**	*di*P	**P**	**15 05 37.9**	**-0.5**
COLA				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
COLA	**College**	**82.19**	**11**	*e*P	**P**	**15 05 37.8**	**-0.6**
	comp=Z,28nm,0.9s,mb5.2						
COLA				LR	LR		
	comp=Z,332nm,19.0s,MS4.7						
BOZ	**Bozeman (W)**	**82.29**	**39**	*e*P	**P**	**15 05 38.9**	**-0.5**
	comp=Z,26nm,1.3s,mb5.0						
BOZ				*e*pP	pP	15 05 46.8	-0.1
BOZ				LR	LR		
	comp=Z,380nm,20.0s,MS4.8						
SDCO	**Great Sand Dun**	**82.61**	**48**	*e*P	**P**	**15 05 41.5**	**+0.4**
	comp=Z,23nm,1.4s,mb5.0						
SDCO				*e*pP	pP	15 05 48.3	-0.5
HRY	**Holter Researc**	**82.72**	**38**	*e*P	**P**	**15 05 41.0**	**-0.6**
HRY				*e*pP	pP	15 05 49.3	+0.1
DAWY	**Dawson**	**83.25**	**14**	*e*P	**P**	**15 05 43.8**	**-0.1**
DAWY				*e*pP	pP	15 05 51.7	+0.1
BJI	**Beijing**	**85.32**	**313**	P	**P**	**15 05 56.9**	**+2.0**
BJI				AMB	AMB		
	comp=Z,13nm,1.6s,mb4.8						
BJI				LR	LR		
	comp=N,133nm,16.1s,MS4.8						
BJI				LR	LR		
	comp=E,295nm,14.9s,MS4.8						
BJI				LR	LR		
	comp=Z,272nm,24.3s						
LAO	**LASA Array**	**86.08**	**40**	*e*P	**P**	**15 05 59.7**	**+1.2**
	comp=Z,37nm,1.2s,mb5.5						
LAO				*e*pP	pP	15 06 06.7	+0.5
RSSD	**Black Hills**	**86.34**	**42**	*e*P	**P**	**15 05 58.6**	**-1.3**
RSSD				*e*pP	pP	15 06 06.5	-1.0
WMOK	**Wichita Mounta**	**86.41**	**53**	*e*P	**P**	**15 05 58.9**	**-1.6**
	comp=Z,6.7nm,1.3s,mb4.7						
WMOK				*e*pP	pP	15 06 06.6	-1.6
HKT	**Hockley**	**87.11**	**58**	P	**P**	**15 06 03.9**	**-0.1**
GYA	**Guiyang**	**87.93**	**298**	P	**P**	**15 06 11.7**	**+3.7**
GYA				AP	pP	15 06 18.8	+3.1
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb5.0						
GYA				AMB	AMB		
	comp=Z,140nm,7.2s						
MAW	**Mawson**	**87.96**	**199**	*e*P	**P**	**15 06 08.2**	**+1.1**
	comp=Z,6.7nm,0.8s,mb4.9						

MAW	Mawson	87.96	199	P	P	15 06 08.7	+1.6
	comp=Z,7.4nm,0.7s,mb5.0,baz=118,slow=6.6,SNR=17						
MAW				LR	LR	15 45 50.5	
	comp=Z,367nm,19.1s,MS4.8,baz=3.4,slow=36						
INK	Inuvik	88.10	14	P	P	15 06 07.4	-0.3
	comp=Z,6.0nm,1.0s,mb4.8,baz=206,slow=6.6,SNR=7.3						
INK	Inuvik	88.10	14	eP	P	15 06 07.7	0.0
	comp=Z,13nm,1.1s,mb5.1						
DGMT	Dagmar	88.10	39	eP	P	15 06 08.8	+0.6
	comp=Z,14nm,1.0s,mb5.2						
DGMT				epP	pP	15 06 15.7	-0.2
XAN	Xi'an	88.50	306	P	P	15 06 13.0	+2.5
XAN				AP	pP	15 06 20.1	+1.9
HHC	Hu-ho-hao-te	88.88	313	eP	P	15 06 14.3	+2.1
HHC				AP	pP	15 06 23.2	+3.3
HHC				XP	sP	15 06 28.5	+6.2
HHC				PP	PP	15 09 47.7	+3.7
HHC				SKS	SKS	15 16 39.6	-5.8
HHC				S	S	15 17 00.9	+4.7
HHC				XS		15 17 15.9	
HHC				AMB	AMB		
	comp=Z,16nm,0.6s,mb5.5						
HHC				LR	LR		
	comp=Z,148nm,19.6s,MS4.4						
YAK	Yakutsk	88.93	337	eP	P	15 06 11.2	-0.7
YAK				pmax	pmax		
	comp=Z,11nm,1.1s,mb5.1						
YKA	Yellowknife Ar	89.94	23	P	P	15 06 16.3	-0.3
	comp=Z,1.5nm,0.8s,mb4.4,baz=243,slow=4.1,SNR=3.5						
YKA				LR	LR	15 39 11.6	
	comp=Z,151nm,20.2s,MS4.4,baz=245,slow=31						
KMI	Kunming	90.92	296	eP	P	15 06 24.7	+2.6
KMI				SKS	SKS	15 16 50.9	-7.2
KMI				S	S	15 17 16.6	+1.5
KMI				LR	LR		
	comp=N,195nm,7.3s						
KMI				LR	LR		
	comp=E,239nm,12.4s						
KMI				LR	LR		
	comp=Z,189nm,14.3s,MS4.7						
JTS	JuntasAbangare	91.20	80	P	P	15 06 25.8	+2.2
	comp=Z,6.1nm,0.8s,mb5.0,baz=191,slow=5.8,SNR=3.9						
JTS	JuntasAbangare	91.20	80	P	P	15 06 25.1	+1.5
	comp=Z,51nm,1.5s,mb5.6						
SYO	Syowa Base	92.77	191	⇓P	P	15 06 30.1	+0.6
SYO	Syowa Base	92.77	191	⇓PcP	PcP	15 06 33.1	+2.6
SYO	Syowa Base	92.77	191	⇓sP	sP	15 06 41.1	+1.4
VNA3	Neumayer Olymp	93.04	175	⇑iP	P	15 06 35.2	+4.5
VNA3	Neumayer Olymp	93.04	175	⇑i	pP	15 06 39.2	+0.8
VNA3	Neumayer Olymp	93.04	175	⇑i	sP	15 06 42.8	+1.9
SNAA	Sanae	93.09	177	⇓iP	P	15 06 29.1	-1.9
SNAA	Sanae	93.09	177	⇓i	P	15 06 30.5	-0.5
SNAA	Sanae	93.09	177	⇓i	P	15 06 37.5	+6.5
SNAA	Sanae	93.09	177	eP	P	15 06 33.9	+2.9
	comp=Z,4.2nm,1.0s,mb4.8						
VNA2	Neumayer--Watz	93.54	175	⇑iP	P	15 06 36.7	+3.7
VNA2	Neumayer--Watz	93.54	175	⇑i	P	15 06 38.0	+5.0
VNA2	Neumayer--Watz	93.54	175	⇑i	sP	15 06 44.2	+1.0
VNA1	Neumayer--Stat	93.74	175	⇑iP	pP	15 06 41.0	-0.6
VNA1	Neumayer--Stat	93.74	175	⇓i	sP	15 06 46.3	+2.2
VNA1	Neumayer--Stat	93.74	175	⇑i	sP	15 06 49.8	+5.7
ULM	Lac du Bonnet	93.81	39	LR	LR	15 43 51.4	
	comp=Z,316nm,19.1s,MS4.8,baz=32,slow=32						
SONM	Songino Array	94.69	318	P	P	15 06 39.4	+0.6
	comp=Z,1.4nm,1.2s,mb4.3,baz=108,slow=3.9,SNR=7.1						
TIXI	Tiksi	94.82	344	eP	P	15 06 23.3	-16
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.9						
GTA	Gaotai	97.04	309	eP	P	15 06 48.7	-1.1
GTA				AP	pP	15 06 57.1	-0.4
GTA				XP	sP	15 06 59.4	-0.5
GTA				PP	PP	15 10 47.4	-0.9
GTA				SKS	SKS	15 17 23.6	-7.9
GTA				S	S	15 18 10.4	+2.8
GTA				AMB	AMB		
	comp=Z,52nm,5.3s						
GTA				LR	LR		
	comp=N,66nm,25.9s						
GTA				LR	LR		
	comp=E,137nm,20.2s						
GTA				LR	LR		
	comp=Z,185nm,23.2s,MS4.5						
ZAK	Zakamensk	97.36	320	eP	P	15 06 50.8	-0.1
BRYW	Bryant College	108.79	50	ePdif	Pdif	15 07 42.8	+0.8
MKAR	Makanchi Array	110.68	315	PKiKP		15 11 49.8	
	comp=Z,0.8nm,0.8s,SNR=7.0						
ZRNK	Zerenda	118.55	322	ePKPdf	PKPdf	15 12 05.1	-3.6
ARU	Arti	123.17	328	i PKIKP	PKPdf	15 12 13.7	-3.8
ARU				e		15 19 11.3	
ARU				ePS	PS	15 23 48.8	-1.1
ARU				eSS	SS	15 30 39.4	+1.0
ARU	Arti	123.17	328	ePKPdf	PKPdf	15 12 14.5	-3.0
LVZ	Lovozero	124.31	348	i PKIKP	PKPdf	15 12 16.3	-3.3
ARCES	ARCESS Array B	124.42	352	PKP	PKPdf	15 12 16.2	-3.5
	comp=Z,2.7nm,0.8s,slow=6.1,SNR=4.6						
OBN	Obninsk	133.93	336	i PKIKP	PKPdf	15 12 34.8	-3.3
OBN				i		15 15 02.7	
OBN				e		15 19 34.6	
OBN				pmax	pmax		
	comp=Z,2.0nm,0.8s						
OBN				MLR	MLR		
	comp=Z,200nm,17.0s,MS4.9						
ZEI	Tsey	137.88	318	i PKHKP		15 12 36.0	
ZEI				e		15 15 32.0	
ZEI				MLR	MLR		
	comp=Z,300nm,20.0s,MS5.0						
SOC	Sochi	140.04	322	ePKIKP	PKPdf	15 12 48.4	-1.3
SOC				e		15 15 44.8	
SOC				ePPP	PPP	15 18 53.2	+1.9
SOC				eSS	SS	15 34 05.2	+1.7
SOC				eSSS	SSS	15 39 09.6	-8.8
SOC				pmax	pmax		
	comp=Z,18nm,0.9s						
SOC				pmax	pmax		
	comp=N,14nm,1.3s						
SOC				pmax	pmax		
	comp=E,21nm,1.0s						
SOC				MLR	MLR		
	comp=Z,247nm,21.0s,MS4.9						
SOC				MLR	MLR		
	comp=N,100nm,28.0s						
SOC				MLR	MLR		
	comp=E,76nm,25.0s						
AKASG	Malin Array Be	140.16	338	PKP	PKPdf	15 12 46.4	-3.3
	comp=E,0.3nm,0.3s,baz=31,slow=1.7,SNR=5.4						
CLL	Collm	143.63	353	ePKIKP	PKPdf	15 12 53.0	-2.6
	comp=E,logA/T=0.8						
CLL	Collm	143.63	353	ePKIKP	PKPdf	15 12 53.0	-2.6
CLL				pmax	pmax		
	comp=Z,7.0nm,1.1s						
MALT	Malatya	143.71	315	ePKPdf	PKPdf	15 12 52.5	-3.7
BRG	Berggiesshubel	143.94	352	ePKIKP	PKPdf	15 12 51.0	-5.2
BRG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
DPC	Dobruska-Polom	144.07	349	ePKP	PKPdf	15 12 52.0	-4.4
DPC				epPKP		15 13 02.0	
OKC	Ostrava-Krasne	144.21	347	ePKP	PKPdf	15 12 52.8	-3.9
MORC	Moravsky Berou	144.39	348	ePKPdf	PKPdf	15 12 53.1	-3.9
MOX	Moxa	144.43	354	eP	PKPbc	15 12 52.0	-0.2
DJNS	Zahran al Janu	144.49	279	P	PKPbc	15 13 00.8	+7.4
TATS	Tathlith	144.56	282	P	PKPbc	15 12 56.9	+3.4
PRU	Pruhonice	144.72	351	ePKP	PKPdf	15 12 54.1	-3.5
PRU				epPKP		15 13 01.0	
NKC	Novy Kostel	144.75	353	ePKP	PKPdf	15 12 55.1	-2.5
GIVF	Givet	145.18	2	ePKP1	PKPbc	15 12 54.9	+0.7
BAIF	Baives	145.20	3	ePKP1	PKPbc	15 12 55.2	+0.9
VYHS	Vyhne	145.31	346	i PKP	PKPdf	15 12 56.0	-2.7
VYHS				e		15 13 04.2	
GRA1	Grafenberg Arr	145.41	355	ePKPbc	PKPbc	15 12 55.4	+0.6
GRF	Grafenberg Arr	145.41	355	ePKIKP	PKPdf	15 12 55.4	-3.4
PSZ	Piszkesteto	145.58	344	⇓eP	PKPbc	15 12 57.3	+2.0
PSZ	Piszkesteto	145.58	344	ePKPdf	PKPdf	15 12 56.8	-2.4
KMBO	Kilima Mbogo	145.59	245	PKPbc	PKPbc	15 12 58.6	+2.2
	comp=Z,3.0nm,0.7s,baz=62,slow=17,SNR=5.8						
KMBO	Kilima Mbogo	145.59	245	ePKPbc	PKPbc	15 12 58.2	+1.8
WLF	Walferdange	145.64	0	ePKPbc	PKPbc	15 12 57.2	+1.8
KHC	Kasperske Hory	145.69	352	ePKP	PKPdf	15 12 57.0	-2.3
KHC				epPKP		15 13 03.5	
NAMS	An Nimas	145.77	282	P	PKPbc	15 13 08.9	+12
GERES	GERESS Array B	145.96	352	PKPbc	PKPbc	15 12 57.9	+1.7
	comp=Z,4.0nm,0.8s,baz=27,slow=3.0,SNR=26						
ZST	Bratislava	145.98	347	ePKP	PKPdf	15 12 59.1	-0.7
ROSF	Rostrenen	145.99	12	ePKP1	PKPbc	15 12 58.5	+2.2
FLN	La Foliniere	146.05	8	ePKP1	PKPbc	15 12 57.6	+1.2
FLN				eR			
	comp=Z,296nm,19.8s						
SGMF	Saint Gilles	146.20	11	ePKP1	PKPbc	15 12 58.3	+1.5
LDF	La Druitiere	146.26	8	ePKP1	PKPbc	15 12 58.2	+1.3
	comp=Z,36nm,1.1s						
BLJS	Baljurashi	146.32	283	P	PKPbc	15 13 07.5	+10
GRR	Gorron	146.36	9	ePKP1	PKPbc	15 12 58.4	+1.2
	comp=Z,22nm,0.9s						
CDF	Champ du Feu	146.89	359	ePKP1	PKPbc	15 13 00.6	+2.2
	comp=Z,37nm,1.1s						
HAU	Haudompre	147.30	0	ePKP1	PKPdf	15 13 01.6	-0.4
HAU				eR			
	comp=Z,174nm,20.2s						
LTHS	Al Lith	147.42	284	P	PKPdf	15 13 08.9	+5.8
HINF	Hinteralfeld	147.49	360	ePKP1	PKPdf	15 13 02.0	-0.4
ASF	Jabal al Asfar	147.66	307	PKPbc	PKPdf	15 13 03.8	+0.7
	comp=Z,4.2nm,0.8s,baz=308,slow=1.9,SNR=8.3						
PERS	Pernice	147.87	349	ePKPbc	PKPdf	15 13 02.4	-0.6
LOR	Lormes	147.96	3	ePKP1	PKPdf	15 13 02.6	-0.5
	comp=Z,27nm,0.9s						
LOR				eR			
	comp=Z,335nm,20.2s						
SSF	Saint Saulge	148.15	4	ePKP1	PKPdf	15 13 04.0	+0.6
	comp=Z,39nm,1.1s						
MFF	Saint Martin d	148.21	9	ePKP1	PKPdf	15 13 03.7	+0.2
AVF	Avril sur Loir	148.41	4	ePKP1	PKPdf	15 13 04.4	+0.6
	comp=Z,19nm,1.1s						
LJU	Ljubljana	148.55	349	ePKPbc	PKPdf	15 13 04.6	+0.5
HNTI	Hanita	148.57	310	P	PKPdf	15 13 06.5	+1.9
HNTI	Hanita	148.57	310	⇓P	PKPdf	15 13 06.5	+1.9
SMF	Signal de Mont	148.58	4	ePKP1	PKPdf	15 13 04.8	+0.7
	comp=Z,25nm,1.0s						
MMLI	Mount Malkishu	148.68	308	P	PKPdf	15 13 07.2	+2.4
MMLI	Mount Malkishu	148.68	308	⇓P	PKPdf	15 13 07.2	+2.4
HMDT	Nahal Hemdat	148.68	308	P	PKPdf	15 13 07.1	+2.3
HMDT	Nahal Hemdat	148.68	308	⇓P	PKPdf	15 13 07.1	+2.3
CABF	La Chapelle	148.70	1	ePKP1	PKPdf	15 13 06.1	+1.8
	comp=Z,56nm,1.3s						
CEY	Cerknica	148.86	349	ePKPbc	PKPdf	15 13 05.6	+1.0
CSS	Prodhromos	148.96	314	ePKPbc	PKPdf	15 13 06.6	+1.5
DRGI	Dragot	149.06	307	P	PKPdf	15 13 07.8	+2.4
DRGI	Dragot	149.06	307	⇓P	PKPdf	15 13 07.8	+2.4
ZFRI	Zfri	149.66	305	P	PKPdf	15 13 09.4	+3.0
ZFRI	Zfri	149.66	305	⇓P	PKPdf	15 13 09.4	+3.0
RJF	Les Rejaudoux	149.70	7	ePKP1	PKPdf	15 13 08.1	+2.1
RJF				eR			
	comp=Z,252nm,18.2s						
LPL	La Plagne	149.79	360	ePKP1	PKPdf	15 13 09.3	+3.2
	comp=Z,24nm,1.1s						
LPG	La Plagne	149.81	360	ePKP1	PKPdf	15 13 09.5	+3.3
	comp=Z,28nm,1.0s						
PRNI	Paran	149.88	305	P	PKPdf	15 13 10.0	+3.3
PRNI	Paran	149.88	305	⇓P	PKPdf	15 13 10.0	+3.3
NVLJ	Novalja	149.91	348	i PKP	PKPdf	15 13 03.4	-2.9
KZIT	Kziot	150.13	306	P	PKPdf	15 13 10.3	+3.2
KZIT	Kziot	150.13	306	⇓P	PKPdf	15 13 10.3	+3.2
CAF	Calviac	150.14	6	ePKP1	PKPdf	15 13 09.0	+2.3
MBH	Mount Berech	150.17	304	P	PKPdf	15 13 10.6	+3.4
EIL	Elat	150.19	304	P	PKPdf	15 13 10.6	+3.4
EIL	Elat	150.19	304	PKPbc	PKPdf	15 13 10.3	+3.0
	comp=Z,12nm,1.0s,baz=246,slow=3.7,SNR=11						
JMOS	Jabal al Moall	150.25	303	P	PKPdf	15 13 10.2	+2.9
BNI	Bardonecchia	150.26	360	ePKPbc	PKPdf	15 13 10.4	+3.5
ORIF	Oris-en-Rattie	150.39	1	ePKP1	PKPdf	15 13 10.3	+3.2
	comp=Z,24nm,1.2s						
ORIF				eR			
	comp=Z,186nm,19.0s						
SKO	Skopje	150.41	337	i PKP	PKPdf	15 13 10.5	+3.3
VIVF	Saint-Julien-l	150.41	3	ePKP1	PKPdf	15 13 10.3	+3.2
HAQS	Haql	150.44	303	P	PKPdf	15 13 11.2	+3.6
BDAS	Al Bad'	150.52	301	P	PKPdf	15 13 11.4	+3.6
MBDF	Montbardon	150.58	360	ePKP1	PKPdf	15 13 10.8	+3.4
	comp=Z,25nm,1.1s						
ESDC	Sonseca Array	153.94	19	PKPab	PKPab	15 13 31.0	-0.6
	comp=Z,1.2nm,0.7s,baz=319,slow=3.8,SNR=8.1						

IDC 03 15:27:38.9±2.3**,5.37N**×**124.33E,mb3.5**/4**,mb1 3.6**/4**,**
mb1mx3.5/16**,Error ellipse: s-maj=294.0km**
s-min=23.8km az=63.0,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	27.02	159	P	P	15 33 23.4	-1.4
	0.3nm,0.5s,baz=338,slow=9.8,SNR=4.8						
ASAR	Alice Springs	30.34	162	P	P	15 33 53.1	-1.5
	0.2nm,0.4s,baz=340,slow=7.5,SNR=4.0						
STKA	Stephens Creek	40.53	157	P	P	15 35 19.0	-2.6
	0.8nm,0.8s,baz=349,slow=10,SNR=2.8						
MKAR	Makanchi Array	54.85	326	P	P	15 37 11.0	-2.3
	0.3nm,0.3s,baz=120,slow=7.9,SNR=10.0						

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*NEIC **03** 15:50:54.9,39.94N×23.42E,h24^{km},MD3.0(ATH),After ATH.*
*ATH **03** 15:50:54.9,39.94N×23.42E,h24^{km}±1^{km},MD3.0/3*
*THE **03** 15:50:55.6,39.95N×23.39E,h7^{km},ML2.7*
ISC 03 15:50:55.0±0.4**,39.93N**±0.02×**23.40E**±0.03**,h11**^{km}±4^{km}**,**
n18,σ**0**^{s}**94**/31**,Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PAIG	Paliouri	0.22	90	ePg	Pg	15 51 00.3	+0.4
PAIG				eSg	Sg	15 51 03.9	+0.9
PLG	Polygyros	0.45	5	ePB	Pb	15 51 03.7	-0.8
PLG				eSB	Sb	15 51 10.0	-0.8
XOR	Xorichti	0.58	196	ePg	Pg	15 51 06.7	-0.1
XOR				eSg	Sg	15 51 15.8	+1.2
OUR	Ouranopolis	0.61	48	ePg	Pg	15 51 07.3	0.0
OUR				eSg	Sg	15 51 16.0	+0.5
NEO	Neokhori	0.63	192	ePN	Pn	15 51 07.8	-1.8
LIT	Litokhoron	0.72	284	ePg	Pg	15 51 09.0	-0.5
	comp=Z,11nm,0.3s						
LIT				eSg	Sg	15 51 19.4	+0.2
THE	Thessaloniki	0.78	335	ePg	Pg	15 51 09.7	-1.0
THE				eSg	Sg	15 51 20.4	-0.7
AOS	Alonnisos	0.84	153	ePg	Pg	15 51 11.8	-0.2
	comp=Z,8.4nm,0.2s						
AOS				eSg	Sg	15 51 24.1	+0.8
SOH	Sokhos	0.90	358	ePg	Pg	15 51 11.6	-1.4
SOH				eSg	Sg	15 51 24.9	-0.1
SRS	Serrai	1.20	7	ePb	Pb	15 51 17.9	+0.5
SRS				eSb	Sb	15 51 34.9	+2.2
GRG	Griva	1.28	324	ePb	Pb	15 51 18.6	0.0
GRG				eSb	Sb	15 51 36.7	+1.8
KNT	Kendrikon	1.29	343	ePb	Pb	15 51 19.2	+0.3
	comp=Z,7.9nm,0.2s						
KNT				eSb	Sb	15 51 37.1	+1.8
LIA	Limnos Island	1.38	91	ePN	Pn	15 51 20.3	0.0
NVR	Nevrokopi	1.47	14	ePN	Pn	15 51 21.6	0.0
MEV	Metsovon	1.67	266	ePb	Pb	15 51 25.0	-0.5
	comp=Z,1.8nm,0.5s						
MEV				eSb	Sb	15 51 46.6	+0.2
RDO	Rodhopi	2.04	53	ePB	Pb	15 51 29.0	-2.6
ALN	Alexandroupoli	2.24	64	ePn	Pn	15 51 32.1	-0.6
ALN				eSn	Sn	15 52 00.4	-0.3
IGT	Igoumenitsa	2.39	262	ePn	Pn	15 51 35.0	+0.1

TRN 03 16:00:09.6,15.11N×**60.41W,h1**^{km}**,MD3.7,Md3.4**(FDF)**,**
4C-8D,Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CRM	Caravelle	0.60	234	⇓iP	Pg	16 00 19.6	-2.0
MVM	Montagne Vaucl	0.72	220	⇓iP	Pg	16 00 21.5	-2.6
MVM				eS	Sg	16 00 29.2	-4.5
FDF	Fort de France	0.81	243	⇓iP	Pg	16 00 23.0	-2.7
BIM	Bigot	0.87	227	⇓iP	Pg	16 00 23.6	-3.4
BIM				eS	Sg	16 00 34.5	-4.0
DSTT	Stowe	0.87	279	⇑iP	Pg	16 00 24.9	-2.1
DSTT				eS	Sg	16 00 36.4	-2.2
DBCT	Belle View Cho	0.92	280	⇑iP	Pg	16 00 25.4	-2.5
DBCT				eS	Sg	16 00 36.2	-4.0
DPMT	Pointe Michel	0.94	279	eP	Pb	16 00 25.8	-2.6
DPMT				eS	Sg	16 00 37.8	-3.3
MDN	Morne-Daniel	0.97	283	eP	Pb	16 00 26.3	-2.6
MDN				eS	Sg	16 00 39.9	-2.0
DWS	Wesley	0.98	298	⇑iP	Pb	16 00 26.8	-2.2
DWS				eS	Sg	16 00 37.8	-4.5
DLVT	Layou Valley	1.00	289	eP	Pb	16 00 26.8	-2.6
DLVT				eS	Sb	16 00 39.4	-3.6
BBL	Barber's Block	1.10	292	⇓eP	Pb	16 00 27.1	-4.1
BBL	Barber's Block	1.10	292	eP	Pb	16 00 28.1	-3.1
BBL				eS	Sb	16 00 40.6	-5.3
MGG	Marie-Galante	1.19	313	eP	Pb	16 00 28.4	-4.2
SLW	Petit Monier	1.20	205	⇓eP	Pb	16 00 27.7	-5.0
SLW	Petit Monier	1.20	205	⇓iP	Pb	16 00 29.8	-3.0
SLW				eS	Sb	16 00 41.8	-6.8
SLW				eS	Sb	16 00 43.8	-4.8
DEG	La Desirade	1.35	333	eP	Pb	16 00 30.5	-4.9
SFG	Saint Francois	1.37	327	eP	Pb	16 00 30.9	-4.8
SLPE	Piton Saint Es	1.38	204	⇓iP	Pb	16 00 32.5	-3.4
SLPE				eS	Sb	16 00 48.7	-5.2
SLB	Belfond	1.41	206	eP	Pb	16 00 33.0	-3.4
SLB				eS	Sb	16 00 49.4	-5.4
MCLT	Moule a Chique	1.48	200	eP	Pn	16 00 33.7	-3.7
MCLT				eS	Sb	16 00 50.9	-5.9
SEG	Port Louis	1.66	321	eP	Pn	16 00 35.9	-4.2
BPA	Boggy Peak	2.38	324	eP	Pn	16 00 47.0	-3.3
BPA				eS	Sn	16 01 10.9	-10
GRCU	Cariacou	2.81	201	⇑eP	Pn	16 00 51.6	-4.9
GRCU				eS	Sn	16 01 25.9	-5.6
CPB	Codrington	2.86	332	eP	Pn	16 00 54.1	-3.1
GRW	Mount Saint Ca	3.17	203	eP	Pn	16 00 58.6	-3.1
GRW				eS	Sn	16 01 35.9	-4.7

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*IDC **03** 16:04:09.2±1.1,36.89N×27.80E,mb3.9/4,mb1 3.9/10,*
mb1mx3.8/22,ML3.6/6,Error ellipse: s-maj=23.3km
s-min=15.1km az=145.0
*ISK **03** 16:04:10.6,36.98N×27.85E,h14^{km},MD3.6,ML3.7*
*NEIC **03** 16:04:10.7,36.95N×27.79E,h27^{km},mb3.7/1,*
MD3.6(ATH),After ATH.
*ATH **03** 16:04:10.7,36.95N×27.79E,h27^{km}±2^{km},MD3.6/10*
ISC 03 16:04:10.1±0.5**,36.92N**±0.02×**27.81E**±0.03**,h14**^{km}±3^{km}**,**
n59,σ**0**^{s}**88**/71**,mb3.8**/4**,1C,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDRM	Kayabasi	0.33	297	i P	Pg	16 04 17.4	+0.4
BDRM				i S	Sg	16 04 22.9	+1.1
MLSB	Milas	0.38	356	i PG	Pg	16 04 17.6	-0.5
MLSB				i SG	Sg	16 04 23.3	-0.1
YER	Yerkesik	0.44	60	i PG	Pg	16 04 18.5	-0.7
NISR	Nisiros	0.62	241	ePN	Pn	16 04 23.5	-0.8
DALT	Dalyan (Mudla)	0.68	102	i PG	Pg	16 04 23.9	0.0
DALT				i SG	Sg	16 04 33.9	+0.8
ARG	Arkhangelos	0.74	160	ePN	Pn	16 04 24.9	-1.1
ARG				eSN	Sn	16 04 38.2	+1.2
AYDN	Tasoluk	0.75	4	⇑iP	Pb	16 04 23.6	-0.8
AYDN				i S	Sb	16 04 34.8	+0.7
SMG	Samos	1.11	316	ePN	Pn	16 04 31.6	+0.4
DNZL	Cakiroluk	1.25	52	i P	Pb	16 04 32.9	-0.2
DNZL				i S	Sb	16 04 47.5	-1.4
DENT	Denizli	1.29	49	i PN	Pn	16 04 34.4	+0.7
KARP	Karpathos	1.46	201	ePN	Pn	16 04 37.3	+1.1
KARP				eSN	Sn	16 04 56.9	+1.6
IZM	Izmir	1.54	344	PN	Pn	16 04 37.5	+0.1
KSL	Kastellorizon	1.62	118	ePN	Pn	16 04 40.0	+1.5
MANT	Manisa	1.68	20	i P	Pn	16 04 38.2	-1.2
MANT				i S	Sn	16 05 01.7	+0.8
ELL	Elmali	1.69	95	PN	Pn	16 04 40.6	+1.0
APE	Apeiranthos	1.83	275	PN	Pn	16 04 43.0	+1.5
APE	Apeiranthos	1.83	275	ePN	Pn	16 04 42.7	+1.2
KHL	Karahalli	1.96	44	PN	Pn	16 04 43.0	-0.3
AKS	Akhisar	1.96	0	PN	Pn	16 04 43.3	-0.1
SANT	Santorini	1.97	255	ePn	Pn	16 04 41.8	-1.7
SANT				e		16 04 51.0	
SANT				eSn	Sn	16 05 06.2	-1.8
THR1	Thera Island	1.97	255	eP	Pn	16 04 51.3	+7.9
THR4	Thira Island,	1.99	258	eP	Pn	16 04 50.8	+7.0
THR3	Thira Island,	2.00	256	eP	Pn	16 04 50.9	+6.9
THR6	Thira Island,	2.02	255	eP	Pn	16 04 51.0	+6.8
THR5	Thira Island,	2.04	257	eP	Pn	16 04 51.3	+6.7
ANTB	Antalya	2.28	90	ePN	Pn	16 04 48.3	+0.3
ISP	Isparta	2.34	66	ePN	Pn	16 04 49.9	+1.1
NPS	Neapolis	2.43	228	ePB	Pb	16 04 53.0	-0.1
PRK	Paraskevi	2.62	333	ePN	Pn	16 04 53.0	+0.1
XRY	Khrisi	2.66	221	ePB	Pb	16 04 56.8	-0.3
BALB	Balikesir	2.72	1	ePN	Pn	16 04 54.1	-0.2
ALT	Altintas	2.81	40	PN	Pn	16 04 55.0	-0.5
IDI	Anoyia	2.87	236	Pn	Pn	16 04 56.9	+0.5
	3.8nm,0.3s,baz=287,slow=22,SNR=21						
IDI				Lg		16 05 39.4	
	10nm,0.3s,baz=294,slow=24,SNR=6.1						
PTL	Penteli	3.33	291	ePN	Pn	16 05 03.0	0.0
LIA	Limnos Island	3.62	326	ePN	Pn	16 05 07.1	0.0
HDMB	Hadim	3.75	88	PN	Pn	16 05 09.3	+0.5
ALN	Alexandroupoli	4.21	341	eP	Pn	16 05 14.6	-0.7
XOR	Xorichti	4.38	305	eP	Pn	16 05 18.5	+0.6
PAIG	Paliouri	4.42	314	eP	Pn	16 05 19.0	+0.6
OUR	Ouranopolis	4.54	320	eP	Pn	16 05 20.3	+0.2
RDO	Rodhopi	4.58	338	ePN	Pn	16 05 20.2	-0.5
CSS	Prodhromos	4.89	112	ePn	Pn	16 05 23.0	-2.0
ANTO	Ankara	4.90	52	ePN	Pn	16 05 25.3	+0.1
LIT	Litokhoron	5.25	309	eP	Pn	16 05 31.0	+0.9
SRS	Serrai	5.33	323	eP	Pn	16 05 31.0	-0.2
BRTR	Keskin Array B	5.37	57	Pn	Pn	16 05 32.0	+0.1
	0.8nm,0.3s,baz=236,slow=15,SNR=15						
BRTR				Sn	Sn	16 06 36.1	+1.8
	0.4nm,0.3s,baz=232,slow=16,SNR=3.6						
NVR	Nevrokopi	5.39	326	ePN	Pn	16 05 31.7	-0.4
KNT	Kendrikon	5.71	319	eP	Pn	16 05 36.9	+0.3
MLR	Muntele Rosu	8.68	351	Pn	P	16 06 18.5	+0.2
	0.1nm,0.3s,baz=156,slow=18,SNR=5.1						
ASF	Jabal al Asfar	8.86	120	Pn	P	16 06 19.2	-1.6
	0.7nm,0.3s,baz=195,slow=12,SNR=5.8						
ASF				Sn	Sn	16 07 56.8	-4.7
	0.5nm,0.3s,baz=54,slow=21,SNR=4.3						
TIP	Timpagrande	9.01	288	ePn	P	16 06 21.9	-0.9
EIL	Elat	9.38	138	Pn	P	16 06 25.7	-2.2
	0.8nm,0.3s,baz=339,slow=17,SNR=6.5						
EIL				Sn	Sn	16 08 05.3	-8.9
	0.7nm,0.3s,baz=298,slow=35,SNR=3.9						
GERES	GERESS Array B	15.75	324	Pn	P	16 07 58.4	+5.4
	0.2nm,0.3s,baz=144,slow=12,SNR=5.8						
CLL	Collm	17.84	328	i	P	16 08 24.0	+4.6
CLL				e		16 08 48.0	
CLL	Collm	17.84	328	i P	P	16 08 24.0	+4.6
	6.0nm,0.9s						
FINES	FINESS Array B	24.57	358	P	P	16 09 30.6	+0.1
	1.5nm,0.8s,mb3.6,baz=145,slow=17,SNR=3.6						
MKAR	Makanchi Array	41.02	58	P	P	16 11 53.6	-0.7
	5.4nm,1.1s,mb4.1,baz=282,slow=6.4,SNR=18						
SONM	Songino Array	56.72	52	P	P	16 13 54.7	-0.8
	0.8nm,0.5s,mb4.0,baz=290,slow=8.4,SNR=7.3						
PDAR	Pinedale Array	91.70	330	P	P	16 17 18.5	+0.5
	0.1nm,0.4s,mb3.5,baz=45,slow=6.4,SNR=2.2						

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*TAP **03** 16:06:54.5,24.48N×122.41E,h40^{km}±1^{km},ML2.4*
JMA 03 16:06:53.9±0.1**,24.98N**×**122.66E,M1.8,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	Yonaguni jima	0.61	148	P	Pg	16 07 06.0	0.0
YOJ				eS	Sg	16 07 14.5	+0.4
IRIF	Iriomote-Funau	1.17	123	P	Pb	16 07 16.4	-0.2
IRIF				eS	Sb	16 07 32.2	0.0
JKRS	Kuro-shima	1.43	121	P	Pb	16 07 20.8	-0.4
JKRS				eS	Sb	16 07 39.7	-0.2
JIJ	Ishigaki jima	1.48	114	P	Pn	16 07 21.9	0.0
JIJ				eS	Sb	16 07 40.8	-0.5

DJA 03 17:04:00.8±0.9**,9.54S**×**114.61E,h11**^{km}±4^{km}**,MD5.8**/3**,**
ML4.6/4**,2C-6D,Error ellipse: s-maj=17.3km**
s-min=11.2km az=13.0,South of Bali

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
INGI	Ingas	0.89	37	⇑ePg	Pg	17 04 16.4	-2.3
	1µm,0.2s						
INGI				⇓eSg	Sg	17 04 28.1	-2.6
RATI	Rata	1.22	49	⇓ePn	Pn	17 04 21.2	-2.7
	2µm,0.1s						
RATI				⇓eSn	Sn	17 04 35.8	-4.7
KELI	Kelakatan	1.32	355	⇓ePn	Pn	17 04 22.7	-2.6
	356nm,0.2s						
KELI				⇑eSn	Sn	17 04 38.3	-4.6
KEDI	Kedomdong	1.82	55	⇓ePn	Pn	17 04 29.4	-3.0
	298nm,0.2s						
KEDI				⇓eSn	Sn	17 04 50.6	-5.0

IDC 03 17:04:58.4±1.9, 0.56S×125.39E, mb3.1/3, mb1 3.4/3, mb1mx3.3/13, Error ellipse: s-maj=177.0km s-min=27.8km az=64.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	21.16	156	P	P	17 09 45.1	-2.6
	0.4nm,0.5s,baz=334,slow=11,SNR=7.6						
ASAR	Alice Springs	24.41	161	P	P	17 10 19.1	-0.8
	0.5nm,0.9s,baz=348,slow=8.8,SNR=4.2						
MKAR	Makanchi Array	60.36	327	P	P	17 15 09.3	-2.3
	0.1nm,0.4s,baz=118,slow=7.2,SNR=4.2						

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*HEL **03** 17:24:08.7±0.1, 60.19N×25.17E, ML2.0, ML2.2(UPP), Explosion*

*IDC **03** 17:24:08.7±1.8, 60.21N×25.32E, mb1 3.2/3, mb1mx3.0/17, ML2.7/3, Error ellipse: s-maj=19.9km s-min=6.8km az=144.0*

*NAO **03** 17:24:09.4±3.1, 60.31N×25.09E, ML1.7*

ISC 03 17:24:07.0±0.5, 60.26N±0.04×25.15E±0.06, n20, σ1^{s}39/32, Finland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PVF	Pernaja	0.46	50	*e*P	Pg	17 24 17.5	+1.4
PVF				*e*S	Sg	17 24 23.9	+1.6
VJF	Virojoki	1.23	76	*e*P	Pb	17 24 30.2	-0.6
VJF				*e*S	Sb	17 24 46.5	-0.6
FIA0	FINESS Array S	1.28	20	Pn	Pn	17 24 33.0	+0.9
	baz=196,slow=14						
FIA0				Lg		17 24 50.2	
	baz=198,slow=28						
FIA0	FINESS Array S	1.28	20	*e*P	Pb	17 24 33.0	+1.4
FIA0				*e*S	Sb	17 24 50.4	+1.9
FINES	FINESS Array B	1.28	20	Pg	Pg	17 24 32.7	+0.2
	8.0nm,0.3s,baz=193,slow=17,SNR=203						
FINES				Pn	Pn	17 24 34.8	+2.7
	8.0nm,0.3s,baz=180,slow=15,SNR=202						
FINES				Lg		17 24 49.5	
	2.2nm,0.3s,baz=185,slow=31,SNR=7.4						
FINES				Sn	Sn	17 24 54.7	+4.6
	16nm,0.3s,baz=201,slow=23,SNR=22						
FINES				Rg		17 24 57.8	
	28nm,0.8s,baz=185,slow=34,SNR=20						
KAF	Kangasniemi	1.95	16	*e*PG	Pg	17 24 44.6	-1.3
KAF				*e*SG	Sg	17 25 10.6	-1.2
KAF				MSG		17 25 12.8	
	comp=Z,8.8nm,0.2s						
VSU	Vasula	1.97	155	*e*P	Pn	17 24 42.8	+0.8
VSU				*e*S	Sn	17 25 06.7	-1.1
AAL	Aland	2.57	271	*e*P	Pn	17 24 51.8	+1.2
AAL				*e*S	Sn	17 25 24.8	+1.7
GRAU	Graesoe	3.29	274	*e*P	Pn	17 25 01.3	+0.5
NRTU	Norrtaelje	3.33	263	*e*P	Pn	17 25 02.0	+0.6
FLYU	Flymyra	3.63	271	*e*P	Pn	17 25 05.8	+0.2
NYNU	Nynaeshamn	3.84	254	*e*P	Pn	17 25 09.2	+0.6
OSTU	Oestervaala	4.00	273	*e*P	Pn	17 25 11.4	+0.5
BACU	Backbrunna	4.05	268	*e*P	Pn	17 25 12.4	+0.8
HFS	Hagfors	5.72	274	Pn	Pn	17 25 34.2	-0.9
	baz=102,slow=12						
HFS				Sn	Sn	17 26 38.9	-3.6
	baz=80,slow=28						
HFS				Lg		17 27 08.6	
	baz=76,slow=37						
HFS	Hagfors	5.72	274	Pn	Pn	17 25 34.3	-0.9
	comp=Z,0.0nm,0.3s,baz=96,slow=13,SNR=7.7						
HFS				Sn	Sn	17 26 38.7	-3.7
	comp=Z,0.2nm,0.3s,baz=80,slow=27,SNR=11						
HFS				Lg		17 27 08.7	
	comp=Z,0.1nm,0.3s,baz=79,slow=30,SNR=4.8						
NOA	NORSAR Array B	6.90	283	Pn	Pn	17 25 49.5	-2.4
	comp=Z,0.1nm,0.3s,baz=90,slow=13,SNR=2.5						
NOA				Sn	Sn	17 27 08.7	-3.3
	comp=Z,0.3nm,0.3s,baz=298,slow=15,SNR=2.8						
APA0	Apatity Array	8.14	22	Pn	P	17 26 06.7	-2.6
	baz=191,slow=12						
ARA0	ARCESS Array S	9.32	1	Pn	P	17 26 23.5	-2.1
	baz=176,slow=14						
ARA0				Sn	Sn	17 28 04.2	-8.2
	baz=178,slow=28						
ARA0				Lg		17 28 57.2	
	baz=173,slow=37						
ARCES	ARCESS Array B	9.32	1	Pn	P	17 26 23.4	-2.2
	comp=Z,0.1nm,0.3s,baz=180,slow=12,SNR=18						

DJA 03 17:25:15.8±0.9, 9.58S×114.62E, h11^{km}±4^{km}, MD5.6/4, ML3.8/4, 6C-2D, Error ellipse: s-maj=17.2km s-min=11.4km az=12.0, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
INGI	Ingas	0.92	35	⇑*e*Pg	Pg	17 25 32.2	-2.1
	143nm,0.2s						
INGI				⇑*e*Sg	Sg	17 25 43.3	-3.3
RATI	Rata	1.24	47	⇑*e*Pn	Pn	17 25 36.2	-3.0
	297nm,0.2s						
RATI				⇑*e*Sn	Sn	17 25 51.5	-4.5
KELI	Kelakatan	1.36	355	⇑*e*Pn	Pn	17 25 38.1	-2.8
	53nm,0.2s						
KELI				⇓*e*Sn	Sn	17 25 54.8	-4.2
KEDI	Kedomdong	1.84	54	⇓*e*Pn	Pn	17 25 44.7	-2.9
	49nm,0.2s						
KEDI				⇑*e*Sn	Sn	17 26 06.0	-5.0

DJA 03 17:36:26.4±0.9, 8.55S×116.18E, h107^{km}±6^{km}, MD5.0/4, ML4.1/2, 6C-2D, Error ellipse: s-maj=30.0km s-min=14.4km az=173.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KEDI	Kedomdong	0.09	310	⇑*e*Pg	P	17 36 41.1	-0.3
	621nm,0.1s						
KEDI				⇑*e*Sg	S	17 36 52.0	-0.5
RATI	Rata	0.67	255	⇑*e*Pg	P	17 36 44.0	-0.4
	619nm,0.2s						
RATI				⇓*e*Sg	S	17 36 57.1	-0.8
INGI	Ingas	1.06	255	⇑*e*Pn	P	17 36 47.9	-0.4
	645nm,0.2s						
INGI				⇑*e*Sn	S	17 37 03.5	-1.3
KELI	Kelakatan	1.71	281	⇑*e*Pn	P	17 36 55.6	-0.4
	50nm,0.2s						
KELI				⇓*e*Sn	S	17 37 16.8	-1.4

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*JMA **03** 17:37:54.3±0.3, 23.97N×121.88E, h84^{km}, M2.5*

TAP 03 17:37:51.5, 23.81N×121.84E, h41^{km}±1^{km}, ML3.2, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	Yonaguni jima	1.25	59	P	P	17 38 15.5	+2.7
YOJ				*e*S	S	17 38 31.3	+2.5
IRIF	Iriomote-Funau	1.81	73	P	P	17 38 23.2	+2.4
IRIF				*e*S	S	17 38 45.3	+2.7
JKRS	Kuro-shima	2.03	77	P	P	17 38 26.4	+2.5
JKRS				*e*S	S	17 38 51.4	+3.2
JIJ	Ishigaki jima	2.18	75	P	P	17 38 27.8	+1.8
JIJ				*e*S	S	17 38 53.0	+1.1
JTJ	Tarama	2.74	72	P	P	17 38 35.9	+1.8
JTJ				*e*S	S	17 39 08.6	+2.3

IDC 03 17:39:18.6±13.0, 23.41S×179.21W, h482^{km}±115^{km}, mb3.6/5, mb1 3.7/6, mb1mx3.4/12, Error ellipse: s-maj=184.0km s-min=70.2km az=57.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	Urewera	15.14	191	P	P	17 42 30.3	-0.6
	0.8nm,0.3s,baz=4.8,slow=12,SNR=5.4						
URZ				S	S	17 45 01.0	-5.5
	0.3nm,0.3s,baz=95,slow=10,SNR=5.7						
CTA	Charters Tower	32.20	269	P	P	17 45 06.8	-0.5
	8.7nm,0.4s,baz=96,slow=9.5,SNR=24						
STKA	Stephens Creek	35.58	248	P	P	17 45 33.9	-1.6
	0.9nm,0.4s,baz=127,slow=16,SNR=5.1						
ASAR	Alice Springs	42.83	260	P	P	17 46 33.0	-1.6
	2.9nm,0.5s,baz=96,slow=7.4,SNR=102						
ASPA	Alice Springs	42.83	260	*e*P	P	17 46 32.9	-1.7
WB2	Warramunga Arr	43.15	265	*e*P	P	17 46 35.3	-1.8
WRA	Warramunga Arr	43.16	265	P	P	17 46 35.6	-1.7
	4.4nm,0.4s,baz=96,slow=8.4,SNR=105						
FORT	Forrest	47.16	249	*e*P	P	17 47 05.3	-2.8
	56nm,0.6s						
FITZ	Fitzroy Crossi	51.59	265	P	P	17 47 40.0	-1.4
	4.7nm,0.9s,baz=124,slow=6.8,SNR=11						

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*IDC **03** 17:59:21.9±4.6, 6.53S×128.76E, h222^{km}±44^{km}, mb3.2/1, mb1 3.1/4, mb1mx3.0/10, Error ellipse: s-maj=76.4km s-min=18.0km az=69.0*

ISC 03 17:59:18.2±2.2, 6.5S±0.1×128.7E±0.1, h194^{km}±21^{km}, n5, σ1^{s}36/9, mb3.5/1, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	Kakadu	7.20	149	*e*P	P	18 01 04.5	+2.7
	3.7nm,0.4s						
KAKA				*e*S	S	18 02 20.8	-1.8
FITZ	Fitzroy Crossi	11.92	194	P	P	18 02 04.6	+1.4
	0.3nm,0.3s,baz=35,slow=18,SNR=19						
FITZ				S	S	18 04 11.8	-1.0
	0.2nm,0.3s,baz=199,slow=19,SNR=3.4						
WRA	Warramunga Arr	14.48	158	P	P	18 02 34.9	-0.5
	0.1nm,0.3s,baz=341,slow=13,SNR=11						
WRA				S	S	18 05 10.9	-0.3
	0.2nm,0.3s,baz=334,slow=22,SNR=5.2						
ASAR	Alice Springs	17.82	164	P	P	18 03 14.3	-0.7
	0.2nm,0.3s,baz=336,slow=9.4,SNR=19						
ASAR				S	S	18 06 26.6	+1.9
	0.0nm,0.3s,baz=344,slow=20,SNR=3.9						
MKAR	Makanchi Array	67.06	327	P	P	18 09 51.9	-0.8
	0.5nm,0.4s,mb3.5,baz=120,slow=8.5,SNR=7.4						

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*NIC **03** 18:20:59.0±0.4, 36.85N×31.27E, h25^{km}, mb4.1, ML3.7, MW3.2*

*NEIC **03** 18:20:59.0, 36.85N×31.27E, h25^{km}, ML3.7(NIC), After NIC.*

*ISK **03** 18:21:01.6, 35.94N×31.18E, h5^{km}, MD3.5*

ISC 03 18:21:04.7±0.9, 36.08N±0.07×31.1E±0.1, h10^{km}, n17, σ1^{s}29/25, 2C-2D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ELL	Elmali	1.18	305	*i* PN	Pn	18 21 27.4	+0.1
HDMB	Hadim	1.42	51	*i* PN	Pn	18 21 30.4	-0.2
AKMC	Akamas	1.44	136	P	Pn	18 21 30.2	-0.8
BCK	Bucak	1.45	343	PN	Pn	18 21 31.5	+0.4
BCK				SN	Sn	18 21 54.7	+4.5
ALFC	Alevga	1.52	127	⇑P	Pn	18 21 28.1	-4.0
	12nm,0.2s						
ALFC				S	Sb	18 21 53.4	+1.7
ALFC	Alevga	1.52	127	⇑*i*P	Pn	18 21 28.1	-4.0
ALFC				S	Sb	18 21 53.4	+1.7
PPCY	Paphos	1.56	139	P	Pn	18 21 32.0	-0.6
PPCY				S	Sb	18 21 55.7	+2.9
MAMC	Mammari	1.94	117	P	Pn	18 21 34.4	-3.7
SZAC	Souni-Zanaja	1.95	132	P	Pn	18 21 36.3	-2.0
	3.3nm,0.3s						
SZAC				S	Sn	18 22 05.7	+2.6
IKL	Isikli	2.09	85	*e*PN	Pn	18 21 38.7	-1.5
CSS	Prodhromos	2.12	121	⇓P	Pn	18 21 36.4	-4.3
	2.2nm,0.4s						
CSS				S	Sn	18 22 07.3	-0.1
CSS	Prodhromos	2.12	121	⇓*i*P	Pn	18 21 36.4	-4.3
CSS				S	Sn	18 22 07.3	-0.1
PHNC	Paralimni	2.61	113	P	Pn	18 21 48.7	+1.0
	3.9nm,0.6s						
PHNC				S	Sn	18 22 24.6	+4.9
KIZT	Kizilcal	2.87	12	PN	Pn	18 21 51.0	-0.4
ALT	Altintas	3.08	345	*e*PN	Pn	18 21 55.6	+1.2
ESKT	Eskisehir	3.44	357	*e*PN	Pn	18 22 00.1	+0.5
EIL	Elat	7.16	152	*e*Pn	Pn	18 22 46.0	-6.1

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*PRU **03** 18:24:47.9, 51.49N×16.08E*

*WAR **03** 18:24:47.7, 51.54N×16.09E, ML2.7, Mining Induced*

*NEIC **03** 18:24:51.4±1.5, 51.28N×15.76E, h5^{km}, ML2.6(VIE), Error ellipse: s-maj=17.9km s-min=8.2km az=193.0*

ISC 03 18:24:45.4±0.8, 51.50N±0.05×16.07E±0.04, n17, σ1^{s}13/36, 1C, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	Ksiaz	0.67	168	*i* PG	Pg	18 25 00.6	+1.8
KSP				*e*SG	Sg	18 25 10.6	+2.9
KSP	Ksiaz	0.67	168	*i* Pg	Pg	18 25 00.6	+1.8
KSP				*e*Sg	Sg	18 25 09.7	+2.0
UPC	Upice	0.99	182	*e*PG	Pg	18 25 06.7	+1.5
DPC	Dobruska-Polom	1.16	172	*e*PG	Pg	18 25 09.4	+0.8
	10.0nm,0.2s						
DPC				*e*SG	Sg	18 25 24.5	+0.5
PVCC	Panska Ves	1.35	225	*e*PG	Pg	18 25 13.0	+0.5
BRG	Berggiesshubel	1.48	246	*i* Pg	Pg	18 25 15.4	+0.5
BRG				*i* Sg	Sg	18 25 35.8	+1.2
PRU	Pruhonice	1.79	213	*e*PN	Pn	18 25 18.8	+0.9
PRU				PG	Pg	18 25 20.8	-0.5
PRU				*i* x	x	18 25 25.0	
PRU				*i* x	x	18 25 37.6	
PRU				*e*SG	Sg	18 25 44.8	-0.4
	14nm,0.4s						
CLL	Collm	1.93	266	*i* PN	Pn	18 25 20.0	+0.2
CLL				*i* PG	Pg	18 25 23.0	-0.9
CLL				*i*		18 25 27.1	
CLL				*i* SG	Sg	18 25 49.7	+0.1
CLL	Collm	1.93	266	*i* Pn	Pn	18 25 20.0	+0.2
CLL				*i* Pg	Pg	18 25 23.0	-0.9
CLL				*i* Sg	Sg	18 25 49.7	+0.1
MORC	Moravsky Berou	1.96	151	*e*Pn	Pn	18 25 20.7	+0.4
MORC				*e*Sn	Sn	18 25 46.3	+0.4
OKC	Ostrava-Krasne	2.12	141	*e*PG	Pg	18 25 27.9	+0.1
OKC				*e*SG	Sg	18 25 54.3	-1.8
NKC	Novy Kostel	2.62	243	*e*PG	Pg	18 25 37.9	+0.2
NKC				*e*SG	Sg	18 26 11.2	-1.4
OJC	Ojcow	2.69	117	*e*PG	Pg	18 25 38.0	-1.1
OJC				*e*SG	Sg	18 26 13.0	-1.9
OJC	Ojcow	2.69	117	*e*Pg	Pg	18 25 38.2	-0.9
OJC				*e*Sg	Sg	18 26 13.1	-1.8
KHC	Kasperske Hory	2.86	215	*e*PN	Pn	18 25 34.0	+0.9
KHC				*e*PG	Pg	18 25 39.9	-2.5
KHC				*e*SG	Sg	18 26 17.2	-3.3
MOX	Moxa	2.94	255	*e*Pg	Pg	18 25 43.7	-0.3
MOX				*e*Sg	Sg	18 26 22.4	-0.7
MOA	Molln	3.83	198	⇑*i*PN	Pn	18 25 47.9	+0.9
MOA				*i* SG	Sg	18 26 51.8	-1.3
	1.7nm,0.3s						

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*IDC **03** 18:53:47.2±2.1, 43.65N×105.41W, mb4.2/1, mb1 4.1/3, mb1mx3.6/18, ML3.3/2, Error ellipse: s-maj=55.4km s-min=8.6km az=151.0*

*NEIC **03** 18:53:48.8±0.5, 43.83N×105.25W, ML3.0, Error ellipse: s-maj=8.9km s-min=5.8km az=155.0, Suspected Mining explosion.*

NEIC 55 km [35 miles] SSE of Gillette.

ISC 03 18:53:48.1±0.5, 43.80N±0.06×105.31W±0.05, n24, σ1^{s}17/38, mb4.3/1, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RSSD	Black Hills	0.98	70	*e*Pg	Pg	18 54 07.4	-0.2
RSSD				*e*Sg	Sg	18 54 22.0	+1.4
LAO	LASA Array	2.96	348	*e*Pn	Pn	18 54 35.9	-1.4
LAO				*e*Sn	Sn	18 55 10.1	-3.9
BW06	Boulder Array	3.27	253	*e*Pn	Pn	18 54 41.5	-0.1
BW06				*e*Sn	Sn	18 55 22.1	+0.3
BW06				*e*		18 55 28.5	
PDAR	Pinedale Array	3.27	253	Pn	Pn	18 54 41.8	+0.2
	2.4nm,0.3s,baz=76,slow=17,SNR=46						
PDAR				Lg		18 55 25.8	
	9.3nm,0.3s,baz=78,slow=29,SNR=15						
LOHW	Long Hollow	3.84	269	*e*Pn	Pn	18 54 51.7	+2.0
MOOW	Moose Ponds	3.93	271	*e*Pn	Pn	18 54 50.9	-0.2
MOOW				*e*Pb	Pb	18 54 59.1	+0.9
MOOW				*e*Sn	Sn	18 55 27.1	-11
WUWY	Wally Ulrich	3.95	268	*e*Pn	Pn	18 54 51.8	+0.5
WUWY				*e*Pb	Pb	18 54 59.4	+1.0
WUWY				*e*Sn	Sn	18 55 35.2	-3.7
SNOW	Snow King Moun	3.96	267	*e*Pn	Pn	18 54 49.5	-2.0
SNOW				*e*Pb	Pb	18 54 59.1	+0.4
SNOW				*e*Sg	Sg	18 55 53.3	-6.8
ISCO	Idaho Springs	4.00	183	*e*Pn	Pn	18 54 53.3	+1.3
ISCO				*e*		18 55 02.0	
REDW	Red Top Meadow	4.05	266	*e*Pn	Pn	18 54 53.1	+0.4
REDW				*e*Pb	Pb	18 55 00.6	+0.5
REDW				*e*Sn	Sn	18 55 44.0	+2.5
TPAW	Teton Pass	4.10	268	*e*Pn	Pn	18 54 53.8	+0.3
TPAW				*e*Pb	Pb	18 55 01.5	+0.5
AHID	Auburn Hatcher	4.35	258	*e*Pg	Pg	18 55 14.1	-0.8
DGMT	Dagmar	4.74	9	*e*Pn	Pn	18 55 04.1	+1.6
BOZ	Bozeman (W)	4.87	295	*e*Pn	Pn	18 55 03.6	-0.7
BOZ				*e*		18 55 12.8	
BOZ				*e*Sn	Sn	18 56 17.8	+16
HWUT	Hardware Ranch	5.10	247	*e*Pn	Pn	18 55 07.2	-0.3
	2.2nm,0.3s						
TCUT	Toone Canyon	5.24	241	*e*Pn	Pn	18 55 08.5	-1.1
TCUT				*e*Sn	Sn	18 56 11.0	-0.7
HRY	Holter Researc	5.45	305	*e*Pn	Pn	18 55 12.9	+0.5
MCMT	McKenzie Canyo	5.50	283	*e*Pb	Pb	18 55 25.6	+0.6
HVU	Hansel Valley	5.85	252	*e*Pn	Pn	18 55 17.2	-0.9
PV01	Paradox Valley	6.17	205	*e*Pn	Pn	18 55 20.5	-2.1
CHMT	Chamberlain Mo	6.40	302	*e*Pn	Pn	18 55 25.2	-0.7
ULM	Lac du Bonnet	9.12	42	Pn	P	18 56 00.2	-3.7
	1.1nm,0.3s,baz=232,slow=14,SNR=11						
ULM				Lg		18 58 32.9	
	0.2nm,0.3s,baz=126,slow=19,SNR=2.8						
ULM	Lac du Bonnet	9.12	42	Pn	P	18 56 00.2	-3.7
ULM				Lg		18 58 32.9	
ARCES	ARCESS Array B	61.37	18	P	P	19 04 04.5	-3.0
	2.8nm,1.0s,mb4.3,baz=337,slow=6.9,SNR=5.8						

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*IDC **03** 19:04:46.3±0.5, 15.08S×173.52W, mb5.1/14, mb1 5.3/15, mb1mx5.3/15, ML5.1/1, MS5.7/9, Ms1 5.7/9, ms1mx5.6/11, Error ellipse: s-maj=19.8km s-min=13.4km az=161.0*

*NEIC **03** 19:04:48.0±0.2, 15.25S×173.34W, h10^{km}, mb5.5/68, ME5.8, MS5.8/78, MW6.2, Error ellipse: s-maj=9.6km s-min=4.0km az=144.0 Broadband fault plane solution: P waves. NP1:ϕ_s15°, δ88°, λ130°. NP2:ϕ_s107°, δ40°, λ3°. Principal axes: T Plg34°, Azm318°; N Plg0°, Azm0°; P Plg31°, Azm73°; Moment Tensor Solution. s55 Moment tensor: Scale 10^{18} Nm; M_{rr}-0.01; $M_{\theta\theta}$2.09; $M_{\phi\phi}$-2.09; $M_{r\theta}$0.27; $M_{\theta\phi}$1.18; $M_{\phi r}$0.81; Best double couple: $M_0$2.5×10^{18} NP1:ϕ_s120°, δ71°, λ-3°. NP2:ϕ_s211°, δ87°, λ-161°. Principal axes: T 2.5, Plg11°, Azm344°; N .11, Plg71°, Azm220°; P -2.6, Plg16°, Azm77°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

*SYO **03** 19:04:47.7, 15.37S×173.23W, h10^{km}, MB5.5, MS5.8*

*BJI **03** 19:04:48.5, 14.40S×172.78W, h15^{km}, mB5.8, mb5.3, Ms5.9, Msz5.7*

*HRVD **03** 19:04:48.0±0.1, 14.98S×173.07W, h15^{km}, MW6.1/81, Centroid moment Tensor Solution. LP body waves: s70,c168;Mantle waves: s81,c186; Half duration: 2^{s}5 Moment tensor: Scale 10^{18}Nm; M_{rr}0.18±.01; $M_{\theta\theta}$0.45±.01; $M_{\phi\phi}$-0.63±.01; $M_{r\theta}$0.35±.03; $M_{\theta\phi}$0.62±.01; $M_{\phi r}$1.18±.03; Best double couple: $M_0$1.49×10^{18} NP1:ϕ_s112°, δ33°, λ8°. NP2:ϕ_s16°, δ86°, λ123°. Principal axes: T 1.45, Plg40°, Azm316°; N .07, Plg33°, Azm193°; P -1.53, Plg33°, Azm79°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*MOS **03** 19:04:51.7±1.2, 15.04S×173.16W, h33^{km}, mb5.7/40, MS5.8/25 Error ellipse: s-maj=14.6km s-min=7.8km az=64.0*

ISC 03 19:04:47.6±0.2, 15.21S±0.04×173.38W±0.04, h16^{km}, h16^{km}±1.7^{km}:pP-P, n584, σ1^{s}01/259, mb5.3/105, MS5.7/110, 27C-13D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	Nonsavu	8.60	252	Pn	P	19 07 02.6	+8.1
	4µm,1.3s						
RAR	Rarotonga	14.23	117	Pn	P	19 08 03.4	-7.4
	9.3nm,0.3s,baz=258,slow=6.5,SNR=16						
RAR				Sn	S	19 10 33.2	-16
	2.5nm,0.3s,baz=138,slow=21,SNR=2.0						
RAR				LR	LR	19 12 02.7	
	comp=Z,46µm,21.0s,baz=308,slow=30						
RAR				T		19 22 45.4	
	75nm,0.3s,baz=161,slow=9.7,SNR=3.7						
RAR	Rarotonga	14.23	117	*e*P	P	19 08 02.8	-8.0
RAR				pmax	pmax		
	comp=Z,350nm,0.8s						
RAR	Rarotonga	14.23	117	*e*Pn	P	19 08 02.8	-8.0
	comp=Z,352nm,0.8s						
BKM	Butte a Klehm	17.80	260	⇓*i*P	P	19 09 02.9	+6.3
DZM	Mont Dzumac	20.29	247	*e*P	P	19 09 25.8	+0.1
DZM	Mont Dzumac	20.29	247	*e*P	P	19 09 25.8	+0.1
NOUC	Port Laguerre	20.43	247	*e*P	P	19 09 30.2	+3.1
PPT	Papeete	22.95	99	P	P	19 09 53.9	+1.3
	comp=Z,102nm,1.0s,mb5.2,baz=308,slow=5.0,SNR=5.0						
PPT				S	S	19 14 08.4	+11
	comp=Z,11nm,0.3s,baz=16,slow=22,SNR=1.9						
PPT				T		19 33 43.6	
	comp=Z,36nm,0.4s,baz=159,slow=20,SNR=4.0						
PPT	Papeete	22.95	99	*e*P	P	19 09 52.2	-0.4
	comp=Z,146nm,1.2s,mb5.3						
PPT	Papeete	22.95	99	*e*L		19 14 04.5	
PPT				*e*R		19 14 53.1	
	comp=Z,64µm,25.0s,baz=267						
PAE	Paea	22.95	99	*e*P	P	19 09 52.0	-0.6
	comp=Z,325nm,1.2s,mb5.6						
TIAR	Tiarei	23.17	99	*e*P	P	19 09 54.2	-0.5
	comp=Z,371nm,1.2s,mb5.7						
TVO	Taravao	23.27	100	*e*P	P	19 09 55.5	-0.1
	comp=Z,117nm,0.9s,mb5.3						
TBI	Tubuai	23.95	113	*e*P	P	19 10 03.6	+1.3
	comp=Z,168nm,1.0s,mb5.4						
TBI				*e*L		19 14 33.0	
TBI				*e*R		19 15 27.0	
	comp=Z,70µm,26.2s,baz=284						
URZ	Urewera	24.45	198	P	P	19 10 07.7	+0.7
	comp=Z,18nm,0.5s,mb4.8,baz=347,slow=3.5,SNR=11						
URZ				S	S	19 14 32.3	+9.0
	comp=Z,11nm,0.9s,baz=5.2,slow=15,SNR=2.4						
RPZ	Rata Peaks	31.36	202	P	P	19 11 09.6	-0.3
	comp=Z,9.6nm,0.6s,mb4.8,baz=38,slow=14,SNR=4.6						
RPZ				S	S	19 16 15.5	+0.3
	comp=Z,6.4nm,1.1s,baz=205,slow=24,SNR=1.7						
ARMA	Armidale	35.46	239	*e*P	P	19 11 44.6	-0.9
RKT	Rikitea	37.03	108	*e*P	P	19 12 01.2	+2.4
	comp=Z,232nm,1.1s,mb5.9						
RKT	Rikitea	37.03	108	*e*L		19 20 27.7	
RKT				*e*R		19 21 29.3	
	comp=Z,35µm,26.2s,baz=280						
CTA	Charters Tower	38.71	257	*e*P	P	19 12 12.4	-0.5
	comp=Z,2.8nm,0.6s,mb4.2						
CTAO	Charters Tower	38.71	257	*e*P	P	19 12 15.6	+2.6
	comp=Z,13nm,0.9s,mb4.7						
CTAO				LR	LR		
	comp=Z,12µm,21.0s,MS5.7						
CNB	Canberra Magne	38.88	232	*e*P	P	19 12 13.5	-0.7
KIP	Kipapa	39.40	23	*e*P	P	19 12 21.0	+2.3
KIP				pmax	pmax		
	comp=Z,130nm,1.1s,mb5.6						
KIP	Kipapa	39.40	23	*e*P	P	19 12 21.0	+2.3
	comp=Z,128nm,1.1s,mb5.6						
TOO	Toolangi	42.60	231	*e*P	P	19 12 44.1	-0.8
	comp=Z,30nm,0.9s,mb5.0						
TAU	Tasmania Unive	43.47	223	*e*P	P	19 12 51.0	-0.9
	comp=Z,22nm,1.0s,mb4.8						
TAU				LR	LR		
	comp=Z,3µm,19.0s,MS5.2						
STKA	Stephens Creek	44.15	240	P	P	19 12 55.5	-2.1
	comp=Z,23nm,0.9s,mb4.9,baz=89,slow=9.6,SNR=21						
STKA				S	S	19 19 26.9	-2.4
	comp=Z,1.1nm,0.8s,baz=52,slow=20,SNR=1.9						
STKA				LR	LR	19 29 13.8	
	comp=Z,8µm,21.1s,MS5.6,baz=70,slow=33						
STKA	Stephens Creek	44.15	240	P	P	19 12 55.5	-2.1
STKA				S	S	19 19 26.9	-2.4
STKA				LR	LR	19 29 13.8	
ADE	Adelaide	47.14	236	P	P	19 13 21.1	-0.2
WB2	Warramunga Arr	49.90	257	*e*P	P	19 13 41.4	-1.4
WRAB	Tennant Creek	49.90	257	*e*P	P	19 13 41.5	-1.4
	comp=Z,19nm,0.6s,mb5.3						
WRA	Warramunga Arr	49.91	257	P	P	19 13 39.8	-3.1
	comp=Z,8.3nm,0.6s,mb5.0,baz=90,slow=6.9,SNR=158						
WRA				S	S	19 20 50.5	-0.7
	comp=Z,0.8nm,1.1s,baz=97,slow=12,SNR=2.7						
WRA				LR	LR	19 32 41.4	

	comp=Z,9µm,20.7s,MS5.8,baz=95,slow=34						
ASAR	Alice Springs	50.19	252	P	P	19 13 43.0	-2.1
	comp=Z,47nm,0.7s,mb5.7,baz=87,slow=7.7,SNR=360						
ASAR				S	S	19 20 52.9	-2.1
	comp=Z,0.2nm,0.8s,baz=198,slow=32,SNR=3.5						
ASAR				LR	LR	19 32 53.4	
	comp=Z,18µm,21.9s,MS6.0,baz=90,slow=34						
ASPA	Alice Springs	50.20	252	*e*P	P	19 13 43.2	-1.8
GUMO	Guam	50.25	303	PFAKE		19 14 00.0	+14
GUMO				LR	LR		
	comp=Z,6µm,19.0s,MS5.6						
KAKA	Kakadu	52.58	266	*e*P	P	19 14 03.4	+0.2
	comp=Z,17nm,0.7s,mb5.1						
FORT	Forrest	55.52	243	*e*P	P	19 14 22.5	-2.1
	comp=Z,90nm,0.6s,mb6.0						
FITZ	Fitzroy Crossi	58.27	258	*e*P	P	19 14 41.3	-3.0
	comp=Z,4.7nm,1.1s,mb4.4						
DRV	Dumont d'Urvil	59.78	200	P	P	19 14 55.0	+0.9
DRV				S	S	19 23 02.0	-0.9
DRV				L		19 30 00.0	
DRV				R		19 33 00.0	
RPN	Rapa Nui	60.34	113	PFAKE		19 15 10.0	+12
RPN				LR	LR		
	comp=Z,2µm,20.0s,MS5.3						
MBWA	Marble Bar	63.44	254	*e*P	P	19 15 19.1	-0.2
	comp=Z,28nm,1.3s,mb5.2						
SBA	Scott Base	63.44	185	*e*P	P	19 15 20.9	+2.3
SBA				pmax	pmax		
	comp=Z,42nm,0.9s,mb5.6						
SBA	Scott Base	63.44	185	*e*P	P	19 15 20.9	+2.3
	comp=Z,42nm,0.9s,mb5.6						
KLBR	Kellerberrin	64.35	242	*e*P	P	19 15 24.5	-0.7
	comp=Z,90nm,1.8s,mb5.5						
MUN	Mundaring	65.64	242	*e*P	P	19 15 36.3	+2.7
	comp=Z,18nm,0.9s,mb5.1						
JHJ	Hachijo jima 2	65.64	318	P	P	19 15 31.9	-1.7
	comp=Z,74nm,0.8s,mb5.8,baz=60,slow=19,SNR=2.0						
SMY	Shemya	68.52	352	PFAKE		19 16 00.0	+8.6
SMY				LR	LR		
	comp=Z,17µm,22.0s,MS6.2						
MAJO	Matsushiro	68.81	320	*e*P	P	19 15 54.2	+0.7
	comp=Z,162nm,1.7s,mb5.7						
MAJO				LR	LR		
	comp=Z,10µm,22.0s,MS6.0						
MAT	Matsushiro	68.81	320	P	P	19 15 52.1	-1.4
MAT				S	S	19 24 54.0	-1.1
MAT	Matsushiro	68.81	320	*e*P	P	19 15 52.0	-1.5
	comp=Z,400nm,2.2s,mb6.0						
MAT				*e*S	S	19 24 54.0	-1.1
MAT				LR	LR		
	comp=Z,10µm,20.0s,MS6.0						
UNV	Unalaska Valle	69.03	4	*e*P	P	19 15 54.6	+0.1
	comp=Z,99nm,1.0s,mb5.7						
CASY	Casey	70.59	205	PFAKE		19 16 10.0	+6.2
CASY				LR	LR		
	comp=Z,3µm,19.0s,MS5.5						
SKR	Severo-Kuril's	70.86	340	*e*P	P	19 16 09.0	+3.3
SKR				*e*		19 16 18.0	
SKR				*e*		19 16 32.0	
SKR				*e*		19 18 46.0	
SKR				*e*S	S	19 25 24.0	+5.2
SKR				*e*		19 26 10.0	
SKR				*e*SS	SS	19 29 48.0	-5.5
SKR				pmax	pmax		
	comp=Z,1µm,8.0s						
SKR				pmax	pmax		
	comp=Z,130nm,1.0s,mb5.8						
SKR				smax			
	comp=N,3µm,12.0s						
SKR				smax			
	comp=E,3µm,12.0s						
SKR				MLR	MLR		
	comp=N,5µm,18.0s,MS5.8						
SKR				MLR	MLR		
	comp=E,2µm,18.0s,MS5.8						
SKR				MLR	MLR		
	comp=Z,3µm,18.0s,MS5.7						
SAO	San Andreas Ge	71.17	42	PFAKE		19 16 20.0	+12
SAO				LR	LR		
	comp=Z,5µm,22.0s,MS5.7						
HOPS	Hopland	71.51	39	PFAKE		19 16 20.0	+10
HOPS				LR	LR		
	comp=Z,4µm,19.0s,MS5.8						
PET	Petropavlovsk	72.11	343*c*	*i*P	P	19 16 11.4	-1.8
PET				*i* S	S	19 25 36.2	+3.0
PET				*e*PPS	PPS	19 26 22.6	+3.4
PET				*e*SS	SS	19 30 17.6	+5.1
PET				pmax	pmax		
	comp=Z,900nm,6.5s						
PET				pmax	pmax		
	comp=N,500nm,5.2s						
PET				pmax	pmax		
	comp=N,400nm,16.4s						
PET				pmax	pmax		
	comp=Z,800nm,14.5s						
PET				pmax	pmax		
	comp=E,300nm,15.4s						
PET				pmax	pmax		
	comp=Z,600nm,10.5s						
PET				pmax	pmax		
	comp=Z,500nm,12.4s						
PET				smax			
	comp=N,2µm,9.9s						
PET				smax			
	comp=E,1µm,9.1s						
PET				smax			
	comp=E,2µm,15.5s						
PET				smax			
	comp=N,4µm,14.8s						
CMB	Columbia Colle	72.61	41	P	P	19 16 15.7	-0.8
CMB				S	S	19 25 42.9	+3.6
CMB	Columbia Colle	72.61	41	*e*P	P	19 16 15.8	-0.6
	comp=N,11nm,0.9s,mb4.8						
CMB				LR	LR		
	comp=Z,4µm,20.0s,MS5.7						
WDC	Whiskeytown Da	72.81	38	*e*P	P	19 16 17.5	-0.1
WDC				pmax	pmax		
	comp=Z,92nm,1.7s,mb5.4						
WDC	Whiskeytown Da	72.81	38	*e*P	P	19 16 17.5	-0.1
	comp=Z,92nm,1.7s,mb5.4						
YSS	Yuzh-Sakhalins	73.33	330*c*	*e*P	P	19 16 20.4	-0.1
YSS				*e*		19 16 39.0	
YSS				*e*S	S	19 25 49.0	+1.8
YSS				*e*PPS	PPS	19 26 33.0	-3.5
YSS				*e*SSS	SSS	19 33 46.0	+3.5
YSS				pmax	pmax		
	comp=E,200nm,2.0s						
YSS				pmax	pmax		
	comp=Z,410nm,2.0s,mb6.0						
YSS				smax			
	comp=N,3µm,13.0s						
YSS				MLR	MLR		
	comp=N,2µm,18.0s						
YSS				MLR	MLR		
	comp=Z,2µm,18.0s,MS5.3						
YSS	Yuzh-Sakhalins	73.33	330	*e*P	P	19 16 21.8	+1.3
	comp=Z,102nm,1.3s,mb5.6						
YSS				LR	LR		
	comp=Z,5µm,20.0s,MS5.8						
MTUM	Tungsten Hills	73.39	43	*e*P	P	19 16 21.2	+0.1
YBH	Yreka Blue Hor	73.43	37	*e*P	P	19 16 21.9	+0.7
YBH				pmax	pmax		
	comp=Z,44nm,1.2s						
YBH	Yreka Blue Hor	73.43	37	*e*P	P	19 16 21.9	+0.6
	comp=Z,44nm,1.3s,mb5.2						
DAC	Darwin (Calif)	73.44	44	*e*P	P	19 16 20.2	-1.1
	comp=Z,110nm,2.1s,mb5.4						
DAC				LR	LR		
	comp=Z,8µm,22.0s,MS6.0						
BEKR	Beckwourth	73.71	40	*e*P	P	19 16 22.7	-0.1
	comp=Z,77nm,1.7s,mb5.3						
WCN	Washoe City	73.75	41	*e*P	P	19 16 21.5	-1.6
WCN				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.8						
WCN	Washoe City	73.75	41	*e*P	P	19 16 21.4	-1.6
	comp=Z,14nm,1.0s,mb4.8						
HUMO	Hull Mountain	73.84	36	*e*P	P	19 16 23.2	-0.4
	comp=Z,39nm,1.1s,mb5.2						
HSO	Harness Mounta	74.35	36	P	P	19 16 28.8	+2.3
BRO	Bare Mountain	74.35	44	P	P	19 16 30.7	+4.1
TPH	Tonopah	74.68	43	*e*P	P	19 16 27.8	-0.7
	comp=Z,20nm,1.0s,mb5.0						
TPH				LR	LR		
	comp=Z,5µm,21.0s,MS5.8						
TPNV	Topopah Spring	74.71	44	*e*P	P	19 16 27.8	-0.9
	comp=Z,11nm,0.8s,mb4.8						
TPNV				LR	LR		
	comp=Z,9µm,22.0s,MS6.0						
KDAK	Kodiak Island	74.73	11	*e*P	P	19 16 28.6	+0.2
	comp=Z,102nm,1.4s,mb5.6						
KDAK				LR	LR		
	comp=Z,1µm,20.0s,MS5.1						
QSPA	South Pole Qui	74.83	180	*e*P	P	19 16 30.0	+1.4
	comp=Z,84nm,1.0s,mb5.6						
QSPA				LR	LR		
	comp=Z,4µm,18.1s,MS5.8						
COR	Corvallis	74.91	35	PFAKE		19 16 40.0	+10
COR				LR	LR		
	comp=Z,722nm,20.0s,MS5.0						
MOD	Modoc	74.96	38	P	P	19 16 29.4	-0.7
	comp=Z,7.5nm,0.4s,mb5.0						
NEN	Nelson	74.98	46	*e*P	P	19 16 30.0	-0.3
SSOR	Sweet Springs	75.54	35	*e*P	P	19 16 34.5	+1.2
PINOR	Pine Mountain	75.78	36	P	P	19 16 35.1	+0.4
BMN	Battle Mountai	75.99	41	*e*P	P	19 16 35.7	-0.3
	comp=Z,16nm,0.9s,mb5.0						
BMN				LR	LR		
	comp=Z,3µm,21.0s,MS5.6						
BMW	Boistfort Moun	76.17	33	*e*P	P	19 16 36.1	-0.7
TUC	Tucson	76.25	51	*e*P	P	19 16 37.4	-0.2
TUC				pmax	pmax		
	comp=Z,110nm,1.9s,mb5.5						
TUC				MLR	MLR		
	comp=Z,6µm,21.0s,MS5.9						
TUC	Tucson	76.25	51	*e*P	P	19 16 37.4	-0.2
	comp=Z,106nm,1.9s,mb5.5						
TUC				LR	LR		
	comp=Z,6µm,21.0s,MS5.9						
WVOR	Wild Horse Val	76.27	38	*e*P	P	19 16 36.6	-0.9
WVOR				pmax	pmax		
	comp=Z,44nm,1.1s,mb5.3						
WVOR				MLR	MLR		
	comp=Z,6µm,21.0s,MS5.9						
WVOR	Wild Horse Val	76.27	38	*e*P	P	19 16 36.6	-0.9
	comp=Z,44nm,1.2s,mb5.3						
WVOR				LR	LR		
	comp=Z,6µm,21.0s,MS5.9						
VFP	Flag Point	76.38	35	P	P	19 16 37.8	-0.3
OCWA	Octopus Mounta	76.51	32	PFAKE		19 16 50.0	+11
OCWA				LR	LR		
	comp=Z,1µm,21.0s,MS5.2						
VLA	Vladivostok	76.67	322	⇑*i*P	P	19 16 43.0	+3.3
VLA				*i*		19 16 55.0	
VLA				*e*		19 19 41.0	
VLA				*i* S	S	19 26 29.0	+4.7
VLA				*i*		19 26 47.0	
VLA				*i* SS	SS	19 31 30.0	+7.0
VLA				pmax	pmax		
	comp=N,500nm,7.0s						
VLA				pmax	pmax		
	comp=Z,1µm,7.0s						
VLA				pmax	pmax		
	comp=E,500nm,8.0s						
VLA				pmax	pmax		
	comp=N,300nm,5.6s						
VLA				pmax	pmax		
	comp=E,400nm,5.6s						
VLA				pmax	pmax		
	comp=Z,500nm,5.6s						
VLA				smax			
	comp=N,5µm,8.0s						
VLA				smax			
	comp=E,2µm,9.0s						
VLA				MLR	MLR		
	comp=N,3µm,18.0s,MS5.7						
VLA				MLR	MLR		
	comp=Z,3µm,18.0s,MS5.6						
VLA				MLR	MLR		
	comp=E,1µm,17.0s,MS5.7						
VGB	Gordon Butte	76.89	35	P	P	19 16 41.0	+0.2
VGB	Gordon Butte	76.89	35	*e*P	P	19 16 40.4	-0.5
INCN	Inchon	76.93	315	*e*P	P	19 16 43.1	+1.8
	comp=E,18nm,0.8s,mb5.1						
GNW	Green Mountain	77.08	32	*e*P	P	19 16 41.8	-0.1
LON	Longmire	77.09	34	*e*P	P	19 16 47.1	+5.1
LON	Longmire	77.09	34	*e*P	P	19 16 41.6	-0.4
FMW	Mount Fremont	77.28	33	P	P	19 16 43.5	+0.5
WUAZ	Wupatki	77.35	48	*e*P	P	19 16 44.3	+0.6
	comp=E,31nm,1.1s,mb5.2						
WUAZ				LR	LR		
	comp=Z,6µm,22.0s,MS5.9						
QZH	Quanzhou	77.38	300	⇑P	P	19 16 44.0	0.0
QZH				S	S	19 26 33.0	+0.7
QZH				AMB	AMB		
	comp=Z,80nm,1.5s,mb5.4						
QZH				LR	LR		
	comp=N,4µm,21.2s,MS5.8						
QZH				LR	LR		
	comp=E,3µm,21.6s,MS5.8						
QZH				LR	LR		
	comp=Z,9µm,31.5s						
GSM	Grass Mountain	77.39	33	P	P	19 16 43.7	+0.1
ELK	Elko	77.42	41	*e*P	P	19 16 44.4	+0.5
ELK				pmax	pmax		
	comp=Z,31nm,1.2s						
ELK	Elko	77.42	41	*e*P	P	19 16 43.3	-0.7
	comp=Z,31nm,1.2s,mb5.1						
PGC	Sidney	77.47	31	*e*P	P	19 16 44.7	+0.7
	comp=Z,62nm,1.0s,mb5.5						
RMW	Rattlesnake Mo	77.55	33	*e*P	P	19 16 44.5	+0.1
RMW	Rattlesnake Mo	77.55	33	*e*P	P	19 16 44.2	-0.2
MIR	Mirnyy	77.61	204	⇓*e*P	P	19 16 46.6	+2.2
MIR				*e*		19 19 47.0	
MIR				*e*S	S	19 26 34.0	+0.1
MIR				*e*SS	SS	19 31 38.0	+1.4
MIR				pmax	pmax		
	comp=Z,57nm,1.8s,mb5.2						
MIR				smax			
	comp=N,1µm,13.0s						
MIR				smax			
	comp=E,600nm,8.0s						
MIR				MLR	MLR		
	comp=Z,2µm,16.0s,MS5.5						
EBG	Ellensburg	77.86	34	P	P	19 16 45.8	-0.4
SSE	Sheshan	77.86	307	P	P	19 16 47.8	+1.3
SSE				S	S	19 26 40.8	+3.4
SSE				SS	SS	19 31 40.8	-0.4
SSE				AMB	AMB		
	comp=Z,51nm,0.7s,mb5.6						
SSE				AMB	AMB		
	comp=Z,750nm,9.5s						
SSE				LR	LR		
	comp=N,2µm,34.0s,MS5.4						
SSE				LR	LR		
	comp=E,2µm,34.0s,MS5.4						
SSE				LR	LR		
	comp=Z,4µm,32.0s,MS5.5						
HAWA	Hanford	78.11	35	*e*P	P	19 16 46.6	-0.9
	comp=Z,32nm,1.1s,mb5.2						
HAWA				LR	LR		
	comp=Z,3µm,20.0s,MS5.6						
MSU	Marysvale	78.28	45	*e*P	P	19 16 48.8	+0.2
RPW	Rockport	78.32	32	*e*P	P	19 16 47.5	-1.1
ETW	Entiat	78.42	34	P	P	19 16 49.5	+0.3
LNOR	Lincton Mounta	78.49	36	*e*P	P	19 16 49.5	-0.2
SIT	Sitka	78.64	20	PFAKE		19 17 00.0	+10
SIT				LR	LR		
	comp=Z,4µm,19.0s,MS5.8						
NLW	Nelson Butte	78.70	33	*e*P	P	19 16 51.1	+0.3
DUG	Dugway	78.71	43	*e*P	P	19 16 51.4	+0.4
DUG				pmax	pmax		
	comp=Z,36nm,1.2s,mb5.2						
DUG				MLR	MLR		
	comp=Z,5µm,21.0s,MS5.8						
DUG	Dugway	78.71	43	*e*P	P	19 16 50.5	-0.5
	comp=Z,36nm,1.3s,mb5.1						
DUG				LR	LR		
	comp=Z,5µm,21.0s,MS5.8						
MDJ	Mudanjiang	78.89	322	P	P	19 16 52.3	+0.4
MDJ				S	S	19 26 53.9	+5.7
MDJ				XS		19 26 59.1	
MDJ				AMB	AMB		
	comp=Z,35nm,2.3s,mb4.9						
MDJ				AMB	AMB		
	comp=Z,1µm,11.2s						
MDJ				LR	LR		
	comp=N,4µm,23.0s,MS5.9						
MDJ				LR	LR		
	comp=E,5µm,22.4s,MS5.9						
MDJ				LR	LR		
	comp=Z,8µm,23.7s,MS6.0						
ZAIG	Zacatecas	78.89	63	*i* P	P	19 16 52.2	-0.1
PMR	Palmer	78.93	12	*e*P	P	19 16 51.7	-0.1
PMR				pmax	pmax		
	comp=Z,47nm,1.1s,mb5.3						
PMR				MLR	MLR		
	comp=Z,2µm,22.0s,MS5.4						
PMR	Palmer	78.93	12	*e*P	P	19 16 51.6	-0.2
BGU	Big Grassy Mou	78.94	42	*e*P	P	19 16 52.1	-0.1
NLU	North Lily Min	79.07	43	*e*P	P	19 16 52.4	-0.6
DIV	Divide	79.21	13	*e*P	P	19 16 53.0	-0.2
	comp=Z,129nm,0.8s,mb5.9						
SML	Sawmill	79.28	12	P	P	19 16 55.5	+1.8
SML				*e*	pP	19 17 02.3	+3.6
SML	Sawmill	79.28	12	*e*P	P	19 16 53.3	-0.4
MPU	Maple Canyon	79.39	43	*e*P	P	19 16 55.9	+1.1
HLID	Hailey	79.47	39	*e*P	P	19 16 54.3	-0.7
	comp=Z,20nm,0.9s,mb5.0						
HLID				LR	LR		
	comp=Z,2µm,21.0s,MS5.5						
SPUT	South Promonto	79.52	42	*e*P	P	19 16 56.0	+0.6
HVU	Hansel Valley	79.55	41	P	P	19 16 55.4	-0.1
HVU	Hansel Valley	79.55	41	*e*P	P	19 16 55.1	-0.4
SRU	San Rafael	79.69	45	P	P	19 16 57.2	+0.8
SRU	San Rafael	79.69	45	*e*P	P	19 16 56.5	+0.2
DPW	Davenport	79.72	34	P	P	19 16 55.9	-0.4
DPW	Davenport	79.72	34	*e*P	P	19 16 55.5	-0.8
JLU	Jordanelle	79.81	43	*e*P	P	19 16 56.3	-0.6
DAU	Daniels Canyon	79.84	43	P	P	19 16 57.3	+0.2
DAU	Daniels Canyon	79.84	43	*e*P	P	19 16 57.0	-0.1
LAZ	Ladron	79.92	50	*e*P	P	19 16 57.7	+0.1
LENM	Lemitar	79.94	51	*e*P	P	19 16 57.7	-0.1
MA2	Magadan	79.99	342	*e*P	P	19 16 56.4	-1.1
MA2				pmax	pmax		
	comp=Z,88nm,1.9s,mb5.4						
NJ2	Nanjing	80.07	307	*e*P	P	19 16 58.9	+0.4
NJ2				AP	pP	19 17 09.3	+5.7
NJ2				XP	sP	19 17 13.2	+8.0
NJ2				PP	PP	19 20 03.2	+0.9
NJ2				S	S	19 27 01.0	+0.2
NJ2				XS		19 27 20.0	
TCUT	Toone Canyon	80.09	43	*e*P	P	19 16 57.5	-1.0
BNM	Barren Site	80.19	51	*e*P	P	19 16 58.8	-0.3
HWUT	Hardware Ranch	80.24	42	*e*P	P	19 16 58.6	-0.6
	comp=Z,11nm,0.8s,mb4.8						
HWUT				LR	LR		
	comp=Z,7µm,22.0s,MS6.0						
KLR	Kul'dur	80.37	327	*e*P	P	19 17 00.0	+0.2
KLR				*e*S	S	19 27 08.0	+4.4
KLR				pmax	pmax		
	comp=E,60nm,2.4s						
KLR				pmax	pmax		
	comp=Z,120nm,2.4s,mb5.4						
KLR				pmax	pmax		
	comp=Z,1µm,7.0s						
KLR				smax			
	comp=N,600nm,11.0s						
KLR				smax			
	comp=E,2µm,11.0s						
KLR				MLR	MLR		
	comp=E,2µm,18.0s						
LTX	Lajitas	80.49	56	*e*P	P	19 17 00.7	-0.1
	comp=E,360nm,2.3s,mb5.9						
LTX				LR	LR		
	comp=Z,5µm,21.0s,MS5.9						
TXAR	Lajitas Array	80.49	56	P	P	19 17 00.1	-0.7
	comp=Z,37nm,1.4s,mb5.1,baz=225,slow=5.3,SNR=35						
TXAR				S	S	19 27 07.5	+2.3
	comp=Z,0.3nm,1.0s,baz=90,slow=6.3,SNR=3.1						
TXAR				LR	LR	19 44 48.4	
	comp=Z,5µm,21.2s,MS5.8,baz=250,slow=30						
NEW	Newport	80.54	34	*e*P	P	19 17 00.2	-0.4
	comp=Z,14nm,1.0s,mb4.8						
NEW				LR	LR		
	comp=Z,2µm,20.0s,MS5.5						
PV01	Paradox Valley	80.58	46	*e*P	P	19 17 01.5	+0.4
TNA	Tin City	80.63	2	*e*P	P	19 17 01.6	+0.7
	comp=Z,118nm,1.4s,mb5.6						
ANMO	Albuquerque	80.66	50	P	P	19 17 01.0	-0.6
ANMO				S	S	19 27 11.3	+4.4
ANMO	Albuquerque	80.66	50	*e*P	P	19 17 01.8	+0.1
	comp=Z,206nm,2.3s,mb5.7						
ANMO				LR	LR		
	comp=Z,5µm,21.0s,MS5.9						
MCK	McKinley	80.93	11	*e*P	P	19 17 01.9	-0.5
MCK				pmax	pmax		
	comp=Z,35nm,0.9s,mb5.3						
MCK	McKinley	80.93	11	*e*P	P	19 17 01.9	-0.6
	comp=Z,35nm,0.9s,mb5.3						
CN2	Changchun	80.96	320	⇑P	P	19 17 03.7	+0.7
CN2				*e*XP	sP	19 17 10.9	+1.2
CN2				*e*S	S	19 27 13.1	+3.3
CN2				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.9						
CN2				AMB	AMB		
	comp=Z,200nm,6.0s						
CN2				LR	LR		
	comp=N,2µm,23.0s,MS5.7						
CN2				LR	LR		
	comp=E,3µm,23.0s,MS5.7						
CN2				LR	LR		
	comp=Z,4µm,21.0s,MS5.8						
DL2	Dalian	81.07	314	P	P	19 17 04.6	+0.9
DL2				S	S	19 27 19.0	+8.0
DL2				AMB	AMB		
	comp=Z,770nm,7.3s						
DL2				LR	LR		
	comp=N,800nm,23.7s,MS5.2						
DL2				LR	LR		
	comp=E,1µm,24.0s,MS5.2						
DL2				LR	LR		
	comp=Z,2µm,24.8s,MS5.3						
GDL2	Guadalupe Moun	81.09	53	*e*P	P	19 17 03.8	-0.2
MCMT	McKenzie Canyo	81.09	39	*e*P	P	19 17 03.2	-0.4
AHID	Auburn Hatcher	81.12	41	*e*P	P	19 17 03.7	-0.2
	comp=Z,23nm,1.0s,mb5.1						
AHID				LR	LR		
	comp=Z,3µm,21.0s,MS5.6						
SNY	Shenyang	81.15	318	⇑P	P	19 17 03.9	-0.2
SNY				AMB	AMB		
	comp=Z,60nm,2.1s,mb5.2						
SNY				AMB	AMB		
	comp=Z,1µm,9.2s						
SNY				LR	LR		
	comp=N,2µm,19.4s,MS5.6						
SNY				LR	LR		
	comp=E,2µm,19.0s,MS5.6						
SNY				LR	LR		
	comp=Z,3µm,20.0s,MS5.6						
THY	Trims Highway	81.26	12	*e*P	P	19 17 06.1	+2.0
CLNB	Carlsbad	81.49	53	*e*P	P	19 17 05.4	-0.6
MSO	Missoula	81.52	37	*e*P	P	19 17 05.4	-0.4
	comp=Z,25nm,1.3s,mb5.0						
MSO				LR	LR		
	comp=Z,2µm,20.0s,MS5.5						
DLBC	Dease Lake	81.52	21	*e*P	P	19 17 06.0	+0.4
REDW	Red Top Meadow	81.58	41	*e*P	P	19 17 06.0	-0.3
TPAW	Teton Pass	81.58	41	*e*P	P	19 17 06.4	+0.1
BSMT	Bassoo Peak	81.59	36	P	P	19 17 05.5	-0.7
SNOW	Snow King Moun	81.69	41	*e*P	P	19 17 06.5	-0.3
WUWY	Wally Ulrich	81.73	41	*e*P	P	19 17 07.0	0.0
CPRX	Cap Rock	81.81	53	*e*P	P	19 17 07.7	0.0
MOOW	Moose Ponds	81.84	41	*e*P	P	19 17 07.7	+0.1
LOHW	Long Hollow	81.86	41	*e*P	P	19 17 07.6	-0.1
QLMT	Earthquake Lak	81.96	39	*e*P	P	19 17 08.8	+0.6
CHMT	Chamberlain Mo	81.96	37	*e*P	P	19 17 07.4	-0.7
BW06	Boulder Array	82.11	42	*e*P	P	19 17 08.2	-0.8
	comp=Z,276nm,2.4s,mb5.8						
BW06				LR	LR		
	comp=Z,3µm,20.0s,MS5.7						
PDAR	Pinedale Array	82.11	42	P	P	19 17 08.2	-0.8
	comp=Z,4.5nm,0.7s,mb4.5,baz=186,slow=2.8,SNR=24						
PDAR				S	S	19 27 23.3	+1.6
	comp=Z,0.2nm,0.7s,baz=62,slow=35,SNR=2.5						
PDAR				LR	LR	19 46 34.3	
	comp=Z,3µm,20.1s,MS5.6,baz=248,slow=30						
YMR	Madison River	82.16	40	*e*P	P	19 17 10.1	+0.9
COLA	College	82.17	11	*i* P	P	19 17 08.1	-0.8
COLA	College	82.17	11	*e*P	P	19 17 08.6	-0.3
BOZ	Bozeman (W)	82.25	39	P	P	19 17 09.5	-0.2
BOZ				pmax	pmax		
	comp=Z,59nm,1.4s,mb5.3						
BOZ	Bozeman (W)	82.25	39	*e*P	P	19 17 09.2	-0.4
	comp=Z,59nm,1.4s,mb5.3						
BOZ				LR	LR		
	comp=Z,4µm,20.0s,MS5.8						
SEY	Seymchan	82.34	345	*e*P	P	19 17 11.6	+1.8

SEY					pP	19 17 17.9	+3.1
SEY						19 20 24.9	
SEY				*e*S	S	19 27 25.1	+1.5
SEY				*e*SS	SS	19 32 50.7	+3.0
SEY				pmax	pmax		
	comp=N,30nm,1.3s						
SEY				pmax	pmax		
	comp=Z,120nm,1.3s,mb5.7						
SEY				pmax	pmax		
	comp=E,40nm,1.2s						
SEY				smax			
	comp=N,8µm,19.9s						
SEY				smax			
	comp=E,6µm,19.9s						
IMA	**Indian Mountai**	**82.37**	**8**	*e*P	**P**	**19 17 10.2**	**+0.4**
	comp=E,271nm,1.4s,mb6.0						
SDCO	**Great Sand Dun**	**82.57**	**48**	*e*P	**P**	**19 17 11.8**	**+0.2**
	comp=E,85nm,1.6s,mb5.5						
SDCO				LR	LR		
	comp=Z,5µm,20.0s,MS5.9						
HRY	**Holter Researc**	**82.68**	**38**	*e*P	**P**	**19 17 12.3**	**+0.4**
QIZ	**Qiongzhong**	**82.86**	**292**	P	**P**	**19 17 13.5**	**+0.2**
QIZ				XP	sP	19 17 28.0	+8.0
QIZ				SKS	SKS	19 27 34.6	-1.6
QIZ				AMB	AMB		
	comp=Z,981nm,10.2s						
QIZ				LR	LR		
	comp=E,2µm,22.7s						
QIZ				LR	LR		
	comp=Z,4µm,24.5s,MS5.7						
WHN	**Wuhan**	**83.01**	**304**	P	**P**	**19 17 12.0**	**-1.9**
WHN				S	S	19 27 41.0	+10
WHN				LR	LR		
	comp=Z,5µm,19.3s,MS5.9						
TIA	**Tai'an**	**83.11**	**310**	*e*P	**P**	**19 17 15.1**	**+0.8**
TIA				LR	LR		
	comp=E,4µm,24.0s						
DAWY	**Dawson**	**83.23**	**14**	*e*P	**P**	**19 17 14.4**	**+0.1**
ISCO	**Idaho Springs**	**83.38**	**46**	*e*P	**P**	**19 17 16.1**	**+0.5**
	comp=E,127nm,2.1s,mb5.6						
ISCO				LR	LR		
	comp=Z,3µm,20.0s,MS5.7						
JCT	**Junction City**	**84.02**	**56**	*e*P	**P**	**19 17 18.5**	**-0.7**
	comp=Z,83nm,1.5s,mb5.6						
JCT				LR	LR		
	comp=Z,5µm,20.0s,MS5.9						
BJI	**Beijing**	**85.36**	**313**	*e*P	**P**	**19 17 27.1**	**+1.5**
BJI				AMB	AMB		
	comp=Z,49nm,2.0s,mb5.3						
BJI				LR	LR		
	comp=N,2µm,21.1s,MS5.6						
BJI				LR	LR		
	comp=E,2µm,23.3s,MS5.6						
BJI				LR	LR		
	comp=Z,4µm,25.5s,MS5.7						
LAO	**LASA Array**	**86.05**	**39**	*e*P	**P**	**19 17 29.3**	**+0.5**
	comp=Z,173nm,1.5s,mb6.1						
LAO				LR	LR		
	comp=Z,1µm,20.0s,MS5.4						
RSSD	**Black Hills**	**86.31**	**42**	*e*P	**P**	**19 17 29.8**	**-0.4**
RSSD				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.5						
RSSD	**Black Hills**	**86.31**	**42**	*e*P	**P**	**19 17 29.6**	**-0.6**
	comp=Z,30nm,1.0s,mb5.5						
RSSD				LR	LR		
	comp=Z,741nm,19.0s,MS5.1						
WMOK	**Wichita Mounta**	**86.37**	**53**	*e*P	**P**	**19 17 29.1**	**-1.7**
	comp=Z,26nm,1.4s,mb5.3						
WMOK				LR	LR		
	comp=Z,5µm,21.0s,MS5.9						
IPM	**Ipoh**	**86.95**	**276**	⇑*e*P	**P**	**19 17 37.0**	**+2.9**
HKT	**Hockley**	**87.06**	**58**	P	**P**	**19 17 34.4**	**+0.1**
HKT				pmax	pmax		
	comp=Z,170nm,1.9s,mb6.0						
HKT	**Hockley**	**87.06**	**58**	*e*P	**P**	**19 17 34.1**	**-0.1**
	comp=Z,169nm,1.9s,mb6.0						
HKT				LR	LR		
	comp=Z,987nm,20.0s,MS5.2						
TIY	**Taiyuan**	**87.15**	**310**	⇓P	**P**	**19 17 32.6**	**-1.9**
TIY				LR	LR		
	comp=N,1µm,15.0s						
TIY				LR	LR		
	comp=Z,2µm,20.0s,MS5.6						
CBKS	**Cedar Bluff**	**87.15**	**49**	PFAKE		19 17 50.0	+16
CBKS				LR	LR		
	comp=Z,3µm,20.0s,MS5.7						
GYA	**Guiyang**	**87.98**	**298**	⇑P	**P**	**19 17 42.6**	**+3.9**
GYA				AP	pP	19 17 47.0	+3.2
GYA				XP	sP	19 17 49.5	+4.1
GYA				AMB	AMB		
	comp=Z,920nm,9.6s						
GYA				LR	LR		
	comp=N,1µm,21.5s,MS5.5						
GYA				LR	LR		
	comp=E,2µm,21.3s,MS5.5						
GYA				LR	LR		
	comp=Z,2µm,23.1s,MS5.4						
MAW	**Mawson**	**87.98**	**199**	*e*S	S	19 28 11.5	-7.0
MAW	**Mawson**	**87.98**	**199**	P	**P**	**19 17 38.2**	**+0.5**
	comp=Z,15nm,0.7s,mb5.3,baz=124,slow=6.8,SNR=27						
MAW				S	S	19 28 07.7	-11
	comp=Z,0.6nm,0.6s,baz=60,slow=22,SNR=2.1						
MAW				LR	LR	19 57 24.2	
	comp=Z,5µm,18.3s,MS6.0,baz=118,slow=36						
MAW	**Mawson**	**87.98**	**199**	*e*P	**P**	**19 17 38.4**	**+0.7**
	comp=Z,19nm,0.6s,mb5.5						
MAW				*e*S	S	19 28 11.5	-7.0
DGMT	**Dagmar**	**88.06**	**38**	*e*P	**P**	**19 17 39.0**	**+0.4**
	comp=Z,76nm,1.0s,mb5.9						
DGMT				LR	LR		
	comp=Z,5µm,21.0s,MS5.9						
INK	**Inuvik**	**88.08**	**14**	P	**P**	**19 17 38.1**	**-0.1**
INK				pmax	pmax		
	comp=Z,44nm,1.2s						
INK	**Inuvik**	**88.08**	**14**	*e*P	**P**	**19 17 37.9**	**-0.3**
	comp=Z,44nm,1.3s,mb5.5						
CLNS	**Chul'man**	**88.08**	**331**	*e*P	**P**	**19 17 39.4**	**+0.9**
CLNS				*e*		19 21 03.3	
CLNS				*e*S	S	19 28 01.7	-18
CLNS				pmax	pmax		
	comp=N,11nm,1.0s						
CLNS				pmax	pmax		
	comp=E,8.0nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,19nm,1.0s,mb5.3						
CLNS				pmax	pmax		
	comp=N,4.0nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.6						
CLNS				pmax	pmax		
	comp=E,3.0nm,0.8s						
CLNS				smax			
	comp=Z,231nm,12.4s						
CLNS				smax			
	comp=N,902nm,12.6s						
CLNS				smax			
	comp=E,116nm,11.8s						
CLNS				MLR	MLR		
	comp=Z,4µm,18.0s,MS5.9						
CLNS				MLR	MLR		
	comp=N,2µm,17.0s,MS5.7						
CLNS				MLR	MLR		
	comp=E,300nm,16.0s,MS5.7						
XAN	**Xi'an**	**88.54**	**306**	P	**P**	**19 17 43.1**	**+1.8**
XAN				AP	pP	19 17 49.0	+2.7
XAN				SKS	SKS	19 28 09.1	-4.5
XAN				S	S	19 28 30.2	+5.6
XAN				LR	LR		
	comp=N,800nm,20.9s,MS5.4						
XAN				LR	LR		
	comp=E,2µm,22.8s,MS5.4						
XAN				LR	LR		
	comp=Z,2µm,20.9s,MS5.6						
NATX	**Nacogdoches**	**88.60**	**57**	*e*P	**P**	**19 17 41.4**	**-0.2**
	comp=Z,60nm,1.0s,mb5.9						
NATX				LR	LR		
	comp=Z,4µm,20.0s,MS5.8						
HHC	**Hu-ho-hao-te**	**88.92**	**313**	*e*P	**P**	**19 17 44.0**	**+1.1**
HHC				AP	pP	19 17 49.8	+1.8
HHC				PP	PP	19 21 12.4	-2.4
HHC				SKS	SKS	19 28 13.8	-1.9
HHC				S	S	19 28 30.1	+2.2
HHC				XS		19 28 38.2	
HHC				PS	PS	19 29 40.9	+3.9
HHC				SS	SS	19 34 27.3	+3.4
HHC				AMB	AMB		
	comp=Z,35nm,1.6s,mb5.4						
HHC				AMB	AMB		
	comp=Z,793nm,8.0s						
HHC				LR	LR		
	comp=N,464nm,29.1s						
HHC				LR	LR		
	comp=E,822nm,23.2s						
HHC				LR	LR		
	comp=Z,1µm,22.0s						
YAK	**Yakutsk**	**88.95**	**337**	c*e*P	**P**	**19 17 43.0**	**+0.5**
YAK				*i* S	S	19 28 12.0	-16
YAK				pmax	pmax		
	comp=Z,14nm,1.4s,mb5.1						
YAK				pmax	pmax		
	comp=N,2.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.2s						
YAK				smax			
	comp=E,212nm,16.9s						
YAK				smax			
	comp=Z,84nm,14.7s						
YAK				smax			
	comp=N,102nm,11.2s						
YAK	**Yakutsk**	**88.95**	**337**	*e*P	**P**	**19 17 41.2**	**-1.3**
	comp=N,34nm,1.3s,mb5.5						
YKA	**Yellowknife Ar**	**89.92**	**23**	P	**P**	**19 17 46.4**	**-0.7**
	comp=N,6.7nm,0.8s,mb5.0,baz=236,slow=4.3,SNR=13						
YKA				S	S	19 28 17.7	-19
	comp=N,1.2nm,0.6s,baz=207,slow=40,SNR=2.6						
YKA				LR	LR	19 54 39.5	
	comp=N,2µm,18.2s,MS5.5,baz=230,slow=33						
BTO	**Baotou**	**89.93**	**312**	*e*P	**P**	**19 17 49.2**	**+1.5**
BTO				AMB	AMB		
	comp=Z,65nm,2.2s,mb5.6						
MIAR	**Mount Ida**	**90.35**	**54**	*e*P	**P**	**19 17 49.2**	**-0.5**
	comp=Z,40nm,1.7s,mb5.5						
MIAR				LR	LR		
	comp=Z,5µm,21.0s,MS5.9						
KMI	**Kunming**	**90.97**	**296**	*e*P	**P**	**19 17 54.9**	**+2.1**
KMI				AP	pP	19 17 58.0	+0.1
KMI				PP	PP	19 21 33.5	+1.9
KMI				SKS	SKS	19 28 25.2	-3.2
KMI				S	S	19 28 51.1	+4.3
KMI				SS	SS	19 34 57.4	+3.4
KMI				LR	LR		
	comp=N,1µm,20.0s,MS5.6						
KMI				LR	LR		
	comp=E,2µm,18.5s,MS5.6						
KMI				LR	LR		
	comp=Z,2µm,19.1s,MS5.7						
JTS	**JuntasAbangare**	**91.15**	**80**	P	**P**	**19 17 54.3**	**+0.4**
	comp=Z,24nm,1.0s,mb5.5,baz=301,slow=4.4,SNR=10						
JTS				S	S	19 28 31.3	-17
	comp=Z,3.4nm,0.3s,baz=312,slow=20,SNR=1.4						
JTS	**JuntasAbangare**	**91.15**	**80**	*e*P	**P**	**19 17 54.7**	**+0.9**
	comp=Z,88nm,1.4s,mb5.9						
UALR	**University of**	**91.38**	**54**	*e*P	**P**	**19 17 55.2**	**+0.7**
CD2	**Chengdu**	**91.73**	**301**	*e*P	**P**	**19 17 57.8**	**+1.6**
CD2				AP	pP	19 18 02.6	+1.3
CD2				XP	sP	19 18 06.7	+3.8
CD2				SKS	SKS	19 28 30.7	-2.0
CD2				S	S	19 28 55.8	+2.3
CD2				SS	SS	19 35 06.1	+1.5
CD2				AMB	AMB		
	comp=Z,10.0nm,0.4s,mb5.5						
CD2				AMB	AMB		
	comp=Z,780nm,10.9s						
CD2				LR	LR		
	comp=N,3µm,22.2s						
CD2				LR	LR		
	comp=Z,3µm,21.0s,MS5.7						
FFC	**Flin Flon**	**91.93**	**33**	*e*P	**P**	**19 17 58.2**	**+1.7**
	comp=Z,13nm,1.1s,mb5.2						
FFC				LR	LR		
	comp=Z,400nm,19.0s,MS4.9						
SYO	**Syowa Base**	**92.79**	**191**	⇑P	**P**	**19 18 00.0**	**-0.1**
EFI	**East Falkland**	**93.04**	**146**	PFAKE		19 18 10.0	+8.3
EFI				LR	LR		
	comp=Z,2µm,22.0s,MS5.5						
VNA3	**Neumayer Olymp**	**93.04**	**175**	P	**P**	**19 18 06.3**	**+5.0**
VNA3	**Neumayer Olymp**	**93.04**	**175**		**P**	**19 18 07.0**	**+5.7**
VNA3	**Neumayer Olymp**	**93.04**	**175**	⇓*i*	**P**	**19 18 09.3**	**+8.0**
VNA3	**Neumayer Olymp**	**93.04**	**175**	⇓*i*	**P**	**19 18 10.7**	**+9.4**
SNAA	**Sanae**	**93.09**	**177**	P	**P**	**19 18 01.4**	**-0.1**
SNAA	**Sanae**	**93.09**	**177**		**P**	**19 18 02.1**	**+0.6**
SNAA	**Sanae**	**93.09**	**177**	⇓*i*	**P**	**19 18 04.9**	**+3.4**
SNAA	**Sanae**	**93.09**	**177**		**P**	**19 18 05.9**	**+4.4**
SNAA	**Sanae**	**93.09**	**177**	*e*P	**P**	**19 18 02.5**	**+1.0**
SNAA				pmax	pmax		
	comp=Z,27nm,1.1s						
SNAA	**Sanae**	**93.09**	**177**	P	**P**	**19 18 02.1**	**+0.6**
LZH	**Lanzhou**	**93.13**	**306**	⇓P	**P**	**19 18 03.5**	**+1.0**
LZH				AP	pP	19 18 06.7	-0.9
LZH				PP	PP	19 21 51.7	+3.0
LZH				SKS	SKS	19 28 35.6	-4.9
LZH				*e*S	S	19 29 08.5	+2.9
LZH				SS	SS	19 35 28.4	+3.4
LZH				AMB	AMB		
	comp=Z,58nm,1.5s,mb5.8						
LZH				AMB	AMB		
	comp=Z,332nm,6.1s						
LZH				LR	LR		
	comp=N,2µm,15.2s						
LZH				LR	LR		
	comp=Z,3µm,18.3s,MS5.8						
CCM	**Cathedral Cave**	**93.19**	**52**	P	**P**	**19 18 01.9**	**-0.8**
CCM				pmax	pmax		
	comp=Z,11nm,0.9s,mb5.3						
CCM	**Cathedral Cave**	**93.19**	**52**	*e*P	**P**	**19 18 01.9**	**-0.8**
	comp=Z,11nm,0.9s,mb5.3						
VNA2	**Neumayer--Watz**	**93.54**	**175**	⇓*i*P	**P**	**19 18 08.2**	**+4.6**
VNA2	**Neumayer--Watz**	**93.54**	**175**	⇑*i*	**P**	**19 18 09.8**	**+6.2**
VNA2	**Neumayer--Watz**	**93.54**	**175**	⇑*i*	**P**	**19 18 11.2**	**+7.6**
VNA2	**Neumayer--Watz**	**93.54**	**175**		**P**	**19 18 12.4**	**+8.8**
OXF	**Oxford**	**93.63**	**55**	P	**P**	**19 18 05.1**	**+0.3**
OXF				pmax	pmax		
	comp=Z,97nm,1.1s,mb6.2						
OXF	**Oxford**	**93.63**	**55**	*e*P	**P**	**19 18 04.3**	**-0.6**
	comp=Z,97nm,1.1s,mb6.1						
OXF				LR	LR		
	comp=Z,4µm,22.0s,MS5.8						
VNA1	**Neumayer--Stat**	**93.74**	**175**	⇓*i*P	**P**	**19 18 09.7**	**+5.2**
VNA1	**Neumayer--Stat**	**93.74**	**175**	⇑*i*	**P**	**19 18 10.5**	**+6.0**
VNA1	**Neumayer--Stat**	**93.74**	**175**	⇑*i*	**P**	**19 18 12.2**	**+7.7**
VNA1	**Neumayer--Stat**	**93.74**	**175**	⇑*i*	**P**	**19 18 14.1**	**+10**
ULM	**Lac du Bonnet**	**93.77**	**39**	P	**P**	**19 18 03.6**	**-1.5**
	comp=Z,11nm,0.9s,mb5.3,baz=257,slow=4.2,SNR=11						
ULM				S	SKS	19 28 41.5	-2.1
	comp=Z,0.7nm,0.7s,baz=154,slow=21,SNR=1.3						
ULM				LR	LR	19 55 33.0	
	comp=Z,3µm,19.1s,MS5.8,baz=255,slow=32						
BOD	**Bodaibo**	**93.78**	**329**	*e*P	**P**	**19 18 03.4**	**-1.5**
FVM	**French Village**	**93.79**	**52**	P	**P**	**19 18 05.5**	**0.0**
FVM				pmax	pmax		
	comp=Z,23nm,1.0s,mb5.6						
FVM	**French Village**	**93.79**	**52**	*e*P	**P**	**19 18 05.0**	**-0.5**
	comp=Z,23nm,1.0s,mb5.6						
MAIT	**Maitri**	**94.16**	**182**	*e*P	**P**	**19 18 07.6**	**+1.2**
SONM	**Songino Array**	**94.72**	**318**	P	**P**	**19 18 09.4**	**-0.2**
	comp=Z,1.7nm,0.9s,mb4.5,baz=145,slow=4.0,SNR=11						
SONM				PP	PP	19 21 55.1	-5.2
	comp=Z,2.9nm,1.2s,baz=124,slow=4.5,SNR=8.1						
SONM				S	SKS	19 28 43.9	-5.0
	comp=Z,0.1nm,0.5s,baz=315,slow=30,SNR=2.7						
TIXI	**Tiksi**	**94.83**	**344**	*e*P	**P**	**19 18 10.5**	**+1.0**
TIXI				*e*		19 21 58.4	
TIXI				*i*		19 28 42.8	
TIXI				*e*SS	SS	19 35 45.8	-2.2
TIXI				pmax	pmax		
	comp=Z,42nm,1.1s,mb5.8						
TIXI	**Tiksi**	**94.83**	**344**	⇑*e*P	**P**	**19 18 10.9**	**+1.4**
LRAL	**Lakeview Retre**	**95.18**	**57**	PFAKE		19 18 20.0	+8.0
LRAL				LR	LR		
	comp=Z,2µm,20.0s,MS5.5						
JFWS	**Jewell Farm**	**95.28**	**47**	P	**P**	**19 18 11.9**	**-0.3**
JFWS				pmax	pmax		
	comp=Z,26nm,0.9s,mb5.7						
JFWS	**Jewell Farm**	**95.28**	**47**	*e*P	**P**	**19 18 11.5**	**-0.7**
	comp=Z,26nm,0.9s,mb5.7						
JFWS				LR	LR		
	comp=Z,7µm,22.0s,MS6.1						
SWET	**Sewanee**	**96.57**	**55**	*e*P	**P**	**19 18 16.7**	**-1.6**
WCI	**Wyandotte Cave**	**97.00**	**52**	*e*P	**P**	**19 18 29.1**	**+8.9**
WCI				*e*		19 18 37.2	
WCI				pmax	pmax		
	comp=Z,12nm,0.6s,mb5.5						
GTA	**Gaotai**	**97.08**	**309**	*e*P	**P**	**19 18 23.0**	**+2.5**
GTA				AP	pP	19 18 26.9	+1.3
GTA				XP	sP	19 18 29.3	+2.1
GTA				PP	PP	19 22 20.3	+1.1
GTA				SKS	SKS	19 28 59.2	-2.6
GTA				S	S	19 29 40.6	+1.3
GTA				AMB	AMB		
	comp=Z,144nm,6.8s						
GTA				LR	LR		
	comp=N,668nm,22.8s,MS5.5						
GTA				LR	LR		
	comp=E,2µm,22.8s,MS5.5						
GTA				LR	LR		
	comp=Z,3µm,21.7s,MS5.7						
ZAK	**Zakamensk**	**97.39**	**320**	*e*P	**P**	**19 18 21.6**	**0.0**
ACSO	**Alum Creek Sta**	**99.95**	**51**	PFAKE		19 18 40.0	+6.5
ACSO				LR	LR		
	comp=Z,5µm,22.0s,MS6.0						
ROSC	**El Rosal**	**99.97**	**88**	S	SKS	19 29 15.0	-2.0
	comp=Z,5.0nm,0.4s,baz=209,slow=23,SNR=1.9						
NHSC	**New Hope**	**100.77**	**59**	PFAKE		19 18 50.0	+13
NHSC				LR	LR		
	comp=Z,3µm,22.0s,MS5.8						
BLA	**Blacksburg**	**101.34**	**54**	PFAKE		19 18 50.0	+10
BLA				LR	LR		
	comp=Z,4µm,21.0s,MS5.9						
ERPA	**Erie**	**102.51**	**50**	PFAKE		19 19 00.0	+15
ERPA				LR	LR		
	comp=Z,4µm,21.0s,MS6.0						
CBN	**Corbin**	**103.89**	**54**	PFAKE		19 19 00.0	+8.8
CBN				LR	LR		
	comp=Z,7µm,21.0s,MS6.2						
BINY	**Binghamton**	**105.47**	**50**	PFAKE		19 23 20.0	
BINY				LR	LR		
	comp=Z,5µm,21.0s,MS6.0						
WMQ	**Urumqi**	**106.76**	**312**	PDIF	Pdif	19 19 04.8	+1.2
WMQ				PP	PP	19 23 34.7	+2.2
WMQ				PP	PP		
	comp=Z,139nm,10.0s						
WMQ				LR	LR		
	comp=N,762nm,19.0s,MS5.5						
WMQ				LR	LR		
	comp=E,911nm,19.5s,MS5.5						
WMQ				LR	LR		
	comp=Z,1µm,20.0s,MS5.5						
SAML	**Samuel**	**106.79**	**104**	PFAKE		19 23 30.0	
SAML				LR	LR		
	comp=Z,3µm,20.0s,MS5.8						
NCB	**Newcomb**	**106.93**	**48**	PFAKE		19 23 30.0	
NCB				LR	LR		
	comp=Z,6µm,21.0s,MS6.1						
PALK	**Pallekele**	**107.19**	**273**	PFAKE		19 23 30.0	
PALK				LR	LR		
	comp=Z,639nm,20.0s,MS5.2						
ZAL	**Zalesovo**	**109.10**	**322**	PP	PP	19 23 43.7	-6.2
	comp=Z,0.5nm,0.3s,baz=199,slow=16,SNR=2.3						
ZAL	**Zalesovo**	**109.10**	**322**	*i* P	Pdif	19 19 18.5	+4.8
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.3s						
WVL	**Waterville**	**110.24**	**48**	PFAKE		19 23 30.0	+7.5
WVL				LR	LR		
	comp=Z,18µm,22.0s,MS6.6						
MKAR	**Makanchi Array**	**110.71**	**315**	PKiKP		19 23 22.8	
	comp=Z,1.4nm,0.7s,baz=107,slow=1.3,SNR=5.1						
MKAR				PP	PP	19 23 56.3	-5.1
	comp=Z,1.7nm,1.0s,baz=90,slow=5.8,SNR=4.4						
MKAR	**Makanchi Array**	**110.71**	**315**	*i* PKIKP	PKPdf	19 23 27.1	+3.7
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**110.71**	**315**	PKPdf	PKPdf	19 23 22.8	-0.6
MKAR				PP	PP	19 23 56.3	-5.1
TRD	**Trivandrum**	**111.08**	**273**	⇑*i*P	Pdif	19 19 33.2	+10
TRD				*i*		19 24 07.2	
PQI	**Presque Isle**	**111.42**	**46**	PFAKE		19 23 30.0	+5.3
PQI				LR	LR		
	comp=Z,20µm,22.0s,MS6.7						
EMMW	**East Machias**	**111.81**	**48**	PFAKE		19 23 30.0	+4.5
EMMW				LR	LR		
	comp=Z,19µm,20.0s,MS6.7						
KURK	**Kurchatov**	**113.02**	**319**	PKIKP	PKPdf	19 23 27.8	0.0
KURK	**Kurchatov**	**113.02**	**319**	*e*PKP	PKPdf	19 23 25.1	-2.7
KSH	**Kashi**	**115.38**	**307**	*e*PKP	PKPdf	19 23 32.1	-0.6
KSH				*e*PKS	PKS	19 27 03.0	-1.7
KSH				*e*SKKS		19 31 28.1	
KSH				LR	LR		
	comp=N,310nm,7.1s						
KSH				LR	LR		
	comp=E,840nm,10.7s						
AAK	**Ala-Archa**	**116.38**	**310**	PFAKE		19 23 40.0	+5.4
AAK				LR	LR		
	comp=Z,568nm,21.0s,MS5.2						
BVAR	**Borovoye Array**	**117.75**	**322**	PKP	PKPdf	19 23 33.7	-3.2
	comp=Z,1.5nm,0.7s,baz=45,slow=2.1,SNR=7.3						
BRVK	**Borovoye**	**117.81**	**322**	*e*PKIKP	PKPdf	19 23 33.8	-3.2
ZRNK	**Zerenda**	**118.58**	**322**	*e*PKPdf	PKPdf	19 23 36.0	-2.6
ARU	**Arti**	**123.19**	**328**	*i* PKIKP	PKPdf	19 23 44.7	-2.7
ARU				*i*		19 30 43.1	
ARU				*i* PS	PS	19 35 17.4	-3.2
ARU				*i* SS	SS	19 42 12.3	+2.3
ARU				MLR	MLR		
	comp=Z,2µm,19.0s,MS5.9						
ARU				MLR	MLR		
	comp=N,500nm,17.0s,MS5.7						
ARU				MLR	MLR		
	comp=E,2µm,18.0s,MS5.7						
ARU	**Arti**	**123.19**	**328**	*e*PKPdf	PKPdf	19 23 44.0	-3.4
ARU				LR	LR		
	comp=Z,1µm,21.0s,MS5.5						
ARCES	**ARCESS Array B**	**124.43**	**352**	PKP	PKPdf	19 23 47.2	-2.3
	comp=Z,2.8nm,0.7s,slow=2.4,SNR=12						
APA	**Apatity**	**124.86**	**348**	*i* PKIKP	PKPdf	19 23 36.0	-14
APA				*e*		19 25 34.0	
APA				*i* PS	PS	19 35 27.0	-7.5
APA				*i* SS	SS	19 42 30.0	-0.5
APA				MLR	MLR		
	comp=Z,1µm,20.0s,MS5.5						
TRIS	**Tristan da Cun**	**125.02**	**162**	PFAKE		19 24 00.0	+8.5
TRIS				LR	LR		
	comp=Z,2µm,19.0s,MS5.7						
KAF	**Kangasniemi**	**131.11**	**348**	*e*p	PKPdf	19 23 59.4	-3.1
FINES	**FINESS Array B**	**131.76**	**348**	PKP	PKPdf	19 24 01.2	-2.5
	comp=Z,2.8nm,0.8s,baz=90,slow=2.8,SNR=4.4						
FINES	**FINESS Array B**	**131.76**	**348**	*i* PKIKP	PKPdf	19 24 02.8	-0.9
FINES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MOS	**Moscow**	**133.08**	**336**	*e*PKIKP	PKPdf	19 24 07.3	+1.0
MOS				*e*		19 26 26.6	
MOS				*e*PPP	PPP	19 29 32.9	+6.1
OBN	**Obninsk**	**133.95**	**337**	*d i*PKIKP	PKPdf	19 24 05.7	-2.2
OBN				*i*		19 26 38.0	
OBN				pmax	pmax		
	comp=Z,8.0nm,1.0s						
OBN	**Obninsk**	**133.95**	**337**	*e*PKPr	PKPdf	19 24 05.8	-2.1
OBN				LR	LR		
	comp=Z,1µm,21.0s,MS5.5						
NB2	**NORSAR Subarra**	**134.12**	**357**	PKP	PKPdf	19 24 11.4	+3.4
	comp=Z,14nm,1.4s,baz=11,slow=4.0						
NOA	**NORSAR Array B**	**134.12**	**357**	PKP	PKPdf	19 24 06.1	-1.9
	comp=Z,1.2nm,0.9s,baz=233,slow=24,SNR=2.6						
VOR	**Voronezh**	**135.25**	**332**	PKIKP	PKPdf	19 24 09.0	-1.5
VOR				pmax	pmax		
	comp=Z,70nm,2.1s						
GOF	**Gofitskoye**	**137.28**	**322**	*e*PKIKP	PKPdf	19 24 16.5	+2.2
GOF				pmax	pmax		
	comp=Z,40nm,1.4s						
GOF				MLR	MLR		
	comp=N,4µm,22.0s						
GOF				MLR	MLR		
	comp=Z,2µm,22.0s,MS5.9						
ZEI	**Tsey**	**137.91**	**318**	*i* PKIKP	PKPdf	19 24 12.0	-3.6
ZEI				*e*		19 24 16.8	
ZEI				*i*		19 27 00.0	
ZEI				*e*PPP	PPP	19 30 00.0	-4.9
ZEI				*e*PPS	PPS	19 39 12.0	-2.6
ZEI				MLR	MLR		
	comp=Z,6µm,20.0s,MS6.3						
SUW	**Suwalki**	**139.17**	**345**	*e*PKP	PKPdf	19 24 22.8	+5.2
SUW				*e*		19 24 30.4	
SUW				*e*		19 27 00.2	
SOC	**Sochi**	**140.07**	**322**	*e*PKIKP	PKPdf	19 24 18.8	-0.7
SOC				*e*		19 27 12.5	
SOC				*e*PPP	PPP	19 30 15.6	-6.5
SOC				*e*SS	SS	19 45 35.1	-0.3
SOC				*e*SSS	SSS	19 50 46.9	-3.2

SOC				pmax	pmax		
	comp=Z,24nm,1.1s						
SOC				pmax	pmax		
	comp=N,19nm,0.9s						
SOC				pmax	pmax		
	comp=E,18nm,1.3s						
SOC				MLR	MLR		
	comp=Z,3µm,23.0s,MS6.0						
SOC				MLR	MLR		
	comp=N,1µm,21.0s,MS5.7						
SOC				MLR	MLR		
	comp=E,759nm,22.0s,MS5.7						
AKASG	**Malin Array Be**	**140.18**	**338**	PKP	PKPdf	19 24 15.0	-4.5
	comp=E,1.6nm,0.6s,baz=33,slow=2.8,SNR=9.1						
AKASG				PP	PP	19 27 11.2	-6.1
	comp=E,0.2nm,0.3s,baz=22,slow=5.0,SNR=3.4						
ANN	**Anapa**	**140.66**	**325**	*e*PKHKP		19 24 09.6	
ANN				*e*		19 27 16.1	
ANN				pmax	pmax		
	comp=Z,39nm,1.2s						
ANN				MLR	MLR		
	comp=Z,1µm,22.0s,MS5.6						
ANN				MLR	MLR		
	comp=N,2µm,21.0s,MS6.0						
ANN				MLR	MLR		
	comp=E,1µm,22.0s,MS6.0						
SIM	**Simferopol'**	**142.35**	**328**	*e*PKHKP		19 24 13.0	
SIM				*e*SS	SS	19 46 06.0	+3.7
SIM				pmax	pmax		
	comp=Z,500nm,12.0s						
SIM				MLR	MLR		
	comp=Z,2µm,19.0s,MS5.9						
MZLS	**Mizel**	**142.71**	**290**	P	PKPdf	19 24 23.2	-1.5
PTK	**Pertek**	**142.80**	**316**	*e*P	PKPdf	19 24 21.6	-2.8
LSZ	**Lusaka**	**142.96**	**216**	*e*PKIKP	PKPdf	19 24 22.9	-2.4
KWP	**Kalwaria**	**143.25**	**342**	*e*PKIKP	PKPdf	19 24 30.6	+5.8
KWP				*e*		19 24 38.1	
KIS	**Kishinev**	**143.32**	**334**	*i* PKIKP	PKPdf	19 24 20.0	-5.0
KIS				*e*		19 24 35.0	
KIS				*e*		19 27 36.0	
KIS				MLR	MLR		
	comp=N,2µm,20.0s,MS6.1						
KIS				MLR	MLR		
	comp=E,2µm,20.0s,MS6.1						
KIS				MLR	MLR		
	comp=Z,3µm,20.0s,MS6.0						
KIS				MLR	MLR		
	comp=Z,2µm,20.0s						
WTSB	**Winterswijk**	**143.34**	**360**	*e*PKP	PKPdf	19 24 22.0	-2.9
	comp=Z,8.2nm,1.8s						
CLZ	**Clausthal**	**143.34**	**356**	*e*PKPdf	PKPdf	19 24 24.6	-0.3
KAMS	**Al Khamasin**	**143.56**	**284**	P	PKPbc	19 24 27.1	+5.9
KSP	**Ksiaz**	**143.61**	**350**	*i* PKIKP	PKPdf	19 24 25.8	+0.4
KSP				*e*		19 27 36.0	
KSP				*e*PPS	PPS	19 40 06.0	-0.8
KSP				*e*SS	SS	19 46 11.0	-5.7
KSP				MLR	MLR		
	comp=Z,6µm,22.2s,MS6.3						
KSP	**Ksiaz**	**143.61**	**350**	*e*PKPdf	PKPdf	19 24 22.8	-2.6
KSP				*e*PKPdf	PKPdf	19 24 25.8	+0.4
KSP				*e*PP	PP	19 27 36.0	-1.9
KSP				*e*SKS		19 34 26.0	
KSP				*e*PPS	PPS	19 40 06.0	-0.8
KSP				*e*SS	SS	19 46 11.0	-5.7
KSP				LR	LR		
	comp=Z,6µm,22.2s,MS6.3						
CLL	**Collm**	**143.63**	**353**	*e*PKIKP	PKPdf	19 24 21.0	-4.4
	comp=Z,logA/T=0.9						
CLL				*i*		19 24 29.3	
CLL				*e*		19 24 37.0	
CLL				*i*		19 26 47.5	
CLL				*e*PP	PP	19 27 43.0	+5.0
CLL				*e*		19 29 31.0	
CLL				*e*SS	SS	19 46 04.0	-13
CLL				*e*		19 47 06.0	
CLL				*e*		19 48 01.0	
CLL				*e*SSS	SSS	19 51 48.0	+7.4
CLL				*e*		20 04 33.0	
CLL	**Collm**	**143.63**	**353**	*e*PKP	PKPdf	19 24 21.0	-4.4
CLL				LR	LR		
	comp=Z,2µm,21.3s,MS5.9						
MALT	**Malatya**	**143.75**	**315**	*e*P	PKPbc	19 24 21.0	-0.3
MALT	**Malatya**	**143.75**	**315**	*e*PKPdf	PKPdf	19 24 22.7	-3.4
BRG	**Berggiesshubel**	**143.94**	**352**	*e*PKIKP	PKPdf	19 24 22.8	-3.1
BRG				*i*		19 46 13.0	
BRG				*e*		19 51 45.0	
BRG				pmax	pmax		
	comp=Z,39nm,1.8s						
BRG				MLR	MLR		
	comp=N,1µm,23.3s,MS5.8						
BRG				MLR	MLR		
	comp=E,1µm,23.3s,MS5.8						
BRG				MLR	MLR		
	comp=Z,2µm,21.7s,MS5.9						
BRG	**Berggiesshubel**	**143.94**	**352**	*e*PKP	PKPdf	19 24 22.8	-3.1
BRG				*e*		19 25 41.8	
BRG				*i*		19 46 13.0	
BRG				*e*		19 51 45.0	
BRG				LR	LR		
	comp=Z,2µm,21.7s,MS5.9						
RAC	**Raciborz**	**143.97**	**347**	*e*PKIKP	PKPdf	19 24 22.8	-3.2
RAC				*e*SS	SS	19 46 17.7	-3.3
RAC				MLR	MLR		
	comp=Z,3µm,21.1s,MS6.0						
UPC	**Upice**	**143.98**	**350**	*e*PKP	PKPdf	19 24 24.3	-1.7
KOLS	**Kolonicke sedl**	**144.00**	**342**	*e*PKP	PKPdf	19 24 24.6	-1.5
DPC	**Dobruska-Polom**	**144.08**	**349**	*e*PKP	PKPdf	19 24 22.5	-3.7
DPC				*e*SS	SS	19 46 20.6	-1.6
DPC				LR		20 26 50.0	
	comp=Z,2.9nm,21.5s						
TSUM	**Tsumeb**	**144.14**	**198**	PKP	PKPdf	19 24 24.8	-2.5
	comp=Z,9.6nm,0.9s,baz=164,slow=3.8,SNR=14						
TSUM	**Tsumeb**	**144.14**	**198**	*e*PKPdf	PKPdf	19 24 23.8	-3.5
PVCC	**Panska Ves**	**144.19**	**351**	*e*PKP	PKPdf	19 24 24.8	-1.6
PVCC				*e*SS	SS	19 46 20.6	-2.9
PVCC				LR		20 26 40.0	
	comp=Z,3.1nm,21.6s						
OKC	**Ostrava-Krasne**	**144.21**	**347**	*e*PKP	PKPdf	19 24 24.5	-2.0
OKC				*e*SS	SS	19 46 21.8	-1.9
OKC				LR		20 28 30.0	
	comp=Z,2.0nm,20.5s						
BOYT	**Boyabat**	**144.22**	**322**	*i* P	PKPbc	19 24 22.8	+0.2
CRVS	**Cervenica-Dubn**	**144.26**	**343**	*e*PKP	PKPdf	19 24 26.0	-0.6
CRVS				*e*		19 25 45.5	
BYBT	**Boyabat**	**144.27**	**323**	*e*P	PKPbc	19 24 17.7	-5.0
MORC	**Moravsky Berou**	**144.40**	**348**	*e*PKPdf	PKPdf	19 24 23.4	-3.4
MOX	**Moxa**	**144.43**	**355**	*i* P	PKPbc	19 24 25.6	+2.8
	comp=Z,logA/T=1.7						
MOX				SS	SS	19 46 02.0	-24
MOX				L		20 40 16.0	
MOX	**Moxa**	**144.43**	**355**	*e*PKP	PKPdf	19 24 25.6	-1.2
MOX				LR	LR		
	comp=Z,900nm,18.0s,MS5.6						
HGN	**Heimansgroeve**	**144.53**	**1**	*e*PKP	PKPdf	19 24 25.1	-2.0
	comp=Z,12nm,0.7s						
DJNS	**Zahran al Janu**	**144.54**	**279**	P	PKPbc	19 24 28.3	+4.2
TATS	**Tathlith**	**144.61**	**282**	P	PKPbc	19 24 28.6	+4.3
PRU	**Pruhonice**	**144.72**	**351**	*e*PKP	PKPdf	19 24 24.9	-2.5
PRU				*e*SS	SS	19 46 24.3	-5.0
PRU				LR		20 27 00.0	
	comp=Z,3.2nm,21.0s						
AFFS	**'Afif**	**144.73**	**290**	P	PKPbc	19 24 26.3	+1.8
NKC	**Novy Kostel**	**144.75**	**354**	*e*PKP	PKPdf	19 24 27.2	-0.2
NKC				*e*SS	SS	19 46 26.1	-3.5
NKC				L		20 29 30.0	
CTKT	**Corum**	**144.78**	**321**	*i* P	PKPbc	19 24 25.5	+1.4
GZT	**Gaziantep**	**144.82**	**315**	*i* P	PKPbc	19 24 22.6	-1.7
KECS	**Kecovo**	**144.91**	**344**	*e*PKP	PKPdf	19 24 25.8	-2.0
KECS				*e*		19 24 42.9	
GAZ	**Gaziantep**	**145.16**	**315**	*e*P	PKPbc	19 24 26.5	+1.2
GIVF	**Givet**	**145.17**	**2**	*e*PKP1	PKPbc	19 24 24.1	-0.8
	comp=Z,240nm,1.4s						
BAIF	**Baives**	**145.19**	**3**	*e*PKP1	PKPbc	19 24 24.4	-0.5
	comp=Z,289nm,1.5s						
HILS	**Ha'il**	**145.19**	**296**	P	PKPbc	19 24 29.3	+3.6
VYHS	**Vyhne**	**145.32**	**346**	*e*PKP	PKPdf	19 24 26.2	-2.3
VYHS				*e*		19 24 36.4	
KOLL	**Kolacno**	**145.34**	**346**	*e*PKP	PKPdf	19 24 26.3	-2.2
KOLL				*e*		19 24 35.7	
GRA1	**Grafenberg Arr**	**145.41**	**355**	*e*PKPdf	PKPdf	19 24 26.8	-1.8
GRF	**Grafenberg Arr**	**145.41**	**355**	*e*PKIKP	PKPdf	19 24 26.8	-1.8
GRFO	**Grafenberg**	**145.41**	**355**	PKPbc	PKPbc	19 24 28.7	+3.3
ABH	**Alteburg**	**145.41**	**359**	*e*P	PKPbc	19 24 25.9	+0.4
PSZ	**Piszkesteto**	**145.59**	**344⇑**	*e*PKP/p		19 24 26.7	
PSZ	**Piszkesteto**	**145.59**	**344**	*e*PKIKP	PKPdf	19 24 27.1	-1.8
RUP	**Ruppelstein**	**145.60**	**360**	PKP	PKPdf	19 24 28.0	-0.9
SAFT	**Safranbolu**	**145.62**	**324**	*e*P	PKPbc	19 24 26.5	+0.2
SMOL	**Smolenice**	**145.62**	**347**	*e*PKP	PKPdf	19 24 29.6	+0.6
SMOL				*e*		19 24 37.2	
KMBO	**Kilima Mbogo**	**145.64**	**244**	PKPbc	PKPbc	19 24 28.3	+1.1
	comp=Z,2.4nm,0.6s,baz=71,slow=5.1,SNR=12						
KMBO	**Kilima Mbogo**	**145.64**	**244**	*e*PKPbc	PKPbc	19 24 29.0	+1.8
WLF	**Walferdange**	**145.64**	**1**	*e*PKIKP	PKPdf	19 24 27.8	-1.2
TOD	**Tromm**	**145.65**	**357**	*e*P	PKPbc	19 24 26.6	+0.5
ELDT	**Eldivan**	**145.67**	**322**	*i* P	PKPbc	19 24 23.6	-2.9
KHC	**Kasperske Hory**	**145.70**	**352**	*e*PKP	PKPdf	19 24 27.1	-2.0
KHC				*e*x	x	19 24 36.0	
KHC				*e*SS	SS	19 46 37.4	-2.7
KHC				LR		20 27 30.0	
	comp=Z,2.8nm,21.3s						
KHC	**Kasperske Hory**	**145.70**	**352**	*e*PKP2	PKPab	19 24 27.1	-1.1
KHC				*e*		19 46 37.4	
KHC				MLR	MLR		
	comp=Z,3µm,21.3s,MS6.0						
SWS	**Schriesheim**	**145.78**	**358**	*e*P	PKPbc	19 24 28.0	+1.6
NAMS	**An Nimas**	**145.82**	**282**	P	PKPbc	19 24 32.0	+4.6
AVNT	**Avonos**	**145.84**	**319**	*i* P	PKPbc	19 24 25.5	-1.4
SIND	**Sindeldorf**	**145.87**	**357**	*e*P	PKPbc	19 24 27.0	+0.4
GEC2	**GERESS Array S**	**145.96**	**352**	*e*PKP2	PKPab	19 24 27.8	-1.4
GERES	**GERESS Array B**	**145.96**	**352**	PKPbc	PKPbc	19 24 27.6	+0.7
	comp=Z,33nm,1.1s,baz=27,slow=3.0,SNR=37						
KTD	**Kalmit**	**145.96**	**358**	*e*P	PKPbc	19 24 27.3	+0.4
ROSF	**Rostrenen**	**145.97**	**12**	*e*PKP1	PKPbc	19 24 26.3	-0.6
	comp=Z,170nm,1.5s						
ZST	**Bratislava**	**145.99**	**347**	*e*PKP	PKPdf	19 24 29.0	-0.6
ZST				*e*		19 24 38.5	
BRTR	**Keskin Array B**	**146.03**	**321**	PKPbc	PKPbc	19 24 28.2	+0.9
	comp=Z,74nm,1.1s,baz=107,slow=2.1,SNR=52						
FLN	**La Foliniere**	**146.04**	**8**	*e*PKP1	PKPbc	19 24 26.6	-0.5
	comp=Z,314nm,1.4s						
FLN				*e*R			
	comp=Z,4µm,20.0s						
SRO	**Srobarova**	**146.08**	**346**	*e*PKP	PKPdf	19 24 29.1	-0.7
SRO				*e*		19 24 46.9	
VKA	**Vienna**	**146.08**	**348**	*e*PKP	PKPdf	19 24 29.0	-0.8
COBT	**Iskenderun**	**146.15**	**314**	*i* P	PKPbc	19 24 30.5	+2.8
SGMF	**Saint Gilles**	**146.19**	**11**	*e*PKP1	PKPbc	19 24 26.9	-0.5
	comp=Z,143nm,1.2s						
KAMT	**Kaman**	**146.20**	**321**	*e*P	PKPbc	19 24 28.7	+1.0
LDF	**La Druitiere**	**146.25**	**8**	*e*PKP1	PKPbc	19 24 27.2	-0.4
	comp=Z,425nm,1.9s						
LANF	**Langenberg**	**146.31**	**359**	PKP	PKPdf	19 24 29.7	-0.5
GRR	**Gorron**	**146.35**	**9**	*e*PKP1	PKPbc	19 24 28.1	+0.3
	comp=Z,21nm,0.8s						
BLJS	**Baljurashi**	**146.37**	**283**	P	PKPbc	19 24 31.6	+2.9
QUIF	**Quistinic**	**146.40**	**12**	*e*PKP1	PKPbc	19 24 27.5	-0.4
	comp=Z,81nm,1.1s						
SGKT	**Sivrigoynuk**	**146.41**	**324**	*i* P	PKPbc	19 24 27.4	-0.8
ANTO	**Ankara**	**146.44**	**322**	*e*P	PKPbc	19 24 30.8	+2.5
LOD	**Lodumlu**	**146.45**	**322**	*e*P	PKPbc	19 24 28.7	+0.4
STU	**Stuttgart**	**146.47**	**357**	*e*PKP2	PKPab	19 24 32.2	+1.0
HDH	**Heidenheim**	**146.59**	**356**	*e*P	PKPbc	19 24 29.3	+1.0
SOP	**Sopron**	**146.59**	**348**	*e*PKP/p	PKPdf	19 24 30.1	-0.6
LBG	**Lerchenberg**	**146.59**	**357**	*e*P	PKPbc	19 24 29.4	+1.1
MEZF	**Maizieres J'vi**	**146.78**	**2**	*e*PKP1	PKPbc	19 24 29.4	+0.6
	comp=Z,182nm,1.4s						
BUCH	**Bad Urach**	**146.78**	**357**	*e*P	PKPbc	19 24 30.4	+1.6
MOA	**Molln**	**146.85**	**351⇑**	*i*P	PKPbc	19 24 30.3	+1.4
WLS	**Welschbruch**	**146.89**	**359**	PKP	PKPdf	19 24 30.5	-0.6
CDF	**Champ du Feu**	**146.89**	**359**	*e*PKP1	PKPbc	19 24 29.7	+0.7
	comp=Z,161nm,1.1s						
FUR	**Furstenfeldbru**	**146.92**	**354**	*e*PKP2	PKPab	19 24 30.0	-3.0
BFO	**Black Forest**	**146.95**	**358**	*e*PKP2	PKPab	19 24 30.4	-2.7
MDU	**Mudurnu**	**146.96**	**324**	*e*P	PKPbc	19 24 29.3	-0.2
THEF	**They Montfort**	**147.07**	**1**	PKP	PKPdf	19 24 30.9	-0.6
ECH	**Echery**	**147.09**	**359**	PKP	PKPdf	19 24 31.9	+0.4
LIBD	**Limburg**	**147.15**	**359**	*e*P	PKPdf	19 24 30.9	-0.7
GUT	**Gutenstein**	**147.17**	**357**	*e*P	PKPdf	19 24 31.0	-0.6
ARSA	**Arzberg**	**147.21**	**349⇑**	*i*P	PKPdf	19 24 31.2	-0.5
HAU	**Haudompre**	**147.30**	**0**	*e*PKP1	PKPdf	19 24 30.9	-0.9
	comp=Z,108nm,1.0s						
HAU				*e*R			
	comp=Z,2µm,22.8s						
KIZ	**Kirchzarten**	**147.33**	**358**	*e*P	PKPdf	19 24 30.5	-1.4
FELD	**Feldberg**	**147.41**	**358**	*e*P	PKPdf	19 24 32.4	+0.4
MOF	**Molkenrain**	**147.45**	**359**	PKP	PKPdf	19 24 34.3	+2.2
LTHS	**Al Lith**	**147.47**	**284**	P	PKPdf	19 24 35.6	+2.7
HINF	**Hinteralfeld**	**147.49**	**360**	*e*PKP1	PKPdf	19 24 31.2	-0.9
	comp=Z,138nm,1.4s						
SZH	**Strazhica**	**147.52**	**333**	*e*P	PKPdf	19 24 35.0	+2.7
MEST	**Erdemli**	**147.55**	**316**	*i* P	PKPdf	19 24 31.2	-1.4
KIZT	**Kizilcal**	**147.62**	**322**	*e*P	PKPdf	19 24 30.9	-1.7
QURS	**Qurayyt al Mil**	**147.68**	**305**	P	PKPdf	19 24 37.3	+4.3
WATA	**Walderalm**	**147.71**	**354⇑**	*i*P	PKPdf	19 24 34.5	+2.0
KBA	**Koelnbreinsper**	**147.74**	**351⇑**	*i*P	PKPdf	19 24 35.0	+2.4
MOTA	**Moosalm**	**147.75**	**354⇑**	*i*P	PKPdf	19 24 33.9	+1.3
KBRS	**Khaybar**	**147.75**	**294**	P	PKPdf	19 24 36.1	+2.9
WTTA	**Wattenberg**	**147.77**	**354⇑**	*i*P	PKPdf	19 24 33.1	+0.5
ESKT	**Eskisehir**	**147.81**	**323**	*i* P	PKPdf	19 24 31.2	-1.7
ESKT	**Eskisehir**	**147.81**	**323**	*e*P	PKPdf	19 24 32.0	-0.9
BBS	**Basel-Blauen**	**147.83**	**359**	*e*P	PKPdf	19 24 32.3	-0.4
SQTA	**Sankt Quirin**	**147.86**	**354⇓**	*i*P	PKPdf	19 24 35.4	+2.7
HYF	**Humbligny**	**147.87**	**5**	*e*PKP1	PKPdf	19 24 32.4	-0.4
LOMF	**Lomont**	**147.96**	**360**	PKP	PKPdf	19 24 33.1	+0.2
LOR	**Lormes**	**147.96**	**4**	*e*PKP1	PKPdf	19 24 32.6	-0.3
	comp=Z,175nm,1.4s						
LOR				*e*R			
	comp=Z,4µm,21.2s						
GROS	**Grobnik**	**147.97**	**348**	*e*PKPbc	PKPdf	19 24 34.2	+1.2
GROS				*e*		19 24 43.0	
GROS				*e*SS	SS	19 47 01.4	-4.8
HRI	**Mount Hermon**	**148.11**	**310**	P	PKPdf	19 24 35.7	+2.1
SSF	**Saint Saulge**	**148.14**	**4**	*e*PKP1	PKPdf	19 24 33.3	+0.1
	comp=Z,223nm,1.3s						
HOPOS	**Hopovo Monaste**	**148.15**	**342⇑**	*i*P	PKPdf	19 24 33.9	+0.6
KSHT	**Keshet**	**148.18**	**309**	P	PKPdf	19 24 35.8	+2.1
MFF	**Saint Martin d**	**148.20**	**9**	*e*PKP1	PKPdf	19 24 33.0	-0.3
	comp=Z,164nm,1.6s						
FVI	**Forni Avoltri**	**148.29**	**352**	*e*PKP	PKPdf	19 24 35.8	+2.3
ULDT	**Uludag**	**148.33**	**326**	*i* P	PKPdf	19 24 32.2	-1.5
PTCC	**Patocco-Chiusa**	**148.40**	**351**	*e*PKP	PKPdf	19 24 35.7	+2.0
AVF	**Avril sur Loir**	**148.40**	**4**	*e*PKP1	PKPdf	19 24 33.6	0.0
	comp=Z,98nm,1.3s						
GLH	**Golan-Tel Qazi**	**148.42**	**309**	P	PKPdf	19 24 36.5	+2.4
GMNA	**Gemona**	**148.54**	**351**	*e*PKP	PKPdf	19 24 36.5	+2.7
LJU	**Ljubljana**	**148.56**	**349**	*e*PKPbc	PKPdf	19 24 34.7	+0.8
LJU				*e*		19 24 40.5	
LJU				*e*		19 24 43.0	
LJU				*e*		19 24 45.2	
LJU				*e*		19 26 31.5	
LJU				*e*		19 27 01.4	
LJU				*e*		19 27 29.1	
LJU				*e*		19 27 54.4	
LJU				*e*		19 38 05.4	
LJU				*e*		19 41 11.6	
SMF	**Signal de Mont**	**148.57**	**4**	*e*PKP1	PKPdf	19 24 34.1	+0.2
	comp=Z,183nm,1.3s						
BGF	**Bois d'Agland**	**148.59**	**5**	*e*PKP1	PKPdf	19 24 34.2	+0.3
	comp=Z,194nm,1.4s						
HNTI	**Hanita**	**148.61**	**310**	P	PKPdf	19 24 36.7	+2.3
BOLS	**Boljevac**	**148.62**	**338⇓**	*i*P	PKPdf	19 24 36.0	+2.0
CSO	**Casso**	**148.67**	**352**	*e*Pg	PKPdf	19 24 34.5	+0.4
VOY	**Vojsko**	**148.67**	**350**	*e*	PKPdf	19 24 40.5	+6.4
VOY				*e*		19 25 09.3	
CABF	**La Chapelle**	**148.69**	**1**	*e*PKP1	PKPdf	19 24 34.9	+0.8
	comp=Z,310nm,1.3s						
MMLI	**Mount Malkishu**	**148.71**	**308**	P	PKPdf	19 24 37.3	+2.7
HMDT	**Nahal Hemdat**	**148.72**	**308**	P	PKPdf	19 24 37.1	+2.5
FAU	**Forcella Aurin**	**148.75**	**353**	*e*Pg	PKPdf	19 24 34.5	+0.3
TCF	**Toulx Ste Croi**	**148.80**	**6**	*e*PKP1	PKPdf	19 24 34.6	+0.3
	comp=Z,168nm,1.6s						
PGB	**Panagyurishte**	**148.86**	**334**	*e*P	PKPdf	19 24 37.0	+2.5
BOJS	**Bojanci**	**148.94**	**348**	*e*	PKPdf	19 24 46.3	+12
OFRI	**'Ofer**	**148.96**	**309**	P	PKPdf	19 24 37.6	+2.6
OG01	**Vacheresse**	**148.98**	**360**	PKP	PKPdf	19 24 39.1	+4.5
CSS	**Prodhromos**	**148.99**	**314**	*e*PKPbc	PKPdf	19 24 37.1	+2.1
GRUS	**Gruza**	**149.00**	**340⇓**	*i*P	PKPdf	19 24 35.8	+1.1
DIVS	**Divcibare**	**149.04**	**341⇑**	*i*P	PKPdf	19 24 36.7	+2.0
SLTI	**Sal'it**	**149.09**	**308**	P	PKPdf	19 24 38.0	+2.8
DRGI	**Dragot**	**149.10**	**307**	P	PKPdf	19 24 37.9	+2.6
ISP	**Isparta**	**149.11**	**321**	*e*P	PKPdf	19 24 34.2	-0.9
AGO	**Saint Agoulin**	**149.12**	**5**	PKP	PKPdf	19 24 38.7	+3.9
VTS	**Vitosha**	**149.21**	**336**	*e*P	PKPdf	19 24 38.0	+2.9
PLDF	**La Plantade**	**149.23**	**4**	PKP	PKPdf	19 24 39.5	+4.5
MZDA	**Masada**	**149.25**	**306**	P	PKPdf	19 24 38.2	+2.7
OG05	**Jujurieux**	**149.25**	**2**	PKP	PKPdf	19 24 39.4	+4.4
RZN	**Rozhen**	**149.33**	**333**	*e*P	PKPdf	19 24 35.0	-0.3
ALN	**Alexandroupoli**	**149.34**	**330**	*e*P	PKPdf	19 24 39.7	+4.4
BALB	**Balikesir**	**149.37**	**327**	*e*P	PKPdf	19 24 34.2	-1.2
PYM	**Petit Puy Mans**	**149.40**	**5**	PKP	PKPdf	19 24 40.1	+4.8
BARS	**Barje**	**149.55**	**338⇑**	*i*P	PKPdf	19 24 37.9	+2.3
COLF	**Collangettes**	**149.69**	**4**	PKP	PKPdf	19 24 40.7	+5.0
RJF	**Les Rejaudoux**	**149.69**	**7**	*e*PKP1	PKPdf	19 24 37.2	+1.4
	comp=Z,72nm,1.2s						
RJF				*e*R			
	comp=Z,3µm,19.2s						
ZFRI	**Zfri**	**149.70**	**305**	P	PKPdf	19 24 39.4	+3.2
TRAV		**149.78**	**358**	P	PKPdf	19 24 39.1	+3.2
LPL	**La Plagne**	**149.79**	**360**	*e*PKP1	PKPdf	19 24 38.4	+2.5
	comp=Z,73nm,1.0s						
LPG	**La Plagne**	**149.81**	**360**	*e*PKP1	PKPdf	19 24 38.7	+2.8
	comp=Z,151nm,1.1s						
MASH	**Mash'abbe Sade**	**149.83**	**306**	P	PKPdf	19 24 39.6	+3.2
MMB	**Musomiste**	**149.84**	**334**	*e*P	PKPdf	19 24 37.0	+0.9
LSD	**Ceresole Reale**	**149.85**	**359**	P	PKPdf	19 24 40.2	+4.2
KKB	**Krupnik**	**149.87**	**335**	*e*P	PKPdf	19 24 39.0	+2.8
NVLJ	**Novalja**	**149.92**	**348**	*i* PKP	PKPdf	19 24 36.1	-0.1
PRNI	**Paran**	**149.92**	**305**	P	PKPdf	19 24 40.1	+3.5
LBL	**Lubilhac**	**149.94**	**5**	PKP	PKPdf	19 24 40.4	+4.3
LFF	**La Frestale**	**149.95**	**8**	*e*PKP1	PKPdf	19 24 37.7	+1.5
	comp=Z,352nm,1.5s						
SVTA	**Shivta**	**149.98**	**306**	P	PKPdf	19 24 40.0	+3.3
DNZL	**Cakiroluk**	**150.08**	**323**	*i* P	PKPdf	19 24 34.1	-2.5
CAF	**Calviac**	**150.13**	**7**	*e*PKP1	PKPdf	19 24 38.3	+1.8
	comp=Z,199nm,1.6s						
RSP	**Reno Superiore**	**150.15**	**359**	P	PKPdf	19 24 40.3	+3.8
KZIT	**Kziot**	**150.17**	**306**	P	PKPdf	19 24 40.2	+3.2
ELL	**Elmali**	**150.18**	**320**	*e*P	PKPdf	19 24 34.8	-2.0
MBH	**Mount Berech**	**150.21**	**304**	P	PKPdf	19 24 40.6	+3.5
EIL	**Elat**	**150.23**	**304**	P	PKPdf	19 24 40.7	+3.6
KMTI	**Karmit**	**150.24**	**305**	P	PKPdf	19 24 40.4	+3.3
BNI	**Bardonecchia**	**150.25**	**360**	*e*PKPbc	PKPdf	19 24 41.4	+4.7
FENE	**Fenestrelle**	**150.28**	**359**	P	PKPdf	19 24 41.0	+4.3
SRS	**Serrai**	**150.28**	**334**	*e*P	PKPdf	19 24 39.1	+2.3
ORIF	**Oris-en-Rattie**	**150.38**	**1**	*e*PKP1	PKPdf	19 24 39.4	+2.6
	comp=Z,101nm,1.2s						
ORIF				*e*R			
	comp=Z,2µm,23.0s						
RRL	**Cesana Torines**	**150.39**	**360**	P	PKPdf	19 24 40.8	+4.0
VIVF	**Saint-Julien-l**	**150.41**	**3**	*e*PKP1	PKPdf	19 24 39.3	+2.4
	comp=Z,122nm,1.4s						
SKO	**Skopje**	**150.43**	**337**	*e*PKP	PKPdf	19 24 40.0	+3.0
SKO				*i*		19 24 42.8	
SKO				*i*		19 24 50.5	
KNT	**Kendrikon**	**150.54**	**335**	*e*P	PKPdf	19 24 38.4	+1.2
VAY	**Valandovo**	**150.54**	**335**	*i* PKP	PKPdf	19 24 42.1	+4.9
VAY				*i*		19 24 49.5	
MBDF	**Montbardon**	**150.58**	**360**	*e*PKP1	PKPdf	19 24 39.8	+2.7
	comp=Z,50nm,0.9s						
IZM	**Izmir**	**150.59**	**326**	*e*P	PKPdf	19 24 36.4	-1.0
SOH	**Sokhos**	**150.63**	**334**	*e*P	PKPdf	19 24 40.0	+2.7
GRAM		**150.67**	**355**	P	PKPdf	19 24 39.3	+2.0
OG26	**St.-Nazaire-De**	**150.71**	**2**	PKP	PKPdf	19 24 40.9	+3.6
PCP	**Pian Castagno**	**150.72**	**357**	P	PKPdf	19 24 41.2	+3.8
OUR	**Ouranopolis**	**150.75**	**332**	*e*P	PKPdf	19 24 39.7	+2.2
CODM		**150.79**	**355**	P	PKPdf	19 24 40.6	+3.2
VALM		**150.79**	**355**	P	PKPdf	19 24 40.1	+2.6
PZZ	**Prazzo**	**150.80**	**359**	P	PKPdf	19 24 41.2	+3.7
SURF	**Saint Ours**	**150.83**	**360**	PKP	PKPdf	19 24 44.3	+6.8
GENL	**Genova Univers**	**150.83**	**357**	P	PKPdf	19 24 40.5	+3.0
STON	**Ston**	**150.84**	**343**	*i* P	PKPdf	19 24 42.3	+4.7
BACM		**150.88**	**355**	P	PKPdf	19 24 40.3	+2.7
GRG	**Griva**	**150.91**	**335**	*e*P	PKPdf	19 24 40.1	+2.4
VLC	**Villacollemand**	**150.97**	**354**	*e*PKPbc	PKPdf	19 24 44.0	+6.3
ROB	**Roburent**	**150.99**	**358**	P	PKPdf	19 24 40.4	+2.6
VINC	**Vinca**	**151.01**	**355**	P	PKPdf	19 24 39.9	+2.1
STV2	**Anna di Valdie**	**151.06**	**359**	P	PKPdf	19 24 41.8	+4.0
STV	**Sta Anna Valdi**	**151.06**	**359**	P	PKPdf	19 24 41.8	+4.0
FIN	**Finale Ligure**	**151.07**	**358**	P	PKPdf	19 24 40.5	+2.6
ENR	**Entracque**	**151.07**	**359**	P	PKPdf	19 24 41.7	+3.8
MLSB	**Milas**	**151.09**	**323**	*e*P	PKPdf	19 24 32.0	-6.1
PBRG	**Braganca**	**151.09**	**21**	*e*PKPdf	PKPdf	19 24 32.8	-5.2
PBRG				*e*PKPbc	PKPdf	19 24 40.5	+2.5
PBRG				*e*PKPab	PKPab	19 24 48.0	-2.2
LASF	**Ste Croix**	**151.13**	**4**	*e*PKP1	PKPdf	19 24 41.1	+3.1
	comp=Z,123nm,1.3s						
RORO		**151.17**	**358**	P	PKPdf	19 24 41.0	+2.9
MAIM		**151.20**	**354**	P	PKPdf	19 24 40.4	+2.3
PVRL	**Vila Real**	**151.20**	**23**	*e*PKPab	PKPab	19 24 47.3	-3.4
MONE	**Monesi**	**151.21**	**358**	P	PKPdf	19 24 41.9	+3.8
SAOF	**Saorge**	**151.31**	**359**	PKP	PKPdf	19 24 44.6	+6.4
SMRF	**Simiane la Rot**	**151.32**	**2**	*e*PKP1	PKPdf	19 24 42.1	+3.8
	comp=Z,208nm,1.3s						
IMI	**Imperia**	**151.38**	**358**	P	PKPdf	19 24 42.2	+3.9
SJPF	**Ste Jean**	**151.39**	**12**	*e*PKP1	PKPdf	19 24 41.3	+2.9
MVIF	**Mont Vial**	**151.41**	**359**	PKP	PKPdf	19 24 48.1	+10
OHR	**Ohrid**	**151.41**	**337⇑**	*i*PKP	PKPdf	19 24 41.8	+3.3
AURF	**Auriere**	**151.41**	**359**	PKP	PKPdf	19 24 48.2	+10
SBF	**Sospel**	**151.44**	**359**	*e*PKP1	PKPdf	19 24 41.2	+2.8
	comp=Z,153nm,1.3s						
NEGI	**Negi**	**151.44**	**358**	P	PKPdf	19 24 41.9	+3.5
VILF	**Villemus**	**151.44**	**1**	PKP	PKPdf	19 24 45.7	+7.2
MBAR	**Mbarara**	**151.45**	**239**	*e*PKPbc	PKPdf	19 24 45.2	+5.8
FNA	**Florina**	**151.47**	**336**	*e*P	PKPdf	19 24 41.4	+2.8
PRAF	**Pradon**	**151.48**	**2**	PKP	PKPdf	19 24 45.7	+7.2
CALN	**Calern**	**151.55**	**360**	PKP	PKPdf	19 24 45.2	+6.6
REVF	**Revere**	**151.56**	**359**	PKP	PKPdf	19 24 48.3	+10
LIT	**Litokhoron**	**151.59**	**334**	*e*P	PKPdf	19 24 41.6	+2.8
PVIS	**Viseu**	**151.62**	**24**	*e*PKPbc	PKPdf	19 24 41.3	+2.5
PVIS				*e*PKPab	PKPab	19 24 49.7	-2.7
TREF	**Trevaresse**	**151.66**	**2**	PKP	PKPdf	19 24 48.4	+10
TAVF	**Tavernes**	**151.69**	**1**	PKP	PKPdf	19 24 47.7	+8.9
MTLF	**Montolieu**	**151.71**	**7**	*e*PKP1	PKPdf	19 24 42.1	+3.2
	comp=Z,15nm,0.9s						
ETSF	**Etsaut**	**151.73**	**11**	*e*PKP1	PKPdf	19 24 43.6	+4.7
	comp=Z,39nm,0.9s						
FRF	**La Foret Royal**	**151.75**	**360**	*e*PKP1	PKPdf	19 24 42.0	+3.1
	comp=Z,36nm,1.1s						
EPF	**Esparros**	**151.76**	**10**	*e*PKP1	PKPdf	19 24 43.0	+4.1
	comp=Z,33nm,1.3s						
PUYF	**Puyloubier**	**151.76**	**1**	PKP	PKPdf	19 24 45.9	+7.0
XOR	**Xorichti**	**151.89**	**332**	*e*P	PKPdf	19 24 43.4	+4.1
GELF	**Grande-Etoile**	**151.90**	**2**	PKP	PKPdf	19 24 48.2	+9.0
LMR	**La Mourre**	**151.97**	**0**	*e*PKP1	PKPdf	19 24 42.6	+3.3
	comp=Z,44nm,1.1s						
BERF	**Bertagne**	**151.98**	**1**	PKP	PKPdf	19 24 46.4	+7.1
MTE	**Manteigas**	**152.03**	**23**	*e*PKPbc	PKPdf	19 24 43.8	+4.4
MTE				*e*SS	SS	19 47 53.6	+2.6
MTE				*i* -		20 07 48.2	
MTE				*e*LQ		20 21 29.4	
MTE				*e*LR	LR	20 22 56.3	
	comp=Z,2µm,22.0s						
MTE	**Manteigas**	**152.03**	**23**	*e*PKPbc	PKPdf	19 24 44.4	+4.9
AQU	**L'Aquila**	**152.33**	**349**	*e*PKPbc	PKPdf	19 24 44.0	+4.2
AQU				*e*PKPab	PKPab	19 24 55.0	-0.4
PTOM	**Tomar**	**152.35**	**26**	*e*PKPdf	PKPdf	19 24 35.1	-4.8
PTOM				*e*PKPbc	PKPdf	19 24 47.1	+7.2
PTOM				*e*PKPab	PKPab	19 24 54.2	-1.3
MEV	**Metsovon**	**152.38**	**335**	*e*P	PKPdf	19 24 45.3	+5.3
PGF	**Pioggiola**	**152.68**	**356**	*e*PKP1	PKPdf	19 24 44.0	+3.7
	comp=Z,119nm,1.4s						
CII	**Carovilli**	**152.76**	**347**	*e*PKPbc	PKPdf	19 24 47.5	+7.0
CSSN	**Cassano Irpino**	**153.42**	**346**	*e*PKP	PKPdf	19 24 41.1	-0.3
EVO	**Evora**	**153.43**	**26**	*e*PKIKP	PKPdf	19 24 39.7	-1.8
EVO				*e*R			
	comp=Z,3µm,20.8s						
LKD	**Levkas**	**153.53**	**335**	*e*P	PKPdf	19 24 48.0	+6.4
ESDC	**Sonseca Array**	**153.92**	**19**	PKPbc	PKPdf	19 24 47.8	+5.7
	comp=Z,0.7nm,0.7s,slow=1.3,SNR=2.4						
ESDC				PKPab	PKPab	19 24 59.8	-2.4
	comp=Z,13nm,1.1s,baz=328,slow=3.3,SNR=10						
TIP	**Timpagrande**	**154.52**	**341**	*e*PKPdf	PKPdf	19 24 42.3	-0.6
TIP				*e*PKPbc	PKPdf	19 24 51.1	+8.2
PALC	**Alcoutim**	**154.55**	**27**	*e*PKPab	PKPab	19 25 03.2	-1.7
DBIC	**Dimbokro**	**165.90**	**126**	PKPab	PKPab	19 25 55.1	+0.5
	comp=Z,12nm,1.2s,baz=137,slow=6.4,SNR=2.6						

CASC 03 19:21:12.5±2.2, 13.31N×90.36W, h27km±6km, MD3.8, ML3.8, 4C-7D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CUSS	**Cusmapa**	**0.72**	**34**	*e*P	Pb	19 21 26.1	-0.2
IXG	**Ixpaco**	**0.86**	**354⇓**	*e*P	Pb	19 21 28.5	-0.2
IXG				*e*S	Sb	19 21 40.9	+1.0
SBLS	**San Blas**	**0.89**	**54⇓**	*e*P	Pb	19 21 28.9	-0.3

SBLS				eS	Sb	19 21 42.2	+1.6
RTR	**El Retiro**	0.91	50	⇓eP	Pb	19 21 29.3	-0.2
RTR				eS	Sb	19 21 43.0	+1.8
SNJE	**San Jose**	0.92	53	⇓eP	Pb	19 21 29.4	-0.3
RBDL	**Robledal**	1.03	39	⇓eP	Pn	19 21 31.6	+0.2
BOQS	**Boqueron**	1.13	68	eP	Pn	19 21 32.1	-0.6
BOQS				eS	Sn	19 21 48.1	+0.6
FUG	**Fuego 3**	1.22	338	⇓eP	Pn	19 21 33.6	-0.5
FUG				eS	Sn	19 21 50.2	+0.3
NBG	**Las Nubes**	1.27	1	⇑eP	Pn	19 21 35.9	+1.2
NBG				eS	Sn	19 21 53.7	+2.7
NBG				AML	AML	19 22 00.7	
	comp=N,4μm,0.4s						
LFU	**La Fuente**	1.29	70	eP	Pn	19 21 34.8	-0.2
LFRS	**El Faro**	1.30	76	eP	Pn	19 21 34.0	-1.2
LCBS	**La Ceiba**	1.39	76	⇑eP	Pn	19 21 35.3	-1.1
LCBS				eS	Sn	19 21 52.9	-1.2
MTO2	**Montecristo 2**	1.45	42	⇓iP	Pn	19 21 37.7	+0.3
MTO2				eS	Sn	19 21 57.1	+1.4
SNVI	**San Vicente**	1.51	78	⇑eP	Pn	19 21 38.9	+0.7
JAT	**Jato**	1.59	309	eP	Pn	19 21 38.2	-1.2
JAT				eS	Sn	19 22 00.9	+1.7
JAT				AML	AML	19 22 09.6	
	comp=N,1μm,0.3s						
TP2	**Tecpan 2**	1.60	336	⇑eP	Pn	19 21 39.9	+0.4
TP2				eS	Sn	19 22 01.0	+1.7
TP2				AML	AML	19 22 07.6	
	comp=E,737nm,0.4s						
CNCH	**Conchagua**	2.46	91	eP	Pn	19 21 52.7	+0.9
CNCH				eS	Sn	19 22 22.6	+1.3

NEIC 03 19:21:46.9, 59.81N×153.33W, h132^{km}, After AEIC., Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OPT	**Oil Point**	0.16	162	P	P	19 22 04.2	-0.8
ILS	**Iliamna Low So**	0.20	41	P	P	19 22 04.3	-0.8
ILS				S	S	19 22 18.3	-0.6
IVS	**Iliamna South**	0.24	32	P	P	19 22 04.5	-0.6
IVE	**Iliamna Volcan**	0.26	37	P	P	19 22 04.5	-0.7
IVE				S	S	19 22 18.5	-0.8
ILW	**Iliamna West**	0.27	21	P	P	19 22 04.6	-0.6
ILW				S	S	19 22 18.5	-0.8
ILIM	**Iliamna**	0.33	34	P	P	19 22 04.6	-0.9
ILIM				S	S	19 22 18.8	-0.8
AUL	**Augustine Lava**	0.43	187	P	P	19 22 05.4	-0.6
AUL				S	S	19 22 19.7	-0.7
AUW	**Augustine West**	0.44	189	P	P	19 22 05.3	-0.7
AUE	**Augustine Isla**	0.45	183	P	P	19 22 05.2	-0.9
RED	**Redoubt Volcan**	0.68	24	P	P	19 22 06.8	-0.6
RED				S	S	19 22 22.4	-0.7
RSO	**Redoubt South**	0.72	23	P	P	19 22 07.2	-0.6
REF	**Redoubt East F**	0.75	24	P	P	19 22 07.4	-0.6
REF				S	S	19 22 23.2	-0.9
NCT	**North Crescent**	0.78	15	P	P	19 22 07.6	-0.6
NCT				S	S	19 22 23.5	-1.0
MCNL	**McNeil River**	0.81	220	P	P	19 22 07.5	-0.9
HOM	**Homer**	0.87	99	P	P	19 22 08.2	-0.7
HOM				S	S	19 22 24.8	-0.9
RDT	**Redoubt**	0.90	31	P	P	19 22 08.4	-0.8
NNL	**Ninilchik**	1.05	76	P	P	19 22 10.7	0.0
CNPM	**China Poot**	1.10	104	P	P	19 22 09.9	-1.2
CNPM				S	S	19 22 28.7	-0.9
BRLK	**Bradley Lake**	1.24	91	P	P	19 22 11.4	-1.2
BRLK				S	S	19 22 30.1	-2.0
SYI	**Shuyak Island**	1.29	158	P	P	19 22 12.0	-1.3
SYI				S	S	19 22 31.5	-1.7
KAPH	**Katmai Pasha**	1.32	204	P	P	19 22 12.5	-1.1
KAPH				S	S	19 22 32.3	-1.6
BKG	**Blockade Glaci**	1.37	22	P	P	19 22 13.3	-0.9
BKG				S	S	19 22 33.9	-1.1
KAHC	**Katmai Hardscr**	1.45	217	P	P	19 22 13.7	-1.2
KAHC				S	S	19 22 35.0	-1.3
KAHG	**Katmai Hook Gl**	1.46	206	P	P	19 22 14.0	-1.1
CKL	**Chakachamna La**	1.48	19	P	P	19 22 14.5	-0.8
KARR	**Katmai Rainbow**	1.49	209	P	P	19 22 14.5	-0.9
SPU	**Mount Spurr**	1.52	24	P	P	19 22 14.6	-1.1
SPU				S	S	19 22 36.6	-1.2
BGL	**Barrier Glacie**	1.53	17	P	P	19 22 15.3	-0.6
KAIC	**Katmai Ikaglui**	1.59	214	P	P	19 22 15.4	-1.2
SLKM	**Skilak Lake**	1.71	64	P	P	19 22 16.5	-1.4
SVW	**Sparrevohn**	1.73	320	P	P	19 22 17.1	-1.1
STLK	**Strandline Lak**	1.85	23	P	P	19 22 18.6	-0.9
KABR	**Katmai Barrier**	1.88	208	P	P	19 22 18.4	-1.6
ANCK	**Angle Creek**	1.96	216	P	P	19 22 19.9	-1.0
SEW	**Seward**	1.98	80	P	P	19 22 19.3	-1.7
CAHL	**Cahill**	2.03	211	P	P	19 22 20.8	-1.0
KDAK	**Kodiak Island**	2.07	169	P	P	19 22 19.4	-2.8
FIB	**Fire Island**	2.07	47	P	P	19 22 21.6	-0.7
MPA	**Moose Pass**	2.10	69	P	P	19 22 21.4	-1.3
KJL	**Kejulik**	2.11	214	P	P	19 22 21.8	-1.0
RC01	**Rabbit Creek A**	2.20	53	P	P	19 22 22.1	-1.8
PMS	**Palmer South**	2.36	51	P	P	19 22 24.2	-1.7
PMR	**Palmer**	2.73	47	eP	P	19 22 29.5	-1.4
KNK	**Knik Glacier**	2.89	54	P	P	19 22 30.2	-2.8
GHO	**Glory Hole Cre**	2.92	46	P	P	19 22 30.6	-2.9
CUT	**Chulitna**	3.00	28	P	P	19 22 32.2	-2.2
CFI	**College Fiord**	3.08	61	P	P	19 22 33.1	-2.3
SML	**Sawmill**	3.17	48	P	P	19 22 33.6	-3.0
TT01	**Tatalina**	3.37	339	P	P	19 22 37.1	-2.1
TTA	**Tatalina**	3.39	339	eP	P	19 22 37.0	-2.6
MID	**Middleton Isla**	3.57	93	P	P	19 22 39.7	-2.3
SCM	**Sheep Creek Mo**	3.57	53	P	P	19 22 39.1	-2.8
EYAK	**Cordova Ski Ar**	3.86	76	P	P	19 22 43.4	-2.4
KTH	**Kantishna Hill**	3.93	16	P	P	19 22 44.2	-2.6
TRF	**Thorofare Moun**	3.94	20	P	P	19 22 44.4	-2.4
DIV	**Divide**	3.97	67	P	P	19 22 45.3	-2.0
DHY	**Denali Highway**	4.35	39	P	P	19 22 49.7	-2.7
MCK	**McKinley**	4.46	26	P	P	19 22 51.3	-2.5
BMRM	**Bremner River**	4.49	71	P	P	19 22 51.9	-2.3
SDG	**Sourdough**	4.65	51	P	P	19 22 53.9	-2.5
PAX	**Paxson**	4.94	47	P	P	19 22 57.8	-2.4
GLB	**Gilahina Butte**	4.97	67	P	P	19 22 58.1	-2.5
THY	**Trims Highway**	5.12	42	eP	P	19 23 00.7	-1.9
WAX	**Waxell Ridge**	5.28	78	P	P	19 23 02.5	-2.2
HDA	**Harding Lake**	5.50	30	P	P	19 23 04.6	-3.1
CCB	**Clear Creek Bu**	5.50	26	P	P	19 23 04.5	-3.2
BALM	**Baldy**	5.58	73	P	P	19 23 06.9	-1.9
COLA	**College**	5.69	24	P	P	19 23 07.0	-3.2
IL1	**Eielson Array**	5.82	28	P	P	19 23 08.7	-3.3
DOT	**Dot Lake**	5.85	45	P	P	19 23 09.8	-2.6
IM3	**Indian Mountai**	6.21	358	P	P	19 23 15.0	-2.3
IMA	**Indian Mountai**	6.29	359	eP	P	19 23 16.1	-2.3
BCA3	**Beaver Creek A**	6.43	54	P	P	19 23 17.8	-2.5
PCA	**Pinnacle**	6.58	82	P	P	19 23 20.1	-2.2
PRP	**Porcupine Dome**	6.76	29	P	P	19 23 21.9	-2.9
PNL	**Peninsula**	7.04	85	P	P	19 23 26.3	-2.4
COLD	**Coldfoot**	7.58	9	P	P	19 23 32.6	-3.2
DAWY	**Dawson**	7.83	51	eP	P	19 23 36.6	-2.7
BM3	**Burnt Mountain**	8.56	23	P	P	19 23 44.8	-4.2
WHY	**Whitehorse**	9.21	77	P	P	19 23 56.1	-1.5
SIT	**Sitka**	9.83	98	P	P	19 24 03.4	-2.3
INK	**Inuvik**	12.10	37	eP	P	19 24 32.7	-2.8

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*NEIC **03** 20:00:15.3±1.4, 16.10S×73.94W, h54^{km}±13^{km}, Error ellipse: s-maj=21.8km s-min=13.4km az=47.0*

NEIC Felt [III] at Chala and [II] at Caraveli.

*IDC **03** 20:00:29.8±22.0, 16.96S×73.72W, h186^{km}±149^{km}, mb3.4/4, mb1 3.6/4, mb1mx3.4/11, Error ellipse: s-maj=312.0km s-min=24.0km az=27.0*

ISC 03 20:00:14.5±1.8**, 16.4S**±0.1×**74.0W**±0.2**, h39^{km}**±18^{km}**, n13, σ1$.^{s}$77**/15**, mb3.8**/4**, 3C, Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARE	**Arequipa**	2.40	93	⇑iP	P	20 00 54.0	+1.8
ARE				i S	S	20 01 25.5	+4.9
NNA	**Nana**	5.15	327	ePn	P	20 01 27.7	-3.6
NNA				eSn	S	20 02 29.6	-0.7
LVC	**Limon Verde**	7.85	143	ePn	P	20 02 08.5	-0.4
	5.9nm,0.5s						
LVC				eSn	S	20 03 33.5	-4.0
SAML	**Samuel**	12.85	56	ePn	P	20 03 11.4	-6.0
	2.6nm,0.6s						
BDFB	**Brasilia**	24.97	92	P	P	20 05 34.2	-2.0
	3.9nm,0.9s,mb3.9,baz=270,slow=7.1,SNR=3.8						
TXAR	**Lajitas Array**	53.71	328	P	P	20 09 37.5	+2.4
	0.4nm,0.7s,mb3.5,baz=149,slow=8.7,SNR=5.6						
VNA3	**Neumayer Olymp**	66.46	161		P	20 11 09.3	+7.6
VNA2	**Neumayer--Watz**	67.06	161	⇑i	P	20 11 07.5	+2.0
PDAR	**Pinedale Array**	67.31	332	P	P	20 11 08.9	+1.4
	1.1nm,1.2s,mb3.8,baz=144,slow=7.8,SNR=4.0						
SNAA	**Sanae**	68.67	161	⇑i	P	20 11 14.2	-1.4
DBIC	**Dimbokro**	72.09	77	P	P	20 11 33.7	-3.5
	2.6nm,0.9s,mb4.2,baz=224,slow=3.5,SNR=3.4						
DBIC	**Dimbokro**	72.09	77	P	P	20 11 33.7	-3.5
SONM	**Songino Array**	148.61	360	PKPbc	PKPdf	20 19 56.1	+2.5
	1.4nm,0.7s,slow=2.9,SNR=14						

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*IDC **03** 20:01:15.1±2.2, 60.95S×161.07E, mb4.2/3, mb1 4.4/3, mb1mx4.2/6, MS4.3/4, Ms1 4.3/4, ms1mx4.1/15, Error ellipse: s-maj=84.6km s-min=31.5km az=87.0*

*NEIC **03** 20:01:17.1±1.4, 60.90S×160.87E, h10^{km}, mb4.4/3, Error ellipse: s-maj=60.7km s-min=11.2km az=76.0*

ISC 03 20:01:15.9±1.9**, 60.9S**±0.2×**16 1E**± **, h10^{km}, n17, σ1$.^{s}$00**/11**, mb4.2**/5**, MS4.3**/3**, 1C, Macquarie Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SBA	**Scott Base**	17.16	176	eP	P	20 05 16.7	-0.2
	41nm,1.5s						
RPZ	**Rata Peaks**	18.29	25	LR	LR	20 10 52.4	
	comp=Z,746nm,20.8s,baz=195,slow=32						
URZ	**Urewera**	24.88	32	LR	LR	20 15 28.1	
	comp=Z,456nm,19.4s,MS4.0,baz=232,slow=34						
STKA	**Stephens Creek**	31.61	328	LR	LR	20 19 44.4	
	comp=Z,530nm,20.2s,MS4.2,baz=284,slow=35						
MAW	**Mawson**	38.72	217	P	P	20 08 41.2	-0.1
	2.8nm,0.9s,mb4.0,baz=149,slow=6.5,SNR=4.8						
ASAR	**Alice Springs**	41.54	321	P	P	20 09 05.8	+1.0
	4.8nm,0.9s,mb4.1,baz=161,slow=8.4,SNR=36						
ASAR				PcP	PcP	20 11 01.4	-1.6
	0.5nm,0.6s,baz=149,slow=3.9,SNR=4.8						
ASPA	**Alice Springs**	41.54	321	eP	P	20 09 05.8	+0.9
WB2	**Warramunga Arr**	44.92	324	eP	P	20 09 32.0	-0.4
WRA	**Warramunga Arr**	44.92	324	P	P	20 09 32.3	-0.2
	3.0nm,0.9s,mb4.1,baz=162,slow=6.7,SNR=15						
WRA				PcP	PcP	20 11 12.9	-1.5
	0.6nm,0.6s,baz=164,slow=3.2,SNR=5.8						
WRAB	**Tennant Creek**	44.93	324	eP	P	20 09 31.0	-1.5
	8.7nm,1.0s,mb4.5						
SNAA	**Sanae**	47.23	187		P	20 09 48.8	-1.2
SNAA	**Sanae**	47.23	187	eP	P	20 09 48.6	-1.5
	1.9nm,0.8s,mb4.1						
VNA2	**Neumayer--Watz**	48.21	185		P	20 10 03.8	+6.1
VNA1	**Neumayer--Stat**	48.52	185	⇑i	P	20 10 01.9	+1.8
USHA	**Ushuaia**	58.25	149	LR	LR	20 34 40.6	
	comp=Z,722nm,18.4s,MS4.8,baz=132,slow=34						
MKAR	**Makanchi Array**	124.48	305	PKP	PKPdf	20 20 15.9	-1.8
	0.3nm,0.7s,baz=160,slow=3.3,SNR=3.2						
AKASG	**Malin Array Be**	151.53	271	PKPbc	PKPdf	20 21 09.2	+3.6
	1.2nm,0.6s,baz=115,slow=2.1,SNR=6.4						

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*NEIC **03** 20:13:55.2±4.4, 6.79S×154.01E, h75^{km}±30^{km}, mb4.2/3, Error ellipse: s-maj=41.5km s-min=19.8km az=88.0*

*IDC **03** 20:14:04.1±12.0, 6.83S×154.09E, h176^{km}±123^{km}, mb3.6/5, mb1 3.7/6, mb1mx3.6/12, Error ellipse: s-maj=65.7km s-min=38.3km az=94.0*

ISC 03 20:13:50.7±6.5**, 6.7S**±0.2×**154.1E**±0.4**, h53^{km}**±47^{km}**, n12, σ0$.^{s}$93**/12**, mb4.0**/8**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	7.39	248	ePn	P	20 15 38.8	+0.3
	32nm,0.8s						
CTA	**Charters Tower**	15.33	209	P	P	20 17 30.4	+5.1
	0.2nm,0.3s,baz=34,slow=13,SNR=4.7						
CTA	**Charters Tower**	15.33	209	P	P	20 17 30.4	+5.1
WRAB	**Tennant Creek**	23.26	234	eP	P	20 18 54.3	-0.2
	20nm,1.2s,mb4.4						
WB2	**Warramunga Arr**	23.26	234	eP	P	20 18 55.1	+0.6
WRA	**Warramunga Arr**	23.27	234	P	P	20 18 54.8	+0.3
	5.3nm,0.9s,mb4.0,baz=58,slow=10.0,SNR=26						
ASAR	**Alice Springs**	25.72	227	P	P	20 19 17.8	-0.3
	1.6nm,0.8s,mb3.6,baz=58,slow=8.5,SNR=14						
STKA	**Stephens Creek**	27.63	203	P	P	20 19 34.0	-1.5
	2.6nm,0.7s,mb4.0,baz=18,slow=12,SNR=7.8						
FITZ	**Fitzroy Crossi**	29.98	245	P	P	20 19 56.2	-0.5
	3.5nm,0.6s,mb4.2,baz=74,slow=7.3,SNR=7.9						
SONM	**Songino Array**	68.64	328	P	P	20 24 49.0	-1.5
	0.8nm,1.1s,mb3.6,baz=134,slow=6.0,SNR=3.8						
LSA	**Lhasa**	70.40	305	P	P	20 25 02.9	+1.3
	2.0nm,0.7s,mb4.2						
QSPA	**South Pole Qui**	83.25	180	eP	P	20 26 13.8	+1.4
	2.9nm,1.1s,mb4.2						

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*PRU **03** 20:21:16.9, 50.21N×18.89E*

WAR 03 20:21:15.7, 50.25N×18.92E, ML2.6, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAC	**Raciborz**	0.49	250	ePG	Pg	20 21 26.0	+0.5
RAC				eSG	Sg	20 21 33.0	+0.9
OJC	**Ojcow**	0.57	93	ePG	Pg	20 21 28.0	+1.0
OJC				i SG	Sg	20 21 35.8	+1.2
OKC	**Ostrava-Krasne**	0.65	230	ePG	Pg	20 21 29.0	+0.4
OKC				eSG	Sg	20 21 38.4	+1.2
NIE	**Niedzica**	1.23	132	ePG	Pg	20 21 39.0	-1.3
NIE				eSG	Sg	20 21 56.0	-0.7
DPC	**Dobruska-Polom**	1.67	274	ePG	Pg	20 21 45.7	-3.3
DPC				eSG	Sg	20 22 08.0	-3.2
KSP	**Ksiaz**	1.77	290	ePN	Pn	20 21 48.0	+0.1
KSP				ePG	Pg	20 21 49.0	-2.1
KSP				eSG	Sg	20 22 12.0	-2.8
UPC	**Upice**	1.88	279	ePG	Pg	20 21 50.1	-3.0
PRU	**Pruhonice**	2.83	266	ePG	Pg	20 22 06.9	-5.2
PRU				eSG	Sg	20 22 44.4	-5.4
KHC	**Kasperske Hory**	3.64	254	ePG	Pg	20 22 22.6	-5.8
KHC				eSG	Sg	20 23 11.3	-5.7
CLL	**Collm**	3.90	288	eSG	Sg	20 23 22.0	-3.5

IDC 03 20:22:59.2±1.6**, 4.74N**×**94.17E, mb3.5**/6**, mb1 3.7**/6**, mb1mx3.6**/16**, Error ellipse: s-maj=73.3km s-min=24.5km az=53.0, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	43.14	348	P	P	20 31 01.9	-1.3
	0.8nm,0.7s,baz=158,slow=7.9,SNR=8.0						
SONM	**Songino Array**	44.20	12	P	P	20 31 09.9	-1.8
	0.4nm,0.9s,baz=180,slow=7.2,SNR=3.0						
WRA	**Warramunga Arr**	46.47	123	P	P	20 31 27.4	-2.8
	0.3nm,0.8s,baz=296,slow=11,SNR=3.2						
ASAR	**Alice Springs**	47.93	128	P	P	20 31 40.8	-0.9
	0.1nm,0.5s,baz=307,slow=9.0,SNR=2.8						
FINES	**FINESS Array B**	75.49	333	P	P	20 34 44.4	-2.4
	1.0nm,0.7s,baz=90,slow=5.6,SNR=4.8						
GERES	**GERESS Array B**	80.18	319	P	P	20 35 12.0	-1.0
	0.5nm,0.7s,baz=117,slow=6.0,SNR=5.5						

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*IDC **03** 20:23:29.3±1.1, 19.22S×172.72W, mb4.3/7, mb1 4.5/8, mb1mx4.3/15, ML4.3/1, Error ellipse: s-maj=52.7km s-min=21.9km az=148.0*

*NEIC **03** 20:23:35.0±0.5, 19.19S×172.83W, h35^{km}, mb4.7/5, Error ellipse: s-maj=16.3km s-min=13.1km az=175.0*

*SYO **03** 20:23:35.2, 19.92S×173.23W, h10^{km}, MB4.7*

ISC 03 20:23:32.4±0.9**, 19.3S**±0.2×**172.8W**±0.1**, h32^{km}, h32^{km}**±1.0^{km}**:pP-P, n30, σ0$.^{s}$96**/23**, mb4.5**/10**, 4C-2D, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAR	**Rarotonga**	12.36	101	Pn	P	20 26 15.7	-13
	1.9nm,0.3s,baz=261,slow=10,SNR=6.5						
RAR	**Rarotonga**	12.36	101	ePn	P	20 26 16.4	-13
URZ	**Urewera**	20.87	203	P	P	20 28 14.3	0.0
	7.2nm,0.7s,baz=56,slow=7.3,SNR=4.3						
ARMA	**Armidale**	34.03	244	eP	P	20 30 16.0	+0.2
ARMA				e	pP	20 30 25.5	+0.3
CTA	**Charters Tower**	38.52	262	P	P	20 30 53.5	-0.4
	2.7nm,0.5s,mb4.2,baz=85,slow=8.1,SNR=6.1						
CTAO	**Charters Tower**	38.52	262	P	P	20 30 54.7	+0.9
	4.6nm,0.5s,mb4.5						
STKA	**Stephens Creek**	42.74	244	P	P	20 31 28.6	0.0
	3.1nm,0.7s,mb4.2,baz=90,slow=9.2,SNR=7.1						
ASAR	**Alice Springs**	49.59	255	P	P	20 32 22.8	-0.1
	4.9nm,0.7s,mb4.6,baz=96,slow=7.7,SNR=40						
ASPA	**Alice Springs**	49.59	255	eP	P	20 32 22.7	-0.2
ASPA				i	pP	20 32 33.0	+0.4
WB2	**Warramunga Arr**	49.64	260	eP	P	20 32 23.5	+0.2
WB2				i	pP	20 32 32.6	-0.4
WRAB	**Tennant Creek**	49.64	260	eP	P	20 32 23.0	-0.4
	17nm,1.0s,mb5.0						
WRA	**Warramunga Arr**	49.65	260	P	P	20 32 22.9	-0.5
	6.7nm,0.9s,mb4.7,baz=96,slow=7.4,SNR=25						
FITZ	**Fitzroy Crossi**	58.07	260	P	P	20 33 26.3	+0.9
	2.1nm,0.8s,mb4.2,baz=228,slow=5.7,SNR=5.0						
SBA	**Scott Base**	59.47	185	eP	P	20 33 33.7	-0.6
	3.6nm,0.8s,mb4.5						
MBWA	**Marble Bar**	62.92	256	eP	P	20 33 57.9	-0.4
	22nm,1.4s,mb5.1						
QSPA	**South Pole Qui**	70.80	180	eP	P	20 34 46.6	-0.7
	3.5nm,1.0s,mb4.2						
TXAR	**Lajitas Array**	82.28	55	P	P	20 35 52.2	-0.3
	1.0nm,0.8s,mb3.8,baz=225,slow=7.1,SNR=9.8						
SYO	**Syowa Base**	88.94	191	⇑P	P	20 36 18.1	-6.6
SYO	**Syowa Base**	88.94	191	⇓P	P	20 36 24.7	0.0
SYO	**Syowa Base**	88.94	191	⇓PcP	PcP	20 36 29.5	+3.1
VNA3	**Neumayer Olymp**	88.97	175	⇑i	P	20 36 27.1	+2.3
SNAA	**Sanae**	89.04	177		P	20 36 23.2	-1.9
VNA2	**Neumayer--Watz**	89.47	175	⇑i	P	20 36 29.8	+2.7
VNA1	**Neumayer--Stat**	89.67	175	⇑i	P	20 36 31.2	+3.1
AKASG	**Malin Array Be**	144.11	336	PKP	PKPdf	20 43 04.3	-5.7
	0.2nm,0.2s,baz=40,slow=4.0,SNR=4.7						
KMBO	**Kilima Mbogo**	144.23	239	PKP	PKPdf	20 43 07.4	-3.9
	2.6nm,0.9s,baz=30,slow=6.0,SNR=6.6						
BRTR	**Keskin Array B**	149.46	318	PKPbc	PKPdf	20 43 21.1	+1.8
	1.0nm,0.6s,baz=45,slow=1.7,SNR=5.7						
MLR	**Muntele Rosu**	149.59	334	PKPbc	PKPdf	20 43 21.5	+2.1
	1.8nm,0.8s,baz=290,slow=5.9,SNR=4.1						
KHC	**Kasperske Hory**	149.77	352	ePKPbc	PKPdf	20 43 21.5	+2.0
GERES	**GERESS Array B**	150.03	351	PKPbc	PKPdf	20 43 22.0	+2.1
	1.2nm,0.8s,baz=45,slow=1.9,SNR=10						

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*NIED **03** 20:26:00, 46.70N×153.40E, h38^{km}, Mw4.7 Best double couple: $M_0$1.42×10^{16} NP1:ϕ_s249°, δ90°, λ98°. NP2:ϕ_s341°, δ8°, λ2°.*

*SKHL **03** 20:26:36.6±7.1, 46.12N×153.69E, h79^{km}±26^{km}, mb6.0/2, mbh6.3/1, Ms4.6/1, msh5.4/3*

*BJI **03** 20:26:37.2, 46.83N×153.35E, h50^{km}, mB4.9, mb4.6, Ms4.6, Msz4.1*

*MOS **03** 20:26:38.2±1.1, 46.45N×153.25E, h58^{km}, mb4.9/17, Error ellipse: s-maj=11.2km s-min=7.1km az=102.7*

*IDC **03** 20:26:38.5±4.0, 46.45N×153.23E, h42^{km}±36^{km}, mb4.2/20, mb1 4.4/21, mb1mx4.3/25, ML3.8/1, MS3.7/1, Ms1 3.7/1, ms1mx3.1/33, Error ellipse: s-maj=18.6km s-min=15.8km az=157.0*

*NEIC **03** 20:26:39.8±1.1, 46.59N×153.30E, h48^{km}±9^{km}, mb4.7/62, Error ellipse: s-maj=8.6km s-min=5.5km az=160.0*

ISC 03 20:26:34.8±1.3**, 46.34N**±0.06×**153.28E**±0.06**, h29^{km}**±8^{km}**, h29^{km}**±4.1^{km}**:pP-P, n225, σ1$.^{s}$17**/231**, mb4.6**/89**, MS4.4**/4**, 18C-7D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	3.95	256	⇑iP	Pn	20 27 37.0	+2.0
KUR				AMB	AMB	20 27 41.8	
	140nm,0.8s						
KUR				AMB	AMB	20 27 41.8	
	194nm,0.8s						
KUR				AMB	AMB	20 27 41.8	
	645nm,0.8s						
KUR				eS	Sn	20 28 22.3	+1.3
KUR				A		20 28 35.8	
	943nm,1.0s						
KUR				A		20 28 35.8	
	754nm,1.0s						
KUR				A		20 28 36.0	
	3μm,2.0s						
KUR				A		20 28 36.0	
	3μm,2.0s						
KUR				AMS	AMS	20 29 18.0	
	3μm,16.0s						
KUR	**Kuril'sk**	3.95	256	⇑iPN	Pn	20 27 37.0	+2.0
KUR				eS	Sn	20 28 22.3	+1.3
KUR				pmax	pmax		
	comp=N,140nm,0.8s						
KUR				pmax	pmax		
	comp=E,190nm,0.8s						
KUR				pmax	pmax		
	comp=Z,650nm,0.8s						
KUR				smax			
	comp=E,750nm,1.0s						
KUR				smax			
	comp=N,3μm,2.0s						
KUR				smax			
	comp=E,3μm,2.0s						
SKR	**Severo-Kuril's**	4.74	22	eP	Pn	20 27 47.5	+1.2
SKR				AMB	AMB	20 27 49.5	
	comp=E,500nm,2.0s						
SKR				AMB	AMB	20 27 49.5	
	comp=E,60nm,0.5s						
SKR				AMB	AMB	20 27 49.5	
	comp=E,110nm,0.5s						
SKR				eS	Sn	20 28 37.5	-3.5
SKR				A		20 29 08.0	
	comp=E,1μm,4.0s						
SKR				A		20 29 08.0	
	comp=E,1μm,4.0s						
SKR				A		20 29 15.2	
	comp=E,100nm,0.8s						
SKR				A		20 29 15.2	
	comp=E,280nm,0.7s						
SKR				A		20 29 15.2	
	comp=E,470nm,0.7s						
SKR	**Severo-Kuril's**	4.74	22	ePN	Pn	20 27 47.5	+1.2
SKR				eS	Sn	20 28 37.5	-3.5
SKR				pmax	pmax		
	comp=N,60nm,0.5s						
SKR				pmax	pmax		
	comp=Z,110nm,0.5s						
SKR				pmax	pmax		
	comp=Z,800nm,2.0s						
SKR				smax			
	comp=N,1μm,2.0s						
SKR				smax			
	comp=E,1μm,2.0s						
SKR				smax			
	comp=N,280nm,0.7s						
SKR				smax			
	comp=E,470nm,0.7s						
YUK	**Yuzh-Kuril'sk**	5.73	249	eP	Pn	20 28 04.0	+3.8
YUK				AMB	AMB	20 28 07.1	
	comp=E,2μm,2.0s						
YUK				AMB	AMB	20 28 07.1	
	comp=E,2μm,2.0s						
YUK				AMB	AMB	20 28 08.4	
	comp=E,190nm,0.5s						
YUK				AMB	AMB	20 28 08.4	
	comp=E,150nm,0.5s						
YUK				AMB	AMB	20 28 08.4	
	comp=E,210nm,0.5s						
YUK				eS	Sn	20 29 05.0	-0.8
YUK				A		20 29 24.8	
	comp=E,2μm,2.0s						
YUK				A		20 29 24.8	
	comp=E,2μm,2.0s						
YUK				A		20 29 32.4	
	comp=E,2μm,1.0s						
YUK				A		20 29 32.4	
	comp=E,820nm,1.0s						
NEM2	**Nemuro 2**	6.13	244	P	Pn	20 28 04.6	-1.3
NEM2				eS	Sn	20 29 11.0	-4.8
JRA	**Rausu**	6.25	250	P	Pn	20 28 08.9	+1.3
JNK	**Nakash**	6.67	249	P	Pn	20 28 13.2	-0.3
JNK				eS	Sn	20 29 27.3	-2.0
JAK	**Akkeshi**	6.97	244	P	Pn	20 28 15.7	-2.1
JAK				eS	Sn	20 29 31.3	-5.6
JTKR	**Abashiri--Toko**	7.04	254	P	Pn	20 28 19.2	+0.5
YSS	**Yuzh-Sakhalins**	7.27	279	eP	Pn	20 28 25.5	+3.5
YSS				AMB	AMB	20 28 27.0	
	comp=E,30nm,1.0s						
YSS				esP		20 28 48.3	
YSS				eS	Sn	20 29 42.1	-2.4
YSS				A		20 29 44.0	
	comp=E,40nm,1.1s						

YSS	Yuzh-Sakhalins	7.27	279	ePn	Pn	20 28 25.3	+3.3
	comp=E,33nm,0.8s						
JMP	Maruseppu	7.39	255	P	Pn	20 28 24.4	+0.8
JAR	Ashorobuto	7.42	249	P	Pn	20 28 23.8	-0.2
JAR				eS	Sn	20 29 45.8	-2.2
PET	Petropavlovsk	7.54	26	ePN	Pn	20 28 25.6	-0.2
PET				pmax	pmax		
	comp=Z,74nm,1.5s						
JOB	Onbets	7.56	246	P	Pn	20 28 25.9	-0.1
JOB				eS	Sn	20 29 48.9	-2.8
JKK2	Kamakawa 2	7.85	256	P	Pn	20 28 31.1	+1.1
ASAJ	Asahikawa	7.86	257	P	Pn	20 28 31.8	+1.6
	comp=Z,1.5nm,0.3s,baz=86,slow=16,SNR=12						
ASAJ				LR	LR	20 31 32.3	
	comp=Z,486nm,18.5s,baz=41,slow=37						
ASAJ	Asahikawa	7.86	257	P	Pn	20 28 31.7	+1.5
ASAJ	Asahikawa	7.86	257	PN	Pn	20 28 31.8	+1.6
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,486nm,18.5s						
JCH	Churui	8.01	246	P	P	20 28 31.0	-1.3
JCH				eS	Sn	20 29 56.9	-5.9
TYV	Tymovskoe	8.37	307	eP	P	20 28 38.4	+1.1
TYV				eS	Sn	20 30 16.9	+5.1
JNBK	Urakawa-nobuka	8.57	246	P	P	20 28 38.7	-1.3
JNBK				eS	Sn	20 30 11.6	-5.2
JNB	Noboribetsu	9.58	251	P	P	20 28 53.3	-0.6
JKB	Kayabe	9.87	248	P	P	20 28 55.4	-2.5
JANG	Nango	10.43	239	P	P	20 29 01.2	-4.4
JANG				eS	S	20 30 50.2	-12
NKL	Nikolayevsk	10.62	315	eP	P	20 29 17.2	+9.0
NKL				AMB	AMB	20 29 19.0	
	comp=Z,30nm,1.0s						
NKL				eL		20 31 54.0	
NKL				AMS	AMS	20 34 13.0	
	comp=Z,2µm,15.0s						
NKL				AMS	AMS	20 34 13.0	
	comp=Z,800nm,15.0s						
JRG	Rokugo	11.58	238	P	P	20 29 21.3	+0.1
JRG				eS	S	20 31 20.9	-10
TEY	Ternei	11.74	270	eP	P	20 29 29.0	+5.6
MA2	Magadan	13.35	354	ePN	P	20 29 44.9	+0.1
MA2				pmax	pmax		
	comp=Z,69nm,2.1s						
MA2				MLR	MLR		
	comp=Z,400nm,20.0s						
MA2	Magadan	13.35	354	ePn	P	20 29 42.5	-2.3
KLR	Kul'dur	14.76	289	eP	P	20 30 06.0	+2.8
MAT	Matsushiro	14.93	234	P	P	20 30 05.8	+0.3
MAT	Matsushiro	14.93	234	P	P	20 30 00.0	-5.5
	comp=Z,5.5nm,0.7s						
MDJ	Mudanjiang	16.70	273	P	P	20 30 30.1	+1.9
MDJ				AMB	AMB		
	comp=Z,21nm,1.1s						
MDJ	Mudanjiang	16.70	273	eP	P	20 30 29.8	+1.6
	comp=Z,22nm,1.0s						
ZEA	Zeya	18.21	303	eP	P	20 30 52.7	+5.6
ZEA				AMB	AMB	20 30 55.3	
	comp=Z,11nm,0.9s						
YAK	Yakutsk	20.73	328	eP	P	20 31 14.0	-1.3
YAK				pmax	pmax		
	comp=Z,11nm,0.9s						
YAK				pmax	pmax		
	comp=N,6.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,6.0nm,1.2s						
YAK	Yakutsk	20.73	328	eP	P	20 31 13.4	-1.9
	comp=E,8.3nm,0.6s						
SNY	Shenyang	21.74	269	⇑P	P	20 31 26.0	+0.3
HIA	Hailar	22.61	290	eP	P	20 31 35.7	+1.5
BOD	Bodaibo	26.34	310	eP	P	20 32 05.7	-4.1
BJI	Beijing	27.59	270	eP	P	20 32 22.0	+0.6
BJI				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
BJT	Baijiatuau	27.61	270	eP	P	20 32 21.9	+0.4
	comp=Z,8.4nm,0.8s,mb4.4						
NJ2	Nanjing	29.99	254	eP	P	20 32 41.2	-1.9
HHC	Hu-ho-hao-te	30.44	275	eP	P	20 32 48.0	+1.1
HHC				AP	pP	20 33 03.2	+7.8
HHC				XP	sP	20 33 05.6	+6.5
HHC				PP	PP	20 33 46.0	-0.9
HHC				S	S	20 37 43.9	-1.0
HHC				SS	SS	20 39 24.0	-1.6
HHC				PCS		20 39 28.5	
HHC				AMB	AMB		
	comp=Z,19nm,0.7s,mb4.9						
HHC				LR	LR		
	comp=N,175nm,19.0s,MS4.0						
HHC				LR	LR		
	comp=E,227nm,18.4s,MS4.0						
HHC				LR	LR		
	comp=Z,187nm,19.0s,MS3.8						
SONM	Songino Array	31.58	290	P	P	20 32 55.5	-1.3
	comp=Z,1.3nm,0.9s,mb3.8,baz=66,slow=8.1,SNR=12						
SONM				PcP	PcP	20 35 48.7	-0.3
	comp=Z,0.7nm,0.7s,baz=161,slow=1.9,SNR=4.4						
ZAK	Zakamensk	32.96	296	eP	P	20 33 07.1	-1.8
ZAK				e		20 35 52.0	
IMA	Indian Mountai	34.08	36	P	P	20 33 16.0	-2.4
XAN	Xi'an	35.60	266	P	P	20 33 37.1	+5.3
XAN				AP	pP	20 33 43.2	+2.9
XAN				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.6						
SML	Sawmill	36.19	43	eP	P	20 33 35.3	-1.1
COLA	College	36.39	38	eP	P	20 33 36.6	-1.5
LZH	Lanzhou	38.02	272	⇑P	P	20 33 54.5	+2.4
LZH				AP	pP	20 34 03.1	+2.4
LZH				AMB	AMB		
	comp=Z,39nm,1.3s,mb5.0						
GTA	Gaotai	39.15	280	P	P	20 34 02.8	+1.3
GTA				PP	PP	20 35 39.9	+4.6
GTA				PCP	PcP	20 36 12.2	+1.0
GTA				S	S	20 40 03.0	+3.7
GTA				SS	SS	20 42 48.8	+4.0
GTA				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.1						
GTA				AMB	AMB		
	comp=Z,94nm,5.3s						
GTA				LR	LR		
	comp=N,165nm,22.1s,MS4.0						
GTA				LR	LR		
	comp=E,168nm,19.8s,MS4.0						
GTA				LR	LR		
	comp=Z,244nm,18.6s,MS4.1						
CD2	Chengdu	40.96	266	eP	P	20 34 17.8	+1.3
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.5						
GYA	Guiyang	41.74	258	⇑iP	P	20 34 24.2	+1.2
GYA				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.7						
INK	Inuvik	41.94	32	P	P	20 34 24.4	+0.4
	comp=Z,3.9nm,0.8s,mb4.1,baz=280,slow=5.9,SNR=10						
INK	Inuvik	41.94	32	P	P	20 34 24.4	+0.4
INK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
INK	Inuvik	41.94	32	eP	P	20 34 24.0	0.0
	comp=Z,4.2nm,0.8s,mb4.1						
ZAL	Zalesovo	42.97	306	P	P	20 34 30.4	-2.2
	comp=Z,1.2nm,0.8s,mb3.7,baz=345,slow=4.5,SNR=5.5						
ZAL				PcP	PcP	20 36 22.1	-1.2
	comp=Z,1.4nm,0.8s,baz=276,slow=3.7,SNR=6.6						
ZAL	Zalesovo	42.97	306	P	P	20 34 30.4	-2.2
ZAL						20 36 22.1	
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KMI	Kunming	45.28	260	eP	P	20 34 53.3	+1.6
KMI				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.6						
MKAR	Makanchi Array	47.24	298	P	P	20 35 05.9	-0.9
	comp=Z,10.0nm,0.8s,mb4.8,baz=66,slow=7.7,SNR=50						
MKAR				PcP	PcP	20 36 38.1	-0.1
	comp=Z,1.5nm,0.8s,baz=64,slow=5.7,SNR=3.2						
MKAR	Makanchi Array	47.24	298	P	P	20 35 05.9	-0.9
MKAR						20 36 38.1	
MKAR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KURK	Kurchatov	47.69	304	P	P	20 35 08.3	-2.1
	comp=Z,77nm,0.8s,mb5.8,SNR=19						
KURK	Kurchatov	47.69	304	iP	P	20 35 08.5	-1.9
KURK				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
KURK	Kurchatov	47.69	304	eP	P	20 35 08.5	-1.9
	comp=Z,11nm,0.8s,mb4.9						
LSA	Lhasa	50.41	274	P	P	20 35 34.0	+2.4
LSA	Lhasa	50.41	274	eP	P	20 35 33.4	+1.8
	comp=Z,7.0nm,0.8s,mb4.7						
VOSK	Vostochnaya	51.04	309	P	P	20 35 33.9	-2.1
VOSK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
YKA	Yellowknife Ar	51.19	37	P	P	20 35 36.8	-0.2
	comp=Z,3.3nm,0.8s,mb4.3,baz=297,slow=6.4,SNR=4.1						
YKA	Yellowknife Ar	51.19	37	P	P	20 35 36.8	-0.2
YKA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BVA0	Borovoye Array	51.21	310	iP	P	20 35 36.0	-1.3
BRVK	Borovoye	51.25	310	eP	P	20 35 35.9	-1.7
	comp=Z,4.1nm,0.8s,mb4.4						
ZRNK	Zerenda	51.98	310	P	P	20 35 41.3	-1.9
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
ZRNK	Zerenda	51.98	310	eP	P	20 35 41.1	-2.1
	comp=Z,5.4nm,0.8s,mb4.5						
AAK	Ala-Archa	54.12	297	eP	P	20 35 57.3	-1.9
	comp=Z,6.2nm,0.8s,mb4.6						
ARU	Arti	55.40	318	⇑iP	P	20 36 06.0	-2.3
ARU				ePPP	PPP	20 39 27.9	+0.3
ARU				eS	S	20 43 43.0	-6.1
ARU				e		20 45 43.3	
ARU				eSS	SS	20 47 28.2	-5.5
ARU				eSSS	SSS	20 49 40.3	+2.5
ARU				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
ARU	Arti	55.40	318	eP	P	20 36 05.7	-2.6
	comp=Z,5.6nm,0.8s,mb4.7						
KKN	Kakani	55.64	276	eP	P	20 36 11.8	+1.3
	comp=Z,17nm,0.6s,mb5.2						
PKI	Pulchoki	55.69	275	eP	P	20 36 11.4	+0.6
	comp=Z,12nm,0.7s,mb5.0						
DMN	Daman	55.88	276	eP	P	20 36 13.0	+0.8
	comp=Z,36nm,0.8s,mb5.4						
GKN	Gorkha	55.95	276	eP	P	20 36 13.5	+0.8
	comp=Z,69nm,1.1s,mb5.6						
KOLN	Koldanda	56.81	277	eP	P	20 36 19.7	+0.8
	comp=Z,35nm,0.9s,mb5.4						
LVZ	Lovozero	57.19	337	⇓eP	P	20 36 16.5	-4.5
JOSI	Joshimath	57.84	282	eP	P	20 36 27.6	+1.5
KLP	Kalpa	58.12	284	eP	P	20 36 28.9	+0.9
KLP				e		20 36 30.3	
	comp=Z,16nm,1.1s						
ARCES	ARCESS Array B	58.28	341	P	P	20 36 27.2	-1.4
	comp=Z,3.3nm,0.9s,mb4.4,baz=27,slow=8.1,SNR=7.0						
ARCES	ARCESS Array B	58.28	341	P	P	20 36 27.2	-1.4
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
WVOR	Wild Horse Val	59.87	59	eP	P	20 36 39.8	-0.2
	comp=Z,2.7nm,0.9s,mb4.3						
BHGR	Bahadurgarh	60.79	282	eP	P	20 36 45.8	-0.7
BHGR				e		20 36 47.9	
	comp=Z,186nm,0.2s						
AYAN	Aya Nagar	60.79	282	eP	P	20 36 45.4	-1.1
SONA	Sohna	60.97	282	eP	P	20 36 47.2	-0.5
FFC	Flin Flon	60.98	40	eP	P	20 36 46.5	-0.9
	comp=Z,4.5nm,0.8s,mb4.7						
SUMG	Summit	61.11	4	eP	P	20 36 47.1	-0.9
	comp=Z,29nm,0.8s,mb5.5						
KUDL	Kundal	61.44	282	eP	P	20 36 50.4	-0.4
KUDL				e		20 36 52.7	
	comp=Z,14nm,1.1s						
HLID	Hailey	61.65	56	eP	P	20 36 52.0	-0.1
KHET	Khetri	61.94	282	eP	P	20 36 53.5	-0.8
KAF	Kangasniemi	63.87	335	ep	P	20 37 04.0	-2.4
BHPL	Bhopal	63.98	277	eP	P	20 37 07.5	-0.4
BHPL				e		20 37 08.8	
	comp=Z,15nm,0.6s						
FINES	FINESS Array B	64.47	335	P	P	20 37 08.9	-1.4
	comp=Z,22nm,1.1s,mb5.1,baz=76,slow=7.9,SNR=21						
FINES	FINESS Array B	64.47	335	iP	P	20 37 08.9	-1.4
FINES				pmax	pmax		
	comp=Z,22nm,1.2s						
HWUT	Hardware Ranch	64.51	56	eP	P	20 37 11.1	+0.1
	comp=Z,1.7nm,0.7s,mb4.2						
DUG	Dugway	64.70	58	eP	P	20 37 12.0	-0.2
	comp=Z,4.3nm,1.1s,mb4.4						
PDAR	Pinedale Array	64.90	54	P	P	20 37 13.3	-0.1
	comp=Z,1.2nm,0.8s,mb4.0,baz=326,slow=5.3,SNR=8.5						
OBN	Obninsk	65.72	326	eP	P	20 37 15.7	-2.7
OBN				i		20 37 27.3	
OBN				i		20 37 50.7	
OBN				i		20 39 40.0	
OBN				iS	S	20 45 54.3	-6.8
OBN				eSS	SS	20 50 08.5	-8.5
OBN				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.8						
OBN				MLR	MLR		
	comp=Z,700nm,17.0s,MS4.9						
JASL	Jaisalmer	66.00	284	eP	P	20 37 17.6	-3.1
ULM	Lac du Bonnet	66.76	41	P	P	20 37 24.1	-1.1
	comp=Z,1.3nm,0.8s,mb4.0,baz=304,slow=3.6,SNR=4.3						
RSSD	Black Hills	67.00	50	eP	P	20 37 26.2	-0.7
	comp=Z,6.5nm,1.2s,mb4.5						
WRAB	Tennant Creek	68.15	199	eP	P	20 37 38.5	+4.1
	comp=Z,6.2nm,0.9s,mb4.6						
WRA	Warramunga Arr	68.16	199	P	P	20 37 33.8	-0.8
	comp=Z,1.3nm,1.0s,mb3.9,baz=15,slow=6.3,SNR=4.9						
WRA	Warramunga Arr	68.16	199	P	P	20 37 33.8	-0.7
WRA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
NB2	NORSAR Subarra	68.66	341	P	P	20 37 35.8	-1.1
	comp=Z,9.6nm,0.8s,mb4.8,baz=27,slow=6.2						
NOA	NORSAR Array B	68.66	341	P	P	20 37 36.0	-1.0
	comp=Z,8.1nm,0.7s,mb4.7,baz=28,slow=6.2,SNR=36						
NOA	NORSAR Array B	68.66	341	P	P	20 37 36.0	-0.9
NOA				pmax	pmax		
	comp=Z,8.0nm,0.7s						
HFS	Hagfors	68.89	340	P	P	20 37 37.3	-1.0
	comp=Z,13nm,0.7s,mb5.0,baz=56,slow=5.3,SNR=35						
HFS	Hagfors	68.89	340	P	P	20 37 37.3	-1.0
HFS				pmax	pmax		
	comp=Z,13nm,0.7s						
ZEI	Tsey	71.43	313	eP	P	20 37 52.0	-2.1
ZEI				MLR	MLR		
	comp=Z,500nm,18.0s,MS4.8						
ASAR	Alice Springs	71.85	199	P	P	20 37 57.6	+0.6
	comp=Z,1.0nm,0.7s,mb3.8,baz=6.7,slow=4.7,SNR=9.7						
ANMO	Albuquerque	71.95	58	eP	P	20 37 56.2	-1.2
ANMO				pmax	pmax		
	comp=Z,3.0nm,2.4s						
AKASG	Malin Array Be	71.96	326	P	P	20 37 56.0	-1.1
	comp=Z,18nm,0.8s,mb5.0,baz=33,slow=6.2,SNR=52						
AKASG	Malin Array Be	71.96	326	P	P	20 37 56.0	-1.1
AKASG				pmax	pmax		
	comp=Z,18nm,0.8s						
BSD	Bornholm Skovb	72.98	336	⇓iP	P	20 38 03.0	0.0
	comp=Z,6.9nm,0.6s,mb4.8						
KIS	Kishinev	75.09	324	eP	P	20 38 15.0	-0.4
KWP	Kalwaria	75.24	329	P	P	20 38 16.0	-0.2
	comp=Z,31nm,1.1s,mb5.2						
BSEG	Bad Segeberg	75.26	338	eP	P	20 38 16.5	+0.3
KOLS	Kolonicke sedl	75.98	329	eP	P	20 38 19.5	-0.9
WMOK	Wichita Mounta	76.51	54	eP	P	20 38 23.1	-0.6
	comp=Z,1.3nm,0.6s,mb4.0						
UPC	Upice	76.70	334	eP	P	20 38 24.5	+0.1
DPC	Dobruska-Polom	76.75	333	eP	P	20 38 24.5	-0.2
MORC	Moravsky Berou	76.86	332	eP	P	20 38 25.6	+0.3
	comp=Z,8.0nm,0.8s,mb4.7						
CLL	Collm	76.89	336	⇓P	P	20 38 25.2	-0.2
	comp=Z,logA/T=1.2,mb4.9						
CLL				i *PP	pP	20 38 35.9	+1.4
CLL	Collm	76.89	336	⇓iP	P	20 38 25.2	-0.2
CLL				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.9						
CLL	Collm	76.89	336	⇓iP	P	20 38 25.2	-0.2
	comp=Z,15nm,0.9s,mb4.9						
BRG	Berggiesshubel	77.01	335	eP	P	20 38 26.5	+0.4
BRG				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
BRG	Berggiesshubel	77.01	335	P	P	20 38 26.5	+0.4
	comp=Z,3.9nm,1.0s,mb4.3						
PVCC	Panska Ves	77.13	334	eP	P	20 38 26.8	0.0
CLZ	Clausthal	77.14	337	eP	P	20 38 27.2	+0.4
MLR	Muntele Rosu	77.47	325	P	P	20 38 29.9	+1.2
	comp=Z,9.5nm,0.8s,mb4.8,baz=172,slow=6.3,SNR=22						
MLR	Muntele Rosu	77.47	325	P	P	20 38 29.9	+1.1
MLR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
MALT	Malatya	77.52	313	eP	P	20 38 30.6	+1.4
	comp=Z,6.6nm,0.9s,mb4.6						
VYHS	Vyhne	77.55	331	eP	P	20 38 28.9	-0.2
LTX	Lajitas	77.59	61	eP	P	20 38 29.4	-0.4
	comp=Z,2.4nm,0.6s,mb4.3						
TXAR	Lajitas Array	77.59	61	P	P	20 38 30.1	+0.3
	comp=Z,2.8nm,0.6s,mb4.3,baz=303,slow=4.2,SNR=28						
PRU	Pruhonice	77.61	334	eP	P	20 38 29.5	+0.1
PSZ	Piszkesteto	77.68	330	eP	P	20 38 30.2	+0.3
	comp=Z,6.1nm,0.9s,mb4.5						
MOX	Moxa	77.88	336	iP	P	20 38 31.1	+0.2
	comp=Z,logA/T=1.1,mb4.8						
MOX	Moxa	77.88	336	eP	P	20 38 31.1	+0.2
	comp=Z,10.0nm,0.9s,mb4.8						
WTSB	Winterswijk	77.93	340	ePKP	P	20 38 30.6	-0.5
	comp=Z,6.3nm,1.6s,mb4.3						
NKC	Novy Kostel	78.01	336	eP	P	20 38 31.8	+0.2
ZST	Bratislava	78.38	332	eP	P	20 38 34.0	+0.3
KHC	Kasperske Hory	78.66	334	eP	P	20 38 34.8	-0.4
BRTR	Keskin Array B	78.77	317	P	P	20 38 37.0	+1.0
	comp=Z,1.8nm,0.8s,mb4.0,baz=63,slow=2.8,SNR=10						
BRTR	Keskin Array B	78.77	317	P	P	20 38 37.1	+1.1
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
GRA1	Grafenberg Arr	78.85	336	eP	P	20 38 36.7	+0.5
	comp=Z,22nm,1.0s,mb5.0						
GRF	Grafenberg Arr	78.85	336	eP	P	20 38 36.7	+0.5
GRF				pmax	pmax		
	comp=Z,22nm,1.0s,mb5.0						
WET	Wettzell	78.86	335	eP	P	20 38 36.7	+0.4
WET				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
WET	Wettzell	78.86	335	eP	P	20 38 36.7	+0.4
	comp=Z,8.0nm,0.9s,mb4.7						
GEC2	GERESS Array S	78.88	334	eP	P	20 38 36.4	0.0
GERES	GERESS Array B	78.88	334	P	P	20 38 36.6	+0.1
	comp=Z,2.9nm,0.8s,mb4.2,baz=34,slow=4.8,SNR=26						
GERES	GERESS Array B	78.88	334	P	P	20 38 36.6	+0.2
GERES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
HGN	Heimansgroeve	79.25	340	ePKP	P	20 38 38.4	0.0
	comp=Z,7.5nm,1.4s,mb4.4						
ARSA	Arzberg	79.72	332	⇑iP	P	20 38 41.6	+0.6
	comp=Z,3.2nm,0.9s,mb4.2						
GIVF	Givet	80.13	340	eP	P	20 38 43.8	+0.7
BAIF	Baives	80.31	340	eP	P	20 38 43.7	-0.4
KBA	Koelnbreinsper	80.56	334	⇑iP	P	20 38 46.4	+0.9
	comp=Z,17nm,0.8s,mb5.0						
WATA	Walderalm	80.87	335	⇑iP	P	20 38 47.8	+0.7
	comp=Z,13nm,1.0s,mb4.8						
BFO	Black Forest	80.88	337	eP	P	20 38 47.2	0.0
BFO				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.7						
BFO	Black Forest	80.88	337	eP	P	20 38 47.2	0.0
	comp=Z,11nm,1.2s,mb4.7						
WTTA	Wattenberg	80.91	335	⇓iP	P	20 38 48.5	+1.1
	comp=Z,16nm,0.9s,mb5.0						
MOTA	Moosalm	81.00	335	⇑iP	P	20 38 48.5	+0.7
	comp=Z,7.4nm,0.8s,mb4.7						
CDF	Champ du Feu	81.08	338	eP	P	20 38 47.9	-0.3
	comp=Z,23nm,1.2s,mb4.7						
DAVA	Damuels	81.40	336	⇑iP	P	20 38 51.2	+1.3
	comp=Z,6.3nm,0.9s,mb4.5						
MEZF	Maizieres J'vi	81.56	339	eP	P	20 38 50.7	0.0
	comp=Z,10nm,0.7s,mb4.6						
HINF	Hinteralfeld	81.74	338	eP	P	20 38 52.2	+0.5
FLN	La Foliniere	82.56	343	eP	P	20 38 55.4	-0.5
	comp=Z,10nm,0.8s,mb4.6						
LDF	La Druitiere	82.65	343	eP	P	20 38 56.7	+0.3
CSS	Prodhromos	82.69	314	eP	P	20 38 58.3	+1.4
	comp=Z,8.5nm,0.7s,mb4.9						
GRR	Gorron	83.00	343	eP	P	20 38 57.9	-0.3
	comp=Z,15nm,0.9s,mb4.7						
LOR	Lormes	83.01	340	eP	P	20 38 57.9	-0.3
	comp=Z,18nm,1.1s,mb4.7						
ASF	Jabal al Asfar	83.05	310	P	P	20 38 59.4	+0.6
	comp=Z,2.5nm,0.7s,mb4.3,baz=311,slow=7.3,SNR=6.0						
SSF	Saint Saulge	83.28	340	eP	P	20 38 59.3	-0.4
	comp=Z,6.3nm,0.9s,mb4.3						
SGMF	Saint Gilles	83.46	344	eP	P	20 39 00.2	-0.3
	comp=Z,13nm,0.8s,mb4.7						
ROSF	Rostrenen	83.52	345	eP	P	20 39 00.5	-0.2
	comp=Z,40nm,1.2s,mb5.1						
AVF	Avril sur Loir	83.58	340	eP	P	20 39 01.1	0.0
	comp=Z,22nm,1.0s,mb5.0						
SMF	Signal de Mont	83.59	339	eP	P	20 39 01.2	0.0
	comp=Z,50nm,1.1s,mb5.3						
FSSB	Fossombrone	83.77	332	eP	P	20 39 03.1	+0.9
SFI	Santa Sofia	83.88	333	eP	P	20 39 05.0	+2.3
LPL	La Plagne	83.90	337	eP	P	20 39 03.5	+0.8
	comp=Z,6.7nm,0.9s,mb4.5						
LPG	La Plagne	83.91	337	eP	P	20 39 03.7	+0.9
	comp=Z,16nm,1.1s,mb4.8						
BGF	Bois d'Agland	83.92	340	eP	P	20 39 02.6	-0.2
	comp=Z,8.7nm,0.8s,mb4.7						
PGD	Poggio Sodo	83.94	333	eP	P	20 39 04.8	+1.9
HILS	Ha'il	84.02	304	P	P	20 39 05.3	+1.5
TCF	Toulx Ste Croi	84.32	340	eP	P	20 39 05.1	+0.3
	comp=Z,14nm,1.1s,mb4.7						
NRCA	Norcia	84.43	332	eP	P	20 39 06.6	+1.1
MZLS	Mizel	84.53	299	P	P	20 39 08.3	+1.9
ORIF	Oris-en-Rattie	84.68	337	eP	P	20 39 07.3	+0.6
	comp=Z,16nm,0.9s,mb4.8						
VIVF	Saint-Julien-l	85.06	338	eP	P	20 39 09.1	+0.6
	comp=Z,15nm,1.0s,mb4.8						
SBF	Sospel	85.23	336	eP	P	20 39 09.6	+0.2
	comp=Z,10nm,0.7s,mb4.8						
CAF	Calviac	85.64	340	eP	P	20 39 11.2	-0.2
AFFS	'Afif	85.93	301	P	P	20 39 16.6	+3.2
LMR	La Mourre	85.98	336	eP	P	20 39 13.3	+0.1
	comp=Z,22nm,1.1s,mb5.0						
LASF	Ste Croix	85.99	338	eP	P	20 39 13.1	-0.1
EIL	Elat	86.05	310	P	P	20 39 16.1	+2.2
	comp=Z,9.2nm,1.0s,mb5.0,baz=8.4,slow=9.0,SNR=9.0						
EIL	Elat	86.05	310	eP	P	20 39 16.4	+2.6
	comp=Z,7.5nm,0.8s,mb5.0						
JMQS	Jabal Moqyreh	86.17	309	P	P	20 39 17.7	+3.2
TBKS	Tabuk	86.32	308	P	P	20 39 18.7	+3.4
HAQS	Haql	86.54	309	P	P	20 39 19.7	+3.4
KBRS	Khaybar	86.69	304	P	P	20 39 20.2	+3.1
BDAS	Al Bad'	86.94	309	P	P	20 39 18.4	+0.1
DBAS	Duba	87.43	308	P	P	20 39 16.6	-4.0
KAMS	Al Khamasin	87.69	297	P	P	20 39 25.1	+3.0
CPUP	Villa Florida	148.57	61	PKPbc	PKPdf	20 46 19.7	-0.4
	comp=Z,3.1nm,0.7s,baz=315,slow=1.5,SNR=9.0						
CPUP	Villa Florida	148.57	61	PKP2	PKPab	20 46 19.7	-4.7
CPUP				pmax	pmax		
	comp=Z,3.0nm,0.7s						
CPUP	Villa Florida	148.57	61	PKPbc	PKPdf	20 46 19.7	-0.4
SNAA	Sanae	152.19	196	⇑iP	PKPdf	20 46 16.5	-7.8
SNAA	Sanae	152.19	196	⇑i	PKPdf	20 46 24.5	+0.2
SNAA	Sanae	152.19	196	⇑i	PKPdf	20 46 35.4	+11
SNAA	Sanae	152.19	196	⇑i	PKPdf	20 46 42.0	+18
SNAA	Sanae	152.19	196	⇑i	PKPdf	20 46 49.7	+25
SNAA	Sanae	152.19	196	ePKPbc	PKPdf	20 46 29.7	+5.4
SNAA				epPKPdf		20 46 39.2	
VNA2	Neumayer--Watz	153.63	194	⇑iP	PKPdf	20 46 33.3	+7.0
VNA2	Neumayer--Watz	153.63	194	⇑i	PKPdf	20 46 54.1	+28
VNA3	Neumayer Olymp	153.71	192	⇓iP	PKPdf	20 46 36.4	+10
VNA3	Neumayer Olymp	153.71	192		PKPdf	20 46 58.7	+32

NEIC 03 20:27:15.3, 50.48N×178.61E, h20km, ML3.5(AEIC), After AEIC., Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KIMD	Kanaga Island	2.91	62	P	Pn	20 27 59.4	-2.2
KIKV	Kanaga Island	3.00	61	P	Pn	20 28 00.5	-2.3
KIKV				S	Sn	20 28 35.9	-2.6
KIWB	Kanaga Island	3.00	61	P	Pn	20 28 00.4	-2.4
KIWB				S	Sn	20 28 35.8	-2.7
KINC	Kanaga Island	3.05	60	P	Pn	20 28 01.2	-2.2
KINC				S	Sn	20 28 36.7	-3.0
KIRH	Kanaga Island	3.05	61	P	Pn	20 28 01.3	-2.2
SMY	Shemya	3.60	310	P	Pn	20 28 08.7	-2.6
SMY				S	Sn	20 28 51.0	-2.7
GSMY	Great Sitkin M	3.70	63	P	Pn	20 28 09.9	-2.8
GSTR	Great Sitkin T	3.71	62	P	Pn	20 28 10.3	-2.6
FX1	Attu Island--F	4.15	307	P	Pn	20 28 16.1	-3.1
ATKA	Atka Island	4.83	66	P	Pn	20 28 25.9	-2.8

IDC 03 20:32:29.6±62.0, 17.23S×177.08E, mb4.0/3, mb1 4.1/3, mb1mx3.9/9, Error ellipse: s-maj=1094.0km

s-min=145.1km az=76.0,Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	35.24	239	P	P	20 39 25.6	-2.4
	3.6nm,1.1s,baz=76,slow=12,SNR=4.2						
WRA	Warramunga Arr	40.52	259	P	P	20 40 11.1	-1.2
	0.4nm,0.8s,baz=90,slow=7.9,SNR=9.9						
ASAR	Alice Springs	40.84	254	P	P	20 40 13.3	-1.6
	2.9nm,0.5s,baz=90,slow=8.0,SNR=66						

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*IDC **03** 20:48:25.3±3.2,6.59N×127.05E,h192^{km}±29^{km},mb3.7/10, mb1 3.8/10,mb1mx3.6/17,Error ellipse: s-maj=76.2km s-min=10.7km az=71.0*

*NEIC **03** 20:48:31.4±5.8,6.46N×126.87E,h254^{km}±61^{km},mb4.4/6, Error ellipse: s-maj=69.2km s-min=13.7km az=69.0*

*MAN **03** 20:48:40.6,7.39N×126.10E,h121^{km},mb4.7,ML3.6, MS3.5*

ISC 03 20:48:24.7±1.0,**6.51N**±0.10×**126.8E**±0.2,**h201**^{km}±9^{km},**n26,σ0^{s}77**/27,**mb4.0**/14,**1D,Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MATI	Mati	0.68	309	eP	P	20 49 00.0	+7.0
BUKP	Musuan	2.19	309	eP	P	20 49 05.5	-0.2
BUKP				eS	S	20 49 35.8	-1.5
BUTP	Butuan	2.70	335	eP	P	20 49 12.2	+0.7
SCPH	Surigao	3.50	338	eP	P	20 49 20.7	-0.3
SCPH				i S	Px	20 49 50.8	
PAGZ	Pagadian	3.63	292	eP	P	20 49 23.6	+1.0
TBP	Tagbilaran	4.29	318	⇓eP	P	20 49 30.6	-0.2
SNPH	Sibulan	4.51	309	eP	P	20 49 34.0	+0.5
GUIM	Jordan	5.83	315	eP	P	20 49 51.3	+0.8
KAKA	Kakadu	19.88	164	eP	P	20 52 42.9	+0.5
	16nm,0.6s						
FITZ	Fitzroy Crossi	24.48	183	eP	P	20 53 27.2	+0.2
	5.7nm,0.6s,mb4.4						
FITZ	Fitzroy Crossi	24.48	183	P	P	20 53 27.6	+0.6
	5.4nm,0.4s,mb4.5,baz=14,slow=7.5,SNR=23						
WRAB	Tennant Creek	27.31	164	P	P	20 53 50.9	-2.1
	3.1nm,0.5s,mb4.2						
WRA	Warramunga Arr	27.32	164	P	P	20 53 52.2	-0.8
	0.9nm,0.3s,mb3.8,baz=345,slow=11,SNR=29						
WRA				ScP		21 00 29.3	
	0.9nm,0.7s,baz=345,slow=3.1,SNR=13						
WB2	Warramunga Arr	27.32	164	eP	P	20 53 54.7	+1.7
ASAR	Alice Springs	30.79	167	P	P	20 54 23.4	-0.4
	1.0nm,0.4s,mb3.8,baz=344,slow=6.9,SNR=20						
ASAR				PcP	PcP	20 57 16.2	+0.3
	0.8nm,0.9s,baz=352,slow=3.0,SNR=3.8						
STKA	Stephens Creek	40.70	161	P	P	20 55 47.4	+0.1
	1.3nm,0.7s,mb3.5,baz=338,slow=9.4,SNR=4.6						
SONM	Songino Array	44.71	341	P	P	20 56 20.1	+0.8
	0.9nm,0.8s,mb3.1,baz=156,slow=7.2,SNR=8.0						
MKAR	Makanchi Array	55.33	324	P	P	20 57 40.1	+0.4
	1.6nm,0.4s,mb3.9,baz=115,slow=7.7,SNR=24						
ZAL	Zalesovo	58.16	332	P	P	20 57 58.5	-1.0
	1.1nm,0.3s,mb4.0,baz=266,slow=10,SNR=4.1						
KURK	Kurchatov	59.45	327	eP	P	20 58 08.2	-0.3
	4.6nm,0.5s,mb4.4						
BVAR	Borovoye Array	65.05	326	P	P	20 58 45.7	+0.3
	2.9nm,0.6s,mb4.1,baz=128,slow=7.4,SNR=20						
BRVK	Borovoye	65.12	326	eP	P	20 58 45.8	0.0
	3.2nm,0.5s,mb4.2						
ZRNK	Zerenda	65.78	326	eP	P	20 58 49.7	-0.4
	7.4nm,0.5s,mb4.6						
ARCES	ARCESS Array B	87.88	340	P	P	21 00 52.1	0.0
	0.8nm,0.5s,mb3.8,baz=85,slow=6.2,SNR=12						
FINES	FINESS Array B	89.43	332	P	P	21 00 59.2	-0.3
	1.1nm,0.9s,mb3.7,baz=108,slow=4.4,SNR=5.0						
FINES	FINESS Array B	89.43	332	P	P	21 00 59.2	-0.3

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*NEIC **03** 21:35:02.7,46.40N×8.10E,h2^{km},MD2.3(ROM), ML2.8(GEN),ML2.7(LDG),ML2.6(VIE),ML2.5(STR), ML2.3(ZUR),After ZUR.*

*LDG **03** 21:35:03.9±0.1,46.45N×8.15E,h5^{km},Md2.8/2,Ml2.7/19, Error ellipse: s-maj=2.4km s-min=1.8km az=126.0*

*ZUR **03** 21:35:03.3,46.44N×8.09E,h8^{km}±1^{km},ML2.4/23*

*STR **03** 21:35:04.1±0.4,46.45N×8.06E,h5^{km}±1^{km},Ml2.5,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*ROM **03** 21:35:05.9±0.3,46.26N×8.12E,h6^{km}±2^{km},MD2.3/3, ML1.9/3,Error ellipse: s-maj=2.3km s-min=1.8km az=90.0*

ISC 03 21:35:02.8±0.2,**46.45N**±0.01×**8.05E**±0.02,**h7**^{km}±2^{km},**n73, σ1^{s}23**/136,**16C-5D,Switzerland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LKBD	Leukerbad	0.30	257	⇑iPg	Pg	21 35 10.1	+1.2
	42nm,0.4s						
LKBD				i Sg	Sg	21 35 14.2	+1.2
	42nm,0.4s						
HASLI	Hasliberg	0.31	13	⇑iPg	Pg	21 35 10.1	+1.0
	25nm,0.3s						
HASLI				i Sg	Sg	21 35 14.3	+0.9
	25nm,0.3s						
WIMIS	Wimmis	0.36	306	⇓iPg	Pg	21 35 11.4	+1.3
	1.9nm,0.2s						
WIMIS				i Sg	Sg	21 35 16.9	+1.9
	1.9nm,0.2s						
MMK	Mattmark	0.41	188	⇑iPg	Pg	21 35 11.5	+0.5
	4.8nm,0.1s						
MMK				eSg	Sg	21 35 16.5	+0.1
	4.8nm,0.1s						
FUSIO	Fusio	0.42	90	⇑iPg	Pg	21 35 11.6	+0.3
	4.0nm,0.1s						
FUSIO				eSg	Sg	21 35 17.1	+0.1
	4.0nm,0.1s						
BNALP	Bannalp	0.49	32	⇑iPg	Pg	21 35 13.2	+0.5
	2.1nm,0.2s						
BNALP				i Sg	Sg	21 35 19.3	0.0
	2.1nm,0.2s						
MCGN	Macugnaga	0.50	185	ePG	Pg	21 35 13.0	+0.2
MCGN				SG	Sg	21 35 19.3	-0.2
	75nm,0.2s						
MCGN	Macugnaga	0.50	185	ePg	Pg	21 35 13.0	+0.2
MCGN				eSg	Sg	21 35 19.3	-0.2
DIX	Grande Dixence	0.58	230	⇑iPg	Pg	21 35 14.9	+0.5
	2.2nm,0.3s						
MUO	Muotathal	0.66	38	⇑iPg	Pg	21 35 16.4	+0.5
	6.9nm,0.5s						
GRYON	Gryon	0.68	253	⇓iPg	Pg	21 35 17.0	+0.6
	1.8nm,0.3s						
GRYON				eSg	Sg	21 35 26.4	+0.9
	1.8nm,0.3s						
AIGLE	Aigle	0.77	262	ePg	Pg	21 35 18.8	+0.7
	6.0nm,0.7s						
LLS	Linth-Limmern	0.77	59	⇑iPg	Pg	21 35 17.9	-0.3
	1.9nm,0.4s						
LLS				i Sg	Sg	21 35 27.3	-1.2
	1.9nm,0.4s						
VAI	Varese	0.77	139	ePG	Pg	21 35 18.2	0.0
VAI				SG	Sg	21 35 28.1	-0.4
	51nm,0.3s						
VAI	Varese	0.77	139	ePg	Pg	21 35 18.2	0.0
VAI				eSg	Sg	21 35 28.1	-0.4
SALAN	Lac Salanfe	0.81	248	⇑iPg	Pg	21 35 19.2	+0.3
	0.9nm,0.2s						
TORNY	Torny	0.82	293	⇓iPg	Pg	21 35 20.3	+1.2
	1.6nm,0.2s						
ORO	Oropa	0.83	183	ePG	Pg	21 35 19.1	-0.2
ORO				SG	Sg	21 35 29.4	-1.0
	130nm,0.3s						
ORO	Oropa	0.83	183	ePg	Pg	21 35 19.1	-0.2
ORO				eSg	Sg	21 35 29.4	-1.0
MUGIO	Muggio	0.87	127	⇓iPg	Pg	21 35 19.6	-0.6
	1.1nm,0.2s						
TRAV		0.96	193	P	Pb	21 35 21.6	+0.3
TRAV				S	Sb	21 35 34.0	-0.1
ZUR	Zurich	0.99	21	⇑iPg	Pg	21 35 22.9	+0.4
	12nm,0.4s						
ZUR				ePmP		21 35 24.9	
	12nm,0.4s						
SULZ	Sulz-Cheisache	1.08	2	eP*	Pb	21 35 24.8	+1.5
	22nm,0.6s						
PLONS	Plons	1.09	56	⇑iPg	Pg	21 35 23.9	-0.7
	3.9nm,0.4s						
BOURR	Bourrignon	1.10	329	eP*	Pb	21 35 25.9	+2.3
	6.3nm,0.6s						
WILA	Wila	1.13	31	⇑iP*	Pb	21 35 25.6	+1.4
	5.3nm,0.3s						
FLACH	Flaach	1.17	17	eP*	Pb	21 35 26.4	+1.4
	9.9nm,0.2s						
LSD	Ceresole Reale	1.18	212	P	Pb	21 35 25.3	+0.4
LSD				S	Sb	21 35 40.2	0.0
BRANT	Les Verrieres	1.19	295	⇓iP*	Pb	21 35 27.2	+2.0
	2.1nm,0.4s						
LOMF	Lomont	1.23	317	Pn	Pn	21 35 26.7	+0.4
LOMF				Pg	Pg	21 35 28.5	+1.2
LOMF				Sg	Sg	21 35 45.1	+1.4
RSL	Roselend	1.25	233	Pn	Pn	21 35 27.0	+0.3
RSL				Sg	Sg	21 35 44.5	0.0
WEIN	Weingarten	1.25	30	⇑iP*	Pb	21 35 27.8	+1.5
	10.0nm,0.3s						
LPL	La Plagne	1.31	225	ePn	Pn	21 35 27.6	+0.1
LPL				ePg	Pg	21 35 29.1	+0.1
LPL				eSg	Sg	21 35 47.6	+1.1
	14nm,0.4s						
LPG	La Plagne	1.32	224	ePn	Pn	21 35 27.9	+0.3
LPG				ePg	Pg	21 35 29.6	+0.5
LPG				eSg	Sg	21 35 46.4	-0.2
	16nm,0.3s						
LPG				eSn	Sn	21 35 47.9	+2.4
SLE	Schleitheim	1.35	13	eP*	Pb	21 35 28.3	+0.4
	8.6nm,0.5s						
CABF	La Chapelle	1.36	277	ePg	Pg	21 35 30.6	+0.6
CABF				eSn	Sn	21 35 47.5	+0.8
CABF				eSg	Sg	21 35 49.6	+1.4
	27nm,0.3s						
RSP	Reno Superiore	1.42	203	P	Pn	21 35 29.1	+0.1
RSP				S	Sb	21 35 45.8	-1.4
FELD	Feldberg	1.42	359	Pn	Pn	21 35 29.3	+0.2
FELD				Pg	Pg	21 35 31.1	-0.1
FELD				Sg	Sg	21 35 50.1	-0.1
DAVA	Damuels	1.51	56	⇑iPG	Pg	21 35 31.8	-1.1
DAVA				i SG	Sg	21 35 50.8	-2.2
	19nm,0.4s						
MOF	Molkenrain	1.53	336	Pn	Pn	21 35 31.3	+0.6
MOF				Sg	Sg	21 35 53.8	0.0
FENE	Fenestrelle	1.58	206	P	Pn	21 35 31.6	+0.2
FENE				S	Sb	21 35 49.8	-2.3
HINF	Hinteralfeld	1.59	330	ePn	Pn	21 35 31.9	+0.4
HINF				eSn	Sn	21 35 51.6	-0.9
HINF				eSg	Sg	21 35 54.6	-1.2
	31nm,0.2s						
BRMO	Bormio	1.61	88	ePN	Pn	21 35 34.4	+2.7
BRMO	Bormio	1.61	88	ePg	Pg	21 35 34.4	-0.4
BNI	Bardonecchia	1.70	215	ePn	Pn	21 35 34.5	+1.4
BNI				eSn	Sn	21 35 53.5	-1.7
BHB	Bricherasio	1.70	199	P	Pn	21 35 33.3	+0.2
MABI	Malga Bissina	1.75	102	ePN	Pn	21 35 35.9	+2.0
MABI	Malga Bissina	1.75	102	ePg	Pg	21 35 35.9	-1.9
RRL	Cesana Torines	1.77	211	P	Pn	21 35 36.2	+2.1
RRL				S	Sn	21 35 57.8	+0.7
ECH	Echery	1.86	341	Pn	Pn	21 35 35.7	+0.3
BFO	Black Forest	1.89	6	ePn	Pn	21 35 35.4	-0.4
BFO				eSg	Sg	21 36 03.7	-1.9
HAU	Haudompre	1.94	324	ePn	Pn	21 35 37.1	+0.6
HAU				eSn	Sn	21 35 59.9	-1.4
HAU				eSg	Sg	21 36 04.0	-3.3
	23nm,0.3s						
PCP	Pian Castagno	1.94	170	P	Pn	21 35 37.4	+0.9
PCP				S	Sn	21 35 59.8	-1.6
MBDF	Montbardon	1.95	208	eP	Pn	21 35 39.0	+2.4
MBDF				eSn	Sn	21 36 01.8	+0.3
	19nm,0.5s						
WLS	Welschbruch	2.02	347	Pn	Pn	21 35 37.7	+0.1
CDF	Champ du Feu	2.03	345	ePn	Pn	21 35 37.9	+0.1
CDF				ePg	Pg	21 35 41.7	-1.6
CDF				eSg	Sg	21 36 07.7	-2.7
	15nm,0.3s						
PZZ	Prazzo	2.06	199	P	Pn	21 35 38.5	+0.2
ORIF	Oris-en-Rattie	2.16	226	ePn	Pn	21 35 41.6	+1.9
ORIF				eSg	Sg	21 36 13.6	-1.1
	7.8nm,0.4s						
FIN	Finale Ligure	2.25	177	P	Pn	21 35 41.0	+0.1
ENR	Entracque	2.27	192	P	Pn	21 35 41.5	+0.3
MOTA	Moosalm	2.28	66	⇑iPG	Pg	21 35 43.4	-4.8
MOTA				i SG	Sg	21 36 12.1	-6.5
	3.7nm,0.3s						
SQTA	Sankt Quirin	2.30	69	⇑iPG	Pg	21 35 44.0	-4.7
SQTA				i SG	Sg	21 36 13.0	-6.4
	12nm,0.6s						
SBF	Sospel	2.63	190	ePg	Pg	21 35 52.7	-2.5
SBF				eSg	Sg	21 36 26.5	-3.7
	7.6nm,0.4s						
VIVF	Saint-Julien-l	2.86	237	ePn	Pn	21 35 49.9	+0.3
VIVF				eSn	Sn	21 36 22.6	-2.0
VIVF				eSg	Sg	21 36 34.3	-3.6
	3.8nm,0.3s						
MEZF	Maizieres J'vi	2.89	316	ePn	Pn	21 35 49.3	-0.8
MEZF				eSn	Sn	21 36 22.6	-2.8
MEZF				eSg	Sg	21 36 36.2	-2.7
	9.6nm,0.4s						
SMF	Signal de Mont	2.91	275	ePn	Pn	21 35 50.7	+0.3
SMF				ePg	Pg	21 35 59.2	-1.7
SMF				eSg	Sg	21 36 37.0	-2.7
	9.9nm,0.3s						
LOR	Lormes	2.99	287	ePn	Pn	21 35 51.8	+0.3
LOR				ePg	Pg	21 36 00.0	-2.5
LOR				eSg	Sg	21 36 38.0	-4.3
	5.4nm,0.3s						
FRF	La Foret Royal	3.06	199	eP	Pn	21 35 55.0	+2.5
FRF				eSn	Sn	21 36 27.5	-2.3
	2.6nm,0.3s						
SSF	Saint Saulge	3.18	283	ePn	Pn	21 35 54.0	-0.2
SSF				ePg	Pg	21 36 03.5	-2.8
SSF				eSg	Sg	21 36 43.4	-5.3
	3.3nm,0.3s						
AVF	Avril sur Loir	3.25	278	ePn	Pn	21 35 55.4	+0.1
AVF				ePg	Pg	21 36 05.7	-2.1
AVF				eSn	Sn	21 36 32.4	-2.3
AVF				eSg	Sg	21 36 46.6	-4.5
	3.3nm,0.3s						
LMR	La Mourre	3.31	200	ePn	Pn	21 35 55.6	-0.4
LMR				eSn	Sn	21 36 33.9	-2.1
	1.4nm,0.3s						
BGF	Bois d'Agland	3.59	274	ePn	Pn	21 36 00.0	-0.1
BGF				eSg	Sg	21 36 57.8	-4.7
	7.1nm,0.3s						
BAIF	Baives	4.43	326	ePn	Pn	21 36 10.6	-1.3

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*TAP **03** 21:42:29.6,24.82N×121.96E,h8^{km}±2^{km},ML1.9*

*JMA **03** 21:43:15.4±0.2,24.52N×123.02E,h63^{km}±2^{km},M2.5*

ISC 03 21:43:15.6±2.6,**24.5N**±0.3×**123.0E**±0.1,**h62**^{km}±17^{km},**n5, σ0^{s}36**/10,**Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.03	197	P	P	21 43 24.7	0.0
YOJ				S	S	21 43 31.4	0.0
IRIF	Iriomote-Funau	0.67	103	P	P	21 43 29.5	-0.1
IRIF				S	S	21 43 40.2	+0.1
JKRS	Kuro-shima	0.94	105	P	P	21 43 33.1	0.0
JKRS				S	S	21 43 46.6	+0.5
JIJ	Ishigaki jima	1.03	97	P	P	21 43 33.9	-0.5
JIJ				S	S	21 43 47.5	-0.8
JTJ	Tarama	1.54	84	P	P	21 43 41.8	+0.4
JTJ				eS	S	21 44 00.6	+0.2

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*MDD **03** 22:00:48.8±1.1,37.32N×8.49W,h12^{km}±1^{km},mbLg2.0/7, Error ellipse: s-maj=11.4km s-min=3.5km az=25.0, PRXIMO*

*INMG **03** 22:00:48.7±1.5,37.32N×8.48W,h12^{km}±6^{km},ML1.7,Error ellipse: s-maj=5.4km s-min=4.6km az=48.0*

ISC 03 22:00:47.8±1.4,**37.29N**±0.08×**8.50W**±0.07,**h22**^{km}±7^{km},**n14,σ0^{s}72**/21,**Portugal**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PTEO	Sao Teotonio	0.32	325	ePg	Pb	22 00 54.0	-0.9
PTEO				i -		22 00 55.1	
PTEO				eSg	Sb	22 00 59.0	-0.6
	35nm,0.3s						
PTEO	Sao Teotonio	0.32	325	Pg	Pb	22 00 54.0	-0.9
PTEO				Lg		22 00 59.0	
	18nm,0.3s						
PALC	Alcoutim	0.83	77	ePg	Pb	22 01 03.6	+0.1
PALC				i -		22 01 04.6	
PALC				eSg	Sb	22 01 14.4	+0.1
	28nm,0.1s						
PALC	Alcoutim	0.83	77	Pg	Pb	22 01 03.6	+0.1
PALC				Lg		22 01 14.4	
	14nm,0.1s						
EGRO	El Granado	0.84	73	Pg	Pb	22 01 03.6	-0.1
	2.5nm,0.1s,SNR=46						
EGRO				Lg		22 01 14.9	
	17nm,0.1s,SNR=7.9						
PBEJ	Beja	0.89	34	ePg	Pb	22 01 05.1	+0.6
PBEJ				eSg	Sb	22 01 16.2	+0.2
	14nm,0.2s						
PBEJ	Beja	0.89	34	Pg	Pb	22 01 05.1	+0.6
PBEJ				Lg		22 01 16.2	
	7.1nm,0.2s						
MOE	Montemor	1.24	5	ePg	Pn	22 01 11.9	+1.8
MOE				eSg	Sb	22 01 26.4	+0.4
EMIN	Mina Concepcio	1.53	71	Pn	Pn	22 01 14.9	+0.8
	0.7nm,0.1s,SNR=7.9						
EMIN				Sn	Sn	22 01 32.9	-0.6
	1.5nm,0.1s,SNR=7.9						
EMIN				Lg		22 01 35.7	
	2.8nm,0.1s,SNR=7.9						
EBAD	Badajoz	1.88	38	Pn	Pn	22 01 19.3	+0.1
	0.2nm,0.0s,SNR=14						
PTOM	Tomar	2.33	2	eSg	Sn	22 01 59.7	+5.8
	5.7nm,0.2s						
PTOM	Tomar	2.33	2	Lg		22 01 59.7	
	2.8nm,0.2s						
PCBR	Castelo Branco	2.67	17	ePn	Pn	22 01 30.6	+0.1
PCBR				eSn	Sn	22 02 01.0	-1.6
PCBR				eSg	Sn	22 02 09.4	+6.8
EADA	Adamuz	3.23	73	Pn	Pn	22 01 38.4	-0.1
	0.2nm,0.1s,SNR=7.9						
EADA				Sn	Sn	22 02 15.7	-1.0
	0.7nm,0.1s,SNR=7.9						
EADA				Lg		22 02 28.6	
	SNR=7.9						

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*NEIC **03** 22:06:25.0,35.06S×70.61W,h3^{km},ML3.6(GUC),After GUC.*

NEIC Felt [IV] at Los Quenes and [III] at Talca.

GUC 03 22:06:25.0±1.0,**35.06S**×**70.61W,h3**^{km}±3^{km},**MD4.0, ML3.6,12C-5D,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NICH	Los Niches	0.52	277	⇓iP	Pg	22 06 35.0	-0.3
NICH				i S	Sg	22 06 43.4	+1.2
SFDO	San Fernando	0.56	323	⇑iP	Pg	22 06 36.0	-0.2
CICH	Cipreses	0.76	12	⇓iP	Pg	22 06 39.1	-1.1
CICH				i S	Sg	22 06 50.0	-0.2
CACH	El Canelo	0.94	0	⇑iP	Pb	22 06 42.3	-1.4
CACH				i S	Sb	22 06 56.0	-0.4
CHCH	Chadas Angostu	1.13	358	⇓iP	Pb	22 06 45.8	-1.0
CHCH				i S	Sb	22 07 02.1	+0.4
LMEL	Las Melosas	1.26	15	⇑iP	Pb	22 06 47.9	-1.2
LMEL				i S	Sb	22 07 05.7	+0.3
LMEL				AMP		22 07 07.5	
	comp=E,848nm,0.1s						
LNV	Longovilo	1.29	329	⇑iP	Pb	22 06 48.4	-1.2
LNV				i S	Sb	22 07 06.3	-0.2
TACH	Talagante	1.43	349	⇓iP	Pn	22 06 50.9	-1.1
TACH				i S	Sb	22 07 10.7	+0.1
SJCH	San Jose de Ma	1.44	8	⇑iP	Pn	22 06 49.7	-2.3
SJCH				i S	Sb	22 07 10.6	0.0
SJCH				AMP		22 07 12.2	
	comp=E,666nm,0.7s						
PCH	Pirque	1.44	3	⇓iP	Pn	22 06 51.2	-0.8
PCH				i S	Sb	22 07 10.9	+0.1
ANTU	Antumapu	1.49	359	i P	Pn	22 06 52.1	-0.6
ANTU				i S	Sb	22 07 12.5	+0.3
ANTU				AMP		22 07 14.6	
	comp=E,2µm,0.6s						
SAN	Santiago	1.61	358	⇑iP	Pn	22 06 54.1	-0.4
SAN				i S	Sb	22 07 15.8	+0.2
SAN				AMP		22 07 17.9	
	comp=E,2µm,0.5s						
DSCH	Colegio Aleman	1.66	1	i P	Pn	22 06 55.6	+0.4
DSCH				i S	Sb	22 07 17.8	+0.6
DSCH				AMP		22 07 22.2	
	comp=N,2µm,0.7s						
CLCH	Cerro Calan	1.67	2	⇑iP	Pn	22 06 55.0	-0.3
CLCH				i S	Sb	22 07 17.7	+0.4
CLCH				AMP		22 07 21.6	
	comp=E,1µm,0.4s						
CLCH				AMP		22 07 22.4	
	comp=E,2µm,0.5s						
FCH	Farellones	1.75	9	⇑iP	Pn	22 06 56.6	+0.1
FCH				i S	Sn	22 07 20.7	+1.1
FCH				AMP		22 07 22.5	
	comp=E,645nm,0.3s						
LCCH	Las Cruces	1.77	333	⇑iP	Pn	22 06 56.6	-0.3
LCCH				i S	Sn	22 07 20.1	-0.1
PEL	Peldehue	1.92	358	eP	Pn	22 06 58.8	0.0
CCHI	Chillan	1.95	217	⇑iP	Pn	22 06 59.2	-0.1
CCHI				i S	Sn	22 07 24.4	-0.1
CCHI				AMP		22 07 31.4	
	comp=E,1µm,0.7s						
CCHI				AMP		22 07 31.6	
	comp=E,2µm,0.7s						
IHA	Instituto Hidr	2.21	337	⇑iP	Pn	22 07 03.4	+0.3
JACH	Jahuel	2.38	0	⇑iP	Pn	22 07 06.9	+1.4
JACH				i S	Sn	22 07 39.4	+3.9
MDZ	Mendoza	2.62	34	i P	Pn	22 07 13.2	+4.3
MDZ				i S	Sn	22 07 51.2	+10
TRQA	Tornquist	7.56	116	ePn	Pn	22 08 15.0	-3.7
	comp=E,5.0nm,0.8s						
TRQA				eS	Sn	22 10 11.2	+25

IDC 03 22:10:47.3±15.0,**20.98S**×**177.98W,h348**^{km}±160^{km}, **mb3.4**/5,**mb1 3.6**/6,**mb1mx3.4**/11,**Error ellipse: s-maj=72.0km s-min=27.1km az=10.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	17.74	193	P	P	22 14 31.4	-1.5
	1.6nm,0.3s,baz=3.4,slow=17,SNR=9.0						
RPZ	Rata Peaks	24.45	199	P	P	22 15 35.9	-1.4
	7.9nm,0.7s,baz=3.5,slow=7.6,SNR=4.3						
STKA	Stephens Creek	37.60	245	P	P	22 17 28.4	-2.7
	1.0nm,0.4s,baz=85,slow=11,SNR=7.5						
ASAR	Alice Springs	44.43	257	P	P	22 18 25.2	-1.4
	2.4nm,0.7s,baz=93,slow=7.9,SNR=27						
WB2	Warramunga Arr	44.55	263	eP	P	22 18 26.7	-0.9
WRA	Warramunga Arr	44.56	263	P	P	22 18 26.9	-0.8
	1.0nm,0.3s,baz=96,slow=8.0,SNR=48						
TXAR	Lajitas Array	87.30	57	P	P	22 22 55.5	-1.2
	0.3nm,0.8s,baz=252,slow=5.7,SNR=4.1						

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*ATH **03** 22:15:34.8,39.07N×22.02E,h20^{km}±3^{km},MD3.2/9*

*THE **03** 22:15:35.4,39.11N×22.03E,h10^{km},ML3.0*

*NEIC **03** 22:15:35.2,39.11N×22.04E,h6^{km},MD3.2(ATH),After ATH.*

ISC 03 22:15:34.3±0.5,**39.06N**±0.02×**22.04E**±0.03,**h4**^{km}±5^{km}, **n32,σ1^{s}15**/45,**Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AGG	Agios Georgios	0.23	100	ePg	Pg	22 15 41.0	+2.0
EVR	Evrytania	0.23	231	ePB	Pb	22 15 40.0	-0.7
EVR				eSB	Sb	22 15 44.1	-0.7
LKR	Lokris	0.85	119	ePN	Pn	22 15 51.7	-1.1
XOR	Xorichti	0.94	71	ePg	Pg	22 15 53.0	-0.1
XOR				eSg	Sg	22 16 07.4	+1.7
NEO	Neokhori	0.95	75	ePN	Pn	22 15 53.5	-0.7
NEO	Neokhori	0.95	75	ePb	Pb	22 15 53.2	+0.3
MEV	Metsovon	0.96	319	ePg	Pg	22 15 52.2	-1.2
	comp=Z,17nm,0.3s						
MEV				eSg	Sg	22 16 06.7	+0.5
LIT	Litokhoron	1.09	18	ePg	Pg	22 15 55.1	-1.0
	comp=Z,14nm,0.3s						
LIT				eSg	Sg	22 16 11.2	+0.5
JAN	Janina	1.10	303	ePN	Pn	22 15 56.0	-0.3
JAN	Janina	1.10	303	ePn	Pn	22 15 56.5	+0.2
LKD	Levkas	1.14	252	ePg	Pg	22 15 57.4	+0.3
LKD				eSg	Sg	22 16 14.1	+1.8
KZN	Kozani	1.26	351	ePN	Pn	22 15 58.4	-0.2
KZN	Kozani	1.26	351	ePg	Pg	22 15 58.0	-1.4
IGT	Igoumenitsa	1.41	290	ePb	Pb	22 16 00.5	-0.3
IGT				eSb	Sb	22 16 21.5	+2.6
AOS	Alonnisos	1.44	85	ePb	Pb	22 16 01.1	-0.1
	comp=Z,2.3nm,0.4s						
AOS				eSb	Sb	22 16 23.2	+3.4
VLS	Valsamata	1.44	233	ePB	Pb	22 16 00.7	-0.6

PAIG	Paliouri	1.53	55	ePb	Pb	22 16 02.0	-0.9
NSAL	Nisos Salamina	1.61	136	ePN	Pn	22 16 05.4	+1.8
NSAL	Nisos Salamina	1.61	136	ePb	Pb	22 16 07.5	+3.4
PLG	Polygyros	1.70	39	ePB	Pb	22 16 04.2	-1.5
THE	Thessaloniki	1.72	24	ePb	Pb	22 16 05.4	-0.8
THE				eSb	Sb	22 16 29.6	+1.6
NAIG	Nisos Aigina	1.73	138	ePn	Pn	22 16 10.0	+4.7
FNA	Florina	1.79	344	ePb	Pb	22 16 06.5	-0.9
	comp=Z,1.2nm,0.5s						
FNA				eSb	Sb	22 16 30.3	+0.2
KEK	Kerkira	1.85	291	ePN	Pn	22 16 09.4	+2.3
ITM	Ithomi	1.88	183	ePg	Pg	22 16 11.7	-0.2
GRG	Griva	1.91	8	ePb	Pb	22 16 08.2	-1.2
GRG				eSb	Sb	22 16 32.8	-0.8
OUR	Ouranopolis	1.96	49	ePb	Pb	22 16 08.5	-1.7
	comp=Z,2.0nm,0.3s						
OUR				eSb	Sb	22 16 34.8	-0.3
SOH	Sokhos	2.03	29	ePn	Pn	22 16 10.7	+1.1
SOH				eSn	Sn	22 16 36.1	+0.4
KNT	Kendrikon	2.20	17	ePn	Pn	22 16 12.1	+0.1
KNT				eSn	Sn	22 16 40.5	+0.5
SRS	Serrai	2.37	30	ePn	Pn	22 16 15.4	+0.9
VLI	Veliai	2.45	163	ePB	Pb	22 16 16.5	-2.0
VLI	Veliai	2.45	163	ePn	Pn	22 16 15.2	-0.4

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*JMA **03** 22:27:25.7±0.4, 23.59N×121.75E, h97^{km}, M2.5*

TAP 03 22:27:24.8, 23.47N×121.67E, h29^{km}, ML3.0, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	Yonaguni jima	1.57	51	P	Pn	22 27 51.4	+0.2
YOJ				eS	Sn	22 28 10.8	+0.1
IRIF	Iriomote-Funau	2.07	65	P	Pn	22 27 58.5	+0.2
IRIF				eS	Sn	22 28 23.1	-0.3
JKRS	Kuro-shima	2.27	70	P	Pn	22 28 00.8	-0.4
JKRS				eS	Sn	22 28 27.1	-1.4
JIJ	Ishigaki jima	2.43	68	P	Pn	22 28 02.5	-0.9
JIJ				eS	Sn	22 28 30.3	-2.2

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*MEX **03** 22:32:19.7±0.8, 18.07N×100.53W, h60^{km}, MD3.6*

*NEIC **03** 22:32:19.7, 18.07N×100.53W, h60^{km}, MD3.6(MEX), After MEX.*

ISC 03 22:32:17.9±0.7, **18.03N**±0.05×**100.52W**±0.05, **h60^{km}, n6,** σ**0^{s}97**/12, **Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZIIG	Zihuatanejo	1.00	245	eP	P	22 32 36.1	0.0
ZIIG				eS	S	22 32 49.5	-0.1
PLIG	Platanillo	1.03	69	i P	P	22 32 36.9	+0.3
PLIG				i S	S	22 32 49.1	-1.3
ACX	Acapulco	1.29	154	eP	P	22 32 42.0	+1.8
ACX				eS	S	22 32 55.5	-1.3
MOIG	Morelia	1.76	339	eP	P	22 32 47.2	+0.6
MOIG				i S	S	22 33 07.0	-0.8
PPM	Popocatepetl	2.07	60	eP	P	22 32 50.0	-1.0
PPM				eP		22 32 52.4	
PPM				eS	S	22 33 16.3	+0.8
PPM	Popocatepetl	2.07	60	eP	P	22 32 52.4	+1.4
PPM				eS	S	22 33 16.3	+0.8

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*IDC **03** 22:48:28.2±1.9, 9.25N×127.07E, mb3.7/5, mb1 3.9/5, mb1mx3.6/17, Error ellipse: s-maj=177.0km s-min=23.8km az=68.0*

*MAN **03** 22:48:33.9, 9.26N×126.79E, h26^{km}, mb4.6, ML3.5, MS3.4*

ISC 03 22:48:30.3±3.4, **9.14N**±0.07×**127.08E**±0.10, **h26^{km}**±25^{km}, **n13,** σ**1^{s}09**/15, **mb3.8**/5, **1C, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BUTP	Butuan	1.45	263	eP	Pn	22 48 54.3	-1.0
BUKP	Musuan	2.36	238	eP	Pn	22 49 08.2	0.0
BUKP				eS	Sn	22 49 36.4	-0.2
MSLP	Maasin	2.41	294	eP	Pn	22 49 10.3	+1.4
PLP	Palo	2.89	314	eP	Pn	22 49 15.6	-0.2
PLP				eS	Sn	22 49 50.9	+0.9
LLP	Lapu-Lapu	3.29	291	eP	Pn	22 49 19.0	-2.4
DCPH	Dipolog City	3.73	262	⇑eP	Pn	22 49 26.8	-0.9
SNPH	Sibulan	3.80	273	eP	Pn	22 49 30.0	+1.3
PAGZ	Pagadian	3.88	251	eP	Pn	22 49 30.9	+1.1
WRA	Warramunga Arr	29.77	166	P	P	22 54 37.3	0.0
	1.4nm,1.2s,mb3.6,baz=349,slow=9.4,SNR=2.9						
ASAR	Alice Springs	33.28	169	P	P	22 55 08.8	+0.8
	0.2nm,0.4s,mb3.4,baz=354,slow=7.4,SNR=2.8						
MKAR	Makanchi Array	53.41	323	P	P	22 57 48.5	-1.6
	0.9nm,0.8s,mb3.8,baz=130,slow=6.9,SNR=7.1						
BVAR	Borovoye Array	63.05	326	P	P	22 58 56.5	-1.0
	0.7nm,0.8s,mb3.9,baz=100,slow=8.8,SNR=4.4						
ARCES	ARCESS Array B	85.53	340	P	P	23 01 08.2	+1.3
	1.3nm,0.8s,mb4.2,baz=72,slow=7.7,SNR=3.7						

DJA 03 23:11:58.4±1.0, **8.16S**×**115.18E, h81^{km}**±12^{km}, **MD5.6**/3, **ML3.2**/1, **4C-2D, Error ellipse: s-maj=37.6km s-min=8.5km az=15.0, Bali region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RATI	Rata	0.66	149	⇑ePg	P	23 12 13.5	-0.5
	86nm,0.2s						
RATI				⇑eSg	S	23 12 24.6	-0.9
KELI	Kelakatan	0.69	265	⇑ePg	P	23 12 13.8	-0.5
	28nm,0.2s						
KELI				⇑eSg	S	23 12 25.2	-0.8
KEDI	Kedomdong	0.98	110	⇓iPn	P	23 12 16.7	-0.8
	38nm,0.1s						
KEDI				⇓eSn	S	23 12 29.7	-2.1

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*IDC **03** 23:18:15.4±0.6, 14.95S×173.60W, mb4.6/13, mb1 4.8/14, mb1mx4.8/15, ML4.4/1, MS5.1/20, Ms1 5.1/20, ms1mx5.0/25, Error ellipse: s-maj=35.0km s-min=15.2km az=134.0*

*HRVD **03** 23:18:16.9±0.2, 14.82S×173.15W, h12^{km}, MW5.5/73, Centroid moment Tensor Solution. LP body waves: s61,c114;Mantle waves: s73,c155; Half duration: 1^{s}5 Moment tensor: Scale 10^{17}Nm; M_{rr}0.20±.03; $M_{\theta\theta}$1.04±.03; $M_{\phi\phi}$-1.24±.03; $M_{r\theta}$0.53±.08; $M_{\theta\phi}$1.33±.02; $M_{\phi r}$1.78±.07; Best double couple: $M_0$2.55×10^{17} NP1:ϕ_s111°,δ43°,λ4°. NP2:ϕ_s18°,δ87°,λ133°. Principal axes: T 2.47, Plg33°, Azm323°; N .16, Plg43°, Azm195°; P -2.64, Plg29°, Azm74°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **03** 23:18:16.9±0.2, 15.04S×173.48W, h10^{km}, mb5.2/38, MS5.4/22, MW5.6 Error ellipse: s-maj=10.2km s-min=5.2km az=142.0, Moment Tensor Solution. s30 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.73; $M_{\theta\theta}$2.04; $M_{\phi\phi}$-1.32; $M_{r\theta}$1.10; $M_{\theta\phi}$0.32; $M_{\phi r}$1.65; Best double couple: $M_0$2.7×10^{17} NP1:ϕ_s123°,δ41°,λ-16°. NP2:ϕ_s225°,δ80°, λ-130°. Principal axes: T 2.64, Plg24°, Azm345°; N .1, Plg39°, Azm234°; P -2.74, Plg41°, Azm98°;*

*SYO **03** 23:18:17.2, 14.99S×173.40W, h10^{km}, MB5.2, MS5.3*

*BJI **03** 23:18:19.0, 14.75S×172.87W, h36^{km}, mB5.5, mb5.3, Ms5.4, Msz5.2*

*MOS **03** 23:18:21.6±0.9, 14.46S×173.35W, h33^{km}, mb5.4/24, MS5.3/19, Error ellipse: s-maj=16.1km s-min=10.5km az=66.5*

ISC 03 23:18:19.4±0.2, **15.03S**±0.06×**173.35W**±0.05, **h33^{km}, (h26^{km}**±5.5^{km}**:pP-P), n306,** σ**0^{s}84**/154, **mb5.1**/64, **MS5.2**/52, **21C-8D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	Nonsavu	8.68	251	Pn	P	23 20 30.4	+4.8
	2µm,1.1s,SNR=85						
RAR	Rarotonga	14.29	117	Pn	P	23 21 33.7	-7.8
	1.8nm,0.3s,baz=253,slow=8.3,SNR=6.4						
RAR				LR	LR	23 25 31.7	
	comp=Z,8µm,20.8s,baz=304,slow=30						
RAR				T		23 36 32.1	
	30nm,0.3s,baz=150,slow=11,SNR=5.2						
RAR	Rarotonga	14.29	117	eP	P	23 21 32.8	-8.7
	149nm,1.3s						
DZM	Mont Dzumac	20.39	247	eP	P	23 22 56.5	+0.4
NOUC	Port Laguerre	20.52	247	eP	P	23 23 00.6	+3.0
PPT	Papeete	22.95	100	eP	P	23 23 21.5	-0.5
	107nm,1.4s,mb5.1						
PPT	Papeete	22.95	100	eL		23 27 32.3	
PPT				eR		23 28 20.9	
	13µm,25.2s,baz=267						
PAE	Paea	22.95	100	eP	P	23 23 21.2	-0.8
	239nm,1.3s,mb5.5						
TVO	Taravao	23.27	100	eP	P	23 23 24.6	-0.5
	292nm,1.3s,mb5.5						
TBI	Tubuai	24.00	114	eP	P	23 23 34.2	+2.0
	226nm,1.2s,mb5.5						
TBI				eL		23 28 02.4	
TBI				eR		23 28 55.3	
	12µm,26.2s,baz=290						
MEH	Mehetia	24.40	100	eP	P	23 23 35.1	-1.1
	111nm,1.3s,mb5.1						
URZ	Urewera	24.63	198	P	P	23 23 38.5	+0.4
	11nm,0.7s,mb4.5,baz=71,slow=5.5,SNR=7.4						
URZ				LR	LR	23 32 20.1	
	comp=Z,7µm,20.7s,MS5.1,baz=21,slow=34						
RPZ	Rata Peaks	31.54	202	P	P	23 24 40.0	-0.9
	6.6nm,0.7s,mb4.6,baz=8.4,slow=8.8,SNR=3.2						
RKT	Rikitea	37.06	108	eL		23 33 43.5	
RKT				eR		23 34 52.6	
	7µm,23.5s						
CTA	Charters Tower	38.78	257	LR	LR	23 39 09.8	
	comp=Z,2µm,19.9s,MS5.0,baz=78,slow=32						
TOO	Toolangi	42.74	230	⇑iP	P	23 26 13.6	-1.7
	14nm,1.1s,mb4.6						
STKA	Stephens Creek	44.27	240	P	P	23 26 24.8	-3.0
	3.9nm,0.8s,mb4.2,baz=75,slow=7.7,SNR=8.5						
STKA				LR	LR	23 42 29.8	
	comp=Z,2µm,20.6s,MS5.1,baz=70,slow=33						
STKA	Stephens Creek	44.27	240	P	P	23 26 24.8	-3.0
STKA				LR	LR	23 42 29.8	
WB2	Warramunga Arr	49.97	256	eP	P	23 27 08.6	-4.1
WRAB	Tennant Creek	49.97	256	eP	P	23 27 09.3	-3.4
	30nm,1.0s,mb5.3						
WRAB				LR	LR		
	comp=Z,934nm,20.0s,MS4.8						
WRA	Warramunga Arr	49.98	256	P	P	23 27 08.4	-4.3
	comp=Z,10nm,0.9s,mb4.8,baz=91,slow=7.7,SNR=40						
WRA				LR	LR	23 46 07.3	
	comp=Z,2µm,20.4s,MS5.1,baz=85,slow=34						
ASAR	Alice Springs	50.27	252	P	P	23 27 11.7	-3.3
	comp=Z,38nm,0.7s,mb5.5,baz=86,slow=8.4,SNR=199						
ASAR				LR	LR	23 46 30.5	
	comp=Z,4µm,21.8s,MS5.4,baz=91,slow=34						
ASPA	Alice Springs	50.28	252	eP	P	23 27 11.7	-3.3
KAKA	Kakadu	52.62	265	eP	P	23 27 28.7	-4.0
	comp=Z,42nm,1.5s,mb5.2						
FORT	Forrest	55.63	243	eP	P	23 27 50.7	-3.9
	comp=Z,49nm,0.7s,mb5.7						
FITZ	Fitzroy Crossi	58.34	258	eP	P	23 28 02.1	-12
	comp=Z,6.2nm,1.2s,mb4.5						
FITZ	Fitzroy Crossi	58.34	258	LR	LR	23 50 28.1	
	comp=Z,2µm,21.8s,MS5.1,baz=96,slow=33						
DRV	Dumont d'Urvil	59.96	200	S	S	23 36 38.0	+5.2
DRV				L		23 43 00.0	
DRV				R		23 46 00.0	
CBIJ	Chichi jima	60.14	314	LR	LR	23 49 21.6	
	comp=Z,2µm,20.9s,MS5.2,baz=141,slow=31						
SBA	Scott Base	63.62	185	eP	P	23 28 49.3	+0.3
SBA				pmax	pmax		
	comp=Z,43nm,1.4s,mb5.3						
SBA	Scott Base	63.62	185	eP	P	23 28 49.3	+0.4
	comp=Z,43nm,1.4s,mb5.3						
NWAO	Narrogin (SRO)	64.84	240	LR	LR	23 54 26.3	
	comp=Z,2µm,21.0s,MS5.2,baz=87,slow=34						
MAJO	Matsushiro	68.69	320	eP	P	23 29 21.0	-0.9
MAJO				pmax	pmax		
	comp=Z,130nm,1.9s,mb5.5						
MAJO				MLR	MLR		
	comp=Z,3µm,22.0s,MS5.5						
MAJO	Matsushiro	68.69	320	eP	P	23 29 21.0	-0.9
	comp=Z,134nm,1.9s,mb5.5						
MAJO				LR	LR		
	comp=Z,3µm,22.0s,MS5.5						
MAT	Matsushiro	68.69	320	P	P	23 29 21.0	-0.9
MAT				S	S	23 38 26.0	+4.8
MAT	Matsushiro	68.69	320	eP	P	23 29 21.0	-0.9
MAT				eS	S	23 38 27.0	+5.8
MAT				pmax	pmax		
	comp=Z,72nm,1.5s,mb5.4						
MAT				MLR	MLR		
	comp=Z,3µm,20.0s,MS5.5						
MAT	Matsushiro	68.69	320	eP	P	23 29 21.0	-0.9
	comp=Z,72nm,1.5s,mb5.4						
MAT				eS	S	23 38 27.0	+5.8
MAT				LR	LR		
	comp=Z,3µm,20.0s,MS5.5						
JOW	Kunigami	70.31	306	LR	LR	23 54 20.1	
	comp=Z,2µm,19.7s,MS5.4,baz=112,slow=31						
SKR	Severo-Kuril's	70.70	340	eP	P	23 29 34.0	+0.2
SKR				e		23 29 52.0	
SKR				ePPP	PPP	23 33 43.0	-10
SKR				eS	S	23 38 48.0	+3.5
SKR				e		23 39 36.0	
SKR				pmax	pmax		
	comp=Z,1µm,6.0s						
SKR				smax			
	comp=N,1µm,12.0s						
SKR				MLR	MLR		
	comp=N,1µm,18.0s,MS5.4						
SKR				MLR	MLR		
	comp=E,1µm,18.0s,MS5.4						
SKR				MLR	MLR		
	comp=Z,1µm,18.0s,MS5.3						
ASAJ	Asahikawa	71.25	328	LR	LR	23 54 52.8	
	comp=Z,879nm,21.7s,MS5.0,baz=157,slow=31						
JNU	Nakatsue	71.58	313	LR	LR	23 54 05.0	
	comp=Z,1µm,21.9s,MS5.1,baz=134,slow=30						
PET	Petropavlovsk	71.94	343	eP	P	23 29 40.1	-1.1
PET				e		23 32 17.7	
PET				ePPP	PPP	23 34 00.3	-4.5
PET				i S	S	23 39 03.0	+4.1
PET				ePS	PS	23 39 36.5	+2.9
PET				pmax	pmax		
	comp=Z,400nm,3.7s						
PET				pmax	pmax		
	comp=Z,100nm,12.6s						
PET				pmax	pmax		
	comp=Z,100nm,13.1s						
PET				pmax	pmax		
	comp=Z,400nm,3.5s						
PET				smax			
	comp=N,900nm,8.1s						
PET				smax			
	comp=E,400nm,16.4s						
PET				smax			
	comp=N,700nm,16.0s						
YSS	Yuzh-Sakhalins	73.19	330	αeP	P	23 29 48.0	-0.8
YSS				e		23 29 54.3	
YSS				eS	S	23 39 18.0	+4.8
YSS				ePPS	PPS	23 40 02.0	-2.1
YSS				pmax	pmax		
	comp=Z,500nm,5.0s						
YSS				smax			
	comp=N,600nm,14.0s						
YSS	Yuzh-Sakhalins	73.19	330	eP	P	23 29 48.9	+0.1
	comp=N,9.5nm,0.5s,mb5.0						
YSS				LR	LR		
	comp=Z,1µm,20.0s,MS5.1						
YBH	Yreka Blue Hor	73.28	37	P	P	23 29 49.4	0.0
	comp=Z,4.3nm,0.7s,mb4.5,baz=189,slow=8.4,SNR=5.6						
YBH	Yreka Blue Hor	73.28	37	eP	P	23 29 49.4	0.0
YBH				pmax	pmax		
	comp=Z,9.0nm,1.0s						
YBH	Yreka Blue Hor	73.28	37	eP	P	23 29 49.4	0.0
	comp=Z,9.1nm,1.0s,mb4.7						
MNV	Mina	74.12	42	eP	P	23 29 53.6	-0.8
MNV				pmax	pmax		
	comp=Z,24nm,1.4s,mb4.9						
MNV	Mina	74.12	42	eP	P	23 29 53.6	-0.8
	comp=Z,24nm,1.4s,mb4.9						
TPH	Tonopah	74.53	43	eP	P	23 29 56.7	0.0
TPH				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.8						
TPH	Tonopah	74.53	43	eP	P	23 29 56.7	-0.1
	comp=Z,13nm,1.1s,mb4.8						
TPNV	Topopah Spring	74.56	44	eP	P	23 29 57.2	+0.2
TPNV				pmax	pmax		
	comp=Z,50nm,1.8s,mb5.1						
TPNV				MLR	MLR		
	comp=Z,3µm,22.0s,MS5.5						
TPNV	Topopah Spring	74.56	44	eP	P	23 29 57.2	+0.3
	comp=Z,50nm,1.8s,mb5.1						
TPNV				LR	LR		
	comp=Z,3µm,22.0s,MS5.5						
MOD	Modoc	74.80	38	eP	P	23 29 57.9	-0.4
	comp=Z,19nm,1.2s,mb4.9						
QSPA	South Pole Qui	75.01	180	eP	P	23 29 58.9	+0.2
	comp=Z,35nm,1.0s,mb5.2						
QSPA				LR	LR		
	comp=Z,640nm,19.5s,MS4.9						
WVOR	Wild Horse Val	76.11	38	eP	P	23 30 05.6	-0.1
WVOR				pmax	pmax		
	comp=Z,32nm,1.2s,mb5.1						
WVOR				MLR	MLR		
	comp=Z,2µm,19.0s,MS5.5						
WVOR	Wild Horse Val	76.11	38	eP	P	23 30 05.6	-0.1
	comp=Z,32nm,1.3s,mb5.1						
WVOR				LR	LR		
	comp=Z,2µm,19.0s,MS5.5						
TUC	Tucson	76.12	51	eP	P	23 30 05.9	-0.1
TUC				pmax	pmax		
	comp=Z,69nm,2.0s,mb5.2						
TUC				MLR	MLR		
	comp=Z,2µm,21.0s,MS5.4						
TUC	Tucson	76.12	51	eP	P	23 30 05.9	-0.1
	comp=Z,69nm,2.0s,mb5.2						
TUC				LR	LR		
	comp=Z,2µm,21.0s,MS5.4						
VLA	Vladivostok	76.55	322	⇓iP	P	23 30 07.0	-1.2
VLA				i S	S	23 39 57.0	+6.5
VLA				i		23 40 20.0	
VLA				pmax	pmax		
	comp=N,500nm,6.0s						
VLA				pmax	pmax		
	comp=Z,500nm,6.0s						
VLA				pmax	pmax		
	comp=E,300nm,5.6s						
VLA				pmax	pmax		
	comp=Z,400nm,10.0s						
VLA				smax			
	comp=N,1µm,8.0s						
VLA				smax			
	comp=E,500nm,6.0s						
VLA				MLR	MLR		
	comp=Z,600nm,17.0s,MS5.0						
VLA				MLR	MLR		
	comp=N,600nm,15.0s,MS5.1						
VLA				MLR	MLR		
	comp=E,500nm,18.0s,MS5.1						
GNW	Green Mountain	76.92	32	P	P	23 30 09.3	-0.9
LON	Longmire	76.93	34	eP	P	23 30 10.2	-0.1
ELK	Elko	77.27	41	eP	P	23 30 12.1	-0.2
ELK				pmax	pmax		
	comp=Z,12nm,1.2s						
ELK				MLR	MLR		
	comp=Z,1µm,19.0s						
ELK	Elko	77.27	41	eP	P	23 30 12.1	-0.2
	comp=Z,12nm,1.2s,mb4.7						
ELK				LR	LR		
	comp=Z,1µm,19.0s,MS5.2						
BBB	Bella Bella	77.53	27	LR	LR	23 55 44.0	
	comp=Z,571nm,21.6s,MS4.9,slow=29						
SFJM	Santa Fe	77.55	65	eP	P	23 30 14.0	-0.3
SSE	Sheshan	77.78	307	P	P	23 30 16.8	+1.5
SSE				S	S	23 40 04.1	0.0
SSE				XS		23 40 22.7	
SSE				SS	SS	23 45 05.2	-2.3
SSE				AMB	AMB		
	comp=Z,52nm,0.7s,mb5.6						
SSE				AMB	AMB		
	comp=Z,370nm,6.8s						
SSE				LR	LR		
	comp=N,480nm,20.0s,MS5.0						
SSE				LR	LR		
	comp=E,607nm,20.0s,MS5.0						
SSE				LR	LR		
	comp=Z,763nm,20.0s,MS5.0						
HAWA	Hanford	77.95	35	eP	P	23 30 15.6	-0.3
	comp=Z,9.0nm,0.9s,mb4.7						
MSU	Marysvale	78.13	45	eP	P	23 30 17.6	+0.5
LNOR	Lincton Mounta	78.33	36	eP	P	23 30 17.4	-0.6
DUG	Dugway	78.56	43	eP	P	23 30 19.0	-0.4
DUG				pmax	pmax		
	comp=Z,37nm,1.6s,mb5.1						
DUG				MLR	MLR		
	comp=Z,1µm,21.0s,MS5.2						
DUG	Dugway	78.56	43	eP	P	23 30 19.0	-0.4
	comp=Z,37nm,1.6s,mb5.1						
DUG				LR	LR		
	comp=Z,1µm,21.0s,MS5.2						
MDJ	Mudanjiang	78.77	322	P	P	23 30 20.8	+0.4
MDJ				AP	pP	23 30 26.3	-4.5
MDJ				S	S	23 40 20.7	+6.3
MDJ				AMB	AMB		
	comp=Z,17nm,1.9s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,534nm,6.8s						
MDJ				LR	LR		
	comp=N,416nm,21.1s,MS5.2						
MDJ				LR	LR		
	comp=E,1µm,20.7s,MS5.2						
MDJ				LR	LR		
	comp=Z,2µm,23.0s,MS5.3						
MDJ	Mudanjiang	78.77	322	P	P	23 30 21.1	+0.7
MDJ				LR	LR		
	comp=Z,2µm,22.0s,MS5.4						
BGU	Big Grassy Mou	78.79	42	eP	P	23 30 19.1	-1.5
NLU	North Lily Min	78.92	43	eP	P	23 30 21.5	+0.1
DIV	Divide	79.03	13	eP	P	23 30 21.8	+0.2
	comp=Z,128nm,1.4s,mb5.7						
HVU	Hansel Valley	79.40	42	eP	P	23 30 23.7	-0.3
SRU	San Rafael	79.55	45	eP	P	23 30 24.8	0.0
DPW	Davenport	79.56	34	eP	P	23 30 24.2	-0.5
LAZ	Ladron	79.78	50	eP	P	23 30 26.6	+0.4
TCUT	Toone Canyon	79.95	43	eP	P	23 30 25.9	-1.0
NJ2	Nanjing	79.98	307	eP	P	23 30 27.5	+0.2
NJ2				AP	pP	23 30 37.9	+0.2
NJ2				XP	sP	23 30 41.8	+0.5
NJ2				PP	PP	23 33 31.8	+1.1
NJ2				S	S	23 40 28.0	+0.6
NJ2				XS		23 40 46.0	
BNM	Barren Site	80.06	51	eP	P	23 30 27.8	+0.2
HWUT	Hardware Ranch	80.09	42	eP	P	23 30 27.0	-0.7
	comp=Z,9.9nm,1.1s,mb4.7						
HWUT				LR	LR		
	comp=Z,2µm,22.0s,MS5.4						
PV10	Paradox Valley	80.22	46	eP	P	23 30 28.1	-0.3
KLR	Kul'dur	80.24	327	eP	P	23 30 27.8	-0.5
KLR				eS	S	23 40 25.0	-4.7
KLR				pmax	pmax		
	comp=Z,270nm,3.5s						
KLR				MLR	MLR		
	comp=E,900nm,16.0s						
LTX	Lajitas	80.36	56	eP	P	23 30 29.6	+0.2
LTX				pmax	pmax		
	comp=Z,69nm,1.6s,mb5.3						
LTX				MLR	MLR		
	comp=Z,2µm,20.0s,MS5.3						
LTX	Lajitas	80.36	56	eP	P	23 30 29.6	+0.2
	comp=Z,69nm,1.6s,mb5.3						
LTX				LR	LR		
	comp=Z,1µm,20.0s,MS5.3						
TXAR	Lajitas Array	80.36	56	P	P	23 30 29.0	-0.4
	comp=Z,2.3nm,1.0s,mb4.1,baz=243,slow=2.8,SNR=19						
TXAR				LR	LR	23 58 24.8	
	comp=Z,1µm,20.6s,MS5.3,baz=325,slow=30						
NEW	Newport	80.38	34	P	P	23 30 28.6	-0.5
	comp=Z,3.2nm,1.0s,mb4.2,baz=264,slow=4.1,SNR=3.9						
NEW				LR	LR	23 59 02.2	
	comp=Z,536nm,19.6s,MS4.9,baz=217,slow=30						
PV01	Paradox Valley	80.43	46	eP	P	23 30 29.2	-0.3
ANMO	Albuquerque	80.53	50	eP	P	23 30 30.4	+0.3
ANMO				pmax	pmax		
	comp=Z,32nm,1.5s						
ANMO				MLR	MLR		
	comp=Z,2µm,22.0s						
ANMO	Albuquerque	80.53	50	eP	P	23 30 30.4	+0.2
	comp=Z,32nm,1.5s,mb5.0						
ANMO				LR	LR		
	comp=Z,2µm,22.0s,MS5.3						
MCK	McKinley	80.75	11	eP	P	23 30 29.5	-1.2
MCK				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
MCK	McKinley	80.75	11	eP	P	23 30 29.5	-1.2
	comp=Z,9.3nm,0.9s,mb4.7						
CN2	Changchun	80.84	320	⇑P	P	23 30 31.8	+0.2
CN2				AMB	AMB		
	comp=Z,40nm,1.2s,mb5.2						
DL2	Dalian	80.96	314	eP	P	23 30 33.0	+0.6

DL2				S	S	23 40 46.7	+9.2
DL2				AMB	AMB		
	comp=Z,230nm,9.0s						
DL2				LR	LR		
	comp=E,400nm,22.5s						
DL2				LR	LR		
	comp=Z,500nm,23.5s,MS4.8						
GDL2	**Guadalupe Moun**	**80.96**	**53**	*e*P	**P**	**23 30 32.7**	**+0.2**
AHID	**Auburn Hatcher**	**80.97**	**41**	*e*P	**P**	**23 30 32.5**	**+0.2**
	comp=Z,17nm,1.1s,mb4.9						
SNY	**Shenyang**	**81.04**	**318**	⇑*i*P	**P**	**23 30 32.9**	**+0.2**
SNY				PP	PP	23 33 43.1	+3.2
SNY				S	S	23 40 47.1	+8.9
SNY				AMB	AMB		
	comp=Z,40nm,1.8s,mb5.0						
SNY				AMB	AMB		
	comp=Z,390nm,8.0s						
SNY				LR	LR		
	comp=N,870nm,16.9s						
SNY				LR	LR		
	comp=Z,840nm,16.3s,MS5.2						
DLBC	**Dease Lake**	**81.34**	**21**	LR	LR	00 01 49.2	
	comp=Z,438nm,18.4s,MS4.8,baz=180,slow=32						
CLNB	**Carlsbad**	**81.36**	**53**	*e*P	**P**	**23 30 34.4**	**-0.2**
REDW	**Red Top Meadow**	**81.42**	**41**	*e*P	**P**	**23 30 34.8**	**+0.1**
TPAW	**Teton Pass**	**81.43**	**41**	*e*P	**P**	**23 30 35.1**	**+0.4**
SNOW	**Snow King Moun**	**81.54**	**41**	*e*P	**P**	**23 30 35.6**	**+0.4**
WUWY	**Wally Ulrich**	**81.58**	**41**	*e*P	**P**	**23 30 35.4**	**-0.1**
CPRX	**Cap Rock**	**81.68**	**53**	*e*P	**P**	**23 30 36.1**	**-0.1**
MOOW	**Moose Ponds**	**81.68**	**41**	*e*P	**P**	**23 30 36.3**	**+0.3**
LOHW	**Long Hollow**	**81.70**	**41**	*e*P	**P**	**23 30 36.2**	**+0.1**
CHMT	**Chamberlain Mo**	**81.80**	**37**	*e*P	**P**	**23 30 36.1**	**-0.5**
QLMT	**Earthquake Lak**	**81.80**	**39**	*e*P	**P**	**23 30 37.5**	**+0.9**
PDAR	**Pinedale Array**	**81.96**	**42**	P	**P**	**23 30 37.0**	**-0.5**
	comp=Z,3.2nm,0.8s,mb4.3,baz=215,slow=2.4,SNR=14						
PDAR				LR	LR	00 02 35.6	
	comp=Z,1µm,18.1s,MS5.2,baz=248,slow=32						
COLA	**College**	**81.99**	**11**	*e*P	**P**	**23 30 36.8**	**-0.4**
COLA				pmax	pmax		
	comp=Z,26nm,0.9s,mb5.2						
COLA				MLR	MLR		
	comp=Z,820nm,20.0s,MS5.1						
COLA	**College**	**81.99**	**11**	*e*P	**P**	**23 30 36.8**	**-0.4**
	comp=Z,26nm,0.9s,mb5.2						
COLA				LR	LR		
	comp=Z,818nm,20.0s,MS5.1						
YMR	**Madison River**	**82.01**	**40**	*e*P	**P**	**23 30 38.8**	**+1.1**
BOZ	**Bozeman (W)**	**82.10**	**39**	*e*P	**P**	**23 30 38.2**	**+0.1**
BOZ				pmax	pmax		
	comp=Z,20nm,1.2s,mb4.9						
BOZ				MLR	MLR		
	comp=Z,1µm,20.0s,MS5.3						
BOZ	**Bozeman (W)**	**82.10**	**39**	*e*P	**P**	**23 30 38.2**	**+0.1**
	comp=Z,20nm,1.3s,mb4.9						
BOZ				LR	LR		
	comp=Z,1µm,20.0s,MS5.3						
IMA	**Indian Mountai**	**82.19**	**8**	*e*P	**P**	**23 30 39.2**	**+1.0**
HRY	**Holter Researc**	**82.53**	**38**	*e*P	**P**	**23 30 40.7**	**+0.4**
DAWY	**Dawson**	**83.05**	**14**	*e*P	**P**	**23 30 43.0**	**+0.4**
ISCO	**Idaho Springs**	**83.24**	**46**	*e*P	**P**	**23 30 44.8**	**+0.7**
ISCO				pmax	pmax		
	comp=Z,58nm,1.8s,mb5.3						
ISCO				MLR	MLR		
	comp=Z,1µm,20.0s,MS5.3						
ISCO	**Idaho Springs**	**83.24**	**46**	*e*P	**P**	**23 30 44.8**	**+0.7**
	comp=Z,58nm,1.8s,mb5.3						
ISCO				LR	LR		
	comp=Z,1µm,20.0s,MS5.2						
JCT	**Junction City**	**83.90**	**56**	*e*P	**P**	**23 30 47.8**	**+0.1**
JCT				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.9						
JCT	**Junction City**	**83.90**	**56**	*e*P	**P**	**23 30 47.8**	**+0.1**
	comp=Z,11nm,1.0s,mb4.9						
BJT	**Baijiatuau**	**85.25**	**313**	*e*P	**P**	**23 30 55.4**	**+1.2**
BJT				pmax	pmax		
	comp=Z,280nm,2.2s						
BJT	**Baijiatuau**	**85.25**	**313**	*e*P	**P**	**23 30 55.4**	**+1.2**
	comp=Z,282nm,2.3s,mb6.0						
BJI	**Beijing**	**85.25**	**313**	*e*P	**P**	**23 30 54.8**	**+0.6**
BJI				AMB	AMB		
	comp=Z,32nm,1.7s,mb5.2						
BJI				LR	LR		
	comp=N,470nm,18.6s,MS5.1						
BJI				LR	LR		
	comp=E,531nm,19.3s,MS5.1						
BJI				LR	LR		
	comp=Z,674nm,26.0s						
LAO	**LASA Array**	**85.89**	**39**	*e*P	**P**	**23 30 58.0**	**+0.8**
	comp=Z,52nm,1.3s,mb5.6						
RSSD	**Black Hills**	**86.16**	**42**	*e*P	**P**	**23 30 58.3**	**-0.2**
RSSD				pmax	pmax		
	comp=Z,20nm,1.2s,mb5.2						
RSSD	**Black Hills**	**86.16**	**42**	*e*P	**P**	**23 30 58.3**	**-0.2**
	comp=Z,20nm,1.3s,mb5.2						
WMOK	**Wichita Mounta**	**86.24**	**53**	*e*P	**P**	**23 30 58.2**	**-1.0**
WMOK				pmax	pmax		
	comp=Z,14nm,1.3s,mb5.0						
WMOK	**Wichita Mounta**	**86.24**	**53**	*e*P	**P**	**23 30 58.2**	**-1.0**
	comp=Z,14nm,1.3s,mb5.0						
ENH	**Enshi**	**86.77**	**302**	P	**P**	**23 31 02.9**	**+1.0**
HIA	**Hailar**	**86.94**	**323**	*e*P	**P**	**23 31 02.7**	**+0.5**
HIA				pmax	pmax		
	comp=Z,44nm,1.6s						
HIA	**Hailar**	**86.94**	**323**	*e*P	**P**	**23 31 02.7**	**+0.5**
	comp=Z,44nm,1.6s,mb5.4						
INK	**Inuvik**	**87.90**	**14**	*e*P	**P**	**23 31 06.7**	**+0.3**
INK				pmax	pmax		
	comp=Z,22nm,1.5s						
INK	**Inuvik**	**87.90**	**14**	*e*P	**P**	**23 31 06.7**	**+0.3**
	comp=Z,22nm,1.5s,mb5.2						
DGMT	**Dagmar**	**87.91**	**38**	*e*P	**P**	**23 31 08.0**	**+1.1**
	comp=Z,32nm,1.1s,mb5.5						
GYA	**Guiyang**	**87.92**	**298**	P	**P**	**23 31 07.9**	**+0.4**
GYA				SKS	SKS	23 41 27.8	-3.1
GYA				S	S	23 41 39.9	-6.5
GYA				AMB	AMB		
	comp=Z,210nm,5.4s						
GYA				LR	LR		
	comp=N,750nm,17.1s,MS5.3						
GYA				LR	LR		
	comp=E,840nm,16.5s,MS5.3						
GYA				LR	LR		
	comp=Z,1µm,16.5s,MS5.4						
MAW	**Mawson**	**88.16**	**199**	*e*P	**P**	**23 31 08.2**	**+0.5**
	comp=Z,9.8nm,0.9s,mb5.0						
MAW	**Mawson**	**88.16**	**199**	P	**P**	**23 31 07.1**	**-0.6**
	comp=Z,17nm,1.0s,mb5.2,baz=112,slow=5.1,SNR=14						
MAW				LR	LR	00 07 20.3	
	comp=Z,1µm,20.0s,MS5.3,baz=118,slow=33						
XAN	**Xi’an**	**88.46**	**306**	P	**P**	**23 31 10.3**	**+0.4**
XAN				SKS	SKS	23 41 35.9	+1.8
XAN				S	S	23 41 54.7	+3.4
XAN				LR	LR		
	comp=N,416nm,17.0s						
XAN				LR	LR		
	comp=E,316nm,22.7s						
XAN				LR	LR		
	comp=Z,938nm,18.5s,MS5.2						
NATX	**Nacogdoches**	**88.48**	**57**	*e*P	**P**	**23 31 11.2**	**+1.1**
	comp=Z,73nm,1.2s,mb5.8						
HHC	**Hu-ho-hao-te**	**88.81**	**313**	*e*P	**P**	**23 31 12.8**	**+1.3**
HHC				PP	PP	23 34 47.4	+4.2
HHC				S	S	23 42 00.1	+5.7
HHC				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.7						
HHC				LR	LR		
	comp=N,308nm,21.4s,MS4.8						
HHC				LR	LR		
	comp=E,280nm,20.8s,MS4.8						
YKA	**Yellowknife Ar**	**89.74**	**23**	P	**P**	**23 31 15.0**	**-0.3**
	comp=E,2.6nm,0.7s,mb4.7,baz=231,slow=4.0,SNR=4.9						
YKA				LR	LR	00 03 47.2	
	comp=E,501nm,20.5s,MS4.9,baz=250,slow=30						
BTO	**Baotou**	**89.83**	**312**	*e*P	**P**	**23 31 17.0**	**+0.7**
BTO				AMB	AMB		
	comp=Z,45nm,1.5s,mb5.6						
KMI	**Kunming**	**90.91**	**296**	*e*P	**P**	**23 31 20.5**	**-1.2**
KMI				SKS	SKS	23 41 52.6	+3.5
KMI				S	S	23 42 19.2	+5.3
KMI				LR	LR		
	comp=N,346nm,11.3s						
KMI				LR	LR		
	comp=E,421nm,9.3s						
KMI				LR	LR		
	comp=Z,249nm,9.6s						
JTS	**JuntasAbangare**	**91.09**	**80**	*e*P	**P**	**23 31 23.7**	**+0.9**
SYO	**Syowa Base**	**92.97**	**191**	⇓P	**P**	**23 31 31.9**	**+1.8**
SYO	**Syowa Base**	**92.97**	**191**	⇓PcP	PcP	23 31 34.5	+3.6
LZH	**Lanzhou**	**93.05**	**306**	⇓P	**P**	**23 31 32.5**	**+1.2**
LZH				AP	pP	23 31 42.1	+0.2
LZH				AMB	AMB		
	comp=Z,37nm,1.5s,mb5.6						
LZH				LR	LR		
	comp=N,446nm,12.9s						
LZH				LR	LR		
	comp=Z,687nm,16.8s,MS5.2						
CCM	**Cathedral Cave**	**93.06**	**52**	*e*P	**P**	**23 31 32.6**	**+1.3**
SNAA	**Sanae**	**93.27**	**177**	P	**P**	**23 31 31.0**	**-0.5**
SNAA	**Sanae**	**93.27**	**177**	⇑*i*	**P**	**23 31 32.4**	**+0.9**
SNAA	**Sanae**	**93.27**	**177**		pP	23 31 41.2	-0.9
OXF	**Oxford**	**93.50**	**55**	*e*P	**P**	**23 31 33.6**	**+0.2**
ULM	**Lac du Bonnet**	**93.61**	**39**	P	**P**	**23 31 33.9**	**+0.4**
	comp=Z,2.4nm,0.8s,mb4.7,baz=272,slow=3.8,SNR=4.3						
ULM				LR	LR	00 08 48.3	
	comp=Z,2µm,19.3s,MS5.5,baz=247,slow=32						
BOD	**Bodaibo**	**93.64**	**329**	*e*P	**P**	**23 31 31.4**	**-2.0**
VNA2	**Neumayer--Watz**	**93.71**	**175**	⇑*i*P	**P**	**23 31 36.9**	**+3.4**
VNA2	**Neumayer--Watz**	**93.71**	**175**	⇑*i*	**P**	**23 31 37.9**	**+4.4**
VNA2	**Neumayer--Watz**	**93.71**	**175**	⇑*i*	pP	23 31 47.2	+3.1
VNA2	**Neumayer--Watz**	**93.71**	**175**	⇑*i*	sP	23 31 50.5	+3.0
VNA1	**Neumayer--Stat**	**93.91**	**175**	⇑*i*P	**P**	**23 31 38.5**	**+4.1**
VNA1	**Neumayer--Stat**	**93.91**	**175**	⇑*i*	**P**	**23 31 39.0**	**+4.6**
VNA1	**Neumayer--Stat**	**93.91**	**175**	⇓*i*	pP	23 31 48.8	+3.8
SONM	**Songino Array**	**94.61**	**318**	P	**P**	**23 31 37.7**	**-0.3**
	comp=Z,1.1nm,0.8s,mb4.3,baz=127,slow=6.2,SNR=10						
SONM				PP	PP	23 35 21.1	-7.6
	comp=Z,0.4nm,0.9s,baz=9.5,slow=7.5,SNR=3.9						
TIXI	**Tiksi**	**94.66**	**344**	⇓*i*P	**P**	**23 31 26.6**	**-11**
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb5.0						
GTA	**Gaotai**	**96.99**	**309**	*e*P	**P**	**23 31 50.2**	**+1.1**
GTA				PP	PP	23 35 51.9	+4.3
GTA				SKS	SKS	23 42 26.1	+3.8
GTA				S	S	23 43 12.2	+6.3
GTA				AMB	AMB		
	comp=Z,101nm,5.7s						
GTA				LR	LR		
	comp=N,309nm,17.1s,MS5.2						
GTA				LR	LR		
	comp=E,610nm,19.0s,MS5.2						
GTA				LR	LR		
	comp=Z,994nm,18.6s,MS5.3						
ZAK	**Zakamensk**	**97.27**	**320**	*e*P	**P**	**23 31 49.8**	**-0.3**
MKAR	**Makanchi Array**	**110.61**	**315**	PKiKP		23 36 48.9	
	comp=Z,0.5nm,0.7s,baz=45,slow=1.7,SNR=4.4						
MKAR				PP	PP	23 37 21.4	-8.4
	comp=Z,0.9nm,0.9s,baz=84,slow=11,SNR=4.2						
MKAR	**Makanchi Array**	**110.61**	**315**	*i* PKIKP	PKPdf	23 36 48.8	+0.3
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KURK	**Kurchatov**	**112.90**	**319**	*e*PKIKP	PKPdf	23 36 53.1	+0.2
BRVK	**Borovoye**	**117.68**	**322**	*e*PKIKP	PKPdf	23 37 03.3	+1.2
ARU	**Arti**	**123.06**	**329**	*i* PKIKP	PKPdf	23 37 13.3	+0.7
ARU				*i*		23 38 49.7	
ARU				*e*		23 44 10.9	
ARU				*i* PS	PS	23 48 41.0	-7.7
ARU				*e*SS	SS	23 55 30.8	-5.1
ARU	**Arti**	**123.06**	**329**	*e*PKPdf	PKPdf	23 37 12.5	-0.1
ARCES	**ARCESS Array B**	**124.25**	**352**	PKP	PKPdf	23 37 16.3	+1.7
	comp=Z,2.1nm,0.7s,baz=45,slow=1.7,SNR=7.2						
OBN	**Obninsk**	**133.80**	**337**	*i* PKIKP	PKPdf	23 37 34.1	+1.0
OBN				*e*		23 40 02.8	
OBN				pmax	pmax		
	comp=Z,16nm,1.7s						
OBN				MLR	MLR		
	comp=Z,700nm,21.0s,MS5.3						
ZEI	**Tsey**	**137.80**	**318**	*e*PKIKP	PKPdf	23 37 39.6	-1.2
ZEI				MLR	MLR		
	comp=Z,600nm,19.0s,MS5.3						
SOC	**Sochi**	**139.95**	**322**	*e*PKIKP	PKPdf	23 37 46.4	+1.8
SOC				*e*		23 40 43.1	
SOC				pmax	pmax		
	comp=Z,35nm,1.0s						
SOC				pmax	pmax		
	comp=N,11nm,1.2s						
SOC				pmax	pmax		
	comp=E,11nm,0.8s						
AKASG	**Malin Array Be**	**140.02**	**338**	PKP	PKPdf	23 37 45.4	+0.9
	comp=E,0.4nm,0.4s,baz=28,slow=2.3,SNR=7.6						
MZLS	**Mizel**	**142.68**	**290**	P	PKPdf	23 37 51.7	+1.8
KWP	**Kalwaria**	**143.09**	**343**	*e*PKIKP	PKPdf	23 37 52.6	+2.7
LSZ	**Lusaka**	**143.12**	**216**	*e*PKIKP	PKPdf	23 37 53.5	+2.6
WTSB	**Winterswijk**	**143.16**	**360**	*e*P	PKPbc	23 37 54.3	+6.2
	comp=E,6.1nm,1.8s						
KIS	**Kishinev**	**143.17**	**334**	*i* PKIKP	PKPdf	23 37 50.0	-0.1
KIS				*e*		23 38 02.0	
KIS				*e*		23 41 10.0	
KIS				MLR	MLR		
	comp=Z,400nm,20.0s,MS5.2						
KIS				MLR	MLR		
	comp=Z,400nm,20.0s						
KSP	**Ksiaz**	**143.44**	**350**	*e*PKIKP	PKPdf	23 37 51.6	+1.2
KSP				*e*SS	SS	23 59 36.0	-5.7
KSP				MLR	MLR		
	comp=Z,1µm,21.7s,MS5.7						
CLL	**Collm**	**143.46**	**353**	*e*PKIKP	PKPdf	23 37 50.0	-0.4
CLL				*i*		23 37 57.2	
CLL				*e*SS	SS	23 59 36.0	-5.9
CLL				*e*SSS	SSS	00 05 12.0	+6.2
CLL	**Collm**	**143.46**	**353**	*e*PKIKP	PKPdf	23 37 50.0	-0.4
CLL				*i*		23 37 57.2	
CLL				MLR	MLR		
	comp=Z,500nm,17.7s,MS5.3						
MALT	**Malatya**	**143.64**	**316**	*e*PKPdf	PKPdf	23 37 51.6	+0.4
BRG	**Berggiesshubel**	**143.77**	**352**	*e*PKIKP	PKPdf	23 37 53.4	+2.4
BRG				*e*		23 37 59.3	
BRG				pmax	pmax		
	comp=Z,5.0nm,1.1s						
UPC	**Upice**	**143.81**	**350**	*e*PKP	PKPdf	23 37 51.9	+0.8
UPC				*e*pPKP		23 37 59.2	
KOLS	**Kolonicke sedl**	**143.84**	**342**	*e*PKP	PKPdf	23 37 56.6	+5.4
DPC	**Dobruska-Polom**	**143.91**	**349**	*e*PKP	PKPdf	23 37 51.6	+0.3
DPC				*e*pPKP		23 37 58.1	
PVCC	**Panska Ves**	**144.02**	**351**	*e*PKP	PKPdf	23 37 53.0	+1.6
OKC	**Ostrava-Krasne**	**144.05**	**347**	*e*PKP	PKPdf	23 37 50.6	-0.9
OKC				*e*pPKP		23 37 56.5	
BOYT	**Boyabat**	**144.09**	**323**	*i* P	PKPbc	23 37 48.7	-2.5
CRVS	**Cervenica-Dubn**	**144.10**	**343**	*e*PKP	PKPdf	23 38 00.2	+8.6
MORC	**Moravsky Berou**	**144.23**	**348**	*e*PKIKP	PKPdf	23 37 53.6	+1.8
MOX	**Moxa**	**144.25**	**355**	*i* P	PKPbc	23 37 54.1	+2.8
	comp=Z,logA/T=1.0						
MOX				L		23 48 56.0	
TSUM	**Tsumeb**	**144.32**	**198**	*e*PKPdf	PKPdf	23 37 56.4	+3.5
HGN	**Heimansgroeve**	**144.36**	**1**	*e*P	PKPbc	23 37 58.7	+7.1
	comp=Z,8.7nm,2.0s						
PRU	**Pruhonice**	**144.55**	**351**	*e*PKP	PKPdf	23 37 53.9	+1.5
PRU				*e*pPKP		23 37 59.9	
NKC	**Novy Kostel**	**144.58**	**354**	*e*PKP	PKPdf	23 37 54.2	+1.7
CTKT	**Corum**	**144.66**	**322**	*i* P	PKPbc	23 37 49.6	-3.1
GZT	**Gaziantep**	**144.72**	**315**	*i* P	PKPbc	23 37 50.6	-2.4
KECS	**Kecovo**	**144.75**	**344**	*e*PKP	PKPdf	23 37 55.3	+2.5
GIVF	**Givet**	**144.99**	**2**	*e*PKP1	PKPbc	23 37 54.7	+1.3
BAIF	**Baives**	**145.01**	**3**	*e*PKP1	PKPbc	23 37 55.1	+1.7
	comp=Z,51nm,1.1s						
VYHS	**Vyhne**	**145.15**	**346**	*e*PKP	PKPdf	23 37 54.8	+1.3
VYHS				*e*		23 38 02.2	
VYHS				*e*		23 38 16.7	
GRA1	**Grafenberg Arr**	**145.23**	**355**	*e*PKPbc	PKPbc	23 37 54.7	+0.7
GRF	**Grafenberg Arr**	**145.23**	**355**	*e*PKIKP	PKPdf	23 37 54.7	+1.1
RUP	**Ruppelstein**	**145.42**	**360**	PKP	PKPdf	23 37 59.0	+5.1
PSZ	**Piszkesteto**	**145.42**	**344**	⇓*e*sPKP/p		23 37 55.9	
SMOL	**Smolenice**	**145.45**	**347**	*e*PKP	PKPdf	23 37 56.8	+2.8
SMOL				*e*		23 38 03.2	
WLF	**Walferdange**	**145.46**	**1**	*e*PKIKP	PKPdf	23 37 57.6	+3.6
KHC	**Kasperske Hory**	**145.53**	**352**	*e*PKP	PKPdf	23 37 56.0	+1.9
KHC				*e*x	x	23 38 04.1	
ELDT	**Eldivan**	**145.55**	**323**	*i* P	PKPdf	23 37 52.5	-1.9
KMBO	**Kilima Mbogo**	**145.74**	**245**	PKPbc	PKPbc	23 37 57.5	+1.1
	comp=Z,17nm,1.3s,baz=81,slow=4.5,SNR=8.3						
KMBO	**Kilima Mbogo**	**145.74**	**245**	*e*PKPdf	PKPdf	23 37 57.7	+2.1
GERES	**GERESS Array B**	**145.79**	**352**	PKPbc	PKPbc	23 37 56.4	+1.0
	comp=Z,5.9nm,0.8s,baz=26,slow=3.8,SNR=26						
ROSF	**Rostrenen**	**145.79**	**12**	*e*PKP1	PKPbc	23 37 56.5	+1.0
	comp=Z,148nm,1.8s						
ZST	**Bratislava**	**145.82**	**348**	*e*PKP	PKPdf	23 37 57.8	+3.1
ZST				*e*		23 38 05.8	
FLN	**La Foliniere**	**145.86**	**8**	*e*PKP1	PKPbc	23 37 57.2	+1.6
	comp=Z,167nm,1.6s						
FLN				*e*R			
	comp=Z,957nm,20.0s						
BRTR	**Keskin Array B**	**145.90**	**321**	PKPbc	PKPbc	23 37 57.2	+1.2
	comp=Z,22nm,0.8s,baz=117,slow=2.8,SNR=74						
SRO	**Srobarova**	**145.91**	**346**	*e*PKP	PKPdf	23 37 58.2	+3.4
SRO				*e*		23 38 05.2	
SGMF	**Saint Gilles**	**146.01**	**11**	*e*PKP1	PKPbc	23 37 57.6	+1.6
	comp=Z,146nm,1.6s						
LDF	**La Druitiere**	**146.07**	**8**	*e*PKP1	PKPbc	23 37 57.9	+1.8
	comp=Z,71nm,1.4s						
GRR	**Gorron**	**146.17**	**9**	*e*PKP1	PKPbc	23 37 58.5	+2.1
	comp=Z,16nm,0.9s						
QUIF	**Quistinic**	**146.22**	**12**	*e*PKP1	PKPbc	23 37 58.3	+1.8
	comp=Z,38nm,1.1s						
SGKT	**Sivrigoynuk**	**146.29**	**324**	*i* P	PKPdf	23 37 56.4	+0.6
STU	**Stuttgart**	**146.29**	**357**	*e*PKP2	PKPab	23 37 57.4	-2.1
SOP	**Sopron**	**146.42**	**348**	⇑*e*sPKP/p		23 37 58.8	
MEZF	**Maizieres J’vi**	**146.60**	**2**	*e*PKP1	PKPbc	23 38 00.2	+2.9
	comp=Z,57nm,1.3s						
MOA	**Molln**	**146.68**	**351**	⇑*i*P	PKPdf	23 37 56.9	+0.8
WLS	**Welschbruch**	**146.71**	**359**	PKP	PKPdf	23 38 05.4	+9.2
CDF	**Champ du Feu**	**146.71**	**359**	*e*PKP1	PKPbc	23 38 00.1	+2.5
	comp=Z,36nm,1.0s						
THEF	**They Montfort**	**146.90**	**1**	PKP	PKPdf	23 38 02.8	+6.3
ECH	**Echery**	**146.91**	**359**	PKP	PKPdf	23 38 00.7	+4.2
ARSA	**Arzberg**	**147.04**	**349**	⇑*i*P	PKPdf	23 38 01.6	+4.8
HAU	**Haudompre**	**147.12**	**0**	*e*PKP1	PKPdf	23 38 01.6	+4.7
	comp=Z,75nm,1.0s						
HAU				*e*R			
	comp=Z,488nm,20.0s						
HINF	**Hinteralfeld**	**147.31**	**360**	*e*PKP1	PKPdf	23 38 01.9	+4.7
KBA	**Koelnbreinsper**	**147.57**	**351**	⇑*i*P	PKPdf	23 38 02.7	+5.1
MOTA	**Moosalm**	**147.57**	**354**	⇑*i*P	PKPdf	23 38 01.8	+4.2
WTTA	**Wattenberg**	**147.60**	**354**	⇓*i*P	PKPdf	23 38 02.6	+4.9
ESKT	**Eskisehir**	**147.68**	**324**	*i* P	PKPdf	23 37 57.3	-0.7
HYF	**Humbligny**	**147.69**	**5**	*e*PKP1	PKPdf	23 38 03.2	+5.4
PERS	**Pernice**	**147.71**	**349**	*e*PKPbc	PKPdf	23 38 02.5	+4.6
PERS				*e*		23 38 50.2	
DAVA	**Damuels**	**147.73**	**356**	⇑*i*P	PKPdf	23 38 01.0	+3.1
LOR	**Lormes**	**147.78**	**4**	*e*PKP1	PKPdf	23 38 03.5	+5.5
	comp=Z,66nm,1.1s						
LOR				*e*R			
	comp=Z,1µm,21.0s						
LOMF	**Lomont**	**147.78**	**360**	PKP	PKPdf	23 38 05.6	+7.6
SSF	**Saint Saulge**	**147.96**	**4**	*e*PKP1	PKPdf	23 38 04.1	+5.8
	comp=Z,82nm,1.1s						
MFF	**Saint Martin d**	**148.02**	**9**	*e*PKP1	PKPdf	23 38 03.3	+4.9
	comp=Z,53nm,1.3s						
ULDT	**Uludag**	**148.20**	**326**	*i* P	PKPdf	23 37 57.3	-1.6
AVF	**Avril sur Loir**	**148.22**	**4**	*e*PKP1	PKPdf	23 38 04.3	+5.6
	comp=Z,48nm,1.1s						
LJU	**Ljubljana**	**148.38**	**350**	*e*PKPbc	PKPdf	23 38 03.6	+4.7
LJU				*e*		23 38 12.0	
SMF	**Signal de Mont**	**148.40**	**4**	*e*PKP1	PKPdf	23 38 04.9	+5.9
	comp=Z,78nm,1.3s						
BGF	**Bois d’Agland**	**148.41**	**5**	*e*PKP1	PKPdf	23 38 04.8	+5.8
	comp=Z,74nm,1.1s						
VOY	**Vojsko**	**148.50**	**350**	*e*PKPbc	PKPdf	23 38 04.2	+5.0
VOY				*e*		23 38 12.0	
CABF	**La Chapelle**	**148.51**	**1**	*e*PKP1	PKPdf	23 38 05.9	+6.7
	comp=Z,82nm,1.0s						
TCF	**Toulx Ste Croi**	**148.62**	**6**	*e*PKP1	PKPdf	23 38 05.5	+6.2
	comp=Z,34nm,1.1s						
BOJS	**Bojanci**	**148.77**	**348**	*e*PKPbc	PKPdf	23 38 04.9	+5.3
GRUS	**Gruza**	**148.84**	**340**	⇑*i*P	PKPdf	23 38 06.0	+6.2
DIVS	**Divcibare**	**148.88**	**341**	⇑*i*P	PKPdf	23 38 05.8	+5.9
CSS	**Prodhromos**	**148.88**	**314**	*e*PKPbc	PKPdf	23 38 05.4	+5.2
AGO	**Saint Agoulin**	**148.94**	**5**	PKP	PKPdf	23 38 12.8	+13
OG05	**Jujurieux**	**149.07**	**2**	PKP	PKPdf	23 38 09.6	+10
YNBS	**Yanbu‘ al Bahr**	**149.14**	**292**	P	PKPdf	23 38 03.6	+2.8
PYM	**Petit Puy Mans**	**149.22**	**5**	PKP	PKPdf	23 38 09.7	+9.4
TBKS	**Tabuk**	**149.36**	**300**	P	PKPdf	23 38 07.1	+6.0
BARS	**Barje**	**149.39**	**338**	⇑*i*P	PKPdf	23 38 06.1	+5.4
RJF	**Les Rejaudoux**	**149.51**	**7**	*e*PKP1	PKPdf	23 38 07.5	+6.7
	comp=Z,66nm,1.4s						
RJF				*e*R			
	comp=Z,801nm,21.2s						
LPL	**La Plagne**	**149.61**	**360**	*e*PKP1	PKPdf	23 38 09.2	+8.2
	comp=Z,37nm,1.1s						
LPG	**La Plagne**	**149.63**	**360**	*e*PKP1	PKPdf	23 38 09.3	+8.3
	comp=Z,24nm,0.9s						
JMQS	**Jabal Moqyreh**	**149.69**	**302**	P	PKPdf	23 38 08.5	+6.9
LBL	**Lubilhac**	**149.76**	**5**	PKP	PKPdf	23 38 11.9	+11
LFF	**La Frestale**	**149.77**	**8**	*e*PKP1	PKPdf	23 38 08.3	+7.1
	comp=Z,107nm,1.3s						
CAF	**Calviac**	**149.95**	**7**	*e*PKP1	PKPdf	23 38 09.1	+7.6
	comp=Z,40nm,1.2s						
BNI	**Bardonecchia**	**150.08**	**360**	PKPbc	PKPdf	23 38 09.8	+8.1
BNI				*e*PKPab	PKPab	23 38 15.4	+0.6
EIL	**Elat**	**150.15**	**304**	*e*PKPbc	PKPdf	23 38 08.7	+6.3
EIL				*e*PKPab	PKPab	23 38 15.4	-0.2
ORIF	**Oris-en-Rattie**	**150.20**	**1**	*e*PKP1	PKPdf	23 38 09.1	+7.2
	comp=Z,48nm,1.2s						
ORIF				*e*R			
	comp=Z,447nm,20.5s						
JMOS	**Jabal al Moall**	**150.22**	**303**	P	PKPdf	23 38 09.3	+6.9
VIVF	**Saint-Julien-l**	**150.22**	**3**	*e*PKP1	PKPdf	23 38 08.7	+6.8
	comp=Z,76nm,1.4s						
SKO	**Skopje**	**150.27**	**337**	*i* PKP	PKPdf	23 38 09.4	+7.3
MBDF	**Montbardon**	**150.40**	**360**	*e*PKP1	PKPdf	23 38 09.4	+7.2
	comp=Z,26nm,1.0s						
HAQS	**Haql**	**150.41**	**303**	P	PKPdf	23 38 10.1	+7.4
BDAS	**Al Bad‘**	**150.49**	**302**	P	PKPdf	23 38 10.1	+7.2
SURF	**Saint Ours**	**150.65**	**360**	PKP	PKPdf	23 38 16.7	+14
LASF	**Ste Croix**	**150.96**	**4**	*e*PKP1	PKPdf	23 38 10.5	+7.4
	comp=Z,34nm,1.0s						
AUTN	**L’Aution**	**151.13**	**359**	PKP	PKPdf	23 38 17.0	+14
SAOF	**Saorge**	**151.13**	**359**	PKP	PKPdf	23 38 14.3	+11
SMRF	**Simiane la Rot**	**151.14**	**2**	*e*PKP1	PKPdf	23 38 12.7	+9.4
	comp=Z,57nm,1.2s						
OHR	**Ohrid**	**151.26**	**337**	*i* PKP	PKPdf	23 38 11.2	+7.6
SBF	**Sospel**	**151.26**	**359**	*e*PKP1	PKPdf	23 38 11.8	+8.3
	comp=Z,28nm,0.9s						
PRAF	**Pradon**	**151.30**	**2**	PKP	PKPdf	23 38 18.2	+15
CALN	**Calern**	**151.38**	**360**	PKP	PKPdf	23 38 15.2	+12
TREF	**Trevaresse**	**151.48**	**2**	PKP	PKPdf	23 38 20.3	+16
TAVF	**Tavernes**	**151.51**	**1**	PKP	PKPdf	23 38 17.7	+14
MTLF	**Montolieu**	**151.53**	**7**	*e*PKP1	PKPdf	23 38 11.7	+7.8
ETSF	**Etsaut**	**151.55**	**11**	*e*PKP1	PKPdf	23 38 13.3	+9.3
	comp=Z,60nm,1.2s						
FRF	**La Foret Royal**	**151.57**	**0**	*e*PKP1	PKPdf	23 38 11.2	+7.2
	comp=Z,53nm,1.5s						
PUYF	**Puyloubier**	**151.59**	**1**	PKP	PKPdf	23 38 18.4	+14
LMR	**La Mourre**	**151.79**	**0**	*e*PKP1	PKPdf	23 38 13.2	+8.9
PGF	**Pioggiola**	**152.50**	**356**	*e*PKP1	PKPdf	23 38 14.6	+9.2
CII	**Carovilli**	**152.59**	**347**	*e*PKPbc	PKPdf	23 38 13.7	+8.2
CII				*e*PKPab	PKPab	23 38 23.1	-2.3
ESDC	**Sonseca Array**	**153.75**	**19**	PKPbc	PKPdf	23 38 18.0	+11
	comp=Z,0.5nm,0.7s,baz=313,slow=3.3,SNR=4.9						
ESDC				PKPab	PKPab	23 38 29.9	-0.5
	comp=Z,2.4nm,0.9s,baz=307,slow=2.6,SNR=5.4						

BER ***03*** *23:21:48.6±1.9,67.84N×20.14E,ML1.5,Suspected explosion*

HEL 03 23:21:47.6±0.1**,67.83N×20.16E,ML1.4,ML1.6**(UPP)**,**
ML1.5(BER)**,Explosion,Sweden**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.14**	**29**	*i* P	Pg	23 21 49.8	-0.6
KUA				*i* S	Sg	23 21 51.9	-0.5
NIKU	**Nikkaluokta**	**0.43**	**275**	*i* P	Pg	23 21 54.4	-1.7
NIKU				*i* S	Sg	23 22 00.7	-1.1
DUNU	**Dundret**	**0.73**	**167**	*i* P	Pg	23 22 00.5	-1.6
DUNU				*i* S	Sg	23 22 10.3	-1.6
SALU	**Saltoluokta**	**0.78**	**235**	*i* P	Pg	23 22 01.9	-1.3
MASU	**Masugnsbyn**	**0.80**	**117**	*i* P	Pg	23 22 01.9	-1.7
KIF	**Kilpisjarvi**	**1.20**	**11**	*e*P	Pb	23 22 10.1	-0.8
KIF				*e*S	Sb	23 22 26.0	-0.9
PAJU	**Pajala**	**1.40**	**124**	*e*P	Pb	23 22 12.3	-2.0
PAJU				*e*S	Sb	23 22 30.8	-1.9
KTK1	**Kautokeino**	**1.65**	**42**	*e*P	Pn	23 22 16.4	-1.5
KTK1				*e*SN	Sn	23 22 40.3	+0.2
KTK1				AML	AML	23 22 42.7	
	comp=Z,4.8nm,0.4s						
TRO	**Tromso**	**1.86**	**347**	*e*P	Pn	23 22 20.5	-0.6
TRO				*e*SG	Sg	23 22 45.4	-4.2
TRO				AML	AML	23 22 47.6	
	comp=Z,5.7nm,0.3s						
SGF	**Sodankyl**	**2.47**	**96**	*e*PB	Pb	23 22 30.1	-2.5
SGF				*e*S	Sn	23 22 59.9	-1.1
LOF	**Lofoten**	**2.51**	**280**	*e*SG	Sg	23 23 07.4	-3.8
MOR8	**Moi Rana**	**2.79**	**236**	*e*SG	Sg	23 23 10.6	-10
MOR8				AML	AML	23 23 11.6	

	comp=Z,7.3nm,0.4s						
KEV	Kevo	3.15	49	eP	Pn	23 22 38.9	-0.5
KEV				eS	Sn	23 23 16.2	-2.1
KEV				MSG		23 23 24.1	
	comp=Z,0.8nm,0.2s						
OUL	Oulu	3.59	137	eSG	Sn	23 23 36.2	+6.7
NSS	Namsos	4.69	229	eSG	Sn	23 24 13.8	+17
NSS				AML	AML	23 24 14.8	
	comp=Z,3.2nm,0.5s						

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*NEIC **03** 23:39:02.2±4.4, 6.48S×154.52E, h147^{km}±39^{km}, mb4.6/9, Error ellipse: s-maj=24.4km s-min=18.0km az=65.0*

*IDC **03** 23:39:10.0±16.0, 6.57S×154.50E, h240^{km}±161^{km}, mb3.6/7, mb1 3.8/8, mb1mx3.7/11, Error ellipse: s-maj=57.1km s-min=45.3km az=55.0*

ISC 03 23:38:59.7±6.8**, 6.4S**±0.2×**154.5E**±0.2**, h135**^{km}±60^{km}**, n20, σ1§10**/20**, mb4.3**/14**, 1C, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	Charters Tower	15.75	210	⇑iP	P	23 42 36.4	+1.0
	6.9nm,0.6s						
CTA	Charters Tower	15.75	210	P	P	23 42 36.3	+0.9
	0.8nm,0.3s,baz=34,slow=13,SNR=14						
CTAO	Charters Tower	15.75	210	eP	P	23 42 36.3	+0.9
	9.1nm,0.7s						
WRAB	Tennant Creek	23.72	234	eP	P	23 44 00.7	+0.2
	13nm,0.9s,mb4.5						
WB2	Warramunga Arr	23.72	234	eP	P	23 44 00.9	+0.4
WRA	Warramunga Arr	23.73	234	P	P	23 44 00.5	-0.1
	8.7nm,0.6s,mb4.5,baz=57,slow=9.8,SNR=26						
ARMA	Armidale	24.01	186	eP	P	23 44 03.9	+0.7
ASAR	Alice Springs	26.17	227	P	P	23 44 22.2	-1.4
	1.8nm,0.5s,mb4.0,baz=58,slow=8.7,SNR=32						
STKA	Stephens Creek	28.03	204	P	P	23 44 38.0	-2.4
	2.1nm,0.7s,mb4.0,baz=26,slow=13,SNR=7.9						
FITZ	Fitzroy Crossi	30.43	245	P	P	23 45 00.1	-1.7
	1.7nm,0.5s,mb4.0,baz=45,slow=7.4,SNR=4.9						
SONM	Songino Array	68.60	327	P	P	23 49 48.8	-1.3
	0.5nm,0.6s,mb3.4,baz=141,slow=5.2,SNR=3.8						
LSA	Lhasa	70.54	304	eP	P	23 50 03.1	+0.9
	6.1nm,0.6s,mb4.5						
PKI	Pulchoki	74.71	301	eP	P	23 50 27.2	+0.4
KKN	Kakani	74.88	301	eP	P	23 50 28.3	+0.6
	17nm,0.8s,mb4.8						
DMN	Daman	74.98	301	eP	P	23 50 28.9	+0.6
	29nm,0.7s,mb5.0						
GKN	Gorkha	75.48	301	eP	P	23 50 31.7	+0.6
	31nm,0.7s,mb5.0						
KOLN	Koldanda	76.31	300	eP	P	23 50 36.2	+0.4
	24nm,0.7s,mb4.9						
MKAR	Makanchi Array	82.65	319	P	P	23 51 05.4	-4.1
	0.9nm,0.6s,mb3.7,baz=120,slow=4.7,SNR=2.9						
QSPA	South Pole Qui	83.53	180	eP	P	23 51 15.2	+2.0
	4.8nm,0.3s,mb4.7						
PDAR	Pinedale Array	98.70	48	P	P	23 52 23.7	-1.4
	0.2nm,0.8s,mb3.6,baz=243,slow=3.3,SNR=4.0						

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*IDC **03** 23:40:29.9±1.1, 9.18N×126.90E, mb4.0/8, mb1 4.1/8, mb1mx4.0/16, Error ellipse: s-maj=113.0km s-min=16.7km az=72.0*

*MAN **03** 23:40:34.2, 9.14N×126.78E, h12^{km}, mb4.9, ML3.8, MS3.9*

*NEIC **03** 23:40:36.7±0.8, 9.16N×126.79E, h50^{km}, mb4.5/3, Error ellipse: s-maj=72.0km s-min=10.0km az=72.0*

ISC 03 23:40:32.9±0.6**, 9.21N**±0.04×**127.00E**±0.05**, h33**^{km}**, n28, σ1§26**/35**, mb4.0**/11**, 4D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BIPH	Bislig	1.20	212	⇓iP	P	23 40 52.5	-0.9
BIPH				i S	S	23 41 05.7	-3.2
BUTP	Butuan	1.39	260	eP	P	23 40 54.7	-1.5
SCPH	Surigao	1.60	291	eP	P	23 40 58.6	-0.5
SCPH				eS	S	23 41 16.8	-2.1
BUKP	Musuan	2.33	236	eP	P	23 41 10.6	+0.9
BUKP				eS	S	23 41 39.1	+1.7
MATI	Mati	2.37	198	eP	P	23 41 11.8	+1.5
PLP	Palo	2.78	314	eP	P	23 41 17.3	+1.2
PLP				eS	S	23 41 49.0	+0.1
BESP	Borongan	2.83	327	eP	P	23 41 19.0	+2.2
KCP	Kidapawan	2.90	221	⇓iP	P	23 41 17.9	+0.2
KCP				i S	S	23 41 53.5	+1.7
OCLP	Ormoc	2.98	308	eP	P	23 41 21.5	+2.5
TBP	Tagbilaran	3.14	279	eP	P	23 41 21.1	-0.1
TBP				eS	S	23 41 57.4	-0.5
LLP	Lapu-Lapu	3.19	290	eP	P	23 41 21.0	-0.9
DCPH	Dipolog City	3.66	260	⇓iP	P	23 41 27.9	-0.7
DCPH				eS	S	23 42 00.0	-11
SNPH	Sibulan	3.72	272	eP	P	23 41 30.0	+0.5
PAGZ	Pagadian	3.83	250	eP	P	23 41 31.3	+0.3
RCP	Roxas	4.80	299	⇓eP	P	23 41 45.9	+1.2
FITZ	Fitzroy Crossi	27.17	183	P	P	23 46 15.7	0.0
	3.2nm,0.7s,mb4.0,baz=2.0,slow=12,SNR=6.0						
WRA	Warramunga Arr	29.86	166	P	P	23 46 39.0	-0.7
	0.9nm,0.5s,mb3.8,baz=346,slow=9.3,SNR=4.4						
WRA	Warramunga Arr	29.86	166	P	P	23 46 39.0	-0.7
ASAR	Alice Springs	33.37	168	P	P	23 47 09.5	-1.0
	0.5nm,0.4s,mb3.8,baz=359,slow=6.6,SNR=8.8						
ASAR				PcP	PcP	23 49 51.6	-0.2
	0.8nm,1.0s,baz=333,slow=2.0,SNR=3.3						
SONM	Songino Array	42.26	339	P	P	23 48 25.2	+0.4
	0.3nm,0.5s,mb3.2,baz=140,slow=7.6,SNR=3.6						
STKA	Stephens Creek	43.17	162	P	P	23 48 32.5	0.0
	0.7nm,0.4s,mb3.7,baz=323,slow=5.3,SNR=3.7						
MKAR	Makanchi Array	53.30	323	P	P	23 49 49.7	-1.3
	3.4nm,0.7s,mb4.4,baz=122,slow=8.3,SNR=29						
KURK	Kurchatov	57.34	326	eP	P	23 50 18.4	-1.8
	4.5nm,0.9s,mb4.5						
BRVK	Borovoye	63.01	326	eP	P	23 50 57.0	-1.9
	3.5nm,0.8s,mb4.5						
BRVK				e		23 51 09.9	
ARU	Arti	70.50	327	eP	P	23 51 44.8	-1.4
	1.8nm,0.5s,mb4.3						
CASY	Casey	76.26	187	P	P	23 52 20.2	+0.5
CASY				e	pP	23 52 30.9	+1.0
ARCES	ARCESS Array B	85.43	340	P	P	23 53 09.1	+1.1
	1.7nm,0.7s,mb4.3,baz=81,slow=6.8,SNR=9.4						
FINES	FINESS Array B	87.16	332	P	P	23 53 18.4	+1.8
	0.5nm,0.5s,mb4.0,baz=104,slow=5.7,SNR=4.9						

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*IDC **03** 23:45:21.6±0.5, 9.11N×126.54E, mb4.5/19, mb1 4.6/19, mb1mx4.5/23, ML5.5/1, MS4.6/3, Ms1 4.6/3, ms1mx4.0/21, Error ellipse: s-maj=30.2km s-min=11.8km az=76.0*

*MAN **03** 23:45:24.1, 9.15N×126.81E, h4^{km}, mb5.4, ML4.4, MS4.7*

*MOS **03** 23:45:24.7±1.1, 9.09N×126.57E, h33^{km}, mb4.7/9, Error ellipse: s-maj=30.6km s-min=10.9km az=107.9*

*BJI **03** 23:45:27.4, 9.04N×126.65E, h61^{km}, mB5.0, mb4.8, Ms4.7, Msz4.6*

*NEIC **03** 23:45:28.8±1.4, 9.05N×126.55E, h52^{km}±13^{km}, mb4.7/24, Error ellipse: s-maj=11.3km s-min=4.6km az=71.0*

ISC 03 23:45:24.5±0.2**, 9.14N**±0.03×**126.93E**±0.03**, h33**^{km}**, n132, σ1§27**/138**, mb4.7**/51**, MS4.6**/3**, 3C-7D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BIPH	Bislig	1.11	211	⇓eP	P	23 45 44.0	+0.3
BIPH				eS	S	23 45 57.1	-0.9
BUTP	Butuan	1.30	262	eP	P	23 45 46.0	-0.5
BUTP				eS	S	23 46 04.8	+1.8
SCPH	Surigao	1.56	294	eP	P	23 45 50.3	+0.2
SCPH				i S	S	23 46 07.7	-1.7
BUKP	Musuan	2.23	236	eP	P	23 46 01.8	+1.9
BUKP				eS	S	23 46 32.7	+6.1
MSLP	Maasin	2.27	296	eP	P	23 46 01.9	+1.5
MATI	Mati	2.28	197	eP	P	23 46 02.6	+2.0
DAV	Davao City (W)	2.46	213	⇓eP	P	23 46 06.0	+3.0
PLP	Palo	2.78	316	eP	P	23 46 09.0	+1.3
PLP				eS	S	23 46 42.9	+2.5
KCP	Kidapawan	2.79	221	⇓eP	P	23 46 09.7	+1.8
KCP				i S	S	23 46 48.2	+7.4
BESP	Borongan	2.85	329	eP	P	23 46 09.8	+1.1
OCLP	Ormoc	2.97	310	eP	P	23 46 12.5	+2.1
TBP	Tagbilaran	3.08	280	⇓eP	P	23 46 12.6	+0.7
TBP				eS	S	23 46 48.7	+0.7
LLP	Lapu-Lapu	3.15	292	eP	P	23 46 12.0	-0.9
LLP						23 46 51.0	
DCPH	Dipolog City	3.58	261	⇓iP	P	23 46 19.5	+0.5
SNPH	Sibulan	3.65	273	⇑eP	P	23 46 20.5	+0.4
CNP	Catarman	4.02	327	eP	P	23 46 26.3	+1.0
GUIM	Jordan	4.52	289	eP	P	23 46 32.8	+0.3
RCP	Roxas	4.77	301	⇓eP	P	23 46 37.0	+1.1
PVCP	Virac	5.20	329	eP	P	23 46 43.6	+1.7
SJMP	San Jose	6.59	301	eP	P	23 47 04.9	+3.3
BUSP	Coron	7.20	294	eP	P	23 47 10.5	+0.4
TGY	Tagaytay City	7.67	311	Pn	Pn	23 47 16.1	-0.6
	74nm,0.3s,baz=262,slow=3.6,SNR=4.2						
TGY	Tagaytay City	7.67	311	P	P	23 47 16.1	-0.5
TGY				pmax	pmax		
	comp=Z,74nm,0.3s						
GZH	Guangzhou	19.02	318	P	P	23 49 47.1	+0.7
GZH				LR	LR		
	comp=N,1μm,17.1s						
GZH				LR	LR		
	comp=E,1μm,14.0s						
GZH				LR	LR		
	comp=Z,3μm,17.1s						
QIZ	Qiongzhong	19.25	303	P	P	23 49 45.5	-3.5
QIZ				AMB	AMB		
	comp=Z,319nm,11.1s						
QIZ				LR	LR		
	comp=E,998nm,16.0s						
QIZ				LR	LR		
	comp=Z,2μm,18.0s						
QIZ	Qiongzhong	19.25	303	P	P	23 49 42.8	-6.3
KAKA	Kakadu	22.37	166	eP	P	23 50 22.6	+1.2
	comp=Z,21nm,0.5s,mb4.8						
JNU	Nakatsue	24.14	8	P	P	23 50 40.6	+2.0
	comp=Z,16nm,0.8s,mb4.5,baz=146,slow=7.3,SNR=6.2						
IPM	Ipoh	26.11	262	⇓eP	P	23 50 58.0	+0.5
FITZ	Fitzroy Crossi	27.10	183	eP	P	23 51 06.7	+0.1
	comp=Z,17nm,0.9s,mb4.6						
FITZ	Fitzroy Crossi	27.10	183	P	P	23 51 06.2	-0.4
	comp=Z,10nm,0.7s,mb4.5,baz=3.3,slow=10,SNR=16						
WRAB	Tennant Creek	29.80	166	eP	P	23 51 29.3	-1.5
	comp=Z,7.1nm,0.7s,mb4.5						
WRA	Warramunga Arr	29.81	166	P	P	23 51 29.9	-0.9
	comp=Z,3.2nm,0.5s,mb4.3,baz=346,slow=9.5,SNR=11						
WRA				PcP	PcP	23 54 33.3	-0.6
	comp=Z,1.1nm,0.9s,baz=315,slow=3.5,SNR=2.6						
WRA	Warramunga Arr	29.81	166	P	P	23 51 29.9	-0.9
WRA						23 54 33.3	
WRA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
WRA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
WB2	Warramunga Arr	29.81	166	eP	P	23 51 29.9	-1.0
MBWA	Marble Bar	30.93	193	eP	P	23 51 39.5	-1.3
	comp=Z,10nm,0.9s,mb4.7						
BJT	Baijiatuau	32.21	344	eP	P	23 51 51.6	-0.3
BJI	Beijing	32.23	344	eP	P	23 51 51.7	-0.4
BJI				AMB	AMB		
	comp=Z,15nm,1.0s,mb4.8						
SNY	Shenyang	32.69	355	⇑P	P	23 51 57.4	+1.4
SNY				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.2						
ASAR	Alice Springs	33.31	168	P	P	23 52 01.1	-0.5
	comp=Z,2.2nm,0.3s,mb4.6,baz=354,slow=6.9,SNR=30						
ASAR				PcP	PcP	23 54 43.4	+0.1
	comp=Z,1.1nm,0.8s,baz=344,slow=2.4,SNR=3.2						
ASPA	Alice Springs	33.31	168	eP	P	23 52 00.1	-1.5
CTA	Charters Tower	34.72	147	P	P	23 52 14.8	+1.0
	comp=Z,7.3nm,0.9s,mb4.6,baz=333,slow=8.4,SNR=3.6						
CTA	Charters Tower	34.72	147	P	P	23 52 14.8	+1.0
CTA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
MDJ	Mudanjiang	35.42	3	eP	P	23 52 21.2	+1.7
	comp=Z,19nm,1.0s,mb5.0						
SHL	Shillong	37.07	301	eP	P	23 52 32.0	-1.6
ASAJ	Asahikawa	37.41	19	P	P	23 52 37.0	+0.8
	comp=Z,2.5nm,0.3s,mb4.5,baz=190,slow=6.1,SNR=3.7						
ASAJ	Asahikawa	37.41	19	P	P	23 52 37.1	+0.8
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
LSA	Lhasa	39.21	306	P	P	23 52 53.2	+1.8
LSA	Lhasa	39.21	306	eP	P	23 52 51.0	-0.4
	comp=Z,2.9nm,0.4s,mb4.4						
FORT	Forrest	39.71	178	eP	P	23 52 55.9	+0.4
	comp=Z,57nm,0.6s,mb5.5						
KLR	Kul'dur	40.16	5	eP	P	23 53 00.0	+0.9
HIA	Hailar	40.44	353	eP	P	23 53 02.6	+1.1
	comp=Z,19nm,1.0s,mb4.8						
KLBR	Kellerberrin	41.44	192	eP	P	23 53 10.3	+0.4
	comp=Z,54nm,1.4s,mb5.0						
MUN	Mundaring	42.15	194	eP	P	23 53 16.2	+0.4
	comp=Z,14nm,0.6s,mb4.8						
SONM	Songino Array	42.30	339	P	P	23 53 16.7	0.0
	comp=Z,0.8nm,0.4s,mb3.7,baz=156,slow=9.3,SNR=9.0						
NWAO	Narrogin (SRO)	42.84	192	P	P	23 53 21.3	-0.2
	comp=Z,8.0nm,0.5s,mb4.8,baz=15,slow=7.4,SNR=13						
NWAO	Narrogin (SRO)	42.84	192	P	P	23 53 21.3	-0.1
NWAO				pmax	pmax		
	comp=Z,8.0nm,0.5s						
NWAO	Narrogin (SRO)	42.84	192	P	P	23 53 21.3	-0.2
STKA	Stephens Creek	43.13	162	P	P	23 53 24.3	+0.5
	comp=Z,7.9nm,0.6s,mb4.6,baz=329,slow=6.8,SNR=8.4						
STKA	Stephens Creek	43.13	162	P	P	23 53 24.3	+0.5
PKI	Pulchoki	43.20	301	eP	P	23 53 22.2	-2.2
	comp=Z,10nm,0.6s,mb4.7						
KKN	Kakani	43.37	301	eP	P	23 53 23.8	-2.0
	comp=Z,11nm,0.6s,mb4.7						
DMN	Daman	43.47	301	eP	P	23 53 21.9	-4.7
GKN	Gorkha	43.98	301	eP	P	23 53 28.5	-2.2
	comp=Z,8.5nm,0.5s,mb4.8						
KOLN	Koldanda	44.79	300	eP	P	23 53 35.6	-1.6
	comp=Z,35nm,0.8s,mb5.2						
ZAK	Zakamensk	45.54	339	eP	P	23 53 44.6	+1.7
HYB	Hyderabad	47.69	285	i P	P	23 53 59.0	-1.2
HYB	Hyderabad	47.69	285	eP	P	23 53 59.0	-1.2
BOD	Bodaibo	49.58	351	eP	P	23 54 13.1	-1.2
POO	Poona	52.22	286	eP	P	23 54 32.0	-2.8
MKAR	Makanchi Array	53.31	323	P	P	23 54 41.4	-1.3
	comp=Z,12nm,0.6s,mb5.0,baz=125,slow=7.6,SNR=59						
MKAR				LR	LR	00 18 40.7	
	comp=Z,404nm,20.1s,MS4.5,baz=104,slow=38						
MKAR	Makanchi Array	53.31	323	i P	P	23 54 41.2	-1.4
MKAR				pmax	pmax		
	comp=Z,9.0nm,0.7s						
KBK	Karagaybulak	56.27	316	P	P	23 55 03.8	-0.5
	SNR=10.0						
UCH	Uchtor	56.42	315	P	P	23 55 05.1	-0.2
	SNR=24						
CHMS	Chumysh	56.53	316	P	P	23 55 04.3	-1.8
	SNR=7.2						
AAK	Ala-Archa	56.58	316	eP	P	23 55 03.8	-2.7
	comp=Z,5.8nm,1.1s,mb4.5						
USP	Ospenovka	56.80	316	P	P	23 55 06.5	-1.5
	SNR=14						
AML	Almayashu	56.97	315	P	P	23 55 08.6	-0.6
	SNR=11						
EKS2	Erkin-Say	57.09	315	P	P	23 55 09.0	-1.1
	SNR=9.7						
KURK	Kurchatov	57.36	326	P	P	23 55 10.5	-1.4
	comp=Z,129nm,0.9s,SNR=32						
KURK	Kurchatov	57.36	326	P	P	23 55 10.4	-1.5
KURK				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.7						
KURK	Kurchatov	57.36	326	eP	P	23 55 10.2	-1.7
	comp=Z,22nm,0.9s,mb5.2						
VOSK	Vostochnaya	62.51	325	P	P	23 55 45.2	-1.9
VOSK				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.7						
BVA0	Borovoye Array	62.96	326	P	P	23 55 48.7	-1.4
BRVK	Borovoye	63.03	326	eP	P	23 55 48.9	-1.7
	comp=Z,14nm,1.0s,mb5.0						
ZRNK	Zerenda	63.71	325	P	P	23 55 53.5	-1.5
ZRNK				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
RPZ	Rata Peaks	66.09	146	P	P	23 56 12.7	+2.1
	comp=Z,11nm,0.6s,mb5.1,baz=256,slow=4.3,SNR=6.8						
URZ	Urewera	66.39	139	P	P	23 56 15.1	+2.5
	comp=Z,7.9nm,0.9s,mb4.7,baz=263,slow=8.1,SNR=2.8						
URZ				LR	LR	00 23 08.2	
	comp=Z,287nm,18.2s,MS4.5,baz=5.2,slow=34						
URZ	Urewera	66.39	139	P	P	23 56 15.1	+2.5
URZ				LR	LR	00 23 08.2	
ARU	Arti	70.52	327	P	P	23 56 36.8	-1.0
	comp=Z,97nm,0.6s,SNR=14						
ARU	Arti	70.52	327	eP	P	23 56 36.5	-1.3
ARU	Arti	70.52	327	eP	P	23 56 36.3	-1.5
	comp=Z,9.7nm,0.6s,mb4.9						
CASY	Casey	76.18	187	eP	P	23 57 11.0	+0.2
	comp=Z,9.0nm,0.8s,mb4.8						
RDF	Al-Radifah	76.38	298	eP	P	23 57 11.4	-1.3
RDF				AMb	AMB	23 57 14.6	
	comp=Z,35nm,0.8s,mb5.3						
MIB	Mutribah	76.52	298	eP	P	23 57 11.9	-1.6
MIB				AMb	AMB	23 57 12.6	
	comp=Z,22nm,0.7s,mb5.2						
RST	Umm Al-Ruwaisa	76.83	298	eP	P	23 57 13.7	-1.6
RST				AMb	AMB	23 57 16.9	
	comp=Z,39nm,1.0s,mb5.3						
RAYN	Ar Rayn	78.59	292	P	P	23 57 23.0	-2.1
	comp=Z,73nm,1.1s,mb5.5,SNR=13						
MZLS	Mizel	78.82	293	P	P	23 57 25.9	-0.4
MCK	McKinley	79.27	27	eP	P	23 57 30.2	+2.3
	comp=Z,10nm,1.1s,mb4.7						
KAMS	Al Khamasin	79.76	289	P	P	23 57 30.0	-1.5
ARSS	Ar Rass	80.43	295	P	P	23 57 34.0	-0.9
TATS	Tathlith	80.87	288	P	P	23 57 36.9	-0.5
DJNS	Zahran al Janu	81.02	287	P	P	23 57 38.8	+0.6
HILS	Ha'il	81.57	296	P	P	23 57 41.0	+0.1
NAMS	An Nimas	82.10	288	P	P	23 57 44.4	+0.6
BLJS	Baljurashi	82.59	289	P	P	23 57 47.0	+0.7
APA	Apatity	82.97	337	⇑iP	P	23 57 47.9	+0.6
APA				i	pP	23 57 57.8	+0.1
APA				pmax	pmax		
	comp=Z,16nm,1.0s,mb5.0						
MALT	Malatya	83.24	308	eP	P	23 57 49.6	+0.4
	comp=Z,4.2nm,1.0s,mb4.4						
DAWY	Dawson	83.46	26	eP	P	23 57 53.3	+3.4
DAWY				e		23 58 06.0	
KBRS	Khaybar	84.00	295	P	P	23 57 54.2	+0.7
KEV	Kevo	84.91	340	ep	P	23 57 58.2	+1.2
INK	Inuvik	85.09	22	P	P	23 58 00.2	+2.3
	comp=Z,1.8nm,0.6s,mb4.4,baz=259,slow=2.7,SNR=7.1						
INK	Inuvik	85.09	22	P	P	23 58 00.3	+2.4
INK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
INK	Inuvik	85.09	22	eP	P	23 58 00.3	+2.4
	comp=Z,4.2nm,0.8s,mb4.6						
ARCES	ARCESS Array B	85.47	340	P	P	23 58 00.3	+0.6
	comp=Z,2.4nm,0.5s,mb4.6,baz=80,slow=5.7,SNR=22						
ARCES	ARCESS Array B	85.47	340	P	P	23 58 00.4	+0.6
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
JMQS	Jabal Moqyreh	86.56	299	P	P	23 58 06.5	+0.4
DBAS	Duba	86.72	297	P	P	23 58 07.5	+0.6
BRTR	Keskin Array B	86.75	310	P	P	23 58 06.0	-0.7
	comp=Z,0.4nm,0.4s,mb4.0,baz=100,slow=3.6,SNR=3.5						
KAF	Kangasniemi	86.92	332	ep	P	23 58 07.6	+0.6
JMOS	Jabal al Moall	87.19	299	P	P	23 58 09.7	+0.6
FINES	FINESS Array B	87.19	332	P	P	23 58 08.2	-0.1
	comp=Z,1.1nm,0.5s,mb4.3,baz=90,slow=5.7,SNR=10						
FINES	FINESS Array B	87.19	332	P	P	23 58 08.3	0.0
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
EIL	Elat	87.25	299	eP	P	23 58 08.4	-1.0
	comp=Z,3.4nm,0.8s,mb4.6						
AKASG	Malin Array Be	87.84	321	P	P	23 58 10.4	-1.3
	comp=Z,0.9nm,0.6s,mb4.2,baz=59,slow=4.4,SNR=5.2						
AKASG	Malin Array Be	87.84	321	P	P	23 58 10.4	-1.3
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MAW	Mawson	88.87	200	P	P	23 58 16.8	+0.6
	comp=Z,1.4nm,0.7s,mb4.4,baz=35,slow=6.3,SNR=4.3						
MAW	Mawson	88.87	200	P	P	23 58 16.8	+0.5
MAW				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KMBO	Kilima Mbogo	89.86	269	P	P	23 58 22.3	0.0
	comp=Z,4.0nm,1.1s,mb4.7,baz=58,slow=11,SNR=5.6						
KMBO				LR	LR	00 38 56.5	
	comp=Z,498nm,20.1s,MS4.9,baz=176,slow=36						
RES	Resolute Bay	92.48	10	eP	P	23 58 35.5	+2.5
	comp=Z,31nm,1.2s,mb5.5						
NB2	NORSAR Subarra	94.05	334	P	P	23 58 39.2	-1.2
	comp=Z,1.0nm,0.6s,mb4.4,baz=67,slow=4.3						
TXAR	Lajitas Array	118.06	50	PKP	PKPdf	00 04 11.6	+2.9
	comp=Z,0.6nm,0.8s,baz=187,slow=0.5,SNR=5.7						

DJA 03 23:47:41.6±0.9**, 7.96S**×**115.37E, h77**^{km}±11^{km}**, MD5.5**/4**, ML4.1**/3**, 6C-2D, Error ellipse: s-maj=22.5km s-min=8.2km az=10.0, Bali Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RATI	Rata	0.77	168	⇓ePg	P	23 47 57.3	-0.7
	561nm,0.2s						
RATI				⇓eSg	S	23 48 08.6	-1.6
INGI	Ingas	0.88	195	⇑ePg	P	23 47 58.7	-0.5
	454nm,0.2s						
INGI				⇑eSg	S	23 48 11.6	-0.8
KEDI	Kedomdong	0.90	125	⇑ePg	P	23 47 58.6	-0.8
	348nm,0.2s						
KEDI				⇑eSg	S	23 48 11.3	-1.5
KELI	Kelakatan	0.91	254	⇑ePg	P	23 47 59.1	-0.5
	282nm,0.2s						
KELI				⇑eSg	S	23 48 11.6	-1.4

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*IDC **03** 23:53:00.3±1.5, 9.23N×126.81E, mb4.0/7, mb1 4.1/7, mb1mx3.9/16, Error ellipse: s-maj=122.0km s-min=19.3km az=71.0*

*MAN **03** 23:53:04.6, 9.17N×126.70E, h4^{km}, mb4.9, ML3.8, MS3.9*

*NEIC **03** 23:53:07.2±0.8, 9.15N×126.70E, h50^{km}, mb4.6/3, Error ellipse: s-maj=76.6km s-min=10.1km az=70.0*

ISC 03 23:53:03.1±0.6**, 9.25N**±0.06×**127.06E**±0.05**, h33**^{km}**, n23, σ1§19**/27**, mb4.1**/10**, 2C, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BUTP	Butuan	1.45	259	eP	P	23 53 25.0	-2.3
SCPH	Surigao	1.64	289	eP	P	23 53 29.6	-0.4
SCPH				eS	S	23 53 48.8	-1.3
MSLP	Maasin	2.34	292	eP	P	23 53 41.2	+1.1
BUKP	Musuan	2.40	236	eP	P	23 53 40.8	-0.1
BUKP				eS	S	23 54 11.1	+1.6
PLP	Palo	2.80	313	eP	P	23 53 47.5	+1.0
PLP				eS	S	23 54 24.0	+4.6
BESP	Borongan	2.83	326	eP	P	23 53 49.8	+2.8
TBP	Tagbilaran	3.19	278	eP	P	23 53 51.6	-0.4
TBP				eS	S	23 54 29.4	0.0
LLP	Lapu-Lapu	3.23	289	eP	P	23 53 51.5	-1.2
DCPH	Dipolog City	3.73	260	⇑eP	P	23 53 58.2	-1.5
SNPH	Sibulan	3.78	272	eP	P	23 54 00.0	-0.4
GUIM	Jordan	4.61	288	eP	P	23 54 13.7	+1.4
IPIL	Ipil	4.67	252	eP	P	23 54 14.8	+1.6
RCP	Roxas	4.83	299	⇑eP	P	23 54 16.4	+1.1
FITZ	Fitzroy Crossi	27.21	183	P	P	23 58 46.2	0.0
	3.5nm,0.9s,mb3.9,baz=25,slow=10.0,SNR=8.7						
WRA	Warramunga Arr	29.88	166	P	P	23 59 09.4	-0.7
	0.7nm,0.4s,mb3.7,baz=346,slow=9.2,SNR=3.0						
ASAR	Alice Springs	33.39	169	P	P	23 59 40.0	-0.9
	0.6nm,0.4s,mb3.9,baz=353,slow=6.4,SNR=4.7						
STKA	Stephens Creek	43.19	162	P	P	00 01 04.6	+1.7
	1.1nm,0.5s,mb3.8,baz=352,slow=9.1,SNR=3.4						
MKAR	Makanchi Array	53.30	323	P	P	00 02 20.1	-1.1
	2.3nm,0.7s,mb4.2,baz=120,slow=8.6,SNR=18						
KURK	Kurchatov	57.34	326	eP	P	00 02 49.1	-1.3
	8.6nm,1.0s,mb4.7						
BRVK	Borovoye	63.01	325	eP	P	00 03 28.2	-0.9
	4.4nm,1.0s,mb4.5						
BRVK				e	pP	00 03 39.2	-0.1
ARU	Arti	70.50	327	P	P	00 04 15.5	-0.8
	1.8nm,0.4s,mb4.3						
ARU				e		00 04 28.3	
ARCES	ARCESS Array B	85.41	340	P	P	00 05 39.5	+1.3
	0.9nm,0.8s,mb4.0,baz=80,slow=7.4,SNR=4.4						
FINES	FINESS Array B	87.15	332	P	P	00 05 47.3	+0.5
	0.8nm,0.8s,mb4.0,baz=90,slow=5.6,SNR=2.6						

WEL 03 23:56:08.4±0.2**, 40.91S**×**173.90E, h80**^{km}±3^{km}**, ML3.5**/8**, 2C-2D, Error ellipse: s-maj=1.5km s-min=1.4km az=0.0, Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NNZ	Nelson	0.50	232	⇓PN	P	23 56 21.7	-0.5
NNZ				SN	S	23 56 31.8	-0.8
TUWZ	Tuamarina	0.52	176	⇓PN	P	23 56 22.2	-0.2
TUWZ				SN	S	23 56 32.3	-0.6
MRW	Makara Radio	0.68	118	⇑PN	P	23 56 24.0	-0.1
MRW				SN	S	23 56 35.4	-0.3
SNZO	South Karori	0.73	123	PN	P	23 56 24.3	-0.3
SNZO				SN	S	23 56 36.3	-0.3
WEL	Wellington	0.76	120	PN	P	23 56 24.6	-0.3
WEL				SN	S	23 56 36.5	-0.6

KIW	**Kapiti Island**	0.77	87	⇑PN	P	23 56 24.8	-0.3
KIW				SN	S	23 56 36.6	-0.7
BSWZ	**Blackbirch Sta**	0.80	181	PN	P	23 56 25.4	0.0
CMWZ	**Cape Campbell**	0.87	164	PN	P	23 56 27.3	+1.2
BHW	**Baring Head**	0.89	124	PN	P	23 56 25.8	-0.5
CAW	**Cannon Point**	0.91	103	PN	P	23 56 26.0	-0.5
QRZ	**Quartz Range**	1.04	274	PN	P	23 56 27.0	-1.2
QRZ				SN	S	23 56 40.8	-2.2
THZ	**Tophouse**	1.13	221	PN	P	23 56 29.2	-0.1
MSWZ	**Moikau Station**	1.14	117	PN	P	23 56 28.7	-0.7
MSWZ				SN	S	23 56 43.5	-1.6
MTW	**Mount Morrison**	1.24	102	PN	P	23 56 29.8	-0.9
PAWZ	**Paruwai Farm**	1.25	113	PN	P	23 56 30.0	-0.8
MRZ	**Mangatainoka R**	1.30	80	PN	P	23 56 30.3	-1.4
WAZ	**Wanganui**	1.42	36	PN	P	23 56 33.4	+0.2
KHZ	**Kahutara**	1.53	190	PN	P	23 56 34.3	-0.3
NWEZ	**Newall Road**	1.64	359	PN	P	23 56 35.7	-0.3
NEZ	**North Egmont**	1.65	5	PN	P	23 56 35.8	-0.3
PKE	**Pukeiti**	1.71	2	PN	P	23 56 36.7	-0.3
DSZ	**Denniston Nort**	1.79	241	PN	P	23 56 36.9	-1.1
TSZ	**Takapari Road**	1.79	62	PN	P	23 56 36.3	-1.7
BFZ	**Birch Farm**	1.80	83	*e*PN	P	23 56 36.8	-1.3
VRZ	**Vera Road**	1.90	21	PN	P	23 56 39.5	0.0
WNVZ	**Wahianoa**	2.05	40	PN	P	23 56 40.9	-0.6
MOVZ	**Moawhango**	2.07	44	PN	P	23 56 40.6	-1.2
TUVZ	**Tukino**	2.12	40	PN	P	23 56 42.0	-0.6
NGZ	**Ngauruhoe**	2.17	38	*e*PN	P	23 56 42.1	-1.1
TWVZ	**Taurewa**	2.18	33	*e*PN	P	23 56 43.0	-0.5
LTZ	**Lake Taylor**	2.23	213	PN	P	23 56 43.0	-1.1
PWZ	**Pawanui**	2.43	70	*e*PN	P	23 56 44.1	-2.8
HIZ	**Hauiti**	2.50	17	PN	P	23 56 47.1	-0.9
BKZ	**Black Stump Fm**	2.65	50	*e*PN	P	23 56 46.7	-3.2
MQZ	**McQueen's Vall**	2.94	198	PN	P	23 56 51.0	-3.1
MQZ				SN	S	23 57 22.2	-6.2
MWZ	**Matawai**	3.80	49	*e*PN	P	23 57 00.7	-5.3
ODZ	**Otahua Downs**	4.77	209	*e*PN	P	23 57 15.5	-3.9
JCZ	**Jackson Bay**	4.94	229	*e*PN	P	23 57 18.0	-3.8

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*IDC **04** 00:03:54.3±1.2, 9.19N×126.84E, mb4.1/9, mb1 4.2/9, mb1mx4.0/17, Error ellipse: s-maj=87.5km s-min=16.0km az=75.0*

*MAN **04** 00:03:57.4, 9.16N×126.83E, h13^{km}, mb4.6, ML3.5, MS3.4*

*NEIC **04** 00:04:02.7±0.7, 9.13N×126.71E, h65^{km}, mb4.4/5, Error ellipse: s-maj=48.7km s-min=7.8km az=73.0*

ISC 04 00:03:57.8±1.2**, 9.13N**±0.04×**126.93E**±0.08**, h40**^{km}±11^{km}**, n29, σ1^{s}05**/34**, mb4.1**/13**, 2C, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BIPH	**Bislig**	1.10	211	⇑*e*P	**P**	**00 04 16.1**	**-0.8**
BIPH				*e*S	**S**	**00 04 29.5**	**-1.6**
BUTP	**Butuan**	1.30	263	*e*P	**P**	**00 04 18.1**	**-1.9**
SCPH	**Surigao**	1.56	295	*i* P	**P**	**00 04 22.8**	**-0.9**
SCPH				*i* S	**S**	**00 04 42.6**	**-0.3**
BUKP	**Musuan**	2.23	236	*e*P	**P**	**00 04 34.7**	**+1.6**
MSLP	**Maasin**	2.27	296	*e*P	**P**	**00 04 35.2**	**+1.4**
CGP	**Cagayan de Oro**	2.31	253	*e*P	**P**	**00 04 34.1**	**-0.2**
CGP				*e*S	**S**	**00 05 02.0**	**+0.3**
PLP	**Palo**	2.79	317	*e*P	**P**	**00 04 41.7**	**+0.5**
PLP				*e*S	**S**	**00 05 13.8**	**-0.1**
BESP	**Borongan**	2.86	329	*e*P	**P**	**00 04 43.2**	**+1.1**
OCLP	**Ormoc**	2.98	310	*e*P	**P**	**00 04 47.2**	**+3.3**
TBP	**Tagbilaran**	3.08	281	*e*P	**P**	**00 04 45.5**	**+0.3**
LLP	**Lapu-Lapu**	3.15	292	*e*P	**P**	**00 04 45.0**	**-1.3**
DCPH	**Dipolog City**	3.58	262	⇑*i*P	**P**	**00 04 51.7**	**-0.6**
DCPH				*e*S	**S**	**00 05 35.5**	**+1.6**
SNPH	**Sibulan**	3.66	274	*e*P	**P**	**00 04 54.0**	**+0.6**
GUIM	**Jordan**	4.53	290	*e*P	**P**	**00 05 06.2**	**+0.4**
FITZ	**Fitzroy Crossi**	27.09	183	*e*P	**P**	**00 09 39.8**	**+0.6**
	1.9nm,0.4s,mb4.0						
FITZ	**Fitzroy Crossi**	27.09	183	P	**P**	**00 09 39.9**	**+0.7**
	2.4nm,0.7s,mb3.8,baz=350,slow=16,SNR=8.2						
WRA	**Warramunga Arr**	29.79	166	P	**P**	**00 10 04.6**	**+1.2**
	0.6nm,0.5s,mb3.6,baz=346,slow=9.3,SNR=4.2						
ASAR	**Alice Springs**	33.30	168	P	**P**	**00 10 33.8**	**-0.4**
	0.6nm,0.4s,mb3.8,baz=354,slow=7.0,SNR=8.4						
FORT	**Forrest**	39.69	178	*e*P	**P**	**00 11 28.5**	**+0.4**
	20nm,0.7s,mb5.0						
SONM	**Songino Array**	42.31	339	P	**P**	**00 11 49.6**	**+0.1**
	0.2nm,0.4s,mb3.1,baz=157,slow=11,SNR=3.2						
NWAO	**Narrogin (SRO)**	42.83	192	P	**P**	**00 11 54.4**	**+0.5**
	5.8nm,0.7s,mb4.4,baz=18,slow=6.4,SNR=4.0						
NWAO	**Narrogin (SRO)**	42.83	192	P	**P**	**00 11 54.4**	**+0.5**
STKA	**Stephens Creek**	43.12	162	P	**P**	**00 11 57.0**	**+0.6**
	2.0nm,0.9s,mb3.8,baz=21,slow=6.8,SNR=3.0						
MKAR	**Makanchi Array**	53.33	323	P	**P**	**00 13 14.3**	**-1.1**
	2.7nm,0.6s,mb4.3,baz=124,slow=7.9,SNR=20						
KURK	**Kurchatov**	57.37	326	*e*P	**P**	**00 13 43.1**	**-1.5**
	4.5nm,0.9s,mb4.5						
BRVK	**Borovoye**	63.04	326	*e*P	**P**	**00 14 21.6**	**-1.6**
	1.6nm,0.6s,mb4.3						
ZRNK	**Zerenda**	63.72	325	*e*P	**P**	**00 14 25.8**	**-1.9**
	2.8nm,0.9s,mb4.3						
ARCES	**ARCESS Array B**	85.48	340	P	**P**	**00 16 33.5**	**+1.2**
	2.2nm,0.9s,mb4.3,baz=76,slow=5.7,SNR=6.0						
FINES	**FINESS Array B**	87.20	332	P	**P**	**00 16 41.4**	**+0.4**
	3.4nm,1.1s,mb4.5,baz=117,slow=4.3,SNR=3.5						

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*NEIC **04** 00:13:50.2±1.0, 23.66S×179.99E, h560^{km}, mb4.5/4, Error ellipse: s-maj=43.3km s-min=17.6km az=161.0*

*IDC **04** 00:13:54.3±11.0, 23.42S×179.82E, h604^{km}±148^{km}, mb3.2/6, mb1 3.4/6, mb1mx3.3/10, Error ellipse: s-maj=95.8km s-min=54.2km az=162.0*

ISC 04 00:13:52.3±1.4**, 23.7S**±0.4×**179.8E**±0.2**, h600**^{km}**, n11, σ0^{s}40**/11**, mb4.0**/9**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	**Charters Tower**	31.33	270	P	**P**	**00 19 27.6**	**+0.8**
	6.9nm,0.3s,mb4.7,baz=92,slow=11,SNR=26						
CTAO	**Charters Tower**	31.33	270	*e*P	**P**	**00 19 27.2**	**+0.4**
	7.6nm,0.4s,mb4.7						
TOO	**Toolangi**	32.46	237	*e*P	**P**	**00 19 36.3**	**+0.1**
	6.6nm,2.0s,mb3.9						
STKA	**Stephens Creek**	34.68	248	P	**P**	**00 19 55.1**	**+0.4**
	0.4nm,0.5s,mb3.4,baz=130,slow=21,SNR=4.9						
ASAR	**Alice Springs**	41.93	260	P	**P**	**00 20 53.8**	**+0.2**
	1.8nm,0.5s,mb3.9,baz=98,slow=7.7,SNR=23						
WB2	**Warramunga Arr**	42.27	266	*e*P	**P**	**00 20 56.0**	**-0.2**
WRAB	**Tennant Creek**	42.27	266	*e*P	**P**	**00 20 55.6**	**-0.7**
	4.7nm,0.3s,mb4.5						
WRA	**Warramunga Arr**	42.28	266	P	**P**	**00 20 56.1**	**-0.2**
	2.6nm,0.3s,mb4.2,baz=96,slow=8.4,SNR=37						
FORT	**Forrest**	46.26	249	*e*P	**P**	**00 21 26.3**	**-0.6**
	27nm,0.6s,mb5.0						
FITZ	**Fitzroy Crossi**	50.70	265	P	**P**	**00 22 00.3**	**+0.2**
	3.1nm,0.9s,mb3.7,baz=170,slow=10,SNR=9.0						
TXAR	**Lajitas Array**	90.42	58	P	**P**	**00 25 52.3**	**0.0**
	0.2nm,0.6s,mb3.2,baz=227,slow=6.4,SNR=4.4						

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*GUC **04** 00:20:57.0±0.6, 34.91S×70.46W, h4^{km}, MD4.1, ML3.1*

*NEIC **04** 00:20:57.0, 34.91S×70.46W, h4^{km}, ML3.1(GUC), After GUC.*

ISC 04 00:20:56.3±1.4**, 34.94S**±0.04×**70.39W**±0.08**, h3**^{km}±7^{km}**, n13, σ0^{s}64**/20**, 1C-2D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFDO	**San Fernando**	0.61	302	⇓*i*P	**Pg**	**00 21 08.4**	**-0.1**
CICH	**Cipreses**	0.62	358	⇓*i*P	**Pg**	**00 21 09.0**	**+0.3**
CICH				*i* S	**Sg**	**00 21 18.4**	**+1.3**
NICH	**Los Niches**	0.69	265	*e*P	**Pg**	**00 21 09.6**	**-0.5**
NICH				*i* S	**Sg**	**00 21 19.5**	**+0.2**
CACH	**El Canelo**	0.84	348	*i* P	**Pg**	**00 21 12.6**	**-0.5**
CACH				*i* S	**Sg**	**00 21 25.0**	**+0.7**
CHCH	**Chadas Angostu**	1.03	348	*e*P	**Pb**	**00 21 16.1**	**-0.4**
LMEL	**Las Melosas**	1.10	8	*e*P	**Pb**	**00 21 17.5**	**-0.2**
LMEL				*i* S	**Sb**	**00 21 32.7**	**+0.3**
LMEL				AMP		00 21 35.1	
	comp=E,382nm,0.3s						
LNV	**Longovilo**	1.30	319	⇑*i*P	**Pb**	**00 21 20.3**	**-0.7**
LNV				*i* S	**Sb**	**00 21 37.4**	**-0.5**
PCH	**Pirque**	1.32	355	*e*P	**Pb**	**00 21 20.8**	**-0.7**
CLCH	**Cerro Calan**	1.55	355	*e*P	**Pn**	**00 21 24.2**	**-0.8**
CLCH				AMP		00 21 56.4	
	comp=N,574nm,0.7s						
FCH	**Farellones**	1.61	3	*e*P	**Pn**	**00 21 26.0**	**+0.1**
FCH				*i* S	**Sb**	**00 21 47.8**	**+0.7**
FCH				AMP		00 22 04.3	
	comp=N,284nm,0.2s						
LCCH	**Las Cruces**	1.76	326	*i* P	**Pn**	**00 21 28.2**	**+0.2**
PEL	**Peldehue**	1.81	352	*e*P	**Pn**	**00 21 27.9**	**-0.9**
CCHI	**Chillan**	2.15	219	*e*P	**Pn**	**00 21 33.7**	**+0.1**
CCHI				*i* S	**Sn**	**00 22 02.5**	**+1.4**
CCHI				AMP		00 22 05.6	
	comp=E,806nm,0.6s						

MAN 04 00:26:19.3, 9.19N×126.76E, h14^{km}, mb4.5, ML3.4, MS3.3, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BIPH	**Bislig**	1.08	202	*e*P	Pb	00 26 37.3	-1.9
BIPH				*i* S	Sb	00 26 50.8	-2.1
SCPH	**Surigao**	1.38	295	*i* P	Pn	00 26 43.1	-1.3
SCPH				*e*S	Sb	00 27 02.8	+0.9
MSLP	**Maasin**	2.10	297	*e*P	Pn	00 26 56.3	+1.8
BUKP	**Musuan**	2.13	232	*e*P	Pn	00 26 55.2	+0.2
BUKP				*e*S	Sn	00 27 23.9	+2.5
PLP	**Palo**	2.63	318	*e*P	Pn	00 27 02.3	+0.2
PLP				*e*S	Sn	00 27 33.9	-0.2
TBP	**Tagbilaran**	2.90	280	*e*P	Pn	00 27 06.7	+0.7

IDC 04 00:29:13.8±9.3**, 15.13S**×**173.98W, mb4.1**/2**, mb1 4.4**/2**, mb1mx3.8**/10**, Error ellipse: s-maj=474.0km s-min=50.7km az=142.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	49.36	257	P	P	00 38 05.1	-2.2
	0.7nm,0.7s,baz=89,slow=7.0,SNR=4.8						
ASAR	**Alice Springs**	49.66	252	P	P	00 38 07.9	-1.7
	7.0nm,0.9s,baz=87,slow=8.3,SNR=29						
KHC	**Kasperske Hory**	145.53	351	*e*P	PKPbc	00 48 51.0	-3.5
KHC				x	x	00 48 54.0	
GERES	**GERESS Array B**	145.79	351	PKPbc	PKPbc	00 48 54.2	-1.0
	0.5nm,0.8s,baz=27,slow=4.4,SNR=6.1						

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*ISK **04** 00:46:45.0, 37.36N×34.12E, h5^{km}, MD3.5*

ISC 04 00:46:45.2±1.6**, 37.35N**±0.06×**34.14E**±0.04**, h4**^{km}±13^{km}**, n14, σ0^{s}53**/18**, 1C, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NIG	**Nigde**	0.85	26	*i* PG	**Pg**	**00 47 01.8**	**-0.3**
IKL	**Isikli**	1.17	198	*i* PN	**Pn**	**00 47 07.7**	**-0.6**
IKL				*i* SN	**Sn**	**00 47 24.6**	**-0.2**
CEYT	**Ceyhan**	1.33	104	*i* PN	**Pn**	**00 47 11.4**	**+0.8**
HDMB	**Hadim**	1.38	254	*i* PN	**Pn**	**00 47 10.9**	**-0.4**
HDMB				*i* SN	**Sn**	**00 47 30.4**	**+0.2**
KONT	**Konya--Tatoy**	1.53	293	PN	**Pn**	**00 47 14.3**	**+0.8**
COBT	**Iskenderun**	1.89	115	⇑*i*P	**Pn**	**00 47 19.0**	**+0.4**
COBT				*i* S	**Sn**	**00 47 42.8**	**-0.3**
HTY	**Hatay**	2.02	127	PN	**Pn**	**00 47 21.5**	**+1.0**
KAMT	**Kaman**	2.04	351	PN	**Pn**	**00 47 20.3**	**-0.5**
KIZT	**Kizilcal**	2.35	311	PN	**Pn**	**00 47 25.5**	**+0.3**
GAZ	**Gaziantep**	2.46	93	PN	**Pn**	**00 47 26.6**	**-0.1**
GZT	**Gaziantep**	2.73	89	*i* P	**Pn**	**00 47 29.7**	**-0.9**
GZT				*i* S	**Sn**	**00 48 04.4**	**-0.1**
BCK	**Bucak**	2.83	273	PN	**Pn**	**00 47 32.3**	**+0.2**
ELL	**Elmali**	3.44	261	*e*PN	**Pn**	**00 47 40.1**	**-0.6**
MALT	**Malatya**	3.53	73	*e*PN	**Pn**	**00 47 42.2**	**+0.2**

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*STR **04** 00:49:16.7±0.3, 42.74N×0.43E, h10^{km}±1^{km}, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LDG **04** 00:49:17.0±0.1, 42.70N×0.43E, h2^{km}, Md2.3/2, Ml2.0/6, Error ellipse: s-maj=1.4km s-min=1.0km az=28.0*

*MDD **04** 00:49:17.5±0.4, 42.71N×0.45E, h8^{km}±5^{km}, mbLg1.6/9, Error ellipse: s-maj=3.0km s-min=2.1km az=19.0, PRXIMO*

ISC 04 00:49:15.8±0.4**, 42.74N**±0.03×**0.47E**±0.02**, h10**^{km}**, n28, σ1^{s}21**/46**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RESF	**Ens**	0.12	305	Pg	**Pg**	**00 49 20.2**	**+1.5**
RESF				Sg	**Sg**	**00 49 22.4**	**+1.7**
RESF	**Ens**	0.12	305	P	**Pg**	**00 49 20.3**	**+1.6**
RESF				S	**Sg**	**00 49 22.4**	**+1.7**
MELF	**Melles**	0.25	58	Pg	**Pg**	**00 49 22.9**	**+1.8**
MELF				Sg	**Sg**	**00 49 26.7**	**+2.0**
MELF	**Melles**	0.25	58	P	**Pg**	**00 49 23.0**	**+1.9**
MELF				S	**Sg**	**00 49 26.9**	**+2.2**
EPF	**Esparros**	0.30	342	*e*Pg	**Pg**	**00 49 23.8**	**+1.7**
EPF				*e*Sg	**Sg**	**00 49 28.3**	**+1.9**
	24nm,0.2s						
VIEF	**Viey**	0.36	294	Pg	**Pg**	**00 49 23.7**	**+0.6**
VIEF				Sg	**Sg**	**00 49 28.5**	**+0.5**
VIEF	**Viey**	0.36	294	P	**Pg**	**00 49 23.8**	**+0.7**
VIEF				S	**Sg**	**00 49 28.5**	**+0.5**
MLS	**Moulis**	0.51	65	Pg	**Pg**	**00 49 27.4**	**+1.3**
MLS				Sg	**Sg**	**00 49 34.7**	**+1.7**
MLS	**Moulis**	0.51	65	P	**Pg**	**00 49 27.6**	**+1.4**
MLS				S	**Sg**	**00 49 34.1**	**+1.1**
SALF	**Salau**	0.53	88	Pg	**Pg**	**00 49 27.3**	**+0.7**
SALF	**Salau**	0.53	88	P	**Pg**	**00 49 27.3**	**+0.7**
SALF				S	**Sg**	**00 49 34.6**	**+0.9**
CSOR	**Sort**	0.61	126	Pg	**Pg**	**00 49 28.6**	**+0.4**
ETSF	**Etsaut**	0.77	282	*e*Pg	**Pg**	**00 49 31.1**	**-0.2**
ETSF				*e*Sg	**Sg**	**00 49 41.1**	**-0.6**
	13nm,0.4s						
CORG	**Organya**	0.81	129	Pg	**Pg**	**00 49 32.2**	**+0.1**
CAVN	**Les Avellanes**	0.88	166	Pg	**Pg**	**00 49 33.3**	**-0.2**
CLLI	**Llivia**	1.14	103	Pg	**Pg**	**00 49 38.5**	**-0.2**
ESAC	**San Caprasio**	1.23	215	Pg	**Pg**	**00 49 40.2**	**-0.3**
	1.8nm,0.1s,SNR=7.9						
ESAC				Lg		00 49 56.9	
	23nm,0.2s,SNR=7.9						
SJPF	**Ste Jean**	1.30	287	*e*Pg	**Pg**	**00 49 40.7**	**-1.1**
SJPF				*e*Sg	**Sg**	**00 49 58.0**	**-1.1**
	2.6nm,0.2s						
CBRU	**Bruguera**	1.35	109	Pg	**Pg**	**00 49 41.6**	**-1.1**
MTLF	**Montolieu**	1.42	64	*e*Pg	**Pg**	**00 49 44.5**	**+0.4**
MTLF				*e*Sg	**Sg**	**00 50 03.5**	**+0.5**
	4.2nm,0.2s						
EPOB	**Poblet**	1.46	162	Pg	**Pg**	**00 49 43.7**	**-1.3**
	1.1nm,0.1s,SNR=7.9						
EPOB				Lg		00 50 02.2	
	3.5nm,0.1s,SNR=7.9						
EALK	**Alkurruntz**	1.53	289	Pg	**Pg**	**00 49 47.1**	**+0.8**
	SNR=7.9						
EALK				Lg		00 50 06.4	
	2.6nm,0.2s,SNR=7.9						
EJON	**La Jonquera**	1.81	98	Pg	**Pg**	**00 49 51.4**	**-0.6**
	SNR=7.9						
EJON				Lg		00 50 15.2	
	2.3nm,0.2s,SNR=7.9						
LFF	**La Frestale**	2.21	5	*e*Pn	**Pn**	**00 49 53.4**	**+0.4**
LFF				*e*Pg	**Pg**	**00 49 58.5**	**-1.4**
LFF				*e*Sg	**Sg**	**00 50 28.4**	**-0.9**
	2.0nm,0.3s						
CAF	**Calviac**	2.47	27	*e*Pn	**Pn**	**00 49 57.4**	**+0.6**
CAF				*e*Pg	**Pg**	**00 50 03.5**	**-1.7**
CAF				*e*Sg	**Sg**	**00 50 36.7**	**-1.4**
	1.0nm,0.2s						
EMOS	**Mosqueruela**	2.48	197	Lg		00 50 32.2	
	0.7nm,0.2s,SNR=7.9						
RJF	**Les Rejaudoux**	2.67	16	*e*Pg	**Pg**	**00 50 07.4**	**-1.8**
RJF				*e*Sg	**Sg**	**00 50 43.0**	**-1.8**
	1.1nm,0.2s						
LASF	**Ste Croix**	2.81	60	*e*Pg	**Pg**	**00 50 09.6**	**-2.3**
LASF				*e*Sg	**Sg**	**00 50 46.5**	**-2.8**
	0.6nm,0.2s						

MAN 04 01:31:33.7, 17.34N×120.15E, h29^{km}, mb3.9, ML2.7, MS2.4, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ABRA	**Dolores**	0.62	60	*e*P	Pb	01 31 46.6	+0.5
ABRA				*e*S	Sb	01 31 56.4	+2.0
BOLP	**Bolinao**	0.98	193	*e*P	Pn	01 31 51.7	+0.1
BOLP				*e*S	Sb	01 32 03.5	-1.1
BCPH	**Baguio City Da**	1.04	156	⇑*i*P	Pn	01 31 51.9	-0.5
BCPH				*i* S	Sn	01 32 06.5	+0.4
PIP	**Pasuquin**	1.08	24	⇓*i*P	Pn	01 31 53.6	+0.5
PIP						01 32 06.9	
APYP	**Conner**	1.17	63	*e*P	Pn	01 31 51.9	-2.4
APYP				*e*S	Sn	01 32 06.8	-2.5
CAUP	**Cauayan**	1.65	103	*e*P	Pn	01 32 00.7	-0.5

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*THE **04** 01:42:40.8, 38.38N×21.61E, h4^{km}, ML3.1*

*NEIC **04** 01:42:41.6, 38.51N×21.61E, h7^{km}, MD3.3(ATH), After ATH.*

*ATH **04** 01:42:41.1, 38.49N×21.61E, h5^{km}, MD3.3/9*

ISC 04 01:42:40.7±0.4**, 38.42N**±0.02×**21.64E**±0.03**, h5**^{km}**, n25, σ1^{s}13**/41**, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	0.39	201	*e*Pb	**Pb**	**01 42 50.9**	**+1.2**
RLS				*e*Sb	**Sb**	**01 42 58.5**	**+2.8**
EVR	**Evrytania**	0.51	15	*e*PB	**Pb**	**01 42 50.1**	**-1.6**
EVR				*e*SB	**Sb**	**01 42 57.1**	**-2.1**
AGG	**Agios Georgios**	0.81	42	*e*Pg	**Pg**	**01 42 56.3**	**-0.5**
AGG				*e*Sg	**Sg**	**01 43 09.6**	**+2.0**
LKD	**Levkas**	0.83	290	*e*Pg	**Pg**	**01 42 56.1**	**-1.1**
LKD				*e*Sg	**Sg**	**01 43 07.8**	**-0.5**
VLS	**Valsamata**	0.86	254	*e*PG	**Pg**	**01 42 57.0**	**-1.0**
VLS				*e*SB	**Sb**	**01 43 11.0**	**+1.6**
LKR	**Lokris**	1.09	78	*e*PN	**Pn**	**01 43 01.8**	**-0.7**
ITM	**Ithomi**	1.26	170	*e*PG	**Pg**	**01 43 05.9**	**0.0**
JAN	**Janina**	1.38	334	*e*PB	**Pb**	**01 43 05.9**	**-0.7**
MEV	**Metsovon**	1.40	347	*e*Pb	**Pb**	**01 43 06.6**	**-0.3**
	comp=Z,5.0nm,0.5s						
MEV				*e*Sb	**Sb**	**01 43 27.4**	**+2.5**
IGT	**Igoumenitsa**	1.50	318	*e*Pb	**Pb**	**01 43 08.1**	**-0.7**
IGT				*e*Sb	**Sb**	**01 43 29.1**	**+1.0**
NEO	**Neokhori**	1.52	54	*e*PB	**Pb**	**01 43 10.0**	**+1.0**
NSAL	**Nisos Salamina**	1.53	109	*e*PG	**Pg**	**01 43 10.0**	**-1.2**
XOR	**Xorichti**	1.53	52	*e*Pb	**Pb**	**01 43 09.0**	**-0.3**
XOR				*e*Sb	**Sb**	**01 43 30.0**	**+1.1**
PTL	**Penteli**	1.79	101	*e*PN	**Pn**	**01 43 16.0**	**+3.4**
LIT	**Litokhoron**	1.80	21	*e*Pb	**Pb**	**01 43 12.5**	**-1.3**
	comp=Z,3.0nm,0.3s						
LIT				*e*Sb	**Sb**	**01 43 37.4**	**+0.8**
KZN	**Kozani**	1.88	3	*e*PG	**Pg**	**01 43 14.9**	**-3.4**
AOS	**Alonnisos**	1.90	66	*e*Pb	**Pb**	**01 43 13.4**	**-2.2**
VLI	**Veliai**	1.99	148	*e*PG	**Pg**	**01 43 19.6**	**-0.9**
PAIG	**Paliouri**	2.18	46	*e*Pn	**Pn**	**01 43 17.8**	**-0.4**
PAIG				*e*Sn	**Sn**	**01 43 47.0**	**+1.1**
FNA	**Florina**	2.37	355	*e*Pn	**Pn**	**01 43 21.0**	**+0.2**
FNA				*e*Sn	**Sn**	**01 43 51.1**	**+0.6**
GRG	**Griva**	2.60	13	*e*Pn	**Pn**	**01 43 24.0**	**-0.1**
GRG				*e*Sn	**Sn**	**01 43 56.5**	**0.0**
OUR	**Ouranopolis**	2.63	43	*e*Pn	**Pn**	**01 43 23.9**	**-0.7**
OUR				*e*Sn	**Sn**	**01 43 58.9**	**+1.5**
SOH	**Sokhos**	2.73	28	*e*Pn	**Pn**	**01 43 26.1**	**0.0**
SOH				*e*Sn	**Sn**	**01 44 00.4**	**+0.5**
KNT	**Kendrikon**	2.90	19	*e*Pn	**Pn**	**01 43 28.3**	**-0.2**
KNT				*e*Sn	**Sn**	**01 44 04.2**	**+0.1**
SRS	**Serrai**	3.08	29	*e*Pn	**Pn**	**01 43 30.4**	**-0.6**
SRS				*e*Sn	**Sn**	**01 44 09.0**	**+0.3**

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*NEIC **04** 02:05:32.0, 44.90N×74.89W, h4^{km}, ML2.9(LDO), After LDO.*

OTT 04 02:05:31.5±0.1**, 44.89N×74.92W, h4**^{km}**, MN3.1**/25**, 1C-3D, New York**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSNY	**Massena**	0.11	21	PG	Pg	02 05 33.8	-0.1
MSNY				SG	Sg	02 05 34.8	-0.7
MSNY	**Massena**	0.11	21	*e*P	Pg	02 05 33.8	-0.1
MSNY				*e*S	Sg	02 05 35.1	-0.4
WBO	**Williamsburg**	0.28	293	⇑PG	Pg	02 05 40.8	+3.8
WBO				SG	Sg	02 05 44.7	+3.9
WBO				Trac		02 05 48.7	
	comp=Z,109nm,0.0s						
PTN	**Potsdam (NY)**	0.33	188	PG	Pg	02 05 37.9	-0.1
PTN				SG	Sg	02 05 41.6	-0.7
PTN	**Potsdam (NY)**	0.33	188	*e*P	Pg	02 05 37.9	-0.2
LOZ	**Lake Ozonia**	0.36	138	PG	Pg	02 05 38.1	-0.7
LOZ				SG	Sg	02 05 43.0	-0.6
LOZ	**Lake Ozonia**	0.36	138	*e*P	Pg	02 05 38.0	-0.8
LOZ				*e*S	Sg	02 05 42.8	-0.8
BGR	**Bangor (NY)**	0.39	99	PG	Pg	02 05 37.2	-2.1
BGR				SG	Sg	02 05 44.0	-0.7
ALFO	**Alfred**	0.74	2	⇓PG	Pg	02 05 44.8	-1.4
ALFO				SG	Sg	02 05 54.5	-1.6
ALFO				Trac		02 05 55.9	
	comp=Z,157nm,0.1s						
OTT	**Ottawa**	0.76	312	PG	Pg	02 05 45.6	-1.0
OTT				SG	Sg	02 05 55.5	-1.2
OTT				Trac		02 05 58.7	
	comp=Z,60nm,0.1s						
OTT				Trac		02 05 58.8	
	comp=Z,60nm,0.1s						
GAC	**Glen Almond**	0.90	334	⇓PG	Pg	02 05 47.7	-1.8
GAC				SG	Sg	02 05 59.2	-2.4
GAC				Trac		02 06 00.3	
	comp=Z,98nm,0.3s						
GAC				Trac		02 06 01.1	
	comp=Z,142nm,0.2s						
MPPO	**Murphy's Point**	0.96	263	PG	Pg	02 05 49.1	-1.7
MPPO				SG	Sg	02 06 01.9	-1.7
MPPO				Trac		02 06 06.7	
	comp=Z,41nm,0.0s						
NCB	**Newcomb**	1.05	151	*e*P	Pb	02 05 49.8	-2.1
MNT	**Montreal**	1.10	56	PG	Pg	02 05 50.9	-2.6
MNT				SG	Sg	02 06 05.1	-3.1
MNT				Trac		02 06 06.7	
	comp=Z,50nm,0.1s						
MRHQ	**Morin Heights**	1.11	26	⇓PG	Pg	02 05 51.1	-2.6
MRHQ				SG	Sg	02 06 06.4	-2.2
MRHQ				Trac		02 06 08.5	
	comp=Z,41nm,0.1s						
MIV	**Mineville/With**	1.28	129	PG	Pg	02 05 53.6	-3.5
MIV				SG	Sg	02 06 11.1	-3.2
MIV	**Mineville/With**	1.28	129	*e*P	Pb	02 05 53.6	-2.3
KGNO	**Kingston**	1.31	240	PG	Pg	02 05 55.2	-2.4
KGNO				SG	Sg	02 06 12.1	-3.0
KGNO				SG	Sg	02 06 12.2	-2.8
KGNO				Trac		02 06 17.2	
	comp=Z,45nm,0.1s						
PLVO	**Plevna**	1.54	276	PN	Pn	02 05 58.9	-1.0
PLVO				SN	Sn	02 06 20.3	-0.1
PLVO				Trac		02 06 22.9	
	comp=Z,59nm,0.1s						
ACCN	**Adirondack Com**	1.76	149	*e*P	Pn	02 06 01.4	-1.5
ACCN				*e*S	Sn	02 06 24.4	-1.6
PECO	**Prince Edward**	1.77	238	PN	Pn	02 06 02.8	-0.4
PECO				SN	Sn	02 06 25.9	-0.5
PECO				SG	Sg	02 06 26.9	-3.4
PECO				Trac		02 06 31.3	
	comp=Z,40nm,0.1s						
PEMO	**Pembroke**	1.82	296	PN	Pn	02 06 02.9	-1.0
PEMO				SN	Sn	02 06 28.1	+0.4
PEMO				Trac		02 06 31.0	
	comp=Z,19nm,0.1s						
MOQ	**Mont Orford**	1.93	77	PN	Pn	02 06 05.5	0.0
MOQ				SG	Sg	02 06 29.9	-6.0
MOQ				Trac		02 06 32.3	
	comp=Z,20nm,0.1s						
DELO	**Deloro Mine**	1.96	260	PN	Pn	02 06 04.9	-1.0
DELO				SN	Sn	02 06 30.7	-0.5
DELO				Trac		02 06 35.3	
	comp=Z,49nm,0.1s						
CRLO	**Chalk River**	2.08	304	PN	Pn	02 06 05.2	-2.3
CRLO				SN	Sn	02 06 32.5	-1.6
CRLO				Trac		02 06 36.9	
	comp=Z,17nm,0.1s						
BANO	**Bancroft**	2.14	274	PN	Pn	02 06 07.0	-1.4
BANO				SN	Sn	02 06 33.8	-2.0
BANO				Trac		02 06 41.6	
	comp=Z,30nm,0.1s						
HNH	**Hanover**	2.23	121	*e*Pn	Pn	02 06 09.3	-0.5
DPQ	**Saint Jean**	2.33	39	PN	Pn	02 06 10.9	-0.4
DPQ				SN	Sn	02 06 40.9	+0.2
DPQ				Trac		02 06 43.7	
	comp=Z,19nm,0.1s						
ALGO	**Algonquin Park**	2.45	297	PN	Pn	02 06 12.0	-0.8
ALGO				SN	Sn	02 06 43.7	+0.1
ALGO				Trac		02 06 49.9	
	comp=Z,69nm,0.1s						
CBRQ	**Cabonga Reserv**	2.65	337	PN	Pn	02 06 14.7	-1.0
CBRQ				SN	Sn	02 06 47.3	-1.4
CBRQ				SG	Sg	02 06 52.6	-7.0

CBRQ				Trac		02 06 54.3	
	comp=Z,12nm,0.1s						
WLVO	**Wesleyville**	**2.67**	**250**	PN	Pn	02 06 14.4	-1.6
WLVO				SN	Sn	02 06 46.5	-2.8
WLVO				SG	Sg	02 06 53.3	-7.2
WLVO				Trac		02 06 56.9	
	comp=Z,30nm,0.1s						
BINY	**Binghamton**	**2.80**	**196**	PN	Pn	02 06 18.4	+0.5
BINY				SN	Sn	02 06 53.9	+1.3
BINY				Trac		02 07 00.5	
	comp=Z,24nm,0.3s						
BINY	**Binghamton**	**2.80**	**196**	Pn	Pn	02 06 16.3	-1.6
LINO	**Lindsay**	**2.81**	**260**	PN	Pn	02 06 14.6	-3.4
LINO				SN	Sn	02 06 49.9	-2.9
LINO				SG	Sg	02 06 58.1	-6.9
LINO				Trac		02 07 04.0	
	comp=Z,14nm,0.1s						
GENY	**Geneseo**	**2.98**	**226**	Pn	Pn	02 06 20.8	+0.3
SADO	**Sadowa**	**3.01**	**269**	PN	Pn	02 06 18.5	-2.3
SADO				SN	Sn	02 06 55.4	-2.4
SADO				SG	Sg	02 07 08.2	-3.4
SADO				Trac		02 07 10.8	
	comp=Z,17nm,0.1s						
MEDO	**Medina**	**3.08**	**237**	PN	Pn	02 06 24.4	+2.5
MEDO				SG	Sg	02 07 03.8	-10
MEDO				Trac		02 07 07.0	
	comp=Z,27nm,0.2s						
PKRO	**Pickering**	**3.12**	**254**	PN	Pn	02 06 19.6	-2.7
PKRO				SN	Sn	02 06 57.5	-3.0
PKRO				SG	Sg	02 07 06.0	-9.3
PKRO				Trac		02 07 15.5	
	comp=Z,79nm,0.2s						
QCQ	**Quebec**	**3.17**	**52**	SG	Sg	02 07 07.8	-9.2
QCQ				Trac		02 07 10.5	
	comp=Z,9.2nm,0.1s						
QUA2	**Belchertown**	**3.21**	**144**	Pn	Pn	02 06 22.7	-1.0
BUKO	**Buck Lake**	**3.22**	**281**	PN	Pn	02 06 21.0	-2.8
BUKO				SN	Sn	02 07 01.3	-1.8
BUKO				SG	Sg	02 07 09.4	-9.2
BUKO				Trac		02 07 16.3	
	comp=Z,11nm,0.1s						
EEO	**Eldee**	**3.39**	**303**	PN	Pn	02 06 25.3	-1.0
EEO				SN	Sn	02 07 09.2	+1.6
EEO				Trac		02 07 21.3	
	comp=Z,2.9nm,0.0s						
HRV	**Harvard--Oak R**	**3.41**	**133**	Pn	Pn	02 06 23.9	-2.7
STCO	**Saint Catharin**	**3.50**	**243**	PN	Pn	02 06 26.4	-1.4
STCO				SN	Sn	02 07 06.0	-4.2
STCO				SG	Sg	02 07 15.9	-12
STCO				Trac		02 07 25.9	
	comp=Z,23nm,0.1s						
WES	**Weston**	**3.62**	**133**	Pn	Pn	02 06 27.7	-1.9
EFO	**Effingham**	**3.64**	**242**	PN	Pn	02 06 22.0	-7.9
EFO				PG	Pg	02 06 34.8	-9.4
EFO				SN	Sn	02 07 10.6	-3.3
EFO				SG	Sg	02 07 20.6	-12
EFO				Trac		02 07 32.7	
	comp=Z,14nm,0.2s						
VLDQ	**Val d'Or**	**3.67**	**332**	PN	Pn	02 06 30.7	+0.5
VLDQ				SN	Sn	02 07 15.5	+1.0
VLDQ				SG	Sg	02 07 28.6	-5.0
VLDQ				Trac		02 07 33.3	
	comp=Z,15nm,0.4s						
KLBO	**Killbear Provi**	**3.77**	**279**	PN	Pn	02 06 28.3	-3.5
KLBO				SN	Sn	02 07 13.2	-4.0
KLBO				SG	Sg	02 07 25.3	-12
KLBO				Trac		02 07 34.5	
	comp=Z,4.6nm,0.1s						
CLWO	**Collingwood**	**3.86**	**265**	PN	Pn	02 06 29.7	-3.4
CLWO				SN	Sn	02 07 15.1	-4.4
CLWO				SG	Sg	02 07 30.0	-10
ACTO	**Acton**	**3.91**	**253**	PN	Pn	02 06 32.6	-1.1
ACTO				SN	Sn	02 07 14.9	-5.8
ACTO				SG	Sg	02 07 29.1	-13
ACTO				Trac		02 07 38.6	
	comp=Z,10nm,0.1s						
PAL	**Palisades**	**3.95**	**169**	Pn	Pn	02 06 31.7	-2.6
TYNO	**Tyneside**	**4.00**	**245**	PN	Pn	02 06 40.9	+6.0
TYNO				SN	Sn	02 07 17.6	-5.3
TYNO				SG	Sg	02 07 33.3	-11
TYNO				Trac		02 07 35.6	
	comp=Z,16nm,0.1s						
A54	**Misere**	**4.05**	**49**	PN	Pn	02 06 32.0	-3.6
A54				SN	Sn	02 07 20.8	-3.4
A54				SG	Sg	02 07 34.0	-12
A54				Trac		02 07 34.7	
	comp=Z,7.4nm,0.2s						
ELGO	**Elora Gorge**	**4.14**	**255**	PN	Pn	02 06 33.9	-3.1
ELGO				SN	Sn	02 07 20.2	-6.4
ELGO				SG	Sg	02 07 36.9	-13
ELGO				Trac		02 07 41.9	
	comp=Z,22nm,0.2s						
LMQ	**La Malbaie**	**4.15**	**49**	PN	Pn	02 06 35.2	-1.9
LMQ				PG	Pg	02 06 43.2	-11
LMQ				SN	Sn	02 07 23.9	-2.8
LMQ				SG	Sg	02 07 35.5	-14
LMQ				Trac		02 07 41.0	
	comp=Z,8.3nm,0.1s						
HGVO	**Hagersville**	**4.23**	**245**	PN	Pn	02 06 33.6	-4.6
HGVO				SN	Sn	02 07 22.8	-5.9
HGVO				SG	Sg	02 07 36.8	-15
HGVO				Trac		02 07 42.1	
	comp=Z,8.3nm,0.1s						
A16	**Riviere Ouelle**	**4.28**	**51**	SN	Sn	02 07 26.5	-3.5
A16				SG	Sg	02 07 39.9	-14
A16				Trac		02 07 44.2	
	comp=Z,7.1nm,0.1s						
A61	**Sainte Mathild**	**4.37**	**48**	PN	Pn	02 06 38.8	-1.4
A61				SG	Sg	02 07 39.8	-17
A61				Trac		02 07 51.4	
	comp=Z,5.6nm,0.2s						
A64	**Saint Simeon**	**4.55**	**48**	PN	Pn	02 06 40.4	-2.5
A64				SN	Sn	02 07 33.9	-3.1
ERPA	**Erie**	**4.61**	**235**	Pn	Pn	02 06 42.6	-1.0
TOBO	**Tobermory, Bru**	**4.69**	**276**	PN	Pn	02 06 40.8	-4.0
TOBO				SN	Sn	02 07 35.0	-5.4
TOBO				SG	Sg	02 07 56.3	-11
TOBO				Trac		02 07 59.5	
	comp=Z,8.5nm,0.2s						
BRCO	**Bruce Peninsul**	**4.71**	**264**	SN	Sn	02 07 35.0	-5.8
BRCO				SG	Sg	02 07 56.7	-11
BRCO				Trac		02 08 06.4	
	comp=Z,20nm,0.1s						
SSPA	**Standing Stone**	**4.78**	**208**	Pn	Pn	02 06 48.9	+2.8
KILO	**Kirkland Lake**	**4.89**	**319**	SN	Sn	02 07 38.1	-7.4
KILO				SG	Sg	02 07 58.4	-16
KILO				Trac		02 08 04.5	
	comp=Z,7.7nm,0.2s						
ALLY	**Alegheny Colle**	**5.00**	**231**	*e*Lg		02 08 04.5	
GGN	**Saint George**	**5.73**	**85**	SN	Sn	02 07 58.3	-8.3
GGN				SG	Sg	02 08 25.7	-17
MALO	**McAlpine Lake**	**6.09**	**329**	PN	Pn	02 07 02.0	-2.6
MALO				SN	Sn	02 08 05.8	-10
MALO				SG	Sg	02 08 39.4	-15
MALO				Trac		02 08 48.1	
	comp=Z,32nm,0.6s						
CNQ	**Baie Comeau**	**6.42**	**44**	PN	Pn	02 07 05.8	-3.5
CNQ				SN	Sn	02 08 16.5	-7.4
CNQ				SG	Sg	02 08 45.6	-20
CNQ				Trac		02 08 49.8	
	comp=Z,4.9nm,0.3s						
PLIO	**Pelee Island,**	**6.44**	**244**	PN	Pn	02 07 04.1	-5.4
PLIO				SN	Sn	02 08 13.7	-11
PLIO				SG	Sg	02 08 42.5	-23
PLIO				Trac		02 08 44.6	
	comp=Z,4.1nm,0.2s						
GSQ	**Grosses Roches**	**6.69**	**50**	PN	Pn	02 07 09.7	-3.3
GSQ				SN	Sn	02 08 22.2	-8.4
GSQ				SG	Sg	02 08 55.6	-19
GSQ				Trac		02 09 05.0	
	comp=Z,2.5nm,0.3s						
KAPO	**Kapuskasing**	**6.89**	**314**	PN	Pn	02 07 10.4	-5.5
KAPO				SN	Sn	02 08 27.2	-8.4
KAPO				SG	Sg	02 09 00.0	-21
KAPO				Trac		02 09 12.7	
	comp=Z,4.7nm,0.3s						
ICQ	**Pointe Anglais**	**6.97**	**46**	PN	Pn	02 07 13.3	-3.6
ICQ				SN	Sn	02 08 29.2	-8.4
ICQ				SG	Sg	02 09 03.5	-20
ICQ				Trac		02 09 08.3	
	comp=Z,2.3nm,0.2s						
MNQ	**Manicouagan**	**7.00**	**34**	PN	Pn	02 07 13.8	-3.6
MNQ				SN	Sn	02 08 29.7	-8.7
MNQ				SG	Sg	02 09 04.9	-20
MNQ				Trac		02 09 15.3	
	comp=Z,4.6nm,0.3s						
SMQ	**Clarke City**	**7.70**	**43**	PN	Pn	02 07 18.7	-8.5
SMQ				SN	Sn	02 08 45.6	-10
SMQ				LG		02 09 30.0	
SMQ				Trac		02 09 33.2	
	comp=Z,2.3nm,0.3s						
LG4Q	**La Grande 4**	**8.76**	**3**	PN	P	02 07 38.3	-3.6
LG4Q				SN	Sn	02 09 11.7	-11
LG4Q				LG		02 09 57.4	
LG4Q				Trac		02 10 09.2	
	comp=Z,3.9nm,0.4s						
VIMO	**Victor Mine**	**9.83**	**327**	PN	P	02 07 52.8	-3.8
VIMO				SN	Sn	02 09 37.1	-11
VIMO				LG		02 10 33.5	
VIMO				Trac		02 10 45.2	
	comp=Z,2.1nm,0.4s						
SILO	**Sutton Inlier**	**11.56**	**330**	PN	P	02 08 12.9	-7.4
SILO				SN	S	02 10 15.9	-15
SILO				LG		02 11 23.3	

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*IDC **04** 02:07:32.4±13.0, 8.48S×113.08E, mb3.4/3, mb1 3.6/3, mb1mx3.4/13, Error ellipse: s-maj=256.0km s-min=164.3km az=171.0*

*DJA **04** 02:07:48.8±0.9, 8.91S×113.79E, h106^{km}±12^{km}, MD5.0/4, ML4.8/4, Error ellipse: s-maj=37.6km s-min=16.6km az=22.0*

ISC 04 02:07:50.0±1.9**, 8.9S**±0.3×**113.9E**±0.2**, h101**^{km}±22^{km}**, n7, σ0ˢ45**/11**, mb3.2**/3**, 6C-2D, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KELI	**Kelakatan**	**0.87**	**43**	⇓*e*Pn	**P**	**02 08 09.4**	**0.0**
	2μm,0.2s						
KELI				⇑*e*Sn	**S**	**02 08 24.2**	**+0.3**
INGI	**Ingas**	**1.24**	**88**	⇑*e*Pn	**P**	**02 08 13.0**	**-0.7**
	516nm,0.2s						
INGI				⇑*e*Sn	**S**	**02 08 31.8**	**+0.4**
RATI	**Rata**	**1.63**	**86**	⇓*e*Pn	**P**	**02 08 18.9**	**+0.5**
	2μm,0.2s						
RATI				⇑*e*Sn	**S**	**02 08 39.4**	**0.0**
KEDI	**Kedomdong**	**2.23**	**81**	⇑*e*Pn	**P**	**02 08 25.6**	**-0.6**
	248nm,0.2s						
KEDI				⇑*e*Sn	**S**	**02 08 53.0**	**-0.2**
WRA	**Warramunga Arr**	**22.64**	**121**	P	**P**	**02 12 44.1**	**+0.8**
	0.5nm,0.9s,mb2.8,baz=294,slow=12,SNR=6.9						
ASAR	**Alice Springs**	**24.16**	**130**	P	**P**	**02 12 57.9**	**-0.1**
	0.7nm,0.9s,mb3.0,baz=305,slow=8.1,SNR=4.1						
STKA	**Stephens Creek**	**34.44**	**136**	P	**P**	**02 14 29.6**	**-0.3**
	0.5nm,0.3s,mb3.8,baz=319,slow=9.2,SNR=3.1						

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*IDC **04** 02:12:11.5±2.7, 19.85S×170.02E, mb4.0/5, mb1 4.1/5, mb1mx4.0/9, Error ellipse: s-maj=103.0km s-min=32.3km az=143.0*

*LDG **04** 02:12:17.1±1.0, 18.14S×170.35E, h10^{km}, Error ellipse: s-maj=131.4km s-min=5.1km az=125.0*

ISC 04 02:12:36.5±2.5**, 19.1S**±0.1×**168.9E**±0.3**, h173**^{km}±7^{km}**, n28, σ0ˢ82**/11**, mb3.7**/5**, 1C, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**1.49**	**337**	⇑*i*P	**P**	**02 13 08.2**	**+0.1**
BKM				S	**S**	**02 13 32.5**	**0.0**
DZM	**Mont Dzumac**	**3.77**	**217**	*e*P	**P**	**02 13 33.9**	**-1.2**
DZM				*e*S	**S**	**02 14 20.6**	**+0.3**
NOUC	**Port Laguerre**	**3.87**	**218**	*e*P	**P**	**02 13 37.1**	**+0.6**
NOUC				*e*S	**S**	**02 14 22.9**	**+0.2**
STKA	**Stephens Creek**	**27.65**	**237**	P	**P**	**02 18 04.5**	**-5.8**
	2.3nm,0.8s,mb4.0,baz=334,slow=11,SNR=4.9						
WRA	**Warramunga Arr**	**32.53**	**263**	P	**P**	**02 18 52.0**	**-1.4**
	0.2nm,0.5s,mb3.1,baz=89,slow=8.4,SNR=4.0						
ASAR	**Alice Springs**	**32.83**	**256**	P	**P**	**02 18 55.3**	**-0.6**
	1.8nm,0.4s,mb4.2,baz=82,slow=8.8,SNR=34						
FITZ	**Fitzroy Crossi**	**40.91**	**264**	P	**P**	**02 20 05.2**	**+1.6**
	1.9nm,0.8s,mb3.8,baz=210,slow=14,SNR=3.0						
SONM	**Songino Array**	**86.86**	**323**	P	**P**	**02 25 03.0**	**+0.4**
	0.8nm,0.9s,mb3.6,baz=156,slow=5.5,SNR=6.4						
ARCES	**ARCESS Array B**	**124.79**	**345**	PKP	PKPdf	02 31 14.8	-0.5
	1.5nm,0.9s,baz=68,slow=2.9,SNR=8.5						
GERES	**GERESS Array B**	**144.16**	**332**	PKPbc	PKPbc	02 31 51.0	+0.1
	0.8nm,0.6s,baz=27,slow=2.4,SNR=8.9						
BAIF	**Baives**	**146.72**	**342**	*e*PKP1	PKPbc	02 31 58.2	+0.8
CDF	**Champ du Feu**	**147.13**	**337**	*e*PKP1	PKPdf	02 31 59.4	+2.9
	6.3nm,0.7s						
HAU	**Haudompre**	**147.81**	**338**	*e*PKP1	PKPdf	02 32 01.1	+3.5
	4.3nm,0.6s						
CABF	**La Chapelle**	**149.08**	**337**	*e*PKP1	PKPdf	02 32 04.9	+5.2
	5.7nm,0.6s						
FLN	**La Foliniere**	**149.13**	**346**	*e*PKP1	PKPdf	02 32 04.1	+4.4
LOR	**Lormes**	**149.29**	**340**	*e*PKP1	PKPdf	02 32 04.8	+4.8
	4.0nm,0.5s						
SSF	**Saint Saulge**	**149.59**	**340**	*e*PKP1	PKPdf	02 32 05.7	+5.2
	22nm,1.3s						
LPL	**La Plagne**	**149.73**	**335**	*e*PKP1	PKPdf	02 32 06.7	+5.9
	3.1nm,0.7s						
LPG	**La Plagne**	**149.74**	**335**	*e*PKP1	PKPdf	02 32 06.7	+5.9
	7.9nm,0.9s						
MBDF	**Montbardon**	**150.36**	**334**	*e*PKP1	PKPdf	02 32 07.5	+5.8
	4.1nm,0.8s						
ORIF	**Oris-en-Rattie**	**150.57**	**335**	*e*PKP1	PKPdf	02 32 08.2	+6.2
	5.5nm,0.7s						
TCF	**Toulx Ste Croi**	**150.69**	**341**	*e*PKP1	PKPdf	02 32 07.6	+5.4
	3.5nm,0.8s						
SBF	**Sospel**	**150.76**	**332**	*e*PKP1	PKPdf	02 32 08.2	+5.8
	9.4nm,0.8s						
PGF	**Pioggiola**	**151.03**	**328**	*e*PKP1	PKPdf	02 32 09.2	+6.4
	16nm,0.7s						
MFF	**Saint Martin d**	**151.07**	**344**	*e*PKP1	PKPdf	02 32 08.9	+6.2
FRF	**La Foret Royal**	**151.35**	**332**	*e*PKP1	PKPdf	02 32 09.5	+6.2
SMRF	**Simiane la Rot**	**151.47**	**334**	*e*PKP1	PKPdf	02 32 10.5	+7.1
	5.9nm,0.8s						
LMR	**La Mourre**	**151.59**	**332**	*e*PKP1	PKPdf	02 32 10.2	+6.6
	6.3nm,0.9s						

MAN 04 02:16:18.9, 16.34N×119.59E, h15^{km}, mb4.3, ML3.1, MS2.9, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BOLP	**Bolinao**	**0.32**	**83**	*e*P	Pb	02 16 26.8	+1.2
SCZP	**Santa Cruz**	**0.64**	**151**	*e*P	Pb	02 16 31.2	0.0
BCPH	**Baguio City Da**	**0.95**	**87**	⇑*i*P	Pb	02 16 34.7	-1.9
BCPH				*i* S	Sb	02 16 46.5	-2.3
APYP	**Conner**	**2.19**	**46**	*e*P	Pn	02 16 54.2	-1.1
APYP				*e*S	Sn	02 17 22.1	-0.2
CAUP	**Cauayan**	**2.23**	**74**	*e*P	Pn	02 16 56.6	+0.8

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*NIED **04** 02:18:00, 41.30N×140.80E, h8^{km}, Mw3.5 Best double couple: $M_0 2.09\times10^{14}$ NP1:ϕ_s174°, δ75°, λ57°. NP2:ϕ_s61°, δ36°, λ153°.*

*JMA **04** 02:18:38.1, 41.26N×140.82E, h14^{km}±1^{km}, M3.8*

JMA Felt II J1.

ISC 04 02:18:37.8±0.6**, 41.25N**±0.03×**140.83E**±0.05**, h13**^{km}±5^{km}**, n9, σ0ˢ24**/17**, 5C-3D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JOT	**Ohata**	**0.21**	**51**	⇓P	**Pg**	**02 18 42.9**	**+0.3**
JOT				S	**Sg**	**02 18 46.0**	**+0.2**
JSI2	**Shiura 2**	**0.37**	**239**	⇑P	**Pg**	**02 18 45.4**	**-0.1**
JSI2				S	**Sg**	**02 18 50.4**	**-0.2**
JSR	**Shiriuchi**	**0.42**	**312**	⇓P	**Pg**	**02 18 46.3**	**-0.1**
JSR				S	**Sg**	**02 18 52.0**	**-0.2**
JTM	**Tenmabayashi**	**0.50**	**158**	P	**Pb**	**02 18 47.8**	**0.0**
JTM				S	**Sb**	**02 18 54.3**	**-0.4**
JKB	**Kayabe**	**0.66**	**13**	⇑P	**Pb**	**02 18 50.4**	**-0.2**
JKB				S	**Sb**	**02 18 58.8**	**-0.5**
JIW	**Iwasaki**	**0.90**	**224**	⇑P	**Pb**	**02 18 54.9**	**+0.1**
JIW				S	**Sb**	**02 19 06.8**	**+0.3**
JYM2	**Yakumo 2**	**0.93**	**339**	⇑P	**Pb**	**02 18 55.3**	**0.0**
JYM2				S	**Sb**	**02 19 07.8**	**+0.5**
JANG	**Nango**	**1.02**	**149**	⇓P	**Pb**	**02 18 56.7**	**-0.1**
JANG				S	**Sb**	**02 19 10.0**	**+0.2**
JAH	**Hinai**	**1.07**	**188**	⇑P	**Pb**	**02 18 57.7**	**+0.1**

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*PRU **04** 02:27:54.6, 51.39N×16.16E*

*WAR **04** 02:27:54.3, 51.45N×16.16E, ML2.7, Mining Induced*

ISC 04 02:27:53.1±1.3**, 51.40N**±0.06×**16.03E**±0.07**, n9, σ0ˢ88**/18**, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.58**	**163**	*e*PG	**Pg**	**02 28 05.0**	**+0.3**
KSP				*e*SG	**Sg**	**02 28 13.0**	**+0.6**
UPC	**Upice**	**0.89**	**181**	*e*PG	**Pg**	**02 28 11.6**	**+0.7**
DPC	**Dobruska-Polom**	**1.06**	**170**	*e*PG	**Pg**	**02 28 14.1**	**-0.3**
DPC				*e*SG	**Sg**	**02 28 29.1**	**+0.6**
	12nm,0.4s						
PVCC	**Panska Ves**	**1.27**	**227**	*e*PG	**Pg**	**02 28 19.5**	**+1.0**
PRU	**Pruhonice**	**1.70**	**215**	*e*PN	**Pn**	**02 28 24.8**	**+0.6**
PRU				*e*PG	**Pg**	**02 28 26.6**	**-0.5**
PRU				SG	**Sg**	**02 28 49.8**	**+0.1**
	16nm,0.4s						
CLL	**Collm**	**1.90**	**269**	*e*PG	**Pg**	**02 28 31.0**	**-0.1**
CLL				*i*		02 28 33.2	
CLL				*e*SG	**Sg**	**02 28 57.0**	**+0.5**
OKC	**Ostrava-Krasne**	**2.06**	**138**	*e*PG	**Pg**	**02 28 32.9**	**-1.4**
OKC				*e*SG	**Sg**	**02 28 57.2**	**-4.5**
NKC	**Novy Kostel**	**2.56**	**244**	*e*SG	**Sg**	**02 29 18.1**	**-0.1**
KHC	**Kasperske Hory**	**2.76**	**216**	*e*PN	**Pn**	**02 28 40.0**	**+0.6**
KHC				*e*PG	**Pg**	**02 28 46.1**	**-2.2**
KHC				*e*SN	**Sn**	**02 29 14.8**	**+0.8**
KHC				*e*SG	**Sg**	**02 29 23.3**	**-1.8**

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*BJI **04** 02:52:35.9, 36.36N×71.57E, h124^{km}*

*NEIC **04** 02:52:37.7±2.8, 36.44N×71.53E, h125^{km}±22^{km}, mb4.1/4, Error ellipse: s-maj=22.5km s-min=13.3km az=187.0*

*IDC **04** 02:52:39.6±5.8, 36.42N×71.58E, h145^{km}±51^{km}, mb3.5/12, mb1 3.7/15, mb1mx3.7/20, Error ellipse: s-maj=29.1km s-min=16.0km az=6.0*

*MOS **04** 02:52:41.4±1.1, 36.55N×71.63E, h177^{km}, mb4.1/8, Error ellipse: s-maj=21.1km s-min=12.4km az=101.9*

*NNC **04** 02:52:45.8±4.1, 37.01N×70.40E, h112^{km}±51^{km}, mpv4.5, Error ellipse: s-maj=45.6km s-min=30.1km az=74.0*

ISC 04 02:52:38.1±0.5**, 36.45N**±0.03×**71.70E**±0.06**, h148**^{km}±6^{km}**, n73, σ1ˢ20**/81**, mb3.7**/13**, 7C-3D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.62**	**176**	⇓P	**P**	**02 53 22.9**	**+1.6**
CHCP	**Chirah Chowk**	**3.06**	**155**	⇑P	**P**	**02 53 29.6**	**+2.7**
THW	**Thamme Wali**	**3.64**	**179**	⇑P	**P**	**02 53 35.2**	**+0.7**
SBDP	**Sheikh Budin**	**4.20**	**190**	⇑P	**P**	**02 53 41.6**	**-0.2**
KSH	**Kashi**	**4.56**	**47**	P	**P**	**02 53 49.3**	**+2.7**
KSH				S	**S**	**02 54 39.2**	**-0.2**
KSH				Smax			
	comp=N,240nm,0.3s						
KSH				Smax			
	comp=E,200nm,0.3s						
SARP	**Sargodha**	**4.58**	**170**	P	**P**	**02 53 47.0**	**+0.1**
SARP				S	**S**	**02 54 38.0**	**-1.9**
DRP	**Derazinda**	**4.85**	**195**	⇑P	**P**	**02 53 51.0**	**+0.6**
AML	**Almayashu**	**5.88**	**15**	P	**P**	**02 54 03.8**	**-0.3**
	SNR=383						
UCH	**Uchtor**	**6.17**	**20**	P	**P**	**02 54 08.1**	**+0.1**
	SNR=176						
KZA	**Kyzart**	**6.26**	**25**	P	**P**	**02 54 09.3**	**0.0**
	SNR=46						
BHK	**Bhakra**	**6.37**	**141**	*e*S	**S**	**02 55 20.0**	**-2.5**
EKS2	**Erkin-Say**	**6.41**	**14**	P	**P**	**02 54 11.0**	**-0.3**
	SNR=34						
AAK	**Ala-Archa**	**6.55**	**18**	P	**P**	**02 54 12.9**	**-0.1**
	SNR=88						
AAK	**Ala-Archa**	**6.55**	**18**	*e*P	**P**	**02 54 11.9**	**-1.2**
	comp=E,78nm,0.5s						
KBK	**Karagaybulak**	**6.69**	**21**	P	**P**	**02 54 14.9**	**-0.1**
	SNR=33						
KK31	**Karatay Array**	**6.71**	**353**	⇑P	**P**	**02 54 13.2**	**-2.1**
	comp=E,15nm,0.3s,baz=178,slow=13,SNR=341						
KK31				S	**S**	**02 55 22.5**	**-8.3**
	comp=E,26nm,0.3s,baz=176,slow=24,SNR=10						
ULHL	**Ulahol**	**6.78**	**30**	P	**P**	**02 54 16.5**	**+0.3**
	SNR=37						
CHMS	**Chumysh**	**6.96**	**19**	P	**P**	**02 54 18.3**	**-0.3**
	SNR=82						
TKM2	**Tokmak 2**	**7.13**	**24**	P	**P**	**02 54 20.9**	**-0.1**
	SNR=19						
USP	**Ospenovka**	**7.14**	**17**	P	**P**	**02 54 20.6**	**-0.5**
	SNR=84						
KLP	**Kalpa**	**7.32**	**130**	*e*S	**S**	**02 55 43.4**	**-2.1**
KLP				AML	AML	02 55 52.6	
	comp=E,276nm,1.4s						
KLP				AML	AML	02 55 53.3	
	comp=N,206nm,0.5s						
RTK	**Rohtak**	**8.39**	**150**	*e*S	**S**	**02 56 08.1**	**-3.0**
JOSI	**Joshimath**	**8.81**	**130**	*e*S	**S**	**02 56 18.8**	**-2.2**
JOSI				AML	AML	02 56 28.3	
	comp=N,191nm,0.0s						
JOSI				AML	AML	02 56 29.2	
	comp=E,182nm,0.0s						
NDI	**New Delhi**	**9.03**	**147**	*e*S	**S**	**02 56 19.0**	**-7.3**
KHET	**Khetri**	**9.04**	**156**	*e*P	**P**	**02 54 48.7**	**+2.3**
KHET				*e*S	**S**	**02 56 22.6**	**-3.9**
AYAN	**Aya Nagar**	**9.17**	**148**	*e*	**S**	**02 56 29.6**	**0.0**
KUDL	**Kundal**	**9.22**	**153**	*e*S	**S**	**02 56 25.4**	**-5.3**
KUDL				*i* S	**S**	**02 56 28.1**	**-2.7**
SONA	**Sohna**	**9.36**	**149**	*e*P	**P**	**02 54 52.8**	**+2.3**
SONA				*e*S	**S**	**02 56 26.2**	**-7.8**
SONA				AML	AML	02 56 33.6	
	comp=N,14nm,0.9s						
SONA				AML	AML	02 56 33.8	
	comp=E,30nm,0.0s						
MKAR	**Makanchi Array**	**13.01**	**34**	P	**P**	**02 55 39.0**	**+0.7**
	comp=E,0.8nm,0.3s,baz=221,slow=14,SNR=39						
MKAR	**Makanchi Array**	**13.01**	**34**	P	**P**	**02 55 39.0**	**+0.8**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KOLN	**Koldanda**	**13.28**	**127**	*e*P	**P**	**02 55 42.2**	**+0.5**
	comp=Z,12nm,0.4s						
GKN	**Gorkha**	**13.80**	**124**	*e*P	**P**	**02 55 49.1**	**+0.7**
	comp=Z,38nm,0.4s						
KKN	**Kakani**	**14.38**	**123**	*e*P	**P**	**02 55 56.2**	**+0.5**
	comp=Z,19nm,0.4s						
DMN	**Daman**	**14.38**	**124**	*e*P	**P**	**02 55 56.6**	**+0.9**
	comp=Z,16nm,0.4s						
PKI	**Pulchoki**	**14.60**	**123**	*e*P	**P**	**02 55 59.6**	**+1.0**
	comp=Z,9.4nm,0.3s						
GUN	**Gumba**	**14.71**	**121**	*e*P	**P**	**02 56 01.1**	**+1.2**
KURK	**Kurchatov**	**15.11**	**17**	Pn	**P**	**02 56 00.6**	**-4.2**
	comp=Z,68nm,0.8s,SNR=8.9						
KURK	**Kurchatov**	**15.11**	**17**	*e*P	**P**	**02 56 06.7**	**+1.9**
	comp=Z,7.4nm,0.7s						
AB31	**Akbulak array**	**15.41**	**330**	⇑P	**P**	**02 56 05.1**	**-3.4**
	comp=Z,2.1nm,0.5s,baz=146,slow=13,SNR=74						
AB31				⇑S	**S**	**02 58 42.6**	**-12**
	comp=Z,2.3nm,0.5s,baz=144,slow=24,SNR=13						
BVA0	**Borovoye Array**	**16.60**	**357**	⇓P	**P**	**02 56 23.6**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=160,slow=13,SNR=13						
BVAR	**Borovoye Array**	**16.60**	**357**	P	**P**	**02 56 21.9**	**-1.4**
	comp=Z,1.2nm,0.3s,baz=161,slow=13,SNR=14						
BVAR				S	**S**	**02 59 15.3**	**-6.5**
	comp=Z,0.2nm,0.3s,baz=172,slow=22,SNR=3.7						
ZRNK	**Zerenda**	**16.61**	**354**	⇓P	**P**	**02 56 24.6**	**+1.2**
	comp=Z,3.8nm,0.6s						
ZRNK	**Zerenda**	**16.61**	**354**	*e*P	**P**	**02 56 22.6**	**-0.8**
	comp=Z,5.8nm,0.6s						
BRVK	**Borovoye**	**16.64**	**357**	P	**P**	**02 56 23.1**	**-0.7**
	comp=Z,3.2nm,0.6s						
ZAL	**Zalesovo**	**19.72**	**23**	P	**P**	**02 56 57.5**	**-0.4**
	comp=Z,3.8nm,0.3s,baz=170,slow=6.2,SNR=36						
ZAL	**Zalesovo**	**19.72**	**23**	P	**P**	**02 56 57.6**	**-0.3**
ZAL				pmax	pmax		
	comp=Z,4.0nm,0.3s						
NVS	**Novosibirsk**	**20.04**	**20**	*i* P	**P**	**02 56 59.7**	**-1.5**
ARU	**Arti**	**21.87**	**340**	*e*P	**P**	**02 57 19.6**	**+0.2**
SONM	**Songino Array**	**27.91**	**55**	P	**P**	**02 58 18.3**	**+2.3**
	comp=Z,0.6nm,1.0s,mb3.3,baz=253,slow=11,SNR=3.7						
BRTR	**Keskin Array B**	**29.98**	**288**	P	**P**	**02 58 35.3**	**+0.7**
	comp=Z,0.3nm,0.4s,mb3.4,baz=74,slow=10,SNR=3.2						
AKASG	**Malin Array Be**	**33.42**	**309**	P	**P**	**02 59 03.4**	**-1.0**
	comp=Z,3.7nm,0.6s,mb4.3,baz=80,slow=6.7,SNR=14						
AKASG	**Malin Array Be**	**33.42**	**309**	P	**P**	**02 59 03.4**	**-0.9**
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.6s						
FINES	**FINESS Array B**	**37.84**	**326**	P	**P**	**02 59 41.7**	**+0.1**
	comp=Z,1.3nm,0.4s,mb3.9,baz=126,slow=12,SNR=13						
FINES	**FINESS Array B**	**37.84**	**326**	P	**P**	**02 59 41.7**	**+0.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KAF	**Kangasniemi**	**37.98**	**327**	*e*p	**P**	**02 59 41.4**	**-1.3**

KEV	**Kevo**	**41.06**	**338**	*e*p	**P**	**03 00 07.9**	**-0.1**
ARCES	**ARCESS Array B**	**41.41**	**337**	P	**P**	**03 00 11.6**	**+0.7**
	comp=Z,2.3nm,0.7s,mb4.0,baz=111,slow=7.2,SNR=17						
ARCES				pP	pP	03 00 42.5	-1.4
	comp=Z,1.5nm,0.7s,baz=98,slow=8.6,SNR=2.4						
ARCES	**ARCESS Array B**	**41.41**	**337**	P	**P**	**03 00 11.6**	**+0.7**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ARCES				pmax	pmax		
	comp=N,2.0nm,0.7s						
BRG	**Berggiesshubel**	**43.10**	**308**	*i* P	**P**	**03 00 25.6**	**+0.8**
BRG				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.2						
BRG	**Berggiesshubel**	**43.10**	**308**	*i* P	**P**	**03 00 25.6**	**+0.8**
	comp=Z,3.6nm,0.6s,mb4.2						
GERES	**GERESS Array B**	**43.42**	**305**	P	**P**	**03 00 28.0**	**+0.7**
	comp=Z,0.3nm,0.6s,mb3.1,baz=89,slow=11,SNR=3.4						
NB2	**NORSAR Subarra**	**44.76**	**323**	P	**P**	**03 00 36.9**	**-1.0**
	comp=Z,3.7nm,0.5s,mb4.3,baz=96,slow=7.4						
NOA	**NORSAR Array B**	**44.76**	**323**	P	**P**	**03 00 37.6**	**-0.3**
	comp=Z,3.4nm,0.5s,mb4.2,baz=96,slow=7.7,SNR=18						
NOA	**NORSAR Array B**	**44.76**	**323**	P	**P**	**03 00 37.7**	**-0.2**
NOA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
ESDC	**Sonseca Array**	**57.98**	**298**	P	**P**	**03 02 16.2**	**-1.0**
	comp=Z,0.7nm,0.7s,mb3.6,baz=56,slow=6.8,SNR=3.1						
INK	**Inuvik**	**73.87**	**9**	P	**P**	**03 03 58.7**	**+1.1**
	comp=Z,0.7nm,0.5s,mb3.7,baz=318,slow=7.0,SNR=4.8						
INK	**Inuvik**	**73.87**	**9**	P	**P**	**03 03 58.7**	**+1.1**
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
INK	**Inuvik**	**73.87**	**9**	P	**P**	**03 03 58.7**	**+1.1**
DBIC	**Dimbokro**	**75.25**	**267**	P	**P**	**03 04 04.6**	**-2.0**
	comp=Z,1.7nm,0.9s,mb3.7,baz=54,slow=6.9,SNR=4.2						
DBIC	**Dimbokro**	**75.25**	**267**	P	**P**	**03 04 04.6**	**-2.0**
DBIC				pmax	pmax		
	comp=Z,2.0nm,0.9s						
YKA	**Yellowknife Ar**	**81.27**	**3**	P	**P**	**03 04 38.5**	**+0.1**
	comp=Z,1.4nm,0.7s,mb3.7,baz=343,slow=5.8,SNR=3.7						
YKA	**Yellowknife Ar**	**81.27**	**3**	P	**P**	**03 04 38.5**	**+0.1**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRA	**Warramunga Arr**	**81.49**	**122**	P	**P**	**03 04 41.4**	**+1.0**
	comp=Z,0.3nm,0.4s,mb3.3,baz=325,slow=5.0,SNR=10						

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*BJI **04** 03:09:21.1,53.99N×159.58E,h128^{km},mB4.9,mb4.9*
*MOS **04** 03:09:21.4±0.9,54.02N×159.37E,h112^{km},mb4.6/24,*
Error ellipse: s-maj=12.8km s-min=6.9km az=94.3
MOS Felt (II) at Petropavlovsk-Kamchatskii.
*IDC **04** 03:09:22.6±0.5,54.02N×159.22E,h108^{km}±4^{km},mb4.3/26,*
mb1 4.4/27,mb1mx4.4/28,MS3.3/4,Ms1 3.3/4,
ms1mx3.0/27,Error ellipse: s-maj=12.2km s-min=8.7km
az=140.0
*KRSC **04** 03:09:22.0±0.8,53.79N×159.80E,h109^{km}±2^{km},ML5.0*
*NEIC **04** 03:09:23.4±0.5,53.93N×159.36E,h118^{km}±4^{km},mb4.7/93,*
Error ellipse: s-maj=4.0km s-min=2.5km az=173.0
NEIC Felt [II] at Petropavlovsk-Kamchatskiy.
ISC 04 03:09:22.3±0.2**,53.86N**±0.02×**159.47E**±0.04**,h123**^{km}±1^{km}**,**
h117^{km}±2.5^{km}**:pP-P,n346,**σ**0**^{s}**92**/383**,mb4.7**/143**,7C-16D,**
Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KII	**Karymskiy**	**0.18**	**356**	*i* P	**P**	**03 09 38.4**	**-0.9**
KII				*e*S	**S**	**03 09 50.8**	**-1.5**
SDLR	**Sedlovina**	**0.68**	**211**	*i* P	**P**	**03 09 41.6**	**-0.3**
SDLR				*e*S	**S**	**03 09 55.6**	**-1.3**
NLC	**Nalytchevo**	**0.69**	**186**	P	**P**	**03 09 40.8**	**-1.2**
NLC	**Nalytchevo**	**0.69**	**186**	*i* P	**P**	**03 09 40.9**	**-1.1**
SMAR	**Somma**	**0.72**	**214**	*i* P	**P**	**03 09 42.1**	**-0.1**
SMAR				*i* S	**S**	**03 09 56.5**	**-0.9**
AVH	**Avacha**	**0.74**	**216**	*i* P	**P**	**03 09 42.6**	**+0.2**
AVH				*e*S	**S**	**03 09 57.1**	**-0.6**
KOK	**Koryaka**	**0.76**	**221**	*i* P	**P**	**03 09 42.9**	**+0.4**
KOK				*e*S	**S**	**03 09 57.8**	**-0.1**
UGLR	**Uglovaya**	**0.76**	**211**	*i* P	**P**	**03 09 42.5**	**0.0**
UGLR				*e*S	**S**	**03 09 57.3**	**-0.7**
SPN	**Mys Shipunski**	**0.83**	**156**	*i* P	**P**	**03 09 41.1**	**-2.1**
GNL	**Ganaly**	**0.92**	**260**	*i* P	**P**	**03 09 44.9**	**+0.8**
PET	**Petropavlovsk**	**0.97**	**210**	P	**P**	**03 09 44.2**	**-0.4**
PET				S	**S**	**03 09 59.7**	**-1.6**
PET	**Petropavlovsk**	**0.97**	**210**	*i* P	**P**	**03 09 44.1**	**-0.5**
PET				*i* S	**S**	**03 09 59.6**	**-1.7**
PET	**Petropavlovsk**	**0.97**	**210**	α *i*PN	**P**	**03 09 44.0**	**-0.6**
PET				*i* S	**S**	**03 10 00.5**	**-0.8**
PET				pmax	pmax		
	comp=N,2μm,0.4s						
PET				pmax	pmax		
	comp=Z,7μm,0.4s						
PET				pmax	pmax		
	comp=E,1μm,0.3s						
PET				pmax	pmax		
	comp=Z,9μm,0.5s						
PET				smax			
	comp=E,32μm,2.0s						
PET				smax			
	comp=N,17μm,0.5s						
PET				smax			
	comp=E,14μm,0.5s						
PET	**Petropavlovsk**	**0.97**	**210**	*e*P	**P**	**03 09 43.9**	**-0.7**
PET				*e*S	**S**	**03 10 00.2**	**-1.1**
TUMR	**Tumrok**	**1.48**	**15**	*i* P	**P**	**03 09 50.5**	**+0.4**
TUMR				*e*S	**S**	**03 10 11.7**	**+0.4**
MKZ	**Mys Kozlova**	**1.50**	**61**	P	**P**	**03 09 48.1**	**-2.3**
MKZ				S	**S**	**03 10 06.6**	**-5.1**
MKZ	**Mys Kozlova**	**1.50**	**61**	*i* P	**P**	**03 09 48.1**	**-2.3**
MKZ				*i* S	**S**	**03 10 06.5**	**-5.2**
RUS	**Russkaya**	**1.54**	**202**	P	**P**	**03 09 50.1**	**-0.7**
RUS				S	**S**	**03 10 10.9**	**-1.6**
RUS	**Russkaya**	**1.54**	**202**	*i* P	**P**	**03 09 50.0**	**-0.8**
RUS				*i* S	**S**	**03 10 10.8**	**-1.7**
GRL	**Gorelyy**	**1.56**	**213**	*i* P	**P**	**03 09 51.5**	**+0.5**
GRL				*e*S	**S**	**03 10 13.5**	**+0.7**
APC	**Apacha**	**1.67**	**237**	*i* P	**P**	**03 09 53.6**	**+1.3**
APC				*e*S	**S**	**03 10 17.0**	**+1.9**
APC				Smax			
	comp=E,2μm,0.9s						
KMNR	**Kamenistaya**	**1.95**	**13**	*i* P	**P**	**03 09 56.6**	**+0.9**
KMNR				*e*S	**S**	**03 10 21.5**	**+0.5**
ESO	**Esso**	**2.12**	**348**	*i* P	**P**	**03 09 58.5**	**+0.7**
ESO				*e*S	**S**	**03 10 25.6**	**+0.8**
ESO				Smax			
	comp=E,840nm,1.0s						
KOZ	**Kozyrevsk**	**2.21**	**6**	P	**P**	**03 09 59.7**	**+0.6**
KOZ				S	**S**	**03 10 27.0**	**-0.1**
KOZ	**Kozyrevsk**	**2.21**	**6**	*i* P	**P**	**03 09 59.8**	**+0.7**
KOZ				*e*S	**S**	**03 10 27.1**	**0.0**
KOZR	**Kozyr**	**2.22**	**6**	PN	**P**	**03 09 59.7**	**+0.4**
KOZR				S	**S**	**03 10 27.0**	**-0.3**
MIPR	**Malaya Ipel'ka**	**2.28**	**227**	*i* P	**P**	**03 10 00.8**	**+0.8**
MIPR				*e*S	**S**	**03 10 29.4**	**+0.9**
ZLN	**Zelenaya**	**2.29**	**19**	*i* P	**P**	**03 10 01.1**	**+0.9**
ZLN				*e*S	**S**	**03 10 29.8**	**+0.9**
LGNR	**Loginova**	**2.34**	**17**	*i* P	**P**	**03 10 01.8**	**+1.1**
LGNR				*i* S	**S**	**03 10 31.3**	**+1.4**
CIRR	**Tsirk**	**2.38**	**18**	*e*P	**P**	**03 10 02.1**	**+0.8**
CIRR				*e*S	**S**	**03 10 31.5**	**+0.7**
KRSR	**Krestovskiy**	**2.44**	**15**	*e*P	**P**	**03 10 02.3**	**+0.1**
KRSR				*e*S	**S**	**03 10 31.8**	**-0.6**
SRDR	**Sredinnyy**	**2.47**	**3**	*i* P	**P**	**03 10 02.7**	**+0.2**
SRDR				*e*S	**S**	**03 10 32.6**	**-0.3**
KLY	**Klyuchi**	**2.55**	**15**	P	**P**	**03 10 04.6**	**+1.0**
KLY				S	**S**	**03 10 36.3**	**+1.4**
KLY	**Klyuchi**	**2.55**	**15**	*e*P	**P**	**03 10 04.5**	**+0.9**
KLY				*i* S	**S**	**03 10 36.5**	**+1.6**
PAU	**Pauzhetka**	**2.89**	**215**	*i* P	**P**	**03 10 09.4**	**+1.3**
PAU				*e*S	**S**	**03 10 46.3**	**+3.4**
PAU				Smax			
	comp=E,2μm,1.2s						
SVLR	**Shiveluch**	**2.90**	**20**	*i* P	**P**	**03 10 08.9**	**+0.7**
SVLR				*e*S	**S**	**03 10 43.5**	**+0.4**
KBG	**Krutoberegovo**	**3.04**	**36**	*i* P	**P**	**03 10 09.3**	**-0.7**
KBG				*i* S	**S**	**03 10 43.3**	**-3.0**
KBG				Smax			
	comp=E,6μm,0.9s						
KBTR	**Krutoberegovo**	**3.04**	**38**	P	**P**	**03 10 08.7**	**-1.4**
KBTR				S	**S**	**03 10 43.3**	**-3.1**
KBTR	**Krutoberegovo**	**3.04**	**38**	*e*P	**P**	**03 10 08.8**	**-1.3**
KBTR				*e*S	**S**	**03 10 43.4**	**-3.0**
SKR	**Severo-Kuril's**	**3.79**	**214**	*e*PN	**P**	**03 10 23.0**	**+2.9**
SKR				*e*S	**S**	**03 11 06.8**	**+2.5**
SKR				pmax	pmax		
	comp=Z,320nm,0.6s						
SKR				pmax	pmax		
	comp=N,60nm,0.5s						
SKR				pmax	pmax		
	comp=E,120nm,0.5s						
SKR				pmax	pmax		
	comp=Z,900nm,2.0s						
SKR				smax			
	comp=N,1μm,1.0s						
SKR				smax			
	comp=E,2μm,2.0s						
SKR				smax			
	comp=N,720nm,0.5s						
SKR				smax			
	comp=E,740nm,0.5s						
SKR				MLR	MLR		
	comp=N,2μm,10.0s						
SKR				MLR	MLR		
	comp=E,1μm,10.0s						
SKR				MLR	MLR		
	comp=Z,1μm,10.0s						
ALID	**Alaid**	**3.84**	**220**	*e*P	**P**	**03 10 22.0**	**+1.2**
ALID				*e*S	**S**	**03 11 05.8**	**+0.3**
BKI	**Bering**	**4.02**	**68**	*i* P	**P**	**03 10 20.1**	**-3.1**
BKI				*i* S	**S**	**03 11 01.3**	**-8.6**
BKI				Smax			
	comp=Z,3μm,0.4s						
MA2	**Magadan**	**7.46**	**324**	*d* *i*PN	**P**	**03 11 10.1**	**+0.4**
MA2	**Magadan**	**7.46**	**324**	*e*P	**P**	**03 11 10.9**	**+1.2**
	comp=Z,47nm,0.6s						
KAMR	**Kamenskoye**	**9.32**	**20**	*e*P	**P**	**03 11 36.0**	**+1.4**
YSS	**Yuzh-Sakhalins**	**12.69**	**244**	⇑*e*PN	**P**	**03 12 21.8**	**+2.8**
YSS				pmax	pmax		
	comp=N,30nm,1.0s						
YSS				pmax	pmax		
	comp=E,30nm,1.0s						
YSS				pmax	pmax		
	comp=Z,40nm,1.0s						
YSS	**Yuzh-Sakhalins**	**12.69**	**244**	*e*P	**P**	**03 12 20.3**	**+1.3**
	comp=Z,23nm,0.8s						
ASAJ	**Asahikawa**	**14.72**	**235**	P	**P**	**03 12 47.2**	**+2.2**
	comp=Z,4.6nm,0.3s,baz=66,slow=11,SNR=17						
ASAJ	**Asahikawa**	**14.72**	**235**	P	**P**	**03 12 47.3**	**+2.2**
ASAJ				pmax	pmax		
	comp=Z,5.0nm,0.3s						
YAK	**Yakutsk**	**17.66**	**309**	*e*P	**P**	**03 13 20.4**	**-1.0**
YAK				*e*S	**S**	**03 16 34.8**	**+3.3**
YAK				pmax	pmax		
	comp=Z,60nm,0.7s						
YAK				pmax	pmax		
	comp=N,11nm,1.4s						
YAK				pmax	pmax		
	comp=E,15nm,0.6s						
YAK				smax			
	comp=E,14nm,1.0s						
YAK				smax			
	comp=N,8.0nm,0.9s						
YAK	**Yakutsk**	**17.66**	**309**	*e*P	**P**	**03 13 20.7**	**-0.7**
	comp=N,364nm,0.6s						
KLR	**Kul'dur**	**17.79**	**266**	*e*P	**P**	**03 13 24.0**	**+0.9**
KLR				pmax	pmax		
	comp=N,25nm,1.2s						
KLR				pmax	pmax		
	comp=Z,38nm,1.2s						
NIKO	**Nikolski**	**18.83**	**80**	*e*P	**P**	**03 13 32.4**	**-2.1**
CLNS	**Chul'man**	**19.75**	**293**	*e*P	**P**	**03 13 43.4**	**-0.9**
CLNS				pmax	pmax		
	comp=Z,31nm,0.9s						
CLNS				pmax	pmax		
	comp=N,10.0nm,0.8s						
CLNS				pmax	pmax		
	comp=E,30nm,1.1s						
CLNS				pmax	pmax		
	comp=N,126nm,14.4s						
CLNS				pmax	pmax		
	comp=Z,67nm,11.0s						
CLNS				pmax	pmax		
	comp=E,49nm,16.8s						
TNA	**Tin City**	**19.91**	**41**	*e*P	**P**	**03 13 45.5**	**-0.4**
	comp=E,26nm,0.9s						
UNV	**Unalaska Valle**	**19.97**	**76**	*e*P	**P**	**03 13 45.4**	**-1.1**
	comp=E,372nm,1.0s						
MDJ	**Mudanjiang**	**21.45**	**257**	P	**P**	**03 14 00.7**	**-0.7**
MDJ				AMB	AMB		
	comp=Z,8.0nm,1.1s,mb4.0						
MDJ				AMB	AMB		
	comp=Z,116nm,6.0s						
MDJ				LR	LR		
	comp=N,57nm,28.0s						
MDJ				LR	LR		
	comp=E,73nm,34.3s						
MDJ				LR	LR		
	comp=Z,81nm,39.4s						
MDJ	**Mudanjiang**	**21.45**	**257**	*e*P	**P**	**03 14 01.1**	**-0.3**
TIXI	**Tiksi**	**22.23**	**335**	⇑*i*P	**P**	**03 14 08.9**	**0.0**
TIXI				*i* *PP		03 14 34.1	
TIXI				*e**SP		03 14 50.1	
TIXI				*i*		03 17 58.8	
TIXI				*e*S	**S**	**03 18 05.1**	**+4.7**
TIXI				pmax	pmax		
	comp=Z,18nm,0.9s,mb4.4						
TIXI				MLR	MLR		
	comp=Z,100nm,19.0s						
MAJO	**Matsushiro**	**22.75**	**229**	*e*P	**P**	**03 14 15.1**	**+1.0**
	comp=Z,28nm,0.5s,mb4.8						
MAT	**Matsushiro**	**22.75**	**229**	P	**P**	**03 14 15.4**	**+1.3**
MAT	**Matsushiro**	**22.75**	**229**	*e*P	**P**	**03 14 15.0**	**+0.9**
	comp=Z,29nm,0.8s,mb4.7						
CN2	**Changchun**	**24.33**	**260**	⇑P	**P**	**03 14 29.2**	**-0.1**
CN2				*e*AP		03 14 55.7	
CN2				*e*S	**S**	**03 18 35.5**	**-1.0**
CN2				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.5						
CN2				AMB	AMB		
	comp=Z,300nm,6.0s						
TTA	**Tatalina**	**24.54**	**51**	*e*P	**P**	**03 14 31.3**	**+0.2**
HIA	**Hailar**	**24.88**	**276**	*e*P	**P**	**03 14 33.1**	**-1.4**
	comp=Z,28nm,0.8s,mb4.7						
HIA				*e*		03 15 00.6	
BOD	**Bodaibo**	**25.45**	**297**	*e*P	**P**	**03 14 38.3**	**-1.4**
IMA	**Indian Mountai**	**25.73**	**43**	*e*P	**P**	**03 14 42.4**	**+0.2**
RSO	**Redoubt South**	**26.23**	**56**	*e*P	**P**	**03 14 47.8**	**+0.9**
SPU	**Mount Spurr**	**26.48**	**54**	*e*P	**P**	**03 14 49.2**	**0.0**
MCK	**McKinley**	**27.72**	**49**	*e*P	**P**	**03 14 60.0**	**-0.5**
	comp=Z,2.5nm,0.7s,mb3.9						
PMR	**Palmer**	**27.83**	**53**	*e*P	**P**	**03 15 00.8**	**-0.7**
COLA	**College**	**28.13**	**46**	*e*P	**P**	**03 15 03.7**	**-0.5**
SML	**Sawmill**	**28.18**	**53**	*e*P	**P**	**03 15 03.3**	**-1.3**
JNU	**Nakatsue**	**29.00**	**236**	P	**P**	**03 15 12.8**	**+0.6**
	comp=Z,17nm,0.9s,mb4.7,baz=108,slow=0.8,SNR=6.0						
DAWY	**Dawson**	**31.86**	**47**	*e*P	**P**	**03 15 36.2**	**-1.0**
SONM	**Songino Array**	**33.37**	**282**	P	**P**	**03 15 50.4**	**+0.1**
	comp=Z,3.6nm,0.8s,mb4.3,baz=54,slow=8.5,SNR=37						
SONM				PcP	PcP	03 18 29.4	+0.1
	comp=Z,5.7nm,0.6s,baz=69,slow=1.6,SNR=29						
SONM				ScP		03 22 02.4	
	comp=Z,2.1nm,0.7s,baz=69,slow=2.1,SNR=14						
INK	**Inuvik**	**33.49**	**38**	P	**P**	**03 15 51.0**	**-0.2**
	comp=Z,8.0nm,0.5s,mb4.8,baz=303,slow=6.6,SNR=50						
INK				S	**S**	**03 21 03.6**	**+0.8**
	comp=Z,2.7nm,1.1s,baz=125,slow=6.5,SNR=4.0						
INK	**Inuvik**	**33.49**	**38**	P	**P**	**03 15 51.0**	**-0.2**
INK				S	**S**	**03 21 03.6**	**+0.8**
INK				pmax	pmax		
	comp=Z,8.0nm,0.5s						
INK				smax			
	comp=N,3.0nm,1.1s						
INK	**Inuvik**	**33.49**	**38**	*e*P	**P**	**03 15 50.3**	**-0.8**
	comp=N,9.1nm,0.6s,mb4.8						
ZAK	**Zakamensk**	**33.91**	**288**	*e*P	**P**	**03 15 54.6**	**-0.3**
ZAK				*e*	pP	03 16 20.0	-2.3
SSE	**Sheshan**	**35.62**	**246**	*e*P	**P**	**03 16 08.2**	**-1.4**
SSE				AMB	AMB		
	comp=Z,18nm,0.8s,mb5.0						
SSE				AMB	AMB		
	comp=Z,321nm,8.6s						
NJ2	**Nanjing**	**36.16**	**250**	*e*P	**P**	**03 16 13.6**	**-0.6**
NJ2				AP	pP	03 16 41.4	-0.5
NJ2				XP	sP	03 16 56.0	-0.5
NJ2				PP	PP	03 17 39.4	-0.9
NJ2				PPP	PPP	03 18 02.0	+0.5
NJ2				S	**S**	**03 21 42.0**	**-2.2**
NJ2				PCS		03 22 24.0	
NJ2				XS		03 22 31.0	
NJ2				LR	LR		
	comp=N,2μm,18.0s						
NJ2				LR	LR		
	comp=E,5μm,20.2s						
NJ2				LR	LR		
	comp=Z,3μm,16.7s						
DLBC	**Dease Lake**	**37.89**	**54**	P	**P**	**03 16 30.3**	**+1.9**
	comp=Z,18nm,0.7s,mb5.0,baz=284,slow=8.1,SNR=30						
LZH	**Lanzhou**	**41.98**	**268**	⇓P	**P**	**03 17 02.4**	**+0.1**
LZH				AP	pP	03 17 30.4	0.0
LZH				XP	sP	03 17 45.3	+0.4
LZH				PP	PP	03 18 44.5	+0.3
LZH				AMB	AMB		
	comp=Z,29nm,1.3s,mb4.8						
LZH				LR	LR		
	comp=E,258nm,12.9s						
LZH				LR	LR		
	comp=Z,354nm,17.0s						
ZAL	**Zalesovo**	**42.07**	**302**	P	**P**	**03 17 01.3**	**-1.4**
	comp=Z,2.5nm,0.7s,mb4.1,baz=15,slow=3.5,SNR=8.4						
ZAL				pP	pP	03 17 24.2	-6.7
	comp=Z,1.9nm,0.5s,baz=321,slow=8.0,SNR=1.9						
ZAL				LR	LR	03 35 35.5	
	comp=Z,40nm,19.7s,baz=106,slow=38						
ZAL	**Zalesovo**	**42.07**	**302**	*i* P	**P**	**03 17 01.3**	**-1.4**
ZAL				pmax	pmax		
	comp=Z,3.0nm,0.7s						
GTA	**Gaotai**	**42.16**	**275**	*e*P	**P**	**03 17 04.2**	**+0.5**
GTA				AP	pP	03 17 32.3	+0.5
GTA				XP	sP	03 17 46.6	+0.3
GTA				PP	PP	03 18 47.7	+1.8
GTA				PCP	PcP	03 18 57.0	+0.6
GTA				SCP		03 22 34.5	
GTA				PCS		03 22 48.0	
GTA				S	**S**	**03 23 17.3**	**+3.5**
GTA				XS		03 24 07.8	
GTA				SS	SS	03 26 24.7	+5.2
GTA				AMB	AMB		
	comp=Z,14nm,1.1s,mb4.6						
GTA				AMB	AMB		
	comp=Z,71nm,9.1s						
GTA				LR	LR		
	comp=N,67nm,16.0s						
GTA				LR	LR		
	comp=E,53nm,14.5s						
GTA				LR	LR		
	comp=Z,70nm,14.8s						
NVS	**Novosibirsk**	**42.38**	**304**	*i* P	**P**	**03 17 03.2**	**-2.0**
NVS				*i*	pP	03 17 31.5	-1.9
NVS				pmax	pmax		
	comp=Z,27nm,0.7s,mb5.1						
NVS				pmax	pmax		
	comp=N,11nm,0.6s						
NVS				pmax	pmax		
	comp=E,19nm,0.6s						
ENH	**Enshi**	**42.81**	**257**	*e*P	**P**	**03 17 07.6**	**-1.5**
	comp=E,38nm,0.4s,mb5.5						
YKA	**Yellowknife Ar**	**42.85**	**43**	P	**P**	**03 17 09.1**	**+0.1**
	comp=E,2.2nm,0.7s,mb4.0,baz=300,slow=7.2,SNR=6.4						
YKA				pP	pP	03 17 34.1	-3.1
	comp=E,1.5nm,0.5s,baz=298,slow=8.0,SNR=3.1						
YKA	**Yellowknife Ar**	**42.85**	**43**	P	**P**	**03 17 09.1**	**+0.1**
YKA				*PP	pP	03 17 34.1	-3.1
YKA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
YKA				pmax	pmax		
	comp=N,2.0nm,0.5s						
PGC	**Sidney**	**46.30**	**63**	*e*P	**P**	**03 17 36.8**	**0.0**
	comp=N,26nm,0.6s,mb5.1						
WMQ	**Urumqi**	**46.37**	**288**	P	**P**	**03 17 39.3**	**+2.0**
WMQ				AP	pP	03 18 08.2	+2.4
WMQ				XP	sP	03 18 22.7	+2.9
WMQ				PP	PP	03 19 29.8	+2.1
WMQ				AMB	AMB		
	comp=Z,24nm,1.0s,mb4.9						
WMQ				LR	LR		
	comp=Z,53nm,20.0s						
VDB	**Vedder Mountai**	**46.78**	**62**	P	**P**	**03 17 40.8**	**+0.3**
KURK	**Kurchatov**	**47.01**	**301**	P	**P**	**03 17 40.5**	**-1.8**
	comp=Z,298nm,0.5s,SNR=41						
KURK	**Kurchatov**	**47.01**	**301**	P	**P**	**03 17 40.7**	**-1.6**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.4						
KURK	**Kurchatov**	**47.01**	**301**	*e*P	**P**	**03 17 40.3**	**-2.0**
	comp=Z,27nm,0.6s,mb5.2						
KURK				*e*pP	pP	03 18 08.9	-2.0
MBW	**Mount Baker**	**47.04**	**62**	P	**P**	**03 17 43.1**	**+0.6**
HDW	**Hoodsport**	**47.12**	**64**	P	**P**	**03 17 44.0**	**+0.9**
GYA	**Guiyang**	**47.31**	**256**	⇑*i*P	**P**	**03 17 45.5**	**+0.6**
GYA				AP	pP	03 18 14.8	+1.3
GYA				S	**S**	**03 24 22.0**	**-5.8**
GYA				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.0						
GYA				AMB	AMB		
	comp=Z,320nm,8.4s						
JCW	**Jim Creek**	**47.38**	**63**	P	**P**	**03 17 45.8**	**+0.6**
RPW	**Rockport**	**47.45**	**63**	P	**P**	**03 17 45.9**	**+0.2**
MKAR	**Makanchi Array**	**47.49**	**295**	P	**P**	**03 17 44.8**	**-1.2**
	comp=Z,12nm,0.5s,mb4.9,baz=57,slow=7.4,SNR=145						
MKAR				pP	pP	03 18 08.1	-6.6
	comp=Z,2.5nm,0.6s,baz=60,slow=9.3,SNR=2.6						
MKAR	**Makanchi Array**	**47.49**	**295**	P	**P**	**03 17 44.8**	**-1.2**
MKAR				*PP	pP	03 18 08.1	-6.6
MKAR				pmax	pmax		
	comp=Z,12nm,0.5s						
MKAR				pmax	pmax		
	comp=N,3.0nm,0.6s						
NLW	**Nelson Butte**	**48.29**	**62**	*e*P	**P**	**03 17 52.5**	**+0.2**
LON	**Longmire**	**48.35**	**64**	*e*P	**P**	**03 17 52.3**	**-0.4**
SSOR	**Sweet Springs**	**49.20**	**67**	*e*P	**P**	**03 17 59.7**	**+0.4**
VOSK	**Vostochnaya**	**49.53**	**307**	P	**P**	**03 17 59.8**	**-1.9**
VOSK				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
BRVK	**Borovoye**	**49.65**	**308**	P	**P**	**03 18 01.0**	**-1.6**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
BRVK	**Borovoye**	**49.65**	**308**	*e*P	**P**	**03 18 00.8**	**-1.8**
	comp=Z,12nm,0.6s,mb5.0						
HAWA	**Hanford**	**49.79**	**64**	*e*P	**P**	**03 18 03.3**	**-0.4**
	comp=Z,7.4nm,0.8s,mb4.7						
NEW	**Newport**	**49.85**	**60**	P	**P**	**03 18 04.0**	**-0.2**
	comp=Z,6.6nm,0.7s,mb4.7,baz=329,slow=6.9,SNR=12						
NEW	**Newport**	**49.85**	**60**	P	**P**	**03 18 04.0**	**-0.2**
NEW				pmax	pmax		
	comp=Z,7.0nm,0.7s						
NEW	**Newport**	**49.85**	**60**	*e*P	**P**	**03 18 03.5**	**-0.7**
	comp=Z,8.0nm,0.9s,mb4.7						
ZRNK	**Zerenda**	**50.32**	**308**	P	**P**	**03 18 05.9**	**-1.8**
ZRNK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
ZRNK	**Zerenda**	**50.32**	**308**	*e*P	**P**	**03 18 05.5**	**-2.2**
	comp=Z,10nm,0.6s,mb4.9						
ZRNK				*e*PcP	PcP	03 19 23.1	-1.7
HUMO	**Hull Mountain**	**50.39**	**69**	*e*P	**P**	**03 18 08.8**	**+0.4**
	comp=Z,6.8nm,0.9s,mb4.6						
KMI	**Kunming**	**50.60**	**259**	*e*P	**P**	**03 18 10.1**	**-0.1**
KMI				AP	pP	03 18 39.4	+0.2
KMI				AMB	AMB		
	comp=Z,12nm,0.6s,mb5.1						
YBH	**Yreka Blue Hor**	**51.11**	**70**	*e*P	**P**	**03 18 14.6**	**+0.7**
	comp=Z,5.9nm,0.6s,mb4.8						
BSMT	**Bassoo Peak**	**51.31**	**59**	P	**P**	**03 18 15.9**	**+0.6**
KEV	**Kevo**	**51.97**	**341**	*e*p	**P**	**03 18 16.2**	**-3.8**
MOD	**Modoc**	**52.33**	**68**	*e*P	**P**	**03 18 23.5**	**+0.5**
	comp=Z,11nm,0.5s,mb5.1						
ARCES	**ARCESS Array B**	**52.44**	**341**	P	**P**	**03 18 21.3**	**-2.2**
	comp=Z,3.2nm,0.7s,mb4.5,baz=46,slow=7.4,SNR=16						
ARCES				PcP	PcP	03 19 31.6	-0.9
	comp=Z,2.9nm,0.7s,baz=30,slow=7.3,SNR=6.0						
ARCES	**ARCESS Array B**	**52.44**	**341**	P	**P**	**03 18 21.3**	**-2.2**
ARCES						03 19 31.6	
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ARCES	**ARCESS Array B**	**52.44**	**341**	P	**P**	**03 18 21.3**	**-2.2**
ARCES				PcP	PcP	03 19 31.6	-0.9
ARU	**Arti**	**52.58**	**317**	P	**P**	**03 18 23.7**	**-1.0**
	comp=Z,75nm,0.2s,SNR=9.4						
ARU	**Arti**	**52.58**	**317**	⇓*i*P	**P**	**03 18 23.0**	**-1.7**
ARU				*e*		03 19 30.3	
ARU				*e*		03 20 19.9	
ARU				*e*S	**S**	**03 25 41.8**	**+1.5**
ARU				pmax	pmax		
	comp=Z,11nm,0.6s,mb5.1						

ARU	Arti	52.58	317	eP	P	03 18 22.6	-2.1
	comp=Z,14nm,0.6s,mb5.2						
CHMT	Chamberlain Mo	52.71	59	eP	P	03 18 25.2	-0.6
WVOR	Wild Horse Val	52.88	67	eP	P	03 18 27.4	+0.2
	comp=Z,6.8nm,1.0s,mb4.6						
SUMG	Summit	53.24	7	eP	P	03 18 28.7	-0.7
	comp=Z,8.8nm,1.0s,mb4.7						
OHCM	Honcut	53.42	71	eP	P	03 18 30.6	-0.5
HRY	Holter Researc	53.57	59	eP	P	03 18 32.0	-0.1
BEKR	Beckwourth	53.69	70	eP	P	03 18 33.1	0.0
	comp=Z,15nm,0.9s,mb5.0						
MCMT	McKenzie Canyo	54.33	61	eP	P	03 18 37.5	-0.2
HLID	Hailey	54.38	63	eP	P	03 18 37.9	-0.2
	comp=Z,2.3nm,0.6s,mb4.4						
BOZ	Bozeman (W)	54.40	60	eP	P	03 18 38.1	0.0
	comp=Z,9.5nm,0.7s,mb4.9						
AAK	Ala-Archa	54.41	295	eP	P	03 18 35.5	-2.7
	comp=Z,3.4nm,0.6s,mb4.5						
AAK				epP	pP	03 19 05.5	-2.1
WCN	Washoe City	54.41	70	eP	P	03 18 38.9	+0.5
	comp=Z,14nm,0.9s,mb5.0						
CMB	Columbia Colle	54.94	72	eP	P	03 18 42.5	+0.2
	comp=Z,4.7nm,0.8s,mb4.6						
BMN	Battle Mountai	55.03	68	eP	P	03 18 43.5	+0.6
	comp=Z,12nm,0.7s,mb5.0						
QLMT	Earthquake Lak	55.06	60	eP	P	03 18 43.3	+0.3
YMR	Madison River	55.41	60	eP	P	03 18 45.9	+0.3
ELK	Elko	55.89	66	eP	P	03 18 49.5	+0.5
	comp=Z,7.9nm,0.7s,mb4.8						
MOOW	Moose Ponds	56.17	61	eP	P	03 18 51.2	+0.2
TPAW	Teton Pass	56.24	61	eP	P	03 18 52.0	+0.5
WUWY	Wally Ulrich	56.32	61	eP	P	03 18 52.7	+0.6
LOHW	Long Hollow	56.34	61	eP	P	03 18 52.8	+0.6
LAO	LASA Array	56.38	56	eP	P	03 18 52.2	-0.3
	comp=Z,14nm,0.8s,mb5.0						
REDW	Red Top Meadow	56.38	61	eP	P	03 18 53.1	+0.6
TPH	Tonopah	56.69	70	eP	P	03 18 55.1	+0.4
	comp=Z,9.9nm,0.7s,mb5.0						
BGU	Big Grassy Mou	56.95	65	eP	P	03 18 56.7	+0.1
SPUT	South Promonto	56.99	64	eP	P	03 18 57.1	+0.3
HWUT	Hardware Ranch	57.25	63	eP	P	03 18 59.1	+0.5
	comp=Z,19nm,0.7s,mb5.2						
BW06	Boulder Array	57.48	61	eP	P	03 19 00.5	+0.3
	comp=Z,15nm,0.5s,mb5.3						
PDAR	Pinedale Array	57.48	61	P	P	03 19 00.8	+0.6
	comp=Z,18nm,0.6s,mb5.3,baz=323,slow=2.5,SNR=178						
PDAR				pP	pP	03 19 27.4	-2.4
	comp=Z,1.8nm,0.6s,baz=323,slow=4.5,SNR=1.8						
DUG	Dugway	57.59	65	eP	P	03 19 01.3	+0.3
	comp=Z,10nm,1.0s,mb4.8						
TCUT	Toone Canyon	57.68	63	eP	P	03 19 00.8	-0.8
JLU	Jordanelle	58.03	64	eP	P	03 19 04.5	+0.4
TPNV	Topopah Spring	58.03	70	eP	P	03 19 04.3	+0.1
	comp=Z,11nm,0.9s,mb4.9						
NLU	North Lily Min	58.16	65	eP	P	03 19 04.9	-0.1
DAU	Daniels Canyon	58.27	64	eP	P	03 19 06.6	+0.8
MPU	Maple Canyon	58.35	64	eP	P	03 19 06.9	+0.5
GUN	Gumba	58.45	275	eP	P	03 19 05.7	-1.5
	comp=Z,23nm,0.4s,mb5.6						
ULM	Lac du Bonnet	58.57	47	P	P	03 19 07.3	-0.4
	comp=Z,5.8nm,0.5s,mb4.9,baz=314,slow=7.7,SNR=25						
ULM				pP	pP	03 19 34.9	-2.6
	comp=Z,1.8nm,0.5s,baz=225,slow=11,SNR=2.2						
KAF	Kangasniemi	58.63	336	ep	P	03 19 05.5	-2.5
	comp=Z,3.1nm,0.4s,mb4.7,baz=30,slow=6.5						
KAF	Kangasniemi	58.63	336	eP	P	03 19 05.5	-2.5
KAF				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.7						
KKN	Kakani	58.89	275	eP	P	03 19 09.4	-0.9
	comp=Z,44nm,0.5s,mb5.8						
PKI	Pulchoki	58.98	275	eP	P	03 19 09.2	-1.7
	comp=Z,24nm,0.7s,mb5.3						
GKN	Gorkha	59.11	276	eP	P	03 19 09.7	-2.1
	comp=Z,24nm,0.6s,mb5.4						
DMN	Daman	59.13	275	eP	P	03 19 10.7	-1.2
	comp=Z,35nm,0.6s,mb5.5						
FINES	FINESS Array B	59.27	336	P	P	03 19 10.7	-1.7
	comp=Z,4.1nm,0.5s,mb4.8,baz=63,slow=8.5,SNR=59						
FINES				LR	LR	03 47 06.7	
	comp=Z,20nm,19.0s,baz=31,slow=38						
FINES	FINESS Array B	59.27	336	P	P	03 19 10.7	-1.7
FINES				pmax	pmax		
	comp=Z,4.0nm,0.5s						
FINES				MLR	MLR		
	comp=Z,20nm,19.0s						
RSSD	Black Hills	59.29	56	eP	P	03 19 12.8	-0.1
	comp=Z,38nm,0.6s,mb5.6						
SRU	San Rafael	59.59	64	eP	P	03 19 15.1	+0.2
NEN	Nelson	59.75	70	eP	P	03 19 16.3	+0.2
KOLN	Koldanda	59.90	277	eP	P	03 19 15.4	-1.8
	comp=Z,18nm,0.6s,mb5.3						
LDFC	Landfair	60.02	71	eP	P	03 19 17.7	-0.2
PV10	Paradox Valley	60.92	64	eP	P	03 19 24.6	+0.6
PV01	Paradox Valley	61.35	64	eP	P	03 19 26.9	0.0
OBN	Obninsk	61.67	327κ	iP	P	03 19 26.5	-2.3
OBN				*PP	pP	03 19 58.0	-0.8
OBN				pmax	pmax		
	comp=Z,16nm,1.2s,mb4.9						
ISCO	Idaho Springs	61.67	61	eP	P	03 19 29.5	+0.5
	comp=Z,11nm,1.1s,mb4.8						
BORG	Borgarnes	61.72	0	P	P	03 19 29.7	+0.6
	comp=Z,5.7nm,0.6s,mb4.8,baz=200,slow=5.5,SNR=3.7						
NB2	NORSAR Subarra	62.70	343	P	P	03 19 33.4	-2.2
	comp=Z,3.4nm,0.6s,mb4.5,baz=23,slow=6.5						
NOA	NORSAR Array B	62.70	343	P	P	03 19 33.7	-1.9
	comp=Z,2.9nm,0.6s,mb4.4,baz=22,slow=6.7,SNR=11						
NOA				PcP	PcP	03 20 11.8	-1.0
	comp=Z,2.0nm,0.7s,baz=24,slow=3.3,SNR=6.3						
NOA	NORSAR Array B	62.70	343	P	P	03 19 33.7	-1.9
NOA						03 20 11.8	
NOA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NOA	NORSAR Array B	62.70	343	P	P	03 19 33.7	-1.9
NOA				PcP	PcP	03 20 11.8	-1.0
SDCO	Great Sand Dun	63.26	62	eP	P	03 19 39.6	0.0
	comp=Z,1.9nm,0.6s,mb4.2						
ANMO	Albuquerque	64.86	65d	iP	P	03 19 50.5	+0.6
ANMO				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ANMO	Albuquerque	64.86	65	eP	P	03 19 50.2	+0.3
	comp=Z,6.1nm,1.0s,mb4.4						
SCHQ	Schefferville	65.14	27	P	P	03 19 50.6	-0.8
	comp=Z,3.7nm,0.6s,mb4.4,baz=0.6,slow=8.1,SNR=12						
BSD	Bornholm Skovb	67.53	339	⇓iP	P	03 20 05.6	-0.9
	comp=Z,8.8nm,0.5s,mb4.8						
AKASG	Malin Array Be	67.76	328	P	P	03 20 06.2	-1.9
	comp=Z,5.0nm,0.4s,mb4.7,baz=29,slow=6.7,SNR=22						
AKASG	Malin Array Be	67.76	328	P	P	03 20 06.2	-1.8
AKASG				pmax	pmax		
	comp=Z,5.0nm,0.4s						
GDL2	Guadalupe Moun	68.08	65	eP	P	03 20 10.4	+0.1
CLNB	Carlsbad	68.29	65	eP	P	03 20 11.5	-0.1
WMOK	Wichita Mounta	69.04	60	eP	P	03 20 15.4	-0.8
	comp=Z,10.0nm,0.6s,mb4.8						
BSEG	Bad Segeberg	69.57	341	eP	P	03 20 18.5	-0.6
SOC	Sochi	70.13	318	eP	P	03 20 18.1	-4.6
SOC				eS	S	03 29 16.3	-6.0
SOC				ePS	PS	03 29 52.7	-15
SOC				pmax	pmax		
	comp=N,21nm,0.9s						
SOC				pmax	pmax		
	comp=E,33nm,0.9s						
SOC				pmax	pmax		
	comp=Z,29nm,0.9s,mb5.1						
KAKA	Kakadu	70.20	208	eP	P	03 20 23.8	+0.3
	comp=Z,7.1nm,0.6s,mb4.7						
FVM	French Village	70.56	52	eP	P	03 20 24.3	-1.1
	comp=Z,5.2nm,0.6s,mb4.5						
KWP	Kalwaria	70.64	332	eP	P	03 20 24.9	-0.7
	comp=Z,28nm,1.0s,mb5.0						
LTX	Lajitas	70.68	67	eP	P	03 20 26.5	+0.3
	comp=Z,12nm,0.7s,mb4.8						
TXAR	Lajitas Array	70.68	67	P	P	03 20 26.8	+0.6
	comp=Z,10nm,0.5s,mb4.9,baz=299,slow=4.7,SNR=208						
TXAR				pP	pP	03 20 54.0	-3.0
	comp=Z,1.3nm,0.4s,baz=298,slow=4.9,SNR=2.5						
TXAR				LR	LR	03 52 19.4	
	comp=Z,19nm,20.2s,baz=185,slow=36						
TXAR	Lajitas Array	70.68	67	P	P	03 20 26.8	+0.6
TXAR				pP	pP	03 20 54.0	-3.0
TXAR				LR	LR	03 52 19.4	
OJC	Ojcow	70.89	334	eP	P	03 20 26.8	-0.3
KIS	Kishinev	71.14	327	eP	P	03 20 22.0	-6.7
KIS				e		03 21 02.0	
KIS				e		03 23 04.0	
KSP	Ksiaz	71.19	336	eP	P	03 20 28.1	-0.8
KOLS	Kolonicke sedl	71.39	332	iP	P	03 20 29.7	-0.4
CLL	Collm	71.50	339	⇓P	P	03 20 30.0	-0.7
	comp=Z,logA/T=1.3,mb4.9						
CLL	Collm	71.50	339	⇓iP	P	03 20 30.0	-0.7
CLL				e	pP	03 21 03.0	+1.5
CLL				pmax	pmax		
	comp=Z,14nm,0.7s,mb4.9						
CLL	Collm	71.50	339	⇓iP	P	03 20 30.0	-0.7
	comp=Z,14nm,0.7s,mb4.9						
CLL				e	pP	03 21 03.0	+1.5
CLZ	Clausthal	71.55	340	eP	P	03 20 30.6	-0.4
UPC	Upice	71.57	336	⇓eP	P	03 20 30.5	-0.6
DPC	Dobruska-Polom	71.64	336	eP	P	03 20 31.5	-0.1
DPC				epP	pP	03 21 01.2	-1.2
OKC	Ostrava-Krasne	71.67	335	eP	P	03 20 31.1	-0.6
BRG	Berggiesshubel	71.70	338	iP	P	03 20 31.6	-0.3
BRG				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
BRG	Berggiesshubel	71.70	338	iP	P	03 20 31.6	-0.3
	comp=Z,5.3nm,0.6s,mb4.5						
JCT	Junction City	71.86	63	eP	P	03 20 32.8	-0.4
	comp=Z,6.8nm,0.6s,mb4.7						
MORC	Moravsky Berou	71.87	335	eP	P	03 20 31.9	-1.1
	comp=Z,3.7nm,0.8s,mb4.3						
PVCC	Panska Ves	71.89	337	⇓eP	P	03 20 32.6	-0.4
WTSB	Winterswijk	72.10	343	eP	P	03 20 33.9	-0.4
	comp=Z,7.9nm,0.3s,mb5.0						
WCI	Wyandotte Cave	72.24	49	eP	P	03 20 34.4	-0.9
	comp=Z,9.2nm,0.6s,mb4.8						
PRU	Pruhonice	72.40	337	⇓P	P	03 20 35.7	-0.3
	comp=Z,8.0nm,0.8s,mb4.6						
PRU	Pruhonice	72.40	337	⇓P	P	03 20 35.7	-0.3
PRU				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.6						
MOX	Moxa	72.42	339	iP	P	03 20 35.9	-0.3
	comp=Z,logA/T=1.1,mb4.7						
MOX	Moxa	72.42	339	eP	P	03 20 35.9	-0.3
MOX				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.7						
MOX	Moxa	72.42	339	eP	P	03 20 35.9	-0.3
	comp=Z,11nm,0.8s,mb4.7						
VYHS	Vyhne	72.72	334	iP	P	03 20 37.9	0.0
PSZ	Piszkesteto	72.97	333	⇓eP	P	03 20 39.4	+0.1
PSZ	Piszkesteto	72.97	333	eP	P	03 20 38.8	-0.5
	comp=Z,3.3nm,0.6s,mb4.3						
WVT	Waverly	73.27	51	eP	P	03 20 40.8	-0.5
	comp=Z,6.9nm,0.7s,mb4.6						
HGN	Heimansgroeve	73.41	343	eP	P	03 20 41.7	-0.1
	comp=Z,7.6nm,0.7s,mb4.6						
GRA1	Grafenberg Arr	73.41	339	eP	P	03 20 42.1	+0.3
	comp=Z,18nm,0.9s,mb4.9						
GRF	Grafenberg Arr	73.41	339	eP	P	03 20 42.1	+0.3
GRF				pmax	pmax		
	comp=Z,18nm,0.9s,mb4.9						
KHC	Kasperske Hory	73.42	337	eP	P	03 20 41.9	0.0
WET	Wettzell	73.57	338	eP	P	03 20 42.7	-0.1
GEC2	GERESS Array S	73.66	337	eP	P	03 20 42.7	-0.6
GERES	GERESS Array B	73.66	337	P	P	03 20 43.3	0.0
	comp=Z,2.7nm,0.5s,mb4.2,baz=35,slow=5.7,SNR=44						
GERES	GERESS Array B	73.66	337	P	P	03 20 43.3	0.0
GERES				pmax	pmax		
	comp=Z,3.0nm,0.5s						
OXF	Oxford	73.85	53	eP	P	03 20 43.9	-0.8
BAIF	Baives	74.38	344	eP	P	03 20 47.2	-0.3
	comp=Z,16nm,0.9s,mb4.4						
CTA	Charters Tower	74.52	193	P	P	03 20 49.5	+0.6
	comp=Z,3.3nm,0.8s,mb4.1,baz=26,slow=3.9,SNR=3.6						
CTA	Charters Tower	74.52	193	P	P	03 20 49.5	+0.7
CTA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
CTAO	Charters Tower	74.52	193	P	P	03 20 49.0	+0.1
SWET	Sewanee	74.89	50	eP	P	03 20 49.9	-0.8
PWV	Princeton	75.28	46	P	P	03 20 50.5	-2.3
PERS	Pernice	75.39	335	iP	P	03 20 53.6	+0.3
WLS	Welschbruch	75.41	341	eP	P	03 20 53.5	+0.2
CDF	Champ du Feu	75.42	341	eP	P	03 20 53.3	-0.1
	comp=Z,15nm,0.9s,mb4.4						
ECH	Echery	75.63	341	eP	P	03 20 54.6	0.0
MEZF	Maizieres J'vi	75.74	343	eP	P	03 20 55.3	+0.1
	comp=Z,8.9nm,0.6s,mb4.4						
BRTR	Keskin Array B	75.79	320	P	P	03 20 55.5	-0.2
	comp=Z,1.5nm,0.6s,mb3.9,baz=62,slow=3.9,SNR=12						
BRTR				LR	LR	03 58 02.3	
	comp=Z,18nm,18.8s,baz=10.0,slow=39						
BRTR	Keskin Array B	75.79	320	P	P	03 20 55.5	-0.2
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BRTR				MLR	MLR		
	comp=Z,18nm,18.8s						
FELD	Feldberg	75.79	341	eP	P	03 20 55.8	+0.3
THEF	They Montfort	75.84	342	eP	P	03 20 55.8	+0.1
HAU	Haudompre	75.98	342	eP	P	03 20 56.3	-0.3
	comp=Z,6.9nm,0.6s,mb4.3						
MOF	Molkenrain	75.99	341	eP	P	03 20 56.4	-0.2
HINF	Hinteralfeld	76.07	341	eP	P	03 20 56.5	-0.6
	comp=Z,2.9nm,0.5s,mb4.0						
LRAL	Lakeview Retre	76.20	52	eP	P	03 20 57.1	-1.0
	comp=Z,46nm,1.7s,mb4.9						
JAVS	Javornik	76.34	336	iP	P	03 20 58.3	-0.4
FLN	La Foliniere	76.36	346	eP	P	03 20 58.0	-0.6
	comp=Z,23nm,0.9s,mb4.6						
CEY	Cerknica	76.40	336	iP	P	03 20 58.6	-0.3
BOJS	Bojanci	76.42	335	iP	P	03 20 59.1	+0.1
LDF	La Druitiere	76.47	346	eP	P	03 20 58.7	-0.6
WRAB	Tennant Creek	76.61	204	eP	P	03 21 00.4	-0.3
	comp=Z,8.6nm,0.8s,mb4.5						
WB2	Warramunga Arr	76.62	204	eP	P	03 21 01.1	+0.4
WRA	Warramunga Arr	76.62	204	P	P	03 21 01.0	+0.2
	comp=Z,6.2nm,0.8s,mb4.4,baz=17,slow=5.9,SNR=29						
WRA				pP	pP	03 21 29.2	-2.8
	comp=Z,1.4nm,0.6s,baz=17,slow=6.1,SNR=2.9						
WRA	Warramunga Arr	76.62	204	P	P	03 21 01.0	+0.3
WRA				*PP	pP	03 21 29.2	-2.8
WRA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
WRA				pmax	pmax		
	comp=N,1.0nm,0.6s						
GRR	Gorron	76.78	347	eP	P	03 21 00.7	-0.3
SGMF	Saint Gilles	77.13	348	eP	P	03 21 02.7	-0.3
	comp=N,14nm,0.8s,mb4.5						
ROSF	Rostrenen	77.14	348	eP	P	03 21 02.8	-0.2
	comp=N,21nm,0.9s,mb4.6						
LOR	Lormes	77.14	343	eP	P	03 21 02.9	-0.2
	comp=N,13nm,0.8s,mb4.4						
FITZ	Fitzroy Crossi	77.34	213	eP	P	03 21 05.6	+0.9
	comp=N,5.7nm,1.0s,mb4.3						
FITZ	Fitzroy Crossi	77.34	213	P	P	03 21 05.7	+1.0
	comp=N,4.0nm,0.6s,mb4.3,baz=57,slow=2.9,SNR=13						
HYF	Humbligny	77.34	344	eP	P	03 21 04.4	+0.2
CABF	La Chapelle	77.38	342	eP	P	03 21 04.6	+0.2
	comp=N,13nm,0.9s,mb4.4						
SSF	Saint Saulge	77.40	343	eP	P	03 21 04.3	-0.2
	comp=N,11nm,0.9s,mb4.3						
QUIF	Quistinic	77.54	348	eP	P	03 21 04.9	-0.3
	comp=N,16nm,0.9s,mb4.5						
AVF	Avril sur Loir	77.69	343	eP	P	03 21 06.0	-0.1
	comp=N,14nm,0.8s,mb4.4						
SMF	Signal de Mont	77.75	343	eP	P	03 21 06.3	-0.1
BGF	Bois d'Agland	78.00	344	eP	P	03 21 07.7	-0.1
	comp=N,4.8nm,0.6s,mb4.1						
RSL	Roselend	78.16	341	eP	P	03 21 09.6	+0.9
MIB	Mutribah	78.20	305	eP	P	03 21 08.0	-1.2
MIB				AMb	AMB	03 21 08.7	
	comp=Z,36nm,0.5s,mb5.3						
LPL	La Plagne	78.31	341	eP	P	03 21 10.7	+1.2
	comp=Z,16nm,0.5s,mb4.7						
LPG	La Plagne	78.32	341	eP	P	03 21 11.0	+1.4
	comp=Z,34nm,0.8s,mb4.8						
TCF	Toulx Ste Croi	78.37	344	eP	P	03 21 09.9	+0.1
	comp=Z,5.1nm,0.7s,mb4.1						
MFF	Saint Martin d	78.42	346	eP	P	03 21 10.1	0.0
PLDF	La Plantade	78.44	343	eP	P	03 21 11.0	+0.8
AGO	Saint Agoulin	78.44	343	eP	P	03 21 11.1	+0.9
BOB	Bobbio (Coli)	78.47	339	eP	P	03 21 12.1	+1.7
RST	Umm Al-Ruwaisa	78.62	305	eP	P	03 21 10.8	-0.7
RST				AMb	AMB	03 21 11.8	
	comp=Z,38nm,0.4s,mb5.6						
PYM	Petit Puy Mans	78.76	343	eP	P	03 21 12.8	+0.9
BNI	Bardonecchia	78.76	341	eP	P	03 21 12.4	+0.4
	comp=Z,19nm,1.5s,mb4.7						
QRN	Al-Qurain	78.79	304	eP	P	03 21 12.1	-0.4
QRN				AMb	AMB	03 21 12.5	
	comp=Z,40nm,0.5s,mb5.5						
PGD	Poggio Sodo	78.80	337	eP	P	03 21 14.0	+1.7
RDF	Al-Radifah	78.82	304	eP	P	03 21 12.2	-0.5
RDF				AMb	AMB	03 21 13.8	
	comp=Z,39nm,0.6s,mb5.4						
ORIF	Oris-en-Rattie	79.05	341	eP	P	03 21 14.6	+1.1
	comp=Z,6.9nm,0.5s,mb4.5						
MBDF	Montbardon	79.06	341	eP	P	03 21 14.3	+0.7
	comp=Z,7.2nm,0.6s,mb4.4						
NHSC	New Hope	79.24	47	P	P	03 21 14.0	-0.9
VIVF	Saint-Julien-l	79.33	342	eP	P	03 21 15.9	+0.8
	comp=Z,12nm,1.0s,mb4.4						
RJF	Les Rejaudoux	79.44	344	eP	P	03 21 16.0	+0.4
	comp=Z,6.0nm,0.7s,mb4.3						
NRCA	Norcia	79.45	336	eP	P	03 21 16.6	+0.8
OG25	Le Caire	79.54	341	eP	P	03 21 17.4	+1.2
AUTN	L'Aution	79.63	340	eP	P	03 21 18.2	+1.5
CAF	Calviac	79.72	344	eP	P	03 21 18.0	+0.8
	comp=Z,20nm,1.1s,mb4.6						
AURF	Auriere	79.75	340	eP	P	03 21 19.2	+1.8
SBF	Sospel	79.75	340	eP	P	03 21 17.4	0.0
	comp=Z,25nm,0.9s,mb4.8						
MVIF	Mont Vial	79.78	340	eP	P	03 21 17.9	+0.4
LFF	La Frestale	79.91	345	eP	P	03 21 18.8	+0.6
	comp=Z,4.8nm,0.4s,mb4.3						
SMRF	Simiane la Rot	80.01	341	eP	P	03 21 20.1	+1.3
	comp=Z,5.0nm,0.6s,mb4.2						
FRF	La Foret Royal	80.20	340	eP	P	03 21 20.2	+0.4
	comp=Z,15nm,0.9s,mb4.5						
LASF	Ste Croix	80.23	342	eP	P	03 21 19.6	-0.4
ASAR	Alice Springs	80.31	204	P	P	03 21 22.0	+1.2
	comp=Z,6.3nm,0.8s,mb4.5,baz=17,slow=5.3,SNR=47						
ASAR				pP	pP	03 21 50.0	-2.2
	comp=Z,2.3nm,0.6s,baz=15,slow=5.2,SNR=4.2						
ASPA	Alice Springs	80.31	204	eP	P	03 21 22.0	+1.2
LMR	La Mourre	80.45	340	eP	P	03 21 21.4	+0.3
	comp=Z,5.4nm,0.5s,mb4.3						
PGF	Pioggiola	80.68	338	eP	P	03 21 21.6	-0.8
	comp=Z,6.6nm,0.7s,mb4.3						
ASF	Jabal al Asfar	81.00	314	P	P	03 21 24.1	-0.1
	comp=Z,1.6nm,0.4s,mb4.2,baz=262,slow=1.4,SNR=5.4						
MTLF	Montolieu	81.23	343	eP	P	03 21 25.5	+0.3
MGR	Morigerati	81.35	333	eP	P	03 21 26.1	+0.2
EPF	Esparros	81.84	345	eP	P	03 21 29.5	+1.1
	comp=Z,4.9nm,0.6s,mb4.2						
SJPF	Ste Jean	81.99	346	eP	P	03 21 30.4	+1.2
	comp=Z,10.0nm,0.8s,mb4.4						
ETSF	Etsaut	82.11	345	eP	P	03 21 31.1	+1.3
	comp=Z,20nm,0.8s,mb4.7						
MBWA	Marble Bar	82.18	217	eP	P	03 21 30.9	+0.3
	comp=Z,7.6nm,0.8s,mb4.6						
GRI	Girifalco	82.34	332	eP	P	03 21 31.6	+0.5
PBRG	Braganca	83.98	350	eP	P	03 21 40.2	+1.0
	comp=Z,30nm,1.5s,mb4.9						
PVRL	Vila Real	84.60	350	eP	P	03 21 43.5	+1.2
	comp=Z,45nm,1.1s,mb5.3						
PVIS	Viseu	85.17	350	eP	P	03 21 46.3	+1.1
	comp=Z,22nm,0.8s,mb5.1						
MTE	Manteigas	85.45	350	eP	P	03 21 47.2	+0.7
ESDC	Sonseca Array	85.75	347	P	P	03 21 49.0	+1.0
	comp=Z,4.4nm,0.5s,mb4.6,baz=0.6,slow=5.0,SNR=38						
ESDC				pP	pP	03 22 19.6	-0.3
	comp=Z,1.1nm,0.6s,baz=5.5,slow=4.8,SNR=2.4						
PCBR	Castelo Branco	86.00	350	eP	P	03 21 50.3	+1.1
	comp=Z,15nm,0.7s,mb5.0						
STKA	Stephens Creek	86.78	195	P	P	03 21 54.6	+1.4
	comp=Z,1.2nm,0.6s,mb4.0,baz=339,slow=15,SNR=3.0						
STKA				pP	pP	03 22 22.4	-2.8
	comp=Z,0.8nm,0.6s,baz=295,slow=11,SNR=2.9						
EVO	Evora	87.35	350	eP	P	03 21 56.5	+0.7
	comp=Z,3.8nm,0.5s,mb4.3						
PBEJ	Beja	87.83	350	eP	P	03 21 59.1	+1.0
FORT	Forrest	88.58	207	eP	P	03 22 02.7	+0.9
	comp=Z,21nm,0.6s,mb5.3						
NWAO	Narrogin (SRO)	93.84	215	P	P	03 22 26.8	+0.7
DBIC	Dimbokro	118.27	342	PKP	PKPdf	03 27 56.5	+1.6
	comp=Z,2.7nm,0.8s,slow=3.0,SNR=4.6						
DBIC				pPKP		03 28 26.0	
	comp=Z,1.1nm,0.6s,baz=76,slow=13,SNR=1.0						
DBIC	Dimbokro	118.27	342	PKIKP	PKPdf	03 27 56.5	+1.7
DBIC						03 28 26.0	
DBIC				pmax	pmax		
	comp=Z,3.0nm,0.8s						
DBIC				pmax	pmax		
	comp=N,1.0nm,0.6s						
BDFB	Brasilia	136.23	40	PKP	PKPdf	03 28 31.2	+2.2
	comp=N,1.1nm,0.6s,baz=177,slow=17,SNR=2.2						
BDFB	Brasilia	136.23	40	PKIKP	PKPdf	03 28 31.2	+2.2
BDFB				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MAW	Mawson	140.38	217	PKP	PKPdf	03 28 36.0	+0.7
	comp=Z,0.6nm,0.3s,baz=27,slow=4.6,SNR=3.9						
MAW	Mawson	140.38	217	PKIKP	PKPdf	03 28 36.0	+0.7
MAW				pmax	pmax		
	comp=Z,1.0nm,0.4s						
SUR	Sutherland	143.68	289	PKP	PKPdf	03 28 43.8	+2.0
	comp=Z,2.3nm,0.6s,baz=353,slow=6.4,SNR=4.9						
SNAA	Sanae	160.53	197	⇓iP	PKPab	03 29 48.7	-0.7
SNAA	Sanae	160.53	197	e	PP	03 33 31.0	-1.8
VNA2	Neumayer--Watz	161.91	194	⇑iP	PKPab	03 29 54.1	-1.3

IDC 04 03:20:20.7±13.0**, 3.34S**×**127.59E, mb3.6**/2**, mb1 3.8**/3**, mb1mx3.5**/13**, ML3.6**/1**, Error ellipse: s-maj=338.0km s-min=178.5km az=82.0, Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	17.76	159	P	P	03 24 28.9	-2.3
	0.2nm,0.3s,baz=332,slow=12,SNR=8.4						
ASAR	Alice Springs	21.11	164	P	P	03 25 08.0	-1.5
	0.7nm,0.6s,baz=348,slow=11,SNR=4.6						
STKA	Stephens Creek	31.29	157	P	P	03 26 42.4	-2.5
	0.6nm,0.3s,baz=337,slow=14,SNR=3.3						

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*IDC **04** 03:40:28.9±2.8, 5.48S×101.17E, h24^{km}±5^{km}, mb3.6/5, mb1 3.7/5, mb1mx3.5/14, Error ellipse: s-maj=116.0km s-min=16.5km az=57.0*

ISC 04 03:40:25.8±3.3**, 5.5S**±0.5×**101.0E**±0.8**, h24**^{km}**, (h25**^{km}±1.4^{km}**:pP-P), n6, σ**$0\overset{s}{.}70$/5**, mb3.8**/5**, Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	35.47	117	P	P	03 47 23.5	+0.8
	0.8nm,1.1s,mb3.6,baz=304,slow=8.7,SNR=2.0						
WRA				pP	pP	03 47 29.4	-0.5
	0.6nm,1.0s,baz=304,slow=9.1,SNR=1.6						
ASAR	Alice Springs	36.47	123	P	P	03 47 30.7	-0.5
	0.4nm,0.5s,mb3.6,baz=297,slow=7.8,SNR=4.8						
ASAR				pP	pP	03 47 38.3	-0.1
	0.3nm,0.4s,baz=301,slow=7.8,SNR=3.7						
STKA	Stephens Creek	46.13	130	P	P	03 48 50.2	-0.2
	1.6nm,1.0s,mb3.9,baz=305,slow=12,SNR=2.2						
STKA				pP	pP	03 48 57.2	-0.5
	1.4nm,0.8s,baz=306,slow=16,SNR=2.7						
SONM	Songino Array	53.34	5	P	P	03 49 45.1	-0.4
	1.0nm,0.6s,mb3.9,baz=189,slow=9.3,SNR=10						
SONM				pP	pP	03 49 53.6	+0.7
	0.9nm,0.8s,baz=188,slow=8.8,SNR=5.0						
MKAR	Makanchi Array	54.66	344	P	P	03 49 55.5	+0.4
	0.9nm,0.6s,mb4.0,baz=158,slow=9.2,SNR=7.9						
MKAR				pP	pP	03 50 04.0	+1.5
	0.5nm,0.6s,baz=156,slow=8.8,SNR=3.1						
TXAR	Lajitas Array	146.79	42	PKPbc	PKPbc	04 00 09.4	+3.0
	0.3nm,0.7s,baz=319,slow=2.1,SNR=4.8						

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*LDG **04** 03:53:59.2±0.1, 49.36N×6.95E, h1^{km}, Md2.1/1, Ml2.4/5, Error ellipse: s-maj=4.2km s-min=2.5km az=109.0, Suspected Mining induced.*

*BNS **04** 03:54:01.8±0.4, 49.43N×6.81E, h1^{km}, ML1.1*

ISC 04 03:53:58.3±0.5**, 49.34N**±0.02×**6.90E**±0.06**, n9, σ**$0\overset{s}{.}84$/17**, Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WLF	Walferdange	0.59	304	ePg	Pg	03 54 10.8	+0.8
BGG	Burgeitz	0.92	18	ePg	Pg	03 54 18.6	+2.0
BGG				eSg	Sg	03 54 29.7	+0.9
	9.0nm,0.4s						
CDF	Champ du Feu	0.96	165	ePn	Pn	03 54 18.2	-0.6
CDF				eSg	Sg	03 54 30.2	+0.1
	5.5nm,0.2s						
RFYF	Reffroy	1.18	234	ePg	Pg	03 54 22.3	+0.5
RFYF				eSg	Sg	03 54 38.6	+1.1

	9.3nm,0.2s						
STB	**Steinbach**	**1.26**	**358**	*e*Pg	**Pg**	**03 54 23.7**	**+0.2**
STB				*e*Sg	**Sg**	**03 54 39.4**	**-0.9**
	3.9nm,0.6s						
KLL	**Kalltalsperre**	**1.37**	**344**	*e*Pg	**Pg**	**03 54 24.7**	**-0.8**
KLL				*e*Sg	**Sg**	**03 54 42.3**	**-1.5**
	3.1nm,0.8s						
BFO	**Black Forest**	**1.38**	**136**	*e*Pg	**Pg**	**03 54 25.9**	**+0.1**
BFO				*e*Sg	**Sg**	**03 54 44.2**	**0.0**
HAU	**Haudompre**	**1.38**	**196**	*e*Pg	**Pg**	**03 54 25.5**	**-0.4**
HAU				*e*Sg	**Sg**	**03 54 43.1**	**-1.2**
	6.4nm,0.4s						
HINF	**Hinteralfeld**	**1.52**	**181**	*e*Pg	**Pg**	**03 54 28.3**	**-0.3**
HINF				*e*Sg	**Sg**	**03 54 49.1**	**+0.2**
	7.3nm,0.3s						

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*IDC **04** 04:17:08.5±24.0, 11.67N×124.86E, h184^{km}±236^{km}, mb3.3/7, mb1 3.5/7, mb1mx3.3/17, MS3.1/1, Ms1 3.1/1, ms1mx2.5/24, Error ellipse: s-maj=168.0km s-min=25.8km az=61.0*

ISC 04 04:16:54.6±3.8, 11.9N±0.3×125.3E±0.7, h73^{km}±29^{km}, n9, σ0^{s}63/9, mb3.7/7, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**2.15**	**175**	*e*P	**P**	**04 17 28.2**	**-0.9**
SCPH				*i* S	**S**	**04 17 55.6**	**+0.9**
TGY	**Tagaytay City**	**4.76**	**297**	LR	LR	04 19 55.4	
	comp=Z,207nm,18.2s,baz=67,slow=37						
FITZ	**Fitzroy Crossi**	**29.86**	**179**	P	**P**	**04 22 56.6**	**-0.9**
	4.0nm,1.0s,mb4.0,slow=8.1,SNR=6.5						
WRA	**Warramunga Arr**	**32.91**	**164**	P	**P**	**04 23 24.3**	**+0.1**
	0.3nm,0.8s,mb3.1,baz=344,slow=8.9,SNR=8.6						
ASAR	**Alice Springs**	**36.38**	**167**	P	**P**	**04 23 53.1**	**-0.6**
	0.8nm,0.4s,mb4.0,baz=342,slow=7.1,SNR=12						
STKA	**Stephens Creek**	**46.28**	**161**	P	**P**	**04 25 15.4**	**+0.6**
	0.4nm,0.4s,mb3.5,baz=333,slow=4.5,SNR=3.1						
MKAR	**Makanchi Array**	**50.13**	**322**	P	**P**	**04 25 44.6**	**+0.2**
	0.7nm,0.7s,mb3.7,baz=127,slow=8.5,SNR=5.7						
ARCES	**ARCESS Array B**	**82.30**	**340**	P	**P**	**04 29 09.8**	**+0.6**
	2.4nm,0.9s,mb4.0,baz=79,slow=6.2,SNR=8.4						
FINES	**FINESS Array B**	**83.98**	**332**	P	**P**	**04 29 17.7**	**-0.1**
	0.9nm,0.8s,mb3.6,baz=117,slow=3.1,SNR=4.3						

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*NEIC **04** 04:32:21.1, 37.46N×20.54E, h5^{km}, MD3.5(ATH), After ATH.*

ATH 04 04:32:21.1, 37.46N×20.54E, h5^{km}, MD3.5/4, 1C, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.72**	**3**	⇑*i*PG	Pg	04 32 34.7	-0.7
VLS				*e*SB	Sb	04 32 45.9	+0.3
ITM	**Ithomi**	**1.14**	**104**	*e*PG	Pg	04 32 42.5	-1.4
EVR	**Evrytania**	**1.77**	**34**	*e*PN	Pn	04 32 55.0	+2.4
VLI	**Veliai**	**2.06**	**110**	*e*PG	Pg	04 33 00.0	-2.1

IDC 04 04:32:47.2±9.1, 9.66S×122.56E, h79^{km}±109^{km}, mb3.5/3, mb1 3.7/6, mb1mx3.6/12, ML3.6/3, Error ellipse: s-maj=130.0km s-min=56.0km az=47.0, Savu Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**8.91**	**161**	P	P	04 34 53.2	-1.9
	0.6nm,0.3s,baz=353,slow=17,SNR=14						
FITZ				S	S	04 36 25.2	-9.5
	2.1nm,0.3s,baz=179,slow=8.2,SNR=9.5						
WRA	**Warramunga Arr**	**15.29**	**133**	P	P	04 36 17.0	-2.9
	0.3nm,0.3s,baz=309,slow=13,SNR=10						
WRA				S	S	04 38 55.2	-12
	0.4nm,0.3s,baz=272,slow=22,SNR=6.8						
ASAR	**Alice Springs**	**17.65**	**143**	P	P	04 36 48.9	-0.6
	0.2nm,0.3s,baz=316,slow=11,SNR=25						
ASAR				S	S	04 39 53.7	-7.0
	0.1nm,0.3s,baz=318,slow=23,SNR=6.7						
SONM	**Songino Array**	**59.01**	**347**	P	P	04 42 39.3	-1.7
	0.3nm,0.8s,baz=162,slow=4.6,SNR=2.4						
MKAR	**Makanchi Array**	**66.69**	**331**	P	P	04 43 29.9	-1.9
	0.8nm,0.6s,baz=129,slow=7.1,SNR=7.9						
ZAL	**Zalesovo**	**70.95**	**337**	P	P	04 43 55.2	-2.7
	1.2nm,0.3s,baz=139,slow=9.3,SNR=2.8						

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*IDC **04** 04:40:17.1±1.5, 9.25N×127.00E, mb3.8/6, mb1 3.9/6, mb1mx3.8/16, Error ellipse: s-maj=114.0km s-min=18.7km az=74.0*

ISC 04 04:40:18.3±5.9, 9.2N±0.1×127.0E±0.1, h20^{km}±43^{km}, n8, σ0^{s}69/9, mb3.6/6, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**1.63**	**290**	*i* P	**Pn**	**04 40 45.8**	**-0.4**
SCPH				*e*S	**Sn**	**04 41 06.7**	**-0.1**
TBP	**Tagbilaran**	**3.17**	**279**	*e*P	**Pn**	**04 41 08.7**	**+0.5**
FITZ	**Fitzroy Crossi**	**27.19**	**183**	P	**P**	**04 46 03.5**	**+0.8**
	1.3nm,0.6s,mb3.7,baz=266,slow=0.7,SNR=3.9						
WRA	**Warramunga Arr**	**29.86**	**166**	P	**P**	**04 46 25.7**	**-1.2**
	0.4nm,0.5s,mb3.4,baz=346,slow=9.2,SNR=3.8						
ASAR	**Alice Springs**	**33.37**	**169**	P	**P**	**04 46 57.9**	**+0.3**
	0.4nm,0.4s,mb3.7,baz=353,slow=6.2,SNR=7.8						
SONM	**Songino Array**	**42.26**	**339**	P	**P**	**04 48 12.5**	**+0.6**
	0.1nm,0.4s,mb2.8,baz=172,slow=10,SNR=3.1						
MKAR	**Makanchi Array**	**53.31**	**323**	P	**P**	**04 49 37.2**	**-1.1**
	1.3nm,0.7s,mb4.0,baz=128,slow=8.5,SNR=9.0						
ARCES	**ARCESS Array B**	**85.43**	**340**	P	**P**	**04 52 55.9**	**+0.6**
	1.6nm,0.9s,mb4.2,baz=76,slow=7.4,SNR=3.8						

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*NEIC **04** 04:41:37.6, 15.46N×93.47W, h105^{km}, MD4.1(MEX), After MEX.*

MEX 04 04:41:37.6±0.4, 15.43N×93.51W, h92^{km}±19^{km}, MD4.1, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCX	**San Cristobal**	**1.55**	**33**	*e*P	P	04 42 03.0	-1.5
SCX				*e*S	S	04 42 23.0	-1.5
CCIG	**Comitan**	**1.57**	**57**	*i* P	P	04 42 03.3	-1.5
CCIG				*i* S	S	04 42 23.5	-1.4
EVV	**El Vigia**	**3.49**	**330**	*e*P	P	04 42 30.0	-0.9
EVV				*i* S	S	04 43 08.5	-2.8
OXX	**Oaxaca**	**3.50**	**299**	*e*P	P	04 42 30.0	-1.1
OXX				*e*S	S	04 43 11.0	-0.5
VHO	**Vista Hermosa**	**3.50**	**298**	*e*P	P	04 42 29.2	-1.9
VHO				*i* S	S	04 43 09.5	-2.1
IISM	**Ciudad Serdan**	**5.12**	**314**	*e*P	P	04 43 00.0	+6.7
IISM				*i* S	S	04 43 48.0	-3.6
PPM	**Popocatepetl**	**6.08**	**307**	*e*P	P	04 43 12.0	+5.5

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*IDC **04** 05:01:35.9±0.9, 15.46S×173.19W, mb4.0/6, mb1 4.2/7, mb1mx4.2/11, ML4.2/1, Error ellipse: s-maj=47.4km s-min=22.5km az=154.0*

*NEIC **04** 05:01:36.7±0.7, 15.60S×173.17W, h10^{km}, mb4.3/2, MS4.5/1, Error ellipse: s-maj=29.7km s-min=15.0km az=177.0*

ISC 04 05:01:35.1±0.8, 15.6S±0.2×173.1W±0.1, h10^{km}, n13, σ1^{s}24/9, mb4.0/8, MS4.5/1, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**13.86**	**116**	Pn	**P**	**05 04 53.3**	**-0.8**
	1.1nm,0.3s,baz=261,slow=13,SNR=3.0						
RAR				Sn	S	05 07 12.9	-16
	1.2nm,0.3s,baz=271,slow=17,SNR=2.4						
STKA	**Stephens Creek**	**44.15**	**240**	P	**P**	**05 09 46.8**	**+0.9**
	2.2nm,0.5s,mb4.1,baz=77,slow=10.0,SNR=6.6						
WRAB	**Tennant Creek**	**50.03**	**257**	*e*P	**P**	**05 10 29.2**	**-3.0**
	3.0nm,0.8s,mb4.4						
WRA	**Warramunga Arr**	**50.04**	**257**	P	**P**	**05 10 31.3**	**-0.9**
	0.9nm,0.6s,mb4.0,baz=93,slow=7.0,SNR=18						
ASAR	**Alice Springs**	**50.29**	**252**	P	**P**	**05 10 33.9**	**-0.2**
	3.4nm,0.5s,mb4.7,baz=88,slow=7.9,SNR=44						
QSPA	**South Pole Qui**	**74.45**	**180**	*e*P	**P**	**05 13 23.5**	**+8.8**
	2.7nm,0.9s,mb4.2						
QSPA				*e*		05 14 00.2	
QSPA				*e*		05 15 31.7	
QSPA				LR	LR		
	comp=Z,220nm,18.4s,MS4.5						
TXAR	**Lajitas Array**	**80.51**	**56**	P	**P**	**05 13 49.7**	**+0.4**
	comp=Z,0.2nm,0.8s,mb3.1,baz=252,slow=5.7,SNR=2.7						
PDAR	**Pinedale Array**	**82.24**	**42**	P	**P**	**05 13 58.2**	**+0.2**
	comp=Z,0.4nm,0.7s,mb3.5,baz=225,slow=2.6,SNR=4.5						
MAW	**Mawson**	**87.69**	**199**	P	**P**	**05 14 27.9**	**+3.1**
	comp=Z,1.6nm,0.6s,mb4.4,baz=218,slow=12,SNR=3.7						
KMBO	**Kilima Mbogo**	**145.67**	**244**	PKPbc	PKPbc	05 21 18.7	+3.1
	comp=Z,0.7nm,0.5s,baz=115,slow=12,SNR=2.5						
KHC	**Kasperske Hory**	**146.10**	**352**	pPKP	PKPdf	05 21 17.0	-0.5
GERES	**GERESS Array B**	**146.37**	**352**	PKPbc	PKPbc	05 21 18.2	+2.0
	comp=Z,0.9nm,0.7s,slow=1.3,SNR=8.2						
BRTR	**Keskin Array B**	**146.46**	**321**	PKPbc	PKPbc	05 21 19.4	+2.8
	comp=Z,4.0nm,0.8s,baz=58,slow=2.7,SNR=18						

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*IDC **04** 05:02:16.7±0.9, 15.58S×173.16W, mb4.2/7, mb1 4.5/8, mb1mx4.4/13, ML4.4/1, MS4.3/2, Ms1 4.3/2, ms1mx4.3/2, Error ellipse: s-maj=52.7km s-min=19.4km az=152.0*

*NEIC **04** 05:02:18.9±0.3, 15.47S×173.20W, h10^{km}, mb4.6/3, Error ellipse: s-maj=16.3km s-min=11.7km az=147.0*

ISC 04 05:02:16.7±0.4, 15.5S±0.1×173.21W±0.09, h10^{km}, n46, σ1^{s}10/23, mb4.3/10, MS4.2/2, 3C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**13.95**	**116**	Pn	**P**	**05 05 35.2**	**-1.7**
	1.6nm,0.3s,baz=270,slow=8.4,SNR=5.0						
RAR				Sn	**S**	**05 08 00.7**	**-12**
	0.6nm,0.3s,baz=149,slow=20,SNR=1.7						
PPT	**Papeete**	**22.75**	**98**	*e*L		05 11 31.4	
PPT				*e*R		05 12 28.1	
	545nm,24.2s						
TBI	**Tubuai**	**23.69**	**113**	*e*L		05 11 59.6	
TBI				*e*R		05 12 50.2	
	598nm,26.5s						
URZ	**Urewera**	**24.21**	**199**	LR	LR	05 15 45.7	
	comp=Z,1µm,20.7s,MS4.4,baz=338,slow=34						
STKA	**Stephens Creek**	**44.14**	**240**	P	**P**	**05 10 25.9**	**-1.4**
	1.4nm,0.6s,mb3.9,baz=99,slow=4.0,SNR=2.7						
WRAB	**Tennant Creek**	**49.98**	**257**	P	**P**	**05 11 13.1**	**-0.3**
	2.5nm,0.6s,mb4.4						
WRA	**Warramunga Arr**	**49.99**	**257**	P	**P**	**05 11 12.6**	**-0.9**
	1.8nm,0.5s,mb4.4,baz=91,slow=6.9,SNR=99						
WRA				LR	LR	05 31 11.0	
	comp=Z,138nm,20.3s,MS4.0,baz=85,slow=35						
ASAR	**Alice Springs**	**50.25**	**252**	P	**P**	**05 11 14.8**	**-0.7**
	5.7nm,0.5s,mb4.8,baz=86,slow=8.6,SNR=6.0						
FITZ	**Fitzroy Crossi**	**58.36**	**258**	P	**P**	**05 12 15.7**	**+0.8**
	4.7nm,1.1s,mb4.4,baz=144,slow=8.7,SNR=2.0						
SBA	**Scott Base**	**63.15**	**185**	*e*P	**P**	**05 12 48.4**	**+1.7**
	5.0nm,1.0s,mb4.6						
CASY	**Casey**	**70.38**	**205**	*e*P	**P**	**05 13 32.4**	**-0.1**
	9.5nm,1.1s,mb4.6						
MSU	**Marysvale**	**78.38**	**44**	*e*P	**P**	**05 14 19.3**	**+0.1**
DAU	**Daniels Canyon**	**79.96**	**43**	*e*P	**P**	**05 14 27.9**	**+0.2**
TCUT	**Toone Canyon**	**80.21**	**43**	*e*P	**P**	**05 14 28.3**	**-0.8**
TXAR	**Lajitas Array**	**80.53**	**56**	P	**P**	**05 14 31.9**	**+0.8**
	0.7nm,0.9s,mb3.6,baz=219,slow=8.0,SNR=5.7						
PV01	**Paradox Valley**	**80.67**	**46**	*e*P	**P**	**05 14 31.4**	**-0.2**
GDL2	**Guadalupe Moun**	**81.14**	**53**	*e*P	**P**	**05 14 35.3**	**+1.1**
QLMT	**Earthquake Lak**	**82.09**	**39**	*e*P	**P**	**05 14 39.7**	**+0.8**
CHMT	**Chamberlain Mo**	**82.11**	**37**	*e*P	**P**	**05 14 36.2**	**-2.7**
PDAR	**Pinedale Array**	**82.23**	**42**	P	**P**	**05 14 38.5**	**-1.1**
	0.9nm,0.9s,mb3.7,baz=225,slow=2.1,SNR=6.1						
DAWY	**Dawson**	**83.49**	**14**	*e*P	**P**	**05 14 47.0**	**+1.3**
INK	**Inuvik**	**88.34**	**14**	P	**P**	**05 15 09.6**	**+0.1**
	2.9nm,0.8s,mb4.5,baz=203,slow=4.7,SNR=4.6						
SNAA	**Sanae**	**92.78**	**177**	⇑*i*	**P**	**05 15 30.4**	**+0.3**
VNA2	**Neumayer--Watz**	**93.22**	**175**	⇑*i*	**P**	**05 15 34.5**	**+2.4**
VNA1	**Neumayer--Stat**	**93.42**	**175**	⇑*i*	**P**	**05 15 37.3**	**+4.3**
ZRNK	**Zerenda**	**118.92**	**322**	*e*P	PKPdf	05 21 07.0	-1.6
MALT	**Malatya**	**144.07**	**315**	*e*PKPdf	PKPdf	05 21 54.6	-1.3
MOX	**Moxa**	**144.75**	**355**	*e*P	PKPbc	05 22 04.0	+10
PRU	**Pruhonice**	**145.05**	**351**	*e*P	PKPbc	05 21 56.1	+1.6
BAIF	**Baives**	**145.49**	**3**	*e*PKP1	PKPbc	05 21 57.9	+2.3
	20nm,1.0s						
KMBO	**Kilima Mbogo**	**145.65**	**244**	PKPbc	PKPbc	05 21 59.5	+2.4
	3.2nm,1.1s,baz=232,slow=24,SNR=3.4						
VYHS	**Vyhne**	**145.66**	**346**	*e*PKP	PKPdf	05 21 57.5	-0.9
VYHS				*e*		05 22 04.2	
VYHS				*e*		05 22 10.6	
KHC	**Kasperske Hory**	**146.02**	**352**	x	PKPab	05 21 58.5	-0.9
GERES	**GERESS Array B**	**146.28**	**352**	PKPbc	PKPbc	05 21 59.2	+1.6
	2.2nm,0.8s,slow=2.7,SNR=7.0						
FLN	**La Foliniere**	**146.31**	**9**	*e*PKP1	PKPbc	05 21 59.9	+2.2
	21nm,1.1s						
BRTR	**Keskin Array B**	**146.36**	**321**	PKPbc	PKPbc	05 22 00.3	+2.2
	5.3nm,1.0s,baz=117,slow=2.8,SNR=7.1						
SGMF	**Saint Gilles**	**146.46**	**11**	*e*PKP1	PKPbc	05 22 00.1	+2.1
	16nm,1.0s						
CDF	**Champ du Feu**	**147.20**	**359**	*e*PKP1	PKPdf	05 22 01.1	+0.1
	14nm,1.0s						
HAU	**Haudompre**	**147.60**	**1**	*e*PKP1	PKPdf	05 22 02.1	+0.4
	14nm,0.9s						
LOR	**Lormes**	**148.25**	**4**	*e*PKP1	PKPdf	05 22 03.7	+1.0
SSF	**Saint Saulge**	**148.43**	**4**	*e*PKP1	PKPdf	05 22 04.5	+1.5
	14nm,0.9s						
CABF	**La Chapelle**	**149.00**	**1**	*e*PKP1	PKPdf	05 22 05.0	+1.1
	14nm,0.9s						
LPL	**La Plagne**	**150.10**	**0**	*e*PKP1	PKPdf	05 22 09.8	+4.1
LPG	**La Plagne**	**150.12**	**0**	*e*PKP1	PKPdf	05 22 10.1	+4.3
	12nm,1.0s						
SMRF	**Simiane la Rot**	**151.62**	**2**	*e*PKP1	PKPdf	05 22 12.2	+4.1
	12nm,1.1s						
ESDC	**Sonseca Array**	**154.16**	**19**	PKPab	PKPab	05 22 32.7	-0.5
	2.5nm,1.1s,baz=328,slow=4.3,SNR=4.3						

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*IDC **04** 05:03:48.7±0.7, 15.34S×173.34W, mb4.3/10, mb1 4.5/11, mb1mx4.4/15, ML4.1/1, Error ellipse: s-maj=46.2km s-min=17.9km az=136.0*

*NEIC **04** 05:03:50.4±0.3, 15.17S×173.49W, h10^{km}, mb4.7/3, Error ellipse: s-maj=20.6km s-min=9.5km az=131.0*

ISC 04 05:03:52.2±0.5, 15.2S±0.1×173.5W±0.2, h33^{km}, n50, σ0^{s}77/17, mb4.3/12, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**14.37**	**117**	Pn	**P**	**05 07 05.4**	**-10**
	1.0nm,0.3s,baz=295,slow=7.0,SNR=2.4						
RAR				Sn	**S**	**05 09 34.3**	**-20**
	1.4nm,0.3s,baz=114,slow=19,SNR=2.5						
URZ	**Urewera**	**24.41**	**198**	P	**P**	**05 09 07.2**	**-1.7**
	6.1nm,0.5s,mb4.3,baz=29,slow=18,SNR=2.7						
STKA	**Stephens Creek**	**44.03**	**240**	P	**P**	**05 11 58.7**	**0.0**
	5.5nm,0.8s,mb4.3,baz=89,slow=9.9,SNR=7.6						
WRAB	**Tennant Creek**	**49.76**	**257**	*e*P	**P**	**05 12 43.7**	**-0.1**
	3.3nm,0.6s,mb4.5						
WRA	**Warramunga Arr**	**49.76**	**257**	P	**P**	**05 12 43.9**	**0.0**
	2.0nm,0.8s,mb4.2,baz=92,slow=6.8,SNR=5.4						
ASAR	**Alice Springs**	**50.05**	**252**	P	**P**	**05 12 46.4**	**+0.3**
	4.9nm,0.8s,mb4.6,baz=89,slow=7.5,SNR=5.9						
SBA	**Scott Base**	**63.44**	**185**	*e*P	**P**	**05 14 21.9**	**+1.3**
	8.4nm,1.0s,mb4.8						
YBH	**Yreka Blue Hor**	**73.52**	**37**	P	**P**	**05 15 23.1**	**-0.5**
	1.9nm,0.8s,mb4.1,baz=257,slow=14,SNR=3.5						
TXAR	**Lajitas Array**	**80.61**	**56**	P	**P**	**05 16 03.5**	**+0.1**
	1.2nm,1.0s,mb3.8,baz=233,slow=6.3,SNR=4.2						
NEW	**Newport**	**80.61**	**34**	P	**P**	**05 16 03.2**	**+0.1**
	0.9nm,0.4s,mb4.0,baz=45,slow=14,SNR=2.2						
PDAR	**Pinedale Array**	**82.20**	**42**	P	**P**	**05 16 12.1**	**+0.6**
	1.5nm,0.9s,mb3.9,baz=243,slow=3.3,SNR=6.3						
HRY	**Holter Researc**	**82.77**	**38**	*e*P	**P**	**05 16 13.9**	**-0.4**
DAWY	**Dawson**	**83.26**	**14**	*e*P	**P**	**05 16 16.4**	**0.0**
MAW	**Mawson**	**87.94**	**199**	P	**P**	**05 16 40.4**	**+1.0**
	5.0nm,0.8s,mb4.8,baz=114,slow=7.0,SNR=8.1						
INK	**Inuvik**	**88.10**	**14**	P	**P**	**05 16 40.0**	**-0.2**
	1.7nm,0.8s,mb4.3,baz=260,slow=4.6,SNR=3.7						
INK	**Inuvik**	**88.10**	**14**	*e*P	**P**	**05 16 39.1**	**-1.0**
	4.3nm,1.0s,mb4.6						
MKAR	**Makanchi Array**	**110.59**	**315**	PKiKP		05 22 22.9	
	0.2nm,0.6s,baz=87,slow=1.0,SNR=3.1						
ZRNK	**Zerenda**	**118.48**	**322**	*e*P	PKPdf	05 22 37.4	+0.9
NOA	**NORSAR Array B**	**134.10**	**357**	PKP	PKPdf	05 23 08.7	+2.4
	0.5nm,0.8s,baz=29,slow=1.3,SNR=2.4						
MOX	**Moxa**	**144.40**	**354**	*e*P	PKPbc	05 23 25.0	+0.5
PRU	**Pruhonice**	**144.69**	**351**	*e*PKP	PKPdf	05 23 26.6	+1.2
GIVF	**Givet**	**145.16**	**2**	*e*PKP1	PKPbc	05 23 27.4	+0.8
BAIF	**Baives**	**145.18**	**3**	*e*PKP1	PKPbc	05 23 27.6	+0.9
	17nm,1.0s						
VYHS	**Vyhne**	**145.27**	**346**	*e*PKP	PKPdf	05 23 28.0	+1.5
KMBO	**Kilima Mbogo**	**145.50**	**245**	PKPbc	PKPbc	05 23 31.2	+2.6
	3.9nm,1.1s,baz=67,slow=3.8,SNR=4.8						
KHC	**Kasperske Hory**	**145.66**	**352**	*e*PKP	PKPdf	05 23 30.0	+2.8
BRTR	**Keskin Array B**	**145.92**	**321**	PKPbc	PKPbc	05 23 31.6	+2.8
	10.0nm,0.9s,baz=93,slow=2.5,SNR=11						
GERES	**GERESS Array B**	**145.92**	**351**	PKPbc	PKPbc	05 23 30.4	+1.9
	2.2nm,0.7s,baz=27,slow=3.0,SNR=7.3						
SGMF	**Saint Gilles**	**146.21**	**11**	*e*PKP1	PKPbc	05 23 30.8	+1.6
LDF	**La Druitiere**	**146.26**	**8**	*e*PKP1	PKPbc	05 23 30.5	+1.2
CDF	**Champ du Feu**	**146.87**	**359**	*e*PKP1	PKPbc	05 23 32.9	+2.1
	20nm,1.1s						
HAU	**Haudompre**	**147.29**	**0**	*e*PKP1	PKPdf	05 23 34.1	+4.2
	12nm,0.8s						
LOR	**Lormes**	**147.95**	**3**	*e*PKP1	PKPdf	05 23 35.2	+4.2
SSF	**Saint Saulge**	**148.14**	**4**	*e*PKP1	PKPdf	05 23 36.4	+5.1
	20nm,1.2s						
AVF	**Avril sur Loir**	**148.40**	**4**	*e*PKP1	PKPdf	05 23 36.8	+5.1
SMF	**Signal de Mont**	**148.57**	**3**	*e*PKP1	PKPdf	05 23 37.4	+5.4
CABF	**La Chapelle**	**148.68**	**1**	*e*PKP1	PKPdf	05 23 38.4	+6.2
	28nm,1.1s						
TCF	**Toulx Ste Croi**	**148.80**	**6**	*e*PKP1	PKPdf	05 23 37.8	+5.4
RJF	**Les Rejaudoux**	**149.70**	**7**	*e*PKP1	PKPdf	05 23 40.4	+6.5
LPL	**La Plagne**	**149.78**	**360**	*e*PKP1	PKPdf	05 23 41.8	+7.8
	25nm,1.2s						
LPG	**La Plagne**	**149.79**	**360**	*e*PKP1	PKPdf	05 23 41.9	+7.9
	14nm,1.1s						
BNI	**Bardonecchia**	**150.24**	**360**	*e*PKPdf	PKPdf	05 23 42.6	+7.8
ORIF	**Oris-en-Rattie**	**150.37**	**1**	*e*PKP1	PKPdf	05 23 42.8	+7.9
VIVF	**Saint-Julien-l**	**150.40**	**3**	*e*PKP1	PKPdf	05 23 42.7	+7.7
LASF	**Ste Croix**	**151.13**	**4**	*e*PKP1	PKPdf	05 23 44.5	+8.4
	26nm,1.2s						
SMRF	**Simiane la Rot**	**151.31**	**1**	*e*PKP1	PKPdf	05 23 45.2	+8.8
	20nm,1.3s						
SBF	**Sospel**	**151.42**	**359**	*e*PKP1	PKPdf	05 23 44.4	+7.9
	13nm,0.9s						
MTLF	**Montolieu**	**151.72**	**7**	*e*PKP1	PKPdf	05 23 46.5	+9.5
LMR	**La Mourre**	**151.96**	**360**	*e*PKP1	PKPdf	05 23 45.9	+8.5
	10nm,1.1s						
ESDC	**Sonseca Array**	**153.96**	**19**	PKPab	PKPab	05 24 03.5	-0.5
	0.2nm,0.5s,baz=340,slow=3.9,SNR=4.1						

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*TAP **04** 05:04:50.1, 24.89N×122.21E, h14^{km}, ML2.3*

JMA 04 05:05:15.2±0.5, 25.19N×122.64E, h162^{km}, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**1.31**	**130**	P	P	05 05 43.8	-0.3
IRIF				*e*S	S	05 06 06.2	-0.2
JKRS	**Kuro-shima**	**1.56**	**127**	P	P	05 05 46.5	-0.2
JKRS				*e*S	S	05 06 10.9	-0.1
JIJ	**Ishigaki jima**	**1.59**	**121**	P	P	05 05 46.5	-0.5
JIJ				*e*S	S	05 06 09.8	-1.7
JTJ	**Tarama**	**1.95**	**106**	P	P	05 05 50.8	0.0
JTJ				*e*S	S	05 06 18.0	-0.3

IDC 04 05:22:23.7±8.4, 15.57S×173.59W, mb3.5/2, mb1 3.7/2, mb1mx3.5/9, Error ellipse: s-maj=373.0km s-min=63.2km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**49.63**	**257**	P	P	05 31 17.1	-2.1
	0.4nm,0.9s,baz=93,slow=6.9,SNR=5.6						
ASAR	**Alice Springs**	**49.88**	**252**	P	P	05 31 19.2	-1.9
	0.4nm,0.4s,baz=88,slow=7.9,SNR=9.8						
BRTR	**Keskin Array B**	**146.17**	**321**	PKPbc	PKPbc	05 42 05.6	-0.6
	0.8nm,0.6s,baz=27,slow=3.2,SNR=5.4						

GUC 04 05:33:17.0±1.0, 30.85S×71.44W, h38^{km}±6^{km}, MD3.5, ML2.7, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.49**	**131**	⇓*i*P	P	05 33 28.1	+0.6
CMCH				*i* S	S	05 33 36.0	+1.0
CMCH				AMP		05 33 36.4	
	comp=N,2µm,0.1s						
ILCH	**Illapel**	**0.82**	**164**	⇑*i*P	P	05 33 32.4	+0.3
ILCH				*i* S	S	05 33 43.3	+0.1
ILCH				AMP		05 33 46.0	
	comp=N,538nm,0.2s						
TLL	**Tololo Astrono**	**0.87**	**39**	⇓*i*P	P	05 33 33.7	+0.9
TLL				*i* S	S	05 33 45.8	+1.3
TLL				AMP		05 33 50.2	
	comp=N,253nm,0.5s						
FCH	**Farellones**	**2.66**	**159**	*e*P	P	05 33 59.3	+0.9
FCH				*i* S	S	05 34 31.4	+1.7
FCH				AMP		05 34 38.9	
	comp=E,42nm,0.3s						

GUC 04 05:58:23.6±0.7, 34.88S×70.39W, h1^{km}±2^{km}, MD3.5, ML2.1, 1C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CICH	**Cipreses**	**0.56**	**358**	⇓*i*P	Pg	05 58 35.2	+0.4
CICH				*i* S	Sg	05 58 44.2	+1.9
SFDO	**San Fernando**	**0.58**	**297**	⇓*i*P	Pg	05 58 35.1	-0.1
SFDO				*i* S	Sg	05 58 44.5	+1.7
CACH	**El Canelo**	**0.78**	**347**	⇑*i*P	Pg	05 58 39.0	-0.2
CACH				*i* S	Sg	05 58 51.0	+1.3
CHCH	**Chadas Angostu**	**0.97**	**347**	*i* P	Pb	05 58 42.7	-0.2
CHCH				*i* S	Sg	05 58 56.3	+0.3
LMEL	**Las Melosas**	**1.04**	**9**	*e*P	Pb	05 58 43.9	-0.3
LMEL				*i* S	Sb	05 58 59.2	+1.0
LMEL				AMP		05 59 00.7	
	comp=E,71nm,0.2s						
LMEL				AMP		05 59 01.5	
	comp=N,93nm,0.2s						
LNV	**Longovilo**	**1.25**	**317**	*i* P	Pb	05 58 46.9	-0.8
LNV				*i* S	Sb	05 59 04.5	+0.4
TACH	**Talagante**	**1.31**	**340**	*e*P	Pb	05 58 48.3	-0.3
FCH	**Farellones**	**1.55**	**3**	*e*P	Pn	05 58 52.5	0.0
FCH				*i* S	Sb	05 59 13.9	+1.0
FCH				AMP		05 59 20.1	
	comp=E,51nm,0.4s						
FCH				AMP		05 59 26.5	
	comp=N,53nm,0.2s						
LCCH	**Las Cruces**	**1.71**	**325**	*i* P	Pn	05 58 55.0	+0.3
LCCH				*i* S	Sb	05 59 18.4	+0.9

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*NIED **04** 06:12:00, 34.10N×138.30E, h280^{km}, Mw4.0 Best double couple: $M_0$1.27×10^{15} NP1:ϕ_s211°, δ60°, λ87°. NP2:ϕ_s37°, δ30°, λ95°.*

*BJI **04** 06:12:32.7, 34.56N×138.89E, h285^{km}, mB4.4, mb4.5*

*JMA **04** 06:12:32.6±0.2, 34.14N×138.25E, h278^{km}±2^{km}, M4.1*

*NEIC **04** 06:12:33.3±0.6, 34.03N×138.12E, h261^{km}±6^{km}, mb4.2/8, Error ellipse: s-maj=10.7km s-min=7.3km az=91.0*

*IDC **04** 06:12:34.2±0.7, 34.02N×138.16E, h268^{km}±7^{km}, mb3.5/14, mb1 3.6/17, mb1mx3.5/24, Error ellipse: s-maj=15.5km s-min=10.2km az=79.0*

ISC 04 06:12:32.8±0.2, 34.15N±0.03×138.24E±0.03, h272^{km}±2^{km}, n95, σ0^{s}98/138, mb3.9/20, 28C, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK03	**Tokai 3**	**0.23**	**275**	P	**P**	**06 13 08.6**	**+0.7**
TK03				*e*S	**S**	**06 13 36.7**	**+1.4**
TK04	**Tokai 4**	**0.39**	**308**	⇑P	**P**	**06 13 08.8**	**+0.6**
OMA	**Omae zaki**	**0.45**	**357**	P	**P**	**06 13 09.0**	**+0.6**
JSG	**Sagara**	**0.53**	**355**	⇑P	**P**	**06 13 09.4**	**+0.8**
JSG				*e*S	**S**	**06 13 38.1**	**+1.6**
TK01	**Tokai 1**	**0.66**	**235**	P	**P**	**06 13 08.9**	**-0.1**
JKKG	**Kakegawa**	**0.68**	**341**	P	**P**	**06 13 09.4**	**+0.4**
JIZS	**Izushimoda**	**0.77**	**42**	⇑P	**P**	**06 13 09.7**	**+0.3**
JIZS				*e*S	**S**	**06 13 38.3**	**+0.3**
JHMK	**Hamakita**	**0.78**	**329**	P	**P**	**06 13 09.6**	**+0.2**
HMMJ	**Hamamatsu 2**	**0.83**	**329**	⇑P	**P**	**06 13 10.0**	**+0.4**
HMMJ				*e*S	**S**	**06 13 38.3**	**0.0**
SHZ3	**Shizuoka 3**	**0.92**	**358**	⇑P	**P**	**06 13 10.5**	**+0.5**
JAA	**Atsumi**	**1.03**	**298**	⇑P	**P**	**06 13 11.0**	**+0.5**
JIM2	**Oshima 3**	**1.14**	**60**	P	**P**	**06 13 11.2**	**+0.1**
JIM2				*e*S	**S**	**06 13 43.7**	**+2.6**
JNY	**Yasuok**	**1.25**	**346**	⇑P	**P**	**06 13 12.4**	**+0.6**
JIE	**Ise**	**1.30**	**281**	⇑P	**P**	**06 13 12.4**	**+0.3**
JIE				*e*S	**S**	**06 13 42.0**	**-0.8**
JOD2	**Odawara 2**	**1.31**	**32**	⇑P	**P**	**06 13 12.7**	**+0.5**
JOD2				*e*S	**S**	**06 13 45.6**	**+2.6**
JYN	**Shimob**	**1.37**	**10**	P	**P**	**06 13 13.0**	**+0.4**
JAO	**Obara**	**1.38**	**324**	⇑P	**P**	**06 13 13.1**	**+0.4**
JYO	**Yokosk**	**1.59**	**47**	P	**P**	**06 13 14.8**	**+0.7**
JYO				*e*S	**S**	**06 13 46.9**	**+0.5**
TSUJ	**Tsu 2**	**1.61**	**291**	⇑P	**P**	**06 13 14.7**	**+0.4**

TSUJ				*e*S	S	06 13 46.3	-0.3
TATJ	**Tateyama 2**	1.62	57	P	P	06 13 14.6	+0.2
TATJ				*e*S	S	06 13 46.6	-0.2
JGF	**Kuroka**	1.62	334	⇑P	P	06 13 14.6	+0.2
JHJ	**Hachijo jima 2**	1.64	128	P	P	06 13 14.8	+0.2
	202nm,0.3s,baz=71,slow=22,SNR=45						
JHJ				S	S	06 13 48.7	+1.6
	70nm,0.3s,baz=52,slow=19,SNR=4.1						
JKN	**Kiinagashima**	1.65	274	⇑P	P	06 13 14.6	0.0
JKN				*e*S	S	06 13 45.6	-1.5
JHJ2	**Mitsune**	1.67	128	P	P	06 13 14.7	0.0
JNT	**Takato**	1.73	357	⇑P	P	06 13 16.0	+0.8
JEG	**Eigenji**	1.82	303	⇑P	P	06 13 16.4	+0.5
JHU	**Hanno**	1.90	26	⇑P	P	06 13 17.0	+0.5
JHU				*e*S	S	06 13 50.1	-0.5
JRY	**Ryogami san**	1.94	16	⇑P	P	06 13 17.8	+0.9
JRY				*e*S	S	06 13 52.1	+0.9
TOK	**Tokyo**	1.98	39	*e*S	S	06 13 51.1	-0.6
JGM	**Miyama**	1.99	321	⇑P	P	06 13 17.9	+0.6
JGM				*e*S	S	06 13 52.4	+0.5
JCN	**Nagara**	2.05	51	P	P	06 13 18.5	+0.7
JCN				*e*S	S	06 13 52.9	+0.1
JHE	**Heguri**	2.17	284	⇑P	P	06 13 19.1	+0.1
JHE				*e*S	S	06 13 54.0	-0.9
JWZ	**Kozaga**	2.19	254	⇑P	P	06 13 18.9	-0.2
JWZ				*e*S	S	06 13 54.4	-0.8
JGN	**Niukaw**	2.21	340	⇑P	P	06 13 19.8	+0.6
JGN				*e*S	S	06 13 55.4	0.0
JNG	**Nsakai**	2.26	357	⇑P	P	06 13 20.2	+0.5
JNG				*e*S	S	06 13 57.1	+0.9
JFM	**Mihama**	2.31	307	⇑P	P	06 13 20.7	+0.4
JFM				*e*S	S	06 13 57.2	0.0
BSO1	**Boso 1**	2.32	77	P	P	06 13 18.6	-1.7
BSO1				*e*S	S	06 13 55.4	-1.8
MAJO	**Matsushiro**	2.39	359	*e*P	P	06 13 21.2	+0.2
MAJO				*e*S	S	06 13 58.8	+0.3
MAT	**Matsushiro**	2.39	359	P	P	06 13 21.3	+0.3
MAT				S	S	06 13 58.1	-0.4
MAT	**Matsushiro**	2.39	359	P	P	06 13 21.4	+0.4
MAT				*e*S	S	06 13 58.3	-0.2
MAT	**Matsushiro**	2.39	359	*e*P	P	06 13 21.0	0.0
MAT				*e*S	S	06 13 58.0	-0.5
JAG	**Ashikaga**	2.48	23	⇑P	P	06 13 21.3	-0.5
JAG				*e*S	S	06 13 57.2	-2.8
JWT	**Wachi**	2.60	297	⇑P	P	06 13 23.4	+0.4
JWT				*e*S	S	06 14 01.1	-1.0
JYT	**Yasato**	2.62	37	P	P	06 13 22.5	-0.7
JYT				*e*S	S	06 13 59.5	-2.9
CHOJ	**Chosi**	2.65	53	P	P	06 13 23.3	-0.2
JKT	**Katashina**	2.74	17	P	P	06 13 24.1	-0.3
JKT				*e*S	S	06 14 03.6	-0.9
JJN	**Nakama**	2.95	359	P	P	06 13 27.6	+1.1
JJN				*e*S	S	06 14 08.3	-0.1
JKY	**Yasaka**	2.97	301	P	P	06 13 26.8	0.0
JKY				*e*S	S	06 14 08.2	-0.6
JHO	**Hitachi**	3.11	37	P	P	06 13 27.3	-0.9
JHO				*e*S	S	06 14 08.7	-2.6
JSB	**Shiboa**	3.13	25	P	P	06 13 29.3	+0.9
JSB				*e*S	S	06 14 10.0	-1.7
JHK	**Hiroka**	3.16	11	P	P	06 13 28.9	+0.2
JHK				*e*S	S	06 14 11.1	-1.2
JAI	**Aioi**	3.17	265	P	P	06 13 28.7	-0.2
JAI				*e*S	S	06 14 11.1	-1.5
JSZ	**Suzu**	3.37	348	P	P	06 13 30.8	-0.3
JFY	**Yanaizu**	3.46	20	P	P	06 13 32.0	-0.1
JNS	**Sasagawa**	3.77	13	P	P	06 13 35.8	+0.4
JFT	**Otama**	3.77	26	P	P	06 13 36.0	+0.5
JFT				*e*S	S	06 14 23.3	-1.0
JFK	**Kawauchi**	3.86	33	P	P	06 13 35.7	-0.8
JFK				*e*S	S	06 14 22.6	-3.5
JSD	**Sado**	3.88	0	P	P	06 13 36.9	+0.1
JSD				*e*S	S	06 14 24.5	-2.1
JMM	**Marumori**	4.25	28	P	P	06 13 40.2	-0.7
JMM				*e*S	S	06 14 30.7	-3.4
JYS	**Shirataka**	4.32	19	P	P	06 13 41.8	0.0
JYS				*e*S	S	06 14 34.5	-1.2
JYA	**Atsumi**	4.59	15	P	P	06 13 44.9	-0.1
JNU	**Nakatsue**	6.23	263	P	P	06 14 04.7	-0.1
	1.0nm,0.3s,baz=100,slow=12,SNR=6.4						
CBIJ	**Chichi jima**	7.80	153	P	P	06 14 22.6	-1.9
	19nm,0.3s,baz=288,slow=22,SNR=2.5						
CBIJ				S	S	06 15 43.4	-8.7
	26nm,0.3s,baz=268,slow=21,SNR=3.1						
ASAJ	**Asahikawa**	10.51	17	P	P	06 14 59.5	+1.2
	1.0nm,0.3s,baz=119,slow=19,SNR=3.9						
ASAJ				S	S	06 16 49.1	-3.9
	0.8nm,0.3s,baz=54,slow=19,SNR=2.8						
MDJ	**Mudanjiang**	12.40	330	P	P	06 15 21.1	-0.7
MDJ				AMB	AMB		
	comp=Z,16nm,0.7s						
MDJ				AMB	AMB		
	comp=Z,75nm,5.3s						
MDJ	**Mudanjiang**	12.40	330	*e*P	P	06 15 21.7	-0.1
	comp=Z,14nm,0.8s						
CN2	**Changchun**	13.84	318	⇑P	P	06 15 39.3	0.0
CN2				AMB	AMB		
	comp=Z,20nm,0.9s						
SNY	**Shenyang**	13.87	308	⇑P	P	06 15 40.4	+0.8
SNY				AMB	AMB		
	comp=Z,20nm,1.0s						
HIA	**Hailar**	20.39	323	*e*P	P	06 16 48.7	-1.1
	comp=Z,11nm,0.6s						
HHC	**Hu-ho-hao-te**	22.15	295	*e*P	P	06 17 08.0	+1.1
HHC				AP		06 17 12.8	
HHC				AMB	AMB		
	comp=Z,15nm,0.7s,mb4.4						
HHC				AMB	AMB		
	comp=Z,161nm,8.8s						
ENH	**Enshi**	24.60	269	*e*P	P	06 17 27.8	-2.2
	comp=Z,6.1nm,0.6s,mb4.2						
SONM	**Songino Array**	27.44	310	P	P	06 17 56.3	+0.7
	comp=Z,2.4nm,0.6s,mb3.8,baz=111,slow=9.0,SNR=24						
MKAR	**Makanchi Array**	43.53	304	P	P	06 20 11.6	+0.4
	comp=Z,2.6nm,0.4s,mb3.8,baz=86,slow=10,SNR=44						
MKAR	**Makanchi Array**	43.53	304	P	P	06 20 11.6	+0.4
KURK	**Kurchatov**	45.74	310	*e*P	P	06 20 28.5	-0.1
	comp=Z,7.0nm,0.6s,mb4.2						
KAKA	**Kakadu**	46.92	188	⇑*i*P	P	06 20 36.4	-1.8
	comp=Z,8.7nm,0.6s,mb4.3						
ZRNK	**Zerenda**	51.49	314	*e*P	P	06 21 12.1	-0.1
WRAB	**Tennant Creek**	53.91	185	*e*P	P	06 21 28.7	-1.6
	comp=Z,2.7nm,0.6s,mb3.8						
WB2	**Warramunga Arr**	53.91	185	*e*P	P	06 21 28.7	-1.6
WRA	**Warramunga Arr**	53.91	185	P	P	06 21 28.8	-1.5
	comp=Z,1.8nm,0.4s,mb3.8,baz=0.6,slow=7.7,SNR=42						
WRA				PcP	PcP	06 22 32.7	+0.3
	comp=Z,1.1nm,0.7s,baz=359,slow=4.3,SNR=5.7						
ASAR	**Alice Springs**	57.64	185	P	P	06 21 55.5	-1.3
	comp=Z,1.2nm,0.5s,mb3.6,baz=18,slow=11,SNR=18						
ASAR				PcP	PcP	06 22 47.0	+0.2
	comp=Z,0.4nm,0.5s,baz=358,slow=3.7,SNR=4.4						
ASPA	**Alice Springs**	57.64	185	*e*P	P	06 21 56.9	+0.2
MBWA	**Marble Bar**	57.75	201	*e*P	P	06 21 55.5	-2.1
	comp=Z,3.8nm,0.6s,mb4.0						
INK	**Inuvik**	58.12	26	P	P	06 22 00.6	+1.1
	comp=Z,1.2nm,0.4s,mb3.6,baz=277,slow=6.5,SNR=6.3						
INK	**Inuvik**	58.12	26	*e*P	P	06 22 00.7	+1.2
	comp=Z,1.3nm,0.5s,mb3.6						
STKA	**Stephens Creek**	65.75	177	P	P	06 22 50.1	-0.3
	comp=Z,1.8nm,0.7s,mb3.9,baz=352,slow=4.3,SNR=5.3						
ARCES	**ARCESS Array B**	65.78	339	P	P	06 22 50.3	+0.4
	comp=Z,1.3nm,0.7s,mb3.8,baz=53,slow=12,SNR=3.5						
YKA	**Yellowknife Ar**	67.59	29	P	P	06 23 02.3	+1.0
	comp=Z,0.4nm,0.4s,mb3.5,baz=64,slow=7.8,SNR=5.2						
FINES	**FINESS Array B**	70.15	332	P	P	06 23 17.5	+0.5
	comp=Z,0.5nm,0.3s,mb3.6,baz=90,slow=7.6,SNR=5.7						
HFS	**Hagfors**	75.62	335	P	P	06 23 49.8	+0.9
	comp=Z,1.2nm,0.8s,mb3.6,baz=176,slow=40,SNR=3.6						
NOA	**NORSAR Array B**	75.82	336	P	P	06 23 51.2	+1.2
	comp=Z,0.8nm,0.8s,mb3.4,baz=24,slow=5.4,SNR=2.8						
FRB	**Frobisher Bay**	80.14	12	P	P	06 24 14.7	+1.3
	comp=Z,3.2nm,0.6s,mb4.3,baz=282,slow=3.1,SNR=3.3						
PDAR	**Pinedale Array**	81.53	44	P	P	06 24 22.6	+1.5
	comp=Z,0.5nm,0.6s,mb3.4,baz=270,slow=1.5,SNR=5.1						
PV10	**Paradox Valley**	84.62	47	*e*P	P	06 24 39.4	+2.6
TXAR	**Lajitas Array**	93.94	51	P	P	06 25 23.1	+2.3
	comp=Z,0.9nm,0.5s,mb4.1,baz=284,slow=2.4,SNR=30						

DJA 04 06:56:01.5±0.9, 8.72S×116.33E, h105^{km}±5^{km}, MD5.1/3, ML4.0/2, 11D, Error ellipse: s-maj=18.1km s-min=15.8km az=153.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KEDI	**Kedomdong**	0.32	317	⇓*e*Pn	P	06 56 16.5	-0.4
	103nm,0.2s						
KEDI	**Kedomdong**	0.32	317	⇓*e*P	P	06 56 18.5	+1.6
KEDI				⇓*i*Sn	S	06 56 27.7	-0.7
RATI	**Rata**	0.79	270	⇓*e*Pn	P	06 56 20.2	-0.2
	343nm,0.2s						
RATI	**Rata**	0.79	270	⇓*e*P	P	06 56 21.5	+1.1
RATI				⇓*i*Sn	S	06 56 33.9	-0.6
INGI	**Ingas**	1.18	265	⇓*e*Pn	P	06 56 23.9	-0.7
	650nm,0.2s						
INGI				⇓*i*Sn	S	06 56 43.1	+1.1
KELI	**Kelakatan**	1.89	285	⇓*e*Pn	P	06 56 32.5	-0.8
	33nm,0.2s						
KELI	**Kelakatan**	1.89	285	⇓*e*P	P	06 56 34.1	+0.8
KELI				⇓*i*Sn	S	06 56 55.2	-1.8

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*NEIC **04** 06:58:38.8, 35.02S×70.55W, h3^{km}, ML2.9(GUC), After GUC.*

GUC 04 06:58:38.8±0.8, 35.02S×70.55W, h3^{km}, MD3.6, ML2.9, 8C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFDO	**San Fernando**	0.56	316	⇑*i*P	Pg	06 58 49.9	0.0
SFDO				*i* S	Sg	06 58 58.7	+1.4
CICH	**Cipreses**	0.70	9	⇓*i*P	Pg	06 58 51.8	-1.0
CICH				*i* S	Sg	06 59 02.2	0.0
CACH	**El Canelo**	0.90	357	⇑*i*P	Pb	06 58 55.5	-1.2
CACH				*i* S	Sg	06 59 07.8	-0.9
CHCH	**Chadas Angostu**	1.08	355	⇑*i*P	Pb	06 58 59.0	-0.8
LMEL	**Las Melosas**	1.20	14	⇑*i*P	Pb	06 59 00.5	-1.3
LMEL				*i* S	Sb	06 59 18.1	+0.5
LMEL				AMP		06 59 21.2	
	comp=N,270nm,0.1s						
LNV	**Longovilo**	1.28	326	*i* P	Pb	06 59 02.2	-0.9
LNV				*i* S	Sb	06 59 20.1	+0.3
SJCH	**San Jose de Ma**	1.38	7	⇑*i*P	Pb	06 59 03.4	-1.5
SJCH				*i* S	Sb	06 59 23.1	+0.2
SJCH				AMP		06 59 24.5	
	comp=N,186nm,0.3s						
PCH	**Pirque**	1.39	1	⇑*i*P	Pb	06 59 04.4	-0.7
PCH				*i* S	Sb	06 59 23.7	+0.5
TACH	**Talagante**	1.40	346	⇑*i*P	Pb	06 59 04.3	-0.9
TACH				*i* S	Sb	06 59 23.3	0.0
FSR	**Penalolen**	1.53	1	*e*P	Pn	06 59 06.5	-0.7
FSR				AMP		06 59 30.4	
	comp=E,248nm,0.3s						
DSCH	**Colegio Aleman**	1.61	359	*e*P	Pn	06 59 08.0	-0.4
DSCH				AMP		06 59 32.7	
	comp=E,417nm,0.4s						
CLCH	**Cerro Calan**	1.62	0	⇑*i*P	Pn	06 59 08.0	-0.3
CLCH				*i* S	Sb	06 59 31.3	+1.7
CLCH				AMP		06 59 39.2	
	comp=E,321nm,0.8s						
CLCH				AMP		06 59 40.0	
	comp=N,463nm,0.4s						
FCH	**Farellones**	1.70	7	⇓*i*P	Pn	06 59 09.5	0.0
FCH				*i* S	Sn	06 59 33.2	+1.1
FCH				AMP		06 59 34.7	
	comp=E,390nm,0.2s						
LCCH	**Las Cruces**	1.75	331	*i* P	Pn	06 59 10.2	-0.1

IDC 04 07:09:23.5±3.4, 6.49S×153.88E, mb3.5/4, mb1 3.6/4, mb1mx3.5/10, Error ellipse: s-maj=97.7km s-min=34.4km az=103.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	23.22	233	P	P	07 14 32.3	-1.1
	0.4nm,0.6s,baz=58,slow=9.8,SNR=7.4						
ASAR	**Alice Springs**	25.70	226	P	P	07 14 55.4	-1.9
	0.3nm,0.6s,baz=57,slow=8.2,SNR=3.9						
STKA	**Stephens Creek**	27.75	203	P	P	07 15 14.1	-1.9
	1.8nm,0.7s,baz=42,slow=12,SNR=3.1						
MKAR	**Makanchi Array**	82.30	319	P	P	07 21 47.4	-1.0
	0.2nm,0.7s,baz=90,slow=8.6,SNR=2.5						

CASC 04 07:24:37.2±2.9, 6.75N×82.44W, h13^{km}±30^{km}, MD4.2, 7C-6D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PTP1	**Petroterminal**	1.45	0	⇓*i*P	Pn	07 25 01.9	-1.3
PTP1				*i* S	Sb	07 25 20.9	-0.8
DVD	**David**	1.68	359	*i* P	Pn	07 25 04.2	-2.3
DVD				*e*S	Sn	07 25 24.9	-3.1
ACR	**Cerro Adams**	2.03	339	⇓*i*P	Pn	07 25 07.9	-3.6
ACR				*e*S	Sn	07 25 33.5	-3.4
BRU2	**Volcan**	2.05	353	⇑*e*P	Pn	07 25 10.7	-1.2
BRU2				*i* S	Sn	07 25 35.9	-1.6
AZU	**Azuero**	2.38	64	⇓*i*P	Pn	07 25 13.8	-2.8
AZU				*i* S	Sn	07 25 41.6	-4.3
CNI	**Changuinola**	2.65	358	*i* P	Pn	07 25 20.1	-0.4
BUS	**Buena Vista**	3.08	335	⇑*i*P	Pn	07 25 24.2	-2.4
BUS				*e*S	Sn	07 26 01.3	-2.4
LIO	**Limon**	3.29	350	*e*P	Pn	07 25 26.3	-3.2
LIO				*e*S	Sn	07 26 07.9	-1.1
URSC	**Urasca**	3.34	337	⇑*e*P	Pn	07 25 27.7	-2.6
URSC				*e*S	Sn	07 26 08.3	-2.0
LCR2	**La Lucha 2**	3.36	333	⇑*i*P	Pn	07 25 27.7	-2.8
LCR2				*e*S	Sn	07 26 05.6	-5.0
ICR	**Volcan Irazu**	3.50	337	⇑*i*P	Pn	07 25 30.3	-2.1
ICR				*i* S	Sn	07 26 16.7	+2.6
LAJ	**Bijagual**	3.52	332	⇓*e*P	Pn	07 25 30.7	-2.1
SJS	**Escuela Geolog**	3.55	333	*e*P	Pn	07 25 30.7	-2.6
UPA	**Univ. de Panam**	3.63	52	⇓*i*P	Pn	07 25 32.1	-2.3
	baz=256,slow=10						
UPA				*i* S	Sn	07 26 12.7	-4.9
CGA2	**Cerro Gallo 2**	3.82	328	⇓*e*P	Pn	07 25 34.0	-3.0
CGA2				*e*S	Sn	07 26 18.3	-4.0
TRTC	**Tortuguero**	4.01	342	⇑*e*P	Pn	07 25 37.4	-2.4
TRTC				*e*S	Sn	07 26 23.7	-3.4
JCR	**Jicaral**	4.06	320	⇑*e*P	Pn	07 25 37.4	-3.1
VCR	**Vista de Mar**	4.61	317	*e*P	Pn	07 25 44.9	-3.4

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*NEIC **04** 07:26:10.0, 35.00S×70.51W, h4^{km}, ML2.8(GUC), After GUC.*

GUC 04 07:26:10.0±0.9, 35.00S×70.51W, h4^{km}, MD3.7, ML2.8, 3C-3D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFDO	**San Fernando**	0.56	312	⇓*i*P	Pg	07 26 21.4	+0.1
SFDO				*i* S	Sg	07 26 30.1	+1.3
NICH	**Los Niches**	0.59	269	⇑*i*P	Pg	07 26 21.9	0.0
NICH				*i* S	Sg	07 26 30.8	+1.1
CICH	**Cipreses**	0.68	6	⇓*i*P	Pg	07 26 22.8	-0.8
CACH	**El Canelo**	0.88	355	⇑*i*P	Pb	07 26 26.6	-0.8
CHCH	**Chadas Angostu**	1.07	353	*i* P	Pb	07 26 30.3	-0.4
LMEL	**Las Melosas**	1.17	12	*i* P	Pb	07 26 31.6	-0.9
LMEL				*i* S	Sb	07 26 48.5	+0.7
LMEL				AMP		07 26 55.7	
	comp=N,219nm,0.3s						
LNV	**Longovilo**	1.28	324	⇓*i*P	Pb	07 26 33.5	-0.7
LNV				*i* S	Sb	07 26 51.4	+0.4
SJCH	**San Jose de Ma**	1.36	5	*i* P	Pb	07 26 34.6	-1.1
SJCH				*i* S	Sb	07 26 53.8	+0.6
SJCH				AMP		07 26 58.5	
	comp=N,157nm,0.4s						
PCH	**Pirque**	1.37	360	*e*P	Pb	07 26 35.3	-0.6
TACH	**Talagante**	1.39	345	*e*P	Pb	07 26 35.4	-0.7
FSR	**Penalolen**	1.51	359	*e*P	Pn	07 26 38.4	+0.4
FSR				AMP		07 27 00.8	
	comp=E,175nm,0.3s						
DSCH	**Colegio Aleman**	1.59	358	⇑*i*P	Pn	07 26 39.9	+0.8
DSCH				*i* S	Sb	07 27 01.6	+1.5
DSCH				AMP		07 27 03.4	
	comp=E,365nm,0.5s						
CLCH	**Cerro Calan**	1.60	359	*e*P	Pn	07 26 39.5	+0.3
CLCH				*i* S	Sb	07 27 01.3	+1.2
CLCH				AMP		07 27 12.5	
	comp=N,364nm,0.6s						
FCH	**Farellones**	1.67	6	*e*P	Pn	07 26 40.8	+0.5
FCH				*i* S	Sb	07 27 02.8	+0.4
FCH				AMP		07 27 06.5	
	comp=N,306nm,0.2s						
LCCH	**Las Cruces**	1.75	330	*i* P	Pn	07 26 41.4	0.0
LCCH				*e*S	Sn	07 27 05.5	+1.0

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*NNC **04** 07:52:08.6±3.3, 37.03N×69.78E, mpv3.6, Error ellipse: s-maj=38.3km s-min=35.8km az=28.0*

*IDC **04** 07:52:11.0±1.3, 37.10N×70.02E, mb3.5/5, mb1 3.9/7, mb1mx3.7/17, ML3.9/2, Error ellipse: s-maj=29.6km s-min=25.1km az=89.0*

*NEIC **04** 07:52:12.6±6.4, 37.03N×70.07E, h11^{km}±40^{km}, mb3.9/7, Error ellipse: s-maj=26.1km s-min=7.7km az=63.0*

*MOS **04** 07:52:13.4±2.1, 37.15N×70.16E, h33^{km}, mb4.0/2, Error ellipse: s-maj=49.6km s-min=25.0km az=71.4*

ISC 04 07:52:14.0±2.4, 37.06N±0.09×70.1E±0.2, h38^{km}±21^{km}, n38, σ1§23/38, mb3.4/5, 4C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	5.79	28	P	P	07 53 40.2	+0.7
	SNR=36						
KK31	**Karatay Array**	6.04	3	⇑Pn	P	07 53 42.5	-0.7
	2.6nm,0.4s,baz=195,slow=13,SNR=58						
KK31				⇓Lg		07 55 19.8	
	26nm,0.8s,baz=170,slow=29,SNR=5.6						
UCH	**Uchtor**	6.20	32	P	P	07 53 46.2	+0.9
	SNR=53						
EKS2	**Erkin-Say**	6.28	26	P	P	07 53 47.8	+1.3
	SNR=20						
KZA	**Kyzart**	6.41	37	P	P	07 53 49.6	+1.2
	SNR=12						
AAK	**Ala-Archa**	6.52	30	P	P	07 53 50.8	+0.8
	SNR=22						
AAK	**Ala-Archa**	6.52	30	*e*P	P	07 53 49.7	-0.2
	20nm,0.5s						
KBK	**Karagaybulak**	6.73	32	P	P	07 53 54.6	+1.7
	SNR=7.0						
CHMS	**Chumysh**	6.93	30	P	P	07 53 55.8	+0.1
	SNR=8.7						
ULHL	**Ulahol**	7.03	41	P	P	07 53 57.5	+0.3
	SNR=7.7						
USP	**Ospenovka**	7.07	27	P	P	07 53 57.3	-0.3
	SNR=18						
TKM2	**Tokmak 2**	7.23	34	P	P	07 54 00.0	+0.2
	SNR=50						
MK31	**Makanchi Array**	13.30	39	⇑P	P	07 55 21.1	-1.5
	4.3nm,0.7s,baz=220,slow=12,SNR=43						
MKAR	**Makanchi Array**	13.30	39	Pn	P	07 55 21.7	-0.9
	0.4nm,0.3s,baz=225,slow=14,SNR=63						
MKAR				Lg		07 59 14.6	
	0.0nm,0.3s,baz=216,slow=20,SNR=2.6						
MKAR	**Makanchi Array**	13.30	39	*i* P	P	07 55 21.3	-1.3
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
AB31	**Akbulak array**	14.23	332	⇑P	P	07 55 30.8	-4.0
	comp=Z,1.1nm,0.3s,baz=159,slow=12,SNR=73						
KOLN	**Koldanda**	14.70	125	*e*P	P	07 55 42.1	+1.1
	comp=Z,7.6nm,0.5s						
KURK	**Kurchatov**	14.96	21	*e*P	P	07 55 40.4	-3.9
GKN	**Gorkha**	15.24	122	*e*P	P	07 55 49.2	+1.2
	comp=Z,16nm,0.6s						
VOSK	**Vostochnaya**	15.67	2	⇑P	P	07 55 50.7	-2.8
	comp=Z,4.5nm,1.7s						
DMN	**Daman**	15.81	122	*e*P	P	07 55 54.6	-0.8
	comp=Z,7.4nm,0.3s						
KKN	**Kakani**	15.81	121	*e*P	P	07 55 54.3	-1.1
	comp=Z,13nm,0.5s						
ZRNK	**Zerenda**	15.90	358	*e*P	P	07 55 55.8	-0.6
	comp=Z,3.0nm,0.8s						
BVA0	**Borovoye Array**	15.96	1	⇓P	P	07 55 55.2	-1.9
	comp=Z,0.5nm,0.8s,slow=0.1,SNR=6.6						
BRVK	**Borovoye**	16.00	0	*e*P	P	07 55 58.7	+1.1
	comp=Z,4.4nm,0.8s						
PKI	**Pulchoki**	16.04	122	*e*P	P	07 55 56.5	-1.8
	comp=Z,9.6nm,0.6s						
GUN	**Gumba**	16.15	120	*e*P	P	07 55 58.4	-1.3
ZAL	**Zalesovo**	19.71	26	P	P	07 56 40.4	-2.4
	comp=Z,1.2nm,0.3s,baz=136,slow=6.1,SNR=4.1						
ZAL	**Zalesovo**	19.71	26	P	P	07 56 40.4	-2.4
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ARU	**Arti**	20.86	342	*e*P	P	07 56 55.2	+0.4
	comp=Z,5.5nm,0.7s						
ZAK	**Zakamensk**	27.20	50	*e*P	P	07 57 52.0	-3.9
SONM	**Songino Array**	28.64	56	P	P	07 58 09.8	+0.8
	comp=Z,0.2nm,0.4s,mb3.2,baz=268,slow=8.3,SNR=4.1						
ARCES	**ARCESS Array B**	40.34	338	P	P	07 59 49.5	+0.4
	comp=Z,1.0nm,0.7s,mb3.7,baz=106,slow=6.6,SNR=4.2						
ARCES	**ARCESS Array B**	40.34	338	P	P	07 59 49.5	+0.4
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA	**NORSAR Array B**	43.48	323	P	P	08 00 15.4	+0.5
	comp=Z,0.4nm,0.6s,mb3.3,baz=109,slow=8.2,SNR=2.5						
WRA	**Warramunga Arr**	82.92	121	P	P	08 04 37.4	+1.0
	comp=Z,0.6nm,1.1s,mb3.6,baz=327,slow=5.0,SNR=3.3						
WRA	**Warramunga Arr**	82.92	121	P	P	08 04 37.4	+1.0
WRA				pmax	pmax		
	comp=Z,1.0nm,1.1s						
ASAR	**Alice Springs**	85.19	124	P	P	08 04 50.4	+2.5
	comp=Z,0.3nm,0.8s,mb3.5,baz=310,slow=5.6,SNR=3.8						

WEL 04 07:57:30.9±0.5, 35.85S×178.36E, h196^{km}±10^{km}, ML3.6/4, Error ellipse: s-maj=14.4km s-min=10.4km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	1.71	181	PN	P	07 58 06.2	-0.4
MXZ				SN	S	07 58 33.4	-0.6
PUZ	**Puketiti**	2.22	182	PN	P	07 58 11.6	-0.2
PUZ				SN	S	07 58 41.4	-2.0
MWZ	**Matawai**	2.57	195	PN	P	07 58 15.6	-0.2
MWZ				SN	S	07 58 49.2	-1.2
URZ	**Urewera**	2.60	202	PN	P	07 58 15.4	-0.9
URZ				SN	S	07 58 51.2	0.0
BKZ	**Black Stump Fm**	3.63	204	PN	P	07 58 27.5	-1.0
PWZ	**Pawanui**	4.33	195	PN	P	07 58 35.4	-2.0
TSZ	**Takapari Road**	4.61	204	PN	P	07 58 39.0	-1.9
TSZ				SN	S	07 59 29.3	-5.8
MRZ	**Mangatainoka R**	5.28	204	PN	P	07 58 46.7	-2.7
KIW	**Kapiti Island**	5.69	207	PN	P	07 58 51.9	-2.9
MTW	**Mount Morrison**	5.75	202	PN	P	07 58 52.1	-3.5
CAW	**Cannon Point**	5.85	205	PN	P	07 58 53.0	-3.8
TUWZ	**Tuamarina**	6.55	210	PN	P	07 59 02.1	-4.0
QRZ	**Quartz Range**	6.76	221	PN	P	07 59 07.0	-1.8
THZ	**Tophouse**	7.28	214	PN	P	07 59 12.1	-3.4
KHZ	**Kahutara**	7.55	208	PN	P	07 59 15.5	-3.6
LBZ	**Lake Benmore**	10.57	214	PN	P	07 59 55.4	-2.9

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*TIF **04** 08:15:27.1, 39.62N×44.03E, h12^{km}, Mpv4.5*

*ISK **04** 08:15:33.7, 39.54N×43.79E, h5^{km}, MD3.2, ML3.1*

ISC 04 08:15:32.2±0.5, 39.66N±0.03×44.00E±0.04, h5^{km}, n18, σ1§59/26, 2D, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ERE	**Yerevan**	0.64	36	*i* P	Pg	08 15 40.0	-5.0
ERE				*i* S	Sg	08 15 50.0	-3.6
AGRT	**Agri**	0.79	267	*i* PG	Pg	08 15 46.4	-1.5
AGRT				*i* SG	Sg	08 15 56.6	-1.8
VANB	**Van**	1.17	204	*e*PG	Pg	08 15 54.1	-1.4
TVAN	**Van**	1.22	203	*i* P	Pb	08 15 53.4	-2.0
STE	**Stepanavan**	1.37	13	*e*P	Pb	08 15 54.1	-3.9
STE				*e*S	Sb	08 16 13.4	-2.3
VAD	**Vardenisi**	1.43	68	*e*P	Pn	08 15 55.0	-3.9
VAD				*e*S	Sb	08 16 19.0	+1.6
BAW	**Bavra**	1.46	354	*i* P	Pn	08 15 57.0	-2.4
BAW				*i* S	Sb	08 16 19.0	+0.6
AKH	**Akhalkalaki**	1.79	348	⇓*i*P	Pn	08 16 03.0	-1.0
AKH				*i* S	Sn	08 16 29.0	+1.6
GRS	**Goris**	1.81	93	*i* S	Sg	08 16 33.0	+0.5
VRT	**Varto**	1.99	255	*i* PN	Pn	08 16 07.2	+0.4
ERZM	**Erzurum**	2.05	278	*i* P	Pn	08 16 09.6	+1.9
ERZM				*i* S	Sn	08 16 36.3	+2.4
EZM	**Erzurum**	2.05	278	*i* PN	Pn	08 16 09.2	+1.5
HKR	**Hakkari**	2.09	186	PN	Pn	08 16 09.0	+0.7
MTA	**Mtatsminda**	2.12	16	⇓*i*P	Pn	08 16 08.5	-0.2
TBLG	**Delisi**	2.14	15	*e*P	Pn	08 16 09.0	-0.1
BCA	**Borcka**	2.54	315	*e*PN	Pn	08 16 17.1	+2.3
BEST	**Besiri**	2.77	231	*i* P	Pn	08 16 20.6	+2.5
BEST				*i* S	Sg	08 16 59.3	-5.1
PTK	**Pertek**	3.66	259	*e*PN	Pn	08 16 30.5	-0.2

JMA ***04*** *08:22:00.9±0.1, 24.64N×122.92E, h71$^{km}\pm$1^{km}, M3.9*
TAP ***04*** *08:22:01.3, 24.45N×122.85E, h44$^{km}\pm$1^{km}, ML4.0*
ISC 04 08:22:01.0±1.8, **24.6N**±0.2×**122.92E**±0.10, **h70**$^{km}\pm$14^{km}, **n9**, σ**0^{s}48**/16, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	0.15	147	P	P	08 22 11.5	+0.1
YOJ				S	S	08 22 19.4	+0.2
IRIF	**Iriomote-Funau**	0.78	109	P	P	08 22 16.8	-0.2
IRIF				S	S	08 22 28.8	-0.2
HATJ	**Hateruma jima**	0.97	123	P	P	08 22 19.6	+0.2
HATJ				*e*S	S	08 22 33.3	+0.3
JKRS	**Kuro-shima**	1.05	109	P	P	08 22 20.5	0.0
JKRS				S	S	08 22 35.2	+0.3
JIJ	**Ishigaki jima**	1.14	101	P	P	08 22 21.1	-0.5
JIJ				S	S	08 22 36.0	-0.9
JTJ	**Tarama**	1.62	88	P	P	08 22 28.2	0.0
JTJ				*e*S	S	08 22 47.7	-0.5
JMJ	**Miyako jima 2**	2.17	84	P	P	08 22 35.2	-0.5
JMJ				*e*S	S	08 23 02.6	+1.2
JOGS	**Gusukube**	2.27	85	P	P	08 22 37.8	+0.7
JKE	**Kume jima 2**	3.90	63	P	P	08 22 59.7	-0.2

IDC ***04*** *08:58:41.4±0.8, 17.99S×167.88E, mb4.4/12, mb1 4.5/12, mb1mx4.4/14, MS4.3/7, Ms1 4.3/7, ms1mx4.1/16, Error ellipse: s-maj=23.4km s-min=20.6km az=154.0*
LDG ***04*** *08:58:42.1±0.2, 18.72S×166.79E, h10^{km}, Mb4.6/2, Ms4.8/9, Error ellipse: s-maj=33.9km s-min=3.2km az=90.0*
HRVD ***04*** *08:58:47.2±0.4, 18.10S×167.79E, h29$^{km}\pm$1^{km}, MW5.0/45, Centroid moment Tensor Solution. LP body waves: s34,c46;Mantle waves: s45,c67; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.38±.22; $M_{\theta\theta}$0.12±.15; $M_{\phi\phi}$-3.51±.16; $M_{r\theta}$0.69±.33; $M_{\theta\phi}$0.31±.15; $M_{\phi r}$-2.14±.24; Best double couple: $M_0$4.13×10^{16} NP1:ϕ_s3°,δ29°,λ103°. NP2:ϕ_s168°,δ62°,λ83°. Principal axes: T 4.08, Plg72°, Azm61°; N .1, Plg6°, Azm171°; P -4.18, Plg16°, Azm263°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***04*** *08:58:47.2±3.8, 18.06S×167.89E, h41$^{km}\pm$32^{km}, mb4.7/11, MS4.7/2 Error ellipse: s-maj=14.8km s-min=11.2km az=219.0*
ISC 04 08:58:40.7±1.4, **18.16S**±0.07×**167.69E**±0.06, **h1**$^{km}\pm$8^{km}, **n70**, σ**1^{s}12**/44, **mb4.5**/18, **MS4.2**/8, **3C-2D**, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BKM	**Butte a Klehm**	0.72	47	⇓*i*P	Pg	08 58 55.7	+0.5
DZM	**Mont Dzumac**	4.06	197	*e*P	Pn	08 59 44.2	-1.2
DZM				*e*S	Sn	09 00 29.0	-5.3
DZM	**Mont Dzumac**	4.06	197	*e*P	Pn	08 59 44.1	-1.3
DZM				*e*S	Sn	09 00 29.0	-5.3
NOUC	**Port Laguerre**	4.13	198	*e*P	Pn	08 59 45.3	-1.1
NOUC				*e*S	Sn	09 00 30.3	-5.7
NOUC	**Port Laguerre**	4.13	198	*e*P	Pn	08 59 45.3	-1.1
NOUC				*e*S	Sn	09 00 30.3	-5.8
MSVF	**Nonsavu**	9.87	89	Pn	P	09 01 08.7	+1.7
	363nm,1.8s,SNR=13						
CTA	**Charters Tower**	20.34	261	*e*P	P	09 03 22.6	+1.2
	26nm,1.5s						
CTA	**Charters Tower**	20.34	261	P	P	09 03 23.2	+1.8
	15nm,0.9s,baz=88,slow=11,SNR=7.1						
CTA				LR	LR	09 10 15.4	
	comp=Z,928nm,20.0s,MS4.1,baz=77,slow=34						
CTAO	**Charters Tower**	20.34	261	*e*P	P	09 03 24.5	+3.1
	40nm,1.1s						
URZ	**Urewera**	21.65	160	P	P	09 03 33.8	-0.9
	6.9nm,0.5s,mb4.4,baz=323,slow=8.0,SNR=5.5						
URZ				LR	LR	09 11 04.1	
	comp=Z,1µm,19.1s,MS4.3,baz=14,slow=34						
CNB	**Canberra Magne**	23.59	220	*e*P	P	09 03 57.5	+3.6
	124nm,1.4s,mb5.2						
RPZ	**Rata Peaks**	25.63	174	P	P	09 04 15.0	+1.5
	29nm,1.2s,mb4.8,baz=63,slow=11,SNR=2.3						
STKA	**Stephens Creek**	27.22	235	*e*P	P	09 04 30.2	+2.0
	7.5nm,0.8s,mb4.5						
STKA	**Stephens Creek**	27.22	235	P	P	09 04 29.6	+1.4
	9.3nm,1.1s,mb4.4,baz=74,slow=8.3,SNR=7.9						
STKA				LR	LR	09 15 09.5	
	comp=Z,464nm,18.9s,MS4.1,baz=40,slow=36						
RAR	**Rarotonga**	30.76	101	LR	LR	09 14 02.0	
	comp=Z,473nm,19.0s,MS4.2,baz=298,slow=30						
WB2	**Warramunga Arr**	31.53	261	*e*P	P	09 05 06.7	-0.2
WRAB	**Tennant Creek**	31.54	261	*e*P	P	09 05 06.2	-0.7
	2.9nm,0.7s,mb4.3						
WRA	**Warramunga Arr**	31.55	261	P	P	09 05 06.1	-0.9
	1.3nm,0.5s,mb4.1,baz=82,slow=6.0,SNR=35						
WRA				LR	LR	09 17 12.3	
	comp=Z,419nm,20.1s,MS4.1,baz=90,slow=35						
ASAR	**Alice Springs**	31.98	254	P	P	09 05 10.6	-0.3
	5.6nm,0.5s,mb4.8,baz=82,slow=8.6,SNR=149						
ASAR				LR	LR	09 18 04.8	
	comp=Z,602nm,19.0s,MS4.3,baz=38,slow=36						
ASPA	**Alice Springs**	31.98	254	*e*P	P	09 05 10.8	0.0
FORT	**Forrest**	38.00	243	*e*P	P	09 06 03.3	+1.1
	33nm,0.7s,mb5.2						
FITZ	**Fitzroy Crossi**	39.90	263	*e*P	P	09 06 19.6	+1.4
	13nm,1.5s,mb4.3						
FITZ	**Fitzroy Crossi**	39.90	263	P	P	09 06 19.5	+1.3
	9.0nm,0.8s,mb4.4,baz=165,slow=7.0,SNR=14						
TBI	**Tubuai**	40.29	105	*e*S	S	09 12 30.3	+0.6
TBI				*e*L		09 15 54.7	
TBI				*e*R		09 17 33.9	
	371nm,27.2s,baz=272						
PPT	**Papeete**	40.61	96	*e*S	S	09 12 35.2	+0.7
PPT				*e*L		09 16 04.4	
PPT				*e*R		09 17 46.4	
	649nm,24.0s,baz=257						
MBWA	**Marble Bar**	45.13	258	*e*P	P	09 07 01.2	+0.3
NWAO	**Narrogin (SRO)**	47.41	242	*e*P	P	09 07 19.2	+0.4
	16nm,1.1s,mb5.1						
RKT	**Rikitea**	53.60	106	*e*S	S	09 15 39.7	+0.8
RKT				*e*R		09 23 48.5	
	287nm,25.8s						
QSPA	**South Pole Qui**	71.88	180	*e*P	P	09 10 05.4	-1.6
	9.9nm,1.0s,mb4.9						
QSPA				LR	LR		
	comp=Z,130nm,19.2s,MS4.2						
MAW	**Mawson**	78.87	202	P	P	09 10 47.9	+1.1
	comp=Z,1.5nm,0.8s,mb4.1,baz=72,slow=9.6,SNR=3.0						
MAW				LR	LR	09 40 43.8	
	comp=Z,151nm,20.4s,MS4.3,baz=322,slow=32						
SONM	**Songino Array**	85.48	324	P	P	09 11 21.9	+0.3
	comp=Z,1.7nm,0.9s,mb4.3,baz=134,slow=3.9,SNR=11						
PMR	**Palmer**	86.59	19	*e*P	P	09 11 25.5	-1.2
	comp=Z,16nm,1.3s,mb5.1						
YBH	**Yreka Blue Hor**	87.56	45	P	P	09 11 30.8	-1.1
	comp=Z,1.4nm,0.6s,mb4.5,baz=160,slow=4.9,SNR=3.0						
ASMM	**Slate Mountain**	87.67	48	*e*P	P	09 11 29.1	-3.4
SNAA	**Sanae**	90.16	183	⇑*i*P	P	09 11 43.0	-0.6
SNAA				*e*		09 11 54.2	
VNA3	**Neumayer Olymp**	90.81	181	*e*	pP	09 11 54.5	+7.7
VNA3	**Neumayer Olymp**	90.81	181	⇑*i*P	P	09 11 47.2	+0.7
VNA3				*e*		09 11 54.5	
VNA2	**Neumayer--Watz**	91.08	182	*e*	pP	09 11 55.3	+7.3
VNA2	**Neumayer--Watz**	91.08	182	⇑*i*P	P	09 11 48.5	+0.7
VNA2				*e*		09 11 55.3	
VNA1	**Neumayer--Stat**	91.38	181	⇓*i*P	P	09 11 48.1	-1.1
VNA1				*e*		09 12 01.8	
INK	**Inuvik**	96.00	19	P	P	09 12 09.2	-1.2
	comp=Z,1.5nm,0.9s,mb4.5						
PDAR	**Pinedale Array**	96.97	47	P	P	09 12 12.9	-2.5
	comp=Z,0.1nm,0.4s,mb3.8,baz=217,slow=4.5,SNR=2.4						
MKAR	**Makanchi Array**	99.95	316	P	P	09 12 29.3	+0.5
	comp=Z,0.2nm,0.5s,mb4.0,baz=117,slow=3.2,SNR=2.7						
ARCES	**ARCESS Array B**	123.66	345	PKP	PKPdf	09 17 39.1	-2.7
	comp=Z,0.8nm,0.6s,baz=45,slow=2.6,SNR=8.3						
FINES	**FINESS Array B**	129.04	337	PKP	PKPdf	09 17 50.1	-2.2
	comp=Z,1.3nm,1.0s,baz=149,slow=11,SNR=1.3						
FINES	**FINESS Array B**	129.04	337	PKP	PKPdf	09 17 50.1	-2.2
WLF	**Walferdange**	145.24	339	*e*PKPdf	PKPdf	09 18 20.6	-1.5
BAIF	**Baives**	145.53	341	*e*PKP1	PKPbc	09 18 20.8	-0.4
	comp=Z,14nm,1.0s						
CDF	**Champ du Feu**	145.88	337	*e*PKP1	PKPbc	09 18 21.9	-0.2
	comp=Z,11nm,0.7s						
MEZF	**Maizieres J'vi**	146.61	339	*e*PKP1	PKPbc	09 18 24.4	+0.6
CABF	**La Chapelle**	147.82	336	*e*PKP1	PKPdf	09 18 27.9	+1.4
	comp=Z,12nm,0.9s						
FLN	**La Foliniere**	148.00	345	*e*PKP1	PKPdf	09 18 26.6	-0.1
FLN				*e*R			
	comp=Z,441nm,19.0s						
LDF	**La Druitiere**	148.07	345	*e*PKP1	PKPdf	09 18 27.3	+0.5
	comp=Z,4.7nm,0.8s						
LOR	**Lormes**	148.08	339	*e*PKP1	PKPdf	09 18 28.0	+1.1
	comp=Z,9.8nm,0.8s						
LOR				*e*R			
	comp=Z,288nm,17.8s						
SSF	**Saint Saulge**	148.38	339	*e*PKP1	PKPdf	09 18 28.9	+1.5
	comp=Z,8.3nm,0.7s						
GRR	**Gorron**	148.44	345	*e*PKP1	PKPdf	09 18 28.8	+1.4
	comp=Z,4.2nm,0.5s						
LPL	**La Plagne**	148.46	334	*e*PKP1	PKPdf	09 18 29.6	+2.1
LPG	**La Plagne**	148.46	334	*e*PKP1	PKPdf	09 18 29.7	+2.2
	comp=Z,14nm,1.1s						
BNI	**Bardonecchia**	148.85	334	*e*PKPbc	PKPdf	09 18 30.9	+2.7
SGMF	**Saint Gilles**	148.95	347	*e*PKP1	PKPdf	09 18 30.3	+2.1
	comp=Z,16nm,0.8s						
ORIF	**Oris-en-Rattie**	149.29	334	*e*PKP1	PKPdf	09 18 31.4	+2.5
	comp=Z,6.0nm,0.7s						
ORIF				*e*R			
	comp=Z,250nm,20.8s						
SBF	**Sospel**	149.46	331	*e*PKP1	PKPdf	09 18 31.5	+2.3
TCF	**Toulx Ste Croi**	149.49	340	*e*PKP1	PKPdf	09 18 31.0	+1.8
PGF	**Pioggiola**	149.69	328	*e*PKP1	PKPdf	09 18 32.3	+2.7
	comp=Z,18nm,1.1s						
MFF	**Saint Martin d**	149.91	343	*e*PKP1	PKPdf	09 18 32.3	+2.5
FRF	**La Foret Royal**	150.05	332	*e*PKP1	PKPdf	09 18 32.9	+2.8
SMRF	**Simiane la Rot**	150.19	334	*e*PKP1	PKPdf	09 18 33.9	+3.6
LMR	**La Mourre**	150.29	332	*e*PKP1	PKPdf	09 18 33.5	+3.0
	comp=Z,15nm,1.0s						
CAF	**Calviac**	150.73	339	*e*PKP1	PKPdf	09 18 42.6	+11
LASF	**Ste Croix**	150.80	336	*e*PKP1	PKPdf	09 18 35.3	+4.0
	comp=Z,11nm,1.0s						

IDC ***04*** *09:21:24.2±2.4, 8.51N×125.54E, mb3.7/4, mb1 3.9/4, mb1mx3.6/17, MS2.6/1, Ms1 2.6/1, ms1mx2.6/20, Error ellipse: s-maj=153.0km s-min=25.7km az=67.0*
MAN ***04*** *09:21:25.6, 9.05N×126.98E, h30^{km}, mb4.0, ML2.8, MS2.5*
ISC 04 09:21:26.7±2.6, **9.11N**±0.09×**126.8E**±0.2, **h49**$^{km}\pm$25^{km}, **n8**, σ**0^{s}38**/10, **mb3.6**/4, **MS2.7**/1, **1D**, **Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BIPH	**Bislig**	1.02	206	⇓*e*P	P	09 21 44.5	-0.4
BIPH				*i* S	S	09 21 58.8	+0.4
SCPH	**Surigao**	1.46	297	*i* P	P	09 21 50.6	-0.6
SCPH				*e*S	S	09 22 09.2	-0.2
PLP	**Palo**	2.72	319	*e*P	P	09 22 09.7	+0.6
PLP				*e*S	S	09 22 41.1	+0.2
FITZ	**Fitzroy Crossi**	27.06	182	P	P	09 27 01.1	-5.7
	2.0nm,0.8s,mb3.7,baz=10,slow=11,SNR=2.6						
WRA	**Warramunga Arr**	29.80	166	P	P	09 27 31.1	-0.3
	0.3nm,0.5s,mb3.2,baz=346,slow=9.2,SNR=4.9						
ASAR	**Alice Springs**	33.30	168	P	P	09 28 02.4	+0.3
	0.3nm,0.5s,mb3.5,baz=352,slow=6.6,SNR=11						
MKAR	**Makanchi Array**	53.27	323	P	P	09 30 42.8	0.0
	1.0nm,0.8s,mb3.8,baz=125,slow=8.5,SNR=6.0						
BVAR	**Borovoye Array**	62.92	326	LR	LR	10 03 20.7	
	comp=Z,4.5nm,18.2s,MS2.7,baz=240,slow=40						

MAN ***04*** *09:22:56.5, 9.14N×127.01E, h13^{km}, mb5.1, ML4.0, MS4.1*
MOS ***04*** *09:22:58.6±1.0, 9.05N×126.27E, h33^{km}, mb5.4/15, MS4.6/10, Error ellipse: s-maj=22.0km s-min=8.9km az=108.1*
IDC ***04*** *09:23:01.0±0.6, 9.06N×126.42E, h36$^{km}\pm$4^{km}, mb4.5/21, mb1 4.6/21, mb1mx4.6/22, ML5.2/1, MS4.6/6, Ms1 4.6/6, ms1mx4.1/19, Error ellipse: s-maj=24.9km s-min=9.5km az=71.0*
BJI ***04*** *09:23:03.5, 9.03N×126.53E, h86^{km}, mB5.2, mb5.0, Ms4.8, Msz4.6*
HRVD ***04*** *09:23:06.3±0.3, 9.18N×127.12E, h58$^{km}\pm$2^{km}, MW5.1/59, Centroid moment Tensor Solution. LP body waves: s11,c16;Mantle waves: s59,c104; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.14±.46; $M_{\theta\theta}$5.23±.29; $M_{\phi\phi}$-5.09±.28; $M_{r\theta}$0.05±.18; $M_{\theta\phi}$1.40±.16; $M_{\phi r}$3.15±.19; Best double couple: $M_0$6.11×10^{16} NP1: ϕ_s124°,δ68°,λ-14°. NP2:ϕ_s220°,δ77°,λ-157°. Principal axes: T 5.46, Plg6°, Azm351°; N 1.29, Plg64°, Azm249°; P -6.75, Plg25°, Azm83°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***04*** *09:23:06.3±1.3, 9.09N×126.57E, h84$^{km}\pm$11^{km}, mb5.1/37 Error ellipse: s-maj=10.0km s-min=5.3km az=68.0*
ISC 04 09:22:59.0±0.2, **9.14N**±0.02×**126.84E**±0.03, **h38**^{km}, **h38**$^{km}\pm$.9^{km}**:pP-P**, **n208**, σ**1^{s}27**/214, **mb5.0**/77, **MS4.6**/25, **16C-8D**, **Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BIPH	**Bislig**	1.06	206	⇑*e*P	P	09 23 16.9	-0.8
BIPH				*e*S	S	09 23 30.5	-1.0
BUTP	**Butuan**	1.22	262	*e*P	P	09 23 19.8	0.0
SCPH	**Surigao**	1.48	296	*e*P	P	09 23 23.8	+0.2
SCPH				*e*S	S	09 23 37.8	-4.1
BUKP	**Musuan**	2.16	235	*e*P	P	09 23 36.0	+2.7
BUKP				*e*S	S	09 24 05.9	+6.7
BUKP	**Musuan**	2.16	235	*e*P	P	09 23 35.8	+2.5
BUKP				*e*S	S	09 24 06.1	+7.0
MSLP	**Maasin**	2.19	297	*e*P	P	09 23 36.1	+2.4
MATI	**Mati**	2.26	195	*e*P	P	09 23 34.9	+0.2
DAV	**Davao City (W)**	2.41	211	*e*P	P	09 23 39.0	+2.1
PLP	**Palo**	2.72	318	*i* P	P	09 23 42.0	+0.7
PLP				*i* S	S	09 24 14.5	+1.2
KCP	**Kidapawan**	2.74	219	*e*P	P	09 23 43.7	+2.1
KCP				*i* S	S	09 24 20.2	+6.4
BESP	**Borongan**	2.80	331	*e*P	P	09 23 43.0	+0.4
BESP				*e*S	S	09 24 29.0	+14
OCLP	**Ormoc**	2.90	311	*e*P	P	09 23 49.5	+5.6
TBP	**Tagbilaran**	2.99	281	*e*P	P	09 23 46.5	+1.3
TBP				*e*S	S	09 24 23.7	+3.6
LLP	**Lapu-Lapu**	3.06	293	*e*P	P	09 23 46.0	-0.2
LLP				*i* S	S	09 24 23.0	+1.0
DCPH	**Dipolog City**	3.49	261	⇑*i*P	P	09 23 53.1	+0.8
SNPH	**Sibulan**	3.56	273	⇑*e*P	P	09 23 54.3	+1.0
SNPH				*i* S	S	09 24 53.5	+19
GSPH	**General Santos**	3.57	212	*e*P	P	09 23 59.0	+5.6
PAGZ	**Pagadian**	3.66	250	*e*P	P	09 23 56.7	+2.2
IPIL	**Ipil**	4.43	253	*e*P	P	09 24 08.0	+2.4
GUIM	**Jordan**	4.44	290	*e*P	P	09 24 06.9	+1.2
GUIM	**Jordan**	4.44	290	*e*P	P	09 24 08.1	+2.4
MMPH	**Masbate**	4.49	316	*e*P	P	09 24 23.4	+17
RCP	**Roxas**	4.69	301	⇑*e*P	P	09 24 10.3	+1.1
AAP	**Anini-y**	4.99	285	*e*P	P	09 24 13.0	-0.5
GQP	**Guinayangan**	6.40	318	*e*P	P	09 24 45.5	+12
TGY	**Tagaytay City**	7.60	311	Pn	P	09 24 52.7	+2.8
	36nm,0.3s,baz=20,slow=1.3,SNR=4.9						
TGY				LR	LR	09 27 58.9	
	comp=Z,7µm,18.6s,baz=134,slow=40						
ARP	**Angono**	7.73	314	⇓*e*P	P	09 24 52.9	+1.1
PPR	**Puerto Princes**	8.03	275	⇑*i*P	P	09 24 55.0	-0.9
KKM	**Kota Kinabalu**	10.97	254	⇓*e*P	P	09 25 39.6	+2.9
TATO	**Taipei**	16.55	343	P	P	09 26 50.6	+0.7
GZH	**Guangzhou**	18.96	319	P	P	09 27 19.8	0.0
GZH				LR	LR		
	comp=N,3µm,17.4s						
GZH				LR	LR		
	comp=E,3µm,15.7s						
GZH				LR	LR		
	comp=Z,6µm,17.7s						
QIZ	**Qiongzhong**	19.17	303	P	P	09 27 21.4	-0.9
QIZ				AP		09 27 33.0	
QIZ				S	S	09 30 52.4	+1.2
QIZ				AMB	AMB		
	comp=Z,610nm,6.9s						
QIZ				LR	LR		
	comp=E,2µm,15.7s						
QIZ				LR	LR		
	comp=Z,3µm,16.9s						
KAKA	**Kakadu**	22.39	166	*e*P	P	09 27 56.4	+0.8
	comp=Z,64nm,0.8s,mb5.1						
KAKA				*e*S	S	09 31 56.7	+2.4
SSE	**Sheshan**	22.47	347	P	P	09 27 57.4	+1.1
SSE				AMB	AMB		
	comp=Z,109nm,0.9s,mb5.3						
SSE				AMB	AMB		
	comp=Z,507nm,6.5s						
SSE				LR	LR		
	comp=N,379nm,21.2s,MS3.9						
SSE				LR	LR		
	comp=E,342nm,21.3s,MS3.9						
SSE				LR	LR		
	comp=Z,591nm,18.3s,MS4.0						
NJ2	**Nanjing**	23.97	343	⇑P	P	09 28 12.2	+1.3
NJ2				AP		09 28 25.4	
NJ2				PP	PP	09 28 43.8	-1.8
NJ2				S	S	09 32 17.0	-5.1
NJ2				LR	LR		
	comp=N,3µm,12.2s,MS4.9						
NJ2				LR	LR		
	comp=E,1µm,16.6s,MS4.9						
NJ2				LR	LR		
	comp=Z,1µm,12.7s,MS4.6						
JNU	**Nakatsue**	24.15	8	P	P	09 28 14.7	+1.9
	comp=Z,52nm,1.0s,mb4.9,baz=183,slow=5.4,SNR=13						
WHN	**Wuhan**	24.27	333	*e*P	P	09 28 14.0	0.0
KKTK	**Khon Kaen**	24.48	289	P	P	09 28 16.5	+0.5
	comp=Z,370nm,1.0s,mb5.8						
WAU	**Wau**	25.70	129	*e*P	P	09 28 29.4	+1.7
IPM	**Ipoh**	26.02	262	⇓*e*P	P	09 28 31.0	+0.3
NNT	**Nongplab**	26.83	280	P	P	09 28 38.0	-0.2
NST	**Nakhon Sawan**	26.86	287	P	P	09 28 38.0	-0.4
NANT	**Nan**	27.09	294	P	P	09 28 33.6	-6.9
FITZ	**Fitzroy Crossi**	27.10	183	*e*P	P	09 28 40.4	-0.2
	comp=Z,48nm,1.2s,mb4.9						
FITZ				*e*S	S	09 33 24.1	+10
FITZ	**Fitzroy Crossi**	27.10	183	P	P	09 28 38.8	-1.8
	comp=Z,17nm,0.6s,mb4.7,baz=8.9,slow=12,SNR=22						
BDT	**Bhumibol Dam**	28.24	289	P	P	09 28 48.0	-2.9
CHG	**Chiang Mai**	28.69	293	⇓P	P	09 29 02.7	+7.8
	comp=Z,14nm,0.9s,mb4.7						
MAT	**Matsushiro**	29.16	19	P	P	09 28 57.8	-1.2
MAT	**Matsushiro**	29.16	19	*e*P	P	09 28 58.0	-1.0
XAN	**Xi'an**	29.75	329	P	P	09 29 00.4	-3.8
WRAB	**Tennant Creek**	29.82	166	*e*P	P	09 29 03.4	-1.6
	comp=Z,20nm,0.9s,mb4.8						
WRA	**Warramunga Arr**	29.83	166	P	P	09 29 03.2	-1.9
	comp=Z,6.9nm,0.6s,mb4.6,baz=346,slow=9.1,SNR=46						
WB2	**Warramunga Arr**	29.83	166	*e*P	P	09 29 03.5	-1.6
WB2				*e*S	S	09 33 49.9	-8.1
MBWA	**Marble Bar**	30.91	193	*e*P	P	09 29 13.4	-1.2
	comp=Z,17nm,0.9s,mb4.9						
BJT	**Baijiatuau**	32.18	345	*e*P	P	09 29 25.4	-0.3
	comp=Z,26nm,0.8s,mb5.1						
BJI	**Beijing**	32.20	345	P	P	09 29 25.5	-0.3
BJI				S	S	09 34 36.3	+1.3
BJI				AMB	AMB		
	comp=Z,42nm,1.3s,mb5.1						
BJI				LR	LR		
	comp=N,720nm,18.9s,MS4.5						
BJI				LR	LR		
	comp=E,658nm,18.9s,MS4.5						
BJI				LR	LR		
	comp=Z,546nm,21.4s,MS4.2						
SNY	**Shenyang**	32.68	355	⇑P	P	09 29 31.0	+1.1
SNY				AMB	AMB		
	comp=Z,70nm,1.2s,mb5.5						
SNY				LR	LR		
	comp=N,930nm,19.5s,MS4.6						
SNY				LR	LR		
	comp=E,700nm,16.8s,MS4.6						
SNY				LR	LR		
	comp=Z,1µm,17.7s,MS4.6						
ASAR	**Alice Springs**	33.33	168	P	P	09 29 34.5	-1.3
	comp=Z,4.8nm,0.4s,mb4.8,baz=354,slow=6.5,SNR=93						
ASAR				LR	LR	09 43 33.7	
	comp=Z,356nm,18.3s,MS4.1,baz=343,slow=37						
ASPA	**Alice Springs**	33.33	168	*e*P	P	09 29 34.7	-1.1
ASPA				*e*S	S	09 34 47.5	-5.3
ASPA				*e*SCS	ScS	09 39 57.4	+0.7
LZH	**Lanzhou**	34.02	326	*e*P	P	09 29 39.5	-2.0
LZH				AMB	AMB		
	comp=Z,27nm,1.3s,mb5.0						
LZH				LR	LR		
	comp=N,765nm,13.2s						
LZH				LR	LR		
	comp=Z,987nm,16.9s,MS4.6						
HHC	**Hu-ho-hao-te**	34.36	339	*e*P	P	09 29 43.4	-1.1
HHC				AMB	AMB		
	comp=Z,16nm,0.6s,mb5.1						
HHC				AMB	AMB		
	comp=Z,223nm,8.9s						
HHC				LR	LR		
	comp=N,501nm,16.7s,MS4.4						
HHC				LR	LR		
	comp=E,329nm,17.8s,MS4.4						
HHC				LR	LR		
	comp=Z,453nm,17.2s,MS4.3						
CN2	**Changchun**	34.55	358	⇓P	P	09 29 46.8	+0.8
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
BTO	**Baotou**	34.71	337	*e*P	P	09 29 48.5	+1.0
CTA	**Charters Tower**	34.77	147	*e*P	P	09 29 46.1	-2.1
	comp=Z,8.9nm,0.9s,mb4.7						
CTA	**Charters Tower**	34.77	147	P	P	09 29 50.0	+1.8
	comp=Z,8.1nm,0.8s,mb4.7,baz=323,slow=15,SNR=6.7						
CTAO	**Charters Tower**	34.77	147	*e*P	P	09 29 49.3	+1.1
MDJ	**Mudanjiang**	35.42	3	P	P	09 29 54.9	+1.4
MDJ				AMB	AMB		
	comp=Z,45nm,1.1s,mb5.3						
MDJ				LR	LR		
	comp=N,348nm,17.5s,MS4.5						
MDJ				LR	LR		
	comp=E,540nm,14.0s,MS4.5						
MDJ				LR	LR		
	comp=Z,656nm,16.3s,MS4.5						
MDJ	**Mudanjiang**	35.42	3	*e*P	P	09 29 55.1	+1.7
	comp=Z,37nm,0.9s,mb5.3						
SHL	**Shillong**	36.99	301	*e*P	P	09 30 05.0	-1.9
SHL				*e*		09 33 29.0	
ASAJ	**Asahikawa**	37.44	19	P	P	09 30 12.8	+2.3
	comp=Z,23nm,1.1s,mb4.9,baz=249,slow=15,SNR=6.1						
GTA	**Gaotai**	38.62	326	*e*P	P	09 30 19.1	-1.3
GTA				LR	LR		
	comp=N,514nm,16.7s,MS4.6						
GTA				LR	LR		
	comp=E,591nm,16.7s,MS4.6						
GTA				LR	LR		
	comp=Z,975nm,18.3s,MS4.7						
LSA	**Lhasa**	39.14	306	P	P	09 30 25.2	+0.4
LSA				LR	LR		
	comp=E,590nm,22.5s						
LSA				LR	LR		
	comp=Z,600nm,22.5s,MS4.4						
LSA	**Lhasa**	39.14	306	*e*P	P	09 30 25.0	+0.2
	comp=Z,5.1nm,0.5s,mb4.5						
FORT	**Forrest**	39.71	178	*e*P	P	09 30 29.8	+0.3
	comp=Z,51nm,0.4s,mb5.6						
YSS	**Yuzh-Sakhalins**	40.05	17	P	P	09 30 34.0	+1.9
YSS				*e*	pP	09 30 45.0	+2.0
YSS				*e*S	S	09 36 39.0	+3.8
YSS				MLR	MLR		
	comp=N,300nm,17.0s,MS4.5						
YSS				MLR	MLR		
	comp=Z,400nm,17.0s,MS4.3						
YSS				MLR	MLR		
	comp=E,500nm,21.0s,MS4.5						
YSS	**Yuzh-Sakhalins**	40.05	17	*e*P	P	09 30 34.5	+2.4
KLR	**Kul'dur**	40.17	5	*e*P	P	09 30 34.8	+1.7
KLR				MLR	MLR		
	comp=E,600nm,15.0s						
KLR				MLR	MLR		
	comp=Z,900nm,15.0s,MS4.7						
HIA	**Hailar**	40.43	353	*e*P	P	09 30 36.2	+0.9
	comp=Z,51nm,1.2s,mb5.1						
KLBR	**Kellerberrin**	41.43	192	⇑*i*P	P	09 30 43.5	-0.2
	comp=Z,48nm,1.2s,mb5.0						
SONM	**Songino Array**	42.26	340	P	P	09 30 50.4	-0.1
	comp=Z,2.1nm,0.9s,baz=156,slow=8.5,SNR=15						
GUN	**Gumba**	42.83	301	*e*P	P	09 30 54.2	-1.1
	comp=Z,141nm,1.2s,mb5.6						
NWAO	**Narrogin (SRO)**	42.83	192	P	P	09 30 55.1	-0.1
	comp=Z,51nm,1.0s,mb5.2,baz=8.0,slow=7.0,SNR=17						
NWAO	**Narrogin (SRO)**	42.83	192	*e*P	P	09 30 54.6	-0.6
	comp=Z,52nm,1.1s,mb5.2						
VIS	**Vishakhapatnam**	43.09	286	*e*P	P	09 30 51.0	-6.5
PKI	**Pulchoki**	43.12	301	*e*P	P	09 30 56.1	-1.6
	comp=Z,69nm,1.3s,mb5.2						
STKA	**Stephens Creek**	43.16	162	*e*P	P	09 30 57.7	-0.3
	comp=Z,11nm,1.1s,mb4.5						
STKA				*e*PCP	PcP	09 32 41.9	-5.7
STKA				*e*PP	PP	09 32 56.0	+15
STKA				*e*SKIKP		09 52 45.2	
STKA	**Stephens Creek**	43.16	162	P	P	09 30 57.9	-0.1
	comp=Z,14nm,0.8s,mb4.7,baz=337,slow=8.5,SNR=26						
STKA				PP	PP	09 32 42.3	+1.8

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      comp=Z,12nm,0.9s,baz=332,slow=12,SNR=5.2
KKN   Kakani            43.30 301  eP      P        09 30 57.5 -1.6
      comp=Z,56nm,1.0s,mb5.2
DMN   Daman             43.39 301  eP      P        09 30 58.4 -1.5
      comp=Z,50nm,1.0s,mb5.2
GKN   Gorkha            43.90 301  eP      P        09 31 01.9 -2.1
      comp=Z,7.1nm,0.4s,mb4.8
KOLN  Koldanda          44.72 300  eP      P        09 31 09.4 -1.2
      comp=Z,83nm,0.9s,mb5.6
ADE   Adelaide          45.28 166  eP      P        09 31 16.2 +1.2
ZAK   Zakamensk         45.51 339  eP      P        09 31 16.3 -0.3
ZAK                                e                09 32 55.2
CUD   Cuddapah          47.29 281  eP      P        09 31 30.6 -0.5
CUD                                e       pP       09 31 41.7 -0.3
HYB   Hyderabad         47.60 285  i P     P        09 31 33.0 -0.5
HYB                                e       pP       09 31 44.5  0.0
HYB   Hyderabad         47.60 285  eP      P        09 31 33.0 -0.5
HYB                                e       pP       09 31 44.5  0.0
WMQ   Urumqi            48.45 322  eP      P        09 31 38.7 -1.1
WMQ                                 AMB    AMB
      comp=Z,19nm,1.2s,mb5.0
WMQ                                 LR     LR
      comp=N,1μm,18.0s,MS4.9
WMQ                                 LR     LR
      comp=E,622nm,18.0s,MS4.9
WMQ                                 LR     LR
      comp=Z,777nm,18.0s,MS4.7
CNB   Canberra Magne    49.07 156  eP      P        09 31 47.6 +2.9
      comp=Z,35nm,1.2s,mb5.3
BOD   Bodaibo           49.56 351  eP      P        09 31 47.7 -0.5
TOO   Toolangi          49.64 161  eP      P        09 31 50.3 +1.2
      comp=Z,5.7nm,1.3s,mb4.4
PET   Petropavlovsk     50.75  24d iP      P        09 32 01.6 +4.3
PET                                e                09 33 19.4
PET                                e                09 33 53.7
PET                                i S     S        09 39 13.6 +4.9
PET                                eSS     SS       09 42 47.9 +7.0
PET                                 pmax   pmax
      comp=Z,22nm,0.2s,mb5.7
PET                                 pmax   pmax
      comp=Z,100nm,14.0s
PET                                 pmax   pmax
      comp=Z,100nm,20.4s
PET                                 smax
      comp=N,200nm,20.2s
PET                                 MLR    MLR
      comp=Z,300nm,22.0s,MS4.3
KAD   Karad             51.77 285  eP      P        09 32 03.0 -2.4
POO   Poona             52.13 286  eP      P        09 32 06.0 -2.1
YAK   Yakutsk           52.83   2  eP      P        09 32 13.3 +0.5
YAK                                 pmax   pmax
      comp=Z,57nm,1.3s,mb5.3
YAK                                 MLR    MLR
      comp=Z,400nm,17.0s,MS4.5
YAK   Yakutsk           52.83   2  eP      P        09 32 13.8 +1.0
      comp=Z,43nm,0.9s,mb5.4
MKAR  Makanchi Array    53.26 323   P      P        09 32 14.9 -1.2
      comp=Z,28nm,0.9s,mb5.2,baz=117,slow=8.1,SNR=107
MKAR                                PcP    PcP      09 33 22.7 -0.9
      comp=Z,7.6nm,0.9s,baz=135,slow=6.1,SNR=2.4
MKAR                                pPcP            09 33 34.7
      comp=Z,12nm,1.1s,baz=117,slow=5.4,SNR=3.6
MKAR                                S      S        09 39 44.3 +1.2
      comp=Z,1.0nm,1.0s,baz=127,slow=14,SNR=5.8
MKAR  Makanchi Array    53.26 323  i P     P        09 32 14.9 -1.3
MKAR                                pmax   pmax
      comp=Z,34nm,1.0s
ULHL  Ulahol            55.17 316   P      P        09 32 29.8 -0.5
      SNR=13
KZA   Kyzart            55.80 315   P      P        09 32 34.7 -0.1
      SNR=26
TKM2  Tokmak 2          55.86 316   P      P        09 32 34.2 -1.1
      SNR=5.4
ZAL   Zalesovo          55.88 331   P      P        09 32 33.0 -2.2
      comp=Z,2.8nm,0.4s,mb4.6,baz=284,slow=7.4,SNR=15
ZAL                                 LR     LR       09 59 32.4
      comp=Z,822nm,18.1s,MS4.9,baz=62,slow=39
ZAL   Zalesovo          55.88 331   P      P        09 32 33.0 -2.2
KBK   Karagaybulak      56.21 316   P      P        09 32 37.2 -0.6
      SNR=6.1
UCH   Uchtor            56.36 315   P      P        09 32 38.7 -0.1
      SNR=53
CHMS  Chumysh           56.47 316   P      P        09 32 38.2 -1.4
      SNR=10
FRU   Bishkek           56.50 316  eP      P        09 32 37.0 -2.8
FRU                                 MLR    MLR
      comp=Z,1μm,18.0s,MS5.0
AAK   Ala-Archa         56.52 316  eP      P        09 32 37.6 -2.3
      comp=Z,20nm,1.4s,mb5.0
USP   Ospenovka         56.73 316   P      P        09 32 40.0 -1.5
      SNR=24
AML   Almayashu         56.90 315   P      P        09 32 42.4 -0.4
      SNR=10
EKS2  Erkin-Say         57.02 315   P      P        09 32 43.1 -0.4
      SNR=6.6
NVS   Novosibirsk       57.15 332  i P     P        09 32 41.6 -2.7
NVS                                i       pP       09 32 52.4 -3.2
NVS                                 pmax   pmax
      comp=Z,17nm,1.1s,mb5.0
NVS                                 pmax   pmax
      comp=N,6.0nm,0.6s
NVS                                 pmax   pmax
      comp=E,8.0nm,0.7s
KURK  Kurchatov         57.31 326   P      P        09 32 44.1 -1.4
      comp=E,311nm,1.0s,SNR=62
KURK  Kurchatov         57.31 326  i P     P        09 32 44.1 -1.4
KURK                                pmax   pmax
      comp=Z,40nm,1.1s,mb5.4
KURK  Kurchatov         57.31 326  eP      P        09 32 43.9 -1.6
      comp=Z,67nm,1.0s,mb5.6
KKAR  Karatay Array     59.44 315  i P     P        09 32 58.5 -1.9
KKAR                                pmax   pmax
      comp=Z,17nm,1.0s,mb5.0
VOSK  Vostochnaya       62.46 325   P      P        09 33 18.8 -1.9
VOSK                                pmax   pmax
      comp=Z,17nm,1.2s,mb5.0
TIXI  Tiksi             62.46   1c iP      P        09 33 20.5  0.0
TIXI                               e       pP       09 33 30.8 -1.1
TIXI                               i       pP       09 33 34.8 +3.0
TIXI                               e                09 33 58.9
TIXI                               e                09 35 38.5
TIXI                               i S     S        09 41 44.1 +0.8
TIXI                               eSS     SS       09 45 54.3 +5.0
TIXI                                pmax   pmax
      comp=Z,49nm,1.2s,mb5.5
TIXI                                MLR    MLR
      comp=Z,300nm,17.0s,MS4.5
BVA0  Borovoye Array    62.91 326  i P     P        09 33 22.4 -1.3
BVA0                                pmax   pmax
      comp=Z,2.0nm,0.9s,mb4.2
BRVK  Borovoye          62.98 326  eP      P        09 33 22.7 -1.5
      comp=Z,37nm,1.0s,mb5.5
ZRNK  Zerenda           63.66 325   P      P        09 33 27.2 -1.4
ZRNK                                pmax   pmax
      comp=Z,31nm,1.1s,mb5.2
ZRNK  Zerenda           63.66 325  eP      P        09 33 27.1 -1.5
      comp=Z,39nm,1.1s,mb5.3
ZRNK                               e       pP       09 33 38.1 -2.0
RPZ   Rata Peaks        66.14 146   P      P        09 33 47.5 +2.7
      comp=Z,23nm,0.9s,mb5.2,baz=50,slow=16,SNR=8.5
URZ   Urewera           66.45 139   P      P        09 33 49.0 +2.1
      comp=Z,16nm,1.0s,mb5.0,baz=352,slow=6.9,SNR=3.2
ARU   Arti              70.47 327⇑ iP      P        09 34 10.0 -1.4
ARU                                i                09 34 31.6
ARU                                e                09 36 42.8
ARU                                ePPP    PPP      09 38 28.3 -1.9
ARU                                eS      S        09 43 17.7 -2.7
ARU                                 pmax   pmax
      comp=Z,25nm,1.2s,mb5.0
ARU                                 MLR    MLR
      comp=Z,200nm,17.0s,MS4.4
ARU                                 MLR    MLR
      comp=N,200nm,18.5s,MS4.6
ARU                                 MLR    MLR
      comp=E,200nm,16.0s,MS4.6
ARU   Arti              70.47 327  eP      P        09 34 10.0 -1.4
      comp=E,50nm,1.6s,mb5.2
HASS  Wahat al Ahsa'    74.58 294   P      P        09 34 35.1 -1.3
CASY  Casey             76.17 187  eP      P        09 34 44.4 -0.3
      comp=E,19nm,1.2s,mb4.9
RDF   Al-Radifah        76.30 298  eP      P        09 34 44.8 -1.3
RDF                                 AMb    AMB      09 34 46.2
      comp=Z,53nm,1.1s,mb5.4
MIB   Mutribah          76.44 298  eP      P        09 34 45.3 -1.6
MIB                                 AMb    AMB      09 34 46.4
      comp=Z,52nm,0.8s,mb5.5
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RST   Umm Al-Ruwaisa    76.75 298  eP      P        09 34 47.2 -1.5
RST                                 AMb    AMB      09 34 49.7
      comp=Z,69nm,1.1s,mb5.5
ZEI   Tsey              78.69 312  eP      P        09 34 56.0 -3.1
ZEI                                i       pP       09 35 08.0 -2.7
ZEI                                 pmax   pmax
      comp=Z,100nm,5.0s
MZLS  Mizel             78.74 293   P      P        09 34 59.2 -0.6
PMR   Palmer            79.18  29  eP      P        09 35 02.8 +1.4
      comp=Z,37nm,1.2s,mb5.2
MCK   McKinley          79.30  27  eP      P        09 35 03.9 +1.9
      comp=Z,16nm,1.0s,mb4.9
MIR   Mirnyy            79.42 193⇓ eP      P        09 35 03.0 +0.4
MIR                                 pmax   pmax
      comp=Z,35nm,1.2s,mb5.2
KAMS  Al Khamasin       79.67 289   P      P        09 35 03.6 -1.3
AFFS  'Afif             80.76 293   P      P        09 35 10.5 -0.2
TATS  Tathlith          80.78 288   P      P        09 35 11.0 +0.1
DIV   Divide            80.80  29  eP      P        09 35 10.3 +0.2
      comp=Z,127nm,1.3s,mb5.7
DJNS  Zahran al Janu    80.93 287   P      P        09 35 12.1 +0.5
HILS  Ha'il             81.49 296   P      P        09 35 14.5 +0.1
SOC   Sochi             81.69 313  eP      P        09 35 13.5 -1.7
SOC                                e       pP       09 35 27.2 +0.4
SOC                                eS      S        09 45 12.2  -11
SOC                                eSSS    SSS      09 53 54.9  -13
SOC                                 pmax   pmax
      comp=Z,25nm,1.1s,mb5.1
SOC                                 pmax   pmax
      comp=N,14nm,0.8s
SOC                                 pmax   pmax
      comp=E,5.0nm,0.6s
NAMS  An Nimas          82.02 288   P      P        09 35 18.3 +1.0
MOS   Moscow            82.08 325  eP      P        09 35 15.8 -1.1
MOS                                e       pP       09 35 25.9 -2.6
MOS                                e                09 38 17.9
LVZ   Lovozero          82.42 338  eP      P        09 35 18.9 +0.5
LVZ                                eS      S        09 45 33.7 +3.2
LVZ                                 pmax   pmax
      comp=Z,29nm,1.3s,mb5.0
LVZ                                 pmax   pmax
      comp=N,14nm,1.1s
LVZ                                 smax
      comp=Z,24nm,8.6s
LVZ                                 smax
      comp=N,173nm,13.7s
LVZ                                 smax
      comp=E,86nm,19.3s
BLJS  Baljurashi        82.50 289   P      P        09 35 20.6 +0.8
OBN   Obninsk           82.73 325j iP      P        09 35 19.9 -0.3
OBN                                i       pP       09 35 31.4 -0.5
OBN                                 pmax   pmax
      comp=Z,31nm,1.4s,mb5.2
OBN                                 MLR    MLR
      comp=Z,300nm,17.0s,MS4.7
APA   Apatity           82.93 337⇑ iP      P        09 35 21.3 +0.3
APA                                i       pP       09 35 33.5 +0.8
APA                                e                09 45 37.0
APA                                 pmax   pmax
      comp=Z,26nm,1.0s,mb5.2
MALT  Malatya           83.17 308  eP      P        09 35 23.5 +0.7
      comp=Z,10nm,1.0s,mb4.8
ANN   Anapa             83.22 314  eP      P        09 35 22.2 -0.7
ANN                                e*PP    pP       09 35 33.1 -1.5
ANN                                ePPP    PPP      09 40 20.0  -10
ANN                                eS      S        09 45 37.9 -1.0
ANN                                e                09 45 43.6
ANN                                ePS     PS       09 46 31.0 -5.5
ANN                                 pmax   pmax
      comp=Z,30nm,1.0s,mb5.3
DAWY  Dawson            83.50  26  eP      P        09 35 26.6 +2.7
KBRS  Khaybar           83.92 295   P      P        09 35 27.9 +1.0
KEV   Kevo              84.88 340  ep      P        09 35 32.6 +1.9
INK   Inuvik            85.12  22  eP      P        09 35 34.1 +2.1
      comp=Z,27nm,1.2s,mb5.2
ASF   Jabal al Asfar    85.15 302   LR     LR       10 18 14.0
      comp=Z,162nm,19.1s,MS4.4,baz=310,slow=39
ARCES ARCESS Array B    85.44 340   P      P        09 35 34.7 +1.2
      comp=Z,7.1nm,0.8s,mb4.8,baz=76,slow=5.0,SNR=16
ARCES                               pP     pP       09 35 46.1 +0.8
      comp=Z,11nm,0.9s,baz=76,slow=5.0,SNR=8.2
ARCES                               LR     LR       10 18 53.9
      comp=Z,292nm,18.2s,MS4.7,baz=263,slow=39
ARCES ARCESS Array B    85.44 340   P      P        09 35 34.7 +1.2
ARCES                               pP     pP       09 35 46.1 +0.8
SIM   Simferopol'       85.54 315  eP      P        09 35 34.0 -0.6
SIM                                e       pP       09 35 46.0 -0.3
SIM                                ePS     PS       09 46 57.0 -7.9
SIM                                 pmax   pmax
      comp=Z,13nm,1.3s,mb5.0
SIM                                 MLR    MLR
      comp=Z,350nm,22.0s,MS4.7
HMDT  Nahal Hemdat      86.29 302   P      P        09 35 39.1 +0.5
HMDT  Nahal Hemdat      86.29 302  ⇑P      P        09 35 39.1 +0.5
MMLI  Mount Malkishu    86.35 302   P      P        09 35 39.7 +0.8
MMLI  Mount Malkishu    86.35 302  ⇑P      P        09 35 39.7 +0.8
JMQS  Jabal Moqyreh     86.48 299   P      P        09 35 40.4 +0.8
BRTR  Keskin Array B    86.68 310   P      P        09 35 39.4 -0.9
      comp=Z,0.6nm,0.5s,mb4.1,baz=90,slow=6.2,SNR=4.4
BRTR                                pP     pP       09 35 51.1 -1.0
      comp=Z,1.8nm,0.8s,baz=104,slow=5.1,SNR=4.8
PPT   Papeete           86.68 108  eS      S        09 46 17.3 +3.8
PPT                                eSS     SS       09 52 06.1 +7.7
PPT                                eR               10 03 12.3
      comp=Z,343nm,23.2s,baz=298
ZFRI  Zfri              86.84 300   P      P        09 35 41.5 +0.2
KAF   Kangasniemi       86.88 332  ep      P        09 35 40.0 -0.7
PRNI  Paran             87.02 300   P      P        09 35 42.5 +0.3
PRNI  Paran             87.02 300  ⇑P      P        09 35 42.5 +0.3
FINES FINESS Array B    87.14 332   P      P        09 35 41.8 -0.2
      comp=Z,2.6nm,0.9s,mb4.4,baz=99,slow=4.9,SNR=8.7
FINES                               pP     pP       09 35 53.6 -0.2
      comp=Z,9.6nm,1.0s,baz=112,slow=10,SNR=8.2
EIL   Elat              87.17 299  eP      P        09 35 43.4 +0.5
      comp=Z,32nm,1.5s,mb5.3
EIL                                e       pP       09 35 54.6 -0.1
MBH   Mount Berech      87.18 300   P      P        09 35 43.3 +0.3
MBH   Mount Berech      87.18 300  ⇑P      P        09 35 43.3 +0.3
KMTI  Karmit            87.29 300   P      P        09 35 43.6 +0.1
AKASG Malin Array Be    87.79 321   P      P        09 35 44.9 -0.5
      comp=Z,2.6nm,0.9s,mb4.5,baz=62,slow=4.3,SNR=17
AKASG                               pP     pP       09 35 56.3 -0.8
      comp=Z,1.7nm,0.6s,baz=66,slow=4.2,SNR=6.1
TBI   Tubuai            87.86 114  eS      S        09 46 26.8 +2.3
TBI                                eSS     SS       09 52 31.0  +15
TBI                                eR               10 03 37.4
      comp=Z,385nm,24.0s,baz=294
MAW   Mawson            88.84 200  eP      P        09 35 50.7 +0.7
      comp=Z,5.1nm,1.4s,mb4.7
MAW   Mawson            88.84 200   P      P        09 35 50.4 +0.3
      comp=Z,5.5nm,1.1s,mb4.8,baz=69,slow=9.1,SNR=7.4
SBA   Scott Base        89.65 172   P      P        09 35 55.5 +1.8
KMBO  Kilima Mbogo      89.77 269   P      P        09 35 55.6 -0.1
      comp=Z,6.3nm,1.1s,mb4.9,baz=57,slow=6.2,SNR=10
KMBO                                pP     pP       09 36 07.8 +0.3
      comp=Z,8.1nm,1.2s,baz=57,slow=8.5,SNR=5.6
KMBO  Kilima Mbogo      89.77 269  eP      P        09 35 55.2 -0.5
      comp=Z,11nm,1.2s,mb5.1
KMBO                               e       pP       09 36 07.5  0.0
KMBO                                pP     pP       09 36 07.8 +0.3
MLR   Muntele Rosu      91.09 316   LR     LR       10 21 23.4
      comp=Z,411nm,21.5s,MS4.8,baz=67,slow=38
RES   Resolute Bay      92.50  10  eP      P        09 36 09.3 +2.4
      comp=Z,35nm,1.1s,mb5.6
NB2   NORSAR Subarra    94.01 334   P      P        09 36 13.5 -0.6
      comp=Z,1.0nm,0.9s,mb4.2,baz=70,slow=4.6
NOA   NORSAR Array B    94.01 334   P      P        09 36 13.1 -0.9
      comp=Z,1.9nm,0.9s,mb4.5,baz=64,slow=4.5,SNR=4.4
NOA                                 pP     pP       09 36 25.2 -0.7
      comp=Z,1.2nm,0.7s,baz=64,slow=4.8,SNR=3.2
YKA   Yellowknife Ar    94.55  24   pP     pP       09 36 28.5 +0.2
      comp=Z,1.8nm,0.7s,baz=293,slow=4.7,SNR=3.9
BRG   Berggiesshubel    96.97 324  eP      P        09 36 40.5  +13
BRG                                 pmax   pmax
      comp=Z,9.0nm,1.3s,mb5.0
BRG                                 MLR    MLR
      comp=N,370nm,17.4s,MS5.0
BRG                                 MLR    MLR
      comp=E,270nm,17.4s,MS5.0
BRG                                 MLR    MLR
      comp=Z,360nm,17.4s,MS4.9
GERES GERESS Array B    97.92 322   P      P        09 36 32.7 +0.6
      comp=Z,0.3nm,0.6s,mb4.0,baz=68,slow=7.2,SNR=6.7
GERES                               pP     pP       09 36 44.0  0.0
      comp=Z,0.4nm,0.6s,baz=53,slow=6.7,SNR=2.6
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PV10  Paradox Valley   109.74  44  ePKiKP           09 41 31.4
TXAR  Lajitas Array    118.13  50   PKP    PKPdf    09 41 45.5 +2.8
      comp=Z,1.8nm,1.0s,baz=270,slow=1.3,SNR=5.8
TXAR  Lajitas Array    118.13  50   PKP    PKPdf    09 41 45.5 +2.8
JCT   Junction City    120.37  47  ePKPdf  PKPdf    09 41 50.4 +3.4
JCT                                e                09 42 02.1
WVT   Waverly          124.39  34  ePKPdf  PKPdf    09 41 57.6 +3.0
DBIC  Dimbokro         129.36 286   PKP    PKPdf    09 42 06.0 +1.2
      comp=Z,2.3nm,0.9s,baz=97,slow=8.1,SNR=2.5
TEIG  Tepich           134.77  50   PKP    PKPdf    09 42 18.4 +3.6
      comp=Z,0.0nm,0.6s,baz=314,slow=24,SNR=2.5
JTS   JuntasAbangare   142.94  59   PKP    PKPdf    09 42 33.4 +3.7
      comp=Z,5.9nm,1.1s,baz=256,slow=14,SNR=2.6
SJG   San Juan         150.03  25   PKPbc  PKPdf    09 42 49.0 +7.6
      comp=Z,31nm,1.0s,baz=68,slow=4.6,SNR=4.7
ROSC  El Rosal         154.73  57   PKP    PKPdf    09 42 53.5 +5.2
      comp=Z,6.5nm,0.8s,baz=114,slow=23,SNR=2.2
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SSNC ***04*** *09:32:46.3±4.2, 20.95N×70.42W, h20km±46km, MD4.4, ML4.9*

JSN ***04*** *09:32:49.2±1.0, 20.13N×70.57W*

IDC ***04*** *09:32:54.8±7.1, 20.01N×70.74W, h30km±53km, mb3.8/11, mb1 4.1/14, mb1mx4.0/20, ML3.2/2, MS3.9/8, Ms1 3.9/8, ms1mx3.6/23, Error ellipse: s-maj=19.7km s-min=16.5km az=42.0*

NEIC ***04*** *09:32:54.6±2.0, 19.95N×70.79W, h32km±15km, mb4.5/29, ML4.9(SSNC), Error ellipse: s-maj=6.7km s-min=5.2km az=66.0*

ISC 04 09:32:51.4±1.6, **19.93N**±0.04×**70.82W**±0.03, **h21**km±12km, **n102**, σ**1ˢ02**/109, **mb4.3**/38, **MS4.0**/6, **5C-1D**, **Dominican Republic region**

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Code  Station Name         Δ°   AZ°    Phase ID          Time     Res
                                     Op      ISC       h  m  s    ISC
MASC  Masc              3.22 275   ePG     Pn       09 33 41.8 -0.2
MASC                               eSG     Sn       09 34 20.5 +0.3
      comp=N,3μm,0.1s
      comp=E,3μm,0.1s
MOAC  Moa               3.96 281⇑ iPG      Pn       09 33 50.5 -2.0
MOAC                               i SG    Sn       09 34 37.6 -1.2
      comp=N,11μm,0.4s
      comp=E,11μm,0.4s
RCC   Rio Carpintero    4.59 272   eP      Pn       09 34 00.4 -1.1
RCC                                eS      Sn       09 34 54.7 -0.2
      comp=N,7μm,0.5s
      comp=E,6μm,0.5s
SJG   San Juan          4.77 112    Pn     Pn       09 34 03.5 -0.5
      comp=E,4.3nm,0.3s,baz=312,slow=10,SNR=6.9
SJG                                 Sn     Sn       09 34 58.7 -0.8
      comp=E,27nm,0.3s,baz=72,slow=19,SNR=3.3
SJG   San Juan          4.77 112   eP      Pn       09 34 03.6 -0.4
HLGC  Holguin           5.01 282   eP      Pn       09 34 05.9 -1.5
HLGC                               eS      Sn       09 35 02.8 -2.6
      comp=N,20μm,0.5s
      comp=E,14μm,0.4s
HOL   Holguin           5.20 282   eP      Pn       09 34 05.9 -4.1
HOL                                eS      Sn       09 35 02.8 -7.3
LMGC  Las Mercedes      5.82 272   eP      Pn       09 34 13.7 -5.1
LMGC                               eS      Sn       09 35 24.2 -1.6
      comp=N,127nm,0.3s
      comp=E,124nm,0.3s
GWJ   Greenwich         5.89 253⇑  eP      Pn       09 34 19.7 -0.1
STH   Stony Hill        5.96 253⇓  eP      Pn       09 34 20.3 -0.6
STH                                eS      Sn       09 35 29.4 +0.1
BNJ   Bonny Gate        6.02 256⇑  eP      Pn       09 34 21.2 -0.4
BBJ   Bamboo Saint A    6.29 257   eP      Pn       09 34 26.1 +0.7
PCJ   Portland Cotta    6.39 251⇑  eP      Pn       09 34 27.6 +0.7
PCJ                                eS      Sn       09 35 40.8 +0.8
MCJ   Malvern           6.80 254⇑  eP      Pn       09 34 33.1 +0.4
MCJ                                eS      Sn       09 35 50.2 -0.1
SDV   Santo Domingo    10.98 179   eP      P        09 35 31.3 +0.6
      comp=E,8.3nm,0.6s
BBSR  BB Station       13.55  23    P      P        09 36 00.0 -5.0
ROSC  El Rosal         15.37 193    Pn     P        09 36 32.7 +3.6
      comp=E,1.0nm,0.3s,baz=217,slow=20,SNR=4.8
ROSC                                LR     LR       09 43 12.7
      comp=E,263nm,20.4s,baz=220,slow=40
NHSC  New Hope         15.55 329    P      P        09 36 33.0 +1.7
TEIG  Tepich           16.41 274    Pn     P        09 36 47.4 +5.2
      comp=E,0.0nm,0.3s,baz=274,slow=24,SNR=2.6
JTS   JuntasAbangare   16.66 237    Pn     P        09 36 48.2 +2.6
      comp=E,0.3nm,0.3s,baz=73,slow=7.9,SNR=6.4
JTS                                 LR     LR       09 43 08.8
      comp=E,224nm,22.0s,baz=9.3,slow=37
JTS   JuntasAbangare   16.66 237   eP      P        09 36 47.5 +1.9
      comp=E,40nm,0.9s
BLA   Blacksburg       19.15 336   eP      P        09 37 15.2 -0.9
      comp=E,19nm,0.7s
ELN   Prospectdale     19.29 335   eP      P        09 37 17.9 +0.1
PWV   Princeton        19.50 335   eP      P        09 37 19.7 -0.5
CPCT  Cooper Cave      19.62 325   eP      P        09 37 23.4 +1.9
FWV   Forest Hill      19.62 336   eP      P        09 37 21.0 -0.5
BRNJ  Basking Ridge    20.93 352    P      P        09 37 34.6 -0.6
OTAV  Otavalo          20.95 202   eP      P        09 37 37.8 +2.1
      comp=E,21nm,1.0s
PAL   Palisades        21.17 354   eP      P        09 37 36.0 -1.7
      comp=E,18nm,0.9s,mb4.4
SSPA  Standing Stone   21.50 345   eP      P        09 37 41.7 +0.6
      comp=E,13nm,1.0s,mb4.3
BRYW  Bryant College   21.93 359   eP      P        09 37 47.4 +2.1
      comp=E,34nm,0.8s,mb4.8
OXF   Oxford           21.95 315   eP      P        09 37 44.6 -1.0
      comp=E,61nm,1.0s,mb5.0
WVT   Waverly          21.99 321   eP      P        09 37 44.3 -1.7
      comp=E,12nm,0.8s,mb4.4
QUA2  Belchertown      22.32 357    P      P        09 37 49.8 +0.6
      comp=E,11nm,0.5s,mb4.5
WES   Weston           22.39 359    P      P        09 37 51.0 +1.2
      comp=E,74nm,0.9s,mb5.1
HRV   Harvard--Oak R   22.51 359    P      P        09 37 50.8 -0.3
      comp=E,37nm,0.9s,mb4.8
BINY  Binghamton       22.62 350   eP      P        09 37 51.9 -0.4
      comp=E,15nm,1.1s,mb4.3
WCI   Wyandotte Cave   22.64 327   eP      P        09 37 53.1 +0.6
      comp=E,10nm,0.8s,mb4.3
ACSO  Alum Creek Sta   22.76 335   eP      P        09 37 55.7 +2.0
      comp=E,26nm,1.1s,mb4.6
ALLY  Alegheny Colle   23.05 342   eP      P        09 37 57.1 +0.7
BLO   Bloomington      23.48 328    P      P        09 38 02.3 +1.7
ACCN  Adirondack Com   23.50 355   eP      P        09 37 59.2 -1.6
GENY  Geneseo          23.52 347   eP      P        09 38 01.2 +0.3
HNH   Hanover          23.73 357    P      P        09 38 02.1 -0.9
      comp=E,1.3nm,0.9s,mb3.4
NCB   Newcomb          24.14 354   eP      P        09 38 07.5 +0.6
MIV   Mineville/With   24.18 355    P      P        09 38 08.2 +0.8
NATX  Nacogdoches      24.42 304   eP      P        09 38 11.5 +1.6
      comp=E,34nm,0.6s,mb5.0
CCM   Cathedral Cave   25.31 320   eP      P        09 38 17.6 -0.6
      comp=E,13nm,1.1s,mb4.4
SADO  Sadowa           25.72 346    P      P        09 38 22.1 +0.1
      comp=E,0.8nm,0.4s,mb3.6,baz=149,slow=12,SNR=2.6
SADO                                LR     LR       09 47 44.2
      comp=E,377nm,19.2s,MS3.9,baz=218,slow=35
JCT   Junction City    28.17 298   eP      P        09 38 44.2 -0.4
      comp=E,7.4nm,1.1s,mb4.2
WMOK  Wichita Mounta   28.77 307   eP      P        09 38 49.0 -1.0
      comp=E,12nm,0.7s,mb4.7
SAML  Samuel           29.67 165   eP      P        09 38 55.7 -2.5
      comp=E,2.9nm,0.8s,mb4.1
LTX   Lajitas          31.20 294   eP      P        09 39 11.8 +0.1
      comp=E,4.8nm,0.8s,mb4.4
TXAR  Lajitas Array    31.20 294    P      P        09 39 11.8 +0.1
      comp=E,2.8nm,0.8s,mb4.2,baz=108,slow=10,SNR=36
TXAR  Lajitas Array    31.20 294    P      P        09 39 11.8 +0.1
GDL2  Guadalupe Moun   32.38 299   eP      P        09 39 22.2 +0.3
BNM   Barren Site      34.70 302   eP      P        09 39 42.4 +0.4
ANMO  Albuquerque      34.78 303   eP      P        09 39 43.3 +0.6
      comp=E,4.3nm,1.2s,mb4.2
SDCO  Great Sand Dun   34.93 308   eP      P        09 39 43.8 -0.2
      comp=E,3.8nm,0.7s,mb4.4
SCHQ  Schefferville    34.97   4    P      P        09 39 43.6 -0.5
      comp=E,2.0nm,0.6s,mb4.2,baz=224,slow=14,SNR=3.6
SCHQ                                LR     LR       09 52 49.6
      comp=E,206nm,18.5s,MS3.9,baz=217,slow=34
LAZ   Ladron           35.18 302   eP      P        09 39 45.6 -0.5
PV01  Paradox Valley   37.34 307   eP      P        09 40 05.6 +1.3
PV10  Paradox Valley   37.77 307   eP      P        09 40 08.5 +0.6
BW06  Boulder Array    39.68 314   eP      P        09 40 24.3 +0.5
      comp=E,2.3nm,0.9s,mb3.9
PDAR  Pinedale Array   39.68 314    P      P        09 40 23.9 +0.1
      comp=E,1.3nm,0.7s,mb3.8,baz=124,slow=11,SNR=11
PDAR                                LR     LR       09 58 29.5
      comp=E,189nm,18.0s,MS4.0,baz=293,slow=39
DAU   Daniels Canyon   40.04 310   eP      P        09 40 27.8 +1.0
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MSU	Marysvale	40.17	307	eP	P	09 40 28.7	+0.8
JLU	Jordanelle	40.24	310	eP	P	09 40 28.4	0.0
NLU	North Lily Min	40.50	309	eP	P	09 40 31.0	+0.4
HWUT	Hardware Ranch	40.65	311	eP	P	09 40 31.4	-0.4
	comp=E,8.2nm,1.1s,mb4.3						
LOHW	Long Hollow	40.71	315	eP	P	09 40 32.2	0.0
SNOW	Snow King Moun	40.75	314	eP	P	09 40 32.8	+0.2
WUWY	Wally Ulrich	40.77	314	eP	P	09 40 32.9	+0.1
REDW	Red Top Meadow	40.78	314	eP	P	09 40 32.5	-0.3
MOOW	Moose Ponds	40.85	315	eP	P	09 40 33.2	-0.3
TPAW	Teton Pass	40.90	314	eP	P	09 40 33.6	-0.1
DUG	Dugway	41.11	309	eP	P	09 40 35.7	+0.1
	comp=E,8.5nm,1.0s,mb4.3						
BGU	Big Grassy Mou	41.48	310	eP	P	09 40 38.6	0.0
NEN	Nelson	41.62	302	eP	P	09 40 41.4	+1.6
QLMT	Earthquake Lak	41.73	316	eP	P	09 40 42.2	+1.6
BDFB	Brasilia	41.86	146	P	P	09 40 42.0	0.0
	comp=E,6.2nm,0.8s,mb4.3,baz=316,slow=9.3,SNR=10						
BDFB				LR	LR	09 57 57.1	
	comp=E,171nm,20.0s,MS3.9,baz=305,slow=36						
FFC	Flin Flon	42.01	333	eP	P	09 40 41.3	-1.5
BOZ	Bozeman (W)	42.18	317	eP	P	09 40 44.2	-0.1
	comp=E,5.2nm,1.1s,mb4.1						
MCMT	McKenzie Canyo	42.66	315	eP	P	09 40 49.1	+0.8
HRY	Holter Researc	42.74	318	eP	P	09 40 49.1	+0.1
MNV	Mina	44.72	305	eP	P	09 41 05.5	+0.4
	comp=E,15nm,1.4s,mb4.6						
CMB	Columbia Colle	46.39	304	P	P	09 41 18.9	+0.6
	comp=E,2.3nm,0.8s,mb4.2						
LNOR	Lincton Mounta	46.62	315	eP	P	09 41 20.7	+0.6
NEW	Newport	46.65	318	eP	P	09 41 19.3	-0.9
	comp=E,20nm,1.5s,mb4.8						
OHCM	Honcut	47.44	305	eP	P	09 41 26.9	+0.3
CPUP	Villa Florida	47.81	164	P	P	09 41 30.4	+0.7
	comp=E,3.0nm,1.1s,mb4.3,baz=11,slow=5.2,SNR=3.5						
CPUP				LR	LR	10 02 46.5	
	comp=E,111nm,19.1s,MS3.9,baz=96,slow=37						
YKA	Yellowknife Ar	52.01	336	LR	LR	10 03 37.6	
	comp=E,355nm,20.6s,MS4.4,baz=120,slow=36						
TRQA	Tornquist	58.27	172	P	P	09 42 44.4	-2.7
ESDC	Sonseca Array	59.94	55	P	P	09 42 58.5	-0.1
	comp=E,0.3nm,0.3s,mb3.7,baz=276,slow=7.3,SNR=5.8						
EKA	Eskdalemuir Ar	61.15	37	P	P	09 43 05.2	-1.5
	comp=E,1.9nm,1.0s,mb4.2,baz=259,slow=8.5,SNR=3.7						
DAWY	Dawson	62.90	333	P	P	09 43 16.5	-1.7
NOA	NORSAR Array B	68.93	31	P	P	09 43 56.6	-0.2
	comp=E,1.0nm,0.9s,mb3.7,baz=280,slow=14,SNR=3.1						
GERES	GERESS Array B	71.71	44	P	P	09 44 11.6	-2.3
	comp=E,0.3nm,0.7s,mb3.4,baz=291,slow=11,SNR=3.5						
BRTR	Keskin Array B	88.02	48	P	P	09 45 43.1	+1.5
	comp=E,1.3nm,0.7s,mb4.3,baz=276,slow=2.5,SNR=5.7						
TSUM	Tsumeb	94.93	109	P	P	09 46 13.1	-1.1
STKA	Stephens Creek	148.63	241	PKPbc	PKPdf	09 52 38.6	+0.7
	comp=E,3.9nm,0.9s,baz=121,slow=5.9,SNR=3.1						
ASAR	Alice Springs	156.76	256	PKP	PKPdf	09 52 51.0	+1.3
	comp=E,0.5nm,0.8s,baz=42,slow=1.7,SNR=5.7						
ASAR				PKPab	PKPab	09 53 17.7	+0.1
	comp=E,1.2nm,0.7s,baz=86,slow=4.2,SNR=8.8						

JMA ***04*** *09:37:56.5±0.2,24.15N×121.85E,h90^{km},M2.8*

TAP 04 09:37:54.4,23.77N×121.81E,h32^{km},ML3.4,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	Yonaguni jima	1.29	58	P	Pn	09 38 17.6	+1.1
YOJ				eS	Sn	09 38 33.3	+0.4
IRIF	Iriomote-Funau	1.84	72	P	Pn	09 38 25.6	+1.2
IRIF				eS	Sn	09 38 47.6	+0.8
JKRS	Kuro-shima	2.06	77	P	Pn	09 38 28.8	+1.2
JKRS				eS	Sn	09 38 53.2	+0.8
JIJ	Ishigaki jima	2.21	74	P	Pn	09 38 30.1	+0.4
JIJ				eS	Sn	09 38 55.8	-0.4
JTJ	Tarama	2.78	71	eS	Sn	09 39 09.4	-1.2

MAN ***04*** *09:46:50.1,9.17N×126.85E,h11^{km},mb5.0,ML3.9,MS4.0*

MOS ***04*** *09:46:51.0±1.5,9.07N×126.15E,h38^{km},mb5.3/14,Error ellipse: s-maj=25.1km s-min=9.2km az=109.6*

IDC ***04*** *09:46:53.5±2.3,9.03N×126.38E,h38^{km}±19^{km},mb4.4/22, mb1 4.5/23,mb1mx4.5/24,ML4.9/1,MS4.3/8,Ms1 4.3/8, ms1mx4.0/22,Error ellipse: s-maj=29.4km s-min=9.4km az=74.0*

BJI ***04*** *09:46:55.1,9.00N×126.51E,h82^{km},mB5.0,mb4.9,Ms4.7, Msz4.5*

HRVD ***04*** *09:46:57.8±0.3,9.07N×126.82E,h23^{km}±1^{km},MW5.1/58, Centroid moment Tensor Solution. LP body waves: s33,c45;Mantle waves: s58,c94; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.10±.25; $M_{\theta\theta}$0.76±.15; $M_{\phi\phi}$-4.85±.18; $M_{r\theta}$0.75±.21; $M_{\theta\phi}$0.60±.09; $M_{\phi r}$3.47±.34; Best double couple: $M_0$5.76×10^{16} NP1:ϕ_s159°,δ28°,λ66°. NP2:ϕ_s6°,δ65°,λ102°. Principal axes: T 5.46, Plg68°, Azm300°; N .6, Plg11°, Azm181°; P -6.05, Plg19°, Azm87°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***04*** *09:46:57.9±1.6,9.02N×126.38E,h78^{km}±14^{km},mb4.9/32 Error ellipse: s-maj=10.6km s-min=5.1km az=70.0*

ISC 04 09:46:51.6±0.2,**9.12N**±0.03×**126.76E**±0.03,**h39**^{km}, **h39**^{km}±1.4^{km}**:pP-P,n170,**σ1§**36**/176,**mb4.9**/71,**MS4.3**/20, **8C-4D,Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BIPH	Bislig	1.01	203	⇑eP	P	09 47 09.7	+0.2
BIPH				eS	S	09 47 21.9	-0.8
BUTP	Butuan	1.13	262	eP	P	09 47 11.7	+0.5
SCPH	Surigao	1.41	298	i P	P	09 47 15.6	+0.3
SCPH				eS	S	09 47 30.8	-2.1
BUKP	Musuan	2.08	234	eP	P	09 47 27.6	+2.8
MSLP	Maasin	2.12	298	eP	P	09 47 28.0	+2.6
CGP	Cagayan de Oro	2.14	252	⇓eP	P	09 47 27.7	+2.1
CGP				eS	x	09 47 32.3	
MATI	Mati	2.22	193	eP	P	09 47 28.2	+1.5
PLP	Palo	2.68	319	i P	P	09 47 34.6	+1.2
PLP				i S	S	09 48 12.2	+7.3
BESP	Borongan	2.79	332	eP	P	09 47 35.5	+0.6
OCLP	Ormoc	2.85	312	eP	P	09 47 38.2	+2.3
TBP	Tagbilaran	2.91	281	eP	P	09 47 38.5	+1.8
TBP				eS	S	09 48 13.1	+2.3
LLP	Lapu-Lapu	3.00	294	⇓iP	P	09 47 38.0	+0.1
LLP				i S	S	09 48 13.0	+0.1
SNPH	Sibulan	3.48	274	⇑eP	P	09 47 46.5	+1.8
SNPH				i S	S	09 48 25.0	-0.3
PAGZ	Pagadian	3.57	250	eP	P	09 47 47.4	+1.4
CNP	Catarman	3.95	329	eP	P	09 47 52.0	+0.7
IPIL	Ipil	4.35	253	eP	P	09 48 00.1	+3.0
GUIM	Jordan	4.37	290	eP	P	09 47 58.9	+1.6
RCP	Roxas	4.63	302	⇑eP	P	09 48 02.2	+1.1
AAP	Anini-y	4.92	286	eP	P	09 48 05.0	-0.1
PVCP	Virac	5.13	330	eP	P	09 48 09.1	+1.1
GQP	Guinayangan	6.36	319	eP	P	09 48 25.2	-0.1
SJMP	San Jose	6.46	301	eP	P	09 48 29.7	+3.0
BOAC	Boac	6.46	312	eP	P	09 48 34.7	+7.9
BUSP	Coron	7.05	295	eP	P	09 48 36.4	+1.3
TGY	Tagaytay City	7.55	312	Pn	P	09 48 44.6	+2.7
	19nm,0.3s,baz=143,slow=16,SNR=3.1						
TGY				LR	LR	09 51 50.4	
	comp=Z,6μm,19.0s,baz=95,slow=40						
ARP	Angono	7.69	315	eP	P	09 48 48.9	+5.1
JOW	Kunigami	17.68	4	P	P	09 50 56.5	-0.2
QIZ	Qiongzhong	19.12	303	P	P	09 51 12.4	-1.8
QIZ				AP		09 51 24.1	
QIZ				PP	PP	09 51 31.7	+0.5
QIZ				S	S	09 54 43.8	+1.4
QIZ				AMB	AMB		
	comp=Z,17nm,1.5s						
QIZ				AMB	AMB		
	comp=Z,326nm,6.9s						
QIZ				LR	LR		
	comp=E,1μm,15.9s						
QIZ				LR	LR		
	comp=Z,2μm,16.6s						
KAKA	Kakadu	22.39	165	eP	P	09 51 50.2	+2.1
	comp=Z,24nm,0.6s,mb4.8						
SSE	Sheshan	22.47	347	P	P	09 51 49.5	+0.7
SSE				AP		09 52 02.5	
SSE				XS		09 56 13.3	
SSE				AMB	AMB		
	comp=Z,51nm,1.0s,mb4.9						
SSE				AMB	AMB		
	comp=Z,476nm,6.7s						
SSE				LR	LR		
	comp=N,218nm,15.7s,MS3.8						
SSE				LR	LR		
	comp=E,225nm,15.7s,MS3.8						
SSE				LR	LR		
	comp=Z,376nm,16.0s,MS3.9						
CBIJ	Chichi jima	23.08	37	LR	LR	09 59 18.0	
	comp=Z,575nm,20.9s,MS4.0,baz=311,slow=32						
NJ2	Nanjing	23.97	343	eP	P	09 52 04.1	+0.7
NJ2				PP	PP	09 52 39.8	+1.7
NJ2				S	S	09 56 18.0	+3.5
NJ2				SS	SS	09 57 05.0	-1.7
NJ2				LR	LR		
	comp=N,2μm,14.0s,MS4.9						
NJ2				LR	LR		
	comp=E,2μm,14.8s,MS4.9						
NJ2				LR	LR		
	comp=Z,1μm,18.2s,MS4.3						
JNU	Nakatsue	24.19	8	P	P	09 52 07.0	+1.5
	comp=Z,8.7nm,0.8s,mb4.2,baz=184,slow=13,SNR=3.6						
JNU				LR	LR	10 00 02.1	
	comp=Z,437nm,20.4s,MS3.9,baz=25,slow=32						
WHN	Wuhan	24.26	333	eP	P	09 52 06.0	-0.3
KKTK	Khon Kaen	24.41	289	P	P	09 52 09.0	+1.1
	comp=Z,370nm,0.8s,mb5.9						
IPM	Ipoh	25.94	262	⇓eP	P	09 52 23.0	+0.6
ENH	Enshi	26.52	325	eP	P	09 52 25.5	-2.1
	comp=Z,18nm,1.4s,mb4.4						
NANT	Nan	27.02	294	P	P	09 52 30.5	-1.9
FITZ	Fitzroy Crossi	27.07	182	eP	P	09 52 32.9	+0.1
	comp=Z,30nm,0.9s,mb4.8						
FITZ	Fitzroy Crossi	27.07	182	P	P	09 52 31.9	-1.0
	comp=Z,20nm,0.9s,mb4.7,baz=12,slow=12,SNR=21						
CHG	Chiang Mai	28.62	293	P	P	09 52 45.6	-1.2
WRAB	Tennant Creek	29.82	166	eP	P	09 52 55.4	-2.1
	comp=Z,8.4nm,0.6s,mb4.7						
WRA	Warramunga Arr	29.83	166	P	P	09 52 56.3	-1.2
	comp=Z,4.5nm,0.5s,mb4.5,baz=347,slow=9.2,SNR=53						
WRA				S	S	09 57 48.4	-1.9
	comp=Z,1.1nm,0.8s,baz=346,slow=15,SNR=2.6						
WRA				LR	LR	10 06 29.8	
	comp=Z,290nm,18.5s,MS3.9,slow=39						
WB2	Warramunga Arr	29.83	166	eP	P	09 52 56.4	-1.2
MBWA	Marble Bar	30.87	193	eP	P	09 53 03.8	-3.0
	comp=Z,6.9nm,0.7s,mb4.6						
BJT	Baijiatuau	32.19	345	eP	P	09 53 17.8	-0.3
	comp=Z,10nm,0.6s,mb4.8						
BJT				e	pP	09 53 28.9	-0.1
BJI	Beijing	32.20	345	P	P	09 53 16.5	-1.8
BJI				AMB	AMB		
	comp=Z,27nm,1.3s,mb4.9						
BJI				LR	LR		
	comp=N,480nm,12.8s,MS4.5						
BJI				LR	LR		
	comp=E,414nm,10.8s,MS4.5						
BJI				LR	LR		
	comp=Z,226nm,15.2s,MS4.0						
SNY	Shenyang	32.70	356	⇓P	P	09 53 23.6	+1.0
SNY				AMB	AMB		
	comp=Z,40nm,1.3s,mb5.2						
SNY				LR	LR		
	comp=N,640nm,18.9s						
SNY				LR	LR		
	comp=Z,730nm,20.1s,MS4.4						
ASAR	Alice Springs	33.33	168	P	P	09 53 27.7	-0.5
	comp=Z,5.1nm,0.6s,mb4.6,baz=356,slow=6.6,SNR=73						
ASAR				PcP	PcP	09 56 09.3	-0.3
	comp=Z,1.4nm,0.7s,baz=344,slow=2.7,SNR=4.1						
ASAR				LR	LR	10 06 45.8	
	comp=Z,260nm,20.6s,MS3.9,baz=344,slow=36						
ASPA	Alice Springs	33.33	168	eP	P	09 53 28.2	0.0
CN2	Changchun	34.57	358	eP	P	09 53 38.9	+0.2
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
CTA	Charters Tower	34.80	147	eP	P	09 53 43.1	+2.2
	comp=Z,4.0nm,0.6s,mb4.5						
CTA	Charters Tower	34.80	147	P	P	09 53 42.8	+1.9
	comp=Z,4.6nm,0.6s,mb4.6,baz=317,slow=9.6,SNR=9.7						
CTAO	Charters Tower	34.80	147	eP	P	09 53 42.5	+1.6
	comp=Z,9.9nm,0.9s,mb4.7						
MDJ	Mudanjiang	35.45	3	P	P	09 53 47.3	+1.1
MDJ				AMB	AMB		
	comp=Z,25nm,1.6s,mb4.9						
MDJ				AMB	AMB		
	comp=Z,198nm,8.9s						
MDJ	Mudanjiang	35.45	3	eP	P	09 53 47.2	+1.0
	comp=Z,86nm,1.2s,mb5.5						
MDJ				e	pP	09 54 00.8	+3.6
SHL	Shillong	36.93	301	eP	P	09 53 56.5	-2.4
SHL				eS	S	09 59 39.5	-1.2
ASAJ	Asahikawa	37.49	19	P	P	09 54 05.5	+2.2
	comp=Z,8.2nm,1.0s,mb4.5,baz=202,slow=18,SNR=3.0						
GTA	Gaotai	38.59	326	eP	P	09 54 11.4	-1.3
GTA				LR	LR		
	comp=N,403nm,17.5s,MS4.4						
GTA				LR	LR		
	comp=E,350nm,16.7s,MS4.4						
GTA				LR	LR		
	comp=Z,737nm,18.6s,MS4.5						
LSA	Lhasa	39.09	307	P	P	09 54 16.8	-0.1
LSA				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.1						
LSA	Lhasa	39.09	307	eP	P	09 54 15.7	-1.2
	comp=Z,23nm,1.3s,mb4.8						
FORT	Forrest	39.69	178	eP	P	09 54 22.3	+0.4
	comp=Z,64nm,0.6s,mb5.5						
YSS	Yuzh-Sakhalins	40.09	17	eP	P	09 54 26.7	+1.7
YSS				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.6						
YSS				MLR	MLR		
	comp=Z,200nm,16.0s,MS4.1						
YSS	Yuzh-Sakhalins	40.09	17	eP	P	09 54 27.1	+2.1
	comp=Z,29nm,1.6s,mb4.8						
KLR	Kul'dur	40.20	5	eP	P	09 54 26.5	+0.6
KLR				MLR	MLR		
	comp=E,500nm,17.0s						
KLR				MLR	MLR		
	comp=Z,600nm,17.0s,MS4.5						
HIA	Hailar	40.45	353	eP	P	09 54 27.8	-0.1
	comp=Z,38nm,1.4s,mb4.9						
KLBR	Kellerberrin	41.39	192	eP	P	09 54 36.3	+0.4
	comp=Z,24nm,1.2s,mb4.7						
SONM	Songino Array	42.26	340	P	P	09 54 42.3	-0.5
	comp=Z,4.0nm,1.1s,mb4.0,baz=153,slow=8.3,SNR=12						
SONM				ScP		10 00 25.7	
	comp=Z,0.8nm,0.9s,baz=169,slow=2.9,SNR=4.6						
GUN	Gumba	42.77	301	eP	P	09 54 45.8	-1.5
	comp=Z,106nm,0.9s,mb5.6						
NWAO	Narrogin (SRO)	42.78	192	P	P	09 54 47.6	+0.2
	comp=Z,13nm,0.6s,mb4.8,baz=9.1,slow=8.9,SNR=17						
NWAO	Narrogin (SRO)	42.78	192	eP	P	09 54 46.0	-1.4
	comp=Z,23nm,0.9s,mb4.9						
NWAO				P		09 54 47.6	
PKI	Pulchoki	43.06	301	eP	P	09 54 47.9	-1.9
	comp=Z,33nm,0.9s,mb5.1						
STKA	Stephens Creek	43.16	161	eP	P	09 54 51.5	+1.0
	comp=Z,3.9nm,0.4s,mb4.5						
STKA	Stephens Creek	43.16	161	P	P	09 54 51.6	+1.0
	comp=Z,4.7nm,0.5s,mb4.5,baz=340,slow=8.1,SNR=28						
KKN	Kakani	43.24	301	eP	P	09 54 49.8	-1.4
	comp=Z,30nm,0.8s,mb5.1						
DMN	Daman	43.33	301	eP	P	09 54 50.5	-1.4
	comp=Z,44nm,1.0s,mb5.2						
GKN	Gorkha	43.84	301	eP	P	09 54 54.0	-2.1
	comp=Z,19nm,0.8s,mb4.9						
KOLN	Koldanda	44.66	300	eP	P	09 55 01.3	-1.3
	comp=Z,52nm,1.0s,mb5.3						
ZAK	Zakamensk	45.50	339	eP	P	09 55 07.4	-1.7
ZAK				e		09 56 56.2	
ZAK				e		09 57 34.1	
CUD	Cuddapah	47.21	281	eP	P	09 55 23.2	+0.3
HYB	Hyderabad	47.53	285	i P	P	09 55 25.0	-0.5
HYB	Hyderabad	47.53	285	eP	P	09 55 25.0	-0.5
CLNS	Chul'man	47.62	359	eP	P	09 55 38.9	+13
CLNS				pmax	pmax		
	comp=Z,48nm,0.9s,mb5.5						
CLNS				pmax	pmax		
	comp=N,26nm,1.0s						
CLNS				pmax	pmax		
	comp=E,10.0nm,0.6s						
WMQ	Urumqi	48.42	322	eP	P	09 55 31.5	-0.5
WMQ				AMB	AMB		
	comp=Z,13nm,1.2s,mb4.8						
WMQ				LR	LR		
	comp=N,682nm,18.0s,MS4.8						
WMQ				LR	LR		
	comp=E,499nm,18.0s,MS4.8						
WMQ				LR	LR		
	comp=Z,611nm,18.0s,MS4.6						
BOD	Bodaibo	49.57	351	eP	P	09 55 39.3	-1.4
TOO	Toolangi	49.65	160	eP	P	09 55 44.1	+2.5
	comp=Z,7.5nm,1.8s,mb4.4						
PET	Petropavlovsk	50.81	24	eP	P	09 55 45.0	-5.2
PET				e		10 02 57.4	
POO	Poona	52.06	286	e	P	09 56 03.0	+2.9
YAK	Yakutsk	52.85	2	eP	P	09 56 05.6	+0.1
YAK				pmax	pmax		
	comp=Z,48nm,1.5s,mb5.2						
YAK				MLR	MLR		
	comp=Z,200nm,16.0s,MS4.3						
MKAR	Makanchi Array	53.23	323	P	P	09 56 07.0	-1.5
	comp=Z,11nm,0.7s,mb4.9,baz=125,slow=8.3,SNR=91						
MKAR				ScP		10 01 11.6	
	comp=Z,1.4nm,1.0s,baz=102,slow=6.6,SNR=3.7						
MKAR				LR	LR	10 21 42.4	
	comp=Z,366nm,18.1s,MS4.5,baz=248,slow=39						
MKAR	Makanchi Array	53.23	323	i P	P	09 56 06.9	-1.6
MKAR				pmax	pmax		
	comp=Z,37nm,1.2s						
ULHL	Ulahol	55.13	316	P	P	09 56 21.8	-0.7
	SNR=15						
KZA	Kyzart	55.76	315	P	P	09 56 26.7	-0.3
	SNR=20						
TKM2	Tokmak 2	55.82	316	P	P	09 56 26.7	-0.7
	SNR=8.7						
ZAL	Zalesovo	55.86	331	P	P	09 56 24.8	-2.8
	comp=Z,1.6nm,0.3s,mb4.5,baz=286,slow=7.4,SNR=8.9						
ZAL				LR	LR	10 23 50.1	
	comp=Z,304nm,18.6s,MS4.4,baz=126,slow=40						
ZAL	Zalesovo	55.86	331	i P	P	09 56 25.5	-2.1
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ZAL	Zalesovo	55.86	331	P	P	09 56 24.8	-2.8
UCH	Uchtor	56.32	315	P	P	09 56 30.8	-0.2
	SNR=37						
CHMS	Chumysh	56.43	316	P	P	09 56 30.3	-1.5
	SNR=9.4						
AAK	Ala-Archa	56.48	316	eP	P	09 56 30.0	-2.2
	comp=Z,17nm,1.5s,mb4.8						
AAK				e	pP	09 56 41.6	-2.0
USP	Ospenovka	56.70	316	P	P	09 56 32.1	-1.7
	SNR=17						
AML	Almayashu	56.86	315	P	P	09 56 34.3	-0.6
	SNR=14						
EKS2	Erkin-Say	56.98	315	P	P	09 56 34.9	-0.9
	SNR=13						
NVS	Novosibirsk	57.13	332	eP	P	09 56 31.7	-5.0
NVS				pmax	pmax		
	comp=N,17nm,1.3s						
NVS				pmax	pmax		
	comp=E,10.0nm,1.3s						
NVS				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.5						
KURK	Kurchatov	57.28	326	P	P	09 56 36.4	-1.4
	comp=Z,177nm,1.4s,mb5.9,SNR=37						
KURK	Kurchatov	57.28	326	i P	P	09 56 36.0	-1.8
KURK				pmax	pmax		
	comp=Z,30nm,1.2s,mb5.2						
KURK	Kurchatov	57.28	326	eP	P	09 56 36.0	-1.8
	comp=Z,53nm,1.2s,mb5.4						
KKAR	Karatay Array	59.40	315	i P	P	09 56 50.5	-2.1
KKAR				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
VOSK	Vostochnaya	62.43	325	P	P	09 57 10.9	-2.1
VOSK				pmax	pmax		
	comp=Z,15nm,1.4s,mb4.9						
TIXI	Tiksi	62.49	1	c iP	P	09 57 12.4	-0.8
TIXI				i	pP	09 57 24.3	-0.4
TIXI				e		09 57 51.1	
TIXI				e		09 59 30.6	
TIXI				i S	S	10 05 37.7	+1.7
TIXI				eSS	SS	10 09 43.7	+1.6
TIXI				pmax	pmax		
	comp=Z,36nm,1.6s,mb5.2						
TIXI				MLR	MLR		
	comp=Z,200nm,18.0s,MS4.3						
BVA0	Borovoye Array	62.88	326	P	P	09 57 14.3	-1.7
BVAR	Borovoye Array	62.88	326	P	P	09 57 14.3	-1.8
	comp=Z,9.3nm,0.7s,mb5.0,baz=112,slow=8.0,SNR=29						
BRVK	Borovoye	62.95	326	eP	P	09 57 15.0	-1.5
	comp=Z,25nm,1.0s,mb5.3						
ZRNK	Zerenda	63.63	325	P	P	09 57 18.9	-2.1
ZRNK				pmax	pmax		
	comp=Z,30nm,1.3s,mb5.2						
ZRNK	Zerenda	63.63	325	eP	P	09 57 19.0	-2.0
	comp=Z,22nm,0.9s,mb5.2						
RPZ	Rata Peaks	66.17	146	P	P	09 57 38.1	+0.6
	comp=Z,8.1nm,0.7s,mb4.9,baz=43,slow=19,SNR=3.7						
UNV	Unalaska Valle	69.03	36	eP	P	09 57 55.7	+0.5
ARU	Arti	70.44	327	P	P	09 58 02.7	-1.1
	comp=Z,108nm,0.7s,mb5.9,SNR=9.2						
ARU	Arti	70.44	327	⇑iP	P	09 58 02.2	-1.6
ARU				i	pP	09 58 12.7	-2.8
ARU				i		09 58 22.4	
ARU				e		10 00 35.8	
ARU				eS	S	10 07 14.0	+1.5
ARU				eSS	SS	10 11 46.7	+1.1
ARU				pmax	pmax		
	comp=Z,22nm,1.4s,mb4.9						
ARU				MLR	MLR		
	comp=Z,200nm,20.0s,MS4.4						
ARU				MLR	MLR		
	comp=N,200nm,19.0s,MS4.4						
ARU				MLR	MLR		
	comp=E,50nm,16.0s,MS4.4						
ARU	Arti	70.44	327	eP	P	09 58 02.1	-1.7
	comp=E,12nm,0.7s,mb4.9						
RDF	Al-Radifah	76.24	298	eP	P	09 58 37.4	-1.0
RDF				AMb	AMB	09 58 39.5	
	comp=Z,43nm,1.2s,mb5.3						
MIB	Mutribah	76.38	298	eP	P	09 58 37.5	-1.6
MIB				AMb	AMB	09 58 39.8	
	comp=Z,30nm,0.7s,mb5.3						
RST	Umm Al-Ruwaisa	76.69	298	eP	P	09 58 39.5	-1.4
RST				AMb	AMB	09 58 41.8	
	comp=Z,48nm,1.1s,mb5.3						
RAYN	Ar Rayn	78.44	292	P	P	09 58 49.3	-1.4
	comp=Z,84nm,0.7s,mb5.8,SNR=19						
MZLS	Mizel	78.67	293	P	P	09 58 51.8	-0.1
GOF	Gofitskoye	79.19	314	eP	P	09 58 50.0	-4.3
PMR	Palmer	79.24	29	eP	P	09 58 55.6	+1.4
PMR				e	pP	09 59 08.1	+2.0
MCK	McKinley	79.36	27	eP	P	09 58 56.3	+1.4
	comp=Z,29nm,1.0s,mb5.2						
MCK				e	pP	09 59 08.8	+2.1
KAMS	Al Khamasin	79.60	289	P	P	09 58 55.8	-1.3
SML	Sawmill	79.62	29	P	P	09 58 59.8	+3.5
SML				e	pP	09 59 10.1	+1.9
COLA	College	79.85	26	P	P	09 58 57.9	+0.4
	comp=Z,8.5nm,0.9s,mb4.7						
COLA				e		09 59 06.4	
AFFS	'Afif	80.69	293	P	P	09 59 02.6	-0.2
TATS	Tathlith	80.71	288	P	P	09 59 03.0	0.0
THY	Trims Highway	80.79	27	eP	P	09 59 05.0	+2.5
THY				e	pP	09 59 14.2	-0.1
DJNS	Zahran al Janu	80.86	287	P	P	09 59 04.1	+0.3
DIV	Divide	80.86	29	P	P	09 59 02.9	-0.1
DIV				e	pP	09 59 17.4	+2.6
HILS	Ha'il	81.42	296	P	P	09 59 07.1	+0.5
SOC	Sochi	81.65	313	eP	P	09 59 03.2	-4.2
SOC				e	pP	09 59 13.6	-5.7
SOC				ePPP	PPP	10 04 02.8	-5.3
SOC				eS	S	10 09 07.1	-8.4
SOC				ePS	SKS	10 09 18.4	-1.1
SOC				pmax	pmax		
	comp=Z,8.0nm,0.5s,mb4.9						
SOC				pmax	pmax		
	comp=N,10.0nm,0.6s						
SOC				pmax	pmax		
	comp=E,5.0nm,0.3s						
NAMS	An Nimas	81.95	288	P	P	09 59 09.5	+0.1
MOS	Moscow	82.05	325	eP	P	09 59 04.7	-4.5
MOS				pmax	pmax		
	comp=Z,82nm,1.0s,mb5.6						
LVZ	Lovozero	82.41	338	eP	P	09 59 07.7	-3.2
LVZ				pmax	pmax		
	comp=Z,25nm,1.2s,mb5.0						
LVZ				pmax	pmax		
	comp=N,14nm,1.8s						
LVZ				pmax	pmax		
	comp=E,8.0nm,1.5s						
BLJS	Baljurashi	82.43	289	P	P	09 59 12.4	+0.5

OBN	**Obninsk**	82.70	325	α*i*P	P	09 59 11.6	-1.0
OBN				*e*		09 59 20.3	
OBN				pmax	pmax		
	comp=Z,30nm,1.4s,mb5.1						
OBN				MLR	MLR		
	comp=Z,200nm,18.0s,MS4.5						
APA	**Apatity**	82.92	337	⇑*i*P	P	09 59 13.5	+0.1
APA				*i*		09 59 22.0	
APA				pmax	pmax		
	comp=Z,34nm,1.3s,mb5.2						
MALT	**Malatya**	83.11	308	*e*P	P	09 59 15.4	+0.4
	comp=Z,13nm,1.0s,mb4.9						
MALT				*e*	pP	09 59 27.4	+0.4
ANN	**Anapa**	83.17	314	*e*P	P	09 59 10.0	-5.2
ANN				*e**PP	pP	09 59 20.1	-7.0
ANN				*e*S	S	10 09 25.1	-5.8
ANN				pmax	pmax		
	comp=Z,23nm,1.0s,mb5.2						
DAWY	**Dawson**	83.56	26	*e*P	P	09 59 20.1	+3.4
DAWY				*e*	pP	09 59 31.2	+2.6
KBRS	**Khaybar**	83.85	295	P	P	09 59 20.0	+0.9
INK	**Inuvik**	85.17	22	*e*P	P	09 59 26.2	+1.5
	comp=Z,39nm,1.2s,mb5.4						
INK				*e*	pP	09 59 39.3	+2.6
ARCES	**ARCESS Array B**	85.43	340	P	P	09 59 26.8	+0.8
	comp=Z,5.7nm,0.8s,mb4.7,baz=86,slow=6.6,SNR=12						
SIM	**Simferopol’**	85.49	315	P	P	09 59 27.0	+0.1
SIM				MLR	MLR		
	comp=Z,240nm,20.5s,MS4.6						
JMQS	**Jabal Moqyreh**	86.42	299	P	P	09 59 32.5	+0.7
BRTR	**Keskin Array B**	86.63	310	P	P	09 59 33.4	+0.9
	comp=Z,0.7nm,0.6s,mb4.1,baz=146,slow=8.9,SNR=4.6						
PPT	**Papeete**	86.75	108	*e*S	S	10 09 53.4	-13
PPT				*e*L		10 23 06.1	
PPT				*e*R		10 26 50.7	
	comp=Z,243nm,23.0s,baz=287						
KAF	**Kangasniemi**	86.86	332	*e*p	P	09 59 33.6	+0.5
AYUS	**‘Aynunah**	87.06	298	P	P	09 59 35.4	+0.5
FINES	**FINESS Array B**	87.12	332	P	P	09 59 34.8	+0.4
	comp=Z,1.4nm,0.5s,mb4.4,baz=63,slow=4.3,SNR=12						
FINES				LR	LR	10 42 22.5	
	comp=Z,251nm,19.2s,MS4.6,baz=78,slow=38						
AKASG	**Malin Array Be**	87.75	321	P	P	09 59 36.5	-1.2
	comp=Z,1.6nm,0.7s,mb4.3,baz=62,slow=4.3,SNR=11						
MAW	**Mawson**	88.79	200	P	P	09 59 41.3	-0.9
	comp=Z,2.4nm,0.2s,mb5.1,baz=72,slow=6.4,SNR=1.8						
KMBO	**Kilima Mbogo**	89.69	269	P	P	09 59 46.9	-0.9
	comp=Z,1.9nm,0.8s,mb4.5,baz=225,slow=23,SNR=4.7						
RES	**Resolute Bay**	92.54	10	*e*P	P	10 00 01.8	+2.1
NOA	**NORSAR Array B**	94.00	334	P	P	10 00 08.3	+1.8
	comp=Z,0.7nm,0.7s,mb4.2,baz=66,slow=2.5,SNR=2.7						
YKA	**Yellowknife Ar**	94.61	24	P	P	10 00 12.4	+3.1
	comp=Z,1.3nm,0.7s,mb4.5,baz=302,slow=3.9,SNR=4.3						
RMW	**Rattlesnake Mo**	97.43	40	P	P	10 00 25.5	+3.0
RMW				*e*	pP	10 00 37.5	+2.9
GERES	**GERESS Array B**	97.89	322	P	P	10 00 24.9	+0.3
	comp=Z,1.6nm,0.4s,mb4.9,baz=63,slow=8.8,SNR=3.5						
QSPA	**South Pole Qui**	98.99	180	*e*P	pP	10 00 44.7	+3.8
DPW	**Davenport**	99.50	38	P	P	10 00 34.5	+2.6
DPW				*e*	pP	10 00 47.2	+3.2
NEW	**Newport**	99.98	38	*e*P	P	10 00 36.2	+2.1
NEW				*e*	pP	10 00 49.2	+3.0
PDAR	**Pinedale Array**	107.27	40	PKKP	PKKP	10 16 45.9	+9.4
	comp=Z,0.6nm,0.9s,baz=108,slow=2.9,SNR=4.8						
TXAR	**Lajitas Array**	118.20	50	PKP	PKPdf	10 05 38.0	+2.8
	comp=Z,0.2nm,0.5s,baz=210,slow=1.9,SNR=4.6						

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*KRSC **04** 10:07:17.2±1.6, 54.82N×164.09E, h40^{km}±6^{km}, ML4.0*

ISC 04 10:07:16.8±0.6, **54.81N**±0.03×**164.08E**±0.06, **h40**^{km}, **n26,** σ**1**^{s}**09**/52, **Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BKI	**Bering**	1.16	69	*e*P	P	10 07 36.7	-0.1
BKI				*i* S	S	10 07 49.9	-1.8
BKI				Smax			
	350nm,0.5s						
MKZ	**Mys Kozlova**	1.39	261	*i* P	P	10 07 40.4	+0.2
MKZ				*e*S	S	10 07 56.7	-0.8
KBTR	**Krutoberegovo**	1.58	333	*e*P	P	10 07 42.0	-0.8
KBTR				*e*S	S	10 08 00.0	-2.2
KBG	**Krutoberegovo**	1.65	332	*e*P	P	10 07 43.5	-0.3
KBG				*e*S	S	10 08 03.0	-1.0
KBG				Smax			
	680nm,0.7s						
ZLN	**Zelenaya**	2.23	304	*e*P	P	10 07 52.7	+0.6
ZLN				*e*S	S	10 08 20.0	+1.4
CIRR	**Tsirk**	2.31	306	*i* P	P	10 07 53.6	+0.4
CIRR				*e*S	S	10 08 19.0	-1.6
TUMR	**Tumrok**	2.31	284	*i* P	P	10 07 54.1	+0.8
TUMR				*e*S	S	10 08 22.8	+2.0
LGNR	**Loginova**	2.32	305	*e*P	P	10 07 54.1	+0.7
LGNR				*e*S	S	10 08 21.7	+0.9
KMNR	**Kamenistaya**	2.40	295	*e*P	P	10 07 55.2	+0.7
KMNR				*e*S	S	10 08 23.5	+0.7
SVLR	**Shiveluch**	2.40	319	*e*P	P	10 07 55.1	+0.5
SVLR				*e*S	S	10 08 22.8	-0.2
KRSR	**Krestovskiy**	2.45	307	*e*P	P	10 07 55.3	+0.1
KRSR				*e*S	S	10 08 24.5	+0.3
KLY	**Klyuchi**	2.46	309	*e*P	P	10 07 54.1	-1.4
KLY				*i* S	S	10 08 22.9	-1.7
KOZ	**Kozyrevsk**	2.71	299	*e*P	P	10 08 00.0	+1.1
KOZ				*e*S	S	10 08 32.8	+2.1
KII	**Karymskiy**	2.81	256	*e*P	P	10 08 01.8	+1.3
KII				*e*S	S	10 08 33.5	0.0
SPN	**Mys Shipunski**	2.95	236	*e*P	P	10 08 02.8	+0.4
SPN				*e*S	S	10 08 35.1	-1.7
NLC	**Nalytchevo**	3.24	242	*e*P	P	10 08 06.6	+0.1
NLC				*i* S	S	10 08 42.6	-1.7
ESO	**Esso**	3.27	292	*i* P	P	10 08 06.8	-0.1
ESO				*e*S	S	10 08 43.8	-1.2
ESO				Smax			
	40nm,0.4s						
SDLR	**Sedlovina**	3.42	246	*e*P	P	10 08 09.6	+0.5
SDLR				*e*S	S	10 08 47.9	-1.1
SMAR	**Somma**	3.48	246	*e*P	P	10 08 10.9	+1.0
SMAR				*e*S	S	10 08 49.5	-0.8
UGLR	**Uglovaya**	3.49	245	*e*P	P	10 08 11.3	+1.2
UGLR				*e*S	S	10 08 51.0	+0.3
AVH	**Avacha**	3.51	246	*e*P	P	10 08 12.0	+1.7
AVH				*e*S	S	10 08 51.1	0.0
KOK	**Koryaka**	3.55	247	*e*P	P	10 08 12.3	+1.4
KOK				*e*S	S	10 08 51.9	-0.3
PET	**Petropavlovsk**	3.67	243	*e*P	P	10 08 13.4	+0.8
PET				*e*S	S	10 08 53.9	-1.4
GNL	**Ganaly**	3.77	255	*e*P	P	10 08 15.2	+1.2
GNL				*e*S	S	10 08 55.9	-1.8
RUS	**Russkaya**	4.08	237	*e*P	P	10 08 18.7	+0.3
RUS				*e*S	S	10 09 02.3	-3.3
GRL	**Gorelyy**	4.22	240	*e*P	P	10 08 21.2	+0.7
GRL				*e*S	S	10 09 08.3	-0.9

IDC 04 10:39:42.2±8.3, **15.80S**×**173.25W**, **mb3.9**/2, **mb1 4.2**/2, **mb1mx3.8**/10, **Error ellipse: s-maj=378.0km s-min=61.4km az=141.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	49.90	257	P	P	10 48 37.5	-2.3
	0.5nm,0.7s,baz=95,slow=6.5,SNR=10.0						
ASAR	**Alice Springs**	50.13	252	P	P	10 48 39.9	-1.7
	2.6nm,0.7s,baz=85,slow=8.1,SNR=54						
BRTR	**Keskin Array B**	146.56	321	PKPbc	PKPbc	10 59 25.4	-0.3
	1.5nm,0.8s,baz=90,slow=1.2,SNR=5.7						

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*IDC **04** 10:51:38.2±6.7, 34.46S×179.25W, h125^{km}±61^{km}, mb3.4/3, mb1 3.6/5, mb1mx3.5/11, Error ellipse: s-maj=57.6km s-min=47.5km az=173.0*

ISC 04 10:51:34.8±1.4, **34.35S**±0.07×**179.4W**±0.2, **h100**^{km}, **n23,** σ**1**^{s}**34**/32, **mb3.6**/3, **South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	3.72	210	P	P	10 52 31.7	+0.3
MXZ				S	S	10 53 19.2	+4.8
PUZ	**Puketiti**	4.18	207	P	P	10 52 37.8	+0.1
PUZ				S	S	10 53 29.0	+3.3
KUZ	**Kuaotunu**	4.67	238	P	P	10 52 46.0	+1.7
MWZ	**Matawai**	4.70	211	P	P	10 52 44.4	-0.4
MWZ				S	S	10 53 43.7	+5.2
URZ	**Urewera**	4.83	215	P	P	10 52 48.2	+1.7
	8.0nm,0.3s,baz=222,slow=2.0,SNR=30						
URZ				S	S	10 53 44.5	+2.8
	11nm,0.3s,baz=317,slow=23,SNR=11						
URZ	**Urewera**	4.83	215	P	P	10 52 48.0	+1.5
KNZ	**Kokohu**	5.23	206	P	P	10 52 55.1	+3.1
BKZ	**Black Stump Fm**	5.84	213	P	P	10 52 59.8	-0.5
BKZ				S	S	10 54 08.1	+1.5
OUZ	**Omahuta**	5.86	259	P	P	10 52 58.8	-1.7
PWZ	**Pawanui**	6.42	207	P	P	10 53 08.4	+0.1
TSZ	**Takapari Road**	6.81	212	P	P	10 53 13.0	-0.7
MRZ	**Mangatainoka R**	7.47	211	P	P	10 53 19.6	-3.1
MRZ				S	S	10 54 45.8	-0.6
MTW	**Mount Morrison**	7.92	209	P	P	10 53 26.3	-2.5
MTW				S	S	10 54 57.8	+0.4
KIW	**Kapiti Island**	7.93	213	S	S	10 54 56.5	-1.1
NNZ	**Nelson**	8.94	218	P	P	10 53 42.1	-0.5
NNZ				S	S	10 55 22.0	-0.3
THZ	**Tophouse**	9.58	217	P	P	10 53 49.3	-1.9
THZ				S	S	10 55 36.7	-1.1
KHZ	**Kahutara**	9.79	213	S	S	10 55 37.4	-5.3
MQZ	**McQueen’s Vall**	11.21	211	S	S	10 56 10.6	-6.2
RPZ	**Rata Peaks**	11.95	216	P	P	10 54 24.1	+1.3
	0.7nm,0.3s,baz=331,slow=16,SNR=3.6						
RPZ				S	S	10 56 30.1	-4.2
	1.0nm,0.3s,baz=11,slow=21,SNR=5.5						
CTA	**Charters Tower**	33.53	286	P	P	10 58 07.8	+0.8
	1.3nm,0.6s,mb4.0,baz=129,slow=14,SNR=2.4						
ASAR	**Alice Springs**	41.91	272	P	P	10 59 18.4	+1.5
	0.5nm,0.7s,mb3.4,baz=114,slow=7.6,SNR=10						
WRA	**Warramunga Arr**	43.26	277	P	P	10 59 27.1	-0.9
	0.4nm,0.3s,mb3.6,baz=117,slow=8.1,SNR=20						
FINES	**FINESS Array B**	148.38	337	PKPbc	PKPdf	11 11 08.9	+4.0
	0.8nm,0.6s,baz=72,slow=4.4,SNR=7.5						

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*IDC **04** 10:55:34.4±1.1, 13.42N×120.01E, mb3.8/4, mb1 4.0/4, mb1mx3.7/17, Error ellipse: s-maj=21.5km s-min=13.0km az=131.0*

*NEIC **04** 10:55:35.9±0.7, 13.43N×120.12E, h10^{km}, mb4.3/1, Error ellipse: s-maj=21.2km s-min=12.5km az=84.0*

ISC 04 10:55:33.7±0.9, **13.38N**±0.10×**119.9E**±0.1, **h10**^{km}, **n8,** σ**0**^{s}**78**/9, **mb4.0**/5, **1C-1D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	1.23	54	Pg	Pg	10 55 56.5	-1.8
	212nm,0.3s,baz=246,slow=2.3,SNR=15						
TGY				Lg		10 56 11.1	
	419nm,0.3s,baz=324,slow=19,SNR=18						
TGY	**Tagaytay City**	1.23	54	⇑*i*P	Pb	10 55 56.5	-0.1
TGY				*i* S	Sb	10 56 13.4	+1.0
LQP	**Lukban**	1.74	65	⇓*i*P	Pn	10 56 04.5	+0.2
WRAB	**Tennant Creek**	36.02	156	*e*P	P	11 02 37.0	-0.3
	3.6nm,0.7s,mb4.4						
WRA	**Warramunga Arr**	36.03	157	P	P	11 02 36.9	-0.4
	2.1nm,0.7s,mb4.2,baz=336,slow=9.5,SNR=18						
SONM	**Songino Array**	36.15	345	P	P	11 02 38.4	+0.3
	0.9nm,0.9s,mb3.7,baz=158,slow=10,SNR=6.2						
ASAR	**Alice Springs**	39.28	159	P	P	11 03 05.6	+1.0
	0.9nm,0.5s,mb3.8,baz=339,slow=7.0,SNR=18						
BVAR	**Borovoye Array**	55.61	326	P	P	11 05 11.9	0.0
	0.5nm,0.6s,mb3.7,baz=108,slow=9.1,SNR=3.2						

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*IDC **04** 10:58:02.5±6.0, 22.31S×68.81W, h83^{km}±51^{km}, mb3.6/4, mb1 3.8/5, mb1mx3.7/11, ML3.6/1, Error ellipse: s-maj=47.1km s-min=28.3km az=61.0*

*NEIC **04** 10:58:05.2±0.8, 22.31S×68.66W, h107^{km}±8^{km}, mb4.2/2, Error ellipse: s-maj=19.9km s-min=13.5km az=206.0*

ISC 04 10:58:04.4±1.1, **22.2S**±0.2×**68.6W**±0.1, **h113**^{km}±11^{km}, **n14,** σ**0**^{s}**67**/9, **mb3.8**/5, **1D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	**Limon Verde**	0.45	215	⇓*e*P	P	10 58 21.4	+0.1
CPUP	**Villa Florida**	11.08	114	P	P	11 00 40.5	-0.1
	0.1nm,0.3s,baz=323,slow=9.3,SNR=4.6						
BDFB	**Brasilia**	20.57	75	P	P	11 02 36.1	0.0
	6.1nm,0.5s,baz=244,slow=14,SNR=6.6						
TXAR	**Lajitas Array**	61.38	325	P	P	11 08 10.4	-0.6
	0.3nm,0.7s,mb3.4,baz=143,slow=6.3,SNR=4.3						
QSPA	**South Pole Qui**	67.95	180	*e*P	P	11 08 52.2	-0.4
	3.4nm,0.6s,mb4.3						
PDAR	**Pinedale Array**	74.88	330	P	P	11 09 33.1	-1.3
	0.4nm,0.6s,mb3.3,baz=130,slow=7.7,SNR=4.4						
HWUT	**Hardware Ranch**	74.95	328	*e*P	P	11 09 35.7	+0.9
	1.5nm,0.7s,mb3.8						
DPW	**Davenport**	82.75	329	*e*P	P	11 10 18.0	+1.0
MAW	**Mawson**	83.55	163	P	P	11 10 20.9	+0.4
	0.8nm,0.3s,mb4.0,baz=275,slow=5.5,SNR=4.3						
ASAR	**Alice Springs**	129.37	207	PKP	PKPdf	11 17 01.1	+0.7
	0.7nm,0.7s,baz=119,slow=1.6,SNR=9.2						
WRA	**Warramunga Arr**	132.44	210	PKP	PKPdf	11 17 07.3	+1.0
	0.6nm,0.6s,baz=159,slow=1.8,SNR=15						
ZAL	**Zalesovo**	142.51	26	PKhKP		11 17 21.0	
	2.0nm,0.3s,baz=281,slow=5.2,SNR=2.2						
ZAL				PKP	PKPdf	11 17 25.5	+1.9
	2.0nm,0.3s,baz=321,slow=3.4,SNR=2.7						
MKAR	**Makanchi Array**	146.08	37	PKPbc	PKPbc	11 17 32.5	+1.3
	1.9nm,1.0s,baz=333,slow=2.7,SNR=8.7						
SONM	**Songino Array**	154.16	8	PKPbc	PKPdf	11 17 54.6	+12
	0.1nm,0.3s,baz=45,slow=2.0,SNR=2.4						

DJA 04 11:18:56.2±1.0, **9.60S**×**116.02E**, **h33**^{km}, **MD5.3**/4, **ML4.0**/3, **6C-1D, Error ellipse: s-maj=22.1km s-min=13.7km az=154.0, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RATI	**Rata**	0.99	331	⇓*e*Pn	Pn	11 19 12.2	-1.8
	196nm,0.2s						
RATI				⇑*e*Sn	Sn	11 19 25.3	-1.7
KEDI	**Kedomdong**	1.11	5	⇑*e*Pn	Pn	11 19 14.5	-1.1
	254nm,0.2s						
KEDI				⇑*e*Sn	Sn	11 19 27.7	-2.1
INGI	**Ingas**	1.16	312	⇑*e*Pn	Pn	11 19 14.4	-2.0
	187nm,0.2s						
INGI				⇑*e*Sn	Sn	11 19 28.4	-2.8
KELI	**Kelakatan**	2.04	312	⇑*e*Pn	Pn	11 19 28.5	-0.5

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*IDC **04** 11:21:11.3±1.0, 9.21N×126.76E, mb4.1/10, mb1 4.2/10, mb1mx4.1/19, MS3.7/2, Ms1 3.8/2, ms1mx3.1/17, Error ellipse: s-maj=68.8km s-min=15.7km az=72.0*

*NEIC **04** 11:21:20.4±7.1, 9.19N×126.83E, h74^{km}±68^{km}, mb4.4/9, Error ellipse: s-maj=31.7km s-min=11.9km az=69.0*

ISC 04 11:21:14.9±0.5, **9.15N**±0.04×**126.91E**±0.05, **h39**^{km}, **h39**^{km}±1.3^{km}**:pP-P, n42,** σ**1**^{s}**21**/43, **mb4.2**/16, **MS3.8**/2, **1C-2D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BIPH	**Bislig**	1.10	209	⇓*e*P	P	11 21 33.3	-0.8
BIPH				*i* S	S	11 21 45.7	-2.7
BUTP	**Butuan**	1.28	262	*e*P	P	11 21 33.7	-2.9
SCPH	**Surigao**	1.53	294	*i* P	P	11 21 39.1	-1.2
SCPH				*i* S	S	11 21 59.6	+0.4
BUKP	**Musuan**	2.22	235	*e*P	P	11 21 51.3	+1.2
MSLP	**Maasin**	2.24	296	*e*P	P	11 21 51.4	+1.0
MATI	**Mati**	2.29	196	*e*P	P	11 21 47.9	-3.1
CGP	**Cagayan de Oro**	2.30	253	⇓*e*P	P	11 21 51.7	+0.6
BESP	**Borongan**	2.83	329	*e*P	P	11 21 59.8	+1.0
OCLP	**Ormoc**	2.95	310	*e*P	P	11 22 02.0	+1.6
TBP	**Tagbilaran**	3.05	280	*e*P	P	11 22 02.1	+0.1
LLP	**Lapu-Lapu**	3.12	292	*e*P	P	11 22 02.0	-0.9
DCPH	**Dipolog City**	3.56	261	⇑*e*P	P	11 22 08.8	-0.3
DCPH				*i* S	x	11 24 36.8	
GSPH	**General Santos**	3.61	213	*e*P	S	11 22 53.0	+1.1
SNPH	**Sibulan**	3.63	273	*e*P	P	11 22 10.2	+0.1
PAGZ	**Pagadian**	3.72	250	*e*P	P	11 22 12.6	+1.1
CNP	**Catarman**	4.00	327	*e*P	P	11 22 16.1	+0.7
KAKA	**Kakadu**	22.39	166	*e*P	P	11 26 14.1	+2.7
	9.6nm,0.6s,mb4.4						
FITZ	**Fitzroy Crossi**	27.11	183	*e*P	P	11 26 57.2	+0.7
	5.9nm,1.1s,mb4.0						
FITZ	**Fitzroy Crossi**	27.11	183	P	P	11 26 57.1	+0.5
	6.9nm,1.0s,mb4.1,baz=35,slow=9.7,SNR=4.8						
WRAB	**Tennant Creek**	29.82	166	*e*P	P	11 27 20.1	-0.7
	6.8nm,0.8s,mb4.4						
WRA	**Warramunga Arr**	29.82	166	P	P	11 27 20.0	-0.9
	0.9nm,0.6s,mb3.7,baz=347,slow=9.3,SNR=9.5						
WB2	**Warramunga Arr**	29.83	166	*e*P	P	11 27 19.8	-1.0
MBWA	**Marble Bar**	30.94	193	*e*P	P	11 27 30.6	-0.1
	2.3nm,0.7s,mb4.1						
ASAR	**Alice Springs**	33.33	168	P	P	11 27 51.3	-0.3
	0.5nm,0.4s,mb3.8,baz=354,slow=6.9,SNR=31						
ASPA	**Alice Springs**	33.33	168	*e*P	P	11 27 54.5	+2.9
CTA	**Charters Tower**	34.74	147	P	P	11 28 06.0	+2.3
	5.9nm,1.1s,mb4.4,baz=307,slow=10,SNR=3.1						
CTAO	**Charters Tower**	34.74	147	*e*P	P	11 28 03.5	-0.2
	12nm,1.3s,mb4.7						
FORT	**Forrest**	39.72	178	*e*P	P	11 28 46.9	+1.5
	30nm,1.0s,mb5.0						
SONM	**Songino Array**	42.28	339	P	P	11 29 06.2	-0.2
	0.5nm,0.6s,mb3.4,baz=153,slow=8.3,SNR=3.7						
NWAO	**Narrogin (SRO)**	42.85	192	P	P	11 29 12.0	+0.7
	14nm,1.1s,mb4.6,baz=29,slow=14,SNR=4.9						
NWAO	**Narrogin (SRO)**	42.85	192	P	P	11 29 11.0	-0.3
NWAO				P		11 29 12.0	
STKA	**Stephens Creek**	43.15	162	*e*P	P	11 29 19.0	+5.3
	1.1nm,0.4s,mb3.9						
STKA				*e*		11 29 25.9	
STKA	**Stephens Creek**	43.15	162	P	P	11 29 14.6	+0.9
	0.6nm,0.7s,mb3.5,baz=9.5,slow=12,SNR=2.8						
MKAR	**Makanchi Array**	53.29	323	P	P	11 30 31.2	-1.1
	4.8nm,0.7s,mb4.5,baz=117,slow=8.1,SNR=19						
MKAR				LR	LR	11 54 59.1	
	comp=Z,57nm,19.6s,MS3.6,baz=238,slow=38						
KURK	**Kurchatov**	57.34	326	P	P	11 30 59.9	-1.6
	66nm,0.8s,SNR=9.8						
KURK	**Kurchatov**	57.34	326	*e*P	P	11 30 59.1	-2.4
KURK				*e*	pP	11 31 11.2	-1.7
BRVK	**Borovoye**	63.01	326	*e*P	P	11 31 39.0	-1.3
	7.3nm,0.9s,mb4.8						
BRVK				*e*	pP	11 31 50.1	-1.7
ZRNK	**Zerenda**	63.69	325	*e*P	P	11 31 43.0	-1.6
	6.6nm,0.9s,mb4.7						
ZRNK				*e*	pP	11 31 54.4	-1.8
ARCES	**ARCESS Array B**	85.45	340	P	P	11 33 49.8	+0.4
	1.4nm,0.7s,mb4.2,baz=76,slow=5.0,SNR=4.5						
FINES	**FINESS Array B**	87.17	332	P	P	11 33 58.2	+0.3
	1.2nm,0.9s,mb4.1,baz=101,slow=19,SNR=3.2						
FINES	**FINESS Array B**	87.17	332	P	P	11 33 58.2	+0.3
NOA	**NORSAR Array B**	94.03	334	LR	LR	12 20 58.4	
	comp=Z,42nm,18.8s,MS3.9,baz=55,slow=38						

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*NEIC **04** 11:41:15.9, 35.02S×70.56W, h3^{km}, ML2.8(GUC), After GUC.*

GUC 04 11:41:15.9±0.7, **35.02S**×**70.56W**, **h3**^{km}, **MD3.8, ML2.8, 6C-4D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFDO	**San Fernando**	0.55	317	⇓*i*P	Pg	11 41 26.9	+0.1
SFDO				*i* S	Sg	11 41 35.5	+1.3
NICH	**Los Niches**	0.55	271	⇓*i*P	Pg	11 41 26.8	-0.1
NICH				*i* S	Sg	11 41 35.1	+0.9
CICH	**Cipreses**	0.70	9	⇓*i*P	Pg	11 41 29.3	-0.7
CICH				*i* S	Sg	11 41 39.8	+0.5
CACH	**El Canelo**	0.90	358	⇑*i*P	Pb	11 41 32.8	-1.0
CACH				*i* S	Sg	11 41 46.7	+1.0
CHCH	**Chadas Angostu**	1.08	356	⇑*i*P	Pb	11 41 36.4	-0.5
CHCH				*i* S	Sb	11 41 51.5	+0.2
LMEL	**Las Melosas**	1.20	14	⇑*i*P	Pb	11 41 38.0	-0.9
LMEL				*i* S	Sb	11 41 55.4	+0.6
LMEL				AMP		11 41 57.8	
	comp=N,249nm,0.2s						
LNV	**Longovilo**	1.27	326	⇑*i*P	Pb	11 41 39.1	-1.0
LNV				*i* S	Sb	11 41 57.3	+0.6
PCH	**Pirque**	1.39	2	⇓*i*P	Pb	11 41 41.5	-0.6
PCH				*i* S	Sb	11 42 01.5	+1.2
TACH	**Talagante**	1.39	347	⇑*i*P	Pb	11 41 41.5	-0.7
TACH				*i* S	Sb	11 42 00.9	+0.6
CLCH	**Cerro Calan**	1.61	1	*e*P	Pn	11 41 45.0	-0.4
CLCH				*i* S	Sb	11 42 06.8	0.0
CLCH				AMP		11 42 16.3	
	comp=N,412nm,0.6s						
FCH	**Farellones**	1.70	8	⇑*i*P	Pn	11 41 46.9	+0.2
FCH				*i* S	Sn	11 42 10.0	+0.8
FCH				AMP		11 42 23.6	
	comp=E,190nm,0.3s						
LCCH	**Las Cruces**	1.75	331	*e*P	Pn	11 41 47.1	-0.3
JACH	**Jahuel**	2.33	359	*e*P	Pn	11 41 56.7	+1.0

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*NEIC **04** 12:25:52.2±4.6, 6.73S×154.07E, h142^{km}±41^{km}, mb4.3/4, Error ellipse: s-maj=27.9km s-min=22.2km az=97.0*

*IDC **04** 12:25:54.1±12.0, 6.83S×154.00E, h157^{km}±118^{km}, mb3.6/6, mb1 3.8/7, mb1mx3.7/12, ML3.6/1, MS3.3/2, Ms1 3.3/2, ms1mx3.0/11, Error ellipse: s-maj=72.1km s-min=41.6km az=100.0*

ISC 04 12:25:49.9±6.4, **6.7S**±0.2×**154.0E**±0.2, **h135**^{km}±57^{km}, **n16,** σ**1**^{s}**01**/15, **mb4.0**/9, **Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	**Charters Tower**	15.33	209	*e*P	P	12 29 21.3	+0.9
	8.2nm,1.1s						
CTA	**Charters Tower**	15.33	209	P	P	12 29 20.9	+0.5
	0.2nm,0.3s,baz=29,slow=10,SNR=6.0						
CTA				LR	LR	12 33 45.8	
	comp=Z,148nm,21.1s,baz=51,slow=31						
CTAO	**Charters Tower**	15.33	209	*e*P	P	12 29 21.3	+1.0
	32nm,1.4s						
WRAB	**Tennant Creek**	23.22	234	*e*P	P	12 30 45.9	0.0
	7.3nm,0.8s,mb4.2						
WB2	**Warramunga Arr**	23.23	233	*e*P	P	12 30 45.9	-0.1
WRA	**Warramunga Arr**	23.24	234	P	P	12 30 45.9	-0.1
	3.0nm,0.8s,mb3.8,baz=58,slow=10,SNR=18						
ASAR	**Alice Springs**	25.69	227	P	P	12 31 09.1	-0.3
	1.4nm,0.8s,mb3.6,baz=63,slow=8.4,SNR=13						
ASAR				LR	LR	12 39 35.0	
	comp=Z,67nm,19.5s,baz=22,slow=32						
ASPA	**Alice Springs**	25.70	227	*e*P	P	12 31 10.3	+0.9
STKA	**Stephens Creek**	27.64	203	P	P	12 31 25.0	-2.1
	4.1nm,0.9s,mb4.2,baz=35,slow=11,SNR=2.8						
FITZ	**Fitzroy Crossi**	29.93	245	P	P	12 31 46.7	-1.0
	3.2nm,0.8s,mb4.1,baz=352,slow=24,SNR=4.2						
ENH	**Enshi**	56.32	313	*e*P	P	12 35 19.0	-0.3
	9.8nm,1.0s,mb4.6						
SONM	**Songino Array**	68.55	328	P	P	12 36 40.4	+0.3
	0.7nm,0.8s,mb3.4,baz=124,slow=4.5,SNR=4.6						
MKAR	**Makanchi Array**	82.54	319	P	P	12 38 00.2	+1.1
	2.3nm,0.6s,mb4.1,baz=102,slow=5.2,SNR=27						
QSPA	**South Pole Qui**	83.31	180	*e*P	P	12 38 04.6	+2.2
	2.7nm,0.9s,mb4.0						
MNV	**Mina**	92.38	52	P	P	12 38 45.5	-1.2
PMSA	**Palmer Station**	103.34	164	*e*P	Pdif	12 39 37.2	+1.7

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*IDC **04** 12:28:49.6±1.3, 5.36S×102.64E, mb4.2/10, mb1 4.2/10, mb1mx4.1/15, Error ellipse: s-maj=66.4km s-min=14.8km az=50.0*

*NEIC **04** 12:28:58.5±7.4, 5.37S×102.72E, h70^{km}±71^{km}, mb4.7/2, Error ellipse: s-maj=43.4km s-min=8.0km az=49.0*

ISC 04 12:28:53.4±1.1, **5.2S**±0.3×**102.9E**±0.3, **h33**^{km}, **n19,** σ**0**^{s}**69**/18, **mb4.3**/14, **Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	25.65	122	P	P	12 34 22.0	-0.1
	3.0nm,0.8s,mb3.9,baz=321,slow=6.1,SNR=3.5						
WRA	**Warramunga Arr**	33.91	118	P	P	12 35 35.4	-0.3
	1.6nm,0.8s,mb4.0,baz=308,slow=9.0,SNR=14						
WRA				PcP	PcP	12 38 13.7	-0.2
	0.3nm,0.5s,baz=300,slow=2.1,SNR=5.0						
WRAB	**Tennant Creek**	33.91	118	*e*P	P	12 35 35.1	-0.6
ASAR	**Alice Springs**	35.05	125	P	P	12 35 45.4	-0.1
	0.5nm,0.4s,mb3.8,baz=296,slow=7.5,SNR=10						
PKI	**Pulchoki**	36.71	333	*e*P	P	12 36 00.1	+0.6
DMN	**Daman**	36.88	333	*e*P	P	12 36 01.1	+0.2
KKN	**Kakani**	36.96	334	*e*P	P	12 36 02.2	+0.6
GKN	**Gorkha**	37.43	333	*e*P	P	12 36 06.2	+0.7
	5.9nm,0.4s,mb4.8						
KOLN	**Koldanda**	37.71	331	*e*P	P	12 36 08.2	+0.3
	17nm,0.8s,mb4.8						
CTA	**Charters Tower**	44.65	113	P	P	12 37 05.8	+0.7
	2.6nm,0.9s,mb4.0,baz=234,slow=19,SNR=2.8						
STKA	**Stephens Creek**	44.87	131	P	P	12 37 07.5	+0.8
	3.6nm,0.6s,mb4.4,baz=315,slow=8.3,SNR=8.2						
SONM	**Songino Array**	52.91	3	P	P	12 38 08.9	+0.3
	2.4nm,0.6s,mb4.3,baz=184,slow=9.1,SNR=14						
SONM				PcP	PcP	12 39 16.9	-0.4

	1.3nm,0.5s,baz=184,slow=4.5,SNR=3.6						
MKAR	**Makanchi Array**	54.91	343	P	**P**	**12 38 22.7**	**-0.6**
	5.4nm,0.5s,mb4.8,baz=150,slow=9.1,SNR=41						
KURK	**Kurchatov**	59.51	342	*e*P	**P**	**12 38 54.9**	**-0.9**
	4.9nm,1.0s,mb4.5						
ZAL	**Zalesovo**	60.86	348	P	**P**	**12 39 03.5**	**-1.5**
	4.9nm,0.5s,mb4.9,baz=212,slow=5.9						
BRTR	**Keskin Array B**	77.61	312	P	**P**	**12 40 47.2**	**-1.1**
	0.7nm,0.7s,mb3.7,baz=214,slow=4.5,SNR=2.9						
FINES	**FINESS Array B**	88.28	332	P	**P**	**12 41 42.5**	**-0.1**
	0.8nm,0.9s,mb3.9,baz=117,slow=3.1,SNR=3.3						
ARCES	**ARCESS Array B**	90.46	340	P	**P**	**12 41 53.7**	**+1.0**
	2.2nm,0.7s,mb4.6,baz=100,slow=5.5,SNR=4.2						
TXAR	**Lajitas Array**	145.27	43	PKPbc	PKPbc	12 48 30.6	+1.6
	3.4nm,0.5s,baz=252,slow=1.0,SNR=82						

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*PRU **04** 13:00:52.4, 51.52N×16.15E*
*WAR **04** 13:00:53.1, 51.56N×16.10E, ML2.7, Mining Induced*
ISC 04 13:00:50.9±1.3**, 51.52N**±0.06×**16.01E**±0.06**, n10,** σ**1**^{s}**02**/18**,**
Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	0.70	165	*e*PG	**Pg**	**13 01 06.0**	**+1.0**
KSP				*e*SG	**Sg**	**13 01 16.0**	**+1.7**
UPC	**Upice**	1.02	180	*e*PG	**Pg**	**13 01 12.4**	**+1.2**
DPC	**Dobruska-Polom**	1.19	170	*e*PG	**Pg**	**13 01 15.0**	**+0.3**
DPC				*e*SG	**Sg**	**13 01 30.3**	**-0.2**
	8.0nm,0.2s						
PVCC	**Panska Ves**	1.35	223	*e*PG	**Pg**	**13 01 19.1**	**+1.3**
PRU	**Pruhonice**	1.79	212	*e*PG	**Pg**	**13 01 25.2**	**-1.5**
PRU				*e*SG	**Sg**	**13 01 50.5**	**-0.2**
CLL	**Collm**	1.89	265	*e*PN	**Pn**	**13 01 25.0**	**+0.2**
CLL				*e*PG	**Pg**	**13 01 28.0**	**-0.7**
CLL				*i* SG	**Sg**	**13 01 54.5**	**+0.6**
OKC	**Ostrava-Krasne**	2.17	140	*e*SG	**Sg**	**13 02 00.8**	**-2.3**
NKC	**Novy Kostel**	2.60	242	*e*SG	**Sg**	**13 02 17.1**	**-0.2**
KHC	**Kasperske Hory**	2.85	214	*e*PG	**Pg**	**13 01 47.0**	**-0.9**
KHC				*e*SN	**Sn**	**13 02 15.0**	**+0.9**
KHC				*e*SG	**Sg**	**13 02 24.6**	**-1.3**
MOX	**Moxa**	2.90	254	Pg	**Pg**	**13 01 48.0**	**-0.9**
MOX				Sg	**Sg**	**13 02 28.0**	**+0.4**

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*NEIC **04** 13:21:56.3, 35.03S×70.55W, h3^{km}, ML3.4(GUC), After GUC.*
GUC 04 13:21:56.3±0.8**, 35.03S**×**70.55W, h3**^{km}**, MD4.0, ML3.4,**
8C-5D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NICH	**Los Niches**	0.56	272	⇓*i*P	Pg	13 22 07.2	-0.3
NICH				*i* S	Sg	13 22 16.3	+1.3
SFDO	**San Fernando**	0.56	317	⇓*i*P	Pg	13 22 07.2	-0.3
CICH	**Cipreses**	0.71	9	⇓*i*P	Pg	13 22 09.6	-0.9
CICH				*i* S	Sg	13 22 20.2	+0.2
CACH	**El Canelo**	0.91	357	⇑*i*P	Pb	13 22 13.1	-1.2
CACH				*i* S	Sg	13 22 26.6	0.0
CHCH	**Chadas Angostu**	1.09	355	⇑*i*P	Pb	13 22 16.8	-0.7
CHCH				*i* S	Sb	13 22 32.4	+0.4
LMEL	**Las Melosas**	1.21	14	⇑*i*P	Pb	13 22 18.4	-1.1
LMEL				*i* S	Sb	13 22 35.9	+0.6
LMEL				AMP		13 22 45.2	
	comp=E,490nm,0.9s						
LNV	**Longovilo**	1.28	326	⇑*i*P	Pb	13 22 19.6	-1.1
LNV				*i* S	Sb	13 22 37.5	0.0
SJCH	**San Jose de Ma**	1.39	7	*i* P	Pb	13 22 21.1	-1.4
SJCH				*i* S	Sb	13 22 41.0	+0.4
SJCH				AMP		13 23 02.6	
	comp=N,310nm,0.7s						
PCH	**Pirque**	1.40	1	⇓*i*P	Pb	13 22 21.9	-0.9
PCH				*i* S	Sb	13 22 40.7	-0.2
TACH	**Talagante**	1.41	347	⇑*i*P	Pb	13 22 21.9	-1.0
TACH				*i* S	Sb	13 22 41.7	+0.6
CLCH	**Cerro Calan**	1.63	0	⇑*i*P	Pn	13 22 25.8	-0.2
CLCH				*i* S	Sb	13 22 48.0	+0.5
CLCH				AMP		13 22 57.4	
	comp=N,867nm,0.5s						
CLCH				AMP		13 23 04.6	
	comp=N,1μm,0.9s						
FCH	**Farellones**	1.71	7	⇑*i*P	Pn	13 22 27.3	+0.1
FCH				*i* S	Sn	13 22 51.1	+1.3
FCH				AMP		13 23 04.3	
	comp=E,447nm,1.1s						
LCCH	**Las Cruces**	1.76	331	⇓*i*P	Pn	13 22 27.5	-0.5
LCCH				*i* S	Sn	13 22 51.5	+0.3
CCHI	**Chillan**	2.00	218	⇑*i*P	Pn	13 22 31.2	-0.2
CCHI				*i* S	Sn	13 22 57.9	+0.6
CCHI				AMP		13 23 08.0	
	comp=E,1μm,0.5s						
CCHI				AMP		13 23 08.2	
	comp=E,2μm,0.7s						
JACH	**Jahuel**	2.34	359	*i* P	Pn	13 22 37.2	+0.9

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*NEIC **04** 13:29:20.5, 18.26N×98.13W, h67^{km}, MD3.6(MEX), After MEX.*
MEX 04 13:29:20.5±0.5**, 18.26N**×**98.13W, h67**^{km}±11^{km}**, MD3.6,**
Central Mexico

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PPM	**Popocatepetl**	0.93	330	*e*P	P	13 29 37.3	-0.9
PPM				*e*S	S	13 29 50.6	-0.7
IISM	**Ciudad Serdan**	1.02	44	*e*P	P	13 29 37.5	-1.9
IISM				*e*S	S	13 29 51.0	-2.3
YAIG	**Yautepec**	1.07	304	*i* P	P	13 29 38.2	-1.8
YAIG				*i* S	S	13 29 52.1	-2.4
PLIG	**Platanillo**	1.31	276	*i* P	P	13 29 41.9	-1.5
PLIG				*i* S	S	13 29 58.0	-2.3
VHO	**Vista Hermosa**	1.78	131	*e*P	P	13 29 50.3	+0.6
VHO				*i* S	S	13 30 09.2	-2.0

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*IDC **04** 13:53:20.3±0.8, 6.47N×126.62E, mb4.3/13, mb1 4.4/13, mb1mx4.3/19, MS3.5/1, Ms1 3.5/1, ms1mx2.8/22, Error ellipse: s-maj=68.5km s-min=12.8km az=73.0*
*NEIC **04** 13:53:30.4±4.1, 6.35N×126.45E, h80^{km}±38^{km}, mb4.6/12, Error ellipse: s-maj=28.2km s-min=8.1km az=74.0*
ISC 04 13:53:30.1±0.9**, 6.39N**±0.05×**126.6E**±0.1**, h96**^{km}±8^{km}**, n34,**
σ**0**^{s}**93**/35**, mb4.4**/21**, 1D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	1.68	260	*e*P	**P**	**13 53 59.0**	**+0.2**
BIPH	**Bislig**	1.80	352	⇓*e*P	**P**	**13 54 01.4**	**+0.9**
BIPH				*e*S	**S**	**13 54 19.3**	**-3.5**
SCPH	**Surigao**	3.55	342	*i* P	**P**	**13 54 25.6**	**+1.3**
SCPH				*i* S	**S**	**13 55 05.2**	**-0.3**
KAKA	**Kakadu**	19.82	163	*e*P	**P**	**13 57 55.7**	**+0.1**
	8.8nm,0.6s						
FITZ	**Fitzroy Crossi**	24.35	182	*e*P	**P**	**13 58 40.4**	**0.0**
	3.7nm,0.4s,mb4.1						
FITZ	**Fitzroy Crossi**	24.35	182	P	**P**	**13 58 40.9**	**+0.5**
	3.9nm,0.4s,mb4.1,baz=357,slow=8.6,SNR=29						
JNU	**Nakatsue**	26.90	8	LR	LR	14 09 01.4	
	comp=Z,110nm,19.7s,baz=340,slow=35						
WRAB	**Tennant Creek**	27.24	164	*e*P	**P**	**13 59 06.5**	**-0.8**
	6.1nm,0.7s,mb4.2						
WRA	**Warramunga Arr**	27.25	164	P	**P**	**13 59 06.5**	**-0.9**
	3.8nm,0.9s,mb4.0,baz=342,slow=10,SNR=18						
WB2	**Warramunga Arr**	27.25	164	*e*P	**P**	**13 59 07.1**	**-0.4**
MBWA	**Marble Bar**	28.19	194	*e*P	**P**	**13 59 13.5**	**-2.5**
ASPA	**Alice Springs**	30.71	167	*e*P	**P**	**13 59 37.9**	**-0.4**
ASAR	**Alice Springs**	30.71	167	P	**P**	**13 59 37.9**	**-0.4**
	0.9nm,0.4s,mb3.8,baz=341,slow=6.8,SNR=30						
ASAR				PcP	PcP	14 02 34.8	+0.9
	1.0nm,0.8s,baz=352,slow=2.4,SNR=8.1						
FORT	**Forrest**	36.98	178	*e*P	**P**	**14 00 32.2**	**+0.2**
	42nm,0.7s,mb5.5						
KLBR	**Kellerberrin**	38.70	192	*e*P	**P**	**14 00 46.5**	**+0.2**
	5.1nm,0.5s,mb4.6						
NWAO	**Narrogin (SRO)**	40.10	192	P	**P**	**14 00 58.9**	**+1.0**
	6.1nm,0.4s,mb4.8,baz=29,slow=6.6,SNR=18						
NWAO	**Narrogin (SRO)**	40.10	192	*e*P	**P**	**14 00 58.5**	**+0.7**
	8.3nm,0.7s,mb4.7						
STKA	**Stephens Creek**	40.65	160	*e*P	**P**	**14 01 03.3**	**+0.9**
	2.4nm,0.6s,mb4.2						
STKA	**Stephens Creek**	40.65	160	P	**P**	**14 01 03.1**	**+0.8**
	3.3nm,0.8s,mb4.2,baz=338,slow=8.2,SNR=8.2						
SONM	**Songino Array**	44.76	341	P	**P**	**14 01 35.8**	**0.0**
	0.5nm,0.4s,mb3.6,baz=170,slow=7.5,SNR=4.3						
SONM				PcP	PcP	14 03 18.5	+1.8
	0.3nm,0.4s,baz=180,slow=4.3,SNR=2.2						
MKAR	**Makanchi Array**	55.33	324	P	**P**	**14 02 55.5**	**-0.7**
	2.1nm,0.4s,mb4.5,baz=119,slow=8.0,SNR=47						
MKAR				PcP	PcP	14 03 56.7	+1.3
	1.9nm,0.7s,baz=124,slow=3.0,SNR=7.9						
ZAL	**Zalesovo**	58.19	332	P	**P**	**14 03 15.5**	**-0.9**
	1.6nm,0.8s,mb4.1,baz=263,slow=8.6,SNR=10						
KURK	**Kurchatov**	59.46	327	*e*P	**P**	**14 03 24.3**	**-0.8**
	4.9nm,0.7s,mb4.7						
BVAR	**Borovoye Array**	65.05	326	P	**P**	**14 04 02.2**	**-0.1**
	3.5nm,0.6s,mb4.4,baz=121,slow=8.6,SNR=26						
BRVK	**Borovoye**	65.12	326	*e*P	**P**	**14 04 02.4**	**-0.4**
	7.3nm,0.7s,mb4.6						
ZRNK	**Zerenda**	65.78	326	*e*P	**P**	**14 04 06.4**	**-0.7**
	8.2nm,0.5s,mb4.8						
ARU	**Arti**	72.64	327	*e*P	**P**	**14 04 48.2**	**-0.7**
	9.9nm,0.6s,mb4.8						
ARCES	**ARCESS Array B**	87.93	340	P	**P**	**14 06 11.3**	**+1.5**
	2.9nm,0.6s,mb4.5,baz=77,slow=7.0,SNR=14						
BRTR	**Keskin Array B**	88.25	310	P	**P**	**14 06 13.4**	**+1.3**
	0.5nm,0.5s,mb3.8,baz=104,slow=5.1,SNR=3.6						
KAF	**Kangasniemi**	89.20	332	*e*p	**P**	**14 06 15.7**	**-0.3**
FINES	**FINESS Array B**	89.45	332	P	**P**	**14 06 18.2**	**+1.0**
	1.1nm,0.8s,mb3.9,baz=63,slow=4.3,SNR=5.6						
FINES	**FINESS Array B**	89.45	332	P	**P**	**14 06 18.2**	**+1.0**
AKASG	**Malin Array Be**	89.77	321	P	**P**	**14 06 19.1**	**+0.2**
	1.9nm,0.8s,mb4.3,baz=61,slow=4.9,SNR=5.7						
QSPA	**South Pole Qui**	96.28	180	*e*P	**P**	**14 06 50.2**	**+2.0**
	2.6nm,1.0s,mb4.6						

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*NEIC **04** 14:14:03.4, 34.97S×70.52W, h2^{km}, MD3.5(GUC), After GUC.*
GUC 04 14:14:03.4±0.7**, 34.97S**×**70.52W, h2**^{km}**, MD3.5, 3C-3D,**
Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFDO	**San Fernando**	0.54	311	⇓*i*P	Pg	14 14 13.9	-0.2
SFDO				*i* S	Sg	14 14 22.9	+1.5
CICH	**Cipreses**	0.65	7	⇓*i*P	Pg	14 14 16.3	-0.1
CICH				*i* S	Sg	14 14 26.8	+1.7
CACH	**El Canelo**	0.85	355	⇓*i*P	Pg	14 14 19.9	-0.6
CACH				*i* S	Sg	14 14 32.9	+1.1
CHCH	**Chadas Angostu**	1.04	354	*i* P	Pb	14 14 23.6	-0.2
LNV	**Longovilo**	1.25	324	⇑*i*P	Pb	14 14 26.2	-1.2
LNV				*i* S	Sb	14 14 44.2	+0.4
PCH	**Pirque**	1.34	0	⇑*i*P	Pb	14 14 28.4	-0.6
TACH	**Talagante**	1.36	345	⇑*i*P	Pb	14 14 28.6	-0.6
TACH				*i* S	Sb	14 14 47.3	+0.4
FCH	**Farellones**	1.65	7	*i* P	Pn	14 14 33.6	+0.1
LCCH	**Las Cruces**	1.73	329	*i* P	Pn	14 14 34.3	-0.3

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*IDC **04** 14:23:45.6±7.5, 16.48S×176.81W, h458^{km}±77^{km}, mb3.2/6, mb1 3.5/6, mb1mx3.3/12, Error ellipse: s-maj=125.0km s-min=22.7km az=150.0*
*NEIC **04** 14:23:49.4±5.0, 16.68S×176.82W, h508^{km}±55^{km}, mb4.0/2, Error ellipse: s-maj=82.2km s-min=19.5km az=153.0*
ISC 04 14:23:40.9±2.6**, 16.7S**±0.8×**176.8W**±0.4**, h423**^{km}±17^{km}**,**
n14, σ**0**^{s}**36**/11**, mb3.6**/8**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	5.08	257	P	**P**	**14 25 05.4**	**0.0**
	417nm,0.6s,SNR=30						
WB2	**Warramunga Arr**	46.41	258	*e*P	**P**	**14 31 29.1**	**-0.3**
WRAB	**Tennant Creek**	46.41	258	*e*P	**P**	**14 31 29.3**	**-0.1**
	2.7nm,0.7s,mb3.7						
WRA	**Warramunga Arr**	46.42	258	P	**P**	**14 31 29.3**	**-0.2**
	0.5nm,0.3s,mb3.3,baz=82,slow=6.1,SNR=67						
WRA				PcP	PcP	14 32 56.9	+0.3
	0.3nm,0.7s,baz=93,slow=3.1,SNR=3.2						
ASAR	**Alice Springs**	46.66	253	P	**P**	**14 31 31.8**	**+0.5**
	6.6nm,0.4s,mb4.3,baz=86,slow=8.1,SNR=158						
ASPA	**Alice Springs**	46.66	253	*e*P	**P**	**14 31 31.7**	**+0.4**
KAKA	**Kakadu**	49.24	267	*e*P	**P**	**14 31 50.4**	**-0.6**
	5.4nm,0.6s,mb4.0						
FITZ	**Fitzroy Crossi**	54.80	259	P	**P**	**14 32 31.8**	**+0.2**
	0.9nm,0.7s,mb3.1,baz=181,slow=18,SNR=3.0						
YBH	**Yreka Blue Hor**	76.56	39	P	**P**	**14 34 47.9**	**+0.3**
	0.9nm,0.7s,mb3.5,baz=190,slow=2.1,SNR=2.7						
TXAR	**Lajitas Array**	83.99	57	P	**P**	**14 35 26.1**	**-0.6**
	0.8nm,1.1s,mb3.4,baz=225,slow=5.3,SNR=3.9						
DLBC	**Dease Lake**	84.06	23	P	**P**	**14 35 26.6**	**+0.3**
	0.9nm,0.7s,mb3.6,baz=125,slow=9.1,SNR=3.3						
ARCES	**ARCESS Array B**	125.35	351	PKP	PKPdf	14 41 51.1	-0.7
	1.2nm,0.7s,baz=38,slow=3.2,SNR=4.7						
BRTR	**Keskin Array B**	144.97	317	PKP	PKPdf	14 42 29.4	+0.8
	0.8nm,0.5s,baz=180,slow=1.2,SNR=4.9						
GERES	**GERESS Array B**	146.77	347	PKPbc	PKPbc	14 42 33.7	+0.4
	0.4nm,0.5s,baz=45,slow=2.8,SNR=4.3						

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*DJA **04** 14:32:04.9±1.0, 7.75S×117.58E, h240^{km}, MD4.7/3, ML3.9/2, Error ellipse: s-maj=59.0km s-min=28.3km az=154.0*
*IDC **04** 14:32:06.0±7.0, 7.72S×118.02E, h260^{km}±72^{km}, mb3.2/5, mb1 3.4/7, mb1mx3.3/14, Error ellipse: s-maj=110.0km s-min=22.1km az=59.0*
*NEIC **04** 14:32:08.0±3.5, 7.80S×118.03E, h280^{km}±42^{km}, mb3.7/2, Error ellipse: s-maj=44.6km s-min=17.6km az=46.0*
ISC 04 14:32:03.6±1.3**, 8.0S**±0.2×**117.6E**±0.2**, h256**^{km}±18^{km}**, n15,**
σ**1**^{s}**18**/19**, mb3.5**/5**, 6C, Bali Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KEDI	**Kedomdong**	1.55	250	*e*Pn	**P**	**14 32 43.9**	**+0.8**
	66nm,0.2s						
KEDI				⇑*e*Sn	**S**	**14 33 12.6**	**-1.3**
RATI	**Rata**	2.17	250	⇑*e*Pn	**P**	**14 32 49.0**	**+0.6**
	87nm,0.1s						
RATI				⇑*e*Sn	**S**	**14 33 22.1**	**-1.1**
INGI	**Ingas**	2.56	250	⇑*e*Pn	**P**	**14 32 54.4**	**+2.1**
INGI				⇑*e*Sn	**S**	**14 33 29.1**	**-1.0**
KELI	**Kelakatan**	3.08	265	⇑*e*Pn	**P**	**14 32 58.8**	**+1.1**
FITZ	**Fitzroy Crossi**	12.76	143	P	**P**	**14 34 59.9**	**+2.4**
	0.4nm,0.3s,baz=8.0,slow=17,SNR=9.7						
FITZ				S	**S**	**14 37 14.3**	**-0.6**
	0.2nm,0.3s,baz=197,slow=10,SNR=4.3						
MBWA	**Marble Bar**	13.28	171	*e*P	**P**	**14 35 07.3**	**+3.4**
	4.6nm,0.9s						
WRA	**Warramunga Arr**	20.12	128	P	**P**	**14 36 18.4**	**-1.1**
	0.3nm,0.3s,baz=301,slow=12,SNR=45						
WRAB	**Tennant Creek**	20.13	128	*e*P	**P**	**14 36 18.4**	**-1.1**
	2.2nm,0.7s						
WB2	**Warramunga Arr**	20.13	128	*e*P	**P**	**14 36 18.3**	**-1.3**
ASPA	**Alice Springs**	22.10	137	*e*P	**P**	**14 36 39.2**	**+0.5**
ASAR	**Alice Springs**	22.10	137	P	**P**	**14 36 39.4**	**+0.6**
	1.5nm,0.4s,mb3.7,baz=314,slow=9.1,SNR=79						
STKA	**Stephens Creek**	32.63	140	P	**P**	**14 38 13.9**	**+0.2**
	1.4nm,0.5s,mb3.8,baz=318,slow=17,SNR=2.5						
SONM	**Songino Array**	56.43	351	P	**P**	**14 41 21.3**	**+0.6**
	0.4nm,0.7s,mb2.9,baz=169,slow=7.3,SNR=3.6						
MKAR	**Makanchi Array**	62.91	334	P	**P**	**14 42 04.9**	**+0.2**
	0.5nm,0.7s,mb3.2,baz=149,slow=7.1,SNR=4.4						
ZAL	**Zalesovo**	67.58	340	P	**P**	**14 42 32.8**	**-1.6**
	0.8nm,0.3s,mb3.9,baz=26,slow=4.2,SNR=3.1						

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*IDC **04** 15:18:09.0±3.1, 9.48S×112.61E, mb3.6/4, mb1 3.8/5, mb1mx3.6/14, ML3.3/1, Error ellipse: s-maj=169.0km s-min=21.5km az=47.0*
*DJA **04** 15:18:14.4±1.0, 9.75S×112.80E, h33^{km}, MD5.1/4, ML4.6/4, Error ellipse: s-maj=29.1km s-min=21.0km az=151.0*
*NEIC **04** 15:18:17.3±1.3, 9.40S×112.96E, h60^{km}, mb3.9/1, Error ellipse: s-maj=21.0km s-min=17.0km az=223.0*
ISC 04 15:18:15.9±2.5**, 9.6S**±0.1×**113.0E**±0.2**, h83**^{km}±25^{km}**, n13,**
σ**0**^{s}**49**/16**, mb3.4**/4**, 7C, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KELI	**Kelakatan**	2.04	47	⇑*e*Pn	**P**	**15 18 48.8**	**-0.1**
	548nm,0.2s						
KELI				⇑*e*Sn	**S**	**15 19 14.2**	**+0.9**
INGI	**Ingas**	2.28	70	⇑*e*Pn	**P**	**15 18 52.5**	**+0.2**
	301nm,0.2s						
RATI	**Rata**	2.67	71	⇑*e*Pn	**P**	**15 18 57.4**	**-0.4**
	313nm,0.2s						
RATI				⇑*e*Sn	**S**	**15 19 29.0**	**-0.1**
KEDI	**Kedomdong**	3.29	70	⇑*e*Pn	**P**	**15 19 06.0**	**-0.4**
	64nm,0.3s						
KEDI				⇑*e*Sn	**S**	**15 19 44.1**	**-0.4**
MBWA	**Marble Bar**	13.19	151	*e*P	**P**	**15 21 16.6**	**-4.6**
MBWA				*e*S	Sx	15 23 30.0	
FITZ	**Fitzroy Crossi**	14.90	126	Pn	**P**	**15 21 44.2**	**+0.7**
	0.1nm,0.3s,baz=329,slow=5.9,SNR=6.1						
FITZ				Sn	**S**	**15 24 18.2**	**-8.5**
	0.1nm,0.3s,baz=217,slow=8.5,SNR=2.8						
WRA	**Warramunga Arr**	23.04	119	P	**P**	**15 23 19.9**	**+5.2**
	0.2nm,0.7s,mb2.6,baz=292,slow=11,SNR=4.4						
WRAB	**Tennant Creek**	23.04	119	*e*P		15 23 25.6	
	3.4nm,0.7s						
ASAR	**Alice Springs**	24.39	128	P	**P**	**15 23 33.2**	**+5.4**
	1.5nm,1.1s,mb3.2,baz=301,slow=8.7,SNR=5.5						
MKAR	**Makanchi Array**	62.48	337	P	**P**	**15 28 33.0**	**+0.1**
	0.8nm,0.5s,mb4.0,baz=153,slow=7.6,SNR=6.6						
MKAR	**Makanchi Array**	62.48	337	P	**P**	**15 28 33.0**	**+0.1**
ZAL	**Zalesovo**	67.66	342	P	**P**	**15 29 05.7**	**-0.3**
	0.7nm,0.5s,mb3.8,baz=162,slow=6.4,SNR=2.7						
ZAL	**Zalesovo**	67.66	342	P	**P**	**15 29 05.7**	**-0.3**

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*NEIC **04** 15:20:18.0±0.6, 6.02S×150.35E, h55^{km}±6^{km}, mb4.4/7, Error ellipse: s-maj=13.9km s-min=6.2km az=124.0*
*IDC **04** 15:20:22.4±4.8, 6.21S×150.36E, h88^{km}±44^{km}, mb3.7/6, mb1 3.9/7, mb1mx3.8/11, MS3.3/2, Ms1 3.3/2, ms1mx3.1/9, Error ellipse: s-maj=35.8km s-min=16.7km az=120.0*
ISC 04 15:20:16.9±1.0**, 6.08S**±0.10×**150.4E**±0.1**, h58**^{km}±9^{km}**, n22,**
σ**0**^{s}**83**/22**, mb4.2**/8**, MS3.1**/1**, 1C-1D, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMBE	**Kimbe**	0.56	339	⇓*i*P	**P**	**15 20 29.2**	**-0.2**
RAB	**Rabaul**	2.60	44	*e*P	**P**	**15 20 57.6**	**+0.1**
PMG	**Port Moresby**	4.58	224	*e*P	**P**	**15 21 25.6**	**+0.3**
PMG				*e*S	**S**	**15 22 17.9**	**+0.2**
CTA	**Charters Tower**	14.48	196	*e*P	**P**	**15 23 40.6**	**+0.4**
	4.9nm,1.2s						
CTA				*e*		15 23 46.7	
CTA	**Charters Tower**	14.48	196	P	**P**	**15 23 40.6**	**+0.4**
	0.2nm,0.3s,baz=21,slow=15,SNR=3.1						
CTA				LR	LR	15 28 15.7	
	comp=Z,124nm,20.5s,baz=185,slow=33						
CTAO	**Charters Tower**	14.48	196	*e*P	**P**	**15 23 46.4**	**+6.2**
	12nm,0.9s						
KAKA	**Kakadu**	18.89	248	*e*P	**P**	**15 24 34.6**	**-0.7**
	6.1nm,0.4s						
WRAB	**Tennant Creek**	20.77	227	*e*P	**P**	**15 24 54.6**	**-0.8**
	60nm,0.9s						
WRAB				*e*		15 25 01.4	
WB2	**Warramunga Arr**	20.78	227	*e*P	**P**	**15 24 55.5**	**0.0**
WB2				*e*		15 25 01.7	
WRA	**Warramunga Arr**	20.79	227	P	**P**	**15 24 55.7**	**+0.1**
	4.3nm,0.7s,baz=52,slow=10,SNR=45						
WRA				S	**S**	**15 28 42.8**	**+3.6**
	0.8nm,0.9s,baz=50,slow=18,SNR=4.7						
ASAR	**Alice Springs**	23.58	220	P	**P**	**15 25 24.7**	**+1.5**
	1.2nm,0.4s,mb3.7,baz=52,slow=8.7,SNR=18						
FITZ	**Fitzroy Crossi**	26.91	241	*e*P	**P**	**15 25 54.7**	**-0.1**
	1.9nm,0.5s,mb3.9						
FITZ	**Fitzroy Crossi**	26.91	241	P	**P**	**15 25 55.1**	**+0.3**
	2.9nm,0.4s,mb4.2,baz=106,slow=3.5,SNR=16						
FITZ				LR	LR	15 35 40.0	
	comp=Z,55nm,19.9s,MS3.1,baz=175,slow=34						
STKA	**Stephens Creek**	26.94	197	⇑*i*P	**P**	**15 25 54.1**	**-0.8**
	2.9nm,0.8s,mb3.9						
STKA	**Stephens Creek**	26.94	197	P	**P**	**15 25 54.2**	**-0.7**
	2.8nm,0.7s,mb3.9,baz=28,slow=15,SNR=7.7						
MBWA	**Marble Bar**	33.23	240	*e*P	**P**	**15 26 49.5**	**-1.2**
	17nm,1.3s,mb4.8						
SONM	**Songino Array**	66.14	329	P	**P**	**15 31 02.5**	**+2.2**
	0.6nm,0.5s,mb3.9,baz=143,slow=3.7,SNR=5.1						
MKAR	**Makanchi Array**	79.70	320	P	**P**	**15 32 19.6**	**-0.5**
	0.2nm,0.4s,mb3.4,baz=108,slow=5.8,SNR=3.0						
QSPA	**South Pole Qui**	83.89	180	*e*P	**P**	**15 32 50.3**	**+9.2**
	4.9nm,1.2s,mb4.5						
COLA	**College**	83.94	22	P	**P**	**15 32 41.2**	**-0.4**
	14nm,0.6s,mb5.2						
GERES	**GERESS Array B**	123.83	327	PKP	PKPdf	15 39 10.5	+2.0
	0.5nm,0.6s,baz=45,slow=1.4,SNR=6.7						
BDFB	**Brasilia**	151.77	140	PKPbc	PKPdf	15 40 07.8	+8.4
	3.1nm,0.8s,baz=60,slow=2.1,SNR=3.8						

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*NIED **04** 15:21:00, 30.80N×132.20E, h35^{km}, Mw4.3 Best double couple: $M_0$3.04×10^{15} NP1:ϕ_s172°, δ71°, λ-109°. NP2: ϕ_s40°, δ27°, λ-46°.*
*BJI **04** 15:21:22.6, 30.32N×132.40E, h39^{km}, mB4.3, mb4.4*
*IDC **04** 15:21:22.0±0.7, 30.76N×131.99E, mb3.9/14, mb1 4.0/15, mb1mx4.0/22, ML3.6/1, MS3.6/4, Ms1 3.7/4, ms1mx3.1/25, Error ellipse: s-maj=32.9km s-min=13.6km az=73.0*
*JMA **04** 15:21:25.1±0.1, 30.78N×132.21E, h59^{km}±3^{km}, M4.1*
*NEIC **04** 15:21:27.1±1.3, 30.83N×132.13E, h39^{km}±12^{km}, mb4.2/10, Error ellipse: s-maj=11.8km s-min=9.9km az=192.0*
ISC 04 15:21:24.5±1.9**, 30.78N**±0.04×**132.25E**±0.05**, h31**^{km}±13^{km}**,**
n41, σ**1**^{s}**03**/45**, mb4.0**/22**, MS3.7**/4**, 8C, Southeast of**
Shikoku

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTN	**Tanegashima 3**	1.10	264	⇑P	**Pn**	**15 21 44.2**	**+0.2**
JTN				S	**Sn**	**15 21 58.9**	**+0.7**
JNAR	**Kushima--Naru**	1.12	312	⇑P	**Pn**	**15 21 44.8**	**+0.6**
JNAR				S	**Sn**	**15 21 59.4**	**+0.8**
JTSR	**Tashiro 2**	1.20	289	⇑P	**Pn**	**15 21 45.6**	**+0.2**
JTZ	**Takazaki**	1.49	319	⇑P	**Pn**	**15 21 49.9**	**+0.3**
JTZ				S	**Sn**	**15 22 07.6**	**-0.6**
JTSN	**Tsuno**	1.59	337	⇑P	**Pn**	**15 21 51.2**	**+0.2**
JTSN				S	**Sn**	**15 22 10.6**	**-0.1**
JSU	**Suzuyama**	1.70	296	⇑P	**Pn**	**15 21 52.8**	**+0.3**
JIU2	**Izumi 2**	2.14	326	⇑P	**Pn**	**15 21 59.5**	**+0.6**
JIU2				S	**Sn**	**15 22 24.0**	**-0.6**
JSJ	**Shimokoshiki**	2.34	293	⇑P	**Pn**	**15 22 01.3**	**-0.5**
JNU	**Nakatsue**	2.60	334	Pn	**Pn**	**15 22 05.8**	**+0.3**
	18nm,0.3s,baz=104,slow=7.6,SNR=80						
JNU				Sn	**Sn**	**15 22 36.6**	**+0.1**
MAJO	**Matsushiro**	7.59	39	*e*Pg	**Pn**	**15 23 15.4**	**-0.6**
	8.6nm,0.3s						
MAJO				*e*Sg	Px	15 23 23.0	
MAT	**Matsushiro**	7.59	39	P	**Pn**	**15 23 15.4**	**-0.6**
MAT	**Matsushiro**	7.59	39	*e*P	**Pn**	**15 23 15.0**	**-1.0**
	4.7nm,0.6s						
BJT	**Baijiatuau**	16.00	310	*e*P	**P**	**15 25 09.8**	**+0.7**
	29nm,1.6s						
ENH	**Enshi**	19.61	274	*e*P	**P**	**15 25 51.7**	**-1.6**
	42nm,0.6s						
HIA	**Hailar**	20.75	336	P	**P**	**15 26 08.1**	**+3.0**
	4.6nm,1.0s						
GYA	**Guiyang**	22.85	266	P	**P**	**15 26 27.3**	**+1.0**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.5						
CD2	**Chengdu**	24.43	278	P	**P**	**15 26 42.3**	**+0.6**
CD2				AMB	AMB		
	comp=Z,20nm,0.5s,mb4.8						
SONM	**Songino Array**	26.09	318	P	**P**	**15 26 55.0**	**-2.1**
	comp=Z,0.6nm,0.5s,mb3.4,baz=133,slow=8.7,SNR=9.6						
ZAL	**Zalesovo**	40.99	318	LR	LR	15 48 52.9	
	comp=Z,94nm,18.7s,MS3.7,baz=138,slow=40						
MKAR	**Makanchi Array**	41.37	307	P	**P**	**15 29 07.8**	**-1.5**
	comp=Z,0.7nm,0.7s,mb3.4,baz=96,slow=11,SNR=7.0						
MKAR				LR	LR	15 48 09.1	
	comp=Z,46nm,18.7s,MS3.4,baz=300,slow=39						
KURK	**Kurchatov**	44.15	313	P	**P**	**15 29 30.0**	**-1.9**
	comp=Z,6.9nm,1.3s,mb4.2						
FITZ	**Fitzroy Crossi**	49.02	188	P	**P**	**15 30 10.6**	**0.0**
	comp=Z,0.9nm,0.4s,mb4.1,baz=0.4,slow=8.3,SNR=5.7						
BVAR	**Borovoye Array**	49.38	315	P	**P**	**15 30 11.8**	**-1.2**
	comp=Z,0.8nm,0.5s,mb4.0,baz=100,slow=9.0,SNR=7.8						
BRVK	**Borovoye**	49.44	315	*e*P	**P**	**15 30 10.9**	**-2.6**
	comp=Z,3.7nm,0.9s,mb4.4						
ZRNK	**Zerenda**	50.22	315	P	**P**	**15 30 18.1**	**-1.4**
	comp=Z,2.1nm,0.9s,mb4.2						
WRA	**Warramunga Arr**	50.47	177	P	**P**	**15 30 20.8**	**-1.0**
	comp=Z,1.5nm,1.0s,mb4.0,baz=354,slow=8.5,SNR=6.0						
ASAR	**Alice Springs**	54.16	178	P	**P**	**15 30 49.2**	**-0.1**
	comp=Z,1.0nm,0.8s,mb3.8,baz=11,slow=13,SNR=11						
STKA	**Stephens Creek**	62.95	171	*e*P	**P**	**15 31 50.1**	**-0.4**
	comp=Z,3.0nm,0.6s,mb4.6						
STKA				*e*	pP	15 32 00.3	+0.2
STKA	**Stephens Creek**	62.95	171	P	**P**	**15 31 50.3**	**-0.2**
	comp=Z,3.9nm,0.6s,mb4.7,baz=348,slow=6.0,SNR=17						
INK	**Inuvik**	63.31	25	P	**P**	**15 31 53.2**	**+0.8**
	comp=Z,1.0nm,0.7s,mb4.0,baz=328,slow=11,SNR=8.9						
INK	**Inuvik**	63.31	25	*e*P	**P**	**15 31 52.6**	**+0.2**
	comp=Z,1.5nm,0.5s,mb4.4						
RES	**Resolute Bay**	70.41	12	P	**P**	**15 32 37.0**	**-0.1**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	comp=Z,11nm,0.8s,mb4.8						
FINES	FINESS Array B	70.64	331	P	P	15 32 37.7	-1.0
	comp=Z,0.5nm,0.6s,mb3.6,baz=108,slow=6.0,SNR=1.3						
FINES				LR	LR	16 08 05.5	
	comp=Z,37nm,20.5s,MS3.6,baz=207,slow=40						
AKASG	Malin Array Be	74.35	320	P	P	15 33 00.6	-0.1
	comp=Z,0.3nm,0.3s,mb3.7,baz=248,slow=23,SNR=1.8						
NOA	NORSAR Array B	76.77	335	P	P	15 33 15.0	+0.7
	comp=Z,0.6nm,0.7s,mb3.7,baz=50,slow=5.8,SNR=3.2						
BRTR	Keskin Array B	77.01	309	P	P	15 33 17.9	+1.8
	comp=Z,1.3nm,0.8s,mb3.9,baz=90,slow=4.9,SNR=3.7						
NEW	Newport	79.85	39	P	P	15 33 32.4	+0.9
	comp=Z,1.7nm,0.7s,mb4.1						
GERES	GERESS Array B	83.65	324	P	P	15 33 52.5	+1.3
	comp=Z,0.7nm,0.9s,mb3.8,baz=34,slow=4.8,SNR=3.8						
HLID	Hailey	84.16	42	P	P	15 33 55.6	+1.8
	comp=Z,1.1nm,0.7s,mb4.1						
PDAR	Pinedale Array	87.42	41	P	P	15 34 11.9	+1.9
	comp=Z,0.3nm,0.6s,mb3.7,baz=329,slow=5.3,SNR=3.4						
ESDC	Sonseca Array	98.96	327	LR	LR	16 27 51.3	
	comp=Z,45nm,18.7s,MS4.0,baz=190,slow=40						

*NEIC **04** 15:23:36.0,34.97S×70.53W,h4^{km},ML3.5(GUC),After GUC.*

GUC 04 15:23:36.0±0.9,34.97S×70.53W,h4^{km},ML3.5,6C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFDO	San Fernando	0.54	311	⇓iP	Pg	15 23 46.7	0.0
NICH	Los Niches	0.58	266	⇑iP	Pg	15 23 47.3	-0.3
NICH				i S	Sg	15 23 56.7	+1.4
CICH	Cipreses	0.65	8	eP	Pg	15 23 48.3	-0.8
CICH				i S	Sg	15 23 58.0	+0.3
CACH	El Canelo	0.85	356	⇑iP	Pb	15 23 52.0	-1.0
CACH				i S	Sg	15 24 04.6	+0.3
CHCH	Chadas Angostu	1.04	354	⇑iP	Pb	15 23 55.4	-0.7
CHCH				i S	Sb	15 24 10.1	+0.2
LMEL	Las Melosas	1.15	14	eP	Pb	15 23 57.2	-0.9
LMEL				i S	Sb	15 24 13.8	+0.7
LMEL				AMP		15 24 16.2	
	comp=E,372nm,0.3s						
LNV	Longovilo	1.25	324	⇑iP	Pb	15 23 58.9	-0.8
LNV				i S	Sb	15 24 16.0	0.0
PCH	Pirque	1.34	0	eP	Pb	15 24 00.8	-0.6
TACH	Talagante	1.35	345	⇑iP	Pb	15 24 01.0	-0.6
TACH				i S	Sb	15 24 19.3	+0.1
DSCH	Colegio Aleman	1.57	359	eP	Pn	15 24 04.0	-0.8
DSCH				AMP		15 24 30.6	
	comp=N,2µm,0.6s						
CLCH	Cerro Calan	1.57	360	eP	Pn	15 24 04.4	-0.4
CLCH				i S	Sb	15 24 26.0	+0.7
CLCH				AMP		15 24 31.4	
	comp=E,1µm,0.4s						
CLCH				AMP		15 24 32.0	
	comp=E,2µm,0.4s						
FCH	Farellones	1.65	7	eP	Pn	15 24 06.3	+0.3
FCH				i S	Sb	15 24 28.4	+0.7
FCH				AMP		15 24 42.5	
	comp=E,364nm,0.6s						
LCCH	Las Cruces	1.72	330	⇓iP	Pn	15 24 06.9	-0.1
LCCH				i S	Sn	15 24 29.6	0.0
PEL	Peldehue	1.82	356	eP	Pn	15 24 08.4	-0.1
CCHI	Chillan	2.06	217	AMP		15 24 45.1	
	comp=E,1µm,0.3s						
JACH	Jahuel	2.28	359	⇑iP	Pn	15 24 16.3	+1.3

IDC 04 15:39:31.2±3.8,3.58S×102.60E,mb3.4/4,mb1 3.5/4, mb1mx3.4/14,Error ellipse: s-maj=157.0km s-min=23.8km az=56.0,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	34.96	120	P	P	15 46 25.9	-1.5
	0.2nm,0.8s,baz=298,slow=11,SNR=3.6						
ASAR	Alice Springs	36.23	126	P	P	15 46 35.5	-2.6
	0.2nm,0.3s,baz=301,slow=7.6,SNR=6.8						
SONM	Songino Array	51.30	3	P	P	15 48 38.4	-0.9
	0.4nm,0.9s,baz=184,slow=8.3,SNR=3.0						
MKAR	Makanchi Array	53.27	343	P	P	15 48 50.6	-3.4
	0.5nm,0.6s,baz=146,slow=8.7,SNR=5.4						

OTT 04 15:59:29.8±0.2,52.76N×67.21W,MN2.7/7,Blast, Mount Wright, Qc Mining explosion.,Northern Quebec

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCHQ	Schefferville	2.09	6	PN	Pn	16 00 05.5	-1.0
SCHQ				SN	Sn	16 00 32.9	-0.8
SCHQ				Trac		16 00 36.4	
	comp=Z,30nm,0.2s						
MNQ	Manicouagan	2.43	204	PN	Pn	16 00 10.2	-1.2
MNQ				SN	Sn	16 00 42.3	0.0
MNQ				Trac		16 00 47.4	
	comp=Z,16nm,0.2s						
SMQ	Clarke City	2.56	173	PN	Pn	16 00 11.5	-1.7
SMQ				SN	Sn	16 00 45.9	+0.4
SMQ				Trac		16 00 52.8	
	comp=Z,10nm,0.2s						
ICQ	Pointe Anglais	3.24	181	PN	Pn	16 00 20.7	-2.2
ICQ				SN	Sn	16 00 60.0	-2.8
ICQ				Trac		16 01 14.9	
	comp=Z,6.6nm,0.2s						
CNQ	Baie Comeau	3.50	189	PN	Pn	16 00 25.6	-1.1
CNQ				Trac		16 01 19.2	
	comp=Z,4.6nm,0.2s						
GSQ	Grosses Roches	3.85	179	PN	Pn	16 00 30.8	-0.8
GSQ				SN	Sn	16 01 14.0	-4.3
GSQ				Trac		16 01 33.9	
	comp=Z,5.4nm,0.2s						
LG4Q	La Grande 4	4.24	285	PN	Pn	16 00 34.4	-2.6
LG4Q				SN	Sn	16 01 26.4	-1.6
LG4Q				Trac		16 01 43.1	
	comp=Z,3.5nm,0.2s						
LMQ	La Malbaie	5.58	202	PN	Pn	16 00 52.6	-3.6
DRLN	Deer Lake	7.05	116	PN	Pn	16 01 12.7	-4.2
VLDQ	Val d'Or	8.02	239	PN	P	16 01 25.9	-4.5
MALO	McAlpine Lake	8.32	256	PN	P	16 01 28.3	-6.2
VIMO	Victor Mine	10.02	277	PN	P	16 01 50.9	-7.1

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*NEIC **04** 16:13:53.3±3.7,19.99S×176.23W,h326^{km}±40^{km}, mb4.1/10,Error ellipse: s-maj=37.1km s-min=11.3km az=167.0*

*IDC **04** 16:13:57.2±6.2,20.38S×176.20W,h360^{km}±65^{km},mb3.8/5, mb1 3.7/7,mb1mx3.5/13,Error ellipse: s-maj=60.7km s-min=20.9km az=175.0*

ISC 04 16:13:48.5±1.6,19.6S±0.2×176.31W±0.10,h288^{km}±15^{km}, n31,σ0^{s}63/21,mb4.0/13,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	Nonsavu	5.67	289	Pn	P	16 15 14.0	-0.1
	255nm,0.8s,SNR=8.9						
RAR	Rarotonga	15.58	99	P	P	16 17 15.6	+0.2
	0.7nm,0.3s,baz=225,slow=7.1,SNR=2.9						
URZ	Urewera	19.42	196	P	P	16 17 51.4	-3.7
	0.5nm,0.3s,baz=235,slow=18,SNR=4.0						
CTA	Charters Tower	35.17	263	eP	P	16 20 18.3	+1.0
	5.4nm,0.5s,mb4.3						
CTA				i		16 20 23.3	
CTA	Charters Tower	35.17	263	P	P	16 20 18.6	+1.2
	7.0nm,0.5s,mb4.5,baz=86,slow=10,SNR=26						
CTAO	Charters Tower	35.17	263	eP	P	16 20 18.6	+1.2
	8.6nm,0.6s,mb4.5						
CTAO				e		16 20 23.3	
STKA	Stephens Creek	39.60	243	P	P	16 20 58.7	+4.6
	1.6nm,0.5s,mb3.6,baz=82,slow=13,SNR=6.9						
STKA	Stephens Creek	39.60	243	P	P	16 20 58.7	+4.6
ASAR	Alice Springs	46.27	256	P	P	16 21 47.7	+0.1
	5.2nm,0.4s,mb4.2,baz=89,slow=8.3,SNR=53						
ASPA	Alice Springs	46.27	256	eP	P	16 21 47.4	-0.2
WB2	Warramunga Arr	46.29	261	eP	P	16 21 47.6	-0.2
WRAB	Tennant Creek	46.29	261	eP	P	16 21 47.8	0.0
	6.5nm,0.6s,mb4.1						
WRA	Warramunga Arr	46.30	261	P	P	16 21 48.0	+0.1
	3.0nm,0.3s,mb4.1,baz=96,slow=7.5,SNR=41						
KAKA	Kakadu	49.60	270	eP	P	16 22 13.0	-0.2
	5.3nm,0.6s,mb4.0						
KAKA				i		16 22 17.7	
FITZ	Fitzroy Crossi	54.73	261	P	P	16 22 51.3	+0.6
	1.7nm,0.6s,mb3.7,baz=134,slow=9.6,SNR=7.8						
MBWA	Marble Bar	59.60	256	eP	P	16 23 24.4	-0.3
	5.6nm,1.1s,mb4.0						
HLID	Hailey	84.64	40	eP	P	16 25 50.9	-0.3
	1.8nm,0.8s,mb4.0						
ANMO	Albuquerque	85.62	51	P	P	16 25 56.0	-0.2
	1.1nm,0.8s,mb3.7						
NEW	Newport	85.75	35	P	P	16 25 57.7	+1.2
	1.4nm,0.6s,mb4.0						
MCK	McKinley	85.79	12	eP	P	16 25 55.6	-0.8
	2.7nm,0.8s,mb4.1						
ENH	Enshi	86.88	304	P	P	16 26 01.8	-0.7
	6.4nm,0.9s,mb4.5						
ZAL	Zalesovo	110.83	321	PKiKP		16 31 47.4	
	0.6nm,0.5s,baz=62,slow=6.5,SNR=2.8						
ZAL	Zalesovo	110.83	321	PKPdf	PKPdf	16 31 47.4	+0.5
MKAR	Makanchi Array	111.76	314	PKiKP		16 31 49.8	
	0.2nm,0.4s,baz=139,slow=2.2,SNR=6.8						
FINES	FINESS Array B	135.37	345	PKP	PKPdf	16 32 36.9	+3.1
	0.8nm,0.8s,baz=34,slow=5.0,SNR=3.3						
NOA	NORSAR Array B	138.29	355	PKP	PKPdf	16 32 42.1	+2.9
	0.7nm,0.9s,baz=29,slow=6.3,SNR=3.7						
AKASG	Malin Array Be	143.00	333	PKhKP		16 32 46.1	
	1.5nm,0.6s,baz=35,slow=4.1,SNR=8.7						
BRTR	Keskin Array B	147.41	314	PKPbc	PKPdf	16 33 00.8	+5.1
	2.5nm,0.8s,baz=135,slow=5.2,SNR=9.1						
CLL	Collm	147.55	349	i PKP1	PKPdf	16 33 01.3	+5.7
KHC	Kasperske Hory	149.52	347	ePKPbc	PKPdf	16 33 05.5	+6.8
GERES	GERESS Array B	149.76	347	PKPbc	PKPdf	16 33 06.2	+7.1
	0.7nm,0.6s,baz=27,slow=3.0,SNR=9.4						

IDC 04 16:28:42.1±1.9,1.26N×126.49E,mb3.6/4,mb1 3.8/4, mb1mx3.6/13,Error ellipse: s-maj=170.0km s-min=24.9km az=64.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.44	160	P	P	16 33 41.9	-2.3
	0.4nm,0.3s,baz=338,slow=10,SNR=15						
ASAR	Alice Springs	25.81	164	P	P	16 34 17.2	+0.4
	0.3nm,0.3s,baz=342,slow=11,SNR=5.0						
STKA	Stephens Creek	35.94	158	P	P	16 35 43.4	-3.1
	2.4nm,1.1s,baz=322,slow=17,SNR=3.2						
MKAR	Makanchi Array	59.44	326	P	P	16 38 46.9	-2.3
	0.2nm,0.5s,baz=126,slow=7.1,SNR=4.8						

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*IDC **04** 17:03:15.5±0.7,15.01S×173.56W,mb4.2/12,mb1 4.3/12, mb1mx4.3/14,MS3.7/6,Ms1 3.7/6,ms1mx3.6/11,Error ellipse: s-maj=35.6km s-min=16.2km az=137.0*

*NEIC **04** 17:03:17.3±0.3,15.01S×173.63W,h10^{km},mb4.4/9,Error ellipse: s-maj=16.7km s-min=8.1km az=138.0*

ISC 04 17:03:15.7±0.4,15.0S±0.1×173.7W±0.1,h10^{km},n42, σ0^{s}84/26,mb4.2/21,MS3.8/5,1C,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAR	Rarotonga	14.61	117	LR	LR	17 10 44.9	
	comp=Z,153nm,18.9s,baz=303,slow=31						
URZ	Urewera	24.58	198	P	P	17 08 37.8	+0.7
	4.9nm,0.8s,mb4.1,baz=81,slow=13,SNR=2.9						
RPZ	Rata Peaks	31.47	201	P	P	17 09 39.8	+0.2
	15nm,0.9s,mb4.8,baz=67,slow=13,SNR=2.4						
CTA	Charters Tower	38.46	256	P	P	17 10 40.7	+1.0
	2.8nm,0.9s,mb4.0,baz=26,slow=20,SNR=2.4						
CTA	Charters Tower	38.46	256	P	P	17 10 40.7	+1.0
STKA	Stephens Creek	44.00	239	P	P	17 11 25.1	-0.2
	3.2nm,1.1s,mb4.0,baz=114,slow=10,SNR=3.4						
WB2	Warramunga Arr	49.65	256	⇑iP	P	17 12 09.8	-0.1
WRAB	Tennant Creek	49.66	256	eP	P	17 12 08.8	-1.1
	5.3nm,0.9s,mb4.6						
WRA	Warramunga Arr	49.66	256	P	P	17 12 09.5	-0.4
	1.1nm,0.6s,mb4.1,baz=90,slow=6.9,SNR=42						
ASAR	Alice Springs	49.97	252	P	P	17 12 11.6	-0.7
	9.1nm,0.6s,mb5.0,baz=86,slow=8.1,SNR=134						
ASAR				LR	LR	17 30 17.0	
	comp=Z,110nm,20.3s,MS3.9,baz=48,slow=32						
ASPA	Alice Springs	49.98	252	eP	P	17 12 12.0	-0.3
MBWA	Marble Bar	63.21	254	P	P	17 13 46.4	-0.4
	1.2nm,0.6s,mb4.2						
MAJO	Matsushiro	68.43	320	P	P	17 14 21.3	+1.2
	21nm,1.4s,mb5.0						
YBH	Yreka Blue Hor	73.43	37	P	P	17 14 49.5	-0.6
	1.7nm,0.9s,mb4.0,baz=305,slow=13,SNR=2.9						
QSPA	South Pole Qui	75.07	180	eP	P	17 14 58.8	-0.1
	6.8nm,1.2s,mb4.5						
HLID	Hailey	79.48	39	eP	P	17 15 23.5	-0.5
	1.8nm,0.8s,mb4.0						
HWUT	Hardware Ranch	80.27	42	P	P	17 15 29.4	+1.0
	1.4nm,0.9s,mb3.9						
NEW	Newport	80.52	34	P	P	17 15 29.1	-0.5
	0.7nm,0.3s,mb4.0,baz=68,slow=22,SNR=2.8						
LTX	Lajitas	80.61	56	P	P	17 15 30.6	+0.2
TXAR	Lajitas Array	80.61	56	P	P	17 15 30.4	-0.1
	1.1nm,1.0s,mb3.8,baz=243,slow=4.0,SNR=5.0						
TXAR				LR	LR	17 43 24.4	
	comp=Z,43nm,18.7s,MS3.8,baz=320,slow=30						
ANMO	Albuquerque	80.75	50	P	P	17 15 33.0	+2.0
	2.5nm,1.1s,mb4.1						
MCK	McKinley	80.76	11	eP	P	17 15 29.9	-0.5
	5.8nm,1.0s,mb4.5						
MCMT	McKenzie Canyo	81.10	39	eP	P	17 15 31.9	-0.8
COLA	College	82.00	11	P	P	17 15 36.9	0.0
	8.9nm,0.6s,mb4.9						
PDAR	Pinedale Array	82.14	42	P	P	17 15 36.8	-1.3
	0.5nm,0.6s,mb3.6,baz=225,slow=2.1,SNR=4.9						
PDAR				LR	LR	17 45 10.7	
	comp=Z,39nm,19.2s,MS3.8,baz=73,slow=31						
MAW	Mawson	88.10	199	P	P	17 16 07.3	0.0
	1.4nm,0.7s,mb4.3,baz=72,slow=3.2,SNR=3.6						
MAW				LR	LR	17 50 53.5	
	comp=Z,61nm,18.2s,MS4.0,baz=156,slow=32						
YKA	Yellowknife Ar	89.82	23	LR	LR	17 48 46.7	
	comp=Z,29nm,20.7s,MS3.7,baz=270,slow=30						
SONM	Songino Array	94.34	318	P	P	17 16 39.4	+2.7
	0.4nm,0.9s,mb3.9,baz=101,slow=7.3,SNR=3.3						
BAIF	Baives	144.97	2	ePKP1	PKPbc	17 22 53.5	+0.2
	14nm,1.1s						
KHC	Kasperske Hory	145.42	352	ePKP	PKPdf	17 22 55.5	-1.4
KMBO	Kilima Mbogo	145.46	245	PKPbc	PKPbc	17 22 59.1	+3.5
	0.5nm,0.3s,baz=54,slow=23,SNR=3.7						
BRTR	Keskin Array B	145.65	321	PKPbc	PKPbc	17 22 57.8	+2.5
	5.6nm,0.8s,baz=102,slow=2.9,SNR=29						
GERES	GERESS Array B	145.68	351	PKPbc	PKPbc	17 22 56.2	+1.1
	1.8nm,0.8s,slow=2.0,SNR=11						
SGMF	Saint Gilles	146.02	11	ePKP1	PKPbc	17 22 56.6	+0.6
LDF	La Druitiere	146.06	8	ePKP1	PKPbc	17 22 56.5	+0.4
CDF	Champ du Feu	146.65	359	ePKP1	PKPbc	17 22 59.1	+1.7
LOR	Lormes	147.74	3	ePKP1	PKPdf	17 23 02.2	+1.3
	12nm,1.0s						
SSF	Saint Saulge	147.92	4	ePKP1	PKPdf	17 23 02.8	+1.6
CABF	La Chapelle	148.46	0	ePKP1	PKPdf	17 23 03.5	+1.4
TCF	Toulx Ste Croi	148.59	5	ePKP1	PKPdf	17 23 04.0	+1.7
LPL	La Plagne	149.55	359	ePKP1	PKPdf	17 23 07.7	+3.8
LPG	La Plagne	149.57	359	ePKP1	PKPdf	17 23 07.9	+4.0

IDC 04 17:35:58.6±5.3,1.34S×134.11E,h235^{km}±57^{km},mb2.9/3, mb1 3.1/5,mb1mx3.0/14,Error ellipse: s-maj=33.7km s-min=19.6km az=98.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.49	179	P	P	17 39 56.5	-2.9
	0.1nm,0.3s,baz=354,slow=12,SNR=16						
WRA				S	S	17 43 04.0	-9.4
	0.1nm,0.3s,baz=352,slow=24,SNR=4.5						
FITZ	Fitzroy Crossi	18.61	206	P	P	17 39 59.1	-1.7
	0.2nm,0.3s,baz=23,slow=13,SNR=6.0						
FITZ				S	S	17 43 18.7	+2.8
	0.1nm,0.3s,baz=3.3,slow=18,SNR=2.7						
CTA	Charters Tower	22.09	148	P	P	17 40 34.4	-0.9
	5.6nm,1.0s,baz=251,slow=21,SNR=3.5						
ASAR	Alice Springs	22.19	180	P	P	17 40 37.0	+0.8
	0.3nm,0.5s,baz=6.6,slow=12,SNR=8.7						
MKAR	Makanchi Array	65.94	324	P	P	17 46 19.4	-2.0
	0.1nm,0.5s,baz=120,slow=6.1,SNR=3.2						

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*IDC **04** 17:49:33.7±3.6,9.22N×126.86E,mb3.3/3,mb1 3.5/3, mb1mx3.3/16,Error ellipse: s-maj=283.0km s-min=27.2km az=66.0*

ISC 04 17:49:36.3±5.8,9.3N±0.3×127.0E±0.4,h34^{km}±51^{km},n4, σ0^{s}17/5,mb3.3/3,1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCPH	Surigao	1.53	290	⇓iP	P	17 50 01.7	0.0
SCPH				i S	S	17 50 20.6	0.0
WRA	Warramunga Arr	29.91	166	P	P	17 55 43.4	-0.1
	0.1nm,0.4s,mb2.9,baz=346,slow=9.0,SNR=2.4						
ASAR	Alice Springs	33.41	168	P	P	17 56 14.3	+0.1
	0.2nm,0.5s,mb3.3,baz=353,slow=6.6,SNR=8.2						
MKAR	Makanchi Array	53.24	323	P	P	17 58 53.8	0.0
	0.6nm,0.7s,mb3.7,baz=124,slow=8.4,SNR=5.4						

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*NNC **04** 17:50:30.5±7.8,36.59N×70.86E,h146^{km}±68^{km},mpv3.6, Error ellipse: s-maj=120.8km s-min=62.5km az=91.0*

*MOS **04** 17:50:36.1±0.6,37.13N×70.52E,h106^{km},mb4.5/3,Error ellipse: s-maj=23.6km s-min=12.1km az=84.7*

ISC 04 17:50:25.8±1.7,36.37N±0.07×70.6E±0.2,h79^{km}±15^{km}, n31,σ1^{s}01/36,mb4.4/3,4C-3D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AML	Almayashu	6.24	22	P	P	17 51 57.5	+0.4
	SNR=53						
UCH	Uchtor	6.60	26	P	P	17 52 02.7	+0.6
	SNR=9.8						
KK31	Karatay Array	6.72	360	⇑P	P	17 52 03.9	+0.2
	1.9nm,0.4s,baz=172,slow=11,SNR=39						
KK31				⇓S	S	17 53 17.7	-1.7
	4.2nm,0.5s,baz=191,slow=22,SNR=5.9						
KKAR	Karatay Array	6.72	360	PN	P	17 52 03.9	+0.1
KKAR				S	S	17 53 17.7	-1.8
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.2s						
KKAR				smax			
	comp=Z,1.0nm,0.3s						
EKS2	Erkin-Say	6.75	21	P	P	17 52 04.9	+0.7
	SNR=7.5						
AAK	Ala-Archa	6.95	25	P	P	17 52 07.5	+0.5
	SNR=12						
KBK	Karagaybulak	7.13	27	P	P	17 52 10.9	+1.4
	SNR=8.0						
CHMS	Chumysh	7.36	25	P	P	17 52 13.2	+0.6
	SNR=6.5						
USP	Ospenovka	7.52	23	P	P	17 52 14.8	0.0
	SNR=15						
TKM2	Tokmak 2	7.61	29	P	P	17 52 16.7	+0.8
	SNR=26						
MKAR	Makanchi Array	13.60	36	i P	P	17 53 35.7	-0.6
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KOLN	Koldanda	13.99	124	eP	P	17 53 41.6	+0.2
	comp=Z,9.9nm,0.6s						
GKN	Gorkha	14.54	121	eP	P	17 53 48.3	-0.4
	comp=Z,16nm,0.6s						
AB31	Akbulak array	15.02	332	⇑P	P	17 53 54.5	-0.3
	comp=Z,1.0nm,0.5s,baz=166,slow=11,SNR=31						
AB31	Akbulak array	15.02	332	P	P	17 53 54.4	-0.3
AB31				eS	S	17 56 33.5	-5.9
DMN	Daman	15.11	121	eP	P	17 53 55.5	-0.5
KKN	Kakani	15.12	120	eP	P	17 53 55.1	-1.0
	comp=Z,8.4nm,0.6s						
PKI	Pulchoki	15.35	121	eP	P	17 53 58.3	-0.7
	comp=Z,7.0nm,0.4s						
VOSK	Vostochnaya	16.35	1	⇓P	P	17 54 10.6	-0.8
	comp=Z,1.6nm,0.8s						
VOSK	Vostochnaya	16.35	1	P	P	17 54 10.6	-0.8
VOSK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ZRNK	Zerenda	16.61	357	⇑P	P	17 54 12.3	-2.4
	comp=Z,2.9nm,1.3s						
ZRNK	Zerenda	16.61	357	P	P	17 54 19.5	+4.8
ZRNK				pmax	pmax		
	comp=Z,3.0nm,1.3s						
BVA0	Borovoye Array	16.65	360	⇑P	P	17 54 10.8	-4.3
	comp=Z,0.3nm,0.7s,baz=172,slow=11,SNR=9.4						
ZAL	Zalesovo	20.16	25	i P	P	17 54 56.3	+0.4
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ZEI	Tsey	21.47	295	eP	P	17 55 14.0	+4.8
ARU	Arti	21.64	342	⇓iP	P	17 55 12.5	+1.7
ARU				e		17 55 35.6	
ARU				eS	S	17 59 00.7	+0.3
ARU				eSS	SS	17 59 32.9	-9.2
GOF	Gofitskoye	22.51	301	eP	P	17 55 33.5	+14
SOC	Sochi	24.61	297	eP	P	17 55 43.5	+3.8
SOC				e		17 56 18.5	
SOC				eS	S	17 59 51.5	-0.8
SOC				eSS	SS	18 00 49.1	-4.9
SOC				pmax	pmax		
	comp=N,9.0nm,0.8s						
SOC				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.3						
SOC				pmax	pmax		
	comp=E,18nm,1.1s						
SOC				MLR	MLR		
	comp=Z,127nm,22.0s						
SOC				MLR	MLR		
	comp=E,90nm,23.0s						
ANN	Anapa	26.38	299	eP	P	17 55 48.0	-8.3
ANN				e*PP	pP	17 56 08.8	-5.6
ANN				e		17 56 25.8	
ANN				pmax	pmax		
	comp=Z,33nm,1.2s,mb4.6						
TIXI	Tiksi	46.02	22	eP	P	17 58 45.0	+2.4
TIXI				e*PP	pP	17 59 08.1	+6.1
TIXI				e		18 00 22.0	
TIXI				e		18 00 31.9	
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.2						
PET	Petropavlovsk	60.87	44	eP	P	18 00 31.2	-0.8
PET				e		18 08 44.4	

WEL 04 17:54:47.7±0.4,35.46S×178.95E,h217^{km}±6^{km},ML3.7/3, Error ellipse: s-maj=9.4km s-min=6.9km az=90.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	2.17	194	PN	P	17 55 29.3	-0.3
MXZ				SN	S	17 56 01.1	-0.8
PUZ	Puketiti	2.67	192	PN	P	17 55 34.7	-0.3
PUZ				SN	S	17 56 10.6	-1.0
MWZ	Matawai	3.09	201	PN	P	17 55 39.7	-0.1
URZ	Urewera	3.16	207	PN	P	17 55 40.1	-0.5
URZ				SN	S	17 56 21.5	-0.1
KNZ	Kokohu	3.70	196	PN	P	17 55 46.3	-0.8
BKZ	Black Stump Fm	4.19	207	PN	P	17 55 52.5	-0.5
TSZ	Takapari Road	5.17	206	PN	P	17 56 04.3	-1.0
MRZ	Mangatainoka R	5.84	206	PN	P	17 56 11.5	-2.4
KIW	Kapiti Island	6.26	209	PN	P	17 56 17.4	-1.9
CAW	Cannon Point	6.42	207	PN	P	17 56 18.1	-3.2
TUWZ	Tuamarina	7.14	212	PN	P	17 56 29.1	-1.5
NNZ	Nelson	7.23	216	PN	P	17 56 28.9	-2.8
NNZ				SN	S	17 57 50.4	-2.6
QRZ	Quartz Range	7.37	221	PN	P	17 56 32.0	-1.5
THZ	Tophouse	7.88	215	PN	P	17 56 37.9	-2.2
THZ				SN	S	17 58 04.9	-3.1
KHZ	Kahutara	8.13	210	PN	P	17 56 40.4	-3.0
KHZ				SN	S	17 58 09.7	-4.2
LTZ	Lake Taylor	8.97	213	PN	P	17 56 51.1	-3.2
ODZ	Otahua Downs	11.48	211	PN	P	17 57 24.3	-2.1

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*WEL **04** 18:07:48.8±0.4,36.52S×179.23W,h33^{km},ML4.7/7,Error ellipse: s-maj=6.4km s-min=6.1km az=0.0*

*HRVD **04** 18:07:48.0±0.7,36.87S×179.04W,h22^{km}±1^{km},MW4.9/37, Centroid moment Tensor Solution. LP body waves: s17,c24;Mantle waves: s37,c50; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M$_{rr}$-2.53±.28; M$_{\theta\theta}$0.95±.21; M$_{\phi\phi}$1.58±.19; M$_{r\theta}$-0.97±.33; M$_{\theta\phi}$0.99±.13; M$_{\phi r}$-0.59±.26; Best double couple: M$_{0}$2.66×10^{16} NP1:ϕ_s209°,δ34°, λ-103°. NP2:ϕ_s45°,δ57°,λ-81°. Principal axes: T 2.52, Plg12°, Azm128°; N .29, Plg7°, Azm220°; P -2.81, Plg76°, Azm341°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **04** 18:07:48.0±4.6,36.63S×179.45W,h6^{km}±27^{km},mb4.9/9, ML4.6(WEL) Error ellipse: s-maj=13.9km s-min=11.4km az=219.0*

*SYO **04** 18:07:48.8,36.66S×179.43W,h12^{km},MB5.1*

*IDC **04** 18:07:53.1±0.7,36.59S×179.50W,h38^{km}±4^{km},mb4.5/7,* *mb1 4.5/9,mb1mx4.5/10,ML3.7/2,MS4.0/6,Ms1 4.0/6, ms1mx3.7/16,Error ellipse: s-maj=26.5km s-min=13.4km az=173.0*

ISC 04 18:07:49.6±0.6**,37.13S**±0.06×**179.26W**±0.08**,h39**^{km}**, h39**^{km}±2.3^{km}**:pP-P,n108,**σ**1**^{s}**42**/87**,mb4.7**/13**,MS4.1**/6**, 5C-1D,East of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.99	257	PN	P	18 08 22.6	+1.2
MXZ				SN	S	18 08 48.2	+2.9
MXZ	Matakaoa Point	1.99	257	P	P	18 08 22.8	+1.3
MXZ				S	S	18 08 47.9	+2.6
PUZ	Puketiti	2.19	244	PN	P	18 08 26.9	+2.6
PUZ				SN	S	18 08 55.3	+5.0
PUZ	Puketiti	2.19	244	eP	P	18 08 26.9	+2.6
PUZ				S	S	18 08 55.5	+5.2
MWZ	Matawai	2.82	244	PN	P	18 08 35.4	+2.1
MWZ				SN	S	18 09 10.8	+4.4
MWZ	Matawai	2.82	244	P	P	18 08 35.4	+2.1
MWZ				S	S	18 09 11.1	+4.7
KNZ	Kokohu	3.07	231	PN	P	18 08 39.4	+2.5
KNZ	Kokohu	3.07	231	eP	P	18 08 39.5	+2.6
URZ	Urewera	3.09	247	Pn	P	18 08 39.5	+2.2
	16nm,0.3s,baz=60,slow=3.0,SNR=90						
URZ				Sn	S	18 09 16.1	+2.7
	75nm,0.3s,baz=126,slow=21,SNR=23						
URZ	Urewera	3.09	247	PN	P	18 08 39.3	+2.0
URZ	Urewera	3.09	247	P	P	18 08 39.4	+2.2
BKZ	Black Stump Fm	3.92	237	PN	P	18 08 50.2	+1.2
BKZ				SN	S	18 09 38.2	+3.8
BKZ	Black Stump Fm	3.92	237	P	P	18 08 50.4	+1.5
KUZ	Kuaotunu	4.04	274	PN	P	18 08 48.3	-2.4
KUZ	Kuaotunu	4.04	274	P	P	18 08 48.7	-2.0
MKAZ	Moumakai	4.45	269	PN	P	18 08 55.8	-0.7
MKAZ	Moumakai	4.45	269	P	P	18 08 56.0	-0.5
MOVZ	Moawhango	4.54	238	PN	P	18 09 00.3	+2.5
NGZ	Ngauruhoe	4.54	242	PN	P	18 08 58.5	+0.8
TUVZ	Tukino	4.54	240	ePN	P	18 08 59.0	+1.2
CNZ	Chateau	4.58	242	ePN	P	18 08 59.3	+0.9
WNVZ	Wahianoa	4.61	240	PN	P	18 08 59.0	+0.3
TSZ	Takapari Road	4.75	231	PN	P	18 09 01.1	+0.4
HIZ	Hauiti	4.86	252	PN	P	18 09 04.0	+1.7
BFZ	Birch Farm	4.99	223	PN	P	18 09 04.4	+0.3
VRZ	Vera Road	5.12	245	PN	P	18 09 08.4	+2.4
WAZ	Wanganui	5.22	238	PN	P	18 09 08.1	+0.8
WCZ	Waipu Caves	5.29	281	PN	P	18 09 06.4	-1.9
MRZ	Mangatainoka R	5.35	227	PN	P	18 09 08.4	-0.7
PAWZ	Paruwai Farm	5.92	223	PN	P	18 09 15.4	-1.7
CAW	Cannon Point	5.94	226	PN	P	18 09 16.2	-1.1
MSWZ	Moikau Station	6.04	223	PN	P	18 09 16.9	-1.9
WEL	Wellington	6.22	226	PN	P	18 09 23.5	+2.1
MRW	Makara Radio	6.23	227	PN	P	18 09 21.3	-0.2
SNZO	South Karori	6.28	226	ePn	P	18 09 21.2	-0.9
SNZO				eSn	S	18 10 30.8	-2.7
TUWZ	Tuamarina	6.80	229	PN	P	18 09 31.4	+1.8
BSWZ	Blackbirch Sta	7.01	227	PN	P	18 09 32.3	-0.2
NNZ	Nelson	7.03	232	PN	P	18 09 31.2	-1.4
QRZ	Quartz Range	7.38	237	PN	P	18 09 37.4	-0.3
THZ	Tophouse	7.63	230	PN	P	18 09 39.5	-1.5
KHZ	Kahutara	7.66	224	PN	P	18 09 41.0	-0.4
LTZ	Lake Taylor	8.61	226	PN	P	18 09 53.5	-1.2
CRLZ	Canterbury Las	8.94	221	PN	P	18 09 57.3	-1.9
MQZ	McQueen's Vall	9.01	221	PN	P	18 09 59.1	-1.0
MQZ				SN	S	18 11 35.4	-6.1
WVZ	Waitaha Valley	9.69	229	SN	S	18 11 52.3	-6.1
RPZ	Rata Peaks	9.89	225	Pn	P	18 10 11.2	-1.1
	0.4nm,0.3s,baz=53,slow=18,SNR=3.9						
RPZ				Sn	S	18 11 56.9	-6.2
	3.8nm,0.3s,baz=72,slow=22,SNR=9.2						
LBZ	Lake Benmore	10.79	225	SN	S	18 12 18.6	-6.7
ODZ	Otahua Downs	10.97	221	PN	P	18 10 25.5	-1.6
JCZ	Jackson Bay	11.44	229	PN	P	18 10 32.8	-0.7
JCZ				SN	S	18 12 32.0	-9.0
STKA	Stephens Creek	32.52	267	eP	P	18 14 20.6	+1.6
	8.8nm,2.0s,mb4.3						
STKA	Stephens Creek	32.52	267	P	P	18 14 20.5	+1.5
	2.1nm,0.7s,mb4.2,baz=97,slow=12,SNR=4.1						
STKA				PcP	PcP	18 17 05.9	+0.7
	2.0nm,0.7s,baz=60,slow=5.7,SNR=3.4						
PPT	Papeete	32.58	61	P	P	18 14 20.5	+0.9
	20nm,0.5s,mb5.3,baz=45,slow=3.3,SNR=3.8						
CTA	Charters Tower	34.47	290	eP	P	18 14 34.4	-1.5
	11nm,1.0s,mb4.8						
CTA				e	pP	18 14 47.5	+0.7
CTA	Charters Tower	34.47	290	P	P	18 14 35.2	-0.7
	18nm,1.1s,mb4.9,baz=140,slow=8.4,SNR=7.8						
CTA				pP	pP	18 14 46.5	-0.3
	20nm,0.9s,baz=126,slow=8.8,SNR=8.3						
CTAO	Charters Tower	34.47	290	eP	P	18 14 34.4	-1.5
	27nm,1.0s,mb5.1						
ASAR	Alice Springs	42.17	275	P	P	18 15 39.9	-0.4
	27nm,0.8s,mb4.9,baz=119,slow=7.8,SNR=254						
ASAR				pP	pP	18 15 51.7	+0.4
	38nm,0.9s,baz=118,slow=7.8,SNR=22						
ASAR				S	S	18 21 55.5	-1.7
	4.2nm,1.4s,baz=111,slow=12,SNR=4.3						
ASAR				LR	LR	18 31 03.8	
	comp=Z,127nm,19.3s,MS3.8,baz=140,slow=33						
ASPA	Alice Springs	42.17	275	eP	P	18 15 40.4	+0.2
ASPA				epP	pP	18 15 51.8	+0.5
ASPA				esP	sP	18 15 58.5	+2.5
ASPA				eS	S	18 21 54.9	-2.3
WB2	Warramunga Arr	43.75	280	eP	P	18 15 52.5	-0.7
WB2				epP	pP	18 16 04.5	+0.3
WRAB	Tennant Creek	43.75	280	eP	P	18 15 52.5	-0.7
	42nm,1.0s,mb5.1						
WRA	Warramunga Arr	43.76	280	P	P	18 15 52.0	-1.2
	7.8nm,0.6s,mb4.6,baz=120,slow=7.5,SNR=271						
WRA				pP	pP	18 16 03.9	-0.4
	10nm,0.5s,baz=120,slow=7.7,SNR=21						
WRA				PcP	PcP	18 17 40.8	+0.8
	5.0nm,1.0s,baz=123,slow=3.6,SNR=8.8						
WRA				S	S	18 22 19.0	-1.5
	0.6nm,0.9s,baz=116,slow=16,SNR=3.8						
CASY	Casey	48.77	210	eP	P	18 16 37.5	+5.3
	8.8nm,1.0s,mb4.7						
CASY				e	pP	18 16 47.9	+4.6
NWAO	Narrogin (SRO)	51.32	255	LR	LR	18 37 32.6	
	comp=Z,155nm,19.6s,MS4.0,baz=287,slow=35						
FITZ	Fitzroy Crossi	51.65	276	eP	P	18 16 54.3	-0.5
	6.1nm,0.8s,mb4.6						
FITZ	Fitzroy Crossi	51.65	276	LR	LR	18 40 02.3	
	comp=Z,156nm,18.4s,MS4.1,baz=110,slow=38						
QSPA	South Pole Qui	53.00	180	eP	P	18 17 11.7	+7.6
	19nm,1.0s,mb5.0						
MBWA	Marble Bar	54.74	269	eP	P	18 17 17.0	-0.7
	25nm,1.1s,mb5.2						
MBWA				e	pP	18 17 26.3	-2.7
MAW	Mawson	65.67	202	P	P	18 18 35.8	+4.2
	1.9nm,0.6s,mb4.3,baz=111,slow=8.3,SNR=6.0						
MAW				LR	LR	18 46 06.3	
	comp=Z,120nm,20.7s,MS4.1,baz=237,slow=35						
SYO	Syowa Base	70.34	194	⇑P	P	18 19 04.7	+4.0
SYO	Syowa Base	70.34	194	⇓pP	pP	18 19 05.5	-6.8
SNAA	Sanae	71.47	179	⇑iP	P	18 19 11.8	+4.3
SNAA				e	pP	18 19 22.2	+3.0
VNA3	Neumayer Olymp	71.68	176	⇑i	P	18 19 17.0	+8.3
VNA2	Neumayer--Watz	72.09	177	⇑i	P	18 19 19.9	+8.8
VNA1	Neumayer--Stat	72.33	177	⇑i	P	18 19 21.7	+9.2
ASAJ	Asahikawa	87.95	334	LR	LR	18 58 16.7	
	comp=Z,112nm,18.5s,MS4.3,baz=202,slow=35						
CMB	Columbia Colle	92.44	43	eP	P	18 20 58.8	+1.3
	6.4nm,1.1s,mb4.9						
CPUP	Villa Florida	96.56	130	pP	pP	18 21 33.0	+4.4
	2.2nm,0.9s,baz=195,slow=4.9,SNR=2.8						
CPUP				LR	LR	18 56 42.1	
	comp=Z,64nm,18.5s,MS4.1,baz=218,slow=30						
TXAR	Lajitas Array	96.85	58	P	P	18 21 18.6	+0.8
	0.4nm,0.9s,mb3.8,baz=207,slow=8.4,SNR=4.1						
PDAR	Pinedale Array	101.68	45	P	P	18 21 41.8	+2.4
	0.4nm,0.9s,baz=256,slow=3.7,SNR=2.4						
MKAR	Makanchi Array	121.16	307	PKP	PKPdf	18 26 40.0	+1.8
	2.5nm,0.8s,baz=90,slow=1.2,SNR=24						
MKAR				pPKP		18 26 50.9	
	2.6nm,0.9s,baz=90,slow=4.9,SNR=8.0						
KURK	Kurchatov	124.79	311	eP	PKPdf	18 26 46.8	+1.8
KURK				e		18 26 57.8	
KMBO	Kilima Mbogo	129.09	230	PKP	PKPdf	18 26 58.4	+4.1
	0.5nm,0.6s,baz=236,slow=22,SNR=2.9						
ARU	Arti	137.41	316	ePKPdf	PKPdf	18 27 09.6	+0.9
HILS	Ha'il	144.19	266	P	PKPbc	18 27 23.7	+2.9
ARCES	ARCESS Array B	144.87	345	PKP	PKPdf	18 27 22.8	+1.4
	3.2nm,0.6s,baz=27,slow=2.6,SNR=22						
KBRS	Khaybar	145.47	262	P	PKPdf	18 27 28.4	+4.6
DBIC	Dimbokro	149.26	169	PKPbc	PKPdf	18 27 40.0	+10
	7.6nm,1.0s,baz=112,slow=1.8,SNR=4.2						
OBN	Obninsk	149.79	318	ePKPbc	PKPdf	18 27 37.3	+7.4
BDAS	Al Bad'	149.97	263	P	PKPdf	18 27 39.9	+8.9
MALT	Malatya	150.30	284	ePKPbc	PKPdf	18 27 39.8	+8.6
HAQS	Haql	150.37	264	P	PKPdf	18 27 41.1	+9.5
KAF	Kangasniemi	150.39	336	epkp	PKPdf	18 27 37.3	+6.7
	baz=41,slow=2.3						
EIL	Elat	150.60	265	ePKPbc	PKPdf	18 27 41.0	+9.0
FINES	FINESS Array B	150.95	335	PKPbc	PKPdf	18 27 39.2	+7.8
	12nm,0.9s,baz=90,slow=3.8,SNR=38						
FINES				pPKPbc		18 27 51.0	
	9.6nm,1.0s,baz=117,slow=4.3,SNR=5.9						
BRTR	Keskin Array B	154.17	286	PKPbc	PKPdf	18 27 48.3	+12
	2.9nm,0.9s,baz=162,slow=3.9,SNR=13						
BRTR				pPKPbc		18 27 59.1	
	3.7nm,1.0s,baz=164,slow=4.9,SNR=6.3						
BRTR				pPKPab		18 28 11.9	
	2.2nm,1.0s,baz=180,slow=4.9,SNR=3.4						
NB2	NORSAR Subarra	155.17	348	PKP		18 27 48.8	
	3.2nm,1.0s,baz=17,slow=2.6						
NOA	NORSAR Array B	155.17	348	PKPbc	PKPdf	18 27 48.5	+11
	1.9nm,0.9s,baz=16,slow=3.9,SNR=4.6						
NOA				PKPab	PKPab	18 28 03.2	-1.5
	2.0nm,0.8s,baz=26,slow=3.4,SNR=5.9						
NOA				pPKPab		18 28 14.8	
	3.3nm,0.9s,baz=25,slow=3.1,SNR=7.2						
NOA	NORSAR Array B	155.17	348	PKPbc	PKPdf	18 27 48.5	+11
NOA				PKPab	PKPab	18 28 03.2	-1.5
NOA				pPKPab		18 28 14.8	
AKASG	Malin Array Be	155.58	313	PKPbc	PKPdf	18 27 50.2	+12
	1.6nm,0.7s,baz=52,slow=2.4,SNR=7.6						
AKASG				PKPab	PKPab	18 28 05.2	-1.6
	8.3nm,0.9s,baz=52,slow=4.6,SNR=15						
AKASG				pPKPab		18 28 16.5	
	7.0nm,0.9s,baz=51,slow=4.6,SNR=11						
CRVS	Cervenica-Dubn	160.88	315	ePKP	PKPab	18 28 30.3	+0.6
CRVS				e		18 28 41.7	
CRVS				e		18 32 45.9	
OKC	Ostrava-Krasne	162.14	321	ePKPab	PKPab	18 28 34.7	-0.4
OKC				epPKP		18 28 44.5	
VYHS	Vyhne	162.57	316	ePKP	PKPab	18 28 37.3	+0.3
VYHS				e		18 28 48.1	
DPC	Dobruska-Polom	162.69	325	ePKPab	PKPab	18 28 36.7	-0.7
DPC				epPKP		18 28 47.6	
UPC	Upice	162.72	326	ePKPab	PKPab	18 28 37.4	-0.2
UPC				epPKP		18 28 47.5	
CLL	Collm	163.35	332	ePKP2	PKPab	18 28 39.0	-1.3
PRU	Pruhonice	163.75	327	ePKPab	PKPab	18 28 41.5	-0.6
PRU				epPKP		18 28 52.1	
NKC	Novy Kostel	164.43	331	ePKPab	PKPab	18 28 44.1	-0.9
NKC				epPKP		18 28 51.9	
KHC	Kasperske Hory	164.80	326	ePKPab	PKPab	18 28 46.4	-0.3
KHC				epPKP		18 28 57.0	
GERES	GERESS Array B	164.96	325	PKPab	PKPab	18 28 45.9	-1.4
	2.6nm,0.7s,baz=34,slow=4.8,SNR=27						
GERES				pPKPab		18 28 57.3	
	2.9nm,0.8s,baz=45,slow=3.8,SNR=12						

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*NIED **04** 18:25:00,41.90N×142.30E,h59^{km},Mw4.7 Best double couple: M$_0$1.36×10^{16} NP1:ϕ_s17°,δ66°,λ73°. NP2:ϕ_s235°, δ29°,λ124°.*

*MOS **04** 18:25:28.4±1.0,41.89N×142.22E,h59^{km},mb4.9/21,Error ellipse: s-maj=14.5km s-min=6.8km az=109.9*

*JMA **04** 18:25:29.7±0.2,41.93N×142.30E,h69^{km}±3^{km},M4.5 Broadband fault plane solution: P waves. NP1:ϕ_s175°,δ7°, λ49°. NP2:ϕ_s36°,δ85°,λ94°. Principal axes: T Plg50°, Azm311°; N Plg4°, Azm216°; P Plg40°, Azm122°;*

JMA Felt III J1.

*BJI **04** 18:25:30.5,41.81N×142.20E,h85^{km},mB5.0,mb4.9, Ms3.9,Msz3.7*

*IDC **04** 18:25:32.0±0.4,42.01N×142.20E,h74^{km}±3^{km},mb4.2/23, mb1 4.4/27,mb1mx4.4/28,MS3.8/13,Ms1 3.8/13, ms1mx3.6/22,Error ellipse: s-maj=12.4km s-min=7.1km az=99.0*

*NEIC **04** 18:25:32.5±0.7,41.97N×142.18E,h79^{km}±6^{km},mb4.8/73, MW4.7(NIED),Error ellipse: s-maj=5.5km s-min=4.6km az=118.0*

NEIC Recorded [3 JMA] in the Monbetsu area, [2 JMA] in the Shizunai area and [1 JMA] in the Chitose-Noboribetsu-Tomakomai and Churui-Obihiro areas. Also recorded [2 JMA] in Aomori and [1 JMA] in Iwate Prefecture, Honshu.

ISC 04 18:25:29.6±0.3**,41.93N**±0.03×**142.26E**±0.03**,h68**^{km}±2^{km}**, h73**^{km}±1.2^{km}**:pP-P,n283,**σ**1**^{s}**00**/284**,mb4.7**/111**,16C-18D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JNBK	Urakawa-nobuka	0.51	46	⇑P	P	18 25 41.8	-0.7
JEM	Erimo	0.68	82	⇑P	P	18 25 44.2	0.0
JEM				eS	S	18 25 54.9	-0.2
JBT2	Biratori 2	0.86	5	⇓P	P	18 25 46.2	-0.2
JBT2				eS	S	18 25 58.6	-0.2
JKB	Kayabe	0.92	268	⇓P	P	18 25 47.4	+0.2
JKB				eS	S	18 25 59.8	-0.4
JNB	Noboribetsu	1.06	301	⇓P	P	18 25 48.7	-0.3
JNB				eS	S	18 26 03.4	0.0
JOT	Ohata	1.06	239	⇓P	P	18 25 49.4	+0.4
JOT				eS	S	18 26 03.7	+0.3
JCH	Churui	1.07	50	⇑P	P	18 25 49.1	-0.1
JCH				eS	S	18 26 03.8	+0.1
JEW	Eniwo	1.09	327	⇓P	P	18 25 49.9	+0.4
JFR	Furan	1.26	11	⇓P	P	18 25 51.3	-0.5
JYM2	Yakumo 2	1.42	278	P	P	18 25 54.0	0.0
JSR	Shiriuchi	1.43	255	P	P	18 25 54.4	+0.2
JSR				eS	S	18 26 14.1	+1.8
JTM	Tenmabayashi	1.45	219	P	P	18 25 55.0	+0.6
JOB	Onbets	1.52	50	P	P	18 25 55.9	+0.5
JOB				eS	S	18 26 15.5	+1.1
JAB	Ashibetsu	1.58	359	⇓P	P	18 25 56.4	+0.3
JANG	Nango	1.65	200	P	P	18 25 57.8	+0.7
JANG				eS	S	18 26 17.9	+0.6
JAR	Ashorobuto	1.77	39	P	P	18 25 58.4	-0.3
JAR				eS	S	18 26 19.9	-0.2
JHR	Hokuryu	1.86	348	⇓P	P	18 26 00.6	+0.7
ASAJ	Asahikawa	2.20	6	P	P	18 26 05.0	+0.2
	111nm,0.3s,baz=215,slow=9.1,SNR=442						
ASAJ				S	S	18 26 30.4	-0.4
	65nm,0.3s,baz=9.4,slow=31,SNR=7.0						
ASAJ	Asahikawa	2.20	6	P	P	18 26 05.0	+0.2
ASAJ				S	S	18 26 30.5	-0.3
ASAJ				pmax	pmax		
	comp=Z,111nm,0.3s						
ASAJ				smax			
	comp=N,65nm,0.3s						
YSS	Yuzh-Sakhalins	5.04	4	⇓iP	P	18 26 45.3	+0.9
YSS				e		18 27 41.0	
YSS				pmax	pmax		
	comp=Z,70nm,0.7s						
YSS				MLR	MLR		
	comp=Z,500nm,20.0s						
YSS				MLR	MLR		
	comp=N,500nm,18.0s						
YSS	Yuzh-Sakhalins	5.04	4	ePn	P	18 26 45.1	+0.7
KUR	Kuril'sk	5.25	49	eP	P	18 26 45.2	-2.1
KUR				i S	S	18 27 46.0	-1.1
KUR				pmax	pmax		
	comp=N,240nm,0.6s						
KUR				pmax	pmax		
	comp=E,270nm,0.6s						
KUR				pmax	pmax		
	comp=Z,350nm,0.6s						
KUR				smax			
	comp=N,5µm,2.0s						
KUR				smax			
	comp=E,3µm,2.0s						
KUR				smax			
	comp=N,400nm,0.6s						
KUR				smax			
	comp=E,500nm,0.6s						
MAJO	Matsushiro	6.23	212	ePn	P	18 27 02.2	+1.3
MAT	Matsushiro	6.23	212	P	P	18 27 02.3	+1.4
MAT				S	S	18 28 08.5	-2.9
MAT	Matsushiro	6.23	212	eP	P	18 27 02.0	+1.1
	comp=E,42nm,0.8s						
MAT				eS	S	18 28 19.0	+7.6
JHJ	Hachijo jima 2	9.01	193	P	P	18 27 36.4	-2.9
	comp=E,20nm,0.3s,baz=24,slow=12,SNR=6.2						
JHJ				S	S	18 29 11.0	-9.1
	comp=E,38nm,0.3s,baz=265,slow=22,SNR=4.6						
JHJ				LR	LR	18 31 44.1	
	comp=E,211nm,19.9s,baz=336,slow=41						
MDJ	Mudanjiang	9.62	290	P	P	18 27 49.5	+1.9
MDJ				PCP	PcP	18 33 51.8	-6.6
MDJ				PCS		18 37 25.9	
MDJ				AMB	AMB		
	comp=Z,28nm,1.1s						
MDJ				AMB	AMB		
	comp=Z,91nm,4.2s						
MDJ				LR	LR		
	comp=N,129nm,25.0s						
MDJ				LR	LR		
	comp=E,309nm,32.7s						
MDJ				LR	LR		
	comp=Z,448nm,31.1s						
MDJ	Mudanjiang	9.62	290	ePn	P	18 27 49.8	+2.3
KLR	Kul'dur	10.37	318	eP	P	18 27 59.3	+1.7
KLR				MLR	MLR		
	comp=E,500nm,14.0s						
CN2	Changchun	12.48	284	eP	P	18 28 28.4	+2.3
CN2				AMB	AMB		
	comp=Z,100nm,1.0s						
JNU	Nakatsue	12.59	229	P	P	18 28 26.9	-0.7
	comp=Z,0.5nm,0.3s,baz=82,slow=7.1,SNR=3.8						
JNU				LR	LR	18 33 56.0	
	comp=Z,236nm,19.3s,baz=50,slow=40						
CBIJ	Chichi jima	14.79	180	P	P	18 28 53.6	-2.8
	comp=Z,7.4nm,0.3s,baz=254,slow=22,SNR=2.1						
CBIJ				S	S	18 31 30.4	-8.5
	comp=Z,16nm,0.3s,baz=278,slow=22,SNR=4.1						
PET	Petropavlovsk	15.64	39	eP	P	18 28 53.8	-13
PET				pmax	pmax		
	comp=Z,11nm,0.8s						
PET				pmax	pmax		
	comp=Z,100nm,8.6s						
PET				MLR	MLR		
	comp=Z,200nm,17.0s						
HIA	Hailar	17.34	303	eP	P	18 29 27.3	-1.1
	comp=Z,12nm,0.9s						
MA2	Magadan	18.45	14	eP	P	18 29 39.0	-2.7
	comp=Z,20nm,1.0s						
CLNS	Chul'man	18.64	329	eP	P	18 29 41.7	-2.3
CLNS				eSS	SS	18 33 08.5	-24
CLNS				pmax	pmax		
	comp=Z,32nm,0.7s						
CLNS				pmax	pmax		
	comp=N,15nm,0.8s						
CLNS				pmax	pmax		
	comp=E,11nm,0.7s						
CLNS				pmax	pmax		
	comp=N,12nm,0.8s						
CLNS				pmax	pmax		
	comp=Z,12nm,0.8s						
CLNS				pmax	pmax		
	comp=E,9.0nm,0.6s						
CLNS				MLR	MLR		
	comp=Z,200nm,14.0s						
CLNS				MLR	MLR		
	comp=N,200nm,13.0s						
CLNS				MLR	MLR		
	comp=E,100nm,14.0s						
BJI	Beijing	19.76	273	P	P	18 29 53.9	-2.6
BJI				AMB	AMB		
	comp=Z,35nm,1.1s						
BJI				LR	LR		
	comp=N,398nm,10.2s						
BJI				LR	LR		
	comp=E,280nm,14.3s						
BJI				LR	LR		
	comp=Z,423nm,27.2s						
BJT	Baijiatuau	19.77	273	eP	P	18 29 54.3	-2.4
	comp=Z,65nm,1.1s						
TIA	Tai'an	20.30	262	P	P	18 30 00.0	-2.2
TIA				AMB	AMB		
	comp=Z,24nm,1.0s						
NJ2	Nanjing	21.08	250	eP	P	18 30 08.4	-1.8
YAK	Yakutsk	21.50	344	eP	P	18 30 10.0	-4.2
YAK				i *PP		18 30 30.2	
YAK				eS	S	18 34 00.4	-3.0
YAK				i		18 34 11.0	
YAK				e		18 41 32.7	
YAK				pmax	pmax		
	comp=Z,20nm,0.8s,mb4.5						
YAK				pmax	pmax		
	comp=N,18nm,1.7s						
YAK				smax			
	comp=N,54nm,1.8s						
YAK				smax			
	comp=Z,6.0nm,0.9s						
YAK				smax			
	comp=E,17nm,1.1s						
YAK	Yakutsk	21.50	344	eP	P	18 30 10.1	-4.1
	comp=E,39nm,0.7s,mb4.8						
HHC	Hu-ho-hao-te	23.00	278	eP	P	18 30 32.2	+3.2
HHC				AP		18 30 50.8	
HHC				XP		18 31 00.9	
HHC				S	S	18 34 35.0	+4.5
HHC				XS		18 35 05.9	
HHC				PCS		18 37 56.1	
HHC				AMB	AMB		
	comp=Z,7.0nm,0.6s,mb4.2						
HHC				AMB	AMB		
	comp=Z,147nm,5.2s						
HHC				LR	LR		
	comp=Z,161nm,12.5s						
BOD	Bodaibo	23.92	321	eP	P	18 30 35.3	-2.4
WHN	Wuhan	25.10	252	P	P	18 30 48.5	-1.0
SONM	Songino Array	25.93	295	P	P	18 30 57.2	+0.2
	comp=Z,7.0nm,0.5s,mb4.4,baz=75,slow=8.0,SNR=53						
SONM				pP	pP	18 31 13.4	+0.5
	comp=Z,2.7nm,0.7s,baz=90,slow=9.9,SNR=3.5						
SONM				PcP	PcP	18 34 24.4	-0.3
	comp=Z,0.9nm,0.4s,baz=118,slow=2.0,SNR=6.4						
SONM				ScP		18 37 57.9	
	comp=Z,0.7nm,0.8s,baz=134,slow=2.3,SNR=4.4						
XAN	Xi'an	27.30	264	P	P	18 31 07.1	-2.7
XAN				AMB	AMB		
	comp=Z,16nm,1.2s,mb4.4						
ZAK	Zakamensk	28.02	301	⇑eP	P	18 31 15.5	-0.6
ENH	Enshi	28.75	257	eP	P	18 31 20.7	-2.1
	comp=Z,27nm,0.9s,mb4.9						
ENH				ePcP	PcP	18 34 31.7	0.0
MOY	Mondy	29.52	304	eP	P	18 31 29.4	-0.1
TIXI	Tiksi	30.53	352	eP	P	18 31 30.6	-7.6
TIXI				i		18 32 36.1	
TIXI				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.2						
GTA	Gaotai	32.05	280	eP	P	18 31 51.7	-0.2
GTA				AP	pP	18 32 09.9	+1.5
GTA				PP	PP	18 32 58.3	-1.7
GTA				PCP	PcP	18 34 41.1	+0.9
GTA				S	S	18 36 59.0	+1.1
GTA				PCS		18 38 25.2	
GTA				SS	SS	18 38 53.1	-1.4
GTA				AMB	AMB		
	comp=Z,3.0nm,0.8s,mb4.1						
GTA				AMB	AMB		
	comp=Z,76nm,5.7s						
GTA				LR	LR		
	comp=N,77nm,15.2s						
GTA				LR	LR		
	comp=E,68nm,16.7s						
GTA				LR	LR		
	comp=Z,128nm,19.0s						
GYA	Guiyang	32.97	254	P	P	18 31 58.8	-1.2
GYA				PCP	PcP	18 34 43.4	+0.6
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
KMI	Kunming	36.59	255	eP	P	18 32 30.8	-0.1
KMI				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.7						
KMI				LR	LR		
	comp=Z,121nm,24.4s						
ZAL	Zalesovo	39.27	308	LR	LR	18 50 02.7	
	comp=Z,397nm,19.5s,baz=219,slow=38						
WMQ	Urumqi	39.42	292	P	P	18 32 55.0	+0.7
WMQ				AMB	AMB		
	comp=Z,14nm,1.0s,mb4.8						
WMQ				LR	LR		
	comp=E,108nm,20.0s						
WMQ				LR	LR		
	comp=Z,112nm,20.0s						
NVS	Novosibirsk	40.08	310	i P	P	18 32 58.3	-1.3

NVS				*i*	pP	18 33 16.1	-0.4
NVS				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.7						
NVS				pmax	pmax		
	comp=N,3.0nm,1.1s						
NVS				pmax	pmax		
	comp=E,9.0nm,0.9s						
NANT	**Nan**	**42.08**	**250**	⇑P	**P**	**18 33 17.0**	**+0.6**
	comp=E,58nm,0.5s,mb5.6						
MKAR	**Makanchi Array**	**42.24**	**298**	P	**P**	**18 33 17.4**	**0.0**
	comp=E,14nm,0.7s,mb4.8,baz=83,slow=9.3,SNR=134						
MKAR				pP	pP	18 33 34.7	+0.3
	comp=E,4.2nm,0.5s,baz=56,slow=8.7,SNR=6.5						
MKAR				PcP	PcP	18 35 10.6	-0.4
	comp=E,1.5nm,0.6s,baz=72,slow=4.6,SNR=3.6						
MKAR				ScP		18 38 53.3	
	comp=E,0.4nm,0.7s,baz=63,slow=6.4,SNR=3.0						
MKAR				LR	LR	18 50 47.5	
	comp=E,56nm,21.0s,baz=113,slow=36						
MKAR	**Makanchi Array**	**42.24**	**298**	*i* P	**P**	**18 33 17.4**	**0.0**
MKAR				pmax	pmax		
	comp=Z,14nm,0.7s						
MKAR	**Makanchi Array**	**42.24**	**298**	P	**P**	**18 33 17.4**	**0.0**
MKAR				pP	pP	18 33 34.7	+0.3
MKAR				PcP	PcP	18 35 10.6	-0.4
MKAR				ScP		18 38 53.3	
MKAR				LR	LR	18 50 47.5	
LSA	**Lhasa**	**42.63**	**270**	P	**P**	**18 33 22.8**	**+2.0**
LSA	**Lhasa**	**42.63**	**270**	*e*P	**P**	**18 33 22.8**	**+2.0**
	comp=Z,16nm,1.0s,mb4.7						
RSO	**Redoubt South**	**42.73**	**41**	*e*P	**P**	**18 33 23.5**	**+2.3**
CHG	**Chiang Mai**	**43.31**	**251**	P	**P**	**18 33 27.5**	**+1.0**
KURK	**Kurchatov**	**43.57**	**304**	P	**P**	**18 33 27.2**	**-1.0**
	comp=Z,274nm,0.5s,mb6.2,SNR=31						
KURK	**Kurchatov**	**43.57**	**304**	*i* P	**P**	**18 33 28.1**	**-0.1**
KURK				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.7						
KURK	**Kurchatov**	**43.57**	**304**	*e*P	**P**	**18 33 27.4**	**-0.8**
	comp=Z,37nm,0.8s,mb5.2						
MCK	**McKinley**	**44.26**	**36**	*e*P	**P**	**18 33 33.5**	**-0.1**
	comp=Z,4.3nm,0.9s,mb4.2						
SHL	**Shillong**	**44.31**	**265**	*e*P	**P**	**18 33 34.5**	**0.0**
COLA	**College**	**44.64**	**35**	*e*P	**P**	**18 33 37.4**	**+0.8**
COLA	**College**	**44.64**	**35**	*e*P	**P**	**18 33 36.9**	**+0.3**
	comp=Z,13nm,1.0s,mb4.6						
VOSK	**Vostochnaya**	**47.62**	**309**	P	**P**	**18 33 59.9**	**-0.4**
VOSK				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
BVA0	**Borovoye Array**	**47.87**	**309**	*i* P	**P**	**18 34 01.9**	**-0.4**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.0						
BVAR	**Borovoye Array**	**47.87**	**309**	P	**P**	**18 34 01.8**	**-0.5**
	comp=Z,16nm,0.4s,mb5.2,baz=78,slow=9.0,SNR=161						
BVAR				PcP	PcP	18 35 30.0	-0.3
	comp=Z,2.6nm,0.5s,baz=90,slow=4.4,SNR=4.2						
BRVK	**Borovoye**	**47.92**	**309**	*e*P	**P**	**18 34 02.2**	**-0.5**
	comp=Z,10nm,0.6s,mb4.8						
KKN	**Kakani**	**48.01**	**272**	*e*P	**P**	**18 34 04.3**	**+0.6**
	comp=Z,61nm,0.8s,mb5.5						
TKM2	**Tokmak 2**	**48.02**	**295**	P	**P**	**18 34 04.2**	**+0.6**
	SNR=29						
PKI	**Pulchoki**	**48.03**	**272**	*e*P	**P**	**18 34 04.1**	**+0.2**
	comp=Z,35nm,0.8s,mb5.3						
DMN	**Daman**	**48.24**	**272**	*e*P	**P**	**18 34 05.9**	**+0.4**
	comp=Z,47nm,0.8s,mb5.4						
GKN	**Gorkha**	**48.37**	**273**	*e*P	**P**	**18 34 06.3**	**-0.2**
	comp=Z,39nm,0.4s,mb5.6						
KBK	**Karagaybulak**	**48.56**	**295**	P	**P**	**18 34 08.2**	**+0.4**
	SNR=21						
KZA	**Kyzart**	**48.59**	**294**	P	**P**	**18 34 09.7**	**+1.7**
	SNR=6.2						
USP	**Ospenovka**	**48.63**	**296**	P	**P**	**18 34 08.3**	**0.0**
	SNR=13						
ZRNK	**Zerenda**	**48.69**	**310**	P	**P**	**18 34 08.3**	**-0.3**
ZRNK				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.8						
AAK	**Ala-Archa**	**48.88**	**295**	P	**P**	**18 34 10.3**	**0.0**
	SNR=7.7						
AAK	**Ala-Archa**	**48.88**	**295**	*e*P	**P**	**18 34 09.2**	**-1.1**
	comp=Z,7.2nm,0.6s,mb4.8						
KOLN	**Koldanda**	**49.27**	**273**	*e*P	**P**	**18 34 13.6**	**+0.1**
	comp=Z,30nm,0.4s,mb5.5						
EKS2	**Erkin-Say**	**49.35**	**295**	P	**P**	**18 34 13.8**	**-0.1**
	SNR=17						
AML	**Almayashu**	**49.63**	**295**	P	**P**	**18 34 16.9**	**+0.9**
	SNR=9.7						
INK	**Inuvik**	**49.77**	**29**	P	**P**	**18 34 15.9**	**-0.8**
	comp=Z,2.8nm,0.4s,mb4.5,baz=299,slow=5.4,SNR=26						
INK				pP	pP	18 34 33.3	-0.7
	comp=Z,3.7nm,0.4s,baz=314,slow=4.2,SNR=4.1						
INK	**Inuvik**	**49.77**	**29**	P	**P**	**18 34 15.9**	**-0.8**
INK				*PP	pP	18 34 33.3	-0.7
INK				pmax	pmax		
	comp=Z,3.0nm,0.4s						
INK				pmax	pmax		
	comp=N,4.0nm,0.4s						
INK	**Inuvik**	**49.77**	**29**	*e*P	**P**	**18 34 15.8**	**-0.9**
	comp=N,4.1nm,0.5s,mb4.6						
KKAR	**Karatay Array**	**51.36**	**297**	*e*P	**P**	**18 34 28.4**	**-0.8**
KKAR				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb5.0						
ARU	**Arti**	**53.20**	**316**	P	**P**	**18 34 42.5**	**-0.2**
	comp=Z,138nm,0.9s,mb6.0,SNR=20						
ARU	**Arti**	**53.20**	**316**	⇑*i*P	**P**	**18 34 42.1**	**-0.6**
ARU				*i*		18 35 48.8	
ARU				*e*		18 36 39.5	
ARU				*e*PPP	PPP	18 37 51.0	-1.6
ARU				*e*S	**S**	**18 41 59.1**	**-7.7**
ARU				pmax	pmax		
	comp=Z,22nm,0.9s,mb5.2						
ARU	**Arti**	**53.20**	**316**	*e*P	**P**	**18 34 41.5**	**-1.2**
	comp=Z,30nm,1.0s,mb5.3						
ARU				*e*	pP	18 35 02.0	+1.8
ARU				*e*PcP	PcP	18 35 48.8	-1.1
AB31	**Akbulak array**	**55.37**	**308**	*e*P	**P**	**18 34 57.6**	**-1.1**
AB31				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb5.0						
RES	**Resolute Bay**	**57.71**	**15**	*e*P	**P**	**18 35 12.9**	**-2.2**
	comp=Z,9.7nm,0.7s,mb4.9						
HYB	**Hyderabad**	**59.09**	**266**	*i* P	**P**	**18 35 25.0**	**-0.3**
HYB	**Hyderabad**	**59.09**	**266**	*e*P	**P**	**18 35 25.0**	**-0.3**
KEV	**Kevo**	**59.12**	**338**	*e*p	**P**	**18 35 21.5**	**-3.3**
YKW3	**Yellowknife Ar**	**59.24**	**32**	*e*P	**P**	**18 35 24.7**	**-1.1**
YKA	**Yellowknife Ar**	**59.28**	**32**	P	**P**	**18 35 25.0**	**-1.0**
	comp=Z,2.5nm,0.5s,mb4.5,baz=304,slow=6.6,SNR=15						
YKA				pP	pP	18 35 44.2	+0.4
	comp=Z,1.3nm,0.7s,baz=300,slow=6.6,SNR=3.0						
YKA				LR	LR	19 03 41.7	
	comp=Z,48nm,20.6s,baz=270,slow=39						
YKA	**Yellowknife Ar**	**59.28**	**32**	P	**P**	**18 35 25.0**	**-1.0**
YKA				*PP	pP	18 35 44.2	+0.4
YKA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
YKA				pmax	pmax		
	comp=N,1.0nm,0.7s						
YKA				MLR	MLR		
	comp=Z,48nm,20.6s						
YKA	**Yellowknife Ar**	**59.28**	**32**	P	**P**	**18 35 25.1**	**-1.0**
YKA				pP	pP	18 35 44.2	+0.4
YKA				LR	LR	19 03 41.7	
ARCES	**ARCESS Array B**	**59.67**	**339**	P	**P**	**18 35 27.3**	**-1.3**
	comp=Z,1.7nm,0.5s,mb4.3,baz=51,slow=8.2,SNR=22						
ARCES				pP	pP	18 35 45.7	-0.7
	comp=Z,1.9nm,0.6s,baz=45,slow=7.7,SNR=2.1						
ARCES				LR	LR	19 05 43.0	
	comp=Z,61nm,21.7s,baz=266,slow=40						
ARCES	**ARCESS Array B**	**59.67**	**339**	P	**P**	**18 35 27.3**	**-1.3**
ARCES				*PP	pP	18 35 45.7	-0.8
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ARCES				pmax	pmax		
	comp=N,2.0nm,0.6s						
ARCES				MLR	MLR		
	comp=Z,61nm,21.7s						
ARCES	**ARCESS Array B**	**59.67**	**339**	P	**P**	**18 35 27.3**	**-1.4**
ARCES				pP	pP	18 35 45.7	-0.7
ARCES				LR	LR	19 05 43.0	
KTK1	**Kautokeino**	**60.62**	**339**	*e*P	**P**	**18 35 34.6**	**-0.5**
KTK1				AMb	AMB	18 35 41.5	
	comp=Z,28nm,2.0s,mb4.9						
KTK1				*e*pP	pP	18 35 54.7	+1.6
TRO	**Tromso**	**61.32**	**341**	*e*P	**P**	**18 35 38.1**	**-1.7**
TRO				AMb	AMB	18 35 40.1	
	comp=Z,40nm,1.3s,mb5.3						
FITZ	**Fitzroy Crossi**	**61.67**	**198**	P	**P**	**18 35 42.2**	**-0.7**
	comp=Z,3.4nm,0.9s,mb4.4,baz=63,slow=9.0,SNR=3.6						
FITZ				pP	pP	18 36 01.5	+0.7
	comp=Z,2.5nm,0.7s,baz=61,slow=5.2,SNR=3.0						
CTA	**Charters Tower**	**61.81**	**176**	P	**P**	**18 35 43.2**	**-0.6**
	comp=Z,3.7nm,1.1s,mb4.3,baz=321,slow=9.1,SNR=1.9						
CTA	**Charters Tower**	**61.81**	**176**	P	**P**	**18 35 43.2**	**-0.6**
CTA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
CTA	**Charters Tower**	**61.81**	**176**	P	**P**	**18 35 43.2**	**-0.6**
CTAO	**Charters Tower**	**61.81**	**176**	P	**P**	**18 35 48.4**	**+4.7**
	comp=Z,4.4nm,1.0s,mb4.4						
WRAB	**Tennant Creek**	**61.98**	**188**	*e*P	**P**	**18 35 43.6**	**-1.3**
	comp=Z,12nm,0.8s,mb5.0						
WRAB				*e*		18 35 51.2	
WRAB				*e*	pP	18 36 03.6	+0.8
WB2	**Warramunga Arr**	**61.99**	**188**	*e*P	**P**	**18 35 43.7**	**-1.3**
WRA	**Warramunga Arr**	**61.99**	**188**	P	**P**	**18 35 43.7**	**-1.3**
	comp=Z,3.3nm,0.5s,mb4.6,baz=6.5,slow=6.9,SNR=93						
WRA				pP	pP	18 36 03.8	+0.9
	comp=Z,4.5nm,0.6s,baz=7.5,slow=6.9,SNR=10.0						
WRA	**Warramunga Arr**	**61.99**	**188**	P	**P**	**18 35 43.7**	**-1.3**
WRA				*PP	pP	18 36 03.8	+0.9
WRA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
WRA				pmax	pmax		
	comp=N,5.0nm,0.6s						
KAD	**Karad**	**62.42**	**269**	⇓*i*P	**P**	**18 35 46.5**	**-1.4**
RPW	**Rockport**	**63.72**	**48**	*e*P	**P**	**18 35 53.2**	**-2.8**
MOS	**Moscow**	**63.75**	**322**	*e*P	**P**	**18 35 51.6**	**-4.5**
PALK	**Pallekele**	**64.13**	**256**	P	**P**	**18 35 58.9**	**-0.4**
	comp=N,18nm,1.1s,mb4.8						
KAF	**Kangasniemi**	**64.28**	**332**	*e*p	**P**	**18 35 57.5**	**-1.9**
	comp=N,9.6nm,0.5s,mb4.9,baz=46,slow=6.2						
KAF	**Kangasniemi**	**64.28**	**332**	*e*P	**P**	**18 35 57.5**	**-1.9**
KAF				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb4.9						
OBN	**Obninsk**	**64.60**	**322**	κ *i*P	**P**	**18 36 01.0**	**-0.6**
OBN				*e*		18 36 13.1	
OBN				*e*		18 36 26.8	
OBN						18 38 22.0	
OBN				*e*		18 39 53.8	
OBN				pmax	pmax		
	comp=Z,32nm,1.5s,mb4.9						
OBN				MLR	MLR		
	comp=Z,100nm,17.0s						
OBN	**Obninsk**	**64.60**	**322**	*e*P	**P**	**18 35 59.9**	**-1.8**
	comp=Z,27nm,1.0s,mb5.0						
FINES	**FINESS Array B**	**64.81**	**332**	P	**P**	**18 36 01.8**	**-1.1**
	comp=Z,12nm,0.5s,mb5.0,baz=71,slow=7.2,SNR=304						
FINES				pP	pP	18 36 22.7	+1.7
	comp=Z,7.1nm,0.6s,baz=76,slow=7.9,SNR=4.7						
FINES				LR	LR	19 05 40.8	
	comp=Z,132nm,21.6s,baz=212,slow=37						
FINES	**FINESS Array B**	**64.81**	**332**	*i* P	**P**	**18 36 01.8**	**-1.1**
FINES				pmax	pmax		
	comp=Z,12nm,0.5s						
FINES	**FINESS Array B**	**64.81**	**332**	P	**P**	**18 36 01.8**	**-1.1**
FINES				pP	pP	18 36 22.7	+1.7
FINES				LR	LR	19 05 40.8	
MOR8	**Moi Rana**	**65.02**	**339**	*e*P	**P**	**18 36 01.6**	**-2.5**
MOR8				AMb	AMB	18 36 02.4	
	comp=Z,25nm,0.5s,mb5.3						
MOR8				*e*pP	pP	18 36 23.4	+1.1
MOR8	**Moi Rana**	**65.02**	**339**	*e*P	**P**	**18 36 01.6**	**-2.5**
	comp=Z,25nm,0.5s,mb5.3						
ASAR	**Alice Springs**	**65.72**	**188**	P	**P**	**18 36 08.7**	**-0.7**
	comp=Z,1.2nm,0.5s,mb4.0,baz=5.1,slow=7.5,SNR=38						
ASAR				pP	pP	18 36 29.2	+1.8
	comp=Z,2.0nm,0.6s,baz=2.9,slow=7.4,SNR=7.6						
ASAR				LR	LR	19 03 56.8	
	comp=Z,59nm,18.0s,baz=203,slow=35						
SUMG	**Summit**	**65.80**	**0**	*e*P	**P**	**18 36 08.9**	**-0.2**
	comp=Z,11nm,0.8s,mb4.7						
MBWA	**Marble Bar**	**66.14**	**203**	*e*P	**P**	**18 36 11.0**	**-1.1**
	comp=Z,5.8nm,1.0s,mb4.4						
NEW	**Newport**	**66.21**	**46**	P	**P**	**18 36 11.9**	**-0.1**
	comp=Z,4.1nm,0.9s,mb4.3,baz=308,slow=11,SNR=6.4						
NEW	**Newport**	**66.21**	**46**	P	**P**	**18 36 12.0**	**-0.1**
NEW				pmax	pmax		
	comp=Z,4.0nm,0.9s						
NEW	**Newport**	**66.21**	**46**	*e*P	**P**	**18 36 11.4**	**-0.7**
	comp=Z,4.1nm,0.8s,mb4.3						
YBH	**Yreka Blue Hor**	**66.89**	**54**	P	**P**	**18 36 17.5**	**+1.0**
	comp=Z,1.1nm,0.5s,mb4.0,baz=359,slow=6.4,SNR=4.5						
YBH				pP	pP	18 36 37.1	+2.4
	comp=Z,1.8nm,0.8s,baz=234,slow=3.9,SNR=3.4						
YBH	**Yreka Blue Hor**	**66.89**	**54**	P	**P**	**18 36 17.5**	**+1.0**
YBH				*PP	pP	18 36 37.1	+2.4
YBH				pmax	pmax		
	comp=Z,1.0nm,0.5s						
YBH				pmax	pmax		
	comp=N,2.0nm,0.8s						
NSS	**Namsos**	**66.95**	**339**	*e*P	**P**	**18 36 14.1**	**-2.3**
GOF	**Gofitskoye**	**67.37**	**311**	⇑*i*P	**P**	**18 36 19.0**	**-0.4**
GOF				pmax	pmax		
	comp=Z,50nm,1.5s,mb5.1						
FCC	**Fort Churchill**	**69.35**	**28**	P	**P**	**18 36 29.6**	**-1.9**
	comp=Z,4.2nm,0.5s,mb4.5						
MOL	**Molde**	**69.70**	**339**	*e*P	**P**	**18 36 34.6**	**+1.0**
MOL				AMb	AMB	18 36 43.5	
	comp=Z,49nm,1.6s,mb5.1						
MOL				*e*pP	pP	18 36 52.4	+0.5
NB2	**NORSAR Subarra**	**69.94**	**337**	P	**P**	**18 36 34.1**	**-0.9**
	comp=Z,5.9nm,0.5s,mb4.7,baz=35,slow=6.2						
NB2	**NORSAR Subarra**	**69.94**	**337**	P	**P**	**18 36 34.1**	**-0.9**
	baz=35,slow=6.5						
NOA	**NORSAR Array B**	**69.94**	**337**	P	**P**	**18 36 34.3**	**-0.7**
	comp=Z,5.4nm,0.5s,mb4.7,baz=36,slow=6.2,SNR=35						
NOA				pP	pP	18 36 52.9	-0.4
	comp=Z,3.3nm,0.7s,baz=37,slow=6.1,SNR=2.9						
NOA				LR	LR	19 09 28.8	
	comp=Z,75nm,20.1s,baz=25,slow=38						
NOA	**NORSAR Array B**	**69.94**	**337**	P	**P**	**18 36 34.3**	**-0.7**
NOA				*PP	pP	18 36 52.9	-0.4
NOA				pmax	pmax		
	comp=Z,5.0nm,0.5s						
NOA				pmax	pmax		
	comp=N,3.0nm,0.7s						
NOA				MLR	MLR		
	comp=Z,75nm,20.1s						
HRY	**Holter Researc**	**69.99**	**45**	*e*P	**P**	**18 36 36.1**	**+0.6**
SOC	**Sochi**	**70.15**	**311**	*e*P	**P**	**18 36 37.7**	**+1.1**
SOC				*e*	pP	18 36 55.2	+0.3
SOC				*e*		18 39 11.9	
SOC				*e*S	S	18 45 31.8	-9.4
SOC				*e*PS	PS	18 46 08.7	-9.0
SOC				*e*		18 46 33.3	
SOC				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.8						
SOC				pmax	pmax		
	comp=N,7.0nm,0.7s						
SOC				pmax	pmax		
	comp=E,2.0nm,0.4s						
BOZ	**Bozeman (W)**	**70.78**	**46**	*e*P	**P**	**18 36 40.8**	**+0.4**
	comp=E,5.1nm,0.7s,mb4.5						
AKASG	**Malin Array Be**	**70.85**	**322**	P	**P**	**18 36 39.9**	**-0.8**
	comp=E,5.9nm,0.4s,mb4.8,baz=43,slow=6.4,SNR=72						
AKASG				pP	pP	18 37 00.6	+1.6
	comp=E,3.6nm,0.7s,baz=45,slow=6.0,SNR=1.8						
AKASG	**Malin Array Be**	**70.85**	**322**	P	**P**	**18 36 39.9**	**-0.8**
AKASG				*PP	pP	18 37 00.6	+1.6
AKASG				pmax	pmax		
	comp=Z,6.0nm,0.4s						
AKASG				pmax	pmax		
	comp=N,4.0nm,0.7s						
SUW	**Suwalki**	**71.14**	**327**	*e*P	**P**	**18 36 41.5**	**-0.8**
	comp=N,16nm,0.5s,mb5.1						
MOOW	**Moose Ponds**	**72.51**	**47**	*e*P	**P**	**18 36 52.0**	**+1.4**
MOOW				*e*PcP	PcP	18 37 11.3	+3.1
TPAW	**Teton Pass**	**72.57**	**47**	*e*P	**P**	**18 36 51.5**	**+0.5**
STKA	**Stephens Creek**	**73.44**	**181**	P	**P**	**18 36 57.0**	**+0.7**
	comp=N,1.8nm,1.0s,mb3.9,baz=69,slow=0.2,SNR=3.6						
STKA				pP	pP	18 37 14.4	-0.4
	comp=N,2.2nm,0.9s,baz=344,slow=19,SNR=2.9						
STKA				LR	LR	19 05 20.1	
	comp=N,135nm,21.2s,baz=23,slow=32						
STKA	**Stephens Creek**	**73.44**	**181**	P	**P**	**18 36 57.0**	**+0.7**
STKA				pP	pP	18 37 14.4	-0.4
STKA				LR	LR	19 05 20.1	
BSD	**Bornholm Skovb**	**73.46**	**332**	⇓*i*P	**P**	**18 36 55.6**	**-0.3**
	comp=N,7.0nm,0.6s,mb4.7						
PDAR	**Pinedale Array**	**73.81**	**47**	P	**P**	**18 36 59.0**	**+0.8**
	comp=N,4.0nm,0.6s,mb4.3,baz=286,slow=2.4,SNR=41						
PDAR				pP	pP	18 37 17.6	+0.8
	comp=N,2.2nm,0.8s,baz=315,slow=2.1,SNR=4.2						
COP	**Copenhagen**	**73.86**	**333**	*i* P	**P**	**18 36 55.2**	**-3.1**
	comp=N,14nm,0.9s,mb4.7						
COP	**Copenhagen**	**73.86**	**333**	*e*P	**P**	**18 36 55.2**	**-3.1**
	comp=N,14nm,0.9s,mb4.7						
NLU	**North Lily Min**	**74.28**	**50**	*e*P	**P**	**18 37 02.2**	**+1.1**
MALT	**Malatya**	**74.30**	**307**	*e*P	**P**	**18 37 02.3**	**+1.1**
	comp=N,17nm,1.1s,mb4.7						
MSU	**Marysvale**	**75.19**	**51**	*e*P	**P**	**18 37 08.3**	**+2.1**
MSU				*e*	pP	18 37 28.0	+3.3
KOLS	**Kolonicke sedl**	**75.26**	**324**	*i* P	**P**	**18 37 06.8**	**+0.4**
KOLS				*e*		18 37 12.7	
CRVS	**Cervenica-Dubn**	**75.64**	**324**	*e*P	**P**	**18 37 08.9**	**+0.3**
SRU	**San Rafael**	**75.74**	**50**	*e*P	**P**	**18 37 10.1**	**+0.7**
MLR	**Muntele Rosu**	**76.09**	**319**	LR	LR	19 11 53.4	
	comp=N,99nm,21.8s,baz=37,slow=37						
BRTR	**Keskin Array B**	**76.11**	**311**	P	**P**	**18 37 11.5**	**0.0**
	comp=N,3.0nm,0.6s,mb4.2,baz=83,slow=3.7,SNR=18						
BRTR	**Keskin Array B**	**76.11**	**311**	P	**P**	**18 37 11.5**	**0.0**
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
OKC	**Ostrava-Krasne**	**76.33**	**327**	*e*P	**P**	**18 37 13.1**	**+0.6**
MORC	**Moravsky Berou**	**76.63**	**327**	*e*P	**P**	**18 37 14.9**	**+0.7**
	comp=Z,15nm,0.9s,mb4.7						
DPC	**Dobruska-Polom**	**76.67**	**328**	*e*P	**P**	**18 37 15.4**	**+1.0**
DPC				*e*pP	pP	18 37 34.0	+1.0
UPC	**Upice**	**76.67**	**328**	*e*P	**P**	**18 37 15.2**	**+0.8**
PSZ	**Piszkesteto**	**77.06**	**324**	*e*P	**P**	**18 37 17.6**	**+0.9**
PSZ	**Piszkesteto**	**77.06**	**324**	*e*P	**P**	**18 37 17.3**	**+0.6**
	comp=Z,9.2nm,0.9s,mb4.5						
VYHS	**Vyhne**	**77.08**	**325**	*i* P	**P**	**18 37 17.5**	**+0.7**
PV10	**Paradox Valley**	**77.09**	**50**	*e*P	**P**	**18 37 18.9**	**+1.8**
BRG	**Berggiesshubel**	**77.18**	**329**	*e*P	**P**	**18 37 17.7**	**+0.4**
BRG				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.2						
BRG	**Berggiesshubel**	**77.18**	**329**	*e*P	**P**	**18 37 17.7**	**+0.4**
	comp=Z,6.0nm,1.1s,mb4.2						
CLL	**Collm**	**77.19**	**330**	⇓P	**P**	**18 37 17.5**	**+0.2**
	comp=Z,logA/T=1.1,mb4.6						
CLL				*e**PP	pP	18 37 37.0	+1.1
CLL	**Collm**	**77.19**	**330**	⇓*i*P	**P**	**18 37 17.5**	**+0.2**
CLL				*e*	pP	18 37 37.0	+1.1
CLL				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.7						
CLL	**Collm**	**77.19**	**330**	⇓*i*P	**P**	**18 37 17.5**	**+0.2**
	comp=Z,14nm,1.0s,mb4.7						
CLL				*e*	pP	18 37 37.0	+1.1
PRU	**Pruhonice**	**77.66**	**328**	*e*P	**P**	**18 37 19.3**	**-0.6**
NWAO	**Narrogin (SRO)**	**77.96**	**201**	P	**P**	**18 37 22.7**	**+0.7**
	comp=Z,9.3nm,0.8s,mb4.6,baz=239,slow=21,SNR=5.0						
NWAO	**Narrogin (SRO)**	**77.96**	**201**	P	**P**	**18 37 22.7**	**+0.8**
NWAO				pmax	pmax		
	comp=Z,9.0nm,0.8s						
NWAO	**Narrogin (SRO)**	**77.96**	**201**	*e*P	**P**	**18 37 22.3**	**+0.3**
	comp=Z,15nm,1.1s,mb4.6						
MOX	**Moxa**	**78.24**	**330**	*i* P	**P**	**18 37 23.5**	**+0.4**
MOX	**Moxa**	**78.24**	**330**	*e*P	**P**	**18 37 23.5**	**+0.4**
NKC	**Novy Kostel**	**78.26**	**330**	*e*P	**P**	**18 37 22.8**	**-0.4**
KHC	**Kasperske Hory**	**78.72**	**328**	*e*P	**P**	**18 37 26.4**	**+0.6**
KHC				*e*pP	pP	18 37 46.8	+2.4
ESK	**Eskdalemuir**	**78.77**	**341**	*e*P	**P**	**18 37 25.8**	**-0.1**
	comp=Z,9.2nm,0.8s,mb4.7						
ESK				*e*		18 38 21.0	
GERES	**GERESS Array B**	**78.90**	**328**	P	**P**	**18 37 27.1**	**+0.3**
	comp=Z,1.6nm,0.4s,mb4.2,baz=36,slow=5.4,SNR=34						
GERES				pP	pP	18 37 46.9	+1.4
	comp=Z,0.8nm,0.7s,baz=14,slow=5.5,SNR=3.5						
GERES	**GERESS Array B**	**78.90**	**328**	P	**P**	**18 37 27.1**	**+0.3**
GERES				*PP	pP	18 37 46.9	+1.5
GERES				pmax	pmax		
	comp=Z,2.0nm,0.4s						
GERES				pmax	pmax		
	comp=N,1.0nm,0.7s						
GRA1	**Grafenberg Arr**	**79.16**	**330**	*e*P	**P**	**18 37 29.0**	**+0.8**
	comp=N,20nm,0.7s,mb5.1						
GRF	**Grafenberg Arr**	**79.16**	**330**	*e*P	**P**	**18 37 29.0**	**+0.8**
GRF				pmax	pmax		
	comp=Z,20nm,0.7s,mb5.1						
MZLS	**Mizel**	**79.29**	**293**	P	**P**	**18 37 30.1**	**+0.7**
HILS	**Ha’il**	**79.40**	**297**	P	**P**	**18 37 30.8**	**+0.9**
PERS	**Pernice**	**80.10**	**326**	*i* P	**P**	**18 37 33.9**	**+0.6**
SCHQ	**Schefferville**	**80.47**	**17**	P	**P**	**18 37 35.0**	**-0.1**
	comp=Z,3.0nm,0.4s,mb4.4,baz=287,slow=6.6,SNR=8.8						
SCHQ				LR	LR	19 18 02.9	
	comp=Z,26nm,21.9s,baz=82,slow=39						
STU	**Stuttgart**	**80.67**	**331**	*e*P	**P**	**18 37 36.6**	**+0.3**
	comp=Z,16nm,0.9s,mb4.8						
LJU	**Ljubljana**	**80.82**	**326**	*i* P	**P**	**18 37 37.3**	**+0.2**
ANMO	**Albuquerque**	**80.96**	**51**	P	**P**	**18 37 39.2**	**+1.1**
	comp=Z,2.1nm,0.9s,mb4.0						
WLF	**Walferdange**	**80.99**	**333**	*e*P	**P**	**18 37 38.2**	**+0.2**
	comp=Z,6.2nm,0.8s,mb4.5						
GIVF	**Givet**	**81.06**	**334**	*e*P	**P**	**18 37 38.1**	**-0.2**
CEY	**Cerknica**	**81.11**	**326**	*i* P	**P**	**18 37 38.5**	**-0.1**
JAVS	**Javornik**	**81.13**	**326**	*i* P	**P**	**18 37 38.6**	**-0.2**
BAIF	**Baives**	**81.30**	**334**	*e*P	**P**	**18 37 38.9**	**-0.7**
	comp=Z,5.2nm,0.5s,mb4.3						
CDF	**Champ du Feu**	**81.67**	**332**	*e*P	**P**	**18 37 41.8**	**+0.3**
	comp=Z,15nm,0.9s,mb4.5						
HINF	**Hinteralfeld**	**82.32**	**331**	*e*P	**P**	**18 37 44.7**	**-0.2**
	comp=Z,6.4nm,0.6s,mb4.4						
HAU	**Haudompre**	**82.34**	**332**	*e*P	**P**	**18 37 45.0**	**0.0**
HAU				*e*R			
	comp=Z,100nm,21.0s						
MEZF	**Maizieres J’vi**	**82.36**	**333**	*e*P	**P**	**18 37 45.5**	**+0.4**
	comp=Z,11nm,0.7s,mb4.5						
SANT	**Santorini**	**83.02**	**313**	*e*P	**P**	**18 37 48.8**	**+0.1**
	comp=Z,49nm,1.0s,mb5.3						
BDAS	**Al Bad‘**	**83.03**	**302**	P	**P**	**18 37 49.8**	**+0.9**
LOR	**Lormes**	**83.83**	**333**	*e*P	**P**	**18 37 52.9**	**+0.4**
	comp=Z,24nm,0.8s,mb4.8						
LOR				*e*R			
	comp=Z,138nm,20.2s						
FLN	**La Foliniere**	**83.91**	**336**	*e*P	**P**	**18 37 53.1**	**+0.3**
	comp=Z,12nm,0.6s,mb4.6						
FLN				*e*R			
	comp=Z,86nm,19.8s						
TRAV		**83.95**	**330**	P	**P**	**18 37 53.4**	**+0.3**
LDF	**La Druitiere**	**83.95**	**336**	*e*P	**P**	**18 37 53.1**	**+0.1**
	comp=Z,7.2nm,0.5s,mb4.4						
SSF	**Saint Saulge**	**84.13**	**333**	*e*P	**P**	**18 37 54.4**	**+0.4**
	comp=Z,10nm,0.7s,mb4.5						
GDL2	**Guadalupe Moun**	**84.15**	**51**	*e*P	**P**	**18 37 55.7**	**+1.3**
LSD	**Ceresole Reale**	**84.21**	**330**	P	**P**	**18 37 55.6**	**+1.2**
LPL	**La Plagne**	**84.32**	**330**	*e*P	**P**	**18 37 56.1**	**+1.1**
	comp=Z,13nm,0.7s,mb4.6						
LPG	**La Plagne**	**84.33**	**330**	*e*P	**P**	**18 37 56.3**	**+1.3**
	comp=Z,10nm,0.5s,mb4.6						
GRR	**Gorron**	**84.36**	**336**	*e*P	**P**	**18 37 55.5**	**+0.4**
	comp=Z,13nm,0.6s,mb4.6						
SMF	**Signal de Mont**	**84.38**	**333**	*e*P	**P**	**18 37 55.8**	**+0.6**
	comp=Z,27nm,0.9s,mb4.8						
AVF	**Avril sur Loir**	**84.42**	**333**	*e*P	**P**	**18 37 56.1**	**+0.7**
	comp=Z,34nm,0.6s,mb5.0						
RSP	**Reno Superiore**	**84.44**	**330**	P	**P**	**18 37 55.5**	**0.0**
PCP	**Pian Castagno**	**84.46**	**329**	P	**P**	**18 37 55.1**	**-0.6**
FENE	**Fenestrelle**	**84.61**	**330**	P	**P**	**18 37 56.8**	**+0.3**
BHB	**Bricherasio**	**84.70**	**330**	P	**P**	**18 37 56.6**	**-0.3**
BNI	**Bardonecchia**	**84.74**	**330**	*e*P	**P**	**18 37 57.6**	**+0.5**
	comp=Z,7.4nm,0.9s,mb4.6						
BGF	**Bois d’Agland**	**84.80**	**333**	*e*P	**P**	**18 37 57.3**	**0.0**
	comp=Z,4.3nm,0.5s,mb4.4						
RRL	**Cesana Torines**	**84.81**	**330**	P	**P**	**18 37 58.0**	**+0.5**
FIN	**Finale Ligure**	**84.87**	**329**	P	**P**	**18 37 57.2**	**-0.6**
ROB	**Roburent**	**84.93**	**329**	P	**P**	**18 37 57.8**	**-0.2**
SGMF	**Saint Gilles**	**84.98**	**337**	*e*P	**P**	**18 37 58.4**	**+0.2**
	comp=Z,10nm,0.6s,mb4.6						
MBDF	**Montbardon**	**84.98**	**330**	*e*P	**P**	**18 37 58.7**	**+0.4**
	comp=Z,9.1nm,0.6s,mb4.6						
RORO		**85.01**	**329**	P	**P**	**18 37 58.1**	**-0.3**
PZZ	**Prazzo**	**85.04**	**330**	P	**P**	**18 37 57.7**	**-0.9**
ROSF	**Rostrenen**	**85.11**	**338**	*e*P	**P**	**18 37 59.0**	**+0.2**
	comp=Z,38nm,1.1s,mb4.9						
ORIF	**Oris-en-Rattie**	**85.15**	**331**	*e*P	**P**	**18 38 00.0**	**+0.9**
	comp=Z,15nm,0.7s,mb4.7						
ORIF				*e*R			
	comp=Z,54nm,18.2s						
ENR	**Entracque**	**85.16**	**329**	P	**P**	**18 37 58.4**	**-0.8**
STV2	**Anna di Valdie**	**85.18**	**329**	P	**P**	**18 37 58.1**	**-1.2**
STV	**Sta Anna Valdi**	**85.18**	**329**	P	**P**	**18 37 58.2**	**-1.0**
TCF	**Toulx Ste Croi**	**85.24**	**333**	*e*P	**P**	**18 38 00.4**	**+0.8**
IMI	**Imperia**	**85.25**	**329**	P	**P**	**18 37 59.6**	**0.0**
NEGI	**Negi**	**85.37**	**329**	P	**P**	**18 37 59.5**	**-0.8**
QUIF	**Quistinic**	**85.46**	**337**	*e*P	**P**	**18 38 00.8**	**+0.2**
	comp=Z,12nm,0.7s,mb4.6						
SBF	**Sospel**	**85.46**	**329**	*e*P	**P**	**18 38 00.7**	**0.0**
	comp=Z,22nm,0.8s,mb4.8						
VIVF	**Saint-Julien-l**	**85.64**	**331**	*e*P	**P**	**18 38 02.5**	**+1.0**

	comp=Z,25nm,0.9s,mb4.8						
MFF	**Saint Martin d**	**85.73**	**335**	*e*P	**P**	**18 38 03.0**	**+1.1**
	comp=Z,15nm,0.6s,mb4.8						
PGF	**Pioggiola**	**85.95**	**327**	*e*P	**P**	**18 38 03.2**	**+0.1**
	comp=Z,9.8nm,1.0s,mb4.4						
FRF	**La Foret Royal**	**86.02**	**329**	*e*P	**P**	**18 38 03.5**	**+0.1**
SMRF	**Simiane la Rot**	**86.07**	**330**	*e*P	**P**	**18 38 04.6**	**+1.0**
LMR	**La Mourre**	**86.26**	**329**	*e*P	**P**	**18 38 05.0**	**+0.4**
	comp=Z,19nm,0.9s,mb4.7						
RJF	**Les Rejaudoux**	**86.34**	**333**	*e*P	**P**	**18 38 05.3**	**+0.4**
	comp=Z,16nm,0.8s,mb4.7						
RJF				*e*R			
	comp=Z,91nm,18.6s						
CAF	**Calviac**	**86.49**	**333**	*e*P	**P**	**18 38 07.4**	**+1.7**
	comp=Z,35nm,0.8s,mb5.1						
LASF	**Ste Croix**	**86.61**	**331**	*e*P	**P**	**18 38 07.4**	**+1.1**
	comp=Z,16nm,1.1s,mb4.6						
TXAR	**Lajitas Array**	**86.64**	**53**	P	**P**	**18 38 08.2**	**+1.3**
	comp=Z,1.4nm,0.5s,mb4.2,baz=295,slow=3.5,SNR=27						
TXAR				pP	pP	18 38 27.9	+2.2
	comp=Z,0.9nm,0.6s,baz=297,slow=2.8,SNR=4.1						
LFF	**La Frestale**	**86.92**	**334**	*e*P	**P**	**18 38 08.7**	**+0.9**
	comp=Z,30nm,0.8s,mb5.0						
MTLF	**Montolieu**	**87.83**	**332**	*e*P	**P**	**18 38 13.8**	**+1.6**
	comp=Z,2.7nm,0.7s,mb4.1						
ETSF	**Etsaut**	**89.16**	**334**	*e*P	**P**	**18 38 20.1**	**+1.5**
	comp=Z,14nm,0.8s,mb4.7						
ESDC	**Sonseca Array**	**93.18**	**335**	P	**P**	**18 38 37.0**	**-0.3**
	comp=Z,0.5nm,0.5s,mb4.2,baz=21,slow=4.0,SNR=6.3						
ESDC				LR	LR	19 23 05.8	
	comp=Z,47nm,19.1s,baz=130,slow=37						
DBIC	**Dimbokro**	**123.07**	**320**	PKP	PKPdf	18 44 19.1	+0.3
	comp=Z,1.6nm,0.6s,baz=15,slow=2.4,SNR=4.2						
DBIC	**Dimbokro**	**123.07**	**320**	PKIKP	PKPdf	18 44 19.1	+0.3
DBIC				pmax	pmax		
	comp=Z,2.0nm,0.6s						
QSPA	**South Pole Qui**	**131.66**	**180**	*e*PKP	PKPdf	18 44 35.8	+2.2
SNAA	**Sanae**	**145.60**	**199**	⇓*i*P	PKPdf	18 45 00.9	+2.2
SNAA	**Sanae**	**145.60**	**199**	⇓*i*	PKPdf	18 45 02.8	+4.1
SNAA	**Sanae**	**145.60**	**199**	⇑*i*	PKPdf	18 45 04.5	+5.8
SNAA	**Sanae**	**145.60**	**199**		PP	18 48 35.7	+12
VNA2	**Neumayer--Watz**	**147.18**	**198**	⇑*i*P	PKPdf	18 45 08.5	+7.1
VNA2	**Neumayer--Watz**	**147.18**	**198**	⇑*i*	PKPdf	18 45 10.7	+9.3
VNA2	**Neumayer--Watz**	**147.18**	**198**	⇑*i*	PKPdf	18 45 12.9	+11
VNA3	**Neumayer Olymp**	**147.45**	**196**	⇑*i*P	PKPdf	18 45 08.7	+6.9
VNA3	**Neumayer Olymp**	**147.45**	**196**		PKPdf	18 45 11.0	+9.2
VNA3	**Neumayer Olymp**	**147.45**	**196**	⇑*i*	PKPdf	18 45 13.3	+11
VNA1	**Neumayer--Stat**	**147.58**	**198**	⇑*i*P	PKPdf	18 45 10.2	+8.1
VNA1	**Neumayer--Stat**	**147.58**	**198**	⇑*i*	PKPdf	18 45 12.0	+10
VNA1	**Neumayer--Stat**	**147.58**	**198**	⇑*i*	PKPdf	18 45 14.8	+13
BDFB	**Brasilia**	**152.35**	**22**	PKPbc	PKPdf	18 45 19.5	+8.5
	comp=Z,2.9nm,0.7s,baz=316,slow=5.7,SNR=4.8						
BDFB				PKPab	PKPab	18 45 30.2	-0.3
	comp=Z,2.5nm,0.4s,baz=298,slow=5.3,SNR=4.1						
BDFB				pPKPbc		18 45 42.1	
	comp=Z,2.9nm,0.8s,baz=35,slow=1.9,SNR=2.2						
BDFB	**Brasilia**	**152.35**	**22**	PKIKP	PKPdf	18 45 19.5	+8.5
BDFB						18 45 42.1	
BDFB				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BDFB				pmax	pmax		
	comp=Z,3.0nm,0.4s						
BDFB				pmax	pmax		
	comp=N,3.0nm,0.8s						

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*IDC **04** 18:26:24.4±1.0, 13.88N×120.43E, h137^{km}±8^{km}, mb3.5/8, mb1 3.6/8, mb1mx3.5/17, Error ellipse: s-maj=40.1km s-min=13.7km az=67.0*

*NEIC **04** 18:26:24.9±1.1, 13.85N×120.43E, h141^{km}±10^{km}, mb4.3/1, Error ellipse: s-maj=38.3km s-min=12.0km az=66.0*

ISC 04 18:26:23.5±0.9**, 13.9N**±0.1×**120.5E**±0.3**, h143**^{km}±9^{km}**, n14,** σ**0^{s}61**/16**, mb3.7**/9**, 2C-1D, Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TGY	**Tagaytay City**	**0.50**	**63**	P	**P**	**18 26 45.5**	**+0.9**
	167nm,0.3s,baz=204,slow=1.8,SNR=12						
TGY				S	**S**	**18 27 00.8**	**0.0**
	223nm,0.3s,baz=209,slow=22,SNR=11						
TGY	**Tagaytay City**	**0.50**	**63**	⇑*i*P	**P**	**18 26 45.3**	**+0.7**
TGY				*i* S	**S**	**18 26 59.9**	**-0.9**
NBP	**Mount Natib**	**0.86**	**356**	⇓*i*P	**P**	**18 26 46.7**	**-0.1**
ARP	**Angono**	**0.93**	**45**	⇑*i*P	**P**	**18 26 47.1**	**-0.2**
SONM	**Songino Array**	**35.83**	**344**	P	**P**	**18 33 10.7**	**-0.2**
	0.6nm,0.7s,mb3.3,baz=157,slow=9.7,SNR=2.7						
WRAB	**Tennant Creek**	**36.26**	**158**	*e*P	**P**	**18 33 14.6**	**-0.3**
	5.9nm,0.9s,mb4.2						
WRA	**Warramunga Arr**	**36.27**	**158**	P	**P**	**18 33 13.9**	**-1.0**
	0.8nm,0.6s,mb3.5,baz=336,slow=9.6,SNR=17						
ASAR	**Alice Springs**	**39.55**	**160**	P	**P**	**18 33 42.8**	**+0.5**
	0.8nm,0.5s,mb3.6,baz=334,slow=6.7,SNR=37						
CTA	**Charters Tower**	**42.22**	**143**	P	**P**	**18 34 05.2**	**+1.0**
	0.8nm,0.5s,mb3.6,baz=6.5,slow=16,SNR=3.4						
CTA	**Charters Tower**	**42.22**	**143**	P	**P**	**18 34 05.2**	**+1.0**
MKAR	**Makanchi Array**	**45.76**	**324**	P	**P**	**18 34 32.8**	**+0.5**
	1.4nm,0.6s,mb3.8,baz=186,slow=22,SNR=0.6						
ARCES	**ARCESS Array B**	**78.84**	**339**	P	**P**	**18 38 12.4**	**+0.7**
	1.5nm,0.8s,mb3.7,baz=72,slow=5.7,SNR=2.7						
INK	**Inuvik**	**83.01**	**21**	P	**P**	**18 38 33.0**	**-0.7**
	2.3nm,1.1s,mb3.8,baz=312,slow=4.8,SNR=3.8						
KMBO	**Kilima Mbogo**	**83.69**	**267**	P	**P**	**18 38 37.7**	**-0.6**
	0.5nm,0.5s,mb3.5,baz=58,slow=9.5,SNR=3.0						

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*GUC **04** 18:39:33.1±0.8, 33.64S×71.43W, h46^{km}±1^{km}, MD3.3, ML2.7*

*NEIC **04** 18:39:33.1, 33.64S×71.43W, h46^{km}, MD3.3(GUC), After GUC.*

ISC 04 18:39:33.4±1.1**, 33.63S**±0.04×**71.49W**±0.07**, h42**^{km}±13^{km}**, n14,** σ**0^{s}46**/27**, 8C-4D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LCCH	**Las Cruces**	**0.17**	**338**	⇓*i*P	**P**	**18 39 40.7**	**+0.2**
LNV	**Longovilo**	**0.33**	**168**	⇑*i*P	**P**	**18 39 41.9**	**-0.3**
LNV				*i* S	**S**	**18 39 48.2**	**-0.1**
TACH	**Talagante**	**0.47**	**93**	⇓*i*P	**P**	**18 39 43.5**	**-0.3**
TACH				*i* S	**S**	**18 39 51.2**	**+0.2**
CHCH	**Chadas Angostu**	**0.76**	**114**	⇓*i*P	**P**	**18 39 47.3**	**-0.5**
CHCH				*i* S	**S**	**18 39 58.1**	**-0.3**
DSCH	**Colegio Aleman**	**0.81**	**74**	*i* P	**P**	**18 39 48.3**	**-0.1**
DSCH				*i* S	**S**	**18 39 59.7**	**+0.3**
DSCH				AMP		18 40 02.4	
	comp=N,517nm,0.4s						
PCH	**Pirque**	**0.82**	**90**	⇓*i*P	**P**	**18 39 48.5**	**-0.1**
PCH				*i* S	**S**	**18 39 59.5**	**-0.2**
CLCH	**Cerro Calan**	**0.83**	**74**	⇑*i*P	**P**	**18 39 48.8**	**0.0**
CLCH				*i* S	**S**	**18 40 00.2**	**+0.1**
CLCH				AMP		18 40 01.8	
	comp=E,332nm,0.4s						
CLCH				AMP		18 40 02.3	
	comp=E,514nm,0.5s						
CACH	**El Canelo**	**0.89**	**123**	⇑*i*P	**P**	**18 39 49.9**	**+0.4**
CACH				*i* S	**S**	**18 40 02.4**	**+1.0**
SJCH	**San Jose de Ma**	**0.95**	**91**	*i* P	**P**	**18 39 49.3**	**-1.1**
SJCH				*i* S	**S**	**18 40 02.0**	**-1.1**
SJCH				AMP		18 40 02.4	
	comp=E,296nm,0.1s						
FCH	**Farellones**	**1.05**	**74**	⇑*i*P	**P**	**18 39 51.7**	**-0.1**
FCH				*i* S	**S**	**18 40 06.1**	**+0.6**
FCH				AMP		18 40 07.2	
	comp=N,698nm,0.1s						
SFDO	**San Fernando**	**1.06**	**158**	⇑*i*P	**P**	**18 39 52.1**	**+0.2**
SFDO				*i* S	**S**	**18 40 06.4**	**+0.6**
LMEL	**Las Melosas**	**1.10**	**102**	⇑*i*P	**P**	**18 39 52.2**	**-0.3**
LMEL				*i* S	**S**	**18 40 06.4**	**-0.3**
LMEL				AMP		18 40 08.3	
	comp=N,349nm,0.2s						
CICH	**Cipreses**	**1.13**	**128**	⇑*i*P	**P**	**18 39 52.8**	**-0.1**
CICH				*i* S	**S**	**18 40 07.8**	**+0.3**
JACH	**Jahuel**	**1.21**	**39**	⇑*i*P	**P**	**18 39 54.2**	**+0.1**
JACH				*i* S	**S**	**18 40 10.3**	**+0.8**

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*IDC **04** 18:52:46.0±0.7, 44.63N×150.33E, h57^{km}±6^{km}, mb3.5/10, mb1 3.6/11, mb1mx3.6/19, Error ellipse: s-maj=17.6km s-min=16.2km az=2.0*

ISC 04 18:52:44.6±0.8**, 44.6N**±0.1×**150.0E**±0.2**, h57**^{km}**, (h54**^{km}±1.4^{km}**:pP-P), n12,** σ**0^{s}88**/12**, mb3.6**/10**, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAJ	**Asahikawa**	**5.34**	**268**	P	**P**	**18 54 04.2**	**+0.4**
	1.1nm,0.3s,baz=140,slow=16,SNR=9.2						
ASAJ				S	**S**	**18 55 15.4**	**+11**
	baz=59,slow=19,SNR=2.1						
SONM	**Songino Array**	**30.07**	**292**	P	**P**	**18 58 50.0**	**-0.3**
	0.4nm,0.4s,mb3.5,baz=82,slow=7.6,SNR=6.9						
MKAR	**Makanchi Array**	**46.02**	**298**	P	**P**	**19 01 03.8**	**-0.1**
	0.9nm,0.6s,mb3.9,baz=76,slow=8.1,SNR=13						
MKAR				PcP	PcP	19 02 39.5	-0.6
	0.2nm,0.5s,baz=45,slow=1.7,SNR=4.0						
MKAR				pPcP		19 02 54.7	
	0.3nm,0.5s,baz=74,slow=3.6,SNR=3.9						
FINES	**FINESS Array B**	**65.05**	**334**	P	**P**	**19 03 18.4**	**-2.1**
	0.5nm,0.7s,mb3.7,slow=3.8,SNR=3.8						
WRA	**Warramunga Arr**	**65.79**	**196**	P	**P**	**19 03 25.0**	**-1.0**
	1.0nm,0.7s,mb4.0,baz=14,slow=6.7,SNR=9.0						
WRA				pP	pP	19 03 40.3	-1.5
	0.4nm,0.7s,baz=14,slow=6.7,SNR=2.5						
PDAR	**Pinedale Array**	**67.78**	**51**	pP	pP	19 03 53.1	-0.9
	0.9nm,1.0s,baz=315,slow=2.1,SNR=4.9						
ASAR	**Alice Springs**	**69.50**	**196**	P	**P**	**19 03 49.5**	**+0.4**
	0.8nm,0.7s,mb3.8,baz=13,slow=7.4,SNR=12						
ASAR				pP	pP	19 04 04.0	-1.1
	0.4nm,0.8s,baz=12,slow=5.3,SNR=1.8						
HFS	**Hagfors**	**69.70**	**338**	P	**P**	**19 03 49.3**	**-0.4**
	0.5nm,0.5s,mb3.8,baz=72,slow=4.6,SNR=4.2						
AKASG	**Malin Array Be**	**72.11**	**325**	P	**P**	**19 04 04.2**	**-0.1**
	0.1nm,0.2s,mb3.3,baz=34,slow=6.0,SNR=4.1						
AKASG				pP	pP	19 04 19.1	-1.2
	0.4nm,0.3s,baz=31,slow=17,SNR=2.5						
BRTR	**Keskin Array B**	**78.44**	**315**	P	**P**	**19 04 42.0**	**+1.4**
	0.3nm,0.5s,mb3.5,baz=37,slow=7.2,SNR=2.5						
GERES	**GERESS Array B**	**79.41**	**332**	P	**P**	**19 04 46.7**	**+1.0**
	0.2nm,0.4s,mb3.4,baz=23,slow=7.5,SNR=4.1						
TXAR	**Lajitas Array**	**80.46**	**58**	P	**P**	**19 04 52.3**	**+0.5**
	0.8nm,0.6s,mb3.8,baz=307,slow=4.1,SNR=10						
TXAR				pP	pP	19 05 08.6	+0.6
	1.5nm,0.9s,baz=298,slow=4.7,SNR=5.9						

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*NEIC **04** 19:07:04.7, 34.98S×70.49W, h2^{km}, ML2.8(GUC), After GUC.*

GUC 04 19:07:04.7±0.7**, 34.98S**×**70.49W, h2**^{km}±4^{km}**, MD3.6, ML2.8, 7C-4D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFDO	**San Fernando**	**0.56**	**310**	⇓*i*P	Pg	19 07 16.2	+0.3
SFDO				*i* S	Sg	19 07 24.9	+1.5
NICH	**Los Niches**	**0.61**	**267**	⇑*i*P	Pg	19 07 16.8	-0.1
NICH				*i* S	Sg	19 07 26.1	+1.2
CICH	**Cipreses**	**0.66**	**5**	⇓*i*P	Pg	19 07 17.5	-0.3
CICH				*i* S	Sg	19 07 27.4	+0.8
CACH	**El Canelo**	**0.86**	**354**	⇑*i*P	Pg	19 07 21.2	-0.7
CACH				*i* S	Sg	19 07 34.1	+0.7
LMEL	**Las Melosas**	**1.15**	**12**	⇑*i*P	Pb	19 07 26.2	-0.7
LMEL				*i* S	Sb	19 07 42.8	+0.6
LMEL				AMP		19 07 47.6	
	comp=N,291nm,0.2s						
LNV	**Longovilo**	**1.27**	**323**	⇓*i*P	Pb	19 07 28.3	-0.7
LNV				*i* S	Sb	19 07 45.9	+0.2
SJCH	**San Jose de Ma**	**1.34**	**5**	⇑*i*P	Pb	19 07 29.1	-1.1
SJCH				*i* S	Sb	19 07 47.8	+0.1
SJCH				AMP		19 07 53.0	
	comp=N,124nm,0.2s						
PCH	**Pirque**	**1.35**	**359**	*i* P	Pb	19 07 29.9	-0.5
PCH				*i* S	Sb	19 07 48.5	+0.5
TACH	**Talagante**	**1.37**	**344**	*e*P	Pb	19 07 30.0	-0.8
TACH				*i* S	Sb	19 07 48.9	+0.3
CLCH	**Cerro Calan**	**1.58**	**359**	⇑*i*P	Pn	19 07 34.0	+0.2
CLCH				*i* S	Sb	19 07 55.8	+1.3
CLCH				AMP		19 07 59.2	
	comp=E,277nm,0.2s						
CLCH				AMP		19 08 07.9	
	comp=E,343nm,0.9s						
FCH	**Farellones**	**1.65**	**6**	⇑*i*P	Pn	19 07 35.3	+0.4
FCH				*i* S	Sb	19 07 58.2	+1.4
FCH				AMP		19 08 00.5	
	comp=E,230nm,0.1s						
LCCH	**Las Cruces**	**1.74**	**329**	⇓*i*P	Pn	19 07 36.3	0.0
LCCH				*i* S	Sn	19 07 59.7	+0.4
JACH	**Jahuel**	**2.29**	**358**	⇑*i*P	Pn	19 07 45.5	+1.4

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*IDC **04** 19:21:15.9±16.0, 55.95S×28.01W, h111^{km}±138^{km}, mb3.9/4, mb1 3.9/4, mb1mx3.7/10, Error ellipse: s-maj=57.5km s-min=50.9km az=6.0*

*NEIC **04** 19:21:23.8±2.9, 55.90S×28.26W, h183^{km}±27^{km}, mb4.1/5, Error ellipse: s-maj=29.6km s-min=10.5km az=57.0*

ISC 04 19:21:22.7±4.0**, 55.9S**±0.2×**28.1W**±0.4**, h191**^{km}±41^{km}**, n25,** σ**0^{s}72**/15**, mb4.0**/8**, 5C, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**17.15**	**157**	⇑*i*	**P**	**19 25 12.1**	**+0.3**
VNA3	**Neumayer Olymp**	**17.33**	**160**	⇑*i*	**P**	**19 25 14.2**	**+0.4**
VNA2	**Neumayer--Watz**	**17.55**	**157**	⇑*i*	**P**	**19 25 16.9**	**+0.7**
SNAA	**Sanae**	**19.11**	**156**	⇑*i*	**P**	**19 25 30.5**	**-2.1**
SNAA	**Sanae**	**19.11**	**156**	*e*P	**P**	**19 25 29.9**	**-2.7**
	3.1nm,0.5s						
SNAA				⇑*i*P		19 25 30.5	
QSPA	**South Pole Qui**	**34.38**	**180**	*e*P	**P**	**19 27 52.6**	**-0.1**
	3.4nm,0.6s,mb4.2						
CPUP	**Villa Florida**	**36.33**	**312**	P	**P**	**19 28 09.3**	**-0.3**
	0.6nm,0.4s,mb3.6,baz=144,slow=10,SNR=2.3						
BDFB	**Brasilia**	**42.97**	**331**	P	**P**	**19 29 04.2**	**-0.2**
	1.4nm,0.4s,mb3.9,baz=91,slow=1.8,SNR=2.4						
LVC	**Limon Verde**	**44.79**	**301**	*e*P	**P**	**19 29 19.6**	**+0.8**
CASY	**Casey**	**54.24**	**161**	*e*P	**P**	**19 30 29.8**	**-0.3**
SAML	**Samuel**	**54.33**	**316**	*e*P	**P**	**19 30 30.8**	**-0.6**
	3.7nm,1.0s,mb4.1						
DBIC	**Dimbokro**	**65.21**	**26**	P	**P**	**19 31 45.8**	**+0.3**
	10nm,1.3s,mb4.5,baz=180,slow=11,SNR=3.1						
SDV	**Santo Domingo**	**73.54**	**316**	P	**P**	**19 32 36.2**	**-0.1**
	2.9nm,0.8s,mb4.1						
BLDU	**Ballidu**	**88.76**	**150**	*e*P	**P**	**19 34 01.2**	**+5.9**
	4.0nm,1.3s,mb4.2						
ASAR	**Alice Springs**	**99.31**	**163**	P	**P**	**19 34 44.7**	**+0.8**
	0.3nm,0.7s,mb3.8,baz=190,slow=5.5,SNR=3.6						
FINES	**FINESS Array B**	**124.45**	**28**	PKP	PKPdf	19 39 59.9	+2.0
	1.8nm,0.8s,baz=153,slow=4.3,SNR=17						
KAF	**Kangasniemi**	**125.07**	**28**	*e*p	PKPdf	19 40 00.4	+1.5
ARCES	**ARCESS Array B**	**130.95**	**22**	PKP	PKPdf	19 40 12.0	+2.0
	1.6nm,0.7s,baz=178,slow=1.3,SNR=11						
ARCES	**ARCESS Array B**	**130.95**	**22**	PKP	PKPdf	19 40 12.0	+2.0
YKA	**Yellowknife Ar**	**135.71**	**318**	PKP	PKPdf	19 40 19.8	+0.7
	0.5nm,0.4s,baz=130,slow=2.4,SNR=3.7						
MKAR	**Makanchi Array**	**137.29**	**72**	PKP	PKPdf	19 40 25.7	+3.4
	0.2nm,0.5s,baz=234,slow=3.8,SNR=2.4						
ZAL	**Zalesovo**	**142.71**	**64**	PKhKP		19 40 30.6	
	0.7nm,0.5s,baz=56,slow=5.1,SNR=3.7						
INK	**Inuvik**	**145.35**	**321**	PKPbc	PKPbc	19 40 39.0	+2.5
	2.9nm,0.6s,baz=114,slow=2.1,SNR=17						
INK	**Inuvik**	**145.35**	**321**	*e*PKPdf	PKPdf	19 40 38.8	+3.0
SONM	**Songino Array**	**151.20**	**87**	PKPbc	PKPdf	19 40 54.9	+9.1
	2.7nm,0.5s,baz=221,slow=3.8,SNR=46						

IDC 04 19:23:32.3±16.0**, 17.56S**×**174.27W, mb4.0**/5**, mb1 4.1**/5**, mb1mx3.9**/11**, Error ellipse: s-maj=312.0km s-min=144.2km az=79.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**37.39**	**260**	P	P	19 30 47.2	-1.7
	2.3nm,0.8s,baz=37,slow=15,SNR=2.2						
STKA	**Stephens Creek**	**42.26**	**242**	P	P	19 31 28.6	-0.6
	0.7nm,0.4s,baz=93,slow=8.6,SNR=5.7						
WRA	**Warramunga Arr**	**48.57**	**259**	P	P	19 32 16.5	-3.2
	0.3nm,0.5s,baz=98,slow=6.5,SNR=12						
ASAR	**Alice Springs**	**48.67**	**254**	P	P	19 32 18.2	-2.3
	2.5nm,0.5s,baz=90,slow=8.5,SNR=84						
FITZ	**Fitzroy Crossi**	**56.97**	**260**	P	P	19 33 20.8	-1.6
	1.3nm,0.8s,baz=171,slow=13,SNR=2.1						

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*IDC **04** 19:31:16.5±1.0, 21.50S×169.84E, mb4.1/7, mb1 4.3/8, mb1mx4.2/11, ML4.1/1, MS3.8/5, Ms1 3.8/5, ms1mx3.6/12, Error ellipse: s-maj=33.6km s-min=26.2km az=158.0*

*LDG **04** 19:31:18.5±0.2, 21.48S×169.20E, h10^{km}, Mb4.6/2, Error ellipse: s-maj=24.8km s-min=3.0km az=159.0*

*NEIC **04** 19:31:19.6±6.7, 21.52S×169.79E, h20^{km}±39^{km}, mb4.7/12, Error ellipse: s-maj=17.5km s-min=10.4km az=54.0*

*BJI **04** 19:31:25.0, 20.84S×169.34E, h36^{km}, mB4.6, mb4.7*

ISC 04 19:31:19.8±3.3**, 21.60S**±0.07×**169.65E**±0.08**, h27**^{km}±23^{km}**, n100,** σ**1^{s}01**/37**, mb4.4**/16**, MS3.7**/4**, 10C-2D, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.02**	**260**	⇓*e*P	**Pn**	**19 32 07.3**	**+0.3**
DZM				*e*S	**Sn**	**19 32 42.0**	**-0.7**
DZM	**Mont Dzumac**	**3.02**	**260**	⇓*e*P	**Pn**	**19 32 07.3**	**+0.3**
DZM				*e*S	**Sn**	**19 32 42.0**	**-0.7**
BKM	**Butte a Klehm**	**4.13**	**341**	⇑*i*P	**Pn**	**19 32 23.4**	**+0.6**
URZ	**Urewera**	**17.81**	**160**	P	**P**	**19 35 26.3**	**-1.2**
	0.6nm,0.3s,slow=5.1,SNR=2.8						
URZ				LR	LR	19 40 42.8	
	comp=Z,238nm,19.6s,baz=329,slow=32						
CTA	**Charters Tower**	**21.92**	**270**	*e*P	**P**	**19 36 15.2**	**+2.2**
	7.0nm,0.8s,mb4.1						
CTA	**Charters Tower**	**21.92**	**270**	P	**P**	**19 36 14.9**	**+2.0**
	3.5nm,0.8s,mb3.8,baz=77,slow=15,SNR=2.6						
CTA				LR	LR	19 44 01.8	
	comp=Z,179nm,18.9s,MS3.5,baz=85,slow=35						
CTAO	**Charters Tower**	**21.92**	**270**	*e*P	**P**	**19 36 19.2**	**+6.3**
	11nm,0.9s,mb4.3						
RPZ	**Rata Peaks**	**22.09**	**177**	LR	LR	19 43 22.3	
	comp=Z,256nm,18.4s,MS3.7,baz=165,slow=33						
STKA	**Stephens Creek**	**27.00**	**242**	*e*P	**P**	**19 37 02.2**	**+0.7**
	3.4nm,0.9s,mb3.9						
STKA	**Stephens Creek**	**27.00**	**242**	P	**P**	**19 37 02.7**	**+1.1**
	3.2nm,0.8s,mb3.9,baz=101,slow=8.2,SNR=5.8						
STKA				LR	LR	19 47 02.3	
	comp=Z,249nm,19.0s,MS3.8,baz=281,slow=35						
WB2	**Warramunga Arr**	**33.01**	**266**	*e*P	**P**	**19 37 55.0**	**-0.1**
ASAR	**Alice Springs**	**33.01**	**260**	P	**P**	**19 37 54.5**	**-0.5**
	0.9nm,0.5s,mb4.0,baz=73,slow=8.0,SNR=22						
ASAR				LR	LR	19 52 04.7	
	comp=Z,167nm,19.3s,MS3.8,baz=285,slow=38						
WRAB	**Tennant Creek**	**33.01**	**266**	*e*P	**P**	**19 37 55.0**	**-0.1**
	8.8nm,1.2s,mb4.6						
ASPA	**Alice Springs**	**33.01**	**260**	*e*P	**P**	**19 37 54.5**	**-0.6**
WRA	**Warramunga Arr**	**33.02**	**266**	P	**P**	**19 37 54.2**	**-0.9**
	3.1nm,1.1s,mb4.2,baz=94,slow=9.7,SNR=8.2						
WRA				PcP	PcP	19 40 39.5	+0.8
	0.2nm,0.7s,baz=103,slow=2.5,SNR=2.8						
FITZ	**Fitzroy Crossi**	**41.45**	**267**	*e*P	**P**	**19 39 05.2**	**-0.9**
	3.1nm,0.6s,mb4.1						
FITZ	**Fitzroy Crossi**	**41.45**	**267**	P	**P**	**19 39 06.8**	**+0.7**
	4.9nm,0.9s,mb4.1,baz=100,slow=3.9,SNR=7.6						
MBWA	**Marble Bar**	**46.33**	**261**	P	**P**	**19 39 47.4**	**+1.9**
	6.1nm,0.8s,mb4.6						
MAJO	**Matsushiro**	**65.01**	**332**	*e*P	**P**	**19 41 58.2**	**-1.6**
	6.6nm,0.7s,mb4.8						
MAT	**Matsushiro**	**65.01**	**332**	P	**P**	**19 41 58.4**	**-1.5**
MAT	**Matsushiro**	**65.01**	**332**	*e*P	**P**	**19 41 58.0**	**-1.9**
QSPA	**South Pole Qui**	**68.47**	**180**	*e*P	**P**	**19 42 20.5**	**-0.7**
	9.2nm,1.1s,mb4.7						
YSS	**Yuzh-Sakhalins**	**72.42**	**341**	*e*P	**P**	**19 42 46.2**	**+0.6**
	8.1nm,0.8s,mb4.7						
MDJ	**Mudanjiang**	**75.37**	**332**	*e*P	**P**	**19 43 02.9**	**+0.1**
	7.6nm,0.9s,mb4.6						
MAW	**Mawson**	**76.41**	**202**	P	**P**	**19 43 08.1**	**-0.1**
	1.2nm,0.7s,mb3.9,baz=110,slow=10,SNR=3.9						
ENH	**Enshi**	**77.47**	**310**	*e*P	**P**	**19 43 14.7**	**-0.1**
	11nm,1.0s,mb4.7						
SNAA	**Sanae**	**86.84**	**182**	⇑*i*P	**P**	**19 44 01.7**	**-0.9**
SNAA	**Sanae**	**86.84**	**182**	⇑*i*	**P**	**19 44 07.7**	**+5.1**
VNA3	**Neumayer Olymp**	**87.41**	**180**	⇑*i*P	**P**	**19 44 07.5**	**+2.1**
VNA3	**Neumayer Olymp**	**87.41**	**180**		**P**	**19 44 13.1**	**+7.7**
VNA2	**Neumayer--Watz**	**87.71**	**181**	⇑*i*P	**P**	**19 44 09.2**	**+2.4**
VNA2	**Neumayer--Watz**	**87.71**	**181**	⇑*i*	**P**	**19 44 14.2**	**+7.4**
VNA1	**Neumayer--Stat**	**88.00**	**181**	⇑*i*P	**P**	**19 44 09.2**	**+1.0**
GTA	**Gaotai**	**89.02**	**313**	*e*P	**P**	**19 44 15.2**	**+1.4**
GTA				AP	pP	19 44 22.2	-0.3
GTA				AMB	AMB		
	comp=Z,1.0nm,0.8s,mb4.2						
YAK	**Yakutsk**	**89.22**	**342**	P	**P**	**19 44 13.6**	**-0.6**
	comp=Z,8.0nm,1.0s,mb5.0						
SONM	**Songino Array**	**89.33**	**323**	P	**P**	**19 44 14.7**	**-0.3**
	comp=Z,2.4nm,0.9s,mb4.5,baz=139,slow=4.3,SNR=18						
MKAR	**Makanchi Array**	**103.68**	**315**	Pdiff	Pdif	19 45 21.5	+1.3
	comp=Z,0.3nm,0.7s,baz=101,slow=4.6,SNR=3.6						
MKAR				PKiKP		19 49 37.9	
	comp=Z,0.8nm,1.1s,baz=90,slow=4.3,SNR=2.5						
MKAR	**Makanchi Array**	**103.68**	**315**	Pdif	Pdif	19 45 21.5	+1.3
BRVK	**Borovoye**	**112.53**	**320**	P	PKPdf	19 49 53.0	-5.1
ZRNK	**Zerenda**	**113.29**	**320**	PKPdf	PKPdf	19 49 54.5	-5.2
ARU	**Arti**	**119.36**	**324**	*e*PKPdf	PKPdf	19 50 06.3	-5.1
KEV	**Kevo**	**126.91**	**345**	*e*p	PKPdf	19 50 20.1	-5.5
ARCES	**ARCESS Array B**	**127.43**	**345**	PKP	PKPdf	19 50 21.9	-4.7
	comp=Z,2.6nm,0.5s,baz=74,slow=1.8,SNR=30						
KAF	**Kangasniemi**	**132.38**	**338**	*e*p	PKPdf	19 50 31.1	-5.2
FINES	**FINESS Array B**	**132.90**	**337**	PKP	PKPdf	19 50 32.8	-4.5
	comp=Z,1.5nm,0.7s,baz=90,slow=1.9,SNR=12						
AKASG	**Malin Array Be**	**137.61**	**323**	PKP	PKPdf	19 50 41.5	-4.7
	comp=Z,0.6nm,0.5s,baz=49,slow=1.7,SNR=5.5						
NOA	**NORSAR Array B**	**137.81**	**345**	PKP	PKPdf	19 50 42.7	-3.6
	comp=Z,1.0nm,0.7s,baz=29,slow=2.1,SNR=3.9						
OKC	**Ostrava-Krasne**	**143.94**	**328**	*e*PKP	PKPdf	19 50 52.7	-4.7
PSZ	**Piszkesteto**	**144.25**	**325**	*e*PKPdf	PKPdf	19 50 51.0	-7.0
VYHS	**Vyhne**	**144.46**	**326**	*e*PKP	PKPdf	19 50 53.9	-4.5
UPC	**Upice**	**144.50**	**331**	*e*PKP	PKPdf	19 50 53.2	-5.2
PVCC	**Panska Ves**	**145.12**	**332**	*e*PKP	PKPdf	19 50 55.5	-4.0
BRG	**Berggiesshubel**	**145.14**	**333**	*i* P	PKPbc	19 50 55.6	+0.6
CLL	**Collm**	**145.20**	**334**	⇑*i*PKIKP	PKPdf	19 50 55.3	-4.3
	comp=Z,logA/T=1.4						
CLL				*i* *PPKP		19 51 02.1	
PRU	**Pruhonice**	**145.53**	**331**	*e*PKP	PKPdf	19 50 56.2	-4.0
ZST	**Bratislava**	**145.54**	**327**	*e*PKP	PKPdf	19 50 57.3	-3.0
CLZ	**Clausthal**	**145.79**	**337**	*e*PKPbc	PKPbc	19 50 57.7	+1.1
NKC	**Novy Kostel**	**146.25**	**333**	*e*PKP	PKPdf	19 50 58.9	-2.5
MOX	**Moxa**	**146.27**	**335**	*i* P	PKPbc	19 50 59.6	+1.9
KHC	**Kasperske Hory**	**146.58**	**331**	*e*PKP	PKPdf	19 50 59.7	-2.3
GEC2	**GERESS Array S**	**146.73**	**331**	*e*PKPbc	PKPbc	19 51 00.4	+1.5
GERES	**GERESS Array B**	**146.73**	**331**	PKP	PKPdf	19 50 57.7	-4.6
	comp=Z,4.9nm,0.7s,baz=34,slow=2.4,SNR=51						
GERES				PKPbc	PKPbc	19 51 00.4	+1.5
	comp=Z,6.0nm,0.8s,baz=34,slow=2.8,SNR=49						
GRA1	**Grafenberg Arr**	**147.17**	**334**	*e*PKPbc	PKPdf	19 51 01.5	-1.5
DMUB	**Kingscourt**	**147.64**	**356**	⇑*i*P	PKPdf	19 51 01.4	-2.2
DCN	**Croghan**	**148.22**	**357**	⇑*i*P	PKPdf	19 51 02.9	-1.6
VOY	**Vojsko**	**148.62**	**327**	*e*PKPdf	PKPdf	19 51 04.5	-0.9
WLF	**Walferdange**	**149.09**	**339**	*e*PKPbc	PKPdf	19 51 06.9	+0.8
GIVF	**Givet**	**149.13**	**341**	*e*PKP1	PKPdf	19 51 06.6	+0.5
	comp=Z,41nm,1.0s						
BAIF	**Baives**	**149.36**	**341**	*e*PKP1	PKPdf	19 51 07.3	+0.8
	comp=Z,23nm,0.9s						
BFO	**Black Forest**	**149.41**	**335**	*e*PKPbc	PKPdf	19 51 07.2	+0.6
CDF	**Champ du Feu**	**149.75**	**336**	*e*PKP1	PKPdf	19 51 08.0	+0.9
	comp=Z,27nm,1.0s						
HINF	**Hinteralfeld**	**150.40**	**336**	*e*PKP1	PKPdf	19 51 09.5	+1.3
HAU	**Haudompre**	**150.43**	**337**	*e*PKP1	PKPdf	19 51 09.6	+1.4
	comp=Z,33nm,0.8s						
MEZF	**Maizieres J'vi**	**150.46**	**339**	*e*PKP1	PKPdf	19 51 10.2	+2.0
	comp=Z,70nm,0.9s						
AQU	**L'Aquila**	**151.29**	**322**	*e*PKPbc	PKPdf	19 51 11.8	+2.1
CABF	**La Chapelle**	**151.69**	**336**	*e*PKP1	PKPdf	19 51 13.0	+2.9
	comp=Z,20nm,0.7s						
FLN	**La Foliniere**	**151.77**	**346**	*e*PKP1	PKPdf	19 51 12.4	+2.2
	comp=Z,51nm,0.9s						
LDF	**La Druitiere**	**151.85**	**346**	*e*PKP1	PKPdf	19 51 12.4	+2.1
	comp=Z,20nm,0.8s						
LOR	**Lormes**	**151.93**	**339**	*e*PKP1	PKPdf	19 51 13.1	+2.6
	comp=Z,22nm,0.9s						
GRR	**Gorron**	**152.21**	**346**	*e*PKP1	PKPdf	19 51 13.4	+2.6
	comp=Z,16nm,0.7s						
SSF	**Saint Saulge**	**152.23**	**339**	*e*PKP1	PKPdf	19 51 13.9	+3.0
	comp=Z,20nm,0.9s						
LPL	**La Plagne**	**152.34**	**334**	*e*PKP1	PKPdf	19 51 14.7	+3.6
	comp=Z,12nm,0.8s						
LPG	**La Plagne**	**152.34**	**334**	*e*PKP1	PKPdf	19 51 14.8	+3.7
	comp=Z,18nm,0.9s						
SMF	**Signal de Mont**	**152.48**	**339**	*e*PKP1	PKPdf	19 51 14.2	+2.9
AVF	**Avril sur Loir**	**152.51**	**339**	*e*PKP1	PKPdf	19 51 14.0	+2.7
SGMF	**Saint Gilles**	**152.68**	**349**	*e*PKP1	PKPdf	19 51 14.3	+2.8
	comp=Z,14nm,0.7s						
ROSF	**Rostrenen**	**152.72**	**350**	*e*PKP1	PKPdf	19 51 14.2	+2.6
BNI	**Bardonecchia**	**152.73**	**333**	*e*PKP	PKPdf	19 51 10.3	-1.3
BNI				*e*PKPbc	PKPdf	19 51 15.4	+3.7
BGF	**Bois d'Agland**	**152.88**	**340**	*e*PKP1	PKPdf	19 51 15.2	+3.4
	comp=Z,9.0nm,0.6s						
MBDF	**Montbardon**	**152.95**	**333**	*e*PKP1	PKPdf	19 51 15.5	+3.5
	comp=Z,5.2nm,0.8s						
QUIF	**Quistinic**	**153.11**	**349**	*e*PKP1	PKPdf	19 51 15.2	+3.1
ORIF	**Oris-en-Rattie**	**153.17**	**334**	*e*PKP1	PKPdf	19 51 16.1	+3.8
	comp=Z,12nm,0.7s						
TCF	**Toulx Ste Croi**	**153.33**	**340**	*e*PKP1	PKPdf	19 51 16.0	+3.5
	comp=Z,14nm,1.0s						

PGF	**Pioggiola**	**153.56**	**327**	*e*PKP1	PKPdf	19 51 16.7	+3.8
	comp=Z,22nm,1.0s						
VIVF	**Saint-Julien-l**	**153.71**	**335**	*e*PKP1	PKPdf	19 51 17.1	+4.1
MFF	**Saint Martin d**	**153.71**	**344**	*e*PKP1	PKPdf	19 51 16.7	+3.7
FRF	**La Foret Royal**	**153.93**	**331**	*e*PKP1	PKPdf	19 51 17.3	+3.9
SMRF	**Simiane la Rot**	**154.07**	**333**	*e*PKP1	PKPdf	19 51 18.2	+4.6
	comp=Z,21nm,1.1s						
LMR	**La Mourre**	**154.17**	**331**	*e*PKP1	PKPdf	19 51 17.9	+4.2
LASF	**Ste Croix**	**154.68**	**336**	*e*PKP1	PKPdf	19 51 19.2	+4.8
	comp=Z,19nm,1.2s						

IDC 04 19:51:59.7±2.3,15.45S×173.68W,mb3.8/3,mb1 4.1/3,mb1mx3.9/9,MS3.8/2,Ms1 3.8/2,ms1mx3.4/19,Error ellipse: s-maj=155.0km s-min=30.1km az=152.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**43.78**	**240**	LR	LR	20 14 40.5	
	comp=Z,87nm,18.3s,baz=27,slow=31						
WRA	**Warramunga Arr**	**49.58**	**257**	P	P	20 00 53.1	-1.8
	0.3nm,0.3s,baz=98,slow=6.0,SNR=20						
ASAR	**Alice Springs**	**49.84**	**252**	P	P	20 00 55.3	-1.6
	2.5nm,0.5s,baz=87,slow=8.1,SNR=53						
ASAR				LR	LR	20 19 49.3	
	comp=Z,125nm,18.7s,baz=282,slow=34						
TXAR	**Lajitas Array**	**80.86**	**56**	P	P	20 04 17.2	-0.3
	0.1nm,0.3s,baz=219,slow=8.0,SNR=3.4						
BRTR	**Keskin Array B**	**146.03**	**321**	PKPbc	PKPbc	20 11 40.0	-2.0
	1.2nm,0.8s,baz=63,slow=2.8,SNR=5.6						
GERES	**GERESS Array B**	**146.15**	**351**	PKPbc	PKPbc	20 11 40.7	-1.2
	0.3nm,0.6s,baz=350,slow=6.0,SNR=3.0						

IDC 04 20:05:10.8±1.3,37.02N×27.68E,mb3.6/1,mb1 3.4/6,mb1mx3.3/22,ML3.3/5,Error ellipse: s-maj=28.3km s-min=14.3km az=148.0

ISK 04 20:05:12.3,37.00N×27.85E,h16^{km},MD3.2

NEIC 04 20:05:13.7,36.86N×27.62E,h12^{km},MD3.4(ATH),After ATH.

ATH 04 20:05:13.0,36.86N×27.65E,h5^{km},MD3.4/6

ISC 04 20:05:11.6±0.5,36.92N±0.03×27.81E±0.03,h14^{km}±4^{km},n26,σ0^{s}95/40,mb3.3/1,3C,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.33**	**297**	*i* P	**Pg**	**20 05 18.9**	**+0.3**
BDRM				*i* S	**Sg**	**20 05 24.5**	**+1.2**
MLSB	**Milas**	**0.38**	**356**	*i* PG	**Pg**	**20 05 18.9**	**-0.7**
MLSB				*i* SG	**Sg**	**20 05 24.5**	**-0.4**
YER	**Yerkesik**	**0.44**	**60**	*i* PG	**Pg**	**20 05 19.8**	**-0.9**
NISR	**Nisiros**	**0.62**	**241**	*e*PB	**Pb**	**20 05 23.5**	**-0.3**
DALT	**Dalyan (Mudla)**	**0.68**	**102**	*i* PG	**Pg**	**20 05 25.2**	**-0.2**
DALT				*i* SG	**Sg**	**20 05 36.3**	**+1.7**
ARG	**Arkhangelos**	**0.74**	**160**	⇑*i*Pb	**Pb**	**20 05 26.4**	**+0.5**
ARG				*e*Sb	**Sb**	**20 05 40.0**	**+4.4**
AYDN	**Tasoluk**	**0.75**	**4**	⇑*i*P	**Pb**	**20 05 25.6**	**-0.3**
AYDN				*i* S	**Sb**	**20 05 35.0**	**-0.7**
SMG	**Samos**	**1.11**	**316**	*e*PG	**Pg**	**20 05 33.0**	**-0.9**
SMG				*e*SB	**Sb**	**20 05 48.7**	**+2.5**
DNZL	**Cakiroluk**	**1.25**	**52**	*i* P	**Pb**	**20 05 34.0**	**-0.6**
DNZL				*i* S	**Sb**	**20 05 51.1**	**+0.7**
DENT	**Denizli**	**1.28**	**49**	*i* PN	**Pn**	**20 05 35.4**	**+0.1**
DENT				*i* SN	**Sn**	**20 05 51.2**	**-1.1**
KARP	**Karpathos**	**1.46**	**201**	*e*PB	**Pb**	**20 05 39.0**	**+0.8**
IZM	**Izmir**	**1.54**	**344**	*i* PN	**Pn**	**20 05 38.5**	**-0.4**
KDAG	**Bornova**	**1.55**	**344**	⇑*i*P	**Pn**	**20 05 38.5**	**-0.5**
KDAG				*i* S	**Sb**	**20 05 59.1**	**+0.2**
KSL	**Kastellorizon**	**1.62**	**118**	*e*PN	**Pn**	**20 05 46.0**	**+5.9**
MANT	**Manisa**	**1.68**	**20**	*i* P	**Pn**	**20 05 42.7**	**+1.8**
MANT				*i* S	**Sn**	**20 06 04.0**	**+1.7**
ELL	**Elmali**	**1.69**	**95**	*i* PN	**Pn**	**20 05 42.0**	**+0.9**
APE	**Apeiranthos**	**1.83**	**275**	*e*PN	**Pn**	**20 05 42.0**	**-1.1**
AKS	**Akhisar**	**1.96**	**0**	*i* PN	**Pn**	**20 05 44.5**	**-0.4**
NPS	**Neapolis**	**2.43**	**228**	*e*PG	**Pg**	**20 05 55.0**	**-5.1**
ALT	**Altintas**	**2.81**	**40**	*e*PN	**Pn**	**20 05 56.3**	**-0.7**
IDI	**Anoyia**	**2.87**	**236**	Pn	**Pn**	**20 05 58.6**	**+0.7**
	1.1nm,0.3s,baz=319,slow=19,SNR=7.9						
IDI				Pg	**Pg**	**20 06 04.1**	**-4.8**
	1.4nm,0.3s,baz=156,slow=17,SNR=8.8						
IDI				Lg		20 06 38.7	
	3.3nm,0.3s,baz=126,slow=21,SNR=4.0						
BRTR	**Keskin Array B**	**5.37**	**57**	Pn	**Pn**	**20 06 33.1**	**-0.3**
	0.4nm,0.3s,baz=242,slow=16,SNR=7.1						
BRTR				Sn	**Sn**	**20 07 37.5**	**+1.6**
	0.1nm,0.3s,baz=132,slow=45,SNR=2.7						
ASF	**Jabal al Asfar**	**8.86**	**120**	Pn	**P**	**20 07 22.1**	**-0.2**
	0.3nm,0.3s,baz=244,slow=19,SNR=2.0						
ASF				Sn	**Sn**	**20 09 01.3**	**-1.7**
	0.2nm,0.3s,baz=76,slow=15,SNR=2.7						
EIL	**Elat**	**9.37**	**138**	Pn	**P**	**20 07 29.2**	**-0.2**
	0.3nm,0.3s,baz=357,slow=19,SNR=2.8						
EIL				Sn	**Sn**	**20 09 10.4**	**-5.2**
	0.4nm,0.3s,baz=338,slow=27,SNR=5.1						
GERES	**GERESS Array B**	**15.75**	**324**	Pn	**P**	**20 08 53.4**	**-1.2**
	0.1nm,0.3s,baz=134,slow=13,SNR=3.7						
MKAR	**Makanchi Array**	**41.02**	**58**	P	**P**	**20 12 55.2**	**-0.7**
	0.5nm,0.6s,mb3.3,baz=288,slow=7.7,SNR=7.3						

NEIC 04 20:12:25.1±4.8,9.50S×107.71E,h50^{km}±40^{km},mb4.0/3,Error ellipse: s-maj=50.5km s-min=12.7km az=58.0

DJA 04 20:12:28.2±1.0,10.95S×108.43E,h24^{km}±6^{km},MD5.0/3,ML5.1/3,Error ellipse: s-maj=93.7km s-min=21.3km az=160.0

IDC 04 20:12:45.0±5.2,8.97S×108.66E,h223^{km}±56^{km},mb3.3/9,mb1 3.4/10,mb1mx3.3/18,MS3.0/1,Ms1 3.0/1,ms1mx2.9/8,Error ellipse: s-maj=76.9km s-min=10.9km az=47.0

ISC 04 20:12:33.7±2.6,9.1S±0.1×108.4E±0.1,h137^{km}±22^{km},n19,σ1^{s}39/24,mb3.7/12,3C-5D,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KELI	**Kelakatan**	**6.10**	**82**	⇑*e*Pn	**P**	**20 14 04.2**	**+1.7**
	116nm,0.3s						
KELI	**Kelakatan**	**6.10**	**82**	⇓*e*P	**P**	**20 14 05.8**	**+3.3**
KELI				⇓*e*Sn	**S**	**20 15 13.4**	**+1.8**
KELI	**Kelakatan**	**6.10**	**82**	⇑*e*Pn	**P**	**20 14 04.2**	**+1.7**
KELI				*e*Sn	**S**	**20 15 13.4**	**+1.8**
RATI	**Rata**	**7.07**	**88**	⇑*e*Pn	**P**	**20 14 15.4**	**-0.4**
	195nm,0.3s						
RATI				⇓*e*Sn	**S**	**20 15 32.8**	**-2.3**
KEDI	**Kedomdong**	**7.66**	**86**	⇓*e*Pn	**P**	**20 14 22.5**	**-1.2**
	46nm,0.3s						
KEDI				⇓*e*Sn	**S**	**20 15 48.5**	**-0.8**
MBWA	**Marble Bar**	**16.24**	**139**	*e*P	**P**	**20 16 05.4**	**-10**
FITZ	**Fitzroy Crossi**	**19.00**	**120**	P	**P**	**20 16 49.1**	**+1.8**
	0.2nm,0.3s,baz=136,slow=6.5,SNR=6.1						
FITZ				S	**S**	**20 20 10.0**	**-0.7**
	0.1nm,0.3s,baz=185,slow=18,SNR=3.0						
FITZ				LR	LR	20 23 06.4	
	comp=Z,48nm,21.5s,baz=111,slow=33						
NWAO	**Narrogin (SRO)**	**25.10**	**162**	P	**P**	**20 17 43.3**	**-4.0**
	5.7nm,0.9s,mb4.1,baz=238,slow=20,SNR=3.0						
WRA	**Warramunga Arr**	**27.30**	**116**	P	**P**	**20 18 08.2**	**+0.5**
	1.1nm,0.8s,mb3.6,baz=288,slow=11,SNR=9.6						
WRAB	**Tennant Creek**	**27.31**	**116**	*e*P	**P**	**20 18 09.1**	**+1.3**
	4.2nm,1.0s,mb4.0						
ASAR	**Alice Springs**	**28.38**	**124**	P	**P**	**20 18 17.2**	**-0.2**
	0.5nm,0.9s,mb3.2,baz=302,slow=7.7,SNR=4.8						
CMAR	**Chiang Mai Arr**	**28.90**	**341**	P	**P**	**20 18 21.6**	**-0.5**
	0.7nm,0.7s,mb3.5,baz=179,slow=8.8,SNR=7.2						
STKA	**Stephens Creek**	**38.24**	**131**	P	**P**	**20 19 42.2**	**+0.1**
	1.3nm,0.6s,mb3.8,baz=105,slow=12,SNR=5.7						
LSA	**Lhasa**	**41.97**	**337**	*e*P	**P**	**20 20 12.8**	**-0.2**
	1.8nm,0.6s,mb3.9						
SONM	**Songino Array**	**56.69**	**358**	P	**P**	**20 22 06.4**	**+1.3**
	0.4nm,0.5s,mb3.5,baz=167,slow=7.8,SNR=4.2						
MKAR	**Makanchi Array**	**60.30**	**340**	P	**P**	**20 22 28.8**	**-1.4**
	2.3nm,0.7s,mb4.1,baz=143,slow=7.8,SNR=11						
KURK	**Kurchatov**	**64.91**	**340**	*e*P	**P**	**20 22 58.2**	**-2.4**
	1.1nm,0.7s,mb3.8						
BVAR	**Borovoye Array**	**69.80**	**337**	P	**P**	**20 23 33.1**	**+2.0**
	0.6nm,0.5s,mb3.6,baz=135,slow=8.4,SNR=6.1						
BRTR	**Keskin Array B**	**84.22**	**312**	P	**P**	**20 25 00.8**	**+10**
	0.4nm,0.5s,mb3.4,baz=108,slow=7.8,SNR=3.9						

IDC 04 20:14:24.7±1.5,25.54N×141.38E,mb3.5/3,mb1 3.7/3,mb1mx3.4/19,Error ellipse: s-maj=41.0km s-min=21.8km az=103.0,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.71**	**25**	Pn	Pn	20 14 56.2	+0.2
	24nm,0.3s,baz=273,slow=22,SNR=5.4						
CBIJ				Sn	Sn	20 15 18.0	-0.9
	15nm,0.3s,baz=301,slow=23,SNR=7.0						
SONM	**Songino Array**	**35.36**	**318**	P	P	20 21 22.1	-1.6
	0.4nm,0.7s,baz=129,slow=9.2,SNR=3.3						
WRA	**Warramunga Arr**	**45.72**	**189**	P	P	20 22 47.5	-2.1
	1.2nm,0.7s,baz=8.5,slow=8.7,SNR=9.9						
MKAR	**Makanchi Array**	**50.92**	**311**	P	P	20 23 27.5	-2.1
	0.3nm,0.7s,baz=101,slow=7.3,SNR=1.8						

IDC 04 20:17:25.2±1.8,27.98N×142.29E,mb3.8/8,mb1 3.9/8,mb1mx3.7/21,Error ellipse: s-maj=83.0km s-min=21.4km az=78.0

ISC 04 20:17:28.9±1.4,27.9N±0.2×142.0E±0.5,h33^{km},n9,σ0^{s}53/9,mb3.8/8,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SONM	**Songino Array**	**34.03**	**315**	P	**P**	**20 24 11.9**	**+0.1**
	0.1nm,0.4s,mb3.1,baz=107,slow=8.5,SNR=2.4						
WRA	**Warramunga Arr**	**48.13**	**190**	P	**P**	**20 26 08.5**	**+0.6**
	0.4nm,0.3s,mb3.9,baz=6.4,slow=7.7,SNR=11						
MKAR	**Makanchi Array**	**49.85**	**309**	P	**P**	**20 26 20.6**	**-0.2**
	0.2nm,0.4s,mb3.5,baz=86,slow=9.9,SNR=6.7						
ASAR	**Alice Springs**	**51.85**	**189**	P	**P**	**20 26 35.6**	**-0.6**
	0.2nm,0.5s,mb3.3,baz=355,slow=4.4,SNR=4.4						
BVAR	**Borovoye Array**	**57.35**	**317**	P	**P**	**20 27 16.3**	**+0.2**
	2.7nm,0.4s,mb4.6,baz=89,slow=6.9,SNR=24						
KAF	**Kangasniemi**	**76.69**	**334**	*e*p	**P**	**20 29 16.9**	**-1.0**
FINES	**FINESS Array B**	**77.17**	**334**	P	**P**	**20 29 21.1**	**+0.5**
	1.1nm,0.5s,mb4.1,baz=108,slow=6.0,SNR=18						
HFS	**Hagfors**	**82.63**	**337**	P	**P**	**20 29 49.6**	**-0.2**
	0.7nm,0.5s,mb4.0,baz=27,slow=3.3,SNR=6.3						
NOA	**NORSAR Array B**	**82.81**	**338**	P	**P**	**20 29 51.3**	**+0.6**
	0.6nm,0.8s,mb3.6,baz=60,slow=3.6,SNR=2.5						

IDC 04 20:18:37.4±8.0,5.73N×124.08E,h514^{km}±114^{km},mb3.1/8,mb1 3.3/8,mb1mx3.1/20,Error ellipse: s-maj=46.8km s-min=13.8km az=61.0

NEIC 04 20:18:41.9±3.9,5.57N×123.87E,h581^{km}±58^{km},mb3.9/7,Error ellipse: s-maj=31.2km s-min=11.3km az=57.0

ISC 04 20:18:41.4±0.7,5.6N±0.1×123.9E±0.2,h600^{km},n16,σ0^{s}91/16,mb3.9/15,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**23.57**	**176**	P	**P**	**20 23 08.3**	**-0.7**
	3.7nm,1.0s,mb4.0,baz=39,slow=9.7,SNR=6.2						
MBWA	**Marble Bar**	**26.87**	**189**	*e*P	**P**	**20 23 37.0**	**-0.9**
	1.5nm,0.6s,mb3.8						
WRAB	**Tennant Creek**	**27.34**	**158**	*e*P	**P**	**20 23 41.2**	**-0.7**
	14nm,1.1s,mb4.5						
WRA	**Warramunga Arr**	**27.34**	**158**	P	**P**	**20 23 40.9**	**-1.1**
	1.7nm,0.3s,mb4.1,baz=341,slow=9.2,SNR=52						
CMAR	**Chiang Mai Arr**	**27.52**	**300**	P	**P**	**20 23 43.6**	**+0.1**
	0.9nm,0.6s,mb3.6,baz=117,slow=7.2,SNR=8.6						
ASAR	**Alice Springs**	**30.65**	**162**	P	**P**	**20 24 10.9**	**+0.7**
	1.8nm,0.4s,mb4.1,baz=342,slow=7.1,SNR=36						
NWAO	**Narrogin (SRO)**	**38.79**	**189**	P	**P**	**20 25 19.1**	**+1.4**
	5.3nm,0.8s,mb4.1,baz=62,slow=14,SNR=3.5						
LSA	**Lhasa**	**39.12**	**312**	P	**P**	**20 25 21.9**	**+1.7**
	2.8nm,0.8s,mb3.8						
STKA	**Stephens Creek**	**40.87**	**157**	P	**P**	**20 25 36.2**	**+1.9**
	1.0nm,0.5s,mb3.6,baz=317,slow=9.8,SNR=3.9						
STKA	**Stephens Creek**	**40.87**	**157**	P	**P**	**20 25 36.2**	**+1.9**
PALK	**Pallekele**	**42.95**	**275**	P	**P**	**20 25 50.1**	**-0.8**
	14nm,1.1s,mb4.4						
SONM	**Songino Array**	**44.71**	**343**	P	**P**	**20 26 03.6**	**-0.5**
	0.6nm,0.8s,mb3.2,baz=161,slow=8.5,SNR=5.5						
MKAR	**Makanchi Array**	**54.46**	**326**	P	**P**	**20 27 15.4**	**-0.1**
	1.3nm,0.4s,mb3.6,baz=121,slow=8.0,SNR=33						
KURK	**Kurchatov**	**58.70**	**328**	*e*P	**P**	**20 27 44.3**	**-0.2**
	4.2nm,0.7s,mb3.7						
ZRNK	**Zerenda**	**64.97**	**327**	*e*P	**P**	**20 28 24.9**	**-0.1**
	1.8nm,0.5s,mb3.8						
ARU	**Arti**	**71.89**	**328**	*e*P	**P**	**20 29 06.0**	**-0.3**
	3.0nm,0.7s,mb3.9						

IDC 04 20:23:41.4±3.5,15.48S×173.57W,mb3.9/4,mb1 4.3/4,mb1mx3.9/13,Error ellipse: s-maj=183.0km s-min=27.0km az=145.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**49.67**	**257**	P	P	20 32 34.7	-2.5
	1.8nm,0.7s,baz=90,slow=6.9,SNR=19						
ASAR	**Alice Springs**	**49.93**	**252**	P	P	20 32 37.7	-1.5
	7.6nm,0.8s,baz=86,slow=7.9,SNR=70						
PDAR	**Pinedale Array**	**82.43**	**42**	P	P	20 36 05.9	-1.1
	0.3nm,0.7s,baz=225,slow=3.8,SNR=3.5						
ILAR	**Eielson Array**	**82.55**	**11**	P	P	20 36 05.8	-1.3
	0.5nm,1.0s,baz=198,slow=5.7,SNR=4.4						
MLR	**Muntele Rosu**	**145.87**	**335**	PKPbc	PKPbc	20 43 22.3	-0.7
	2.3nm,0.7s,baz=225,slow=1.4,SNR=4.4						
BRTR	**Keskin Array B**	**146.11**	**321**	PKPbc	PKPbc	20 43 23.6	-0.3
	1.9nm,0.8s,baz=63,slow=2.8,SNR=7.3						
GERES	**GERESS Array B**	**146.19**	**351**	PKPbc	PKPbc	20 43 22.6	-1.1
	0.5nm,0.8s,baz=27,slow=4.4,SNR=4.5						

IDC 04 20:24:05.1±0.5,15.28S×173.48W,mb4.6/20,mb1 4.7/21,mb1mx4.7/22,ML4.3/1,MS5.1/10,Ms1 5.1/10,ms1mx5.0/14,Error ellipse: s-maj=24.4km s-min=13.5km az=140.0

BJI 04 20:24:07.4,14.32S×173.49W,h5^{km},mB5.7,mb5.2,Ms5.3,Msz5.1

HRVD 04 20:24:07.8±0.1,14.83S×173.18W,h12^{km},MW5.7/77,Centroid moment Tensor Solution. LP body waves: s59,c120;Mantle waves: s77,c172; Half duration: 1^{s}7 Moment tensor: Scale 10^{17}Nm; M$_{rr}$0.55±.04; M$_{\theta\theta}$1.31±.04; M$_{\phi\phi}$-1.85±.04; M$_{r\theta}$0.78±.12; M$_{\theta\phi}$1.97±.03; M$_{\phi r}$2.68±.10; Best double couple: M$_0$3.79×10^{17} NP1:ϕ_s111°,δ41°,λ8°. NP2:ϕ_s15°,δ85°,λ131°. Principal axes: T 3.67, Plg36°, Azm321°; N .24, Plg41°, Azm191°; P -3.91, Plg28°, Azm74°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

NEIC 04 20:24:07.8±0.2,14.83S×173.24W,h10^{km},mb5.3/52,MS5.3/68,MW5.6 Error ellipse: s-maj=11.4km s-min=7.2km az=143.0,Moment Tensor Solution. s8 Moment tensor: Scale 10^{17}Nm; M$_{rr}$1.13; M$_{\theta\theta}$0.30; M$_{\phi\phi}$-1.42; M$_{r\theta}$1.53; M$_{\theta\phi}$0.18; M$_{\phi r}$2.52; Best double couple: M$_0$3.2×10^{17} NP1:ϕ_s149°,δ18°,λ34°. NP2:ϕ_s27°,δ80°,λ105°. Principal axes: T 3.33, Plg52°, Azm314°; N -.23, Plg15°, Azm204°; P -3.11, Plg34°, Azm104°;

SYO 04 20:24:07.5,14.85S×173.29W,h10^{km},MB5.3,MS5.3

MOS 04 20:24:10.3±1.3,14.78S×173.25W,h33^{km},mb5.5/31,MS5.2/27,Error ellipse: s-maj=17.2km s-min=9.5km az=65.4

ORF 04 20:24:16.8,14.51S×174.79W,h30^{km},mb6.2

ISC 04 20:24:06.8±0.2,14.91S±0.06×173.34W±0.05,h15^{km},h15^{km}±2.3^{km}:pP-P,n448,σ1^{s}20/189,mb5.1/85,MS5.2/94,38C-5D,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**8.73**	**250**	Pn	**P**	**20 26 20.9**	**+5.4**
	2µm,1.7s,SNR=35						
RAR	**Rarotonga**	**14.34**	**118**	Pn	**P**	**20 27 24.1**	**-7.3**
	1.3nm,0.3s,baz=297,slow=4.8,SNR=5.5						
RAR				Sn	**S**	**20 30 02.0**	**-9.0**
	1.0nm,0.3s,baz=150,slow=23,SNR=2.5						
RAR	**Rarotonga**	**14.34**	**118**	*e*P	**P**	**20 27 21.5**	**-10**
RAR				pmax	pmax		
	comp=Z,140nm,1.0s						
RAR	**Rarotonga**	**14.34**	**118**	*e*P	**P**	**20 27 21.4**	**-10**
	comp=Z,139nm,1.0s						
DZM	**Mont Dzumac**	**20.44**	**247**	⇑*e*P	**P**	**20 28 44.6**	**-1.8**
DZM	**Mont Dzumac**	**20.44**	**247**	⇑*e*P	**P**	**20 28 44.6**	**-1.8**
NOUC	**Port Laguerre**	**20.58**	**247**	*e*P	**P**	**20 28 50.2**	**+2.4**
NOUC	**Port Laguerre**	**20.58**	**247**	*e*P	**P**	**20 28 50.2**	**+2.4**
PPT	**Papeete**	**22.96**	**100**	P	**P**	**20 29 12.4**	**+0.4**
	comp=Z,119nm,1.1s,mb5.2,baz=2.2,slow=18,SNR=4.3						
PPT	**Papeete**	**22.96**	**100**	*e*P	**P**	**20 29 15.4**	**+3.5**
	comp=Z,161nm,1.3s,mb5.3						
PPT	**Papeete**	**22.96**	**100**	*e*L		20 33 27.6	
PPT				*e*R		20 34 32.1	
	comp=Z,12µm,26.2s,baz=267						
PAE	**Paea**	**22.96**	**100**	*e*P	**P**	**20 29 15.1**	**+3.2**
	comp=Z,220nm,1.3s,mb5.4						
TIAR	**Tiarei**	**23.18**	**100**	*e*P	**P**	**20 29 17.8**	**+3.8**
	comp=Z,433nm,1.4s,mb5.7						
TVO	**Taravao**	**23.28**	**100**	*e*P	**P**	**20 29 19.0**	**+4.0**
	comp=Z,371nm,1.3s,mb5.7						
TBI	**Tubuai**	**24.04**	**114**	*e*L		20 33 57.6	
TBI				*e*R		20 34 41.5	
	comp=Z,11µm,27.2s,baz=284						
URZ	**Urewera**	**24.75**	**198**	P	**P**	**20 29 24.8**	**-4.3**
	comp=Z,7.0nm,0.7s,mb4.3,baz=111,slow=17,SNR=3.0						
RPZ	**Rata Peaks**	**31.66**	**202**	P	**P**	**20 30 27.1**	**-4.5**
	comp=Z,9.5nm,1.0s,mb4.6,baz=38,slow=19,SNR=5.1						
RKT	**Rikitea**	**37.09**	**109**	*e*P	**P**	**20 31 23.1**	**+4.6**
	comp=Z,199nm,1.6s,mb5.7						
RKT	**Rikitea**	**37.09**	**109**	*e*L		20 39 37.8	
RKT				*e*R		20 41 05.9	
	comp=Z,7µm,29.5s,baz=282						
CTA	**Charters Tower**	**38.81**	**256**	P	**P**	**20 31 29.6**	**-3.4**
	comp=Z,4.4nm,0.8s,mb4.2,baz=90,slow=12,SNR=3.4						
CTA				LR	LR	20 45 04.6	
	comp=Z,2µm,20.1s,MS4.9,baz=81,slow=33						
CTAO	**Charters Tower**	**38.81**	**256**	PFAKE		20 31 50.0	+17
CTAO				LR	LR		
	comp=Z,2µm,22.0s,MS5.0						
TOO	**Toolangi**	**42.82**	**230**	*e*P	**P**	**20 32 02.7**	**-3.2**
	comp=Z,21nm,1.2s,mb4.7						
STKA	**Stephens Creek**	**44.34**	**240**	*e*P	**P**	**20 32 14.2**	**-4.1**
	comp=Z,10nm,1.1s,mb4.5						
STKA	**Stephens Creek**	**44.34**	**240**	P	**P**	**20 32 14.5**	**-3.8**
	comp=Z,5.1nm,1.0s,mb4.2,baz=66,slow=9.4,SNR=6.5						
STKA				LR	LR	20 48 35.5	
	comp=Z,3µm,20.7s,MS5.1,baz=68,slow=33						
WB2	**Warramunga Arr**	**50.01**	**256**	*e*P	**P**	**20 32 58.8**	**-4.1**
WB2				*e*		20 33 07.1	
WRAB	**Tennant Creek**	**50.01**	**256**	⇑*e*P	**P**	**20 32 57.8**	**-5.1**
	comp=Z,83nm,1.1s,mb5.7						
WRAB				*e*		20 33 07.1	
WRA	**Warramunga Arr**	**50.02**	**256**	P	**P**	**20 32 58.7**	**-4.3**
	comp=Z,8.8nm,0.8s,mb4.8,baz=90,slow=7.1,SNR=61						
WRA				LR	LR	20 52 02.1	
	comp=Z,2µm,20.2s,MS5.1,baz=85,slow=34						
ASAR	**Alice Springs**	**50.32**	**252**	P	**P**	**20 33 01.4**	**-3.9**
	comp=Z,47nm,0.6s,mb5.7,baz=86,slow=8.0,SNR=89						
ASAR				LR	LR	20 52 25.2	
	comp=Z,4µm,21.0s,MS5.4,baz=90,slow=34						
ASPA	**Alice Springs**	**50.33**	**252**	*e*P	**P**	**20 33 00.8**	**-4.5**
ASPA				*e*		20 33 08.9	
ASPA				*e*		20 35 31.3	
KAKA	**Kakadu**	**52.64**	**265**	*e*P	**P**	**20 33 18.7**	**-4.2**
	comp=Z,14nm,0.9s,mb4.9						
FITZ	**Fitzroy Crossi**	**58.37**	**258**	P	**P**	**20 34 01.8**	**-2.4**
	comp=Z,1.3nm,0.7s,mb4.1,baz=149,slow=11,SNR=4.7						
SBA	**Scott Base**	**63.74**	**185**	*e*P	**P**	**20 34 39.4**	**-0.4**
SBA				pmax	pmax		
	comp=Z,23nm,1.1s,mb5.1						
SBA	**Scott Base**	**63.74**	**185**	*e*P	**P**	**20 34 39.4**	**-0.4**
	comp=Z,23nm,1.2s,mb5.1						
MAJO	**Matsushiro**	**68.61**	**320**	PFAKE		20 35 20.0	+8.5
MAJO				LR	LR		
	comp=Z,3µm,21.0s,MS5.5						
MAT	**Matsushiro**	**68.61**	**320**	P	**P**	**20 35 10.5**	**-1.0**
MAT				S	S	20 44 15.0	+3.1
MAT	**Matsushiro**	**68.61**	**320**	*e*P	**P**	**20 35 11.0**	**-0.5**
MAT				pmax	pmax		
	comp=Z,40nm,1.6s,mb5.1						
MAT				MLR	MLR		
	comp=Z,3µm,22.0s,MS5.5						
MAT	**Matsushiro**	**68.61**	**320**	*e*P	**P**	**20 35 11.0**	**-0.5**
	comp=Z,40nm,1.6s,mb5.1						
MAT				*e*S	S	20 44 24.0	+12
MAT				LR	LR		
	comp=Z,3µm,22.0s,MS5.5						
UNV	**Unalaska Valle**	**68.72**	**4**	*e*P	**P**	**20 35 15.9**	**+4.0**
	comp=Z,136nm,1.7s,mb5.6						
SKR	**Severo-Kuril's**	**70.58**	**340**	*e*P	**P**	**20 35 29.0**	**+5.7**
SKR				*e*		20 35 47.0	
SKR				*e*PPP	PPP	20 39 47.0	+4.7
SKR				*e*S	S	20 44 42.0	+7.0
SKR				*e*PS	PS	20 45 04.0	-0.6
SKR				*e*		20 45 22.0	
SKR				*e*SSS	SSS	20 52 06.0	-8.0
SKR				pmax	pmax		
	comp=Z,900nm,6.0s						
SKR				smax			
	comp=N,1µm,10.0s						
SKR				smax			
	comp=E,1µm,10.0s						
SKR				MLR	MLR		
	comp=N,1µm,18.0s,MS5.4						
SKR				MLR	MLR		
	comp=E,1µm,18.0s,MS5.4						
SKR				MLR	MLR		
	comp=Z,1µm,18.0s,MS5.2						
CASY	**Casey**	**70.88**	**205**	*e*P	**P**	**20 35 25.1**	**+0.3**
	comp=Z,12nm,1.1s,mb4.7						
CASY				LR	LR		
	comp=Z,815nm,20.0s,MS5.0						
ASAJ	**Asahikawa**	**71.16**	**328**	P	**P**	**20 35 27.9**	**+0.9**
	comp=Z,7.9nm,0.9s,mb4.6,baz=258,slow=13,SNR=5.8						
HOPS	**Hopland**	**71.25**	**39**	PFAKE		20 35 40.0	+12
HOPS				LR	LR		
	comp=Z,2µm,21.0s,MS5.3						
PET	**Petropavlovsk**	**71.83**	**343**	*e*P	**P**	**20 35 31.5**	**+0.7**
PET				*e*		20 38 08.7	
PET				*i* S	S	20 44 51.5	+2.2
PET				*e*SP	SP	20 45 20.7	+1.0
PET				*e*PS	PS	20 45 26.5	+5.0
PET				*e*PPS	PPS	20 45 36.4	+1.9
PET				pmax	pmax		
	comp=Z,300nm,4.0s						
PET				pmax	pmax		
	comp=Z,100nm,11.0s						
PET				pmax	pmax		
	comp=Z,300nm,3.4s						
PET				smax			
	comp=N,700nm,8.0s						
PET				smax			
	comp=N,800nm,15.0s						
PET				smax			
	comp=E,500nm,15.7s						
PET				MLR	MLR		
	comp=Z,700nm,19.0s,MS5.0						
ISA	**Isabella**	**72.26**	**44**	PFAKE		20 35 40.0	+6.4
ISA				LR	LR		
	comp=Z,160nm,21.0s,MS4.3						
CMB	**Columbia Colle**	**72.36**	**41**	*e*P	**P**	**20 35 33.7**	**-0.5**
CMB				*e*		20 35 41.4	
CMB				pmax	pmax		
	comp=Z,25nm,1.1s,mb5.1						
CMB				MLR	MLR		
	comp=Z,2µm,20.0s,MS5.3						
CMB	**Columbia Colle**	**72.36**	**41**	*e*P	**P**	**20 35 33.7**	**-0.5**
	comp=Z,25nm,1.2s,mb5.0						
CMB				*e*		20 35 41.4	
CMB				LR	LR		
	comp=Z,1µm,20.0s,MS5.3						
WDC	**Whiskeytown Da**	**72.56**	**38**	*e*P	**P**	**20 35 33.2**	**-2.1**
WDC				*e*		20 35 43.6	
WDC				pmax	pmax		
	comp=Z,39nm,1.5s,mb5.1						
WDC	**Whiskeytown Da**	**72.56**	**38**	*e*P	**P**	**20 35 33.2**	**-2.1**
	comp=Z,39nm,1.5s,mb5.1						
WDC				*e*		20 35 43.6	
ASMM	**Slate Mountain**	**72.63**	**41**	*e*P	**P**	**20 35 33.7**	**-2.1**
YSS	**Yuzh-Sakhalins**	**73.09**	**330**	*e*P	**P**	**20 35 37.2**	**-1.1**
YSS				*e*		20 35 45.0	
YSS				*e*S	S	20 45 07.0	+3.2
YSS				*e*PPS	PPS	20 45 51.0	-1.3
YSS	**Yuzh-Sakhalins**	**73.09**	**330**	*e*P	**P**	**20 35 36.7**	**-1.6**
	comp=Z,28nm,0.9s,mb5.2						
MTUM	**Tungsten Hills**	**73.15**	**43**	P	**P**	**20 35 36.8**	**-2.1**
YBH	**Yreka Blue Hor**	**73.17**	**37**	P	**P**	**20 35 39.8**	**+0.8**
	comp=Z,5.5nm,0.9s,mb4.5,baz=228,slow=6.2,SNR=5.6						
YBH	**Yreka Blue Hor**	**73.17**	**37**	*e*P	**P**	**20 35 38.7**	**-0.2**
YBH				pmax	pmax		
	comp=Z,21nm,1.0s						
YBH	**Yreka Blue Hor**	**73.17**	**37**	*e*P	**P**	**20 35 38.7**	**-0.2**
	comp=Z,21nm,1.0s,mb5.0						
DAC	**Darwin (Calif)**	**73.19**	**44**	PFAKE		20 35 50.0	+11
DAC				LR	LR		
	comp=Z,3µm,21.0s,MS5.5						
BEKR	**Beckwourth**	**73.45**	**40**	*e*P	**P**	**20 35 39.3**	**-1.3**
	comp=Z,40nm,1.4s,mb5.2						
WCN	**Washoe City**	**73.50**	**41**	*e*P	**P**	**20 35 41.2**	**+0.3**

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WCN                                pmax    pmax
      comp=Z,26nm,1.0s,mb5.1
WCN   Washoe City        73.50  41 eP      P      20 35 41.2 +0.3
      comp=Z,26nm,1.0s,mb5.1
HUMO  Hull Mountain      73.58  36 eP      P      20 35 41.8 +0.5
      comp=Z,42nm,1.3s,mb5.2
HUMO                               e              20 35 51.0
HUMO                               LR      LR
      comp=Z,1μm,20.0s,MS5.2
PAHR  Pah Rah Range      73.97  40 eP      P      20 35 42.9 -0.6
      comp=Z,20nm,1.1s,mb5.0
MNV   Mina               74.02  42 eP      P      20 35 43.4 -0.5
MNV                                pmax    pmax
      comp=Z,33nm,1.1s,mb5.2
MNV   Mina               74.02  42 eP      P      20 35 43.4 -0.5
      comp=Z,32nm,1.1s,mb5.2
LDFC  Landfair           74.26  46 eP      P      20 35 43.6 -1.7
LDFC                               e              20 35 54.3
TPH   Tonopah            74.43  43 eP      P      20 35 45.5 -0.8
TPH                                pmax    pmax
      comp=Z,39nm,1.0s,mb5.3
TPH   Tonopah            74.43  43 eP      P      20 35 45.5 -0.8
      comp=Z,39nm,1.1s,mb5.2
TPNV  Topopah Spring     74.47  44 eP      P      20 35 46.6 +0.1
TPNV                               pmax    pmax
      comp=Z,15nm,1.0s,mb4.9
TPNV  Topopah Spring     74.47  44 eP      P      20 35 46.6  0.0
      comp=Z,15nm,1.0s,mb4.9
COR   Corvallis          74.64  35 PFAKE          20 36 00.0  +13
COR                                LR      LR
      comp=Z,1μm,21.0s,MS5.1
MOD   Modoc              74.70  38 eP      P      20 35 46.8 -0.9
      comp=Z,28nm,1.1s,mb5.1
NEN   Nelson             74.74  46 eP      P      20 35 47.7 -0.5
NEN                                e              20 36 00.8
QSPA  South Pole Qui     75.13 180 eP      P      20 35 49.9 +0.3
      comp=Z,35nm,1.0s,mb5.2
QSPA                               LR      LR
      comp=Z,460nm,20.1s,MS4.8
BMN   Battle Mountai     75.74  41 eP      P      20 35 51.1 -2.7
BMN                                pmax    pmax
      comp=Z,25nm,1.0s,mb5.1
BMN                                MLR     MLR
      comp=Z,1μm,21.0s,MS5.2
BMN   Battle Mountai     75.74  41 eP      P      20 35 51.1 -2.7
      comp=Z,25nm,1.1s,mb5.0
BMN                                LR      LR
      comp=Z,1μm,21.0s,MS5.2
WVOR  Wild Horse Val     76.01  39 eP      P      20 35 55.0 -0.3
WVOR                               e              20 36 04.5
WVOR                               pmax    pmax
      comp=Z,42nm,1.1s,mb5.3
WVOR  Wild Horse Val     76.01  39 eP      P      20 35 55.0 -0.2
      comp=Z,42nm,1.2s,mb5.2
WVOR                               e              20 36 04.5
TUC   Tucson             76.03  51 eP      P      20 35 55.2 -0.4
TUC                                e              20 36 03.8
TUC                                pmax    pmax
      comp=Z,26nm,1.2s,mb5.0
TUC   Tucson             76.03  51 eP      P      20 35 55.2 -0.4
      comp=Z,26nm,1.2s,mb5.0
TUC                                e              20 36 03.8
VLA   Vladivostok        76.45 322⇓iP      P      20 36 03.0 +5.3
VLA                                i S     S      20 45 50.0 +8.8
VLA                                i              20 46 14.0
VLA                                ePS     PS     20 46 40.0  +18
VLA                                pmax    pmax
      comp=N,500nm,5.0s
VLA                                pmax    pmax
      comp=Z,700nm,5.0s
VLA                                pmax    pmax
      comp=E,500nm,8.0s
VLA                                pmax    pmax
      comp=Z,500nm,8.0s
VLA                                smax
      comp=N,2μm,7.6s
VLA                                smax
      comp=E,1μm,8.0s
VLA                                MLR     MLR
      comp=N,1μm,19.0s,MS5.2
VLA                                MLR     MLR
      comp=Z,600nm,19.0s,MS4.9
VLA                                MLR     MLR
      comp=E,500nm,20.0s,MS5.2
VGB   Gordon Butte       76.62  35 eP      P      20 35 58.5 -0.1
VGB                                e              20 36 08.4
INCN  Inchon             76.75 315 eP      P      20 35 59.7 +0.2
      comp=E,41nm,1.1s,mb5.3
INCN                               e              20 36 07.9
INCN                               LR      LR
      comp=Z,1μm,19.0s,MS5.2
GNW   Green Mountain     76.81  32 eP      P      20 35 59.9 +0.3
GNW                                e              20 36 08.6
LON   Longmire           76.82  34 eP      P      20 35 56.1 -3.6
WUAZ  Wupatki            77.12  48 eP      P      20 36 02.0 +0.3
      comp=Z,28nm,1.2s,mb5.1
ELK   Elko               77.17  41 eP      P      20 35 59.9 -1.9
ELK                                pmax    pmax
      comp=Z,32nm,1.1s
ELK                                MLR     MLR
      comp=Z,1μm,21.0s
ELK   Elko               77.17  41 eP      P      20 35 59.9 -1.9
      comp=Z,32nm,1.2s,mb5.1
ELK                                LR      LR
      comp=Z,1μm,21.0s,MS5.2
RMW   Rattlesnake Mo     77.27  33 eP      P      20 36 08.1 +5.9
SLKM  Skilak Lake        77.42  11 eP      P      20 36 00.7 -2.0
JCW   Jim Creek          77.67  32 P       P      20 36 07.2 +2.8
SSE   Sheshan            77.71 307 P       P      20 36 06.1 +1.1
SSE                                S       S      20 45 53.5 -1.6
SSE                                AMB     AMB
      comp=Z,24nm,0.7s,mb5.2
SSE                                AMB     AMB
      comp=Z,539nm,6.5s
SSE                                LR      LR
      comp=N,280nm,24.1s,MS4.9
SSE                                LR      LR
      comp=E,658nm,24.1s,MS4.9
SSE                                LR      LR
      comp=Z,863nm,25.1s,MS5.0
HAWA  Hanford            77.84  35 eP      P      20 36 05.0 -0.3
      comp=Z,52nm,1.5s,mb5.2
HAWA                               e              20 36 14.9
HAWA                               LR      LR
      comp=Z,1μm,22.0s,MS5.1
MIR   Mirnyy             77.90 204⇑eP      P      20 36 05.4 +0.2
MIR                                e              20 39 08.0
MIR                                eS      S      20 46 00.0 +3.7
MIR                                pmax    pmax
      comp=Z,26nm,1.4s,mb5.0
MSU   Marysvale          78.03  45 eP      P      20 36 07.3 +0.7
MSU                                e              20 36 15.3
FIB   Fire Island        78.04  11 PFAKE          20 36 20.0  +14
FIB                                LR      LR
      comp=Z,614nm,19.0s,MS5.0
RPW   Rockport           78.05  32 eP      P      20 36 06.9 +0.5
LNOR  Lincton Mounta     78.23  36 eP      P      20 36 08.3 +0.8
DUG   Dugway             78.46  43 eP      P      20 36 08.1 -0.8
DUG                                pmax    pmax
      comp=Z,28nm,1.2s,mb5.1
DUG                                MLR     MLR
      comp=Z,2μm,21.0s,MS5.3
DUG   Dugway             78.46  43 eP      P      20 36 08.1 -0.8
      comp=Z,28nm,1.2s,mb5.1
DUG                                LR      LR
      comp=Z,2μm,21.0s,MS5.3
MDJ   Mudanjiang         78.67 322 P       P      20 36 10.1 +0.1
MDJ                                AP      pP     20 36 13.3 -1.5
MDJ                                XP      sP     20 36 14.6 -1.9
MDJ                                PCP     PcP    20 36 17.0 -2.4
MDJ                                PP      PP     20 39 05.1 -4.9
MDJ                                AMB     AMB
      comp=Z,674nm,5.9s
MDJ                                LR      LR
      comp=N,861nm,21.1s
MDJ                                LR      LR
      comp=E,1μm,26.4s
MDJ                                LR      LR
      comp=Z,2μm,24.1s,MS5.3
MDJ   Mudanjiang         78.67 322 eP      P      20 36 09.9 -0.1
      comp=Z,36nm,1.4s,mb5.1
MDJ                                e              20 36 17.7
BGU   Big Grassy Mou     78.69  42 eP      P      20 36 09.0 -1.1
BGU                                e              20 36 19.7
NLU   North Lily Min     78.83  43 eP      P      20 36 09.4 -1.5
DIV   Divide             78.91  13 eP      P      20 36 11.9 +1.1
      comp=Z,52nm,0.8s,mb5.5
DIV                                LR      LR
      comp=Z,2μm,19.0s,MS5.4
HLID  Hailey             79.21  39 eP      P      20 36 13.4 +0.5
      comp=Z,24nm,1.0s,mb5.1
HLID                               LR      LR
      comp=Z,1μm,20.0s,MS5.2
SPUT  South Promonto     79.27  42 eP      P      20 36 12.2 -1.1
HVU   Hansel Valley      79.30  42 eP      P      20 36 06.4 -7.0
DPW   Davenport          79.45  34 eP      P      20 36 16.9 +2.8
SRU   San Rafael         79.45  45 eP      P      20 36 14.5 +0.2
JLU   Jordanelle         79.56  43 eP      P      20 36 13.8 -1.0
DAU   Daniels Canyon     79.60  43 eP      P      20 36 16.8 +1.7
LAZ   Ladron             79.70  50 eP      P      20 36 15.3 -0.4
LENM  Lemitar            79.72  51 eP      P      20 36 17.1 +1.2
TCUT  Toone Canyon       79.85  43 eP      P      20 36 15.5 -0.9
NJ2   Nanjing            79.92 307 eP      P      20 36 16.1 -0.9
NJ2                                AP      pP     20 36 26.5 +4.6
NJ2                                PP      PP     20 39 18.8 -1.5
NJ2                                PPP     PPP    20 41 09.1 -2.1
NJ2                                S       S      20 46 15.0 -3.5
NJ2                                SKS     SKS    20 46 26.0 -8.6
NJ2                                XS             20 46 33.0
NJ2                                AMB     AMB
      comp=Z,17nm,0.6s,mb5.2
NJ2                                AMB     AMB
      comp=Z,469nm,5.4s
NJ2                                LR      LR
      comp=N,337nm,18.0s,MS5.0
NJ2                                LR      LR
      comp=E,475nm,18.7s,MS5.0
NJ2                                LR      LR
      comp=Z,686nm,18.5s,MS5.0
BNM   Barren Site        79.97  51 eP      P      20 36 17.4 +0.2
HWUT  Hardware Ranch     79.99  42 eP      P      20 36 16.7 -0.4
      comp=Z,17nm,1.2s,mb4.9
HWUT                               LR      LR
      comp=Z,2μm,21.0s,MS5.5
PV10  Paradox Valley     80.12  46 eP      P      20 36 17.7 -0.3
KLR   Kul'dur            80.14 327 eP      P      20 36 18.0 +0.2
KLR                                e              20 39 26.5
KLR                                eS      S      20 46 25.0 +4.5
KLR                                pmax    pmax
      comp=Z,370nm,3.4s
KLR                                MLR     MLR
      comp=E,800nm,18.0s
NEW   Newport            80.27  34 P       P      20 36 20.9 +2.4
      comp=E,1.0nm,0.5s,mb4.0,baz=86,slow=13,SNR=2.4
NEW   Newport            80.27  34 P       P      20 36 20.9 +2.4
LTX   Lajitas            80.29  56 eP      P      20 36 18.6 -0.4
LTX                                pmax    pmax
      comp=Z,74nm,1.4s,mb5.4
LTX                                MLR     MLR
      comp=Z,2μm,22.0s,MS5.4
LTX   Lajitas            80.29  56 eP      P      20 36 18.6 -0.4
      comp=Z,74nm,1.5s,mb5.4
LTX                                LR      LR
      comp=Z,2μm,22.0s,MS5.4
TXAR  Lajitas Array      80.29  56 P       P      20 36 19.6 +0.6
      comp=Z,8.2nm,1.1s,mb4.6,baz=210,slow=3.7,SNR=15
TXAR                               LR      LR     21 05 58.4
      comp=Z,1μm,19.2s,MS5.3,baz=180,slow=31
PV01  Paradox Valley     80.34  46 eP      P      20 36 19.4 +0.3
ANMO  Albuquerque        80.44  50 eP      P      20 36 20.2 +0.5
ANMO  Albuquerque        80.44  50 eP      P      20 36 20.1 +0.4
      comp=Z,19nm,1.1s,mb4.9
ANMO                               LR      LR
      comp=Z,2μm,22.0s,MS5.4
MCK   McKinley           80.63  11 eP      P      20 36 20.5 +0.4
MCK                                pmax    pmax
      comp=Z,17nm,0.9s,mb5.0
MCK   McKinley           80.63  11 eP      P      20 36 20.5 +0.4
      comp=Z,17nm,0.9s,mb5.0
CN2   Changchun          80.75 320 ⇑P      P      20 36 20.9 -0.2
CN2                                AMB     AMB
      comp=Z,10.0nm,1.1s,mb4.7
MCMT  McKenzie Canyo     80.83  39 eP      P      20 36 22.1 +0.5
AHID  Auburn Hatcher     80.87  41 eP      P      20 36 19.4 -2.4
      comp=Z,27nm,1.1s,mb5.1
AHID                               e              20 36 30.8
AHID                               LR      LR
      comp=Z,805nm,22.0s,MS5.0
GDL2  Guadalupe Moun     80.88  53 eP      P      20 36 22.3 +0.2
SNY   Shenyang           80.95 318 ⇑P      P      20 36 22.3  0.0
SNY                                XP      sP     20 36 30.8 +2.0
SNY                                AMB     AMB
      comp=Z,20nm,1.2s,mb4.9
SNY                                LR      LR
      comp=N,620nm,15.0s
SNY                                LR      LR
      comp=Z,710nm,15.0s,MS5.1
DLBC  Dease Lake         81.22  21 P       P      20 36 25.8 +2.5
      comp=Z,4.6nm,1.1s,mb4.3,baz=225,slow=8.0,SNR=3.4
DLBC  Dease Lake         81.22  21 P       P      20 36 25.8 +2.5
MSO   Missoula           81.25  37 PFAKE          20 36 40.0  +16
MSO                                LR      LR
      comp=Z,938nm,22.0s,MS5.1
CLNB  Carlsbad           81.28  53 eP      P      20 36 24.3 +0.1
REDW  Red Top Meadow     81.33  41 eP      P      20 36 24.1 -0.1
REDW                               e              20 36 34.4
TPAW  Teton Pass         81.33  41 eP      P      20 36 24.1  0.0
SNOW  Snow King Moun     81.44  41 eP      P      20 36 21.4 -3.3
SNOW                               e              20 36 34.8
WUWY  Wally Ulrich       81.48  41 eP      P      20 36 25.2 +0.2
WUWY                               e              20 36 34.5
MOOW  Moose Ponds        81.58  41 eP      P      20 36 25.2 -0.3
MOOW                               e              20 36 35.1
CPRX  Cap Rock           81.60  53 eP      P      20 36 25.1 -0.7
CPRX                               e              20 36 39.7
LOHW  Long Hollow        81.61  41 eP      P      20 36 25.3 -0.3
CHMT  Chamberlain Mo     81.70  37 eP      P      20 36 25.4 -0.6
CHMT                               e              20 36 35.8
QLMT  Earthquake Lak     81.70  39 eP      P      20 36 26.8 +0.7
BW06  Boulder Array      81.86  42 PFAKE          20 36 40.0  +13
BW06                               LR      LR
      comp=Z,2μm,20.0s,MS5.4
PDAR  Pinedale Array     81.86  42 P       P      20 36 27.1 +0.1
      comp=Z,4.6nm,0.9s,mb4.4,baz=227,slow=2.8,SNR=23
PDAR                               LR      LR     21 07 25.4
      comp=Z,1μm,19.1s,MS5.3,baz=247,slow=32
COLA  College            81.87  11 eP      P      20 36 28.3 +1.8
COLA                               MLR     MLR
      comp=Z,680nm,19.0s,MS5.0
YMR   Madison River      81.91  40 eP      P      20 36 28.2 +1.0
YMR                                e              20 36 37.9
ILAR  Eielson Array      81.95  11 P       P      20 36 28.1 +1.2
      comp=Z,2.2nm,0.8s,mb4.1,baz=212,slow=5.0,SNR=21
BOZ   Bozeman (W)        82.00  39 eP      P      20 36 27.8 +0.2
BOZ                                e              20 36 37.1
BOZ                                pmax    pmax
      comp=Z,43nm,1.4s,mb5.2
BOZ                                MLR     MLR
      comp=Z,2μm,20.0s,MS5.3
BOZ   Bozeman (W)        82.00  39 eP      P      20 36 27.8 +0.2
      comp=Z,43nm,1.4s,mb5.2
BOZ                                e              20 36 37.1
BOZ                                LR      LR
      comp=Z,1μm,20.0s,MS5.3
IMA   Indian Mountai     82.07   8 eP      P      20 36 36.4 +8.8
SDCO  Great Sand Dun     82.34  48 eP      P      20 36 29.3 -0.2
      comp=Z,65nm,1.5s,mb5.3
SDCO                               e              20 36 39.7
HRY   Holter Researc     82.42  38 eP      P      20 36 29.0 -0.8
DAWY  Dawson             82.93  14 eP      P      20 36 33.1 +1.0
ISCO  Idaho Springs      83.15  46 eP      P      20 36 34.1 +0.4
ISCO                               pmax    pmax
      comp=Z,55nm,1.7s,mb5.3
ISCO                               MLR     MLR
      comp=Z,1μm,20.0s,MS5.3
ISCO  Idaho Springs      83.15  46 eP      P      20 36 34.1 +0.4
      comp=Z,54nm,1.7s,mb5.3
ISCO                               LR      LR
      comp=Z,1μm,20.0s,MS5.3
JCT   Junction City      83.83  56 eP      P      20 36 36.4 -1.0
JCT                                pmax    pmax
      comp=Z,19nm,1.0s,mb5.2
JCT                                MLR     MLR
      comp=Z,1μm,20.0s,MS5.3
JCT   Junction City      83.83  56 eP      P      20 36 36.4 -1.0
      comp=Z,19nm,0.9s,mb5.2
JCT                                LR      LR
      comp=Z,1μm,20.0s,MS5.3
BJT   Baijiatuau         85.17 313 eP      P      20 36 45.1 +1.2
BJT                                pmax    pmax
      comp=Z,64nm,1.3s
BJT                                MLR     MLR
      comp=Z,1μm,21.0s
BJT   Baijiatuau         85.17 313 eP      P      20 36 45.1 +1.1
      comp=Z,64nm,1.4s,mb5.6
BJT                                LR      LR
      comp=Z,1μm,21.0s,MS5.2
BJI   Beijing            85.18 313 P       P      20 36 44.7 +0.7
BJI                                S       S      20 47 09.4 -2.4
BJI                                AMB     AMB
      comp=Z,40nm,1.8s,mb5.2
BJI                                LR      LR
      comp=N,727nm,19.9s,MS5.2
BJI                                LR      LR
      comp=E,570nm,21.2s,MS5.2
BJI                                LR      LR
      comp=Z,1μm,25.8s,MS5.1
LAO   LASA Array         85.79  39 eP      P      20 36 46.7 -0.1
      comp=Z,153nm,1.5s,mb6.0
LAO                                LR      LR
      comp=Z,696nm,21.0s,MS5.0
WMOK  Wichita Mounta     86.16  53 eP      P      20 36 48.4 -0.6
WMOK                               e              20 36 58.3
WMOK                               pmax    pmax
      comp=Z,34nm,1.5s,mb5.4
WMOK  Wichita Mounta     86.16  53 eP      P      20 36 48.4 -0.6
      comp=Z,34nm,1.5s,mb5.3
WMOK                               e              20 36 58.3
ENH   Enshi              86.71 302 eP      P      20 36 48.2 -3.6
      comp=Z,30nm,1.1s,mb5.4
ENH                                LR      LR
      comp=Z,944nm,19.0s,MS5.2
HIA   Hailar             86.84 323 eP      P      20 36 51.7 -0.3
HIA                                e              20 36 59.9
HIA                                pmax    pmax
      comp=Z,33nm,1.3s
HIA                                MLR     MLR
      comp=Z,2μm,22.0s
HIA   Hailar             86.84 323 eP      P      20 36 51.7 -0.3
      comp=Z,34nm,1.3s,mb5.4
HIA                                e              20 36 59.9
HIA                                LR      LR
      comp=Z,2μm,22.0s,MS5.5
CBKS  Cedar Bluff        86.92  49 PFAKE          20 37 00.0 +7.4
CBKS                               LR      LR
      comp=Z,1μm,20.0s,MS5.3
INK   Inuvik             87.78  14 P       P      20 36 57.0 +0.9
      comp=Z,4.8nm,1.0s,mb4.7,baz=224,slow=7.6,SNR=5.2
INK   Inuvik             87.78  14 eP      P      20 36 57.8 +1.8
INK                                e              20 37 05.8
INK                                pmax    pmax
      comp=Z,29nm,1.1s
INK   Inuvik             87.78  14 eP      P      20 36 57.8 +1.7
      comp=Z,29nm,1.2s,mb5.4
INK                                e              20 37 05.8
DGMT  Dagmar             87.81  38 eP      P      20 36 56.9 +0.3
      comp=Z,109nm,1.4s,mb5.9
DGMT                               e              20 37 05.2
DGMT                               LR      LR
      comp=Z,2μm,20.0s,MS5.6
CLNS  Chul'man           87.84 331c iP     P      20 36 55.6 -1.0
CLNS                               e*PP    pP     20 37 11.3  +10
CLNS                               e              20 40 21.4
CLNS                               e              20 47 26.0
CLNS                               pmax    pmax
      comp=Z,11nm,0.8s,mb5.1
CLNS                               pmax    pmax
      comp=N,1.0nm,0.6s
CLNS                               pmax    pmax
      comp=E,7.0nm,1.0s
CLNS                               pmax    pmax
      comp=Z,6.0nm,0.8s,mb4.9
CLNS                               pmax    pmax
      comp=N,6.0nm,0.7s
CLNS                               pmax    pmax
      comp=E,6.0nm,0.7s
CLNS                               smax
      comp=N,217nm,12.7s
CLNS                               smax
      comp=Z,89nm,13.2s
CLNS                               smax
      comp=E,43nm,11.3s
CLNS                               MLR     MLR
      comp=Z,1μm,19.0s,MS5.4
CLNS                               MLR     MLR
      comp=N,600nm,17.0s,MS5.2
CLNS                               MLR     MLR
      comp=E,600nm,17.0s,MS5.2
GYA   Guiyang            87.87 298⇑iP      P      20 36 58.9 +1.4
GYA                                S       S      20 47 33.4 -4.4
GYA                                AMB     AMB
      comp=Z,10.0nm,1.3s,mb4.9
GYA                                AMB     AMB
      comp=Z,370nm,8.4s
GYA                                LR      LR
      comp=N,350nm,19.0s,MS5.0
GYA                                LR      LR
      comp=E,520nm,18.4s,MS5.0
GYA                                LR      LR
      comp=Z,690nm,18.4s,MS5.1
MAW   Mawson             88.28 199 eP      P      20 36 57.2 -1.2
      comp=Z,14nm,1.4s,mb5.0
MAW   Mawson             88.28 199 P       P      20 36 56.9 -1.5
      comp=Z,5.7nm,0.8s,mb4.8,baz=117,slow=5.8,SNR=7.1
MAW                                LR      LR     21 12 57.0
      comp=Z,1μm,20.8s,MS5.2,baz=118,slow=33
XAN   Xi'an              88.40 306 P       P      20 37 00.8 +1.0
XAN                                S       S      20 47 35.7 -6.8
XAN                                LR      LR
      comp=E,431nm,20.3s
XAN                                LR      LR
      comp=Z,702nm,19.7s,MS5.1
NATX  Nacogdoches        88.41  57 eP      P      20 36 59.3 -0.6
      comp=Z,78nm,1.2s,mb5.8
NATX                               e              20 37 09.4
YAK   Yakutsk            88.69 337 eP      P      20 37 01.4 +0.9
YAK                                i       pP     20 37 06.6 +1.2
YAK                                e              20 40 33.7
YAK                                eS      S      20 47 28.5  -16
YAK                                i              20 47 47.1
YAK                                eSS     SS     20 53 41.8 +2.3
YAK                                pmax    pmax
      comp=Z,64nm,10.5s
YAK                                pmax    pmax
      comp=N,18nm,6.9s
YAK                                pmax    pmax
      comp=E,56nm,10.0s
YAK                                pmax    pmax
      comp=Z,6.0nm,1.3s,mb4.8
YAK                                pmax    pmax
      comp=N,6.0nm,1.2s
YAK                                pmax    pmax
      comp=E,6.0nm,1.3s
YAK                                smax
      comp=E,153nm,9.5s
YAK                                smax
      comp=N,50nm,6.7s
HHC   Hu-ho-hao-te       88.74 313 eP      P      20 37 02.6 +1.3
HHC                                AP      pP     20 37 07.6 +1.4
HHC                                XP      sP     20 37 10.0 +2.2
HHC                                PP      PP     20 40 34.4 +1.7
HHC                                SKS     SKS    20 47 33.1 -0.8
HHC                                S       S      20 47 50.1 +4.5
HHC                                XS             20 47 58.7
HHC                                AMB     AMB
      comp=Z,23nm,1.1s,mb5.4
HHC                                LR      LR
      comp=N,441nm,13.7s
HHC                                LR      LR
      comp=E,300nm,25.6s
HHC                                LR      LR
      comp=Z,355nm,20.2s
YKA   Yellowknife Ar     89.62  23 P       P      20 37 06.1 +1.2
      comp=Z,7.4nm,1.2s,mb4.9,baz=247,slow=4.0,SNR=6.5
YKA                                LR      LR     21 09 42.1
      comp=Z,703nm,20.5s,MS5.1,baz=260,slow=30
YKA   Yellowknife Ar     89.62  23 P       P      20 37 06.1 +1.2
YKA                                LR      LR     21 09 42.1
BTO   Baotou             89.75 312 eP      P      20 37 08.7 +2.6
BTO                                AMB     AMB
      comp=Z,71nm,1.8s,mb5.7
MIAR  Mount Ida          90.14  54 PFAKE          20 37 20.0  +12
MIAR                               LR      LR
      comp=Z,2μm,21.0s,MS5.4
KMI   Kunming            90.87 296 eP      P      20 37 12.2 +0.6
KMI                                XP      sP     20 37 18.8 +0.7
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KMI                                PP       PP       20 40 52.6 +2.5
KMI                                SKS      SKS      20 47 43.9  -3.2
KMI                                S        S        20 48 05.4 +0.1
KMI                                SS       SS       20 54 09.7  -2.2
KMI                                SSS      SSS      20 57 53.4 +4.7
KMI                                LR       LR
      comp=N,469nm,15.2s,MS5.3
KMI                                LR       LR
      comp=E,717nm,14.7s,MS5.3
KMI                                LR       LR
      comp=Z,718nm,18.1s,MS5.2
JTS   JuntasAbangare  91.06  80   eP        P        20 37 13.6 +0.9
      comp=Z,109nm,1.2s,mb6.1
JTS                               e                  20 37 22.3
JTS                                LR       LR
      comp=Z,411nm,20.0s,MS4.9
FFC   Flin Flon       91.66  33    PFAKE             20 37 30.0  +15
FFC                                LR       LR
      comp=Z,139nm,21.0s,MS4.4
CMAR  Chiang Mai Arr  92.52 288    P        P        20 37 19.4 +0.1
      comp=Z,0.7nm,1.0s,mb4.0,baz=117,slow=2.0,SNR=4.0
CMAR                               LR       LR       21 13 49.4
      comp=Z,454nm,20.6s,MS4.9,baz=100,slow=32
CCM   Cathedral Cave  92.98  52    PFAKE             20 37 30.0 +9.0
CCM                                LR       LR
      comp=Z,2µm,22.0s,MS5.5
LZH   Lanzhou         92.98 306   eP        P        20 37 26.0 +4.9
LZH                                PP       PP       20 41 08.5 +1.8
LZH                                SKS      SKS      20 47 56.1  -2.8
LZH                               eS        S        20 48 27.6 +4.0
LZH                                AMB      AMB
      comp=Z,58nm,1.5s,mb5.8
LZH                                LR       LR
      comp=N,879nm,15.1s
LZH                                LR       LR
      comp=Z,1µm,18.0s,MS5.5
SYO   Syowa Base      93.09 191 ⇑P          P        20 37 21.4 +0.6
SYO   Syowa Base      93.09 191 ⇑pP         pP       20 37 26.6 +0.9
EFI   East Falkland   93.27 146    PFAKE             20 37 30.0 +8.0
EFI                                LR       LR
      comp=Z,488nm,20.0s,MS5.0
VNA3  Neumayer Olymp  93.34 175⇑iP          P        20 37 23.4 +1.5
VNA3  Neumayer Olymp  93.34 175⇑i           pP       20 37 34.5 +7.7
VNA3  Neumayer Olymp  93.34 175⇑i           sP       20 37 38.0  +10
SNAA  Sanae           93.39 177    P        P        20 37 23.6 +1.5
SNAA  Sanae           93.39 177⇑i           pP       20 37 34.8 +7.7
SNAA  Sanae           93.39 177⇓i           sP       20 37 39.0  +10
BOD   Bodaibo         93.54 329   eP        P        20 37 22.1  -1.0
VNA2  Neumayer--Watz  93.83 175⇑iP          P        20 37 26.7 +2.5
VNA2  Neumayer--Watz  93.83 175⇑i           pP       20 37 37.1 +8.0
VNA2  Neumayer--Watz  93.83 175⇑i           sP       20 37 41.1  +10
VNA1  Neumayer--Stat  94.03 175⇑iP          P        20 37 27.2 +2.1
VNA1  Neumayer--Stat  94.03 175⇑i           pP       20 37 38.2 +8.2
SONM  Songino Array   94.52 318    P        P        20 37 28.3 +0.5
      comp=Z,1.0nm,0.9s,mb4.2,baz=117,slow=2.8,SNR=6.9
SONM                               PP       PP       20 41 17.3  -1.0
      comp=Z,0.6nm,0.7s,baz=101,slow=15,SNR=2.4
TIXI  Tiksi           94.55 344   eP        P        20 37 25.2  -2.2
TIXI                              e                  20 37 37.0
TIXI                              e                  20 41 13.4
TIXI                              i S       S        20 47 59.4   -37
TIXI                              i SS      SS       20 54 59.3  -4.0
TIXI                              e                  20 58 41.2
TIXI                               pmax     pmax
      comp=Z,5.0nm,1.0s,mb4.9
LRAL  Lakeview Retre  94.98  57    PFAKE             20 37 40.0  +10
LRAL                               LR       LR
      comp=Z,1µm,21.0s,MS5.3
JFWS  Jewell Farm     95.05  47    PFAKE             20 37 40.0  +10
JFWS                               LR       LR
      comp=Z,2µm,21.0s,MS5.6
WVT   Waverly         95.09  54    P        P        20 37 31.8 +1.0
WVT                               e                  20 37 40.5
WVT                                pmax     pmax
      comp=Z,38nm,1.4s,mb5.6
WVT   Waverly         95.09  54    P        P        20 37 31.8 +1.0
      comp=Z,38nm,1.4s,mb5.6
WVT                               e                  20 37 40.5
EYMN  Ely             95.57  42    PFAKE             20 37 40.0 +7.3
EYMN                               LR       LR
      comp=Z,162nm,22.0s,MS4.5
GTA   Gaotai          96.92 309   eP        P        20 37 41.6 +2.6
GTA                                AP       pP       20 37 46.7 +2.7
GTA                                XP       sP       20 37 49.8 +4.3
GTA                                AMB      AMB
      comp=Z,60nm,7.2s
GTA                                LR       LR
      comp=N,180nm,22.1s,MS4.8
GTA                                LR       LR
      comp=E,336nm,22.8s,MS4.8
GTA                                LR       LR
      comp=Z,543nm,22.4s,MS5.0
ACSO  Alum Creek Sta  99.73  51    PFAKE             20 38 00.0 +8.3
ACSO                               LR       LR
      comp=Z,1µm,19.0s,MS5.5
LPAZ  La Paz          99.92 110    LR       LR       21 16 04.3
      comp=Z,463nm,19.3s,MS5.0,baz=95,slow=31
BLA   Blacksburg     101.14  54    PFAKE             20 38 10.0  +12
BLA                                LR       LR
      comp=Z,2µm,20.0s,MS5.5
LSA   Lhasa          101.94 298    PFAKE             20 38 10.0 +8.1
LSA                                LR       LR
      comp=Z,269nm,20.0s,MS4.8
MCWV  Mont Chateau   102.00  52    PFAKE             20 38 10.0 +7.9
MCWV                               LR       LR
      comp=Z,2µm,21.0s,MS5.7
ERPA  Erie           102.29  49    PFAKE             20 38 10.0 +6.8
ERPA                               LR       LR
      comp=Z,2µm,20.0s,MS5.6
CBN   Corbin         103.69  54    PFAKE             20 38 20.0  +10
CBN                                LR       LR
      comp=Z,2µm,21.0s,MS5.7
HRV   Harvard--Oak R 108.54  50    PFAKE             20 42 50.0
HRV                                LR       LR
      comp=Z,2µm,20.0s,MS5.7
ZAL   Zalesovo       108.89 322    Pdiff    Pdif     20 38 33.8 +1.8
      comp=Z,0.6nm,0.6s,baz=75,slow=16,SNR=3.0
MKAR  Makanchi Array 110.53 315    PKiKP             20 42 38.5
      comp=Z,0.5nm,0.6s,baz=23,slow=1.8,SNR=5.5
MKAR  Makanchi Array 110.53 315    PKPdf    PKPdf    20 42 38.5  -3.8
EMMW  East Machias   111.58  48    PFAKE             20 42 50.0 +5.7
EMMW                               LR       LR
      comp=Z,7µm,21.0s,MS6.2
KURK  Kurchatov      112.81 319   ePKIKP    PKPdf    20 42 42.5  -4.1
KURK                              e                  20 42 50.5
KURK                               MLR      MLR
      comp=Z,200nm,20.0s,MS4.7
BBSR  BB Station     113.44  61    PFAKE             20 43 00.0  +12
BBSR                               LR       LR
      comp=Z,731nm,22.0s,MS5.2
AAK   Ala-Archa      116.22 310    PFAKE             20 43 00.0 +6.5
AAK                                LR       LR
      comp=Z,142nm,20.0s,MS4.6
BRVK  Borovoye       117.59 322   ePKIKP    PKPdf    20 42 52.4  -3.4
BRVK                               MLR      MLR
      comp=Z,210nm,22.0s,MS4.7
ARU   Arti           122.95 329   i PKIKP   PKPdf    20 43 03.1  -3.0
ARU                               ePPP      PPP      20 47 17.8  -5.2
ARU                               e                  20 50 00.0
ARU                               ePS       PS       20 54 33.0  -5.0
ARU   Arti           122.95 329   ePKPdf    PKPdf    20 43 02.7  -3.4
ARU                                LR       LR
      comp=Z,204nm,21.0s,MS4.8
ARCES ARCESS Array B 124.13 352    PKP      PKPdf    20 43 06.6  -1.6
      comp=Z,1.6nm,0.7s,baz=34,slow=22,SNR=4.3
ARCES ARCESS Array B 124.13 352    PKP      PKPdf    20 43 06.6  -1.6
FINES FINESS Array B 131.48 348    PKP      PKPdf    20 43 20.4  -2.0
      comp=Z,1.8nm,1.0s,baz=270,slow=2.8,SNR=3.0
OBN   Obninsk        133.69 337   i PKIKP   PKPdf    20 43 27.3 +0.7
OBN                               i                  20 43 35.2
OBN                                                  20 45 59.0
OBN                                                  20 50 35.0
OBN                               eSS       SS       21 03 42.5 +3.4
OBN                               eSSS      SSS      21 08 37.5  -0.1
OBN                                pmax     pmax
      comp=Z,37nm,1.4s
OBN                                pmax     pmax
      comp=Z,34µm,1.3s
OBN                                MLR      MLR
      comp=Z,500nm,20.0s,MS5.2
OBN   Obninsk        133.69 337   ePKP      PKPdf    20 43 27.8 +1.2
NB2   NORSAR Subarra133.82 357     PKP               20 43 32.4
      comp=Z,14nm,1.7s,baz=17,slow=2.6
NOA   NORSAR Array B 133.82 357    PKP      PKPdf    20 43 29.0 +2.3
      comp=Z,1.5nm,0.9s,baz=13,slow=2.5,SNR=2.8
KONO  Kongsberg      135.28 358    PFAKE             20 43 40.0  +10
KONO                               LR       LR
      comp=Z,699nm,21.0s,MS5.4
GOF   Gofitskoye     137.06 322   ePKIKP    PKPdf    20 43 26.0  -7.1
GOF                                pmax     pmax
      comp=Z,20nm,1.0s
ZEI   Tsey           137.71 319   i PKIKP   PKPdf    20 43 30.0  -4.5
ZEI                                MLR      MLR
      comp=Z,700nm,20.0s,MS5.4
ESK   Eskdalemuir    138.96   9    PFAKE             20 43 50.0  +14
ESK                                LR       LR
      comp=Z,207nm,20.0s,MS4.9
SOC   Sochi          139.86 322   i PKIKP   PKPdf    20 43 35.9  -2.4
SOC                               e                  20 46 28.3
SOC                               eSS       SS       21 04 42.5   -10
SOC                               eSSS      SSS      21 10 03.5  -2.9
SOC                                pmax     pmax
      comp=N,3.0nm,0.6s
SOC                                pmax     pmax
      comp=Z,6.0nm,0.6s
SOC                                pmax     pmax
      comp=E,14nm,1.0s
SOC                                MLR      MLR
      comp=Z,721nm,22.0s,MS5.4
SOC                                MLR      MLR
      comp=N,295nm,21.0s,MS5.1
SOC                                MLR      MLR
      comp=E,246nm,22.0s,MS5.1
AKASG Malin Array Be 139.91 338    PKP      PKPdf    20 43 35.8  -2.4
      comp=E,0.9nm,0.5s,baz=30,slow=2.9,SNR=4.1
ANN   Anapa          140.44 325   ePKIKP    PKPdf    20 43 42.0 +2.7
ANN                               e                  20 46 43.3
ANN                               ePPP      PPP      20 49 49.4 +5.2
ANN                               e                  20 50 41.5
ANN                                pmax     pmax
      comp=Z,42nm,1.2s
ANN                                MLR      MLR
      comp=Z,330nm,21.0s,MS5.1
ANN                                MLR      MLR
      comp=N,630nm,20.0s,MS5.4
ANN                                MLR      MLR
      comp=E,350nm,22.0s,MS5.4
SIM   Simferopol'    142.11 328    PKIKP    PKPdf    20 43 46.0 +3.7
SIM                                                  20 43 52.0
SIM                               e                  20 46 48.0
SIM                                pmax     pmax
      comp=Z,60nm,8.1s
SIM                                MLR      MLR
      comp=Z,570nm,21.5s,MS5.3
KWP   Kalwaria       142.97 343   ePKIKP    PKPdf    20 43 40.5  -3.1
WTSB  Winterswijk    143.03 360   eP        PKPbc    20 43 47.8  +10
      comp=Z,6.9nm,1.3s
KIS   Kishinev       143.06 335   ePKIKP    PKPdf    20 43 38.0  -5.8
KIS                               e                  20 43 46.0
KIS                               e                  20 43 50.0
KIS                                MLR      MLR
      comp=Z,600nm,22.0s,MS5.3
KIS                                MLR      MLR
      comp=N,500nm,20.0s,MS5.4
KIS                                MLR      MLR
      comp=E,500nm,20.0s,MS5.4
KIS                                MLR      MLR
      comp=Z,600nm,22.0s
OJC   Ojcow          143.20 346   ePKIKP    PKPdf    20 43 41.9  -2.0
LSZ   Lusaka         143.23 216    PFAKE             20 44 00.0  +20
LSZ                                LR       LR
      comp=Z,645nm,19.0s,MS5.4
KSP   Ksiaz          143.32 350   ePKIKP    PKPdf    20 43 41.3  -2.8
KSP                               e                  20 43 48.6
KSP                               eSS       SS       21 05 35.0 +2.5
KSP                                MLR      MLR
      comp=Z,2µm,20.9s,MS5.8
CLL   Collm          143.34 353   ePKIKP    PKPdf    20 43 41.0  -3.1
      comp=Z,logA/T=0.8
CLL                               i *PPKP            20 43 50.1
CLL                               i                  20 44 00.8
CLL                               eSS       SS       21 05 24.0  -8.7
CLL                               e                  21 06 36.0
CLL                               eSSS      SSS      21 11 12.0  +16
CLL   Collm          143.34 353   ePKIKP    PKPdf    20 43 41.0  -3.1
CLL                               i                  20 43 50.1
CLL                                pmax     pmax
      comp=Z,7.0nm,1.0s
CLL                                MLR      MLR
      comp=Z,700nm,20.1s,MS5.4
MALT  Malatya        143.56 316   ePKPpre            20 43 40.6
BRG   Berggiesshubel 143.65 352   ePKIKP    PKPdf    20 43 41.9  -2.8
BRG                               e                  20 43 54.5
BRG                               e                  21 05 40.0
BRG                                pmax     pmax
      comp=Z,3.0nm,1.1s
BRG                                MLR      MLR
      comp=N,370nm,23.4s,MS5.3
BRG                                MLR      MLR
      comp=E,430nm,23.4s,MS5.3
BRG                                MLR      MLR
      comp=Z,570nm,23.4s,MS5.3
UPC   Upice          143.69 350   ePKP      PKPdf    20 43 41.5  -3.2
UPC                               epPKP              20 43 49.6
KOLS  Kolonicke sedl 143.73 343   ePKP      PKPdf    20 43 43.5  -1.4
KOLS                              e                  20 43 49.6
DPC   Dobruska-Polom 143.79 350   ePKP      PKPdf    20 43 41.7  -3.2
DPC                               epPKP              20 43 49.5
DPC                                LR                21 46 20.0
      comp=Z,0.8nm,24.0s
PVCC  Panska Ves     143.90 351   ePKP      PKPdf    20 43 46.3 +1.2
PVCC                               LR                21 45 50.0
      comp=Z,0.7nm,22.5s
OKC   Ostrava-Krasne 143.93 347   ePKP      PKPdf    20 43 41.5  -3.7
OKC                               epPKP              20 43 48.7
OKC                                LR                21 47 30.0
      comp=Z,0.6nm,20.5s
CRVS  Cervenica-Dubn 143.99 343   ePKP      PKPdf    20 43 43.5  -1.8
BOYT  Boyabat        144.00 323   i P       PKPbc    20 43 31.8  -9.4
MORC  Moravsky Berou 144.11 348   ePKIKP    PKPdf    20 43 43.9  -1.6
MOX   Moxa           144.13 355   i P       PKPbc    20 43 43.4 +2.2
      comp=Z,logA/T=1.3
MOX                                L                 20 50 01.0
MOX   Moxa           144.13 355   ePKIKP    PKPdf    20 43 43.4  -2.1
MOX                                pmax     pmax
      comp=Z,35nm,1.8s
MOX                                MLR      MLR
      comp=Z,300nm,20.0s,MS5.1
HGN   Heimansgroeve  144.23   1   eP        PKPbc    20 43 42.2 +0.7
      comp=Z,4.3nm,1.7s
PRU   Pruhonice      144.43 351   ePKP      PKPdf    20 43 43.2  -2.9
PRU                                LR                21 46 40.0
      comp=Z,0.7nm,18.0s
TSUM  Tsumeb         144.44 198    PKP      PKPdf    20 43 43.8  -3.2
      comp=Z,3.2nm,0.9s,baz=162,slow=6.4,SNR=2.8
NKC   Novy Kostel    144.46 354   ePKP      PKPdf    20 43 48.7 +2.6
NKC                                LR                21 49 00.0
      comp=Z,0.5nm,18.3s
KECS  Kecovo         144.63 344   ePKP      PKPdf    20 43 43.5  -3.0
KECS                              e                  20 43 50.5
GZT   Gaziantep      144.64 315   i P       PKPbc    20 43 41.4  -1.7
VRAC  Vranov         144.74 349    PKPbc    PKPbc    20 43 43.9 +0.9
      comp=Z,3.5nm,0.9s,baz=308,slow=3.9,SNR=8.4
GIVF  Givet          144.87   2   ePKP1     PKPbc    20 43 43.8 +0.5
BAIF  Baives         144.89   3   ePKP1     PKPbc    20 43 44.2 +0.8
VYHS  Vyhne          145.04 346   ePKP      PKPdf    20 43 44.3  -2.9
VYHS                              e                  20 43 52.0
KOLL  Kolacno        145.06 346   ePKP      PKPdf    20 43 46.0  -1.2
KOLL                              e                  20 43 52.1
GRA1  Grafenberg Arr 145.11 355   ePKPbc    PKPbc    20 43 45.6 +1.6
GRF   Grafenberg Arr 145.11 355   ePKIKP    PKPdf    20 43 45.6  -1.7
GRFO  Grafenberg     145.11 355    PKPbc    PKPbc    20 43 46.8 +2.8
ABH   Alteburg       145.11 359⇑eP          PKPbc    20 43 46.7 +2.7
RUP   Ruppelstein    145.30 360⇑eP          PKPbc    20 43 47.5 +3.1
PSZ   Piszkesteto    145.31 344⇓ePKP/p               20 43 46.0
PSZ   Piszkesteto    145.31 344   ePKIKP    PKPdf    20 43 44.8  -2.9
SMOL  Smolenice      145.33 347   ePKP      PKPdf    20 43 47.5  -0.2
SMOL                              e                  20 43 53.0
WLF   Walferdange    145.34   1   ePKIKP    PKPdf    20 43 47.5  -0.2
TOD   Tromm          145.35 358⇑eP          PKPbc    20 43 47.5 +2.9
KHC   Kasperske Hory 145.40 352   ePKP      PKPdf    20 43 47.2  -0.6
KHC                               ex        x        20 43 52.9
KHC                                LR                21 47 00.0
      comp=Z,0.8nm,22.2s
MLR   Muntele Rosu   145.45 336    PKPbc    PKPbc    20 43 46.3 +1.3
      comp=Z,26nm,1.1s,baz=38,slow=4.4,SNR=14
ELDT  Eldivan        145.46 323   i P       PKPbc    20 43 45.2 +0.1
SWS   Schriesheim    145.48 358⇑eP          PKPbc    20 43 47.7 +2.8
SIND  Sindeldorf     145.57 357⇑eP          PKPbc    20 43 48.0 +2.9
AVNT  Avonos         145.64 319   i P       PKPbc    20 43 44.3  -1.4
KTD   Kalmit         145.66 358   eP        PKPbc    20 43 48.4 +3.0
GERES GERESS Array B 145.67 352    PKPbc    PKPbc    20 43 45.7 +0.3
      comp=Z,3.3nm,0.8s,slow=5.3,SNR=26
ROSF  Rostrenen      145.67  12   ePKP1     PKPbc    20 43 46.2 +0.8
      comp=Z,188nm,1.5s
ZST   Bratislava     145.70 348   ePKP      PKPdf    20 43 47.5  -0.8
ZST                               e                  20 43 54.0
FLN   La Foliniere   145.73   8   ePKP1     PKPbc    20 43 46.2 +0.6
      comp=Z,170nm,1.2s
FLN                               eR
      comp=Z,778nm,20.5s
VKA   Vienna         145.80 349   ePKP      PKPdf    20 43 48.0  -0.5
KMBO  Kilima Mbogo   145.80 245    PKPbc    PKPbc    20 43 46.6  -0.2
      comp=Z,5.7nm,1.1s,baz=69,slow=3.2,SNR=8.6
KMBO  Kilima Mbogo   145.80 245   ePKPdf    PKPdf    20 43 47.3  -2.2
KMBO                               LR       LR
      comp=Z,621nm,20.0s,MS5.4
BRTR  Keskin Array B 145.81 321    PKPbc    PKPbc    20 43 47.1 +1.0
      comp=Z,13nm,0.8s,baz=99,slow=2.4,SNR=35
SGMF  Saint Gilles   145.89  11   ePKP1     PKPbc    20 43 46.8 +0.8
      comp=Z,147nm,1.3s
LDF   La Druitiere   145.95   8   ePKP1     PKPbc    20 43 46.8 +0.7
      comp=Z,202nm,1.5s
COBT  Iskenderun     145.97 315   i P       PKPbc    20 43 43.3  -3.2
LANF  Langenberg     146.01 359    PKP      PKPdf    20 43 50.0 +1.2
GRR   Gorron         146.04   9   ePKP1     PKPbc    20 43 47.2 +0.9
      comp=Z,235nm,1.5s
QUIF  Quistinic      146.09  12   ePKP1     PKPbc    20 43 47.3 +0.8
STU   Stuttgart      146.17 357   ePKP2     PKPab    20 43 49.9 +0.6
SGKT  Sivrigoynuk    146.19 324   i P       PKPbc    20 43 46.2  -0.8
LBG   Lerchenberg    146.29 357⇑eP          PKPbc    20 43 50.5 +3.6
HDH   Heidenheim     146.29 356⇑eP          PKPbc    20 43 50.6 +3.7
SOP   Sopron         146.31 348   ePKP/p             20 43 50.3
MEZF  Maizieres J'vi 146.48   2   ePKP1     PKPbc    20 43 48.9 +1.6
      comp=Z,111nm,1.4s
BUCH  Bad Urach      146.48 357⇑eP          PKPbc    20 43 51.3 +4.0
MOA   Molln          146.56 351⇓iP          PKPbc    20 43 50.3 +2.8
WLS   Welschbruch    146.59 359    PKP      PKPdf    20 43 51.4 +1.5
CDF   Champ du Feu   146.59 359   ePKP1     PKPbc    20 43 49.5 +1.9
      comp=Z,118nm,1.2s
THEF  They Montfort  146.77   1    PKP      PKPdf    20 43 50.1  -0.1
ECH   Echery         146.79 359    PKP      PKPdf    20 43 51.6 +1.4
GUT   Gutenstein     146.87 357⇑eP          PKPbc    20 43 52.1 +3.8
ARSA  Arzberg        146.92 349⇑iP          PKPbc    20 43 52.3 +3.9
HAU   Haudompre      147.00   0   ePKP1     PKPdf    20 43 50.6  0.0
      comp=Z,135nm,1.1s
HAU                               eR
      comp=Z,696nm,20.8s
KIZ   Kirchzarten    147.03 358⇑eP          PKPdf    20 43 52.4 +1.8
FELD  Feldberg       147.11 358    PKP      PKPdf    20 43 51.5 +0.8
MOF   Molkenrain     147.15 359    PKP      PKPdf    20 43 53.0 +2.2
HINF  Hinteralfeld   147.19 360   ePKP1     PKPdf    20 43 50.8  -0.1
UBR   Uberruh        147.20 356⇑eP          PKPdf    20 43 53.1 +2.2
MEST  Erdemli        147.36 316   i P       PKPdf    20 43 45.2  -6.3
WATA  Walderalm      147.41 354⇑iP          PKPdf    20 43 53.7 +2.5
KBA   Koelnbreinsper 147.45 352⇑iP          PKPdf    20 43 53.5 +2.2
MOTA  Moosalm        147.45 354⇓iP          PKPdf    20 43 53.7 +2.4
WTTA  Wattenberg     147.48 354⇑iP          PKPdf    20 43 52.8 +1.5
ASF   Jabal al Asfar 147.55 307    PKPbc    PKPdf    20 43 51.5  -0.5
      comp=Z,18nm,1.5s,baz=214,slow=3.7,SNR=5.1
HYF   Humbligny      147.56   5   ePKP1     PKPdf    20 43 52.4 +0.9
ESKT  Eskisehir      147.59 324   i P       PKPdf    20 43 50.0  -1.8
DAVA  Damuels        147.61 356⇑iP          PKPdf    20 43 53.8 +2.2
LOR   Lormes         147.65   4   ePKP1     PKPdf    20 43 52.5 +0.9
      comp=Z,83nm,1.1s
LOR                               eR
      comp=Z,864nm,21.5s
LOMF  Lomont         147.65 360    PKP      PKPdf    20 43 54.5 +2.9
GROS  Grobnik        147.68 349   ePKPdf    PKPdf    20 43 53.1 +1.4
GROS                              e                  20 43 59.0
SSF   Saint Saulge   147.84   4   ePKP1     PKPdf    20 43 53.1 +1.2
      comp=Z,105nm,1.1s
HOPOS Hopovo Monaste 147.88 342   eP        PKPdf    20 43 50.3  -1.8
MFF   Saint Martin d 147.89   9   ePKP1     PKPdf    20 43 52.5 +0.5
      comp=Z,156nm,1.5s
HRI   Mount Hermon   147.94 310    P        PKPdf    20 43 53.7 +1.1
FVI   Forni Avoltri  148.00 352   ePKP      PKPdf    20 44 02.0  +10
AVF   Avril sur Loir 148.09   4   ePKP1     PKPdf    20 43 53.3 +0.9
      comp=Z,109nm,1.3s
PTCC  Patocco-Chiusa 148.10 351   ePKP      PKPdf    20 43 57.4 +5.1
ULDT  Uludag         148.10 326   i P       PKPdf    20 43 51.9  -0.6
SVIS  Svilajnac      148.20 340   eP        PKPdf    20 43 54.3 +1.7
LJU   Ljubljana      148.26 350   ePKPdf    PKPdf    20 43 55.1 +2.5
LJU                               i                  20 44 00.5
SMF   Signal de Mont 148.27   4   ePKP1     PKPdf    20 43 53.8 +1.2
      comp=Z,186nm,1.4s
BGF   Bois d'Agland  148.29   5   ePKP1     PKPdf    20 43 54.1 +1.4
      comp=Z,97nm,1.0s
BOLS  Boljevac       148.35 339⇑iP          PKPdf    20 43 41.3   -12
BRMO  Bormio         148.38 355   ePKP      PKPdf    20 43 55.4 +2.6
VOY   Vojsko         148.38 350   ePKPdf    PKPdf    20 43 57.7 +4.9
CABF  La Chapelle    148.39   1   ePKP1     PKPdf    20 43 55.1 +2.3
      comp=Z,193nm,1.1s
HNTI  Hanita         148.44 310    P        PKPdf    20 43 54.7 +1.3
SISC  Sisak          148.45 347   i PKP     PKPdf    20 43 56.0 +3.0
TCF   Toulx Ste Croi 148.50   6   ePKP1     PKPdf    20 43 54.6 +1.6
      comp=Z,105nm,1.5s
MMLI  Mount Malkishu 148.56 309    P        PKPdf    20 43 55.4 +1.8
HMDT  Nahal Hemdat   148.56 308    P        PKPdf    20 43 55.3 +1.7
CEY   Cerknica       148.58 350   ePKPdf    PKPdf    20 43 56.8 +3.7
CEY                               e                  20 44 02.0
BOJS  Bojanci        148.65 348   ePKPdf    PKPdf    20 43 57.5 +4.2
BOJS                              i                  20 44 03.3
CTI   Castel Tesino  148.68 353   ePKP      PKPdf    20 43 57.6 +4.3
GRUS  Gruza          148.73 340⇑iP          PKPdf    20 43 57.0 +3.6
DIVS  Divcibare      148.77 341⇑iP          PKPdf    20 43 56.6 +3.1
CSS   Prodhromos     148.81 315   ePKPdf    PKPdf    20 43 52.5  -1.4
CSS                               ePKPbc    PKPdf    20 43 57.1 +3.2
AGO   Saint Agoulin  148.81   5    PKP      PKPdf    20 43 57.6 +4.1
OG05  Jujurieux      148.95   2    PKP      PKPdf    20 43 58.1 +4.4
OG05                               PKP      PKPdf    20 43 59.1 +5.4
MCGN  Macugnaga      149.03 358   ePKP      PKPdf    20 43 58.8 +4.9
VAI   Varese         149.09 357   ePKP      PKPdf    20 43 56.5 +2.5
ALN   Alexandroupoli 149.10 331   eP        PKPdf    20 43 54.6 +0.4
PYM   Petit Puy Mans 149.10   5    PKP      PKPdf    20 43 56.2 +2.2
BARS  Barje          149.28 338⇑iP          PKPdf    20 43 58.9 +4.5
COLF  Collangettes   149.38   4    PKP      PKPdf    20 43 59.1 +4.6
RJF   Les Rejaudoux  149.39   7   ePKP1     PKPdf    20 43 56.8 +2.3
      comp=Z,101nm,1.3s
RJF                               eR
      comp=Z,768nm,21.5s
LPL   La Plagne      149.49 360   ePKP1     PKPdf    20 43 58.3 +3.7
      comp=Z,57nm,1.0s
LPG   La Plagne      149.51 360   ePKP1     PKPdf    20 43 58.4 +3.7
      comp=Z,72nm,1.1s
ZFRI  Zfri           149.56 306    P        PKPdf    20 43 57.6 +2.4
LBL   Lubilhac       149.64   5    PKP      PKPdf    20 43 58.3 +3.4
LFF   La Frestale    149.65   8   ePKP1     PKPdf    20 43 57.5 +2.6
      comp=Z,115nm,1.2s
PRNI  Paran          149.78 305    P        PKPdf    20 43 58.2 +2.6
CAF   Calviac        149.83   7   ePKP1     PKPdf    20 43 57.7 +2.5
      comp=Z,106nm,1.6s
BNI   Bardonecchia   149.95 360   ePKPdf    PKPdf    20 43 53.6  -1.8
BNI                               ePKPbc    PKPdf    20 43 57.1 +1.8
KZIT  Kziot          150.02 307    P        PKPdf    20 43 58.6 +2.7
SRS   Serrai         150.03 334   eP        PKPdf    20 43 56.5 +0.8
ORIF  Oris-en-Rattie 150.08   1   ePKP1     PKPdf    20 43 59.2 +3.6
      comp=Z,42nm,1.0s
ORIF                              eR
      comp=Z,795nm,23.0s
EIL   Elat           150.09 304   ePKPdf    PKPdf    20 43 52.5  -3.5
VIVF  Saint-Julien-l 150.10   3   ePKP1     PKPdf    20 43 59.2 +3.6
      comp=Z,114nm,1.2s
BOB   Bobbio (Coli)  150.15 356   ePKP      PKPdf    20 44 03.8 +8.1
SKO   Skopje         150.16 338   ePKP      PKPdf    20 43 58.0 +2.2
SKO                               i                  20 44 01.2
SKO                               i                  20 44 06.5
MBDF  Montbardon     150.28 360   ePKP1     PKPdf    20 43 59.7 +3.8
      comp=Z,24nm,0.9s
KNT   Kendrikon      150.28 335   eP        PKPdf    20 44 00.2 +4.2
VAY   Valandovo      150.28 335   i PKP     PKPdf    20 44 00.7 +4.7
VAY                               i                  20 44 08.0
KDAG  Bornova        150.36 326   i P       PKPdf    20 43 53.9  -2.4
SOH   Sokhos         150.37 334   eP        PKPdf    20 43 59.3 +3.1
OCF   Saint Nazaire  150.41   2    PKP      PKPdf    20 44 02.4 +6.3
OG26  St.-Nazaire-De 150.41   2    PKP      PKPdf    20 44 02.4 +6.3
ERBM  Eremo          150.41 355   ePKP      PKPdf    20 44 02.4 +6.3
ZCCA  Zocca          150.43 354   ePKP      PKPdf    20 44 03.2 +7.1
GSCL  Gusciola       150.47 354   ePKP      PKPdf    20 44 01.7 +5.5
OUR   Ouranopolis    150.50 332   eP        PKPdf    20 43 59.1 +2.7
SURF  Saint Ours     150.53 360    PKP      PKPdf    20 44 02.8 +6.5
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Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
FNVD	**Fontana Vidola**	**150.59**	**353**	*e*PKP	PKPdf	20 44 01.0	+4.6
RSM	**Repubblica di**	**150.66**	**351**	*e*PKP	PKPdf	20 44 03.2	+6.7
GRG	**Griva**	**150.66**	**335**	*e*P	PKPdf	20 44 00.4	+3.8
VLC	**Villacollemand**	**150.67**	**355**	*e*PKPdf	PKPdf	20 43 56.1	-0.4
VLC				*e*PKPbc	PKPdf	20 44 02.7	+6.2
PGD	**Poggio Sodo**	**150.81**	**352**	*e*PKP	PKPdf	20 43 51.5	-5.3
LASF	**Ste Croix**	**150.83**	**4**	*e*PKP1	PKPdf	20 44 00.9	+4.2
	comp=Z,87nm,1.1s						
FSSB	**Fossombrone**	**150.84**	**351**	*e*PKP	PKPdf	20 44 03.1	+6.4
AUTN	**L'Aution**	**151.00**	**359**	PKP	PKPdf	20 44 04.9	+7.9
ARV	**Arcevia**	**151.00**	**351**	*e*PKP	PKPdf	20 44 07.3	+10
SAOF	**Saorge**	**151.01**	**359**	PKP	PKPdf	20 44 02.8	+5.8
SMRF	**Simiane la Rot**	**151.01**	**2**	*e*PKP1	PKPdf	20 44 01.9	+4.9
	comp=Z,90nm,1.3s						
IMI	**Imperia**	**151.08**	**358**	*e*PKP	PKPdf	20 44 03.2	+6.1
CING	**Cingoli**	**151.08**	**350**	*e*PKP	PKPdf	20 44 04.0	+6.9
SJPF	**Ste Jean**	**151.09**	**12**	*e*PKP1	PKPdf	20 44 00.8	+3.6
	comp=Z,58nm,1.2s						
MVIF	**Mont Vial**	**151.11**	**359**	PKP	PKPdf	20 44 03.0	+5.8
AURF	**Auriere**	**151.11**	**359**	PKP	PKPdf	20 44 04.5	+7.3
SBF	**Sospel**	**151.13**	**359**	*e*PKP1	PKPdf	20 44 00.9	+3.7
OHR	**Ohrid**	**151.15**	**338**	*e*PKP	PKPdf	20 44 00.7	+3.4
OHR				*i*		20 44 02.8	
OHR				*i*		20 44 09.0	
LARF	**Larrau**	**151.21**	**12**	PKP	PKPdf	20 44 03.4	+6.1
FNA	**Florina**	**151.21**	**336**	*e*P	PKPdf	20 44 00.6	+3.2
CALN	**Calern**	**151.25**	**360**	PKP	PKPdf	20 44 03.4	+6.0
CSNT	**Castellina Chi**	**151.26**	**353**	*e*PKP	PKPdf	20 44 07.1	+10
REVF	**Revere**	**151.26**	**359**	PKP	PKPdf	20 44 03.3	+5.9
LIT	**Litokhoron**	**151.34**	**334**	*e*P	PKPdf	20 44 00.5	+2.9
MTLF	**Montolieu**	**151.41**	**7**	*e*PKP1	PKPdf	20 44 02.0	+4.4
	comp=Z,103nm,1.5s						
ETSF	**Etsaut**	**151.42**	**11**	*e*PKP1	PKPdf	20 44 02.4	+4.7
	comp=Z,125nm,1.4s						
FRF	**La Foret Royal**	**151.44**	**0**	*e*PKP1	PKPdf	20 44 01.8	+4.1
	comp=Z,68nm,1.3s						
NRCA	**Norcia**	**151.62**	**350**	*e*PKP	PKPdf	20 44 03.5	+5.5
MBAR	**Mbarara**	**151.64**	**239**	*e*PKP	PKPdf	20 44 00.9	+2.0
MBAR				LR	LR		
	comp=Z,242nm,21.0s,MS5.0						
RESF	**Ens**	**151.67**	**10**	PKP	PKPdf	20 44 05.1	+7.1
LMR	**La Mourre**	**151.67**	**0**	*e*PKP1	PKPdf	20 44 02.4	+4.4
	comp=Z,24nm,1.0s						
MEV	**Metsovon**	**152.12**	**336**	*e*P	PKPdf	20 44 02.9	+4.0
MNS	**Montasola**	**152.13**	**350**	*e*PKP	PKPdf	20 44 06.5	+7.7
PGF	**Pioggiola**	**152.38**	**356**	*e*PKP1	PKPdf	20 44 03.8	+4.7
	comp=Z,55nm,1.3s						
CII	**Carovilli**	**152.47**	**348**	*e*PKP	PKPdf	20 44 07.0	+7.8
IGT	**Igoumenitsa**	**152.69**	**337**	*e*P	PKPdf	20 44 04.6	+5.0
CSSN	**Cassano Irpino**	**153.14**	**346**	*e*PKP	PKPdf	20 44 07.4	+7.2
EVO	**Evora**	**153.14**	**26**	*e*PKP2	PKPab	20 44 18.3	+0.1
	comp=Z,36nm,1.1s						
EVO				*e*R			
	comp=Z,971nm,22.0s						
LKD	**Levkas**	**153.28**	**335**	*e*P	PKPdf	20 44 05.3	+4.9
SGO	**Sicignano**	**153.35**	**345**	*e*PKP	PKPdf	20 44 13.3	+13
ESDC	**Sonseca Array**	**153.63**	**19**	PKPbc	PKPdf	20 44 07.2	+6.3
	comp=Z,0.5nm,0.8s,baz=296,slow=29,SNR=5.1						
TIP	**Timpagrande**	**154.24**	**342**	*e*PKPdf	PKPdf	20 44 00.5	-1.2
TIP				*e*PKPbc	PKPdf	20 44 09.3	+7.5

IDC 04 20:26:37.3±9.8**, 15.09S**×**173.92W, mb4.4**/2**, mb1 4.7**/2**, mb1mx4.1**/11**, Error ellipse: s-maj=480.0km s-min=46.2km az=142.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**49.42**	**257**	P	P	20 35 29.3	-2.0
	0.8nm,0.5s,baz=89,slow=7.1,SNR=4.7						
ASAR	**Alice Springs**	**49.73**	**252**	P	P	20 35 31.8	-1.9
	11nm,0.6s,baz=87,slow=7.8,SNR=5.2						
BRTR	**Keskin Array B**	**145.60**	**321**	PKPbc	PKPbc	20 46 17.1	-1.4
	3.8nm,0.7s,baz=93,slow=2.1,SNR=4.0						
GERES	**GERESS Array B**	**145.76**	**351**	PKPbc	PKPbc	20 46 17.8	-0.8
	0.5nm,0.8s,slow=2.9,SNR=2.5						

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*IDC **04** 20:49:15.8±2.7, 8.89N×126.31E, mb3.6/4, mb1 3.8/4, mb1mx3.5/16, MS4.4/1, Ms1 4.4/1, ms1mx3.5/18, Error ellipse: s-maj=229.0km s-min=23.8km az=65.0*

ISC 04 20:49:20.7±3.8**, 9.0N**±0.2×**126.7E**±0.4**, h56**^{km}±33^{km}**, n7, σ0^{s}89**/9**, mb3.5**/4**, MS4.4**/1**, 1C, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.89**	**204**	⇑*i*P	**P**	**20 49 37.5**	**+0.3**
BIPH				*i* S	**S**	**20 49 48.8**	**-0.7**
SCPH	**Surigao**	**1.45**	**303**	*e*P	**P**	**20 49 44.8**	**-0.3**
SCPH				*i* S	**S**	**20 50 02.7**	**-0.5**
TBP	**Tagbilaran**	**2.91**	**284**	*e*P	**P**	**20 50 08.1**	**+2.4**
WRA	**Warramunga Arr**	**29.72**	**165**	P	**P**	**20 55 23.6**	**-0.4**
	0.2nm,0.6s,mb3.0,baz=345,slow=9.4,SNR=4.4						
ASAR	**Alice Springs**	**33.21**	**168**	P	**P**	**20 55 54.5**	**-0.1**
	0.2nm,0.4s,mb3.4,baz=353,slow=6.6,SNR=11						
STKA	**Stephens Creek**	**43.06**	**161**	P	**P**	**20 57 17.8**	**+0.9**
	2.5nm,1.2s,mb3.8,baz=346,slow=12,SNR=3.3						
MKAR	**Makanchi Array**	**53.31**	**323**	P	**P**	**20 58 35.4**	**-0.9**
	1.2nm,0.7s,mb3.9,baz=128,slow=9.4,SNR=12						
MKAR				LR	LR	21 24 13.8	
	comp=Z,395nm,21.6s,MS4.4,baz=94,slow=40						

IDC 04 21:03:31.8±8.3**, 17.60S**×**172.46W, mb4.1**/2**, mb1 4.4**/2**, mb1mx3.8**/13**, Error ellipse: s-maj=458.0km s-min=43.9km az=146.0, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**50.26**	**258**	P	P	21 12 30.0	-2.1
	0.5nm,0.4s,baz=107,slow=8.7,SNR=2.5						
ASAR	**Alice Springs**	**50.33**	**254**	P	P	21 12 31.1	-1.5
	4.6nm,0.8s,baz=87,slow=8.3,SNR=32						
BRTR	**Keskin Array B**	**148.42**	**320**	PKPbc	PKPdf	21 23 17.9	-0.8
	1.2nm,0.8s,baz=45,slow=2.0,SNR=7.2						
GERES	**GERESS Array B**	**148.44**	**352**	PKPbc	PKPdf	21 23 21.7	+3.2
	0.7nm,0.9s,slow=2.7,SNR=5.7						

IDC 04 21:05:45.7±11.0**, 8.09S**×**128.77E, h130**^{km}±84^{km}**, mb3.5**/1**, mb1 3.8**/4**, mb1mx3.3**/13**, Error ellipse: s-maj=85.5km s-min=55.7km az=172.0, Timor Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.40**	**197**	P	P	21 08 11.0	-1.4
	0.9nm,0.3s,baz=24,slow=11,SNR=3.6						
FITZ				S	S	21 10 05.9	-1.2
	3.0nm,0.3s,baz=173,slow=15,SNR=8.7						
WRA	**Warramunga Arr**	**12.96**	**156**	P	P	21 08 45.1	-0.8
	1.2nm,0.3s,baz=342,slow=13,SNR=57						
WRA				S	S	21 11 08.3	+0.8
	0.9nm,0.3s,baz=329,slow=22,SNR=12						
ASAR	**Alice Springs**	**16.25**	**163**	P	P	21 09 28.6	+0.8
	0.8nm,0.3s,baz=338,slow=9.7,SNR=57						
STKA	**Stephens Creek**	**26.50**	**155**	P	P	21 11 10.7	-2.3
	1.7nm,0.9s,baz=346,slow=11,SNR=3.0						

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*PRU **04** 21:40:30.4, 51.42N×16.07E*

WAR 04 21:40:30.6, 51.50N×16.09E, ML2.6, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.67**	**169**	*e*PG	Pg	21 40 43.0	-1.0
KSP				*e*SG	Sg	21 40 51.0	-1.9
UPC	**Upice**	**0.99**	**183**	*e*PG	Pg	21 40 48.2	-2.3
DPC	**Dobruska-Polom**	**1.16**	**173**	*e*PG	Pg	21 40 50.7	-3.1
DPC				*e*SG	Sg	21 41 05.6	-3.6
PVCC	**Panska Ves**	**1.37**	**225**	*e*PG	Pg	21 40 54.9	-3.0
PRU	**Pruhonice**	**1.80**	**214**	*e*PG	Pg	21 41 02.4	-4.2
PRU				*e*SG	Sg	21 41 24.5	-6.2
	11nm,0.4s						
CLL	**Collm**	**1.94**	**266**	*i* PG	Pg	21 41 05.3	-4.1
CLL				*e*SG	Sg	21 41 31.0	-4.3
OKC	**Ostrava-Krasne**	**2.12**	**141**	*e*SG	Sg	21 41 37.3	-3.8
NKC	**Novy Kostel**	**2.63**	**243**	*e*SG	Sg	21 41 52.5	-5.7
KHC	**Kasperske Hory**	**2.87**	**215**	*e*PN	Pn	21 41 15.8	-2.6
KHC				*e*PG	Pg	21 41 22.1	-5.7
KHC				*e*x	x	21 41 51.0	
KHC				*e*SG	Sg	21 41 59.5	-6.5

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*IDC **04** 21:53:06.2±0.7, 12.53N×87.75W, h56^{km}±4^{km}, mb4.1/19, mb1 4.3/21, mb1mx4.2/25, MS4.0/11, Ms1 4.0/11, ms1mx3.9/17, Error ellipse: s-maj=21.1km s-min=8.8km az=51.0*

*CASC **04** 21:53:07.2±2.3, 12.51N×87.77W, h51^{km}±48^{km}, MD4.6, ML4.9, mb4.7(NEIC)*

*NEIC **04** 21:53:09.5±0.9, 12.49N×87.64W, h83^{km}±8^{km}, mb4.7/41, Error ellipse: s-maj=8.2km s-min=4.2km az=222.0*

ISC 04 21:53:06.5±0.3**, 12.49N**±0.04×**87.76W**±0.03**, h67**^{km}±2^{km}**, h60**^{km}±1.9^{km}**:pP-P, n200, σ1^{s}00**/176**, mb4.6**/55**, 7C-23D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.72**	**73**	⇓*e*P	**P**	**21 53 22.0**	**+0.4**
CRIN				*e*S	**S**	**21 53 33.6**	**+0.7**
PYN	**Poneloya**	**0.72**	**98**	*e*P	**P**	**21 53 19.0**	**-2.6**
CNCH	**Conchagua**	**0.79**	**354**	⇓*i*P	**P**	**21 53 22.8**	**+0.3**
LEON	**Leon**	**0.85**	**95**	⇓*i*P	**P**	**21 53 22.6**	**-0.6**
TELN	**Telica**	**0.91**	**83**	⇓*e*P	**P**	**21 53 23.6**	**-0.3**
TELN				*e*S	**S**	**21 53 38.0**	**+1.1**
MIRN	**Miramar**	**1.02**	**92**	⇑*i*P	**P**	**21 53 25.1**	**-0.4**
CNGN	**Cerro Negro**	**1.03**	**89**	⇓*e*P	**P**	**21 53 25.1**	**-0.5**
CNGN				*e*S	**S**	**21 53 41.9**	**+2.2**
BLLM	**Bellamira**	**1.06**	**334**	*e*P	**P**	**21 53 26.1**	**+0.1**
BLLM				*e*S	**S**	**21 53 38.8**	**-1.5**
VSM	**San Miguel**	**1.06**	**332**	⇓*e*P	**P**	**21 53 26.1**	**+0.1**
COPN	**Copaltepe**	**1.18**	**105**	⇑*i*P	**P**	**21 53 27.0**	**-0.4**
MOMJ	**Momotombo**	**1.19**	**94**	⇓*e*P	**P**	**21 53 27.2**	**-0.4**
MOMJ				*e*S	**S**	**21 53 43.5**	**+0.1**
CAHU	**Cacacuatique**	**1.35**	**341**	⇓*e*P	**P**	**21 53 30.7**	**+0.7**
APYN	**Apoyeque**	**1.40**	**100**	⇓*e*P	**P**	**21 53 30.4**	**-0.2**
XAVN	**Gruta Xavier**	**1.44**	**103**	⇓*e*P	**P**	**21 53 30.6**	**-0.5**
CRUN	**El Crucero**	**1.51**	**109**	⇑*e*P	**P**	**21 53 31.5**	**-0.6**
MGAN	**Managua**	**1.51**	**103**	⇓*i*P	**P**	**21 53 31.5**	**-0.6**
MGAN				*e*S	**S**	**21 53 51.1**	**0.0**
	comp=N,35µm,0.4s						
MGAN				*e*		21 53 51.1	
SNVI	**San Vicente**	**1.54**	**317**	⇓*e*P	**P**	**21 53 32.0**	**-0.5**
SNVI				*e*S	**S**	**21 53 51.5**	**-0.1**
TICN	**Ticuantepe**	**1.56**	**107**	⇓*e*P	**P**	**21 53 32.2**	**-0.5**
WILN	**Americas 2**	**1.57**	**102**	⇓*e*P	**P**	**21 53 32.2**	**-0.7**
MASN	**Masaya**	**1.65**	**107**	⇓*e*P	**P**	**21 53 33.2**	**-0.8**
MASN				*e*P		21 53 33.5	
MASN				*e*S	**S**	**21 53 55.1**	**+1.0**
PYTN	**Playitas**	**1.66**	**88**	⇓*i*P	**P**	**21 53 33.8**	**-0.3**
LCBS	**La Ceiba**	**1.66**	**314**	⇓*i*P	**P**	**21 53 33.7**	**-0.4**
LFRS	**El Faro**	**1.70**	**312**	⇓*i*P	**P**	**21 53 34.2**	**-0.5**
LBRS	**Las Brisas**	**1.77**	**315**	⇓*e*P	**P**	**21 53 35.4**	**-0.1**
LBRS				*e*S	**S**	**21 53 56.5**	**-0.5**
LFU	**La Fuente**	**1.82**	**314**	⇑*e*P	**P**	**21 53 36.4**	**+0.1**
SNET	**Serv Nac Est T**	**1.87**	**310**	*e*P	**P**	**21 53 35.9**	**-1.0**
SNET				*e*S	**S**	**21 53 59.2**	**-0.2**
SNET				*i*		21 54 05.8	
	comp=Z,10µm,0.5s						
BOQS	**Boqueron**	**1.94**	**310**	⇓*e*P	**P**	**21 53 37.8**	**0.0**
SBLS	**San Blas**	**2.26**	**307**	*e*P	**P**	**21 53 42.1**	**-0.4**
SNJE	**San Jose**	**2.27**	**308**	⇑*e*P	**P**	**21 53 42.5**	**0.0**
CONN	**Concepcion**	**2.28**	**114**	⇓*e*P	**P**	**21 53 41.3**	**-1.4**
RTR	**El Retiro**	**2.31**	**308**	*e*P	**P**	**21 53 43.7**	**+0.4**
MTO2	**Montecristo 2**	**2.46**	**321**	⇓*e*P	**P**	**21 53 45.3**	**0.0**
RBDL	**Robledal**	**2.48**	**311**	*e*P	**P**	**21 53 45.8**	**+0.3**
CUSS	**Cusmapa**	**2.56**	**304**	*e*P	**P**	**21 53 46.2**	**-0.5**
CUSS				*e*S	**S**	**21 54 15.8**	**-0.9**
CRZC	**La Cruz**	**2.61**	**126**	*e*P	**P**	**21 53 47.4**	**0.0**
VCR	**Vista de Mar**	**3.14**	**138**	⇑*e*P	**P**	**21 53 54.3**	**-0.5**
JTS	**JuntasAbangare**	**3.51**	**128**	P	**P**	**21 53 59.6**	**-0.5**
	comp=Z,22nm,0.3s,baz=337,slow=16,SNR=60						
JTS				S	**S**	**21 54 40.4**	**-0.2**
	comp=Z,87nm,0.3s,baz=160,slow=24,SNR=6.6						
JTS				Lg		21 54 55.6	
	comp=Z,254nm,0.3s,baz=212,slow=16,SNR=7.2						
JTS	**JuntasAbangare**	**3.51**	**128**	*e*Pn	**P**	**21 53 59.2**	**-0.8**
JTS				*e*Sn	**S**	**21 54 35.9**	**-4.7**
JCR	**Jicaral**	**3.69**	**135**	⇓*e*P	**P**	**21 54 02.3**	**-0.2**
CGA2	**Cerro Gallo 2**	**4.05**	**127**	*e*P	**P**	**21 54 08.8**	**+1.2**
CGA2				*e*S	**S**	**21 54 53.3**	**-0.9**
PRS1	**Puriscal**	**4.20**	**126**	*e*P	**P**	**21 54 10.5**	**+0.9**
TRTC	**Tortuguero**	**4.39**	**115**	*e*P	**P**	**21 54 12.2**	**-0.2**
LAJ	**Bijagual**	**4.42**	**126**	*e*P	**P**	**21 54 10.0**	**-2.7**
SJS	**Escuela Geolog**	**4.43**	**125**	*e*P	**P**	**21 54 15.6**	**+2.8**
LCR2	**La Lucha 2**	**4.58**	**126**	*e*P	**P**	**21 54 16.6**	**+1.6**
ICR	**Volcan Irazu**	**4.59**	**122**	*e*P	**P**	**21 54 17.6**	**+2.5**
URSC	**Urasca**	**4.71**	**124**	*e*P	**P**	**21 54 19.8**	**+3.0**
BUS	**Buena Vista**	**4.89**	**126**	⇑*e*P	**P**	**21 54 21.2**	**+2.0**
LIO	**Limon**	**5.25**	**118**	*e*P	**P**	**21 54 25.9**	**+1.7**
ACR	**Cerro Adams**	**5.90**	**130**	*e*P	**P**	**21 54 33.6**	**+0.4**
TEIG	**Tepich**	**7.71**	**356**	P	**P**	**21 55 00.1**	**+1.7**
	comp=Z,0.0nm,0.3s,baz=328,slow=24,SNR=5.2						
ROSC	**El Rosal**	**15.28**	**119**	P	**P**	**21 56 43.5**	**+3.7**
	comp=Z,1.0nm,0.3s,baz=5.9,slow=20,SNR=6.0						
ROSC				LR	LR	22 03 01.3	
	comp=Z,452nm,22.0s,baz=296,slow=39						
SDV	**Santo Domingo**	**17.20**	**100**	*e*P	**P**	**21 57 02.8**	**-1.1**
	comp=Z,35nm,1.0s						
SDV				*e*		21 57 18.8	
NATX	**Nacogdoches**	**20.21**	**343**	*e*P	**P**	**21 57 38.2**	**-0.2**
	comp=Z,84nm,1.1s						
LRAL	**Lakeview Retre**	**20.46**	**2**	*e*P	**P**	**21 57 43.0**	**+2.0**
	comp=Z,73nm,1.1s						
LRAL				*e*		21 57 55.7	
JCT	**Junction City**	**21.09**	**330**	*e*P	**P**	**21 57 47.5**	**0.0**
	comp=Z,20nm,0.6s,mb4.6						
SJG	**San Juan**	**21.57**	**72**	P	**P**	**21 57 52.3**	**0.0**
	comp=Z,28nm,0.8s,mb4.6,baz=296,slow=5.2,SNR=8.1						
SJG				LR	LR	22 06 22.0	
	comp=Z,375nm,20.7s,baz=274,slow=37						
SJG	**San Juan**	**21.57**	**72**	*e*P	**P**	**21 57 51.9**	**-0.5**
	comp=Z,28nm,0.8s,mb4.6						
OXF	**Oxford**	**21.98**	**356**	*e*P	**P**	**21 57 55.9**	**-0.3**
	comp=Z,92nm,1.0s,mb5.1						
OXF				*e*		21 58 12.8	
MTP	**Monte Pirata**	**22.12**	**73**	*e*P	**P**	**21 57 58.7**	**+1.0**
MTP				*e*		21 58 14.4	
LTX	**Lajitas**	**22.36**	**321**	*e*P	**P**	**21 58 01.1**	**+1.1**
	comp=Z,33nm,0.9s,mb4.7						
TXAR	**Lajitas Array**	**22.36**	**321**	P	**P**	**21 58 01.3**	**+1.3**
	comp=Z,25nm,0.8s,mb4.6,baz=144,slow=9.4,SNR=141						
TXAR				PcP	PcP	22 01 52.1	-2.4
	comp=Z,2.3nm,0.9s,baz=137,slow=4.1,SNR=5.3						
TXAR				LR	LR	22 08 06.1	
	comp=Z,166nm,19.1s,baz=155,slow=40						
UALR	**University of**	**22.58**	**350**	*e*P	**P**	**21 58 03.3**	**+1.1**
	comp=Z,38nm,0.8s,mb4.8						
UALR				*e*		21 58 15.7	
CPCT	**Cooper Cave**	**23.05**	**7**	*e*P	**P**	**21 58 11.5**	**+4.7**
CPCT				*e*		21 58 26.4	
HBAR	**Harrisburg**	**23.12**	**354**	*e*P	**P**	**21 58 09.1**	**+1.7**
HBAR				*e*		21 58 23.5	
WVT	**Waverly**	**23.54**	**360**	*e*P	**P**	**21 58 13.0**	**+1.5**
	comp=Z,29nm,1.3s,mb4.4						
WVT				*e*		21 58 26.4	
WMOK	**Wichita Mounta**	**24.31**	**338**	*e*P	**P**	**21 58 18.9**	**-0.1**
	comp=Z,14nm,0.7s,mb4.4						
GDL2	**Guadalupe Moun**	**24.85**	**325**	*e*P	**P**	**21 58 25.0**	**+0.7**
CPRX	**Cap Rock**	**25.21**	**327**	*e*P	**P**	**21 58 27.6**	**0.0**
USIN	**University of**	**25.37**	**0**	*e*P	**P**	**21 58 28.3**	**-0.8**
	comp=Z,18nm,0.7s,mb4.6						
ELN	**Prospectdale**	**25.43**	**13**	*e*P	**P**	**21 58 30.5**	**+0.9**
PWV	**Princeton**	**25.46**	**13**	*e*P	**P**	**21 58 30.4**	**+0.4**
PWV				*e*	pP	21 58 45.8	0.0
BLA	**Blacksburg**	**25.48**	**14**	*e*P	**P**	**21 58 30.8**	**+0.6**
	comp=Z,36nm,0.9s,mb4.8						
BLA				*e*	pP	21 58 43.9	-2.1
CCM	**Cathedral Cave**	**25.65**	**354**	*e*P	**P**	**21 58 30.3**	**-1.4**
	comp=Z,36nm,1.0s,mb4.8						
CCM				*e*	pP	21 58 45.7	-1.9
WCI	**Wyandotte Cave**	**25.67**	**3**	*e*P	**P**	**21 58 31.2**	**-0.7**
	comp=Z,26nm,0.8s,mb4.7						
WCI				*e*	pP	21 58 46.4	-1.3
CBN	**Corbin**	**27.23**	**18**	P	**P**	**21 58 46.7**	**+0.3**
	comp=Z,34nm,0.3s,mb5.4						
BNM	**Barren Site**	**27.57**	**325**	*e*P	**P**	**21 58 48.6**	**-0.8**
KSU1	**Kansas State U**	**27.65**	**345**	*e*P	**P**	**21 58 48.6**	**-1.4**
LENM	**Lemitar**	**27.78**	**324**	*e*P	**P**	**21 58 53.7**	**+2.4**
ACSO	**Alum Creek Sta**	**27.95**	**8**	*e*P	**P**	**21 58 51.7**	**-1.2**
	comp=Z,18nm,0.9s,mb4.6						
ACSO				*e*	pP	21 59 07.2	-1.7
LAZ	**Ladron**	**28.04**	**324**	*e*P	**P**	**21 58 54.5**	**+0.8**
ANMO	**Albuquerque**	**28.07**	**326**	*e*P	**P**	**21 58 54.7**	**+0.8**
	comp=Z,4.3nm,0.9s,mb4.0						
BBSR	**BB Station**	**28.97**	**43**	*e*P	**P**	**21 59 01.3**	**-0.7**
	comp=Z,19nm,0.8s,mb4.8						
SDCO	**Great Sand Dun**	**29.73**	**331**	*e*P	**P**	**21 59 09.6**	**+0.9**
	comp=Z,12nm,0.9s,mb4.5						
BINY	**Binghamton**	**31.33**	**17**	*e*P	**P**	**21 59 22.1**	**-0.6**
	comp=Z,43nm,1.3s,mb5.0						
BINY				*e*	pP	21 59 37.6	-1.5
ISCO	**Idaho Springs**	**31.45**	**333**	*e*P	**P**	**21 59 24.8**	**+1.0**
	comp=Z,7.2nm,1.1s,mb4.3						
PV01	**Paradox Valley**	**31.57**	**328**	*e*P	**P**	**21 59 25.4**	**+0.5**
PV10	**Paradox Valley**	**32.00**	**327**	*e*P	**P**	**21 59 28.4**	**-0.2**
SAML	**Samuel**	**32.40**	**130**	*e*P	**P**	**21 59 30.8**	**-1.6**
	comp=Z,11nm,0.7s,mb4.7						
SAML				*e*PcP	PcP	22 02 17.8	-0.8
SADO	**Sadowa**	**33.01**	**11**	P	**P**	**21 59 36.0**	**-1.3**
	comp=Z,16nm,0.6s,mb5.0,baz=213,slow=9.0,SNR=28						
SADO				pP	pP	21 59 50.7	-3.2
	comp=Z,14nm,0.6s,baz=200,slow=7.1,SNR=6.8						
SADO	**Sadowa**	**33.01**	**11**	P	**P**	**21 59 36.0**	**-1.3**
SADO				pP	pP	21 59 50.7	-3.2
SRU	**San Rafael**	**33.32**	**327**	*e*P	**P**	**21 59 40.7**	**+0.6**
SRU				*e*	pP	21 59 57.4	+0.8
LDFC	**Landfair**	**33.45**	**317**	*e*P	**P**	**21 59 42.1**	**+0.9**
NEN	**Nelson**	**33.61**	**318**	*e*P	**P**	**21 59 43.5**	**+0.9**
MSU	**Marysvale**	**33.81**	**324**	*e*P	**P**	**21 59 45.1**	**+0.8**
LOZ	**Lake Ozonia**	**33.95**	**17**	*e*P	**P**	**21 59 44.4**	**-1.1**
LOZ				*e*	pP	21 59 59.2	-2.8
RSSD	**Black Hills**	**34.49**	**339**	*e*P	**P**	**21 59 50.1**	**0.0**
	comp=Z,9.2nm,0.6s,mb4.8						
RSSD				*e*	pP	22 00 07.2	+0.5
LPAZ	**La Paz**	**34.55**	**145**	P	**P**	**21 59 51.5**	**+0.6**
	comp=Z,1.6nm,0.3s,mb4.3,baz=298,slow=1.2,SNR=3.3						
MPU	**Maple Canyon**	**34.57**	**327**	*e*P	**P**	**21 59 51.2**	**+0.5**
DAU	**Daniels Canyon**	**34.66**	**328**	*e*P	**P**	**21 59 52.2**	**+0.7**
NLU	**North Lily Min**	**34.76**	**326**	*e*P	**P**	**21 59 53.1**	**+0.7**
NLU				*e*PcP	PcP	22 02 25.7	+0.7
JLU	**Jordanelle**	**34.89**	**328**	*e*P	**P**	**21 59 54.1**	**+0.5**
TCUT	**Toone Canyon**	**35.25**	**328**	*e*P	**P**	**21 59 56.4**	**-0.2**
TCUT				*e*PcP	PcP	22 02 26.1	-0.3
TPNV	**Topopah Spring**	**35.29**	**319**	*e*P	**P**	**21 59 58.2**	**+1.2**
	comp=Z,4.9nm,1.0s,mb4.3						
DUG	**Dugway**	**35.33**	**326**	*e*P	**P**	**21 59 57.6**	**+0.3**
	comp=Z,10.0nm,1.0s,mb4.6						
PDAR	**Pinedale Array**	**35.60**	**332**	P	**P**	**21 59 59.3**	**-0.3**
	comp=Z,7.4nm,0.6s,mb4.8,baz=126,slow=9.7,SNR=80						
PDAR				LR	LR	22 16 38.7	
	comp=Z,118nm,21.5s,baz=263,slow=40						
HWUT	**Hardware Ranch**	**35.69**	**329**	*e*P	**P**	**22 00 00.7**	**+0.4**
	comp=Z,43nm,0.8s,mb5.4						
HWUT				*e*PcP	PcP	22 02 27.2	-0.5
SPUT	**South Promonto**	**35.93**	**328**	*e*P	**P**	**22 00 03.3**	**+0.9**
BGU	**Big Grassy Mou**	**35.96**	**327**	*e*P	**P**	**22 00 03.0**	**+0.3**
AHID	**Auburn Hatcher**	**36.32**	**330**	*e*P	**P**	**22 00 05.7**	**0.0**
	comp=Z,39nm,0.6s,mb5.5						
HVU	**Hansel Valley**	**36.44**	**328**	*e*P	**P**	**22 00 07.1**	**+0.5**
REDW	**Red Top Meadow**	**36.66**	**331**	*e*P	**P**	**22 00 08.8**	**+0.3**
SNOW	**Snow King Moun**	**36.69**	**332**	*e*P	**P**	**22 00 09.7**	**+0.9**
LOHW	**Long Hollow**	**36.74**	**332**	*e*P	**P**	**22 00 09.6**	**+0.5**
WUWY	**Wally Ulrich**	**36.75**	**332**	*e*P	**P**	**22 00 10.3**	**+1.1**
TPAW	**Teton Pass**	**36.80**	**331**	*e*P	**P**	**22 00 10.4**	**+0.7**
MOOW	**Moose Ponds**	**36.91**	**332**	*e*P	**P**	**22 00 10.8**	**+0.2**
ELK	**Elko**	**37.06**	**324**	*e*P	**P**	**22 00 12.6**	**+0.7**
	comp=Z,9.2nm,0.9s,mb4.7						
ELK				*e*	pP	22 00 32.0	+3.4
ELK				*e*PcP	PcP	22 02 31.7	-0.1
MNV	**Mina**	**37.38**	**319**	*e*P	**P**	**22 00 15.1**	**+0.5**
	comp=Z,10nm,1.1s,mb4.7						
MNV				*e*PcP	PcP	22 02 33.2	+0.4
QLMT	**Earthquake Lak**	**38.06**	**332**	*e*P	**P**	**22 00 21.8**	**+1.7**
QLMT				*e*PcP	PcP	22 02 34.7	-0.1
HLID	**Hailey**	**38.55**	**328**	*e*P	**P**	**22 00 25.0**	**+0.7**
	comp=Z,8.9nm,0.7s,mb4.7						
HLID				*e*PcP	PcP	22 02 35.6	-0.7
MCMT	**McKenzie Canyo**	**38.71**	**331**	*e*P	**P**	**22 00 27.0**	**+1.5**
BOZ	**Bozeman (W)**	**38.78**	**333**	*e*P	**P**	**22 00 26.6**	**+0.4**
	comp=Z,19nm,0.7s,mb5.0						
LVC	**Limon Verde**	**39.47**	**152**	*e*P	**P**	**22 00 34.1**	**+2.0**
	comp=Z,14nm,1.0s,mb4.7						
LVC				*e*		22 00 42.8	
BEKR	**Beckwourth**	**39.61**	**319**	*e*P	**P**	**22 00 33.9**	**+0.8**
	comp=Z,8.8nm,1.0s,mb4.5						
HRY	**Holter Researc**	**39.69**	**334**	*e*P	**P**	**22 00 33.9**	**+0.2**
WVOR	**Wild Horse Val**	**40.10**	**324**	*e*P	**P**	**22 00 37.5**	**+0.4**
	comp=Z,14nm,0.8s,mb4.8						
CHMT	**Chamberlain Mo**	**40.47**	**333**	*e*P	**P**	**22 00 40.4**	**+0.3**
CHMT				*e*	pP	22 00 55.0	-1.9
MOD	**Modoc**	**40.75**	**322**	*e*P	**P**	**22 00 41.3**	**-1.2**
	comp=Z,7.6nm,1.1s,mb4.4						
YBH	**Yreka Blue Hor**	**42.13**	**320**	P	**P**	**22 00 52.8**	**-1.1**
	comp=Z,1.4nm,0.7s,mb3.8,baz=115,slow=6.3,SNR=3.0						
LNOR	**Lincton Mounta**	**42.14**	**328**	*e*P	**P**	**22 00 53.5**	**-0.4**
KHMM	**Horse Mountain**	**42.32**	**319**	*e*P	**P**	**22 00 55.8**	**+0.3**
HAWA	**Hanford**	**43.14**	**328**	*e*P	**P**	**22 01 01.2**	**-0.9**
	comp=Z,15nm,0.8s,mb4.8						
NEW	**Newport**	**43.23**	**331**	*e*P	**P**	**22 01 01.9**	**-0.9**
	comp=Z,8.9nm,0.8s,mb4.5						
FFC	**Flin Flon**	**43.60**	**348**	*e*P	**P**	**22 01 05.0**	**-0.7**
	comp=Z,10.0nm,0.7s,mb4.7						
SSOR	**Sweet Springs**	**43.77**	**324**	*e*P	**P**	**22 01 06.9**	**-0.4**
LON	**Longmire**	**44.57**	**327**	*e*P	**P**	**22 01 13.3**	**-0.3**
LON				*e*PcP	PcP	22 02 55.2	-0.9
NLW	**Nelson Butte**	**44.66**	**329**	*e*P	**P**	**22 01 14.2**	**-0.1**
PNT	**Penticton**	**45.15**	**331**	P	**P**	**22 01 18.4**	**+0.3**
SCHQ	**Schefferville**	**45.33**	**17**	P	**P**	**22 01 18.0**	**-1.5**
	comp=Z,31nm,0.7s,mb5.2,baz=215,slow=5.9,SNR=58						
SCHQ				pP	pP	22 01 32.1	-4.4
	comp=Z,12nm,0.6s,baz=240,slow=8.9,SNR=5.8						
SCHQ				LR	LR	22 19 55.8	
	comp=Z,421nm,20.9s,baz=346,slow=36						
SCHQ	**Schefferville**	**45.33**	**17**	P	**P**	**22 01 18.0**	**-1.5**
SCHQ				pP	pP	22 01 32.1	-4.4
SCHQ				LR	LR	22 19 55.8	
RPW	**Rockport**	**45.50**	**329**	P	**P**	**22 01 20.4**	**-0.6**
GNW	**Green Mountain**	**45.62**	**327**	*e*P	**P**	**22 01 20.4**	**-1.5**
BDFB	**Brasilia**	**48.24**	**124**	P	**P**	**22 01 41.4**	**-1.5**
	comp=Z,1.8nm,0.5s,mb4.2,baz=298,slow=9.0,SNR=3.4						
BDFB				LR	LR	22 24 11.3	
	comp=Z,197nm,18.7s,baz=343,slow=39						
CPUP	**Villa Florida**	**48.62**	**143**	P	**P**	**22 01 43.9**	**-1.8**
	comp=Z,6.2nm,0.8s,mb4.6,baz=346,slow=7.5,SNR=10						
CPUP				LR	LR	22 24 07.4	
	comp=Z,109nm,18.9s,baz=221,slow=38						
CPUP	**Villa Florida**	**48.62**	**143**	P	**P**	**22 01 43.9**	**-1.8**
CPUP				LR	LR	22 24 07.4	
FRB	**Frobisher Bay**	**52.95**	**11**	P	**P**	**22 02 15.8**	**-2.3**
	comp=Z,16nm,0.7s,mb5.2,baz=212,slow=8.7,SNR=14						
YKA	**Yellowknife Ar**	**53.50**	**345**	P	**P**	**22 02 20.4**	**-1.8**
	comp=Z,3.3nm,0.7s,mb4.5,baz=141,slow=7.7,SNR=9.2						
YKA				pP	pP	22 02 35.0	-4.5
	comp=Z,3.8nm,0.6s,baz=144,slow=7.1,SNR=8.0						
YKA				LR	LR	22 27 56.1	
	comp=Z,142nm,19.5s,baz=170,slow=39						
YKA	**Yellowknife Ar**	**53.50**	**345**	P	**P**	**22 02 20.4**	**-1.8**
YKA				pP	pP	22 02 35.0	-4.5
YKA				LR	LR	22 27 56.1	
DLBC	**Dease Lake**	**55.75**	**335**	*e*P	**P**	**22 02 38.1**	**-0.4**
DLBC				*e*	pP	22 02 52.3	-3.8
INK	**Inuvik**	**63.08**	**343**	P	**P**	**22 03 27.1**	**-1.9**
	comp=Z,4.9nm,0.9s,mb4.5,baz=105,slow=6.3,SNR=8.1						
INK				pP	pP	22 03 41.8	-5.1
	comp=Z,6.2nm,0.9s,baz=129,slow=7.6,SNR=6.3						
INK	**Inuvik**	**63.08**	**343**	*e*P	**P**	**22 03 27.0**	**-2.0**
	comp=Z,9.1nm,1.0s,mb4.7						
INK				*e*	pP	22 03 41.3	-5.5
INK				*e*	pP	22 03 48.5	+1.7
ILAR	**Eielson Array**	**65.87**	**336**	P	**P**	**22 03 45.2**	**-1.7**
	comp=Z,3.0nm,0.9s,mb4.1,baz=110,slow=5.2,SNR=40						
ILAR				pP	pP	22 04 01.2	-3.8
	comp=Z,3.8nm,0.9s,baz=118,slow=4.7,SNR=16						
MCK	**McKinley**	**66.30**	**335**	*e*P	**P**	**22 03 47.9**	**-1.9**
	comp=Z,3.8nm,0.9s,mb4.2						
SUMG	**Summit**	**66.63**	**14**	P	**P**	**22 03 52.4**	**+0.6**
	comp=Z,7.5nm,1.0s,mb4.5						
EVO	**Evora**	**74.36**	**53**	*e*P	pP	22 04 55.6	-1.8
EKA	**Eskdalemuir Ar**	**76.77**	**36**	P	**P**	**22 04 53.2**	**+0.9**
	comp=Z,0.8nm,0.8s,mb3.5,baz=260,slow=4.3,SNR=3.3						
EKA				pP	pP	22 05 07.0	-3.9
	comp=Z,2.9nm,0.8s,baz=277,slow=6.7,SNR=7.0						
ESDC	**Sonseca Array**	**77.40**	**52**	P	**P**	**22 04 54.2**	**-2.1**
	comp=Z,0.5nm,0.8s,mb3.3,baz=280,slow=5.0,SNR=3.9						
ESDC				pP	pP	22 05 11.7	-3.0
	comp=Z,3.7nm,1.0s,baz=283,slow=5.6,SNR=5.0						
RAR	**Rarotonga**	**78.22**	**245**	LR	LR	22 29 57.5	
	comp=Z,257nm,18.8s,baz=108,slow=28						
GRR	**Gorron**	**78.73**	**43**	*e*P	pP	22 05 16.8	-5.0
	comp=Z,13nm,0.9s						

FLN	**La Foliniere**	**78.94**	**42**	*e*P	pP	22 05 19.0	-4.0
	comp=Z,41nm,1.3s						
SJPF	**Ste Jean**	**79.07**	**48**	*e*P	pP	22 05 19.8	-4.0
LDF	**La Druitiere**	**79.20**	**42**	*e*P	pP	22 05 19.3	-5.1
	comp=Z,34nm,1.3s						
MFF	**Saint Martin d**	**79.42**	**44**	*e*P	pP	22 05 20.8	-4.8
	comp=Z,16nm,0.9s						
EPF	**Esparros**	**80.22**	**48**	*e*P	pP	22 05 25.6	-4.5
	comp=Z,20nm,1.2s						
LFF	**La Frestale**	**80.25**	**46**	*e*P	pP	22 05 25.4	-4.7
	comp=Z,30nm,1.2s						
RJF	**Les Rejaudoux**	**80.74**	**46**	*e*P	pP	22 05 27.9	-4.9
	comp=Z,28nm,1.3s						
TCF	**Toulx Ste Croi**	**81.07**	**45**	*e*P	pP	22 05 29.4	-5.1
	comp=Z,10nm,1.1s						
CAF	**Calviac**	**81.18**	**46**	*e*P	pP	22 05 30.3	-4.8
	comp=Z,14nm,1.2s						
BGF	**Bois d'Agland**	**81.47**	**44**	*e*P	pP	22 05 31.4	-5.2
	comp=Z,17nm,1.0s						
MTLF	**Montolieu**	**81.53**	**48**	*e*P	pP	22 05 32.4	-4.6
AVF	**Avril sur Loir**	**81.77**	**44**	*e*P	pP	22 05 32.8	-5.4
	comp=Z,11nm,1.2s						
BAIF	**Baives**	**81.80**	**41**	*e*P	pP	22 05 32.1	-6.1
SSF	**Saint Saulge**	**81.83**	**44**	*e*P	pP	22 05 33.1	-5.4
	comp=Z,14nm,1.5s						
LOR	**Lormes**	**82.04**	**43**	*e*P	pP	22 05 34.4	-5.1
	comp=Z,16nm,1.1s						
SMF	**Signal de Mont**	**82.13**	**44**	*e*P	pP	22 05 34.3	-5.7
	comp=Z,15nm,1.3s						
MEZF	**Maizieres J'vi**	**82.61**	**42**	*e*P	pP	22 05 37.6	-4.9
	comp=Z,12nm,0.9s						
VIVF	**Saint-Julien-l**	**83.02**	**46**	*e*P	pP	22 05 40.7	-3.9
	comp=Z,26nm,1.4s						
NB2	**NORSAR Subarra**	**83.48**	**29**	P	pP	22 05 43.5	-3.1
	comp=Z,4.8nm,1.0s,baz=283,slow=5.0						
NOA	**NORSAR Array B**	**83.48**	**29**	P	**P**	**22 05 25.7**	**-2.3**
	comp=Z,2.2nm,1.1s,mb3.9,baz=286,slow=5.1,SNR=3.4						
NOA				pP	pP	22 05 44.3	-2.3
	comp=Z,1.4nm,0.9s,baz=291,slow=4.8,SNR=4.1						
NOA				LR	LR	22 41 12.0	
	comp=Z,52nm,20.0s,baz=190,slow=35						
HAU	**Haudompre**	**83.56**	**42**	*e*P	pP	22 05 42.3	-5.0
ORIF	**Oris-en-Rattie**	**83.85**	**45**	*e*P	pP	22 05 44.8	-4.1
HINF	**Hinteralfeld**	**83.93**	**43**	*e*P	pP	22 05 44.3	-4.9
CDF	**Champ du Feu**	**84.08**	**42**	*e*P	pP	22 05 45.2	-4.8
HFS	**Hagfors**	**84.90**	**30**	P	**P**	**22 05 33.6**	**-1.4**
	comp=Z,1.1nm,0.8s,mb3.8,baz=281,slow=7.3,SNR=2.0						
DAVOX	**Davos**	**86.17**	**43**	pP	pP	22 05 58.5	-1.9
	comp=Z,5.5nm,1.1s,baz=21,slow=10,SNR=3.5						
ARCES	**ARCESS Array B**	**86.25**	**19**	P	**P**	**22 05 40.2**	**-1.3**
	comp=Z,2.1nm,0.9s,mb4.1,baz=45,slow=10,SNR=3.7						
ARCES				LR	LR	22 50 16.2	
	comp=Z,101nm,18.4s,baz=90,slow=40						
ARCES	**ARCESS Array B**	**86.25**	**19**	P	**P**	**22 05 40.2**	**-1.3**
ARCES				LR	LR	22 50 16.2	
MOX	**Moxa**	**86.31**	**39**	*e*P	pP	22 05 59.0	-2.0
CLL	**Collm**	**86.97**	**38**	*e*	pP	22 05 59.0	-5.3
CLL				*i* *PP	pP	22 06 04.9	+0.6
KHC	**Kasperske Hory**	**87.94**	**40**	*e*P	pP	22 06 03.0	-6.1
KHC				x	x	22 06 06.5	
GERES	**GERESS Array B**	**88.10**	**40**	P	**P**	**22 05 50.4**	**-0.6**
	comp=Z,0.4nm,0.8s,mb3.5,baz=288,slow=4.3,SNR=3.3						
GERES				pP	pP	22 06 06.7	-3.2
	comp=Z,1.0nm,0.9s,baz=297,slow=3.0,SNR=5.4						
SONM	**Songino Array**	**118.64**	**349**	PKP	PKPdf	22 11 48.6	+1.6
	comp=Z,0.4nm,0.8s,baz=86,slow=19,SNR=3.1						
MKAR	**Makanchi Array**	**120.32**	**8**	PKP	PKPdf	22 11 51.5	+1.1
	comp=Z,0.3nm,0.7s,baz=45,slow=2.0,SNR=3.0						
STKA	**Stephens Creek**	**130.86**	**239**	PKP	PKPdf	22 12 13.4	+2.4
	comp=Z,2.2nm,0.8s,baz=342,slow=7.8,SNR=4.9						
WB2	**Warramunga Arr**	**138.98**	**254**	*e*P	PKPdf	22 12 28.9	+2.6
WRA	**Warramunga Arr**	**138.99**	**254**	PKhKP		22 12 14.7	
	comp=Z,0.3nm,0.5s,baz=97,slow=3.3,SNR=4.5						
WRA				PKP	PKPdf	22 12 28.8	+2.5
	comp=Z,2.7nm,0.7s,baz=88,slow=1.6,SNR=14						
WRA				pPKP		22 12 42.2	
	comp=Z,1.4nm,0.5s,baz=89,slow=2.1,SNR=3.8						
ASAR	**Alice Springs**	**139.00**	**248**	PKhKP		22 12 18.7	
	comp=Z,0.7nm,0.7s,baz=104,slow=2.9,SNR=11						
ASAR				PKP	PKPdf	22 12 28.6	+2.3
	comp=Z,1.9nm,0.7s,baz=114,slow=1.9,SNR=16						
ASAR				pPKP		22 12 41.7	
	comp=Z,1.5nm,0.6s,baz=93,slow=2.3,SNR=5.5						
ASAR	**Alice Springs**	**139.00**	**248**	PKP	PKPdf	22 12 28.6	+2.3
ASAR				pPKP		22 12 41.7	
FITZ	**Fitzroy Crossi**	**147.34**	**256**	*e*P	PKPdf	22 12 45.9	+4.9
	comp=Z,10nm,1.0s						

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*IDC **04** 22:06:00.3±2.6, 34.03N×25.17E, mb3.7/3, mb1 3.8/8, mb1mx3.6/22, ML3.5/5, Error ellipse: s-maj=46.6km s-min=21.1km az=48.0*

ISC 04 22:05:59.5±3.8**, 33.9N**±0.1×**25.0E**±0.2**, h19**^{km}±35^{km}**, n10, σ1**^{s}**01**/12**, mb3.7**/3**, Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IDI	**Anoyia**	**1.42**	**355**	Pn	**Pn**	**22 06 26.5**	**+1.9**
	1.1nm,0.3s,baz=205,slow=19,SNR=19						
IDI				Sn	**Sn**	**22 06 42.7**	**-0.2**
	2.9nm,0.3s,baz=304,slow=16,SNR=6.3						
VAE	**Valguarnera**	**9.36**	**296**	Pn	**P**	**22 08 17.0**	**+0.5**
	0.7nm,0.3s,baz=275,slow=12,SNR=2.6						
EIL	**Elat**	**9.42**	**114**	Pn	**P**	**22 08 16.9**	**-0.5**
	0.1nm,0.3s,baz=208,slow=36,SNR=3.7						
EIL				Sn	**Sn**	**22 09 56.4**	**-7.5**
	0.6nm,0.3s,baz=11,slow=15,SNR=4.4						
ASF	**Jabal al Asfar**	**10.11**	**96**	Sn	**S**	**22 10 14.1**	**-6.6**
	0.1nm,0.3s,baz=241,slow=23,SNR=3.3						
MLR	**Muntele Rosu**	**11.63**	**3**	Pn	**P**	**22 08 46.4**	**-1.2**
	0.1nm,0.3s,baz=147,slow=13,SNR=2.0						
AKASG	**Malin Array Be**	**17.10**	**9**	Pn	**P**	**22 09 59.6**	**+0.6**
	1.0nm,0.3s,baz=202,slow=10,SNR=5.8						
GERES	**GERESS Array B**	**17.18**	**334**	P	**P**	**22 09 58.1**	**-2.0**
	0.0nm,0.3s,baz=150,slow=13,SNR=2.0						
MKAR	**Makanchi Array**	**44.59**	**55**	P	**P**	**22 14 12.8**	**+0.7**
	1.3nm,0.9s,mb3.8,baz=261,slow=6.4,SNR=10						
ZAL	**Zalesovo**	**45.97**	**45**	P	**P**	**22 14 22.5**	**-0.4**
	0.7nm,0.3s,mb4.0,baz=135,slow=4.9,SNR=3.1						
SONM	**Songino Array**	**60.39**	**50**	P	**P**	**22 16 10.2**	**+0.4**
	0.3nm,0.7s,mb3.4,baz=277,slow=7.6,SNR=2.2						

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*NEIC **04** 22:11:57.0, 15.95N×95.94W, h29^{km}, MD3.9(MEX), After MEX.*

MEX 04 22:11:57.0±0.4**, 15.95N×95.94W, h29**^{km}±7^{km}**, MD3.9, 1C, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.24**	**221**	⇑*i*P	Pb	22 12 02.1	-1.5
HUIG				*i* S	Sb	22 12 06.5	-1.6
VHO	**Vista Hermosa**	**1.35**	**326**	*i* P	Pn	22 12 17.8	-2.4
VHO				*i* S	Sn	22 12 33.6	-3.6
OXX	**Oaxaca**	**1.35**	**326**	*e*P	Pn	22 12 18.0	-2.2
OXX				*e*S	Sn	22 12 34.0	-3.3
PNIG	**Pinotepa**	**2.14**	**282**	*e*P	Pn	22 12 28.7	-2.8
PNIG				*e*S	Sn	22 12 54.0	-3.5
EVV	**El Vigia**	**2.56**	**13**	*e*P	Pn	22 12 34.0	-3.4
EVV				*e*S	Sn	22 13 06.0	-1.9
IISM	**Ciudad Serdan**	**3.31**	**336**	*e*P	Pn	22 12 50.0	+1.8
IISM				*e*S	Sn	22 13 27.0	-0.1
PPM	**Popocatepetl**	**4.02**	**321**	*e*P	Pn	22 12 55.7	-2.6
PPM				*e*P		22 12 57.0	
PPM				*e*S	Sn	22 13 41.2	-3.7
PPM				*e*S	Sn	22 13 43.0	-2.0
PPM	**Popocatepetl**	**4.02**	**321**	*e*P	Pn	22 12 55.7	-2.6
PPM				*e*S	Sn	22 13 41.2	-3.7
PLIG	**Platanillo**	**4.18**	**306**	*e*P	Pn	22 12 57.6	-2.9
PLIG				*i* S	Sn	22 13 46.7	-2.3

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*IDC **04** 22:13:26.1±3.8, 59.38S×149.54E, mb4.2/4, mb1 4.4/4, mb1mx4.3/8, Error ellipse: s-maj=216.0km s-min=35.1km az=85.0*

*NEIC **04** 22:13:27.8±1.3, 59.35S×149.61E, h10^{km}, mb4.5/3, Error ellipse: s-maj=98.1km s-min=10.8km az=80.0*

ISC 04 22:13:25.0±1.6**, 59.2S**±0.2×**15 1E**± **, h10**^{km}**, n16, σ1**^{s}**23**/13**, mb4.2**/6**, 5C, West of Macquarie Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SBA	**Scott Base**	**19.46**	**170**	*e*P	**P**	**22 17 53.9**	**-0.2**
	12nm,1.0s						
STKA	**Stephens Creek**	**28.05**	**343**	P	**P**	**22 19 19.9**	**+1.7**
	7.5nm,1.4s,mb4.1,baz=172,slow=7.7,SNR=2.9						
QSPA	**South Pole Qui**	**30.89**	**180**	*e*P	**P**	**22 19 42.6**	**-0.5**
	7.4nm,1.1s,mb4.4						
ASAR	**Alice Springs**	**37.50**	**334**	P	**P**	**22 20 39.7**	**-0.9**
	2.6nm,0.8s,mb4.0,baz=168,slow=9.1,SNR=17						
ASPA	**Alice Springs**	**37.50**	**334**	*e*P	**P**	**22 20 41.9**	**+1.3**
WRA	**Warramunga Arr**	**41.01**	**336**	P	**P**	**22 21 08.9**	**-0.9**
	4.2nm,0.8s,mb4.1,baz=167,slow=7.3,SNR=18						
WRAB	**Tennant Creek**	**41.02**	**336**	*e*P	**P**	**22 21 08.1**	**-1.7**
	20nm,1.2s,mb4.6						
SNAA	**Sanae**	**48.13**	**191**	⇑*i*	**P**	**22 22 03.7**	**-2.5**
VNA3	**Neumayer Olymp**	**49.12**	**188**	⇑*i*	**P**	**22 22 13.2**	**-0.7**
VNA3	**Neumayer Olymp**	**49.12**	**188**	⇑*i*	**P**	**22 22 15.0**	**+1.1**
VNA2	**Neumayer--Watz**	**49.26**	**189**	⇑*i*	**P**	**22 22 15.6**	**+0.7**
VNA1	**Neumayer--Stat**	**49.60**	**189**	⇑*i*	**P**	**22 22 19.3**	**+1.8**
CMAR	**Chiang Mai Arr**	**88.23**	**312**	P	**P**	**22 26 17.9**	**+0.4**
	0.5nm,0.8s,mb3.8,baz=180,slow=4.5,SNR=4.4						
AKASG	**Malin Array Be**	**146.48**	**282**	PKPbc	PKPbc	22 33 05.6	+0.6
	4.1nm,1.2s,baz=138,slow=3.6,SNR=8.2						
GERES	**GERESS Array B**	**153.28**	**266**	PKP	PKPdf	22 33 16.7	-0.6
	0.7nm,1.1s,baz=207,slow=3.0,SNR=3.6						
GERES				PKPbc	PKPdf	22 33 22.1	+4.8
	0.6nm,0.6s,baz=153,slow=3.0,SNR=7.0						
FINES	**FINESS Array B**	**153.29**	**299**	PKPbc	PKPdf	22 33 22.5	+5.6
	1.9nm,0.8s,baz=124,slow=6.9,SNR=6.6						

IDC 04 22:35:44.9±32.0**, 21.12S×178.08W, h471**^{km}±312^{km}**, mb3.3**/4**, mb1 3.5**/4**, mb1mx3.2**/12**, 1D, Error ellipse: s-maj=192.0km s-min=96.5km az=83.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.36**	**265**	P	P	22 41 43.3	-0.8
	1.9nm,0.6s,baz=85,slow=12,SNR=4.6						
STKA	**Stephens Creek**	**37.46**	**245**	⇓*i*P	P	22 42 17.5	-0.6
	1.6nm,0.6s						
STKA	**Stephens Creek**	**37.46**	**245**	P	P	22 42 17.1	-1.0
	2.1nm,0.6s,baz=89,slow=8.1,SNR=9.1						
ASAR	**Alice Springs**	**44.31**	**257**	P	P	22 43 11.7	-1.6
	6.1nm,1.1s,baz=97,slow=7.9,SNR=29						
ASPA	**Alice Springs**	**44.31**	**257**	*e*P	P	22 43 13.3	-0.1
WB2	**Warramunga Arr**	**44.44**	**263**	*e*P	P	22 43 13.0	-1.4
WRA	**Warramunga Arr**	**44.45**	**263**	P	P	22 43 12.9	-1.5
	1.1nm,0.3s,baz=96,slow=7.4,SNR=14						
MKAR	**Makanchi Array**	**111.57**	**313**	PKiKP		22 53 26.2	
	0.2nm,0.5s,baz=43,slow=1.6,SNR=2.6						
AKASG	**Malin Array Be**	**143.51**	**331**	PKP	PKPdf	22 54 23.8	-0.8
	0.1nm,0.3s,baz=39,slow=3.9,SNR=4.2						
GERES	**GERESS Array B**	**150.77**	**344**	PKPbc	PKPdf	22 54 42.7	+6.2
	0.3nm,0.7s,baz=270,slow=2.7,SNR=4.1						

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*PRU **04** 23:32:06.7, 51.52N×16.05E*

*WAR **04** 23:32:06.9, 51.56N×16.01E, ML2.7, Mining Induced*

ISC 04 23:32:04.6±1.2**, 51.54N**±0.06×**15.96E**±0.06**, n9, σ1**^{s}**24**/17**, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.73**	**163**	*e*PG	**Pg**	**23 32 20.0**	**+0.9**
KSP				*e*SG	**Sg**	**23 32 31.0**	**+2.2**
UPC	**Upice**	**1.03**	**178**	*e*PG	**Pg**	**23 32 27.0**	**+1.8**
DPC	**Dobruska-Polom**	**1.21**	**169**	*e*PG	**Pg**	**23 32 29.5**	**+0.7**
DPC				*e*SG	**Sg**	**23 32 45.4**	**+0.5**
	11nm,0.2s						
PVCC	**Panska Ves**	**1.34**	**222**	*e*PG	**Pg**	**23 32 32.8**	**+1.5**
PRU	**Pruhonice**	**1.79**	**211**	*e*PG	**Pg**	**23 32 39.7**	**-0.7**
PRU				*e*SG	**Sg**	**23 33 04.3**	**0.0**
	6.0nm,0.4s						
CLL	**Collm**	**1.87**	**264**	*i* PN	**Pn**	**23 32 38.9**	**+0.8**
CLL				*i* PG	**Pg**	**23 32 41.6**	**-0.2**
CLL				*i*		23 32 45.6	
CLL				*e*SG	**Sg**	**23 33 07.0**	**+0.3**
OKC	**Ostrava-Krasne**	**2.20**	**140**	*e*PG	**Pg**	**23 32 47.3**	**-1.2**
OKC				*e*SG	**Sg**	**23 33 16.1**	**-1.7**
NKC	**Novy Kostel**	**2.58**	**241**	*e*SG	**Sg**	**23 33 30.9**	**+0.4**
KHC	**Kasperske Hory**	**2.85**	**213**	*e*PN	**Pn**	**23 32 50.5**	**-1.7**
KHC				*e*PG	**Pg**	**23 32 59.9**	**-1.6**
KHC				*e*SG	**Sg**	**23 33 37.4**	**-2.1**

IDC 04 23:35:20.8±30.0**, 13.05N×142.53E, mb3.9**/4**, mb1 4.1**/4**, mb1mx3.7**/18**, Error ellipse: s-maj=539.0km s-min=112.6km az=9.0, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**33.77**	**194**	P	P	23 42 04.1	-2.5
	2.1nm,0.5s,baz=12,slow=9.5,SNR=13						
FITZ	**Fitzroy Crossi**	**35.16**	**209**	P	P	23 42 17.6	-1.1
	1.2nm,0.8s,baz=153,slow=13,SNR=2.5						
ASAR	**Alice Springs**	**37.46**	**193**	P	P	23 42 36.5	-1.5
	0.5nm,0.5s,baz=15,slow=10,SNR=7.3						
STKA	**Stephens Creek**	**44.68**	**181**	P	P	23 43 34.2	-3.3
	0.9nm,0.4s,baz=12,slow=9.3,SNR=4.6						

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*IDC **04** 23:48:27.5±1.9, 7.05N×125.10E, mb3.7/5, mb1 3.8/5, mb1mx3.6/17, Error ellipse: s-maj=125.0km s-min=24.6km az=66.0*

ISC 04 23:48:32.4±1.0**, 7.36N**±0.08×**126.86E**±0.09**, h33**^{km}**, n7, σ1**^{s}**28**/9**, mb3.5**/5**, 2D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.96**	**329**	⇓*i*P	**P**	**23 48 47.1**	**-2.4**
BIPH				*i* S	**S**	**23 49 03.2**	**+1.1**
KCP	**Kidapawan**	**1.79**	**259**	⇓*e*P	**P**	**23 49 02.8**	**+1.5**
KCP				*i* S	**S**	**23 49 22.2**	**-0.8**
FITZ	**Fitzroy Crossi**	**25.32**	**183**	P	**P**	**23 53 52.3**	**-5.6**
	3.1nm,0.7s,mb4.0,baz=91,slow=1.8,SNR=5.7						
WRA	**Warramunga Arr**	**28.11**	**165**	P	**P**	**23 54 24.8**	**+1.2**
	0.6nm,0.6s,mb3.4,baz=342,slow=11,SNR=4.4						
ASAR	**Alice Springs**	**31.59**	**168**	P	**P**	**23 54 53.4**	**-1.1**
	0.7nm,0.9s,mb3.5,baz=353,slow=7.3,SNR=7.3						
STKA	**Stephens Creek**	**41.47**	**161**	P	**P**	**23 56 18.0**	**0.0**
	0.5nm,0.4s,mb3.5,baz=338,slow=19,SNR=2.3						
MKAR	**Makanchi Array**	**54.69**	**324**	P	**P**	**23 57 52.9**	**-7.8**
	0.2nm,0.5s,mb3.4,baz=126,slow=8.6,SNR=5.7						

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*IDC **04** 23:56:34.9±0.5, 20.96S×169.05E, mb4.6/14, mb1 4.8/15, mb1mx4.8/16, ML4.2/1, MS5.6/11, Ms1 5.5/11, ms1mx5.5/12, Error ellipse: s-maj=11.9km s-min=10.8km az=49.0*

*SYO **04** 23:56:34.6, 21.38S×169.39E, h10^{km}, MB5.3, MS5.6*

*BJI **04** 23:56:35.5, 21.00S×169.30E, h10^{km}, mB5.6, mb5.1, Ms5.7, Msz5.4*

*HRVD **04** 23:56:35.5±0.1, 21.19S×169.12E, h20^{km}, MW5.8/76, Centroid moment Tensor Solution. LP body waves: s73,c165;Mantle waves: s76,c170; Half duration: 2^{s}0 Moment tensor: Scale 10^{17}Nm; M$_{rr}$4.68±.08; M$_{\theta\theta}$0.81±.06; M$_{\phi\phi}$-5.49±.07; M$_{r\theta}$-0.38±.13; M$_{\theta\phi}$1.39±.05; M$_{\phi r}$-5.08±.17; Best double couple: M$_{0}$7.33×10^{17} NP1:φ$_{s}$332°,δ25°,λ64°. NP2:φ$_{s}$181°,δ68°,λ102°. Principal axes: T 6.91, Plg65°, Azm110°; N .83, Plg11°, Azm356°; P -7.75, Plg22°, Azm262°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **04** 23:56:35.5±0.2, 21.02S×169.28E, h10^{km}, mb5.3/43, MS5.6/126, MW5.8 Error ellipse: s-maj=9.9km s-min=6.9km az=145.0, Moment Tensor Solution. s40 Moment tensor: Scale 10^{17}Nm; M$_{rr}$1.56; M$_{\theta\theta}$-0.34; M$_{\phi\phi}$-1.22; M$_{r\theta}$-0.13; M$_{\theta\phi}$-0.79; M$_{\phi r}$-6.20; Best double couple: M$_{0}$6.4×10^{17} NP1:φ$_{s}$49°,δ9°,λ136°. NP2:φ$_{s}$182°, δ84°,λ83°. Principal axes: T 6.54, Plg51°, Azm85°; N -.28, Plg7°, Azm183°; P -6.26, Plg38°, Azm279°;*

*MOS **04** 23:56:37.6±1.2, 21.29S×169.38E, h33^{km}, mb5.4/23, MS5.5/16 Error ellipse: s-maj=16.8km s-min=13.3km az=73.7*

*LDG **04** 23:56:40.1, 20.71S×168.95E, h33^{km}*

ISC 04 23:56:34.9±1.6**, 21.17S**±0.05×**169.28E**±0.05**, h14**^{km}±9^{km}**, h17**^{km}±2.1^{km}**:pP-P, n349, σ1**^{s}**31**/129**, mb5.1**/60**, MS5.5**/143**, 15C-8D, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NOUC	**Port Laguerre**	**2.92**	**251**	*e*P	**Pn**	**23 57 19.8**	**-2.1**
BKM	**Butte a Klehm**	**3.62**	**344**	⇓*i*P	**Pn**	**23 57 32.3**	**+0.6**
MSVF	**Nonsavu**	**8.95**	**69**	Pn	**P**	**23 58 51.5**	**+4.8**
	1μm,1.2s,SNR=24						
URZ	**Urewera**	**18.33**	**160**	P	**P**	**00 00 52.5**	**+2.1**
	0.8nm,0.3s,baz=349,slow=6.5,SNR=24						
URZ				S	**S**	**00 04 24.1**	**+12**
	0.2nm,0.3s,baz=122,slow=17,SNR=1.5						
URZ				LR	LR	00 07 03.8	
	comp=Z,25μm,18.8s,baz=166,slow=34						
RIV	**Riverview**	**20.39**	**228**	*e*P	**P**	**00 01 14.3**	**+0.2**
SNZO	**South Karori**	**20.60**	**168**	*e*P	**P**	**00 01 09.2**	**-7.0**
SNZO				LR	LR		
	comp=Z,16μm,19.0s,MS5.4						
CTA	**Charters Tower**	**21.58**	**269**	⇓*i*P	**P**	**00 01 26.2**	**-0.1**
	comp=Z,40nm,0.9s,mb4.8						
CTA	**Charters Tower**	**21.58**	**269**	P	**P**	**00 01 25.0**	**-1.3**
	comp=Z,38nm,0.9s,mb4.8,baz=94,slow=13,SNR=18						
CTA				S	**S**	**00 05 27.1**	**+7.1**
	comp=Z,10.0nm,1.1s,baz=240,slow=20,SNR=1.9						
CTAO	**Charters Tower**	**21.58**	**269**	*e*P	**P**	**00 01 25.6**	**-0.7**
	comp=Z,103nm,1.1s,mb5.2						
CTAO				LR	LR		
	comp=Z,23μm,19.0s,MS5.6						
CNB	**Canberra Magne**	**22.45**	**227**	*e*P	**P**	**00 01 38.1**	**+3.2**
	comp=Z,212nm,1.5s,mb5.3						
RPZ	**Rata Peaks**	**22.54**	**177**	P	**P**	**00 01 39.4**	**+3.7**
	comp=Z,58nm,1.2s,mb4.9,baz=354,slow=6.9,SNR=6.4						
RPZ				S	**S**	**00 05 50.1**	**+13**
	comp=Z,10nm,1.1s,baz=310,slow=15,SNR=2.3						
RPZ				LR	LR	00 09 52.3	
	comp=Z,13μm,18.2s,MS5.4,baz=347,slow=35						
RPZ	**Rata Peaks**	**22.54**	**177**	P	**P**	**00 01 39.4**	**+3.7**
RPZ				S	**S**	**00 05 50.1**	**+13**
RPZ				LR	LR	00 09 52.3	
WAU	**Wau**	**25.77**	**299**	*e*P	**P**	**00 02 06.7**	**-0.6**
TOO	**Toolangi**	**26.29**	**226**	*e*P	**P**	**00 02 12.4**	**+0.6**
	comp=Z,24nm,1.3s,mb4.6						
STKA	**Stephens Creek**	**26.90**	**241**	⇓*i*P	**P**	**00 02 17.0**	**-0.5**
	comp=Z,21nm,1.4s,mb4.5						
STKA	**Stephens Creek**	**26.90**	**241**	P	**P**	**00 02 17.0**	**-0.5**
	comp=Z,15nm,0.7s,mb4.6,baz=80,slow=9.2,SNR=18						
STKA				S	**S**	**00 06 52.8**	**+0.9**
	comp=Z,4.5nm,1.1s,baz=136,slow=20,SNR=2.0						
STKA				LR	LR	00 12 12.9	
	comp=Z,17μm,19.4s,MS5.6,baz=70,slow=35						
TAU	**Tasmania Unive**	**28.42**	**215**	P	**P**	**00 02 31.6**	**+0.5**
RAR	**Rarotonga**	**28.83**	**96**	LR	LR	00 11 31.2	
	comp=Z,6μm,20.9s,MS5.2,baz=260,slow=31						
RAR	**Rarotonga**	**28.83**	**96**	PFAKE		00 02 50.0	+15
RAR				LR	LR		
	comp=Z,8μm,22.0s,MS5.3						
WB2	**Warramunga Arr**	**32.69**	**266**	*e*P	**P**	**00 03 06.7**	**-2.5**
WRAB	**Tennant Creek**	**32.70**	**266**	*e*P	**P**	**00 03 05.2**	**-4.0**
	comp=Z,59nm,1.3s,mb5.4						
WRAB				LR	LR		
	comp=Z,8μm,19.0s,MS5.4						
WRA	**Warramunga Arr**	**32.70**	**266**	P	**P**	**00 03 06.2**	**-3.1**
	comp=Z,8.1nm,1.0s,mb4.6,baz=97,slow=8.9,SNR=20						
WRA				S	**S**	**00 08 23.1**	**-1.0**
	comp=Z,0.6nm,0.7s,baz=107,slow=7.4,SNR=4.2						
WRA				LR	LR	00 16 50.8	
	comp=Z,20μm,18.3s,MS5.8,baz=95,slow=37						
ASAR	**Alice Springs**	**32.75**	**259**	P	**P**	**00 03 07.5**	**-2.1**
	comp=Z,15nm,0.9s,mb4.9,baz=85,slow=8.6,SNR=59						
ASAR				LR	LR	00 16 47.9	
	comp=Z,5μm,19.4s,MS5.2,baz=88,slow=37						
ASPA	**Alice Springs**	**32.75**	**259**	*e*P	**P**	**00 03 07.7**	**-2.0**
KAKA	**Kakadu**	**36.20**	**277**	*e*P	**P**	**00 03 40.5**	**+1.1**
	comp=Z,16nm,0.8s,mb5.0						
TBI	**Tubuai**	**38.16**	**101**	*e*S	**S**	**00 09 48.1**	**0.0**
TBI				*e*L		00 12 43.1	
TBI				*e*R		00 14 30.2	
	comp=Z,8μm,26.2s,baz=263						
PPT	**Papeete**	**38.90**	**92**	*e*S	**S**	**00 09 59.2**	**-0.2**
PPT				*e*L		00 13 13.0	
PPT				*e*R		00 14 36.7	
	comp=Z,14μm,26.8s,baz=254						
FITZ	**Fitzroy Crossi**	**41.13**	**266**	*e*P	**P**	**00 04 19.4**	**-1.0**
	comp=Z,27nm,0.6s,mb5.0						
FITZ	**Fitzroy Crossi**	**41.13**	**266**	P	**P**	**00 04 19.3**	**-1.1**
	comp=Z,24nm,0.8s,mb4.9,baz=147,slow=5.1,SNR=25						
FITZ				LR	LR	00 22 00.9	
	comp=Z,12μm,18.0s,MS5.8,baz=96,slow=37						
GUMO	**Guam**	**42.05**	**323**	PFAKE		00 04 40.0	+12
GUMO				LR	LR		
	comp=Z,5μm,19.0s,MS5.4						
MBWA	**Marble Bar**	**46.05**	**261**	*e*P	**P**	**00 04 59.0**	**-1.3**
	comp=Z,31nm,0.8s,mb5.3						
MBWA				LR	LR		
	comp=Z,12μm,19.0s,MS5.8						
MEEK	**Meekatharra**	**46.40**	**253**	*e*P	**P**	**00 05 03.0**	**0.0**
	comp=Z,24nm,1.0s,mb5.1						
KLBR	**Kellerberrin**	**46.95**	**246**	*e*P	**P**	**00 05 07.3**	**+0.1**
	comp=Z,26nm,0.8s,mb5.2						
NWAO	**Narrogin (SRO)**	**47.39**	**244**	P	**P**	**00 05 09.4**	**-1.3**
	comp=Z,5.7nm,0.6s,mb4.7,baz=89,slow=4.7,SNR=2.9						
NWAO	**Narrogin (SRO)**	**47.39**	**244**	*e*P	**P**	**00 05 08.4**	**-2.4**
	comp=Z,27nm,1.1s,mb5.1						
NWAO				LR	LR		
	comp=Z,14μm,21.0s,MS5.9						
DRV	**Dumont d'Urvil**	**49.19**	**195**	P	**P**	**00 05 24.0**	**-0.2**
DRV				S	**S**	**00 12 23.0**	**-5.2**
DRV				SS	SS	00 15 59.0	+3.5
DRV				L		00 17 00.0	
DRV				R		00 20 00.0	
MIDW	**Midway**	**50.76**	**15**	PFAKE		00 05 50.0	+13
MIDW				LR	LR		
	comp=Z,3μm,22.0s,MS5.3						
RKT	**Rikitea**	**51.41**	**103**	*e*S	**S**	**00 12 58.8**	**-0.6**
RKT				*e*L		00 18 12.4	
RKT				*e*R		00 20 29.7	
	comp=Z,5μm,27.0s						
KIP	**Kipapa**	**53.03**	**39**	PFAKE		00 06 00.0	+6.1
KIP				LR	LR		
	comp=Z,4μm,20.0s,MS5.5						
SBA	**Scott Base**	**56.75**	**181**	*e*P	**P**	**00 06 20.0**	**-0.3**
SBA				pmax	pmax		
	comp=Z,58nm,1.2s,mb5.5						
SBA	**Scott Base**	**56.75**	**181**	*e*P	**P**	**00 06 20.0**	**-0.3**
	comp=Z,58nm,1.2s,mb5.5						
CASY	**Casey**	**58.39**	**204**	*e*P	**P**	**00 06 25.8**	**-6.1**
	comp=Z,34nm,1.3s,mb5.2						
CASY				LR	LR		
	comp=Z,3μm,19.0s,MS5.4						
MAJO	**Matsushiro**	**64.47**	**333**	*e*P	**P**	**00 07 10.7**	**-2.7**
	comp=Z,17nm,1.0s,mb5.0						
MAJO				LR	LR		
	comp=Z,2μm,19.0s,MS5.3						
MAT	**Matsushiro**	**64.47**	**333**	P	**P**	**00 07 14.8**	**+1.4**
MAT				S	**S**	**00 15 51.0**	**+0.8**
MAT	**Matsushiro**	**64.47**	**333**	P	**P**	**00 07 15.0**	**+1.6**
	comp=Z,7.0nm,0.5s,mb5.0						
MAT				*e*S	**S**	**00 15 49.0**	**-1.2**
MAT				LR	LR		
	comp=Z,2μm,20.0s,MS5.2						
TATO	**Taipei**	**65.27**	**312**	PFAKE		00 07 30.0	+11
TATO				LR	LR		
	comp=Z,2μm,19.0s,MS5.4						
MIR	**Mirnyy**	**65.31**	**205**	⇑*e*P	**P**	**00 07 29.5**	**+11**
MIR				pmax	pmax		
	comp=Z,20nm,1.1s,mb5.1						
MIR				MLR	MLR		
	comp=N,1μm,15.0s,MS5.4						
MIR				MLR	MLR		
	comp=E,2μm,15.0s,MS5.4						
MIR				MLR	MLR		
	comp=Z,2μm,15.0s,MS5.5						
QSPA	**South Pole Qui**	**68.90**	**180**	*e*P	**P**	**00 07 40.1**	**-0.7**
	comp=Z,38nm,1.0s,mb5.3						
QSPA				LR	LR		
	comp=Z,1μm,20.6s,MS5.2						
SSE	**Sheshan**	**69.50**	**317**	*e*P	**P**	**00 07 48.8**	**+3.5**
SSE				S	S	00 16 50.8	-0.2
SSE				XS		00 17 08.1	
SSE				AMB	AMB		
	comp=Z,24nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,762nm,7.2s						
SSE				LR	LR		
	comp=N,723nm,23.6s,MS5.0						
SSE				LR	LR		
	comp=E,666nm,23.6s,MS5.0						
SSE				LR	LR		
	comp=Z,1μm,22.2s,MS5.0						
QIZ	**Qiongzhong**	**70.57**	**300**	*e*P	**P**	**00 07 54.6**	**+2.6**
	comp=Z,17nm,1.0s,mb4.9						
QIZ				LR	LR		
	comp=Z,1μm,22.0s,MS5.1						
INCN	**Inchon**	**70.82**	**325**	P	**P**	**00 07 55.9**	**+2.7**

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      comp=Z,78nm,1.1s,mb5.5
INCN                              LR     LR
      comp=Z,2µm,20.0s,MS5.3
NJ2   Nanjing          71.62 316 eP     P      00 08 01.3 +3.2
NJ2                               S      S      00 17 22.0 +6.3
NJ2                               AMB    AMB
      comp=Z,16nm,0.8s,mb5.0
NJ2                               AMB    AMB
      comp=Z,460nm,4.8s
NJ2                               LR     LR
      comp=N,3µm,22.0s
NJ2                               LR     LR
      comp=E,3µm,15.6s
NJ2                               LR     LR
      comp=Z,3µm,15.5s
YSS   Yuzh-Sakhalins   71.91 341⇑eP     P      00 08 04.0 +4.4
YSS                              e             00 08 11.1
YSS                              e             00 08 19.3
YSS                              i S    S      00 17 24.0 +5.3
YSS                              ePS    PS     00 17 58.0 +7.1
YSS                               pmax   pmax
      comp=Z,30nm,0.8s,mb5.3
YSS                               pmax   pmax
      comp=Z,500nm,7.0s
YSS                               smax
      comp=N,2µm,12.0s
YSS                               smax
      comp=E,2µm,12.0s
YSS                               MLR    MLR
      comp=Z,4µm,18.0s,MS5.7
YSS                               MLR    MLR
      comp=N,3µm,19.0s,MS5.6
YSS                               MLR    MLR
      comp=E,2µm,19.0s,MS5.6
YSS   Yuzh-Sakhalins   71.91 341 eP     P      00 07 59.6  0.0
      comp=E,35nm,0.9s,mb5.3
YSS                               LR     LR
      comp=Z,5µm,20.0s,MS5.8
SKR   Severo-Kuril's   72.47 351 eP     P      00 08 03.0 +0.2
SKR                              e             00 08 26.0
SKR                              e             00 10 42.0
SKR                              ePPP   PPP    00 12 36.0 +7.6
SKR                              eS     S      00 17 28.0 +2.9
SKR                              e             00 18 07.0
SKR                              ePS    PS     00 18 20.0  +22
SKR                               pmax   pmax
      comp=N,800nm,6.0s
SKR                               pmax   pmax
      comp=E,800nm,6.0s
SKR                               pmax   pmax
      comp=Z,1µm,6.0s
SKR                               smax
      comp=N,2µm,14.0s
SKR                               smax
      comp=E,3µm,14.0s
SKR                               MLR    MLR
      comp=N,1µm,16.0s,MS5.5
SKR                               MLR    MLR
      comp=E,1µm,16.0s,MS5.5
SKR                               MLR    MLR
      comp=Z,2µm,16.0s,MS5.4
VLA   Vladivostok      72.63 332⇑iP     P      00 08 06.0 +2.0
VLA                              i S    S      00 17 34.0 +6.9
VLA                              i             00 18 05.0
VLA                               pmax   pmax
      comp=N,500nm,9.0s
VLA                               pmax   pmax
      comp=Z,800nm,9.0s
VLA                               pmax   pmax
      comp=Z,400nm,6.0s
VLA                               smax
      comp=E,2µm,10.0s
VLA                               smax
      comp=Z,200nm,6.0s
VLA                               smax
      comp=N,2µm,12.0s
VLA                               MLR    MLR
      comp=Z,1µm,15.0s,MS5.2
VLA                               MLR    MLR
      comp=N,1µm,14.0s,MS5.4
VLA                               MLR    MLR
      comp=E,1µm,15.0s,MS5.4
SMY   Shemya           73.70   3  PFAKE         00 08 20.0  +10
SMY                               LR     LR
      comp=Z,6µm,22.0s,MS5.8
PET   Petropavlovsk    74.45 353 eP     P      00 08 05.2 -9.1
PET                              e             00 08 20.5
PET                              eS     S      00 17 39.9 -7.4
PET                              ePS    PS     00 18 28.8 +4.9
PET                               pmax   pmax
      comp=Z,400nm,8.7s
PET                               smax
      comp=E,300nm,4.4s
PET                               smax
      comp=N,100nm,17.0s
PET                               MLR    MLR
      comp=Z,2µm,18.0s,MS5.3
PET                               MLR    MLR
      comp=Z,2µm,19.0s
PET   Petropavlovsk    74.45 353  PFAKE         00 08 20.0 +5.7
PET                               LR     LR
      comp=Z,3µm,20.0s,MS5.6
MDJ   Mudanjiang       74.83 332  P      P      00 08 22.1 +5.4
MDJ                               PP     PP     00 11 06.6 +0.3
MDJ                               S      S      00 17 56.4 +4.7
MDJ                               AMB    AMB
      comp=Z,517nm,10.3s
MDJ                               LR     LR
      comp=N,1µm,20.5s,MS5.3
MDJ                               LR     LR
      comp=E,743nm,25.2s,MS5.3
MDJ                               LR     LR
      comp=Z,2µm,22.0s,MS5.3
MDJ   Mudanjiang       74.83 332 eP     P      00 08 18.1 +1.4
      comp=Z,15nm,0.8s,mb5.0
MDJ                               LR     LR
      comp=Z,1µm,22.0s,MS5.2
CN2   Changchun        76.12 329 eP     P      00 08 22.0 -2.1
CN2                              eS     S      00 18 06.2 +0.2
CN2                               AMB    AMB
      comp=Z,500nm,10.0s
CN2                               LR     LR
      comp=N,1µm,17.0s,MS5.5
CN2                               LR     LR
      comp=E,2µm,17.0s,MS5.5
CN2                               LR     LR
      comp=Z,1µm,16.0s,MS5.3
NIKO  Nikolski         76.23  13 eP     P      00 08 23.0 -1.5
MAW   Mawson           76.67 202  P      P      00 08 27.3 +0.6
      comp=Z,6.2nm,0.8s,mb4.6,baz=106,slow=8.9,SNR=6.0
MAW                               LR     LR     00 38 48.1
      comp=Z,3µm,18.9s,MS5.6,baz=330,slow=33
ENH   Enshi            76.93 310 eP     P      00 08 28.5 -0.4
      comp=Z,25nm,0.9s,mb5.1
ENH                               LR     LR
      comp=Z,2µm,21.0s,MS5.3
GYA   Guiyang          76.95 305 ⇑P     P      00 08 31.4 +2.3
GYA                               S      S      00 18 18.9 +3.5
GYA                               AMB    AMB
      comp=Z,710nm,8.1s
GYA                               LR     LR
      comp=N,1µm,17.5s,MS5.3
GYA                               LR     LR
      comp=E,910nm,16.3s,MS5.3
GYA                               LR     LR
      comp=Z,790nm,17.8s,MS5.1
UNV   Unalaska Valle   77.57  14 eP     P      00 08 29.4 -2.5
      comp=Z,56nm,0.8s,mb5.5
UNV                               LR     LR
      comp=Z,8µm,19.0s,MS6.0
KLR   Kul'dur          77.64 336 eP     P      00 08 39.8 +7.4
KLR                              e             00 08 40.0
KLR                              eS     S      00 18 27.5 +5.2
BJT   Baijiatuau       78.44 321 eP     P      00 08 37.4 +0.4
BJT                               LR     LR
      comp=Z,2µm,20.0s,MS5.4
KMI   Kunming          79.33 302 eP     P      00 08 47.1 +5.0
KMI                               AP     pP     00 08 51.6 +5.1
KMI                               XP     sP     00 08 53.2 +5.3
KMI                               S      S      00 18 45.1 +4.2
KMI                               SKS    SKS    00 18 51.5 -7.1
KMI                               AMB    AMB
      comp=Z,19nm,1.3s,mb4.9
KMI                               AMB    AMB
      comp=Z,876nm,9.0s
KMI                               LR     LR
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      comp=N,900nm,17.0s,MS5.4
KMI                               LR     LR
      comp=E,1µm,19.5s,MS5.4
CMAR  Chiang Mai Arr   79.33 295  P      P      00 08 43.3 +1.0
      comp=E,5.4nm,1.0s,mb4.4,baz=133,slow=4.1,SNR=14
XAN   Xi'an            79.44 313  P      P      00 08 43.1 +0.5
XAN                               S      S      00 18 40.9 -1.0
XAN                               LR     LR
      comp=N,536nm,20.8s,MS5.2
XAN                               LR     LR
      comp=E,772nm,16.3s,MS5.2
XAN                               LR     LR
      comp=Z,2µm,19.3s,MS5.4
CD2   Chengdu          81.44 308 eP     P      00 08 57.2 +4.0
CD2                               AMB    AMB
      comp=Z,20nm,1.2s,mb4.9
HHC   Hu-ho-hao-te     81.70 320 eP     P      00 08 53.1 -1.3
HHC                               S      S      00 19 10.1 +4.8
HHC                               AMB    AMB
      comp=Z,9.0nm,0.6s,mb4.9
HHC                               AMB    AMB
      comp=Z,569nm,8.9s
HHC                               LR     LR
      comp=N,694nm,20.2s,MS5.1
HHC                               LR     LR
      comp=E,590nm,21.4s,MS5.1
HHC                               LR     LR
      comp=Z,850nm,21.4s,MS5.1
MA2   Magadan          81.87 351  PFAKE         00 09 10.0  +15
MA2                               LR     LR
      comp=Z,2µm,21.0s,MS5.5
BTO   Baotou           82.50 319 eP     P      00 09 02.6 +4.0
HIA   Hailar           82.79 330  PFAKE         00 09 10.0  +10
HIA                               LR     LR
      comp=Z,2µm,20.0s,MS5.5
SYO   Syowa Base       83.11 196 ⇑P     P      00 08 57.3 -3.8
SYO   Syowa Base       83.11 196 ⇑pP    pP     00 09 01.9 -3.6
LZH   Lanzhou          84.04 312 ⇑P     P      00 09 12.1 +5.5
LZH                               XP     sP     00 09 22.5  +10
LZH                               PP     PP     00 12 25.0 +2.6
LZH                              eS     S      00 19 28.9 -0.2
LZH                               XS            00 19 47.2
LZH                               AMB    AMB
      comp=Z,56nm,1.5s,mb5.5
LZH                               AMB    AMB
      comp=Z,254nm,6.0s
LZH                               LR     LR
      comp=N,1µm,15.2s
LZH                               LR     LR
      comp=Z,2µm,18.1s,MS5.4
KDAK  Kodiak Island    84.83  19  PFAKE         00 09 20.0  +10
KDAK                              LR     LR
      comp=Z,692nm,20.0s,MS5.0
SEY   Seymchan         84.87 352 eP     P      00 09 09.8 -0.3
SEY                                             00 12 35.9
SEY                              eS     S      00 19 34.5 -2.1
SEY                              ePS    PS     00 20 40.4 +6.1
SEY                               SS     SS     00 25 11.4 -0.9
SEY                               SSS    SSS    00 28 39.4 -0.7
SEY                               pmax   pmax
      comp=Z,50nm,1.5s,mb5.4
SEY                               smax
      comp=N,4µm,18.9s
SEY                               smax
      comp=E,4µm,19.9s
PMSA  Palmer Station   85.10 160 eP     P      00 09 11.0 -0.1
      comp=E,44nm,1.1s,mb5.5
PMSA                              LR     LR
      comp=Z,3µm,19.0s,MS5.7
CLNS  Chul'man         86.17 337 eP     P      00 09 18.2 +1.5
CLNS                             e*PP   pP     00 09 25.3 +4.2
CLNS                             eS     S      00 19 40.3 -9.1
CLNS                             eSS    SS     00 25 27.5 -4.3
CLNS                              pmax   pmax
      comp=Z,27nm,1.1s,mb5.4
CLNS                              pmax   pmax
      comp=N,14nm,1.2s
CLNS                              pmax   pmax
      comp=E,7.0nm,1.1s
CLNS                              pmax   pmax
      comp=Z,7.0nm,0.9s,mb4.9
CLNS                              pmax   pmax
      comp=N,6.0nm,1.0s
CLNS                              pmax   pmax
      comp=E,7.0nm,1.2s
CLNS                              smax
      comp=N,1µm,12.9s
CLNS                              smax
      comp=Z,408nm,12.7s
CLNS                              smax
      comp=E,78nm,13.3s
CLNS                              MLR    MLR
      comp=Z,1µm,18.0s,MS5.4
CLNS                              MLR    MLR
      comp=N,700nm,17.0s,MS5.2
CLNS                              MLR    MLR
      comp=E,200nm,16.0s,MS5.2
MAIT  Maitri           86.96 187 eP     P      00 09 20.6 +0.3
HOPS  Hopland          87.04  46  PFAKE         00 09 30.0 +8.6
HOPS                              LR     LR
      comp=Z,4µm,19.0s,MS5.8
SAO   San Andreas Ge   87.06  49  PFAKE         00 09 30.0 +8.5
SAO                               LR     LR
      comp=Z,3µm,19.0s,MS5.7
SNAA  Sanae            87.25 182⇓i      P      00 09 20.0 -1.6
VNA2  Neumayer--Watz   88.13 181⇑iP     P      00 09 27.5 +1.6
VNA2                             e             00 09 38.1
WDC   Whiskeytown Da   88.19  45 eP     P      00 09 26.1 -0.7
      comp=Z,28nm,1.3s,mb5.3
WDC                               LR     LR
      comp=Z,3µm,21.0s,MS5.7
TNA   Tin City         88.19   9  PFAKE         00 09 40.0  +14
TNA                               LR     LR
      comp=Z,1µm,20.0s,MS5.3
FIB   Fire Island      88.29  18  PFAKE         00 09 40.0  +13
FIB                               LR     LR
      comp=Z,2µm,20.0s,MS5.5
SHL   Shillong         88.29 298 eP     P      00 09 30.5 +2.8
MWC   Mount Wilson     88.31  52 eP     P      00 09 27.2 -0.4
CMB   Columbia Colle   88.41  48 eP     P      00 09 27.4 -0.6
      comp=Z,16nm,1.0s,mb5.2
CMB                               LR     LR
      comp=Z,4µm,20.0s,MS5.8
VNA1  Neumayer--Stat   88.42 181⇑iP     P      00 09 29.3 +2.0
VNA1                             e             00 09 39.5
ULN   Ulaanbaatar      88.43 323  PFAKE         00 09 40.0  +12
ULN                               LR     LR
      comp=Z,2µm,20.0s,MS5.5
GTA   Gaotai           88.47 313 eP     P      00 09 32.8 +4.5
GTA                               AP     pP     00 09 37.8 +5.1
GTA                               XP     sP     00 09 41.7 +7.6
GTA                               PP     PP     00 13 00.1 +1.3
GTA                               SKS    SKS    00 19 54.1 -6.2
GTA                               S      S      00 20 05.9 -5.6
GTA                               XS            00 20 29.9
GTA                               AMB    AMB
      comp=Z,167nm,5.3s
GTA                               LR     LR
      comp=N,343nm,20.2s,MS5.1
GTA                               LR     LR
      comp=E,543nm,17.5s,MS5.1
GTA                               LR     LR
      comp=Z,431nm,20.5s,MS4.8
ASMM  Slate Mountain   88.58  47 eP     P      00 09 26.3 -2.5
YBH   Yreka Blue Hor   88.65  44  P      P      00 09 30.0 +0.9
      comp=Z,3.4nm,1.0s,mb4.6,baz=144,slow=1.5,SNR=5.5
YBH   Yreka Blue Hor   88.65  44 eP     P      00 09 29.4 +0.3
      comp=Z,19nm,1.1s,mb5.3
YBH                               LR     LR
      comp=Z,2µm,21.0s,MS5.5
YAK   Yakutsk          88.71 343 eP     P      00 09 28.7 -0.1
YAK                              eS     S      00 20 13.8 +0.6
YAK                               pmax   pmax
      comp=Z,11nm,1.1s,mb5.1
YAK                               pmax   pmax
      comp=N,5.0nm,1.5s
YAK                               pmax   pmax
      comp=E,7.0nm,1.3s
YAK                               smax
      comp=N,11nm,2.0s
YAK                               smax
      comp=Z,16nm,3.8s
YAK                               smax
      comp=E,8.0nm,1.5s
YAK   Yakutsk          88.71 343 eP     P      00 09 27.2 -1.6
      comp=E,35nm,1.0s,mb5.6
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YAK                               LR     LR
      comp=Z,4µm,19.0s,MS5.8
SONM  Songino Array    88.78 323  P      P      00 09 29.9 +0.4
      comp=Z,1.9nm,0.7s,mb4.5,baz=143,slow=6.2,SNR=8.2
HUMO  Hull Mountain    88.93  43 eP     P      00 09 30.8 +0.4
      comp=Z,9.3nm,0.8s,mb5.2
HUMO                              LR     LR
      comp=Z,3µm,22.0s,MS5.7
PMR   Palmer           88.93  19  PFAKE         00 09 40.0  +10
PMR                               LR     LR
      comp=Z,3µm,21.0s,MS5.7
PFO   Pinyon Flat Ob   89.23  53  PFAKE         00 09 40.0 +8.0
PFO                               LR     LR
      comp=Z,759nm,19.0s,MS5.1
BEKR  Beckwourth       89.30  46 eP     P      00 09 31.5 -0.7
      comp=Z,20nm,1.2s,mb5.3
MTUM  Tungsten Hills   89.36  49 eP     P      00 09 32.9 +0.3
DAC   Darwin (Calif)   89.57  51  PFAKE         00 09 40.0 +6.4
DAC                               LR     LR
      comp=Z,3µm,19.0s,MS5.7
DIV   Divide           89.61  20  PFAKE         00 09 40.0 +6.9
DIV                               LR     LR
      comp=Z,6µm,19.0s,MS6.0
COR   Corvallis        89.71  41  PFAKE         00 09 40.0 +6.0
COR                               LR     LR
      comp=Z,3µm,20.0s,MS5.6
PAHR  Pah Rah Range    89.88  47 eP     P      00 09 35.0  0.0
      comp=Z,30nm,1.3s,mb5.5
CAL   Calcutta         90.06 294 eP     P      00 09 31.4 -4.7
CAL                              e             00 20 07.5
MNV   Mina             90.15  49 eP     P      00 09 36.0 -0.2
      comp=Z,16nm,0.9s,mb5.3
MNV                               LR     LR
      comp=Z,3µm,20.0s,MS5.7
MOD   Modoc            90.30  45 eP     P      00 09 35.6 -1.2
      comp=Z,8.0nm,0.9s,mb5.0
MOD                               LR     LR
      comp=Z,2µm,20.0s,MS5.5
LSA   Lhasa            90.57 302  P      P      00 09 43.0 +4.6
LSA   Lhasa            90.57 302 eP     P      00 09 41.1 +2.8
      comp=Z,11nm,0.9s,mb5.2
LSA                               LR     LR
      comp=Z,646nm,20.0s,MS5.1
SIT   Sitka            90.63  27  PFAKE         00 09 50.0  +12
SIT                               LR     LR
      comp=Z,3µm,19.0s,MS5.8
TPH   Tonopah          90.64  49 eP     P      00 09 38.1 -0.3
      comp=Z,20nm,1.3s,mb5.3
TPH                               LR     LR
      comp=Z,2µm,19.0s,MS5.5
MCK   McKinley         90.67  17  PFAKE         00 09 50.0  +12
MCK                               LR     LR
      comp=Z,887nm,22.0s,MS5.2
OCWA  Octopus Mounta   90.81  38  PFAKE         00 09 50.0  +11
OCWA                              LR     LR
      comp=Z,2µm,19.0s,MS5.5
TPNV  Topopah Spring   90.84  51 eP     P      00 09 39.8 +0.3
      comp=Z,23nm,1.1s,mb5.4
TPNV                              LR     LR
      comp=Z,3µm,20.0s,MS5.7
LDFC  Landfair         90.86  53 eP     P      00 09 39.7 +0.2
BOD   Bodaibo          91.07 334 eP     P      00 09 34.2 -5.7
PALK  Pallekele        91.27 277  PFAKE         00 09 50.0 +8.1
PALK                              LR     LR
      comp=Z,449nm,22.0s,MS4.9
NEN   Nelson           91.30  52 eP     P      00 09 42.1 +0.6
GNW   Green Mountain   91.50  39  P      P      00 09 41.5 -0.7
WVOR  Wild Horse Val   91.64  45 eP     P      00 09 38.9 -4.0
      comp=Z,17nm,1.2s,mb5.2
WVOR                              LR     LR
      comp=Z,2µm,19.0s,MS5.7
BMN   Battle Mountai   91.69  47  PFAKE         00 09 50.0 +6.8
BMN                               LR     LR
      comp=Z,2µm,19.0s,MS5.6
COLA  College          91.86  17 eP     P      00 09 43.1 -0.3
COLA  College          91.86  17  PFAKE         00 09 50.0 +6.6
COLA                              LR     LR
      comp=Z,2µm,21.0s,MS5.4
ZAK   Zakamensk        91.88 324 eP     P      00 09 42.7 -1.1
ILAR  Eielson Array    92.05  17  P      P      00 09 43.9 -0.3
      comp=Z,0.7nm,0.9s,mb4.0,baz=239,slow=4.0,SNR=6.7
ILAR                              LR     LR     00 52 01.9
      comp=Z,2µm,18.1s,MS5.5,baz=245,slow=36
HAWA  Hanford          92.91  41  PFAKE         00 10 00.0  +11
HAWA                              LR     LR
      comp=Z,3µm,20.0s,MS5.7
TUC   Tucson           93.03  57 eP     P      00 09 48.9 -0.7
      comp=Z,8.9nm,1.0s,mb5.2
TUC                               LR     LR
      comp=Z,2µm,19.0s,MS5.6
ELK   Elko             93.19  47 eP     P      00 09 49.4 -0.7
      comp=Z,6.7nm,1.1s,mb5.0
ELK                               LR     LR
      comp=Z,3µm,19.0s,MS5.7
DGAR  Diego Garcia     93.67 261  PFAKE         00 10 00.0 +7.0
DGAR                              LR     LR
      comp=Z,1µm,22.0s,MS5.4
WUAZ  Wupatki          93.83  53 eP     P      00 09 53.5 +0.3
      comp=Z,12nm,0.9s,mb5.3
PKI   Pulchoki         94.41 298 eP     P      00 09 56.4 +0.4
      comp=Z,32nm,1.1s,mb5.7
KKN   Kakani           94.59 298 eP     P      00 09 58.5 +1.6
DUG   Dugway           94.64  49  PFAKE         00 10 10.0  +13
DUG                               LR     LR
      comp=Z,3µm,20.0s,MS5.8
DMN   Daman            94.67 298 eP     P      00 09 58.0 +0.7
      comp=Z,34nm,1.1s,mb5.7
HLID  Hailey           94.92  45  PFAKE         00 10 10.0  +12
HLID                              LR     LR
      comp=Z,2µm,20.0s,MS5.7
KGD   Kothagudem       94.95 287 eP     P      00 09 57.0 -1.7
KGD                              ePcP   PcP    00 09 57.4 -2.0
KGD                              ePKiK         00 14 36.1
KGD                              eS     S      00 21 12.0 +2.7
KGD                              eSP    SP     00 22 29.8 -1.5
GKN   Gorkha           95.20 298 eP     P      00 10 02.3 +2.6
NEW   Newport          95.22  40  PFAKE         00 10 10.0  +11
NEW                               LR     LR
      comp=Z,1µm,19.0s,MS5.4
KOLN  Koldanda         95.97 297 eP     P      00 10 05.8 +2.5
      comp=Z,18nm,1.1s,mb5.4
HWUT  Hardware Ranch   96.07  48  PFAKE         00 10 10.0 +6.7
HWUT                              LR     LR
      comp=Z,3µm,19.0s,MS5.7
MSO   Missoula         96.57  42  PFAKE         00 10 20.0  +15
MSO                               LR     LR
      comp=Z,1µm,19.0s,MS5.4
TIXI  Tiksi            96.62 348 eP     P      00 10 06.3 +1.1
TIXI                             e             00 14 00.9
TIXI                             i S    SKS    00 20 39.0 -6.9
TIXI                             eSS    SS     00 28 08.5 +7.7
TIXI                              pmax   pmax
      comp=Z,9.0nm,1.0s,mb5.2
TIXI                              MLR    MLR
      comp=Z,1µm,19.0s,MS5.4
TIXI  Tiksi            96.62 348  PFAKE         00 10 20.0  +15
TIXI                              LR     LR
      comp=Z,1µm,20.0s,MS5.3
AHID  Auburn Hatcher   96.83  47  PFAKE         00 10 20.0  +13
AHID                              LR     LR
      comp=Z,1µm,21.0s,MS5.3
ANMO  Albuquerque      97.35  55 eP     P      00 10 06.3 -3.0
ANMO  Albuquerque      97.35  55  PFAKE         00 10 20.0  +11
ANMO                              LR     LR
      comp=Z,2µm,20.0s,MS5.6
BOZ   Bozeman (W)      97.58  44  PFAKE         00 10 20.0  +10
BOZ                               LR     LR
      comp=Z,3µm,19.0s,MS5.9
LTX   Lajitas          97.64  62  PFAKE         00 10 20.0 +9.3
LTX                               LR     LR
      comp=Z,2µm,20.0s,MS5.7
TXAR  Lajitas Array    97.64  62  P      P      00 10 11.1 +0.3
      comp=Z,1.1nm,0.9s,mb4.4,baz=236,slow=4.5,SNR=8.6
TXAR                              LR     LR     00 46 23.7
      comp=Z,2µm,19.9s,MS5.6,baz=230,slow=31
TXAR  Lajitas Array    97.64  62  P      P      00 10 11.1 +0.3
TXAR                              LR     LR     00 46 23.7
BW06  Boulder Array    97.89  47  PFAKE         00 10 20.0 +8.5
BW06                              LR     LR
      comp=Z,1µm,19.0s,MS5.5
PDAR  Pinedale Array   97.89  47  P      P      00 10 11.3 -0.2
      comp=Z,0.2nm,0.5s,baz=304,slow=3.3,SNR=3.5
PDAR                              LR     LR     00 51 36.9
      comp=Z,1µm,18.4s,baz=254,slow=34
SDCO  Great Sand Dun   99.04  53  PFAKE         00 10 30.0  +13
SDCO                              LR     LR
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	comp=Z,2µm,19.0s,MS5.7						
ISCO	**Idaho Springs**	**99.64**	**51**	PFAKE		00 10 30.0	+10
ISCO				LR	LR		
	comp=Z,1µm,19.0s,MS5.5						
JCT	**Junction City**	**101.19**	**62**	PFAKE		00 10 40.0	+13
JCT				LR	LR		
	comp=Z,2µm,20.0s,MS5.7						
LAO	**LASA Array**	**101.46**	**44**	PFAKE		00 10 40.0	+12
LAO				LR	LR		
	comp=Z,3µm,19.0s,MS5.8						
RSSD	**Black Hills**	**102.13**	**47**	PFAKE		00 10 40.0	+9.3
RSSD				LR	LR		
	comp=Z,945nm,20.0s,MS5.3						
YKA	**Yellowknife Ar**	**102.35**	**27**	P	Pdif	00 10 32.4	+1.2
	comp=Z,1.2nm,0.6s,baz=262,slow=5.8,SNR=4.0						
MKAR	**Makanchi Array**	**103.13**	**315**	P	Pdif	00 10 37.2	+2.1
	comp=Z,1.4nm,1.1s,baz=79,slow=7.3,SNR=2.9						
MKAR	**Makanchi Array**	**103.13**	**315**	P	Pdif	00 10 37.2	+2.1
WMOK	**Wichita Mounta**	**103.27**	**58**	PFAKE		00 10 50.0	+14
WMOK				LR	LR		
	comp=Z,2µm,20.0s,MS5.6						
DGMT	**Dagmar**	**103.31**	**43**	PFAKE		00 10 50.0	+14
DGMT				LR	LR		
	comp=Z,2µm,19.0s,MS5.6						
ZAL	**Zalesovo**	**103.68**	**323**	Pdiff	Pdif	00 10 39.2	+2.0
	comp=Z,0.5nm,0.4s,baz=79,slow=17,SNR=2.0						
CBKS	**Cedar Bluff**	**103.68**	**54**	PFAKE		00 10 50.0	+12
CBKS				LR	LR		
	comp=Z,1µm,19.0s,MS5.4						
TRQA	**Tornquist**	**103.93**	**141**	PFAKE		00 10 50.0	+11
TRQA				LR	LR		
	comp=Z,1µm,19.0s,MS5.4						
NATX	**Nacogdoches**	**105.78**	**62**	PFAKE		00 15 10.0	
NATX				LR	LR		
	comp=Z,3µm,20.0s,MS5.9						
FFC	**Flin Flon**	**106.29**	**37**	PFAKE		00 15 10.0	
FFC				LR	LR		
	comp=Z,244nm,19.0s,MS4.8						
KURK	**Kurchatov**	**106.50**	**318**	PFAKE		00 15 10.0	
KURK				LR	LR		
	comp=Z,290nm,21.0s,MS4.8						
NNA	**Nana**	**107.19**	**111**	PFAKE		00 15 10.0	
NNA				LR	LR		
	comp=Z,461nm,19.0s,MS5.1						
MIAR	**Mount Ida**	**107.36**	**59**	PFAKE		00 15 10.0	
MIAR				LR	LR		
	comp=Z,2µm,19.0s,MS5.8						
AAK	**Ala-Archa**	**107.44**	**310**	PFAKE		00 15 10.0	
AAK				LR	LR		
	comp=Z,244nm,20.0s,MS4.8						
JTS	**JuntasAbangare**	**108.26**	**86**	PFAKE		00 15 20.0	
JTS				LR	LR		
	comp=Z,636nm,21.0s,MS5.2						
LVC	**Limon Verde**	**108.50**	**124**	PFAKE		00 15 20.0	
LVC				LR	LR		
	comp=Z,1µm,19.0s,MS5.5						
CCM	**Cathedral Cave**	**109.97**	**56**	PFAKE		00 15 20.0	
CCM				LR	LR		
	comp=Z,2µm,20.0s,MS5.6						
OXF	**Oxford**	**110.71**	**60**	PFAKE		00 15 20.0	+9.1
OXF				LR	LR		
	comp=Z,2µm,20.0s,MS5.6						
JFWS	**Jewell Farm**	**111.60**	**51**	PFAKE		00 15 20.0	+7.6
JFWS				LR	LR		
	comp=Z,2µm,20.0s,MS5.7						
BRVK	**Borovoye**	**111.98**	**320**	PFAKE		00 15 20.0	+7.2
BRVK				LR	LR		
	comp=Z,346nm,19.0s,MS5.0						
WVT	**Waverly**	**112.29**	**59**	PFAKE		00 15 20.0	+6.1
WVT				LR	LR		
	comp=Z,2µm,19.0s,MS5.7						
LRAL	**Lakeview Retre**	**112.38**	**62**	PFAKE		00 15 20.0	+5.8
LRAL				LR	LR		
	comp=Z,2µm,20.0s,MS5.8						
WCI	**Wyandotte Cave**	**113.85**	**57**	PFAKE		00 15 30.0	+13
WCI				LR	LR		
	comp=Z,2µm,19.0s,MS5.7						
ACSO	**Alum Creek Sta**	**116.65**	**55**	PFAKE		00 15 30.0	+7.6
ACSO				LR	LR		
	comp=Z,3µm,21.0s,MS5.9						
NHSC	**New Hope**	**118.03**	**63**	PFAKE		00 15 30.0	+4.8
NHSC				LR	LR		
	comp=Z,3µm,21.0s,MS5.9						
BLA	**Blacksburg**	**118.34**	**58**	PFAKE		00 15 40.0	+14
BLA				LR	LR		
	comp=Z,2µm,19.0s,MS5.8						
SUR	**Sutherland**	**118.81**	**210**	PFAKE		00 15 40.0	+13
SUR				LR	LR		
	comp=Z,288nm,19.0s,MS4.9						
ARU	**Arti**	**118.81**	**324**	*i* PKIKP	PKPdf	00 15 22.4	-3.8
ARU				*e*		00 16 45.5	
ARU				*e*PPP	PPP	00 19 17.0	0.0
ARU				*i*		00 22 15.5	
ARU				*i* PS	PS	00 26 34.5	+5.7
ARU				*i* SS	SS	00 32 57.0	-3.8
ARU	**Arti**	**118.81**	**324**	PFAKE		00 15 40.0	+14
ARU				LR	LR		
	comp=Z,298nm,19.0s,MS4.9						
MCWV	**Mont Chateau**	**119.00**	**56**	PFAKE		00 15 40.0	+13
MCWV				LR	LR		
	comp=Z,2µm,20.0s,MS5.8						
ERPA	**Erie**	**119.05**	**53**	PFAKE		00 15 40.0	+13
ERPA				LR	LR		
	comp=Z,2µm,20.0s,MS5.8						
SAML	**Samuel**	**120.42**	**115**	PFAKE		00 15 40.0	+10
SAML				LR	LR		
	comp=Z,3µm,21.0s,MS5.9						
SSPA	**Standing Stone**	**120.56**	**55**	PFAKE		00 15 40.0	+10
SSPA				LR	LR		
	comp=Z,1µm,20.0s,MS5.6						
CBN	**Corbin**	**120.83**	**57**	PFAKE		00 15 40.0	+9.4
CBN				LR	LR		
	comp=Z,4µm,20.0s,MS6.0						
SDV	**Santo Domingo**	**121.16**	**92**	PFAKE		00 15 40.0	+8.2
SDV				LR	LR		
	comp=Z,862nm,19.0s,MS5.4						
NCB	**Newcomb**	**123.30**	**51**	PFAKE		00 15 40.0	+4.9
NCB				LR	LR		
	comp=Z,3µm,20.0s,MS6.0						
HRV	**Harvard--Oak R**	**125.31**	**52**	PFAKE		00 15 50.0	+11
HRV				LR	LR		
	comp=Z,2µm,19.0s,MS5.9						
WES	**Weston**	**125.49**	**52**	PFAKE		00 15 50.0	+11
WES				LR	LR		
	comp=Z,3µm,20.0s,MS6.0						
WVL	**Waterville**	**126.53**	**50**	PFAKE		00 15 50.0	+8.7
WVL				LR	LR		
	comp=Z,10µm,22.0s,MS6.4						
ARCES	**ARCESS Array B**	**126.93**	**345**	PKP	PKPdf	00 15 37.9	-3.5
	comp=Z,4.9nm,0.9s,baz=45,slow=1.7,SNR=6.7						
ARCES	**ARCESS Array B**	**126.93**	**345**	PKP	PKPdf	00 15 37.9	-3.5
LSZ	**Lusaka**	**127.37**	**230**	PFAKE		00 15 50.0	+6.3
LSZ				LR	LR		
	comp=Z,1µm,20.0s,MS5.7						
SJG	**San Juan**	**127.92**	**83**	PFAKE		00 15 50.0	+5.2
SJG				LR	LR		
	comp=Z,817nm,19.0s,MS5.4						
KMBO	**Kilima Mbogo**	**128.15**	**251**	PKP	PKPdf	00 15 44.5	-0.9
	comp=Z,5.5nm,1.3s,baz=90,slow=4.0,SNR=3.0						
KMBO	**Kilima Mbogo**	**128.15**	**251**	PKP	PKPdf	00 15 44.5	-0.9
KMBO				LR	LR		
	comp=Z,1µm,20.0s,MS5.5						
BDFB	**Brasilia**	**128.26**	**132**	PKP	PKPdf	00 15 46.2	+0.7
	comp=Z,3.2nm,0.8s,baz=127,slow=4.0,SNR=5.0						
ZEI	**Tsey**	**129.85**	**309**	*i* PKIKP	PKPdf	00 15 44.0	-3.8
ZEI				*e*		00 18 00.0	
ZEI				*e*PS	PS	00 28 14.0	+8.2
ZEI				*i* SS	SS	00 35 40.0	+19
ZEI				pmax	pmax		
	comp=Z,700nm,10.0s						
BBSR	**BB Station**	**130.98**	**65**	PFAKE		00 16 00.0	+10
BBSR				LR	LR		
	comp=Z,1µm,21.0s,MS5.5						
OBN	**Obninsk**	**131.11**	**326**	PFAKE		00 16 00.0	+10
OBN				LR	LR		
	comp=Z,316nm,21.0s,MS5.0						
TSUM	**Tsumeb**	**131.25**	**217**	PFAKE		00 16 00.0	+8.9
TSUM				LR	LR		
	comp=Z,3µm,20.0s,MS6.0						
FINES	**FINESS Array B**	**132.37**	**337**	PKP	PKPdf	00 15 50.4	-1.7
	comp=Z,0.8nm,0.7s,baz=117,slow=4.3,SNR=4.5						
FINES				SKPbc		00 19 17.6	
	comp=Z,5.4nm,0.9s,baz=90,slow=7.6,SNR=10						
SOC	**Sochi**	**132.74**	**310**	*i* PKIKP	PKPdf	00 15 49.7	-3.6
SOC				*e*		00 18 15.7	
SOC				*e*PPP	PPP	00 21 04.9	-6.6
SOC				*e*SS	SS	00 36 00.1	+3.7
SOC				pmax	pmax		
	comp=Z,13nm,0.8s						
SOC				pmax	pmax		
	comp=N,21nm,1.0s						
SOC				pmax	pmax		
	comp=E,22nm,0.8s						
ANN	**Anapa**	**134.06**	**312**	*e*PKHKP		00 15 27.4	
ANN				pmax	pmax		
	comp=Z,37nm,0.9s						
MBAR	**Mbarara**	**134.09**	**247**	PFAKE		00 16 10.0	+13
MBAR				LR	LR		
	comp=Z,334nm,19.0s,MS5.1						
SIM	**Simferopol’**	**136.28**	**314**	PKIKP	PKPdf	00 15 58.0	-1.7
SIM				*e*		00 18 46.0	
SIM				pmax	pmax		
	comp=Z,50nm,8.5s						
AKASG	**Malin Array Be**	**137.06**	**323**	PKP	PKPdf	00 15 60.0	-1.0
	comp=Z,0.2nm,0.2s,baz=52,slow=1.3,SNR=5.1						
AKASG				SKPbc		00 19 31.6	
	comp=Z,0.9nm,0.7s,baz=45,slow=3.1,SNR=5.6						
NB2	**NORSAR Subarra**	**137.30**	**344**	PKPdf	PKPdf	00 15 59.8	-1.3
	comp=Z,1.6nm,0.9s,baz=31,slow=1.9						
NOA	**NORSAR Array B**	**137.30**	**344**	PKP	PKPdf	00 15 59.6	-1.6
	comp=Z,0.6nm,0.9s,baz=181,slow=21,SNR=3.2						
NOA				SKPbc		00 19 32.5	
	comp=Z,0.7nm,0.8s,baz=52,slow=4.8,SNR=3.6						
BRTR	**Keskin Array B**	**138.00**	**306**	PKP	PKPdf	00 16 02.5	-0.6
	comp=Z,0.3nm,0.6s,baz=342,slow=3.9,SNR=3.4						
KONO	**Kongsberg**	**138.91**	**344**	PFAKE		00 16 10.0	+5.8
KONO				LR	LR		
	comp=Z,1µm,21.0s,MS5.7						
KIS	**Kishinev**	**138.97**	**318**	*e*PKHKP		00 15 54.0	
KIS				*e*		00 18 52.0	
MUD	**Monsted U’grnd**	**141.80**	**342**	*i* P	PKPdf	00 16 05.1	-4.2
MUD				*i*	PP	00 19 11.5	-2.8
MUD				*i* S	SS	00 37 43.8	+0.4
OKC	**Ostrava-Krasne**	**143.40**	**328**	*e*PKP	PKPdf	00 16 11.3	-1.0
OKC				LR		01 21 20.0	
	comp=Z,1.2nm,20.6s						
RCBR	**Riachuelo**	**143.53**	**135**	PFAKE		00 16 20.0	+11
RCBR				LR	LR		
	comp=Z,1µm,20.0s,MS5.6						
KSP	**Ksiaz**	**143.59**	**331**	*e*PKIKP	PKPdf	00 16 07.0	-5.6
KSP				*e*		00 19 24.0	
KSP				MLR	MLR		
	comp=Z,4µm,21.6s,MS6.2						
KSP	**Ksiaz**	**143.59**	**331**	*e*PKP	PKPdf	00 16 07.0	-5.6
KSP				*e*PP	PP	00 19 24.0	-1.2
KSP				*e*		00 29 20.0	
KSP				*e*SS	SS	00 37 40.0	-24
KSP				LR	LR		
	comp=Z,4µm,21.6s,MS6.2						
PSZ	**Piszkesteto**	**143.70**	**325**	⇑*e*pPKP/A		00 16 12.7	
PSZ	**Piszkesteto**	**143.70**	**325**	*e*PKIKP	PKPdf	00 16 08.8	-4.0
MORC	**Moravsky Berou**	**143.73**	**329**	*e*PKIKP	PKPdf	00 16 11.0	-1.8
DPC	**Dobruska-Polom**	**143.92**	**330**	*e*PKP	PKPdf	00 16 11.8	-1.3
DPC				LR		01 20 20.0	
	comp=Z,2.4nm,22.5s						
UPC	**Upice**	**143.95**	**331**	*e*PKP	PKPdf	00 16 08.8	-4.4
PVCC	**Panska Ves**	**144.58**	**332**	*e*PKP	PKPdf	00 16 10.8	-3.5
PVCC				LR		01 21 20.0	
	comp=Z,1.6nm,21.8s						
BRG	**Berggiesshubel**	**144.60**	**333**	*i* PKIKP	PKPdf	00 16 11.1	-3.3
BRG				*i*		00 16 18.9	
BRG				pmax	pmax		
	comp=Z,31nm,1.1s						
BRG				MLR	MLR		
	comp=N,1µm,18.8s,MS5.8						
BRG				MLR	MLR		
	comp=E,810nm,18.8s,MS5.8						
BRG				MLR	MLR		
	comp=Z,2µm,17.6s,MS6.0						
BRG	**Berggiesshubel**	**144.60**	**333**	*i* PKP	PKPdf	00 16 11.1	-3.3
BRG				*i*		00 16 18.9	
BRG				*i*		00 16 28.8	
BRG				*i*		00 20 06.1	
BRG				*i*		00 38 25.0	
BRG				*i*		00 39 37.0	
BRG				*i*		00 43 32.0	
BRG				LR	LR		
	comp=Z,2µm,17.6s,MS6.0						
CLL	**Collm**	**144.67**	**334**	*e*PKIKP	PKPdf	00 16 10.0	-4.5
CLL				*e*		00 16 13.0	
CLL				*e*PP	PP	00 19 41.0	+9.3
CLL				*e*SS	SS	00 38 25.0	+8.7
CLL				*e*SSS	SSS	00 43 28.0	-15
CLL	**Collm**	**144.67**	**334**	*e*PKIKP	PKPdf	00 16 10.0	-4.5
CLL				pmax	pmax		
	comp=Z,22nm,1.0s						
CLL				MLR	MLR		
	comp=Z,2µm,20.4s,MS5.8						
BOLS	**Boljevac**	**144.72**	**317**	⇓*i*P	PKPbc	00 16 11.4	+0.1
PRU	**Pruhonice**	**144.99**	**331**	*e*PKP	PKPdf	00 16 11.5	-3.6
PRU				LR		01 20 30.0	
	comp=Z,1.8nm,23.0s						
ESK	**Eskdalemuir**	**145.44**	**352**	*e*PKPdf	PKPdf	00 16 12.4	-3.2
ESK				LR	LR		
	comp=Z,232nm,19.0s,MS5.0						
GRUS	**Gruza**	**145.47**	**318**	⇑*i*P	PKPbc	00 16 14.3	+1.1
VAY	**Valandovo**	**145.47**	**313**	*i* PKP	PKPdf	00 16 21.6	+5.4
BBH	**Bruntsheil**	**145.58**	**352**	*e*P	PKPbc	00 16 12.3	-0.8
BWH	**Wardlaw**	**145.63**	**353**	*e*P	PKPbc	00 16 13.1	-0.2
GMK	**Mull of Kintyr**	**145.65**	**355**	*e*P	PKPbc	00 16 13.7	+0.3
BHH	**Howats Hill**	**145.66**	**352**	*e*P	PKPbc	00 16 13.5	+0.2
WIT	**Witteveen**	**145.68**	**341**	*e*P	PKPbc	00 16 16.4	+2.9
	comp=Z,41nm,1.7s						
NKC	**Novy Kostel**	**145.71**	**333**	*e*PKP	PKPdf	00 16 14.2	-2.1
NKC				LR		01 23 10.0	
	comp=Z,1.1nm,19.5s						
MOX	**Moxa**	**145.74**	**335**	*i* P	PKPbc	00 16 13.2	-0.5
	comp=Z,logA/T=1.5						
MOX				SS	SS	00 38 44.0	+16
MOX				L		01 24 11.0	
MOX	**Moxa**	**145.74**	**335**	*e*PKIKP	PKPdf	00 16 13.2	-3.1
MOX				pmax	pmax		
	comp=Z,52nm,1.8s						
MOX				MLR	MLR		
	comp=Z,1µm,21.0s,MS5.6						
BTA	**Talkin**	**145.77**	**352**	*e*P	PKPbc	00 16 13.8	+0.1
DIVS	**Divcibare**	**145.80**	**319**	*e*P	PKPbc	00 16 03.3	-11
BDL	**Dobcross Hall**	**145.90**	**352**	*e*P	PKPbc	00 16 14.3	+0.3
SKO	**Skopje**	**145.93**	**315**	*i* PKP	PKPdf	00 16 15.1	-1.8
SKO				*i*		00 16 19.0	
GCL	**Cushendall**	**145.97**	**355**	*e*P	PKPbc	00 16 16.6	+2.5
BBO1	**Bothel**	**146.01**	**352**	*e*P	PKPbc	00 16 13.8	-0.5
KHC	**Kasperske Hory**	**146.04**	**331**	*e*PKP	PKPdf	00 16 14.4	-2.5
KHC				x	x	00 16 30.5	
KHC				LR		01 28 10.0	
	comp=Z,1.7nm,18.1s						
KHC	**Kasperske Hory**	**146.04**	**331**	*e*PKP2	PKPab	00 16 14.4	-2.6
KHC				MLR	MLR		
	comp=Z,2µm,18.1s,MS5.9						
GAL1	**Galloway**	**146.05**	**354**	*e*P	PKPbc	00 16 13.9	-0.4
CKE	**Keswick**	**146.14**	**352**	*e*P	PKPbc	00 16 15.4	+0.9
GERES	**GERESS Array B**	**146.19**	**331**	PKPbc	PKPbc	00 16 15.7	+0.8
	comp=Z,3.4nm,0.7s,baz=35,slow=2.8,SNR=21						
GERES				SKPbc		00 19 56.5	
	comp=Z,1.1nm,0.8s,baz=63,slow=3.0,SNR=5.6						
CSF	**Scaffel**	**146.29**	**352**	*e*P	PKPbc	00 16 16.2	+1.3
WTSB	**Winterswijk**	**146.38**	**340**	*e*P	PKPbc	00 16 14.5	-0.7
	comp=Z,13nm,0.5s						
CDU1	**Dunnerdale**	**146.39**	**352**	*e*P	PKPbc	00 16 16.6	+1.5
ARSA	**Arzberg**	**146.42**	**327**	⇑*i*P	PKPbc	00 16 16.3	+0.9
MOA	**Molln**	**146.63**	**329**	⇓*i*P	PKPbc	00 16 12.4	-3.5
GRA1	**Grafenberg Arr**	**146.64**	**334**	*e*PKPbc	PKPbc	00 16 15.4	-0.4
GRF	**Grafenberg Arr**	**146.64**	**334**	*e*PKIKP	PKPdf	00 16 15.4	-2.5
OHR	**Ohrid**	**146.76**	**314**	*i* PKP	PKPdf	00 16 21.9	+3.5
GMM	**Mts of Mourne**	**146.78**	**355**	*e*P	PKPbc	00 16 16.4	+0.4
KBA	**Koelnbreinsper**	**147.62**	**329**	⇑*i*P	PKPdf	00 16 20.1	+0.5
HGN	**Heimansgroeve**	**147.69**	**340**	*e*P	PKPdf	00 16 22.1	+2.5
	comp=Z,6.6nm,0.9s						
LJU	**Ljubljana**	**147.73**	**326**	*e*PKPdf	PKPdf	00 16 20.5	+0.7
LJU				*e*		00 16 32.0	
DCN	**Croghan**	**147.77**	**356**	*e*P	PKPdf	00 16 20.9	+1.3
VOY	**Vojsko**	**148.07**	**327**	*e*PKPdf	PKPdf	00 16 24.3	+4.0
STU	**Stuttgart**	**148.18**	**335**	*e*PKIKP	PKPdf	00 16 19.0	-1.4
RUP	**Ruppelstein**	**148.22**	**338**	PKP	PKPdf	00 16 24.1	+3.6
WATA	**Walderalm**	**148.27**	**331**	⇓*i*P	PKPdf	00 16 21.0	+0.4
WTTA	**Wattenberg**	**148.29**	**330**	⇑*i*P	PKPdf	00 16 21.5	+0.8
MOTA	**Moosalm**	**148.48**	**331**	⇑*i*P	PKPdf	00 16 20.9	0.0
SQTA	**Sankt Quirin**	**148.52**	**331**	⇓*i*P	PKPdf	00 16 21.9	+0.9
WLF	**Walferdange**	**148.56**	**339**	*e*PKHKP		00 16 16.7	
WLF				*e*		00 16 22.9	
BAIF	**Baives**	**148.84**	**341**	*e*PKP1	PKPdf	00 16 22.4	+1.0
	comp=Z,45nm,1.4s						
WLS	**Welschbruch**	**149.19**	**336**	PKP	PKPdf	00 16 27.5	+5.4
WLS	**Welschbruch**	**149.19**	**336**	PKP	PKPdf	00 16 27.5	+5.4
CDF	**Champ du Feu**	**149.22**	**336**	*e*PKP1	PKPdf	00 16 23.4	+1.3
	comp=Z,35nm,0.9s						
ECH	**Echery**	**149.43**	**336**	PKP	PKPdf	00 16 28.5	+6.1
ECH	**Echery**	**149.43**	**336**	PKP	PKPdf	00 16 28.5	+6.1
BRMO	**Bormio**	**149.46**	**331**	*e*PKP	PKPdf	00 16 24.9	+2.3
MOF	**Molkenrain**	**149.74**	**336**	PKP	PKPdf	00 16 24.7	+1.8
MOF	**Molkenrain**	**149.74**	**336**	PKP	PKPdf	00 16 24.7	+1.8
THEF	**They Montfort**	**149.85**	**338**	PKP	PKPdf	00 16 24.9	+1.8
THEF	**They Montfort**	**149.85**	**338**	PKP	PKPdf	00 16 24.9	+1.8
HINF	**Hinteralfeld**	**149.87**	**336**	*e*PKP1	PKPdf	00 16 24.9	+1.7
HAU	**Haudompre**	**149.90**	**337**	*e*PKP1	PKPdf	00 16 25.0	+1.8
	comp=Z,40nm,1.0s						
HAU				*e*R			
	comp=Z,1µm,20.0s						
MEZF	**Maizieres J’vi**	**149.94**	**339**	*e*PKP1	PKPdf	00 16 25.6	+2.4
	comp=Z,115nm,1.3s						
ARV	**Arcevia**	**150.26**	**324**	*e*PKP	PKPdf	00 16 31.3	+7.4
LOMF	**Lomont**	**150.26**	**336**	PKP	PKPdf	00 16 26.1	+2.3
LOMF	**Lomont**	**150.26**	**336**	PKP	PKPdf	00 16 26.1	+2.3
TIP	**Timpagrande**	**150.40**	**313**	*e*PKPdf	PKPdf	00 16 22.3	-2.0
SFI	**Santa Sofia**	**150.58**	**326**	*e*PKP	PKPdf	00 16 28.2	+3.9
NRCA	**Norcia**	**150.60**	**323**	*e*PKP	PKPdf	00 16 31.4	+7.0
SGO	**Sicignano**	**150.63**	**317**	*e*PKP	PKPdf	00 16 31.4	+6.8
CSSN	**Cassano Irpino**	**150.65**	**318**	*e*PKP	PKPdf	00 16 27.2	+2.6
ZCCA	**Zocca**	**150.72**	**327**	*e*PKP	PKPdf	00 16 29.0	+4.4
SEI	**Scarperia**	**150.73**	**326**	*e*PKP	PKPdf	00 16 28.8	+4.2
AQU	**L’Aquila**	**150.74**	**322**	*e*PKIKP	PKPdf	00 16 30.4	+5.7
GRI	**Girifalco**	**150.80**	**313**	*e*PKP	PKPdf	00 16 28.9	+4.0
GSCL	**Gusciola**	**150.92**	**328**	*e*PKP	PKPdf	00 16 33.4	+8.6
MCGN	**Macugnaga**	**150.92**	**333**	*e*PKP	PKPdf	00 16 28.7	+3.9
PTQR	**Pietraquaria**	**150.94**	**321**	*e*PKP	PKPdf	00 16 32.4	+7.4
BDI	**Bagni Di Lucca**	**151.12**	**327**	*e*PKP	PKPdf	00 16 36.3	+11
BOB	**Bobbio (Coli)**	**151.17**	**329**	*e*PKP	PKPdf	00 16 32.6	+7.4
CSNT	**Castellina Chi**	**151.17**	**326**	*e*PKP	PKPdf	00 16 35.9	+11
FLN	**La Foliniere**	**151.27**	**346**	*e*PKP1	PKPdf	00 16 27.9	+2.7
	comp=Z,27nm,0.9s						
FLN				*e*R			
	comp=Z,2µm,20.8s						
LDF	**La Druitiere**	**151.34**	**345**	*e*PKP1	PKPdf	00 16 28.5	+3.1
	comp=Z,21nm,1.0s						
LOR	**Lormes**	**151.41**	**339**	*e*PKP1	PKPdf	00 16 28.5	+3.0
	comp=Z,26nm,1.1s						
LOR				*e*R			
	comp=Z,2µm,19.2s						
SOI	**Samo**	**151.41**	**312**	*e*PKP	PKPdf	00 16 33.9	+8.0
SSF	**Saint Saulge**	**151.70**	**339**	*e*PKP1	PKPdf	00 16 29.3	+3.4
	comp=Z,45nm,1.1s						
GRR	**Gorron**	**151.71**	**346**	*e*PKP1	PKPdf	00 16 28.8	+2.9
LPL	**La Plagne**	**151.80**	**334**	*e*PKP1	PKPdf	00 16 33.8	+7.7
	comp=Z,45nm,1.1s						
LPG	**La Plagne**	**151.81**	**333**	*e*PKP1	PKPdf	00 16 33.9	+7.7
	comp=Z,36nm,0.8s						
SMF	**Signal de Mont**	**151.95**	**338**	*e*PKP1	PKPdf	00 16 29.5	+3.2
	comp=Z,17nm,1.2s						
AVF	**Avril sur Loir**	**151.99**	**339**	*e*PKP1	PKPdf	00 16 29.6	+3.2
	comp=Z,16nm,1.4s						
BNI	**Bardonecchia**	**152.19**	**333**	*e*PKIKP	PKPdf	00 16 28.2	+1.5
BGF	**Bois d’Agland**	**152.36**	**340**	*e*PKP1	PKPdf	00 16 30.5	+3.6
	comp=Z,13nm,0.7s						
MBDF	**Montbardon**	**152.41**	**332**	*e*PKP1	PKPdf	00 16 32.6	+5.5
	comp=Z,5.6nm,0.8s						
ORIF	**Oris-en-Rattie**	**152.64**	**334**	*e*PKP1	PKPdf	00 16 31.5	+4.1
	comp=Z,34nm,0.8s						
ORIF				*e*R			
	comp=Z,2µm,21.5s						
SAOF	**Saorge**	**152.65**	**330**	PKP	PKPdf	00 16 35.3	+7.9
SAOF	**Saorge**	**152.65**	**330**	PKP	PKPdf	00 16 35.3	+7.9
TCF	**Toulx Ste Croi**	**152.81**	**340**	*e*PKP1	PKPdf	00 16 31.5	+3.9
	comp=Z,22nm,1.0s						
PGF	**Pioggiola**	**153.01**	**327**	*e*PKP1	PKPdf	00 16 32.4	+4.4
	comp=Z,33nm,0.8s						
PYM	**Petit Puy Mans**	**153.02**	**339**	PKP	PKPdf	00 16 36.1	+8.2
PYM	**Petit Puy Mans**	**153.02**	**339**	PKP	PKPdf	00 16 36.1	+8.2
CALN	**Calern**	**153.13**	**331**	PKP	PKPdf	00 16 37.5	+9.4
CALN	**Calern**	**153.13**	**331**	PKP	PKPdf	00 16 37.5	+9.4
VIVF	**Saint-Julien-l**	**153.17**	**335**	*e*PKP1	PKPdf	00 16 34.3	+6.2
	comp=Z,50nm,1.4s						
LBL	**Lubilhac**	**153.38**	**338**	PKP	PKPdf	00 16 35.0	+6.6
LBL	**Lubilhac**	**153.38**	**338**	PKP	PKPdf	00 16 35.0	+6.6
FRF	**La Foret Royal**	**153.39**	**331**	*e*PKP1	PKPdf	00 16 35.4	+7.0
LMR	**La Mourre**	**153.63**	**331**	*e*PKP1	PKPdf	00 16 36.2	+7.4
	comp=Z,18nm,1.0s						
ESDC	**Sonseca Array**	**160.67**	**344**	PKPab	PKPab	00 17 17.2	-1.2
	comp=Z,1.8nm,0.9s,baz=14,slow=3.4,SNR=3.7						
DBIC	**Dimbokro**	**164.51**	**202**	PKP	PKPdf	00 16 43.2	+0.9
	comp=Z,2.7nm,0.8s,baz=267,slow=4.6,SNR=3.0						
DBIC				PKPab	PKPab	00 17 37.2	+1.2
	comp=Z,15nm,1.2s,baz=162,slow=3.4,SNR=4.3						
DBIC	**Dimbokro**	**164.51**	**202**	PKP	PKPdf	00 16 43.2	+0.9
DBIC				PKPab	PKPab	00 17 37.2	+1.2

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*JMA **05** 00:33:58.3±0.1, 36.43N×140.65E, h53^{km}±1^{km}, M3.6*
Broadband fault plane solution: P waves. NP1:ϕ_s180°, δ24°, λ71°. NP2:ϕ_s20°, δ67°, λ98°. Principal axes: T Plg67°, Azm305°; N Plg7°, Azm197°; P Plg22°, Azm104°;
JMA Felt II J1.

ISC 05 00:33:58.2±1.6**, 36.43N**±0.07×**140.69E**±0.09**, h50**^{km}±9^{km}**,**
n8, σ0^{s}38/16**, 2C-3D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.20**	**331**	⇑P	**P**	**00 34 07.0**	**+0.5**
JHO				S	**S**	**00 34 12.9**	**+0.4**
JYT	**Yasato**	**0.45**	**243**	⇓P	**P**	**00 34 09.0**	**+0.1**
JYT				S	**S**	**00 34 16.3**	**-0.3**
ONAJ	**Iwakimizuishiy**	**0.67**	**7**	⇑P	**P**	**00 34 11.4**	**-0.2**
ONAJ				S	**S**	**00 34 20.8**	**-0.7**
JSB	**Shiboa**	**0.82**	**311**	⇓P	**P**	**00 34 13.7**	**+0.1**
JSB				S	**S**	**00 34 24.9**	**-0.1**
JAG	**Ashikaga**	**1.00**	**270**	⇓P	**P**	**00 34 15.9**	**-0.2**
JAG				S	**S**	**00 34 28.5**	**-0.9**
JFT	**Otama**	**1.12**	**345**	P	**P**	**00 34 17.9**	**+0.1**
JFT				S	**S**	**00 34 32.5**	**+0.1**
JKT	**Katashina**	**1.21**	**286**	P	**P**	**00 34 19.4**	**+0.4**
JKT				S	**S**	**00 34 34.9**	**+0.3**
MAT	**Matsushiro**	**2.01**	**274**	P	**P**	**00 34 30.5**	**+0.2**
MAT				S	**S**	**00 34 54.3**	**+0.1**

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*IDC **05** 00:42:50.7±3.3, 32.70S×177.68W, mb3.9/2, mb1 4.1/3, mb1mx3.9/9, ML3.0/1, Error ellipse: s-maj=78.0km s-min=37.2km az=119.0*

NEIC 05 00:42:51.1±2.0**, 32.74S**×**177.52W, h10**^{km}**, mb4.1**/1**, Error ellipse: s-maj=45.2km s-min=21.6km az=109.0, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.04**	**217**	Pn	Pn	00 44 34.1	-2.6
	0.3nm,0.3s,baz=343,slow=12,SNR=3.1						
URZ				Sn	Sn	00 45 53.3	-4.3
	1.6nm,0.3s,baz=168,slow=22,SNR=12						
ASAR	**Alice Springs**	**43.44**	**269**	P	P	00 50 54.8	-1.2
	0.6nm,0.6s,baz=111,slow=7.7,SNR=6.1						
WRAB	**Tennant Creek**	**44.63**	**274**	*e*P	P	00 51 03.6	-2.1
	1.2nm,0.4s						
WRA	**Warramunga Arr**	**44.63**	**274**	P	P	00 51 04.0	-1.7
	1.1nm,0.4s,baz=113,slow=8.0,SNR=9.8						
FINES	**FINESS Array B**	**147.47**	**339**	PKPbc	PKPdf	01 02 34.5	-0.5
	0.8nm,0.6s,baz=135,slow=3.9,SNR=4.2						

ATH 05 00:46:40.5, 35.88N×**22.07E, h10**^{km}**, MD3.5**/3**, Central Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KYTH	**Kithira**	**0.88**	**63**	*e*PG	Pg	00 46 57.0	-1.1
VLI	**Veliai**	**1.09**	**40**	*e*PN	Pn	00 47 01.5	-0.3
ITM	**Ithomi**	**1.30**	**355**	*e*PB	Pb	00 47 05.0	+0.4

IDC 05 00:54:37.4±7.8**, 11.68S**×**165.84E, mb3.8**/3**, mb1 3.9**/3**, mb1mx3.7**/11**, Error ellipse: s-maj=231.0km s-min=54.4km az=125.0, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.36**	**251**	P	P	01 00 59.5	-2.7
	0.7nm,0.8s,baz=83,slow=9.3,SNR=3.8						
ASAR	**Alice Springs**	**32.60**	**244**	P	P	01 01 11.7	-1.4
	0.5nm,0.6s,baz=69,slow=9.7,SNR=6.6						
MKAR	**Makanchi Array**	**94.05**	**317**	P	P	01 07 57.6	-1.3
	0.6nm,0.7s,baz=98,slow=5.4,SNR=5.5						

*BJI **05** 01:17:10.5, 8.44S×150.01E, h111^{km}, mb5.0*
*IDC **05** 01:17:12.8±0.7, 8.66S×149.68E, h114^{km}±6^{km}, mb4.8/10, mb1 4.8/12, mb1mx4.8/14, MS4.1/7, Ms1 4.1/7, ms1mx3.9/14, Error ellipse: s-maj=14.9km s-min=10.6km az=119.0*
*NEIC **05** 01:17:12.6±0.3, 8.62S×149.77E, mb4.8/25, Error ellipse: s-maj=7.9km s-min=6.4km az=106.0*
ISC 05 01:17:11.2±0.3**, 8.69S**±0.05×**149.73E**±0.06**, h115**^{km}**, h115**^{km}±2.3^{km}**:pP-P, n95,** σ**0**^{s}**85**/72**, mb4.8**/39**, 2C-2D, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.64**	**254**	*e*P	**P**	**01 17 56.3**	**+2.9**
WAU	**Wau**	**3.27**	**294**	*e*P	**P**	**01 18 04.0**	**+2.1**
WAU				*e*S	**S**	**01 18 47.0**	**+6.6**
RAB	**Rabaul**	**5.08**	**29**	*e*P	**P**	**01 18 28.0**	**+1.6**
CTA	**Charters Tower**	**11.82**	**196**	*e*P	**P**	**01 20 01.5**	**+4.3**
	11nm,0.6s						
CTA	**Charters Tower**	**11.82**	**196**	P	**P**	**01 19 59.8**	**+2.7**
	1.6nm,0.3s,baz=27,slow=14,SNR=15						
CTA				LR	LR	01 24 00.6	
	comp=Z,999nm,19.8s,baz=44,slow=34						
CTAO	**Charters Tower**	**11.82**	**196**	*e*P	**P**	**01 20 01.1**	**+3.9**
	14nm,0.6s						
KAKA	**Kakadu**	**17.49**	**255**	*e*P	**P**	**01 21 09.6**	**+0.1**
	32nm,0.6s						
WRAB	**Tennant Creek**	**18.61**	**231**	⇓*e*P	**P**	**01 21 22.1**	**-0.2**
	93nm,0.5s						
WB2	**Warramunga Arr**	**18.61**	**231**	*e*P	**P**	**01 21 21.7**	**-0.6**
WB2				*e*S	Sx	01 25 00.2	
WB2				*e*SCS	ScS	01 32 53.7	+3.9
WRA	**Warramunga Arr**	**18.62**	**231**	P	**P**	**01 21 22.2**	**-0.2**
	13nm,0.3s,baz=45,slow=9.6,SNR=297						
WRA				S	**S**	**01 24 48.3**	**+5.5**
	baz=58,slow=20,SNR=4.3						
WRA				LR	LR	01 28 42.4	
	comp=Z,400nm,19.0s,baz=60,slow=37						
WRA				ScP		01 29 11.8	
	baz=55,slow=2.0,SNR=10						
WRA	**Warramunga Arr**	**18.62**	**231**	P	**P**	**01 21 22.2**	**-0.2**
WRA				S	**S**	**01 24 48.3**	**+5.5**
WRA				LR	LR	01 28 42.4	
WRA				ScP		01 29 11.8	
NOUC	**Port Laguerre**	**20.78**	**132**	*e*P	**P**	**01 21 44.3**	**-0.6**
NOUC	**Port Laguerre**	**20.78**	**132**	*e*P	**P**	**01 21 44.3**	**-0.6**
DZM	**Mont Dzumac**	**20.87**	**132**	*e*P	**P**	**01 21 47.3**	**+1.5**
DZM	**Mont Dzumac**	**20.87**	**132**	*e*P	**P**	**01 21 47.3**	**+1.5**
ASAR	**Alice Springs**	**21.24**	**224**	P	**P**	**01 21 50.0**	**+0.5**
	42nm,0.4s,mb5.1,baz=59,slow=8.5,SNR=195						
ASAR				S	**S**	**01 25 39.6**	**+5.9**
	5.2nm,0.9s,baz=41,slow=20,SNR=5.4						
ASAR				LR	LR	01 29 17.8	
	comp=Z,349nm,18.4s,baz=159,slow=34						
ASAR				ScP		01 29 18.4	
	1.7nm,0.8s,baz=60,slow=3.6,SNR=6.0						
ASAR	**Alice Springs**	**21.24**	**224**	P	**P**	**01 21 50.0**	**+0.5**
ASAR				S	**S**	**01 25 39.6**	**+6.0**
ASAR				LR	LR	01 29 17.8	
ASAR				ScP		01 29 18.4	
ASPA	**Alice Springs**	**21.25**	**224**	*e*P	**P**	**01 21 50.1**	**+0.5**
ASPA				*e*S	**S**	**01 25 40.4**	**+6.7**
STKA	**Stephens Creek**	**24.28**	**197**	⇓*i*P	**P**	**01 22 19.1**	**0.0**
	27nm,0.5s,mb4.8						
STKA	**Stephens Creek**	**24.28**	**197**	P	**P**	**01 22 19.6**	**+0.5**
	38nm,0.6s,mb4.9,baz=8.1,slow=8.9,SNR=54						
STKA				LR	LR	01 32 14.0	
	comp=Z,473nm,20.0s,baz=16,slow=37						
FITZ	**Fitzroy Crossi**	**25.20**	**246**	*e*P	**P**	**01 22 27.8**	**-0.2**
	94nm,0.6s,mb5.4						
FITZ	**Fitzroy Crossi**	**25.20**	**246**	P	**P**	**01 22 27.7**	**-0.3**
	109nm,0.5s,mb5.5,baz=65,slow=4.5,SNR=176						
FITZ				LR	LR	01 32 25.9	
	comp=Z,153nm,18.6s,baz=346,slow=36						
TOO	**Toolangi**	**29.01**	**187**	*e*P	**P**	**01 23 02.9**	**+0.5**
	4.0nm,0.8s,mb4.1						
FORT	**Forrest**	**29.87**	**220**	*e*P	**P**	**01 23 09.6**	**-0.6**
	126nm,0.6s,mb5.7						
MBWA	**Marble Bar**	**31.45**	**243**	*e*P	**P**	**01 23 23.0**	**-1.2**
	20nm,0.8s,mb4.9						
TGY	**Tagaytay City**	**36.45**	**308**	P	**P**	**01 24 06.8**	**-0.2**
	87nm,0.3s,baz=148,slow=13,SNR=4.2						
KLBR	**Kellerberrin**	**37.45**	**228**	*e*P	**P**	**01 24 15.0**	**-0.2**
	36nm,0.7s,mb5.4						
URZ	**Urewera**	**38.40**	**144**	LR	LR	01 37 34.7	
	comp=Z,402nm,18.8s,baz=203,slow=32						
NWAO	**Narrogin (SRO)**	**38.51**	**227**	*e*P	**P**	**01 24 23.8**	**-0.2**
	20nm,0.7s,mb5.1						
RPZ	**Rata Peaks**	**39.54**	**156**	P	**P**	**01 24 33.1**	**+0.7**
	17nm,0.6s,mb5.1,baz=29,slow=2.0,SNR=12						
RPZ				LR	LR	01 38 46.4	
	comp=Z,367nm,18.1s,baz=8.3,slow=33						
TATO	**Taipei**	**43.33**	**321**	*e*P	**P**	**01 25 04.4**	**+0.7**
	62nm,0.8s,mb5.4						
MAJO	**Matsushiro**	**46.28**	**347**	*e*P	**P**	**01 25 26.7**	**-0.4**
	12nm,0.6s,mb4.8						
MAT	**Matsushiro**	**46.28**	**347**	P	**P**	**01 25 27.1**	**0.0**
MAT	**Matsushiro**	**46.28**	**347**	*e*P	**P**	**01 25 27.0**	**-0.1**
	10nm,0.7s,mb4.7						
QIZ	**Qiongzhong**	**48.01**	**305**	*e*P	**P**	**01 25 39.7**	**-1.2**
	17nm,0.8s,mb4.9						
QIZ				pP	pP	01 26 06.4	-1.3
RAR	**Rarotonga**	**50.15**	**110**	P	**P**	**01 25 57.6**	**+0.3**
	10.0nm,0.6s,mb4.9,baz=220,slow=8.4,SNR=4.4						
IPM	**Ipoh**	**50.32**	**283**	⇑*e*P	**P**	**01 25 59.0**	**+0.3**
WHN	**Wuhan**	**51.72**	**320**	*e*P	**P**	**01 26 09.5**	**+0.5**
GYA	**Guiyang**	**54.48**	**311**	P	**P**	**01 26 30.3**	**+0.8**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
XAN	**Xi’an**	**57.47**	**320**	P	**P**	**01 26 49.6**	**-1.1**
XAN				AMB	AMB		
	comp=Z,8.0nm,1.6s,mb4.5						
CD2	**Chengdu**	**59.08**	**314**	*e*P	**P**	**01 27 02.0**	**0.0**
CD2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.3						
LZH	**Lanzhou**	**62.00**	**319**	⇑P	**P**	**01 27 22.1**	**+0.4**
LZH				AP	pP	01 27 48.5	-1.4
LZH				AMB	AMB		
	comp=Z,32nm,1.3s,mb5.2						
CASY	**Casey**	**63.43**	**197**	*e*P	**P**	**01 27 29.0**	**-1.8**
	comp=Z,9.6nm,0.5s,mb5.0						
GTA	**Gaotai**	**66.53**	**320**	*e*P	**P**	**01 27 51.9**	**+0.8**
GTA				AP	pP	01 28 20.5	+0.9
GTA				XP	sP	01 28 32.0	-0.2
GTA				AMB	AMB		
	comp=Z,3.0nm,0.6s,mb4.3						
LSA	**Lhasa**	**68.01**	**307**	P	**P**	**01 28 01.6**	**+1.1**
LSA	**Lhasa**	**68.01**	**307**	*e*P	**P**	**01 28 01.5**	**+0.9**
	comp=Z,7.7nm,0.6s,mb4.7						
SONM	**Songino Array**	**68.06**	**330**	P	**P**	**01 28 00.6**	**+0.1**
	comp=Z,1.2nm,0.6s,mb3.9,baz=157,slow=5.6,SNR=11						
SONM				pP	pP	01 28 28.9	-0.2
	comp=Z,8.9nm,0.9s,baz=143,slow=6.2,SNR=16						
SBA	**Scott Base**	**69.70**	**176**	*e*P	**P**	**01 28 10.0**	**-0.2**
	comp=Z,8.9nm,1.0s,mb4.5						
PKI	**Pulchoki**	**71.87**	**303**	*e*P	**P**	**01 28 24.0**	**+0.1**
KKN	**Kakani**	**72.05**	**303**	*e*P	**P**	**01 28 24.7**	**-0.3**
	comp=Z,5.5nm,0.5s,mb4.6						
DMN	**Daman**	**72.13**	**303**	*e*P	**P**	**01 28 25.5**	**0.0**
	comp=Z,7.6nm,0.6s,mb4.7						
GKN	**Gorkha**	**72.66**	**303**	*e*P	**P**	**01 28 28.6**	**0.0**
	comp=Z,6.8nm,0.3s,mb4.9						
KOLN	**Koldanda**	**73.44**	**302**	*e*P	**P**	**01 28 33.2**	**0.0**
	comp=Z,11nm,0.8s,mb4.7						
WMQ	**Urumqi**	**76.58**	**319**	*e*P	**P**	**01 28 49.6**	**-1.2**
WMQ				AMB	AMB		
	comp=Z,18nm,1.1s,mb4.7						
WMQ				LR	LR		
	comp=E,104nm,20.2s						
WMQ				LR	LR		
	comp=Z,192nm,21.0s						
MAW	**Mawson**	**80.83**	**203**	P	**P**	**01 29 14.0**	**+0.6**
	comp=Z,14nm,0.5s,mb5.1,baz=86,slow=6.1,SNR=44						
MKAR	**Makanchi Array**	**81.28**	**320**	P	**P**	**01 29 16.9**	**+0.7**
	comp=Z,6.0nm,0.8s,mb4.5,baz=104,slow=6.5,SNR=29						
MKAR				pP	pP	01 29 44.4	-1.3
	comp=Z,2.7nm,0.7s,baz=108,slow=7.7,SNR=3.8						
QSPA	**South Pole Qui**	**81.30**	**180**	*e*P	**P**	**01 29 15.6**	**-0.1**
	comp=Z,24nm,0.7s,mb5.1						
QSPA				*e*	pP	01 29 48.9	+3.7
ZAL	**Zalesovo**	**82.72**	**327**	P	**P**	**01 29 22.4**	**-1.1**
	comp=Z,1.3nm,0.5s,mb4.0,baz=268,slow=6.6,SNR=11						
ZAL				pP	pP	01 29 52.5	-0.6
	comp=Z,1.1nm,0.4s,baz=330,slow=3.4,SNR=2.0						
KURK	**Kurchatov**	**84.97**	**323**	P	**P**	**01 29 35.0**	**+0.2**
	comp=Z,26nm,0.6s,mb5.3,SNR=8.1						
KURK	**Kurchatov**	**84.97**	**323**	*e*P	**P**	**01 29 34.5**	**-0.4**
	comp=Z,6.7nm,1.1s,mb4.5						
KURK				*e*pP	pP	01 30 04.1	-0.6
AAK	**Ala-Archa**	**85.14**	**314**	*e*P	**P**	**01 29 34.1**	**-1.8**
	comp=Z,3.0nm,0.8s,mb4.3						
AAK				*e*pP	pP	01 30 04.9	-0.8
MCK	**McKinley**	**85.61**	**23**	*e*P	**P**	**01 29 37.7**	**+0.1**
	comp=Z,5.9nm,0.9s,mb4.5						
COLA	**College**	**86.58**	**22**	*e*P	**P**	**01 29 41.3**	**-1.1**
	comp=Z,7.3nm,0.8s,mb4.7						
ILAR	**Eielson Array**	**86.89**	**23**	P	**P**	**01 29 43.6**	**-0.2**
	comp=Z,5.9nm,0.8s,mb4.6,baz=254,slow=4.9,SNR=70						
ZRNK	**Zerenda**	**91.32**	**323**	P	**P**	**01 30 03.5**	**-1.5**
	comp=Z,1.0nm,0.6s,mb4.1						
ASMM	**Slate Mountain**	**95.06**	**52**	*e*P	**P**	**01 30 23.0**	**+0.5**
SNAA	**Sanae**	**97.77**	**188**	*e*P	**P**	**01 30 33.4**	**-0.6**
	comp=Z,3.1nm,0.9s,mb4.8						
KHC	**Kasperske Hory**	**125.56**	**326**	*e*PKPdf	PKPdf	01 36 00.0	+0.9
GERES	**GERESS Array B**	**125.64**	**326**	PKP	PKPdf	01 35 59.8	+0.5
	comp=Z,0.7nm,0.6s,baz=66,slow=1.5,SNR=13						
GERES				pPKP		01 36 31.3	
	comp=Z,0.6nm,0.8s,baz=72,slow=3.1,SNR=3.0						
LPL	**La Plagne**	**131.44**	**326**	*e*PKP1		01 39 27.3	
LPG	**La Plagne**	**131.44**	**326**	*e*PKP1		01 39 27.3	
PGF	**Pioggiola**	**131.82**	**321**	*e*PKP1		01 39 26.0	
LOR	**Lormes**	**131.86**	**329**	*e*PKP1		01 39 26.6	
MBDF	**Montbardon**	**131.90**	**325**	*e*PKP1		01 39 25.3	
SBF	**Sospel**	**132.02**	**323**	*e*PKP1		01 39 26.6	
	comp=Z,13nm,0.8s						
SSF	**Saint Saulge**	**132.17**	**329**	*e*PKP1		01 39 27.8	
	comp=Z,10nm,1.1s						
SMF	**Signal de Mont**	**132.28**	**329**	*e*PKP1		01 39 28.2	
	comp=Z,15nm,0.9s						
ORIF	**Oris-en-Rattie**	**132.29**	**325**	*e*PKP1		01 39 28.2	
FRF	**La Foret Royal**	**132.66**	**324**	*e*PKP1		01 39 29.0	
	comp=Z,2.9nm,0.7s						
LDF	**La Druitiere**	**132.83**	**333**	*e*PKP1		01 39 29.7	
	comp=Z,18nm,1.0s						
FLN	**La Foliniere**	**132.87**	**333**	*e*PKP1		01 39 29.7	
LMR	**La Mourre**	**132.88**	**323**	*e*PKP1		01 39 29.6	
GRR	**Gorron**	**133.31**	**333**	*e*PKP1		01 39 31.3	
	comp=Z,26nm,1.0s						
SGMF	**Saint Gilles**	**134.16**	**334**	*e*PKP1		01 39 33.6	
	comp=Z,19nm,0.9s						
MFF	**Saint Martin d**	**134.29**	**331**	*e*PKP1		01 39 34.3	
CAF	**Calviac**	**134.35**	**328**	*e*PKP1		01 39 35.7	
RJF	**Les Rejaudoux**	**134.38**	**329**	*e*PKP1		01 39 35.7	
	comp=Z,30nm,1.2s						
LFF	**La Frestale**	**135.03**	**329**	*e*PKP1		01 39 36.7	
	comp=Z,18nm,1.1s						
ROSC	**El Rosal**	**136.10**	**92**	PKP	PKPdf	01 36 21.0	+1.0
	comp=Z,3.3nm,0.5s,baz=242,slow=21,SNR=4.8						
CPUP	**Villa Florida**	**136.38**	**144**	PKP	PKPdf	01 36 20.7	+0.5
	comp=Z,3.7nm,0.8s,baz=269,slow=3.7,SNR=9.1						
CPUP	**Villa Florida**	**136.38**	**144**	PKP	PKPdf	01 36 20.7	+0.5
SDV	**Santo Domingo**	**140.12**	**87**	*e*PKPpre		01 36 26.7	
SAML	**Samuel**	**142.83**	**117**	*e*PKPpre		01 36 29.4	
BDFB	**Brasilia**	**150.11**	**144**	PKP	PKPdf	01 36 46.3	+2.2
	comp=Z,18nm,0.5s,baz=220,slow=1.5,SNR=24						
BDFB				PKPbc	PKPdf	01 36 50.9	+6.7
	comp=Z,18nm,0.5s,baz=235,slow=1.3,SNR=36						
BDFB				PKPab	PKPab	01 36 57.1	-0.8
	comp=Z,13nm,0.6s,baz=218,slow=2.6,SNR=10						
DBIC	**Dimbokro**	**154.74**	**267**	PKPbc	PKPdf	01 37 01.2	+10
	comp=Z,7.0nm,1.1s,baz=120,slow=5.2,SNR=4.5						
DBIC				PKPab	PKPab	01 37 17.1	-0.4
	comp=Z,1.4nm,0.6s,baz=101,slow=6.6,SNR=4.3						

*IDC **05** 01:27:33.9±0.8, 15.27S×173.27W, mb4.1/8, mb1 4.4/9, mb1mx4.3/15, ML3.8/1, MS4.1/3, Ms1 4.1/3, ms1mx3.9/13, Error ellipse: s-maj=42.7km s-min=19.7km az=134.0*
*NEIC **05** 01:27:35.8±0.4, 15.16S×173.45W, h10^{km}, mb4.6/6, Error ellipse: s-maj=20.4km s-min=10.2km az=130.0*
ISC 05 01:27:34.0±0.5**, 15.1S**±0.1×**173.5W**±0.1**, h10**^{km}**, n53,** σ**1**^{s}**06**/23**, mb4.2**/14**, MS4.2**/2**, 1C-2D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**14.42**	**117**	Pn	**P**	**01 30 49.1**	**-11**
	0.5nm,0.3s,baz=246,slow=6.9,SNR=3.2						
RAR				LR	LR	01 35 17.6	
	comp=Z,540nm,18.0s,baz=325,slow=33						
RAR	**Rarotonga**	**14.42**	**117**	*e*P	**P**	**01 30 50.0**	**-10**
	3.6nm,0.4s						
RAR				LR	LR	01 35 17.6	
PPT	**Papeete**	**23.12**	**99**	*e*L		01 36 48.1	
PPT				*e*R		01 37 38.6	
	724nm,25.2s,baz=275						
TBI	**Tubuai**	**24.14**	**114**	*e*L		01 37 14.9	
TBI				*e*R		01 38 12.5	
	611nm,26.5s,baz=288						
URZ	**Urewera**	**24.52**	**198**	P	**P**	**01 32 53.9**	**-1.0**
	5.4nm,0.6s,mb4.2,baz=37,slow=5.1,SNR=3.6						
STKA	**Stephens Creek**	**44.08**	**240**	P	**P**	**01 35 44.4**	**+0.1**
	2.5nm,0.7s,mb4.1,baz=87,slow=6.5,SNR=4.4						
WB2	**Warramunga Arr**	**49.78**	**257**	*e*P	**P**	**01 36 30.0**	**+0.8**
WRAB	**Tennant Creek**	**49.78**	**257**	*e*P	**P**	**01 36 27.7**	**-1.5**
	6.0nm,0.8s,mb4.7						
WRA	**Warramunga Arr**	**49.79**	**257**	P	**P**	**01 36 29.3**	**0.0**
	1.4nm,0.6s,mb4.2,baz=91,slow=6.8,SNR=12						
WRA				LR	LR	01 55 39.1	
	comp=Z,194nm,21.0s,MS4.1,baz=120,slow=34						
ASAR	**Alice Springs**	**50.09**	**252**	P	**P**	**01 36 31.2**	**-0.3**
	6.8nm,0.8s,mb4.7,baz=87,slow=8.5,SNR=58						
ASAR				LR	LR	01 56 13.5	
	comp=Z,332nm,19.4s,MS4.3,baz=86,slow=34						
ASPA	**Alice Springs**	**50.09**	**252**	*e*P	**P**	**01 36 32.0**	**+0.5**
CASY	**Casey**	**70.64**	**205**	*e*P	**P**	**01 38 49.4**	**-2.1**
	5.2nm,1.1s,mb4.4						
QSPA	**South Pole Qui**	**74.95**	**180**	*e*P	**P**	**01 39 17.8**	**+1.2**
	7.8nm,1.0s,mb4.6						
HLID	**Hailey**	**79.47**	**39**	*e*P	**P**	**01 39 42.6**	**+0.2**
	1.9nm,0.8s,mb4.1						
TXAR	**Lajitas Array**	**80.54**	**56**	P	**P**	**01 39 46.6**	**-1.9**
	0.8nm,1.0s,mb3.6,baz=214,slow=4.5,SNR=6.1						
MCK	**McKinley**	**80.84**	**11**	*e*P	**P**	**01 39 49.5**	**+0.2**
	5.3nm,1.1s,mb4.4						
MCMT	**McKenzie Canyo**	**81.09**	**39**	*e*P	**P**	**01 39 50.9**	**-0.1**
COLA	**College**	**82.08**	**11**	*e*P	**P**	**01 39 56.0**	**+0.3**
	8.1nm,0.9s,mb4.7						
PDAR	**Pinedale Array**	**82.12**	**42**	P	**P**	**01 39 55.2**	**-1.2**
	0.5nm,1.0s,mb3.4,baz=135,slow=2.1,SNR=3.2						
ILAR	**Eielson Array**	**82.16**	**11**	P	**P**	**01 39 56.8**	**+0.7**
	1.1nm,0.8s,mb3.8,baz=213,slow=7.2,SNR=12						
DAWY	**Dawson**	**83.15**	**14**	*e*P	**P**	**01 40 02.0**	**+0.7**
MAW	**Mawson**	**88.05**	**199**	P	**P**	**01 40 26.8**	**+1.4**
	1.6nm,0.8s,mb4.3,baz=180,slow=2.0,SNR=3.3						
SNAA	**Sanae**	**93.22**	**177**	⇓*i*	**P**	**01 40 54.7**	**+5.2**
VNA2	**Neumayer--Watz**	**93.67**	**175**	⇓*i*	**P**	**01 40 54.0**	**+2.5**
VNA1	**Neumayer--Stat**	**93.87**	**175**	⇑*i*	**P**	**01 40 58.5**	**+6.0**
CLL	**Collm**	**143.49**	**353**	*e*PKIKP	PKPdf	01 47 10.0	-1.9
CLL	**Collm**	**143.49**	**353**	*e*P	PKPbc	01 47 12.0	+4.6
KECS	**Kecovo**	**144.75**	**344**	*e*PKP	PKPdf	01 47 10.2	-4.0
VRAC	**Vranov**	**144.88**	**348**	PKPbc	PKPbc	01 47 13.0	+1.5
	1.9nm,0.9s,baz=315,slow=5.0,SNR=3.1						
BAIF	**Baives**	**145.07**	**3**	*e*PKP1	PKPbc	01 47 13.4	+1.5
	8.2nm,0.8s						
VYHS	**Vyhne**	**145.16**	**346**	*e*PKP	PKPdf	01 47 14.6	-0.3
GRA1	**Grafenberg Arr**	**145.27**	**355**	*e*PKPbc	PKPbc	01 47 15.1	+2.6
PSZ	**Piszkesteto**	**145.43**	**344**	*e*PKP/p		01 47 15.6	
PSZ	**Piszkesteto**	**145.43**	**344**	*e*PKPdf	PKPdf	01 47 13.7	-1.6
MLR	**Muntele Rosu**	**145.53**	**336**	PKPbc	PKPbc	01 47 15.8	+2.5
	3.9nm,0.8s,baz=275,slow=6.3,SNR=4.3						
KHC	**Kasperske Hory**	**145.55**	**352**	*e*PKP	PKPdf	01 47 15.0	-0.6
KMBO	**Kilima Mbogo**	**145.56**	**245**	PKPbc	PKPbc	01 47 16.8	+2.6
	0.7nm,0.6s,baz=33,slow=23,SNR=3.4						
GERES	**GERESS Array B**	**145.82**	**351**	PKPbc	PKPbc	01 47 14.9	+1.1
	4.5nm,1.2s,slow=2.7,SNR=14						
BRTR	**Keskin Array B**	**145.84**	**321**	PKPbc	PKPbc	01 47 17.2	+3.0
	7.1nm,0.8s,baz=98,slow=2.5,SNR=32						
ZST	**Bratislava**	**145.84**	**347**	*e*PKP	PKPdf	01 47 14.3	-1.8
MEZF	**Maizieres J’vi**	**146.66**	**2**	*e*PKP1	PKPbc	01 47 18.7	+2.9
CDF	**Champ du Feu**	**146.76**	**359**	*e*PKP1	PKPbc	01 47 19.7	+3.6
	13nm,1.2s						
HAU	**Haudompre**	**147.18**	**0**	*e*PKP1	PKPdf	01 47 20.3	+2.0
LOR	**Lormes**	**147.84**	**3**	*e*PKP1	PKPdf	01 47 21.7	+2.3
	26nm,1.4s						
SSF	**Saint Saulge**	**148.03**	**4**	*e*PKP1	PKPdf	01 47 22.1	+2.4
	7.1nm,1.0s						
MFF	**Saint Martin d**	**148.10**	**9**	*e*PKP1	PKPdf	01 47 20.3	+0.4
	84nm,1.8s						
DAVOX	**Davos**	**148.28**	**356**	PKPbc	PKPdf	01 47 23.5	+3.4
	1.6nm,0.7s,baz=284,slow=11,SNR=3.6						
CABF	**La Chapelle**	**148.57**	**1**	*e*PKP1	PKPdf	01 47 24.4	+3.8
	8.9nm,0.8s						
LPL	**La Plagne**	**149.67**	**360**	*e*PKP1	PKPdf	01 47 28.4	+6.0
	2.8nm,0.8s						
LPG	**La Plagne**	**149.69**	**360**	*e*PKP1	PKPdf	01 47 28.4	+6.0
BNI	**Bardonecchia**	**150.13**	**360**	*e*PKPbc	PKPdf	01 47 28.7	+5.6
ORIF	**Oris-en-Rattie**	**150.26**	**1**	*e*PKP1	PKPdf	01 47 29.4	+6.0
SBF	**Sospel**	**151.31**	**359**	*e*PKP1	PKPdf	01 47 31.7	+6.7
	7.4nm,0.8s						

*IDC **05** 01:30:39.8±7.9, 34.61N×69.35E, mb3.9/4, mb1 4.0/6, mb1mx3.6/20, ML3.7/2, Error ellipse: s-maj=149.0km s-min=31.5km az=152.0*
*NEIC **05** 01:30:43.2±2.4, 34.74N×69.33E, h15^{km}, mb3.5/3, Error ellipse: s-maj=41.2km s-min=19.3km az=157.0*
*MOS **05** 01:30:44.9±0.8, 34.86N×69.22E, h33^{km}, mb4.3/3, Error ellipse: s-maj=54.7km s-min=32.4km az=81.4*
ISC 05 01:30:34.1±0.8**, 34.09N**±0.07×**69.90E**±0.09**, h10**^{km}**, n24,** σ**1**^{s}**06**/23**, mb3.9**/5**, 1D, Southeastern Afghanistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CEP	**Cherat**	**1.69**	**98**	⇓P	**Pg**	**01 31 07.7**	**-0.2**
SBDP	**Sheikh Budin**	**1.94**	**157**	P	**Pn**	**01 31 08.1**	**+0.6**
THW	**Thamme Wali**	**2.01**	**129**	P	**Pn**	**01 31 09.8**	**+1.3**
DRP	**Derazinda**	**2.35**	**174**	P	Px	01 32 07.0	
NIL	**Nilore**	**2.82**	**98**	Pn	**Pg**	**01 31 30.6**	**+0.1**
	367nm,0.6s,SNR=11						
CHCP	**Chirah Chowk**	**2.83**	**98**	P	**Pn**	**01 31 23.9**	**+3.6**
AAK	**Ala-Archa**	**9.26**	**22**	*e*P	**P**	**01 32 51.9**	**+1.2**
KOLN	**Koldanda**	**13.34**	**114**	*e*P	**P**	**01 33 44.8**	**-1.2**
	5.4nm,0.5s						
GKN	**Gorkha**	**14.01**	**112**	*e*P	**P**	**01 33 54.7**	**-0.2**
	7.3nm,0.3s						
DMN	**Daman**	**14.56**	**112**	*e*P	**P**	**01 33 57.5**	**-4.7**
	7.1nm,0.5s						
KKN	**Kakani**	**14.61**	**111**	*e*P	**P**	**01 33 59.8**	**-3.0**
	8.1nm,0.5s						
PKI	**Pulchoki**	**14.82**	**112**	*e*P	**P**	**01 34 00.8**	**-4.7**
	5.1nm,0.4s						
MKAR	**Makanchi Array**	**15.79**	**33**	Pn	**P**	**01 34 19.4**	**+1.4**
	0.3nm,0.3s,baz=215,slow=11,SNR=12						
KURK	**Kurchatov**	**17.80**	**18**	P	**P**	**01 34 42.1**	**-1.3**
	1.1nm,0.6s						
ZRNK	**Zerenda**	**18.87**	**358**	*e*P	**P**	**01 34 56.9**	**+0.4**
	1.1nm,0.4s						
BVAR	**Borovoye Array**	**18.93**	**1**	P	**P**	**01 34 56.3**	**-1.0**
	0.3nm,0.3s,baz=170,slow=10,SNR=6.8						
ZAL	**Zalesovo**	**22.46**	**23**	P	**P**	**01 35 38.6**	**+4.0**
	2.2nm,0.3s,mb4.0,baz=218,slow=6.5,SNR=3.6						
ZAL	**Zalesovo**	**22.46**	**23**	P	**P**	**01 35 38.6**	**+4.0**
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.3s						
BRTR	**Keskin Array B**	**29.40**	**292**	P	**P**	**01 36 39.8**	**+0.1**
	comp=Z,0.3nm,0.5s,mb3.3,baz=101,slow=12,SNR=2.3						
FINES	**FINESS Array B**	**39.02**	**328**	P	**P**	**01 38 02.1**	**-0.1**
	comp=Z,1.7nm,1.0s,mb3.7,baz=129,slow=8.9,SNR=3.0						
FINES	**FINESS Array B**	**39.02**	**328**	P	**P**	**01 38 02.1**	**-0.1**
FINES				pmax	pmax		
	comp=Z,2.0nm,1.0s						
HIA	**Hailar**	**39.46**	**52**	P	**P**	**01 38 13.5**	**+7.5**
	comp=Z,4.6nm,0.7s,mb4.3						
ARCES	**ARCESS Array B**	**43.05**	**339**	P	**P**	**01 38 34.8**	**-0.3**
	comp=Z,2.7nm,0.8s,mb4.1,baz=108,slow=7.7,SNR=5.5						
ARCES	**ARCESS Array B**	**43.05**	**339**	P	**P**	**01 38 34.8**	**-0.4**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.8s						

*NEIC **05** 01:48:40.4±1.3, 19.22S×70.02W, h72^{km}±13^{km}, mb4.3/2, Error ellipse: s-maj=21.1km s-min=11.8km az=72.0*
*IDC **05** 01:48:42.9±5.8, 19.34S×69.90W, h95^{km}±40^{km}, mb3.7/5, mb1 3.8/7, mb1mx3.7/12, Error ellipse: s-maj=66.9km s-min=23.8km az=40.0*
ISC 05 01:48:38.6±1.1**, 19.07S**±0.05×**69.9W**±0.1**, h68**^{km}±12^{km}**, n16,** σ**0**^{s}**67**/17**, mb4.0**/7**, 1C, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARE	**Arequipa**	**3.01**	**329**	⇑*i*P	**P**	**01 49 25.5**	**+0.4**
LPAZ	**La Paz**	**3.24**	**32**	P	**P**	**01 49 35.3**	**+7.0**
	10.0nm,0.3s,baz=222,slow=8.6,SNR=61						
LPAZ				S	**S**	**01 50 28.5**	**+23**
	0.9nm,0.3s,baz=229,slow=9.3,SNR=1.4						
LVC	**Limon Verde**	**3.64**	**166**	*e*Pn	**P**	**01 49 33.8**	**-0.1**
LVC				*e*Sn	**S**	**01 50 15.8**	**-0.1**
SAML	**Samuel**	**11.98**	**34**	*e*Pn	**P**	**01 51 28.4**	**-0.1**
	3.6nm,0.6s						
SAML				*e*Sn	**S**	**01 53 40.4**	**-0.8**
CPUP	**Villa Florida**	**13.66**	**124**	P	**P**	**01 51 51.0**	**+0.4**
	0.4nm,0.3s,baz=318,slow=13,SNR=10						
TRQA	**Tornquist**	**20.14**	**162**	*e*Pn	**P**	**01 53 09.0**	**-0.6**
BDFB	**Brasilia**	**21.16**	**84**	P	**P**	**01 53 20.7**	**+0.5**
	5.3nm,0.5s,mb4.2,baz=262,slow=8.5,SNR=7.4						
ROSC	**El Rosal**	**24.18**	**349**	P	**P**	**01 53 54.1**	**+4.2**
	3.9nm,0.4s,mb4.1,baz=139,slow=19,SNR=3.0						
SDV	**Santo Domingo**	**27.79**	**358**	*e*P	**P**	**01 54 23.0**	**-0.6**
	11nm,1.8s,mb4.1						
RCBR	**Riachuelo**	**35.62**	**73**	*e*P	**P**	**01 55 33.3**	**+1.3**
TXAR	**Lajitas Array**	**58.12**	**325**	P	**P**	**01 58 27.7**	**0.0**
	0.2nm,0.6s,mb3.3,baz=180,slow=8.1,SNR=2.9						
SNAA	**Sanae**	**64.86**	**161**	*e*P	**P**	**01 59 12.0**	**-0.4**
	6.5nm,1.5s,mb4.2						
DBIC	**Dimbokro**	**68.96**	**75**	P	**P**	**01 59 39.0**	**-0.2**
	3.8nm,0.9s,mb4.2,baz=243,slow=9.0,SNR=4.6						
YKA	**Yellowknife Ar**	**88.60**	**341**	P	**P**	**02 01 25.1**	**+0.2**
	0.6nm,0.5s,mb3.9,baz=215,slow=5.1,SNR=4.0						
MKAR	**Makanchi Array**	**144.17**	**33**	PKP	PKPdf	02 08 06.3	-0.2
	0.5nm,0.6s,baz=270,slow=1.2,SNR=4.6						
SONM	**Songino Array**	**151.15**	**5**	PKPbc	PKPdf	02 08 26.9	+8.9
	0.9nm,0.5s,baz=315,slow=1.6,SNR=11						
SONM				PKPab	PKPab	02 08 32.9	-1.3
	0.4nm,0.5s,baz=269,slow=1.5,SNR=4.5						

*HEL **05** 02:01:38.0±0.1, 67.77N×19.97E, ML1.8, ML1.8(UPP), ML1.4(BER), Explosion*
*BER **05** 02:01:40.7±2.0, 67.86N×20.12E, ML1.4, Suspected explosion*
ISC 05 02:01:36.0±0.5**, 67.74N**±0.03×**19.94E**±0.07**, n18,** σ**1**^{s}**43**/26**, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.26**	**35**	*i* P	**Pg**	**02 01 39.3**	**-1.9**
KUA				*i* S	**Sg**	**02 01 41.7**	**-2.9**
NIKU	**Nikkaluokta**	**0.37**	**290**	*i* P	**Pg**	**02 01 44.7**	**+1.4**
MASU	**Masugnsbyn**	**0.84**	**109**	*i* S	**Sg**	**02 02 03.6**	**-0.3**
KIF	**Kilpisjarvi**	**1.31**	**14**	*e*P	**Pb**	**02 02 01.3**	**+0.2**
KIF				*e*S	**Sb**	**02 02 17.5**	**-0.9**
PAJU	**Pajala**	**1.42**	**119**	*e*P	**Pb**	**02 02 03.6**	**+0.5**
ERTU	**Ertsjaerv**	**1.48**	**143**	*e*P	**Pn**	**02 02 06.7**	**+2.7**
KTK1	**Kautokeino**	**1.77**	**42**	*e*P	**Pn**	**02 02 09.2**	**+1.1**
KTK1				*e*SN	**Sn**	**02 02 32.2**	**+0.7**
KTK1				AML	AML	02 02 35.9	
	comp=Z,6.2nm,0.3s						
TRO	**Tromso**	**1.94**	**349**	*e*P	**Pn**	**02 02 11.0**	**+0.5**
TRO				*e*SG	**Sg**	**02 02 37.1**	**-3.3**
TRO				AML	AML	02 02 40.6	
	comp=Z,6.0nm,0.3s						
LOF	**Lofoten**	**2.45**	**282**	*e*	**Sg**	**02 02 59.8**	**+2.3**
LOF	**Lofoten**	**2.45**	**282**	*e*Sg	**Sg**	**02 02 59.8**	**+2.3**
SGF	**Sodankyl**	**2.54**	**94**	*e*P	**Pn**	**02 02 20.5**	**+1.3**
SGF				*e*S	**Sn**	**02 02 51.4**	**+0.2**
MOR8	**Moi Rana**	**2.68**	**236**	*e*	**Sg**	**02 03 02.7**	**-2.5**
MOR8				AML	AML	02 03 03.7	
	comp=Z,6.2nm,0.3s						
MOR8	**Moi Rana**	**2.68**	**236**	*e*Sg	**Sg**	**02 03 02.7**	**-2.5**
MOR8				AML	AML	02 03 03.7	
	comp=Z,6.2nm,0.3s						
KEV	**Kevo**	**3.27**	**49**	*e*P	**Pn**	**02 02 31.1**	**+1.5**
KEV				*e*S	**Sn**	**02 03 09.0**	**-0.8**
KEV				MSG		02 03 24.5	
	comp=Z,2.1nm,0.3s						

OUL	Oulu	3.58	135	*e*PB	Pb	02 02 38.5	-1.6
OUL				*e*SG	Sg	02 03 28.8	-6.5
OUL				MSG		02 03 35.8	
	comp=Z,2.8nm,0.4s						
MSF	Maaselka	4.04	113	*e*P	Pn	02 02 40.7	+0.3
MSF				*e*SG	Sg	02 03 42.4	-8.0
MSF				MSG		02 03 47.6	
	comp=Z,1.0nm,0.3s						
NSS	Namsos	4.57	229	*e*	Sg	02 04 06.4	-1.8
NSS	Namsos	4.57	229	*e*Sg	Sg	02 04 06.4	-1.8

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*IDC **05** 02:12:57.0±2.6, 4.82S×149.49E, h574^{km}±51^{km}, mb2.8/4, mb1 3.1/5, mb1mx2.9/12, Error ellipse: s-maj=66.4km s-min=17.0km az=107.0*

ISC 05 02:12:56.7±2.9**, 4.8S**±0.2×**149.6E**±0.4**, h599**^{km}±58^{km}**, n6, σ1$\overset{s}{.}$23**/8**, mb3.6**/4**, Bismarck Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	Charters Tower	15.51	192	P	P	02 16 11.2	+1.4
	1.1nm,0.3s,baz=1.5,slow=11,SNR=12						
WB2	Warramunga Arr	21.11	223	*e*P	P	02 17 01.5	-0.5
WRA	Warramunga Arr	21.11	223	P	P	02 17 01.6	-0.4
	0.8nm,0.3s,mb3.8,baz=46,slow=9.4,SNR=21						
WRA				S	S	02 20 20.7	+1.9
	0.4nm,0.8s,baz=44,slow=16,SNR=2.8						
ASAR	Alice Springs	24.07	217	P	P	02 17 27.9	-0.7
	0.8nm,0.4s,mb3.7,baz=49,slow=8.1,SNR=17						
ASAR				S	S	02 21 05.6	-0.4
	0.3nm,0.7s,baz=45,slow=13,SNR=4.2						
STKA	Stephens Creek	27.93	195	P	P	02 18 01.5	-0.8
	1.2nm,0.7s,mb3.7,baz=17,slow=11,SNR=2.9						
SONM	Songino Array	64.68	329	P	P	02 22 39.0	+0.4
	0.4nm,0.5s,mb3.1,baz=126,slow=5.4,SNR=5.3						

IGQ 05 02:18:02.6, 2.65S×79.84W, h12^{km}±11^{km}, mb4.0, 3D, Error ellipse: s-maj=13.3km s-min=6.5km az=70.4, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IGUA	Igualata	1.67	46	P	Pn	02 18 32.5	+0.7
ARRY	Arrayan	1.79	51	P	Pn	02 18 34.7	+1.0
ARRY				S	Sn	02 19 01.1	+4.7
PATA	Patacocha	1.81	51	P	Pn	02 18 35.6	+1.7
RETU	Refugio	1.83	50	P	Pn	02 18 38.8	+4.6
ULBA	Ulba	1.86	50	P	Pn	02 18 36.6	+1.9
QIL1	Quilotoa	2.01	27	⇓P	Pn	02 18 36.5	-0.3
QIL1				S	Sn	02 19 05.2	+3.3
PISA	Pisayambo	2.15	43	P	Pn	02 18 40.7	+2.0
NAS1	Nasa	2.42	34	⇓P	Pn	02 18 45.6	+3.0
TAMB	Tambo	2.44	37	P	Pn	02 18 45.4	+2.6
VC1	Cotopaxi 1	2.46	36	P	Pn	02 18 45.9	+2.7
JUA2	San Juan 2	2.72	27	P	Pn	02 18 48.3	+1.5
CGGP	Crater GGP	2.75	27	P	Pn	02 18 50.0	+2.7
ANTI	Antisana	2.76	38	⇓P	Pn	02 18 50.5	+3.1
GGP	Refugio Guagua	2.76	27	P	Pn	02 18 48.7	+1.3
PINO	Pino	2.77	27	P	Pn	02 18 50.5	+2.9
YANA	Yana	2.82	27	P	Pn	02 18 51.0	+2.7
JOR1	San Jorge 1	2.89	25	P	Pn	02 18 48.0	-1.4

IDC 05 02:21:43.6±9.1**, 15.55S×173.57W, mb4.0**/2**, mb1 4.3**/2**, mb1mx3.8**/9**, MS3.9**/1**, Ms1 3.9**/1**, ms1mx3.3**/19**, Error ellipse: s-maj=451.0km s-min=46.0km az=142.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	Stephens Creek	43.82	240	LR	LR	02 46 55.8	
	comp=Z,157nm,19.9s,baz=109,slow=34						
WRA	Warramunga Arr	49.65	257	P	P	02 30 37.4	-1.9
	0.5nm,0.6s,baz=90,slow=7.0,SNR=5.6						
ASAR	Alice Springs	49.91	252	P	P	02 30 39.2	-2.0
	3.1nm,0.6s,baz=86,slow=8.2,SNR=66						
KHC	Kasperske Hory	146.00	352	*e*P	PKPbc	02 41 26.0	+0.6
BRTR	Keskin Array B	146.17	321	PKPbc	PKPbc	02 41 25.3	-0.8
	2.8nm,1.1s,baz=45,slow=2.0,SNR=6.0						
GERES	GERESS Array B	146.26	351	PKPbc	PKPbc	02 41 25.6	-0.5
	0.3nm,0.7s,slow=2.7,SNR=3.5						

IDC 05 02:23:36.1±7.5**, 15.94S×173.22W, mb4.1**/2**, mb1 4.3**/2**, mb1mx3.9**/10**, MS4.5**/1**, Ms1 4.5**/1**, ms1mx3.3**/21**, Error ellipse: s-maj=337.0km s-min=61.9km az=141.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RPZ	Rata Peaks	30.75	203	LR	LR	02 40 07.4	
	comp=Z,719nm,18.4s,baz=186,slow=32						
WRA	Warramunga Arr	49.89	257	P	P	02 32 31.2	-2.5
	0.4nm,0.4s,baz=95,slow=7.2,SNR=13						
ASAR	Alice Springs	50.11	252	P	P	02 32 33.9	-1.5
	4.5nm,0.7s,baz=86,slow=8.1,SNR=21						
BRTR	Keskin Array B	146.69	321	PKPbc	PKPbc	02 43 19.6	-0.2
	0.9nm,0.7s,baz=39,slow=1.1,SNR=5.2						

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*IDC **05** 02:44:50.5±3.1, 17.34S×178.64W, h492^{km}±41^{km}, mb3.4/9, mb1 3.6/9, mb1mx3.5/14, Error ellipse: s-maj=74.8km s-min=13.2km az=155.0*

ISC 05 02:44:48.8±4.0**, 17.3S**±0.5×**178.7W**±0.3**, h484**^{km}±48^{km}**, n12, σ0$\overset{s}{.}$51**/13**, mb3.8**/10**, 1C-2D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	Charters Tower	33.29	260	P	P	02 50 47.9	+1.3
	3.3nm,0.5s,mb4.0,baz=85,slow=11,SNR=5.7						
STKA	Stephens Creek	38.68	240	P	P	02 51 31.4	+0.1
	4.7nm,0.7s,mb4.0,baz=79,slow=9.2,SNR=10						
WB2	Warramunga Arr	44.47	259	⇓*i*P	P	02 52 17.2	-0.5
WRA	Warramunga Arr	44.48	259	P	P	02 52 17.4	-0.4
	4.1nm,0.8s,mb3.9,baz=94,slow=7.3,SNR=67						
WRA				S	S	02 58 17.8	+0.5
	0.2nm,0.4s,baz=83,slow=15,SNR=7.7						
ASAR	Alice Springs	44.70	254	P	P	02 52 19.5	+0.1
	16nm,0.6s,mb4.7,baz=88,slow=8.5,SNR=294						
ASPA	Alice Springs	44.70	254	⇓*i*P	P	02 52 19.1	-0.4
KAKA	Kakadu	47.38	269	⇑*i*P	P	02 52 40.3	+0.2
	5.8nm,0.5s,mb4.3						
FITZ	Fitzroy Crossi	52.87	260	P	P	02 53 19.9	-0.8
	2.3nm,0.8s,mb3.5,baz=121,slow=9.3,SNR=6.7						
YBH	Yreka Blue Hor	78.25	39	P	P	02 55 59.0	0.0
	1.5nm,0.6s,mb3.6,baz=225,slow=2.9,SNR=3.5						
ILAR	Eielson Array	85.39	13	P	P	02 56 34.6	-0.1
	0.3nm,0.6s,mb3.1,baz=220,slow=6.1,SNR=5.3						
TXAR	Lajitas Array	85.91	58	P	P	02 56 38.5	+0.5
	1.3nm,0.8s,mb3.6,baz=218,slow=5.6,SNR=16						
PDAR	Pinedale Array	87.12	44	P	P	02 56 43.3	-0.2
	0.6nm,0.7s,mb3.5,baz=191,slow=2.3,SNR=5.6						

TAP 05 02:54:57.1, 24.98N×122.20E, h138^{km}, ML3.5, Taiwan region

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*GUC **05** 02:57:15.9±1.0, 31.40S×69.17W, h149^{km}±20^{km}, MD3.9, ML4.1*

*IDC **05** 02:57:16.9±1.0, 31.47S×68.86W, h115^{km}±7^{km}, mb3.7/5, mb1 3.9/7, mb1mx3.8/11, Error ellipse: s-maj=25.0km s-min=20.2km az=150.0*

*NEIC **05** 02:57:16.4±0.4, 31.40S×68.91W, h110^{km}±4^{km}, mb4.5/3, MD3.9(GUC), Error ellipse: s-maj=7.7km s-min=4.7km az=88.0*

ISC 05 02:57:15.6±0.4**, 31.37S**±0.03×**68.90W**±0.05**, h110**^{km}±5^{km}**, n45, σ0$\overset{s}{.}$90**/55**, mb3.9**/7**, 12C-5D, San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MDZ	Mendoza	1.51	178	*i* P	P	02 57 43.9	+0.9
MDZ				*i* S	S	02 58 04.6	+1.0
CMCH	Combarbala	1.81	276	⇓*i*P	P	02 57 47.2	+0.5
CMCH				*i* S	S	02 58 10.5	+0.6
JACH	Jahuel	1.95	227	⇓*i*P	P	02 57 48.8	+0.4
JACH				*e*S	S	02 58 12.2	-0.7
ILCH	Illapel	1.96	262	⇓*i*P	P	02 57 48.3	-0.2
ILCH				*i* S	S	02 58 12.2	-1.0
ILCH				AMP		02 58 13.0	
	comp=N,4µm,0.3s						
TLL	Tololo Astrono	2.03	306	⇑*i*P	P	02 57 50.8	+1.3
TLL				*i* S	S	02 58 16.5	+1.6
TLL				AMP		02 58 18.6	
	comp=N,3µm,0.3s						
OVCH	Ovalle	2.12	290	⇑*i*P	P	02 57 50.7	0.0
OVCH				*i* S	S	02 58 16.2	-0.7
OVCH				AMP		02 58 18.3	
	comp=E,2µm,0.4s						
FCH	Farellones	2.28	211	*i* P	P	02 57 53.8	+1.0
FCH				*i* S	S	02 58 22.6	+1.8
FCH				AMP		02 58 28.9	
	comp=E,682nm,0.2s						
PEL	Peldehue	2.33	220	*e*P	P	02 57 53.2	-0.3
PEL				*e*S	S	02 58 21.6	-0.4
PEL				AMP		02 58 22.5	
	comp=N,1µm,0.4s						
CLCH	Cerro Calan	2.45	214	⇑*i*P	P	02 57 55.2	0.0
CLCH				*i* S	S	02 58 25.4	+0.5
CLCH				AMP		02 58 33.5	
	comp=E,739nm,0.3s						
CLCH				AMP		02 58 34.3	
	comp=E,1µm,0.5s						
DSCH	Colegio Aleman	2.47	214	⇑*i*P	P	02 57 55.5	+0.2
DSCH				*i* S	S	02 58 25.4	+0.1
DSCH				AMP		02 58 30.4	
	comp=N,850nm,0.3s						
LSCH	La Serena	2.49	305	⇑*i*P	P	02 57 55.5	-0.2
LSCH				*i* S	S	02 58 24.4	-1.5
LSCH				AMP		02 58 25.2	
	comp=E,3µm,0.3s						
FSR	Penalolen	2.52	213	*e*P	P	02 57 55.9	-0.1
FSR				*i* S	S	02 58 26.8	+0.3
FSR				AMP		02 58 34.5	
	comp=N,641nm,0.5s						
SJCH	San Jose de Ma	2.58	208	*e*P	P	02 57 57.0	+0.2
SJCH				*e*S	S	02 58 27.6	-0.4
SJCH				AMP		02 58 34.1	
	comp=E,204nm,0.5s						
ANTU	Antumapu	2.64	213	*e*P	P	02 57 56.7	-1.0
ANTU				*i* S	S	02 58 28.9	-0.5
ANTU				AMP		02 58 30.4	
	comp=E,626nm,0.3s						
LMEL	Las Melosas	2.71	204	*e*P	P	02 57 59.0	+0.4
LMEL				AMP		02 58 37.7	
	comp=N,276nm,0.3s						
TACH	Talagante	2.86	217	⇑*i*P	P	02 57 59.5	-1.2
CHCH	Chadas Angostu	2.96	210	⇓*i*P	P	02 58 01.5	-0.5
LCCH	Las Cruces	3.09	226	*e*P	P	02 58 02.1	-1.6
CACH	El Canelo	3.10	207	⇑*i*P	P	02 58 03.9	+0.1
CICH	Cipreses	3.21	203	⇑*i*P	P	02 58 05.6	+0.2
VACH	Vallenar	3.22	329	*i* P	P	02 57 57.6	-7.9
VACH				*i* S	S	02 58 34.7	-8.6
CPCH	Copiapo	4.19	342	⇑*i*P	P	02 58 18.7	0.0
CPCH				*i* S	S	02 59 06.4	-0.6
LVC	Limon Verde	8.72	360	*e*P	P	02 59 19.3	-0.9
	comp=N,5.7nm,0.3s						
TRQA	Tornquist	8.77	141	⇑*e*Pn	P	02 59 19.5	-1.4
	comp=N,39nm,0.7s						
CPUP	Villa Florida	11.31	67	P	P	02 59 53.8	-1.1
	comp=N,0.5nm,0.3s,baz=261,slow=12,SNR=11						
CPUP				S	S	03 01 58.9	-0.7
	comp=N,0.6nm,0.3s,baz=231,slow=14,SNR=2.3						
LPAZ	La Paz	15.03	3	P	P	03 00 46.0	+2.7
	comp=N,0.8nm,0.3s,baz=178,slow=8.8,SNR=8.7						
SAML	Samuel	22.93	15	*e*P	P	03 02 12.0	+1.2
BDFB	Brasilia	24.66	55	P	P	03 02 28.3	+0.8
	comp=N,2.2nm,1.0s,mb3.6,baz=212,slow=15,SNR=1.8						
BDFB				pP		03 02 50.7	
	comp=N,2.0nm,0.6s,baz=177,slow=5.9,SNR=3.3						
VNA1	Neumayer--Stat	51.09	158	⇑*i*	P	03 06 10.3	+2.0
VNA2	Neumayer--Watz	51.44	158	⇓*i*	P	03 06 12.2	+1.2
SNAA	Sanae	53.05	159	⇑*i*	P	03 06 21.3	-1.7
QSPA	South Pole Qui	58.87	180	*e*P	P	03 07 03.3	-1.1
	comp=N,4.8nm,0.8s,mb4.6						
TXAR	Lajitas Array	68.83	328	P	P	03 08 09.7	-0.5
	comp=N,0.5nm,0.7s,mb3.5,baz=155,slow=9.4,SNR=7.8						
DBIC	Dimbokro	71.81	70	P	P	03 08 28.0	-0.4
	comp=N,3.9nm,0.6s,mb4.4,baz=175,slow=3.8,SNR=7.4						
MAW	Mawson	74.93	163	P	P	03 08 44.8	-0.6
	comp=N,3.0nm,0.7s,mb4.1,baz=278,slow=7.1,SNR=5.4						
BW06	Boulder Array	82.68	331	P	P	03 09 28.4	+0.4
	comp=N,0.9nm,0.8s,mb3.6						
PDAR	Pinedale Array	82.68	331	P	P	03 09 28.2	+0.2
	comp=N,0.4nm,0.5s,mb3.5,baz=117,slow=6.6,SNR=5.7						
MCMT	McKenzie Canyo	85.74	330	*e*P	P	03 09 44.2	+1.0
ASAR	Alice Springs	121.08	205	PKP	PKPdf	03 15 55.0	-0.7
	comp=N,0.7nm,1.1s,baz=139,slow=1.6,SNR=3.0						
WRA	Warramunga Arr	124.32	207	PKP	PKPdf	03 16 01.5	-0.4
	comp=N,0.2nm,0.4s,baz=166,slow=1.7,SNR=8.5						
WRA				pPKP		03 16 33.4	
	comp=N,0.5nm,0.9s,baz=157,slow=1.7,SNR=1.9						
AAK	Ala-Archa	148.90	58	*e*PKPbc	PKPdf	03 16 51.0	+5.1
ZAL	Zalesovo	150.59	32	PKPbc	PKPdf	03 16 54.2	+6.0
	comp=N,3.5nm,0.4s,baz=22,slow=1.6,SNR=7.1						
MKAR	Makanchi Array	153.04	47	PKPbc	PKPdf	03 17 00.1	+8.1
	comp=N,1.3nm,0.7s,baz=310,slow=1.8,SNR=8.8						
MKAR				PKPab	PKPab	03 17 13.0	-0.7
	comp=N,2.2nm,0.9s,baz=289,slow=3.5,SNR=8.6						
MKAR				pPKPbc		03 17 32.8	
	comp=N,0.7nm,0.8s,SNR=3.0						
MKAR				pPKPab		03 17 43.2	
	comp=N,1.2nm,0.8s,baz=252,slow=3.8,SNR=5.7						
MKAR	Makanchi Array	153.04	47	PKPbc	PKPdf	03 17 00.1	+8.1
MKAR				PKPab	PKPab	03 17 13.0	-0.7
MKAR				pPKPbc		03 17 32.8	
MKAR				pPKPab		03 17 43.2	
SONM	Songino Array	163.16	11	PKPab	PKPab	03 17 56.6	-0.6
	comp=N,0.6nm,0.9s,baz=342,slow=3.9,SNR=4.1						

IDC 05 03:18:30.4±2.2**, 6.89S×129.19E, mb3.5**/1**, mb1 3.7**/3**, mb1mx3.5**/10**, ML3.5**/2**, Error ellipse: s-maj=142.0km s-min=31.8km az=67.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	13.90	159	Pn	P	03 21 48.5	-2.8
	0.3nm,0.3s,baz=341,slow=14,SNR=19						
WRA				Sn	S	03 24 11.9	-16
	0.5nm,0.3s,baz=335,slow=22,SNR=8.7						
ASAR	Alice Springs	17.28	165	P	P	03 22 33.8	-1.1
	0.2nm,0.3s,baz=349,slow=14,SNR=14						
ASAR				S	S	03 25 33.6	-13
	0.1nm,0.3s,baz=344,slow=26,SNR=7.9						
MKAR	Makanchi Array	67.70	327	P	P	03 29 29.7	-2.1
	0.2nm,0.4s,baz=117,slow=7.9,SNR=5.3						

IDC 05 03:20:14.1±13.0**, 24.48S×68.68E, mb3.7**/3**, mb1 3.9**/3**, mb1mx3.5**/16**, Error ellipse: s-maj=435.0km s-min=40.6km az=52.0, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	Alice Springs	59.03	104	P	P	03 30 16.2	-2.2
	0.5nm,0.6s,baz=255,slow=6.2,SNR=9.4						
WRA	Warramunga Arr	60.46	100	P	P	03 30 26.0	-2.2
	0.6nm,0.8s,baz=254,slow=6.8,SNR=5.6						
MKAR	Makanchi Array	72.00	10	P	P	03 31 39.6	-2.0
	0.6nm,0.6s,baz=194,slow=5.0,SNR=6.2						

OTT 05 04:30:30.3±1.7**, 73.43N×83.70W, h18^{km}, MN2.2**/3**, 52km northeast from Nanisivik, Nu Eastern Arctic Background Seismic Zone., Baffin Island region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PINU	Pond Inlet	1.83	111	PN	Pn	04 30 58.5	-2.8
PINU				SG	Sn	04 31 26.4	+2.2
RES	Resolute Bay	3.34	298	PN	Pn	04 31 21.4	-1.4
RES				SN	Sn	04 31 57.8	-4.6
RES				SG	Sn	04 32 08.8	+6.4
RES				Trac		04 32 14.2	
	comp=Z,2.3nm,0.3s						
IGL	Igloolik	4.12	171	PN	Pn	04 31 35.1	+1.2
IGL				SN	Sn	04 32 19.1	-3.1
IGL				SG	Sn	04 32 35.1	+13
IGL				Trac		04 32 36.7	
	comp=Z,4.7nm,0.2s						
IGLN	Igloolik	4.13	171	PN	Pn	04 31 35.1	+1.1
IGLN				SN	Sn	04 32 19.4	-3.0
IGLN				SG	Sn	04 32 34.4	+12
IGLN				Trac		04 32 35.5	
	comp=Z,1.6nm,0.4s						
QILN	Qililugaq Expl	6.87	189	PN	Pn	04 32 12.1	-0.7
QILN				SN	Sn	04 33 16.3	-15
QILN				LG		04 33 54.7	
FRB	Frobisher Bay	11.13	143	PN	P	04 33 06.5	-5.0

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*IDC **05** 04:32:14.3±2.9, 8.59S×112.08E, mb3.3/3, mb1 3.5/3, mb1mx3.3/13, MS3.2/1, Ms1 3.2/1, ms1mx2.7/5, Error ellipse: s-maj=168.0km s-min=26.5km az=48.0*

*DJA **05** 04:32:19.1±1.0, 9.43S×111.66E, h160^{km}, MD4.8/3, ML4.5/3, Error ellipse: s-maj=55.9km s-min=22.2km az=165.0*

ISC 05 04:32:23.9±3.4**, 8.9S**±0.3×**111.8E**±0.2**, h105**^{km}±31^{km}**, n7, σ0$\overset{s}{.}$60**/10**, mb3.1**/3**, 5C-2D, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KELI	Kelakatan	2.71	76	⇓*e*Pn	P	04 33 07.9	+1.1
	151nm,0.3s						
KELI				⇑*e*Sn	S	04 33 44.4	+5.4
RATI	Rata	3.66	88	⇓*e*Pn	P	04 33 19.2	-0.5
	181nm,0.2s						
RATI				⇑*e*Sn	S	04 34 02.7	+0.5
KEDI	Kedomdong	4.25	85	⇑*e*Pn	P	04 33 26.6	-1.2
	62nm,0.2s						
KEDI	Kedomdong	4.25	85	⇑*e*P	P	04 33 27.0	-0.8
KEDI				⇑*e*Sn	S	04 34 16.3	-0.3
WRA	Warramunga Arr	24.39	119	P	P	04 37 33.7	0.0
	0.2nm,0.4s,mb2.8,baz=294,slow=11,SNR=7.0						
WRA				LR	LR	04 48 25.2	
	comp=Z,53nm,18.3s,baz=255,slow=40						
ASAR	Alice Springs	25.74	127	P	P	04 37 46.8	+0.3
	0.4nm,0.5s,mb3.1,baz=302,slow=9.3,SNR=7.8						
MKAR	Makanchi Array	61.35	337	P	P	04 42 30.9	0.0
	0.2nm,0.3s,mb3.6,baz=160,slow=8.0,SNR=6.9						

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*NEIC **05** 04:33:28.8, 16.59N×96.70W, h27^{km}, MD3.9(MEX), After MEX.*

MEX 05 04:33:28.8±0.9**, 16.59N×96.70W, h27**^{km}±14^{km}**, MD3.9, 1D, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VHO	Vista Hermosa	0.48	357	⇓*i*P	Pb	04 33 36.7	-2.1
VHO				*i* S	Sb	04 33 44.5	-1.0
HUIG	Huatulco	1.00	145	*i* P	Pn	04 33 44.4	-2.8
HUIG				*e*S	Sb	04 33 57.2	-2.9
PNIG	Pinotepa	1.38	262	*e*P	Pn	04 33 50.4	-2.2
PNIG				*e*S	Sn	04 34 06.3	-3.9
EVV	El Vigia	2.26	35	*e*P	Pn	04 34 03.0	-2.3
EVV				*e*S	Sn	04 34 30.0	-2.6
IISM	Ciudad Serdan	2.47	345	*e*P	Pn	04 34 05.0	-3.2
IISM				*e*S	Sn	04 34 38.0	+0.2
PPM	Popocatepetl	3.07	324	*e*P	Pn	04 34 12.0	-4.8
PPM				*e*S	Sn	04 34 55.0	+2.0

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*LDG **05** 04:36:51.6±0.1, 45.98N×2.80E, h9^{km}, Md1.9/2, Ml1.9/6, Error ellipse: s-maj=2.0km s-min=0.9km az=122.0*

*STR **05** 04:36:51.9±0.3, 45.95N×2.87E, h5^{km}±1^{km}, Ml1.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 05 04:36:50.2±0.5**, 45.98N**±0.02×**2.82E**±0.04**, h15**^{km}±7^{km}**, n11, σ0$\overset{s}{.}$51**/24**, France**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AGO	Saint Agoulin	0.23	71	Pg	Pg	04 36 56.2	+0.7
AGO				Sg	Sg	04 36 59.6	+0.5
PYM	Petit Puy Mans	0.26	149	Pg	Pg	04 36 56.4	+0.3
PYM				Sg	Sg	04 37 00.0	0.0
TCF	Toulx Ste Croi	0.52	307	*e*Pg	Pg	04 37 01.4	+0.4
TCF				*e*Sg	Sg	04 37 08.4	+0.2
	2.2nm,0.2s						
BGF	Bois d’Agland	0.58	2	*e*Pg	Pg	04 37 02.9	+0.8
BGF				*e*Sg	Sg	04 37 10.0	-0.1
	3.8nm,0.3s						
LBL	Lubilhac	0.80	158	Pg	Pg	04 37 06.5	0.0
LBL				Sg	Sg	04 37 16.8	-0.5
AVF	Avril sur Loir	0.90	24	*e*Pg	Pg	04 37 08.4	+0.1
AVF				*e*Pn	Pn	04 37 08.9	+0.8
AVF				*e*Sg	Sg	04 37 20.1	-0.2
	2.8nm,0.2s						
SMF	Signal de Mont	0.98	46	*e*Pg	Pg	04 37 10.1	+0.2
SMF				*e*Sg	Sg	04 37 23.4	+0.4
	2.7nm,0.3s						
RJF	Les Rejaudoux	1.13	234	*e*Pg	Pg	04 37 12.5	-0.5
RJF				*e*Sg	Sg	04 37 28.1	-0.1
	0.9nm,0.2s						
CAF	Calviac	1.18	207	*e*Pn	Pn	04 37 12.4	+0.2
CAF				*e*Pg	Pg	04 37 13.6	-0.2
CAF				*e*Sg	Sg	04 37 29.3	-0.3
	3.2nm,0.2s						
SSF	Saint Saulge	1.19	23	*e*Pg	Pg	04 37 13.7	-0.3
SSF				*e*Sg	Sg	04 37 29.3	-0.6
	2.1nm,0.2s						
LOR	Lormes	1.48	29	*e*Pg	Pg	04 37 19.2	-0.6
LOR				*e*Sg	Sg	04 37 38.1	-1.5
	2.5nm,0.2s						

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*NEIC **05** 04:42:01.9, 36.39N×9.06W, MN2.9(MDD), After MDD.*

*MDD **05** 04:42:02.2±1.4, 36.25N×9.26W, h30^{km}, mbLg2.9/14, Error ellipse: s-maj=13.0km s-min=7.9km az=44.0, PRXIMO*

INMG 05 04:42:02.8±1.1**, 36.29N×9.22W, h21**^{km}±18^{km}**, ML2.5, 5C, Error ellipse: s-maj=17.3km s-min=3.2km az=47.0, West of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PTEO	Sao Teotonio	1.31	17	*i* P	Pn	04 42 24.3	-1.9
PTEO				*e*S	Sb	04 42 40.6	-2.5
	44nm,0.2s						
PTEO	Sao Teotonio	1.31	17	⇑P	Pn	04 42 24.3	-1.9
PTEO				S	Sb	04 42 40.6	-2.5
	22nm,0.2s						
PALC	Alcoutim	1.82	49	*e*Pn	Pn	04 42 31.8	-1.7
PALC				*e*Sn	Sn	04 42 52.8	-3.4
	70nm,0.2s						
PALC	Alcoutim	1.82	49	Pn	Pn	04 42 31.8	-1.7
PALC				Sn	Sn	04 42 52.8	-3.4
	35nm,0.2s						
EGRO	El Granado	1.86	48	⇑P	Pn	04 42 32.1	-2.0
	3.7nm,0.1s,SNR=18						
EGRO				S	Sn	04 42 53.7	-3.6
	40nm,0.1s,SNR=7.9						
EGRO	El Granado	1.86	48	⇑Pn	Pn	04 42 32.1	-2.0
EGRO				Sn	Sn	04 42 53.6	-3.6
ERIP	Rio Piedras	1.91	55	P	Pn	04 42 32.7	-2.0
	2.4nm,0.1s,SNR=7.9						
ERIP				S	Sn	04 42 54.6	-3.8
	40nm,0.1s,SNR=7.9						
PBEJ	Beja	2.04	32	*i* Pn	Pn	04 42 34.1	-2.6
PBEJ				*e*Sn	Sn	04 42 57.6	-4.2
	24nm,0.2s						
PBEJ	Beja	2.04	32	⇑Pn	Pn	04 42 34.1	-2.6
PBEJ				Sn	Sn	04 42 57.6	-4.2
	12nm,0.2s						
MOE	Montemor	2.33	17	*e*Pn	Pn	04 42 38.5	-2.3
MOE				*e*Sn	Sn	04 43 05.5	-3.7
INMG	Instituto de M	2.48	2	*e*Sn	Sn	04 43 08.4	-4.5
EMIN	Mina Concepcio	2.52	53	P	Pn	04 42 40.9	-2.6
	0.7nm,0.1s,SNR=14						
EMIN				S	Sn	04 43 08.6	-5.2
	8.2nm,0.2s,SNR=7.9						
PLOU	Loures	2.59	1	*e*Pn	Pn	04 42 41.8	-2.7
PLOU				*e*Sn	Sn	04 43 11.3	-4.4
	34nm,0.1s						
PLOU	Loures	2.59	1	Pn	Pn	04 42 41.8	-2.7
PLOU				Sn	Sn	04 43 11.3	-4.4
	17nm,0.1s						
ESPR	Espera	2.77	77	⇑P	Pn	04 42 44.3	-2.7
	9.4nm,0.2s,SNR=18						
ESPR				S	Sn	04 43 14.7	-5.5
	76nm,0.3s,SNR=8.3						
EBAD	Badajoz	3.02	35	P	Pn	04 42 47.3	-3.3
	2.0nm,0.1s,SNR=18						
EBAD				S	Sn	04 43 21.3	-5.3
	12nm,0.1s,SNR=7.9						
PTOM	Tomar	3.38	11	*e*Pn	Pn	04 42 52.9	-2.9
PTOM				*e*Sn	Sn	04 43 30.1	-5.7
	12nm,0.1s						
PTOM	Tomar	3.38	11	Pn	Pn	04 42 52.9	-2.9

PTOM				Sn	Sn	04 43 30.1	-5.7
	5.9nm,0.1s						
EMIJ	**Mijas**	**3.60**	**84**	P	Pn	04 42 54.9	-3.8
	0.7nm,0.1s,SNR=7.9						
EMIJ				S	Sn	04 43 34.2	-6.9
	3.7nm,0.4s,SNR=7.9						
PCBR	**Castelo Branco**	**3.80**	**21**	*e*Pn	Pn	04 42 58.4	-3.3
PCBR				*e*Sn	Sn	04 43 40.1	-6.2
	7.6nm,0.2s						
PCBR	**Castelo Branco**	**3.80**	**21**	Pn	Pn	04 42 58.4	-3.3
PCBR				Sn	Sn	04 43 40.1	-6.2
	3.8nm,0.2s						
EADA	**Adamuz**	**4.15**	**62**	P	Pn	04 43 03.2	-3.5
	1.6nm,0.1s,SNR=25						
EADA				S	Sn	04 43 48.3	-7.0
	10nm,0.1s,SNR=16						
ELOJ	**Sierra Loja**	**4.16**	**77**	P	Pn	04 43 04.5	-2.3
	0.4nm,0.1s,SNR=7.9						
ELOJ				S	Sn	04 43 49.2	-6.2
	0.8nm,0.2s,SNR=7.9						
ELUQ	**Luque**	**4.17**	**71**	P	Pn	04 43 02.7	-4.2
	0.3nm,0.1s,SNR=7.9						
ELUQ				S	Sn	04 43 48.8	-6.8
	1.5nm,0.1s,SNR=7.4						
MTE	**Manteigas**	**4.31**	**17**	*e*Pn	Pn	04 43 05.1	-3.8
MTE				*e*Sn	Sn	04 43 52.0	-7.2
	4.8nm,0.2s						
MTE	**Manteigas**	**4.31**	**17**	Pn	Pn	04 43 05.1	-3.8
MTE				Sn	Sn	04 43 52.0	-7.2
	2.4nm,0.2s						
PVIS	**Viseu**	**4.54**	**13**	*e*Pn	Pn	04 43 08.4	-3.8
PVIS				*e*Sn	Sn	04 43 57.5	-7.5
	4.6nm,0.1s						
PVIS	**Viseu**	**4.54**	**13**	Pn	Pn	04 43 08.4	-3.8
PVIS				Sn	Sn	04 43 57.5	-7.5
	2.3nm,0.1s						
EQES	**Quesada**	**5.14**	**71**	P	Pn	04 43 17.6	-3.1
	0.3nm,0.1s,SNR=7.9						
EQES				S	Sn	04 44 10.8	-9.5
	0.8nm,0.2s,SNR=7.9						
ESDC	**Sonseca Array**	**5.35**	**49**	P	Pn	04 43 19.7	-3.9
	0.1nm,0.2s,baz=237,slow=13,SNR=6.6						
ESDC				S	Sn	04 44 17.7	-7.8
	1.8nm,0.2s,baz=238,slow=24,SNR=34						
ELOB	**Lobios**	**5.64**	**9**	P	Pn	04 43 23.2	-4.5
	0.8nm,0.1s,SNR=7.9						
ELOB				S	Sn	04 44 22.4	-10
	SNR=7.9						
PBRG	**Braganca**	**5.83**	**19**	*e*Pn	Pn	04 43 26.1	-4.4
PBRG				*e*Sn	Sn	04 44 28.1	-9.4
	1.9nm,0.2s						
PBRG	**Braganca**	**5.83**	**19**	Pn	Pn	04 43 26.1	-4.4
PBRG				Sn	Sn	04 44 28.1	-9.4
	0.9nm,0.2s						
ECAL	**Calabor**	**5.96**	**18**	P	Pn	04 43 27.9	-4.3
	0.5nm,0.1s,SNR=7.9						
ECAL				S	Sn	04 44 31.9	-8.9
	5.5nm,0.4s,SNR=7.9						
ETOB	**Tobarra**	**6.54**	**67**	P	Pn	04 43 35.5	-4.9
	0.3nm,0.1s,SNR=6.8						
ETOB				S	Sn	04 44 45.4	-10
	1.5nm,0.1s,SNR=8.9						
EPON	**Pontenova**	**7.21**	**12**	P	Pn	04 43 45.2	-4.5
	5.8nm,0.9s,SNR=7.9						
EPON				S	Sn	04 45 03.1	-8.7
	1.2nm,0.3s,SNR=7.9						
ETOR	**Torete**	**7.21**	**49**	P	Pn	04 43 44.2	-5.5
	2.3nm,0.4s,SNR=4.6						
ETOR				S	Sn	04 45 02.5	-9.4
	2.1nm,0.5s,SNR=7.9						
EBEN	**Beniarda**	**7.54**	**69**	P	Pn	04 43 49.4	-5.1
	SNR=7.9						
EBEN				S	Sn	04 45 09.5	-11
	SNR=7.9						
EMOS	**Mosqueruela**	**7.99**	**57**	P	Pn	04 43 56.4	-4.3
	SNR=7.9						
EMOS				S	Sn	04 45 19.8	-12
	4.3nm,0.7s,SNR=7.9						

*IDC **05** 04:49:23.6±2.9, 23.93S×66.61W, h205^{km}±24^{km}, mb3.7/4, mb1 3.8/7, mb1mx3.6/13, Error ellipse: s-maj=27.8km s-min=17.1km az=39.0*

*NEIC **05** 04:49:23.2±0.9, 23.92S×66.64W, h202^{km}±9^{km}, mb3.8/1, Error ellipse: s-maj=13.6km s-min=10.4km az=220.0*

ISC 05 04:49:22.5±0.8**, 23.93S**±0.07×**66.67W**±0.10**, h209**^{km}±10^{km}**, n18, σ1^{s}06**/18**, mb3.8**/5**, 4C, Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.44**	**302**	⇑*i*Pn	**P**	**04 50 07.2**	**+0.4**
LVC				*e*Sn	**S**	**04 50 40.8**	**-0.2**
LPAZ	**La Paz**	**7.73**	**349**	P	**P**	**04 51 14.5**	**+1.6**
	4.0nm,0.3s,baz=165,slow=6.7,SNR=22						
LPAZ				S	**S**	**04 52 41.0**	**+1.7**
	0.7nm,0.3s,baz=328,slow=13,SNR=3.4						
ARE	**Arequipa**	**8.70**	**328**	*e*P	**P**	**04 51 25.0**	**-0.6**
ARE				*e*S	**S**	**04 53 00.0**	**-1.9**
CPUP	**Villa Florida**	**8.79**	**108**	P	**P**	**04 51 25.6**	**-1.2**
	0.3nm,0.3s,baz=307,slow=15,SNR=7.4						
SAML	**Samuel**	**15.27**	**13**	*e*Pn	**P**	**04 52 48.2**	**-0.6**
BDFB	**Brasilia**	**19.38**	**68**	P	**P**	**04 53 34.8**	**+0.5**
	1.1nm,0.3s,baz=241,slow=11,SNR=14						
BAO	**Brasilia Array**	**19.40**	**68**	*e*P	**P**	**04 53 35.1**	**+0.5**
RCBR	**Riachuelo**	**34.62**	**64**	P	**P**	**04 55 53.7**	**-0.1**
	1.5nm,0.6s,mb3.7						
VNA1	**Neumayer--Stat**	**57.31**	**160**	⇑*i*	**P**	**04 58 51.9**	**+1.6**
VNA2	**Neumayer--Watz**	**57.68**	**160**	⇑*i*	**P**	**04 58 54.0**	**+1.2**
SNAA	**Sanae**	**59.31**	**161**	⇑*i*	**P**	**04 59 02.8**	**-1.3**
TXAR	**Lajitas Array**	**63.80**	**324**	P	**P**	**04 59 34.6**	**0.0**
	0.2nm,0.5s,mb3.0,baz=149,slow=7.3,SNR=3.9						
DBIC	**Dimbokro**	**67.49**	**71**	P	**P**	**04 59 56.8**	**-1.6**
	1.5nm,0.3s,mb4.0,baz=220,slow=7.4,SNR=8.4						
TSUM	**Tsumeb**	**77.38**	**106**	P	**P**	**05 00 55.8**	**-0.5**
	2.3nm,0.6s,mb4.0,baz=204,slow=3.7,SNR=8.3						
MAW	**Mawson**	**81.41**	**163**	P	**P**	**05 01 17.5**	**+0.6**
	3.2nm,0.5s,mb4.2,baz=235,slow=7.0,SNR=9.1						
ASAR	**Alice Springs**	**128.65**	**204**	PKP	PKPdf	05 08 06.6	+1.2
	0.5nm,0.6s,baz=136,slow=1.4,SNR=9.3						
WRA	**Warramunga Arr**	**131.83**	**207**	PKP	PKPdf	05 08 12.7	+1.2
	0.3nm,0.3s,baz=160,slow=1.8,SNR=13						
MKAR	**Makanchi Array**	**146.28**	**40**	PKPbc	PKPbc	05 08 39.3	+1.2
	2.5nm,0.5s,baz=314,slow=2.6,SNR=27						

*NDI **05** 04:52:43.6±5.0, 34.53N×73.02E, h15^{km}, ML3.3*

ISC 05 04:52:21.2±0.7**, 34.12N**±0.05×**73.24E**±0.07**, h10**^{km}**, n23, σ1^{s}10**/21**, 2C-2D, Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHCP	**Chirah Chowk**	**0.46**	**177**	⇑P	**Pg**	**04 52 31.5**	**+0.9**
CEP	**Cherat**	**1.14**	**255**	⇓P	**Pb**	**04 52 39.9**	**-2.7**
THW	**Thamme Wali**	**1.82**	**224**	P	**Pn**	**04 52 51.8**	**-1.1**
SARP	**Sargodha**	**2.24**	**192**	P	**Pn**	**04 52 59.1**	**+0.1**
SARP				S	**Sn**	**04 53 26.0**	**-1.0**
SBDP	**Sheikh Budin**	**2.73**	**229**	P	**Pn**	**04 53 07.6**	**+1.7**
DRP	**Derazinda**	**3.48**	**228**	P	**Pb**	**04 53 25.5**	**+2.9**
BHK	**Bhakra**	**3.80**	**134**	*e*	Px	04 54 21.1	
SMLA	**Simla**	**4.46**	**131**	⇓*i*P	**Pg**	**04 53 44.5**	**-5.8**
SMLA				*i* S	Sx	04 54 37.6	
KLP	**Kalpa**	**4.95**	**120**	*e*P	Px	04 53 42.1	
KLP				*e*S	Sx	04 54 39.7	
KLP				AML	AML	04 55 08.8	
	comp=E,192nm,0.2s						
KLP				AML	AML	04 55 13.0	
	comp=N,117nm,0.2s						
RTK	**Rohtak**	**5.75**	**151**	*e*	**Pg**	**04 54 09.0**	**-7.0**
RTK				*e*S	Sx	04 55 23.6	
BHGR	**Bahadurgarh**	**6.27**	**149**	*e*P	Px	04 54 21.7	
NDI	**New Delhi**	**6.40**	**147**	*e*	Sx	04 56 08.0	
KHET	**Khetri**	**6.42**	**159**	*e*P	**Pg**	**04 54 24.5**	**-4.8**
KHET				*e*S	Sx	04 55 34.6	
KHET				AML	AML	04 55 49.3	
	comp=N,9.7nm,0.5s						
KHET				AML	AML	04 55 50.0	
	comp=E,12nm,0.5s						
JOSI	**Joshimath**	**6.42**	**122**	*e*P	**Pg**	**04 54 22.0**	**-7.4**
AYAN	**Aya Nagar**	**6.53**	**148**	*e*P	**Pg**	**04 54 26.2**	**-5.5**
KUDL	**Kundal**	**6.58**	**154**	*e*P	**Pg**	**04 54 23.9**	**-8.6**
SONA	**Sohna**	**6.72**	**150**	*e*P	**Pg**	**04 54 26.4**	**-8.9**
SONA				AML	AML	04 55 18.0	
	comp=E,39nm,0.5s						
SONA				AML	AML	04 55 18.7	
	comp=N,17nm,0.5s						
SONA				*i* S	Sx	04 55 40.8	
KK31	**Karatay Array**	**9.22**	**347**	Pn	**P**	**04 54 41.6**	**+4.4**
	comp=N,3.8nm,0.6s,baz=169,slow=12,SNR=66						
KK31				⇑Sn	**Sn**	**04 56 22.1**	**+0.1**
	comp=N,3.8nm,0.6s,baz=174,slow=25,SNR=8.7						
KOLN	**Koldanda**	**10.91**	**123**	*e*P	**P**	**04 55 00.5**	**-0.1**
	comp=N,3.7nm,0.3s						
GKN	**Gorkha**	**11.52**	**119**	*e*P	**P**	**04 55 08.8**	**0.0**
	comp=N,8.8nm,0.3s						
DMN	**Daman**	**12.08**	**119**	*e*P	**P**	**04 55 16.2**	**-0.2**
	comp=N,9.3nm,0.4s						
KKN	**Kakani**	**12.11**	**118**	*e*P	**P**	**04 55 16.8**	**+0.1**
	comp=N,11nm,0.6s						
PKI	**Pulchoki**	**12.32**	**119**	*e*P	**P**	**04 55 19.4**	**-0.3**

*NAO **05** 05:07:50.5±3.3, 67.86N×20.25E, ML1.8*

*HEL **05** 05:07:51.4±0.2, 67.87N×20.13E, ML1.9, ML1.0(UPP), ML1.7(BER), Explosion*

*BER **05** 05:07:53.1±3.0, 67.87N×20.20E, ML1.7, ML1.8(NAO), Suspected explosion*

ISC 05 05:07:49.5±0.5**, 67.77N**±0.03×**20.12E**±0.07**, n21, σ1^{s}22**/31**, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.20**	**23**	*i* P	**Pg**	**05 07 51.9**	**-1.7**
KUA				*i* S	**Sg**	**05 07 55.5**	**-0.7**
NIKU	**Nikkaluokta**	**0.42**	**284**	*i* P	**Pg**	**05 07 58.0**	**0.0**
NIKU				*i* S	**Sg**	**05 08 04.7**	**+1.0**
KIF	**Kilpisjarvi**	**1.27**	**11**	*e*P	**Pb**	**05 08 13.3**	**-0.6**
KIF				*e*S	**Sb**	**05 08 30.4**	**-0.3**
PAJU	**Pajala**	**1.38**	**122**	*e*P	**Pb**	**05 08 16.0**	**+0.3**
PAJU				*e*S	**Sb**	**05 08 35.5**	**+1.7**
KTK1	**Kautokeino**	**1.70**	**41**	*e*P	**Pn**	**05 08 20.8**	**+0.3**
KTK1				*e*SN	**Sn**	**05 08 44.2**	**+0.9**
KTK1				AML	AML	05 08 45.8	
	comp=Z,7.4nm,0.3s						
TRO	**Tromso**	**1.92**	**347**	*e*P	**Pn**	**05 08 23.7**	**-0.1**
TRO				*e*SN	**Sn**	**05 08 50.2**	**+1.1**
TRO				AML	AML	05 08 53.2	
	comp=Z,15nm,0.4s						
SGF	**Sodankyl**	**2.47**	**95**	*e*P	**Pn**	**05 08 32.8**	**+1.2**
SGF				*e*S	**Sn**	**05 09 04.2**	**+1.2**
LOF	**Lofoten**	**2.51**	**281**	*e*	**Sg**	**05 09 13.4**	**+0.4**
LOF	**Lofoten**	**2.51**	**281**	*e*Sg	**Sg**	**05 09 13.4**	**+0.4**
ARA0	**ARCESS Array S**	**2.65**	**45**	*e*P	**Pn**	**05 08 33.0**	**-1.2**
ARA0				*e*SG		05 09 10.8	
ARA0	**ARCESS Array S**	**2.65**	**45**	Pn	**Pn**	**05 08 33.0**	**-1.2**
	baz=229,slow=14						
ARA0				Lg		05 09 10.8	
	baz=226,slow=28						
MOR8	**Moi Rana**	**2.75**	**237**	*e*SG	**Sg**	**05 09 14.5**	**-6.5**
MOR8				AML	AML	05 09 16.6	
	comp=Z,12nm,0.2s						
KEV	**Kevo**	**3.20**	**48**	*e*P	**Pn**	**05 08 42.0**	**0.0**
KEV				*e*S	**Sn**	**05 09 17.7**	**-3.8**
KEV				MSG		05 09 28.3	
	comp=Z,2.9nm,0.3s						
OUL	**Oulu**	**3.55**	**137**	*e*PG	**Pg**	**05 08 57.3**	**-3.1**
OUL				*e*SB	**Sb**	**05 09 39.5**	**+2.4**
OUL				MSG		05 09 44.6	
	comp=Z,2.3nm,0.3s						
MSF	**Maaselka**	**3.98**	**114**	*e*P	**Pn**	**05 08 54.1**	**+1.0**
MSF				*e*S	**Sn**	**05 09 41.1**	**-0.1**
MSF				*e*SG	**Sg**	**05 09 55.6**	**-6.5**
MSF				MSG		05 09 59.4	
	comp=Z,2.3nm,0.3s						
NSS	**Namsos**	**4.64**	**229**	*e*SG	**Sg**	**05 10 18.5**	**-5.4**
FIA0	**FINESS Array S**	**6.84**	**155**	Pn	**Pn**	**05 09 31.8**	**-1.7**
	baz=347,slow=12						
FIA0				Sn	**Sn**	**05 10 50.7**	**-2.5**
	baz=350,slow=28						
FIA0				Lg		05 11 26.2	
	baz=339,slow=37						
FIA0	**FINESS Array S**	**6.84**	**155**	*e*P	**Pn**	**05 09 31.8**	**-1.7**
FIA0				*e*S	**Sn**	**05 10 50.7**	**-2.5**
FIA0				*e*SG		05 11 26.2	
HFS	**Hagfors**	**8.16**	**203**	Lg		05 12 09.7	
	baz=14,slow=37						
HFS	**Hagfors**	**8.16**	**203**	*e*		05 12 09.7	
HFS	**Hagfors**	**8.16**	**203**	Lg		05 12 09.7	
	baz=14,slow=37						

*NEIC **05** 05:42:52.3, 38.48S×174.73E, h17^{km}, ML3.8(WEL), After WEL.*

WEL 05 05:42:52.5±0.1**, 38.49S×174.74E, h16**^{km}±1^{km}**, ML3.8**/6**, Error ellipse: s-maj=0.6km s-min=0.5km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HIZ	**Hauiti**	**0.10**	**106**	P*	Pb	05 42 55.7	-0.1
HIZ				S*	Sb	05 42 58.1	0.0
VRZ	**Vera Road**	**0.64**	**179**	P*	Pb	05 43 04.3	-0.5
VRZ				S*	Sb	05 43 13.7	+0.6
VRZ	**Vera Road**	**0.64**	**179**	P	Pb	05 43 04.4	-0.3
VRZ				S	Sb	05 43 13.6	+0.5
TWVZ	**Taurewa**	**0.80**	**137**	P*	Pb	05 43 06.9	-0.5
TWVZ				S*	Sb	05 43 18.0	+0.1
MGZ	**Maungaku**	**0.81**	**130**	P*	Pb	05 43 07.4	-0.2
MGZ				S*	Sb	05 43 18.7	+0.6
MGZ	**Maungaku**	**0.81**	**130**	P	Pb	05 43 07.4	-0.3
WATZ	**Wairara**	**0.81**	**106**	P*	Pb	05 43 07.7	+0.1
WATZ				S*	Sb	05 43 19.1	+0.9
WATZ	**Wairara**	**0.81**	**106**	P	Pb	05 43 07.8	+0.1
WATZ				S	Sb	05 43 19.3	+1.2
KATZ	**Kakaramea**	**0.89**	**123**	P*	Pb	05 43 09.0	0.0
KATZ				S*	Sb	05 43 20.5	0.0
KATZ	**Kakaramea**	**0.89**	**123**	P	Pb	05 43 09.0	-0.1
KATZ				S	Sb	05 43 21.4	+0.9
RATZ	**Rangitukua**	**0.89**	**116**	P*	Pb	05 43 09.4	+0.3
RATZ				S*	Sb	05 43 21.0	+0.5
WTVZ	**West Tongariro**	**0.92**	**134**	P*	Pb	05 43 09.0	-0.5
PKE	**Pukeiti**	**0.92**	**219**	P*	Pb	05 43 09.3	-0.3
PKE				S*	Sb	05 43 21.4	+0.2
PKE	**Pukeiti**	**0.92**	**219**	P	Pb	05 43 09.3	-0.2
PKE				S	Sb	05 43 21.6	+0.3
NEZ	**North Egmont**	**0.93**	**212**	P*	Pb	05 43 09.5	-0.2
NEZ				S*	Sb	05 43 22.9	+1.3
NEZ	**North Egmont**	**0.93**	**212**	P	Pb	05 43 09.5	-0.2
KAVZ	**Karewarewa**	**0.94**	**131**	P*	Pb	05 43 09.6	-0.2
KAVZ				S*	Sb	05 43 21.1	-0.7
CNZ	**Chateau**	**0.95**	**139**	P*	Pb	05 43 09.6	-0.5
CNZ				S*	Sb	05 43 22.3	+0.1
WPVZ	**Whakapapa**	**0.95**	**139**	P*	Pb	05 43 09.8	-0.4
WPVZ				S*	Sb	05 43 22.5	+0.2
NGZ	**Ngauruhoe**	**0.96**	**136**	P*	Pb	05 43 09.8	-0.5
NGZ				S*	Sb	05 43 23.0	+0.4
TOZ	**Tahuroa Road**	**0.97**	**39**	P*	Pb	05 43 10.0	-0.4
TOZ				S*	Sb	05 43 22.4	-0.3
TOZ	**Tahuroa Road**	**0.97**	**39**	P	Pb	05 43 10.0	-0.3
FWVZ	**Far West T-bar**	**1.00**	**141**	P*	Pb	05 43 10.3	-0.6
FWVZ				S*	Sb	05 43 23.3	-0.2
FWVZ	**Far West T-bar**	**1.00**	**141**	P	Pb	05 43 10.3	-0.6
DRZ	**Dome Shelter**	**1.02**	**141**	P*	Pb	05 43 11.0	-0.2
NWEZ	**Newall Road**	**1.04**	**221**	P*	Pb	05 43 11.4	-0.2
NWEZ				S*	Sb	05 43 25.5	+0.7
NWEZ	**Newall Road**	**1.04**	**221**	P	Pb	05 43 11.4	-0.2
TUVZ	**Tukino**	**1.06**	**138**	P*	Pb	05 43 11.9	0.0
TUVZ				S*	Sb	05 43 25.8	+0.5
TUVZ	**Tukino**	**1.06**	**138**	P	Pb	05 43 11.9	0.0
WNVZ	**Wahianoa**	**1.07**	**142**	P*	Pb	05 43 11.9	-0.3
WNVZ				S*	Sb	05 43 26.5	+0.8
MOVZ	**Moawhango**	**1.21**	**140**	PN	Pn	05 43 14.0	-0.9
MOVZ				SN	Sn	05 43 29.1	-1.9
WAZ	**Wanganui**	**1.28**	**171**	PN	Pn	05 43 15.2	-0.6
WAZ				SN	Sn	05 43 32.5	-0.2
MKAZ	**Moumakai**	**1.42**	**14**	PN	Pn	05 43 17.0	-0.7
MKAZ				SN	Sn	05 43 35.0	-1.2
OTAZ	**Otara**	**1.54**	**6**	PN	Pn	05 43 18.9	-0.7
WTAZ	**Waiatarua**	**1.56**	**355**	PN	Pn	05 43 19.3	-0.5
KAAZ	**Kauri Point**	**1.66**	**359**	PN	Pn	05 43 21.2	-0.1
TSZ	**Takapari Road**	**1.83**	**149**	SN	Sn	05 43 47.7	+0.9
KUZ	**Kuaotunu**	**1.90**	**24**	PN	Pn	05 43 22.7	-2.1
MRZ	**Mangatainoka R**	**2.27**	**164**	PN	Pn	05 43 30.1	+0.2
KIW	**Kapiti Island**	**2.38**	**177**	PN	Pn	05 43 31.9	+0.4
BFZ	**Birch Farm**	**2.48**	**152**	PN	Pn	05 43 34.3	+1.3
WCZ	**Waipu Caves**	**2.56**	**353**	*e*PN	Pn	05 43 32.1	-2.0
CAW	**Cannon Point**	**2.63**	**175**	*e*PN	Pn	05 43 35.8	+0.7
MTW	**Mount Morrison**	**2.73**	**168**	PN	Pn	05 43 37.5	+0.9
MRW	**Makara Radio**	**2.74**	**181**	*e*PN	Pn	05 43 37.0	+0.3
MRW				SN	Sn	05 44 08.1	-1.6
SNZO	**South Karori**	**2.82**	**181**	*e*Pn	Pn	05 43 38.0	+0.1
SNZO				*e*Sn	Sn	05 44 05.7	-6.1
QRZ	**Quartz Range**	**2.89**	**215**	PN	Pn	05 43 36.7	-2.2
NNZ	**Nelson**	**2.92**	**201**	PN	Pn	05 43 37.7	-1.6
NNZ				SN	Sn	05 44 11.8	-2.6
TUWZ	**Tuamarina**	**3.00**	**191**	PN	Pn	05 43 39.2	-1.2
THZ	**Tophouse**	**3.56**	**203**	PN	Pn	05 43 46.8	-1.6
THZ				SN	Sn	05 44 28.6	-2.0
KHZ	**Kahutara**	**4.03**	**193**	PN	Pn	05 43 54.4	-0.6
LTZ	**Lake Taylor**	**4.68**	**203**	PN	Pn	05 44 02.6	-1.7

OTT 05 05:59:00.1±3.6**, 66.36N×61.68W, h18**^{km}**, MN2.4**/3**, 170km southeast from Qikiqtarjuaq, Nu, Baffin Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FRB	**Frobisher Bay**	**3.92**	**231**	PN	Pn	05 59 57.0	-3.9
FRB				SN	Sn	06 00 44.1	-2.8
FRB				LG		06 01 00.8	
FRB				Trac		06 01 11.0	
	comp=Z,3.7nm,0.2s						
IGL	**Igloolik**	**8.16**	**301**	PN	P	06 00 56.1	-4.6
IGL				SG	Sn	06 03 11.6	+38
IGL				Trac		06 03 18.7	
	comp=Z,0.8nm,0.3s						
IGLN	**Igloolik**	**8.16**	**301**	PN	P	06 00 58.1	-2.6
IGLN				SN	Sn	06 02 22.9	-10
IGLN				Trac		06 03 02.0	
	comp=Z,1.8nm,0.5s						
IGLN				LG		06 03 09.4	
KUQ	**Kuujjuuaa**	**8.85**	**204**	PN	P	06 00 15.6	-55
KUQ				SN	Sn	06 01 54.3	-56
QILN	**Qililugaq Expl**	**9.84**	**283**	SN	Sn	06 03 01.8	-13
QILN				LG		06 04 03.8	
SCHQ	**Schefferville**	**11.84**	**195**	SN	S	06 03 53.0	-11

*IDC **05** 06:03:34.4±2.4, 11.80N×86.06W, mb4.0/2, mb1 4.2/2, mb1mx3.7/14, Error ellipse: s-maj=60.1km s-min=53.3km az=92.0*

*NEIC **05** 06:03:54.4±1.5, 12.16N×86.20W, h154^{km}±18^{km}, mb3.7/1, Error ellipse: s-maj=44.8km s-min=22.3km az=72.0*

*CASC **05** 06:03:56.3±2.8, 11.44N×87.06W, h30^{km}±9^{km}, MD4.0, ML4.1, mb3.7(NEIC)*

ISC 05 06:03:54.1±0.6**, 12.1N**±0.2×**86.6W**±0.2**, h146**^{km}±5^{km}**, n32, σ1^{s}04**/42**, mb3.8**/3**, 11C-5D, Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.08**	**342**	⇓*i*P	**P**	**06 04 13.7**	**-0.3**
COPN				*e*S	**S**	**06 04 27.5**	**-1.6**
XAVN	**Gruta Xavier**	**0.24**	**79**	⇑*e*P	**P**	**06 04 14.1**	**-0.3**
APYN	**Apoyeque**	**0.25**	**59**	⇑*e*P	**P**	**06 04 13.9**	**-0.5**
CRUN	**El Crucero**	**0.29**	**115**	⇓*i*P	**P**	**06 04 14.5**	**-0.1**
MOMJ	**Momotombo**	**0.30**	**5**	⇑*e*P	**P**	**06 04 14.2**	**-0.4**
MGAN	**Managua**	**0.32**	**82**	⇑*e*P	**P**	**06 04 14.2**	**-0.4**
MGAN				*e*S	**S**	**06 04 29.2**	**-1.2**
MGAN				*i*		06 04 29.7	
	comp=N,888nm,0.4s						
TICN	**Ticuantepe**	**0.34**	**102**	⇑*e*P	**P**	**06 04 14.4**	**-0.3**
TICN				*e*S	**S**	**06 04 32.4**	**+1.8**
MIRN	**Miramar**	**0.36**	**337**	⇓*i*P	**P**	**06 04 14.8**	**-0.1**
WILN	**Americas 2**	**0.38**	**81**	⇑*e*P	**P**	**06 04 14.5**	**-0.4**
WILN				*e*S	**S**	**06 04 30.8**	**0.0**
CNGN	**Cerro Negro**	**0.41**	**342**	⇑*i*P	**P**	**06 04 14.8**	**-0.2**
CNGN				*e*S	**S**	**06 04 33.6**	**+2.4**
MASN	**Masaya**	**0.42**	**106**	⇓*e*P	**P**	**06 04 15.6**	**+0.5**
LEON	**Leon**	**0.45**	**314**	⇑*i*P	**P**	**06 04 14.9**	**-0.3**
TELN	**Telica**	**0.56**	**333**	*e*P	**P**	**06 04 14.8**	**-1.0**
CRIN	**San Cristobal**	**0.76**	**321**	⇑*e*P	**P**	**06 04 17.3**	**+0.4**
CRIN				*e*S	**S**	**06 04 37.0**	**+2.5**
CONN	**Concepcion**	**1.07**	**120**	⇓*i*P	**P**	**06 04 18.9**	**-0.3**
CONN				*e*S	**S**	**06 04 38.6**	**0.0**
JTS	**JuntasAbangare**	**2.40**	**139**	⇑*e*Pn	**P**	**06 04 32.4**	**-1.9**
JTS				*e*Sn	**S**	**06 04 54.9**	**-10**
JCR	**Jicaral**	**2.66**	**147**	*e*P	**P**	**06 04 37.8**	**+0.2**
JCR				*e*S	**S**	**06 05 06.7**	**-4.1**
CGA2	**Cerro Gallo 2**	**2.92**	**135**	*e*P	**P**	**06 04 42.2**	**+1.2**
CGA2				*e*S	**S**	**06 05 15.9**	**-1.0**
PRS1	**Puriscal**	**3.06**	**133**	*e*P	**P**	**06 04 44.2**	**+1.5**
PRS1				*e*S	**S**	**06 05 19.6**	**-0.3**
LAJ	**Bijagual**	**3.27**	**133**	*e*P	**P**	**06 04 43.4**	**-2.2**
ICR	**Volcan Irazu**	**3.42**	**128**	*e*P	**P**	**06 04 47.2**	**-0.2**
LCR2	**La Lucha 2**	**3.44**	**133**	⇑*e*P	**P**	**06 04 47.9**	**+0.2**
LCR2				*e*S	**S**	**06 05 28.1**	**-0.8**
URSC	**Urasca**	**3.55**	**129**	*e*P	**P**	**06 04 51.5**	**+2.4**
URSC				*e*S	**S**	**06 05 33.0**	**+1.6**
BUS	**Buena Vista**	**3.75**	**132**	*e*P	**P**	**06 04 52.8**	**+1.1**
ACR	**Cerro Adams**	**4.79**	**135**	*e*P	**P**	**06 05 06.1**	**+0.6**
TXAR	**Lajitas Array**	**23.39**	**320**	P	**P**	**06 08 50.4**	**-0.2**
	comp=N,1.2nm,0.5s,mb3.6,baz=136,slow=9.9,SNR=22						
TXAR	**Lajitas Array**	**23.39**	**320**	P	**P**	**06 08 50.4**	**-0.2**
WMOK	**Wichita Mounta**	**25.12**	**336**	*e*P	**P**	**06 09 07.1**	**+0.1**
	comp=N,1.9nm,0.8s,mb3.7						
SCHQ	**Schefferville**	**45.37**	**16**	P	**P**	**06 11 55.6**	**-3.7**
	comp=N,2.4nm,0.6s,mb4.0,baz=216,slow=8.7,SNR=6.6						
STKA	**Stephens Creek**	**131.65**	**238**	PKP	PKPdf	06 22 50.1	-0.1
	comp=N,1.2nm,0.7s,baz=72,slow=3.2,SNR=3.0						
ASAR	**Alice Springs**	**139.94**	**248**	PKhKP		06 22 58.4	
	comp=N,0.3nm,0.7s,baz=105,slow=3.9,SNR=4.9						
ASAR				PKP	PKPdf	06 23 05.7	0.0
	comp=N,0.7nm,0.9s,baz=104,slow=2.3,SNR=6.9						
WRA	**Warramunga Arr**	**140.00**	**253**	PKP	PKPdf	06 23 06.1	+0.2
	comp=N,0.9nm,0.6s,baz=91,slow=2.4,SNR=21						

IDC 05 06:28:53.5±2.3**, 52.89N×35.48W, mb3.5**/3**, mb1 3.5**/4**, mb1mx3.3**/23**, ML3.4**/1**, Error ellipse: s-maj=64.3km s-min=42.6km az=29.0, Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EKA	**Eskdalemuir Ar**	**19.01**	**70**	P	P	06 33 17.7	-1.1
	0.1nm,0.3s,baz=277,slow=11,SNR=3.4						
ESDC	**Sonseca Array**	**25.24**	**109**	P	P	06 34 20.7	-1.6
	0.3nm,0.5s,baz=309,slow=9.6,SNR=5.5						
BVAR	**Borovoye Array**	**57.73**	**43**	P	P	06 38 45.7	-2.2
	0.4nm,0.7s,baz=338,slow=7.8,SNR=3.6						
MKAR	**Makanchi Array**	**67.41**	**41**	P	P	06 39 49.4	-3.0
	0.4nm,0.5s,baz=333,slow=5.9,SNR=4.0						
WRA	**Warramunga Arr**	**146.18**	**17**	PKPbc	PKPbc	06 48 35.3	-0.3
	0.5nm,0.8s,baz=335,slow=2.9,SNR=5.6						
ASAR	**Alice Springs**	**149.72**	**20**	PKPbc	PKPdf	06 48 44.8	+2.8
	0.5nm,0.6s,baz=348,slow=2.3,SNR=11						

IDC 05 07:09:08.0±2.6**, 13.86S×167.32E, mb4.0**/4**, mb1 4.1**/4**, mb1mx3.8**/14**, Error ellipse: s-maj=93.9km s-min=42.6km az=141.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**29.60**	**228**	P	P	07 15 14.9	-2.2
	1.9nm,0.4s,baz=50,slow=9.1,SNR=14						
WRA	**Warramunga Arr**	**32.10**	**255**	P	P	07 15 36.6	-2.6
	0.3nm,0.4s,baz=84,slow=8.7,SNR=9.6						
ASAR	**Alice Springs**	**33.04**	**248**	P	P	07 15 44.8	-2.6
	0.6nm,0.4s,baz=76,slow=9.5,SNR=16						
FITZ	**Fitzroy Crossi**	**40.23**	**258**	P	P	07 16 47.8	-0.5
	1.6nm,0.8s,baz=73,slow=11,SNR=3.0						
ARCES	**ARCESS Array B**	**119.43**	**346**	PKP	PKPdf	07 27 58.7	-2.2
	2.3nm,0.8s,baz=60,slow=2.4,SNR=9.4						

*CASC **05** 07:14:34.8±2.0, 13.04N×89.28W, h33^{km}±5^{km}, MD3.9, ML4.2*

*NEIC **05** 07:14:35.3, 13.05N×89.25W, h45^{km}, MD4.2(SNET), After SNET.*

NEIC Felt [II] at San Salvador.

ISC 05 07:14:33.6±0.9**, 12.94N**±0.04×**89.30W**±0.05**, h28**^{km}±7^{km}**, n39, σ0^{s}75**/58**, mb3.5**/1**, 1C-12D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LFRS	**El Faro**	**0.72**	**19**	⇓*e*P	**Pb**	**07 14 47.8**	**+0.3**
LFRS				*e*S	**Sb**	**07 14 55.9**	**-1.2**
SNET	**Serv Nac Est T**	**0.75**	**5**	⇑*e*P	**Pb**	**07 14 48.4**	**+0.4**

SNET				*e*S	**Sb**	**07 14 57.3**	**-0.5**
SNET				*i*		07 14 58.5	
	comp=Z,10µm,0.3s						
SNET	**Serv Nac Est T**	**0.75**	**5**	*e*P	**Pb**	**07 14 48.4**	**+0.4**
SNET				*e*S	**Sb**	**07 14 58.0**	**+0.1**
SNET				*i*		07 14 58.5	
LCBS	**La Ceiba**	**0.78**	**24**	⇓*i*P	**Pb**	**07 14 48.4**	**-0.1**
LCBS				*e*S	**Sb**	**07 14 57.2**	**-1.5**
LCBS	**La Ceiba**	**0.78**	**24**	*e*P	**Pb**	**07 14 48.5**	**0.0**
LCBS				*e*S	**Sb**	**07 14 59.6**	**+0.8**
BOQS	**Boqueron**	**0.79**	**1**	⇓*e*P	**Pb**	**07 14 49.3**	**+0.6**
BOQS				*e*S	**Sb**	**07 14 58.8**	**-0.3**
BOQS	**Boqueron**	**0.79**	**1**	*e*P	**Pb**	**07 14 49.3**	**+0.6**
BOQS				*e*S	**Sb**	**07 14 60.0**	**+0.8**
LFU	**La Fuente**	**0.83**	**13**	⇓*e*P	**Pb**	**07 14 49.6**	**+0.3**
LBRS	**Las Brisas**	**0.84**	**17**	⇓*e*P	**Pb**	**07 14 49.6**	**+0.2**
LBRS	**Las Brisas**	**0.84**	**17**	*e*P	**Pb**	**07 14 49.6**	**+0.2**
SBLS	**San Blas**	**0.95**	**341**	⇓*e*P	**Pn**	**07 14 51.6**	**+0.4**
SBLS				*e*S	**Sb**	**07 15 03.1**	**-0.5**
SNJE	**San Jose**	**0.97**	**342**	⇓*e*P	**Pn**	**07 14 51.9**	**+0.4**
SNJE				*e*S	**Sb**	**07 15 04.2**	**-0.1**
SNJE	**San Jose**	**0.97**	**342**	*e*P	**Pn**	**07 14 51.9**	**+0.4**
SNJE				*e*S	**Sb**	**07 15 05.5**	**+1.3**
RTR	**El Retiro**	**1.01**	**341**	⇓*e*P	**Pn**	**07 14 52.7**	**+0.6**
RTR				*e*S	**Sb**	**07 15 04.7**	**-0.7**
RTR	**El Retiro**	**1.01**	**341**	*e*P	**Pn**	**07 14 52.7**	**+0.6**
RTR				*e*S	**Sb**	**07 15 05.7**	**+0.4**
VSM	**San Miguel**	**1.11**	**64**	⇓*e*P	**Pn**	**07 14 54.2**	**+0.7**
VSM				*e*S	**Sn**	**07 15 08.2**	**+0.3**
VSM	**San Miguel**	**1.11**	**64**	*e*P	**Pn**	**07 14 54.3**	**+0.8**
BLLM	**Bellamira**	**1.15**	**64**	⇓*e*P	**Pn**	**07 14 54.7**	**+0.7**
BLLM				*e*S	**Sn**	**07 15 09.1**	**+0.2**
CUSS	**Cusmapa**	**1.16**	**327**	⇓*e*P	**Pn**	**07 14 51.5**	**-2.6**
CAHU	**Cacacuatique**	**1.34**	**52**	*e*P	**Pn**	**07 14 56.8**	**0.0**
CAHU				*e*S	**Sn**	**07 15 13.2**	**-0.7**
CAHU	**Cacacuatique**	**1.34**	**52**	*e*P	**Pn**	**07 14 56.8**	**0.0**
CAHU				*e*S	**Sn**	**07 15 14.0**	**+0.1**
MTO2	**Montecristo 2**	**1.46**	**358**	⇓*i*P	**Pn**	**07 14 58.3**	**-0.2**
MTO2	**Montecristo 2**	**1.46**	**358**	*e*P	**Pn**	**07 14 58.2**	**-0.2**
CNCH	**Conchagua**	**1.47**	**77**	*e*P	**Pn**	**07 14 59.1**	**+0.6**
CNCH				*e*S	**Sn**	**07 15 17.7**	**+0.7**
CNCH	**Conchagua**	**1.47**	**77**	*e*P	**Pn**	**07 14 59.1**	**+0.5**
CNCH				*e*S	**Sn**	**07 15 16.9**	**-0.1**
CRIN	**San Cristobal**	**2.21**	**96**	*e*P	**Pn**	**07 15 08.2**	**-1.0**
LEON	**Leon**	**2.41**	**102**	*e*P	**Pn**	**07 15 11.9**	**-0.1**
TELN	**Telica**	**2.43**	**98**	*e*P	**Pn**	**07 15 11.7**	**-0.7**
MIRN	**Miramar**	**2.57**	**101**	*e*P	**Pn**	**07 15 14.2**	**-0.2**
CNGN	**Cerro Negro**	**2.57**	**99**	*e*P	**Pn**	**07 15 15.0**	**+0.6**
MOMJ	**Momotombo**	**2.74**	**101**	*e*P	**Pn**	**07 15 16.0**	**-0.9**
COPN	**Copaltepe**	**2.75**	**106**	*e*P	**Pn**	**07 15 16.9**	**0.0**
XAVN	**Gruta Xavier**	**3.01**	**105**	*e*P	**Pn**	**07 15 20.1**	**-0.5**
CRUN	**El Crucero**	**3.08**	**108**	*e*P	**Pn**	**07 15 22.2**	**+0.6**
MGAN	**Managua**	**3.08**	**104**	*e*P	**Pn**	**07 15 20.7**	**-0.9**
MGAN				*e*S	**Sn**	**07 15 54.0**	**-3.9**
TICN	**Ticuantepe**	**3.13**	**106**	*e*P	**Pn**	**07 15 21.6**	**-0.7**
CONN	**Concepcion**	**3.84**	**110**	*e*P	**Pn**	**07 15 32.5**	**+0.1**
JTS	**JuntasAbangare**	**5.00**	**121**	*e*Pn	**Pn**	**07 15 50.7**	**+1.8**
	comp=Z,11nm,0.6s						
JTS				*e*		07 15 58.5	
SAML	**Samuel**	**33.85**	**129**	P	**P**	**07 21 12.2**	**-3.9**
	comp=Z,0.2nm,0.3s,mb3.5						

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*NEIC **05** 07:18:33.9,28.42S×70.11W,h80^{km},After GUC.*

GUC 05 07:18:33.9±0.8**,28.42S×70.11W,h80^{km},ML3.8,3C-1D, Central Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VACH	**Vallenar**	**0.59**	**255**	⇑*i*P	P	07 18 40.8	-7.9
VACH				*i* S	S	07 18 51.6	-8.0
VACH				AMP		07 18 52.9	
	comp=N,19µm,0.1s						
CPCH	**Copiapo**	**1.08**	**348**	⇑*i*P	P	07 18 53.1	-1.0
CPCH				*i* S	S	07 19 08.5	-0.9
CPCH				AMP		07 19 09.4	
	comp=N,28µm,0.1s						
LSCH	**La Serena**	**1.78**	**214**	⇑*i*P	P	07 19 03.3	-0.2
LSCH				*e*S	S	07 19 25.6	+0.4
LSCH				AMP		07 19 26.7	
	comp=E,393nm,0.3s						
TLL	**Tololo Astrono**	**1.84**	**199**	*e*P	P	07 19 05.1	+0.9
TLL				AMP		07 19 35.7	
	comp=N,239nm,0.5s						
CMCH	**Combarbala**	**2.85**	**196**	⇓*i*P	P	07 19 17.5	-0.8
CMCH				*e*S	S	07 19 50.2	-1.4
CMCH				AMP		07 20 14.7	
	comp=E,261nm,0.6s						

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*IDC **05** 07:21:30.0±4.3,52.28N×170.70W,h30^{km}±30^{km},mb4.1/19, mb1 4.3/20,mb1mx4.3/25,ML3.8/1,MS3.7/12,Ms1 3.8/12, ms1mx3.6/26,Error ellipse: s-maj=21.4km s-min=14.2km az=170.0*

*BJI **05** 07:21:31.3,52.30N×170.50W,h46^{km},mB5.1,mb5.0, Ms5.5,Msz5.2*

*NEIC **05** 07:21:32.4±0.3,52.31N×170.54W,h47^{km}±3^{km},mb4.6/34, ML4.0(AEIC),Error ellipse: s-maj=7.0km s-min=2.8km az=169.0*

*MOS **05** 07:21:35.3±0.6,53.40N×170.91W,h33^{km},mb4.9/8,Error ellipse: s-maj=34.0km s-min=11.9km az=94.8*

ISC 05 07:21:29.4±0.3**,52.26N**±0.06×**170.56W**±0.04**,h33^{km}, n148,σ1^{s}10**/146**,mb4.5**/57**,MS3.7**/14**,3C-4D,Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIKO	**Nikolski**	**1.26**	**55**	P	**P**	**07 21 50.3**	**-0.4**
NIKO				S	**S**	**07 22 05.4**	**-1.4**
OKCE	**Okmok Cone E**	**1.86**	**50**	P	**P**	**07 22 01.2**	**+1.8**
OKCE				S	**S**	**07 22 26.5**	**+4.5**
OKCD	**Okmok Cone D**	**1.89**	**51**	P	**P**	**07 22 01.6**	**+1.8**
OKCD				S	**S**	**07 22 27.4**	**+4.7**
ATKA	**Atka Island**	**2.24**	**270**	P	**P**	**07 22 05.9**	**+1.1**
ATKA				S	**S**	**07 22 33.8**	**+2.3**
MCIR	**Makushin Cirqu**	**2.78**	**51**	P	**P**	**07 22 16.1**	**+3.5**
MTBL	**Makushin Table**	**2.90**	**52**	P	**P**	**07 22 16.1**	**+1.9**
UNV	**Unalaska Valle**	**2.92**	**55**	P	**P**	**07 22 15.0**	**+0.5**
UNV				S	**S**	**07 22 49.6**	**+0.8**
GSIG	**Igitkin Island**	**3.32**	**267**	P	**P**	**07 22 21.9**	**+1.7**
AKGG	**Akutan Green G**	**3.36**	**53**	P	**P**	**07 22 22.6**	**+1.8**
GSTR	**Great Sitkin T**	**3.39**	**269**	P	**P**	**07 22 23.5**	**+2.3**
GSMY	**Great Sitkin M**	**3.39**	**268**	P	**P**	**07 22 23.5**	**+2.2**
GSTD	**Great Sitkin T**	**3.45**	**269**	P	**P**	**07 22 23.5**	**+1.5**
KINC	**Kanaga Island**	**4.07**	**268**	P	**P**	**07 22 32.9**	**+2.1**
KIWB	**Kanaga Island**	**4.09**	**267**	P	**P**	**07 22 32.7**	**+1.5**
KIKV	**Kanaga Island**	**4.10**	**267**	P	**P**	**07 22 32.6**	**+1.3**
KIMD	**Kanaga Island**	**4.16**	**266**	P	**P**	**07 22 33.9**	**+1.8**
WPOG	**Pogromni**	**4.19**	**54**	P	**P**	**07 22 34.4**	**+1.8**
SPIA	**Saint Paul Isl**	**4.93**	**2**	P	**P**	**07 22 45.4**	**+2.3**
FALS	**False Pass**	**4.99**	**56**	P	**P**	**07 22 46.0**	**+2.1**
DTNA	**Dutton South F**	**5.72**	**56**	P	**P**	**07 22 55.5**	**+1.4**
SLKM	**Skilak Lake**	**13.91**	**46**	P	**P**	**07 24 49.9**	**+3.8**
IMA	**Indian Mountai**	**16.23**	**25**	*e*P	**P**	**07 25 21.0**	**+4.9**
COLA	**College**	**17.18**	**34**	*e*P	**P**	**07 25 23.2**	**-4.8**
ILAR	**Eielson Array**	**17.45**	**35**	P	**P**	**07 25 32.5**	**+1.1**
	0.2nm,0.3s,baz=239,slow=10,SNR=17						
PET	**Petropavlovsk**	**18.63**	**285**	*e*P	**P**	**07 25 51.0**	**+4.7**
PET				*e*S	**S**	**07 29 13.2**	**+3.8**
PET				pmax	pmax		
	comp=Z,36nm,1.0s						
PET				pmax	pmax		
	comp=Z,100nm,20.1s						
PET				smax			
	comp=E,100nm,16.5s						
PET				MLR	MLR		
	comp=Z,300nm,20.0s						
PET				MLR	MLR		
	comp=Z,300nm,20.0s						
DAWY	**Dawson**	**19.99**	**42**	*e*P	**P**	**07 25 59.5**	**-2.0**
MA2	**Magadan**	**22.60**	**304**	*c* *i*P	**P**	**07 26 30.7**	**+2.9**
MA2				*e**PP		07 26 45.5	
MA2				*e*S	**S**	**07 30 26.2**	**-2.3**
MA2				*e*		07 30 35.0	
MA2				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.2						
MA2	**Magadan**	**22.60**	**304**	*e*P	**P**	**07 26 30.1**	**+2.3**
	comp=Z,13nm,0.9s,mb4.4						
DLBC	**Dease Lake**	**23.57**	**59**	P	**P**	**07 26 39.1**	**+1.9**
	comp=Z,10nm,1.0s,mb4.2,baz=269,slow=12,SNR=16						
DLBC				LR	LR	07 35 53.8	
	comp=Z,119nm,19.0s,MS3.4,baz=289,slow=37						
DLBC	**Dease Lake**	**23.57**	**59**	*e*P	**P**	**07 26 39.9**	**+2.7**
INK	**Inuvik**	**23.84**	**34**	P	**P**	**07 26 39.4**	**-0.4**
	comp=Z,2.3nm,0.5s,mb3.9,baz=259,slow=8.4,SNR=28						
INK	**Inuvik**	**23.84**	**34**	*e*P	**P**	**07 26 37.3**	**-2.5**
	comp=Z,2.3nm,0.5s,mb3.9						
BBB	**Bella Bella**	**25.73**	**73**	LR	LR	07 34 40.3	
	comp=Z,92nm,21.8s,MS3.3,baz=278,slow=31						
YKA	**Yellowknife Ar**	**30.86**	**49**	P	**P**	**07 27 43.4**	**-0.9**
	comp=Z,1.3nm,0.6s,mb3.9,baz=274,slow=9.3,SNR=6.6						
YKA				LR	LR	07 41 27.1	
	comp=Z,140nm,19.3s,MS3.6,baz=270,slow=39						
ASAJ	**Asahikawa**	**31.79**	**274**	P	**P**	**07 27 51.9**	**-0.8**
	comp=Z,8.2nm,0.9s,mb4.6,baz=75,slow=5.1,SNR=7.2						
YAK	**Yakutsk**	**32.69**	**311**	⇓*e*P	**P**	**07 27 58.8**	**-1.5**
YAK				pmax	pmax		
	comp=Z,19nm,0.9s,mb5.0						
YAK				MLR	MLR		
	comp=Z,100nm,18.0s,MS3.6						
DPW	**Davenport**	**33.28**	**76**	P	**P**	**07 28 05.9**	**+0.3**
NEW	**Newport**	**33.75**	**75**	P	**P**	**07 28 09.7**	**+0.2**
	comp=Z,2.9nm,0.6s,mb4.4,baz=299,slow=4.5,SNR=9.1						
NEW	**Newport**	**33.75**	**75**	*e*P	**P**	**07 28 09.1**	**-0.5**
	comp=Z,5.5nm,1.0s,mb4.4						
KLR	**Kul'dur**	**35.80**	**289**	*e*P	**P**	**07 28 24.4**	**-2.8**
HLID	**Hailey**	**37.76**	**80**	*e*P	**P**	**07 28 44.2**	**+0.5**
	comp=Z,14nm,2.0s,mb4.3						
MCMT	**McKenzie Canyo**	**38.01**	**78**	*e*P	**P**	**07 28 45.8**	**0.0**
BOZ	**Bozeman (W)**	**38.31**	**76**	*e*P	**P**	**07 28 47.6**	**-0.7**
	comp=Z,2.3nm,0.8s,mb4.0						
MNV	**Mina**	**38.48**	**90**	P	**P**	**07 28 49.7**	**-0.1**
ELK	**Elko**	**38.87**	**85**	P	**P**	**07 28 53.6**	**+0.6**
MAT	**Matsushiro**	**38.96**	**267**	P	**P**	**07 28 53.5**	**-0.3**
MAT	**Matsushiro**	**38.96**	**267**	*e*P	**P**	**07 28 55.0**	**+1.2**
	comp=Z,16nm,1.2s,mb4.6						
TPNV	**Topopah Spring**	**40.59**	**90**	*e*P	**P**	**07 29 08.4**	**+1.1**
	comp=Z,6.0nm,1.4s,mb4.0						
DUG	**Dugway**	**40.68**	**84**	*e*P	**P**	**07 29 08.9**	**+0.9**
	comp=Z,3.9nm,1.1s,mb4.0						
LAO	**LASA Array**	**40.94**	**71**	*e*P	**P**	**07 29 09.9**	**-0.2**
BW06	**Boulder Array**	**41.14**	**78**	*e*P	**P**	**07 29 11.5**	**-0.3**
	comp=Z,2.0nm,0.5s,mb4.0						
PDAR	**Pinedale Array**	**41.14**	**78**	P	**P**	**07 29 12.2**	**+0.4**
	comp=Z,1.8nm,0.5s,mb4.0,baz=307,slow=3.0,SNR=30						
PDAR				LR	LR	07 44 28.0	
	comp=Z,76nm,18.2s,MS3.6,baz=74,slow=33						
BOD	**Bodaibo**	**41.49**	**309**	⇑*i*P	**P**	**07 29 12.9**	**-1.6**
CN2	**Changchun**	**42.34**	**285**	*e*P	**P**	**07 29 20.1**	**-1.4**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.4						
PV01	**Paradox Valley**	**44.55**	**83**	*e*P	**P**	**07 29 38.8**	**-0.6**
SDCO	**Great Sand Dun**	**46.66**	**81**	*e*P	**P**	**07 29 56.1**	**-0.1**
	comp=Z,2.3nm,0.9s,mb4.1						
ANMO	**Albuquerque**	**47.90**	**85**	*e*P	**P**	**07 30 12.7**	**+6.6**
SONM	**Songino Array**	**50.73**	**300**	P	**P**	**07 30 26.5**	**-1.1**
	comp=Z,3.4nm,0.8s,mb4.3,baz=53,slow=6.2,SNR=20						
SONM				PcP	PcP	07 31 43.9	-0.8
	comp=Z,2.1nm,0.9s,baz=45,slow=1.7,SNR=6.4						
SONM				ScP		07 35 37.0	
	comp=Z,1.8nm,1.2s,baz=90,slow=3.7,SNR=4.0						
ZAK	**Zakamensk**	**50.78**	**304**	*e*P	**P**	**07 30 26.7**	**-1.2**
ZAK				*e*		07 31 44.3	
SUMG	**Summit**	**51.09**	**17**	*e*P	**P**	**07 30 29.6**	**-0.5**
WMOK	**Wichita Mounta**	**52.72**	**79**	P	**P**	**07 30 41.7**	**-1.0**
SSE	**Sheshan**	**53.08**	**275**	*e*P	**P**	**07 30 51.4**	**+5.9**
LTX	**Lajitas**	**53.48**	**88**	*e*P	**P**	**07 30 48.0**	**-0.5**
TXAR	**Lajitas Array**	**53.48**	**88**	P	**P**	**07 30 47.6**	**-0.9**
	comp=Z,2.1nm,1.0s,mb4.0,baz=295,slow=4.8,SNR=14						
TXAR				LR	LR	07 50 57.5	
	comp=Z,75nm,19.4s,MS3.8,baz=10.0,slow=33						
SCHQ	**Schefferville**	**56.01**	**43**	P	**P**	**07 31 05.1**	**-1.5**
	comp=Z,16nm,1.0s,mb5.0,baz=318,slow=7.9,SNR=8.3						
SCHQ	**Schefferville**	**56.01**	**43**	P	**P**	**07 31 05.1**	**-1.5**
ZAL	**Zalesovo**	**57.02**	**317**	LR	LR	07 57 31.6	
	comp=Z,109nm,19.5s,MS4.0,baz=346,slow=38						
WHN	**Wuhan**	**57.64**	**279**	*e*P	**P**	**07 31 17.0**	**-1.5**
ARCES	**ARCESS Array B**	**57.95**	**353**	P	**P**	**07 31 18.1**	**-2.0**
	comp=Z,2.2nm,0.8s,mb4.3,baz=19,slow=6.2,SNR=7.6						
ARCES				LR	LR	07 56 37.1	
	comp=Z,87nm,21.9s,MS3.8,baz=270,slow=36						
GTA	**Gaotai**	**59.88**	**296**	*e*P	**P**	**07 31 32.6**	**-1.3**
GTA				AMB	AMB		
	comp=Z,4.0nm,0.7s,mb4.6						
KURK	**Kurchatov**	**61.96**	**318**	*e*P	**P**	**07 31 45.7**	**-2.2**
	comp=Z,2.2nm,0.6s,mb4.5						
MKAR	**Makanchi Array**	**63.34**	**313**	P	**P**	**07 31 54.5**	**-2.6**
	comp=Z,1.4nm,0.9s,mb4.1,baz=55,slow=7.1,SNR=9.4						
MKAR				LR	LR	08 03 00.1	
	comp=Z,72nm,18.2s,MS3.9,baz=216,slow=39						
KAF	**Kangasniemi**	**65.19**	**351**	*e*p	**P**	**07 32 07.1**	**-1.6**
	comp=Z,1.6nm,0.5s,mb4.3,baz=8.9,slow=6.0						
KAF	**Kangasniemi**	**65.19**	**351**	*e*P	**P**	**07 32 07.1**	**-1.6**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
GYA	**Guiyang**	**65.24**	**282**	⇑*i*P	**P**	**07 32 08.9**	**-0.8**
GYA				AMB	AMB		
	comp=Z,20nm,1.1s,mb5.1						
FINES	**FINESS Array B**	**65.87**	**351**	P	**P**	**07 32 11.5**	**-1.6**
	comp=Z,4.0nm,1.1s,mb4.4,baz=11,slow=9.7,SNR=8.1						
FINES				LR	LR	08 05 21.0	
	comp=Z,68nm,18.3s,MS3.9,baz=3.9,slow=40						
NB2	**NORSAR Subarra**	**67.04**	**359**	P	**P**	**07 32 19.5**	**-1.0**
	comp=Z,1.8nm,0.8s,mb4.2,baz=1.0,slow=6.2						
NOA	**NORSAR Array B**	**67.04**	**359**	P	**P**	**07 32 19.4**	**-1.1**
	comp=Z,2.8nm,0.8s,mb4.3,baz=0.1,slow=6.3,SNR=9.2						
NOA				LR	LR	08 04 40.0	
	comp=Z,48nm,18.4s,MS3.8,slow=39						
NOA	**NORSAR Array B**	**67.04**	**359**	P	**P**	**07 32 19.4**	**-1.1**
NOA				LR	LR	08 04 40.0	
OBN	**Obninsk**	**70.65**	**344**	*e*P	**P**	**07 32 41.9**	**-1.0**
OBN				*e*		07 33 02.5	
OBN				*e*		07 35 12.2	
OBN				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
OBN				MLR	MLR		
	comp=Z,100nm,21.0s,MS4.0						
LSA	**Lhasa**	**71.84**	**295**	*e*P	**P**	**07 32 50.9**	**+0.5**
	comp=Z,4.1nm,0.4s,mb4.7						
SUW	**Suwalki**	**73.48**	**352**	*e*P	**P**	**07 32 58.3**	**-1.3**
KKTK	**Khon Kaen**	**75.21**	**278**	P	**P**	**07 33 10.0**	**-0.3**
	comp=Z,432nm,0.9s						
CHG	**Chiang Mai**	**75.65**	**282**	P	**P**	**07 33 12.2**	**-0.6**
CMAR	**Chiang Mai Arr**	**75.93**	**282**	LR	LR	08 10 53.3	
	comp=Z,72nm,18.6s,MS4.0,baz=140,slow=39						
AKASG	**Malin Array Be**	**76.05**	**347**	P	**P**	**07 33 12.7**	**-1.8**
	comp=Z,0.4nm,0.3s,mb3.8,baz=13,slow=5.6,SNR=11						
CLL	**Collm**	**76.76**	**358**	P	**P**	**07 33 17.9**	**-0.6**
	comp=Z,logA/T=0.9,mb4.6						
CLL	**Collm**	**76.76**	**358**	*i* P	**P**	**07 33 17.9**	**-0.6**
CLL				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
CLL	**Collm**	**76.76**	**358**	*i* P	**P**	**07 33 17.9**	**-0.6**
	comp=Z,6.0nm,0.8s,mb4.6						
BDT	**Bhumibol Dam**	**76.83**	**281**	P	**P**	**07 33 19.0**	**-0.5**
BRG	**Berggiesshubel**	**77.17**	**357**	*i* P	**P**	**07 33 20.6**	**-0.2**
BRG				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
BRG	**Berggiesshubel**	**77.17**	**357**	*i* P	**P**	**07 33 20.6**	**-0.2**
	comp=Z,7.4nm,1.0s,mb4.6						
UPC	**Upice**	**77.45**	**356**	*e*P	**P**	**07 33 21.4**	**-1.0**
PVCC	**Panska Ves**	**77.49**	**357**	*e*P	**P**	**07 33 22.5**	**-0.1**
DPC	**Dobruska-Polom**	**77.60**	**355**	*e*P	**P**	**07 33 23.0**	**-0.2**
NKC	**Novy Kostel**	**77.85**	**358**	*e*P	**P**	**07 33 24.7**	**+0.1**
GIVF	**Givet**	**77.94**	**3**	*e*P	**P**	**07 33 24.6**	**-0.4**
BAIF	**Baives**	**77.96**	**3**	*e*P	**P**	**07 33 24.7**	**-0.5**
	comp=Z,13nm,0.9s,mb4.5						
OKC	**Ostrava-Krasne**	**78.01**	**354**	*e*P	**P**	**07 33 24.8**	**-0.6**
PRU	**Pruhonice**	**78.03**	**357**	*e*P	**P**	**07 33 25.4**	**-0.2**
MORC	**Moravsky Berou**	**78.11**	**355**	*e*P	**P**	**07 33 25.4**	**-0.6**
GRA1	**Grafenberg Arr**	**78.41**	**359**	*e*P	**P**	**07 33 27.3**	**-0.4**
	comp=Z,13nm,1.0s,mb4.8						
GRF	**Grafenberg Arr**	**78.41**	**359**	*e*P	**P**	**07 33 27.3**	**-0.4**
GRF				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.8						
GOF	**Gofitskoye**	**78.84**	**336**	⇓*i*P	**P**	**07 33 30.0**	**-0.1**
GOF				pmax	pmax		
	comp=Z,30nm,1.2s,mb5.1						
KHC	**Kasperske Hory**	**78.92**	**357**	*e*P	**P**	**07 33 30.8**	**+0.3**
GERES	**GERESS Array B**	**79.20**	**357**	P	**P**	**07 33 32.2**	**+0.1**
	comp=Z,2.7nm,0.8s,mb4.2,slow=4.0,SNR=24						
VYHS	**Vyhne**	**79.30**	**354**	*i* P	**P**	**07 33 32.6**	**0.0**
CDF	**Champ du Feu**	**79.69**	**1**	*e*P	**P**	**07 33 34.3**	**-0.3**
	comp=Z,15nm,1.2s,mb4.5						
ZST	**Bratislava**	**79.71**	**355**	*e*P	**P**	**07 33 35.5**	**+0.7**
ZST				*e*		07 33 39.7	
HAU	**Haudompre**	**80.08**	**2**	*e*P	**P**	**07 33 36.4**	**-0.3**
LOR	**Lormes**	**80.73**	**4**	*e*P	**P**	**07 33 39.9**	**-0.3**
	comp=Z,10nm,1.0s,mb4.4						
SSF	**Saint Saulge**	**80.92**	**4**	*e*P	**P**	**07 33 41.1**	**-0.2**
	comp=Z,14nm,0.9s,mb4.6						
MFF	**Saint Martin d**	**81.17**	**7**	*e*P	**P**	**07 33 42.4**	**-0.2**
	comp=Z,15nm,0.9s,mb4.6						
AVF	**Avril sur Loir**	**81.19**	**4**	*e*P	**P**	**07 33 42.2**	**-0.4**
	comp=Z,16nm,1.0s,mb4.6						
SMF	**Signal de Mont**	**81.35**	**4**	*e*P	**P**	**07 33 43.2**	**-0.3**
	comp=Z,14nm,0.9s,mb4.6						
PERS	**Pernice**	**81.36**	**356**	*e*P	**P**	**07 33 43.7**	**+0.1**
BGF	**Bois d'Agland**	**81.40**	**5**	*e*P	**P**	**07 33 43.5**	**-0.2**
CABF	**La Chapelle**	**81.46**	**2**	*e*P	**P**	**07 33 44.2**	**+0.1**
	comp=Z,26nm,1.1s,mb4.8						
GROS	**Grobnik**	**81.52**	**356**	*e*P	**P**	**07 33 44.1**	**-0.3**
TCF	**Toulx Ste Croi**	**81.63**	**5**	*e*P	**P**	**07 33 44.5**	**-0.5**
BOJS	**Bojanci**	**82.48**	**356**	*e*P	**P**	**07 33 49.9**	**+0.5**
LPL	**La Plagne**	**82.57**	**2**	*e*P	**P**	**07 33 50.3**	**+0.5**
LPG	**La Plagne**	**82.59**	**2**	*e*P	**P**	**07 33 50.5**	**+0.6**
LFF	**La Frestale**	**82.89**	**6**	*e*P	**P**	**07 33 51.4**	**0.0**
CAF	**Calviac**	**82.98**	**5**	*e*P	**P**	**07 33 51.9**	**0.0**
ORIF	**Oris-en-Rattie**	**83.15**	**3**	*e*P	**P**	**07 33 53.3**	**+0.5**
	comp=Z,3.5nm,0.6s,mb4.2						
VIVF	**Saint-Julien-l**	**83.17**	**3**	*e*P	**P**	**07 33 53.2**	**+0.3**
	comp=Z,8.7nm,0.9s,mb4.5						
MBDF	**Montbardon**	**83.36**	**2**	*e*P	**P**	**07 33 55.0**	**+1.1**
	comp=Z,18nm,1.2s,mb4.7						
LASF	**Ste Croix**	**83.92**	**4**	*e*P	**P**	**07 33 57.3**	**+0.7**
SMRF	**Simiane la Rot**	**84.08**	**3**	*e*P	**P**	**07 33 58.6**	**+1.2**
	comp=Z,19nm,1.0s,mb4.9						
SBF	**Sospel**	**84.24**	**1**	*e*P	**P**	**07 33 58.5**	**+0.3**
FRF	**La Foret Royal**	**84.53**	**2**	*e*P	**P**	**07 34 00.0**	**+0.3**
	comp=Z,30nm,1.1s,mb5.0						
SJPF	**Ste Jean**	**84.56**	**8**	*e*P	**P**	**07 33 59.7**	**-0.1**
MTLF	**Montolieu**	**84.57**	**5**	*e*P	**P**	**07 34 00.3**	**+0.4**
	comp=Z,18nm,1.0s,mb4.8						
LMR	**La Mourre**	**84.75**	**2**	*e*P	**P**	**07 34 01.2**	**+0.4**
	comp=Z,32nm,1.3s,mb5.0						
EPF	**Esparros**	**84.76**	**7**	*e*P	**P**	**07 34 00.4**	**-0.5**
	comp=Z,23nm,1.1s,mb4.9						
ETSF	**Etsaut**	**84.82**	**7**	*e*P	**P**	**07 34 01.8**	**+0.6**
	comp=Z,24nm,1.2s,mb4.9						
PGF	**Pioggiola**	**85.57**	**0**	*e*P	**P**	**07 34 05.2**	**+0.3**
	comp=Z,32nm,1.0s,mb5.2						
BRTR	**Keskin Array B**	**86.00**	**342**	P	**P**	**07 34 07.5**	**+0.4**
	comp=Z,2.5nm,1.1s,mb4.4,baz=349,slow=6.3,SNR=3.9						
BRTR				LR	LR	08 14 48.3	
	comp=Z,36nm,19.8s,MS3.8,baz=320,slow=37						
WRA	**Warramunga Arr**	**86.37**	**231**	P	**P**	**07 34 07.7**	**-1.6**
	comp=Z,1.9nm,0.8s,mb4.4,baz=37,slow=6.0,SNR=17						
ESDC	**Sonseca Array**	**87.70**	**10**	P	**P**	**07 34 15.5**	**+0.2**
	comp=Z,4.3nm,0.9s,mb4.7,baz=348,slow=4.2,SNR=16						
ASAR	**Alice Springs**	**89.77**	**229**	P	**P**	**07 34 24.9**	**-0.6**
	comp=Z,8.5nm,1.0s,mb5.0,baz=35,slow=4.4,SNR=33						
TSUM	**Tsumeb**	**146.40**	**346**	PKPbc	PKPbc	07 41 08.2	+1.5
	comp=Z,9.1nm,0.9s,baz=349,slow=4.4,SNR=8.1						
TSUM	**Tsumeb**	**146.40**	**346**	*e*PKP	PKPdf	07 41 08.2	+2.7
MAW	**Mawson**	**150.34**	**218**	PKPbc	PKPdf	07 41 15.5	+5.2
	comp=Z,2.0nm,0.7s,baz=243,slow=4.5,SNR=3.5						
SNAA	**Sanae**	**159.77**	**169**	⇓*i*PKPdf	PKPdf	07 41 51.5	+29
SNAA				*e*		07 42 15.1	
VNA2	**Neumayer--Watz**	**159.78**	**164**	PKPdf	PKPdf	07 41 41.1	+18
VNA2				*e*		07 42 04.6	
VNA1	**Neumayer--Stat**	**159.87**	**163**	⇓*i*P	PKPdf	07 41 40.2	+17

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*IDC **05** 07:38:26.7±4.7,35.65N×71.99E,mb4.0/5,mb1 4.1/7, mb1mx3.7/19,ML3.3/2,Error ellipse: s-maj=85.6km s-min=41.0km az=159.0*

*NEIC **05** 07:38:47.3±8.0,36.84N×71.95E,h108^{km}±41^{km},mb4.5/2, Error ellipse: s-maj=86.6km s-min=28.7km az=180.0*

*BJI **05** 07:38:50.3,36.65N×72.07E,h108^{km}*

*NNC **05** 07:38:56.7±5.6,37.71N×70.15E,mpv4.5,Error ellipse: s-maj=58.3km s-min=39.1km az=108.0*

ISC 05 07:38:49.4±0.5**,37.12N**±0.03×**71.53E**±0.10**,h115^{km}**±10^{km}**, n35,σ0^{s}94**/42**,mb4.0**/4**,4C-2D,Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHCP	**Chirah Chowk**	**3.73**	**157**	⇓P	**P**	**07 39 47.0**	**+0.6**
KSH	**Kashi**	**4.24**	**54**	P	**P**	**07 39 53.8**	**+0.6**
KSH				S	**S**	**07 40 40.7**	**-1.3**
KSH				Smax			
	comp=N,110nm,0.3s						
KSH				Smax			
	comp=E,140nm,0.4s						
THW	**Thamme Wali**	**4.32**	**178**	P	**P**	**07 39 54.0**	**-0.3**
THW				S	**S**	**07 40 44.0**	**0.0**
SBDP	**Sheikh Budin**	**4.84**	**187**	P	**P**	**07 40 01.0**	**-0.4**
SBDP				S	**S**	**07 40 55.0**	**-1.8**
AML	**Almayashu**	**5.28**	**18**	P	**P**	**07 40 07.9**	**+0.7**
	SNR=81						
DRP	**Derazinda**	**5.47**	**192**	P	**P**	**07 40 11.0**	**+1.2**
UCH	**Uchtor**	**5.60**	**23**	P	**P**	**07 40 12.1**	**+0.6**
	SNR=41						
KZA	**Kyzart**	**5.72**	**29**	P	**P**	**07 40 13.1**	**-0.1**
	SNR=15						
EKS2	**Erkin-Say**	**5.80**	**17**	P	**P**	**07 40 14.9**	**+0.7**
	SNR=51						
AAK	**Ala-Archa**	**5.96**	**22**	P	**P**	**07 40 17.2**	**+0.8**
	SNR=78						
AAK	**Ala-Archa**	**5.96**	**22**	⇑*i*Pn	**P**	**07 40 16.1**	**-0.3**
	comp=E,62nm,0.4s						
AAK				Sn	**S**	**07 41 15.2**	**-8.8**
KK31	**Karatay Array**	**6.03**	**353**	⇑P	**P**	**07 40 18.3**	**+1.0**
	comp=E,35nm,0.6s,baz=178,slow=14,SNR=354						
KK31				⇓S	**S**	**07 41 22.6**	**-3.0**
	comp=E,11nm,0.4s,baz=170,slow=23,SNR=12						
KBK	**Karagaybulak**	**6.12**	**24**	P	**P**	**07 40 19.1**	**+0.5**
	SNR=12						
ULHL	**Ulahol**	**6.28**	**34**	P	**P**	**07 40 20.2**	**-0.6**
	SNR=6.0						
CHMS	**Chumysh**	**6.37**	**22**	P	**P**	**07 40 22.3**	**+0.2**
	SNR=32						
USP	**Ospenovka**	**6.55**	**19**	P	**P**	**07 40 24.1**	**-0.4**
	SNR=34						
TKM2	**Tokmak 2**	**6.58**	**27**	P	**P**	**07 40 25.1**	**+0.1**
	SNR=18						
SMLA	**Simla**	**7.59**	**140**	*e*P	**P**	**07 40 46.0**	**+7.3**
SMLA				*e*S	**S**	**07 42 07.4**	**+3.8**
MKAR	**Makanchi Array**	**12.54**	**36**	Pn	**P**	**07 41 40.8**	**-3.9**
	comp=E,0.1nm,0.3s,baz=219,slow=13,SNR=5.6						
MKAR	**Makanchi Array**	**12.54**	**36**	Pn	**P**	**07 41 40.8**	**-3.9**
KOLN	**Koldanda**	**13.80**	**129**	*e*P	**P**	**07 41 55.7**	**-5.3**
	comp=E,18nm,0.3s						
GKN	**Gorkha**	**14.30**	**126**	*e*P	**P**	**07 42 02.2**	**-5.2**
	comp=E,52nm,0.4s						
AB31	**Akbulak array**	**14.76**	**329**	⇑P	**P**	**07 42 12.9**	**-0.3**
	comp=E,1.3nm,0.3s,baz=153,slow=10,SNR=70						
AB31				⇑S	**S**	**07 44 45.4**	**-8.5**
	comp=E,0.8nm,0.4s,baz=154,slow=22,SNR=5.4						
KKN	**Kakani**	**14.86**	**125**	*e*P	**P**	**07 42 09.0**	**-5.6**
	comp=E,24nm,0.6s						
DMN	**Daman**	**14.87**	**126**	*e*P	**P**	**07 42 09.5**	**-5.3**
	comp=E,12nm,0.4s						
PKI	**Pulchoki**	**15.09**	**125**	*e*P	**P**	**07 42 12.3**	**-5.3**
	comp=E,23nm,0.6s						
BVAR	**Borovoye Array**	**15.93**	**357**	Pn	**P**	**07 42 28.1**	**+0.3**
	comp=E,0.3nm,0.3s,baz=141,slow=9.2,SNR=4.6						
ZAL	**Zalesovo**	**19.16**	**24**	P	**P**	**07 43 04.0**	**-1.9**
	comp=E,2.1nm,0.3s,baz=166,slow=3.4,SNR=3.2						
GTA	**Gaotai**	**22.29**	**75**	*e*P	**P**	**07 43 39.2**	**+1.5**
FINES	**FINESS Array B**	**37.21**	**326**	P	**P**	**07 45 51.2**	**+0.4**
	comp=E,2.4nm,0.9s,mb4.1,baz=124,slow=6.9,SNR=5.5						
ARCES	**ARCESS Array B**	**40.74**	**337**	P	**P**	**07 46 20.5**	**+0.6**
	comp=E,6.2nm,1.2s,mb4.3,baz=113,slow=9.2,SNR=5.1						
NB2	**NORSAR Subarra**	**44.14**	**323**	P	**P**	**07 46 47.7**	**+0.1**
	comp=E,0.7nm,0.5s,mb3.6,baz=94,slow=7.4						
NOA	**NORSAR Array B**	**44.14**	**323**	P	**P**	**07 46 47.8**	**+0.2**
	comp=E,0.7nm,0.6s,mb3.6,baz=96,slow=7.6,SNR=4.2						
INK	**Inuvik**	**73.23**	**9**	P	**P**	**07 50 07.8**	**-1.0**
	comp=E,1.3nm,0.8s,mb3.8,baz=333,slow=2.3,SNR=4.9						
INK	**Inuvik**	**73.23**	**9**	*e*P	**P**	**07 50 07.4**	**-1.4**
	comp=E,1.5nm,0.8s,mb3.9						

WEL 05 07:43:29.3±0.1**,38.26S×178.29E,h25^{km}**±1^{km}**,ML3.7**/5**, 4D,Error ellipse: s-maj=1.9km s-min=0.9km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PUZ	**Puketiti**	**0.19**	**351**	⇓P*	Pb	07 43 34.7	-0.2
PUZ				S*	Sb	07 43 38.4	-0.2
MWZ	**Matawai**	**0.61**	**263**	⇓P*	Pb	07 43 41.3	0.0

MWZ				S*	Sb	07 43 50.4	+0.9
MXZ	**Matakaoa Point**	0.69	1	P*	Pb	07 43 42.4	-0.3
MXZ				S*	Sb	07 43 51.5	-0.4
MXZ				S*	Sb	07 43 53.2	+1.3
KNZ	**Kokohu**	0.90	212	⇓PN	Pn	07 43 46.0	-0.5
URZ	**Urewera**	0.93	270	⇓PN	Pn	07 43 46.2	-0.7
URZ				SN	Sn	07 43 58.5	-1.0
EDRZ	**Edgecumbe**	1.23	277	PN	Pn	07 43 51.0	-0.3
BKZ	**Black Stump Fm**	1.68	237	PN	Pn	07 43 56.8	-0.7
TGRZ	**Tauranga**	1.69	288	PN	Pn	07 43 56.2	-1.5
PWZ	**Pawanui**	2.09	212	PN	Pn	07 44 01.0	-2.5
PWZ				SN	Sn	07 44 26.8	-2.1
KAVZ	**Karewarewa**	2.23	247	PN	Pn	07 44 04.7	-0.9
MOVZ	**Moawhango**	2.29	239	PN	Pn	07 44 05.3	-1.0
MOVZ				SN	Sn	07 44 32.3	-1.7
NGZ	**Ngauruhoe**	2.30	246	PN	Pn	07 44 05.4	-1.0
TUVZ	**Tukino**	2.30	243	PN	Pn	07 44 05.7	-0.8
CNZ	**Chateau**	2.34	246	PN	Pn	07 44 05.8	-1.3
WPVZ	**Whakapapa**	2.35	245	PN	Pn	07 44 06.3	-0.9
WNVZ	**Wahianoa**	2.36	242	PN	Pn	07 44 06.3	-1.1
FWVZ	**Far West T-bar**	2.36	244	PN	Pn	07 44 06.7	-0.7
KUZ	**Kuaotunu**	2.54	306	PN	Pn	07 44 07.0	-2.9
KUZ				SN	Sn	07 44 36.1	-4.2
TSZ	**Takapari Road**	2.55	224	PN	Pn	07 44 07.2	-2.9
TSZ				SN	Sn	07 44 37.4	-3.2
BFZ	**Birch Farm**	2.89	213	PN	Pn	07 44 11.0	-3.9
VRZ	**Vera Road**	2.90	252	PN	Pn	07 44 14.3	-0.7
WAZ	**Wanganui**	2.98	239	PN	Pn	07 44 14.8	-1.3
MRZ	**Mangatainoka R**	3.19	220	PN	Pn	07 44 15.1	-4.0
MRZ				SN	Sn	07 44 52.1	-4.6
RAEZ	**Rainy Point**	3.22	250	PN	Pn	07 44 19.1	-0.4
MTW	**Mount Morrison**	3.61	216	PN	Pn	07 44 20.2	-4.9
MTW				SN	Sn	07 45 01.6	-5.8
KIW	**Kapiti Island**	3.69	224	PN	Pn	07 44 21.7	-4.5
KIW				SN	Sn	07 45 04.5	-4.8
CAW	**Cannon Point**	3.78	220	PN	Pn	07 44 22.5	-5.0
CAW				SN	Sn	07 45 05.6	-6.1
PAWZ	**Paruwai Farm**	3.82	214	PN	Pn	07 44 23.2	-4.9
TUWZ	**Tuamarina**	4.61	225	SN	Sn	07 45 25.1	-7.6
NNZ	**Nelson**	4.80	230	PN	Pn	07 44 36.7	-5.4
QRZ	**Quartz Range**	5.14	238	PN	Pn	07 44 41.1	-5.7
THZ	**Tophouse**	5.42	228	PN	Pn	07 44 44.6	-6.1
LTZ	**Lake Taylor**	6.44	224	SN	Sn	07 46 06.7	-12

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*ISK **05** 07:50:48.5, 36.58N×29.07E, h5^{km}, MD3.4, ML3.5*

*NEIC **05** 07:50:48.8, 36.67N×29.12E, h5^{km}, MD3.4(ATH), After ATH.*

*ATH **05** 07:50:48.8, 36.67N×29.12E, h5^{km}, MD3.4/4*

ISC 05 07:50:49.6±0.5**, 36.57N**±0.04×**29.11E**±0.04**, h5^{km}, n25, σ0^{s}95**/33**, 1C, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DALT	**Dalyan (Mudla)**	0.43	298	*i* PG	**Pg**	**07 50 57.2**	**-1.1**
DALT				*i* SG	**Sg**	**07 51 04.4**	**+0.4**
KSL	**Kastellorizon**	0.57	138	*e*PB	**Pb**	**07 51 01.0**	**-0.7**
ELL	**Elmali**	0.67	74	*i* PG	**Pg**	**07 51 02.6**	**-0.4**
ARG	**Arkhangelos**	0.87	246	*e*PG	**Pg**	**07 51 05.7**	**-1.3**
ARG				*e*SB	**Sb**	**07 51 19.5**	**+0.9**
YER	**Yerkesik**	0.87	310	*i* PG	**Pg**	**07 51 05.5**	**-1.5**
DNZL	**Cakiroluk**	1.12	357	⇑*i*P	**Pb**	**07 51 10.3**	**-0.8**
DNZL				*i* S	**Sb**	**07 51 26.9**	**+1.1**
DENT	**Denizli**	1.18	357	*i* PN	**Pn**	**07 51 11.6**	**-1.2**
DENT				*i* SN	**Sn**	**07 51 29.6**	**+0.2**
MLSB	**Milas**	1.29	304	PN	**Pn**	**07 51 13.6**	**-0.7**
BDRM	**Kayabasi**	1.43	291	*i* P	**Pn**	**07 51 16.2**	**0.0**
BDRM				*i* S	**Sb**	**07 51 35.7**	**+1.0**
AYDN	**Tasoluk**	1.47	318	*i* P	**Pn**	**07 51 16.6**	**-0.3**
AYDN				*i* S	**Sb**	**07 51 37.2**	**+1.3**
BCK	**Bucak**	1.48	53	PN	**Pn**	**07 51 18.3**	**+1.3**
ISP	**Isparta**	1.69	41	*i* P	**Pn**	**07 51 21.6**	**+1.6**
ISP				*i* S	**Sn**	**07 51 47.1**	**+4.8**
ISP	**Isparta**	1.69	41	PN	**Pn**	**07 51 21.0**	**+0.9**
KHL	**Karahalli**	1.78	11	PN	**Pn**	**07 51 20.9**	**-0.4**
KARP	**Karpathos**	1.88	238	*e*PN	**Pn**	**07 51 24.3**	**+1.5**
SMG	**Samos**	2.14	303	*e*PN	**Pn**	**07 51 27.0**	**+0.5**
IZM	**Izmir**	2.34	322	*e*PN	**Pn**	**07 51 29.1**	**-0.3**
KDAG	**Bornova**	2.34	322	*i* P	**Pn**	**07 51 29.2**	**-0.2**
KDAG				*i* S	**Sn**	**07 51 58.8**	**-0.1**
AKS	**Akhisar**	2.52	336	*e*PN	**Pn**	**07 51 31.0**	**-1.0**
ALT	**Altintas**	2.60	17	*e*PN	**Pn**	**07 51 32.8**	**-0.3**
HDMB	**Hadim**	2.74	81	*e*PN	**Pn**	**07 51 36.3**	**+1.2**
ESKT	**Eskisehir**	3.25	24	*e*P	**Pn**	**07 51 40.8**	**-1.5**
ULDT	**Uludag**	3.56	0	*e*P	**Pn**	**07 51 55.6**	**+8.8**
MEST	**Erdemli**	4.05	88	*i* P	**Pn**	**07 51 57.5**	**+3.7**
SGKT	**Sivrigoynuk**	4.61	29	*i* P	**Pn**	**07 52 02.4**	**+0.7**

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*NEIC **05** 07:57:45.8, 27.50S×70.93W, h50^{km}, After GUC.*

GUC 05 07:57:45.8±0.5**, 27.50S×70.93W, h50^{km}, ML3.9, 1C-2D, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CPCH	**Copiapo**	0.53	74	⇑*i*P	P	07 57 57.8	+0.3
CPCH				*i* S	S	07 58 06.8	+0.9
VACH	**Vallenar**	1.08	172	⇓*i*P	P	07 57 57.6	-7.2
VACH				*i* S	S	07 58 12.4	-6.5
VACH				AMP		07 58 15.8	
	comp=E,7μm,0.1s						
LSCH	**La Serena**	2.41	187	*e*P	P	07 58 23.5	-0.3
LSCH				*e*S	S	07 58 51.5	-0.7
LSCH				AMP		07 59 02.7	
	comp=E,456nm,0.2s						
TLL	**Tololo Astrono**	2.66	178	*e*P	P	07 58 27.6	+0.4
TLL				*e*S	S	07 58 58.4	0.0
TLL				AMP		07 59 15.8	
	comp=N,452nm,0.5s						
CPN1	**Cerro Paranal**	2.90	9	*e*P	P	07 58 29.8	-0.9
CPN1				*i* S	S	07 59 03.6	-0.9
CPN1				AMP		07 59 18.4	
	comp=E,357nm,0.5s						
CMCH	**Combarbala**	3.66	181	⇓*i*P	P	07 58 40.8	-0.6
CMCH				*e*S	S	07 59 22.6	-1.1

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*NNC **05** 08:03:45.4±3.8, 50.09N×87.24E, h22^{km}±13^{km}, mpv4.1, Error ellipse: s-maj=20.4km s-min=11.3km az=86.0*

MOS 05 08:03:44.2±3.0**, 49.98N×87.58E, h29^{km}, mb4.4**/1**, 12C-1D, Error ellipse: s-maj=23.0km s-min=12.2km az=87.6, Kazakhstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKAR	**Aktash**	0.35	5	*e*PG	Pb	08 03 47.9	-4.3
UKR	**Ust'-Kan**	2.03	299	*i* PN	Pn	08 04 17.9	+0.7
UKR				*e*S	Sn	08 04 45.5	+3.6
TASR	**Tashtagol**	2.80	4	*e*PN	Pn	08 04 31.5	+3.4
TASR				*e*S	Sn	08 05 07.7	+6.5
ELT	**Yel'tsovka**	3.40	346	*e*PN	Pn	08 04 37.7	+1.1
ELT				*e*S	Sn	08 05 27.5	+11
CERR	**Cheremushki**	3.75	38	*e*PN	Pn	08 04 44.1	+2.4
CERR				*i*		08 04 50.4	
CERR				*e*S	Sn	08 05 35.8	+10
MK31	**Makanchi Array**	4.75	230	⇑Pn	Pn	08 04 58.3	+2.5
	34nm,0.5s,baz=57,slow=13,SNR=529						
MK31				⇑Sn	Sn	08 05 54.2	+3.6
	16nm,0.5s,baz=50,slow=26,SNR=6.9						
MK31				⇑Lg		08 06 14.0	
	39nm,0.5s,baz=55,slow=29,SNR=5.5						
MKAR	**Makanchi Array**	4.75	230	*e*PN	Pn	08 04 58.2	+2.4
MKAR				*e*		08 05 53.9	
MKAR						08 06 13.9	
MKAR				pmax	pmax		
	comp=Z,8.0nm,0.4s						
MKAR				smax			
	comp=Z,3.0nm,0.3s						
MKAR				smax			
	comp=Z,14nm,0.4s						
NVS	**Novosibirsk**	5.55	333	*e*PN	Pn	08 05 06.6	-0.5
NVS				*i* S	Sn	08 06 30.7	+20
KURK	**Kurchatov**	5.78	281	⇑Pn	Pn	08 05 09.8	-0.6
	comp=Z,8.3nm,0.6s,baz=105,slow=7.2,SNR=30						
KURK				⇑Lg		08 06 42.0	
	comp=Z,50nm,0.7s,baz=188,slow=17,SNR=13						
KURK	**Kurchatov**	5.78	281	*i* PN	Pn	08 05 09.7	-0.7
KURK						08 06 43.0	
KURK				pmax	pmax		
	comp=Z,5.0nm,0.6s						
KURK				smax			
	comp=Z,35nm,0.7s						
VOSK	**Vostochnaya**	10.74	291	⇑Pn	P	08 06 15.3	-3.9
	comp=Z,2.7nm,1.1s						
VOSK				⇑Sn	S	08 08 10.6	-8.7
	comp=Z,5.9nm,0.8s						
BVA0	**Borovoye Array**	11.14	292	⇓Sn	S	08 08 20.0	-9.2
	comp=Z,1.3nm,1.0s,baz=97,slow=22,SNR=4.2						
ZRNK	**Zerenda**	11.96	292	⇑Pn	P	08 06 31.9	-3.7
	comp=Z,1.6nm,0.6s						
ZRNK				⇑Sn	S	08 08 41.2	-7.8
	comp=Z,2.6nm,0.5s						
KK31	**Karatay Array**	13.59	246	⇑Pn	P	08 06 54.1	-3.2
	comp=Z,2.1nm,0.5s,baz=48,slow=14,SNR=44						
KK31				⇑Sn	S	08 09 21.0	-7.3
	comp=Z,1.7nm,0.6s,baz=55,slow=22,SNR=3.8						
BOD	**Bodaibo**	17.35	53	*e*P	P	08 07 44.2	-1.4
AB31	**Akbulak array**	17.89	278	⇑P	P	08 07 50.4	-2.0
	comp=Z,2.0nm,0.9s,baz=82,slow=11,SNR=14						

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*IDC **05** 08:13:32.5±1.4, 5.56S×145.92E, mb4.0/5, mb1 4.2/7, mb1mx4.1/13, ML3.8/2, Error ellipse: s-maj=52.7km s-min=23.1km az=111.0*

*NEIC **05** 08:13:38.4±7.7, 5.45S×145.44E, h30^{km}±57^{km}, mb3.8/1, Error ellipse: s-maj=27.5km s-min=15.1km az=182.0*

ISC 05 08:13:39.3±2.1**, 5.6S**±0.1×**145.38E**±0.10**, h54^{km}**±22^{km}**, n15, σ1^{s}18**/17**, mb4.0**/5**, 1D, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WAU	**Wau**	2.20	143	*e*P	**P**	**08 14 15.1**	**+0.9**
PMG	**Port Moresby**	4.19	155	⇓*i*P	**P**	**08 14 40.4**	**-1.9**
CTA	**Charters Tower**	14.44	177	Pn	**P**	**08 17 03.1**	**+0.7**
	0.4nm,0.3s,baz=357,slow=15,SNR=3.6						
CTAO	**Charters Tower**	14.44	177	P	**P**	**08 17 03.0**	**+0.6**
KAKA	**Kakadu**	14.63	240	*e*P	**P**	**08 17 03.3**	**-1.6**
	14nm,0.6s						
KAKA				*e*S	**S**	**08 19 45.4**	**-0.7**
WRAB	**Tennant Creek**	17.84	216	*e*P	**P**	**08 17 46.7**	**+1.1**
	5.6nm,0.6s						
WB2	**Warramunga Arr**	17.85	216	*e*P	**P**	**08 17 47.0**	**+1.3**
WB2				*e*S	**S**	**08 20 59.5**	**-0.5**
WRA	**Warramunga Arr**	17.86	216	P	**P**	**08 17 45.6**	**-0.1**
	0.3nm,0.3s,baz=37,slow=12,SNR=24						
ASAR	**Alice Springs**	21.10	210	P	**P**	**08 18 22.4**	**+0.7**
	2.6nm,0.8s,mb3.6,baz=46,slow=9.0,SNR=14						
ASPA	**Alice Springs**	21.10	210	*e*P	**P**	**08 18 29.9**	**+8.3**
FITZ	**Fitzroy Crossi**	22.94	235	P	**P**	**08 18 43.1**	**+3.1**
	3.3nm,0.5s,mb4.0,baz=21,slow=10,SNR=7.2						
STKA	**Stephens Creek**	26.39	187	P	**P**	**08 19 11.9**	**-0.9**
	6.6nm,0.8s,mb4.2,baz=352,slow=10,SNR=13						
MKAR	**Makanchi Array**	76.16	321	P	**P**	**08 25 24.8**	**+1.3**
	0.3nm,0.5s,mb3.5,baz=105,slow=6.2,SNR=3.4						
KURK	**Kurchatov**	79.92	324	*e*P	**P**	**08 25 44.0**	**-0.2**
ILAR	**Eielson Array**	85.74	23	P	**P**	**08 26 11.9**	**-1.7**
	1.7nm,0.7s,mb4.4,baz=254,slow=5.1,SNR=38						

IDC 05 08:32:28.8±4.4**, 29.86S×177.80W, mb3.6**/3**, mb1 3.8**/3**, mb1mx3.7**/10**, Error ellipse: s-maj=193.0km s-min=67.3km az=160.0, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	34.77	256	P	P	08 39 20.6	-2.4
	1.8nm,0.8s,baz=94,slow=12,SNR=4.8						
ASAR	**Alice Springs**	43.31	266	P	P	08 40 33.7	-0.5
	0.2nm,0.7s,baz=106,slow=7.1,SNR=3.5						
WB2	**Warramunga Arr**	44.24	272	*e*P	P	08 40 39.0	-2.8
WRA	**Warramunga Arr**	44.25	271	P	P	08 40 39.3	-2.6
	0.4nm,0.3s,baz=111,slow=8.1,SNR=41						
FINES	**FINESS Array B**	144.70	340	PKP	PKPdf	08 52 06.2	-2.4
	0.6nm,0.4s,baz=63,slow=3.1,SNR=6.0						

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*HEL **05** 08:41:19.9±0.2, 67.86N×20.23E, ML2.0, ML2.1(UPP), ML1.8(BER), Explosion*

*BER **05** 08:41:20.2±2.3, 67.82N×20.23E, ML1.8, Suspected explosion*

ISC 05 08:41:17.9±0.6**, 67.81N**±0.03×**20.12E**±0.09**, n15, σ0^{s}64**/23**, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	0.17	29	*i* P	**Pg**	**08 41 20.9**	**-0.3**
KUA				*i* S	**Sg**	**08 41 22.9**	**-0.5**
NIKU	**Nikkaluokta**	0.42	279	*i* P	**Pg**	**08 41 25.6**	**-0.6**
MASU	**Masugnsbyn**	0.80	115	*i* P	**Pg**	**08 41 34.2**	**+0.3**
KIF	**Kilpisjarvi**	1.23	12	*e*P	**Pb**	**08 41 42.4**	**+0.7**
KIF				*e*S	**Sb**	**08 41 57.8**	**-0.1**
PAJU	**Pajala**	1.40	123	*e*P	**Pb**	**08 41 44.7**	**+0.2**
KTK1	**Kautokeino**	1.67	42	*e*P	**Pn**	**08 41 48.6**	**+0.1**
KTK1				*e*SN	**Sn**	**08 42 11.5**	**+0.5**
KTK1				AML	AML	08 42 13.4	
	comp=Z,10nm,0.4s						
TRO	**Tromso**	1.88	347	*e*P	**Pn**	**08 41 51.7**	**+0.1**
TRO				*e*SN	**Sn**	**08 42 17.4**	**+1.0**
SGF	**Sodankyl**	2.48	96	*e*P	**Pn**	**08 42 01.1**	**+1.0**
SGF				*e*S	**Sn**	**08 42 31.6**	**0.0**
LOF	**Lofoten**	2.50	280	*e*SG	**Sg**	**08 42 41.1**	**-0.1**
MOR8	**Moi Rana**	2.77	236	*e*SG	**Sg**	**08 42 42.2**	**-8.0**
MOR8				AML	AML	08 42 44.1	
	comp=Z,16nm,0.4s						
KEV	**Kevo**	3.18	49	*e*P	**Pn**	**08 42 09.6**	**-0.5**
KEV				*e*S	**Sn**	**08 42 48.0**	**-1.2**
KEV				MSG		08 43 04.1	
	comp=Z,4.6nm,0.3s						
OUL	**Oulu**	3.58	137	*e*PG	**Pg**	**08 42 23.8**	**-5.7**
OUL				*e*SB	**Sb**	**08 43 07.3**	**+1.0**
OUL				MSG		08 43 16.9	
	comp=Z,2.8nm,0.3s						
MSF	**Maaselka**	4.00	114	*e*SG	**Sg**	**08 43 22.7**	**-8.4**
MSF				MSG		08 43 26.5	
	comp=Z,2.3nm,0.3s						
NSS	**Namsos**	4.67	229	*e*SG	**Sg**	**08 43 46.0**	**-7.2**
KJN	**Kajaani**	4.86	137	*e*P	**Pn**	**08 42 33.4**	**-0.5**
KJN				*e*S	**Sn**	**08 43 30.6**	**-1.1**

IDC 05 08:58:43.1±53.0**, 22.78S×177.20W, mb3.6**/3**, mb1 3.8**/3**, mb1mx3.7**/9**, Error ellipse: s-maj=969.0km s-min=163.5km az=86.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	37.53	247	P	P	09 05 58.1	-2.6
	0.8nm,0.8s,baz=95,slow=12,SNR=4.3						
ASAR	**Alice Springs**	44.77	259	P	P	09 06 58.6	-1.8
	0.2nm,0.4s,baz=101,slow=7.4,SNR=5.6						
WRA	**Warramunga Arr**	45.06	264	P	P	09 07 01.7	-1.2
	0.5nm,0.4s,baz=99,slow=7.4,SNR=23						

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*NEIC **05** 09:12:50.3, 43.25S×172.76E, h37^{km}, mb4.6/1, ML4.3(WEL), After WEL.*

NEIC Felt at Christchurch.

*WEL **05** 09:12:50.4±0.1, 43.26S×172.75E, h36^{km}±1^{km}, ML4.3/12, Error ellipse: s-maj=2.0km s-min=0.8km az=90.0*

WEL Felt from West Coast to Canterbury, maximum reported intensity MM 6.

*IDC **05** 09:12:50.2±1.4, 43.19S×172.78E, h28^{km}±4^{km}, mb4.0/2, mb1 4.2/3, mb1mx3.9/9, ML4.0/1, MS3.8/5, Ms1 3.7/5, ms1mx3.5/16, Error ellipse: s-maj=46.5km s-min=23.1km az=159.0*

ISC 05 09:12:48.2±0.3**, 43.28S**±0.03×**172.88E**±0.04**, h48^{km}**±5^{km}**, n116, σ1^{s}12**/139**, mb4.2**/3**, MS3.8**/5**, 1C-1D, South Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CRLZ	**Canterbury Las**	0.35	213	⇑PN	**P**	**09 12 58.6**	**+0.8**
CRLZ				SN	**S**	**09 13 04.1**	**-0.4**
CRLZ	**Canterbury Las**	0.35	213	P	**P**	**09 12 58.6**	**+0.8**
MQZ	**McQueen's Vall**	0.46	201	PN	**P**	**09 12 59.8**	**+0.9**
MQZ				PN	**P**	**09 12 59.8**	**+0.9**
MQZ				SN	**S**	**09 13 06.5**	**-0.1**
MQZ	**McQueen's Vall**	0.46	201	P	**P**	**09 12 59.8**	**+0.9**
MQZ				S	**S**	**09 13 06.8**	**+0.3**
LTZ	**Lake Taylor**	0.67	318	PN	**P**	**09 13 01.9**	**+0.3**
LTZ				SN	**S**	**09 13 10.0**	**-1.4**
LTZ	**Lake Taylor**	0.67	318	P	**P**	**09 13 02.0**	**+0.4**
LTZ				S	**S**	**09 13 10.0**	**-1.4**
KHZ	**Kahutara**	0.99	29	PN	**P**	**09 13 07.4**	**+1.5**
KHZ				SN	**S**	**09 13 20.9**	**+1.8**
KHZ	**Kahutara**	0.99	29	P	**P**	**09 13 07.4**	**+1.4**
RPZ	**Rata Peaks**	1.40	251	Pn	**P**	**09 13 12.3**	**+0.5**
	58nm,0.3s,baz=315,slow=7.1,SNR=497						
RPZ				Sn	**S**	**09 13 24.1**	**-5.3**
	386nm,0.3s,baz=213,slow=0.3,SNR=68						
RPZ				LR	LR	09 13 52.4	
	comp=Z,647nm,20.9s,baz=316,slow=46						
RPZ	**Rata Peaks**	1.40	251	⇓PN	**P**	**09 13 12.3**	**+0.4**
RPZ				SN	**S**	**09 13 27.6**	**-1.8**
RPZ	**Rata Peaks**	1.40	251	P	**P**	**09 13 12.3**	**+0.4**
THZ	**Tophouse**	1.52	1	PN	**P**	**09 13 14.6**	**+1.1**
THZ				SN	**S**	**09 13 31.4**	**-0.8**
THZ	**Tophouse**	1.52	1	P	**P**	**09 13 14.6**	**+1.1**
WVZ	**Waitaha Valley**	1.58	277	PN	**P**	**09 13 15.0**	**+0.6**
WVZ				SN	**S**	**09 13 32.7**	**-1.2**
BSWZ	**Blackbirch Sta**	1.73	25	PN	**P**	**09 13 18.1**	**+1.7**
BSWZ				SN	**S**	**09 13 39.3**	**+1.9**
DSZ	**Denniston Nort**	1.73	332	PN	**P**	**09 13 17.2**	**+0.8**
DSZ				SN	**S**	**09 13 35.9**	**-1.5**
CMWZ	**Cape Campbell**	1.82	33	PN	**P**	**09 13 19.7**	**+2.0**
TUWZ	**Tuamarina**	2.01	23	PN	**P**	**09 13 21.5**	**+1.1**
TUWZ				SN	**S**	**09 13 46.0**	**+1.7**
NNZ	**Nelson**	2.09	10	PN	**P**	**09 13 22.9**	**+1.3**
LBZ	**Lake Benmore**	2.24	240	PN	**P**	**09 13 24.4**	**+0.7**
BHW	**Baring Head**	2.38	39	PN	**P**	**09 13 26.4**	**+0.7**
BHW				SN	**S**	**09 13 53.2**	**-0.6**
ODZ	**Otahua Downs**	2.39	222	PN	**P**	**09 13 26.3**	**+0.4**
ODZ				SN	**S**	**09 13 52.2**	**-1.8**
SNZO	**South Karori**	2.39	35	PN	**P**	**09 13 26.5**	**+0.7**
SNZO				SN	**S**	**09 13 53.9**	**-0.1**
SNZO	**South Karori**	2.39	35	*e*Pn	**P**	**09 13 26.4**	**+0.6**
WEL	**Wellington**	2.44	36	PN	**P**	**09 13 27.4**	**+0.9**
WEL				SN	**S**	**09 13 55.3**	**+0.1**
MRW	**Makara Radio**	2.45	34	PN	**P**	**09 13 27.5**	**+0.7**
MRW				SN	**S**	**09 13 55.5**	**-0.1**
MRW	**Makara Radio**	2.45	34	P	**P**	**09 13 27.6**	**+0.8**
MSWZ	**Moikau Station**	2.56	44	PN	**P**	**09 13 28.6**	**+0.4**
MSWZ				SN	**S**	**09 13 57.4**	**-1.0**
PAWZ	**Paruwai Farm**	2.67	46	PN	**P**	**09 13 30.2**	**+0.2**
PAWZ				SN	**S**	**09 14 00.8**	**-0.5**
CAW	**Cannon Point**	2.71	38	PN	**P**	**09 13 30.8**	**+0.4**
CAW				SN	**S**	**09 14 01.3**	**-0.8**
CAW	**Cannon Point**	2.71	38	P	**P**	**09 13 30.8**	**+0.4**
KIW	**Kapiti Island**	2.85	33	PN	**P**	**09 13 32.9**	**+0.5**
KIW				SN	**S**	**09 14 04.5**	**-1.2**
KIW	**Kapiti Island**	2.85	33	P	**P**	**09 13 33.0**	**+0.6**
MTW	**Mount Morrison**	2.88	43	PN	**P**	**09 13 32.6**	**-0.2**
MTW	**Mount Morrison**	2.88	43	P	**P**	**09 13 32.9**	**+0.1**
JCZ	**Jackson Bay**	3.10	254	PN	**P**	**09 13 35.7**	**-0.1**
WKZ	**Wanaka**	3.19	240	PN	**P**	**09 13 37.0**	**-0.2**
MRZ	**Mangatainoka R**	3.30	38	PN	**P**	**09 13 38.3**	**-0.4**
MRZ				SN	**S**	**09 14 15.2**	**-1.9**
MRZ	**Mangatainoka R**	3.30	38	P	**P**	**09 13 38.5**	**-0.3**
TUZ	**Tuapeka**	3.54	220	PN	**P**	**09 13 42.1**	**-0.1**
TUZ	**Tuapeka**	3.54	220	*e*P	**P**	**09 13 42.2**	**0.0**
BFZ	**Birch Farm**	3.61	45	PN	**P**	**09 13 42.4**	**-0.7**
BFZ				SN	**S**	**09 14 23.0**	**-1.9**
BFZ	**Birch Farm**	3.61	45	*e*P	**P**	**09 13 42.4**	**-0.7**
MSZ	**Milford Sound**	3.84	247	PN	**P**	**09 13 45.2**	**-1.2**
TSZ	**Takapari Road**	3.96	37	PN	**P**	**09 13 47.2**	**-0.9**
MLZ	**Mavora Lakes**	3.96	237	PN	**P**	**09 13 48.0**	**-0.1**
MLZ				SN	**S**	**09 14 31.1**	**-2.7**
MLZ	**Mavora Lakes**	3.96	237	*e*P	**P**	**09 13 48.0**	**-0.1**
NWEZ	**Newall Road**	4.07	11	PN	**P**	**09 13 50.8**	**+1.2**
NWEZ	**Newall Road**	4.07	11	P	**P**	**09 13 51.0**	**+1.4**
NEZ	**North Egmont**	4.11	13	PN	**P**	**09 13 51.5**	**+1.3**
NEZ	**North Egmont**	4.11	13	P	**P**	**09 13 51.8**	**+1.6**
PKE	**Pukeiti**	4.17	12	PN	**P**	**09 13 52.4**	**+1.4**
PKE	**Pukeiti**	4.17	12	P	**P**	**09 13 52.4**	**+1.4**
VRZ	**Vera Road**	4.39	19	PN	**P**	**09 13 55.0**	**+0.9**
VRZ	**Vera Road**	4.39	19	*e*P	**P**	**09 13 55.2**	**+1.1**
WHZ	**Wether Hill Ro**	4.39	232	PN	**P**	**09 13 52.5**	**-1.6**
WHZ	**Wether Hill Ro**	4.39	232	*e*P	**P**	**09 13 52.5**	**-1.6**
PWZ	**Pawanui**	4.41	44	*e*P	**P**	**09 13 52.7**	**-1.7**
MOVZ	**Moawhango**	4.43	30	PN	**P**	**09 13 54.4**	**-0.3**
WNVZ	**Wahianoa**	4.45	28	PN	**P**	**09 13 55.3**	**+0.3**
FWVZ	**Far West T-bar**	4.50	27	PN	**P**	**09 13 56.1**	**+0.5**
FWVZ				SN	**S**	**09 14 45.2**	**-2.1**
TUVZ	**Tukino**	4.52	28	PN	**P**	**09 13 56.1**	**+0.1**
TUVZ				SN	**S**	**09 14 48.3**	**+0.5**
TUVZ	**Tukino**	4.52	28	P	**P**	**09 13 56.2**	**+0.2**
CNZ	**Chateau**	4.54	27	PN	**P**	**09 13 56.6**	**+0.2**
CNZ	**Chateau**	4.54	27	P	**P**	**09 13 56.9**	**+0.6**
NGZ	**Ngauruhoe**	4.58	27	PN	**P**	**09 13 57.1**	**+0.2**
NGZ	**Ngauruhoe**	4.58	27	P	**P**	**09 13 57.2**	**+0.3**
TWVZ	**Taurewa**	4.62	25	PN	**P**	**09 13 57.9**	**+0.5**
TWVZ				SN	**S**	**09 14 48.5**	**-2.1**
WTVZ	**West Tongariro**	4.63	27	PN	**P**	**09 13 57.7**	**+0.1**
WTVZ				SN	**S**	**09 14 48.1**	**-2.6**
KAVZ	**Karewarewa**	4.67	27	PN	**P**	**09 13 58.5**	**+0.4**
KAVZ	**Karewarewa**	4.67	27	P	**P**	**09 13 58.5**	**+0.4**
MGZ	**Maungaku**	4.72	26	PN	**P**	**09 13 58.9**	**+0.1**
MGZ	**Maungaku**	4.72	26	P	**P**	**09 13 59.2**	**+0.4**
RATZ	**Rangitukua**	4.92	27	PN	**P**	**09 14 02.5**	**+0.9**
RATZ	**Rangitukua**	4.92	27	P	**P**	**09 14 02.8**	**+1.2**
BKZ	**Black Stump Fm**	4.93	35	PN	**P**	**09 13 59.6**	**-2.1**
BKZ	**Black Stump Fm**	4.93	35	*e*P	**P**	**09 13 59.8**	**-1.9**
HIZ	**Hauiti**	4.99	18	PN	**P**	**09 14 02.8**	**+0.2**
WATZ	**Wairara**	5.05	26	PN	**P**	**09 14 03.7**	**+0.2**
WATZ	**Wairara**	5.05	26	P	**P**	**09 14 03.7**	**+0.3**
KNZ	**Kokohu**	5.58	42	PN	**P**	**09 14 09.4**	**-1.4**
KNZ	**Kokohu**	5.58	42	*e*P	**P**	**09 14 08.9**	**-1.9**
TOZ	**Tahuroa Road**	5.89	21	PN	**P**	**09 14 14.8**	**-0.3**
TOZ	**Tahuroa Road**	5.89	21	P	**P**	**09 14 14.8**	**-0.3**
URZ	**Urewera**	5.95	34	Pn	**P**	**09 14 14.4**	**-1.6**
	3.7nm,0.3s,baz=220,slow=6.7,SNR=24						
URZ				Sn	**S**	**09 15 18.4**	**-5.4**
	14nm,0.3s,baz=77,slow=19,SNR=14						
URZ	**Urewera**	5.95	34	PN	**P**	**09 14 12.7**	**-3.3**
URZ				SN	**S**	**09 15 18.4**	**-5.4**
URZ	**Urewera**	5.95	34	*e*P	**P**	**09 14 12.7**	**-3.3**
MWZ	**Matawai**	6.07	37	PN	**P**	**09 14 13.8**	**-3.7**
MWZ				SN	**S**	**09 15 21.6**	**-5.1**
MWZ	**Matawai**	6.07	37	*e*P	**P**	**09 14 13.8**	**-3.8**
MKAZ	**Moumakai**	6.41	17	PN	**P**	**09 14 21.8**	**-0.6**
MKAZ	**Moumakai**	6.41	17	P	**P**	**09 14 21.8**	**-0.6**
WTAZ	**Waiatarua**	6.47	12	P	**P**	**09 14 24.1**	**+0.8**
OTAZ	**Otara**	6.51	15	PN	**P**	**09 14 24.1**	**+0.2**
OTAZ	**Otara**	6.51	15	P	**P**	**09 14 24.2**	**+0.3**
PUZ	**Puketiti**	6.61	40	PN	**P**	**09 14 21.8**	**-3.5**
PUZ	**Puketiti**	6.61	40	*e*P	**P**	**09 14 22.1**	**-3.2**
KUZ	**Kuaotunu**	6.88	19	PN	**P**	**09 14 27.3**	**-1.7**
KUZ	**Kuaotunu**	6.88	19	*e*P	**P**	**09 14 28.1**	**-0.9**
MXZ	**Matakaoa Point**	7.05	38	PN	**P**	**09 14 28.4**	**-3.0**
MXZ	**Matakaoa Point**	7.05	38	*e*P	**P**	**09 14 28.8**	**-2.6**
WCZ	**Waipu Caves**	7.42	9	*e*P	**P**	**09 14 36.5**	**0.0**
OUZ	**Omahuta**	8.07	4	*e*P	**P**	**09 14 45.0**	**-0.5**
STKA	**Stephens Creek**	27.13	284	LR	LR	09 28 33.3	
	comp=Z,166nm,20.0s,MS3.6,baz=205,slow=35						
CTA	**Charters Tower**	32.13	308	LR	LR	09 30 16.7	
	comp=Z,130nm,18.2s,MS3.6,baz=47,slow=33						
ASAR	**Alice Springs**	37.51	289	P	**P**	**09 20 00.4**	**+1.2**
	2.5nm,0.7s,mb4.0,baz=132,slow=10.0,SNR=28						
ASAR				pP	pP	09 20 09.4	-2.6
	1.0nm,0.7s,baz=136,slow=9.6,SNR=4.7						
ASAR				pPcP		09 22 27.4	
	0.7nm,0.9s,baz=132,slow=3.5,SNR=5.2						
ASAR				LR	LR	09 35 00.2	
	comp=Z,93nm,18.0s,MS3.6,baz=197,slow=36						
WB2	**Warramunga Arr**	39.73	294	*e*P	**P**	**09 20 19.7**	**+2.0**
WRA	**Warramunga Arr**	39.74	294	P	**P**	**09 20 19.5**	**+1.8**
	2.3nm,0.9s,mb3.9,baz=135,slow=7.6,SNR=30						
WRA				pP	pP	09 20 28.0	-2.7
	1.9nm,0.7s,baz=136,slow=8.0,SNR=9.0						
WRA				pPcP		09 22 34.8	
	0.6nm,0.7s,baz=131,slow=3.1,SNR=5.4						
QSPA	**South Pole Qui**	46.85	180	*e*P	**P**	**09 21 20.6**	**+6.0**
	6.5nm,0.9s,mb4.6						
MAW	**Mawson**	57.64	205	LR	LR	09 46 23.5	
	comp=Z,73nm,21.8s,MS3.8,baz=110,slow=35						
USHA	**Ushuaia**	69.25	147	LR	LR	09 49 17.5	
	comp=Z,128nm,20.4s,MS4.2,baz=246,slow=32						
MKAR	**Makanchi Array**	120.10	307	pPKP		09 31 46.3	
	1.2nm,1.1s,baz=118,slow=3.7,SNR=4.0						
ARCES	**ARCESS Array B**	148.85	338	PKPbc	PKPdf	09 32 32.6	+7.5
	2.9nm,0.8s,baz=50,slow=7.0,SNR=2.7						
ARCES				pPKPbc		09 32 41.8	
	2.6nm,0.8s,baz=45,slow=3.4,SNR=2.2						
BRTR	**Keskin Array B**	149.48	277	PKPbc	PKPdf	09 32 35.5	+8.4
	0.6nm,0.4s,baz=63,slow=3.2,SNR=3.1						
BRTR				pPKPbc		09 32 45.7	
	2.0nm,0.6s,baz=135,slow=5.2,SNR=5.1						

FINES	FINESS Array B	153.22	324	PKPbc	PKPdf	09 32 44.9	+13
	1.9nm,1.0s,baz=284,slow=5.7,SNR=2.3						
FINES				pPKPbc		09 32 52.9	
	1.4nm,0.7s,baz=158,slow=10,SNR=3.2						
FINES	FINESS Array B	153.22	324	PKPbc	PKPdf	09 32 44.9	+13
FINES				pPKPbc		09 32 52.9	
AKASG	Malin Array Be	154.33	300	pPKPbc		09 32 55.7	
	0.3nm,0.4s,baz=61,slow=2.7,SNR=2.5						
AKASG				pPKPab		09 33 08.5	
	0.3nm,0.4s,baz=86,slow=2.5,SNR=5.0						

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*NEIC **05** 09:14:07.9,34.88S×70.45W,h3^{km},ML2.8(GUC),After GUC.*

GUC 05 09:14:07.9±1.0**,34.88S×70.45W,h3^{km},MD3.9,ML2.8, 2C-6D,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFDO	San Fernando	0.53	299	⇓*i*P	Pg	09 14 18.7	+0.2
SFDO				*e*S	Sg	09 14 27.7	+2.1
CICH	Cipreses	0.56	3	⇓*i*P	Pg	09 14 18.8	-0.2
CICH				*i* S	Sg	09 14 27.3	+0.9
NICH	Los Niches	0.65	259	⇓*i*P	Pg	09 14 20.4	-0.5
NICH				*i* S	Sg	09 14 30.2	+0.7
CACH	El Canelo	0.77	351	⇑*i*P	Pg	09 14 22.6	-0.6
CHCH	Chadas Angostu	0.96	350	⇓*i*P	Pb	09 14 26.3	-0.5
LMEL	Las Melosas	1.05	11	*e*P	Pb	09 14 27.7	-0.7
LMEL				*i* S	Sb	09 14 42.5	+0.2
LMEL				AMP		09 14 44.2	
	comp=E,312nm,0.1s						
LNV	Longovilo	1.21	319	⇑*i*P	Pb	09 14 30.5	-0.6
LNV				*i* S	Sb	09 14 48.3	+1.2
SJCH	San Jose de Ma	1.24	4	*i* P	Pb	09 14 30.4	-1.1
SJCH				*i* S	Sb	09 14 48.4	+0.6
SJCH				AMP		09 14 51.7	
	comp=N,132nm,0.5s						
PCH	Pirque	1.25	358	*e*P	Pb	09 14 31.0	-0.9
PCH				*i* S	Sb	09 14 48.6	+0.4
TACH	Talagante	1.28	342	⇓*i*P	Pb	09 14 31.9	-0.5
ANTU	Antumapu	1.31	353	*e*P	Pb	09 14 32.2	-0.7
ANTU				AMP		09 15 05.5	
	comp=E,235nm,0.4s						
FSR	Penalolen	1.40	357	*e*P	Pb	09 14 33.7	-0.6
FSR				AMP		09 15 09.8	
	comp=E,183nm,0.7s						
DSCH	Colegio Aleman	1.48	356	*e*P	Pn	09 14 33.9	-1.6
DSCH				AMP		09 15 10.9	
	comp=N,438nm,0.6s						
CLCH	Cerro Calan	1.48	357	*e*P	Pn	09 14 35.0	-0.5
CLCH				AMP		09 15 09.5	
	comp=N,280nm,0.4s						
FCH	Farellones	1.55	5	*e*P	Pn	09 14 36.6	0.0
FCH				*e*S	Sb	09 14 57.6	+0.7
FCH				AMP		09 15 16.0	
	comp=N,142nm,0.3s						
LCCH	Las Cruces	1.68	326	⇓*i*P	Pn	09 14 38.2	-0.1
CCHI	Chillan	2.17	217	*e*P	Pn	09 14 45.6	+0.2
CCHI				*i* S	Sn	09 15 14.4	+1.3
CCHI				AMP		09 15 22.4	
	comp=N,478nm,0.8s						

IDC 05 09:27:33.8±7.8**,2.16N×125.61E,mb3.7**/3**,mb1 3.9**/3**, mb1mx3.6**/14**,MS4.2**/1**,Ms1 4.2**/1**,ms1mx3.3**/18**,Error ellipse: s-maj=173.0km s-min=121.5km az=70.0,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	23.57	159	P	P	09 32 45.8	-1.3
	1.0nm,0.3s,baz=337,slow=10,SNR=30						
ASAR	Alice Springs	26.91	163	P	P	09 33 17.4	-1.3
	0.3nm,0.3s,baz=345,slow=11,SNR=6.9						
JNU	Nakatsue	31.20	9	LR	LR	09 46 41.9	
	comp=Z,421nm,18.7s,baz=225,slow=37						
STKA	Stephens Creek	37.09	157	P	P	09 34 45.9	-2.0
	0.9nm,0.5s,baz=335,slow=13,SNR=3.7						

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*NEIC **05** 09:34:03.5±0.2,18.36N×119.80E,mb4.8/20,Error ellipse: s-maj=9.3km s-min=4.6km az=69.0*

*IDC **05** 09:34:03.0±0.5,18.30N×119.87E,h29^{km}±3^{km},mb4.0/16, mb1 4.2/18,mb1mx4.1/22,ML4.5/2,MS3.9/3,Ms1 4.0/3, ms1mx3.6/23,Error ellipse: s-maj=32.2km s-min=9.6km az=65.0*

*BJI **05** 09:34:14.7,19.48N×119.00E,h21^{km},mB4.6,mb4.4, ML4.1,Ms4.5,Msz4.2*

ISC 05 09:34:01.9±0.2**,18.37N**±0.03×**119.66E**±0.03**,h29^{km}, h29^{km}**±1.1^{km}**:pP-P,n85,**σ**1^{s}16**/92**,mb4.5**/40**,MS4.0**/5**, 3C-1D,Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PIP	Pasuquin	0.91	93	⇑*i*P	Pn	09 34 18.4	-0.4
PIP				*e*S	Sb	09 34 30.3	-0.5
ABRA	Dolores	1.23	125	*e*P	Pn	09 34 23.2	-0.2
ABRA				*e*S	Sn	09 34 39.6	+0.5
APYP	Conner	1.59	108	*e*P	Pn	09 34 28.4	-0.1
APYP				*e*S	Sn	09 34 48.0	-0.2
CVP	Callao Caves	2.16	108	⇓*i*P	Pn	09 34 38.0	+1.3
CVP				*i* S	Sn	09 35 04.6	+1.9
BCPH	Baguio City Da	2.16	156	⇑*i*P	Pn	09 34 37.4	+0.6
BCPH				*i* S	Sn	09 35 03.7	+0.9
SGCP	Mt. Cagua	2.27	93	*e*P	Pn	09 34 38.3	0.0
SGCP				*e*S	Sn	09 35 06.7	+1.1
SCZP	Santa Cruz	2.59	175	*e*P	Pn	09 34 50.9	+8.1
BBP	Basco	3.00	46	*e*P	Pn	09 34 48.4	-0.2
BALP	Baler	3.19	145	*e*P	Pn	09 34 53.0	+1.6
BALP				*e*S	Sn	09 35 32.5	+3.7
TGY	Tagaytay City	4.42	164	Pn	Pn	09 35 12.8	+4.0
	37nm,0.3s,baz=110,slow=12,SNR=2.5						
LQP	Lukban	4.60	157	*e*P	Pn	09 35 24.1	+13
LUBP	Lubang	4.64	173	*e*P	Pn	09 35 12.9	+0.9
SJMP	San Jose	6.04	166	*e*P	Pn	09 35 32.5	+0.8
QZH	Quanzhou	6.62	352	P	Pn	09 35 35.0	-4.8
QZH				S	Sn	09 36 45.5	-10
QZH				Smax			
	comp=N,110nm,0.5s						
QZH				Smax			
	comp=E,120nm,0.4s						
ENPP	El Nido	7.12	182	*e*P	Pn	09 35 45.2	-1.7
QIZ	Qiongzhong	9.33	276	*e*Pn	P	09 36 12.3	-5.2
	comp=E,28nm,0.7s						
GYA	Guiyang	14.46	306	P	P	09 37 24.2	-2.5
GYA				AMB	AMB		
	comp=Z,30nm,1.7s						
GYA				AMB	AMB		
	comp=Z,290nm,5.5s						
ENH	Enshi	15.04	324	*e*P	P	09 37 33.4	-0.8
	comp=Z,53nm,1.4s						
KKTK	Khon Kaen	16.20	265	P	P	09 37 57.0	+7.7
	comp=Z,247nm,0.8s						
XAN	Xi’an	18.32	331	P	P	09 38 15.1	-0.6
XAN				AMB	AMB		
	comp=Z,21nm,1.6s						
XAN				LR	LR		
	comp=N,702nm,16.7s						
XAN				LR	LR		
	comp=E,1µm,16.7s						
XAN				LR	LR		
	comp=Z,849nm,13.2s						
CD2	Chengdu	19.07	314	*e*P	P	09 38 23.2	-1.6
CD2				AMB	AMB		
	comp=Z,30nm,1.5s						
CHG	Chiang Mai	19.64	275	P	P	09 38 34.0	+2.6
CMAR	Chiang Mai Arr	19.66	274	P	P	09 38 32.1	+0.5
	comp=Z,0.4nm,0.3s,baz=84,slow=9.1,SNR=7.7						
CMAR				LR	LR	09 45 34.4	
	comp=Z,261nm,21.3s,baz=95,slow=35						
BDT	Bhumibol Dam	19.70	270	P	P	09 38 32.0	0.0
BJT	Baijiatuau	21.79	353	P	P	09 38 52.0	-1.4
	comp=Z,26nm,0.9s,mb4.7						
BJI	Beijing	21.80	353	P	P	09 38 55.9	+2.4
BJI				AMB	AMB		
	comp=Z,18nm,1.2s,mb4.4						
BJI				LR	LR		
	comp=E,1µm,16.3s						
BJI				LR	LR		
	comp=Z,231nm,22.6s						
HHC	Hu-ho-hao-te	23.46	344	*e*P	P	09 39 16.0	+6.2
HHC				XP		09 39 25.3	
HHC				AMB	AMB		
	comp=Z,18nm,0.6s,mb4.7						
HHC				AMB	AMB		
	comp=Z,161nm,9.5s						
HHC				LR	LR		
	comp=N,271nm,21.4s,MS4.0						
HHC				LR	LR		
	comp=E,523nm,20.2s,MS4.0						
HHC				LR	LR		
	comp=Z,217nm,20.8s,MS3.6						
SNY	Shenyang	23.62	7	⇑P	P	09 39 14.3	+3.0
SNY				S	S	09 43 24.4	+4.0
SNY				LR	LR		
	comp=E,440nm,6.5s						
SNY				LR	LR		
	comp=Z,570nm,15.7s,MS4.1						
MAJO	Matsushiro	24.39	38	P	P	09 39 17.9	-0.9
	comp=Z,8.0nm,0.8s,mb4.2						
MAT	Matsushiro	24.39	38	P	P	09 39 18.0	-0.9
MAT	Matsushiro	24.39	38	*e*P	P	09 39 18.0	-0.9
	comp=Z,5.0nm,1.0s,mb3.9						
GTA	Gaotai	27.12	325	*e*P	P	09 39 48.7	+4.4
GTA				AP	pP	09 39 54.6	+1.7
GTA				XP	sP	09 39 58.2	+1.4
GTA				AMB	AMB		
	comp=Z,132nm,8.4s						
GTA				LR	LR		
	comp=N,386nm,20.5s,MS4.1						
GTA				LR	LR		
	comp=E,277nm,16.0s,MS4.1						
GTA				LR	LR		
	comp=Z,452nm,14.8s,MS4.2						
LSA	Lhasa	28.30	299	*e*P	P	09 39 55.1	0.0
SONM	Songino Array	31.32	343	P	P	09 40 21.4	-0.5
	comp=Z,0.4nm,0.6s,mb3.5,baz=153,slow=9.7,SNR=3.5						
SONM				PcP	PcP	09 43 15.7	+0.1
	comp=Z,0.5nm,0.4s,baz=156,slow=4.5,SNR=4.1						
GUN	Gumba	32.39	293	*e*P	P	09 40 34.5	+3.1
	comp=Z,12nm,0.3s,mb5.2						
PKI	Pulchoki	32.75	293	*e*P	P	09 40 37.1	+2.6
	comp=Z,33nm,1.2s,mb5.1						
KKN	Kakani	32.90	293	*e*P	P	09 40 39.0	+3.2
	comp=Z,19nm,1.0s,mb5.0						
DMN	Daman	33.02	293	*e*P	P	09 40 39.2	+2.3
	comp=Z,45nm,1.3s,mb5.2						
KAKA	Kakadu	33.33	157	*e*P	P	09 40 36.5	-3.2
	comp=Z,21nm,0.6s,mb5.2						
GKN	Gorkha	33.49	293	*e*P	P	09 40 42.5	+1.5
	comp=Z,12nm,0.6s,mb5.0						
YSS	Yuzh-Sakhalins	34.25	29	*e*P	P	09 40 46.8	-0.5
	comp=Z,4.7nm,0.5s,mb4.7						
KOLN	Koldanda	34.37	292	*e*P	P	09 40 48.9	+0.3
	comp=Z,24nm,1.2s,mb5.0						
FITZ	Fitzroy Crossi	36.72	170	*e*P	P	09 41 07.2	-1.4
	comp=Z,6.7nm,0.9s,mb4.5						
WRAB	Tennant Creek	40.70	159	*e*P	P	09 41 39.9	-1.9
	comp=Z,45nm,1.1s,mb5.0						
WRA	Warramunga Arr	40.70	159	P	P	09 41 40.0	-1.8
	comp=Z,8.3nm,0.5s,mb4.6,baz=341,slow=9.0,SNR=180						
WRA				S	S	09 47 43.2	-6.7
	comp=Z,0.7nm,0.9s,baz=336,slow=14,SNR=4.7						
WB2	Warramunga Arr	40.71	159	*e*P	P	09 41 40.1	-1.7
WB2				*e*S	S	09 47 41.1	-8.9
MKAR	Makanchi Array	41.74	321	P	P	09 41 49.9	-0.2
	comp=Z,2.2nm,1.1s,mb3.7,baz=135,slow=10,SNR=2.1						
MKAR				pP	pP	09 42 01.2	+2.3
	comp=Z,4.4nm,0.7s,baz=120,slow=9.8,SNR=7.5						
MKAR				PcP	PcP	09 43 46.4	-0.3
	comp=Z,1.2nm,0.6s,baz=117,slow=3.2,SNR=3.9						
MKAR				LR	LR	10 00 07.0	
	comp=Z,276nm,19.8s,MS4.1,baz=119,slow=37						
ASAR	Alice Springs	44.03	161	P	P	09 42 08.0	-1.1
	comp=Z,16nm,0.6s,mb4.9,baz=338,slow=7.2,SNR=149						
ASAR				S	S	09 48 37.5	-1.3
	comp=Z,0.6nm,0.8s,baz=18,slow=23,SNR=3.4						
ASAR				LR	LR	10 02 49.0	
	comp=Z,102nm,18.9s,MS3.8,baz=360,slow=39						
ASPA	Alice Springs	44.03	161	*e*P	P	09 42 08.0	-1.0
ZAL	Zalesovo	44.49	331	P	P	09 42 12.3	0.0
	comp=Z,1.4nm,0.4s,mb4.0,baz=270,slow=10,SNR=2.5						
ZAL				pP	pP	09 42 21.2	+0.1
	comp=Z,2.0nm,0.4s,baz=47,slow=20,SNR=2.2						
KURK	Kurchatov	45.80	324	*e*P	P	09 42 23.1	+0.3
	comp=Z,19nm,1.0s,mb5.0						
CTA	Charters Tower	46.27	144	P	P	09 42 26.2	-0.7
	comp=Z,6.4nm,0.9s,mb4.6,baz=328,slow=11,SNR=4.2						
FORT	Forrest	49.53	170	*e*P	P	09 42 51.6	-0.6
	comp=Z,61nm,0.7s						
KLBR	Kellerberrin	49.71	182	*e*P	P	09 42 52.2	-1.4
	comp=Z,14nm,0.9s,mb5.0						
NWAO	Narrogin (SRO)	51.06	183	P	P	09 43 03.5	-0.3
	comp=Z,7.2nm,0.8s,mb4.6,baz=15,slow=4.1,SNR=6.8						
NWAO	Narrogin (SRO)	51.06	183	*e*P	P	09 43 03.6	-0.2
	comp=Z,5.5nm,0.6s,mb4.7						
BVAR	Borovoye Array	51.40	324	P	P	09 43 06.7	+0.6
	comp=Z,0.6nm,0.5s,mb3.8,baz=108,slow=9.4,SNR=4.7						
BVAR				pP	pP	09 43 15.4	+0.3
	comp=Z,3.5nm,0.8s,baz=127,slow=7.2,SNR=10						
BVAR				PcP	PcP	09 44 19.9	-0.7
	comp=Z,1.4nm,0.7s,baz=76,slow=5.9,SNR=2.6						
BRVK	Borovoye	51.47	324	*e*P	P	09 43 07.5	+0.8
ZRNK	Zerenda	52.14	324	*e*P	P	09 43 12.0	+0.2
	comp=Z,180nm,1.2s						
ZRNK				*e*pP	pP	09 43 21.2	+0.4
STKA	Stephens Creek	54.21	157	*e*P	P	09 43 26.6	-0.7
	comp=Z,14nm,1.2s,mb4.8						
STKA	Stephens Creek	54.21	157	P	P	09 43 26.1	-1.1
	comp=Z,22nm,1.2s,mb5.0,baz=342,slow=7.8,SNR=18						
STKA				pP	pP	09 43 34.2	-2.1
	comp=Z,14nm,1.1s,baz=346,slow=7.9,SNR=8.1						
ARU	Arti	58.97	325	*e*P	P	09 43 59.8	-1.1
	comp=Z,20nm,0.9s,mb5.2						
ARU				*e*pP	pP	09 44 09.6	-0.6
CNB	Canberra Magne	60.37	152	*e*P	P	09 44 10.6	-0.3
	comp=Z,22nm,1.1s,mb5.1						
TOO	Toolangi	60.72	157	*e*P	P	09 44 13.4	+0.2
	comp=Z,4.3nm,0.7s,mb4.7						
MCK	McKinley	74.33	28	*e*P	P	09 45 37.5	-0.6
	comp=Z,3.7nm,0.8s,mb4.4						
ARCES	ARCESS Array B	74.39	339	P	P	09 45 38.8	+0.4
	comp=Z,1.3nm,0.8s,mb3.9,baz=97,slow=9.8,SNR=3.7						
ARCES				pP	pP	09 45 47.6	-0.1
	comp=Z,1.8nm,0.8s,baz=84,slow=11,SNR=2.1						
FINES	FINESS Array B	75.75	330	P	P	09 45 45.9	-0.4
	comp=Z,1.1nm,0.7s,mb3.9,baz=104,slow=7.9,SNR=6.6						
FINES				pP	pP	09 45 55.2	-0.4
	comp=Z,1.5nm,0.7s,baz=100,slow=8.5,SNR=3.3						
FINES	FINESS Array B	75.75	330	P	P	09 45 45.9	-0.4
FINES				pP	pP	09 45 55.2	-0.4
AKASG	Malin Array Be	76.28	319	P	P	09 45 49.4	-0.2
	comp=Z,0.5nm,0.5s,mb3.7,baz=65,slow=5.6,SNR=3.6						
AKASG				pP	pP	09 45 58.4	-0.5
	comp=Z,1.7nm,0.6s,baz=62,slow=5.5,SNR=5.2						
DAWY	Dawson	78.35	26	*e*P	P	09 46 00.6	-0.1
DAWY				*e*pP	pP	09 46 11.0	+1.0
INK	Inuvik	79.13	21	P	P	09 46 04.7	-0.2
	comp=Z,3.3nm,1.0s,mb4.2,baz=281,slow=5.2,SNR=3.1						
INK	Inuvik	79.13	21	P	P	09 46 04.7	-0.2
NB2	NORSAR Subarra	82.68	332	P	P	09 46 23.6	-0.2
	comp=Z,5.5nm,1.1s,mb4.5,baz=61,slow=5.0						
NOA	NORSAR Array B	82.68	332	P	P	09 46 23.9	+0.1
	comp=Z,0.4nm,0.7s,mb3.6,baz=89,slow=2.2,SNR=2.8						
NOA				pP	pP	09 46 32.8	-0.4
	comp=Z,3.1nm,0.9s,baz=66,slow=5.2,SNR=6.5						
NOA	NORSAR Array B	82.68	332	P	P	09 46 23.9	+0.1
NOA				pP	pP	09 46 32.8	-0.4
KMBO	Kilima Mbogo	83.15	267	P	P	09 46 28.9	+1.7
	comp=Z,1.0nm,0.7s,mb4.0,baz=23,slow=7.8,SNR=4.0						
BRG	Berggiesshubel	85.45	322	*i* P	P	09 46 45.8	+7.8
	comp=Z,5.7nm,1.1s,mb4.6						
BRG				*i*		09 47 03.4	
CLL	Collm	85.82	323	*e*P	P	09 46 49.0	+9.2
	comp=Z,10.0nm,1.3s,mb4.9						
GERES	GERESS Array B	86.41	320	P	P	09 46 43.1	+0.4
	comp=Z,0.2nm,0.4s,mb3.7,baz=51,slow=6.3,SNR=2.7						
GERES				pP	pP	09 46 53.3	+1.0
	comp=Z,1.6nm,1.0s,baz=63,slow=3.0,SNR=4.7						
YKA	Yellowknife Ar	88.86	22	pP	pP	09 47 04.4	+0.7
	comp=Z,2.5nm,0.6s,baz=315,slow=4.4,SNR=5.2						
BNI	Bardonecchia	92.40	319	*e*P	P	09 47 11.9	+0.8
	comp=Z,7.6nm,1.1s,mb4.9						
QSPA	South Pole Qui	108.19	180	*e*PKP		09 52 27.8	
TXAR	Lajitas Array	116.78	42	PKP	PKPdf	09 52 45.7	-3.4
	comp=Z,0.2nm,0.4s,baz=206,slow=1.3,SNR=11						
TXAR				pPKP		09 52 55.5	
	comp=Z,0.5nm,0.6s,baz=243,slow=2.8,SNR=6.2						
TXAR	Lajitas Array	116.78	42	PKP	PKPdf	09 52 45.7	-3.4
TXAR				pPKP		09 52 55.5	
SDV	Santo Domingo	151.08	21	*e*PKPbc	PKPdf	09 53 54.5	+2.4
SDV				*e*PKPab	PKPab	09 54 04.3	+1.4

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*NEIC **05** 10:06:05.8±0.7,49.76N×8.23E,h5^{km},ML2.6(LDG), ML2.2(STR),Error ellipse: s-maj=11.7km s-min=7.4km az=177.0*

*BGR **05** 10:06:06.5±0.2,49.83N×8.54E,h10^{km},ML1.9/7,Error ellipse: s-maj=3.3km s-min=1.1km az=151.0*

*LDG **05** 10:06:08.1±0.1,49.75N×8.22E,h8^{km},Md2.7/1,Ml2.6/9, Error ellipse: s-maj=2.2km s-min=1.1km az=79.0*

*STR **05** 10:06:08.3±0.8,49.48N×8.99E,h10^{km}±1^{km},Ml2.2,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*BNS **05** 10:06:09.3±0.5,49.74N×8.20E,h10^{km},ML1.7*

ISC 05 10:06:03.7±0.3**,49.86N**±0.02×**8.54E**±0.03**,h13^{km}**±4^{km}**, n35,**σ**1^{s}26**/68**,Germany**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TOD	Tromm	0.31	146	*e*Pg	Pg	10 06 12.4	+2.1
TOD	Tromm	0.31	146	Pg	Pg	10 06 12.4	+2.2
TOD				Sg	Sg	10 06 16.8	+2.2
KTD	Kalmit	0.62	209	*e*Pg	Pg	10 06 18.9	+2.7
BGG	Burgeitz	0.85	295	*e*Pg	Pg	10 06 22.6	+1.8
BGG				*e*Sg	Sg	10 06 32.8	+0.6
	40nm,0.2s						
RUP	Ruppelstein	0.97	261	*e*Pg	Pg	10 06 24.7	+1.5
LANF	Langenberg	1.00	209	*e*Pg	Pg	10 06 25.0	+1.2
LANF	Langenberg	1.00	209	Pg	Pg	10 06 25.0	+1.2
LANF				Sg	Sg	10 06 38.6	+1.4
STB	Steinbach	1.32	305	*e*Pg	Pg	10 06 31.3	+1.2
STB				*e*Sg	Sg	10 06 46.3	-1.4
	12nm,0.5s						
BNS	Bensberg	1.41	322	*e*Pg	Pg	10 06 33.1	+1.2
BNS				*e*Sg	Sg	10 06 50.4	-0.3
BFO	Black Forest	1.54	185	*e*Pn	Pn	10 06 32.6	+1.7
	SNR=0.8						
BFO				*e*Pg	Pg	10 06 34.2	-0.2
BFO				*e*Sg	Sg	10 06 54.6	-0.4
WLF	Walferdange	1.56	264	*e*Pn	Pn	10 06 33.3	+2.1
	SNR=1.4						
WLF				*e*Pg	Pg	10 06 35.5	+0.7
WLF				*e*Sg	Sg	10 06 55.4	-0.4
WLF	Walferdange	1.56	264	Pn	Pn	10 06 29.4	-1.9
WLF				*e*Sn	Sn	10 06 51.7	+0.3
KLL	Kalltalsperre	1.63	300	*e*Pg	Pg	10 06 35.4	-0.9
WLS	Welschbruch	1.64	209	*e*Pg	Pg	10 06 37.1	+0.6
WLS				*e*Sg	Sg	10 06 57.6	-0.9
WLS	Welschbruch	1.64	209	Pg	Pg	10 06 37.2	+0.6
WLS				Sg	Sg	10 06 58.0	-0.5
CDF	Champ du Feu	1.67	210	*e*Pn	Pn	10 06 33.4	+0.6
CDF				*e*Pg	Pg	10 06 35.9	-1.2
CDF				*e*Sg	Sg	10 06 54.2	-5.2
	7.0nm,0.2s						
GRF	Grafenberg Arr	1.75	94	*e*Pg	Pg	10 06 39.5	+0.9
GRF				*e*Sg	Sg	10 07 01.5	-0.4
ECH	Echery	1.88	209	Pg	Pg	10 06 42.1	+0.8
ECH				Sg	Sg	10 07 05.7	-0.6
MOX	Moxa	2.13	67	*e*Pg	Pg	10 06 46.2	0.0
MOX				*e*Sg	Sg	10 07 13.9	-0.6
MOX	Moxa	2.13	67	*e*Pg	Pg	10 06 46.1	-0.1
MOX				*e*Sg	Sg	10 07 14.4	-0.1
CLZ	Clausthal	2.30	30	*e*Pn	Pn	10 06 44.0	+2.2
	SNR=0.8						
CLZ				*e*Sg	Sg	10 07 20.7	+0.4
HINF	Hinteralfeld	2.33	209	*e*Pn	Pn	10 06 42.5	+0.2
HINF				*e*Pg	Pg	10 06 48.1	-2.1
HINF				*e*Sg	Sg	10 07 15.1	-6.2
	6.5nm,0.2s						
HAU	Haudompre	2.35	219	*e*Pn	Pn	10 06 42.5	-0.1
HAU				*e*Pg	Pg	10 06 48.0	-2.7
HAU				*e*Sg	Sg	10 07 15.2	-6.8
	7.0nm,0.3s						
RFYF	Reffroy	2.36	240	*e*Pn	Pn	10 06 42.1	-0.6
RFYF				*e*Pg	Pg	10 06 47.9	-2.9
RFYF				*e*Sg	Sg	10 07 14.9	-7.3
	7.0nm,0.2s						
GIVF	Givet	2.41	277	*e*Pn	Pn	10 06 43.6	+0.1
GIVF				*e*Pg	Pg	10 06 49.7	-2.1
GIVF				*e*Sg	Sg	10 07 18.4	-5.6
	6.6nm,0.3s						
GUNZ	Gunzen	2.49	77	*e*Pg	Pg	10 06 53.3	-0.2
WERD	Werda	2.49	75	*e*Pg	Pg	10 06 53.6	+0.1
WERD				*e*Sg	Sg	10 07 25.3	-1.5
TANN	Tannenbergstha	2.58	76	*e*Pg	Pg	10 06 55.7	+0.4
TANN				*e*Sg	Sg	10 07 28.5	-1.3
MEZF	Maizieres J’vi	2.66	241	*e*Sg	Sg	10 07 24.4	-7.9
	3.1nm,0.3s						
BAIF	Baives	2.80	276	*e*Pn	Pn	10 06 49.1	0.0
BAIF				*e*Pg	Pg	10 06 56.7	-3.0
BAIF				*e*Sg	Sn	10 07 29.9	+6.9
	3.3nm,0.3s						
SFTF	Sexfontaines	2.84	236	*e*Sg	Sn	10 07 29.4	+5.5
	3.0nm,0.3s						
CLL	Collm	3.19	61	*e*SG	Sg	10 07 51.0	+1.0
GEC2	GERESS Array S	3.52	105	*e*Pg	Pg	10 07 13.0	-1.0
GEC2				*e*Sg	Sg	10 07 58.1	-3.0
CABF	La Chapelle	3.64	208	*e*Sg	Sn	10 07 55.9	+12
LOR	Lormes	4.05	232	*e*Pn	Pn	10 07 05.2	-1.5
LOR				*e*Sg	Sn	10 08 07.6	+13

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*IDC **05** 10:08:12.7±12.0,3.57N×127.98E,h421^{km}±182^{km}, mb2.9/3,mb1 3.0/3,mb1mx3.0/14,Error ellipse: s-maj=50.7km s-min=16.1km az=94.0*

ISC 05 10:06:53.6±0.8**,9.01N**±0.04×**126.17E**±0.07**,h77^{km}**±8^{km}**, n19,**σ**1^{s}39**/28**,mb3.5**/4**,1C-4D,Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BUTP	Butuan	0.55	266	*e*P	P	10 07 06.6	-1.0
BUTP				*e*S	S	10 07 16.9	-1.1
SCPH	Surigao	1.03	319	⇓*e*P	P	10 07 12.1	-0.9
SCPH				*e*S	S	10 07 26.0	-1.6
CGP	Cagayan de Oro	1.56	250	⇑*i*P	P	10 07 18.7	-1.5
CGP				*i* S	S	10 07 37.9	-1.8
BUKP	Musuan	1.57	225	*e*P	P	10 07 20.6	+0.4
BUKP				*e*S	S	10 07 43.1	+3.2
MSLP	Maasin	1.71	311	*e*P	P	10 07 25.2	+3.0
MSLP				*e*S	S	10 07 47.0	+3.8
MATI	Mati	2.05	178	*e*P	P	10 07 28.1	+1.4
KCP	Kidapawan	2.25	208	⇓*i*P	P	10 07 30.3	+0.7
KCP				*i* S	S	10 08 00.1	+3.8
TBP	Tagbilaran	2.38	287	⇓*e*P	P	10 07 31.3	-0.1
TBP				*e*S	S	10 07 59.9	+0.5
PLP	Palo	2.45	331	*e*P	P	10 07 33.0	+0.6
PLP				*e*S	S	10 08 02.5	+1.4
LLP	Lapu-Lapu	2.54	301	*e*P	P	10 07 32.0	-1.6
OCLP	Ormoc	2.55	323	*e*P	P	10 07 35.7	+1.9
BESP	Borongan	2.68	344	*e*P	P	10 07 37.1	+1.5
DCPH	Dipolog City	2.82	262	⇓*i*P	P	10 07 37.4	-0.2
DCPH				*e*S	S	10 08 10.4	-0.1
SNPH	Sibulan	2.92	277	*e*P	P	10 07 30.1	-8.8
PAGZ	Pagadian	2.99	248	*e*P	P	10 07 40.9	+0.9
FITZ	Fitzroy Crossi	26.94	181	P	P	10 12 30.7	+0.7
	1.4nm,0.8s,mb3.5,slow=6.1,SNR=3.8						
WRA	Warramunga Arr	29.87	164	P	P	10 12 54.0	-2.2
	0.4nm,1.0s,mb3.0,baz=345,slow=9.4,SNR=6.4						
ASAR	Alice Springs	33.34	167	P	P	10 13 25.1	-1.5
	0.4nm,0.3s,mb3.7,baz=349,slow=6.9,SNR=14						
STKA	Stephens Creek	43.24	161	P	P	10 14 48.6	-0.6
	1.2nm,0.7s,mb3.8,baz=334,slow=9.8,SNR=5.4						

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*NIED **05** 10:07:00,33.00N×136.80E,h14^{km},Mw7.2 Best double couple: $M_0$7.54×10^{19} NP1:ϕ_s267°,δ52°,λ91°. NP2:ϕ_s86°, δ38°,λ89°.*

*IDC **05** 10:07:05.7±0.4,33.04N×136.72E,mb6.1/26,mb1 6.2/31, mb1mx6.2/31,ML5.7/5,MS7.1/26,Ms1 7.1/26, ms1mx7.0/37,Error ellipse: s-maj=12.7km s-min=10.5km az=82.0*

*BGS **05** 10:07:06.5,32.67N×136.26E,h14^{km},mb6.9*

*BJI **05** 10:07:07.7,33.02N×136.94E,h35^{km},mB7.0,mb6.6, Ms7.3,Msz7.0*

*JMA **05** 10:07:07.5±0.1,33.03N×136.80E,h38^{km}±3^{km},M7.1*

*SYO **05** 10:07:07.8,33.06N×136.61E,h14^{km},MB6.7,MS7.0*

*HRVD **05** 10:07:07.8±0.1,32.94N×137.00E,h16^{km},MW7.2/78, Centroid moment Tensor Solution. LP body waves: s73,c190;Mantle waves: s78,c195; Half duration: 9^{s}8*

Moment tensor: Scale 10^{20}Nm; M_{rr}0.67; $M_{\theta\theta}$-0.83; $M_{\phi\phi}$0.16; $M_{r\theta}$0.20±.03; $M_{\theta\phi}$0.01; $M_{\phi r}$0.06±.03; Best double couple: M_0.78×10^{20} NP1:ϕ_s277°,δ38°,λ100°. NP2:ϕ_s85°, δ53°,λ82°. Principal axes: T .7, Plg80°, Azm321°; N .16, Plg6°, Azm89°; P -.85, Plg7°, Azm180°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to mantle waves, cutoff=150s.

*NEIC **05** 10:07:07.8±0.1,33.07N×136.62E,h14^{km},mb6.7/217, ME7.5,MS7.0/76,MW7.0,MW7.3(MOS),MW7.2(NIED) Error ellipse: s-maj=2.8km s-min=2.3km az=187.0 Broadband fault plane solution: P waves. NP1:ϕ_s255°, δ60°,λ90°. NP2:ϕ_s75°,δ30°,λ90°. Principal axes: T Plg75°, Azm165°; N Plg0°, Azm0°; P Plg15°, Azm345°; Moment Tensor Solution. s62 Moment tensor: Scale 10^{19} Nm; M_{rr}3.86; $M_{\theta\theta}$-3.76; $M_{\phi\phi}$-0.09; $M_{r\theta}$1.32; $M_{\theta\phi}$0.04; $M_{\phi r}$-0.06; Best double couple: $M_0$4×10^{19} NP1:ϕ_s270°,δ35°, λ89°. NP2:ϕ_s91°,δ55°,λ91°. Principal axes: T 4.08, Plg80°, Azm4°; N -.09, Plg1°, Azm271°; P -3.99, Plg10°, Azm181°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC At least four people injured in the Kyoto area. Felt in much of southwestern Japan and as far northeast as Tokyo. A local tsunami was generated with maximum recorded wave heights [peak-to-trough] of 63 cm on Kozu-shima and 34 cm at Kushimoto. Recorded [5L JMA] in Mie, Nara and Wakayama; [4 JMA] in Aichi, Gifu, Hyogo, Kyoto, Osaka and Shiga; [3 JMA] in Chiba, Fukui, Hiroshima, Kanagawa, Nagano, Okayama, Shimane, Shizuoka, Tokyo, Tottori and Yamanashi; [2 JMA] in Gumma, Ishikawa, Saitama, Tochigi, Toyama and Yamaguchi; [1 JMA] in Ibaraki, Miyagi and Niigata Prefectures. Recorded [3 JMA] in Kagawa, Kochi and Tokushima; [2 JMA] in Ehime Prefectures, Shikoku. Recorded [1 JMA] in Kagoshima, Kumamoto, Miyazaki and Oita Prefectures, Kyushu. Also recorded [3 JMA] on Kozu-shima, Nii-jima and O-shima; [2 JMA] on Hachijo-jima, Mikura-jima and Miyake-jima; [1 JMA] on Dogo and in the Dozen Islands.

*DHMR **05** 10:07:07.0±3.5,33.06N×136.57E,h1^{km}±999^{km},mb6.7*

*MOS **05** 10:07:09.8±0.8,33.13N×136.68E,h33^{km},mb7.0/76, MS7.2/31,Error ellipse: s-maj=6.9km s-min=4.4km az=101.9 Broadband fault plane solution: P waves. $M_0$8.8×10^{19} NP1:ϕ_s234°,δ51°,λ53°. NP2:ϕ_s104°,δ51°, λ127°. Principal axes: T Plg62°, Azm79°; N Plg28°, Azm259°; P Plg0°, Azm169°;*

ISC 05 10:07:07.2±0.1**,33.07N**±0.01×**136.74E**±0.01**,h19**^{km}**, h19**^{km}±.8^{km}**:pP-P,n1562,**σ**0**^{s}**87**/1471**,mb6.7**/318**, MS7.1**/132**,559C-94D,Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JWZ	**Kozaga**	**0.97**	**299**	⇓P	**Pb**	**10 07 25.9**	**+0.8**
JWZ				S	**Sb**	**10 07 38.6**	**+1.1**
TK01	**Tokai 1**	**1.00**	**46**	P	**Pb**	**10 07 24.9**	**-0.7**
TK02	**Tokai 2**	**1.22**	**44**	⇑P	**Pb**	**10 07 28.3**	**-1.1**
JKN	**Kiinagashima**	**1.24**	**342**	⇓P	**Pn**	**10 07 29.6**	**-0.1**
JKN				S	**Sb**	**10 07 46.1**	**+0.8**
JIE	**Ise**	**1.32**	**359**	P	**Pn**	**10 07 30.9**	**+0.1**
JIE				S	**Sb**	**10 07 48.0**	**+0.4**
JWM	**Minabe**	**1.39**	**304**	⇓P	**Pn**	**10 07 32.0**	**+0.1**
JWM				S	**Sb**	**10 07 50.3**	**+0.6**
JWY	**Kouya**	**1.49**	**321**	⇓P	**Pn**	**10 07 33.9**	**+0.6**
JWY				S	**Sn**	**10 07 53.5**	**+1.2**
JAA	**Atsumi**	**1.59**	**12**	⇓P	**Pn**	**10 07 34.4**	**-0.4**
TK04	**Tokai 4**	**1.62**	**36**	P	**Pn**	**10 07 34.4**	**-0.7**
TSUJ	**Tsu 2**	**1.66**	**351**	⇓P	**Pn**	**10 07 35.7**	**0.0**
JHE	**Heguri**	**1.80**	**331**	⇓P	**Pn**	**10 07 38.2**	**+0.4**
JHE				S	**Sn**	**10 08 00.6**	**+0.3**
HMMJ	**Hamamatsu 2**	**1.96**	**24**	⇓P	**Pn**	**10 07 38.8**	**-1.2**
JSG	**Sagara**	**2.00**	**37**	⇓P	**Pn**	**10 07 39.8**	**-0.9**
JAI	**Aioi**	**2.04**	**291**	⇓P	**Pn**	**10 07 41.5**	**+0.3**
JAI				S	**Sn**	**10 08 06.5**	**+0.1**
JAJ2	**Tsuna**	**2.05**	**312**	⇓P	**Pn**	**10 07 41.9**	**+0.7**
JAJ2				S	**Sn**	**10 08 07.9**	**+1.4**
JEG	**Eigenji**	**2.08**	**352**	⇓P	**Pn**	**10 07 42.1**	**+0.4**
MRT2	**Murotomisaki 2**	**2.19**	**279**	⇓P	**Pn**	**10 07 43.2**	**-0.2**
JMIK	**Miki**	**2.23**	**322**	⇓P	**Pn**	**10 07 44.5**	**+0.7**
JAO	**Obara**	**2.23**	**11**	⇓P	**Pn**	**10 07 43.4**	**-0.5**
SHZ3	**Shizuoka 3**	**2.34**	**31**	⇓P	**Pn**	**10 07 44.0**	**-1.4**
JNY	**Yasuok**	**2.47**	**22**	⇓P	**Pn**	**10 07 46.3**	**-1.0**
JWT	**Wachi**	**2.47**	**334**	⇓P	**Pn**	**10 07 47.6**	**+0.3**
JKS	**Kasai**	**2.47**	**321**	⇓P	**Pn**	**10 07 47.7**	**+0.4**
JFM	**Mihama**	**2.53**	**346**	⇓P	**Pn**	**10 07 48.4**	**+0.2**
JHJ	**Hachijo jima 2**	**2.56**	**88**	Pn	**Pn**	**10 07 48.1**	**-0.4**
	9µm,0.3s,baz=272,slow=18,SNR=509						
JHJ				Sn	**Sn**	**10 08 18.4**	**-1.2**
	10µm,0.3s,baz=105,slow=24,SNR=18						
JHJ				LR	LR	10 08 39.5	
	comp=Z,3229µm,19.0s,baz=160,slow=36						
JGF	**Kuroka**	**2.58**	**11**	⇓P	**Pn**	**10 07 48.3**	**-0.5**
JHJ2	**Mitsune**	**2.59**	**88**	P	**Pn**	**10 07 47.7**	**-1.3**
JGM	**Miyama**	**2.62**	**360**	⇓P	**Pn**	**10 07 49.2**	**-0.3**
JJS	**Sakaide**	**2.67**	**300**	⇓P	**Pn**	**10 07 50.1**	**-0.1**
JAD	**Aida**	**2.83**	**312**	⇓P	**Pn**	**10 07 52.3**	**-0.2**
JKY	**Yasaka**	**2.89**	**333**	⇓P	**Pn**	**10 07 53.3**	**0.0**
JNT	**Takato**	**3.03**	**22**	P	**Pn**	**10 07 54.6**	**-0.7**
JKSM	**Kasumi**	**3.04**	**326**	⇓P	**Pn**	**10 07 55.6**	**+0.2**
JKU	**Kubokawa**	**3.09**	**275**	P	**Pn**	**10 07 55.4**	**-0.7**
JET	**Tanbara**	**3.16**	**284**	⇓P	**Pn**	**10 07 56.8**	**-0.4**
JGN	**Niukaw**	**3.18**	**8**	⇓P	**Pn**	**10 07 57.0**	**-0.4**
JKG	**Kaga**	**3.22**	**354**	⇓P	**Pn**	**10 07 57.6**	**-0.3**
JKR	**Kurayoshi**	**3.34**	**314**	⇓P	**Pn**	**10 07 59.9**	**+0.3**
JJG	**Jouge**	**3.37**	**299**	⇓P	**Pn**	**10 07 59.6**	**-0.5**
JRY	**Ryogami san**	**3.44**	**31**	⇓P	**Pn**	**10 08 00.5**	**-0.6**
UWA2	**Uwa jima 2**	**3.45**	**273**	⇓P	**Pn**	**10 08 00.8**	**-0.5**
JNG	**Nsakai**	**3.51**	**18**	⇓P	**Pn**	**10 08 02.0**	**-0.1**
JTT	**Ttatey**	**3.56**	**8**	⇓P	**Pn**	**10 08 02.3**	**-0.5**
JHS	**Saijyo**	**3.57**	**304**	P	**Pn**	**10 08 02.6**	**-0.3**
JNA	**Nagahama**	**3.60**	**279**	⇓P	**Pn**	**10 08 02.8**	**-0.5**
JHM	**Kurahashi**	**3.67**	**288**	⇓P	**Pn**	**10 08 04.0**	**-0.3**
MAJO	**Matsushiro**	**3.67**	**19**	Pn	**Pn**	**10 08 04.0**	**-0.4**
MAJO	**Matsushiro**	**3.67**	**19**	*e*P	**Pn**	**10 08 04.0**	**-0.4**
MAT	**Matsushiro**	**3.67**	**19**	P	**Pn**	**10 08 04.0**	**-0.4**
MAT				S	**Sn**	**10 08 45.8**	**-1.8**
MAT	**Matsushiro**	**3.67**	**19**	*e*P	**Pn**	**10 08 04.0**	**-0.4**
MAT				*e*S	**Sn**	**10 08 46.0**	**-1.6**
JGK	**Kuni**	**3.82**	**24**	P	**Pn**	**10 08 06.5**	**0.0**
JJH	**Hakui**	**3.85**	**1**	P	**Pn**	**10 08 05.5**	**-1.4**
JNM	**Ikuma**	**3.91**	**309**	⇓P	**Pn**	**10 08 08.3**	**+0.6**
JHT	**Toyohira**	**3.92**	**295**	⇓P	**Pn**	**10 08 07.3**	**-0.7**
JKD	**Kudamatsu**	**4.17**	**285**	⇓P	**Pn**	**10 08 11.2**	**-0.4**
JUS	**Usuki**	**4.18**	**271**	P	**Pn**	**10 08 10.6**	**-1.1**
JJN	**Nakama**	**4.19**	**16**	P	**Pn**	**10 08 11.5**	**-0.3**
SAI	**Saigo**	**4.20**	**319**	⇓P	**Pn**	**10 08 11.4**	**-0.5**
JKT	**Katashina**	**4.23**	**29**	P	**Pn**	**10 08 12.2**	**-0.1**
JHIK	**Hikimi**	**4.26**	**291**	⇓P	**Pn**	**10 08 12.1**	**-0.6**
JKI	**Kunimi**	**4.36**	**279**	P	**Pn**	**10 08 13.6**	**-0.6**
JSZ	**Suzu**	**4.40**	**7**	P	**Pn**	**10 08 13.0**	**-1.7**
JTSN	**Tsuno**	**4.49**	**261**	P	**Pn**	**10 08 15.4**	**-0.6**
JHK	**Hiroka**	**4.57**	**24**	P	**Pn**	**10 08 16.1**	**-1.0**
JSB	**Shiboa**	**4.69**	**33**	P	**Pn**	**10 08 19.1**	**+0.3**
JHO	**Hitachi**	**4.73**	**41**	P	**Pn**	**10 08 17.9**	**-1.6**
JIZZ	**Izumozaki**	**4.74**	**19**	P	**Pn**	**10 08 19.5**	**0.0**
JHG	**Hegura jima**	**4.77**	**2**	⇓P	**Pn**	**10 08 19.0**	**-1.0**
JTY	**Toyota**	**4.88**	**286**	P	**Pn**	**10 08 20.8**	**-0.7**
JNU	**Nakatsue**	**4.92**	**272**	Pn	**Pn**	**10 08 21.4**	**-0.7**
	185nm,0.3s,baz=91,slow=12,SNR=444						
JNU				Sn	**Sn**	**10 09 19.2**	**+0.1**
	494nm,0.3s,baz=61,slow=19,SNR=2.8						
JNU	**Nakatsue**	**4.92**	**272**	P	**Pn**	**10 08 21.3**	**-0.8**
JFA	**Akaike**	**5.01**	**279**	⇓P	**Pn**	**10 08 22.0**	**-1.4**
JSD	**Sado**	**5.11**	**14**	P	**Pn**	**10 08 23.3**	**-1.5**
JNS	**Sasagawa**	**5.18**	**23**	P	**Pn**	**10 08 25.2**	**-0.6**
JZO	**Okuchi**	**5.26**	**261**	P	**Pn**	**10 08 27.0**	**+0.1**
JFT	**Otama**	**5.33**	**33**	⇓P	**Pn**	**10 08 27.8**	**0.0**
JUR	**Ureshino**	**5.70**	**272**	P	**Pn**	**10 08 32.1**	**-1.0**
JAW	**Awa shima**	**5.75**	**20**	⇓P	**Pn**	**10 08 32.6**	**-1.2**
JYS	**Shirataka**	**5.81**	**27**	⇓P	**Pn**	**10 08 34.4**	**-0.3**
JMM	**Marumori**	**5.82**	**34**	P	**Pn**	**10 08 34.7**	**-0.1**
JYA	**Atsumi**	**6.02**	**23**	P	**Pn**	**10 08 36.9**	**-0.7**
JOU	**Okura**	**6.17**	**30**	P	**Pn**	**10 08 40.2**	**+0.4**
JIO	**Ouri**	**6.55**	**34**	P	**Pn**	**10 08 44.2**	**-0.9**
JMK	**Ichinoseki**	**6.90**	**30**	⇓P	**Pn**	**10 08 50.0**	**-0.1**
JYW	**Yuwa**	**7.04**	**22**	P	**Pn**	**10 08 51.8**	**-0.2**
JRG	**Rokugo**	**7.05**	**25**	⇓P	**Pn**	**10 08 52.1**	**-0.1**
JOM	**Ohasama**	**7.37**	**29**	⇓P	**Pn**	**10 08 56.6**	**0.0**
CBIJ	**Chichi jima**	**7.60**	**140**	Pn	**Pn**	**10 08 57.7**	**-2.1**
	881nm,0.3s,baz=352,slow=13,SNR=63						
CBIJ				Sn	**Sn**	**10 10 25.4**	**-0.9**
	baz=270,slow=20,SNR=1.9						
CBIJ				LR	LR	10 11 33.9	
	comp=Z,4237µm,19.0s,baz=326,slow=35						
JKZ	**Kuzumaki**	**7.83**	**27**	⇓P	**Pn**	**10 09 02.9**	**-0.1**
JIW	**Iwasaki**	**7.95**	**18**	P	**Pn**	**10 09 04.0**	**-0.7**
JTM	**Tenmabayashi**	**8.45**	**23**	P	**P**	**10 09 11.7**	**+0.1**
INCN	**Inchon**	**9.36**	**301**	*e*P	**P**	**10 09 22.4**	**-1.8**
	2µm,0.9s						
JKB	**Kayabe**	**9.44**	**20**	P	**P**	**10 09 25.0**	**-0.4**
JOW	**Kunigami**	**9.62**	**232**	Pn	**P**	**10 09 27.4**	**-0.4**
	149nm,0.3s,baz=76,slow=8.9,SNR=18						
JOW				Sn	**Sn**	**10 11 14.9**	**-1.5**
	46nm,0.3s,baz=66,slow=18,SNR=2.8						
JSH	**Shimam**	**9.91**	**14**	P	**P**	**10 09 31.7**	**-0.1**
JNB	**Noboribetsu**	**9.98**	**19**	P	**P**	**10 09 31.8**	**-1.0**
JEM	**Erimo**	**10.28**	**28**	P	**P**	**10 09 33.0**	**-3.9**
JNBK	**Urakawa-nobuka**	**10.35**	**26**	P	**P**	**10 09 34.7**	**-3.2**
JJT2	**Tamagusuku 2**	**10.43**	**231**	P	**P**	**10 09 38.0**	**-1.0**
JEW	**Eniwo**	**10.44**	**19**	P	**P**	**10 09 37.4**	**-1.6**
JBT2	**Biratori 2**	**10.66**	**23**	P	**P**	**10 09 38.6**	**-3.5**
JSK	**Shakotan**	**10.68**	**15**	P	**P**	**10 09 41.5**	**-0.8**
JKE	**Kume jima 2**	**10.95**	**235**	P	**P**	**10 09 44.2**	**-1.9**
JFR	**Furan**	**11.08**	**23**	P	**P**	**10 09 44.0**	**-3.8**
JAB	**Ashibetsu**	**11.27**	**21**	P	**P**	**10 09 47.4**	**-3.0**
JHR	**Hokuryu**	**11.35**	**19**	P	**P**	**10 09 49.3**	**-2.2**
JAR	**Ashorobuto**	**11.61**	**26**	P	**P**	**10 09 49.5**	**-5.5**
JKK2	**Kamakawa 2**	**11.77**	**22**	P	**P**	**10 09 53.0**	**-4.1**
ASAJ	**Asahikawa**	**11.94**	**21**	Pn	**P**	**10 09 56.8**	**-2.7**
	26nm,0.3s,baz=242,slow=9.6,SNR=179						
ASAJ				Sn	**S**	**10 12 14.5**	**+1.3**
	baz=180,slow=20,SNR=1.4						
ASAJ				LR	LR	10 15 05.4	
	comp=Z,1555µm,20.3s,baz=205,slow=40						
ASAJ	**Asahikawa**	**11.94**	**21**	P	**P**	**10 09 55.3**	**-4.2**
ASAJ	**Asahikawa**	**11.94**	**21**	P	**P**	**10 09 56.8**	**-2.7**
ASAJ						10 12 14.5	
ASAJ				pmax	pmax		
	comp=Z,26nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,555µm,20.3s						
JSS	**Shosan**	**11.99**	**18**	P	**P**	**10 09 57.8**	**-2.4**
JMP	**Maruseppu**	**12.08**	**23**	P	**P**	**10 09 56.7**	**-4.7**
JTKR	**Abashiri--Toko**	**12.24**	**25**	P	**P**	**10 09 58.4**	**-5.1**
NEM2	**Nemuro 2**	**12.47**	**32**	P	**P**	**10 10 01.1**	**-5.5**
JSE	**Soyaes**	**12.71**	**19**	P	**P**	**10 10 05.9**	**-3.9**
MDJ	**Mudanjiang**	**12.79**	**336**	P	**P**	**10 10 11.9**	**+1.0**
MDJ				AP		10 10 20.7	
MDJ				XP		10 10 24.4	
MDJ				S	**S**	**10 12 40.6**	**+6.7**
MDJ				PCP	PcP	10 15 45.5	-0.7
MDJ				AMB	AMB		
	comp=Z,2µm,1.8s						
MDJ				LR	LR		
	comp=N,627µm,15.0s						
MDJ				LR	LR		
	comp=E,1010µm,14.6s						
MDJ				LR	LR		
	comp=Z,492µm,15.3s						
MDJ	**Mudanjiang**	**12.79**	**336**	Pn	**P**	**10 10 10.9**	**-0.1**
MDJ				Sn	**S**	**10 12 41.2**	**+7.3**
MDJ	**Mudanjiang**	**12.79**	**336**	⇓*e*P	**P**	**10 10 11.1**	**+0.2**
	comp=Z,1µm,1.0s						
YUK	**Yuzh-Kuril'sk**	**13.06**	**30**	⇓*i*P	**P**	**10 10 08.0**	**-6.5**
YUK				pmax	pmax		
	comp=Z,2µm,0.6s						
YUK				pmax	pmax		
	comp=N,4µm,0.5s						
YUK				pmax	pmax		
	comp=E,1µm,0.5s						
YUK				pmax	pmax		
	comp=Z,84µm,7.5s						
YUK				pmax	pmax		
	comp=N,90µm,4.5s						
YUK				pmax	pmax		
	comp=E,63µm,3.2s						
YUK				MLR	MLR		
	comp=Z,424µm,14.5s						
SSE	**Sheshan**	**13.33**	**266**	P	**P**	**10 10 19.3**	**+1.2**
SSE				PP	PP	10 10 29.1	+0.5
SSE				S	**S**	**10 12 51.4**	**+4.6**
SSE				XS		10 13 00.7	
SSE				AMB	AMB		
	comp=Z,485nm,1.1s						
SSE				AMB	AMB		
	comp=Z,19µm,6.5s						
SSE				LR	LR		
	comp=N,925µm,19.8s						
SSE				LR	LR		
	comp=E,184µm,19.8s						
SSE				LR	LR		
	comp=Z,579µm,11.6s						
DL2	**Dalian**	**13.54**	**300**	*i* PR		10 10 22.4	
DL2				S	**S**	**10 12 58.4**	**+6.6**
DL2				AMB	AMB		
	comp=Z,2µm,1.0s						
DL2				AMB	AMB		
	comp=Z,30µm,9.6s						
DL2				LR	LR		
	comp=N,751µm,18.4s						
DL2				LR	LR		
	comp=E,395µm,17.7s						
DL2				LR	LR		
	comp=Z,322µm,11.1s						
SNY	**Shenyang**	**13.61**	**314**	*i* PR		10 10 23.5	
SNY				S	**S**	**10 13 01.8**	**+8.4**
SNY				LR	LR		
	comp=N,392µm,13.2s						
SNY				LR	LR		
	comp=E,943µm,12.2s						
SNY				LR	LR		
	comp=Z,514µm,13.2s						
CN2	**Changchun**	**13.88**	**324**	⇓P	**P**	**10 10 26.1**	**+0.9**
CN2				*e*XP		10 10 33.8	
CN2				*e*S	**S**	**10 13 00.0**	**+0.3**
CN2				LR	LR		
	comp=N,1129µm,16.0s						
CN2				LR	LR		
	comp=E,1057µm,16.0s						
CN2				LR	LR		
	comp=Z,976µm,14.0s						
YSS	**Yuzh-Sakhalins**	**14.61**	**17**	κ *i*P	**P**	**10 10 30.0**	**-4.7**
YSS				pmax	pmax		
	comp=E,590nm,0.9s						
YSS				pmax	pmax		
	comp=Z,2µm,0.9s						
YSS				pmax	pmax		
	comp=N,4µm,1.2s						
YSS				pmax	pmax		
	comp=N,22µm,10.0s						
YSS				pmax	pmax		
	comp=E,26µm,10.0s						
YSS				pmax	pmax		
	comp=Z,20µm,10.0s						
YSS				pmax	pmax		
	comp=N,3µm,0.9s						
YSS				pmax	pmax		
	comp=E,2µm,0.9s						
YSS				pmax	pmax		
	comp=Z,4µm,0.9s						
YSS				pmax	pmax		
	comp=N,46µm,6.0s						
YSS				pmax	pmax		
	comp=E,14µm,6.0s						
YSS				pmax	pmax		
	comp=Z,72µm,6.0s						
YSS				MLR	MLR		
	comp=Z,1002µm,15.0s						
YSS				MLR	MLR		
	comp=N,1090µm,16.0s						
YSS				MLR	MLR		
	comp=E,643µm,17.0s						
YSS	**Yuzh-Sakhalins**	**14.61**	**17**	*e*P	**P**	**10 10 30.1**	**-4.6**
	comp=E,2µm,0.9s						
KUR	**Kuril'sk**	**14.88**	**32**	⇑*i*P	**P**	**10 10 34.5**	**-3.9**
KUR				*e*S	**S**	**10 13 16.0**	**-7.5**
KUR				pmax	pmax		
	comp=N,4µm,1.1s						
KUR				pmax	pmax		
	comp=E,2µm,1.1s						
KUR				pmax	pmax		
	comp=Z,8µm,1.1s						
KUR				pmax	pmax		
	comp=N,94µm,8.0s						
KUR				pmax	pmax		
	comp=E,148µm,8.0s						
KUR				pmax	pmax		
	comp=Z,178µm,8.0s						
KUR				smax			
	comp=N,30µm,9.0s						
KUR				smax			
	comp=E,37µm,9.0s						
KUR				MLR	MLR		
	comp=N,205µm,14.0s						
KUR				MLR	MLR		
	comp=E,256µm,14.0s						
KUR				MLR	MLR		
	comp=Z,324µm,14.0s						
NJ2	**Nanjing**	**15.12**	**271**	*e*P	**P**	**10 10 43.5**	**+2.0**
NJ2				AP		10 10 46.5	
NJ2				PP	PP	10 10 55.0	+1.4
NJ2				XS		10 13 46.0	
NJ2				AMB	AMB		
	comp=Z,2µm,1.0s						
TATO	**Taipei**	**15.57**	**243**	*e*P	**P**	**10 10 49.8**	**+2.3**
	comp=Z,3µm,1.3s						
TIA	**Tai'an**	**16.44**	**286**	⇓P	**P**	**10 11 00.6**	**+2.1**
TIA				AP		10 11 06.8	
TIA				PP	PP	10 11 16.3	+4.2
TIA				AMB	AMB		
	comp=Z,14µm,10.0s						
TIA				LR	LR		
	comp=N,182µm,13.5s						
TIA				LR	LR		
	comp=E,330µm,12.0s						
KLR	**Kul'dur**	**16.57**	**348**	⇑*i*P	**P**	**10 10 59.0**	**-1.0**
KLR				*e*		10 14 09.3	
QZH	**Quanzhou**	**17.80**	**248**	⇑*i*P	**P**	**10 11 14.9**	**-0.8**
QZH				S	**S**	**10 14 32.0**	**+0.9**
QZH				AMB	AMB		
	comp=Z,17µm,1.7s						
QZH				LR	LR		
	comp=N,916µm,16.9s						
QZH				LR	LR		
	comp=E,1083µm,18.5s						
QZH				LR	LR		
	comp=Z,930µm,23.4s						
BJT	**Baijiatuau**	**17.90**	**299**	*e*P	**P**	**10 11 18.1**	**+1.3**
	comp=Z,14µm,1.3s						
BJI	**Beijing**	**17.90**	**299**	P	**P**	**10 11 18.7**	**+1.9**
BJI				XP		10 11 27.5	
BJI				S	**S**	**10 14 39.2**	**+5.8**
BJI				AMB	AMB		
	comp=Z,5µm,1.9s						
BJI				LR	LR		
	comp=N,1340µm,18.9s						
BJI				LR	LR		
	comp=E,567µm,21.2s						
BJI				LR	LR		
	comp=Z,536µm,20.1s						
BBP	**Basco**	**18.20**	**230**	*e*P	**P**	**10 11 23.9**	**+3.2**
SARN	**Sarigan**	**18.23**	**151**	⇓*i*P	**P**	**10 11 19.8**	**-1.3**
ANAT	**Anatahan**	**18.50**	**152**	*e*P	**P**	**10 11 25.2**	**+0.9**
ANA2	**Anatahan**	**18.53**	**152**	*e*P	**P**	**10 11 25.0**	**+0.2**
WHN	**Wuhan**	**19.19**	**268**	⇓P	**P**	**10 11 33.0**	**+0.4**
WHN				*e*S	**S**	**10 15 06.0**	**+3.4**
WHN				LR	LR		
	comp=N,152µm,11.0s						
WHN				LR	LR		
	comp=E,926µm,11.2s						
WHN				LR	LR		
	comp=Z,1365µm,13.2s						
SAPN	**Saipan**	**19.57**	**153**	*e*P	**P**	**10 11 35.6**	**-1.4**
SGCP	**Mt. Cagua**	**19.80**	**225**	*e*P	**P**	**10 11 39.1**	**-0.4**
TIY	**Taiyuan**	**20.33**	**290**	⇑P	**P**	**10 11 41.8**	**-3.2**
TIY				S	**S**	**10 15 28.0**	**+1.1**
TIY				LR	LR		
	comp=N,594µm,13.0s						
CVP	**Callao Caves**	**20.35**	**225**	⇓*i*P	**P**	**10 11 50.6**	**+5.2**
HIA	**Hailar**	**20.55**	**327**	⇓*e*P	**P**	**10 11 45.8**	**-1.5**
	comp=N,2µm,1.0s						
APYP	**Conner**	**20.57**	**226**	*e*P	**P**	**10 11 47.8**	**+0.1**
PIP	**Pasuquin**	**20.61**	**229**	⇓*i*P	**P**	**10 11 49.9**	**+1.8**
GUMO	**Guam**	**20.76**	**157**	*e*P	**P**	**10 11 49.9**	**+0.2**
	comp=N,23µm,1.6s						
GUMO				LR	LR		
	comp=Z,541µm,19.0s,MS6.9						
CAUP	**Cauayan**	**20.95**	**224**	*e*P	**P**	**10 11 52.4**	**+0.8**
ABRA	**Dolores**	**21.06**	**227**	*e*P	**P**	**10 11 52.1**	**-0.6**
HHC	**Hu-ho-hao-te**	**21.51**	**298**	*e*P	**P**	**10 11 57.7**	**+0.6**
HHC				AP		10 12 02.8	
HHC				PP	PP	10 12 21.2	-0.3
HHC				S	**S**	**10 15 53.5**	**+3.7**
HHC				SS	SS	10 16 25.6	+0.1
HHC				PCS		10 19 33.4	
HHC				LR	LR		
	comp=N,555µm,20.2s,MS7.0						
HHC				LR	LR		
	comp=E,289µm,17.8s,MS7.0						
HHC				LR	LR		
	comp=Z,346µm,16.0s,MS6.8						
BALP	**Baler**	**22.05**	**222**	*e*P	**P**	**10 12 03.1**	**+0.5**
BCPH	**Baguio City Da**	**22.12**	**225**	⇓*i*P	**P**	**10 12 08.2**	**+4.8**
BOLP	**Bolinao**	**22.52**	**226**	*e*P	**P**	**10 12 06.5**	**-0.9**
PVCP	**Virac**	**22.53**	**214**	*e*P	**P**	**10 12 08.8**	**+1.3**
BTO	**Baotou**	**22.61**	**297**	*e*P	**P**	**10 12 08.9**	**+0.9**
BTO				S	**S**	**10 16 15.6**	**+5.6**
BTO				AMB	AMB		
	comp=Z,4µm,1.2s,mb6.8						
SKR	**Severo-Kuril's**	**22.64**	**33**	⇑*i*P	**P**	**10 12 14.0**	**+5.7**
SKR				*i*		10 12 29.3	
SKR				*i*		10 12 37.3	
SKR				*e*		10 12 45.0	
SKR				*e*		10 15 56.0	
SKR				*i* SS	SS	10 16 48.0	-5.1
SKR				pmax	pmax		
	comp=N,123µm,10.0s						
SKR				pmax	pmax		
	comp=Z,145µm,10.0s						
SKR				pmax	pmax		
	comp=N,2µm,1.0s						
SKR				pmax	pmax		
	comp=E,1µm,1.0s						
SKR				pmax	pmax		
	comp=Z,3µm,1.0s,mb6.7						
SKR				MLR	MLR		
	comp=E,216µm,20.0s,MS6.8						
SKR				MLR	MLR		
	comp=Z,456µm,20.0s,MS6.9						
SKR				MLR	MLR		
	comp=N,219µm,16.0s,MS6.8						
POLP	**Polilio Island**	**22.68**	**220**	*e*P	**P**	**10 12 09.8**	**+0.8**
GZH	**Guangzhou**	**22.86**	**250**	P	**P**	**10 12 06.5**	**-4.2**
GZH				S	**S**	**10 16 14.6**	**-0.2**
GZH				LR	LR		
	comp=N,328µm,15.2s,MS7.0						
GZH				LR	LR		
	comp=E,369µm,18.6s,MS7.0						
GZH				LR	LR		
	comp=Z,686µm,16.2s,MS7.2						
SCZP	**Santa Cruz**	**22.99**	**226**	*e*P	**P**	**10 12 13.5**	**+1.5**
GQP	**Guinayangan**	**23.10**	**218**	⇓*e*P	**P**	**10 12 13.8**	**+0.8**
XAN	**Xi'an**	**23.18**	**280**	P	**P**	**10 12 15.0**	**+1.3**
XAN				S	**S**	**10 16 22.5**	**+2.3**
XAN				LR	LR		
	comp=N,353µm,19.0s,MS6.9						
XAN				LR	LR		
	comp=E,233µm,21.2s,MS6.9						
XAN				LR	LR		
	comp=Z,426µm,19.9s,MS6.9						
QVPH	**Quezon City--P**	**23.22**	**222**	⇑*e*P	**P**	**10 12 15.5**	**+1.3**
CNP	**Catarman**	**23.26**	**211**	*e*P	**P**	**10 12 16.5**	**+1.9**
ARP	**Angono**	**23.26**	**221**	⇑*e*P	**P**	**10 12 16.2**	**+1.6**
ENH	**Enshi**	**23.34**	**270**	⇑*i*P	**P**	**10 12 16.5**	**+1.3**
	comp=Z,129nm,0.5s,mb5.6						
LQP	**Lukban**	**23.40**	**220**	⇑*i*P	**P**	**10 12 16.5**	**+0.5**
AUQP	**San Andres**	**23.48**	**216**	*e*P	**P**	**10 12 19.5**	**+2.8**
LBPH	**Los Banos**	**23.56**	**221**	⇑*e*P	**P**	**10 12 33.4**	**+16**
TGY	**Tagaytay City**	**23.74**	**221**	P	**P**	**10 12 20.0**	**+0.7**
	comp=Z,860nm,0.5s,mb6.4,baz=25,slow=3.9,SNR=19						
TGY	**Tagaytay City**	**23.74**	**221**	⇑*i*P	**P**	**10 12 26.1**	**+6.9**
TGY	**Tagaytay City**	**23.74**	**221**	P	**P**	**10 12 20.0**	**+0.7**
TGY				pmax	pmax		
	comp=Z,860nm,0.5s						
BESP	**Borongan**	**23.75**	**208**	*e*P	**P**	**10 12 20.3**	**+0.9**

BOAC	**Boac**	23.78	218	*e*P	P	10 12 21.3	+1.5
PLP	**Palo**	24.33	209	*e*P	P	10 12 25.6	+0.6
LUBP	**Lubang**	24.42	222	*e*P	P	10 12 24.9	-1.1
OCLP	**Ormoc**	24.59	210	*e*P	P	10 12 29.0	+1.5
OTRP	**Odiongan**	24.62	217	*e*P	P	10 12 29.0	+1.1
RCP	**Roxas**	24.96	214⇑	*e*P	P	10 12 30.9	-0.3
SJMP	**San Jose**	25.00	218	*e*P	P	10 12 30.9	-0.6
CLNS	**Chul'man**	25.12	345	*e*P	P	10 12 32.1	-0.2
CLNS				*e**PP	pP	10 12 39.5	+1.8
CLNS				*e*S	S	10 16 58.2	+4.9
CLNS				*e*SS	SS	10 17 52.6	-1.0
CLNS				pmax	pmax		
	comp=Z,681nm,1.1s,mb6.1						
CLNS				pmax	pmax		
	comp=N,350nm,1.0s						
CLNS				pmax	pmax		
	comp=E,215nm,1.2s						
CLNS				smax			
	comp=N,328µm,12.7s						
CLNS				smax			
	comp=Z,137µm,13.1s						
CLNS				smax			
	comp=E,110µm,11.8s						
CLNS				MLR	MLR		
	comp=N,531µm,14.0s,MS7.3						
CLNS				MLR	MLR		
	comp=Z,617µm,14.0s,MS7.3						
CLNS				MLR	MLR		
	comp=E,103µm,11.0s,MS7.3						
MSLP	**Maasin**	25.31	208	*e*P	P	10 12 34.5	0.0
SCPH	**Surigao**	25.39	207⇑	*e*P	P	10 12 34.5	-0.7
	comp=E,1250µm,0.8s						
PET	**Petropavlovsk**	25.40	32⇑	*i*P	P	10 12 34.9	0.0
PET				*e*S	S	10 16 57.7	-0.2
PET				pmax	pmax		
	comp=N,58µm,11.3s						
PET				pmax	pmax		
	comp=Z,118µm,11.1s						
PET				pmax	pmax		
	comp=E,47µm,11.7s						
PET				pmax	pmax		
	comp=Z,180µm,7.5s						
PET				pmax	pmax		
	comp=N,4µm,1.6s						
PET				pmax	pmax		
	comp=Z,5µm,1.3s,mb6.9						
PET				smax			
	comp=E,285µm,13.9s						
PET				smax			
	comp=N,261µm,9.4s						
PET				smax			
	comp=E,219µm,13.1s						
PET				smax			
	comp=N,544µm,21.0s						
PET				MLR	MLR		
	comp=Z,336µm,19.0s,MS6.9						
PET				MLR	MLR		
	comp=Z,406µm,19.0s						
PET	**Petropavlovsk**	25.40	32	*e*P	P	10 12 34.7	-0.1
	comp=Z,6µm,1.5s,mb6.9						
PET				LR	LR		
	comp=Z,429µm,21.0s,MS6.9						
LLP	**Lapu-Lapu**	25.52	210	*e*P	P	10 12 33.0	-3.4
	comp=Z,23µm,1.5s,mb7.2						
GUIM	**Jordan**	25.85	213	*e*P	P	10 12 39.5	0.0
BUSP	**Coron**	25.87	220	*e*P	P	10 12 39.2	-0.4
BUTP	**Butuan**	26.09	206	*e*P	P	10 12 41.6	-0.1
TBP	**Tagbilaran**	26.12	210	*e*P	P	10 12 40.7	-1.3
AAP	**Anini-y**	26.33	214	*e*P	P	10 12 47.0	+3.0
	comp=Z,1µm,1.0s,mb6.0						
CUYO	**Cuyo Island**	26.42	217	*e*P	P	10 12 44.7	0.0
SNPH	**Sibulan**	26.70	211	*e*P	P	10 12 46.8	-0.5
	comp=Z,8µm,1.5s,mb6.7						
GYA	**Guiyang**	26.86	264⇑	*i*P	P	10 12 48.4	-0.3
GYA				S	S	10 17 24.0	+1.5
GYA				XS		10 17 40.6	
GYA				AMB	AMB		
	comp=Z,2µm,1.2s,mb6.6						
GYA				LR	LR		
	comp=N,327µm,20.3s,MS7.0						
GYA				LR	LR		
	comp=E,255µm,23.0s,MS7.0						
GYA				LR	LR		
	comp=Z,252µm,23.9s,MS6.7						
CGP	**Cagayan de Oro**	26.91	207⇓	*e*P	P	10 12 48.0	-1.3
ENPP	**El Nido**	26.95	220	*e*P	P	10 12 49.1	-0.5
LZH	**Lanzhou**	27.18	286	⇑P	P	10 12 51.5	0.0
LZH				AP	pP	10 12 57.2	+0.3
LZH				PP	PP	10 13 38.5	+0.3
LZH				S	S	10 17 28.1	+0.7
LZH				SS	SS	10 18 45.4	+2.3
LZH				LR	LR		
	comp=N,395µm,12.5s						
LZH				LR	LR		
	comp=Z,450µm,17.1s,MS7.1						
SONM	**Songino Array**	27.18	312	P	P	10 12 51.6	+0.2
	comp=Z,191nm,0.7s,mb5.7,baz=121,slow=9.6,SNR=126						
SONM				P3KPbc		10 45 28.2	
	comp=Z,4.2nm,1.1s,baz=270,slow=2.5,SNR=8.5						
SONM	**Songino Array**	27.18	312	P	PcP	10 16 10.5	-1.5
	comp=Z,96nm,0.8s,baz=148,slow=5.9,SNR=5.9						
SONM	**Songino Array**	27.18	312	P	P	10 12 51.6	+0.2
SONM				*e*		10 45 28.2	
BUKP	**Musuan**	27.30	206	*e*P	P	10 12 52.2	-0.6
DCPH	**Dipolog City**	27.33	210⇑	*e*P	P	10 12 51.4	-1.7
MATI	**Mati**	27.76	203	*e*P	P	10 12 55.7	-1.3
QIZ	**Qiongzhong**	27.81	246⇑	*i*P	P	10 12 58.3	+0.9
QIZ				AP	pP	10 13 07.6	+4.7
QIZ				XP	sP	10 13 12.1	+6.7
QIZ				XS		10 17 57.1	
QIZ				LR	LR		
	comp=N,266µm,19.0s,MS7.0						
QIZ				LR	LR		
	comp=E,343µm,20.7s,MS7.0						
QIZ				LR	LR		
	comp=Z,232µm,21.6s,MS6.7						
QIZ	**Qiongzhong**	27.81	246⇑	*i*P	P	10 12 58.4	+0.9
	comp=Z,610nm,1.4s,mb6.0						
QIZ				*e*PcP	PcP	10 16 14.4	+0.6
DAV	**Davao City (W)**	27.87	204	*e*P	P	10 12 57.5	-0.5
PAGZ	**Pagadian**	27.98	209	*e*P	P	10 12 55.6	-3.4
CD2	**Chengdu**	27.99	275⇑	*i*P	P	10 12 58.5	-0.4
CD2				PP	PP	10 13 51.1	+2.2
CD2				S	S	10 17 42.9	+2.3
CD2				XS		10 18 00.3	
CD2				AMB	AMB		
	comp=Z,2µm,1.3s,mb6.6						
CD2				LR	LR		
	comp=Z,697µm,21.7s,MS7.2						
KCP	**Kidapawan**	28.10	205⇓	*e*P	P	10 13 00.1	0.0
MA2	**Magadan**	28.11	15	*e*P	P	10 12 57.8	-1.9
	comp=Z,478nm,0.8s,mb6.2						
MA2				LR	LR		
	comp=Z,180µm,22.0s,MS6.6						
CTBH	**Cotabato--PC H**	28.21	207⇑	*e*P	P	10 13 00.3	-0.8
CTBH				*i* S	Px	10 14 17.1	
IPIL	**Ipil**	28.38	211	*e*P	P	10 12 59.2	-3.3
PPR	**Puerto Princes**	28.51	220⇑	*e*P	P	10 13 03.8	+0.1
GSPH	**General Santos**	29.00	205	*e*P	P	10 13 10.0	+1.8
BOD	**Bodaibo**	29.16	335	*i* P	P	10 13 07.1	-2.1
YAK	**Yakutsk**	29.33	353*c*	*i*P	P	10 13 11.4	+0.7
YAK				*e*		10 13 29.2	
YAK				*e*PPP	PPP	10 14 18.4	-0.9
YAK				*i* S	S	10 18 02.0	+0.3
YAK				*e*		10 19 48.3	
YAK				*e*		10 23 49.3	
YAK				pmax	pmax		
	comp=Z,548nm,0.9s,mb6.3						
YAK				pmax	pmax		
	comp=N,745nm,1.4s						
YAK				pmax	pmax		
	comp=E,121nm,1.4s						
YAK				smax			
	comp=E,186nm,1.4s						
YAK				smax			
	comp=Z,192nm,3.8s						
YAK				smax			
	comp=N,346nm,4.0s						
YAK				MLR	MLR		
	comp=N,337µm,14.0s,MS7.2						
YAK				MLR	MLR		
	comp=E,79µm,12.0s,MS7.2						
YAK				MLR	MLR		
	comp=Z,272µm,12.0s,MS7.1						
YAK	**Yakutsk**	29.33	353	*e*P	P	10 13 10.2	-0.4
	comp=Z,2µm,1.3s,mb6.7						
YAK				LR	LR		
	comp=Z,508µm,22.0s,MS7.1						
BATP	**Bataraza**	29.83	220	*e*P	P	10 13 14.9	-0.7
ZAK	**Zakamensk**	30.04	315	*i* P	P	10 13 17.4	+0.3
ZAK				*e*		10 16 19.7	
IRK	**Irkutsk**	30.24	319	*e*P	P	10 13 19.2	+0.3
IRK				*e*		10 14 31.4	
IRK				*e*		10 16 25.7	
GTA	**Gaotai**	30.29	293	⇑P	P	10 13 19.4	-0.1
GTA				AP	pP	10 13 25.5	+0.5
GTA				PP	PP	10 14 19.2	+0.5
GTA				PPP	PPP	10 14 33.7	+0.7
GTA				PCP	PcP	10 16 18.2	-1.6
GTA				S	S	10 18 18.8	+1.6
GTA				SS	SS	10 19 57.6	+1.1
GTA				SCS	ScS	10 23 49.3	-5.1
GTA				AMB	AMB		
	comp=Z,25µm,6.1s						
GTA				LR	LR		
	comp=N,253µm,19.4s,MS6.9						
GTA				LR	LR		
	comp=E,156µm,19.8s,MS6.9						
GTA				LR	LR		
	comp=Z,182µm,20.5s,MS6.7						
KMI	**Kunming**	30.64	264⇑	*i*P	P	10 13 22.3	-0.4
KMI				AP	pP	10 13 30.8	+2.6
KMI				XP	sP	10 13 37.5	+6.9
KMI				PCP	PcP	10 16 18.0	-2.9
KMI				S	S	10 18 23.7	+0.8
KMI				XS		10 18 37.4	
KMI				AMB	AMB		
	comp=Z,30µm,11.9s						
KMI				LR	LR		
	comp=N,344µm,18.5s,MS7.3						
KMI				LR	LR		
	comp=E,405µm,14.8s,MS7.3						
KMI				LR	LR		
	comp=Z,527µm,13.8s,MS7.3						
SEY	**Seymchan**	31.48	14	*i* P	P	10 13 31.1	+1.4
SEY						10 14 33.9	
SEY				*e*PPP	PPP	10 14 55.9	+7.0
SEY				*i* S	S	10 18 36.8	+1.2
SEY				SS	SS	10 20 20.3	-3.7
SEY				pmax	pmax		
	comp=N,130nm,0.9s						
SEY				pmax	pmax		
	comp=E,70nm,0.9s						
SEY				pmax	pmax		
	comp=Z,390nm,0.9s,mb6.2						
MOY	**Mondy**	31.86	316	*e*P	P	10 13 33.2	+0.1
MOY				*e*		10 16 24.8	
KKM	**Kota Kinabalu**	32.98	220⇓	*e*P	P	10 13 43.9	+0.7
SMY	**Shemya**	33.18	42	P	P	10 13 45.2	+0.6
SMY				pmax	pmax		
	comp=Z,2µm,1.6s,mb6.9						
SMY	**Shemya**	33.18	42	*e*P	P	10 13 46.5	+1.9
KKTK	**Khon Kaen**	34.83	250	P	P	10 14 00.0	+0.8
	comp=Z,7µm,1.0s,mb7.5						
CHRT	**Chiangrai**	35.41	258	⇑P	P	10 14 05.0	+0.9
	comp=Z,3µm,0.6s,mb7.4						
CHG	**Chiang Mai**	36.62	257	⇑P	P	10 14 15.2	+0.8
	comp=Z,150nm,1.1s,mb5.7						
CHG				S	S	10 20 02.3	+6.6
CMAR	**Chiang Mai Arr**	36.80	256	P	P	10 14 16.2	+0.3
	comp=Z,81nm,0.7s,mb5.7,baz=49,slow=6.8,SNR=211						
NST	**Nakhon Sawan**	37.33	251	⇓P	P	10 14 21.0	+0.6
	comp=Z,300nm,1.0s,mb6.1						
BDT	**Bhumibol Dam**	37.38	254	P	P	10 14 21.0	+0.2
	comp=Z,182nm,1.0s,mb5.9						
IMP	**Imphal**	38.15	269	*e*P	P	10 14 26.0	-1.2
LSA	**Lhasa**	38.83	278⇑	*i*P	P	10 14 34.7	+1.8
LSA				AP	pP	10 14 49.0	+11
LSA				PP	PP	10 16 04.9	-0.8
LSA				S	S	10 20 21.4	-7.9
LSA				AMB	AMB		
	comp=Z,490nm,1.0s,mb6.2						
LSA				LR	LR		
	comp=N,130µm,18.8s,MS7.2						
LSA				LR	LR		
	comp=E,290µm,20.5s,MS7.2						
LSA				LR	LR		
	comp=Z,260µm,22.3s,MS7.0						
LSA	**Lhasa**	38.83	278⇑	*i*P	P	10 14 34.6	+1.8
	comp=Z,3µm,1.0s,mb7.0						
LSA				*e*PP	PP	10 16 16.2	+11
TIXI	**Tiksi**	38.87	356⇑	*i*P	P	10 14 32.4	-0.3
TIXI				*i*		10 16 12.8	
TIXI				*i* S	S	10 20 31.1	+1.7
TIXI				pmax	pmax		
	comp=Z,1µm,1.0s,mb6.6						
TIXI				pmax	pmax		
	comp=Z,14µm,17.0s						
TIXI				MLR	MLR		
	comp=Z,393µm,14.0s,MS7.4						
TIXI	**Tiksi**	38.87	356⇑	*i*P	P	10 14 32.4	-0.3
TIXI				LR	LR		
	comp=Z,115µm,20.0s,MS6.7						
WMQ	**Urumqi**	39.36	300⇑	*i*P	P	10 14 38.0	+0.9
WMQ				AP	pP	10 14 43.9	+1.2
WMQ				XP	sP	10 14 46.9	+1.8
WMQ				PP	PP	10 16 12.5	+1.0
WMQ				S	S	10 20 38.0	+0.8
WMQ				SS	SS	10 23 23.3	-0.4
WMQ				AMB	AMB		
	comp=Z,1µm,1.5s,mb6.5						
WMQ				AMB	AMB		
	comp=Z,30µm,11.2s						
WMQ				LR	LR		
	comp=N,193µm,21.0s,MS7.1						
WMQ				LR	LR		
	comp=E,210µm,21.0s,MS7.1						
WMQ				LR	LR		
	comp=Z,269µm,21.0s,MS7.0						
NNT	**Nongplab**	39.44	248	P	P	10 14 39.5	+1.4
MIDW	**Midway**	39.54	84	*e*P	P	10 14 39.0	+0.2
	comp=Z,595nm,1.1s,mb6.2						
MIDW				LR	LR		
	comp=Z,150µm,20.0s,MS6.8						
SHL	**Shillong**	39.58	271⇑	*i*P	P	10 14 39.5	+0.4
SHL				*i*		10 20 34.0	
TANI	**Tanete Lipujan**	39.85	208⇑	*i*P	P	10 14 52.1	+11
NINI	**Niniconang**	40.61	207⇓	*i*P	P	10 14 47.9	+0.2
AGT	**Agartala**	40.75	269	*i*	P	10 14 53.0	+4.2
AGT				*i*		10 16 33.0	
WAU	**Wau**	41.30	165	*e*P	P	10 14 52.6	-0.7
ZAL	**Zalesovo**	41.92	316	P	P	10 14 57.8	-0.2
	comp=Z,60nm,0.9s,baz=280,slow=8.3,SNR=95						
ZAL				PcP	PcP	10 16 53.0	-1.1
	comp=Z,221nm,0.9s,baz=92,slow=0.6,SNR=7.1						
ZAL				LR	LR	10 30 59.5	
	comp=Z,801µm,19.3s,baz=272,slow=34						
ZAL	**Zalesovo**	41.92	316	P	P	10 14 57.8	-0.2
ZAL				PcP	PcP	10 16 53.0	-1.1
ZAL				LR	LR	10 30 59.5	
SLGI	**Shiliguri**	42.08	274	*e*	P	10 15 01.0	+1.3
SNG	**Songkhla**	42.23	240	P	P	10 15 02.0	+0.9
	comp=Z,964nm,1.0s,mb6.4						
NVS	**Novosibirsk**	42.95	317	*i* P	P	10 15 06.0	-0.4
NVS				*i*		10 16 55.3	
NVS				*i* S	S	10 21 27.5	-2.8
NVS				pmax	pmax		
	comp=E,2µm,1.4s						
NVS				pmax	pmax		
	comp=Z,2µm,1.4s,mb6.7						
NVS				pmax	pmax		
	comp=N,172nm,0.9s						
NVS				smax			
	comp=N,14µm,4.0s						
NVS				smax			
	comp=E,4µm,3.5s						
MKAR	**Makanchi Array**	43.11	305	P	P	10 15 08.8	+1.0
	comp=E,527nm,0.9s,mb6.3,baz=91,slow=8.6,SNR=798						
MKAR				LR	LR	10 33 54.3	
	comp=E,249µm,20.3s,MS7.1,baz=92,slow=37						
MKAR				P4KPbc		10 53 05.8	
	comp=E,2.6nm,0.9s,baz=85,slow=4.1,SNR=4.5						
MKAR	**Makanchi Array**	43.11	305	P	P	10 15 08.8	+1.0
MKAR				LR	LR	10 33 54.3	
NIKO	**Nikolski**	43.28	46⇑	*e*P	P	10 15 07.1	-2.0
PMG	**Port Moresby**	43.39	165	P	P	10 15 08.9	-1.6
PMG				S	S	10 21 33.2	-4.0
PMG	**Port Moresby**	43.39	165	*e*P	P	10 15 11.0	+0.5
IPM	**Ipoh**	43.72	237⇑	*e*P	P	10 15 13.5	+0.3
	comp=E,118nm,0.6s,mb5.8						
PKI	**Pulchoki**	44.29	277	*e*P	P	10 15 15.4	-2.3
	comp=E,2µm,1.1s,mb6.8						
KKN	**Kakani**	44.32	277	*e*P	P	10 15 15.8	-2.1
	comp=E,2µm,1.0s,mb6.9						
KLM	**Kuala Lumpur**	44.34	235⇑	*e*P	P	10 15 19.0	+0.8
DMN	**Daman**	44.53	277	*e*P	P	10 15 17.4	-2.2
	comp=E,2µm,1.1s,mb6.9						
UNV	**Unalaska Valle**	44.75	45⇑	*e*P	P	10 15 18.3	-2.7
	comp=E,1µm,1.8s,mb6.5						
UNV				LR	LR		
	comp=Z,228µm,20.0s,MS7.1						
GKN	**Gorkha**	44.78	278	*e*P	P	10 15 18.8	-2.9
	comp=Z,5µm,1.5s,mb7.1						
KURK	**Kurchatov**	45.48	311	P	P	10 15 27.9	+1.1
	comp=Z,15µm,0.9s						
KURK	**Kurchatov**	45.48	311	*i* P	P	10 15 26.8	0.0
KURK				pmax	pmax		
	comp=Z,2µm,1.3s,mb6.9						
KURK	**Kurchatov**	45.48	311	*e*P	P	10 15 26.9	+0.1
	comp=Z,2µm,0.9s,mb7.0						
KURK				LR	LR		
	comp=Z,77µm,21.0s,MS6.6						
VLK	**Valmikinagar**	45.66	277	*i* P	P	10 15 29.0	+0.4
VLK				*i*		10 15 39.0	
KAKA	**Kakadu**	45.70	186⇑	*i*P	P	10 15 27.2	-1.9
	comp=Z,524nm,0.8s,mb6.5						
KOLN	**Koldanda**	45.73	278	*e*P	P	10 15 26.8	-2.3
	comp=Z,4µm,1.3s,mb7.2						
KEDI	**Kedomdong**	45.75	209⇑	*e*P	P	10 15 28.6	-0.9
TNA	**Tin City**	46.17	28	*e*P	P	10 15 33.0	+0.9
	comp=Z,383nm,0.9s,mb6.3						
TNA				LR	LR		
	comp=Z,129µm,19.0s,MS6.9						
KELI	**Kelakatan**	46.20	211⇑	*e*P	P	10 15 32.3	-0.7
RATI	**Rata**	46.21	210⇑	*e*P	P	10 15 31.0	-2.1
INGI	**Ingas**	46.45	210⇑	*i*P	P	10 15 32.8	-2.2
ANM	**Nome**	46.96	30	*e*P	P	10 15 41.6	+3.3
AAA	**Alma-Ata**	47.19	301*c*	*i*P	P	10 15 41.0	+0.5
AAA				*e*S	S	10 22 34.0	+2.6
AAA				pmax	pmax		
	comp=Z,140µm,7.0s						
AAA				MLR	MLR		
	comp=Z,320µm,18.0s,MS7.3						
AAA	**Alma-Ata**	47.19	301	*i* P	P	10 15 42.0	+1.5
ULHL	**Ulahol**	47.87	299	P	P	10 15 46.8	+1.0
	SNR=6.7						
LGTI	**Lohaghat**	47.93	282	*e*P	P	10 15 48.0	+1.5
LGTI				*e*		10 17 15.0	
TKM2	**Tokmak 2**	48.22	300	P	P	10 15 49.7	+1.1
	SNR=504						
SDPT	**Sand Point**	48.31	43	*e*P	P	10 15 47.4	-1.7
KSH	**Kashi**	48.59	296⇑	*i*P	P	10 15 53.4	+1.9
KSH				*e*AP	pP	10 16 00.7	+3.6
KSH				*e*XP	sP	10 16 04.4	+5.0
KSH				*e*PCP	PcP	10 17 20.0	+2.6
KSH				*e*PP	PP	10 17 47.4	+3.2
KSH				S	S	10 22 53.0	+1.8
KSH				*e*XS		10 23 05.0	
KSH				*e*SS	SS	10 26 18.2	+1.5
KZA	**Kyzart**	48.62	299	P	P	10 15 53.6	+1.9
	SNR=139						
KBK	**Karagaybulak**	48.74	300	P	P	10 15 53.4	+0.8
	SNR=227						
CHMS	**Chumysh**	48.82	301	P	P	10 15 53.5	+0.3
	SNR=213						
KLP	**Kalpa**	48.90	285	*e*P	P	10 15 54.0	+0.1
KLP				*e*	pP	10 15 58.2	-1.4
	comp=Z,663nm,1.2s						
FRU	**Bishkek**	48.95	300⇑	*i*P	P	10 15 55.0	+0.8
FRU				*i*		10 17 50.0	
FRU				*i* S	S	10 23 00.0	+3.8
FRU				pmax	pmax		
	comp=Z,69µm,3.0s						
FRU				smax			
	comp=E,65µm,10.0s						
USP	**Ospenovka**	48.96	301	P	P	10 15 54.5	+0.3
	SNR=447						
AAK	**Ala-Archa**	49.07	300	P	P	10 15 55.6	+0.5
	SNR=200						
AAK	**Ala-Archa**	49.07	300	P	P	10 15 53.9	-1.2
AAK				pmax	pmax		
	comp=Z,750nm,1.0s,mb6.7						
AAK	**Ala-Archa**	49.07	300⇑	*i*P	P	10 15 54.6	-0.5
	comp=Z,747nm,1.0s,mb6.7						
AAK				LR	LR		
	comp=Z,78µm,21.0s,MS6.7						
BLSP	**Bilaspur**	49.13	272	*e*P	P	10 15 57.0	+1.2
BLSP				*e*PP	PP	10 17 52.0	+2.2
UCH	**Uchtor**	49.13	300	P	P	10 15 57.0	+1.4
	SNR=638						
EKS2	**Erkin-Say**	49.59	300	P	P	10 15 59.2	+0.1
	SNR=165						
AML	**Almayashu**	49.75	300	P	P	10 16 01.8	+1.4
	SNR=358						
SMLA	**Simla**	49.90	285	*e*	P	10 16 11.4	+10
SMLA				*e*		10 23 18.9	
VIS	**Vishakhapatnam**	50.10	266	*i* P	P	10 16 02.0	-1.4
VOSK	**Vostochnaya**	50.15	314	P	P	10 16 03.0	-0.2
VOSK				pmax	pmax		
	comp=Z,5µm,1.4s,mb7.3						
VOSK	**Vostochnaya**	50.15	314	*i* P	P	10 16 03.1	-0.1
BHK	**Bhakra**	50.42	285	*e*P	P	10 16 05.0	-0.6
BHK				*e*		10 19 12.0	
BVAR	**Borovoye Array**	50.48	314	LR	LR	10 37 49.1	
	comp=Z,2µm,18.6s,baz=205,slow=36						
BVAR				P4KPbc		10 53 37.5	
	comp=Z,4.2nm,0.7s,baz=90,slow=4.4,SNR=9.7						
BRVK	**Borovoye**	50.54	314	P	P	10 16 06.2	0.0
BRVK				pmax	pmax		
	comp=Z,2µm,1.0s,mb6.9						
BRVK	**Borovoye**	50.54	314⇑	*i*P	P	10 16 06.0	-0.3
	comp=Z,1µm,1.0s,mb6.9						
BRVK				LR	LR		
	comp=Z,49µm,20.0s,MS6.5						
KKR	**Kurukshetra**	50.57	284	*e*P	P	10 16 06.1	-0.7
KKR				*e*	pP	10 16 10.4	-2.1
	comp=Z,2µm,1.0s						
NDI	**New Delhi**	50.69	282	*e*P	P	10 16 07.0	-0.7
NDI				*e*S	S	10 23 17.0	-3.5
AYAN	**Aya Nagar**	50.83	282	*e*P	P	10 16 08.1	-0.7
AYAN				*e*	pP	10 16 12.1	-2.4
	comp=Z,983nm,1.2s						
TTA	**Tatalina**	50.84	33	*e*P	P	10 16 08.1	-0.3
BHGR	**Bahadurgarh**	50.91	282	*e*P	P	10 16 08.5	-0.9
BHGR				*e*	pP	10 16 13.0	-2.1
	comp=Z,1µm,0.8s						
SVW	**Sparrevohn**	50.96	35	*e*P	P	10 16 09.5	+0.2
RTK	**Rohtak**	51.22	283	*e*P	P	10 16 10.8	-0.9
RTK				*e*	pP	10 16 15.2	-2.2
	comp=Z,845nm,1.1s						
ZRNK	**Zerenda**	51.32	314	P	P	10 16 12.2	0.0
ZRNK				pmax	pmax		
	comp=Z,5µm,1.5s,mb7.2						
ZRNK	**Zerenda**	51.32	314⇑	*i*P	P	10 16 11.8	-0.3
	comp=Z,2µm,1.0s,mb7.0						
KUDL	**Kundal**	51.48	282	*e*P	P	10 16 12.6	-1.1
KUDL				*e*	pP	10 16 17.1	-2.3
	comp=Z,861nm,1.6s						
KKAR	**Karatay Array**	51.85	302	*i* P	P	10 16 16.0	-0.3
KKAR				pmax	pmax		
	comp=Z,3µm,1.2s,mb7.1						
FITZ	**Fitzroy Crossi**	51.98	193	*e*P	P	10 16 16.4	-1.2
	comp=Z,602nm,0.9s,mb6.5						
FITZ				*e*S	S	10 23 39.1	+0.7
FITZ				*e*PKPPKP		10 46 31.6	
FITZ	**Fitzroy Crossi**	51.98	193	P	P	10 16 16.5	-1.0
	comp=Z,202nm,0.7s,mb6.1,baz=10,slow=8.3,SNR=314						
FITZ				P4KPbc		10 53 43.2	
	comp=Z,3.4nm,0.8s,baz=349,slow=2.6,SNR=4.0						
IMA	**Indian Mountai**	52.02	29	*e*P	P	10 16 17.4	+0.1
KHET	**Khetri**	52.06	282	*e*P	P	10 16 17.4	-0.8
KHET				*e*	pP	10 16 21.6	-2.3
	comp=Z,1µm,1.1s						
NGP	**Nagpur**	52.13	272	*e*P	P	10 16 17.9	-0.9
NGP				*i*		10 16 18.9	
NGP				*e*S	S	10 23 40.8	+0.3
NIL	**Nilore**	52.25	289	P	P	10 16 20.5	+1.1
	comp=Z,700nm,1.5s,mb6.4						
RSO	**Redoubt South**	52.37	36	*e*P	P	10 16 19.9	-0.1
KGD	**Kothagudem**	52.41	267⇑	*e*P	P	10 16 18.2	-2.6
KGD				*e*pP	pP	10 16 25.4	-1.2
KGD				*e*PcP	PcP	10 17 28.0	-3.6
KGD				*e*PP	PP	10 18 20.0	-0.7
KGD				*e*PcS		10 21 27.6	
KGD				*e*S	S	10 23 43.2	-1.0

KGD				*e*ScS	ScS	10 26 07.5	+0.9
KGD				*e*SS	SS	10 27 41.5	+21
KDAK	**Kodiak Island**	52.60	40	*e*P	P	10 16 20.8	-1.0
	comp=Z,990nm,0.8s,mb6.8						
KDAK				LR	LR		
	comp=Z,33µm,22.0s,MS6.3						
BHPL	**Bhopal**	52.61	275	*e*P	P	10 16 21.2	-1.0
BHPL				*e*		10 16 24.7	
	comp=Z,1µm,1.5s						
BHPL				*e*S	S	10 23 47.8	+0.9
BHPL				*e*		10 41 27.4	
	comp=Z,115µm,19.5s						
SPU	**Mount Spurr**	52.69	35	*e*P	P	10 16 22.4	+0.1
WRAB	**Tennant Creek**	52.75	183⇑	*e*P	P	10 16 21.5	-1.9
	comp=Z,1µm,1.2s,mb6.7						
WRAB				LR	LR		
	comp=Z,60µm,20.0s,MS6.6						
WB2	**Warramunga Arr**	52.76	183⇑	*i*P	P	10 16 21.6	-1.9
WB2				*e*S	S	10 23 49.4	+0.4
WB2				*e*SS	SS	10 27 29.9	+3.1
WB2				*e*PKPPKP		10 46 33.8	
WRA	**Warramunga Arr**	52.76	183	P	P	10 16 21.6	-1.9
	comp=Z,343nm,0.9s,mb6.3,baz=360,slow=8.0,SNR=514						
WRA				LR	LR	10 35 38.8	
	comp=Z,110µm,22.0s,MS6.9,baz=355,slow=32						
WRA				PKP2bc		10 46 59.0	
	comp=Z,7.7nm,1.1s,baz=174,slow=2.1,SNR=8.1						
WRA				P4KPbc		10 53 46.9	
	comp=Z,2.4nm,1.1s,baz=353,slow=4.8,SNR=13						
WRA	**Warramunga Arr**	52.76	183	P	P	10 16 21.6	-1.9
WRA				LR	LR	10 35 38.8	
WRA			⇑	*e*		10 46 59.0	
TAS	**Tashkent**	53.14	300*c*	*e*P	P	10 16 25.5	-0.5
TAS				*e*S	S	10 23 42.5	-11
TAS				pmax	pmax		
	comp=Z,140µm,8.0s						
TAS	**Tashkent**	53.14	300⇑	*e*P	P	10 16 25.5	-0.5
FIB	**Fire Island**	53.60	35	PFAKE		10 16 40.0	+11
FIB				LR	LR		
	comp=Z,48µm,20.0s,MS6.5						
SLKM	**Skilak Lake**	53.62	36	P	P	10 16 28.2	-1.0
SLKM	**Skilak Lake**	53.62	36	*e*P	P	10 16 28.1	-1.2
AJM	**Ajmer**	53.62	280	*e*P	P	10 16 28.9	-0.9
AJM				*e*	pP	10 16 32.6	-2.8
	comp=Z,920nm,1.4s						
AJM				*e*S	S	10 24 02.8	+2.2
AJM				*e*		10 42 50.9	
	comp=Z,94µm,17.0s						
CTA	**Charters Tower**	53.63	169	*e*P	P	10 16 28.0	-1.9
	comp=Z,451nm,1.1s,mb6.3						
CTA				*e*S	S	10 24 00.7	-0.2
CTA				*e*SS	SS	10 27 57.6	+17
CTA				*e*PKPPKP		10 46 44.1	
CTA	**Charters Tower**	53.63	169	P	P	10 16 28.5	-1.4
	comp=Z,218nm,1.0s,mb6.0,baz=351,slow=7.9,SNR=86						
CTA				LR	LR	10 40 45.4	
	comp=Z,150µm,18.1s,MS7.1,baz=4.7,slow=38						
CTA	**Charters Tower**	53.63	169	P	P	10 16 28.5	-1.4
CTA				pmax	pmax		
	comp=Z,218nm,1.0s						
CTA				MLR	MLR		
	comp=Z,150µm,18.1s						
CTAO	**Charters Tower**	53.63	169	P	P	10 16 28.2	-1.7
CTAO				pmax	pmax		
	comp=Z,460nm,1.1s,mb6.3						
CTAO	**Charters Tower**	53.63	169⇑	*e*P	P	10 16 28.0	-1.9
	comp=Z,460nm,1.1s,mb6.3						
CTAO				LR	LR		
	comp=Z,125µm,19.0s,MS7.0						
MCK	**McKinley**	54.04	32⇑	*i*P	P	10 16 31.6	-0.6
	comp=Z,9µm,1.2s,mb7.6						
MCK				LR	LR		
	comp=Z,59µm,19.0s,MS6.7						
AKL	**Akola**	54.04	273⇑	*i*	P	10 16 37.3	+4.5
	comp=Z,3µm,1.5s,mb7.0						
AKL				*i* S	S	10 24 12.0	+5.7
PMR	**Palmer**	54.07	35	P	P	10 16 31.3	-1.2
PMR				pmax	pmax		
	comp=Z,2µm,1.6s,mb6.8						
PMR	**Palmer**	54.07	35	*e*P	P	10 16 28.5	-4.0
HYB	**Hyderabad**	54.25	268⇑	*i*P	P	10 16 34.0	-0.4
	comp=Z,1µm,1.2s,mb6.8						
HYB				*e*PcP	PcP	10 17 35.0	-3.6
HYB				*e*PP	PP	10 18 38.0	+0.1
HYB				*e*S	S	10 24 10.0	+0.7
HYB				*e*		10 26 31.0	
HYB				LR	LR	10 43 30.0	
	comp=Z,280nm,18.0s						
HYB				*e*PKPPKP		10 46 40.0	
HYB	**Hyderabad**	54.25	268⇑	*e*P	P	10 16 34.0	-0.4
	comp=Z,1µm,1.2s,mb6.8						
HYB				*e*S	S	10 24 10.0	+0.7
SML	**Sawmill**	54.44	34	P	P	10 16 34.5	-0.7
SML	**Sawmill**	54.44	34⇑	*i*P	P	10 16 34.7	-0.5
COLA	**College**	54.45	31	P	P	10 16 35.2	-0.1
COLA				pmax	pmax		
	comp=Z,520nm,1.3s,mb6.3						
COLA	**College**	54.45	31	*e*P	P	10 16 34.3	-1.0
ILAR	**Eielson Array**	54.87	31	P	P	10 16 37.7	-0.6
	comp=Z,25nm,0.8s,baz=284,slow=5.2,SNR=198						
ILAR				LR	LR	10 41 34.6	
	comp=Z,91µm,19.0s,MS6.9,baz=298,slow=38						
MDRS	**Chennai**	54.99	263	*e*P	P	10 16 40.1	+0.2
MDRS				*e*		10 16 43.5	
	comp=Z,1µm,1.0s						
MDRS				*i* S	S	10 24 23.0	+3.9
LATR	**Latur**	55.46	271	*e*P	P	10 16 43.0	-0.2
THY	**Trims Highway**	55.48	32⇑	*i*P	P	10 16 42.1	-0.7
CUD	**Cuddapah**	55.51	265⇑	*e*P	P	10 16 43.4	-0.2
CUD				*e*	pP	10 16 49.1	-0.2
CUD				*e*PP	PP	10 18 53.5	+4.3
CUD				*e*		10 21 15.0	
CUD				*e*		10 24 20.1	
CUD				*e*ScS	ScS	10 26 32.7	+4.3
CUD				*e*		10 33 37.5	
CUD				*e*		10 38 48.8	
MID	**Middleton Isla**	55.68	37	*e*P	P	10 16 47.6	+3.3
DIV	**Divide**	55.73	35⇑	*i*P	P	10 16 44.4	-0.2
	comp=Z,2µm,0.7s,mb7.2						
DIV				LR	LR		
	comp=Z,220µm,19.0s,MS7.3						
EYAK	**Cordova Ski Ar**	55.82	36⇑	*i*P	P	10 16 45.1	-0.1
MBWA	**Marble Bar**	56.32	199⇑	*i*P	P	10 16 47.6	-1.8
	comp=Z,186nm,2.0s,mb5.8						
MBWA				LR	LR		
	comp=Z,152µm,22.0s,MS7.0						
ASAR	**Alice Springs**	56.48	183	P	P	10 16 48.8	-1.8
	comp=Z,175nm,0.8s,mb6.1,baz=8.1,slow=6.2,SNR=616						
ASAR				LR	LR	10 40 35.2	
	comp=Z,112µm,21.4s,MS6.9,baz=354,slow=36						
ASAR				PKP2bc		10 46 56.0	
	comp=Z,20nm,1.0s,baz=178,slow=2.6,SNR=8.5						
ASAR				P4KPbc		10 54 05.0	
	comp=Z,1.8nm,0.9s,baz=8.7,slow=3.5,SNR=8.5						
ASAR	**Alice Springs**	56.48	183	P	P	10 16 48.8	-1.8
ASAR				LR	LR	10 40 35.2	
ASAR			⇑	*e*		10 46 56.0	
ASPA	**Alice Springs**	56.48	183⇑	*i*P	P	10 16 48.8	-1.8
ASPA				*e*S	S	10 24 40.6	+1.6
ASPA				*e*SCS	ScS	10 26 43.8	+8.5
ASPA				*e*PKPPKP		10 46 38.0	
JASL	**Jaisalmer**	56.53	282	*e*P	P	10 16 50.0	-0.8
JASL				*e*		10 16 52.0	
ARU	**Arti**	56.83	319	P	P	10 16 51.3	-1.3
	comp=Z,13µm,1.1s						
ARU	**Arti**	56.83	319⇑	*i*P	P	10 16 51.8	-0.8
ARU				*i* PPP	PPP	10 20 16.0	-3.4
ARU				*i* S	S	10 24 43.1	+0.1
ARU				*i* SS		10 24 53.3	
ARU				*i*		10 26 38.2	
ARU				pmax	pmax		
	comp=Z,4µm,1.3s,mb7.2						
ARU				MLR	MLR		
	comp=Z,170µm,19.0s,MS7.2						
ARU				MLR	MLR		
	comp=N,107µm,15.0s,MS7.3						
ARU				MLR	MLR		
	comp=E,166µm,18.0s,MS7.3						
ARU	**Arti**	56.83	319⇑	*i*P	P	10 16 51.6	-0.9
	comp=E,6µm,1.4s,mb7.4						
ARU				LR	LR		
	comp=Z,54µm,19.0s,MS6.7						
AB31	**Akbulak array**	57.59	311	P	P	10 16 57.1	-1.0
POO	**Poona**	57.68	272	*e*P	P	10 16 58.4	-0.7
POO				*e*		10 17 01.9	
	comp=Z,947nm,1.3s						
POO				*e*S	S	10 24 56.4	+1.6
POO				*e*		10 45 43.7	
	comp=Z,85µm,21.2s						
PALK	**Pallekele**	57.74	257	*e*P	P	10 16 59.2	-0.4
	comp=Z,1µm,1.3s,mb6.7						
PALK				LR	LR		
	comp=Z,26µm,21.0s,MS6.3						
KAD	**Karad**	57.97	271	*e*P	P	10 17 00.4	-0.7
KAD				*e*		10 17 03.9	
	comp=Z,1µm,1.3s						
DAWY	**Dawson**	58.19	31	*e*P	P	10 17 01.8	-0.2
KIP	**Kipapa**	58.35	84	P	P	10 17 03.8	+0.1
KIP				pmax	pmax		
	comp=Z,810nm,1.3s,mb6.6						
KIP	**Kipapa**	58.35	84	*e*P	P	10 17 03.6	-0.1
	comp=Z,815nm,1.3s,mb6.6						
KIP				LR	LR		
	comp=Z,104µm,21.0s,MS6.9						
HON	**Honolulu**	58.40	84	P	P	10 17 06.1	+2.0
HON	**Honolulu**	58.40	84	*e*P	P	10 17 05.7	+1.6
BKM	**Butte a Klehm**	58.75	144⇑	*i*P	P	10 17 04.7	-2.0
BHJ	**Bhuj**	59.07	279	*e*P	P	10 17 08.9	+0.1
BHJ				*e*		10 17 12.1	
	comp=Z,826nm,1.3s						
BHJ				*e*S	S	10 25 15.8	+2.8
GOA	**Goa**	59.15	269	*i* P	P	10 17 08.1	-1.2
	comp=Z,65µm,19.7s						
GOA				*e*S	S	10 25 18.5	+4.5
INK	**Inuvik**	59.63	26	P	P	10 17 11.6	-0.5
	comp=Z,99nm,0.9s,mb5.8,baz=301,slow=7.4,SNR=137						
INK				PKP2bc		10 46 48.2	
	comp=Z,53nm,1.1s,baz=63,slow=0.8,SNR=5.0						
INK				LR	LR	10 48 44.3	
	comp=Z,137µm,18.4s,MS7.1,baz=97,slow=42						
INK				P4KPbc		10 54 17.9	
	comp=Z,7.5nm,1.1s,baz=232,slow=6.5,SNR=4.3						
INK	**Inuvik**	59.63	26	*e*P	P	10 17 11.5	-0.5
	comp=Z,0.3nm,1.3s						
HKL	**Haleakala**	60.13	84	P	P	10 17 17.5	+1.4
HKL	**Haleakala**	60.13	84	*e*P	P	10 17 17.3	+1.2
TRD	**Trivandrum**	60.14	260	*e*P	P	10 17 16.0	-0.3
TRD				*e*		10 17 19.1	
	comp=Z,604nm,1.4s						
TRD				*e*S	S	10 25 30.0	+3.2
KKH	**Kailua Kona**	60.81	85	P	P	10 17 21.7	+1.0
KKH	**Kailua Kona**	60.81	85	*e*P	P	10 17 21.5	+0.8
HUH	**Hualalai**	60.95	84	*e*P	P	10 17 21.9	+0.3
WKH	**Waikii**	61.02	84⇓	*e*P	P	10 17 22.9	+0.8
KIH	**Kanekii**	61.09	85⇓	*e*P	P	10 17 23.3	+0.7
MWH	**Mokuaweoweo**	61.24	85⇑	*e*P	P	10 17 24.1	+0.5
DAH	**Dandelion**	61.24	85⇑	*e*P	P	10 17 24.1	+0.4
SWH	**Southwest Rift**	61.25	85⇑	*e*P	P	10 17 24.2	+0.5
RCO	**Red Cone**	61.25	85⇑	*e*P	P	10 17 24.0	+0.3
WIH	**Wilkes Camp**	61.26	85	*e*P	P	10 17 24.2	+0.5
KKU	**Keanakolu**	61.27	84⇑	*e*P	P	10 17 24.5	+0.7
HMH	**Humuula**	61.28	84⇓	*e*P	P	10 17 24.4	+0.5
PLL	**Puu Ulaula**	61.34	84⇑	*e*P	P	10 17 24.8	+0.5
MLH	**Mauna Loa**	61.41	84⇑	*e*P	P	10 17 25.3	+0.5
SPT	**South Point**	61.42	85⇑	*e*P	P	10 17 25.0	+0.2
HPO	**Honuapo**	61.46	85	*e*P	P	10 17 25.9	+0.7
RSD	**Rainshed**	61.52	84⇑	*e*P	P	10 17 26.2	+0.6
HLP	**Hilina Pali**	61.57	85⇑	*e*P	P	10 17 26.5	+0.7
AHA	**Ahua**	61.57	84⇓	*e*P	P	10 17 26.0	+0.1
PWH	**Poliokeawe Pal**	61.65	85⇑	*e*P	P	10 17 26.8	+0.4
NOUC	**Port Laguerre**	61.70	149⇑	*e*P	P	10 17 26.2	-0.5
NOUC	**Port Laguerre**	61.70	149⇑	*e*P	P	10 17 26.2	-0.5
DZM	**Mont Dzumac**	61.73	149⇑	*e*P	P	10 17 26.7	-0.3
DZM	**Mont Dzumac**	61.73	149⇑	*e*P	P	10 17 26.6	-0.3
SIT	**Sitka**	61.88	38	P	P	10 17 26.3	-1.2
SIT				pmax	pmax		
	comp=Z,1µm,1.2s,mb6.9						
SIT	**Sitka**	61.88	38	*e*P	P	10 17 27.8	+0.3
FORT	**Forrest**	64.03	188	*e*P	P	10 17 40.6	-1.5
	comp=Z,3µm,0.8s,mb7.4						
FORT				*e*S	S	10 26 18.3	+2.5
FORT				*e*PKPPKP		10 46 38.1	
DLBC	**Dease Lake**	64.09	36	PKP2bc		10 46 35.7	
	comp=Z,100nm,1.5s,baz=104,slow=3.9,SNR=11						
DLBC	**Dease Lake**	64.09	36	*e*P	P	10 17 42.8	+0.8
MSVF	**Nonsavu**	64.11	136	P	P	10 17 43.6	+0.8
	comp=Z,2µm,1.4s,mb6.9,SNR=28						
LVZ	**Lovozero**	64.14	336	P	P	10 17 41.1	-1.0
	comp=Z,2µm,1.2s,mb7.0,SNR=27						
LVZ	**Lovozero**	64.14	336*c*	*i*P	P	10 17 40.8	-1.3
LVZ				*i*		10 20 03.8	
LVZ				*e*S	S	10 26 16.9	+0.4
LVZ				*e*SS	SS	10 30 26.0	-1.4
LVZ				*e*SSS	SSS	10 33 19.5	+3.2
LVZ				pmax	pmax		
	comp=Z,33µm,4.9s						
LVZ				pmax	pmax		
	comp=N,8µm,5.9s						
LVZ				pmax	pmax		
	comp=E,16µm,5.1s						
LVZ				pmax	pmax		
	comp=Z,538nm,1.3s,mb6.4						
LVZ				pmax	pmax		
	comp=N,110nm,1.2s						
LVZ				pmax	pmax		
	comp=E,151nm,1.0s						
LVZ				smax			
	comp=N,13µm,9.2s						
LVZ				smax			
	comp=Z,14µm,8.3s						
LVZ				smax			
	comp=E,38µm,9.5s						
LVZ				smax			
	comp=E,27µm,11.2s						
LVZ				smax			
	comp=Z,14µm,12.3s						
LVZ				MLR	MLR		
	comp=Z,100µm,16.0s,MS7.1						
LVZ				MLR	MLR		
	comp=N,54µm,18.0s,MS7.0						
LVZ				MLR	MLR		
	comp=E,77µm,17.0s,MS7.0						
LVZ	**Lovozero**	64.14	336⇑	*i*P	P	10 17 41.1	-1.0
HSP	**Hornsund**	64.49	348	*e*P	P	10 17 44.2	-0.1
HSP				*e*(P)		15 07 56.6	
APA	**Apatity**	64.71	336*b*	*i*P	P	10 17 45.0	-0.9
APA				*i*		10 18 03.9	
APA				*i*		10 18 25.2	
APA				*i* S	S	10 26 20.0	-3.6
APA				*i* SS	SS	10 30 28.0	-8.5
APA				pmax	pmax		
	comp=Z,850nm,1.6s,mb6.5						
APA				pmax	pmax		
	comp=Z,91µm,8.0s						
STKA	**Stephens Creek**	64.76	175⇑	*i*P	P	10 17 45.3	-1.5
	comp=Z,236nm,0.8s,mb6.3						
STKA				*e*S	S	10 26 23.9	-0.9
STKA				*e*SS	SS	10 30 43.5	+5.6
STKA				*e*PKPPKP		10 46 35.6	
STKA	**Stephens Creek**	64.76	175	P	P	10 17 45.5	-1.4
	comp=Z,207nm,0.8s,mb6.2,baz=344,slow=6.9,SNR=282						
STKA				LR	LR	10 43 13.0	
	comp=Z,191µm,20.5s,MS7.3,baz=164,slow=34						
STKA				PKP2bc		10 46 35.2	
	comp=Z,21nm,1.3s,baz=173,slow=4.8,SNR=5.4						
BJO	**Bjornoya**	65.25	345	*e*P	P	10 17 48.3	-1.0
BJO				*e*PP	PP	10 20 12.0	-3.0
BJO				*e*S	S	10 26 29.6	-0.5
BJO				AMS	AMS	10 48 57.8	
	comp=Z,146µm,23.7s,MS7.1						
KEV	**Kevo**	65.77	339	*e*p	P	10 17 52.3	-0.3
	comp=Z,3µm,2.7s,mb6.9						
KEV	**Kevo**	65.77	339	*e*P	P	10 17 52.3	-0.3
KEV				pmax	pmax		
	comp=Z,3µm,2.7s,mb6.9						
ARCES	**ARCESS Array B**	66.33	339	P	P	10 17 55.7	-0.5
	comp=Z,60nm,0.8s,mb5.7,baz=61,slow=6.3,SNR=86						
ARCES				PKP2bc		10 46 29.2	
	comp=Z,10nm,0.9s,baz=333,slow=2.7,SNR=8.4						
ARCES				LR	LR	10 51 31.9	
	comp=Z,272µm,18.4s,MS7.5,baz=90,slow=40						
ARCES	**ARCESS Array B**	66.33	339	P	P	10 17 55.7	-0.5
ARCES			⇑	*e*		10 46 29.2	
ARCES				LR	LR	10 51 31.9	
KLBR	**Kellerberrin**	66.77	198⇑	*i*P	P	10 17 57.8	-1.8
	comp=Z,880nm,1.0s,mb6.7						
KLBR				*e*S	S	10 26 49.8	+0.5
KLBR				*e*PKPPKP		10 46 29.5	
KTK1	**Kautokeino**	67.30	339⇑	*i*P	P	10 18 01.8	-0.6
KTK1				AMb	AMB	10 18 15.6	
	comp=Z,2µm,1.6s,mb6.8						
KTK1				*e*PP	PP	10 20 29.8	-2.7
KTK1	**Kautokeino**	67.30	339⇑	*i*P	P	10 18 01.8	-0.6
	comp=Z,2µm,1.6s,mb6.8						
RES	**Resolute Bay**	67.35	13	P	P	10 18 02.6	-0.1
RES				pmax	pmax		
	comp=Z,2µm,1.2s,mb6.9						
RES	**Resolute Bay**	67.35	13⇑	*i*P	P	10 18 02.4	-0.3
	comp=Z,1µm,1.2s,mb6.9						
ADE	**Adelaide**	67.70	178	*i* Pcu		10 18 04.9	
MAK	**Makhachkala**	67.85	308*d*	*i*P	P	10 18 05.6	-0.7
MAK				*i*		10 18 32.0	
MAK				*i*		10 20 38.0	
MAK				*i* PPP	PPP	10 22 18.0	+3.1
MAK				*i* S	S	10 27 02.0	-0.1
MAK				*i* PS	PS	10 27 35.0	+6.2
MAK				*i*		10 28 03.0	
MAK				*e*SS	SS	10 31 22.0	-3.3
MAK				*e*SSS	SSS	10 34 24.0	-0.8
MAK				pmax	pmax		
	comp=Z,79µm,6.6s						
MAK				pmax	pmax		
	comp=N,22µm,6.2s						
MAK				pmax	pmax		
	comp=E,24µm,6.2s						
MAK				pmax	pmax		
	comp=Z,3µm,2.0s,mb7.0						
MAK				pmax	pmax		
	comp=N,13µm,8.5s						
MAK				pmax	pmax		
	comp=E,15µm,8.5s						
MAK				pmax	pmax		
	comp=Z,29µm,8.5s						
MAK				smax			
	comp=E,54µm,10.0s						
MAK				smax			
	comp=Z,41µm,10.0s						
MAK				smax			
	comp=N,52µm,12.0s						
MAK				MLR	MLR		
	comp=N,532µm,15.0s						
MAK				MLR	MLR		
	comp=Z,532µm,15.0s,MS7.9						
RIV	**Riverview**	67.91	167	*e*P	P	10 18 06.0	-0.9
RIV				*e*PKPPKP		10 46 25.5	
MOS	**Moscow**	68.12	323α	*i*P	P	10 18 07.5	-0.2
MOS				*i*		10 18 28.2	
MOS				*e*PPP	PPP	10 22 24.8	+7.6
MOS				*i* S	S	10 27 02.0	-3.1
MOS				*e*		10 27 59.7	
MOS				*e*SS	SS	10 31 32.4	+3.2
MOS				pmax	pmax		
	comp=Z,125µm,7.0s						
MOS				pmax	pmax		
	comp=N,47µm,6.4s						
MOS				pmax	pmax		
	comp=E,66µm,6.4s						
MOS				pmax	pmax		
	comp=N,2µm,2.0s						
MOS				pmax	pmax		
	comp=E,3µm,2.0s						
MOS				pmax	pmax		
	comp=Z,8µm,2.0s,mb7.4						
MOS				smax			
	comp=E,60µm,10.2s						
MOS				smax			
	comp=N,59µm,9.4s						
MOS				MLR	MLR		
	comp=N,309µm,17.0s,MS7.8						
MOS				MLR	MLR		
	comp=Z,559µm,17.0s,MS7.9						
MOS				MLR	MLR		
	comp=E,360µm,16.0s,MS7.8						
NWAO	**Narrogin (SRO)**	68.17	198	PKP2bc		10 46 26.8	
	comp=E,0.2nm,0.3s,baz=203,slow=2.2,SNR=7.2						
NWAO	**Narrogin (SRO)**	68.17	198	*e*P	P	10 18 07.0	-1.5
	comp=E,1µm,1.1s,mb6.8						
NWAO				LR	LR		
	comp=Z,92µm,19.0s,MS7.0						
TRO	**Tromso**	68.19	341⇑	*i*P	P	10 18 05.0	-3.0
TRO				*e*PP	PP	10 20 34.4	-6.1
TRO				*e*S	S	10 27 01.9	-3.8
TRO				*e*SS	SS	10 31 24.6	-5.5
TRO				AMS	AMS	10 53 48.6	
	comp=Z,101µm,18.0s,MS7.1						
OBN	**Obninsk**	68.94	323α	*i*P	P	10 18 11.8	-1.0
OBN				*i*		10 18 35.9	
OBN				*i* PPP	PPP	10 22 25.8	+0.4
OBN				*i* S	S	10 27 16.3	+1.4
OBN				pmax	pmax		
	comp=Z,1µm,1.4s,mb6.5						
OBN				pmax	pmax		
	comp=Z,21µm,6.0s						
OBN				MLR	MLR		
	comp=Z,338µm,17.0s,MS7.7						
OBN	**Obninsk**	68.94	323	*e*P	P	10 18 12.0	-0.9
	comp=Z,4µm,1.6s,mb7.1						
OBN				LR	LR		
	comp=Z,76µm,19.0s,MS7.0						
CNB	**Canberra Magne**	69.05	169⇑	*i*P	P	10 18 13.4	-0.5
	comp=Z,228nm,0.9s,mb6.1						
CNB				*e*S	S	10 27 18.0	+1.5
CNB				*e*PKPPKP		10 46 24.4	
YKW3	**Yellowknife Ar**	69.09	28	*e*P	P	10 18 13.2	-0.4
VOR	**Voronezh**	69.10	319⇑	*i*P	P	10 18 12.9	-1.0
VOR				S	S	10 27 13.0	-3.8
VOR				pmax	pmax		
	comp=Z,2µm,1.9s,mb6.7						
VOR				pmax	pmax		
	comp=N,450nm,1.8s						
VOR				pmax	pmax		
	comp=E,860nm,1.8s						
VOR				smax			
	comp=N,1µm,3.5s						
VOR				smax			
	comp=E,1µm,3.5s						
VOR				smax			
	comp=Z,750nm,3.5s						
YKA	**Yellowknife Ar**	69.13	28	P	P	10 18 13.4	-0.4
	comp=Z,220nm,1.0s,mb6.0,baz=297,slow=5.9,SNR=66						
YKA				PKP2bc		10 46 20.8	
	comp=Z,13nm,1.0s,baz=108,slow=3.9,SNR=6.9						
YKA				LR	LR	10 54 20.4	
	comp=Z,63µm,19.4s,MS6.9,baz=295,slow=41						
YKA	**Yellowknife Ar**	69.13	28	P	P	10 18 13.4	-0.4
YKA			⇑	*e*		10 46 20.8	
YKA				LR	LR	10 54 20.4	
DAG	**Danmarks Havn**	69.35	354*c*	*i*P	P	10 18 14.0	-1.0
	comp=Z,61µm,20.0s						
DAG	**Danmarks Havn**	69.35	354⇑	*e*P	P	10 18 14.0	-1.0
DAG				LR	LR		
	comp=Z,61µm,20.0s,MS6.8						
PUL	**Pulkovo**	69.62	329*c*	*i*P	P	10 18 16.7	-0.2
PUL				*i*		10 20 49.6	
PUL				*e*S	S	10 27 23.8	+1.0
PUL				*i* SS	SS	10 31 52.6	+0.1
PUL				pmax	pmax		
	comp=Z,63µm,6.4s						
PUL				pmax	pmax		
	comp=N,20µm,6.3s						
PUL				pmax	pmax		
	comp=E,29µm,6.2s						
PUL				pmax	pmax		
	comp=Z,2µm,1.2s,mb6.9						
PUL				pmax	pmax		
	comp=N,1µm,0.9s						
PUL				pmax	pmax		
	comp=E,3µm,1.1s						
PUL				smax			
	comp=E,39µm,11.9s						
PUL				smax			
	comp=Z,23µm,12.6s						
PUL				smax			
	comp=E,55µm,10.4s						
PUL				smax			
	comp=N,12µm,5.0s						
PUL				MLR	MLR		
	comp=Z,148µm,17.0s,MS7.3						
PUL				MLR	MLR		
	comp=N,87µm,15.0s,MS7.5						
PUL				MLR	MLR		
	comp=E,161µm,15.0s,MS7.5						
PUL	**Pulkovo**	69.62	329⇑	*i*P	P	10 18 16.7	-0.2
GOF	**Gofitskoye**	69.84	311⇓	*i*P	P	10 18 18.0	-0.5

GOF				*i* S	S	10 27 29.0	+3.4
GOF				pmax	pmax		
	comp=Z,1µm,2.2s,mb6.5						
GOF				pmax	pmax		
	comp=Z,1µm,1.2s,mb6.7						
GOF				pmax	pmax		
	comp=N,700nm,1.4s						
GOF				pmax	pmax		
	comp=E,500nm,1.4s						
GOF				smax			
	comp=N,4µm,3.0s						
KAF	**Kangasniemi**	**70.03**	**332**	*e*p	**P**	**10 18 18.7**	**-0.7**
	baz=54,slow=5.7						
TI2	**Plekhanov**	**70.22**	**307**	⇑*i*P	**P**	**10 18 20.4**	**-0.5**
TI2				*i* S	S	10 27 26.4	-3.8
TI2				pmax	pmax		
	comp=Z,35µm,4.0s						
ZEI	**Tsey**	**70.31**	**309**	*c i*P	**P**	**10 18 21.0**	**-0.5**
ZEI				*i* PPP	PPP	10 22 36.0	-3.4
ZEI				*i* S	S	10 27 30.0	-1.3
ZEI				*i* PS	PS	10 28 00.0	-0.9
ZEI				*i*		10 28 20.0	
ZEI				pmax	pmax		
	comp=N,22µm,10.0s						
ZEI				pmax	pmax		
	comp=E,16µm,10.0s						
ZEI				pmax	pmax		
	comp=Z,34µm,10.0s						
ZEI				smax			
	comp=N,75µm,16.0s						
ZEI				smax			
	comp=E,24µm,16.0s						
ZEI				MLR	MLR		
	comp=Z,156µm,16.0s,MS7.4						
FINES	**FINESS Array B**	**70.49**	**332**	P	**P**	**10 18 21.4**	**-0.8**
	comp=Z,231nm,1.1s,mb6.0,baz=105,slow=5.0,SNR=174						
FINES				PKPPKP		10 46 21.5	
	comp=Z,11nm,1.1s,baz=117,slow=4.3,SNR=5.2						
FINES				LR	LR	10 49 34.0	
	comp=Z,83µm,21.9s,MS6.9,baz=216,slow=36						
LOF	**Lofoten**	**70.65**	**341**	*e*P	**P**	**10 18 25.6**	**+2.6**
LOF				*e*sP	sP	10 18 31.9	+1.0
TOO	**Toolangi**	**70.75**	**173**	*e*P	**P**	**10 18 23.5**	**-0.7**
	comp=Z,155nm,1.1s,mb5.8						
TOO				*e*S	S	10 27 41.3	+4.8
TOO				*e*PKPPKP		10 46 17.3	
MOR8	**Moi Rana**	**71.70**	**339**	⇑*i*P	**P**	**10 18 27.6**	**-1.9**
MOR8				*e*pP	pP	10 18 34.1	-1.2
MOR8				AMb	AMB	10 18 39.7	
	comp=Z,1µm,1.8s,mb6.5						
MOR8	**Moi Rana**	**71.70**	**339**	⇑*i*P	**P**	**10 18 27.6**	**-1.9**
	comp=Z,1µm,1.8s,mb6.5						
MOR8				*e*pP	pP	10 18 34.1	-1.2
OBC	**Olympics--Boni**	**71.78**	**44**	P	**P**	**10 18 31.4**	**+1.1**
PGC	**Sidney**	**71.85**	**43**	⇑*i*P	**P**	**10 18 30.8**	**+0.2**
	comp=Z,2µm,1.4s,mb6.9						
OCWA	**Octopus Mounta**	**71.86**	**45**	⇑*i*P	**P**	**10 18 32.0**	**+1.2**
	comp=Z,1µm,1.4s,mb6.7						
OCWA				LR	LR		
	comp=Z,42µm,19.0s,MS6.7						
OOW	**Octopus West**	**71.86**	**45**	P	**P**	**10 18 32.1**	**+1.3**
VSU	**Vasula**	**71.88**	**329**	*i* P	**P**	**10 18 30.3**	**-0.3**
STOK	**Stokkvaagen**	**72.02**	**339**	⇑*i*P	**P**	**10 18 30.5**	**-0.8**
STOK				AMb	AMB	10 18 44.6	
	comp=Z,1µm,1.7s,mb6.6						
SBES	**Silver Beach E**	**72.38**	**43**	P	**P**	**10 18 34.4**	**+0.6**
VANB	**Van**	**72.60**	**305**	P	**P**	**10 18 35.9**	**+0.6**
TVAN	**Van**	**72.62**	**305**	*i* P	**P**	**10 18 35.8**	**+0.4**
SOC	**Sochi**	**72.63**	**311**	*i* P	**P**	**10 18 34.8**	**-0.5**
SOC				*e*		10 21 21.7	
SOC				*e*S	S	10 27 57.3	-0.6
SOC				*e*		10 28 32.7	
SOC				*e*SSS	SSS	10 35 51.1	+1.8
SOC				pmax	pmax		
	comp=Z,898nm,1.5s,mb6.5						
SOC				pmax	pmax		
	comp=N,173nm,0.9s						
SOC				pmax	pmax		
	comp=E,642nm,2.0s						
SOC				MLR	MLR		
	comp=N,147µm,17.0s,MS7.4						
SOC				MLR	MLR		
	comp=Z,176µm,17.0s,MS7.4						
SOC				MLR	MLR		
	comp=E,106µm,19.0s,MS7.4						
CMW	**Cultus Mountai**	**72.73**	**43**	P	**P**	**10 18 36.5**	**+0.8**
GNW	**Green Mountain**	**72.75**	**44**	⇑*e*P	**P**	**10 18 36.9**	**+1.0**
GMW	**Gold Mountain**	**72.78**	**44**	P	**P**	**10 18 37.2**	**+1.1**
HKR	**Hakkari**	**72.85**	**304**	P	**P**	**10 18 36.2**	**-0.5**
JCW	**Jim Creek**	**72.95**	**43**	P	**P**	**10 18 37.7**	**+0.6**
BMW	**Boistfort Moun**	**73.06**	**45**	P	**P**	**10 18 38.4**	**+0.6**
BMW	**Boistfort Moun**	**73.06**	**45**	*e*P	**P**	**10 18 38.5**	**+0.7**
RPW	**Rockport**	**73.06**	**43**	P	**P**	**10 18 38.1**	**+0.3**
JMIC	**Jan Mayen**	**73.32**	**349**	LR	LR	10 50 19.0	
	comp=E,53µm,20.5s,MS6.8,baz=26,slow=35						
JMIC	**Jan Mayen**	**73.32**	**349**	*e*P	**P**	**10 18 39.8**	**+1.0**
JMIC				*e*PP	PP	10 21 19.6	-4.7
JMIC				*e*S	S	10 28 10.9	+5.6
JMIC				*e*SS	SS	10 32 47.6	-2.2
JMIC				AMS	AMS	10 50 46.1	
	comp=Z,45µm,22.7s,MS6.7						
TTW	**Tolt Reservoir**	**73.35**	**44**	P	**P**	**10 18 40.1**	**+0.7**
ERZM	**Erzurum**	**73.35**	**307**	*i* P	**P**	**10 18 40.2**	**+0.6**
EZM	**Erzurum**	**73.35**	**307**	P	**P**	**10 18 40.0**	**+0.4**
RMW	**Rattlesnake Mo**	**73.40**	**44**	*e*P	**P**	**10 18 40.4**	**+0.7**
ANN	**Anapa**	**73.46**	**313**	*e*P	**P**	**10 18 36.7**	**-3.4**
ANN				*e*		10 18 50.4	
ANN				*e*		10 21 31.9	
ANN				*e*S	S	10 28 06.8	-0.4
ANN				pmax	pmax		
	comp=Z,21µm,7.9s						
ANN				pmax	pmax		
	comp=N,8µm,8.6s						
ANN				pmax	pmax		
	comp=E,4µm,7.2s						
ANN				pmax	pmax		
	comp=Z,2µm,1.5s,mb6.8						
ANN				smax			
	comp=N,31µm,12.2s						
ANN				smax			
	comp=E,24µm,12.0s						
RVC	**Mount Rainier-**	**73.57**	**44**	P	**P**	**10 18 41.6**	**+0.9**
NSS	**Namsos**	**73.58**	**338**	⇑*i*P	**P**	**10 18 38.9**	**-1.5**
NSS				*e*PP	PP	10 21 21.7	-4.7
NSS				*e*S	S	10 28 06.5	-1.7
NSS				*e*SS	SS	10 32 48.6	-5.2
NSS				AMS	AMS	11 01 20.7	
	comp=Z,106µm,17.7s,MS7.2						
MNK	**Minsk**	**73.59**	**325**	⇑*i*P	**P**	**10 18 37.0**	**-3.7**
MNK				*e*S	S	10 28 06.0	-2.5
VRT	**Varto**	**73.61**	**306**	P	**P**	**10 18 42.1**	**+0.9**
IZAR	**Zarasai**	**73.63**	**326**	*i* P	**P**	**10 18 41.0**	**+0.1**
IZAR				AMPb	AMB	10 18 53.5	
	comp=Z,777nm,1.4s,mb6.5						
IDID	**Didziasalis**	**73.65**	**326**	*i* P	**P**	**10 18 41.2**	**+0.2**
IDID				AMPb	AMB	10 18 53.7	
	comp=Z,664nm,1.4s,mb6.4						
LON	**Longmire**	**73.76**	**45**	*e*P	**P**	**10 18 42.0**	**+0.2**
ISAL	**Salakas**	**73.79**	**326**	*i* P	**P**	**10 18 42.1**	**+0.3**
ISAL				AMPb	AMB	10 18 54.6	
	comp=Z,996nm,1.3s,mb6.6						
SHW	**Mount Saint He**	**73.80**	**45**	P	**P**	**10 18 44.1**	**+2.1**
SHW	**Mount Saint He**	**73.80**	**45**	*e*P	**P**	**10 18 43.8**	**+1.7**
IIGN	**Ignalina**	**73.88**	**326**	*i* P	**P**	**10 18 42.5**	**+0.2**
IIGN				AMPb	AMB	10 18 54.3	
	comp=Z,614nm,1.3s,mb6.4						
NLW	**Nelson Butte**	**73.92**	**43**	*e*P	**P**	**10 18 43.2**	**+0.5**
COR	**Corvallis**	**73.97**	**47**	P	**P**	**10 18 44.5**	**+1.5**
COR				S	S	10 28 18.9	+6.0
COR	**Corvallis**	**73.97**	**47**	P	**P**	**10 18 43.9**	**+0.8**
COR				pmax	pmax		
	comp=Z,1µm,1.2s,mb6.7						
COR	**Corvallis**	**73.97**	**47**	⇑*i*P	**P**	**10 18 44.1**	**+1.0**
	comp=Z,1µm,1.3s,mb6.7						
COR				LR	LR		
	comp=Z,15µm,20.0s,MS6.3						
BTMT	**Batman**	**74.10**	**305**	P	**P**	**10 18 43.6**	**-0.4**
KEBM	**Edson Butte**	**74.20**	**49**	*e*P	**P**	**10 18 45.6**	**+1.2**
GUMT	**Gumushane**	**74.33**	**308**	P	**P**	**10 18 45.2**	**0.0**
HASS	**Wahat al Ahsa’**	**74.39**	**290**	P	**P**	**10 18 44.6**	**-1.3**
BEST	**Besiri**	**74.40**	**305**	*i* P	**P**	**10 18 46.2**	**+0.4**
EZC	**Erzincan**	**74.46**	**307**	P	**P**	**10 18 48.0**	**+2.0**
SUMG	**Summit**	**74.59**	**358**	⇑*i*P	**P**	**10 18 47.8**	**+1.7**
	comp=Z,1µm,1.0s,mb6.8						
KBO	**Bosley Butte**	**74.60**	**50**	⇑*i*P	**P**	**10 18 48.1**	**+1.3**
KELT	**Kelkit**	**74.63**	**308**	*i* P	**P**	**10 18 48.9**	**+1.9**
HSO	**Harness Mounta**	**74.65**	**48**	*e*P	**P**	**10 18 48.2**	**+1.2**
HSO				*e*PcP	PcP	10 19 00.2	-1.5
DBO	**Dodson Butte**	**74.76**	**48**	P	**P**	**10 18 48.9**	**+1.2**
TRON	**Trondheim**	**74.82**	**338**	*e*P	**P**	**10 18 48.7**	**+1.1**
VGB	**Gordon Butte**	**75.02**	**45**	P	**P**	**10 18 49.8**	**+0.7**
VGB	**Gordon Butte**	**75.02**	**45**	*e*P	**P**	**10 18 49.7**	**+0.6**
AKASG	**Malin Array Be**	**75.02**	**321**	P	**P**	**10 18 48.5**	**-0.6**
	comp=Z,135nm,0.6s,mb6.0,baz=46,slow=5.7,SNR=291						
AKASG				PKKPbc		10 38 11.2	
	comp=Z,0.2nm,0.3s,baz=239,slow=5.6,SNR=4.3						
AKASG				PKPPKP		10 46 11.6	
	comp=Z,1.0nm,0.6s,baz=243,slow=2.4,SNR=5.6						
AKASG				LR	LR	10 52 57.6	
	comp=Z,143µm,21.1s,MS7.2,baz=45,slow=37						
DIY	**Diyarbakir**	**75.11**	**306**	P	**P**	**10 18 50.2**	**+0.3**
KRMB	**Red Mountain**	**75.16**	**50**	P	**P**	**10 18 50.9**	**+0.9**
PTK	**Pertek**	**75.18**	**307**	P	**P**	**10 18 50.2**	**0.0**
HUMO	**Hull Mountain**	**75.20**	**49**	⇑*i*P	**P**	**10 18 51.1**	**+0.8**
	comp=Z,5µm,2.3s,mb7.0						
DPW	**Davenport**	**75.25**	**42**	P	**P**	**10 18 51.0**	**+0.6**
DPW	**Davenport**	**75.25**	**42**	*e*P	**P**	**10 18 50.9**	**+0.5**
HAWA	**Hanford**	**75.28**	**44**	*e*P	**P**	**10 18 51.0**	**+0.3**
	comp=Z,104nm,0.6s,mb5.9						
HAWA				LR	LR		
	comp=Z,58µm,20.0s,MS6.9						
SIM	**Simferopol’**	**75.40**	**314**	*c i*P	**P**	**10 18 51.5**	**+0.2**
SIM				*e*		10 21 44.0	
SIM				*e*PPP	PPP	10 23 27.0	-1.2
SIM				*e*S	S	10 28 28.0	-0.9
SIM				pmax	pmax		
	comp=Z,10µm,28.0s						
SIM	**Simferopol’**	**75.40**	**314**	⇑*i*P	**P**	**10 18 51.6**	**+0.3**
SCO	**Scoresbysund**	**75.61**	**353**	*i* P	**P**	**10 18 50.0**	**-2.0**
	comp=Z,207nm,1.1s,mb6.0						
SCO				*i*		10 21 47.6	
SCO				*i* S	S	10 28 27.1	-3.6
KHMM	**Horse Mountain**	**75.61**	**51**	⇑*i*P	**P**	**10 18 53.8**	**+1.2**
NEW	**Newport**	**75.64**	**41**	P	**P**	**10 18 52.5**	**-0.1**
NEW				pmax	pmax		
	comp=Z,1µm,1.9s						
NEW	**Newport**	**75.64**	**41**	⇑*i*P	**P**	**10 18 52.8**	**+0.2**
	comp=Z,1µm,1.9s,mb6.5						
NEW				LR	LR		
	comp=Z,49µm,20.0s,MS6.8						
ELZG	**Elazig**	**75.65**	**307**	*i* P	**P**	**10 18 53.9**	**+1.0**
YBH	**Yreka Blue Hor**	**75.82**	**49**	P	**P**	**10 18 54.8**	**+1.1**
	comp=Z,57nm,0.8s,mb5.6,baz=324,slow=1.6,SNR=76						
YBH	**Yreka Blue Hor**	**75.82**	**49**	P	**P**	**10 18 54.7**	**+0.9**
YBH				pmax	pmax		
	comp=Z,2µm,2.0s						
YBH	**Yreka Blue Hor**	**75.82**	**49**	⇑*i*P	**P**	**10 18 54.7**	**+1.0**
	comp=Z,2µm,2.0s,mb6.8						
HFS	**Hagfors**	**76.05**	**334**	PKPPKP		10 46 18.4	
	comp=Z,5.5nm,1.1s,baz=304,slow=5.3,SNR=3.6						
SUW	**Suwalki**	**76.09**	**326**	⇑*e*P	**P**	**10 18 54.8**	**-0.3**
SUW				*e**PP	pP	10 19 00.6	-0.3
SUW				*e*		10 19 05.9	
SUW				*e*S	S	10 28 37.2	+0.9
SUW				*e*		10 28 58.0	
SUW				*e*SS	SS	10 33 28.9	-3.8
MYA	**Malataya**	**76.12**	**307**	P	**P**	**10 18 55.6**	**+0.1**
MALT	**Malatya**	**76.12**	**307**	P	**P**	**10 18 55.7**	**+0.1**
MALT	**Malatya**	**76.12**	**307**	⇑*i*P	**P**	**10 18 56.4**	**+0.9**
	comp=Z,279nm,0.9s,mb6.2						
OUZ	**Omahuta**	**76.22**	**150**	P	**P**	**10 18 57.2**	**+1.0**
TAU	**Tasmania Unive**	**76.23**	**172**	*e*P	**P**	**10 18 55.8**	**-0.3**
	comp=Z,1µm,1.8s,mb6.6						
TAU				LR	LR		
	comp=Z,21µm,21.0s,MS6.4						
SVSK	**Karacayir**	**76.24**	**309**	P	**P**	**10 18 56.7**	**+0.5**
KVT	**Kavak**	**76.25**	**310**	P	**P**	**10 18 56.9**	**+0.7**
DOMB	**Dombas**	**76.28**	**337**	⇑*i*P	**P**	**10 18 56.0**	**0.0**
DOMB				*e*pP	pP	10 19 02.4	+0.5
DOMB				AMb	AMB	10 19 09.7	
	comp=Z,2µm,1.8s,mb6.8						
DOMB	**Dombas**	**76.28**	**337**	⇑*i*P	**P**	**10 18 56.0**	**0.0**
	comp=Z,2µm,1.8s,mb6.8						
DOMB				*e*pP	pP	10 19 02.4	+0.5
NB2	**NORSAR Subarra**	**76.29**	**336**	P	**P**	**10 18 55.7**	**-0.3**
	comp=Z,2µm,1.2s,mb7.0,baz=42,slow=5.6						
NB2	**NORSAR Subarra**	**76.29**	**336**	P	**P**	**10 18 55.7**	**-0.3**
	baz=42,slow=5.9						
NOA	**NORSAR Array B**	**76.29**	**336**	P	**P**	**10 18 55.6**	**-0.4**
	comp=Z,276nm,1.0s,mb6.1,baz=45,slow=5.7,SNR=162						
NOA				PP	PP	10 21 50.9	+1.7
	comp=Z,55nm,1.0s,baz=46,slow=8.6,SNR=3.6						
NOA				PKPPKP		10 46 15.3	
	comp=Z,4.2nm,1.1s,baz=207,slow=2.0,SNR=3.2						
NOA				LR	LR	10 57 43.1	
	comp=Z,109µm,18.6s,MS7.2,baz=50,slow=40						
LNOR	**Lincton Mounta**	**76.30**	**44**	P	**P**	**10 18 56.9**	**+0.5**
LNOR	**Lincton Mounta**	**76.30**	**44**	*e*P	**P**	**10 18 56.8**	**+0.4**
TOKT	**Tokat**	**76.32**	**309**	P	**P**	**10 18 56.5**	**-0.2**
MOL	**Molde**	**76.37**	**338**	⇑*i*P	**P**	**10 19 01.4**	**+5.0**
MOL				AMb	AMB	10 19 15.4	
	comp=Z,3µm,1.7s,mb6.9						
MOL				*e*PP	PP	10 21 46.5	-3.3
WDC	**Whiskeytown Da**	**76.53**	**50**	P	**P**	**10 18 58.4**	**+0.6**
WDC				pmax	pmax		
	comp=Z,490nm,1.2s,mb6.3						
WDC	**Whiskeytown Da**	**76.53**	**50**	⇑*i*P	**P**	**10 18 58.2**	**+0.4**
	comp=Z,493nm,1.3s,mb6.3						
BOYT	**Boyabat**	**76.79**	**311**	*i* P	**P**	**10 18 59.7**	**+0.4**
BYBT	**Boyabat**	**76.86**	**311**	P	**P**	**10 18 59.0**	**-0.6**
HOPS	**Hopland**	**77.02**	**52**	⇑*i*P	**P**	**10 19 00.9**	**+0.3**
	comp=Z,3µm,2.3s,mb6.8						
BZK	**Bozkurt**	**77.07**	**312**	P	**P**	**10 19 00.1**	**-0.7**
GZT	**Gaziantep**	**77.20**	**306**	*i* P	**P**	**10 19 02.5**	**+0.9**
MOD	**Modoc**	**77.25**	**48**	⇑*i*P	**P**	**10 19 02.3**	**+0.5**
	comp=Z,10µm,1.4s,mb7.6						
OSL	**Oslo**	**77.25**	**335**	*e*P	**P**	**10 19 01.2**	**-0.2**
OSL				AMb	AMB	10 19 14.5	
	comp=Z,1µm,1.7s,mb6.6						
OSL	**Oslo**	**77.25**	**335**	*e*P	**P**	**10 19 01.2**	**-0.2**
	comp=Z,292nm,1.7s,mb5.9						
RYDS	**Riyadh**	**77.29**	**291**	P	**P**	**10 19 00.3**	**-2.1**
CTKT	**Corum**	**77.30**	**310**	*i* P	**P**	**10 19 02.5**	**+0.4**
KIS	**Kishinev**	**77.34**	**318**	*i* P	**P**	**10 19 00.0**	**-2.2**
KAHT	**Ahir Dag**	**77.53**	**307**	*i* P	**P**	**10 19 04.2**	**+0.8**
GAZ	**Gaziantep**	**77.54**	**306**	P	**P**	**10 19 04.0**	**+0.5**
TOS	**Tosya**	**77.56**	**311**	P	**P**	**10 19 04.2**	**+0.7**
NSHM	**Saint Helena R**	**77.58**	**52**	*e*P	**P**	**10 19 04.3**	**+0.6**
KONO	**Kongsberg**	**77.85**	**336**	⇑*i*P	tx	10 19 34.8	
KONO				AMb	AMB	10 19 49.1	
	comp=Z,1µm,1.6s,mb6.5						
KONO				*e*		10 29 16.0	
KONO				*e*		10 34 07.1	
KONO				AMS	AMS	10 59 26.5	
	comp=Z,104µm,20.0s,MS7.2						
HYA	**Hoyanger**	**77.86**	**338**	*e*P	**P**	**10 19 05.9**	**+1.2**
HYA				*e*pP	pP	10 19 11.7	+1.1
HYA				AMb	AMB	10 19 20.5	
	comp=Z,2µm,1.5s,mb6.9						
HYA	**Hoyanger**	**77.86**	**338**	*e*P	**P**	**10 19 05.9**	**+1.2**
	comp=Z,2µm,1.5s,mb6.9						
HYA				*e*pP	pP	10 19 11.7	+1.1
OHCM	**Honcut**	**77.88**	**51**	*e*P	**P**	**10 19 03.8**	**-1.6**
WVOR	**Wild Horse Val**	**77.99**	**47**	P	**P**	**10 19 06.6**	**+0.8**
WVOR				pmax	pmax		
	comp=Z,330nm,1.5s,mb6.0						
WVOR	**Wild Horse Val**	**77.99**	**47**	⇑*i*P	**P**	**10 19 06.7**	**+0.8**
	comp=Z,334nm,1.6s,mb6.0						
WVOR				LR	LR		
	comp=Z,73µm,20.0s,MS7.0						
CANT	**Cankiri**	**78.05**	**311**	P	**P**	**10 19 04.8**	**-1.4**
WAR	**Warsaw**	**78.21**	**326**	⇑*e*P	**P**	**10 19 07.4**	**+0.6**
WAR				*e**PP	pP	10 19 12.6	-0.2
WAR				*e*		10 19 19.0	
WAR				*e*		10 22 07.6	
WAR				*e*S	S	10 29 02.5	+3.2
WAR				*e*		10 29 17.2	
WAR				*e*SS	SS	10 34 06.9	+2.4
WAR	**Warsaw**	**78.21**	**326**	⇑*e*P	**P**	**10 19 07.4**	**+0.6**
WAR				*e*pP	pP	10 19 12.6	-0.2
WAR				*e*PcP	PcP	10 19 19.0	+2.2
WAR				*e*PP	PP	10 22 07.6	+1.9
WAR				*e*S	S	10 29 02.5	+3.2
WAR				*e*SS		10 29 07.5	
WAR				*e*SKS	SKS	10 29 17.2	-4.6
WAR				*e*SS	SS	10 34 06.9	+2.4
WAR				LR	LR		
	comp=Z,126µm,31.3s,MS7.0						
MSO	**Missoula**	**78.23**	**41**	⇑*i*P	**P**	**10 19 07.0**	**-0.1**
	comp=Z,50nm,0.7s,mb5.6						
MSO				LR	LR		
	comp=Z,40µm,20.0s,MS6.8						
ELDT	**Eldivan**	**78.24**	**311**	*i* P	**P**	**10 19 07.6**	**+0.3**
LVV	**L’vov**	**78.24**	**322**	*c i*P	**P**	**10 19 07.1**	**+0.1**
LVV				*i*		10 22 10.0	
LVV				*i* S	S	10 29 01.0	+1.4
LVV				MLR	MLR		
	comp=Z,104µm,18.0s,MS7.2						
AVNT	**Avonos**	**78.25**	**309**	*i* P	**P**	**10 19 07.6**	**+0.3**
SAFT	**Safranbolu**	**78.29**	**312**	P	**P**	**10 19 07.0**	**-0.5**
PPE	**Popeni**	**78.31**	**318**	⇓*e*P	**P**	**10 19 13.0**	**+5.5**
PPE	**Popeni**	**78.31**	**318**	⇓*e*P	**P**	**10 19 13.0**	**+5.4**
BEKR	**Beckwourth**	**78.32**	**50**	⇑*e*P	**P**	**10 19 08.2**	**+0.5**
	comp=Z,680nm,1.2s,mb6.5						
LKC	**Lake Chabot**	**78.36**	**53**	*e*P	**P**	**10 19 08.6**	**+0.6**
SUE	**Sulen**	**78.39**	**338**	⇑*i*P	**P**	**10 19 07.8**	**+0.2**
SUE				AMb	AMB	10 19 21.6	
	comp=Z,2µm,1.7s,mb6.8						
SUE	**Sulen**	**78.39**	**338**	⇑*i*P	**P**	**10 19 07.8**	**+0.2**
	comp=Z,2µm,1.7s,mb6.8						
MZLS	**Mizel**	**78.50**	**291**	P	**P**	**10 19 09.2**	**+0.2**
BRTR	**Keskin Array B**	**78.52**	**310**	P	**P**	**10 19 09.1**	**+0.2**
	comp=Z,290nm,1.1s,mb6.1,baz=99,slow=4.2,SNR=177						
BRTR				PKKPbc		10 38 04.3	
	comp=Z,1.9nm,0.6s,baz=243,slow=6.4,SNR=4.9						
BRTR				LR	LR	10 57 38.5	
	comp=Z,106µm,20.8s,MS7.2,baz=50,slow=39						
RAYN	**Ar Rayn**	**78.52**	**291**	P	**P**	**10 19 09.4**	**+0.3**
	comp=Z,5µm,1.2s,mb7.3						
COBT	**Iskenderun**	**78.54**	**306**	*i* P	**P**	**10 19 09.6**	**+0.6**
CHMT	**Chamberlain Mo**	**78.56**	**41**	*e*P	**P**	**10 19 08.9**	**0.0**
CEYT	**Ceyhan**	**78.61**	**307**	P	**P**	**10 19 09.0**	**-0.4**
ODD1	**Odda**	**78.66**	**337**	⇑*i*P	**P**	**10 19 08.3**	**-0.8**
ODD1				*e*sP	sP	10 19 18.5	+1.4
ODD1				AMb	AMB	10 19 22.2	
	comp=Z,2µm,1.7s,mb6.8						
ODD1	**Odda**	**78.66**	**337**	⇑*i*P	**P**	**10 19 08.3**	**-0.8**
	comp=Z,2µm,1.7s,mb6.8						
ODD1				*e*sP	sP	10 19 18.5	+1.4
KAMT	**Kaman**	**78.67**	**310**	P	**P**	**10 19 09.3**	**-0.3**
RUND	**Rundenannen**	**78.69**	**338**	⇑*i*P	**P**	**10 19 09.7**	**+0.4**
RUND				*e*pP	pP	10 19 15.8	+0.6
RUND				AMb	AMB	10 19 23.5	
	comp=Z,3µm,1.7s,mb7.0						
ASK	**Askoy**	**78.69**	**338**	*e*P	**P**	**10 19 09.7**	**+0.4**
ASK				*e*pP	pP	10 19 16.1	+0.9
BER	**Bergen**	**78.72**	**338**	*e*P	**P**	**10 19 09.4**	**-0.1**
BER				*e*pP	pP	10 19 16.2	+0.8
NIG	**Nigde**	**78.78**	**308**	P	**P**	**10 19 10.7**	**+0.5**
HTY	**Hatay**	**78.83**	**306**	P	**P**	**10 19 09.5**	**-1.1**
EGD	**Espegrend**	**78.84**	**338**	*e*P	**P**	**10 19 10.5**	**+0.4**
EGD				*e*pP	pP	10 19 16.8	+0.7
ANTO	**Ankara**	**78.99**	**310**	P	**P**	**10 19 11.7**	**+0.3**
LOD	**Lodumlu**	**78.99**	**310**	P	**P**	**10 19 11.4**	**0.0**
WCN	**Washoe City**	**79.02**	**50**	P	**P**	**10 19 12.4**	**+0.8**
WCN	**Washoe City**	**79.02**	**50**	⇑*i*P	**P**	**10 19 12.6**	**+1.0**
	comp=Z,12nm,0.5s						
KWP	**Kalwaria**	**79.03**	**323**	⇑*e*P	**P**	**10 19 12.3**	**+0.9**
KWP				*e**PP	pP	10 19 17.4	+0.1
KWP				*e*		10 19 20.9	
KWP				*e*		10 22 15.0	
KWP				*e*S	S	10 29 08.4	+0.3
KWP				*e*		10 29 21.7	
KWP	**Kalwaria**	**79.03**	**323**	⇑*e*P	**P**	**10 19 12.3**	**+0.9**
KWP				*e*pP	pP	10 19 17.4	+0.1
KWP				*e*PcP	PcP	10 19 20.9	+0.5
KWP				*e*PP	PP	10 22 15.0	+2.7
KWP				*e*S	S	10 29 08.4	+0.3
KWP				*e*SS		10 29 16.3	
KWP				*e*SKS	SKS	10 29 21.7	-5.9
PAHR	**Pah Rah Range**	**79.04**	**50**	⇑*i*P	**P**	**10 19 12.4**	**+0.7**
	comp=Z,692nm,1.2s,mb6.5						
BSD	**Bornholm Skovb**	**79.04**	**330**	⇑*i*P	**P**	**10 19 11.1**	**-0.2**
	comp=Z,1µm,0.9s,mb6.8						
BSD				*i*		10 22 00.6	
BSD				*i* S	S	10 29 05.7	-2.4
BSD				*i*		10 34 06.3	
	comp=Z,77µm,16.0s						
SGKT	**Sivrigoynuk**	**79.06**	**311**	*i* P	**P**	**10 19 12.2**	**+0.5**
ARSS	**Ar Rass**	**79.07**	**294**	P	**P**	**10 19 11.7**	**-0.4**
FFC	**Flin Flon**	**79.08**	**30**	P	**P**	**10 19 11.6**	**0.0**
FFC				pmax	pmax		
	comp=Z,1µm,1.3s,mb6.6						
FFC	**Flin Flon**	**79.08**	**30**	⇑*i*P	**P**	**10 19 11.4**	**-0.2**
	comp=Z,1µm,1.4s,mb6.6						
FFC				LR	LR		
	comp=Z,14µm,20.0s,MS6.3						
BLS5	**Blasjo**	**79.09**	**337**	⇑*i*P	**P**	**10 19 12.8**	**+1.3**
BLS5				*e*pP	pP	10 19 18.4	+1.0
BLS5				AMb	AMB	10 19 26.3	
	comp=Z,770nm,1.9s,mb6.3						
BLS5	**Blasjo**	**79.09**	**337**	⇑*i*P	**P**	**10 19 12.8**	**+1.3**
	comp=Z,770nm,1.9s,mb6.3						
BLS5				*e*pP	pP	10 19 18.4	+1.0
VRI	**Vrincioaia**	**79.18**	**318**	⇑*e*P	**P**	**10 19 13.1**	**+0.8**
HARR	**Harsova**	**79.19**	**317**	⇑*e*P	**P**	**10 19 12.7**	**+0.3**
HARR	**Harsova**	**79.19**	**317**	⇑*e*P	**P**	**10 19 12.7**	**+0.4**
BRD	**Bordesti**	**79.19**	**318**	⇑*e*P	**P**	**10 19 13.4**	**+1.0**
BRD	**Bordesti**	**79.19**	**318**	⇑*e*P	**P**	**10 19 13.4**	**+1.1**
FCC	**Fort Churchill**	**79.22**	**24**	P	**P**	**10 19 12.2**	**0.0**
FCC				pmax	pmax		
	comp=Z,1µm,1.4s,mb6.6						
FCC	**Fort Churchill**	**79.22**	**24**	⇑*i*P	**P**	**10 19 12.0**	**-0.2**
	comp=Z,1µm,1.4s,mb6.6						
GKP	**Gorka Klasztor**	**79.29**	**328**	⇑*e*P	**P**	**10 19 13.0**	**+0.3**
GKP				*e*pP	pP	10 19 18.8	+0.2
GKP				*e*PcP	PcP	10 19 23.8	+2.4
GKP				*e*PP	PP	10 22 11.3	-3.0
GKP				*e*S	S	10 29 13.4	+2.7
GKP				*e*SS		10 29 18.9	
GKP				*e*SKS	SKS	10 29 27.8	-1.6
GKP				*e*SS	SS	10 34 12.1	-8.5
GKP				LR	LR		
	comp=Z,108µm,29.9s,MS7.0						
SAO	**San Andreas Ge**	**79.31**	**53**	P	**P**	**10 19 13.3**	**+0.1**
SAO				pmax	pmax		
	comp=Z,500nm,1.1s,mb6.4						
SAO	**San Andreas Ge**	**79.31**	**53**	⇑*i*P	**P**	**10 19 13.3**	**+0.1**
	comp=Z,498nm,1.2s,mb6.3						
CMB	**Columbia Colle**	**79.31**	**52**	P	**P**	**10 19 13.5**	**+0.3**
CMB				S	S	10 29 14.7	+3.3
CMB	**Columbia Colle**	**79.31**	**52**	P	**P**	**10 19 12.9**	**-0.3**
CMB	**Columbia Colle**	**79.31**	**52**	⇑*i*P	**P**	**10 19 13.5**	**+0.3**
	comp=Z,12µm,1.4s,mb7.6						
HILS	**Ha’il**	**79.39**	**296**	P	**P**	**10 19 14.0**	**+0.2**
HRY	**Holter Researc**	**79.46**	**41**	*e*P	**P**	**10 19 14.4**	**+0.6**
HIZ	**Hauiti**	**79.55**	**150**	P	**P**	**10 19 15.2**	**+0.8**
PSN	**Preselentsi**	**79.63**	**316**	P	**P**	**10 19 16.0**	**+1.2**
HENT	**Hendek**	**79.64**	**312**	*i* P	**P**	**10 19 14.5**	**-0.4**
MDU	**Mudurnu**	**79.65**	**312**	P	**P**	**10 19 15.3**	**+0.4**
KMY	**Karmoy**	**79.66**	**337**	⇑*i*P	**P**	**10 19 14.6**	**+0.1**
KMY				*e*pP	pP	10 19 21.4	+0.9
KMY				AMb	AMB	10 19 28.5	
	comp=Z,1µm,1.6s,mb6.6						
KMY	**Karmoy**	**79.66**	**337**	⇑*i*P	**P**	**10 19 14.6**	**+0.1**
	comp=Z,1µm,1.6s,mb6.6						
KMY				*e*pP	pP	10 19 21.4	+0.9
SNART	**Snartemo**	**79.66**	**336**	⇑*i*P	**P**	**10 19 14.8**	**+0.2**
SNART				*e*pP	pP	10 19 21.3	+0.8
SNART				AMb	AMB	10 19 28.3	
	comp=Z,2µm,1.7s,mb6.7						
SNART	**Snartemo**	**79.66**	**336**	⇑*i*P	**P**	**10 19 14.8**	**+0.2**
	comp=Z,2µm,1.7s,mb6.7						
SNART				*e*pP	pP	10 19 21.3	+0.8
KOLS	**Kolonicke sedl**	**79.69**	**322**	*e*P	**P**	**10 19 15.5**	**+0.5**
KOLS				*e*		10 19 24.5	
KOLS				*e*PP	PP	10 22 14.3	-3.3
STAV	**Stavanger**	**79.72**	**337**	*e*P	**P**	**10 19 15.1**	**+0.2**
STAV				*e*pP	pP	10 19 21.6	+0.7
STAV				AMb	AMB	10 19 28.8	
	comp=Z,1µm,1.8s,mb6.5						
STAV				*e*PP	PP	10 22 15.0	-2.6
STAV	**Stavanger**	**79.72**	**337**	*e*P	**P**	**10 19 15.1**	**+0.2**
	comp=Z,1µm,1.8s,mb6.5						
STAV				*e*pP	pP	10 19 21.6	+0.7
ISR	**Istrita**	**79.73**	**318**	⇑*e*P	**P**	**10 19 16.3**	**+1.0**
ISR	**Istrita**	**79.73**	**318**	⇑*e*P	**P**	**10 19 16.2**	**+1.0**
LRV	**Little Rabbit**	**79.78**	**53**	*e*P	**P**	**10 19 16.2**	**+0.5**
MLR	**Muntele Rosu**	**79.84**	**318**	⇓*e*P	**P**	**10 19 16.9**	**+1.0**
MLR	**Muntele Rosu**	**79.84**	**318**	⇓*e*P	**P**	**10 19 16.9**	**+1.0**
UZH	**Uzhgorod**	**79.87**	**322**	*i* P	**P**	**10 19 18.0**	**+2.1**

HLID	**Hailey**	79.88	44	⇑iP	P	10 19 17.1	+1.0
	comp=Z,17µm,1.7s,mb7.7						
HLID				LR	LR		
	comp=Z,47µm,19.0s,MS6.8						
MEST	**Erdemli**	79.92	307	i P	P	10 19 16.1	-0.4
BMN	**Battle Mountai**	80.00	48	P	P	10 19 18.0	+1.2
BMN				pmax	pmax		
	comp=Z,2µm,1.6s,mb6.8						
BMN	**Battle Mountai**	80.00	48	⇑iP	P	10 19 17.9	+1.1
	comp=Z,2µm,1.7s,mb6.8						
BMN				LR	LR		
	comp=Z,57µm,20.0s,MS6.9						
VRZ	**Vera Road**	80.03	151	P	P	10 19 17.5	+0.5
MCMT	**McKenzie Canyo**	80.03	43	eP	P	10 19 17.3	+0.4
RGN	**Rugen**	80.10	330	eP	P	10 19 17.2	+0.2
	comp=Z,763nm,1.0s,mb6.6						
OJC	**Ojcow**	80.10	324	⇑iP	P	10 19 17.6	+0.4
OJC				i		10 19 27.8	
OJC				i		10 22 22.2	
OJC				i S	S	10 29 23.4	+4.1
CRVS	**Cervenica-Dubn**	80.12	323	eP	P	10 19 18.7	+1.4
CRVS				epP	pP	10 19 22.9	-0.3
CRVS				eS	S	10 29 15.3	-4.3
CRVS				eSS	Sx	10 35 02.8	
CRVS	**Cervenica-Dubn**	80.12	323	eP	P	10 19 18.7	+1.4
CRVS				eS	S	10 29 15.3	-4.3
KIZT	**Kizilcal**	80.13	310	P	P	10 19 17.2	-0.3
BOZ	**Bozeman (W)**	80.22	41	P	P	10 19 18.4	+0.5
BOZ	**Bozeman (W)**	80.22	41	⇑iP	P	10 19 18.5	+0.6
	comp=Z,15µm,1.7s,mb7.6						
BOZ				LR	LR		
	comp=Z,62µm,20.0s,MS7.0						
MGZ	**Maungaku**	80.24	150	P	P	10 19 18.6	+0.5
AFFS	**‘Afif**	80.27	292	P	P	10 19 18.7	+0.1
URZ	**Urewera**	80.29	149	LR	LR	10 47 17.4	
	comp=Z,37µm,20.3s,MS6.7,baz=331,slow=30						
GPA	**Golpazari**	80.32	312	P	P	10 19 20.0	+1.5
KONT	**Konya--Tatoy**	80.34	309	P	P	10 19 17.5	-1.2
MUD	**Monsted U’grnd**	80.36	333	⇑iP	P	10 19 18.3	-0.1
	comp=Z,791nm,1.0s,mb6.6						
MUD				i		10 22 23.8	
MUD				i S	S	10 29 23.2	+1.4
MUD				i		10 34 32.4	
	comp=Z,96µm,17.0s						
PRD	**Provadia**	80.38	316	P	P	10 19 20.0	+1.2
HRT	**Hereke**	80.41	313	P	P	10 19 16.9	-2.1
CNZ	**Chateau**	80.41	150	P	P	10 19 18.7	-0.4
NGZ	**Ngauruhoe**	80.42	150	P	P	10 19 18.9	-0.2
ESKT	**Eskisehir**	80.42	311	i P	P	10 19 18.7	-0.4
ESKT	**Eskisehir**	80.42	311	P	P	10 19 18.7	-0.4
IKL	**Isikli**	80.42	307	P	P	10 19 18.6	-0.6
ASF	**Jabal al Asfar**	80.44	302	LR	LR	10 56 15.0	
	comp=Z,72µm,21.8s,MS7.0,baz=97,slow=37						
OMM	**Old Mammoth Mi**	80.46	51	⇑iP	P	10 19 20.2	+0.8
FWVZ	**Far West T-bar**	80.46	150	P	P	10 19 18.8	-0.5
MUKL	**Al Mukalla**	80.47	281	⇑eP	P	10 19 19.9	+0.1
MUKL				AMb	AMB	10 19 21.9	
	comp=Z,993nm,1.6s,mb6.5						
BUC1	**Bucharest**	80.48	317	⇑iP	P	10 19 19.6	+0.3
BUC1	**Bucharest**	80.48	317	⇑iP	P	10 19 19.6	+0.3
MTUR	**Matau**	80.50	318	⇑eP	P	10 19 19.5	+0.1
MTUR	**Matau**	80.50	318	⇑eP	P	10 19 19.5	+0.1
YEL1	**Yell**	80.52	340	⇑eP	P	10 19 19.1	-0.1
MWZ	**Matawai**	80.53	149	P	P	10 19 18.4	-1.3
MNV	**Mina**	80.55	50	P	P	10 19 20.4	+0.6
MNV				pmax	pmax		
	comp=Z,1µm,1.4s,mb6.7						
MNV	**Mina**	80.55	50	⇑iP	P	10 19 20.4	+0.6
	comp=Z,1µm,1.4s,mb6.7						
MNV				PKKP	PKKP	10 37 49.8	+6.6
ISK	**Istanbul-Kandi**	80.64	313	P	P	10 19 20.1	-0.1
WAZ	**Wanganui**	80.65	151	P	P	10 19 19.4	-0.9
HRI	**Mount Hermon**	80.66	304	P	P	10 19 20.5	0.0
HRI	**Mount Hermon**	80.66	304	⇑P	P	10 19 20.5	0.0
YLV	**Yalova**	80.74	313	P	P	10 19 19.8	-0.9
KSHT	**Keshet**	80.76	303	P	P	10 19 21.2	+0.2
KSHT	**Keshet**	80.76	303	⇑P	P	10 19 21.2	+0.2
FTO	**Torshavn**	80.78	344	eP	P	10 19 21.6	+1.1
BKZ	**Black Stump Fm**	80.78	150	P	P	10 19 20.0	-1.0
HDMB	**Hadim**	80.81	308	P	P	10 19 20.9	-0.3
QLMT	**Earthquake Lak**	80.83	42	eP	P	10 19 22.1	+1.0
KECS	**Kecovo**	80.89	323	eP	P	10 19 22.0	+0.6
KECS				e		10 19 23.3	
KECS				ePP	PP	10 22 30.5	+2.4
KECS	**Kecovo**	80.89	323	eP	P	10 19 22.0	+0.6
KECS				e		10 22 30.5	
LRW	**Lerwick**	80.89	340	⇑iP	P	10 19 21.4	+0.3
MTUM	**Tungsten Hills**	80.89	51	eP	P	10 19 22.3	+0.7
WAL1	**Walls**	80.92	340	⇑iP	P	10 19 21.3	0.0
KAMS	**Al Khamasin**	80.92	288	P	P	10 19 21.8	-0.3
RAC	**Raciborz**	80.97	325	⇑eP	P	10 19 22.9	+1.1
RAC				e	pP	10 19 29.1	+1.4
RAC				e		10 22 28.4	
RAC				eS	S	10 29 32.0	+3.7
RAC	**Raciborz**	80.97	325	⇑eP	P	10 19 22.9	+1.1
RAC				epP	pP	10 19 28.3	+0.6
RAC				ePcP	PcP	10 19 29.1	+0.4
RAC				ePP	PP	10 22 28.4	-0.4
RAC				eS	S	10 29 32.0	+3.7
RAC				eSS	SS	10 34 55.7	+10
RAC				LR	LR		
	comp=Z,155µm,22.8s,MS7.3						
CTT	**Catalca**	80.98	313	P	P	10 19 21.9	-0.1
BORG	**Borgarnes**	81.00	351	PKKPbc		10 37 59.7	
	comp=Z,28nm,0.9s,baz=121,slow=3.7,SNR=3.7						
BORG				LR	LR	10 57 40.2	
	comp=Z,42µm,19.1s,MS6.8,baz=21,slow=38						
BORG	**Borgarnes**	81.00	351	eP	P	10 19 23.7	+2.1
	comp=Z,749nm,1.3s,mb6.5						
SAN1	**Sandwick**	81.01	340	⇑iP	P	10 19 21.9	+0.2
ELK	**Elko**	81.04	47	P	P	10 19 23.4	+1.1
ELK				pmax	pmax		
	comp=Z,390nm,1.2s						
ELK	**Elko**	81.04	47	⇑iP	P	10 19 23.8	+1.4
	comp=Z,385nm,1.2s,mb6.2						
RAR	**Rarotonga**	81.12	122	P	P	10 19 23.9	+0.8
RAR				pmax	pmax		
	comp=Z,7µm,3.1s						
RAR	**Rarotonga**	81.12	122	eP	P	10 19 23.6	+0.4
	comp=Z,7µm,3.1s						
ULDT	**Uludag**	81.13	312	i P	P	10 19 23.2	+0.4
HNTI	**Hanita**	81.16	304	P	P	10 19 23.0	-0.1
HNTI	**Hanita**	81.16	304	⇑P	P	10 19 23.0	-0.1
ALT	**Altintas**	81.16	311	P	P	10 19 22.8	-0.2
FSD	**Sut uroy**	81.16	343	eP	P	10 19 23.0	+0.5
OKC	**Ostrava-Krasne**	81.16	325	⇑iP	P	10 19 23.1	+0.4
OKC				ex	x	10 19 28.7	
OKC				ePP	PP	10 22 31.8	+1.5
OKC				eS	S	10 29 32.5	+2.2
OKC				LR		11 02 00.0	
	comp=Z,140nm,15.8s						
SZH	**Strazhica**	81.19	316	P	P	10 19 23.0	-0.1
LIKS	**Likavka**	81.21	324	eP	P	10 19 23.7	+0.7
LIKS				e		10 19 24.8	
NNZ	**Nelson**	81.27	153	P	P	10 19 21.9	-1.6
JMB	**Yambol**	81.30	315	i P	P	10 19 24.0	+0.4
MMLI	**Mount Malkishu**	81.34	303	P	P	10 19 24.4	+0.3
MMLI	**Mount Malkishu**	81.34	303	⇑P	P	10 19 24.4	+0.3
ORLT	**Orhaneli**	81.34	312	P	P	10 19 25.1	+1.2
TPH	**Tonopah**	81.35	50	P	P	10 19 24.9	+0.9
TPH				pmax	pmax		
	comp=Z,2µm,1.1s,mb6.9						
TPH	**Tonopah**	81.35	50	⇑eP	P	10 19 25.0	+1.0
	comp=Z,2µm,1.2s,mb6.8						
TPH				LR	LR		
	comp=Z,64µm,22.0s,MS6.9						
RUE	**Ruedersdorf**	81.36	329	⇑iP	P	10 19 24.0	+0.3
	comp=Z,986nm,1.1s,mb6.7						
KSP	**Ksiaz**	81.36	326	⇑iP	P	10 19 24.4	+0.6
KSP				e*PP	pP	10 19 34.2	+4.5
KSP				eS	S	10 29 26.0	-6.3
KSP				e		10 29 35.5	
KSP				MLR	MLR		
	comp=Z,547µm,15.9s,MS8.0						
KSP	**Ksiaz**	81.36	326	⇑iP	P	10 19 24.4	+0.6
KSP				epP	pP	10 19 34.2	+4.5
KSP				ePP	PP	10 22 22.5	-9.4
KSP				ePPPP		10 25 58.0	
KSP				eS	S	10 29 26.0	-6.3
KSP				eSKS	SKS	10 29 35.5	-8.7
KSP				eSS	SS	10 34 36.0	-16
KSP				LR	LR		
	comp=Z,547µm,15.9s,MS8.0						
HMDT	**Nahal Hemdat**	81.37	303	P	P	10 19 24.3	+0.1
HMDT	**Nahal Hemdat**	81.37	303	⇑P	P	10 19 24.3	+0.1
CSS	**Prodhromos**	81.38	306	⇑iP	P	10 19 24.1	-0.1
	comp=Z,476nm,0.9s,mb6.4						
CSS				ePP	PP	10 22 31.5	-0.9
CSS				ePKKPbc		10 37 58.5	
HAF	**Haifa**	81.43	303	P	P	10 19 24.4	-0.1
HAF	**Haifa**	81.43	303	⇑P	P	10 19 24.4	-0.1
FRB	**Frobisher Bay**	81.45	11	PKKPbc		10 37 56.2	
	comp=Z,10.0nm,0.7s,baz=108,slow=5.8,SNR=6.0						
FRB				LR	LR	10 59 05.6	
	comp=Z,170µm,20.9s,MS7.4,baz=211,slow=38						
MORC	**Moravsky Berou**	81.49	325	⇑iP	P	10 19 24.9	+0.4
	comp=Z,386nm,0.9s,mb6.3						
OFRI	**‘Ofer**	81.54	303	P	P	10 19 25.1	0.0
OFRI	**‘Ofer**	81.54	303	⇑P	P	10 19 25.1	0.0
PSZ	**Piszkesteto**	81.56	323	⇑eP	P	10 19 26.1	+1.2
PSZ	**Piszkesteto**	81.56	323	P	P	10 19 25.6	+0.7
PSZ				pmax	pmax		
	comp=Z,3µm,1.7s,mb7.0						
PSZ	**Piszkesteto**	81.56	323	⇑iP	P	10 19 25.6	+0.8
	comp=Z,3µm,1.8s,mb6.9						
PVL	**Pavlikeni**	81.57	317	eP	P	10 19 27.0	+2.0
EDRB	**Edirne**	81.58	315	P	P	10 19 25.7	+0.6
LEF	**Lefka**	81.59	306	P	P	10 19 24.3	-1.0
ISP	**Isparta**	81.60	310	P	P	10 19 24.5	-0.8
ISP	**Isparta**	81.60	310	⇑iP	P	10 19 25.3	0.0
DPC	**Dobruska-Polom**	81.68	326	⇑iP	P	10 19 26.1	+0.7
DPC				epP	pP	10 19 31.9	+0.5
DPC				ePP	PP	10 22 37.5	+3.0
DPC				eS	S	10 29 39.7	+4.1
DPC				ex	x	10 30 16.4	
DPC				LR		10 59 40.0	
	comp=Z,194nm,15.9s						
DPC	**Dobruska-Polom**	81.68	326	eP	PKKP	10 37 57.8	+17
DPC	**Dobruska-Polom**	81.68	326	⇑iP	P	10 19 26.1	+0.7
DPC				e	pP	10 19 31.9	+0.5
DPC				ePP	PP	10 22 37.5	+3.0
DPC				eS	S	10 29 39.7	+4.1
DPC				e		10 30 16.4	
DPC				eP	PKKP	10 37 57.8	+17
DPC				LR	LR		
	comp=Z,194µm,15.9s,MS7.6						
VYHS	**Vyhne**	81.71	324	eP	PKKP	10 37 56.9	+16
VYHS	**Vyhne**	81.71	324	i P	P	10 19 26.6	+1.0
VYHS				e		10 22 37.6	
VYHS				eS	S	10 29 36.2	+0.2
VYHS	**Vyhne**	81.71	324	i P	P	10 19 26.6	+1.0
VYHS				e		10 19 30.5	
VYHS				ePP	PP	10 22 37.6	+2.8
VYHS				eS	S	10 29 36.2	+0.2
VYHS				eSS	SS	10 35 22.9	+26
VYHS				e	PKKP	10 37 56.9	+16
SLTI	**Sal’it**	81.72	303	P	P	10 19 26.2	+0.2
SLTI	**Sal’it**	81.72	303	⇑P	P	10 19 26.2	+0.2
UPC	**Upice**	81.72	326	⇑iP	P	10 19 26.3	+0.7
BNT	**Bandirma**	81.76	313	P	P	10 19 26.5	+0.4
BSEG	**Bad Segeberg**	81.77	331	eP	P	10 19 26.4	+0.6
BSEG				pmax	pmax		
	comp=Z,2µm,1.2s,mb6.8						
DST	**Dursunbey**	81.77	312	P	P	10 19 25.7	-0.4
BCK	**Bucak**	81.77	309	P	P	10 19 24.9	-1.3
EDC	**Edincik**	81.80	313	P	P	10 19 25.5	-0.8
DRGI	**Dragot**	81.83	302	P	P	10 19 26.8	+0.2
DRGI	**Dragot**	81.83	302	⇑P	P	10 19 26.8	+0.2
SNZO	**South Karori**	81.86	152	eP	P	10 19 24.6	-2.0
	comp=Z,255nm,1.1s,mb6.1						
KOLL	**Kolacno**	81.87	324	eP	P	10 19 27.6	+1.1
KOLL				e		10 19 28.6	
KOLL				ePP	PP	10 22 39.2	+3.1
KOLL	**Kolacno**	81.87	324	eP	P	10 19 27.6	+1.1
KOLL				e		10 22 39.2	
MOOW	**Moose Ponds**	81.89	43	⇑iP	P	10 19 28.0	+1.4
MOOW				ePKKP	PKKP	10 37 57.3	+16
HVU	**Hansel Valley**	81.92	45	P	P	10 19 28.4	+1.6
HVU	**Hansel Valley**	81.92	45	⇑iP	P	10 19 28.3	+1.5
TPAW	**Teton Pass**	81.93	43	⇑iP	P	10 19 28.4	+1.5
TPAW				ePKKP	PKKP	10 37 56.7	+16
KHL	**Karahalli**	81.96	311	P	P	10 19 26.7	-0.4
MZDA	**Masada**	82.00	302	P	P	10 19 27.8	+0.3
MZDA	**Masada**	82.00	302	⇑P	P	10 19 27.8	+0.3
WUWY	**Wally Ulrich**	82.02	43	⇑eP	P	10 19 28.7	+1.4
WUWY				ePKKP	PKKP	10 37 54.5	+14
LOHW	**Long Hollow**	82.05	43	⇑eP	P	10 19 28.7	+1.2
LOHW				ePKKP	PKKP	10 37 57.1	+16
ANTB	**Antalya**	82.06	309	P	P	10 19 26.4	-1.3
SNOW	**Snow King Moun**	82.06	43	⇑iP	P	10 19 29.0	+1.5
SNOW				ePKKP	PKKP	10 37 57.0	+16
REDW	**Red Top Meadow**	82.06	43	⇑eP	P	10 19 28.9	+1.3
OWE	**Westray**	82.10	340	⇑eP	P	10 19 27.2	-0.2
DAC	**Darwin (Calif)**	82.15	52	P	P	10 19 28.6	+0.4
DAC				pmax	pmax		
	comp=Z,530nm,1.0s,mb6.4						
DAC	**Darwin (Calif)**	82.15	52	⇑iP	P	10 19 28.7	+0.6
	comp=Z,526nm,1.0s,mb6.4						
DAC				LR	LR		
	comp=Z,47µm,22.0s,MS6.8						
KBRS	**Khaybar**	82.15	296	P	P	10 19 29.1	+0.7
OST	**Stronsay**	82.16	340	⇑eP	P	10 19 27.7	-0.1
DIM	**Dimitrovgrad**	82.17	315	P	P	10 19 29.0	+0.8
TATS	**Tathlith**	82.21	288	P	P	10 19 29.0	+0.2
BALB	**Balikesir**	82.21	312	P	P	10 19 28.0	-0.4
BGU	**Big Grassy Mou**	82.28	46	⇑iP	P	10 19 29.9	+1.1
BUD	**Budapest**	82.29	323	ePc		10 19 29.3	
AHID	**Auburn Hatcher**	82.29	43	⇑iP	P	10 19 29.8	+1.1
	comp=Z,3µm,2.1s,mb6.9						
AHID				LR	LR		
	comp=Z,30µm,21.0s,MS6.6						
PVCC	**Panska Ves**	82.37	327	⇑iP	P	10 19 29.9	+0.9
PVCC				ex	x	10 19 35.0	
PVCC				ePP	PP	10 22 41.2	+1.2
PVCC				eS	S	10 29 46.0	+3.3
PVCC				LR		11 00 00.0	
	comp=Z,215nm,14.6s						
PVCC	**Panska Ves**	82.37	327	eP	PKKP	10 37 57.0	+17
PVCC	**Panska Ves**	82.37	327	⇑iP	P	10 19 29.9	+0.9
PVCC				e	pP	10 19 35.0	0.0
PVCC				ePP	PP	10 22 41.2	+1.2
PVCC				eS	S	10 29 46.0	+3.3
PVCC				eP	PKKP	10 37 57.0	+17
PVCC				LR	LR		
	comp=Z,215µm,14.6s,MS7.7						
SMOL	**Smolenice**	82.39	324	eP	P	10 19 30.8	+1.6
SMOL				e		10 19 31.7	
SMOL				ePP	PP	10 22 45.0	+4.7
SMOL	**Smolenice**	82.39	324	eP	P	10 19 30.8	+1.6
SMOL				e		10 22 45.0	
SPUT	**South Promonto**	82.39	45	⇑eP	P	10 19 30.7	+1.4
BRG	**Berggiesshubel**	82.41	327	i P	P	10 19 29.8	+0.6
BRG				i		10 19 41.6	
BRG				i		10 22 43.0	
BRG				i S	S	10 29 49.0	+5.9
BRG				i		10 30 48.0	
BRG				i SS	SS	10 35 09.0	+1.4
BRG				pmax	pmax		
	comp=Z,2µm,1.7s,mb6.8						
BRG				MLR	MLR		
	comp=N,214µm,14.0s,MS7.8						
BRG				MLR	MLR		
	comp=E,175µm,14.0s,MS7.8						
BRG				MLR	MLR		
	comp=Z,312µm,14.0s,MS7.8						
BRG	**Berggiesshubel**	82.41	327	i P	P	10 19 29.8	+0.6
	comp=Z,2µm,1.7s,mb6.8						
BRG				i		10 19 41.6	
BRG				i PP	PP	10 22 43.0	+2.6
BRG				i S	S	10 29 49.0	+5.9
BRG				i		10 30 48.0	
BRG				i SS	SS	10 35 09.0	+1.4
BRG				i P’P’		10 45 56.6	
BRG				LR	LR		
	comp=Z,312µm,14.0s,MS7.8						
MSZ	**Milford Sound**	82.42	158	P	P	10 19 29.5	+0.1
LAO	**LASA Array**	82.47	38	⇑iP	P	10 19 30.4	+0.8
	comp=Z,177nm,0.8s,mb6.0						
LAO				ePKKP	PKKP	10 37 53.7	+14
LAO				LR	LR		
	comp=Z,48µm,21.0s,MS6.8						
MANT	**Manisa**	82.47	311	i P	P	10 19 29.8	0.0
KDZ	**Kurdzhali**	82.48	315	P	P	10 19 31.0	+1.2
CLL	**Collm**	82.53	328	⇑P	P	10 19 30.1	+0.3
	comp=Z,logA/T=3.1,mb6.9						
CLL				i *PP	pP	10 19 35.7	-0.1
CLL				i *SP	sP	10 19 40.2	+2.5
CLL				e		10 19 47.0	
CLL				ePP	PP	10 22 45.0	+3.7
CLL				eS	S	10 29 47.0	+2.7
CLL				ePS	PS	10 30 51.0	+14
CLL				eSS	SS	10 35 13.0	+3.8
CLL				i PKKP	PKKP	10 37 54.6	+15
CLL				eSSS	SSS	10 38 53.0	+20
CLL				e		10 45 54.0	
CLL				e		11 06 23.0	
CLL	**Collm**	82.53	328	⇑iP	P	10 19 30.1	+0.3
CLL				eS	S	10 29 50.0	+5.7
CLL				pmax	pmax		
	comp=Z,3µm,1.9s,mb6.9						
CLL				MLR	MLR		
	comp=Z,206µm,18.5s,MS7.5						
CLL	**Collm**	82.53	328	⇑iP	P	10 19 30.1	+0.3
	comp=Z,3µm,1.9s,mb6.9						
CLL				eS	S	10 29 50.0	+5.7
CLL				PKKP	PKKP	10 37 54.6	+15
CLL				P’P’		10 45 54.0	
CLL				LR	LR		
	comp=Z,206µm,18.5s,MS7.5						
ZFRI	**Zfri**	82.55	302	P	P	10 19 30.6	+0.2
ZFRI	**Zfri**	82.55	302	⇑P	P	10 19 30.6	+0.2
OHO	**Hoy**	82.56	340	⇑eP	P	10 19 29.9	0.0
ALN	**Alexandroupoli**	82.57	314	eP	P	10 19 30.3	0.0
MASH	**Mash‘abbe Sade**	82.59	302	P	P	10 19 30.5	-0.1
DENT	**Denizli**	82.60	310	P	P	10 19 30.6	+0.1
PLD	**Plovdiv**	82.62	316	P	P	10 19 31.5	+1.0
ELL	**Elmali**	82.63	309	P	P	10 19 30.9	+0.2
DNZL	**Cakiroluk**	82.63	310	i P	P	10 19 30.8	+0.2
TPNV	**Topopah Spring**	82.64	51	P	P	10 19 31.5	+0.8
TPNV				pmax	pmax		
	comp=Z,310nm,1.5s,mb6.1						
TPNV	**Topopah Spring**	82.64	51	⇑iP	P	10 19 31.5	+0.8
	comp=Z,306nm,1.6s,mb6.1						
TPNV				ePKKP	PKKP	10 37 56.9	+17
TPNV				LR	LR		
	comp=Z,71µm,20.0s,MS7.0						
PGB	**Panagyurishte**	82.66	317	P	P	10 19 31.5	+0.8
AKS	**Akhisar**	82.71	312	P	P	10 19 30.7	-0.3
RDO	**Rodhopi**	82.72	315	eP	P	10 19 31.5	+0.4
OBR	**Brabster**	82.72	340	⇑eP	P	10 19 30.8	+0.1
HWUT	**Hardware Ranch**	82.74	45	⇑iP	P	10 19 32.3	+1.2
	comp=Z,54nm,0.7s,mb5.7						
HWUT				ePKKP	PKKP	10 37 54.6	+15
HWUT				LR	LR		
	comp=Z,51µm,20.0s,MS6.9						
SVTA	**Shivta**	82.74	302	P	P	10 19 31.2	-0.2
PRU	**Pruhonice**	82.76	327	⇑iP	P	10 19 31.6	+0.5
	comp=Z,2µm,1.1s,mb7.0						
PRU				epP	pP	10 19 37.1	+0.1
PRU				ePP	PP	10 22 45.1	+1.9
PRU				eS	S	10 29 43.6	-3.1
PRU				ex	x	10 30 25.9	
PRU				LR		11 00 20.0	
	comp=Z,206nm,15.0s						
PRU	**Pruhonice**	82.76	327	eP	PKKP	10 37 54.1	+15
PRU	**Pruhonice**	82.76	327	⇑iP	P	10 19 31.6	+0.5
PRU				e	pP	10 19 37.1	+0.1
PRU				e		10 22 45.1	
PRU				eS	S	10 29 43.6	-3.1
PRU				pmax	pmax		
	comp=Z,2µm,1.1s,mb7.0						
PRU				MLR	MLR		
	comp=Z,206µm,15.0s,MS7.6						
PRU	**Pruhonice**	82.76	327	⇑iP	P	10 19 31.6	+0.5
	comp=Z,2µm,1.1s,mb7.0						
PRU				e	pP	10 19 37.1	+0.1
PRU				ePP	PP	10 22 45.1	+1.9
PRU				eS	S	10 29 43.6	-3.1
PRU				e		10 30 25.9	
PRU				eP	PKKP	10 37 54.1	+15
PRU				LR	LR		
	comp=Z,206µm,15.0s,MS7.6						
ZST	**Bratislava**	82.77	324	i P	P	10 19 32.2	+1.1
ZST				e		10 19 54.5	
ZST				ePP	PP	10 22 47.1	+3.8
ZST				eS	S	10 29 49.1	+2.3
ZST				eSS	SS	10 35 10.1	-2.9
ZST	**Bratislava**	82.77	324	i P	P	10 19 32.2	+1.1
ZST				e		10 22 47.1	
ZST				eS	S	10 29 49.1	+2.3
ZST				eSS	SS	10 35 10.1	-2.9
PRNI	**Paran**	82.79	301	P	P	10 19 31.8	+0.2
PRNI	**Paran**	82.79	301	⇑P	P	10 19 31.8	+0.2
TBKS	**Tabuk**	82.85	299	P	P	10 19 32.1	+0.1
DUG	**Dugway**	82.86	46	⇑iP	P	10 19 32.9	+1.1
	comp=Z,17µm,1.7s						
DUG				ePKKP	PKKP	10 37 59.3	+20
DUG				LR	LR		
	comp=Z,71µm,21.0s,MS7.0						
RZN	**Rozhen**	82.87	316	i P	P	10 19 33.0	+1.2
RZN	**Rozhen**	82.87	316	⇑iP	P	10 19 33.0	+1.2
LBZ	**Lake Benmore**	82.89	157	P	P	10 19 30.8	-1.1
KZIT	**Kziot**	82.91	302	P	P	10 19 32.1	-0.2
KZIT	**Kziot**	82.91	302	⇑P	P	10 19 32.1	-0.2
ORE	**Reay**	82.95	340	⇑iP	P	10 19 32.2	+0.4
JMQS	**Jabal Moqyreh**	82.98	300	P	P	10 19 32.8	+0.1
MWC	**Mount Wilson**	83.02	54	P	P	10 19 32.9	+0.2
MWC	**Mount Wilson**	83.02	54	⇑iP	P	10 19 33.2	+0.4
MLA1	**Latheron**	83.04	340	⇑iP	P	10 19 32.6	+0.3
BOLS	**Boljevac**	83.10	319	⇑iP	P	10 19 32.9	-0.1
BOLS	**Boljevac**	83.10	319	eP	PKKP	10 37 57.6	+19
AQBJ	**Aqaba**	83.11	301	P	P	10 19 33.2	-0.1
VKA	**Vienna**	83.11	325	⇑iP	P	10 19 34.1	+1.2
	comp=Z,36µm,6.0s						
VKA				LR	LR		
	comp=Z,78µm,13.0s,MS7.3						
DJNS	**Zahran al Janu**	83.13	287	P	P	10 19 34.5	+0.9
KMTI	**Karmit**	83.13	301	P	P	10 19 33.2	-0.2
KMTI	**Karmit**	83.13	301	⇑P	P	10 19 33.2	-0.2
TCUT	**Toone Canyon**	83.13	45	⇑iP	P	10 19 33.5	+0.3
AYVA	**Ayvalik**	83.14	313	i P	P	10 19 33.2	0.0
MBH	**Mount Berech**	83.17	301	P	P	10 19 33.5	-0.1
MBH	**Mount Berech**	83.17	301	⇑P	P	10 19 33.5	-0.1
OTO	**Tongue**	83.17	341	⇑eP	P	10 19 33.3	+0.3
BW06	**Boulder Array**	83.18	43	eP	P	10 19 33.8	+0.4
	comp=Z,2µm,0.9s,mb7.0						
BW06				ePKKP	PKKP	10 37 54.9	+16
BW06				LR	LR		
	comp=Z,77µm,21.0s,MS7.0						
PDAR	**Pinedale Array**	83.18	43	P	P	10 19 33.9	+0.5
	comp=Z,122nm,0.9s,mb5.9,baz=270,slow=1.5,SNR=236						
PDAR				PKKPbc		10 37 54.5	
	comp=Z,7.5nm,1.0s,baz=124,slow=1.5,SNR=9.6						
PDAR				PKPPKP		10 46 05.7	
	comp=Z,9.1nm,1.2s,baz=117,slow=3.3,SNR=4.7						
VTS	**Vitosha**	83.18	317	P	P	10 19 34.0	+0.6
KSL	**Kastellorizon**	83.19	309	eP	P	10 19 32.7	-0.9
SVIS	**Svilajnac**	83.21	319	⇑iP	P	10 19 33.8	+0.3
BOZC	**Bozcaada**	83.21	313	i P	P	10 19 34.7	+1.1
EIL	**Elat**	83.21	301	P	P	10 19 33.7	-0.1
EIL	**Elat**	83.21	301	⇑P	P	10 19 33.7	-0.1
EIL				ePKKP	PKKP	10 37 55.6	+16
CLZ	**Clausthal**	83.28	330	eP	P	10 19 34.5	+0.8
	comp=Z,3µm,1.3s,mb7.2						
BEO	**Belgrade**	83.28	320	⇓iP	P	10 19 33.7	-0.1
ALWS	**Ilw as Safayha**	83.33	301	P	P	10 19 34.6	+0.2
KDAG	**Bornova**	83.33	312	i P	P	10 19 34.4	+0.1
IZM	**Izmir**	83.34	312	P	P	10 19 34.2	-0.1
JMOS	**Jabal al Moall**	83.38	300	P	P	10 19 34.8	+0.1
SOP	**Sopron**	83.39	324	⇑iP	P	10 19 35.4	+1.1
SOP				i PP	PP	10 22 54.8	+6.6
NAMS	**An Nimas**	83.42	288	P	P	10 19 36.1	+1.1
JLU	**Jordanelle**	83.43	45	⇑iP	P	10 19 35.9	+1.2
PRK	**Paraskevi**	83.44	313	eP	P	10 19 35.0	+0.2
DALT	**Dalyan (Mudla)**	83.44	310	P	P	10 19 34.0	-0.8
NLU	**North Lily Min**	83.45	46	⇑iP	P	10 19 36.1	+1.3
NLU				ePKKP	PKKP	10 37 55.9	+17
YER	**Yerkesik**	83.45	310	P	P	10 19 35.2	+0.3
MMB	**Musomiste**	83.52	316	i P	P	10 19 35.2	+0.1
MMB	**Musomiste**	83.52	316	⇑iP	P	10 19 35.2	+0.1
NKC	**Novy Kostel**	83.54	328	⇑iP	P	10 19 35.5	+0.5
NKC				epP	pP	10 19 41.0	0.0
NKC				ePP	PP	10 22 49.0	-0.4
NKC				eS	S	10 29 53.7	-0.8
NKC				ex	x	10 30 38.0	
NKC				LR		11 02 50.0	

	comp=Z,168nm,13.3s						
NKC	Novy Kostel	83.54	328	eP	PKKP	10 37 57.4	+19
NKC	Novy Kostel	83.54	328	⇑iP	P	10 19 35.5	+0.5
NKC				e	pP	10 19 41.0	0.0
NKC				e		10 22 49.0	
NKC				eS	S	10 29 53.7	-0.8
NKC				MLR	MLR		
	comp=Z,168µm,13.3s,MS7.6						
NKC	Novy Kostel	83.54	328	⇑iP	P	10 19 35.5	+0.5
NKC				e	pP	10 19 41.0	0.0
NKC				ePP	PP	10 22 49.0	-0.4
NKC				eS	S	10 29 53.7	-0.8
NKC				e		10 30 38.0	
NKC				eP	PKKP	10 37 57.4	+19
HAQS	Haql	83.57	300	P	P	10 19 35.6	-0.1
MVH1	Achvaich	83.60	340	⇑eP	P	10 19 34.9	-0.2
MOX	Moxa	83.61	328	⇑iP	P	10 19 35.7	+0.3
	comp=Z,logA/T=3.2,mb7.1						
MOX				S	S	10 29 59.0	+3.8
MOX				PKKP	PKKP	10 37 54.0	+16
MOX				PKPPKP		10 46 54.0	
MOX				PcPPKP		10 52 54.0	
MOX				L		10 56 26.0	
MOX	Moxa	83.61	328	eP	P	10 19 35.7	+0.3
MOX				pmax	pmax		
	comp=Z,3µm,1.8s,mb7.1						
MOX	Moxa	83.61	328	eP	P	10 19 35.7	+0.3
	comp=Z,3µm,1.8s,mb7.1						
MOX				eP		10 37 53.7	
MCD	Coleburn Disti	83.62	340	⇑iP	P	10 19 35.4	+0.1
ODZ	Otahua Downs	83.63	157	P	P	10 19 35.2	-0.4
DAU	Daniels Canyon	83.66	45	eP	P	10 19 37.2	+1.3
MLSB	Milas	83.68	311	P	P	10 19 35.9	-0.1
MPU	Maple Canyon	83.68	46	⇑iP	P	10 19 37.1	+1.1
KKB	Krupnik	83.71	317	i P	P	10 19 37.0	+0.9
KKB	Krupnik	83.71	317	⇑iP	P	10 19 37.0	+0.9
REB	Eisghbrachaidh	83.74	341	⇑iP	P	10 19 35.7	-0.1
LOS	Limnos	83.74	314	eP	P	10 19 36.2	-0.1
GRUS	Gruza	83.75	319	⇓iP	P	10 19 36.8	+0.5
GRUS	Gruza	83.75	319	⇓iP	PKKP	10 37 57.5	+20
MME1	Meikle Cairn	83.76	339	⇑eP	P	10 19 35.6	-0.3
RTO	Tolsta	83.77	341	⇑iP	P	10 19 36.4	+0.5
LBOS		83.79	282	⇑eP	P	10 19 37.9	+0.9
LBOS				AMb	AMB	10 19 38.9	
	comp=Z,550nm,1.3s,mb6.5						
BDAS	Al Bad‘	83.79	300	P	P	10 19 36.8	0.0
KHC	Kasperske Hory	83.81	326	⇑iP	P	10 19 36.9	+0.5
KHC				epP	pP	10 19 42.2	-0.2
KHC				ePP	PP	10 22 55.2	+3.7
KHC				eS	S	10 29 56.2	-1.0
KHC				ex	x	10 30 46.1	
KHC				LR		11 00 50.0	
	comp=Z,256nm,15.9s						
KHC	Kasperske Hory	83.81	326	eP	PKKP	10 37 56.8	+19
KHC	Kasperske Hory	83.81	326	⇑iP	P	10 19 36.9	+0.5
KHC				e	pP	10 19 42.2	-0.2
KHC				ePP	PP	10 22 55.2	+3.7
KHC				eS	S	10 29 56.2	-1.0
KHC				e		10 30 46.1	
KHC				eP	PKKP	10 37 56.8	+19
KHC				LR	LR		
	comp=Z,256µm,15.9s,MS7.7						
BARS	Barje	83.82	318	⇓iP	P	10 19 37.0	+0.4
SRS	Serrai	83.89	316	eP	P	10 19 37.1	+0.1
YNBS	Yanbu‘ al Bahr	83.91	295	P	P	10 19 38.0	+0.5
UMJS	Umm Lajj	83.93	296	P	P	10 19 38.4	+0.8
GEC2	GERESS Array S	83.95	326	eP	P	10 19 37.7	+0.6
GEC2				pmax	pmax		
	comp=Z,1µm,1.2s,mb6.8						
GEC2	GERESS Array S	83.95	326	eP	P	10 19 37.7	+0.6
	comp=Z,1µm,1.2s,mb6.8						
GERES	GERESS Array B	83.95	326	P	P	10 19 37.5	+0.4
	comp=Z,221nm,0.8s,mb6.4,baz=45,slow=3.8,SNR=382						
GERES				PP	PP	10 22 56.6	+3.9
	comp=Z,44nm,1.0s,baz=45,slow=7.5,SNR=3.6						
GERES				PKKPbc		10 37 52.4	
	comp=Z,7.7nm,1.1s,baz=207,slow=3.0,SNR=8.3						
GERES				PKPPKP		10 45 54.6	
	comp=Z,2.5nm,1.0s,baz=207,slow=3.0,SNR=5.3						
EDR	Drumtochty	83.96	339	⇑iP	P	10 19 36.8	-0.2
EDR				AMb	AMB	10 19 49.9	
	comp=Z,2µm,1.5s,mb7.0						
DIVS	Divcibare	84.01	320	⇓iP	P	10 19 37.9	+0.3
BDRM	Kayabasi	84.03	311	i P	P	10 19 37.6	-0.2
WIT	Witteveen	84.06	332	i Pg	P	10 19 38.3	+0.8
	comp=Z,2µm,2.2s,mb6.9						
MDO	Dochfour	84.06	340	⇑iP	P	10 19 37.2	-0.3
ARG	Arkhangelos	84.10	310	⇑iP	P	10 19 38.5	+0.3
TUZ	Tuapeka	84.10	158	P	P	10 19 37.9	-0.1
RRR	Rubha Reidh	84.11	341	⇑iP	P	10 19 37.8	+0.1
DHBB	Dhamar BB	84.12	283	⇑eP	P	10 19 40.5	+1.8
WET	Wettzell	84.12	327	eP	P	10 19 38.9	+0.9
WET				pmax	pmax		
	comp=Z,2µm,1.6s,mb7.0						
WET	Wettzell	84.12	327	eP	P	10 19 38.9	+0.9
	comp=Z,2µm,1.6s,mb7.0						
OUR	Ouranopolis	84.15	315	eP	P	10 19 37.9	-0.4
HAJJ	Hajjah	84.16	285	⇑eP	P	10 19 39.8	+0.9
HAJJ				AMb	AMB	10 19 41.1	
	comp=Z,2µm,1.6s,mb6.9						
ARSA	Arzberg	84.20	324	⇑iP	P	10 19 39.0	+0.6
	comp=Z,38µm,6.0s						
SOH	Sokhos	84.22	316	eP	P	10 19 38.8	+0.1
LTHS	Al Lith	84.25	290	P	P	10 19 39.9	+0.6
KNT	Kendrikon	84.27	316	eP	P	10 19 39.1	+0.1
MSU	Marysvale	84.28	47	P	P	10 19 40.5	+1.5
MSU	Marysvale	84.28	47	eP	P	10 19 40.7	+1.7
MSU				ePKKP	PKKP	10 37 47.5	+10
RRH	Rhenigidale	84.29	341	⇑eP	P	10 19 38.6	0.0
NEN	Nelson	84.32	51	⇑iP	P	10 19 40.0	+0.7
NEN				ePKKP	PKKP	10 37 51.8	+15
VAY	Valandovo	84.36	316	⇑iP	P	10 19 39.9	+0.5
MOA	Molln	84.39	325	⇑iP	P	10 19 40.2	+0.8
	comp=Z,39µm,5.0s						
EDU	Dundee	84.42	339	⇑iP	P	10 19 39.4	+0.1
EDU				AMb	AMB	10 19 52.1	
	comp=Z,3µm,1.7s,mb7.2						
PLG	Polygyros	84.45	315	⇑iP	P	10 19 40.0	+0.2
PFO	Pinyon Flat Ob	84.46	53	P	P	10 19 40.5	+0.4
PFO				pmax	pmax		
	comp=Z,1µm,1.0s,mb6.9						
PFO	Pinyon Flat Ob	84.46	53	⇑iP	P	10 19 40.6	+0.6
	comp=Z,1µm,1.0s,mb7.0						
GRA1	Grafenberg Arr	84.48	328	eP	P	10 19 41.0	+1.2
	comp=Z,6µm,1.5s,mb7.5						
GRA1				ePKKPbc		10 37 50.5	
GRA1				eP’P’		10 45 52.2	
GRA1				LR	LR		
	comp=Z,111µm,19.6s,MS7.2						
GRF	Grafenberg Arr	84.48	328	eP	P	10 19 41.0	+1.2
GRF				eS	S	10 30 05.4	+1.6
GRF				pmax	pmax		
	comp=Z,6µm,1.5s,mb7.5						
LDFC	Landfair	84.48	52	⇑iP	P	10 19 40.7	+0.6
LDFC				ePKKPbc		10 37 52.0	
NISR	Nisiros	84.50	310	eP	P	10 19 41.5	+1.3
NVSS	Nova Varos 2	84.56	319	⇓iP	P	10 19 39.7	-0.6
THE	Thessaloniki	84.57	316	eP	P	10 19 39.7	-0.8
PAIG	Paliouri	84.59	315	eP	P	10 19 40.3	-0.3
SKO	Skopje	84.59	317	⇑iP	P	10 19 41.6	+1.1
	comp=Z,0.7nm,1.0s						
SKO				i		10 23 00.0	
SKO				i S	S	10 30 12.0	+6.9
SKO				Lm		10 59 30.0	
	comp=E,110nm,15.0s						
SKO				Lm		10 59 30.0	
	comp=N,85nm,15.0s						
WTSB	Winterswijk	84.65	332	⇑iP	P	10 19 40.6	0.0
	comp=N,148nm,1.1s,mb6.0						
GRG	Griva	84.69	316	eP	P	10 19 41.0	-0.1
FRSS	Farasan al Kab	84.80	286	P	P	10 19 43.0	+0.9
EBH	Black Hill	84.82	339	⇑eP	P	10 19 41.4	+0.1
PERS	Pernice	84.82	324	i P	P	10 19 42.0	+0.4
PERS				ePP	PP	10 23 03.8	+4.1
ESY	Stoneypath	84.83	338	⇑iP	P	10 19 41.3	0.0
ESY				AMb	AMB	10 19 54.1	
	comp=Z,2µm,1.6s,mb6.9						
PLE	Pljevlja	84.84	319	⇓iP	P	10 19 42.4	+0.6
BAR	Barrett	84.86	54	eP	P	10 19 42.2	+0.2
IVA	Berane	84.87	319	⇑iP	P	10 19 40.5	-1.4
SRU	San Rafael	84.91	46	eP	P	10 19 43.2	+1.0
AOS	Alonnisos	84.94	314	eP	P	10 19 41.3	-1.1
EDI	Edinburgh	85.00	339	⇑iP	P	10 19 42.2	0.0
EDI				AMb	AMB	10 20 02.2	
	comp=Z,783nm,1.7s,mb6.6						
SISC	Sisak	85.00	322	⇑iP	P	10 19 43.0	+0.6
PVY	Plav	85.01	319	⇑iP	P	10 19 41.1	-1.4
EBL	Broad Law	85.08	339	⇑iP	P	10 19 42.9	+0.3
EAB	Aberfoyle	85.12	339	⇑iP	P	10 19 42.9	+0.2
EAB				AMb	AMB	10 19 55.0	
	comp=Z,1µm,1.7s,mb6.8						
KARP	Karpathos	85.13	310	eP	P	10 19 43.0	-0.4
EAU	Auchinoon	85.14	339	⇑iP	P	10 19 43.2	+0.3
EAU				AMb	AMB	10 19 55.1	
	comp=Z,2µm,1.7s,mb6.9						
LIT	Litokhoron	85.18	315	eP	P	10 19 43.0	-0.5
UPM	Unac-Piva	85.19	320	⇑iP	P	10 19 42.9	-0.6
OBKA	Obir	85.19	324	⇑iP	P	10 19 43.6	+0.2
	comp=Z,36µm,6.0s						
PCOU	Corrie	85.22	339	⇑iP	P	10 19 43.6	+0.3
XOR	Xorichti	85.23	315	eP	P	10 19 43.2	-0.6
APE	Apeiranthos	85.24	312	P	P	10 19 41.5	-2.4
APE	Apeiranthos	85.24	312	eP	P	10 19 42.5	-1.4
NEO	Neokhori	85.25	314	eP	P	10 19 44.0	+0.1
BIA	Bitola	85.27	317	i P	P	10 19 45.2	+1.3
RSSD	Black Hills	85.33	39	P	P	10 19 44.6	+0.5
RSSD				pmax	pmax		
	comp=Z,4µm,2.2s,mb7.2						
RSSD	Black Hills	85.33	39	eP	P	10 19 44.6	+0.4
	comp=Z,4µm,2.2s,mb7.2						
RSSD				ePKKPbc		10 37 48.7	
KBA	Koelnbreinsper	85.38	325	⇑iP	P	10 19 44.3	0.0
	comp=Z,21µm,5.1s						
FNA	Florina	85.39	316	eP	P	10 19 44.0	-0.6
NKY	Niksic	85.40	319	⇑iP	P	10 19 44.3	-0.2
POB1	Observatory	85.44	339	⇑eP	P	10 19 44.9	+0.5
SIND	Sindeldorf	85.45	328	⇑eP	P	10 19 44.8	+0.2
LCP	Cassop	85.45	337	⇑iP	P	10 19 44.3	-0.1
EKA	Eskdalemuir Ar	85.48	338	PKKPbc		10 37 47.3	
	comp=Z,5.0nm,1.1s,baz=225,slow=2.4,SNR=6.5						
PCA1	Carrot	85.51	339	⇑iP	P	10 19 45.0	+0.3
TTG	Podgorica	85.51	319	⇑iP	P	10 19 44.3	-0.8
ESK	Eskdalemuir	85.51	338	⇑iP	P	10 19 44.8	0.0
ESK				AMb	AMB	10 19 57.6	
	comp=Z,1µm,1.8s,mb6.8						
ESK	Eskdalemuir	85.51	338	P	P	10 19 45.0	+0.2
ESK				pmax	pmax		
	comp=Z,480nm,1.1s,mb6.6						
ESK	Eskdalemuir	85.51	338	⇑iP	P	10 19 45.1	+0.4
	comp=Z,485nm,1.1s,mb6.6						
ESK				ePP	PP	10 23 06.2	+1.2
OHR	Ohrid	85.51	317	⇑iP	P	10 19 45.0	-0.1
LWH	Whinny Nab	85.52	337	⇑iP	P	10 19 44.7	-0.1
LJU	Ljubljana	85.53	324	i P	P	10 19 44.9	-0.2
LJU				ePP	PP	10 23 08.5	+3.1
LJU				eS	S	10 30 17.9	+3.6
LJU				e		10 31 08.1	
LJU				e		10 35 57.5	
PMSU	Muirshiel	85.53	339	⇑iP	P	10 19 45.2	+0.3
BOJS	Bojanci	85.54	323	i P	P	10 19 45.3	+0.1
FUR	Furstenfeldbru	85.57	327	eP	P	10 19 46.1	+0.9
FUR				pmax	pmax		
	comp=Z,3µm,1.4s,mb7.3						
FUR	Furstenfeldbru	85.57	327	eP	P	10 19 46.1	+0.9
	comp=Z,3µm,1.4s,mb7.3						
BBH	Bruntsheil	85.58	338	⇑iP	P	10 19 45.2	+0.1
BRY	Bratogost	85.59	319	⇑iP	P	10 19 44.4	-1.1
TOD	Tromm	85.61	329	⇑eP	P	10 19 45.8	+0.4
TOD	Tromm	85.61	329	⇑eP	P	10 19 45.6	+0.2
PTL	Penteli	85.66	313	eP	P	10 19 46.0	0.0
MPAR	Parnis Oros	85.67	313	eP	P	10 19 45.5	-0.5
BTA	Talkin	85.69	338	⇑iP	P	10 19 46.1	+0.4
THR4	Thira Island,	85.70	311	eP	P	10 19 44.1	-2.1
BHH	Howats Hill	85.70	338	⇑iP	P	10 19 46.0	+0.3
SANT	Santorini	85.71	311	⇑eP	P	10 19 44.7	-1.6
	comp=Z,2µm,1.4s,mb7.1						
THR1	Thera Island	85.71	311	eP	P	10 19 44.4	-1.9
THR3	Thira Island,	85.73	311	eP	P	10 19 45.0	-1.3
SWS	Schriesheim	85.74	329	⇑eP	P	10 19 46.2	+0.1
HDH	Heidenheim	85.75	328	⇑eP	P	10 19 46.1	0.0
THR5	Thira Island,	85.76	311	eP	P	10 19 41.4	-5.1
THR6	Thira Island,	85.76	311	eP	P	10 19 45.0	-1.5
BCC1	Chapelcross	85.77	338	⇑iP	P	10 19 46.6	+0.5
BWH	Wardlaw	85.77	338	⇑iP	P	10 19 46.3	+0.2
BUM	Brajici-Budva	85.80	319	⇑iP	P	10 19 45.3	-1.2
ATH	Athens Observa	85.80	313	⇑iP	P	10 19 46.0	-0.7
LRN	Richmond	85.81	337	⇑iP	P	10 19 46.5	+0.2
ULC	Ulcinj	85.83	318	⇑iP	P	10 19 46.4	-0.3
PLRO	Paularo	85.85	325	⇑ePn	P	10 19 45.9	-0.8
PTCC	Patocco-Chiusa	85.85	325	eP	P	10 19 45.3	-1.4
VOY	Vojsko	85.85	324	eP	P	10 19 45.7	-1.0
BDL	Dobcross Hall	85.86	338	⇑iP	P	10 19 47.1	+0.5
DRE	Drenchia	85.87	324	⇑ePn	P	10 19 45.7	-1.1
HCY	Herceg Novi	85.92	319	⇑iP	P	10 19 45.5	-1.6
HGN	Heimansgroeve	85.93	331	⇑iP	P	10 19 46.9	-0.1
	comp=Z,166nm,1.2s,mb6.1						
HGN				ePP	PP	10 23 06.1	-2.4
HGN				ePPP	PPP	10 25 15.4	+10
HGN				eS	S	10 30 14.1	-3.9
HGN				ex	x	10 31 16.0	
HGN				eSS	SS	10 35 41.9	-17
HGN				eSSS	tx	10 41 13.3	
HGN				eS	tx	10 45 55.2	
ZOU	Zoufplan	85.93	325	⇑ePn	P	10 19 46.4	-0.7
ABH	Alteburg	85.93	330	⇑eP	P	10 19 47.3	+0.3
MKIT	Kithairon Oros	85.94	314	eP	P	10 19 44.0	-3.4
FVI	Forni Avoltri	85.99	325	eP	P	10 19 46.2	-1.1
NSAL	Nisos Salamina	86.00	313	eP	P	10 19 47.0	-0.6
GMNA	Gemona	86.00	325	eP	P	10 19 46.3	-1.2
AWI1	Witton	86.01	335	⇑eP	P	10 19 47.4	+0.1
BBO1	Bothel	86.01	338	⇑iP	P	10 19 47.7	+0.4
BAD	Bernadia	86.02	325	⇑ePn	P	10 19 46.4	-1.2
WATA	Walderalm	86.03	326	⇓iP	P	10 19 47.4	-0.2
	comp=Z,2µm,2.1s,mb7.0						
COLI	Coloredo	86.03	324	⇑ePn	P	10 19 46.8	-0.8
BOO	Bordano	86.03	325	⇑ePn	P	10 19 46.5	-1.2
WTTA	Wattenberg	86.05	326	⇑iP	P	10 19 47.8	+0.1
	comp=Z,27µm,4.8s						
STU	Stuttgart	86.06	328	P	P	10 19 47.7	0.0
STU				pmax	pmax		
	comp=Z,2µm,1.4s,mb7.1						
STU	Stuttgart	86.06	328	eP	P	10 19 47.9	+0.3
	comp=Z,2µm,1.4s,mb7.1						
STU				ePP	PP	10 23 12.0	+2.4
ABA1	Baconsthorpe	86.07	335	⇑iP	P	10 19 47.7	+0.1
STON	Ston	86.07	320	⇑iP	P	10 19 46.9	-1.0
NAIG	Nisos Aigina	86.07	313	eP	P	10 19 47.0	-1.0
BUA	Buia	86.10	325	⇑ePn	P	10 19 47.1	-0.8
CKE	Keswick	86.10	338	⇑iP	P	10 19 48.1	+0.4
CSMI	Casera Mimoias	86.11	325	⇑ePn	P	10 19 47.0	-1.0
MEV	Metsovon	86.13	316	eP	P	10 19 47.9	-0.3
KTD	Kalmit	86.13	329	⇑eP	P	10 19 48.3	+0.3
KTD	Kalmit	86.13	329	⇑eP	P	10 19 48.0	0.0
HPK	Haverah Park	86.14	337	⇑iP	P	10 19 48.0	+0.1
HPK				AMb	AMB	10 20 00.8	
	comp=Z,6µm,1.7s,mb7.5						
TRI	Trieste	86.14	324	eP	P	10 19 47.4	-0.8
MPRI	Monte Prat	86.14	325	⇑ePn	P	10 19 47.4	-0.8
GMK	Mull of Kintyr	86.21	340	⇑iP	P	10 19 48.5	+0.2
BUCH	Bad Urach	86.23	328	⇑eP	P	10 19 48.8	+0.3
MOTA	Moosalm	86.24	326	⇑iP	P	10 19 48.5	-0.1
	comp=Z,1µm,2.1s,mb6.8						
LDU	Leeds Universi	86.25	337	⇑iP	P	10 19 48.7	+0.2
AEU	East Anglia Un	86.25	335	⇑eP	P	10 19 48.6	+0.1
CSF	Scaffel	86.26	338	⇑eP	P	10 19 48.5	0.0
RUP	Ruppelstein	86.28	330	⇑eP	P	10 19 49.1	+0.4
PV10	Paradox Valley	86.28	46	eP	P	10 19 50.5	+1.5
SQTA	Sankt Quirin	86.29	326	⇑iP	P	10 19 48.7	-0.1
	comp=Z,3µm,2.7s,mb7.1						
NPS	Neapolis	86.30	310	eP	P	10 19 48.0	-1.2
LBG	Lerchenberg	86.31	328	⇑eP	P	10 19 49.0	+0.1
TLI	Talmassons	86.32	324	⇑ePn	P	10 19 48.4	-0.7
CDU1	Dunnerdale	86.34	338	⇑iP	P	10 19 49.0	+0.1
AWH	Whinburgh	86.35	335	⇑iP	P	10 19 48.9	-0.1
EVR	Evrytania	86.35	315	⇓iP	P	10 19 49.5	+0.2
GAL1	Galloway	86.36	339	⇑eP	P	10 19 48.5	-0.4
NVLJ	Novalja	86.39	323	⇑iP	P	10 19 48.7	-0.8
MLNI	Malnisio	86.39	325	⇑ePn	P	10 19 48.5	-0.9
JAN	Janina	86.43	316	eP	P	10 19 50.5	+0.8
PPT	Papeete	86.44	113	P	P	10 19 50.7	+0.4
	comp=Z,68nm,1.0s,mb5.8,baz=31,slow=5.7,SNR=5.2						
PPT	Papeete	86.44	113	eP	P	10 19 51.8	+1.5
	comp=Z,376nm,1.4s,mb6.4						
PPT	Papeete	86.44	113	ePP	PP	10 23 06.8	-7.0
PPT				eSS	SS	10 36 11.4	+4.1
PPT				eL		10 42 40.9	
PPT				eR		10 46 11.7	
	comp=Z,281µm,27.5s,baz=310						
UBR	Uberruh	86.46	327	⇑eP	P	10 19 49.5	-0.1
XRY	Khrisi	86.49	310	eP	P	10 19 50.0	-0.1
PAE	Paea	86.50	114	eP	P	10 19 51.9	+1.4
	comp=Z,702nm,1.4s,mb6.7						
LANF	Langenberg	86.51	329	⇑eP	P	10 19 49.9	0.0
LHO	Holmfirth	86.56	337	⇑iP	P	10 19 50.1	0.0
CAE	Caneva	86.58	325	⇑ePn	P	10 19 49.4	-0.9
GCL	Cushendall	86.60	340	⇑iP	P	10 19 50.5	+0.3
GUT	Gutenstein	86.61	328	⇑eP	P	10 19 50.1	-0.3
KSY	Syston	86.61	336	⇑eP	P	10 19 50.0	-0.2
TIAR	Tiarei	86.61	113	eP	P	10 19 52.6	+1.5
	comp=Z,764nm,1.0s,mb6.9						
WUAZ	Wupatki	86.64	49	⇑iP	P	10 19 51.7	+0.9
	comp=Z,1µm,1.1s,mb7.0						
WUAZ				LR	LR		
	comp=Z,57µm,22.0s,MS6.9						
FAU	Forcella Aurin	86.64	325	⇑ePn	P	10 19 49.9	-0.6
WLF	Walferdange	86.68	330	P	P	10 19 51.1	+0.4
WLF				pmax	pmax		
	comp=Z,3µm,1.7s,mb7.2						
WLF	Walferdange	86.68	330	⇑iP	P	10 19 50.9	+0.2
	comp=Z,3µm,1.7s,mb7.2						
WLF				ePKKPbc		10 37 46.6	
KBI1	Birley Grange	86.69	336	⇑iP	P	10 19 50.8	+0.1
PV01	Paradox Valley	86.71	46	eP	P	10 19 52.4	+1.2
SPAK	Spaichingen	86.74	328	⇑eP	P	10 19 51.1	+0.1
BFO	Black Forest	86.77	328	eP	P	10 19 51.4	+0.2
BFO				pmax	pmax		
	comp=Z,2µm,1.7s,mb7.0						
BFO	Black Forest	86.77	328	eP	P	10 19 51.4	+0.2
	comp=Z,2µm,1.7s,mb7.0						
IGT	Igoumenitsa	86.82	316	eP	P	10 19 50.6	-1.0
TVO	Taravao	86.82	113	eP	P	10 19 53.9	+1.8
	comp=Z,1µm,1.3s,mb7.0						
STR	Strasbourg	86.82	329	⇑eP	P	10 19 52.2	+0.8
DAVA	Damuels	86.85	327	⇑iP	P	10 19 51.9	+0.3
	comp=Z,24µm,4.7s						
GIVF	Givet	86.89	331	⇑iP	P	10 19 51.4	-0.3
	comp=Z,1µm,1.5s,mb6.7						
CTI	Castel Tesino	86.93	325	eP	P	10 19 50.9	-1.1
WIM	Isle of Man	86.96	338	⇑iP	P	10 19 52.1	+0.2
WIM				AMb	AMB	10 20 05.7	
	comp=Z,2µm,1.4s,mb7.1						
CGRP	Cima Grappa	86.98	325	⇑ePn	P	10 19 51.5	-0.7
KWE	Weaver Farm	87.00	336	⇑iP	P	10 19 52.3	+0.2
KEK	Kerkira	87.01	316	eP	P	10 19 52.0	-0.5
STEIN	Stein am Rhein	87.03	328	⇑iP	P	10 19 52.1	-0.3
	comp=Z,961nm,1.8s,mb6.7						
KAMOR	Kamor	87.03	327	⇑iP	P	10 19 52.5	+0.1
	comp=Z,2µm,2.5s,mb6.9						
VLI	Veliai	87.07	313	eP	P	10 19 51.5	-1.4
KTG1	Tilbrook Grang	87.08	335	⇑eP	P	10 19 52.3	-0.2
VAM	Vamos	87.11	311	eP	P	10 19 53.0	-0.2
SLE	Schleitheim	87.12	328	⇑iP	P	10 19 52.4	-0.5
	comp=Z,1µm,2.5s,mb6.8						
TRULL	Truellikon	87.12	328	⇑iP	P	10 19 52.6	-0.3
	comp=Z,1µm,1.7s,mb6.8						
WLS	Welschbruch	87.13	329	⇑eP	P	10 19 53.0	+0.1
CDF	Champ du Feu	87.17	329	⇑iP	P	10 19 53.0	-0.1
	comp=Z,2µm,1.5s,mb6.7						
FUORN	Ofenpass	87.17	326	⇑iP	P	10 19 53.6	+0.5
	comp=Z,3µm,2.1s,mb7.1						
BAIF	Baives	87.17	332	⇑iP	P	10 19 52.7	-0.3
	comp=Z,843nm,1.1s,mb6.6						
LKD	Levkas	87.17	315	eP	P	10 19 52.8	-0.6
WILA	Wila	87.20	328	⇑iP	P	10 19 52.9	-0.4
	comp=Z,2µm,2.2s,mb6.8						
BRMO	Bormio	87.22	326	eP	P	10 19 53.5	+0.1
LIBD	Limburg	87.22	329	⇑eP	P	10 19 53.6	+0.2
LIBD	Limburg	87.22	329	⇑eP	P	10 19 53.5	+0.1
DAVOX	Davos	87.23	327	PKKPbc		10 37 43.9	
	comp=Z,6.5nm,0.9s,baz=193,slow=1.7,SNR=5.2						
DAVOX	Davos	87.23	327	⇑iP	P	10 19 53.6	+0.2
	comp=Z,1µm,2.1s,mb6.8						
KIZ	Kirchzarten	87.23	328	⇑eP	P	10 19 53.0	-0.4
FLACH	Flaach	87.23	328	⇑iP	P	10 19 53.0	-0.4
	comp=Z,2µm,3.7s						
FELD	Feldberg	87.25	328	⇑eP	P	10 19 53.3	-0.2
PLONS	Plons	87.26	327	⇑iP	P	10 19 53.5	-0.1
	comp=Z,2µm,2.6s,mb6.9						
GMM	Mts of Mourne	87.27	339	⇑iP	P	10 19 53.0	-0.5
KYTH	Kithira	87.29	312	eP	P	10 19 51.5	-2.5
ISCO	Idaho Springs	87.36	43	⇑iP	P	10 19 55.6	+1.4
	comp=Z,3µm,1.1s,mb7.5						
ISCO				LR	LR		
	comp=Z,56µm,19.0s,MS7.0						
ECH	Echery	87.37	329	⇑eP	P	10 19 53.8	-0.3
ZUR	Zurich	87.38	328	⇑iP	P	10 19 53.8	-0.3
	comp=Z,1µm,2.4s,mb6.8						
ITM	Ithomi	87.40	313	eP	P	10 19 54.0	-0.5
TEOL	Teolo	87.42	325	⇑ePn	P	10 19 54.1	-0.3
BERNI	Berninapass	87.43	326	⇑iP	P	10 19 54.7	+0.3
	comp=Z,2µm,2.4s,mb6.9						
SULZ	Sulz-Cheisache	87.47	328	⇑iP	P	10 19 54.1	-0.5
WPM1	Penmaenmawr	87.47	338	⇑iP	P	10 19 54.6	+0.2
WPM1				AMb	AMB	10 20 07.3	
	comp=Z,2µm,1.7s,mb7.1						
WME	Myndd Eilian	87.48	338	⇑iP	P	10 19 54.7	+0.2
WME				AMb	AMB	10 20 08.1	
	comp=Z,2µm,1.8s,mb7.1						
GVD	Gavdhos	87.54	311	eP	P	10 19 54.4	-0.9
	comp=Z,505nm,0.9s,mb6.8						
VLS	Valsamata	87.55	315	eP	P	10 19 54.0	-1.2
LCI	Lecce	87.56	318	eP	P	10 19 55.0	-0.1
WCB1	Church Bay	87.58	338	⇑iP	P	10 19 54.8	-0.1
WCB1				AMb	AMB	10 20 07.7	
	comp=Z,1µm,1.5s,mb6.9						
LLS	Linth-Limmern	87.58	327	⇑iP	P	10 19 54.8	-0.3
	comp=Z,2µm,3.7s						
WLF1	Llynfaes	87.60	338	⇑iP	P	10 19 55.1	+0.1
WLF1				AMb	AMB	10 20 07.9	
	comp=Z,2µm,1.5s,mb7.1						
VDL	Val di Lei	87.63	327	⇑iP	P	10 19 55.6	+0.2
	comp=Z,2µm,2.6s,mb6.9						
MOF	Molkenrain	87.66	329	⇑eP	P	10 19 55.3	-0.1
MUO	Muotathal	87.66	327	⇑iP	P	10 19 55.4	-0.1
	comp=Z,2µm,2.5s,mb6.9						
YLL	Llanberis	87.66	338	⇑eP	P	10 19 55.6	+0.3
YRC	Rhoscolyn	87.69	338	⇑iP	P	10 19 55.3	-0.2
YRC				AMb	AMB	10 20 08.4	
	comp=Z,1µm,1.4s,mb7.0						
SKP1	Kophill	87.72	335	⇑eP	P	10 19 55.0	-0.6
HLM1	Long Mynd	87.76	337	⇑iP	P	10 19 56.0	+0.1
HLM1				AMb	AMB	10 20 08.7	
	comp=Z,1µm,1.7s,mb6.8						
BBS	Basel-Blauen	87.78	328	⇑eP	P	10 19 55.9	-0.2
MEH	Mehetia	87.79	113	eP	P	10 19 58.5	+1.7
	comp=Z,354nm,1.4s,mb6.4						
SAL	Salo	87.79	325	eP	P	10 19 55.7	-0.5
BALST	Balsthal	87.80	328	⇑iP	P	10 19 55.8	-0.4
	comp=Z,2µm,2.5s,mb6.9						
HINF	Hinteralfeld	87.80	329	⇑iP	P	10 19 55.5	-0.7
	comp=Z,266nm,1.0s,mb6.1						
FGMS	Monte Sant’Ang	87.81	320	eP	P	10 19 56.5	+0.2
BNALP	Bannalp	87.82	327	⇑iP	P	10 19 56.0	-0.3
	comp=Z,2µm,2.5s,mb6.8						
DMUB	Kingscourt	87.85	339	⇑iP	P	10 19 56.6	+0.4
THEF	They Montfort	87.86	330	⇑eP	P	10 19 56.3	-0.1
YRE	Yr Eifl	87.88	338	⇑iP	P	10 19 56.6	+0.2
YRE				AMb	AMB	10 20 09.4	
	comp=Z,2µm,1.5s,mb7.2						
HAU	Haudompre	87.88	329	⇑iP	P	10 19 56.0	-0.5
	comp=Z,384nm,1.1s,mb6.2						
HAU				eR			
	comp=Z,154µm,17.0s						
SSP1	Stoney Pound	87.92	337	⇑iP	P	10 19 56.8	+0.1
BOURR	Bourrignon	87.96	328	⇑iP	P	10 19 56.6	-0.3
	comp=Z,1µm,2.4s,mb6.8						
BRSN	Barisano	88.00	324	eP	P	10 19 60.0	+2.8
FUSIO	Fusio	88.03	327	⇑iP	P	10 19 57.2	-0.1
	comp=Z,2µm,1.9s,mb7.0						
RGNG	Rignano Grg	88.03	320	eP	P	10 19 57.9	+0.5
HASLI	Hasliberg	88.03	327	⇑iP	P	10 19 57.0	-0.3
	comp=Z,2µm,1.8s,mb7.0						
MEZF	Maizieres J’vi	88.04	330	⇑iP	P	10 19 57.3	0.0
	comp=Z,4µm,1.6s,mb7.1						
HAE	Alders End	88.05	336	⇑iP	P	10 19 57.2	0.0
HAE				AMb	AMB	10 20 10.0	
	comp=Z,3µm,1.6s,mb7.3						
RSM	Repubblica di	88.07	323	eP	P	10 19 58.3	+0.8
FSSB	Fossombrone	88.07	323	eP	P	10 19 57.7	+0.1
ARV	Arcevia	88.13	323	eP	P	10 19 57.9	+0.1

FG2	Serracapriola	88.17	320	eP	P	10 20 03.0	+4.9
LOMF	Lomont	88.17	329⇑	eP	P	10 19 57.7	-0.2
SWN1	Swindon	88.24	336⇑	eP	P	10 19 58.0	-0.1
MCH1	Michaelchurch	88.24	336⇑	iP	P	10 19 58.4	+0.2
MUGIO	Muggio	88.25	326⇑	iP	P	10 19 57.2	-1.2
	comp=Z,2µm,2.7s,mb6.8						
DSB	Dublin	88.25	339⇑	iP	P	10 19 58.2	+0.1
HTR	Trewern Hill	88.26	337⇑	iP	P	10 19 58.4	+0.1
HTR				AMb	AMB	10 20 11.2	
	comp=Z,2µm,1.8s,mb7.1						
WIMIS	Wimmis	88.34	328⇑	iP	P	10 19 58.2	-0.6
	comp=Z,1µm,2.5s,mb6.7						
SFI	Santa Sofia	88.39	324	eP	P	10 19 59.9	+0.8
VAI	Varese	88.42	327	eP	P	10 19 58.3	-0.9
DCN	Croghan	88.44	339⇑	iP	P	10 19 59.1	0.0
FG4	Candela	88.44	320	eP	P	10 20 00.8	+1.4
PGD	Poggio Sodo	88.47	324	eP	P	10 20 00.6	+1.2
FG5	Orsara di Pugl	88.48	320	eP	P	10 20 00.5	+0.9
HGH	Gray Hill	88.48	336⇑	iP	P	10 19 59.0	-0.3
HGH				AMb	AMB	10 20 18.0	
	comp=Z,1µm,1.5s,mb7.0						
ZCCA	Zocca	88.49	324	eP	P	10 20 00.7	+1.1
VMG	Vicchio	88.50	324	eP	P	10 20 01.0	+1.5
NRCA	Norcia	88.52	322	eP	P	10 19 59.8	+0.1
SEI	Scarperia	88.52	324	eP	P	10 20 01.2	+1.6
CRE	Caprese Michel	88.54	323	eP	P	10 20 00.1	+0.3
LKBD	Leukerbad	88.55	328⇑	iP	P	10 19 59.1	-0.7
	comp=Z,552nm,1.7s,mb6.6						
TORNY	Torny	88.56	328⇑	iP	P	10 19 59.4	-0.4
	comp=Z,2µm,2.5s,mb6.9						
ASS	Assisi	88.59	323	eP	P	10 19 59.8	-0.2
MMK	Mattmark	88.65	327⇑	iP	P	10 20 00.3	0.0
	comp=Z,1µm,1.7s,mb7.0						
ORI	Oriolo Calabro	88.67	318	eP	P	10 20 02.1	+1.6
CII	Carovilli	88.68	321	eP	P	10 20 00.7	+0.2
GSCL	Gusciola	88.68	325	eP	P	10 20 01.1	+0.6
SWK	Warminster	88.69	336⇑	eP	P	10 20 00.1	-0.2
AQU	L'Aquila	88.71	322	P	P	10 20 01.0	+0.4
AQU				pmax	pmax		
	comp=Z,870nm,1.1s,mb7.0						
AQU	L'Aquila	88.71	322	eP	P	10 20 01.1	+0.5
MCGN	Macugnaga	88.71	327	eP	P	10 20 00.5	-0.1
ERBM	Eremo	88.72	325	eP	P	10 20 01.5	+0.9
MRLC	Muro Lucano	88.72	319	eP	P	10 20 00.1	-0.6
SMD	Mendips	88.72	336⇑	iP	P	10 20 00.3	-0.2
SDCO	Great Sand Dun	88.80	45⇑	iP	P	10 20 02.3	+1.1
	comp=Z,2µm,1.2s,mb7.4						
SDCO				LR	LR		
	comp=Z,79µm,20.0s,MS7.1						
GRAM		88.83	325	P	P	10 20 01.4	+0.2
VALM		88.85	325	P	P	10 20 01.5	+0.3
HPE	Pembroke	88.88	337⇑	iP	P	10 20 01.0	-0.2
DIX	Grande Dixence	88.88	327⇑	iP	P	10 20 01.3	-0.1
	comp=Z,973nm,2.0s,mb6.8						
GRYON	Gryon	88.89	328⇑	iP	P	10 20 01.0	-0.4
	comp=Z,505nm,1.6s,mb6.6						
AIGLE	Aigle	88.89	328⇑	eP	P	10 20 00.5	-0.9
	comp=Z,1µm,2.5s,mb6.8						
BDI	Bagni Di Lucca	88.89	324	eP	P	10 20 00.5	-1.0
SLCN	Sala Consilina	88.90	319	eP	P	10 20 01.3	-0.3
CSSN	Cassano Irpino	88.90	320	eP	P	10 20 00.4	-1.2
VLC	Villacollemand	88.92	325⇑	eP	P	10 20 00.8	-0.8
	comp=Z,454nm,1.3s,mb6.6						
VLC				ePP	PP	10 23 24.6	-8.9
BOB	Bobbio (Coli)	88.92	325	eP	P	10 20 01.4	-0.2
SGO	Sicignano	88.96	319	eP	P	10 20 01.1	-0.8
CSNT	Castellina Chi	88.98	324	eP	P	10 20 00.8	-1.1
TUC	Tucson	89.03	51	P	P	10 20 03.1	+0.7
TUC	Tucson	89.03	51	P	P	10 20 02.9	+0.5
TUC				pmax	pmax		
	comp=Z,1µm,2.0s,mb6.8						
TUC	Tucson	89.03	51	eP	P	10 20 02.9	+0.5
	comp=Z,1µm,2.0s,mb6.8						
TUC				ePP	PP	10 23 32.6	-2.1
TUC				ePKKPbc		10 37 40.8	
SALAN	Lac Salanfe	89.03	328⇑	iP	P	10 20 01.6	-0.5
	comp=Z,554nm,1.6s,mb6.6						
GIMEL	Gimel	89.05	328⇑	iP	P	10 20 01.8	-0.3
	comp=Z,1µm,2.5s,mb6.7						
MNS	Montasola	89.06	322	eP	P	10 20 01.5	-0.8
CABF	La Chapelle	89.06	328⇑	iP	P	10 20 02.0	-0.2
	comp=Z,766nm,1.3s,mb6.6						
TIP	Timpagrande	89.11	318	eP	P	10 20 02.4	-0.2
MGR	Morigerati	89.12	319	eP	P	10 20 00.9	-1.8
EMV	Vieux Emosson	89.12	328⇑	iP	P	10 20 02.4	-0.1
TRAV		89.16	327	P	P	10 20 01.8	-0.9
HEX	Exmoor	89.30	336⇑	iP	P	10 20 02.9	-0.3
GRFL	Gerfalco	89.37	324	eP	P	10 20 03.5	-0.2
GENL	Genova Univers	89.42	325	P	P	10 20 02.7	-1.2
LSD	Ceresole Reale	89.47	327	P	P	10 20 04.7	+0.5
LOR	Lormes	89.51	330⇑	iP	P	10 20 03.9	-0.4
	comp=Z,1µm,1.4s,mb6.8						
LOR				eR			
	comp=Z,174µm,19.0s						
MA9	Marino	89.51	322	eP	P	10 20 05.4	+0.9
PCP	Pian Castagno	89.52	326	P	P	10 20 03.5	-1.0
GRI	Girifalco	89.54	318	eP	P	10 20 04.8	+0.1
HTL	Hartland	89.59	337⇑	iP	P	10 20 04.6	0.0
LPL	La Plagne	89.62	327⇑	iP	P	10 20 05.0	+0.1
	comp=Z,695nm,1.0s,mb6.7						
LPG	La Plagne	89.62	327⇑	iP	P	10 20 05.2	+0.3
	comp=Z,947nm,0.9s,mb6.8						
TOLF	Tolfa	89.64	322	eP	P	10 20 05.3	+0.2
RSP	Reno Superiore	89.66	327	P	P	10 20 03.3	-1.7
OG05	Jujurieux	89.78	328⇑	eP	P	10 20 05.5	-0.1
SSF	Saint Saulge	89.82	330⇑	iP	P	10 20 05.3	-0.5
	comp=Z,640nm,1.2s,mb6.5						
MAON	Monte Argentar	89.82	323	eP	P	10 20 05.3	-0.6
FENE	Fenestrelle	89.84	327	P	P	10 20 05.5	-0.5
DYA	Yadsworthy	89.87	336⇑	eP	P	10 20 05.8	-0.2
BHB	Bricherasio	89.89	327	P	P	10 20 04.0	-2.2
FIN	Finale Ligure	89.93	326	P	P	10 20 04.9	-1.4
TBI	Tubuai	89.93	118	eP	P	10 20 08.4	+1.6
	comp=Z,575nm,1.4s,mb6.7						
TBI				ePP	PP	10 23 33.2	-8.9
TBI				eSS	SS	10 37 07.3	+9.4
TBI				eL		10 43 43.9	
TBI				eR		10 48 34.1	
	comp=Z,202µm,28.5s,baz=315						
DCO	Combe Farm	89.95	336⇑	eP	P	10 20 06.0	-0.3
BNI	Bardonecchia	90.00	327	P	P	10 20 06.4	-0.2
BNI				pmax	pmax		
	comp=Z,150nm,0.9s,mb6.3						
BNI	Bardonecchia	90.00	327	eP	P	10 20 06.2	-0.4
	comp=Z,153nm,0.9s,mb6.3						
BNI				ePP	PP	10 23 42.7	+0.5
SMF	Signal de Mont	90.01	330⇑	iP	P	10 20 06.3	-0.3
	comp=Z,777nm,1.4s,mb6.5						
HYF	Humbligny	90.01	331	eP	P	10 20 06.9	+0.2
LAZ	Ladron	90.02	48	eP	P	10 20 08.0	+1.0
SBD	Saint Breward	90.02	337⇑	iP	P	10 19 55.3	-11
ROB	Roburent	90.02	326	P	P	10 20 05.6	-1.2
FLN	La Foliniere	90.03	333⇑	iP	P	10 20 06.3	-0.4
	comp=Z,3µm,1.8s,mb7.0						
FLN				eR			
	comp=Z,156µm,20.8s						
LDF	La Druitiere	90.04	333⇑	iP	P	10 20 06.4	-0.3
	comp=Z,4µm,1.8s,mb7.1						
RRL	Cesana Torines	90.05	327	P	P	10 20 07.0	+0.1
RORO		90.07	326	P	P	10 20 06.0	-1.1
ANMO	Albuquerque	90.08	47	P	P	10 20 08.4	+1.2
ANMO				PP	PP	10 23 40.1	-3.0
ANMO	Albuquerque	90.08	47c	iP	P	10 20 08.6	+1.3
ANMO	Albuquerque	90.08	47	eP	P	10 20 08.0	+0.7
	comp=Z,1µm,1.4s,mb7.1						
AVF	Avril sur Loir	90.10	330⇑	iP	P	10 20 06.8	-0.3
	comp=Z,1µm,1.4s,mb6.7						
SCHQ	Schefferville	90.13	13	P	P	10 20 07.5	+0.4
	comp=Z,192nm,1.4s,mb6.2,baz=346,slow=5.0,SNR=24						
SCHQ				PKKPbc		10 37 35.8	
	comp=Z,21nm,0.9s,baz=38,slow=6.2,SNR=5.1						
SCHQ				LR	LR	11 04 59.2	
	comp=Z,73µm,18.8s,MS7.1,baz=332,slow=38						
GDM	Grand'Maison	90.14	328⇑	eP	P	10 20 07.4	+0.1
MBDF	Montbardon	90.20	327⇑	iP	P	10 20 07.0	-0.6
	comp=Z,545nm,1.1s,mb6.5						
PZZ	Prazzo	90.22	327	P	P	10 20 05.7	-2.0
JLP	Les Platons	90.23	334⇑	iP	P	10 20 07.5	-0.2
MONE	Monesi	90.24	326	P	P	10 20 07.0	-0.8
JQE	Queens East	90.25	334⇑	iP	P	10 20 07.4	-0.3
SOI	Samo	90.27	317	eP	P	10 20 08.0	-0.1
CSA1	St Austell	90.27	337⇑	iP	P	10 20 07.6	-0.2
GRN	Grenoble	90.27	328⇑	eP	P	10 20 08.2	+0.3
JRS	Jersey	90.27	334⇑	iP	P	10 20 07.5	-0.3
LENM	Lemitar	90.28	48	eP	P	10 20 09.1	+0.9
ENR	Entracque	90.29	326	P	P	10 20 05.7	-2.3
JVM	Valle D.L. Mar	90.29	334⇑	iP	P	10 20 07.4	-0.5
IMI	Imperia	90.31	326	P	P	10 20 07.0	-1.2
JSA	Saint Aubin	90.31	334⇑	iP	P	10 20 07.8	-0.2
STV2	Anna di Valdie	90.31	326	P	P	10 20 06.1	-2.1
STV	Sta Anna Valdi	90.32	326	P	P	10 20 06.0	-2.1
SCLL	Scilla	90.33	318	eP	P	10 20 08.2	-0.2
SURF	Saint Ours	90.37	327⇑	eP	P	10 20 08.3	-0.1
SAOF	Saorge	90.41	326⇑	eP	P	10 20 07.7	-0.9
NEGI	Negi	90.44	326	P	P	10 20 07.8	-0.9
AUTN	L'Aution	90.46	326⇑	eP	P	10 20 08.2	-0.6
ORIF	Oris-en-Rattie	90.46	327⇑	iP	P	10 20 08.6	-0.2
	comp=Z,2µm,1.5s,mb6.8						
ORIF				eR			
	comp=Z,280µm,17.0s						
GRR	Gorron	90.48	333⇑	iP	P	10 20 08.7	-0.1
	comp=Z,4µm,1.8s,mb7.2						
BGF	Bois d'Agland	90.50	330⇑	iP	P	10 20 08.8	-0.1
	comp=Z,482nm,1.3s,mb6.4						
BNM	Barren Site	90.50	48	eP	P	10 20 10.2	+0.9
CRQ2	Rosemanowes 2	90.52	337⇑	iP	P	10 20 08.9	-0.1
MTTG	Motta San Giov	90.52	317	eP	P	10 20 09.3	+0.1
CCA1	Carnmenellis	90.52	337⇑	iP	P	10 20 09.0	0.0
VAL	Valentia	90.54	340⇑	iP	P	10 20 09.1	+0.1
VAL				ePP	PP	10 23 46.2	-0.1
VAL				eS	S	10 31 04.3	+3.4
VAL				eSS	SS	10 37 07.0	+1.2
SBF	Sospel	90.56	326⇑	iP	P	10 20 08.4	-0.9
	comp=Z,725nm,1.0s,mb6.7						
CMA1	Manaccan	90.58	337⇑	eP	P	10 20 08.5	-0.7
AURF	Auriere	90.59	326⇑	eP	P	10 20 08.5	-0.9
CGW	Gweek	90.59	337⇑	iP	P	10 20 09.0	-0.3
SLNA	Salina	90.61	318	eP	P	10 20 09.3	-0.3
CGH1	Goonhilly	90.62	337⇑	eP	P	10 20 09.4	0.0
PLDF	La Plantade	90.63	329⇑	eP	P	10 20 09.8	+0.2
MVIF	Mont Vial	90.66	326⇑	eP	P	10 20 09.0	-0.7
CPZ	Penzance	90.67	337⇑	iP	P	10 20 09.6	0.0
CPZ				AMb	AMB	10 20 22.4	
	comp=Z,1µm,1.6s,mb6.9						
REVF	Revere	90.68	326⇑	eP	P	10 20 09.1	-0.7
AGO	Saint Agoulin	90.78	330⇑	eP	P	10 20 10.5	+0.3
PGF	Pioggiola	90.79	324⇑	iP	P	10 20 09.7	-0.7
	comp=Z,2µm,1.7s,mb6.8						
CALN	Calern	90.89	326⇑	eP	P	10 20 10.1	-0.7
COLF	Collangettes	90.96	329⇑	eP	P	10 20 11.4	+0.3
TCF	Toulx Ste Croi	90.97	330⇑	iP	P	10 20 10.9	-0.2
	comp=Z,2µm,1.8s,mb6.9						
OCF	Saint Nazaire	90.99	328⇑	eP	P	10 20 11.3	+0.1
OG26	St.-Nazaire-De	90.99	328⇑	eP	P	10 20 11.3	+0.1
VIVF	Saint-Julien-l	91.05	328⇑	iP	P	10 20 11.3	-0.2
	comp=Z,2µm,1.5s,mb6.9						
PYM	Petit Puy Mans	91.07	330⇑	eP	P	10 20 11.9	+0.3
ECPN	Case del Piano	91.10	318	eP	P	10 20 10.9	-1.1
MNO	Monte Soro	91.13	318	eP	P	10 20 12.3	+0.2
FRF	La Foret Royal	91.16	326⇑	iP	P	10 20 11.1	-0.9
	comp=Z,1µm,1.5s,mb6.7						
SGMF	Saint Gilles	91.23	334⇑	iP	P	10 20 12.4	+0.2
	comp=Z,1µm,1.3s,mb6.8						
AGST	Augusta-Monte	91.31	317	eP	P	10 20 12.9	+0.1
SMRF	Simiane la Rot	91.33	327⇑	iP	P	10 20 12.4	-0.4
	comp=Z,1µm,1.6s,mb6.7						
CBKS	Cedar Bluff	91.34	41	P	P	10 20 13.2	+0.2
CBKS				pmax	pmax		
	comp=Z,1µm,1.3s,mb7.0						
CBKS	Cedar Bluff	91.34	41⇑	iP	P	10 20 12.8	-0.1
	comp=Z,1µm,1.3s,mb7.0						
CBKS				LR	LR		
	comp=Z,39µm,19.0s,MS6.9						
LBL	Lubilhac	91.38	329⇑	eP	P	10 20 13.6	+0.6
LMR	La Mourre	91.39	326⇑	iP	P	10 20 12.4	-0.7
	comp=Z,2µm,1.5s,mb6.9						
ROSF	Rostrenen	91.42	335⇑	iP	P	10 20 13.5	+0.4
	comp=Z,2µm,1.2s,mb6.9						
USI	Ustica	91.43	319	eP	P	10 20 13.1	-0.3
FRNF	Fournols	91.55	330⇑	eP	P	10 20 14.4	+0.6
PZI	Palazzolo	91.60	317	eP	P	10 20 15.3	+1.0
MFF	Saint Martin d	91.68	332⇑	iP	P	10 20 14.6	+0.3
	comp=Z,3µm,1.4s,mb7.1						
QUIF	Quistinic	91.73	334⇑	iP	P	10 20 14.5	0.0
	comp=Z,2µm,1.6s,mb7.0						
LASF	Ste Croix	92.03	328⇑	iP	P	10 20 16.0	0.0
	comp=Z,2µm,1.5s,mb6.8						
RJF	Les Rejaudoux	92.06	330⇑	iP	P	10 20 16.4	+0.3
	comp=Z,3µm,1.5s,mb7.1						
RJF				eR			
	comp=Z,132µm,18.8s						
CAF	Calviac	92.13	330⇑	iP	P	10 20 16.9	+0.5
	comp=Z,2µm,1.6s,mb7.0						
FAVR	Favara	92.18	318	eP	P	10 20 19.5	+2.6
LRYF	La Roche-sur-Y	92.24	333⇑	eP	P	10 20 17.2	+0.3
LVI	Isola Levanzo	92.41	319	eP	P	10 20 17.3	-0.6
LFF	La Frestale	92.67	330⇑	iP	P	10 20 19.5	+0.5
	comp=Z,713nm,0.8s,mb6.8						
OLEF	Ile d'Oleron	92.69	332⇑	eP	P	10 20 19.3	+0.3
KSU1	Kansas State U	92.81	39⇑	iP	P	10 20 19.9	+0.2
KSU1				ePP	PP	10 24 01.3	-3.4
CPRX	Cap Rock	92.96	47	eP	P	10 20 21.2	+0.7
JFWS	Jewell Farm	93.00	33	P	P	10 20 20.6	+0.1
JFWS				pmax	pmax		
	comp=Z,600nm,1.4s,mb6.8						
JFWS	Jewell Farm	93.00	33⇑	iP	P	10 20 20.5	-0.1
	comp=Z,601nm,1.4s,mb6.8						
JFWS				LR	LR		
	comp=Z,85µm,19.0s,MS7.2						
GDL2	Guadalupe Moun	93.21	48	eP	P	10 20 22.6	+0.8
MTLF	Montolieu	93.33	329⇑	iP	P	10 20 22.0	0.0
	comp=Z,1µm,1.6s,mb6.8						
PTS	Pantelleria	93.44	319	eP	P	10 20 23.0	+0.3
CLNB	Carlsbad	93.47	48	eP	P	10 20 23.7	+0.8
SJAF	Saint Jean de	93.72	328⇑	eP	P	10 20 23.0	-0.8
EJON	La Jonquera	93.75	328	P	P	10 20 22.8	-1.2
	comp=Z,5µm,4.3s						
LPEF	Le Peyrat	93.78	329⇑	eP	P	10 20 24.2	+0.1
FILF	Fillols	93.80	328	eP	P	10 20 24.0	-0.2
MLS	Moulis	94.13	329⇑	eP	P	10 20 25.4	-0.3
VALF	Valcebollere	94.17	328⇑	eP	P	10 20 26.2	+0.3
SALF	Salau	94.25	329	eP	P	10 20 25.5	-0.8
EPF	Esparros	94.39	330⇑	iP	P	10 20 26.3	-0.6
	comp=Z,406nm,1.3s,mb6.4						
VIEF	Viey	94.65	330⇑	eP	P	10 20 28.9	+0.8
REYF	Montagne du Re	94.67	330⇑	eP	P	10 20 27.9	-0.3
ORDF	Ordiarp	94.78	330⇑	eP	P	10 20 28.5	-0.2
EMIR	Miracle	94.78	328	P	P	10 20 26.5	-2.3
	comp=Z,6µm,3.9s						
WMOK	Wichita Mounta	94.79	43	P	P	10 20 29.3	+0.4
WMOK	Wichita Mounta	94.79	43⇑	iP	P	10 20 29.2	+0.2
	comp=Z,8µm,0.7s						
WMOK				LR	LR		
	comp=Z,52µm,22.0s,MS7.0						
OSSF	Osses	94.88	331⇑	eP	P	10 20 28.6	-0.5
ETSF	Etsaut	94.88	330⇑	iP	P	10 20 29.8	+0.6
	comp=Z,1µm,1.4s,mb6.8						
LARF	Larrau	94.94	330⇑	eP	P	10 20 29.9	+0.4
FDAF	Les Forges d'A	94.95	330⇑	eP	P	10 20 30.3	+0.8
SJPF	Ste Jean	94.98	331⇑	iP	P	10 20 29.6	0.0
	comp=Z,211nm,1.1s,mb6.2						
EALK	Alkurruntz	95.01	331	P	P	10 20 26.9	-2.8
	comp=Z,7µm,4.2s						
EGRA	Graus	95.08	329	P	P	10 20 28.6	-1.5
	comp=Z,673nm,1.6s,mb6.8						
EPOB	Poblet	95.43	328	P	P	10 20 29.5	-2.3
	comp=Z,85nm,1.3s,mb6.0						
LTX	Lajitas	95.59	50	P	P	10 20 33.6	+0.8
LTX				pmax	pmax		
	comp=Z,880nm,1.1s,mb7.1						
LTX	Lajitas	95.59	50⇑	iP	P	10 20 33.7	+0.9
	comp=Z,884nm,1.1s,mb7.1						
LTX				LR	LR		
	comp=Z,71µm,20.0s,MS7.1						
TXAR	Lajitas Array	95.59	50	P	P	10 20 33.5	+0.7
	comp=Z,185nm,0.7s,mb6.6,baz=287,slow=2.0,SNR=636						
TXAR				PP	PP	10 24 24.0	-2.3
	comp=Z,49nm,1.3s,baz=243,slow=2.0,SNR=4.2						
TXAR				PKKPbc		10 37 24.2	
	comp=Z,9.6nm,1.1s,baz=135,slow=5.3,SNR=9.1						
TXAR	Lajitas Array	95.59	50	P	P	10 20 33.5	+0.7
TXAR				PP	PP	10 24 24.0	-2.3
TXAR				PKKPbc		10 37 24.2	
ELAN	Lanestosa	95.78	332	P	P	10 20 31.7	-1.5
	comp=Z,634nm,2.2s,mb6.7						
ESAC	San Caprasio	95.81	329	P	P	10 20 30.9	-2.5
	comp=Z,834nm,1.7s,mb6.9						
SADO	Sadowa	95.94	25	PKKPbc		10 37 23.1	
	comp=Z,8.8nm,1.0s,baz=203,slow=3.0,SNR=3.2						
SADO				LR	LR	11 08 29.4	
	comp=Z,57µm,20.1s,MS7.0,baz=82,slow=38						
EBR	Ebro Roquetas	96.12	328	eP	P	10 20 32.0	-2.9
CCM	Cathedral Cave	96.33	36	P	P	10 20 35.9	-0.1
CCM				pmax	pmax		
	comp=Z,270nm,1.0s,mb6.6						
CCM	Cathedral Cave	96.33	36⇑	iP	P	10 20 35.9	-0.1
	comp=Z,265nm,1.0s,mb6.6						
SLM	Saint Louis	96.38	35	P	P	10 20 36.4	+0.3
SLM				pmax	pmax		
	comp=Z,400nm,1.1s,mb6.8						
SLM	Saint Louis	96.38	35⇑	eP	P	10 20 36.2	0.0
	comp=Z,399nm,1.1s,mb6.8						
FVM	French Village	96.79	36	P	P	10 20 38.3	+0.3
FVM				pmax	pmax		
	comp=Z,180nm,1.0s,mb6.5						
FVM	French Village	96.79	36	eP	P	10 20 38.1	+0.1
	comp=Z,178nm,1.0s,mb6.5						
FVM				ePKKPbc		10 37 17.2	
EMOS	Mosqueruela	96.92	328	P	P	10 20 37.0	-1.5
	comp=Z,293nm,2.0s,mb6.4						
EPON	Pontenova	97.11	334	P	P	10 20 37.6	-1.7
	comp=Z,409nm,1.4s,mb6.7						
MSNY	Massena	97.17	22	eP	P	10 20 39.4	-0.1
JCT	Junction City	97.22	47	P	P	10 20 40.3	+0.2
JCT				pmax	pmax		
	comp=Z,1µm,1.7s,mb7.0						
JCT	Junction City	97.22	47⇓	iP	P	10 20 40.0	-0.1
	comp=Z,1µm,1.7s,mb7.0						
JCT				LR	LR		
	comp=Z,49µm,19.0s,MS7.0						
ETOR	Torete	97.23	330	P	P	10 20 41.0	+1.2
	comp=Z,336nm,1.8s,mb6.5						
PTN	Potsdam (NY)	97.51	22	P	P	10 20 45.9	+4.8
PTN	Potsdam (NY)	97.51	22	eP	P	10 20 42.2	+1.2
PQI	Presque Isle	97.55	17	eP	P	10 20 39.7	-1.4
	comp=Z,427nm,1.1s,mb6.9						
PQI				LR	LR		
	comp=Z,509µm,20.0s,MS8.0						
LOZ	Lake Ozonia	97.59	22⇑	eP	P	10 20 40.8	-0.7
MIAR	Mount Ida	97.82	40	PFAKE		10 20 50.0	+7.3
MIAR				LR	LR		
	comp=Z,84µm,22.0s,MS7.2						
ERUA	La Rua	97.91	334	P	P	10 20 43.4	+0.4
	comp=Z,59nm,1.0s,mb6.1						
ERPA	Erie	97.92	27⇑	eP	P	10 20 43.3	+0.3
	comp=Z,465nm,1.5s,mb6.8						
ERPA				LR	LR		
	comp=Z,79µm,20.0s,MS7.2						
STS	Santiago	97.99	335	P	P	10 20 43.2	-0.1
	comp=Z,33nm,0.9s,mb5.9						
USIN	University of	98.13	34⇑	eP	P	10 20 44.2	+0.2
	comp=Z,172nm,1.3s,mb6.4						
USIN				ePP	PP	10 24 45.4	-0.9
ECAL	Calabor	98.15	333	P	P	10 20 41.7	-2.4
	comp=Z,352nm,2.5s,mb6.5						
GENY	Geneseo	98.16	25	eP	P	10 20 44.2	+0.2
EBEN	Beniarda	98.16	327	P	P	10 20 42.1	-2.0
	comp=Z,405nm,2.2s,mb6.6						
ALLY	Alegheny Colle	98.27	27	eP	P	10 20 44.9	+0.3
PBRG	Braganca	98.27	333	ePP	PP	10 24 44.4	-2.7
NCB	Newcomb	98.29	22	eP	P	10 20 44.8	+0.2
	comp=Z,249nm,1.6s,mb6.5						
NCB				LR	LR		
	comp=Z,83µm,21.0s,MS7.2						
UALR	University of	98.30	39	eP	P	10 20 45.0	+0.1
	comp=Z,67nm,1.0s,mb6.1						
ACSO	Alum Creek Sta	98.34	30	eP	P	10 20 44.7	-0.2
	comp=Z,76nm,0.9s,mb6.2						
ACSO				LR	LR		
	comp=Z,58µm,20.0s,MS7.1						
PVMO	Portageville	98.39	36	eP	P	10 20 47.0	+1.8
MIV	Mineville/With	98.41	22	eP	P	10 20 45.1	-0.1
WCI	Wyandotte Cave	98.56	33	P	P	10 20 46.4	+0.5
WCI				pmax	pmax		
	comp=Z,230nm,1.4s,mb6.5						
WCI	Wyandotte Cave	98.56	33	eP	P	10 20 46.3	+0.4
	comp=Z,230nm,1.4s,mb6.5						
KMBO	Kilima Mbogo	98.56	274	P	P	10 20 46.4	-0.2
	comp=Z,32nm,1.1s,mb5.8,baz=40,slow=6.1,SNR=41						
KMBO				PP	PP	10 24 47.9	-1.9
	comp=Z,16nm,1.1s,baz=51,slow=8.4,SNR=10						
KMBO				PKKPbc		10 37 17.9	
	comp=Z,3.6nm,0.9s,baz=202,slow=6.0,SNR=5.6						
KMBO				LR	LR	11 09 19.2	
	comp=Z,51µm,19.8s,MS7.0,baz=304,slow=38						
KMBO	Kilima Mbogo	98.56	274	eP	P	10 20 46.2	-0.3
	comp=Z,113nm,1.5s,mb6.2						
HBAR	Harrisburg	98.58	37	eP	P	10 20 47.2	+1.1
GNAR	Gosnell	98.58	37	eP	P	10 20 47.4	+1.3
GLAT	Glass	98.70	36	eP	P	10 20 47.2	+0.6
ELOB	Lobios	98.71	334	P	P	10 20 45.3	-1.3
	comp=Z,230nm,1.6s,mb6.5						
UTMT	University of	98.85	36	eP	P	10 20 47.6	+0.3
	comp=Z,359nm,1.1s,mb6.8						
HALT	Halls	98.96	36	eP	P	10 20 49.2	+1.4
ESDC	Sonseca Array	98.98	330	P	P	10 20 47.3	-0.5
	comp=Z,7.2nm,0.7s,baz=22,slow=3.8,SNR=32						
ESDC				PP	PP	10 24 49.1	-3.1
	comp=Z,21nm,1.0s,baz=22,slow=7.2,SNR=4.6						
ESDC				PKKPbc		10 37 13.6	
	comp=Z,2.8nm,0.8s,baz=220,slow=2.2,SNR=4.6						
ESDC				PKPPKP		10 45 34.4	
	comp=Z,0.4nm,0.6s,baz=260,slow=1.1,SNR=4.2						
ESDC				LR	LR	11 12 49.8	
	comp=Z,73µm,19.2s,MS7.2,baz=25,slow=40						
ESDC	Sonseca Array	98.98	330	P	P	10 20 47.3	-0.5
	comp=Z,183nm,2.5s,mb6.2						
ACCN	Adirondack Com	98.99	22	eP	P	10 20 48.4	+0.6
WVL	Waterville	99.08	19	eP	P	10 20 48.5	+0.4
	comp=Z,2µm,2.1s,mb7.3						
WVL				LR	LR		
	comp=Z,250µm,22.0s,MS7.7						
HNH	Hanover	99.12	21	eP	P	10 20 49.1	+0.8
	comp=Z,23nm,1.9s						
EVIA	Vianos	99.23	329	P	P	10 20 49.5	+0.5
	comp=Z,109nm,1.0s,mb6.3						
BINY	Binghamton	99.29	24	eP	P	10 20 49.1	0.0
	comp=Z,123nm,1.4s,mb6.2						
BINY				LR	LR		
	comp=Z,73µm,21.0s,MS7.2						
NATX	Nacogdoches	99.31	42	eP	P	10 20 50.4	+0.9
	comp=Z,241nm,1.3s,mb6.6						
NATX				LR	LR		
	comp=Z,45µm,21.0s,MS6.9						
EMUR	La Murta	99.33	328	P	P	10 20 47.1	-2.3
	comp=Z,148nm,1.4s,mb6.3						
DRV	Dumont d'Urvil	99.45	179	Pdif	P	10 20 52.0	+2.7
DRV	Dumont d'Urvil	99.45	179	PP	PP	10 24 52.0	-3.2
DRV				SKS	SKS	10 31 32.0	-0.2
DRV				SP	SP	10 33 53.0	+4.1
DRV				SS	SS	10 39 15.0	+3.7
EMMW	East Machias	99.52	17	eP	P	10 20 50.4	+0.3
	comp=Z,284nm,1.2s,mb6.6						
EMMW				LR	LR		
	comp=Z,327µm,19.0s,MS7.8						
WVT	Waverly	99.53	35	P	P	10 20 50.7	+0.3
WVT				pmax	pmax		
	comp=Z,160nm,1.3s,mb6.3						
WVT	Waverly	99.53	35	eP	P	10 20 50.6	+0.2
	comp=Z,163nm,1.3s,mb6.3						
PVIS	Viseu	99.65	333	ePP	PP	10 24 56.6	-0.9
MTE	Manteigas	99.79	333	ePdif	P	10 20 51.5	0.0
MTE				ePP	PP	10 24 56.9	-1.7
MTE				eSKSac		10 31 30.1	
MTE				eSS	SS	10 39 06.0	-11
MTE				eLQ		10 48 37.7	
MTE				eLR	LR	10 54 00.4	
	comp=Z,98µm,21.0s						
MTE	Manteigas	99.79	333	eP	P	10 20 51.1	-0.4
	comp=Z,192nm,1.6s,mb6.3						
SSPA	Standing Stone	99.99	26	ePdif	P	10 20 52.7	+0.3
	comp=Z,321nm,1.7s,mb6.5						
OXF	Oxford	100.03	37	P	P	10 20 53.2	+0.5
OXF				pmax	pmax		
	comp=Z,1µm,1.9s						
OXF	Oxford	100.03	37	ePdif	P	10 20 52.5	-0.3
	comp=Z,1µm,1.9s						
OXF				LR	LR		
	comp=Z,53µm,20.0s,MS7.0						
MCWV	Mont Chateau	100.10	28	ePdif	P	10 20 53.4	+0.4
	comp=Z,273nm,1.5s						
MCWV				LR	LR		
	comp=Z,57µm,20.0s,MS7.1						

EQES	Quesada	100.17	329	P	P	10 20 52.0	-1.3
	comp=Z,173nm,1.1s						
PCBR	Castelo Branco	100.25	333	ePP	PP	10 24 57.3	-5.0
QUA2	Belchertown	100.40	22	ePdif	P	10 21 00.3	+6.1
HRV	Harvard--Oak R	100.44	21	P	P	10 20 56.2	+1.8
HRV				pmax	pmax		
	comp=Z,230nm,1.7s						
HRV	Harvard--Oak R	100.44	21	ePdif	P	10 20 54.9	+0.5
	comp=Z,226nm,1.8s						
EADA	Adamuz	100.51	330	P	P	10 20 53.4	-1.4
	comp=Z,140nm,1.5s						
WES	Weston	100.62	21	P	P	10 20 57.4	+2.2
WES				pmax	pmax		
	comp=Z,240nm,1.4s						
WES	Weston	100.62	21	ePdif	P	10 20 55.6	+0.4
	comp=Z,243nm,1.5s						
ZAIG	Zacatecas	100.76	54	⇑iP	P	10 20 57.9	+1.5
ZAIG				i S	Px	10 24 31.4	
PTOM	Tomar	100.80	333	ePP	PP	10 25 05.0	-1.7
ELUQ	Luque	100.89	329	P	P	10 20 56.5	-0.1
	comp=Z,108nm,1.2s						
RKT	Rikitea	100.89	110	ePP	PP	10 25 01.3	-6.5
RKT				eSKSac		10 31 34.0	
RKT				eSP	SP	10 34 07.3	+2.0
RKT				eSS	SS	10 39 30.9	-1.6
RKT				eL		10 48 23.0	
RKT				eR		10 52 59.7	
	comp=Z,152µm,24.2s,baz=304						
BRYW	Bryant College	100.98	21	ePdif	P	10 20 56.8	-0.1
EBAD	Badajoz	101.00	332	P	P	10 20 55.0	-2.0
	comp=Z,118nm,1.8s						
ERON	Agron	101.15	329	P	P	10 20 56.8	-0.9
	comp=Z,24nm,0.7s						
ELOJ	Sierra Loja	101.19	329	P	P	10 20 57.3	-0.6
	comp=Z,62nm,1.3s						
CPNY	Central Park	101.23	23	ePdif	P	10 20 58.3	+0.3
FWV	Forest Hill	101.48	30	ePdif	P	10 20 59.1	-0.1
EVO	Evora	101.59	332	eP	P	10 20 59.5	-0.2
	comp=Z,344nm,1.9s						
EVO				eR			
	comp=Z,128µm,20.2s						
CPCT	Cooper Cave	101.64	33	ePdif	P	10 21 02.8	+2.8
PLOU	Loures	101.72	333	ePP	PP	10 25 08.7	-4.6
EMIN	Mina Concepcio	101.72	331	P	P	10 20 58.0	-2.3
	comp=Z,249nm,1.9s						
ELN	Prospectdale	101.81	30	ePdif	P	10 21 00.3	-0.4
EMIJ	Mijas	101.95	329	P	P	10 20 59.3	-2.0
	comp=Z,86nm,1.4s						
BLA	Blacksburg	101.96	30	P	P	10 21 03.0	+1.6
BLA				pmax	pmax		
	comp=Z,290nm,1.8s						
BLA	Blacksburg	101.96	30	ePdif	P	10 21 01.1	-0.3
	comp=Z,294nm,1.8s						
BLA				LR	LR		
	comp=Z,71µm,22.0s,MS7.1						
PBEJ	Beja	101.97	332	ePP	PP	10 25 07.2	-7.9
PBEJ				ePKiKP		10 25 21.1	
ESPR	Espera	102.15	330	P	Pdif	10 21 00.4	-1.9
	comp=Z,250nm,1.4s						
EGRO	El Granado	102.24	332	P	Pdif	10 21 00.5	-2.1
	comp=Z,160nm,2.0s						
PALC	Alcoutim	102.30	332	ePP	PP	10 25 17.4	-0.4
PALC				ePKiKP		10 25 24.4	
CBN	Corbin	102.31	27	ePdif	Pdif	10 21 03.0	+0.1
	comp=Z,196nm,1.8s						
CBN				LR	LR		
	comp=Z,58µm,20.0s,MS7.1						
LRAL	Lakeview Retre	102.42	36	ePdif	Pdif	10 21 02.9	-0.6
	comp=Z,370nm,2.3s						
LRAL				LR	LR		
	comp=Z,71µm,20.0s,MS7.2						
SFS	San Fernando	102.64	330	Pdif	Pdif	10 21 05.9	+1.5
PTEO	Sao Teotonio	102.72	332	ePP	PP	10 25 18.1	-3.0
MBAR	Mbarara	103.71	278	ePdif	Pdif	10 21 08.3	-1.4
	comp=Z,333nm,1.9s						
MBAR				LR	LR		
	comp=Z,12µm,22.0s,MS6.4						
MIR	Mirnyy	104.76	197	αeP	Pdif	10 21 12.6	-0.4
MIR				eS	SKS	10 31 53.0	-4.3
MIR				pmax	pmax		
	comp=Z,5µm,9.0s						
MIR				pmax	pmax		
	comp=Z,110nm,1.5s						
NHSC	New Hope	105.56	32	PFAKE		10 25 40.0	
NHSC				LR	LR		
	comp=Z,76µm,22.0s,MS7.2						
ADH	Angra Heroismo	107.10	347	i P	Pdif	10 21 40.0	+16
ADH				i PP	PP	10 26 10.0	+16
ADH				i -		10 35 15.0	
ADH				i SS	SS	10 40 22.5	-35
ADH				i LR	LR	10 57 42.5	
BART	Pico Bartolome	107.53	345	ePP	PP	10 25 52.7	-4.3
PMAT	Coroa da Mata	107.56	345	ePP	PP	10 25 58.7	+1.5
MESC	Monte Escuro	107.57	345	ePP	PP	10 25 57.3	-0.1
PCNG	Congro	107.59	345	ePP	PP	10 25 55.8	-1.7
LFA	Lagoa do Fogo	107.60	345	ePP	PP	10 25 58.1	+0.6
CML	Cha da Macela	107.61	345	ePP	PP	10 25 58.5	+0.8
PDA	Ponta Delgada	107.66	345	i P	Pdif	10 21 30.0	+3.5
PDA				i PP	PP	10 25 59.0	+1.0
PDA				i -		10 35 18.0	
PDA				i SS	SS	10 41 20.0	+15
PDA				i LQ		10 52 29.0	
PDA				eLR	LR	10 57 54.0	
TEIG	Tepich	111.77	46	Pdiff	Pdif	10 21 45.7	+0.7
TEIG				PP	PP	10 26 21.2	-6.9
TEIG				PS	PS	10 35 55.1	-0.5
TEIG				PKKPbc		10 36 36.0	
SBA	Scott Base	112.13	173	ePKPdf	PKPdf	10 25 42.0	-2.5
LSZ	Lusaka	113.58	267	P	Pdif	10 21 53.5	+0.5
LSZ	Lusaka	113.58	267	ePdif	Pdif	10 21 52.4	-0.6
MAW	Mawson	114.34	204	ePKP	PKPdf	10 25 47.1	-1.9
MAW				ePP	PP	10 26 42.8	-3.2
MAW				ePKKP	PKKP	10 36 24.4	-18
MAW				ePKPPKP		10 44 03.7	
MAW	Mawson	114.34	204	PKP	PKPdf	10 25 45.1	-3.9
	comp=Z,22nm,0.9s,baz=311,slow=2.7,SNR=16						
MAW				PP	PP	10 26 43.6	-2.5
	comp=Z,11nm,0.9s,baz=84,slow=6.4,SNR=2.0						
MAW				PKKPbc		10 36 25.3	
	comp=Z,20nm,1.0s,baz=278,slow=9.2,SNR=6.6						
MAW	Mawson	114.34	204	PKIKP	PKPdf	10 25 45.1	-3.9
MAW						10 26 43.6	
MAW						10 36 25.3	
MAW				pmax	pmax		
	comp=Z,22nm,1.0s						
MAW	Mawson	114.34	204	ePKP	PKPdf	10 25 47.1	-1.9
MAW				ePP	PP	10 26 42.8	-3.2
MAW				ePKKP	PKKP	10 36 24.4	-18
MAW				eP’P’		10 44 03.7	
JTS	JuntasAbangare	121.38	50	ePKPdf	PKPdf	10 26 00.1	-3.9
JCR	Jicaral	121.61	51	eP		10 25 50.7	
LAJ	Bijagual	122.24	50	eP	PKPdf	10 26 03.0	-2.6
ICR	Volcan Irazu	122.33	49	eP	PKPdf	10 26 04.6	-1.2
LCR2	La Lucha 2	122.40	50	eP	PKPdf	10 26 01.4	-4.5
URSC	Urasca	122.48	49	eP	PKPdf	10 26 03.8	-2.2
QSPA	South Pole Qui	122.82	180	ePKP	PKPdf	10 26 01.5	-3.7
QSPA				e		10 27 42.9	
QSPA				LR	LR		
	comp=Z,48µm,20.2s,MS7.1						
SYO	Syowa Base	122.97	205	⇑pPdiff	Pdif	10 22 42.4	+9.3
SYO	Syowa Base	122.97	205	⇓P	Pdif	10 22 47.8	+15
SYO	Syowa Base	122.97	205	⇓PKPdf	PKPdf	10 26 02.3	-3.4
SYO	Syowa Base	122.97	205	⇑PKiKP		10 26 07.3	
SYO	Syowa Base	122.97	205	⇑pPKiKP		10 26 12.6	
TSUM	Tsumeb	124.34	268	ePKPdf	PKPdf	10 26 06.5	-3.1
TSUM				LR	LR		
	comp=Z,50µm,22.0s,MS7.1						
SJG	San Juan	124.61	27	PKP	PKPdf	10 26 07.1	-3.1
	comp=Z,18nm,0.8s,baz=18,slow=3.2						
SJG				PP	PP	10 27 52.0	-5.5
	comp=Z,58nm,1.1s,baz=299,slow=4.6,SNR=3.3						
SJG	San Juan	124.61	27	PKIKP	PKPdf	10 26 07.1	-3.1
SJG						10 27 52.0	
SJG				pmax	pmax		
	comp=Z,18nm,0.8s						
SJG	San Juan	124.61	27	ePKPdf	PKPdf	10 26 05.7	-4.5
STMA	St. Maarten, A	125.75	23	eP	PP	10 28 01.2	-3.9
DBIC	Dimbokro	126.22	310	PKP	PKPdf	10 26 09.9	-3.5
	comp=Z,95nm,0.7s,baz=32,slow=2.2,SNR=36						
DBIC				PP	PP	10 28 03.7	-4.6
	comp=Z,64nm,1.0s,baz=360,slow=5.9,SNR=5.3						
DBIC	Dimbokro	126.22	310	PKPdf	PKPdf	10 26 09.9	-3.5
DBIC				PKPdf	PKPdf	10 26 09.9	-3.4
DBIC				PP	PP	10 28 03.9	-4.4
DBIC				PP	PP	10 28 04.0	-4.4
DBIC	Dimbokro	126.22	310	PKIKP	PKPdf	10 26 09.9	-3.5
DBIC						10 28 03.7	
DBIC				pmax	pmax		
	comp=Z,95nm,0.7s						
DBIC	Dimbokro	126.22	310	PKP	PKPdf	10 26 09.9	-3.5
DBIC				PP	PP	10 28 03.7	-4.6
TIC	Toumodi	126.35	310	ePKIKP	PKPdf	10 26 10.1	-3.5
	comp=Z,3µm,1.6s						
KIC	Kosan Boka	126.38	310	ePKIKP	PKPdf	10 26 10.4	-3.2
	comp=Z,1µm,1.0s						
LIC	Lamto	126.67	310	⇑iPKIKP	PKPdf	10 26 10.6	-3.6
	comp=Z,1µm,1.4s						
LIC	Lamto	126.67	310	ePKIKP	PKPdf	10 26 10.7	-3.5
	comp=Z,2µm,1.9s						
SUR	Sutherland	126.87	252	ePKPdf	PKPdf	10 26 13.2	-0.9
BPA	Boggy Peak	127.09	22	⇓eP	PKPdf	10 26 11.9	-3.0
BPA	Boggy Peak	127.09	22	e	PP	10 28 05.4	-8.1
MCLT	Moule a Chique	130.51	23	eP	PKPdf	10 26 18.4	-3.1
MCLT	Moule a Chique	130.51	23	e	PKPdf	10 26 18.7	-2.9
SDV	Santo Domingo	130.81	37	PKPdf	PKPdf	10 26 18.9	-3.3
SDV				PKSbc		10 29 43.8	
SDV	Santo Domingo	130.81	37	ePKPdf	PKPdf	10 26 18.6	-3.6
BBSP	Saint Philip	131.55	21	eP	PKPdf	10 26 22.8	-0.7
BBSP	Saint Philip	131.55	21	e	PP	10 28 40.9	-2.3
GRHS	Sauteurs	131.66	24	eP	PKPdf	10 26 18.6	-5.2
ROSC	El Rosal	132.15	44	PKP	PKPdf	10 26 22.6	-2.1
	comp=Z,200nm,1.3s,baz=213,slow=3.6,SNR=17						
NVL	N’lazarevskaya	132.19	202	⇑ePKHKP		10 26 10.0	
NVL				e		10 31 45.0	
NVL				pmax	pmax		
	comp=Z,10µm,6.5s						
NVL				MLR	MLR		
	comp=Z,47µm,21.0s,MS7.2						
MAIT	Maitri	132.22	201	ePKPdf	PKPdf	10 26 20.1	-3.3
MAIT				ePP	PP	10 28 43.6	-2.2
MAIT				eSKPbc		10 29 41.6	
MAIT				eSKKPbc		10 38 44.8	
OTAV	Otavalo	133.16	52	ePKPpre		10 26 16.2	
TRN	Trinidad (W)	133.21	25	eP	PKPdf	10 26 22.1	-4.6
TRN	Trinidad (W)	133.21	25	e	PP	10 28 39.6	-14
ALNG	Atlantic LNG	133.54	25	eP	PKPdf	10 26 25.5	-1.8
SNAA	Sanae	135.84	197	ePKPpre		10 26 11.4	
NNA	Nana	142.81	64	ePKPpre		10 26 36.2	
PMSA	Palmer Station	145.80	164	PKPbc	PKPbc	10 26 45.1	+0.4
PMSA	Palmer Station	145.80	164	ePKPdf	PKPdf	10 26 45.6	-2.2
ARE	Arequipa	149.64	64	⇑iP	PKPdf	10 26 54.0	-1.4
ARE				e		10 27 00.0	
SAML	Samuel	149.76	42	PKPdf	PKPdf	10 26 52.8	-2.9
SAML				SS	SS	10 49 58.1	+13
SAML	Samuel	149.76	42	ePKPdf	PKPdf	10 26 52.8	-3.0
USHA	Ushuaia	151.96	148	PKP	PKPdf	10 26 55.4	-2.4
	comp=Z,63nm,1.1s,baz=320,slow=1.2						
USHA				PKPbc	PKPdf	10 27 03.1	+5.2
	baz=222,slow=2.2						
LPAZ	La Paz	152.01	59	PKP	PKPdf	10 26 57.2	-1.8
	comp=Z,64nm,1.2s,baz=356,slow=6.4,SNR=38						
LPAZ				PKPbc	PKPdf	10 27 04.7	+5.6
	comp=Z,138nm,0.9s,baz=2.2,slow=4.7,SNR=34						
LPAZ	La Paz	152.01	59	PKIKP	PKPdf	10 26 57.2	-1.8
LPAZ						10 27 04.7	
LPAZ				pmax	pmax		
	comp=Z,64nm,1.3s						
RCBR	Riachuelo	152.04	344	ePKPdf	PKPdf	10 26 56.9	-2.4
RCBR				LR	LR		
	comp=Z,36µm,22.0s,MS7.1						
TRIS	Tristan da Cun	154.42	252	PFAKE		10 27 10.0	+8.2
TRIS				LR	LR		
	comp=Z,29µm,20.0s,MS7.1						
LVC	Limon Verde	155.10	72	ePKPdf	PKPdf	10 27 01.6	-1.5
TLL	Tololo Astrono	156.40	90	⇑iP	PKPdf	10 27 02.1	-2.5
CMCH	Combarbala	156.46	93	⇑iP	PKPdf	10 27 03.4	-1.3
NICH	Los Niches	156.77	103	⇑iP	PKPdf	10 27 01.6	-3.3
PLCA	Paso Flores	156.94	117	PKPdf	PKPdf	10 27 02.0	-3.1
PLCA				PP	PP	10 31 13.1	+0.1
PEL	Peldehue	157.05	98	⇓iP	PKPdf	10 27 02.8	-2.7
CLCH	Cerro Calan	157.21	98	⇑iP	PKPdf	10 27 02.3	-3.4
FCH	Farellones	157.40	98	⇑iP	PKPdf	10 27 02.3	-3.6
LMEL	Las Melosas	157.53	99	⇑iP	PKPdf	10 27 03.4	-2.7
EFI	East Falkland	158.51	154	ePKPdf	PKPdf	10 27 05.8	-0.9
EFI				LR	LR		
	comp=Z,12µm,21.0s,MS6.7						
BAO	Brasilia Array	162.12	15	P	PKPdf	10 27 09.7	-1.8
BAO				i		10 27 18.9	
BAO				i		10 27 26.4	
BAO				e		10 27 57.8	
BAO				e		10 28 15.3	
BAO				i		10 31 40.0	
BAO				i		10 31 40.4	
BDFB	Brasilia	162.12	15	PKP	PKPdf	10 27 09.6	-1.9
	comp=Z,95nm,1.1s,baz=328,slow=0.8,SNR=52						
BDFB				PKPab	PKPab	10 27 56.3	-0.4
	comp=Z,54nm,0.9s,baz=7.3,slow=3.9,SNR=5.3						
BDFB				PP	PP	10 31 40.0	-1.5
	comp=Z,63nm,1.2s,baz=323,slow=7.4,SNR=3.5						
BDFB	Brasilia	162.12	15	PKIKP	PKPdf	10 27 09.6	-1.9
BDFB						10 27 56.3	
BDFB						10 31 40.0	
BDFB				pmax	pmax		
	comp=Z,95nm,1.1s						
BDFB				pmax	pmax		
	comp=Z,54nm,0.9s						
BDFB				pmax	pmax		
	comp=Z,63nm,1.2s						
TRQA	Tornquist	163.99	113	ePKPdf	PKPdf	10 27 09.7	-3.1
CPUP	Villa Florida	166.06	65	PKP	PKPdf	10 27 12.4	-2.7
	comp=Z,81nm,1.2s,baz=26,slow=0.9,SNR=34						
CPUP				PKPab	PKPab	10 28 14.2	+0.7
	comp=Z,112nm,1.4s,baz=347,slow=4.2,SNR=6.2						
CPUP				PP	PP	10 32 02.7	+0.7
	comp=Z,17nm,1.1s,baz=319,slow=6.1,SNR=4.8						
CPUP	Villa Florida	166.06	65	PKPdf	PKPdf	10 27 12.5	-2.7
CPUP				PKPdf	PKPdf	10 27 12.6	-2.5
CPUP				PKPab	PKPab	10 28 13.4	-0.2
CPUP				PKPab	PKPab	10 28 13.7	+0.1
CPUP	Villa Florida	166.06	65	PKIKP	PKPdf	10 27 12.5	-2.6
CPUP						10 32 02.7	
CPUP				pmax	pmax		
	comp=Z,81nm,1.2s						
CPUP	Villa Florida	166.06	65	PKP	PKPdf	10 27 12.4	-2.7
CPUP				PKPab	PKPab	10 28 14.2	+0.7
CPUP				PP	PP	10 32 02.7	+0.7
LPA	La Plata	167.69	103	cePKP	PKPdf	10 27 12.0	-3.9
LPA				esPKP		10 27 21.0	
LPA	La Plata	167.69	103	ePKP	PKPab	10 28 22.0	+1.6
LPA				ePKS	PKS	10 30 50.0	+6.5
LPA				ePP	PP	10 32 07.0	-2.9
	comp=Z,57µm,20.0s						

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*JMA **05** 10:16:47.3±0.1,33.13N×137.19E,h43^{km},M4.8*
JMA Felt II J1.
ISC 05 10:16:47.4±0.9,**33.15N**±0.06×**137.19E**±0.04,**h49**^{km}±25^{km}, **n14,**σ**0^{s}52**/26,**2C-2D,Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK02	Tokai 2	0.93	30	P	P	10 17 04.3	+0.1
TK02				eS	S	10 17 16.7	0.0
TK03	Tokai 3	1.20	32	P	P	10 17 08.4	+0.4
JWZ	Kozaga	1.30	288	⇑P	P	10 17 09.3	-0.2
JWZ				S	S	10 17 24.8	-1.1
JIE	Ise	1.30	342	⇓P	P	10 17 10.4	+0.7
JIE				S	S	10 17 26.1	-0.1
JKN	Kiinagashima	1.34	325	⇓P	P	10 17 10.6	+0.4
JKN				S	S	10 17 26.1	-1.1
TK04	Tokai 4	1.36	25	P	P	10 17 10.7	+0.3
TK04				S	S	10 17 27.6	+0.1
TSUJ	Tsu 2	1.69	338	P	P	10 17 15.6	+0.6
TSUJ				S	S	10 17 35.6	+0.1
JWM	Minabe	1.69	295	⇑P	P	10 17 15.3	+0.3
JWM				S	S	10 17 35.0	-0.5
JWY	Kouya	1.71	309	P	P	10 17 16.2	+0.9
JWY				S	S	10 17 36.1	+0.1
JHE	Heguri	1.96	321	S	S	10 17 42.5	+0.3
SHZ3	Shizuoka 3	2.09	24	P	P	10 17 20.6	-0.1
SHZ3				S	S	10 17 44.7	-0.8
JIZS	Izushimoda	2.10	41	P	P	10 17 20.9	+0.1
JIZS				eS	S	10 17 45.4	-0.4
JHJ2	Mitsune	2.20	90	P	P	10 17 22.1	-0.2
JHJ2				S	S	10 17 47.6	-0.7
MAT	Matsushiro	3.49	14	P	P	10 17 41.3	+0.8
MAT				S	S	10 18 21.0	0.0

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*IDC **05** 10:17:31.7±0.5,32.97N×136.88E,mb4.8/22,mb1 4.9/24, mb1mx4.9/29,ML4.2/2,Error ellipse: s-maj=16.4km s-min=12.9km az=96.0*
*NEIC **05** 10:17:33.3±0.2,32.94N×136.83E,h10^{km},mb5.1/13,Error ellipse: s-maj=7.4km s-min=5.7km az=109.0*
*MOS **05** 10:17:34.7±1.2,33.01N×136.91E,h33^{km},mb5.1/14,Error ellipse: s-maj=23.2km s-min=11.6km az=85.5*
*JMA **05** 10:17:35.0±0.1,33.04N×136.84E,h41^{km},M5.0*
JMA Felt II J1.
ISC 05 10:17:34.0±1.2,**33.04N**±0.03×**136.85E**±0.03,**h24**^{km}±8^{km}, **n89,**σ**1^{s}08**/100,**mb4.8**/33,**3D,Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JWZ	Kozaga	1.07	297	P	Pn	10 17 53.7	+0.1
JWZ				S	Sb	10 18 06.7	-0.6
JKN	Kiinagashima	1.30	338	P	Pn	10 17 57.3	+0.4
JKN				eS	Sn	10 18 12.7	-1.0
JIE	Ise	1.35	355	⇓P	Pn	10 17 58.2	+0.5
JIE				eS	Sn	10 18 14.6	-0.4
JWM	Minabe	1.49	303	P	Pn	10 17 59.9	+0.3
JWM				S	Sn	10 18 17.4	-1.1
JWY	Kouya	1.58	319	⇓P	Pn	10 18 01.7	+0.8
JWY				S	Sn	10 18 20.7	0.0
TK04	Tokai 4	1.59	32	P	Pn	10 18 00.9	-0.1
TK04				S	Sn	10 18 19.9	-1.1
TSUJ	Tsu 2	1.70	348	P	Pn	10 18 03.2	+0.5
TSUJ				S	Sn	10 18 23.6	-0.3
JHE	Heguri	1.88	329	⇓P	Pn	10 18 05.9	+0.7
JHE				S	Sn	10 18 28.3	-0.1
JAI	Aioi	2.14	291	P	Pn	10 18 09.3	+0.3
JAI				S	Sn	10 18 33.6	-1.5
SHZ3	Shizuoka 3	2.31	29	P	Pn	10 18 11.0	-0.4
SHZ3				eS	Sn	10 18 36.5	-2.9
JIZS	Izushimoda	2.38	45	P	Pn	10 18 13.1	+0.8
JHJ	Hachijo jima 2	2.46	87	Pn	Pn	10 18 12.8	-0.7
	166nm,0.3s,baz=88,slow=23,SNR=2.4						
JHJ				Sn	Sn	10 18 41.2	-2.0
	323nm,0.3s,baz=37,slow=20,SNR=5.7						
JHJ2	Mitsune	2.49	88	eS	Sn	10 18 41.0	-2.9
JWT	Wachi	2.54	332	P	Pn	10 18 15.3	+0.6
JWT				eS	Sn	10 18 45.0	-0.2
MAJO	Matsushiro	3.67	17	ePn	Pn	10 18 32.3	+1.6
MAJO				eSn	Sn	10 19 12.8	-0.9
MAT	Matsushiro	3.67	17	P	Pn	10 18 31.7	+1.0
MAT				S	Sn	10 19 11.9	-1.8
MAT	Matsushiro	3.67	17	P	Pn	10 18 32.0	+1.3
MAT				eS	Sn	10 19 12.0	-1.7
JNU	Nakatsue	5.02	273	Sn	Sn	10 19 46.9	-0.9
	13nm,0.3s,baz=179,slow=36,SNR=3.2						
ASAJ	Asahikawa	11.93	20	Pn	P	10 20 22.8	-2.9
	2.0nm,0.3s,baz=229,slow=18,SNR=5.7						
ASAJ	Asahikawa	11.93	20	P	P	10 20 22.8	-2.9
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
YSS	Yuzh-Sakhalins	14.61	16	P	P	10 21 03.0	+2.0
BJT	Baijiatuau	18.00	299	eP	P	10 21 47.6	+3.3
	comp=Z,13nm,0.6s						
SONM	Songino Array	27.27	312	P	P	10 23 18.1	-0.3
	comp=Z,12nm,1.0s,mb4.4,baz=127,slow=7.2,SNR=3.7						
SONM				PcP	PcP	10 26 37.3	-0.8
	comp=Z,3.5nm,0.7s,baz=109,slow=1.4,SNR=3.6						
SONM	Songino Array	27.27	312	P	P	10 23 18.1	-0.3
SONM				PcP	PcP	10 26 37.3	-0.8
CMAR	Chiang Mai Arr	36.89	256	P	P	10 24 43.0	+0.3
	comp=Z,6.2nm,0.8s,mb4.5,baz=49,slow=6.8,SNR=9.8						
CMAR	Chiang Mai Arr	36.89	256	P	P	10 24 43.0	+0.3
CMAR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
MKAR	Makanchi Array	43.21	305	P	P	10 25 35.8	+1.1
	comp=Z,29nm,0.9s,mb5.0,baz=96,slow=8.9,SNR=25						
MKAR	Makanchi Array	43.21	305	P	P	10 25 35.8	+1.1
MKAR				pmax	pmax		
	comp=Z,29nm,0.9s						
KURK	Kurchatov	45.57	311	eP	P	10 25 54.5	+0.8
	comp=Z,8.7nm,0.6s,mb4.9						
BVAR	Borovoye Array	50.58	314	P	P	10 26 32.6	+0.1
	comp=Z,7.9nm,0.6s,mb4.8,baz=108,slow=7.0,SNR=7.8						
BVAR				PcP	PcP	10 27 49.6	-0.7
	comp=Z,5.3nm,0.6s,baz=130,slow=1.9,SNR=6.6						
BRVK	Borovoye	50.64	314	eP	P	10 26 32.6	-0.4
	comp=Z,31nm,1.0s,mb5.2						
FITZ	Fitzroy Crossi	51.97	194	P	P	10 26 41.8	-1.8
	comp=Z,5.7nm,0.5s,mb4.7,baz=14,slow=6.2,SNR=5.9						
WRAB	Tennant Creek	52.73	183	eP	P	10 26 47.5	-1.8
WRA	Warramunga Arr	52.74	183	P	P	10 26 47.7	-1.6
	comp=Z,6.2nm,0.7s,mb4.6,baz=2.8,slow=7.9,SNR=7.3						
WRA	Warramunga Arr	52.74	183	P	P	10 26 47.7	-1.6
WRA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
ILAR	Eielson Array	54.85	31	P	P	10 27 02.5	-1.7
	comp=Z,4.7nm,0.8s,mb4.6,baz=277,slow=5.7,SNR=9.3						
ILAR	Eielson Array	54.85	31	P	P	10 27 02.5	-1.7
ILAR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ASAR	Alice Springs	56.46	183	P	P	10 27 14.8	-1.6
	comp=Z,4.3nm,0.9s,mb4.5,baz=1.8,slow=9.0,SNR=6.3						
INK	Inuvik	59.62	26	P	P	10 27 37.2	-0.7
	comp=Z,9.8nm,0.6s,mb5.0,baz=304,slow=5.3,SNR=15						
INK	Inuvik	59.62	26	P	P	10 27 37.3	-0.7
INK				pmax	pmax		
	comp=Z,10.0nm,0.6s						
INK	Inuvik	59.62	26	eP	P	10 27 37.5	-0.5
	comp=Z,8.4nm,0.6s,mb5.0						
DLBC	Dease Lake	64.06	36	P	P	10 28 08.7	+0.9
	comp=Z,7.1nm,0.8s,mb4.7,baz=344,slow=7.4,SNR=6.8						
STKA	Stephens Creek	64.72	176	P	P	10 28 11.2	-1.3
	comp=Z,5.0nm,0.7s,mb4.7,baz=7.1,slow=8.1,SNR=5.2						
ARCES	ARCESS Array B	66.39	339	P	P	10 28 22.7	0.0
	comp=Z,3.8nm,0.5s,mb4.7,baz=64,slow=8.3,SNR=13						
ARCES	ARCESS Array B	66.39	339	P	P	10 28 22.7	0.0
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.5s						
ARCES	ARCESS Array B	66.39	339	P	P	10 28 22.7	0.0
NWAO	Narrogin (SRO)	68.17	198	P	P	10 28 32.9	-1.6
	comp=Z,19nm,0.7s,mb5.2,baz=37,slow=2.0,SNR=9.9						
NWAO	Narrogin (SRO)	68.17	198	P	P	10 28 32.9	-1.6
NWAO				pmax	pmax		
	comp=Z,19nm,0.7s						
YKA	Yellowknife Ar	69.11	28	P	P	10 28 39.6	-0.2
	comp=Z,24nm,1.1s,mb5.0,baz=297,slow=6.4,SNR=6.1						
YKA	Yellowknife Ar	69.11	28	P	P	10 28 39.6	-0.2
YKA				pmax	pmax		
	comp=Z,24nm,1.1s						
KAF	Kangasniemi	70.11	332	ep	P	10 28 44.3	-1.6
FINES	FINESS Array B	70.57	332	P	P	10 28 48.3	-0.4
	comp=Z,9.8nm,0.7s,mb4.8,baz=90,slow=7.6,SNR=17						
FINES	FINESS Array B	70.57	332	P	P	10 28 48.3	-0.4
FINES				pmax	pmax		
	comp=Z,10.0nm,0.7s						
AKASG	Malin Array Be	75.11	321	P	P	10 29 15.4	-0.1
	comp=Z,12nm,0.7s,mb5.0,baz=51,slow=6.1,SNR=22						
AKASG	Malin Array Be	75.11	321	P	P	10 29 15.4	-0.1
AKASG				pmax	pmax		
	comp=Z,13nm,0.7s						
YBH	Yreka Blue Hor	75.76	49	P	P	10 29 20.9	+1.4
	comp=Z,3.0nm,0.7s,mb4.3,baz=256,slow=4.2,SNR=3.4						
YBH	Yreka Blue Hor	75.76	49	P	P	10 29 20.9	+1.4
YBH				pmax	pmax		
	comp=Z,3.0nm,0.7s						
NB2	NORSAR Subarra	76.36	336	P	P	10 29 22.0	-0.4
	comp=Z,5.1nm,0.7s,mb4.6,baz=44,slow=5.6						
NOA	NORSAR Array B	76.36	336	P	P	10 29 22.3	-0.1
	comp=Z,12nm,0.9s,mb4.8,baz=44,slow=5.7,SNR=13						
NOA	NORSAR Array B	76.36	336	P	P	10 29 22.3	-0.1
NOA				pmax	pmax		
	comp=Z,12nm,0.9s						
BRTR	Keskin Array B	78.62	310	P	P	10 29 36.1	+0.7
	comp=Z,12nm,1.0s,mb4.8,baz=107,slow=4.9,SNR=7.9						
BRTR	Keskin Array B	78.62	310	P	P	10 29 36.1	+0.7
BRTR				pmax	pmax		
	comp=Z,12nm,1.0s						
HLID	Hailey	79.83	44	eP	P	10 29 43.0	+1.1
	comp=Z,1.7nm,0.6s,mb4.2						
BOZ	Bozeman (W)	80.18	41	eP	P	10 29 45.0	+1.3
	comp=Z,1.9nm,0.6s,mb4.2						
MNV	Mina	80.49	50	eP	P	10 29 46.2	+0.7
	comp=Z,36nm,1.6s,mb5.1						
TPH	Tonopah	81.30	50	eP	P	10 29 50.6	+0.9

	comp=Z,29nm,1.1s,mb5.1						
TPNV	Topopah Spring	82.58	51	*e*P	P	10 29 56.8	+0.4
	comp=Z,18nm,0.9s,mb5.1						
CLL	Collm	82.60	328	P	P	10 29 56.0	-0.2
CLL	Collm	82.60	328	*e*P	P	10 29 56.0	-0.2
DUG	Dugway	82.81	46	*e*P	P	10 29 58.4	+0.8
	comp=Z,18nm,1.2s,mb5.0						
PDAR	Pinedale Array	83.13	43	P	P	10 29 59.9	+0.8
	comp=Z,2.8nm,0.7s,mb4.4,baz=12,slow=0.9,SNR=6.2						
MOX	Moxa	83.69	328	*e*P	P	10 30 06.0	+4.2
GERES	GERESS Array B	84.03	326	P	P	10 30 04.3	+0.7
	comp=Z,7.7nm,0.7s,mb4.9,baz=34,slow=4.8,SNR=15						
GERES	GERESS Array B	84.03	326	P	P	10 30 04.3	+0.7
GERES				pmax	pmax		
	comp=Z,8.0nm,0.7s						
MSU	Marysvale	84.22	47	*e*P	P	10 30 06.0	+1.2
GRA1	Grafenberg Arr	84.56	328	*e*P	P	10 30 05.5	-0.7
	comp=Z,121nm,1.7s,mb5.8						
GRF	Grafenberg Arr	84.56	328	*e*P	P	10 30 05.5	-0.7
GRF				pmax	pmax		
	comp=Z,121nm,1.7s,mb5.8						
BAR	Barrett	84.80	54	*e*P	P	10 30 07.7	-0.1
SRU	San Rafael	84.86	46	*e*P	P	10 30 09.2	+1.2
PV10	Paradox Valley	86.23	46	*e*P	P	10 30 16.5	+1.7
PV01	Paradox Valley	86.66	46	*e*P	P	10 30 18.0	+1.1
SDCO	Great Sand Dun	88.75	45	*e*P	P	10 30 28.5	+1.6
	comp=Z,10nm,1.1s,mb5.1						
ANMO	Albuquerque	90.03	47	*e*P	P	10 30 34.5	+1.4
	comp=Z,9.8nm,1.1s,mb5.0						
GDL2	Guadalupe Moun	93.16	48	*e*P	P	10 30 48.0	+0.4
TXAR	Lajitas Array	95.54	50	P	P	10 30 59.6	+1.1
	comp=Z,7.2nm,0.8s,mb5.1,baz=288,slow=2.9,SNR=14						
DBIC	Dimbokro	126.32	310	PKP	PKPdf	10 36 36.3	-3.7
	comp=Z,6.4nm,1.1s,baz=117,slow=3.4,SNR=3.9						
DBIC	Dimbokro	126.32	310	PKIKP	PKPdf	10 36 36.3	-3.7
DBIC				pmax	pmax		
	comp=Z,6.0nm,1.1s						
SAML	Samuel	149.71	42	*e*PKPdf	PKPdf	10 37 18.3	-3.9
SAML				*e*PKPbc	PKPdf	10 37 23.5	+1.4
USHA	Ushuaia	151.88	148	PKPbc	PKPdf	10 37 28.3	+4.1
	comp=Z,13nm,0.7s,baz=167,slow=3.9,SNR=6.6						

IDC 05 10:20:44.2±1.9**,5.20S**×**128.18E,mb4.0**/1**,mb1 4.1**/3**, mb1mx3.9**/12**,ML3.2**/2**,Error ellipse: s-maj=121.0km s-min=29.0km az=67.0,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	15.83	158	Pn	P	10 24 29.4	-1.0
	0.1nm,0.3s,baz=337,slow=12,SNR=6.1						
WRA				Sn	S	10 27 14.9	-12
	0.4nm,0.3s,baz=345,slow=22,SNR=6.3						
ASAR	Alice Springs	19.17	164	P	P	10 25 09.3	-2.7
	0.1nm,0.3s,baz=343,slow=11,SNR=4.7						
MKAR	Makanchi Array	65.74	327	P	P	10 31 31.0	-2.1
	1.2nm,0.6s,baz=116,slow=8.0,SNR=8.7						

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*JMA **05** 10:22:52.5±0.1,33.04N×136.78E,h42^{km},M3.5*

ISC 05 10:22:52.5±1.4**,33.05N**±0.08×**136.81E**±0.05**,h42**^{km}**,n12,** σ**0^{s}51**/22**,6D,Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JWZ	Kozaga	1.03	298	⇓P	P	10 23 10.5	-0.3
JWZ				S	S	10 23 23.5	-0.8
TK02	Tokai 2	1.19	41	S	S	10 23 27.9	-0.4
JKN	Kiinagashima	1.28	339	⇓P	P	10 23 14.3	0.0
JKN				S	S	10 23 29.8	-0.7
JIE	Ise	1.34	356	⇓P	P	10 23 15.5	+0.3
JIE				S	S	10 23 32.5	+0.4
JWM	Minabe	1.45	304	P	P	10 23 16.7	-0.1
JWM				S	S	10 23 34.3	-0.6
JWY	Kouya	1.54	319	⇓P	P	10 23 18.6	+0.5
JWY				S	S	10 23 37.6	+0.5
TK04	Tokai 4	1.60	33	S	S	10 23 38.0	-0.5
TSUJ	Tsu 2	1.69	349	⇓P	P	10 23 20.4	+0.3
TSUJ				S	S	10 23 41.4	+0.7
JHE	Heguri	1.85	330	⇓P	P	10 23 23.0	+0.5
JHE				S	S	10 23 45.1	+0.3
JAJ2	Tsuna	2.11	311	P	P	10 23 26.6	+0.5
JAJ2				S	S	10 23 51.7	+0.5
JAI	Aioi	2.11	291	P	P	10 23 26.0	-0.1
JAI				S	S	10 23 50.5	-0.7
MAT	Matsushiro	3.67	18	P	P	10 23 48.8	+0.5
MAT				*e*S	S	10 24 30.0	-0.8

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*IDC **05** 10:25:39.7±0.5,33.05N×136.68E,mb4.4/19,mb1 4.5/22, mb1mx4.5/29,ML4.3/3,Error ellipse: s-maj=15.9km s-min=12.6km az=81.0*

*NEIC **05** 10:25:41.3±0.2,33.05N×136.61E,h10^{km},mb4.7/12,Error ellipse: s-maj=6.2km s-min=5.6km az=132.0*

*MOS **05** 10:25:42.3±0.9,33.08N×136.86E,h33^{km},mb4.6/13,Error ellipse: s-maj=28.7km s-min=12.7km az=87.7*

*JMA **05** 10:25:43.2±0.1,33.11N×136.70E,h43^{km}±4^{km},M5.0*

JMA Felt II J1.

ISC 05 10:25:42.1±0.8**,33.09N**±0.03×**136.70E**±0.03**,h26**^{km}±5^{km}**, n118,** σ**0^{s}90**/131**,mb4.6**/32**,24D,Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JWZ	Kozaga	0.93	298	⇓P	Pb	10 25 59.9	+0.4
JWZ				S	Sb	10 26 11.6	+0.2
TK01	Tokai 1	1.00	48	*e*S	Sb	10 26 12.7	-0.9
JKN	Kiinagashima	1.21	343	⇓P	Pn	10 26 03.9	+0.4
JKN				S	Sn	10 26 18.2	-1.0
TK02	Tokai 2	1.23	46	P	Pn	10 26 03.8	-0.1
TK02				S	Sn	10 26 18.9	-0.8
JIE	Ise	1.29	0	⇓P	Pn	10 26 05.4	+0.6
JIE				*e*S	Sn	10 26 20.6	-0.8
JWM	Minabe	1.35	304	⇓P	Pn	10 26 06.0	+0.4
JWM				*e*S	Sn	10 26 22.3	-0.5
JWY	Kouya	1.45	321	⇓P	Pn	10 26 08.0	+1.0
JWY				S	Sn	10 26 25.2	-0.1
JAA	Atsumi	1.58	14	⇓P	Pn	10 26 09.2	+0.3
TK04	Tokai 4	1.62	37	P	Pn	10 26 09.7	+0.3
TK04				S	Sn	10 26 28.7	-1.0
TSUJ	Tsu 2	1.63	352	⇓P	Pn	10 26 10.0	+0.4
TSUJ				S	Sn	10 26 29.0	-0.9
JHE	Heguri	1.77	332	⇓P	Pn	10 26 12.2	+0.6
JHE				S	Sn	10 26 33.3	-0.1
JAI	Aioi	2.00	291	⇓P	Pn	10 26 15.5	+0.6
JAI				S	Sn	10 26 38.0	-1.4
JAJ2	Tsuna	2.01	312	⇓P	Pn	10 26 15.8	+0.8
JEG	Eigenji	2.05	353	P	Pn	10 26 16.5	+0.9
MRT2	Murotomisaki 2	2.16	278	⇓P	Pn	10 26 17.3	+0.1
JMIK	Miki	2.19	322	⇓P	Pn	10 26 18.4	+0.8
JKS	Kasai	2.43	321	⇓P	Pn	10 26 21.7	+0.6
JWT	Wachi	2.43	334	⇓P	Pn	10 26 21.6	+0.5
JFM	Mihama	2.50	347	⇓P	Pn	10 26 22.6	+0.6
JHJ	Hachijo jima 2	2.59	89	Pn	Pn	10 26 23.8	+0.4
	389nm,0.3s,baz=84,slow=23,SNR=60						
JHJ				Sn	Sn	10 26 52.0	-2.3
	129nm,0.3s,baz=73,slow=23,SNR=8.7						
JGM	Miyama	2.60	0	⇓P	Pn	10 26 23.7	+0.2
JJS	Sakaide	2.63	300	P	Pn	10 26 24.1	+0.1
JAD	Aida	2.79	312	P	Pn	10 26 26.3	+0.1
JKY	Yasaka	2.85	333	⇓P	Pn	10 26 27.4	+0.4
JKSM	Kasumi	3.00	327	⇓P	Pn	10 26 29.6	+0.4
JKR	Kurayoshi	3.30	315	P	Pn	10 26 33.8	+0.4
JJG	Jouge	3.33	299	P	Pn	10 26 33.6	-0.2
JHS	Saijyo	3.53	304	P	Pn	10 26 36.6	0.0
JNA	Nagahama	3.56	279	P	Pn	10 26 36.9	-0.2
JHM	Kurahashi	3.63	288	⇓P	Pn	10 26 38.0	-0.1
MAJO	Matsushiro	3.66	19	*e*Pn	Pn	10 26 39.1	+0.6
MAJO				*e*Sn	Sn	10 27 19.7	-1.6
MAT	Matsushiro	3.66	19	P	Pn	10 26 39.0	+0.5
MAT				S	Sn	10 27 19.4	-1.9
MAT	Matsushiro	3.66	19	*e*P	Pn	10 26 39.0	+0.5
MAT				*e*S	Sn	10 27 19.0	-2.3
JNM	Ikuma	3.87	309	P	Pn	10 26 42.2	+0.7
JHT	Toyohira	3.88	295	⇓P	Pn	10 26 41.4	-0.3
JKD	Kudamatsu	4.14	285	P	Pn	10 26 45.1	-0.2
JUS	Usuki	4.15	271	P	Pn	10 26 44.8	-0.7
JHIK	Hikimi	4.22	291	⇓P	Pn	10 26 46.1	-0.4
JKI	Kunimi	4.32	279	⇓P	Pn	10 26 47.6	-0.4
OIT2	Oita 2	4.40	274	P	Pn	10 26 49.0	-0.1
JTSN	Tsuno	4.46	260	P	Pn	10 26 49.9	0.0
JTY	Toyota	4.84	285	⇓P	Pn	10 26 54.8	-0.4
JNU	Nakatsue	4.88	272	Pn	Pn	10 26 55.5	-0.4
	15nm,0.3s,baz=100,slow=9.9,SNR=44						
JNU				Sn	Sn	10 27 50.0	-2.2
	13nm,0.3s,baz=235,slow=33,SNR=3.6						
JFA	Akaike	4.97	279	P	Pn	10 26 56.2	-1.0
JFI	Itaya	5.29	275	P	Pn	10 27 01.0	-0.7
INCN	Inchon	9.32	301	Pn	P	10 27 57.0	-1.0
ASAJ	Asahikawa	11.93	21	Pn	P	10 28 31.4	-2.2
	1.1nm,0.3s,baz=260,slow=18,SNR=8.6						
ASAJ	Asahikawa	11.93	21	P	P	10 28 31.4	-2.2
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
YSS	Yuzh-Sakhalins	14.59	17	P	P	10 29 07.1	-1.7
YSS	Yuzh-Sakhalins	14.59	17	P	P	10 29 05.5	-3.2
BJT	Baijiatuau	17.86	299	*e*P	P	10 29 52.5	+2.1
	comp=Z,8.5nm,0.5s						
ENH	Enshi	23.30	270	P	P	10 30 48.1	-0.8
	comp=Z,24nm,1.1s,mb4.5						
SONM	Songino Array	27.14	312	P	P	10 31 25.4	+0.4
	comp=Z,2.7nm,0.7s,mb3.9,baz=129,slow=9.0,SNR=4.9						
SONM				PcP	PcP	10 34 45.3	-0.3
	comp=Z,0.8nm,0.7s,baz=194,slow=5.1,SNR=3.7						
LSA	Lhasa	38.80	278	P	P	10 33 07.5	+1.0
	comp=Z,8.8nm,0.6s,mb4.7						
ZAL	Zalesovo	41.88	316	P	P	10 33 32.8	+1.2
	comp=Z,1.6nm,0.6s,mb3.9,baz=262,slow=7.1,SNR=2.7						
ZAL				PcP	PcP	10 35 26.2	-1.5
	comp=Z,4.2nm,0.8s,baz=273,slow=3.4,SNR=10						
ZAL	Zalesovo	41.88	316	P	P	10 33 32.8	+1.2
ZAL						10 35 26.2	
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ZAL				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ZAL	Zalesovo	41.88	316	P	P	10 33 32.8	+1.2
ZAL				PcP	PcP	10 35 26.2	-1.5
MKAR	Makanchi Array	43.07	305	P	P	10 33 42.5	+1.1
	comp=Z,3.0nm,0.6s,mb4.2,baz=87,slow=10.0,SNR=17						
MKAR				PcP	PcP	10 35 30.8	-0.9
	comp=Z,2.5nm,0.9s,baz=63,slow=2.7,SNR=3.7						
MKAR	Makanchi Array	43.07	305	P	P	10 33 42.5	+1.1
MKAR						10 35 30.8	
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
PKI	Pulchoki	44.25	277	*e*P	P	10 33 51.0	-0.3
	comp=Z,35nm,1.3s,mb4.9						
KKN	Kakani	44.29	277	*e*P	P	10 33 51.3	-0.3
DMN	Daman	44.49	277	*e*P	P	10 33 53.5	+0.3
GKN	Gorkha	44.75	278	*e*P	P	10 33 54.6	-0.7
KOLN	Koldanda	45.69	278	*e*P	P	10 34 02.9	+0.1
	comp=Z,38nm,1.3s,mb5.2						
BVAR	Borovoye Array	50.44	314	P	P	10 34 39.4	0.0
	comp=Z,6.3nm,0.6s,mb4.8,baz=100,slow=9.0,SNR=28						
BVAR				PcP	PcP	10 35 56.9	-0.7
	comp=Z,4.1nm,0.6s,baz=90,slow=3.0,SNR=12						
BRVK	Borovoye	50.50	314	*e*P	P	10 34 39.3	-0.5
	comp=Z,6.2nm,0.7s,mb4.7						
FITZ	Fitzroy Crossi	51.99	193	*e*P	P	10 34 51.1	-0.5
	comp=Z,5.8nm,0.9s,mb4.5						
FITZ	Fitzroy Crossi	51.99	193	P	P	10 34 50.7	-0.9
	comp=Z,5.5nm,0.7s,mb4.6						
WB2	Warramunga Arr	52.78	183	*e*P	P	10 34 56.2	-1.3
WRA	Warramunga Arr	52.78	183	P	P	10 34 56.1	-1.4
	comp=Z,4.0nm,0.9s,mb4.3,baz=0.5,slow=7.6,SNR=9.0						
WRA	Warramunga Arr	52.78	183	P	P	10 34 56.1	-1.4
WRA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ILAR	Eielson Array	54.87	31	P	P	10 35 11.4	-0.8
	comp=Z,1.0nm,0.7s,mb4.0,baz=277,slow=5.4,SNR=15						
ILAR	Eielson Array	54.87	31	P	P	10 35 11.4	-0.8
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ILAR	Eielson Array	54.87	31	P	P	10 35 11.4	-0.8
ASAR	Alice Springs	56.51	183	P	P	10 35 23.4	-1.2
	comp=Z,3.3nm,0.7s,mb4.5,baz=10,slow=7.2,SNR=26						
ASPA	Alice Springs	56.51	183	*e*P	P	10 35 23.5	-1.1
INK	Inuvik	59.63	26	P	P	10 35 45.7	-0.2
	comp=Z,3.0nm,0.6s,mb4.5,baz=313,slow=7.0,SNR=22						
INK	Inuvik	59.63	26	P	P	10 35 45.7	-0.2
INK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
INK	Inuvik	59.63	26	*e*P	P	10 35 45.3	-0.6
	comp=Z,3.3nm,0.6s,mb4.5						
DLBC	Dease Lake	64.09	36	P	P	10 36 16.8	+1.0
	comp=Z,4.6nm,0.8s,mb4.5,baz=297,slow=4.5,SNR=7.5						
STKA	Stephens Creek	64.79	175	P	P	10 36 19.7	-1.1
	comp=Z,2.6nm,0.7s,mb4.4,baz=340,slow=11,SNR=9.8						
ARCES	ARCESS Array B	66.30	339	P	P	10 36 29.2	-0.7
	comp=Z,2.5nm,0.7s,mb4.3,baz=67,slow=9.2,SNR=9.0						
ARCES	ARCESS Array B	66.30	339	P	P	10 36 29.2	-0.7
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
NWAO	Narrogin (SRO)	68.18	198	P	P	10 36 41.1	-1.3
	comp=Z,10.0nm,0.9s,mb4.8,baz=27,slow=4.5,SNR=4.2						
NWAO	Narrogin (SRO)	68.18	198	P	P	10 36 41.1	-1.3
NWAO				pmax	pmax		
	comp=Z,10.0nm,0.9s						
YKA	Yellowknife Ar	69.12	28	P	P	10 36 47.4	-0.3
	comp=Z,8.5nm,1.0s,mb4.6,baz=299,slow=6.3,SNR=4.8						
YKA	Yellowknife Ar	69.12	28	P	P	10 36 47.4	-0.3
YKA				pmax	pmax		
	comp=Z,9.0nm,1.0s						
YKA	Yellowknife Ar	69.12	28	P	P	10 36 47.4	-0.3
FINES	FINESS Array B	70.46	331	P	P	10 36 55.8	-0.1
	comp=Z,2.5nm,0.6s,mb4.3,baz=104,slow=7.9,SNR=25						
FINES	FINESS Array B	70.46	331	P	P	10 36 55.8	0.0
FINES				pmax	pmax		
	comp=Z,3.0nm,0.6s						
SUMG	Summit	74.56	358	*e*P	P	10 37 21.1	+1.3
	comp=Z,20nm,0.9s,mb5.0						
AKASG	Malin Array Be	74.98	321	P	P	10 37 22.4	-0.3
	comp=Z,3.4nm,0.6s,mb4.5,baz=50,slow=6.1,SNR=16						
AKASG	Malin Array Be	74.98	321	P	P	10 37 22.4	-0.3
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.6s						
HFS	Hagfors	76.02	334	P	P	10 37 27.7	-0.6
	comp=Z,4.7nm,0.8s,mb4.5,baz=76,slow=6.1,SNR=14						
HFS	Hagfors	76.02	334	P	P	10 37 27.7	-0.7
HFS				pmax	pmax		
	comp=Z,5.0nm,0.8s						
NB2	NORSAR Subarra	76.26	336	P	P	10 37 29.3	-0.4
	comp=Z,1.1nm,0.6s,mb4.0,baz=44,slow=5.6						
NOA	NORSAR Array B	76.26	336	P	P	10 37 29.1	-0.6
	comp=Z,2.0nm,0.7s,mb4.1,baz=45,slow=5.6,SNR=6.2						
NOA	NORSAR Array B	76.26	336	P	P	10 37 29.1	-0.6
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BRTR	Keskin Array B	78.48	310	P	P	10 37 43.2	+0.7
	comp=Z,1.9nm,0.8s,mb4.1,baz=90,slow=4.9,SNR=5.0						
BRTR	Keskin Array B	78.48	310	P	P	10 37 43.2	+0.7
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
HRY	Holter Researc	79.46	41	*e*P	P	10 37 48.1	+0.5
HLID	Hailey	79.89	44	*e*P	P	10 37 51.5	+1.5
	comp=Z,12nm,1.4s,mb4.7						
BMN	Battle Mountai	80.01	48	*e*P	P	10 37 51.0	+0.3
	comp=Z,18nm,1.3s,mb4.8						
BMN				*e*	pP	10 38 00.3	+1.3
QLMT	Earthquake Lak	80.83	42	*e*P	P	10 37 56.7	+1.7
MTUM	Tungsten Hills	80.90	51	*e*P	P	10 37 56.9	+1.4
ELK	Elko	81.05	47	*e*P	P	10 37 56.9	+0.6
	comp=Z,20nm,1.6s,mb4.8						
OKC	Ostrava-Krasne	81.12	325	*e*P	P	10 38 03.3	+6.9
YMR	Madison River	81.20	42	*e*P	P	10 37 58.4	+1.5
TPH	Tonopah	81.36	50	*e*P	P	10 37 59.0	+1.1
	comp=Z,30nm,1.1s,mb5.1						
UPC	Upice	81.68	326	*e*P	P	10 38 02.0	+2.7
CLL	Collm	82.49	328	⇓P	P	10 38 03.3	-0.2
	comp=Z,logA/T=1.4,mb5.1						
CLL				*i* *PP	pP	10 38 16.4	+4.7
TPNV	Topopah Spring	82.65	51	*e*P	P	10 38 05.2	+0.6
	comp=Z,23nm,0.8s,mb5.3						
NEN	Nelson	84.33	51	*e*P	P	10 38 14.2	+1.0
PV10	Paradox Valley	86.28	46	*e*P	P	10 38 24.2	+1.3
PV01	Paradox Valley	86.72	46	*e*P	P	10 38 26.3	+1.2
TXAR	Lajitas Array	95.60	50	P	P	10 39 08.1	+1.4
	comp=Z,3.9nm,0.6s,mb5.0,baz=284,slow=2.5,SNR=17						
USHA	Ushuaia	152.00	148	PKPbc	PKPdf	10 45 36.6	+4.2
	comp=Z,9.2nm,0.7s,baz=186,slow=9.2,SNR=5.0						
LPAZ	La Paz	152.03	59	PKPbc	PKPdf	10 45 37.6	+4.0
	comp=Z,3.8nm,0.7s,baz=20,slow=3.7,SNR=5.0						

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*BJI **05** 10:35:47.3,52.85N×36.11W,h16^{km},mB5.5,mb5.2,Ms5.3, Msz5.0*

*IDC **05** 10:35:49.9±0.4,53.07N×35.15W,mb4.6/28,mb1 4.8/30, mb1mx4.7/31,ML3.9/2,Error ellipse: s-maj=14.2km s-min=9.9km az=173.0*

*NEIC **05** 10:35:51.3±0.1,53.03N×35.16W,h10^{km},mb5.3/97,Error ellipse: s-maj=5.5km s-min=2.0km az=187.0*

*MOS **05** 10:35:51.6±0.6,53.42N×35.05W,h10^{km},mb5.4/7,Error ellipse: s-maj=34.0km s-min=14.4km az=45.4*

*CSEM **05** 10:35:53.8,53.27N×35.18W,h33^{km},mb5.5*

ISC 05 10:35:49.7±0.1**,53.11N**±0.04×**35.16W**±0.03**,h10**^{km}**, (h18**^{km}±5.1^{km}**:pP-P),n264,** σ**0^{s}90**/256**,mb5.0**/133**,4C-6D, Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DCN	Croghan	16.66	78	*e*P	P	10 39 45.2	+0.6
DMUB	Kingscourt	16.78	76	*e*P	P	10 39 46.8	+0.7
GCL	Cushendall	17.09	72	*e*P	P	10 39 49.8	-0.2
GMM	Mts of Mourne	17.29	75	*e*P	P	10 39 52.6	+0.1
GMK	Mull of Kintyr	17.37	71	*e*P	P	10 39 53.3	-0.2
GAL1	Galloway	17.93	72	*e*P	P	10 40 00.1	-0.3
BWH	Wardlaw	18.49	71	*e*P	P	10 40 07.4	-0.1
BWH				AMb	AMB	10 40 24.3	
	comp=Z,110nm,1.5s						
SCHQ	Schefferville	18.63	288	P	P	10 40 09.0	-0.2
	comp=Z,1.4nm,0.3s,baz=95,slow=11,SNR=20						
ESK	Eskdalemuir	18.73	70	*e*P	P	10 40 09.5	-0.9
	comp=Z,233nm,1.8s						
BHH	Howats Hill	18.75	71	*e*P	P	10 40 09.7	-0.9
BHH				AMb	AMB	10 40 29.6	
	comp=Z,170nm,1.7s						
EKA	Eskdalemuir Ar	18.76	70	P	P	10 40 10.6	-0.1
	comp=Z,0.6nm,0.3s,baz=274,slow=10,SNR=33						
BBO1	Bothel	18.78	72	*e*P	P	10 40 10.4	-0.6
BBO1				AMb	AMB	10 40 19.4	
	comp=Z,180nm,1.8s						
CSF	Scaffel	18.83	73	*e*P	P	10 40 10.7	-0.8
CDU1	Dunnerdale	18.87	73	*e*P	P	10 40 11.1	-1.0
CKE	Keswick	18.89	73	*e*P	P	10 40 12.5	+0.2
BBH	Bruntsheil	18.91	71	*e*P	P	10 40 11.4	-1.1
BBH				AMb	AMB	10 40 20.8	
	comp=Z,217nm,2.0s						
BDL	Dobcross Hall	18.95	72	*e*P	P	10 40 12.9	-0.1
BDL				AMb	AMB	10 40 22.4	
	comp=Z,191nm,1.9s						
BTA	Talkin	19.08	72	*e*P	P	10 40 13.1	-1.4
BTA				AMb	AMB	10 40 23.9	
	comp=Z,439nm,1.5s						
FRB	Frobisher Bay	20.20	315	P	P	10 40 27.1	+0.1
	comp=Z,65nm,1.2s,baz=106,slow=10,SNR=6.8						
STS	Santiago	20.42	109	P	P	10 40 28.4	-1.1
	comp=Z,844nm,2.1s						
ROSF	Rostrenen	20.64	90	*e*P	P	10 40 30.3	-1.4
	comp=Z,642nm,1.8s						
QUIF	Quistinic	20.89	91	*e*P	P	10 40 33.8	-0.5
	comp=Z,297nm,1.4s						
EPON	Pontenova	20.95	107	P	P	10 40 33.8	-1.1
	comp=Z,244nm,1.6s						
SGMF	Saint Gilles	21.11	90	*e*P	P	10 40 35.5	-1.0
	comp=Z,494nm,1.7s,mb5.2						
ELOB	Lobios	21.35	111	P	P	10 40 40.2	+1.1
	comp=Z,177nm,2.1s,mb5.0						
ERUA	La Rua	21.54	109	P	P	10 40 40.1	-0.8
	comp=Z,28nm,0.7s,mb4.8						
ECAL	Calabor	22.06	109	P	P	10 40 47.5	+1.3
	comp=Z,119nm,1.8s,mb5.0						
GRR	Gorron	22.07	88	*e*P	P	10 40 45.8	-0.5
	comp=Z,616nm,1.8s,mb5.4						
PBRG	Braganca	22.14	109	*e*P	P	10 40 47.9	+0.9
	comp=Z,70nm,1.6s,mb4.8						
FLN	La Foliniere	22.14	87	*e*P	P	10 40 46.6	-0.3
	comp=Z,499nm,1.6s,mb5.4						
PVIS	Viseu	22.22	113	*e*P	P	10 40 49.1	+1.4
	comp=Z,24nm,1.0s,mb4.6						
LDF	La Druitiere	22.43	87	*e*P	P	10 40 49.2	-0.6
	comp=Z,476nm,1.8s,mb5.3						
MTE	Manteigas	22.63	113	*e*P	P	10 40 53.2	+1.5
EMMW	East Machias	22.67	261	*e*P	P	10 40 51.7	-0.4
	comp=Z,720nm,1.1s,mb6.0						
PTOM	Tomar	22.70	116	*e*P	P	10 40 53.4	+1.0
	comp=Z,72nm,1.5s,mb4.9						
PLOU	Loures	22.83	118	*e*P	P	10 40 54.6	+0.9
	comp=Z,49nm,1.1s,mb4.8						
PCBR	Castelo Branco	23.05	114	*e*P	P	10 40 56.4	+0.5
	comp=Z,77nm,1.5s,mb4.9						
ELAN	Lanestosa	23.18	102	P	P	10 40 56.9	-0.2
	comp=Z,60nm,1.9s,mb4.7						
MFF	Saint Martin d	23.32	92	*e*P	P	10 40 57.2	-1.2
EVO	Evora	23.70	117	*e*P	P	10 40 58.6	-3.5
	comp=Z,151nm,1.7s,mb4.8						
PTEO	Sao Teotonio	24.05	120	*e*P	P	10 41 06.5	+0.9
	comp=Z,83nm,1.6s,mb4.9						
WVL	Waterville	24.06	263	*e*P	P	10 41 05.0	-0.7
	comp=Z,2μm,2.0s,mb6.1						
EBAD	Badajoz	24.07	115	P	P	10 41 05.3	-0.6
	comp=Z,132nm,2.3s,mb5.0						
PBEJ	Beja	24.14	118	*e*P	P	10 41 06.7	+0.2
	comp=Z,56nm,1.9s,mb4.7						
EALK	Alkurruntz	24.32	100	P	P	10 41 10.8	+2.6
	comp=Z,86nm,2.1s,mb4.8						
BAIF	Baives	24.44	81	*e*P	P	10 41 09.7	+0.4
	comp=Z,488nm,1.8s,mb5.3						
SJPF	Ste Jean	24.55	100	*e*P	P	10 41 08.5	-1.9
	comp=Z,18nm,1.1s,mb4.2						
LFF	La Frestale	24.70	95	*e*P	P	10 41 10.3	-1.6
	comp=Z,168nm,1.5s,mb5.1						
EGRO	El Granado	24.71	118	P	P	10 41 12.1	+0.1
	comp=Z,112nm,2.0s,mb5.0						
PALC	Alcoutim	24.77	118	*e*P	P	10 41 13.2	+0.6
	comp=Z,40nm,1.8s,mb4.6						
GIVF	Givet	24.79	81	*e*P	P	10 41 12.9	+0.3
TCF	Toulx Ste Croi	24.89	91	*e*P	P	10 41 12.2	-1.5
	comp=Z,362nm,1.9s,mb5.3						
EMIN	Mina Concepcio	24.97	116	P	P	10 41 15.9	+1.3
	comp=Z,86nm,2.1s,mb4.9						
RJF	Les Rejaudoux	24.98	93	*e*P	P	10 41 12.9	-1.6
	comp=Z,151nm,1.4s,mb5.0						
ETSF	Etsaut	25.07	100	*e*P	P	10 41 13.4	-2.0
ESDC	Sonseca Array	25.13	110	P	P	10 41 15.9	-0.1
	comp=Z,8.3nm,0.7s,mb4.4,baz=313,slow=8.5,SNR=41						
ESDC	Sonseca Array	25.13	110	P	P	10 41 16.0	-0.1
	comp=Z,35nm,1.6s,mb4.6						
BGF	Bois d’Agland	25.15	90	*e*P	P	10 41 15.0	-1.1
	comp=Z,284nm,1.4s,mb5.3						
SSF	Saint Saulge	25.30	88	*e*P	P	10 41 16.6	-0.9
	comp=Z,218nm,1.6s,mb5.1						
AVF	Avril sur Loir	25.34	89	*e*P	P	10 41 17.0	-0.9
	comp=Z,342nm,1.8s,mb5.3						
LOR	Lormes	25.42	87	*e*P	P	10 41 17.6	-1.0
	comp=Z,309nm,1.7s,mb5.3						
ETOR	Torete	25.47	105	P	P	10 41 20.7	+1.4
	comp=Z,115nm,2.3s,mb5.0						
CAF	Calviac	25.51	94	*e*P	P	10 41 18.3	-1.2
	comp=Z,125nm,1.6s,mb4.9						
MEZF	Maizieres J’vi	25.58	84	*e*P	P	10 41 18.9	-1.2
	comp=Z,190nm,1.1s,mb5.2						
SMF	Signal de Mont	25.70	89	*e*P	P	10 41 20.7	-0.6
	comp=Z,231nm,1.6s,mb5.2						
WLF	Walferdange	25.75	81	P	P	10 41 22.3	+0.5
	comp=Z,78nm,1.4s,mb5.0						
EADA	Adamuz	25.83	113	P	P	10 41 23.7	+1.1
	comp=Z,108nm,1.9s,mb5.0						
ESAC	San Caprasio	25.84	102	P	P	10 41 25.3	+2.7
	comp=Z,144nm,1.9s,mb5.2						
NB2	NORSAR Subarra	25.92	54	P	P	10 41 22.7	-0.5
	comp=Z,87nm,1.7s,mb5.0,baz=275,slow=9.3						
NB2	NORSAR Subarra	25.92	54	P	P	10 41 22.7	-0.5
	baz=275,slow=10						
NOA	NORSAR Array B	25.92	54	P	P	10 41 23.5	+0.3
	comp=Z,5.3nm,0.8s,mb4.1,baz=275,slow=9.1,SNR=7.6						
ESPR	Espera	26.07	117	P	P	10 41 26.8	+1.9
	comp=Z,35nm,1.2s,mb4.8						
ELUQ	Luque	26.44	114	P	P	10 41 29.2	+1.0
	comp=Z,298nm,2.0s,mb5.5						
MTLF	Montolieu	26.47	96	*e*P	P	10 41 27.4	-1.1
	comp=Z,158nm,1.7s,mb5.0						
HAU	Haudompre	26.58	84	*e*P	P	10 41 29.3	-0.1
	comp=Z,120nm,1.4s,mb4.9						
MIV	Mineville/With	26.66	266	*e*P	P	10 41 30.1	-0.1
EVIA	Vianos	26.67	110	P	P	10 41 31.9	+1.5
	comp=Z,16nm,0.9s,mb4.5						
EMOS	Mosqueruela	26.69	104	P	P	10 41 30.9	+0.4
	comp=Z,224nm,2.1s,mb5.3						
BSEG	Bad Segeberg	26.70	70	*e*P	P	10 41 31.0	+0.6
ELOJ	Sierra Loja	26.80	114	P	P	10 41 34.3	+2.8
	comp=Z,0.9nm,0.3s						

EMIJ	**Mijas**	**26.89**	**116**	P	**P**	**10 41 31.4**	**-1.0**
	comp=Z,122nm,1.8s,mb5.1						
EQES	**Quesada**	**26.93**	**112**	P	**P**	**10 41 31.9**	**-0.8**
	comp=Z,56nm,2.4s,mb4.7						
CDF	**Champ du Feu**	**26.95**	**83**	*e*P	**P**	**10 41 32.7**	**-0.1**
EBR	**Ebro Roquetas**	**26.96**	**103**	*e*P	**P**	**10 41 33.8**	**+0.8**
HINF	**Hinteralfeld**	**26.96**	**84**	*e*P	**P**	**10 41 32.7**	**-0.2**
EPOB	**Poblet**	**26.98**	**101**	P	**P**	**10 41 32.6**	**-0.5**
	comp=Z,72nm,1.7s,mb4.9						
LASF	**Ste Croix**	**27.05**	**94**	*e*P	**P**	**10 41 32.5**	**-1.2**
	comp=Z,88nm,1.7s,mb4.7						
CABF	**La Chapelle**	**27.07**	**87**	*e*P	**P**	**10 41 33.4**	**-0.5**
VIVF	**Saint-Julien-l**	**27.11**	**92**	*e*P	**P**	**10 41 33.2**	**-1.1**
	comp=Z,128nm,1.7s,mb4.9						
NCB	**Newcomb**	**27.13**	**266**	*e*P	**P**	**10 41 34.6**	**+0.1**
	comp=Z,271nm,2.0s,mb5.4						
ETOB	**Tobarra**	**27.21**	**109**	P	**P**	**10 41 34.1**	**-1.2**
	comp=Z,130nm,2.2s,mb5.1						
HFS	**Hagfors**	**27.22**	**55**	P	**P**	**10 41 35.5**	**+0.4**
	comp=Z,6.6nm,0.9s,mb4.1,baz=270,slow=10,SNR=7.0						
CLZ	**Clausthal**	**27.41**	**74**	*e*P	**P**	**10 41 38.1**	**+1.1**
BFO	**Black Forest**	**27.62**	**82**	*e*P	**P**	**10 41 39.4**	**+0.5**
ORIF	**Oris-en-Rattie**	**27.81**	**90**	*e*P	**P**	**10 41 40.6**	**-0.1**
LPL	**La Plagne**	**28.01**	**89**	*e*P	**P**	**10 41 42.0**	**-0.5**
LPG	**La Plagne**	**28.03**	**89**	*e*P	**P**	**10 41 42.4**	**-0.3**
SMRF	**Simiane la Rot**	**28.13**	**92**	*e*P	**P**	**10 41 42.0**	**-1.6**
	comp=Z,89nm,1.7s,mb4.8						
MBDF	**Montbardon**	**28.45**	**90**	*e*P	**P**	**10 41 45.7**	**-0.7**
	comp=Z,28nm,1.2s,mb4.5						
MOX	**Moxa**	**28.59**	**76**	*i* P	**P**	**10 41 48.8**	**+1.2**
	comp=Z,logA/T=1.5,mb5.0						
MOX	**Moxa**	**28.59**	**76**	*e*P	**P**	**10 41 48.8**	**+1.2**
	comp=Z,73nm,2.1s,mb5.0						
GRA1	**Grafenberg Arr**	**28.74**	**78**	*e*P	**P**	**10 41 49.4**	**+0.4**
	comp=Z,111nm,1.8s,mb5.3						
FRF	**La Foret Royal**	**29.01**	**92**	*e*P	**P**	**10 41 49.6**	**-1.9**
	comp=Z,118nm,1.6s,mb5.1						
CLL	**Collm**	**29.13**	**74**	⇑P	**P**	**10 41 52.8**	**+0.3**
	comp=Z,logA/T=1.4,mb4.9						
CLL	**Collm**	**29.13**	**74**	⇑*i*P	**P**	**10 41 52.8**	**+0.3**
	comp=Z,23nm,0.9s,mb4.9						
NKC	**Novy Kostel**	**29.24**	**76**	*e*P	**P**	**10 41 54.0**	**+0.5**
NKC				*e*P		10 45 55.0	
DAVOX	**Davos**	**29.27**	**84**	P	**P**	**10 41 54.3**	**+0.5**
	comp=Z,7.0nm,1.0s,mb4.3,baz=309,slow=10,SNR=4.7						
DAVOX				PcP	PcP	10 45 01.0	+0.2
	comp=Z,3.4nm,0.7s,baz=296,slow=2.6,SNR=4.8						
FUR	**Furstenfeldbru**	**29.45**	**81**	*e*P	**P**	**10 41 56.2**	**+0.8**
SADO	**Sadowa**	**29.66**	**272**	P	**P**	**10 41 56.9**	**-0.5**
	comp=Z,10.0nm,0.9s,mb4.5,baz=62,slow=6.8,SNR=5.1						
BRG	**Berggiesshubel**	**29.85**	**74**	*e*P	**P**	**10 41 59.4**	**+0.4**
	comp=Z,26nm,1.3s,mb4.8						
WET	**Wettzell**	**29.96**	**78**	*e*P	**P**	**10 42 00.5**	**+0.6**
PVCC	**Panska Ves**	**30.35**	**75**	*e*P	**P**	**10 42 03.7**	**+0.3**
KHC	**Kasperske Hory**	**30.37**	**78**	*e*P	**P**	**10 42 04.4**	**+0.8**
PRU	**Pruhonice**	**30.57**	**75**	*e*P	**P**	**10 42 05.6**	**+0.3**
GEC2	**GERESS Array S**	**30.57**	**78**	*e*P	**P**	**10 42 06.3**	**+0.9**
GERES	**GERESS Array B**	**30.57**	**78**	P	**P**	**10 42 04.6**	**-0.8**
	comp=Z,4.2nm,0.9s,mb4.3,baz=301,slow=7.8,SNR=14						
UPC	**Upice**	**31.20**	**74**	*e*P	**P**	**10 42 10.7**	**-0.2**
KSP	**Ksiaz**	**31.22**	**73**	*e*P	**P**	**10 42 11.0**	**-0.1**
DPC	**Dobruska-Polom**	**31.45**	**74**	*e*P	**P**	**10 42 13.7**	**+0.6**
ARCES	**ARCESS Array B**	**31.71**	**36**	P	**P**	**10 42 14.4**	**-0.8**
	comp=Z,3.3nm,0.7s,mb4.2,baz=259,slow=6.2,SNR=9.6						
RES	**Resolute Bay**	**31.80**	**334**	*e*P	**P**	**10 42 16.1**	**+0.2**
JAVS	**Javornik**	**32.22**	**83**	*e*P	**P**	**10 42 20.6**	**+0.7**
MORC	**Moravsky Berou**	**32.40**	**74**	*e*P	**P**	**10 42 21.1**	**-0.4**
	comp=Z,59nm,1.6s,mb5.2						
LJU	**Ljubljana**	**32.42**	**82**	*e*P	**P**	**10 42 22.5**	**+0.9**
OKC	**Ostrava-Krasne**	**32.73**	**74**	*e*P	**P**	**10 42 25.2**	**+1.0**
ZST	**Bratislava**	**32.88**	**77**	*e*P	**P**	**10 42 26.5**	**+0.9**
KAF	**Kangasniemi**	**32.91**	**49**	*e*p	**P**	**10 42 25.3**	**-0.4**
	comp=Z,6.5nm,0.7s,mb4.7,baz=281,slow=9.0						
KAF	**Kangasniemi**	**32.91**	**49**	*e*P	**P**	**10 42 25.3**	**-0.4**
KAF				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.7						
SMOL	**Smolenice**	**32.92**	**76**	*e*P	**P**	**10 42 26.7**	**+0.8**
FINES	**FINESS Array B**	**32.96**	**51**	P	**P**	**10 42 25.8**	**-0.3**
	comp=Z,13nm,0.8s,mb4.9,baz=243,slow=4.3,SNR=23						
FINES	**FINESS Array B**	**32.96**	**51**	*e*P	**P**	**10 42 25.9**	**-0.2**
OJC	**Ojcow**	**33.51**	**72**	*e*P	**P**	**10 42 31.8**	**+0.8**
VYHS	**Vyhne**	**33.75**	**76**	*e*pP	**P**	**10 42 34.1**	**+0.9**
SUW	**Suwalki**	**33.82**	**65**	*e*P	**P**	**10 42 33.4**	**-0.3**
	comp=Z,27nm,0.8s,mb5.2						
PSZ	**Piszkesteto**	**34.65**	**76**	*e*P	**P**	**10 42 40.6**	**-0.3**
	comp=Z,95nm,1.8s,mb5.4						
KECS	**Kecovo**	**34.72**	**75**	*e*P	**P**	**10 42 42.2**	**+0.7**
APA	**Apatity**	**34.78**	**39**	⇓*e*P	**P**	**10 42 39.7**	**-2.2**
APA				pmax	pmax		
	comp=Z,33nm,1.2s,mb5.1						
FWV	**Forest Hill**	**34.98**	**262**	*e*P	**P**	**10 42 44.0**	**+0.1**
CRVS	**Cervenica-Dubn**	**35.08**	**73**	*e*P	**P**	**10 42 49.5**	**+4.9**
LVZ	**Lovozero**	**35.19**	**38**	*e*P	**P**	**10 42 45.8**	**+0.4**
LVZ				pmax	pmax		
	comp=Z,73nm,1.9s,mb5.3						
PWV	**Princeton**	**35.28**	**262**	*e*P	**P**	**10 42 46.3**	**-0.2**
KWP	**Kalwaria**	**35.45**	**72**	*e*P	**P**	**10 42 47.8**	**+0.1**
	comp=Z,4.8nm,0.4s,mb4.8						
KOLS	**Kolonicke sedl**	**35.53**	**73**	*e*P	**P**	**10 42 49.4**	**+0.9**
GRUS	**Gruza**	**37.28**	**81**	⇓*i*P	**P**	**10 43 04.1**	**+0.9**
BOLS	**Boljevac**	**38.05**	**80**	⇓*i*P	**P**	**10 43 11.6**	**+1.9**
BARS	**Barje**	**38.56**	**82**	⇑*i*P	**P**	**10 43 15.2**	**+1.2**
AKASG	**Malin Array Be**	**38.60**	**67**	P	**P**	**10 43 13.4**	**-0.9**
	comp=Z,3.4nm,0.7s,mb4.2,baz=300,slow=8.2,SNR=27						
AKASG				PcP	PcP	10 45 25.4	-1.8
	comp=Z,0.2nm,0.2s,baz=273,slow=2.0,SNR=4.5						
SKO	**Skopje**	**38.83**	**83**	*i* P	**P**	**10 43 17.7**	**+1.5**
SLM	**Saint Louis**	**39.97**	**272**	*e*P	**P**	**10 43 25.9**	**+0.2**
	comp=Z,52nm,0.9s,mb5.3						
OBN	**Obninsk**	**40.39**	**57**	⇓*e*P	**P**	**10 43 29.4**	**+0.3**
OBN				*i*		10 45 03.2	
OBN				*e*		10 45 33.7	
OBN				pmax	pmax		
	comp=Z,91nm,1.6s,mb5.2						
OBN	**Obninsk**	**40.39**	**57**	*e*P	**P**	**10 43 28.5**	**-0.6**
	comp=Z,86nm,1.4s,mb5.3						
FVM	**French Village**	**40.50**	**271**	*e*P	**P**	**10 43 30.5**	**+0.3**
	comp=Z,62nm,1.3s,mb5.1						
YKA	**Yellowknife Ar**	**40.72**	**316**	P	**P**	**10 43 31.8**	**+0.1**
	comp=Z,6.7nm,0.8s,mb4.3,baz=63,slow=8.8,SNR=5.9						
YKA				PcP	PcP	10 45 32.4	-1.4
	comp=Z,2.7nm,0.6s,baz=68,slow=3.5,SNR=5.4						
YKA	**Yellowknife Ar**	**40.72**	**316**	P	**P**	**10 43 31.8**	**+0.1**
YKA				PcP	PcP	10 45 32.4	-1.4
CCM	**Cathedral Cave**	**40.95**	**272**	*e*P	**P**	**10 43 34.0**	**+0.2**
	comp=Z,156nm,1.7s,mb5.4						
VOR	**Voronezh**	**43.46**	**61**	*e*P	**P**	**10 43 55.0**	**+0.9**
VOR				pmax	pmax		
	comp=Z,100nm,1.9s,mb5.2						
KSU1	**Kansas State U**	**43.50**	**277**	*e*P	**P**	**10 43 54.4**	**-0.2**
KSU1				*e*		10 43 59.8	
UALR	**University of**	**43.78**	**269**	*e*P	**P**	**10 43 56.2**	**-0.7**
	comp=Z,395nm,2.3s,mb5.7						
LAO	**LASA Array**	**44.49**	**292**	*e*P	**P**	**10 44 03.8**	**+1.3**
	comp=Z,82nm,1.0s,mb5.4						
INK	**Inuvik**	**44.92**	**329**	P	**P**	**10 44 06.0**	**+0.3**
	comp=Z,41nm,1.2s,mb5.1,baz=53,slow=8.8,SNR=23						
INK				PcP	PcP	10 45 46.7	-0.9
	comp=Z,2.7nm,0.6s,baz=53,slow=5.6,SNR=6.1						
INK	**Inuvik**	**44.92**	**329**	*e*P	**P**	**10 44 05.6**	**-0.1**
	comp=Z,106nm,1.4s,mb5.5						
NATX	**Nacogdoches**	**47.27**	**268**	*e*P	**P**	**10 44 23.7**	**-1.1**
	comp=Z,139nm,1.7s,mb5.6						
BRTR	**Keskin Array B**	**47.47**	**77**	P	**P**	**10 44 27.4**	**+1.2**
	comp=Z,12nm,0.8s,mb4.9,baz=307,slow=6.2,SNR=30						
HRY	**Holter Researc**	**47.58**	**295**	*e*P	**P**	**10 44 27.6**	**+0.6**
WMOK	**Wichita Mounta**	**47.69**	**274**	*e*P	**P**	**10 44 26.7**	**-1.4**
	comp=Z,38nm,1.3s,mb5.3						
CHMT	**Chamberlain Mo**	**48.23**	**296**	*e*P	**P**	**10 44 31.7**	**-0.4**
ISCO	**Idaho Springs**	**48.39**	**284**	*e*P	**P**	**10 44 34.3**	**+0.9**
	comp=Z,87nm,1.5s,mb5.6						
QLMT	**Earthquake Lak**	**48.52**	**293**	*e*P	**P**	**10 44 35.7**	**+1.4**
MSO	**Missoula**	**48.66**	**296**	*e*P	**P**	**10 44 35.5**	**+0.2**
	comp=Z,12nm,1.3s,mb4.8						
PDAR	**Pinedale Array**	**48.76**	**289**	P	**P**	**10 44 36.1**	**-0.1**
	comp=Z,9.1nm,0.9s,mb4.8,baz=57,slow=7.3,SNR=18						
MOOW	**Moose Ponds**	**48.81**	**291**	*e*P	**P**	**10 44 36.6**	**0.0**
LOHW	**Long Hollow**	**48.82**	**291**	*e*P	**P**	**10 44 37.0**	**+0.4**
SNOW	**Snow King Moun**	**49.00**	**291**	*e*P	**P**	**10 44 37.0**	**-1.1**
TPAW	**Teton Pass**	**49.09**	**291**	*e*P	**P**	**10 44 38.1**	**-0.6**
MCMT	**McKenzie Canyo**	**49.30**	**294**	*e*P	**P**	**10 44 41.3**	**+0.9**
DLBC	**Dease Lake**	**49.33**	**316**	P	**P**	**10 44 41.6**	**+1.2**
	comp=Z,7.4nm,0.9s,mb4.7,baz=45,slow=9.1,SNR=11						
DLBC	**Dease Lake**	**49.33**	**316**	*e*P	**P**	**10 44 41.1**	**+0.7**
DAWY	**Dawson**	**49.35**	**326**	*e*P	**P**	**10 44 41.1**	**+0.6**
GOF	**Gofitskoye**	**49.44**	**66**	⇓*i*P	**P**	**10 44 42.0**	**+0.6**
GOF				pmax	pmax		
	comp=Z,80nm,1.4s,mb5.6						
NEW	**Newport**	**49.46**	**299**	P	**P**	**10 44 41.8**	**+0.2**
	comp=Z,9.6nm,1.1s,mb4.7,baz=61,slow=8.6,SNR=14						
NEW	**Newport**	**49.46**	**299**	*e*P	**P**	**10 44 41.7**	**+0.1**
	comp=Z,127nm,1.8s,mb5.7						
ARU	**Arti**	**50.09**	**46**	P	**P**	**10 44 46.7**	**+0.5**
	comp=Z,132nm,1.1s,mb5.9,SNR=8.5						
ARU	**Arti**	**50.09**	**46**	⇓*i*P	**P**	**10 44 46.6**	**+0.4**
ARU				*e*		10 46 44.4	
ARU				*e*S	**S**	**10 51 54.5**	**-1.7**
ARU				pmax	pmax		
	comp=Z,24nm,1.0s,mb5.2						
ARU	**Arti**	**50.09**	**46**	*e*P	**P**	**10 44 46.1**	**-0.1**
	comp=Z,1µm,2.8s						
DPW	**Davenport**	**50.28**	**300**	*e*P	**P**	**10 44 47.2**	**-0.6**
HWUT	**Hardware Ranch**	**50.65**	**290**	*e*P	**P**	**10 44 50.6**	**-0.1**
	comp=Z,45nm,1.0s,mb5.3						
HLID	**Hailey**	**50.98**	**293**	*e*P	**P**	**10 44 54.1**	**+0.9**
	comp=Z,85nm,1.7s,mb5.4						
MALT	**Malatya**	**51.20**	**76**	*e*P	**P**	**10 44 55.1**	**+0.1**
	comp=Z,47nm,1.4s,mb5.2						
PV01	**Paradox Valley**	**51.22**	**284**	*e*P	**P**	**10 44 55.7**	**+0.6**
NLW	**Nelson Butte**	**51.26**	**301**	*e*P	**P**	**10 44 55.3**	**+0.1**
DAU	**Daniels Canyon**	**51.26**	**288**	*e*P	**P**	**10 44 55.3**	**0.0**
JCT	**Junction City**	**51.28**	**271**	*e*P	**P**	**10 44 53.3**	**-2.3**
	comp=Z,37nm,1.1s,mb5.2						
ILAR	**Eielson Array**	**51.30**	**329**	P	**P**	**10 44 55.5**	**+0.2**
	comp=Z,8.7nm,0.9s,mb4.7,baz=44,slow=5.6,SNR=29						
PV10	**Paradox Valley**	**51.33**	**285**	*e*P	**P**	**10 44 57.3**	**+1.3**
COLA	**College**	**51.52**	**330**	*e*P	**P**	**10 44 58.0**	**+1.0**
	comp=Z,68nm,1.5s,mb5.4						
LNOR	**Lincton Mounta**	**51.59**	**298**	*e*P	**P**	**10 44 57.2**	**-0.7**
THY	**Trims Highway**	**51.89**	**328**	*e*P	**P**	**10 45 00.9**	**+1.0**
HAWA	**Hanford**	**51.92**	**299**	*e*P	**P**	**10 44 59.1**	**-1.2**
	comp=Z,32nm,1.5s,mb5.0						
CPRX	**Cap Rock**	**51.92**	**276**	*e*P	**P**	**10 45 00.6**	**+0.1**
ANMO	**Albuquerque**	**52.14**	**280**	⇑*e*P	**P**	**10 45 03.8**	**+1.7**
ANMO	**Albuquerque**	**52.14**	**280**	*e*P	**P**	**10 45 03.1**	**+1.0**
	comp=Z,41nm,1.3s,mb5.2						
IMA	**Indian Mountai**	**52.34**	**333**	*e*P	**P**	**10 45 04.5**	**+1.3**
	comp=Z,48nm,1.4s,mb5.2						
DBIC	**Dimbokro**	**52.48**	**141**	P	**P**	**10 45 04.0**	**-0.9**
	comp=Z,3.4nm,0.9s,mb4.3,baz=283,slow=10,SNR=3.2						
SDV	**Santo Domingo**	**52.59**	**226**	P	**P**	**10 45 04.8**	**-0.9**
MCK	**McKinley**	**52.67**	**329**	*e*P	**P**	**10 45 06.0**	**+0.3**
	comp=Z,52nm,1.3s,mb5.3						
BNM	**Barren Site**	**52.79**	**279**	*e*P	**P**	**10 45 08.2**	**+1.2**
GDL2	**Guadalupe Moun**	**52.80**	**276**	*e*P	**P**	**10 45 07.2**	**0.0**
LAZ	**Ladron**	**52.92**	**280**	*e*P	**P**	**10 45 08.9**	**+0.9**
LENM	**Lemitar**	**52.98**	**279**	*e*P	**P**	**10 45 08.9**	**+0.5**
MSU	**Marysvale**	**53.06**	**287**	*e*P	**P**	**10 45 09.5**	**+0.6**
ELK	**Elko**	**53.30**	**291**	*e*P	**P**	**10 45 11.3**	**+0.6**
	comp=Z,33nm,1.4s,mb5.1						
DIV	**Divide**	**53.52**	**326**	*e*P	**P**	**10 45 10.9**	**-1.1**
	comp=Z,248nm,1.9s,mb5.8						
BMW	**Boistfort Moun**	**53.79**	**301**	*e*P	**P**	**10 45 13.7**	**-0.5**
SML	**Sawmill**	**53.88**	**327**	*e*P	**P**	**10 45 15.0**	**+0.4**
EYAK	**Cordova Ski Ar**	**53.92**	**325**	*e*P	**P**	**10 45 15.2**	**+0.2**
PMR	**Palmer**	**54.30**	**327**	*e*P	**P**	**10 45 18.0**	**+0.3**
	comp=Z,122nm,1.7s,mb5.6						
LTX	**Lajitas**	**54.43**	**273**	*e*P	**P**	**10 45 17.7**	**-1.3**
	comp=Z,149nm,2.0s,mb5.6						
TXAR	**Lajitas Array**	**54.43**	**273**	P	**P**	**10 45 17.5**	**-1.6**
	comp=Z,2.5nm,0.9s,mb4.1,baz=63,slow=5.6,SNR=12						
TXAR				PcP	PcP	10 46 22.6	-0.1
	comp=Z,2.8nm,0.7s,baz=70,slow=4.9,SNR=10						
BMN	**Battle Mountai**	**54.62**	**292**	*e*P	**P**	**10 45 20.4**	**0.0**
	comp=Z,40nm,1.4s,mb5.2						
EIL	**Elat**	**55.15**	**86**	*e*P	**P**	**10 45 23.7**	**-0.8**
	comp=Z,25nm,1.2s,mb5.1						
TTA	**Tatalina**	**55.39**	**331**	*e*P	**P**	**10 45 25.1**	**-0.6**
	comp=Z,2.6nm,0.3s,mb4.7						
SLKM	**Skilak Lake**	**55.46**	**327**	*e*P	**P**	**10 45 26.8**	**+0.6**
SPU	**Mount Spurr**	**55.54**	**328**	*e*P	**P**	**10 45 26.5**	**-0.3**
HSO	**Harness Mounta**	**55.71**	**298**	P	**P**	**10 45 26.8**	**-1.4**
TPH	**Tonopah**	**56.24**	**290**	*e*P	**P**	**10 45 31.9**	**-0.2**
	comp=Z,46nm,1.3s,mb5.3						
HUMO	**Hull Mountain**	**56.27**	**297**	P	**P**	**10 45 30.0**	**-2.3**
RSO	**Redoubt South**	**56.31**	**328**	*e*P	**P**	**10 45 31.9**	**-0.4**
MNV	**Mina**	**56.52**	**291**	*e*P	**P**	**10 45 33.9**	**-0.3**
	comp=Z,70nm,1.6s,mb5.4						
TUC	**Tucson**	**56.55**	**281**	*e*P	**P**	**10 45 34.6**	**+0.1**
	comp=Z,34nm,1.4s,mb5.2						
NEN	**Nelson**	**56.57**	**286**	*e*P	**P**	**10 45 34.4**	**-0.2**
WCN	**Washoe City**	**56.81**	**293**	*e*P	**P**	**10 45 35.9**	**-0.3**
	comp=Z,188nm,2.0s,mb5.8						
ZRNK	**Zerenda**	**56.91**	**44**	*e*P	**P**	**10 45 36.4**	**-0.3**
	comp=Z,18nm,1.3s,mb5.0						
BRVK	**Borovoye**	**57.37**	**44**	*e*P	**P**	**10 45 40.0**	**0.0**
	comp=Z,95nm,2.1s,mb5.5						
BVAR	**Borovoye Array**	**57.44**	**44**	P	**P**	**10 45 40.7**	**+0.3**
	comp=Z,7.9nm,0.6s,mb4.9,baz=309,slow=6.5,SNR=42						
BVAR				ScP		10 50 35.5	
	comp=Z,1.1nm,0.7s,baz=315,slow=6.3,SNR=4.1						
MTUM	**Tungsten Hills**	**57.51**	**290**	*e*P	**P**	**10 45 40.3**	**-0.9**
ASMM	**Slate Mountain**	**57.66**	**293**	P	**P**	**10 45 41.8**	**-0.4**
OHCM	**Honcut**	**57.75**	**294**	*e*P	**P**	**10 45 41.5**	**-1.4**
ROSC	**El Rosal**	**57.80**	**228**	P	**P**	**10 45 44.8**	**+1.2**
	comp=Z,51nm,1.0s,mb5.5,baz=37,slow=2.5,SNR=16						
KDAK	**Kodiak Island**	**58.33**	**326**	*e*P	**P**	**10 45 46.4**	**-0.2**
PFO	**Pinyon Flat Ob**	**58.95**	**286**	*e*P	**P**	**10 45 51.9**	**+0.6**
	comp=Z,84nm,1.5s,mb5.5						
SAO	**San Andreas Ge**	**59.55**	**292**	*e*P	**P**	**10 45 55.9**	**+0.5**
	comp=Z,46nm,1.6s,mb5.2						
LRV	**Little Rabbit**	**59.55**	**291**	*e*P	**P**	**10 45 55.3**	**-0.1**
BAR	**Barrett**	**59.75**	**285**	*e*P	**P**	**10 45 57.3**	**+0.5**
SAML	**Samuel**	**66.27**	**210**	*e*P	**P**	**10 46 37.9**	**-2.3**
	comp=Z,40nm,1.6s,mb5.2						
MKAR	**Makanchi Array**	**67.12**	**41**	P	**P**	**10 46 45.2**	**+0.1**
	comp=Z,5.1nm,0.6s,mb4.8,baz=329,slow=4.6,SNR=37						
BDFB	**Brasilia**	**69.36**	**193**	P	**P**	**10 46 59.2**	**-0.3**
	comp=Z,8.1nm,0.6s,mb4.8,baz=358,slow=7.5,SNR=16						
WMQ	**Urumqi**	**71.71**	**40**	*e*P	**P**	**10 47 15.9**	**+2.5**
WMQ				AP	pP	10 47 20.6	+4.1
WMQ				XP	sP	10 47 22.9	+5.3
WMQ				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.8						
SONM	**Songino Array**	**74.25**	**26**	P	**P**	**10 47 28.7**	**+0.7**
	comp=Z,3.4nm,0.6s,mb4.4,baz=325,slow=4.8,SNR=6.1						
LPAZ	**La Paz**	**74.73**	**213**	P	**P**	**10 47 31.4**	**0.0**
	comp=Z,1.8nm,0.3s,mb4.5,baz=26,slow=9.7,SNR=8.1						
KMBO	**Kilima Mbogo**	**80.41**	**105**	P	**P**	**10 48 03.7**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=49,slow=24,SNR=3.2						
CPUP	**Villa Florida**	**81.43**	**200**	P	**P**	**10 48 08.3**	**+0.3**
	comp=Z,2.2nm,0.7s,mb4.2,baz=49,slow=5.6,SNR=5.0						
ASAJ	**Asahikawa**	**83.13**	**2**	P	**P**	**10 48 18.4**	**+1.9**
	comp=Z,5.0nm,0.7s,mb4.6,baz=343,slow=5.4,SNR=3.2						
NJ2	**Nanjing**	**92.22**	**22**	*e*P	**P**	**10 48 59.1**	**-1.5**
NJ2				AP	pP	10 49 09.5	+5.7
NJ2				XP	sP	10 49 15.0	+10
NJ2				PP	PP	10 52 41.5	-2.1
NJ2				S	S	10 59 55.0	-5.7
SSE	**Sheshan**	**93.65**	**20**	*e*P	**P**	**10 49 05.7**	**-1.5**
SSE				AMB	AMB		
	comp=Z,17nm,0.7s,mb5.6						
SSE				AMB	AMB		
	comp=Z,223nm,7.9s						
KMI	**Kunming**	**93.93**	**38**	*e*P	**P**	**10 49 09.2**	**+0.6**
KMI				AP	pP	10 49 13.4	+1.6
KMI				AMB	AMB		
	comp=Z,15nm,1.3s,mb5.3						
SNAA	**Sanae**	**126.56**	**168**	*e*PKPdf	PKPdf	10 54 52.4	-2.4
WRA	**Warramunga Arr**	**145.91**	**18**	PKPbc	PKPbc	10 55 30.4	+0.9
	comp=Z,24nm,0.8s,baz=339,slow=3.2,SNR=70						
WB2	**Warramunga Arr**	**145.91**	**18**	*e*P	PKPbc	10 55 30.3	+0.8
CTA	**Charters Tower**	**147.02**	**358**	*e*P	PKPdf	10 55 34.3	+0.8
	comp=Z,11nm,0.9s						
ASAR	**Alice Springs**	**149.45**	**20**	PKPbc	PKPdf	10 55 39.8	+2.5
	comp=Z,10.0nm,0.7s,baz=351,slow=2.3,SNR=72						
ASPA	**Alice Springs**	**149.45**	**20**	*e*P	PKPdf	10 55 38.6	+1.3
KLBR	**Kellerberrin**	**150.92**	**53**	*e*P	PKPdf	10 55 43.4	+4.1
	comp=Z,28nm,1.1s						
NWAO	**Narrogin (SRO)**	**151.75**	**55**	PKPbc	PKPdf	10 55 44.5	+4.0
	comp=Z,24nm,1.0s,baz=326,slow=2.2,SNR=9.2						
STKA	**Stephens Creek**	**158.65**	**8**	PKP	PKPdf	10 55 47.3	-2.5
	comp=Z,32nm,1.6s,baz=121,slow=3.1,SNR=4.0						

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*JMA **05** 10:37:38.0±0.1, 33.12N×137.10E, h38^{km}±4^{km}, M4.3*
JMA Felt I J1.
*IDC **05** 10:37:38.9±1.1, 33.99N×137.68E, mb4.2/5, mb1 4.3/6, mb1mx4.0/20, ML3.5/1, Error ellipse: s-maj=48.9km s-min=18.4km az=40.0*
*NEIC **05** 10:37:43.2±1.1, 33.69N×136.52E, h10^{km}, mb4.3/2, Error ellipse: s-maj=25.4km s-min=14.6km az=131.0*
ISC 05 10:37:38.5±0.9**, 33.22N**±0.05×**137.08E**±0.03**, h23**^{km}±7^{km}**, n26, σ1^{s}01**/42**, mb4.2**/6**, 4C-5D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK01	**Tokai 1**	**0.69**	**38**	P	**Pb**	**10 37 52.3**	**+0.4**
TK02	**Tokai 2**	**0.92**	**38**	⇓P	**Pb**	**10 37 55.7**	**0.0**
TK02				S	**Sb**	**10 38 08.9**	**+1.3**
JWZ	**Kozaga**	**1.19**	**286**	⇑P	**Pn**	**10 37 59.0**	**-0.9**
JWZ				S	**Sb**	**10 38 13.6**	**-1.6**
JIE	**Ise**	**1.21**	**345**	⇓P	**Pn**	**10 38 00.9**	**+0.6**
JIE				S	**Sn**	**10 38 16.9**	**+0.8**
JKN	**Kiinagashima**	**1.23**	**327**	⇓P	**Pn**	**10 38 00.7**	**+0.1**
JKN				S	**Sn**	**10 38 15.8**	**-0.8**
TK04	**Tokai 4**	**1.34**	**29**	P	**Pn**	**10 38 02.1**	**0.0**
TK04				S	**Sn**	**10 38 19.2**	**-0.1**
JWM	**Minabe**	**1.57**	**294**	⇑P	**Pn**	**10 38 05.0**	**-0.4**
JWM				S	**Sn**	**10 38 24.2**	**-1.0**
TSUJ	**Tsu 2**	**1.59**	**340**	⇓P	**Pn**	**10 38 06.1**	**+0.5**
TSUJ				S	**Sn**	**10 38 25.8**	**+0.2**
JWY	**Kouya**	**1.59**	**309**	⇑P	**Pn**	**10 38 06.2**	**+0.5**
JWY				S	**Sn**	**10 38 25.7**	**0.0**
JHE	**Heguri**	**1.84**	**321**	⇓P	**Pn**	**10 38 09.8**	**+0.5**
JHE				S	**Sn**	**10 38 32.2**	**+0.1**
SHZ3	**Shizuoka 3**	**2.07**	**27**	P	**Pn**	**10 38 11.9**	**-0.6**
SHZ3				S	**Sn**	**10 38 37.0**	**-0.8**
JIZS	**Izushimoda**	**2.12**	**44**	P	**Pn**	**10 38 14.0**	**+0.8**
JIZS				S	**Sn**	**10 38 38.0**	**-1.0**
JAJ2	**Tsuna**	**2.19**	**304**	⇑P	**Pn**	**10 38 14.7**	**+0.5**
JAJ2				S	**Sn**	**10 38 40.8**	**0.0**
JHJ	**Hachijo jima 2**	**2.27**	**92**	Pn	**Pn**	**10 38 13.9**	**-1.4**
	57nm,0.3s,baz=231,slow=21,SNR=24						
JHJ				Sn	**Sn**	**10 38 39.9**	**-3.1**
	136nm,0.3s,baz=242,slow=23,SNR=12						
JAI	**Aioi**	**2.27**	**285**	P	**Pn**	**10 38 14.9**	**-0.5**
JAI				S	**Sn**	**10 38 40.6**	**-2.3**
MAJO	**Matsushiro**	**3.45**	**15**	*e*Pn	**Pn**	**10 38 32.5**	**+0.4**
MAT	**Matsushiro**	**3.45**	**15**	P	**Pn**	**10 38 32.4**	**+0.3**
MAT				S	**Sn**	**10 39 12.3**	**-0.4**
MAT	**Matsushiro**	**3.45**	**15**	*e*P	**Pn**	**10 38 32.0**	**-0.1**
MAT				*e*S	**Sn**	**10 39 12.0**	**-0.7**
ASAJ	**Asahikawa**	**11.70**	**20**	Pn	**P**	**10 40 24.9**	**-2.3**
	0.5nm,0.3s,baz=224,slow=8.4,SNR=7.0						
BJT	**Baijiatuau**	**18.09**	**298**	*e*P	**P**	**10 41 51.7**	**+1.7**
	6.1nm,0.5s						
ENH	**Enshi**	**23.62**	**270**	*e*P	**P**	**10 42 50.4**	**+1.6**
	15nm,0.6s,mb4.6						
SONM	**Songino Array**	**27.30**	**311**	P	**P**	**10 43 25.4**	**+2.2**
	1.2nm,0.9s,mb3.4,baz=135,slow=8.2,SNR=3.0						
MKAR	**Makanchi Array**	**43.26**	**305**	P	**P**	**10 45 41.1**	**+1.4**
	9.2nm,1.2s,mb4.4,baz=90,slow=8.6,SNR=8.8						
BVAR	**Borovoye Array**	**50.59**	**314**	P	**P**	**10 46 37.1**	**-0.2**
	4.8nm,0.8s,mb4.5,baz=112,slow=7.8,SNR=4.0						
WRA	**Warramunga Arr**	**52.92**	**183**	P	**P**	**10 47 02.8**	**+7.5**
	4.4nm,0.9s,mb4.4,baz=360,slow=7.7,SNR=6.3						
GERES	**GERESS Array B**	**83.99**	**326**	P	**P**	**10 50 09.3**	**+1.3**
	0.3nm,0.5s,mb3.7,baz=45,slow=5.6,SNR=2.9						

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*IDC **05** 10:42:34.5±0.7, 53.26N×35.14W, mb4.2/17, mb1 4.3/19, mb1mx4.2/26, ML3.6/2, Error ellipse: s-maj=22.9km s-min=13.9km az=168.0*
*NEIC **05** 10:42:35.8±0.4, 53.20N×35.06W, h10^{km}, mb4.5/13, Error ellipse: s-maj=13.6km s-min=5.8km az=187.0*
ISC 05 10:42:34.2±0.4**, 53.2N**±0.1×**35.07W**±0.08**, h10**^{km}**, n50, σ0^{s}90**/45**, mb4.2**/26**, Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESK	**Eskdalemuir**	**18.64**	**71**	*e*P	**P**	**10 46 53.6**	**-0.2**
	9.7nm,1.0s						
SCHQ	**Schefferville**	**18.65**	**288**	P	**P**	**10 46 52.0**	**-1.9**
	0.8nm,0.3s,baz=103,slow=6.3,SNR=8.4						
EKA	**Eskdalemuir Ar**	**18.66**	**71**	P	**P**	**10 46 53.9**	**-0.1**
	0.3nm,0.3s,baz=283,slow=9.7,SNR=13						
FRB	**Frobisher Bay**	**20.16**	**315**	P	**P**	**10 47 05.2**	**-5.9**
	12nm,1.0s,baz=212,slow=2.9,SNR=3.6						
FRB	**Frobisher Bay**	**20.16**	**315**	P	**P**	**10 47 05.2**	**-5.9**
ROSF	**Rostrenen**	**20.58**	**91**	*e*P	**P**	**10 47 16.6**	**+1.0**
	58nm,1.2s						
QUIF	**Quistinic**	**20.83**	**92**	*e*P	**P**	**10 47 17.3**	**-0.9**
	41nm,1.1s						
SGMF	**Saint Gilles**	**21.05**	**91**	*e*P	**P**	**10 47 20.6**	**+0.2**
	53nm,1.2s,mb4.5						
GRR	**Gorron**	**22.01**	**89**	*e*P	**P**	**10 47 31.0**	**+0.9**
	99nm,1.5s,mb4.7						
FLN	**La Foliniere**	**22.08**	**88**	*e*P	**P**	**10 47 32.0**	**+1.2**
LDF	**La Druitiere**	**22.37**	**88**	*e*P	**P**	**10 47 34.8**	**+1.1**
MFF	**Saint Martin d**	**23.27**	**92**	*e*P	**P**	**10 47 41.8**	**-0.6**
	23nm,1.1s,mb4.2						
BAIF	**Baives**	**24.36**	**82**	*e*P	**P**	**10 47 54.5**	**+1.5**
	19nm,1.0s,mb4.2						
TCF	**Toulx Ste Croi**	**24.84**	**91**	*e*P	**P**	**10 47 56.5**	**-1.1**
	29nm,1.2s,mb4.4						
BGF	**Bois d'Agland**	**25.09**	**90**	*e*P	**P**	**10 47 59.6**	**-0.4**
	54nm,1.2s,mb4.7						
ESDC	**Sonseca Array**	**25.12**	**110**	P	**P**	**10 48 00.7**	**+0.3**
	2.0nm,0.7s,mb3.8,baz=315,slow=8.8,SNR=10						
SSF	**Saint Saulge**	**25.24**	**88**	*e*P	**P**	**10 48 01.2**	**-0.2**
	11nm,0.9s,mb4.1						
AVF	**Avril sur Loir**	**25.28**	**89**	*e*P	**P**	**10 48 01.7**	**-0.1**
	28nm,1.2s,mb4.4						
LOR	**Lormes**	**25.35**	**88**	*e*P	**P**	**10 48 02.2**	**-0.3**
	9.2nm,0.6s,mb4.2						
MEZF	**Maizieres J'vi**	**25.51**	**84**	*e*P	**P**	**10 48 04.2**	**+0.2**
	26nm,0.9s,mb4.5						
SMF	**Signal de Mont**	**25.64**	**89**	*e*P	**P**	**10 48 03.7**	**-1.5**
NOA	**NORSAR Array B**	**25.80**	**54**	P	**P**	**10 48 06.2**	**-0.4**
	0.7nm,0.7s,mb3.3,baz=19,slow=6.9,SNR=2.6						
HAU	**Haudompre**	**26.51**	**84**	*e*P	**P**	**10 48 12.0**	**-1.2**
CDF	**Champ du Feu**	**26.88**	**83**	*e*P	**P**	**10 48 16.9**	**+0.3**
HINF	**Hinteralfeld**	**26.89**	**85**	*e*P	**P**	**10 48 16.5**	**-0.3**
HFS	**Hagfors**	**27.11**	**56**	P	**P**	**10 48 19.6**	**+1.0**
	2.7nm,0.9s,mb3.8,baz=281,slow=7.3,SNR=3.5						
LPL	**La Plagne**	**27.95**	**89**	*e*P	**P**	**10 48 25.6**	**-0.8**
LPG	**La Plagne**	**27.97**	**89**	*e*P	**P**	**10 48 25.8**	**-0.8**
ARCES	**ARCESS Array B**	**31.57**	**36**	P	**P**	**10 48 57.1**	**-1.4**
	3.3nm,0.9s,mb4.2,baz=270,slow=7.7,SNR=3.4						
FINES	**FINESS Array B**	**32.84**	**51**	P	**P**	**10 49 09.3**	**-0.3**
	2.3nm,0.8s,mb4.2,baz=270,slow=4.2,SNR=4.3						
FINES	**FINESS Array B**	**32.84**	**51**	P	**P**	**10 49 09.3**	**-0.3**
AKASG	**Malin Array Be**	**38.50**	**67**	P	**P**	**10 49 57.0**	**-0.9**
	0.7nm,0.6s,mb3.6,baz=300,slow=7.8,SNR=5.0						
INK	**Inuvik**	**44.85**	**329**	P	**P**	**10 50 48.6**	**-1.0**
	30nm,1.4s,mb4.9,baz=53,slow=7.8,SNR=4.9						
BRTR	**Keskin Array B**	**47.38**	**78**	P	**P**	**10 51 11.2**	**+1.2**
	3.8nm,0.8s,mb4.4,baz=296,slow=5.5,SNR=9.8						
PDAR	**Pinedale Array**	**48.78**	**289**	P	**P**	**10 51 19.8**	**-1.0**
	4.4nm,1.2s,mb4.4,baz=53,slow=7.4,SNR=5.2						
HLID	**Hailey**	**50.98**	**293**	*e*P	**P**	**10 51 38.4**	**+0.7**
ILAR	**Eielson Array**	**51.23**	**329**	P	**P**	**10 51 40.2**	**+0.9**
	4.6nm,1.0s,mb4.4,baz=38,slow=4.9,SNR=17						
PV10	**Paradox Valley**	**51.35**	**285**	*e*P	**P**	**10 51 41.3**	**+0.7**
PMR	**Palmer**	**54.23**	**327**	*e*P	**P**	**10 52 03.6**	**+2.0**
TXAR	**Lajitas Array**	**54.48**	**273**	P	**P**	**10 52 03.4**	**-0.6**
	0.7nm,0.8s,mb3.6,baz=53,slow=6.3,SNR=5.0						
TXAR				PcP	PcP	10 53 06.2	-1.2
	0.6nm,0.6s,baz=69,slow=4.5,SNR=4.6						
BVAR	**Borovoye Array**	**57.31**	**44**	P	**P**	**10 52 24.3**	**+0.2**
	3.0nm,0.9s,mb4.3,baz=315,slow=4.2,SNR=7.8						
ROSC	**El Rosal**	**57.93**	**228**	P	**P**	**10 52 29.2**	**+0.3**
	8.6nm,0.7s,mb4.9,baz=142,slow=22,SNR=4.3						
MKAR	**Makanchi Array**	**66.99**	**42**	P	**P**	**10 53 29.1**	**+0.4**
	1.6nm,0.6s,mb4.2,baz=332,slow=3.9,SNR=7.8						
BDFB	**Brasilia**	**69.49**	**193**	P	**P**	**10 53 45.5**	**+0.7**
	2.3nm,0.9s,mb4.1,baz=41,slow=9.3,SNR=2.8						
SONM	**Songino Array**	**74.12**	**26**	P	**P**	**10 54 13.3**	**+1.5**
	1.6nm,1.0s,mb3.9,baz=346,slow=5.9,SNR=3.3						
WRAB	**Tennant Creek**	**145.77**	**18**	*e*PKPdf	PKPdf	11 02 14.3	-1.5
WRA	**Warramunga Arr**	**145.78**	**18**	PKPbc	PKPbc	11 02 14.5	+0.9
	8.3nm,0.9s,baz=342,slow=3.4,SNR=22						
WB2	**Warramunga Arr**	**145.78**	**18**	*e*P	PKPbc	11 02 14.3	+0.6
ASAR	**Alice Springs**	**149.31**	**20**	PKPbc	PKPdf	11 02 23.6	+2.0
	1.4nm,0.5s,baz=353,slow=2.3,SNR=12						
ASPA	**Alice Springs**	**149.31**	**20**	*e*P	PKPdf	11 02 23.5	+1.9

DJA 05 10:49:42.9±0.8**, 9.55S**×**115.22E, h33**^{km}**, ML4.1**/3**, 5C-5D, Error ellipse: s-maj=17.9km s-min=9.2km az=9.0, South of Bali**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
INGI	Ingas	0.73	354	⇓*i*Pn	Pn	10 49 56.2	-0.7
INGI				⇑*i*Sn	Sn	10 50 05.0	-2.0
RATI	Rata	0.88	21	⇓*e*Pn	Pn	10 49 57.9	-1.1
	906nm,0.2s						
RATI	Rata	0.88	21	⇑*i*P	P	10 49 58.1	-0.7
RATI				⇓*i*Sn	Sn	10 50 08.9	-1.8
KEDI	Kedomdong	1.38	40	⇓*i*Pn	Pn	10 50 05.3	-0.9
	135nm,0.2s						
KEDI	Kedomdong	1.38	40	⇑*i*P	P	10 50 05.4	-0.6
KEDI				⇑*i*Sn	Sn	10 50 21.7	-1.7
KELI	Kelakatan	1.51	331	⇓*i*Pn	Pn	10 50 07.2	-0.9
	91nm,0.2s						
KELI				⇑*i*Sn	Sn	10 50 23.3	-3.4

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*JMA **05** 10:53:45.0±0.2, 33.07N×137.21E, h38^{km}±3^{km}, M3.5*

ISC 05 10:53:45.4±1.5**, 33.08N**±0.08×**137.21E**±0.05**, h41**^{km}±35^{km}**, n16,** σ**0^{s}50**/25**, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	Tokai 1	0.75	25	P	P	10 53 59.3	-0.4
TK02	Tokai 2	0.98	28	P	P	10 54 02.6	-0.2
TK03	Tokai 3	1.25	30	*e*S	S	10 54 22.7	0.0
JWZ	Kozaga	1.33	290	P	P	10 54 07.5	-0.4
JWZ				*e*S	S	10 54 23.8	-0.8
JIE	Ise	1.37	342	P	P	10 54 09.1	+0.6
JIE				*e*S	S	10 54 26.4	+0.7
JKN	Kiinagashima	1.41	326	P	P	10 54 08.8	-0.2
JKN				*e*S	S	10 54 25.5	-1.1
TK04	Tokai 4	1.41	23	P	P	10 54 08.9	-0.2
TK04				*e*S	S	10 54 27.3	+0.5
JWM	Minabe	1.73	297	*e*S	S	10 54 34.3	-0.3
TSUJ	Tsu 2	1.75	338	P	P	10 54 14.6	+0.7
TSUJ				*e*S	S	10 54 35.0	-0.2
JWY	Kouya	1.76	311	P	P	10 54 14.7	+0.7
JWY				*e*S	S	10 54 35.6	+0.2
JHE	Heguri	2.02	321	*e*S	S	10 54 41.9	+0.1
JIZS	Izushimoda	2.14	40	*e*S	S	10 54 44.2	-0.8
JGM	Miyama	2.64	351	P	P	10 54 26.9	+0.3
JGM				*e*S	S	10 54 57.6	-0.1
JWT	Wachi	2.66	326	P	P	10 54 27.6	+0.8
JWT				*e*S	S	10 54 58.3	+0.2
JOD2	Odawara 2	2.68	35	P	P	10 54 27.1	0.0
MAT	Matsushiro	3.55	13	P	P	10 54 39.9	+0.4
MAT				*e*S	S	10 55 20.3	-0.4

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*JMA **05** 10:55:08.1±0.1, 33.08N×136.96E, h45^{km}, M3.9*

ISC 05 10:55:08.2±1.4**, 33.10N**±0.08×**136.96E**±0.05**, h45**^{km}**, n12,** σ**0^{s}48**/22**, 4D, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK02	Tokai 2	1.08	38	*e*S	S	10 55 41.1	0.0
JWZ	Kozaga	1.13	293	⇓P	P	10 55 27.5	-0.4
JWZ				S	S	10 55 41.6	-0.9
JKN	Kiinagashima	1.29	333	P	P	10 55 30.4	+0.2
JKN				*e*S	S	10 55 45.9	-0.7
JIE	Ise	1.31	351	P	P	10 55 30.8	+0.2
JIE				*e*S	S	10 55 47.2	+0.1
TK03	Tokai 3	1.35	38	*e*S	S	10 55 47.8	-0.4
TK04	Tokai 4	1.49	30	P	P	10 55 32.9	-0.2
TK04				*e*S	S	10 55 51.5	-0.1
JAA	Atsumi	1.54	6	P	P	10 55 33.8	0.0
JAA				S	S	10 55 52.6	-0.1
JWM	Minabe	1.54	300	P	P	10 55 33.6	-0.2
JWM				S	S	10 55 52.2	-0.6
JWY	Kouya	1.60	315	⇓P	P	10 55 35.2	+0.6
JWY				S	S	10 55 54.5	+0.3
TSUJ	Tsu 2	1.67	344	⇓P	P	10 55 36.0	+0.4
TSUJ				*e*S	S	10 55 56.6	+0.6
JHE	Heguri	1.88	326	⇓P	P	10 55 39.2	+0.6
JHE				*e*S	S	10 56 02.1	+0.9
MAT	Matsushiro	3.59	16	P	P	10 56 03.4	+0.6
MAT				S	S	10 56 43.7	-0.7

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*JMA **05** 10:56:05.0±0.1, 33.07N×137.20E, h38^{km}±3^{km}, M3.7*

ISC 05 10:56:05.3±1.5**, 33.07N**±0.08×**137.19E**±0.05**, h39**^{km}±35^{km}**, n14,** σ**0^{s}55**/24**, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	Tokai 1	0.77	25	P	P	10 56 19.3	-0.4
TK01				*e*S	S	10 56 30.0	-0.2
TK02	Tokai 2	0.99	28	P	P	10 56 22.7	-0.2
TK02				*e*S	S	10 56 36.7	+0.8
TK03	Tokai 3	1.27	30	*e*S	S	10 56 43.2	+0.3
JWZ	Kozaga	1.32	291	P	P	10 56 27.6	-0.1
JWZ				S	S	10 56 43.8	-0.5
JIE	Ise	1.38	343	P	P	10 56 28.9	+0.4
JIE				*e*S	S	10 56 46.1	+0.4
JKN	Kiinagashima	1.41	327	P	P	10 56 29.0	+0.1
JKN				S	S	10 56 45.4	-1.1
TK04	Tokai 4	1.43	23	P	P	10 56 29.0	-0.2
TK04				*e*S	S	10 56 47.1	+0.1
JAA	Atsumi	1.56	358	P	P	10 56 31.0	0.0
JAA				*e*S	S	10 56 50.0	-0.2
JWM	Minabe	1.72	297	*e*S	S	10 56 54.0	-0.3
TSUJ	Tsu 2	1.76	339	S	S	10 56 54.8	-0.4
JWY	Kouya	1.76	311	P	P	10 56 34.6	+0.7
JWY				*e*S	S	10 56 55.4	+0.2
JHE	Heguri	2.02	322	P	P	10 56 38.1	+0.6
JHE				S	S	10 57 01.9	+0.2
JIZS	Izushimoda	2.16	40	*e*S	S	10 57 03.6	-1.7
MAT	Matsushiro	3.56	13	P	P	10 57 00.1	+0.6
MAT				S	S	10 57 41.7	+0.8

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*BJI **05** 11:15:57.5, 32.73N×137.51E, h41^{km}, mB4.7, mb4.7*
*NEIC **05** 11:15:58.0±0.4, 33.10N×137.00E, h10^{km}, mb4.5/6, Error ellipse: s-maj=8.3km s-min=6.4km az=113.0*
*JMA **05** 11:15:57.9±0.1, 33.11N×137.14E, h39^{km}±2^{km}, M4.5*
JMA Felt I J1.
*MOS **05** 11:15:58.3±1.9, 33.20N×137.62E, h33^{km}, mb4.5/9, Error ellipse: s-maj=26.0km s-min=14.3km az=98.0*
*IDC **05** 11:16:00.8±0.6, 33.12N×137.29E, h32^{km}±4^{km}, mb4.0/14, mb1 4.1/17, mb1mx4.0/26, ML4.0/3, MS4.7/1, Ms1 4.7/1, ms1mx4.1/35, Error ellipse: s-maj=19.4km s-min=11.9km az=63.0*

ISC 05 11:15:58.3±0.8**, 33.17N**±0.03×**137.16E**±0.03**, h26**^{km}±5^{km}**, h32**^{km}±.8^{km}**:pP-P, n72,** σ**1^{s}08**/92**, mb4.3**/22**, 7C-8D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	Tokai 1	0.69	31	P	Pb	11 16 12.1	+0.4
TK01				S	Sb	11 16 22.0	+1.1
TK02	Tokai 2	0.92	33	⇓P	Pb	11 16 15.5	0.0
TK02				S	Sb	11 16 28.0	+0.7
TK03	Tokai 3	1.20	34	⇓P	Pn	11 16 19.4	-0.2
TK03				S	Sn	11 16 35.3	+0.2
JWZ	Kozaga	1.26	287	⇑P	Pn	11 16 19.5	-1.0
JWZ				S	Sn	11 16 34.6	-2.1
JIE	Ise	1.27	343	⇓P	Pn	11 16 21.2	+0.5
JIE				S	Sn	11 16 37.4	+0.4
JKN	Kiinagashima	1.30	325	P	Pn	11 16 21.1	-0.1
JKN				S	Sn	11 16 36.5	-1.4
TK04	Tokai 4	1.35	26	⇓P	Pn	11 16 21.9	+0.1
TK04				S	Sn	11 16 38.9	0.0
JWM	Minabe	1.65	295	⇑P	Pn	11 16 25.5	-0.6
JWM				S	Sn	11 16 44.9	-1.7
TSUJ	Tsu 2	1.65	338	⇓P	Pn	11 16 26.4	+0.3
TSUJ				S	Sn	11 16 46.4	-0.2
JWY	Kouya	1.67	309	⇑P	Pn	11 16 26.7	+0.3
JWY				S	Sn	11 16 46.4	-0.7
JHE	Heguri	1.92	321	⇑P	Pn	11 16 30.2	+0.3
JHE				*e*S	Sn	11 16 52.9	-0.5
SHZ3	Shizuoka 3	2.08	25	⇓P	Pn	11 16 31.7	-0.5
SHZ3				*e*S	Sn	11 16 56.8	-0.7
JIZS	Izushimoda	2.10	42	P	Pn	11 16 32.3	-0.3
JIZS				*e*S	Sn	11 16 57.5	-0.6
JHJ	Hachijo jima 2	2.20	91	Pn	Pn	11 16 33.1	-0.9
	184nm,0.3s,baz=237,slow=22,SNR=38						
JHJ				Sn	Sn	11 16 59.8	-0.9
	242nm,0.3s,baz=242,slow=24,SNR=12						
JHJ2	Mitsune	2.23	91	⇑P	Pn	11 16 33.1	-1.3
JHJ2				S	Sn	11 16 58.6	-2.8
JAI	Aioi	2.34	286	⇑P	Pn	11 16 35.3	-0.7
JAI				*e*S	Sn	11 17 01.9	-2.4
JIM2	Oshima 3	2.44	50	P	Pn	11 16 37.4	0.0
JIM2				S	Sn	11 17 06.8	+0.2
JGM	Miyama	2.54	352	⇓P	Pn	11 16 39.3	+0.4
JGM				S	Sn	11 17 09.4	0.0
JWT	Wachi	2.56	326	⇑P	Pn	11 16 39.4	+0.3
JWT				S	Sn	11 17 09.0	-0.7
JYN	Shimob	2.59	26	P	Pn	11 16 39.3	-0.2
JYN				*e*S	Sn	11 17 11.2	+0.8
JOD2	Odawara 2	2.63	37	P	Pn	11 16 40.4	+0.3
JOD2				*e*S	Sn	11 17 10.8	-0.6
MAJO	Matsushiro	3.47	14	*e*Pn	Pn	11 16 52.4	+0.4
MAT	Matsushiro	3.47	14	P	Pn	11 16 52.4	+0.4
MAT				S	Sn	11 17 32.2	-0.6
MAT	Matsushiro	3.47	14	*e*P	Pn	11 16 52.0	0.0
MAT				*e*S	Sn	11 17 32.0	-0.8
JNU	Nakatsue	5.27	271	Pn	Pn	11 17 15.5	-2.0
	4.1nm,0.3s,baz=89,slow=13,SNR=18						
JOW	Kunigami	9.96	233	LR	LR	11 22 18.4	
	comp=Z,5µm,21.1s,baz=257,slow=38						
ASAJ	Asahikawa	11.72	20	Pn	P	11 18 44.6	-2.3
	1.2nm,0.3s,baz=226,slow=14,SNR=15						
ASAJ	Asahikawa	11.72	20	P	P	11 18 44.7	-2.3
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
YSS	Yuzh-Sakhalins	14.41	16	P	P	11 19 17.0	-5.6
YSS	Yuzh-Sakhalins	14.41	16	*e*P	P	11 19 20.1	-2.4
	comp=Z,7.2nm,0.7s						
BJT	Baijiatuau	18.16	298	*e*P	P	11 20 13.2	+2.7
	comp=Z,20nm,0.8s						
WHN	Wuhan	19.55	268	⇓P	P	11 20 28.0	+1.1
HHC	Hu-ho-hao-te	21.77	298	*e*P	P	11 20 54.2	+4.2
HHC				AMB	AMB		
	comp=Z,54nm,0.6s,mb5.2						
XAN	Xi’an	23.51	280	P	P	11 21 08.1	+1.1
XAN				AMB	AMB		
	comp=Z,41nm,1.0s,mb4.8						
ENH	Enshi	23.69	270	*e*P	P	11 21 10.5	+1.7
	comp=Z,32nm,0.7s,mb4.9						
GYA	Guiyang	27.23	264	P	P	11 21 45.0	+2.8
GYA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.5						
SONM	Songino Array	27.38	311	P	P	11 21 43.0	-0.4
	comp=Z,3.9nm,0.9s,mb3.9,baz=117,slow=8.3,SNR=16						
ZAK	Zakamensk	30.21	315	*e*P	P	11 22 10.3	+1.5
CMAR	Chiang Mai Arr	37.17	256	P	P	11 23 09.6	+0.5
	comp=Z,2.1nm,0.5s,mb4.2,baz=48,slow=7.6,SNR=14						
CMAR	Chiang Mai Arr	37.17	256	P	P	11 23 09.6	+0.5
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
LSA	Lhasa	39.17	278	*e*P	P	11 23 27.1	+1.3
	comp=Z,8.6nm,0.7s,mb4.6						
ZAL	Zalesovo	42.09	316	P	P	11 23 49.9	+0.3
	comp=Z,1.1nm,0.4s,mb3.9,baz=28,slow=14,SNR=5.2						
ZAL	Zalesovo	42.09	316	P	P	11 23 49.9	+0.4
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR	Makanchi Array	43.34	305	P	P	11 24 01.3	+1.5
	comp=Z,5.4nm,0.8s,mb4.3,baz=92,slow=10,SNR=39						
MKAR				pP	pP	11 24 10.3	+2.7
	comp=Z,2.3nm,0.6s,baz=92,slow=8.7,SNR=8.7						
MKAR	Makanchi Array	43.34	305	P	P	11 24 01.3	+1.5
MKAR				*PP	pP	11 24 10.3	+2.7
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MKAR				pmax	pmax		
	comp=N,2.0nm,0.6s						
MKAR	Makanchi Array	43.34	305	P	P	11 24 01.3	+1.5
MKAR				pP	pP	11 24 10.3	+2.7
KURK	Kurchatov	45.68	311	*e*P	P	11 24 19.2	+0.6
	comp=N,38nm,1.6s,mb5.1						
BVAR	Borovoye Array	50.67	314	P	P	11 24 58.0	+0.7
	comp=N,1.1nm,0.6s,mb4.0,baz=101,slow=7.6,SNR=10.0						
BVAR				pP	pP	11 25 07.6	+2.3
	comp=N,1.5nm,0.6s,baz=100,slow=9.0,SNR=8.4						
BRVK	Borovoye	50.73	314	*e*P	P	11 24 57.8	0.0
	comp=N,2.1nm,0.6s,mb4.2						
FITZ	Fitzroy Crossi	52.16	194	P	P	11 25 08.0	-1.1
	comp=N,1.2nm,0.7s,mb3.9,baz=7.9,slow=19,SNR=3.8						
FITZ				pP	pP	11 25 17.5	+0.4
	comp=N,4.6nm,0.9s,baz=42,slow=6.8,SNR=5.8						
WRA	Warramunga Arr	52.88	183	P	P	11 25 12.7	-1.7
	comp=N,1.0nm,0.6s,mb3.9,baz=360,slow=7.8,SNR=14						
WRA				pP	pP	11 25 22.4	-0.1
	comp=N,3.3nm,0.8s,baz=1.6,slow=7.7,SNR=13						
WRA	Warramunga Arr	52.88	183	P	P	11 25 12.7	-1.8
WRA				*PP	pP	11 25 22.4	-0.1
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA				pmax	pmax		
	comp=N,3.0nm,0.9s						
ASAR	Alice Springs	56.61	184	P	P	11 25 40.0	-1.5
	comp=N,0.6nm,0.7s,mb3.7,baz=2.2,slow=6.3,SNR=8.8						
ASAR				pP	pP	11 25 51.1	+1.5
	comp=N,1.3nm,0.6s,baz=15,slow=13,SNR=7.5						
INK	Inuvik	59.39	26	pP	pP	11 26 10.4	+1.8
	comp=N,1.7nm,0.6s,baz=274,slow=5.8,SNR=3.6						
STKA	Stephens Creek	64.84	176	P	P	11 26 36.6	-0.7
	comp=N,0.8nm,0.4s,mb4.1,baz=186,slow=10,SNR=2.1						
STKA				pP	pP	11 26 46.2	+0.7
	comp=N,2.9nm,0.8s,baz=287,slow=6.1,SNR=3.4						
ARCES	ARCESS Array B	66.36	339	pP	pP	11 26 57.9	+3.3
	comp=N,5.8nm,1.1s,baz=74,slow=8.8,SNR=2.2						
FINES	FINESS Array B	70.57	332	P	P	11 27 12.8	+0.1
	comp=N,1.7nm,0.8s,mb4.0,slow=5.7,SNR=3.6						
FINES	FINESS Array B	70.57	332	P	P	11 27 12.8	+0.1
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
FINES	FINESS Array B	70.57	332	P	P	11 27 12.8	0.0
AKASG	Malin Array Be	75.16	321	P	P	11 27 39.9	0.0
	comp=Z,2.1nm,0.5s,mb4.3,baz=50,slow=6.2,SNR=21						
AKASG	Malin Array Be	75.16	321	P	P	11 27 39.9	0.0
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
BRTR	Keskin Array B	78.73	310	P	P	11 28 01.6	+1.6
	comp=Z,4.8nm,0.9s,mb4.4,baz=108,slow=3.9,SNR=13						
BRTR	Keskin Array B	78.73	310	P	P	11 28 01.6	+1.6
BRTR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
BRG	Berggiesshubel	82.52	328	*e*P	P	11 28 24.5	+4.7
BRG				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
BRG	Berggiesshubel	82.52	328	P	P	11 28 24.5	+4.7
	comp=Z,2.1nm,0.8s,mb4.2						
CLL	Collm	82.62	328	P	P	11 28 24.0	+3.7
CLL	Collm	82.62	328	*e*P	P	11 28 24.0	+3.7
KHC	Kasperske Hory	83.92	327	*e*P	P	11 28 28.5	+1.5
GERES	GERESS Array B	84.06	326	P	P	11 28 29.2	+1.5
	comp=Z,1.7nm,0.8s,mb4.2,baz=45,slow=3.8,SNR=8.3						
GERES	GERESS Array B	84.06	326	P	P	11 28 29.2	+1.5
GERES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
PV10	Paradox Valley	85.95	46	P	P	11 28 39.4	+2.0
PV10				*e*	pP	11 28 49.3	+3.5
TXAR	Lajitas Array	95.25	50	P	P	11 29 23.0	+1.8
	comp=Z,0.7nm,0.9s,mb4.1,baz=327,slow=4.9,SNR=4.1						

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*ISK **05** 11:18:53.9, 36.92N×27.60E, h9^{km}, MD3.7, ML3.9*
*NEIC **05** 11:18:56.6±1.5, 36.93N×27.75E, h11^{km}±11^{km}, mb4.2/12, MD3.8(ATH), Error ellipse: s-maj=8.5km s-min=3.4km az=217.0*
*ATH **05** 11:18:56.3, 36.94N×27.70E, h28^{km}±2^{km}, MD3.8/11*
*NIC **05** 11:18:58.8±0.3, 36.71N×27.59E, h25^{km}, mb4.5, ML4.1, MW3.5*
*IDC **05** 11:19:00.6±1.7, 36.82N×27.83E, h58^{km}±21^{km}, mb3.7/5, mb1 3.8/11, mb1mx3.7/23, ML3.7/6, Error ellipse: s-maj=17.2km s-min=14.5km az=1.0*

ISC 05 11:18:55.9±0.4**, 36.92N**±0.02×**27.73E**±0.02**, h19**^{km}±4^{km}**, n121,** σ**1^{s}12**/144**, mb4.0**/8**, 5C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.27	303	*i* P	Pb	11 19 01.9	-0.1
BDRM				*i* S	Sb	11 19 06.3	+0.1
MLSB	Milas	0.38	6	*i* PG	Pb	11 19 02.9	-0.9
MLSB				*i* SG	Sb	11 19 08.4	-0.8
YER	Yerkesik	0.49	63	*i* PG	Pb	11 19 05.5	-0.2
NISR	Nisiros	0.57	238	*e*PN	Pn	11 19 08.0	-0.8
DALT	Dalyan (Mudla)	0.74	101	*i* PG	Pb	11 19 10.5	+0.6
AYDN	Tasoluk	0.75	9	*i* P	Pb	11 19 10.1	0.0
AYDN				*i* S	Sb	11 19 19.5	-0.4
ARG	Arkhangelos	0.77	155	⇑*i*PB	Pb	11 19 11.2	+0.8
ARG				*e*SN	Sn	11 19 23.8	+1.2
SMG	Samos	1.06	318	*e*PN	Pn	11 19 16.4	+0.6
DNZL	Cakiroluk	1.30	53	*i* P	Pn	11 19 20.0	+0.7
DNZL				*i* S	Sb	11 19 38.7	+2.8
DENT	Denizli	1.33	51	*i* PN	Pn	11 19 20.1	+0.4
KARP	Karpathos	1.44	199	*e*PN	Pn	11 19 22.6	+1.4
KARP				*e*SN	Sn	11 19 41.0	+1.3
IZM	Izmir	1.53	346	*i* PN	Pn	11 19 22.0	-0.4
KDAG	Bornova	1.53	346	*i* P	Pn	11 19 22.0	-0.5
KDAG				*i* S	Sn	11 19 45.0	+3.0
KSL	Kastellorizon	1.68	117	*e*PN	Pn	11 19 26.6	+2.0
MANT	Manisa	1.71	22	*i* P	Pn	11 19 25.2	+0.2
MANT				*i* S	Sn	11 19 50.0	+3.5
ELL	Elmali	1.76	95	PN	Pn	11 19 27.3	+1.6
APE	Apeiranthos	1.77	276	*e*PN	Pn	11 19 26.9	+1.0
SANT	Santorini	1.91	254	*e*Pn	Pn	11 19 35.8	+7.9
THR1	Thera Island	1.91	254	*e*P	Pn	11 19 35.0	+7.1
THR4	Thira Island,	1.93	257	*e*P	Pn	11 19 34.0	+5.8
THR3	Thira Island,	1.94	256	*e*P	Pn	11 19 35.0	+6.7
THR6	Thira Island,	1.96	254	*e*P	Pn	11 19 34.8	+6.2
THR6	Thira Island,	1.96	254	P	Pn	11 19 34.8	+6.2
THR6				S	Sn	11 20 00.0	+7.2
AKS	Akhisar	1.96	2	*i* PN	Pn	11 19 27.8	-0.9
THR5	Thira Island,	1.98	256	*e*P	Pn	11 19 35.6	+6.7
KHL	Karahalli	2.00	45	PN	Pn	11 19 29.9	+0.6
BCK	Bucak	2.35	76	PN	Pn	11 19 35.9	+1.7
NPS	Neapolis	2.38	227	*e*PB	Pb	11 19 38.0	+0.1
ISP	Isparta	2.40	66	*e*PN	Pn	11 19 36.1	+1.1
AYVA	Ayvalik	2.53	341	*i* P	Px	11 19 43.4	
AYVA				*i* S	Sx	11 20 22.7	
PRK	Paraskevi	2.60	334	*e*PN	Pn	11 19 37.5	-0.3
XRY	Khrisi	2.62	220	*e*PB	Pb	11 19 41.6	-0.4
BALB	Balikesir	2.72	2	*e*PN	Pn	11 19 38.6	-1.0
DST	Dursunbey	2.78	14	PN	Pn	11 19 39.5	-0.9
IDI	Anoyia	2.81	236	P	Pn	11 19 42.0	+1.1
	1.8nm,0.3s,baz=40,slow=17,SNR=15						
IDI				S	Sn	11 20 22.8	+8.2
	9.2nm,0.3s,baz=301,slow=18,SNR=5.3						
ALT	Altintas	2.85	41	*e*PN	Pn	11 19 42.1	+0.8
BOZC	Bozcaada	3.21	336	*i* P	Pn	11 19 56.0	+10
PTL	Penteli	3.28	291	*e*PN	Pn	11 19 48.0	+0.6
ULDT	Uludag	3.41	18	*i* P	Pn	11 19 47.5	-1.8
ULDT				*i* S	Sn	11 20 37.6	+8.0
LPK	Lapseki	3.54	348	*e*PN	Pn	11 19 49.9	-1.2
ESKT	Eskisehir	3.58	42	*i* P	Pn	11 19 52.2	+0.5
ESKT				*i* S	Sn	11 20 33.9	0.0
LOS	Limnos	3.66	326	*e*P	Pn	11 19 53.1	+0.2
AOS	Alonnisos	3.78	308	*e*P	Pn	11 19 54.3	-0.3
HDMB	Hadim	3.81	88	*e*PN	Pn	11 19 56.2	+1.2
KIZT	Kizilcal	3.83	58	*e*PN	Pn	11 19 55.9	+0.7
KONT	Konya--Tatoy	3.83	73	*e*PN	Pn	11 19 56.8	+1.6
ALN	Alexandroupoli	4.19	342	*e*P	Pn	11 19 59.4	-1.0
PPCY	Paphos	4.26	117	P	Pn	11 20 01.8	+0.4
ALFC	Alevga	4.32	113	⇑P	Pn	11 20 02.2	0.0
	6.9nm,0.2s						
ALFC				S	Sn	11 20 52.2	-0.5
ALFC	Alevga	4.32	113	⇑*e*P	Pn	11 20 02.2	0.0
ALFC				S	Sn	11 20 52.2	-0.5
XOR	Xorichti	4.33	306	*e*P	Pn	11 20 02.2	-0.3
PAIG	Paliouri	4.38	315	*e*P	Pn	11 20 03.4	+0.3
OUR	Ouranopolis	4.50	320	*e*P	Pn	11 20 04.8	0.0
OUR	Ouranopolis	4.50	320	P	Pn	11 20 04.8	0.0
OUR				S	Sn	11 20 52.1	-5.2
RDO	Rodhopi	4.56	339	*e*PN	Pn	11 20 05.0	-0.6
HENT	Hendek	4.62	31	*i* P	Px	11 20 21.4	
HENT				*i* S	Sx	11 21 26.5	
SZAC	Souni-Zanaja	4.71	116	⇑P	Pn	11 20 07.8	0.0
	7.7nm,0.2s						
SZAC				S	Sn	11 21 01.4	-1.1
SZAC	Souni-Zanaja	4.71	116	⇑*i*P	Pn	11 20 07.8	0.0
SZAC				S	Sn	11 21 01.4	-1.1
CSS	Prodhromos	4.94	112	P	Pn	11 20 10.8	-0.3
	2.7nm,0.4s						
CSS				S	Sn	11 21 07.9	-0.6
CSS	Prodhromos	4.94	112	*e*Pn	Pn	11 20 08.6	-2.6
SGKT	Sivrigoynuk	4.98	41	*i* P	Pn	11 20 12.6	+1.0
SGKT				*i* S	Sn	11 21 16.2	+6.9
KDZ	Kurdzhali	5.06	340	P	Pn	11 20 11.5	-1.2
MEST	Erdemli	5.16	92	*i* P	Pn	11 20 16.4	+2.2
MEST				*i* S	Sn	11 21 17.2	+3.3
LIT	Litokhoron	5.20	309	*e*P	Pn	11 20 15.2	+0.5
SRS	Serrai	5.29	324	*e*P	Pn	11 20 15.1	-0.9
RZN	Rozhen	5.31	335	P	Pn	11 20 15.0	-1.2
BRTR	Keskin Array B	5.43	57	P	Pn	11 20 18.7	+0.8
	4.5nm,0.3s,baz=239,slow=15,SNR=34						
BRTR				S	Sn	11 21 20.0	-0.6
	1.0nm,0.3s,baz=234,slow=26,SNR=4.8						
PHNC	Paralimni	5.46	109	P	Pn	11 20 19.5	+1.2
PHNC				S	Sn	11 21 21.4	+0.1
MMB	Musomiste	5.61	328	P	Pn	11 20 20.0	-0.4
KNT	Kendrikon	5.67	320	*e*P	Pn	11 20 21.4	+0.1
GRG	Griva	5.79	316	*e*P	Pn	11 20 22.2	-0.8
MEV	Metsovon	5.86	301	*e*P	Pn	11 20 24.5	+0.5
KKB	Krupnik	6.12	325	P	Pn	11 20 27.0	-0.6
VTS	Vitosha	6.65	330	P	Pn	11 20 25.0	-10
HNTI	Hanita	7.21	120	P	Pn	11 20 41.0	-1.9
HNTI	Hanita	7.21	120	P	Pn	11 20 42.6	-0.3
HRI	Mount Hermon	7.50	117	P	Pn	11 20 44.8	-2.3
HRI	Mount Hermon	7.50	117	P	Pn	11 20 46.0	-1.1
KSHT	Keshet	7.71	118	P	Pn	11 20 47.6	-2.4
MMLI	Mount Malkishu	7.75	123	P	Pn	11 20 49.5	-1.1
MMLI	Mount Malkishu	7.75	123	P	Pn	11 20 50.3	-0.3
HMDT	Nahal Hemdat	7.93	124	P	Pn	11 20 51.3	-1.8
HMDT	Nahal Hemdat	7.93	124	P	Pn	11 20 53.8	+0.7
DRGI	Dragot	8.27	128	P	P	11 20 55.4	-2.4
DRGI	Dragot	8.27	128	P	P	11 20 54.8	-3.0
SVTA	Shivta	8.27	134	P	P	11 20 56.4	-1.4
MASH	Mash‘abbe Sade	8.32	133	P	P	11 20 56.7	-1.8
MLR	Muntele Rosu	8.67	352	P	P	11 21 05.1	+1.7
	0.4nm,0.3s,baz=260,slow=11,SNR=4.1						
ASF	Jabal al Asfar	8.92	119	P	P	11 21 06.4	-0.4
	2.1nm,0.3s,baz=198,slow=6.0,SNR=6.4						
ASF				S	Sn	11 22 45.0	-2.8
	1.3nm,0.3s,slow=20,SNR=2.9						
PRNI	Paran	8.92	135	P	P	11 21 04.5	-2.3
PRNI	Paran	8.92	135	P	P	11 21 04.0	-2.8
EIL	Elat	9.42	138	P	P	11 21 13.7	+0.1
	0.9nm,0.3s,baz=340,slow=12,SNR=4.6						
EIL				S	Sn	11 22 53.8	-6.3
	2.7nm,0.3s,baz=358,slow=33,SNR=6.5						
EIL	Elat	9.42	138	P	P	11 21 13.7	0.0
EIL				S	Sn	11 22 53.8	-6.3
GERES	GERESS Array B	15.71	324	P	P	11 22 40.8	+3.0
	0.1nm,0.3s,baz=138,slow=12,SNR=4.1						
GERES	GERESS Array B	15.71	324	P	P	11 22 40.8	+3.0
KHC	Kasperske Hory	15.97	324	*e*P	P	11 22 46.5	+5.4
BRG	Berggiesshubel	17.09	329	*e*P	P	11 23 03.1	+7.9
	9.1nm,0.2s						
FRF	La Foret Royal	17.39	299	*e*P	P	11 22 54.4	-4.6
	24nm,1.1s						
MBDF	Montbardon	17.65	303	*e*P	P	11 23 00.3	-1.9
	5.9nm,1.0s						
CLL	Collm	17.80	329	*e*P	P	11 23 10.0	+5.9
	6.0nm,0.7s						
CDF	Champ du Feu	18.86	314	*e*P	P	11 23 19.1	+1.9
VIVF	Saint-Julien-l	19.11	302	*e*P	P	11 23 18.8	-1.3
HAU	Haudompre	19.21	312	*e*P	P	11 23 22.6	+1.3
SMF	Signal de Mont	20.23	306	*e*P	P	11 23 32.2	-0.3
	30nm,1.2s						
LOR	Lormes	20.44	308	*e*P	P	11 23 35.2	+0.5
	26nm,1.2s						
SSF	Saint Saulge	20.59	307	*e*P	P	11 23 36.5	+0.2
	10nm,0.7s						
AVF	Avril sur Loir	20.59	306	*e*P	P	11 23 36.0	-0.3
	14nm,0.8s						
BGF	Bois d’Agland	20.84	305	*e*P	P	11 23 38.6	-0.3
	20nm,1.0s						
BAIF	Baives	21.43	315	*e*P	P	11 23 46.4	+1.6
ETSF	Etsaut	22.45	294	*e*P	P	11 23 51.8	-3.2
FLN	La Foliniere	23.69	309	*e*P	P	11 24 08.3	+1.2
	37nm,1.2s,mb4.4						
GRR	Gorron	23.81	308	*e*P	P	11 24 08.3	+0.1
	17nm,0.7s,mb4.3						
FINES	FINESS Array B	24.57	358	P	P	11 24 16.5	+1.0
	1.1nm,0.6s,mb3.6,baz=162,slow=12,SNR=6.0						
FINES	FINESS Array B	24.57	358	P	P	11 24 16.5	+1.0
SGMF	Saint Gilles	24.85	307	*e*P	P	11 24 18.5	+0.2
	23nm,1.0s,mb4.4						
HFS	Hagfors	24.92	343	P	P	11 24 19.0	+0.2
	2.4nm,0.8s,mb3.8,baz=169,slow=10,SNR=4.7						
HFS	Hagfors	24.92	343	P	P	11 24 19.0	+0.2

ESDC	**Sonseca Array**	**24.96**	**286**	P	**P**	**11 24 20.0**	**+0.5**
	1.7nm,0.7s,mb3.7,baz=77,slow=10.0,SNR=8.5						
SONM	**Songino Array**	**56.77**	**52**	P	**P**	**11 28 38.2**	**-2.7**
	1.0nm,0.6s,mb4.0,baz=294,slow=7.8,SNR=8.0						
SONM	**Songino Array**	**56.77**	**52**	P	**P**	**11 28 38.1**	**-2.7**
INK	**Inuvik**	**74.16**	**353**	P	**P**	**11 30 30.9**	**-1.3**
	1.8nm,0.9s,mb4.0,baz=14,slow=8.3,SNR=4.1						

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*JMA **05** 11:20:20.1±0.1, 33.07N×137.20E, h36^{km}±2^{km}, M3.6*

ISC 05 11:20:20.7±0.8**, 33.09N**±0.05×**137.20E**±0.03**, h45**^{km}±19^{km}**, n21, σ0^{s}60**/41**, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TK01	**Tokai 1**	**0.75**	**26**	P	**P**	**11 20 34.4**	**-0.5**
TK01				S	**S**	**11 20 44.5**	**-0.8**
TK02	**Tokai 2**	**0.97**	**28**	P	**P**	**11 20 37.9**	**-0.2**
TK02				S	**S**	**11 20 51.9**	**+1.0**
TK03	**Tokai 3**	**1.25**	**30**	P	**P**	**11 20 41.6**	**-0.4**
TK03				S	**S**	**11 20 58.1**	**+0.2**
JWZ	**Kozaga**	**1.32**	**290**	P	**P**	**11 20 42.7**	**-0.4**
JWZ				S	**S**	**11 20 59.2**	**-0.6**
JIE	**Ise**	**1.36**	**342**	P	**P**	**11 20 44.1**	**+0.4**
JIE				S	**S**	**11 21 01.4**	**+0.6**
JKN	**Kiinagashima**	**1.40**	**326**	P	**P**	**11 20 44.2**	**0.0**
JKN				S	**S**	**11 21 00.4**	**-1.2**
TK04	**Tokai 4**	**1.41**	**23**	P	**P**	**11 20 44.2**	**-0.1**
TK04				S	**S**	**11 21 02.3**	**+0.4**
JWM	**Minabe**	**1.72**	**297**	P	**P**	**11 20 48.9**	**+0.2**
JWM				S	**S**	**11 21 09.2**	**-0.4**
TSUJ	**Tsu 2**	**1.74**	**338**	P	**P**	**11 20 49.6**	**+0.6**
TSUJ				S	**S**	**11 21 10.1**	**0.0**
JWY	**Kouya**	**1.75**	**310**	P	**P**	**11 20 49.8**	**+0.6**
JWY				S	**S**	**11 21 10.7**	**+0.3**
JHE	**Heguri**	**2.01**	**321**	P	**P**	**11 20 53.3**	**+0.5**
JHE				S	**S**	**11 21 16.7**	**0.0**
JIZS	**Izushimoda**	**2.14**	**40**	P	**P**	**11 20 55.6**	**+0.9**
JIZS				S	**S**	**11 21 19.7**	**-0.4**
SHZ3	**Shizuoka 3**	**2.14**	**23**	P	**P**	**11 20 54.1**	**-0.6**
SHZ3				S	**S**	**11 21 19.4**	**-0.7**
JHJ2	**Mitsune**	**2.19**	**89**	P	**P**	**11 20 55.4**	**-0.1**
JHJ2				S	**S**	**11 21 21.0**	**-0.5**
JAI	**Aioi**	**2.41**	**288**	P	**P**	**11 20 58.8**	**+0.3**
JAI				S	**S**	**11 21 25.9**	**-1.0**
JIM2	**Oshima 3**	**2.46**	**48**	S	**S**	**11 21 27.0**	**-1.3**
JGM	**Miyama**	**2.63**	**351**	P	**P**	**11 21 02.2**	**+0.5**
JGM				S	**S**	**11 21 32.7**	**0.0**
JYN	**Shimob**	**2.65**	**24**	P	**P**	**11 21 03.7**	**+1.8**
JYN				S	**S**	**11 21 33.0**	**0.0**
JWT	**Wachi**	**2.65**	**326**	P	**P**	**11 21 02.6**	**+0.7**
JWT				S	**S**	**11 21 32.9**	**-0.1**
JOD2	**Odawara 2**	**2.67**	**35**	P	**P**	**11 21 02.5**	**+0.2**
JOD2				S	**S**	**11 21 33.5**	**-0.1**
MAT	**Matsushiro**	**3.54**	**13**	P	**P**	**11 21 15.0**	**+0.4**
MAT				S	**S**	**11 21 55.8**	**+0.1**

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*BJI **05** 11:24:36.6, 31.30S×71.20W, h56^{km}, mB4.7, Msz4.8*

*NEIC **05** 11:24:36.7±0.2, 31.27S×71.22W, mb4.8/12, Error ellipse: s-maj=7.9km s-min=2.9km az=83.0*

NEIC Felt [IV] at Ovalle; [III] at Illapel and La Serena; [II] at La Ligua.

*GUC **05** 11:24:36.5±0.8, 31.32S×71.28W, h53^{km}±4^{km}, ML5.2*

*IDC **05** 11:24:36.7±4.1, 31.28S×71.27W, h58^{km}±35^{km}, mb4.5/10, mb1 4.7/12, mb1mx4.5/17, ML4.9/2, Error ellipse: s-maj=24.2km s-min=16.7km az=87.0*

*SYO **05** 11:24:36.9, 31.15S×70.99W, h57^{km}, MB4.8*

ISC 05 11:24:36.1±0.3**, 31.29S**±0.02×**71.22W**±0.08**, h64**^{km}±3^{km}**, h56**^{km}±.8^{km}**:pP-P, n128, σ0^{s}96**/96**, mb4.8**/25**, 4C-10D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ILCH	**Illapel**	**0.35**	**173**	⇓*i*P	**P**	**11 24 46.6**	**-0.5**
ILCH				*i* S	**S**	**11 24 53.9**	**-1.3**
ILCH				AMP		11 24 56.3	
	comp=N,134μm,0.2s						
OVCH	**Ovalle**	**0.68**	**1**	⇓*i*P	**P**	**11 24 51.3**	**+0.9**
OVCH				*i* S	**S**	**11 25 01.9**	**+0.7**
OVCH				AMP		11 25 05.6	
	comp=E,116μm,0.4s						
TLL	**Tololo Astrono**	**1.17**	**18**	⇓*i*P	**P**	**11 24 58.3**	**+1.4**
TLL				*i* S	**S**	**11 25 14.5**	**+2.1**
TLL				AMP		11 25 18.0	
	comp=N,118μm,0.5s						
LSCH	**La Serena**	**1.38**	**359**	⇓*i*P	**P**	**11 25 00.1**	**+0.3**
LSCH				*i* S	**S**	**11 25 17.8**	**+0.5**
LSCH				AMP		11 25 22.0	
	comp=E,46μm,0.5s						
JACH	**Jahuel**	**1.49**	**159**	⇑*i*P	**P**	**11 25 01.7**	**+0.5**
IHA	**Instituto Hidr**	**1.77**	**192**	*e*P	**P**	**11 25 03.9**	**-1.2**
PEL	**Peldehue**	**1.90**	**166**	*e*P	**P**	**11 25 06.8**	**-0.1**
PEL				*i* S	**S**	**11 25 30.1**	**+0.5**
PEL				AMP		11 25 45.0	
	comp=N,24μm,0.6s						
DSCH	**Colegio Aleman**	**2.17**	**166**	*e*P	**P**	**11 25 11.0**	**+0.3**
DSCH				AMP		11 25 51.0	
	comp=N,40μm,0.6s						
CLCH	**Cerro Calan**	**2.18**	**165**	*e*P	**P**	**11 25 10.8**	**0.0**
CLCH				*i* S	**S**	**11 25 36.7**	**+0.2**
CLCH				AMP		11 25 51.3	
	comp=N,26μm,0.7s						
FCH	**Farellones**	**2.18**	**159**	*e*P	**P**	**11 25 11.6**	**+0.8**
FCH				*i* S	**S**	**11 25 38.3**	**+1.7**
FCH				AMP		11 25 45.8	
	comp=E,13μm,0.3s						
PUEX	**Pudahuel**	**2.18**	**170**	*e*P	**P**	**11 25 10.9**	**+0.1**
PUEX				*i* S	**S**	**11 25 36.9**	**+0.3**
PUEX				AMP		11 25 51.4	
	comp=N,37μm,0.7s						
LCCH	**Las Cruces**	**2.20**	**188**	*e*P	**P**	**11 25 10.3**	**-0.8**
TACH	**Talagante**	**2.37**	**174**	*e*P	**P**	**11 25 13.4**	**-0.1**
PCH	**Pirque**	**2.40**	**166**	*i* P	**P**	**11 25 14.7**	**+0.8**
SJCH	**San Jose de Ma**	**2.46**	**163**	*e*P	**P**	**11 25 14.8**	**0.0**
SJCH				AMP		11 25 59.4	
	comp=E,9μm,0.5s						
MDZ	**Mendoza**	**2.56**	**129**	*i* P	**P**	**11 25 20.5**	**+4.3**
MDZ				*i* S	**S**	**11 25 59.5**	**+13**
LNV	**Longovilo**	**2.66**	**183**	*e*P	**P**	**11 25 16.2**	**-1.5**
CHCH	**Chadas Angostu**	**2.68**	**170**	*e*P	**P**	**11 25 17.8**	**-0.1**
LMEL	**Las Melosas**	**2.69**	**162**	*e*P	**P**	**11 25 18.9**	**+0.8**
LMEL				*i* S	**S**	**11 25 50.3**	**+0.8**
LMEL				AMP		11 26 00.4	
	comp=N,11μm,0.2s						
VACH	**Vallenar**	**2.73**	**8**	*e*P	**P**	**11 25 11.2**	**-7.4**
VACH				*i* S	**S**	**11 25 43.4**	**-7.2**
CACH	**El Canelo**	**2.87**	**170**	*e*P	**P**	**11 25 21.0**	**+0.5**
CICH	**Cipreses**	**3.10**	**168**	*e*P	**P**	**11 25 24.3**	**+0.6**
SFDO	**San Fernando**	**3.32**	**177**	*e*P	**P**	**11 25 26.2**	**-0.7**
NICH	**Los Niches**	**3.70**	**180**	*e*P	**P**	**11 25 31.3**	**-1.0**
CPCH	**Copiapo**	**3.99**	**11**	*e*P	**P**	**11 25 35.0**	**-1.3**
CPCH				*i* S	**S**	**11 26 19.8**	**-2.3**
CCHI	**Chillan**	**5.35**	**187**	*e*P	**P**	**11 25 53.5**	**-1.6**
CPN1	**Cerro Paranal**	**6.68**	**6**	*e*P	**P**	**11 26 11.7**	**-2.1**
ANCH	**Antofagasta**	**7.61**	**6**	*e*P	**P**	**11 26 20.8**	**-5.9**
LVC	**Limon Verde**	**8.88**	**14**	*e*Pn	**P**	**11 26 40.1**	**-4.0**
	comp=N,14nm,0.4s						
TRQA	**Tornquist**	**10.17**	**134**	*e*Pn	**P**	**11 27 00.8**	**-0.8**
	comp=N,33nm,0.9s						
TRQA				*e*		11 27 11.7	
CPUP	**Villa Florida**	**13.14**	**71**	P	**P**	**11 27 39.4**	**-2.0**
	comp=N,1.7nm,0.3s,baz=264,slow=12,SNR=37						
ARE	**Arequipa**	**14.76**	**359**	*e*P	**P**	**11 28 06.0**	**+3.3**
LPAZ	**La Paz**	**15.20**	**11**	P	**P**	**11 28 09.4**	**+1.1**
	comp=N,1.9nm,0.3s,baz=194,slow=8.6,SNR=46						
EFI	**East Falkland**	**22.56**	**158**	*e*P	**P**	**11 29 32.3**	**+0.8**
SAML	**Samuel**	**23.45**	**20**	*e*P	**P**	**11 29 39.9**	**-0.7**
	comp=N,11nm,0.8s,mb4.3						
USHA	**Ushuaia**	**23.61**	**176**	P	**P**	**11 29 43.0**	**+1.3**
	comp=N,40nm,0.7s,mb5.0,baz=332,slow=9.8,SNR=34						
BDFB	**Brasilia**	**26.29**	**59**	P	**P**	**11 30 07.2**	**-0.4**
	comp=N,14nm,0.6s,mb4.7,baz=235,slow=6.6,SNR=23						
PMSA	**Palmer Station**	**33.80**	**174**	P	**P**	**11 31 12.4**	**-1.3**
	comp=N,19nm,1.0s,mb5.0						
SDV	**Santo Domingo**	**39.95**	**1**	P	**P**	**11 32 02.8**	**-3.1**
	comp=N,19nm,0.9s,mb4.8						
SJG	**San Juan**	**49.36**	**6**	P	**P**	**11 33 19.5**	**-1.7**
	comp=N,11nm,0.7s,mb5.0,baz=239,slow=5.9,SNR=3.6						
VNA3	**Neumayer Olymp**	**51.61**	**159**	⇓*i*	**P**	**11 33 38.5**	**+0.8**
VNA1	**Neumayer--Stat**	**51.90**	**158**	⇑*i*	**P**	**11 33 42.0**	**+2.2**
VNA2	**Neumayer--Watz**	**52.25**	**158**	⇓*i*	**P**	**11 33 40.1**	**-2.3**
SNAA	**Sanae**	**53.84**	**159**	⇓*i*	**P**	**11 33 53.2**	**-1.0**
MAIT	**Maitri**	**58.51**	**157**	*e*P	**P**	**11 34 26.8**	**-0.8**
JCT	**Junction City**	**67.16**	**333**	*e*P	**P**	**11 35 24.8**	**-0.6**
	comp=N,14nm,0.9s,mb5.0						
JCT				*e*pP	pP	11 35 41.0	-1.8
TXAR	**Lajitas Array**	**67.73**	**330**	P	**P**	**11 35 28.6**	**-0.3**
	comp=N,6.0nm,0.8s,mb4.7,baz=151,slow=8.1,SNR=84						
SYO	**Syowa Base**	**68.13**	**159**	⇑P	**P**	**11 35 29.7**	**-1.1**
SYO	**Syowa Base**	**68.13**	**159**	⇑pP	pP	11 35 45.9	-2.3
SYO	**Syowa Base**	**68.13**	**159**	⇓sP	sP	11 35 50.4	-4.8
SYO	**Syowa Base**	**68.13**	**159**	⇓PcP	PcP	11 35 54.5	-1.9
WVT	**Waverly**	**68.85**	**346**	*e*P	**P**	**11 35 34.5**	**-1.4**
	comp=N,51nm,1.4s,mb5.3						
WVT				*e*pP	pP	11 35 50.5	-2.9
GDL2	**Guadalupe Moun**	**70.51**	**331**	*e*P	**P**	**11 35 45.7**	**-0.3**
CPRX	**Cap Rock**	**71.03**	**331**	*e*P	**P**	**11 35 49.2**	**+0.1**
CCM	**Cathedral Cave**	**71.47**	**343**	*e*P	**P**	**11 35 50.7**	**-0.9**
	comp=N,23nm,0.8s,mb5.2						
CCM				*e*pP	pP	11 36 06.7	-2.6
BNM	**Barren Site**	**73.15**	**330**	*e*P	**P**	**11 36 02.2**	**+0.6**
LIC	**Lamto**	**73.27**	**72**	*e*P	**P**	**11 36 02.8**	**+0.1**
	comp=N,114nm,1.3s,mb5.6						
LIC				*e*PcP	PcP	11 36 17.5	-1.6
TIC	**Toumodi**	**73.51**	**71**	*e*P	**P**	**11 36 04.1**	**-0.1**
	comp=N,30nm,0.6s,mb5.4						
TIC				*e*PcP	PcP	11 36 19.0	-1.2
KIC	**Kosan Boka**	**73.58**	**72**	*e*P	**P**	**11 36 04.7**	**+0.2**
	comp=N,68nm,0.7s,mb5.7						
KIC				*e*PcP	PcP	11 36 19.7	-0.8
LAZ	**Ladron**	**73.58**	**330**	*e*P	**P**	**11 36 04.8**	**+0.7**
DBIC	**Dimbokro**	**73.66**	**71**	P	**P**	**11 36 05.3**	**+0.3**
	comp=N,10nm,0.7s,mb4.8,baz=213,slow=5.9,SNR=11						
DBIC	**Dimbokro**	**73.66**	**71**	P	**P**	**11 36 05.3**	**+0.3**
MAW	**Mawson**	**75.58**	**163**	P	**P**	**11 36 14.9**	**0.0**
	comp=N,8.2nm,0.8s,mb4.7,baz=218,slow=5.5,SNR=16						
MSNY	**Massena**	**76.00**	**357**	P	**P**	**11 36 17.6**	**-0.2**
PV01	**Paradox Valley**	**77.36**	**331**	*e*P	**P**	**11 36 26.4**	**+0.7**
PV01				*e*pP	pP	11 36 41.8	-1.6
PV10	**Paradox Valley**	**77.76**	**330**	*e*P	**P**	**11 36 27.9**	**0.0**
NEN	**Nelson**	**78.18**	**325**	*e*P	**P**	**11 36 30.4**	**+0.2**
SRU	**San Rafael**	**79.01**	**330**	*e*P	**P**	**11 36 34.6**	**-0.1**
MSU	**Marysvale**	**79.24**	**328**	*e*P	**P**	**11 36 36.5**	**+0.6**
MSU				*e*pP	pP	11 36 52.3	-1.5
DAU	**Daniels Canyon**	**80.40**	**330**	*e*P	**P**	**11 36 42.6**	**+0.5**
JLU	**Jordanelle**	**80.64**	**330**	*e*P	**P**	**11 36 43.7**	**+0.3**
DUG	**Dugway**	**80.90**	**329**	*e*P	**P**	**11 36 45.0**	**+0.3**
	comp=N,21nm,1.4s,mb4.9						
MTUM	**Tungsten Hills**	**81.37**	**324**	*e*P	**P**	**11 36 48.3**	**+0.9**
BW06	**Boulder Array**	**81.67**	**333**	*e*P	**P**	**11 36 48.4**	**-0.3**
	comp=N,3.7nm,1.0s,mb4.3						
PDAR	**Pinedale Array**	**81.67**	**333**	P	**P**	**11 36 48.8**	**0.0**
	comp=N,2.6nm,0.7s,mb4.3,baz=132,slow=5.8,SNR=22						
MNV	**Mina**	**82.00**	**325**	*e*P	**P**	**11 36 50.6**	**0.0**
	comp=N,3.7nm,1.0s,mb4.3						
ELK	**Elko**	**82.43**	**328**	*e*P	**P**	**11 36 52.6**	**-0.1**
	comp=N,8.8nm,0.8s,mb4.7						
ASMM	**Slate Mountain**	**83.57**	**323**	*e*P	**P**	**11 37 00.4**	**+1.8**
QLMT	**Earthquake Lak**	**84.14**	**332**	*e*P	**P**	**11 37 02.5**	**+1.2**
HLID	**Hailey**	**84.33**	**330**	*e*P	**P**	**11 37 02.7**	**+0.5**
	comp=N,8.3nm,0.9s,mb4.9						
HLID				pP	pP	11 37 18.2	-2.1
HLID				*e*sP	sP	11 37 25.2	-2.0
MCMT	**McKenzie Canyo**	**84.71**	**332**	*e*P	**P**	**11 37 04.8**	**+0.8**
BOZ	**Bozeman (W)**	**84.90**	**333**	*e*P	**P**	**11 37 04.3**	**-0.7**
RPZ	**Rata Peaks**	**86.15**	**220**	P	**P**	**11 37 12.1**	**+0.9**
	comp=N,19nm,0.9s,mb5.3,baz=124,slow=0.7,SNR=3.8						
YBH	**Yreka Blue Hor**	**86.78**	**324**	P	**P**	**11 37 13.8**	**-0.5**
	comp=N,3.9nm,0.7s,mb4.7,baz=84,slow=6.0,SNR=9.5						
MSO	**Missoula**	**86.78**	**332**	P	**P**	**11 37 14.3**	**+0.1**
	comp=N,0.9nm,0.6s,mb4.2						
VGB	**Gordon Butte**	**88.69**	**328**	*e*P	**P**	**11 37 24.3**	**+0.9**
NEW	**Newport**	**89.22**	**331**	P	**P**	**11 37 25.9**	**+0.1**
	comp=N,1.8nm,0.7s,mb4.5,baz=132,slow=6.4,SNR=4.0						
GERES	**GERESS Array B**	**109.75**	**44**	PKiKP		11 43 00.7	
	comp=N,1.5nm,1.1s,baz=135,slow=1.9,SNR=3.8						
AKASG	**Malin Array Be**	**119.84**	**46**	PKP	PKPdf	11 43 18.8	0.0
	comp=N,2.8nm,0.8s,baz=260,slow=3.1,SNR=16						
BRTR	**Keskin Array B**	**119.89**	**59**	PKP	PKPdf	11 43 20.3	+1.1
	comp=N,0.7nm,0.5s,baz=108,slow=3.9,SNR=4.2						
ASAR	**Alice Springs**	**120.29**	**207**	PKP	PKPdf	11 43 20.6	+0.2
	comp=N,1.3nm,0.7s,baz=138,slow=2.0,SNR=8.8						
ASAR				PKKPbc		11 53 27.4	
	comp=N,0.3nm,0.6s,baz=315,slow=2.7,SNR=4.4						
WB2	**Warramunga Arr**	**123.46**	**209**	*e*P	PKPdf	11 43 27.0	+0.4
WRA	**Warramunga Arr**	**123.46**	**209**	PKP	PKPdf	11 43 26.9	+0.3
	comp=N,3.1nm,0.6s,baz=159,slow=1.7,SNR=28						
FITZ	**Fitzroy Crossi**	**128.29**	**201**	PKP	PKPdf	11 43 36.8	+0.8
	comp=N,1.5nm,0.6s,baz=168,slow=1.2,SNR=6.8						
ARU	**Arti**	**137.22**	**39**	*e*PKPdf	PKPdf	11 43 53.2	+1.6
BRVK	**Borovoye**	**144.73**	**41**	*e*PKPdf	PKPdf	11 44 06.3	+1.3
BRVK				*e*pPKPdf		11 44 22.4	
BVAR	**Borovoye Array**	**144.80**	**41**	PKP	PKPdf	11 44 06.7	+1.6
	comp=N,11nm,0.5s,baz=297,slow=3.3,SNR=83						
KAD	**Karad**	**145.69**	**106**	*e*PKP	PKPdf	11 44 09.1	+1.4
KAD				*e*		11 44 17.6	
POO	**Poona**	**146.01**	**104**	*e*PKP	PKPdf	11 44 08.0	-0.2
POO				*e*		11 45 27.1	
CUD	**Cuddapah**	**147.82**	**114**	*e*P	PKPdf	11 44 16.1	+4.9
CUD				*e*		11 44 32.6	
HYB	**Hyderabad**	**149.31**	**110**	*i* PKP	PKPdf	11 44 19.5	+5.9
HYB				*e*pPKP		11 44 36.0	
HYB	**Hyderabad**	**149.31**	**110**	*e*P	PKPdf	11 44 19.5	+5.9
HYB				*e*		11 44 36.0	
EKS2	**Erkin-Say**	**150.02**	**58**	P	PKPdf	11 44 21.8	+7.7
	SNR=11						
AML	**Almayashu**	**150.05**	**59**	P	PKPdf	11 44 22.0	+7.9
	SNR=5.2						
KURK	**Kurchatov**	**150.40**	**40**	*e*PKPbc	PKPdf	11 44 21.3	+7.0
USP	**Ospenovka**	**150.42**	**56**	P	PKPdf	11 44 22.3	+7.6
	SNR=12						
AAK	**Ala-Archa**	**150.54**	**58**	P	PKPdf	11 44 23.0	+8.1
	SNR=12						
AAK	**Ala-Archa**	**150.54**	**58**	*e*PKPbc	PKPdf	11 44 21.8	+6.9
UCH	**Uchtor**	**150.64**	**59**	P	PKPdf	11 44 23.4	+8.5
	SNR=18						
CHMS	**Chumysh**	**150.66**	**57**	P	PKPdf	11 44 22.9	+7.9
	SNR=5.3						
BHPL	**Bhopal**	**151.07**	**98**	*e*PKP	PKPdf	11 44 15.8	-0.5
KHET	**Khetri**	**151.23**	**88**	*e*PKP	PKPdf	11 44 17.9	+1.6
TKM2	**Tokmak 2**	**151.28**	**57**	P	PKPdf	11 44 24.3	+8.4
	SNR=8.5						
ZAL	**Zalesovo**	**151.56**	**30**	PKPbc	PKPdf	11 44 23.9	+8.0
KUDL	**Kundal**	**151.83**	**88**	*e*PKP	PKPdf	11 44 20.0	+2.8
ULHL	**Ulahol**	**151.89**	**58**	P	PKPdf	11 44 26.5	+10
	SNR=5.5						
IPM	**Ipoh**	**152.45**	**163**	⇓*e*P	PKPdf	11 44 27.0	+8.5
AYAN	**Aya Nagar**	**152.46**	**88**	*e*PKP	PKPdf	11 44 22.5	+4.4
MKAR	**Makanchi Array**	**154.42**	**45**	PKP	PKPdf	11 44 22.1	+1.9
	comp=N,1.4nm,0.8s,slow=1.2,SNR=8.9						
MKAR				PKPbc	PKPdf	11 44 30.1	+10
	comp=N,3.9nm,0.7s,baz=311,slow=2.3,SNR=24						
MKAR				PKPab	PKPab	11 44 45.8	+0.3
	comp=N,8.5nm,0.8s,baz=291,slow=3.0,SNR=20						
KOLN	**Koldanda**	**157.82**	**93**	*e*P	PKPab	11 45 15.1	+14
	comp=N,15nm,0.7s						
GKN	**Gorkha**	**158.77**	**93**	*e*P	PKPab	11 45 19.3	+14
	comp=N,14nm,0.7s						
DMN	**Daman**	**159.07**	**94**	*e*P	PKPab	11 45 18.9	+13
WMQ	**Urumqi**	**159.19**	**47**	*e*PKP	PKPdf	11 44 30.3	+3.9
KKN	**Kakani**	**159.26**	**94**	*e*P	PKPab	11 45 21.7	+15
	comp=N,32nm,1.1s						
PKI	**Pulchoki**	**159.32**	**94**	*e*P	PKPab	11 45 21.6	+14
	comp=N,20nm,1.1s						
SONM	**Songino Array**	**163.38**	**6**	PKP	PKPdf	11 44 32.2	+1.7
	comp=N,0.5nm,0.6s,baz=270,slow=1.2,SNR=4.2						
SONM				PKPab	PKPab	11 45 26.3	+2.2
	comp=N,0.5nm,0.6s,baz=270,slow=3.7,SNR=3.6						
GTA	**Gaotai**	**169.09**	**40**	*e*PKP	PKPdf	11 44 38.2	+2.9
GTA				APKP		11 44 54.8	
GTA				XPKP		11 45 02.3	
KMI	**Kunming**	**171.87**	**138**	*e*PKP	PKPdf	11 44 37.9	+0.5

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*JMA **05** 11:34:43.3±0.1, 33.08N×137.23E, h39^{km}±2^{km}, M3.5*

ISC 05 11:34:43.4±0.8**, 33.07N**±0.05×**137.22E**±0.03**, h41**^{km}±22^{km}**, n21, σ0^{s}74**/42**, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TK01	**Tokai 1**	**0.76**	**24**	P	**P**	**11 34 57.5**	**-0.2**
TK01				S	**S**	**11 35 07.4**	**-0.8**
TK02	**Tokai 2**	**0.98**	**27**	P	**P**	**11 35 00.7**	**-0.2**
TK02				S	**S**	**11 35 14.5**	**+0.7**
TK03	**Tokai 3**	**1.25**	**29**	P	**P**	**11 35 04.5**	**-0.3**
TK03				S	**S**	**11 35 20.9**	**+0.1**
JWZ	**Kozaga**	**1.34**	**290**	P	**P**	**11 35 06.0**	**-0.1**
JWZ				S	**S**	**11 35 22.0**	**-1.0**
JIE	**Ise**	**1.38**	**342**	P	**P**	**11 35 07.3**	**+0.6**
JIE				S	**S**	**11 35 24.0**	**0.0**
TK04	**Tokai 4**	**1.42**	**22**	P	**P**	**11 35 07.2**	**0.0**
TK04				S	**S**	**11 35 24.6**	**-0.3**
JKN	**Kiinagashima**	**1.42**	**326**	P	**P**	**11 35 07.4**	**+0.2**
JKN				S	**S**	**11 35 23.4**	**-1.5**
JWM	**Minabe**	**1.74**	**297**	P	**P**	**11 35 12.0**	**+0.2**
JWM				S	**S**	**11 35 32.5**	**-0.4**
TSUJ	**Tsu 2**	**1.76**	**338**	P	**P**	**11 35 13.3**	**+1.2**
TSUJ				S	**S**	**11 35 32.9**	**-0.6**
JWY	**Kouya**	**1.77**	**311**	P	**P**	**11 35 13.1**	**+0.9**
JWY				S	**S**	**11 35 34.9**	**+1.2**
JHE	**Heguri**	**2.03**	**321**	P	**P**	**11 35 16.5**	**+0.7**
JHE				S	**S**	**11 35 40.0**	**-0.1**
JIZS	**Izushimoda**	**2.14**	**40**	P	**P**	**11 35 18.6**	**+1.1**
JIZS				S	**S**	**11 35 42.1**	**-0.9**
SHZ3	**Shizuoka 3**	**2.15**	**22**	P	**P**	**11 35 17.1**	**-0.5**
SHZ3				S	**S**	**11 35 43.5**	**+0.3**
JHJ2	**Mitsune**	**2.18**	**88**	P	**P**	**11 35 17.5**	**-0.5**
JHJ2				S	**S**	**11 35 42.1**	**-1.9**
JAI	**Aioi**	**2.42**	**288**	P	**P**	**11 35 22.0**	**+0.5**
JAI				S	**S**	**11 35 48.9**	**-1.3**
JIM2	**Oshima 3**	**2.46**	**48**	P	**P**	**11 35 22.5**	**+0.4**
JIM2				S	**S**	**11 35 53.0**	**+1.8**
JGM	**Miyama**	**2.65**	**351**	P	**P**	**11 35 25.1**	**+0.3**
JGM				S	**S**	**11 35 55.6**	**-0.4**
JYN	**Shimob**	**2.66**	**24**	P	**P**	**11 35 25.0**	**+0.2**
JYN				S	**S**	**11 35 56.3**	**+0.2**
JWT	**Wachi**	**2.67**	**326**	P	**P**	**11 35 25.7**	**+0.7**
JWT				S	**S**	**11 35 56.0**	**-0.4**
JOD2	**Odawara 2**	**2.68**	**35**	P	**P**	**11 35 25.4**	**+0.3**
JOD2				S	**S**	**11 35 55.4**	**-1.2**
MAT	**Matsushiro**	**3.56**	**13**	P	**P**	**11 35 38.1**	**+0.5**
MAT				S	**S**	**11 36 19.1**	**+0.2**

WEL 05 11:41:27.3±0.4**, 35.22S**×**178.32E, h316**^{km}±10^{km}**, ML3.7**/1**, Error ellipse: s-maj=21.0km s-min=15.3km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MWZ	**Matawai**	**3.17**	**191**	PN	P	11 42 26.0	-0.2
MWZ				SN	S	11 43 11.6	-0.6
URZ	**Urewera**	**3.18**	**197**	PN	P	11 42 25.9	-0.4
URZ				SN	S	11 43 12.2	-0.2
BKZ	**Black Stump Fm**	**4.20**	**200**	PN	P	11 42 36.6	-0.3
BFZ	**Birch Farm**	**5.69**	**196**	PN	P	11 42 54.3	+0.4

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*IDC **05** 11:47:26.9±0.8, 53.01N×35.08W, mb3.9/12, mb1 4.1/14, mb1mx4.0/24, ML3.0/2, Error ellipse: s-maj=26.0km s-min=15.9km az=0.0*

*NEIC **05** 11:47:28.4±0.5, 52.98N×35.10W, h10^{km}, mb3.9/2, Error ellipse: s-maj=14.0km s-min=7.9km az=182.0*

ISC 05 11:47:26.8±0.6**, 53.0N**±0.1×**35.1W**±0.1**, h10**^{km}**, n22, σ0^{s}81**/18**, mb3.9**/12**, Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCHQ	**Schefferville**	**18.70**	**288**	P	**P**	**11 51 47.3**	**+0.3**
	0.1nm,0.3s,baz=91,slow=12,SNR=4.0						
ESK	**Eskdalemuir**	**18.73**	**70**	P	**P**	**11 51 48.7**	**+1.3**
	3.9nm,0.8s						
EKA	**Eskdalemuir Ar**	**18.75**	**70**	P	**P**	**11 51 46.5**	**-1.2**
	0.1nm,0.3s,baz=280,slow=9.3,SNR=7.8						
SUMG	**Summit**	**19.69**	**357**	P	**P**	**11 51 58.9**	**+0.3**
	11nm,1.1s						
ESDC	**Sonseca Array**	**25.07**	**110**	P	**P**	**11 52 52.7**	**+0.2**
	3.0nm,0.8s,mb3.9,baz=314,slow=9.1,SNR=13						
GERES	**GERESS Array B**	**30.56**	**78**	P	**P**	**11 53 43.0**	**+0.7**
	0.4nm,0.7s,mb3.4,baz=290,slow=9.1,SNR=3.1						
ARCES	**ARCESS Array B**	**31.77**	**36**	P	**P**	**11 53 51.6**	**-1.1**
	15nm,1.4s,mb4.6,baz=260,slow=5.5,SNR=3.2						
FINES	**FINESS Array B**	**32.99**	**51**	P	**P**	**11 54 01.7**	**-1.7**
	1.8nm,0.8s,mb4.1,baz=252,slow=6.0,SNR=5.1						
INK	**Inuvik**	**45.02**	**329**	P	**P**	**11 55 43.9**	**+0.3**
	2.6nm,1.1s,mb4.0,baz=60,slow=8.1,SNR=3.4						
BRTR	**Keskin Array B**	**47.45**	**77**	P	**P**	**11 56 04.3**	**+1.2**
	1.6nm,0.9s,mb4.0,baz=315,slow=5.2,SNR=4.8						
PDAR	**Pinedale Array**	**48.83**	**290**	P	**P**	**11 56 13.3**	**-0.5**
	0.5nm,0.7s,mb3.6,baz=53,slow=7.4,SNR=4.5						
DAWY	**Dawson**	**49.45**	**326**	*e*P	**P**	**11 56 18.3**	**-0.1**
PV10	**Paradox Valley**	**51.39**	**285**	*e*P	**P**	**11 56 33.9**	**+0.4**
ILAR	**Eielson Array**	**51.41**	**329**	P	**P**	**11 56 34.2**	**+1.0**
	1.0nm,1.0s,mb3.7,baz=49,slow=6.6,SNR=10						
TXAR	**Lajitas Array**	**54.47**	**273**	P	**P**	**11 56 55.5**	**-1.0**
	1.0nm,1.1s,mb3.6,baz=90,slow=3.8,SNR=4.2						
TXAR				PcP	PcP	11 57 59.8	-0.2
	0.3nm,0.5s,baz=81,slow=5.1,SNR=4.9						
MKAR	**Makanchi Array**	**67.17**	**41**	P	**P**	**11 58 22.1**	**-0.4**
	1.6nm,0.7s,mb4.2,baz=336,slow=6.0,SNR=13						
BDFB	**Brasilia**	**69.27**	**193**	P	**P**	**11 58 35.8**	**-0.2**
	1.1nm,0.6s,mb4.0,baz=104,slow=5.3,SNR=3.0						
SONM	**Songino Array**	**74.32**	**26**	P	**P**	**11 59 05.8**	**+0.3**
	0.9nm,0.9s,mb3.7,baz=342,slow=3.9,SNR=3.9						
WRA	**Warramunga Arr**	**145.99**	**18**	PKPbc	PKPbc	12 07 07.5	+0.7
	4.0nm,0.7s,baz=343,slow=3.3,SNR=48						
WB2	**Warramunga Arr**	**145.99**	**18**	*e*P	PKPbc	12 07 07.5	+0.7
ASAR	**Alice Springs**	**149.53**	**20**	PKPbc	PKPdf	12 07 16.9	+2.4
	2.0nm,0.6s,baz=352,slow=2.5,SNR=47						
ASPA	**Alice Springs**	**149.53**	**20**	*e*P	PKPdf	12 07 17.2	+2.7

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*IDC **05** 11:54:04.2±1.5, 52.98N×35.39W, mb3.7/4, mb1 3.8/5, mb1mx3.6/19, ML3.5/1, Error ellipse: s-maj=58.8km s-min=24.0km az=5.0*

ISC 05 11:54:04.5±1.4**, 53.1N**±0.3×**35.3W**±0.2**, h10**^{km}**, n7, σ0^{s}66**/5**, mb3.7**/4**, Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EKA	**Eskdalemuir Ar**	**18.86**	**70**	P	**P**	**11 58 26.6**	**0.0**
	0.1nm,0.3s,baz=270,slow=10.0,SNR=7.9						
ESDC	**Sonseca Array**	**25.22**	**109**	P	**P**	**11 59 31.3**	**-0.4**
	1.3nm,0.8s,mb3.5,baz=315,slow=10,SNR=6.6						
FINES	**FINESS Array B**	**33.05**	**51**	P	**P**	**12 00 41.2**	**-0.5**
	1.4nm,0.8s,mb3.9,baz=300,slow=11,SNR=2.5						
BRTR	**Keskin Array B**	**47.57**	**77**	P	**P**	**12 02 42.7**	**+0.9**
	0.9nm,0.7s,mb3.9,baz=309,slow=9.2,SNR=3.0						
PDAR	**Pinedale Array**	**48.68**	**289**	P	**P**	**12 02 50.4**	**0.0**
	0.3nm,0.7s,mb3.5,baz=82,slow=6.4,SNR=3.4						
WRA	**Warramunga Arr**	**145.96**	**18**	PKPbc	PKPbc	12 13 46.4	+2.0
	1.2nm,0.8s,baz=346,slow=3.5,SNR=5.2						
ASAR	**Alice Springs**	**149.50**	**20**	PKPbc	PKPdf	12 13 53.2	+1.1
	0.4nm,0.5s,baz=350,slow=2.1,SNR=7.5						

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*BJI **05** 12:01:12.5, 32.89N×136.77E, h12^{km}, mb4.5*

*NEIC **05** 12:01:12.6±0.4, 33.00N×136.78E, h10^{km}, mb4.3/3, Error ellipse: s-maj=8.2km s-min=7.2km az=125.0*

NEIC Recorded [1 JMA] in Nara and Wakayama Prefectures.

*JMA **05** 12:01:13.4±0.1, 33.00N×136.92E, h37^{km}, M4.4*

JMA Felt I J1.

*IDC **05** 12:01:16.5±0.6, 32.94N×136.90E, h39^{km}±4^{km}, mb3.7/15, mb1 3.8/18, mb1mx3.8/25, ML3.6/3, Error ellipse: s-maj=17.7km s-min=13.7km az=56.0*

ISC 05 12:01:13.3±1.1**, 33.03N**±0.03×**136.92E**±0.03**, h29**^{km}±8^{km}**, h38**^{km}±.8^{km}**:pP-P, n46, σ0^{s}93**/64**, mb3.9**/18**, 1C-10D, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TK01	**Tokai 1**	**0.92**	**37**	P	**Pn**	**12 01 30.2**	**-0.3**
TK01				S	**Sb**	**12 01 42.8**	**+0.2**
JWZ	**Kozaga**	**1.13**	**297**	⇑P	**Pn**	**12 01 33.2**	**-0.2**
JWZ				S	**Sn**	**12 01 47.1**	**-0.9**
TK02	**Tokai 2**	**1.15**	**37**	⇓P	**Pn**	**12 01 33.6**	**-0.1**
TK02				S	**Sn**	**12 01 48.6**	**0.0**
JKN	**Kiinagashima**	**1.33**	**336**	⇓P	**Pn**	**12 01 36.8**	**+0.4**
JKN				S	**Sn**	**12 01 52.5**	**-0.8**
JIE	**Ise**	**1.37**	**353**	⇓P	**Pn**	**12 01 37.5**	**+0.6**
JIE				S	**Sn**	**12 01 54.9**	**+0.7**
JWM	**Minabe**	**1.54**	**302**	⇓P	**Pn**	**12 01 39.5**	**+0.1**
JWM				S	**Sn**	**12 01 58.0**	**-0.6**
TK04	**Tokai 4**	**1.57**	**30**	⇓P	**Pn**	**12 01 39.9**	**+0.2**
TK04				S	**Sn**	**12 01 59.2**	**0.0**
JWY	**Kouya**	**1.62**	**317**	⇓P	**Pn**	**12 01 41.3**	**+0.8**
JWY				S	**Sn**	**12 02 00.7**	**+0.1**

TSUJ	Tsu 2	1.73	346	⇓P	Pn	12 01 42.6	+0.6
TSUJ				eS	Sn	12 02 04.0	+0.7
JHE	Heguri	1.92	328	⇓P	Pn	12 01 45.4	+0.7
JHE				eS	Sn	12 02 08.0	-0.1
JAJ2	Tsuna	2.19	310	⇓P	Pn	12 01 49.3	+0.7
JAJ2				eS	Sn	12 02 14.6	-0.5
JAI	Aioi	2.20	291	P	Pn	12 01 48.9	+0.1
JAI				eS	Sn	12 02 13.9	-1.4
SHZ3	Shizuoka 3	2.30	27	⇓P	Pn	12 01 49.7	-0.4
SHZ3				eS	Sn	12 02 15.3	-2.4
JIZS	Izushimoda	2.34	44	P	Pn	12 01 51.7	+0.9
JHJ	Hachijo jima 2	2.41	87	Pn	Pn	12 01 51.8	+0.1
	20nm,0.3s,baz=58,slow=19,SNR=3.8						
JHJ				Sn	Sn	12 02 18.6	-1.9
	45nm,0.3s,baz=63,slow=22,SNR=6.5						
JHJ2	Mitsune	2.43	87	P	Pn	12 01 51.5	-0.6
MAJO	Matsushiro	3.66	16	ePn	Pn	12 02 09.9	+0.4
MAJO				eSn	Sn	12 02 52.2	-0.1
MAT	Matsushiro	3.66	16	P	Pn	12 02 10.1	+0.6
MAT				S	Sn	12 02 51.3	-1.0
MAT	Matsushiro	3.66	16	eP	Pn	12 02 10.0	+0.5
MAT				eS	Sn	12 02 51.0	-1.3
JNU	Nakatsue	5.07	273	Pn	Pn	12 02 28.6	-1.0
	2.4nm,0.3s,baz=35,slow=14,SNR=11						
JNU				Sn	Sn	12 03 26.8	-1.2
	2.1nm,0.3s,baz=176,slow=27,SNR=4.6						
INCN	Inchon	9.51	301	P	P	12 03 29.8	-1.9
	10.0nm,0.4s						
ASAJ	Asahikawa	11.92	20	Pn	P	12 04 01.6	-2.8
	0.6nm,0.3s,baz=232,slow=15,SNR=8.6						
HHC	Hu-ho-hao-te	21.67	298	eP	P	12 06 05.1	+1.5
HHC				AMB	AMB		
	comp=Z,18nm,0.5s,mb4.8						
ENH	Enshi	23.49	271	eP	P	12 06 24.0	+2.3
	comp=Z,12nm,1.0s,mb4.3						
SONM	Songino Array	27.32	312	P	P	12 06 57.9	+0.3
	comp=Z,1.2nm,0.9s,mb3.4,baz=113,slow=9.4,SNR=5.4						
SONM				pP	pP	12 07 09.5	+3.6
	comp=Z,1.2nm,0.8s,baz=120,slow=10.0,SNR=4.7						
MKAR	Makanchi Array	43.26	305	P	P	12 09 15.1	+1.3
	comp=Z,1.9nm,0.6s,mb4.0,baz=90,slow=10,SNR=16						
MKAR				pP	pP	12 09 26.2	+3.9
	comp=Z,1.9nm,0.8s,baz=92,slow=11,SNR=9.7						
MKAR	Makanchi Array	43.26	305	P	P	12 09 15.1	+1.3
MKAR				pP	pP	12 09 26.2	+3.9
BVAR	Borovoye Array	50.62	314	P	P	12 10 12.1	+0.5
	comp=Z,0.8nm,0.5s,mb3.9,baz=120,slow=12,SNR=2.9						
BVAR				pP	pP	12 10 22.8	+2.4
	comp=Z,1.8nm,0.6s,baz=100,slow=8.8,SNR=6.1						
BVAR				PcP	PcP	12 11 28.2	-0.9
	comp=Z,1.1nm,0.7s,baz=76,slow=5.9,SNR=3.6						
ZRNK	Zerenda	51.46	314	eP	P	12 10 17.9	-0.1
	comp=Z,1.3nm,0.7s,mb4.0						
ZRNK				e		12 10 28.9	
WRA	Warramunga Arr	52.73	183	P	P	12 10 25.9	-2.1
	comp=Z,0.3nm,0.5s,mb3.5,baz=360,slow=7.6,SNR=4.7						
WRA				pP	pP	12 10 37.2	+0.5
	comp=Z,0.9nm,0.8s,baz=1.1,slow=7.7,SNR=5.4						
ASAR	Alice Springs	56.45	183	P	P	12 10 55.2	+0.2
	comp=Z,0.2nm,0.6s,mb3.4,baz=4.8,slow=11,SNR=4.4						
ASAR	Alice Springs	56.45	183	P	P	12 10 55.2	+0.2
INK	Inuvik	59.60	26	P	P	12 11 16.7	+0.2
	comp=Z,1.5nm,0.5s,mb4.3,baz=292,slow=11,SNR=9.8						
INK	Inuvik	59.60	26	eP	P	12 11 16.6	0.0
	comp=Z,1.6nm,0.6s,mb4.2						
STKA	Stephens Creek	64.71	176	P	P	12 11 49.8	-1.4
	comp=Z,0.5nm,0.5s,mb3.8,baz=9.0,slow=13,SNR=2.8						
ARCES	ARCESS Array B	66.42	339	P	P	12 12 01.6	0.0
	comp=Z,1.0nm,0.5s,mb4.1,baz=60,slow=9.8,SNR=7.1						
FINES	FINESS Array B	70.60	332	P	P	12 12 27.4	-0.2
	comp=Z,0.5nm,0.5s,mb3.7,baz=108,slow=8.8,SNR=6.2						
FINES				pP	pP	12 12 39.6	+3.1
	comp=Z,1.4nm,0.8s,baz=72,slow=4.4,SNR=2.1						
FINES	FINESS Array B	70.60	332	P	P	12 12 27.4	-0.2
FINES				pP	pP	12 12 39.6	+3.1
AKASG	Malin Array Be	75.15	321	P	P	12 12 54.6	+0.1
	comp=Z,0.8nm,0.4s,mb4.0,baz=50,slow=5.8,SNR=5.5						
HFS	Hagfors	76.16	334	P	P	12 13 00.4	+0.4
	comp=Z,1.5nm,0.5s,mb4.2,baz=56,slow=5.2,SNR=7.6						
HFS				pP	pP	12 13 11.9	+2.9
	comp=Z,1.2nm,0.5s,baz=27,slow=6.4,SNR=2.6						
NOA	NORSAR Array B	76.39	336	P	P	12 13 01.8	+0.5
	comp=Z,0.7nm,0.7s,mb3.7,baz=47,slow=5.8,SNR=3.5						
NOA	NORSAR Array B	76.39	336	P	P	12 13 01.8	+0.5
PDAR	Pinedale Array	83.10	43	P	P	12 13 39.3	+1.7
	comp=Z,0.2nm,0.6s,mb3.3,baz=280,slow=5.5,SNR=3.0						
PDAR				pP	pP	12 13 51.9	+5.1
	comp=Z,0.3nm,0.8s,baz=207,slow=2.0,SNR=2.8						
KHC	Kasperske Hory	83.93	327	eP	P	12 13 42.5	+0.8
GERES	GERESS Array B	84.08	326	P	P	12 13 43.4	+0.9
	comp=Z,0.8nm,0.8s,mb3.9,baz=37,slow=6.7,SNR=5.4						
GERES				pP	pP	12 13 54.9	+3.3
	comp=Z,0.6nm,0.7s,baz=37,slow=6.7,SNR=3.7						
TXAR	Lajitas Array	95.50	50	P	P	12 14 38.5	+1.5
	comp=Z,0.6nm,0.8s,mb4.1,baz=292,slow=3.1,SNR=7.2						
TXAR				pP	pP	12 14 50.9	+4.7
	comp=Z,0.4nm,0.7s,baz=302,slow=3.8,SNR=3.5						

JMA 05 12:02:17.0±0.1,33.08N×136.58E,h45^{km}±3^{km},M3.8

ISC 05 12:02:17.4±1.9,33.1N±0.1×136.60E±0.08,h45^{km},n9, σ0^{s}56/14,4D,Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JWZ	Kozaga	0.85	300	⇓P	P	12 02 32.7	-0.4
JWZ				S	S	12 02 44.0	-0.6
JKN	Kiinagashima	1.17	346	⇓P	P	12 02 37.5	-0.1
JKN				S	S	12 02 52.2	-0.4
JWM	Minabe	1.27	306	P	P	12 02 39.1	0.0
JIE	Ise	1.28	4	P	P	12 02 39.3	+0.1
JWY	Kouya	1.38	323	⇓P	P	12 02 41.2	+0.4
JWY				S	S	12 02 58.6	+0.5
TSUJ	Tsu 2	1.60	355	P	P	12 02 43.9	+0.1
JHE	Heguri	1.71	334	⇓P	P	12 02 45.8	+0.4
JHE				S	S	12 03 07.3	+1.1
JAI	Aioi	1.92	291	eS	S	12 03 10.8	-0.5
MAT	Matsushiro	3.67	21	P	P	12 03 13.8	+0.6
MAT				S	S	12 03 54.5	-1.2

THE 05 12:04:52.1,38.70N×20.47E,h10^{km},ML3.4

NEIC 05 12:04:52.7,38.70N×20.50E,h5^{km},MD3.4(ATH),After ATH.

ATH 05 12:04:52.5,38.72N×20.60E,h5^{km},MD3.5/5

ISC 05 12:04:51.6±0.9,38.71N±0.04×20.48E±0.06,h1^{km}±6^{km}, n15,σ0^{s}93/20,Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LKD	Levkas	0.14	90	ePg	Pg	12 04 55.1	+0.7
LKD				eSg	Sg	12 04 57.0	+0.8
VLS	Valsamata	0.54	171	ePB	Pb	12 05 03.4	-0.1
IGT	Igoumenitsa	0.83	352	ePg	Pg	12 05 07.3	-0.9
IGT				eSg	Sg	12 05 20.4	+1.1
JAN	Janina	0.99	17	ePB	Pb	12 05 10.5	-0.8
RLS	Riolos of Patr	1.01	130	ePB	Pb	12 05 10.9	-0.8
EVR	Evrytania	1.06	78	ePG	Pg	12 05 10.5	-2.3
KEK	Kerkira	1.14	333	ePB	Pb	12 05 14.7	+0.9
KZN	Kozani	1.89	32	ePn	Pn	12 05 30.6	+5.3
ITM	Ithomi	1.91	143	ePN	Pn	12 05 27.8	+2.2
LIT	Litokhoron	2.09	48	ePn	Pn	12 05 28.4	+0.1
	comp=Z,4.0nm,0.3s						
LIT				eSn	Sn	12 05 55.8	+0.5
MKIT	Kithairon Oros	2.25	103	ePg	Pg	12 05 37.0	+0.5
PAIG	Paliouri	2.77	63	ePn	Pn	12 05 37.7	-0.2
PAIG				eSn	Sn	12 06 12.5	0.0
VLI	Veliai	2.78	135	ePg	Pg	12 05 47.0	-0.2
SOH	Sokhos	3.06	45	ePn	Pn	12 05 41.8	-0.3
SOH				eSn	Sn	12 06 20.2	+0.2
SRS	Serrai	3.40	44	ePn	Pn	12 05 45.5	-1.4

JMA 05 12:11:23.9±0.3,32.98N×136.86E,h39^{km},M3.6

ISC 05 12:11:24.2±1.5,33.07N±0.08×136.85E±0.05,h20^{km}±8^{km}, n11,σ0^{s}50/20,4C-1D,Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JWZ	Kozaga	1.05	296	⇑P	Pb	12 11 43.4	-0.2
JWZ				S	Sb	12 11 56.8	-0.2
TK02	Tokai 2	1.16	41	P	Pb	12 11 44.5	-0.8
TK02				S	Sb	12 11 59.9	0.0
JKN	Kiinagashima	1.27	338	⇑P	Pn	12 11 47.3	+0.2
JKN				S	Sb	12 12 02.9	-0.3
JIE	Ise	1.32	355	⇓P	Pn	12 11 48.2	+0.4
JIE				S	Sb	12 12 05.3	+0.6
JWM	Minabe	1.47	302	P	Pn	12 11 49.6	-0.3
JWM				eS	Sn	12 12 07.8	-0.9
JWY	Kouya	1.55	318	⇑P	Pn	12 11 51.7	+0.6
JWY				S	Sn	12 12 10.8	0.0
TK04	Tokai 4	1.56	33	S	Sn	12 12 10.2	-0.9
TSUJ	Tsu 2	1.67	348	P	Pn	12 11 53.3	+0.5
TSUJ				eS	Sn	12 12 13.5	-0.3
JWT	Wachi	2.51	332	⇑P	Pn	12 12 05.4	+0.6
JGM	Miyama	2.62	358	P	Pn	12 12 06.9	+0.5
JGM				S	Sn	12 12 38.5	+0.5
MAT	Matsushiro	3.64	17	P	Pn	12 12 21.1	+0.3
MAT				S	Sn	12 13 03.4	-0.3

JMA 05 12:30:35.2±0.1,33.16N×137.12E,h46^{km},M3.8

ISC 05 12:30:34.0±2.2,33.22N±0.09×137.17E±0.08,h19^{km}±13^{km}, n7,σ0^{s}45/13,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JWZ	Kozaga	1.25	285	P	Pn	12 30 56.3	-0.4
JWZ				S	Sb	12 31 12.1	-0.4
JKN	Kiinagashima	1.27	324	P	Pn	12 30 57.3	+0.3
JKN				S	Sb	12 31 13.2	+0.1
TSUJ	Tsu 2	1.61	338	P	Pn	12 31 02.3	+0.4
TSUJ				eS	Sn	12 31 22.6	+0.3
JWM	Minabe	1.64	293	P	Pn	12 31 02.5	+0.3
JWM				S	Sn	12 31 22.3	-0.6
JWY	Kouya	1.65	308	S	Sn	12 31 23.4	+0.2
JHE	Heguri	1.89	320	P	Pn	12 31 06.4	+0.6
JHE				S	Sn	12 31 29.5	+0.2
MAT	Matsushiro	3.42	14	P	Pn	12 31 27.7	0.0
MAT				S	Sn	12 32 07.3	-1.0

IDC 05 12:34:52.5±2.2,52.95N×35.34W,mb3.8/4,mb1 3.8/5, mb1mx3.6/20,ML3.4/1,Error ellipse: s-maj=62.4km s-min=39.2km az=27.0,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EKA	Eskdalemuir Ar	18.91	70	P	P	12 39 14.2	-2.4
	0.1nm,0.3s,baz=195,slow=29,SNR=4.4						
ESDC	Sonseca Array	25.18	109	P	P	12 40 19.2	-1.5
	0.9nm,0.8s,baz=310,slow=9.5,SNR=6.2						
BRTR	Keskin Array B	47.61	77	P	P	12 43 30.4	-1.2
	1.2nm,0.7s,baz=297,slow=5.5,SNR=4.0						
BVAR	Borovoye Array	57.63	44	P	P	12 44 43.8	-2.4
	0.8nm,0.7s,slow=3.0,SNR=5.1						
MKAR	Makanchi Array	67.32	41	P	P	12 45 48.5	-2.3
	0.7nm,0.6s,baz=329,slow=7.1,SNR=4.4						
WRA	Warramunga Arr	146.10	18	PKPbc	PKPbc	12 54 33.6	-0.7
	2.0nm,0.8s,baz=343,slow=3.3,SNR=16						
ASAR	Alice Springs	149.64	20	PKPbc	PKPdf	12 54 43.4	+2.6
	1.5nm,0.7s,baz=347,slow=2.3,SNR=24						

NEIC 05 12:36:17.0±0.3,32.96N×136.81E,h10^{km},mb4.3/5,Error ellipse: s-maj=8.5km s-min=6.7km az=135.0

NEIC Recorded [2 JMA] in Mie, Nara and Wakayama Prefectures, Honshu.

JMA 05 12:36:18.1±0.1,33.00N×136.94E,h39^{km}±4^{km},M4.1

JMA Felt II J1.

IDC 05 12:36:20.9±0.6,32.91N×136.92E,h38^{km}±4^{km},mb3.9/18, mb1 4.1/21,mb1mx4.0/29,ML3.9/3,Error ellipse: s-maj=17.2km s-min=14.2km az=70.0

ISC 05 12:36:18.1±1.1,33.03N±0.03×136.96E±0.03,h30^{km}±7^{km}, h36^{km}±.8^{km}:pP-P,n52,σ1^{s}01/74,mb4.0/23,15D,Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TK01	Tokai 1	0.90	36	P	Pn	12 36 34.9	0.0
TK01				S	Sb	12 36 47.1	+0.3
TK02	Tokai 2	1.13	36	⇓P	Pn	12 36 38.3	+0.2
TK02				S	Sn	12 36 53.4	+0.6
JWZ	Kozaga	1.15	296	⇓P	Pn	12 36 38.1	-0.3
JWZ				S	Sn	12 36 51.9	-1.4
JKN	Kiinagashima	1.34	335	⇓P	Pn	12 36 41.6	+0.4
JKN				S	Sn	12 36 57.3	-0.8
JIE	Ise	1.37	351	⇓P	Pn	12 36 42.3	+0.7
JIE				S	Sn	12 36 58.5	-0.4
TK04	Tokai 4	1.55	29	⇓P	Pn	12 36 44.5	+0.3
TK04				S	Sn	12 37 03.7	+0.3
JWM	Minabe	1.57	302	⇓P	Pn	12 36 44.3	-0.1
JWM				S	Sn	12 37 02.8	-1.0
JWY	Kouya	1.64	316	⇓P	Pn	12 36 46.1	+0.7
JWY				S	Sn	12 37 05.6	-0.1
TSUJ	Tsu 2	1.73	345	⇓P	Pn	12 36 47.4	+0.7
TSUJ				S	Sn	12 37 08.0	0.0
JHE	Heguri	1.93	327	⇓P	Pn	12 36 50.2	+0.6
JHE				S	Sn	12 37 13.3	+0.2
JAJ2	Tsuna	2.21	309	⇓P	Pn	12 36 54.1	+0.5
JAJ2				S	Sn	12 37 20.3	+0.1
JAI	Aioi	2.23	291	⇓P	Pn	12 36 53.6	-0.2
JAI				S	Sn	12 37 18.7	-1.9
SHZ3	Shizuoka 3	2.28	27	⇓P	Pn	12 36 54.4	-0.2
SHZ3				S	Sn	12 37 20.4	-1.6
JHJ	Hachijo jima 2	2.38	87	Pn	Pn	12 36 56.1	+0.1
	50nm,0.3s,baz=136,slow=4.7,SNR=11						
JHJ				Sn	Sn	12 37 22.7	-1.7
	141nm,0.3s,baz=125,slow=21,SNR=18						
JHJ2	Mitsune	2.40	87	P	Pn	12 36 56.1	-0.3
JHJ2				S	Sn	12 37 23.4	-1.7
JWT	Wachi	2.59	331	⇓P	Pn	12 36 59.3	+0.3
JWT				S	Sn	12 37 30.0	+0.2
JIM2	Oshima 3	2.66	50	P	Pn	12 37 00.1	+0.1
JIM2				S	Sn	12 37 29.9	-1.7
JGM	Miyama	2.67	356	⇓P	Pn	12 37 00.7	+0.6
JGM				S	Sn	12 37 31.7	-0.1
MAJO	Matsushiro	3.65	16	⇓ePn	Pn	12 37 14.8	+0.7
MAJO				eSn	Sn	12 37 56.2	-0.5
MAT	Matsushiro	3.65	16	P	Pn	12 37 14.6	+0.5
MAT				S	Sn	12 37 56.0	-0.6
MAT	Matsushiro	3.65	16	eP	Pn	12 37 15.0	+0.9
MAT				eS	Sn	12 37 56.0	-0.6
JNU	Nakatsue	5.10	273	Pn	Pn	12 37 33.5	-1.2
	6.6nm,0.3s,baz=86,slow=12,SNR=27						
JNU				Sn	Sn	12 38 30.0	-3.3
	4.1nm,0.3s,baz=6.0,slow=19,SNR=2.9						
ASAJ	Asahikawa	11.91	20	Pn	P	12 39 06.8	-2.1
	0.7nm,0.3s,baz=241,slow=10,SNR=17						
BJT	Baijiatuau	18.08	299	eP	P	12 40 42.6	+14
ENH	Enshi	23.52	271	eP	P	12 41 28.5	+1.9
	29nm,1.1s,mb4.6						
ENH				e		12 41 38.3	
SONM	Songino Array	27.34	312	P	P	12 42 03.3	+0.9
	0.8nm,0.6s,mb3.5,baz=121,slow=9.0,SNR=8.0						
ZAL	Zalesovo	42.08	316	P	P	12 44 09.6	+0.9
	3.5nm,0.2s,mb4.5,baz=325,slow=5.5,SNR=3.9						
ZAL				pP	pP	12 44 19.6	+2.0
	1.9nm,0.3s,baz=300,slow=3.7,SNR=1.8						
KURK	Kurchatov	45.64	311	eP	P	12 44 37.7	+0.1
	4.8nm,1.0s,mb4.4						
KURK				e	pP	12 44 48.5	+2.1
BVAR	Borovoye Array	50.64	314	P	P	12 45 16.3	-0.1
	1.1nm,0.5s,mb4.0,baz=100,slow=9.0,SNR=7.8						
BVAR				pP	pP	12 45 28.2	+2.8
	3.3nm,0.7s,baz=100,slow=9.0,SNR=14						
BVAR				PcP	PcP	12 46 33.3	-0.5
	1.9nm,0.9s,baz=108,slow=4.7,SNR=5.1						
BRVK	Borovoye	50.70	314	eP	P	12 45 15.6	-1.3
	3.7nm,0.8s,mb4.4						
BRVK				e		12 45 27.9	
FITZ	Fitzroy Crossi	51.98	194	P	P	12 45 25.0	-2.0
	1.3nm,0.8s,mb3.9,baz=349,slow=5.2,SNR=3.2						
WRA	Warramunga Arr	52.73	183	P	P	12 45 30.8	-1.9
	0.8nm,1.0s,mb3.6,baz=359,slow=7.8,SNR=5.9						
WRA				pP	pP	12 45 42.0	+0.3
	1.3nm,0.9s,baz=359,slow=7.7,SNR=6.1						
COLA	College	54.39	31	eP	P	12 45 42.8	-1.4
	1.7nm,0.7s,mb4.1						
ILAR	Eielson Array	54.81	31	P	P	12 45 47.3	0.0
	1.2nm,0.9s,mb3.9,baz=274,slow=6.0,SNR=15						
ILAR				pP	pP	12 45 58.7	+2.4
	0.5nm,0.8s,baz=272,slow=5.0,SNR=3.1						
ILAR	Eielson Array	54.81	31	P	P	12 45 47.3	0.0
ILAR				pP	pP	12 45 58.7	+2.4
ASAR	Alice Springs	56.46	183	P	P	12 45 58.9	-0.9
	0.5nm,0.9s,mb3.6,baz=12,slow=13,SNR=6.7						
INK	Inuvik	59.59	26	P	P	12 46 21.7	+0.6
	2.5nm,0.5s,mb4.5,baz=303,slow=5.6,SNR=12						
INK	Inuvik	59.59	26	P	P	12 46 21.7	+0.6
ARCES	ARCESS Array B	66.43	339	P	P	12 47 06.7	+0.5
	1.8nm,0.6s,mb4.3,baz=67,slow=9.2,SNR=10						
FINES	FINESS Array B	70.61	332	P	P	12 47 32.5	+0.2
	1.7nm,0.7s,mb4.1,baz=112,slow=10,SNR=6.9						
FINES				pP	pP	12 47 44.2	+2.7
	1.0nm,0.6s,baz=108,slow=6.0,SNR=1.6						
AKASG	Malin Array Be	75.17	321	P	P	12 47 58.7	-0.5
	0.6nm,0.4s,mb3.9,baz=44,slow=6.2,SNR=6.5						
HFS	Hagfors	76.17	334	P	P	12 48 04.7	0.0
	2.3nm,0.5s,mb4.3,baz=63,slow=3.3,SNR=12						
NB2	NORSAR Subarra	76.40	336	P	P	12 48 06.2	+0.2
	0.1nm,0.6s,mb2.9,baz=51,slow=5.8						
NOA	NORSAR Array B	76.40	336	P	P	12 48 06.5	+0.5
	5.2nm,1.1s,mb4.4,baz=46,slow=5.6,SNR=5.9						
BRTR	Keskin Array B	78.69	310	P	P	12 48 20.6	+1.5
	2.5nm,1.1s,mb4.1,baz=153,slow=8.3,SNR=3.7						
BRTR				pP	pP	12 48 31.6	+3.1
	1.2nm,0.8s,baz=90,slow=1.4,SNR=2.6						
BOZ	Bozeman (W)	80.12	42	eP	P	12 48 28.1	+1.4
	0.8nm,0.7s,mb3.8						
PDAR	Pinedale Array	83.08	43	P	P	12 48 44.1	+1.9
	0.5nm,0.8s,mb3.6,baz=315,slow=2.1,SNR=3.8						
GERES	GERESS Array B	84.09	326	P	P	12 48 47.8	+0.6
	1.0nm,0.8s,mb4.0,baz=18,slow=4.2,SNR=6.7						
GERES				pP	pP	12 48 60.0	+3.4
	0.8nm,0.7s,baz=27,slow=6.0,SNR=4.1						
EKA	Eskdalemuir Ar	85.59	338	P	P	12 48 55.9	+1.4
	0.7nm,0.8s,mb3.9,baz=45,slow=3.5,SNR=3.6						
PV10	Paradox Valley	86.17	46	eP	P	12 49 00.1	+2.3
PV01	Paradox Valley	86.61	46	eP	P	12 49 01.6	+1.6
TXAR	Lajitas Array	95.47	50	P	P	12 49 43.5	+1.9
	0.9nm,0.7s,mb4.3,baz=290,slow=3.6,SNR=10						
TXAR				pP	pP	12 49 54.3	+3.3
	0.6nm,0.7s,baz=306,slow=4.0,SNR=5.3						

TAP 05 12:36:57.8,24.42N×121.62E,h40^{km},ML4.1,6C-9D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ENA	Nanau	0.11	86	eP	P	12 37 04.9	+0.4
ENA				S	S	12 37 09.7	+0.5
ENTT	Nioudou	0.22	347	⇑iP	P	12 37 06.0	+0.6
NNS	Nan Shan	0.23	275	⇓iP	P	12 37 06.0	+0.6
NNS				S	S	12 37 11.5	+0.9
TWC	Suao	0.28	48	⇑iP	P	12 37 06.3	+0.3
TWC				S	S	12 37 12.2	+0.6
TWE	Neicheng	0.30	8	⇑iP	P	12 37 06.8	+0.6
TWE				S	S	12 37 13.2	+1.3
TWD	Chiawan	0.34	184	⇓iP	P	12 37 06.1	-0.5
TWD				S	S	12 37 12.4	-0.3
NSK	Sanguang	0.35	317	⇓iP	P	12 37 07.0	+0.3
NSK				S	S	12 37 13.2	+0.3
ILA	Ilan	0.36	19	eP	P	12 37 07.5	+0.6
ILA				S	S	12 37 15.0	+1.9
HWA	Hwalien	0.44	182	P	P	12 37 07.4	-0.4
HWA				S	S	12 37 15.1	+0.3
TWA	Mucha	0.56	357	⇓iP	P	12 37 09.8	+0.4
TWA				S	S	12 37 18.7	+1.1
NSTT	Nanjuang	0.60	291	⇓iP	P	12 37 10.5	+0.6
NSTT				S	S	12 37 19.4	+0.7
TAP1	Taipei	0.62	352	eP	P	12 37 10.9	+0.7
TAP1				S	S	12 37 19.8	+0.6
TAP	Taipei	0.62	350	eP	P	12 37 10.2	-0.1
TAP				S	S	12 37 19.8	+0.5
ESL	Shilin	0.63	196	eP	P	12 37 09.1	-1.2
ESL				S	S	12 37 17.9	-1.4
NWF	Wu-fen Shan	0.66	13	⇓iP	P	12 37 11.3	+0.5
NWF				S	S	12 37 21.0	+0.8
NCU	National Centr	0.68	324	P	P	12 37 11.2	+0.3
NCU				S	S	12 37 21.7	+1.2
TWB1	Santiao Chiao	0.68	30	P	P	12 37 11.6	+0.7
TWB1				S	S	12 37 21.3	+0.8
TWS1	Kuangyinshan	0.70	345	⇓iP	P	12 37 11.6	+0.3
TWS1				S	S	12 37 21.8	+0.7
HSN	Hsinchu	0.70	303	P	P	12 37 11.5	+0.2
HSN				S	S	12 37 22.3	+1.1
NSY	Sanyi	0.78	270	eP	P	12 37 13.4	+0.9
NSY				S	S	12 37 25.5	+2.3
SMLT	Sun Moon Lake	0.85	231	eP	P	12 37 14.3	+0.9
SMLT				S	S	12 37 26.1	+1.4
TWY	Chenhua	0.85	359	eP	P	12 37 13.2	-0.3
TWY				S	S	12 37 24.9	0.0
TYC	Yuchr	0.87	234	⇓iP	P	12 37 14.6	+1.0
TYC				S	S	12 37 25.8	+0.5
TCU	Taichung	0.90	253	eP	P	12 37 14.4	+0.3
TCU				S	S	12 37 27.7	+1.5
EHY	Hungye	0.95	197	eP	P	12 37 12.9	-1.9
WNT	Mingjian	1.01	238	⇑iP	P	12 37 16.8	+1.1
WNT				S	S	12 37 31.1	+2.1
TWF1	Yuli	1.10	196	eP	P	12 37 14.9	-2.0
ALS	Alishan	1.17	220	⇓iP	P	12 37 19.3	+1.4
ALS				S	S	12 37 34.7	+1.7
CHN5	Tsauling	1.19	227	⇑iP	P	12 37 19.4	+1.2
CHN5				S	S	12 37 35.9	+2.4
WGK	Gukeng	1.21	233	P	P	12 37 19.7	+1.2
CHKT	Chengkung	1.33	190	eP	P	12 37 19.5	-0.9
WTCT	Ta-ch’eng	1.34	246	eP	P	12 37 20.1	-0.4
WTCT				S	S	12 37 37.6	+0.2
ELDTW	Lidau	1.34	204	eP	P	12 37 19.8	-0.8
CHN4	Tsaushan	1.42	222	eP	P	12 37 22.8	+1.2
CHN4				S	S	12 37 42.4	+3.1
CHY	Chiayi	1.43	230	eP	P	12 37 21.9	+0.2
STYT	Tauyuan	1.48	212	eP	P	12 37 23.3	+0.9
STYT				S	S	12 37 43.4	+2.7
WTP	Ta-pu	1.49	218	⇑P	P	12 37 23.5	+1.0
WTP				S	S	12 37 43.6	+2.7
WSF	Szhu	1.50	239	P	P	12 37 22.9	+0.2
WSF				S	S	12 37 42.2	+1.1
CHN1	Nanshi	1.58	219	eP	P	12 37 24.6	+0.7
CHN1				S	S	12 37 46.2	+2.9
SGST	Jiashian	1.64	216	eP	P	12 37 25.1	+0.5
SGST				S	S	12 37 48.0	+3.3
TWG	Pinlang	1.67	198	eP	P	12 37 22.7	-2.4
CHN8	Yiju	1.68	231	eP	P	12 37 25.4	+0.2
CHN3	Shinhua	1.76	221	eP	P	12 37 28.2	+1.7
SSD	Sandimen	1.90	209	eP	P	12 37 29.3	+1.0
ECL	Taimali	1.92	199	eP	P	12 37 27.5	-1.1
PNG	Penghu	2.07	246	eP	P	12 37 29.2	-1.6
PNG				S	S	12 37 53.0	-2.6
WDGT	Dungji	2.13	238	eP	P	12 37 30.5	-1.2
WDGT				S	S	12 37 55.7	-1.5
EAST	Anshuo	2.15	199	eP	P	12 37 33.8	+1.9
SCZT	Fangliau	2.24	204	eP	P	12 37 33.3	+0.1

JMA 05 12:37:43.8±0.1,33.04N×136.90E,h40^{km},M3.5

ISC 05 12:37:44.1±1.6,33.07N±0.08×136.92E±0.06,h43^{km}±37^{km}, n12,σ0^{s}54/21,1D,Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JWZ	Kozaga	1.11	295	⇓P	P	12 38 02.9	-0.5
JWZ				S	S	12 38 17.1	-0.7
TK02	Tokai 2	1.12	38	eS	S	12 38 17.7	-0.3
JKN	Kiinagashima	1.30	335	P	P	12 38 06.4	+0.2
JKN				S	S	12 38 22.2	-0.4
JIE	Ise	1.33	352	P	P	12 38 07.1	+0.4
JIE				eS	S	12 38 23.6	+0.1
JWM	Minabe	1.52	301	P	P	12 38 09.5	+0.1
JWM				S	S	12 38 27.8	-0.4
TK04	Tokai 4	1.54	31	eS	S	12 38 28.2	-0.3
JAA	Atsumi	1.57	7	eS	S	12 38 29.1	-0.3
JWY	Kouya	1.60	316	P	P	12 38 11.0	+0.6
JWY				eS	S	12 38 30.9	+0.9
TSUJ	Tsu 2	1.69	346	P	P	12 38 12.1	+0.4
TSUJ				eS	S	12 38 32.5	+0.2
JHE	Heguri	1.89	327	P	P	12 38 15.1	+0.6
JHE				eS	S	12 38 38.1	+0.9
JAI	Aioi	2.19	290	P	P	12 38 18.8	0.0
JAI				eS	S	12 38 43.9	-0.9
MAT	Matsushiro	3.62	17	P	P	12 38 39.7	+0.5
MAT				S	S	12 39 20.3	-1.0

JMA 05 12:38:22.4±0.1,33.09N×137.16E,h32^{km}±4^{km},M3.5

*IDC **05** 12:38:26.3±1.3, 33.27N×136.23E, mb3.9/5, mb1 4.1/5, mb1mx3.7/21, Error ellipse: s-maj=67.4km s-min=32.0km az=83.0*

ISC 05 12:38:25.1±1.1**, 33.26N**±0.05×**137.05E**±0.04**, h15^{km}**±8^{km}**, n16, σ1^{s}05**/22**, mb3.9**/5**, 1D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	**Tokai 1**	**0.68**	**41**	*e*S	**Sb**	**12 38 46.9**	**0.0**
TK02	**Tokai 2**	**0.90**	**40**	*e*S	**Sb**	**12 38 53.7**	**+0.2**
JWZ	**Kozaga**	**1.15**	**284**	P	**Pb**	**12 38 44.7**	**-1.4**
JWZ				S	**Sb**	**12 39 00.9**	**+0.2**
JIE	**Ise**	**1.17**	**346**	P	**Pb**	**12 38 46.2**	**-0.2**
JIE				S	**Sb**	**12 39 03.6**	**+2.5**
JKN	**Kiinagashima**	**1.19**	**327**	S	**Sb**	**12 39 02.7**	**+1.1**
JAA	**Atsumi**	**1.37**	**3**	⇓P	**Pn**	**12 38 47.9**	**-1.9**
JAA				S	**Sb**	**12 39 07.2**	**+0.2**
JWM	**Minabe**	**1.54**	**293**	P	**Pn**	**12 38 50.6**	**-1.5**
JWM				*e*S	**Sn**	**12 39 11.3**	**-0.5**
TSUJ	**Tsu 2**	**1.54**	**340**	*e*S	**Sn**	**12 39 12.4**	**+0.5**
JWY	**Kouya**	**1.55**	**309**	P	**Pn**	**12 38 51.6**	**-0.7**
JWY				*e*S	**Sn**	**12 39 12.5**	**+0.4**
JHE	**Heguri**	**1.80**	**321**	*e*S	**Sn**	**12 39 19.2**	**+0.7**
MAT	**Matsushiro**	**3.41**	**16**	P	**Pn**	**12 39 17.3**	**-1.6**
MAT				S	**Sn**	**12 39 58.6**	**-0.8**
WRA	**Warramunga Arr**	**52.96**	**183**	P	**P**	**12 47 44.5**	**+1.2**
	0.9nm,0.7s,mb3.8,baz=4.3,slow=7.8,SNR=5.3						
ASAR	**Alice Springs**	**56.69**	**183**	P	**P**	**12 48 11.6**	**+1.2**
	0.5nm,0.9s,mb3.5,baz=16,slow=11,SNR=4.1						
STKA	**Stephens Creek**	**64.93**	**176**	P	**P**	**12 49 07.6**	**+1.4**
	0.8nm,0.6s,mb3.9,baz=319,slow=11,SNR=3.0						
BRTR	**Keskin Array B**	**78.61**	**310**	P	**P**	**12 50 27.1**	**-0.6**
	2.2nm,1.2s,mb4.0,baz=45,slow=4.1,SNR=3.6						
TXAR	**Lajitas Array**	**95.27**	**50**	P	**P**	**12 51 55.0**	**+5.3**
	0.5nm,0.8s,mb4.0,baz=270,slow=2.5,SNR=4.7						

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*IDC **05** 12:39:07.1±1.2, 53.05N×35.16W, mb3.7/10, mb1 3.9/11, mb1mx3.8/23, ML3.0/1, Error ellipse: s-maj=37.1km s-min=19.4km az=3.0*

*NEIC **05** 12:39:08.7±0.7, 53.07N×35.15W, h10^{km}, Error ellipse: s-maj=24.4km s-min=10.8km az=178.0*

ISC 05 12:39:07.3±0.9**, 53.2N**±0.2×**35.1W**±0.1**, h10^{km}, n16, σ0^{s}75**/13**, mb3.7**/10**, Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EKA	**Eskdalemuir Ar**	**18.73**	**70**	P	**P**	**12 43 29.2**	**+1.2**
	0.0nm,0.3s,baz=274,slow=11,SNR=9.1						
ESDC	**Sonseca Array**	**25.13**	**110**	P	**P**	**12 44 32.6**	**-1.1**
	2.1nm,0.8s,mb3.7,baz=314,slow=8.3,SNR=12						
ARCES	**ARCESS Array B**	**31.67**	**36**	P	**P**	**12 45 31.4**	**-1.1**
	1.6nm,0.8s,mb3.9,baz=249,slow=10,SNR=3.8						
FINES	**FINESS Array B**	**32.92**	**51**	P	**P**	**12 45 43.0**	**-0.4**
	2.8nm,0.8s,mb4.2,baz=270,slow=9.7,SNR=5.4						
BRTR	**Keskin Array B**	**47.45**	**77**	P	**P**	**12 47 44.6**	**+0.9**
	1.7nm,1.1s,mb3.9,baz=315,slow=5.2,SNR=5.0						
PDAR	**Pinedale Array**	**48.76**	**289**	P	**P**	**12 47 53.5**	**-0.4**
	0.6nm,0.9s,mb3.6,baz=60,slow=12,SNR=3.1						
ILAR	**Eielson Array**	**51.28**	**329**	P	**P**	**12 48 12.5**	**-0.3**
	0.5nm,0.8s,mb3.5,baz=50,slow=7.0,SNR=8.0						
PV10	**Paradox Valley**	**51.33**	**285**	*e*P	**P**	**12 48 14.6**	**+1.0**
TXAR	**Lajitas Array**	**54.44**	**273**	P	**P**	**12 48 36.7**	**-0.1**
	0.2nm,0.9s,mb3.1,baz=84,slow=8.2,SNR=2.3						
BVAR	**Borovoye Array**	**57.40**	**44**	P	**P**	**12 48 57.8**	**-0.1**
	1.0nm,0.7s,mb4.0,baz=297,slow=6.6,SNR=5.8						
MKAR	**Makanchi Array**	**67.09**	**41**	P	**P**	**12 50 02.2**	**-0.4**
	1.0nm,0.7s,mb4.0,baz=321,slow=6.2,SNR=10						
MKAR	**Makanchi Array**	**67.09**	**41**	P	**P**	**12 50 02.2**	**-0.4**
SONM	**Songino Array**	**74.21**	**26**	P	**P**	**12 50 46.2**	**+0.8**
	0.5nm,0.7s,mb3.5,baz=338,slow=7.8,SNR=3.3						
WRAB	**Tennant Creek**	**145.87**	**18**	*e*PKPbc	PKPbc	12 58 47.7	+0.7
WRA	**Warramunga Arr**	**145.87**	**18**	PKPbc	PKPbc	12 58 47.6	+0.6
	3.0nm,0.7s,baz=341,slow=3.3,SNR=39						
ASAR	**Alice Springs**	**149.41**	**20**	PKPbc	PKPdf	12 58 57.0	+2.2
	1.4nm,0.7s,baz=348,slow=2.2,SNR=21						
ASAR				PKPab	PKPab	12 59 03.2	-0.1
	2.7nm,1.2s,baz=356,slow=4.2,SNR=7.6						

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*NEIC **05** 12:42:18.1±0.3, 33.03N×136.77E, h10^{km}, mb4.5/2, Error ellipse: s-maj=9.8km s-min=7.6km az=98.0*

NEIC Recorded [2 JMA] in Mie, Nara and Wakayama Prefectures.

*JMA **05** 12:42:18.9±0.1, 33.02N×136.93E, h34^{km}, M4.6*

JMA Felt II J1.

*IDC **05** 12:42:22.2±0.8, 33.01N×136.99E, h39^{km}±5^{km}, mb3.7/17, mb1 3.9/19, mb1mx3.9/26, ML3.3/2, MS4.0/1, Ms1 4.0/1, ms1mx3.6/24, Error ellipse: s-maj=19.5km s-min=16.4km az=61.0*

ISC 05 12:42:19.0±1.2**, 33.05N**±0.03×**136.96E**±0.03**, h29^{km}**±8^{km}**, h38^{km}**±1.2^{km}**:pP-P, n51, σ0^{s}92**/68**, mb3.9**/18**, 12D, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	**Tokai 1**	**0.89**	**36**	P	**Pn**	**12 42 35.6**	**-0.1**
TK01				S	**Sb**	**12 42 47.5**	**+0.1**
TK02	**Tokai 2**	**1.12**	**36**	⇓P	**Pn**	**12 42 39.0**	**+0.1**
TK02				S	**Sn**	**12 42 52.5**	**-0.9**
JWZ	**Kozaga**	**1.15**	**295**	⇓P	**Pn**	**12 42 38.9**	**-0.4**
JWZ				S	**Sn**	**12 42 52.4**	**-1.8**
JKN	**Kiinagashima**	**1.33**	**334**	⇓P	**Pn**	**12 42 42.3**	**+0.3**
JKN				S	**Sn**	**12 42 58.1**	**-0.7**
JIE	**Ise**	**1.36**	**351**	⇓P	**Pn**	**12 42 43.0**	**+0.7**
JIE				S	**Sn**	**12 43 00.3**	**+0.8**
TK04	**Tokai 4**	**1.54**	**30**	⇓P	**Pn**	**12 42 45.3**	**+0.4**
TK04				S	**Sn**	**12 43 04.6**	**+0.5**
JWM	**Minabe**	**1.56**	**301**	⇓P	**Pn**	**12 42 45.0**	**-0.2**
JWM				S	**Sn**	**12 43 03.4**	**-1.3**
JWY	**Kouya**	**1.63**	**316**	⇓P	**Pn**	**12 42 46.8**	**+0.5**
JWY				S	**Sn**	**12 43 06.3**	**-0.2**
TSUJ	**Tsu 2**	**1.72**	**345**	⇓P	**Pn**	**12 42 48.1**	**+0.6**
TSUJ				S	**Sn**	**12 43 09.3**	**+0.6**
JHE	**Heguri**	**1.92**	**327**	⇓P	**Pn**	**12 42 50.9**	**+0.5**
JHE				S	**Sn**	**12 43 14.2**	**+0.4**
JAJ2	**Tsuna**	**2.20**	**309**	⇓P	**Pn**	**12 42 54.8**	**+0.3**
JAJ2				S	**Sn**	**12 43 20.6**	**-0.4**
JAI	**Aioi**	**2.22**	**290**	⇓P	**Pn**	**12 42 54.4**	**-0.3**
JAI				S	**Sn**	**12 43 19.3**	**-2.2**
SHZ3	**Shizuoka 3**	**2.27**	**27**	P	**Pn**	**12 42 55.1**	**-0.3**
SHZ3				S	**Sn**	**12 43 21.1**	**-1.5**
JIZS	**Izushimoda**	**2.31**	**43**	P	**Pn**	**12 42 57.0**	**+1.0**
JHJ	**Hachijo jima 2**	**2.37**	**87**	Pn	**Pn**	**12 42 57.0**	**+0.1**
	16nm,0.3s,baz=267,slow=19,SNR=2.4						
JHJ				Sn	**Sn**	**12 43 23.2**	**-2.1**
	78nm,0.3s,baz=230,slow=22,SNR=8.8						
JHJ				LR	LR	12 43 34.8	
	comp=Z,3µm,18.3s,baz=318,slow=30						
JHJ2	**Mitsune**	**2.40**	**88**	*e*S	**Sn**	**12 43 23.5**	**-2.5**
JWT	**Wachi**	**2.58**	**330**	⇓P	**Pn**	**12 43 00.3**	**+0.5**
JWT				S	**Sn**	**12 43 30.6**	**+0.1**
MAJO	**Matsushiro**	**3.64**	**16**	*e*Pn	**Pn**	**12 43 15.5**	**+0.7**
MAT	**Matsushiro**	**3.64**	**16**	P	**Pn**	**12 43 15.1**	**+0.3**
MAT				S	**Sn**	**12 43 56.4**	**-0.9**
MAT	**Matsushiro**	**3.64**	**16**	*e*P	**Pn**	**12 43 15.0**	**+0.2**
MAT				*e*S	**Sn**	**12 43 56.0**	**-1.3**
ASAJ	**Asahikawa**	**11.90**	**20**	Pn	**P**	**12 45 07.8**	**-1.9**
	0.3nm,0.3s,baz=252,slow=20,SNR=4.5						
SONM	**Songino Array**	**27.34**	**312**	P	**P**	**12 48 04.0**	**+0.8**
	0.7nm,0.5s,mb3.4,baz=108,slow=8.8,SNR=5.6						
SONM				pP	pP	12 48 16.0	+4.2
	0.8nm,0.6s,baz=124,slow=9.4,SNR=6.4						
MKAR	**Makanchi Array**	**43.27**	**305**	P	**P**	**12 50 20.2**	**+0.7**
	1.5nm,0.5s,mb4.0,baz=84,slow=11,SNR=18						
MKAR				pP	pP	12 50 31.9	+3.7
	1.9nm,0.7s,baz=89,slow=12,SNR=9.5						
KURK	**Kurchatov**	**45.64**	**311**	*e*P	**P**	**12 50 37.4**	**-1.1**
KURK				*e*		12 50 49.6	
BVAR	**Borovoye Array**	**50.63**	**314**	P	**P**	**12 51 17.2**	**-0.1**
	0.8nm,0.5s,mb4.0,baz=101,slow=7.6,SNR=7.6						
BVAR				pP	pP	12 51 28.7	+2.5
	2.2nm,0.7s,baz=100,slow=9.0,SNR=11						
BVAR				PcP	PcP	12 52 34.3	-0.5
	1.9nm,0.9s,baz=63,slow=3.3,SNR=4.6						
BRVK	**Borovoye**	**50.70**	**314**	P	**P**	**12 51 17.6**	**-0.2**
	3.2nm,0.8s,mb4.3						
BRVK				*e*		12 51 29.1	
WRA	**Warramunga Arr**	**52.75**	**183**	P	**P**	**12 51 31.8**	**-1.9**
	0.7nm,0.9s,mb3.6,baz=359,slow=8.3,SNR=3.6						
ILAR	**Eielson Array**	**54.80**	**31**	P	**P**	**12 51 47.6**	**-0.6**
	1.1nm,0.9s,mb3.9,baz=267,slow=5.5,SNR=10						
ASAR	**Alice Springs**	**56.47**	**183**	P	**P**	**12 52 00.7**	**-0.1**
	0.2nm,0.5s,mb3.4,baz=16,slow=11,SNR=5.3						
INK	**Inuvik**	**59.57**	**26**	P	**P**	**12 52 22.4**	**+0.4**
	2.9nm,0.5s,mb4.5,baz=248,slow=3.4,SNR=14						
INK	**Inuvik**	**59.57**	**26**	*e*P	**P**	**12 52 22.0**	**+0.1**
	3.4nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**64.72**	**176**	P	**P**	**12 52 56.2**	**-0.6**
	0.7nm,0.8s,mb3.8,baz=337,slow=7.7,SNR=2.5						
STKA	**Stephens Creek**	**64.72**	**176**	P	**P**	**12 52 56.2**	**-0.6**
ARCES	**ARCESS Array B**	**66.42**	**339**	P	**P**	**12 53 07.5**	**+0.4**
	2.0nm,0.7s,mb4.2,baz=72,slow=7.7,SNR=9.3						
ARCES	**ARCESS Array B**	**66.42**	**339**	P	**P**	**12 53 07.5**	**+0.4**
FINES	**FINESS Array B**	**70.60**	**332**	P	**P**	**12 53 33.1**	**-0.1**
	1.7nm,0.7s,mb4.1,baz=117,slow=4.3,SNR=5.5						
AKASG	**Malin Array Be**	**75.16**	**321**	P	**P**	**12 53 59.9**	**-0.2**
	1.2nm,0.5s,mb4.0,baz=52,slow=5.7,SNR=7.3						
AKASG				pP	pP	12 54 11.4	+2.1
	0.4nm,0.3s,baz=50,slow=7.4,SNR=2.2						
HFS	**Hagfors**	**76.16**	**334**	P	**P**	**12 54 05.5**	**-0.1**
	2.5nm,0.7s,mb4.2,baz=76,slow=6.1,SNR=9.3						
NB2	**NORSAR Subarra**	**76.39**	**336**	P	**P**	**12 54 07.2**	**+0.3**
	1.3nm,1.1s,mb3.8,baz=43,slow=5.6						
NOA	**NORSAR Array B**	**76.39**	**336**	P	**P**	**12 54 07.1**	**+0.2**
	1.9nm,0.9s,mb4.0,baz=46,slow=5.6,SNR=4.2						
NOA	**NORSAR Array B**	**76.39**	**336**	P	**P**	**12 54 07.1**	**+0.2**
BRTR	**Keskin Array B**	**78.68**	**310**	P	**P**	**12 54 19.8**	**-0.2**
	1.1nm,0.9s,mb3.8,baz=72,slow=4.6,SNR=3.4						
TPNV	**Topopah Spring**	**82.51**	**51**	*e*P	**P**	**12 54 41.6**	**+1.3**
CLL	**Collm**	**82.64**	**328**	P	**P**	**12 54 42.0**	**+1.3**
CLL	**Collm**	**82.64**	**328**	*e*P	**P**	**12 54 42.0**	**+1.3**
PRU	**Pruhonice**	**82.88**	**327**	*e*P	**P**	**12 54 43.0**	**+1.0**
PDAR	**Pinedale Array**	**83.07**	**43**	P	**P**	**12 54 44.8**	**+1.7**
	0.2nm,0.4s,mb3.5,baz=315,slow=3.8,SNR=3.1						
KHC	**Kasperske Hory**	**83.93**	**327**	*e*P	**P**	**12 54 48.0**	**+0.7**
GERES	**GERESS Array B**	**84.08**	**326**	P	**P**	**12 54 48.9**	**+0.8**
	0.8nm,0.8s,mb3.9,baz=34,slow=4.8,SNR=6.4						
GERES				pP	pP	12 55 00.7	+3.3
	0.5nm,0.7s,baz=18,slow=4.2,SNR=2.9						
PV10	**Paradox Valley**	**86.16**	**46**	*e*P	**P**	**12 55 00.7**	**+2.0**
TXAR	**Lajitas Array**	**95.47**	**50**	P	**P**	**12 55 43.8**	**+1.4**
	0.8nm,0.7s,mb4.2,baz=296,slow=3.3,SNR=8.9						

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*IDC **05** 12:43:36.4±1.4, 52.92N×35.22W, mb3.8/5, mb1 3.9/6, mb1mx3.7/20, ML3.5/1, Error ellipse: s-maj=52.1km s-min=23.9km az=6.0*

*NEIC **05** 12:43:38.0±0.9, 52.86N×35.19W, h10^{km}, mb4.0/2, Error ellipse: s-maj=25.0km s-min=13.0km az=185.0*

ISC 05 12:43:37.0±1.1**, 53.0N**±0.2×**35.1W**±0.2**, h10^{km}, n11, σ0^{s}69**/9**, mb3.8**/5**, Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ESK	**Eskdalemuir**	**18.76**	**70**	*e*P	**P**	**12 47 58.5**	**+0.5**
	13nm,1.3s						
EKA	**Eskdalemuir Ar**	**18.79**	**70**	P	**P**	**12 47 58.8**	**+0.5**
	0.1nm,0.3s,baz=278,slow=11,SNR=8.6						
SUMG	**Summit**	**19.73**	**357**	*e*P	**P**	**12 48 09.5**	**+0.3**
	7.0nm,0.9s						
ESDC	**Sonseca Array**	**25.07**	**109**	P	**P**	**12 49 02.4**	**-0.3**
	1.2nm,0.6s,mb3.6,baz=311,slow=8.6,SNR=12						
FINES	**FINESS Array B**	**33.03**	**51**	P	**P**	**12 50 12.4**	**-1.7**
	2.0nm,0.8s,mb4.1,baz=281,slow=9.7,SNR=4.9						
BRTR	**Keskin Array B**	**47.48**	**77**	P	**P**	**12 52 14.3**	**+0.7**
	1.6nm,1.0s,mb3.9,baz=342,slow=3.9,SNR=3.8						
PDAR	**Pinedale Array**	**48.82**	**290**	P	**P**	**12 52 23.6**	**-0.4**
	0.4nm,0.8s,mb3.5,baz=39,slow=5.8,SNR=2.4						
PV10	**Paradox Valley**	**51.38**	**285**	*e*P	**P**	**12 52 44.1**	**+0.5**
BVAR	**Borovoye Array**	**57.52**	**44**	P	**P**	**12 53 28.0**	**-0.3**
	0.8nm,0.8s,mb3.8,baz=315,slow=6.1,SNR=3.8						
WRA	**Warramunga Arr**	**146.03**	**18**	PKPbc	PKPbc	13 03 17.3	+0.3
	2.4nm,0.7s,baz=346,slow=3.3,SNR=15						
ASAR	**Alice Springs**	**149.57**	**20**	PKPbc	PKPdf	13 03 26.4	+1.7
	1.4nm,0.7s,baz=354,slow=2.6,SNR=14						

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*ISK **05** 12:44:14.0, 36.92N×27.63E, h10^{km}, MD3.2*

*NEIC **05** 12:44:16.7, 36.88N×27.63E, h25^{km}, MD3.2(ATH), After ATH.*

*ATH **05** 12:44:16.7, 36.88N×27.63E, h25^{km}±5^{km}, MD3.2/7*

ISC 05 12:44:15.7±0.6**, 36.93N**±0.03×**27.71E**±0.04**, h12^{km}**±4^{km}**, n20, σ0^{s}89**/28**, 1C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.25**	**302**	*i* P	**Pg**	**12 44 21.8**	**+0.7**
BDRM				*i* S	**Sg**	**12 44 25.5**	**+0.8**
MLSB	**Milas**	**0.36**	**9**	*i* PG	**Pg**	**12 44 22.9**	**-0.4**
MLSB				*i* SG	**Sg**	**12 44 28.2**	**-0.2**
YER	**Yerkesik**	**0.50**	**66**	*i* PG	**Pg**	**12 44 25.2**	**-0.8**
NISR	**Nisiros**	**0.56**	**235**	*e*PB	**Pb**	**12 44 27.7**	**+0.7**
AYDN	**Tasoluk**	**0.74**	**11**	*i* P	**Pb**	**12 44 30.0**	**0.0**
AYDN				*i* S	**Sb**	**12 44 39.5**	**-0.2**
DALT	**Dalyan (Mudla)**	**0.77**	**102**	PG	**Pg**	**12 44 29.7**	**-1.5**
DALT				SG	**Sg**	**12 44 42.8**	**+1.3**
ARG	**Arkhangelos**	**0.79**	**155**	⇑*i*PB	**Pb**	**12 44 30.8**	**-0.1**
ARG				*e*SN	**Sn**	**12 44 43.5**	**-0.6**
SMG	**Samos**	**1.04**	**318**	*e*PB	**Pb**	**12 44 36.0**	**+0.9**
DNZL	**Cakiroluk**	**1.31**	**54**	*i* P	**Pb**	**12 44 39.8**	**0.0**
DENT	**Denizli**	**1.34**	**52**	PN	**Pn**	**12 44 40.1**	**-0.1**
KARP	**Karpathos**	**1.45**	**198**	*e*PN	**Pn**	**12 44 41.8**	**-0.1**
IZM	**Izmir**	**1.50**	**347**	PN	**Pn**	**12 44 42.0**	**-0.6**
KDAG	**Bornova**	**1.51**	**347**	*i* P	**Pn**	**12 44 42.0**	**-0.6**
KDAG				*i* S	**Sb**	**12 45 07.7**	**+5.7**
MANT	**Manisa**	**1.69**	**23**	*i* P	**Pn**	**12 44 44.9**	**-0.4**
MANT				*i* S	**Sn**	**12 45 09.9**	**+2.9**
KSL	**Kastellorizon**	**1.70**	**117**	*e*PN	**Pn**	**12 44 47.5**	**+2.0**
APE	**Apeiranthos**	**1.75**	**275**	*e*PB	**Pb**	**12 44 46.0**	**-1.2**
ELL	**Elmali**	**1.78**	**95**	*e*PN	**Pn**	**12 44 46.6**	**+0.1**
AKS	**Akhisar**	**1.94**	**2**	*e*PN	**Pn**	**12 44 47.8**	**-1.1**
PRK	**Paraskevi**	**2.57**	**334**	*e*PB	**Pb**	**12 45 01.5**	**+0.2**
ULDT	**Uludag**	**3.39**	**19**	*i* P	**Pn**	**12 45 19.5**	**+10**
ULDT				*i* S	**Sn**	**12 46 04.4**	**+14**

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*JMA **05** 12:44:24.2±0.1, 33.05N×136.70E, h43^{km}, M3.9*

ISC 05 12:44:24.5±1.5**, 33.08N**±0.08×**136.74E**±0.06**, h36^{km}**±36^{km}**, n11, σ0^{s}58**/21**, 8D, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JWZ	**Kozaga**	**0.97**	**298**	P	**P**	**12 44 41.3**	**-0.4**
JWZ				S	**S**	**12 44 53.4**	**-1.1**
JKN	**Kiinagashima**	**1.23**	**341**	⇓P	**P**	**12 44 45.7**	**+0.3**
JKN				S	**S**	**12 45 00.8**	**-0.3**
JIE	**Ise**	**1.31**	**359**	⇓P	**P**	**12 44 47.0**	**+0.4**
JIE				S	**S**	**12 45 02.8**	**-0.3**
JWM	**Minabe**	**1.39**	**304**	⇓P	**P**	**12 44 47.6**	**-0.2**
JWM				*e*S	**S**	**12 45 04.7**	**-0.4**
JWY	**Kouya**	**1.48**	**320**	⇓P	**P**	**12 44 49.8**	**+0.7**
JWY				S	**S**	**12 45 08.3**	**+0.8**
TK04	**Tokai 4**	**1.61**	**36**	S	**S**	**12 45 10.2**	**-0.5**
TSUJ	**Tsu 2**	**1.65**	**351**	⇓P	**P**	**12 44 51.8**	**+0.4**
TSUJ				S	**S**	**12 45 11.6**	**0.0**
JHE	**Heguri**	**1.80**	**331**	⇓P	**P**	**12 44 54.2**	**+0.6**
JHE				S	**S**	**12 45 16.0**	**+0.6**
JAI	**Aioi**	**2.04**	**291**	⇓P	**P**	**12 44 56.8**	**-0.3**
JAI				S	**S**	**12 45 20.6**	**-1.0**
JAJ2	**Tsuna**	**2.04**	**311**	⇓P	**P**	**12 44 57.5**	**+0.4**
JAJ2				*e*S	**S**	**12 45 22.4**	**+0.8**
MAT	**Matsushiro**	**3.66**	**19**	P	**P**	**12 45 20.4**	**+0.3**
MAT				S	**S**	**12 46 01.6**	**-1.1**

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*JMA **05** 12:53:03.7±0.2, 33.01N×136.71E, h31^{km}, M3.7*

*NEIC **05** 12:53:04.5±0.6, 33.07N×136.58E, h10^{km}, mb4.0/2, Error ellipse: s-maj=13.0km s-min=9.2km az=117.0*

*BJI **05** 12:53:05.0, 33.70N×137.26E, h31^{km}, mb4.4*

*IDC **05** 12:53:16.1±0.7, 32.56N×135.69E, h81^{km}±6^{km}, mb3.6/6, mb1 3.7/9, mb1mx3.5/25, MS4.1/1, Ms1 4.1/1, ms1mx3.9/22, Error ellipse: s-maj=22.3km s-min=14.8km az=63.0*

ISC 05 12:53:03.7±1.1**, 33.07N**±0.05×**136.71E**±0.04**, h19^{km}**±7^{km}**, n21, σ0^{s}54**/31**, mb3.9**/8**, 4C, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JWZ	**Kozaga**	**0.95**	**299**	⇑P	**Pb**	**12 53 21.4**	**0.0**
JWZ				S	**Sb**	**12 53 34.0**	**+0.4**
TK01	**Tokai 1**	**1.01**	**46**	P	**Pb**	**12 53 22.2**	**-0.1**
TK01				S	**Sb**	**12 53 35.8**	**+0.6**
JKN	**Kiinagashima**	**1.23**	**342**	⇑P	**Pn**	**12 53 26.1**	**0.0**
JKN				S	**Sb**	**12 53 41.6**	**-0.1**
TK02	**Tokai 2**	**1.23**	**45**	P	**Pn**	**12 53 25.5**	**-0.6**
TK02				S	**Sb**	**12 53 42.0**	**+0.3**
JIE	**Ise**	**1.32**	**360**	⇑P	**Pn**	**12 53 27.7**	**+0.4**
JIE				S	**Sb**	**12 53 43.7**	**-0.4**
JWM	**Minabe**	**1.38**	**305**	⇑P	**Pn**	**12 53 27.8**	**-0.3**
JWM				S	**Sb**	**12 53 45.2**	**-0.6**
JWY	**Kouya**	**1.48**	**321**	P	**Pn**	**12 53 30.0**	**+0.4**
JWY				S	**Sn**	**12 53 48.5**	**0.0**
TSUJ	**Tsu 2**	**1.65**	**352**	P	**Pn**	**12 53 32.4**	**+0.3**
TSUJ				S	**Sn**	**12 53 52.6**	**-0.4**
MAJO	**Matsushiro**	**3.68**	**19**	*e*Pn	**Pn**	**12 54 01.3**	**+0.4**
MAT	**Matsushiro**	**3.68**	**19**	P	**Pn**	**12 54 01.1**	**+0.2**
MAT				S	**Sn**	**12 54 43.4**	**-0.8**
MAT	**Matsushiro**	**3.68**	**19**	*e*P	**Pn**	**12 54 01.0**	**+0.1**
MAT				*e*S	**Sn**	**12 54 43.0**	**-1.2**
JNU	**Nakatsue**	**4.90**	**272**	P	**Pn**	**12 54 17.9**	**-0.4**
	0.5nm,0.3s,baz=148,slow=9.5,SNR=3.7						
JNU				LR	LR	12 55 21.4	
	comp=Z,2µm,21.2s,baz=283,slow=31						
HHC	**Hu-ho-hao-te**	**21.50**	**298**	*e*P	**P**	**12 57 53.1**	**-0.3**
HHC				AMB	AMB		
	comp=Z,13nm,0.5s,mb4.5						
SONM	**Songino Array**	**27.17**	**312**	P	**P**	**12 58 48.6**	**+0.9**
	comp=Z,1.0nm,0.8s,mb3.4,baz=118,slow=8.9,SNR=8.6						
MKAR	**Makanchi Array**	**43.09**	**305**	P	**P**	**13 01 05.2**	**+1.1**
	comp=Z,3.1nm,1.0s,mb4.0,baz=88,slow=10,SNR=10						
MKAR	**Makanchi Array**	**43.09**	**305**	P	**P**	**13 01 05.2**	**+1.1**
BVAR	**Borovoye Array**	**50.47**	**314**	P	**P**	**13 02 02.4**	**+0.3**
	comp=Z,0.9nm,0.5s,mb4.0,baz=100,slow=9.0,SNR=8.4						
BRVK	**Borovoye**	**50.53**	**314**	*e*P	**P**	**13 02 03.5**	**+0.9**
	comp=Z,1.6nm,0.8s,mb4.0						
ZRNK	**Zerenda**	**51.31**	**314**	*e*P	**P**	**13 02 08.6**	**+0.1**
	comp=Z,1.2nm,0.8s,mb3.9						
WRA	**Warramunga Arr**	**52.76**	**183**	P	**P**	**13 02 18.6**	**-1.3**
	comp=Z,0.7nm,0.7s,mb3.7,baz=359,slow=7.8,SNR=8.4						
ASAR	**Alice Springs**	**56.48**	**183**	P	**P**	**13 02 46.6**	**-0.4**
	comp=Z,1.4nm,1.1s,mb3.9,baz=15,slow=10,SNR=5.8						

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*JMA **05** 12:53:27.5±0.2, 33.08N×136.67E, h47^{km}, M3.8*

ISC 05 12:53:26.4±0.9**, 33.05N**±0.05×**136.72E**±0.04**, h51^{km}**±11^{km}**, n23, σ0^{s}86**/25**, mb3.8**/5**, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JWZ	**Kozaga**	**0.97**	**300**	P	**P**	**12 53 43.8**	**-0.1**
JWZ				S	**S**	**12 53 55.9**	**-1.1**
JKN	**Kiinagashima**	**1.26**	**342**	P	**P**	**12 53 48.3**	**+0.3**
JWM	**Minabe**	**1.40**	**305**	*e*S	**S**	**12 54 07.3**	**-0.2**
JWY	**Kouya**	**1.50**	**321**	*e*S	**S**	**12 54 10.9**	**+0.9**
TK03	**Tokai 3**	**1.52**	**43**	*e*S	**S**	**12 54 10.9**	**+0.4**
JAA	**Atsumi**	**1.62**	**12**	S	**S**	**12 54 12.8**	**-0.1**
TK04	**Tokai 4**	**1.65**	**35**	*e*S	**S**	**12 54 13.7**	**+0.2**
HMMJ	**Hamamatsu 2**	**1.99**	**24**	*e*S	**S**	**12 54 21.2**	**-0.7**
JAO	**Obara**	**2.26**	**11**	*e*S	**S**	**12 54 28.7**	**-0.1**
JIZS	**Izushimoda**	**2.45**	**46**	*e*S	**S**	**12 54 34.5**	**+0.9**
JWT	**Wachi**	**2.49**	**334**	P	**P**	**12 54 06.4**	**+1.1**
JNY	**Yasuok**	**2.49**	**22**	*e*S	**S**	**12 54 34.4**	**-0.3**
JHJ	**Hachijo jima 2**	**2.57**	**88**	P	**P**	**12 54 06.7**	**+0.2**
	10nm,0.3s,baz=207,slow=6.8,SNR=4.2						
JHJ				S	**S**	**12 54 36.9**	**+0.2**
	52nm,0.3s,baz=103,slow=20,SNR=4.5						
JGF	**Kuroka**	**2.60**	**11**	*e*S	**S**	**12 54 37.1**	**-0.4**
JGM	**Miyama**	**2.65**	**360**	*e*S	**S**	**12 54 39.9**	**+1.3**
MAT	**Matsushiro**	**3.70**	**19**	*e*S	**S**	**12 55 04.0**	**-1.2**
ASAJ	**Asahikawa**	**11.97**	**21**	P	**P**	**12 56 14.2**	**-2.4**
	0.2nm,0.3s,baz=228,slow=30,SNR=3.9						
HHC	**Hu-ho-hao-te**	**21.52**	**298**	XP	**P**	**12 58 07.0**	**-5.8**
SONM	**Songino Array**	**27.19**	**312**	pP	**P**	**12 59 07.2**	**+0.1**
	1.2nm,0.9s,mb3.4,baz=109,slow=9.6,SNR=2.4						
BVAR	**Borovoye Array**	**50.49**	**314**	pP	**P**	**13 02 23.8**	**+2.8**
	1.9nm,0.8s,mb4.2,baz=101,slow=7.6,SNR=4.9						
WRA	**Warramunga Arr**	**52.74**	**183**	pP	**P**	**13 02 37.6**	**-0.8**
	1.4nm,0.9s,mb3.9,baz=1.0,slow=7.7,SNR=4.9						
ASAR	**Alice Springs**	**56.46**	**183**	pP	**P**	**13 03 05.7**	**+0.2**
	0.6nm,0.8s,mb3.7,baz=18,slow=11,SNR=3.7						
ASAR				sP	pP	13 03 16.1	-3.4
	1.2nm,0.9s,baz=10,slow=13,SNR=4.7						
TXAR	**Lajitas Array**	**95.61**	**50**	P	**P**	**13 06 38.8**	**-8.8**
	0.3nm,0.9s,mb3.7,baz=288,slow=2.9,SNR=3.9						
TXAR				pP	pP	13 07 00.3	-2.3
	0.9nm,0.9s,baz=288,slow=4.0,SNR=6.5						

WEL 05 13:01:55.9±0.4**, 35.41S**×**178.99E, h231^{km}**±11^{km}**, ML3.6**/4**, Error ellipse: s-maj=10.6km s-min=9.7km az=0.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**2.72**	**192**	PN	P	13 02 43.9	-0.6
PUZ				SN	S	13 03 21.1	-1.2
MWZ	**Matawai**	**3.14**	**202**	PN	P	13 02 49.2	-0.1
MWZ				SN	S	13 03 29.7	-1.0
URZ	**Urewera**	**3.22**	**207**	PN	P	13 02 49.4	-0.7
URZ				SN	S	13 03 31.7	-0.5
KNZ	**Kokohu**	**3.75**	**196**	PN	P	13 02 56.3	-0.1
BKZ	**Black Stump Fm**	**4.24**	**207**	PN	P	13 03 02.0	-0.4
TSZ	**Takapari Road**	**5.22**	**206**	PN	P	13 03 12.8	-1.6
BFZ	**Birch Farm**	**5.69**	**202**	PN	P	13 03 18.9	-1.4
MRZ	**Mangatainoka R**	**5.89**	**206**	PN	P	13 03 21.2	-1.7
KIW	**Kapiti Island**	**6.32**	**209**	PN	P	13 03 26.2	-2.1
CAW	**Cannon Point**	**6.47**	**207**	PN	P	13 03 28.3	-2.0
NNZ	**Nelson**	**7.28**	**216**	PN	P	13 03 38.7	-2.0
THZ	**Tophouse**	**7.93**	**215**	PN	P	13 03 47.3	-1.6

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*IDC **05** 13:11:02.5±3.0, 33.09N×137.07E, mb3.4/3, mb1 3.6/4, mb1mx3.4/20, ML3.7/1, Error ellipse: s-maj=85.1km s-min=28.3km az=54.0*

*NEIC **05** 13:11:05.4±1.1, 33.00N×136.74E, h10^{km}, Error ellipse: s-maj=22.4km s-min=17.4km az=107.0*

*JMA **05** 13:11:07.4±0.2, 33.01N×136.91E, h43^{km}, M3.9*

JMA Felt I J1.

ISC 05 13:11:07.0±0.8**, 33.00N**±0.05×**136.91E**±0.04**, h46^{km}**±12^{km}**, n21, σ0^{s}76**/32**, mb3.4**/3**, 1C-2D, Southeast of Shikoku**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JWZ	**Kozaga**	**1.13**	**298**	⇑P	**P**	**13 11 27.0**	**+0.4**
JWZ				*e*S	**S**	**13 11 40.9**	**-0.4**
JKN	**Kiinagashima**	**1.36**	**337**	*e*S	**S**	**13 11 46.1**	**-1.0**
JIE	**Ise**	**1.40**	**353**	⇓P	**P**	**13 11 31.3**	**+0.7**
JIE				*e*S	**S**	**13 11 47.7**	**-0.5**
TK03	**Tokai 3**	**1.46**	**37**	P	**P**	**13 11 31.1**	**-0.4**
JWM	**Minabe**	**1.55**	**304**	P	**P**	**13 11 33.2**	**+0.5**
JWM				*e*S	**S**	**13 11 51.5**	**-0.3**
TK04	**Tokai 4**	**1.60**	**30**	P	**P**	**13 11 33.6**	**+0.2**
JWY	**Kouya**	**1.64**	**318**	P	**P**	**13 11 35.0**	**+1.1**
JWY				*e*S	**S**	**13 11 54.4**	**+0.4**
TSUJ	**Tsu 2**	**1.76**	**347**	P	**P**	**13 11 36.3**	**+0.7**
TSUJ				*e*S	**S**	**13 11 56.7**	**-0.2**
JHE	**Heguri**	**1.94**	**329**	P	**P**	**13 11 39.3**	**+1.1**
JHE				*e*S	**S**	**13 12 01.8**	**+0.4**
JAI	**Aioi**	**2.20**	**292**	P	**P**	**13 11 42.5**	**+0.6**
JAI				*e*S	**S**	**13 12 07.3**	**-0.7**
SHZ3	**Shizuoka 3**	**2.33**	**27**	P	**P**	**13 11 43.5**	**-0.2**
JHJ	**Hachijo jima 2**	**2.42**	**86**	Sn	**S**	**13 12 11.8**	**-1.7**
	36nm,0.3s,baz=221,slow=21,SNR=6.4						
JGM	**Miyama**	**2.70**	**357**	⇓P	**P**	**13 11 49.7**	**+0.7**
JGM				*e*S	**S**	**13 12 20.7**	**0.0**
JIM2	**Oshima 3**	**2.71**	**50**	P	**P**	**13 11 49.6**	**+0.4**
JOD2	**Odawara 2**	**2.90**	**38**	P	**P**	**13 11 52.6**	**+0.8**
MAT	**Matsushiro**	**3.70**	**16**	P	**P**	**13 12 03.4**	**+0.3**
MAT				S	**S**	**13 12 44.7**	**-1.2**
MAT	**Matsushiro**	**3.70**	**16**	*e*P	**P**	**13 12 03.0**	**-0.1**
MAT				*e*S	**S**	**13 12 45.0**	**-0.9**
JNU	**Nakatsue**	**5.06**	**273**	Pn	**P**	**13 12 21.6**	**-0.7**
	3.0nm,0.3s,baz=79,slow=10,SNR=15						
JNU				Sn	**S**	**13 13 17.6**	**-2.8**
	1.6nm,0.3s,baz=58,slow=35,SNR=2.6						
MKAR	**Makanchi Array**	**43.27**	**305**	P	**P**	**13 19 06.0**	**+0.4**
	0.7nm,0.6s,mb3.6,baz=90,slow=9.7,SNR=7.3						
WRA	**Warramunga Arr**	**52.70**	**183**	P	**P**	**13 20 19.0**	**-0.3**
	0.4nm,0.9s,mb3.4,baz=1.2,slow=7.6,SNR=5.0						
ASAR	**Alice Springs**	**56.42**	**183**	P	**P**	**13 20 47.0**	**+0.6**
	0.2nm,0.7s,mb3.3,baz=16,slow=11,SNR=3.2						

*BJI **05** 13:15:32.8, 32.83N×137.98E, h10^{km}, mb4.3*
*NEIC **05** 13:15:40.5±0.5, 33.26N×136.96E, h10^{km}, mb4.4/6, Error ellipse: s-maj=10.2km s-min=9.4km az=99.0*
*JMA **05** 13:15:40.1±0.1, 33.20N×137.11E, h38^{km}±2^{km}, M4.0*
*IDC **05** 13:15:43.1±0.5, 33.16N×137.19E, h26^{km}±3^{km}, mb3.9/11, mb1 4.0/14, mb1mx3.9/20, ML3.6/3, MS4.0/2, Ms1 4.0/2, ms1mx3.7/32, Error ellipse: s-maj=19.1km s-min=12.6km az=61.0*
ISC 05 13:15:41.0±0.4**, 33.29N**±0.04×**137.10E**±0.03**, h26^{km}, h26^{km}**±.7^{km}**:pP-P, n48, σ1^{s}33**/54**, mb4.1**/19**, 1C-5D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	Tokai 1	0.63	41	P	Pb	13 15 53.2	-0.2
TK01				*e*S	Sb	13 16 03.0	+1.1
TK02	Tokai 2	0.86	40	P	Pb	13 15 56.8	-0.4
TK03	Tokai 3	1.14	39	P	Pn	13 16 00.8	-0.7
JIE	Ise	1.15	344	⇓P	Pn	13 16 01.9	+0.3
JWZ	Kozaga	1.18	282	⇑P	Pn	13 16 01.0	-1.1
JWZ				*e*S	Sn	13 16 15.6	-1.8
JKN	Kiinagashima	1.18	324	⇓P	Pn	13 16 01.9	-0.2
JKN				*e*S	Sn	13 16 16.5	-1.0
TK04	Tokai 4	1.27	30	P	Pn	13 16 03.0	-0.4
JAA	Atsumi	1.34	2	⇓P	Pn	13 16 04.3	-0.1
TSUJ	Tsu 2	1.53	339	⇓P	Pn	13 16 07.2	+0.1
TSUJ				*e*S	Sn	13 16 26.5	+0.3
JWM	Minabe	1.56	292	P	Pn	13 16 06.9	-0.6
JWM				*e*S	Sn	13 16 25.8	-1.2
JWY	Kouya	1.56	307	⇓P	Pn	13 16 07.7	+0.2
JHJ	Hachijo jima 2	2.26	94	Pn	Pn	13 16 16.1	-1.5
	100nm,0.3s,baz=225,slow=11,SNR=13						
JHJ				Sn	Sn	13 16 44.5	-0.4
	66nm,0.3s,baz=105,slow=22,SNR=5.2						
JHJ				LR	LR	13 16 49.7	
	comp=Z,2μm,18.6s,baz=110,slow=30						
MAJO	Matsushiro	3.37	15	*e*Pn	Pn	13 16 33.3	-0.1
MAT	Matsushiro	3.37	15	P	Pn	13 16 33.2	-0.2
MAT				S	Sn	13 17 12.0	-1.1
MAT	Matsushiro	3.37	15	*e*P	Pn	13 16 33.0	-0.4
MAT				*e*S	Sn	13 17 12.0	-1.1
JNU	Nakatsue	5.21	270	Pn	Pn	13 16 57.4	-2.1
	1.5nm,0.3s,baz=134,slow=15,SNR=6.3						
JNU				LR	LR	13 19 05.3	
	comp=Z,3μm,19.7s,baz=108,slow=38						
ASAJ	Asahikawa	11.63	20	Pn	P	13 18 25.9	-2.7
	0.5nm,0.3s,baz=345,slow=5.6,SNR=4.2						
CN2	Changchun	13.89	322	*e*P	P	13 19 07.5	+9.0
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s						
BJT	Baijiatuau	18.07	298	P	P	13 19 54.2	+2.2
	comp=Z,43nm,1.8s						
BJI	Beijing	18.07	298	P	P	13 19 56.1	+4.1
BJI				AMB	AMB		
	comp=Z,12nm,1.1s						
WHN	Wuhan	19.50	268	*e*P	P	13 20 10.5	+1.4
HIA	Hailar	20.54	326	*e*P	P	13 20 18.7	-1.4
	comp=Z,6.7nm,1.0s						
HHC	Hu-ho-hao-te	21.68	298	*e*P	P	13 20 33.8	+2.1
HHC				AP		13 20 37.9	
HHC				AMB	AMB		
	comp=Z,11nm,0.4s,mb4.6						
XAN	Xi'an	23.44	280	P	P	13 20 52.7	+3.6
XAN				AMB	AMB		
	comp=Z,13nm,1.7s,mb4.1						
ENH	Enshi	23.64	270	*e*P	P	13 20 52.1	+1.0
	comp=Z,58nm,1.3s,mb4.8						
GYA	Guiyang	27.19	264	P	P	13 21 27.9	+3.3
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.4						
SONM	Songino Array	27.26	311	P	P	13 21 25.6	+0.5
	comp=Z,1.4nm,0.9s,mb3.5,baz=112,slow=8.5,SNR=7.7						
GTA	Gaotai	30.49	292	*e*P	P	13 21 55.8	+1.7
GTA				AP	pP	13 22 02.5	+0.8
GTA				XP	sP	13 22 06.0	+0.9
GTA				AMB	AMB		
	comp=Z,2.0nm,1.1s,mb3.8						
ZAL	Zalesovo	41.98	316	P	P	13 23 32.2	+0.9
	comp=Z,0.9nm,0.3s,mb3.9,baz=261,slow=4.6,SNR=3.4						
MKAR	Makanchi Array	43.23	305	P	P	13 23 42.8	+1.2
	comp=Z,2.5nm,0.6s,mb4.1,baz=92,slow=9.0,SNR=21						
MKAR				pP	pP	13 23 51.2	+1.8
	comp=Z,8.8nm,1.1s,baz=94,slow=10,SNR=14						
MKAR	Makanchi Array	43.23	305	P	P	13 23 42.8	+1.2
MKAR				pP	pP	13 23 51.2	+1.8
KURK	Kurchatov	45.57	311	*e*P	P	13 24 00.7	+0.3
	comp=Z,4.1nm,0.8s,mb4.4						
BRVK	Borovoye	50.61	314	P	P	13 24 37.3	-2.3
	comp=Z,2.4nm,0.6s,mb4.3						
FITZ	Fitzroy Crossi	52.26	194	*e*P	P	13 24 59.8	+7.3
	comp=Z,4.4nm,1.0s,mb4.3						
WB2	Warramunga Arr	52.99	183	*e*P	P	13 24 56.4	-1.6
WRA	Warramunga Arr	52.99	183	P	P	13 24 56.0	-2.1
	comp=Z,1.8nm,0.9s,mb4.0,baz=0.2,slow=7.7,SNR=11						
WRA				pP	pP	13 25 04.3	-1.7
	comp=Z,6.3nm,1.0s,baz=2.4,slow=7.7,SNR=17						
ASAR	Alice Springs	56.72	184	P	P	13 25 23.4	-1.7
	comp=Z,1.1nm,0.9s,mb3.9,baz=7.9,slow=4.0,SNR=8.3						
ASAR				pP	pP	13 25 31.9	-1.2
	comp=Z,2.5nm,0.8s,baz=12,slow=9.3,SNR=16						
STKA	Stephens Creek	64.95	176	P	P	13 26 20.6	-0.3
	comp=Z,2.4nm,0.8s,mb4.3,baz=301,slow=5.9,SNR=3.1						
STKA				pP	pP	13 26 28.2	-0.7
	comp=Z,1.7nm,0.4s,baz=330,slow=12,SNR=4.4						
ARCES	ARCESS Array B	66.24	339	pP	pP	13 26 37.5	+1.0
	comp=Z,2.1nm,0.8s,baz=60,slow=7.3,SNR=1.8						
FINES	FINESS Array B	70.45	332	pP	pP	13 27 04.1	+1.3
	comp=Z,0.9nm,0.8s,SNR=1.7						
AKASG	Malin Array Be	75.04	321	P	P	13 27 22.6	+0.6
	comp=Z,1.3nm,0.7s,mb4.0,baz=45,slow=6.5,SNR=5.0						
AKASG				pP	pP	13 27 30.6	+0.5
	comp=Z,0.9nm,0.6s,baz=50,slow=6.1,SNR=4.3						
BRTR	Keskin Array B	78.62	310	P	P	13 27 45.4	+3.2
	comp=Z,1.5nm,0.8s,mb4.0,baz=90,slow=6.2,SNR=5.9						
BRTR				pP	pP	13 27 52.7	+2.4
	comp=Z,2.4nm,0.9s,baz=135,slow=5.2,SNR=6.3						
PDAR	Pinedale Array	82.81	43	P	P	13 28 05.5	+1.2
	comp=Z,0.4nm,0.6s,mb3.6,baz=288,slow=4.7,SNR=4.3						
PDAR				pP	pP	13 28 14.4	+1.8
	comp=Z,0.6nm,0.6s,baz=270,slow=3.0,SNR=4.8						
KHC	Kasperske Hory	83.80	327	*e*P	P	13 28 06.0	-3.1
GERES	GERESS Array B	83.94	326	P	P	13 28 11.7	+1.8
	comp=Z,0.3nm,0.4s,mb3.8,baz=49,slow=9.0,SNR=3.1						
GERES				pP	pP	13 28 19.7	+1.5
	comp=Z,1.2nm,0.8s,baz=45,slow=3.8,SNR=3.9						
SRU	San Rafael	84.55	46	*e*P	P	13 28 13.9	+0.8
PV10	Paradox Valley	85.91	46	*e*P	P	13 28 22.1	+2.1
TXAR	Lajitas Array	95.22	50	P	P	13 29 05.5	+1.7
	comp=Z,0.8nm,0.9s,mb4.1,baz=303,slow=3.8,SNR=6.5						
TXAR				pP	pP	13 29 14.3	+2.1
	comp=Z,0.7nm,0.7s,baz=315,slow=3.9,SNR=5.7						

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*NIED **05** 13:25:00, 33.00N×136.70E, h5^{km}, Mw5.1 Best double couple: M$_0$5.32×10^{16} NP1:φ$_s$166°, δ84°, λ-98°. NP2:φ$_s$38°, δ10°, λ-38°.*
*BJI **05** 13:25:36.8, 32.62N×137.37E, h10^{km}, mb4.3*
*JMA **05** 13:25:42.8±0.1, 32.99N×136.73E, h38^{km}±4^{km}, M3.9*
*IDC **05** 13:25:44.0±0.8, 32.41N×136.65E, h25^{km}±4^{km}, mb3.6/5, mb1 3.7/7, mb1mx3.6/19, ML3.4/2, MS4.2/1, Ms1 4.2/1, ms1mx3.6/29, Error ellipse: s-maj=24.1km s-min=17.2km az=58.0*
*NEIC **05** 13:25:45.1±0.7, 33.29N×136.40E, h10^{km}, mb4.7/3, MW5.1(NIED), Error ellipse: s-maj=15.5km s-min=9.4km az=146.0*
ISC 05 13:25:44.2±0.6**, 33.13N**±0.04×**136.71E**±0.04**, h24^{km}, h24^{km}**±1.3^{km}**:pP-P, n36, σ1^{s}08**/42**, mb4.0**/10**, 2C-1D, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JWZ	Kozaga	0.93	296	⇑P	Pb	13 26 00.6	-0.8
JKN	Kiinagashima	1.18	341	P	Pn	13 26 05.2	-0.1
JKN				S	Sb	13 26 20.7	+0.2
TK02	Tokai 2	1.19	47	P	Pn	13 26 04.4	-1.2
TK02				S	Sb	13 26 20.7	-0.3
JIE	Ise	1.26	360	P	Pn	13 26 06.8	+0.3
JWM	Minabe	1.34	303	P	Pn	13 26 07.1	-0.6
JWM				*e*S	Sn	13 26 24.9	0.0
JWY	Kouya	1.43	320	P	Pn	13 26 09.2	+0.2
TK04	Tokai 4	1.58	37	P	Pn	13 26 10.3	-0.8
TSUJ	Tsu 2	1.59	351	*e*S	Sn	13 26 32.0	+0.7
JHE	Heguri	1.74	331	⇑P	Pn	13 26 13.7	+0.2
JHE				*e*S	Sn	13 26 35.5	+0.4
JAJ2	Tsuna	1.99	311	P	Pn	13 26 17.4	+0.4
JAI	Aioi	2.00	290	P	Pn	13 26 16.3	-0.9
JAI				*e*S	Sn	13 26 40.2	-1.5
JHJ	Hachijo jima 2	2.58	89	Pn	Pn	13 26 24.4	-0.9
	14nm,0.3s,baz=59,slow=19,SNR=3.4						
JHJ				Sn	Sn	13 26 52.1	-4.1
	60nm,0.3s,baz=214,slow=20,SNR=6.4						
MAJO	Matsushiro	3.62	19	⇓*e*Pn	Pn	13 26 40.4	+0.2
MAT	Matsushiro	3.62	19	P	Pn	13 26 39.8	-0.4
MAT				S	Sn	13 27 23.6	+1.0
MAT	Matsushiro	3.62	19	*e*P	Pn	13 26 40.0	-0.2
MAT				S	Sn	13 27 19.0	-3.6
JNU	Nakatsue	4.90	271	Pn	Pn	13 26 56.5	-1.9
	2.0nm,0.3s,baz=88,slow=32,SNR=10						
CBIJ	Chichi jima	7.66	140	LR	LR	13 29 33.3	
	comp=Z,2μm,21.3s,baz=9.0,slow=32						
CN2	Changchun	13.82	324	*e*P	P	13 29 10.2	+9.3
CN2				AMB	AMB		
	comp=Z,20nm,1.0s						
BJI	Beijing	17.86	299	P	P	13 29 55.7	+3.0
BJI				AMB	AMB		
	comp=Z,22nm,1.1s						
WHN	Wuhan	19.17	268	*e*P	P	13 30 14.5	+5.7
HHC	Hu-ho-hao-te	21.47	298	*e*P	P	13 30 34.4	+1.4
HHC				XP		13 30 44.4	
HHC				AMB	AMB		
	comp=Z,11nm,0.9s,mb4.2						
XAN	Xi'an	23.15	280	P	P	13 30 50.5	+0.8
XAN				AP		13 30 57.3	
XAN				AMB	AMB		
	comp=Z,12nm,1.5s,mb4.1						
ENH	Enshi	23.32	270	*e*P	P	13 30 52.3	+0.9
	comp=Z,68nm,1.5s,mb4.9						
SONM	Songino Array	27.13	312	P	P	13 31 27.8	+0.6
	comp=Z,1.4nm,0.9s,mb3.5,baz=120,slow=9.3,SNR=9.6						
GTA	Gaotai	30.25	293	*e*P	P	13 31 54.7	-0.7
GTA				AP	pP	13 32 01.4	-1.0
GTA				XP	sP	13 32 03.6	-1.9
MKAR	Makanchi Array	43.06	305	P	P	13 33 44.3	+0.6
	comp=Z,2.2nm,0.9s,mb3.9,baz=91,slow=10,SNR=16						
MKAR				pP	pP	13 33 53.0	+2.2
	comp=Z,1.5nm,0.6s,baz=91,slow=11,SNR=8.6						
KURK	Kurchatov	45.42	311	*e*P	P	13 34 02.5	-0.2
	comp=Z,4.6nm,1.1s,mb4.2						
BRVK	Borovoye	50.49	314	*e*P	P	13 34 40.2	-1.9
WRAB	Tennant Creek	52.81	183	P	P	13 35 01.6	+1.5
	comp=Z,12nm,1.1s,mb4.7						
WRA	Warramunga Arr	52.82	183	P	P	13 34 51.9	-8.3
	comp=Z,0.2nm,0.6s,mb3.2,baz=9.8,slow=8.3,SNR=3.8						
WRA				pP	pP	13 34 58.5	-9.0
	comp=Z,1.7nm,0.9s,baz=358,slow=7.8,SNR=8.5						
WRA				sP	sP	13 35 03.5	-6.8
	comp=Z,5.9nm,1.1s,baz=0.4,slow=7.9,SNR=14						
ASAR	Alice Springs	56.54	183	P	P	13 35 20.1	-7.2
	comp=Z,0.3nm,0.6s,mb3.5,baz=352,slow=6.6,SNR=4.8						
ASAR				pP	pP	13 35 26.8	-7.8
	comp=Z,1.3nm,0.9s,baz=354,slow=5.2,SNR=7.3						
KHC	Kasperske Hory	83.75	326	*e*P	P	13 38 04.0	-8.3
KHC				x	x	13 38 21.0	
KHC	Kasperske Hory	83.75	326	*e*P	P	13 38 04.0	-8.3
KHC				*e*		13 38 21.0	
GERES	GERESS Array B	83.89	326	pP	pP	13 38 22.8	+2.1
	comp=Z,1.1nm,1.0s,baz=56,slow=3.5,SNR=3.6						
PV10	Paradox Valley	86.25	46	*e*P	P	13 38 27.8	+2.7
TXAR	Lajitas Array	95.56	50	P	P	13 39 10.9	+2.0
	comp=Z,0.2nm,0.4s,mb3.9,baz=291,slow=7.7,SNR=3.6						
TXAR				pP	pP	13 39 18.7	+2.2
	comp=Z,0.6nm,0.8s,baz=297,slow=2.0,SNR=4.1						

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*IDC **05** 13:45:20.6±2.2, 30.57S×177.65W, mb4.0/4, mb1 4.1/5, mb1mx4.0/10, ML3.2/1, MS4.7/1, Ms1 4.7/1, ms1mx3.8/18, Error ellipse: s-maj=57.2km s-min=36.3km az=139.0*
NEIC 05 13:45:21.5±2.2**, 30.58S**×**177.62W, h10^{km}, mb4.1**/1**, Error ellipse: s-maj=44.7km s-min=23.7km az=96.0, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	8.81	208	Pn	P	13 47 28.9	-3.1
	0.2nm,0.3s,baz=335,slow=17,SNR=3.3						
CTA	Charters Tower	34.16	279	P	P	13 52 08.5	-0.5
	3.0nm,0.8s,baz=85,slow=11,SNR=2.8						
STKA	Stephens Creek	34.76	257	P	P	13 52 13.9	-0.2
	3.4nm,0.8s,baz=91,slow=11,SNR=9.5						
ASAR	Alice Springs	43.43	267	P	P	13 53 24.2	-2.2
	0.6nm,0.7s,baz=108,slow=7.5,SNR=14						
WB2	Warramunga Arr	44.43	272	*e*P	P	13 53 31.9	-2.6
WRAB	Tennant Creek	44.43	272	*e*P	P	13 53 32.0	-2.6
	1.8nm,0.6s						
WRA	Warramunga Arr	44.44	272	P	P	13 53 32.0	-2.6
	0.8nm,0.3s,baz=111,slow=8.1,SNR=67						
NWAO	Narrogin (SRO)	54.65	249	LR	LR	14 16 24.3	
	comp=Z,626nm,18.9s,baz=220,slow=34						
FINES	FINESS Array B	145.43	340	PKPbc	PKPbc	14 04 59.3	-0.3
	1.3nm,0.5s,baz=43,slow=4.2,SNR=10						
AKASG	Malin Array Be	151.64	323	PKPbc	PKPdf	14 05 16.1	+3.7
	0.7nm,0.5s,baz=45,slow=3.3,SNR=5.2						

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*BJI **05** 13:52:13.3, 32.11N×137.41E, h10^{km}, mb4.4*
*JMA **05** 13:52:22.8±0.1, 32.98N×136.73E, h33^{km}, M4.1*
JMA Felt I J1.
*IDC **05** 13:52:22.1±0.9, 32.91N×136.68E, mb4.0/8, mb1 4.1/10, mb1mx3.9/23, ML3.2/2, Error ellipse: s-maj=26.8km s-min=17.4km az=56.0*
*NEIC **05** 13:52:23.1±0.5, 32.98N×136.73E, h10^{km}, mb4.3/4, Error ellipse: s-maj=13.4km s-min=9.1km az=98.0*
NEIC Recorded [1 JMA] in Nara and Wakayama Prefectures, Honshu.
ISC 05 13:52:22.6±0.9**, 33.03N**±0.04×**136.74E**±0.03**, h22^{km}**±6^{km}**, n36, σ0^{s}81**/49**, mb4.1**/13**, 6C-1D, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JWZ	Kozaga	0.99	301	⇑P	Pb	13 52 40.8	-0.2
JWZ				S	Sb	13 52 53.5	-0.1
TK01	Tokai 1	1.02	44	P	Pb	13 52 41.1	-0.4
TK02	Tokai 2	1.25	43	⇑P	Pn	13 52 44.9	-0.1
TK02				*e*S	Sb	13 53 01.5	+0.4
JKN	Kiinagashima	1.28	342	P	Pn	13 52 45.8	+0.4
JKN				*e*S	Sb	13 53 01.2	-0.7
JIE	Ise	1.36	359	⇓P	Pn	13 52 47.3	+0.7
JIE				*e*S	Sn	13 53 03.5	-0.6
JWM	Minabe	1.42	306	⇑P	Pn	13 52 47.4	0.0
JWM				*e*S	Sn	13 53 04.7	-0.8
JWY	Kouya	1.52	321	⇑P	Pn	13 52 49.5	+0.6
JWY				*e*S	Sn	13 53 08.5	+0.3
TK04	Tokai 4	1.65	35	P	Pn	13 52 50.9	+0.2
TK04				*e*S	Sn	13 53 11.4	-0.1
TSUJ	Tsu 2	1.70	351	P	Pn	13 52 52.0	+0.6
TSUJ				*e*S	Sn	13 53 12.0	-0.6
JHE	Heguri	1.84	332	⇑P	Pn	13 52 54.1	+0.6
JHE				*e*S	Sn	13 53 16.1	-0.2
JAI	Aioi	2.06	292	P	Pn	13 52 56.3	-0.3
JAJ2	Tsuna	2.08	312	⇑P	Pn	13 52 57.0	+0.2
JAJ2				S	Sn	13 53 21.5	-0.8
JHJ	Hachijo jima 2	2.56	87	Pn	Pn	13 53 04.7	+0.9
	14nm,0.3s,baz=204,slow=20,SNR=3.8						
JHJ				Sn	Sn	13 53 33.1	-1.4
	39nm,0.3s,baz=99,slow=22,SNR=8.8						
MAJO	Matsushiro	3.71	19	*e*Pn	Pn	13 53 20.4	+0.4
MAT	Matsushiro	3.71	19	P	Pn	13 53 20.3	+0.2
MAT				S	Sn	13 54 02.6	-1.0
MAT	Matsushiro	3.71	19	*e*P	Pn	13 53 20.0	-0.1
MAT				*e*S	Sn	13 54 03.0	-0.6
JNU	Nakatsue	4.92	273	Pn	Pn	13 53 36.6	-0.6
	0.8nm,0.3s,baz=45,slow=7.1,SNR=4.4						
CN2	Changchun	13.91	324	*e*P	P	13 55 50.9	+10
CN2				AMB	AMB		
	comp=Z,20nm,1.0s						
YSS	Yuzh-Sakhalins	14.64	16	*e*P	P	13 55 50.2	-0.1
	comp=Z,6.3nm,0.7s						
BJI	Beijing	17.93	299	P	P	13 56 35.5	+3.3
BJI				AMB	AMB		
	comp=Z,12nm,0.7s						
HIA	Hailar	20.59	327	P	P	13 57 02.3	-0.4
	comp=Z,6.2nm,1.0s						
HHC	Hu-ho-hao-te	21.53	298	*e*P	P	13 57 17.0	+4.6
HHC				XP		13 57 24.2	
HHC				AMB	AMB		
	comp=Z,15nm,0.5s,mb4.7						
XAN	Xi'an	23.19	280	P	P	13 57 27.7	-1.1
XAN				AP		13 57 39.0	
XAN				AMB	AMB		
	comp=Z,8.0nm,1.3s,mb4.0						
SONM	Songino Array	27.21	312	P	P	13 58 07.6	+1.0
	comp=Z,1.5nm,0.7s,mb3.6,baz=117,slow=8.6,SNR=15						
MKAR	Makanchi Array	43.13	305	P	P	14 00 24.4	+1.4
	comp=Z,2.1nm,0.8s,mb4.0,baz=93,slow=11,SNR=22						
KURK	Kurchatov	45.51	311	*e*P	P	14 00 42.8	+0.7
	comp=Z,5.3nm,1.0s,mb4.4						
KURK				*e*	pP	14 00 50.8	+2.2
BVAR	Borovoye Array	50.51	314	P	P	14 01 22.1	+1.1
	comp=Z,2.5nm,0.9s,mb4.1,baz=101,slow=7.6,SNR=8.5						
BRVK	Borovoye	50.58	314	*e*P	P	14 01 22.1	+0.6
	comp=Z,1.5nm,0.7s,mb4.0						
FITZ	Fitzroy Crossi	51.94	193	P	P	14 01 31.9	-0.4
	comp=Z,3.6nm,1.1s,mb4.2,baz=61,slow=13,SNR=4.7						
WRAB	Tennant Creek	52.71	183	*e*P	P	14 01 35.2	-2.9
	comp=Z,8.4nm,1.2s,mb4.5						
WRA	Warramunga Arr	52.72	183	P	P	14 01 37.4	-0.7
	comp=Z,0.9nm,0.7s,mb3.8,baz=1.1,slow=7.8,SNR=10						
ASAR	Alice Springs	56.44	183	P	P	14 02 04.5	-0.7
	comp=Z,0.5nm,0.6s,mb3.7,baz=10,slow=12,SNR=11						
STKA	Stephens Creek	64.72	175	P	P	14 03 01.8	+0.3
	comp=Z,1.1nm,0.7s,mb4.0,baz=342,slow=9.6,SNR=3.7						
STKA	Stephens Creek	64.72	175	P	P	14 03 01.8	+0.3
PV10	Paradox Valley	86.30	46	*e*P	P	14 05 07.8	+3.7
PV10				*e*	pP	14 05 15.2	+4.2
TXAR	Lajitas Array	95.62	50	P	P	14 05 51.5	+3.6
	comp=Z,1.0nm,1.1s,mb4.1,baz=252,slow=2.9,SNR=3.3						

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*JMA **05** 13:57:49.9±0.1, 33.21N×137.11E, h39^{km}±2^{km}, M3.8*
*NEIC **05** 13:57:50.1±0.7, 33.26N×136.91E, h10^{km}, Error ellipse: s-maj=15.4km s-min=10.1km az=115.0*
*IDC **05** 13:57:52.4±1.0, 33.22N×137.29E, h29^{km}±6^{km}, mb3.3/4, mb1 3.5/6, mb1mx3.4/18, ML3.2/2, MS3.3/1, Ms1 3.3/1, ms1mx2.9/17, Error ellipse: s-maj=28.6km s-min=16.6km az=48.0*
ISC 05 13:57:49.9±0.5**, 33.24N**±0.04×**137.10E**±0.03**, h29^{km}, (h30^{km}**±1.0^{km}**:pP-P), n29, σ0^{s}70**/44**, mb3.4**/4**, 1C-4D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	Tokai 1	0.66	38	P	Pb	13 58 03.1	+0.1
TK01				*e*S	Sb	13 58 12.5	+0.6
TK02	Tokai 2	0.89	38	⇑P	Pn	13 58 06.4	-0.2
TK02				*e*S	Sb	13 58 18.5	+0.2
TK03	Tokai 3	1.17	38	P	Pn	13 58 10.4	-0.2
TK03				*e*S	Sn	13 58 25.6	0.0
JIE	Ise	1.19	344	⇓P	Pn	13 58 11.5	+0.6
JIE				*e*S	Sn	13 58 26.9	+0.7
JWZ	Kozaga	1.19	284	P	Pn	13 58 10.5	-0.4
JWZ				*e*S	Sn	13 58 25.2	-1.0
JKN	Kiinagashima	1.22	325	⇓P	Pn	13 58 11.5	+0.2
JKN				*e*S	Sn	13 58 26.2	-0.8
TK04	Tokai 4	1.31	29	P	Pn	13 58 12.7	+0.1
TK04				*e*S	Sn	13 58 29.2	0.0
TSUJ	Tsu 2	1.57	339	⇓P	Pn	13 58 16.9	+0.6
TSUJ				*e*S	Sn	13 58 35.7	-0.1
JWM	Minabe	1.58	293	P	Pn	13 58 16.5	+0.1
JWM				*e*S	Sn	13 58 35.4	-0.6
JWY	Kouya	1.59	308	P	Pn	13 58 17.4	+0.8
JWY				*e*S	Sn	13 58 36.3	0.0
JHE	Heguri	1.83	321	⇓P	Pn	13 58 20.6	+0.5
JHE				*e*S	Sn	13 58 42.6	+0.1
SHZ3	Shizuoka 3	2.04	27	P	Pn	13 58 22.7	-0.3
SHZ3				*e*S	Sn	13 58 46.2	-1.6
JIZS	Izushimoda	2.09	45	P	Pn	13 58 24.7	+1.0
JIZS				*e*S	Sn	13 58 48.1	-0.8
JMY	Miyakejima3	2.18	67	P	Pn	13 58 25.1	+0.1
JAJ2	Tsuna	2.19	303	P	Pn	13 58 26.0	+0.9
JAJ2				*e*S	Sn	13 58 51.4	-0.1
JHJ	Hachijo jima 2	2.25	92	Pn	Pn	13 58 25.5	-0.6
	27nm,0.3s,baz=233,slow=20,SNR=5.4						
JHJ				Sn	Sn	13 58 52.3	-0.9
	71nm,0.3s,baz=75,slow=22,SNR=7.3						
JHJ				LR	LR	13 59 21.1	
	comp=Z,713nm,21.8s,baz=326,slow=42						
JAI	Aioi	2.28	285	P	Pn	13 58 26.5	+0.1
JAI				*e*S	Sn	13 58 52.5	-1.3
MAJO	Matsushiro	3.42	15	*e*Pn	Pn	13 58 43.1	+0.5
MAT	Matsushiro	3.42	15	P	Pn	13 58 43.2	+0.6
MAT				S	Sn	13 59 21.5	-1.1
MAT	Matsushiro	3.42	15	*e*P	Pn	13 58 43.0	+0.4
MAT				*e*S	Sn	13 59 22.0	-0.6
JNU	Nakatsue	5.22	270	Pn	Pn	13 59 07.1	-1.0
	0.6nm,0.3s,baz=53,slow=5.1,SNR=3.4						
SONM	Songino Array	27.30	311	P	P	14 03 35.4	+1.6
	0.4nm,0.9s,mb2.9,baz=101,slow=7.3,SNR=2.8						
SONM				pP	pP	14 03 44.4	+2.1
	0.7nm,1.0s,baz=90,slow=8.6,SNR=4.0						
MKAR	Makanchi Array	43.26	305	P	P	14 05 52.0	+1.6
	1.3nm,1.1s,mb3.6,baz=97,slow=9.8,SNR=3.8						
MKAR				pP	pP	14 06 01.4	+2.4
	1.8nm,0.6s,baz=92,slow=9.6,SNR=14						
MKAR	Makanchi Array	43.26	305	P	P	14 05 52.0	+1.6
MKAR				pP	pP	14 06 01.4	+2.4
WRA	Warramunga Arr	52.95	183	P	P	14 07 06.0	-0.2
	0.6nm,0.8s,mb3.6,baz=359,slow=7.5,SNR=6.7						
WRA				pP	pP	14 07 14.3	-0.8
	0.7nm,0.6s,baz=1.8,slow=7.8,SNR=4.9						
ASAR	Alice Springs	56.67	184	P	P	14 07 33.3	+0.1
	0.5nm,0.9s,mb3.6,baz=17,slow=12,SNR=5.0						
ASAR				pP	pP	14 07 42.3	+0.2
	0.8nm,1.0s,baz=12,slow=4.4,SNR=4.5						
PDAR	Pinedale Array	82.84	43	pP	pP	14 10 24.5	+2.3
	0.4nm,0.8s,baz=288,slow=4.7,SNR=3.6						
GERES	GERESS Array B	83.98	326	pP	pP	14 10 29.6	+1.8
	0.8nm,1.0s,baz=61,slow=10,SNR=3.4						
TXAR	Lajitas Array	95.25	50	pP	pP	14 11 24.4	+2.7
	0.3nm,0.6s,baz=288,slow=5.7,SNR=2.6						

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*IDC **05** 14:01:31.1±1.7, 32.99N×136.89E, mb3.6/5, mb1 3.9/7, mb1mx3.6/23, ML3.7/2, MS4.1/3, Ms1 4.1/3, ms1mx3.6/27, Error ellipse: s-maj=41.4km s-min=22.5km az=67.0*
*NEIC **05** 14:01:33.0±0.6, 32.98N×136.63E, h10^{km}, mb4.0/1, Error ellipse: s-maj=12.9km s-min=7.5km az=115.0*
*JMA **05** 14:01:32.7±0.1, 32.99N×136.70E, h37^{km}, M3.6*
ISC 05 14:01:32.2±1.0**, 33.03N**±0.04×**136.72E**±0.04**, h20^{km}**±7^{km}**, n26, σ0^{s}86**/36**, mb3.6**/6**, MS4.4**/2**, 4C, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JWZ	Kozaga	0.98	301	⇑P	Pb	14 01 50.3	-0.1
JWZ				*e*S	Sb	14 02 03.1	+0.2
TK02	Tokai 2	1.26	43	P	Pn	14 01 54.5	-0.4
TK02				*e*S	Sb	14 02 11.0	0.0
JKN	Kiinagashima	1.28	343	P	Pn	14 01 55.4	+0.3
JKN				S	Sb	14 02 10.9	-0.5
JIE	Ise	1.36	360	P	Pn	14 01 56.7	+0.4
JIE				S	Sn	14 02 13.1	-0.8
JWM	Minabe	1.41	306	P	Pn	14 01 56.7	-0.3
JWM				S	Sn	14 02 13.8	-1.3
JWY	Kouya	1.52	322	⇑P	Pn	14 01 59.1	+0.5
JWY				S	Sn	14 02 17.7	-0.1
TK04	Tokai 4	1.66	35	P	Pn	14 02 00.3	-0.3
TSUJ	Tsu 2	1.70	352	P	Pn	14 02 01.7	+0.6
JHE	Heguri	1.84	332	⇑P	Pn	14 02 03.6	+0.4
JHE				*e*S	Sn	14 02 25.5	-0.5
JAI	Aioi	2.05	293	P	Pn	14 02 05.8	-0.4
JAJ2	Tsuna	2.07	313	⇑P	Pn	14 02 06.8	+0.4
JIZS	Izushimoda	2.46	46	P	Pn	14 02 13.2	+1.1
MAJO	Matsushiro	3.71	19	*e*Pn	Pn	14 02 29.4	-0.6
MAT	Matsushiro	3.71	19	P	Pn	14 02 30.4	+0.5
MAT				S	Sn	14 03 12.9	-0.7
MAT	Matsushiro	3.71	19	P	Pn	14 02 31.0	+1.1
MAT				*e*S	Sn	14 03 13.0	-0.6
JNU	Nakatsue	4.91	273	Pn	Pn	14 02 47.2	+0.4
	0.6nm,0.3s,baz=127,slow=19,SNR=3.3						
JNU				Sn	Sn	14 03 38.6	-5.1
	0.8nm,0.3s,baz=355,slow=11,SNR=2.2						
JNU				LR	LR	14 04 25.4	
	comp=Z,452nm,21.0s,baz=80,slow=34						
JOW	Kunigami	9.58	232	Pn	P	14 03 51.0	-1.2
	8.9nm,0.3s,baz=143,slow=20,SNR=3.0						
JOW				Sn	Sn	14 05 44.3	+4.0

	4.6nm,0.3s,baz=180,slow=20,SNR=1.9						
YSS	Yuzh-Sakhalins	14.65	17	P	P	14 04 56.7	-3.5
SONM	Songino Array	27.20	312	P	P	14 07 17.8	+1.4
	0.4nm,0.7s,mb3.1,baz=104,slow=10,SNR=3.8						
MKAR	Makanchi Array	43.12	305	P	P	14 09 34.6	+1.9
	0.7nm,0.7s,mb3.5,baz=95,slow=9.9,SNR=5.5						
KURK	Kurchatov	45.50	311	eP	P	14 09 53.9	+2.0
	1.9nm,0.9s,mb3.9						
BVAR	Borovoye Array	50.51	314	P	P	14 10 31.2	+0.5
	0.5nm,0.3s,mb3.9,baz=82,slow=10,SNR=3.6						
WRAB	Tennant Creek	52.71	183	P	P	14 10 46.7	-1.2
WRA	Warramunga Arr	52.72	183	P	P	14 10 46.9	-1.0
	0.5nm,0.7s,mb3.5,baz=359,slow=7.9,SNR=6.6						
CTA	Charters Tower	53.60	169	LR	LR	14 32 33.5	
	comp=Z,395nm,20.8s,MS4.5,baz=163,slow=35						
ASAR	Alice Springs	56.44	183	P	P	14 11 14.7	-0.4
	0.5nm,0.7s,mb3.7,baz=8.7,slow=12,SNR=6.3						
ASAR				LR	LR	14 33 47.1	
	comp=Z,318nm,20.6s,MS4.4,baz=298,slow=34						

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*IDC **05** 14:10:04.0±2.4, 2.68N×128.30E, h61^{km}±17^{km}, mb4.1/7, mb1 4.2/7, mb1mx3.9/16, Error ellipse: s-maj=87.7km s-min=14.0km az=71.0*

*NEIC **05** 14:10:14.9±3.3, 2.56N×128.25E, h167^{km}±33^{km}, mb4.2/11, Error ellipse: s-maj=25.9km s-min=9.8km az=73.0*

ISC 05 14:10:02.0±0.7, 2.71N±0.09×128.4E±0.2, h61^{km}, n29, σ0^{s}76/29, mb4.6/20, 1C, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	Kakadu	15.83	165	eP	P	14 13 48.5	+5.9
	6.1nm,0.6s						
FITZ	Fitzroy Crossi	20.85	187	eP	P	14 14 40.0	-1.2
	1.6nm,0.5s						
FITZ	Fitzroy Crossi	20.85	187	P	P	14 14 39.9	-1.2
	1.3nm,0.5s						
WRAB	Tennant Creek	23.26	166	⇑eP	P	14 15 06.2	+1.1
	15nm,0.4s,mb4.8						
WRA	Warramunga Arr	23.26	166	P	P	14 15 06.4	+1.3
	16nm,0.7s,mb4.6,baz=343,slow=10,SNR=145						
WRA				ScP		14 22 23.4	
	0.7nm,0.7s,baz=341,slow=2.9,SNR=9.8						
WB2	Warramunga Arr	23.27	166	eP	P	14 15 06.2	+1.1
MBWA	Marble Bar	25.18	199	eP	P	14 15 23.1	-0.4
	3.1nm,0.6s,mb4.0						
ASAR	Alice Springs	26.77	169	P	P	14 15 38.1	-0.2
	1.8nm,0.6s,mb3.8,baz=354,slow=8.4,SNR=35						
ASAR				PcP	PcP	14 19 00.5	0.0
	0.6nm,0.5s,baz=348,slow=2.1,SNR=6.4						
ASAR				ScP		14 22 34.8	
	1.0nm,0.7s,baz=346,slow=2.5,SNR=9.2						
ASPA	Alice Springs	26.77	169	eP	P	14 15 38.7	+0.4
FORT	Forrest	33.30	180	eP	P	14 16 35.8	-0.4
	28nm,0.8s,mb5.2						
KLBR	Kellerberrin	35.57	196	eP	P	14 16 54.8	-0.8
	63nm,1.9s,mb5.2						
STKA	Stephens Creek	36.62	161	eP	P	14 17 04.8	+0.3
	2.8nm,0.4s,mb4.5						
STKA	Stephens Creek	36.62	161	P	P	14 17 04.6	+0.1
	3.5nm,0.6s,mb4.4,baz=335,slow=8.1,SNR=17						
NWAO	Narrogin (SRO)	36.97	196	P	P	14 17 06.6	-0.8
	1.1nm,0.5s,mb3.9						
PKI	Pulchoki	47.88	305	eP	P	14 18 36.8	+0.6
	6.4nm,0.6s,mb4.8						
KKN	Kakani	48.07	306	eP	P	14 18 38.1	+0.4
	8.6nm,0.5s,mb5.0						
DMN	Daman	48.14	305	eP	P	14 18 39.1	+0.9
	15nm,0.7s,mb5.1						
GKN	Gorkha	48.67	306	eP	P	14 18 42.8	+0.5
	7.8nm,0.6s,mb4.9						
SONM	Songino Array	48.79	340	P	P	14 18 43.0	0.0
	0.5nm,0.6s,mb3.8,baz=151,slow=7.4,SNR=5.6						
SONM				PcP	PcP	14 20 06.9	-0.4
	0.5nm,0.6s,baz=162,slow=4.6,SNR=3.2						
SONM				ScP		14 23 57.7	
	0.4nm,0.8s,baz=146,slow=4.7,SNR=3.4						
KOLN	Koldanda	49.43	305	eP	P	14 18 49.3	+1.1
	33nm,0.7s,mb5.5						
HYB	Hyderabad	50.98	290	iP	P	14 19 01.0	+0.8
HYB	Hyderabad	50.98	290	eP	P	14 19 01.0	+0.8
MKAR	Makanchi Array	59.31	325	P	P	14 19 59.9	-0.1
	2.3nm,0.3s,mb4.6,baz=114,slow=8.0,SNR=48						
MKAR				PcP	PcP	14 20 48.0	+0.8
	1.0nm,0.6s,baz=126,slow=5.5,SNR=1.6						
MKAR				ScP		14 24 42.9	
	0.4nm,0.7s,baz=112,slow=7.8,SNR=3.6						
KURK	Kurchatov	63.47	327	eP	P	14 20 27.3	-0.7
	3.3nm,0.6s,mb4.6						
BVAR	Borovoye Array	69.06	327	P	P	14 21 03.1	-0.3
	1.5nm,0.5s,mb4.2,baz=124,slow=5.3,SNR=8.9						
BRVK	Borovoye	69.13	327	eP	P	14 21 02.8	-1.0
	2.0nm,0.5s,mb4.3						
ZRNK	Zerenda	69.79	326	eP	P	14 21 07.1	-0.7
	1.5nm,0.6s,mb4.1						
CASY	Casey	70.01	188	eP	P	14 21 08.2	-0.8
ARCES	ARCESS Array B	91.96	340	P	P	14 23 04.0	-0.9
	2.7nm,0.9s,mb4.6,baz=34,slow=13,SNR=3.5						

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*IDC **05** 14:27:47.1±1.0, 53.58N×34.25W, mb3.7/9, mb1 3.9/10, mb1mx3.7/23, ML3.5/1, Error ellipse: s-maj=37.7km s-min=18.0km az=180.0*

*NEIC **05** 14:27:48.3±0.8, 53.58N×34.23W, h10^{km}, Error ellipse: s-maj=29.8km s-min=13.1km az=178.0*

ISC 05 14:27:46.9±0.9, 53.6N±0.2×34.3W±0.1, h10^{km}, n14, σ1^{s}16/11, mb3.7/9, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EKA	Eskdalemuir Ar	18.07	72	P	P	14 31 58.6	-0.9
	0.1nm,0.3s,baz=301,slow=12,SNR=2.4						
ESDC	Sonseca Array	24.81	112	P	P	14 33 09.3	-1.0
	1.0nm,0.9s,mb3.4,baz=320,slow=11,SNR=7.5						
SADO	Sadowa	30.19	271	P	P	14 33 58.8	-0.5
	3.0nm,0.8s,mb4.1,baz=90,slow=4.0,SNR=3.3						
ARCES	ARCESS Array B	30.97	36	P	P	14 34 04.1	-1.8
	6.1nm,1.0s,mb4.4,baz=339,slow=15,SNR=3.7						
BRTR	Keskin Array B	46.83	78	P	P	14 36 20.1	+1.7
	1.0nm,0.8s,mb3.8,baz=307,slow=6.2,SNR=4.0						
PDAR	Pinedale Array	49.10	290	P	P	14 36 36.0	-0.1
	0.6nm,0.9s,mb3.6,baz=45,slow=6.3,SNR=4.5						
ILAR	Eielson Array	51.13	329	P	P	14 36 50.4	-0.8
	0.5nm,0.8s,mb3.5,baz=47,slow=5.2,SNR=9.4						
TXAR	Lajitas Array	54.94	273	P	P	14 37 20.5	+0.4
	0.2nm,0.2s,mb3.7,baz=36,slow=7.8,SNR=7.2						
TXAR	Lajitas Array	54.94	273	P	P	14 37 20.5	+0.4
MKAR	Makanchi Array	66.37	42	P	P	14 38 38.9	+1.3
	0.3nm,0.6s,mb3.5,baz=346,slow=5.0,SNR=4.4						
SONM	Songino Array	73.54	26	P	P	14 39 23.1	+1.9
	0.1nm,0.4s,mb3.1,baz=45,slow=2.0,SNR=2.9						
WRAB	Tennant Creek	145.24	19	ePKPdf	PKPdf	14 47 25.2	-2.5
WRA	Warramunga Arr	145.24	19	PKPbc	PKPbc	14 47 25.5	+0.4
	2.1nm,0.8s,baz=342,slow=3.2,SNR=17						
ASAR	Alice Springs	148.77	21	PKPbc	PKPdf	14 47 34.9	+1.5
	1.3nm,0.7s,baz=347,slow=2.3,SNR=21						

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*HEL **05** 14:31:55.3±0.2, 60.11N×25.27E, ML2.0, ML2.2(UPP), Explosion*

*NAO **05** 14:31:56.4±3.5, 60.30N×25.09E, ML1.7*

ISC 05 14:31:53.6±0.8, 60.09N±0.05×25.33E±0.08, n14, σ0^{s}90/24, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PVF	Pernaja	0.53	30	eP	Pg	14 32 04.6	+0.4
PVF				eS	Sg	14 32 11.1	-0.1
VJF	Virojoki	1.20	67	eP	Pb	14 32 17.2	+0.3
VJF				eS	Sb	14 32 32.7	0.0
FIA0	FINESS Array S	1.41	15	Pn	Pn	14 32 20.1	-0.5
	baz=200,slow=14						
FIA0				Lg		14 32 37.5	
	baz=183,slow=37						
FIA0	FINESS Array S	1.41	15	eP	Pb	14 32 20.0	-0.5
FIA0				eS	Sb	14 32 37.6	-1.3
KAF	Kangasniemi	2.08	13	eP	Pn	14 32 31.6	+1.3
KAF				eS	Sn	14 32 58.2	+0.9
KAF				MSG		14 33 01.5	
	comp=Z,4.8nm,0.1s						
KEF	Keuruu	2.10	354	eP	Pn	14 32 32.0	+1.6
KEF				eS	Sn	14 32 58.1	+0.5
KEF				MSG		14 33 01.2	
	comp=Z,12nm,0.1s						
SUF	Sumiainen	2.67	8	ePB	Pb	14 32 40.9	-1.2
SUF				eSB	Sb	14 33 14.4	-1.1
SUF				MSG		14 33 16.1	
	comp=Z,3.8nm,0.1s						
AAL	Aland	2.67	274	eP	Pn	14 32 39.0	+0.4
AAL				eS	Sn	14 33 12.6	+0.4
VAF	Ylistaro	3.22	338	eP	Pn	14 32 47.6	+1.1
VAF				eS	Sn	14 33 26.7	+0.5
GRAU	Graesoe	3.40	277	eP	Pn	14 32 48.5	-0.5
NRTU	Norrtaelje	3.40	266	eP	Pn	14 32 49.3	+0.3
FLYU	Flymyra	3.73	274	eP	Pn	14 32 53.0	-0.6
HFS	Hagfors	5.82	275	Pn	Pn	14 33 21.2	-2.1
	baz=102,slow=14						
HFS				Sn	Sn	14 34 26.4	-5.3
	baz=72,slow=28						
HFS				Lg		14 34 54.9	
	baz=91,slow=37						
ARA0	ARCESS Array S	9.49	0	Pn	P	14 34 10.6	-4.0
	baz=175,slow=14						
ARA0				Sn	Sn	14 35 51.1	-12
	baz=178,slow=28						
ARA0				Lg		14 36 44.0	
	baz=173,slow=37						

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*ATH **05** 14:40:39.8, 36.56N×27.45E, h135^{km}*

*ISK **05** 14:40:46.9, 37.03N×27.75E, h8^{km}, MD3.0*

ISC 05 14:40:46.8±0.6, 36.96N±0.04×27.72E±0.04, h8^{km}, n15, σ0^{s}87/23, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.24	295	iP	Pg	14 40 52.5	+0.6
BDRM				iS	Sg	14 40 56.8	+1.4
MLSB	Milas	0.34	8	iPG	Pg	14 40 53.4	-0.3
MLSB				iSG	Sg	14 40 56.3	-2.0
YER	Yerkesik	0.48	69	iPG	Pg	14 40 55.9	-0.6
YER				iSG	Sg	14 41 03.0	0.0
NISR	Nisiros	0.59	234	eP	Pg	14 40 58.0	-0.7
AYDN	Tasoluk	0.71	10	iP	Pb	14 41 00.6	-0.4
AYDN				iS	Sg	14 41 10.1	-0.5
DALT	Dalyan (Mudla)	0.76	104	PG	Pg	14 41 01.4	-0.6
DALT				SG	Sg	14 41 12.9	+0.7
ARG	Arkhangelos	0.81	156	eP	Pb	14 41 02.0	-0.8
SMG	Samos	1.03	317	eP	Pb	14 41 06.5	+0.1
DNZL	Cakiroluk	1.28	55	iP	Pb	14 41 10.7	-0.1
DNZL				iS	Sb	14 41 28.9	+1.6
DENT	Denizli	1.31	52	ePN	Pn	14 41 12.1	+0.6
IZM	Izmir	1.48	346	ePN	Pn	14 41 13.4	-0.5
KDAG	Bornova	1.48	346	iP	Pn	14 41 13.6	-0.4
KDAG				iS	Sb	14 41 37.6	+4.5
MANT	Manisa	1.66	23	iP	Pn	14 41 17.5	+1.0
MANT				iS	Sn	14 41 41.9	+3.6
KSL	Kastellorizon	1.70	118	eP	Pn	14 41 11.5	-5.6
ELL	Elmali	1.77	96	ePN	Pn	14 41 18.1	+0.1

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*CASC **05** 14:56:38.2±2.4, 13.44N×91.82W, MD4.3, ML4.1, mb4.2(NEIC)*

*MEX **05** 14:56:41.1±0.9, 13.42N×91.73W, h50^{km}±514^{km}, MD4.4*

*NEIC **05** 14:56:42.8±1.2, 13.81N×91.43W, h47^{km}±10^{km}, mb4.2/4, MD4.4(MEX), Error ellipse: s-maj=22.4km s-min=9.8km az=220.0*

*IDC **05** 14:56:43.9±5.2, 14.11N×91.26W, h37^{km}±48^{km}, mb4.0/7, mb1 4.1/9, mb1mx4.0/20, ML3.5/2, Error ellipse: s-maj=57.2km s-min=22.0km az=45.0*

ISC 05 14:56:41.6±1.0, 13.57N±0.06×91.84W±0.06, h63^{km}±8^{km}, n41, σ1^{s}18/55, mb4.2/10, 2C, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAT	Jato	0.77	15	⇑eP	P	14 56 56.2	-0.8
JAT				eS	S	14 57 27.4	+19
JAT				AML	AML	14 57 29.6	
	comp=E,9µm,0.5s						
FUG	Fuego 3	1.30	48	eP	P	14 57 03.5	-0.8
IXG	Ixpaco	1.47	66	eP	P	14 57 05.6	-1.0
IXG				eS	S	14 57 29.0	+4.1
IXG				eS	S	14 57 40.3	+15
	comp=E,11µm,0.5s						
IXG				AML	AML	14 57 44.9	
	comp=E,11µm,0.5s						
IXG				AML	AML	14 57 46.0	
	comp=N,8µm,0.5s						
GCG	Guatemala City	1.62	51	eP	P	14 57 09.8	+1.2
GCG				eS	S	14 57 35.0	+6.5
GCG				eS	S	14 57 37.5	+9.0
GCG				AML	AML	14 57 42.8	
	comp=N,1µm,0.4s						
GCG				AML	AML	14 57 44.3	
	comp=E,2µm,0.7s						
NBG	Las Nubes	1.77	55	eP	P	14 57 11.4	+0.9
NBG				eS	S	14 57 37.1	+5.2
NBG				eS	S	14 57 38.4	+6.5
NBG				AML	AML	14 57 46.7	
	comp=N,6µm,0.5s						
NBG				AML	AML	14 57 47.7	
	comp=E,4µm,0.5s						
CUSS	Cusmapa	1.87	79	eP	P	14 57 11.5	-0.5
CUSS				eS	S	14 57 36.4	+2.0
RTR	El Retiro	2.15	81	eP	P	14 57 15.9	-0.1
SBLS	San Blas	2.17	83	eP	P	14 57 15.7	-0.4
SNJE	San Jose	2.19	82	eP	P	14 57 15.9	-0.6
BOQS	Boqueron	2.49	86	eP	P	14 57 20.6	-0.1
MRL	Marmol	2.56	54	eP	P	14 57 22.5	+0.8
MRL				eS	S	14 57 53.3	+1.6
MRL				eS	S	14 57 53.5	+1.8
MRL				AML	AML	14 57 55.5	
	comp=N,222nm,0.6s						
MRL				AML	AML	14 58 07.2	
	comp=E,304nm,0.6s						
LFRS	El Faro	2.70	88	eP	P	14 57 23.6	-0.1
CCIG	Comitan	2.71	354	⇑iP	P	14 57 24.1	+0.1
CCIG				iS	S	14 57 55.9	+0.3
LCBS	La Ceiba	2.78	88	eP	P	14 57 24.6	-0.2
SCX	San Cristobal	3.24	346	iP	P	14 57 30.0	-1.4
SCX				iS	S	14 58 10.0	+1.1
SCIG		5.41	7	eP	P	14 57 59.1	-2.4
SCIG				iS	S	14 59 02.6	-0.6
VHO	Vista Hermosa	5.87	307	iP	P	14 58 08.9	+0.9
VHO				iS	S	14 59 21.0	+6.3
JTS	JuntasAbangare	7.48	115	Pn	P	14 58 27.5	-2.9
	comp=E,0.3nm,0.3s,baz=128,slow=20,SNR=2.1						
JTS	JuntasAbangare	7.48	115	Pn	P	14 58 25.0	-5.4
	comp=E,19nm,0.9s						
LTX	Lajitas	19.14	327	eP	P	15 01 02.2	-0.3
	comp=E,7.3nm,1.0s						
TXAR	Lajitas Array	19.14	327	P	P	15 01 02.9	+0.4
	comp=E,0.1nm,0.3s,baz=145,slow=11,SNR=24						
WMOK	Wichita Mounta	22.00	345	eP	P	15 01 29.9	-1.9
	comp=E,6.6nm,1.1s,mb4.0						
WVT	Waverly	22.75	8	eP	P	15 01 38.5	-0.8
CCM	Cathedral Cave	24.39	1	eP	P	15 01 53.7	-1.6
	comp=E,6.2nm,0.6s,mb4.2						
BNM	Barren Site	24.50	329	eP	P	15 01 58.8	+2.5
WCI	Wyandotte Cave	25.05	10	eP	P	15 01 59.8	-1.8
	comp=E,16nm,0.7s,mb4.7						
ANMO	Albuquerque	25.06	331	eP	P	15 02 02.9	+1.2
PV01	Paradox Valley	28.63	332	eP	P	15 02 35.7	+1.3
PV10	Paradox Valley	29.04	331	eP	P	15 02 38.1	0.0
MSU	Marysvale	30.70	328	eP	P	15 02 54.5	+1.8
PDAR	Pinedale Array	32.88	336	P	P	15 03 10.5	-1.2
	comp=E,0.5nm,0.7s,mb3.5,baz=129,slow=9.5,SNR=4.8						
SADO	Sadowa	32.93	17	P	P	15 03 08.2	-3.9
	comp=E,3.3nm,0.8s,mb4.3,baz=204,slow=12,SNR=3.7						
BOZ	Bozeman (W)	36.10	336	eP	P	15 03 38.6	-0.7
LON	Longmire	41.54	329	eP	P	15 04 25.3	+0.9
RPW	Rockport	42.57	331	eP	P	15 04 33.6	+0.7
SCHQ	Schefferville	45.57	20	P	P	15 04 55.2	-1.7
	comp=E,7.9nm,0.7s,mb4.8,baz=228,slow=6.6,SNR=12						
YKA	Yellowknife Ar	51.48	347	P	P	15 05 42.5	-0.1
	comp=E,3.5nm,0.6s,mb4.5,baz=151,slow=7.2,SNR=6.8						
YKA	Yellowknife Ar	51.48	347	P	P	15 05 42.5	-0.1
BDFB	Brasilia	52.16	122	P	P	15 05 49.7	+1.4
	comp=E,1.4nm,0.4s,mb4.2,baz=22,slow=21,SNR=3.6						
DLBC	Dease Lake	53.11	336	P	P	15 05 57.1	+2.2
	comp=E,2.0nm,0.8s,mb4.1,baz=145,slow=15,SNR=4.0						
EKA	Eskdalemuir Ar	78.22	36	P	P	15 08 34.8	-1.1
	comp=E,1.8nm,0.8s,mb4.0,baz=274,slow=6.3,SNR=7.8						

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*NIED **05** 14:57:00, 33.20N×137.10E, h11^{km}, Mw7.5 Best double couple: $M_0 1.69\times10^{20}$ NP1:ϕ_s245°, δ62°, λ62°. NP2:ϕ_s115°, δ39°, λ132°.*

*BGS **05** 14:57:11.1±2.3, 31.53N×137.33E, h10^{km}, mb7.0*

*BJI **05** 14:57:16.4, 33.15N×137.16E, h15^{km}, mB6.4, mb6.2, Ms7.4, Msz7.3*

*IDC **05** 14:57:16.8±0.3, 33.17N×137.19E, mb5.6/38, mb1 5.6/42, mb1mx5.6/42, ML5.3/4, Error ellipse: s-maj=10.7km s-min=8.0km az=80.0*

*JMA **05** 14:57:16.8±0.1, 33.14N×137.14E, h44^{km}±2^{km}, M7.4*

*DHMR **05** 14:57:17.1±2.8, 33.21N×137.23E, mb6.4*

*NEIC **05** 14:57:18.6±0.1, 33.18N×137.07E, h10^{km}, mb6.2/199, ME7.4, MS7.1/78, MW7.4, MW7.5(NIED), Error ellipse: s-maj=3.1km s-min=2.5km az=188.0 Broadband fault plane solution: P waves. NP1:ϕ_s285°, δ70°, λ90°. NP2: ϕ_s105°, δ20°, λ90°. Principal axes: T Plg65°, Azm195°; N Plg0°, Azm0°; P Plg25°, Azm15°; Moment Tensor Solution. s63 Moment tensor: Scale 10^{20} Nm; M_{rr}0.64; $M_{\theta\theta}$-0.70; $M_{\phi\phi}$0.06; $M_{r\theta}$1.02; $M_{\theta\phi}$-0.08; $M_{\phi r}$-0.23; Best double couple: $M_0 1.2\times10^{20}$ NP1:ϕ_s248°, δ18°, λ59°. NP2: ϕ_s100°, δ74°, λ100°. Principal axes: T 1.24, Plg60°, Azm23°; N .01, Plg9°, Azm277°; P -1.25, Plg29°, Azm182°; Complex earthquake observed on broadband displacement seismograms. A small event is followed by at least one larger event about 14 seconds later. Depth from synthetics of broadband displacement seismograms. Energy computed from MT mechanism.*

NEIC About forty people injured in the Kyoto area. Felt in much of southwestern Japan and as far northeast as Tokyo. A local tsunami was generated with maximum recorded wave heights [peak-to-trough] of 93 cm on Kozu-shima and 86 cm at Kushimoto. Power outages occured at Wakayama and a fire occurred at Sakai. Recorded [5L JMA] in Wakayama and Mie; [4 JMA] in Aichi, Fukui, Gifu, Hyogo, Kyoto, Nara, Osaka, Shiga and Tottori; [3 JMA] in Chiba, Hiroshima, Ishikawa, Kanagawa, Nagano, Okayama, Shimane, Shizuoka, Tokyo and Yamanashi; [2 JMA] in Gumma, Ibaraki, Niigata, Saitama, Tochigi and Yamaguchi; [1 JMA] in Miyagi Prefectures. Recorded [3 JMA] in Kagawa, Kochi and Tokushima; [2 JMA] in Ehime Prefectures, Shikoku. Recorded [1 JMA] in Fukuoka, Kumamoto, Miyazaki, Oita and Saga Prefectures, Kyushu. Also recorded [3 JMA] on Hachijo-jima, Kozu-shima, Miyake-jima, Nii-jima and O-shima; [2 JMA] on Dogo, Mikura-jima and in the Dozen Islands; [1 JMA] on Sadago-shima.

*HRVD **05** 14:57:18.6±0.1, 33.13N×137.22E, h12^{km}, MW7.4/76, Centroid moment Tensor Solution. LP body waves: s72,c183;Mantle waves: s76,c193; Half duration: 12^{s}0 Moment tensor: Scale 10^{20}Nm; M_{rr}1.11±.01; $M_{\theta\theta}$-1.77±.01; $M_{\phi\phi}$0.66±.01; $M_{r\theta}$-0.01±.06; $M_{\theta\phi}$0.04±.01; $M_{\phi r}$0.11±.08; Best double couple: $M_0 1.45\times10^{20}$ NP1:ϕ_s79°, δ46°, λ72°. NP2:ϕ_s283°, δ47°, λ107°. Principal axes: T 1.13, Plg77°, Azm270°; N .64, Plg13°, Azm91°; P -1.77, Plg0°, Azm1°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to mantle waves, cutoff=150s.*

*SYO **05** 14:57:18.6, 33.22N×137.06E, h10^{km}, MB6.2, MS7.1*

*MOS **05** 14:57:21.8±0.9, 33.42N×137.02E, h33^{km}, mb6.3/62, Error ellipse: s-maj=7.2km s-min=4.8km az=102.5*

*NIC **05** 14:57:22.8±0.8, 33.68N×137.07E, h33^{km}, Earthquake near S.Cst of Eastern Honshu 85 km SE Kowa.*

ISC 05 14:57:17.4±0.1, 33.21N±0.02×137.07E±0.02, h10^{km}, (h13^{km}±1.4^{km}:pP-P), n1360, σ1^{s}05/1258, mb6.2/300, MS7.2/91, 232C-73D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	Tokai 1	0.71	38	P	Pb	14 57 30.7	-0.7
TK02	Tokai 2	0.93	37	P	Pb	14 57 34.2	-1.1
JWZ	Kozaga	1.18	286	⇓P	Pb	14 57 38.3	-1.2
TK03	Tokai 3	1.21	38	P	Pb	14 57 38.1	-1.9
JIE	Ise	1.22	346	⇓P	Pb	14 57 39.0	-1.2
JKN	Kiinagashima	1.24	327	P	Pb	14 57 39.2	-1.3
TK04	Tokai 4	1.35	29	P	Pb	14 57 40.4	-2.0
JAA	Atsumi	1.42	2	⇓P	Pn	14 57 41.3	-2.2
JWM	Minabe	1.57	295	⇓P	Pn	14 57 44.3	-1.3
JWY	Kouya	1.59	310	P	Pn	14 57 44.9	-1.0
TSUJ	Tsu 2	1.60	340	P	Pn	14 57 44.7	-1.2
JHE	Heguri	1.85	322	P	Pn	14 57 48.2	-1.3
JEG	Eigenji	2.01	344	P	Pn	14 57 51.0	-0.8
SHZ3	Shizuoka 3	2.08	27	P	Pn	14 57 50.4	-2.5
JIZS	Izushimoda	2.13	44	P	Pn	14 57 50.8	-2.7
JAJ2	Tsuna	2.19	304	P	Pn	14 57 53.5	-0.9
JMY	Miyakejima3	2.21	66	P	Pn	14 57 51.9	-2.8
JHJ	Hachijo jima 2	2.27	91	Pn	Pn	14 57 53.3	-2.3
	1µm,0.3s,baz=242,slow=8.4,SNR=93						
JHJ				Sn	Sn	14 58 25.4	+1.4
	15µm,0.3s,baz=52,slow=19,SNR=6.9						
JMIK	Miki	2.32	314	P	Pn	14 57 55.6	-0.6
JKY	Yasaka	2.91	327	P	Pn	14 58 03.3	-1.5
JKU	Kubokawa	3.36	273	⇑P	Pn	14 58 09.7	-1.4
MAJO	Matsushiro	3.46	15	Pn	Pn	14 58 10.9	-1.6
MAJO	Matsushiro	3.46	15	⇓eP	Pn	14 58 10.5	-2.0
MAT	Matsushiro	3.46	15	P	Pn	14 58 10.7	-1.8
MAT				S	Sn	14 58 54.4	+0.4
MAT	Matsushiro	3.46	15	eP	Pn	14 58 12.0	-0.5
MAT				eS	Sn	14 58 57.0	+3.0
JTO	Tosashimizu	3.60	266	⇑P	Pn	14 58 12.9	-1.7
UWA2	Uwa jima 2	3.73	271	P	Pn	14 58 14.9	-1.5
JHIK	Hikimi	4.48	289	P	Pn	14 58 25.7	-1.3
ONAJ	Iwakimizuishiy	4.94	37	P	Pn	14 58 31.8	-1.8
JNU	Nakatsue	5.20	271	Pn	Pn	14 58 35.4	-1.8
	baz=83,slow=15						
JNU				Sn	Sn	14 59 37.3	-0.6
	215nm,0.3s,baz=308,slow=7.7,SNR=5.8						
JNU	Nakatsue	5.20	271	Pn	Pn	14 58 35.4	-1.8
JNU				Sn	Sn	14 59 37.3	-0.6
JFA	Akaike	5.27	277	P	Pn	14 58 35.8	-2.4
JIU2	Izumi 2	5.31	265	P	Pn	14 58 37.8	-0.9
JZO	Okuchi	5.56	261	P	Pn	14 58 41.3	-1.0
JFI	Itaya	5.60	274	P	Pn	14 58 41.1	-1.8
JSJ	Shimokoshiki	6.40	258	P	Pn	14 58 54.2	0.0
JTU	Tsushima	6.52	284	P	Pn	14 58 53.2	-2.6
CBIJ	Chichi jima	7.53	143	Pn	Pn	14 59 07.8	-2.1
	327nm,0.3s,baz=328,slow=4.6,SNR=41						
INCN	Inchon	9.54	300	⇑eP	P	14 59 35.2	-2.6
	100nm,0.8s						
JOW	Kunigami	9.92	232	Pn	P	14 59 41.6	-1.6
	49nm,0.3s,baz=97,slow=13,SNR=12						
JOW	Kunigami	9.92	232	Pn	P	14 59 41.6	-1.6
JNBK	Urakawa-nobuka	10.11	25	P	P	14 59 42.4	-3.3
JEW	Eniwo	10.22	18	P	P	14 59 45.6	-1.6
JJT2	Tamagusuku 2	10.74	231	P	P	14 59 53.7	-0.7
JAGN	Aguni-jima	10.78	235	P	P	14 59 53.5	-1.4
JKE	Kume jima 2	11.26	235	P	P	14 59 59.5	-2.0
ASAJ	Asahikawa	11.71	20	Pn	P	15 00 04.5	-3.1
	15nm,0.3s,baz=233,slow=13,SNR=159						
ASAJ	Asahikawa	11.71	20	P	P	15 00 04.5	-3.1
ASAJ				pmax	pmax		
	comp=Z,15nm,0.3s						
JMP	Maruseppu	11.85	23	P	P	15 00 04.3	-5.1
JNK	Nakash	11.97	28	P	P	15 00 04.4	-6.7
JTKR	Abashiri--Toko	12.00	24	P	P	15 00 06.3	-5.2
JSE	Soyaes	12.49	18	P	P	15 00 13.8	-4.3
JWK2	Keihoku	12.65	16	P	P	15 00 18.5	-1.8
MDJ	Mudanjiang	12.79	335	P	P	15 00 22.4	+0.3
MDJ				AP		15 00 26.5	
MDJ				XP		15 00 32.0	
MDJ				AMB	AMB		
	comp=Z,395nm,1.2s						
MDJ				LR	LR		
	comp=N,1022µm,11.9s						
MDJ				LR	LR		
	comp=E,1127µm,11.9s						
MDJ				LR	LR		
	comp=Z,1404µm,12.7s						
MDJ	Mudanjiang	12.79	335	eP	P	15 00 22.0	0.0
	comp=Z,593nm,1.2s						
YUK	Yuzh-Kuril'sk	12.80	30	eP	P	15 00 16.5	-5.7
YUK				i		15 02 38.0	
YUK				pmax	pmax		
	comp=Z,88µm,9.3s						
YUK				pmax	pmax		
	comp=N,226µm,3.3s						
YUK				pmax	pmax		
	comp=E,112µm,3.4s						
YUK				pmax	pmax		

	comp=N,2µm,0.5s						
YUK				pmax	pmax		
	comp=Z,3µm,0.5s						
YUK				pmax	pmax		
	comp=E,2µm,0.6s						
YUK				smax			
	comp=N,3µm,1.0s						
YUK				smax			
	comp=E,2µm,0.9s						
SSE	**Sheshan**	**13.62**	**265**	P	**P**	**15 00 31.1**	**-2.1**
SSE				AP		15 00 33.5	
SSE				S	**S**	**15 03 07.4**	**+1.7**
SSE				XS		15 03 16.1	
SSE				AMB	AMB		
	comp=Z,662nm,1.0s						
SSE				AMB	AMB		
	comp=Z,9µm,9.3s						
SSE				LR	LR		
	comp=N,678µm,13.6s						
SSE				LR	LR		
	comp=E,814µm,13.6s						
DL2	**Dalian**	**13.72**	**299**	⇑*i*P	**P**	**15 00 34.9**	**+0.4**
DL2				S	**S**	**15 03 06.6**	**-1.3**
DL2				AMB	AMB		
	comp=Z,1µm,1.1s						
DL2				LR	LR		
	comp=N,1621µm,21.6s						
DL2				LR	LR		
	comp=E,481µm,20.0s						
DL2				LR	LR		
	comp=Z,1218µm,12.1s						
SNY	**Shenyang**	**13.73**	**313**	⇓P	**P**	**15 00 36.4**	**+1.9**
SNY				LR	LR		
	comp=N,879µm,13.5s						
SNY				LR	LR		
	comp=E,1133µm,15.3s						
SNY				LR	LR		
	comp=Z,1344µm,14.7s						
CN2	**Changchun**	**13.94**	**323**	*e*P	**P**	**15 00 38.1**	**+0.8**
CN2				*e*XP		15 00 44.8	
CN2				*e*S	**S**	**15 03 13.3**	**+0.2**
CN2				LR	LR		
	comp=Z,2169µm,21.0s						
YSS	**Yuzh-Sakhalins**	**14.40**	**16**	κ*e*P	**P**	**15 00 37.0**	**-6.2**
YSS				*e*S	**S**	**15 03 14.0**	**-10**
YSS				pmax	pmax		
	comp=N,3µm,1.1s						
YSS				pmax	pmax		
	comp=E,60nm,1.1s						
YSS				pmax	pmax		
	comp=Z,3µm,1.1s						
YSS				pmax	pmax		
	comp=N,30µm,9.0s						
YSS				pmax	pmax		
	comp=E,10µm,9.0s						
YSS				pmax	pmax		
	comp=Z,39µm,9.0s						
YSS				smax			
	comp=E,55µm,14.0s						
YSS				smax			
	comp=N,67µm,9.0s						
YSS	**Yuzh-Sakhalins**	**14.40**	**16**	*e*P	**P**	**15 00 36.2**	**-7.0**
	comp=N,930nm,1.1s						
KUR	**Kuril'sk**	**14.62**	**32**	*e*P	**P**	**15 00 41.5**	**-4.7**
KUR				*e*S	**S**	**15 03 27.0**	**-2.2**
KUR				pmax	pmax		
	comp=N,29µm,3.5s						
KUR				pmax	pmax		
	comp=E,28µm,3.5s						
KUR				pmax	pmax		
	comp=Z,41µm,3.5s						
KUR				pmax	pmax		
	comp=N,5µm,1.1s						
KUR				pmax	pmax		
	comp=Z,8µm,1.1s						
KUR				pmax	pmax		
	comp=E,2µm,3.5s						
KUR				smax			
	comp=N,10µm,2.0s						
KUR				smax			
	comp=E,5µm,2.0s						
KUR				smax			
	comp=N,224µm,20.0s						
KUR				smax			
	comp=E,195µm,20.0s						
NJ2	**Nanjing**	**15.40**	**271**	*e*P	**P**	**15 00 56.4**	**0.0**
NJ2				AP		15 00 59.0	
NJ2				XP		15 01 03.4	
NJ2				PP	PP	15 01 08.4	-0.4
NJ2				S	**S**	**15 03 46.5**	**-1.1**
NJ2				AMB	AMB		
	comp=Z,2µm,1.0s						
NJ2				AMB	AMB		
	comp=Z,5µm,5.8s						
TATO	**Taipei**	**15.89**	**243**	P	**P**	**15 00 56.4**	**-6.4**
	comp=Z,2µm,1.4s						
KLR	**Kul'dur**	**16.50**	**348**	⇑*i*P	**P**	**15 01 08.8**	**-1.6**
KLR				pmax	pmax		
	comp=N,12µm,2.8s						
KLR				pmax	pmax		
	comp=Z,9µm,2.8s						
TIA	**Tai'an**	**16.68**	**286**	⇑P	**P**	**15 01 13.3**	**+0.5**
TIA				AP		15 01 21.7	
TIA				XP		15 01 26.5	
TIA				AMB	AMB		
	comp=Z,2µm,1.9s						
TIA				AMB	AMB		
	comp=Z,12µm,5.0s						
TIA				LR	LR		
	comp=N,455µm,14.8s						
TIA				LR	LR		
	comp=E,413µm,10.4s						
BJI	**Beijing**	**18.09**	**298**	P	**P**	**15 01 31.9**	**+1.4**
BJI				AMB	AMB		
	comp=Z,1µm,1.3s						
BJI				LR	LR		
	comp=Z,942µm,22.2s						
BJT	**Baijiatuau**	**18.09**	**298**	*e*P	**P**	**15 01 30.9**	**+0.5**
	comp=Z,3µm,1.3s						
QZH	**Quanzhou**	**18.11**	**248**	⇑*i*P	**P**	**15 01 29.5**	**-1.4**
QZH				S	**S**	**15 04 52.1**	**+1.9**
QZH				AMB	AMB		
	comp=Z,8µm,1.7s						
QZH				LR	LR		
	comp=N,1646µm,24.5s						
QZH				LR	LR		
	comp=E,1185µm,13.0s						
QZH				LR	LR		
	comp=Z,1302µm,13.5s						
SARN	**Sarigan**	**18.21**	**152**	*e*P	**P**	**15 01 30.9**	**-1.2**
BBP	**Basco**	**18.50**	**230**	*e*P	**P**	**15 01 40.0**	**+4.2**
WHN	**Wuhan**	**19.48**	**268**	⇑P	**P**	**15 01 48.0**	**+0.8**
WHN				LR	LR		
	comp=N,912µm,12.7s						
WHN				LR	LR		
	comp=E,773µm,12.2s						
WHN				LR	LR		
	comp=Z,1553µm,14.6s						
SAPN	**Saipan**	**19.56**	**154**	⇓*e*P	**P**	**15 01 46.5**	**-1.8**
SGCP	**Mt. Cagua**	**20.09**	**226**	*e*P	**P**	**15 01 56.8**	**+2.7**
TIY	**Taiyuan**	**20.55**	**290**	⇑P	**P**	**15 01 54.0**	**-4.7**
TIY				S	**S**	**15 05 48.0**	**+4.5**
TIY				LR	LR		
	comp=N,591µm,12.0s						
HIA	**Hailar**	**20.59**	**326**	*e*P	**P**	**15 01 56.7**	**-2.4**
	comp=N,322nm,1.1s						
CVP	**Callao Caves**	**20.65**	**225**	⇓*e*P	**P**	**15 02 06.4**	**+6.5**
GUMO	**Guam**	**20.78**	**158**	*e*P	**P**	**15 01 58.7**	**-2.6**
	comp=N,3µm,1.4s						
GUMO				LR	LR		
	comp=Z,549µm,22.0s,MS6.9						
APYP	**Conner**	**20.87**	**227**	*e*P	**P**	**15 02 01.9**	**-0.3**
CAUP	**Cauayan**	**21.24**	**224**	*e*P	**P**	**15 02 09.3**	**+3.3**
ABRA	**Dolores**	**21.36**	**228**	*e*P	**P**	**15 02 06.8**	**-0.3**
HHC	**Hu-ho-hao-te**	**21.70**	**298**	*e*P	**P**	**15 02 10.2**	**-0.2**
HHC				XP		15 02 14.9	
HHC				PP	PP	15 02 33.1	-2.2
HHC				S	**S**	**15 06 12.0**	**+6.5**
HHC				XS		15 06 15.6	
HHC				SCP		15 09 45.1	
HHC				PCS		15 09 52.2	
HHC				AMB	AMB		
	comp=Z,820nm,1.3s,mb6.0						
HHC				LR	LR		
	comp=N,1237µm,21.4s,MS7.3						
HHC				LR	LR		
	comp=E,513µm,20.2s,MS7.3						
HHC				LR	LR		
	comp=Z,666µm,14.9s						
BALP	**Baler**	**22.34**	**223**	*e*P	**P**	**15 02 19.2**	**+2.3**
SKR	**Severo-Kuril's**	**22.38**	**33**	⇓*i*P	**P**	**15 02 22.0**	**+4.9**
SKR				*i*		15 02 45.5	
SKR				*i*		15 02 52.0	
SKR				pmax	pmax		
	comp=N,29µm,4.0s						
SKR				pmax	pmax		
	comp=E,58µm,4.0s						
SKR				pmax	pmax		
	comp=Z,102µm,4.0s						
SKR				pmax	pmax		
	comp=N,8µm,1.5s						
SKR				pmax	pmax		
	comp=Z,19µm,1.5s,mb7.3						
SKR				pmax	pmax		
	comp=E,4µm,1.0s						
BCPH	**Baguio City Da**	**22.41**	**226**	⇓*i*P	**P**	**15 02 20.1**	**+2.3**
PVCP	**Virac**	**22.80**	**214**	*e*P	**P**	**15 02 22.9**	**+1.4**
BTO	**Baotou**	**22.80**	**297**	*e*P	**P**	**15 02 21.5**	**+0.1**
BTO				AMB	AMB		
	comp=Z,2µm,1.4s,mb6.3						
BOLP	**Bolinao**	**22.82**	**227**	*e*P	**P**	**15 02 20.4**	**-1.4**
HKC	**Hong Kong**	**22.94**	**248**	⇑*i*P	**P**	**15 02 26.0**	**+3.0**
POLP	**Polilio Island**	**22.96**	**220**	*e*P	**P**	**15 02 24.1**	**+0.9**
GZH	**Guangzhou**	**23.18**	**250**	P	**P**	**15 02 19.5**	**-5.7**
GZH				LR	LR		
	comp=N,756µm,14.2s,MS7.3						
GZH				LR	LR		
	comp=E,435µm,16.2s,MS7.3						
GZH				LR	LR		
	comp=Z,1065µm,13.7s,MS7.5						
GQP	**Guinayangan**	**23.38**	**218**	⇓*i*P	**P**	**15 02 28.5**	**+1.3**
XAN	**Xi'an**	**23.43**	**280**	P	**P**	**15 02 27.8**	**+0.2**
XAN				AMB	AMB		
	comp=Z,2µm,1.6s,mb6.2						
XAN				LR	LR		
	comp=N,378µm,21.6s,MS7.0						
XAN				LR	LR		
	comp=E,409µm,21.3s,MS7.0						
XAN				LR	LR		
	comp=Z,476µm,12.4s						
QVPH	**Quezon City--P**	**23.51**	**222**	⇑*e*P	**P**	**15 02 30.3**	**+1.8**
CNP	**Catarman**	**23.52**	**212**	*e*P	**P**	**15 02 30.6**	**+2.0**
ARP	**Angono**	**23.55**	**222**	⇓*e*P	**P**	**15 02 31.7**	**+2.8**
ENH	**Enshi**	**23.62**	**270**	*e*P	**P**	**15 02 30.4**	**+1.0**
	comp=Z,1.4nm,0.5s						
LQP	**Lukban**	**23.69**	**220**	⇑*e*P	**P**	**15 02 30.9**	**+0.7**
AUQP	**San Andres**	**23.75**	**217**	*e*P	**P**	**15 02 32.6**	**+1.8**
BESP	**Borongan**	**24.00**	**209**	*e*P	**P**	**15 02 34.0**	**+0.7**
TGY	**Tagaytay City**	**24.02**	**221**	P	**P**	**15 02 34.4**	**+0.8**
	comp=Z,1µm,1.1s,mb6.2,baz=298,slow=2.0,SNR=16						
BOAC	**Boac**	**24.07**	**219**	*e*P	**P**	**15 02 34.6**	**+0.7**
MMPH	**Masbate**	**24.12**	**214**	*e*P	**P**	**15 02 36.7**	**+2.2**
PLP	**Palo**	**24.59**	**210**	*e*P	**P**	**15 02 39.0**	**0.0**
LUBP	**Lubang**	**24.71**	**222**	*e*P	**P**	**15 02 40.5**	**+0.3**
OCLP	**Ormoc**	**24.84**	**210**	*e*P	**P**	**15 02 41.9**	**+0.4**
OTRP	**Odiongan**	**24.90**	**217**	*e*P	**P**	**15 02 42.4**	**+0.3**
PET	**Petropavlovsk**	**25.13**	**32**	κ*i*P	**P**	**15 02 43.7**	**-0.1**
PET				*e*		15 03 28.9	
PET				pmax	pmax		
	comp=Z,4µm,1.3s,mb6.8						
PET				pmax	pmax		
	comp=Z,68µm,6.3s						
RCP	**Roxas**	**25.23**	**215**	⇑*e*P	**P**	**15 02 45.1**	**-0.1**
SJMP	**San Jose**	**25.28**	**219**	*e*P	**P**	**15 02 46.5**	**+0.9**
KALP	**Kalibo**	**25.33**	**216**	⇑*e*P	**P**	**15 02 48.0**	**+1.9**
MSLP	**Maasin**	**25.57**	**209**	*e*P	**P**	**15 02 48.3**	**-0.1**
SCPH	**Surigao**	**25.64**	**207**	⇑*e*P	**P**	**15 02 48.5**	**-0.5**
	comp=Z,1924µm,1.0s						
LLP	**Lapu-Lapu**	**25.77**	**211**	⇑*e*P	**P**	**15 02 48.5**	**-1.8**
	comp=Z,32µm,1.0s						
GUIM	**Jordan**	**26.12**	**214**	*e*P	**P**	**15 02 54.3**	**+0.8**
BUSP	**Coron**	**26.15**	**220**	*e*P	**P**	**15 02 53.0**	**-0.7**
BUTP	**Butuan**	**26.34**	**206**	*e*P	**P**	**15 02 54.3**	**-1.1**
TBP	**Tagbilaran**	**26.38**	**210**	*e*P	**P**	**15 02 54.4**	**-1.4**
AAP	**Anini-y**	**26.61**	**215**	*e*P	**P**	**15 03 03.0**	**+5.1**
	comp=Z,1µm,1.0s,mb6.0						
CUYO	**Cuyo Island**	**26.69**	**217**	*e*P	**P**	**15 02 58.1**	**-0.7**
ULN	**Ulaanbaatar**	**26.90**	**312**	PFAKE		15 03 10.0	+10
ULN				LR	LR		
	comp=Z,594µm,22.0s,MS7.1						
CGP	**Cagayan de Oro**	**27.16**	**208**	*e*P	**P**	**15 03 01.6**	**-1.5**
GYA	**Guiyang**	**27.16**	**264**	⇑*i*P	**P**	**15 03 02.3**	**-0.6**
GYA				AP	pP	15 03 07.2	+1.4
GYA				XP	sP	15 03 10.4	+3.2
GYA				LR	LR		
	comp=N,467µm,20.6s,MS7.2						
GYA				LR	LR		
	comp=E,478µm,23.8s,MS7.2						
GYA				LR	LR		
	comp=Z,349µm,22.4s,MS6.9						
ENPP	**El Nido**	**27.23**	**221**	*e*P	**P**	**15 03 02.7**	**-1.0**
SONM	**Songino Array**	**27.30**	**311**	P	**P**	**15 03 03.6**	**-0.3**
	comp=Z,144nm,1.0s,mb5.5,baz=116,slow=8.3,SNR=190						
SONM	**Songino Array**	**27.30**	**311**	P	**P**	**15 03 03.6**	**-0.3**
LZH	**Lanzhou**	**27.41**	**285**	⇑P	**P**	**15 03 04.5**	**-0.6**
LZH				AP	pP	15 03 08.0	-0.1
LZH				XP	sP	15 03 09.2	-0.2
LZH				PP	PP	15 03 51.3	-1.3
LZH				S	**S**	**15 07 41.5**	**-2.1**
LZH				SS	SS	15 09 00.3	-0.3
LZH				LR	LR		
	comp=N,562µm,13.1s						
LZH				LR	LR		
	comp=Z,734µm,17.4s,MS7.3						
BUKP	**Musuan**	**27.55**	**206**	*e*P	**P**	**15 03 04.4**	**-2.1**
DCPH	**Dipolog City**	**27.59**	**210**	⇑*i*P	**P**	**15 03 05.2**	**-1.7**
MA2	**Magadan**	**27.90**	**15**	*e*P	**P**	**15 03 08.2**	**-1.1**
	comp=Z,22nm,0.8s						
MA2				LR	LR		
	comp=Z,213µm,22.0s						
MATI	**Mati**	**27.99**	**203**	*e*P	**P**	**15 03 07.1**	**-3.4**
DAV	**Davao City (W)**	**28.11**	**205**	*e*P	**P**	**15 03 13.5**	**+1.9**
QIZ	**Qiongzhong**	**28.13**	**247**	P	**P**	**15 03 12.3**	**+0.6**
QIZ				LR	LR		
	comp=N,354µm,24.5s,MS7.0						
QIZ				LR	LR		
	comp=E,338µm,24.9s,MS7.0						
QIZ				LR	LR		
	comp=Z,362µm,13.0s						
QIZ	**Qiongzhong**	**28.13**	**247**	*e*P	**P**	**15 03 12.3**	**+0.6**
	comp=Z,672nm,1.4s,mb6.1						
PAGZ	**Pagadian**	**28.24**	**210**	*e*P	**P**	**15 03 10.9**	**-1.9**
CD2	**Chengdu**	**28.26**	**274**	⇑*i*P	**P**	**15 03 11.6**	**-1.3**
CD2				PP	PP	15 04 04.9	+1.2
CD2				PPP	PPP	15 04 18.8	+2.8
CD2				PCP	PcP	15 06 20.2	-6.2
CD2				S	**S**	**15 07 59.4**	**+2.1**
CD2				AMB	AMB		
	comp=Z,710nm,1.5s,mb6.1						
KCP	**Kidapawan**	**28.34**	**206**	⇑*i*P	**P**	**15 03 12.4**	**-1.3**
CTBH	**Cotabato--PC H**	**28.46**	**208**	*e*P	**P**	**15 03 14.3**	**-0.5**
CTBH				*i* S	x	15 03 53.3	
IPIL	**Ipil**	**28.64**	**211**	*e*P	**P**	**15 03 14.6**	**-1.8**
BOD	**Bodaibo**	**29.16**	**335**	*e*P	**P**	**15 03 18.5**	**-2.2**
YAK	**Yakutsk**	**29.23**	**353**	*e*P	**P**	**15 03 20.7**	**-0.6**
YAK				*e*		15 14 00.2	
YAK				pmax	pmax		
	comp=N,467nm,1.2s						
YAK				pmax	pmax		
	comp=E,141nm,1.2s						
YAK				pmax	pmax		
	comp=Z,623nm,1.2s,mb6.2						
YAK				pmax	pmax		
	comp=Z,2µm,0.9s,mb6.7						
YAK				pmax	pmax		
	comp=N,2µm,1.2s						
YAK				pmax	pmax		
	comp=E,425nm,1.1s						
YAK	**Yakutsk**	**29.23**	**353**	⇓*e*P	**P**	**15 03 19.1**	**-2.2**
	comp=E,1µm,1.3s,mb6.4						
YAK				LR	LR		
	comp=Z,1651µm,21.0s,MS7.6						
WAKE	**Wake Island**	**29.81**	**110**	PFAKE		15 03 40.0	+13
WAKE				LR	LR		
	comp=Z,84µm,21.0s,MS6.3						
BATP	**Bataraza**	**30.11**	**221**	*e*P	**P**	**15 03 31.3**	**+1.6**
ZAK	**Zakamensk**	**30.14**	**315**	⇑*i*P	**P**	**15 03 29.6**	**+0.1**
IRK	**Irkutsk**	**30.33**	**319**	*e*P	**P**	**15 03 30.6**	**-0.5**
GTA	**Gaotai**	**30.50**	**292**	⇑*i*P	**P**	**15 03 32.1**	**-0.7**
GTA				AP	pP	15 03 36.0	+0.2
GTA				XP	sP	15 03 38.4	+1.3
GTA				PP	PP	15 04 31.3	-1.4
GTA				PPP	PPP	15 04 47.4	+0.2
GTA				PCP	PcP	15 06 33.5	+1.5
GTA				S	**S**	**15 08 32.5**	**-0.4**
GTA				XS		15 08 39.4	
GTA				SS	SS	15 10 12.5	-0.7
GTA				PCS		15 10 14.6	
GTA				AMB	AMB		
	comp=Z,1µm,5.3s						
GTA				LR	LR		
	comp=N,291µm,20.2s,MS7.1						
GTA				LR	LR		
	comp=E,231µm,16.7s,MS7.1						
GTA				LR	LR		
	comp=Z,352µm,14.5s,MS7.2						
KMI	**Kunming**	**30.94**	**264**	⇑*e*P	**P**	**15 03 36.0**	**-0.8**
KMI				AP	pP	15 03 39.8	+0.1
KMI				XP	sP	15 03 41.7	+0.7
KMI				PP	PP	15 04 41.1	+2.6
KMI				PPP	PPP	15 04 52.3	-1.2
KMI				PCP	PcP	15 06 33.0	-0.3
KMI				S	**S**	**15 08 37.9**	**-2.0**
KMI				XS		15 08 46.8	
KMI				SS	SS	15 10 22.1	-1.2
KMI				AMB	AMB		
	comp=Z,3µm,5.3s						
KMI				LR	LR		
	comp=N,384µm,24.8s						
KMI				LR	LR		
	comp=E,555µm,13.4s						
KMI				LR	LR		
	comp=Z,488µm,14.7s						
SEY	**Seymchan**	**31.28**	**13**	*e*P	**P**	**15 03 43.5**	**+4.1**
SEY				pmax	pmax		
	comp=N,400nm,1.1s						
SEY				pmax	pmax		
	comp=Z,1µm,1.1s,mb6.6						
SEY				pmax	pmax		
	comp=E,310nm,1.2s						
SEY				MLR	MLR		
	comp=Z,2625µm,16.0s,MS8.0						
SEY				MLR	MLR		
	comp=N,2348µm,15.0s						
MOY	**Mondy**	**31.96**	**316**	*e*P	**P**	**15 03 45.1**	**-0.4**
SMY	**Shemya**	**32.89**	**42**	*e*P	**P**	**15 03 53.2**	**-0.4**
SMY				pmax	pmax		
	comp=Z,960nm,1.4s,mb6.5						
SMY	**Shemya**	**32.89**	**42**	*e*P	**P**	**15 03 53.5**	**-0.1**
KKM	**Kota Kinabalu**	**33.26**	**220**	⇑*e*P	**P**	**15 04 04.1**	**+6.9**
UBT	**Ubonrachathani**	**34.07**	**246**	⇓P	**P**	**15 04 05.0**	**+0.8**
	comp=Z,347nm,1.1s,mb6.2						
KKTK	**Khon Kaen**	**35.14**	**250**	⇑PN	**P**	**15 04 13.0**	**-0.4**
NANT	**Nan**	**35.50**	**255**	PN	**P**	**15 04 15.0**	**-1.5**
CHRT	**Chiangrai**	**35.71**	**258**	⇑P	**P**	**15 04 19.0**	**+0.8**
	comp=Z,3µm,0.6s						
CMAR	**Chiang Mai Arr**	**37.11**	**256**	P	**P**	**15 04 30.1**	**+0.1**
	comp=Z,39nm,0.6s,mb5.4,baz=49,slow=8.1,SNR=305						
CMAR	**Chiang Mai Arr**	**37.11**	**256**	P	**P**	**15 04 30.1**	**+0.1**
CMAR				pmax	pmax		
	comp=Z,39nm,0.6s						
NST	**Nakhon Sawan**	**37.64**	**251**	⇓P	**P**	**15 04 35.0**	**+0.5**
	comp=Z,192nm,1.0s,mb5.8						
BDT	**Bhumibol Dam**	**37.69**	**255**	PG	**P**	**15 04 35.0**	**+0.1**
KRAR	**Krasnoyarsk**	**37.95**	**320**	*e*P	**P**	**15 04 36.8**	**+0.1**
IMP	**Imphal**	**38.44**	**269**	*e*P	**P**	**15 04 39.0**	**-2.1**
TIXI	**Tiksi**	**38.75**	**356**	⇓*i*P	**P**	**15 04 41.7**	**-1.6**
TIXI				*e*		15 06 16.5	
TIXI				pmax	pmax		
	comp=Z,537nm,1.2s,mb6.2						
TIXI				pmax	pmax		
	comp=Z,19µm,5.0s						
TIXI	**Tiksi**	**38.75**	**356**	*i* Pr		15 04 41.8	
TIXI				LR	LR		
	comp=Z,361µm,21.0s,MS7.2						
LSA	**Lhasa**	**39.09**	**278**	⇑*i*P	**P**	**15 04 48.2**	**+1.6**
LSA				AMB	AMB		
	comp=Z,380nm,1.1s,mb6.0						
LSA				LR	LR		
	comp=N,305µm,14.0s,MS7.4						
LSA				LR	LR		
	comp=E,319µm,14.0s,MS7.4						
MIDW	**Midway**	**39.25**	**85**	*e*P	**P**	**15 04 45.5**	**-2.4**
	comp=E,482nm,1.3s,mb6.1						
MIDW				LR	LR		
	comp=Z,163µm,21.0s,MS6.8						
WMQ	**Urumqi**	**39.54**	**300**	⇑*i*P	**P**	**15 04 50.5**	**+0.4**
WMQ				AP	pP	15 04 55.0	+1.9
WMQ				XP	sP	15 04 57.5	+3.1
WMQ				PP	PP	15 06 25.7	+0.8
WMQ				S	**S**	**15 10 52.7**	**+0.4**
WMQ				SS	SS	15 13 40.4	+1.0
WMQ				LR	LR		
	comp=N,159µm,19.0s,MS7.3						
WMQ				LR	LR		
	comp=E,441µm,21.0s,MS7.3						
WMQ				LR	LR		
	comp=Z,555µm,22.0s,MS7.3						
NNT	**Nongplab**	**39.75**	**248**	P	**P**	**15 04 53.9**	**+1.7**
SHL	**Shillong**	**39.86**	**271**	⇑*i*P	**P**	**15 04 53.0**	**0.0**
SHL				*i* S	**S**	**15 11 02.0**	**+4.7**
TANI	**Tanete Lipujan**	**40.10**	**208**	⇓*i*P	**P**	**15 04 54.2**	**-0.9**
NINI	**Niniconang**	**40.86**	**207**	⇓*i*P	**P**	**15 05 00.9**	**-0.4**
	comp=Z,3µm,1.3s,mb6.4						
AGT	**Agartala**	**41.04**	**269**	⇑*i*P	**P**	**15 05 07.0**	**+4.4**
AGT				*i*		15 06 22.0	
WAU	**Wau**	**41.35**	**165**	*e*P	**P**	**15 05 03.9**	**-1.4**
ZAL	**Zalesovo**	**42.02**	**316**	P	**P**	**15 05 10.1**	**-0.3**
	comp=Z,32nm,0.9s,baz=274,slow=8.7,SNR=81						
ZAL				PKPPKP		15 37 16.7	
	comp=Z,5.5nm,1.1s,baz=340,slow=0.4,SNR=3.2						
SNG	**Songkhla**	**42.54**	**241**	P	**P**	**15 05 15.0**	**-0.2**
	comp=Z,818nm,1.0s,mb6.4						
NIKO	**Nikolski**	**42.98**	**46**	*e*P	**P**	**15 05 15.4**	**-2.8**
NVS	**Novosibirsk**	**43.05**	**317**	*i* P	**P**	**15 05 17.9**	**-0.8**
NVS				*i*		15 07 13.9	
NVS				pmax	pmax		
	comp=Z,4µm,1.3s,mb6.9						
NVS				pmax	pmax		
	comp=N,1µm,1.4s						
NVS				pmax	pmax		
	comp=E,4µm,1.7s						
MKAR	**Makanchi Array**	**43.26**	**305**	P	**P**	**15 05 21.2**	**+0.7**
	comp=E,230nm,0.9s,mb5.9,baz=91,slow=10,SNR=524						
MKAR				S	**S**	**15 11 54.6**	**+7.3**
	comp=E,21nm,0.9s,baz=284,slow=9.8,SNR=2.2						
MKAR	**Makanchi Array**	**43.26**	**305**	P	**P**	**15 05 21.2**	**+0.6**
MKAR				S	**S**	**15 11 54.6**	**+7.3**
MKAR				pmax	pmax		
	comp=Z,230nm,0.9s						
MKAR				smax			
	comp=N,21nm,0.9s						
MKAR	**Makanchi Array**	**43.26**	**305**	P	**P**	**15 05 21.2**	**+0.7**
MKAR				S	**S**	**15 11 54.6**	**+7.3**
MKAR				P'P'		15 37 25.5	
PMG	**Port Moresby**	**43.45**	**165**	*e*P	**P**	**15 05 21.3**	**-1.2**
IPM	**Ipoh**	**44.03**	**238**	⇑*e*P	**P**	**15 05 28.5**	**+1.2**
	comp=N,52nm,0.6s,mb5.4						
UNV	**Unalaska Valle**	**44.45**	**45**	*e*P	**P**	**15 05 27.1**	**-3.1**
	comp=N,248nm,1.3s,mb5.8						
UNV				LR	LR		
	comp=Z,482µm,22.0s,MS7.4						
PKI	**Pulchoki**	**44.55**	**277**	*e*P	**P**	**15 05 30.9**	**-0.4**
	comp=Z,4µm,1.3s,mb7.1						
KKN	**Kakani**	**44.59**	**277**	*e*P	**P**	**15 05 31.5**	**-0.1**
	comp=Z,2µm,1.0s,mb7.0						
KLM	**Kuala Lumpur**	**44.65**	**235**	⇓*e*P	**P**	**15 05 31.0**	**-1.2**
DMN	**Daman**	**44.79**	**277**	*e*P	**P**	**15 05 33.3**	**0.0**
	comp=Z,3µm,1.1s,mb7.1						
GKN	**Gorkha**	**45.05**	**278**	*e*P	**P**	**15 05 34.0**	**-1.3**
	comp=Z,6µm,1.4s,mb7.2						
KURK	**Kurchatov**	**45.60**	**311**	P	**P**	**15 05 39.8**	**+0.4**
	comp=Z,5µm,1.0s						
KURK	**Kurchatov**	**45.60**	**311**	*e*P	**P**	**15 05 38.0**	**-1.4**
	comp=Z,13nm,1.8s						
KURK				LR	LR		
	comp=Z,152µm,20.0s						
KAKA	**Kakadu**	**45.86**	**186**	*e*P	**P**	**15 05 39.6**	**-2.3**
	comp=Z,299nm,0.7s,mb6.3						
KAKA				*e*S	Sx	15 13 11.0	
KAKA				*e*PKPPKP		15 36 58.8	
TNA	**Tin City**	**45.92**	**28**	⇑*e*P	**P**	**15 05 42.2**	**+0.6**
	comp=Z,96nm,0.8s,mb5.8						
TNA				LR	LR		
	comp=Z,179µm,22.0s,MS7.0						

VLK	**Valmikinagar**	45.93	277	*i* P	P	15 05 41.0	-1.2
VLK				*i*		15 06 04.0	
KOLN	**Koldanda**	45.99	278	*e*P	P	15 05 42.6	-0.1
	comp=Z,4µm,1.2s,mb7.2						
KEDI	**Kedomdong**	46.01	209	⇓*i*P	P	15 05 41.9	-1.1
	comp=Z,3µm,1.2s,mb6.8						
KEDI	**Kedomdong**	46.01	209	⇓*i*P	P	15 05 41.7	-1.3
KEDI				⇓*i*P		15 05 41.9	
KELI	**Kelakatan**	46.46	212	⇓*e*P	P	15 05 45.5	-1.1
	comp=Z,3µm,1.7s,mb6.6						
RATI	**Rata**	46.46	210	⇓*i*P	P	15 05 44.8	-1.8
	comp=Z,3µm,1.4s,mb6.8						
ANM	**Nome**	46.70	30	*e*P	P	15 05 50.4	+2.6
INGI	**Ingas**	46.71	210	⇑*i*P	P	15 05 51.5	+2.9
	comp=Z,3µm,1.2s,mb6.8						
AAA	**Alma-Ata**	47.37	301	*c i*P	P	15 05 54.0	+0.6
AAA				*e*S	S	15 12 55.0	+8.7
SDPT	**Sand Point**	48.02	43	*e*P	P	15 05 55.6	-2.8
ULHL	**Ulahol**	48.05	299	P	P	15 05 59.7	+0.9
	SNR=40						
LGTI	**Lohaghat**	48.18	282	*e*P	P	15 06 01.0	+1.0
LGTI				*e*		15 07 39.5	
TKM2	**Tokmak 2**	48.40	300	P	P	15 06 02.4	+0.9
	SNR=176						
KSH	**Kashi**	48.79	296	⇑*i*P	P	15 06 06.0	+1.5
KSH				*e*AP	pP	15 06 11.4	+3.9
KSH				*e*XP	sP	15 06 15.7	+7.0
KSH				*e*PCP	PcP	15 07 32.4	+2.7
KSH				*e*PP	PP	15 07 59.2	+1.4
KSH				*e*PPP	PPP	15 08 51.0	+0.6
KSH				*e*SCP		15 11 24.7	
KSH				*e*PCS		15 11 28.6	
KSH				S	S	15 13 08.4	+2.0
KSH				*e*XS		15 13 15.6	
KSH				*e*SCS	ScS	15 15 55.0	+0.7
KSH				*e*SS	SS	15 16 32.3	-0.1
KZA	**Kyzart**	48.80	299	P	P	15 06 06.3	+1.7
	SNR=124						
KBK	**Karagaybulak**	48.92	300	P	P	15 06 06.1	+0.7
	SNR=101						
CHMS	**Chumysh**	49.00	301	P	P	15 06 06.3	+0.2
	SNR=94						
FRU	**Bishkek**	49.12	300	*i* P	P	15 06 08.0	+0.9
FRU				*e*		15 13 04.0	
USP	**Ospenovka**	49.13	301	P	P	15 06 07.1	0.0
	SNR=139						
AAK	**Ala-Archa**	49.25	300	P	P	15 06 08.2	+0.2
	SNR=43						
AAK	**Ala-Archa**	49.25	300	⇑*e*P	P	15 06 06.3	-1.7
	comp=Z,106nm,0.9s,mb5.9						
AAK				LR	LR		
	comp=Z,192µm,20.0s,MS7.1						
UCH	**Uchtor**	49.31	300	P	P	15 06 09.0	+0.5
	SNR=166						
BLSP	**Bilaspur**	49.41	272	*e*P	P	15 06 08.8	-0.7
BLSP				*e*		15 08 16.2	
EKS2	**Erkin-Say**	49.76	300	P	P	15 06 12.0	0.0
	SNR=68						
AML	**Almayashu**	49.93	300	P	P	15 06 14.5	+1.3
	SNR=73						
VOSK	**Vostochnaya**	50.26	314	P	P	15 06 13.5	-2.1
VOSK				pmax	pmax		
	comp=Z,9µm,1.9s						
TTA	**Tatalina**	50.58	33	*e*P	P	15 06 16.4	-1.5
BVAR	**Borovoye Array**	50.59	314	PKKP	PKKP	15 28 36.8	+0.1
	comp=Z,0.7nm,0.5s,baz=207,slow=3.3,SNR=3.6						
BVAR				PKPPKP		15 37 12.3	
	comp=Z,2.2nm,0.8s,baz=113,slow=3.9,SNR=4.6						
BVAR	**Borovoye Array**	50.59	314	PKPPKP		15 37 20.6	
	comp=Z,8.2nm,0.8s,baz=180,slow=2.9,SNR=6.3						
BRVK	**Borovoye**	50.65	314	⇑*i*P	P	15 06 17.8	-0.8
	comp=Z,127nm,0.8s,mb5.9						
BRVK				LR	LR		
	comp=Z,164µm,20.0s,MS7.0						
BHK	**Bhakra**	50.66	285	*e*P	P	15 06 23.0	+4.1
BHK				*e*		15 08 25.0	
SVW	**Sparrevohn**	50.69	35	*e*P	P	15 06 18.7	-0.1
NDI	**New Delhi**	50.94	282	*i* P	P	15 06 19.0	-2.1
	comp=Z,2µm,1.4s,mb6.9						
NDI				*e*S	S	15 13 43.0	+6.6
ZRNK	**Zerenda**	51.43	314	P	P	15 06 23.9	-0.6
ZRNK				pmax	pmax		
	comp=Z,5µm,1.4s,mb7.2						
ZRNK	**Zerenda**	51.43	314	*e*P	P	15 06 23.7	-0.8
	comp=Z,266nm,0.9s,mb6.2						
IMA	**Indian Mountai**	51.77	29	*e*P	P	15 06 25.8	-1.1
KKAR	**Karatay Array**	52.02	302	*i* P	P	15 06 28.6	-0.5
RSO	**Redoubt South**	52.09	36	*e*P	P	15 06 28.8	-0.7
FITZ	**Fitzroy Crossi**	52.17	194	*e*P	P	15 06 29.0	-1.6
	comp=Z,232nm,0.7s,mb6.2						
FITZ				*e*		15 06 57.6	
FITZ				*e*S	S	15 14 06.7	+13
FITZ				*e*PKPPKP		15 36 54.9	
FITZ	**Fitzroy Crossi**	52.17	194	P	P	15 06 29.4	-1.2
	comp=Z,101nm,0.9s,mb5.8,baz=11,slow=8.4,SNR=143						
FITZ				S	S	15 13 55.6	+2.1
	comp=Z,28nm,1.1s,baz=5.9,slow=23,SNR=1.9						
FITZ	**Fitzroy Crossi**	52.17	194	*e*P	P	15 06 29.0	-1.6
	comp=Z,232nm,0.7s,mb6.2						
FITZ				*e*		15 06 57.6	
FITZ				*e*S	S	15 14 06.7	+13
FITZ				*e*P’P’		15 36 54.9	
KDAK	**Kodiak Island**	52.31	40	⇑*i*P	P	15 06 29.6	-1.6
	comp=Z,327nm,1.0s,mb6.2						
KDAK				LR	LR		
	comp=Z,46µm,20.0s,MS6.5						
NGP	**Nagpur**	52.41	272	*e*P	P	15 06 32.4	0.0
NGP				*e*		15 14 06.1	
SPU	**Mount Spurr**	52.42	35	*e*P	P	15 06 31.4	-0.5
NIL	**Nilore**	52.47	289	P	P	15 06 33.7	+1.0
	comp=Z,273nm,1.4s,mb6.0,SNR=40						
KGD	**Kothagudem**	52.70	267	*e*P	P	15 06 32.2	-2.4
KGD				*e*PcP	PcP	15 07 42.4	-2.0
KGD				*e*PP	PP	15 08 38.5	+3.3
KGD				*e*ScP		15 11 39.7	
KGD				*e*S	S	15 14 01.5	+0.9
KGD				*e*ScS	ScS	15 16 22.7	+1.4
KGD				*e*SS	SS	15 18 00.5	+22
WRAB	**Tennant Creek**	52.90	183	⇓*e*P	P	15 06 32.9	-3.1
	comp=Z,287nm,1.0s,mb6.2						
WRAB				LR	LR		
	comp=Z,93µm,22.0s,MS6.8						
WB2	**Warramunga Arr**	52.91	183	*e*P	P	15 06 34.0	-2.1
WB2				*e*S	S	15 14 14.2	+11
WB2				*e*PKPPKP		15 37 05.1	
WRA	**Warramunga Arr**	52.91	183	P	P	15 06 33.7	-2.4
	comp=Z,100nm,0.9s,mb5.8,baz=1.2,slow=7.7,SNR=245						
WRA				S	S	15 14 05.1	+1.6
	comp=Z,8.1nm,1.2s,baz=354,slow=7.6,SNR=3.5						
WRA	**Warramunga Arr**	52.91	183	P	P	15 06 33.7	-2.4
WRA				S	S	15 14 05.1	+1.6
WRA				pmax	pmax		
	comp=Z,100nm,0.9s						
WRA	**Warramunga Arr**	52.91	183	P	P	15 06 33.7	-2.4
WRA				S	S	15 14 05.1	+1.6
TAS	**Tashkent**	53.32	300	*ce*P	P	15 06 35.0	-3.8
TAS				pmax	pmax		
	comp=Z,5µm,5.0s						
FIB	**Fire Island**	53.33	35	*e*P	P	15 06 36.8	-1.9
FIB				LR	LR		
	comp=Z,64µm,19.0s,MS6.7						
SLKM	**Skilak Lake**	53.35	36	P	P	15 06 37.7	-1.1
SLKM	**Skilak Lake**	53.35	36	*e*P	P	15 06 37.2	-1.5
SLKM				P’P’		15 37 23.8	
CTA	**Charters Tower**	53.71	169	*e*P	P	15 06 38.8	-3.2
	comp=Z,152nm,1.0s,mb5.9						
CTA				*e*PKPPKP		15 37 06.2	
CTA	**Charters Tower**	53.71	169	P	P	15 06 39.4	-2.6
	comp=Z,57nm,0.8s,mb5.5,baz=350,slow=7.9,SNR=35						
CTA				PKPPKP		15 36 54.8	
	comp=Z,10nm,1.1s,baz=112,slow=3.7,SNR=4.1						
CTA	**Charters Tower**	53.71	169	*e*P	P	15 06 38.8	-3.2
	comp=Z,152nm,1.0s,mb5.9						
CTA				*e*P’P’		15 37 06.2	
CTAO	**Charters Tower**	53.71	169	⇓*e*P	P	15 06 38.9	-3.1
	comp=Z,1µm,2.1s,mb6.4						
CTAO				LR	LR		
	comp=Z,183µm,20.0s,MS7.1						
MCK	**McKinley**	53.77	32	*e*P	P	15 06 40.9	-0.9
MCK				pmax	pmax		
	comp=Z,31nm,1.5s						
MCK	**McKinley**	53.77	32	*e*P	P	15 06 40.6	-1.2
	comp=Z,227nm,1.3s,mb5.9						
MCK				*e*P		15 06 40.7	
MCK				LR	LR		
	comp=Z,84µm,19.0s,MS6.8						
PMR	**Palmer**	53.80	35	P	P	15 06 40.5	-1.6
PMR				pmax	pmax		
	comp=Z,170nm,1.0s,mb5.9						
PMR	**Palmer**	53.80	35	*e*P	P	15 06 40.0	-2.1
AJM	**Ajmer**	53.88	280	⇑*i*P	P	15 06 42.0	-1.1
SML	**Sawmill**	54.16	34	*e*P	P	15 06 44.4	-0.3
SML	**Sawmill**	54.16	34	*e*P	P	15 06 43.8	-0.9
COLA	**College**	54.19	31	⇑*e*P	P	15 06 43.7	-1.2
COLA				pmax	pmax		
	comp=Z,580nm,1.8s,mb6.2						
COLA	**College**	54.19	31	*e*P	P	15 06 43.1	-1.8
AKL	**Akola**	54.31	273	⇑*i*P	P	15 06 50.5	+4.1
AKL				*i* S	S	15 14 29.5	+7.0
HYB	**Hyderabad**	54.54	268	⇑*i*P	P	15 06 47.5	-0.6
	comp=Z,364nm,1.2s,mb6.3						
HYB				*e*		15 07 17.5	
HYB				*e*		15 07 46.0	
HYB				*e*		15 08 11.0	
HYB				LR	LR	15 28 52.0	
	comp=Z,245nm,18.0s						
HYB				*e*PKPPKP		15 36 56.0	
HYB	**Hyderabad**	54.54	268	⇑*e*P	P	15 06 47.5	-0.6
	comp=Z,364nm,1.2s,mb6.3						
ILAR	**Eielson Array**	54.61	31	P	P	15 06 46.2	-1.8
	comp=Z,11nm,0.8s,baz=274,slow=4.8,SNR=146						
ILAR	**Eielson Array**	54.61	31	P	P	15 06 46.2	-1.8
THY	**Trims Highway**	55.21	32	*e*P	P	15 06 51.5	-1.0
MDRS	**Chennai**	55.29	263	*e*P	P	15 06 52.0	-1.6
MDRS				*e*		15 14 51.0	
DIV	**Divide**	55.46	35	*e*P	P	15 06 53.6	-0.6
	comp=Z,128nm,0.5s,mb6.2						
DIV				LR	LR		
	comp=Z,278µm,20.0s,MS7.3						
EYAK	**Cordova Ski Ar**	55.54	36	*e*P	P	15 06 54.2	-0.7
EYAK				*e*P’P’		15 37 26.4	
CUD	**Cuddapah**	55.80	265	*e*P	P	15 06 56.8	-0.5
CUD				*e*		15 07 02.6	
CUD				*e*		15 07 08.7	
CUD				*e*		15 07 13.9	
CUD				*e*		15 12 54.4	
CUD				*e*S	S	15 14 46.6	+4.1
CUD				*e*		15 16 50.3	
CUD				*e*		15 19 36.0	
CUD				*e*		15 24 06.6	
CUD				*e*		15 29 24.2	
MBWA	**Marble Bar**	56.54	199	⇓*e*P	P	15 07 00.0	-2.5
	comp=Z,303nm,1.1s,mb6.2						
MBWA				LR	LR		
	comp=Z,70µm,21.0s,MS6.7						
ASAR	**Alice Springs**	56.63	183	P	P	15 07 01.2	-1.9
	comp=Z,57nm,0.8s,mb5.6,baz=10,slow=6.5,SNR=308						
ASAR				S	S	15 14 58.2	+4.7
	comp=Z,12nm,1.0s,baz=7.1,slow=7.3,SNR=2.3						
ASAR	**Alice Springs**	56.63	183	P	P	15 07 01.2	-1.9
ASAR				S	S	15 14 58.2	+4.7
ASPA	**Alice Springs**	56.63	183	*e*P	P	15 07 01.2	-2.0
ARU	**Arti**	56.91	319	P	P	15 07 03.1	-1.6
	comp=Z,6µm,1.0s,SNR=98						
ARU	**Arti**	56.91	319	⇑*i*P	P	15 07 03.4	-1.3
ARU				pmax	pmax		
	comp=Z,1µm,2.0s,mb6.5						
ARU				pmax	pmax		
	comp=Z,290nm,1.1s,mb6.2						
ARU	**Arti**	56.91	319	⇑*e*P	P	15 07 02.8	-1.9
	comp=Z,517nm,1.2s,mb6.4						
ARU				LR	LR		
	comp=Z,153µm,19.0s,MS7.1						
ARU	**Arti**	56.91	319	*i* S	S	15 14 56.5	-0.1
ARU				*i*		15 16 58.0	
ARU				*e*SS	SS	15 18 50.0	+3.8
ARU				MLR	MLR		
	comp=Z,525µm,19.0s						
ARU				MLR	MLR		
	comp=N,161µm,16.0s						
ARU				MLR	MLR		
	comp=E,334µm,18.0s						
AB31	**Akbulak array**	57.72	311	*i* P	P	15 07 09.2	-1.3
AB31				pmax	pmax		
	comp=Z,2µm,0.9s,mb7.1						
DAWY	**Dawson**	57.92	31	*e*P	P	15 07 10.8	-0.9
DAWY				*e*P’P’		15 36 51.0	
POO	**Poona**	57.96	272	*e*P	P	15 07 11.5	-1.1
POO				AMb	AMB	15 07 18.2	
	comp=Z,316nm,0.9s,mb6.3						
POO				*e*		15 15 26.5	
PALK	**Pallekele**	58.05	257	⇑*e*P	P	15 07 12.7	-0.6
	comp=Z,396nm,1.2s,mb6.3						
PALK				LR	LR		
	comp=Z,27µm,20.0s,MS6.4						
KIP	**Kipapa**	58.05	84	*e*P	P	15 07 12.8	-0.5
	comp=Z,725nm,1.4s,mb6.5						
KIP				LR	LR		
	comp=Z,136µm,22.0s,MS7.0						
HON	**Honolulu**	58.11	84	*e*P	P	15 07 10.6	-3.0
KAD	**Karad**	58.26	271	⇑*i*P	P	15 07 12.8	-1.9
BOM	**Bombay**	58.66	273	*e*P	P	15 07 16.6	-0.9
BOM				*e*S	S	15 15 22.7	+2.6
BHJ	**Bhuj**	59.33	279	*e*P	P	15 07 20.8	-1.3
BHJ				*e*		15 15 43.3	
HKL	**Haleakala**	59.84	84	*e*P	P	15 07 26.2	+0.6
TRD	**Trivandrum**	60.44	260	*e*P	P	15 07 28.8	-1.1
TRD				AMb	AMB	15 07 31.8	
	comp=Z,199nm,1.3s,mb6.0						
TRD				*i*		15 11 45.2	
KKH	**Kailua Kona**	60.52	85	*e*P	P	15 07 30.6	+0.3
HUH	**Hualalai**	60.65	85	*e*P	P	15 07 31.4	+0.2
WKH	**Waikii**	60.72	84	*e*P	P	15 07 31.3	-0.4
KIH	**Kanekii**	60.80	85	⇓*e*P	P	15 07 32.0	-0.1
HPU	**Hale Pohaku**	60.93	84	⇑*e*P	P	15 07 33.4	+0.4
MWH	**Mokuaweoweo**	60.95	85	⇓*e*P	P	15 07 33.7	+0.5
DAH	**Dandelion**	60.95	85	*e*P	P	15 07 32.9	-0.3
SWH	**Southwest Rift**	60.96	85	⇑*e*P	P	15 07 32.8	-0.5
RCO	**Red Cone**	60.96	85	⇓*e*P	P	15 07 33.6	+0.3
WIH	**Wilkes Camp**	60.97	85	⇓*e*P	P	15 07 33.6	+0.3
KKU	**Keanakolu**	60.97	84	⇓*e*P	P	15 07 33.7	+0.3
HMH	**Humuula**	60.99	85	⇓*e*P	P	15 07 33.4	-0.1
PLL	**Puu Ulaula**	61.04	85	⇓*e*P	P	15 07 33.3	-0.5
MLH	**Mauna Loa**	61.12	85	⇓*e*P	P	15 07 33.8	-0.5
SPT	**South Point**	61.12	85	*e*P	P	15 07 34.0	-0.4
HPO	**Honuapo**	61.17	85	P	P	15 07 34.7	-0.1
CPK	**Cone Peak**	61.22	85	⇓*e*P	P	15 07 35.2	+0.2
RSD	**Rainshed**	61.23	85	⇑*e*P	P	15 07 33.3	-1.8
HLP	**Hilina Pali**	61.27	85	*e*P	P	15 07 35.1	-0.3
AHA	**Ahua**	61.28	85	*e*P	P	15 07 35.1	-0.3
NGH	**National Guard**	61.32	84	*e*P	P	15 07 35.4	-0.3
SIT	**Sitka**	61.60	38	PFAKE		15 07 50.0	+13
SIT				LR	LR		
	comp=Z,116µm,19.0s,MS7.0						
NOUC	**Port Laguerre**	61.66	149	*e*P	P	15 07 36.9	-1.2
NOUC	**Port Laguerre**	61.66	149	*e*P	P	15 07 36.9	-1.2
DZM	**Mont Dzumac**	61.70	149	*e*P	P	15 07 37.9	-0.4
DZM	**Mont Dzumac**	61.70	149	*e*P	P	15 07 37.9	-0.4
VAN	**Vannovskaya**	62.57	299	⇑*i*P	P	15 07 43.8	-0.1
DLBC	**Dease Lake**	63.82	36	P	P	15 07 52.0	+0.3
	comp=Z,28nm,0.8s,mb5.3,baz=290,slow=7.1,SNR=39						
DLBC				PKPPKP		15 36 39.4	
	comp=Z,8.4nm,1.2s,baz=80,slow=4.4,SNR=3.5						
DLBC				PKP2bc		15 36 51.8	
	comp=Z,43nm,1.3s,baz=126,slow=3.9,SNR=8.5						
DLBC	**Dease Lake**	63.82	36	P	P	15 07 52.0	+0.3
DLBC				P’P’		15 36 39.4	
DLBC				⇑*e*		15 36 51.8	
MSVF	**Nonsavu**	64.01	136	P	P	15 07 54.5	+0.8
	comp=Z,2µm,1.2s,mb7.0,SNR=17						
LVZ	**Lovozero**	64.13	336	*ce*P	P	15 07 56.6	+2.9
LVZ				*e*S	S	15 16 38.1	+9.1
LVZ				pmax	pmax		
	comp=Z,11µm,5.5s						
LVZ				pmax	pmax		
	comp=N,2µm,4.5s						
LVZ				pmax	pmax		
	comp=E,4µm,4.3s						
LVZ				pmax	pmax		
	comp=Z,552nm,1.3s,mb6.4						
LVZ				pmax	pmax		
	comp=N,166nm,1.1s						
LVZ				pmax	pmax		
	comp=E,240nm,1.5s						
LVZ	**Lovozero**	64.13	336	*i* Pr		15 07 52.9	
FORT	**Forrest**	64.21	189	*e*P	P	15 07 53.2	-1.6
	comp=E,634nm,0.7s,mb6.8						
FORT				*e*PKPPKP		15 37 05.1	
APA	**Apatity**	64.70	336	*i* P	P	15 08 01.0	+3.6
APA				*i*		15 08 07.9	
APA				*i*		15 08 35.0	
STKA	**Stephens Creek**	64.87	176	*e*P	P	15 07 57.5	-1.6
	comp=E,144nm,1.5s,mb5.8						
STKA	**Stephens Creek**	64.87	176	P	P	15 07 57.2	-1.9
	comp=E,78nm,0.8s,mb5.8,baz=346,slow=7.4,SNR=115						
STKA				PKKP	PKKP	15 28 22.3	+3.3
	comp=E,2.1nm,0.8s,baz=212,slow=1.1,SNR=2.9						
STKA	**Stephens Creek**	64.87	176	*e*P	P	15 07 57.5	-1.6
	comp=E,144nm,1.5s,mb5.8						
BJO	**Bjornoya**	65.19	345	*e*S	S	15 16 41.6	-0.3
BJO				*e*SS	SS	15 20 53.6	-2.7
BJO				AMS	AMS	15 39 24.5	
	comp=Z,580µm,22.6s,MS7.7						
KRF	**Krasnovodsk**	65.44	303	⇑*i*P	P	15 08 00.6	-2.0
KEV	**Kevo**	65.74	339	*e*p	P	15 08 04.9	+0.9
	comp=Z,2µm,1.9s,mb6.7						
KEV	**Kevo**	65.74	339	*e*P	P	15 08 04.9	+0.9
KEV				pmax	pmax		
	comp=Z,2µm,1.9s,mb6.7						
ARCES	**ARCESS Array B**	66.31	339	P	P	15 08 07.0	-0.7
	comp=Z,41nm,0.8s,mb5.5,baz=59,slow=7.1,SNR=32						
ARCES	**ARCESS Array B**	66.31	339	P	P	15 08 07.0	-0.6
ARCES				pmax	pmax		
	comp=Z,41nm,0.8s						
ARCES	**ARCESS Array B**	66.31	339	P	P	15 08 07.0	-0.7
ARCES				P’P’		15 36 51.7	
ARCES				⇑*e*		15 37 00.2	
KLBR	**Kellerberrin**	66.98	198	*e*P	P	15 08 11.0	-1.6
	comp=Z,897nm,1.2s,mb6.7						
KLBR				*e*		15 08 35.7	
KLBR				*e*S	S	15 17 10.7	+6.3
KLBR				*e*PKPPKP		15 36 53.4	
RES	**Resolute Bay**	67.16	13	P	P	15 08 12.4	-0.6
RES				pmax	pmax		
	comp=Z,250nm,1.1s,mb6.2						
RES	**Resolute Bay**	67.16	13	*e*P	P	15 08 12.2	-0.8
	comp=Z,248nm,1.2s,mb6.1						
RES				*e*P’P’		15 36 52.3	
KTK1	**Kautokeino**	67.27	339	*e*P	P	15 08 15.5	+1.7
KTK1				AMb	AMB	15 08 54.8	
	comp=Z,2µm,1.5s,mb6.9						
KTK1	**Kautokeino**	67.27	339	*e*P	P	15 08 15.5	+1.7
	comp=Z,2µm,1.5s,mb6.9						
ADE	**Adelaide**	67.83	179	⇑*i*P	P	15 08 17.5	-0.4
RIV	**Riverview**	67.98	167	*e*P	P	15 08 19.1	+0.2
RIV				*e*		15 08 32.2	
RIV				*e*PKPPKP		15 36 51.9	
MAK	**Makhachkala**	67.99	308	*e*P	P	15 08 18.0	-0.8
MAK				*e*		15 10 50.0	
MAK				*i* S	S	15 17 18.0	+1.7
MAK				pmax	pmax		
	comp=Z,27µm,6.0s						
MAK				pmax	pmax		
	comp=N,7µm,8.0s						
MAK				pmax	pmax		
	comp=E,14µm,8.0s						
MAK				pmax	pmax		
	comp=Z,5µm,2.0s,mb7.2						
MAK				pmax	pmax		
	comp=Z,28µm,11.0s						
TRO	**Tromso**	68.16	341	*e*P	P	15 08 20.8	+1.5
TRO				*e*S	S	15 17 17.6	-0.2
TRO				*e*SS	SS	15 21 39.9	-2.1
TRO				AMS	AMS	15 45 45.5	
	comp=Z,209µm,19.4s,MS7.4						
MOS	**Moscow**	68.18	323	α*i*P	P	15 08 19.3	-0.4
MOS				*i*		15 08 34.9	
MOS				*e*		15 10 48.8	
MOS				*e*PPP	PPP	15 12 31.9	+2.5
MOS				*i* S	S	15 17 19.9	+1.5
MOS				pmax	pmax		
	comp=Z,815nm,1.6s,mb6.5						
NWAO	**Narrogin (SRO)**	68.38	198	PKPPKP		15 36 40.8	
	comp=Z,11nm,1.0s,baz=263,slow=1.4,SNR=4.2						
NWAO	**Narrogin (SRO)**	68.38	198	PKPPKP		15 36 48.3	
	comp=Z,25nm,1.1s,baz=199,slow=2.9,SNR=4.4						
NWAO				PKP2bc		15 36 54.2	
	comp=Z,93nm,1.2s,baz=223,slow=3.3,SNR=12						
NWAO	**Narrogin (SRO)**	68.38	198	*e*P	P	15 08 19.7	-1.7
NWAO				pmax	pmax		
	comp=Z,260nm,1.1s						
NWAO	**Narrogin (SRO)**	68.38	198	*e*P	P	15 08 20.1	-1.3
	comp=Z,262nm,1.1s,mb6.2						
NWAO				LR	LR		
	comp=Z,113µm,19.0s,MS7.1						
YKW3	**Yellowknife Ar**	68.84	28	*e*P	P	15 08 21.5	-2.2
YKW3				*e*P’P’		15 36 44.5	
YKA	**Yellowknife Ar**	68.88	28	P	P	15 08 22.9	-1.0
	comp=Z,34nm,1.0s,mb5.2,baz=295,slow=6.0,SNR=18						
YKA				PKPPKP		15 36 44.0	
	comp=Z,23nm,1.2s,baz=112,slow=2.6,SNR=8.1						
OBN	**Obninsk**	69.00	323	α*i*P	P	15 08 24.0	-0.8
OBN				pmax	pmax		
	comp=Z,204nm,1.2s,mb5.9						
OBN	**Obninsk**	69.00	323	*e*P	P	15 08 24.0	-0.8
	comp=Z,196nm,1.1s,mb6.0						
OBN				*e*P’P’		15 36 42.9	
OBN				LR	LR		
	comp=Z,148µm,19.0s,MS7.2						
OBN	**Obninsk**	69.00	323	*i* S	S	15 17 29.4	+1.2
CNB	**Canberra Magne**	69.13	169	*e*P	P	15 08 25.2	-0.7
	comp=Z,140nm,1.0s,mb5.8						
CNB				*e*		15 08 53.2	
VOR	**Voronezh**	69.18	319	*e*P	P	15 08 24.5	-1.5
VOR				*e**SP	sP	15 08 30.0	-0.2
VOR				*e*		15 08 37.0	
VOR				pmax	pmax		
	comp=N,100nm,1.5s						
VOR				pmax	pmax		
	comp=E,210nm,1.5s						
VOR				pmax	pmax		
	comp=Z,370nm,1.5s,mb6.1						
DAG	**Danmarks Havn**	69.24	354	*b i*P	P	15 08 26.3	+0.3
	comp=Z,140nm,1.0s,mb5.8						
	comp=Z,84µm,18.0s						
DAG	**Danmarks Havn**	69.24	354	*i* Pcr	P	15 08 26.3	+0.3
	comp=Z,140nm,1.0s,mb5.8						
DAG				LR	LR		
	comp=Z,84µm,18.0s,MS7.0						
PUL	**Pulkovo**	69.65	329	*e*P	P	15 08 30.4	+1.7
PUL				*e*S	S	15 17 39.1	+3.4
PUL				pmax	pmax		
	comp=Z,10µm,3.3s						
PUL				pmax	pmax		
	comp=N,4µm,3.6s						
PUL				pmax	pmax		
	comp=E,5µm,3.2s						
PUL				pmax	pmax		
	comp=Z,461nm,0.8s,mb6.5						
PUL				pmax	pmax		
	comp=N,245nm,0.7s						
PUL				pmax	pmax		
	comp=E,460nm,0.9s						
PUL				smax			
	comp=N,60µm,10.9s						
PUL				smax			
	comp=Z,30µm,8.6s						
PUL				smax			
	comp=E,51µm,10.0s						
PUL				smax			
	comp=Z,30µm,13.2s						
PUL				smax			
	comp=N,58µm,13.4s						
PUL				smax			
	comp=E,42µm,12.2s						
GOF	**Gofitskoye**	69.96	311	⇓*i*P	P	15 08 30.0	-0.8
GOF				pmax	pmax		
	comp=Z,350nm,1.7s,mb6.0						
KAF	**Kangasniemi**	70.05	332	*e*p	P	15 08 29.8	-1.2
	baz=53,slow=5.8						
ZEI	**Tsey**	70.45	309	*c i*P	P	15 08 32.0	-1.9
ZEI				*i*		15 11 06.0	
ZEI				*e*S	S	15 17 44.0	-1.4
ZEI				pmax	pmax		
	comp=Z,15µm,11.0s						
ZEI				pmax	pmax		
	comp=Z,10µm,10.0s						
FINES	**FINESS Array B**	70.51	332	P	P	15 08 32.8	-1.1
	comp=Z,31nm,0.9s,mb5.2,baz=112,slow=6.6,SNR=27						
FINES				PKPPKP		15 36 39.1	
	comp=Z,4.8nm,0.9s,baz=144,slow=16,SNR=5.8						
FINES	**FINESS Array B**	70.51	332	P	P	15 08 32.8	-1.1
FINES				LR	LR	15 45 06.4	
LOF	**Lofoten**	70.62	341	*e*P	P	15 08 39.0	+4.5

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LOF                               AMb     AMB     15 09 10.1
      comp=Z,589nm,1.9s,mb6.2
TOO   Toolangi        70.85 173   eP      P       15 08 35.2  -1.2
      comp=Z,29nm,0.8s,mb5.3
PGC   Sidney          71.55  44⥣ eP      P       15 08 39.4  -1.0
      comp=Z,450nm,1.4s,mb6.2
OCWA  Octopus Mounta  71.57  45   eP      P       15 08 40.7  +0.1
      comp=Z,435nm,1.2s,mb6.3
OCWA                              LR      LR
      comp=Z,92µm,19.0s,MS7.1
SNB   Saturna Island  71.65  43   P       P       15 08 40.7  -0.3
MOR8  Moi Rana        71.68 339   eP      P       15 08 38.3  -2.6
MOR8                              AMb     AMB     15 09 21.4
      comp=Z,1µm,1.7s,mb6.5
MOR8  Moi Rana        71.68 339   eP      P       15 08 38.3  -2.6
      comp=Z,1µm,1.7s,mb6.5
VSU   Vasula          71.91 329⥣ iP      P       15 08 41.6  -0.8
STOK  Stokkvaagen     71.99 339   eP      P       15 08 44.5  +1.7
STOK                              AMb     AMB     15 09 21.2
      comp=Z,811nm,1.4s,mb6.5
STOK  Stokkvaagen     71.99 339   eP      P       15 08 44.5  +1.7
      comp=Z,811nm,1.4s,mb6.5
VDB   Vedder Mountai  72.14  43   P       P       15 08 43.1  -0.8
MBW   Mount Baker     72.38  43   P       P       15 08 45.1  -0.3
GNW   Green Mountain  72.45  44   eP      P       15 08 46.0  +0.2
KGUR  Krasnodar       72.48 313   eP      P       15 08 46.7  +0.7
JCW   Jim Creek       72.66  43   P       P       15 08 46.9  -0.1
SOC   Sochi           72.76 311   eP      P       15 08 46.6  -1.0
SOC                               e               15 08 57.9
SOC                               e               15 11 37.0
SOC                               eS      S       15 18 12.8  +0.9
SOC                               e               15 18 41.1
SOC                               pmax    pmax
      comp=Z,203nm,1.3s,mb5.9
SOC                               pmax    pmax
      comp=N,68nm,1.2s
VANB  Van             72.76 305   eP      P       15 08 47.4  -0.4
BMW   Boistfort Moun  72.76  46   P       P       15 08 48.3  +0.7
BMW   Boistfort Moun  72.76  46   eP      P       15 08 47.8  +0.2
BMW                               e               15 08 59.3
RPW   Rockport        72.77  43   P       P       15 08 47.1  -0.5
TVAN  Van             72.78 305   i P     P       15 08 49.9  +2.1
HKR   Hakkari         73.01 304   eP      P       15 08 47.4  -1.8
TTW   Tolt Reservoir  73.05  44   P       P       15 08 49.2  -0.1
RMW   Rattlesnake Mo  73.11  44   P       P       15 08 49.9  +0.3
RMW   Rattlesnake Mo  73.11  44   eP      P       15 08 49.8  +0.2
RMW                               e               15 09 01.4
JMIC  Jan Mayen       73.25 349   eP      P       15 08 48.5  -1.5
JMIC                              eSS     SS      15 22 57.0  -4.0
JMIC                              AMS     AMS     15 40 48.2
      comp=Z,140µm,20.0s,MS7.2
DGAR  Diego Garcia    73.35 249   P       P       15 08 56.2  +4.5
      comp=Z,3µm,1.4s,mb7.0
WRW   Wenatchee Ridg  73.44  43   P       P       15 08 51.3  -0.2
LON   Longmire        73.47  45   P       P       15 08 51.3  -0.4
LON   Longmire        73.47  45   eP      P       15 08 51.2  -0.5
LON                               e       pP      15 09 02.1  +7.2
ERZM  Erzurum         73.49 307   i P     P       15 08 53.8  +1.7
EZM   Erzurum         73.50 307   eP      P       15 08 51.6  -0.4
SHW   Mount Saint He  73.50  45   P       P       15 08 55.9  +4.0
SHW   Mount Saint He  73.50  45   P       P       15 08 51.2  -0.7
NSS   Namsos          73.56 338   eP      P       15 08 51.0  -0.9
NSS                               eS      S       15 18 19.3  -1.2
NSS                               eSS     SS      15 23 02.2  -3.7
NSS                               AMS     AMS     15 44 44.3
      comp=Z,425µm,18.5s,MS7.8
ANN   Anapa           73.57 313c iP      P       15 08 51.2  -1.2
ANN                               e               15 09 04.6
ANN                               ePPP    PPP     15 13 28.1  +5.6
ANN                               pmax    pmax
      comp=Z,2µm,1.6s,mb6.8
ANN                               pmax    pmax
      comp=Z,17µm,10.9s
ANN                               pmax    pmax
      comp=E,8µm,11.0s
NLW   Nelson Butte    73.63  43   P       P       15 08 52.9  +0.2
MNK   Minsk           73.65 325   eP      P       15 08 49.0  -3.6
COR   Corvallis       73.67  47   P       P       15 08 53.6  +0.6
COR                               S       S       15 18 40.6  +18
COR   Corvallis       73.67  47   eP      P       15 08 53.0   0.0
      comp=E,255nm,1.1s,mb6.1
COR                               LR      Sx
      comp=Z,19µm,20.0s
IZAR  Zarasai         73.68 327   eP      P       15 08 52.6  -0.2
IZAR                              AMPb    AMB     15 09 11.7
      comp=Z,463nm,1.5s,mb6.2
IDID  Didziasalis     73.70 326   eP      P       15 08 53.1  +0.3
IDID                              AMPb    AMB     15 09 11.8
      comp=Z,453nm,1.3s,mb6.2
VRT   Varto           73.76 306   eP      P       15 08 51.6  -2.0
ISAL  Salakas         73.84 326   eP      P       15 08 53.5  -0.2
ISAL                              AMPb    AMB     15 09 12.7
      comp=Z,598nm,1.2s,mb6.4
KEBM  Edson Butte     73.89  49   eP      P       15 08 55.0  +0.7
IIGN  Ignalina        73.92 326   eP      P       15 08 53.8  -0.4
IIGN                              AMPb    AMB     15 09 13.2
      comp=Z,915nm,1.3s,mb6.5
WTV   Waterville      74.05  43   P       P       15 08 54.3  -0.8
KBD   Kabd            74.20 295   eP      P       15 08 55.7  -0.6
KBD                               AMb     AMB     15 09 27.4
      comp=Z,11µm,1.3s
QRN   Al-Qurain       74.24 294   eP      P       15 08 55.7  -0.9
QRN                               AMb     AMB     15 09 26.1
      comp=Z,3µm,1.2s,mb7.1
KBO   Bosley Butte    74.30  50   P       P       15 08 56.3  -0.3
HSO   Harness Mounta  74.34  48   P       P       15 08 58.0  +1.1
HSO   Harness Mounta  74.34  48   eP      P       15 08 57.7  +0.8
HSO                               e               15 09 14.2
RDF   Al-Radifah      74.43 294   eP      P       15 08 56.7  -1.0
RDF                               AMb     AMB     15 09 28.5
      comp=Z,3µm,1.0s,mb7.2
SUMG  Summit          74.46 359   eP      P       15 08 57.5  +0.5
      comp=Z,198nm,0.8s,mb6.1
BEST  Besiri          74.56 305   i P     P       15 08 58.5  +0.2
RST   Umm Al-Ruwaisa  74.57 295   eP      P       15 08 57.3  -1.1
RST                               AMb     AMB     15 09 29.1
      comp=Z,3µm,1.2s,mb7.0
BINT  Bingol          74.59 306   eP      P       15 08 53.7  -4.7
EZC   Erzincan        74.61 308   eP      P       15 09 00.0  +1.5
HASS  Wahat al Ahsa’  74.61 290   P       P       15 08 57.6  -1.2
VGB   Gordon Butte    74.72  45   P       P       15 08 59.5  +0.5
VGB   Gordon Butte    74.72  45   eP      P       15 08 58.7  -0.3
VGB                               e               15 09 07.9
TRON  Trondheim       74.80 338   eP      P       15 08 59.9  +0.8
HUMO  Hull Mountain   74.90  49   eP      P       15 09 00.6  +0.5
      comp=Z,12µm,1.4s
HUMO                              e               15 09 10.7
DPW   Davenport       74.96  42   P       P       15 09 00.0  -0.3
DPW   Davenport       74.96  42   eP      P       15 08 59.9  -0.4
DPW                               eP’P’           15 36 21.0
HAWA  Hanford         74.99  44   eP      P       15 09 00.5  -0.1
      comp=Z,54nm,0.4s,mb5.8
HAWA                              e               15 09 10.6
HAWA                              LR      LR
      comp=Z,65µm,20.0s,MS6.9
AKASG Malin Array Be  75.09 321   P       P       15 09 00.3  -0.7
      comp=Z,97nm,0.7s,mb5.8,baz=48,slow=6.5,SNR=110
AKASG                             S       S       15 18 45.3  +7.4
      comp=Z,2.7nm,0.8s,baz=149,slow=27,SNR=2.4
AKASG                             PKKPbc          15 28 21.4
      comp=Z,0.4nm,0.4s,baz=243,slow=23,SNR=4.7
AKASG                             PKPPKP          15 36 19.4
      comp=Z,4.3nm,1.1s,baz=223,slow=2.5,SNR=4.6
KHMM  Horse Mountain  75.30  51   eP      P       15 09 02.9  +0.5
KHMM                              e               15 09 13.3
PTK   Pertek          75.32 307   eP      P       15 09 02.4  -0.2
NEW   Newport         75.35  42   P       P       15 09 01.3  -1.3
      comp=Z,18nm,0.9s,baz=306,slow=4.2,SNR=36
NEW                               S       S       15 18 50.1  +9.3
      comp=Z,2.6nm,0.9s,baz=73,slow=16,SNR=1.7
NEW                               PKPPKP          15 36 25.3
      comp=Z,9.8nm,1.2s,baz=92,slow=2.0,SNR=5.1
NEW   Newport         75.35  42   eP      P       15 09 02.1  -0.5
      comp=Z,230nm,1.1s,mb6.0
NEW                               e               15 09 12.8
NEW                               eP’P’           15 36 30.5
NEW                               LR      LR
      comp=Z,83µm,21.0s,MS7.0
SIM   Simferopol’     75.51 314c iP      P       15 09 03.3  -0.2
SIM                               e               15 09 17.0
SIM                               ePS     PS      15 19 18.0  -2.6
YBH   Yreka Blue Hor  75.51  50   P       P       15 09 04.0  +0.3
      comp=Z,24nm,1.1s,baz=286,slow=0.6,SNR=18
YBH   Yreka Blue Hor  75.51  50   P       P       15 09 04.5  +0.9
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YBH                               pmax    pmax
      comp=Z,77nm,1.0s
YBH   Yreka Blue Hor  75.51  50   eP      P       15 09 03.8  +0.1
      comp=Z,77nm,1.0s,mb5.6
YBH                               e               15 09 12.7
ELZG  Elazig          75.80 307   i P     P       15 09 06.8  +1.4
LNOR  Lincton Mounta  76.00  44   P       P       15 09 06.8  +0.5
LNOR  Lincton Mounta  76.00  44   eP      P       15 09 06.3  -0.1
LNOR                              e               15 09 19.4
HFS   Hagfors         76.05 334   P       P       15 09 05.3  -1.0
      comp=Z,22nm,0.6s,mb5.3,baz=45,slow=2.1,SNR=40
HFS   Hagfors         76.05 334   P       P       15 09 05.3  -1.0
HFS                               pmax    pmax
      comp=Z,22nm,0.6s
HFS   Hagfors         76.05 334   P       P       15 09 05.3  -1.0
HFS                               PKKPbc          15 28 35.9
SUW   Suwalki         76.14 326   eP      P       15 09 06.4  -0.5
SUW                               e               15 09 16.8
SUW                               e               15 19 15.6
SUW   Suwalki         76.14 326   eP      P       15 09 06.4  -0.5
SUW                               epP     pP      15 09 10.0  -0.1
SUW                               ePcP    PcP     15 09 16.8  -2.7
SUW                               eSKS    SKS     15 19 15.6  -2.1
WDC   Whiskeytown Da  76.23  50   P       P       15 09 08.0  +0.3
WDC                               pmax    pmax
      comp=Z,200nm,1.3s,mb5.9
WDC   Whiskeytown Da  76.23  50   eP      P       15 09 07.5  -0.2
      comp=Z,203nm,1.4s,mb5.9
WDC                               e               15 09 18.9
WDC                               LR      LR
      comp=Z,68µm,19.0s,MS7.0
MYA   Malataya        76.26 307   eP      P       15 09 06.3  -1.7
DOMB  Dombas          76.27 338   eP      P       15 09 06.5  -1.0
DOMB                              AMb     AMB     15 09 28.8
      comp=Z,1µm,2.0s,mb6.5
DOMB  Dombas          76.27 338   eP      P       15 09 06.5  -1.0
      comp=Z,1µm,2.0s,mb6.5
MALT  Malatya         76.27 307   eP      P       15 09 06.3  -1.7
MALT  Malatya         76.27 307   eP      P       15 09 08.2  +0.2
      comp=Z,215nm,1.5s,mb5.9
MALT                              e               15 09 21.7
NB2   NORSAR Subarra  76.28 336   P       P       15 09 07.1  -0.5
      comp=Z,2µm,1.4s,mb6.8,baz=43,slow=5.8
NB2   NORSAR Subarra  76.28 336   P       P       15 09 07.1  -0.5
      baz=43,slow=5.9
NOA   NORSAR Array B  76.28 336   P       P       15 09 06.8  -0.8
      comp=Z,58nm,1.1s,mb5.4,baz=45,slow=5.7,SNR=39
NOA                               PKKPbc          15 28 19.9
      comp=Z,1.5nm,0.8s,baz=64,slow=2.6,SNR=3.3
NOA                               PKPPKP          15 36 24.7
      comp=Z,2.4nm,1.0s,baz=203,slow=3.1,SNR=3.6
NOA   NORSAR Array B  76.28 336   P       P       15 09 06.8  -0.8
NOA                               PKKPbc          15 28 19.9
NOA                               P’P’            15 36 24.7
NOA                            ⥣ e               15 36 38.5
TAU   Tasmania Unive  76.33 172   P       P       15 09 08.4  +0.2
TAU                               pmax    pmax
      comp=Z,170nm,1.3s,mb5.8
TAU   Tasmania Unive  76.33 172   eP      P       15 09 08.3  +0.1
      comp=Z,166nm,1.3s,mb5.8
TAU                               e               15 09 20.5
TAU                               LR      LR
      comp=Z,31µm,20.0s,MS6.6
MOL   Molde           76.35 338   eP      P       15 09 11.9  +3.9
MOL                               AMb     AMB     15 09 34.1
      comp=Z,2µm,1.7s,mb6.7
MOL   Molde           76.35 338   eP      P       15 09 11.9  +3.9
      comp=Z,2µm,1.7s,mb6.7
KVT   Kavak           76.38 310   eP      P       15 09 06.3  -2.2
TOKT  Tokat           76.46 309   eP      P       15 09 06.3  -2.7
HOPS  Hopland         76.72  52   eP      P       15 09 10.3  -0.2
      comp=Z,605nm,1.9s,mb6.2
BOYT  Boyabat         76.92 311   i P     P       15 09 12.8  +1.2
MOD   Modoc           76.95  48   eP      P       15 09 11.5  -0.2
      comp=Z,292nm,1.6s,mb6.0
MOD                               e               15 09 22.4
MOD                               e               15 09 32.3
BYBT  Boyabat         76.98 311   eP      P       15 09 08.5  -3.4
WCZ   Waipu Caves     77.12 150   sP      sP      15 09 26.0  +9.0
BZK   Bozkurt         77.19 312   eP      P       15 09 14.8  +1.7
OSL   Oslo            77.25 335   eP      P       15 09 12.8  -0.1
OSL                               AMb     AMB     15 09 31.6
      comp=Z,896nm,1.2s,mb6.6
OSL   Oslo            77.25 335   eP      P       15 09 12.8  -0.1
      comp=Z,178nm,1.6s,mb5.8
NSHM  Saint Helena R  77.28  52   eP      P       15 09 12.9  -0.7
NSHM                              e               15 09 24.0
GZT   Gaziantep       77.35 306   i P     P       15 09 15.3  +1.3
CTKT  Corum           77.42 310   i P     P       15 09 15.7  +1.3
KIS   Kishinev        77.43 318   eP      P       15 09 13.0  -1.3
KIS                               S       S       15 19 06.0  +2.4
RYDS  Riyadh          77.51 291   P       P       15 09 13.3  -1.8
OHCM  Honcut          77.58  51   eP      P       15 09 14.3  -0.9
YOZ   Yozgat          77.62 309   eP      P       15 09 06.3  -9.1
KAHT  Ahir Dag        77.67 307   i P     P       15 09 17.4  +1.6
TOS   Tosya           77.69 311   eP      P       15 09 17.5  +1.7
GAZ   Gaziantep       77.69 306   eP      P       15 09 17.5  +1.6
WVOR  Wild Horse Val  77.69  47   P       P       15 09 15.8   0.0
WVOR                              pmax    pmax
      comp=Z,82nm,0.6s,mb5.8
WVOR  Wild Horse Val  77.69  47   eP      P       15 09 15.6  -0.2
      comp=Z,82nm,0.6s,mb5.8
WVOR                              e               15 09 25.9
WVOR                              e               15 09 36.5
WVOR                              eP’P’           15 36 14.7
WVOR                              LR      LR
      comp=Z,80µm,20.0s,MS7.0
HYA   Hoyanger        77.84 338   eP      P       15 09 16.2   0.0
HYA                               AMb     AMB     15 09 35.8
      comp=Z,1µm,1.4s,mb6.7
HYA   Hoyanger        77.84 338   eP      P       15 09 16.2   0.0
      comp=Z,1µm,1.4s,mb6.7
MSO   Missoula        77.94  42   eP      P       15 09 16.4  -0.7
      comp=Z,224nm,1.1s,mb6.0
MSO                               eP’P’           15 36 22.9
MSO                               LR      LR
      comp=Z,55µm,20.0s,MS6.9
BEKR  Beckwourth      78.02  50   eP      P       15 09 17.4  -0.2
      comp=Z,345nm,0.9s,mb6.3
BEKR                              e               15 09 29.0
BEKR                              eP’P’           15 36 13.9
LKC   Lake Chabot     78.06  53   eP      P       15 09 17.9   0.0
LKC                               e               15 09 28.6
CANT  Cankiri         78.18 311   eP      P       15 09 19.0  +0.5
WAR   Warsaw          78.26 326   eP      P       15 09 18.1  -0.6
WAR                               e               15 09 30.9
WAR                               eS      S       15 19 28.7  +16
WAR                               e               15 19 38.9
WAR   Warsaw          78.26 326   eP      P       15 09 18.1  -0.6
WAR                               epP     pP      15 09 21.2  -0.7
WAR                               ePcP    PcP     15 09 30.9  +2.3
WAR                               eS      S       15 19 28.7  +16
WAR                               eSKS    SKS     15 19 38.9  +5.8
WAR                               LR      LR
      comp=Z,330µm,36.3s,MS7.4
CHMT  Chamberlain Mo  78.27  41   eP      P       15 09 18.2  -0.7
CHMT                              e               15 09 30.0
CHMT                              eP’P’           15 36 24.0
LVV   L’vov           78.31 323   i P     P       15 09 19.1  +0.1
LVV                               eS      S       15 19 11.0  -1.9
SUE   Sulen           78.36 338   eP      P       15 09 19.6  +0.5
SUE                               AMb     AMB     15 09 38.8
      comp=Z,944nm,1.5s,mb6.5
SUE   Sulen           78.36 338   eP      P       15 09 19.6  +0.5
      comp=Z,944nm,1.5s,mb6.5
ELDT  Eldivan         78.36 311   i P     P       15 09 20.7  +1.2
ASMM  Slate Mountain  78.38  51   eP      P       15 09 17.2  -2.4
AVNT  Avonos          78.39 309   i P     P       15 09 20.8  +1.1
KUZ   Kuaotunu        78.39 149   P       P       15 09 18.6  -1.2
KUZ                               sP      sP      15 09 31.8  +7.8
PPE   Popeni          78.41 318⥣ eP      P       15 09 25.6  +6.0
SAFT  Safranbolu      78.41 312   eP      P       15 09 19.0  -0.8
ODD1  Odda            78.65 337   eP      P       15 09 19.9  -0.8
ODD1                              AMb     AMB     15 09 39.5
      comp=Z,1µm,1.8s,mb6.5
ODD1  Odda            78.65 337   eP      P       15 09 19.9  -0.8
      comp=Z,1µm,1.8s,mb6.5
BRTR  Keskin Array B  78.65 310   P       P       15 09 22.0  +0.8
      comp=Z,18nm,0.9s,baz=284,slow=15,SNR=142
BRTR  Keskin Array B  78.65 310   P       P       15 09 22.0  +0.9
BRTR                              pmax    pmax
      comp=Z,18nm,0.9s
BRTR  Keskin Array B  78.65 310   P       P       15 09 22.0  +0.8
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BRTR                              PKKPbc          15 28 30.8
BRTR                              P’P’            15 36 28.8
ASK   Askoy           78.67 338   eP      P       15 09 22.2  +1.4
RUND  Rundenannen     78.67 338   eP      P       15 09 22.3  +1.5
RUND                              AMb     AMB     15 09 40.7
      comp=Z,2µm,1.6s,mb6.8
COBT  Iskenderun      78.69 306   i P     P       15 09 22.5  +1.1
BER   Bergen          78.71 338   eP      P       15 09 22.1  +1.1
MZLS  Mizel           78.71 291   P       P       15 09 22.0  +0.2
WCN   Washoe City     78.72  50   P       P       15 09 21.7  +0.2
WCN                               pmax    pmax
      comp=Z,160nm,1.2s,mb5.8
WCN   Washoe City     78.72  50   eP      P       15 09 21.5   0.0
      comp=Z,157nm,1.3s,mb5.8
WCN                               e               15 09 32.3
WCN                               e               15 09 42.4
PAHR  Pah Rah Range   78.73  50   eP      P       15 09 21.1  -0.5
      comp=Z,122nm,1.3s,mb5.7
PAHR                              e               15 09 32.0
RAYN  Ar Rayn         78.74 291   P       P       15 09 21.3  -0.7
      comp=Z,4µm,1.0s,mb7.3
CEYT  Ceyhan          78.76 307   eP      P       15 09 23.2  +1.4
KAMT  Kaman           78.80 310   eP      P       15 09 22.9  +0.9
FFC   Flin Flon       78.82  30   eP      P       15 09 21.1  -0.6
      comp=Z,234nm,1.3s,mb6.0
FFC                               LR      LR
      comp=Z,28µm,19.0s,MS6.6
EGD   Espegrend       78.83 338   eP      P       15 09 24.4  +2.7
NIG   Nigde           78.92 308   eP      P       15 09 21.1  -1.5
FCC   Fort Churchill  78.98  24   P       P       15 09 22.7  +0.2
FCC                               pmax    pmax
      comp=Z,220nm,1.2s,mb6.0
FCC   Fort Churchill  78.98  24   eP      P       15 09 22.3  -0.2
      comp=Z,222nm,1.3s,mb5.9
HTY   Hatay           78.98 306   eP      P       15 09 21.1  -1.9
SAO   San Andreas Ge  79.00  53   P       P       15 09 23.1   0.0
SAO                               pmax    pmax
      comp=Z,130nm,1.2s,mb5.7
SAO   San Andreas Ge  79.00  53   eP      P       15 09 22.5  -0.6
      comp=Z,125nm,1.1s,mb5.8
SAO                               e               15 09 34.4
CMB   Columbia Colle  79.01  52   P       P       15 09 22.9  -0.2
CMB                               pmax    pmax
      comp=Z,42nm,0.5s,mb5.6
CMB   Columbia Colle  79.01  52   eP      P       15 09 22.7  -0.4
      comp=Z,42nm,0.5s,mb5.6
CMB                               LR      LR
      comp=Z,93µm,19.0s,MS7.1
BSD   Bornholm Skovb  79.06 330   i P     P       15 09 22.2  -0.8
      comp=Z,1µm,1.1s,mb6.7
BSD   Bornholm Skovb  79.06 330   i S     S       15 19 26.2  +5.3
      comp=Z,258µm,19.0s
BSD   Bornholm Skovb  79.06 330   eP      P       15 09 22.2  -0.8
      comp=Z,1µm,1.1s,mb6.7
BSD                               i S     S       15 19 26.2  +5.3
BLS5  Blasjo          79.08 337   eP      P       15 09 23.2  +0.1
BLS5                              AMb     AMB     15 09 46.4
      comp=Z,637nm,1.4s,mb6.3
BLS5  Blasjo          79.08 337   eP      P       15 09 23.2  +0.1
      comp=Z,637nm,1.4s,mb6.4
KWP   Kalwaria        79.09 323   eP      P       15 09 24.0  +0.7
KWP                               e               15 09 31.9
KWP                               eSS     SS      15 24 25.3  -4.9
KWP   Kalwaria        79.09 323   eP      P       15 09 24.0  +0.7
KWP                               epP     pP      15 09 25.6  -0.9
KWP                               ePcP    PcP     15 09 31.9  -0.4
KWP                               eSKS    SKS     15 19 46.9  +7.9
KWP                               eSS     SS      15 24 25.3  -4.9
ANTO  Ankara          79.11 311   eP      P       15 09 21.1  -2.6
LOD   Lodumlu         79.12 311   eP      P       15 09 15.2  -8.5
TOZ   Tahuroa Road    79.13 150   sP      sP      15 09 36.1  +8.1
HRY   Holter Researc  79.17  41   eP      P       15 09 24.0  +0.2
HRY                               e               15 09 36.5
HRY                               eP’P’           15 36 19.4
SGKT  Sivrigoynuk     79.18 311   i P     P       15 09 24.9  +0.9
VRI   Vrincioaia      79.27 318⥥ eP      P       15 09 25.4  +1.0
VRI   Vrincioaia      79.27 318⥥ eP      P       15 09 25.4  +1.1
BRD   Bordesti        79.28 318⥣ eP      P       15 09 23.2  -1.3
HARR  Harsova         79.28 317⥥ eP      P       15 09 25.1  +0.6
HARR  Harsova         79.28 317⥥ eP      P       15 09 25.1  +0.6
GKP   Gorka Klasztor  79.33 328   eP      P       15 09 22.3  -2.2
GKP                               epP     pP      15 09 28.1  +0.4
GKP                               ePcP    PcP     15 09 37.5  +4.3
GKP                               eSKS    SKS     15 19 55.3  +15
GKP                               LR      LR
      comp=Z,287µm,30.6s,MS7.4
LRV   Little Rabbit   79.47  53   eP      P       15 09 25.6   0.0
LRV                               e               15 09 42.7
HLID  Hailey          79.58  44   eP      P       15 09 26.4  +0.3
      comp=Z,75nm,0.6s,mb5.8
HLID                              e               15 09 37.5
HLID                              LR      LR
      comp=Z,78µm,20.0s,MS7.0
HILS  Ha’il           79.59 296   P       P       15 09 26.4   0.0
KMY   Karmoy          79.64 337   eP      P       15 09 24.9  -1.2
KMY                               AMb     AMB     15 09 47.5
      comp=Z,810nm,2.4s,mb6.2
KMY   Karmoy          79.64 337   eP      P       15 09 24.9  -1.2
      comp=Z,810nm,2.4s,mb6.2
SNART Snartemo        79.65 336   eP      P       15 09 26.1  -0.1
SNART                             AMb     AMB     15 09 45.5
      comp=Z,1µm,1.5s,mb6.7
SNART Snartemo        79.65 336   eP      P       15 09 26.1  -0.1
      comp=Z,1µm,1.5s,mb6.7
BMN   Battle Mountai  79.70  48   P       P       15 09 27.8  +1.0
BMN                               pmax    pmax
      comp=Z,290nm,1.2s,mb6.1
BMN   Battle Mountai  79.70  48   eP      P       15 09 27.2  +0.4
      comp=Z,292nm,1.3s,mb6.0
BMN                               LR      LR
      comp=Z,69µm,20.0s,MS7.0
STAV  Stavanger       79.71 337   eP      P       15 09 27.0  +0.6
STAV                              AMb     AMB     15 09 47.8
      comp=Z,1µm,2.3s,mb6.3
STAV  Stavanger       79.71 337   eP      P       15 09 27.0  +0.6
      comp=Z,1µm,2.3s,mb6.3
MCMT  McKenzie Canyo  79.74  43   eP      P       15 09 26.6  -0.3
KOLS  Kolonicke sedl  79.76 323   eP      P       15 09 27.7  +0.8
KOLS                              ePP     PP      15 12 48.3  +19
KOLS                              eS      S       15 19 30.2  +1.9
KOLS                              e               15 28 28.3
KOLS  Kolonicke sedl  79.76 323   eP      P       15 09 27.7  +0.8
KOLS                              e               15 09 41.2
KOLS                              eS      S       15 19 30.2  +1.9
HENT  Hendek          79.76 312   i P     P       15 09 27.0  -0.1
MDU   Mudurnu         79.77 312   eP      P       15 09 28.2  +1.0
ISR   Istrita         79.82 318⥥ eP      P       15 09 28.7  +1.3
ISR   Istrita         79.82 318⥥ eP      P       15 09 28.7  +1.4
BOZ   Bozeman (W)     79.93  42   P       P       15 09 28.0  +0.1
BOZ                               pmax    pmax
      comp=Z,200nm,1.0s,mb6.0
BOZ   Bozeman (W)     79.93  42   eP      P       15 09 27.9  -0.1
      comp=Z,200nm,1.1s,mb6.0
BOZ                               eP’P’           15 36 25.1
BOZ                               LR      LR
      comp=Z,70µm,19.0s,MS7.0
UZH   Uzhgorod        79.94 322d iP      P       15 09 29.0  +1.1
UZH                               eS      S       15 19 38.0  +7.8
VRZ   Vera Road       80.01 151   sP      sP      15 09 42.2  +9.5
MEST  Erdemli         80.07 307   i P     P       15 09 29.4  +0.5
RGN   Rugen           80.12 331   eP      P       15 09 29.0  +0.2
      comp=Z,252nm,1.1s,mb6.1
OMM   Old Mammoth Mi  80.16  51   eP      P       15 09 29.2  -0.1
OJC   Ojcow           80.16 325   eP      P       15 09 23.9  -5.2
OJC                               i               15 09 40.4
OJC                               i               15 12 31.9
OJC   Ojcow           80.16 325   eP      P       15 09 23.9  -5.2
OJC                               i PcP   PcP     15 09 40.4  +3.6
OJC                               e               15 09 49.9
OJC                               i PP    PP      15 12 31.9  -1.2
CRVS  Cervenica-Dubn  80.19 323   eP      P       15 09 31.4  +2.2
CRVS                              e               15 09 44.5
CRVS                              e               15 09 53.5
CRVS  Cervenica-Dubn  80.19 323   eP      P       15 09 31.4  +2.2
CRVS                              e               15 09 44.5
MXZ   Matakaoa Point  80.20 148   sP      sP      15 09 40.8  +7.0
MGZ   Maungaku        80.22 151   P       P       15 09 30.1  +0.5
MGZ                               sP      sP      15 09 45.2  +11
MNV   Mina            80.24  50   P       P       15 09 29.5  -0.3
MNV                               pmax    pmax
      comp=Z,480nm,0.6s,mb6.6
MNV   Mina            80.24  50   eP      P       15 09 29.4  -0.3
      comp=Z,477nm,0.6s,mb6.6
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MNV				*e*		15 09 41.4	
KIZT	**Kizilcal**	**80.26**	**310**	*e*P	**P**	**15 09 30.7**	**+0.9**
URZ	**Urewera**	**80.26**	**149**	P	**P**	**15 09 28.8**	**-1.0**
	comp=Z,41nm,0.9s,mb5.4,baz=82,slow=3.5,SNR=12						
URZ	**Urewera**	**80.26**	**149**	P	**P**	**15 09 28.7**	**-1.2**
URZ	**Urewera**	**80.26**	**149**	P	**P**	**15 09 28.8**	**-1.0**
MUD	**Monsted U'grnd**	**80.36**	**334**	*i* P	**P**	**15 09 29.8**	**-0.2**
	comp=Z,883nm,1.0s,mb6.7						
MUD	**Monsted U'grnd**	**80.36**	**334**	*i* S	S	15 19 43.4	+9.0
MUD				*i*		15 25 20.3	
	comp=Z,268µm,18.0s						
MUD	**Monsted U'grnd**	**80.36**	**334**	*e*P	**P**	**15 09 29.8**	**-0.2**
	comp=Z,883nm,1.0s,mb6.7						
MUD				*i* S	S	15 19 43.4	+9.0
MUD				*i*		15 25 20.3	
CNZ	**Chateau**	**80.39**	**151**	*e*P	**P**	**15 09 31.0**	**+0.5**
CNZ				sP	sP	15 09 44.0	+9.2
NGZ	**Ngauruhoe**	**80.39**	**151**	*e*P	**P**	**15 09 30.9**	**+0.3**
NGZ				sP	sP	15 09 44.1	+9.3
FWVZ	**Far West T-bar**	**80.44**	**151**	P	**P**	**15 09 31.0**	**+0.2**
FWVZ				sP	sP	15 09 44.1	+9.1
DRZ	**Dome Shelter**	**80.46**	**151**	sP	sP	15 09 44.4	+9.2
KONT	**Konya--Tatoy**	**80.48**	**309**	*e*P	**P**	**15 09 29.5**	**-1.5**
AFFS	**'Afif**	**80.48**	**292**	P	**P**	**15 09 31.2**	**-0.1**
TUVZ	**Tukino**	**80.49**	**151**	sP	sP	15 09 44.1	+8.8
HRT	**Hereke**	**80.53**	**313**	*e*P	**P**	**15 09 29.5**	**-1.7**
QLMT	**Earthquake Lak**	**80.54**	**42**	*e*P	**P**	**15 09 31.1**	**-0.1**
QLMT				*e*P'P'		15 36 22.1	
ESKT	**Eskisehir**	**80.55**	**311**	*i* P	**P**	**15 09 31.5**	**+0.2**
ESKT	**Eskisehir**	**80.55**	**311**	*e*P	**P**	**15 09 31.9**	**+0.6**
IKL	**Isikli**	**80.57**	**307**	*e*P	**P**	**15 09 29.5**	**-2.0**
BUC1	**Bucharest**	**80.58**	**317**	⇓*e*P	**P**	**15 09 32.4**	**+1.0**
BUC1	**Bucharest**	**80.58**	**317**	⇓*e*P	**P**	**15 09 32.4**	**+1.0**
MTUR	**Matau**	**80.58**	**318**	⇓*e*P	**P**	**15 09 33.2**	**+1.8**
MTUM	**Tungsten Hills**	**80.59**	**51**	*e*P	**P**	**15 09 31.9**	**+0.3**
PUZ	**Puketiti**	**80.60**	**148**	P	**P**	**15 09 30.9**	**-0.8**
PUZ				sP	sP	15 09 44.7	+8.8
QRZ	**Quartz Range**	**80.60**	**154**	sP	sP	15 09 44.2	+8.3
ASF	**Jabal al Asfar**	**80.61**	**302**	PKPPKP		15 36 22.2	
	comp=Z,23nm,1.4s,baz=186,slow=6.6,SNR=4.0						
MUKL	**Al Mukalla**	**80.72**	**281**	⇑*e*P	**P**	**15 09 32.9**	**+0.2**
ELK	**Elko**	**80.75**	**47**	P	**P**	**15 09 32.7**	**+0.3**
ELK				pmax	pmax		
	comp=Z,500nm,0.6s						
ELK	**Elko**	**80.75**	**47**	*e*P	**P**	**15 09 32.7**	**+0.3**
	comp=Z,498nm,0.6s,mb6.6						
ELK				*e*		15 09 44.6	
BKZ	**Black Stump Fm**	**80.76**	**150**	sP	sP	15 09 44.3	+7.6
ISK	**Istanbul-Kandi**	**80.76**	**313**	*e*P	**P**	**15 09 42.1**	**+10**
HRI	**Mount Hermon**	**80.82**	**304**	P	**P**	**15 09 32.8**	**-0.2**
YLV	**Yalova**	**80.86**	**313**	*e*P	**P**	**15 09 27.4**	**-5.6**
YMR	**Madison River**	**80.90**	**42**	*e*P	**P**	**15 09 34.1**	**+1.0**
BORG	**Borgarnes**	**80.91**	**351**	P	**P**	**15 09 35.9**	**+3.1**
	comp=Z,40nm,0.9s,mb5.3,baz=9.4,slow=3.6,SNR=5.4						
BORG	**Borgarnes**	**80.91**	**351**	P	**P**	**15 09 37.1**	**+4.4**
	comp=Z,72nm,0.9s,mb5.6						
BORG				PKKPbc		15 28 24.1	
BORG				LR	LR		
	comp=Z,17µm,20.0s,MS6.4						
KSHT	**Keshet**	**80.93**	**303**	P	**P**	**15 09 33.4**	**-0.1**
KECS	**Kecovo**	**80.95**	**323**	*e*P	**P**	**15 09 33.6**	**+0.3**
KECS				*e*		15 09 47.6	
KECS				*e*PP	PP	15 13 01.0	+21
KECS				*e*		15 28 35.6	
HDMB	**Hadim**	**80.95**	**308**	*e*P	**P**	**15 09 40.0**	**+6.4**
RAR	**Rarotonga**	**80.95**	**123**	P	**P**	**15 09 34.7**	**+0.8**
	comp=Z,42nm,1.2s,mb5.2,baz=171,slow=8.5,SNR=3.2						
RAR	**Rarotonga**	**80.95**	**123**	P	**P**	**15 09 34.7**	**+0.8**
RAR				pmax	pmax		
	comp=Z,42nm,1.3s						
RAR	**Rarotonga**	**80.95**	**123**	*e*P	**P**	**15 09 33.6**	**-0.2**
	comp=Z,374nm,1.7s,mb6.0						
RAR				*e*		15 09 44.3	
RAC	**Raciborz**	**81.02**	**325**	*e*P	**P**	**15 09 34.4**	**+0.8**
RAC				*e*PP	PP	15 12 39.1	-1.7
RAC				LR	LR		
	comp=Z,370µm,24.9s,MS7.6						
TPH	**Tonopah**	**81.05**	**50**	*e*P	**P**	**15 09 34.0**	**-0.1**
	comp=Z,123nm,0.9s,mb5.8						
TPH				LR	LR		
	comp=Z,100µm,20.0s,MS7.2						
CTT	**Catalca**	**81.09**	**314**	*e*P	**P**	**15 09 35.8**	**+1.6**
KAMS	**Al Khamasin**	**81.15**	**288**	P	**P**	**15 09 34.5**	**-0.4**
OKC	**Ostrava-Krasne**	**81.21**	**325**	⇑*i*P	**P**	**15 09 35.0**	**+0.4**
OKC				*e*x	x	15 09 48.1	
OKC				*e*x	x	15 13 15.2	
OKC				*e*SKS	SKS	15 19 56.7	+2.6
OKC				*e*x	x	15 25 14.8	
OKC				*e*x	x	15 30 56.6	
OKC				LR		15 50 10.0	
	comp=Z,272nm,14.5s						
ULDT	**Uludag**	**81.25**	**312**	*i* P	**P**	**15 09 35.7**	**+0.6**
FRB	**Frobisher Bay**	**81.26**	**11**	P	**P**	**15 09 34.6**	**0.0**
	comp=Z,136nm,1.1s,mb5.8,baz=336,slow=5.7,SNR=14						
FRB	**Frobisher Bay**	**81.26**	**11**	P	**P**	**15 09 34.6**	**0.0**
FRB				pmax	pmax		
	comp=Z,136nm,1.1s						
FRB	**Frobisher Bay**	**81.26**	**11**	P	**P**	**15 09 34.6**	**0.0**
FRB				PKKPbc		15 28 23.7	
LIKS	**Likavka**	**81.27**	**324**	*e*P	**P**	**15 09 37.5**	**+2.6**
LIKS				*e*		15 09 49.2	
LIKS				*e*		15 09 57.1	
LIKS				*e*PP	PP	15 12 57.7	+15
ALT	**Altintas**	**81.28**	**311**	*e*P	**P**	**15 09 36.4**	**+1.2**
HNTI	**Hanita**	**81.32**	**304**	P	**P**	**15 09 35.4**	**-0.1**
RUE	**Ruedersdorf**	**81.39**	**329**	*e*P	**P**	**15 09 35.8**	**+0.3**
	comp=Z,198nm,1.1s,mb6.0						
KSP	**Ksiaz**	**81.40**	**327**	*e*P	**P**	**15 09 35.1**	**-0.5**
KSP				*e**PP	pP	15 09 47.1	+8.3
KSP				*e*S	S	15 19 46.0	+0.7
KSP				*e*SS	SS	15 24 58.0	-6.8
KSP	**Ksiaz**	**81.40**	**327**	*e*P	**P**	**15 09 35.1**	**-0.5**
KSP				*e*pP	pP	15 09 47.1	+8.3
KSP				*e*PP	PP	15 12 33.0	-11
KSP				*e*PPPP		15 16 06.5	
KSP				*e*S	S	15 19 46.0	+0.7
KSP				*e*SKS	SKS	15 19 58.0	+2.6
KSP				*e*SS	SS	15 24 58.0	-6.8
KSP				LR	LR		
	comp=Z,705µm,19.7s,MS8.0						
ORLT	**Orhaneli**	**81.46**	**312**	*e*P	**P**	**15 09 44.2**	**+8.1**
MMLI	**Mount Malkishu**	**81.50**	**303**	P	**P**	**15 09 36.7**	**+0.2**
MMLI	**Mount Malkishu**	**81.50**	**303**	⇑P	**P**	**15 09 36.7**	**+0.2**
CSS	**Prodhromos**	**81.53**	**306**	⇑P	**P**	**15 09 36.5**	**-0.1**
	comp=Z,12nm,0.7s						
CSS	**Prodhromos**	**81.53**	**306**	⇑*e*P	**P**	**15 09 36.5**	**-0.1**
	comp=Z,12nm,0.7s						
HMDT	**Nahal Hemdat**	**81.53**	**303**	P	**P**	**15 09 36.6**	**-0.1**
HMDT	**Nahal Hemdat**	**81.53**	**303**	⇑P	**P**	**15 09 36.6**	**-0.1**
MORC	**Moravsky Berou**	**81.54**	**325**	*e*P	**P**	**15 09 36.6**	**+0.2**
	comp=Z,184nm,1.1s,mb5.9						
MORC				*e*		15 09 48.4	
THZ	**Tophouse**	**81.56**	**154**	sP	sP	15 09 47.4	+6.6
MOOW	**Moose Ponds**	**81.59**	**43**	*e*P	**P**	**15 09 37.6**	**+0.8**
MOOW				*e*P'P'		15 36 15.2	
HVU	**Hansel Valley**	**81.62**	**45**	*e*P	**P**	**15 09 38.2**	**+1.3**
HVU	**Hansel Valley**	**81.62**	**45**	*e*P	**P**	**15 09 37.6**	**+0.6**
PSZ	**Piszkesteto**	**81.62**	**323**	⇑*e*P	**P**	**15 09 37.6**	**+0.8**
PSZ				*i* sP	sP	15 09 51.5	+10
PSZ	**Piszkesteto**	**81.62**	**323**	P	**P**	**15 09 37.6**	**+0.8**
PSZ				pmax	pmax		
	comp=Z,330nm,1.2s,mb6.1						
PSZ	**Piszkesteto**	**81.62**	**323**	*e*P	**P**	**15 09 37.5**	**+0.7**
	comp=Z,327nm,1.3s,mb6.1						
TPAW	**Teton Pass**	**81.64**	**43**	*e*P	**P**	**15 09 37.5**	**+0.6**
MRZ	**Mangatainoka R**	**81.64**	**151**	sP	sP	15 09 48.9	+7.6
EDRB	**Edirne**	**81.68**	**315**	*e*P	**P**	**15 09 31.6**	**-5.7**
OFRI	**'Ofer**	**81.71**	**303**	P	**P**	**15 09 37.3**	**-0.3**
WUWY	**Wally Ulrich**	**81.72**	**43**	*e*P	**P**	**15 09 38.0**	**+0.5**
DPC	**Dobruska-Polom**	**81.73**	**326**	⇑*i*P	**P**	**15 09 38.0**	**+0.7**
DPC				*e*x	x	15 09 50.8	
DPC				*e*x	x	15 13 09.4	
DPC				*e*SKS	SKS	15 20 01.6	+3.9
DPC				*e*x	x	15 25 24.5	
DPC				*e*x	x	15 31 14.9	
DPC				LR		15 50 00.0	
	comp=Z,415nm,16.7s						
ISP	**Isparta**	**81.73**	**310**	*e*P	**P**	**15 09 36.9**	**-0.7**
ISP	**Isparta**	**81.73**	**310**	⇑*i*P	**P**	**15 09 37.1**	**-0.5**
LEF	**Lefka**	**81.73**	**307**	*e*P	**P**	**15 09 33.7**	**-4.0**
LOHW	**Long Hollow**	**81.76**	**43**	*e*P	**P**	**15 09 38.1**	**+0.5**
LOHW				*e*P'P'		15 36 15.0	
UPC	**Upice**	**81.76**	**326**	⇑*i*P	**P**	**15 09 38.1**	**+0.6**
UPC				*e*x	x	15 09 49.8	
UPC				*e*x	x	15 13 07.0	
UPC				*e*SKS	SKS	15 19 58.5	+0.5
SNOW	**Snow King Moun**	**81.77**	**43**	*e*P	**P**	**15 09 38.6**	**+1.0**
SNOW				*e*P'P'		15 36 19.4	
REDW	**Red Top Meadow**	**81.77**	**43**	*e*P	**P**	**15 09 38.3**	**+0.6**
REDW				*e*P'P'		15 36 26.2	
VYHS	**Vyhne**	**81.77**	**324**	*e*P	**P**	**15 09 38.4**	**+0.8**
VYHS				*e*		15 09 51.2	
VYHS				*e*		15 28 33.4	
VYHS	**Vyhne**	**81.77**	**324**	*e*P	**P**	**15 09 38.4**	**+0.8**
VYHS				*e*		15 09 51.2	
VYHS				*e*PP	PP	15 13 02.0	+15
VYHS				*e*		15 28 20.8	
VYHS				*e*		15 28 33.4	
VYHS				*e*		15 29 57.8	
BSEG	**Bad Segeberg**	**81.78**	**331**	*e*P	**P**	**15 09 37.8**	**+0.3**
BSEG				pmax	pmax		
	comp=Z,914nm,1.2s,mb6.6						
DAC	**Darwin (Calif)**	**81.84**	**52**	P	**P**	**15 09 38.6**	**+0.4**
DAC				pmax	pmax		
	comp=Z,36nm,1.0s,mb5.3						
DAC	**Darwin (Calif)**	**81.84**	**52**	*e*P	**P**	**15 09 38.2**	**0.0**
	comp=Z,36nm,1.0s,mb5.3						
DAC				LR	LR		
	comp=Z,87µm,20.0s,MS7.1						
SNZO	**South Karori**	**81.85**	**152**	P	**P**	**15 09 37.3**	**-0.9**
	comp=Z,198nm,1.0s,mb6.0						
SNZO				*e*		15 09 45.9	
BNT	**Bandirma**	**81.87**	**313**	*e*P	**P**	**15 09 37.9**	**-0.4**
SLTI	**Sal'it**	**81.88**	**303**	P	**P**	**15 09 38.4**	**-0.1**
SLTI	**Sal'it**	**81.88**	**303**	⇑P	**P**	**15 09 38.4**	**-0.1**
DST	**Dursunbey**	**81.89**	**312**	*e*P	**P**	**15 09 35.8**	**-2.6**
BCK	**Bucak**	**81.91**	**310**	*e*P	**P**	**15 09 33.7**	**-4.8**
ALFC	**Alevga**	**81.91**	**307**	⇑P	**P**	**15 09 37.8**	**-0.8**
	comp=Z,12nm,0.8s						
ALFC	**Alevga**	**81.91**	**307**	⇑*e*P	**P**	**15 09 37.8**	**-0.8**
KOLL	**Kolacno**	**81.93**	**324**	*e*P	**P**	**15 09 39.3**	**+0.9**
KOLL				*e*		15 09 53.2	
KOLL				*e*PP	PP	15 13 08.4	+20
SZAC	**Souni-Zanaja**	**81.95**	**306**	⇑P	**P**	**15 09 38.7**	**-0.1**
SZAC	**Souni-Zanaja**	**81.95**	**306**	⇑*e*P	**P**	**15 09 38.7**	**-0.1**
BGU	**Big Grassy Mou**	**81.98**	**46**	*e*P	**P**	**15 09 39.2**	**+0.3**
BGU				*e*		15 09 50.3	
DRGI	**Dragot**	**81.99**	**302**	P	**P**	**15 09 39.0**	**-0.1**
DRGI	**Dragot**	**81.99**	**302**	⇑P	**P**	**15 09 39.0**	**-0.1**
AHID	**Auburn Hatcher**	**82.00**	**44**	*e*P	**P**	**15 09 39.1**	**+0.2**
	comp=Z,437nm,1.9s,mb6.1						
AHID				LR	LR		
	comp=Z,61µm,21.0s,MS6.9						
DGMT	**Dagmar**	**82.03**	**36**	*e*P	**P**	**15 09 38.7**	**-0.2**
	comp=Z,182nm,1.1s,mb5.9						
DGMT				LR	LR		
	comp=Z,90µm,19.0s,MS7.2						
KHL	**Karahalli**	**82.08**	**311**	*e*P	**P**	**15 09 37.9**	**-1.5**
SPUT	**South Promonto**	**82.10**	**45**	*e*P	**P**	**15 09 40.4**	**+1.0**
SPUT				*e*		15 09 51.6	
MZDA	**Masada**	**82.17**	**302**	P	**P**	**15 09 40.0**	**0.0**
LAO	**LASA Array**	**82.19**	**38**	*e*P	**P**	**15 09 40.3**	**+0.5**
	comp=Z,282nm,1.4s,mb6.0						
LAO				LR	LR		
	comp=Z,86µm,19.0s,MS7.1						
KGT	**Karabiga**	**82.19**	**314**	*e*P	**P**	**15 09 46.4**	**+6.5**
PPCY	**Paphos**	**82.24**	**307**	⇑P	**P**	**15 09 39.7**	**-0.6**
PPCY	**Paphos**	**82.24**	**307**	⇑*i*P	**P**	**15 09 39.7**	**-0.6**
VRAC	**Vranov**	**82.31**	**325**	P	**P**	**15 09 41.1**	**+0.8**
	comp=Z,152nm,1.0s,mb5.9,baz=54,slow=5.3,SNR=76						
VRAC				PKKP	PKKP	15 27 55.7	+3.0
	comp=Z,1.6nm,0.6s,baz=33,slow=11,SNR=3.8						
VRAC	**Vranov**	**82.31**	**325**	P	**P**	**15 09 52.7**	**+12**
	comp=Z,420nm,0.9s,mb6.4,baz=73,slow=5.3,SNR=17						
VRAC				PKKPbc		15 28 22.3	
	comp=Z,14nm,1.1s,baz=226,slow=3.2,SNR=4.6						
VRAC	**Vranov**	**82.31**	**325**	P	**P**	**15 09 41.1**	**+0.8**
VRAC				P		15 09 52.7	
VRAC				PKKP	PKKP	15 27 55.7	+3.0
VRAC				PKKPbc		15 28 22.2	
BALB	**Balikesir**	**82.33**	**313**	*e*P	**P**	**15 09 40.0**	**-0.6**
TPNV	**Topopah Spring**	**82.33**	**51**	*e*P	**P**	**15 09 40.8**	**+0.1**
TPNV				pmax	pmax		
	comp=Z,36nm,0.4s,mb5.7						
TPNV	**Topopah Spring**	**82.33**	**51**	*e*P	**P**	**15 09 40.7**	**0.0**
	comp=Z,36nm,0.4s,mb5.7						
TPNV				LR	LR		
	comp=Z,88µm,21.0s,MS7.1						
KBRS	**Khaybar**	**82.35**	**296**	P	**P**	**15 09 41.6**	**+0.6**
BUD	**Budapest**	**82.35**	**323**	*e*PcP	PcP	15 09 43.9	-2.5
KHZ	**Kahutara**	**82.36**	**154**	sP	sP	15 09 51.7	+6.7
PVCC	**Panska Ves**	**82.41**	**327**	⇑*i*P	**P**	**15 09 41.6**	**+0.8**
PVCC				*e*x	x	15 13 12.6	
PVCC				*e*SS	SS	15 25 45.8	+26
PVCC				*e*SKKP		15 31 33.0	
PVCC				LR		15 46 00.0	
	comp=Z,363nm,22.3s						
MSZ	**Milford Sound**	**82.44**	**158**	P	**P**	**15 09 41.6**	**+0.5**
MSZ				sP	sP	15 09 54.1	+8.8
TATS	**Tathlith**	**82.44**	**288**	P	**P**	**15 09 42.1**	**+0.5**
HWUT	**Hardware Ranch**	**82.44**	**45**	*e*P	**P**	**15 09 41.7**	**+0.5**
	comp=Z,13nm,0.8s						
HWUT				*e*P'P'		15 36 16.3	
HWUT				LR	LR		
	comp=Z,86µm,20.0s,MS7.1						
BRG	**Berggiesshubel**	**82.45**	**328**	*i* P	**P**	**15 09 41.9**	**+0.9**
BRG				*i*		15 09 56.4	
BRG				pmax	pmax		
	comp=Z,1µm,1.5s,mb6.7						
BRG	**Berggiesshubel**	**82.45**	**328**	*i* P	**P**	**15 09 41.9**	**+0.9**
	comp=Z,1µm,1.5s,mb6.7						
BRG				*i*		15 09 56.4	
BRG				*i* PP	PP	15 13 19.4	+27
BRG				*i*		15 20 13.0	
BRG				*i* S	S	15 20 28.0	+32
BRG				*i*		15 21 18.0	
BRG				*i* SS	SS	15 25 51.0	+31
BRG				*i*		15 28 18.8	
BRG				*i* P'P'		15 36 19.5	
BRG				LR	LR		
	comp=Z,40µm,21.6s,MS6.8						
SMOL	**Smolenice**	**82.45**	**324**	*e*P	**P**	**15 09 42.5**	**+1.4**
SMOL				*e*		15 09 56.1	
SMOL				*e*PP	PP	15 13 03.3	+11
DUG	**Dugway**	**82.56**	**47**	P	**P**	**15 09 42.3**	**+0.5**
DUG				pmax	pmax		
	comp=Z,220nm,1.0s,mb6.1						
DUG	**Dugway**	**82.56**	**47**	*e*P	**P**	**15 09 42.2**	**+0.4**
	comp=Z,224nm,1.1s,mb6.1						
DUG				*e*		15 09 54.0	
DUG				LR	LR		
	comp=Z,75µm,19.0s,MS7.1						
CLL	**Collm**	**82.56**	**328**	⇑P	**P**	**15 09 41.6**	**0.0**
	comp=Z,logA/T=3.1,mb6.9						
CLL				*e*		15 09 58.0	
CLL				*e*		15 10 06.0	
CLL				*i*		15 10 10.6	
CLL				*e*PP	PP	15 13 12.0	+19
CLL				*e*S	S	15 20 28.0	+31
CLL				*e*SS	SS	15 25 34.0	+12
CLL				*e*PKKP	PKKP	15 28 31.0	+39
CLL				*e*		15 31 32.0	
CLL				*e*		15 36 07.0	
CLL				*e*		15 36 23.0	
CLL				*i*		15 36 33.2	
CLL				*e*		15 56 45.0	
CLL	**Collm**	**82.56**	**328**	⇑*i*P	**P**	**15 09 41.6**	**0.0**
CLL				pmax	pmax		
	comp=Z,2µm,1.5s,mb7.0						
CLL	**Collm**	**82.56**	**328**	⇑*i*P	**P**	**15 09 41.6**	**0.0**
	comp=Z,2µm,1.5s,mb7.0						
CLL				*e*S	S	15 20 11.0	+14
CLL				P'P'		15 36 07.0	
CLL				LR	LR		
	comp=Z,423µm,18.6s,MS7.8						
LPK	**Lapseki**	**82.57**	**314**	*e*P	**P**	**15 09 40.0**	**-1.9**
MANT	**Manisa**	**82.59**	**311**	*i* P	**P**	**15 09 42.3**	**+0.2**
RPZ	**Rata Peaks**	**82.60**	**156**	P	**P**	**15 09 43.5**	**+1.5**
	comp=Z,34nm,1.1s,mb5.3,baz=151,slow=12,SNR=5.4						
MWC	**Mount Wilson**	**82.71**	**54**	P	**P**	**15 09 42.6**	**-0.2**
MWC	**Mount Wilson**	**82.71**	**54**	*e*P	**P**	**15 09 42.5**	**-0.3**
ZFRI	**Zfri**	**82.73**	**302**	P	**P**	**15 09 42.8**	**-0.1**
ZFRI	**Zfri**	**82.73**	**302**	⇑P	**P**	**15 09 42.8**	**-0.1**
DENT	**Denizli**	**82.73**	**311**	*e*P	**P**	**15 09 33.7**	**-9.1**
MASH	**Mash'abbe Sade**	**82.76**	**302**	P	**P**	**15 09 42.7**	**-0.4**
DNZL	**Cakiroluk**	**82.76**	**310**	*i* P	**P**	**15 09 44.2**	**+1.2**
ELL	**Elmali**	**82.76**	**309**	*e*P	**P**	**15 09 44.0**	**+1.0**
PRU	**Pruhonice**	**82.80**	**327**	⇑*i*P	**P**	**15 09 43.2**	**+0.3**
	comp=Z,373nm,1.3s,mb6.3						
PRU				*e*x	x	15 09 56.3	
PRU				*e*x	x	15 13 09.9	
PRU				*e*x	x	15 20 12.6	
PRU				*e*x	x	15 25 43.5	
PRU				*e*SKKP		15 31 42.0	
PRU				LR		15 50 00.0	
	comp=Z,328nm,16.0s						
PRU	**Pruhonice**	**82.80**	**327**	⇑*i*P	**P**	**15 09 43.2**	**+0.3**
PRU				*e*		15 09 56.3	
PRU				pmax	pmax		
	comp=Z,373nm,1.3s,mb6.3						
AKS	**Akhisar**	**82.83**	**312**	*e*P	**P**	**15 09 40.0**	**-3.3**
ZST	**Bratislava**	**82.83**	**324**	*e*P	**P**	**15 09 44.3**	**+1.2**
ZST				*e*		15 09 59.9	
ZST				*e*PP	PP	15 13 10.9	+16
ZST				*e*SCS	ScS	15 20 16.1	+2.9
ZST				*e*		15 28 24.8	
ZST				*e*		15 28 31.3	
RDO	**Rodhopi**	**82.83**	**315**	*e*P	**P**	**15 09 43.5**	**+0.3**
TCUT	**Toone Canyon**	**82.84**	**45**	*e*P	**P**	**15 09 43.1**	**-0.1**
TCUT				*e*P'P'		15 36 17.4	
BW06	**Boulder Array**	**82.89**	**43**	*e*P	**P**	**15 09 43.2**	**-0.3**
	comp=Z,39nm,1.0s,mb5.4						
BW06				LR	LR		
	comp=Z,81µm,19.0s,MS7.1						
PDAR	**Pinedale Array**	**82.89**	**43**	P	**P**	**15 09 43.9**	**+0.4**
	comp=Z,11nm,0.9s,baz=270,slow=3.0,SNR=48						
PDAR				PP	PP	15 12 54.7	-1.2
	comp=Z,16nm,1.0s,baz=333,slow=4.0,SNR=2.3						
PDAR				PKKP	PKKP	15 27 57.0	+5.1
	comp=Z,3.0nm,1.0s,baz=135,slow=4.2,SNR=4.6						
PDAR				PKPPKP		15 36 09.9	
	comp=Z,1.9nm,1.1s,baz=207,slow=3.3,SNR=3.8						
PDAR	**Pinedale Array**	**82.89**	**43**	P	**P**	**15 09 43.9**	**+0.4**
PDAR				PP	PP	15 12 54.7	-1.2
PDAR				PKKP	PKKP	15 27 57.0	+5.1
PDAR				PKKPbc		15 28 21.6	
PDAR				P'P'		15 36 09.9	
CTU	**Camp Tracy**	**82.89**	**46**	*e*P	**P**	**15 09 44.1**	**+0.5**
PRNI	**Paran**	**82.96**	**302**	P	**P**	**15 09 44.1**	**0.0**
PRNI	**Paran**	**82.96**	**302**	⇑P	**P**	**15 09 44.1**	**0.0**
MLA1	**Latheron**	**83.01**	**340**	⇑*e*P	**P**	**15 09 44.2**	**+0.4**
TBKS	**Tabuk**	**83.03**	**299**	P	**P**	**15 09 44.6**	**+0.1**
KZIT	**Kziot**	**83.08**	**302**	P	**P**	**15 09 44.4**	**-0.3**
KZIT	**Kziot**	**83.08**	**302**	⇑P	**P**	**15 09 44.4**	**-0.3**
JLU	**Jordanelle**	**83.13**	**46**	*e*P	**P**	**15 09 45.2**	**+0.4**
OTO	**Tongue**	**83.14**	**341**	*e*P	**P**	**15 09 45.8**	**+1.4**
NLU	**North Lily Min**	**83.15**	**46**	*e*P	**P**	**15 09 45.2**	**+0.3**
JMQS	**Jabal Moqyreh**	**83.16**	**300**	P	**P**	**15 09 45.2**	**+0.1**
VKA	**Vienna**	**83.16**	**325**	⇑*i*P	**P**	**15 09 46.8**	**+2.0**
VKA				*i*		15 10 01.0	
	comp=Z,13µm,3.5s						
VKA	**Vienna**	**83.16**	**325**	⇑*i*P	**P**	**15 09 46.8**	**+2.0**
	comp=Z,13µm,3.5s						
VKA				*i*		15 10 01.0	
VKA				LR	LR		
	comp=Z,151µm,13.0s,MS7.5						
BOLS	**Boljevac**	**83.19**	**319**	⇓*i*P	**P**	**15 09 45.5**	**+0.5**
AYVA	**Ayvalik**	**83.26**	**313**	*i* P	**P**	**15 09 47.2**	**+1.8**
AQBJ	**Aqaba**	**83.28**	**301**	P	**P**	**15 09 45.5**	**-0.3**
SVIS	**Svilajnac**	**83.29**	**319**	⇑*i*P	**P**	**15 09 46.7**	**+1.2**
KMTI	**Karmit**	**83.30**	**302**	P	**P**	**15 09 45.4**	**-0.5**
KMTI	**Karmit**	**83.30**	**302**	⇑P	**P**	**15 09 45.4**	**-0.5**
CLZ	**Clausthal**	**83.30**	**330**	*e*P	**P**	**15 09 45.8**	**+0.4**
	comp=Z,4µm,1.5s,mb7.2						
BOZC	**Bozcaada**	**83.32**	**314**	*i* P	**P**	**15 09 47.0**	**+1.3**
KSL	**Kastellorizon**	**83.33**	**309**	⇓*i*P	**P**	**15 09 45.5**	**-0.4**
MBH	**Mount Berech**	**83.34**	**301**	P	**P**	**15 09 45.8**	**-0.3**
BEO	**Belgrade**	**83.36**	**320**	⇑*i*P	**P**	**15 09 46.4**	**+0.5**
DAU	**Daniels Canyon**	**83.36**	**46**	P	**P**	**15 09 47.2**	**+1.2**
DAU	**Daniels Canyon**	**83.36**	**46**	*e*P	**P**	**15 09 46.6**	**+0.6**
DJNS	**Zahran al Janu**	**83.36**	**287**	P	**P**	**15 09 47.3**	**+0.9**
MPU	**Maple Canyon**	**83.38**	**46**	*e*P	**P**	**15 09 46.7**	**+0.6**
EIL	**Elat**	**83.39**	**301**	P	**P**	**15 09 46.0**	**-0.3**
SOP	**Sopron**	**83.45**	**324**	⇑*i*PcP	**P**	**15 09 47.1**	**+0.9**
KDAG	**Bornova**	**83.46**	**312**	*i* P	**P**	**15 09 47.7**	**+1.2**
IZM	**Izmir**	**83.46**	**312**	*e*P	**P**	**15 09 47.4**	**+0.9**
ALWS	**Ilw as Safayha**	**83.50**	**301**	P	**P**	**15 09 47.1**	**+0.1**
AYDN	**Tasoluk**	**83.52**	**311**	*i* P	**P**	**15 09 47.5**	**+0.7**
PRK	**Paraskevi**	**83.56**	**313**	*e*P	**P**	**15 09 47.5**	**+0.5**
MVH1	**Achvaich**	**83.57**	**340**	*e*P	**P**	**15 09 47.8**	**+1.2**
DALT	**Dalyan (Mudla)**	**83.57**	**310**	*e*P	**P**	**15 09 44.2**	**-2.9**
YER	**Yerkesik**	**83.58**	**310**	*e*P	**P**	**15 09 46.4**	**-0.8**
MCD	**Coleburn Disti**	**83.59**	**340**	*e*P	**P**	**15 09 47.7**	**+1.0**
ODZ	**Otahua Downs**	**83.64**	**157**	sP	sP	15 09 59.9	+8.4
NAMS	**An Nimas**	**83.64**	**289**	P	**P**	**15 09 49.0**	**+1.1**
MOX	**Moxa**	**83.65**	**329**	⇑*i*P	**P**	**15 09 47.1**	**-0.1**
	comp=Z,logA/T=3.1,mb7.0						
MOX				PS		15 20 27.0	
MOX				PKKP	PKKP	15 28 20.0	+29
MOX				PKPPKP		15 36 22.0	
MOX				L		15 47 15.0	
MOX	**Moxa**	**83.65**	**329**	*e*P	**P**	**15 09 47.1**	**-0.1**
	comp=Z,2µm,1.6s,mb7.0						
MOX				*e*		15 09 59.4	
BDHA	**Al Bayda'**	**83.72**	**282**	⇓*e*P	**P**	**15 09 49.5**	**+1.1**
BDHA				AMb	AMB	15 09 51.2	
	comp=Z,842nm,2.0s,mb6.5						
MME1	**Meikle Cairn**	**83.73**	**339**	*e*P	**P**	**15 09 50.0**	**+2.5**
HAQS	**Haql**	**83.75**	**301**	P	**P**	**15 09 48.5**	**+0.3**
MLSB	**Milas**	**83.81**	**311**	*e*P	**P**	**15 09 49.4**	**+1.1**
GRUS	**Gruza**	**83.83**	**319**	⇓*i*P	**P**	**15 09 48.6**	**+0.4**
KHC	**Kasperske Hory**	**83.85**	**327**	⇑*i*P	**P**	**15 09 48.6**	**+0.4**
KHC				*e*x	x	15 13 26.9	
KHC				*e*SS	SS	15 25 48.4	+7.7
KHC				*e*x	x	15 32 04.1	
KHC				LR		15 51 10.0	
	comp=Z,412nm,16.7s						
BARS	**Barje**	**83.92**	**318**	⇓*i*P	**P**	**15 09 49.0**	**+0.2**
BDAS	**Al Bad'**	**83.97**	**300**	P	**P**	**15 09 49.6**	**+0.2**
MSU	**Marysvale**	**83.97**	**48**	*e*P	**P**	**15 09 50.1**	**+0.9**
SRS	**Serrai**	**83.99**	**316**	*e*P	**P**	**15 09 48.6**	**-0.5**
GEC2	**GERESS Array S**	**84.00**	**326**	*e*P	**P**	**15 09 49.2**	**+0.2**
GEC2				pmax	pmax		
	comp=Z,1µm,1.4s,mb6.8						
GEC2	**GERESS Array S**	**84.00**	**326**	*e*P	**P**	**15 09 49.2**	**+0.2**
	comp=Z,1µm,1.4s,mb6.8						
GERES	**GERESS Array B**	**84.00**	**326**	P	**P**	**15 09 49.1**	**+0.1**
	comp=Z,75nm,0.8s,mb5.9,baz=34,slow=4.8,SNR=76						
GERES				PKKPbc		15 28 04.3	
	comp=Z,1.3nm,0.8s,baz=270,slow=3.9,SNR=2.8						
GERES				PKPPKP		15 36 10.0	
	comp=Z,2.2nm,1.0s,baz=207,slow=3.0,SNR=5.5						
GERES	**GERESS Array B**	**84.00**	**326**	P	**P**	**15 09 49.1**	**+0.2**
GERES				PKKPbc		15 28 04.3	
GERES				PKKPbc		15 28 17.1	
GERES				P'P'		15 36 10.0	
GERES				P'P'		15 36 19.5	
NEN	**Nelson**	**84.01**	**51**	*e*P	**P**	**15 09 49.8**	**+0.4**
MDO	**Dochfour**	**84.03**	**340**	*e*P	**P**	**15 09 51.3**	**+2.4**
LBOS		**84.03**	**283**	⇑*e*P	**P**	**15 09 50.7**	**+0.8**
WIT	**Witteveen**	**84.07**	**332**	*e*P	**P**	**15 09 50.6**	**+1.3**
WIT				*e*x	x	15 10 03.6	
RRR	**Rubha Reidh**	**84.07**	**341**	*e*P	**P**	**15 09 50.4**	**+1.3**
DIVS	**Divcibare**	**84.09**	**320**	⇓*i*P	**P**	**15 09 49.8**	**+0.2**
YNBS	**Yanbu' al Bahr**	**84.11**	**295**	P	**P**	**15 09 50.5**	**+0.4**
UMJS	**Umm Lajj**	**84.13**	**296**	P	**P**	**15 09 51.1**	**+0.9**
PFO	**Pinyon Flat Ob**	**84.15**	**54**	P	**P**	**15 09 49.9**	**-0.2**
PFO				pmax	pmax		
	comp=Z,380nm,1.2s,mb6.4						
PFO	**Pinyon Flat Ob**	**84.15**	**54**	*e*P	**P**	**15 09 49.8**	**-0.3**
	comp=Z,376nm,1.2s,mb6.4						
PFO				*e*		15 10 01.7	
BDRM	**Kayabasi**	**84.16**	**311**	*i* P	**P**	**15 09 50.9**	**+0.8**
WET	**Wettzell**	**84.17**	**327**	*e*P	**P**	**15 09 50.4**	**+0.6**
WET				pmax	pmax		
	comp=Z,2µm,1.6s,mb6.9						
WET	**Wettzell**	**84.17**	**327**	*e*P	**P**	**15 09 50.4**	**+0.6**
	comp=Z,2µm,1.6s,mb6.9						
LDFC	**Landfair**	**84.18**	**52**	*e*P	**P**	**15 09 50.0**	**-0.2**
ARG	**Arkhangelos**	**84.23**	**310**	⇓*i*P	**P**	**15 09 51.0**	**+0.5**
ARSA	**Arzberg**	**84.25**	**324**	⇑*i*P	**P**	**15 09 50.7**	**+0.4**
	comp=Z,9µm,3.5s						
RRH	**Rhenigidale**	**84.26**	**342**	*e*P	**P**	**15 09 50.7**	**+0.6**
OUR	**Ouranopolis**	**84.26**	**315**	*e*P	**P**	**15 09 50.9**	**+0.4**
SOH	**Sokhos**	**84.32**	**316**	*e*P	**P**	**15 09 50.3**	**-0.5**
KNT	**Kendrikon**	**84.37**	**316**	*e*P	**P**	**15 09 51.2**	**+0.1**
DHBB	**Dhamar BB**	**84.37**	**284**	⇑*e*P	**P**	**15 09 52.9**	**+1.3**

DHBB				AMb	AMB	15 09 53.8	
	comp=Z,301nm,1.3s,mb6.3						
HAJJ	**Hajjah**	84.40	285⇑	*e*P	P	15 09 52.7	+1.0
MOA	**Molln**	84.44	325⇑	*i*P	P	15 09 51.9	+0.7
	comp=Z,13µm,3.8s						
VAY	**Valandovo**	84.46	316⇑	*i*P	P	15 09 51.8	+0.3
VAY				*i*		15 10 07.7	
LTHS	**Al Lith**	84.47	290	P	P	15 09 52.8	+0.8
GRA1	**Grafenberg Arr**	84.52	328	*e*P	P	15 09 52.2	+0.6
	comp=Z,5µm,1.5s						
GRA1				*e*PP	PP	15 13 22.6	+14
GRA1				*e*S	S	15 20 31.0	+14
GRA1				*e*SS	SS	15 25 59.6	+9.2
GRA1				LR	LR		
	comp=Z,295µm,18.2s,MS7.7						
GRF	**Grafenberg Arr**	84.52	328	*e*P	P	15 09 52.2	+0.6
GRF				pmax	pmax		
	comp=Z,5µm,1.5s						
BAR	**Barrett**	84.55	54	*e*P	P	15 09 51.4	-0.8
BAR				*e*		15 10 02.5	
PLG	**Polygyros**	84.55	315	*e*P	P	15 09 52.0	0.0
SRU	**San Rafael**	84.61	46	P	P	15 09 52.8	+0.5
SRU	**San Rafael**	84.61	46	*e*P	P	15 09 52.7	+0.3
SRU				*e*		15 10 04.8	
NVSS	**Nova Varos 2**	84.64	320⇓	*i*P	P	15 09 51.5	-0.8
THE	**Thessaloniki**	84.67	316	*e*P	P	15 09 51.8	-0.8
WTSB	**Winterswijk**	84.67	332	*e*P	P	15 09 52.7	+0.4
	comp=Z,158nm,2.1s,mb5.8						
WTSB				*e*x	x	15 10 05.5	
SKO	**Skopje**	84.68	318⇑	*i*P	P	15 09 53.5	+0.9
	comp=Z,0.2nm,1.0s						
SKO				*i*		15 10 09.3	
	comp=Z,1.4nm,1.0s						
SKO				*i* S	Sx	15 19 48.0	
	comp=E,52nm,8.5s						
SKO				Lm		15 49 30.0	
	comp=E,271nm,15.0s						
SKO				Lm		15 49 30.0	
	comp=N,141nm,13.0s						
PAIG	**Paliouri**	84.69	315	*e*P	P	15 09 52.4	-0.3
GRG	**Griva**	84.79	316	*e*P	P	15 09 53.4	+0.3
PLE	**Pljevlja**	84.92	320⇑	*i*P	P	15 09 54.6	+0.8
IVA	**Berane**	84.95	319⇑	*i*P	P	15 09 54.3	+0.4
UDYN	**Al ‘Udayn**	85.01	283⇓	*e*P	P	15 09 56.3	+1.5
FRSS	**Farasan al Kab**	85.03	287	P	P	15 09 55.8	+0.9
RSSD	**Black Hills**	85.04	39	P	P	15 09 54.7	+0.4
RSSD				pmax	pmax		
	comp=Z,140nm,1.5s,mb5.9						
RSSD	**Black Hills**	85.04	39	*e*P	P	15 09 54.3	0.0
	comp=Z,137nm,1.5s,mb5.9						
SISC	**Sisak**	85.06	323	*i* P	P	15 09 54.8	+0.4
PVY	**Plav**	85.09	319⇑	*i*P	P	15 09 54.2	-0.4
PCOU	**Corrie**	85.19	339	*e*P	P	15 09 55.1	+0.3
OBKA	**Obir**	85.25	324⇑	*i*P	P	15 09 55.3	0.0
	comp=Z,10µm,4.1s						
KARP	**Karpathos**	85.26	310	*e*P	P	15 09 56.0	+0.4
UPM	**Unac-Piva**	85.27	320⇑	*i*P	P	15 09 55.8	+0.3
LIT	**Litokhoron**	85.29	316	*e*P	P	15 09 55.0	-0.6
TRBA	**At Turbah**	85.31	283⇑	*e*P	P	15 09 57.4	+1.1
APE	**Apeiranthos**	85.36	312	*e*P	P	15 10 03.2	+7.1
APE	**Apeiranthos**	85.36	312	*e*P	P	15 09 56.0	-0.1
NEO	**Neokhori**	85.36	315	*e*P	P	15 09 54.0	-2.0
BIA	**Bitola**	85.37	317	*i* P	P	15 09 57.3	+1.3
BIA				*i*		15 10 12.8	
POB1	**Observatory**	85.41	339	*e*P	P	15 09 57.4	+1.5
KBA	**Koelnbreinsper**	85.43	325⇑	*i*P	P	15 09 56.1	-0.1
	comp=Z,10µm,4.3s						
LCP	**Cassop**	85.43	337⇑	*e*P	P	15 09 55.9	-0.1
EKA	**Eskdalemuir Ar**	85.46	338	P	P	15 09 56.7	+0.6
	comp=Z,36nm,1.0s,mb5.5,baz=34,slow=3.0,SNR=45						
EKA				PP	PP	15 13 17.3	+1.2
	comp=Z,18nm,0.9s,baz=32,slow=6.7,SNR=3.7						
EKA	**Eskdalemuir Ar**	85.46	338	P	P	15 09 56.7	+0.6
EKA						15 13 17.3	
EKA				pmax	pmax		
	comp=Z,36nm,1.0s						
EKA				pmax	pmax		
	comp=Z,18nm,0.9s						
EKA	**Eskdalemuir Ar**	85.46	338	P	P	15 09 56.7	+0.6
EKA				PP	PP	15 13 17.3	+1.2
SIND	**Sindeldorf**	85.48	329⇑	*e*P	P	15 09 56.4	0.0
PCA1	**Carrot**	85.48	339⇑	*e*P	P	15 09 57.6	+1.4
NKY	**Niksic**	85.48	319⇑	*i*P	P	15 09 57.2	+0.7
ESK	**Eskdalemuir**	85.49	339	*e*P	P	15 09 57.0	+0.8
ESK	**Eskdalemuir**	85.49	339	P	P	15 09 56.3	0.0
ESK				pmax	pmax		
	comp=Z,170nm,1.3s,mb6.0						
ESK	**Eskdalemuir**	85.49	339	*e*P	P	15 09 56.4	+0.1
	comp=Z,167nm,1.3s,mb6.0						
FNA	**Florina**	85.49	317	*e*P	P	15 09 56.8	+0.2
PMSU	**Muirshiel**	85.50	340	*e*P	P	15 09 55.8	-0.5
LWH	**Whinny Nab**	85.50	337⇑	*e*P	P	15 09 56.4	0.0
KZN	**Kozani**	85.57	316	*e*P	P	15 09 57.0	-0.1
LJU	**Ljubljana**	85.59	324	*e*P	P	15 09 56.5	-0.5
LJU				*e*		15 10 09.4	
LJU				*e*		15 12 34.7	
LJU				*e*		15 13 16.6	
LJU				*e*		15 13 35.8	
LJU				*e*		15 14 20.4	
LJU				*e*		15 14 37.9	
LJU				*e*		15 15 11.6	
LJU				*e*		15 20 40.0	
LJU				*e*		15 27 03.8	
LJU				*e*		15 31 41.1	
TTG	**Podgorica**	85.60	319⇑	*i*P	P	15 09 57.1	-0.1
FUR	**Furstenfeldbru**	85.61	327	*e*P	P	15 09 57.5	+0.5
FUR				pmax	pmax		
	comp=Z,3µm,1.3s,mb7.3						
FUR	**Furstenfeldbru**	85.61	327	*e*P	P	15 09 57.5	+0.5
	comp=Z,3µm,1.3s,mb7.3						
OHR	**Ohrid**	85.61	317⇑	*i*P	P	15 09 57.5	+0.3
OHR				*i*		15 10 13.0	
TOD	**Tromm**	85.64	329⇑	*e*P	P	15 09 57.4	+0.3
TOD	**Tromm**	85.64	329⇑	*e*P	P	15 09 57.3	+0.2
BRY	**Bratogost**	85.67	320⇑	*i*P	P	15 09 56.8	-0.7
SWS	**Schriesheim**	85.77	329⇑	*e*P	P	15 09 57.6	-0.2
HDH	**Heidenheim**	85.78	328⇑	*e*P	P	15 09 57.6	-0.3
LRN	**Richmond**	85.80	337⇑	*e*P	P	15 09 57.7	-0.1
SANT	**Santorini**	85.84	311	*e*P	P	15 09 58.2	-0.3
	comp=Z,401nm,1.2s,mb6.5						
SANT				*e*		15 10 09.4	
THR1	**Thera Island**	85.84	311	*e*P	P	15 09 58.8	+0.2
QSH	**Qafa e Shtames**	85.84	318	*i* p	P	15 10 02.0	+3.6
THR3	**Thira Island,**	85.85	311	*e*P	P	15 09 59.0	+0.4
CEY	**Cerknica**	85.85	324	*e*P	P	15 09 57.9	-0.4
CEY				*e*		15 10 10.6	
THR5	**Thira Island,**	85.88	311	*e*P	P	15 09 58.7	0.0
BUM	**Brajici-Budva**	85.88	319⇑	*i*P	P	15 09 58.5	0.0
THR6	**Thira Island,**	85.89	311	*e*P	P	15 09 56.9	-1.8
PTCC	**Patocco-Chiusa**	85.91	325	*e*P	P	15 09 57.9	-0.7
ULC	**Ulcinj**	85.92	319⇑	*i*P	P	15 09 59.5	+0.8
HGN	**Heimansgroeve**	85.94	331	*e*P	P	15 09 58.4	-0.3
	comp=Z,196nm,1.2s,mb6.2						
HGN				*e*PP	PP	15 13 18.4	-1.7
HGN				*e*SSS	Sx	15 31 46.7	
ABH	**Alteburg**	85.96	330⇑	*e*P	P	15 09 58.7	-0.1
PV10	**Paradox Valley**	85.98	46	*e*P	P	15 10 00.1	+0.9
TIR	**Tirane**	85.98	318	*e*p	P	15 10 01.7	+2.6
HCY	**Herceg Novi**	86.00	319⇑	*i*P	P	15 09 58.8	-0.3
AWI1	**Witton**	86.01	335	*e*P	P	15 09 59.5	+0.6
FVI	**Forni Avoltri**	86.04	325	*e*P	P	15 09 58.8	-0.4
GMNA	**Gemona**	86.05	325	*e*P	P	15 09 59.5	+0.1
ABA1	**Baconsthorpe**	86.07	335	*e*P	P	15 09 59.2	0.0
WATA	**Walderalm**	86.08	326⇑	*i*P	P	15 09 59.1	-0.3
	comp=Z,1µm,1.5s,mb7.0						
CKE	**Keswick**	86.08	338	*e*P	P	15 10 00.3	+1.0
STU	**Stuttgart**	86.09	328	P	P	15 09 59.5	+0.1
STU				pmax	pmax		
	comp=Z,290nm,1.1s,mb6.4						
STU	**Stuttgart**	86.09	328	*e*P	P	15 09 59.5	0.0
	comp=Z,292nm,1.1s,mb6.4						
WTTA	**Wattenberg**	86.10	326⇑	*i*P	P	15 09 59.5	0.0
	comp=Z,11µm,3.9s						
HPK	**Haverah Park**	86.13	337⇑	*e*P	P	15 09 59.4	-0.1
STON	**Ston**	86.15	320	*i* P	P	15 10 01.8	+1.9
KTD	**Kalmit**	86.16	329⇑	*e*P	P	15 09 59.7	-0.1
KTD	**Kalmit**	86.16	329⇑	*e*P	P	15 10 00.6	+0.8
TRI	**Trieste**	86.20	324	*e*P	P	15 10 01.1	+1.0
MEV	**Metsovon**	86.23	316	*e*P	P	15 10 01.2	+0.9
PPT	**Papeete**	86.24	114	P	P	15 10 01.8	+0.9
	comp=Z,75nm,1.2s,mb5.8,baz=228,slow=11,SNR=5.1						
PPT	**Papeete**	86.24	114	*e*P	P	15 10 02.4	+1.5
	comp=Z,463nm,1.4s,mb6.5						
PPT	**Papeete**	86.24	114	*e*PP	PP	15 13 34.4	+11
PPT				*e*SS	SS	15 26 31.9	+15
PPT				*e*L		15 33 43.8	
PPT				*e*R		15 36 30.6	
	comp=Z,267µm,27.2s,baz=310						
PPT	**Papeete**	86.24	114	P	P	15 10 01.8	+0.9
PPT				pmax	pmax		
	comp=Z,75nm,1.2s						
CSF	**Scaffel**	86.24	338	*e*P	P	15 09 59.3	-0.7
LDU	**Leeds Universi**	86.24	337⇑	*e*P	P	15 10 01.1	+1.0
AEU	**East Anglia Un**	86.25	335	*e*P	P	15 10 01.0	+0.9
BUCH	**Bad Urach**	86.26	328⇑	*e*P	P	15 10 00.2	-0.1
MOTA	**Moosalm**	86.29	327⇑	*i*P	P	15 10 00.3	-0.1
	comp=Z,1µm,1.5s,mb6.9						
PAE	**Paea**	86.29	114	*e*P	P	15 10 02.6	+1.5
	comp=Z,1µm,1.5s,mb6.9						
RUP	**Ruppelstein**	86.30	330⇑	*e*P	P	15 10 00.5	+0.1
RUP	**Ruppelstein**	86.30	330⇑	*e*P	P	15 10 00.6	+0.2
CDU1	**Dunnerdale**	86.32	338	*e*P	P	15 10 01.3	+0.9
SQTA	**Sankt Quirin**	86.33	326⇑	*i*P	P	15 10 00.4	-0.3
	comp=Z,1µm,1.5s,mb6.9						
WUAZ	**Wupatki**	86.33	49	*e*P	P	15 10 01.1	+0.1
	comp=Z,41nm,0.4s,mb6.0						
WUAZ				LR	LR		
	comp=Z,71µm,21.0s,MS7.0						
LBG	**Lerchenberg**	86.34	329⇑	*e*P	P	15 10 00.7	0.0
AWH	**Whinburgh**	86.35	335	*e*P	P	15 10 01.2	+0.6
TIAR	**Tiarei**	86.41	114	*e*P	P	15 10 03.3	+1.6
	comp=Z,930nm,1.0s,mb7.0						
PV01	**Paradox Valley**	86.42	46	*e*P	P	15 10 01.8	+0.5
EVR	**Evrytania**	86.45	315⇓	*i*P	P	15 10 02.0	+0.5
NVLJ	**Novalja**	86.46	323	*i* P	P	15 10 00.3	-1.0
UBR	**Uberruh**	86.50	327⇑	*e*P	P	15 10 01.2	-0.3
JAN	**Janina**	86.53	316	*e*P	P	15 10 04.0	+2.1
LANF	**Langenberg**	86.54	329⇑	*e*P	P	15 10 01.6	0.0
LHO	**Holmfirth**	86.55	337⇑	*e*P	P	15 10 00.9	-0.7
KSY	**Syston**	86.61	336	*e*P	P	15 10 02.5	+0.6
TVO	**Taravao**	86.61	114	*e*P	P	15 10 04.2	+1.5
	comp=Z,1µm,1.0s,mb7.0						
XRY	**Khrisi**	86.62	310	*e*P	P	15 10 01.0	-1.4
GUT	**Gutenstein**	86.65	328⇑	*e*P	P	15 10 01.8	-0.4
KBI1	**Birley Grange**	86.69	337⇑	*e*P	P	15 10 01.8	-0.4
WLF	**Walferdange**	86.71	331	P	P	15 10 02.7	+0.3
WLF				pmax	pmax		
	comp=Z,260nm,1.3s,mb6.3						
WLF	**Walferdange**	86.71	331	*e*P	P	15 10 02.6	+0.2
	comp=Z,265nm,1.3s,mb6.3						
SPAK	**Spaichingen**	86.77	328⇑	*e*P	P	15 10 02.4	-0.4
BFO	**Black Forest**	86.80	329	*e*P	P	15 10 02.8	-0.1
BFO				pmax	pmax		
	comp=Z,1µm,1.5s,mb7.0						
BFO	**Black Forest**	86.80	329	*e*P	P	15 10 02.8	-0.1
	comp=Z,1µm,1.5s,mb7.0						
STR	**Strasbourg**	86.85	329⇑	*e*P	P	15 10 03.8	+0.6
IDI	**Anoyia**	86.88	311	P	P	15 10 02.5	-1.2
	comp=Z,43nm,0.6s,mb5.9,baz=33,slow=5.6,SNR=27						
IDI	**Anoyia**	86.88	311	P	P	15 10 02.5	-1.2
DAVA	**Damuels**	86.89	327⇑	*i*P	P	15 10 03.5	+0.1
	comp=Z,11µm,3.9s						
GIVF	**Givet**	86.91	331	*e*P	P	15 10 02.8	-0.6
	comp=Z,302nm,1.2s,mb6.1						
IGT	**Igoumenitsa**	86.92	316	*e*P	P	15 10 02.8	-0.9
WIM	**Isle of Man**	86.94	339⇑	*e*P	P	15 10 04.7	+1.2
WIM				AMb	AMB	15 10 22.0	
	comp=Z,1µm,1.5s,mb6.9						
CTI	**Castel Tesino**	86.98	325	*e*P	P	15 10 03.4	-0.5
KWE	**Weaver Farm**	86.99	337⇑	*e*P	P	15 10 02.6	-1.1
ISCO	**Idaho Springs**	87.07	43	P	P	15 10 05.4	+0.9
ISCO				pmax	pmax		
	comp=Z,92nm,0.7s,mb6.1						
ISCO	**Idaho Springs**	87.07	43	*e*P	P	15 10 05.2	+0.8
	comp=Z,92nm,0.6s,mb6.2						
ISCO				LR	LR		
	comp=Z,77µm,21.0s,MS7.1						
KAMOR	**Kamor**	87.07	327⇑	*i*P	P	15 10 04.0	-0.3
	comp=Z,293nm,1.4s,mb6.3						
KEK	**Kerkira**	87.11	317	*e*P	P	15 10 06.5	+1.9
SLE	**Schleitheim**	87.16	328⇑	*i*P	P	15 10 04.0	-0.7
	comp=Z,172nm,1.5s,mb6.0						
TRULL	**Truellikon**	87.16	328⇑	*e*P	P	15 10 04.1	-0.6
	comp=Z,162nm,1.2s,mb6.1						
WLS	**Welschbruch**	87.16	329⇑	*e*P	P	15 10 04.5	-0.2
BAIF	**Baives**	87.18	332	*e*P	P	15 10 04.2	-0.5
	comp=Z,150nm,1.1s,mb5.8						
VLI	**Veliai**	87.19	313	*e*P	P	15 10 03.0	-2.1
CDF	**Champ du Feu**	87.20	329	*e*P	P	15 10 04.7	-0.1
	comp=Z,477nm,1.5s,mb6.2						
FUORN	**Ofenpass**	87.21	326⇑	*i*P	P	15 10 05.3	+0.3
	comp=Z,424nm,1.2s,mb6.5						
VAM	**Vamos**	87.24	311	*e*P	P	15 10 05.0	-0.4
LIBD	**Limburg**	87.25	329	*e*P	P	15 10 04.8	-0.3
KIZ	**Kirchzarten**	87.27	329⇑	*e*P	P	15 10 04.7	-0.5
BRMO	**Bormio**	87.27	326	*e*P	P	15 10 05.7	+0.5
DAVOX	**Davos**	87.27	327	P	P	15 10 05.3	+0.1
	comp=Z,61nm,0.6s,mb6.0,baz=39,slow=5.8,SNR=43						
DAVOX				PKKPbc		15 27 56.4	
	comp=Z,7.6nm,1.1s,baz=209,slow=19,SNR=2.3						
DAVOX				PKPPKP		15 36 11.7	
	comp=Z,2.5nm,0.9s,baz=94,slow=6.1,SNR=3.9						
DAVOX	**Davos**	87.27	327⇑	*i*P	P	15 10 05.2	0.0
	comp=Z,254nm,1.6s,mb6.2						
DAVOX	**Davos**	87.27	327	P	P	15 10 05.3	+0.1
DAVOX				PKKPbc		15 27 56.4	
DAVOX				P’P’		15 36 11.7	
DAVOX				P’P’		15 36 19.3	
FELD	**Feldberg**	87.29	328	*e*P	P	15 10 04.6	-0.7
PLONS	**Plons**	87.30	327⇑	*i*P	P	15 10 05.0	-0.4
	comp=Z,297nm,1.8s,mb6.2						
ECH	**Echery**	87.40	329⇑	*e*P	P	15 10 05.5	-0.3
KYTH	**Kithira**	87.41	312	*e*P	P	15 10 06.5	+0.3
ZUR	**Zurich**	87.42	328⇑	*i*P	P	15 10 05.3	-0.6
	comp=Z,163nm,1.4s,mb6.1						
WPM1	**Penmaenmawr**	87.46	338⇑	*e*P	P	15 10 07.2	+1.2
WPM1				AMb	AMB	15 10 24.5	
	comp=Z,2µm,1.6s,mb7.1						
WME	**Myndd Eilian**	87.46	338⇑	*e*P	P	15 10 06.5	+0.5
WME				AMb	AMB	15 10 25.3	
	comp=Z,2µm,1.7s,mb7.1						
BERNI	**Berninapass**	87.48	326⇑	*i*P	P	15 10 06.4	+0.2
	comp=Z,243nm,1.4s,mb6.2						
SULZ	**Sulz-Cheisache**	87.50	328⇑	*i*P	P	15 10 05.9	-0.5
	comp=Z,242nm,1.2s,mb6.3						
ITM	**Ithomi**	87.51	314	*e*P	P	15 10 06.0	-0.7
MABI	**Malga Bissina**	87.51	326	*e*P	P	15 10 06.1	-0.3
WCB1	**Church Bay**	87.56	338⇑	*e*P	P	15 10 06.1	-0.4
WCB1				AMb	AMB	15 10 25.6	
	comp=Z,1µm,1.6s,mb6.8						
MEH	**Mehetia**	87.58	113	*e*P	P	15 10 09.0	+1.6
	comp=Z,406nm,1.3s,mb6.5						
WLF1	**Llynfaes**	87.58	338⇑	*e*P	P	15 10 06.0	-0.6
WLF1				AMb	AMB	15 10 25.9	
	comp=Z,2µm,1.7s,mb7.0						
YLL	**Llanberis**	87.64	338⇑	*e*P	P	15 10 03.4	-3.5
YLL				AMb	AMB	15 10 25.3	
	comp=Z,2µm,1.6s,mb7.0						
VLS	**Valsamata**	87.66	315	*e*P	P	15 10 10.0	+2.7
GVD	**Gavdhos**	87.67	311	*e*P	P	15 10 07.3	-0.2
	comp=Z,167nm,0.9s,mb6.3						
YRC	**Rhoscolyn**	87.67	338⇑	*e*P	P	15 10 06.1	-0.9
YRC				AMb	AMB	15 10 25.4	
	comp=Z,1µm,1.8s,mb6.8						
VDL	**Val di Lei**	87.68	327⇑	*i*P	P	15 10 07.2	0.0
	comp=Z,236nm,1.1s,mb6.3						
MOF	**Molkenrain**	87.69	329⇑	*e*P	P	15 10 06.9	-0.3
MUO	**Muotathal**	87.69	328⇑	*i*P	P	15 10 06.9	-0.4
	comp=Z,333nm,1.5s,mb6.3						
SKP1	**Kophill**	87.71	335	*e*P	P	15 10 06.9	-0.3
HLM1	**Long Mynd**	87.75	337⇑	*e*P	P	15 10 06.1	-1.3
HLM1				AMb	AMB	15 10 25.8	
	comp=Z,888nm,1.6s,mb6.7						
TSA1	**Sevenoaks**	87.77	335	*e*P	P	15 10 08.1	+0.6
BBS	**Basel-Blauen**	87.82	328	*e*P	P	15 10 07.4	-0.5
BALST	**Balsthal**	87.83	328⇑	*i*P	P	15 10 07.3	-0.6
	comp=Z,218nm,1.5s,mb6.2						
HINF	**Hinteralfeld**	87.83	329	*e*P	P	15 10 07.2	-0.7
	comp=Z,93nm,1.2s,mb5.6						
SAL	**Salo**	87.84	326	*e*P	P	15 10 09.7	+1.7
YRE	**Yr Eifl**	87.86	338⇑	*e*P	P	15 10 02.1	-5.8
YRE				AMb	AMB	15 10 27.3	
	comp=Z,2µm,1.8s,mb7.0						
BNALP	**Bannalp**	87.86	328⇑	*i*P	P	15 10 07.7	-0.4
	comp=Z,202nm,1.5s,mb6.1						
FGMS	**Monte Sant’Ang**	87.89	320	*e*P	P	15 10 10.5	+2.2
THEF	**They Montfort**	87.89	330⇑	*e*P	P	15 10 09.4	+1.2
HAU	**Haudompre**	87.91	329	*e*P	P	15 10 07.6	-0.7
HAU				*e*R			
	comp=Z,268µm,22.8s						
SSP1	**Stoney Pound**	87.91	337⇑	*e*P	P	15 10 07.8	-0.3
BOURR	**Bourrignon**	88.00	329⇓	*i*P	P	15 10 08.0	-0.7
	comp=Z,174nm,1.7s,mb6.0						
HAE	**Alders End**	88.05	336⇑	*e*P	P	15 10 08.7	-0.1
HAE				AMb	AMB	15 10 35.0	
	comp=Z,3µm,1.4s						
MEZF	**Maizieres J’vi**	88.07	330	*e*P	P	15 10 09.0	0.0
FUSIO	**Fusio**	88.07	327⇑	*i*P	P	15 10 08.9	-0.2
	comp=Z,279nm,1.6s,mb6.2						
HASLI	**Hasliberg**	88.07	328⇑	*i*P	P	15 10 08.7	-0.4
	comp=Z,236nm,1.0s,mb6.4						
RSM	**Repubblica di**	88.13	323	*e*P	P	15 10 10.1	+0.7
FSSB	**Fossombrone**	88.14	323	*e*P	P	15 10 09.7	+0.2
ARV	**Arcevia**	88.19	323	*e*P	P	15 10 11.2	+1.4
MCH1	**Michaelchurch**	88.23	337⇑	*e*P	P	15 10 09.3	-0.4
SWN1	**Swindon**	88.23	336	*e*P	P	15 10 10.4	+0.7
HTR	**Trewern Hill**	88.25	337⇑	*e*P	P	15 10 09.7	-0.1
HTR				AMb	AMB	15 10 28.4	
	comp=Z,2µm,1.6s,mb7.1						
EYMN	**Ely**	88.25	30	PFAKE		15 10 20.0	+10
EYMN				LR	LR		
	comp=Z,201nm,22.0s						
MUGIO	**Muggio**	88.30	327⇑	*i*P	P	15 10 08.7	-1.5
	comp=Z,162nm,1.5s,mb6.0						
SFI	**Santa Sofia**	88.45	324	*e*P	P	15 10 11.9	+1.0
HGH	**Gray Hill**	88.47	336⇑	*e*P	P	15 10 11.9	+1.0
HGH				AMb	AMB	15 10 36.1	
	comp=Z,1µm,1.3s,mb7.0						
TERO	**Teramo**	88.48	322	*e*P	P	15 10 10.8	-0.4
SDCO	**Great Sand Dun**	88.50	45	*e*P	P	15 10 11.9	+0.5
	comp=Z,53nm,0.3s,mb6.3						
SDCO				LR	LR		
	comp=Z,93µm,21.0s,MS7.2						
PGD	**Poggio Sodo**	88.53	324	*e*P	P	15 10 12.6	+1.2
ZCCA	**Zocca**	88.55	325	*e*P	P	15 10 13.0	+1.6
VMG	**Vicchio**	88.56	324	*e*P	P	15 10 12.7	+1.3
MURB	**Monte Urbino**	88.57	323	*e*P	P	15 10 12.7	+1.1
SEI	**Scarperia**	88.58	324	*e*P	P	15 10 13.3	+1.7
NRCA	**Norcia**	88.58	322	*e*P	P	15 10 12.1	+0.5
TORNY	**Torny**	88.59	328⇑	*i*P	P	15 10 11.0	-0.6
	comp=Z,136nm,1.3s,mb6.1						
FNVD	**Fontana Vidola**	88.61	324	*e*P	P	15 10 13.5	+1.8
ASS	**Assisi**	88.65	323	*e*P	P	15 10 14.3	+2.3
SWK	**Warminster**	88.69	336	*e*P	P	15 10 10.8	-1.1
MMK	**Mattmark**	88.69	327⇑	*i*P	P	15 10 12.1	0.0
	comp=Z,233nm,1.6s,mb6.3						
SMD	**Mendips**	88.72	336	*e*P	P	15 10 11.6	-0.4
TUC	**Tucson**	88.72	52	P	P	15 10 13.2	+0.6
TUC				pmax	pmax		
	comp=Z,97nm,1.3s,mb6.0						
TUC	**Tucson**	88.72	52	*e*P	P	15 10 13.1	+0.5
	comp=Z,97nm,1.3s,mb6.0						
GSCL	**Gusciola**	88.74	325	*e*P	P	15 10 13.2	+0.9
MCGN	**Macugnaga**	88.75	327	*e*P	P	15 10 12.1	-0.3
CII	**Carovilli**	88.76	321	*e*P	P	15 10 13.0	+0.5
ORI	**Oriolo Calabro**	88.76	319	*e*P	P	15 10 14.7	+2.1
ERBM	**Eremo**	88.77	325	*e*P	P	15 10 13.6	+1.1
AQU	**L’Aquila**	88.78	322	P	P	15 10 12.8	+0.2
AQU				pmax	pmax		
	comp=Z,280nm,1.0s,mb6.5						
AQU	**L’Aquila**	88.78	322	*e*P	P	15 10 13.2	+0.6
HPE	**Pembroke**	88.86	338⇑	*e*P	P	15 10 13.5	+0.8
GRAM		88.88	325	P	P	15 10 13.6	+0.6
VALM		88.90	325	P	P	15 10 13.3	+0.2
DIX	**Grande Dixence**	88.92	328⇑	*e*P	P	15 10 13.1	-0.1
	comp=Z,132nm,1.5s,mb6.0						
GRYON	**Gryon**	88.92	328⇑	*i*P	P	15 10 12.6	-0.6
	comp=Z,110nm,1.1s,mb6.1						
BDI	**Bagni Di Lucca**	88.94	325	*e*P	P	15 10 12.6	-0.8
VLC	**Villacollemand**	88.97	325	*e*P	P	15 10 15.6	+2.1
	comp=Z,81nm,1.0s,mb6.0						
SLCN	**Sala Consilina**	88.98	319	*e*P	P	15 10 15.4	+1.8
CSSN	**Cassano Irpino**	88.98	320	*e*P	P	15 10 13.7	+0.1
PTQR	**Pietraquaria**	89.02	322	*e*P	P	15 10 13.8	+0.1
SGO	**Sicignano**	89.04	320	*e*P	P	15 10 13.4	-0.5
SALAN	**Lac Salanfe**	89.07	328⇑	*i*P	P	15 10 13.4	-0.5
	comp=Z,114nm,1.7s,mb5.9						
GIMEL	**Gimel**	89.08	328⇑	*i*P	P	15 10 13.5	-0.4
	comp=Z,88nm,1.3s,mb5.9						
CABF	**La Chapelle**	89.10	329	*e*P	P	15 10 13.5	-0.5
	comp=Z,148nm,1.2s,mb5.9						
MNS	**Montasola**	89.13	322	*e*P	P	15 10 13.6	-0.7
EMV	**Vieux Emosson**	89.16	328⇑	*i*P	P	15 10 13.9	-0.4
	comp=Z,99nm,1.4s,mb5.9						
TIP	**Timpagrande**	89.20	318	*e*P	P	15 10 15.2	+0.5
TRAV		89.20	327	P	P	15 10 15.6	+1.1
MGR	**Morigerati**	89.20	319	*e*P	P	15 10 15.4	+0.7
HEX	**Exmoor**	89.29	337⇑	*e*P	P	15 10 14.0	-0.8
CERT	**Cerreto**	89.29	322	*e*P	P	15 10 13.8	-1.2
OVO	**Vesuviano**	89.34	320	*e*P	P	15 10 08.5	-6.9
GRFL	**Gerfalco**	89.43	324	*e*P	P	15 10 16.2	+0.5
GENL	**Genova Univers**	89.47	326	P	P	15 10 15.5	-0.4
LSD	**Ceresole Reale**	89.51	327	P	P	15 10 18.1	+2.1
LOR	**Lormes**	89.53	330	*e*P	P	15 10 15.1	-0.9
	comp=Z,125nm,1.2s,mb5.8						
LOR				*e*R			
	comp=Z,514µm,21.8s						
PCP	**Pian Castagno**	89.57	326	P	P	15 10 15.9	-0.4
GRI	**Girifalco**	89.63	318	*e*P	P	15 10 17.0	+0.3
LPL	**La Plagne**	89.66	328	*e*P	P	15 10 16.4	-0.3
	comp=Z,152nm,0.8s,mb6.1						
LPG	**La Plagne**	89.66	328	*e*P	P	15 10 16.5	-0.2
	comp=Z,160nm,0.8s,mb6.1						
RSP	**Reno Superiore**	89.70	327	P	P	15 10 18.8	+1.9
TOLF	**Tolfa**	89.71	322	*e*P	P	15 10 15.9	-1.1
LAZ	**Ladron**	89.72	48	*e*P	P	15 10 17.8	+0.6
TBI	**Tubuai**	89.74	118	*e*P	P	15 10 19.2	+1.6
	comp=Z,275nm,1.0s,mb6.5						
TBI				*e*PP	PP	15 14 04.8	+13
TBI				*e*SS	SS	15 27 11.4	+3.9
TBI				*e*L		15 34 31.0	
TBI				*e*R		15 38 16.7	
	comp=Z,319µm,35.5s,baz=308						
ANMO	**Albuquerque**	89.78	47*c*	*i*P	P	15 10 17.1	-0.4
ANMO	**Albuquerque**	89.78	47	*e*P	P	15 10 17.8	+0.3
	comp=Z,5.8nm,0.6s						
ANMO				*e*		15 10 29.9	
ANMO				*e*		15 10 34.7	
SSF	**Saint Saulge**	89.84	330	*e*P	P	15 10 16.9	-0.6
	comp=Z,91nm,1.0s,mb5.8						
FENE	**Fenestrelle**	89.88	327	P	P	15 10 18.1	+0.3
MAON	**Monte Argentar**	89.88	323	*e*P	P	15 10 17.4	-0.4
BHB	**Bricherasio**	89.93	327	P	P	15 10 18.1	+0.1
SCHQ	**Schefferville**	89.94	14	P	P	15 10 18.1	+0.3
	comp=Z,13nm,0.8s,mb5.3,baz=340,slow=2.1,SNR=5.5						
SCHQ	**Schefferville**	89.94	14	P	P	15 10 18.1	+0.3
SCHQ				PKKPbc		15 28 01.5	
DCO	**Combe Farm**	89.94	336	*e*P	P	15 10 18.7	+0.8
LENM	**Lemitar**	89.97	48	*e*P	P	15 10 19.2	+0.8
LENM				*e*		15 10 30.3	
FIN	**Finale Ligure**	89.98	326	P	P	15 10 17.8	-0.4
SMF	**Signal de Mont**	90.03	330	*e*P	P	15 10 17.7	-0.7
	comp=Z,228nm,1.3s,mb6.1						
HYF	**Humbligny**	90.03	331	*e*P	P	15 10 18.2	-0.2
BNI	**Bardonecchia**	90.04	327	P	P	15 10 18.1	-0.4
BNI				pmax	pmax		
	comp=Z,68nm,1.0s,mb5.9						
BNI	**Bardonecchia**	90.04	327	*e*P	P	15 10 18.0	-0.5
	comp=Z,68nm,0.9s,mb6.0						
BNI				*e*		15 10 30.0	
FLN	**La Foliniere**	90.04	333	*e*P	P	15 10 17.8	-0.6
	comp=Z,329nm,1.5s,mb6.1						
FLN				*e*R			
	comp=Z,315µm,21.5s						
LDF	**La Druitiere**	90.04	333	*e*P	P	15 10 17.7	-0.7
	comp=Z,326nm,1.6s,mb6.1						
ROB	**Roburent**	90.07	326	P	P	15 10 19.1	+0.5
RRL	**Cesana Torines**	90.09	327	P	P	15 10 20.6	+1.9
RORO		90.12	326	P	P	15 10 18.7	-0.2
AVF	**Avril sur Loir**	90.12	330	*e*P	P	15 10 18.2	-0.6
	comp=Z,268nm,1.1s,mb6.2						
GDM	**Grand’Maison**	90.17	328	*e*P	P	15 10 19.0	-0.1
BNM	**Barren Site**	90.20	48	*e*P	P	15 10 19.9	+0.4
JLP	**Les Platons**	90.24	335	*e*P	P	15 10 20.2	+1.0
MBDF	**Montbardon**	90.25	327	*e*P	P	15 10 18.2	-1.2
	comp=Z,131nm,1.0s,mb5.9						
JQE	**Queens East**	90.25	335	*e*P	P	15 10 20.2	+0.9
CSA1	**St Austell**	90.26	337	*e*P	P	15 10 20.4	+1.1
PZZ	**Prazzo**	90.27	327	P	P	15 10 19.9	+0.4
JRS	**Jersey**	90.27	335	*e*P	P	15 10 20.3	+0.8
MONE	**Monesi**	90.29	326	P	P	15 10 20.0	+0.4
ENR	**Entracque**	90.33	326	P	P	15 10 19.6	-0.3

IMI	**Imperia**	**90.35**	**326**	P	**P**	**15 10 20.0**	**+0.1**
SOI	**Samo**	**90.36**	**317**	*e*P	**P**	**15 10 20.2**	**+0.1**
STV2	**Anna di Valdie**	**90.36**	**326**	P	**P**	**15 10 19.9**	**-0.1**
STV	**Sta Anna Valdi**	**90.36**	**326**	P	**P**	**15 10 20.0**	**+0.1**
SURF	**Saint Ours**	**90.42**	**327**	*e*P	**P**	**15 10 20.0**	**-0.2**
SAOF	**Saorge**	**90.45**	**326**	*e*P	**P**	**15 10 19.4**	**-1.0**
NEGI	**Negi**	**90.49**	**326**	P	**P**	**15 10 19.4**	**-1.1**
GRR	**Gorron**	**90.49**	**333**	*e*P	**P**	**15 10 20.1**	**-0.4**
ORIF	**Oris-en-Rattie**	**90.50**	**328**	*e*P	**P**	**15 10 20.0**	**-0.6**
	comp=Z,236nm,1.4s,mb6.0						
ORIF				*e*R			
	comp=Z,358µm,21.2s						
AUTN	**L'Aution**	**90.50**	**326**	⇑*e*P	**P**	**15 10 20.7**	**+0.1**
VAL	**Valentia**	**90.50**	**340**	*e*P	**P**	**15 10 21.2**	**+0.8**
VAL				*e*PP	PP	15 14 12.5	+15
VAL				*e*S	S	15 21 12.7	-0.5
VAL				*e*SS	SS	15 27 29.7	+12
CRQ2	**Rosemanowes 2**	**90.51**	**337**	*e*P	**P**	**15 10 21.6**	**+1.1**
CCA1	**Carnmenellis**	**90.51**	**337**	*e*P	**P**	**15 10 21.8**	**+1.3**
BGF	**Bois d'Agland**	**90.52**	**330**	*e*P	**P**	**15 10 20.1**	**-0.5**
	comp=Z,128nm,1.1s,mb5.8						
CGW	**Gweek**	**90.58**	**337**	*e*P	**P**	**15 10 21.9**	**+1.0**
SBF	**Sospel**	**90.60**	**326**	*e*P	**P**	**15 10 21.0**	**-0.1**
CGH1	**Goonhilly**	**90.61**	**337**	*e*P	**P**	**15 10 20.0**	**-0.9**
MTTG	**Motta San Giov**	**90.61**	**318**	*e*P	**P**	**15 10 21.9**	**+0.6**
AURF	**Auriere**	**90.63**	**326**	⇑*e*P	**P**	**15 10 21.8**	**+0.6**
CPZ	**Penzance**	**90.65**	**337**	*e*P	**P**	**15 10 22.3**	**+1.2**
PLDF	**La Plantade**	**90.66**	**330**	⇑*e*P	**P**	**15 10 21.4**	**+0.1**
MVIF	**Mont Vial**	**90.71**	**326**	*e*P	**P**	**15 10 22.1**	**+0.5**
REVF	**Revere**	**90.73**	**326**	⇑*e*P	**P**	**15 10 21.9**	**+0.2**
AGO	**Saint Agoulin**	**90.80**	**330**	⇑*e*P	**P**	**15 10 22.1**	**+0.1**
PGF	**Pioggiola**	**90.85**	**324**	*e*P	**P**	**15 10 21.2**	**-1.1**
CALN	**Calern**	**90.94**	**326**	⇑*e*P	**P**	**15 10 23.3**	**+0.7**
COLF	**Collangettes**	**90.99**	**329**	⇑*e*P	**P**	**15 10 22.8**	**0.0**
TCF	**Toulx Ste Croi**	**91.00**	**331**	*e*P	**P**	**15 10 22.6**	**-0.2**
	comp=Z,167nm,1.1s,mb6.0						
OG26	**St.-Nazaire-De**	**91.02**	**328**	*e*P	**P**	**15 10 22.9**	**-0.1**
OCF	**Saint Nazaire**	**91.03**	**328**	*e*P	**P**	**15 10 22.9**	**-0.1**
CBKS	**Cedar Bluff**	**91.05**	**41**	P	**P**	**15 10 25.9**	**+2.6**
CBKS				pmax	pmax		
	comp=Z,260nm,1.5s,mb6.3						
CBKS	**Cedar Bluff**	**91.05**	**41**	*e*P	**P**	**15 10 21.6**	**-1.7**
	comp=Z,262nm,1.5s,mb6.3						
CBKS				LR	LR		
	comp=Z,77µm,21.0s,MS7.1						
VIVF	**Saint-Julien-l**	**91.09**	**328**	*e*P	**P**	**15 10 22.7**	**-0.6**
	comp=Z,290nm,1.1s,mb6.2						
PYM	**Petit Puy Mans**	**91.10**	**330**	⇑*e*P	**P**	**15 10 23.5**	**+0.2**
FRF	**La Foret Royal**	**91.20**	**326**	*e*P	**P**	**15 10 22.5**	**-1.3**
	comp=Z,208nm,1.2s,mb6.0						
SGMF	**Saint Gilles**	**91.23**	**334**	*e*P	**P**	**15 10 23.8**	**0.0**
	comp=Z,365nm,1.2s,mb6.3						
SMRF	**Simiane la Rot**	**91.37**	**327**	*e*P	**P**	**15 10 24.0**	**-0.6**
	comp=Z,242nm,1.4s,mb6.0						
AGST	**Augusta-Monte**	**91.40**	**317**	*e*P	**P**	**15 10 26.3**	**+1.4**
LBL	**Lubilhac**	**91.41**	**329**	⇑*e*P	**P**	**15 10 25.0**	**+0.3**
ROSF	**Rostrenen**	**91.42**	**335**	*e*P	**P**	**15 10 24.6**	**-0.1**
	comp=Z,537nm,1.1s,mb6.5						
LMR	**La Mourre**	**91.44**	**326**	*e*P	**P**	**15 10 23.8**	**-1.1**
	comp=Z,314nm,1.2s,mb6.2						
USI	**Ustica**	**91.51**	**319**	*e*P	**P**	**15 10 25.8**	**+0.4**
SSY	**Sortino**	**91.56**	**317**	*e*P	**P**	**15 10 25.4**	**-0.3**
FRNF	**Fournols**	**91.58**	**330**	*e*P	**P**	**15 10 25.7**	**+0.2**
MFF	**Saint Martin d**	**91.69**	**332**	*e*P	**P**	**15 10 25.9**	**-0.1**
	comp=Z,497nm,1.1s,mb6.4						
QUIF	**Quistinic**	**91.73**	**335**	*e*P	**P**	**15 10 25.8**	**-0.4**
LASF	**Ste Croix**	**92.06**	**328**	*e*P	**P**	**15 10 27.5**	**-0.3**
	comp=Z,387nm,1.5s,mb6.2						
RJF	**Les Rejaudoux**	**92.08**	**330**	*e*P	**P**	**15 10 27.9**	**+0.1**
	comp=Z,586nm,1.3s,mb6.5						
RJF				*e*R			
	comp=Z,430µm,19.8s						
CAF	**Calviac**	**92.16**	**330**	*e*P	**P**	**15 10 28.4**	**+0.2**
	comp=Z,423nm,1.3s,mb6.3						
LRYF	**La Roche-sur-Y**	**92.25**	**333**	*e*P	**P**	**15 10 28.4**	**-0.2**
ERC	**Erice**	**92.31**	**319**	*e*P	**P**	**15 10 32.9**	**+3.8**
LVI	**Isola Levanzo**	**92.49**	**319**	*e*P	**P**	**15 10 30.9**	**+1.0**
KSU1	**Kansas State U**	**92.52**	**39**	*e*P	**P**	**15 10 29.8**	**-0.3**
KSU1				*e*		15 10 41.4	
CPRX	**Cap Rock**	**92.66**	**47**	*e*P	**P**	**15 10 30.9**	**+0.1**
LFF	**La Frestale**	**92.70**	**331**	*e*P	**P**	**15 10 30.9**	**+0.2**
	comp=Z,425nm,1.0s,mb6.5						
OLEF	**Ile d'Oleron**	**92.70**	**332**	*e*P	**P**	**15 10 31.0**	**+0.3**
JFWS	**Jewell Farm**	**92.74**	**33**	P	**P**	**15 10 31.0**	**+0.1**
JFWS				pmax	pmax		
	comp=Z,38nm,0.4s,mb6.2						
JFWS	**Jewell Farm**	**92.74**	**33**	*e*P	**P**	**15 10 30.6**	**-0.3**
	comp=Z,38nm,0.4s,mb6.2						
JFWS				*e*		15 10 41.9	
JFWS				*e*		15 10 48.0	
JFWS				LR	LR		
	comp=Z,107µm,19.0s,MS7.3						
GDL2	**Guadalupe Moun**	**92.91**	**48**	*e*P	**P**	**15 10 32.3**	**+0.3**
GDL2				*e*		15 10 43.9	
MTLF	**Montolieu**	**93.36**	**329**	*e*P	**P**	**15 10 33.5**	**-0.3**
	comp=Z,142nm,1.4s,mb5.9						
SJAF	**Saint Jean de**	**93.76**	**328**	*e*P	**P**	**15 10 36.3**	**+0.7**
EJON	**La Jonquera**	**93.78**	**328**	P	**P**	**15 10 34.6**	**-1.2**
	comp=Z,2µm,3.0s						
LPEF	**Le Peyrat**	**93.81**	**329**	⇑*e*P	**P**	**15 10 35.8**	**-0.1**
FILF	**Fillols**	**93.84**	**328**	⇑*e*P	**P**	**15 10 37.3**	**+1.3**
MLS	**Moulis**	**94.16**	**329**	⇑*e*P	**P**	**15 10 38.8**	**+1.3**
VALF	**Valcebollere**	**94.21**	**328**	⇑*e*P	**P**	**15 10 39.2**	**+1.5**
SALF	**Salau**	**94.28**	**329**	*e*P	**P**	**15 10 40.2**	**+2.2**
EPF	**Esparros**	**94.42**	**330**	*e*P	**P**	**15 10 37.9**	**-0.8**
	comp=Z,124nm,1.4s,mb5.8						
WMOK	**Wichita Mounta**	**94.50**	**43**	P	**P**	**15 10 39.6**	**+0.4**
WMOK				pmax	pmax		
	comp=Z,120nm,0.6s,mb6.5						
WMOK	**Wichita Mounta**	**94.50**	**43**	*e*P	**P**	**15 10 39.1**	**-0.1**
	comp=Z,121nm,0.6s,mb6.5						
WMOK				LR	LR		
	comp=Z,87µm,21.0s,MS7.2						
VIEF	**Viey**	**94.67**	**330**	*e*P	**P**	**15 10 40.5**	**+0.7**
ORDF	**Ordiarp**	**94.80**	**331**	⇑*e*P	**P**	**15 10 41.6**	**+1.2**
EMIR	**Miracle**	**94.81**	**328**	P	**P**	**15 10 41.5**	**+1.0**
	comp=Z,2µm,2.4s,mb7.0						
ETSF	**Etsaut**	**94.91**	**330**	*e*P	**P**	**15 10 41.3**	**+0.4**
	comp=Z,69nm,0.9s,mb5.8						
LARF	**Larrau**	**94.97**	**331**	*e*P	**P**	**15 10 41.6**	**+0.4**
FDAF	**Les Forges d'A**	**94.97**	**330**	*e*P	**P**	**15 10 42.4**	**+1.2**
SJPF	**Ste Jean**	**95.00**	**331**	*e*P	**P**	**15 10 40.8**	**-0.5**
	comp=Z,110nm,1.5s,mb5.8						
EALK	**Alkurruntz**	**95.03**	**331**	P	**P**	**15 10 43.0**	**+1.5**
	comp=Z,2µm,2.8s,mb7.1						
EGRA	**Graus**	**95.11**	**329**	P	**P**	**15 10 41.8**	**-0.1**
	comp=Z,123nm,0.9s,mb6.3						
LTX	**Lajitas**	**95.29**	**50**	*e*P	**P**	**15 10 43.4**	**+0.4**
	comp=Z,244nm,1.4s,mb6.4						
LTX				LR	LR		
	comp=Z,83µm,20.0s,MS7.2						
TXAR	**Lajitas Array**	**95.29**	**50**	P	**P**	**15 10 43.2**	**+0.2**
	comp=Z,98nm,1.2s,mb6.1,baz=289,slow=3.2,SNR=122						
TXAR				PKPPKP		15 35 53.7	
	comp=Z,1.0nm,0.8s,baz=166,slow=5.2,SNR=3.7						
TXAR	**Lajitas Array**	**95.29**	**50**	P	**P**	**15 10 43.2**	**+0.2**
TXAR				PP	PP	15 14 47.4	+12
TXAR				PKKPbc		15 27 49.9	
TXAR				P'P'		15 35 53.7	
EPOB	**Poblet**	**95.47**	**328**	P	**P**	**15 10 42.6**	**-0.9**
	comp=Z,3µm,4.0s						
SADO	**Sadowa**	**95.70**	**25**	P	**P**	**15 10 45.4**	**+0.9**
	comp=Z,9.9nm,0.9s,mb5.2,baz=339,slow=8.5,SNR=6.5						
SADO	**Sadowa**	**95.70**	**25**	P	**P**	**15 10 45.4**	**+0.9**
ELAN	**Lanestosa**	**95.79**	**332**	P	**P**	**15 10 46.2**	**+1.3**
	comp=Z,3µm,3.5s						
ESAC	**San Caprasio**	**95.83**	**329**	P	**P**	**15 10 45.7**	**+0.5**
	comp=Z,3µm,2.5s,mb7.3						
CCM	**Cathedral Cave**	**96.06**	**36**	P	**P**	**15 10 45.7**	**-0.6**
CCM				pmax	pmax		
	comp=Z,71nm,1.2s,mb6.0						
CCM	**Cathedral Cave**	**96.06**	**36**	*e*P	**P**	**15 10 45.5**	**-0.8**
	comp=Z,71nm,1.2s,mb6.0						
CCM				*e*PKKPbc		15 27 48.2	
SLM	**Saint Louis**	**96.10**	**35**	P	**P**	**15 10 49.3**	**+2.8**
SLM				pmax	pmax		
	comp=Z,160nm,1.3s,mb6.3						
SLM	**Saint Louis**	**96.10**	**35**	*e*P	**P**	**15 10 48.1**	**+1.6**
	comp=Z,162nm,1.4s,mb6.3						
EBR	**Ebro Roquetas**	**96.16**	**328**	*e*P	**P**	**15 10 45.0**	**-1.7**
FVM	**French Village**	**96.52**	**36**	P	**P**	**15 10 48.6**	**+0.2**
FVM				pmax	pmax		
	comp=Z,75nm,1.4s,mb5.9						
FVM	**French Village**	**96.52**	**36**	*e*P	**P**	**15 10 47.9**	**-0.5**
	comp=Z,75nm,1.4s,mb5.9						
FVM				*e*		15 10 59.6	
JCT	**Junction City**	**96.92**	**47**	P	**P**	**15 10 50.6**	**+0.2**
JCT				pmax	pmax		
	comp=Z,140nm,1.5s,mb6.2						
JCT	**Junction City**	**96.92**	**47**	*e*P	**P**	**15 10 50.2**	**-0.2**
	comp=Z,142nm,1.5s,mb6.2						
JCT				*e*		15 11 07.2	
JCT				LR	LR		
	comp=Z,64µm,19.0s,MS7.1						
MSNY	**Massena**	**96.93**	**22**	*e*P	**P**	**15 10 51.3**	**+1.2**
EMOS	**Mosqueruela**	**96.95**	**329**	P	**P**	**15 10 50.0**	**-0.3**
	comp=Z,1µm,2.8s,mb6.9						
EPON	**Pontenova**	**97.11**	**335**	P	**P**	**15 10 52.8**	**+1.9**
	comp=Z,3µm,3.6s						
ETOR	**Torete**	**97.25**	**330**	P	**P**	**15 10 51.2**	**-0.5**
	comp=Z,2µm,3.0s						
PTN	**Potsdam (NY)**	**97.28**	**22**	P	**P**	**15 10 53.0**	**+1.3**
PQI	**Presque Isle**	**97.33**	**17**	P	**P**	**15 10 51.5**	**-0.3**
	comp=Z,41nm,1.0s,mb5.8						
LOZ	**Lake Ozonia**	**97.36**	**22**	*e*P	**P**	**15 10 49.7**	**-2.3**
BLO	**Bloomington**	**97.42**	**33**	P	**P**	**15 10 54.0**	**+1.6**
BLO				pmax	pmax		
	comp=Z,11nm,0.7s,mb5.4						
BLO	**Bloomington**	**97.42**	**33**	*e*P	**P**	**15 10 54.0**	**+1.5**
	comp=Z,11nm,0.7s,mb5.4						
MIAR	**Mount Ida**	**97.54**	**40**	PFAKE		15 11 00.0	+6.9
MIAR				LR	LR		
	comp=Z,96µm,20.0s,MS7.3						
ERPA	**Erie**	**97.68**	**27**	*e*P	**P**	**15 10 56.4**	**+2.9**
	comp=Z,127nm,1.5s,mb6.2						
ERPA				*e*		15 11 11.0	
ERPA				LR	LR		
	comp=Z,136µm,22.0s,MS7.4						
USIN	**University of**	**97.86**	**34**	*e*P	**P**	**15 10 55.8**	**+1.4**
	comp=Z,250nm,1.4s,mb6.5						
USIN				*e*		15 11 10.6	
GENY	**Geneseo**	**97.91**	**25**	*e*P	**P**	**15 10 55.8**	**+1.3**
ERUA	**La Rua**	**97.92**	**334**	P	**P**	**15 10 56.7**	**+2.1**
	comp=Z,120nm,1.2s,mb6.3						
ALLY	**Alegheny Colle**	**98.02**	**27**	*e*P	**P**	**15 10 55.2**	**+0.2**
ALLY				*e*		15 11 06.9	
UALR	**University of**	**98.02**	**39**	*e*P	**P**	**15 10 58.0**	**+2.7**
	comp=Z,23nm,1.4s,mb5.5						
UALR				*e*		15 11 07.2	
NCB	**Newcomb**	**98.06**	**22**	P	**P**	**15 10 54.8**	**-0.4**
	comp=Z,40nm,1.3s,mb5.8						
NCB				LR	LR		
	comp=Z,73µm,19.0s,MS7.2						
ACSO	**Alum Creek Sta**	**98.08**	**30**	*e*P	**P**	**15 10 55.9**	**+0.5**
	comp=Z,50nm,1.4s,mb5.9						
ACSO				LR	LR		
	comp=Z,145µm,21.0s,MS7.4						
ECAL	**Calabor**	**98.16**	**334**	P	**P**	**15 10 57.4**	**+1.7**
	comp=Z,2µm,3.7s						
EBEN	**Beniarda**	**98.20**	**328**	P	**P**	**15 10 58.4**	**+2.5**
	comp=Z,1µm,2.6s,mb7.0						
PBRG	**Braganca**	**98.28**	**334**	*e*-		15 15 17.7	
WCI	**Wyandotte Cave**	**98.29**	**33**	P	**P**	**15 10 58.4**	**+2.1**
WCI				pmax	pmax		
	comp=Z,39nm,1.2s,mb5.8						
WCI	**Wyandotte Cave**	**98.29**	**33**	P	**P**	**15 10 56.8**	**+0.5**
	comp=Z,39nm,1.3s,mb5.8						
HBAR	**Harrisburg**	**98.30**	**38**	*e*P	**P**	**15 10 57.5**	**+1.0**
GNAR	**Gosnell**	**98.30**	**37**	*e*P	**P**	**15 10 57.9**	**+1.5**
GLAT	**Glass**	**98.43**	**36**	*e*P	**P**	**15 11 00.2**	**+3.2**
UTMT	**University of**	**98.58**	**36**	*e*P	**P**	**15 11 00.2**	**+2.5**
	comp=Z,33nm,0.3s,mb6.3						
HALT	**Halls**	**98.68**	**37**	*e*P	**P**	**15 11 00.6**	**+2.4**
ELOB	**Lobios**	**98.71**	**334**	P	**P**	**15 11 01.1**	**+2.9**
	comp=Z,2µm,3.3s						
ACCN	**Adirondack Com**	**98.76**	**22**	*e*P	**P**	**15 11 00.6**	**+2.3**
KMBO	**Kilima Mbogo**	**98.84**	**274**	P	**P**	**15 10 59.7**	**+0.3**
	comp=Z,4.8nm,0.6s,mb5.2,baz=42,slow=6.6,SNR=15						
KMBO				PKPPKP		15 35 47.8	
	comp=Z,0.3nm,0.3s,baz=240,slow=22,SNR=3.3						
KMBO	**Kilima Mbogo**	**98.84**	**274**	*e*P	**P**	**15 10 59.0**	**-0.4**
	comp=Z,17nm,1.1s,mb5.5						
KMBO				PP	PP	15 15 16.3	+13
ETOB	**Tobarra**	**98.84**	**328**	P	**P**	**15 10 59.4**	**+0.6**
	comp=Z,2µm,2.8s,mb7.0						
WVL	**Waterville**	**98.86**	**19**	*e*P	**P**	**15 11 02.0**	**+3.2**
	comp=Z,70nm,1.1s,mb6.1						
WVL				LR	LR		
	comp=Z,547µm,20.0s,MS8.1						
HNH	**Hanover**	**98.90**	**21**	P	**P**	**15 11 00.4**	**+1.4**
MET	**Memphis--Engin**	**99.00**	**37**	P	**P**	**15 11 01.1**	**+1.4**
ESDC	**Sonseca Array**	**99.01**	**331**	P	**P**	**15 10 58.6**	**-0.9**
	comp=Z,3.3nm,0.7s,baz=25,slow=3.9,SNR=13						
ESDC				PP	PP	15 15 03.5	-0.4
	comp=Z,14nm,0.9s,baz=22,slow=7.4,SNR=4.5						
ESDC				PKKPbc		15 27 27.5	
	comp=Z,1.7nm,0.7s,baz=239,slow=1.7,SNR=5.1						
ESDC	**Sonseca Array**	**99.01**	**331**	P	**P**	**15 10 57.7**	**-1.8**
	comp=Z,3.1nm,0.7s						
ESDC				PP	PP	15 15 14.1	+10
ESDC				PKKPbc		15 27 39.0	
NATX	**Nacogdoches**	**99.02**	**43**	*e*P	**P**	**15 11 02.1**	**+2.3**
	comp=Z,40nm,0.9s,mb6.0						
BINY	**Binghamton**	**99.05**	**24**	*e*Pdif	**P**	**15 10 58.4**	**-1.3**
	comp=Z,26nm,1.0s,mb5.7						
BINY				LR	LR		
	comp=Z,92µm,19.0s,MS7.3						
WVT	**Waverly**	**99.25**	**35**	P	**P**	**15 11 02.5**	**+1.7**
WVT				pmax	pmax		
	comp=Z,110nm,1.3s,mb6.2						
WVT	**Waverly**	**99.25**	**35**	*e*P	**P**	**15 11 01.9**	**+1.1**
	comp=Z,110nm,1.3s,mb6.2						
EVIA	**Vianos**	**99.26**	**329**	P	**P**	**15 11 01.5**	**+0.8**
	comp=Z,385nm,1.8s,mb6.6						
EMUR	**La Murta**	**99.36**	**328**	P	**P**	**15 11 02.3**	**+1.1**
	comp=Z,802nm,2.6s,mb6.8						
CART	**Cartagena**	**99.47**	**327**	Pdif	**P**	**15 11 05.3**	**+3.6**
	comp=Z,124nm,1.3s,mb6.3						
DRV	**Dumont d'Urvil**	**99.58**	**179**	Pdif	**P**	**15 11 14.0**	**+12**
DRV	**Dumont d'Urvil**	**99.58**	**179**	PP		15 15 32.0	
DRV				SKS	SKS	15 21 47.0	+3.2
DRV				SP	tx	15 23 37.0	
DRV				SS	SS	15 29 18.0	-7.4
PVIS	**Viseu**	**99.65**	**334**	*e*-		15 15 25.0	
SSPA	**Standing Stone**	**99.75**	**26**	*e*Pdif	**P**	**15 11 05.7**	**+2.8**
OXF	**Oxford**	**99.75**	**37**	P	**P**	**15 11 05.5**	**+2.4**
OXF				pmax	pmax		
	comp=Z,100nm,1.2s,mb6.1						
OXF	**Oxford**	**99.75**	**37**	*e*Pdif	**P**	**15 11 03.6**	**+0.6**
	comp=Z,100nm,1.3s,mb6.1						
OXF				LR	LR		
	comp=Z,65µm,20.0s,MS7.1						
MTE	**Manteigas**	**99.80**	**333**	*e*Pdif	**P**	**15 11 03.8**	**+0.6**
MTE				*i* -		15 11 17.9	
MTE				*e*-		15 15 21.9	
MTE				*e*SKSac		15 22 04.3	
MTE				*e*SS	SS	15 29 32.8	+3.7
MTE				*e*LQ		15 38 49.1	
MTE				*e*LR	LR	15 43 45.8	
	comp=Z,240µm,20.0s						
MTE	**Manteigas**	**99.80**	**333**	*e*Pdif	**P**	**15 11 04.0**	**+0.8**
	comp=Z,29nm,1.1s,mb5.6						
MCWV	**Mont Chateau**	**99.84**	**28**	*e*Pdif	**P**	**15 11 06.8**	**+3.4**
EQES	**Quesada**	**100.20**	**329**	P	P	15 11 06.3	+1.2
	comp=Z,1µm,2.4s						
HRV	**Harvard--Oak R**	**100.21**	**21**	*e*Pdif	P	15 11 08.0	+3.0
	comp=Z,118nm,1.4s						
PCBR	**Castelo Branco**	**100.26**	**333**	*e*-		15 15 26.3	
WES	**Weston**	**100.39**	**21**	Pdif	P	15 11 04.0	-1.8
	comp=Z,191nm,1.4s						
ZAIG	**Zacatecas**	**100.45**	**54**	*i* P	P	15 11 06.8	+0.3
ZAIG				*i* S	x	15 15 21.7	
EADA	**Adamuz**	**100.53**	**330**	P	P	15 11 06.0	-0.5
	comp=Z,2µm,4.3s						
RKT	**Rikitea**	**100.67**	**111**	*e*PP	PP	15 15 29.9	+12
RKT				*e*SKSac		15 21 45.3	
RKT				*e*PS	PS	15 24 23.6	+6.9
RKT				*e*SS	SS	15 29 43.0	+1.2
RKT				*e*L		15 38 43.2	
RKT				*e*R		15 43 06.6	
	comp=Z,201µm,33.5s,baz=302						
PTOM	**Tomar**	**100.80**	**334**	*e*-		15 15 33.4	
ELUQ	**Luque**	**100.92**	**330**	P	P	15 11 09.1	+0.8
	comp=Z,451nm,1.8s						
EBAD	**Badajoz**	**101.02**	**332**	P	P	15 11 16.4	+7.6
	comp=Z,1µm,4.0s						
ERON	**Agron**	**101.18**	**329**	P	P	15 11 07.7	-1.8
	comp=Z,26nm,1.0s						
ELOJ	**Sierra Loja**	**101.22**	**329**	P	P	15 11 08.3	-1.4
	comp=Z,108nm,1.6s						
FWV	**Forest Hill**	**101.23**	**30**	Pdif	P	15 11 12.3	+2.6
CASY	**Casey**	**101.25**	**191**	*e*Pdif	P	15 11 09.3	+0.2
CASY				*e*		15 11 21.6	
CPCT	**Cooper Cave**	**101.37**	**34**	Pdif	P	15 11 11.5	+1.1
ELN	**Prospectdale**	**101.55**	**30**	Pdif	P	15 11 12.0	+0.8
EVO	**Evora**	**101.60**	**333**	*e*P	P	15 11 11.6	+0.3
	comp=Z,480nm,1.7s						
EVO				*e*R			
	comp=Z,289µm,22.5s						
EMIN	**Mina Concepcio**	**101.73**	**331**	P	P	15 11 09.0	-3.0
	comp=Z,1µm,2.9s						
EMIJ	**Mijas**	**101.97**	**329**	P	P	15 11 14.2	+1.1
	comp=Z,398nm,2.9s						
PBEJ	**Beja**	**101.98**	**332**	*e*PP	PP	15 15 22.2	-4.6
PBEJ				*e*-		15 15 40.2	
CBN	**Corbin**	**102.06**	**27**	*e*Pdif	Pdif	15 11 11.4	-2.1
	comp=Z,120nm,1.2s						
CBN				*e*		15 11 29.6	
ESPR	**Espera**	**102.17**	**330**	P	Pdif	15 11 14.0	0.0
	comp=Z,1µm,2.8s						
EGRO	**El Granado**	**102.26**	**332**	P	Pdif	15 11 23.6	+9.3
	comp=Z,822nm,3.0s						
PALC	**Alcoutim**	**102.32**	**332**	*e*-		15 15 40.4	
PTEO	**Sao Teotonio**	**102.73**	**333**	*e*PP	PP	15 15 30.4	-2.4
MBAR	**Mbarara**	**103.97**	**279**	*e*Pdif	Pdif	15 11 21.6	-0.8
	comp=Z,25nm,1.3s						
MBAR				LR	LR		
	comp=Z,26µm,21.0s,MS6.8						
MIR	**Mirnyy**	**104.97**	**197**	α*e*P	Pdif	15 11 33.0	+7.4
MIR				pmax	pmax		
	comp=Z,7µm,10.0s						
MIR				pmax	pmax		
	comp=Z,180nm,1.6s						
NHSC	**New Hope**	**105.30**	**32**	PFAKE		15 15 50.0	
NHSC				LR	LR		
	comp=Z,107µm,20.0s,MS7.4						
PGRA	**Graciosa**	**106.80**	**348**	*e*PP	PP	15 16 08.0	+4.7
PSBA	**Serra de Santa**	**106.94**	**347**	*e*PP	PP	15 16 02.3	-2.1
PSCM	**Serra do Cume**	**106.97**	**347**	*e*PP	PP	15 16 16.6	+12
ADH	**Angra Heroismo**	**107.03**	**347**	*i* P	Pdif	15 12 12.5	+37
ADH				*i* PP	PP	15 16 40.0	+35
ADH				*i* -		15 25 50.0	
ADH				*i* -		15 30 50.0	
ADH				*i* LR	LR	15 48 00.0	
ROSA	**Rosais**	**107.15**	**348**	*e*-		15 16 08.6	
PMAN	**Manadas**	**107.21**	**348**	*e*PP	PP	15 16 08.8	+2.4
PCED	**Cedros**	**107.32**	**348**	*e*PP	PP	15 16 17.5	+10
PICO	**Pico**	**107.40**	**348**	*e*PP	PP	15 16 05.7	-2.0
PID	**Ribeirinha**	**107.40**	**348**	*e*PP	PP	15 16 06.9	-0.8
BART	**Pico Bartolome**	**107.47**	**345**	*e*PP	PP	15 16 21.1	+13
PSET	**Sete Cidades**	**107.54**	**346**	*e*PP	PP	15 16 22.6	+14
PDA	**Ponta Delgada**	**107.60**	**346**	*e*P	Pdif	15 12 04.0	+26
PDA				*i* PP	PP	15 16 34.0	+25
PDA				*i* -		15 26 00.0	
PDA				*i* SS	SS	15 31 47.0	+31
PDA				*i* LQ		15 42 24.0	
PDA				*e*LR	LR	15 48 02.0	
LSZ	**Lusaka**	**113.87**	**267**	PKIKP	PKPdf	15 15 59.3	-0.7
LSZ	**Lusaka**	**113.87**	**267**	PKPdf	PKPdf	15 15 57.9	-2.1
MAW	**Mawson**	**114.58**	**204**	*e*PKP	PKPdf	15 16 12.4	+12
MAW				*e*PP	PP	15 17 09.3	+10
MAW				*e*PKKP	PKKP	15 26 47.7	-7.1
MAW				*e*PKPPKP		15 34 30.9	
MAW	**Mawson**	**114.58**	**204**	PKP	PKPdf	15 15 58.3	-1.9
	comp=Z,6.1nm,1.0s,baz=45,slow=4.3,SNR=3.2						
MAW				PKKPbc		15 26 35.7	
	comp=Z,10nm,1.1s,baz=310,slow=1.6,SNR=3.5						
MAW	**Mawson**	**114.58**	**204**	PKP	PKPdf	15 16 11.1	+11
	comp=Z,23nm,1.0s,baz=19,slow=2.5,SNR=8.5						
MAW				PP	PP	15 17 09.5	+10
	comp=Z,110nm,1.2s,baz=58,slow=11,SNR=5.9						
MAW				PKKPbc		15 26 49.9	
	comp=Z,12nm,0.9s,baz=268,slow=6.9,SNR=5.8						
MAW	**Mawson**	**114.58**	**204**	PKIKP	PKPdf	15 15 58.3	-1.9
MAW						15 26 35.7	
MAW				pmax	pmax		
	comp=Z,6.0nm,1.0s						
MAW	**Mawson**	**114.58**	**204**	PKIKP	PKPdf	15 16 11.1	+11
MAW						15 17 09.5	
MAW						15 26 49.9	
MAW				pmax	pmax		
	comp=Z,23nm,1.0s						
MAW				pmax	pmax		
	comp=Z,110nm,1.2s						
MAW	**Mawson**	**114.58**	**204**	*e*Pdif	Pdif	15 12 23.1	+15
MAW				PKP	PKPdf	15 15 58.3	-1.9
MAW				*e*PP	PP	15 17 09.3	+10
MAW				PKKPbc		15 26 35.7	
MAW				*e*P'P'		15 34 30.9	
VCR	**Vista de Mar**	**120.76**	**51**	*e*P	PKPdf	15 16 27.1	+14
JTS	**JuntasAbangare**	**121.08**	**50**	PKP	PKPdf	15 16 10.1	-4.0
	comp=Z,1.4nm,0.4s,baz=346,slow=18,SNR=1.3						
JTS	**JuntasAbangare**	**121.08**	**50**	PKP	PKPdf	15 16 10.1	-4.0
JTS				PKPdf	PKPdf	15 16 14.2	0.0
JTS				*e*		15 16 25.1	
QSPA	**South Pole Qui**	**122.96**	**180**	*e*PKP	PKPdf	15 16 13.3	-2.8
QSPA				*e*		15 16 27.1	
QSPA				*e*		15 18 07.5	
QSPA				*e*		15 26 19.3	
QSPA				LR	LR		
	comp=Z,160µm,21.5s,MS7.6						
SYO	**Syowa Base**	**123.22**	**205**	⇑PKPdf	PKPdf	15 16 14.8	-2.1
SYO	**Syowa Base**	**123.22**	**205**	⇓pPKiKP		15 16 21.9	
SJG	**San Juan**	**124.36**	**27**	PKP	PKPdf	15 16 17.3	-3.0
	comp=Z,7.4nm,0.8s,baz=342,slow=18,SNR=1.8						
SJG	**San Juan**	**124.36**	**27**	PKIKP	PKPdf	15 16 17.3	-3.0
SJG				pmax	pmax		
	comp=Z,7.0nm,0.8s						
SJG	**San Juan**	**124.36**	**27**	PKP	PKPdf	15 16 17.4	-3.0
TSUM	**Tsumeb**	**124.63**	**269**	*e*PKPdf	PKPdf	15 16 19.1	-1.8
TSUM				LR	LR		
	comp=Z,77µm,22.0s,MS7.3						
DBIC	**Dimbokro**	**126.35**	**310**	PKP	PKPdf	15 16 21.4	-2.8
	comp=Z,31nm,1.0s,baz=332,slow=1.0,SNR=18						
DBIC	**Dimbokro**	**126.35**	**310**	PKIKP	PKPdf	15 16 21.5	-2.8
DBIC				pmax	pmax		
	comp=Z,31nm,1.0s						
DBIC	**Dimbokro**	**126.35**	**310**	PKP	PKPdf	15 16 21.4	-2.8
TIC	**Toumodi**	**126.47**	**311**	*e*PKIKP	PKPdf	15 16 23.2	-1.3
	comp=Z,3µm,1.5s						
KIC	**Kosan Boka**	**126.51**	**310**	*e*PKIKP	PKPdf	15 16 23.5	-1.1
	comp=Z,4µm,1.6s						
LIC	**Lamto**	**126.80**	**310**	*e*PKIKP	PKPdf	15 16 23.3	-1.8
	comp=Z,918nm,1.2s						
LIC	**Lamto**	**126.80**	**310**	*e*PKIKP	PKPdf	15 16 23.8	-1.3
	comp=Z,1µm,1.2s						
SUR	**Sutherland**	**127.18**	**252**	*e*PKPdf	PKPdf	15 16 26.4	+1.0
SUR				*e*		15 16 37.1	
SDV	**Santo Domingo**	**130.53**	**37**	PKPdf	PKPdf	15 16 29.8	-2.6
SDV	**Santo Domingo**	**130.53**	**37**	*e*PKPdf	PKPdf	15 16 30.7	-1.6
ROSC	**El Rosal**	**131.85**	**44**	PKP	PKPdf	15 16 33.6	-1.3
	comp=Z,11nm,0.7s,baz=355,slow=23,SNR=8.7						
ROSC	**El Rosal**	**131.85**	**44**	PKP	PKPdf	15 16 33.6	-1.3
NVL	**N'lazarevskaya**	**132.42**	**202**	⇑*e*PKHKP		15 16 32.0	
NVL				*e*		15 19 19.0	
NVL				*e*		15 37 13.0	
NVL				MLR	MLR		
	comp=Z,56µm,19.0s,MS7.3						
MAIT	**Maitri**	**132.45**	**201**	*e*PKPdf	PKPdf	15 16 34.4	-0.1
MAIT				*e*PP	PP	15 19 18.3	+20
MAIT				*e*SKPdf		15 20 33.2	
MAIT				*e*SKKPbc		15 29 23.0	
SNAA	**Sanae**	**136.05**	**197**	⇑*i*	PKPdf	15 16 28.1	-13
SNAA	**Sanae**	**136.05**	**197**		PKPdf	15 16 30.0	-11
SNAA	**Sanae**	**136.05**	**197**	⇓*i*	PKPdf	15 16 38.0	-3.1
SNAA	**Sanae**	**136.05**	**197**	*e*PKPpre		15 16 24.4	
SNAA				⇑*i*P		15 16 28.1	
SNAA				P		15 16 30.0	
SNAA				*e*PKPdf	PKPdf	15 16 37.6	-3.5
SNAA				⇓*i*P		15 16 38.0	
VNA2	**Neumayer--Watz**	**137.65**	**196**	⇑*i*	PKPdf	15 16 38.0	-6.1
VNA2	**Neumayer--Watz**	**137.65**	**196**	⇓*i*	PKPdf	15 16 47.4	+3.3
VNA2	**Neumayer--Watz**	**137.65**	**196**	⇓*i*P	PKPdf	15 16 37.1	-7.0
VNA2				⇑*i*P		15 16 38.0	
VNA2				⇓*i*P		15 16 47.4	
VNA3	**Neumayer Olymp**	**137.95**	**195**	⇓*i*	PKPdf	15 16 37.0	-7.6
VNA3	**Neumayer Olymp**	**137.95**	**195**	⇑*i*	PKPdf	15 16 39.6	-5.0
VNA3	**Neumayer Olymp**	**137.95**	**195**	⇑*i*	PKPdf	15 16 48.2	+3.6
VNA3	**Neumayer Olymp**	**137.95**	**195**	⇓*i*P	PKPdf	15 16 35.0	-10
VNA3				⇓*i*P		15 16 37.0	
VNA3				⇑*i*P		15 16 39.6	
VNA3				⇑*i*P		15 16 48.2	
VNA1	**Neumayer--Stat**	**138.05**	**196**	⇑*i*	PKPdf	15 16 39.9	-4.9

VNA1	**Neumayer--Stat**	**138.05**	**196**	⇑*i*P	PKPdf	15 16 39.0	-5.8
VNA1				⇑*i*P		15 16 39.9	
NNA	**Nana**	**142.49**	**64**	*e*PKPdf	PKPdf	15 16 50.8	-3.4
PMSA	**Palmer Station**	**145.85**	**164**	*e*PKPdf	PKPdf	15 16 57.9	-0.6
PMSA				*e*		15 17 10.5	
ARE	**Arequipa**	**149.32**	**64**	*e*P	PKPdf	15 17 11.0	+5.4
ARE				*e*		15 17 29.0	
SAML	**Samuel**	**149.47**	**42**	*e*PKPdf	PKPdf	15 17 04.2	-1.8
SAML				LR	LR		
	comp=Z,87µm,22.0s,MS7.5						
USHA	**Ushuaia**	**151.93**	**148**	PKPbc	PKPdf	15 17 11.4	+2.9
	comp=Z,70nm,0.7s,baz=204,slow=2.3,SNR=6.0						
USHA				PKPab	PKPab	15 17 20.9	-2.7
	comp=Z,119nm,0.9s,baz=128,slow=1.8,SNR=11						
USHA	**Ushuaia**	**151.93**	**148**	PKPbc	PKPdf	15 17 11.4	+2.9
USHA				PKPab	PKPab	15 17 20.9	-2.7
RCBR	**Riachuelo**	**151.99**	**345**	*e*PKPdf	PKPdf	15 17 09.7	-0.1
RCBR				LR	LR		
	comp=Z,53µm,19.0s,MS7.4						
TRIS	**Tristan da Cun**	**154.73**	**253**	PFAKE		15 17 20.0	+7.1
TRIS				LR	LR		
	comp=Z,55µm,20.0s,MS7.4						
LVC	**Limon Verde**	**154.79**	**72**	PKPdf	PKPdf	15 17 10.0	-3.4
TLL	**Tololo Astrono**	**156.11**	**90**	⇓*i*P	PKPdf	15 17 28.9	+14
NICH	**Los Niches**	**156.53**	**102**	⇑*i*P	PKPdf	15 17 25.0	+10
PEL	**Peldehue**	**156.79**	**98**	*i* P	PKPdf	15 17 26.1	+10
CLCH	**Cerro Calan**	**156.94**	**98**	⇑*i*P	PKPdf	15 17 26.1	+10
FCH	**Farellones**	**157.14**	**98**	*e*P	PKPdf	15 17 26.8	+11
LMEL	**Las Melosas**	**157.27**	**99**	*e*P	PKPdf	15 17 24.5	+8.1
BAO	**Brasilia Array**	**161.91**	**16**	*e*P	PKPdf	15 17 21.6	-0.4
BAO				*e*		15 17 36.2	
BAO				*e*		15 18 21.4	
BAO				*e*		15 21 59.0	
BAO				*e*		15 30 10.3	
BDFB	**Brasilia**	**161.92**	**16**	PKP	PKPdf	15 17 20.6	-1.4
	comp=Z,20nm,1.1s,baz=20,slow=3.1,SNR=12						
BDFB				PKPab	PKPab	15 18 05.1	-2.3
	comp=Z,38nm,1.0s,baz=252,slow=4.2,SNR=3.5						
BDFB	**Brasilia**	**161.92**	**16**	PKIKP	PKPdf	15 17 20.6	-1.4
BDFB						15 18 05.1	
BDFB				pmax	pmax		
	comp=Z,20nm,1.1s						
BDFB				pmax	pmax		
	comp=Z,38nm,1.0s						
BDFB	**Brasilia**	**161.92**	**16**	PKP	PKPdf	15 17 20.6	-1.4
BDFB				PKPab	PKPab	15 18 05.1	-2.3
TRQA	**Tornquist**	**163.78**	**113**	*e*PKPdf	PKPdf	15 17 21.2	-2.0
CPUP	**Villa Florida**	**165.75**	**65**	PKP	PKPdf	15 17 24.0	-1.5
	comp=Z,9.0nm,1.1s,baz=345,slow=2.8,SNR=6.3						
CPUP	**Villa Florida**	**165.75**	**65**	PKIKP	PKPdf	15 17 24.0	-1.5
CPUP				pmax	pmax		
	comp=Z,9.0nm,1.1s						
CPUP	**Villa Florida**	**165.75**	**65**	PKP	PKPdf	15 17 24.0	-1.5
LPA	**La Plata**	**167.44**	**102**	*ce*PKP	PKPdf	15 17 25.0	-1.5
	comp=Z,132µm,22.0s						

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*IDC **05** 14:57:30.0±0.3,33.21N×137.17E,mb6.1/38,mb1 6.2/43, mb1mx6.2/43,ML5.7/5,MS7.4/2,Ms1 7.4/2,ms1mx6.9/7, Error ellipse: s-maj=10.8km s-min=7.7km az=79.0*

*MOS **05** 14:57:34.8±1.3,33.55N×137.13E,h33^{km},mb6.4/20, MS7.5/6,Error ellipse: s-maj=18.3km s-min=9.3km az=97.4*

ISC 05 14:57:28.3±1.0,**33.21N**±0.02×**137.13E**±0.03,**h1**^{km}±6^{km}, **n196**,σ1§**21**/175,**mb6.1**/42,**3C-3D,Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JWZ	**Kozaga**	**1.23**	**286**	P	**Pb**	**14 57 52.0**	**0.0**
JWZ				S	**Sb**	**14 58 08.8**	**+0.6**
JIE	**Ise**	**1.23**	**344**	P	**Pb**	**14 57 53.1**	**+1.0**
JIE				S	**Sb**	**14 58 10.4**	**+2.1**
JKN	**Kiinagashima**	**1.26**	**325**	P	**Pb**	**14 57 54.9**	**+2.3**
JKN				S	**Sb**	**14 58 09.8**	**+0.5**
TSUJ	**Tsu 2**	**1.61**	**339**	P	**Pn**	**14 57 58.2**	**+0.2**
TSUJ				S	**Sb**	**14 58 19.7**	**+0.4**
JWM	**Minabe**	**1.61**	**294**	P	**Pn**	**14 57 57.7**	**-0.4**
JWM				S	**Sb**	**14 58 18.4**	**-1.0**
JWY	**Kouya**	**1.63**	**309**	P	**Pn**	**14 57 58.0**	**-0.3**
JWY				S	**Sb**	**14 58 19.4**	**-0.5**
JHE	**Heguri**	**1.88**	**321**	P	**Pn**	**14 58 02.0**	**+0.2**
JHE				S	**Sn**	**14 58 24.1**	**-2.4**
SHZ3	**Shizuoka 3**	**2.06**	**26**	P	**Pn**	**14 58 04.9**	**+0.5**
SHZ3				S	**Sn**	**14 58 30.8**	**-0.3**
JIZS	**Izushimoda**	**2.09**	**43**	P	**Pn**	**14 58 07.1**	**+2.2**
JIZS				S	**Sn**	**14 58 30.5**	**-1.5**
JHJ	**Hachijo jima 2**	**2.23**	**92**	Pn	**Pn**	**14 58 09.2**	**+2.4**
	9µm,0.3s,baz=235,slow=16,SNR=19						
JHJ				Sn	**Sn**	**14 58 36.4**	**+1.0**
	20µm,0.3s,baz=90,slow=20,SNR=8.6						
JHJ2	**Mitsune**	**2.26**	**92**	P	**Pn**	**14 58 06.3**	**-1.0**
JHJ2				S	**Sn**	**14 58 34.7**	**-1.4**
JAI	**Aioi**	**2.31**	**285**	S	**Sn**	**14 58 34.8**	**-2.7**
JIM2	**Oshima 3**	**2.44**	**51**	S	**Sn**	**14 58 39.8**	**-0.9**
JGM	**Miyama**	**2.51**	**352**	S	**Sn**	**14 58 42.9**	**+0.4**
JWT	**Wachi**	**2.52**	**326**	P	**Pn**	**14 58 10.9**	**-0.1**
JWT				S	**Sn**	**14 58 41.0**	**-1.7**
JYN	**Shimob**	**2.57**	**27**	S	**Sn**	**14 58 43.6**	**-0.4**
JNU	**Nakatsue**	**5.24**	**271**	Pn	**Pn**	**14 58 49.8**	**+0.1**
	227nm,0.3s,baz=71,slow=8.8,SNR=25						
JNU				Sn	**Sn**	**14 59 52.0**	**+0.3**
	454nm,0.3s,baz=138,slow=11,SNR=6.6						
JNU	**Nakatsue**	**5.24**	**271**	Pn	**Pn**	**14 58 49.8**	**+0.1**
JNU				Sn	**Sn**	**14 59 52.0**	**+0.3**
CBIJ	**Chichi jima**	**7.50**	**143**	Pn	**Pn**	**14 59 20.7**	**-0.8**
	1µm,0.3s,baz=301,slow=5.9,SNR=18						
JOW	**Kunigami**	**9.96**	**233**	Pn	**P**	**14 59 54.9**	**-0.8**
	66nm,0.3s,baz=94,slow=18,SNR=10						
JOW	**Kunigami**	**9.96**	**233**	Pn	**P**	**14 59 54.9**	**-0.8**
ASAJ	**Asahikawa**	**11.70**	**20**	Pn	**P**	**15 00 18.4**	**-1.0**
	65nm,0.3s,baz=217,slow=13,SNR=21						
ASAJ				LR	LR	15 05 37.8	
	comp=Z,2249µm,19.0s,baz=354,slow=42						
ASAJ	**Asahikawa**	**11.70**	**20**	P	**P**	**15 00 18.4**	**-1.0**
ASAJ				pmax	pmax		
	comp=Z,65nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,249µm,19.0s						
YSS	**Yuzh-Sakhalins**	**14.38**	**16**	*e*P	**P**	**15 00 52.6**	**-2.4**
HKC	**Hong Kong**	**22.99**	**248**	*i* S	**S**	**15 06 50.0**	**+7.7**
CLNS	**Chul'man**	**25.08**	**344**	*e*P	**P**	**15 02 54.1**	**-1.4**
CLNS				*e*PPP	PPP	15 03 29.9	-14
CLNS				*e*S	**S**	**15 07 14.9**	**-3.2**
CLNS				pmax	pmax		
	comp=E,581nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,695nm,1.0s						
CLNS				pmax	pmax		
	comp=N,1µm,1.1s						
CLNS				smax			
	comp=N,125µm,11.3s						
CLNS				smax			
	comp=Z,83µm,11.8s						
CLNS				smax			
	comp=E,38µm,11.4s						
CLNS				MLR	MLR		
	comp=Z,544µm,13.0s						
CLNS				MLR	MLR		
	comp=N,489µm,12.0s						
CLNS				MLR	MLR		
	comp=E,385µm,12.0s						
ULN	**Ulaanbaatar**	**26.94**	**312**	P	**P**	**15 03 26.2**	**+13**
ULN				sP	sP	15 03 39.8	+26
ULN				pS		15 08 20.4	
SONM	**Songino Array**	**27.34**	**311**	P	**P**	**15 03 18.2**	**+1.7**
	comp=E,511nm,0.9s,mb6.3,baz=128,slow=9.3,SNR=24						
SONM				PcP	PcP	15 06 35.1	-1.2
	comp=E,80nm,1.1s,baz=145,slow=1.8,SNR=4.2						
SONM				PKiKP		15 14 13.3	
	comp=E,6.9nm,0.9s,baz=129,slow=2.6,SNR=4.2						
SONM	**Songino Array**	**27.34**	**311**	P	**P**	**15 03 18.2**	**+1.7**
SONM				PcP	PcP	15 06 35.1	-1.2
MA2	**Magadan**	**27.89**	**15**	*e*P	**P**	**15 03 26.0**	**+4.6**
QIZ	**Qiongzhong**	**28.17**	**247**	XP	sP	15 03 25.1	+0.2
QIZ				PPP	PPP	15 04 26.5	-0.3
QIZ				S	**S**	**15 08 00.8**	**-8.4**
YAK	**Yakutsk**	**29.23**	**353**	*e*P	**P**	**15 03 31.2**	**-2.3**
ZAK	**Zakamensk**	**30.17**	**315**	*e*P	**P**	**15 03 52.6**	**+11**
ZAK				*e*		15 06 46.8	
KKTK	**Khon Kaen**	**35.18**	**250**	PG	**P**	**15 04 26.0**	**0.0**
KKTK				SG	pP	15 04 39.0	+13
NANT	**Nan**	**35.55**	**255**	PG	**P**	**15 04 25.0**	**-4.1**
NANT				SG	pP	15 04 29.0	-0.5
CHRT	**Chiangrai**	**35.76**	**258**	⇑P	**P**	**15 04 27.8**	**-3.1**
	comp=E,1µm,0.9s,mb6.8						
CHRT				S	S	15 10 32.3	+24
CMAR	**Chiang Mai Arr**	**37.15**	**256**	P	**P**	**15 04 43.1**	**+0.5**
	comp=E,184nm,0.7s,mb5.9,baz=50,slow=8.1,SNR=23						
CMAR	**Chiang Mai Arr**	**37.15**	**256**	P	**P**	**15 04 43.1**	**+0.5**
CMAR				pmax	pmax		
	comp=Z,184nm,0.7s						
BDT	**Bhumibol Dam**	**37.74**	**255**	SG	pP	15 04 49.0	+1.1
TIXI	**Tiksi**	**38.76**	**356**	*e*P	**P**	**15 04 54.1**	**-1.5**
LSA	**Lhasa**	**39.14**	**278**	AP	**P**	**15 04 58.0**	**-1.2**
ZAL	**Zalesovo**	**42.05**	**316**	P	**P**	**15 05 22.9**	**0.0**
	comp=Z,258nm,1.1s,mb5.8,baz=299,slow=8.5,SNR=29						
ZAL	**Zalesovo**	**42.05**	**316**	P	**P**	**15 05 22.9**	**+0.1**
ZAL				pmax	pmax		
	comp=Z,258nm,1.2s						
SLGI	**Shiliguri**	**42.40**	**275**	*e*	**P**	**15 05 26.5**	**+0.4**
MKAR	**Makanchi Array**	**43.30**	**305**	P	**P**	**15 05 33.7**	**+0.6**
	comp=Z,413nm,0.8s,mb6.2,baz=89,slow=8.3,SNR=16						
MKAR				S	**S**	**15 12 03.4**	**+2.3**
	comp=Z,8.5nm,0.8s,baz=95,slow=20,SNR=2.2						
MKAR				PKPPKP		15 37 25.5	
	comp=Z,6.4nm,1.0s,baz=270,slow=1.4,SNR=3.3						
MKAR	**Makanchi Array**	**43.30**	**305**	S	**S**	**15 12 03.4**	**+2.3**
KGM	**Kluang**	**44.34**	**233**	*e*P	**P**	**15 05 41.0**	**-1.0**
	comp=Z,194nm,1.2s,mb5.7						
SMLA	**Simla**	**50.19**	**285**	*e*	**P**	**15 06 25.0**	**-2.6**
SMLA				*e*		15 13 44.5	
JBP	**Jabalpur**	**50.82**	**274**	*e*	**P**	**15 06 42.9**	**+10**
JBP				*e*		15 14 07.5	
FITZ	**Fitzroy Crossi**	**52.19**	**194**	P	**P**	**15 06 42.3**	**-0.7**
	comp=Z,256nm,0.7s,mb6.3,baz=11,slow=9.7,SNR=28						
FITZ				S	**S**	**15 14 09.1**	**+2.1**
	comp=Z,12nm,0.8s,baz=203,slow=18,SNR=1.8						
FITZ	**Fitzroy Crossi**	**52.19**	**194**	P	**P**	**15 06 42.3**	**-0.7**
FITZ				S	**S**	**15 14 09.1**	**+2.1**
WRA	**Warramunga Arr**	**52.92**	**183**	P	**P**	**15 06 46.9**	**-1.5**
	comp=Z,290nm,0.8s,mb6.3,baz=359,slow=7.3,SNR=17						
WRA				S	**S**	**15 14 19.8**	**+2.9**
	comp=Z,60nm,1.4s,baz=357,slow=6.9,SNR=7.2						
WRA				PKPPKP		15 37 10.3	
	comp=Z,15nm,1.1s,baz=191,slow=1.9,SNR=6.5						
WRA				PKP2bc		15 37 30.8	
	comp=Z,25nm,1.0s,baz=163,slow=1.8,SNR=7.0						
WRA	**Warramunga Arr**	**52.92**	**183**	P	**P**	**15 06 46.9**	**-1.5**
WRA				S	**S**	**15 14 19.8**	**+2.9**
CTA	**Charters Tower**	**53.71**	**169**	P	**P**	**15 06 53.2**	**-1.1**
	comp=Z,182nm,0.7s,mb6.2,baz=349,slow=8.9,SNR=36						
CTA	**Charters Tower**	**53.71**	**169**	P	**P**	**15 06 53.2**	**-1.0**
CTA				pmax	pmax		
	comp=Z,182nm,0.7s						
CTA	**Charters Tower**	**53.71**	**169**	P	**P**	**15 06 53.2**	**-1.1**
CTA				*e*S	**S**	**15 14 26.8**	**-0.8**
CTA	**Charters Tower**	**53.71**	**169**	*e*	**P**	**15 06 54.1**	**-0.1**
CTA				*e*S	**S**	**15 14 26.8**	**-0.8**
ILAR	**Eielson Array**	**54.58**	**31**	P	**P**	**15 06 58.3**	**-1.8**
	comp=Z,130nm,0.9s,mb6.0,baz=280,slow=5.0,SNR=38						
ILAR	**Eielson Array**	**54.58**	**31**	P	**P**	**15 06 58.3**	**-1.8**
ILAR				pmax	pmax		
	comp=Z,130nm,0.9s						
HYB	**Hyderabad**	**54.59**	**268**	*e*P	**P**	**15 07 00.0**	**-0.7**
HYB				*e*S	**S**	**15 14 40.0**	**+0.5**
HYB	**Hyderabad**	**54.59**	**268**	*e*	**P**	**15 07 00.0**	**-0.7**
HYB				*e*S	**S**	**15 14 40.0**	**+0.5**
ASAR	**Alice Springs**	**56.64**	**184**	P	**P**	**15 07 14.4**	**-1.2**
	comp=Z,213nm,0.8s,mb6.2,baz=14,slow=9.2,SNR=34						
ASAR				S	**S**	**15 15 08.9**	**+2.1**
	comp=Z,5.2nm,1.0s,baz=350,slow=10,SNR=2.7						
ASAR				PKPPKP		15 37 07.6	
	comp=Z,6.1nm,0.8s,baz=149,slow=3.6,SNR=5.0						
ASAR				PKP2bc		15 37 23.0	
	comp=Z,25nm,1.1s,baz=177,slow=2.1,SNR=7.0						
ASAR	**Alice Springs**	**56.64**	**184**	P	**P**	**15 07 14.4**	**-1.2**
ASAR				S	**S**	**15 15 08.9**	**+2.1**
ASPA	**Alice Springs**	**56.64**	**184**	*e*S	**S**	**15 15 05.0**	**-1.8**
ASPA	**Alice Springs**	**56.64**	**184**	*e*PKPPKP		15 37 06.1	
ARU	**Arti**	**56.94**	**319**	*i* P	**P**	**15 07 14.1**	**-3.1**
ARU				pmax	pmax		
	comp=Z,2µm,1.2s						
ARU				pmax	pmax		
	comp=Z,8µm,1.7s						
BKM	**Butte a Klehm**	**58.67**	**145**	⇑*i*P	**P**	**15 07 28.7**	**-1.2**
DLBC	**Dease Lake**	**63.79**	**36**	P	**P**	**15 08 04.3**	**+0.4**
	comp=Z,145nm,0.9s,mb6.2,baz=273,slow=4.6,SNR=17						
LVZ	**Lovozero**	**64.15**	**336**	*e*P	**P**	**15 08 07.8**	**+1.7**
FORT	**Forrest**	**64.22**	**189**	*e*	**P**	**15 08 06.8**	**-0.4**
FORT				*e*S	**S**	**15 16 48.4**	**+4.4**
STKA	**Stephens Creek**	**64.87**	**176**	P	**P**	**15 08 11.2**	**-0.3**
	comp=Z,280nm,0.7s,mb6.6,baz=336,slow=8.9,SNR=45						
STKA				S	**S**	**15 16 54.5**	**+2.5**
	comp=Z,13nm,1.0s,baz=122,slow=11,SNR=1.1						
STKA				PKPPKP		15 36 53.3	
	comp=Z,11nm,1.2s,baz=261,slow=14,SNR=9.8						
STKA	**Stephens Creek**	**64.87**	**176**	*e*	**P**	**15 08 10.8**	**-0.6**
STKA				*e*S	**S**	**15 16 53.5**	**+1.5**
STKA				S	**S**	**15 16 54.5**	**+2.5**
STKA				*e*P'P'		15 37 06.2	
STKA	**Stephens Creek**	**64.87**	**176**	*e*	**P**	**15 08 10.8**	**-0.6**
STKA				*e*S	**S**	**15 16 53.5**	**+1.5**
STKA	**Stephens Creek**	**64.87**	**176**	*e*PKPPKP		15 37 06.2	
BJO	**Bjornoya**	**65.20**	**345**	*e*	**P**	**15 08 09.1**	**-3.7**
ARCES	**ARCESS Array B**	**66.32**	**339**	P	**P**	**15 08 20.9**	**+0.8**
	comp=Z,172nm,0.9s,mb6.3,baz=63,slow=8.1,SNR=23						
ARCES				PKPPKP		15 36 51.7	
	comp=Z,17nm,1.0s,baz=225,slow=1.7,SNR=9.3						
ARCES				PKP2bc		15 37 00.2	
	comp=Z,59nm,1.3s,baz=286,slow=8.8,SNR=7.4						
YKA	**Yellowknife Ar**	**68.85**	**28**	P	**P**	**15 08 35.1**	**-1.0**
	comp=Z,117nm,0.9s,mb6.1,baz=300,slow=6.2,SNR=20						
YKA				PKP2bc		15 36 55.7	
	comp=Z,82nm,1.3s,baz=111,slow=2.8,SNR=10						
OBN	**Obninsk**	**69.03**	**323**	*i* P	**P**	**15 08 36.8**	**-0.5**
OBN				*e*		15 08 47.4	
OBN				*e*SS	SS	15 22 07.1	-2.1
OBN				pmax	pmax		
	comp=Z,14µm,10.4s						
OBN				pmax	pmax		
	comp=Z,1µm,1.6s						
OBN				pmax	pmax		
	comp=Z,17µm,4.0s						
OBN				MLR	MLR		
	comp=Z,597µm,16.0s						
CNB	**Canberra Magne**	**69.12**	**169**	*e*PKPPKP		15 36 50.9	
PUL	**Pulkovo**	**69.67**	**329**	*e*P	**P**	**15 08 43.3**	**+2.2**
GOF	**Gofitskoye**	**70.00**	**311**	⇓*i*P	**P**	**15 08 43.0**	**-0.4**
GOF				*i* S	S	15 17 58.0	+4.6
GOF				pmax	pmax		
	comp=Z,2µm,1.2s,mb7.0						
GOF				smax			
	comp=N,4µm,2.6s						
FINES	**FINESS Array B**	**70.53**	**332**	P	**P**	**15 08 47.5**	**+1.2**
	comp=N,113nm,0.8s,mb6.1,baz=56,slow=5.0,SNR=32						
FINES				PP	PP	15 11 24.9	+0.5
	comp=N,33nm,0.8s,baz=100,slow=8.5,SNR=2.8						
FINES				PKPPKP		15 36 44.4	
	comp=N,6.1nm,1.0s,baz=140,slow=15,SNR=4.1						
FINES				LR	LR	15 45 06.4	
	comp=N,238µm,19.5s,baz=58,slow=40						
FINES	**FINESS Array B**	**70.53**	**332**	P	**P**	**15 08 47.5**	**+1.2**
FINES				PP	PP	15 11 24.9	+0.5
FINES				P'P'		15 36 44.4	
TOO	**Toolangi**	**70.84**	**173**	*e*	**P**	**15 08 49.5**	**+0.8**
TOO				*e*S	S	15 18 03.1	-0.4
TOO	**Toolangi**	**70.84**	**173**	*e*PKPPKP		15 36 45.0	
KARS	**Kars**	**72.03**	**307**	*e*P	**P**	**15 08 55.8**	**0.0**
JNW	**Jan Mayen West**	**73.20**	**349**	*e*	**P**	**15 09 08.0**	**+6.0**
LON	**Longmire**	**73.43**	**45**	*e*P'P'		15 36 36.2	
BTMT	**Batman**	**74.29**	**305**	*e*P	**P**	**15 09 10.6**	**+1.6**
KELT	**Kelkit**	**74.81**	**308**	*i* P	**P**	**15 09 12.7**	**+0.8**
AKASG	**Malin Array Be**	**75.12**	**321**	P	**P**	**15 09 14.4**	**+0.8**
	comp=N,352nm,0.7s,mb6.5,baz=51,slow=5.9,SNR=43						
AKASG				PKKPbc		15 28 37.3	
	comp=N,3.6nm,1.0s,baz=245,slow=4.6,SNR=4.4						
AKASG				PKPPKP		15 36 36.5	
	comp=N,3.0nm,0.8s,baz=248,slow=1.6,SNR=4.6						
DIY	**Diyarbakir**	**75.30**	**306**	*e*P	**P**	**15 09 12.7**	**-2.2**
NEW	**Newport**	**75.32**	**42**	P	**P**	**15 09 14.8**	**+0.1**
	comp=N,73nm,0.9s,mb5.7,baz=298,slow=4.6,SNR=25						
NEW	**Newport**	**75.32**	**42**	P	**P**	**15 09 14.8**	**+0.1**
NEW				pmax	pmax		
	comp=Z,73nm,0.9s						
YBH	**Yreka Blue Hor**	**75.48**	**50**	P	**P**	**15 09 15.1**	**-0.7**
	comp=Z,57nm,1.0s,mb5.6,baz=230,slow=7.9,SNR=20						
YBH	**Yreka Blue Hor**	**75.48**	**50**	P	**P**	**15 09 15.1**	**-0.7**
YBH				pmax	pmax		
	comp=Z,57nm,1.0s						
SCO	**Scoresbysund**	**75.51**	**353**	*i* P	**P**	**15 09 16.3**	**+0.9**
	comp=Z,218nm,0.9s,mb6.3						
SCO				*i* S	S	15 18 59.0	+3.4
HFS	**Hagfors**	**76.07**	**335**	P	**P**	**15 09 17.9**	**-0.9**
	comp=Z,106nm,0.6s,mb6.2,baz=45,slow=2.0,SNR=23						
HFS				PKKPbc		15 28 35.9	
	comp=Z,5.0nm,0.8s,baz=270,slow=4.4,SNR=4.6						
SUW	**Suwalki**	**76.16**	**326**	*e*S	S	15 19 02.1	-0.9
SUW				*e*SS	SS	15 24 01.9	+2.8
OUZ	**Omahuta**	**76.17**	**150**	sP	sP	15 09 21.6	+1.3
NOA	**NORSAR Array B**	**76.30**	**336**	P	**P**	**15 09 20.0**	**0.0**
	comp=Z,324nm,1.1s,mb6.4,baz=53,slow=4.8,SNR=27						
NOA				PP	PP	15 12 14.1	+1.1
	comp=Z,16nm,0.8s,baz=47,slow=7.2,SNR=3.6						
NOA				PKKPbc		15 28 34.9	
	comp=Z,2.2nm,0.9s,baz=228,slow=2.0,SNR=3.7						
NOA				PKP2bc		15 36 38.5	
	comp=Z,2.0nm,0.8s,baz=181,slow=1.9,SNR=4.0						
NOA	**NORSAR Array B**	**76.30**	**336**	P	**P**	**15 09 20.0**	**0.0**
NOA				PP	PP	15 12 14.2	+1.1
SVSK	**Karacayir**	**76.41**	**309**	*e*P	**P**	**15 09 16.9**	**-4.2**
SVST	**Sivas**	**76.52**	**309**	*i* P	**P**	**15 09 23.7**	**+2.0**
KONO	**Kongsberg**	**77.87**	**336**	*e*P	PcP	15 09 47.4	+8.3
KONO				AMb	AMB	15 10 06.2	
	comp=Z,699nm,1.6s,mb6.5						
KONO				AMS	AMS	15 46 06.5	
	comp=Z,214µm,22.0s						
BRTR	**Keskin Array B**	**78.69**	**310**	P	**P**	**15 09 34.9**	**+1.3**
	comp=Z,626nm,1.0s,mb6.6,baz=99,slow=3.2,SNR=26						
BRTR				PKKPbc		15 28 30.8	
	comp=Z,2.7nm,0.6s,baz=218,slow=1.9,SNR=5.1						
BRTR				PKPPKP		15 36 28.8	
	comp=Z,1.1nm,0.3s,baz=225,slow=4.1,SNR=2.0						
KWP	**Kalwaria**	**79.12**	**323**	*e*S	S	15 19 36.4	+1.4
KWP	**Kalwaria**	**79.12**	**323**	*e*S	S	15 19 36.4	+1.4
GKP	**Gorka Klasztor**	**79.35**	**328**	*e*S	S	15 19 39.3	+2.0
KOLS	**Kolonicke sedl**	**79.78**	**323**	*e*	**P**	**15 09 41.2**	**+1.8**
OJC	**Ojcow**	**80.19**	**325**	*i* S	S	15 19 46.6	+0.5
OJC	**Ojcow**	**80.19**	**325**	*i* S	S	15 19 46.6	+0.5
CRVS	**Cervenica-Dubn**	**80.22**	**323**	*e*S	S	15 19 54.4	+7.9
URZ	**Urewera**	**80.23**	**149**	P	**P**	**15 09 41.2**	**-0.8**
	comp=Z,129nm,0.8s,mb5.9,baz=326,slow=6.7,SNR=19						
URZ	**Urewera**	**80.23**	**149**	sP	**P**	**15 09 41.3**	**-0.8**
URZ	**Urewera**	**80.23**	**149**	P	**P**	**15 09 41.2**	**-0.8**
GPA	**Golpazari**	**80.47**	**312**	*e*P	**P**	**15 09 42.1**	**-1.2**
ASF	**Jabal al Asfar**	**80.65**	**302**	P	**P**	**15 09 45.2**	**+0.8**
	comp=Z,112nm,0.9s,mb5.9,baz=334,slow=2.0,SNR=22						
BORG	**Borgarnes**	**80.92**	**351**	P	**P**	**15 09 47.4**	**+2.2**
	comp=Z,220nm,1.1s,mb6.1,baz=26,slow=4.0,SNR=8.2						
BORG				PKKPbc		15 28 24.1	
	comp=Z,35nm,1.1s,baz=274,slow=17,SNR=3.4						
RAR	**Rarotonga**	**80.92**	**123**	P	**P**	**15 09 46.8**	**+0.8**
	comp=Z,39nm,0.8s,mb5.5,baz=243,slow=7.3,SNR=11						
RAR	**Rarotonga**	**80.92**	**123**	P	**P**	**15 09 46.8**	**+0.8**
RAR				pmax	pmax		
	comp=Z,39nm,0.8s						
KECS	**Kecovo**	**80.98**	**323**	*e*S	S	15 19 54.4	0.0
RAC	**Raciborz**	**81.05**	**325**	*e*S	S	15 19 53.3	-1.8
FRB	**Frobisher Bay**	**81.25**	**11**	P	**P**	**15 09 47.1**	**+0.2**
	comp=Z,283nm,0.7s,mb6.4,baz=342,slow=6.2,SNR=18						
FRB				PKKPbc		15 28 23.7	
	comp=Z,17nm,1.1s,baz=207,slow=3.5,SNR=3.9						
VYHS	**Vyhne**	**81.80**	**324**	*e*S	S	15 20 03.2	+0.3
CAW	**Cannon Point**	**81.80**	**152**	sP	**P**	**15 09 49.9**	**-0.3**
SNZO	**South Karori**	**81.83**	**152**	sP	**P**	**15 09 49.7**	**-0.7**
BFZ	**Birch Farm**	**81.91**	**151**	sP	**P**	**15 09 51.2**	**+0.4**
ANTB	**Antalya**	**82.23**	**309**	*e*P	**P**	**15 09 50.6**	**-1.9**
PVCC	**Panska Ves**	**82.44**	**327**	*e*x	**P**	**15 09 54.3**	**+1.0**
PVCC				*e*x	S	15 20 08.9	-0.5
CLL	**Collm**	**82.58**	**328**	*e*S	S	15 20 11.0	+0.2
CLL				*e*PKKP	PKKP	15 28 11.0	+5.4
RPZ	**Rata Peaks**	**82.58**	**156**	P	**P**	**15 09 53.9**	**-0.3**
	comp=Z,143nm,0.8s,mb6.2,baz=202,slow=7.7,SNR=18						
RPZ	**Rata Peaks**	**82.58**	**156**	sP	**P**	**15 09 53.4**	**-0.8**
PDAR	**Pinedale Array**	**82.85**	**43**	P	**P**	**15 09 56.0**	**+0.3**
	comp=Z,50nm,0.9s,mb5.7,baz=270,slow=1.8,SNR=24						
PDAR				PKKPbc		15 28 21.6	
	comp=Z,14nm,1.3s,baz=135,slow=4.2,SNR=4.5						
LBZ	**Lake Benmore**	**82.89**	**157**	sP	**P**	**15 09 56.5**	**+0.7**
MLZ	**Mavora Lakes**	**83.10**	**159**	sP	**P**	**15 09 59.2**	**+2.3**
SOP	**Sopron**	**83.47**	**324**	*i* sP	**P**	**15 10 00.9**	**+2.2**
MOX	**Moxa**	**83.67**	**329**	*i*	**P**	**15 09 59.0**	**-0.6**
KHC	**Kasperske Hory**	**83.88**	**327**	*e*x	**P**	**15 10 01.3**	**+0.6**
KHC				*e*x	S	15 20 22.9	-1.0
GERES	**GERESS Array B**	**84.02**	**326**	P	**P**	**15 10 01.6**	**+0.2**
	comp=Z,220nm,0.8s,mb6.5,baz=45,slow=4.2,SNR=26						
GERES				PKKPbc		15 28 17.1	
	comp=Z,3.7nm,0.7s,baz=199,slow=2.0,SNR=9.0						
GERES				PKPPKP		15 36 19.5	
	comp=Z,2.5nm,1.0s,baz=180,slow=2.7,SNR=4.3						
TUZ	**Tuapeka**	**84.10**	**158**	sP	**P**	**15 10 03.2**	**+1.3**
EKA	**Eskdalemuir Ar**	**85.48**	**339**	P	**P**	**15 10 09.2**	**+0.6**
	comp=Z,312nm,1.2s,mb6.4,baz=36,slow=3.6,SNR=31						
EKA				PP	PP	15 13 28.7	+0.2
	comp=Z,22nm,0.9s,baz=38,slow=8.1,SNR=3.8						
EKA	**Eskdalemuir Ar**	**85.48**	**339**	P	**P**	**15 10 09.2**	**+0.6**
EKA						15 13 28.7	
EKA				pmax	pmax		
	comp=Z,312nm,1.2s						
EKA				pmax	pmax		
	comp=Z,23nm,0.9s						
EKA	**Eskdalemuir Ar**	**85.48**	**339**	P	**P**	**15 10 09.2**	**+0.6**
EKA				PP	PP	15 13 28.7	+0.2
VOY	**Vojsko**	**85.93**	**324**	*e*	**P**	**15 10 08.4**	**-2.7**
ATH	**Athens Observa**	**85.95**	**313**	⇑*i*P	**P**	**15 10 12.0**	**+0.7**
HGN	**Heimansgroeve**	**85.97**	**331**	*e*x	**P**	**15 10 12.1**	**+1.0**
HGN				*e*S	S	15 20 41.8	-2.5
HGN				*e*SS	SS	15 26 26.6	+1.4
NSAL	**Nisos Salamina**	**86.14**	**313**	*e*P	**P**	**15 10 11.5**	**-0.8**
PPT	**Papeete**	**86.19**	**114**	P	**P**	**15 10 14.3**	**+1.3**
	comp=Z,38nm,0.9s,mb5.5,baz=333,slow=2.3,SNR=3.8						
PPT	**Papeete**	**86.19**	**114**	P	**P**	**15 10 14.3**	**+1.3**
PPT				pmax	pmax		
	comp=Z,38nm,0.9s						
IDI	**Anoyia**	**86.91**	**311**	P	**P**	**15 10 16.9**	**+0.7**
	comp=Z,144nm,0.7s,mb6.3,baz=17,slow=12,SNR=16						
DAVOX	**Davos**	**87.29**	**327**	P	**P**	**15 10 18.5**	**+0.8**
	comp=Z,235nm,0.9s,mb6.4,baz=42,slow=7.1,SNR=18						
DAVOX				PKKPbc		15 28 10.2	
	comp=Z,7.8nm,0.8s,baz=291,slow=3.5,SNR=5.5						
DAVOX				PKPPKP		15 36 19.3	
	comp=Z,7.4nm,1.1s,baz=298,slow=1.3,SNR=4.1						
DAVOX	**Davos**	**87.29**	**327**	P	**P**	**15 10 18.5**	**+0.8**
DAVOX				PKKPbc		15 28 10.2	
FG2	**Serracapriola**	**88.27**	**321**	*e*P	**P**	**15 10 25.3**	**+2.8**
SCHQ	**Schefferville**	**89.92**	**14**	P	**P**	**15 10 30.7**	**+0.7**
	comp=Z,25nm,0.9s,mb5.5,baz=2.2,slow=4.9,SNR=7.6						
SCHQ				PKKPbc		15 28 01.5	
	comp=Z,18nm,0.9s,baz=187,slow=0.6,SNR=5.3						
LPM	**Los Pinos Moun**	**90.06**	**48**	*e*P	**P**	**15 10 36.1**	**+4.9**
FAVR	**Favara**	**92.30**	**318**	*e*P	**P**	**15 10 42.1**	**+0.7**
PTS	**Pantelleria**	**93.56**	**319**	*e*P	**P**	**15 10 46.0**	**-1.2**
TXAR	**Lajitas Array**	**95.25**	**50**	P	**P**	**15 10 55.2**	**0.0**
	comp=Z,144nm,0.9s,mb6.4,baz=293,slow=2.5,SNR=29						
TXAR				PP	PP	15 14 47.4	+0.1
	comp=Z,11nm,0.9s,baz=292,slow=4.9,SNR=3.1						
TXAR				PKKPbc		15 27 49.9	
	comp=Z,7.1nm,1.0s,baz=140,slow=3.3,SNR=5.0						
TXAR				PKPPKP		15 36 03.3	
	comp=Z,1.7nm,0.9s,baz=135,slow=5.3,SNR=4.5						
TXAR	**Lajitas Array**	**95.25**	**50**	P	**P**	**15 10 55.2**	**0.0**
TXAR				P'P'		15 36 03.3	
SADO	**Sadowa**	**95.68**	**25**	P	**P**	**15 10 56.3**	**-0.5**
	comp=Z,16nm,0.9s,mb5.5,baz=344,slow=5.9,SNR=6.5						
KMBO	**Kilima Mbogo**	**98.88**	**274**	P	**P**	**15 11 11.6**	**-0.3**
	comp=Z,53nm,1.1s,mb6.2,baz=30,slow=6.9,SNR=16						
KMBO				PP	PP	15 15 16.3	+0.4
	comp=Z,21nm,1.0s,baz=46,slow=8.5,SNR=6.6						
ESDC	**Sonseca Array**	**99.03**	**331**	P	**P**	**15 11 10.9**	**-1.1**
	comp=Z,17nm,1.0s,mb5.8,baz=30,slow=4.7,SNR=24						
ESDC				PP	PP	15 15 14.1	-2.3
	comp=Z,53nm,1.2s,baz=26,slow=7.8,SNR=5.6						
ESDC				PKKPbc		15 27 39.0	
	comp=Z,2.3nm,0.8s,baz=208,slow=3.1,SNR=6.5						
MAW	**Mawson**	**114.60**	**204**	*e*PDIF	Pdif	15 12 23.1	+2.8
	comp=Z,19nm,1.4s						
MAW	**Mawson**	**114.60**	**204**	*e*PKP	PKPdf	15 16 12.4	+0.9
MAW				*e*PKKP	PKKP	15 26 47.7	-20
JTS	**JuntasAbangare**	**121.04**	**50**	PKP	PKPdf	15 16 25.4	+0.1
	comp=Z,9.3nm,0.7s,baz=288,slow=7.2,SNR=6.0						
JTS	**JuntasAbangare**	**121.04**	**50**	PKP	PKPdf	15 16 25.4	+0.1
JCR	**Jicaral**	**121.27**	**51**	*e*P	PKPdf	15 16 25.4	-0.4
TRTC	**Tortuguero**	**121.62**	**49**	*e*P	PKPdf	15 16 25.9	-0.5

LAJ	Bijagual	121.89	50	*e*P	PKPdf	15 16 26.4	-0.5
ICR	Volcan Irazu	121.99	50	*e*P	PKPdf	15 16 30.6	+3.5
LCR2	La Lucha 2	122.06	50	*e*P	PKPdf	15 16 27.2	-0.1
URSC	Urasca	122.14	50	*e*P	PKPdf	15 16 27.3	-0.1
BUS	Buena Vista	122.36	50	*e*P	PKPdf	15 16 31.1	+3.3
SYO	Syowa Base	123.24	205	⇓pPdiff	Pdif	15 12 55.8	-2.4
SYO	Syowa Base	123.24	205	⇓P	PKPdf	15 16 27.7	-0.5
ACR	Cerro Adams	123.42	50	*e*P	PKPdf	15 16 30.5	+0.7
SJG	San Juan	124.33	27	PKP	PKPdf	15 16 31.8	+0.2
	comp=Z,33nm,0.8s,baz=176,slow=9.5,SNR=7.5						
SJG	San Juan	124.33	27	PKIKP	PKPdf	15 16 31.8	+0.2
SJG				pmax	pmax		
	comp=Z,33nm,0.8s						
SJG	San Juan	124.33	27	PKP	PKPdf	15 16 31.8	+0.2
DBIC	Dimbokro	126.39	311	PKP	PKPdf	15 16 36.1	+0.5
	comp=Z,83nm,0.8s,baz=50,slow=2.8,SNR=19						
DBIC				PP	PP	15 18 32.5	-0.5
	comp=Z,111nm,1.1s,baz=21,slow=6.5,SNR=3.9						
DBIC	Dimbokro	126.39	311	PKIKP	PKPdf	15 16 36.1	+0.5
DBIC						15 18 32.5	
DBIC				pmax	pmax		
	comp=Z,83nm,0.9s						
DBIC				pmax	pmax		
	comp=Z,111nm,1.1s						
DBIC	Dimbokro	126.39	311	PKP	PKPdf	15 16 36.1	+0.5
BPA	Boggy Peak	126.84	23	*e*P	PKPdf	15 16 37.1	+0.8
MCLT	Moule a Chique	130.26	23	*e*P	PKPdf	15 16 45.0	+1.9
ROSC	El Rosal	131.82	44	PKP	PKPdf	15 16 47.2	+1.0
	comp=Z,50nm,0.8s,baz=138,slow=3.6,SNR=5.6						
ROSC	El Rosal	131.82	44	PKP	PKPdf	15 16 47.2	+1.0
LPAZ	La Paz	151.66	60	PKPbc	PKPdf	15 17 29.0	+8.5
	comp=Z,114nm,0.8s,baz=352,slow=6.2,SNR=23						
USHA	Ushuaia	151.91	148	PKPbc	PKPdf	15 17 27.1	+7.3
	comp=Z,441nm,0.8s,baz=213,slow=3.8,SNR=30						
USHA				PKPab	PKPab	15 17 33.8	-2.0
	comp=Z,667nm,0.9s,baz=210,slow=4.6,SNR=13						
USHA	Ushuaia	151.91	148	PKPbc	PKPdf	15 17 27.1	+7.3
USHA				PKPab	PKPab	15 17 33.8	-2.0
BDFB	Brasilia	161.90	16	PKP	PKPdf	15 17 34.5	+1.2
	comp=Z,29nm,0.9s,baz=278,slow=0.7,SNR=16						
BDFB				PKPab	PKPab	15 18 20.6	+0.9
	comp=Z,66nm,0.8s,baz=356,slow=3.8,SNR=6.2						
BDFB				PP	PP	15 22 05.2	+1.0
	comp=Z,88nm,1.0s,baz=7.1,slow=5.7,SNR=5.0						
BDFB	Brasilia	161.90	16	PKIKP	PKPdf	15 17 34.5	+1.2
BDFB						15 22 05.2	
BDFB				pmax	pmax		
	comp=Z,29nm,0.9s						
BDFB				pmax	pmax		
	comp=Z,88nm,1.0s						
BDFB	Brasilia	161.90	16	PKP	PKPdf	15 17 34.5	+1.2
BDFB				PKPab	PKPab	15 18 20.6	+0.9
BDFB				PP	PP	15 22 05.2	+1.0
CPUP	Villa Florida	165.70	65	PKP	PKPdf	15 17 37.6	+0.8
	comp=Z,128nm,1.4s,baz=9.4,slow=0.7,SNR=20						
CPUP				PKPab	PKPab	15 18 37.5	+1.5
	comp=Z,33nm,1.1s,baz=310,slow=5.2,SNR=4.7						
CPUP				PP	PP	15 22 26.3	+2.3
	comp=Z,38nm,1.3s,baz=13,slow=2.3,SNR=4.0						
CPUP	Villa Florida	165.70	65	PKIKP	PKPdf	15 17 37.6	+0.8
CPUP						15 22 26.3	
CPUP				pmax	pmax		
	comp=Z,128nm,1.4s						
CPUP				pmax	pmax		
	comp=Z,39nm,1.3s						
CPUP	Villa Florida	165.70	65	PKP	PKPdf	15 17 37.6	+0.8
CPUP				PKPab	PKPab	15 18 37.5	+1.5
CPUP				PP	PP	15 22 26.3	+2.3

*JMA **05** 15:01:36.6±0.1, 33.16N×136.91E, h44^{km}±5^{km}, M4.7*

ISC 05 15:01:36.8±1.8**, 33.18N**±0.08×**136.92E**±0.08**, h44**^{km}**, n9, σ0^{s}.52**/17**, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JWZ	Kozaga	1.07	290	P	P	15 01 55.2	-0.4
JWZ				S	S	15 02 09.0	-0.5
JKN	Kiinagashima	1.20	333	P	P	15 01 57.4	0.0
JKN				S	S	15 02 12.0	-0.8
JIE	Ise	1.23	352	P	P	15 01 57.8	0.0
JIE				S	S	15 02 13.5	0.0
JWM	Minabe	1.47	298	P	P	15 02 01.6	+0.2
JWM				S	S	15 02 19.2	-0.4
JWY	Kouya	1.52	314	P	P	15 02 02.6	+0.6
JWY				S	S	15 02 21.6	+0.8
TSUJ	Tsu 2	1.58	345	P	P	15 02 03.0	0.0
TSUJ				S	S	15 02 23.0	+0.6
JHE	Heguri	1.80	325	P	P	15 02 06.3	+0.3
JHE				S	S	15 02 28.4	+0.7
JAI	Aioi	2.15	287	P	P	15 02 11.4	+0.4
JAI				S	S	15 02 36.0	-0.6
MAT	Matsushiro	3.52	17	*e*S	S	15 03 10.5	-0.9

*JMA **05** 15:09:10.9±0.2, 33.29N×137.03E, h47^{km}, M4.0*

*IDC **05** 15:09:15.3±0.8, 33.31N×137.54E, mb4.3/10, mb1 4.5/10, mb1mx4.4/22, Error ellipse: s-maj=23.9km s-min=16.9km az=47.0*

*NEIC **05** 15:09:16.7±0.8, 33.44N×137.51E, h10^{km}, mb4.6/4, Error ellipse: s-maj=24.9km s-min=14.6km az=81.0*

ISC 05 15:09:14.4±0.6**, 33.55N**±0.05×**137.44E**±0.07**, h10**^{km}**, n24, σ1^{s}.71**/30**, mb4.4**/14**, 1D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIE	Ise	1.03	324	⇓P	Pb	15 09 30.8	-3.2
JIE				S	Sb	15 09 45.8	-1.6
JKN	Kiinagashima	1.20	306	P	Pb	15 09 30.7	-6.1
JKN				S	Sb	15 09 45.2	-7.0
TSUJ	Tsu 2	1.43	324	S	Sb	15 09 54.9	-4.0
JWZ	Kozaga	1.44	270	P	Pn	15 09 30.2	-11
JWZ				S	Sb	15 09 44.1	-15
JWY	Kouya	1.67	294	S	Sn	15 09 56.0	-10
JHJ	Hachijo jima 2	2.01	102	Pn	Pn	15 09 47.1	-1.8
	31nm,0.3s,baz=331,slow=21,SNR=3.4						
JHJ				Sn	Sn	15 10 13.9	-0.3
	94nm,0.3s,baz=330,slow=22,SNR=7.2						
MAJO	Matsushiro	3.05	12	*e*Pn	Pn	15 10 03.8	+0.1
MAT	Matsushiro	3.05	12	P	Pn	15 10 02.6	-1.1
MAT				*e*S	Sn	15 10 41.2	+0.6
MAT	Matsushiro	3.05	12	P	Pn	15 10 03.0	-0.7
MAT				S	Sn	15 10 42.0	+1.4
SONM	Songino Array	27.31	311	P	P	15 15 03.6	+2.6
	3.6nm,0.8s,mb4.0,baz=114,slow=12,SNR=2.4						
MKAR	Makanchi Array	43.32	305	P	P	15 17 19.7	+1.7
	18nm,0.7s,mb4.9,baz=89,slow=9.2,SNR=13						
KURK	Kurchatov	45.61	310	P	P	15 17 36.5	+0.1
	44nm,1.1s,mb5.3						
AAK	Ala-Archa	49.34	300	*e*P	P	15 18 06.0	+0.3
	11nm,0.8s,mb4.9						
BVAR	Borovoye Array	50.57	314	P	P	15 18 16.8	+1.8
	4.3nm,0.7s,mb4.5,baz=108,slow=9.4,SNR=4.8						
BVAR				PcP	PcP	15 19 33.7	+0.7
	2.8nm,0.6s,baz=86,slow=2.5,SNR=4.5						
BRVK	Borovoye	50.63	314	*e*P	P	15 18 17.6	+2.1
	1.7nm,0.5s,mb4.2						
ZRNK	Zerenda	51.41	314	*e*P	P	15 18 22.0	+0.7
	2.1nm,0.6s,mb4.2						
WRA	Warramunga Arr	53.28	184	P	P	15 18 33.8	-2.0
	3.8nm,0.7s,mb4.5,baz=359,slow=7.7,SNR=6.5						
ILAR	Eielson Array	54.16	31	P	P	15 18 44.7	+3.1
	2.1nm,0.9s,mb4.1,baz=274,slow=3.8,SNR=2.8						
ILAR	Eielson Array	54.16	31	P	P	15 18 44.7	+3.1
ASAR	Alice Springs	57.00	184	P	P	15 19 01.5	-1.3
	2.3nm,0.9s,mb4.2,baz=18,slow=11,SNR=4.2						
STKA	Stephens Creek	65.20	176	P	P	15 19 57.5	-0.7
	8.6nm,1.0s,mb4.7,baz=338,slow=5.4,SNR=3.8						
AKASG	Malin Array Be	75.02	321	P	P	15 21 00.1	+2.5
	1.6nm,0.7s,mb4.1,baz=50,slow=6.3,SNR=4.4						
NOA	NORSAR Array B	76.09	336	P	P	15 21 05.4	+1.9
	1.6nm,0.9s,mb4.0,baz=42,slow=5.4,SNR=3.4						
GERES	GERESS Array B	83.88	326	P	P	15 21 48.1	+2.7
	0.9nm,0.7s,mb4.0,baz=27,slow=6.0,SNR=3.6						

*JMA **05** 15:13:12.6±0.1, 33.25N×136.88E, h42^{km}, M4.0*

*IDC **05** 15:13:14.4±1.2, 33.86N×136.80E, mb3.9/6, mb1 4.0/6, mb1mx3.9/21, MS5.3/1, Ms1 5.3/1, ms1mx5.3/32, Error ellipse: s-maj=56.3km s-min=21.3km az=72.0*

*NEIC **05** 15:13:16.5±0.6, 33.74N×136.59E, h10^{km}, mb4.1/2, Error ellipse: s-maj=17.8km s-min=10.4km az=101.0*

ISC 05 15:13:12.3±1.1**, 33.31N**±0.05×**136.88E**±0.04**, h19**^{km}±5^{km}**, n29, σ0^{s}.76**/38**, mb4.0**/9**, 1C-1D, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JWZ	Kozaga	0.99	283	P	Pb	15 13 30.4	-0.2
JWZ				S	Sb	15 13 43.0	-0.3
JKN	Kiinagashima	1.06	332	P	Pb	15 13 32.3	+0.4
JKN				S	Sb	15 13 45.7	+0.4
JIE	Ise	1.09	353	⇑P	Pb	15 13 33.1	+0.9
JIE				S	Sb	15 13 47.3	+1.3
TK03	Tokai 3	1.25	47	P	Pb	15 13 33.9	-1.0
TK03				S	Sb	15 13 50.6	0.0
JAA	Atsumi	1.34	10	P	Pn	15 13 36.2	+0.1
JAA				S	Sb	15 13 53.3	+0.1
TK04	Tokai 4	1.36	38	S	Sb	15 13 53.6	-0.2
JWM	Minabe	1.38	293	*e*S	Sb	15 13 53.5	-0.9
JWY	Kouya	1.40	311	P	Pn	15 13 37.7	+0.7
TSUJ	Tsu 2	1.45	345	S	Sb	15 13 56.0	-0.4
JHE	Heguri	1.67	324	P	Pn	15 13 41.4	+0.6
JHE				*e*S	Sn	15 14 01.8	0.0
JHMK	Hamakita	1.67	26	P	Pn	15 13 40.2	-0.7
HMMJ	Hamamatsu 2	1.69	24	*e*S	Sn	15 14 01.8	-0.7
JYZW	Yoshizawa	1.83	23	P	Pn	15 13 42.5	-0.6
JYZW				*e*S	Sn	15 14 04.7	-1.2
JEG	Eigenji	1.86	348	⇓P	Pn	15 13 44.7	+1.0
JEG				*e*S	Sn	15 14 07.2	+0.3
JAO	Obara	1.98	9	*e*S	Sn	15 14 09.5	-0.2
JAI	Aioi	2.08	284	S	Sn	15 14 10.5	-1.8
JHJ	Hachijo jima 2	2.45	94	LR	LR	15 14 58.2	
	comp=Z,67µm,21.4s,baz=353,slow=40						
MAJO	Matsushiro	3.41	18	*e*Pn	Pn	15 14 05.6	0.0
MAT	Matsushiro	3.41	18	P	Pn	15 14 06.0	+0.4
MAT				S	Sn	15 14 45.9	0.0
MAT	Matsushiro	3.41	18	*e*P	Pn	15 14 06.0	+0.4
MAT				*e*S	Sn	15 14 46.0	+0.1
SONM	Songino Array	27.11	311	P	P	15 18 56.1	+0.3
	2.8nm,1.0s,mb3.8,baz=140,slow=6.9,SNR=2.5						
BVAR	Borovoye Array	50.40	314	P	P	15 22 11.1	+0.9
	3.4nm,0.8s,mb4.4,baz=90,slow=7.4,SNR=3.8						
ZRNK	Zerenda	51.24	314	*e*P	P	15 22 16.4	-0.2
	1.4nm,0.6s,mb4.1						
WRAB	Tennant Creek	53.00	183	*e*P	P	15 22 36.7	+6.5
	0.9nm,0.4s,mb4.0						
WRA	Warramunga Arr	53.01	183	P	P	15 22 37.1	+6.8
	1.5nm,0.8s,mb4.0,baz=360,slow=7.6,SNR=12						
ASAR	Alice Springs	56.73	183	P	P	15 23 03.6	+6.3
	0.2nm,0.4s,mb3.5,baz=13,slow=7.6,SNR=6.4						
FINES	FINESS Array B	70.34	332	P	P	15 24 25.7	-0.5
	1.8nm,0.9s,mb4.0,baz=124,slow=10.0,SNR=3.0						
GERES	GERESS Array B	83.82	326	P	P	15 25 42.4	+0.9
	0.8nm,0.9s,mb3.8,baz=39,slow=6.3,SNR=2.3						
TXAR	Lajitas Array	95.35	50	P	P	15 26 40.5	+3.9
	3.1nm,0.9s,mb4.7,baz=333,slow=2.0,SNR=3.2						

*JMA **05** 15:14:34.6±0.3, 33.31N×137.12E, h53^{km}±3^{km}, M3.8*

ISC 05 15:14:34.0±1.7**, 33.26N**±0.09×**137.10E**±0.07**, h53**^{km}**, n10, σ0^{s}.65**/16**, 2C, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TK01	Tokai 1	0.65	39	*e*S	S	15 14 56.5	-0.5
JIE	Ise	1.17	344	⇑P	P	15 14 54.6	+0.3
JIE				S	S	15 15 09.8	+0.3
JWZ	Kozaga	1.19	283	S	S	15 15 09.0	-0.8
JKN	Kiinagashima	1.20	325	P	P	15 14 54.6	-0.1
JKN				S	S	15 15 09.1	-1.2
JAA	Atsumi	1.36	2	⇑P	P	15 14 56.9	-0.3
JAA				S	S	15 15 13.7	-0.7
TSUJ	Tsu 2	1.55	339	*e*S	S	15 15 18.6	-0.2
JHE	Heguri	1.81	320	P	P	15 15 04.0	+0.6
JHE				S	S	15 15 25.8	+0.5
JEG	Eigenji	1.96	343	P	P	15 15 06.6	+1.2
JEG				*e*S	S	15 15 30.0	+1.3
JAO	Obara	2.00	4	P	P	15 15 05.9	-0.1
MAT	Matsushiro	3.40	15	P	P	15 15 26.0	+0.2
MAT				S	S	15 16 04.9	-0.3

*JMA **05** 15:18:28.4±0.2, 33.15N×137.03E, h44^{km}, M4.1*

ISC 05 15:18:28.8±1.3**, 33.17N**±0.07×**137.02E**±0.04**, h43**^{km}±41^{km}**, n14, σ0^{s}.42**/22**, 4D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TK02	Tokai 2	0.99	39	*e*S	S	15 18 59.4	0.0
JWZ	Kozaga	1.15	288	⇓P	P	15 18 48.4	-0.2
JWZ				*e*S	S	15 19 02.6	-0.8
JIE	Ise	1.24	348	⇓P	P	15 18 50.5	+0.5
JIE				S	S	15 19 06.1	+0.3
JKN	Kiinagashima	1.24	330	⇓P	P	15 18 50.3	+0.3
JKN				S	S	15 19 05.2	-0.6
TK03	Tokai 3	1.27	38	P	P	15 18 49.9	-0.4
TK03				*e*S	S	15 19 06.3	-0.1
TK04	Tokai 4	1.40	30	P	P	15 18 52.3	-0.1
TK04				*e*S	S	15 19 10.1	+0.2
JWM	Minabe	1.54	296	P	P	15 18 54.6	+0.3
JWM				*e*S	S	15 19 13.1	-0.2
JWY	Kouya	1.58	312	P	P	15 18 55.6	+0.8
JWY				*e*S	S	15 19 14.6	+0.4
TSUJ	Tsu 2	1.61	342	S	S	15 19 15.0	0.0
SHZ3	Shizuoka 3	2.13	27	P	P	15 19 01.8	-0.8
JIM2	Oshima 3	2.53	52	P	P	15 19 08.4	+0.1
JGM	Miyama	2.53	354	⇓P	P	15 19 08.9	+0.5
JYN	Shimob	2.64	28	P	P	15 19 09.8	-0.1
MAT	Matsushiro	3.50	16	P	P	15 19 22.4	+0.3
MAT				S	S	15 20 02.4	-0.4

*IDC **05** 15:20:17.8±2.2, 17.90N×147.28E, mb4.2/9, mb1 4.2/9, mb1mx4.1/19, Error ellipse: s-maj=87.5km s-min=18.3km az=87.0*

*NEIC **05** 15:20:25.3±4.4, 17.84N×147.15E, h55^{km}±28^{km}, mb4.3/3, Error ellipse: s-maj=72.1km s-min=12.2km az=84.0*

ISC 05 15:20:23.9±4.0**, 17.9N**±0.1×**147.1E**±0.3**, h54**^{km}±30^{km}**, n20, σ0^{s}.59**/20**, mb4.4**/15**, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	Guam	4.73	207	*e*Pn	P	15 21 34.5	0.0
WRAB	Tennant Creek	39.56	199	*e*P	P	15 27 50.8	-0.8
	1.9nm,0.4s,mb4.2						
WRA	Warramunga Arr	39.58	199	P	P	15 27 52.6	+0.9
	1.0nm,0.7s,mb3.7,baz=30,slow=8.6,SNR=7.8						
FITZ	Fitzroy Crossi	41.47	212	P	P	15 28 07.1	-0.2
	2.2nm,0.9s,mb3.8,baz=30,slow=14,SNR=4.9						
ASAR	Alice Springs	43.21	198	P	P	15 28 21.6	0.0
	0.3nm,0.5s,mb3.3,baz=21,slow=7.6,SNR=4.4						
SONM	Songino Array	44.61	321	P	P	15 28 32.9	+0.4
	2.6nm,0.9s,mb4.1,baz=131,slow=11,SNR=5.7						
PKI	Pulchoki	57.19	292	*e*P	P	15 30 08.1	0.0
	7.7nm,0.7s,mb4.8						
KKN	Kakani	57.29	292	*e*P	P	15 30 09.3	+0.6
DMN	Daman	57.46	292	*e*P	P	15 30 10.1	+0.2
GKN	Gorkha	57.84	292	*e*P	P	15 30 12.8	+0.2
	40nm,1.1s,mb5.3						
KOLN	Koldanda	58.78	292	*e*P	P	15 30 18.9	-0.2
	28nm,1.1s,mb5.2						
ZAL	Zalesovo	59.48	323	P	P	15 30 22.8	-0.8
	2.6nm,0.9s,mb4.2,baz=280,slow=6.7,SNR=4.9						
MKAR	Makanchi Array	59.98	314	P	P	15 30 27.3	+0.2
	2.5nm,0.7s,mb4.3,baz=89,slow=8.2,SNR=9.0						
MKAR	Makanchi Array	59.98	314	P	P	15 30 27.3	+0.2
BVAR	Borovoye Array	67.95	321	P	P	15 31 19.0	0.0
	5.4nm,0.6s,mb4.8,baz=90,slow=7.4,SNR=16						
BRVK	Borovoye	68.01	321	*e*P	P	15 31 19.5	+0.1
	1.6nm,0.4s,mb4.4						
ZRNK	Zerenda	68.79	321	*e*P	P	15 31 22.8	-1.4
	1.9nm,0.4s,mb4.4						
ARCES	ARCESS Array B	83.69	342	P	P	15 32 48.9	+1.3
	2.7nm,0.6s,mb4.6,baz=72,slow=7.3,SNR=12						
ARCES	ARCESS Array B	83.69	342	P	P	15 32 48.9	+1.3
FINES	FINESS Array B	88.19	336	P	P	15 33 09.6	-0.3
	1.6nm,0.6s,mb4.4,baz=90,slow=6.9,SNR=9.5						

*JMA **05** 15:20:51.3±0.2, 33.34N×137.00E, h42^{km}±5^{km}, M3.5*

ISC 05 15:20:51.6±1.7**, 33.4N**±0.1×**136.99E**±0.07**, h42**^{km}**, n10, σ0^{s}.50**/15**, 1C, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIE	Ise	1.07	347	P	P	15 21 10.3	0.0
JKN	Kiinagashima	1.08	326	P	P	15 21 10.3	-0.2
JKN				*e*S	S	15 21 23.9	-0.7
JWZ	Kozaga	1.08	280	*e*S	S	15 21 23.7	-0.9
TK03	Tokai 3	1.15	45	*e*S	S	15 21 25.2	-1.0
TSUJ	Tsu 2	1.44	341	P	P	15 21 15.8	+0.1
TSUJ				*e*S	S	15 21 34.0	+0.4
JWY	Kouya	1.45	307	P	P	15 21 16.3	+0.4
JWM	Minabe	1.46	291	P	P	15 21 16.0	+0.1
JWM				*e*S	S	15 21 33.6	-0.4
JHE	Heguri	1.70	321	⇑P	P	15 21 19.5	+0.2
JAJ2	Tsuna	2.05	302	P	P	15 21 25.0	+0.7
JAJ2				*e*S	S	15 21 49.2	+0.3
MAT	Matsushiro	3.34	17	P	P	15 21 43.1	+0.4
MAT				S	S	15 22 21.8	+0.3

*BJI **05** 15:26:57.2, 33.15N×137.64E, h42^{km}, mB4.8, mb4.9*

*JMA **05** 15:26:57.9±0.1, 33.27N×137.11E, h41^{km}, M4.2*

*NEIC **05** 15:26:58.1±0.2, 33.28N×137.09E, h10^{km}, mb4.8/22, Error ellipse: s-maj=4.8km s-min=4.0km az=105.0*

*MOS **05** 15:26:59.6±1.1, 33.30N×137.16E, h33^{km}, mb4.6/16, Error ellipse: s-maj=21.4km s-min=10.7km az=97.6*

*IDC **05** 15:27:00.6±0.4, 33.27N×137.11E, h26^{km}±2^{km}, mb4.3/24, mb1 4.4/28, mb1mx4.3/33, ML3.8/4, MS5.8/1, Ms1 5.8/1, ms1mx5.2/28, Error ellipse: s-maj=13.0km s-min=9.5km az=74.0*

ISC 05 15:26:58.7±0.2**, 33.32N**±0.02×**137.10E**±0.03**, h26**^{km}**, h26**^{km}±.3^{km}**:pP-P, n138, σ0^{s}.95**/156**, mb4.6**/45**, 9C-4D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TK02	Tokai 2	0.83	41	P	Pb	15 27 13.8	-0.5
TK02				*e*S	Sb	15 27 24.6	-0.5
JIE	Ise	1.11	343	⇑P	Pn	15 27 18.8	0.0
JIE				*e*S	Sb	15 27 33.2	-0.1
JKN	Kiinagashima	1.16	323	⇑P	Pn	15 27 18.8	-0.6
JKN				S	Sn	15 27 33.0	-1.5
JWZ	Kozaga	1.18	280	P	Pn	15 27 18.5	-1.2
JWZ				S	Sn	15 27 33.2	-1.8
TK04	Tokai 4	1.24	31	⇑P	Pn	15 27 19.8	-0.8
JAA	Atsumi	1.30	2	⇑P	Pn	15 27 21.0	-0.5
JAA				S	Sn	15 27 37.8	-0.4
TSUJ	Tsu 2	1.49	338	P	Pn	15 27 24.1	-0.1
TSUJ				S	Sn	15 27 42.9	-0.1
JWM	Minabe	1.55	290	P	Pn	15 27 24.4	-0.6
JWM				S	Sn	15 27 42.9	-1.5
HMMJ	Hamamatsu 2	1.61	18	⇑P	Pn	15 27 24.9	-1.0
HMMJ				S	Sn	15 27 45.1	-1.0
JHE	Heguri	1.77	319	P	Pn	15 27 27.9	-0.3
JAO	Obara	1.94	4	⇑P	Pn	15 27 30.1	-0.6
JAO				*e*S	Sn	15 27 54.2	-0.2
SHZ3	Shizuoka 3	1.96	28	P	Pn	15 27 29.7	-1.3
SHZ3				*e*S	Sn	15 27 54.8	-0.2
JNY	Yasuok	2.12	17	P	Pn	15 27 32.4	-0.9
JAJ2	Tsuna	2.14	301	⇑P	Pn	15 27 33.5	0.0
JAJ2				S	Sn	15 27 59.7	+0.1
JMY	Miyakejima3	2.14	69	P	Pn	15 27 32.3	-1.3
JHJ	Hachijo jima 2	2.26	94	Pn	Pn	15 27 34.3	-0.9
	58nm,0.3s,baz=91,slow=20,SNR=6.0						
JHJ				Sn	Sn	15 27 60.0	-2.5
	127nm,0.3s,baz=249,slow=15,SNR=4.4						
JGF	Kuroka	2.28	5	P	Pn	15 27 34.9	-0.6
JGF				S	Sn	15 28 03.1	0.0
JHJ2	Mitsune	2.29	95	P	Pn	15 27 34.1	-1.5
JIM2	Oshima 3	2.38	54	P	Pn	15 27 36.1	-0.9
JFM	Mihama	2.38	338	P	Pn	15 27 36.7	-0.3
JWT	Wachi	2.41	325	⇑P	Pn	15 27 37.2	-0.1
JWT				S	Sn	15 28 05.6	-0.7
JKY	Yasaka	2.83	325	⇑P	Pn	15 27 43.1	-0.2
JYO	Yokosk	2.85	48	P	Pn	15 27 44.1	+0.5
JKG	Kaga	3.01	348	P	Pn	15 27 45.8	-0.1
JRY	Ryogami san	3.07	28	P	Pn	15 27 47.1	+0.4
JHU	Hanno	3.10	35	P	Pn	15 27 47.2	+0.1
JNG	Nsakai	3.18	15	P	Pn	15 27 48.4	+0.1
JTT	Ttatey	3.28	3	P	Pn	15 27 50.8	+1.1
MAJO	Matsushiro	3.34	15	*e*Pn	Pn	15 27 50.0	-0.5
MAT	Matsushiro	3.34	15	P	Pn	15 27 50.2	-0.3
MAT				*e*S	Sn	15 28 30.8	+1.0
MAT	Matsushiro	3.34	15	*e*P	Pn	15 27 50.0	-0.5
MAT				*e*S	Sn	15 28 31.0	+1.2
JYT	Yasato	3.86	40	⇓P	Pn	15 27 57.9	0.0
JHK	Hiroka	4.22	21	P	Pn	15 28 03.3	+0.3
JSB	Shiboa	4.31	32	P	Pn	15 28 05.0	+0.7
JHO	Hitachi	4.34	40	P	Pn	15 28 03.8	-1.0
JFY	Yanaizu	4.59	27	⇓P	Pn	15 28 09.0	+0.6
JFT	Otama	4.95	31	P	Pn	15 28 13.9	+0.5
JFK	Kawauchi	5.08	36	P	Pn	15 28 14.7	-0.5
JNU	Nakatsue	5.22	269	Pn	Pn	15 28 15.8	-1.4
	1.1nm,0.3s,baz=57,slow=20,SNR=3.1						
JNU				Sn	Sn	15 29 13.6	-3.7
	2.2nm,0.3s,baz=63,slow=9.7,SNR=3.8						
JNU				LR	LR	15 30 18.5	
	comp=Z,97µm,20.9s,baz=328,slow=38						
JMM	Marumori	5.44	33	P	Pn	15 28 20.2	-0.1
JYS	Shirataka	5.45	25	P	Pn	15 28 21.2	+0.8
CBIJ	Chichi jima	7.61	143	Pn	Pn	15 28 45.8	-5.0
	11nm,0.3s,baz=294,slow=22,SNR=2.8						
CBIJ				Sn	Sn	15 30 09.7	-7.4
	13nm,0.3s,baz=260,slow=21,SNR=3.7						
ASAJ	Asahikawa	11.60	20	Pn	P	15 29 41.2	-4.4
	1.0nm,0.3s,baz=214,slow=12,SNR=14						
ASAJ	Asahikawa	11.60	20	P	P	15 29 41.3	-4.4
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CN2	Changchun	13.86	322	*e*P	P	15 30 18.1	+2.3
CN2				AMB	AMB		
	comp=Z,20nm,1.0s						
YSS	Yuzh-Sakhalins	14.28	16	*e*P	P	15 30 19.0	-2.2
BJT	Baijiatuau	18.05	298	*e*P	P	15 31 10.4	+0.9
	comp=Z,18nm,0.7s						
HIA	Hailar	20.51	326	*e*P	P	15 31 36.2	-1.3
HHC	Hu-ho-hao-te	21.66	298	*e*P	P	15 31 49.6	+0.3
HHC				PP	PP	15 32 15.1	+0.9
HHC				S	S	15 35 45.6	+2.9
HHC				AMB	AMB		
	comp=Z,174nm,1.1s,mb5.4						
ENH	Enshi	23.64	270	P	P	15 32 10.1	+1.3
	comp=Z,27nm,1.0s,mb4.6						
SONM	Songino Array	27.24	311	P	P	15 32 42.7	+0.2
	comp=Z,2.8nm,0.8s,mb3.8,baz=116,slow=8.3,SNR=9.7						
SONM				pP	pP	15 32 49.4	-0.6
	comp=Z,2.3nm,0.8s,baz=120,slow=9.0,SNR=4.6						
MA2	Magadan	27.78	15	*e*P	P	15 32 46.7	-0.6
MA2	Magadan	27.78	15	*e*P	P	15 32 47.5	+0.2
YAK	Yakutsk	29.11	353	⇓*e*P	P	15 32 59.5	+0.2
YAK	Yakutsk	29.11	353	*e*P	P	15 32 58.6	-0.7
	comp=Z,17nm,0.7s,mb4.9						
ZAK	Zakamensk	30.07	315	*e*P	P	15 33 09.4	+1.4
CMAR	Chiang Mai Arr	37.16	256	P	P	15 34 09.4	0.0
	comp=Z,1.5nm,0.7s,mb3.9,baz=51,slow=7.9,SNR=13						
CMAR				pP	pP	15 34 17.1	-0.1
	comp=Z,1.7nm,0.6s,baz=48,slow=8.2,SNR=9.9						
CMAR	Chiang Mai Arr	37.16	256	P	P	15 34 09.4	0.0
CMAR				*PP	pP	15 34 17.1	0.0
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
CMAR				pmax	pmax		
	comp=N,2.0nm,0.6s						
TIXI	Tiksi	38.64	356	*e*P	P	15 34 21.4	0.0
TIXI				pmax	pmax		
	comp=Z,22nm,1.4s,mb4.7						
ZAL	Zalesovo	41.95	316	P	P	15 34 49.6	+0.9
	comp=Z,2.8nm,0.8s,mb4.0,baz=283,slow=6.7,SNR=7.6						
ZAL				pP	pP	15 34 57.6	+1.1
	comp=Z,1.5nm,0.7s,baz=257,slow=14,SNR=2.6						
ZAL	Zalesovo	41.95	316	P	P	15 34 49.7	+0.9
ZAL				*PP	pP	15 34 57.6	+1.1
ZAL				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ZAL				pmax	pmax		
	comp=N,2.0nm,0.7s						
MKAR	Makanchi Array	43.21	305	P	P	15 35 00.3	+1.1
	comp=N,16nm,0.8s,mb4.8,baz=89,slow=10,SNR=38						
MKAR				pP	pP	15 35 07.9	+1.0
	comp=N,6.9nm,0.6s,baz=87,slow=9.7,SNR=8.3						
MKAR				PcP	PcP	15 36 47.1	-1.7
	comp=N,2.2nm,0.9s,baz=90,slow=1.4,SNR=2.9						
MKAR				pPcP		15 36 56.6	
	comp=N,5.6nm,0.9s,baz=90,slow=3.6,SNR=5.0						
MKAR	Makanchi Array	43.21	305	P	P	15 35 00.3	+1.1

MKAR				*PP	pP	15 35 07.9	+1.0
MKAR						15 36 47.1	
MKAR						15 36 56.6	
MKAR				pmax	pmax		
	comp=Z,16nm,0.8s						
MKAR				pmax	pmax		
	comp=N,7.0nm,0.6s						
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MKAR				pmax	pmax		
	comp=N,6.0nm,0.9s						
MKAR	**Makanchi Array**	**43.21**	**305**	P	**P**	**15 35 00.3**	**+1.1**
MKAR				pP	pP	15 35 07.9	+1.0
MKAR				PcP	PcP	15 36 47.1	-1.7
MKAR				pPcP		15 36 56.6	
KURK	**Kurchatov**	**45.55**	**311**	*e*P	**P**	**15 35 17.5**	**-0.3**
	comp=N,22nm,1.0s,mb5.0						
TNA	**Tin City**	**45.80**	**28**	*e*P	**P**	**15 35 20.3**	**+0.6**
	comp=N,9.9nm,0.8s,mb4.8						
AAK	**Ala-Archa**	**49.21**	**300**	P	**P**	**15 35 46.5**	**-0.2**
BVAR	**Borovoye Array**	**50.53**	**314**	P	**P**	**15 35 57.0**	**+0.3**
	comp=N,3.6nm,0.6s,mb4.5,baz=100,slow=9.0,SNR=14						
BVAR				pP	pP	15 36 05.9	+1.3
	comp=N,3.2nm,0.6s,baz=110,slow=8.9,SNR=6.2						
BRVK	**Borovoye**	**50.59**	**314**	*e*P	**P**	**15 35 57.2**	**+0.2**
	comp=N,2.1nm,0.5s,mb4.3						
ZRNK	**Zerenda**	**51.37**	**314**	*e*P	**P**	**15 36 02.8**	**-0.2**
	comp=N,6.7nm,0.8s,mb4.6						
RSO	**Redoubt South**	**51.99**	**36**	*e*P	**P**	**15 36 08.1**	**+0.5**
KDAK	**Kodiak Island**	**52.21**	**40**	*e*P	**P**	**15 36 09.2**	**-0.1**
	comp=N,19nm,0.7s,mb5.1						
KDAK				*e*	pP	15 36 16.9	-0.3
FITZ	**Fitzroy Crossi**	**52.29**	**194**	*e*P	**P**	**15 36 09.8**	**-0.7**
	comp=N,5.1nm,0.6s,mb4.6						
FITZ	**Fitzroy Crossi**	**52.29**	**194**	P	**P**	**15 36 09.8**	**-0.7**
	comp=N,5.8nm,0.7s,mb4.6,baz=9.5,slow=8.6,SNR=16						
FITZ				pP	pP	15 36 17.5	-0.9
	comp=N,6.0nm,0.6s,baz=6.9,slow=4.5,SNR=6.1						
WRAB	**Tennant Creek**	**53.02**	**183**	*e*P	**P**	**15 36 14.3**	**-1.6**
	comp=N,54nm,1.5s,mb5.3						
WB2	**Warramunga Arr**	**53.03**	**183**	*e*P	**P**	**15 36 14.3**	**-1.7**
WRA	**Warramunga Arr**	**53.03**	**183**	P	**P**	**15 36 14.3**	**-1.7**
	comp=N,7.1nm,0.8s,mb4.6,baz=1.4,slow=7.7,SNR=33						
WRA				pP	pP	15 36 22.1	-1.7
	comp=N,13nm,1.1s,baz=1.1,slow=7.8,SNR=14						
WRA	**Warramunga Arr**	**53.03**	**183**	P	**P**	**15 36 14.3**	**-1.7**
WRA				*PP	pP	15 36 22.1	-1.8
WRA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
WRA				pmax	pmax		
	comp=N,13nm,1.1s						
MCK	**McKinley**	**53.66**	**32**	*e*P	**P**	**15 36 18.6**	**-1.4**
	comp=N,8.4nm,1.1s,mb4.6						
MCK				*e*	pP	15 36 27.6	-0.2
CTA	**Charters Tower**	**53.83**	**169**	P	**P**	**15 36 20.7**	**-1.0**
	comp=N,3.3nm,0.7s,mb4.4,baz=8.7,slow=9.2,SNR=2.7						
CTA				pP	pP	15 36 28.7	-0.9
	comp=N,3.5nm,0.7s,baz=352,slow=5.2,SNR=2.0						
CTA	**Charters Tower**	**53.83**	**169**	P	**P**	**15 36 20.7**	**-1.1**
CTA				*PP	pP	15 36 28.7	-0.9
CTA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
CTA				pmax	pmax		
	comp=N,4.0nm,0.7s						
CTAO	**Charters Tower**	**53.83**	**169**	P	**P**	**15 36 20.8**	**-0.9**
	comp=N,2.2nm,0.6s,mb4.3						
CTAO				*e*	pP	15 36 27.9	-1.8
SML	**Sawmill**	**54.05**	**34**	*e*P	**P**	**15 36 22.9**	**+0.1**
COLA	**College**	**54.08**	**31**	*e*P	**P**	**15 36 18.0**	**-5.0**
COLA	**College**	**54.08**	**31**	*e*P	**P**	**15 36 24.1**	**+1.1**
	comp=N,46nm,1.4s,mb5.2						
COLA				*e*	pP	15 36 32.5	+1.6
ILAR	**Eielson Array**	**54.50**	**31**	P	**P**	**15 36 25.8**	**-0.3**
	comp=N,2.6nm,0.9s,mb4.2,baz=257,slow=5.0,SNR=15						
ILAR	**Eielson Array**	**54.50**	**31**	P	**P**	**15 36 25.8**	**-0.3**
ILAR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MBWA	**Marble Bar**	**56.66**	**199**	*e*P	**P**	**15 36 41.1**	**-1.2**
	comp=Z,13nm,1.1s,mb4.9						
ASAR	**Alice Springs**	**56.75**	**184**	P	**P**	**15 36 42.5**	**-0.5**
	comp=Z,3.7nm,0.7s,mb4.5,baz=16,slow=6.6,SNR=31						
ASAR				pP	pP	15 36 50.9	0.0
	comp=Z,4.6nm,0.7s,baz=13,slow=11,SNR=11						
ASPA	**Alice Springs**	**56.75**	**184**	*e*P	**P**	**15 36 42.7**	**-0.3**
ARU	**Arti**	**56.83**	**319**⇓	*e*P	**P**	**15 36 42.6**	**-0.5**
STKA	**Stephens Creek**	**64.99**	**176**	P	**P**	**15 37 37.6**	**-1.1**
	comp=Z,15nm,1.0s,mb5.0,baz=288,slow=3.9,SNR=3.2						
STKA				pP	pP	15 37 45.9	-0.9
	comp=Z,9.4nm,0.7s,baz=210,slow=23,SNR=1.4						
ARCES	**ARCESS Array B**	**66.20**	**339**	P	**P**	**15 37 45.7**	**-0.2**
	comp=Z,9.2nm,1.1s,mb4.7,baz=39,slow=7.8,SNR=3.7						
ARCES				pP	pP	15 37 54.5	+0.5
	comp=Z,4.4nm,0.9s,baz=60,slow=9.8,SNR=0.9						
ARCES	**ARCESS Array B**	**66.20**	**339**	P	**P**	**15 37 45.7**	**-0.2**
ARCES				*PP	pP	15 37 54.5	+0.6
ARCES				pmax	pmax		
	comp=Z,9.0nm,1.2s						
ARCES				pmax	pmax		
	comp=N,4.0nm,0.9s						
FINES	**FINESS Array B**	**70.42**	**332**	P	**P**	**15 38 12.2**	**0.0**
	comp=N,1.8nm,0.7s,mb4.1,baz=90,slow=5.7,SNR=4.2						
FINES				pP	pP	15 38 20.5	+0.2
	comp=N,0.8nm,0.5s,baz=90,slow=3.8,SNR=2.0						
FINES	**FINESS Array B**	**70.42**	**332**	P	**P**	**15 38 12.2**	**0.0**
FINES				*PP	pP	15 38 20.5	+0.3
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
FINES				pmax	pmax		
	comp=N,1.0nm,0.5s						
SUMG	**Summit**	**74.34**	**359**	*e*P	**P**	**15 38 37.0**	**+1.8**
	comp=N,4.3nm,0.6s,mb4.6						
AKASG	**Malin Array Be**	**75.02**	**321**	P	**P**	**15 38 39.5**	**+0.1**
	comp=N,3.2nm,0.7s,mb4.3,baz=50,slow=6.1,SNR=8.0						
AKASG				pP	pP	15 38 48.0	+0.4
	comp=N,2.5nm,0.7s,baz=50,slow=6.4,SNR=4.0						
AKASG	**Malin Array Be**	**75.02**	**321**	P	**P**	**15 38 39.5**	**0.0**
AKASG				*PP	pP	15 38 48.0	+0.4
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.7s						
AKASG				pmax	pmax		
	comp=N,3.0nm,0.7s						
NEW	**Newport**	**75.25**	**42**	P	**P**	**15 38 41.9**	**+1.1**
	comp=N,1.9nm,0.7s,mb4.1,baz=324,slow=14,SNR=4.1						
NEW				pP	pP	15 38 49.6	+0.6
	comp=N,2.3nm,0.7s,baz=301,slow=9.5,SNR=2.5						
NEW	**Newport**	**75.25**	**42**	P	**P**	**15 38 41.9**	**+1.1**
NEW				*PP	pP	15 38 49.6	+0.6
NEW				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NEW				pmax	pmax		
	comp=N,2.0nm,0.7s						
YBH	**Yreka Blue Hor**	**75.42**	**50**	P	**P**	**15 38 43.6**	**+1.6**
	comp=N,2.3nm,0.8s,mb4.1,baz=37,slow=6.0,SNR=2.8						
YBH				pP	pP	15 38 51.6	+1.5
	comp=N,2.8nm,0.8s,baz=329,slow=6.9,SNR=3.5						
YBH	**Yreka Blue Hor**	**75.42**	**50**	P	**P**	**15 38 43.6**	**+1.6**
YBH				*PP	pP	15 38 51.6	+1.5
YBH				pmax	pmax		
	comp=Z,2.0nm,0.8s						
YBH				pmax	pmax		
	comp=N,3.0nm,0.8s						
HFS	**Hagfors**	**75.96**	**334**	P	**P**	**15 38 44.7**	**+0.1**
	comp=N,3.1nm,0.7s,mb4.3,baz=90,slow=1.4,SNR=6.7						
HFS				pP	pP	15 38 53.4	+0.7
	comp=N,2.4nm,0.6s,baz=79,slow=7.6,SNR=3.4						
HFS	**Hagfors**	**75.96**	**334**	P	**P**	**15 38 44.7**	**+0.1**
HFS				*PP	pP	15 38 53.4	+0.6
HFS				pmax	pmax		
	comp=Z,3.0nm,0.7s						
HFS				pmax	pmax		
	comp=N,2.0nm,0.6s						
NB2	**NORSAR Subarra**	**76.19**	**336**	P	**P**	**15 38 45.5**	**-0.4**
	comp=N,3.3nm,0.9s,mb4.3,baz=44,slow=5.6						
NOA	**NORSAR Array B**	**76.19**	**336**	P	**P**	**15 38 46.2**	**+0.3**
	comp=N,2.6nm,0.9s,mb4.2,baz=42,slow=5.4,SNR=7.2						
NOA				pP	pP	15 38 54.7	+0.7
	comp=N,1.5nm,0.7s,baz=44,slow=5.6,SNR=4.1						
NOA	**NORSAR Array B**	**76.19**	**336**	P	**P**	**15 38 46.2**	**+0.3**
NOA				*PP	pP	15 38 54.7	+0.7
NOA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
NOA				pmax	pmax		
	comp=N,2.0nm,0.7s						
NOA	**NORSAR Array B**	**76.19**	**336**	P	**P**	**15 38 46.2**	**+0.3**
NOA				pP	pP	15 38 54.7	+0.7
BRTR	**Keskin Array B**	**78.59**	**310**	P	**P**	**15 39 01.0**	**+1.3**
	comp=N,6.1nm,0.9s,mb4.5,baz=100,slow=5.4,SNR=8.8						
BRTR				pP	pP	15 39 09.4	+1.6
	comp=N,4.3nm,0.8s,baz=101,slow=4.9,SNR=7.3						
BRTR	**Keskin Array B**	**78.59**	**310**	P	**P**	**15 39 01.0**	**+1.3**
BRTR				*PP	pP	15 39 09.5	+1.6
BRTR				pmax	pmax		
	comp=Z,6.0nm,0.9s						
BRTR				pmax	pmax		
	comp=N,4.0nm,0.8s						
FFC	**Flin Flon**	**78.71**	**30**	*e*P	**P**	**15 39 00.7**	**+0.7**
	comp=N,8.0nm,0.9s,mb4.7						
FFC				*e*	pP	15 39 08.8	+0.7
HLID	**Hailey**	**79.48**	**45**	*e*P	**P**	**15 39 06.2**	**+1.8**
	comp=N,3.5nm,0.8s,mb4.3						
FRB	**Frobisher Bay**	**81.14**	**11**	P	**P**	**15 39 13.8**	**+1.0**
	comp=N,5.2nm,0.7s,mb4.6,baz=36,slow=4.5,SNR=3.1						
FRB	**Frobisher Bay**	**81.14**	**11**	P	**P**	**15 39 13.8**	**+1.0**
FRB				pmax	pmax		
	comp=Z,5.0nm,0.7s						
HWUT	**Hardware Ranch**	**82.34**	**45**	P	**P**	**15 39 22.1**	**+2.6**
	comp=Z,7.5nm,0.9s,mb4.6						
HWUT				*e*	pP	15 39 29.5	+1.8
BW06	**Boulder Array**	**82.78**	**43**	*e*P	**P**	**15 39 22.9**	**+1.1**
	comp=Z,4.2nm,0.9s,mb4.5						
PDAR	**Pinedale Array**	**82.78**	**43**	P	**P**	**15 39 23.1**	**+1.3**
	comp=Z,1.2nm,0.8s,mb4.0,baz=297,slow=3.3,SNR=4.4						
PDAR				pP	pP	15 39 31.1	+1.1
	comp=Z,2.8nm,0.8s,baz=294,slow=3.1,SNR=9.4						
MOX	**Moxa**	**83.56**	**329**	*e*P	**P**	**15 39 34.0**	**+8.5**
MOX				PKPPKP		15 56 51.0	
GERES	**GERESS Array B**	**83.91**	**326**	P	**P**	**15 39 28.4**	**+1.1**
	comp=Z,2.1nm,0.8s,mb4.3,baz=45,slow=5.7,SNR=9.4						
GERES				pP	pP	15 39 36.6	+1.0
	comp=Z,2.8nm,0.8s,baz=45,slow=5.7,SNR=10.0						
GERES	**GERESS Array B**	**83.91**	**326**	P	**P**	**15 39 28.4**	**+1.0**
GERES				*PP	pP	15 39 36.6	+1.0
GERES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
GERES				pmax	pmax		
	comp=N,3.0nm,0.8s						
SRU	**San Rafael**	**84.52**	**46**	*e*P	**P**	**15 39 32.0**	**+1.4**
SRU				*e*	pP	15 39 39.6	+0.7
PV10	**Paradox Valley**	**85.88**	**46**	*e*P	**P**	**15 39 39.5**	**+2.0**
PV10				*e*	pP	15 39 47.1	+1.3
PV01	**Paradox Valley**	**86.32**	**46**	*e*P	**P**	**15 39 41.2**	**+1.6**
PV01				*e*	pP	15 39 48.8	+0.9
DAVOX	**Davos**	**87.18**	**327**	P	**P**	**15 39 44.8**	**+1.2**
	comp=N,3.6nm,0.8s,mb4.7,baz=3.7,slow=7.9,SNR=3.9						
DAVOX				pP	pP	15 39 52.9	+0.9
	comp=N,2.9nm,0.6s,baz=64,slow=7.2,SNR=3.3						
CABF	**La Chapelle**	**89.01**	**329**	*e*P	**P**	**15 39 52.8**	**+0.4**
LOR	**Lormes**	**89.44**	**330**	*e*P	**P**	**15 39 54.6**	**+0.2**
LPL	**La Plagne**	**89.57**	**328**	*e*P	**P**	**15 39 55.8**	**+0.7**
	comp=N,10nm,0.8s,mb4.9						
LPG	**La Plagne**	**89.58**	**328**	*e*P	**P**	**15 39 55.9**	**+0.8**
	comp=N,11nm,0.8s,mb4.9						
SMF	**Signal de Mont**	**89.94**	**330**	*e*P	**P**	**15 39 57.2**	**+0.4**
AVF	**Avril sur Loir**	**90.03**	**330**	*e*P	**P**	**15 39 56.8**	**-0.4**
MFF	**Saint Martin d**	**91.60**	**332**	*e*P	**P**	**15 40 05.4**	**+1.0**
RJF	**Les Rejaudoux**	**91.99**	**330**	*e*P	**P**	**15 40 07.2**	**+1.0**
CAF	**Calviac**	**92.06**	**330**	*e*P	**P**	**15 40 07.8**	**+1.2**
LFF	**La Frestale**	**92.60**	**331**	*e*P	**P**	**15 40 10.2**	**+1.1**
	comp=N,8.3nm,0.5s,mb5.1						
TXAR	**Lajitas Array**	**95.19**	**50**	P	**P**	**15 40 22.8**	**+1.4**
	comp=N,1.5nm,0.8s,mb4.5,baz=298,slow=3.6,SNR=9.1						
TXAR				pP	pP	15 40 30.9	+1.3
	comp=N,2.2nm,0.7s,baz=291,slow=3.0,SNR=12						
TXAR	**Lajitas Array**	**95.19**	**50**	P	**P**	**15 40 22.8**	**+1.4**
TXAR				pP	pP	15 40 30.9	+1.3
SAML	**Samuel**	**149.36**	**42**	*e*PKPbc	PKPdf	15 46 47.3	+1.1

WEL 05 15:30:35.8±0.6**,37.68S**×**179.29E,h33**^{km}**,ML3.6**/4**,Error ellipse: s-maj=5.5km s-min=2.9km az=90.0,Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.79**	**278**	PN	Pn	15 30 50.0	-0.6
PUZ	**Puketiti**	**0.91**	**244**	PN	Pn	15 30 51.5	-0.8
PUZ				SN	Sn	15 31 02.9	-1.4
PUZ				SN	Sn	15 31 02.9	-1.4
MWZ	**Matawai**	**1.54**	**244**	PN	Pn	15 30 60.0	-1.4
URZ	**Urewera**	**1.82**	**251**	PN	Pn	15 31 04.7	-0.6
URZ				SN	Sn	15 31 26.1	-1.4
URZ				SN	Sn	15 31 26.1	-1.3
KNZ	**Kokohu**	**1.84**	**223**	PN	Pn	15 31 04.4	-1.3
BKZ	**Black Stump Fm**	**2.65**	**235**	PN	Pn	15 31 15.8	-1.4
BKZ				SN	Sn	15 31 45.7	-2.9
BKZ				SN	Sn	15 31 45.7	-2.9
KUZ	**Kuaotunu**	**3.00**	**287**	PN	Pn	15 31 21.0	-1.2
MRZ	**Mangatainoka R**	**4.14**	**223**	PN	Pn	15 31 34.2	-4.3
MRZ				SN	Sn	15 32 18.8	-7.6

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*JMA **05** 15:33:07.6±0.1, 33.29N×136.99E, h47^{km}, M3.6*

ISC 05 15:33:07.3±1.6**,33.31N**±0.10×**136.98E**±0.06**,h27**^{km}±16^{km}**, n9,**σ**0**^{s}**53**/18**,Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JWZ	**Kozaga**	**1.08**	**282**	P	**Pn**	**15 33 27.0**	**+0.1**
JWZ				S	**Sb**	**15 33 40.4**	**-0.6**
JIE	**Ise**	**1.10**	**348**	P	**Pn**	**15 33 27.9**	**+0.8**
JIE				S	**Sn**	**15 33 42.2**	**+0.7**
JKN	**Kiinagashima**	**1.11**	**328**	P	**Pn**	**15 33 27.4**	**+0.2**
JKN				S	**Sn**	**15 33 41.1**	**-0.6**
TK04	**Tokai 4**	**1.30**	**35**	P	**Pn**	**15 33 29.4**	**-0.7**
TK04				S	**Sn**	**15 33 45.9**	**-0.8**
JWM	**Minabe**	**1.46**	**292**	P	**Pn**	**15 33 32.3**	**0.0**
JWM				S	**Sn**	**15 33 49.6**	**-1.0**
JWY	**Kouya**	**1.47**	**308**	P	**Pn**	**15 33 33.0**	**+0.6**
JWY				S	**Sn**	**15 33 51.0**	**+0.2**
TSUJ	**Tsu 2**	**1.47**	**342**	P	**Pn**	**15 33 32.7**	**+0.3**
TSUJ				S	**Sn**	**15 33 51.1**	**+0.2**
JHE	**Heguri**	**1.71**	**322**	P	**Pn**	**15 33 36.3**	**+0.3**
JHE				S	**Sn**	**15 33 57.4**	**+0.2**
MAT	**Matsushiro**	**3.38**	**17**	P	**Pn**	**15 34 00.1**	**+0.5**
MAT				*e*S	**Sn**	**15 34 38.8**	**-0.5**

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*JMA **05** 15:33:47.3±0.2, 33.33N×136.88E, h58^{km}±3^{km}, M3.5*

*IDC **05** 15:34:06.4±1.1, 36.03N×136.58E, h33^{km}±5^{km}, mb3.8/10, mb1 4.0/10, mb1mx3.8/23, Error ellipse: s-maj=38.0km s-min=18.7km az=64.0*

*NEIC **05** 15:34:12.9±1.6, 35.98N×136.41E, h88^{km}±17^{km}, mb4.1/1, Error ellipse: s-maj=24.8km s-min=13.1km az=64.0*

ISC 05 15:33:48.9±0.9**,33.41N**±0.07×**136.87E**±0.05**,h33**^{km}**, h33**^{km}±2.2^{km}**:pP-P,n30,**σ**0**^{s}**71**/29**,mb4.0**/7**,Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	**Tokai 1**	**0.70**	**59**	P	**Pn**	**15 34 02.1**	**-0.4**
TK01				*e*S	**Sb**	**15 34 11.7**	**-0.4**
JWZ	**Kozaga**	**0.97**	**277**	P	**Pn**	**15 34 05.1**	**-1.3**
JWZ				*e*S	**Sn**	**15 34 18.4**	**-0.7**
JKN	**Kiinagashima**	**0.97**	**329**	P	**Pn**	**15 34 06.1**	**-0.3**
JIE	**Ise**	**0.99**	**352**	P	**Pn**	**15 34 06.5**	**-0.1**
JAA	**Atsumi**	**1.24**	**11**	P	**Pn**	**15 34 09.3**	**-0.9**
JAA				*e*S	**Sn**	**15 34 26.2**	**+0.3**
JWM	**Minabe**	**1.34**	**290**	P	**Pn**	**15 34 11.0**	**-0.6**
JWM				S	**Sn**	**15 34 29.0**	**+0.6**
TSUJ	**Tsu 2**	**1.35**	**344**	P	**Pn**	**15 34 11.5**	**-0.3**
JHE	**Heguri**	**1.58**	**322**	P	**Pn**	**15 34 14.7**	**-0.4**
HMMJ	**Hamamatsu 2**	**1.61**	**26**	*e*S	**Sn**	**15 34 34.8**	**-0.4**
JEG	**Eigenji**	**1.77**	**347**	P	**Pn**	**15 34 17.2**	**-0.5**
JWT	**Wachi**	**2.23**	**327**	P	**Pn**	**15 34 24.5**	**+0.1**
JFM	**Mihama**	**2.23**	**341**	P	**Pn**	**15 34 24.8**	**+0.3**
JGM	**Miyama**	**2.29**	**357**	P	**Pn**	**15 34 25.0**	**-0.2**
JKY	**Yasaka**	**2.65**	**327**	P	**Pn**	**15 34 30.4**	**0.0**
MAJO	**Matsushiro**	**3.31**	**19**	*e*Pn	**Pn**	**15 34 38.6**	**-1.1**
MAT	**Matsushiro**	**3.31**	**19**	*e*P	**Pn**	**15 34 40.0**	**+0.2**
MAT				*e*S	**Sn**	**15 35 20.0**	**+1.5**
SONM	**Songino Array**	**27.04**	**311**	P	**P**	**15 39 30.4**	**+0.5**
	1.5nm,0.8s,mb3.5,baz=122,slow=8.9,SNR=2.5						
SONM	**Songino Array**	**27.04**	**311**	P	**P**	**15 39 30.4**	**+0.5**
MKAR	**Makanchi Array**	**43.00**	**305**	P	**P**	**15 41 47.8**	**+1.1**
	4.6nm,0.8s,mb4.3,baz=94,slow=9.4,SNR=12						
MKAR				pP	pP	15 41 59.8	+3.2
	5.7nm,0.6s,baz=92,slow=10.0,SNR=12						
BVAR	**Borovoye Array**	**50.33**	**314**	P	**P**	**15 42 44.9**	**+0.5**
	1.9nm,0.7s,mb4.2,baz=86,slow=7.9,SNR=4.5						
BVAR				pP	pP	15 42 55.9	+1.5
	1.9nm,0.6s,baz=108,slow=9.4,SNR=5.2						
FITZ	**Fitzroy Crossi**	**52.33**	**194**	*e*P	PcP	15 44 09.6	-1.2
	12nm,1.1s						
WRAB	**Tennant Creek**	**53.10**	**183**	*e*P	Px	15 43 40.2	
	0.8nm,0.4s						
WB2	**Warramunga Arr**	**53.11**	**183**	*e*P	PcP	15 44 13.6	0.0
WRA	**Warramunga Arr**	**53.11**	**183**	P	Px	15 43 39.4	
	0.6nm,0.5s,baz=360,slow=7.7,SNR=6.3						
CTA	**Charters Tower**	**53.95**	**169**	P	Px	15 43 46.1	
	19nm,1.4s,baz=144,slow=8.0,SNR=2.4						
ARCES	**ARCESS Array B**	**66.05**	**339**	P	**P**	**15 44 34.0**	**-0.2**
	5.1nm,1.0s,mb4.5,baz=60,slow=9.8,SNR=6.4						
ARCES				pP	pP	15 44 42.0	-2.4
	2.0nm,0.7s,baz=56,slow=8.7,SNR=2.1						
FINES	**FINESS Array B**	**70.25**	**331**	P	**P**	**15 45 00.7**	**+0.3**
	1.2nm,0.9s,mb3.8,baz=90,slow=7.6,SNR=3.7						
AKASG	**Malin Array Be**	**74.83**	**321**	P	**P**	**15 45 29.5**	**+1.9**
	0.2nm,0.3s,mb3.5,baz=46,slow=6.0,SNR=1.9						
AKASG				pP	pP	15 45 39.3	+1.4
	0.8nm,0.6s,baz=48,slow=6.8,SNR=2.2						
PDAR	**Pinedale Array**	**82.85**	**43**	P	pP	15 46 19.4	-2.5
	0.7nm,0.9s,SNR=3.5						
GERES	**GERESS Array B**	**83.73**	**326**	P	**P**	**15 46 16.4**	**+0.7**
	0.7nm,0.7s,mb3.9,baz=53,slow=6.7,SNR=4.7						
GERES				pP	pP	15 46 26.6	+0.4
	0.8nm,0.7s,baz=27,slow=6.0,SNR=3.7						

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*IDC **05** 15:37:51.9±1.0, 53.11N×34.94W, mb4.0/12, mb1 4.2/14, mb1mx4.1/25, ML3.3/2, Error ellipse: s-maj=36.1km s-min=15.0km az=9.0*

*NEIC **05** 15:37:53.0±0.6, 53.04N×35.00W, h10^{km}, mb4.4/2, Error ellipse: s-maj=26.1km s-min=8.4km az=184.0*

ISC 05 15:37:51.3±7.0**,53.2N**±0.2×**35.0W**±0.1**,h7**^{km}±45^{km}**,n25,** σ**1**^{s}**06**/21**,mb4.0**/13**,Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DCN	**Croghan**	**16.55**	**78**	*e*P	**P**	**15 41 46.2**	**+1.1**
ESK	**Eskdalemuir**	**18.62**	**71**	*e*P	**P**	**15 42 09.6**	**-1.4**
EKA	**Eskdalemuir Ar**	**18.65**	**71**	P	**P**	**15 42 11.8**	**+0.6**
	0.1nm,0.3s,baz=275,slow=10.0,SNR=17						
SCHQ	**Schefferville**	**18.70**	**288**	P	**P**	**15 42 10.5**	**-1.5**
	0.4nm,0.3s,baz=91,slow=9.7,SNR=8.9						
SCHQ	**Schefferville**	**18.70**	**288**	P	**P**	**15 42 10.5**	**-1.5**
FRB	**Frobisher Bay**	**20.23**	**315**	P	**P**	**15 42 30.6**	**+1.3**
	5.9nm,0.7s,baz=69,slow=6.0,SNR=3.5						
ESDC	**Sonseca Array**	**25.06**	**110**	P	**P**	**15 43 16.8**	**-0.5**
	5.8nm,1.1s,mb4.0,baz=316,slow=8.5,SNR=13						
CLL	**Collm**	**29.02**	**74**	P	**P**	**15 43 53.0**	**-0.5**
DAVOX	**Davos**	**29.17**	**84**	P	**P**	**15 43 56.0**	**+1.1**
	1.4nm,0.7s,mb3.8,baz=314,slow=17,SNR=3.2						
GERES	**GERESS Array B**	**30.47**	**78**	P	**P**	**15 44 07.2**	**+0.8**
	0.4nm,0.8s,mb3.2,baz=301,slow=7.8,SNR=3.4						
FINES	**FINESS Array B**	**32.84**	**51**	P	**P**	**15 44 26.6**	**-0.6**
	1.6nm,0.8s,mb4.0,baz=176,slow=27,SNR=2.2						
BRTR	**Keskin Array B**	**47.36**	**78**	P	**P**	**15 46 27.3**	**-0.1**
	1.7nm,0.6s,mb4.1,baz=307,slow=7.0,SNR=6.4						
PDAR	**Pinedale Array**	**48.83**	**289**	P	**P**	**15 46 40.1**	**+1.3**
	2.1nm,1.1s,mb4.1,baz=60,slow=7.3,SNR=6.0						
BW06	**Boulder Array**	**48.83**	**289**	P	**P**	**15 46 40.9**	**+2.1**
	5.2nm,1.2s,mb4.4						
ILAR	**Eielson Array**	**51.30**	**329**	P	**P**	**15 46 57.4**	**+0.1**
	1.8nm,0.9s,mb4.0,baz=33,slow=5.1,SNR=12						
PV10	**Paradox Valley**	**51.41**	**285**	P	**P**	**15 46 57.1**	**-1.4**
ANMO	**Albuquerque**	**52.22**	**280**	*e*P	**P**	**15 47 03.2**	**-1.5**
	4.9nm,1.2s,mb4.3						
TXAR	**Lajitas Array**	**54.52**	**273**	P	**P**	**15 47 22.5**	**+0.8**
	1.7nm,1.1s,mb4.0,baz=68,slow=4.9,SNR=4.8						
BVAR	**Borovoye Array**	**57.33**	**44**	P	**P**	**15 47 41.6**	**-0.1**
	1.0nm,0.5s,mb4.1,baz=315,slow=2.0,SNR=3.7						
MKAR	**Makanchi Array**	**67.02**	**42**	P	**P**	**15 48 45.0**	**-1.4**
	6.3nm,1.2s,mb4.5,baz=333,slow=6.4,SNR=4.2						
KMBO	**Kilima Mbogo**	**80.34**	**105**	P	**P**	**15 50 04.7**	**+0.1**
	0.3nm,0.3s,mb3.7,baz=50,slow=23,SNR=3.0						
WRAB	**Tennant Creek**	**145.82**	**18**	*e*PKPdf	PKPdf	15 57 31.2	-1.9
WRA	**Warramunga Arr**	**145.83**	**18**	PKPbc	PKPbc	15 57 31.5	+0.2
	4.7nm,0.9s,baz=342,slow=3.4,SNR=19						
WB2	**Warramunga Arr**	**145.83**	**18**	*e*P	PKPbc	15 57 31.2	-0.1
ASAR	**Alice Springs**	**149.36**	**20**	PKPbc	PKPdf	15 57 40.9	+2.1
	1.1nm,0.6s,baz=352,slow=2.3,SNR=24						
ASAR				PKPab	PKPab	15 57 46.9	-0.6
	0.9nm,0.7s,baz=348,slow=2.2,SNR=7.9						

IDC 05 15:39:07.7±2.7**,13.64S**×**168.76E,mb4.1**/3**,mb1 4.2**/3**, mb1mx3.7**/12**,Error ellipse: s-maj=119.0km s-min=43.7km az=142.0,Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**30.80**	**229**	P	P	15 45 23.5	-3.9
	4.9nm,1.1s,baz=17,slow=11,SNR=3.2						
WB2	**Warramunga Arr**	**33.49**	**254**	*e*P	P	15 45 50.1	-1.0
WRA	**Warramunga Arr**	**33.50**	**254**	P	P	15 45 50.0	-1.1
	0.4nm,0.4s,baz=83,slow=8.2,SNR=26						
ASAR	**Alice Springs**	**34.41**	**248**	P	P	15 45 57.0	-2.0
	1.1nm,0.4s,baz=73,slow=9.8,SNR=23						
ASPA	**Alice Springs**	**34.42**	**248**	*e*P	P	15 45 57.1	-2.0
FINES	**FINESS Array B**	**125.24**	**339**	PKP	PKPdf	15 58 09.8	-2.2
	0.5nm,0.3s,baz=56,slow=5.0,SNR=8.6						

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*NEIC **05** 15:40:19.8, 35.02S×70.56W, h1^{km}, ML3.3(GUC), After GUC.*

GUC 05 15:40:19.8±0.9**,35.02S**×**70.56W,h1**^{km}±3^{km}**,MD3.9, ML3.3,7C-4D,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.55**	**272**⇑	*i*P	Pg	15 40 31.2	+0.3
NICH				*i* S	Sg	15 40 39.1	+0.8
SFDO	**San Fernando**	**0.55**	**317**⇓	*i*P	Pg	15 40 31.0	+0.1
SFDO				*i* S	Sg	15 40 39.9	+1.7
CICH	**Cipreses**	**0.71**	**9**⇓	*i*P	Pg	15 40 32.9	-1.0
CICH				*i* S	Sg	15 40 43.5	+0.1
CACH	**El Canelo**	**0.90**	**358**⇑	*i*P	Pg	15 40 36.5	-1.3
CACH				*i* S	Sg	15 40 49.7	-0.2
CHCH	**Chadas Angostu**	**1.09**	**356**⇓	*i*P	Pb	15 40 40.0	-1.1
CHCH				*i* S	Sb	15 40 55.4	-0.3
LMEL	**Las Melosas**	**1.21**	**14**⇑	*i*P	Pb	15 40 42.3	-0.8
LMEL				*i* S	Sb	15 40 59.3	+0.3
LMEL				AMP		15 41 04.2	
	comp=E,293nm,0.5s						
LNV	**Longovilo**	**1.28**	**326**⇑	*i*P	Pb	15 40 43.2	-1.1
LNV				*i* S	Sb	15 41 01.5	+0.4
PCH	**Pirque**	**1.40**	**1**⇑	*i*P	Pb	15 40 45.5	-0.9
PCH				*i* S	Sb	15 41 05.7	+1.1
TACH	**Talagante**	**1.40**	**347**⇑	*i*P	Pb	15 40 45.5	-1.0
TACH				*i* S	Sb	15 41 04.4	-0.3
ANTU	**Antumapu**	**1.45**	**357**	*e*P	Pn	15 40 46.6	-0.6
ANTU				AMP		15 41 08.6	
	comp=E,814nm,0.6s						
DSCH	**Colegio Aleman**	**1.62**	**360**	*e*P	Pn	15 40 49.2	-0.4
DSCH				AMP		15 41 15.5	
	comp=N,1µm,0.7s						
CLCH	**Cerro Calan**	**1.62**	**1**⇑	*i*P	Pn	15 40 49.2	-0.4
CLCH				*i* S	Sb	15 41 11.8	+0.7
CLCH				AMP		15 41 13.7	
	comp=N,677nm,0.5s						
CLCH				AMP		15 41 14.9	
	comp=E,788nm,0.8s						
FCH	**Farellones**	**1.70**	**7**	*e*P	Pn	15 40 50.6	-0.2
FCH				*i* S	Sb	15 41 14.7	+1.2
FCH				AMP		15 41 22.6	
	comp=E,294nm,0.4s						
LCCH	**Las Cruces**	**1.76**	**331**⇓	*i*P	Pn	15 40 51.2	-0.4
LCCH				*i* S	Sn	15 41 15.3	+0.4
PEL	**Peldehue**	**1.88**	**357**	AMP		15 41 25.5	
	comp=N,1µm,0.6s						
CCHI	**Chillan**	**2.00**	**218**	AMP		15 41 26.7	
	comp=E,949nm,0.2s						
COCH	**Cobquecura**	**2.13**	**238**	*i* S	Sn	15 41 24.9	+0.5
COCH				AMP		15 41 31.0	
	comp=E,376nm,0.6s						
JACH	**Jahuel**	**2.33**	**359**	*e*P	Pn	15 41 00.5	+0.7
JACH				*i* S	Sn	15 41 32.5	+2.9

CASC 05 15:41:34.7±2.1**,12.52N**×**87.75W,h53**^{km}±39^{km}**,MD3.8, ML3.3,3C-7D,Near coast of Nicaragua**

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

CRIN	San Cristobal	0.71	75	⇑eP	P	15 41 49.9	+1.2
CNCH	Conchagua	0.76	354	eP	P	15 41 49.4	0.0
CNCH				eS	S	15 42 01.4	+1.2
LEON	Leon	0.84	97	⇓eP	P	15 41 50.2	-0.4
LEON				eS	S	15 42 01.4	-0.9
TELN	Telica	0.90	85	⇓eP	P	15 41 51.4	+0.1
TELN				eS	S	15 42 07.1	+3.4
MIRN	Miramar	1.02	94	⇓eP	P	15 41 52.8	-0.1
MIRN				eS	S	15 42 07.0	+0.5
CNGN	Cerro Negro	1.03	91	⇓eP	P	15 41 52.8	-0.3
VSM	San Miguel	1.04	331	eP	P	15 41 54.6	+1.4
VSM				eS	S	15 42 08.4	+1.5
COPN	Copaltepe	1.18	106	⇑eP	P	15 41 54.7	-0.5
COPN				eS	S	15 42 09.7	-0.7
MOMJ	Momotombo	1.19	95	⇓eP	P	15 41 54.9	-0.4
APYN	Apoyeque	1.40	102	eP	P	15 41 58.0	-0.4
CRUN	El Crucero	1.52	110	eP	P	15 41 59.6	-0.4
CRUN				eS	S	15 42 21.3	+2.6
MGAN	Managua	1.52	104	⇓eP	P	15 41 59.6	-0.4
MGAN				eS	S	15 42 18.1	-0.6
	comp=E,441nm,0.3s						
SNVI	San Vicente	1.52	316	eP	P	15 42 00.4	+0.3
SNVI				eS	S	15 42 19.1	+0.3
TICN	Ticuantepe	1.56	108	⇑eP	P	15 42 00.2	-0.5
TICN				eS	S	15 42 19.0	-0.9
WILN	Americas 2	1.57	103	eS	S	15 42 19.5	-0.5
LCBS	La Ceiba	1.64	313	eP	P	15 42 01.6	-0.2
LCBS				eS	S	15 42 21.8	0.0
PYTN	Playitas	1.65	89	⇓eP	P	15 42 01.1	-0.8
PYTN				eS	S	15 42 21.8	-0.3
LFRS	El Faro	1.68	311	eP	P	15 42 01.9	-0.5
LFRS				eS	S	15 42 22.2	-0.6
SBLS	San Blas	2.25	306	eP	P	15 42 10.1	-0.1
SBLS				eS	S	15 42 36.7	-0.1
SNJE	San Jose	2.25	307	eP	P	15 42 10.7	+0.4
SNJE				eS	S	15 42 37.4	+0.5
JCR	Jicaral	3.71	135	eP	P	15 42 29.0	-1.9
LAJ	Bijagual	4.43	126	eP	P	15 42 39.3	-1.9
LCR2	La Lucha 2	4.60	127	eP	P	15 42 43.6	+0.1
LCR2				eS	S	15 43 35.1	-1.2

*KRSC **05** 15:49:48.3±0.5, 53.03N×159.04E, h105^{km}±1^{km}, ML3.9*

ISC 05 15:49:49.4±0.6**, 53.04N**±0.04×**159.06E**±0.07**, h101**^{km}±4^{km}**,**
n30, σ0^{s}91/58**, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NLC	Nalytchevo	0.22	52	i P	P	15 50 03.9	0.0
NLC				i S	S	15 50 15.4	+0.7
UGLR	Uglovaya	0.22	320	i P	P	15 50 04.0	+0.1
UGLR				i S	S	15 50 15.4	+0.6
PET	Petropavlovsk	0.25	267	i P	P	15 50 03.5	-0.5
PET				i S	S	15 50 14.4	-0.5
SDLR	Sedlovina	0.26	336	i P	P	15 50 03.9	-0.2
SDLR				i S	S	15 50 14.9	-0.1
SMAR	Somma	0.27	325	eP	P	15 50 04.2	+0.1
SMAR				eS	S	15 50 15.7	+0.6
AVH	Avacha	0.30	319	i P	P	15 50 04.1	-0.1
AVH				i S	S	15 50 16.3	+1.0
KOK	Koryaka	0.36	315	eP	P	15 50 04.2	-0.3
KOK				eS	S	15 50 15.1	-0.8
SPN	Mys Shipunski	0.58	84	i P	P	15 50 05.8	-0.3
SPN				i S	S	15 50 18.7	+0.1
RUS	Russkaya	0.69	209	i P	P	15 50 06.3	-0.7
RUS				i S	S	15 50 19.4	-0.8
GRL	Gorelyy	0.77	231	eP	P	15 50 07.8	-0.1
GRL				eS	S	15 50 22.6	+1.1
GNL	Ganaly	0.94	315	i P	P	15 50 08.7	-0.8
GNL				eS	S	15 50 24.5	-0.1
KII	Karymskiy	1.02	13	eP	P	15 50 10.0	-0.5
KII				eS	S	15 50 25.4	-0.9
APC	Apacha	1.16	265	i P	P	15 50 11.5	-0.6
APC				i S	S	15 50 28.8	-0.2
APC				Smax			
	420nm,0.8s						
MIPR	Malaya Ipel'ka	1.60	242	eP	P	15 50 17.0	-0.4
MIPR				eS	S	15 50 37.7	-0.4
PAU	Pauzhetka	2.10	222	i P	P	15 50 24.7	+0.9
PAU				eS	S	15 50 51.6	+2.2
PAU				Smax			
	160nm,0.8s						
MKZ	Mys Kozlova	2.19	45	eP	P	15 50 24.5	-0.7
MKZ				eS	S	15 50 50.7	-1.1
TUMR	Tumrok	2.34	15	i P	P	15 50 27.4	+0.3
TUMR				eS	S	15 50 56.7	+1.4
KMNR	Kamenistaya	2.81	14	eP	P	15 50 33.7	+0.1
KMNR				eS	S	15 51 06.8	0.0
ESO	Esso	2.90	356	i P	P	15 50 33.6	-1.2
KOZ	Kozyrevsk	3.06	9	eP	P	15 50 36.3	-0.8
KOZ				eS	S	15 51 11.6	-1.4
ZLN	Zelenaya	3.15	18	eP	P	15 50 39.2	+0.9
ZLN				eS	S	15 51 15.6	+0.4
LGNR	Loginova	3.19	17	eP	P	15 50 39.6	+0.7
LGNR				eS	S	15 51 16.8	+0.6
CIRR	Tsirk	3.23	17	eP	P	15 50 40.3	+0.9
CIRR				eS	S	15 51 18.7	+1.5
KRSR	Krestovskiy	3.30	15	eS	S	15 51 19.0	+0.2
SRDR	Sredinnyy	3.31	6	eP	P	15 50 39.3	-1.1
SRDR				eS	S	15 51 16.3	-2.6
KLY	Klyuchi	3.41	15	eP	P	15 50 42.8	+1.0
KLY				eS	S	15 51 22.4	+1.0
SVLR	Shiveluch	3.76	19	eP	P	15 50 46.9	+0.3
SVLR				eS	S	15 51 30.4	+0.4
KBTR	Krutoberegovo	3.85	33	eP	P	15 50 47.2	-0.7
KBTR				eS	S	15 51 30.5	-1.9
KBG	Krutoberegovo	3.86	32	eP	P	15 50 49.4	+1.5
KBG				eS	S	15 51 34.7	+2.3
KBG				Smax			
	200nm,0.7s						
BKI	Bering	4.61	59	eP	P	15 50 55.0	-3.2
BKI				eS	S	15 51 44.1	-6.8
BKI				Smax			
	40nm,0.3s						

*NEIC **05** 15:50:11.4±0.7, 33.29N×137.22E, h10^{km}, Error ellipse: s-maj=20.6km s-min=11.0km az=103.0*
*JMA **05** 15:50:11.3±0.1, 33.27N×137.14E, h38^{km}±2^{km}, M3.2*
*IDC **05** 15:50:13.8±0.8, 33.23N×137.21E, h25^{km}±4^{km}, mb3.6/7, mb1 3.7/8, mb1mx3.6/21, ML3.2/1, Error ellipse: s-maj=26.0km s-min=16.1km az=50.0*

ISC 05 15:50:10.8±0.8**, 33.30N**±0.04×**137.09E**±0.03**, h18**^{km}±5^{km}**,**
h26^{km}±.7^{km}**:pP-P, n30, σ0^{s}88**/42**, mb3.6**/7**, 2C-1D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	Tokai 1	0.62	42	P	Pb	15 50 23.5	+0.6
TK02	Tokai 2	0.85	40	⇓P	Pb	15 50 26.9	+0.2
TK03	Tokai 3	1.13	40	P	Pb	15 50 30.9	-0.6
TK03				S	Sb	15 50 46.2	+0.5
JIE	Ise	1.14	344	⇑P	Pb	15 50 32.1	+0.5
JIE				eS	Sb	15 50 46.3	+0.4
JKN	Kiinagashima	1.17	324	P	Pb	15 50 32.3	+0.1
JKN				S	Sb	15 50 46.6	-0.3
JWZ	Kozaga	1.18	282	P	Pb	15 50 32.6	+0.3
JWZ				S	Sb	15 50 47.0	-0.1
TK04	Tokai 4	1.26	31	P	Pn	15 50 33.2	-0.5
TK04				S	Sb	15 50 50.0	+0.4
JAA	Atsumi	1.33	2	⇑P	Pn	15 50 34.4	-0.3
JAA				S	Sb	15 50 51.2	-0.4
TSUJ	Tsu 2	1.51	339	P	Pn	15 50 37.4	+0.1
TSUJ				S	Sn	15 50 56.0	-0.7
JWY	Kouya	1.55	307	S	Sn	15 50 57.4	-0.2
JWM	Minabe	1.55	291	P	Pn	15 50 37.9	+0.1
JHE	Heguri	1.79	319	P	Pn	15 50 41.4	+0.2
JHE				S	Sn	15 51 03.0	-0.6
SHZ3	Shizuoka 3	1.99	27	P	Pn	15 50 43.1	-1.0
JIZS	Izushimoda	2.05	46	S	Sn	15 51 08.9	-1.4
JAJ2	Tsuna	2.15	302	P	Pn	15 50 47.1	+0.7
JAJ2				eS	Sn	15 51 13.0	+0.2
JAI	Aioi	2.26	283	S	Sn	15 51 14.3	-1.3
JHJ	Hachijo jima 2	2.26	94	Pn	Pn	15 50 47.3	-0.7
	17nm,0.3s,baz=246,slow=20,SNR=3.2						
JHJ				Sn	Sn	15 51 15.7	0.0
	14nm,0.3s,baz=229,slow=20,SNR=3.2						
MAJO	Matsushiro	3.36	15	ePn	Pn	15 51 03.0	-0.7
MAT	Matsushiro	3.36	15	P	Pn	15 51 04.0	+0.3
MAT				S	Sn	15 51 44.5	+0.9
MAT	Matsushiro	3.36	15	eP	Pn	15 51 04.0	+0.3
MAT				eS	Sn	15 51 45.0	+1.4
YSS	Yuzh-Sakhalins	14.30	16	P	P	15 53 32.5	-1.9
SONM	Songino Array	27.25	311	P	P	15 55 55.5	-0.2
	0.2nm,0.6s,mb2.9,baz=141,slow=31,SNR=3.0						
MKAR	Makanchi Array	43.22	305	P	P	15 58 13.9	+1.5
	1.7nm,0.6s,mb4.0,baz=85,slow=11,SNR=16						
MKAR				pP	pP	15 58 21.3	+3.4
	2.1nm,0.6s,baz=90,slow=10,SNR=14						
MKAR	Makanchi Array	43.22	305	P	P	15 58 13.9	+1.5
MKAR				pP	pP	15 58 21.3	+3.4
WRA	Warramunga Arr	53.01	183	P	P	15 59 27.3	-1.7
	0.4nm,0.7s,mb3.5,baz=360,slow=7.7,SNR=5.0						
WRA				pP	pP	15 59 35.3	+0.8
	1.3nm,0.8s,baz=0.1,slow=7.9,SNR=7.6						
ASAR	Alice Springs	56.73	183	P	P	15 59 55.0	-1.0
	0.3nm,0.8s,mb3.4,baz=8.3,slow=13,SNR=3.9						
ASAR				pP	pP	16 00 03.7	+2.1
	0.4nm,0.6s,baz=12,slow=12,SNR=4.5						
BRTR	Keskin Array B	78.61	310	P	P	16 02 15.1	+2.1
	2.7nm,1.0s,mb4.1,baz=63,slow=2.8,SNR=5.1						
BRTR				pP	pP	16 02 22.9	+4.2
	0.3nm,0.3s,baz=8.0,slow=25,SNR=2.7						
GERES	GERESS Array B	83.93	326	P	P	16 02 41.5	+0.8
	0.8nm,0.9s,mb3.8,baz=41,slow=5.4,SNR=3.8						
GERES				pP	pP	16 02 49.8	+3.3
	0.2nm,0.5s,baz=309,slow=8.5,SNR=2.2						
PV10	Paradox Valley	85.90	46	eP	P	16 02 52.8	+1.9
TXAR	Lajitas Array	95.22	50	P	P	16 03 36.5	+1.7
	0.2nm,0.5s,mb3.8,baz=270,slow=2.7,SNR=3.6						

*BJI **05** 15:53:17.5, 33.17N×137.48E, h30^{km}, mB4.7, mb4.8, Ms4.6, Msz4.4*
*NEIC **05** 15:53:18.8±0.2, 33.22N×137.14E, h10^{km}, mb4.7/26, Error ellipse: s-maj=5.2km s-min=4.7km az=115.0*
*JMA **05** 15:53:18.8±0.1, 33.27N×137.15E, h47^{km}±2^{km}, M4.3*
*MOS **05** 15:53:20.8±1.2, 33.21N×137.14E, h33^{km}, mb4.8/21, Error ellipse: s-maj=24.4km s-min=9.4km az=108.9*
*IDC **05** 15:53:21.4±0.4, 33.19N×137.20E, h27^{km}±2^{km}, mb4.2/20, mb1 4.3/23, mb1mx4.3/29, ML3.5/3, Error ellipse: s-maj=15.8km s-min=9.8km az=71.0*
*CSEM **05** 15:53:26.5, 34.42N×137.44E, h33^{km}, mb6.2*

ISC 05 15:53:20.0±0.2**, 33.35N**±0.02×**137.12E**±0.02**, h26**^{km}**,**
h26^{km}±1.0^{km}**:pP-P, n143, σ1^{s}09**/168**, mb4.6**/55**, 2C-5D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	Tokai 1	0.57	43	P	Pb	15 53 31.5	+0.2
TK01				eS	Sb	15 53 40.3	+1.2
TK02	Tokai 2	0.80	41	P	Pb	15 53 34.1	-1.0
TK02				eS	Sb	15 53 45.8	+0.3
TK03	Tokai 3	1.07	41	P	Pn	15 53 38.8	-0.7
JIE	Ise	1.10	342	P	Pn	15 53 39.7	-0.1
JIE				S	Sb	15 53 54.6	+0.5
JKN	Kiinagashima	1.15	322	P	Pn	15 53 39.9	-0.7
JKN				eS	Sn	15 53 54.5	-1.0
JWZ	Kozaga	1.19	279	P	Pn	15 53 39.5	-1.7
JWZ				eS	Sn	15 53 54.4	-2.2
TK04	Tokai 4	1.21	31	P	Pn	15 53 40.3	-1.1
TK04				eS	Sn	15 53 56.5	-0.5
JAA	Atsumi	1.28	1	P	Pn	15 53 41.8	-0.7
JAA				eS	Sn	15 53 58.7	-0.2
TSUJ	Tsu 2	1.48	337	P	Pn	15 53 45.3	0.0
TSUJ				eS	Sn	15 54 04.0	+0.1
JWY	Kouya	1.54	305	P	Pn	15 53 46.3	+0.1
JWY				eS	Sn	15 54 05.1	-0.4
JWM	Minabe	1.56	289	P	Pn	15 53 45.3	-1.1
JWM				eS	Sn	15 54 04.2	-1.7
HMMJ	Hamamatsu 2	1.58	18	P	Pn	15 53 45.3	-1.5
HMMJ				eS	Sn	15 54 04.7	-1.9
JSG	Sagara	1.59	33	P	Pn	15 53 45.7	-1.2
JSG				S	Sn	15 54 05.3	-1.4
JHE	Heguri	1.77	318	P	Pn	15 53 48.9	-0.5
JHE				eS	Sn	15 54 12.2	+1.0
JKO	Kozu shima	1.87	63	P	Pn	15 53 50.1	-0.8
JKO				eS	Sn	15 54 14.0	0.0
JEG	Eigenji	1.88	341	P	Pn	15 53 51.6	+0.5
JEG				S	Sn	15 54 15.1	+0.9
JAO	Obara	1.92	3	P	Pn	15 53 51.1	-0.5
JAO				S	Sn	15 54 15.0	0.0
SHZ3	Shizuoka 3	1.94	27	P	Pn	15 53 51.0	-0.8
SHZ3				eS	Sn	15 54 14.8	-0.7
JIZS	Izushimoda	2.00	46	P	Pn	15 53 52.7	0.0
JIZS				eS	Sn	15 54 16.2	-0.9
JNY	Yasuok	2.10	17	P	Pn	15 53 53.1	-1.0
JNY				eS	Sn	15 54 18.6	-1.0
JAJ2	Tsuna	2.15	300	P	Pn	15 53 54.5	-0.4
JAJ2				eS	Sn	15 54 20.8	-0.1
JHJ	Hachijo jima 2	2.24	95	Pn	Pn	15 53 54.2	-2.0
	57nm,0.3s,baz=231,slow=11,SNR=7.5						
JHJ				Sn	Sn	15 54 19.6	-3.7
	143nm,0.3s,baz=18,slow=6.5,SNR=8.5						
MAJO	Matsushiro	3.31	15	ePn	Pn	15 54 11.5	+0.1
MAT	Matsushiro	3.31	15	P	Pn	15 54 11.5	+0.1
MAT				S	Sn	15 54 50.2	-0.1
MAT	Matsushiro	3.31	15	eP	Pn	15 54 12.0	+0.6
MAT				eS	Sn	15 54 52.0	+1.7
JNU	Nakatsue	5.24	269	Pn	Pn	15 54 37.3	-1.4
	0.7nm,0.3s,baz=90,slow=12,SNR=3.4						
ASAJ	Asahikawa	11.57	20	Pn	P	15 56 03.8	-2.8
	0.8nm,0.3s,baz=204,slow=6.5,SNR=13						
ASAJ	Asahikawa	11.57	20	P	P	15 56 03.8	-2.7
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
SSE	Sheshan	13.68	265	eP	P	15 56 35.7	+0.9
SSE				AMB	AMB		
	comp=Z,40nm,0.6s						
CN2	Changchun	13.85	322	eP	P	15 56 39.2	+2.3
CN2				eXP		15 56 46.1	
CN2				AMB	AMB		
	comp=Z,30nm,1.3s						
CN2				LR	LR		
	comp=N,1µm,13.0s						
CN2				LR	LR		
	comp=E,2µm,13.0s						
CN2				LR	LR		
	comp=Z,2µm,15.0s						
YSS	Yuzh-Sakhalins	14.25	16	⇓eP	P	15 56 38.0	-4.1
YSS	Yuzh-Sakhalins	14.25	16	eP	P	15 56 40.1	-2.0
	comp=Z,90nm,1.8s						
BJT	Baijiatuau	18.06	298	eP	P	15 57 30.0	-0.8
WHN	Wuhan	19.52	268	eP	P	15 57 47.5	-0.8
WHN				AP		15 57 53.1	
HIA	Hailar	20.50	326	eP	P	15 57 57.4	-1.2
	comp=Z,21nm,1.4s						
HHC	Hu-ho-hao-te	21.67	298	eP	P	15 58 10.5	-0.1
HHC				S	S	16 02 09.6	+5.6
HHC				AMB	AMB		
	comp=Z,18nm,1.2s,mb4.4						
ENH	Enshi	23.66	270	eP	P	15 58 30.8	+0.6
	comp=Z,122nm,1.6s,mb5.1						
SONM	Songino Array	27.24	311	P	P	15 59 04.4	+0.6
	comp=Z,5.5nm,1.1s,mb4.0,baz=117,slow=8.3,SNR=19						
SONM				pP	pP	15 59 12.9	+1.4
	comp=Z,6.9nm,1.2s,baz=118,slow=7.7,SNR=10						
MA2	Magadan	27.75	15	⇓eP	P	15 59 09.1	+0.8
MA2				pmax	pmax		
	comp=Z,37nm,1.9s,mb4.7						
MA2	Magadan	27.75	15	eP	P	15 59 08.4	+0.1
	comp=Z,10nm,0.8s,mb4.5						
YAK	Yakutsk	29.09	353	⇓eP	P	15 59 20.7	+0.4
YAK				pmax	pmax		
	comp=Z,57nm,1.6s,mb5.0						
YAK	Yakutsk	29.09	353	eP	P	15 59 20.0	-0.3
	comp=Z,3µm,3.8s						
ZAK	Zakamensk	30.07	315	eP	P	15 59 28.5	-0.7
KMI	Kunming	31.00	264	eP	P	15 59 38.3	+0.7
KMI				AP	pP	15 59 41.8	-3.5
KMI				S	S	16 04 41.6	+2.0
KMI				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.3						
TIXI	Tiksi	38.62	356	eP	P	16 00 42.2	-0.2
TIXI				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.5						
LSA	Lhasa	39.12	277	eP	P	16 00 48.2	+1.2
NVS	Novosibirsk	42.97	317	eP	P	16 01 17.4	-1.0
NVS				pmax	pmax		
	comp=Z,24nm,1.4s,mb4.7						
NVS				pmax	pmax		
	comp=E,9.0nm,1.2s						
MKAR	Makanchi Array	43.22	305	P	P	16 01 20.8	+0.4
	comp=E,5.6nm,0.7s,mb4.4,baz=90,slow=9.7,SNR=41						
MKAR				pP	pP	16 01 29.4	+1.1
	comp=E,15nm,1.2s,baz=88,slow=11,SNR=6.9						
MKAR				PcP	PcP	16 03 09.9	-0.2
	comp=E,2.5nm,0.9s,baz=108,slow=3.8,SNR=3.6						
MKAR	Makanchi Array	43.22	305	P	P	16 01 20.8	+0.4
MKAR				*PP	pP	16 01 29.4	+1.1
MKAR						16 03 09.9	
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.7s						
MKAR				pmax	pmax		
	comp=N,15nm,1.2s						
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
PKI	Pulchoki	44.58	277	eP	P	16 01 30.6	-1.2
KKN	Kakani	44.61	277	eP	P	16 01 31.1	-0.9
	comp=Z,23nm,1.1s,mb4.9						
DMN	Daman	44.82	277	eP	P	16 01 32.9	-0.8
	comp=Z,13nm,1.1s,mb4.7						
GKN	Gorkha	45.07	278	eP	P	16 01 35.6	-0.1
	comp=Z,29nm,1.2s,mb5.0						
KURK	Kurchatov	45.54	311	P	P	16 01 38.1	-1.0
	comp=Z,100nm,1.3s,mb5.6,SNR=18						
KURK	Kurchatov	45.54	311	eP	P	16 01 38.8	-0.3
KOLN	Koldanda	46.01	278	eP	P	16 01 43.0	-0.1
	comp=Z,52nm,1.5s,mb5.2						
BVAR	Borovoye Array	50.52	314	P	P	16 02 18.4	+0.6
	comp=Z,3.6nm,0.9s,mb4.3,baz=90,slow=8.9,SNR=13						
BVAR				pP	pP	16 02 27.1	+1.2
	comp=Z,1.6nm,0.7s,baz=112,slow=8.0,SNR=6.2						
BVAR				PcP	PcP	16 03 35.4	-0.4
	comp=Z,2.1nm,0.8s,baz=90,slow=4.4,SNR=4.1						
BVAR				pPcP		16 03 43.8	
	comp=Z,1.8nm,0.7s,baz=76,slow=6.1,SNR=5.0						
BRVK	Borovoye	50.59	314	eP	P	16 02 18.4	+0.1
	comp=Z,20nm,1.4s,mb4.8						
ZRNK	Zerenda	51.36	314	eP	P	16 02 23.3	-0.9
	comp=Z,28nm,1.6s,mb4.9						
IMA	Indian Mountai	51.62	29	eP	P	16 02 27.0	+1.0
	comp=Z,98nm,1.6s,mb5.5						
RSO	Redoubt South	51.96	36	eP	P	16 02 28.4	-0.2
SPU	Mount Spurr	52.28	35	eP	P	16 02 31.4	+0.4
FITZ	Fitzroy Crossi	52.32	194	P	P	16 02 30.2	-1.7
	comp=Z,4.1nm,0.9s,mb4.4,baz=20,slow=5.9,SNR=8.2						
FITZ				pP	pP	16 02 38.2	-1.8
	comp=Z,6.8nm,0.9s,baz=9.2,slow=8.1,SNR=8.3						
WRAB	Tennant Creek	53.05	183	eP	P	16 02 34.2	-3.1
	comp=Z,19nm,1.1s,mb4.9						
WB2	Warramunga Arr	53.06	183	eP	P	16 02 34.3	-3.1
WRA	Warramunga Arr	53.06	183	P	P	16 02 34.9	-2.5
	comp=Z,5.0nm,1.0s,mb4.4,baz=0.1,slow=7.7,SNR=26						
WRA				pP	pP	16 02 42.9	-2.5
	comp=Z,7.8nm,1.0s,baz=2.6,slow=7.7,SNR=12						
WRA				PcP	PcP	16 03 42.3	-3.4
	comp=Z,0.3nm,0.8s,baz=0.2,slow=7.5,SNR=5.7						
WRA	Warramunga Arr	53.06	183	P	P	16 02 34.9	-2.5
WRA				*PP	pP	16 02 42.9	-2.5
WRA						16 03 42.3	
WRA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
WRA				pmax	pmax		
	comp=N,8.0nm,1.0s						
MCK	McKinley	53.63	32	eP	P	16 02 40.9	-0.1
	comp=N,15nm,1.6s,mb4.7						
CTA	Charters Tower	53.85	169	P	P	16 02 41.3	-1.8
	comp=N,3.2nm,0.8s,mb4.3,baz=346,slow=9.7,SNR=2.4						
CTA				pP	pP	16 02 48.8	-2.4
	comp=N,6.2nm,0.9s,baz=354,slow=8.2,SNR=3.1						
CTA	Charters Tower	53.85	169	P	P	16 02 41.3	-1.8
CTA				*PP	pP	16 02 48.8	-2.4
CTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
CTA				pmax	pmax		
	comp=N,6.0nm,0.9s						
SML	Sawmill	54.02	34	eP	P	16 02 43.4	-0.5
COLA	College	54.05	31	⇑eP	P	16 02 45.4	+1.4
ILAR	Eielson Array	54.47	31	P	P	16 02 46.4	-0.7
	comp=N,1.8nm,0.8s,mb4.0,baz=283,slow=4.5,SNR=22						
ILAR	Eielson Array	54.47	31	P	P	16 02 46.4	-0.7
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ASAR	Alice Springs	56.78	184	P	P	16 03 01.9	-2.5
	comp=Z,2.7nm,0.9s,mb4.3,baz=359,slow=4.9,SNR=18						
ASAR				pP	pP	16 03 10.5	-2.1
	comp=Z,4.8nm,0.9s,baz=12,slow=7.1,SNR=15						
ASPA	Alice Springs	56.78	184	eP	P	16 03 01.9	-2.5
ARU	Arti	56.83	319	⇑iP	P	16 03 05.0	+0.7
ARU				e		16 05 12.0	
ARU				eS	S	16 10 56.4	+2.3
ARU				eSS	SS	16 14 40.2	-3.2
ARU				pmax	pmax		
	comp=Z,19nm,1.4s,mb4.9						
ARU	Arti	56.83	319	eP	P	16 03 04.3	0.0
	comp=Z,4.6nm,0.5s,mb4.8						
STKA	Stephens Creek	65.01	176	P	P	16 03 58.2	-1.9
	comp=Z,3.8nm,0.8s,mb4.5,baz=344,slow=8.3,SNR=6.0						
STKA				pP	pP	16 04 06.0	-2.3
	comp=Z,5.7nm,0.8s,baz=337,slow=6.4,SNR=5.5						
ARCES	ARCESS Array B	66.19	339	P	P	16 04 06.8	-0.2
	comp=Z,3.0nm,0.8s,mb4.4,baz=30,slow=9.8,SNR=3.9						
ARCES	ARCESS Array B	66.19	339	P	P	16 04 06.8	-0.2
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
OBN	Obninsk	68.92	323	eP	P	16 04 24.0	-0.4
OBN				e		16 04 49.4	
OBN				pmax	pmax		
	comp=Z,20nm,1.4s,mb4.8						
FINES	FINESS Array B	70.40	332	P	P	16 04 33.9	+0.5
	comp=Z,2.2nm,0.9s,mb4.1,baz=159,slow=16,SNR=4.2						
FINES	FINESS Array B	70.40	332	P	P	16 04 33.9	+0.5
FINES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
RMW	Rattlesnake Mo	72.97	44	eP	P	16 04 50.2	+1.2
AKASG	Malin Array Be	75.01	321	P	P	16 05 01.1	+0.4
	comp=Z,3.2nm,0.8s,mb4.3,baz=46,slow=5.9,SNR=22						
AKASG				pP	pP	16 05 09.3	+0.3
	comp=Z,1.4nm,0.7s,baz=51,slow=6.2,SNR=3.0						
AKASG	Malin Array Be	75.01	321	P	P	16 05 01.1	+0.4
AKASG				*PP	pP	16 05 09.3	+0.4
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.8s						
AKASG				pmax	pmax		
	comp=N,1.0nm,0.7s						
NEW	Newport	75.22	42	P	P	16 05 02.4	+0.4
	comp=N,2.3nm,0.7s,mb4.2,baz=314,slow=5.2,SNR=6.0						
NEW				pP	pP	16 05 11.7	+1.5
	comp=N,1.4nm,0.7s,baz=110,slow=6.8,SNR=2.1						
NEW	Newport	75.22	42	P	P	16 05 02.4	+0.5
NEW				*PP	pP	16 05 11.7	+1.5
NEW				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NEW				pmax	pmax		
	comp=N,1.0nm,0.7s						
NEW	Newport	75.22	42	eP	P	16 05 02.6	+0.7
	comp=N,12nm,1.3s,mb4.7						
HFS	Hagfors	75.94	334	P	P	16 05 05.0	-0.8
	comp=N,5.4nm,1.2s,mb4.4,baz=45,slow=6.3,SNR=4.4						
HFS	Hagfors	75.94	334	P	P	16 05 05.0	-0.8
HFS				pmax	pmax		
	comp=Z,5.0nm,1.2s						
NB2	NORSAR Subarra	76.17	336	P	P	16 05 06.7	-0.3
	comp=Z,0.2nm,0.8s,mb3.1,baz=50,slow=5.8						
NOA	NORSAR Array B	76.17	336	P	P	16 05 07.1	+0.1
	comp=Z,2.0nm,0.8s,mb4.1,baz=42,slow=5.7,SNR=6.9						
NOA	NORSAR Array B	76.17	336	P	P	16 05 07.1	+0.1
NOA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
OHCM	Honcut	77.46	51	eP	P	16 05 14.9	+0.2
WVOR	Wild Horse Val	77.56	47	eP	P	16 05 15.9	+0.7
	comp=Z,2.4nm,0.8s,mb4.2						
BRTR	Keskin Array B	78.59	310	P	P	16 05 22.4	+1.5
	comp=Z,9.7nm,1.0s,mb4.7,baz=108,slow=3.9,SNR=28						
BRTR				pP	pP	16 05 30.6	+1.4
	comp=Z,4.9nm,0.9s,baz=104,slow=3.7,SNR=6.8						
BRTR	Keskin Array B	78.59	310	P	P	16 05 22.4	+1.5
BRTR				*PP	pP	16 05 30.6	+1.4
BRTR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
BRTR				pmax	pmax		
	comp=N,5.0nm,0.9s						
RAYN	Ar Rayn	78.73	291	P	P	16 05 22.2	+0.2
	comp=N,56nm,1.2s,mb5.4,SNR=9.2						
HLID	Hailey	79.45	45	eP	P	16 05 26.5	+1.0
	comp=N,21nm,2.0s,mb4.7						
BMN	Battle Mountai	79.57	48	P	P	16 05 26.5	+0.3

	comp=N,3.1nm,0.7s,mb4.3						
BOZ	Bozeman (W)	79.80	42	*e*P	P	16 05 27.4	+0.1
	comp=N,2.2nm,0.7s,mb4.2						
MNV	Mina	80.12	50	P	P	16 05 28.8	-0.4
	comp=N,4.5nm,1.3s,mb4.2						
ELK	Elko	80.62	47	*e*P	P	16 05 33.1	+1.4
	comp=N,1.3nm,0.8s,mb3.9						
TPH	Tonopah	80.92	50	*e*P	P	16 05 34.7	+1.3
	comp=N,8.3nm,1.3s,mb4.5						
OKC	Ostrava-Krasne	81.12	325	*e*P	P	16 05 35.2	+1.0
DPC	Dobruska-Polom	81.63	326	*e*P	P	16 05 39.0	+2.1
UPC	Upice	81.67	326	*e*P	P	16 05 38.6	+1.5
UPC				*e*x	x	16 05 49.5	
VYHS	Vyhne	81.68	324	*e*P	P	16 05 38.8	+1.6
VYHS				*e*		16 27 19.5	
HWUT	Hardware Ranch	82.31	45	*e*P	P	16 05 42.3	+1.7
	comp=N,5.9nm,1.2s,mb4.4						
PVCC	Panska Ves	82.31	327	*e*P	P	16 05 43.3	+2.9
BRG	Berggiesshubel	82.35	328	*e*P	P	16 05 42.3	+1.7
BRG				pmax	pmax		
	comp=Z,29nm,1.8s,mb4.9						
BRG	Berggiesshubel	82.35	328	*e*P	P	16 05 42.3	+1.7
	comp=Z,29nm,1.8s,mb4.9						
DUG	Dugway	82.43	47	*e*P	P	16 05 42.6	+1.3
	comp=Z,3.0nm,1.0s,mb4.2						
CLL	Collm	82.46	328	⇓P	P	16 05 41.8	+0.6
CLL	Collm	82.46	328	⇓*i*P	P	16 05 41.8	+0.6
PRU	Pruhonice	82.71	327	*e*P	P	16 05 43.9	+1.4
PRU				*e*x	x	16 05 56.2	
PDAR	Pinedale Array	82.75	43	P	P	16 05 43.9	+1.0
	comp=Z,3.3nm,1.1s,mb4.3,baz=291,slow=2.9,SNR=14						
PDAR				pP	pP	16 05 52.0	+0.8
	comp=Z,0.3nm,0.6s,baz=297,slow=4.0,SNR=2.1						
CLZ	Clausthal	83.20	330	*e*P	P	16 05 46.3	+1.3
MOX	Moxa	83.55	329	*i* P	P	16 05 48.0	+1.3
	comp=Z,logA/T=1.0,mb4.9						
MOX	Moxa	83.55	329	*e*P	P	16 05 48.0	+1.3
MOX				pmax	pmax		
	comp=Z,17nm,1.6s,mb4.9						
MOX	Moxa	83.55	329	*e*P	P	16 05 48.0	+1.3
	comp=Z,17nm,1.6s,mb4.9						
KHC	Kasperske Hory	83.76	327	*e*P	P	16 05 49.0	+1.2
KHC				*e*x	x	16 06 01.9	
MSU	Marysvale	83.85	48	*e*P	P	16 05 49.8	+1.2
GEC2	GERESS Array S	83.90	326	*e*P	P	16 05 49.8	+1.2
GEC2				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
GEC2	GERESS Array S	83.90	326	*e*P	P	16 05 49.8	+1.2
	comp=Z,4.0nm,0.9s,mb4.5						
GERES	GERESS Array B	83.90	326	P	P	16 05 49.6	+1.0
	comp=Z,2.5nm,0.8s,mb4.4,baz=45,slow=3.8,SNR=21						
GERES				pP	pP	16 05 58.1	+1.1
	comp=Z,1.1nm,0.8s,baz=45,slow=5.7,SNR=4.1						
GERES	GERESS Array B	83.90	326	P	P	16 05 49.6	+1.0
GERES				*PP	pP	16 05 58.1	+1.1
GERES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
GERES				pmax	pmax		
	comp=N,1.0nm,0.8s						
WET	Wettzell	84.07	327	*e*P	P	16 05 50.6	+1.2
WET				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.5						
WET	Wettzell	84.07	327	*e*P	P	16 05 50.6	+1.2
	comp=Z,4.0nm,1.0s,mb4.5						
GRA1	Grafenberg Arr	84.42	328	*e*P	P	16 05 52.8	+1.7
	comp=Z,10.0nm,0.9s,mb5.0						
GRF	Grafenberg Arr	84.42	328	*e*P	P	16 05 52.8	+1.7
GRF				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb5.0						
SRU	San Rafael	84.49	46	*e*P	P	16 05 52.1	+0.4
PV10	Paradox Valley	85.85	46	*e*P	P	16 05 59.7	+1.1
PV01	Paradox Valley	86.29	46	*e*P	P	16 06 01.9	+1.2
DAVOX	Davos	87.17	327	P	P	16 06 05.6	+0.8
	comp=Z,3.9nm,0.8s,mb4.7,baz=151,slow=2.0,SNR=4.6						
LPL	La Plagne	89.56	328	*e*P	P	16 06 16.2	-0.1
	comp=Z,4.7nm,0.8s,mb4.6						
LPG	La Plagne	89.56	328	*e*P	P	16 06 16.3	0.0
	comp=Z,16nm,1.1s,mb5.0						
RJF	Les Rejaudoux	91.97	330	*e*P	P	16 06 27.4	0.0
CAF	Calviac	92.05	330	*e*P	P	16 06 28.2	+0.4
TXAR	Lajitas Array	95.16	50	P	P	16 06 43.8	+1.4
	comp=Z,1.7nm,0.8s,mb4.5,baz=297,slow=2.8,SNR=20						
SAML	Samuel	149.33	42	*e*PKPbc	PKPdf	16 13 08.2	+0.7

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*JMA **05** 15:54:50.3±0.1, 33.26N×136.83E, h42^{km}±5^{km}, M3.9*

ISC 05 15:54:50.2±1.4**, 33.32N**±0.06×**136.85E**±0.06**, h24**^{km}±8^{km}**, n20, σ0^{s}.42**/31**, 1C-1D, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JWZ	Kozaga	0.97	283	P	Pb	15 55 07.5	-0.8
JWZ				*e*S	Sb	15 55 20.4	-0.4
JKN	Kiinagashima	1.05	332	P	Pn	15 55 09.4	-0.2
JKN				*e*S	Sb	15 55 22.7	-0.3
JIE	Ise	1.08	354	P	Pn	15 55 10.2	+0.2
JIE				S	Sb	15 55 24.5	+0.7
JAA	Atsumi	1.33	10	P	Pn	15 55 13.6	-0.1
JAA				*e*S	Sn	15 55 30.3	-0.5
JWM	Minabe	1.36	293	*e*S	Sn	15 55 31.0	-0.4
JWY	Kouya	1.38	311	P	Pn	15 55 14.5	+0.2
JWY				*e*S	Sn	15 55 32.1	+0.1
TSUJ	Tsu 2	1.44	346	*e*S	Sn	15 55 33.4	+0.1
JHE	Heguri	1.65	324	P	Pn	15 55 18.5	+0.3
JHE				*e*S	Sn	15 55 38.8	0.0
JEG	Eigenji	1.85	348	P	Pn	15 55 21.8	+0.7
JEG				*e*S	Sn	15 55 44.6	+0.6
JAJ2	Tsuna	1.97	304	P	Pn	15 55 23.4	+0.6
JAO	Obara	1.97	10	*e*S	Sn	15 55 46.7	-0.3
JWT	Wachi	2.30	329	⇑P	Pn	15 55 27.7	+0.2
JWT				*e*S	Sn	15 55 55.4	+0.1
JGF	Kuroka	2.32	10	*e*S	Sn	15 55 55.0	-0.7
JFM	Mihama	2.32	342	P	Pn	15 55 28.4	+0.6
JFM				*e*S	Sn	15 55 56.1	+0.3
JGM	Miyama	2.38	357	⇓P	Pn	15 55 28.7	+0.1
JGM				*e*S	Sn	15 55 57.7	+0.4
JYN	Shimob	2.59	32	*e*S	Sn	15 56 02.4	-0.2
JKY	Yasaka	2.72	328	P	Pn	15 55 33.5	0.0
JKY				*e*S	Sn	15 56 05.6	-0.4
JGN	Niukaw	2.92	7	*e*S	Sn	15 56 10.5	-0.7
JKG	Kaga	2.98	352	*e*S	Sn	15 56 12.8	+0.1
MAT	Matsushiro	3.41	19	S	Sn	15 56 23.0	-0.3

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*NEIC **05** 15:59:22.0±0.3, 33.05N×137.29E, h10^{km}, mb4.4/5, Error ellipse: s-maj=11.8km s-min=6.3km az=90.0*

*JMA **05** 15:59:23.3±0.1, 33.11N×137.14E, h44^{km}±2^{km}, M4.5*

JMA Felt I J1.

*IDC **05** 15:59:26.6±0.6, 33.00N×137.08E, h37^{km}±3^{km}, mb3.9/13, mb1 4.1/15, mb1mx3.9/24, ML3.5/2, MS4.5/1, Ms1 4.5/1, ms1mx3.7/31, Error ellipse: s-maj=22.2km s-min=10.8km az=69.0*

ISC 05 15:59:23.7±0.3**, 33.13N**±0.02×**137.16E**±0.03**, h38**^{km}**, h38**^{km}±1.0^{km}**:pP-P, n53, σ0^{s}.85**/80**, mb4.2**/18**, 1C-11D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	Tokai 1	0.73	29	P	P	15 59 37.6	0.0
TK01				*e*S	S	15 59 48.4	+0.7
TK02	Tokai 2	0.96	31	P	P	15 59 40.9	+0.1
TK02				*e*S	S	15 59 54.0	+0.6
TK03	Tokai 3	1.23	33	P	P	15 59 44.8	+0.1
TK03				*e*S	S	16 00 00.3	-0.1
JWZ	Kozaga	1.27	289	⇓P	P	15 59 44.8	-0.5
JWZ				*e*S	S	15 59 59.9	-1.6
JIE	Ise	1.31	343	⇓P	P	15 59 46.3	+0.3
JIE				S	S	16 00 02.7	+0.1
JKN	Kiinagashima	1.34	326	⇓P	P	15 59 46.2	-0.2
JKN				S	S	16 00 02.0	-1.3
TK04	Tokai 4	1.39	25	⇓P	P	15 59 47.2	+0.2
TK04				S	S	16 00 05.0	+0.6
JAA	Atsumi	1.50	359	⇓P	P	15 59 48.7	+0.1
JAA				S	S	16 00 07.3	+0.2
JWM	Minabe	1.67	296	P	P	15 59 50.9	-0.1
JWM				S	S	16 00 10.1	-1.3
TSUJ	Tsu 2	1.69	339	P	P	15 59 51.2	-0.1
TSUJ				S	S	16 00 12.0	0.0
JWY	Kouya	1.70	310	⇓P	P	15 59 51.8	+0.4
JWY				S	S	16 00 11.6	-0.6
JSG	Sagara	1.76	29	P	P	15 59 52.4	+0.1
JSG				*e*S	S	16 00 13.8	+0.1
HMMJ	Hamamatsu 2	1.79	15	⇓P	P	15 59 52.4	-0.2
HMMJ				*e*S	S	16 00 12.8	-1.5
JHE	Heguri	1.95	322	⇓P	P	15 59 55.3	+0.2
JHE				S	S	16 00 18.2	-0.3
JKO	Kozu shima	1.96	57	P	P	15 59 55.4	+0.3
JKO				*e*S	S	16 00 17.6	-1.0
JEG	Eigenji	2.10	343	⇑P	P	15 59 58.1	+0.9
JEG				*e*S	S	16 00 21.9	-0.4
SHZ3	Shizuoka 3	2.12	24	P	P	15 59 56.4	-1.0
SHZ3				*e*S	S	16 00 22.6	-0.1
JAO	Obara	2.13	2	⇓P	P	15 59 57.5	-0.1
JAO				S	S	16 00 22.9	-0.2
JIZS	Izushimoda	2.13	42	P	P	15 59 58.1	+0.5
JIZS				*e*S	S	16 00 20.2	-2.9
JMY	Miyakejima3	2.18	64	*e*S	S	16 00 24.4	+0.2
JHJ	Hachijo jima 2	2.20	90	Pn	P	16 00 03.0	+4.3
JHJ				Sn	S	16 00 24.3	-0.5
JHJ				LR	LR	16 00 53.9	
	comp=Z,11µm,20.0s,baz=206,slow=38						
JAJ2	Tsuna	2.29	305	P	P	16 00 00.3	+0.4
JAJ2				S	S	16 00 26.6	-0.5
JNY	Yasuok	2.30	14	⇓P	P	15 59 59.7	-0.3
JNY				*e*S	S	16 00 27.0	-0.3
JGF	Kuroka	2.47	4	P	P	16 00 02.6	+0.1
JGF				*e*S	S	16 00 32.1	+0.4
JFM	Mihama	2.58	338	P	P	16 00 04.5	+0.4
JFM				*e*S	S	16 00 35.0	+0.4
JWT	Wachi	2.60	326	⇓P	P	16 00 04.4	+0.2
JWT				S	S	16 00 35.5	+0.6
MAJO	Matsushiro	3.51	14	*e*Pn	P	16 00 17.9	+0.6
MAT	Matsushiro	3.51	14	P	P	16 00 17.6	+0.3
MAT				S	S	16 00 58.3	+0.1
MAT	Matsushiro	3.51	14	*e*P	P	16 00 18.0	+0.7
MAT				*e*S	S	16 00 58.0	-0.2
JNU	Nakatsue	5.27	272	Pn	P	16 00 42.8	+0.7
	0.7nm,0.3s,baz=146,slow=11,SNR=3.3						
ASAJ	Asahikawa	11.76	20	Pn	P	16 02 09.8	-2.0
	1.1nm,0.3s,baz=226,slow=16,SNR=11						
YSS	Yuzh-Sakhalins	14.45	16	*e*P	P	16 02 45.3	-2.1
SONM	Songino Array	27.41	312	P	P	16 05 08.9	+1.2
	2.6nm,0.8s,mb3.8,baz=118,slow=8.6,SNR=16						
SONM				pP	pP	16 05 19.9	+1.8
	1.6nm,1.0s,baz=111,slow=11,SNR=3.6						
YAK	Yakutsk	29.32	353	P	P	16 05 25.3	+0.7
	6.1nm,0.5s,mb4.6						
MKAR	Makanchi Array	43.37	305	P	P	16 07 24.5	+0.5
	2.7nm,0.7s,mb4.1,baz=88,slow=10,SNR=18						
MKAR				pP	pP	16 07 37.0	+2.1
	0.9nm,0.5s,baz=85,slow=11,SNR=4.7						
KURK	Kurchatov	45.71	311	*e*P	P	16 07 43.6	+0.9
	4.1nm,0.9s,mb4.4						
BVAR	Borovoye Array	50.70	314	P	P	16 08 22.0	+0.6
	1.1nm,0.7s,mb3.9,baz=80,slow=9.0,SNR=6.1						
BVAR				pP	pP	16 08 33.8	+1.5
	0.9nm,0.6s,baz=108,slow=9.4,SNR=3.1						
FITZ	Fitzroy Crossi	52.12	194	*e*P	P	16 08 32.4	-0.1
	1.8nm,0.6s,mb4.2						
FITZ				*e*	pP	16 08 43.1	-0.4
FITZ	Fitzroy Crossi	52.12	194	P	P	16 08 32.4	-0.1
	2.5nm,0.6s,mb4.3,baz=14,slow=8.0,SNR=10						
FITZ				pP	pP	16 08 43.2	-0.3
	4.6nm,0.7s,baz=0.3,slow=5.9,SNR=5.9						
WRAB	Tennant Creek	52.83	183	*e*P	P	16 08 35.5	-2.4
	4.1nm,0.8s,mb4.4						
WB2	Warramunga Arr	52.84	183	*e*P	P	16 08 36.9	-1.0
WRA	Warramunga Arr	52.84	183	P	P	16 08 37.0	-0.9
	2.2nm,0.6s,mb4.3,slow=7.8,SNR=31						
WRA				pP	pP	16 08 47.5	-1.4
	1.8nm,0.6s,baz=0.9,slow=7.8,SNR=6.3						
CTAO	Charters Tower	53.62	169	P	P	16 08 43.8	0.0
	1.1nm,0.6s,mb4.0						
ASAR	Alice Springs	56.56	184	P	P	16 09 04.2	-0.9
	1.2nm,0.6s,mb4.1,baz=15,slow=11,SNR=17						
ASAR				pP	pP	16 09 15.9	-0.3
	1.3nm,0.6s,baz=13,slow=13,SNR=8.5						
ASPA	Alice Springs	56.56	184	*e*P	P	16 09 04.6	-0.4
FORT	Forrest	64.14	189	*e*P	P	16 09 56.7	+0.1
	40nm,0.8s,mb5.5						
STKA	Stephens Creek	64.79	176	P	P	16 10 00.8	-0.1
	3.3nm,0.7s,mb4.5,baz=333,slow=8.2,SNR=11						
STKA				pP	pP	16 10 11.7	-0.5
	2.8nm,0.7s,baz=324,slow=5.7,SNR=3.7						
ARCES	ARCESS Array B	66.40	339	P	P	16 10 12.1	+1.6
	3.7nm,1.1s,mb4.3,baz=63,slow=5.4,SNR=4.3						
ARCES				pP	pP	16 10 23.8	+1.9
	3.6nm,0.9s,baz=5.7,slow=12,SNR=2.3						
FINES	FINESS Array B	70.61	332	P	P	16 10 37.9	+1.2
	1.6nm,1.0s,mb3.9,baz=225,slow=27,SNR=3.5						
AKASG	Malin Array Be	75.20	321	P	P	16 11 05.0	+1.2
	6.7nm,1.0s,mb4.5,baz=50,slow=6.1,SNR=12						
AKASG				pP	pP	16 11 15.9	+0.6
	1.6nm,0.5s,baz=49,slow=6.0,SNR=6.8						
BRTR	Keskin Array B	78.76	310	P	P	16 11 27.5	+3.5
	0.6nm,0.7s,mb3.7,baz=27,slow=3.2,SNR=3.1						
BRTR				pP	pP	16 11 37.9	+2.4
	1.7nm,1.0s,baz=90,slow=3.7,SNR=2.8						
GERES	GERESS Array B	84.10	326	P	P	16 11 53.6	+2.0
	0.9nm,0.7s,mb4.0,baz=45,slow=3.8,SNR=5.7						
GERES				pP	pP	16 12 04.7	+1.3
	1.3nm,0.6s,baz=36,slow=5.1,SNR=9.0						
TXAR	Lajitas Array	95.28	50	P	P	16 12 47.2	+2.2
	0.2nm,0.7s,mb3.6,baz=243,slow=2.8,SNR=3.8						
TXAR				pP	pP	16 12 59.2	+2.4
	0.4nm,0.6s,baz=290,slow=3.7,SNR=4.5						

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*NEIC **05** 16:02:27.0±0.7, 33.42N×137.16E, h10^{km}, mb4.1/4, Error ellipse: s-maj=18.4km s-min=11.4km az=90.0*

*JMA **05** 16:02:27.4±0.1, 33.37N×136.94E, h48^{km}±3^{km}, M3.8*

*IDC **05** 16:02:32.6±0.8, 33.55N×137.23E, h56^{km}±7^{km}, mb3.4/5, mb1 3.5/7, mb1mx3.3/23, Error ellipse: s-maj=19.9km s-min=9.2km az=13.0*

ISC 05 16:02:28.3±1.1**, 33.42N**±0.04×**136.95E**±0.03**, h33**^{km}±8^{km}**, h59**^{km}±2.9^{km}**:pP-P, n30, σ0^{s}.77**/41**, mb3.9**/8**, 6C-1D, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	Tokai 1	0.64	57	P	Pn	16 02 40.5	-0.4
TK01				*e*S	Sb	16 02 51.1	+1.4
TK02	Tokai 2	0.85	51	P	Pn	16 02 44.3	+0.3
TK02				*e*S	Sn	16 02 55.1	-0.3
JIE	Ise	0.99	348	⇑P	Pn	16 02 46.1	0.0
JIE				*e*S	Sn	16 02 59.1	+0.1
JKN	Kiinagashima	1.01	325	⇑P	Pn	16 02 45.8	-0.5
JKN				*e*S	Sn	16 02 58.6	-0.8
JWZ	Kozaga	1.04	277	⇑P	Pn	16 02 45.7	-1.0
JWZ				*e*S	Sn	16 02 59.2	-1.0
TK03	Tokai 3	1.12	48	P	Pn	16 02 47.0	-0.9
TK03				*e*S	Sn	16 03 01.6	-0.8
JAA	Atsumi	1.22	7	⇓P	Pn	16 02 49.0	-0.3
TK04	Tokai 4	1.23	38	*e*S	Sn	16 03 04.8	-0.3
TSUJ	Tsu 2	1.36	341	P	Pn	16 02 51.3	-0.1
JWY	Kouya	1.39	306	P	Pn	16 02 51.7	0.0
JWM	Minabe	1.40	288	⇑P	Pn	16 02 51.3	-0.6
JHE	Heguri	1.62	320	⇑P	Pn	16 02 54.8	-0.3
JHE				*e*S	Sn	16 03 14.5	-0.5
SHZ3	Shizuoka 3	1.95	32	P	Pn	16 02 58.6	-1.1
JAJ2	Tsuna	1.99	301	⇑P	Pn	16 03 00.4	+0.1
JIZS	Izushimoda	2.06	50	P	Pn	16 03 01.6	+0.3
JIZS				*e*S	Sn	16 03 25.9	-0.2
JHJ	Hachijo jima 2	2.39	96	P	Pn	16 03 05.1	-0.9
	14nm,0.3s,baz=250,slow=23,SNR=3.5						
JHJ				S	Sn	16 03 33.9	-0.6
	29nm,0.3s,baz=240,slow=20,SNR=3.7						
MAJO	Matsushiro	3.28	18	*e*Pn	Pn	16 03 18.5	-0.2
MAT	Matsushiro	3.28	18	P	Pn	16 03 17.6	-1.1
MAT				S	Sn	16 03 57.9	+0.8
MAT	Matsushiro	3.28	18	*e*P	Pn	16 03 18.0	-0.7
MAT				*e*S	Sn	16 03 58.0	+0.9
ASAJ	Asahikawa	11.55	21	P	P	16 05 11.4	-2.4
	0.3nm,0.3s,baz=248,slow=18,SNR=2.8						
BJT	Baijiatuau	17.90	298	*e*P	P	16 06 39.8	+3.6
	10nm,0.7s						
SONM	Songino Array	27.09	311	P	P	16 08 10.2	+0.5
	0.6nm,0.7s,mb3.3,baz=121,slow=8.8,SNR=3.8						
SONM				pP	pP	16 08 25.4	+6.1
	1.8nm,1.1s,baz=121,slow=7.2,SNR=4.9						
SONM	Songino Array	27.09	311	P	P	16 08 10.2	+0.5
SONM				pP	pP	16 08 25.4	+6.1
MKAR	Makanchi Array	43.06	305	P	P	16 10 28.1	+1.6
	1.9nm,0.7s,mb3.9,baz=86,slow=11,SNR=11						
KURK	Kurchatov	45.39	311	*e*P	P	16 10 45.9	+0.7
	1.4nm,0.8s,mb3.8						
BVAR	Borovoye Array	50.38	314	P	P	16 11 24.1	+0.1
	1.0nm,0.7s,mb3.9,baz=101,slow=7.3,SNR=5.1						
ZRNK	Zerenda	51.22	314	*e*P	P	16 11 30.4	0.0
	4.8nm,1.5s,mb4.2						
WRAB	Tennant Creek	53.11	183	*e*P	P	16 11 44.1	-0.8
	14nm,1.5s,mb4.7						
WRA	Warramunga Arr	53.12	183	P	P	16 11 44.6	-0.5
	1.2nm,1.1s,mb3.7,baz=360,slow=7.6,SNR=5.8						
WRA				pP	pP	16 12 01.1	+6.0
	0.6nm,0.6s,baz=359,slow=7.7,SNR=5.6						
ASAR	Alice Springs	56.84	183	P	P	16 12 13.4	+1.4
	0.3nm,0.8s,mb3.4,baz=20,slow=11,SNR=3.3						
ASAR				pP	pP	16 12 28.1	+5.9
	0.3nm,0.7s,baz=15,slow=15,SNR=2.9						
ASAR				sP	sP	16 12 33.0	+7.0
	0.5nm,0.8s,baz=0.1,slow=5.3,SNR=2.5						

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*IDC **05** 16:04:47.4±0.9, 33.30N×137.01E, mb3.8/7, mb1 4.0/8, mb1mx3.8/20, ML3.1/1, Error ellipse: s-maj=31.8km s-min=19.6km az=53.0*

*NEIC **05** 16:04:48.5±0.5, 33.33N×137.09E, h10^{km}, mb3.9/3, Error ellipse: s-maj=15.8km s-min=9.1km az=93.0*

*JMA **05** 16:04:50.5±0.2, 33.45N×136.97E, h31^{km}, M3.2*

ISC 05 16:04:49.6±1.4**, 33.38N**±0.04×**137.01E**±0.04**, h31**^{km}±10^{km}**, n25, σ0^{s}.86**/35**, mb3.8**/10**, 2D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK02	Tokai 2	0.85	48	P	Pn	16 05 05.7	+0.2
TK02				S	Sb	16 05 16.5	-0.2
JIE	Ise	1.04	346	⇓P	Pn	16 05 08.3	0.0
JIE				S	Sn	16 05 21.9	0.0
JKN	Kiinagashima	1.07	325	⇓P	Pn	16 05 08.1	-0.5
JKN				S	Sn	16 05 21.2	-1.3
JWZ	Kozaga	1.09	278	P	Pn	16 05 10.7	+1.8
JWZ				S	Sn	16 05 21.3	-1.8
TK04	Tokai 4	1.24	35	P	Pn	16 05 11.6	+0.5
TK04				S	Sn	16 05 26.4	-0.5
TSUJ	Tsu 2	1.42	340	P	Pn	16 05 13.5	-0.1
TSUJ				S	Sn	16 05 31.2	-0.2
JWY	Kouya	1.45	306	S	Sn	16 05 32.1	0.0
JHE	Heguri	1.68	320	P	Pn	16 05 17.7	+0.3
JHE				S	Sn	16 05 37.7	-0.4
JHJ	Hachijo jima 2	2.34	96	Pn	Pn	16 05 27.3	+0.4
	10nm,0.3s,baz=81,slow=20,SNR=2.9						
JHJ				Sn	Sn	16 05 53.6	-1.3
	27nm,0.3s,baz=251,slow=22,SNR=3.1						
MAJO	Matsushiro	3.31	17	*e*Pn	Pn	16 05 40.7	+0.1
MAT	Matsushiro	3.31	17	P	Pn	16 05 40.8	+0.2
MAT				S	Sn	16 06 19.2	-0.2
MAT	Matsushiro	3.31	17	*e*P	Pn	16 05 40.0	-0.6
MAT				*e*S	Sn	16 06 20.0	+0.6
SONM	Songino Array	27.15	311	P	P	16 10 32.2	+0.3
	0.5nm,0.7s,mb3.2,baz=124,slow=9.0,SNR=3.6						
SONM	Songino Array	27.15	311	P	P	16 10 32.2	+0.3
MKAR	Makanchi Array	43.12	305	P	P	16 12 50.2	+1.6
	1.9nm,0.7s,mb4.0,baz=94,slow=10,SNR=12						
MKAR	Makanchi Array	43.12	305	P	P	16 12 50.2	+1.6
KURK	Kurchatov	45.45	311	P	P	16 13 08.2	+0.9
	0.6nm,0.5s,mb3.7						
BVAR	Borovoye Array	50.43	314	P	P	16 13 46.9	+0.7
	1.0nm,0.6s,mb4.0,baz=232,slow=43,SNR=4.9						
ZRNK	Zerenda	51.27	314	P	P	16 13 52.2	-0.3
	1.1nm,0.7s,mb3.9						
WRAB	Tennant Creek	53.07	183	*e*P	P	16 14 05.0	-1.4
	0.6nm,0.4s,mb3.9						
WRA	Warramunga Arr	53.08	183	P	P	16 14 05.4	-1.1
	0.4nm,0.4s,mb3.7,baz=0.1,slow=7.7,SNR=10						
ASAR	Alice Springs	56.80	183	P	P	16 14 33.4	-0.2
	0.6nm,0.7s,mb3.7,baz=17,slow=10,SNR=5.9						
ARCES	ARCESS Array B	66.13	339	P	P	16 15 36.2	+0.6
	2.1nm,0.8s,mb4.2,baz=63,slow=5.4,SNR=3.9						
TXAR	Lajitas Array	95.22	50	P	P	16 18 13.8	+2.2
	0.2nm,0.6s,mb3.8,baz=321,slow=8.0,SNR=4.0						
TXAR	Lajitas Array	95.22	50	P	P	16 18 13.8	+2.2

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*BJI **05** 16:06:42.7, 33.20N×136.90E, h10^{km}, mb4.7*

*NEIC **05** 16:06:42.7±0.3, 33.21N×136.87E, h10^{km}, mb4.5/10, Error ellipse: s-maj=7.6km s-min=6.1km az=99.0*

*JMA **05** 16:06:42.3±0.1, 33.22N×136.92E, h40^{km}, M4.3*

JMA Felt I J1.

*IDC **05** 16:06:45.1±0.5, 33.22N×136.89E, h26^{km}±3^{km}, mb3.8/12, mb1 4.0/16, mb1mx3.9/23, ML3.8/4, Error ellipse: s-maj=17.8km s-min=11.0km az=66.0*

ISC 05 16:06:42.7±0.3**, 33.27N**±0.03×**136.93E**±0.03**, h25**^{km}**, h25**^{km}±.6^{km}**:pP-P, n61, σ1^{s}.07**/67**, mb4.3**/26**, 2C-4D, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK02	Tokai 2	0.96	45	S	Sb	16 07 12.3	-0.7
JWZ	Kozaga	1.05	285	⇑P	Pn	16 07 00.9	-1.0
JWZ				S	Sb	16 07 14.3	-1.1
JKN	Kiinagashima	1.12	331	⇓P	Pn	16 07 02.5	-0.5
JIE	Ise	1.13	351	⇓P	Pn	16 07 03.1	-0.1
JIE				*e*S	Sb	16 07 17.4	-0.5
JWM	Minabe	1.44	294	P	Pn	16 07 07.1	-0.4
JWM				*e*S	Sn	16 07 24.4	-1.3
JWY	Kouya	1.46	311	P	Pn	16 07 07.9	+0.1
JWY				*e*S	Sn	16 07 26.0	-0.3
TSUJ	Tsu 2	1.50	344	⇓P	Pn	16 07 08.3	-0.1
JHE	Heguri	1.73	323	⇓P	Pn	16 07 11.5	-0.1
JAJ2	Tsuna	2.05	305	⇑P	Pn	16 07 16.5	+0.2
JAJ2				*e*S	Sn	16 07 41.3	0.0
SHZ3	Shizuoka 3	2.08	30	P	Pn	16 07 15.9	-0.8
JAI	Aioi	2.13	285	P	Pn	16 07 17.0	-0.5
JHJ	Hachijo jima 2	2.40	93	Pn	Pn	16 07 21.2	0.0
	25nm,0.3s,baz=70,slow=22,SNR=4.0						
JHJ				Sn	Sn	16 07 48.5	-1.6
	103nm,0.3s,baz=246,slow=23,SNR=12						
MAJO	Matsushiro	3.43	17	*e*Pn	Pn	16 07 36.0	+0.1
MAT	Matsushiro	3.43	17	P	Pn	16 07 35.6	-0.3
MAT				S	Sn	16 08 14.9	-1.3
MAT	Matsushiro	3.43	17	*e*P	Pn	16 07 36.0	+0.1
MAT				*e*S	Sn	16 08 15.0	-1.2
JNU	Nakatsue	5.08	270	Pn	Pn	16 07 57.3	-1.9
	3.2nm,0.3s,baz=117,slow=10,SNR=12						
CBIJ	Chichi jima	7.65	142	Pn	Pn	16 08 32.9	-2.6
	17nm,0.3s,baz=109,slow=23,SNR=3.0						
ASAJ	Asahikawa	11.70	21	Pn	P	16 09 29.6	-1.5
	0.3nm,0.3s,baz=248,slow=22,SNR=3.5						
YSS	Yuzh-Sakhalins	14.37	16	*e*Pn	P	16 10 07.8	+1.3
BJT	Baijiatuau	17.95	298	*e*P	P	16 10 54.2	+1.9
	33nm,0.8s						
BJT				*e*		16 11 03.4	
WHN	Wuhan	19.36	268	*e*P	P	16 11 10.5	+1.2
WHN				AP		16 11 16.0	
HIA	Hailar	20.47	326	P	P	16 11 20.8	-0.3
	18nm,0.8s						
HHC	Hu-ho-hao-te	21.56	298	*e*P	P	16 11 39.4	+7.1
HHC				XP		16 11 43.2	
HHC				PP	PP	16 12 02.9	+6.0
HHC				AMB	AMB		
	comp=Z,39nm,0.5s,mb5.1						
GYA	Guiyang	27.05	263	P	P	16 12 27.1	+2.0
GYA				AMB	AMB		
	comp=Z,20nm,0.6s,mb4.8						
SONM	Songino Array	27.17	311	P	P	16 12 26.4	+0.5
	comp=Z,0.8nm,0.8s,mb3.3,baz=118,slow=11,SNR=4.9						
SONM				pP	pP	16 12 34.2	+0.8
	comp=Z,3.8nm,0.7s,baz=122,slow=8.4,SNR=18						
SONM				PcP	PcP	16 15 46.0	-0.4
	comp=Z,0.3nm,0.7s,baz=108,slow=4.6,SNR=3.5						
SONM				pPcP		16 15 55.5	
	comp=Z,0.4nm,0.6s,baz=92,slow=2.0,SNR=3.9						
LZH	Lanzhou	27.28	285	*e*P	P	16 12 25.9	-1.2
LZH				AP	pP	16 12 30.7	-3.8
LZH				AMB	AMB		
	comp=Z,24nm,1.3s,mb4.6						
MA2	Magadan	27.87	15	P	P	16 12 32.4	+0.2
	comp=Z,5.7nm,0.8s,mb4.2						
CD2	Chengdu	28.14	274	*e*P	P	16 12 34.1	-0.8
LSA	Lhasa	38.97	277	P	P	16 14 10.6	+2.0
MKAR	Makanchi Array	43.13	305	P	P	16 14 43.7	+1.1
	comp=Z,3.1nm,0.7s,mb4.2,baz=92,slow=9.9,SNR=20						
MKAR				pP	pP	16 14 51.7	+1.5
	comp=Z,8.9nm,0.7s,baz=90,slow=11,SNR=34						
MKAR				PcP	PcP	16 16 32.9	+0.2

	comp=Z,1.0nm,0.8s,baz=68,slow=6.5,SNR=3.0						
MKAR	**Makanchi Array**	**43.13**	**305**	P	**P**	**16 14 43.7**	**+1.1**
MKAR				pP	pP	16 14 51.7	+1.5
MKAR				PcP	PcP	16 16 32.9	+0.2
PKI	**Pulchoki**	**44.43**	**277**	*e*P	**P**	**16 14 53.8**	**+0.4**
	comp=Z,15nm,0.7s,mb4.8						
KKN	**Kakani**	**44.46**	**277**	*e*P	**P**	**16 14 53.9**	**+0.3**
	comp=Z,24nm,0.8s,mb5.0						
DMN	**Daman**	**44.67**	**277**	*e*P	**P**	**16 14 55.0**	**-0.3**
	comp=Z,21nm,1.1s,mb4.9						
GKN	**Gorkha**	**44.92**	**278**	*e*P	**P**	**16 14 56.9**	**-0.4**
KURK	**Kurchatov**	**45.47**	**311**	*e*P	**P**	**16 15 01.6**	**+0.3**
	comp=Z,14nm,1.1s,mb4.7						
KURK				*e*	pP	16 15 09.8	+0.7
KOLN	**Koldanda**	**45.86**	**278**	*e*P	**P**	**16 15 04.9**	**+0.1**
	comp=Z,17nm,0.9s,mb5.0						
AAK	**Ala-Archa**	**49.11**	**300**	*e*P	**P**	**16 15 30.1**	**0.0**
	comp=Z,5.4nm,0.7s,mb4.7						
AAK				*e*	pP	16 15 37.9	+0.1
BVAR	**Borovoye Array**	**50.46**	**314**	P	**P**	**16 15 40.2**	**0.0**
	comp=Z,2.5nm,0.7s,mb4.3,baz=90,slow=8.9,SNR=11						
BVAR				pP	pP	16 15 48.6	+0.6
	comp=Z,1.8nm,0.7s,baz=113,slow=11,SNR=5.9						
BVAR				PcP	PcP	16 16 58.3	-0.2
	comp=Z,1.1nm,0.6s,baz=108,slow=4.7,SNR=3.6						
BVAR				pPcP		16 17 06.8	
	comp=Z,1.1nm,0.6s,baz=110,slow=3.1,SNR=3.4						
ZRNK	**Zerenda**	**51.30**	**314**	*e*P	**P**	**16 15 46.7**	**+0.1**
	comp=Z,3.5nm,0.8s,mb4.3						
ZRNK				*e*	pP	16 15 54.8	+0.4
FITZ	**Fitzroy Crossi**	**52.21**	**194**	*e*P	**P**	**16 15 53.6**	**-0.3**
	comp=Z,3.7nm,0.8s,mb4.4						
FITZ	**Fitzroy Crossi**	**52.21**	**194**	P	**P**	**16 15 53.2**	**-0.8**
	comp=Z,2.6nm,0.9s,mb4.2,baz=3.7,slow=8.6,SNR=5.0						
FITZ				pP	pP	16 16 01.5	-0.1
	comp=Z,4.3nm,0.7s,baz=12,slow=6.6,SNR=6.7						
WRAB	**Tennant Creek**	**52.96**	**183**	*e*P	**P**	**16 15 58.4**	**-1.1**
	comp=Z,5.7nm,0.8s,mb4.5						
WB2	**Warramunga Arr**	**52.97**	**183**	*e*P	**P**	**16 15 58.7**	**-0.9**
WRA	**Warramunga Arr**	**52.97**	**183**	P	**P**	**16 15 58.5**	**-1.1**
	comp=Z,2.1nm,0.9s,mb4.1,baz=359,slow=7.6,SNR=13						
WRA				pP	pP	16 16 06.7	-0.7
	comp=Z,3.0nm,0.6s,baz=1.0,slow=7.7,SNR=12						
WRA				pPcP		16 17 16.5	
	comp=Z,1.1nm,0.6s,baz=355,slow=4.0,SNR=5.5						
ASAR	**Alice Springs**	**56.69**	**183**	P	**P**	**16 16 25.9**	**-0.7**
	comp=Z,1.2nm,0.9s,mb3.9,baz=11,slow=9.5,SNR=8.1						
ASAR				pP	pP	16 16 34.7	+0.2
	comp=Z,1.2nm,0.6s,baz=16,slow=11,SNR=9.1						
ARU	**Arti**	**56.78**	**319**	*e*P	**P**	**16 16 26.6**	**-0.2**
	comp=Z,3.9nm,0.6s,mb4.6						
STKA	**Stephens Creek**	**64.95**	**176**	P	**P**	**16 17 22.2**	**-0.3**
	comp=Z,2.3nm,1.0s,mb4.2,baz=240,slow=24,SNR=3.3						
STKA				pP	pP	16 17 30.6	+0.1
	comp=Z,4.0nm,1.0s,baz=1.0,slow=16,SNR=3.6						
ARCES	**ARCESS Array B**	**66.20**	**339**	pP	pP	16 17 38.4	+0.5
	comp=Z,1.4nm,0.6s,baz=45,slow=6.9,SNR=1.8						
AKASG	**Malin Array Be**	**74.97**	**321**	P	**P**	**16 18 23.4**	**+0.1**
	comp=Z,1.4nm,0.9s,mb3.9,baz=51,slow=5.8,SNR=5.2						
AKASG				pP	pP	16 18 31.1	-0.2
	comp=Z,1.2nm,0.5s,baz=50,slow=6.0,SNR=5.0						
BRTR	**Keskin Array B**	**78.52**	**310**	P	**P**	**16 18 44.2**	**+0.9**
	comp=Z,1.3nm,1.0s,mb3.8,baz=45,slow=5.2,SNR=3.3						
BRTR				pP	pP	16 18 52.7	+1.3
	comp=Z,2.1nm,1.0s,baz=72,slow=7.8,SNR=3.6						
BOZ	**Bozeman (W)**	**79.96**	**42**	P	**P**	**16 18 52.5**	**+1.5**
	comp=Z,1.5nm,0.8s,mb4.0						
BOZ				*e*	pP	16 19 00.5	+1.3
HWUT	**Hardware Ranch**	**82.48**	**45**	P	**P**	**16 19 07.0**	**+2.7**
HWUT				*e*	pP	16 19 14.6	+2.1
PDAR	**Pinedale Array**	**82.92**	**43**	P	**P**	**16 19 09.8**	**+3.3**
	comp=Z,0.3nm,0.7s,mb3.4,baz=77,slow=40,SNR=2.8						
PDAR				pP	pP	16 19 16.6	+1.9
	comp=Z,1.3nm,0.9s,baz=297,slow=3.3,SNR=6.9						
KHC	**Kasperske Hory**	**83.73**	**326**	*e*P	**P**	**16 19 12.0**	**+1.4**
GERES	**GERESS Array B**	**83.88**	**326**	P	**P**	**16 19 12.4**	**+1.1**
	comp=Z,0.5nm,0.6s,mb3.8,baz=45,slow=3.8,SNR=6.1						
GERES				pP	pP	16 19 21.0	+1.6
	comp=Z,1.6nm,0.8s,baz=63,slow=3.0,SNR=7.0						
SRU	**San Rafael**	**84.66**	**46**	*e*P	**P**	**16 19 17.5**	**+2.0**
PV10	**Paradox Valley**	**86.02**	**46**	*e*P	**P**	**16 19 25.5**	**+3.3**
PV10				*e*	pP	16 19 33.1	+2.7
TXAR	**Lajitas Array**	**95.34**	**50**	P	**P**	**16 20 08.3**	**+2.2**
	comp=Z,0.4nm,0.8s,mb3.9,baz=252,slow=4.0,SNR=3.9						
TXAR				pP	pP	16 20 16.3	+2.0
	comp=Z,1.6nm,0.7s,baz=281,slow=3.2,SNR=15						
TXAR	**Lajitas Array**	**95.34**	**50**	P	**P**	**16 20 08.3**	**+2.2**
TXAR				pP	pP	16 20 16.3	+2.0
SAML	**Samuel**	**149.50**	**42**	*e*PKPab	PKPab	16 26 38.1	+0.6

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*JMA **05** 16:08:36.4±0.2, 33.12N×136.88E, h41^{km}, M3.5*
ISC 05 16:08:36.7±1.8**, 33.14N**±0.10×**136.89E**±0.07**, h41^{km}, n7, σ0^{s}.54**/13**, 1C, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JWZ	**Kozaga**	**1.06**	**292**	⇑P	**P**	**16 08 54.8**	**-0.4**
JWZ				S	**S**	**16 09 08.4**	**-0.6**
TK02	**Tokai 2**	**1.08**	**42**	*e*S	**S**	**16 09 08.7**	**-0.9**
JKN	**Kiinagashima**	**1.22**	**335**	P	**P**	**16 08 57.7**	**+0.1**
JKN				*e*S	**S**	**16 09 12.4**	**-0.8**
JIE	**Ise**	**1.26**	**353**	P	**P**	**16 08 58.5**	**+0.4**
JIE				S	**S**	**16 09 14.8**	**+0.7**
JWM	**Minabe**	**1.47**	**299**	P	**P**	**16 09 01.3**	**+0.2**
JWM				S	**S**	**16 09 19.1**	**-0.2**
JWY	**Kouya**	**1.53**	**315**	P	**P**	**16 09 02.6**	**+0.6**
JWY				S	**S**	**16 09 21.3**	**+0.5**
MAT	**Matsushiro**	**3.56**	**17**	P	**P**	**16 09 31.5**	**+0.6**
MAT				*e*S	**S**	**16 10 12.1**	**-0.2**

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*JMA **05** 16:09:03.7±0.1, 33.00N×136.62E, h40^{km}±3^{km}, M3.4*
*IDC **05** 16:09:03.8±8.7, 32.45N×135.79E, mb3.6/3, mb1 3.8/3, mb1mx3.5/19, MS5.1/1, Ms1 5.1/1, ms1mx4.5/24, Error ellipse: s-maj=342.0km s-min=30.2km az=62.0*
ISC 05 16:09:03.5±1.7**, 33.01N**±0.09×**136.66E**±0.08**, h39^{km}**±19^{km}**, n10, σ0^{s}.83**/15**, mb3.6**/3**, 1C, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JWZ	**Kozaga**	**0.95**	**303**	P	**P**	**16 09 20.3**	**-0.1**
JWZ				S	**S**	**16 09 31.9**	**-1.0**
JIE	**Ise**	**1.38**	**2**	P	**P**	**16 09 26.8**	**+0.2**
JIE				S	**S**	**16 09 43.3**	**-0.5**
JWM	**Minabe**	**1.38**	**308**	P	**P**	**16 09 27.0**	**+0.4**
JWM				S	**S**	**16 09 43.6**	**-0.2**
JWY	**Kouya**	**1.50**	**324**	P	**P**	**16 09 29.0**	**+0.7**
JWY				S	**S**	**16 09 47.5**	**+0.7**
JAI	**Aioi**	**2.01**	**293**	⇑P	**P**	**16 09 36.0**	**+0.5**
JAI				S	**S**	**16 09 59.0**	**-0.6**
MAT	**Matsushiro**	**3.74**	**19**	P	**P**	**16 10 01.2**	**+0.9**
MAT				S	**S**	**16 10 42.7**	**-1.0**
JNU	**Nakatsue**	**4.86**	**273**	LR	LR	16 11 10.5	
	comp=Z,22μm,19.4s,baz=336,slow=30						
MKAR	**Makanchi Array**	**43.09**	**305**	P	**P**	**16 17 03.3**	**+1.9**
	0.9nm,0.7s,mb3.6,baz=100,slow=8.8,SNR=2.6						
WRA	**Warramunga Arr**	**52.70**	**183**	P	**P**	**16 18 15.0**	**-1.5**
	0.5nm,0.6s,mb3.6,baz=0.4,slow=7.7,SNR=5.2						
ASAR	**Alice Springs**	**56.42**	**183**	P	**P**	**16 18 43.5**	**-0.1**
	0.6nm,0.9s,mb3.6,baz=4.9,slow=5.2,SNR=4.0						

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*BJI **05** 16:12:16.3, 32.71N×137.86E, h10^{km}, mb4.7*
*NEIC **05** 16:12:24.8±0.4, 33.10N×136.99E, h10^{km}, mb4.5/7, Error ellipse: s-maj=8.6km s-min=6.8km az=102.0*
*JMA **05** 16:12:24.7±0.2, 33.10N×137.02E, h36^{km}, M4.2*
*IDC **05** 16:12:27.4±0.5, 33.03N×136.96E, h28^{km}±3^{km}, mb3.9/14, mb1 4.0/17, mb1mx3.9/26, ML3.5/3, Error ellipse: s-maj=18.5km s-min=11.0km az=70.0*
ISC 05 16:12:25.5±0.3**, 33.16N**±0.03×**137.05E**±0.04**, h28^{km}, h28^{km}**±.6^{km}**:pP-P, n72, σ0^{s}.94**/76**, mb4.2**/19**, 8C-2D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TK01	**Tokai 1**	**0.76**	**37**	*e*S	**Sb**	**16 12 50.3**	**+0.4**
TK02	**Tokai 2**	**0.98**	**37**	P	**Pn**	**16 12 43.3**	**-0.3**
JWZ	**Kozaga**	**1.17**	**289**	⇑P	**Pn**	**16 12 44.7**	**-1.6**
JIE	**Ise**	**1.26**	**347**	⇑P	**Pn**	**16 12 47.7**	**+0.2**
JIE				S	**Sn**	**16 13 03.6**	**-0.1**
JKN	**Kiinagashima**	**1.27**	**329**	⇑P	**Pn**	**16 12 47.1**	**-0.5**
JKN				S	**Sn**	**16 13 02.5**	**-1.3**
TK04	**Tokai 4**	**1.40**	**29**	P	**Pn**	**16 12 49.5**	**-0.1**
JAA	**Atsumi**	**1.47**	**3**	⇓P	**Pn**	**16 12 50.5**	**0.0**
JAA				*e*S	**Sn**	**16 13 08.9**	**-0.1**
JWY	**Kouya**	**1.61**	**311**	⇑P	**Pn**	**16 12 52.3**	**-0.2**
TSUJ	**Tsu 2**	**1.63**	**342**	⇑P	**Pn**	**16 12 52.8**	**0.0**
TSUJ				S	**Sn**	**16 13 12.6**	**-0.5**
HMMJ	**Hamamatsu 2**	**1.78**	**18**	S	**Sn**	**16 13 16.0**	**-0.9**
JSG	**Sagara**	**1.78**	**32**	S	**Sn**	**16 13 16.7**	**-0.2**
JHE	**Heguri**	**1.87**	**323**	⇑P	**Pn**	**16 12 56.1**	**-0.1**
JEG	**Eigenji**	**2.04**	**345**	⇓P	**Pn**	**16 12 59.5**	**+0.8**
JAO	**Obara**	**2.11**	**5**	P	**Pn**	**16 12 59.5**	**-0.2**
JAO				S	**Sn**	**16 13 25.5**	**+0.3**
SHZ3	**Shizuoka 3**	**2.13**	**27**	P	**Pn**	**16 12 59.5**	**-0.5**
JMY	**Miyakejima3**	**2.25**	**65**	P	**Pn**	**16 13 01.2**	**-0.5**
JNY	**Yasuok**	**2.29**	**17**	P	**Pn**	**16 13 02.0**	**-0.3**
JNY				S	**Sn**	**16 13 29.8**	**-0.2**
JHJ	**Hachijo jima 2**	**2.30**	**90**	Pn	**Pn**	**16 13 02.6**	**+0.3**
	40nm,0.3s,baz=59,slow=13,SNR=6.4						
JHJ				Sn	**Sn**	**16 13 27.8**	**-2.2**
	78nm,0.3s,baz=47,slow=19,SNR=3.6						
JGF	**Kuroka**	**2.45**	**6**	P	**Pn**	**16 13 05.4**	**+0.9**
JGF				S	**Sn**	**16 13 33.3**	**-0.6**
JIM2	**Oshima 3**	**2.52**	**51**	P	**Pn**	**16 13 05.3**	**-0.2**
JWT	**Wachi**	**2.52**	**328**	⇑P	**Pn**	**16 13 05.5**	**0.0**
JFM	**Mihama**	**2.52**	**340**	⇑P	**Pn**	**16 13 05.8**	**+0.2**
JFM				S	**Sn**	**16 13 35.9**	**+0.2**
JGM	**Miyama**	**2.55**	**354**	P	**Pn**	**16 13 06.1**	**+0.2**
JGM				S	**Sn**	**16 13 36.6**	**+0.2**
JYN	**Shimob**	**2.64**	**28**	P	**Pn**	**16 13 08.4**	**+1.1**
JOD2	**Odawara 2**	**2.70**	**38**	P	**Pn**	**16 13 08.4**	**+0.4**
JNT	**Takato**	**2.85**	**18**	P	**Pn**	**16 13 11.3**	**+1.0**
JJS	**Sakaide**	**2.86**	**296**	P	**Pn**	**16 13 09.3**	**-1.1**
MAJO	**Matsushiro**	**3.51**	**15**	*e*Pn	**Pn**	**16 13 20.3**	**+0.8**
MAT	**Matsushiro**	**3.51**	**15**	P	**Pn**	**16 13 20.1**	**+0.5**
MAT				S	**Sn**	**16 14 00.3**	**-0.3**
MAT	**Matsushiro**	**3.51**	**15**	*e*P	**Pn**	**16 13 20.0**	**+0.4**
MAT				*e*S	**Sn**	**16 14 00.0**	**-0.6**
JNU	**Nakatsue**	**5.17**	**271**	Pn	**Pn**	**16 13 40.5**	**-2.7**
	1.4nm,0.3s,baz=18,slow=15,SNR=5.5						
ASAJ	**Asahikawa**	**11.77**	**20**	Pn	**P**	**16 15 12.3**	**-2.2**
	0.4nm,0.3s,baz=12,slow=28,SNR=4.5						
YSS	**Yuzh-Sakhalins**	**14.45**	**16**	P	**P**	**16 15 48.7**	**-1.3**
BJT	**Baijiatuau**	**18.09**	**298**	*e*P	**P**	**16 16 37.6**	**+1.1**
	22nm,0.6s						
HIA	**Hailar**	**20.62**	**326**	*e*P	**P**	**16 17 03.5**	**-1.6**
	10nm,1.0s						
ENH	**Enshi**	**23.59**	**270**	*e*P	**P**	**16 17 36.0**	**+1.2**
	23nm,1.0s,mb4.6						
SONM	**Songino Array**	**27.32**	**312**	P	**P**	**16 18 09.6**	**-0.1**
	3.7nm,0.8s,mb3.9,baz=115,slow=7.5,SNR=22						
SONM				pP	pP	16 18 18.4	+0.6
	3.7nm,0.7s,baz=125,slow=9.0,SNR=12						
CD2	**Chengdu**	**28.24**	**275**	*e*P	**P**	**16 18 19.6**	**+1.3**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.5						
LSA	**Lhasa**	**39.08**	**278**	*e*P	**P**	**16 19 51.6**	**-0.4**
MKAR	**Makanchi Array**	**43.27**	**305**	P	**P**	**16 20 27.1**	**+1.0**
	comp=Z,3.3nm,0.8s,mb4.1,baz=91,slow=9.9,SNR=19						
MKAR				pP	pP	16 20 35.7	+1.2
	comp=Z,4.6nm,0.6s,baz=87,slow=10,SNR=15						
MKAR	**Makanchi Array**	**43.27**	**305**	P	**P**	**16 20 27.1**	**+1.0**
MKAR				pP	pP	16 20 35.7	+1.2
PKI	**Pulchoki**	**44.54**	**277**	*e*P	pP	16 20 45.2	+0.2
KKN	**Kakani**	**44.57**	**277**	*e*P	pP	16 20 45.7	+0.4
	comp=Z,14nm,0.8s						
DMN	**Daman**	**44.78**	**277**	*e*P	pP	16 20 46.8	-0.2
	comp=Z,3.9nm,0.6s						
GKN	**Gorkha**	**45.03**	**278**	*e*P	pP	16 20 50.7	+1.7
	comp=Z,13nm,0.8s						
KURK	**Kurchatov**	**45.62**	**311**	*e*P	**P**	**16 20 45.1**	**+0.1**
	comp=Z,6.8nm,0.8s,mb4.6						
KOLN	**Koldanda**	**45.97**	**278**	*e*P	pP	16 20 56.7	+0.3
	comp=Z,11nm,0.9s						
BVAR	**Borovoye Array**	**50.61**	**314**	P	**P**	**16 21 23.8**	**0.0**
	comp=Z,1.2nm,0.6s,mb4.0,baz=108,slow=9.4,SNR=8.7						
BVAR				pP	pP	16 21 32.5	+0.3
	comp=Z,4.1nm,0.6s,baz=101,slow=7.6,SNR=15						
BRVK	**Borovoye**	**50.67**	**314**	*e*P	**P**	**16 21 24.3**	**+0.1**
	comp=Z,4.2nm,0.6s,mb4.5						
ZRNK	**Zerenda**	**51.45**	**314**	*e*P	**P**	**16 21 30.0**	**-0.1**
	comp=Z,5.8nm,0.7s,mb4.6						
ZRNK				*e*	pP	16 21 38.6	0.0
FITZ	**Fitzroy Crossi**	**52.12**	**194**	*e*P	**P**	**16 21 34.5**	**-1.2**
	comp=Z,3.9nm,1.3s,mb4.2						
FITZ				*e*	pP	16 21 42.9	-1.3
FITZ	**Fitzroy Crossi**	**52.12**	**194**	P	**P**	**16 21 34.5**	**-1.2**
	comp=Z,2.4nm,0.9s,mb4.1,baz=8.8,slow=6.1,SNR=4.1						
FITZ				pP	pP	16 21 42.8	-1.4
	comp=Z,7.2nm,1.1s,baz=13,slow=10,SNR=6.7						
WB2	**Warramunga Arr**	**52.86**	**183**	*e*P	**P**	**16 21 41.1**	**-0.1**
WRA	**Warramunga Arr**	**52.87**	**183**	P	**P**	**16 21 39.1**	**-2.1**
	comp=Z,1.2nm,0.8s,mb3.9,baz=0.4,slow=7.4,SNR=9.9						
WRA				pP	pP	16 21 48.0	-1.7
	comp=Z,4.4nm,0.8s,baz=0.6,slow=7.8,SNR=19						
ILAR	**Eielson Array**	**54.66**	**31**	P	**P**	**16 21 55.0**	**+1.2**
	comp=Z,0.4nm,0.9s,mb3.5,baz=293,slow=6.9,SNR=4.7						
ASAR	**Alice Springs**	**56.59**	**183**	P	**P**	**16 22 06.2**	**-2.0**
	comp=Z,0.9nm,0.8s,mb3.9,baz=17,slow=7.0,SNR=7.1						
ASAR				pP	pP	16 22 15.5	-1.3
	comp=Z,4.0nm,0.9s,baz=5.4,slow=5.3,SNR=19						
DLBC	**Dease Lake**	**63.87**	**36**	pP	pP	16 23 06.7	+0.6
	comp=Z,1.7nm,0.8s,baz=280,slow=11,SNR=2.3						
FORT	**Forrest**	**64.16**	**189**	*e*P	pP	16 23 07.6	-0.9
	comp=Z,43nm,0.7s						
STKA	**Stephens Creek**	**64.83**	**176**	P	**P**	**16 23 04.2**	**-0.1**
	comp=Z,3.7nm,0.7s,mb4.5,baz=297,slow=11,SNR=4.5						
STKA				pP	pP	16 23 11.2	-1.6
	comp=Z,3.7nm,0.7s,baz=326,slow=8.8,SNR=5.0						
ARCES	**ARCESS Array B**	**66.34**	**339**	P	**P**	**16 23 13.7**	**+0.5**
	comp=Z,1.7nm,0.8s,mb4.1,baz=40,slow=9.1,SNR=3.4						
ARCES				pP	pP	16 23 22.4	+0.5
	comp=Z,1.3nm,0.6s,baz=18,slow=7.7,SNR=1.3						
ARCES	**ARCESS Array B**	**66.34**	**339**	P	**P**	**16 23 13.7**	**+0.5**
ARCES				pP	pP	16 23 22.4	+0.5
NWAO	**Narrogin (SRO)**	**68.33**	**198**	pP	pP	16 23 33.5	-1.7
	comp=Z,7.8nm,0.8s,baz=35,slow=5.6,SNR=2.1						
FINES	**FINESS Array B**	**70.54**	**332**	P	**P**	**16 23 39.4**	**0.0**
	comp=Z,2.4nm,0.9s,mb4.1,baz=104,slow=7.9,SNR=3.7						
FINES				pP	pP	16 23 48.5	+0.4
	comp=Z,2.4nm,1.0s,baz=135,slow=5.4,SNR=2.1						
FINES	**FINESS Array B**	**70.54**	**332**	P	**P**	**16 23 39.4**	**0.0**
FINES				pP	pP	16 23 48.5	+0.4
AKASG	**Malin Array Be**	**75.12**	**321**	P	**P**	**16 24 06.6**	**+0.1**
	comp=Z,1.1nm,0.5s,mb4.1,baz=48,slow=5.8,SNR=8.3						
CLL	**Collm**	**82.59**	**328**	P	**P**	**16 24 48.0**	**+0.9**
CLL				*e**PP	pP	16 24 57.0	+1.1
PRU	**Pruhonice**	**82.83**	**327**	*e*P	**P**	**16 24 49.8**	**+1.5**
PDAR	**Pinedale Array**	**82.93**	**43**	P	**P**	**16 24 50.6**	**+1.5**
	comp=Z,0.4nm,0.8s,mb3.5,baz=56,slow=5.3,SNR=3.6						
KHC	**Kasperske Hory**	**83.88**	**327**	*e*P	**P**	**16 24 55.0**	**+1.3**
GERES	**GERESS Array B**	**84.03**	**326**	P	**P**	**16 24 55.3**	**+0.9**
	comp=Z,1.2nm,0.7s,mb4.2,baz=43,slow=5.5,SNR=12						
GERES				pP	pP	16 25 03.7	+0.4
	comp=Z,1.4nm,0.7s,baz=25,slow=5.2,SNR=7.8						
PV10	**Paradox Valley**	**86.03**	**46**	*e*P	**P**	**16 25 06.8**	**+2.1**
TXAR	**Lajitas Array**	**95.33**	**50**	P	**P**	**16 25 51.1**	**+2.6**
	comp=Z,0.8nm,0.9s,mb4.1,baz=270,slow=3.8,SNR=6.1						
TXAR				pP	pP	16 25 59.3	+1.9
	comp=Z,1.3nm,0.8s,baz=294,slow=4.0,SNR=11						

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*BJI **05** 16:13:44.9, 32.16N×137.80E, h10^{km}, mb4.7*
*NEIC **05** 16:13:54.8±0.3, 33.04N×136.93E, h10^{km}, mb4.5/6, Error ellipse: s-maj=8.4km s-min=7.2km az=127.0*
*JMA **05** 16:13:56.0±0.1, 33.02N×136.95E, h43^{km}, M4.5*
JMA Felt I J1.
*IDC **05** 16:13:58.9±0.7, 33.10N×137.01E, h36^{km}±4^{km}, mb4.0/16, mb1 4.2/20, mb1mx4.1/25, ML3.9/4, Error ellipse: s-maj=19.2km s-min=14.4km az=59.0*
ISC 05 16:13:56.3±1.3**, 33.05N**±0.03×**136.99E**±0.03**, h32^{km}**±9^{km}**, h36^{km}**±.7^{km}**:pP-P, n67, σ0^{s}.95**/82**, mb4.2**/20**, 1C-5D, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JWZ	**Kozaga**	**1.17**	**294**	⇓P	**Pn**	**16 14 15.8**	**-0.8**
JWZ				S	**Sn**	**16 14 29.8**	**-1.7**
JKN	**Kiinagashima**	**1.34**	**333**	P	**Pn**	**16 14 19.1**	**+0.1**
JKN				S	**Sn**	**16 14 34.9**	**-0.9**
JIE	**Ise**	**1.35**	**350**	⇓P	**Pn**	**16 14 19.8**	**+0.5**
JIE				S	**Sn**	**16 14 36.8**	**+0.5**
TK03	**Tokai 3**	**1.38**	**36**	S	**Sn**	**16 14 37.5**	**+0.7**
TK04	**Tokai 4**	**1.52**	**29**	P	**Pn**	**16 14 22.1**	**+0.4**
TK04				S	**Sn**	**16 14 41.1**	**+0.6**
JAA	**Atsumi**	**1.58**	**5**	⇓P	**Pn**	**16 14 22.7**	**+0.2**
JAA				S	**Sn**	**16 14 42.1**	**+0.1**
JWY	**Kouya**	**1.64**	**315**	⇑P	**Pn**	**16 14 23.8**	**+0.4**
JWY				S	**Sn**	**16 14 43.2**	**-0.4**
TSUJ	**Tsu 2**	**1.72**	**344**	⇓P	**Pn**	**16 14 24.9**	**+0.4**
TSUJ				S	**Sn**	**16 14 46.1**	**+0.6**
HMMJ	**Hamamatsu 2**	**1.90**	**19**	P	**Pn**	**16 14 27.3**	**+0.2**
HMMJ				S	**Sn**	**16 14 48.7**	**-1.4**
JSG	**Sagara**	**1.90**	**31**	S	**Sn**	**16 14 49.6**	**-0.5**
JHE	**Heguri**	**1.93**	**326**	⇓P	**Pn**	**16 14 27.8**	**+0.3**
JEG	**Eigenji**	**2.13**	**347**	P	**Pn**	**16 14 31.4**	**+0.9**
JAO	**Obara**	**2.22**	**6**	P	**Pn**	**16 14 31.9**	**+0.2**
JAO				S	**Sn**	**16 14 58.0**	**-0.2**
SHZ3	**Shizuoka 3**	**2.25**	**27**	P	**Pn**	**16 14 31.9**	**-0.2**
SHZ3				S	**Sn**	**16 14 57.8**	**-1.2**
JIZS	**Izushimoda**	**2.29**	**43**	P	**Pn**	**16 14 34.0**	**+1.4**
JMY	**Miyakejima3**	**2.34**	**64**	P	**Pn**	**16 14 33.2**	**-0.2**
JHJ	**Hachijo jima 2**	**2.35**	**88**	Pn	**Pn**	**16 14 33.0**	**-0.6**
	20nm,0.3s,baz=77,slow=19,SNR=2.5						
JHJ				Sn	**Sn**	**16 14 57.4**	**-4.1**
	171nm,0.3s,baz=235,slow=22,SNR=13						
JHJ2	**Mitsune**	**2.38**	**88**	S	**Sn**	**16 15 00.7**	**-1.6**
JNY	**Yasuok**	**2.41**	**17**	P	**Pn**	**16 14 34.6**	**+0.2**
JNY				S	**Sn**	**16 15 02.3**	**-0.8**
JGF	**Kuroka**	**2.56**	**7**	S	**Sn**	**16 15 06.1**	**-0.8**
JWT	**Wachi**	**2.58**	**330**	P	**Pn**	**16 14 37.3**	**+0.4**
JFM	**Mihama**	**2.60**	**342**	S	**Sn**	**16 15 09.3**	**+1.3**
JGM	**Miyama**	**2.65**	**355**	P	**Pn**	**16 14 38.4**	**+0.6**
JGM				S	**Sn**	**16 15 09.9**	**+0.8**
JYN	**Shimob**	**2.76**	**27**	P	**Pn**	**16 14 41.4**	**+2.0**
JYN				S	**Sn**	**16 15 11.2**	**-0.7**
MAJO	**Matsushiro**	**3.62**	**16**	*e*Pn	**Pn**	**16 14 52.1**	**+0.5**
MAT	**Matsushiro**	**3.62**	**16**	P	**Pn**	**16 14 52.2**	**+0.6**
MAT				S	**Sn**	**16 15 32.6**	**-1.2**
MAT	**Matsushiro**	**3.62**	**16**	*e*P	**Pn**	**16 14 52.0**	**+0.4**
MAT				*e*S	**Sn**	**16 15 33.0**	**-0.8**
JNU	**Nakatsue**	**5.13**	**272**	Pn	**Pn**	**16 15 11.2**	**-1.8**
	5.3nm,0.3s,baz=125,slow=14,SNR=7.1						
CBIJ	**Chichi jima**	**7.45**	**141**	Pn	**Pn**	**16 15 42.0**	**-3.6**
	19nm,0.3s,baz=259,slow=23,SNR=4.0						
ASAJ	**Asahikawa**	**11.88**	**20**	Pn	**P**	**16 16 44.0**	**-2.5**
	0.4nm,0.3s,baz=246,slow=14,SNR=5.9						
CN2	**Changchun**	**14.02**	**323**	*e*P	**P**	**16 17 25.2**	**+10**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s						
YSS	**Yuzh-Sakhalins**	**14.56**	**16**	P	**P**	**16 17 20.8**	**-1.1**
BJT	**Baijiatuau**	**18.09**	**299**	P	**P**	**16 18 05.2**	**-1.7**
	comp=Z,20nm,0.7s						
ENH	**Enshi**	**23.55**	**271**	*e*P	**P**	**16 19 05.8**	**+1.2**
ENH				*e*		16 19 16.3	
SONM	**Songino Array**	**27.35**	**312**	P	**P**	**16 19 40.4**	**+0.2**
	comp=Z,2.7nm,0.8s,mb3.8,baz=118,slow=6.8,SNR=4.6						
LSA	**Lhasa**	**39.04**	**278**	P	**P**	**16 21 23.4**	**+1.5**
ZAL	**Zalesovo**	**42.08**	**316**	P	**P**	**16 21 46.6**	**+0.1**
	comp=Z,0.6nm,0.3s,mb3.6,baz=279,slow=13,SNR=3.0						
MKAR	**Makanchi Array**	**43.29**	**305**	P	**P**	**16 21 57.4**	**+0.9**
	comp=Z,6.6nm,0.9s,mb4.4,baz=90,slow=11,SNR=9.6						
MKAR				pP	pP	16 22 08.4	+2.2
	comp=Z,6.0nm,1.0s,baz=90,slow=11,SNR=5.0						
KURK	**Kurchatov**	**45.65**	**311**	*e*P	**P**	**16 22 15.4**	**0.0**
	comp=Z,8.3nm,0.9s,mb4.7						
AAK	**Ala-Archa**	**49.26**	**300**	*e*P	**P**	**16 22 42.9**	**-0.9**
	comp=Z,1.7nm,0.6s,mb4.2						
BVAR	**Borovoye Array**	**50.65**	**314**	P	**P**	**16 22 53.8**	**-0.4**
	comp=Z,2.5nm,0.9s,mb4.2,baz=101,slow=7.3,SNR=4.2						
ZRNK	**Zerenda**	**51.49**	**314**	*e*P	**P**	**16 23 00.3**	**-0.3**
	comp=Z,4.2nm,1.0s,mb4.3						
ZRNK				*e*	pP	16 23 11.5	+1.0
WRA	**Warramunga Arr**	**52.76**	**183**	P	**P**	**16 23 12.2**	**+1.6**
	comp=Z,2.0nm,0.9s,mb4.1,baz=1.6,slow=7.8,SNR=4.1						
MBWA	**Marble Bar**	**56.37**	**199**	P	**P**	**16 23 34.8**	**-2.2**
ASAR	**Alice Springs**	**56.48**	**183**	P	**P**	**16 23 37.0**	**-0.7**
	comp=Z,1.2nm,0.9s,mb3.9,baz=9.8,slow=9.3,SNR=2.5						
INK	**Inuvik**	**59.56**	**26**	P	**P**	**16 23 58.9**	**+0.2**
	comp=Z,3.2nm,0.7s,mb4.5,baz=291,slow=5.7,SNR=6.6						
INK	**Inuvik**	**59.56**	**26**	*e*P	**P**	**16 23 58.5**	**-0.2**
	comp=Z,3.9nm,0.7s,mb4.5						
INK				P		16 23 58.9	
STKA	**Stephens Creek**	**64.73**	**176**	P	**P**	**16 24 33.1**	**-0.6**
	comp=Z,1.9nm,0.7s,mb4.2,baz=38,slow=5.4,SNR=4.3						
ARCES	**ARCESS Array B**	**66.42**	**339**	P	**P**	**16 24 44.2**	**+0.2**
	comp=Z,2.9nm,0.6s,mb4.5,baz=67,slow=9.2,SNR=6.3						
ARCES				pP	pP	16 24 55.7	+1.7
	comp=Z,9.3nm,1.1s,baz=63,slow=8.1,SNR=2.7						
ARCES	**ARCESS Array B**	**66.42**	**339**	P	**P**	**16 24 44.1**	**+0.2**
ARCES				pP	pP	16 24 55.7	+1.7
FINES	**FINESS Array B**	**70.61**	**332**	P	**P**	**16 25 09.3**	**-0.7**
	comp=Z,3.1nm,0.8s,mb4.3,baz=104,slow=7.9,SNR=6.4						
FINES				pP	pP	16 25 20.5	+0.4
	comp=Z,4.0nm,1.0s,baz=121,slow=11,SNR=3.4						
FINES	**FINESS Array B**	**70.61**	**332**	P	**P**	**16 25 09.3**	**-0.7**
FINES				pP	pP	16 25 20.6	+0.4
AKASG	**Malin Array Be**	**75.17**	**321**	P	**P**	**16 25 36.8**	**-0.2**
	comp=Z,1.8nm,0.6s,mb4.2,baz=50,slow=5.9,SNR=9.0						
AKASG				pP	pP	16 25 48.0	+0.8
	comp=Z,0.4nm,0.3s,baz=46,slow=5.8,SNR=2.5						
NB2	**NORSAR Subarra**	**76.39**	**336**	P	**P**	**16 25 43.3**	**-0.4**
	comp=Z,1.8nm,0.8s,mb4.0,baz=45,slow=5.6						
NOA	**NORSAR Array B**	**76.39**	**336**	P	**P**	**16 25 43.6**	**0.0**
	comp=Z,2.9nm,0.8s,mb4.2,baz=46,slow=5.7,SNR=7.6						
NOA				pP	pP	16 25 54.6	+0.7
	comp=Z,1.8nm,0.9s,baz=46,slow=5.8,SNR=4.3						
BRTR	**Keskin Array B**	**78.70**	**310**	P	**P**	**16 25 57.4**	**+0.5**
	comp=Z,2.7nm,0.9s,mb4.2,baz=104,slow=5.1,SNR=7.0						
TPNV	**Topopah Spring**	**82.48**	**51**	*e*P	**P**	**16 26 18.0**	**+1.0**
	comp=Z,3.5nm,0.8s,mb4.3						
CLL	**Collm**	**82.65**	**328**	P	**P**	**16 26 17.0**	**-0.5**
CLL				*e**SP	sP	16 26 29.0	-2.3
CLL	**Collm**	**82.65**	**328**	*e*P	**P**	**16 26 17.0**	**-0.5**
PDAR	**Pinedale Array**	**83.05**	**43**	P	**P**	**16 26 20.8**	**+1.0**
	comp=Z,0.4nm,0.7s,mb3.6,slow=1.5,SNR=3.7						
KHC	**Kasperske Hory**	**83.94**	**327**	*e*P	**P**	**16 26 23.5**	**-0.6**
KHC				*e*x	x	16 26 36.0	
GERES	**GERESS Array B**	**84.08**	**326**	P	**P**	**16 26 25.5**	**+0.6**
	comp=Z,1.6nm,0.8s,mb4.2,baz=56,slow=4.8,SNR=7.9						
SRU	**San Rafael**	**84.77**	**46**	*e*P	**P**	**16 26 29.7**	**+1.2**
SRU				*e*	pP	16 26 42.0	+3.0
PV10	**Paradox Valley**	**86.14**	**46**	*e*P	**P**	**16 26 37.6**	**+2.3**
TXAR	**Lajitas Array**	**95.44**	**50**	P	**P**	**16 27 20.5**	**+1.4**
	comp=Z,1.4nm,0.8s,mb4.4,baz=307,slow=3.9,SNR=6.5						
TXAR				pP	pP	16 27 31.4	+1.9
	comp=Z,1.3nm,0.8s,baz=297,slow=3.8,SNR=7.2						
TXAR	**Lajitas Array**	**95.44**	**50**	P	**P**	**16 27 20.5**	**+1.4**
TXAR				pP	pP	16 27 31.4	+1.9
SAML	**Samuel**	**149.63**	**42**	PKPbc	PKPdf	16 33 44.2	+0.3

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*BJI **05** 16:14:57.7, 33.12N×137.38E, h21^{km}, mB4.8, mb4.8, Ms4.3, Msz4.3*
*NEIC **05** 16:14:59.1±0.3, 33.19N×137.23E, h10^{km}, mb4.8/11, Error ellipse: s-maj=7.6km s-min=5.7km az=95.0*
*JMA **05** 16:14:59.1±0.1, 33.19N×137.20E, h41^{km}±5^{km}, M4.6*
*MOS **05** 16:15:00.6±1.5, 33.25N×137.46E, h33^{km}, mb4.8/12, Error ellipse: s-maj=20.0km s-min=9.6km az=101.5*
*IDC **05** 16:15:02.1±0.6, 33.17N×137.17E, h28^{km}±3^{km}, mb4.2/20, mb1 4.4/24, mb1mx4.3/29, ML4.1/4, Error ellipse: s-maj=14.7km s-min=13.2km az=64.0*
ISC 05 16:15:00.2±0.3**, 33.27N**±0.02×**137.23E**±0.03**, h28^{km}, h28^{km}**±1.1^{km}**:pP-P, n114, σ1^{s}.08**/129**, mb4.6**/37**, MS4.2**/1**, 4C-3D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TK02	**Tokai 2**	**0.81**	**33**	P	**Pb**	**16 15 15.1**	**-0.5**
TK02				S	**Sb**	**16 15 28.0**	**+1.8**
TK03	**Tokai 3**	**1.09**	**34**	P	**Pn**	**16 15 19.3**	**-0.4**
TK03				S	**Sn**	**16 15 34.8**	**+0.8**
JIE	**Ise**	**1.21**	**339**	⇑P	**Pn**	**16 15 21.0**	**-0.4**
JIE				S	**Sn**	**16 15 36.9**	**-0.1**
TK04	**Tokai 4**	**1.24**	**26**	P	**Pn**	**16 15 21.7**	**-0.2**
TK04				S	**Sn**	**16 15 38.1**	**+0.3**
JKN	**Kiinagashima**	**1.27**	**321**	P	**Pn**	**16 15 21.5**	**-0.8**
JKN				S	**Sn**	**16 15 37.0**	**-1.6**
JWZ	**Kozaga**	**1.29**	**282**	P	**Pn**	**16 15 20.8**	**-1.9**
JAA	**Atsumi**	**1.36**	**357**	P	**Pn**	**16 15 23.5**	**-0.2**
JAA				S	**Sn**	**16 15 40.7**	**-0.3**
TSUJ	**Tsu 2**	**1.59**	**335**	P	**Pn**	**16 15 26.8**	**-0.1**
TSUJ				S	**Sn**	**16 15 46.9**	**+0.2**
HMMJ	**Hamamatsu 2**	**1.64**	**14**	S	**Sn**	**16 15 46.8**	**-1.2**
JWY	**Kouya**	**1.66**	**305**	P	**Pn**	**16 15 27.7**	**-0.3**
JKO	**Kozu shima**	**1.84**	**59**	S	**Sn**	**16 15 51.9**	**-1.1**
JHE	**Heguri**	**1.89**	**318**	⇑P	**Pn**	**16 15 30.7**	**-0.5**

SHZ3	Shizuoka 3	1.97	24	S	Sn	16 15 55.6	-0.8
JEG	Eigenji	1.99	340	⇓P	Pn	16 15 33.2	+0.5
JIZS	Izushimoda	1.99	43	P	Pn	16 15 33.7	+1.0
JIZS				S	Sn	16 15 56.9	-0.1
JAO	Obara	2.00	1	⇑P	Pn	16 15 32.6	-0.2
JAO				S	Sn	16 15 57.3	+0.2
JHJ	Hachijo jima 2	2.15	93	Pn	Pn	16 15 38.8	+3.9
	243nm,0.3s,baz=254,slow=23,SNR=8.9						
JHJ				Sn	Sn	16 15 58.4	-2.5
	274nm,0.3s,baz=34,slow=22,SNR=7.2						
JNY	Yasuok	2.15	14	P	Pn	16 15 34.8	-0.2
JNY				S	Sn	16 16 00.4	-0.6
JGF	Kuroka	2.33	3	S	Sn	16 16 05.3	-0.3
JIM2	Oshima 3	2.33	51	⇓P	Pn	16 15 37.6	0.0
JFM	Mihama	2.48	336	P	Pn	16 15 39.9	+0.2
JFM				S	Sn	16 16 08.7	-0.7
JWT	Wachi	2.52	324	⇑P	Pn	16 15 39.9	-0.3
JWT				S	Sn	16 16 09.3	-1.0
MAJO	Matsushiro	3.37	14	ePn	Pn	16 15 52.7	+0.4
MAT	Matsushiro	3.37	14	P	Pn	16 15 52.4	+0.1
MAT				S	Sn	16 16 29.7	-2.1
MAT	Matsushiro	3.37	14	P	Pn	16 15 52.0	-0.3
MAT				eS	Sn	16 16 30.0	-1.8
JNU	Nakatsue	5.33	270	Pn	Pn	16 16 17.4	-2.7
	2.8nm,0.3s,baz=56,slow=16,SNR=4.8						
JNU				Sn	Sn	16 17 15.6	-5.7
	7.6nm,0.3s,baz=238,slow=41,SNR=3.9						
CBIJ	Chichi jima	7.50	144	Pn	Pn	16 16 48.8	-1.8
	13nm,0.3s,baz=280,slow=21,SNR=2.0						
ASAJ	Asahikawa	11.61	20	Pn	P	16 17 44.4	-2.8
	1.6nm,0.3s,baz=181,slow=7.0,SNR=10						
ASAJ	Asahikawa	11.61	20	P	P	16 17 44.4	-2.8
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
YSS	Yuzh-Sakhalins	14.30	15	⇓eP	P	16 18 19.8	-3.1
YSS				pmax	pmax		
	comp=Z,10.0nm,0.8s						
YSS	Yuzh-Sakhalins	14.30	15	eP	P	16 18 19.9	-3.0
	comp=Z,300nm,2.3s						
KLR	Kul'dur	16.47	347	eP	P	16 18 52.7	+1.9
TIA	Tai'an	16.79	286	eP	P	16 18 55.3	+0.4
BJI	Beijing	18.18	298	P	P	16 19 11.6	-0.7
BJI				AMB	AMB		
	comp=Z,53nm,1.2s						
BJT	Baijiatuau	18.18	298	eP	P	16 19 11.4	-0.9
	comp=Z,29nm,0.7s						
WHN	Wuhan	19.61	268	eP	P	16 19 29.5	+0.2
HIA	Hailar	20.62	326	eP	P	16 19 38.0	-1.8
	comp=Z,16nm,1.2s						
ENH	Enshi	23.75	270	eP	P	16 20 12.2	+1.2
	comp=Z,22nm,0.7s,mb4.7						
ENH				e		16 20 21.5	
SONM	Songino Array	27.36	311	P	P	16 20 45.1	+0.3
	comp=Z,10nm,0.9s,mb4.4,baz=117,slow=8.3,SNR=14						
LZH	Lanzhou	27.52	285	eP	P	16 20 46.8	+0.3
LZH				PP	PP	16 21 33.4	-1.3
LZH				AMB	AMB		
	comp=Z,32nm,1.3s,mb4.8						
LZH				LR	LR		
	comp=N,443nm,13.2s						
LZH				LR	LR		
	comp=Z,591nm,17.1s,MS4.2						
BOD	Bodaibo	29.17	334	eP	P	16 20 57.6	-3.4
ZAK	Zakamensk	30.19	315	eP	P	16 21 09.9	-0.4
CMAR	Chiang Mai Arr	37.25	256	P	P	16 22 11.5	+0.1
	comp=Z,2.8nm,0.6s,mb4.3,baz=49,slow=7.8,SNR=14						
CMAR				pP	pP	16 22 20.1	+0.4
	comp=Z,8.2nm,1.1s,baz=50,slow=8.2,SNR=10						
CMAR	Chiang Mai Arr	37.25	256	P	P	16 22 11.5	+0.1
CMAR				*PP	pP	16 22 20.1	+0.4
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
CMAR				pmax	pmax		
	comp=N,8.0nm,1.1s						
LSA	Lhasa	39.22	278	P	P	16 22 29.6	+1.8
WMQ	Urumqi	39.62	300	eP	P	16 22 30.2	-0.9
WMQ				AP	pP	16 22 35.2	-4.2
WMQ				AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.4						
ZAL	Zalesovo	42.07	316	P	P	16 22 51.0	+0.1
	comp=Z,11nm,1.2s,mb4.4,baz=270,slow=6.0,SNR=8.7						
ZAL	Zalesovo	42.07	316	P	P	16 22 51.1	+0.1
ZAL				pmax	pmax		
	comp=Z,11nm,1.2s						
NVS	Novosibirsk	43.09	317	eP	P	16 22 58.5	-0.8
NVS				pmax	pmax		
	comp=E,22nm,1.1s						
NVS				pmax	pmax		
	comp=Z,22nm,1.1s,mb4.8						
MKAR	Makanchi Array	43.34	305	P	P	16 23 02.2	+0.9
	comp=Z,15nm,0.8s,mb4.8,baz=91,slow=8.8,SNR=23						
MKAR				pP	pP	16 23 11.1	+1.4
	comp=Z,14nm,0.7s,baz=90,slow=11,SNR=12						
MKAR	Makanchi Array	43.34	305	P	P	16 23 02.3	+0.9
MKAR				*PP	pP	16 23 11.1	+1.4
MKAR				pmax	pmax		
	comp=Z,15nm,0.8s						
MKAR				pmax	pmax		
	comp=N,14nm,0.7s						
PKI	Pulchoki	44.68	277	eP	P	16 23 12.4	-0.2
	comp=N,13nm,0.8s,mb4.8						
KKN	Kakani	44.71	277	eP	P	16 23 12.8	0.0
	comp=N,23nm,0.9s,mb5.0						
DMN	Daman	44.92	277	eP	P	16 23 14.0	-0.5
GKN	Gorkha	45.17	278	eP	P	16 23 16.3	-0.2
	comp=N,17nm,0.8s,mb4.9						
KURK	Kurchatov	45.67	311	P	P	16 23 20.7	+0.6
	comp=N,119nm,0.8s,SNR=9.6						
KURK	Kurchatov	45.67	311	eP	P	16 23 20.1	0.0
	comp=N,13nm,0.8s,mb4.9						
KOLN	Koldanda	46.11	278	eP	P	16 23 23.9	0.0
	comp=N,21nm,0.9s,mb5.1						
AAK	Ala-Archa	49.33	300	eP	P	16 23 49.7	+0.8
	comp=N,4.9nm,0.8s,mb4.6						
BVAR	Borovoye Array	50.65	314	P	P	16 23 59.0	+0.3
	comp=N,3.2nm,0.6s,mb4.4,baz=108,slow=9.4,SNR=7.2						
BVAR				pP	pP	16 24 07.5	+0.2
	comp=N,4.1nm,0.7s,baz=98,slow=10,SNR=5.9						
BRVK	Borovoye	50.71	314	eP	P	16 23 59.3	+0.1
	comp=N,5.1nm,0.7s,mb4.6						
ZRNK	Zerenda	51.49	314	eP	P	16 24 04.9	-0.2
	comp=N,11nm,0.9s,mb4.8						
ZRNK				e	pP	16 24 13.9	+0.3
FITZ	Fitzroy Crossi	52.26	194	P	P	16 24 10.0	-1.5
	comp=N,4.1nm,1.0s,mb4.3,baz=50,slow=4.7,SNR=3.3						
WRAB	Tennant Creek	52.97	183	eP	P	16 24 14.9	-1.8
	comp=N,11nm,0.8s,mb4.8						
WB2	Warramunga Arr	52.98	183	eP	P	16 24 15.0	-1.8
WRA	Warramunga Arr	52.98	183	P	P	16 24 14.2	-2.6
	comp=N,3.9nm,0.7s,mb4.4,baz=2.3,slow=7.6,SNR=8.6						
WRA	Warramunga Arr	52.98	183	P	P	16 24 14.2	-2.6
WRA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ILAR	Eielson Array	54.49	31	P	P	16 24 27.0	-0.2
	comp=Z,1.0nm,0.7s,mb3.9,baz=279,slow=6.3,SNR=6.8						
ILAR	Eielson Array	54.49	31	P	P	16 24 27.0	-0.3
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ASAR	Alice Springs	56.70	184	P	P	16 24 42.2	-1.6
	comp=Z,1.3nm,0.6s,mb4.1,baz=13,slow=12,SNR=6.5						
ASPA	Alice Springs	56.70	184	eP	P	16 24 42.5	-1.3
ARU	Arti	56.95	319	eP	P	16 24 45.8	+0.6
	comp=Z,16nm,1.1s,mb5.0						
INK	Inuvik	59.28	26	P	P	16 25 01.4	+0.2
	comp=Z,1.3nm,0.6s,mb4.1,baz=321,slow=12,SNR=4.0						
INK	Inuvik	59.28	26	P	P	16 25 01.5	+0.2
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
DLBC	Dease Lake	63.69	36	P	P	16 25 32.6	+1.6
	comp=Z,3.6nm,1.0s,mb4.3,baz=302,slow=10,SNR=4.0						
STKA	Stephens Creek	64.92	176	P	P	16 25 38.2	-1.4
	comp=Z,3.2nm,0.7s,mb4.4,baz=318,slow=8.5,SNR=4.3						
STKA	Stephens Creek	64.92	176	P	P	16 25 38.2	-1.4
ARCES	ARCESS Array B	66.30	339	P	P	16 25 48.0	+0.3
	comp=Z,5.4nm,1.0s,mb4.5,baz=51,slow=7.8,SNR=4.7						
ARCES				pP	pP	16 25 57.0	+0.6
	comp=Z,3.4nm,0.7s,baz=63,slow=8.1,SNR=2.5						
ARCES	ARCESS Array B	66.30	339	P	P	16 25 48.0	+0.3
ARCES				*PP	pP	16 25 57.0	+0.6
ARCES				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ARCES				pmax	pmax		
	comp=N,3.0nm,0.7s						
FINES	FINESS Array B	70.52	332	P	P	16 26 13.5	-0.6
	comp=N,1.9nm,0.7s,mb4.1,baz=104,slow=7.9,SNR=4.8						
FINES	FINESS Array B	70.52	332	P	P	16 26 13.5	-0.5
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
AKASG	Malin Array Be	75.13	321	P	P	16 26 41.2	-0.1
	comp=Z,25nm,1.2s,mb5.0,baz=49,slow=6.0,SNR=17						
AKASG				pP	pP	16 26 50.6	+0.5
	comp=Z,1.8nm,0.6s,baz=50,slow=5.9,SNR=4.0						
AKASG	Malin Array Be	75.13	321	P	P	16 26 41.2	-0.1
AKASG				*PP	pP	16 26 50.6	+0.5
AKASG				pmax	pmax		
	comp=Z,25nm,1.2s						
AKASG				pmax	pmax		
	comp=N,2.0nm,0.6s						
NB2	NORSAR Subarra	76.28	336	P	P	16 26 46.6	-1.0
	comp=N,3.6nm,0.8s,mb4.3,baz=43,slow=5.6						
NOA	NORSAR Array B	76.28	336	P	P	16 26 47.5	-0.1
	comp=N,1.8nm,0.7s,mb4.1,baz=44,slow=5.7,SNR=5.9						
NOA				pP	pP	16 26 56.5	0.0
	comp=N,3.1nm,0.8s,baz=42,slow=5.4,SNR=6.2						
NOA	NORSAR Array B	76.28	336	P	P	16 26 47.5	-0.1
NOA				*PP	pP	16 26 56.5	+0.1
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NOA				pmax	pmax		
	comp=N,3.0nm,0.8s						
BRTR	Keskin Array B	78.72	310	P	P	16 27 02.8	+1.3
	comp=N,12nm,0.8s,mb4.9,baz=107,slow=5.0,SNR=30						
BRTR	Keskin Array B	78.72	310	P	P	16 27 02.8	+1.3
BRTR				pmax	pmax		
	comp=Z,12nm,0.8s						
RAYN	Ar Rayn	78.84	291	P	P	16 27 03.2	+0.6
	comp=Z,86nm,0.9s,mb5.7,SNR=12						
OKC	Ostrava-Krasne	81.24	325	eP	P	16 27 16.3	+1.5
DPC	Dobruska-Polom	81.75	326	eP	P	16 27 19.4	+1.9
DPC				ex	x	16 27 30.0	
VYHS	Vyhne	81.80	324	eP	P	16 27 19.5	+1.7
PVCC	Panska Ves	82.43	327	eP	P	16 27 22.8	+1.8
CLL	Collm	82.58	328	P	P	16 27 22.5	+0.8
CLL	Collm	82.58	328	i P	P	16 27 22.5	+0.8
PDAR	Pinedale Array	82.75	43	P	P	16 27 24.0	+1.2
	comp=Z,0.5nm,0.7s,mb3.6,baz=297,slow=3.3,SNR=3.6						
PDAR				pP	pP	16 27 33.0	+1.2
	comp=Z,1.1nm,0.8s,baz=315,slow=2.1,SNR=4.8						
PRU	Pruhonice	82.83	327	eP	P	16 27 24.6	+1.6
PRU				ex	x	16 27 33.7	
ZST	Bratislava	82.86	324	eP	P	16 27 25.2	+2.0
MOX	Moxa	83.67	329	i P	P	16 27 29.0	+1.7
	comp=Z,logA/T=0.8,mb4.7						
MOX	Moxa	83.67	329	eP	P	16 27 29.0	+1.7
MOX				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.7						
MOX	Moxa	83.67	329	eP	P	16 27 29.0	+1.7
	comp=Z,6.0nm,0.9s,mb4.7						
KHC	Kasperske Hory	83.88	327	eP	P	16 27 29.8	+1.4
KHC				ex	x	16 27 39.0	
GERES	GERESS Array B	84.02	326	P	P	16 27 30.0	+0.9
	comp=Z,3.2nm,0.8s,mb4.5,baz=45,slow=5.7,SNR=14						
GERES				pP	pP	16 27 39.0	+1.0
	comp=Z,4.1nm,1.0s,baz=45,slow=5.7,SNR=5.9						
GERES	GERESS Array B	84.02	326	P	P	16 27 30.0	+0.9
GERES				*PP	pP	16 27 39.0	+1.0
GERES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
GERES				pmax	pmax		
	comp=N,4.0nm,1.0s						
PV10	Paradox Valley	85.84	46	eP	P	16 27 40.8	+2.3
LPL	La Plagne	89.68	328	eP	P	16 27 57.3	+0.5
LPG	La Plagne	89.68	328	eP	P	16 27 57.3	+0.5
	comp=N,11nm,0.8s,mb4.9						
SSF	Saint Saulge	89.86	330	eP	P	16 27 58.6	+1.0
AVF	Avril sur Loir	90.14	330	eP	P	16 27 59.1	+0.2
TCF	Toulx Ste Croi	91.01	331	eP	P	16 28 03.4	+0.5
MFF	Saint Martin d	91.70	332	eP	P	16 28 06.8	+0.7
RJF	Les Rejaudoux	92.09	330	eP	P	16 28 08.6	+0.7
TXAR	Lajitas Array	95.15	50	P	P	16 28 24.1	+1.7
	comp=N,0.7nm,0.7s,mb4.2,baz=295,slow=2.3,SNR=4.6						
QSPA	South Pole Qui	123.02	180	ePKP	PKPdf	16 33 54.2	-3.9

NEIC ***05*** *16:16:37.3±0.3,33.07N×137.28E,h10^{km},mb4.6/8,Error ellipse: s-maj=7.8km s-min=6.5km az=105.0*

JMA ***05*** *16:16:38.0±0.2,33.12N×137.27E,h49^{km}±5^{km},M4.5*
JMA Felt I J1.

MOS ***05*** *16:16:38.9±0.9,33.02N×137.27E,h33^{km},mb4.5/9,Error ellipse: s-maj=43.0km s-min=13.8km az=118.3*

IDC ***05*** *16:16:40.2±0.6,33.08N×137.37E,h30^{km}±4^{km},mb4.1/17, mb1 4.2/19,mb1mx4.1/24,Error ellipse: s-maj=20.0km s-min=13.8km az=66.0*

ISC 05 16:16:37.4±1.1,33.13N±0.04×137.28E±0.03,h22^{km}±7^{km}, h29^{km}±.6^{km}:pP-P,n64,σ0^{s}99/77,mb4.3/24,2D,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TK02	Tokai 2	0.91	26	P	Pb	16 16 54.8	+0.4
TK02				eS	Sb	16 17 07.5	+1.5
TK03	Tokai 3	1.19	29	eS	Sb	16 17 14.0	+0.1
JIE	Ise	1.35	340	⇓P	Pn	16 17 01.5	+0.3
JIE				S	Sn	16 17 18.8	+0.3
TK04	Tokai 4	1.35	22	eS	Sn	16 17 17.9	-0.7
JWZ	Kozaga	1.37	288	P	Pn	16 17 00.9	-0.5
JWZ				eS	Sn	16 17 17.4	-1.6
JKN	Kiinagashima	1.40	323	P	Pn	16 17 02.1	+0.2
JKN				eS	Sn	16 17 18.1	-1.8
JAA	Atsumi	1.50	356	⇓P	Pn	16 17 03.3	-0.1
JAA				eS	Sn	16 17 22.1	-0.4
TSUJ	Tsu 2	1.73	336	P	Pn	16 17 07.2	+0.5
JWM	Minabe	1.76	295	P	Pn	16 17 07.0	-0.1
JWM				eS	Sn	16 17 28.0	-1.0
JWY	Kouya	1.77	308	P	Pn	16 17 07.7	+0.4
JWY				eS	Sn	16 17 28.5	-0.9
JHE	Heguri	2.02	319	P	Pn	16 17 11.1	+0.3
JHE				eS	Sn	16 17 34.6	-0.9
SHZ3	Shizuoka 3	2.08	22	P	Pn	16 17 11.0	-0.7
JMY	Miyakejima3	2.09	63	P	Pn	16 17 11.0	-0.8
JMY				eS	Sn	16 17 35.6	-1.9
JHJ	Hachijo jima 2	2.10	90	Pn	Pn	16 17 10.8	-1.3
	baz=99,slow=23,SNR=1.2						
JHJ				Sn	Sn	16 17 35.2	-2.6
	90nm,0.3s,baz=59,slow=21,SNR=6.6						
MAJO	Matsushiro	3.49	12	ePn	Pn	16 17 32.8	+1.0
MAT	Matsushiro	3.49	12	P	Pn	16 17 32.1	+0.3
MAT				S	Sn	16 18 12.3	-0.7
MAT	Matsushiro	3.49	12	eP	Pn	16 17 32.0	+0.2
MAT				eS	Sn	16 18 12.0	-0.9
JNU	Nakatsue	5.37	272	Pn	Pn	16 17 56.9	-1.4
	baz=357,slow=20,SNR=1.5						
JNU				Sn	Sn	16 18 55.5	-4.7
	0.8nm,0.3s,baz=214,slow=40,SNR=2.4						
ENH	Enshi	23.79	271	eP	P	16 21 51.3	+1.8
	14nm,0.6s,mb4.5						
ENH				e		16 22 00.8	
SONM	Songino Array	27.48	311	P	P	16 22 24.3	+0.4
	4.7nm,0.8s,mb4.1,baz=117,slow=8.3,SNR=5.0						
ZAK	Zakamensk	30.32	315	eP	P	16 22 49.5	+0.2
ZAL	Zalesovo	42.20	316	P	P	16 24 30.1	0.0
	1.7nm,0.7s,mb3.8,baz=291,slow=9.7,SNR=3.2						
ZAL	Zalesovo	42.20	316	P	P	16 24 30.1	+0.1
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NVS	Novosibirsk	43.22	317	eP	P	16 24 38.7	+0.3
MKAR	Makanchi Array	43.45	305	P	P	16 24 41.6	+1.3
	comp=Z,3.4nm,0.6s,mb4.3,baz=90,slow=9.8,SNR=12						
MKAR				PcP	PcP	16 26 28.1	-0.9
	comp=Z,0.9nm,0.5s,baz=88,slow=5.3,SNR=5.8						
MKAR				pPcP		16 26 37.5	
	comp=Z,1.2nm,0.6s,baz=94,slow=6.7,SNR=4.9						
MKAR	Makanchi Array	43.45	305	P	P	16 24 41.6	+1.3
MKAR						16 26 28.1	
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR				pmax	pmax		
	comp=N,1.0nm,0.6s						
KURK	Kurchatov	45.78	311	eP	P	16 24 59.3	+0.2
	comp=N,9.0nm,0.8s,mb4.8						
AAK	Ala-Archa	49.44	300	eP	P	16 25 27.1	-0.5
	comp=N,2.2nm,0.5s,mb4.4						
BVAR	Borovoye Array	50.77	314	P	P	16 25 38.2	+0.5
	comp=N,1.8nm,0.5s,mb4.3,baz=102,slow=7.3,SNR=5.2						
BVAR				PcP	PcP	16 26 54.2	-0.6
	comp=N,0.9nm,0.6s,baz=30,slow=22,SNR=4.4						
ZRNK	Zerenda	51.61	314	eP	P	16 25 43.0	-1.1
	comp=N,3.0nm,0.6s,mb4.4						
FITZ	Fitzroy Crossi	52.14	194	P	P	16 25 48.0	-0.5
	comp=N,1.7nm,0.7s,mb4.1,baz=170,slow=9.8,SNR=2.4						
WRA	Warramunga Arr	52.84	183	P	P	16 25 52.3	-1.6
	comp=N,1.8nm,0.6s,mb4.2,baz=3.3,slow=7.8,SNR=4.7						
WRA	Warramunga Arr	52.84	183	P	P	16 25 52.3	-1.5
WRA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ASAR	Alice Springs	56.57	184	P	P	16 26 18.8	-2.1
	comp=Z,0.9nm,1.0s,mb3.8,baz=11,slow=7.3,SNR=3.2						
INK	Inuvik	59.39	26	P	P	16 26 39.9	-0.2
	comp=Z,3.1nm,0.7s,mb4.4,baz=287,slow=6.5,SNR=4.4						
INK	Inuvik	59.39	26	P	P	16 26 39.9	-0.2
INK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
INK	Inuvik	59.39	26	eP	P	16 26 39.5	-0.6
	comp=Z,3.5nm,0.8s,mb4.4						
STKA	Stephens Creek	64.78	176	P	P	16 27 16.2	-0.4
	comp=Z,2.1nm,0.7s,mb4.3,baz=286,slow=2.7,SNR=2.9						
ARCES	ARCESS Array B	66.44	339	P	P	16 27 26.7	0.0
	comp=Z,1.4nm,0.7s,mb4.1,baz=74,slow=8.8,SNR=3.9						
ARCES	ARCESS Array B	66.44	339	P	P	16 27 26.7	0.0
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FINES	FINESS Array B	70.66	332	P	P	16 27 52.6	-0.3
	comp=Z,1.8nm,0.8s,mb4.1,baz=117,slow=9.3,SNR=4.0						
FINES	FINESS Array B	70.66	332	P	P	16 27 52.7	-0.2
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
AKASG	Malin Array Be	75.26	321	P	P	16 28 20.1	0.0
	comp=Z,4.6nm,0.7s,mb4.5,baz=48,slow=6.1,SNR=9.8						
AKASG				pP	pP	16 28 29.9	+2.9
	comp=Z,3.2nm,0.7s,baz=51,slow=6.1,SNR=3.8						
AKASG	Malin Array Be	75.26	321	P	P	16 28 20.1	0.0
AKASG				*PP	pP	16 28 29.9	+2.9
AKASG				pmax	pmax		
	comp=Z,5.0nm,0.7s						
AKASG				pmax	pmax		
	comp=N,3.0nm,0.7s						
NOA	NORSAR Array B	76.42	336	P	P	16 28 27.0	+0.5
	comp=N,0.4nm,0.6s,mb3.5,baz=54,slow=4.7,SNR=3.3						
NOA				pP	pP	16 28 36.8	+3.4
	comp=N,0.9nm,0.7s,baz=46,slow=5.5,SNR=2.3						
NOA	NORSAR Array B	76.42	336	P	P	16 28 27.0	+0.5
NOA				*PP	pP	16 28 36.8	+3.4
NOA				pmax	pmax		
	comp=N,1.0nm,0.7s						
BRTR	Keskin Array B	78.83	310	P	P	16 28 41.8	+1.5
	comp=N,13nm,1.0s,mb4.8,baz=98,slow=4.7,SNR=12						
BRTR				pP	pP	16 28 51.1	+4.0
	comp=N,5.2nm,0.7s,baz=100,slow=4.1,SNR=6.8						
BRTR	Keskin Array B	78.83	310	P	P	16 28 41.8	+1.5
BRTR				*PP	pP	16 28 51.2	+4.1
BRTR				pmax	pmax		
	comp=Z,13nm,1.0s						
BRTR				pmax	pmax		
	comp=N,5.0nm,0.7s						
TPNV	Topopah Spring	82.25	51	eP	P	16 28 58.8	+0.4
	comp=N,2.7nm,0.7s,mb4.3						
BRG	Berggiesshubel	82.61	328	eP	P	16 29 01.0	+1.0
BRG				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.6						
BRG	Berggiesshubel	82.61	328	P	P	16 29 01.0	+1.0
	comp=Z,7.8nm,1.2s,mb4.6						
CLL	Collm	82.72	328	P	P	16 29 01.0	+0.5
CLL	Collm	82.72	328	eP	P	16 29 01.0	+0.5
PDAR	Pinedale Array	82.83	43	P	P	16 29 02.3	+1.0
	comp=Z,0.7nm,0.8s,mb3.8,baz=270,slow=1.5,SNR=2.9						
PDAR				pP	pP	16 29 11.5	+3.3
	comp=Z,0.7nm,0.9s,baz=108,slow=4.7,SNR=2.5						
PDAR	Pinedale Array	82.83	43	P	P	16 29 02.3	+1.0
PDAR				pP	pP	16 29 11.5	+3.2
PRU	Pruhonice	82.96	327	eP	P	16 29 03.2	+1.4
KHC	Kasperske Hory	84.01	327	eP	P	16 29 08.0	+0.8
GERES	GERESS Array B	84.16	326	P	P	16 29 08.9	+1.0
	comp=Z,2.4nm,0.8s,mb4.4,baz=34,slow=4.8,SNR=7.3						
GERES				pP	pP	16 29 18.1	+3.2
	comp=Z,1.5nm,0.7s,baz=34,slow=4.8,SNR=5.0						
GERES	GERESS Array B	84.16	326	P	P	16 29 08.9	+1.0
GERES				*PP	pP	16 29 18.1	+3.2
GERES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
GERES				pmax	pmax		
	comp=N,2.0nm,0.7s						
GRA1	Grafenberg Arr	84.67	328	eP	P	16 29 12.2	+1.8
	comp=N,14nm,1.1s,mb5.0						
GRA1				epP	pP	16 29 21.2	+3.8
GRF	Grafenberg Arr	84.67	328	eP	P	16 29 12.2	+1.8
GRF				e*PP	pP	16 29 21.2	+3.8
GRF				pmax	pmax		
	comp=Z,14nm,1.1s,mb5.0						
PV10	Paradox Valley	85.91	46	eP	P	16 29 18.8	+1.9
PV10				e		16 29 28.1	
TXAR	Lajitas Array	95.21	50	P	P	16 30 02.3	+1.6
	comp=Z,1.1nm,0.7s,mb4.4,baz=288,slow=3.6,SNR=4.8						
TXAR				pP	pP	16 30 11.3	+3.6
	comp=Z,0.9nm,0.7s,baz=291,slow=3.6,SNR=3.9						
TXAR	Lajitas Array	95.21	50	P	P	16 30 02.3	+1.6
TXAR				pP	pP	16 30 11.3	+3.6

JMA ***05*** *16:18:35.1±0.1,33.19N×137.11E,h41^{km},M3.6*

ISC 05 16:18:34.6±1.7,33.24N±0.07×137.09E±0.07,h19^{km}±8^{km}, n10,σ0^{s}41/19,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JWZ	Kozaga	1.19	285	P	Pb	16 18 55.9	-0.4
JWZ				S	Sb	16 19 11.3	0.0
JIE	Ise	1.20	345	P	Pb	16 18 56.5	+0.1
JIE				S	Sb	16 19 12.3	+0.8
JKN	Kiinagashima	1.22	326	P	Pn	16 18 56.7	-0.2
JKN				S	Sb	16 19 12.0	-0.3
JAA	Atsumi	1.39	2	P	Pn	16 18 58.9	-0.4
JAA				S	Sb	16 19 16.6	-0.6
TSUJ	Tsu 2	1.57	339	P	Pn	16 19 02.9	+1.0
TSUJ				S	Sn	16 19 21.8	0.0
JWM	Minabe	1.57	293	P	Pn	16 19 01.7	-0.2
JWM				S	Sn	16 19 21.4	-0.5
JWY	Kouya	1.59	309	P	Pn	16 19 02.6	+0.5
JWY				S	Sn	16 19 22.2	0.0
JHE	Heguri	1.83	321	S	Sn	16 19 28.4	-0.1
JAJ2	Tsuna	2.18	303	P	Pn	16 19 10.7	+0.1
JAJ2				S	Sn	16 19 37.6	+0.2
MAT	Matsushiro	3.42	15	P	Pn	16 19 28.3	0.0
MAT				S	Sn	16 20 08.5	-0.3

IDC ***05*** *16:30:40.6±1.2,33.16N×136.51E,mb3.6/5,mb1 3.6/6, mb1mx3.5/23,ML3.2/1,Error ellipse: s-maj=39.8km s-min=22.0km az=50.0*

NEIC ***05*** *16:30:41.9±0.7,33.20N×136.62E,h10^{km},mb4.3/1,Error ellipse: s-maj=20.0km s-min=12.5km az=96.0*

ISC 05 16:30:40.2±0.8,33.03N±0.08×136.4E±0.1,h10^{km},n10, σ1^{s}17/12,mb3.6/6,Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ	Hachijo jima 2	2.84	87	Pn	Pn	16 31 26.3	-0.1
	9.2nm,0.3s,slow=20,SNR=3.1						
MAJO	Matsushiro	3.81	22	ePn	Pn	16 31 37.3	-2.9
MAT	Matsushiro	3.81	22	P	Pn	16 31 43.9	+3.7
MAT				S	Sn	16 32 26.9	+1.3
MAT	Matsushiro	3.81	22	P	Pn	16 31 44.0	+3.8
MAT				eS	Sn	16 32 27.0	+1.4
SONM	Songino Array	27.01	312	P	P	16 36 23.8	-0.2
	0.7nm,0.7s,mb3.3,baz=114,slow=8.3,SNR=6.7						
MKAR	Makanchi Array	42.91	305	P	P	16 38 41.0	+0.6
	1.7nm,0.9s,mb3.8,baz=98,slow=9.6,SNR=7.2						
BVAR	Borovoye Array	50.32	314	P	P	16 39 38.5	-0.3
	1.1nm,0.8s,mb3.9,baz=117,slow=9.9,SNR=4.7						
WRA	Warramunga Arr	52.70	182	P	P	16 39 58.5	+1.2
	0.2nm,0.6s,mb3.2,baz=0.2,slow=7.7,SNR=4.6						
ASAR	Alice Springs	56.42	183	P	P	16 40 24.4	0.0
	0.2nm,0.7s,mb3.3,baz=16,slow=13,SNR=3.8						
INK	Inuvik	59.79	25	eP	P	16 40 45.8	-1.7
	2.2nm,0.8s,mb4.2						

BJI ***05*** *16:30:56.2,32.97N×137.34E,h40^{km},mb4.6*

NEIC ***05*** *16:30:56.9±0.2,33.29N×136.90E,h10^{km},mb4.6/23,Error ellipse: s-maj=6.1km s-min=5.1km az=88.0*

JMA ***05*** *16:30:56.8±0.3,33.31N×136.93E,h42^{km},M4.1*

MOS ***05*** *16:30:58.0±1.5,33.28N×137.06E,h33^{km},mb4.6/13,Error*

ellipse: s-maj=20.8km s-min=9.6km az=101.1
*IDC **05** 16:30:58.8±0.6, 33.32N×137.02E, h23^{km}±3^{km}, mb4.2/18, mb1 4.3/20, mb1mx4.2/25, ML3.1/2, Error ellipse: s-maj=17.9km s-min=10.4km az=74.0*
ISC 05 16:30:57.4±0.3, 33.31N±0.03×136.94E±0.03, h24^{km}, h24^{km}±.8^{km}:pP-P, n103, σ1^{s}13/107, mb4.5/45, 2C, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	Tokai 1	0.71	50	P	Pb	16 31 10.9	-0.1
TK02	Tokai 2	0.93	47	P	Pb	16 31 13.1	-1.7
TK02				*e*S	Sb	16 31 28.7	+2.0
JWZ	Kozaga	1.05	283	P	Pb	16 31 16.2	-0.5
JWZ				*e*S	Sb	16 31 29.2	-0.9
JIE	Ise	1.10	350	P	Pn	16 31 16.9	-0.6
JIE				*e*S	Sb	16 31 30.7	-0.8
TK04	Tokai 4	1.33	36	⇑P	Pn	16 31 19.1	-1.6
JWM	Minabe	1.43	293	P	Pn	16 31 21.2	-1.0
JWM				*e*S	Sn	16 31 39.1	-1.3
TSUJ	Tsu 2	1.47	343	*e*S	Sn	16 31 39.9	-1.4
JHJ	Hachijo jima 2	2.39	94	Pn	Pn	16 31 34.6	-1.3
	24nm,0.3s,baz=273,slow=17,SNR=6.2						
JHJ				Sn	Sn	16 32 02.2	-2.5
	29nm,0.3s,baz=64,slow=21,SNR=4.4						
MAJO	Matsushiro	3.39	17	*e*Pn	Pn	16 31 49.9	-0.3
ASAJ	Asahikawa	11.66	21	Pn	P	16 33 42.0	-3.4
	0.1nm,0.3s,baz=251,slow=33,SNR=3.0						
CN2	Changchun	13.79	323	*e*P	P	16 34 22.3	+8.5
CN2				AMB	AMB		
	comp=Z,30nm,0.9s						
YSS	Yuzh-Sakhalins	14.33	16	*e*P	P	16 34 22.0	+1.2
YSS	Yuzh-Sakhalins	14.33	16	P	P	16 34 21.9	+1.0
KLR	Kul'dur	16.37	348	*e*P	P	16 34 48.8	+1.6
BJT	Baijiatuau	17.94	298	*e*P	P	16 35 05.7	-1.3
	comp=Z,23nm,0.9s						
BJI	Beijing	17.94	298	P	P	16 35 08.5	+1.5
BJI				AMB	AMB		
	comp=Z,21nm,1.0s						
WHN	Wuhan	19.37	268	*e*P	P	16 35 25.2	+0.9
WHN				AP		16 35 30.5	
HIA	Hailar	20.45	326	*e*P	P	16 35 34.1	-1.6
	comp=Z,6.6nm,0.6s						
ENH	Enshi	23.51	270	*e*P	P	16 36 07.1	+0.7
	comp=Z,40nm,0.9s,mb4.8						
ENH				*e*		16 36 14.8	
GYA	Guiyang	27.06	263	⇑*i*P	P	16 36 43.2	+3.1
GYA				AP	pP	16 36 49.0	+2.0
GYA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.5						
SONM	Songino Array	27.15	311	P	P	16 36 40.2	-0.5
	comp=Z,2.0nm,0.9s,mb3.7,baz=116,slow=9.0,SNR=11						
SONM				PcP	PcP	16 40 01.4	+0.1
	comp=Z,1.2nm,0.9s,baz=153,slow=2.6,SNR=5.3						
LZH	Lanzhou	27.28	285	*e*P	P	16 36 42.1	+0.1
LZH				PP	PP	16 37 29.3	+0.1
LZH				AMB	AMB		
	comp=Z,23nm,1.3s,mb4.5						
ZAK	Zakamensk	29.99	315	*e*P	P	16 37 06.1	-0.1
CMAR	Chiang Mai Arr	37.02	256	P	P	16 38 07.8	+0.6
	comp=Z,2.9nm,0.8s,mb4.2,baz=51,slow=6.8,SNR=24						
CMAR	Chiang Mai Arr	37.02	256	P	P	16 38 07.8	+0.5
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
TIXI	Tiksi	38.65	356	*e*P	P	16 38 20.1	-0.3
TIXI				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.6						
LSA	Lhasa	38.97	277	P	P	16 38 26.0	+2.5
ZAL	Zalesovo	41.87	316	P	P	16 38 45.5	-1.5
	comp=Z,1.4nm,0.5s,mb3.9,baz=323,slow=20,SNR=7.1						
ZAL				PcP	PcP	16 40 42.0	-1.3
	comp=Z,2.9nm,0.6s,baz=258,slow=3.3,SNR=10						
ZAL				pPcP		16 40 48.6	
	comp=Z,2.0nm,0.6s,baz=217,slow=1.1,SNR=5.5						
ZAL	Zalesovo	41.87	316	P	P	16 38 45.6	-1.5
ZAL						16 40 42.1	
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZAL				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ZAL				pmax	pmax		
	comp=N,2.0nm,0.6s						
NVS	Novosibirsk	42.90	317	*e*P	P	16 38 53.6	-1.9
NVS				pmax	pmax		
	comp=E,8.0nm,1.0s						
NVS				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.4						
MKAR	Makanchi Array	43.12	305	P	P	16 38 58.4	+1.1
	comp=Z,7.7nm,0.8s,mb4.5,baz=92,slow=10,SNR=34						
MKAR				pP	pP	16 39 05.2	+0.8
	comp=Z,4.9nm,0.8s,baz=89,slow=10,SNR=7.7						
MKAR				PcP	PcP	16 40 47.1	-0.4
	comp=Z,3.5nm,0.8s,baz=76,slow=4.5,SNR=6.5						
MKAR				pPcP		16 40 54.0	
	comp=Z,2.6nm,0.7s,baz=104,slow=5.0,SNR=5.1						
MKAR	Makanchi Array	43.12	305	P	P	16 38 58.4	+1.1
MKAR				*PP	pP	16 39 05.3	+0.9
MKAR						16 40 47.2	
MKAR				pmax	pmax		
	comp=Z,8.0nm,0.8s						
MKAR				pmax	pmax		
	comp=N,5.0nm,0.8s						
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MKAR				pmax	pmax		
	comp=N,3.0nm,0.7s						
PKI	Pulchoki	44.43	277	*e*P	P	16 39 08.3	0.0
	comp=N,22nm,1.0s,mb4.8						
KKN	Kakani	44.46	277	*e*P	P	16 39 09.0	+0.4
	comp=N,24nm,0.8s,mb5.0						
DMN	Daman	44.67	277	*e*P	P	16 39 10.3	+0.1
	comp=N,20nm,1.1s,mb4.9						
GKN	Gorkha	44.92	278	*e*P	P	16 39 12.5	+0.2
	comp=N,25nm,1.0s,mb5.0						
KURK	Kurchatov	45.46	311	P	P	16 39 16.7	+0.6
	comp=N,82nm,1.0s,mb5.5,SNR=9.6						
KURK	Kurchatov	45.46	311	*e*P	P	16 39 16.5	+0.4
	comp=N,18nm,1.0s,mb4.9						
KOLN	Koldanda	45.87	278	*e*P	P	16 39 19.9	+0.2
	comp=N,19nm,0.9s,mb5.0						
TKM2	Tokmak 2	48.26	300	P	P	16 39 39.6	+1.3
	SNR=7.5						
KBK	Karagaybulak	48.77	300	P	P	16 39 43.1	+0.9
	SNR=7.5						
USP	Ospenovka	48.98	301	P	P	16 39 44.7	+0.8
	SNR=7.4						
AAK	Ala-Archa	49.10	300	*e*P	P	16 39 43.8	-1.1
	comp=N,12nm,1.5s,mb4.7						
UCH	Uchtor	49.17	300	P	P	16 39 47.4	+2.0
	SNR=6.0						
AML	Almayashu	49.78	300	P	P	16 39 52.0	+1.9
	SNR=7.8						
BVAR	Borovoye Array	50.44	314	P	P	16 39 54.9	-0.1
	comp=N,3.3nm,0.8s,mb4.4,baz=100,slow=9.0,SNR=14						
BVAR				PcP	PcP	16 41 13.0	-0.3
	comp=N,6.7nm,1.0s,baz=90,slow=1.5,SNR=7.7						
BVAR				pPcP		16 41 19.7	
	comp=N,3.1nm,0.7s,baz=127,slow=3.0,SNR=6.3						
BRVK	Borovoye	50.51	314	*e*P	P	16 39 54.4	-1.0
	comp=N,11nm,1.2s,mb4.7						
ZRNK	Zerenda	51.28	314	*e*P	P	16 40 00.7	-0.7
	comp=N,15nm,1.2s,mb4.8						
IMA	Indian Mountai	51.74	29	*e*P	P	16 40 03.4	-1.2
	comp=N,26nm,1.2s,mb5.0						
FITZ	Fitzroy Crossi	52.24	194	*e*P	P	16 40 07.9	-1.2
	comp=N,6.5nm,1.0s,mb4.5						
FITZ	Fitzroy Crossi	52.24	194	P	P	16 40 08.4	-0.6
	comp=N,10nm,1.0s,mb4.7,baz=8.5,slow=7.3,SNR=11						
FITZ				pP	pP	16 40 15.5	-0.8
	comp=N,5.1nm,0.8s,baz=3.2,slow=7.7,SNR=4.1						
WRAB	Tennant Creek	53.00	183	*e*P	P	16 40 13.6	-1.1
	comp=N,18nm,0.9s,mb5.0						
WB2	Warramunga Arr	53.01	183	*e*P	P	16 40 13.7	-1.0
WRA	Warramunga Arr	53.01	183	P	P	16 40 13.4	-1.4
	comp=N,7.9nm,0.7s,mb4.8,baz=1.6,slow=7.8,SNR=63						
WRA				pP	pP	16 40 20.7	-1.3
	comp=N,3.4nm,0.9s,baz=21,slow=7.3,SNR=12						
WRA				PcP	PcP	16 41 23.2	0.0
	comp=N,1.9nm,0.8s,baz=357,slow=4.1,SNR=3.3						
WRA				pPcP		16 41 29.9	
	comp=N,1.4nm,0.7s,baz=355,slow=4.2,SNR=4.7						
WRA	Warramunga Arr	53.01	183	P	P	16 40 13.4	-1.3
WRA				*PP	pP	16 40 20.7	-1.3
WRA						16 41 23.2	
WRA				pmax	pmax		
	comp=Z,8.0nm,0.7s						
WRA				pmax	pmax		
	comp=N,3.0nm,0.9s						
WRA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
WRA				pmax	pmax		
	comp=N,1.0nm,0.7s						
CTA	Charters Tower	53.83	169	*e*P	P	16 40 20.3	-0.5
	comp=N,6.7nm,0.9s,mb4.6						
CTA	Charters Tower	53.83	169	P	P	16 40 19.1	-1.7
	comp=N,8.5nm,0.9s,mb4.7						
CTA	Charters Tower	53.83	169	P	P	16 40 19.1	-1.7
CTA				pmax	pmax		
	comp=Z,9.0nm,0.9s						
CTAO	Charters Tower	53.83	169	*e*P	P	16 40 19.7	-1.1
	comp=Z,11nm,0.9s,mb4.8						
SML	Sawmill	54.15	34	*e*P	P	16 40 21.6	-0.9
ILAR	Eielson Array	54.58	31	P	P	16 40 24.9	-0.8
	comp=Z,1.5nm,0.8s,mb4.1,baz=277,slow=6.3,SNR=19						
ILAR	Eielson Array	54.58	31	P	P	16 40 24.9	-0.8
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ASAR	Alice Springs	56.73	183	P	P	16 40 40.8	-1.0
	comp=Z,5.9nm,0.9s,mb4.6,baz=11,slow=7.4,SNR=45						
ASAR				pP	pP	16 40 48.0	-1.1
	comp=Z,3.5nm,0.8s,baz=12,slow=13,SNR=14						
ASPA	Alice Springs	56.73	183	*e*P	P	16 40 41.0	-0.8
ARU	Arti	56.76	319	P	P	16 40 41.1	-0.5
	comp=Z,79nm,0.8s,SNR=7.6						
ARU	Arti	56.76	319	*e*P	P	16 40 39.7	-1.9
STKA	Stephens Creek	64.98	176	*e*P	P	16 41 37.2	-0.5
	comp=Z,3.8nm,0.9s,mb4.4						
STKA	Stephens Creek	64.98	176	P	P	16 41 37.0	-0.7
	comp=Z,4.3nm,0.8s,mb4.5,baz=320,slow=7.6,SNR=7.2						
ARCES	ARCESS Array B	66.17	339	P	P	16 41 44.1	-0.5
	comp=Z,2.9nm,0.8s,mb4.3,baz=45,slow=6.9,SNR=5.1						
ARCES				pP	pP	16 41 51.5	-0.5
	comp=Z,2.5nm,0.6s,baz=56,slow=8.7,SNR=2.5						
ARCES	ARCESS Array B	66.17	339	P	P	16 41 44.2	-0.5
ARCES				*PP	pP	16 41 51.5	-0.5
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ARCES				pmax	pmax		
	comp=N,3.0nm,0.6s						
FINES	FINESS Array B	70.37	332	P	P	16 42 09.7	-1.2
	comp=N,1.2nm,0.8s,mb3.9,baz=180,slow=38,SNR=3.6						
FINES				pP	pP	16 42 18.1	-0.2
	comp=N,2.1nm,0.7s,baz=117,slow=4.3,SNR=3.6						
FINES	FINESS Array B	70.37	332	P	P	16 42 09.7	-1.2
FINES				*PP	pP	16 42 18.1	-0.2
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
FINES				pmax	pmax		
	comp=N,2.0nm,0.7s						
AKASG	Malin Array Be	74.95	321	P	P	16 42 36.8	-1.3
	comp=N,0.2nm,0.2s,mb3.6,baz=46,slow=6.3,SNR=10						
AKASG				pP	pP	16 42 44.9	-0.6
	comp=N,0.6nm,0.3s,baz=47,slow=6.4,SNR=3.3						
AKASG	Malin Array Be	74.95	321	P	P	16 42 36.8	-1.3
AKASG				*PP	pP	16 42 44.9	-0.6
AKASG				pmax	pmax		
	comp=N,1.0nm,0.3s						
DPW	Davenport	74.96	42	*e*P	P	16 42 38.7	+0.5
NB2	NORSAR Subarra	76.15	336	P	P	16 42 43.7	-1.0
	comp=N,1.7nm,0.9s,mb4.0,baz=45,slow=5.8						
NOA	NORSAR Array B	76.15	336	P	P	16 42 44.7	0.0
	comp=N,1.2nm,0.8s,mb3.9,baz=44,slow=5.7,SNR=4.8						
NOA	NORSAR Array B	76.15	336	P	P	16 42 44.7	0.0
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BRTR	Keskin Array B	78.50	310	P	P	16 42 58.6	+0.5
	comp=Z,3.6nm,1.1s,mb4.2,baz=90,slow=3.7,SNR=6.1						
BRTR	Keskin Array B	78.50	310	P	P	16 42 58.7	+0.5
BRTR				pmax	pmax		
	comp=Z,4.0nm,1.1s						
HLID	Hailey	79.59	44	*e*P	P	16 43 04.9	+0.9
	comp=Z,1.9nm,0.9s,mb4.0						
BOZ	Bozeman (W)	79.93	42	*e*P	P	16 43 06.7	+0.9
	comp=Z,3.4nm,1.0s,mb4.2						
MNV	Mina	80.26	50	*e*P	P	16 43 08.9	+1.2
	comp=Z,3.9nm,1.2s,mb4.2						
ELK	Elko	80.76	47	*e*P	P	16 43 12.1	+1.8
	comp=Z,1.6nm,0.8s,mb4.0						
DPC	Dobruska-Polom	81.58	326	*e*P	P	16 43 16.1	+1.7
DGMT	Dagmar	82.02	36	P	P	16 43 17.3	+0.6
TPNV	Topopah Spring	82.35	51	*e*P	P	16 43 19.7	+1.1
	comp=Z,6.0nm,0.8s,mb4.6						
PRU	Pruhonice	82.66	327	*e*P	P	16 43 21.8	+1.8
BW06	Boulder Array	82.89	43	*e*P	P	16 43 22.2	+0.9
	comp=Z,2.2nm,0.9s,mb4.2						
PDAR	Pinedale Array	82.89	43	P	P	16 43 22.1	+0.7
	comp=Z,2.1nm,0.9s,mb4.2,baz=322,slow=3.2,SNR=15						
KHC	Kasperske Hory	83.71	327	*e*P	P	16 43 26.4	+1.1
GERES	GERESS Array B	83.86	326	P	P	16 43 26.9	+0.9
	comp=Z,1.9nm,0.9s,mb4.2,baz=63,slow=3.0,SNR=13						
GERES	GERESS Array B	83.86	326	P	P	16 43 26.9	+0.8
GERES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
GRA1	Grafenberg Arr	84.37	328	*e*P	P	16 43 30.4	+1.7
	comp=Z,30nm,1.5s,mb5.2						
GRF	Grafenberg Arr	84.37	328	*e*P	P	16 43 30.4	+1.7
GRF				pmax	pmax		
	comp=Z,30nm,1.5s,mb5.2						
PV10	Paradox Valley	85.99	46	*e*P	P	16 43 38.6	+1.6
PV10				*e*	pP	16 43 46.0	+1.3
PV01	Paradox Valley	86.43	46	*e*P	P	16 43 40.3	+1.2
LPL	La Plagne	89.51	328	*e*P	P	16 43 53.4	-0.4
	comp=Z,7.7nm,0.9s,mb4.7						
LPG	La Plagne	89.52	328	*e*P	P	16 43 53.6	-0.2
	comp=Z,8.2nm,0.9s,mb4.8						
TCF	Toulx Ste Croi	90.86	330	*e*P	P	16 43 59.6	-0.4
	comp=Z,8.2nm,0.9s,mb4.8						
LFF	La Frestale	92.55	331	*e*P	P	16 44 07.8	0.0
TXAR	Lajitas Array	95.31	50	P	P	16 44 22.2	+1.3
	comp=Z,1.3nm,0.7s,mb4.5,baz=288,slow=4.0,SNR=12						
SAML	Samuel	149.47	42	*e*PKPbc	PKPdf	16 50 46.6	+1.4
SAML				*e*PKPab	PKPab	16 50 51.2	-1.0

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*JMA **05** 16:32:11.4±0.1, 33.15N×136.96E, h40^{km}, M3.7*
ISC 05 16:32:11.9±2.1, 33.2N±0.1×136.99E±0.08, h40^{km}, n11, σ0^{s}48/15, 4D, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK02	Tokai 2	0.99	40	S	S	16 32 42.4	-0.1
JWZ	Kozaga	1.12	288	P	P	16 32 30.8	-0.5
JWZ				S	S	16 32 44.8	-0.9
JKN	Kiinagashima	1.22	330	⇓P	P	16 32 32.8	+0.1
JIE	Ise	1.22	349	⇓P	P	16 32 33.1	+0.4
TK04	Tokai 4	1.40	31	S	S	16 32 53.1	+0.2
JAA	Atsumi	1.44	5	P	P	16 32 35.8	-0.2
JAA				S	S	16 32 54.1	+0.1
JWM	Minabe	1.52	296	P	P	16 32 37.0	0.0
JWM				S	S	16 32 55.7	0.0
JWY	Kouya	1.55	312	⇓P	P	16 32 38.1	+0.6
JWY				S	S	16 32 57.2	+0.6
TSUJ	Tsu 2	1.59	343	P	P	16 32 38.4	+0.4
JHE	Heguri	1.82	324	⇓P	P	16 32 41.8	+0.5
MAT	Matsushiro	3.49	16	S	S	16 33 44.7	-1.0

MDD 05 16:34:00.7±3.9, 34.46N×1.38E, h7^{km}±23^{km}, mb4.0/8, Error ellipse: s-maj=26.5km s-min=13.0km az=176.0, PRXIMO SOLUCIN POBRE, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ETRT	Tiaret	0.93	356	P	Pb	16 34 17.3	-1.3
OJGS	Djebel Guires	1.16	334	P	Pb	16 34 22.0	-0.6
OJBR	Djebel Berber	1.40	323	P	Pn	16 34 25.0	-1.7
EANR	'Ain N'Sour	1.50	351	P	Pn	16 34 26.0	-2.1
OKGL	Djebel Kef Gue	1.68	339	P	Pn	16 34 35.0	+4.3
ECHF	Ech Chlef	1.69	359	P	Pn	16 34 36.0	+5.2
EMHD	Djebel Mahouad	2.16	36	P	Pn	16 34 36.5	-1.0
AKET	Djebel Ketaf	2.59	52	P	Pn	16 34 41.7	-1.9
EBER	Berja	4.24	306	P	Pn	16 34 42.0	-25
EBEN	Beniarda	4.42	344	P	Pn	16 35 06.3	-3.5
	4.5nm,0.5s,SNR=8.9						
EBEN				S	Sn	16 36 00.2	-2.0
	3.2nm,0.3s,SNR=7.9						
EIBI	Ibiza	4.55	360	P	Pn	16 35 07.4	-4.2
	10nm,0.3s,SNR=9.3						
EIBI				S	Sn	16 36 00.8	-4.7
	4.2nm,0.2s						
ETOB	Tobarra	4.79	331	P	Pn	16 35 12.6	-2.4
	2.3nm,0.2s,SNR=9.0						
ETOB				S	Sn	16 36 09.4	-2.0
	5.9nm,0.4s						
EQES	Quesada	4.91	314	P	Pn	16 35 13.5	-3.1
	3.1nm,0.2s,SNR=15						
EQES				S	Sn	16 36 14.5	+0.2
	5.3nm,0.5s						
EVIA	Vianos	5.21	324	P	Pn	16 35 21.4	+0.6
	5.3nm,0.5s,SNR=4.0						
EVIA				S	Sn	16 36 19.6	-2.3
	6.3nm,0.4s,SNR=4.0						
EMIJ	Mijas	5.44	294	P	Pn	16 35 21.6	-2.5
	1.1nm,0.4s,SNR=4.0						
EADA	Adamuz	6.06	309	S	Sn	16 36 42.5	-0.8
	0.8nm,0.3s,SNR=4.0						
EMOS	Mosqueruela	6.07	347	P	Pn	16 35 30.6	-2.4
	2.2nm,0.4s,SNR=7.9						
EMOS				S	Sn	16 36 40.3	-3.2
	1.6nm,0.4s,SNR=7.9						
ESPR	Espera	6.36	294	P	Pn	16 35 34.3	-2.8
	1.0nm,0.2s,SNR=4.0						

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*IDC **05** 16:34:22.1±1.3, 33.18N×137.26E, mb3.6/4, mb1 3.7/6, mb1mx3.6/22, ML3.2/2, Error ellipse: s-maj=30.7km s-min=26.2km az=94.0*
*NEIC **05** 16:34:23.3±0.7, 33.19N×137.44E, h10^{km}, Error ellipse: s-maj=36.7km s-min=10.4km az=100.0*
*JMA **05** 16:34:24.1±0.1, 33.18N×137.11E, h44^{km}, M3.5*
ISC 05 16:34:21.1±0.6, 33.20N±0.04×137.20E±0.05, h10^{km}, n16, σ1^{s}23/24, mb3.6/4, 2D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIE	Ise	1.26	341	⇓P	Pb	16 34 45.8	+1.2
JIE				S	Sb	16 35 01.7	+1.0
JWZ	Kozaga	1.29	285	P	Pb	16 34 45.1	+0.1
JWZ				S	Sb	16 35 00.6	-0.9
JKN	Kiinagashima	1.31	324	S	Sb	16 35 01.7	-0.4
JAA	Atsumi	1.43	358	⇓P	Pn	16 34 48.0	+0.7
JAA				S	Sb	16 35 05.6	0.0
TSUJ	Tsu 2	1.64	337	P	Pn	16 34 51.4	+1.1
TSUJ				S	Sn	16 35 10.9	-0.7
JWM	Minabe	1.68	293	P	Pn	16 34 50.9	+0.1
JWM				S	Sn	16 35 10.9	-1.5
JHJ	Hachijo jima 2	2.17	91	Pn	Pn	16 34 59.5	+1.7
	8.6nm,0.3s,baz=57,slow=23,SNR=1.6						
JHJ				Sn	Sn	16 35 22.0	-2.9
	18nm,0.3s,baz=55,slow=22,SNR=3.1						
MAJO	Matsushiro	3.44	14	*e*Pn	Pn	16 35 17.4	+1.5
MAT	Matsushiro	3.44	14	P	Pn	16 35 17.4	+1.5
MAT				S	Sn	16 35 56.4	-0.8
MAT	Matsushiro	3.44	14	*e*P	Pn	16 35 17.0	+1.1
MAT				*e*S	Sn	16 35 56.0	-1.2
ASAJ	Asahikawa	11.69	20	Pn	P	16 37 08.7	-2.3
	0.2nm,0.3s,baz=184,slow=7.8,SNR=2.6						
YSS	Yuzh-Sakhalins	14.38	15	P	P	16 37 44.9	-1.8
MKAR	Makanchi Array	43.36	305	P	P	16 42 26.8	+1.8
	0.7nm,0.6s,mb3.6,baz=93,slow=9.5,SNR=4.1						
FITZ	Fitzroy Crossi	52.19	194	P	P	16 43 34.0	-0.4
	1.4nm,0.9s,mb3.9,baz=182,slow=7.4,SNR=3.1						
WRA	Warramunga Arr	52.91	183	P	P	16 43 39.3	-0.5
	0.6nm,0.7s,mb3.7,baz=0.3,slow=7.7,SNR=5.8						
ASAR	Alice Springs	56.63	184	P	P	16 44 07.7	+0.8
	0.2nm,0.6s,mb3.3,baz=21,slow=12,SNR=4.5						

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*JMA **05** 16:35:16.5±0.1, 33.32N×136.91E, h51^{km}, M3.5*
*IDC **05** 16:35:18.8±5.5, 32.77N×136.13E, mb3.8/5, mb1 4.0/5, mb1mx3.8/20, Error ellipse: s-maj=208.0km s-min=21.6km az=65.0*
ISC 05 16:35:18.1±0.6, 33.42N±0.04×136.86E±0.06, h51^{km}, n16, σ0^{s}66/22, mb3.7/5, 1D, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JWZ	Kozaga	0.96	277	P	P	16 35 34.2	-1.4
JWZ				S	S	16 35 47.8	-0.7
JKN	Kiinagashima	0.97	329	P	P	16 35 35.3	-0.3
JKN				S	S	16 35 49.0	+0.4
JIE	Ise	0.98	353	⇓P	P	16 35 35.7	-0.1
JIE				S	S	16 35 50.0	+1.0
JAA	Atsumi	1.24	11	P	P	16 35 38.7	-0.7
JAA				S	S	16 35 55.0	-0.2
JWY	Kouya	1.32	308	S	S	16 35 58.4	+0.8
JWM	Minabe	1.33	289	S	S	16 35 57.7	+0.1
TSUJ	Tsu 2	1.34	344	P	P	16 35 41.0	0.0
TSUJ				S	S	16 35 58.2	+0.2
MAT	Matsushiro	3.31	19	P	P	16 36 08.8	0.0
MAT				S	S	16 36 46.6	-0.6
SONM	Songino Array	27.03	311	P	P	16 41 03.3	+6.0
	1.0nm,1.1s,mb3.3,baz=127,slow=7.2,SNR=2.6						
MKAR	Makanchi Array	43.00	305	P	P	16 43 17.8	+3.8
	0.7nm,0.9s,mb3.4,baz=90,slow=10,SNR=2.3						
FITZ	Fitzroy Crossi	52.34	194	*e*P	P	16 44 27.8	+0.6
	0.8nm,0.6s,mb3.8						
FITZ	Fitzroy Crossi	52.34	194	P	P	16 44 27.6	+0.4
	1.1nm,0.6s,mb4.0,baz=206,slow=23,SNR=4.7						
WB2	Warramunga Arr	53.11	183	*e*P	P	16 44 32.7	-0.3
WRA	Warramunga Arr	53.11	183	P	P	16 44 32.8	-0.2
	1.4nm,0.5s,mb4.1,baz=0.1,slow=7.7,SNR=19						
ASAR	Alice Springs	56.83	183	P	P	16 45 00.0	+0.1
	0.6nm,0.5s,mb3.9,baz=18,slow=10,SNR=13						
ASPA	Alice Springs	56.83	183	*e*P	P	16 45 01.2	+1.2

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*IDC **05** 16:39:57.1±1.3, 33.34N×137.03E, mb3.5/4, mb1 3.6/5, mb1mx3.5/20, ML3.0/1, Error ellipse: s-maj=39.4km s-min=22.3km az=48.0*
*NEIC **05** 16:39:58.6±0.8, 33.35N×137.05E, h10^{km}, mb3.7/1, Error ellipse: s-maj=22.1km s-min=11.5km az=100.0*
*JMA **05** 16:39:59.7±0.1, 33.41N×136.96E, h41^{km}±5^{km}, M3.1*
ISC 05 16:39:58.2±1.0, 33.38N±0.05×137.01E±0.05, h22^{km}±8^{km}, n17, σ0^{s}60/24, mb3.5/5, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIE	Ise	1.04	346	P	Pb	16 40 17.9	+0.5
JKN	Kiinagashima	1.06	325	P	Pb	16 40 17.8	0.0
JKN				S	Sb	16 40 30.9	-0.4
JWZ	Kozaga	1.09	278	P	Pb	16 40 18.7	+0.4
JWZ				S	Sb	16 40 31.4	-0.7
TK04	Tokai 4	1.24	36	P	Pn	16 40 20.2	-0.2
JAA	Atsumi	1.25	5	P	Pn	16 40 20.7	0.0
JAA				S	Sb	16 40 36.6	-0.3
TSUJ	Tsu 2	1.41	340	P	Pn	16 40 23.2	+0.2
TSUJ				S	Sn	16 40 40.6	-0.4
JWY	Kouya	1.44	306	S	Sn	16 40 41.4	-0.4
JHE	Heguri	1.68	320	P	Pn	16 40 26.8	+0.1
JHJ	Hachijo jima 2	2.34	96	Pn	Pn	16 40 36.9	+0.6
	7.8nm,0.3s,baz=67,slow=23,SNR=1.9						
JHJ				Sn	Sn	16 41 03.5	-1.1
	22nm,0.3s,baz=95,slow=18,SNR=4.0						
MAJO	Matsushiro	3.31	17	*e*Pn	Pn	16 40 50.5	+0.5
MAT	Matsushiro	3.31	17	P	Pn	16 40 50.5	+0.5
MAT				S	Sn	16 41 28.6	-0.5
MAT	Matsushiro	3.31	17	*e*P	Pn	16 40 51.0	+1.0
MAT				*e*S	Sn	16 41 29.0	-0.1
SONM	Songino Array	27.15	311	P	P	16 45 41.6	-0.1
	0.4nm,0.7s,mb3.1,baz=121,slow=8.4,SNR=3.2						
MKAR	Makanchi Array	43.12	305	P	P	16 48 00.1	+1.6
	1.0nm,0.7s,mb3.7,baz=91,slow=10.0,SNR=8.0						
ZRNK	Zerenda	51.27	314	P	P	16 49 02.5	+0.2
	0.7nm,0.7s,mb3.7						
WRA	Warramunga Arr	53.08	183	P	P	16 49 15.3	-1.1
	0.4nm,0.5s,mb3.6,baz=359,slow=7.8,SNR=11						
ASAR	Alice Springs	56.80	183	P	P	16 49 43.5	+0.1
	0.3nm,0.6s,mb3.5,baz=20,slow=11,SNR=5.8						

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*IDC **05** 16:43:13.0±0.5, 15.29S×173.54W, mb4.7/12, mb1 4.9/13, mb1mx4.8/16, ML4.9/1, MS5.2/1, Ms1 5.2/1, ms1mx4.9/21, Error ellipse: s-maj=22.4km s-min=14.2km az=162.0*
*SYO **05** 16:43:14.8, 15.39S×173.30W, h10^{km}, MB5.0*
*BJI **05** 16:43:15.0, 15.20S×173.50W, h10^{km}, mB4.7, mb5.1, Ms5.0, Msz4.6*
*NEIC **05** 16:43:15.1±0.2, 15.20S×173.53W, h10^{km}, mb4.9/21, Error ellipse: s-maj=14.1km s-min=6.6km az=143.0*
*MOS **05** 16:43:18.1±2.1, 15.27S×173.82W, h33^{km}, mb4.7/6, Error*

ellipse: s-maj=23.6km s-min=19.1km az=26.4

ISC 05 16:43:13.6±0.2**, 15.19S**±0.06×**173.59W**±0.05**, h10^{km}, (h12^{km}±1.5^{km}:pP-P), n179,** σ**1^{s}13**/93**, mb4.8**/44**, MS5.3**/2**, 16C-5D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAR	Rarotonga	14.42	117	Pn	P	16 46 33.2	-6.8
	5.7nm,0.3s,baz=252,slow=8.6,SNR=17						
RAR				Sn	S	16 49 05.3	-16
	1.4nm,0.3s,baz=113,slow=20,SNR=2.8						
RAR				LR	LR	16 50 33.7	
	comp=Z,11µm,20.5s,baz=306,slow=31						
RAR				T		17 01 14.4	
	57nm,0.3s,baz=98,slow=14,SNR=8.2						
RAR	Rarotonga	14.42	117	*e*Pn	P	16 46 33.4	-6.6
	24nm,0.6s						
DZM	Mont Dzumac	20.11	247	*e*P	P	16 47 53.3	+2.7
DZM	Mont Dzumac	20.11	247	*e*P	P	16 47 53.2	+2.7
NOUC	Port Laguerre	20.25	247	*e*P	P	16 47 58.6	+6.6
NOUC	Port Laguerre	20.25	247	*e*P	P	16 47 58.6	+6.6
PPT	Papeete	23.15	99	P	P	16 48 20.9	-0.4
	37nm,1.0s,mb4.8,baz=199,slow=16,SNR=3.0						
PPT				S	S	16 52 33.5	+4.9
	5.8nm,0.5s,baz=50,slow=23,SNR=1.8						
PPT				T		17 12 08.5	
	24nm,0.4s,baz=274,slow=23,SNR=4.9						
PPT	Papeete	23.15	99	*e*P	P	16 48 22.0	+0.7
	127nm,1.4s,mb5.2						
PAE	Paea	23.16	99	*e*P	P	16 48 21.6	+0.3
	165nm,1.3s,mb5.3						
TVO	Taravao	23.47	100	*e*P	P	16 48 24.8	+0.4
	222nm,1.4s,mb5.4						
TBI	Tubuai	24.15	113	*e*P	P	16 48 32.4	+1.4
	115nm,1.1s,mb5.2						
URZ	Urewera	24.41	198	P	P	16 48 33.5	+0.2
	7.2nm,0.9s,mb4.1,baz=3.5,slow=8.0,SNR=2.6						
RKT	Rikitea	37.23	108	*e*P	P	16 50 27.9	+0.6
	123nm,1.4s,mb5.6						
CTA	Charters Tower	38.51	257	P	P	16 50 33.1	-4.9
	4.1nm,0.9s,mb4.2						
CTAO	Charters Tower	38.51	257	*e*P	P	16 50 40.1	+2.0
	6.9nm,0.9s,mb4.4						
TOO	Toolangi	42.46	230	*e*P	P	16 51 11.0	+0.5
	8.1nm,0.8s,mb4.4						
STKA	Stephens Creek	43.98	240	*e*P	P	16 51 22.7	-0.3
	6.0nm,0.7s,mb4.4						
STKA	Stephens Creek	43.98	240	P	P	16 51 20.6	-2.4
	2.6nm,0.8s,mb4.0,baz=89,slow=10,SNR=8.0						
WB2	Warramunga Arr	49.70	257	*e*P	P	16 52 07.1	-1.1
WRAB	Tennant Creek	49.71	257	*e*P	P	16 52 07.1	-1.1
	12nm,0.6s,mb5.1						
WRA	Warramunga Arr	49.72	257	P	P	16 52 07.0	-1.2
	9.0nm,0.6s,mb5.0,baz=90,slow=6.9,SNR=168						
ASAR	Alice Springs	50.00	252	P	P	16 52 08.8	-1.7
	51nm,0.7s,mb5.7,baz=87,slow=7.9,SNR=377						
ASPA	Alice Springs	50.01	252	*e*P	P	16 52 08.9	-1.6
KAKA	Kakadu	52.37	266	*e*P	P	16 52 27.3	-1.2
	9.1nm,0.7s,mb4.8						
FORT	Forrest	55.35	243	*e*P	P	16 52 48.4	-1.8
	47nm,0.6s,mb5.7						
FITZ	Fitzroy Crossi	58.08	258	*e*P	P	16 53 11.4	+1.6
	2.5nm,0.8s,mb4.3						
MBWA	Marble Bar	63.24	254	*e*P	P	16 53 44.5	-0.4
	7.6nm,0.9s,mb4.8						
SBA	Scott Base	63.44	185	P	P	16 53 44.3	-1.2
	6.8nm,0.7s,mb4.9						
NWAO	Narrogin (SRO)	64.56	241	*e*P	P	16 53 54.5	+1.0
	1.7nm,0.6s,mb4.2						
ASAJ	Asahikawa	71.27	328	P	P	16 54 35.6	+0.4
	6.3nm,0.7s,mb4.6,baz=153,slow=4.5,SNR=3.6						
LRV	Little Rabbit	71.38	43	P	P	16 54 34.5	-1.5
ASMM	Slate Mountain	73.00	41	*e*P	P	16 54 43.2	-2.5
YSS	Yuzh-Sakhalins	73.21	330	⇑*e*P	P	16 54 46.0	-0.7
YSS	Yuzh-Sakhalins	73.21	330	*e*P	P	16 54 45.9	-0.8
	17nm,0.9s,mb5.0						
MTUM	Tungsten Hills	73.52	43	*e*P	P	16 54 47.8	-0.9
YBH	Yreka Blue Hor	73.54	37	P	P	16 54 48.2	-0.5
	5.1nm,0.8s,mb4.5,baz=223,slow=3.3,SNR=6.0						
MNV	Mina	74.39	42	*e*P	P	16 54 53.0	-0.8
	10nm,1.0s,mb4.7						
QSPA	South Pole Qui	74.85	180	*e*P	P	16 54 57.7	+2.1
	18nm,1.0s,mb5.0						
NEN	Nelson	75.11	46	*e*P	P	16 54 58.1	+0.1
RSO	Redoubt South	77.23	10	*e*P	P	16 55 09.7	+0.3
ELK	Elko	77.55	41	*e*P	P	16 55 11.1	-0.4
	8.4nm,1.0s,mb4.6						
RMW	Rattlesnake Mo	77.64	33	*e*P	P	16 55 11.8	-0.1
MSU	Marysvale	78.41	45	*e*P	P	16 55 16.8	+0.5
RPW	Rockport	78.41	32	*e*P	P	16 55 16.7	+0.6
PMR	Palmer	78.95	12	*e*P	P	16 55 20.2	+1.4
TTA	Tatalina	79.07	8	*e*P	P	16 55 21.6	+2.2
DPW	Davenport	79.82	34	*e*P	P	16 55 23.1	-0.6
DAU	Daniels Canyon	79.97	43	*e*P	P	16 55 24.4	-0.3
LAZ	Ladron	80.06	50	*e*P	P	16 55 25.8	+0.4
KLR	Kul'dur	80.25	327	*e*P	P	16 55 25.0	-1.0
BNM	Barren Site	80.33	51	*e*P	P	16 55 26.4	-0.4
PV10	Paradox Valley	80.50	46	*e*P	P	16 55 27.7	+0.1
TXAR	Lajitas Array	80.65	56	P	P	16 55 28.3	-0.2
	2.5nm,1.0s,mb4.1,baz=225,slow=5.3,SNR=24						
PV01	Paradox Valley	80.71	46	*e*P	P	16 55 29.2	+0.5
ANMO	Albuquerque	80.81	50	⇑*e*P	P	16 55 29.6	+0.3
ANMO				pmax	pmax		
	comp=Z,5.0nm,1.5s						
CN2	Changchun	80.81	320	*e*P	P	16 55 31.2	+2.1
CN2				*e*XP	sP	16 55 38.0	+4.6
CN2				*e*S	S	17 05 40.0	+4.2
CN2				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.9						
MCK	McKinley	80.95	11	*e*P	P	16 55 29.1	-0.4
	comp=Z,11nm,0.8s,mb4.8						
SNY	Shenyang	81.00	318	⇑P	P	16 55 31.1	+1.0
SNY				AMB	AMB		
	comp=Z,50nm,1.9s,mb5.1						
MCMT	McKenzie Canyo	81.21	39	*e*P	P	16 55 30.1	-1.0
GDL2	Guadalupe Moun	81.24	53	*e*P	P	16 55 31.5	-0.1
THY	Trims Highway	81.28	12	*e*P	P	16 55 33.5	+2.4
MSO	Missoula	81.62	37	*e*P	P	16 55 32.0	-1.3
	comp=Z,25nm,1.7s,mb4.9						
CPRX	Cap Rock	81.96	53	*e*P	P	16 55 35.5	+0.2
CHMT	Chamberlain Mo	82.07	37	*e*P	P	16 55 34.8	-0.8
QLMT	Earthquake Lak	82.07	39	*e*P	P	16 55 36.8	+1.2
COLA	College	82.19	11	⇑*e*P	P	16 55 35.5	-0.4
COLA				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
PDAR	Pinedale Array	82.23	42	P	P	16 55 36.0	-0.5
	comp=Z,2.2nm,0.8s,mb4.2,baz=225,slow=4.2,SNR=18						
ILAR	Eielson Array	82.28	11	P	P	16 55 36.3	0.0
	comp=Z,7.1nm,1.1s,mb4.5,baz=215,slow=5.2,SNR=26						
IMA	Indian Mountai	82.38	8	*e*P	P	16 55 36.6	-0.2
SDCO	Great Sand Dun	82.71	48	*e*P	P	16 55 39.1	0.0
	comp=Z,44nm,1.6s,mb5.2						
HRY	Holter Researc	82.79	38	*e*P	P	16 55 37.8	-1.5
DAWY	Dawson	83.26	14	*e*P	P	16 55 41.7	+0.3
BJI	Beijing	85.19	314	P	P	16 55 52.3	+0.6
WMOK	Wichita Mounta	86.52	53	*e*P	P	16 55 56.7	-1.8
	comp=Z,20nm,1.5s,mb5.1						
HIA	Hailar	86.92	323	*e*P	P	16 56 00.3	+0.3
	comp=Z,24nm,1.5s,mb5.2						
GYA	Guiyang	87.79	298	P	P	16 56 11.2	+6.5
GYA				AP	pP	16 56 16.2	+8.3
GYA				XP	sP	16 56 18.6	+10
GYA				AMB	AMB		
	comp=Z,10.0nm,1.4s,mb4.8						
GYA				LR	LR		
	comp=N,180nm,18.4s,MS4.8						
GYA				LR	LR		
	comp=E,240nm,17.6s,MS4.8						
GYA				LR	LR		
	comp=Z,170nm,18.7s,MS4.5						
MAW	Mawson	87.93	199	*e*P	P	16 56 06.6	+2.2
	comp=Z,7.0nm,0.7s,mb5.0						
MAW	Mawson	87.93	199	P	P	16 56 05.5	+1.1
	comp=Z,8.1nm,0.7s,mb5.1,baz=114,slow=6.8,SNR=14						
INK	Inuvik	88.11	14	P	P	16 56 06.0	+0.8
	comp=Z,4.8nm,0.9s,mb4.7,baz=202,slow=10,SNR=2.9						
INK	Inuvik	88.11	14	P	P	16 56 06.9	+1.6
	comp=Z,10nm,1.3s,mb4.9						
HHC	Hu-ho-hao-te	88.75	313	*e*P	P	16 56 10.8	+1.8
HHC				XP	sP	16 56 18.0	+4.7
HHC				PP	PP	16 59 45.8	+5.4
HHC				SKS	SKS	17 06 37.6	-3.5
HHC				S	S	17 07 00.3	+6.3
HHC				AMB	AMB		
	comp=Z,26nm,1.7s,mb5.3						
YAK	Yakutsk	88.85	337	⇑*e*P	P	16 56 08.6	-0.3
YAK				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb5.0						
KMI	Kunming	90.77	296	*e*P	P	16 56 20.5	+1.7
KMI				AMB	AMB		
	comp=Z,7.0nm,1.2s,mb4.9						
SYO	Syowa Base	92.77	191	⇓P	P	16 56 24.6	-2.4
SYO	Syowa Base	92.77	191	⇓pP	pP	16 56 31.7	+1.5
LZH	Lanzhou	92.95	306	*e*P	P	16 56 29.1	+0.5
LZH				AP	pP	16 56 32.3	+0.5
LZH				AMB	AMB		
	comp=Z,36nm,1.5s,mb5.6						
VNA3	Neumayer Olymp	93.08	175	⇓*i*	P	16 56 36.6	+8.2
SNAA	Sanae	93.12	177	⇑*i*	P	16 56 35.4	+6.8
BOD	Bodaibo	93.66	329	*e*P	P	16 56 29.4	-1.9
VNA1	Neumayer--Stat	93.77	175		P	16 56 40.0	+8.4
SONM	Songino Array	94.57	318	P	P	16 56 36.2	+0.5
	comp=Z,0.2nm,0.5s,mb3.8,baz=135,slow=2.0,SNR=2.8						
GTA	Gaotai	96.91	309	*e*P	P	16 56 48.9	+2.3
GTA				AP	pP	16 56 52.4	+2.6
GTA				XP	sP	16 56 55.7	+4.8
GTA				AMB	AMB		
	comp=Z,2.0nm,0.8s,mb4.6						
BVAR	Borovoye Array	117.61	322	PKP	PKPdf	17 02 00.6	-2.3
	comp=Z,1.2nm,0.6s,baz=45,slow=2.1,SNR=7.3						
ZRNK	Zerenda	118.44	322	*e*PKPdf	PKPdf	17 02 02.7	-1.9
ARU	Arti	123.07	328	⇑*i*PKIKP	PKPdf	17 02 13.4	+0.1
ARCES	ARCESS Array B	124.38	352	PKP	PKPdf	17 02 12.1	-3.7
	comp=Z,6.1nm,0.8s,baz=333,slow=5.4,SNR=9.2						
OBN	Obninsk	133.85	336	*e*PKIKP	PKPdf	17 02 33.7	-0.2
OBN				pmax	pmax		
	comp=Z,6.0nm,0.8s						
OBN				MLR	MLR		
	comp=Z,2µm,14.0s,MS6.0						
CLL	Collm	143.59	353	*e*PKIKP	PKPdf	17 02 49.0	-2.6
BRG	Berggiesshubel	143.89	352	*e*PKIKP	PKPdf	17 02 52.8	+0.7
BRG				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KOLS	Kolonicke sedl	143.92	342	*e*PKP	PKPdf	17 02 53.2	+1.0
KOLS				*e*		17 03 06.2	
UPC	Upice	143.93	350	*e*PKP	PKPdf	17 02 52.9	+0.7
DPC	Dobruska-Polom	144.02	349	*e*PKP	PKPdf	17 02 50.5	-1.9
OKC	Ostrava-Krasne	144.15	347	*e*PKP	PKPdf	17 02 50.6	-2.0
CRVS	Cervenica-Dubn	144.19	343	*e*	PKPbc	17 02 57.1	+8.0
MORC	Moravsky Berou	144.33	348	*e*PKPdf	PKPdf	17 02 50.9	-2.0
MOX	Moxa	144.39	354	*i* P	PKPbc	17 02 52.0	+2.4
	comp=Z,logA/T=1.0						
MOX	Moxa	144.39	354	*e*PKIKP	PKPdf	17 02 52.0	-1.0
MOX				pmax	pmax		
	comp=Z,17nm,1.7s						
PRU	Pruhonice	144.67	351	*e*PKP	PKPdf	17 02 52.4	-1.2
PRU				*e*x	x	17 03 20.5	
KECS	Kecovo	144.84	344	*i* PKP	PKPdf	17 02 54.8	+0.9
GIVF	Givet	145.16	2	*e*PKP1	PKPbc	17 02 49.0	-2.7
BAIF	Baives	145.18	2	*e*PKP1	PKPbc	17 02 49.4	-2.4
VYHS	Vyhne	145.25	345	*e*PKIKP	PKPdf	17 02 53.0	-1.6
KOLL	Kolacno	145.27	346	*e*PKP	PKPdf	17 02 57.2	+2.5
GRA1	Grafenberg Arr	145.37	355	*e*PKPbc	PKPbc	17 02 50.7	-1.5
GRF	Grafenberg Arr	145.37	355	*e*PKP2	PKPab	17 02 50.7	-3.1
KMBO	Kilima Mbogo	145.46	245	PKPbc	PKPbc	17 02 54.2	+0.6
	comp=Z,2.6nm,1.0s,baz=65,slow=8.9,SNR=5.4						
PSZ	Piszkesteto	145.51	344	⇑*e*	PKPbc	17 02 53.8	+1.1
PSZ	Piszkesteto	145.51	344	*e*PKPdf	PKPdf	17 02 53.7	-1.4
ELDT	Eldivan	145.53	322	*i* P	PKPbc	17 02 54.3	+1.3
WLF	Walferdange	145.62	0	*e*PKPdf	PKPdf	17 02 54.6	-0.6
KHC	Kasperske Hory	145.65	352	*e*PKP	PKPdf	17 02 54.0	-1.3
AVNT	Avonos	145.69	319	*i* P	PKPbc	17 02 53.6	+0.2
BRTR	Keskin Array B	145.88	321	PKPbc	PKPbc	17 02 55.0	+1.1
	comp=Z,19nm,0.9s,baz=108,slow=1.5,SNR=36						
GERES	GERESS Array B	145.91	351	PKPbc	PKPbc	17 02 54.6	+1.0
	comp=Z,3.2nm,0.7s,baz=333,slow=3.0,SNR=20						
ZST	Bratislava	145.93	347	*i* PKP	PKPdf	17 02 56.0	+0.2
ROSF	Rostrenen	146.00	12	*e*PKP1	PKPbc	17 02 52.1	-1.8
	comp=Z,56nm,1.3s						
FLN	La Foliniere	146.05	8	*e*PKP1	PKPbc	17 02 52.3	-1.7
LDF	La Druitiere	146.26	8	*e*PKP1	PKPbc	17 02 52.8	-1.7
SGKT	Sivrigoynuk	146.28	324	*i* P	PKPbc	17 02 56.0	+1.2
GRR	Gorron	146.36	9	*e*PKP1	PKPbc	17 02 53.8	-0.9
STU	Stuttgart	146.44	357	*e*PKPdf	PKPdf	17 02 56.7	+0.1
MEZF	Maizieres J'vi	146.76	2	*e*PKP1	PKPbc	17 02 55.2	-0.4
MOA	Molln	146.79	350	⇑*i*P	PKPbc	17 02 57.3	+1.6
	comp=Z,22nm,1.1s						
CDF	Champ du Feu	146.87	359	*e*PKP1	PKPbc	17 02 55.6	-0.3
	comp=Z,25nm,0.8s						
ARSA	Arzberg	147.15	349	⇑*i*P	PKPdf	17 02 59.7	+1.8
	comp=Z,19nm,1.2s						
HAU	Haudompre	147.28	0	*e*PKP1	PKPdf	17 02 56.2	-1.9
	comp=Z,44nm,1.0s						
MEST	Erdemli	147.39	316	*i* P	PKPdf	17 02 58.5	-0.1
HINF	Hinteralfeld	147.47	359	*e*PKP1	PKPdf	17 02 56.8	-1.6
WATA	Walderalm	147.66	353	⇑*i*P	PKPdf	17 03 01.8	+3.1
	comp=Z,15nm,1.0s						
ESKT	Eskisehir	147.67	323	*i* P	PKPdf	17 02 58.1	-0.8
KBA	Koelnbreinsper	147.69	351	⇑*i*P	PKPdf	17 03 01.7	+3.0
	comp=Z,22nm,1.1s						
MOTA	Moosalm	147.71	354	⇓*i*P	PKPdf	17 03 00.2	+1.4
	comp=Z,25nm,1.2s						
WTTA	Wattenberg	147.73	353	⇑*i*P	PKPdf	17 03 01.8	+3.0
	comp=Z,37nm,1.4s						
SQTA	Sankt Quirin	147.82	354	⇑*i*P	PKPdf	17 03 02.5	+3.6
	comp=Z,16nm,1.1s						
DAVA	Damuels	147.87	356	⇑*i*P	PKPdf	17 03 02.2	+3.2
	comp=Z,41nm,1.1s						
LOR	Lormes	147.95	3	*e*PKP1	PKPdf	17 02 58.1	-1.0
	comp=Z,59nm,1.1s						
SSF	Saint Saulge	148.13	4	*e*PKP1	PKPdf	17 02 58.7	-0.7
	comp=Z,61nm,1.0s						
ULDT	Uludag	148.20	326	*i* P	PKPdf	17 02 59.7	-0.1
MFF	Saint Martin d	148.21	9	*e*PKP1	PKPdf	17 02 58.5	-1.1
AVF	Avril sur Loir	148.39	4	*e*PKP1	PKPdf	17 02 59.1	-0.8
	comp=Z,26nm,0.9s						
SMF	Signal de Mont	148.57	3	*e*PKP1	PKPdf	17 02 59.6	-0.6
	comp=Z,96nm,1.4s						
BGF	Bois d'Agland	148.59	5	*e*PKP1	PKPdf	17 03 02.8	+2.6
	comp=Z,61nm,1.1s						
BRMO	Bormio	148.63	355	*e*P	PKPdf	17 03 04.0	+3.7
CABF	La Chapelle	148.67	0	*e*PKP1	PKPdf	17 02 59.7	-0.6
	comp=Z,98nm,1.3s						
PGB	Panagyurishte	148.75	334	*e*P	PKPdf	17 03 04.0	+3.4
TCF	Toulx Ste Croi	148.80	6	*e*PKP1	PKPdf	17 03 00.3	-0.2
	comp=Z,68nm,1.5s						
GRUS	Gruza	148.91	340	⇓*i*P	PKPdf	17 03 04.0	+3.2
DIVS	Divcibare	148.96	341	*e*P	PKPdf	17 03 00.3	-0.6
VTS	Vitosha	149.11	335	*e*P	PKPdf	17 03 05.0	+3.8
RZN	Rozhen	149.22	333	*e*P	PKPdf	17 03 06.0	+4.6
BARS	Barje	149.45	337	⇑*i*P	PKPdf	17 03 03.6	+1.9
RJF	Les Rejaudoux	149.70	7	*e*PKP1	PKPdf	17 03 05.0	+3.0
	comp=Z,61nm,1.4s						
MMB	Musomiste	149.73	334	*e*P	PKPdf	17 03 05.0	+2.8
KKB	Krupnik	149.77	335	*e*P	PKPdf	17 03 06.0	+3.8
LPL	La Plagne	149.77	360	*e*PKP1	PKPdf	17 03 05.6	+3.5
	comp=Z,24nm,0.8s						
LPG	La Plagne	149.79	360	*e*PKP1	PKPdf	17 03 05.2	+3.0
	comp=Z,16nm,0.7s						
EIL	Elat	150.05	304	*e*PKPbc	PKPdf	17 03 06.0	+2.9
CAF	Calviac	150.13	6	*e*PKP1	PKPdf	17 03 07.2	+4.5
BNI	Bardonecchia	150.23	360	*e*PKPbc	PKPdf	17 03 08.8	+5.9
BNI				*e*PKPab	PKPab	17 03 15.5	+2.1
SKO	Skopje	150.33	337	*i* PKP	PKPdf	17 03 08.0	+4.9
ORIF	Oris-en-Rattie	150.37	1	*e*PKP1	PKPdf	17 03 06.2	+3.1
	comp=Z,58nm,1.3s						
VIVF	Saint-Julien-l	150.39	3	*e*PKP1	PKPdf	17 03 06.5	+3.4
	comp=Z,78nm,1.3s						
MBDF	Montbardon	150.56	359	*e*PKP1	PKPdf	17 03 05.5	+2.1
	comp=Z,39nm,1.1s						
LASF	Ste Croix	151.13	4	*e*PKP1	PKPdf	17 03 07.6	+3.4
	comp=Z,50nm,1.2s						
SBF	Sospel	151.41	358	*e*PKP1	PKPdf	17 03 06.5	+1.8
	comp=Z,37nm,0.9s						
MTLF	Montolieu	151.72	6	*e*PKP1	PKPdf	17 03 08.8	+3.7
	comp=Z,43nm,1.5s						
ETSF	Etsaut	151.75	11	*e*PKP1	PKPdf	17 03 09.5	+4.3
	comp=Z,62nm,1.4s						
EVO	Evora	153.50	26	*e*PKP1	PKPdf	17 03 22.0	+14
ESDC	Sonseca Array	153.97	18	PKPbc	PKPdf	17 03 15.8	+7.4
	comp=Z,0.7nm,0.7s,baz=344,slow=1.1,SNR=3.2						
ESDC				PKPab	PKPab	17 03 28.9	-0.3
	comp=Z,1.7nm,0.8s,baz=348,slow=4.1,SNR=5.8						

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*IDC **05** 16:44:24.1±2.4, 0.52N×67.57E, mb3.8/4, mb1 3.9/4, mb1mx3.6/16, Error ellipse: s-maj=80.6km s-min=35.4km az=68.0*

*NEIC **05** 16:44:26.3±8.9, 0.50N×67.43E, h16^{km}±55^{km}, mb3.9/3, Error ellipse: s-maj=25.5km s-min=18.8km az=132.0*

ISC 05 16:44:23.4±1.1**, 0.6N**±0.2×**67.4E**±0.2**, h10^{km}, n9,** σ**0^{s}72**/8**, mb3.9**/7**, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PALK	Pallekele	14.84	63	*e*P	P	16 47 55.9	+0.6
	2.8nm,0.5s						
LSZ	Lusaka	41.84	246	P	P	16 52 16.0	+0.5
	0.9nm,0.3s,mb3.9						
MKAR	Makanchi Array	47.86	14	P	P	16 53 03.2	-0.2
	1.0nm,0.8s,mb3.9,baz=202,slow=6.5,SNR=6.5						
KURK	Kurchatov	50.88	9	*e*P	P	16 53 26.5	-0.1
	0.9nm,0.6s,mb3.9						
ZRNK	Zerenda	52.24	1	*e*P	P	16 53 36.8	0.0
	1.7nm,0.7s,mb4.1						
ZAL	Zalesovo	55.12	12	P	P	16 53 56.9	-1.2
	0.8nm,0.6s,mb3.9,baz=184,slow=6.9,SNR=6.3						
SONM	Songino Array	57.94	30	P	P	16 54 19.5	+1.2
	0.6nm,0.7s,mb3.8,baz=220,slow=6.5,SNR=5.6						
WRA	Warramunga Arr	68.56	112	P	P	16 55 28.1	-0.8
	0.8nm,0.7s,mb3.8,baz=292,slow=5.4,SNR=3.3						
TXAR	Lajitas Array	149.09	345	PKPbc	PKPdf	17 04 15.3	+3.9
	0.8nm,0.7s,baz=68,slow=3.5,SNR=9.5						

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*NEIC **05** 16:49:25.0±0.4, 33.10N×137.28E, h10^{km}, mb4.3/3, Error ellipse: s-maj=11.2km s-min=7.9km az=97.0*

*JMA **05** 16:49:26.3±0.1, 33.15N×137.16E, h40^{km}±3^{km}, M4.4*

JMA Felt I J1.

*IDC **05** 16:49:28.9±0.6, 33.12N×137.32E, h36^{km}±4^{km}, mb3.8/11, mb1 3.9/14, mb1mx3.8/26, ML3.6/3, Error ellipse: s-maj=21.1km s-min=12.1km az=67.0*

ISC 05 16:49:26.8±0.4**, 33.16N**±0.03×**137.18E**±0.03**, h38^{km}, h38^{km}**±.6^{km}**:pP-P, n41,** σ**1^{s}02**/52**, mb4.0**/13**, 7D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TK01	Tokai 1	0.69	29	P	P	16 49 39.9	-0.3
TK01				*e*S	S	16 49 49.6	-0.3
TK02	Tokai 2	0.92	31	P	P	16 49 43.3	-0.1
TK02				*e*S	S	16 49 55.9	+0.3
TK03	Tokai 3	1.20	33	P	P	16 49 47.1	-0.2
JWZ	Kozaga	1.28	287	⇓P	P	16 49 48.0	-0.5
JWZ				*e*S	S	16 50 03.1	-1.7
JIE	Ise	1.29	342	⇓P	P	16 49 49.0	+0.3
JIE				*e*S	S	16 50 05.2	+0.1
JKN	Kiinagashima	1.33	325	⇓P	P	16 49 49.1	-0.2
JKN				*e*S	S	16 50 04.5	-1.5
TK04	Tokai 4	1.35	25	P	P	16 49 49.6	0.0
TK04				*e*S	S	16 50 06.5	-0.1
TSUJ	Tsu 2	1.67	338	⇓P	P	16 49 54.3	+0.1
TSUJ				*e*S	S	16 50 14.6	0.0
JWM	Minabe	1.67	295	P	P	16 49 53.8	-0.4
JWY	Kouya	1.69	309	⇓P	P	16 49 54.8	+0.3
JWY				*e*S	S	16 50 14.6	-0.5
JHE	Heguri	1.94	321	⇓P	P	16 49 58.1	+0.1
JHE				*e*S	S	16 50 20.9	-0.5
JHJ	Hachijo jima 2	2.18	90	Pn	P	16 50 01.5	0.0
	61nm,0.3s,baz=236,slow=23,SNR=8.4						
JHJ				Sn	S	16 50 25.6	-2.0
	118nm,0.3s,baz=82,slow=23,SNR=14						
JHJ2	Mitsune	2.21	91	P	P	16 50 01.4	-0.5
JGM	Miyama	2.56	352	⇓P	P	16 50 07.0	+0.1
JYN	Shimob	2.59	25	P	P	16 50 07.7	+0.4
JOD2	Odawara 2	2.63	36	P	P	16 50 08.7	+0.9
MAJO	Matsushiro	3.48	14	*e*Pn	P	16 50 20.4	+0.4
MAT	Matsushiro	3.48	14	P	P	16 50 20.1	+0.2
MAT				S	S	16 50 59.5	-0.9
MAT	Matsushiro	3.48	14	*e*P	P	16 50 20.0	+0.1
MAT				*e*S	S	16 51 00.0	-0.4
JNU	Nakatsue	5.29	271	Pn	P	16 50 44.1	-1.3
	1.7nm,0.3s,baz=64,slow=11,SNR=6.9						
JNU				Sn	S	16 51 41.5	-4.5
	2.4nm,0.3s,baz=94,slow=17,SNR=4.1						
ASAJ	Asahikawa	11.73	20	Pn	P	16 52 12.2	-2.4
	0.7nm,0.3s,baz=250,slow=14,SNR=8.3						
YSS	Yuzh-Sakhalins	14.42	16	P	P	16 52 46.9	-3.2
BJT	Baijiatuau	18.19	298	P	P	16 53 39.5	+1.4
	23nm,1.7s						
SONM	Songino Array	27.40	311	P	P	16 55 11.2	+0.5
	2.2nm,0.8s,mb3.7,baz=120,slow=8.0,SNR=16						
MKAR	Makanchi Array	43.36	305	P	P	16 57 28.9	+1.8
	1.8nm,0.6s,mb4.0,baz=92,slow=9.9,SNR=17						
KURK	Kurchatov	45.70	311	*e*P	P	16 57 46.5	+0.7
	2.8nm,0.8s,mb4.2						
BVAR	Borovoye Array	50.69	314	P	P	16 58 25.2	+0.7
	0.2nm,0.3s,mb3.5,baz=31,slow=46,SNR=4.0						
BVAR				pP	pP	16 58 36.6	+1.3
	0.9nm,0.6s,baz=104,slow=6.1,SNR=5.1						
FITZ	Fitzroy Crossi	52.15	194	P	P	16 58 35.7	-0.3
	1.7nm,0.6s,mb4.1,baz=141,slow=6.2,SNR=5.8						
FITZ				pP	pP	16 58 46.7	-0.1
	2.4nm,0.9s,baz=358,slow=11,SNR=2.7						
WRAB	Tennant Creek	52.86	183	*e*P	P	16 58 40.2	-1.1
	5.0nm,0.9s,mb4.4						
WRA	Warramunga Arr	52.87	183	P	P	16 58 40.2	-1.1
	1.6nm,0.6s,mb4.1,baz=0.2,slow=7.7,SNR=21						
WRA				pP	pP	16 58 51.2	-1.1
	1.3nm,0.8s,baz=359,slow=7.6,SNR=5.1						
ASAR	Alice Springs	56.59	184	P	P	16 59 07.7	-0.7
	1.0nm,0.6s,mb4.0,baz=14,slow=12,SNR=16						
ASAR				pP	pP	16 59 19.1	-0.5
	0.9nm,0.6s,baz=16,slow=9.6,SNR=5.8						
STKA	Stephens Creek	64.82	176	P	P	17 00 03.2	-0.9
	2.8nm,0.7s,mb4.4,baz=68,slow=6.4,SNR=6.2						
STKA				pP	pP	17 00 14.8	-0.7
	2.0nm,0.7s,baz=57,slow=3.7,SNR=3.0						
STKA	Stephens Creek	64.82	176	P	P	17 00 03.2	-0.9
STKA				pP	pP	17 00 14.8	-0.7
AKASG	Malin Array Be	75.19	321	P	P	17 01 07.5	+0.7
	0.8nm,0.5s,mb3.9,baz=49,slow=6.4,SNR=5.4						
AKASG				pP	pP	17 01 19.0	+0.7
	1.5nm,0.6s,baz=46,slow=5.8,SNR=3.6						
BRTR	Keskin Array B	78.75	310	P	P	17 01 29.4	+2.3
	0.7nm,0.8s,mb3.7,baz=72,slow=7.8,SNR=4.2						
BRTR				pP	pP	17 01 40.2	+1.7
	1.8nm,0.9s,baz=108,slow=3.9,SNR=5.6						
CLL	Collm	82.65	328	P	P	17 01 49.0	+1.6
PRU	Pruhonice	82.89	327	*e*P	pP	17 01 58.5	-1.7
KHC	Kasperske Hory	83.94	327	*e*P	pP	17 02 07.0	+1.4
GERES	GERESS Array B	84.09	326	P	P	17 01 56.2	+1.5
	0.2nm,0.5s,mb3.5,baz=11,slow=5.0,SNR=3.6						
GERES				pP	pP	17 02 07.3	+1.0
	1.2nm,0.7s,baz=34,slow=4.8,SNR=9.6						
PV10	Paradox Valley	85.94	46	*e*P	P	17 02 06.3	+2.0
TXAR	Lajitas Array	95.25	50	P	P	17 02 50.4	+2.4
	0.3nm,0.3s,mb4.2,baz=252,slow=4.0,SNR=4.8						

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*BJI **05** 16:50:57.7, 32.82N×137.38E, h28^{km}, mb3.9*

*IDC **05** 16:50:57.2±0.8, 33.19N×137.15E, mb4.0/9, mb1 4.1/11, mb1mx4.0/25, ML3.5/2, MS4.5/1, Ms1 4.5/1, ms1mx4.0/32, Error ellipse: s-maj=26.5km s-min=18.9km az=61.0*

*NEIC **05** 16:50:59.1±6.3, 33.19N×137.15E, h13^{km}±39^{km}, mb4.4/1, Error ellipse: s-maj=17.4km s-min=14.6km az=83.0*

*JMA **05** 16:50:59.7±0.1, 33.18N×137.10E, h38^{km}±3^{km}, M4.2*

ISC 05 16:50:59.9±1.2**, 33.21N**±0.04×**137.12E**±0.04**, h31^{km}**±9^{km}**, n40,** σ**0^{s}93**/48**, mb3.9**/10**, 6D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TK01	Tokai 1	0.68	35	P	Pb	16 51 13.3	+0.1
TK02	Tokai 2	0.91	36	P	Pn	16 51 16.8	+0.2
TK02				*e*S	Sn	16 51 29.0	+0.3
TK03	Tokai 3	1.18	36	P	Pn	16 51 20.6	0.0
TK03				*e*S	Sn	16 51 35.9	+0.2
JWZ	Kozaga	1.22	286	⇓P	Pn	16 51 20.5	-0.6
JWZ				*e*S	Sn	16 51 35.3	-1.4
JIE	Ise	1.23	344	⇓P	Pn	16 51 21.7	+0.5
JIE				*e*S	Sn	16 51 37.1	+0.2
JKN	Kiinagashima	1.26	326	⇓P	Pn	16 51 21.6	-0.1
JKN				*e*S	Sn	16 51 36.6	-1.1
TK04	Tokai 4	1.33	28	P	Pn	16 51 23.0	+0.3
TK04				*e*S	Sn	16 51 39.7	+0.3
TSUJ	Tsu 2	1.60	339	P	Pn	16 51 27.0	+0.4
TSUJ				*e*S	Sn	16 51 46.1	-0.4
JWM	Minabe	1.61	294	P	Pn	16 51 26.3	-0.4
JWY	Kouya	1.62	309	⇓P	Pn	16 51 27.3	+0.4
JHE	Heguri	1.87	321	⇓P	Pn	16 51 30.6	+0.2
JHE				*e*S	Sn	16 51 52.9	-0.3

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
JHJ	Hachijo jima 2	2.23	92	Pn	Pn	16 51 35.6	0.0
	37nm,0.3s,baz=92,slow=22,SNR=3.2						
JHJ				Sn	Sn	16 52 00.3	-2.1
	138nm,0.3s,baz=252,slow=24,SNR=14						
JIM2	Oshima 3	2.44	51	P	Pn	16 51 38.9	+0.4
JGM	Miyama	2.50	352	P	Pn	16 51 40.0	+0.5
JWT	Wachi	2.51	326	⇓P	Pn	16 51 39.9	+0.3
MAJO	Matsushiro	3.44	15	*e*Pn	Pn	16 51 53.3	+0.5
MAT	Matsushiro	3.44	15	P	Pn	16 51 53.5	+0.7
MAT				S	Sn	16 52 32.2	-0.8
MAT	Matsushiro	3.44	15	*e*P	Pn	16 51 54.0	+1.2
MAT				*e*S	Sn	16 52 32.0	-1.0
JNU	Nakatsue	5.24	271	LR	LR	16 53 44.9	
	comp=Z,4µm,18.1s,baz=81,slow=32						
ASAJ	Asahikawa	11.70	20	Pn	P	16 53 45.4	-2.4
	0.4nm,0.3s,baz=234,slow=15,SNR=6.3						
YSS	Yuzh-Sakhalins	14.38	16	*e*P	P	16 54 20.8	-2.5
XAN	Xi'an	23.47	280	P	P	16 56 08.6	+0.9
SONM	Songino Array	27.33	311	P	P	16 56 42.9	-1.0
	0.7nm,0.7s,mb3.3,baz=104,slow=10,SNR=3.8						
SONM	Songino Array	27.33	311	P	P	16 56 42.9	-1.0
LSA	Lhasa	39.13	278	P	P	16 58 28.0	+1.5
ZAL	Zalesovo	42.05	316	P	P	16 58 49.3	-0.8
	0.7nm,0.2s,mb3.9,baz=45,slow=6.4,SNR=2.4						
MKAR	Makanchi Array	43.29	305	P	P	16 59 01.9	+1.5
	1.5nm,0.7s,mb3.8,baz=92,slow=9.9,SNR=6.0						
KURK	Kurchatov	45.63	311	*e*P	P	16 59 19.2	+0.1
	4.4nm,1.0s,mb4.3						
BVAR	Borovoye Array	50.62	314	P	P	16 59 59.3	+1.5
	0.9nm,0.7s,mb3.8,baz=90,slow=7.2,SNR=4.6						
FITZ	Fitzroy Crossi	52.19	194	P	P	17 00 10.2	0.0
	1.7nm,0.9s,mb4.0,baz=208,slow=20,SNR=2.2						
WRA	Warramunga Arr	52.92	183	P	P	17 00 14.5	-1.2
	0.3nm,0.6s,mb3.4,baz=16,slow=8.9,SNR=3.8						
ASAR	Alice Springs	56.64	184	P	P	17 00 41.8	-1.0
	0.9nm,0.9s,mb3.8,baz=11,slow=8.6,SNR=5.0						
AKASG	Malin Array Be	75.12	321	P	P	17 02 40.8	+0.3
	1.4nm,0.5s,mb4.2,baz=50,slow=6.5,SNR=6.3						
GZT	Gaziantep	77.38	306	*i* P	P	17 02 53.4	-0.2
KHC	Kasperske Hory	83.87	327	*e*P	P	17 03 23.6	-4.0
PV10	Paradox Valley	85.94	46	*e*P	P	17 03 39.8	+1.5
TXAR	Lajitas Array	95.25	50	P	P	17 04 23.8	+1.7
	1.9nm,1.1s,mb4.5,baz=270,slow=3.8,SNR=6.3						
TXAR	Lajitas Array	95.25	50	P	P	17 04 23.8	+1.7
SAML	Samuel	149.43	42	PKPbc	PKPdf	17 10 48.0	+0.7
LPAZ	La Paz	151.66	60	PKPbc	PKPdf	17 10 54.4	+3.9
	2.7nm,0.3s,baz=305,slow=7.8,SNR=11						

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*BJI **05** 16:53:10.9,32.53N×137.73E,h10^{km},mb4.5*
*IDC **05** 16:53:17.6±0.7,33.29N×136.96E,mb4.1/12,mb1 4.2/14, mb1mx4.1/23,ML2.9/2,Error ellipse: s-maj=23.5km s-min=14.9km az=65.0*
*JMA **05** 16:53:18.9±0.1,33.28N×136.95E,h42^{km}±4^{km},M3.8*
*NEIC **05** 16:53:19.1±0.3,33.30N×136.93E,h10^{km},mb4.4/9,Error ellipse: s-maj=7.6km s-min=6.0km az=93.0*
ISC 05 16:53:17.9±1.6,33.30N±0.03×136.94E±0.03,h14^{km}±10^{km}, n47,σ0ˢ90/55,mb4.2/21,3C-1D,Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	Tokai 1	0.71	50	P	Pb	16 53 32.8	+1.2
TK02	Tokai 2	0.94	47	P	Pb	16 53 35.6	+0.1
TK02				*e*S	Sb	16 53 48.3	+0.7
JWZ	Kozaga	1.05	283	⇑P	Pb	16 53 37.5	+0.1
JWZ				*e*S	Sb	16 53 50.8	+0.1
JKN	Kiinagashima	1.10	329	⇓P	Pb	16 53 38.6	+0.4
JKN				*e*S	Sb	16 53 51.9	-0.3
JIE	Ise	1.10	350	⇑P	Pb	16 53 39.0	+0.7
TK03	Tokai 3	1.21	45	P	Pb	16 53 39.7	-0.5
TK03				*e*S	Sb	16 53 55.5	-0.1
TK04	Tokai 4	1.33	36	P	Pb	16 53 41.6	-0.6
TK04				*e*S	Sb	16 53 58.3	-0.7
JWM	Minabe	1.43	293	P	Pn	16 53 43.5	-0.1
JWM				*e*S	Sb	16 54 00.9	-0.9
JWY	Kouya	1.45	310	*e*S	Sb	16 54 01.6	-0.7
TSUJ	Tsu 2	1.47	343	P	Pn	16 53 44.2	0.0
TSUJ				*e*S	Sb	16 54 02.0	-1.0
JHE	Heguri	1.70	323	P	Pn	16 53 47.6	+0.1
JHJ	Hachijo jima 2	2.39	94	Pn	Pn	16 53 57.3	-0.1
	20nm,0.3s,baz=284,slow=12,SNR=4.0						
JHJ				Sn	Sn	16 54 24.5	-2.2
	12nm,0.3s,baz=97,slow=17,SNR=5.8						
JGM	Miyama	2.40	356	⇑P	Pn	16 53 57.5	0.0
JYN	Shimob	2.56	31	P	Pn	16 53 59.1	-0.7
JOD2	Odawara 2	2.65	42	P	Pn	16 54 00.4	-0.6
MAJO	Matsushiro	3.40	18	*e*Pn	Pn	16 54 11.5	-0.2
MAT	Matsushiro	3.40	18	P	Pn	16 54 11.6	-0.1
MAT				S	Sn	16 54 51.7	-0.5
MAT	Matsushiro	3.40	18	*e*P	Pn	16 54 12.0	+0.3
MAT				*e*S	Sn	16 54 52.0	-0.2
JNU	Nakatsue	5.08	270	Pn	Pn	16 54 34.8	-0.8
	0.3nm,0.3s,baz=40,slow=5.9,SNR=2.0						
ENH	Enshi	23.50	270	*e*P	P	16 58 29.8	+1.5
	13nm,0.9s,mb4.4						
SONM	Songino Array	27.16	311	P	P	16 59 02.1	-0.4
	0.7nm,0.7s,mb3.3,baz=116,slow=9.1,SNR=4.7						
LSA	Lhasa	38.97	277	*e*P	P	17 00 45.8	+0.4
WMQ	Urumqi	39.39	300	*e*P	P	17 00 51.6	+2.8
WMQ				AP	pP	17 00 56.3	+3.4
WMQ				XP	sP	17 00 58.6	+4.0
WMQ				AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.4						
ZAL	Zalesovo	41.87	316	PcP	PcP	17 03 03.8	-1.7
	comp=Z,1.1nm,0.3s,baz=282,slow=6.0,SNR=4.9						
MKAR	Makanchi Array	43.12	305	P	P	17 01 20.4	+1.1
	comp=Z,5.0nm,1.1s,mb4.2,baz=93,slow=9.6,SNR=10						
MKAR				PcP	PcP	17 03 09.5	-0.1
	comp=Z,1.4nm,0.8s,baz=90,slow=7.3,SNR=3.7						
MKAR	Makanchi Array	43.12	305	P	P	17 01 20.4	+1.1
MKAR				PcP	PcP	17 03 09.5	-0.2
KURK	Kurchatov	45.46	311	*e*P	P	17 01 38.7	+0.6
	comp=Z,5.8nm,1.0s,mb4.4						
AAK	Ala-Archa	49.10	300	*e*P	P	17 02 06.8	0.0
	comp=Z,1.9nm,0.6s,mb4.3						
BVAR	Borovoye Array	50.45	314	P	P	17 02 17.6	+0.6
	comp=Z,1.7nm,0.8s,mb4.1,baz=101,slow=7.3,SNR=4.9						
BVAR				PcP	PcP	17 03 34.9	-0.6
	comp=Z,1.1nm,0.6s,baz=117,slow=3.2,SNR=3.8						
ZRNK	Zerenda	51.28	314	P	P	17 02 22.4	-0.9
	comp=Z,7.4nm,1.1s,mb4.5						
FITZ	Fitzroy Crossi	52.24	194	P	P	17 02 30.6	-0.4
	comp=Z,2.5nm,0.7s,mb4.3,baz=26,slow=6.2,SNR=3.9						
WRAB	Tennant Creek	52.99	183	*e*P	P	17 02 35.2	-1.5
	comp=Z,7.7nm,0.9s,mb4.6						
WRA	Warramunga Arr	53.00	183	P	P	17 02 35.8	-0.9
	comp=Z,4.2nm,0.8s,mb4.4,baz=2.9,slow=7.9,SNR=20						
CTA	Charters Tower	53.83	169	P	P	17 02 42.6	-0.1
	comp=Z,2.4nm,0.8s,mb4.2,baz=343,slow=14,SNR=3.0						
CTAO	Charters Tower	53.83	169	*e*P	P	17 02 42.4	-0.3
	comp=Z,1.0nm,0.6s,mb3.9						
ASAR	Alice Springs	56.72	183	P	P	17 03 02.8	-0.9
	comp=Z,1.3nm,0.6s,mb4.2,baz=18,slow=11,SNR=20						
ASPA	Alice Springs	56.72	183	*e*P	P	17 03 03.8	+0.1
STKA	Stephens Creek	64.98	176	P	P	17 03 58.6	-1.1
	comp=Z,3.0nm,0.9s,mb4.3,baz=331,slow=8.2,SNR=4.0						
ARCES	ARCESS Array B	66.18	339	P	P	17 04 06.3	-0.3
	comp=Z,3.3nm,0.9s,mb4.3,baz=51,slow=7.8,SNR=4.4						
FINES	FINESS Array B	70.37	332	P	P	17 04 32.1	-0.8
	comp=Z,0.3nm,0.5s,mb3.5,baz=34,slow=10.0,SNR=4.5						
ELK	Elko	80.76	47	*e*P	P	17 05 34.5	+2.1
	comp=Z,1.2nm,0.9s,mb3.8						
TPNV	Topopah Spring	82.36	51	*e*P	P	17 05 41.1	+0.4
	comp=Z,3.0nm,1.0s,mb4.2						
BW06	Boulder Array	82.89	43	P	P	17 05 44.6	+1.3
	comp=Z,1.5nm,1.0s,mb4.0						
PDAR	Pinedale Array	82.89	43	P	P	17 05 44.8	+1.4
	comp=Z,0.8nm,0.9s,mb3.8,baz=297,slow=3.3,SNR=5.2						
PV10	Paradox Valley	85.99	46	*e*P	P	17 06 01.1	+2.0
PV10				*e*		17 06 08.3	
TXAR	Lajitas Array	95.31	50	P	P	17 06 44.6	+1.6
	comp=Z,0.6nm,0.8s,mb4.1,baz=257,slow=2.4,SNR=5.1						
SAML	Samuel	149.47	42	*e*PKPbc	PKPdf	17 13 08.1	+1.9
SAML				*e*PKPab	PKPab	17 13 13.2	-1.3

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*IDC **05** 16:58:13.2±6.7,33.23N×137.80E,mb3.5/4,mb1 3.7/4, mb1mx3.5/19,Error ellipse: s-maj=272.0km s-min=29.0km az=61.0*
ISC 05 16:58:16.0±1.1,33.2N±0.1×137.8E±0.4,h33^{km},n5, σ0ˢ64/5,mb3.5/4,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MAT	Matsushiro	3.35	5	P	P	16 59 07.2	0.0
MKAR	Makanchi Array	43.79	305	P	P	17 06 20.1	0.0
	0.5nm,0.7s,mb3.3,baz=90,slow=10,SNR=3.9						
WRA	Warramunga Arr	52.95	184	P	P	17 07 30.8	-0.7
	0.5nm,0.8s,mb3.5,baz=360,slow=7.7,SNR=4.5						
ASAR	Alice Springs	56.67	184	P	P	17 07 59.4	+0.7
	0.3nm,0.8s,mb3.4,baz=20,slow=10,SNR=4.6						
STKA	Stephens Creek	64.83	176	P	P	17 08 53.9	0.0
	1.0nm,0.8s,mb3.9,baz=165,slow=22,SNR=2.5						

JMA 05 16:58:51.9±0.1,33.19N×137.21E,h41^{km},M3.6,1D,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK02	Tokai 2	0.88	31	P	P	16 59 07.9	-0.1
TK03	Tokai 3	1.16	33	P	P	16 59 11.7	-0.1
JIE	Ise	1.27	341	P	P	16 59 14.4	+0.9
JIE				S	S	16 59 29.6	0.0
JWZ	Kozaga	1.30	286	P	P	16 59 13.9	0.0
JWZ				S	S	16 59 29.3	-1.0
TK04	Tokai 4	1.31	25	P	P	16 59 14.2	0.0
TK04				S	S	16 59 30.7	-0.1
JKN	Kiinagashima	1.32	323	S	S	16 59 29.8	-1.1
JAA	Atsumi	1.44	358	⇓P	P	16 59 16.2	+0.2
JAA				S	S	16 59 33.8	-0.1
TSUJ	Tsu 2	1.65	337	S	S	16 59 39.0	-0.1
JWM	Minabe	1.68	293	P	P	16 59 19.6	+0.2
JWY	Kouya	1.69	308	P	P	16 59 20.4	+0.8
JWY				S	S	16 59 40.1	-0.1
JHE	Heguri	1.93	319	P	P	16 59 23.9	+0.9
JHE				S	S	16 59 46.2	0.0

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*JMA **05** 17:00:51.2±0.1,33.10N×136.98E,h40^{km},M3.5*
ISC 05 17:00:51.4±1.4,33.16N±0.09×136.97E±0.05,h26^{km}±10^{km}, n12,σ0ˢ50/21,1C-4D,Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK02	Tokai 2	1.02	40	P	Pn	17 01 09.8	-0.4
TK02				S	Sb	17 01 23.7	+0.3
JWZ	Kozaga	1.11	290	⇑P	Pn	17 01 10.9	-0.5
JWZ				S	Sb	17 01 25.1	-0.7
JKN	Kiinagashima	1.23	332	P	Pn	17 01 13.4	+0.3
JKN				S	Sn	17 01 28.6	-0.4
JIE	Ise	1.25	350	⇓P	Pn	17 01 13.9	+0.6
JIE				S	Sn	17 01 29.8	+0.4
TK03	Tokai 3	1.30	40	P	Pn	17 01 13.7	-0.5
TK03				S	Sn	17 01 30.6	-0.2
TK04	Tokai 4	1.44	32	P	Pn	17 01 15.9	-0.2
JAA	Atsumi	1.47	6	⇓P	Pn	17 01 16.8	+0.2
JWM	Minabe	1.51	297	P	Pn	17 01 17.1	0.0
JWM				S	Sn	17 01 35.6	-0.5
JWY	Kouya	1.56	313	P	Pn	17 01 18.6	+0.8
JWY				S	Sn	17 01 37.4	+0.2
TSUJ	Tsu 2	1.61	344	⇓P	Pn	17 01 19.0	+0.5
JHE	Heguri	1.83	325	⇓P	Pn	17 01 22.3	+0.6
JHE				S	Sn	17 01 44.6	+0.4
MAT	Matsushiro	3.52	16	P	Pn	17 01 46.2	+0.4
MAT				S	Sn	17 02 26.0	-1.2

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*IDC **05** 17:09:23.5±1.4,32.92N×137.46E,mb3.4/3,mb1 3.6/3, mb1mx3.4/21,Error ellipse: s-maj=32.3km s-min=24.5km az=4.0*
*JMA **05** 17:09:24.0±0.1,33.22N×137.21E,h38^{km}±2^{km},M4.0*
ISC 05 17:09:24.4±0.8,33.23N±0.06×137.20E±0.04,h39^{km}±15^{km}, n19,σ0ˢ58/29,mb3.4/3,6D,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	Tokai 1	0.62	31	P	P	17 09 36.4	-0.3
TK02	Tokai 2	0.85	33	⇓P	P	17 09 39.9	0.0
TK02				*e*S	S	17 09 51.6	+0.2
TK03	Tokai 3	1.13	34	P	P	17 09 43.8	-0.1
TK03				*e*S	S	17 09 58.4	0.0
JIE	Ise	1.23	341	⇓P	P	17 09 46.0	+0.7
JIE				*e*S	S	17 10 01.9	+0.9
JWZ	Kozaga	1.28	284	⇓P	P	17 09 46.1	+0.1
JWZ				*e*S	S	17 10 01.3	-1.0
TK04	Tokai 4	1.28	26	⇓P	P	17 09 46.2	+0.1
TK04				*e*S	S	17 10 02.2	-0.1
JKN	Kiinagashima	1.28	323	⇓P	P	17 09 46.3	+0.2
JKN				*e*S	S	17 10 01.3	-1.1
TSUJ	Tsu 2	1.61	336	P	P	17 09 51.2	+0.3
JWM	Minabe	1.66	292	P	P	17 09 51.8	+0.3
JWM				*e*S	S	17 10 11.2	-0.6
JWY	Kouya	1.66	307	⇓P	P	17 09 52.3	+0.7
JWY				*e*S	S	17 10 11.9	0.0
JHJ	Hachijo jima 2	2.17	92	Pn	P	17 09 58.9	+0.1
	34nm,0.3s,baz=63,slow=19,SNR=5.8						
JHJ				Sn	S	17 10 23.4	-1.3
	38nm,0.3s,baz=46,slow=20,SNR=9.9						
JIM2	Oshima 3	2.37	51	P	P	17 10 02.1	+0.4
JGM	Miyama	2.50	351	P	P	17 10 03.7	+0.3
JYN	Shimob	2.52	26	P	P	17 10 04.3	+0.5
JOD2	Odawara 2	2.56	37	P	P	17 10 04.7	+0.3
MAT	Matsushiro	3.41	14	P	P	17 10 16.7	+0.3
MAT				S	S	17 10 54.9	-1.2
MKAR	Makanchi Array	43.34	305	P	P	17 17 30.1	+5.9
	0.4nm,0.6s,mb3.4,baz=91,slow=8.1,SNR=3.4						
WRA	Warramunga Arr	52.94	183	P	P	17 18 38.7	-0.5
	0.6nm,0.7s,mb3.6,baz=0.7,slow=7.6,SNR=6.6						
ASAR	Alice Springs	56.66	184	P	P	17 19 07.2	+0.9
	0.2nm,0.6s,mb3.3,baz=9.4,slow=14,SNR=3.3						

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*JMA **05** 17:10:28.3±0.1,33.08N×137.08E,h45^{km},M3.5*
ISC 05 17:10:29.5±1.6,33.2N±0.1×137.07E±0.06,h45^{km},n12, σ0ˢ45/17,5D,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JWZ	Kozaga	1.20	288	⇓P	P	17 10 49.5	-0.5
JWZ				*e*S	S	17 11 04.8	-0.6
JIE	Ise	1.27	346	P	P	17 10 51.2	+0.1
JKN	Kiinagashima	1.28	328	⇓P	P	17 10 51.2	-0.1
JKN				*e*S	S	17 11 07.6	0.0
TK04	Tokai 4	1.40	28	*e*S	S	17 11 10.0	-0.5
JWM	Minabe	1.59	296	⇓P	P	17 10 55.5	-0.3
JWM				*e*S	S	17 11 15.0	-0.3
JWY	Kouya	1.62	311	⇓P	P	17 10 56.7	+0.5
JWY				*e*S	S	17 11 17.0	+0.9
TSUJ	Tsu 2	1.64	341	P	P	17 10 56.5	+0.1
JHE	Heguri	1.89	323	⇓P	P	17 11 00.3	+0.4
JGM	Miyama	2.55	354	P	P	17 11 09.4	0.0
JYN	Shimob	2.63	27	P	P	17 11 11.5	+0.9
JOD2	Odawara 2	2.68	38	P	P	17 11 11.1	-0.2
MAT	Matsushiro	3.50	15	P	P	17 11 23.0	+0.1
MAT				S	S	17 12 03.0	-0.6

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*IDC **05** 17:10:58.7±2.8,13.67S×167.55E,mb4.0/3,mb1 4.1/3, mb1mx3.8/11,Error ellipse: s-maj=113.0km s-min=45.8km az=138.0*
NEIC 05 17:11:06.3±1.0,13.89S×167.47E,h50^{km},mb3.9/2,Error ellipse: s-maj=62.3km s-min=15.4km az=142.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	29.69	229	*e*P	P	17 17 08.5	-1.3
	1.4nm,0.4s						
STKA	Stephens Creek	29.69	229	P	P	17 17 08.3	-1.5
	1.3nm,0.3s,baz=42,slow=11,SNR=14						
WRAB	Tennant Creek	32.22	255	P	P	17 17 29.1	-3.1
	0.6nm,0.5s						
WRA	Warramunga Arr	32.23	255	P	P	17 17 30.5	-1.8
	0.7nm,0.6s,baz=86,slow=9.3,SNR=6.3						
ASAR	Alice Springs	33.16	248	P	P	17 17 38.0	-2.4
	0.8nm,0.5s,baz=77,slow=9.5,SNR=8.6						
ARCES	ARCESS Array B	119.50	346	PKP	PKPdf	17 29 49.1	-1.0
	7.1nm,1.1s,baz=56,slow=3.3,SNR=5.7						
LOR	Lormes	144.02	341	*e*PKP1	PKPbc	17 30 35.6	0.0
GRR	Gorron	144.27	347	*e*PKP1	PKPbc	17 30 36.0	-0.2
	7.8nm,0.6s						
SSF	Saint Saulge	144.31	341	*e*PKP1	PKPbc	17 30 36.7	+0.3
	4.6nm,0.6s						
LPL	La Plagne	144.51	336	*e*PKP1	PKPbc	17 30 37.9	+0.9
	4.1nm,0.6s						
LPG	La Plagne	144.52	336	*e*PKP1	PKPbc	17 30 38.1	+1.1
	5.1nm,0.6s						
SMF	Signal de Mont	144.57	340	*e*PKP1	PKPbc	17 30 37.2	+0.1
	4.2nm,0.6s						
MBDF	Montbardon	145.15	336	*e*PKP1	PKPbc	17 30 39.2	+0.4
ORIF	Oris-en-Rattie	145.34	337	*e*PKP1	PKPbc	17 30 40.1	+0.8
	9.2nm,0.8s						
MFF	Saint Martin d	145.77	345	*e*PKP1	PKPbc	17 30 40.9	+0.6
LASF	Ste Croix	146.81	338	*e*PKP1	PKPbc	17 30 44.2	+1.4
	4.7nm,0.6s						
MTLF	Montolieu	148.03	339	*e*PKP1	PKPdf	17 30 47.4	+4.1

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*JMA **05** 17:16:45.2±0.1,33.29N×136.97E,h54^{km}±4^{km},M2.8*
*IDC **05** 17:17:05.1±11.0,30.59N×136.30E,mb3.3/3,mb1 3.5/3, mb1mx3.3/18,Error ellipse: s-maj=444.0km s-min=32.2km az=64.0*
ISC 05 17:16:46.2±1.3,33.36N±0.05×136.96E±0.05,h29^{km}±8^{km}, n13,σ0ˢ59/14,mb3.3/2,Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK02	Tokai 2	0.89	48	*e*S	Sb	17 17 14.9	+0.5
JIE	Ise	1.05	348	P	Pn	17 17 04.9	-0.3
JIE				*e*S	Sb	17 17 19.6	+0.4
JWZ	Kozaga	1.06	280	*e*S	Sb	17 17 18.5	-0.8
JKN	Kiinagashima	1.06	327	*e*S	Sn	17 17 18.8	-0.4
TK03	Tokai 3	1.16	46	*e*S	Sn	17 17 21.7	0.0
TK04	Tokai 4	1.28	36	*e*S	Sn	17 17 23.4	-1.3
JAA	Atsumi	1.28	7	*e*S	Sn	17 17 24.8	0.0
TSUJ	Tsu 2	1.42	342	*e*S	Sn	17 17 28.7	+0.3
JWY	Kouya	1.43	307	*e*S	Sn	17 17 29.1	+0.6
JWM	Minabe	1.43	291	*e*S	Sn	17 17 28.4	-0.1
JHE	Heguri	1.67	321	*e*S	Sn	17 17 35.2	+0.5
WRA	Warramunga Arr	53.06	183	P	P	17 26 02.9	-0.4
	0.3nm,0.7s,mb3.3,baz=359,slow=7.8,SNR=5.4						
ASAR	Alice Springs	56.78	183	P	P	17 26 31.3	+1.0
	0.3nm,1.0s,mb3.3,slow=6.3,SNR=4.0						

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*JMA **05** 17:17:15.6±0.1,33.35N×136.96E,h44^{km}±4^{km},M2.9*
ISC 05 17:17:15.0±2.3,33.38N±0.07×136.96E±0.05,h14^{km}±18^{km}, n10,σ0ˢ52/16,mb3.3/1,Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK02	Tokai 2	0.87	50	P	Pb	17 17 32.0	+0.6
TK02				*e*S	Sb	17 17 43.2	+0.6
JIE	Ise	1.03	348	P	Pb	17 17 34.7	+0.6
JIE				*e*S	Sb	17 17 48.4	+1.2
JKN	Kiinagashima	1.04	326	P	Pb	17 17 34.4	+0.1
JKN				S	Sb	17 17 47.7	+0.1
JWZ	Kozaga	1.05	278	P	Pb	17 17 34.2	-0.3
JWZ				*e*S	Sb	17 17 47.8	-0.1
TK03	Tokai 3	1.14	47	*e*S	Sb	17 17 50.1	-0.5
JAA	Atsumi	1.25	7	P	Pb	17 17 37.3	-0.7
JAA				*e*S	Sb	17 17 53.4	-0.4
TK04	Tokai 4	1.25	37	*e*S	Sb	17 17 53.2	-0.6
TSUJ	Tsu 2	1.40	341	*e*S	Sb	17 17 57.3	-0.7
MAT	Matsushiro	3.31	18	P	Pn	17 18 07.4	-0.2
MAT				S	Sn	17 18 47.3	+0.2
MKAR	Makanchi Array	43.08	305	P	P	17 25 16.3	+0.2
	0.4nm,0.6s,mb3.3,baz=87,slow=12,SNR=5.3						

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*BJI **05** 17:19:32.0,33.25N×137.29E,h24^{km},mB4.2,mb4.5*
*IDC **05** 17:19:32.5±0.6,33.33N×137.06E,mb4.2/17,mb1 4.3/20, mb1mx4.2/26,ML3.4/3,Error ellipse: s-maj=20.6km s-min=13.9km az=71.0*
*JMA **05** 17:19:33.0±0.1,33.24N×137.03E,h35^{km}±3^{km},M4.1*
*NEIC **05** 17:19:34.1±0.2,33.35N×137.00E,h10^{km},mb4.6/22,Error ellipse: s-maj=6.9km s-min=5.3km az=90.0*
*MOS **05** 17:19:36.0±0.9,33.35N×137.00E,h33^{km},mb4.3/10,Error ellipse: s-maj=34.9km s-min=11.4km az=112.6*
ISC 05 17:19:32.3±1.4,33.31N±0.03×137.00E±0.03,h9^{km}±8^{km}, n113,σ0ˢ85/117,mb4.5/47,11C-1D,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	Tokai 1	0.67	47	P	Pb	17 19 46.4	+0.7
TK02	Tokai 2	0.90	44	P	Pb	17 19 49.8	+0.3
JWZ	Kozaga	1.10	282	⇑P	Pb	17 19 52.7	-0.3
JWZ				*e*S	Sb	17 20 06.7	-0.6
JIE	Ise	1.11	347	⇑P	Pb	17 19 54.2	+1.0
JIE				*e*S	Sb	17 20 08.7	+1.1
JKN	Kiinagashima	1.12	327	⇑P	Pb	17 19 53.8	+0.4
JKN				*e*S	Sb	17 20 07.7	-0.3
TK03	Tokai 3	1.17	43	P	Pb	17 19 53.7	-0.6
TK04	Tokai 4	1.30	34	P	Pb	17 19 56.0	-0.4
JWM	Minabe	1.48	292	⇑P	Pn	17 19 58.8	-0.4
TSUJ	Tsu 2	1.48	341	⇑P	Pn	17 19 59.4	+0.2
TSUJ				*e*S	Sb	17 20 17.3	-1.1
JWY	Kouya	1.49	308	P	Pn	17 19 59.6	+0.3
JHE	Heguri	1.73	321	⇑P	Pn	17 20 02.9	+0.1
SHZ3	Shizuoka 3	2.02	29	P	Pn	17 20 06.2	-0.7
JAJ2	Tsuna	2.08	303	⇑P	Pn	17 20 08.1	+0.3
JIZS	Izushimoda	2.10	47	P	Pn	17 20 08.3	+0.2
JAI	Aioi	2.19	284	P	Pn	17 20 08.7	-0.6
JHJ	Hachijo jima 2	2.34	94	Pn	Pn	17 20 11.6	+0.1
	26nm,0.3s,baz=248,slow=20,SNR=4.8						
JHJ				Sn	Sn	17 20 38.9	-1.7
	33nm,0.3s,baz=53,slow=19,SNR=8.7						
JGM	Miyama	2.40	354	⇑P	Pn	17 20 12.7	+0.3
MAJO	Matsushiro	3.38	17	*e*Pn	Pn	17 20 26.5	+0.2
MAT	Matsushiro	3.38	17	P	Pn	17 20 26.3	0.0
MAT				*e*S	Sn	17 21 05.5	-1.4
MAT	Matsushiro	3.38	17	*e*P	Pn	17 20 26.0	-0.3
MAT				*e*S	Sn	17 21 07.0	+0.1
JNU	Nakatsue	5.14	270	Pn	Pn	17 20 49.0	-2.2
	0.9nm,0.3s,baz=81,slow=24,SNR=4.3						
JNU				Sn	Sn	17 21 49.5	-1.9
	2.6nm,0.3s,baz=175,slow=35,SNR=2.9						
ASAJ	Asahikawa	11.64	20	Pn	P	17 22 18.8	-2.8
	0.4nm,0.3s,baz=249,slow=18,SNR=7.3						
YSS	Yuzh-Sakhalins	14.32	16	⇑*e*P	P	17 23 05.3	+8.2
YSS	Yuzh-Sakhalins	14.32	16	*e*Pn	P	17 22 54.6	-2.5
KLR	Kul'dur	16.39	348	*e*P	P	17 23 23.2	-0.7
BJI	Beijing	17.99	298	P	P	17 23 44.7	+0.6
BJI				AMB	AMB		
	comp=Z,31nm,1.1s						
BJT	Baijiatuau	17.99	298	*e*P	P	17 23 45.9	+1.8
	comp=Z,12nm,0.6s						
WHN	Wuhan	19.42	268	*e*P	P	17 24 02.4	+0.9
WHN				AP		17 24 07.5	
HIA	Hailar	20.48	326	*e*P	P	17 24 11.0	-1.8
	comp=Z,9.0nm,0.8s						
XAN	Xi'an	23.36	280	P	P	17 24 43.1	+1.3
XAN				AP		17 24 53.2	
XAN				AMB	AMB		
	comp=Z,17nm,1.5s,mb4.2						
ENH	Enshi	23.56	270	*e*P	P	17 24 44.3	+0.5
	comp=Z,102nm,1.6s,mb5.0						
SONM	Songino Array	27.19	311	P	P	17 25 17.8	-0.1
	comp=Z,2.4nm,0.7s,mb3.8,baz=119,slow=9.7,SNR=25						
LZH	Lanzhou	27.33	285	*e*P	P	17 25 19.4	+0.1
LZH				PP	PP	17 26 05.6	-0.9
LZH				AMB	AMB		
	comp=Z,21nm,1.3s,mb4.5						
CD2	Chengdu	28.20	274	P	P	17 25 26.7	-0.5
CD2				AMB	AMB		
	comp=Z,40nm,0.6s,mb5.2						
YAK	Yakutsk	29.12	353	*e*P	P	17 25 34.1	-1.2
	comp=Z,35nm,1.6s,mb4.8						
ZAK	Zakamensk	30.03	315	*e*P	P	17 25 43.8	+0.3
GTA	Gaotai	30.41	292	*e*P	P	17 25 46.6	-0.4
GTA				AP	pP	17 25 51.6	+1.9
GTA				AMB	AMB		
	comp=Z,2.0nm,1.1s,mb3.8						
TIXI	Tiksi	38.65	356	*e*P	P	17 26 57.3	-0.1
TIXI				pmax	pmax		
	comp=Z,17nm,0.8s,mb4.8						
LSA	Lhasa	39.02	277	P	P	17 27 03.0	+2.1
ZAL	Zalesovo	41.91	316	P	P	17 27 24.6	+0.2
	comp=Z,1.5nm,0.6s,mb3.8,baz=270,slow=6.4,SNR=8.7						
ZAL				PcP	PcP	17 29 19.4	-1.3

	comp=Z,2.7nm,0.8s,baz=269,slow=3.4,SNR=9.6						
ZAL	Zalesovo	41.91	316	P	P	17 27 24.6	+0.2
ZAL						17 29 19.4	
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ZAL				pmax	pmax		
	comp=Z,3.0nm,0.9s						
NVS	Novosibirsk	42.94	317	*i* P	P	17 27 31.5	-1.3
NVS				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.5						
NVS				pmax	pmax		
	comp=E,6.0nm,0.8s						
MKAR	Makanchi Array	43.16	305	P	P	17 27 35.5	+0.8
	comp=E,9.7nm,0.7s,mb4.6,baz=94,slow=10.0,SNR=70						
MKAR				PcP	PcP	17 29 24.3	-0.6
	comp=E,1.5nm,0.6s,baz=72,slow=3.8,SNR=6.2						
MKAR	Makanchi Array	43.16	305	P	P	17 27 35.5	+0.8
MKAR						17 29 24.3	
MKAR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MKAR	Makanchi Array	43.16	305	P	P	17 27 35.5	+0.8
MKAR				PcP	PcP	17 29 24.3	-0.6
PKI	Pulchoki	44.48	277	*e*P	P	17 27 45.7	0.0
	comp=Z,7.6nm,0.6s,mb4.6						
KKN	Kakani	44.52	277	*e*P	P	17 27 46.4	+0.4
	comp=Z,15nm,0.9s,mb4.8						
DMN	Daman	44.72	277	*e*P	P	17 27 47.8	+0.2
	comp=Z,12nm,0.9s,mb4.7						
GKN	Gorkha	44.98	278	*e*P	P	17 27 49.2	-0.5
	comp=Z,31nm,1.3s,mb5.0						
KURK	Kurchatov	45.50	311	P	P	17 27 53.9	+0.4
	comp=Z,65nm,1.0s,mb5.4,SNR=12						
KURK	Kurchatov	45.50	311	*e*P	P	17 27 53.3	-0.1
	comp=Z,17nm,1.1s,mb4.8						
KOLN	Koldanda	45.92	278	*e*P	P	17 27 57.5	+0.4
	comp=Z,15nm,1.0s,mb4.9						
AAK	Ala-Archa	49.15	300	*e*P	P	17 28 21.3	-0.9
	comp=Z,3.9nm,0.5s,mb4.7						
BVAR	Borovoye Array	50.48	314	P	P	17 28 31.9	-0.3
	comp=Z,3.5nm,0.7s,mb4.5,baz=100,slow=9.0,SNR=16						
BVAR				PcP	PcP	17 29 49.9	-0.8
	comp=Z,3.2nm,0.5s,baz=104,slow=2.9,SNR=12						
BRVK	Borovoye	50.54	314	*e*P	P	17 28 32.8	+0.1
	comp=Z,21nm,1.4s,mb4.9						
ZRNK	Zerenda	51.32	314	*e*P	P	17 28 37.7	-1.0
	comp=Z,10nm,1.0s,mb4.7						
FITZ	Fitzroy Crossi	52.26	194	*e*P	P	17 28 46.6	+0.4
	comp=Z,3.1nm,0.8s,mb4.3						
FITZ	Fitzroy Crossi	52.26	194	P	P	17 28 46.3	+0.2
	comp=Z,1.9nm,0.7s,mb4.1,baz=33,slow=10,SNR=6.7						
WRAB	Tennant Creek	53.00	183	*e*P	P	17 28 50.4	-1.3
	comp=Z,6.8nm,0.9s,mb4.6						
WB2	Warramunga Arr	53.01	183	*e*P	P	17 28 50.6	-1.2
WRA	Warramunga Arr	53.01	183	P	P	17 28 51.1	-0.6
	comp=Z,3.1nm,0.8s,mb4.3,baz=360,slow=7.7,SNR=26						
WRA	Warramunga Arr	53.01	183	P	P	17 28 51.1	-0.7
WRA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
CTAO	Charters Tower	53.82	169	P	P	17 28 58.5	+0.7
	comp=Z,1.4nm,0.6s,mb4.1						
ILAR	Eielson Array	54.55	31	P	P	17 29 01.9	-0.7
	comp=Z,0.9nm,0.7s,mb3.9,baz=282,slow=5.7,SNR=20						
ILAR	Eielson Array	54.55	31	P	P	17 29 01.9	-0.6
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ASAR	Alice Springs	56.73	183	P	P	17 29 17.8	-1.0
	comp=Z,2.3nm,1.0s,mb4.2,baz=13,slow=11,SNR=21						
ASPA	Alice Springs	56.73	183	*e*P	P	17 29 19.5	+0.7
ARU	Arti	56.80	319	*e*P	P	17 29 15.6	-3.3
STKA	Stephens Creek	64.98	176	P	P	17 30 14.4	-0.3
	comp=Z,2.1nm,0.8s,mb4.2,baz=352,slow=12,SNR=3.6						
ARCES	ARCESS Array B	66.19	339	P	P	17 30 22.2	+0.4
	comp=Z,3.0nm,0.6s,mb4.5,baz=56,slow=8.7,SNR=15						
ARCES	ARCESS Array B	66.19	339	P	P	17 30 22.3	+0.4
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.6s						
FINES	FINESS Array B	70.39	332	P	P	17 30 47.5	-0.6
	comp=Z,0.6nm,0.5s,mb3.8,baz=104,slow=7.9,SNR=7.5						
FINES	FINESS Array B	70.39	332	P	P	17 30 47.5	-0.6
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
SUMG	Summit	74.36	359	*e*P	P	17 31 12.4	+1.1
	comp=Z,10nm,0.9s,mb4.8						
AKASG	Malin Array Be	74.98	321	P	P	17 31 14.6	-0.8
	comp=Z,0.8nm,0.5s,mb3.9,baz=45,slow=5.9,SNR=8.6						
AKASG	Malin Array Be	74.98	321	P	P	17 31 14.6	-0.8
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NB2	NORSAR Subarra	76.17	336	P	P	17 31 21.9	0.0
	comp=Z,1.0nm,0.7s,mb3.9,baz=45,slow=5.8						
NOA	NORSAR Array B	76.17	336	P	P	17 31 22.6	+0.6
	comp=Z,1.2nm,0.8s,mb3.9,baz=44,slow=5.7,SNR=5.6						
NOA	NORSAR Array B	76.17	336	P	P	17 31 22.6	+0.7
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BRTR	Keskin Array B	78.55	310	P	P	17 31 36.4	+0.8
	comp=Z,1.0nm,0.7s,mb3.9,baz=90,slow=4.9,SNR=4.8						
BRTR	Keskin Array B	78.55	310	P	P	17 31 36.4	+0.9
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ELK	Elko	80.72	47	*e*P	P	17 31 47.3	+0.1
	comp=Z,1.6nm,0.8s,mb4.0						
DPC	Dobruska-Polom	81.61	326	*e*P	P	17 31 52.2	+0.5
TPNV	Topopah Spring	82.31	51	*e*P	P	17 31 56.4	+0.8
	comp=Z,3.1nm,0.9s,mb4.2						
BRG	Berggiesshubel	82.34	328	*e*P	P	17 31 56.8	+1.4
BRG				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
BRG	Berggiesshubel	82.34	328	*e*P	P	17 31 56.8	+1.4
	comp=Z,3.3nm,0.9s,mb4.3						
CLL	Collm	82.45	328	P	P	17 31 56.0	0.0
CLL	Collm	82.45	328	*e*P	P	17 31 56.0	0.0
PRU	Pruhonice	82.69	327	*e*P	P	17 31 58.8	+1.5
PDAR	Pinedale Array	82.85	43	P	P	17 31 58.7	+0.4
	comp=Z,1.8nm,1.1s,mb4.0,baz=287,slow=4.6,SNR=9.6						
KHC	Kasperske Hory	83.74	327	*e*P	P	17 32 03.1	+0.5
GERES	GERESS Array B	83.89	326	P	P	17 32 03.6	+0.2
	comp=Z,1.5nm,0.8s,mb4.2,baz=34,slow=4.8,SNR=15						
GERES	GERESS Array B	83.89	326	P	P	17 32 03.6	+0.2
GERES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MSU	Marysvale	83.95	48	*e*P	P	17 32 05.3	+1.3
GRA1	Grafenberg Arr	84.40	328	*e*P	P	17 32 07.1	+1.2
	comp=Z,14nm,1.2s,mb5.0						
GRF	Grafenberg Arr	84.40	328	*e*P	P	17 32 07.1	+1.2
GRF				pmax	pmax		
	comp=Z,14nm,1.2s,mb5.0						
LPL	La Plagne	89.54	328	*e*P	P	17 32 31.4	+0.3
	comp=Z,4.6nm,0.7s,mb4.6						
LPG	La Plagne	89.55	328	*e*P	P	17 32 31.5	+0.4
	comp=Z,5.4nm,0.6s,mb4.7						
SMF	Signal de Mont	89.92	330	*e*P	P	17 32 32.6	-0.2
AVF	Avril sur Loir	90.01	330	*e*P	P	17 32 33.2	0.0
	comp=Z,3.0nm,0.7s,mb4.5						
MBDF	Montbardon	90.13	327	*e*P	P	17 32 33.2	-0.7
	comp=Z,7.5nm,0.9s,mb4.7						
TCF	Toulx Ste Croi	90.88	331	*e*P	P	17 32 37.5	+0.2
VIVF	Saint-Julien-l	90.97	328	*e*P	P	17 32 37.8	+0.1
MFF	Saint Martin d	91.58	332	*e*P	P	17 32 40.0	-0.4
	comp=Z,8.5nm,0.8s,mb4.8						
LASF	Ste Croix	91.95	328	*e*P	P	17 32 42.4	+0.2
CAF	Calviac	92.04	330	*e*P	P	17 32 43.4	+0.8
LFF	La Frestale	92.58	331	*e*P	P	17 32 45.8	+0.7
	comp=Z,10nm,0.7s,mb5.0						
TXAR	Lajitas Array	95.27	50	P	P	17 32 58.9	+1.1
	comp=Z,0.8nm,0.6s,mb4.3,baz=285,slow=2.9,SNR=12						
TXAR	Lajitas Array	95.27	50	P	P	17 32 58.9	+1.1
VNA2	Neumayer--Watz	137.73	197	⇑*i*	PKPdf	17 39 12.2	+13
VNA3	Neumayer Olymp	138.03	195	⇓*i*	PKPdf	17 39 10.0	+10
VNA1	Neumayer--Stat	138.13	197	⇑*i*	PKPdf	17 39 13.8	+14
SAML	Samuel	149.43	42	*e*PKPbc	PKPdf	17 39 23.9	+3.1

*NEIC **05** 17:26:44.8±5.8, 19.53S×177.66W, h263^{km}±54^{km}, mb3.7/2,*
Error ellipse: s-maj=27.3km s-min=18.0km az=205.0
*IDC **05** 17:26:58.2±11.0, 20.12S×177.76W, h396^{km}±124^{km},*
mb3.2/6, mb1 3.4/7, mb1mx3.3/12, Error ellipse:
s-maj=74.7km s-min=25.8km az=11.0
ISC 05 17:26:47.4±0.9**, 19.7S**±0.2×**177.7W**±0.2**, h300**^{km}**, n17,**
σ**0**^{s}**93**/11**, mb3.5**/7**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	Urewera	19.02	193	P	P	17 30 48.7	-0.3
	0.6nm,0.3s,baz=102,slow=14,SNR=3.4						
CTA	Charters Tower	33.83	263	P	P	17 33 05.2	+1.3
	3.8nm,0.9s,mb3.9,baz=85,slow=13,SNR=4.2						
CTAO	Charters Tower	33.83	263	*e*P	P	17 33 04.9	+1.1
	1.3nm,0.5s,mb3.7						
STKA	Stephens Creek	38.36	243	P	P	17 33 42.5	+0.9
	1.6nm,0.8s,mb3.5,baz=63,slow=14,SNR=2.7						
ASAR	Alice Springs	44.95	256	P	P	17 34 34.9	-0.1
	2.0nm,0.8s,mb3.4,baz=93,slow=8.3,SNR=32						
WB2	Warramunga Arr	44.95	261	*e*P	P	17 34 34.3	-0.8
WRAB	Tennant Creek	44.96	261	*e*P	P	17 34 34.4	-0.7
	0.9nm,0.3s,mb3.5						
WRA	Warramunga Arr	44.97	261	P	P	17 34 34.7	-0.4
	0.5nm,0.3s,mb3.2,baz=96,slow=7.5,SNR=45						
FITZ	Fitzroy Crossi	53.39	262	P	P	17 35 38.8	+0.1
	1.9nm,1.1s,mb3.4,baz=93,slow=17,SNR=3.9						
TXAR	Lajitas Array	86.42	57	P	P	17 38 59.4	+1.7
	0.3nm,0.4s,mb3.5,baz=219,slow=5.8,SNR=5.1						
PV01	Paradox Valley	86.67	48	*e*P	P	17 38 57.2	-1.5
DPC	Dobruska-Polom	147.45	343	*e*PKPab	PKPab	17 46 01.4	+0.5
PVCC	Panska Ves	147.74	345	*e*PKPbc	PKPdf	17 45 57.7	+4.5
PRU	Pruhonice	148.24	345	*e*PKPbc	PKPdf	17 45 58.9	+4.9
KHC	Kasperske Hory	149.27	345	*e*PKPbc	PKPdf	17 46 01.5	+5.8
GERES	GERESS Array B	149.51	345	PKPbc	PKPdf	17 46 02.1	+6.0
	1.8nm,0.7s,baz=27,slow=3.0,SNR=17						
DAVOX	Davos	152.29	349	PKPbc	PKPdf	17 46 08.5	+8.2
	1.6nm,0.6s,baz=252,slow=9.6,SNR=4.1						

*JMA **05** 17:32:21.6±0.1, 33.03N×136.88E, h43^{km}, M3.9*
ISC 05 17:32:22.4±1.4**, 33.09N**±0.09×**136.87E**±0.06**, h43**^{km}**, n13,**
σ**0**^{s}**40**/18**, 1C-7D, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JWZ	Kozaga	1.06	295	⇓P	P	17 32 40.7	-0.4
JWZ				*e*S	S	17 32 54.3	-0.7
JKN	Kiinagashima	1.26	336	⇓P	P	17 32 43.8	-0.1
JKN				*e*S	S	17 32 59.7	-0.3
JIE	Ise	1.31	354	⇓P	P	17 32 44.8	+0.1
JWM	Minabe	1.48	301	P	P	17 32 46.9	-0.2
JWM				*e*S	S	17 33 05.2	-0.2
TK04	Tokai 4	1.54	33	P	P	17 32 47.3	-0.6
TK04				*e*S	S	17 33 06.4	-0.5
JWY	Kouya	1.55	317	⇓P	P	17 32 48.7	+0.6
TSUJ	Tsu 2	1.66	347	⇓P	P	17 32 49.9	+0.3
JHE	Heguri	1.85	328	⇓P	P	17 32 52.8	+0.5
JAJ2	Tsuna	2.12	309	P	P	17 32 56.7	+0.5
JAI	Aioi	2.14	290	P	P	17 32 56.3	-0.2
JIZS	Izushimoda	2.33	45	P	P	17 32 59.1	0.0
JWT	Wachi	2.51	331	⇓P	P	17 33 02.1	+0.4
JGM	Miyama	2.61	357	⇑P	P	17 33 03.4	+0.3
JGM				*e*S	S	17 33 34.1	+0.3

*NEIC **05** 17:33:58.3±1.8, 38.56N×45.32E, h43^{km}±25^{km}, mb3.9/4,*
Error ellipse: s-maj=39.8km s-min=11.9km az=176.0
*IDC **05** 17:34:01.3±5.1, 38.77N×45.26E, h65^{km}±50^{km}, mb3.6/4,*
mb1 3.6/6, mb1mx3.4/16, ML2.6/1, Error ellipse:
s-maj=79.1km s-min=22.0km az=0.0
ISC 05 17:33:52.1±0.8**, 38.3N**±0.1×**45.47E**±0.06**, h10**^{km}**, n24,**
σ**1**^{s}**43**/28**, mb3.8**/7**, Iran-Armenia-Azerbaijan border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HKR	Hakkari	1.54	244	*i* PN	Pn	17 34 20.0	+0.3
TVAN	Van	1.64	279	*i* P	Pn	17 34 20.1	-1.1
TVAN				*i* S	Sg	17 34 51.4	+4.6
VANB	Van	1.67	282	*e*PN	Pn	17 34 22.5	+0.9
VANB				*e*SN	Sn	17 34 43.2	+0.1
AGRT	Agri	2.35	305	PN	Pn	17 34 33.9	+2.5
KARS	Kars	2.97	322	PN	Pn	17 34 43.9	+3.7
BTMT	Batman	3.14	270	PN	Pn	17 34 45.6	+3.0
VRT	Varto	3.20	287	PN	Pn	17 34 45.3	+1.8
BEST	Besiri	3.34	265	*i* P	Pn	17 34 44.0	-1.4
BEST				*i* S	Sg	17 35 41.6	-1.6
ERZM	Erzurum	3.58	298	*i* P	Pn	17 34 54.1	+5.2
ERZM				*i* S	Sn	17 35 27.3	-4.5
EZM	Erzurum	3.59	298	PN	Pn	17 34 50.8	+1.8
BINT	Bingol	3.95	280	*e*P	Pn	17 34 54.7	+0.6
MALT	Malatya	5.54	273	*e*Pn	Pn	17 35 15.2	-1.5
	4.8nm,0.8s						
GZT	Gaziantep	6.33	264	*i* P	Pb	17 35 45.3	+3.1
BRTR	Keskin Array B	9.32	283	P	P	17 36 09.6	0.0
	0.1nm,0.3s,baz=102,slow=13,SNR=4.9						
AKASG	Malin Array Be	16.94	322	P	P	17 37 47.6	-3.0
	baz=135,slow=11,SNR=8.7						
ARU	Arti	20.15	21	P	P	17 38 25.8	-3.2
	4.1nm,0.8s						
AAK	Ala-Archa	22.46	70	P	P	17 38 53.3	+0.7
	3.2nm,0.7s,mb3.9						
BRVK	Borovoye	22.63	41	*e*P	P	17 38 53.7	-0.4
	4.4nm,0.8s,mb3.9						
BVAR	Borovoye Array	22.66	41	P	P	17 38 54.5	0.0
	1.6nm,0.7s,mb3.6,baz=247,slow=11,SNR=12						
GERES	GERESS Array B	25.16	305	P	P	17 39 17.2	-1.5
	0.8nm,0.6s,mb3.4,baz=104,slow=11,SNR=9.3						
KHC	Kasperske Hory	25.30	306	*e*P	P	17 39 19.0	-1.1
KURK	Kurchatov	26.48	51	*e*P	P	17 39 31.0	0.0
	7.2nm,0.9s,mb4.2						
MKAR	Makanchi Array	28.22	61	P	P	17 39 47.1	+0.2
	3.6nm,0.7s,mb4.1,baz=267,slow=6.6,SNR=24						
HFS	Hagfors	29.66	328	P	P	17 39 55.6	-4.2
	1.5nm,0.9s,mb3.7,baz=108,slow=4.6,SNR=2.4						

*NEIC **05** 17:34:09.9±0.2, 33.05N×136.75E, h10^{km}, mb4.6/17, Error*
ellipse: s-maj=6.0km s-min=4.6km az=92.0
*JMA **05** 17:34:09.2±0.1, 33.07N×137.01E, h37^{km}±4^{km}, M4.7*
JMA Felt I J1.
*BJI **05** 17:34:10.6, 33.01N×136.99E, h30^{km}, mb4.8, Ms5.0,*
Msz5.0
*MOS **05** 17:34:11.7±1.2, 32.97N×136.75E, h33^{km}, mb4.8/16, Error*
ellipse: s-maj=21.1km s-min=9.8km az=107.3
*IDC **05** 17:34:12.0±0.5, 33.01N×137.00E, h26^{km}±3^{km}, mb4.2/20,*
mb1 4.3/23, mb1mx4.3/28, ML3.9/3, Error ellipse:
s-maj=16.9km s-min=11.4km az=88.0
ISC 05 17:34:08.9±1.1**, 33.08N**±0.03×**136.91E**±0.03**, h15**^{km}±7^{km},
h25^{km}±1.3^{km}**:pP-P, n124,** σ**1**^{s}**17**/140**, mb4.5**/51**, MS5.1**/3**,**
4C-5D, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TK01	Tokai 1	0.89	39	P	Pb	17 34 24.7	-0.9
JWZ	Kozaga	1.10	295	P	Pb	17 34 29.6	+0.5
JWZ				*e*S	Sb	17 34 43.8	+0.8
JKN	Kiinagashima	1.29	336	P	Pb	17 34 32.1	-0.2
JKN				*e*S	Sb	17 34 47.6	-0.9
JIE	Ise	1.32	353	⇓P	Pb	17 34 32.3	-0.6
JIE				*e*S	Sb	17 34 48.6	-1.0
JWM	Minabe	1.51	301	P	Pn	17 34 35.6	0.0
JWM				*e*S	Sb	17 34 54.5	-0.5
JWY	Kouya	1.58	316	P	Pn	17 34 37.1	+0.5
JWY				*e*S	Sn	17 34 56.6	-0.3
TSUJ	Tsu 2	1.68	346	P	Pn	17 34 37.7	-0.3
TSUJ				*e*S	Sn	17 34 58.1	-1.3
JHE	Heguri	1.88	327	P	Pn	17 34 40.9	+0.1
JAJ2	Tsuna	2.15	309	⇑P	Pn	17 34 45.2	+0.4
JAJ2				*e*S	Sn	17 35 11.2	-0.2
JAI	Aioi	2.17	290	P	Pn	17 34 45.0	-0.1
JAI				*e*S	Sn	17 35 10.8	-1.2
SHZ3	Shizuoka 3	2.26	28	P	Pn	17 34 44.5	-1.9
JIZS	Izushimoda	2.32	44	P	Pn	17 34 46.9	-0.3
JHJ	Hachijo jima 2	2.41	88	Pn	Pn	17 34 47.3	-1.2
	80nm,0.3s,baz=260,slow=19,SNR=10						
JHJ				Sn	Sn	17 35 12.8	-5.2
	126nm,0.3s,baz=124,slow=20,SNR=9.9						
JWT	Wachi	2.53	331	⇓P	Pn	17 34 50.3	+0.1
JGM	Miyama	2.62	357	⇓P	Pn	17 34 51.0	-0.5
MAJO	Matsushiro	3.62	17	*e*Pn	Pn	17 35 05.3	-0.4
MAT	Matsushiro	3.62	17	P	Pn	17 35 04.6	-1.1
MAT				S	Sn	17 35 45.8	-2.8
MAT	Matsushiro	3.62	17	*e*P	Pn	17 35 05.0	-0.7
MAT				*e*S	Sn	17 35 46.0	-2.6
JNU	Nakatsue	5.06	272	Pn	Pn	17 35 25.4	-0.8
	4.1nm,0.3s,baz=120,slow=18,SNR=9.3						
JNU				Sn	Sn	17 36 22.6	-2.4
	3.8nm,0.3s,baz=228,slow=8.5,SNR=2.7						
ASAJ	Asahikawa	11.88	20	Pn	P	17 36 57.0	-3.8
	0.9nm,0.3s,baz=249,slow=12,SNR=13						
ASAJ	Asahikawa	11.88	20	P	P	17 36 57.1	-3.7
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MDJ	Mudanjiang	12.85	336	P	P	17 37 18.0	+4.2
MDJ				AMB	AMB		
	comp=Z,7.0nm,0.9s						
SSE	Sheshan	13.48	266	P	P	17 37 22.8	+0.7
SSE				AMB	AMB		
	comp=Z,20nm,0.8s						
CN2	Changchun	13.96	323	*e*P	P	17 37 27.5	-0.9
CN2				AMB	AMB		
	comp=Z,20nm,1.0s						
YSS	Yuzh-Sakhalins	14.56	16	⇑*e*P	P	17 37 30.0	-6.2
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
NJ2	Nanjing	15.26	271	*e*P	P	17 37 46.0	+0.5
NJ2				AP		17 37 53.0	
NJ2				XP		17 37 57.5	
NJ2				PP	PP	17 37 59.0	+1.2
NJ2				S	S	17 40 32.5	-2.4
NJ2				LR	LR		
	comp=N,3μm,15.6s						
NJ2				LR	LR		
	comp=E,3μm,18.1s						
NJ2				LR	LR		
	comp=Z,5μm,19.9s						
TIA	Tai'an	16.58	286	⇓P	P	17 38 04.7	+2.3
KLR	Kul'dur	16.59	348	*e*P	P	17 38 05.0	+2.5
BJT	Baijiatuau	18.03	299	*e*P	P	17 38 21.6	+1.1
	comp=Z,58nm,0.9s						
BJI	Beijing	18.03	299	P	P	17 38 21.8	+1.3
BJI				AMB	AMB		
	comp=Z,64nm,1.2s						
WHN	Wuhan	19.33	269	*e*P	P	17 38 37.0	+0.6
HIA	Hailar	20.62	327	*e*P	P	17 38 48.2	-2.0
	comp=Z,19nm,1.0s						
HHC	Hu-ho-hao-te	21.64	298	*e*P	P	17 39 02.2	+1.6
HHC				AP		17 39 08.6	
HHC				PP	PP	17 39 25.2	-0.1
HHC				S	S	17 42 56.3	+1.7
HHC				AMB	AMB		
	comp=Z,30nm,0.9s,mb4.7						
HHC				LR	LR		
	comp=N,2μm,16.6s,MS4.8						
HHC				LR	LR		
	comp=E,2μm,13.7s,MS4.8						
HHC				LR	LR		
	comp=Z,3μm,16.6s,MS4.7						
BTO	Baotou	22.73	297	*e*P	P	17 39 12.3	+0.8
XAN	Xi'an	23.32	280	P	P	17 39 17.6	+0.4
XAN				AMB	AMB		
	comp=Z,49nm,1.4s,mb4.7						
ENH	Enshi	23.48	271	*e*P	P	17 39 20.6	+1.8
	comp=Z,59nm,1.1s,mb4.9						
PET	Petropavlovsk	25.32	32	*e*P	P	17 39 40.1	+3.8
PET				*e*S	S	17 44 01.3	+2.2
PET				pmax	pmax		
	comp=Z,22nm,0.7s,mb4.8						
PET				MLR	MLR		
	comp=Z,6μm,17.0s,MS5.2						
GYA	Guiyang	27.01	264	⇑*i*P	P	17 39 54.9	+2.6
GYA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.5						
SONM	Songino Array	27.29	312	P	P	17 39 54.9	+0.4
	comp=Z,10nm,1.0s,mb4.3,baz=116,slow=6.2,SNR=42						
LZH	Lanzhou	27.32	286	*e*P	P	17 39 54.1	-0.9
LZH				PP	PP	17 40 40.2	-2.0
LZH				AMB	AMB		
	comp=Z,24nm,1.3s,mb4.6						
MA2	Magadan	28.06	15	*e*P	P	17 40 02.3	+0.8
	comp=Z,14nm,0.8s,mb4.7						
CD2	Chengdu	28.14	275	*e*P	P	17 40 02.5	+0.1
CD2				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.8						
BOD	Bodaibo	29.22	335	*e*P	P	17 40 05.8	-6.1
YAK	Yakutsk	29.34	353	*e*P	P	17 40 12.0	-1.0
YAK				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.5						
YAK	Yakutsk	29.34	353	*e*P	P	17 40 12.1	-0.9
	comp=Z,7.2nm,0.8s,mb4.5						
YAK				*e*		17 40 20.5	
YAK				*e*		17 40 25.4	
ZAK	Zakamensk	30.14	315	*e*P	P	17 40 18.5	-1.7
GTA	Gaotai	30.43	293	*e*P	P	17 40 22.7	-0.2
GTA				AP	pP	17 40 30.7	+3.5
GTA				XP	sP	17 40 34.2	+5.1
GTA				AMB	AMB		
	comp=Z,4.0nm,1.1s,mb4.1						
NANT	Nan	35.34	255	P	P	17 41 04.0	-1.8
CHG	Chiang Mai	36.76	257	P	P	17 41 27.9	+10
CMAR	Chiang Mai Arr	36.94	256	P	P	17 41 20.1	+0.8
	comp=Z,1.8nm,0.7s,mb4.0,baz=53,slow=8.1,SNR=13						
CMAR	Chiang Mai Arr	36.94	256	P	P	17 41 20.1	+0.8
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
CMAR	Chiang Mai Arr	36.94	256	P	P	17 41 20.1	+0.8
TIXI	Tiksi	38.87	356	⇓*e*P	P	17 41 42.2	+7.2
TIXI				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.7						
WMQ	Urumqi	39.49	300	P	P	17 41 41.8	+1.4
WMQ				AP	pP	17 41 46.5	+1.7
WMQ				PP	PP	17 43 16.0	+1.0
WMQ				AMB	AMB		
	comp=Z,19nm,1.4s,mb4.6						
NVS	Novosibirsk	43.05	317	*i* P	P	17 42 08.6	-0.8
NVS				pmax	pmax		
	comp=Z,14nm,1.2s,mb4.6						
NVS				pmax	pmax		
	comp=E,15nm,1.3s						
MKAR	Makanchi Array	43.22	305	P	P	17 42 11.9	+0.9
	comp=E,8.2nm,0.7s,mb4.5,baz=92,slow=10,SNR=42						
MKAR	Makanchi Array	43.22	305	P	P	17 42 11.9	+0.9
MKAR				pmax	pmax		
	comp=Z,8.0nm,0.7s						
PKI	Pulchoki	44.43	277	*e*P	P	17 42 21.2	+0.1
	comp=Z,9.1nm,0.9s,mb4.5						
KKN	Kakani	44.47	277	*e*P	P	17 42 21.3	0.0
	comp=Z,19nm,1.1s,mb4.8						
DMN	Daman	44.67	277	*e*P	P	17 42 22.9	-0.1
	comp=Z,11nm,1.0s,mb4.7						
GKN	Gorkha	44.93	278	*e*P	P	17 42 24.3	-0.7
	comp=Z,16nm,1.0s,mb4.8						
KURK	Kurchatov	45.59	311	P	P	17 42 29.7	-0.2
	comp=Z,106nm,0.7s,mb5.9,SNR=7.5						
KURK	Kurchatov	45.59	311	*e*P	P	17 42 29.9	0.0
	comp=Z,18nm,0.9s,mb5.0						
KURK				*e*		17 42 39.1	
KAKA	Kakadu	45.72	186	*e*P	P	17 42 29.9	-1.5
	comp=Z,7.5nm,0.7s,mb4.7						
KAKA				*e*		17 42 37.9	
KOLN	Koldanda	45.87	278	*e*P	P	17 42 29.1	-3.4
	comp=Z,12nm,0.9s,mb4.8						
AAK	Ala-Archa	49.20	300	*e*P	P	17 42 57.9	-0.4
	comp=Z,1.9nm,0.7s,mb4.2						
BVAR	Borovoye Array	50.58	314	P	P	17 43 09.0	+0.2
	comp=Z,6.7nm,0.9s,mb4.6,baz=90,slow=8.9,SNR=23						
BRVK	Borovoye	50.65	314	*e*P	P	17 43 08.9	-0.4
	comp=Z,11nm,1.1s,mb4.7						
FITZ	Fitzroy Crossi	52.01	194	*e*P	P	17 43 19.0	-1.1
	comp=Z,4.7nm,0.7s,mb4.5						
FITZ				*e*		17 43 27.4	
FITZ	Fitzroy Crossi	52.01	194	P	P	17 43 19.1	-1.0
	comp=Z,6.5nm,0.8s,mb4.6,baz=10,slow=4.2,SNR=13						
FITZ				pP	pP	17 43 27.0	+2.4
	comp=Z,12nm,0.7s,baz=17,slow=6.2,SNR=13						
WRAB	Tennant Creek	52.77	183	*e*P	P	17 43 23.7	-2.0
	comp=Z,4.9nm,0.8s,mb4.5						
WRAB				*e*		17 43 31.1	
WB2	Warramunga Arr	52.77	183	*e*P	P	17 43 24.0	-1.8
WB2				*e*		17 43 32.1	
WRA	Warramunga Arr	52.77	183	P	P	17 43 23.8	-2.0
	comp=Z,4.9nm,0.9s,mb4.5,baz=1.4,slow=7.7,SNR=34						
WRA				pP	pP	17 43 32.3	+2.0
	comp=Z,7.9nm,0.7s,baz=359,slow=7.7,SNR=22						
WRA	Warramunga Arr	52.77	183	P	P	17 43 23.8	-2.0
WRA				*PP	pP	17 43 32.3	+2.0
WRA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
WRA				pmax	pmax		
	comp=N,8.0nm,0.7s						
COLA	College	54.38	31	*e*P	P	17 43 39.1	+2.2
ILAR	Eielson Array	54.79	31	P	P	17 43 39.3	-0.7
	comp=N,1.1nm,1.0s,mb3.8,baz=278,slow=6.3,SNR=8.4						
ILAR	Eielson Array	54.79	31	P	P	17 43 39.3	-0.7
ILAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						

ASAR	Alice Springs	56.49	183	P	P	17 43 51.0	-1.8
	comp=Z,3.0nm,1.0s,mb4.3,baz=7.8,slow=6.0,SNR=22						
ASAR				pP	pP	17 43 59.8	+2.4
	comp=Z,3.4nm,0.7s,baz=11,slow=12,SNR=14						
ASPA	Alice Springs	56.50	183	eP	P	17 43 51.2	-1.7
ASPA				e		17 43 59.5	
ARU	Arti	56.92	320	⇑iP	P	17 43 54.7	-0.8
ARU				ePPP	PPP	17 47 17.0	-5.7
ARU				eS	S	17 51 44.8	-2.1
ARU				i SS	SS	17 55 35.2	-1.4
ARU				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.9						
FORT	Forrest	64.06	188	eP	P	17 44 43.2	-1.3
	comp=Z,30nm,0.6s,mb5.5						
FORT				e		17 44 51.7	
STKA	Stephens Creek	64.75	176	eP	P	17 44 48.4	-0.6
	comp=Z,1.6nm,0.6s,mb4.2						
STKA				e		17 44 56.1	
STKA	Stephens Creek	64.75	176	P	P	17 44 47.8	-1.3
	comp=Z,2.4nm,0.8s,mb4.3,baz=327,slow=8.4,SNR=6.3						
STKA				pP	pP	17 44 55.9	+2.3
	comp=Z,4.6nm,0.7s,baz=334,slow=7.3,SNR=6.5						
ARCES	ARCESS Array B	66.38	339	P	P	17 44 59.0	+0.2
	comp=Z,1.9nm,0.6s,mb4.3,baz=67,slow=9.2,SNR=11						
ARCES	ARCESS Array B	66.38	339	P	P	17 44 59.0	+0.2
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NWAO	Narrogin (SRO)	68.22	198	P	P	17 45 09.6	-1.4
	comp=Z,5.9nm,0.7s,mb4.8,baz=337,slow=4.3,SNR=5.5						
NWAO				pP	pP	17 45 18.4	+2.8
	comp=Z,17nm,0.7s,baz=6.3,slow=4.5,SNR=4.4						
NWAO	Narrogin (SRO)	68.22	198	P	P	17 45 09.6	-1.4
NWAO				*PP	pP	17 45 18.5	+2.9
NWAO				pmax	pmax		
	comp=Z,6.0nm,0.7s						
NWAO				pmax	pmax		
	comp=N,17nm,0.7s						
OBN	Obninsk	69.02	323	eP	P	17 45 15.3	-0.3
OBN				i		17 45 41.7	
OBN				eS	S	17 54 16.2	-2.3
OBN				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.7						
OBN				MLR	MLR		
	comp=Z,2μm,16.0s,MS5.4						
FINES	FINESS Array B	70.56	332	P	P	17 45 24.8	-0.1
	comp=Z,2.3nm,0.8s,mb4.1,baz=90,slow=7.6,SNR=10						
FINES	FINESS Array B	70.56	332	P	P	17 45 24.8	-0.1
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
AKASG	Malin Array Be	75.11	321	P	P	17 45 51.6	-0.2
	comp=Z,5.1nm,0.8s,mb4.5,baz=47,slow=5.9,SNR=13						
AKASG	Malin Array Be	75.11	321	P	P	17 45 51.7	-0.1
AKASG				pmax	pmax		
	comp=Z,5.0nm,0.8s						
HFS	Hagfors	76.11	334	P	P	17 45 56.9	-0.4
	comp=Z,2.6nm,0.6s,mb4.3,baz=90,slow=3.0,SNR=13						
HFS	Hagfors	76.11	334	P	P	17 45 56.9	-0.4
HFS				pmax	pmax		
	comp=Z,3.0nm,0.6s						
NB2	NORSAR Subarra	76.35	336	P	P	17 45 58.0	-0.6
	comp=Z,0.8nm,0.5s,mb3.9,baz=44,slow=5.6						
NOA	NORSAR Array B	76.35	336	P	P	17 45 58.4	-0.3
	comp=Z,1.0nm,0.5s,mb4.0,baz=45,slow=5.6,SNR=5.6						
NOA	NORSAR Array B	76.35	336	P	P	17 45 58.4	-0.2
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BRTR	Keskin Array B	78.63	310	P	P	17 46 12.4	+0.8
	comp=Z,2.7nm,0.9s,mb4.2,baz=104,slow=5.1,SNR=8.8						
BRTR	Keskin Array B	78.63	310	P	P	17 46 12.5	+0.8
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BOZ	Bozeman (W)	80.12	42	P	P	17 46 21.4	+1.7
	comp=Z,3.4nm,1.1s,mb4.2						
DPC	Dobruska-Polom	81.76	326	eP	P	17 46 29.6	+1.5
UPC	Upice	81.80	326	eP	P	17 46 29.6	+1.3
VYHS	Vyhne	81.80	324	i P	P	17 46 29.4	+1.1
VYHS				e		17 46 38.7	
VRAC	Vranov	82.34	325	P	P	17 46 32.6	+1.4
	comp=Z,4.0nm,0.8s,mb4.4,baz=76,slow=4.6,SNR=6.2						
PVCC	Panska Ves	82.45	327	eP	P	17 46 33.0	+1.3
SMOL	Smolenice	82.48	324	eP	P	17 46 33.8	+1.9
CLL	Collm	82.60	328	P	P	17 46 33.0	+0.5
PRU	Pruhonice	82.84	327	eP	P	17 46 34.8	+1.1
PDAR	Pinedale Array	83.08	43	P	P	17 46 36.5	+1.4
	comp=Z,0.4nm,0.7s,mb3.6,baz=286,slow=6.6,SNR=3.3						
PDAR				pP	pP	17 46 44.4	+4.5
	comp=Z,1.3nm,0.8s,baz=333,slow=3.3,SNR=8.8						
KHC	Kasperske Hory	83.89	326	eP	P	17 46 40.1	+1.0
GERES	GERESS Array B	84.03	326	P	P	17 46 40.6	+0.8
	comp=Z,2.3nm,0.7s,mb4.4,baz=38,slow=5.5,SNR=18						
GERES	GERESS Array B	84.03	326	P	P	17 46 40.6	+0.8
GERES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NEN	Nelson	84.20	51	eP	P	17 46 44.2	+3.2
NEN				e	pP	17 46 50.7	+5.0
GRA1	Grafenberg Arr	84.55	328	eP	P	17 46 42.6	+0.2
	comp=Z,22nm,1.2s,mb5.2						
GRF	Grafenberg Arr	84.55	328	eP	P	17 46 42.6	+0.2
GRF				pmax	pmax		
	comp=Z,22nm,1.2s,mb5.2						
PV10	Paradox Valley	86.17	46	eP	P	17 46 53.4	+2.6
PV10				e		17 47 01.3	
WUAZ	Wupatki	86.52	49	P	P	17 46 54.2	+1.6
WUAZ				e		17 47 02.0	
LOR	Lormes	89.58	330	eP	P	17 47 06.6	-0.3
LPL	La Plagne	89.69	328	eP	P	17 47 07.7	+0.2
	comp=Z,7.8nm,0.9s,mb4.8						
LPG	La Plagne	89.70	327	eP	P	17 47 07.9	+0.4
	comp=Z,4.6nm,0.7s,mb4.6						
MBDF	Montbardon	90.28	327	eP	P	17 47 10.7	+0.5
	comp=Z,12nm,1.1s,mb4.9						
SBF	Sospel	90.63	326	eP	P	17 47 12.4	+0.5
GDL2	Guadalupe Moun	93.10	48	eP	P	17 47 25.5	+2.0
GDL2				e		17 47 33.0	
TXAR	Lajitas Array	95.48	50	P	P	17 47 35.3	+0.8
	comp=Z,1.3nm,1.0s,mb4.3,baz=280,slow=2.2,SNR=8.2						
TXAR				pP	pP	17 47 43.0	+3.8
	comp=Z,6.5nm,1.0s,baz=288,slow=3.6,SNR=19						

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*JMA **05** 17:39:02.5±0.1, 33.05N×137.22E, h38^{km}±3^{km}, M3.5*

ISC 05 17:39:03.2±1.3, **33.07N**±0.07×**137.20E**±0.05, **h38**^{km}**, n13, σ0^{s}47**/22**, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TK01	Tokai 1	0.77	25	P	P	17 39 17.0	-0.5
TK02	Tokai 2	0.99	28	P	P	17 39 20.3	-0.4
TK02				S	S	17 39 34.5	+0.8
TK03	Tokai 3	1.26	30	P	P	17 39 24.1	-0.5
JWZ	Kozaga	1.33	291	P	P	17 39 25.5	-0.1
JWZ				S	S	17 39 41.5	-0.8
JIE	Ise	1.38	343	P	P	17 39 26.8	+0.4
JIE				S	S	17 39 44.0	+0.4
JKN	Kiinagashima	1.41	327	P	P	17 39 26.9	+0.1
JKN				S	S	17 39 43.4	-1.0
TK04	Tokai 4	1.43	23	P	P	17 39 26.7	-0.3
JAA	Atsumi	1.56	358	P	P	17 39 28.8	-0.1
JAA				S	S	17 39 47.8	-0.3
JWM	Minabe	1.73	297	P	P	17 39 31.4	+0.1
TSUJ	Tsu 2	1.76	339	P	P	17 39 32.4	+0.7
TSUJ				S	S	17 39 53.0	-0.1
JWY	Kouya	1.76	311	P	P	17 39 32.5	+0.7
JWY				S	S	17 39 53.5	+0.3
JHE	Heguri	2.02	322	P	P	17 39 36.0	+0.5
JHE				S	S	17 39 59.9	+0.2
MAT	Matsushiro	3.56	13	P	P	17 39 57.7	+0.3
MAT				S	S	17 40 38.6	-0.2

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*IDC **05** 17:41:20.9±0.5, 15.10S×173.61W, mb4.7/16, mb1 4.9/17, mb1mx4.8/19, ML4.9/1, Error ellipse: s-maj=25.4km s-min=14.3km az=141.0*

*SYO **05** 17:41:21.2, 15.49S×173.34W, h10^{km}, MB4.9*

*BJI **05** 17:41:22.2, 15.10S×173.60W, h10^{km}, mB5.0, mb4.7, Ms5.1, Msz4.8*

*NEIC **05** 17:41:22.2±0.2, 15.08S×173.61W, h10^{km}, mb4.8/20, Error ellipse: s-maj=12.2km s-min=5.5km az=142.0*

*ORF **05** 17:41:35.6, 10.90S×173.25W, h30^{km}, mb5.5*

ISC 05 17:41:20.4±0.3, **15.13S**±0.07×**173.61W**±0.06, **h10**^{km}**, n132, σ1^{s}05**/71**, mb4.8**/41**, 6C-1D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	Nonsavu	8.41	251	Pn	P	17 43 35.8	+10
	974nm,1.2s,SNR=28						
RAR	Rarotonga	14.47	117	Pn	P	17 44 40.2	-7.3
	5.3nm,0.3s,baz=260,slow=6.7,SNR=17						
RAR				Sn	S	17 47 10.5	-18
	1.7nm,0.3s,baz=58,slow=15,SNR=3.4						
RAR	Rarotonga	14.47	117	eP	P	17 44 40.4	-7.1
	43nm,0.8s						
PPT	Papeete	23.18	99	P	P	17 46 28.0	-0.5
	17nm,0.7s,mb4.6,baz=259,slow=5.2,SNR=2.4						
PPT	Papeete	23.18	99	eP	P	17 46 28.1	-0.4
	76nm,1.4s,mb4.9						
PAE	Paea	23.18	100	eP	P	17 46 27.6	-0.9
	108nm,1.3s,mb5.1						
TIAR	Tiarei	23.40	99	eP	P	17 46 30.0	-0.6
	250nm,1.3s,mb5.5						
TVO	Taravao	23.50	100	eP	P	17 46 30.8	-0.8
	68nm,1.0s,mb5.0						
TBI	Tubuai	24.19	113	eP	P	17 46 38.7	+0.4
	64nm,1.0s,mb5.0						
URZ	Urewera	24.46	198	P	P	17 46 42.8	+2.1
	14nm,0.9s,mb4.4,baz=79,slow=5.2,SNR=5.7						
RPZ	Rata Peaks	31.36	202	P	P	17 47 43.3	-0.2
	15nm,1.0s,mb4.8,baz=53,slow=10,SNR=2.3						
CTA	Charters Tower	38.51	257	P	P	17 48 45.7	+0.8
	7.2nm,0.9s,mb4.4,baz=86,slow=7.9,SNR=5.2						
CTA	Charters Tower	38.51	257	P	P	17 48 45.7	+0.8
CTAO	Charters Tower	38.51	257	P	P	17 48 45.4	+0.5
	7.6nm,0.9s,mb4.4						
CNB	Canberra Magne	38.76	232	eP	P	17 48 46.4	-0.5
	28nm,1.4s,mb4.8						
TOO	Toolangi	42.48	230	eP	P	17 49 17.7	+0.1
	7.1nm,1.1s,mb4.2						
STKA	Stephens Creek	44.00	240	eP	P	17 49 30.3	+0.3
	2.8nm,0.6s,mb4.2						
STKA	Stephens Creek	44.00	240	P	P	17 49 29.4	-0.6
	2.6nm,0.8s,mb4.0,baz=89,slow=9.4,SNR=6.8						
WB2	Warramunga Arr	49.70	257	eP	P	17 50 14.3	-0.7
WRAB	Tennant Creek	49.70	257	eP	P	17 50 13.9	-1.1
	20nm,1.0s,mb5.1						
WRA	Warramunga Arr	49.71	257	P	P	17 50 14.1	-1.0
	9.0nm,0.8s,mb4.9,baz=91,slow=7.5,SNR=105						
ASAR	Alice Springs	50.01	252	P	P	17 50 16.1	-1.2
	44nm,0.7s,mb5.6,baz=86,slow=8.1,SNR=473						
ASPA	Alice Springs	50.01	252	eP	P	17 50 16.1	-1.2
KAKA	Kakadu	52.36	265	eP	P	17 50 32.0	-3.2
	5.9nm,0.6s,mb4.7						
FORT	Forrest	55.36	243	eP	P	17 50 55.6	-1.6
	37nm,0.8s,mb5.5						
JNU	Nakatsue	71.47	313	P	P	17 52 44.1	+0.7
	18nm,0.8s,mb5.0,baz=90,slow=8.1,SNR=5.6						
OHCM	Honcut	72.77	40	eP	P	17 52 50.3	-0.8
ASMM	Slate Mountain	72.97	41	P	P	17 52 49.8	-2.5
MTUM	Tungsten Hills	73.48	43	eP	P	17 52 52.2	-3.1
YBH	Yreka Blue Hor	73.50	37	P	P	17 52 55.7	+0.3
	3.8nm,0.6s,mb4.5,baz=249,slow=7.2,SNR=4.2						
TPH	Tonopah	74.77	43	eP	P	17 53 01.8	-0.9
	12nm,1.3s,mb4.7						
QSPA	South Pole Qui	74.92	180	eP	P	17 53 05.1	+2.3
	25nm,1.2s,mb5.0						
MOD	Modoc	75.03	38	eP	P	17 53 03.5	-0.7
	15nm,1.4s,mb4.7						
MSU	Marysvale	78.37	45	eP	P	17 53 23.1	+0.2
TTA	Tatalina	79.01	8	eP	P	17 53 27.1	+1.2
HLID	Hailey	79.54	39	eP	P	17 53 28.6	-0.6
	15nm,1.3s,mb4.8						
DAU	Daniels Canyon	79.94	43	eP	P	17 53 32.3	+0.9
LAZ	Ladron	80.04	50	eP	P	17 53 32.6	+0.5
BNM	Barren Site	80.31	51	eP	P	17 53 34.8	+1.2
PV10	Paradox Valley	80.46	46	eP	P	17 53 34.5	+0.2
LTX	Lajitas	80.63	56	eP	P	17 53 36.0	+0.7
	32nm,1.3s,mb5.1						
TXAR	Lajitas Array	80.63	56	P	P	17 53 35.8	+0.5
	5.7nm,1.1s,mb4.4,baz=217,slow=6.3,SNR=23						
PV01	Paradox Valley	80.68	46	eP	P	17 53 35.5	+0.1
CN2	Changchun	80.75	320	eP	P	17 53 37.7	+2.1
CN2				eXP	sP	17 53 44.7	+4.8
CN2				eS	S	18 03 46.0	+4.0
CN2				AMB	AMB		
	comp=Z,20nm,1.5s,mb4.8						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
ANMO	Albuquerque	80.78	50	eP	P	17 53 35.8	-0.1
	comp=Z,14nm,1.3s,mb4.7						
MCK	McKinley	80.89	11	eP	P	17 53 35.4	-0.6
	comp=Z,9.0nm,0.9s,mb4.7						
MCMT	McKenzie Canyo	81.17	39	eP	P	17 53 38.1	+0.3
AHID	Auburn Hatcher	81.20	41	eP	P	17 53 36.0	-2.1
	comp=Z,1.8nm,0.3s,mb4.5						
GDL2	Guadalupe Moun	81.22	53	eP	P	17 53 38.6	+0.2
DLBC	Dease Lake	81.52	22	P	P	17 53 39.4	+0.1
	comp=Z,2.8nm,1.0s,mb4.2,baz=244,slow=12,SNR=3.8						
MSO	Missoula	81.58	37	eP	P	17 53 39.2	-0.8
MSO				e		17 53 46.5	
CHMT	Chamberlain Mo	82.03	37	eP	P	17 53 41.9	-0.3
QLMT	Earthquake Lak	82.03	39	eP	P	17 53 43.0	+0.7
COLA	College	82.13	11	eP	P	17 53 42.2	-0.2
PDAR	Pinedale Array	82.19	42	P	P	17 53 43.0	-0.1
	comp=Z,2.8nm,0.8s,mb4.2,baz=225,slow=4.2,SNR=19						
ILAR	Eielson Array	82.22	11	P	P	17 53 42.5	-0.4
	comp=Z,4.5nm,1.1s,mb4.3,baz=211,slow=4.8,SNR=27						
IMA	Indian Mountai	82.32	8	eP	P	17 53 44.5	+1.1
	comp=Z,8.8nm,0.8s,mb4.7						
BOZ	Bozeman (W)	82.33	39	eP	P	17 53 43.9	+0.1
	comp=Z,14nm,1.4s,mb4.7						
SDCO	Great Sand Dun	82.68	48	eP	P	17 53 46.2	+0.4
	comp=Z,25nm,1.5s,mb5.0						
SDCO				e		17 53 53.2	
HRY	Holter Researc	82.75	38	eP	P	17 53 45.8	-0.3
DAWY	Dawson	83.21	14	eP	P	17 53 47.8	-0.2
BJI	Beijing	85.14	314	P	P	17 53 59.5	+1.2
BJI				AMB	AMB		
	comp=Z,11nm,1.5s,mb4.8						
GYA	Guiyang	87.74	298	P	P	17 54 17.4	+6.1
GYA				AP	pP	17 54 22.2	+7.6
GYA				XP	sP	17 54 24.6	+9.0
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb5.0						
MAW	Mawson	87.99	199	eP	P	17 54 13.3	+1.8
	comp=Z,4.2nm,0.7s,mb4.8						
MAW	Mawson	87.99	199	P	P	17 54 13.0	+1.5
	comp=Z,12nm,1.1s,mb5.0,baz=133,slow=5.6,SNR=11						
YKA	Yellowknife Ar	89.93	23	P	P	17 54 21.0	+0.2
	comp=Z,2.6nm,0.8s,mb4.6,baz=244,slow=6.0,SNR=4.4						
KMI	Kunming	90.73	296	eP	P	17 54 27.6	+2.1
KMI				XP	sP	17 54 36.3	+6.6
KMI				AMB	AMB		
	comp=Z,5.0nm,2.0s,mb4.5						
JTS	JuntasAbangare	91.36	80	P	P	17 54 30.2	+1.6
	comp=Z,39nm,1.3s,mb5.6,baz=251,slow=7.0,SNR=3.9						
SYO	Syowa Base	92.83	191	⇑P	P	17 54 35.2	+1.1
SYO	Syowa Base	92.83	191	⇓pP	pP	17 54 38.9	+1.6
SNAA	Sanae	93.19	177	P	P	17 54 32.7	-3.0
	comp=Z,0.3nm,0.5s,mb4.0						
BVAR	Borovoye Array	117.55	322	PKP	PKPdf	18 00 08.5	-1.1
	comp=Z,1.0nm,0.8s,baz=45,slow=2.0,SNR=6.4						
ARCES	ARCESS Array B	124.31	352	PKP	PKPdf	18 00 21.6	-0.9
	comp=Z,4.5nm,0.8s,slow=2.4,SNR=7.7						
FINES	FINESS Array B	131.63	347	PKP	PKPdf	18 00 35.6	-0.9
	comp=Z,1.1nm,0.7s,baz=117,slow=9.3,SNR=2.9						
AKASG	Malin Array Be	140.01	337	PKP	PKPdf	18 00 51.3	-1.0
	comp=Z,2.8nm,1.0s,baz=27,slow=2.3,SNR=6.7						
CLL	Collm	143.52	353	ePKIKP	PKPdf	18 01 01.0	+2.7
BRG	Berggiesshubel	143.83	352	i P	PKPbc	18 01 00.3	+5.5
UPC	Upice	143.86	350	ePKP	PKPdf	18 00 57.5	-1.4
DPC	Dobruska-Polom	143.96	349	ePKP	PKPdf	18 00 56.8	-2.3
OKC	Ostrava-Krasne	144.08	347	ePKP	PKPdf	18 00 59.6	+0.3
MOX	Moxa	144.32	354	eP	PKPbc	18 01 08.0	+12
LIKS	Likavka	144.60	346	ePKP	PKPdf	18 01 04.9	+4.6
PRU	Pruhonice	144.60	351	ePKP	PKPdf	18 01 00.3	0.0
GIVF	Givet	145.09	2	ePKP1	PKPbc	18 01 00.4	+2.0
BAIF	Baives	145.12	2	ePKP1	PKPbc	18 01 00.1	+1.7
	comp=Z,26nm,0.9s						
VYHS	Vyhne	145.18	345	ePKP	PKPdf	18 01 00.1	-1.2
GRA1	Grafenberg Arr	145.30	354	ePKPbc	PKPbc	18 01 00.4	+1.5
PSZ	Piszkesteto	145.44	344	⇑ePKP/p		18 01 00.5	
PSZ	Piszkesteto	145.44	344	ePKPdf	PKPdf	18 00 59.2	-2.6
KMBO	Kilima Mbogo	145.47	245	PKPbc	PKPbc	18 01 02.4	+1.9
	comp=Z,1.9nm,0.7s,baz=83,slow=12,SNR=6.3						
WLF	Walferdange	145.56	0	ePKPdf	PKPdf	18 01 00.6	-1.3
KHC	Kasperske Hory	145.58	352	ePKP	PKPdf	18 01 01.4	-0.6
BRTR	Keskin Array B	145.82	321	PKPbc	PKPbc	18 01 01.9	+1.4
	comp=Z,6.7nm,0.8s,baz=84,slow=1.9,SNR=22						
GERES	GERESS Array B	145.84	351	PKPbc	PKPbc	18 01 01.9	+1.6
	comp=Z,2.8nm,0.7s,baz=45,slow=1.9,SNR=22						
ZST	Bratislava	145.86	347	ePKP	PKPdf	18 01 02.0	-0.5
FLN	La Foliniere	145.99	8	ePKP1	PKPbc	18 01 02.4	+1.7
LDF	La Druitiere	146.20	8	ePKP1	PKPbc	18 01 03.0	+1.8
GRR	Gorron	146.30	9	ePKP1	PKPbc	18 01 03.5	+2.1
	comp=Z,35nm,1.1s						
MEZF	Maizieres J'vi	146.70	2	ePKP1	PKPbc	18 01 05.2	+2.9
MOA	Molln	146.73	350	⇑iP	PKPbc	18 01 05.4	+3.0
CDF	Champ du Feu	146.80	359	ePKP1	PKPbc	18 01 05.5	+2.9
	comp=Z,38nm,1.0s						
ARSA	Arzberg	147.08	349	⇑iP	PKPdf	18 01 10.1	+5.5
HAU	Haudompre	147.22	0	ePKP1	PKPdf	18 01 06.6	+1.8
	comp=Z,35nm,0.9s						
HINF	Hinteralfeld	147.40	359	ePKP1	PKPdf	18 01 06.6	+1.5
	comp=Z,6.2nm,0.7s						
MOTA	Moosalm	147.64	354	⇑iP	PKPdf	18 01 07.7	+2.2
WTTA	Wattenberg	147.66	353	⇑iP	PKPdf	18 01 07.7	+2.2
LOR	Lormes	147.88	3	ePKP1	PKPdf	18 01 07.3	+1.4
	comp=Z,19nm,0.7s						
SSF	Saint Saulge	148.07	4	ePKP1	PKPdf	18 01 08.1	+1.9
	comp=Z,23nm,1.0s						
DAVOX	Davos	148.31	355	PKPbc	PKPdf	18 01 10.1	+3.5
	comp=Z,8.1nm,0.7s,baz=283,slow=3.4,SNR=7.6						
AVF	Avril sur Loir	148.33	4	ePKP1	PKPdf	18 01 09.3	+2.7
SMF	Signal de Mont	148.50	3	ePKP1	PKPdf	18 01 09.8	+2.9
	comp=Z,19nm,0.9s						
BGF	Bois d'Agland	148.52	5	ePKP1	PKPdf	18 01 09.6	+2.7
	comp=Z,37nm,1.0s						
CABF	La Chapelle	148.61	0	ePKP1	PKPdf	18 01 10.3	+3.2
	comp=Z,55nm,0.9s						
TCF	Toulx Ste Croi	148.74	6	ePKP1	PKPdf	18 01 10.3	+3.0
	comp=Z,65nm,1.7s						
DIVS	Divcibare	148.89	341	eP	PKPdf	18 00 58.9	-8.7
VAI	Varese	149.29	357	ePKP	PKPdf	18 01 11.4	+3.2
RJF	Les Rejaudoux	149.64	7	ePKP1	PKPdf	18 01 13.1	+4.3
LPL	La Plagne	149.71	360	ePKP1	PKPdf	18 01 13.4	+4.5
	comp=Z,19nm,0.9s						
LPG	La Plagne	149.72	360	ePKP1	PKPdf	18 01 14.0	+5.1
	comp=Z,33nm,0.9s						
LFF	La Frestale	149.90	8	ePKP1	PKPdf	18 01 13.3	+4.1
CAF	Calviac	150.07	6	ePKP1	PKPdf	18 01 13.5	+4.0
	comp=Z,9.7nm,0.9s						
BNI	Bardonecchia	150.17	360	ePKPbc	PKPdf	18 01 15.0	+5.4
BNI				ePKPab	PKPab	18 01 19.3	-0.6
ORIF	Oris-en-Rattie	150.30	1	ePKP1	PKPdf	18 01 14.6	+4.8
	comp=Z,21nm,0.9s						
VIVF	Saint-Julien-l	150.33	2	ePKP1	PKPdf	18 01 15.2	+5.3
	comp=Z,22nm,1.0s						
MBDF	Montbardon	150.49	359	ePKP1	PKPdf	18 01 15.8	+5.7
	comp=Z,16nm,0.8s						
LASF	Ste Croix	151.06	4	ePKP1	PKPdf	18 01 17.1	+6.1
	comp=Z,28nm,1.1s						
SMRF	Simiane la Rot	151.24	1	ePKP1	PKPdf	18 01 17.5	+6.3
	comp=Z,48nm,1.2s						
MTLF	Montolieu	151.65	6	ePKP1	PKPdf	18 01 18.2	+6.3
	comp=Z,16nm,1.0s						
ETSF	Etsaut	151.69	11	ePKP1	PKPdf	18 01 18.4	+6.4
	comp=Z,31nm,1.2s						
LMR	La Mourre	151.89	360	ePKP1	PKPdf	18 01 18.4	+6.2
	comp=Z,41nm,1.2s						
PGF	Pioggiola	152.58	356	ePKP1	PKPdf	18 01 20.7	+7.4
ESDC	Sonseca Array	153.91	18	PKPab	PKPab	18 01 35.7	-0.1
	comp=Z,0.9nm,0.6s,baz=320,slow=3.1,SNR=7.6						

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*JMA **05** 17:50:57.4±0.1, 33.31N×136.88E, h39^{km}±4^{km}, M3.6*

ISC 05 17:50:56.8±1.4, **33.35N**±0.07×**136.90E**±0.05, **h19**^{km}±9^{km}**, n11, σ0^{s}45**/19**, 1C-1D, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JWZ	Kozaga	1.00	281	⇑P	Pb	17 51 15.2	-0.1
JKN	Kiinagashima	1.04	330	P	Pb	17 51 16.3	+0.4
JKN				S	Sb	17 51 28.9	-0.2
JIE	Ise	1.05	351	⇓P	Pb	17 51 16.8	+0.7
JIE				S	Sb	17 51 30.5	+1.1
TK03	Tokai 3	1.20	47	P	Pb	17 51 18.2	-0.6
TK03				S	Sb	17 51 33.8	-0.1
JAA	Atsumi	1.29	9	P	Pn	17 51 19.9	-0.2
JAA				S	Sb	17 51 36.3	-0.2
TK04	Tokai 4	1.31	38	S	Sb	17 51 37.0	-0.1
JWM	Minabe	1.38	292	P	Pn	17 51 21.1	-0.2
JWY	Kouya	1.39	309	P	Pn	17 51 21.7	+0.3
JWY				S	Sb	17 51 38.4	-0.8
TSUJ	Tsu 2	1.41	344	P	Pn	17 51 22.0	+0.2
TSUJ				S	Sb	17 51 39.6	-0.3
JHE	Heguri	1.64	323	P	Pn	17 51 25.7	+0.6
JHE				S	Sn	17 51 45.6	-0.2
MAT	Matsushiro	3.36	18	P	Pn	17 51 49.8	+0.2
MAT				eS	Sn	17 52 29.0	-0.4

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*BJI **05** 17:56:48.5, 8.31S×129.10E, h138^{km}, mb4.7*

*NEIC **05** 17:56:59.1±1.9, 7.53S×128.22E, h138^{km}±17^{km}, mb4.6/8, Error ellipse: s-maj=15.9km s-min=8.6km az=61.0*

*IDC **05** 17:56:59.9±3.4, 7.54S×128.19E, h142^{km}±32^{km}, mb4.3/9, mb1 4.4/12, mb1mx4.3/17, Error ellipse: s-maj=29.2km s-min=11.4km az=62.0*

ISC 05 17:56:56.3±2.0, **7.59S**±0.06×**128.14E**±0.09, **h127**^{km}±19^{km}**, n42, σ1^{s}19**/39**, mb4.8**/20**, 4C-2D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	10.73	193	P	P	17 59 28.6	+1.1
	9.8nm,0.3s,baz=16,slow=9.3,SNR=371						
FITZ				S	S	18 01 23.0	-2.6
	11nm,0.3s,baz=347,slow=8.4,SNR=7.9						
WRAB	Tennant Creek	13.66	154	ePn	P	18 00 04.9	-1.0
	52nm,0.8s						
WRAB				eSn	S	18 02 23.4	-11
WRA	Warramunga Arr	13.67	155	P	P	18 00 04.3	-1.6
	5.1nm,0.3s,baz=323,slow=14,SNR=126						
WRA				S	S	18 02 27.3	-7.7
	22nm,0.3s,baz=334,slow=21,SNR=11						
MBWA	Marble Bar	15.75	210	ePn	P	18 00 34.8	+2.5
	7.0nm,0.4s						
MBWA				Sn	S	18 03 22.3	-0.6
ASAR	Alice Springs	16.91	162	P	P	18 00 47.3	+0.6
	2.6nm,0.3s,baz=336,slow=9.5,SNR=187						
ASAR				S	S	18 03 45.5	-3.6
	5.9nm,0.3s,baz=345,slow=26,SNR=7.0						
CTA	Charters Tower	21.50	127	P	P	18 01 37.4	+1.3
	3.6nm,0.5s,mb4.0,baz=297,slow=16,SNR=13						
CTAO	Charters Tower	21.50	127	eP	P	18 01 36.9	+0.7
	3.4nm,0.5s,mb3.9						
TGY	Tagaytay City	22.71	342	P	P	18 01 50.7	+2.6
	98nm,0.6s,mb5.3,baz=197,slow=3.3,SNR=5.1						
NWAO	Narrogin (SRO)	27.16	200	P	P	18 02 31.1	+1.2
	8.5nm,0.7s,mb4.4,baz=57,slow=3.8,SNR=10						
NWAO	Narrogin (SRO)	27.16	200	eP	P	18 02 31.4	+1.5
STKA	Stephens Creek	27.22	154	P	P	18 02 30.7	+0.3
	6.9nm,0.6s,mb4.4,baz=331,slow=7.8,SNR=31						
CMAR	Chiang Mai Arr	38.73	312	P	P	18 04 11.7	+1.8
	3.4nm,0.7s,mb4.3,baz=142,slow=6.9,SNR=0.9						
LSA	Lhasa	51.38	318	P	P	18 05 51.2	+0.9
RPZ	Rata Peaks	51.91	141	P	P	18 05 54.7	+0.6
	22nm,0.8s,mb5.2,baz=210,slow=4.0,SNR=6.7						
GTA	Gaotai	53.63	333	eP	P	18 06 06.6	-0.3
GTA				AMB	AMB		
	comp=Z,4.0nm,0.7s,mb4.6						
PKI	Pulchoki	54.13	312	eP	P	18 06 10.1	-0.6
	comp=Z,13nm,0.7s,mb5.1						
KKN	Kakani	54.35	312	eP	P	18 06 11.8	-0.5
	comp=Z,13nm,0.7s,mb5.1						
DMN	Daman	54.37	312	eP	P	18 06 12.2	-0.3
	comp=Z,17nm,0.8s,mb5.2						
GKN	Gorkha	54.94	312	eP	P	18 06 16.1	-0.5
	comp=Z,26nm,0.7s,mb5.4						
KOLN	Koldanda	55.58	311	eP	P	18 06 21.0	-0.3
	comp=Z,32nm,0.7s,mb5.4						
SONM	Songino Array	58.44	343	P	P	18 06 40.9	-0.2
	comp=Z,3.7nm,0.9s,mb4.4,baz=169,slow=7.0,SNR=29						
MKAR	Makanchi Array	67.73	328	P	P	18 07 41.6	-0.7
	comp=Z,4.1nm,0.6s,mb4.5,baz=121,slow=7.5,SNR=40						
YAK	Yakutsk	69.42	1	eP	P	18 07 49.2	-3.2
	comp=Z,20nm,0.8s,mb5.0						
AAK	Ala-Archa	69.81	321	eP	P	18 07 54.0	-1.1
	comp=Z,3.5nm,1.1s,mb4.1						
ZAL	Zalesovo	71.31	335	P	P	18 08 02.4	-1.6
	comp=Z,6.1nm,1.0s,mb4.4,baz=270,slow=3.3,SNR=22						
KURK	Kurchatov	72.07	329	P	P	18 08 07.4	-1.1
	comp=Z,159nm,0.8s,SNR=31						
KURK	Kurchatov	72.07	329	eP	P	18 08 07.7	-0.7

	comp=Z,27nm,0.9s,mb5.1						
SBA	Scott Base	73.00	172	P	P	18 08 13.8	+0.3
	comp=Z,7.5nm,0.9s,mb4.5						
BRVK	Borovoye	77.66	328	eP	P	18 08 39.6	-0.7
QSPA	South Pole Qui	82.39	180	eP	P	18 09 05.7	+0.7
	comp=Z,6.8nm,0.7s,mb4.6						
SYO	Syowa Base	82.44	201	⇑P	P	18 09 06.3	+0.8
SYO	Syowa Base	82.44	201	⇓PcP	PcP	18 09 12.2	+1.6
SYO	Syowa Base	82.44	201	⇑sP	sP	18 09 43.0	-9.0
SNAA	Sanae	94.66	194	⇑i	P	18 10 05.1	+1.5
VNA2	Neumayer--Watz	96.24	193	⇓i	P	18 10 20.5	+10
VNA3	Neumayer Olymp	96.51	193	⇑i	P	18 10 16.3	+4.3
GERES	GERESS Array B	111.69	320	PKiKP		18 15 16.9	
	comp=Z,0.4nm,0.6s,baz=45,slow=3.8,SNR=4.5						
PDAR	Pinedale Array	118.61	45	PKP	PKPdf	18 15 30.1	+0.6
	comp=Z,0.6nm,0.8s,baz=45,slow=2.1,SNR=5.8						
TXAR	Lajitas Array	126.81	59	PKP	PKPdf	18 15 47.2	+1.6
	comp=Z,0.3nm,0.8s,baz=315,slow=1.8,SNR=4.0						
CPUP	Villa Florida	145.86	171	PKPbc	PKPbc	18 16 22.5	+0.8
	comp=Z,5.4nm,0.9s,baz=208,slow=4.4,SNR=10						
JTS	JuntasAbangare	147.21	83	PKPbc	PKPdf	18 16 27.0	+3.8
	comp=Z,5.8nm,0.7s,baz=290,slow=2.9,SNR=6.1						
LPAZ	La Paz	151.32	146	PKPbc	PKPdf	18 16 38.4	+8.8
	comp=Z,3.8nm,0.5s,baz=22,slow=0.2,SNR=11						
LPAZ				PKPab	PKPab	18 16 47.4	+0.8
	comp=Z,2.2nm,0.3s,baz=210,slow=7.5,SNR=8.1						

IDC 05 18:09:27.5±1.3**, 0.51S**×**124.84E, mb3.3**/4**, mb1 3.6**/4**, mb1mx3.5**/13**, Error ellipse: s-maj=178.0km s-min=22.2km az=67.0, Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.44	155	P	P	18 14 17.5	-2.1
	0.7nm,0.4s,baz=337,slow=9.8,SNR=13						
ASAR	Alice Springs	24.64	160	P	P	18 14 50.0	-1.3
	0.6nm,0.4s,baz=342,slow=6.9,SNR=13						
SONM	Songino Array	50.76	344	P	P	18 18 30.3	-1.1
	0.2nm,0.7s,baz=162,slow=7.8,SNR=3.8						
MKAR	Makanchi Array	60.02	328	P	P	18 19 35.4	-3.0
	0.1nm,0.4s,baz=147,slow=4.8,SNR=4.5						

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*IDC **05** 18:13:43.7±0.5, 33.35N×137.13E, mb4.4/21, mb1 4.6/24, mb1mx4.6/28, ML4.0/4, Error ellipse: s-maj=15.4km s-min=13.0km az=64.0*

*BJI **05** 18:13:44.7, 33.34N×137.33E, h27^{km}, mB5.1, mb4.8, Ms5.0, Msz4.9*

*NEIC **05** 18:13:45.3±0.2, 33.34N×137.04E, h10^{km}, mb4.8/28, Error ellipse: s-maj=5.3km s-min=4.6km az=134.0*

NEIC Recorded [1 JMA] in Aichi and Mie Prefectures.

*JMA **05** 18:13:45.0±0.1, 33.34N×137.13E, h43^{km}±2^{km}, M4.5*

JMA Felt I J1.

*MOS **05** 18:13:47.2±1.0, 33.36N×137.07E, h33^{km}, mb5.2/12, Error ellipse: s-maj=17.9km s-min=8.3km az=108.4*

ISC 05 18:13:43.7±1.2**, 33.32N**±0.03×**137.12E**±0.03**, h10**^{km}±7^{km}**, n180, σ0^{s}95**/186**, mb4.7**/67**, MS5.0**/5**, 8C-8D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	Tokai 1	0.59	41	P	Pb	18 13 56.7	+1.0
TK01				S	Sb	18 14 05.1	+1.2
TK02	Tokai 2	0.82	40	P	Pb	18 13 59.9	+0.3
TK02				eS	Sb	18 14 11.3	+0.8
TK03	Tokai 3	1.10	40	⇓P	Pb	18 14 03.8	-0.5
JIE	Ise	1.12	342	⇑P	Pb	18 14 04.8	+0.1
JIE				eS	Sb	18 14 19.1	-0.1
JKN	Kiinagashima	1.17	323	⇑P	Pb	18 14 05.2	-0.3
JWZ	Kozaga	1.19	281	⇑P	Pb	18 14 05.6	-0.3
JWZ				eS	Sb	18 14 19.9	-1.3
TK04	Tokai 4	1.24	30	⇑P	Pb	18 14 05.9	-0.8
TSUJ	Tsu 2	1.50	337	⇑P	Pn	18 14 10.2	-0.6
JWY	Kouya	1.55	306	P	Pn	18 14 11.4	-0.2
JWM	Minabe	1.56	290	P	Pn	18 14 11.4	-0.3
JHE	Heguri	1.79	319	P	Pn	18 14 14.2	-0.7
SHZ3	Shizuoka 3	1.96	27	P	Pn	18 14 15.7	-1.7
JIZS	Izushimoda	2.02	46	P	Pn	18 14 19.1	+0.8
JAJ2	Tsuna	2.16	301	P	Pn	18 14 20.5	+0.3
JAJ2				eS	Sn	18 14 45.6	-1.6
JHJ	Hachijo jima 2	2.24	94	Pn	Pn	18 14 21.8	+0.3
	103nm,0.3s,baz=220,slow=21,SNR=15						
JHJ				Sn	Sn	18 14 47.1	-2.3
	267nm,0.3s,baz=64,slow=21,SNR=17						
JHJ2	Mitsune	2.27	95	P	Pn	18 14 21.7	-0.2
JHJ2				eS	Sn	18 14 47.2	-3.0
MAJO	Matsushiro	3.34	15	ePn	Pn	18 14 36.2	-0.8
MAT	Matsushiro	3.34	15	P	Pn	18 14 36.7	-0.3
MAT				S	Sn	18 15 14.9	-2.3
MAT	Matsushiro	3.34	15	eP	Pn	18 14 37.0	0.0
MAT				eS	Sn	18 15 15.0	-2.2
JNU	Nakatsue	5.23	270	Pn	Pn	18 15 02.5	-1.4
	0.8nm,0.3s,baz=114,slow=7.9,SNR=4.0						
CBIJ	Chichi jima	7.59	143	Pn	Pn	18 15 36.2	-1.0
	55nm,0.3s,baz=272,slow=22,SNR=9.3						
ASAJ	Asahikawa	11.60	20	Pn	P	18 16 28.8	-3.5
	1.6nm,0.3s,baz=224,slow=11,SNR=15						
ASAJ	Asahikawa	11.60	20	P	P	18 16 28.8	-3.5
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
SSE	Sheshan	13.67	265	P	P	18 17 03.5	+3.4
SSE				AMB	AMB		
	comp=Z,41nm,0.6s						
CN2	Changchun	13.87	322	eP	P	18 17 02.5	-0.1
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s						
CN2				LR	LR		
	comp=N,4μm,18.0s						
CN2				LR	LR		
	comp=E,4μm,18.0s						
CN2				LR	LR		
	comp=Z,4μm,19.0s						
YSS	Yuzh-Sakhalins	14.28	16	⇓eP	P	18 17 03.9	-4.0
YSS				pmax	pmax		
	comp=Z,17nm,1.1s						
YSS	Yuzh-Sakhalins	14.28	16	ePn	P	18 17 03.8	-4.1
	comp=Z,10.0nm,0.4s						
NJ2	Nanjing	15.43	270	eP	P	18 17 23.2	+0.1
NJ2				AP		18 17 30.4	
NJ2				PP	PP	18 17 35.0	-0.6
NJ2				LR	LR		
	comp=N,7μm,20.5s						
NJ2				LR	LR		
	comp=E,4μm,16.7s						
NJ2				LR	LR		
	comp=Z,7μm,18.6s						
KLR	Kul’dur	16.39	347	eP	P	18 17 34.6	-0.7
BJT	Baijiatuau	18.07	298	eP	P	18 17 56.5	+0.1
	comp=Z,52nm,1.0s						
BJI	Beijing	18.07	298	P	P	18 17 57.7	+1.3
BJI				AMB	AMB		
	comp=Z,50nm,1.0s						
WHN	Wuhan	19.52	268	eP	P	18 18 14.5	+0.6
WHN				AP		18 18 20.1	
HIA	Hailar	20.52	326	eP	P	18 18 22.2	-2.4
	comp=Z,11nm,0.7s						
HHC	Hu-ho-hao-te	21.68	298	eP	P	18 18 37.3	+0.8
HHC				PP	PP	18 19 00.2	-1.1
HHC				AMB	AMB		
	comp=Z,19nm,0.5s,mb4.8						
HHC				LR	LR		
	comp=N,2μm,17.2s,MS4.7						
HHC				LR	LR		
	comp=E,1μm,19.0s,MS4.7						
HHC				LR	LR		
	comp=Z,2μm,25.0s						
BTO	Baotou	22.78	296	eP	P	18 18 47.2	-0.2
BTO				AMB	AMB		
	comp=Z,30nm,0.6s,mb4.9						
XAN	Xi’an	23.45	280	P	P	18 18 54.5	+0.5
XAN				AP		18 19 05.5	
XAN				AMB	AMB		
	comp=Z,26nm,1.7s,mb4.4						
ENH	Enshi	23.65	270	eP	P	18 18 57.1	+1.1
	comp=Z,170nm,1.5s,mb5.2						
PET	Petropavlovsk	25.02	32	eP	P	18 19 10.8	+1.8
PET				eS	S	18 23 35.0	+4.9
PET				pmax	pmax		
	comp=Z,42nm,1.1s,mb4.9						
PET				smax			
	comp=N,500nm,10.4s						
PET				MLR	MLR		
	comp=Z,4μm,19.0s,MS4.9						
GYA	Guiyang	27.21	264	⇑iP	P	18 19 32.3	+2.7
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.5						
SONM	Songino Array	27.26	311	P	P	18 19 29.6	-0.2
	comp=Z,3.8nm,0.8s,mb4.0,baz=118,slow=9.4,SNR=28						
LZH	Lanzhou	27.42	285	⇓P	P	18 19 31.7	+0.3
LZH				PP	PP	18 20 18.3	-0.6
LZH				AMB	AMB		
	comp=Z,35nm,1.5s,mb4.7						
LZH				LR	LR		
	comp=N,957nm,13.3s						
LZH				LR	LR		
	comp=Z,1μm,17.2s,MS4.5						
MA2	Magadan	27.78	15	deP	P	18 19 34.7	+0.2
MA2				eS	S	18 24 11.1	-4.4
MA2				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.4						
MA2	Magadan	27.78	15	eP	P	18 19 33.9	-0.6
	comp=Z,14nm,0.7s,mb4.7						
CD2	Chengdu	28.29	274	P	P	18 19 39.1	-0.3
CD2				AMB	AMB		
	comp=Z,50nm,0.7s,mb5.2						
BOD	Bodaibo	29.08	334	eP	P	18 19 38.1	-8.0
YAK	Yakutsk	29.12	353	d iP	P	18 19 46.0	-0.5
YAK				pmax	pmax		
	comp=Z,42nm,1.1s,mb5.1						
YAK	Yakutsk	29.12	353	eP	P	18 19 45.8	-0.7
	comp=Z,91nm,1.4s,mb5.3						
GTA	Gaotai	30.49	292	eP	P	18 19 59.0	0.0
GTA				AP	pP	18 20 10.5	+8.5
GTA				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.2						
CMAR	Chiang Mai Arr	37.17	256	P	P	18 20 57.7	+1.0
	comp=Z,1.4nm,0.8s,mb3.8,baz=47,slow=7.2,SNR=11						
CMAR	Chiang Mai Arr	37.17	256	P	P	18 20 57.7	+1.0
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TIXI	Tiksi	38.64	356	⇓eP	P	18 21 07.8	-0.8
TIXI				pmax	pmax		
	comp=Z,34nm,1.1s,mb5.0						
LSA	Lhasa	39.12	277	P	P	18 21 15.4	+2.4
WMQ	Urumqi	39.52	300	⇑iP	P	18 21 17.0	+0.9
WMQ				AP	pP	18 21 22.0	+2.8
WMQ				XP	sP	18 21 24.0	+3.6
WMQ				PP	PP	18 22 51.2	+0.4
WMQ				AMB	AMB		
	comp=Z,47nm,1.1s,mb5.1						
ZAL	Zalesovo	41.97	316	P	P	18 21 35.8	-0.3
	comp=Z,4.3nm,0.8s,mb4.2,baz=284,slow=7.8,SNR=25						
ZAL	Zalesovo	41.97	316	P	P	18 21 35.8	-0.3
ZAL				pmax	pmax		
	comp=Z,4.0nm,0.8s						
NVS	Novosibirsk	42.99	317	i P	P	18 21 43.7	-0.8
NVS				pmax	pmax		
	comp=Z,35nm,1.1s,mb5.0						
NVS				pmax	pmax		
	comp=E,35nm,1.3s						
MKAR	Makanchi Array	43.23	305	P	P	18 21 47.2	+0.7
	comp=E,23nm,0.6s,mb5.1,baz=91,slow=10,SNR=188						
MKAR				PcP	PcP	18 23 35.5	-0.9
	comp=E,4.2nm,0.9s,baz=76,slow=5.0,SNR=4.4						
MKAR	Makanchi Array	43.23	305	P	P	18 21 47.2	+0.7
MKAR						18 23 35.5	
MKAR				pmax	pmax		
	comp=Z,23nm,0.6s						
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MKAR	Makanchi Array	43.23	305	P	P	18 21 47.2	+0.7
MKAR				PcP	PcP	18 23 35.5	-0.9
PKI	Pulchoki	44.58	277	eP	P	18 21 57.5	-0.3
KKN	Kakani	44.61	277	eP	P	18 21 58.1	+0.1
	comp=Z,26nm,1.0s,mb5.0						
DMN	Daman	44.82	277	eP	P	18 21 59.2	-0.5
GKN	Gorkha	45.07	278	eP	P	18 22 01.7	0.0
	comp=Z,43nm,1.2s,mb5.1						
KURK	Kurchatov	45.56	311	P	P	18 22 05.3	+0.1
	comp=Z,137nm,0.6s,mb6.1,SNR=18						
KURK	Kurchatov	45.56	311	eP	P	18 22 04.9	-0.3
	comp=Z,38nm,1.1s,mb5.2						
KOLN	Koldanda	46.01	278	eP	P	18 22 09.3	+0.2
	comp=Z,37nm,1.3s,mb5.2						
TKM2	Tokmak 2	48.38	300	P	P	18 22 28.9	+1.4
	SNR=15						
KBK	Karagaybulak	48.89	300	P	P	18 22 32.4	+0.9
	SNR=12						
CHMS	Chumysh	48.97	301	P	P	18 22 32.7	+0.6
	SNR=6.9						
FRU	Bishkek	49.10	300	eP	P	18 22 34.0	+0.9
FRU				pmax	pmax		
	comp=Z,60nm,1.8s,mb5.3						
USP	Ospenovka	49.10	301	P	P	18 22 33.6	+0.5
	SNR=15						
AAK	Ala-Archa	49.23	300	P	P	18 22 35.0	+1.0
	SNR=7.8						
AAK	Ala-Archa	49.23	300	eP	P	18 22 32.9	-1.2
	comp=Z,4.4nm,0.6s,mb4.7						
UCH	Uchtor	49.29	300	P	P	18 22 36.4	+1.8
	SNR=11						
EKS2	Erkin-Say	49.74	300	P	P	18 22 38.9	+0.8
	SNR=9.7						
AML	Almayashu	49.91	300	P	P	18 22 40.8	+1.5
	SNR=33						
TTA	Tatalina	50.46	33	eP	P	18 22 44.0	+0.8
BVAR	Borovoye Array	50.54	314	P	P	18 22 43.8	-0.2
	comp=Z,3.6nm,0.5s,mb4.5,baz=100,slow=9.0,SNR=20						
BVAR				PcP	PcP	18 24 01.5	-0.7
	comp=Z,2.6nm,0.6s,baz=90,slow=4.4,SNR=5.2						
SVW	Sparrevohn	50.57	35	eP	P	18 22 45.8	+1.7
BRVK	Borovoye	50.60	314	eP	P	18 22 43.8	-0.7
	comp=Z,9.1nm,0.9s,mb4.7						
ZRNK	Zerenda	51.38	314	eP	P	18 22 49.5	-0.9
	comp=Z,20nm,1.1s,mb5.0						
IMA	Indian Mountai	51.65	29	eP	P	18 22 52.7	+0.4
RSO	Redoubt South	51.98	36	eP	P	18 22 54.8	0.0
KDAK	Kodiak Island	52.20	40	eP	P	18 22 55.8	-0.8
	comp=Z,12nm,0.6s,mb5.0						
FITZ	Fitzroy Crossi	52.29	194	eP	P	18 22 57.5	-0.2
	comp=Z,5.3nm,1.0s,mb4.4						
FITZ	Fitzroy Crossi	52.29	194	P	P	18 22 57.5	-0.2
	comp=Z,6.0nm,0.9s,mb4.5,baz=12,slow=11,SNR=5.3						
SPU	Mount Spurr	52.30	35	eP	P	18 22 57.5	+0.3
WRAB	Tennant Creek	53.02	183	eP	P	18 23 01.8	-1.4
	comp=Z,61nm,1.6s,mb5.3						
WB2	Warramunga Arr	53.03	183	eP	P	18 23 02.0	-1.2
WRA	Warramunga Arr	53.03	183	P	P	18 23 01.9	-1.3
	comp=Z,5.8nm,0.5s,mb4.8,baz=359,slow=7.7,SNR=25						
WRA	Warramunga Arr	53.03	183	P	P	18 23 01.9	-1.3
WRA				pmax	pmax		
	comp=Z,6.0nm,0.5s						
MCK	McKinley	53.66	32	eP	P	18 23 07.0	-0.3
	comp=Z,18nm,1.5s,mb4.8						
PMR	Palmer	53.69	35	eP	P	18 23 07.8	+0.3
CTAO	Charters Tower	53.82	169	eP	P	18 23 08.2	-0.8
SML	Sawmill	54.05	34	eP	P	18 23 09.5	-0.6
COLA	College	54.08	31	⇓eP	P	18 23 10.8	+0.5
COLA	College	54.08	31	eP	P	18 23 11.4	+1.1
ILAR	Eielson Array	54.49	31	P	P	18 23 12.5	-0.8
	comp=Z,3.2nm,0.7s,mb4.4,baz=280,slow=5.9,SNR=48						
ILAR	Eielson Array	54.49	31	P	P	18 23 12.5	-0.8
ILAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ASAR	Alice Springs	56.75	184	P	P	18 23 29.6	-0.7
	comp=Z,3.2nm,0.7s,mb4.5,baz=9.6,slow=5.4,SNR=7.2						
ASPA	Alice Springs	56.75	184	eP	P	18 23 29.6	-0.7
ARU	Arti	56.85	319	eP	P	18 23 29.4	-1.1
DLBC	Dease Lake	63.70	36	P	P	18 24 18.0	+0.8
	comp=Z,3.6nm,0.8s,mb4.5,baz=293,slow=8.2,SNR=7.2						
DLBC	Dease Lake	63.70	36	P	P	18 24 18.0	+0.8
STKA	Stephens Creek	64.98	176	P	P	18 24 25.2	-0.9
	comp=Z,3.5nm,0.9s,mb4.4,baz=347,slow=16,SNR=4.5						
STKA	Stephens Creek	64.98	176	P	P	18 24 25.2	-0.9
KEV	Kevo	65.65	339	ep	P	18 24 28.1	-1.6
ARCES	ARCESS Array B	66.21	339	P	P	18 24 32.6	-0.7
	comp=Z,5.5nm,0.9s,mb4.6,baz=79,slow=6.2,SNR=11						
ARCES	ARCESS Array B	66.21	339	P	P	18 24 32.6	-0.7
ARCES				pmax	pmax		
	comp=Z,6.0nm,0.9s						
RES	Resolute Bay	67.04	13	eP	P	18 24 38.0	-0.5
	comp=Z,8.6nm,0.4s,mb5.1						
RES				e		18 24 45.6	
MOS	Moscow	68.11	323	eP	P	18 24 44.6	-0.9
MOS				pmax	pmax		
	comp=Z,73nm,0.7s,mb5.8						
YKA	Yellowknife Ar	68.76	28	P	P	18 24 48.9	-0.5
	comp=Z,1.1nm,0.5s,mb4.1,baz=301,slow=6.0,SNR=4.1						
YKA	Yellowknife Ar	68.76	28	P	P	18 24 48.9	-0.5
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
YKA	Yellowknife Ar	68.76	28	P	P	18 24 48.9	-0.5
OBN	Obninsk	68.94	323	eP	P	18 24 49.2	-1.4
OBN				e		18 25 15.0	
OBN				i		18 27 18.6	
OBN				eS	S	18 33 54.0	+0.4
OBN				pmax	pmax		
	comp=Z,17nm,1.8s,mb4.7						
GOF	Gofitskoye	69.92	311	eP	P	18 24 57.0	+0.2
FINES	FINESS Array B	70.43	332	P	P	18 24 58.9	-0.8
	comp=Z,2.3nm,0.7s,mb4.2,baz=108,slow=8.8,SNR=9.9						
FINES	FINESS Array B	70.43	332	P	P	18 24 58.9	-0.7
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
RPW	Rockport	72.66	43	eP	P	18 25 13.3	+0.1
SOC	Sochi	72.71	311	eP	P	18 25 11.0	-2.6
SOC				e		18 25 33.5	
SOC				ePPP	PPP	18 29 36.9	-3.2
SOC				eS	S	18 34 28.4	-9.2
SOC				e		18 35 16.5	
SOC				pmax	pmax		
	comp=Z,42nm,0.9s,mb5.4						
SOC				pmax	pmax		
	comp=N,39nm,0.8s						
SOC				pmax	pmax		
	comp=E,25nm,0.8s						
SOC				MLR	MLR		
	comp=Z,2μm,20.0s,MS5.4						
SOC				MLR	MLR		
	comp=N,627nm,17.0s,MS5.1						
SOC				MLR	MLR		
	comp=E,530nm,18.0s,MS5.1						
SUMG	Summit	74.35	359	eP	P	18 25 23.6	+1.0
	comp=E,12nm,0.8s,mb4.9						
DPW	Davenport	74.85	42	eP	P	18 25 26.4	+0.5
AKASG	Malin Array Be	75.03	321	P	P	18 25 26.2	-0.7
	comp=E,1.7nm,0.5s,mb4.2,baz=47,slow=5.7,SNR=16						
AKASG	Malin Array Be	75.03	321	P	P	18 25 26.2	-0.7
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
SIM	Simferopol’	75.45	314	P	P	18 25 30.1	+0.6
SIM				pmax	pmax		
	comp=Z,17nm,0.8s,mb5.0						
SIM				MLR	MLR		
	comp=Z,3μm,21.0s,MS5.5						
NB2	NORSAR Subarra	76.19	336	P	P	18 25 32.5	-0.8
	comp=Z,3.2nm,0.7s,mb4.4,baz=44,slow=5.6						
NOA	NORSAR Array B	76.19	336	P	P	18 25 32.7	-0.6
	comp=Z,2.2nm,0.6s,mb4.3,baz=44,slow=5.7,SNR=10						
NOA	NORSAR Array B	76.19	336	P	P	18 25 32.7	-0.6
NOA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NOA	NORSAR Array B	76.19	336	P	P	18 25 32.7	-0.6
BRTR	Keskin Array B	78.61	310	P	P	18 25 48.0	+0.8
	comp=Z,7.9nm,1.0s,mb4.6,baz=104,slow=5.1,SNR=22						
BRTR	Keskin Array B	78.61	310	P	P	18 25 48.0	+0.9
BRTR				pmax	pmax		
	comp=Z,8.0nm,1.0s						
RAYN	Ar Rayn	78.74	291	P	P	18 25 48.1	-0.1
	comp=Z,48nm,1.2s,mb5.3,SNR=10						
HLID	Hailey	79.48	45	eP	P	18 25 52.9	+1.1
	comp=Z,3.9nm,1.3s,mb4.2						
BOZ	Bozeman (W)	79.82	42	eP	P	18 25 54.0	+0.4
ASF	Jabal al Asfar	80.58	302	P	P	18 25 58.8	+0.9
	comp=Z,2.3nm,0.7s,mb4.2,baz=91,slow=4.3,SNR=4.9						
OKC	Ostrava-Krasne	81.14	325	eP	P	18 26 02.1	+1.6
DPC	Dobruska-Polom	81.65	326	eP	P	18 26 03.5	+0.4
UPC	Upice	81.69	326	eP	P	18 26 02.2	-1.1
VYHS	Vyhne	81.70	324	eP	P	18 26 03.8	+0.4
PVCC	Panska Ves	82.34	327	eP	P	18 26 06.9	+0.2
BRG	Berggiesshubel	82.38	328	eP	P	18 26 13.1	+6.2
BRG				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.0						
BRG	Berggiesshubel	82.38	328	eP	P	18 26 13.1	+6.2
	comp=Z,2.2nm,1.1s,mb4.0						
DUG	Dugway	82.45	47	eP	P	18 26 08.8	+1.3
	comp=Z,2.0nm,0.7s,mb4.2						
CLL	Collm	82.48	328	P	P	18 26 07.0	-0.4
CLL	Collm	82.48	328	eP	P	18 26 07.0	-0.4
PRU	Pruhonice	82.73	327	eP	P	18 26 09.1	+0.4
ZST	Bratislava	82.76	324	eP	P	18 26 10.4	+1.5
BW06	Boulder Array	82.78	43	eP	P	18 26 09.8	+0.6
	comp=Z,2.4nm,0.8s,mb4.3						
PDAR	Pinedale Array	82.78	43	P	P	18 26 10.0	+0.9
	comp=Z,1.5nm,0.7s,mb4.1,baz=303,slow=3.1,SNR=14						
DAU	Daniels Canyon	83.26	46	eP	P	18 26 13.5	+1.8
MOX	Moxa	83.57	329	i P	P	18 26 14.1	+1.1
MOX	Moxa	83.57	329	eP	P	18 26 14.1	+1.1
KHC	Kasperske Hory	83.78	327	eP	P	18 26 13.5	-0.6
MSU	Marysvale	83.87	48	eP	P	18 26 16.6	+1.8
GERES	GERESS Array B	83.93	326	P	P	18 26 14.7	-0.1
	comp=Z,1.6nm,0.7s,mb4.3,baz=40,slow=5.3,SNR=19						
GERES				PP	PP	18 29 29.4	-0.9
	comp=Z,0.4nm,0.8s,baz=45,slow=7.5,SNR=3.6						
GERES	GERESS Array B	83.93	326	P	P	18 26 14.7	-0.2
GERES						18 29 29.4	
GERES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
GERES	GERESS Array B	83.93	326	P	P	18 26 14.7	-0.1
GERES				PP	PP	18 29 29.4	-0.9
GRA1	Grafenberg Arr	84.44	328	eP	P	18 26 17.9	+0.5
	comp=Z,30nm,1.2s,mb5.3						
GRF	Grafenberg Arr	84.44	328	eP	P	18 26 17.9	+0.5
GRF				pmax	pmax		
	comp=Z,30nm,1.2s,mb5.3						
PV10	Paradox Valley	85.87	46	eP	P	18 26 26.6	+1.7
PV01	Paradox Valley	86.31	46	eP	P	18 26 27.8	+0.7
CDF	Champ du Feu	87.12	329	eP	P	18 26 30.6	-0.1
	comp=Z,4.8nm,0.8s,mb4.5						
LOR	Lormes	89.45	330	eP	P	18 26 41.1	-0.8
LPL	La Plagne	89.58	328	eP	P	18 26 42.3	-0.2
	comp=Z,12nm,1.0s,mb4.9						
LPG	La Plagne	89.59	328	eP	P	18 26 42.5	-0.1
	comp=Z,8.3nm,0.8s,mb4.8						
AVF	Avril sur Loir	90.04	330	eP	P	18 26 44.0	-0.7
MBDF	Montbardon	90.17	327	eP	P	18 26 44.2	-1.1
	comp=Z,2.3nm,0.6s,mb4.4						
TCF	Toulx Ste Croi	90.92	331	eP	P	18 26 48.5	-0.2
VIVF	Saint-Julien-l	91.01	328	eP	P	18 26 48.7	-0.5
	comp=Z,3.7nm,0.7s,mb4.5						
MFF	Saint Martin d	91.61	332	eP	P	18 26 51.9	0.0
	comp=Z,12nm,0.9s,mb4.9						
LASF	Ste Croix	91.98	328	eP	P	18 26 53.3	-0.4
	comp=Z,3.2nm,0.6s,mb4.5						
RJF	Les Rejaudoux	92.00	330	eP	P	18 26 53.8	+0.1
	comp=Z,20nm,1.2s,mb5.0						
CAF	Calviac	92.08	330	eP	P	18 26 54.4	+0.3
	comp=Z,19nm,1.2s,mb5.0						
LFF	La Frestale	92.61	331	eP	P	18 26 56.8	+0.3
TXAR	Lajitas Array	95.19	50	P	P	18 27 09.7	+0.9
	comp=Z,1.4nm,0.5s,mb4.7,baz=283,slow=2.7,SNR=23						
QSPA	South Pole Qui	123.07	180	ePKP	PKPdf	18 32 37.9	-4.7
VNA2	Neumayer--Watz	137.77	196	⇑i	PKPdf	18 33 19.6	+9.0
VNA3	Neumayer Olymp	138.07	195	⇓i	PKPdf	18 33 16.7	+5.6
LPAZ	La Paz	151.61	59	PKPbc	PKPdf	18 33 41.8	+6.4
	comp=Z,1.9nm,0.2s,baz=354,slow=6.1,SNR=5.1						
LPAZ	La Paz	151.61	59	PKIKP	PKPdf	18 33 41.8	+6.4
LPAZ				pmax	pmax		
	comp=Z,2.0nm,0.2s						

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*IDC **05** 18:17:28.3±1.1, 3.14S×129.62E, mb3.8/5, mb1 4.1/7, mb1mx3.9/14, ML3.7/2, Error ellipse: s-maj=108.0km s-min=18.5km az=72.0*

*NEIC **05** 18:17:34.6±2.8, 3.19S×129.62E, h49^{km}±27^{km}, mb3.9/3, Error ellipse: s-maj=31.7km s-min=15.6km az=69.0*

ISC 05 18:17:34.4±4.0**, 3.3S**±0.1×**129.7E**±0.2**, h70**^{km}±40^{km}**, n15, σ0^{s}96**/15**, mb3.7**/5**, 1D, Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	Kakadu	9.78	164	eP	P	18 19 53.8	-0.7
	3.4nm,0.4s						
KAKA				eS	S	18 21 42.1	-1.5
FITZ	Fitzroy Crossi	15.27	195	eP	P	18 21 09.3	+1.9
	2.5nm,0.6s						
FITZ	Fitzroy Crossi	15.27	195	Pn	P	18 21 08.1	+0.7
	0.1nm,0.3s,baz=14,slow=16,SNR=6.0						
WRAB	Tennant Creek	17.21	165	eP	P	18 21 31.9	+0.3
	14nm,1.1s						
WRA	Warramunga Arr	17.21	165	P	P	18 21 31.5	-0.2
	0.3nm,0.3s,baz=342,slow=13,SNR=17						
WB2	Warramunga Arr	17.22	165	eP	P	18 21 32.4	+0.6

MBWA	Marble Bar	20.25	208	P	P	18 22 05.6	-0.9
	0.9nm,0.5s						
ASAR	Alice Springs	20.71	169	P	P	18 22 12.4	+1.2
	7.4nm,0.7s,baz=348,slow=10,SNR=66						
ASAR				PcP	PcP	18 26 20.7	+1.8
	0.8nm,0.7s,baz=359,slow=1.8,SNR=6.0						
ASPA	Alice Springs	20.71	169	⇓iP	P	18 22 12.6	+1.3
STKA	Stephens Creek	30.62	160	P	P	18 23 44.1	-0.1
	1.4nm,0.6s,mb3.8,baz=321,slow=12,SNR=2.4						
SONM	Songino Array	54.80	341	P	P	18 27 00.6	+1.2
	0.4nm,1.0s,mb3.4,baz=180,slow=2.9,SNR=3.2						
MKAR	Makanchi Array	64.92	326	P	P	18 28 07.8	-1.1
	0.7nm,0.7s,mb3.6,baz=117,slow=7.0,SNR=4.0						
ZAL	Zalesovo	68.09	333	P	P	18 28 28.3	-0.4
	0.5nm,0.4s,mb3.7,baz=213,slow=9.2,SNR=3.3						
KURK	Kurchatov	69.16	328	eP	P	18 28 34.4	-0.9
	1.8nm,0.7s,mb4.0						
CPUP	Villa Florida	149.83	167	PKPbc	PKPdf	18 37 21.6	+9.3
	1.4nm,0.8s,baz=190,slow=5.3,SNR=6.2						

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*BJI **05** 18:27:58.2, 32.61N×137.04E, h42^{km}, mb4.4, Ms4.7*
*NEIC **05** 18:27:58.7±0.6, 33.01N×136.72E, h10^{km}, mb4.5/5, Error ellipse: s-maj=11.7km s-min=9.7km az=129.0*
*JMA **05** 18:27:58.1±0.1, 32.98N×136.75E, h36^{km}, M4.0*
*IDC **05** 18:28:01.1±0.6, 32.96N×136.65E, h26^{km}±3^{km}, mb3.7/9, mb1 3.8/11, mb1mx3.8/20, ML3.3/2, MS3.7/1, Ms1 3.7/1, ms1mx3.6/26, Error ellipse: s-maj=22.5km s-min=12.8km az=62.0*
ISC 05 18:27:58.0±1.0**, 33.06N**±0.04×**136.74E**±0.03**, h15**^{km}±7^{km}**, h26**^{km}±.8^{km}**:pP-P, n47,** σ**1**^{s}**05**/57**, mb4.0**/16**, MS4.4**/1**, 5C-1D, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JWZ	Kozaga	0.98	299	⇑P	Pb	18 28 16.2	0.0
JWZ				eS	Sb	18 28 29.2	+0.5
TK02	Tokai 2	1.23	43	P	Pb	18 28 19.8	-0.5
TK02				eS	Sb	18 28 36.7	+1.0
JKN	Kiinagashima	1.25	341	P	Pb	18 28 21.0	+0.2
JKN				eS	Sb	18 28 36.7	+0.2
JIE	Ise	1.33	359	⇓P	Pb	18 28 22.4	+0.3
JIE				eS	Sb	18 28 38.9	+0.2
JWM	Minabe	1.40	305	⇑P	Pn	18 28 22.8	-0.4
JWM				eS	Sb	18 28 40.1	-0.8
TK03	Tokai 3	1.50	42	P	Pn	18 28 23.8	-0.8
TK03				eS	Sb	18 28 43.1	-0.6
JWY	Kouya	1.50	321	⇑P	Pn	18 28 24.8	+0.2
TK04	Tokai 4	1.62	35	P	Pn	18 28 25.9	-0.4
TSUJ	Tsu 2	1.67	351	P	Pn	18 28 27.3	+0.3
TSUJ				eS	Sn	18 28 47.4	-0.8
JHE	Heguri	1.82	331	⇑P	Pn	18 28 29.4	+0.3
JHE				eS	Sn	18 28 51.6	-0.4
JAI	Aioi	2.05	291	P	Pn	18 28 31.7	-0.8
JAI				eS	Sn	18 28 56.1	-1.8
JAJ2	Tsuna	2.06	312	⇑P	Pn	18 28 32.9	+0.3
SHZ3	Shizuoka 3	2.34	31	P	Pn	18 28 35.7	-0.9
JIZS	Izushimoda	2.43	46	P	Pn	18 28 38.7	+0.9
JHJ	Hachijo jima 2	2.55	88	Pn	Pn	18 28 40.2	+0.6
	15nm,0.3s,baz=128,slow=19,SNR=5.9						
JHJ				Sn	Sn	18 29 09.8	-0.8
	44nm,0.3s,baz=253,slow=22,SNR=8.1						
JHJ				LR	LR	18 29 36.8	
	comp=Z,1µm,19.9s,baz=315,slow=36						
MAJO	Matsushiro	3.68	19	ePn	Pn	18 28 55.3	-0.3
MAT	Matsushiro	3.68	19	P	Pn	18 28 55.5	-0.1
MAT				S	Sn	18 29 35.8	-3.3
MAT	Matsushiro	3.68	19	eP	Pn	18 28 56.0	+0.4
MAT				eS	Sn	18 29 36.0	-3.1
JNU	Nakatsue	4.92	272	Pn	Pn	18 29 11.8	-1.5
	1.2nm,0.3s,baz=86,slow=15,SNR=5.9						
CN2	Changchun	13.89	324	eP	P	18 31 25.7	+9.1
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s						
YSS	Yuzh-Sakhalins	14.62	17	eP	P	18 31 25.8	-0.3
BJT	Baijiatuau	17.91	299	eP	P	18 32 10.1	+1.9
	comp=Z,8.0nm,0.6s						
BJI	Beijing	17.91	299	P	P	18 32 10.1	+1.9
BJI				AMB	AMB		
	comp=Z,25nm,1.3s						
HHC	Hu-ho-hao-te	21.52	298	eP	P	18 32 49.0	+0.5
HHC				PP	PP	18 33 10.9	-2.1
HHC				AMB	AMB		
	comp=Z,13nm,0.6s,mb4.5						
HHC				LR	LR		
	comp=N,654nm,20.2s,MS4.4						
HHC				LR	LR		
	comp=E,1µm,17.2s,MS4.4						
XAN	Xi'an	23.18	280	P	P	18 33 05.8	+0.8
XAN				AMB	AMB		
	comp=Z,14nm,1.5s,mb4.2						
ENH	Enshi	23.34	271	eP	P	18 33 07.8	+1.2
	comp=Z,43nm,1.3s,mb4.7						
ENH				e		18 33 16.0	
SONM	Songino Array	27.19	312	P	P	18 33 43.1	+0.3
	comp=Z,2.1nm,0.8s,mb3.7,baz=120,slow=8.7,SNR=19						
GTA	Gaotai	30.30	293	eP	P	18 34 10.8	-0.1
GTA				AMB	AMB		
	comp=Z,2.0nm,0.7s,mb4.0						
LSA	Lhasa	38.84	278	P	P	18 35 26.0	+1.8
ZAL	Zalesovo	41.93	316	P	P	18 35 48.0	-1.4
	comp=Z,0.6nm,0.3s,mb3.6,baz=263,slow=11,SNR=4.1						
MKAR	Makanchi Array	43.12	305	P	P	18 35 59.2	0.0
	comp=Z,2.2nm,0.7s,mb4.0,baz=90,slow=10,SNR=20						
MKAR				pP	pP	18 36 06.3	+2.5
	comp=Z,4.0nm,0.8s,baz=84,slow=11,SNR=14						
MKAR	Makanchi Array	43.12	305	P	P	18 35 59.2	0.0
MKAR				pP	pP	18 36 06.3	+2.5
KURK	Kurchatov	45.49	311	eP	P	18 36 17.8	-0.4
	comp=Z,9.4nm,1.0s,mb4.6						
KURK				e		18 36 26.2	
BVAR	Borovoye Array	50.50	314	P	P	18 36 57.4	+0.2
	comp=Z,2.2nm,0.7s,mb4.3,baz=101,slow=7.6,SNR=9.6						
BVAR				pP	pP	18 37 04.7	+2.9
	comp=Z,3.7nm,0.8s,baz=108,slow=9.4,SNR=9.6						
BRVK	Borovoye	50.56	314	eP	P	18 36 56.0	-1.7
	comp=Z,1.4nm,0.7s,mb4.0						
BRVK				e		18 37 06.0	
WRA	Warramunga Arr	52.75	183	P	P	18 37 12.4	-2.3
	comp=Z,1.9nm,0.9s,mb4.0,baz=359,slow=7.7,SNR=15						
WRA				pP	pP	18 37 21.2	+1.9
	comp=Z,1.6nm,0.6s,baz=359,slow=7.8,SNR=9.7						
ASAR	Alice Springs	56.47	183	P	P	18 37 40.1	-1.7
	comp=Z,0.6nm,0.9s,mb3.6,baz=2.4,slow=8.3,SNR=7.0						
ASAR				pP	pP	18 37 48.4	+1.9
	comp=Z,1.7nm,0.9s,baz=0.7,slow=4.8,SNR=8.8						
STKA	Stephens Creek	64.75	175	P	P	18 38 36.7	-1.4
	comp=Z,1.4nm,0.9s,mb4.0,baz=350,slow=11,SNR=2.7						
STKA				pP	pP	18 38 45.0	+2.2
	comp=Z,1.9nm,0.7s,baz=334,slow=8.9,SNR=2.7						
STKA	Stephens Creek	64.75	175	P	P	18 38 36.7	-1.4
STKA				pP	pP	18 38 45.0	+2.2
AKASG	Malin Array Be	75.03	321	pP	pP	18 39 48.5	+3.2
	comp=Z,0.3nm,0.4s,baz=46,slow=6.0,SNR=3.7						
TPNV	Topopah Spring	82.64	51	eP	P	18 40 24.8	+2.7
	comp=Z,6.6nm,1.4s,mb4.5						
TPNV				e		18 40 32.7	
PRU	Pruhonice	82.77	327	eP	P	18 40 31.8	+9.3
PDAR	Pinedale Array	83.18	43	P	P	18 40 26.4	+1.6
	comp=Z,0.3nm,0.9s,mb3.3,baz=294,slow=8.9,SNR=2.6						
PDAR				pP	pP	18 40 35.5	+5.9
	comp=Z,0.4nm,0.6s,baz=270,slow=1.5,SNR=3.8						
KHC	Kasperske Hory	83.82	326	eP	P	18 40 28.6	+0.8
KHC				ex	x	18 40 37.2	
GERES	GERESS Array B	83.97	326	P	P	18 40 29.3	+0.8
	comp=Z,0.2nm,0.6s,mb3.5,baz=51,slow=6.3,SNR=5.5						
GERES				pP	pP	18 40 37.5	+4.1
	comp=Z,0.8nm,1.0s,baz=34,slow=4.8,SNR=5.3						
PV10	Paradox Valley	86.28	46	eP	P	18 40 43.0	+2.7
TXAR	Lajitas Array	95.59	50	pP	pP	18 41 33.1	+4.1
	comp=Z,0.8nm,0.7s,baz=296,slow=3.3,SNR=3.9						

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*JMA **05** 18:34:49.1±0.1, 33.07N×137.11E, h38^{km}±3^{km}, M3.6*
ISC 05 18:34:49.8±1.1**, 33.09N**±0.07×**137.10E**±0.04**, h38**^{km}**, n16,** σ**0**^{s}**49**/28**, 3D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	Tokai 1	0.79	31	P	P	18 35 03.9	-0.5
TK01				S	S	18 35 14.9	-0.3
TK02	Tokai 2	1.01	33	P	P	18 35 07.5	-0.2
TK02				S	S	18 35 21.0	+0.1
JWZ	Kozaga	1.24	291	P	P	18 35 10.6	-0.2
JWZ				S	S	18 35 25.9	-0.7
TK03	Tokai 3	1.29	34	eS	S	18 35 27.8	-0.2
JIE	Ise	1.33	346	P	P	18 35 12.9	+0.6
JKN	Kiinagashima	1.35	329	P	P	18 35 12.6	+0.1
JKN				S	S	18 35 28.7	-0.7
TK04	Tokai 4	1.44	26	P	P	18 35 13.7	-0.1
TK04				S	S	18 35 31.7	-0.1
JAA	Atsumi	1.54	1	⇓P	P	18 35 15.1	0.0
JAA				S	S	18 35 34.4	+0.3
JWM	Minabe	1.64	298	P	P	18 35 16.9	+0.3
JWM				S	S	18 35 36.7	0.0
JWY	Kouya	1.68	312	⇓P	P	18 35 17.8	+0.5
JWY				S	S	18 35 37.9	+0.1
TSUJ	Tsu 2	1.71	341	P	P	18 35 18.4	+0.8
TSUJ				eS	S	18 35 38.8	+0.4
JHE	Heguri	1.95	323	⇓P	P	18 35 21.6	+0.6
JHE				S	S	18 35 45.3	+0.8
SHZ3	Shizuoka 3	2.17	25	P	P	18 35 23.6	-0.6
JIZS	Izushimoda	2.19	42	P	P	18 35 24.9	+0.3
JAI	Aioi	2.32	288	P	P	18 35 26.6	+0.3
JAI				S	S	18 35 52.7	-1.2
MAT	Matsushiro	3.56	15	P	P	18 35 44.4	+0.4
MAT				S	S	18 36 24.6	-0.8

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*IDC **05** 18:39:42.2±1.3, 41.56N×144.16E, mb3.6/4, mb1 3.7/5, mb1mx3.5/18, ML2.9/1, MS3.8/1, Ms1 3.8/1, ms1mx3.6/28, Error ellipse: s-maj=40.5km s-min=27.0km az=62.0*
*JMA **05** 18:39:45.8±0.1, 41.88N×144.11E, h39^{km}±3^{km}, M3.4*
ISC 05 18:39:45.1±1.8**, 41.88N**±0.07×**144.19E**±0.10**, h23**^{km}±9^{km}**, n13,** σ**0**^{s}**81**/19**, mb3.5**/4**, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JEM	Erimo	0.78	280	P	Pb	18 39 59.5	-0.5
JEM				eS	Sb	18 40 09.5	-0.7
JCH	Churui	0.96	320	P	Pb	18 40 02.7	-0.2
JCH				eS	Sb	18 40 15.2	+0.1
JOB	Onbets	1.05	345	P	Pn	18 40 05.1	+0.5
JOB				eS	Sb	18 40 19.2	+1.3
JNBK	Urakawa-nobuka	1.14	291	P	Pn	18 40 06.1	+0.2
JAK	Akkeshi	1.17	18	P	Pn	18 40 06.2	-0.1
JAK				eS	Sb	18 40 21.1	-0.3
JAR	Ashorobuto	1.45	348	P	Pn	18 40 09.9	-0.4
JAR				eS	Sn	18 40 28.4	-0.3
JNK	Nakash	1.74	13	P	Pn	18 40 14.1	-0.4
JNK				eS	Sn	18 40 34.7	-1.5
ASAJ	Asahikawa	2.52	333	Pn	Pn	18 40 27.5	+1.9
	1.4nm,0.3s,baz=193,slow=9.2,SNR=4.0						
ASAJ				Sn	Sn	18 41 00.6	+4.6
	4.9nm,0.3s,baz=324,slow=27,SNR=4.2						
ASAJ				LR	LR	18 42 01.2	
	comp=Z,1µm,18.0s,baz=296,slow=50						
SONM	Songino Array	27.25	296	P	P	18 45 28.6	-0.7
	0.4nm,0.8s,mb3.0,baz=108,slow=7.8,SNR=3.6						
MKAR	Makanchi Array	43.54	298	P	P	18 47 49.0	+0.5
	0.9nm,0.7s,mb3.6,baz=93,slow=9.5,SNR=7.7						
WRA	Warramunga Arr	62.18	190	P	P	18 50 03.1	-4.2
	0.4nm,0.8s,mb3.6,baz=8.6,slow=6.9,SNR=3.7						
FINES	FINESS Array B	65.53	332	pP	pP	18 50 33.7	-1.9
	2.5nm,1.0s,baz=90,slow=8.3,SNR=4.8						
TXAR	Lajitas Array	85.50	54	P	P	18 52 23.5	+1.0
	0.3nm,0.5s,mb3.8,baz=306,slow=4.8,SNR=5.7						

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*JMA **05** 18:47:47.0±0.2, 33.02N×137.23E, h39^{km}±3^{km}, M3.9*
*BJI **05** 18:47:48.9, 33.50N×137.71E, h36^{km}, mb4.1*
*NEIC **05** 18:47:49.8±0.7, 33.08N×137.27E, mb4.1/3, Error ellipse: s-maj=17.4km s-min=12.1km az=100.0*
*IDC **05** 18:47:49.9±0.9, 33.01N×137.41E, h26^{km}±5^{km}, mb3.6/7, mb1 3.7/9, mb1mx3.6/20, ML3.2/2, Error ellipse: s-maj=26.4km s-min=16.3km az=51.0*
ISC 05 18:47:47.2±1.0**, 33.08N**±0.04×**137.20E**±0.04**, h23**^{km}±7^{km}**, h26**^{km}±1.6^{km}**:pP-P, n34,** σ**0**^{s}**95**/47**, mb3.8**/10**, 2C-2D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	Tokai 1	0.76	25	P	Pb	18 48 01.8	+0.2
TK02	Tokai 2	0.98	28	P	Pb	18 48 05.3	-0.1
TK02				S	Sb	18 48 19.8	+1.9
TK03	Tokai 3	1.25	30	P	Pn	18 48 08.9	-0.7
TK03				eS	Sb	18 48 25.4	-0.4
JWZ	Kozaga	1.32	290	⇑P	Pn	18 48 10.1	-0.5
JWZ				S	Sn	18 48 26.7	-1.0
JIE	Ise	1.37	343	⇓P	Pn	18 48 11.8	+0.5
JIE				S	Sn	18 48 29.2	+0.4
JKN	Kiinagashima	1.41	326	P	Pn	18 48 11.8	+0.1
JKN				S	Sn	18 48 28.5	-1.2
TK04	Tokai 4	1.42	23	⇓P	Pn	18 48 11.7	-0.2
TK04				S	Sn	18 48 29.4	-0.6
JWM	Minabe	1.73	297	P	Pn	18 48 16.5	+0.2
JWM				S	Sn	18 48 37.6	-0.2
TSUJ	Tsu 2	1.75	338	P	Pn	18 48 17.5	+0.8
TSUJ				S	Sn	18 48 38.2	-0.3
JWY	Kouya	1.76	311	⇑P	Pn	18 48 17.4	+0.6
JWY				S	Sn	18 48 38.4	-0.3
JHE	Heguri	2.02	322	P	Pn	18 48 20.3	-0.2
JHE				S	Sn	18 48 44.8	-0.4
JIZS	Izushimoda	2.15	40	P	Pn	18 48 21.9	-0.5
SHZ3	Shizuoka 3	2.15	23	P	Pn	18 48 21.6	-0.8
JHJ	Hachijo jima 2	2.17	88	Pn	Pn	18 48 22.4	-0.3
	27nm,0.3s,baz=234,slow=20,SNR=5.7						
JHJ				Sn	Sn	18 48 46.8	-2.3
	38nm,0.3s,baz=98,slow=23,SNR=5.2						
JAI	Aioi	2.41	288	P	Pn	18 48 25.8	-0.3
JAI				S	Sn	18 48 53.7	-1.5
JIM2	Oshima 3	2.47	48	P	Pn	18 48 26.9	-0.1
MAJO	Matsushiro	3.55	13	ePn	Pn	18 48 42.5	+0.1
MAT	Matsushiro	3.55	13	P	Pn	18 48 42.4	0.0
MAT				S	Sn	18 49 23.9	-0.2
MAT	Matsushiro	3.55	13	eP	Pn	18 48 42.0	-0.4
MAT				eS	Sn	18 49 24.0	-0.1
JNU	Nakatsue	5.31	272	Pn	Pn	18 49 06.0	-1.3
	0.7nm,0.3s,baz=28,slow=17,SNR=3.4						
BJI	Beijing	18.24	298	P	P	18 52 03.8	+3.1
BJI				AMB	AMB		
	comp=Z,8.0nm,1.2s						
SONM	Songino Array	27.47	312	P	P	18 53 34.6	+1.2
	comp=Z,1.1nm,0.8s,mb3.4,baz=120,slow=8.0,SNR=11						
MKAR	Makanchi Array	43.42	305	P	P	18 55 51.7	+1.9
	comp=Z,1.2nm,0.6s,mb3.8,baz=86,slow=9.8,SNR=12						
MKAR				pP	pP	18 56 00.5	+3.7
	comp=Z,1.0nm,0.8s,baz=97,slow=9.8,SNR=4.3						
MKAR	Makanchi Array	43.42	305	P	P	18 55 51.7	+1.9
MKAR				pP	pP	18 56 00.5	+3.7
KURK	Kurchatov	45.77	311	eP	P	18 56 09.1	+0.5
	comp=Z,2.7nm,0.8s,mb4.2						
WRAB	Tennant Creek	52.78	183	eP	P	18 57 02.9	-0.1
	comp=Z,1.2nm,0.6s,mb4.0						
WRA	Warramunga Arr	52.79	183	P	P	18 57 01.9	-1.2
	comp=Z,0.6nm,0.7s,mb3.6,baz=358,slow=7.3,SNR=7.6						
WRA				pP	pP	18 57 09.9	-0.3
	comp=Z,2.0nm,0.7s,baz=0.8,slow=7.7,SNR=14						
ASAR	Alice Springs	56.52	184	P	P	18 57 30.3	0.0
	comp=Z,0.3nm,0.7s,mb3.4,baz=16,slow=13,SNR=4.1						
ASAR				pP	pP	18 57 37.7	+0.4
	comp=Z,0.9nm,0.7s,baz=14,slow=12,SNR=6.7						
AKASG	Malin Array Be	75.26	321	P	P	18 59 30.9	+1.1
	comp=Z,0.5nm,0.4s,mb3.8,baz=49,slow=5.9,SNR=8.6						
BRTR	Keskin Array B	78.82	310	P	P	18 59 52.1	+2.3
	comp=Z,1.3nm,0.8s,mb3.9,baz=104,slow=5.1,SNR=5.9						
TPNV	Topopah Spring	82.33	51	eP	P	19 00 18.0	+10
	comp=Z,1.6nm,0.8s,mb4.0						
GERES	GERESS Array B	84.17	326	P	P	19 00 20.3	+2.7
	comp=Z,0.7nm,0.8s,mb3.8,baz=34,slow=9.6,SNR=4.5						
PV10	Paradox Valley	85.99	46	eP	P	19 00 27.5	+0.5
TXAR	Lajitas Array	95.28	50	pP	pP	19 01 20.8	+2.6
	comp=Z,0.8nm,0.8s,baz=297,slow=5.6,SNR=7.3						

DJA 05 18:56:54.9±0.8**, 9.61S×115.70E, h33**^{km}**, MD5.1**/4**, ML3.7**/3**, 2C-9D, Error ellipse: s-maj=17.2km s-min=8.9km az=172.0, South of Bali**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RATI	Rata	0.89	350	⇓iPn	Pn	18 57 10.0	-1.3
	99nm,0.2s						
RATI	Rata	0.89	350	⇓iP	P	18 57 10.2	-0.8
RATI				⇑iSn	Sn	18 57 20.4	-2.7
INGI	Ingas	0.95	325	⇓iPn	Pn	18 57 10.7	-1.4
	203nm,0.2s						
INGI				⇓iSn	Sn	18 57 22.3	-2.3
KEDI	Kedomdong	1.19	20	⇓iPn	Pn	18 57 14.9	-0.6
	80nm,0.2s						
KEDI	Kedomdong	1.19	20	⇓iP	P	18 57 15.0	-0.2
KEDI				⇑iSn	Sn	18 57 29.0	-1.6
KELI	Kelakatan	1.82	319	⇓iPn	Pn	18 57 24.0	-0.6
KELI	Kelakatan	1.82	319	⇓iP	P	18 57 24.2	-0.2
KELI				⇓iSn	Sn	18 57 44.8	-1.9

IDC 05 19:02:21.8±4.0**, 17.91S×176.51E, mb4.0**/3**, mb1 4.2**/3**, mb1mx3.9**/9**, Error ellipse: s-maj=154.0km s-min=46.5km az=140.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	34.42	239	P	P	19 09 12.0	-1.1
	0.8nm,0.5s,baz=94,slow=13,SNR=4.7						
WRA	Warramunga Arr	39.87	260	P	P	19 09 56.9	-2.2
	0.5nm,0.5s,baz=96,slow=7.1,SNR=29						
ASAR	Alice Springs	40.13	254	P	P	19 09 59.4	-1.8
	5.9nm,0.7s,baz=89,slow=7.8,SNR=192						
GERES	GERESS Array B	146.13	339	PKPbc	PKPbc	19 22 03.3	-0.6
	0.6nm,0.7s,baz=18,slow=3.1,SNR=6.5						

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*NEIC **05** 19:09:32.2±0.8, 33.01N×136.97E, h10^{km}, mb4.0/2, Error ellipse: s-maj=19.3km s-min=11.7km az=107.0*
*IDC **05** 19:09:32.2±7.3, 32.83N×136.55E, mb3.7/4, mb1 3.9/4, mb1mx3.7/19, Error ellipse: s-maj=293.0km s-min=24.2km az=63.0*
*JMA **05** 19:09:33.6±0.1, 33.08N×136.87E, h43^{km}, M3.9*
ISC 05 19:09:31.3±0.7**, 33.09N**±0.04×**136.88E**±0.05**, h10**^{km}**, n21,** σ**0**^{s}**92**/28**, mb3.7**/6**, 2D, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JWZ	Kozaga	1.07	295	P	Pb	19 09 52.4	+0.9
JWZ				S	Sb	19 10 05.9	+0.6
JKN	Kiinagashima	1.27	336	P	Pb	19 09 55.7	+0.9
JKN				S	Sb	19 10 10.8	-0.2
JIE	Ise	1.31	354	⇓P	Pb	19 09 56.3	+0.8
JIE				S	Sb	19 10 12.9	+0.6
JWM	Minabe	1.49	301	S	Sb	19 10 15.6	-1.7
TK04	Tokai 4	1.54	32	⇓P	Pn	19 09 58.8	-0.1
JAA	Atsumi	1.56	8	P	Pn	19 09 59.6	+0.4
JAA				S	Sb	19 10 18.3	-1.1
JWY	Kouya	1.56	317	S	Sb	19 10 19.2	-0.3
TSUJ	Tsu 2	1.67	347	P	Pn	19 10 01.5	+0.8
JHE	Heguri	1.85	328	P	Pn	19 10 04.5	+1.1
JHE				S	Sn	19 10 26.4	-0.7
JAJ2	Tsuna	2.13	309	S	Sn	19 10 33.8	-0.3
SHZ3	Shizuoka 3	2.26	29	P	Pn	19 10 09.0	-0.3
JIZS	Izushimoda	2.33	45	P	Pn	19 10 10.7	+0.5
MAJO	Matsushiro	3.62	17	ePn	Pn	19 10 29.1	+0.5
MAT	Matsushiro	3.62	17	P	Pn	19 10 29.1	+0.5
MAT				S	Sn	19 11 10.5	-1.3
MAT	Matsushiro	3.62	17	eP	Pn	19 10 29.0	+0.4
MAT				eS	Sn	19 11 11.0	-0.8
ENH	Enshi	23.46	271	P	P	19 14 43.2	+1.5
	1.4nm,0.4s,mb3.7						
SONM	Songino Array	27.26	312	P	P	19 15 16.6	-0.8
	1.9nm,1.2s,mb3.5,baz=108,slow=9.1,SNR=6.4						
MKAR	Makanchi Array	43.20	305	P	P	19 17 35.1	+1.2
	1.2nm,0.6s,mb3.8,baz=91,slow=9.1,SNR=8.5						
KURK	Kurchatov	45.56	311	eP	P	19 17 52.0	-0.8
	2.3nm,0.9s,mb4.1						
WRA	Warramunga Arr	52.78	183	P	P	19 18 46.2	-2.8
	0.6nm,1.0s,mb3.5,baz=0.1,slow=7.8,SNR=5.3						
ASAR	Alice Springs	56.51	183	P	P	19 19 15.0	-1.1
	1.2nm,1.3s,mb3.8,baz=22,slow=13,SNR=2.8						

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*NEIC **05** 19:14:07.2±0.9, 32.89N×137.91E, h10^{km}, mb4.0/2, Error ellipse: s-maj=27.5km s-min=15.0km az=90.0*
*IDC **05** 19:14:07.4±1.3, 32.77N×137.47E, mb3.6/4, mb1 3.8/5, mb1mx3.6/20, ML3.0/1, Error ellipse: s-maj=34.5km s-min=22.9km az=7.0*
*JMA **05** 19:14:08.4±0.2, 33.11N×137.09E, h36^{km}, M3.7*
ISC 05 19:14:08.3±0.8**, 33.09N**±0.05×**137.12E**±0.04**, h33**^{km}±11^{km}**, n23,** σ**0**^{s}**78**/35**, mb3.6**/6**, 9D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK02	Tokai 2	1.00	32	P	P	19 14 26.3	+0.3
TK02				S	S	19 14 39.4	+0.2
JWZ	Kozaga	1.25	291	⇓P	P	19 14 29.5	0.0
JWZ				eS	S	19 14 44.2	-1.3
JIE	Ise	1.34	345	⇓P	P	19 14 31.4	+0.6
JIE				eS	S	19 14 48.0	+0.4
JKN	Kiinagashima	1.35	328	⇓P	P	19 14 31.3	+0.3
JKN				eS	S	19 14 46.6	-1.4
TK04	Tokai 4	1.43	26	P	P	19 14 32.5	+0.3
TK04				eS	S	19 14 49.9	-0.1
JAA	Atsumi	1.53	1	⇓P	P	19 14 33.9	+0.3
JAA				eS	S	19 14 52.2	-0.4
JWM	Minabe	1.66	298	⇓P	P	19 14 35.5	+0.2
JWY	Kouya	1.70	312	⇓P	P	19 14 36.7	+0.8
JWY				eS	S	19 14 56.6	-0.1
TSUJ	Tsu 2	1.71	340	⇓P	P	19 14 36.6	+0.4
TSUJ				eS	S	19 14 56.7	-0.4
JHE	Heguri	1.96	323	⇓P	P	19 14 40.3	+0.6
JHE				eS	S	19 15 03.1	-0.3
SHZ3	Shizuoka 3	2.17	24	P	P	19 14 42.4	-0.2
JHJ	Hachijo jima 2	2.24	89	Pn	P	19 14 43.8	+0.1
	14nm,0.3s,baz=225,slow=20,SNR=5.6						
JHJ				Sn	S	19 15 08.9	-1.5
	21nm,0.3s,baz=184,slow=19,SNR=5.1						
JAJ2	Tsuna	2.28	306	⇓P	P	19 14 45.0	+0.7
MAJO	Matsushiro	3.56	14	ePn	P	19 15 03.0	+0.6
MAT	Matsushiro	3.56	14	P	P	19 15 03.2	+0.7
MAT				S	S	19 15 42.8	-1.1
MAT	Matsushiro	3.56	14	eP	P	19 15 03.0	+0.5
MAT				eS	S	19 15 43.0	-0.9
SONM	Songino Array	27.41	312	P	P	19 19 60.0	+7.3
	0.4nm,0.8s,mb3.0,baz=108,slow=9.1,SNR=3.5						
MKAR	Makanchi Array	43.36	305	P	P	19 22 13.9	+5.0
	0.8nm,0.9s,mb3.4,baz=90,slow=8.6,SNR=3.6						
KURK	Kurchatov	45.71	311	P	P	19 22 33.5	+5.7
	1.3nm,0.8s,mb3.9						
WRAB	Tennant Creek	52.79	183	eP	P	19 23 19.4	-3.2
	0.7nm,0.3s,mb4.1						
WRA	Warramunga Arr	52.80	183	P	P	19 23 22.4	-0.3
	0.3nm,0.6s,mb3.4,baz=358,slow=7.9,SNR=5.3						
PV10	Paradox Valley	86.03	46	P	P	19 26 47.0	+0.4
TXAR	Lajitas Array	95.33	50	P	P	19 27 32.1	+1.8
	0.2nm,0.3s,mb4.0,baz=297,slow=2.0,SNR=3.7						

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*IDC **05** 19:17:09.0±8.2, 31.26N×136.90E, mb3.6/4, mb1 3.7/4, mb1mx3.6/18, Error ellipse: s-maj=333.0km s-min=24.6km az=65.0*
*JMA **05** 19:17:10.8±0.2, 33.13N×137.17E, h32^{km}, M3.6*
ISC 05 19:17:07.2±1.0**, 33.00N**±0.06×**137.21E**±0.09**, h100**^{km}**, n13,** σ**1**^{s}**54**/14**, mb3.6**/2**, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JWZ	Kozaga	1.36	293	P	P	19 17 33.1	+1.0
JWZ				S	S	19 17 49.3	-1.4
JIE	Ise	1.45	343	S	S	19 17 50.7	-1.9
JKN	Kiinagashima	1.47	328	S	S	19 17 50.3	-2.8
JAA	Atsumi	1.63	358	S	S	19 17 54.2	-2.2
JWM	Minabe	1.77	299	P	P	19 17 39.2	+2.0
JWY	Kouya	1.81	312	S	S	19 18 00.9	+0.4
TSUJ	Tsu 2	1.83	339	P	P	19 17 39.8	+1.9
JHE	Heguri	2.08	323	P	P	19 17 43.0	+1.7
JHE				eS	S	19 18 06.8	+0.2
MAT	Matsushiro	3.63	13	P	P	19 18 04.3	+1.8
MAT				eS	S	19 18 44.8	+0.3
SONM	Songino Array	27.52	312	P	pP	19 23 05.3	-3.0
	0.5nm,0.8s,baz=117,slow=9.7,SNR=4.6						
MKAR	Makanchi Array	43.47	305	P	pP	19 25 20.9	-4.5
	1.3nm,0.9s,baz=95,slow=8.1,SNR=4.6						
WRA	Warramunga Arr	52.72	183	P	P	19 26 12.0	-1.9
	0.4nm,0.6s,mb3.7,baz=1.1,slow=7.9,SNR=8.7						
ASAR	Alice Springs	56.44	184	P	P	19 26 40.2	-0.6
	0.3nm,0.5s,mb3.6,baz=18,slow=11,SNR=5.1						

*BJI **05** 19:22:29.6,2.74N×96.32E,h58^{km},mb4.4*
*NEIC **05** 19:22:32.6±0.5,3.08N×95.65E,mb4.3/6,Error ellipse: s-maj=14.6km s-min=7.3km az=50.0*
*IDC **05** 19:22:33.0±1.4,3.18N×95.74E,h34^{km}±5^{km},mb3.8/9, mb1 3.9/9,mb1mx3.8/14,Error ellipse: s-maj=62.2km s-min=15.5km az=56.0*
ISC 05 19:22:30.6±0.7,**3.1N**±0.1×**95.7E**±0.1,**h33^{km}, h33^{km}**±1.9^{km}**:pP-P,n27,**σ**0^{s}71**/24,**mb4.2**/20,**1D,Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IPM	Ipoh	5.55	74	⇓eP	Pn	19 23 53.5	+0.3
PKI	Pulchoki	26.27	339	eP	P	19 28 05.5	+0.5
	10.0nm,0.8s,mb4.4						
DMN	Daman	26.41	339	eP	P	19 28 06.5	+0.2
KKN	Kakani	26.51	339	eP	P	19 28 07.4	+0.2
	34nm,0.8s,mb4.9						
LSA	Lhasa	26.83	351	P	P	19 28 12.0	+1.9
GKN	Gorkha	26.94	338	eP	P	19 28 11.7	+0.6
	28nm,0.8s,mb4.8						
KOLN	Koldanda	27.14	336	eP	P	19 28 13.6	+0.7
	24nm,0.8s,mb4.8						
GTA	Gaotai	36.37	5	eP	P	19 29 33.0	-0.8
GTA				AP	pP	19 29 45.1	+1.5
GTA				XP	sP	19 29 50.7	+3.0
GTA				AMB	AMB		
	comp=Z,1.0nm,1.1s,mb3.7						
AAK	Ala-Archa	43.69	337	P	P	19 30 35.0	+0.6
	comp=Z,8.7nm,1.6s,mb4.2						
WRA	Warramunga Arr	44.32	123	P	P	19 30 39.9	+0.1
	comp=Z,0.6nm,0.5s,mb3.6,baz=300,slow=9.2,SNR=15						
WRAB	Tennant Creek	44.32	123	eP	P	19 30 39.8	+0.1
	comp=Z,2.2nm,0.5s,mb4.1						
MKAR	Makanchi Array	45.08	347	P	P	19 30 45.4	-0.1
	comp=Z,3.0nm,0.7s,mb4.3,baz=160,slow=8.7,SNR=26						
MKAR				pP	pP	19 30 55.5	+0.1
	comp=Z,1.7nm,0.5s,baz=162,slow=8.9,SNR=8.4						
MKAR	Makanchi Array	45.08	347	P	P	19 30 45.4	-0.1
MKAR				pP	pP	19 30 55.5	+0.1
SONM	Songino Array	45.55	10	P	P	19 30 48.4	-0.7
	comp=Z,2.1nm,0.8s,mb4.1,baz=189,slow=9.2,SNR=15						
SONM				pP	pP	19 30 58.8	-0.2
	comp=Z,0.9nm,0.6s,baz=189,slow=8.9,SNR=4.7						
ASAR	Alice Springs	45.73	128	P	P	19 30 51.0	0.0
	comp=Z,0.2nm,0.7s,mb3.2,baz=294,slow=8.0,SNR=5.7						
ASAR				pP	pP	19 31 02.1	+1.3
	comp=Z,0.6nm,0.6s,baz=300,slow=8.1,SNR=4.7						
KURK	Kurchatov	49.61	346	eP	P	19 31 20.3	-0.6
	comp=Z,9.7nm,1.4s,mb4.6						
ZAL	Zalesovo	51.49	352	P	P	19 31 34.1	-0.9
	comp=Z,2.3nm,0.6s,mb4.3,baz=217,slow=6.7,SNR=12						
BVAR	Borovoye Array	54.00	341	P	P	19 31 53.0	-0.7
	comp=Z,1.7nm,0.6s,mb4.2,baz=144,slow=9.0,SNR=19						
BVAR				pP	pP	19 32 02.9	-0.9
	comp=Z,2.7nm,0.7s,baz=149,slow=8.6,SNR=13						
BRVK	Borovoye	54.06	341	eP	P	19 31 53.2	-1.0
	comp=Z,1.3nm,0.6s,mb4.0						
BRVK				e	pP	19 32 02.6	-1.7
ZRNK	Zerenda	54.39	340	eP	P	19 31 55.4	-1.3
	comp=Z,1.9nm,0.7s,mb4.1						
BRTR	Keskin Array B	66.73	312	pP	pP	19 33 30.7	-0.5
	comp=Z,1.0nm,0.9s,baz=124,slow=4.5,SNR=3.5						
CASY	Casey	70.01	174	eP	P	19 33 40.7	-0.1
	comp=Z,2.2nm,0.6s,mb4.3						
CASY				e		19 33 55.0	
AKASG	Malin Array Be	72.86	322	pP	pP	19 34 07.5	-1.1
	comp=Z,2.0nm,0.7s,baz=92,slow=4.8,SNR=4.7						
FINES	FINESS Array B	77.65	333	P	P	19 34 25.8	+0.5
	comp=Z,1.7nm,0.8s,mb4.0,baz=117,slow=8.5,SNR=3.4						
FINES				pP	pP	19 34 35.7	0.0
	comp=Z,2.8nm,0.7s,baz=104,slow=7.9,SNR=4.4						
KAF	Kangasniemi	77.74	333	ep	pP	19 34 35.8	-0.4
	baz=104,slow=5.3						
ARCES	ARCESS Array B	80.27	340	P	P	19 34 40.1	+0.7
	comp=Z,3.5nm,0.9s,mb4.3,baz=333,slow=5.4,SNR=4.8						
GERES	GERESS Array B	82.41	319	P	P	19 34 56.5	+5.5
	comp=Z,0.4nm,0.8s,mb3.4,baz=104,slow=5.5,SNR=5.6						
GERES				pP	pP	19 35 03.1	+1.6
	comp=Z,2.4nm,1.1s,baz=104,slow=5.5,SNR=8.1						

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*NEIC **05** 19:35:22.1±0.8,33.19N×137.16E,h10^{km},Error ellipse: s-maj=32.8km s-min=11.6km az=100.0*
*JMA **05** 19:35:23.5±0.1,33.29N×137.08E,h38^{km}±3^{km},M3.7*
*IDC **05** 19:35:26.1±7.7,32.48N×135.55E,mb3.5/3,mb1 3.7/3, mb1mx3.4/20,Error ellipse: s-maj=302.0km s-min=30.6km az=62.0*
ISC 05 19:35:23.8±0.8,**33.30N**±0.05×**137.06E**±0.03,**h40^{km}**±12^{km}**, n22,σ0^{s}64**/37,**mb3.5**/3,**1C-10D,Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	Tokai 1	0.64	43	S	S	19 35 44.6	-1.0
TK02	Tokai 2	0.87	42	⇓P	P	19 35 39.4	-0.2
TK02				S	S	19 35 51.2	-0.1
JIE	Ise	1.13	345	⇓P	P	19 35 44.0	+0.7
JIE				S	S	19 35 58.6	+0.7
TK03	Tokai 3	1.14	41	P	P	19 35 43.4	-0.1
TK03				S	S	19 35 58.1	-0.2
JWZ	Kozaga	1.15	282	⇓P	P	19 35 43.6	0.0
JWZ				S	S	19 35 57.6	-0.8
JKN	Kiinagashima	1.16	325	⇓P	P	19 35 44.0	+0.3
JKN				S	S	19 35 57.8	-0.8
TK04	Tokai 4	1.28	32	⇓P	P	19 35 45.5	0.0
TK04				S	S	19 36 01.5	-0.2
TSUJ	Tsu 2	1.50	339	⇓P	P	19 35 49.2	+0.4
TSUJ				S	S	19 36 07.3	-0.1
JWM	Minabe	1.53	291	⇓P	P	19 35 49.2	+0.1
JWM				S	S	19 36 07.4	-0.6
JWY	Kouya	1.53	307	⇓P	P	19 35 49.8	+0.7
JWY				S	S	19 36 08.1	+0.1
JHE	Heguri	1.77	320	⇓P	P	19 35 53.1	+0.6
JHE				S	S	19 36 14.1	+0.1
SHZ3	Shizuoka 3	2.00	28	P	P	19 35 55.3	-0.5
JIZS	Izushimoda	2.07	46	P	P	19 35 57.9	+1.1
JIZS				S	S	19 36 21.4	-0.1
JAJ2	Tsuna	2.13	302	⇓P	P	19 35 58.6	+1.0
JAJ2				S	S	19 36 23.1	+0.1
JAI	Aioi	2.23	283	⇑P	P	19 35 59.5	+0.3
JAI				S	S	19 36 24.3	-1.4
MAJO	Matsushiro	3.37	16	ePn	P	19 36 15.8	+0.5
MAJO				eS	S	19 36 54.0	-0.5
MAT	Matsushiro	3.37	16	P	P	19 36 15.9	+0.6
MAT				S	S	19 36 53.5	-1.1
MAT	Matsushiro	3.37	16	eP	P	19 36 16.0	+0.7
MAT				eS	S	19 36 54.0	-0.6
MKAR	Makanchi Array	43.20	305	P	P	19 43 24.1	+1.6
	0.5nm,0.6s,mb3.4,baz=93,slow=9.9,SNR=5.9						
WRA	Warramunga Arr	53.01	183	P	P	19 44 38.6	-0.5
	0.3nm,0.5s,mb3.5,baz=0.6,slow=7.7,SNR=15						
WRA				pP	pP	19 44 49.8	-0.7
	0.8nm,0.9s,baz=359,slow=7.6,SNR=10						
ASAR	Alice Springs	56.73	183	P	P	19 45 05.2	-0.9
	0.4nm,0.6s,mb3.6,baz=12,slow=13,SNR=6.3						
ASAR				pP	pP	19 45 16.9	-0.8
	0.6nm,0.9s,baz=12,slow=8.6,SNR=4.4						
TXAR	Lajitas Array	95.23	50	pP	pP	19 49 08.8	+12
	0.4nm,0.9s,baz=315,slow=3.5,SNR=3.5						

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*IDC **05** 19:43:40.3±10.0,33.57N×137.32E,mb3.6/4,mb1 3.7/4, mb1mx3.5/19,MS3.1/1,Ms1 3.1/1,ms1mx2.9/16,Error ellipse: s-maj=401.0km s-min=23.8km az=63.0*
*NEIC **05** 19:43:42.9±0.9,33.45N×137.04E,h10^{km},Error ellipse: s-maj=26.9km s-min=13.1km az=101.0*
*JMA **05** 19:43:42.7±0.1,33.40N×136.95E,h47^{km}±3^{km},M3.4*
ISC 05 19:43:42.7±0.8,**33.43N**±0.05×**136.92E**±0.04,**h25^{km}**±6^{km}**, n20,σ0^{s}70**/28,**mb3.5**/4,**6C-1D,Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	Tokai 1	0.65	59	P	Pb	19 43 55.9	+0.6
TK01				eS	Sb	19 44 04.7	+0.8
TK02	Tokai 2	0.86	53	P	Pb	19 43 58.2	-0.8
TK02				eS	Sb	19 44 10.3	+0.2
JIE	Ise	0.97	349	⇑P	Pn	19 44 01.1	+0.2
JIE				S	Sb	19 44 13.7	+0.4
JKN	Kiinagashima	0.98	326	⇑P	Pn	19 44 00.8	-0.2
JKN				S	Sb	19 44 13.0	-0.5
JWZ	Kozaga	1.02	276	⇑P	Pn	19 44 01.0	-0.5
JWZ				S	Sb	19 44 14.3	-0.2
TK03	Tokai 3	1.13	50	P	Pn	19 44 02.2	-1.0
TK03				eS	Sn	19 44 17.2	-0.8
JAA	Atsumi	1.21	9	⇓P	Pn	19 44 04.0	-0.3
TSUJ	Tsu 2	1.34	342	⇑P	Pn	19 44 06.3	+0.2
TSUJ				S	Sn	19 44 23.1	-0.2
JWY	Kouya	1.36	306	P	Pn	19 44 06.7	+0.3
JWM	Minabe	1.37	288	⇑P	Pn	19 44 06.4	-0.2
JHE	Heguri	1.59	320	⇑P	Pn	19 44 09.7	-0.1
SHZ3	Shizuoka 3	1.94	33	P	Pn	19 44 13.7	-1.1
JHJ	Hachijo jima 2	2.42	97	LR	LR	19 45 06.9	
	comp=Z,377nm,19.3s,baz=322,slow=40						
MAJO	Matsushiro	3.28	18	ePn	Pn	19 44 33.5	-0.2
MAT	Matsushiro	3.28	18	P	Pn	19 44 33.8	0.0
MAT				S	Sn	19 45 13.4	+1.0
MAT	Matsushiro	3.28	18	P	Pn	19 44 34.0	+0.2
MAT				eS	Sn	19 45 13.0	+0.6
SONM	Songino Array	27.06	311	P	P	19 49 25.5	+0.5
	0.8nm,0.8s,mb3.3,baz=113,slow=8.4,SNR=6.1						
MKAR	Makanchi Array	43.03	305	P	P	19 51 43.4	+1.6
	1.3nm,0.7s,mb3.8,baz=90,slow=7.3,SNR=8.0						
WRA	Warramunga Arr	53.13	183	P	P	19 52 59.7	-1.1
	0.6nm,1.0s,mb3.5,baz=359,slow=7.7,SNR=15						
ASAR	Alice Springs	56.85	183	P	P	19 53 29.2	+1.4
	0.5nm,1.1s,mb3.4,baz=20,slow=9.5,SNR=4.5						

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*IDC **05** 19:57:52.6±18.0,34.34N×137.85E,mb3.6/3,mb1 3.8/3, mb1mx3.5/19,Error ellipse: s-maj=707.0km s-min=31.0km az=63.0*
*JMA **05** 19:57:53.5±0.1,33.37N×136.98E,h29^{km}±3^{km},M3.6*
ISC 05 19:57:53.5±1.0,**33.42N**±0.05×**136.94E**±0.03,**h19^{km}**±7^{km}**, n17,σ0^{s}54**/28,**mb3.5**/3,**6C-3D,Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	Tokai 1	0.65	57	P	Pb	19 58 05.6	-0.4
TK02	Tokai 2	0.86	52	⇓P	Pb	19 58 09.8	+0.1
TK02				eS	Sb	19 58 21.4	+0.6
JIE	Ise	0.99	349	⇑P	Pb	19 58 12.8	+0.9
JIE				eS	Sb	19 58 25.6	+1.2
JKN	Kiinagashima	1.00	326	⇑P	Pb	19 58 12.5	+0.5
JKN				eS	Sb	19 58 24.8	0.0
JWZ	Kozaga	1.03	277	⇑P	Pb	19 58 12.5	0.0
JWZ				eS	Sb	19 58 25.2	-0.4
TK03	Tokai 3	1.14	49	P	Pb	19 58 13.9	-0.4
TK03				eS	Sb	19 58 28.5	-0.1
JAA	Atsumi	1.22	8	⇓P	Pb	19 58 15.7	-0.1
JAA				eS	Sb	19 58 30.7	-0.5
TK04	Tokai 4	1.24	39	⇓P	Pn	19 58 15.6	-0.5
TK04				eS	Sb	19 58 31.4	-0.3
TSUJ	Tsu 2	1.36	342	⇑P	Pn	19 58 18.1	+0.3
TSUJ				eS	Sb	19 58 34.7	-0.5
JWY	Kouya	1.38	306	⇑P	Pn	19 58 18.3	+0.3
JWY				eS	Sb	19 58 35.3	-0.3
JWM	Minabe	1.39	288	P	Pn	19 58 18.1	-0.1
JHE	Heguri	1.61	320	⇑P	Pn	19 58 21.6	+0.2
JHE				eS	Sn	19 58 40.8	-1.1
SHZ3	Shizuoka 3	1.95	32	P	Pn	19 58 25.3	-1.0
MAT	Matsushiro	3.29	18	P	Pn	19 58 45.5	+0.2
MAT				S	Sn	19 59 24.7	+0.4
SONM	Songino Array	27.08	311	P	P	20 03 36.7	-0.2
	0.5nm,0.8s,mb3.1,baz=124,slow=11,SNR=4.0						
MKAR	Makanchi Array	43.05	305	P	P	20 05 54.9	+1.2
	0.7nm,0.6s,mb3.6,baz=100,slow=8.8,SNR=7.3						
WRA	Warramunga Arr	53.12	183	P	P	20 07 19.1	+6.7
	1.3nm,1.2s,mb3.7,baz=4.9,slow=7.5,SNR=5.7						

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*JMA **05** 20:06:32.5±0.1,32.99N×136.94E,h40^{km},M3.5*
ISC 05 20:06:32.7±1.3,**32.99N**±0.08×**136.94E**±0.05,**h40^{km},n12, σ0^{s}53**/22,**3D,Southeast of Shikoku**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JWZ	Kozaga	1.16	298	⇓P	P	20 06 52.4	-0.3
JWZ				S	S	20 07 07.1	-0.5
TK02	Tokai 2	1.17	35	eS	S	20 07 07.3	-0.6
JKN	Kiinagashima	1.38	336	⇓P	P	20 06 55.8	-0.1
JKN				S	S	20 07 12.0	-1.1
JIE	Ise	1.41	352	P	P	20 06 56.7	+0.3
JIE				eS	S	20 07 14.4	+0.4
JWM	Minabe	1.58	303	P	P	20 06 58.9	+0.2
JWM				S	S	20 07 17.7	-0.4
TK04	Tokai 4	1.59	29	P	P	20 06 58.7	-0.3
TK04				S	S	20 07 18.0	-0.5
JWY	Kouya	1.66	318	P	P	20 07 00.6	+0.7
JWY				S	S	20 07 20.7	+0.5
TSUJ	Tsu 2	1.77	346	⇓P	P	20 07 01.8	+0.4
TSUJ				eS	S	20 07 23.4	+0.5
JHE	Heguri	1.96	328	P	P	20 07 04.7	+0.5
JHE				eS	S	20 07 28.4	+0.7
JAI	Aioi	2.23	292	P	P	20 07 08.3	+0.3
JAI				S	S	20 07 33.6	-0.9
JIZS	Izushimoda	2.36	43	P	P	20 07 10.0	+0.1
MAT	Matsushiro	3.69	16	P	P	20 07 29.0	+0.2
MAT				S	S	20 08 07.2	-4.5

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*NEIC **05** 20:25:01.4±0.9,33.49N×137.37E,h10^{km},Error ellipse: s-maj=21.2km s-min=11.7km az=111.0*
*IDC **05** 20:25:03.0±1.0,33.06N×137.09E,mb3.6/5,mb1 3.8/7, mb1mx3.7/21,ML3.7/2,Error ellipse: s-maj=29.0km s-min=22.8km az=39.0*
*JMA **05** 20:25:06.3±0.1,33.16N×137.07E,h40^{km},M3.9*
ISC 05 20:25:05.9±0.6,**33.12N**±0.04×**137.09E**±0.04,**h33^{km},n21, σ0^{s}79**/32,**mb3.5**/5,**5D,Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK02	Tokai 2	0.99	34	S	S	20 25 36.7	+0.2
JWZ	Kozaga	1.22	290	⇓P	P	20 25 26.8	+0.2
JWZ				S	S	20 25 41.3	-0.9
TK03	Tokai 3	1.27	35	S	S	20 25 43.3	-0.2
JIE	Ise	1.30	346	P	P	20 25 28.5	+0.6
JIE				S	S	20 25 45.3	+0.9
JKN	Kiinagashima	1.32	329	⇓P	P	20 25 28.3	+0.2
JKN				S	S	20 25 43.4	-1.3
TK04	Tokai 4	1.42	27	P	P	20 25 29.9	+0.3
TK04				S	S	20 25 47.1	-0.2
JAA	Atsumi	1.51	2	⇓P	P	20 25 31.0	+0.2
JAA				S	S	20 25 49.1	-0.4
JWM	Minabe	1.62	297	P	P	20 25 32.7	+0.3
JWM				S	S	20 25 51.6	-0.7
JWY	Kouya	1.66	312	⇓P	P	20 25 33.6	+0.6
JWY				S	S	20 25 53.2	-0.1
TSUJ	Tsu 2	1.68	341	P	P	20 25 34.8	+1.5
TSUJ				S	S	20 25 53.5	-0.3
JHE	Heguri	1.92	323	⇓P	P	20 25 37.3	+0.6
JHE				S	S	20 25 59.9	-0.1
JHJ	Hachijo jima 2	2.26	89	Pn	Pn	20 25 42.0	+0.2
	147nm,0.3s,baz=260,slow=21,SNR=24						
JHJ				Sn	Sn	20 26 07.5	-1.4
	121nm,0.3s,baz=114,slow=23,SNR=8.6						
MAJO	Matsushiro	3.53	15	ePn	Pn	20 25 51.4	-8.5
MAJO				e		20 26 00.7	
MAT	Matsushiro	3.53	15	P	P	20 26 00.2	+0.5
MAT				S	S	20 26 39.4	-1.6
JNU	Nakatsue	5.21	272	Pn	Pn	20 26 22.7	-0.9
	1.8nm,0.3s,baz=101,slow=16,SNR=8.5						
SONM	Songino Array	27.37	312	P	P	20 30 50.7	+0.8
	0.2nm,0.4s,mb3.0,baz=108,slow=9.1,SNR=3.0						
SONM	Songino Array	27.37	312	P	P	20 30 50.7	+0.8
WRA	Warramunga Arr	52.83	183	P	P	20 34 19.7	-0.8
	0.6nm,0.6s,mb3.7,baz=359,slow=7.7,SNR=13						
ASAR	Alice Springs	56.55	183	P	P	20 34 47.0	-0.6
	0.2nm,0.6s,mb3.4,baz=8.5,slow=11,SNR=4.2						
AKASG	Malin Array Be	75.17	321	P	P	20 36 46.7	+0.4
	0.4nm,0.6s,mb3.5,baz=51,slow=6.7,SNR=4.5						
TXAR	Lajitas Array	95.33	50	P	P	20 38 30.2	+2.2
	0.3nm,0.8s,mb3.8,baz=297,slow=2.0,SNR=3.8						

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*BJI **05** 20:30:57.8,33.26N×137.14E,h26^{km},mB5.5,mb5.1, Ms5.7,Msz5.6*
*NEIC **05** 20:30:59.8±0.2,33.25N×136.80E,h10^{km},mb5.2/80, MS5.3/83,MW5.7(NIED),Error ellipse: s-maj=5.5km s-min=4.9km az=144.0*
NEIC Recorded [2 JMA] in Aichi, Fukui, Mie, Shiga and Wakayama Prefectures.
*JMA **05** 20:30:59.3±0.1,33.29N×136.91E,h37^{km}±3^{km},M5.9*
JMA Felt II J1.
*HRVD **05** 20:30:59.8±0.4,33.40N×136.80E,h13^{km}±2^{km},MW5.7/63, Centroid moment Tensor Solution. LP body waves: s4,c5; Mantle waves: s63,c105; Half duration: 1^{s}7 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.12±.22; $M_{\theta\theta}$-2.27±.19; $M_{\phi\phi}$2.39±.17; $M_{r\theta}$2.51±.82; $M_{\theta\phi}$2.70±.16; $M_{\phi r}$-0.57±.45; Best double couple: $M_0$4.29×10^{17} NP1:ϕ_s344°,δ63°, λ-166°. NP2:ϕ_s248°,δ78°,λ-28°. Principal axes: T 3.72, Plg10°, Azm298°; N 1.14, Plg60°, Azm46°; P -4.86, Plg28°, Azm203°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*SYO **05** 20:30:59.6,33.24N×136.76E,h10^{km},MB5.2,MS5.3*
*NIED **05** 20:31:00,33.30N×137.00E,h5^{km},Mw5.7 Best double couple: $M_0$3.82×10^{17} NP1:ϕ_s166°,δ83°,λ-140°. NP2: ϕ_s71°,δ50°,λ-9°.*
*IDC **05** 20:31:02.5±0.4,33.32N×136.92E,h28^{km}±2^{km},mb4.6/19, mb1 4.8/23,mb1mx4.7/26,ML4.4/4,MS5.4/25,Ms1 5.4/25, ms1mx5.3/30,Error ellipse: s-maj=13.2km s-min=9.1km az=72.0*
*MOS **05** 20:31:03.1±1.1,33.51N×136.71E,h33^{km},mb5.3/52, MS5.4/32,Error ellipse: s-maj=8.5km s-min=5.3km az=98.3*
ISC 05 20:31:01.2±0.1,**33.39N**±0.02×**136.80E**±0.02,**h27^{km}, h27^{km}**±1.1^{km}**:pP-P,n513,σ1^{s}22**/491,**mb5.1**/124,**MS5.5**/131,**50C-36D,Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	Tokai 1	0.76	60	P	Pb	20 31 13.2	-2.5
TK01				S	Sb	20 31 23.5	-2.2
JWZ	Kozaga	0.92	279	⇑P	Pb	20 31 17.5	-0.9
JWZ				S	Sb	20 31 30.2	-0.1
JKN	Kiinagashima	0.97	333	⇓P	Pn	20 31 18.7	-0.4
JKN				S	Sb	20 31 31.5	-0.2
TK02	Tokai 2	0.97	55	⇓P	Pn	20 31 16.7	-2.5
JIE	Ise	1.01	355	⇓P	Pn	20 31 19.3	-0.4
JIE				S	Sb	20 31 32.4	-0.3
TK03	Tokai 3	1.24	51	⇓P	Pn	20 31 20.6	-2.4
JAA	Atsumi	1.27	13	⇓P	Pn	20 31 22.4	-1.1
JAA				S	Sn	20 31 39.0	-0.8
JWM	Minabe	1.29	291	⇑P	Pn	20 31 23.2	-0.6
JWY	Kouya	1.30	310	⇑P	Pn	20 31 24.0	+0.1
JWY				S	Sn	20 31 41.1	+0.5
TK04	Tokai 4	1.34	42	⇓P	Pn	20 31 22.4	-2.0
TSUJ	Tsu 2	1.36	347	⇓P	Pn	20 31 24.4	-0.3
TSUJ				S	Sn	20 31 41.5	-0.4
JHE	Heguri	1.57	324	⇑P	Pn	20 31 27.6	-0.1
JHE				S	Sn	20 31 47.7	+0.4
HMMJ	Hamamatsu 2	1.65	27	⇓P	Pn	20 31 26.9	-2.0
JSG	Sagara	1.72	41	⇓P	Pn	20 31 27.8	-2.1
JYZW	Yoshizawa	1.78	25	P	Pn	20 31 28.8	-1.9
JAJ2	Tsuna	1.90	303	⇑P	Pn	20 31 32.7	+0.3
JAO	Obara	1.91	11	⇓P	Pn	20 31 31.6	-1.0
JAI	Aioi	2.00	282	⇑P	Pn	20 31 33.3	-0.6
JMIK	Miki	2.03	315	⇑P	Pn	20 31 34.7	+0.4
SHZ3	Shizuoka 3	2.04	34	⇓P	Pn	20 31 32.1	-2.4
JWT	Wachi	2.22	329	⇑P	Pn	20 31 37.1	+0.1
MRT2	Murotomisaki 2	2.23	271	⇑P	Pn	20 31 35.5	-1.6
JFM	Mihama	2.24	343	⇓P	Pn	20 31 37.5	+0.2
JKS	Kasai	2.27	315	⇑P	Pn	20 31 37.9	+0.1
JGM	Miyama	2.31	358	⇓P	Pn	20 31 37.9	-0.4
JHJ	Hachijo jima 2	2.51	95	Pn	Pn	20 31 38.1	-3.1
	232nm,0.3s,baz=234,slow=9.8,SNR=34						
JHJ				Sn	Sn	20 32 04.2	-7.1
	327nm,0.3s,baz=258,slow=16,SNR=8.4						
JHJ				LR	LR	20 32 36.4	
	comp=Z,52µm,19.9s,baz=159,slow=38						
JHJ2	Mitsune	2.54	95	⇑P	Pn	20 31 37.7	-3.9
JJS	Sakaide	2.58	293	⇑P	Pn	20 31 41.5	-0.7
JKY	Yasaka	2.64	328	⇑P	Pn	20 31 42.9	-0.1
JAD	Aida	2.68	306	⇑P	Pn	20 31 43.0	-0.6
JNT	Takato	2.72	24	⇓P	Pn	20 31 42.6	-1.5
JKSM	Kasumi	2.82	322	⇑P	Pn	20 31 45.3	-0.3
JGN	Niukaw	2.86	8	⇓P	Pn	20 31 45.2	-1.0
JKG	Kaga	2.91	352	⇓P	Pn	20 31 46.4	-0.5
JRY	Ryogami san	3.14	33	⇓P	Pn	20 31 48.7	-1.5
JET	Tanbara	3.16	278	⇑P	Pn	20 31 48.8	-1.6
JKR	Kurayoshi	3.17	310	⇑P	Pn	20 31 50.6	+0.1
JNG	Nsakai	3.20	19	⇓P	Pn	20 31 50.1	-0.8
JJG	Jouge	3.28	293	⇑P	Pn	20 31 51.2	-0.9
MAJO	Matsushiro	3.35	20	⇓eP	Pn	20 31 52.1	-1.1
MAT	Matsushiro	3.35	20	P	Pn	20 31 52.1	-1.1
MAT				S	Sn	20 32 31.2	-1.3
MAT	Matsushiro	3.35	20	eP	Pn	20 31 52.0	-1.2
MAT				eS	Sn	20 32 31.0	-1.5
JHS	Saijyo	3.45	299	⇑P	Pn	20 31 53.8	-0.8
JJH	Hakui	3.53	360	⇓P	Pn	20 31 54.2	-1.5
JHM	Kurahashi	3.64	283	⇑P	Pn	20 31 55.8	-1.4
JNM	Ikuma	3.76	305	⇑P	Pn	20 31 59.1	+0.1
JHT	Toyohira	3.85	290	P	Pn	20 31 58.7	-1.6
SAI	Saigo	4.00	316	⇑P	Pn	20 32 01.6	-0.8
JKD	Kudamatsu	4.16	281	P	Pn	20 32 03.1	-1.5
JHIK	Hikimi	4.21	287	P	Pn	20 32 03.5	-1.8
JUS	Usuki	4.25	267	P	Pn	20 32 03.8	-2.1
JKI	Kunimi	4.38	275	P	Pn	20 32 05.9	-1.8
JTY	Toyota	4.86	282	P	Pn	20 32 12.8	-1.7
ONAJ	Iwakimizuishiy	4.94	40	P	Pn	20 32 13.9	-1.8
JNU	Nakatsue	4.97	269	Pn	Pn	20 32 14.8	-1.3
	5.8nm,0.3s,baz=86,slow=12,SNR=20						
JNU	Nakatsue	4.97	269	P	Pn	20 32 13.9	-2.2
JFA	Akaike	5.03	275	⇑P	Pn	20 32 14.5	-2.4
JFT	Otama	5.03	34	P	Pn	20 32 16.6	-0.3
JIU2	Izumi 2	5.10	262	P	Pn	20 32 16.6	-1.4
JYK	Kaneyama	6.22	27	P	Pn	20 32 33.4	-0.4
OFUJ	Ofunato	6.91	33	⇓P	Pn	20 32 41.6	-1.8
JOM	Ohasama	7.07	29	⇓P	Pn	20 32 44.7	-1.0
JKZ	Kuzumaki	7.52	28	P	Pn	20 32 50.8	-1.2
CBIJ	Chichi jima	7.81	142	Pn	Pn	20 32 51.5	-4.5
	35nm,0.3s,baz=29,slow=2.3,SNR=8.8						
CBIJ				LR	LR	20 35 20.5	
	comp=Z,25µm,19.4s,baz=324,slow=34						
JANG	Nango	7.93	27	P	Pn	20 32 55.7	-2.0
INCN	Inchon	9.25	299	Pn	P	20 33 14.8	-1.2
	18nm,0.6s						
JOW	Kunigami	9.86	231	LR	LR	20 37 05.6	
	comp=Z,15µm,20.6s,baz=103,slow=37						
JEM	Erimo	9.97	28	P	P	20 33 20.9	-5.0
VLA	Vladivostok	10.45	340	⇓iP	P	20 33 32.0	-0.5
VLA				i		21 35 26.0	
VLA				pmax	pmax		
	comp=Z,2µm,12.0s						
VLA				pmax	pmax		
	comp=E,2µm,14.0s						
ASAJ	Asahikawa	11.62	21	Pn	P	20 33 44.8	-3.7
	comp=E,3.9nm,0.3s,baz=236,slow=13,SNR=24						
ASAJ				LR	LR	20 38 39.2	
	comp=E,24µm,20.9s,baz=220,slow=39						
ASAJ	Asahikawa	11.62	21	P	P	20 33 44.8	-3.6
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,24µm,20.9s						
MDJ	Mudanjiang	12.53	336	P	P	20 33 59.2	-1.4
MDJ				AP		20 34 05.7	
MDJ				XP		20 34 12.3	
MDJ				S	S	20 36 20.7	+0.4
MDJ				PCP	PcP	20 39 36.4	-2.1
MDJ				AMB	AMB		
	comp=Z,20nm,1.2s						
MDJ				LR	LR		
	comp=Z,14µm,12.9s						
MDJ	Mudanjiang	12.53	336	ePn	P	20 34 01.3	+0.7
	comp=Z,112nm,1.5s						
YUK	Yuzh-Kuril'sk	12.76	31	eP	P	20 33 55.0	-8.7
YUK				pmax	pmax		
	comp=E,2µm,1.5s						
YUK				pmax	pmax		
	comp=Z,2µm,1.5s						
YUK				pmax	pmax		
	comp=N,2µm,2.0s						
YUK				pmax	pmax		
	comp=Z,350nm,0.8s						
YUK				MLR	MLR		
	comp=Z,25µm,16.0s						

YUK				MLR	MLR		
	comp=N,33µm,15.0s						
YUK				MLR	MLR		
	comp=E,28µm,15.0s						
SSE	**Sheshan**	**13.42**	**264**	*e*P	**P**	**20 34 11.7**	**-0.7**
SSE				S	**S**	**20 36 38.8**	**-2.7**
SSE				AMB	AMB		
	comp=Z,28nm,0.6s						
SSE				AMB	AMB		
	comp=Z,549nm,4.4s						
DL2	**Dalian**	**13.44**	**298**	⇑*i*P	**P**	**20 34 13.9**	**+1.3**
DL2				S	**S**	**20 36 47.8**	**+5.7**
DL2				AMB	AMB		
	comp=Z,40nm,1.0s						
DL2				AMB	AMB		
	comp=Z,1µm,7.6s						
DL2				LR	LR		
	comp=Z,35µm,14.5s						
SNY	**Shenyang**	**13.44**	**313**	⇑P	**P**	**20 34 14.0**	**+1.4**
SNY				S	**S**	**20 36 47.4**	**+5.4**
SNY				AMB	AMB		
	comp=Z,20nm,0.4s						
SNY				LR	LR		
	comp=N,23µm,12.3s						
SNY				LR	LR		
	comp=E,28µm,14.7s						
SNY				LR	LR		
	comp=Z,32µm,14.1s						
CN2	**Changchun**	**13.66**	**323**	*e*P	**P**	**20 34 18.1**	**+2.6**
CN2				*e*XP		20 34 24.7	
CN2				*e*S	**S**	**20 36 53.1**	**+5.8**
CN2				LR	LR		
	comp=Z,25µm,17.0s						
YSS	**Yuzh-Sakhalins**	**14.29**	**17**	⇑*e*P	**P**	**20 34 18.8**	**-4.9**
YSS				*e*		20 37 04.0	
YSS				pmax	pmax		
	comp=N,30nm,1.0s						
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS				pmax	pmax		
	comp=N,140nm,1.0s						
YSS				pmax	pmax		
	comp=Z,160nm,1.0s						
YSS				pmax	pmax		
	comp=N,900nm,7.0s						
YSS				pmax	pmax		
	comp=Z,1µm,7.0s						
YSS				MLR	MLR		
	comp=N,30µm,13.0s						
YSS				MLR	MLR		
	comp=E,7µm,13.0s						
YSS				MLR	MLR		
	comp=Z,26µm,13.0s						
YSS	**Yuzh-Sakhalins**	**14.29**	**17**	*e*Pn	**P**	**20 34 19.4**	**-4.3**
	comp=Z,42nm,0.8s						
KUR	**Kuril'sk**	**14.59**	**33**	*e*P	**P**	**20 34 21.8**	**-5.9**
KUR				pmax	pmax		
	comp=N,190nm,1.2s						
KUR				pmax	pmax		
	comp=E,130nm,1.2s						
KUR				pmax	pmax		
	comp=Z,640nm,1.2s						
KUR				MLR	MLR		
	comp=N,40µm,15.0s						
KUR				MLR	MLR		
	comp=E,30µm,15.0s						
KUR				MLR	MLR		
	comp=Z,32µm,15.0s						
KLR	**Kul'dur**	**16.27**	**348**	*e*P	**P**	**20 34 49.5**	**+0.1**
KLR				*e*S	**S**	**20 37 54.0**	**+5.3**
KLR				pmax	pmax		
	comp=N,140nm,2.2s						
KLR				pmax	pmax		
	comp=Z,180nm,2.2s						
KLR				pmax	pmax		
	comp=N,4µm,12.0s						
KLR				pmax	pmax		
	comp=E,2µm,12.0s						
KLR				pmax	pmax		
	comp=Z,4µm,12.0s						
KLR				smax			
	comp=N,3µm,11.5s						
KLR				smax			
	comp=E,5µm,11.5s						
TIA	**Tai'an**	**16.41**	**285**	*e*P	**P**	**20 34 56.9**	**+5.6**
BJT	**Baijiatuau**	**17.80**	**298**	⇑*e*P	**P**	**20 35 09.1**	**+0.4**
BJT				pmax	pmax		
	comp=Z,170nm,1.0s						
BJT	**Baijiatuau**	**17.80**	**298**	⇑*e*P	**P**	**20 35 09.1**	**+0.4**
	comp=Z,172nm,1.0s						
BJI	**Beijing**	**17.80**	**298**	P	**P**	**20 35 09.4**	**+0.7**
BJI				S	**S**	**20 38 28.4**	**+4.6**
BJI				AMB	AMB		
	comp=Z,148nm,1.0s						
BJI				LR	LR		
	comp=Z,30µm,15.2s						
QZH	**Quanzhou**	**17.98**	**247**	*e*P	**P**	**20 35 10.0**	**-0.9**
QZH				S	**S**	**20 38 26.0**	**-1.7**
QZH				AMB	AMB		
	comp=Z,230nm,1.1s						
WHN	**Wuhan**	**19.26**	**268**	⇑P	**P**	**20 35 26.5**	**+0.1**
WHN				AP		20 35 36.0	
WHN				*e*S	**S**	**20 39 01.0**	**+4.3**
WHN				AMB	AMB		
	comp=Z,64nm,1.0s						
TIY	**Taiyuan**	**20.27**	**289**	⇓P	**P**	**20 35 34.0**	**-3.4**
HIA	**Hailar**	**20.32**	**326**	*e*P	**P**	**20 35 35.1**	**-2.7**
HIA				pmax	pmax		
	comp=Z,92nm,1.1s						
HIA				MLR	MLR		
	comp=Z,15µm,22.0s						
HIA	**Hailar**	**20.32**	**326**	*e*P	**P**	**20 35 35.1**	**-2.7**
	comp=Z,92nm,1.1s						
HIA				LR	LR		
	comp=Z,15µm,22.0s,MS5.3						
GUMO	**Guam**	**21.03**	**158**	*e*P	**P**	**20 35 42.8**	**-2.6**
GUMO				pmax	pmax		
	comp=Z,150nm,1.2s,mb5.2						
GUMO				MLR	MLR		
	comp=Z,9µm,21.0s,MS5.1						
GUMO	**Guam**	**21.03**	**158**	*e*P	**P**	**20 35 42.8**	**-2.5**
	comp=Z,148nm,1.2s,mb5.2						
GUMO				LR	LR		
	comp=Z,9µm,21.0s,MS5.1						
HHC	**Hu-ho-hao-te**	**21.41**	**298**	*e*P	**P**	**20 35 49.0**	**-0.1**
HHC				PP	PP	20 36 13.0	-0.3
HHC				S	**S**	**20 39 44.9**	**+4.6**
HHC				SS	SS	20 40 16.5	+0.9
HHC				PCS		20 43 29.8	
HHC				AMB	AMB		
	comp=Z,1µm,9.3s						
HHC				LR	LR		
	comp=Z,24µm,17.2s,MS5.7						
SKR	**Severo-Kuril's**	**22.35**	**34**	*e*P	**P**	**20 36 04.0**	**+5.7**
SKR				*e*		20 36 11.7	
SKR				*e*		20 36 19.5	
SKR				*e*		20 36 27.0	
SKR				*e*		20 39 47.0	
SKR				pmax	pmax		
	comp=N,1µm,4.0s						
SKR				pmax	pmax		
	comp=E,1µm,4.0s						
SKR				pmax	pmax		
	comp=Z,2µm,4.0s						
SKR				pmax	pmax		
	comp=Z,220nm,1.0s,mb5.5						
SKR				smax			
	comp=E,9µm,12.0s						
SKR				smax			
	comp=N,4µm,10.0s						
SKR				MLR	MLR		
	comp=N,8µm,14.0s,MS5.4						
SKR				MLR	MLR		
	comp=E,6µm,14.0s,MS5.4						
SKR				MLR	MLR		
	comp=Z,14µm,14.0s,MS5.5						
BTO	**Baotou**	**22.52**	**296**	*e*P	**P**	**20 35 59.6**	**-0.5**
BTO				S	**S**	**20 40 10.7**	**+10**
BTO				AMB	AMB		
	comp=Z,76nm,1.0s,mb5.1						
GZH	**Guangzhou**	**23.03**	**250**	P	**P**	**20 36 01.5**	**-3.7**
GZH				S	**S**	**20 40 08.0**	**-1.9**
GZH				AMB	AMB		
	comp=Z,2µm,6.9s						
GZH				LR	LR		
	comp=Z,27µm,17.2s,MS5.8						
XAN	**Xi'an**	**23.18**	**279**	P	**P**	**20 36 06.4**	**-0.2**
XAN				S	**S**	**20 40 19.0**	**+6.6**
XAN				AMB	AMB		
	comp=Z,93nm,1.4s,mb5.0						
XAN				AMB	AMB		
	comp=Z,2µm,11.2s						
XAN				LR	LR		
	comp=Z,2µm,11.2s,MS4.7						
ENH	**Enshi**	**23.39**	**270**	*e*P	**P**	**20 36 09.3**	**+0.6**
	comp=Z,274nm,1.1s,mb5.6						
ENH				LR	LR		
	comp=Z,20µm,19.0s,MS5.6						
TGY	**Tagaytay City**	**24.01**	**221**	P	**P**	**20 36 14.5**	**-0.4**
	comp=Z,70nm,0.3s,mb5.5,baz=155,slow=6.3,SNR=3.8						
TGY				LR	LR	20 44 47.6	
	comp=Z,2µm,18.2s,MS4.7,baz=33,slow=34						
TGY	**Tagaytay City**	**24.01**	**221**	P	**P**	**20 36 14.5**	**-0.4**
TGY				pmax	pmax		
	comp=Z,70nm,0.3s						
TGY				MLR	MLR		
	comp=Z,2µm,18.2s						
CLNS	**Chul'man**	**24.84**	**344**	*e*P	**P**	**20 36 22.6**	**+0.2**
CLNS				*e**PP		20 36 29.1	
CLNS				*e*		20 36 55.4	
CLNS				*e*		20 39 55.8	
CLNS				*e*S	**S**	**20 40 43.2**	**+2.5**
CLNS				*e*SS	SS	20 41 34.8	-4.2
CLNS				pmax	pmax		
	comp=Z,14nm,0.7s,mb4.6						
CLNS				pmax	pmax		
	comp=N,9.0nm,0.9s						
CLNS				pmax	pmax		
	comp=E,5.0nm,1.1s						
CLNS				pmax	pmax		
	comp=Z,33nm,1.1s,mb4.8						
CLNS				pmax	pmax		
	comp=N,20nm,0.8s						
CLNS				pmax	pmax		
	comp=E,13nm,0.8s						
CLNS				smax			
	comp=N,3µm,12.9s						
CLNS				smax			
	comp=Z,648nm,11.2s						
CLNS				smax			
	comp=E,220nm,11.3s						
CLNS				MLR	MLR		
	comp=Z,37µm,14.0s,MS6.0						
CLNS				MLR	MLR		
	comp=N,29µm,13.0s,MS6.0						
CLNS				MLR	MLR		
	comp=E,2µm,11.0s,MS6.0						
PET	**Petropavlovsk**	**25.10**	**32**	*d* *i*P	**P**	**20 36 26.3**	**+1.3**
PET				*e*S	**S**	**20 40 49.1**	**+4.0**
PET				pmax	pmax		
	comp=Z,1µm,6.3s						
PET				pmax	pmax		
	comp=Z,417nm,1.1s,mb5.9						
PET				smax			
	comp=E,2µm,10.4s						
PET				smax			
	comp=N,4µm,11.8s						
PET				MLR	MLR		
	comp=Z,9µm,15.0s,MS5.4						
PET				MLR	MLR		
	comp=Z,9µm,16.0s						
PET	**Petropavlovsk**	**25.10**	**32**	*e*P	**P**	**20 36 24.9**	**-0.1**
	comp=Z,133nm,1.0s,mb5.4						
PET				LR	LR		
	comp=Z,5µm,21.0s,MS5.0						
GYA	**Guiyang**	**26.96**	**263**	⇑*i*P	**P**	**20 36 44.6**	**+2.1**
GYA				AP	pP	20 36 49.0	-1.4
GYA				XP	sP	20 36 51.8	-2.2
GYA				AMB	AMB		
	comp=Z,60nm,1.1s,mb5.0						
GYA				AMB	AMB		
	comp=Z,660nm,5.7s						
SONM	**Songino Array**	**27.01**	**311**	P	**P**	**20 36 42.4**	**-0.4**
	comp=Z,14nm,0.8s,mb4.5,baz=118,slow=7.4,SNR=78						
SONM				PcP	PcP	20 40 04.0	-0.2
	comp=Z,3.1nm,0.8s,baz=141,slow=2.3,SNR=4.4						
SONM				pPcP		20 40 12.4	
	comp=Z,4.5nm,0.6s,baz=128,slow=2.0,SNR=7.6						
LZH	**Lanzhou**	**27.15**	**285**	⇑P	**P**	**20 36 44.0**	**-0.1**
LZH				PP	PP	20 37 30.7	-0.2
LZH				S	**S**	**20 41 21.0**	**+1.9**
LZH				SS	SS	20 42 36.3	+1.4
LZH				AMB	AMB		
	comp=Z,195nm,1.5s,mb5.4						
LZH				AMB	AMB		
	comp=Z,789nm,5.1s						
LZH				LR	LR		
	comp=Z,19µm,17.1s,MS5.7						
MA2	**Magadan**	**27.79**	**15**	*de*P	**P**	**20 36 50.8**	**+1.1**
MA2				*e*		20 37 40.6	
MA2				*e*		20 40 13.5	
MA2				*e*S	**S**	**20 41 26.9**	**-2.2**
MA2				pmax	pmax		
	comp=Z,60nm,1.0s,mb5.2						
MA2				MLR	MLR		
	comp=Z,21µm,16.0s,MS5.8						
MA2	**Magadan**	**27.79**	**15**	P	**P**	**20 36 49.3**	**-0.3**
	comp=Z,83nm,0.9s,mb5.4						
QIZ	**Qiongzhong**	**27.99**	**246**	P	**P**	**20 36 53.9**	**+2.0**
QIZ				AP	pP	20 37 03.2	+3.3
QIZ				S	**S**	**20 41 39.6**	**+6.7**
QIZ				XS		20 41 52.9	
QIZ				LR	LR		
	comp=N,12µm,15.3s						
QIZ				LR	LR		
	comp=Z,12µm,15.6s,MS5.6						
QIZ	**Qiongzhong**	**27.99**	**246**	P	**P**	**20 36 48.4**	**-3.5**
	comp=Z,82nm,1.5s,mb5.1						
QIZ				LR	LR		
	comp=Z,7µm,19.0s,MS5.2						
CD2	**Chengdu**	**28.02**	**274**	⇑*i*P	**P**	**20 36 51.4**	**-0.7**
CD2				PP	PP	20 37 46.2	+3.9
CD2				PPP	PPP	20 37 56.2	+1.9
CD2				S	**S**	**20 41 36.3**	**+3.0**
CD2				XS		20 41 53.6	
CD2				SS	SS	20 43 04.0	+8.1
CD2				AMB	AMB		
	comp=Z,2µm,9.2s						
BOD	**Bodaibo**	**28.90**	**335**	*e*P	**P**	**20 36 55.2**	**-4.5**
YAK	**Yakutsk**	**29.02**	**353**	*e*P	**P**	**20 36 59.0**	**-1.8**
YAK				*e*		20 37 09.3	
YAK				*e*S	**S**	**20 41 52.9**	**+3.9**
YAK				*e*		20 43 40.5	
YAK				pmax	pmax		
	comp=Z,19nm,1.1s,mb4.7						
YAK				pmax	pmax		
	comp=N,20nm,1.4s						
YAK				pmax	pmax		
	comp=E,4.0nm,2.4s						
YAK				pmax	pmax		
	comp=Z,19nm,1.0s,mb4.8						
YAK				pmax	pmax		
	comp=N,20nm,1.3s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.0s						
YAK				smax			
	comp=N,10.0nm,1.3s						
YAK				smax			
	comp=Z,26nm,6.2s						
YAK				smax			
	comp=E,8.0nm,2.1s						
YAK				MLR	MLR		
	comp=Z,6µm,17.0s,MS5.3						
YAK				MLR	MLR		
	comp=N,5µm,14.0s,MS5.5						
YAK				MLR	MLR		
	comp=E,6µm,12.0s,MS5.5						
YAK	**Yakutsk**	**29.02**	**353**	*e*P	**P**	**20 36 59.9**	**-0.9**
	comp=E,572nm,2.3s,mb5.9						
YAK				LR	LR		
	comp=Z,16µm,20.0s,MS5.6						
ZAK	**Zakamensk**	**29.85**	**315**	*e*P	**P**	**20 37 07.0**	**-1.4**
ZAK				*e*	pP	20 37 13.8	-2.5
IRK	**Irkutsk**	**30.04**	**319**	*e*P	**P**	**20 37 09.2**	**-0.8**
IRK				*e*	pP	20 37 18.5	+0.5
IRK				*e*		20 42 12.8	
GTA	**Gaotai**	**30.23**	**292**	⇑P	**P**	**20 37 11.3**	**-0.5**
GTA				AP	pP	20 37 17.1	-2.6
GTA				XP	sP	20 37 20.1	-3.2
GTA				PP	PP	20 38 08.2	-2.6
GTA				S	**S**	**20 42 08.9**	**+0.6**
GTA				SS	SS	20 43 47.0	-0.4
GTA				AMB	AMB		
	comp=Z,369nm,8.0s						
GTA				LR	LR		
	comp=Z,16µm,16.0s,MS5.8						
KMI	**Kunming**	**30.73**	**263**	⇑*e*P	**P**	**20 37 15.8**	**-0.6**
KMI				AP	pP	20 37 19.9	-4.5
KMI				PP	PP	20 38 21.7	+4.2
KMI				PPP	PPP	20 38 32.6	+0.3
KMI				PCP	PcP	20 40 13.4	-0.4
KMI				S	**S**	**20 42 18.0**	**+1.5**
SEY	**Seymchan**	**31.16**	**14**	*e*P	**P**	**20 37 21.3**	**+1.5**
SEY				PPP	PPP	20 38 43.0	+5.3
SEY				*e*		20 40 12.6	
SEY				*e*S	**S**	**20 42 23.4**	**+0.6**
SEY				*e*SS	SS	20 44 11.9	+3.1
SEY				pmax	pmax		
	comp=E,10.0nm,0.8s						
SEY				pmax	pmax		
	comp=Z,40nm,0.8s,mb5.3						
SEY				pmax	pmax		
	comp=N,30nm,0.9s						
SEY				smax			
	comp=N,4µm,12.6s						
SEY				smax			
	comp=E,3µm,18.3s						
SEY				MLR	MLR		
	comp=Z,55µm,17.0s,MS6.3						
SEY				MLR	MLR		
	comp=N,35µm,16.0s,MS6.3						
SEY				MLR	MLR		
	comp=E,42µm,17.0s,MS6.3						
MOY	**Mondy**	**31.67**	**316**	*e*P	**P**	**20 37 23.7**	**-0.6**
SMY	**Shemya**	**32.91**	**43**	PFAKE		20 37 50.0	+15
SMY				LR	LR		
	comp=Z,8µm,22.0s,MS5.4						
CHRT	**Chiangrai**	**35.53**	**257**	⇓P	**P**	**20 37 59.0**	**+0.9**
	comp=Z,290nm,1.0s,mb6.2						
CHG	**Chiang Mai**	**36.75**	**256**	⇓P	**P**	**20 38 11.9**	**+3.6**
	comp=Z,14nm,0.9s,mb4.8						
CMAR	**Chiang Mai Arr**	**36.93**	**256**	P	**P**	**20 38 10.4**	**+0.6**
	comp=Z,4.1nm,0.7s,mb4.4,baz=55,slow=7.7,SNR=20						
CMAR				LR	LR	20 55 11.4	
	comp=Z,5µm,18.3s,MS5.3,baz=65,slow=39						
CMAR	**Chiang Mai Arr**	**36.93**	**256**	P	**P**	**20 38 10.4**	**+0.6**
CMAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
CMAR				MLR	MLR		
	comp=Z,5µm,18.3s						
NST	**Nakhon Sawan**	**37.49**	**251**	P	**P**	**20 38 18.2**	**+3.7**
BDT	**Bhumibol Dam**	**37.52**	**254**	P	**P**	**20 38 16.0**	**+1.2**
TIXI	**Tiksi**	**38.56**	**356**	⇓*i*P	**P**	**20 38 22.6**	**-0.4**
TIXI				*i* S	**S**	**20 44 18.1**	**+1.3**
TIXI				*i* SS	SS	20 47 30.6	+32
TIXI				pmax	pmax		
	comp=Z,55nm,0.7s,mb5.4						
TIXI				MLR	MLR		
	comp=Z,5µm,15.0s,MS5.4						
TIXI	**Tiksi**	**38.56**	**356**	*i* Pr		20 38 22.7	
LSA	**Lhasa**	**38.85**	**277**	P	**P**	**20 38 27.2**	**+1.4**
WMQ	**Urumqi**	**39.25**	**300**	P	**P**	**20 38 29.0**	**-0.1**
WMQ				AP	pP	20 38 33.5	-3.7
WMQ				PP	PP	20 40 03.3	+0.2
WMQ				S	**S**	**20 44 29.7**	**+2.1**
WMQ				SS	SS	20 47 15.0	+1.2
WMQ				AMB	AMB		
	comp=Z,23nm,1.2s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,271nm,8.2s						
WMQ				LR	LR		
	comp=N,5µm,16.0s,MS5.6						
WMQ				LR	LR		
	comp=E,6µm,16.0s,MS5.6						
WMQ				LR	LR		
	comp=Z,7µm,16.0s,MS5.6						
NNT	**Nongplab**	**39.61**	**247**	P	**P**	**20 38 42.0**	**+10**
SHL	**Shillong**	**39.63**	**271**	*e*P	**P**	**20 38 33.5**	**+1.1**
SHL				*e*S	**S**	**20 44 36.0**	**+2.5**
AGT	**Agartala**	**40.82**	**269**	*e*P	**P**	**20 38 42.0**	**-0.2**
ZAL	**Zalesovo**	**41.73**	**316**	P	**P**	**20 38 48.5**	**-0.9**
	comp=Z,3.1nm,0.9s,baz=279,slow=9.7,SNR=29						
ZAL				PcP	PcP	20 40 45.8	-0.3
	comp=Z,6.4nm,0.9s,baz=286,slow=5.2,SNR=5.0						
ZAL				pPcP		20 40 53.6	
	comp=Z,11nm,0.7s,baz=280,slow=0.6,SNR=8.7						
ZAL				LR	LR	20 57 39.5	
	comp=Z,22µm,18.0s,baz=285,slow=38						
ZAL	**Zalesovo**	**41.73**	**316**	P	**P**	**20 38 48.5**	**-0.8**
ZAL						20 40 45.8	
ZAL						20 40 53.6	
ZAL				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ZAL				pmax	pmax		
	comp=Z,6.0nm,0.9s						
ZAL				pmax	pmax		
	comp=N,11nm,0.7s						
ZAL				MLR	MLR		
	comp=Z,22µm,18.0s						
NVS	**Novosibirsk**	**42.76**	**317**	*i* P	**P**	**20 38 56.8**	**-0.9**
NVS				*e*		20 40 43.3	
NVS				*e*S	**S**	**20 45 20.4**	**+0.8**
NVS				pmax	pmax		
	comp=E,38nm,1.4s						
NVS				pmax	pmax		
	comp=Z,44nm,1.4s,mb5.0						
NVS				pmax	pmax		
	comp=Z,24nm,1.6s,mb4.7						
NVS				pmax	pmax		
	comp=E,19nm,1.5s						
NVS				smax			
	comp=N,55nm,2.2s						
NVS				smax			
	comp=E,76nm,2.2s						
MKAR	**Makanchi Array**	**42.97**	**305**	P	**P**	**20 39 00.1**	**+0.6**
	comp=E,37nm,0.9s,mb5.1,baz=90,slow=9.1,SNR=130						
MKAR				pP	pP	20 39 09.4	+1.7
	comp=E,34nm,0.7s,baz=90,slow=10,SNR=19						
MKAR				S	**S**	**20 45 25.8**	**+3.0**
	comp=E,0.6nm,0.8s,baz=84,slow=14,SNR=3.0						
MKAR				LR	LR	20 57 53.7	
	comp=E,11µm,20.4s,MS5.7,baz=93,slow=37						
MKAR	**Makanchi Array**	**42.97**	**305**	P	**P**	**20 39 00.1**	**+0.5**
MKAR				*PP	pP	20 39 09.5	+1.8
MKAR				S	**S**	**20 45 25.8**	**+3.0**
MKAR				pmax	pmax		
	comp=Z,37nm,0.9s						
MKAR				pmax	pmax		
	comp=N,34nm,0.7s						
MKAR				smax			
	comp=N,1.0nm,0.8s						
MKAR				MLR	MLR		
	comp=Z,11µm,20.5s						
NIKO	**Nikolski**	**43.02**	**46**	*e*P	**P**	**20 39 00.4**	**+0.6**
NIKO				*e*		20 39 06.4	
IPM	**Ipoh**	**43.94**	**237**	⇓*e*P	**P**	**20 39 09.0**	**+1.2**
PKI	**Pulchoki**	**44.31**	**277**	*e*P	**P**	**20 39 10.7**	**0.0**
	comp=Z,63nm,0.9s,mb5.3						
KKN	**Kakani**	**44.34**	**277**	*e*P	**P**	**20 39 11.1**	**+0.2**
	comp=Z,102nm,0.9s,mb5.6						
DMN	**Daman**	**44.55**	**277**	*e*P	**P**	**20 39 12.6**	**0.0**
	comp=Z,61nm,0.9s,mb5.4						
GKN	**Gorkha**	**44.80**	**278**	*e*P	**P**	**20 39 14.6**	**0.0**
	comp=Z,166nm,1.2s,mb5.7						
KURK	**Kurchatov**	**45.32**	**311**	P	**P**	**20 39 18.8**	**+0.4**
	comp=Z,251nm,0.8s,mb6.1,SNR=56						
KURK	**Kurchatov**	**45.32**	**311**	*e*P	**P**	**20 39 17.8**	**-0.6**
KURK				*e*	pP	20 39 27.5	+1.0
KURK				pmax	pmax		
	comp=Z,53nm,1.1s,mb5.3						
KURK	**Kurchatov**	**45.32**	**311**	*e*P	**P**	**20 39 17.8**	**-0.6**
	comp=Z,53nm,1.1s,mb5.3						
KURK				*e*	pP	20 39 27.5	+1.0
KOLN	**Koldanda**	**45.74**	**278**	*e*P	**P**	**20 39 22.3**	**+0.2**
	comp=Z,82nm,1.0s,mb5.6						
TNA	**Tin City**	**45.87**	**28**	*e*P	**P**	**20 39 24.7**	**+2.2**
	comp=Z,43nm,0.9s,mb5.4						
KAKA	**Kakadu**	**46.02**	**186**	*e*P	**P**	**20 39 21.8**	**-2.6**
	comp=Z,28nm,0.8s,mb5.2						
AAA	**Alma-Ata**	**47.08**	**300**	*e*P	**P**	**20 39 33.0**	**+0.5**
AAA				*e*S	**S**	**20 46 26.0**	**+4.1**
AAA				pmax	pmax		
	comp=Z,1µm,6.0s						
AAA				smax			
	comp=N,1µm,11.0s						
AAA				smax			
	comp=E,1µm,11.0s						
AAA				MLR	MLR		

	comp=N,4µm,15.0s,MS6.2						
AAA				MLR	MLR		
	comp=E,18µm,15.0s,MS6.2						
AAA				MLR	MLR		
	comp=Z,14µm,15.0s,MS6.0						
LGTI	**Lohaghat**	**47.93**	**281**	*e*S	**S**	**20 46 43.5**	**+9.5**
LGTI				*e*		20 48 30.5	
SDPT	**Sand Point**	**48.04**	**43**	*e*P	**P**	**20 39 42.6**	**+2.8**
TKM2	**Tokmak 2**	**48.11**	**300**	P	**P**	**20 39 41.8**	**+1.2**
	SNR=32						
KSH	**Kashi**	**48.51**	**296**	*e*P	**P**	**20 39 45.1**	**+1.5**
KSH				*e*AP	pP	20 39 54.7	+2.8
KSH				*e*XP	sP	20 39 58.6	+3.5
KSH				AMB	AMB		
	comp=Z,360nm,5.8s						
KBK	**Karagaybulak**	**48.63**	**300**	P	**P**	**20 39 45.5**	**+1.0**
	SNR=22						
CHMS	**Chumysh**	**48.71**	**300**	P	**P**	**20 39 45.5**	**+0.4**
	SNR=16						
FRU	**Bishkek**	**48.84**	**300**	*e*P	**P**	**20 39 46.0**	**-0.1**
FRU				pmax	pmax		
	comp=Z,100nm,1.6s,mb5.6						
FRU				MLR	MLR		
	comp=Z,10µm,14.0s,MS6.0						
USP	**Ospenovka**	**48.84**	**301**	P	**P**	**20 39 46.6**	**+0.5**
	SNR=11						
KLP	**Kalpa**	**48.87**	**285**	*e*P	**P**	**20 39 46.9**	**+0.4**
AAK	**Ala-Archa**	**48.96**	**300**	P	**P**	**20 39 47.8**	**+0.7**
	SNR=14						
AAK	**Ala-Archa**	**48.96**	**300**	*e*P	**P**	**20 39 45.6**	**-1.5**
AAK				pmax	pmax		
	comp=Z,11nm,0.7s,mb5.0						
AAK				MLR	MLR		
	comp=Z,2µm,19.0s,MS5.2						
AAK	**Ala-Archa**	**48.96**	**300**	*e*P	**P**	**20 39 45.6**	**-1.5**
	comp=Z,11nm,0.6s,mb5.0						
AAK				LR	LR		
	comp=Z,2µm,19.0s,MS5.2						
UCH	**Uchtor**	**49.03**	**299**	P	**P**	**20 39 49.2**	**+1.6**
	SNR=25						
BLSP	**Bilaspur**	**49.18**	**271**	*e*P	**P**	**20 39 48.4**	**-0.6**
EKS2	**Erkin-Say**	**49.48**	**300**	P	**P**	**20 39 51.5**	**+0.4**
	SNR=14						
AML	**Almayashu**	**49.64**	**299**	P	**P**	**20 39 53.9**	**+1.5**
	SNR=53						
BVAR	**Borovoye Array**	**50.30**	**314**	LR	LR	21 02 53.1	
	comp=Z,105nm,19.6s,baz=270,slow=38						
BRVK	**Borovoye**	**50.37**	**314**	*e*P	**P**	**20 39 57.0**	**-0.7**
BRVK				pmax	pmax		
	comp=Z,46nm,1.2s,mb5.4						
BRVK				MLR	MLR		
	comp=Z,3µm,19.0s,MS5.3						
BRVK	**Borovoye**	**50.37**	**314**	*e*P	**P**	**20 39 57.0**	**-0.7**
	comp=Z,46nm,1.2s,mb5.4						
BRVK				LR	LR		
	comp=Z,3µm,19.0s,MS5.3						
TTA	**Tatalina**	**50.55**	**33**	*e*P	**P**	**20 39 59.7**	**+0.7**
KKR	**Kurukshetra**	**50.55**	**283**	*e*P	**P**	**20 39 56.2**	**-3.2**
KKR				*e*		20 40 12.5	
	comp=Z,177nm,1.2s						
SVW	**Sparrevohn**	**50.67**	**35**	*e*P	**P**	**20 40 01.4**	**+1.5**
AYAN	**Aya Nagar**	**50.83**	**281**	*e*P	**P**	**20 39 60.0**	**-1.6**
AYAN				*e*		20 40 12.1	
	comp=Z,65nm,1.5s						
BHGR	**Bahadurgarh**	**50.91**	**282**	*e*P	**P**	**20 40 01.1**	**-1.0**
ZRNK	**Zerenda**	**51.15**	**314**	*e*P	**P**	**20 40 02.9**	**-0.7**
ZRNK				pmax	pmax		
	comp=Z,29nm,0.9s,mb5.2						
ZRNK	**Zerenda**	**51.15**	**314**	*e*P	**P**	**20 40 02.9**	**-0.8**
	comp=Z,29nm,0.9s,mb5.2						
KUDL	**Kundal**	**51.47**	**281**	*e*P	**P**	**20 40 05.1**	**-1.3**
KUDL				*e*		20 40 40.9	
	comp=Z,54nm,1.9s						
IMA	**Indian Mountai**	**51.72**	**29**	*e*P	**P**	**20 40 08.6**	**+0.8**
KHET	**Khetri**	**52.06**	**281**	*e*P	**P**	**20 40 09.2**	**-1.8**
KHET				*e*		20 40 21.9	
	comp=Z,83nm,1.9s						
KHET				*e*		20 48 26.6	
RSO	**Redoubt South**	**52.08**	**36**	P	**P**	**20 40 11.1**	**+0.4**
NGP	**Nagpur**	**52.18**	**272**	*e*	**P**	**20 40 19.4**	**+7.5**
NGP				*e*		20 47 50.2	
FITZ	**Fitzroy Crossi**	**52.30**	**193**	*e*P	**P**	**20 40 10.6**	**-2.2**
	comp=Z,19nm,0.9s,mb5.0						
FITZ				*e*S	**S**	**20 47 40.2**	**+5.5**
KDAK	**Kodiak Island**	**52.32**	**40**	*e*P	**P**	**20 40 11.3**	**-1.1**
	comp=Z,94nm,0.9s,mb5.7						
KDAK				LR	LR		
	comp=Z,730nm,21.0s,MS4.7						
SPU	**Mount Spurr**	**52.40**	**35**	*e*P	**P**	**20 40 14.3**	**+1.3**
KGD	**Kothagudem**	**52.48**	**267**	*e*P	**P**	**20 40 11.2**	**-3.0**
KGD				*e*PP	PP	20 42 16.9	+2.8
KGD				*e*S	**S**	**20 47 38.2**	**+0.9**
KGD				*e*SS	SS	20 51 17.4	+3.4
BHPL	**Bhopal**	**52.63**	**275**	*e*P	**P**	**20 40 14.3**	**-1.0**
BHPL				*e*		20 40 25.0	
	comp=Z,58nm,1.2s						
WRAB	**Tennant Creek**	**53.07**	**183**	*e*P	**P**	**20 40 15.7**	**-2.8**
	comp=Z,57nm,1.0s,mb5.5						
WB2	**Warramunga Arr**	**53.08**	**183**	⇑*i*P	**P**	**20 40 15.9**	**-2.7**
WB2				*e*S	**S**	**20 47 43.8**	**-1.6**
WRA	**Warramunga Arr**	**53.08**	**183**	P	**P**	**20 40 16.0**	**-2.7**
	comp=Z,34nm,1.0s,mb5.2,baz=1.9,slow=7.7,SNR=138						
WRA				pP	pP	20 40 24.8	-2.2
	comp=Z,28nm,0.7s,baz=2.0,slow=7.7,SNR=11						
WRA				S	**S**	**20 47 46.5**	**+1.1**
	comp=Z,0.9nm,1.1s,baz=3.2,slow=15,SNR=3.0						
WRA				LR	LR	20 59 40.2	
	comp=Z,1µm,19.2s,MS5.0,baz=10.0,slow=32						
WRA	**Warramunga Arr**	**53.08**	**183**	P	**P**	**20 40 16.0**	**-2.6**
WRA				*PP	pP	20 40 24.8	-2.1
WRA				S	**S**	**20 47 46.5**	**+1.1**
WRA				pmax	pmax		
	comp=Z,34nm,1.0s						
WRA				pmax	pmax		
	comp=N,28nm,0.7s						
WRA				smax			
	comp=N,1.0nm,1.2s						
WRA				MLR	MLR		
	comp=Z,1µm,19.2s						
WRA	**Warramunga Arr**	**53.08**	**183**	P	**P**	**20 40 16.0**	**-2.7**
WRA				pP	pP	20 40 24.8	-2.2
WRA				S	**S**	**20 47 46.5**	**+1.1**
WRA				LR	LR	20 59 40.1	
FIB	**Fire Island**	**53.31**	**35**	PFAKE		20 40 30.0	+10
FIB				LR	LR		
	comp=Z,1µm,21.0s,MS5.0						
SLKM	**Skilak Lake**	**53.33**	**36**	*e*P	**P**	**20 40 20.5**	**+0.6**
AJM	**Ajmer**	**53.62**	**280**	⇑*i*P	**P**	**20 40 21.0**	**-1.5**
MCK	**McKinley**	**53.74**	**32**	*e*P	**P**	**20 40 23.4**	**+0.5**
MCK				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.9						
MCK	**McKinley**	**53.74**	**32**	*e*P	**P**	**20 40 23.4**	**+0.5**
	comp=Z,16nm,1.0s,mb4.9						
PMR	**Palmer**	**53.78**	**35**	*e*P	**P**	**20 40 24.2**	**+1.0**
PMR				MLR	MLR		
	comp=Z,2µm,21.0s,MS5.2						
CTA	**Charters Tower**	**53.93**	**169**	*e*P	**P**	**20 40 22.4**	**-2.4**
	comp=Z,20nm,0.9s,mb5.0						
CTA				*e*S	**S**	**20 47 57.4**	**+0.4**
CTAO	**Charters Tower**	**53.93**	**169**	*e*P	**P**	**20 40 22.4**	**-2.4**
CTAO				pmax	pmax		
	comp=Z,13nm,0.7s,mb5.0						
CTAO				MLR	MLR		
	comp=Z,2µm,22.0s,MS5.1						
CTAO	**Charters Tower**	**53.93**	**169**	*e*P	**P**	**20 40 22.4**	**-2.4**
	comp=Z,12nm,0.7s,mb5.0						
CTAO				LR	LR		
	comp=Z,2µm,22.0s,MS5.1						
AKL	**Akola**	**54.08**	**273**	*i* P	**P**	**20 40 27.6**	**+1.7**
	comp=Z,48nm,0.8s,mb5.5						
AKL				*i*		20 43 02.0	
SML	**Sawmill**	**54.14**	**34**	*e*P	**P**	**20 40 27.0**	**+1.2**
COLA	**College**	**54.15**	**31**	*e*P	**P**	**20 40 27.8**	**+1.9**
COLA				MLR	MLR		
	comp=Z,2µm,20.0s,MS5.3						
HYB	**Hyderabad**	**54.32**	**268**	*i* P	**P**	**20 40 27.0**	**-0.7**
HYB				*e*		20 40 31.5	
HYB				*e*S	**S**	**20 48 06.0**	**+3.8**
HYB				LR	LR	21 04 50.0	
	comp=Z,5.4nm,16.0s						
HYB	**Hyderabad**	**54.32**	**268**	*e*P	**P**	**20 40 27.0**	**-0.7**
HYB				*e*		20 40 31.5	
ILAR	**Eielson Array**	**54.57**	**31**	P	**P**	**20 40 28.2**	**-0.8**
	comp=Z,3.0nm,0.9s,mb4.3,baz=283,slow=5.7,SNR=23						
ILAR				LR	LR	21 07 58.0	
	comp=Z,1µm,18.9s,MS5.0,baz=172,slow=41						
ILAR	**Eielson Array**	**54.57**	**31**	P	**P**	**20 40 28.2**	**-0.7**
ILAR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ILAR				MLR	MLR		
	comp=Z,1µm,18.9s						
DIV	**Divide**	**55.44**	**35**	*e*P	**P**	**20 40 34.8**	**-0.5**
	comp=Z,125nm,1.1s,mb5.9						
DIV				LR	LR		
	comp=Z,4µm,20.0s,MS5.5						
LATR	**Latur**	**55.51**	**270**	*e*P	**P**	**20 40 36.6**	**+0.1**
	comp=Z,57nm,1.1s,mb5.5						
EYAK	**Cordova Ski Ar**	**55.53**	**36**	*e*P	**P**	**20 40 36.4**	**+0.4**
CUD	**Cuddapah**	**55.59**	**265**	*e*P	**P**	**20 40 37.4**	**+0.4**
CUD				*e*		20 42 57.2	
CUD				*e*S	**S**	**20 48 23.7**	**+4.4**
CUD				*e*		20 59 06.5	
JASL	**Jaisalmer**	**56.52**	**282**	*e*P	**P**	**20 40 42.5**	**-1.1**
ARU	**Arti**	**56.62**	**319**	P	**P**	**20 40 43.9**	**0.0**
	comp=Z,352nm,0.8s,SNR=19						
ARU	**Arti**	**56.62**	**319**	⇑*i*P	**P**	**20 40 42.8**	**-1.1**
ARU				*i*		20 41 40.6	
ARU				*i*		20 42 46.8	
ARU				*e*S	**S**	**20 48 32.1**	**-0.3**
ARU				*i*		20 50 30.6	
ARU				*e*SS	SS	20 52 18.4	-2.5
ARU				pmax	pmax		
	comp=Z,64nm,1.6s,mb5.4						
ARU				MLR	MLR		
	comp=Z,7µm,19.0s,MS5.8						
ARU				MLR	MLR		
	comp=N,2µm,20.0s,MS5.7						
ARU				MLR	MLR		
	comp=E,6µm,19.0s,MS5.7						
ARU	**Arti**	**56.62**	**319**	*e*P	**P**	**20 40 42.3**	**-1.7**
	comp=E,27nm,0.8s,mb5.3						
ARU				*e*	pP	20 40 51.8	-0.5
ARU				LR	LR		
	comp=Z,2µm,20.0s,MS5.2						
MBWA	**Marble Bar**	**56.63**	**199**	*e*P	**P**	**20 40 42.2**	**-2.2**
	comp=Z,16nm,0.6s,mb5.2						
MBWA				*e*	pP	20 40 50.6	-2.2
ASAR	**Alice Springs**	**56.80**	**183**	P	**P**	**20 40 43.1**	**-2.6**
	comp=Z,13nm,0.8s,mb5.0,baz=7.8,slow=5.4,SNR=84						
ASAR				pP	pP	20 40 53.1	-0.9
	comp=Z,40nm,1.1s,baz=13,slow=11,SNR=18						
ASAR				LR	LR	21 04 25.9	
	comp=Z,2µm,18.6s,MS5.2,baz=8.2,slow=35						
ASPA	**Alice Springs**	**56.80**	**183**	*e*P	**P**	**20 40 42.7**	**-3.0**
POO	**Poona**	**57.73**	**272**	*e*P	**P**	**20 40 50.0**	**-2.2**
PALK	**Pallekele**	**57.87**	**256**	PFAKE		20 41 00.0	+6.7
PALK				LR	LR		
	comp=Z,980nm,19.0s,MS4.9						
DAWY	**Dawson**	**57.89**	**31**	*e*P	**P**	**20 40 53.8**	**+1.1**
SIT	**Sitka**	**61.59**	**38**	PFAKE		20 41 30.0	+12
SIT				LR	LR		
	comp=Z,2µm,19.0s,MS5.3						
DLBC	**Dease Lake**	**63.80**	**36**	LR	LR	21 11 26.9	
	comp=Z,1µm,18.3s,MS5.1,baz=308,slow=38						
DLBC	**Dease Lake**	**63.80**	**36**	*e*P	**P**	**20 41 33.3**	**+0.4**
FORT	**Forrest**	**64.35**	**188**	*e*P	**P**	**20 41 34.8**	**-2.1**
	comp=Z,97nm,0.7s,mb5.9						
FORT				*e*S	**S**	**20 50 11.8**	**0.0**
APA	**Apatity**	**64.45**	**336**	⇑*i*P	**P**	**20 41 37.3**	**+0.4**
APA				*i*	pP	20 41 44.4	-1.0
APA				*i* S	**S**	**20 50 18.0**	**+5.7**
APA				pmax	pmax		
	comp=Z,32nm,1.2s,mb5.2						
APA				MLR	MLR		
	comp=Z,7µm,14.0s,MS6.0						
ARMA	**Armidale**	**64.99**	**166**	*e*P	**P**	**20 41 39.1**	**-2.0**
STKA	**Stephens Creek**	**65.07**	**176**	⇑*i*P	**P**	**20 41 39.3**	**-2.3**
	comp=Z,13nm,0.8s,mb5.0						
STKA				*e*S	S	20 50 21.6	+1.0
STKA	**Stephens Creek**	**65.07**	**176**	P	**P**	**20 41 39.4**	**-2.2**
	comp=Z,11nm,0.8s,mb5.0,baz=342,slow=8.4,SNR=15						
STKA				pP	pP	20 41 48.6	-1.4
	comp=Z,15nm,0.8s,baz=339,slow=8.2,SNR=8.6						
STKA				LR	LR	21 11 04.0	
	comp=Z,2µm,19.4s,MS5.2,baz=355,slow=37						
KEV	**Kevo**	**65.49**	**339**	*e*p	**P**	**20 41 43.2**	**-0.4**
ARCES	**ARCESS Array B**	**66.06**	**339**	P	**P**	**20 41 47.5**	**+0.3**
	comp=Z,7.3nm,0.6s,mb4.9,baz=64,slow=8.3,SNR=33						
ARCES				pP	pP	20 41 56.1	+0.4
	comp=Z,11nm,0.6s,baz=53,slow=6.1,SNR=6.5						
ARCES				LR	LR	21 14 48.2	
	comp=Z,8µm,18.1s,MS5.9,baz=270,slow=40						
ARCES	**ARCESS Array B**	**66.06**	**339**	P	**P**	**20 41 47.5**	**+0.3**
ARCES				*PP	pP	20 41 56.1	+0.4
ARCES				pmax	pmax		
	comp=Z,7.0nm,0.6s						
ARCES				pmax	pmax		
	comp=N,11nm,0.6s						
ARCES				MLR	MLR		
	comp=Z,8µm,18.1s						
RES	**Resolute Bay**	**67.03**	**13**	*e*P	**P**	**20 41 53.5**	**+0.1**
RES				*e*	pP	20 42 00.7	-1.2
RES				pmax	pmax		
	comp=Z,31nm,0.9s,mb5.3						
RES	**Resolute Bay**	**67.03**	**13**	*e*P	**P**	**20 41 53.5**	**+0.1**
	comp=Z,31nm,0.9s,mb5.3						
RES				*e*	pP	20 42 00.7	-1.2
KLBR	**Kellerberrin**	**67.08**	**198**	*e*P	**P**	**20 41 52.0**	**-2.5**
	comp=Z,176nm,2.0s,mb5.7						
BBB	**Bella Bella**	**67.30**	**42**	LR	LR	21 09 31.0	
	comp=Z,1µm,19.4s,MS5.1,baz=292,slow=34						
MAK	**Makhachkala**	**67.70**	**307**	*e*P	**P**	**20 42 03.0**	**+4.9**
MAK				*e*S	S	20 50 58.0	+5.7
MAK				pmax	pmax		
	comp=Z,104µm,8.0s						
MAK				MLR	MLR		
	comp=Z,24µm,14.0s,MS6.6						
MOS	**Moscow**	**67.90**	**323**	κ *i*P	**P**	**20 42 00.6**	**+1.4**
MOS				*i*		20 42 14.7	
MOS				*e*		20 42 29.5	
MOS				*e*PPP	PPP	20 46 01.4	-6.5
MOS				*e*S	S	20 50 52.9	-1.6
MOS				pmax	pmax		
	comp=Z,135nm,1.1s,mb5.9						
MOS				MLR	MLR		
	comp=E,12µm,17.0s						
MOS				MLR	MLR		
	comp=Z,22µm,17.0s,MS6.5						
OBN	**Obninsk**	**68.72**	**323**	⇑*e*P	**P**	**20 42 03.8**	**-0.5**
OBN				*e*	pP	20 42 10.6	-2.1
OBN				*i*		20 42 29.7	
OBN				*i*		20 44 33.8	
OBN				*e*S	S	20 51 02.6	-1.7
OBN				pmax	pmax		
	comp=Z,46nm,1.3s,mb5.2						
OBN				MLR	MLR		
	comp=Z,14µm,16.0s,MS6.3						
OBN	**Obninsk**	**68.72**	**323**	P	**P**	**20 42 02.2**	**-2.0**
	comp=Z,30nm,0.7s,mb5.3						
YKA	**Yellowknife Ar**	**68.83**	**28**	P	**P**	**20 42 04.8**	**+0.1**
	comp=Z,1.8nm,0.7s,mb4.1,baz=297,slow=5.5,SNR=3.1						
YKA				pP	pP	20 42 12.2	-1.1
	comp=Z,13nm,0.9s,baz=296,slow=6.3,SNR=12						
YKA				LR	LR	21 14 38.8	
	comp=Z,2µm,21.2s,MS5.3,baz=325,slow=38						
YKA	**Yellowknife Ar**	**68.83**	**28**	P	**P**	**20 42 04.8**	**0.0**
YKA				*PP	pP	20 42 12.2	-1.0
YKA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
YKA				pmax	pmax		
	comp=N,13nm,0.9s						
YKA				MLR	MLR		
	comp=Z,2µm,21.2s						
YKA	**Yellowknife Ar**	**68.83**	**28**	P	**P**	**20 42 04.8**	**+0.1**
YKA				pP	pP	20 42 12.2	-1.1
YKA				LR	LR	21 14 38.8	
VOR	**Voronezh**	**68.90**	**319**	*e*P	**P**	**20 42 04.5**	**-0.9**
VOR				pmax	pmax		
	comp=Z,50nm,1.3s,mb5.3						
GOF	**Gofitskoye**	**69.67**	**311**	⇑*i*P	**P**	**20 42 10.0**	**-0.3**
GOF				*e*S	S	20 51 22.0	+6.3
GOF				pmax	pmax		
	comp=Z,80nm,1.5s,mb5.4						
GOF				MLR	MLR		
	comp=N,9µm,16.0s,MS6.6						
GOF				MLR	MLR		
	comp=E,28µm,16.0s,MS6.6						
GOF				MLR	MLR		
	comp=Z,16µm,16.0s,MS6.4						
KAF	**Kangasniemi**	**69.78**	**332**	*e*p	**P**	**20 42 10.0**	**-0.6**
	baz=55,slow=5.8						
TI2	**Plekhanov**	**70.08**	**307**	*i* P	**P**	**20 42 16.0**	**+3.2**
TI2				*i* S	S	20 51 24.4	+3.9
TI2				MLR	MLR		
	comp=N,6µm,15.0s,MS6.2						
TI2				MLR	MLR		
	comp=E,9µm,15.0s,MS6.2						
TI2				MLR	MLR		
	comp=Z,20µm,15.0s,MS6.5						
ZEI	**Tsey**	**70.16**	**309**	*e*P	**P**	**20 42 12.0**	**-1.3**
ZEI				*i*		20 42 25.0	
ZEI				*e*S	S	20 51 18.0	-3.5
ZEI				MLR	MLR		
	comp=Z,16µm,18.0s,MS6.3						
FINES	**FINESS Array B**	**70.24**	**331**	P	**P**	**20 42 13.2**	**-0.2**
	comp=Z,5.1nm,0.6s,mb4.6,baz=90,slow=7.6,SNR=18						
FINES				pP	pP	20 42 22.1	+0.2
	comp=Z,14nm,0.8s,baz=101,slow=9.7,SNR=12						
FINES				LR	LR	21 16 12.5	
	comp=Z,3µm,18.1s,MS5.6,baz=49,slow=38						
FINES	**FINESS Array B**	**70.24**	**331**	P	**P**	**20 42 13.3**	**-0.1**
FINES				*PP	pP	20 42 22.1	+0.2
FINES				pmax	pmax		
	comp=Z,5.0nm,0.6s						
FINES				pmax	pmax		
	comp=N,14nm,0.9s						
FINES				MLR	MLR		
	comp=Z,3µm,18.1s						
PGC	**Sidney**	**71.58**	**44**	P	**P**	**20 42 22.0**	**+0.3**
OCWA	**Octopus Mounta**	**71.60**	**45**	*e*P	**P**	**20 42 22.3**	**+0.4**
	comp=Z,52nm,1.1s,mb5.4						
OCWA				*e*	pP	20 42 30.8	+0.4
OCWA				LR	LR		
	comp=Z,1µm,20.0s,MS5.2						
SOC	**Sochi**	**72.47**	**311**	*e*P	**P**	**20 42 28.7**	**+1.6**
SOC				*e*	pP	20 42 39.1	+3.4
SOC				*e*		20 45 07.2	
SOC				*e*PPP	PPP	20 46 48.5	-4.1
SOC				*e*S	S	20 51 48.4	+0.3
SOC				*e*		20 52 30.0	
SOC				pmax	pmax		
	comp=Z,60nm,0.9s,mb5.5						
SOC				pmax	pmax		
	comp=N,47nm,1.0s						
SOC				pmax	pmax		
	comp=E,17nm,0.7s						
SOC				MLR	MLR		
	comp=Z,9µm,18.0s,MS6.1						
SOC				MLR	MLR		
	comp=N,5µm,17.0s,MS6.0						
SOC				MLR	MLR		
	comp=E,6µm,17.0s,MS6.0						
GNW	**Green Mountain**	**72.48**	**44**	P	**P**	**20 42 24.6**	**-2.6**
RPW	**Rockport**	**72.79**	**43**	*e*P	**P**	**20 42 28.9**	**0.0**
BMW	**Boistfort Moun**	**72.80**	**45**	*e*P	**P**	**20 42 30.1**	**+1.1**
DGAR	**Diego Garcia**	**73.20**	**249**	PFAKE		20 42 40.0	+8.0
DGAR				LR	LR		
	comp=Z,555nm,19.0s,MS4.9						
ANN	**Anapa**	**73.28**	**313**	*e*P	**P**	**20 42 32.1**	**+0.2**
ANN				*e**PP	pP	20 42 44.5	+4.1
ANN				*e*S	S	20 52 04.0	+6.8
ANN				*e*		20 52 43.4	
ANN				pmax	pmax		
	comp=Z,155nm,1.8s,mb5.6						
ANN				MLR	MLR		
	comp=Z,6µm,18.0s,MS5.9						
ANN				MLR	MLR		
	comp=N,5µm,16.0s,MS6.0						
ANN				MLR	MLR		
	comp=E,4µm,17.0s,MS6.0						
IZAR	**Zarasai**	**73.40**	**326**	*e*P	**P**	**20 42 33.1**	**+0.8**
IDID	**Didziasalis**	**73.42**	**326**	*e*P	**P**	**20 42 33.1**	**+0.7**
LON	**Longmire**	**73.50**	**45**	*e*P	**P**	**20 42 32.5**	**-0.6**
ISAL	**Salakas**	**73.56**	**326**	*e*P	**P**	**20 42 34.5**	**+1.2**
NLW	**Nelson Butte**	**73.66**	**43**	*e*P	**P**	**20 42 33.8**	**-0.1**
COR	**Corvallis**	**73.71**	**47**	P	**P**	**20 42 36.1**	**+1.7**
COR				MLR	MLR		
	comp=Z,910nm,20.0s,MS5.1						
KBD	**Kabd**	**73.92**	**294**	*e*P	**P**	**20 42 36.0**	**+0.1**
SSOR	**Sweet Springs**	**74.09**	**47**	*e*P	**P**	**20 42 37.6**	**+1.1**
SSOR				*e*	pP	20 42 45.6	+0.5
RDF	**Al-Radifah**	**74.15**	**294**	*e*P	**P**	**20 42 36.7**	**-0.5**
RDF				AMb	AMB	20 42 46.7	
	comp=Z,96nm,1.2s,mb5.6						
RST	**Umm Al-Ruwaisa**	**74.29**	**295**	*e*P	**P**	**20 42 37.3**	**-0.7**
RST				AMb	AMB	20 42 49.4	
	comp=Z,69nm,1.0s,mb5.5						
AKASG	**Malin Array Be**	**74.81**	**321**	P	**P**	**20 42 40.0**	**-0.5**
	comp=Z,14nm,0.8s,mb5.0,baz=50,slow=6.1,SNR=36						
AKASG				pP	pP	20 42 49.4	+0.3
	comp=Z,24nm,0.7s,baz=50,slow=6.1,SNR=24						
AKASG				LR	LR	21 18 30.3	
	comp=Z,5µm,18.2s,MS5.9,baz=40,slow=38						
AKASG	**Malin Array Be**	**74.81**	**321**	P	**P**	**20 42 40.1**	**-0.5**
AKASG				*PP	pP	20 42 49.4	+0.3
AKASG				pmax	pmax		
	comp=Z,14nm,0.8s						
AKASG				pmax	pmax		
	comp=N,24nm,0.7s						
AKASG				MLR	MLR		
	comp=Z,5µm,18.2s						
DPW	**Davenport**	**74.98**	**42**	*e*P	**P**	**20 42 41.9**	**+0.3**
HAWA	**Hanford**	**75.02**	**44**	*e*P	**P**	**20 42 42.6**	**+0.7**
	comp=Z,12nm,1.2s,mb4.7						
HAWA				LR	LR		
	comp=Z,866nm,20.0s,MS5.0						
NEW	**Newport**	**75.37**	**42**	*e*P	**P**	**20 42 43.3**	**-0.5**
NEW				*e*	pP	20 42 51.9	-0.5
NEW				pmax	pmax		
	comp=Z,12nm,1.1s						
NEW				MLR	MLR		
	comp=Z,1µm,19.0s						
NEW	**Newport**	**75.37**	**42**	*e*P	**P**	**20 42 43.3**	**-0.5**
	comp=Z,12nm,1.2s,mb4.7						
NEW				*e*	pP	20 42 51.9	-0.5
NEW				LR	LR		
	comp=Z,1µm,19.0s,MS5.3						
SUW	**Suwalki**	**75.86**	**326**	*e*P	**P**	**20 42 48.5**	**+2.0**
SUW				MLR	MLR		
	comp=Z,5µm,22.1s,MS5.8						
NB2	**NORSAR Subarra**	**76.03**	**336**	P	**P**	**20 42 46.8**	**-0.5**
	comp=Z,21nm,1.1s,mb5.0,baz=44,slow=5.8						
NB2	**NORSAR Subarra**	**76.03**	**336**	P	**P**	**20 42 46.8**	**-0.5**
	baz=44,slow=5.9						
NOA	**NORSAR Array B**	**76.03**	**336**	P	**P**	**20 42 46.6**	**-0.7**
	comp=Z,5.8nm,0.9s,mb4.5,baz=44,slow=5.7,SNR=14						
NOA				LR	LR	21 20 39.0	
	comp=Z,3µm,18.1s,MS5.7,baz=25,slow=39						
NOA	**NORSAR Array B**	**76.03**	**336**	P	**P**	**20 42 46.6**	**-0.7**
NOA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
NOA				MLR	MLR		
	comp=Z,3µm,18.1s						
HOPS	**Hopland**	**76.78**	**52**	PFAKE		20 43 00.0	+8.0
HOPS				LR	LR		
	comp=Z,2µm,20.0s,MS5.4						
WVOR	**Wild Horse Val**	**77.73**	**47**	PFAKE		20 43 10.0	+13
WVOR				LR	LR		
	comp=Z,1µm,20.0s,MS5.2						
MSO	**Missoula**	**77.95**	**42**	PFAKE		20 43 10.0	+12
MSO				LR	LR		
	comp=Z,706nm,20.0s,MS5.0						
BRTR	**Keskin Array B**	**78.36**	**310**	P	**P**	**20 43 01.1**	**+0.3**
	comp=Z,14nm,1.0s,mb4.8,baz=104,slow=5.1,SNR=27						
BRTR				LR	LR	21 20 35.4	
	comp=Z,2µm,21.4s,MS5.4,baz=285,slow=38						
BRTR	**Keskin Array B**	**78.36**	**310**	P	**P**	**20 43 01.1**	**+0.4**
BRTR				pmax	pmax		
	comp=Z,14nm,1.0s						
BRTR				MLR	MLR		
	comp=Z,2µm,21.4s						
MZLS	**Mizel**	**78.44**	**291**	P	**P**	**20 43 02.1**	**+0.7**
FFC	**Flin Flon**	**78.78**	**30**	PFAKE		20 43 10.0	+7.3
FFC				LR	LR		
	comp=Z,227nm,19.0s,MS4.5						
BSD	**Bornholm Skovb**	**78.79**	**330**	⇑*i*P	**P**	**20 43 05.1**	**+2.4**
	comp=Z,20nm,0.9s,mb5.0						
	comp=Z,4µm,16.0s						
KWP	**Kalwaria**	**78.81**	**323**	*e*P	**P**	**20 43 06.3**	**+3.3**
KWP				MLR	MLR		
	comp=Z,12µm,19.7s,MS6.2						
ARSS	**Ar Rass**	**79.00**	**294**	P	**P**	**20 43 07.0**	**+2.6**
GKP	**Gorka Klasztor**	**79.05**	**328**	*e*P	**P**	**20 43 13.7**	**+10**
GKP				LR	LR		
	comp=Z,13µm,15.5s,MS6.4						
CMB	**Columbia Colle**	**79.07**	**52**	PFAKE		20 43 20.0	+15

CMB				LR	LR		
	comp=Z,1µm,20.0s,MS5.3						
HRY	**Holter Researc**	**79.18**	**41**	P	**P**	**20 43 06.8**	**+1.8**
HILS	**Ha'il**	**79.31**	**296**	P	**P**	**20 43 06.8**	**+0.7**
KOLS	**Kolonicke sedl**	**79.48**	**322**	*e*P	**P**	**20 43 10.1**	**+3.5**
HLID	**Hailey**	**79.61**	**44**	PFAKE		20 43 20.0	+13
HLID				LR	LR		
	comp=Z,1µm,19.0s,MS5.2						
BMN	**Battle Mountai**	**79.75**	**48**	*e*P	**P**	**20 43 08.9**	**+0.7**
BMN				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
BMN				MLR	MLR		
	comp=Z,870nm,21.0s,MS5.1						
BMN	**Battle Mountai**	**79.75**	**48**	*e*P	**P**	**20 43 08.9**	**+0.7**
	comp=Z,9.0nm,0.8s,mb4.8						
BMN				LR	LR		
	comp=Z,871nm,21.0s,MS5.1						
OJC	**Ojcow**	**79.88**	**324**	*e*P	**P**	**20 43 12.2**	**+3.5**
CRVS	**Cervenica-Dubn**	**79.91**	**323**	*e*P	**P**	**20 43 13.5**	**+4.6**
CRVS				*e*S	S	20 53 08.9	-0.3
BOZ	**Bozeman (W)**	**79.94**	**41**	*e*P	**P**	**20 43 09.5**	**+0.3**
BOZ				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
BOZ				MLR	MLR		
	comp=Z,2µm,20.0s,MS5.3						
BOZ	**Bozeman (W)**	**79.94**	**41**	*e*P	**P**	**20 43 09.5**	**+0.4**
	comp=Z,9.5nm,1.0s,mb4.7						
BOZ				LR	LR		
	comp=Z,1µm,20.0s,MS5.3						
MUD	**Monsted U'grnd**	**80.10**	**333**	*i* P	**P**	**20 43 13.1**	**+3.3**
	comp=Z,14nm,1.0s,mb4.8						
	comp=Z,3µm,16.0s						
AFFS	**'Afif**	**80.21**	**292**	P	**P**	**20 43 14.8**	**+3.8**
MNV	**Mina**	**80.30**	**50**	*e*P	**P**	**20 43 10.7**	**-0.5**
MNV				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
MNV	**Mina**	**80.30**	**50**	*e*P	**P**	**20 43 10.7**	**-0.5**
	comp=Z,8.0nm,1.1s,mb4.6						
QLMT	**Earthquake Lak**	**80.56**	**42**	*e*P	**P**	**20 43 14.0**	**+1.6**
MTUM	**Tungsten Hills**	**80.65**	**51**	P	**P**	**20 43 13.9**	**+0.8**
MTUM				*e*	pP	20 43 21.6	-0.1
BORG	**Borgarnes**	**80.70**	**351**	PFAKE		20 43 20.0	+7.2
BORG				LR	LR		
	comp=Z,396nm,19.0s,MS4.8						
RAC	**Raciborz**	**80.75**	**325**	*e*P	**P**	**20 43 16.1**	**+2.8**
RAC				*e*S	S	20 53 23.2	+5.3
RAC				MLR	MLR		
	comp=N,8µm,17.8s,MS6.4						
RAC				MLR	MLR		
	comp=Z,13µm,15.8s,MS6.4						
RAC				MLR	MLR		
	comp=E,14µm,16.2s,MS6.4						
ELK	**Elko**	**80.79**	**47**	*e*P	**P**	**20 43 11.7**	**-2.0**
ELK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ELK				MLR	MLR		
	comp=Z,1µm,20.0s						
ELK	**Elko**	**80.79**	**47**	*e*P	**P**	**20 43 11.7**	**-2.1**
	comp=Z,4.5nm,0.8s,mb4.5						
ELK				LR	LR		
	comp=Z,1µm,20.0s,MS5.2						
OKC	**Ostrava-Krasne**	**80.93**	**325**	*e*P	**P**	**20 43 17.7**	**+3.4**
OKC				*e*x	x	20 46 36.2	
OKC				*e*S	S	20 53 23.9	+4.0
OKC				*e*x	x	20 58 58.9	
OKC				*e*x	x	21 04 19.7	
OKC				LR		21 22 30.0	
	comp=Z,6.1nm,14.6s						
OKC	**Ostrava-Krasne**	**80.93**	**325**	*e*P	**P**	**20 43 17.7**	**+3.4**
OKC				*e*S	S	20 53 23.9	+4.0
TPH	**Tonopah**	**81.11**	**50**	*e*P	**P**	**20 43 15.8**	**+0.3**
TPH				pmax	pmax		
	comp=Z,19nm,1.0s,mb5.0						
TPH				MLR	MLR		
	comp=Z,1µm,19.0s,MS5.3						
TPH	**Tonopah**	**81.11**	**50**	*e*P	**P**	**20 43 15.8**	**+0.3**
	comp=Z,19nm,1.0s,mb5.0						
TPH				LR	LR		
	comp=Z,1µm,19.0s,MS5.3						
RUE	**Ruedersdorf**	**81.12**	**329**	P	**P**	**20 43 17.4**	**+2.2**
	comp=Z,15nm,0.4s,mb5.3						
FRB	**Frobisher Bay**	**81.13**	**11**	LR	LR	21 21 56.3	
	comp=Z,2µm,19.5s,MS5.5,baz=342,slow=38						
KSP	**Ksiaz**	**81.13**	**326**	*e*P	**P**	**20 43 15.3**	**0.0**
KSP				*e*		20 46 15.5	
KSP				*e*S	S	20 53 20.0	-1.9
KSP				MLR	MLR		
	comp=Z,10µm,19.9s,MS6.2						
KSP	**Ksiaz**	**81.13**	**326**	*e*P	**P**	**20 43 15.3**	**0.0**
KSP				*e*pP	pP	20 43 19.1	-4.9
KSP				*e*		20 43 34.5	
KSP				*e*PP	PP	20 46 15.5	-7.3
KSP				*e*S	S	20 53 20.0	-1.9
KSP				*e*SS	SS	20 58 28.0	-12
KSP				LR	LR		
	comp=Z,10µm,19.9s,MS6.2						
CSS	**Prodhromos**	**81.24**	**306**	*e*P	**P**	**20 43 17.3**	**+1.1**
	comp=Z,41nm,1.4s,mb5.2						
MORC	**Moravsky Berou**	**81.26**	**325**	*e*P	**P**	**20 43 16.3**	**+0.3**
MORC				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.7						
MORC	**Moravsky Berou**	**81.26**	**325**	*e*P	**P**	**20 43 16.3**	**+0.2**
	comp=Z,12nm,1.0s,mb4.8						
PSZ	**Piszkesteto**	**81.34**	**323**	⇑*e*P	**P**	**20 43 20.2**	**+3.7**
PSZ	**Piszkesteto**	**81.34**	**323**	*e*P	**P**	**20 43 17.9**	**+1.4**
PSZ				pmax	pmax		
	comp=Z,18nm,1.1s,mb4.9						
PSZ	**Piszkesteto**	**81.34**	**323**	*e*P	**P**	**20 43 17.9**	**+1.4**
	comp=Z,18nm,1.1s,mb4.9						
DPC	**Dobruska-Polom**	**81.45**	**326**	*e*P	**P**	**20 43 17.7**	**+0.7**
DPC				*e*PP	PP	20 46 26.5	+1.1
DPC				*e*S	S	20 53 30.6	+5.4
DPC				*e*SS	SS	20 58 53.8	+8.7
DPC				*e*x	x	21 04 08.9	
DPC				LR		21 23 10.0	
	comp=Z,7.9nm,17.5s						
DPC	**Dobruska-Polom**	**81.45**	**326**	*e*P	**P**	**20 43 17.7**	**+0.7**
DPC				*e*		20 46 26.5	
DPC				*e*S	S	20 53 30.6	+5.4
DPC				MLR	MLR		
	comp=Z,8µm,17.0s,MS6.1						
UPC	**Upice**	**81.49**	**326**	*e*P	**P**	**20 43 20.8**	**+3.6**
VYHS	**Vyhne**	**81.49**	**324**	*e*P	**P**	**20 43 19.3**	**+2.0**
VYHS				*e*S	S	20 53 29.8	+4.1
MOOW	**Moose Ponds**	**81.61**	**43**	*e*P	**P**	**20 43 18.9**	**+0.9**
HVU	**Hansel Valley**	**81.65**	**45**	P	**P**	**20 43 17.1**	**-1.1**
TPAW	**Teton Pass**	**81.66**	**43**	*e*P	**P**	**20 43 19.2**	**+1.0**
LOHW	**Long Hollow**	**81.78**	**43**	*e*P	**P**	**20 43 19.7**	**+0.8**
SNOW	**Snow King Moun**	**81.79**	**43**	*e*P	**P**	**20 43 18.0**	**-0.9**
REDW	**Red Top Meadow**	**81.80**	**43**	*e*P	**P**	**20 43 18.2**	**-0.8**
DAC	**Darwin (Calif)**	**81.91**	**52**	*e*P	**P**	**20 43 19.9**	**+0.2**
DAC				pmax	pmax		
	comp=Z,19nm,0.9s,mb5.0						
DAC				MLR	MLR		
	comp=Z,1µm,21.0s,MS5.2						
DAC	**Darwin (Calif)**	**81.91**	**52**	*e*P	**P**	**20 43 19.9**	**+0.3**
	comp=Z,19nm,0.9s,mb5.0						
DAC				LR	LR		
	comp=Z,1µm,21.0s,MS5.2						
BGU	**Big Grassy Mou**	**82.02**	**46**	*e*P	**P**	**20 43 20.6**	**+0.4**
DGMT	**Dagmar**	**82.02**	**36**	*e*P	**P**	**20 43 20.7**	**+0.7**
	comp=Z,35nm,0.9s,mb5.3						
DGMT				*e*		20 43 27.1	
DGMT				LR	LR		
	comp=Z,2µm,21.0s,MS5.4						
AHID	**Auburn Hatcher**	**82.02**	**44**	*e*P	**P**	**20 43 21.3**	**+1.2**
	comp=Z,5.0nm,0.3s,mb4.9						
AHID				LR	LR		
	comp=Z,882nm,19.0s,MS5.1						
KBRS	**Khaybar**	**82.07**	**296**	P	**P**	**20 43 29.7**	**+9.0**
PVCC	**Panska Ves**	**82.14**	**327**	*e*P	**P**	**20 43 23.0**	**+2.5**
PVCC				*e*PP	PP	20 46 38.6	+7.7
PVCC				*e*S	S	20 53 36.0	+3.8
PVCC				*e*SS	SS	20 59 08.4	+13
PVCC				*e*x	x	21 04 29.4	
PVCC				LR		21 23 10.0	
	comp=Z,7.5nm,16.1s						
PVCC	**Panska Ves**	**82.14**	**327**	*e*P	**P**	**20 43 23.0**	**+2.5**
PVCC				*e*S	S	20 53 36.0	+3.8
PVCC				MLR	MLR		
	comp=Z,8µm,16.0s,MS6.2						
TATS	**Tathlith**	**82.17**	**288**	P	**P**	**20 43 21.9**	**+0.6**
SMOL	**Smolenice**	**82.17**	**324**	*e*P	**P**	**20 43 22.5**	**+1.7**
BRG	**Berggiesshubel**	**82.18**	**328**	*e*P	**P**	**20 43 23.9**	**+3.1**
BRG				pmax	pmax		
	comp=Z,22nm,1.4s,mb4.9						
BRG	**Berggiesshubel**	**82.18**	**328**	*e*P	**P**	**20 43 23.9**	**+3.1**
	comp=Z,22nm,1.4s,mb4.9						
LAO	**LASA Array**	**82.18**	**38**	PFAKE		20 43 30.0	+9.1
LAO				LR	LR		
	comp=Z,1µm,20.0s,MS5.3						
CLL	**Collm**	**82.29**	**328**	P	**P**	**20 43 21.0**	**-0.3**
	comp=Z,logA/T=1.3,mb5.0						
CLL				*e*	pP	20 43 31.0	+1.0
CLL				*e*PP	PP	20 46 28.0	-4.1
CLL				*e*S	S	20 53 39.0	+5.2
CLL				*e*PS	PS	20 54 43.0	+16
CLL				*e*SS	SS	20 58 53.0	-4.6
CLL				*e*		21 04 49.0	
CLL	**Collm**	**82.29**	**328**	*e*P	**P**	**20 43 21.0**	**-0.3**
CLL				*e*S	S	20 53 39.0	+5.2
CLL				pmax	pmax		
	comp=Z,24nm,1.2s,mb5.0						
CLL				MLR	MLR		
	comp=Z,6µm,18.6s,MS6.0						
CLL	**Collm**	**82.29**	**328**	*e*P	**P**	**20 43 21.0**	**-0.3**
	comp=Z,24nm,1.2s,mb5.0						
CLL				*e*S	S	20 53 39.0	+5.2
CLL				LR	LR		
	comp=Z,6µm,18.6s,MS6.0						
TPNV	**Topopah Spring**	**82.39**	**51**	*e*P	**P**	**20 43 22.5**	**+0.3**
TPNV				*e*	pP	20 43 31.9	+1.1
TPNV				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.9						
TPNV				MLR	MLR		
	comp=Z,2µm,21.0s,MS5.4						
TPNV	**Topopah Spring**	**82.39**	**51**	*e*P	**P**	**20 43 22.5**	**+0.4**
	comp=Z,12nm,0.8s,mb4.9						
TPNV				*e*	pP	20 43 31.9	+1.0
TPNV				LR	LR		
	comp=Z,2µm,21.0s,MS5.4						
HWUT	**Hardware Ranch**	**82.47**	**45**	*e*P	**P**	**20 43 23.2**	**+0.7**
	comp=Z,22nm,1.0s,mb5.0						
HWUT				LR	LR		
	comp=Z,1µm,19.0s,MS5.2						
PRU	**Pruhonice**	**82.53**	**327**	*e*P	**P**	**20 43 23.4**	**+0.8**
	comp=Z,38nm,1.4s,mb5.2						
PRU				*i* x	x	20 43 46.2	
PRU				*e*PP	PP	20 46 42.3	+8.3
PRU				*e*S	S	20 53 33.8	-2.4
PRU				*e*SS	SS	20 59 04.9	+3.6
PRU				*e*x	x	21 04 55.5	
PRU				LR		21 24 50.0	
	comp=Z,6.0nm,13.0s						
PRU	**Pruhonice**	**82.53**	**327**	*e*P	**P**	**20 43 23.4**	**+0.8**
PRU				*e*S	S	20 53 33.8	-2.4
PRU				*e*S		20 59 04.9	
PRU				pmax	pmax		
	comp=Z,38nm,1.4s,mb5.2						
PRU				MLR	MLR		
	comp=Z,6µm,13.0s,MS6.2						
ZST	**Bratislava**	**82.55**	**324**	*e*P	**P**	**20 43 24.3**	**+1.6**
ZST				*e*		20 43 56.4	
ZST				*e*S	S	20 53 45.1	+8.6
ZST	**Bratislava**	**82.55**	**324**	*e*P	**P**	**20 43 24.3**	**+1.6**
ZST				*e*S	S	20 53 45.1	+8.6
DUG	**Dugway**	**82.60**	**46**	*e*P	**P**	**20 43 23.8**	**+0.6**
DUG				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.9						
DUG				MLR	MLR		
	comp=Z,920nm,19.0s,MS5.2						
DUG	**Dugway**	**82.60**	**46**	*e*P	**P**	**20 43 23.8**	**+0.7**
	comp=Z,12nm,0.9s,mb4.9						
DUG				LR	LR		
	comp=Z,919nm,19.0s,MS5.2						
TBKS	**Tabuk**	**82.75**	**299**	P	**P**	**20 43 27.9**	**+3.7**
JMQS	**Jabal Moqyreh**	**82.87**	**300**	P	**P**	**20 43 30.2**	**+5.4**
BOLS	**Boljevac**	**82.90**	**319**	⇑*i*P	**P**	**20 43 26.0**	**+1.4**
BW06	**Boulder Array**	**82.91**	**43**	PFAKE		20 43 40.0	+15
BW06				LR	LR		
	comp=Z,1µm,22.0s,MS5.3						
PDAR	**Pinedale Array**	**82.91**	**43**	P	**P**	**20 43 24.9**	**+0.2**
	comp=Z,4.0nm,0.9s,mb4.5,baz=332,slow=2.0,SNR=17						
VTS	**Vitosha**	**82.99**	**317**	*e*P	**P**	**20 43 27.0**	**+1.8**
DJNS	**Zahran al Janu**	**83.09**	**287**	P	**P**	**20 43 30.7**	**+4.5**
EIL	**Elat**	**83.10**	**301**	P	**P**	**20 43 25.2**	**-0.7**
	comp=Z,14nm,1.2s,mb4.9						
NLU	**North Lily Min**	**83.19**	**46**	*e*P	**P**	**20 43 26.7**	**+0.4**
ALWS	**Ilw as Safayha**	**83.22**	**301**	P	**P**	**20 43 34.3**	**+7.7**
JMOS	**Jabal al Moall**	**83.27**	**300**	P	**P**	**20 43 32.6**	**+5.7**
MMB	**Musomiste**	**83.33**	**316**	*e*P	**P**	**20 43 29.0**	**+2.1**
MOX	**Moxa**	**83.38**	**328**	*i* P	**P**	**20 43 28.3**	**+1.3**
	comp=Z,logA/T=1.5,mb5.3						
MOX				L		21 20 08.0	
MOX	**Moxa**	**83.38**	**328**	*e*P	**P**	**20 43 28.3**	**+1.3**
MOX				pmax	pmax		
	comp=Z,63nm,2.2s,mb5.3						
MOX				MLR	MLR		
	comp=Z,3µm,18.0s,MS5.7						
MOX	**Moxa**	**83.38**	**328**	*e*P	**P**	**20 43 28.3**	**+1.3**
	comp=Z,63nm,2.2s,mb5.3						
MOX				LR	LR		
	comp=Z,3µm,18.0s,MS5.7						
DAU	**Daniels Canyon**	**83.40**	**45**	*e*P	**P**	**20 43 27.9**	**+0.6**
MPU	**Maple Canyon**	**83.42**	**46**	*e*P	**P**	**20 43 28.1**	**+0.7**
HAQS	**Haql**	**83.46**	**300**	P	**P**	**20 43 32.6**	**+4.8**
KKB	**Krupnik**	**83.53**	**317**	*e*P	**P**	**20 43 19.0**	**-8.9**
GRUS	**Gruza**	**83.55**	**319**	⇓*i*P	**P**	**20 43 28.5**	**+0.5**
KHC	**Kasperske Hory**	**83.58**	**326**	*e*P	**P**	**20 43 28.5**	**+0.5**
KHC				x	x	20 43 47.0	
KHC				*e*PP	PP	20 46 41.1	-1.3
KHC				*e*S	S	20 53 51.3	+4.5
KHC				*e*SS	SS	20 59 33.4	+17
KHC				*e*SKKP		21 05 12.9	
KHC				LR		21 24 30.0	
	comp=Z,8.9nm,15.6s						
KHC	**Kasperske Hory**	**83.58**	**326**	*e*P	**P**	**20 43 28.5**	**+0.5**
KHC				*e*		20 43 47.0	
KHC				*e*		20 46 41.1	
KHC				*e*S	S	20 53 51.3	+4.5
KHC				MLR	MLR		
	comp=Z,9µm,15.0s,MS6.3						
KHC	**Kasperske Hory**	**83.58**	**326**	*e*P	**P**	**20 43 28.5**	**+0.5**
KHC				*e*		20 43 47.0	
KHC				*e*PP	PP	20 46 41.1	-1.3
KHC				*e*S	S	20 53 51.3	+4.5
KHC				*e*SS	SS	20 59 33.4	+17
KHC				*e*		21 05 12.9	
KHC				LR	LR		
	comp=Z,9µm,15.6s,MS6.2						
BDAS	**Al Bad'**	**83.69**	**300**	P	**P**	**20 43 29.5**	**+0.4**
GERES	**GERESS Array B**	**83.72**	**326**	P	**P**	**20 43 28.9**	**+0.2**
	comp=Z,5.9nm,0.9s,mb4.7,baz=45,slow=3.8,SNR=17						
GERES	**GERESS Array B**	**83.72**	**326**	P	**P**	**20 43 28.9**	**+0.2**
GERES				pmax	pmax		
	comp=Z,6.0nm,0.9s						
DIVS	**Divcibare**	**83.81**	**320**	*e*P	**P**	**20 43 30.4**	**+1.1**
WIT	**Witteveen**	**83.81**	**332**	*e*P	**P**	**20 43 32.2**	**+3.2**
	comp=Z,51nm,2.5s,mb5.2						
YNBS	**Yanbu' al Bahr**	**83.83**	**295**	P	**P**	**20 43 31.3**	**+1.4**
MSU	**Marysvale**	**84.02**	**47**	*e*P	**P**	**20 43 31.6**	**+1.1**
NEN	**Nelson**	**84.08**	**51**	*e*P	**P**	**20 43 30.8**	**0.0**
MOA	**Molln**	**84.16**	**325**	⇑*i*P	**P**	**20 43 32.6**	**+1.6**
	comp=Z,14nm,0.9s,mb5.1						
LTHS	**Al Lith**	**84.19**	**290**	P	**P**	**20 43 32.6**	**+0.9**
PFO	**Pinyon Flat Ob**	**84.23**	**53**	*e*P	**P**	**20 43 31.5**	**-0.1**
PFO				pmax	pmax		
	comp=Z,23nm,0.9s,mb5.3						
PFO	**Pinyon Flat Ob**	**84.23**	**53**	*e*P	**P**	**20 43 31.4**	**-0.2**
	comp=Z,23nm,0.9s,mb5.3						
GRA1	**Grafenberg Arr**	**84.24**	**328**	*i* P	**P**	**20 43 32.1**	**+0.8**
	comp=Z,73nm,1.3s,mb5.7						
GRF	**Grafenberg Arr**	**84.24**	**328**	*i* P	**P**	**20 43 32.1**	**+0.8**
GRF				pmax	pmax		
	comp=Z,73nm,1.3s,mb5.7						
LDFC	**Landfair**	**84.25**	**52**	*e*P	**P**	**20 43 32.1**	**+0.4**
SKO	**Skopje**	**84.40**	**317**	*i* P	**P**	**20 43 33.3**	**+1.0**
WTSB	**Winterswijk**	**84.40**	**332**	*e*P	**P**	**20 43 31.7**	**-0.3**
	comp=Z,5.2nm,3.5s						
PERS	**Pernice**	**84.60**	**324**	*e*P	**P**	**20 43 33.7**	**+0.5**
BAR	**Barrett**	**84.63**	**54**	*e*P	**P**	**20 43 36.4**	**+2.8**
SRU	**San Rafael**	**84.65**	**46**	*e*P	**P**	**20 43 34.0**	**+0.4**
FRSS	**Farasan al Kab**	**84.77**	**286**	P	**P**	**20 43 37.7**	**+3.0**
RSSD	**Black Hills**	**85.05**	**39**	*e*P	**P**	**20 43 37.9**	**+2.4**
RSSD				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.7						
RSSD	**Black Hills**	**85.05**	**39**	*e*P	**P**	**20 43 37.9**	**+2.4**
	comp=Z,4.4nm,0.6s,mb4.8						
KBA	**Koelnbreinsper**	**85.15**	**325**	⇑*i*P	**P**	**20 43 39.1**	**+3.2**
	comp=Z,15nm,0.8s,mb5.2						
KBA	**Koelnbreinsper**	**85.15**	**325**	⇑*i*P	**P**	**20 43 39.1**	**+3.2**
KBA				pmax	pmax		
	comp=Z,15nm,0.8s,mb5.2						
ESK	**Eskdalemuir**	**85.24**	**338**	PFAKE		20 43 50.0	+14
ESK				LR	LR		
	comp=Z,837nm,20.0s,MS5.1						
LJU	**Ljubljana**	**85.31**	**324**	*e*P	**P**	**20 43 38.1**	**+1.3**
CEY	**Cerknica**	**85.57**	**324**	*e*P	**P**	**20 43 38.7**	**+0.7**
HGN	**Heimansgroeve**	**85.68**	**331**	*e*P	**P**	**20 43 38.9**	**+0.5**
	comp=Z,8.0nm,2.0s,mb4.6						
HGN				*e*PP	PP	20 46 58.3	-0.9
HGN				*e*S	S	20 53 53.6	-14
HGN				*e*SS	SS	20 59 43.1	-4.4
PV10	**Paradox Valley**	**86.02**	**46**	*e*P	**P**	**20 43 41.7**	**+1.2**
WUAZ	**Wupatki**	**86.39**	**49**	*e*P	**P**	**20 43 42.4**	**0.0**
	comp=Z,9.0nm,0.8s,mb5.0						
WLF	**Walferdange**	**86.44**	**330**	*e*P	**P**	**20 43 44.9**	**+2.7**
WLF				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb5.0						
WLF	**Walferdange**	**86.44**	**330**	*e*P	**P**	**20 43 44.9**	**+2.7**
	comp=Z,10nm,0.9s,mb5.1						
PV01	**Paradox Valley**	**86.45**	**46**	*e*P	**P**	**20 43 43.2**	**+0.6**
PPT	**Papeete**	**86.52**	**114**	*e*SS	SS	21 00 00.4	+0.1
PPT				*e*L		21 06 22.4	
PPT				*e*R		21 10 23.2	
	comp=Z,3µm,27.0s,baz=309						
DAVA	**Damuels**	**86.62**	**327**	⇑*i*P	**P**	**20 43 44.3**	**+1.1**
	comp=Z,21nm,1.0s,mb5.3						
BAIF	**Baives**	**86.92**	**332**	*e*P	**P**	**20 43 44.2**	**-0.4**
	comp=Z,13nm,1.0s,mb4.8						
CDF	**Champ du Feu**	**86.92**	**329**	*e*P	**P**	**20 43 44.5**	**-0.2**
	comp=Z,45nm,1.2s,mb5.3						
ISCO	**Idaho Springs**	**87.09**	**43**	*e*P	**P**	**20 43 47.1**	**+1.4**
ISCO				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.8						
ISCO				MLR	MLR		
	comp=Z,920nm,20.0s,MS5.2						
ISCO	**Idaho Springs**	**87.09**	**43**	*e*P	**P**	**20 43 47.1**	**+1.4**
	comp=Z,6.5nm,0.9s,mb4.9						
ISCO				LR	LR		
	comp=Z,918nm,20.0s,MS5.2						
HINF	**Hinteralfeld**	**87.56**	**329**	*e*P	**P**	**20 43 47.2**	**-0.5**
DMUB	**Kingscourt**	**87.57**	**339**	⇑*i*P	**P**	**20 43 48.9**	**+1.3**
HAU	**Haudompre**	**87.64**	**329**	*e*P	**P**	**20 43 47.9**	**-0.2**
HAU				*e*R			
	comp=Z,5µm,19.5s						
MEZF	**Maizieres J'vi**	**87.80**	**330**	*e*P	**P**	**20 43 48.6**	**-0.2**
DCN	**Croghan**	**88.16**	**339**	⇑*i*P	**P**	**20 43 51.9**	**+1.4**
EYMN	**Ely**	**88.21**	**30**	PFAKE		20 44 00.0	+9.2
EYMN				LR	LR		
	comp=Z,198nm,19.0s,MS4.5						
SDCO	**Great Sand Dun**	**88.53**	**45**	*e*P	**P**	**20 43 54.6**	**+1.9**
SDCO				LR	LR		
	comp=Z,1µm,21.0s,MS5.3						
CABF	**La Chapelle**	**88.83**	**328**	*e*P	**P**	**20 43 53.6**	**-0.2**
	comp=Z,14nm,0.9s,mb5.0						
LOR	**Lormes**	**89.26**	**330**	*e*P	**P**	**20 43 55.2**	**-0.7**
	comp=Z,20nm,1.2s,mb5.0						
LOR				*e*R			
	comp=Z,5µm,17.8s						
LPL	**La Plagne**	**89.38**	**327**	*e*P	**P**	**20 43 56.3**	**-0.2**
	comp=Z,24nm,1.0s,mb5.2						
LPG	**La Plagne**	**89.39**	**327**	*e*P	**P**	**20 43 56.3**	**-0.2**
	comp=Z,26nm,0.9s,mb5.3						
SSF	**Saint Saulge**	**89.58**	**330**	*e*P	**P**	**20 43 57.0**	**-0.4**
	comp=Z,17nm,1.0s,mb5.0						
BNI	**Bardonecchia**	**89.76**	**327**	*e*P	**P**	**20 43 59.2**	**+0.9**
BNI				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.8						
BNI	**Bardonecchia**	**89.76**	**327**	*e*P	**P**	**20 43 59.2**	**+0.9**
	comp=Z,4.1nm,0.8s,mb4.8						
SMF	**Signal de Mont**	**89.76**	**330**	*e*P	**P**	**20 43 57.6**	**-0.7**
SCHQ	**Schefferville**	**89.81**	**13**	LR	LR	21 27 25.0	
	comp=Z,3µm,18.6s,MS5.8,baz=330,slow=38						
ANMO	**Albuquerque**	**89.82**	**47**	*e*P	**P**	**20 43 59.7**	**+0.9**
ANMO				*e*	pP	20 44 08.6	+1.1
ANMO				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ANMO				MLR	MLR		
	comp=Z,1µm,21.0s						
ANMO	**Albuquerque**	**89.82**	**47**	*e*P	**P**	**20 43 59.7**	**+0.9**
	comp=Z,4.4nm,1.0s,mb4.7						
ANMO				*e*	pP	20 44 08.6	+1.1
ANMO				LR	LR		
	comp=Z,1µm,21.0s,MS5.3						
AVF	**Avril sur Loir**	**89.85**	**330**	*e*P	**P**	**20 43 58.6**	**-0.1**
	comp=Z,14nm,0.8s,mb5.0						
MBDF	**Montbardon**	**89.97**	**327**	*e*P	**P**	**20 43 58.5**	**-0.8**
	comp=Z,25nm,1.0s,mb5.2						
TBI	**Tubuai**	**90.03**	**118**	*e*SS	SS	21 00 45.9	-5.4
TBI				*e*R		21 11 51.4	
	comp=Z,3µm,34.0s,baz=318						
ORIF	**Oris-en-Rattie**	**90.23**	**328**	*e*P	**P**	**20 44 00.1**	**-0.4**
	comp=Z,8.5nm,0.8s,mb4.8						
ORIF				*e*R			
	comp=Z,7µm,17.8s						
TCF	**Toulx Ste Croi**	**90.73**	**330**	*e*P	**P**	**20 44 02.6**	**-0.1**
	comp=Z,18nm,1.1s,mb5.0						
VIVF	**Saint-Julien-l**	**90.81**	**328**	*e*P	**P**	**20 44 01.9**	**-1.2**
	comp=Z,30nm,1.2s,mb5.2						
FRF	**La Foret Royal**	**90.92**	**326**	*e*P	**P**	**20 44 02.6**	**-1.1**
CBKS	**Cedar Bluff**	**91.06**	**41**	PFAKE		20 44 20.0	+16
CBKS				LR	LR		
	comp=Z,944nm,20.0s,MS5.2						
LMR	**La Mourre**	**91.16**	**326**	*e*P	**P**	**20 44 03.8**	**-1.0**
	comp=Z,30nm,1.2s,mb5.2						
VAE	**Valguarnera**	**91.42**	**318**	LR	LR	21 25 37.0	
	comp=Z,2µm,18.8s,MS5.6,baz=99,slow=36						
MFF	**Saint Martin d**	**91.42**	**332**	*e*P	**P**	**20 44 05.8**	**-0.1**
	comp=Z,41nm,1.2s,mb5.3						
RJF	**Les Rejaudoux**	**91.81**	**330**	*e*P	**P**	**20 44 07.5**	**-0.2**
RJF				*e*R			
	comp=Z,5µm,18.8s						
CAF	**Calviac**	**91.89**	**330**	*e*P	**P**	**20 44 08.4**	**+0.3**
LFF	**La Frestale**	**92.43**	**330**	*e*P	**P**	**20 44 10.5**	**-0.1**
	comp=Z,88nm,1.4s,mb5.6						
JFWS	**Jewell Farm**	**92.71**	**33**	PFAKE		20 44 20.0	+8.1
JFWS				LR	LR		
	comp=Z,1µm,19.0s,MS5.4						
GDL2	**Guadalupe Moun**	**92.96**	**48**	*e*P	**P**	**20 44 14.8**	**+1.5**
WMOK	**Wichita Mounta**	**94.52**	**43**	*e*P	**P**	**20 44 21.3**	**+0.9**
WMOK				MLR	MLR		
	comp=Z,1µm,21.0s,MS5.4						
LTX	**Lajitas**	**95.34**	**50**	*e*P	**P**	**20 44 25.3**	**+0.9**
LTX				pmax	pmax		
	comp=Z,18nm,1.3s,mb5.3						
LTX				MLR	MLR		
	comp=Z,1µm,20.0s,MS5.4						
LTX	**Lajitas**	**95.34**	**50**	*e*P	**P**	**20 44 25.2**	**+0.9**
	comp=Z,18nm,1.3s,mb5.3						
LTX				LR	LR		
	comp=Z,1µm,20.0s,MS5.4						
TXAR	**Lajitas Array**	**95.34**	**50**	P	**P**	**20 44 24.6**	**+0.2**
	comp=Z,2.9nm,0.8s,mb4.7,baz=270,slow=2.5,SNR=24						
TXAR				pP	pP	20 44 34.1	+1.0
	comp=Z,4.3nm,0.8s,baz=292,slow=2.7,SNR=12						
TXAR				PP	PP	20 48 15.8	-1.3
	comp=Z,1.2nm,1.0s,baz=315,slow=5.1,SNR=4.7						
TXAR				LR	LR	21 25 24.8	
	comp=Z,1µm,20.4s,MS5.3,baz=340,slow=34						
CCM	**Cathedral Cave**	**96.05**	**36**	P	**P**	**20 44 28.7**	**+1.3**
CCM				MLR	MLR		
	comp=Z,920nm,20.0s,MS5.2						
JCT	**Junction City**	**96.96**	**47**	PFAKE		20 44 40.0	+8.3
JCT				LR	LR		
	comp=Z,832nm,20.0s,MS5.2						
PQI	**Presque Isle**	**97.23**	**17**	PFAKE		20 44 40.0	+7.5
PQI				LR	LR		
	comp=Z,10µm,21.0s,MS6.3						
MIAR	**Mount Ida**	**97.54**	**40**	PFAKE		20 44 50.0	+16
MIAR				LR	LR		
	comp=Z,1µm,20.0s,MS5.4						
ERPA	**Erie**	**97.62**	**27**	PFAKE		20 44 50.0	+16
ERPA				LR	LR		
	comp=Z,1µm,19.0s,MS5.5						
NCB	**Newcomb**	**97.97**	**22**	PFAKE		20 44 50.0	+14
NCB				LR	LR		
	comp=Z,2µm,20.0s,MS5.6						
ACSO	**Alum Creek Sta**	**98.04**	**30**	PFAKE		20 44 50.0	+14
ACSO				LR	LR		
	comp=Z,2µm,20.0s,MS5.6						
KMBO	**Kilima Mbogo**	**98.60**	**274**	P	**P**	**20 44 39.3**	**-0.2**
	comp=Z,0.9nm,1.0s,mb4.2,baz=37,slow=10,SNR=2.8						
ESDC	**Sonseca Array**	**98.74**	**330**	LR	LR	21 34 25.7	

	comp=Z,4µm,18.5s,MS6.0,baz=50,slow=38						
WVL	**Waterville**	**98.77**	**19**	PFAKE		20 44 50.0	+11
WVL				LR	LR		
	comp=Z,9µm,21.0s,MS6.3						
BINY	**Binghamton**	**98.98**	**24**	PFAKE		20 44 50.0	+10
BINY				LR	LR		
	comp=Z,713nm,21.0s,MS5.1						
NATX	**Nacogdoches**	**99.04**	**42**	PFAKE		20 44 50.0	+9.0
NATX				LR	LR		
	comp=Z,1µm,20.0s,MS5.3						
EMMW	**East Machias**	**99.20**	**17**	PFAKE		20 44 50.0	+8.6
EMMW				LR	LR		
	comp=Z,8µm,20.0s,MS6.2						
OXF	**Oxford**	**99.74**	**37**	PFAKE		20 45 00.0	+16
OXF				LR	LR		
	comp=Z,1µm,20.0s,MS5.4						
MCWV	**Mont Chateau**	**99.79**	**28**	PFAKE		20 45 00.0	+16
MCWV				LR	LR		
	comp=Z,2µm,20.0s,MS5.6						
HRV	**Harvard--Oak R**	**100.12**	**21**	PFAKE		20 45 00.0	+14
HRV				LR	LR		
	comp=Z,2µm,19.0s,MS5.6						
CASY	**Casey**	**101.38**	**191**	PFAKE		20 45 00.0	+9.2
CASY				LR	LR		
	comp=Z,960nm,20.0s,MS5.3						
BLA	**Blacksburg**	**101.66**	**30**	PFAKE		20 45 00.0	+7.2
BLA				LR	LR		
	comp=Z,1µm,20.0s,MS5.5						
CBN	**Corbin**	**102.01**	**27**	PFAKE		20 45 10.0	+16
CBN				LR	LR		
	comp=Z,3µm,21.0s,MS5.8						
LRAL	**Lakeview Retre**	**102.13**	**36**	PFAKE		20 45 10.0	+15
LRAL				LR	LR		
	comp=Z,1µm,19.0s,MS5.5						
MBAR	**Mbarara**	**103.72**	**278**	PFAKE		20 45 10.0	+7.6
MBAR				LR	LR		
	comp=Z,301nm,19.0s,MS4.8						
NHSC	**New Hope**	**105.26**	**32**	PFAKE		20 49 30.0	
NHSC				LR	LR		
	comp=Z,3µm,20.0s,MS5.9						
DWPF	**Disney**	**108.89**	**35**	PFAKE		20 49 40.0	
DWPF				LR	LR		
	comp=Z,2µm,20.0s,MS5.7						
BBSR	**BB Station**	**111.53**	**19**	PFAKE		20 49 50.0	+12
BBSR				LR	LR		
	comp=Z,969nm,22.0s,MS5.3						
QSPA	**South Pole Qui**	**123.14**	**180**	*e*PKP	PKPdf	20 49 55.5	-3.9
QSPA				LR	LR		
	comp=Z,440nm,20.8s,MS5.1						
SYO	**Syowa Base**	**123.28**	**205**	⇑Pdiff	Pdif	20 46 29.0	+1.9
SYO	**Syowa Base**	**123.28**	**205**	⇓PKPdf	PKPdf	20 49 57.4	-2.5
SYO	**Syowa Base**	**123.28**	**205**	⇓pPKPdf		20 50 03.9	
TSUM	**Tsumeb**	**124.41**	**269**	PKP	PKPdf	20 50 01.7	-1.5
	comp=Z,2.5nm,0.8s,baz=27,slow=14,SNR=2.6						
TSUM	**Tsumeb**	**124.41**	**269**	PKP	PKPdf	20 50 01.7	-1.5
TSUM				LR	LR		
	comp=Z,1µm,20.0s,MS5.6						
DBIC	**Dimbokro**	**126.06**	**310**	PKP	PKPdf	20 50 05.0	-1.5
	comp=Z,5.0nm,0.9s,baz=318,slow=1.2,SNR=3.8						
DBIC				pPKP		20 50 12.1	
	comp=Z,8.6nm,0.7s,baz=68,slow=1.7,SNR=6.1						
DBIC	**Dimbokro**	**126.06**	**310**	PKIKP	PKPdf	20 50 05.1	-1.5
DBIC						20 50 12.1	
DBIC				pmax	pmax		
	comp=Z,5.0nm,0.9s						
DBIC				pmax	pmax		
	comp=N,9.0nm,0.7s						
TIC	**Toumodi**	**126.19**	**310**	*e*PKP2	PKPdf	20 50 07.4	+0.6
	comp=N,262nm,1.7s						
KIC	**Kosan Boka**	**126.22**	**310**	*e*PKP2	PKPdf	20 50 05.7	-1.2
	comp=N,56nm,0.8s						
LIC	**Lamto**	**126.51**	**310**	*e*PKP2	PKPdf	20 50 06.2	-1.2
	comp=N,43nm,0.8s						
SDV	**Santo Domingo**	**130.52**	**37**	*e*PKPdf	PKPdf	20 50 12.0	-3.1
SNAA	**Sanae**	**136.16**	**197**	⇓*i*	PKPdf	20 50 30.1	+6.0
SNAA	**Sanae**	**136.16**	**197**	*e*PKIKP	PKPdf	20 50 20.4	-3.7
VNA2	**Neumayer--Watz**	**137.76**	**197**		PKPdf	20 50 32.9	+5.8
VNA3	**Neumayer Olymp**	**138.06**	**196**	⇑*i*	PKPdf	20 50 36.6	+8.9
ARE	**Arequipa**	**149.44**	**63**	*e*P	PKPdf	20 50 53.0	+4.4
SAML	**Samuel**	**149.48**	**42**	*e*PKPdf	PKPdf	20 50 45.1	-3.7
SAML				LR	LR		
	comp=Z,800nm,19.0s,MS5.5						
RCBR	**Riachuelo**	**151.75**	**345**	PFAKE		20 51 00.0	+7.7
RCBR				LR	LR		
	comp=Z,823nm,22.0s,MS5.5						
LPAZ	**La Paz**	**151.80**	**59**	PKPbc	PKPdf	20 50 55.4	+3.2
	comp=Z,2.1nm,0.3s,baz=8.9,slow=1.5,SNR=4.2						
LPAZ				PKPab	PKPab	20 51 04.3	-0.9
	comp=Z,13nm,0.7s,baz=3.2,slow=2.6,SNR=20						
LPAZ	**La Paz**	**151.80**	**59**	PKIKP	PKPdf	20 50 55.4	+3.2
LPAZ						20 51 04.3	
LPAZ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
LPAZ				pmax	pmax		
	comp=Z,13nm,0.7s						
USHA	**Ushuaia**	**152.20**	**148**	PKPbc	PKPdf	20 50 55.6	+3.9
	comp=Z,27nm,1.1s,baz=284,slow=2.5,SNR=7.6						
USHA				pPKPbc		20 51 04.4	
	comp=Z,78nm,1.1s,baz=173,slow=2.4,SNR=14						
LVC	**Limon Verde**	**154.95**	**71**	*e*PKPab	PKPab	20 51 19.1	+0.8
EFI	**East Falkland**	**158.76**	**154**	PFAKE		20 51 10.0	+9.5
EFI				LR	LR		
	comp=Z,258nm,19.0s,MS5.1						
CPUP	**Villa Florida**	**165.87**	**64**	pPKPab		20 52 11.8	
	comp=Z,2.2nm,0.8s,baz=305,slow=4.3,SNR=5.2						

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*IDC **05** 20:44:12.7±8.0,38.12N×73.18E,h74^{km}±67^{km},mb3.4/6, mb1 3.7/9,mb1mx3.5/19,ML4.4/2,Error ellipse: s-maj=55.4km s-min=20.5km az=24.0*

*BJI **05** 20:44:15.7,38.08N×73.27E,h103^{km}*

*NEIC **05** 20:44:16.1±3.8,38.34N×73.20E,h102^{km}±27^{km},mb4.6/5, Error ellipse: s-maj=38.3km s-min=15.2km az=208.0*

*NNC **05** 20:44:21.8±10.0,39.03N×73.32E,mpv4.2,Error ellipse: s-maj=152.8km s-min=85.0km az=40.0*

ISC 05 20:44:16.7±0.4,**38.35N**±0.03×**73.24E**±0.10,**h126**^{km}±8^{km}, **n40,**σ**0^{s}.96**/43,**mb3.6**/6,**6C-1D,Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSH	**Kashi**	**2.43**	**61**	⇑*i*P	**P**	**20 44 57.5**	**+1.0**
KSH				S	**S**	**20 45 26.1**	**-0.5**
KSH				Smax			
	comp=N,1µm,0.6s						
KSH				Smax			
	comp=E,2µm,0.6s						
AML	**Almayashu**	**3.79**	**5**	P	**P**	**20 45 14.6**	**0.0**
	SNR=319						
UCH	**Uchtor**	**3.99**	**14**	P	**P**	**20 45 17.6**	**+0.3**
	SNR=104						
KZA	**Kyzart**	**4.02**	**22**	P	**P**	**20 45 17.7**	**0.0**
	SNR=9.4						
EKS2	**Erkin-Say**	**4.32**	**5**	P	**P**	**20 45 22.0**	**+0.2**
	SNR=32						
AAK	**Ala-Archa**	**4.38**	**12**	P	**P**	**20 45 23.1**	**+0.6**
	SNR=27						
AAK	**Ala-Archa**	**4.38**	**12**	*e*Pn	**P**	**20 45 21.9**	**-0.6**
KBK	**Karagaybulak**	**4.49**	**16**	P	**P**	**20 45 24.3**	**+0.3**
	SNR=31						
ULHL	**Ulahol**	**4.51**	**30**	P	**P**	**20 45 25.6**	**+1.3**
	SNR=21						
CEP	**Cherat**	**4.65**	**194**	P	**P**	**20 45 27.5**	**+1.4**
CHCP	**Chirah Chowk**	**4.69**	**180**	P	**P**	**20 45 28.0**	**+1.4**
NIL	**Nilore**	**4.69**	**180**	Pn	**P**	**20 45 27.5**	**+0.8**
	comp=E,500nm,0.4s						
CHMS	**Chumysh**	**4.78**	**13**	P	**P**	**20 45 27.9**	**0.0**
	SNR=12						
TKM2	**Tokmak 2**	**4.90**	**21**	P	**P**	**20 45 29.6**	**+0.1**
	SNR=8.8						
USP	**Ospenovka**	**5.00**	**11**	P	**P**	**20 45 30.7**	**-0.1**
	SNR=42						
KK31	**Karatay Array**	**5.18**	**337**	⇓P	**P**	**20 45 32.6**	**-0.6**
	comp=E,14nm,0.3s,baz=145,slow=10,SNR=948						
KK31				⇑S	**S**	**20 46 27.7**	**-4.6**
	comp=E,47nm,0.3s,baz=154,slow=22,SNR=18						
THW	**Thamme Wali**	**5.68**	**193**	P	**P**	**20 45 40.0**	**+0.1**
THW				S	**S**	**20 46 41.0**	**-3.5**
SBDP	**Sheikh Budin**	**6.36**	**199**	P	**P**	**20 45 48.4**	**-0.8**
SARP	**Sargodha**	**6.43**	**184**	P	**P**	**20 45 49.3**	**-0.9**
DRP	**Derazinda**	**7.05**	**202**	⇑P	**P**	**20 45 58.5**	**-0.1**
MKAR	**Makanchi Array**	**10.75**	**35**	P	**P**	**20 46 47.0**	**-0.9**
	comp=E,0.1nm,0.3s,baz=227,slow=16,SNR=4.2						
KOLN	**Koldanda**	**13.66**	**138**	*e*P	**P**	**20 47 21.8**	**-4.2**
	comp=E,18nm,0.3s						
GKN	**Gorkha**	**14.04**	**134**	*e*P	**P**	**20 47 26.7**	**-4.3**
	comp=E,103nm,0.4s						
VOSK	**Vostochnaya**	**14.46**	**354**	⇑P	**P**	**20 47 35.6**	**-0.4**
	comp=E,3.6nm,0.8s						
KKN	**Kakani**	**14.57**	**133**	*e*P	**P**	**20 47 32.1**	**-5.7**
	comp=E,76nm,0.5s						
DMN	**Daman**	**14.61**	**134**	*e*P	**P**	**20 47 32.4**	**-5.8**
BVA0	**Borovoye Array**	**14.80**	**353**	⇑P	**P**	**20 47 44.8**	**+4.2**
	comp=E,1.5nm,0.7s,baz=158,slow=11,SNR=32						
BVAR	**Borovoye Array**	**14.80**	**353**	P	**P**	**20 47 39.9**	**-0.7**
	comp=E,2.2nm,0.3s,baz=170,slow=13,SNR=13						
PKI	**Pulchoki**	**14.81**	**133**	*e*P	**P**	**20 47 35.3**	**-5.5**
	comp=E,34nm,0.5s						
BRVK	**Borovoye**	**14.85**	**353**	*e*P	**P**	**20 47 40.2**	**-0.9**
BRVK				*e*		20 47 45.0	
ZRNK	**Zerenda**	**14.89**	**350**	⇑P	**P**	**20 47 41.8**	**+0.2**
	comp=E,7.3nm,0.8s						
ZRNK	**Zerenda**	**14.89**	**350**	*e*P	**P**	**20 47 40.1**	**-1.5**
	comp=E,11nm,0.8s						
ZRNK				*e*		20 47 45.2	
ZAL	**Zalesovo**	**17.48**	**23**	P	**P**	**20 48 12.3**	**-1.5**
	comp=E,2.7nm,0.3s,baz=168,slow=7.1,SNR=24						
ARU	**Arti**	**20.55**	**336**	P	**P**	**20 48 46.3**	**-0.5**
ARU				*e*		20 48 50.8	
SONM	**Songino Array**	**25.83**	**58**	P	**P**	**20 49 39.4**	**+1.7**
	comp=E,1.0nm,0.8s,mb3.3,baz=252,slow=11,SNR=11						
AKASG	**Malin Array Be**	**33.23**	**306**	P	**P**	**20 50 43.8**	**+0.3**
	comp=E,0.2nm,0.3s,mb3.5,baz=73,slow=6.9,SNR=5.0						
FINES	**FINESS Array B**	**36.99**	**324**	P	**P**	**20 51 15.9**	**+0.8**
	comp=E,1.0nm,0.8s,mb3.8,baz=112,slow=8.2,SNR=6.8						
ARCES	**ARCESS Array B**	**40.14**	**336**	P	**P**	**20 51 42.1**	**+0.9**
	comp=E,3.6nm,1.1s,mb4.1,baz=112,slow=9.9,SNR=8.6						
NOA	**NORSAR Array B**	**44.00**	**322**	P	**P**	**20 52 13.5**	**+0.9**
	comp=E,1.4nm,1.1s,mb3.6,baz=106,slow=6.9,SNR=2.2						
WRA	**Warramunga Arr**	**81.49**	**124**	P	**P**	**20 56 21.2**	**-0.3**
	comp=E,0.4nm,0.8s,mb3.3,baz=324,slow=4.8,SNR=7.9						

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*JMA **05** 20:57:30.1±0.1,33.34N×137.02E,h44^{km}±3^{km},M2.9*

ISC 05 20:57:30.0±1.3,**33.33N**±0.08×**137.03E**±0.04,**h36**^{km}±38^{km}, **n15,**σ**0^{s}.47**/23,**Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK02	**Tokai 2**	**0.86**	**45**	*e*S	**S**	**20 57 57.4**	**+0.1**
JIE	**Ise**	**1.09**	**346**	P	**P**	**20 57 49.4**	**+0.4**
JIE				*e*S	**S**	**20 58 03.4**	**+0.3**
JKN	**Kiinagashima**	**1.11**	**325**	P	**P**	**20 57 49.3**	**0.0**
JKN				*e*S	**S**	**20 58 02.8**	**-0.9**
JWZ	**Kozaga**	**1.12**	**280**	*e*S	**S**	**20 58 03.1**	**-0.7**
TK03	**Tokai 3**	**1.14**	**43**	*e*S	**S**	**20 58 04.0**	**-0.3**
TK04	**Tokai 4**	**1.26**	**34**	*e*S	**S**	**20 58 07.5**	**0.0**
JAA	**Atsumi**	**1.30**	**4**	P	**P**	**20 57 51.9**	**0.0**
JAA				*e*S	**S**	**20 58 08.2**	**-0.2**
TSUJ	**Tsu 2**	**1.46**	**340**	P	**P**	**20 57 54.5**	**+0.1**
TSUJ				*e*S	**S**	**20 58 12.5**	**0.0**
JWY	**Kouya**	**1.49**	**307**	*e*S	**S**	**20 58 13.4**	**+0.3**
JWM	**Minabe**	**1.49**	**291**	P	**P**	**20 57 55.0**	**+0.3**
JWM				*e*S	**S**	**20 58 13.1**	**-0.1**
JHE	**Heguri**	**1.73**	**320**	P	**P**	**20 57 58.4**	**+0.3**
JHE				*e*S	**S**	**20 58 19.5**	**+0.4**
SHZ3	**Shizuoka 3**	**1.99**	**29**	P	**P**	**20 58 01.1**	**-0.7**
SHZ3				*e*S	**S**	**20 58 25.7**	**0.0**
JIZS	**Izushimoda**	**2.06**	**48**	P	**P**	**20 58 03.9**	**+1.0**
JIZS				*e*S	**S**	**20 58 27.2**	**-0.5**
JAJ2	**Tsuna**	**2.09**	**302**	*e*S	**S**	**20 58 29.2**	**+1.0**
JAI	**Aioi**	**2.20**	**283**	*e*S	**S**	**20 58 30.4**	**-0.7**

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*BJI **05** 20:58:21.8,33.20N×137.20E,h10^{km},mb4.1*

*IDC **05** 20:58:22.5±1.0,33.18N×137.30E,mb3.8/5,mb1 3.8/8, mb1mx3.7/22,ML3.4/3,Error ellipse: s-maj=27.5km s-min=20.3km az=50.0*

*NEIC **05** 20:58:23.9±0.8,33.19N×137.24E,h10^{km},mb3.9/1,Error ellipse: s-maj=18.7km s-min=12.7km az=103.0*

*JMA **05** 20:58:23.3±0.1,33.15N×137.22E,h43^{km}±2^{km},M3.9*

ISC 05 20:58:23.7±1.0,**33.18N**±0.04×**137.21E**±0.03,**h32**^{km}±7^{km}, **n30,**σ**0^{s}.98**/43,**mb3.9**/8,**3C-1D,Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	**Tokai 1**	**0.67**	**28**	P	**Pb**	**20 58 36.7**	**-0.2**
TK01				*e*S	**Sb**	**20 58 46.6**	**+0.7**
TK02	**Tokai 2**	**0.90**	**31**	⇑P	**Pn**	**20 58 39.8**	**-0.4**
TK02				S	**Sn**	**20 58 52.8**	**+0.7**
TK03	**Tokai 3**	**1.17**	**32**	P	**Pn**	**20 58 43.8**	**-0.3**
TK03				S	**Sn**	**20 58 59.6**	**+0.5**
JIE	**Ise**	**1.28**	**341**	⇑P	**Pn**	**20 58 46.1**	**+0.4**
JIE				*e*S	**Sn**	**20 59 02.2**	**+0.2**
JWZ	**Kozaga**	**1.30**	**286**	P	**Pn**	**20 58 45.7**	**-0.3**
JWZ				S	**Sn**	**20 59 01.4**	**-1.0**
TK04	**Tokai 4**	**1.33**	**24**	P	**Pn**	**20 58 46.3**	**-0.1**
TK04				S	**Sn**	**20 59 02.6**	**-0.5**
JKN	**Kiinagashima**	**1.33**	**324**	⇑P	**Pn**	**20 58 46.3**	**-0.1**
TSUJ	**Tsu 2**	**1.67**	**337**	⇓P	**Pn**	**20 58 52.3**	**+1.1**
TSUJ				*e*S	**Sn**	**20 59 11.6**	**-0.1**
JWM	**Minabe**	**1.69**	**294**	P	**Pn**	**20 58 51.4**	**-0.1**
JWM				S	**Sn**	**20 59 11.9**	**-0.4**
JWY	**Kouya**	**1.70**	**308**	P	**Pn**	**20 58 52.1**	**+0.4**
JWY				S	**Sn**	**20 59 12.7**	**+0.1**
JHE	**Heguri**	**1.94**	**320**	P	**Pn**	**20 58 55.3**	**+0.1**
SHZ3	**Shizuoka 3**	**2.06**	**23**	P	**Pn**	**20 58 56.2**	**-0.7**
JMY	**Miyakejima3**	**2.12**	**64**	P	**Pn**	**20 58 57.7**	**0.0**
JHJ	**Hachijo jima 2**	**2.16**	**91**	Pn	**Pn**	**20 58 58.6**	**+0.4**
	44nm,0.3s,baz=225,slow=12,SNR=9.4						
JHJ				Sn	**Sn**	**20 59 23.4**	**-0.8**
	80nm,0.3s,baz=67,slow=21,SNR=7.6						
JHJ2	**Mitsune**	**2.19**	**91**	P	**Pn**	**20 58 58.6**	**-0.1**
MAJO	**Matsushiro**	**3.46**	**13**	*e*Pn	**Pn**	**20 59 17.3**	**+0.5**
MAT	**Matsushiro**	**3.46**	**13**	P	**Pn**	**20 59 16.3**	**-0.4**
MAT				S	**Sn**	**20 59 54.1**	**-3.0**
MAT	**Matsushiro**	**3.46**	**13**	*e*P	**Pn**	**20 59 16.0**	**-0.7**
MAT				*e*S	**Sn**	**20 59 54.0**	**-3.1**
JNU	**Nakatsue**	**5.31**	**271**	Pn	**Pn**	**20 59 42.5**	**-0.5**
	0.7nm,0.3s,baz=171,slow=13,SNR=3.1						
JNU				Sn	**Sn**	**21 00 40.1**	**-3.7**
	1.6nm,0.3s,baz=66,slow=19,SNR=2.8						
ASAJ	**Asahikawa**	**11.70**	**19**	Pn	**P**	**21 01 09.7**	**-1.9**
	0.4nm,0.3s,baz=214,slow=11,SNR=4.7						
HHC	**Hu-ho-hao-te**	**21.81**	**298**	*e*P	**P**	**21 03 14.6**	**-0.4**
HHC				PP	PP	21 03 38.5	-1.9
HHC				AMB	AMB		
	comp=Z,6.0nm,0.4s,mb4.4						
SONM	**Songino Array**	**27.41**	**311**	P	**P**	**21 04 10.2**	**+1.9**
	comp=Z,1.7nm,1.1s,mb3.5,baz=122,slow=7.9,SNR=7.8						
MKAR	**Makanchi Array**	**43.37**	**305**	P	**P**	**21 06 27.5**	**+2.8**
	comp=Z,0.8nm,0.6s,mb3.6,baz=108,slow=6.2,SNR=2.8						
MKAR	**Makanchi Array**	**43.37**	**305**	P	**P**	**21 06 27.5**	**+2.8**
KAKA	**Kakadu**	**45.85**	**187**	*e*P	**P**	**21 06 42.7**	**-2.2**
	comp=Z,2.6nm,0.3s,mb4.6						
WRAB	**Tennant Creek**	**52.88**	**183**	P	**P**	**21 07 38.6**	**-0.4**
	comp=Z,0.7nm,0.4s,mb3.9						
WRA	**Warramunga Arr**	**52.89**	**183**	P	**P**	**21 07 39.4**	**+0.3**
	comp=Z,1.3nm,1.0s,mb3.8,baz=1.2,slow=7.7,SNR=9.4						
ASAR	**Alice Springs**	**56.61**	**184**	P	**P**	**21 08 08.3**	**+2.1**
	comp=Z,0.5nm,0.6s,mb3.7,baz=14,slow=12,SNR=8.2						
BRTR	**Keskin Array B**	**78.76**	**310**	P	**P**	**21 10 27.6**	**+2.9**
	comp=Z,0.9nm,0.8s,mb3.8,baz=90,slow=3.7,SNR=4.2						
PV10	**Paradox Valley**	**85.92**	**46**	P	**P**	**21 11 05.9**	**+4.1**

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*BJI **05** 20:58:29.1,33.16N×137.64E,h24^{km},mb4.5*

*IDC **05** 20:58:31.3±0.8,33.20N×137.28E,mb4.0/9,mb1 4.1/12, mb1mx4.0/24,ML3.8/3,Error ellipse: s-maj=22.7km s-min=17.4km az=12.0*

*NEIC **05** 20:58:32.9±0.5,33.18N×137.22E,h10^{km},mb4.0/3,Error ellipse: s-maj=11.7km s-min=11.0km az=76.0*

ISC 05 20:58:31.0±0.5,**33.13N**±0.08×**137.21E**±0.06,**h10**^{km},**n24,** σ**0^{s}.81**/25,**mb3.9**/11,**Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**2.16**	**90**	Pn	**Pn**	**20 59 06.1**	**-1.5**
	106nm,0.3s,baz=223,slow=23,SNR=12						
JHJ				Sn	**Sn**	**20 59 35.2**	**+0.6**
	36nm,0.3s,baz=62,slow=22,SNR=4.4						
MAJO	**Matsushiro**	**3.50**	**13**	*e*Pn	**Pn**	**20 59 25.7**	**-0.9**
JNU	**Nakatsue**	**5.31**	**272**	Pn	**Pn**	**20 59 51.4**	**-1.0**
	1.6nm,0.3s,baz=130,slow=11,SNR=5.7						
JNU	**Nakatsue**	**5.31**	**272**	Pn	**Pn**	**20 59 51.4**	**-1.0**
ASAJ	**Asahikawa**	**11.75**	**19**	Pn	**P**	**21 01 17.4**	**-4.2**
	1.2nm,0.3s,baz=241,slow=19,SNR=6.4						
CN2	**Changchun**	**14.07**	**323**	*e*P	**P**	**21 01 52.2**	**-0.3**
BJT	**Baijiatuau**	**18.22**	**298**	*e*P	**P**	**21 02 46.9**	**+1.2**
	14nm,0.8s						
BJI	**Beijing**	**18.22**	**298**	P	**P**	**21 02 45.9**	**+0.2**
BJI				AMB	AMB		
	comp=Z,18nm,0.8s						
SONM	**Songino Array**	**27.44**	**311**	P	**P**	**21 04 18.3**	**-0.4**
	comp=Z,1.5nm,0.8s,mb3.6,baz=118,slow=8.7,SNR=9.9						
SONM	**Songino Array**	**27.44**	**311**	P	**P**	**21 04 18.3**	**-0.4**
MKAR	**Makanchi Array**	**43.40**	**305**	P	**P**	**21 06 35.8**	**+0.6**
	comp=Z,2.9nm,0.7s,mb4.1,baz=90,slow=11,SNR=8.2						
MKAR	**Makanchi Array**	**43.40**	**305**	P	**P**	**21 06 35.8**	**+0.6**
KURK	**Kurchatov**	**45.74**	**311**	*e*P	**P**	**21 06 53.5**	**-0.4**
	comp=Z,0.8nm,0.5s,mb3.9						
BVAR	**Borovoye Array**	**50.73**	**314**	P	**P**	**21 07 32.8**	**+0.1**
	comp=Z,1.3nm,0.6s,mb4.0,baz=121,slow=8.6,SNR=4.2						
WRAB	**Tennant Creek**	**52.83**	**183**	*e*P	**P**	**21 07 48.3**	**-0.8**
	comp=Z,0.6nm,0.4s,mb3.9						
WRA	**Warramunga Arr**	**52.84**	**183**	P	**P**	**21 07 48.3**	**-0.9**
	comp=Z,1.0nm,0.6s,mb3.9,baz=360,slow=7.6,SNR=5.4						
WRA	**Warramunga Arr**	**52.84**	**183**	P	**P**	**21 07 48.3**	**-0.9**
ASAR	**Alice Springs**	**56.57**	**184**	P	**P**	**21 08 17.6**	**+1.3**
	comp=Z,0.7nm,0.9s,mb3.7,baz=14,slow=13,SNR=3.0						
ASAR	**Alice Springs**	**56.57**	**184**	P	**P**	**21 08 17.6**	**+1.3**
DLBC	**Dease Lake**	**63.81**	**36**	P	**P**	**21 09 05.7**	**+0.4**
	comp=Z,1.9nm,1.0s,mb4.1,baz=319,slow=11,SNR=2.9						
BRTR	**Keskin Array B**	**78.79**	**310**	P	**P**	**21 10 35.6**	**+0.2**
	comp=Z,1.8nm,1.0s,mb4.0,baz=146,slow=4.5,SNR=4.3						
BRTR	**Keskin Array B**	**78.79**	**310**	P	**P**	**21 10 35.6**	**+0.2**
PDAR	**Pinedale Array**	**82.86**	**43**	P	**P**	**21 10 57.8**	**+0.9**
	comp=Z,0.5nm,0.8s,mb3.6,baz=198,slow=2.9,SNR=2.8						
TXAR	**Lajitas Array**	**95.25**	**50**	P	**P**	**21 11 57.1**	**+0.8**
	comp=Z,0.5nm,1.0s,mb3.9,baz=307,slow=4.9,SNR=6.0						

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*NEIC **05** 21:01:44.2±1.7,36.47N×70.22E,h215^{km}±18^{km},mb4.3/8, Error ellipse: s-maj=15.9km s-min=8.7km az=57.0*

*IDC **05** 21:01:44.5±5.0,36.48N×70.19E,h216^{km}±50^{km},mb3.5/11, mb1 3.6/13,mb1mx3.4/20,Error ellipse: s-maj=19.6km s-min=13.9km az=6.0*

*MOS **05** 21:01:46.9±0.8,36.53N×70.22E,h262^{km},mb3.8/6,Error ellipse: s-maj=32.3km s-min=17.8km az=93.0*

*NNC **05** 21:01:49.8±2.8,36.99N×70.37E,h209^{km}±18^{km},mpv4.0, Error ellipse: s-maj=30.1km s-min=23.1km az=53.0*

ISC 05 21:01:43.2±0.5,**36.49N**±0.03×**70.15E**±0.08,**h221**^{km}±6^{km}, **n64,**σ**0^{s}.92**/70,**mb3.6**/11,**9C-2D,Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CEP	**Cherat**	**3.02**	**151**	⇑P	**P**	**21 02 35.9**	**+1.2**
CEP				S	**S**	**21 03 14.0**	**-0.6**
CHCP	**Chirah Chowk**	**3.81**	**137**	⇑P	**P**	**21 02 45.5**	**+1.5**
THW	**Thamme Wali**	**3.91**	**160**	⇑P	**P**	**21 02 46.0**	**+0.7**
THW				S	**S**	**21 03 31.0**	**-2.3**
SBDP	**Sheikh Budin**	**4.21**	**172**	⇑P	**P**	**21 02 49.5**	**+0.5**
DRP	**Derazinda**	**4.73**	**179**	⇓P	**P**	**21 02 56.9**	**+1.5**
SARP	**Sargodha**	**5.01**	**155**	P	**P**	**21 02 59.3**	**+0.4**
AML	**Almayashu**	**6.27**	**25**	P	**P**	**21 03 14.9**	**-0.1**
	SNR=108						
KK31	**Karatay Array**	**6.61**	**2**	P	**P**	**21 03 18.5**	**-0.9**
	5.1nm,0.3s,baz=192,slow=14,SNR=196						
KK31				⇓S	**S**	**21 04 29.6**	**-4.8**
	6.1nm,0.5s,baz=191,slow=23,SNR=4.8						
UCH	**Uchtor**	**6.65**	**29**	P	**P**	**21 03 19.8**	**-0.1**
	SNR=51						
EKS2	**Erkin-Say**	**6.77**	**23**	P	**P**	**21 03 21.4**	**0.0**
	SNR=21						
KZA	**Kyzart**	**6.84**	**34**	P	**P**	**21 03 22.4**	**+0.1**
	SNR=8.6						
AAK	**Ala-Archa**	**7.00**	**27**	P	**P**	**21 03 24.6**	**+0.4**
	SNR=28						
AAK	**Ala-Archa**	**7.00**	**27**	*e*Pn	**P**	**21 03 22.8**	**-1.4**
	19nm,0.4s						
KBK	**Karagaybulak**	**7.19**	**30**	P	**P**	**21 03 27.3**	**+0.6**
	SNR=14						
CHMS	**Chumysh**	**7.41**	**27**	P	**P**	**21 03 29.4**	**-0.1**
	SNR=32						
ULHL	**Ulahol**	**7.44**	**37**	P	**P**	**21 03 30.5**	**+0.5**
	SNR=5.5						
USP	**Ospenovka**	**7.55**	**25**	P	**P**	**21 03 31.0**	**-0.4**
	SNR=23						
TKM2	**Tokmak 2**	**7.67**	**31**	P	**P**	**21 03 34.0**	**+0.9**
	SNR=6.6						
SMLA	**Simla**	**7.91**	**130**	*e*P	**P**	**21 03 46.7**	**+11**
SMLA				*e*S	**S**	**21 05 08.8**	**+4.3**
KLP	**Kalpa**	**8.34**	**124**	*e*P	**P**	**21 03 41.8**	**+0.1**
JASL	**Jaisalmer**	**9.55**	**176**	*e*P	**P**	**21 03 56.1**	**-1.1**
KHET	**Khetri**	**9.65**	**149**	*e*P	**P**	**21 03 57.0**	**-1.6**
KHET				*e*S	**S**	**21 05 39.3**	**-5.2**
KUDL	**Kundal**	**9.89**	**145**	*e*P	**P**	**21 04 00.1**	**-1.5**
	comp=Z,13nm,0.5s						
KUDL				*e*S	**S**	**21 05 44.7**	**-5.3**
AYAN	**Aya Nagar**	**9.92**	**142**	*e*S	**S**	**21 05 45.0**	**-5.5**
MK31	**Makanchi Array**	**13.71**	**38**	⇑P	**P**	**21 04 50.3**	**+0.7**
	comp=Z,5.9nm,0.7s						
MKAR	**Makanchi Array**	**13.71**	**38**	P	**P**	**21 04 49.9**	**+0.2**
	comp=Z,1.6nm,0.3s,baz=205,slow=9.0,SNR=29						
MKAR	**Makanchi Array**	**13.71**	**38**	P	**P**	**21 04 49.9**	**+0.3**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KOLN	**Koldanda**	**14.32**	**124**	*e*P	**P**	**21 04 57.1**	**-0.2**
	comp=Z,5.3nm,0.3s						
BHPL	**Bhopal**	**14.62**	**153**	*e*P	**P**	**21 05 04.7**	**+3.7**
BHPL				*e*		21 05 05.3	
	comp=Z,15nm,0.4s						
BHPL				*e*		21 07 39.4	
GKN	**Gorkha**	**14.88**	**121**	*e*P	**P**	**21 05 04.6**	**+0.4**
	comp=Z,30nm,0.4s						
DMN	**Daman**	**15.45**	**121**	*e*P	**P**	**21 05 11.5**	**+0.3**
	comp=Z,9.7nm,0.3s						
KKN	**Kakani**	**15.46**	**120**	*e*P	**P**	**21 05 11.3**	**0.0**
	comp=Z,52nm,0.5s						
KURK	**Kurchatov**	**15.47**	**21**	⇑P	**P**	**21 05 10.1**	**-1.2**
	comp=Z,5.0nm,2.0s,baz=190,slow=17,SNR=7.9						
PKI	**Pulchoki**	**15.68**	**120**	*e*P	**P**	**21 05 13.0**	**-1.0**
	comp=Z,17nm,0.4s						
VOSK	**Vostochnaya**	**16.25**	**2**	⇑P	**P**	**21 05 20.2**	**-0.4**
	comp=Z,1.7nm,0.4s						
ZRNK	**Zerenda**	**16.48**	**358**	⇑P	**P**	**21 05 22.9**	**-0.4**
	comp=Z,4.3nm,0.7s						
ZRNK	**Zerenda**	**16.48**	**358**	*e*P	**P**	**21 05 22.7**	**-0.7**
	comp=Z,3.9nm,0.5s						
BVA0	**Borovoye Array**	**16.54**	**1**	⇑P	**P**	**21 05 23.8**	**-0.2**
	comp=Z,0.8nm,0.9s,baz=158,slow=8.3,SNR=42						
BVAR	**Borovoye Array**	**16.54**	**1**	P	**P**	**21 05 23.8**	**-0.2**
	comp=Z,1.7nm,0.3s,baz=170,slow=9.5,SNR=24						
BRVK	**Borovoye**	**16.57**	**0**	*e*P	**P**	**21 05 23.9**	**-0.4**
	comp=Z,4.2nm,0.4s						
LSA	**Lhasa**	**18.83**	**105**	*e*P	**P**	**21 05 50.8**	**+2.4**
ZAL	**Zalesovo**	**20.20**	**26**	P	**P**	**21 06 02.1**	**-0.1**
	comp=Z,9.0nm,0.4s,baz=160,slow=5.7,SNR=28						
ZAL	**Zalesovo**	**20.20**	**26**	P	**P**	**21 06 02.1**	**-0.1**
ZAL				pmax	pmax		
	comp=Z,9.0nm,0.4s						
NVS	**Novosibirsk**	**20.44**	**22**	*e*P	**P**	**21 06 03.9**	**-0.7**
ASF	**Jabal al Asfar**	**27.72**	**271**	P	**P**	**21 07 12.4**	**-0.7**
	comp=Z,0.7nm,0.2s,mb3.9,baz=45,slow=7.1,SNR=2.0						
SONM	**Songino Array**	**28.91**	**55**	P	**P**	**21 07 24.3**	**+0.7**
	comp=Z,0.8nm,0.6s,mb3.5,baz=270,slow=9.0,SNR=11						
AKASG	**Malin Array Be**	**32.42**	**309**	P	**P**	**21 07 53.8**	**-0.4**
	comp=Z,0.7nm,0.4s,mb3.5,baz=82,slow=6.9,SNR=9.7						
AKASG	**Malin Array Be**	**32.42**	**309**	P	**P**	**21 07 53.8**	**-0.4**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	**37.12**	**326**	P	**P**	**21 08 34.5**	**+0.8**
	comp=Z,1.4nm,0.6s,mb3.7,baz=124,slow=14,SNR=10						
FINES	**FINESS Array B**	**37.12**	**326**	P	**P**	**21 08 34.6**	**+0.8**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ARCES	**ARCESS Array B**	**40.90**	**338**	P	**P**	**21 09 05.6**	**+0.7**
	comp=Z,3.4nm,0.6s,mb4.0,baz=105,slow=7.0,SNR=20						
ARCES	**ARCESS Array B**	**40.90**	**338**	P	**P**	**21 09 05.6**	**+0.7**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.6s						
HFS	**Hagfors**	**42.66**	**322**	P	**P**	**21 09 19.4**	**+0.3**
	comp=Z,2.0nm,0.4s,mb3.9,baz=98,slow=10,SNR=18						
HFS	**Hagfors**	**42.66**	**322**	P	**P**	**21 09 19.4**	**+0.2**
HFS				pmax	pmax		
	comp=Z,2.0nm,0.4s						
NB2	**NORSAR Subarra**	**43.98**	**323**	P	**P**	**21 09 29.9**	**+0.1**
	comp=Z,1.0nm,0.4s,mb3.5,baz=98,slow=7.9						
NOA	**NORSAR Array B**	**43.98**	**323**	P	**P**	**21 09 30.0**	**+0.2**
	comp=Z,1.0nm,0.4s,mb3.5,baz=98,slow=7.8,SNR=6.0						

NOA	NORSAR Array B	43.98	323	P	P	21 09 30.0	+0.2
NOA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NOA	NORSAR Array B	43.98	323	P	P	21 09 30.0	+0.2
KMBO	Kilima Mbogo	48.32	227	P	P	21 10 05.8	+1.4
	comp=Z,0.7nm,0.5s,mb3.2,baz=26,slow=10,SNR=8.1						
KMBO	Kilima Mbogo	48.32	227	*e*P	P	21 10 06.1	+1.8
	comp=Z,1.0nm,0.6s,mb3.3						
WRA	Warramunga Arr	82.57	121	P	P	21 13 42.1	-0.7
	comp=Z,0.5nm,0.8s,mb3.3,baz=324,slow=5.0,SNR=6.5						
WRA	Warramunga Arr	82.57	121	P	P	21 13 42.1	-0.8
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRAB	Tennant Creek	82.57	121	*e*P	P	21 13 40.2	-2.7
	comp=Z,0.7nm,0.4s,mb3.7						
ASAR	Alice Springs	84.81	124	P	P	21 13 54.9	+0.8
	comp=Z,0.5nm,0.6s,mb3.4,baz=312,slow=5.1,SNR=8.0						

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*IDC **05** 21:05:35.2±1.4, 33.35N×137.03E, mb3.8/7, mb1 4.0/8, mb1mx3.8/21, ML3.0/1, Error ellipse: s-maj=50.7km s-min=19.4km az=71.0*

*BJI **05** 21:05:36.5, 32.98N×137.14E, h29^{km}, mb4.3*

*NEIC **05** 21:05:36.8±0.4, 33.29N×137.00E, h10^{km}, mb4.3/7, Error ellipse: s-maj=10.3km s-min=7.7km az=101.0*

*JMA **05** 21:05:36.7±0.1, 33.26N×136.98E, h39^{km}±2^{km}, M3.4*

ISC 05 21:05:36.2±0.9**, 33.29N**±0.05×**136.96E**±0.03**, h17**^{km}±6^{km}**, n36, σ0^{s}65**/44**, mb4.1**/14**, 8C, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	Tokai 1	0.71	48	P	Pb	21 05 50.4	+0.6
TK02	Tokai 2	0.94	45	P	Pb	21 05 53.7	+0.1
TK02				S	Sb	21 06 06.6	+1.0
JWZ	Kozaga	1.07	283	⇑P	Pb	21 05 55.8	0.0
JWZ				S	Sb	21 06 09.7	+0.4
JKN	Kiinagashima	1.12	329	⇑P	Pb	21 05 56.6	-0.1
JIE	Ise	1.12	349	⇑P	Pb	21 05 57.1	+0.3
TK03	Tokai 3	1.21	44	P	Pb	21 05 57.9	-0.4
TK03				S	Sb	21 06 13.5	-0.1
TK04	Tokai 4	1.33	35	P	Pn	21 05 59.8	-0.5
TK04				S	Sb	21 06 16.8	-0.3
JWM	Minabe	1.45	293	⇑P	Pn	21 06 01.6	-0.3
JWM				S	Sb	21 06 19.8	-0.6
JWY	Kouya	1.47	310	⇑P	Pn	21 06 02.3	+0.1
JWY				S	Sb	21 06 21.3	+0.4
TSUJ	Tsu 2	1.49	343	⇑P	Pn	21 06 02.3	-0.2
TSUJ				S	Sb	21 06 20.7	-0.8
JHE	Heguri	1.72	323	⇑P	Pn	21 06 05.9	+0.1
SHZ3	Shizuoka 3	2.06	30	P	Pn	21 06 09.5	-1.1
JIZS	Izushimoda	2.14	48	P	Pn	21 06 12.9	+1.1
JAI	Aioi	2.15	284	P	Pn	21 06 11.9	-0.1
JGM	Miyama	2.41	355	⇑P	Pn	21 06 15.7	0.0
MAJO	Matsushiro	3.41	17	*e*Pn	Pn	21 06 29.5	-0.4
MAT	Matsushiro	3.41	17	P	Pn	21 06 29.7	-0.1
MAT				S	Sn	21 07 09.9	-0.4
MAT	Matsushiro	3.41	17	*e*P	Pn	21 06 30.0	+0.2
MAT				*e*S	Sn	21 07 10.0	-0.3
JNU	Nakatsue	5.10	270	Pn	Pn	21 06 53.3	-0.5
	0.7nm,0.3s,baz=73,slow=40,SNR=3.1						
BJI	Beijing	17.96	298	P	P	21 09 50.1	+3.3
BJI				AMB	AMB		
	comp=Z,12nm,1.1s						
HIA	Hailar	20.47	326	*e*P	P	21 10 15.3	-0.5
	comp=Z,6.0nm,1.0s						
HHC	Hu-ho-hao-te	21.57	298	*e*P	P	21 10 28.4	+1.4
HHC				PP	PP	21 10 53.2	+1.6
HHC				AMB	AMB		
	comp=Z,11nm,0.5s,mb4.5						
ENH	Enshi	23.52	270	*e*P	P	21 10 47.0	+0.6
	comp=Z,16nm,1.2s,mb4.3						
SONM	Songino Array	27.18	311	P	P	21 11 20.2	-0.4
	comp=Z,0.9nm,0.9s,mb3.3,baz=115,slow=7.5,SNR=6.0						
MKAR	Makanchi Array	43.13	305	P	P	21 13 38.1	+0.8
	comp=Z,2.0nm,0.7s,mb4.0,baz=90,slow=10,SNR=4.9						
KURK	Kurchatov	45.48	311	*e*P	P	21 13 56.3	+0.2
	comp=Z,7.5nm,1.2s,mb4.4						
BRVK	Borovoye	50.53	314	P	P	21 14 36.0	+0.6
	comp=Z,3.5nm,1.1s,mb4.2						
FITZ	Fitzroy Crossi	52.23	194	P	P	21 14 48.3	-0.5
	comp=Z,1.4nm,1.0s,mb3.8,baz=338,slow=5.4,SNR=2.8						
WRAB	Tennant Creek	52.98	183	*e*P	P	21 14 53.4	-1.0
	comp=Z,1.5nm,0.4s,mb4.3						
WRA	Warramunga Arr	52.99	183	P	P	21 14 53.3	-1.2
	comp=Z,0.7nm,0.4s,mb3.9,baz=359,slow=7.7,SNR=13						
ASAR	Alice Springs	56.71	183	P	P	21 15 22.1	+0.6
	comp=Z,0.4nm,0.6s,mb3.6,baz=11,slow=11,SNR=7.0						
ARCES	ARCESS Array B	66.19	339	P	P	21 16 24.1	-0.6
	comp=Z,2.3nm,0.9s,mb4.2,baz=68,slow=13,SNR=5.1						
TPNV	Topopah Spring	82.35	51	*e*P	P	21 17 59.6	+1.0
	comp=Z,1.7nm,0.9s,mb4.0						
GERES	GERESS Array B	83.88	326	P	P	21 18 06.3	+0.2
	comp=Z,0.3nm,0.5s,mb3.6,baz=350,slow=8.1,SNR=4.0						
SDCO	Great Sand Dun	88.51	45	*e*P	P	21 18 28.8	-0.4
	comp=Z,6.2nm,0.9s,mb4.9						
DRV	Dumont d'Urvil	99.66	179	R		21 19 00.0	

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*NEIC **05** 21:08:49.4, 35.01S×70.52W, h3^{km}, ML3.5(GUC), After GUC.*

GUC 05 21:08:49.4±0.9**, 35.01S×70.52W, h3**^{km}**, MD3.9, ML3.5, 6C-6D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFDO	San Fernando	0.57	314	⇓*i*P	Pg	21 09 00.6	-0.1
SFDO				*e*S	Sg	21 09 09.5	+1.2
NICH	Los Niches	0.59	270	⇓*i*P	Pg	21 09 01.1	-0.1
NICH				*i* S	Sg	21 09 10.4	+1.5
CICH	Cipreses	0.69	6	⇓*i*P	Pg	21 09 02.5	-0.7
CICH				*i* S	Sg	21 09 13.3	+0.9
CACH	El Canelo	0.89	355	⇑*i*P	Pb	21 09 06.1	-1.1
CACH				*e*S	Sg	21 09 19.0	-0.1
CHCH	Chadas Angostu	1.08	354	⇓*i*P	Pb	21 09 09.5	-0.8
CHCH				*i* S	Sb	21 09 24.8	+0.1
LMEL	Las Melosas	1.19	13	⇑*i*P	Pb	21 09 11.3	-0.9
LMEL				*i* S	Sb	21 09 28.4	+0.6
LMEL				AMP		21 09 30.3	
	comp=N,491nm,0.2s						
LNV	Longovilo	1.28	325	⇑*i*P	Pb	21 09 12.8	-1.1
LNV				*i* S	Sb	21 09 30.5	-0.1
SJCH	San Jose de Ma	1.37	6	*e*P	Pb	21 09 14.0	-1.4
SJCH				AMP		21 09 36.8	
	comp=N,404nm,0.4s						
PCH	Pirque	1.39	0	⇓*i*P	Pb	21 09 14.8	-0.8
ANTU	Antumapu	1.44	356	⇑*i*P	Pn	21 09 16.1	-0.3
ANTU				AMP		21 09 38.4	
	comp=E,1μm,0.2s						
DSCH	Colegio Aleman	1.61	358	⇑*i*P	Pn	21 09 19.0	+0.1
DSCH				*i* S	Sb	21 09 41.1	+1.1
DSCH				AMP		21 09 45.0	
	comp=N,2μm,0.8s						
CLCH	Cerro Calan	1.61	359	⇑*i*P	Pn	21 09 18.8	-0.1
CLCH				*i* S	Sb	21 09 41.4	+1.4
CLCH				AMP		21 09 48.7	
	comp=E,1μm,0.6s						
CLCH				AMP		21 09 49.3	
	comp=E,1μm,0.4s						
FCH	Farellones	1.69	6	*e*P	Pn	21 09 20.3	+0.3
FCH				*e*S	Sb	21 09 42.0	-0.3
FCH				AMP		21 09 54.4	
	comp=N,412nm,0.4s						
LCCH	Las Cruces	1.76	330	⇓*i*P	Pn	21 09 20.8	-0.2
LCCH				*e*S	Sn	21 09 44.2	-0.1
PEL	Peldehue	1.87	356	AMP		21 09 55.9	
	comp=N,1μm,0.7s						
CCHI	Chillan	2.04	218	AMP		21 09 58.4	
	comp=E,1μm,0.5s						

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*MOS **05** 21:10:15.2±0.9, 36.56N×71.16E, h267^{km}, mb3.9/4, Error ellipse: s-maj=42.3km s-min=19.4km az=84.4*

*NEIC **05** 21:10:16.1±2.1, 36.64N×71.37E, h252^{km}±19^{km}, mb3.9/5, Error ellipse: s-maj=17.7km s-min=12.9km az=218.0*

*BJI **05** 21:10:18.3, 36.67N×71.34E, h259^{km}, mb3.5*

*IDC **05** 21:10:19.7±4.5, 36.72N×71.40E, h288^{km}±45^{km}, mb3.3/8, mb1 3.5/11, mb1mx3.3/18, Error ellipse: s-maj=22.3km s-min=15.4km az=21.0*

*NNC **05** 21:10:22.0±3.7, 37.19N×71.43E, h232^{km}±21^{km}, mpv4.0, Error ellipse: s-maj=46.3km s-min=32.0km az=58.0*

ISC 05 21:10:15.3±0.5**, 36.71N**±0.04×**71.23E**±0.09**, h255**^{km}±7^{km}**, n46, σ0^{s}85**/49**, mb3.5**/10**, 6C-4D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CEP	Cherat	2.93	169	⇓P	P	21 11 07.9	+0.1
CHCP	Chirah Chowk	3.47	151	⇓P	P	21 11 14.3	+0.6
NIL	Nilore	3.47	151	Pn	P	21 11 14.3	+0.5
	156nm,0.4s,SNR=28						
THW	Thamme Wali	3.93	174	⇓P	P	21 11 18.8	-0.2
THW				S	S	21 12 02.0	-6.5
SBDP	Sheikh Budin	4.41	185	P	P	21 11 23.3	-1.4
SARP	Sargodha	4.92	166	⇓P	P	21 11 30.0	-0.8
DRP	Derazinda	5.02	190	P	P	21 11 33.2	+1.1
KK31	Karatay Array	6.41	355	P	P	21 11 49.1	-0.2
	6.4nm,0.5s,baz=176,slow=11,SNR=134						
KK31				⇑S	S	21 12 59.0	-3.8
	14nm,0.6s,baz=181,slow=16,SNR=12						
AAK	Ala-Archa	6.43	22	*e*Pn	P	21 11 48.9	-0.6
AAK				*e*S	S	21 12 52.5	-11
MK31	Makanchi Array	13.02	36	⇑P	P	21 13 13.0	+0.8
	2.7nm,0.5s						
MKAR	Makanchi Array	13.02	36	P	P	21 13 12.6	+0.4
	1.5nm,0.3s,baz=214,slow=13,SNR=22						
MKAR	Makanchi Array	13.02	36	P	P	21 13 12.6	+0.4
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KOLN	Koldanda	13.74	127	*e*P	P	21 13 21.2	0.0
	comp=Z,26nm,0.6s						
GKN	Gorkha	14.26	124	*e*P	P	21 13 27.6	-0.1
	comp=Z,35nm,0.4s						
KKN	Kakani	14.83	123	*e*P	P	21 13 34.5	-0.2
	comp=Z,28nm,0.5s						
DMN	Daman	14.84	124	*e*P	P	21 13 34.5	-0.2
	comp=Z,28nm,0.5s						
KURK	Kurchatov	14.97	18	⇑P	P	21 13 35.4	-0.8
	comp=Z,2.9nm,0.9s,baz=193,slow=11,SNR=12						
KURK	Kurchatov	14.97	18	Pn	P	21 13 35.8	-0.4
	comp=Z,44nm,1.0s,SNR=8.8						
KURK	Kurchatov	14.97	18	*e*P	P	21 13 35.0	-1.2
	comp=Z,6.4nm,0.8s						
PKI	Pulchoki	15.06	123	*e*P	P	21 13 37.4	0.0
	comp=Z,23nm,0.4s						
VOSK	Vostochnaya	16.02	359	⇑P	P	21 13 48.6	+0.4
	comp=Z,2.8nm,0.6s						
ZRNK	Zerenda	16.32	355	⇑P	P	21 13 51.5	-0.1
	comp=Z,2.7nm,1.1s						
ZRNK	Zerenda	16.32	355	*e*P	P	21 13 50.9	-0.7
	comp=Z,1.8nm,0.6s						
BVA0	Borovoye Array	16.33	358	⇑P	P	21 13 52.9	+1.2
	comp=Z,0.4nm,0.8s,baz=163,slow=11,SNR=5.6						
BVAR	Borovoye Array	16.33	358	P	P	21 13 51.7	0.0
	comp=Z,1.2nm,0.3s,baz=157,slow=12,SNR=28						
BRVK	Borovoye	16.36	358	*e*P	P	21 13 51.6	-0.5
	comp=Z,3.1nm,0.4s						
LSA	Lhasa	18.06	107	*e*P	P	21 14 13.4	+3.1
ZAL	Zalesovo	19.63	24	P	P	21 14 25.9	-0.1
	comp=Z,2.3nm,0.3s,baz=166,slow=6.1,SNR=22						
ZAL	Zalesovo	19.63	24	P	P	21 14 25.9	-0.1
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.3s						
NVS	Novosibirsk	19.92	21	*i* P	P	21 14 29.1	+0.2
GTA	Gaotai	22.63	74	*e*P	P	21 14 59.1	+3.7
GTA				AMB	AMB		
	comp=Z,2.0nm,1.0s,mb3.4						
SONM	Songino Array	28.07	56	P	P	21 15 45.8	+0.6
	comp=Z,1.2nm,0.9s,mb3.3,baz=257,slow=9.7,SNR=10						
FINES	FINESS Array B	37.41	326	P	P	21 17 05.5	+0.3
	comp=Z,3.9nm,1.1s,mb3.8,baz=153,slow=13,SNR=3.9						
FINES	FINESS Array B	37.41	326	P	P	21 17 05.6	+0.3
FINES				pmax	pmax		
	comp=Z,4.0nm,1.1s						
ARCES	ARCESS Array B	41.02	337	P	P	21 17 35.1	+0.2
	comp=Z,2.0nm,0.9s,mb3.4,baz=117,slow=8.1,SNR=4.9						
ARCES	ARCESS Array B	41.02	337	P	P	21 17 35.1	+0.2
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
NOA	NORSAR Array B	44.33	323	P	P	21 18 01.0	-0.4
	comp=Z,0.4nm,0.6s,mb2.8,baz=102,slow=7.9,SNR=3.4						
KMBO	Kilima Mbogo	49.10	228	P	P	21 18 40.7	+1.6
	comp=Z,0.6nm,0.8s,mb3.0,baz=36,slow=22,SNR=4.7						
KMBO	Kilima Mbogo	49.10	228	*e*P	P	21 18 40.5	+1.4
	comp=Z,1.1nm,0.7s,mb3.3						
YKA	Yellowknife Ar	81.03	3	P	P	21 22 02.7	+0.4
	comp=Z,1.5nm,0.5s,mb4.0,baz=352,slow=5.2,SNR=6.7						
YKA	Yellowknife Ar	81.03	3	P	P	21 22 02.7	+0.3
YKA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
YKA	Yellowknife Ar	81.03	3	P	P	21 22 02.7	+0.4
WRA	Warramunga Arr	81.94	122	P	P	21 22 06.4	-1.5
	comp=Z,1.7nm,0.8s,mb3.9,baz=325,slow=5.1,SNR=24						
WRA	Warramunga Arr	81.94	122	P	P	21 22 06.4	-1.6
WRA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
WRAB	Tennant Creek	81.95	122	*e*P	P	21 22 07.0	-1.0
	comp=Z,1.8nm,0.7s,mb3.9						
ASAR	Alice Springs	84.22	125	P	P	21 22 18.1	-1.3
	comp=Z,1.3nm,0.6s,mb3.9,baz=308,slow=5.0,SNR=18						

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*MDD **05** 21:17:30.8±1.5, 36.75N×7.41W, h19^{km}±10^{km}, mbLg1.3/6, Error ellipse: s-maj=13.3km s-min=7.8km az=35.0, PRXIMO*

*INMG **05** 21:17:30.4±0.9, 36.74N×7.37W, h19^{km}±5^{km}, ML1.3, Error ellipse: s-maj=4.5km s-min=3.2km az=47.0*

ISC 05 21:17:29.8±2.1**, 36.7N**±0.1×**7.46W**±0.10**, h19**^{km}**, n12, σ0^{s}75**/17**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PALC	Alcoutim	0.73	359	*e*Pg	Pb	21 17 43.5	-0.2
PALC				*e*Sg	Sb	21 17 53.9	+0.7
	4.6nm,0.1s						
PALC	Alcoutim	0.73	359	Pg	Pb	21 17 43.5	-0.2
PALC				Lg		21 17 53.9	
	2.3nm,0.1s						
EGRO	El Granado	0.80	359	Pg	Pb	21 17 45.0	+0.2
	1.6nm,0.1s,SNR=7.9						
EGRO				Lg		21 17 56.0	
	5.6nm,0.1s,SNR=7.9						
EMIN	Mina Concepcio	1.21	31	Pg	Pb	21 17 51.7	-0.2
	0.4nm,0.1s,SNR=7.9						
EMIN				Lg		21 18 07.4	
	1.9nm,0.2s,SNR=7.9						
PTEO	Sao Teotonio	1.29	309	*e*P	Pn	21 17 52.6	-0.5
PTEO				*e*S	Sb	21 18 09.8	+0.3
	5.4nm,0.6s						
PTEO	Sao Teotonio	1.29	309	P	Pn	21 17 52.6	-0.5
PTEO				S	Sb	21 18 09.8	+0.3
	2.7nm,0.6s						
ESPR	Espera	1.30	83	Lg		21 18 09.3	
	1.1nm,0.2s,SNR=7.9						
PBEJ	Beja	1.33	346	*e*P	Pn	21 17 53.6	0.0
PBEJ				*e*S	Sb	21 18 09.6	-1.0
	2.5nm,0.3s						
PBEJ	Beja	1.33	346	P	Pn	21 17 53.6	0.0
PBEJ				S	Sb	21 18 09.6	-1.0
	1.2nm,0.3s						
MOE	Montemor	1.92	339	*e*Pg	Pn	21 18 05.7	+3.6
MOE				*e*Sg	Sn	21 18 30.3	+4.4
EBAD	Badajoz	2.05	10	Pg	Pn	21 18 08.7	+4.8
	0.3nm,0.1s,SNR=4.0						
EADA	Adamuz	2.71	57	Pg	Pn	21 18 18.6	+5.3
	0.1nm,0.1s,SNR=7.9						
EADA				Lg		21 18 53.0	
	0.6nm,0.2s,SNR=7.9						

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*BJI **05** 21:18:29.0, 33.20N×137.40E, h15^{km}, mb4.0*

*JMA **05** 21:18:29.8±0.1, 33.06N×137.24E, h38^{km}±2^{km}, M3.5*

*IDC **05** 21:18:29.9±0.9, 32.96N×136.92E, mb3.8/8, mb1 3.9/10, mb1mx3.8/22, ML2.8/2, Error ellipse: s-maj=28.4km s-min=19.3km az=44.0*

*NEIC **05** 21:18:30.5±1.0, 33.10N×137.18E, h10^{km}, mb4.1/1, Error ellipse: s-maj=21.9km s-min=14.8km az=109.0*

ISC 05 21:18:30.0±1.0**, 33.13N**±0.04×**137.17E**±0.04**, h19**^{km}±7^{km}**, n33, σ0^{s}90**/45**, mb3.8**/10**, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	Tokai 1	0.72	29	P	Pb	21 18 44.0	+0.2
TK02	Tokai 2	0.95	31	P	Pb	21 18 47.4	-0.2
TK02				S	Sb	21 19 01.0	+1.3
TK03	Tokai 3	1.23	32	S	Sb	21 19 08.0	+0.3
JWZ	Kozaga	1.29	289	P	Pn	21 18 52.8	-0.4
JWZ				S	Sb	21 19 09.5	+0.1
JIE	Ise	1.32	343	P	Pn	21 18 53.9	+0.3
JIE				S	Sb	21 19 11.3	+0.9
JKN	Kiinagashima	1.35	326	P	Pn	21 18 54.0	-0.1
JKN				S	Sb	21 19 10.7	-0.6
TK04	Tokai 4	1.38	25	P	Pn	21 18 53.8	-0.7
TK04				S	Sb	21 19 11.7	-0.5
JAA	Atsumi	1.50	359	P	Pn	21 18 55.9	-0.3
JAA				S	Sn	21 19 15.0	-0.4
JWM	Minabe	1.68	296	P	Pn	21 18 58.8	0.0
TSUJ	Tsu 2	1.70	338	P	Pn	21 18 59.4	+0.4
TSUJ				S	Sn	21 19 20.2	-0.2
JWY	Kouya	1.71	310	P	Pn	21 18 59.8	+0.6
JWY				S	Sn	21 19 21.0	+0.3
JHE	Heguri	1.96	321	P	Pn	21 19 03.2	+0.4
JHE				S	Sn	21 19 26.8	-0.3
SHZ3	Shizuoka 3	2.11	24	P	Pn	21 19 03.7	-1.3
JIZS	Izushimoda	2.13	41	P	Pn	21 19 05.0	-0.2
JHJ	Hachijo jima 2	2.19	90	Pn	Pn	21 19 11.1	+5.0
	37nm,0.3s,baz=210,slow=11,SNR=9.8						
JAJ2	Tsuna	2.30	305	P	Pn	21 19 08.3	+0.6
JAI	Aioi	2.37	287	P	Pn	21 19 07.7	-1.0
JAI				S	Sn	21 19 36.2	-1.3
MAJO	Matsushiro	3.51	14	*e*Pn	Pn	21 19 23.3	-1.6
MAT	Matsushiro	3.51	14	P	Pn	21 19 25.5	+0.6
MAT				S	Sn	21 20 05.0	-1.4
MAT	Matsushiro	3.51	14	*e*P	Pn	21 19 26.0	+1.1
MAT				*e*S	Sn	21 20 05.0	-1.4
JNU	Nakatsue	5.28	272	Pn	Pn	21 19 47.6	-2.4
	0.2nm,0.3s,baz=218,slow=39,SNR=2.2						
BJI	Beijing	18.20	298	P	P	21 22 45.1	+1.7
BJI				AMB	AMB		
	comp=Z,6.0nm,1.2s						
HHC	Hu-ho-hao-te	21.81	298	*e*P	P	21 23 23.7	+0.8
HHC				XP		21 23 28.5	
HHC				PP	PP	21 23 47.5	-0.7
HHC				AMB	AMB		
	comp=Z,13nm,0.5s,mb4.6						
SONM	Songino Array	27.42	312	P	P	21 24 16.8	+0.5
	comp=Z,1.4nm,0.9s,mb3.5,baz=118,slow=6.3,SNR=11						
MKAR	Makanchi Array	43.38	305	P	P	21 26 33.7	+0.9
	comp=Z,1.3nm,0.8s,mb3.7,baz=88,slow=9.7,SNR=9.8						
MKAR				PcP	PcP	21 28 20.4	-1.4
	comp=Z,0.5nm,0.7s,baz=14,slow=5.0,SNR=4.2						
MKAR	Makanchi Array	43.38	305	P	P	21 26 33.7	+0.9
MKAR				PcP	PcP	21 28 20.4	-1.4
KURK	Kurchatov	45.72	311	*e*P	P	21 26 52.2	+0.7
	comp=Z,2.0nm,0.8s,mb4.1						
BVAR	Borovoye Array	50.71	314	P	P	21 27 32.3	+2.1
	comp=Z,0.3nm,0.6s,mb3.4,baz=90,slow=8.6,SNR=2.9						
WRA	Warramunga Arr	52.84	183	P	P	21 27 45.3	-1.5
	comp=Z,1.2nm,0.9s,mb3.8,baz=0.5,slow=7.5,SNR=5.8						
ASAR	Alice Springs	56.56	184	P	P	21 28 13.7	-0.2
	comp=Z,0.3nm,0.8s,mb3.4,baz=15,slow=14,SNR=3.8						
AKASG	Malin Array Be	75.21	321	P	P	21 30 13.3	+0.4
	comp=Z,0.8nm,0.6s,mb3.8,baz=52,slow=5.5,SNR=4.7						
BRTR	Keskin Array B	78.77	310	P	P	21 30 33.8	+0.8
	comp=Z,1.7nm,0.9s,mb4.0,baz=117,slow=5.5,SNR=6.1						
TXAR	Lajitas Array	95.27	50	P	P	21 31 57.8	+3.7
	comp=Z,0.4nm,0.8s,mb3.9,baz=312,slow=4.8,SNR=2.8						

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*JMA **05** 21:22:24.8±0.2, 24.60N×122.15E, h69^{km}, M3.1*

TAP 05 21:22:23.6, 24.38N×122.11E, h60^{km}±1^{km}**, ML3.9, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.82	84	P	P	21 22 40.9	+1.4
YOJ				*e*S	S	21 22 52.7	+1.3
IRIF	Iriomote-Funau	1.48	91	P	P	21 22 49.4	+0.9
IRIF				S	S	21 23 08.1	+1.1
HATJ	Hateruma jima	1.58	101	P	P	21 22 51.7	+1.8
JKRS	Kuro-shima	1.74	94	P	P	21 22 53.5	+1.4
JKRS				*e*S	S	21 23 15.2	+2.0
JIJ	Ishigaki jima	1.85	90	P	P	21 22 54.5	+0.8
JIJ				S	S	21 23 17.1	+1.2
JTJ	Tarama	2.38	83	P	P	21 23 02.4	+1.3
JTJ				*e*S	S	21 23 30.1	+1.1

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*IDC **05** 21:23:21.2±0.9, 32.71N×136.89E, mb4.0/12, mb1 4.1/14, mb1mx4.0/24, ML3.5/2, MS3.0/1, Ms1 3.0/1, ms1mx2.9/28, Error ellipse: s-maj=27.0km s-min=20.4km az=27.0*

*NEIC **05** 21:23:23.0±0.6, 32.84N×136.99E, h10^{km}, mb4.2/2, Error ellipse: s-maj=14.3km s-min=10.9km az=146.0*

*JMA **05** 21:23:26.2±0.1, 33.12N×136.93E, h40^{km}, M4.2*

JMA Felt I J1.

ISC 05 21:23:23.5±0.5**, 33.12N**±0.04×**136.92E**±0.03**, h10**^{km}**, n31, σ0^{s}97**/46**, mb4.0**/14**, 10D, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK02	Tokai 2	1.08	40	⇓P	Pb	21 23 44.9	+1.0
TK02				S	Sb	21 23 58.7	+0.9
JWZ	Kozaga	1.09	292	⇓P	Pb	21 23 45.3	+1.2
JWZ				S	Sb	21 23 58.9	+0.7
JKN	Kiinagashima	1.26	334	⇓P	Pb	21 23 48.0	+1.1
JKN				S	Sb	21 24 02.6	-0.3
JIE	Ise	1.28	352	⇓P	Pb	21 23 48.6	+1.3
JIE				S	Sb	21 24 03.9	+0.2
TK04	Tokai 4	1.49	32	⇓P	Pn	21 23 51.0	+0.5
TK04				S	Sb	21 24 09.2	-0.6
JWM	Minabe	1.50	300	⇓P	Pn	21 23 51.3	+0.6
JWM				S	Sb	21 24 09.3	-0.7
JWY	Kouya	1.56	315	⇓P	Pn	21 23 52.9	+1.4
JWY				S	Sb	21 24 11.5	-0.3
TSUJ	Tsu 2	1.64	345	⇓P	Pn	21 23 53.7	+1.0
TSUJ				S	Sn	21 24 13.2	-0.8
JHE	Heguri	1.85	326	⇓P	Pn	21 23 56.7	+1.1
JHE				S	Sn	21 24 18.8	-0.4
JAJ2	Tsuna	2.14	308	⇓P	Pn	21 24 01.0	+1.2
JAJ2				S	Sn	21 24 26.0	-0.6
JAI	Aioi	2.17	289	P	Pn	21 24 01.0	+0.7
JAI				S	Sn	21 24 25.6	-1.9
JIZS	Izushimoda	2.28	45	P	Pn	21 24 03.4	+1.6
JHJ	Hachijo jima 2	2.40	89	Pn	Pn	21 24 03.3	-0.2
	48nm,0.3s,baz=214,slow=20,SNR=8.6						
JHJ				Sn	Sn	21 24 30.6	-2.6
	52nm,0.3s,baz=166,slow=20,SNR=8.5						
JHJ				LR	LR	21 25 00.3	
	comp=Z,308nm,21.9s,baz=6.0,slow=40						
MAJO	Matsushiro	3.58	17	*e*Pn	Pn	21 24 21.2	+0.9
MAJO				*e*Sn	Sn	21 25 01.5	-1.5
MAT	Matsushiro	3.58	17	P	Pn	21 24 21.2	+0.9
MAT				S	Sn	21 25 00.7	-2.4
MAT	Matsushiro	3.58	17	*e*P	Pn	21 24 21.0	+0.7
MAT				*e*S	Sn	21 25 01.0	-2.1
JNU	Nakatsue	5.07	272	Pn	Pn	21 24 40.3	-1.2
	1.7nm,0.3s,baz=28,slow=16,SNR=8.0						
SONM	Songino Array	27.27	312	P	P	21 29 08.6	-1.2
	1.6nm,1.1s,mb3.5,baz=117,slow=8.3,SNR=6.7						
MKAR	Makanchi Array	43.21	305	P	P	21 31 26.3	+0.1
	1.5nm,0.8s,mb3.8,baz=96,slow=11,SNR=10						
KURK	Kurchatov	45.57	311	*e*P	P	21 31 44.8	-0.3
	1.7nm,0.7s,mb4.1						
BVAR	Borovoye Array	50.56	314	P	P	21 32 23.4	-0.6
	0.6nm,0.6s,mb3.7,baz=112,slow=8.0,SNR=5.6						
BVAR				PcP	PcP	21 33 40.4	-1.6
	0.5nm,0.5s,baz=117,slow=3.3,SNR=4.6						
ASAR	Alice Springs	56.54	183	P	P	21 33 02.0	-6.6
	1.3nm,0.5s,mb4.2,baz=6.8,slow=12,SNR=30						
ARCES	ARCESS Array B	66.34	339	P	P	21 34 12.7	-1.3
	2.3nm,0.8s,mb4.2,baz=67,slow=9.2,SNR=6.8						
FINES	FINESS Array B	70.53	332	P	P	21 34 39.6	-0.5
	0.7nm,0.7s,mb3.7,baz=76,slow=7.9,SNR=4.1						
AKASG	Malin Array Be	75.08	321	P	P	21 35 06.2	-0.9
	2.2nm,0.8s,mb4.1,baz=51,slow=6.5,SNR=7.1						
NOA	NORSAR Array B	76.31	336	P	P	21 35 13.7	-0.2
	0.5nm,0.7s,mb3.5,baz=55,slow=4.7,SNR=3.1						
TPNV	Topopah Spring	82.48	51	P	P	21 35 47.4	-0.2
	1.4nm,0.8s,mb3.9						
PDAR	Pinedale Array	83.03	43	P	P	21 35 50.2	-0.1
	0.6nm,1.0s,mb3.6,baz=315,slow=4.2,SNR=3.8						
GERES	GERESS Array B	84.00	326	P	P	21 35 55.3	+0.2
	1.1nm,0.7s,mb4.1,baz=45,slow=5.7,SNR=12						
SCHQ	Schefferville	90.05	13	P	P	21 36 24.5	+0.1
	2.3nm,0.6s,mb4.7,baz=246,slow=18,SNR=2.6						
TXAR	Lajitas Array	95.44	50	P	P	21 36 50.6	+0.8
	0.7nm,0.6s,mb4.3,baz=288,slow=3.2,SNR=11						

*JMA **05** 21:32:20.6±0.2, 33.07N×137.25E, h36^{km}±3^{km}, M3.5*

ISC 05 21:32:21.0±1.5, 33.09N±0.08×137.22E±0.07, h29^{km}±11^{km}, n11, σ0^{s}.59/20, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK01	**Tokai 1**	0.74	25	P	Pb	21 32 34.7	-0.5
TK02	**Tokai 2**	0.96	28	P	Pn	21 32 38.0	-0.6
TK02				S	Sb	21 32 51.5	+0.1
JWZ	**Kozaga**	1.33	290	P	Pn	21 32 43.9	-0.1
JWZ				S	Sn	21 33 00.4	-0.5
JIE	**Ise**	1.36	342	P	Pn	21 32 44.7	+0.3
JIE				S	Sn	21 33 02.7	+1.1
TK04	**Tokai 4**	1.40	23	P	Pn	21 32 44.4	-0.5
TK04				S	Sn	21 33 01.8	-0.7
JKN	**Kiinagashima**	1.40	326	P	Pn	21 32 45.1	+0.2
JKN				S	Sn	21 33 01.4	-1.2
JWM	**Minabe**	1.73	296	P	Pn	21 32 49.8	+0.1
JWM				S	Sn	21 33 10.8	-0.2
TSUJ	**Tsu 2**	1.75	338	P	Pn	21 32 50.7	+0.9
TSUJ				S	Sn	21 33 10.7	-0.6
JWY	**Kouya**	1.76	310	P	Pn	21 32 50.8	+0.7
JWY				S	Sn	21 33 11.9	+0.2
JHE	**Heguri**	2.01	321	S	Sn	21 33 18.1	0.0
MAT	**Matsushiro**	3.54	13	P	Pn	21 33 15.7	+0.3
MAT				S	Sn	21 33 57.6	+0.9

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*ISK **05** 21:34:35.1, 36.95N×27.66E, h9^{km}, MD3.3*

*NEIC **05** 21:34:37.3, 36.87N×27.60E, h22^{km}, MD3.3(ATH), After ATH.*

*ATH **05** 21:34:38.5, 36.74N×27.61E, h26^{km}±7^{km}, MD3.3/6*

ISC 05 21:34:36.7±0.5, 36.96N±0.03×27.68E±0.04, h17^{km}±7^{km}, n19, σ0^{s}.82/26, 1C, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	0.22	300	*i* P	Pb	21 34 42.0	+0.1
BDRM				*i* S	Sb	21 34 46.3	+0.8
MLSB	**Milas**	0.35	13	*i* PG	Pb	21 34 43.1	-1.0
MLSB				*i* SG	Sb	21 34 48.1	-0.9
YER	**Yerkesik**	0.51	69	*i* PG	Pb	21 34 45.4	-1.5
NISR	**Nisiros**	0.56	232	*e*PB	Pb	21 34 48.0	+0.3
AYDN	**Tasoluk**	0.72	13	*i* P	Pb	21 34 50.1	-0.3
AYDN				*i* S	Sb	21 34 59.9	0.0
DALT	**Dalyan (Mudla)**	0.79	103	*i* PG	Pb	21 34 51.1	-0.5
DALT				*i* SG	Sb	21 35 02.7	+0.9
ARG	**Arkhangelos**	0.82	154	⇑*i*Pb	Pb	21 34 51.3	-0.8
ARG				*e*Sn	Sn	21 35 04.0	-1.1
SMG	**Samos**	1.01	318	*e*Pb	Pb	21 34 56.2	+0.9
DNZL	**Cakiroluk**	1.31	56	*i* P	Pn	21 35 00.2	-0.2
DNZL				*i* S	Sb	21 35 18.1	+1.1
DENT	**Denizli**	1.34	53	*i* PN	Pn	21 35 00.5	-0.3
DENT				*i* SN	Sn	21 35 19.5	+1.2
KARP	**Karpathos**	1.47	197	*e*PN	Pn	21 35 02.5	-0.1
IZM	**Izmir**	1.48	347	PN	Pn	21 35 02.4	-0.4
APE	**Apeiranthos**	1.73	274	*e*PN	Pn	21 35 06.5	+0.2
KSL	**Kastellorizon**	1.73	117	*e*PN	Pn	21 35 08.7	+2.3
ELL	**Elmali**	1.80	96	PN	Pn	21 35 07.8	+0.4
AKS	**Akhisar**	1.92	3	PN	Pn	21 35 08.9	-0.2
BCK	**Bucak**	2.38	77	*e*PN	Pn	21 35 15.6	0.0
PRK	**Paraskevi**	2.54	335	*e*PN	Pn	21 35 23.0	+5.0
DST	**Dursunbey**	2.75	15	*e*PN	Pn	21 35 20.1	-0.8

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*IDC **05** 21:37:14.2±2.6, 7.79S×11.52W, mb4.1/11, mb1 4.2/12, mb1mx4.0/20, ML3.4/1, MS4.2/6, Ms1 4.2/6, ms1mx4.0/20, Error ellipse: s-maj=92.7km s-min=26.5km az=142.0*

*NEIC **05** 21:37:20.7±0.6, 6.81S×12.42W, h10^{km}, mb4.6/5, Error ellipse: s-maj=17.7km s-min=12.3km az=132.0*

ISC 05 21:37:19.0±4.6, 6.9S±0.1×12.3W±0.1, h15^{km}±32^{km}, n30, σ0^{s}.93/27, mb4.3/16, MS4.3/5, 1C-2D, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIC	**Lamto**	14.91	29	*e*P	P	21 40 51.5	+0.2
	119nm,1.0s						
KIC	**Kosan Boka**	15.17	30	*e*P	P	21 40 54.5	-0.2
	155nm,1.1s						
TIC	**Toumodi**	15.28	29	*e*P	P	21 40 56.2	+0.1
	160nm,0.9s						
DBIC	**Dimbokro**	15.38	29	Pn	P	21 40 56.9	-0.5
	0.2nm,0.3s,baz=187,slow=13,SNR=8.4						
DBIC				LR	LR	21 45 26.9	
	comp=Z,889nm,21.8s,baz=34,slow=31						
DBIC	**Dimbokro**	15.38	29	Pn	P	21 40 56.9	-0.5
DBIC				LR	LR	21 45 26.9	
RCBR	**Riachuelo**	23.46	271	P	P	21 42 28.7	-0.4
SACV	**Santiago Islan**	24.43	333	P	P	21 42 39.3	+0.8
	122nm,1.5s,mb5.1						
TSUM	**Tsumeb**	31.53	116	LR	LR	21 52 23.0	
	comp=Z,906nm,20.3s,MS4.4,baz=332,slow=30						
BDFB	**Brasilia**	36.02	253	P	P	21 44 22.5	+0.6
	1.0nm,0.4s,mb4.1,baz=73,slow=6.6,SNR=3.2						
LSZ	**Lusaka**	40.56	105	*e*P	P	21 45 01.0	+1.2
	13nm,1.1s,mb4.5						
ESDC	**Sonseca Array**	46.96	9	P	P	21 45 52.5	+1.2
	0.8nm,0.7s,mb3.7,baz=297,slow=33,SNR=3.5						
KMBO	**Kilima Mbogo**	49.75	86	LR	LR	22 06 16.1	
	comp=Z,327nm,19.1s,MS4.3,baz=96,slow=36						
SAML	**Samuel**	50.39	264	*e*P	P	21 46 17.7	-0.5
	6.5nm,1.3s,mb4.5						
DAVOX	**Davos**	56.95	18	P	P	21 47 05.2	-1.1
	3.9nm,0.7s,mb4.5,baz=284,slow=4.2,SNR=3.4						
GERES	**GERESS Array B**	59.99	20	P	P	21 47 26.6	-0.8
	1.2nm,0.7s,mb4.0,baz=180,slow=8.0,SNR=9.6						
PSZ	**Piszkesteto**	61.51	24	*e*P	P	21 47 37.5	-0.2
	5.1nm,0.8s,mb4.7						
EKA	**Eskdalemuir Ar**	62.46	6	P	P	21 47 45.5	+1.6
	1.8nm,1.1s,mb4.1,baz=254,slow=24,SNR=4.6						
BRTR	**Keskin Array B**	62.83	39	P	P	21 47 43.3	-3.3
	1.7nm,1.0s,mb4.1,baz=354,slow=11,SNR=3.3						
VNA2	**Neumayer--Watz**	64.05	178	⇑*i*	P	21 48 04.2	+10
VNA3	**Neumayer Olymp**	64.31	179	⇓*i*	P	21 48 09.0	+13
SNAA	**Sanae**	64.99	177	⇓*i*	P	21 47 59.7	-0.6
AKASG	**Malin Array Be**	67.62	27	P	P	21 48 15.1	-2.3
	9.1nm,1.1s,mb4.7,baz=228,slow=6.8,SNR=15						
AKASG				LR	LR	22 20 03.0	
	comp=Z,113nm,18.5s,MS4.1,baz=20,slow=38						
HFS	**Hagfors**	69.91	14	P	P	21 48 31.4	+0.1
	1.2nm,0.7s,mb3.9,baz=270,slow=1.5,SNR=2.4						
NOA	**NORSAR Array B**	70.18	12	P	P	21 48 33.6	+0.7
	0.8nm,0.8s,mb3.7,baz=26,slow=12,SNR=2.6						
NOA				LR	LR	22 16 51.2	
	comp=Z,109nm,21.4s,MS4.1,baz=215,slow=34						
FINES	**FINESS Array B**	74.36	18	P	P	21 48 58.2	+0.4
	2.2nm,1.0s,mb4.0,baz=218,slow=5.8,SNR=4.4						
FINES	**FINESS Array B**	74.36	18	P	P	21 48 58.2	+0.4
ARCES	**ARCESS Array B**	80.54	13	LR	LR	22 23 51.5	
	comp=Z,188nm,20.9s,MS4.4,baz=270,slow=34						
QSPA	**South Pole Qui**	83.23	180	*e*P	P	21 49 50.4	+4.7
	5.4nm,1.2s,mb4.5						
TXAR	**Lajitas Array**	94.50	299	P	P	21 50 40.2	-0.4
	0.3nm,0.6s,mb3.9,baz=110,slow=5.4,SNR=5.5						
TXAR	**Lajitas Array**	94.50	299	P	P	21 50 40.2	-0.4

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*LDG **05** 21:44:12.8±0.1, 49.36N×6.98E, h1^{km}, Md2.3/1, Ml2.6/6, Error ellipse: s-maj=3.5km s-min=1.7km az=94.0, Suspected Mining induced.*

*NEIC **05** 21:44:13.1, 49.35N×6.86E, h1^{km}, ML2.6(LDG), ML2.2(STR), After STR.*

*BGR **05** 21:44:13.1±0.4, 49.37N×6.90E, h1^{km}, ML1.6/2, Error ellipse: s-maj=4.4km s-min=3.3km az=96.0*

*BNS **05** 21:44:15.5±1.3, 49.45N×6.97E, h1^{km}, ML1.8*

ISC 05 21:44:11.2±0.3, 49.36N±0.01×6.90E±0.04, n28, σ1^{s}.05/47, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUP	**Ruppelstein**	0.35	17	*e*Pg	Pg	21 44 19.6	+1.3
	SNR=15						
RUP	**Ruppelstein**	0.35	17	Pg	Pg	21 44 19.8	+1.5
WLF	**Walferdange**	0.57	302	*e*Pg	Pg	21 44 24.1	+1.5
	SNR=8.6						
WLF	**Walferdange**	0.57	302	*e*Pg	Pg	21 44 23.5	+0.9
KTD	**Kalmit**	0.78	93	*e*Pg	Pg	21 44 28.4	+1.7
	SNR=2.8						
BGG	**Burgeitz**	0.89	18	*e*Pg	Pg	21 44 30.9	+1.9
BGG				*e*Sg	Sg	21 44 41.1	+0.3
	25nm,0.8s						
CDF	**Champ du Feu**	0.98	165	*e*Pg	Pg	21 44 30.7	-0.2
CDF				*e*Pn	Pn	21 44 32.0	-0.1
CDF				*e*Sg	Sg	21 44 43.5	-0.5
	18nm,0.4s						
WLS	**Welschbruch**	1.00	162	*e*Pg	Pg	21 44 32.4	+1.3
	SNR=7.3						
WLS	**Welschbruch**	1.00	162	Pg	Pg	21 44 32.4	+1.2
ECH	**Echery**	1.16	171	*e*Pg	Pg	21 44 35.0	+0.6
	SNR=4.0						
ECH				*e*Sg	Sg	21 44 50.2	+0.3
ECH	**Echery**	1.16	171	Pg	Pg	21 44 35.3	+0.9
ECH				Sg	Sg	21 44 50.3	+0.4
RFYF	**Reffroy**	1.19	232	*e*Pg	Pg	21 44 36.0	+1.0
RFYF				*e*Sg	Sg	21 44 52.3	+1.4
	16nm,0.3s						
STB	**Steinbach**	1.23	358	*e*Pg	Pg	21 44 36.7	+0.9
STB				*e*Sg	Sg	21 44 53.5	+1.2
	12nm,0.9s						
TOD	**Tromm**	1.27	78	*e*Pg	Pg	21 44 36.3	-0.2
	SNR=4.3						
THEF	**They Montfort**	1.29	208	*e*Pg	Pg	21 44 37.1	+0.2
	SNR=4.1						
THEF				*e*Sg	Sg	21 44 53.8	-0.3
THEF	**They Montfort**	1.29	208	Pg	Pg	21 44 37.0	+0.1
THEF				Sg	Sg	21 44 54.1	0.0
KLL	**Kalltalsperre**	1.34	344	*e*Pg	Pg	21 44 38.3	+0.3
KLL				*e*Sg	Sg	21 44 55.1	-0.7
	6.9nm,0.7s						
BFO	**Black Forest**	1.40	137	*e*Pg	Pg	21 44 39.4	+0.2
	SNR=6.1						
BFO				*e*Sg	Sg	21 44 57.8	-0.1
HAU	**Haudompre**	1.41	195	*e*Pg	Pg	21 44 39.3	0.0
HAU				*e*Sg	Sg	21 44 57.3	-0.8
	7.5nm,0.3s						
MOF	**Molkenrain**	1.52	174	*e*Pg	Pg	21 44 41.7	+0.1
	SNR=2.8						
MOF				*e*Sg	Sg	21 45 01.4	-0.5
MOF	**Molkenrain**	1.52	174	Pg	Pg	21 44 41.9	+0.3
MOF				Sg	Sg	21 45 01.9	0.0
HGN	**Heimansgroeve**	1.53	336	*e*Pg	Pg	21 44 41.1	-0.8
	3.2nm,0.1s						
HGN				*e*Sg	Sg	21 45 00.7	-1.6
HINF	**Hinteralfeld**	1.55	181	*e*Pg	Pg	21 44 42.0	-0.2
HINF				*e*Sg	Sg	21 45 01.8	-1.0
	15nm,0.3s						
BNS	**Bensberg**	1.61	6	*e*Pg	Pg	21 44 41.5	-1.9
BNS				*e*Sg	Sg	21 45 02.4	-2.5
	25nm,0.4s						
FELD	**Feldberg**	1.66	153	*e*Pg	Pg	21 44 44.5	+0.1
	SNR=2.5						
BAIF	**Baives**	1.88	293	*e*Pn	Pn	21 44 45.6	+0.7
BAIF				*e*Pg	Pg	21 44 48.1	-0.7
LOR	**Lormes**	2.92	225	*e*Sn	Sn	21 45 33.4	-2.6
	6.0nm,0.4s						
KHC	**Kasperske Hory**	4.38	91	*e*P	Pn	21 45 19.5	-1.1
KHC				*e*x	Sn	21 46 10.0	-3.1

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*IDC **05** 21:50:00.1±15.0, 7.83S×129.29E, h130^{km}±174^{km}, mb3.6/1, mb1 3.2/4, mb1mx3.1/11, ML3.1/3, MS3.8/1, Ms1 3.8/1, ms1mx3.1/16, Error ellipse: s-maj=104.0km s-min=58.2km az=11.0*

ISC 05 21:49:58.2±3.6, 7.8S±0.1×129.4E±0.2, h127^{km}±40^{km}, n5, σ2^{s}.09/7, mb3.8/1, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	10.86	199	P	P	21 52 32.3	+1.1
	0.4nm,0.3s,baz=12,slow=10,SNR=34						
FITZ				S	S	21 54 29.8	-1.0
	1.0nm,0.3s,baz=183,slow=23,SNR=7.7						
WRA	**Warramunga Arr**	13.01	159	P	P	21 52 58.1	-1.2
	0.2nm,0.3s,baz=332,slow=12,SNR=16						
WRA				S	S	21 55 19.7	-1.7
	0.6nm,0.3s,baz=336,slow=21,SNR=9.9						
ASAR	**Alice Springs**	16.38	165	P	P	21 53 43.9	+1.8
	0.0nm,0.3s,baz=339,slow=13,SNR=3.0						
ASAR				S	S	21 56 41.5	+2.6
	0.1nm,0.3s,baz=315,slow=15,SNR=3.8						
CTA	**Charters Tower**	20.43	128	LR	LR	22 02 55.7	
	comp=Z,251nm,21.0s,baz=27,slow=38						
MKAR	**Makanchi Array**	68.53	327	P	P	22 00 48.5	-0.6
	0.6nm,0.4s,mb3.8,baz=120,slow=8.3,SNR=17						

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*BJI **05** 21:53:56.5, 5.86S×146.99E, h122^{km}, mB5.3, mb4.8*

*NEIC **05** 21:53:59.0±0.3, 5.74S×146.88E, mb4.9/17, Error ellipse: s-maj=8.9km s-min=5.9km az=110.0*

*IDC **05** 21:53:58.8±0.6, 5.75S×146.81E, h114^{km}±4^{km}, mb4.3/12, mb1 4.5/14, mb1mx4.5/16, MS3.9/5, Ms1 3.9/5, ms1mx3.8/12, Error ellipse: s-maj=15.9km s-min=8.8km az=103.0*

ISC 05 21:53:57.3±0.3, 5.69S±0.04×146.87E±0.05, h112^{km}, h112^{km}±1.3^{km}:pP-P, n65, σ0^{s}.97/63, mb4.7/29, 3C-4D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAU	**Wau**	1.65	185	⇑*i*P	P	21 54 26.0	-0.6
PMG	**Port Moresby**	3.71	176	⇑*i*P	P	21 54 50.9	-3.0
PMG				*e*S	S	21 55 31.5	-5.4
RAB	**Rabaul**	5.48	75	*e*P	P	21 55 19.6	+1.8
CTA	**Charters Tower**	14.33	182	*e*P	P	21 57 17.5	+1.4
	23nm,0.9s						
CTA	**Charters Tower**	14.33	182	P	P	21 57 17.1	+1.0
	4.4nm,0.3s,baz=2.7,slow=13,SNR=18						
CTA				S	S	21 59 52.6	+0.3
	1.5nm,0.3s,baz=120,slow=11,SNR=3.7						
CTAO	**Charters Tower**	14.33	182	*e*P	P	21 57 17.4	+1.3
	54nm,1.0s						
KAKA	**Kakadu**	15.89	243	*e*P	P	21 57 34.8	-1.0
	112nm,0.6s						
KAKA				*e*S	S	22 00 30.0	+1.8
WRAB	**Tennant Creek**	18.68	220	*e*P	P	21 58 07.8	-1.5
	139nm,0.6s						
WB2	**Warramunga Arr**	18.68	220	⇓*i*P	P	21 58 07.8	-1.6
WB2				*e*S	S	22 01 31.3	+0.8
WB2				*e*SCS	ScS	22 09 42.5	+5.9
WRA	**Warramunga Arr**	18.69	220	P	P	21 58 08.0	-1.5
	11nm,0.3s,baz=40,slow=12,SNR=109						
WRA				S	S	22 01 31.8	+1.1
	0.7nm,0.3s,baz=42,slow=21,SNR=7.9						
WRA				LR	LR	22 05 59.6	
	comp=Z,490nm,21.1s,baz=40,slow=39						
WRA	**Warramunga Arr**	18.69	220	P	P	21 58 08.0	-1.5
WRA				S	S	22 01 31.8	+1.1
WRA				LR	LR	22 05 59.6	
ASAR	**Alice Springs**	21.80	214	P	P	21 58 41.8	+0.4
	108nm,0.8s,mb5.2,baz=47,slow=8.7,SNR=178						
ASAR				S	S	22 02 35.5	+5.2
	24nm,0.9s,baz=33,slow=18,SNR=8.5						
ASAR				LR	LR	22 07 37.0	
	comp=Z,288nm,20.9s,baz=77,slow=38						
ASPA	**Alice Springs**	21.81	214	⇑*i*P	P	21 58 41.8	+0.4
ASPA				*e*S	S	22 02 32.9	+2.6
ASPA				*e*SCS	ScS	22 09 51.6	+4.4
FITZ	**Fitzroy Crossi**	24.12	237	⇓*i*P	P	21 59 04.7	+0.7
	588nm,1.2s,mb5.8						
FITZ				*e*S	S	22 03 15.5	+4.9
FITZ	**Fitzroy Crossi**	24.12	237	P	P	21 59 04.8	+0.8
	1µm,1.2s,mb6.1,baz=47,slow=5.9,SNR=377						
FITZ				S	S	22 03 13.8	+3.1
	23nm,1.0s,baz=9.4,slow=19,SNR=4.4						
FITZ				LR	LR	22 09 32.3	
	comp=Z,144nm,20.4s,baz=86,slow=39						
ARMA	**Armidale**	25.01	170	*e*P	P	21 59 12.3	0.0
STKA	**Stephens Creek**	26.52	190	*e*P	P	21 59 25.3	-1.0
	5.9nm,0.4s,mb4.5						
STKA	**Stephens Creek**	26.52	190	P	P	21 59 25.3	-1.0
	13nm,0.9s,mb4.5,baz=348,slow=7.3,SNR=22						
STKA				pP	pP	21 59 51.2	+0.6
	7.1nm,0.5s,baz=356,slow=15,SNR=3.6						
STKA				LR	LR	22 11 11.6	
	comp=Z,315nm,21.1s,baz=13,slow=39						
MBWA	**Marble Bar**	30.47	237	*e*P	P	22 00 01.5	-0.4
	38nm,1.0s,mb5.0						
FORT	**Forrest**	30.59	213	*e*P	P	22 00 02.0	-0.9
	130nm,0.7s,mb5.8						
TOO	**Toolangi**	31.76	182	*e*P	P	22 00 12.8	-0.2
	11nm,1.1s,mb4.5						
KLBR	**Kellerberrin**	37.51	223	*e*P	P	22 01 01.6	-0.4
	22nm,0.5s,mb5.2						
NWAO	**Narrogin (SRO)**	38.67	222	P	P	22 01 11.6	-0.1
	18nm,0.8s,mb4.9,baz=53,slow=4.4,SNR=8.9						
NWAO				LR	LR	22 18 17.6	
	comp=Z,236nm,21.9s,baz=8.4,slow=38						
NWAO	**Narrogin (SRO)**	38.67	222	*e*P	P	22 01 12.0	+0.3
	24nm,1.0s,mb5.0						
NWAO				LR	LR	22 18 17.6	
RKGY	**Rocky Gully**	39.89	220	*e*P	P	22 01 22.5	+0.7
	14nm,0.6s,mb5.0						
JNU	**Nakatsue**	41.47	340	P	P	22 01 35.8	+1.0
	12nm,0.9s,mb4.7,baz=151,slow=19,SNR=5.4						
URZ	**Urewera**	42.48	144	P	P	22 01 42.9	-0.1
	5.9nm,0.6s,mb4.5,baz=309,slow=6.5,SNR=3.8						
RPZ	**Rata Peaks**	43.45	154	P	P	22 01 50.9	+0.1
	8.2nm,0.6s,mb4.7,baz=139,slow=9.8,SNR=3.0						
RPZ				pP	pP	22 02 16.5	-0.3
	25nm,0.8s,baz=33,slow=6.3,SNR=3.8						
IPM	**Ipoh**	46.90	282	⇓*e*P	P	22 02 20.5	+1.8
CMAR	**Chiang Mai Arr**	52.99	298	P	P	22 03 05.7	+0.7
	1.7nm,0.6s,mb4.2,baz=121,slow=5.8,SNR=13						
XAN	**Xi'an**	53.36	320	P	P	22 03 07.1	-0.5
XAN				AMB	AMB		
	comp=Z,12nm,0.9s,mb4.9						
BJI	**Beijing**	53.57	331	P	P	22 03 08.7	-0.3
BJI				AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.7						
GTA	**Gaotai**	62.42	320	*e*P	P	22 04 11.5	+0.7
SONM	**Songino Array**	64.07	331	P	P	22 04 21.4	-0.1
	comp=Z,2.1nm,0.6s,mb4.1,baz=146,slow=7.4,SNR=17						
SONM				pP	pP	22 04 49.4	+0.1
	comp=Z,1.7nm,0.9s,baz=149,slow=7.2,SNR=2.1						
CASY	**Casey**	65.52	195	⇓*i*P	P	22 04 29.7	-1.0
	comp=Z,4.5nm,0.4s,mb4.7						
CASY				*i*	pP	22 04 57.0	-1.5
PKI	**Pulchoki**	67.87	303	*e*P	P	22 04 45.4	-0.7
KKN	**Kakani**	68.05	303	*e*P	P	22 04 46.4	-0.8
	comp=Z,8.0nm,0.8s,mb4.6						
DMN	**Daman**	68.14	303	*e*P	P	22 04 47.1	-0.6
	comp=Z,10nm,0.7s,mb4.8						
GKN	**Gorkha**	68.66	303	*e*P	P	22 04 50.1	-0.8
	comp=Z,7.6nm,0.6s,mb4.7						
KOLN	**Koldanda**	69.45	302	*e*P	P	22 04 54.9	-0.9
	comp=Z,5.4nm,0.6s,mb4.5						
MKAR	**Makanchi Array**	77.17	320	P	P	22 05 40.1	-0.3
	comp=Z,0.9nm,0.4s,mb3.8,baz=102,slow=8.9,SNR=18						
MKAR				pP	pP	22 06 08.9	-0.3
	comp=Z,2.9nm,0.8s,baz=101,slow=6.2,SNR=4.5						
ZAL	**Zalesovo**	78.69	328	P	P	22 05 47.0	-1.5
	comp=Z,1.4nm,0.7s,mb3.9,baz=262,slow=7.5,SNR=6.1						
ZAL				pP	pP	22 06 16.7	-0.7
	comp=Z,4.4nm,1.1s,baz=278,slow=7.4,SNR=4.3						
ZAL	**Zalesovo**	78.69	328	P	P	22 05 47.0	-1.5
ZAL				pP	pP	22 06 16.7	-0.7
MAW	**Mawson**	82.48	203	*e*P	P	22 06 08.7	+0.3
	comp=Z,4.9nm,0.8s,mb4.4						
MAW	**Mawson**	82.48	203	P	P	22 06 08.2	-0.2
	comp=Z,5.9nm,0.7s,mb4.5,baz=57,slow=6.1,SNR=11						
MAW				pP	pP	22 06 36.5	-0.9
	comp=Z,5.5nm,0.7s,baz=87,slow=7.0,SNR=3.5						
IMA	**Indian Mountai**	83.31	21	P	P	22 06 14.1	+1.5
	comp=Z,16nm,1.3s,mb4.7						
SML	**Sawmill**	83.42	26	*e*P	P	22 06 13.9	+0.7
MCK	**McKinley**	84.00	24	*e*P	P	22 06 15.7	-0.4
	comp=Z,1.4nm,0.5s,mb4.0						
DIV	**Divide**	84.27	27	*e*P	P	22 06 18.8	+1.3
QSPA	**South Pole Qui**	84.28	180	*e*P	P	22 06 17.5	+0.4
	comp=Z,25nm,0.5s,mb5.3						
QSPA				*e*	pP	22 06 45.7	-0.6
COLA	**College**	84.91	23	*e*P	P	22 06 20.3	-0.3
ILAR	**Eielson Array**	85.25	23	P	P	22 06 21.6	-0.7
	comp=Z,5.9nm,0.6s,mb4.7,baz=253,slow=4.9,SNR=109						
ILAR				pP	pP	22 06 51.3	-0.2
	comp=Z,5.5nm,0.8s,baz=259,slow=4.5,SNR=6.0						
TPNV	**Topopah Spring**	98.88	54	*e*P	P	22 07 27.3	+1.0
	comp=Z,1.9nm,1.0s,mb4.6						
PDAR	**Pinedale Array**	103.80	47	Pdiff	Pdif	22 07 48.0	-0.1
	comp=Z,0.7nm,0.9s,baz=270,slow=1.5,SNR=5.0						
ARCES	**ARCESS Array B**	105.92	342	PKKPbc		22 23 31.2	
	comp=Z,2.1nm,0.8s,baz=243,slow=2.7,SNR=6.5						
TXAR	**Lajitas Array**	109.72	61	PKKPbc		22 23 22.4	
	comp=Z,0.3nm,0.5s,baz=113,slow=4.7,SNR=7.6						
KHC	**Kasperske Hory**	121.50	326	*e*PKP		22 13 14.5	
GERES	**GERESS Array B**	121.58	326	PKP	PKPdf	22 12 37.7	-0.2
	comp=Z,0.2nm,0.4s,baz=90,slow=1.3,SNR=6.5						
GERES				pPKP		22 13 09.5	
	comp=Z,0.4nm,0.7s,baz=90,slow=4.0,SNR=2.3						
CPUP	**Villa Florida**	140.46	145	PKhKP		22 13 08.4	
	comp=Z,1.0nm,0.4s,baz=176,slow=0.8,SNR=6.4						
CPUP				PKP	PKPdf	22 13 15.3	+1.3
	comp=Z,1.9nm,0.6s,baz=49,slow=5.8,SNR=4.7						
SAML	**Samuel**	146.70	116	*e*PKPbc	PKPbc	22 13 28.4	+1.6
KIC	**Kosan Boka**	151.76	273	*e*P	PKPdf	22 13 42.0	+8.8
	comp=Z,96nm,1.1s						
DBIC	**Dimbokro**	151.88	273	PKPbc	PKPdf	22 13 41.2	+7.8
	comp=Z,2.0nm,0.4s,baz=113,slow=13,SNR=14						
TIC	**Toumodi**	152.04	273	*e*P	PKPdf	22 13 43.3	+10
	comp=Z,128nm,1.2s						
LIC	**Lamto**	152.05	273	*e*P	PKPdf	22 13 43.4	+10
	comp=Z,64nm,0.8s						
BDFB	**Brasilia**	154.19	145	PKPbc	PKPdf	22 13 46.6	+10
	comp=Z,7.3nm,0.5s,baz=267,slow=1.9,SNR=26						

JMA 05 22:06:47.6±0.1, 33.17N×137.01E, h45^{km}, M3.7, 4D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWZ	**Kozaga**	1.14	289	⇓P	P	22 07 07.3	-0.1
JWZ				*e*S	S	22 07 21.7	-0.4
JKN	**Kiinagashima**	1.24	330	⇓P	P	22 07 09.0	+0.2
JKN				*e*S	S	22 07 23.8	-0.9
JIE	**Ise**	1.24	348	P	P	22 07 08.8	-0.1
TK04	**Tokai 4**	1.41	30	*e*S	S	22 07 27.8	-1.1
JAA	**Atsumi**	1.46	4	P	P	22 07 11.9	-0.1
JAA				*e*S	S	22 07 28.7	-1.5
JWM	**Minabe**	1.54	297	P	P	22 07 13.2	+0.1
JWM				*e*S	S	22 07 32.1	0.0
JWY	**Kouya**	1.58	312	⇓P	P	22 07 14.5	+0.8
JWY				*e*S	S	22 07 33.5	+0.5
TSUJ	**Tsu 2**	1.61	342	P	P	22 07 14.4	+0.3
JHE	**Heguri**	1.84	324	⇓P	P	22 07 18.0	+0.6
JHE				*e*S	S	22 07 40.2	+0.6
MAT	**Matsushiro**	3.51	16	P	P	22 07 41.5	+0.5
MAT				S	S	22 08 20.5	-1.2

JMA 05 22:23:10.7±0.1, 33.16N×136.97E, h39^{km}±4^{km}, M3.5, 5D, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK01	**Tokai 1**	0.80	40	S	S	22 23 35.8	-0.5
TK02	**Tokai 2**	1.02	40	S	S	22 23 41.9	-0.2
JWZ	**Kozaga**	1.11	290	⇓P	P	22 23 30.0	0.0
JWZ				S	S	22 23 43.9	-0.5
JKN	**Kiinagashima**	1.23	332	⇓P	P	22 23 32.1	+0.4
JKN				S	S	22 23 47.0	-0.5
JIE	**Ise**	1.25	350	⇓P	P	22 23 32.5	+0.6
JIE				S	S	22 23 47.7	-0.1
TK03	**Tokai 3**	1.30	39	S	S	22 23 48.7	-0.5
TK04	**Tokai 4**	1.44	31	P	P	22 23 34.8	+0.1
TK04				S	S	22 23 52.3	-0.3
JWM	**Minabe**	1.52	297	P	P	22 23 36.3	+0.5
JWM				S	S	22 23 54.3	-0.2
JWY	**Kouya**	1.56	313	⇓P	P	22 23 37.3	+0.9
JWY				S	S	22 23 56.3	+0.7
TSUJ	**Tsu 2**	1.61	344	P	P	22 23 37.7	+0.5
TSUJ				S	S	22 23 57.4	+0.5
JHE	**Heguri**	1.83	325	⇓P	P	22 23 41.0	+0.7
JHE				S	S	22 24 03.1	+0.6
SHZ3	**Shizuoka 3**	2.16	28	S	S	22 24 09.3	-1.5
JAI	**Aioi**	2.20	287	P	P	22 23 45.9	+0.4
JAI				S	S	22 24 10.5	-1.2
JHJ2	**Mitsune**	2.39	90	P	P	22 23 47.6	-0.7
JWT	**Wachi**	2.48	329	P	P	22 23 49.5	-0.1
JWT				S	S	22 24 19.8	+0.8
JGM	**Miyama**	2.54	355	P	P	22 23 50.9	+0.5
JGM				S	S	22 24 20.5	+0.1

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*BJI **05** 22:48:41.6, 33.11N×137.52E, h31^{km}, mB4.9, mb4.6, Ms4.3, Msz4.1*

*NEIC **05** 22:48:43.1±0.2, 33.12N×137.15E, h10^{km}, mb4.7/28, MW4.4(NIED), Error ellipse: s-maj=5.6km s-min=4.9km az=90.0*

NEIC Recorded [1 JMA] in Aichi, Gifu, Mie, Osaka and Wakayama Prefectures.

*JMA **05** 22:48:43.9±0.1, 33.19N×137.10E, h37^{km}±2^{km}, M4.3*

JMA Felt II J1.

*MOS **05** 22:48:45.1±1.2, 33.23N×137.22E, h33^{km}, mb4.7/22, Error ellipse: s-maj=15.8km s-min=7.6km az=98.8*

*IDC **05** 22:48:46.7±0.5, 33.14N×137.19E, h36^{km}±4^{km}, mb4.2/21, mb1 4.4/25, mb1mx4.3/29, ML3.8/4, Error ellipse: s-maj=14.0km s-min=10.4km az=79.0*

*NIED **05** 22:49:00, 33.30N×136.90E, h11^{km}, Mw4.4 Best double couple: M$_0$4.75×10^{15} NP1:ϕ_s231°, δ54°, λ49°. NP2:ϕ_s107°, δ52°, λ132°.*

ISC 05 22:48:45.7±0.2**, 33.26N**±0.03×**137.10E**±0.03**, h35^{km}, h35^{km}**±1.7^{km}**:pP-P, n170,** σ1^{s}**05**/181**, mb4.6**/61**, MS4.1**/8**, 6C-14D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TK01	**Tokai 1**	0.65	39	P	P	22 48 57.4	-1.0
TK01				S	S	22 49 07.1	-0.4
TK02	**Tokai 2**	0.88	38	⇓P	P	22 49 00.8	-0.8
TK03	**Tokai 3**	1.15	38	P	P	22 49 04.9	-0.7
TK03				*e*S	S	22 49 20.6	+0.2
JIE	**Ise**	1.18	344	⇓P	P	22 49 06.0	+0.1
JIE				*e*S	S	22 49 22.3	+1.3
JWZ	**Kozaga**	1.19	283	⇓P	P	22 49 04.7	-1.4
JWZ				S	S	22 49 19.2	-2.2
JKN	**Kiinagashima**	1.21	325	⇓P	P	22 49 05.9	-0.4
JKN				*e*S	S	22 49 20.6	-1.2
TK04	**Tokai 4**	1.29	30	⇓P	P	22 49 07.2	-0.3
TK04				*e*S	S	22 49 24.0	0.0
JAA	**Atsumi**	1.37	1	⇓P	P	22 49 08.4	-0.3
JAA				*e*S	S	22 49 25.9	+0.1
TSUJ	**Tsu 2**	1.55	339	⇓P	P	22 49 11.2	-0.1
JWM	**Minabe**	1.57	292	⇓P	P	22 49 10.6	-1.0
JWM				S	S	22 49 29.5	-1.5
JWY	**Kouya**	1.58	308	⇓P	P	22 49 11.6	-0.1
JWY				S	S	22 49 30.6	-0.5
JHE	**Heguri**	1.82	320	⇓P	P	22 49 14.9	-0.3
JHE				S	S	22 49 37.1	-0.2
SHZ3	**Shizuoka 3**	2.02	27	P	P	22 49 17.1	-0.9
SHZ3				*e*S	S	22 49 41.2	-1.1
JHJ	**Hachijo jima 2**	2.25	93	Pn	P	22 49 19.4	-2.0
	89nm,0.3s,baz=64,slow=23,SNR=12						
JHJ				Sn	S	22 49 44.9	-3.3
	253nm,0.3s,baz=32,slow=20,SNR=17						
MAJO	**Matsushiro**	3.40	15	⇓*i*Pn	P	22 49 37.6	0.0
MAJO				*e*Sn	S	22 50 17.0	-0.3
MAT	**Matsushiro**	3.40	15	P	P	22 49 37.6	-0.1
MAT				S	S	22 50 16.6	-0.7
MAT	**Matsushiro**	3.40	15	*e*P	P	22 49 38.0	+0.3
MAT				*e*S	S	22 50 17.0	-0.3
JNU	**Nakatsue**	5.22	270	Pn	P	22 50 01.1	-2.3
	2.9nm,0.3s,baz=136,slow=9.8,SNR=7.3						
JNU				Sn	S	22 50 58.5	-4.8
CBIJ	**Chichi jima**	7.55	143	Pn	P	22 50 30.9	-5.3
	3.2nm,0.3s,baz=284,slow=23,SNR=1.7						
ASAJ	**Asahikawa**	11.65	20	Pn	P	22 51 29.5	-3.0
	1.8nm,0.3s,baz=232,slow=12,SNR=19						
ASAJ				Sn	S	22 53 40.2	-2.2
	0.7nm,0.3s,baz=261,slow=26,SNR=2.6						
ASAJ	**Asahikawa**	11.65	20	P	P	22 51 29.5	-3.0
ASAJ						22 53 40.3	
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				smax			
	comp=N,1.0nm,0.3s						
MDJ	**Mudanjiang**	12.75	335	P	P	22 51 50.3	+3.0
MDJ				AMB	AMB		
	comp=Z,14nm,1.1s						
MDJ				AMB	AMB		
	comp=Z,169nm,7.0s						
MDJ	**Mudanjiang**	12.75	335	P	P	22 51 48.3	+1.0
	comp=Z,12nm,1.0s						
CN2	**Changchun**	13.91	323	*e*P	P	22 52 01.0	-1.5
CN2				AMB	AMB		
	comp=Z,10.0nm,1.1s						
YSS	**Yuzh-Sakhalins**	14.34	16	⇑*e*P	P	22 52 05.0	-3.1
YSS				MLR	MLR		
	comp=N,500nm,14.0s						
YSS				MLR	MLR		
	comp=Z,500nm,14.0s						
NJ2	**Nanjing**	15.42	270	*e*P	P	22 52 24.1	+1.8
NJ2				AMB	AMB		
	comp=Z,30nm,1.2s						
KLR	**Kul'dur**	16.45	348	*e*P	P	22 52 35.3	+0.1
KLR				MLR	MLR		
	comp=N,10µm,13.0s						
KLR				MLR	MLR		
	comp=E,1µm,13.0s						
KLR				MLR	MLR		
	comp=Z,800nm,11.0s						
BJI	**Beijing**	18.08	298	P	P	22 52 54.2	-1.6
BJI				AMB	AMB		
	comp=Z,13nm,1.4s						
BJI				AMB	AMB		
	comp=Z,418nm,4.8s						
BJI				LR	LR		
	comp=N,637nm,12.7s						
BJI				LR	LR		
	comp=E,257nm,10.8s						
BJI				LR	LR		
	comp=Z,229nm,21.2s						
BJT	**Baijiatuau**	18.08	298	*e*P	P	22 52 54.6	-1.2
	comp=Z,20nm,0.9s						
WHN	**Wuhan**	19.50	268	*e*P	P	22 53 14.0	+1.3
HIA	**Hailar**	20.56	326	*e*P	P	22 53 25.1	+1.2
	comp=Z,11nm,0.8s						
HHC	**Hu-ho-hao-te**	21.69	298	*e*P	P	22 53 38.1	+2.8
HHC				AP		22 53 41.9	
HHC				PP	PP	22 54 01.5	+0.9
HHC				S	S	22 57 26.7	-1.7
HHC				AMB	AMB		
	comp=Z,16nm,0.7s,mb4.6						
HHC				LR	LR		
	comp=N,373nm,14.9s,MS4.0						
HHC				LR	LR		
	comp=E,302nm,14.9s,MS4.0						
HHC				LR	LR		
	comp=Z,358nm,14.3s,MS3.9						
XAN	**Xi'an**	23.45	280	P	P	22 53 53.5	+0.8
XAN				AP		22 54 00.0	
XAN				AMB	AMB		
	comp=Z,18nm,0.8s,mb4.5						
ENH	**Enshi**	23.64	270	*e*P	P	22 53 55.5	+0.9
	comp=Z,81nm,1.6s,mb4.9						
PET	**Petropavlovsk**	25.07	32	*e*P	P	22 54 09.4	+1.2
SONM	**Songino Array**	27.29	311	P	P	22 54 28.7	-0.1
	comp=Z,8.1nm,1.1s,mb4.2,baz=113,slow=9.4,SNR=19						
SONM				PcP	PcP	22 57 47.4	-0.8
	comp=Z,0.9nm,0.6s,baz=162,slow=3.9,SNR=3.6						
MA2	**Magadan**	27.84	15	*e*P	P	22 54 33.9	+0.2
MA2				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.4						
MA2	**Magadan**	27.84	15	P	P	22 54 33.0	-0.7
	comp=Z,10nm,0.7s,mb4.6						
CD2	**Chengdu**	28.28	274	*e*P	P	22 54 36.8	-1.2
CD2				AMB	AMB		
	comp=Z,20nm,0.7s,mb4.9						
YAK	**Yakutsk**	29.18	353	⇑*e*P	P	22 54 46.2	+0.6
YAK				pmax	pmax		
	comp=Z,20nm,0.7s,mb5.0						
YAK				MLR	MLR		
	comp=Z,400nm,18.0s,MS4.1						
ZAK	**Zakamensk**	30.12	315	*e*P	P	22 54 54.6	+0.5
ZAK				*e*		22 56 05.0	
GTA	**Gaotai**	30.50	292	*e*P	P	22 54 57.1	-0.6
GTA				AP	pP	22 55 03.1	-4.6
GTA				PP	PP	22 55 56.7	-1.4
GTA				S	S	22 59 56.0	+0.6
GTA				AMB	AMB		
	comp=Z,2.0nm,0.9s,mb4.0						
GTA				AMB	AMB		
	comp=Z,53nm,5.3s						
GTA				LR	LR		
	comp=N,191nm,12.6s,MS4.2						
GTA				LR	LR		
	comp=E,279nm,14.1s,MS4.2						
GTA				LR	LR		
	comp=Z,205nm,14.5s,MS3.9						
CMAR	**Chiang Mai Arr**	37.14	256	P	P	22 55 54.9	-0.2
	comp=Z,2.3nm,0.6s,mb4.2,baz=54,slow=7.5,SNR=18						
CMAR	**Chiang Mai Arr**	37.14	256	P	P	22 55 54.9	-0.2
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
TIXI	**Tiksi**	38.70	356	⇓*e*P	P	22 56 07.8	+0.2
TIXI				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.5						
TIXI				MLR	MLR		
	comp=Z,100nm,16.0s,MS3.7						
LSA	**Lhasa**	39.11	278	P	P	22 56 13.0	+1.6
ZAL	**Zalesovo**	42.00	316	P	P	22 56 35.5	+0.6
	comp=Z,0.9nm,0.7s,mb3.5,baz=294,slow=5.7,SNR=5.5						
ZAL				PcP	PcP	22 58 28.6	-1.7
	comp=Z,1.1nm,0.7s,baz=289,slow=5.7,SNR=5.3						
ZAL	**Zalesovo**	42.00	316	P	P	22 56 35.5	+0.6
ZAL						22 58 28.6	
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NVS	**Novosibirsk**	43.02	317	*i* P	P	22 56 42.2	-1.1
NVS				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.4						
NVS				pmax	pmax		
	comp=E,11nm,1.4s						
MKAR	**Makanchi Array**	43.25	305	P	P	22 56 46.3	+1.0
	comp=E,4.0nm,0.9s,mb4.2,baz=90,slow=10,SNR=25						
MKAR				pP	pP	22 56 56.4	+0.8
	comp=E,4.9nm,0.7s,baz=89,slow=10.0,SNR=14						
MKAR	**Makanchi Array**	43.25	305	P	P	22 56 46.3	+1.0
MKAR				*PP	pP	22 56 56.4	+0.8
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MKAR				pmax	pmax		
	comp=N,5.0nm,0.7s						
PKI	**Pulchoki**	44.57	277	*e*P	P	22 56 55.7	-0.5
	comp=N,19nm,1.2s,mb4.8						
KKN	**Kakani**	44.60	277	*e*P	P	22 56 56.2	-0.3
	comp=N,21nm,0.9s,mb5.0						
DMN	**Daman**	44.81	277	*e*P	P	22 56 57.8	-0.3
GKN	**Gorkha**	45.06	278	*e*P	P	22 56 59.7	-0.4
	comp=N,14nm,1.0s,mb4.8						
KURK	**Kurchatov**	45.59	311	P	P	22 57 04.2	+0.2
	comp=N,49nm,0.8s,mb5.5,SNR=9.9						
KURK	**Kurchatov**	45.59	311	*e*P	P	22 57 03.8	-0.3
	comp=N,6.7nm,0.8s,mb4.6						
KOLN	**Koldanda**	46.01	278	*e*P	P	22 57 06.7	-1.0
	comp=N,10nm,0.9s,mb4.8						
BRVK	**Borovoye**	50.63	314	*e*P	P	22 57 43.3	+0.1
	comp=N,4.3nm,1.0s,mb4.3						
ZRNK	**Zerenda**	51.41	314	*e*P	P	22 57 48.4	-0.6
	comp=N,5.6nm,1.0s,mb4.5						
IMA	**Indian Mountai**	51.71	29	*e*P	P	22 57 51.6	+0.5
	comp=N,32nm,1.3s,mb5.1						
FITZ	**Fitzroy Crossi**	52.23	194	*e*P	P	22 57 53.7	-2.0
	comp=N,4.0nm,0.8s,mb4.4						
FITZ	**Fitzroy Crossi**	52.23	194	P	P	22 57 53.1	-2.5
	comp=N,4.3nm,0.7s,mb4.5,baz=16,slow=5.7,SNR=10						
FITZ				pP	pP	22 58 03.7	-2.4
	comp=N,2.3nm,0.5s,baz=5.7,slow=6.7,SNR=4.0						
WRAB	**Tennant Creek**	52.96	183	*e*P	P	22 57 58.3	-2.8
	comp=N,7.1nm,0.8s,mb4.7						
WB2	**Warramunga Arr**	52.97	183	*e*P	P	22 57 58.2	-3.0
WRA	**Warramunga Arr**	52.97	183	P	P	22 57 58.2	-2.9
	comp=N,4.8nm,0.8s,mb4.5,baz=0.7,slow=7.7,SNR=38						
WRA				pP	pP	22 58 09.2	-2.4
	comp=N,2.3nm,0.7s,baz=14,slow=8.1,SNR=7.7						
WRA				PcP	PcP	22 59 08.4	-1.3
	comp=N,2.9nm,0.7s,baz=356,slow=3.9,SNR=8.5						
WRA	**Warramunga Arr**	52.97	183	P	P	22 57 58.2	-3.0
WRA				*PP	pP	22 58 09.2	-2.4
WRA						22 59 08.4	
WRA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
WRA				pmax	pmax		
	comp=N,2.0nm,0.7s						
WRA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
CTA	**Charters Tower**	53.76	169	P	P	22 58 05.0	-2.1
	comp=Z,5.3nm,0.9s,mb4.5,baz=11,slow=5.2,SNR=2.6						
CTA	**Charters Tower**	53.76	169	P	P	22 58 05.0	-2.1
CTA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
SML	**Sawmill**	54.11	34	*e*P	P	22 58 08.9	-0.2
ILAR	**Eielson Array**	54.55	31	P	P	22 58 11.3	-0.9
	comp=Z,1.7nm,0.7s,mb4.2,baz=286,slow=6.2,SNR=24						
ILAR	**Eielson Array**	54.55	31	P	P	22 58 11.3	-0.9
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ASAR	**Alice Springs**	56.69	184	P	P	22 58 25.7	-2.5
	comp=Z,3.5nm,0.8s,mb4.4,baz=12,slow=9.4,SNR=26						
ASPA	**Alice Springs**	56.69	184	*e*P	P	22 58 25.9	-2.3
ARU	**Arti**	56.88	319	⇑*i*P	P	22 58 29.1	-0.1
ARU				*e*		22 59 26.1	
ARU				*e*S	S	23 06 19.2	+0.6
ARU				*e*SS	SS	23 10 15.5	+7.4
ARU				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
ARU				MLR	MLR		
	comp=Z,100nm,16.0s,MS4.0						
ARU				MLR	MLR		
	comp=E,200nm,18.0s						
STKA	**Stephens Creek**	64.92	176	*e*P	P	22 59 21.7	-2.3
	comp=E,4.8nm,0.8s,mb4.6						
STKA	**Stephens Creek**	64.92	176	P	P	22 59 21.5	-2.5
	comp=E,5.1nm,0.7s,mb4.7,baz=337,slow=8.3,SNR=11						
STKA				pP	pP	22 59 32.9	-1.9
	comp=E,3.1nm,0.6s,baz=330,slow=7.5,SNR=3.9						
ARCES	**ARCESS Array B**	66.27	339	P	P	22 59 31.2	-0.7
	comp=E,8.5nm,1.1s,mb4.7,baz=45,slow=8.6,SNR=9.0						
ARCES	**ARCESS Array B**	66.27	339	P	P	22 59 31.3	-0.6
ARCES				pmax	pmax		
	comp=Z,9.0nm,1.1s						
YKA	**Yellowknife Ar**	68.82	28	P	P	22 59 47.3	-0.7
	comp=Z,2.5nm,0.6s,mb4.3,baz=300,slow=5.9,SNR=5.2						
YKA	**Yellowknife Ar**	68.82	28	P	P	22 59 47.3	-0.7
YKA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
YKA	**Yellowknife Ar**	68.82	28	P	P	22 59 47.3	-0.7
OBN	**Obninsk**	68.98	323	⇓*e*P	P	22 59 48.9	-0.2
OBN				*i*		23 00 03.8	
OBN				*e*		23 02 18.8	
OBN				*e*SS	SS	23 13 21.0	+3.4
OBN				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
OBN				MLR	MLR		
	comp=Z,100nm,14.0s,MS4.2						
ZEI	**Tsey**	70.44	309	*e*P	P	23 00 02.0	+3.8
ZEI				*e*		23 00 19.0	
ZEI				MLR	MLR		
	comp=Z,200nm,18.0s,MS4.4						
FINES	**FINESS Array B**	70.47	332	P	P	22 59 57.5	-0.6
	comp=Z,2.2nm,0.7s,mb4.2,baz=124,slow=6.9,SNR=9.1						
FINES	**FINESS Array B**	70.47	332	P	P	22 59 57.5	-0.6
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
RPW	**Rockport**	72.71	43	*e*P	P	23 00 11.9	+0.2
SOC	**Sochi**	72.74	311	*e*P	P	23 00 01.9	-10
SOC				*e*		23 00 19.6	
SOC				*e*		23 10 12.4	
SOC				MLR	MLR		
	comp=Z,72nm,16.0s,MS4.0						
SOC				MLR	MLR		
	comp=N,65nm,15.0s,MS4.2						
SOC				MLR	MLR		
	comp=E,66nm,14.0s,MS4.2						
SUMG	**Summit**	74.41	359	*e*P	P	23 00 22.8	+1.7
	comp=E,5.0nm,0.6s,mb4.6						
AKASG	**Malin Array Be**	75.07	321	P	P	23 00 24.1	-1.2
	comp=E,5.0nm,0.5s,mb4.7,baz=50,slow=6.4,SNR=57						
AKASG	**Malin Array Be**	75.07	321	P	P	23 00 24.2	-1.2
AKASG				pmax	pmax		
	comp=Z,5.0nm,0.5s						
NEW	**Newport**	75.29	42	P	P	23 00 26.4	-0.3
	comp=Z,1.5nm,0.4s,mb4.2,baz=287,slow=2.3,SNR=4.7						
NEW	**Newport**	75.29	42	P	P	23 00 26.4	-0.3
NEW				pmax	pmax		
	comp=Z,2.0nm,0.4s						
NEW	**Newport**	75.29	42	*e*P	P	23 00 26.6	-0.1
YBH	**Yreka Blue Hor**	75.46	50	P	P	23 00 27.5	-0.3
	comp=Z,1.8nm,0.8s,mb4.1,baz=27,slow=2.3,SNR=3.3						
YBH	**Yreka Blue Hor**	75.46	50	P	P	23 00 27.5	-0.3
YBH				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NB2	**NORSAR Subarra**	76.24	336	P	P	23 00 30.7	-1.2
	comp=Z,1.0nm,0.7s,mb3.9,baz=45,slow=5.6						
NOA	**NORSAR Array B**	76.24	336	P	P	23 00 31.3	-0.6
	comp=Z,1.1nm,0.6s,mb4.0,baz=46,slow=5.6,SNR=6.7						
NOA	**NORSAR Array B**	76.24	336	P	P	23 00 31.3	-0.6
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA	**NORSAR Array B**	76.24	336	P	P	23 00 31.3	-0.6
BRTR	**Keskin Array B**	78.64	310	P	P	23 00 46.5	+0.8
	comp=Z,7.7nm,0.9s,mb4.6,baz=103,slow=4.7,SNR=30						
BRTR	**Keskin Array B**	78.64	310	P	P	23 00 46.5	+0.9
BRTR				pmax	pmax		
	comp=Z,8.0nm,0.9s						
MZLS	**Mizel**	78.72	291	P	P	23 00 46.5	+0.2
RAYN	**Ar Rayn**	78.75	291	P	P	23 00 46.8	+0.3
	comp=Z,66nm,0.8s,mb5.6,SNR=16						
FFC	**Flin Flon**	78.76	30	*e*P	P	23 00 46.1	+0.1
KWP	**Kalwaria**	79.07	323	*e*P	P	23 00 48.5	+0.7
HLID	**Hailey**	79.53	45	*e*P	P	23 00 50.7	+0.3
HILS	**Ha'il**	79.58	296	P	P	23 00 51.3	+0.3
BOZ	**Bozeman (W)**	79.87	42	*e*P	P	23 00 52.8	+0.6
	comp=Z,2.6nm,0.9s,mb4.2						
AFFS	**'Afif**	80.49	292	P	P	23 00 56.1	+0.2
OKC	**Ostrava-Krasne**	81.18	325	*e*P	P	23 00 59.8	+0.8
OKC				*e*x	x	23 01 11.8	
OKC				L		23 38 40.0	
	comp=Z,0.4nm,7.1s						
MORC	**Moravsky Berou**	81.51	325	*e*P	P	23 01 01.5	+0.7
	comp=Z,5.3nm,0.9s,mb4.5						
PSZ	**Piszkesteto**	81.59	323	*e*P	P	23 01 02.2	+1.0
	comp=Z,6.0nm,0.9s,mb4.5						
DPC	**Dobruska-Polom**	81.70	326	*e*P	P	23 01 02.7	+1.0
DPC				*e*x	x	23 01 16.0	
DPC				L		23 41 10.0	
VYHS	**Vyhne**	81.74	324	*e*P	P	23 01 03.1	+1.1
TPNV	**Topopah Spring**	82.28	51	*e*P	P	23 01 05.5	+0.5
	comp=Z,4.8nm,1.0s,mb4.4						
PVCC	**Panska Ves**	82.38	327	*e*P	P	23 01 06.2	+1.0
PVCC				L		23 41 40.0	
BRG	**Berggiesshubel**	82.42	328	*i* P	P	23 01 05.8	+0.4
BRG				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
BRG	**Berggiesshubel**	82.42	328	*i* P	P	23 01 05.8	+0.4
	comp=Z,2.9nm,0.8s,mb4.3						
SMOL	**Smolenice**	82.42	324	*i* P	P	23 01 07.1	+1.6
SMOL				*e*	pP	23 01 17.6	+1.2
TATS	**Tathlith**	82.44	288	P	P	23 01 07.0	+0.8
DUG	**Dugway**	82.50	47	*e*P	P	23 01 05.4	-0.7
	comp=Z,4.2nm,1.0s,mb4.4						
CLL	**Collm**	82.53	328	P	P	23 01 05.9	-0.1
	comp=Z,logA/T=0.9,mb4.7						
CLL	**Collm**	82.53	328	*i* P	P	23 01 05.9	-0.1
CLL				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.7						
CLL	**Collm**	82.53	328	*i* P	P	23 01 05.9	-0.1
	comp=Z,7.0nm,0.9s,mb4.7						
PRU	**Pruhonice**	82.77	327	*e*P	P	23 01 07.8	+0.6
PRU				*e*x	x	23 01 20.4	
PRU				L		23 40 50.0	
ZST	**Bratislava**	82.80	324	*e*P	P	23 01 08.7	+1.3
BW06	**Boulder Array**	82.83	43	*e*P	P	23 01 08.0	+0.3
PDAR	**Pinedale Array**	82.83	43	P	P	23 01 08.3	+0.6
	comp=Z,1.4nm,0.8s,mb4.0,baz=333,slow=3.3,SNR=13						
PDAR				pP	pP	23 01 19.9	+1.3
	comp=Z,0.9nm,0.8s,baz=34,slow=5.3,SNR=5.5						
DJNS	**Zahran al Janu**	83.37	287	P	P	23 01 12.3	+1.4
MOX	**Moxa**	83.61	329	*i* P	P	23 01 12.1	+0.6
	comp=Z,logA/T=0.9,mb4.8						
MOX	**Moxa**	83.61	329	*e*P	P	23 01 12.1	+0.6
MOX				pmax	pmax		
	comp=Z,12nm,1.5s,mb4.8						
MOX	**Moxa**	83.61	329	*e*P	P	23 01 12.1	+0.6
	comp=Z,12nm,1.5s,mb4.8						
KHC	**Kasperske Hory**	83.82	327	*e*P	P	23 01 13.0	+0.4
KHC				*e*x	x	23 01 23.8	
KHC				LR		23 42 30.0	
	comp=Z,0.2nm,15.9s						
MSU	**Marysvale**	83.92	48	*e*P	P	23 01 15.1	+1.8
BDAS	**Al Bad'**	83.97	300	P	P	23 01 14.2	+0.4
GERES	**GERESS Array B**	83.97	326	P	P	23 01 13.9	+0.6
	comp=Z,4.2nm,0.7s,mb4.7,baz=40,slow=4.8,SNR=32						
GERES				pP	pP	23 01 25.1	+0.8
	comp=Z,4.6nm,1.1s,baz=45,slow=3.8,SNR=6.9						
GERES	**GERESS Array B**	83.97	326	P	P	23 01 13.9	+0.6
GERES				*PP	pP	23 01 25.1	+0.8
GERES				pmax	pmax		
	comp=Z,4.0nm,0.7s						
GERES				pmax	pmax		
	comp=N,5.0nm,1.1s						
UMJS	**Umm Lajj**	84.12	296	P	P	23 01 15.7	+1.0
LTHS	**Al Lith**	84.47	290	P	P	23 01 17.3	+0.8
GRA1	**Grafenberg Arr**	84.48	328	*e*P	P	23 01 16.9	+1.0
	comp=N,18nm,1.0s,mb5.2						
GRA1				*e*pP	pP	23 01 28.2	+1.3
GRF	**Grafenberg Arr**	84.48	328	*e*P	P	23 01 16.9	+1.0
GRF				*e**PP	pP	23 01 28.2	+1.3
GRF				pmax	pmax		
	comp=Z,18nm,1.0s,mb5.2						
SRU	**San Rafael**	84.56	46	*e*P	P	23 01 17.6	+1.0
WTSB	**Winterswijk**	84.63	332	*e*P	P	23 01 16.7	+0.1
	comp=Z,5.4nm,1.5s,mb4.5						
HGN	**Heimansgroeve**	85.91	331	*e*P	P	23 01 23.1	+0.2
	comp=Z,5.1nm,1.0s,mb4.7						
PV10	**Paradox Valley**	85.92	46	*e*P	P	23 01 24.8	+1.6
PV01	**Paradox Valley**	86.36	46	*e*P	P	23 01 26.6	+1.2
LOR	**Lormes**	89.50	330	*e*P	P	23 01 40.1	-0.2
LPL	**La Plagne**	89.62	328	*e*P	P	23 01 41.3	+0.4
	comp=Z,14nm,1.0s,mb5.0						
LPG	**La Plagne**	89.63	328	*e*P	P	23 01 41.4	+0.5
	comp=Z,10.0nm,0.8s,mb4.9						
ANMO	**Albuquerque**	89.72	47	⇑*e*P	P	23 01 43.9	+2.3
SSF	**Saint Saulge**	89.81	330	*e*P	P	23 01 42.7	+1.0
AVF	**Avril sur Loir**	90.09	330	*e*P	P	23 01 43.0	0.0
	comp=Z,15nm,1.2s,mb4.9						
TCF	**Toulx Ste Croi**	90.96	331	*e*P	P	23 01 47.4	+0.2
	comp=Z,5.0nm,0.9s,mb4.6						
VIVF	**Saint-Julien-l**	91.05	328	*e*P	P	23 01 47.6	0.0
	comp=Z,13nm,1.1s,mb4.9						
MFF	**Saint Martin d**	91.65	332	*e*P	P	23 01 50.9	+0.6
	comp=Z,29nm,1.2s,mb5.2						
RJF	**Les Rejaudoux**	92.04	330	*e*P	P	23 01 52.7	+0.5
CAF	**Calviac**	92.12	330	*e*P	P	23 01 53.3	+0.8
LFF	**La Frestale**	92.66	331	*e*P	P	23 01 55.6	+0.6
	comp=Z,46nm,1.2s,mb5.5						
LTX	**Lajitas**	95.23	50	*e*P	P	23 02 08.2	+1.1
TXAR	**Lajitas Array**	95.23	50	P	P	23 02 08.2	+1.1
	comp=Z,4.4nm,0.9s,mb4.9,baz=291,slow=3.5,SNR=45						
DBIC	**Dimbokro**	126.33	311	PKP	PKPdf	23 07 46.4	+0.8
	comp=Z,2.0nm,0.6s,baz=306,slow=11,SNR=4.9						
DBIC	**Dimbokro**	126.33	311	PKIKP	PKPdf	23 07 46.4	+0.8
DBIC				pmax	pmax		
	comp=Z,2.0nm,0.6s						
SNAA	**Sanae**	136.11	197	PKPdf	PKPdf	23 08 01.8	-0.8
VNA2	**Neumayer--Watz**	137.71	196	⇓*i*P	PKPdf	23 08 08.8	+3.3
VNA2	**Neumayer--Watz**	137.71	196	⇑*i*	PKPdf	23 08 11.1	+5.6
VNA2	**Neumayer--Watz**	137.71	196		PKPdf	23 08 19.9	+14
VNA3	**Neumayer Olymp**	138.01	195	⇑*i*P	PKPdf	23 08 09.4	+3.3
VNA1	**Neumayer--Stat**	138.11	196	P	PKPdf	23 08 07.9	+1.6
SAML	**Samuel**	149.41	42	PKPdf	PKPdf	23 08 27.6	+0.4
SAML				*e*PKPbc	PKPdf	23 08 32.4	+5.2
SAML				*e*PKPab	PKPab	23 08 36.8	-1.8

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*NIED **05** 22:50:00, 33.50N×136.90E, h5^{km}, Mw4.5 Best double couple: M$_0$5.75×10^{15} NP1:ϕ_s169°, δ90°, λ-128°. NP2: ϕ_s79°, δ38°, λ-1°.*

*IDC **05** 22:50:16.1±7.0, 33.80N×137.63E, mb4.1/5, mb1 4.2/5, mb1mx3.8/20, MS3.9/4, Ms1 4.0/4, ms1mx3.4/28, Error ellipse: s-maj=258.0km s-min=23.0km az=64.0*

*JMA **05** 22:50:20.9±0.2, 33.48N×136.88E, h47^{km}±3^{km}, M4.2*

JMA Felt I J1.

ISC 05 22:50:22.2±0.7**, 33.57N**±0.05×**136.94E**±0.05**, h47^{km}, n18,** σ**0^{s}81**/16**, mb4.0**/5**, MS4.2**/3**, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TK01	**Tokai 1**	0.57	70	*e*S	S	22 50 43.2	+0.3
TK02	**Tokai 2**	0.78	61	P	P	22 50 36.9	0.0
JIE	**Ise**	0.84	347	P	P	22 50 38.0	+0.1
JIE				S	S	22 50 49.7	+0.3
JKN	**Kiinagashima**	0.88	320	P	P	22 50 37.4	-1.0
JKN				S	S	22 50 49.2	-1.2
TK03	**Tokai 3**	1.04	55	*e*S	S	22 50 54.0	-0.2
JAA	**Atsumi**	1.07	9	P	P	22 50 40.6	-0.5
TK04	**Tokai 4**	1.12	43	*e*S	S	22 50 57.1	+0.8
TSUJ	**Tsu 2**	1.22	339	S	S	22 50 58.9	+0.2

JHJ	**Hachijo jima 2**	2.42	100	Sn	S	22 51 25.5	-3.3
	70nm,0.3s,baz=48,slow=23,SNR=5.1						
JNU	**Nakatsue**	5.10	267	LR	LR	22 53 11.3	
	comp=Z,344nm,18.0s,baz=288,slow=31						
SONM	**Songino Array**	26.98	311	P	P	22 56 01.9	+0.6
	2.0nm,0.9s,mb3.7,baz=121,slow=8.3,SNR=3.3						
ZAL	**Zalesovo**	41.69	315	LR	LR	23 16 57.2	
	comp=Z,240nm,18.2s,MS4.1,baz=199,slow=38						
MKAR	**Makanchi Array**	42.97	305	P	P	22 58 19.8	+1.5
	2.6nm,0.6s,mb4.1,baz=96,slow=11,SNR=6.6						
FITZ	**Fitzroy Crossi**	52.50	194	P	P	22 59 33.1	+0.1
	2.2nm,0.7s,mb4.2,baz=5.8,slow=5.0,SNR=3.5						
WRA	**Warramunga Arr**	53.27	183	P	P	22 59 39.4	+0.7
	1.7nm,0.8s,mb4.0,baz=3.7,slow=8.0,SNR=4.0						
ASAR	**Alice Springs**	56.99	183	P	P	23 00 04.9	-0.7
	0.8nm,0.7s,mb3.9,baz=10,slow=10,SNR=3.3						
ARCES	**ARCESS Array B**	65.93	339	LR	LR	23 33 04.0	
	comp=Z,193nm,18.5s,MS4.3,baz=173,slow=39						
AKASG	**Malin Array Be**	74.74	321	LR	LR	23 37 25.8	
	comp=Z,74nm,19.4s,MS4.0,baz=310,slow=38						

*NEIC **05** 22:55:34.4, 34.71S×70.20W, h2^{km}, ML2.8(GUC), After GUC.*

GUC 05 22:55:34.4±0.9**, 34.71S×70.20W, h2^{km}±3^{km}, MD3.5, ML2.8, 3C-4D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CICH	**Cipreses**	0.42	335	⇓*i*P	Pg	22 55 43.5	+0.6
CICH				*i* S	Sg	22 55 49.9	+1.4
CACH	**El Canelo**	0.67	331	⇑*i*P	Pg	22 55 47.7	-0.1
CACH				*i* S	Sg	22 55 57.5	+0.7
SFDO	**San Fernando**	0.67	277	⇑*i*P	Pg	22 55 47.8	-0.1
SFDO				*i* S	Sg	22 55 56.8	-0.1
CHCH	**Chadas Angostu**	0.85	334	⇓*i*P	Pg	22 55 51.2	-0.3
CHCH				*i* S	Sg	22 56 03.5	+0.7
LMEL	**Las Melosas**	0.85	360	⇑*i*P	Pg	22 55 51.2	-0.2
LMEL				*i* S	Sg	22 56 03.4	+0.5
LMEL				AMP		22 56 04.7	
	comp=N,820nm,0.2s						
SJCH	**San Jose de Ma**	1.07	353	*e*P	Pb	22 55 54.1	-1.1
SJCH				*i* S	Sb	22 56 09.7	+0.2
SJCH				AMP		22 56 11.2	
	comp=N,264nm,0.3s						
PCH	**Pirque**	1.11	347	*e*S	Sb	22 56 11.5	+0.8
ANTU	**Antumapu**	1.19	342	*i* S	Sb	22 56 13.7	+0.8
ANTU				AMP		22 56 14.9	
	comp=E,342nm,0.5s						
TACH	**Talagante**	1.21	330	⇓*i*P	Pb	22 55 57.3	-0.4
TACH				*e*S	Sb	22 56 13.9	+0.2
LNV	**Longovilo**	1.25	306	⇓*i*P	Pb	22 55 57.8	-0.5
LNV				*i* S	Sb	22 56 14.5	-0.2
CLCH	**Cerro Calan**	1.33	348	*e*P	Pb	22 55 59.4	-0.4
CLCH				*i* S	Sb	22 56 18.5	+1.3
CLCH				AMP		22 56 21.3	
	comp=N,445nm,0.6s						
CLCH				AMP		22 56 21.9	
	comp=N,473nm,0.5s						
FCH	**Farellones**	1.38	357	*e*P	Pb	22 56 00.2	-0.3
FCH				*i* S	Sb	22 56 19.8	+1.4
FCH				AMP		22 56 23.1	
	comp=N,218nm,0.3s						
LCCH	**Las Cruces**	1.67	317	*i* S	Sb	22 56 27.3	+0.3

*JMA **05** 22:56:04.6±0.1, 33.20N×137.09E, h37^{km}±3^{km}, M3.5*

ISC 05 22:56:05.1±1.1**, 33.23N**±0.07×**137.07E**±0.04**, h37^{km}, n15, σ0^{s}.56**/27**, 8D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK01	**Tokai 1**	0.69	39	S	**S**	**22 56 27.4**	**-0.6**
TK02	**Tokai 2**	0.92	38	P	**P**	**22 56 21.3**	**-0.3**
TK02				S	**S**	**22 56 33.6**	**-0.2**
JWZ	**Kozaga**	1.18	285	⇓P	**P**	**22 56 25.3**	**0.0**
JWZ				S	**S**	**22 56 39.6**	**-0.8**
TK03	**Tokai 3**	1.20	38	S	**S**	**22 56 40.5**	**-0.4**
JIE	**Ise**	1.20	345	⇓P	**P**	**22 56 26.2**	**+0.6**
JIE				S	**S**	**22 56 41.8**	**+0.8**
JKN	**Kiinagashima**	1.22	327	⇓P	**P**	**22 56 26.1**	**+0.2**
JKN				S	**S**	**22 56 40.9**	**-0.7**
TK04	**Tokai 4**	1.33	30	P	**P**	**22 56 27.4**	**-0.2**
TK04				S	**S**	**22 56 44.1**	**-0.3**
JWM	**Minabe**	1.56	294	⇓P	**P**	**22 56 31.0**	**+0.1**
JWM				S	**S**	**22 56 49.6**	**-0.6**
TSUJ	**Tsu 2**	1.58	340	P	**P**	**22 56 31.5**	**+0.4**
JWY	**Kouya**	1.58	309	⇓P	**P**	**22 56 31.8**	**+0.7**
JWY				S	**S**	**22 56 50.8**	**+0.2**
JHE	**Heguri**	1.83	321	⇓P	**P**	**22 56 35.2**	**+0.5**
JHE				S	**S**	**22 56 57.3**	**+0.4**
JAI	**Aioi**	2.26	285	P	**P**	**22 56 41.2**	**+0.3**
JAI				S	**S**	**22 57 06.3**	**-1.5**
JWT	**Wachi**	2.47	326	⇓P	**P**	**22 56 44.6**	**+0.7**
JWT				S	**S**	**22 57 13.1**	**-0.1**
JGM	**Miyama**	2.48	353	⇓P	**P**	**22 56 44.4**	**+0.4**
JGM				S	**S**	**22 57 13.9**	**+0.5**
MAT	**Matsushiro**	3.44	15	P	**P**	**22 56 58.4**	**+0.8**
MAT				S	**S**	**22 57 36.8**	**-0.8**

*BJI **05** 23:03:49.4, 32.62N×137.19E, h378^{km}, mb4.0*
*JMA **05** 23:03:50.4±0.2, 32.45N×137.50E, h419^{km}, M4.0*
*NEIC **05** 23:03:51.1±0.7, 32.34N×137.38E, h401^{km}±6^{km}, mb4.0/7, Error ellipse: s-maj=12.3km s-min=8.2km az=166.0*
*IDC **05** 23:03:51.1±0.7, 32.31N×137.41E, h403^{km}±7^{km}, mb3.2/10, mb1 3.5/12, mb1mx3.3/25, Error ellipse: s-maj=14.1km s-min=13.2km az=88.0*

ISC 05 23:03:50.8±0.5**, 32.47N**±0.08×**137.42E**±0.06**, h411^{km}**±4^{km}**, n43, σ0^{s}.90**/52**, mb3.8**/18**, 7C-2D, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK02	**Tokai 2**	1.50	11	P	**P**	**23 04 46.3**	**+0.8**
JWZ	**Kozaga**	1.78	307	⇑P	**P**	**23 04 47.0**	**+0.1**
JIE	**Ise**	2.01	343	⇑P	**P**	**23 04 48.3**	**0.0**
JHJ	**Hachijo jima 2**	2.10	71	P	**P**	**23 04 49.0**	**+0.2**
	49nm,0.3s,baz=130,slow=16,SNR=11						
JHJ				S	**S**	**23 05 34.9**	**+0.6**
	88nm,0.3s,baz=51,slow=22,SNR=8.9						
JHJ2	**Mitsune**	2.12	72	P	**P**	**23 04 48.7**	**-0.2**
JWY	**Kouya**	2.32	319	⇑P	**P**	**23 04 51.0**	**+0.8**
JIM2	**Oshima 3**	2.80	36	P	**P**	**23 04 53.7**	**0.0**
JIM2				*e*S	**S**	**23 05 41.7**	**-1.6**
JAI	**Aioi**	2.82	299	⇑P	**P**	**23 04 54.4**	**+0.6**
JOD2	**Odawara 2**	3.12	26	P	**P**	**23 04 56.9**	**+0.7**
JOD2				*e*S	**S**	**23 05 47.0**	**-0.7**
JYN	**Shimob**	3.17	17	⇑P	**P**	**23 04 57.6**	**+1.0**
JWT	**Wachi**	3.27	330	⇑P	**P**	**23 04 58.1**	**+0.6**
JWT				*e*S	**S**	**23 05 50.2**	**+0.2**
JGM	**Miyama**	3.28	350	P	**P**	**23 04 58.6**	**+1.0**
BSO1	**Boso 1**	3.69	53	P	**P**	**23 04 58.1**	**-3.1**
BSO1				*e*S	**S**	**23 05 52.0**	**-4.5**
JRY	**Ryogami san**	3.75	19	⇓P	**P**	**23 05 02.0**	**+0.3**
JRY				*e*S	**S**	**23 05 57.3**	**-0.2**
JTO	**Tosashimizu**	3.91	277	⇑P	**P**	**23 05 03.9**	**+0.7**
MAJO	**Matsushiro**	4.12	9	⇓*e*Pn	**P**	**23 05 05.1**	**-0.1**
MAT	**Matsushiro**	4.12	9	P	**P**	**23 05 05.1**	**-0.1**
MAT				S	**S**	**23 06 03.0**	**-0.6**
MAT	**Matsushiro**	4.12	9	*e*P	**P**	**23 05 05.0**	**-0.2**
MAT				*e*S	**S**	**23 06 03.0**	**-0.6**
JNU	**Nakatsue**	5.55	279	P	**P**	**23 05 19.8**	**+0.2**
	0.7nm,0.3s,baz=83,slow=22,SNR=4.7						
JMK	**Ichinoseki**	7.17	24	P	**P**	**23 05 36.1**	**-1.4**
JMK				*e*S	**S**	**23 06 58.1**	**-3.5**
INCN	**Inchon**	10.16	302	*e*P	**P**	**23 06 12.1**	**+0.4**
BJT	**Baijiatuau**	18.70	300	*e*P	**P**	**23 07 41.5**	**-0.6**
	5.6nm,0.5s						
XAN	**Xi'an**	23.85	282	P	**P**	**23 08 30.1**	**-0.7**
XAN				AMB	AMB		
	comp=Z,33nm,0.8s,mb4.8						
SONM	**Songino Array**	28.01	312	P	**P**	**23 09 08.1**	**+0.4**
	comp=Z,0.8nm,0.8s,mb3.1,baz=111,slow=7.4,SNR=7.0						
GTA	**Gaotai**	31.06	294	*e*P	**P**	**23 09 34.2**	**0.0**
GTA				AMB	AMB		
	comp=Z,2.0nm,0.9s,mb3.5						
CMAR	**Chiang Mai Arr**	37.22	257	P	**P**	**23 10 26.3**	**-0.2**
	comp=Z,1.0nm,0.5s,mb3.4,baz=52,slow=7.1,SNR=8.6						
MKAR	**Makanchi Array**	43.92	306	P	**P**	**23 11 20.4**	**+0.1**
	comp=Z,2.2nm,0.8s,mb3.6,baz=93,slow=9.8,SNR=12						
PKI	**Pulchoki**	44.94	278	*e*P	**P**	**23 11 28.4**	**-0.2**
	comp=Z,12nm,0.7s,mb4.3						
KKN	**Kakani**	44.97	278	*e*P	**P**	**23 11 28.8**	**-0.1**
	comp=Z,25nm,0.8s,mb4.6						
DMN	**Daman**	45.18	278	*e*P	**P**	**23 11 30.0**	**-0.5**
	comp=Z,14nm,0.9s,mb4.3						
GKN	**Gorkha**	45.44	279	*e*P	**P**	**23 11 32.2**	**-0.4**
	comp=Z,17nm,0.8s,mb4.4						
KURK	**Kurchatov**	46.31	311	*e*P	**P**	**23 11 38.3**	**-0.7**
	comp=Z,2.0nm,0.8s,mb3.5						
KOLN	**Koldanda**	46.38	279	*e*P	**P**	**23 11 39.7**	**-0.2**
BVAR	**Borovoye Array**	51.31	315	P	**P**	**23 12 15.7**	**-1.0**
	comp=Z,0.3nm,0.3s,mb3.0,baz=95,slow=8.6,SNR=4.7						
WRA	**Warramunga Arr**	52.19	184	P	**P**	**23 12 21.1**	**-2.6**
	comp=Z,1.5nm,0.5s,mb3.5,baz=0.3,slow=7.6,SNR=29						
WRA				PcP	PcP	23 13 25.8	-3.0
	comp=Z,0.6nm,0.6s,baz=358,slow=4.3,SNR=5.5						
ILAR	**Eielson Array**	55.10	30	P	**P**	**23 12 43.8**	**0.0**
	comp=Z,0.7nm,0.7s,mb3.0,baz=269,slow=6.3,SNR=14						
ASAR	**Alice Springs**	55.92	184	P	**P**	**23 12 48.5**	**-1.7**
	comp=Z,1.0nm,0.5s,mb3.4,baz=13,slow=13,SNR=13						
YBH	**Yreka Blue Hor**	75.77	50	P	**P**	**23 14 55.4**	**+1.3**
	comp=Z,2.9nm,0.9s,mb3.9,baz=256,slow=6.1,SNR=3.7						
TPNV	**Topopah Spring**	82.57	51	*e*P	**P**	**23 15 31.6**	**+1.4**
	comp=Z,1.8nm,0.8s,mb3.9						
PDAR	**Pinedale Array**	83.23	43	P	**P**	**23 15 34.5**	**+1.2**
	comp=Z,1.2nm,0.9s,mb3.6,baz=302,slow=3.1,SNR=8.3						
PV10	**Paradox Valley**	86.28	46	*e*P	**P**	**23 15 51.0**	**+2.7**
TXAR	**Lajitas Array**	95.54	50	P	**P**	**23 16 32.4**	**+0.9**
	comp=Z,0.5nm,0.7s,mb3.8,baz=296,slow=2.5,SNR=8.8						
TXAR	**Lajitas Array**	95.54	50	P	**P**	**23 16 32.4**	**+0.9**

IDC 05 23:11:25.4±1.7**, 4.57S×130.46E, mb4.1**/2**, mb1 4.6**/5**, mb1mx4.2**/12**, ML4.5**/3**, Error ellipse: s-maj=89.3km s-min=23.3km az=71.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	14.25	199	Pn	P	23 14 49.3	-1.5
	2.1nm,0.3s,baz=31,slow=7.1,SNR=25						
FITZ				Sn	S	23 17 12.6	-18
	2.0nm,0.3s,baz=315,slow=18,SNR=8.0						
WRA	**Warramunga Arr**	15.74	166	Pn	P	23 15 09.6	-0.6
	1.6nm,0.3s,baz=348,slow=13,SNR=52						
WRA				Sn	S	23 17 55.0	-11
	2.1nm,0.3s,baz=334,slow=24,SNR=8.7						
ASAR	**Alice Springs**	19.27	170	P	P	23 15 52.6	-1.6
	5.0nm,0.3s,baz=348,slow=10,SNR=244						
ASAR				S	S	23 19 19.2	-7.5
	0.6nm,0.3s,baz=352,slow=23,SNR=6.8						
STKA	**Stephens Creek**	29.10	160	P	P	23 17 26.6	-3.4
	2.0nm,0.9s,baz=358,slow=11,SNR=3.6						
MKAR	**Makanchi Array**	66.47	326	P	P	23 22 16.9	-2.0
	0.8nm,0.4s,baz=110,slow=8.0,SNR=15						

*JMA **05** 23:14:01.8±0.1, 33.12N×136.97E, h34^{km}, M3.5*

ISC 05 23:14:02.6±1.0**, 33.16N**±0.06×**136.96E**±0.04**, h34^{km}, n15, σ0^{s}.78**/30**, 6D, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK01	**Tokai 1**	0.80	41	P	**P**	**23 14 17.0**	**-0.4**
TK01				*e*S	**S**	**23 14 27.9**	**-0.4**
TK02	**Tokai 2**	1.03	40	⇓P	**P**	**23 14 20.5**	**-0.2**
TK02				*e*S	**S**	**23 14 34.5**	**+0.5**
JWZ	**Kozaga**	1.11	290	P	**P**	**23 14 21.6**	**-0.2**
JWZ				*e*S	**S**	**23 14 35.0**	**-1.1**
JKN	**Kiinagashima**	1.23	332	⇓P	**P**	**23 14 24.0**	**+0.5**
JKN				S	**S**	**23 14 38.8**	**-0.5**
JIE	**Ise**	1.25	350	⇓P	**P**	**23 14 24.6**	**+0.8**
JIE				*e*S	**S**	**23 14 40.6**	**+0.9**
TK04	**Tokai 4**	1.44	32	⇓P	**P**	**23 14 26.7**	**+0.1**
TK04				*e*S	**S**	**23 14 44.7**	**+0.2**
JWM	**Minabe**	1.51	298	P	**P**	**23 14 27.6**	**0.0**
JWM				*e*S	**S**	**23 14 45.4**	**-0.9**
JWY	**Kouya**	1.56	313	P	**P**	**23 14 29.1**	**+0.8**
JWY				*e*S	**S**	**23 14 47.7**	**+0.3**
TSUJ	**Tsu 2**	1.61	344	⇓P	**P**	**23 14 29.7**	**+0.7**
TSUJ				*e*S	**S**	**23 14 49.5**	**+0.7**
JHE	**Heguri**	1.83	325	⇓P	**P**	**23 14 32.9**	**+0.7**
JHE				S	**S**	**23 14 54.7**	**+0.3**
JAJ2	**Tsuna**	2.14	307	P	**P**	**23 14 37.4**	**+0.8**
JAJ2				*e*S	**S**	**23 15 02.3**	**+0.1**
SHZ3	**Shizuoka 3**	2.16	28	P	**P**	**23 14 36.7**	**-0.2**
SHZ3				*e*S	**S**	**23 15 01.3**	**-1.5**
JAI	**Aioi**	2.19	287	P	**P**	**23 14 37.5**	**+0.1**
JAI				*e*S	**S**	**23 15 01.9**	**-1.7**
JIZS	**Izushimoda**	2.22	45	P	**P**	**23 14 38.5**	**+0.7**
JIZS				*e*S	**S**	**23 15 01.5**	**-2.9**
MAT	**Matsushiro**	3.53	16	P	**P**	**23 14 57.0**	**+0.6**
MAT				S	**S**	**23 15 36.8**	**-0.7**

JMA 05 23:19:59.7±0.1**, 33.13N×137.06E, h41^{km}, M2.7, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK02	**Tokai 2**	1.00	35	*e*S	S	23 20 29.9	-0.7
JWZ	**Kozaga**	1.20	290	P	P	23 20 20.1	-0.1
JWZ				S	S	23 20 35.0	-0.5
TK03	**Tokai 3**	1.28	36	*e*S	S	23 20 37.0	-0.7
JIE	**Ise**	1.29	347	P	P	23 20 22.0	+0.4
JIE				*e*S	S	23 20 39.1	+1.1
JKN	**Kiinagashima**	1.30	329	P	P	23 20 21.8	+0.1
JKN				S	S	23 20 37.3	-0.9
TK04	**Tokai 4**	1.42	28	*e*S	S	23 20 40.4	-0.9
JAA	**Atsumi**	1.50	3	P	P	23 20 24.5	-0.1
JAA				S	S	23 20 43.2	0.0
JWM	**Minabe**	1.59	297	S	S	23 20 45.5	0.0
JWY	**Kouya**	1.64	312	P	P	23 20 27.4	+0.9
JWY				*e*S	S	23 20 47.0	+0.5
JHE	**Heguri**	1.90	323	P	P	23 20 31.0	+0.7
JHE				*e*S	S	23 20 53.6	+0.4

*NIED **05** 23:20:00, 33.30N×136.90E, h8^{km}, Mw4.4 Best double couple: M$_0$5.16×10^{15} NP1:ϕ_s317°, δ88°, λ105°. NP2:ϕ_s54°, δ15°, λ8°.*
*BJI **05** 23:20:43.5, 32.57N×137.43E, h11^{km}, mB4.9, mb4.1, Ms4.5, Msz4.0*
*NEIC **05** 23:20:49.8±4.2, 33.25N×136.95E, h12^{km}±26^{km}, mb4.5/9, MW4.4(NIED), Error ellipse: s-maj=9.4km s-min=7.8km az=86.0*
*JMA **05** 23:20:49.8±0.1, 33.26N×136.89E, h47^{km}±4^{km}, M3.9*
*IDC **05** 23:20:52.0±0.5, 33.25N×136.91E, h26^{km}±2^{km}, mb3.9/17, mb1 4.1/19, mb1mx4.0/26, ML3.6/2, MS3.7/4, Ms1 3.7/4, ms1mx3.2/31, Error ellipse: s-maj=17.2km s-min=10.3km az=74.0*

ISC 05 23:20:49.3±0.8**, 33.29N**±0.03×**136.91E**±0.03**, h19^{km}**±5^{km}**, h25^{km}**±.9^{km}**: pP-P, n61, σ0^{s}.93**/73**, mb4.2**/30**, MS3.9**/2**, 2C-3D, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK01	**Tokai 1**	0.74	50	P	**Pb**	**23 21 04.7**	**+1.5**
TK02	**Tokai 2**	0.96	47	P	**Pb**	**23 21 07.1**	**+0.1**
TK02				S	**Sb**	**23 21 19.7**	**+0.4**
JWZ	**Kozaga**	1.03	284	⇑P	**Pb**	**23 21 07.8**	**-0.4**
JWZ				S	**Sb**	**23 21 21.1**	**-0.2**
JKN	**Kiinagashima**	1.09	331	⇓P	**Pb**	**23 21 09.3**	**-0.1**
JKN				S	**Sb**	**23 21 22.6**	**-0.6**
JIE	**Ise**	1.11	351	⇓P	**Pb**	**23 21 09.9**	**+0.3**
JIE				S	**Sb**	**23 21 24.0**	**+0.4**
TK03	**Tokai 3**	1.23	45	P	**Pn**	**23 21 11.1**	**-0.6**
TK03				S	**Sb**	**23 21 26.9**	**-0.4**
TK04	**Tokai 4**	1.35	36	⇑P	**Pn**	**23 21 13.0**	**-0.3**
TK04				S	**Sb**	**23 21 30.0**	**-0.6**
JWM	**Minabe**	1.41	293	P	**Pn**	**23 21 13.7**	**-0.5**
JWM				*i* S	**Sn**	**23 21 31.0**	**-1.4**
JWY	**Kouya**	1.43	310	P	**Pn**	**23 21 14.7**	**+0.2**
JWY				S	**Sn**	**23 21 32.1**	**-0.8**
TSUJ	**Tsu 2**	1.47	344	P	**Pn**	**23 21 15.2**	**+0.2**
TSUJ				S	**Sn**	**23 21 32.9**	**-0.9**
JHE	**Heguri**	1.70	323	⇓P	**Pn**	**23 21 18.3**	**0.0**
JHE				S	**Sn**	**23 21 39.1**	**-0.5**
SHZ3	**Shizuoka 3**	2.07	31	P	**Pn**	**23 21 23.0**	**-0.6**
JIZS	**Izushimoda**	2.16	48	P	**Pn**	**23 21 26.2**	**+1.2**
JHJ	**Hachijo jima 2**	2.41	93	Pn	**Pn**	**23 21 28.8**	**+0.2**
	18nm,0.3s,baz=237,slow=18,SNR=4.6						
JHJ				Sn	**Sn**	**23 21 57.0**	**-0.8**
	29nm,0.3s,baz=59,slow=22,SNR=6.9						
JHJ				LR	LR	23 22 07.6	
	comp=Z,755nm,21.9s,baz=343,slow=31						
MAJO	**Matsushiro**	3.41	18	*e*Pn	**Pn**	**23 21 42.2**	**-0.5**
MAT	**Matsushiro**	3.41	18	P	**Pn**	**23 21 42.6**	**-0.1**
MAT				S	**Sn**	**23 22 22.7**	**-0.4**
MAT	**Matsushiro**	3.41	18	*e*P	**Pn**	**23 21 43.0**	**+0.3**
MAT				*e*S	**Sn**	**23 22 23.0**	**-0.1**
CBIJ	**Chichi jima**	7.68	142	LR	LR	23 25 09.6	
	comp=Z,558nm,21.6s,baz=318,slow=34						
ASAJ	**Asahikawa**	11.68	21	Pn	**P**	**23 23 35.5**	**-2.5**
	0.6nm,0.3s,baz=70,slow=33,SNR=4.4						
CN2	**Changchun**	13.79	323	*e*P	**P**	**23 24 15.6**	**+10**
CN2				AMB	AMB		
	comp=Z,20nm,1.3s						
BJI	**Beijing**	17.93	298	P	**P**	**23 25 02.4**	**+3.3**
BJI				AMB	AMB		
	comp=Z,8.0nm,1.1s						
BJI				AMB	AMB		
	comp=Z,226nm,5.3s						
BJI				LR	LR		
	comp=E,736nm,15.7s						
BJI				LR	LR		
	comp=Z,415nm,14.3s						
BJT	**Baijiatuau**	17.93	298	P	**P**	**23 25 01.8**	**+2.7**
	comp=Z,44nm,1.9s						
WHN	**Wuhan**	19.34	268	*e*P	**P**	**23 25 17.5**	**+1.1**
WHN				AP		23 25 22.5	
XAN	**Xi'an**	23.28	280	P	**P**	**23 25 58.2**	**+1.5**
XAN				AMB	AMB		
	comp=Z,12nm,1.4s,mb4.1						
ENH	**Enshi**	23.48	270	*e*P	**P**	**23 26 00.1**	**+1.5**
	comp=Z,23nm,1.0s,mb4.6						
ENH				*e*		23 26 07.6	
SONM	**Songino Array**	27.14	311	P	**P**	**23 26 33.2**	**+0.1**
	comp=Z,1.2nm,1.1s,mb3.4,baz=111,slow=9.5,SNR=6.2						
SONM				sP	sP	23 26 44.4	+3.2
	comp=Z,0.9nm,0.8s,baz=128,slow=9.0,SNR=4.6						
SONM				PcP	PcP	23 29 53.5	-0.3
	comp=Z,0.5nm,0.7s,baz=124,slow=4.5,SNR=3.7						
SONM				pPcP		23 30 00.9	
	comp=Z,0.6nm,0.8s,baz=90,slow=2.5,SNR=3.8						
CD2	**Chengdu**	28.12	274	P	**P**	**23 26 41.8**	**-0.3**
GTA	**Gaotai**	30.34	292	*e*P	**P**	**23 27 02.0**	**+0.1**
GTA				AMB	AMB		
	comp=Z,2.0nm,0.9s,mb3.9						
CMAR	**Chiang Mai Arr**	37.00	256	P	**P**	**23 28 00.0**	**+0.5**
	comp=Z,2.1nm,0.8s,mb4.0,baz=50,slow=8.0,SNR=13						
LSA	**Lhasa**	38.95	277	P	**P**	**23 28 18.1**	**+2.3**
ZAL	**Zalesovo**	41.86	316	P	**P**	**23 28 39.7**	**+0.2**
	comp=Z,0.5nm,0.3s,mb3.6,baz=108,slow=19,SNR=1.8						
ZAL				PcP	PcP	23 30 34.9	-1.0
	comp=Z,1.4nm,0.5s,baz=272,slow=4.4,SNR=6.1						
ZAL				pPcP		23 30 42.3	
	comp=Z,1.4nm,0.7s,baz=269,slow=2.9,SNR=6.1						
MKAR	**Makanchi Array**	43.10	305	P	**P**	**23 28 48.7**	**-1.0**
	comp=Z,2.2nm,0.8s,mb3.9,baz=91,slow=11,SNR=17						
MKAR				pP	pP	23 28 58.6	+3.1
	comp=Z,1.8nm,0.7s,baz=92,slow=9.7,SNR=10						
MKAR				PcP	PcP	23 30 38.9	-1.2
	comp=Z,0.8nm,0.7s,baz=45,slow=5.1,SNR=4.1						
MKAR				pPcP		23 30 47.3	
	comp=Z,1.0nm,0.7s,baz=72,slow=3.8,SNR=4.4						
MKAR	**Makanchi Array**	43.10	305	P	**P**	**23 28 48.7**	**-1.1**
MKAR				pP	pP	23 28 58.6	+3.1
MKAR				PcP	PcP	23 30 38.9	-1.2
MKAR				pPcP		23 30 47.3	
PKI	**Pulchoki**	44.41	277	*e*P	**P**	**23 29 00.4**	**-0.2**
	comp=Z,8.0nm,0.7s,mb4.5						
KKN	**Kakani**	44.44	277	*e*P	**P**	**23 29 01.3**	**+0.4**
	comp=Z,16nm,0.7s,mb4.8						
DMN	**Daman**	44.65	277	*e*P	**P**	**23 29 02.4**	**-0.1**
GKN	**Gorkha**	44.90	278	*e*P	**P**	**23 29 04.7**	**+0.1**
	comp=Z,26nm,1.1s,mb5.0						
KURK	**Kurchatov**	45.45	311	*e*P	**P**	**23 29 09.4**	**+0.8**
	comp=Z,7.3nm,1.0s,mb4.5						
KURK				*e*	pP	23 29 17.1	+2.7
KOLN	**Koldanda**	45.84	278	*e*P	**P**	**23 29 11.8**	**-0.2**
	comp=Z,16nm,0.9s,mb5.0						
AAK	**Ala-Archa**	49.09	300	*e*P	**P**	**23 29 36.5**	**-0.7**
	comp=Z,2.2nm,0.8s,mb4.2						
BVAR	**Borovoye Array**	50.43	314	P	**P**	**23 29 46.8**	**-0.6**
	comp=Z,1.0nm,0.6s,mb4.0,baz=98,slow=10,SNR=7.8						
BVAR				pP	pP	23 29 55.8	+2.5
	comp=Z,2.0nm,0.7s,baz=90,slow=8.9,SNR=7.0						
BVAR				PcP	PcP	23 31 05.2	-0.7
	comp=Z,2.4nm,0.9s,baz=117,slow=3.3,SNR=5.5						
BVAR				pPcP		23 31 13.3	
	comp=Z,1.4nm,0.6s,baz=90,slow=1.5,SNR=5.6						
BRVK	**Borovoye**	50.49	314	*e*P	**P**	**23 29 47.8**	**-0.1**
	comp=Z,3.9nm,0.9s,mb4.4						
ZRNK	**Zerenda**	51.27	314	*e*P	**P**	**23 29 54.0**	**+0.2**
	comp=Z,6.5nm,1.0s,mb4.5						
ZRNK				*e*	pP	23 30 01.3	+1.6
FITZ	**Fitzroy Crossi**	52.23	194	*e*P	**P**	**23 30 00.9**	**-0.6**
	comp=Z,4.2nm,0.9s,mb4.4						
FITZ				*e*		23 30 08.9	
FITZ	**Fitzroy Crossi**	52.23	194	P	**P**	**23 30 00.8**	**-0.7**
	comp=Z,4.6nm,0.7s,mb4.5,baz=9.4,slow=7.7,SNR=11						
FITZ				pP	pP	23 30 08.9	+1.6
	comp=Z,3.8nm,0.7s,baz=5.4,slow=8.8,SNR=5.8						
WRAB	**Tennant Creek**	52.98	183	*e*P	**P**	**23 30 05.0**	**-2.1**
	comp=Z,20nm,1.2s,mb4.9						
WRAB				*e*		23 30 13.5	
WB2	**Warramunga Arr**	52.99	183	*e*P	**P**	**23 30 06.1**	**-1.1**
WB2				*e*	pP	23 30 13.7	+0.6
WRA	**Warramunga Arr**	52.99	183	P	**P**	**23 30 05.6**	**-1.6**
	comp=Z,4.8nm,0.7s,mb4.5,baz=2.1,slow=7.8,SNR=46						
WRA				pP	pP	23 30 13.5	+0.5
	comp=Z,6.5nm,0.9s,baz=3.4,slow=7.7,SNR=17						
CTA	**Charters Tower**	53.83	169	P	**P**	**23 30 11.9**	**-1.3**
	comp=Z,2.6nm,0.7s,mb4.3,baz=321,slow=14,SNR=3.2						
ILAR	**Eielson Array**	54.60	31	P	**P**	**23 30 19.2**	**+0.8**
	comp=Z,0.4nm,0.8s,mb3.5,baz=279,slow=5.4,SNR=6.3						
ILAR				pP	pP	23 30 26.5	+2.2
	comp=Z,0.7nm,0.9s,baz=277,slow=6.2,SNR=6.1						
ASAR	**Alice Springs**	56.71	183	P	**P**	**23 30 33.2**	**-1.0**
	comp=Z,2.9nm,0.9s,mb4.3,baz=13,slow=9.3,SNR=23						
ASAR				pP	pP	23 30 41.1	+0.9
	comp=Z,2.8nm,0.9s,baz=7.2,slow=5.3,SNR=11						
ASAR				LR	LR	23 53 29.4	
	comp=Z,86nm,19.0s,MS3.9,baz=54,slow=34						
STKA	**Stephens Creek**	64.97	176	P	**P**	**23 31 29.6**	**-0.5**
	comp=Z,3.1nm,0.7s,mb4.4,baz=53,slow=2.4,SNR=5.7						
STKA				pP	pP	23 31 36.9	+0.7
	comp=Z,2.3nm,0.7s,baz=31,slow=5.4,SNR=2.3						
STKA				LR	LR	23 56 53.4	
	comp=Z,87nm,21.5s,MS3.9,baz=23,slow=33						
ARCES	**ARCESS Array B**	66.18	339	P	**P**	**23 31 37.0**	**-0.2**
	comp=Z,18nm,1.3s,mb4.9,baz=56,slow=8.7,SNR=7.0						
FINES	**FINESS Array B**	70.37	332	P	**P**	**23 32 02.9**	**-0.5**
	comp=Z,1.2nm,0.8s,mb3.9,baz=18,slow=4.4,SNR=2.8						
AKASG	**Malin Array Be**	74.94	321	P	**P**	**23 32 31.6**	**+1.0**
	comp=Z,0.1nm,0.3s,mb3.3,baz=46,slow=6.4,SNR=4.6						
AKASG				pP	pP	23 32 38.2	+1.6
	comp=Z,2.8nm,0.8s,baz=48,slow=6.0,SNR=5.1						
BRTR	**Keskin Array B**	78.49	310	P	**P**	**23 32 51.5**	**+0.9**
	comp=Z,0.4nm,0.7s,mb3.5,baz=56,slow=5.8,SNR=2.6						
BRTR				pP	pP	23 32 59.9	+3.1
	comp=Z,2.2nm,1.0s,baz=90,slow=6.2,SNR=6.1						
TPNV	**Topopah Spring**	82.38	51	*e*P	**P**	**23 33 12.8**	**+1.5**
	comp=Z,4.2nm,1.0s,mb4.3						
GERES	**GERESS Array B**	83.85	326	P	**P**	**23 33 18.7**	**+0.1**
	comp=Z,0.7nm,0.9s,mb3.8,baz=315,slow=3.8,SNR=4.3						
GERES				pP	pP	23 33 27.0	+2.2
	comp=Z,0.9nm,0.8s,baz=45,slow=3.8,SNR=4.9						
PV10	**Paradox Valley**	86.01	46	*e*P	**P**	**23 33 31.6**	**+1.9**
PV10				*e*	pP	23 33 39.3	+3.4
TXAR	**Lajitas Array**	95.33	50	P	**P**	**23 34 15.0**	**+1.5**
	comp=Z,0.6nm,0.8s,mb4.0,baz=279,slow=2.1,SNR=6.0						
TXAR				pP	pP	23 34 22.4	+2.7
	comp=Z,1.6nm,1.1s,baz=315,slow=1.8,SNR=6.1						
TXAR	**Lajitas Array**	95.33	50	P	**P**	**23 34 15.0**	**+1.5**
TXAR				pP	pP	23 34 22.4	+2.6

*IDC **05** 23:22:07.6±1.8, 1.35N×125.73E, mb3.9/3, mb1 4.0/4, mb1mx3.7/14, ML3.5/1, Error ellipse: s-maj=116.0km s-min=23.3km az=68.0*

ISC 05 23:22:10.6±1.6**, 1.3N**±0.3×**125.5E**±0.6**, h33^{km}, n5, σ0^{s}.35**/5**, mb3.8**/3**, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	19.23	180	P	**P**	**23 26 34.9**	**-0.1**
	0.1nm,0.3s,baz=342,slow=9.6,SNR=3.1						
WRA	**Warramunga Arr**	22.77	158	P	**P**	**23 27 11.4**	**-0.1**
	1.4nm,0.3s,mb3.9,baz=337,slow=10,SNR=30						

WB2	Warramunga Arr	22.77	158	*e*P	P	23 27 11.3	-0.2
ASAR	Alice Springs	26.08	162	P	P	23 27 43.7	+0.5
	1.2nm,0.4s,mb3.8,baz=344,slow=11,SNR=9.8						
MKAR	Makanchi Array	58.92	327	P	P	23 32 08.9	0.0
	0.4nm,0.3s,mb3.9,baz=118,slow=8.2,SNR=7.5						

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*NEIC **05** 23:22:56.5, 37.06N×20.72E, h5^{km}, MD3.5(ATH), After ATH.*

ATH 05 23:22:56.5, 37.06N×20.72E, h5^{km}, MD3.5/5, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ITM	Ithomi	0.97	83	*e*PN	Pn	23 23 15.5	-1.1
ITM				*e*SB	Sb	23 23 29.0	+0.6
VLS	Valsamata	1.12	355	*e*PB	Pb	23 23 18.0	0.0
VLS				*e*SB	Sb	23 23 33.6	+0.9
RLS	Riolos of Patr	1.16	31	*e*PN	Pn	23 23 18.3	-1.0
RLS				*e*SB	Sb	23 23 34.8	+1.0
VLI	Veliai	1.81	100	*e*PG	Pg	23 23 29.5	-3.1
EVR	Evrytania	2.04	25	*e*PG	Pg	23 23 35.3	-2.0
NSAL	Nisos Salamina	2.34	68	*e*PG	Pg	23 23 40.5	-2.7

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*NIED **05** 23:23:00, 33.00N×137.20E, h17^{km}, Mw4.2 Best double couple: M$_0$1.92×10^{15} NP1:ϕ_s323°, δ62°, λ-73°. NP2: ϕ_s110°, δ33°, λ-119°.*

*JMA **05** 23:23:13.9±0.1, 33.05N×137.17E, h39^{km}±3^{km}, M3.7*

ISC 05 23:23:14.6±1.1**, 33.07N**±0.06×**137.15E**±0.04**, h39^{km}, n16, σ0^{s}46**/31**, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	Tokai 1	0.78	28	P	P	23 23 28.8	-0.4
TK01				S	S	23 23 39.6	-0.3
TK02	Tokai 2	1.01	30	P	P	23 23 32.1	-0.4
TK02				S	S	23 23 45.8	+0.1
JWZ	Kozaga	1.28	291	P	P	23 23 36.2	-0.2
JWZ				S	S	23 23 51.9	-0.8
TK03	Tokai 3	1.28	32	P	P	23 23 35.9	-0.5
TK03				S	S	23 23 52.6	-0.1
JIE	Ise	1.36	345	P	P	23 23 38.0	+0.4
JIE				S	S	23 23 55.4	+0.7
JKN	Kiinagashima	1.38	328	P	P	23 23 38.1	+0.2
JKN				S	S	23 23 54.4	-0.8
TK04	Tokai 4	1.44	25	P	P	23 23 38.5	-0.2
TK04				*i* S	S	23 23 56.4	-0.2
JWM	Minabe	1.69	298	P	P	23 23 42.4	+0.2
JWM				S	S	23 24 02.4	-0.3
JWY	Kouya	1.73	312	P	P	23 23 43.6	+0.9
JWY				S	S	23 24 04.1	+0.3
TSUJ	Tsu 2	1.74	340	P	P	23 23 43.2	+0.3
TSUJ				S	S	23 24 04.2	+0.1
JHE	Heguri	1.99	323	P	P	23 23 47.0	+0.5
JHE				S	S	23 24 10.8	+0.4
JIZS	Izushimoda	2.18	41	P	P	23 23 49.2	0.0
JAI	Aioi	2.37	288	P	P	23 23 52.0	+0.1
JAI				S	S	23 24 18.8	-1.1
JWT	Wachi	2.64	327	P	P	23 23 56.4	+0.7
JWT				S	S	23 24 26.7	-0.1
JGM	Miyama	2.64	352	P	P	23 23 56.1	+0.3
JGM				S	S	23 24 27.0	+0.1
MAT	Matsushiro	3.57	14	P	P	23 24 09.5	+0.5
MAT				S	S	23 24 49.9	-0.5

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*IDC **05** 23:24:33.7±9.8, 33.24N×137.09E, mb3.6/4, mb1 3.8/4, mb1mx3.5/21, Error ellipse: s-maj=391.0km s-min=25.1km az=64.0*

*NEIC **05** 23:24:34.4±0.7, 33.31N×137.27E, h10^{km}, mb4.0/2, Error ellipse: s-maj=26.9km s-min=13.2km az=97.0*

*JMA **05** 23:24:35.3±0.1, 33.34N×137.01E, h35^{km}±3^{km}, M3.5*

ISC 05 23:24:35.2±1.1**, 33.37N**±0.05×**137.00E**±0.05**, h25^{km}**±7^{km}**, n22, σ0^{s}89**/31**, mb3.6**/6**, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	Tokai 1	0.63	51	P	Pb	23 24 47.8	+0.3
TK01				S	Sb	23 24 56.3	+0.4
TK02	Tokai 2	0.85	48	S	Sb	23 25 02.6	+0.4
JIE	Ise	1.04	346	P	Pn	23 24 54.6	+0.1
JIE				S	Sb	23 25 08.8	+1.0
JKN	Kiinagashima	1.07	325	P	Pn	23 24 54.5	-0.3
JKN				S	Sb	23 25 07.7	-0.8
TK03	Tokai 3	1.12	45	S	Sb	23 25 09.3	-0.8
TK04	Tokai 4	1.24	35	S	Sn	23 25 12.5	-0.9
TSUJ	Tsu 2	1.42	340	P	Pn	23 25 00.3	+0.5
TSUJ				S	Sn	23 25 17.8	0.0
JHE	Heguri	1.68	320	P	Pn	23 25 03.7	+0.1
JHE				S	Sn	23 25 24.3	-0.2
JIZS	Izushimoda	2.05	49	P	Pn	23 25 09.5	+0.6
JWT	Wachi	2.32	326	P	Pn	23 25 12.6	-0.1
JWT				S	Sn	23 25 40.3	-0.5
JGM	Miyama	2.33	354	P	Pn	23 25 12.9	0.0
JGM				S	Sn	23 25 41.0	-0.1
MAJO	Matsushiro	3.31	17	Pn	Pn	23 25 25.2	-1.7
MAT	Matsushiro	3.31	17	P	Pn	23 25 26.3	-0.6
MAT				S	Sn	23 26 06.1	+0.2
MAT	Matsushiro	3.31	17	P	Pn	23 25 26.0	-0.9
MAT				*e*S	Sn	23 26 06.0	+0.1
SONM	Songino Array	27.15	311	P	P	23 30 20.2	+1.8
	0.6nm,1.0s,mb3.1,baz=113,slow=11,SNR=1.8						
SONM	Songino Array	27.15	311	P	P	23 30 20.2	+1.8
MKAR	Makanchi Array	43.12	305	P	P	23 32 36.5	+1.3
	0.9nm,0.7s,mb3.6,baz=90,slow=10,SNR=5.4						
WRAB	Tennant Creek	53.07	183	*e*P	P	23 33 49.4	-3.5
	0.7nm,0.4s,mb3.9						
WRA	Warramunga Arr	53.08	183	P	P	23 33 51.1	-1.9
	0.4nm,0.4s,mb3.7,baz=360,slow=7.7,SNR=6.3						
ASAR	Alice Springs	56.80	183	P	P	23 34 19.7	-0.3
	0.4nm,0.6s,mb3.6,baz=5.6,slow=7.3,SNR=4.2						
TPNV	Topopah Spring	82.27	51	*e*P	P	23 36 57.1	+1.1
	1.3nm,0.8s,mb3.9						
PV10	Paradox Valley	85.90	46	*e*P	P	23 37 15.8	+1.4

JMA 05 23:30:25.2±0.1**, 33.48N×136.76E, h43^{km}**±3^{km}**, M2.2, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JKN	Kiinagashima	0.87	332	P	P	23 30 41.1	0.0
JKN				*e*S	S	23 30 52.1	-0.7
JWZ	Kozaga	0.88	274	P	P	23 30 41.0	-0.2
JWZ				*e*S	S	23 30 52.7	-0.3
JIE	Ise	0.91	357	P	P	23 30 41.9	+0.2
JIE				*e*S	S	23 30 53.8	-0.1
TK02	Tokai 2	0.95	60	S	S	23 30 53.9	-1.0
JAA	Atsumi	1.19	15	P	P	23 30 45.7	+0.1
JAA				S	S	23 31 00.4	-0.5
TK03	Tokai 3	1.21	55	*e*S	S	23 31 00.6	-0.9
JWM	Minabe	1.23	288	P	P	23 30 46.6	+0.4
JWM				S	S	23 31 01.9	0.0
TSUJ	Tsu 2	1.26	347	S	S	23 31 02.6	-0.1
TK04	Tokai 4	1.29	45	*e*S	S	23 31 03.0	-0.6
JHE	Heguri	1.47	323	P	P	23 30 50.4	+0.7
JHE				S	S	23 31 08.4	+0.4

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*NIED **05** 23:30:00, 33.10N×137.00E, h17^{km}, Mw4.0 Best double couple: M$_0$1.07×10^{15} NP1:ϕ_s110°, δ53°, λ112°. NP2: ϕ_s256°, δ43°, λ64°.*

*IDC **05** 23:30:48.3±0.9, 33.08N×137.07E, mb3.9/10, mb1 4.0/13, mb1mx4.0/23, ML3.6/3, MS2.9/1, Ms1 2.9/1, ms1mx2.4/27, Error ellipse: s-maj=27.7km s-min=21.2km az=28.0*

*NEIC **05** 23:30:49.9±4.1, 33.04N×137.05E, h8^{km}±24^{km}, mb4.3/1, Error ellipse: s-maj=16.3km s-min=10.2km az=145.0*

NEIC Recorded [1 JMA] in Mie Prefecture.

*JMA **05** 23:30:51.8±0.1, 33.13N×137.01E, h38^{km}±3^{km}, M4.3*

JMA Felt I J1.

ISC 05 23:30:51.6±1.1**, 33.14N**±0.04×**137.00E**±0.03**, h31^{km}**±8^{km}**, n35, σ0^{s}93**/53**, mb3.8**/11**, 11D, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	Tokai 1	0.79	38	P	Pn	23 31 06.5	-0.2
TK01				S	Sb	23 31 17.2	-0.1
TK02	Tokai 2	1.02	38	⇓P	Pn	23 31 10.0	0.0
TK02				S	Sn	23 31 23.4	+0.1
JWZ	Kozaga	1.14	290	⇓P	Pn	23 31 11.7	0.0
JWZ				S	Sn	23 31 25.6	-0.8
JKN	Kiinagashima	1.26	331	⇓P	Pn	23 31 13.8	+0.4
JKN				S	Sn	23 31 28.7	-0.7
JIE	Ise	1.27	349	⇓P	Pn	23 31 14.1	+0.6
JIE				S	Sn	23 31 30.0	+0.4
TK03	Tokai 3	1.30	38	⇓P	Pn	23 31 13.9	-0.1
TK03				S	Sn	23 31 30.3	-0.1
TK04	Tokai 4	1.44	30	⇓P	Pn	23 31 16.1	+0.2
TK04				S	Sn	23 31 34.0	+0.1
JWM	Minabe	1.54	298	P	Pn	23 31 17.8	+0.4
JWM				S	Sn	23 31 36.0	-0.6
JWY	Kouya	1.59	313	⇓P	Pn	23 31 19.0	+0.9
JWY				S	Sn	23 31 38.0	+0.3
TSUJ	Tsu 2	1.63	343	⇓P	Pn	23 31 19.3	+0.5
TSUJ				S	Sn	23 31 38.8	-0.1
JHE	Heguri	1.86	324	⇓P	Pn	23 31 22.7	+0.7
JHE				S	Sn	23 31 44.8	+0.2
SHZ3	Shizuoka 3	2.17	27	⇓P	Pn	23 31 26.0	-0.4
SHZ3				S	Sn	23 31 50.6	-1.8
JIZS	Izushimoda	2.22	44	P	Pn	23 31 28.4	+1.3
JAI	Aioi	2.22	288	P	Pn	23 31 27.6	+0.4
JAI				S	Sn	23 31 52.4	-1.5
JHJ	Hachijo jima 2	2.34	90	Pn	Pn	23 31 27.9	-0.9
	64nm,0.3s,baz=67,slow=21,SNR=6.6						
JHJ				Sn	Sn	23 31 54.8	-2.0
	79nm,0.3s,baz=264,slow=23,SNR=9.2						
JHJ				LR	LR	23 32 16.5	
	comp=Z,265nm,20.3s,baz=176,slow=38						
MAJO	Matsushiro	3.53	16	⇓*e*Pn	Pn	23 31 46.4	+0.5
MAJO				*e*Sn	Sn	23 32 26.9	-0.1
MAT	Matsushiro	3.53	16	P	Pn	23 31 46.4	+0.6
MAT				S	Sn	23 32 26.0	-1.1
MAT	Matsushiro	3.53	16	*e*P	Pn	23 31 46.0	+0.2
MAT				*e*S	Sn	23 32 26.0	-1.1
JNU	Nakatsue	5.13	271	Pn	Pn	23 32 07.8	-0.7
	1.4nm,0.3s,baz=61,slow=10,SNR=2.9						
JNU				Sn	Sn	23 33 05.4	-2.1
ASAJ	Asahikawa	11.79	20	Pn	P	23 33 37.6	-3.2
	0.7nm,0.3s,baz=269,slow=26,SNR=5.6						
SONM	Songino Array	27.30	312	P	P	23 36 36.5	+1.2
	0.5nm,0.8s,mb3.1,baz=100,slow=8.8,SNR=3.1						
SONM				ScP		23 43 36.6	
	0.2nm,0.7s,baz=117,slow=6.4,SNR=3.9						
MKAR	Makanchi Array	43.25	305	P	P	23 38 52.4	+0.7
	0.8nm,0.8s,mb3.5,baz=102,slow=10,SNR=6.0						
MKAR	Makanchi Array	43.25	305	P	P	23 38 52.4	+0.7
BVAR	Borovoye Array	50.59	314	P	P	23 39 49.2	-0.1
	0.2nm,0.4s,mb3.4,baz=90,slow=8.6,SNR=4.2						
WRAB	Tennant Creek	52.84	183	P	P	23 39 58.9	-7.9
	1.9nm,0.4s,mb4.4						
ASAR	Alice Springs	56.57	183	P	P	23 40 32.0	-1.9
	0.7nm,0.8s,mb3.8,baz=6.6,slow=6.7,SNR=7.3						
FINES	FINESS Array B	70.53	332	P	P	23 42 05.0	-0.1
	0.7nm,0.5s,mb3.8,baz=104,slow=7.9,SNR=6.7						
AKASG	Malin Array Be	75.10	321	P	P	23 42 31.4	-0.7
	1.8nm,0.7s,mb4.1,baz=51,slow=6.2,SNR=6.4						
NOA	NORSAR Array B	76.31	336	P	P	23 42 38.9	+0.1
	1.6nm,1.0s,mb3.9,baz=53,slow=6.3,SNR=3.2						
BRTR	Keskin Array B	78.64	310	P	P	23 42 53.2	+1.1
	0.4nm,0.5s,mb3.6,baz=104,slow=10,SNR=3.6						
KHC	Kasperske Hory	83.87	327	*e*P	P	23 43 21.0	+1.7
KHC				x	x	23 43 32.0	
KHC	Kasperske Hory	83.87	327	*e*P	P	23 43 21.0	+1.7
KHC				*e*	pP	23 43 32.0	+2.7
GERES	GERESS Array B	84.02	326	P	P	23 43 21.1	+1.0
	2.0nm,0.9s,mb4.2,baz=37,slow=6.7,SNR=8.1						
PV10	Paradox Valley	86.07	46	*e*P	P	23 43 32.6	+2.0
TXAR	Lajitas Array	95.38	50	P	P	23 44 15.8	+1.4
	0.7nm,0.6s,mb4.3,baz=298,slow=3.0,SNR=11						

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*JMA **05** 23:57:23.5±0.1, 33.16N×137.01E, h37^{km}, M3.8*

ISC 05 23:57:23.9±1.3**, 33.18N**±0.08×**137.00E**±0.04**, h37^{km}, n13, σ0^{s}58**/23**, 7D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	Tokai 1	0.77	40	S	S	23 57 47.9	-0.8
TK02	Tokai 2	0.99	39	P	P	23 57 41.2	-0.3
TK02				S	S	23 57 54.6	+0.1
JWZ	Kozaga	1.13	288	⇓P	P	23 57 43.4	0.0
JWZ				S	S	23 57 57.1	-0.9
JKN	Kiinagashima	1.23	330	⇓P	P	23 57 45.2	+0.4
JIE	Ise	1.23	349	⇓P	P	23 57 45.5	+0.6
JIE				S	S	23 58 01.1	+0.5
TK03	Tokai 3	1.27	39	S	S	23 58 01.3	-0.3
TK04	Tokai 4	1.41	31	⇓P	P	23 57 47.5	+0.1
TK04				S	S	23 58 04.7	-0.3
JWM	Minabe	1.53	296	⇓P	P	23 57 49.2	0.0
JWM				S	S	23 58 07.5	-0.5
JWY	Kouya	1.57	312	⇓P	P	23 57 50.5	+0.8
JWY				S	S	23 58 09.2	+0.2
TSUJ	Tsu 2	1.60	343	P	P	23 57 50.6	+0.4
TSUJ				S	S	23 58 10.0	+0.1
JHE	Heguri	1.83	324	⇓P	P	23 57 54.2	+0.7
JHE				S	S	23 58 16.3	+0.6
JAI	Aioi	2.22	287	P	P	23 57 59.2	+0.2
JAI				S	S	23 58 24.0	-1.4
MAT	Matsushiro	3.50	16	P	P	23 58 17.8	+0.6
MAT				S	S	23 58 56.9	-1.1

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*NIED **05** 23:59:00, 33.40N×136.90E, h5^{km}, Mw4.8 Best double couple: M$_0$1.82×10^{16} NP1:ϕ_s349°, δ89°, λ128°. NP2:ϕ_s80°, δ38°, λ2°.*

*NEIC **05** 23:59:38.0±0.3, 33.49N×136.86E, h10^{km}, mb4.4/7, Error ellipse: s-maj=8.2km s-min=6.3km az=105.0*

*JMA **05** 23:59:37.6±0.1, 33.45N×136.91E, h38^{km}±3^{km}, M4.1*

JMA Felt I J1.

*IDC **05** 23:59:40.4±0.5, 33.44N×136.76E, h26^{km}±3^{km}, mb3.8/15, mb1 4.0/17, mb1mx3.9/27, ML4.1/2, MS4.0/16, Ms1 4.0/16, ms1mx3.8/31, Error ellipse: s-maj=21.1km s-min=12.1km az=86.0*

ISC 05 23:59:36.8±0.7**, 33.47N**±0.04×**136.90E**±0.03**, h15^{km}**±5^{km}**, h25^{km}**±.8^{km}**:pP-P, n55, σ0^{s}92**/54**, mb4.0**/19**, MS4.1**/11**, 1C, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	Tokai 1	0.65	62	P	Pb	23 59 50.1	+0.8
TK02	Tokai 2	0.86	56	P	Pb	23 59 53.9	+0.9
JIE	Ise	0.94	350	⇑P	Pb	23 59 55.1	+0.9
JKN	Kiinagashima	0.94	326	P	Pb	23 59 54.7	+0.4
JKN				S	Sb	00 00 06.4	+0.1
JWZ	Kozaga	0.99	274	P	Pb	23 59 55.6	+0.5
JWZ				S	Sb	00 00 08.6	+0.9
TK03	Tokai 3	1.13	52	P	Pb	23 59 56.8	-0.7
TK03				S	Sb	00 00 11.3	-0.5
TSUJ	Tsu 2	1.30	342	P	Pb	00 00 00.3	-0.2
TSUJ				S	Sb	00 00 16.0	-0.8
JWY	Kouya	1.32	305	P	Pb	00 00 01.0	+0.2
JWM	Minabe	1.34	287	P	Pn	00 00 00.7	-0.4
JWM				S	Sb	00 00 17.4	-0.5
JHE	Heguri	1.56	320	P	Pn	00 00 04.1	0.0
JHE				S	Sn	00 00 23.0	-1.1
JWT	Wachi	2.19	326	P	Pn	00 00 13.4	+0.1
JGM	Miyama	2.23	356	P	Pn	00 00 13.6	-0.3
JHJ	Hachijo jima 2	2.44	97	Pn	Pn	00 00 16.5	-0.3
	40nm,0.3s,baz=248,slow=19,SNR=4.8						
JHJ				Sn	Sn	00 00 43.5	-3.1
	66nm,0.3s,baz=76,slow=22,SNR=4.9						
JHJ				LR	LR	00 01 23.0	
	comp=Z,3µm,18.8s,baz=50,slow=40						
MAJO	Matsushiro	3.25	19	*e*Pn	Pn	00 00 27.5	-0.9
MAT	Matsushiro	3.25	19	P	Pn	00 00 27.5	-0.9
MAT				S	Sn	00 01 06.9	-0.3
MAT	Matsushiro	3.25	19	*e*P	Pn	00 00 28.0	-0.4
MAT				*e*S	Sn	00 01 07.0	-0.2
JNU	Nakatsue	5.05	268	LR	LR	00 01 55.2	
	comp=Z,303nm,21.8s,baz=94,slow=27						
CBIJ	Chichi jima	7.82	143	LR	LR	00 04 10.9	
	comp=Z,1µm,18.5s,baz=129,slow=34						
JOW	Kunigami	9.97	231	Pn	P	00 02 00.7	-1.9
	5.9nm,0.3s,baz=166,slow=27,SNR=3.6						
JOW				LR	LR	00 05 29.6	
	comp=Z,1µm,18.6s,baz=296,slow=35						
ASAJ	Asahikawa	11.52	21	LR	LR	00 07 46.5	
	comp=Z,565nm,18.8s,baz=56,slow=42						
BJT	Baijiatuau	17.84	297	*e*P	P	00 03 47.4	+1.4
	14nm,0.9s						
HIA	Hailar	20.30	326	P	P	00 04 13.3	-1.4
	8.3nm,1.1s						
ENH	Enshi	23.47	270	*e*P	P	00 04 48.3	+1.7
	8.9nm,0.8s,mb4.2						
SONM	Songino Array	27.02	311	P	P	00 05 19.5	-0.5
	2.1nm,0.9s,mb3.7,baz=121,slow=7.2,SNR=9.7						
ZAL	Zalesovo	41.73	316	P	P	00 07 26.6	0.0
	0.3nm,0.3s,mb3.4,baz=291,slow=12,SNR=3.4						
ZAL				LR	LR	00 26 13.9	
	comp=Z,488nm,18.8s,MS4.4,baz=284,slow=38						
MKAR	Makanchi Array	42.99	305	LR	LR	00 26 38.5	
	comp=Z,515nm,18.2s,MS4.5,baz=88,slow=38						
KURK	Kurchatov	45.33	310	*e*P	P	00 07 54.5	-1.3
	7.1nm,1.1s,mb4.4						
BVAR	Borovoye Array	50.31	314	P	P	00 08 34.4	-0.1
	0.6nm,0.7s,mb3.7,baz=68,slow=7.8,SNR=3.7						
BVAR				pP	pP	00 08 40.8	+1.6
	1.5nm,0.8s,baz=80,slow=9.0,SNR=5.0						
ZRNK	Zerenda	51.15	314	*e*P	P	00 08 40.6	-0.3
	3.9nm,0.9s,mb4.3						
RSO	Redoubt South	51.97	36	*e*P	P	00 08 48.1	+1.0
FITZ	Fitzroy Crossi	52.39	194	*e*P	P	00 08 51.0	+0.2
	5.9nm,1.0s,mb4.5						
FITZ	Fitzroy Crossi	52.39	194	P	P	00 08 50.3	-0.4
	3.7nm,0.8s,mb4.3,baz=328,slow=6.4,SNR=6.6						
FITZ				pP	pP	00 08 57.8	+2.2
	9.3nm,1.1s,baz=9.3,slow=8.2,SNR=8.2						
WB2	Warramunga Arr	53.16	183	*e*P	P	00 08 55.9	-0.6
WRA	Warramunga Arr	53.16	183	P	P	00 08 55.5	-1.0
	3.0nm,0.9s,mb4.2,baz=2.3,slow=7.8,SNR=24						
WRA				pP	pP	00 09 03.6	+2.4
	4.7nm,0.7s,baz=1.4,slow=7.9,SNR=19						
CTA	Charters Tower	53.99	169	P	P	00 09 02.4	-0.2
	4.3nm,1.0s,mb4.3,baz=275,slow=12,SNR=2.5						
CTA	Charters Tower	53.99	169	P	P	00 09 02.4	-0.2
ILAR	Eielson Array	54.46	31	P	P	00 09 05.1	-0.3
	0.8nm,0.8s,mb3.7,baz=280,slow=6.5,SNR=12						
ILAR				LR	LR	00 32 27.5	
	comp=Z,97nm,21.0s,MS3.9,baz=286,slow=36						
ILAR	Eielson Array	54.46	31	P	P	00 09 05.1	-0.3
ILAR				LR	LR	00 32 27.5	
ASAR	Alice Springs	56.88	183	P	P	00 09 22.9	-0.6
	1.3nm,0.6s,mb4.1,baz=11,slow=9.7,SNR=16						
ASAR				pP	pP	00 09 30.9	+2.6
	3.5nm,0.8s,baz=7.4,slow=5.4,SNR=14						
ASAR				LR	LR	00 30 47.4	
	comp=Z,46nm,19.0s,MS3.6,baz=119,slow=33						
DLBC	Dease Lake	63.69	36	P	P	00 10 10.6	+1.2
	0.8nm,0.7s,mb3.9,baz=206,slow=26,SNR=2.1						
STKA	Stephens Creek	65.14	176	P	P	00 10 18.9	-0.5
	3.0nm,0.9s,mb4.3,baz=348,slow=14,SNR=3.0						
STKA				LR	LR	00 35 39.4	
	comp=Z,109nm,21.5s,MS4.0,baz=20,slow=33						
ARCES	ARCESS Array B	66.01	339	P	P	00 10 24.0	-0.3
	4.6nm,0.9s,mb4.5,baz=350,slow=22,SNR=2.6						
ARCES	ARCESS Array B	66.01	339	P	P	00 10 24.0	-0.3
YKA	Yellowknife Ar	68.72	28	LR	LR	00 43 00.7	
	comp=Z,80nm,20.6s,MS3.9,baz=290,slow=38						
FINES	FINESS Array B	70.21	331	LR	LR	00 47 04.2	
	comp=Z,116nm,18.1s,MS4.2,baz=217,slow=40						
AKASG	Malin Array Be	74.80	321	LR	LR	00 46 31.7	
	comp=Z,204nm,18.9s,MS4.4,baz=80,slow=38						
NOA	NORSAR Array B	75.99	336	LR	LR	00 50 24.3	
	comp=Z,93nm,18.8s,MS4.1,slow=40						
BRTR	Keskin Array B	78.38	310	P	P	00 11 38.4	+0.3
	6.2nm,1.3s,mb4.4,baz=34,slow=4.5,SNR=5.5						
BRTR				sP	sP	00 11 51.5	+6.8
	1.8nm,1.0s,baz=79,slow=6.3,SNR=4.4						
TPNV	Topopah Spring	82.28	51	*e*P	P	00 12 00.3	+1.3
	2.4nm,0.8s,mb4.2						
PDAR	Pinedale Array	82.80	43	P	P	00 12 02.7	+1.2
	0.4nm,0.9s,mb3.5,baz=304,slow=5.3,SNR=3.6						
PDAR				pP	pP	00 12 11.2	+4.8
	1.9nm,1.1s,baz=333,slow=3.3,SNR=7.0						
GERES	GERESS Array B	83.70	326	P	P	00 12 06.4	+0.4
	0.2nm,0.5s,mb3.5,baz=127,slow=6.7,SNR=3.8						
PV10	Paradox Valley	85.91	46	P	P	00 12 19.7	+2.4
PV10				*e*		00 12 27.8	
SCHQ	Schefferville	89.72	13	LR	LR	00 55 57.8	
	comp=Z,100nm,21.8s,MS4.2,baz=297,slow=38						
TXAR	Lajitas Array	95.23	50	P	P	00 13 03.6	+2.4
	0.1nm,0.6s,mb3.4,baz=317,slow=4.2,SNR=2.6						
TXAR				pP	pP	00 13 11.2	+5.0
	1.5nm,1.1s,baz=280,slow=3.2,SNR=6.4						
ESDC	Sonseca Array	98.71	330	LR	LR	01 03 27.7	
	comp=Z,96nm,18.1s,MS4.3,baz=335,slow=39						

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*NIED **06** 00:01:00, 33.10N×137.00E, h14^{km}, Mw4.2 Best double couple: M$_0$2.2×10^{15} NP1:ϕ_s76°, δ55°, λ105°. NP2:ϕ_s231°, δ37°, λ69°.*

*NEIC **06** 00:01:42.2±0.3, 33.07N×136.89E, h10^{km}, mb4.3/10, Error ellipse: s-maj=8.3km s-min=7.9km az=199.0*

*BJI **06** 00:01:43.3, 33.06N×137.07E, h24^{km}, mB4.8, mb4.3*

*JMA **06** 00:01:43.5±0.1, 33.12N×136.99E, h41^{km}±4^{km}, M4.5*

*IDC **06** 00:01:46.4±0.5, 33.09N×137.16E, h40^{km}±4^{km}, mb3.9/17, mb1 4.1/19, mb1mx4.1/26, ML3.9/2, MS3.9/1, Ms1 3.9/1, ms1mx3.1/27, Error ellipse: s-maj=13.6km s-min=8.1km az=8.0*

ISC 06 00:01:42.5±0.8**, 33.14N**±0.04×**136.97E**±0.03**, h20^{km}**±5^{km}**, h39^{km}**±1.2^{km}**:pP-P, n64, σ0^{s}96**/77**, mb4.2**/28**, MS4.0**/1**, 2C-9D, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	Tokai 1	0.81	40	*e*S	Sb	00 02 09.3	+1.1
TK02	Tokai 2	1.04	39	⇓P	Pb	00 02 01.9	+0.3
TK02				S	Sb	00 02 15.4	+0.6
JWZ	Kozaga	1.12	291	⇓P	Pb	00 02 03.3	+0.2
JWZ				S	Sb	00 02 17.0	-0.2
JKN	Kiinagashima	1.25	332	⇓P	Pn	00 02 05.5	+0.4
JKN				S	Sb	00 02 20.3	-0.7
JIE	Ise	1.27	350	⇓P	Pn	00 02 05.9	+0.6
JIE				S	Sb	00 02 21.2	-0.2
TK03	Tokai 3	1.31	39	P	Pn	00 02 05.8	-0.2
TK03				S	Sb	00 02 22.2	-0.6
TK04	Tokai 4	1.45	31	P	Pn	00 02 08.1	+0.1
TK04				S	Sn	00 02 25.8	-0.7
JWM	Minabe	1.52	298	⇓P	Pn	00 02 09.1	+0.1
JWM				S	Sn	00 02 27.8	-0.6
JWY	Kouya	1.57	313	⇓P	Pn	00 02 10.7	+1.0
JWY				S	Sn	00 02 29.5	-0.2
TSUJ	Tsu 2	1.63	344	⇓P	Pn	00 02 11.1	+0.6
TSUJ				S	Sn	00 02 30.4	-0.7
JHE	Heguri	1.85	325	⇓P	Pn	00 02 14.3	+0.6
JHE				S	Sn	00 02 36.2	-0.5
SHZ3	Shizuoka 3	2.18	28	P	Pn	00 02 18.0	-0.4
JAI	Aioi	2.20	288	⇓P	Pn	00 02 18.9	+0.1
JAI				*e*S	Sn	00 02 44.0	-1.7
JIZS	Izushimoda	2.23	45	P	Pn	00 02 19.3	+0.1
JMY	Miyakejima3	2.31	66	P	Pn	00 02 20.4	0.0
JHJ	Hachijo jima 2	2.36	90	P	Pn	00 02 20.8	-0.2
	164nm,0.3s,baz=116,slow=23,SNR=11						
JHJ				S	Sn	00 02 47.4	-2.3
	188nm,0.3s,baz=74,slow=23,SNR=8.7						
JHJ2	Mitsune	2.39	90	⇑P	Pn	00 02 20.6	-0.8
JIM2	Oshima 3	2.58	52	⇑P	Pn	00 02 24.5	+0.4
JIM2				*e*S	Sn	00 02 54.2	-1.0
MAT	Matsushiro	3.54	16	P	Pn	00 02 38.4	+0.6
MAT				S	Sn	00 03 17.8	-1.8
MAT	Matsushiro	3.54	16	*e*P	Pn	00 02 38.0	+0.2
MAT				*e*S	Sn	00 03 18.0	-1.6
JNU	Nakatsue	5.11	271	P	Pn	00 02 59.0	-1.1
	3.4nm,0.3s,baz=175,slow=18,SNR=6.4						
BJT	Baijiatuau	18.04	298	P	P	00 05 50.8	-3.0
HIA	Hailar	20.60	327	*e*P	P	00 06 24.0	+1.1
	5.5nm,0.7s						
HHC	Hu-ho-hao-te	21.65	298	*e*P	P	00 06 36.8	+3.1
HHC				AP		00 06 41.0	
HHC				XP		00 06 44.6	
HHC				AMB	AMB		
	comp=Z,11nm,0.6s,mb4.5						
HHC				AMB	AMB		
	comp=Z,193nm,6.5s						
XAN	Xi’an	23.36	280	P	P	00 06 52.0	+1.4
XAN				AMB	AMB		
	comp=Z,11nm,0.8s,mb4.3						
SONM	Songino Array	27.28	312	P	P	00 07 28.2	+0.7
	comp=Z,1.8nm,1.0s,mb3.6,baz=114,slow=8.0,SNR=4.0						
SONM				pP	pP	00 07 40.5	+7.2
	comp=Z,1.6nm,0.7s,baz=118,slow=9.9,SNR=4.9						
SONM				PcP	PcP	00 10 46.5	-0.9
	comp=Z,1.0nm,0.9s,baz=139,slow=1.8,SNR=4.7						
ZAL	Zalesovo	42.01	316	P	P	00 09 35.2	+1.3

	comp=Z,1.5nm,1.0s,mb3.6,baz=296,slow=5.3,SNR=3.6						
ZAL				PcP	PcP	00 11 27.1	-2.4
	comp=Z,0.9nm,0.8s,baz=324,slow=4.5,SNR=3.8						
MKAR	Makanchi Array	43.23	305	P	P	00 09 44.8	+0.8
	comp=Z,4.1nm,0.9s,mb4.1,baz=90,slow=12,SNR=3.9						
MKAR				PcP	PcP	00 11 32.8	-0.9
	comp=Z,2.0nm,1.1s,baz=101,slow=7.3,SNR=5.0						
KURK	Kurchatov	45.58	311	eP	P	00 10 03.3	+0.4
BVAR	Borovoye Array	50.58	314	P	P	00 10 41.8	+0.2
	comp=Z,1.3nm,0.8s,mb3.9,baz=108,slow=9.1,SNR=5.0						
BVAR				pP	pP	00 10 53.6	+5.9
	comp=Z,1.7nm,0.7s,baz=127,slow=7.4,SNR=5.2						
BVAR				PcP	PcP	00 11 58.0	-1.6
	comp=Z,1.1nm,0.6s,baz=37,slow=7.4,SNR=4.1						
BRVK	Borovoye	50.64	314	eP	P	00 10 39.8	-2.4
ZRNK	Zerenda	51.42	314	eP	P	00 10 47.5	-0.5
	comp=Z,3.9nm,1.0s,mb4.3						
FITZ	Fitzroy Crossi	52.09	194	P	P	00 10 51.6	-2.0
	comp=Z,1.7nm,0.6s,mb4.1,baz=15,slow=9.8,SNR=4.8						
FITZ				pP	pP	00 11 04.2	+4.5
	comp=Z,3.1nm,0.9s,baz=355,slow=6.1,SNR=3.8						
WRA	Warramunga Arr	52.84	183	P	P	00 10 57.3	-2.0
	comp=Z,1.9nm,1.0s,mb4.0,baz=358,slow=7.5,SNR=4.9						
WRA				pP	pP	00 11 08.9	+3.6
	comp=Z,2.2nm,0.8s,baz=0.7,slow=7.6,SNR=6.9						
ILAR	Eielson Array	54.71	31	P	P	00 11 11.1	-1.3
	comp=Z,0.8nm,0.7s,mb3.8,baz=281,slow=5.7,SNR=6.6						
ASAR	Alice Springs	56.57	183	P	P	00 11 24.8	-1.5
	comp=Z,0.9nm,0.8s,mb3.9,baz=13,slow=8.8,SNR=5.6						
ASAR				pP	pP	00 11 37.4	+5.0
	comp=Z,1.7nm,0.8s,baz=3.3,slow=4.8,SNR=6.1						
ARU	Arti	56.90	319	eP	P	00 11 27.6	-0.7
	comp=Z,4.4nm,0.9s,mb4.5						
ARCES	ARCESS Array B	66.33	339	P	P	00 12 31.2	-0.2
	comp=Z,4.0nm,0.8s,mb4.5,baz=45,slow=8.6,SNR=8.4						
KAF	Kangasniemi	70.06	332	ep	P	00 12 53.9	-0.8
	comp=Z,0.5nm,0.4s,mb3.8						
FINES	FINESS Array B	70.52	332	P	P	00 12 57.1	-0.5
	comp=Z,1.1nm,0.5s,mb4.0,baz=90,slow=5.7,SNR=11						
AKASG	Malin Array Be	75.09	321	P	P	00 13 24.3	-0.3
	comp=Z,4.4nm,0.7s,mb4.5,baz=50,slow=6.1,SNR=16						
AKASG				pP	pP	00 13 36.6	+5.8
	comp=Z,0.9nm,0.5s,baz=50,slow=5.9,SNR=5.2						
NB2	NORSAR Subarra	76.31	336	P	P	00 13 30.6	-0.7
	comp=Z,0.8nm,0.5s,mb3.9,baz=44,slow=5.6						
NOA	NORSAR Array B	76.31	336	P	P	00 13 31.0	-0.3
	comp=Z,1.1nm,0.5s,mb4.0,baz=45,slow=5.7,SNR=4.4						
BRTR	Keskin Array B	78.63	310	P	P	00 13 45.3	+0.7
	comp=Z,1.9nm,0.9s,mb4.0,baz=76,slow=5.1,SNR=5.9						
URZ	Urewera	80.25	149	LR	LR	00 41 40.1	
	comp=Z,75nm,21.5s,MS4.0,baz=334,slow=30						
FRB	Frobisher Bay	81.34	11	P	P	00 13 59.0	+0.4
	comp=Z,4.4nm,0.6s,mb4.6,baz=226,slow=6.6,SNR=5.7						
VYHS	Vyhne	81.77	324	eP	P	00 14 01.5	+0.4
TPNV	Topopah Spring	82.44	51	eP	P	00 14 05.4	+0.5
	comp=Z,3.3nm,0.9s,mb4.3						
BRG	Berggiesshubel	82.46	328	eP	P	00 14 05.2	+0.5
	comp=Z,2.2nm,0.7s,mb4.2						
HWUT	Hardware Ranch	82.55	45	P	P	00 14 06.5	+1.2
	comp=Z,1.7nm,0.8s,mb4.1						
CLL	Collm	82.57	328	P	P	00 14 05.0	-0.2
	comp=Z,logA/T=0.8,mb4.6						
CLL	Collm	82.57	328	eP	P	00 14 05.0	-0.2
	comp=Z,4.0nm,0.7s,mb4.6						
DUG	Dugway	82.66	46	eP	P	00 14 07.6	+1.7
	comp=Z,1.5nm,0.9s,mb4.0						
PRU	Pruhonice	82.81	327	eP	P	00 14 07.2	+0.7
PDAR	Pinedale Array	82.99	43	P	P	00 14 08.2	+0.6
	comp=Z,0.9nm,0.8s,mb3.9,baz=320,slow=3.1,SNR=6.8						
KHC	Kasperske Hory	83.86	327	eP	P	00 14 12.5	+0.7
KHC				x	x	00 14 24.5	
KHC	Kasperske Hory	83.86	327	eP	P	00 14 12.5	+0.7
KHC				e		00 14 24.5	
GERES	GERESS Array B	84.00	326	P	P	00 14 13.2	+0.6
	comp=Z,2.5nm,0.7s,mb4.5,baz=40,slow=5.1,SNR=17						
GERES				pP	pP	00 14 24.9	+6.0
	comp=Z,1.9nm,0.8s,baz=34,slow=4.8,SNR=8.6						
GRA1	Grafenberg Arr	84.52	328	i P	P	00 14 16.0	+0.8
	comp=Z,16nm,1.1s,mb5.1						
PV10	Paradox Valley	86.08	46	eP	P	00 14 24.6	+1.3
PV01	Paradox Valley	86.52	46	eP	P	00 14 27.2	+1.8
TXAR	Lajitas Array	95.39	50	P	P	00 15 08.0	+1.0
	comp=Z,1.6nm,0.6s,mb4.6,baz=285,slow=3.2,SNR=18						
TXAR	Lajitas Array	95.39	50	P	P	00 15 08.0	+1.0
SAML	Samuel	149.57	42	ePKPdf	PKPdf	00 21 27.1	-3.6
SAML				ePKPbc	PKPdf	00 21 32.0	+1.2

IDC 06 00:19:54.2±1.4**, 29.84N**×**87.63E, mb3.6**/5**, mb1 3.7**/6**, mb1mx3.5**/19**, ML3.4**/1**, Error ellipse: s-maj=42.9km s-min=26.6km az=44.0, Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MKAR	Makanchi Array	17.43	348	P	P	00 23 58.9	-1.4
	0.1nm,0.3s,baz=155,slow=11,SNR=5.9						
SONM	Songino Array	23.06	34	P	P	00 25 01.3	-0.7
	0.5nm,0.5s,baz=220,slow=8.7,SNR=5.7						
AKASG	Malin Array Be	47.82	313	P	P	00 28 32.9	-2.3
	0.6nm,0.5s,baz=86,slow=6.0,SNR=5.7						
FINES	FINESS Array B	50.73	327	P	P	00 28 55.1	-2.3
	2.8nm,1.1s,baz=74,slow=10,SNR=3.7						
GERES	GERESS Array B	57.96	312	P	P	00 29 48.8	-1.8
	0.2nm,0.5s,baz=67,slow=7.5,SNR=2.4						
WRA	Warramunga Arr	66.88	132	P	P	00 30 48.4	-2.2
	0.2nm,0.6s,baz=324,slow=6.6,SNR=4.9						

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*NEIC **06** 00:31:40.9±1.6, 34.99S×179.39E, h10^{km}, mb4.4/1, Error ellipse: s-maj=34.6km s-min=11.1km az=86.0*

*IDC **06** 00:31:41.0±3.0, 34.93S×179.13E, mb4.2/3, mb1 4.4/5, mb1mx4.2/12, ML3.6/2, MS3.5/1, Ms1 3.5/1, ms1mx2.4/17, Error ellipse: s-maj=61.7km s-min=30.4km az=98.0*

ISC 06 00:31:37.8±2.0**, 34.97S**±0.06×**179.6E**±0.3**, h10^{km}, n18, σ0^{s}96**/24**, mb4.1**/4**, MS3.5**/1**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	2.78	201	P	Pn	00 32 23.6	+0.3
MXZ				S	Sn	00 32 57.4	+0.1
MXZ	Matakaoa Point	2.78	201	eP	Pn	00 32 23.6	+0.3
MXZ				S	Sn	00 32 57.4	+0.1
PUZ	Puketiti	3.27	198	P	Pn	00 32 30.5	+0.2
PUZ				S	Sn	00 33 09.7	0.0
PUZ	Puketiti	3.27	198	eP	Pn	00 32 30.5	+0.2
PUZ				S	Sn	00 33 09.7	0.0
MWZ	Matawai	3.74	205	P	Pn	00 32 37.7	+0.8
MWZ				S	Sn	00 33 22.5	+1.0
MWZ	Matawai	3.74	205	eP	Pn	00 32 37.7	+0.8
MWZ				S	Sn	00 33 22.5	+1.0
URZ	Urewera	3.83	210	Pn	Pn	00 32 39.5	+1.3
	8.4nm,0.3s,baz=13,slow=5.3,SNR=26						
URZ				Sn	Sn	00 33 22.9	-1.0
	5.2nm,0.3s,baz=106,slow=19,SNR=4.2						
URZ	Urewera	3.83	210	P	Pn	00 32 39.3	+1.1
URZ	Urewera	3.83	210	eP	Pn	00 32 39.3	+1.1
BFZ	Birch Farm	6.28	204	eP	Pn	00 33 10.3	-2.5
MRZ	Mangatainoka R	6.50	208	eP	Pn	00 33 12.7	-3.3
RPZ	Rata Peaks	10.94	214	Pn	P	00 34 17.1	-0.3
	0.3nm,0.3s,baz=47,slow=19,SNR=2.7						
RPZ				Sn	S	00 36 07.4	-13
	0.3nm,0.3s,baz=22,slow=19,SNR=3.5						
CTA	Charters Tower	32.87	288	LR	LR	00 49 26.5	
	comp=Z,96nm,21.6s,MS3.5,baz=236,slow=33						
ASAR	Alice Springs	41.06	273	P	P	00 39 24.1	+0.9
	2.8nm,0.4s,mb4.2,baz=116,slow=7.4,SNR=24						
WRAB	Tennant Creek	42.47	279	eP	P	00 39 35.0	+0.2
	4.7nm,0.6s,mb4.3						
WRA	Warramunga Arr	42.47	278	P	P	00 39 34.9	+0.1
	1.7nm,0.5s,mb3.9,baz=120,slow=8.3,SNR=35						
FITZ	Fitzroy Crossi	50.49	275	P	P	00 40 37.3	-0.9
	1.7nm,1.0s,mb4.0,baz=122,slow=9.5,SNR=2.7						
FINES	FINESS Array B	148.59	336	PKPbc	PKPdf	00 51 27.9	+4.4
	1.2nm,0.8s,baz=14,slow=5.7,SNR=3.9						

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*NEIC **06** 00:35:36.9±0.8, 33.33N×137.25E, h10^{km}, mb4.1/1, Error ellipse: s-maj=23.8km s-min=10.9km az=99.0*

*JMA **06** 00:35:37.6±0.1, 33.36N×137.01E, h42^{km}±3^{km}, M3.1*

*IDC **06** 00:35:48.4±7.4, 33.64N×137.79E, h132^{km}±128^{km}, mb3.3/3, mb1 3.5/3, mb1mx3.2/20, Error ellipse: s-maj=210.0km s-min=23.3km az=60.0*

ISC 06 00:35:37.8±1.0**, 33.38N**±0.05×**136.99E**±0.04**, h31^{km}**±7^{km}**, n19, σ0^{s}67**/28**, mb3.7**/4**, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	Tokai 1	0.63	52	P	Pb	00 35 50.3	0.0
TK01				eS	Sb	00 35 59.2	+0.3
TK02	Tokai 2	0.85	48	P	Pn	00 35 53.0	-0.8
TK02				S	Sb	00 36 05.1	0.0
JIE	Ise	1.04	347	P	Pn	00 35 56.8	+0.4
JIE				eS	Sn	00 36 10.8	+0.8
JKN	Kiinagashima	1.06	325	P	Pn	00 35 56.6	-0.1
JKN				S	Sn	00 36 09.7	-0.8
JWZ	Kozaga	1.08	278	P	Pn	00 35 56.7	-0.3
JWZ				S	Sn	00 36 10.1	-0.9
TK03	Tokai 3	1.13	46	S	Sn	00 36 11.9	-0.3
TK04	Tokai 4	1.24	36	P	Pn	00 35 58.9	-0.5
TSUJ	Tsu 2	1.41	340	P	Pn	00 36 02.0	+0.2
TSUJ				S	Sn	00 36 19.5	0.0
JWM	Minabe	1.45	289	P	Pn	00 36 02.3	0.0
JHE	Heguri	1.67	320	P	Pn	00 36 05.9	+0.4
JHJ	Hachijo jima 2	2.35	96	P	Pn	00 36 20.2	+5.0
	11nm,0.3s,baz=3.4,slow=18,SNR=1.6						
JHJ				S	Sn	00 36 43.8	+0.4
	20nm,0.3s,baz=243,slow=23,SNR=2.7						
MAJO	Matsushiro	3.31	17	eP	Pn	00 36 28.5	-0.4
MAT	Matsushiro	3.31	17	P	Pn	00 36 29.1	+0.2
MAT				S	Sn	00 37 07.0	-0.6
MAT	Matsushiro	3.31	17	eP	Pn	00 36 29.0	+0.1
MAT				eS	Sn	00 37 07.0	-0.6
SONM	Songino Array	27.14	311	P	P	00 41 21.5	+1.4
	0.3nm,0.6s,mb3.0,baz=112,slow=7.8,SNR=2.9						
MKAR	Makanchi Array	43.11	305	P	P	00 43 38.9	+2.1
	2.5nm,1.0s,mb3.9,baz=89,slow=9.7,SNR=11						
MKAR	Makanchi Array	43.11	305	P	P	00 43 38.9	+2.1
WRAB	Tennant Creek	53.07	183	P	P	00 44 54.0	-0.6
	2.8nm,1.0s,mb4.2						
WRA	Warramunga Arr	53.08	183	P	P	00 44 54.4	-0.4
	0.4nm,0.4s,mb3.7,baz=358,slow=7.7,SNR=8.1						

IDC 06 00:40:19.9±2.3**, 6.87S**×**130.12E, mb3.7**/1**, mb1 3.6**/4**, mb1mx3.5**/12**, ML3.3**/3**, Error ellipse: s-maj=84.1km s-min=29.4km az=78.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.99	201	Pn	P	00 43 12.7	-2.4
	0.3nm,0.3s,baz=37,slow=12,SNR=11						
FITZ				Sn	S	00 45 16.1	-15
	0.4nm,0.3s,baz=179,slow=19,SNR=6.1						
WRA	Warramunga Arr	13.63	163	Pn	P	00 43 32.6	-4.5
	0.1nm,0.3s,baz=345,slow=13,SNR=8.6						
WRA				Sn	S	00 45 52.1	-18
	0.3nm,0.3s,baz=337,slow=22,SNR=9.2						
ASAR	Alice Springs	17.09	168	P	P	00 44 21.6	-0.3
	0.2nm,0.3s,baz=346,slow=7.7,SNR=4.1						
MKAR	Makanchi Array	68.18	327	P	P	00 51 22.1	-2.1
	0.9nm,1.0s,baz=128,slow=7.8,SNR=4.6						

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*JMA **06** 00:59:37.5±0.3, 33.37N×136.90E, h36^{km}, M3.2*

*IDC **06** 00:59:45.6±1.0, 32.07N×137.51E, h42^{km}±7^{km}, mb3.5/4, mb1 3.7/5, mb1mx3.4/21, ML3.7/1, Error ellipse: s-maj=24.3km s-min=10.3km az=155.0*

ISC 06 00:59:37.6±1.3**, 33.47N**±0.09×**136.88E**±0.05**, h21^{km}**±15^{km}**, n9, σ0^{s}76**/10**, mb3.5**/1**, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JWZ	Kozaga	0.97	274	P	Pb	00 59 55.2	-0.4
JWZ				S	Sb	01 00 07.9	-0.1
JWY	Kouya	1.31	305	eS	Sn	01 00 18.8	+1.0
JWM	Minabe	1.33	287	P	Pn	01 00 01.1	-0.1
JWM				eS	Sn	01 00 17.7	-0.6
JHJ	Hachijo jima 2	2.46	97	P	Pn	01 00 18.6	+1.3
	50nm,0.3s,baz=72,slow=20,SNR=5.9						
JHJ				S	Sn	01 00 46.2	-0.9
	28nm,0.3s,baz=88,slow=22,SNR=3.8						
MAT	Matsushiro	3.26	19	P	Pn	01 00 29.5	+0.7
MAT				S	Sn	01 01 06.6	-0.8
SONM	Songino Array	27.01	311	P	Px	01 05 35.6	
	1.6nm,1.0s,baz=111,slow=11,SNR=4.0						
SONM				sP	Px	01 05 53.4	
	0.3nm,0.4s,baz=106,slow=9.0,SNR=2.7						
MKAR	Makanchi Array	42.98	305	P	pP	01 07 49.0	+5.9
	0.4nm,1.0s,baz=161,slow=20,SNR=2.7						
WRA	Warramunga Arr	53.16	183	P	P	01 08 49.9	-6.6
	0.5nm,0.8s,mb3.5,baz=1.2,slow=7.7,SNR=3.6						
WRA				pP	pP	01 09 00.1	-2.8
	0.7nm,0.8s,baz=358,slow=7.5,SNR=3.7						
TXAR	Lajitas Array	95.25	50	P	Px	01 13 09.3	
	0.6nm,1.0s,baz=270,slow=0.9,SNR=3.3						
TXAR				pP	Px	01 13 19.9	
	0.8nm,1.1s,baz=304,slow=4.5,SNR=3.1						
TXAR				sP	Px	01 13 26.4	
	0.3nm,0.8s,baz=307,slow=6.3,SNR=2.4						

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*NIED **06** 01:03:00, 33.40N×130.60E, h11^{km}, Mw3.6 Best double couple: M$_0$2.58×10^{14} NP1:ϕ_s284°, δ73°, λ28°. NP2:ϕ_s185°, δ64°, λ161°.*

JMA 06 01:03:36.8, 33.43N×130.62E, h12^{km}, M3.7, 2C-3D Broadband fault plane solution: P waves. NP1:ϕ_s281°**,** δ44°**,**λ10°. **NP2:**ϕ_s184°**,**δ83°**,**λ134°. **Principal axes:** T Plg36°, Azm131°**;** N Plg44°, Azm357°**;** P Plg25°, Azm241°**; Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JFI	Itaya	0.19	269	⇓P	Pg	01 03 41.3	+0.1
JFI				S	Sg	01 03 44.5	+0.3
JFA	Akaike	0.32	27	⇓P	Pg	01 03 43.4	-0.1
JFA				S	Sg	01 03 47.8	-0.1
JNU	Nakatsue	0.38	145	S	Sg	01 03 49.2	-0.6
JTA	Tamana	0.47	189	⇓P	Pg	01 03 46.0	-0.4
JTA				S	Sg	01 03 52.1	-0.8
JII	Iki	0.83	296	⇑P	Pb	01 03 52.5	-0.1
JIU2	Izumi 2	0.90	169	⇑P	Pb	01 03 53.6	-0.2

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*NIED **06** 01:06:00, 33.30N×137.00E, h5^{km}, Mw3.8 Best double couple: M$_0$6.19×10^{14} NP1:ϕ_s76°, δ76°, λ138°. NP2:ϕ_s179°, δ50°, λ19°.*

*IDC **06** 01:06:27.2±1.3, 33.38N×137.14E, mb3.7/3, mb1 3.8/4, mb1mx3.6/21, ML3.3/1, Error ellipse: s-maj=34.4km s-min=23.6km az=25.0*

*JMA **06** 01:06:28.8±0.1, 33.30N×136.98E, h50^{km}±3^{km}, M3.5*

*NEIC **06** 01:06:29.2±0.6, 33.31N×137.06E, h10^{km}, mb4.5/2, MW3.8(NIED), Error ellipse: s-maj=30.9km s-min=10.5km az=102.0*

ISC 06 01:06:28.9±0.9**, 33.34N**±0.04×**136.97E**±0.03**, h28^{km}**±6^{km}**, n23, σ0^{s}74**/33**, mb4.0**/5**, 3D, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	Tokai 1	0.67	51	eS	Sb	01 06 53.0	+2.0
TK02	Tokai 2	0.90	47	eS	Sb	01 06 57.3	0.0
JWZ	Kozaga	1.06	281	P	Pn	01 06 47.7	-0.5
JWZ				S	Sb	01 07 01.3	-0.9
JIE	Ise	1.07	348	⇓P	Pn	01 06 48.6	+0.3
JIE				S	Sb	01 07 02.7	+0.3
JKN	Kiinagashima	1.08	327	⇓P	Pn	01 06 48.4	0.0
JKN				S	Sb	01 07 01.8	-0.8
TK03	Tokai 3	1.17	45	P	Pn	01 06 49.1	-0.6
TK03				S	Sn	01 07 04.2	-0.6
TK04	Tokai 4	1.29	36	P	Pn	01 06 51.0	-0.4
TK04				S	Sn	01 07 07.1	-0.7
JWM	Minabe	1.44	291	P	Pn	01 06 53.4	-0.1
JWM				eS	Sn	01 07 11.5	-0.1
TSUJ	Tsu 2	1.44	342	⇓P	Pn	01 06 53.9	+0.3
TSUJ				S	Sn	01 07 11.9	+0.2
JWY	Kouya	1.44	308	S	Sn	01 07 11.8	+0.1
JHE	Heguri	1.69	321	P	Pn	01 06 57.3	+0.2
JHE				S	Sn	01 07 18.3	+0.3
SHZ3	Shizuoka 3	2.01	31	P	Pn	01 07 00.7	-1.0
JHJ	Hachijo jima 2	2.37	95	Pn	Pn	01 07 06.6	-0.3
	19nm,0.3s,baz=59,slow=19,SNR=2.6						
JHJ				Sn	Sn	01 07 34.6	-0.7
	21nm,0.3s,baz=233,slow=20,SNR=2.4						
MAJO	Matsushiro	3.35	17	eP	Pn	01 07 21.5	+0.7
MAT	Matsushiro	3.35	17	P	Pn	01 07 21.1	+0.3
MAT				S	Sn	01 07 59.7	-0.5
MAT	Matsushiro	3.35	17	eP	Pn	01 07 21.0	+0.2
MAT				eS	Sn	01 08 00.0	-0.2
ZAL	Zalesovo	41.86	316	PcP	PcP	01 16 13.9	-0.3
	0.7nm,0.4s,baz=180,slow=1.0,SNR=3.2						
MKAR	Makanchi Array	43.11	305	P	P	01 14 30.5	+2.1
	0.7nm,0.7s,mb3.5,baz=90,slow=8.5,SNR=6.1						
MKAR				PcP	PcP	01 16 17.6	-0.9
	0.4nm,0.7s,baz=72,slow=4.6,SNR=3.5						
WRAB	Tennant Creek	53.03	183	P	P	01 15 45.5	-0.4
	3.0nm,0.8s,mb4.3						
WRA	Warramunga Arr	53.04	183	P	P	01 15 45.8	-0.2
	1.2nm,0.6s,mb4.0,baz=3.5,slow=7.8,SNR=14						
MBWA	Marble Bar	56.63	199	eP	P	01 16 12.2	0.0
	5.7nm,0.8s,mb4.7						
ASAR	Alice Springs	56.76	183	P	P	01 16 14.1	+1.0
	0.3nm,0.5s,mb3.6,baz=11,slow=12,SNR=9.5						
PV10	Paradox Valley	85.95	46	eP	P	01 19 11.4	+3.6

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*JMA **06** 01:10:20.9±0.1, 33.11N×137.11E, h37^{km}±3^{km}, M3.8*

ISC 06 01:10:21.3±1.3**, 33.14N**±0.07×**137.09E**±0.04**, h32^{km}**±10^{km}**, n17, σ0^{s}46**/31**, 10D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	Tokai 1	0.75	33	P	Pn	01 10 35.2	-0.5
TK01				S	Sb	01 10 45.4	-0.5
TK02	Tokai 2	0.98	34	⇓P	Pn	01 10 38.5	-0.4
TK02				S	Sn	01 10 51.9	+0.2
JWZ	Kozaga	1.22	289	⇓P	Pn	01 10 42.1	-0.3
JWZ				S	Sn	01 10 57.1	-0.7
TK03	Tokai 3	1.26	35	P	Pn	01 10 42.5	-0.4
TK03				S	Sn	01 10 58.7	-0.1
JIE	Ise	1.29	346	⇓P	Pn	01 10 44.0	+0.6
JKN	Kiinagashima	1.30	328	⇓P	Pn	01 10 43.9	+0.3
JKN				S	Sn	01 10 59.5	-0.5
TK04	Tokai 4	1.40	27	⇓P	Pn	01 10 45.0	0.0
TK04				S	Sn	01 11 02.5	0.0
JAA	Atsumi	1.49	2	⇓P	Pn	01 10 46.4	+0.2
JAA				S	Sn	01 11 05.0	+0.3
JWM	Minabe	1.62	296	⇓P	Pn	01 10 48.1	+0.1
JWM				S	Sn	01 11 07.5	-0.4
JWY	Kouya	1.65	311	⇓P	Pn	01 10 49.4	+0.9
JWY				S	Sn	01 11 08.9	+0.1
TSUJ	Tsu 2	1.66	341	⇓P	Pn	01 10 49.1	+0.4
TSUJ				eS	Sn	01 11 09.5	+0.4
JHE	Heguri	1.91	323	⇓P	Pn	01 10 52.8	+0.5
JHE				S	Sn	01 11 15.8	+0.4
SHZ3	Shizuoka 3	2.13	25	P	Pn	01 10 55.0	-0.5
JIZS	Izushimoda	2.16	43	P	Pn	01 10 56.2	+0.3
JAJ2	Tsuna	2.24	305	P	Pn	01 10 57.6	+0.6
JAJ2				S	Sn	01 11 24.0	+0.2
JAI	Aioi	2.30	287	P	Pn	01 10 58.0	+0.1
JAI				S	Sn	01 11 24.3	-1.1
MAT	Matsushiro	3.52	15	P	Pn	01 11 15.7	+0.6
MAT				S	Sn	01 11 55.5	-0.6

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*JMA **06** 01:11:25.9±0.1, 33.13N×137.09E, h37^{km}±3^{km}, M3.6*

ISC 06 01:11:26.3±1.3**, 33.15N**±0.07×**137.08E**±0.05**, h32^{km}**±10^{km}**, n16, σ0^{s}45**/29**, 5D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	Tokai 1	0.74	35	eS	Sb	01 11 50.1	-0.5
TK02	Tokai 2	0.97	35	P	Pn	01 11 43.5	-0.3
TK02				S	Sn	01 11 56.5	0.0
JWZ	Kozaga	1.21	289	P	Pn	01 11 46.9	-0.3
JWZ				S	Sn	01 12 01.7	-0.8
TK03	Tokai 3	1.25	36	S	Sn	01 12 03.5	-0.1
JIE	Ise	1.27	346	⇓P	Pn	01 11 48.6	+0.4
JIE				eS	Sn	01 12 04.6	+0.3
JKN	Kiinagashima	1.29	328	⇓P	Pn	01 11 48.6	+0.2
JKN				S	Sn	01 12 04.2	-0.4
TK04	Tokai 4	1.39	28	P	Pn	01 11 49.7	-0.2
TK04				S	Sn	01 12 06.9	-0.4
JAA	Atsumi	1.48	2	⇓P	Pn	01 11 51.1	+0.1
JAA				S	Sn	01 12 09.7	+0.3
JWM	Minabe	1.60	296	P	Pn	01 11 52.8	-0.1
JWM				S	Sn	01 12 12.6	0.0
JWY	Kouya	1.64	311	⇓P	Pn	01 11 54.0	+0.7
JWY				S	Sn	01 12 13.7	+0.3
TSUJ	Tsu 2	1.65	341	P	Pn	01 11 53.8	+0.3
TSUJ				eS	Sn	01 12 14.0	+0.3
JHE	Heguri	1.90	323	⇓P	Pn	01 11 57.5	+0.5
JHE				S	Sn	01 12 20.4	+0.4
JIZS	Izushimoda	2.16	43	P	Pn	01 12 01.3	+0.5
JAJ2	Tsuna	2.22	305	P	Pn	01 12 02.2	+0.4
JAJ2				eS	Sn	01 12 28.6	+0.2
JAI	Aioi	2.29	287	P	Pn	01 12 02.6	-0.1
JAI				S	Sn	01 12 28.9	-1.2
MAT	Matsushiro	3.50	15	P	Pn	01 12 20.3	+0.3
MAT				S	Sn	01 12 59.9	-0.9

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*IDC **06** 01:19:33.8±1.2, 33.44N×137.02E, mb3.8/4, mb1 3.9/5, mb1mx3.7/22, ML3.1/1, Error ellipse: s-maj=39.1km s-min=20.3km az=32.0*

*JMA **06** 01:19:36.0±0.1, 33.47N×136.89E, h44^{km}±3^{km}, M3.4*

ISC 06 01:19:35.5±0.8**, 33.48N**±0.04×**136.90E**±0.03**, h25^{km}**±5^{km}**, n17, σ0^{s}75**/27**, mb3.6**/4**, 6C-1D, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	Tokai 1	0.64	64	S	Sb	01 19 58.5	+1.8
TK02	Tokai 2	0.85	57	P	Pb	01 19 51.6	0.0
TK02				S	Sb	01 20 02.5	-0.2
JIE	Ise	0.92	350	⇑P	Pb	01 19 53.1	+0.3
JIE				S	Sb	01 20 05.3	+0.7
JKN	Kiinagashima	0.93	326	⇑P	Pb	01 19 52.9	0.0
JKN				S	Sb	01 20 04.6	-0.2
JWZ	Kozaga	0.99	273	⇑P	Pb	01 19 53.5	-0.4
JWZ				S	Sb	01 20 06.6	0.0
TK03	Tokai 3	1.12	52	S	Sb	01 20 09.4	-0.9
JAA	Atsumi	1.17	10	⇓P	Pn	01 19 56.1	-0.3
JAA				eS	Sb	01 20 10.5	-1.1
TSUJ	Tsu 2	1.29	342	⇑P	Pn	01 19 58.4	+0.2
TSUJ				eS	Sn	01 20 13.8	-0.9
JWY	Kouya	1.31	304	P	Pn	01 19 58.9	+0.4
JWY				eS	Sn	01 20 14.9	-0.4
JWM	Minabe	1.34	286	⇑P	Pn	01 19 59.0	+0.1
JWM				S	Sn	01 20 15.2	-0.8
JHE	Heguri	1.54	320	⇑P	Pn	01 20 01.8	0.0
JHJ	Hachijo jima 2	2.44	98	Pn	Pn	01 20 14.2	-0.5
	10.0nm,0.3s,baz=232,slow=20,SNR=3.5						
JHJ				Sn	Sn	01 20 43.1	-1.0
	30nm,0.3s,baz=74,slow=23,SNR=4.4						
MAT	Matsushiro	3.24	19	P	Pn	01 20 25.9	-0.1
MAT				S	Sn	01 21 05.0	+0.8
SONM	Songino Array	27.01	311	P	P	01 25 17.3	0.0
	0.6nm,0.9s,mb3.1,baz=126,slow=8.3,SNR=4.1						
ZAL	Zalesovo	41.72	315	P	P	01 27 25.5	+1.8
	1.7nm,0.3s,mb4.1,baz=294,slow=16,SNR=4.2						
MKAR	Makanchi Array	42.98	305	P	P	01 27 35.8	+1.6
	0.9nm,0.5s,mb3.7,baz=79,slow=7.3,SNR=11						
WRA	Warramunga Arr	53.18	183	P	P	01 28 53.4	-0.5
	0.3nm,0.5s,mb3.5,slow=7.7,SNR=8.4						

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*JMA **06** 01:21:06.4±0.1, 33.22N×137.00E, h43^{km}, M3.9*

ISC 06 01:21:06.6±1.5**, 33.24N**±0.08×**137.02E**±0.06**, h43^{km}, n11, σ0^{s}43**/19**, 6D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK02	Tokai 2	0.94	41	eS	S	01 21 35.6	-0.4
JWZ	Kozaga	1.13	285	⇓P	P	01 21 25.9	-0.2
JWZ				S	S	01 21 40.0	-0.7
JIE	Ise	1.18	348	⇓P	P	01 21 27.4	+0.5
JIE				S	S	01 21 42.9	+0.9
JKN	Kiinagashima	1.19	328	⇓P	P	01 21 27.2	+0.2
JKN				S	S	01 21 41.7	-0.5
TK04	Tokai 4	1.35	32	S	S	01 21 46.1	-0.3
JAA	Atsumi	1.39	4	⇓P	P	01 21 30.0	-0.1
JAA				S	S	01 21 47.2	-0.3
JWM	Minabe	1.51	294	P	P	01 21 31.6	-0.2
JWM				S	S	01 21 50.0	-0.5
JWY	Kouya	1.54	310	⇓P	P	01 21 32.7	+0.6
JWY				S	S	01 21 51.3	+0.3

TSUJ	**Tsu 2**	1.55	342	P	P	01 21 32.6	+0.3
TSUJ				S	S	01 21 51.4	+0.1
JHE	**Heguri**	1.79	322	⇓P	P	01 21 36.0	+0.3
MAT	**Matsushiro**	3.44	16	P	P	01 21 59.5	+0.4
MAT				S	S	01 22 38.6	-0.5

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*NIED **06** 01:51:00, 33.10N×137.10E, h5^{km}, Mw4.1 Best double couple: M$_0$1.84×10^{15} NP1:φ$_s$1°, δ86°, λ144°. NP2:φ$_s$94°, δ54°, λ5°.*
*BJI **06** 01:51:34.6, 32.65N×137.48E, h36^{km}, mb4.1, Msz3.7*
*NEIC **06** 01:51:36.3±0.7, 33.16N×137.34E, h10^{km}, mb4.1/2, Error ellipse: s-maj=16.3km s-min=12.2km az=93.0*
*JMA **06** 01:51:36.2±0.1, 33.10N×137.11E, h45^{km}±3^{km}, M3.7*
*IDC **06** 01:51:42.4±5.7, 33.34N×137.56E, h63^{km}±67^{km}, mb3.5/7, mb1 3.6/7, mb1mx3.4/22, MS3.5/3, Ms1 3.5/3, ms1mx3.1/21, Error ellipse: s-maj=58.6km s-min=18.0km az=59.0*
ISC 06 01:51:36.7±1.1**, 33.20N**±0.05×**137.10E**±0.04**, h22**^{km}±7^{km}**, n32,** σ**0**^{s}.**90**/38**, mb3.8**/8**, MS3.7**/2**, 2C, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TK01	**Tokai 1**	0.70	36	P	Pb	01 51 50.9	+0.8
TK02	**Tokai 2**	0.93	36	P	Pb	01 51 54.0	0.0
TK03	**Tokai 3**	1.20	37	P	Pn	01 51 58.1	-0.4
TK03				S	Sb	01 52 14.5	+0.6
JWZ	**Kozaga**	1.21	286	P	Pn	01 51 57.5	-1.0
JWZ				S	Sb	01 52 12.9	-1.0
JIE	**Ise**	1.23	345	⇑P	Pn	01 51 59.2	+0.3
JKN	**Kiinagashima**	1.26	327	⇑P	Pn	01 51 59.1	-0.2
TK04	**Tokai 4**	1.35	28	P	Pn	01 52 00.8	+0.3
JWM	**Minabe**	1.60	294	P	Pn	01 52 03.4	-0.7
JWM				S	Sn	01 52 23.7	-0.5
TSUJ	**Tsu 2**	1.61	340	P	Pn	01 52 04.5	+0.2
TSUJ				S	Sn	01 52 24.3	-0.2
JWY	**Kouya**	1.62	309	P	Pn	01 52 04.1	-0.3
JWY				S	Sn	01 52 24.7	0.0
JHE	**Heguri**	1.87	321	P	Pn	01 52 07.8	-0.2
SHZ3	**Shizuoka 3**	2.08	26	P	Pn	01 52 10.5	-0.5
JHJ	**Hachijo jima 2**	2.25	91	P	Pn	01 52 12.7	-0.8
	32nm,0.3s,baz=38,slow=19,SNR=4.1						
JHJ				S	Sn	01 52 36.0	-4.9
	21nm,0.3s,baz=238,slow=22,SNR=4.1						
MAJO	**Matsushiro**	3.46	15	*e*P	Pn	01 52 30.5	-0.1
MAT	**Matsushiro**	3.46	15	P	Pn	01 52 31.1	+0.5
MAT				S	Sn	01 53 10.2	-1.2
MAT	**Matsushiro**	3.46	15	*e*P	Pn	01 52 31.0	+0.4
MAT				*e*S	Sn	01 53 10.0	-1.4
ASAJ	**Asahikawa**	11.71	20	LR	LR	01 59 15.7	
	comp=Z,155nm,19.2s,baz=168,slow=40						
BJT	**Baijiatuau**	18.11	298	*e*P	P	01 55 51.9	+3.3
	6.1nm,0.7s						
BJI	**Beijing**	18.11	298	P	P	01 55 51.9	+3.2
BJI				AMB	AMB		
	comp=Z,8.0nm,0.8s						
BJI				LR	LR		
	comp=Z,282nm,16.5s						
XAN	**Xi’an**	23.45	280	P	P	01 56 48.0	+2.5
SONM	**Songino Array**	27.32	311	P	P	01 57 22.6	+0.8
	comp=Z,1.7nm,0.9s,mb3.6,baz=130,slow=9.7,SNR=8.9						
ZAL	**Zalesovo**	42.04	316	P	P	01 59 29.5	+1.4
	comp=Z,0.7nm,0.4s,mb3.7,baz=27,slow=5.8,SNR=3.0						
ZAL				LR	LR	02 18 49.4	
	comp=Z,81nm,19.3s,MS3.6,baz=137,slow=38						
MKAR	**Makanchi Array**	43.28	305	P	P	01 59 39.8	+1.4
	comp=Z,1.8nm,0.9s,mb3.8,baz=97,slow=9.5,SNR=13						
KURK	**Kurchatov**	45.63	311	*e*P	P	01 59 57.5	+0.4
	comp=Z,4.1nm,1.3s,mb4.2						
BVAR	**Borovoye Array**	50.62	314	P	P	02 00 35.7	-0.2
	comp=Z,0.8nm,0.7s,mb3.7,baz=100,slow=9.0,SNR=5.4						
BRVK	**Borovoye**	50.67	314	*e*P	P	02 00 36.4	+0.1
ZRNK	**Zerenda**	51.45	314	*e*P	P	02 00 41.2	-1.0
WRA	**Warramunga Arr**	52.91	183	P	P	02 00 52.2	-1.4
	comp=Z,1.6nm,1.2s,mb3.8,baz=360,slow=7.8,SNR=6.4						
ASAR	**Alice Springs**	56.63	184	P	P	02 01 20.9	+0.2
	comp=Z,0.4nm,0.8s,mb3.5,baz=8.7,slow=12,SNR=3.3						
NEW	**Newport**	75.34	42	LR	LR	02 35 57.3	
	comp=Z,40nm,19.1s,MS3.7,baz=125,slow=35						
BRTR	**Keskin Array B**	78.68	310	P	P	02 03 39.0	+0.3
	comp=Z,1.0nm,0.8s,mb3.8,baz=50,slow=9.6,SNR=4.2						
TPNV	**Topopah Spring**	82.32	51	P	P	02 03 57.0	-1.1

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*MDD **06** 02:05:54.2±0.8, 37.99N×8.87W, h7^{km}±10^{km}, mbLg1.6/1, Error ellipse: s-maj=7.4km s-min=3.5km az=98.0, PRXIMO*
*INMG **06** 02:05:54.2±0.6, 37.99N×8.90W, h8^{km}±2^{km}, ML1.0, Error ellipse: s-maj=2.7km s-min=1.1km az=81.0*
ISC 06 02:05:52.7±1.2**, 38.00N**±0.04×**8.89W**±0.08**, h5**^{km}±8^{km}**, n11,** σ**1**^{s}.**07**/16**, Portugal**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PTEO	**Sao Teotonio**	0.48	164	*e*Pg	Pg	02 06 02.7	+0.5
PTEO				*e*Sg	Sg	02 06 09.3	+0.7
	3.2nm,0.3s						
PTEO	**Sao Teotonio**	0.48	164	Pg	Pg	02 06 02.7	+0.5
PTEO				Lg		02 06 09.3	
	1.6nm,0.3s						
MOE	**Montemor**	0.67	39	*e*Pg	Pg	02 06 07.0	+0.9
MOE				*e*Sg	Sg	02 06 16.3	+1.2
PBEJ	**Beja**	0.81	88	*e*P	Pb	02 06 08.9	+0.1
PBEJ				*e*S	Sg	02 06 20.2	+0.5
PLOU	**Loures**	0.90	347	*e*S	Sb	02 06 23.0	+0.5
EGRO	**El Granado**	1.21	112	Pg	Pg	02 06 14.9	-2.0
	0.2nm,0.1s,SNR=7.9						
EGRO				Lg		02 06 31.8	
	1.4nm,0.1s,SNR=7.9						
PALC	**Alcoutim**	1.24	115	*e*P	Pb	02 06 16.6	+0.4
PALC				*e*S	Sb	02 06 33.0	+0.6
	1.5nm,0.2s						
PALC	**Alcoutim**	1.24	115	P	Pb	02 06 16.6	+0.4
PALC				S	Sb	02 06 33.0	+0.6
	0.8nm,0.2s						
PTOM	**Tomar**	1.66	13	*e*Sn	Sn	02 06 43.6	-0.8
EBAD	**Badajoz**	1.66	62	Pg	Pg	02 06 23.0	-2.8
	SNR=7.9						
EBAD				Lg		02 06 44.4	
	0.7nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	1.77	97	Pg	Pg	02 06 26.6	-1.4
	SNR=4.0						
EMIN				Lg		02 06 48.5	
	0.5nm,0.1s,SNR=7.9						

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*NIED **06** 02:06:00, 33.40N×137.20E, h5^{km}, Mw4.4 Best double couple: M$_0$4.75×10^{15} NP1:φ$_s$122°, δ72°, λ-42°. NP2: φ$_s$228°, δ50°, λ-156°.*
*JMA **06** 02:06:45.9±0.1, 33.39N×137.21E, h46^{km}±2^{km}, M3.7*
*IDC **06** 02:06:45.6±1.0, 33.52N×137.26E, mb3.6/5, mb1 3.8/6, mb1mx3.7/22, ML3.1/1, MS3.9/7, Ms1 3.8/7, ms1mx3.5/23, Error ellipse: s-maj=28.8km s-min=20.6km az=34.0*
*NEIC **06** 02:06:46.8±0.5, 33.50N×137.31E, h10^{km}, mb4.7/2, MW4.4(NIED), Error ellipse: s-maj=19.4km s-min=10.2km az=97.0*
*BJI **06** 02:06:50.1, 33.00N×137.62E, h38^{km}, mb4.7, Ms5.3, Msz4.8*
ISC 06 02:06:47.3±0.7**, 33.48N**±0.03×**137.15E**±0.03**, h29**^{km}±5^{km}**, n42,** σ**0**^{s}.**85**/54**, mb3.7**/6**, MS4.0**/6**, 2C, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TK01	**Tokai 1**	0.46	52	P	Pb	02 06 56.4	-0.7
TK01				*e*S	Sb	02 07 05.4	+1.6
TK02	**Tokai 2**	0.69	47	P	Pb	02 06 59.9	-0.8
TK02				*e*S	Sb	02 07 11.1	+1.3
TK03	**Tokai 3**	0.96	45	P	Pn	02 07 04.3	-0.6
TK03				*e*S	Sb	02 07 17.8	+0.2
JIE	**Ise**	0.98	338	P	Pn	02 07 04.9	-0.2
JIE				*e*S	Sn	02 07 18.5	+0.4
JKN	**Kiinagashima**	1.06	316	⇑P	Pn	02 07 06.0	-0.3
JKN				*e*S	Sn	02 07 19.9	-0.3
TK04	**Tokai 4**	1.08	34	P	Pn	02 07 05.7	-0.9
TK04				*e*S	Sn	02 07 20.9	+0.2
JAA	**Atsumi**	1.15	360	⇑P	Pn	02 07 06.9	-0.6
JAA				*e*S	Sn	02 07 22.4	+0.1
JWZ	**Kozaga**	1.20	273	P	Pn	02 07 07.8	-0.5
JWZ				*e*S	Sn	02 07 23.2	-0.5
TSUJ	**Tsu 2**	1.37	334	P	Pn	02 07 11.0	+0.3
TSUJ				*e*S	Sn	02 07 28.8	+0.9
HMMJ	**Hamamatsu 2**	1.45	19	P	Pn	02 07 10.6	-1.3
JWY	**Kouya**	1.49	300	P	Pn	02 07 11.1	-1.3
JWM	**Minabe**	1.54	284	P	Pn	02 07 12.4	-0.8
JHE	**Heguri**	1.69	314	P	Pn	02 07 15.2	-0.1
JHE				*e*S	Sn	02 07 35.6	-0.4
JEG	**Eigenji**	1.77	339	P	Pn	02 07 17.2	+0.8
JEG				S	Sn	02 07 40.4	+2.4
JAO	**Obara**	1.78	3	P	Pn	02 07 16.0	-0.6
JAO				S	Sn	02 07 38.4	-0.1
SHZ3	**Shizuoka 3**	1.81	29	P	Pn	02 07 15.8	-1.2
SHZ3				*e*S	Sn	02 07 38.1	-1.0
JNY	**Yasuok**	1.96	17	P	Pn	02 07 18.3	-0.9
JNY				S	Sn	02 07 43.2	+0.2
JAJ2	**Tsuna**	2.10	297	*e*S	Sn	02 07 47.6	+1.0
JHJ	**Hachijo jima 2**	2.23	99	Pn	Pn	02 07 23.1	0.0
	13nm,0.3s,baz=225,slow=20,SNR=2.9						
JHJ				Sn	Sn	02 07 50.5	+0.5
	54nm,0.3s,baz=90,slow=22,SNR=6.7						
JFM	**Mihama**	2.26	335	P	Pn	02 07 23.9	+0.5
JWT	**Wachi**	2.31	322	P	Pn	02 07 24.3	+0.2
JWT				S	Sn	02 07 51.4	-0.4
MAJO	**Matsushiro**	3.17	16	*e*P	Pn	02 07 36.4	0.0
MAT	**Matsushiro**	3.17	16	P	Pn	02 07 36.0	-0.5
MAT				*e*S	Sn	02 08 13.4	-0.4
MAT	**Matsushiro**	3.17	16	*e*P	Pn	02 07 36.0	-0.5
MAT				S	Sn	02 08 13.0	-0.8
JNU	**Nakatsue**	5.26	268	LR	LR	02 10 16.8	
	comp=Z,500nm,20.9s,baz=142,slow=40						
CN2	**Changchun**	13.76	322	*e*P	P	02 10 12.1	+9.4
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
ENH	**Enshi**	23.68	270	*e*P	P	02 12 05.6	+8.3
SONM	**Songino Array**	27.17	311	P	P	02 12 31.0	+1.1
	comp=Z,0.4nm,0.9s,mb2.9,baz=129,slow=9.2,SNR=2.3						
MKAR	**Makanchi Array**	43.16	305	P	P	02 14 48.0	+1.2
	comp=Z,1.1nm,0.9s,mb3.6,baz=83,slow=9.8,SNR=3.8						
MKAR				LR	LR	02 33 46.4	
	comp=Z,142nm,18.8s,MS3.9,baz=336,slow=38						
MKAR	**Makanchi Array**	43.16	305	P	P	02 14 48.0	+1.2
MKAR				LR	LR	02 33 46.4	
KURK	**Kurchatov**	45.48	310	P	P	02 15 06.7	+1.3
WRAB	**Tennant Creek**	53.18	183	P	P	02 16 05.7	+0.6
	comp=Z,2.0nm,0.7s,mb4.2						
WRA	**Warramunga Arr**	53.19	183	P	P	02 16 05.3	+0.1
	comp=Z,1.3nm,0.8s,mb3.9,baz=359,slow=7.8,SNR=8.1						
MBWA	**Marble Bar**	56.82	200	*e*P	P	02 16 30.4	-1.1
	comp=Z,55nm,1.7s						
ASAR	**Alice Springs**	56.91	184	P	P	02 16 33.3	+1.1
	comp=Z,1.0nm,0.9s,mb3.9,baz=0.7,slow=4.7,SNR=6.3						
ASAR				LR	LR	02 37 28.3	
	comp=Z,59nm,19.5s,MS3.7,baz=25,slow=32						
STKA	**Stephens Creek**	65.14	176	LR	LR	02 46 52.0	
	comp=Z,87nm,21.1s,MS3.9,baz=26,slow=37						
ARCES	**ARCESS Array B**	66.07	339	LR	LR	02 50 46.7	
	comp=Z,312nm,19.2s,MS4.5,baz=87,slow=40						
TPNV	**Topopah Spring**	82.11	51	*e*P	P	02 19 05.3	-1.1
PDAR	**Pinedale Array**	82.64	43	P	P	02 19 11.0	+2.0
	comp=Z,0.5nm,1.0s,mb3.5,baz=315,slow=5.1,SNR=2.1						
SCHQ	**Schefferville**	89.65	14	LR	LR	03 07 06.1	
	comp=Z,37nm,19.4s,MS3.8,baz=290,slow=40						
TXAR	**Lajitas Array**	95.06	50	LR	LR	03 01 45.9	
	comp=Z,45nm,19.2s,MS4.0,baz=270,slow=35						
SAML	**Samuel**	149.22	42	*e*PKPbc	PKPdf	02 26 36.8	+2.5

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*NIED **06** 02:09:00, 33.40N×137.20E, h5^{km}, Mw4.2 Best double couple: M$_0$2.31×10^{15} NP1:φ$_s$57°, δ71°, λ-130°. NP2: φ$_s$306°, δ44°, λ-28°.*
*JMA **06** 02:09:24.8±0.1, 33.42N×137.16E, h46^{km}±3^{km}, M3.8*
*IDC **06** 02:09:27.4±1.0, 33.08N×136.08E, mb3.6/6, mb1 3.9/6, mb1mx3.7/21, MS4.0/2, Ms1 4.0/2, ms1mx3.0/23, Error ellipse: s-maj=37.1km s-min=23.6km az=70.0*
ISC 06 02:09:25.6±0.9**, 33.48N**±0.04×**137.14E**±0.04**, h32**^{km}±6^{km}**, n23,** σ**0**^{s}.**77**/33**, mb3.5**/6**, MS4.0**/1**, 3C, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TK01	**Tokai 1**	0.47	52	*e*S	Sb	02 09 43.2	+0.5
TK02	**Tokai 2**	0.70	47	P	Pb	02 09 39.0	-0.3
TK02				*e*S	Sb	02 09 49.2	+0.5
TK03	**Tokai 3**	0.97	45	*e*S	Sn	02 09 56.1	+0.1
JIE	**Ise**	0.98	339	⇑P	Pn	02 09 43.4	0.0
JIE				*e*S	Sn	02 09 56.4	+0.1
JKN	**Kiinagashima**	1.06	317	P	Pn	02 09 44.3	-0.2
JKN				*e*S	Sn	02 09 58.0	-0.3
TK04	**Tokai 4**	1.09	34	P	Pn	02 09 44.4	-0.6
TK04				*e*S	Sn	02 09 59.1	0.0
JAA	**Atsumi**	1.15	0	⇑P	Pn	02 09 44.7	-1.1
JAA				*e*S	Sn	02 10 00.4	-0.2
JWZ	**Kozaga**	1.19	273	P	Pn	02 09 44.5	-1.9
JWZ				*e*S	Sn	02 10 01.2	-0.4
TSUJ	**Tsu 2**	1.37	334	P	Pn	02 09 49.3	+0.4
TSUJ				*e*S	Sn	02 10 06.7	+0.6
JWM	**Minabe**	1.54	285	*e*S	Sn	02 10 09.8	-0.5
JHE	**Heguri**	1.69	315	P	Pn	02 09 53.6	+0.2
JHE				*e*S	Sn	02 10 14.2	+0.1
JEG	**Eigenji**	1.77	340	P	Pn	02 09 55.7	+1.1
JEG				S	Sn	02 10 17.9	+1.6
JAO	**Obara**	1.79	3	⇑P	Pn	02 09 54.5	-0.4
JAO				S	Sn	02 10 16.7	-0.1
SHZ3	**Shizuoka 3**	1.82	29	P	Pn	02 09 54.2	-1.1
SHZ3				*e*S	Sn	02 10 15.9	-1.6
MAT	**Matsushiro**	3.18	16	P	Pn	02 10 14.9	+0.1
MAT				S	Sn	02 10 52.5	+0.4
JOW	**Kunigami**	10.13	232	LR	LR	02 14 30.4	
	comp=Z,1µm,19.1s,baz=256,slow=33						
SONM	**Songino Array**	27.17	311	P	P	02 15 09.3	+1.3
	0.2nm,0.4s,mb3.0,baz=130,slow=7.7,SNR=3.1						
MKAR	**Makanchi Array**	43.15	305	P	P	02 17 25.1	+0.3
	0.8nm,0.8s,mb3.5,baz=90,slow=8.6,SNR=3.0						
WRA	**Warramunga Arr**	53.18	183	P	P	02 18 43.3	+0.1
	0.4nm,0.5s,mb3.6,baz=360,slow=7.7,SNR=7.1						
ASAR	**Alice Springs**	56.91	184	P	P	02 19 11.8	+1.5
	0.6nm,0.9s,mb3.6,baz=10,slow=10,SNR=3.6						
FINES	**FINESS Array B**	70.30	332	LR	LR	02 54 58.8	
	comp=Z,90nm,18.7s,MS4.0,baz=170,slow=39						
PDAR	**Pinedale Array**	82.65	43	P	P	02 21 57.7	+11
	0.4nm,1.0s,mb3.4,baz=333,slow=4.0,SNR=2.6						
TXAR	**Lajitas Array**	95.07	50	P	P	02 22 56.7	+10
	0.2nm,0.6s,mb3.7,baz=304,slow=4.5,SNR=3.6						

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*NEIC **06** 02:13:34.5±0.6, 17.65S×178.33W, h400^{km}, mb3.8/3, Error ellipse: s-maj=35.0km s-min=13.6km az=160.0*
*IDC **06** 02:13:38.4±10.0, 18.00S×178.25W, h443^{km}±116^{km}, mb3.2/4, mb1 3.5/4, mb1mx3.2/12, Error ellipse: s-maj=136.0km s-min=40.2km az=161.0*
ISC 06 02:13:33.5±0.8**, 17.7S**±0.3×**178.4W**±0.2**, h400**^{km}**, n9,** σ**0**^{s}.**42**/8**, mb3.7**/7**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRAB	**Tennant Creek**	44.68	259	P	P	02 21 09.5	-0.9
WRA	**Warramunga Arr**	44.69	259	P	P	02 21 10.5	0.0
	0.4nm,0.3s,mb3.2,baz=97,slow=7.4,SNR=27						
WRA				PcP	PcP	02 22 44.1	-1.4
	0.2nm,0.9s,baz=90,slow=3.9,SNR=5.0						
ASAR	**Alice Springs**	44.87	254	P	P	02 21 12.4	+0.6
	6.3nm,0.5s,mb4.2,baz=90,slow=8.2,SNR=93						
FITZ	**Fitzroy Crossi**	53.08	260	P	P	02 22 14.3	+0.4
	0.9nm,0.4s,mb3.3,baz=102,slow=9.3,SNR=8.4						
TUC	**Tucson**	81.55	52	*e*P	P	02 25 08.8	-0.3
	0.8nm,0.8s,mb3.5						
ELK	**Elko**	82.47	43	P	P	02 25 13.8	+0.1
	2.4nm,1.3s,mb3.8						
PMSA	**Palmer Station**	84.02	157	*e*P	P	02 25 20.8	-0.1
	4.5nm,0.6s,mb4.4						
TXAR	**Lajitas Array**	85.86	58	P	P	02 25 30.9	+0.2
	0.4nm,0.6s,mb3.3,baz=219,slow=5.6,SNR=6.2						
GERES	**GERESS Array B**	147.39	345	PKPbc	PKPdf	02 32 31.6	+4.1
	0.5nm,0.5s,baz=56,slow=3.5,SNR=3.6						

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*BER **06** 02:13:38.5±7.1, 77.82N×8.70E, h3^{km}±334^{km}, ML2.6(NAO)*
NAO 06 02:13:35.5±4.2**, 77.71N**×**8.46E, ML2.6, Svalbard region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBS	**Kingsbay**	1.41	28	Pn	Pn	02 14 00.8	-1.8
KBS				Lg		02 14 16.4	
SPA0	**Spitsbergen Ar**	1.73	70	Pn	Pn	02 14 07.5	+0.5
	baz=228,slow=11						
SPA0				Lg		02 14 30.2	
	baz=258,slow=28						

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*NEIC **06** 02:42:51.9±0.7, 7.32N×127.43E, mb4.2/4, Error ellipse: s-maj=41.3km s-min=9.1km az=72.0*
*IDC **06** 02:42:51.9±1.1, 7.34N×127.38E, h36^{km}±6^{km}, mb3.9/9, mb1 4.0/9, mb1mx3.8/21, MS3.3/1, Ms1 3.5/1, ms1mx2.6/24, Error ellipse: s-maj=76.1km s-min=14.6km az=72.0*
ISC 06 02:42:50.0±1.5**, 7.32N**±0.07×**127.48E**±0.10**, h40**^{km}±13^{km}**, h39**^{km}±1.7^{km}**:pP-P, n27,** σ**0**^{s}.**92**/31**, mb4.1**/11**, MS3.2**/1**, 2C-1D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	1.27	253	*e*P	P	02 43 08.6	-2.8
BIPH	**Bislig**	1.40	308	⇑*i*P	P	02 43 12.5	-0.9
BIPH				*e*S	S	02 43 22.8	-8.1
KCP	**Kidapawan**	2.39	263	⇓*i*P	P	02 43 27.8	+0.3
KCP				*i* S	S	02 43 55.9	+0.1
BUKP	**Musuan**	2.46	283	*e*P	P	02 43 28.2	-0.3
BUTP	**Butuan**	2.46	312	*e*P	P	02 43 30.6	+2.1
GSPH	**General Santos**	2.79	244	*e*P	P	02 43 34.0	+0.7
CGP	**Cagayan de Oro**	2.98	292	*e*P	P	02 43 35.5	-0.4
CGP				*e*S	S	02 44 11.8	+1.1
SCPH	**Surigao**	3.13	321	⇑*e*P	P	02 43 42.1	+4.0
PAGZ	**Pagadian**	4.09	278	*e*P	P	02 43 51.3	-0.4
TBP	**Tagbilaran**	4.28	304	*e*P	P	02 43 53.8	-0.6
TBP				*e*S	S	02 44 39.9	-3.8
BESP	**Borongan**	4.70	335	*e*P	P	02 44 09.0	+8.7
BESP				*e*S	S	02 45 13.2	+19
FITZ	**Fitzroy Crossi**	25.33	184	*e*P	P	02 48 15.1	+0.2
	5.0nm,0.9s,mb4.0						
FITZ	**Fitzroy Crossi**	25.33	184	P	P	02 48 15.5	+0.6
	1.8nm,0.3s,mb4.0,baz=13,slow=11,SNR=30						
WRAB	**Tennant Creek**	27.92	166	*e*P	P	02 48 38.9	+0.2
	2.9nm,0.6s,mb4.1						
WRAB				*e*	pP	02 48 50.0	+0.3
WRA	**Warramunga Arr**	27.92	166	P	P	02 48 38.7	-0.1
	1.4nm,0.4s,mb4.0,baz=344,slow=11,SNR=22						
WB2	**Warramunga Arr**	27.93	166	*e*P	P	02 48 38.7	-0.1
MBWA	**Marble Bar**	29.31	195	*e*P	P	02 48 50.2	-0.9
	5.0nm,0.8s,mb4.3						
CMAR	**Chiang Mai Arr**	29.88	294	LR	LR	02 59 55.5	
	comp=Z,59nm,19.5s,MS3.2,baz=355,slow=34						
ASAR	**Alice Springs**	31.43	169	P	P	02 49 09.8	-0.2
	0.5nm,0.5s,mb3.6,baz=8.1,slow=10,SNR=5.7						
ASAR				PcP	PcP	02 52 04.0	+1.3
	0.8nm,0.4s,baz=353,slow=2.6,SNR=7.7						
ASAR				pPcP		02 52 15.9	
	0.6nm,0.4s,baz=353,slow=2.9,SNR=5.9						
NWAO	**Narrogin (SRO)**	41.20	193	P	P	02 50 33.2	+0.7
	9.5nm,0.9s,mb4.4,baz=199,slow=18,SNR=6.8						
STKA	**Stephens Creek**	41.25	162	*e*P	P	02 50 33.4	+0.5
	4.2nm,0.8s,mb4.1						
STKA	**Stephens Creek**	41.25	162	P	P	02 50 34.6	+1.7
	3.1nm,0.4s,mb4.2,baz=345,slow=8.1,SNR=12						
MKAR	**Makanchi Array**	55.08	324	P	P	02 52 19.6	-0.7
	2.3nm,0.9s,mb4.2,baz=117,slow=8.1,SNR=9.6						
MKAR				pP	pP	02 52 31.4	-0.6
	1.1nm,0.5s,baz=116,slow=7.5,SNR=6.9						
BVAR	**Borovoye Array**	64.75	326	P	P	02 53 27.7	+1.2
	1.0nm,0.9s,mb3.9,baz=79,slow=7.6,SNR=3.0						
BVAR				pP	pP	02 53 37.2	-1.2
	0.7nm,0.7s,baz=112,slow=8.0,SNR=3.1						
ZRNK	**Zerenda**	65.50	325	P	P	02 53 30.7	-0.5
ZRNK				*e*	pP	02 53 42.5	-0.7
FINES	**FINESS Array B**	89.03	332	P	P	02 55 41.6	-0.2
	2.4nm,0.9s,mb4.5,baz=180,slow=36,SNR=3.4						
FINES				pP	pP	02 55 53.7	-0.4
	2.4nm,0.9s,baz=121,slow=11,SNR=2.2						
AKASG	**Malin Array Be**	89.59	321	P	P	02 55 43.7	-0.9
	0.2nm,0.3s,mb3.9,baz=61,slow=4.4,SNR=4.3						
AKASG				pP	pP	02 55 56.2	-0.8
	0.8nm,0.5s,baz=61,slow=4.7,SNR=4.8						

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*NIED **06** 02:45:00, 33.00N×137.30E, h5^{km}, Mw4.3 Best double couple: M$_0$3.15×10^{15} NP1:φ$_s$316°, δ79°, λ115°. NP2:φ$_s$69°, δ27°, λ25°.*
*IDC **06** 02:45:37.4±1.2, 32.92N×137.43E, mb3.8/4, mb1 4.0/5, mb1mx3.7/22, ML3.2/1, MS3.5/5, Ms1 3.5/5, ms1mx3.2/26, Error ellipse: s-maj=34.1km s-min=21.8km az=14.0*
*JMA **06** 02:45:38.6±0.2, 32.98N×137.30E, h39^{km}±4^{km}, M3.7*
*NEIC **06** 02:45:39.1±0.8, 33.05N×137.46E, h10^{km}, mb3.9/2, Error ellipse: s-maj=22.7km s-min=14.8km az=99.0*
ISC 06 02:45:39.4±1.0**, 33.05N**±0.04×**137.29E**±0.03**, h29**^{km}±7^{km}**, n30,** σ**0**^{s}.**92**/44**, mb3.7**/6**, MS3.5**/2**, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TK01	**Tokai 1**	0.76	19	P	Pb	02 45 53.8	-0.1
TK01				*e*S	Sb	02 46 04.7	+0.8
TK02	**Tokai 2**	0.97	23	P	Pn	02 45 56.4	-0.8
TK02				*e*S	Sn	02 46 10.6	+0.5
TK03	**Tokai 3**	1.25	27	P	Pn	02 46 00.5	-0.6
TK03				*e*S	Sn	02 46 16.3	-0.7
JWZ	**Kozaga**	1.40	290	P	Pn	02 46 02.6	-0.8
JWZ				*e*S	Sn	02 46 20.0	-1.0
TK04	**Tokai 4**	1.42	20	P	Pn	02 46 03.5	-0.1
TK04				*e*S	Sn	02 46 21.9	+0.5
JIE	**Ise**	1.42	340	P	Pn	02 46 04.1	+0.5
JIE				*e*S	Sn	02 46 22.3	+0.8
JKN	**Kiinagashima**	1.47	325	P	Pn	02 46 04.4	+0.1
JKN				*e*S	Sn	02 46 22.0	-0.7
JAA	**Atsumi**	1.58	356	P	Pn	02 46 06.0	+0.1
JAA				*e*S	Sn	02 46 25.7	+0.2
JWM	**Minabe**	1.80	297	P	Pn	02 46 08.8	-0.3
JWM				*e*S	Sn	02 46 30.4	-0.8
TSUJ	**Tsu 2**	1.81	337	P	Pn	02 46 10.3	+1.2
TSUJ				*e*S	Sn	02 46 31.3	0.0
JWY	**Kouya**	1.83	310	P	Pn	02 46 10.0	+0.5
JWY				*e*S	Sn	02 46 32.0	+0.1
JHE	**Heguri**	2.08	321	P	Pn	02 46 13.5	+0.4
JHE				*e*S	Sn	02 46 38.5	+0.2
JHJ	**Hachijo jima 2**	2.09	87	Pn	Pn	02 46 12.0	-1.2
	18nm,0.3s,baz=94,slow=23,SNR=5.8						
JHJ				Sn	Sn	02 46 38.0	-0.6
	57nm,0.3s,baz=75,slow=20,SNR=3.6						
JHJ				LR	LR	02 47 03.9	
	comp=Z,996nm,18.8s,baz=137,slow=43						
JIZS	**Izushimoda**	2.12	38	P	Pn	02 46 14.8	+1.1
JIZS				*e*S	Sn	02 46 38.7	-0.6
JAJ2	**Tsuna**	2.43	305	P	Pn	02 46 18.7	+0.7
JAJ2				*e*S	Sn	02 46 47.6	+0.6
JAI	**Aioi**	2.49	288	P	Pn	02 46 18.5	-0.4
JAI				*e*S	Sn	02 46 47.0	-1.6
MAJO	**Matsushiro**	3.56	12	*e*P	Pn	02 46 33.6	-0.6
MAT	**Matsushiro**	3.56	12	P	Pn	02 46 33.3	-0.9
MAT				S	Sn	02 47 14.1	-1.7
MAT	**Matsushiro**	3.56	12	*e*P	Pn	02 46 33.0	-1.2
MAT				*e*S	Sn	02 47 14.0	-1.8
JNU	**Nakatsue**	5.38	273	LR	LR	02 49 08.7	
	comp=Z,514nm,19.3s,baz=124,slow=38						
ASAJ	**Asahikawa**	11.80	19	LR	LR	02 53 19.3	
	comp=Z,242nm,19.2s,baz=344,slow=39						
SONM	**Songino Array**	27.54	312	P	P	02 51 27.5	+2.0
	1.0nm,0.9s,mb3.4,baz=124,slow=8.9,SNR=5.9						
ZAL	**Zalesovo**	42.26	316	LR	LR	03 10 15.2	
	comp=Z,64nm,18.6s,MS3.5,baz=339,slow=35						
MKAR	**Makanchi Array**	43.50	305	P	P	02 53 43.4	+1.6
	0.6nm,0.6s,mb3.5,baz=103,slow=6.3,SNR=2.8						
MKAR				LR	LR	03 10 31.0	
	comp=Z,49nm,18.7s,MS3.4,baz=199,slow=34						
WRA	**Warramunga Arr**	52.77	183	P	P	02 54 53.2	-1.0
	0.8nm,0.9s,mb3.6,baz=0.1,slow=7.7,SNR=6.4						
MCK	**McKinley**	53.81	32	P	P	02 55 01.0	-0.3
	0.8nm,0.7s,mb3.8						
TPNV	**Topopah Spring**	82.29	51	*e*P	P	02 58 01.7	+2.2
	1.0nm,0.8s,mb3.8						
TXAR	**Lajitas Array**	95.25	50	P	P	02 59 04.3	+2.5
	0.3nm,0.6s,mb3.9,baz=290,slow=3.6,SNR=6.6						
TXAR	**Lajitas Array**	95.25	50	P	P	02 59 04.3	+2.5
SAML	**Samuel**	149.46	43	PKPdf	PKPdf	03 05 24.2	-2.6
SAML				*e*PKPbc	PKPdf	03 05 30.0	+3.2

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*IDC **06** 03:05:11.4±8.8, 1.39N×124.11E, h57^{km}±84^{km}, mb3.8/6, mb1 3.9/7, mb1mx3.7/18, ML3.7/1, Error ellipse: s-maj=103.0km s-min=18.4km az=65.0*

*NEIC **06** 03:05:16.2±5.1, 1.11N×123.56E, h102^{km}±51^{km}, mb4.3/2, Error ellipse: s-maj=66.0km s-min=15.7km az=67.0*

ISC 06 03:05:13.0±6.3, **1.0N**±0.2×**123.2E**±0.5, **h88**^{km}±62^{km}, **n12**, σ**0^s.90**/12, **mb4.0**/7, **Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	Kakadu	16.41	147	*e*P	P	03 08 59.9	+0.6
	6.9nm,0.6s						
FITZ	Fitzroy Crossi	19.16	173	P	P	03 09 31.3	-0.9
	0.2nm,0.3s,baz=353,slow=4.8,SNR=8.8						
WRAB	Tennant Creek	23.52	153	*e*P	P	03 10 16.2	+0.2
	16nm,0.6s,mb4.5						
WRA	Warramunga Arr	23.53	153	P	P	03 10 16.0	-0.1
	9.0nm,0.6s,mb4.2,baz=337,slow=10.0,SNR=149						
WB2	Warramunga Arr	23.53	153	*e*P	P	03 10 15.9	-0.2
ASPA	Alice Springs	26.66	158	*e*P	P	03 10 46.2	+0.5
ASAR	Alice Springs	26.66	158	P	P	03 10 46.2	+0.5
	2.1nm,0.4s,mb4.0,baz=346,slow=9.2,SNR=42						
ASAR				PcP	PcP	03 14 06.2	-1.6
	0.6nm,0.5s,baz=351,slow=2.4,SNR=7.2						
STKA	Stephens Creek	37.08	154	P	P	03 12 15.8	-0.8
	1.9nm,0.4s,mb4.4,baz=340,slow=10.0,SNR=10						
STKA	Stephens Creek	37.08	154	P	P	03 12 15.8	-0.8
SONM	Songino Array	48.85	345	P	P	03 13 49.7	-1.9
	0.5nm,1.1s,mb3.4,baz=143,slow=7.2,SNR=2.4						
MKAR	Makanchi Array	57.86	328	P	P	03 14 58.1	+0.2
	1.3nm,0.4s,mb4.4,baz=122,slow=7.9,SNR=16						
BVAR	Borovoye Array	67.72	329	P	P	03 16 05.0	+1.9
	0.3nm,0.4s,mb3.5,baz=143,slow=7.2,SNR=2.4						

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*NEIC **06** 03:09:43.6±0.6, 32.96N×137.25E, h10^{km}, Error ellipse: s-maj=21.7km s-min=10.6km az=97.0*

*JMA **06** 03:09:46.2±0.1, 33.13N×137.05E, h38^{km}±3^{km}, M3.9*

*IDC **06** 03:09:48.1±4.2, 32.98N×137.24E, h42^{km}±42^{km}, mb3.4/6, mb1 3.6/7, mb1mx3.4/22, ML3.3/1, Error ellipse: s-maj=29.0km s-min=21.9km az=66.0*

ISC 06 03:09:45.9±0.7, **33.11N**±0.05×**137.06E**±0.03, **h34**^{km}±8^{km}, **n27**, σ**0^s.79**/44, **mb3.5**/6, **10D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	Tokai 1	0.79	34	P	P	03 10 00.6	+0.1
TK01				*e*S	S	03 10 11.0	-0.3
TK02	Tokai 2	1.02	34	⇓P	P	03 10 04.1	+0.3
TK02				*e*S	S	03 10 17.1	0.0
JWZ	Kozaga	1.21	291	⇓P	P	03 10 06.6	+0.2
JWZ				*e*S	S	03 10 21.0	-0.9
TK03	Tokai 3	1.30	35	P	P	03 10 08.0	+0.3
TK03				*e*S	S	03 10 24.3	+0.1
JIE	Ise	1.32	347	⇓P	P	03 10 08.8	+0.7
JKN	Kiinagashima	1.32	330	P	P	03 10 08.5	+0.4
JKN				*e*S	S	03 10 23.7	-1.1
TK04	Tokai 4	1.44	28	⇓P	P	03 10 10.3	+0.4
TK04				*e*S	S	03 10 28.0	+0.1
JAA	Atsumi	1.52	2	⇓P	P	03 10 11.4	+0.4
JAA				*e*S	S	03 10 29.7	-0.2
JWM	Minabe	1.61	298	⇓P	P	03 10 12.6	+0.3
JWM				*e*S	S	03 10 31.4	-0.6
JWY	Kouya	1.65	313	⇓P	P	03 10 13.8	+0.9
JWY				*e*S	S	03 10 33.0	-0.2
TSUJ	Tsu 2	1.69	342	⇓P	P	03 10 13.9	+0.5
TSUJ				*e*S	S	03 10 34.2	+0.2
JHE	Heguri	1.92	324	⇓P	P	03 10 17.5	+0.7
JHE				*e*S	S	03 10 39.6	-0.4
SHZ3	Shizuoka 3	2.17	26	⇓P	P	03 10 20.2	-0.1
SHZ3				*e*S	S	03 10 44.6	-1.7
JIZS	Izushimoda	2.20	43	P	P	03 10 20.8	0.0
JAJ2	Tsuna	2.24	306	P	P	03 10 22.0	+0.7
JAJ2				*e*S	S	03 10 47.7	-0.3
JHJ	Hachijo jima 2	2.28	89	P	P	03 10 22.4	+0.5
	22nm,0.3s,baz=252,slow=20,SNR=6.4						
JHJ				S	S	03 10 47.8	-1.3
	90nm,0.3s,baz=71,slow=22,SNR=11						
JAI	Aioi	2.29	288	P	P	03 10 22.4	+0.4
JAI				*e*S	S	03 10 47.6	-1.7
MAJO	Matsushiro	3.56	15	*e*P	P	03 10 39.9	-0.2
MAT	Matsushiro	3.56	15	P	P	03 10 40.8	+0.8
MAT				S	S	03 11 20.5	-0.9
MAT	Matsushiro	3.56	15	*e*P	P	03 10 41.0	+1.0
MAT				*e*S	S	03 11 21.0	-0.4
SONM	Songino Array	27.36	312	P	P	03 15 30.9	+1.2
	0.2nm,0.4s,mb3.0,baz=121,slow=8.4,SNR=2.3						
KURK	Kurchatov	45.66	311	*e*P	P	03 18 05.9	+1.0
WRA	Warramunga Arr	52.81	183	P	P	03 18 58.0	-2.3
	0.5nm,0.8s,mb3.5,baz=359,slow=7.8,SNR=5.9						
ASAR	Alice Springs	56.53	183	P	P	03 19 25.7	-1.6
	0.3nm,0.8s,mb3.4,baz=6.2,slow=8.6,SNR=3.5						
AKASG	Malin Array Be	75.17	321	P	P	03 21 27.1	+0.9
	0.5nm,0.4s,mb3.8,baz=48,slow=6.0,SNR=8.8						
GERES	GERESS Array B	84.08	326	P	P	03 22 15.1	+0.9
	0.4nm,0.7s,mb3.7,baz=60,slow=7.9,SNR=2.5						
TXAR	Lajitas Array	95.36	50	P	P	03 23 08.4	+0.5
	0.2nm,0.6s,mb3.7,baz=270,slow=2.7,SNR=4.2						

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*IDC **06** 03:20:24.5±0.9, 33.35N×137.14E, mb3.8/7, mb1 4.0/8, mb1mx3.8/23, ML3.6/1, MS2.9/1, Ms1 2.9/1, ms1mx2.7/24, Error ellipse: s-maj=28.6km s-min=20.2km az=47.0*

*JMA **06** 03:20:25.7±0.1, 33.30N×137.10E, h38^{km}±2^{km}, M3.2*

*NEIC **06** 03:20:26.1±0.6, 33.36N×137.04E, h10^{km}, mb4.0/4, Error ellipse: s-maj=15.9km s-min=12.2km az=100.0*

ISC 06 03:20:25.3±0.8, **33.33N**±0.04×**137.07E**±0.03, **h19**^{km}±6^{km}, **n30**, σ**0^s.83**/40, **mb3.8**/11, **5C, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	Tokai 1	0.61	45	P	Pb	03 20 37.8	+0.6
TK02	Tokai 2	0.84	43	⇑P	Pb	03 20 41.3	+0.3
JIE	Ise	1.10	344	⇑P	Pb	03 20 46.1	+0.6
JIE				S	Sb	03 21 00.6	+1.2
TK03	Tokai 3	1.12	42	P	Pb	03 20 45.2	-0.6
JKN	Kiinagashima	1.14	324	P	Pb	03 20 46.2	+0.1
JKN				*e*S	Sb	03 21 00.1	-0.3
JWZ	Kozaga	1.15	280	P	Pb	03 20 46.1	-0.3
JWZ				*e*S	Sb	03 21 00.3	-0.7
TK04	Tokai 4	1.25	32	⇑P	Pn	03 20 47.4	-0.5
TK04				*e*S	Sb	03 21 03.9	+0.3
JAA	Atsumi	1.30	3	⇑P	Pn	03 20 48.5	-0.1
JAA				S	Sb	03 21 05.0	-0.2
TSUJ	Tsu 2	1.48	339	⇑P	Pn	03 20 51.4	+0.2
TSUJ				S	Sn	03 21 09.6	-0.5
JWM	Minabe	1.52	290	P	Pn	03 20 51.9	0.0
JWM				*e*S	Sn	03 21 10.3	-1.0
JHE	Heguri	1.75	319	P	Pn	03 20 55.3	+0.2
JHE				*e*S	Sn	03 21 16.8	-0.3
SHZ3	Shizuoka 3	1.97	28	P	Pn	03 20 57.4	-0.8
JIZS	Izushimoda	2.04	47	P	Pn	03 20 59.5	+0.3
JHJ	Hachijo jima 2	2.28	95	Pn	Pn	03 21 02.0	-0.6
	38nm,0.3s,baz=64,slow=20,SNR=7.5						
JHJ				Sn	Sn	03 21 28.1	-2.5
	24nm,0.3s,baz=45,slow=19,SNR=3.9						
MAJO	Matsushiro	3.34	16	*e*P	Pn	03 21 17.8	+0.1
MAT	Matsushiro	3.34	16	P	Pn	03 21 17.6	-0.1
MAT				S	Sn	03 21 56.3	-0.9
MAT	Matsushiro	3.34	16	*e*P	Pn	03 21 18.0	+0.3
MAT				*e*S	Sn	03 21 56.0	-1.2
ASAJ	Asahikawa	11.60	20	LR	LR	03 27 51.6	
	comp=Z,57nm,20.3s,baz=359,slow=39						
SONM	Songino Array	27.22	311	P	P	03 26 09.3	-0.5
	0.3nm,0.6s,mb3.0,baz=123,slow=8.3,SNR=3.0						
MKAR	Makanchi Array	43.19	305	P	P	03 28 27.6	+1.1
	1.4nm,0.6s,mb3.9,baz=92,slow=9.7,SNR=16						
MKAR				pP	pP	03 28 35.0	+2.7
	1.7nm,0.7s,baz=93,slow=9.1,SNR=12						
MKAR	Makanchi Array	43.19	305	P	P	03 28 27.6	+1.1
MKAR				pP	pP	03 28 35.0	+2.7
KURK	Kurchatov	45.52	311	P	P	03 28 46.0	+0.8
	1.3nm,0.7s,mb4.0						
BVAR	Borovoye Array	50.51	314	P	P	03 29 24.4	+0.5
	0.9nm,0.7s,mb3.8,baz=90,slow=12,SNR=4.9						
BRVK	Borovoye	50.57	314	*e*P	P	03 29 21.7	-2.8
	1.1nm,0.7s,mb3.9						
ZRNK	Zerenda	51.35	314	*e*P	P	03 29 30.7	+0.3
	1.7nm,0.9s,mb4.0						
WRA	Warramunga Arr	53.04	183	P	P	03 29 42.8	-0.7
	0.7nm,0.5s,mb3.8,baz=360,slow=7.7,SNR=10						
WRA				pP	pP	03 29 49.3	-0.2
	0.2nm,0.4s,baz=15,slow=7.9,SNR=2.4						
ASAR	Alice Springs	56.76	183	P	P	03 30 11.1	+0.5
	0.6nm,0.8s,mb3.7,baz=5.7,slow=9.1,SNR=6.1						
TPNV	Topopah Spring	82.25	51	*e*P	P	03 32 48.1	+1.4
	1.3nm,0.8s,mb3.9						
PDAR	Pinedale Array	82.79	43	P	P	03 32 51.0	+1.6
	0.4nm,0.8s,mb3.5,baz=315,slow=2.1,SNR=4.4						
TXAR	Lajitas Array	95.21	50	P	P	03 33 50.5	+1.4
	0.5nm,0.8s,mb4.0,baz=294,slow=2.6,SNR=6.3						

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*IDC **06** 03:29:46.4±1.3, 33.46N×136.91E, mb3.4/4, mb1 3.5/5, mb1mx3.4/22, ML3.1/1, MS3.1/2, Ms1 3.1/2, ms1mx2.7/21, Error ellipse: s-maj=38.2km s-min=22.2km az=33.0*

*JMA **06** 03:29:49.1±0.3, 33.48N×136.77E, h23^{km}±4^{km}, M3.2*

ISC 06 03:29:48.4±0.8, **33.45N**±0.04×**136.80E**±0.03, **h26**^{km}±5^{km}, **n20**, σ**0^s.55**/28, **mb3.4**/4, **Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	Tokai 1	0.73	64	*e*S	Sb	03 30 12.4	+0.4
JWZ	Kozaga	0.91	276	P	Pb	03 30 05.3	-0.2
JWZ				*e*S	Sb	03 30 17.2	-0.1
JKN	Kiinagashima	0.92	331	P	Pb	03 30 05.2	-0.4
JKN				*e*S	Sb	03 30 17.0	-0.4
TK02	Tokai 2	0.94	58	*e*S	Sb	03 30 18.1	+0.1
JIE	Ise	0.95	355	P	Pn	03 30 06.6	+0.5
JIE				*e*S	Sb	03 30 18.1	-0.1
TK03	Tokai 3	1.20	53	*e*S	Sn	03 30 24.9	-0.5
JAA	Atsumi	1.22	13	P	Pn	03 30 09.9	-0.1
JAA				*e*S	Sn	03 30 25.6	-0.1
JWY	Kouya	1.27	308	P	Pn	03 30 11.1	+0.4
JWM	Minabe	1.27	289	P	Pn	03 30 10.9	+0.1
JWM				*e*S	Sn	03 30 26.6	-0.5
TK04	Tokai 4	1.29	43	*e*S	Sn	03 30 27.4	-0.2
TSUJ	Tsu 2	1.30	346	P	Pn	03 30 11.4	+0.2
TSUJ				*e*S	Sn	03 30 26.4	-1.4
JHE	Heguri	1.52	323	P	Pn	03 30 14.6	+0.3
JHE				*e*S	Sn	03 30 33.3	-0.1
JAI	Aioi	1.99	281	P	Pn	03 30 22.3	+1.2
JHJ	Hachijo jima 2	2.52	97	Pn	Pn	03 30 28.6	0.0
	10nm,0.3s,baz=106,slow=22,SNR=2.6						
JHJ				LR	LR	03 30 57.4	
	comp=Z,348nm,19.2s,baz=356,slow=29						
JHJ				Sn	Sn	03 30 58.1	-0.6
	15nm,0.3s,baz=67,slow=20,SNR=4.2						
MAT	Matsushiro	3.30	20	P	Pn	03 30 40.0	+0.3
MAT				*e*S	Sn	03 31 19.7	+1.2
ASAJ	Asahikawa	11.57	21	LR	LR	03 37 11.7	
	comp=Z,86nm,19.0s,baz=172,slow=39						
SONM	Songino Array	26.97	311	P	P	03 35 29.7	0.0
	0.2nm,0.4s,mb3.0,baz=121,slow=8.4,SNR=2.8						
MKAR	Makanchi Array	42.94	305	P	P	03 37 47.6	+1.0
	1.2nm,0.9s,mb3.6,baz=94,slow=9.7,SNR=6.2						
WRA	Warramunga Arr	53.14	183	P	P	03 39 06.2	-0.2
	0.4nm,0.9s,mb3.4,baz=3.2,slow=7.9,SNR=4.1						
ASAR	Alice Springs	56.86	183	P	P	03 39 32.8	-0.7
	0.4nm,0.9s,mb3.5,baz=12,slow=8.3,SNR=3.2						

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*IDC **06** 03:34:37.7±2.4, 22.40S×179.63W, h653^{km}±29^{km}, mb3.9/9, mb1 4.1/10, mb1mx3.8/15, Error ellipse: s-maj=24.1km s-min=14.5km az=168.0*

*NEIC **06** 03:34:38.3±2.4, 22.03S×179.74W, h656^{km}±26^{km}, mb4.7/17, Error ellipse: s-maj=18.4km s-min=12.6km az=75.0*

ISC 06 03:34:32.9±0.9, **22.24S**±0.07×**179.68W**±0.09, **h602**^{km}±10^{km}, **n67**, σ**1^s.22**/51, **mb4.6**/24, **3C-7D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.96	334	P	P	03 36 06.4	+0.4
	6μm,0.5s						
DZM	Mont Dzumac	12.86	268	*e*P	P	03 37 24.8	+4.7
NOUC	Port Laguerre	12.99	268	*e*P	P	03 37 26.7	+5.3
URZ	Urewera	16.21	189	P	P	03 37 50.8	-1.6
	15nm,0.3s,baz=313,slow=1.8,SNR=57						
URZ				S	S	03 40 29.0	-4.0
	3.0nm,0.3s,baz=42,slow=22,SNR=17						
URZ	Urewera	16.21	189	P	P	03 37 50.2	-2.2
MGZ	Maungaku	17.21	193	P	P	03 38 02.1	+0.3
NGZ	Ngauruhoe	17.36	192	P	P	03 38 02.8	-0.5
CNZ	Chateau	17.39	192	P	P	03 38 03.4	-0.2
QRZ	Quartz Range	19.67	198	P	P	03 38 24.9	+0.1
NNZ	Nelson	19.81	196	P	P	03 38 25.0	-1.0
THZ	Tophouse	20.45	196	P	P	03 38 30.7	-1.1
RPZ	Rata Peaks	22.76	198	P	P	03 38 51.3	-1.4
	8.1nm,0.5s,mb4.7,baz=68,slow=4.5,SNR=12						
JCZ	Jackson Bay	23.79	201	*e*P	P	03 39 00.3	-1.6
ARMA	Armidale	26.92	246	⇓*i*P	P	03 39 31.8	+2.3
CNB	Canberra Magne	29.97	237	⇓*i*P	P	03 39 57.5	+1.9
	40nm,0.7s,mb5.2						
CTA	Charters Tower	31.81	267	*e*P	P	03 40 12.2	+0.9
	38nm,0.5s,mb5.3						
CTAO	Charters Tower	31.81	267	*e*P	P	03 40 12.3	+1.0
	46nm,0.5s,mb5.4						
TOO	Toolangi	33.62	235	⇓*i*P	P	03 40 27.7	+1.4
	9.3nm,0.6s,mb4.6						
STKA	Stephens Creek	35.64	246	⇓*i*P	P	03 40 44.8	+1.7
	15nm,0.6s,mb4.7						
STKA	Stephens Creek	35.64	246	P	P	03 40 44.4	+1.3
	20nm,0.6s,mb4.8,baz=95,slow=9.3,SNR=47						
ASAR	Alice Springs	42.62	259	P	P	03 41 39.9	+0.5
	54nm,0.8s,mb5.2,baz=92,slow=8.2,SNR=391						
ASAR				S	S	03 47 18.6	-2.1
	3.4nm,0.9s,baz=97,slow=16,SNR=9.1						
ASPA	Alice Springs	42.63	259	⇓*i*P	P	03 41 39.9	+0.5
ASPA				*i* S	S	03 47 19.9	-0.9
WB2	Warramunga Arr	42.83	264	*e*P	P	03 41 40.8	-0.3
WB2				*e*S	S	03 47 20.8	-2.9
WRAB	Tennant Creek	42.83	264	*e*P	P	03 41 40.7	-0.4
	65nm,0.7s,mb5.3						
WRA	Warramunga Arr	42.84	264	P	P	03 41 40.9	-0.3
	21nm,0.3s,mb5.1,baz=94,slow=8.0,SNR=767						
WRA				ScP		03 46 14.0	
	2.3nm,0.8s,baz=92,slow=4.1,SNR=7.5						
WRA				S	S	03 47 21.0	-2.8
	9.9nm,1.5s,baz=100,slow=14,SNR=4.4						
KAKA	Kakadu	46.52	273	*e*P	P	03 42 08.5	-1.0
	29nm,0.3s,mb5.3						
FORT	Forrest	47.19	248	*e*P	P	03 42 14.2	-0.2
	88nm,0.8s,mb5.3						
FITZ	Fitzroy Crossi	51.27	264	⇓*i*P	P	03 42 44.8	+0.1
	18nm,1.1s,mb4.4						
FITZ	Fitzroy Crossi	51.27	264	P	P	03 42 44.8	+0.2
	9.2nm,0.4s,mb4.5,baz=98,slow=1.9,SNR=67						
KLBR	Kellerberrin	55.92	246	*e*P	P	03 43 16.2	-0.9
	134nm,1.8s,mb4.9						
MBWA	Marble Bar	55.97	259	*e*P	P	03 43 17.0	-0.6
	14nm,0.4s,mb4.5						
SBA	Scott Base	56.05	183	*e*P	P	03 43 18.8	+1.4
	22nm,1.0s,mb4.3						
QSPA	South Pole Qui	67.84	180	*e*P	P	03 44 34.0	+0.8
	30nm,1.0s,mb4.7						
MAJO	Matsushiro	70.70	325	*e*P	P	03 44 49.4	-1.5
	12nm,1.0s,mb4.4						
ASAJ	Asahikawa	74.52	333	P	P	03 45 13.7	+1.2
	4.5nm,0.4s,mb4.3,baz=208,slow=22,SNR=3.8						
MAW	Mawson	79.41	200	P	P	03 45 39.0	+0.7
	2.1nm,0.4s,mb3.8,baz=113,slow=7.4,SNR=10						
ENH	Enshi	85.73	305	*e*P	P	03 46 12.0	+1.2
	19nm,1.2s,mb4.6						
SNAA	Sanae	86.32	179	⇑*i*	P	03 46 11.7	-0.8
VNA3	Neumayer Olymp	86.51	177	⇑*i*	P	03 46 14.9	+1.4
ELK	Elko	86.61	43	*e*P	P	03 46 14.1	-0.6
	1.1nm,0.7s,mb3.7						
VNA2	Neumayer--Watz	86.94	177	⇑*i*	P	03 46 17.3	+1.9
PMR	Palmer	87.07	14	P	P	03 46 13.6	-2.7
	2.4nm,0.5s,mb4.2						
VNA1	Neumayer--Stat	87.17	177	⇓*i*	P	03 46 18.9	+2.4
MCK	McKinley	89.00	13	P	P	03 46 24.1	-1.2
	1.5nm,1.0s,mb3.8						
CMAR	Chiang Mai Arr	89.23	290	P	P	03 46 28.7	+1.3
	7.9nm,0.9s,mb4.5,baz=133,slow=3.3,SNR=26						
TXAR	Lajitas Array	89.30	58	P	P	03 46 26.7	-0.8
	0.4nm,0.6s,mb3.5,baz=215,slow=5.9,SNR=8.3						
MKAR	Makanchi Array	111.24	313	PKiKP		03 51 58.1	
	0.4nm,0.5s,baz=172,slow=1.6,SNR=6.1						
BRVK	Borovoye	119.45	319	P	PKPdf	03 52 14.9	+0.3
ZRNK	Zerenda	120.22	319	*e*P	PKPdf	03 52 15.6	-0.6
ARCES	ARCESS Array B	130.32	349	PKP	PKPdf	03 52 33.9	-1.2
	7.7nm,1.1s,baz=315,slow=1.7,SNR=8.9						
FINES	FINESS Array B	136.97	342	PKP	PKPdf	03 52 48.5	+0.9
	4.1nm,1.0s,baz=108,slow=6.0,SNR=4.8						
MALT	Malatya	143.69	305	*e*PKPdf	PKPdf	03 53 01.2	+1.0
AKASG	Malin Array Be	143.72	329	PKP	PKPdf	03 52 58.6	-1.2
	2.8nm,0.4s,baz=44,slow=4.1,SNR=22						
SUW	Suwalki	143.86	337	*e*PKPdf	PKPdf	03 52 58.5	-1.5
BRTR	Keskin Array B	146.79	309	PKPbc	PKPbc	03 53 07.9	+0.4
	1.6nm,0.6s,baz=137,slow=3.3,SNR=7.3						
BRTR				PKPab	PKPab	03 53 12.9	-1.2
	1.6nm,1.0s,SNR=4.0						
KOLS	Kolonicke sedl	148.16	332	*e*PKP	PKPdf	03 53 13.1	+5.8
UPC	Upice	149.22	340	*e*PKPbc	PKPdf	03 53 15.0	+6.2
DPC	Dobruska-Polom	149.26	340	*e*PKPbc	PKPdf	03 53 15.1	+6.2
MORC	Moravsky Berou	149.34	338	*e*PKPbc	PKPdf	03 53 15.2	+6.1
CLL	Collm	149.35	344	*e*PKP1	PKPdf	03 53 14.0	+5.0
CLL				*e*PKP2	PKPab	03 53 22.0	-2.1
BRG	Berggiesshubel	149.50	343	*i* P	PKPdf	03 53 15.5	+6.2
BRG				*e*		03 55 38.3	
PVCC	Panska Ves	149.63	342	*e*PKPbc	PKPdf	03 53 15.8	+6.3
VYHS	Vyhne	149.92	335	*e*PKP	PKPdf	03 53 17.0	+7.0
VYHS				*e*		03 55 40.8	
PRU	Pruhonice	150.12	341	*e*PKPbc	PKPdf	03 53 16.5	+6.2
KHC	Kasperske Hory	151.17	342	*e*PKPbc	PKPdf	03 53 19.1	+7.2
KHC				PKPab	PKPab	03 53 30.5	-1.2
KHC	Kasperske Hory	151.17	342	*e*P	PKPdf	03 53 19.1	+7.2
KHC				*e*		03 53 30.5	
GERES	GERESS Array B	151.39	341	PKPbc	PKPdf	03 53 19.0	+6.8
	0.8nm,0.4s,baz=14,slow=2.2,SNR=12						

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*SNSN **06** 03:50:30.7, 29.91N×34.28E, h13^{km}, Ml2.5*

*GII **06** 03:50:31.8±0.4, 29.96N×34.37E, h14^{km}±2^{km}, ML2.8/5, Mw2.7/7*

ISC 06 03:50:30.5±1.1, **29.98N**±0.04×**34.31E**±0.07, **h12**^{km}±8^{km}, **n17**, σ**0^s.53**/24, **Egypt**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KMTI	Karmit	0.39	70	Pg	Pg	03 50 39.1	+0.7
KMTI				Sg	Sg	03 50 44.3	+0.5
MBH	Mount Berech	0.56	109	Pg	Pg	03 50 41.8	0.0
EIL	Elat	0.64	118	Pg	Pg	03 50 42.9	-0.5
AQBJ	Aqaba	0.69	111	Pg	Pg	03 50 44.2	-0.2
PRNI	Paran	0.71	58	Pg	Pg	03 50 44.8	0.0
PRNI				Sg	Sg	03 50 54.2	-0.2
KZIT	Kziot	0.93	5	Pg	Pg	03 50 49.6	+0.5
KZIT				Sg	Sg	03 51 02.8	+1.2
ALWS	Ilw as Safayha	0.94	135	P	Pb	03 50 48.1	0.0
ALWS				S	Sb	03 51 00.8	+0.5
ZFRI	Zfri	0.95	52	Pg	Pg	03 50 49.1	-0.4
ZFRI				Sg	Sg	03 51 01.4	-0.9
SVTA	Shivta	0.99	16	Pg	Pg	03 50 50.8	+0.4
HAQS	Haql	1.07	149	P	Pb	03 50 50.4	0.0
HAQS				S	Sb	03 51 04.7	+0.6
JMOS	Jabal al Moall	1.07	139	P	Pb	03 50 50.4	0.0
JMOS				S	Sb	03 51 04.7	+0.6
MASH	Mash‘abbe Sade	1.10	22	Pg	Pg	03 50 52.0	-0.5
RTMM	Retamin	1.12	17	Pg	Pg	03 50 52.3	-0.7
MZDA	Masada	1.61	34	Pn	Pn	03 50 58.6	-0.3
BDAS	Al Bad‘	1.69	156	P	Pn	03 50 59.0	-1.1
JMQS	Jabal Moqyreh	1.75	128	P	Pn	03 51 00.6	-0.3
DRGI	Dragot	1.86	30	Pn	Pn	03 51 02.6	0.0

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*IDC **06** 03:57:58.9±1.4, 33.30N×137.63E, mb3.6/3, mb1 3.7/3, mb1mx3.5/21, MS3.0/1, Ms1 3.0/1, ms1mx2.5/29, Error ellipse: s-maj=42.3km s-min=21.2km az=21.0*

*JMA **06** 03:58:04.4±0.1, 33.05N×136.69E, h37^{km}, M3.1*

ISC 06 03:58:04.7±0.9, **33.06N**±0.05×**136.72E**±0.04, **h33**^{km}, **n17**, σ**0^s.58**/27, **mb3.4**/3, **Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JWZ	Kozaga	0.96	299	P	P	03 58 21.4	-0.5
JWZ				S	S	03 58 33.9	-0.7
TK02	Tokai 2	1.24	44	*e*S	S	03 58 41.7	+0.1
JKN	Kiinagashima	1.25	342	P	P	03 58 26.0	+0.2
JKN				S	S	03 58 41.3	-0.4
JIE	Ise	1.33	360	P	P	03 58 27.5	+0.4
JIE				*e*S	S	03 58 43.7	-0.1
JWM	Minabe	1.39	305	P	P	03 58 27.8	-0.1
JWM				S	S	03 58 44.8	-0.5
JWY	Kouya	1.49	321	P	P	03 58 30.0	+0.6
JWY				*e*S	S	03 58 48.3	+0.4
TK03	Tokai 3	1.52	43	*e*S	S	03 58 48.2	-0.3
JAA	Atsumi	1.61	13	P	P	03 58 31.4	+0.3
JAA				S	S	03 58 50.3	-0.6
TK04	Tokai 4	1.64	36	P	P	03 58 31.2	-0.3
TK04				S	S	03 58 51.3	-0.3
TSUJ	Tsu 2	1.67	351	P	P	03 58 32.4	+0.5
TSUJ				S	S	03 58 52.0	-0.3
JHE	Heguri	1.81	332	P	P	03 58 34.5	+0.5
JHE				*e*S	S	03 58 56.2	+0.3
JAI	Aioi	2.03	292	P	P	03 58 36.9	-0.3
JAI				S	S	03 59 00.6	-1.0
JAJ2	Tsuna	2.04	312	P	P	03 58 38.1	+0.8
JAJ2				*e*S	S	03 59 02.5	+0.6
ASAJ	Asahikawa	11.96	21	LR	LR	04 05 25.6	
	comp=Z,66nm,18.4s,baz=345,slow=39						
SONM	Songino Array	27.18	312	P	P	04 03 47.4	+0.4
	0.6nm,0.8s,mb3.1,baz=113,slow=9.4,SNR=3.5						
MKAR	Makanchi Array	43.10	305	P	P	04 06 05.0	+1.6
	0.5nm,0.6s,mb3.4,baz=97,slow=8.9,SNR=4.8						
WRA	Warramunga Arr	52.75	183	P	P	04 07 17.7	-1.1
	0.5nm,0.6s,mb3.6,baz=2.5,slow=7.9,SNR=4.0						

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*JMA **06** 03:59:01.9±0.1, 33.12N×137.12E, h39^{km}±3^{km}, M3.7*

ISC 06 03:59:02.2±1.2, **33.14N**±0.07×**137.12E**±0.04, **h47**^{km}±20^{km}, **n17**, σ**0^s.59**/32, **4D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	Tokai 1	0.74	32	P	P	03 59 16.0	-0.3
TK01				*e*S	S	03 59 26.5	-0.2
TK02	Tokai 2	0.96	33	P	P	03 59 19.4	-0.1
TK02				*e*S	S	03 59 32.4	0.0
JWZ	Kozaga	1.24	289	P	P	03 59 23.3	-0.1
JWZ				*e*S	S	03 59 38.2	-1.1
TK03	Tokai 3	1.24	34	*e*S	S	03 59 39.3	0.0
JIE	Ise	1.30	345	⇓P	P	03 59 24.8	+0.5
JIE				*e*S	S	03 59 41.8	+1.1
JKN	Kiinagashima	1.32	327	P	P	03 59 24.8	+0.1
JKN				*e*S	S	03 59 40.2	-1.1
TK04	Tokai 4	1.39	27	P	P	03 59 25.8	+0.1
TK04				*e*S	S	03 59 43.2	+0.1
JAA	Atsumi	1.49	1	⇓P	P	03 59 27.2	+0.2
JAA				*e*S	S	03 59 45.8	+0.3
JWM	Minabe	1.64	296	P	P	03 59 29.3	+0.2
JWM				*e*S	S	03 59 48.5	-0.6
JWY	Kouya	1.67	311	⇓P	P	03 59 30.3	+0.8
JWY				*e*S	S	03 59 50.2	+0.3
TSUJ	Tsu 2	1.67	340	P	P	03 59 30.0	+0.4
TSUJ				*e*S	S	03 59 50.3	+0.3
JHE	Heguri	1.93	322	⇓P	P	03 59 33.8	+0.6
JHE				*e*S	S	03 59 56.5	+0.3
SHZ3	Shizuoka 3	2.12	25	P	P	03 59 35.7	-0.3
SHZ3				*e*S	S	04 00 00.2	-1.0
JIZS	Izushimoda	2.15	42	P	P	03 59 36.6	+0.3
JIZS				*e*S	S	04 00 00.8	-1.0
JAJ2	Tsuna	2.26	305	P	P	03 59 38.7	+0.8
JAJ2				S	S	04 00 04.9	+0.2
JAI	Aioi	2.33	287	*e*S	S	04 00 05.1	-1.2
MAT	Matsushiro	3.51	14	P	P	03 59 56.5	+0.8
MAT				S	S	04 00 36.1	-0.3

WEL 06 04:01:06.3±0.3, **45.10S**×**167.41E**, **h110**^{km}±2^{km}, **ML3.5**/6, **1C, Error ellipse: s-maj=2.7km s-min=1.5km az=90.0, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DCZ	Deep Cove	0.42	205	PN	P	04 01 22.3	-0.5
DCZ				SN	S	04 01 34.2	-0.9
DCZ				SN	S	04 01 34.4	-0.7
MSZ	Milford Sound	0.56	41	PN	P	04 01 23.5	-0.2
MSZ				SN	S	04 01 36.1	-0.8
MSZ				SN	S	04 01 36.1	-0.7
MLZ	Mavora Lakes	0.59	115	⇑PN	P	04 01 23.6	-0.3
MLZ				SN	S	04 01 36.7	-0.5
MLZ				SN	S	04 01 36.8	-0.4
WHZ	Wether Hill Ro	0.88	155	PN	P	04 01 26.4	-0.2

WHZ				SN	S	04 01 41.2	-0.5
WKZ	Wanaka	1.17	77	PN	P	04 01 29.7	-0.1
WKZ				SN	S	04 01 46.1	-1.3
JCZ	Jackson Bay	1.41	44	PN	P	04 01 31.1	-1.4
TUZ	Tuapeka	1.78	120	PN	P	04 01 35.5	-1.5
TUZ				SN	S	04 01 57.3	-2.7
LBZ	Lake Benmore	2.10	71	PN	P	04 01 38.9	-2.2
LBZ				SN	S	04 02 03.3	-3.9
ODZ	Otahua Downs	2.29	90	PN	P	04 01 42.2	-1.6
ODZ				SN	S	04 02 07.7	-4.1
WVZ	Waitaha Valley	3.14	51	PN	P	04 01 51.6	-3.5
LTZ	Lake Taylor	4.21	58	*e*PN	P	04 02 04.9	-4.7
DSZ	Denniston Nort	4.63	45	*e*PN	P	04 02 10.6	-4.8
THZ	Tophouse	5.21	52	*e*PN	P	04 02 18.4	-4.8

IDC 06 04:01:13.4±2.1**,9.66S**×**117.29E,mb3.5**/3**,mb1 3.7**/5**, mb1mx3.6**/15**,ML3.7**/2**,Error ellipse: s-maj=131.0km s-min=21.5km az=53.0,Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.66	137	Pn	P	04 04 01.6	-2.6
	0.6nm,0.3s,baz=344,slow=15,SNR=19						
FITZ				Sn	S	04 05 59.3	-17
	0.3nm,0.3s,baz=183,slow=18,SNR=5.0						
WRA	Warramunga Arr	19.38	124	P	P	04 05 41.4	-2.2
	0.1nm,0.3s,baz=298,slow=13,SNR=11						
WRA				S	S	04 08 49.6	-28
	0.3nm,0.3s,baz=329,slow=22,SNR=8.4						
ASAR	Alice Springs	21.11	133	P	P	04 05 60.0	-2.2
	0.7nm,0.7s,baz=310,slow=11,SNR=5.2						
ASAR				PcP	PcP	04 10 05.5	-3.3
	0.3nm,0.4s,baz=329,slow=1.4,SNR=4.8						
SONM	Songino Array	58.05	351	P	P	04 11 08.1	-2.5
	0.6nm,0.6s,baz=168,slow=8.1,SNR=5.6						
MKAR	Makanchi Array	64.29	334	P	P	04 11 51.0	-1.9
	0.2nm,0.3s,baz=134,slow=6.0,SNR=7.8						

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*JMA **06** 04:48:37.5±0.1,33.02N×136.95E,h34^{km}±4^{km},M3.6*

ISC 06 04:48:38.5±1.2**,33.06N**±0.07×**136.94E**±0.05**,h34**^{km}**,n15, σ0^{s}45**/25**,7D,Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	Tokai 1	0.89	38	P	P	04 48 53.9	-0.6
TK01				*e*S	S	04 49 06.0	-0.4
TK02	Tokai 2	1.11	38	P	P	04 48 57.5	-0.3
TK02				*e*S	S	04 49 12.3	+0.1
JWZ	Kozaga	1.13	295	⇓P	P	04 48 57.6	-0.4
JWZ				*e*S	S	04 49 11.6	-0.9
JKN	Kiinagashima	1.31	335	P	P	04 49 01.0	+0.3
JKN				*e*S	S	04 49 16.8	-0.3
JIE	Ise	1.34	352	⇓P	P	04 49 01.6	+0.5
JIE				*e*S	S	04 49 18.2	+0.3
TK03	Tokai 3	1.39	38	*e*S	S	04 49 19.3	0.0
TK04	Tokai 4	1.53	30	⇓P	P	04 49 03.8	0.0
TK04				*e*S	S	04 49 22.9	+0.1
JWM	Minabe	1.54	301	P	P	04 49 03.9	0.0
JWM				*e*S	S	04 49 22.3	-0.6
JAA	Atsumi	1.57	6	⇓P	P	04 49 04.6	+0.2
JAA				*e*S	S	04 49 23.9	+0.1
JWY	Kouya	1.61	316	⇓P	P	04 49 05.6	+0.7
JWY				*e*S	S	04 49 25.3	+0.6
TSUJ	Tsu 2	1.70	345	⇓P	P	04 49 06.6	+0.4
JHE	Heguri	1.90	327	⇓P	P	04 49 09.7	+0.6
JAJ2	Tsuna	2.18	309	P	P	04 49 13.5	+0.4
JAI	Aioi	2.20	290	P	P	04 49 13.2	-0.2
MAT	Matsushiro	3.62	16	P	P	04 49 34.0	+0.3
MAT				S	S	04 50 15.0	-0.9

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*NIED **06** 04:49:00,33.50N×136.80E,h5^{km},Mw4.3 Best double couple: M$_0$2.78×10^{15} NP1:φ$_s$338°,δ86°,λ116°. NP2:φ$_s$76°, δ26°,λ8°.*

*IDC **06** 04:49:03.8±1.4,33.70N×137.27E,mb3.6/4,mb1 3.7/5, mb1mx3.6/22,ML3.6/1,Error ellipse: s-maj=45.8km s-min=22.7km az=46.0*

*JMA **06** 04:49:07.4±0.1,33.45N×136.77E,h38^{km},M3.7*

ISC 06 04:49:06.8±0.8**,33.47N**±0.04×**136.81E**±0.03**,h26**^{km}±5^{km}**, n17,σ0^{s}59**/23**,mb3.5**/4**,1C-1D,Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	Tokai 1	0.72	66	*e*S	Sb	04 49 30.5	+0.4
JKN	Kiinagashima	0.90	330	P	Pb	04 49 23.9	+0.3
JKN				*e*S	Sb	04 49 34.5	-0.7
JWZ	Kozaga	0.91	274	⇑P	Pb	04 49 23.5	-0.4
JWZ				*e*S	Sb	04 49 35.1	-0.6
JIE	Ise	0.92	355	⇓P	Pb	04 49 24.5	+0.5
JIE				*e*S	Sb	04 49 35.9	0.0
TK02	Tokai 2	0.92	59	*e*S	Sb	04 49 36.4	+0.4
TK03	Tokai 3	1.19	54	*e*S	Sn	04 49 43.0	-0.3
JAA	Atsumi	1.19	14	P	Pn	04 49 28.4	+0.4
JAA				*e*S	Sn	04 49 43.2	-0.2
JWY	Kouya	1.25	307	*e*S	Sn	04 49 44.8	-0.2
TK04	Tokai 4	1.27	44	*e*S	Sn	04 49 45.7	+0.2
TSUJ	Tsu 2	1.28	346	*e*S	Sn	04 49 45.2	-0.4
JHE	Heguri	1.50	322	P	Pn	04 49 32.5	+0.1
JHE				*e*S	Sn	04 49 51.2	-0.1
JAJ2	Tsuna	1.86	301	P	Pn	04 49 38.1	+0.6
JHJ	Hachijo jima 2	2.52	97	Pn	Pn	04 49 41.5	-5.5
	37nm,0.3s,baz=237,slow=21,SNR=5.7						
JHJ				Sn	Sn	04 50 15.1	-2.1
	83nm,0.3s,baz=74,slow=21,SNR=8.1						
SONM	Songino Array	26.96	311	P	P	04 54 48.1	+0.1
	0.6nm,0.8s,mb3.2,baz=118,slow=8.7,SNR=4.6						
MKAR	Makanchi Array	42.93	305	P	P	04 57 06.0	+1.1
	1.8nm,0.8s,mb3.9,baz=91,slow=10,SNR=7.7						
WRA	Warramunga Arr	53.16	183	P	P	04 58 25.3	+0.3
	0.4nm,0.6s,mb3.5,slow=7.5,SNR=6.2						
ASAR	Alice Springs	56.89	183	P	P	04 58 52.4	+0.4
	0.2nm,0.5s,mb3.4,baz=14,slow=12,SNR=3.9						

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*BJI **06** 04:53:07.3,37.80S×177.60E,h4^{km},Ms4.5,Msz4.4*

*NEIC **06** 04:53:07.3,37.80S×177.62E,h4^{km},mb4.2/1, ML4.2(WEL),After WEL.*

*WEL **06** 04:53:07.1±0.1,37.80S×177.61E,h5^{km},ML4.1/10,Error ellipse: s-maj=0.7km s-min=0.6km az=0.0*

WEL Felt in the Bay of Plenty region, maximum reported intensity MM 5.

ISC 06 04:53:06.5±0.6**,37.82S**±0.03×**177.55E**±0.03**,h15**^{km}±5^{km}**, n75,σ1^{s}18**/83**,mb4.2**/1**,MS4.5**/1**,3C-2D,Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WIZ	White Island	0.41	315	⇑PG	Pg	04 53 15.9	+0.9
WIZ	White Island	0.41	315	P	Pb	04 53 15.9	+1.0
MWZ	Matawai	0.52	182	⇓PG	Pg	04 53 17.4	+0.3
MWZ				SG	Sg	04 53 24.7	+0.5
MWZ	Matawai	0.52	182	P	Pb	04 53 17.4	+0.6
MWZ				S	Sb	04 53 24.6	+0.9
PUZ	Puketiti	0.61	115	⇑P*	Pb	04 53 18.9	+0.4
PUZ				SG	Sg	04 53 27.2	-0.3
PUZ				SG	Sg	04 53 27.6	+0.2
PUZ	Puketiti	0.61	115	P	Pb	04 53 18.9	+0.5
MXZ	Matakaoa Point	0.65	67	P*	Pb	04 53 19.1	0.0
MXZ				SG	Sg	04 53 27.8	-0.9
MXZ	Matakaoa Point	0.65	67	P	Pb	04 53 19.1	0.0
MXZ				S	Sb	04 53 27.8	+0.1
EDRZ	Edgecumbe	0.70	245	⇓P*	Pb	04 53 22.0	+2.1
MARZ	Manawahe	0.71	256	⇑P*	Pb	04 53 21.8	+1.8
MARZ	Manawahe	0.71	256	P	Pb	04 53 21.9	+1.8
MKRZ	Makatiti	0.91	249	P*	Pb	04 53 24.7	+1.2
MKRZ	Makatiti	0.91	249	P	Pb	04 53 25.7	+2.2
TAZ	Tarawera	0.92	243	P*	Pb	04 53 25.0	+1.4
TAZ	Tarawera	0.92	243	P	Pb	04 53 25.6	+1.9
LIRZ	Lichensteins R	0.94	258	P*	Pb	04 53 25.0	+1.0
LIRZ	Lichensteins R	0.94	258	P	Pb	04 53 25.7	+1.7
TGRZ	Tauranga	1.02	274	P*	Pb	04 53 26.1	+0.7
TGRZ	Tauranga	1.02	274	P	Pb	04 53 26.1	+0.7
PATZ	Paeroa	1.16	241	P*	Pb	04 53 29.0	+1.2
PATZ	Paeroa	1.16	241	P	Pb	04 53 29.0	+1.2
MYRZ	Mayor Island	1.17	297	P*	Pb	04 53 28.0	0.0
KNZ	Kokohu	1.21	175	P*	Pb	04 53 30.6	+2.1
KNZ				S*	Sb	04 53 46.6	+2.8
KNZ	Kokohu	1.21	175	P	Pb	04 53 30.6	+2.1
KNZ				S	Sb	04 53 51.0	+7.3
BKZ	Black Stump Fm	1.58	211	P*	Pb	04 53 33.9	-1.1
BKZ	Black Stump Fm	1.58	211	*e*P	Pn	04 53 34.7	+0.4
TOZ	Tahuroa Road	1.62	272	PN	Pn	04 53 34.5	-0.4
RATZ	Rangitukua	1.75	233	P*	Pb	04 53 37.3	-0.5
RATZ	Rangitukua	1.75	233	P	Pn	04 53 40.2	+3.6
KUZ	Kuaotunu	1.81	306	PN	Pn	04 53 36.5	-1.0
KUZ				SN	Sn	04 53 46.7	-14
KUZ	Kuaotunu	1.81	306	P	Pn	04 53 36.5	-1.0
KATZ	Kakaramea	1.86	231	P*	Pb	04 53 38.9	-0.8
KATZ	Kakaramea	1.86	231	P	Pn	04 53 39.3	+1.1
KAVZ	Karewarewa	1.97	229	P*	Pb	04 53 40.5	-1.1
MGZ	Maungaku	1.97	233	P*	Pb	04 53 40.1	-1.5
MGZ	Maungaku	1.97	233	P	Pn	04 53 42.6	+2.8
WTVZ	West Tongariro	2.01	229	P*	Pb	04 53 40.7	-1.6
MKAZ	Moumakai	2.02	290	PN	Pn	04 53 40.1	-0.5
MKAZ	Moumakai	2.02	290	P	Pn	04 53 40.1	-0.5
NGZ	Ngauruhoe	2.04	228	P*	Pb	04 53 41.1	-1.7
NGZ	Ngauruhoe	2.04	228	P	Pn	04 53 41.1	+0.2
TUVZ	Tukino	2.08	225	P*	Pb	04 53 41.7	-1.7
TUVZ	Tukino	2.08	225	P	Pn	04 53 41.7	+0.4
TWVZ	Taurewa	2.08	232	P*	Pb	04 53 42.9	-0.5
CNZ	Chateau	2.09	228	P*	Pb	04 53 42.1	-1.6
CNZ	Chateau	2.09	228	P	Pn	04 53 42.4	+0.9
MOVZ	Moawhango	2.12	221	P*	Pb	04 53 41.5	-2.7
FWVZ	Far West T-bar	2.12	227	P*	Pb	04 53 42.3	-1.9
FWVZ	Far West T-bar	2.12	227	*e*P	Pn	04 53 42.8	+0.8
DRZ	Dome Shelter	2.13	226	P	Pn	04 53 47.9	+5.8
WNVZ	Wahianoa	2.15	225	P*	Pb	04 53 42.1	-2.6
OTAZ	Otara	2.26	292	PN	Pn	04 53 43.7	-0.3
OTAZ	Otara	2.26	292	P	Pn	04 53 43.9	-0.1
PWZ	Pawanui	2.27	193	PN	Pn	04 53 44.3	+0.1
PWZ	Pawanui	2.27	193	P	Pn	04 53 44.7	+0.6
MTAZ	Motutapu	2.34	295	PN	Pn	04 53 44.9	-0.2
MTAZ	Motutapu	2.34	295	P	Pn	04 53 44.9	-0.2
KAAZ	Kauri Point	2.48	293	PN	Pn	04 53 47.1	+0.1
TSZ	Takapari Road	2.56	208	PN	Pn	04 53 48.6	+0.3
TSZ	Takapari Road	2.56	208	P	Pn	04 53 48.6	+0.4
WAZ	Wanganui	2.79	225	PN	Pn	04 53 52.9	+1.5
WAZ	Wanganui	2.79	225	P	Pn	04 53 52.9	+1.4
BFZ	Birch Farm	3.03	199	PN	Pn	04 53 54.5	-0.5
BFZ	Birch Farm	3.03	199	*e*P	Pn	04 53 54.5	-0.5
WCZ	Waipu Caves	3.18	305	PN	Pn	04 53 56.4	-0.7
WCZ	Waipu Caves	3.18	305	P	Pn	04 53 56.4	-0.7
MRZ	Mangatainoka R	3.23	208	PN	Pn	04 53 56.7	-1.0
MRZ	Mangatainoka R	3.23	208	*e*P	Pn	04 53 56.7	-1.0
KIW	Kapiti Island	3.66	213	PN	Pn	04 54 02.8	-1.2
MTW	Mount Morrison	3.69	205	PN	Pn	04 54 03.7	-0.7
SNZO	South Karori	4.12	211	PN	Pn	04 54 08.5	-2.0
SNZO	South Karori	4.12	211	*e*P	Pn	04 54 07.4	-3.1
QSPA	South Pole Qui	52.31	180	*e*P	P	05 02 24.4	+5.3
	3.3nm,1.0s,mb4.2						
NJ2	Nanjing	88.45	313	*e*P	P	05 06 03.9	+4.4
WMQ	Urumqi	114.82	307	*e*PKP	PKPdf	05 11 49.8	-0.1
WMQ				LR	LR		
	comp=Z,129nm,20.0s,MS4.5						

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*JMA **06** 04:54:20.4±0.1,33.27N×137.07E,h40^{km}±2^{km},M3.8*

ISC 06 04:54:21.1±1.0**,33.31N**±0.06×**137.06E**±0.03**,h37**^{km}±26^{km}**, n20,σ0^{s}53**/38**,7D,Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	Tokai 1	0.63	44	P	P	04 54 33.2	-0.3
TK01				*e*S	S	04 54 42.2	-0.3
TK02	Tokai 2	0.86	42	P	P	04 54 36.5	-0.2
TK02				*e*S	S	04 54 48.5	+0.3
JIE	Ise	1.12	345	⇓P	P	04 54 41.0	+0.6
JIE				*e*S	S	04 54 55.5	+0.7
TK03	Tokai 3	1.14	41	P	P	04 54 40.4	-0.3
TK03				*e*S	S	04 54 55.1	-0.2
JKN	Kiinagashima	1.15	325	P	P	04 54 41.0	+0.2
JKN				*e*S	S	04 54 54.8	-0.8
JWZ	Kozaga	1.15	281	⇓P	P	04 54 40.4	-0.4
JWZ				*e*S	S	04 54 54.5	-1.1
TK04	Tokai 4	1.27	32	⇓P	P	04 54 42.6	+0.1
TK04				*e*S	S	04 54 58.9	+0.3
JAA	Atsumi	1.32	3	⇓P	P	04 54 43.6	+0.3
JAA				*e*S	S	04 55 00.1	+0.2
TSUJ	Tsu 2	1.49	339	P	P	04 54 46.2	+0.4
TSUJ				*e*S	S	04 55 04.7	+0.4
JWY	Kouya	1.52	307	P	P	04 54 46.8	+0.5
JWY				*e*S	S	04 55 05.0	0.0
JWM	Minabe	1.52	291	P	P	04 54 46.1	-0.2
JWM				*e*S	S	04 55 04.1	-1.0
HMMJ	Hamamatsu 2	1.63	19	⇓P	P	04 54 47.5	-0.3
HMMJ				S	S	04 55 06.6	-1.3
JSG	Sagara	1.65	34	P	P	04 54 48.0	0.0
JSG				S	S	04 55 07.5	-0.7
JHE	Heguri	1.76	320	⇓P	P	04 54 50.0	+0.3
JHE				*e*S	S	04 55 11.4	+0.3
JEG	Eigenji	1.90	343	P	P	04 54 52.7	+1.0
JAO	Obara	1.96	5	⇓P	P	04 54 52.6	+0.2
JAO				S	S	04 55 16.1	+0.1
SHZ3	Shizuoka 3	1.99	28	P	P	04 54 52.5	-0.4
JIZS	Izushimoda	2.06	47	P	P	04 54 54.5	+0.6
JIZS				*e*S	S	04 55 18.6	0.0
JAJ2	Tsuna	2.12	302	P	P	04 54 55.6	+0.8
JAJ2				*e*S	S	04 55 20.3	+0.1
MAT	Matsushiro	3.36	16	P	P	04 55 13.0	+0.6
MAT				S	S	04 55 50.8	-0.8

DJA 06 04:54:42.6±1.0**,8.52S**×**116.16E,h27**^{km}±5^{km}**,MD5.0**/4**, ML3.9**/2**,2C-5D,Error ellipse: s-maj=23.0km s-min=19.7km az=155.0,Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEDI	Kedomdong	0.06	301	⇑*i*Pn	Pn	04 54 47.2	-0.3
	1μm,0.2s						
KEDI				⇓*i*Sn	Sn	04 54 51.0	+0.7
RATI	Rata	0.66	252	⇓*i*Pn	Pn	04 54 53.5	-2.6
	494nm,0.2s						
RATI				⇓*i*Sn	Sn	04 55 03.1	-2.4
INGI	Ingas	1.05	253	⇑*i*Pn	Pn	04 55 00.7	-1.0
	314nm,0.2s						
KELI	Kelakatan	1.68	280	⇓*i*Pn	Pn	04 55 08.8	-1.9
	42nm,0.2s						
KELI				⇓*i*Sn	Sn	04 55 27.5	-4.0

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*NIED **06** 04:56:00,33.10N×137.10E,h5^{km},Mw4.1 Best double couple: M$_0$1.53×10^{15} NP1:φ$_s$272°,δ82°,λ-56°. NP2:φ$_s$14°, δ34°,λ-166°.*

*NEIC **06** 04:56:12.6±0.7,33.19N×137.14E,h10^{km},mb4.1/1,Error ellipse: s-maj=20.1km s-min=9.8km az=95.0*

*JMA **06** 04:56:12.3±0.1,33.13N×137.07E,h42^{km}±4^{km},M3.7*

*IDC **06** 04:56:14.3±0.9,33.21N×137.24E,h24^{km}±5^{km},mb3.5/6, mb1 3.5/7,mb1mx3.4/24,ML3.2/1,Error ellipse: s-maj=26.8km s-min=15.0km az=56.0*

ISC 06 04:56:13.0±1.1**,33.18N**±0.04×**137.06E**±0.03**,h31**^{km}±8^{km}**, h25**^{km}±1.4^{km}**:pP-P,n27,σ0^{s}73**/43**,mb3.6**/7**,2C,Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	Tokai 1	0.73	37	*e*S	Sb	04 56 37.3	+0.4
TK02	Tokai 2	0.96	37	P	Pn	04 56 29.7	-0.7
TK02				*e*S	Sn	04 56 43.6	+0.5
JWZ	Kozaga	1.18	287	P	Pn	04 56 32.8	-0.8
JWZ				*e*S	Sn	04 56 47.4	-1.2
TK03	Tokai 3	1.24	37	P	Pn	04 56 33.8	-0.6
TK03				*e*S	Sn	04 56 50.2	+0.1
JIE	Ise	1.24	346	P	Pn	04 56 34.8	+0.3
JKN	Kiinagashima	1.25	328	P	Pn	04 56 34.5	-0.1
JKN				*e*S	Sn	04 56 49.9	-0.6
TK04	Tokai 4	1.38	29	P	Pn	04 56 37.1	+0.7
TK04				*e*S	Sn	04 56 53.5	-0.2
JAA	Atsumi	1.45	3	⇑P	Pn	04 56 37.4	0.0
JAA				*e*S	Sn	04 56 55.8	+0.3
JWM	Minabe	1.57	295	P	Pn	04 56 38.8	-0.4
JWM				*e*S	Sn	04 56 58.1	-0.5
JWY	Kouya	1.60	311	⇑P	Pn	04 56 39.8	+0.2
JWY				*e*S	Sn	04 56 59.6	+0.2
TSUJ	Tsu 2	1.61	341	P	Pn	04 56 40.0	+0.2
TSUJ				*e*S	Sn	04 56 59.7	0.0
JHE	Heguri	1.86	322	P	Pn	04 56 43.5	+0.2
JHE				*e*S	Sn	04 57 06.7	+0.8
SHZ3	Shizuoka 3	2.11	27	P	Pn	04 56 46.2	-0.7
SHZ3				*e*S	Sn	04 57 11.5	-0.8
JIZS	Izushimoda	2.15	44	P	Pn	04 56 48.3	+0.8
JAJ2	Tsuna	2.19	305	P	Pn	04 56 48.3	+0.2
JAJ2				*e*S	Sn	04 57 14.6	+0.2
JAI	Aioi	2.26	286	P	Pn	04 56 48.8	-0.3
JAI				*e*S	Sn	04 57 14.7	-1.5
JHJ	Hachijo jima 2	2.29	91	Pn	Pn	04 56 49.2	-0.2
	17nm,0.3s,baz=234,slow=19,SNR=3.2						
JHJ				Sn	Sn	04 57 14.4	-2.4
	40nm,0.3s,baz=218,slow=19,SNR=4.2						
MAJO	Matsushiro	3.48	15	*e*P	Pn	04 57 06.2	-0.2
MAT	Matsushiro	3.48	15	P	Pn	04 57 06.7	+0.3
MAT				S	Sn	04 57 46.6	-0.5
MAT	Matsushiro	3.48	15	P	Pn	04 57 07.0	+0.6
MAT				*e*S	Sn	04 57 47.0	-0.1
SONM	Songino Array	27.31	311	P	P	05 01 57.7	+1.0
	1.7nm,1.2s,mb3.5,baz=129,slow=7.9,SNR=3.9						
SONM				pP	pP	05 02 05.3	-0.4
	0.9nm,0.6s,baz=121,slow=9.3,SNR=5.5						
MKAR	Makanchi Array	43.26	305	P	P	05 04 14.7	+1.5
	0.3nm,0.5s,mb3.3,baz=88,slow=10,SNR=3.6						
MKAR				pP	pP	05 04 22.2	-0.2
	1.2nm,0.7s,baz=91,slow=9.8,SNR=8.4						
KURK	Kurchatov	45.61	311	P	P	05 04 33.8	+1.8
	1.5nm,0.6s,mb4.1						
BVAR	Borovoye Array	50.60	314	P	P	05 05 10.6	-0.1
	1.1nm,1.0s,mb3.8,baz=90,slow=8.6,SNR=3.3						
BVAR				pP	pP	05 05 19.8	-0.4
	0.8nm,0.6s,baz=90,slow=8.9,SNR=4.0						
FITZ	Fitzroy Crossi	52.15	194	P	P	05 05 24.0	+1.0
	0.9nm,0.6s,mb3.9,baz=347,slow=8.9,SNR=4.0						
WRA	Warramunga Arr	52.89	183	P	P	05 05 28.1	-0.4
	0.5nm,0.8s,mb3.5,baz=359,slow=7.6,SNR=4.4						
WRA				pP	pP	05 05 34.7	-3.2
	0.5nm,0.5s,baz=0.4,slow=7.8,SNR=4.6						
ASAR	Alice Springs	56.61	183	P	P	05 05 56.1	+0.5
	0.1nm,0.4s,mb3.2,slow=5.4,SNR=3.4						
ASAR				pP	pP	05 06 03.1	-2.0
	0.5nm,0.7s,slow=7.7,SNR=4.0						

JMA 06 04:58:37.2±0.2**,33.48N**×**136.74E,h39**^{km}±3^{km}**,M2.5, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JWZ	Kozaga	0.86	274	P	P	04 58 52.7	-0.2
JKN	Kiinagashima	0.86	333	P	P	04 58 53.0	+0.1
JKN				S	S	04 59 04.0	-0.5
JIE	Ise	0.91	358	P	P	04 58 53.7	+0.1
JIE				S	S	04 59 05.7	0.0
JAA	Atsumi	1.20	16	P	P	04 58 57.6	-0.1
JAA				S	S	04 59 12.9	-0.1
JWY	Kouya	1.21	308	P	P	04 58 58.6	+0.8
JWM	Minabe	1.21	288	P	P	04 58 58.4	+0.5
TSUJ	Tsu 2	1.25	348	P	P	04 58 58.8	+0.3
TSUJ				S	S	04 59 14.5	0.0
JHE	Heguri	1.46	323	P	P	04 59 02.5	+0.9

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*NIED **06** 04:59:00,33.50N×136.80E,h5^{km},Mw4.7 Best double couple: M$_0$1.11×10^{16} NP1:φ$_s$342°,δ87°,λ124°. NP2:φ$_s$76°, δ34°,λ5°.*

*IDC **06** 04:59:26.0±0.8,33.47N×136.84E,mb3.6/8,mb1 3.8/9, mb1mx3.8/22,ML3.2/1,MS3.9/10,Ms1 3.9/10, ms1mx3.7/19,Error ellipse: s-maj=26.2km s-min=19.2km az=57.0*

*NEIC **06** 04:59:27.6±0.7,33.50N×136.69E,h10^{km},mb4.2/2,Error ellipse: s-maj=17.4km s-min=12.2km az=120.0*

*BJI **06** 04:59:28.6,33.50N×136.70E,h10^{km},mB4.5,mb4.2, Ms4.8,Msz4.3*

*JMA **06** 04:59:28.2±0.1,33.46N×136.79E,h41^{km}±2^{km},M3.8*

ISC 06 04:59:27.5±0.8**,33.46N**±0.04×**136.80E**±0.03**,h21**^{km}±5^{km}**, n37,σ0^{s}69**/43**,mb3.8**/12**,MS4.1**/8**,3C-2D,Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	Tokai 1	0.72	65	*e*S	Sb	04 59 51.6	+0.9
JKN	Kiinagashima	0.91	330	P	Pb	04 59 44.6	+0.3
JKN				*e*S	Sb	04 59 55.7	-0.2
JWZ	Kozaga	0.91	275	⇑P	Pb	04 59 44.4	-0.1
JWZ				*e*S	Sb	04 59 56.2	0.0
TK02	Tokai 2	0.93	58	*e*S	Sb	04 59 57.3	+0.6
JIE	Ise	0.93	355	⇓P	Pb	04 59 45.2	+0.4
JIE				*e*S	Sb	04 59 57.2	+0.5
TK03	Tokai 3	1.20	54	*e*S	Sb	05 00 03.9	-0.4
JAA	Atsumi	1.20	13	⇓P	Pn	04 59 49.0	-0.2
JAA				*e*S	Sb	05 00 04.1	-0.4
JWY	Kouya	1.26	307	P	Pn	04 59 50.2	+0.1
JWY				*e*S	Sb	05 00 05.8	-0.4
JWM	Minabe	1.27	288	⇑P	Pn	04 59 49.8	-0.4
TK04	Tokai 4	1.28	44	*e*S	Sb	05 00 06.5	-0.3
TSUJ	Tsu 2	1.28	346	P	Pn	04 59 50.4	0.0
TSUJ				*e*S	Sb	05 00 06.1	-0.8
JHE	Heguri	1.51	322	P	Pn	04 59 53.6	0.0
JHE				*e*S	Sn	05 00 12.0	-0.8
JAJ2	Tsuna	1.86	301	⇑P	Pn	04 59 59.0	+0.4
SHZ3	Shizuoka 3	1.98	36	P	Pn	04 59 59.8	-0.6
JAI	Aioi	1.99	280	P	Pn	05 00 00.0	-0.5
JHJ	Hachijo jima 2	2.52	97	Pn	Pn	05 00 08.9	+0.8
	13nm,0.3s,baz=248,slow=16,SNR=2.8						
JHJ				Sn	Sn	05 00 36.9	-1.6
	43nm,0.3s,baz=246,slow=23,SNR=5.9						
JHJ				LR	LR	05 01 06.5	
	comp=Z,2μm,19.4s,baz=334,slow=40						
MAJO	Matsushiro	3.28	20	*e*P	Pn	05 00 18.9	-0.1
MAT	Matsushiro	3.28	20	P	Pn	05 00 18.8	-0.1
MAT				S	Sn	05 00 59.3	+1.5
MAT	Matsushiro	3.28	20	*e*P	Pn	05 00 19.0	+0.1
MAT				*e*S	Sn	05 00 59.0	+1.2
CBIJ	Chichi jima	7.87	142	LR	LR	05 04 03.3	
	comp=Z,608nm,19.7s,baz=346,slow=35						
ASAJ	Asahikawa	11.55	21	LR	LR	05 07 40.5	
	comp=Z,287nm,18.3s,baz=173,slow=43						
CN2	Changchun	13.60	323	*e*P	P	05 02 47.2	+5.6
HHC	Hu-ho-hao-te	21.38	297	*e*P	P	05 04 21.3	+5.5
HHC				AP		05 04 25.9	
HHC				XP		05 04 29.1	
HHC				PP	PP	05 04 44.9	+5.1
HHC				S	S	05 08 15.4	+8.3
HHC				XS		05 08 20.7	
HHC				AMB	AMB		
	comp=Z,11nm,0.6s,mb4.4						
HHC				AMB	AMB		
	comp=Z,125nm,6.2s						
HHC				LR	LR		
	comp=N,1μm,17.8s,MS5.0						
HHC				LR	LR		
	comp=E,5μm,22.0s,MS5.0						
XAN	Xi’an	23.17	279	P	P	05 04 34.7	+1.2
XAN				AMB	AMB		
	comp=Z,9.0nm,1.8s,mb3.9						
ENH	Enshi	23.39	270	*e*P	P	05 04 37.6	+1.8
	comp=Z,7.9nm,0.8s,mb4.2						
SONM	Songino Array	26.96	311	P	P	05 05 08.1	-1.3
	comp=Z,0.4nm,0.5s,mb3.2,baz=121,slow=8.8,SNR=3.0						
MKAR	Makanchi Array	42.93	305	P	P	05 07 27.1	+0.7
	comp=Z,0.2nm,0.3s,mb3.3,baz=87,slow=8.9,SNR=4.6						
MKAR				LR	LR	05 26 27.0	
	comp=Z,346nm,18.4s,MS4.3,baz=91,slow=38						
BVAR	Borovoye Array	50.25	314	P	P	05 08 25.0	+1.0
	comp=Z,0.2nm,0.3s,mb3.6,baz=63,slow=6.4,SNR=2.2						
BRVK	Borovoye	50.31	314	P	P	05 08 24.6	+0.2
	comp=Z,1.4nm,0.7s,mb4.1						
WRA	Warramunga Arr	53.16	183	P	P	05 08 45.6	-0.7
	comp=Z,2.5nm,0.8s,mb4.2,baz=0.5,slow=7.7,SNR=17						
ILAR	Eielson Array	54.51	31	P	P	05 08 55.2	-0.3
	comp=Z,0.4nm,0.8s,mb3.5,baz=262,slow=6.4,SNR=4.4						
ILAR				LR	LR	05 32 08.7	
	comp=Z,66nm,21.2s,MS3.7,baz=160,slow=36						
ASAR	Alice Springs	56.88	183	P	P	05 09 12.7	-0.6
	comp=Z,1.4nm,1.0s,mb4.0,baz=14,slow=7.4,SNR=7.9						
ASAR				LR	LR	05 32 37.3	
	comp=Z,62nm,18.9s,MS3.7,baz=18,slow=35						
STKA	Stephens Creek	65.14	176	LR	LR	05 39 35.6	
	comp=Z,91nm,18.1s,MS4.0,baz=24,slow=37						
AKASG	Malin Array Be	74.75	321	P	P	05 11 07.7	+0.3
	comp=Z,0.4nm,0.5s,mb3.6,baz=49,slow=6.8,SNR=3.8						
AKASG				LR	LR	05 43 58.1	
	comp=Z,62nm,18.4s,MS3.9,baz=60,slow=36						
NOA	NORSAR Array B	75.96	336	LR	LR	05 50 29.1	

	comp=Z,104nm,18.0s,MS4.2,baz=10.0,slow=40						
BRTR	**Keskin Array B**	78.32	310	LR	LR	05 50 02.6	
	comp=Z,64nm,19.4s,MS4.0,baz=85,slow=39						
TXAR	**Lajitas Array**	95.30	50	P	P	05 12 50.8	-0.5
	comp=Z,0.1nm,0.6s,mb3.4,baz=280,slow=5.5,SNR=2.6						

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*IDC **06** 05:03:19.7±1.2, 33.43N×136.79E, mb3.8/5, mb1 3.9/6, mb1mx3.7/22, ML3.2/1, MS3.9/1, Ms1 3.9/1, ms1mx3.0/24, Error ellipse: s-maj=40.3km s-min=20.3km az=52.0*

*JMA **06** 05:03:22.4±0.1, 33.45N×136.75E, h43^{km}±3^{km}, M3.3*

ISC 06 05:03:23.0±0.6**, 33.49N**±0.04×**136.78E**±0.03**, h43^{km}, n22, σ0^{s}79**/29**, mb3.8**/5**, MS3.9**/1**, 1D, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TK01	**Tokai 1**	0.73	68	eS	S	05 03 47.9	+0.6
JKN	**Kiinagashima**	0.87	331	P	P	05 03 38.5	-0.4
JKN				eS	S	05 03 49.9	-0.8
JWZ	**Kozaga**	0.89	273	⇓P	P	05 03 38.2	-1.0
JWZ				S	S	05 03 50.1	-1.0
JIE	**Ise**	0.90	356	P	P	05 03 39.3	-0.1
JIE				eS	S	05 03 51.8	+0.3
TK02	**Tokai 2**	0.94	61	eS	S	05 03 51.1	-1.3
JAA	**Atsumi**	1.18	15	P	P	05 03 43.4	+0.1
JAA				eS	S	05 03 58.5	0.0
TK03	**Tokai 3**	1.20	55	eS	S	05 03 57.9	-1.0
JWY	**Kouya**	1.22	307	P	P	05 03 44.4	+0.4
JWY				eS	S	05 03 59.8	+0.2
JWM	**Minabe**	1.24	287	P	P	05 03 43.9	-0.3
TSUJ	**Tsu 2**	1.25	346	eS	S	05 04 00.0	-0.4
TK04	**Tokai 4**	1.28	45	eS	S	05 04 00.6	-0.4
JHE	**Heguri**	1.47	322	P	P	05 03 47.9	+0.3
JHE				eS	S	05 04 05.2	-0.7
JIZS	**Izushimoda**	2.13	54	P	P	05 03 57.3	+0.4
JIZS				eS	S	05 04 22.5	+0.2
JHJ	**Hachijo jima 2**	2.55	97	Pn	P	05 04 02.5	-0.3
	12nm,0.3s,baz=250,slow=15,SNR=3.4						
MAT	**Matsushiro**	3.27	21	P	P	05 04 14.2	+1.1
MAT				S	S	05 04 51.5	+0.4
MDJ	**Mudanjiang**	12.43	335	P	P	05 06 22.8	+2.9
SONM	**Songino Array**	26.93	311	P	P	05 09 02.2	+0.1
	0.3nm,0.5s,mb3.1,baz=112,slow=7.8,SNR=2.9						
MKAR	**Makanchi Array**	42.90	305	P	P	05 11 21.0	+2.1
	0.9nm,0.7s,mb3.6,baz=90,slow=9.7,SNR=8.0						
BVAR	**Borovoye Array**	50.22	314	P	P	05 12 17.3	+0.8
	0.2nm,0.4s,mb3.5,baz=63,slow=6.4,SNR=2.6						
WRA	**Warramunga Arr**	53.18	183	P	P	05 12 38.6	-0.7
	3.5nm,0.8s,mb4.3,baz=2.0,slow=7.6,SNR=9.3						
CTA	**Charters Tower**	54.04	169	LR	LR	05 34 20.5	
	comp=Z,96nm,18.4s,MS3.9,baz=28,slow=34						
ASAR	**Alice Springs**	56.90	183	P	P	05 13 06.5	+0.3
	1.5nm,0.6s,mb4.2,baz=12,slow=8.8,SNR=7.0						

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*IDC **06** 05:03:33.5±3.8, 22.24S×148.07E, mb3.3/1, mb1 3.8/5, mb1mx3.7/11, ML3.7/4, MS3.2/1, Ms1 3.2/1, ms1mx2.8/12, Error ellipse: s-maj=41.4km s-min=18.3km az=84.0*

ISC 06 05:03:34.8±1.9**, 22.28S**±0.07×**147.8E**±0.2**, h10^{km}, n5, σ1^{s}17**/8**, mb3.3**/1**, Queensland**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	2.59	327	Pn	Pn	05 04 18.5	+1.1
	12nm,0.3s,baz=134,slow=17,SNR=91						
CTA				Pg	Pg	05 04 25.4	-1.1
	39nm,0.3s,baz=139,slow=17,SNR=38						
CTA				Lg		05 04 59.4	
	59nm,0.3s,baz=62,slow=23,SNR=14						
STKA	**Stephens Creek**	11.02	209	Pn	P	05 06 13.4	-2.2
	0.6nm,0.3s,baz=45,slow=10,SNR=7.6						
STKA				Sn	S	05 08 20.8	+0.8
	0.3nm,0.3s,baz=338,slow=19,SNR=2.7						
STKA				Lg		05 09 33.0	
	0.1nm,0.3s,baz=295,slow=16,SNR=1.9						
WRA	**Warramunga Arr**	12.73	278	Pn	P	05 06 38.0	-0.8
	0.5nm,0.3s,baz=96,slow=12,SNR=30						
WRA				Lg		05 10 27.2	
	0.2nm,0.3s,baz=103,slow=30,SNR=5.6						
ASAR	**Alice Springs**	12.83	261	Pn	P	05 06 40.3	+0.2
	0.3nm,0.3s,baz=81,slow=14,SNR=8.1						
ASAR				Sn	S	05 09 03.8	-0.2
	0.1nm,0.3s,baz=74,slow=25,SNR=3.3						
ASAR				Lg		05 10 31.6	
	baz=72,slow=29,SNR=3.1						
ASAR				LR	LR	05 11 59.7	
	comp=Z,104nm,18.2s,baz=106,slow=38						
FITZ	**Fitzroy Crossi**	21.16	277	P	P	05 08 24.4	+1.9
	1.3nm,0.9s,mb3.3,baz=85,slow=11,SNR=3.0						

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*NEIC **06** 05:04:25.6, 16.39N×99.81W, h20^{km}, MD3.9(MEX), After MEX.*

MEX 06 05:04:25.9±1.0**, 16.41N×99.84W, h23^{km}**±9^{km}**, MD3.9, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ACX	**Acapulco**	0.47	350	i P	Pb	05 04 33.0	-2.4
ACX				i S	Sb	05 04 40.5	-1.4
ZIIG	**Zihuatanejo**	1.96	308	i P	Pn	05 04 56.7	-1.7
ZIIG				i S	Sn	05 05 18.6	-4.0
PLIG	**Platanillo**	2.00	9	i P	Pn	05 04 56.5	-2.5
PLIG				i S	Sn	05 05 19.4	-4.1
YAIG	**Yautepec**	2.55	17	i P	Pn	05 05 02.5	-4.2
YAIG				i S	Sn	05 05 33.0	-4.4
PPM	**Popocatepetl**	2.89	23	eP	Pn	05 05 09.5	-2.1
PPM				i S	Sn	05 05 44.0	-1.9
IISM	**Ciudad Serdan**	3.48	42	eP	Pn	05 05 17.0	-2.9
IISM				i S	Sn	05 05 58.0	-2.8
MOIG	**Morelia**	3.50	339	eP	Pn	05 05 26.8	+6.6
MOIG				i S	Sn	05 05 55.1	-6.3

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*IDC **06** 05:11:32.9±2.1, 8.96S×119.54E, mb3.5/2, mb1 3.8/4, mb1mx3.6/15, ML3.1/2, Error ellipse: s-maj=185.0km s-min=24.4km az=54.0*

*DJA **06** 05:11:37.0±0.8, 10.05S×119.38E, h227^{km}±24^{km}, MD4.6/4, ML4.6/4, Error ellipse: s-maj=80.0km s-min=25.2km az=9.0*

ISC 06 05:11:43.9±1.9**, 9.9S**±0.3×**119.2E**±0.2**, h149^{km}**±29^{km}**, n10, σ1^{s}27**/16**, mb3.2**/1**, 3C-7D, Sumba region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KEDI	**Kedomdong**	3.36	294	⇑iPn	P	05 12 35.7	-0.9
	99nm,0.2s						
KEDI	**Kedomdong**	3.36	294	⇑iP	P	05 12 35.9	-0.7
KEDI				⇓iSn	S	05 13 20.8	+3.8
RATI	**Rata**	3.81	288	⇓iPn	P	05 12 43.3	+0.9
	191nm,0.2s						
RATI				⇑iSn	S	05 13 27.5	+0.1
INGI	**Ingas**	4.15	285	⇓iPn	P	05 12 44.7	-2.2
	398nm,0.2s						
INGI	**Ingas**	4.15	285	⇓iP	P	05 12 44.8	-2.1
INGI				⇓iSn	S	05 13 36.4	+1.0
KELI	**Kelakatan**	4.95	289	⇓iPn	P	05 12 56.2	-1.3
	28nm,0.2s						
KELI				⇓iSn	S	05 13 54.2	-0.1
FITZ	**Fitzroy Crossi**	10.27	143	Pn	P	05 14 10.2	+1.9
	0.1nm,0.3s,baz=343,slow=16,SNR=4.7						
FITZ				Sn	S	05 16 00.8	-0.7
	0.4nm,0.3s,baz=178,slow=19,SNR=7.4						
WRA	**Warramunga Arr**	17.69	126	P	P	05 15 44.6	+2.1
	0.1nm,0.3s,baz=300,slow=14,SNR=6.0						
WRA				S	S	05 18 50.6	-1.5
	0.1nm,0.3s,baz=303,slow=25,SNR=5.0						
ASAR	**Alice Springs**	19.61	136	P	P	05 16 08.1	+5.3
	1.0nm,0.4s,baz=314,slow=8.8,SNR=14						
MKAR	**Makanchi Array**	65.34	333	P	P	05 22 12.6	+0.2
	0.2nm,0.6s,mb3.2,baz=121,slow=8.4,SNR=2.9						

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*JMA **06** 05:16:31.2±0.1, 33.18N×137.12E, h37^{km}±2^{km}, M3.7*

ISC 06 05:16:31.6±1.1**, 33.21N**±0.06×**137.11E**±0.04**, h43^{km}**±27^{km}**, n17, σ0^{s}56**/33**, 1C-4D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TK01	**Tokai 1**	0.69	36	P	P	05 16 44.6	-0.4
TK01				eS	S	05 16 54.0	-0.8
TK02	**Tokai 2**	0.91	36	P	P	05 16 48.0	-0.2
TK02				eS	S	05 17 00.4	0.0
TK03	**Tokai 3**	1.19	36	eS	S	05 17 07.2	-0.2
JWZ	**Kozaga**	1.21	286	⇑P	P	05 16 52.1	-0.3
JWZ				eS	S	05 17 06.9	-1.0
JIE	**Ise**	1.23	344	⇓P	P	05 16 53.3	+0.7
JIE				eS	S	05 17 09.2	+0.9
JKN	**Kiinagashima**	1.25	326	P	P	05 16 53.2	+0.1
JKN				eS	S	05 17 08.3	-0.8
TK04	**Tokai 4**	1.34	28	P	P	05 16 54.2	-0.1
TK04				eS	S	05 17 10.8	-0.3
JAA	**Atsumi**	1.42	1	⇓P	P	05 16 55.6	+0.1
JAA				eS	S	05 17 13.5	+0.3
JWM	**Minabe**	1.60	294	P	P	05 16 58.0	0.0
JWM				eS	S	05 17 17.2	-0.4
TSUJ	**Tsu 2**	1.60	339	P	P	05 16 58.5	+0.4
TSUJ				eS	S	05 17 17.9	+0.2
JWY	**Kouya**	1.62	309	⇓P	P	05 16 59.1	+0.9
JWY				eS	S	05 17 18.1	+0.1
JHE	**Heguri**	1.87	321	⇓P	P	05 17 02.4	+0.6
JHE				eS	S	05 17 24.5	+0.3
SHZ3	**Shizuoka 3**	2.07	26	P	P	05 17 04.1	-0.5
SHZ3				eS	S	05 17 29.2	0.0
JIZS	**Izushimoda**	2.10	44	P	P	05 17 06.0	+0.9
JIZS				eS	S	05 17 29.5	-0.7
JAJ2	**Tsuna**	2.21	304	P	P	05 17 07.7	+1.0
JAJ2				eS	S	05 17 33.1	+0.1
JAI	**Aioi**	2.30	285	P	P	05 17 08.0	+0.1
JAI				eS	S	05 17 33.7	-1.4
MAT	**Matsushiro**	3.45	15	P	P	05 17 24.9	+0.6
MAT				S	S	05 18 03.8	-0.5

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*NIED **06** 05:28:00, 33.40N×136.80E, h5^{km}, Mw4.6 Best double couple: $M_0$9.32×10^{15} NP1:ϕ_s339°, δ87°, λ116°. NP2:ϕ_s74°, δ27°, λ6°.*

*IDC **06** 05:28:50.0±0.9, 33.42N×136.80E, mb3.9/7, mb1 4.1/8, mb1mx3.9/18, ML3.5/1, MS3.7/6, Ms1 3.7/6, ms1mx3.5/22, Error ellipse: s-maj=26.0km s-min=21.2km az=60.0*

*BJI **06** 05:28:51.6, 32.95N×137.08E, h38^{km}, mB4.5, mb4.3, Ms4.4, Msz4.2*

*NEIC **06** 05:28:51.6±0.6, 33.46N×136.86E, h10^{km}, mb4.0/4, Error ellipse: s-maj=15.6km s-min=10.5km az=119.0*

*JMA **06** 05:28:52.1, 33.43N×136.80E, h40^{km}±2^{km}, M3.9*

ISC 06 05:28:51.8±0.7**, 33.46N**±0.04×**136.79E**±0.03**, h22^{km}**±5^{km}**, n37, σ0^{s}74**/48**, mb4.0**/12**, MS3.8**/5**, 1C, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TK01	**Tokai 1**	0.73	66	P	Pb	05 29 05.9	+0.1
TK01				eS	Sb	05 29 16.3	+1.0
JKN	**Kiinagashima**	0.90	331	P	Pb	05 29 08.8	+0.2
JKN				eS	Sb	05 29 20.0	-0.1
JWZ	**Kozaga**	0.90	274	⇑P	Pb	05 29 08.7	0.0
JWZ				eS	Sb	05 29 20.6	+0.3
JIE	**Ise**	0.93	356	P	Pb	05 29 09.5	+0.4
TK02	**Tokai 2**	0.94	59	eS	Sb	05 29 21.5	+0.2
JAA	**Atsumi**	1.20	14	P	Pn	05 29 13.3	-0.2
JAA				eS	Sb	05 29 28.7	-0.2
TK03	**Tokai 3**	1.20	54	eS	Sb	05 29 28.2	-0.7
JWY	**Kouya**	1.25	307	P	Pn	05 29 14.4	+0.2
JWY				eS	Sb	05 29 29.9	-0.4
JWM	**Minabe**	1.26	288	P	Pn	05 29 14.2	-0.1
JWM				eS	Sb	05 29 30.2	-0.3
TSUJ	**Tsu 2**	1.28	346	P	Pn	05 29 15.1	+0.5
TSUJ				eS	Sb	05 29 30.5	-0.7
TK04	**Tokai 4**	1.29	44	eS	Sb	05 29 30.9	-0.5
JHE	**Heguri**	1.50	323	P	Pn	05 29 18.0	+0.2
JHE				eS	Sn	05 29 35.9	-0.9
JAJ2	**Tsuna**	1.85	302	P	Pn	05 29 23.1	+0.4
JAJ2				eS	Sn	05 29 45.4	-0.2
JAI	**Aioi**	1.98	280	P	Pn	05 29 24.3	-0.3
JIZS	**Izushimoda**	2.14	54	P	Pn	05 29 28.3	+1.4
JIZS				eS	Sn	05 29 52.8	-0.1
JHJ	**Hachijo jima 2**	2.53	97	Pn	Pn	05 29 32.3	-0.2
	21nm,0.3s,baz=230,slow=21,SNR=6.9						
JHJ				Sn	Sn	05 30 01.8	-1.1
	174nm,0.3s,baz=78,slow=22,SNR=13						
JHJ				LR	LR	05 30 31.8	
	comp=Z,1μm,19.9s,baz=236,slow=40						
MAJO	**Matsushiro**	3.28	20	eP	Pn	05 29 42.2	-1.0
MAT	**Matsushiro**	3.28	20	P	Pn	05 29 43.2	0.0
MAT				S	Sn	05 30 23.0	+1.0
MAT	**Matsushiro**	3.28	20	eP	Pn	05 29 43.0	-0.2
MAT				eS	Sn	05 30 23.0	+1.0
ASAJ	**Asahikawa**	11.56	21	LR	LR	05 36 56.0	
	comp=Z,224nm,18.8s,baz=176,slow=42						
BJI	**Beijing**	17.76	298	P	P	05 33 03.5	+4.2
BJI				AMB	AMB		
	comp=Z,16nm,0.8s						
BJI				LR	LR		
	comp=N,641nm,15.3s						
BJI				LR	LR		
	comp=Z,303nm,16.2s						
HHC	**Hu-ho-hao-te**	21.37	297	eP	P	05 33 43.6	+3.8
HHC				AP		05 33 48.0	
HHC				XP		05 33 52.8	
HHC				PP	PP	05 34 06.5	+2.6
HHC				S	S	05 37 38.7	+7.7
HHC				SS	SS	05 38 15.0	+9.1
HHC				AMB	AMB		
	comp=Z,11nm,0.5s,mb4.4						
HHC				AMB	AMB		
	comp=Z,187nm,7.6s						
HHC				LR	LR		
	comp=Z,400nm,11.3s,MS4.1						
XAN	**Xi'an**	23.16	279	P	P	05 33 58.0	+0.4
ENH	**Enshi**	23.38	270	eP	P	05 34 01.6	+1.8
	comp=Z,18nm,0.8s,mb4.5						
SONM	**Songino Array**	26.95	311	P	P	05 34 33.4	0.0
	comp=Z,0.9nm,0.8s,mb3.3,baz=121,slow=9.4,SNR=5.4						
CMAR	**Chiang Mai Arr**	36.94	256	LR	LR	05 52 18.9	
	comp=Z,62nm,19.6s,MS3.4,baz=60,slow=38						
MKAR	**Makanchi Array**	42.92	305	P	P	05 36 51.4	+1.0
	comp=Z,3.1nm,0.8s,mb4.1,baz=90,slow=10,SNR=20						
MKAR				LR	LR	05 55 51.4	
	comp=Z,180nm,18.6s,MS4.0,baz=344,slow=38						
MKAR	**Makanchi Array**	42.92	305	P	P	05 36 51.4	+1.0
MKAR				LR	LR	05 55 51.4	
KURK	**Kurchatov**	45.26	310	eP	P	05 37 07.7	-1.5
	comp=Z,1.6nm,0.8s,mb3.9						
ZRNK	**Zerenda**	51.08	314	P	P	05 37 55.0	+0.5
	comp=Z,0.7nm,0.6s,mb3.8						
FITZ	**Fitzroy Crossi**	52.37	193	P	P	05 38 03.3	-1.4
	comp=Z,1.5nm,1.0s,mb3.9,baz=8.6,slow=14,SNR=3.1						
WRA	**Warramunga Arr**	53.16	183	P	P	05 38 09.7	-0.8
	comp=Z,1.8nm,0.8s,mb4.0,baz=2.0,slow=7.9,SNR=16						
ILAR	**Eielson Array**	54.51	31	P	P	05 38 19.6	-0.2
	comp=Z,0.7nm,0.8s,mb3.7,baz=286,slow=6.6,SNR=7.3						
ILAR				LR	LR	06 01 43.2	
	comp=Z,60nm,18.6s,MS3.7,baz=219,slow=36						
AKASG	**Malin Array Be**	74.75	321	P	P	05 40 30.9	-0.6
	comp=Z,1.3nm,0.6s,mb4.1,baz=49,slow=6.2,SNR=7.7						
TPNV	**Topopah Spring**	82.35	51	P	P	05 41 17.9	+4.6
	comp=Z,1.7nm,1.1s,mb3.9						
TPNV				e		05 41 29.3	
SCHQ	**Schefferville**	89.74	13	LR	LR	06 22 35.6	
	comp=Z,51nm,18.4s,MS4.0,baz=282,slow=36						
TXAR	**Lajitas Array**	95.30	50	P	P	05 42 16.8	+1.3
	comp=Z,0.3nm,0.8s,mb3.8,baz=288,slow=2.9,SNR=3.8						

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*NEIC **06** 05:37:49.1, 35.82S×179.04E, h12^{km}, ML4.0(WEL), After WEL.*

WEL 06 05:37:49.7±1.2**, 35.77S×179.01E, h33^{km}, ML3.9**/12**, Error ellipse: s-maj=10.2km s-min=6.9km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	1.88	197	P*	Pb	05 38 18.7	-4.5
MXZ				S*	Sb	05 38 41.4	-5.0
MXZ	**Matakaoa Point**	1.88	197	eP	P	05 38 18.7	-1.2
MXZ				S	S	05 38 39.6	-3.0
PUZ	**Puketiti**	2.37	195	PN	Pn	05 38 26.5	-0.7
PUZ				SN	Sn	05 38 53.0	-2.5
PUZ	**Puketiti**	2.37	195	P	P	05 38 26.5	-0.6
PUZ				S	S	05 38 53.0	-2.3
MYRZ	**Mayor Island**	2.69	235	eP*	Pb	05 38 31.0	-6.1
MWZ	**Matawai**	2.82	204	P*	Pb	05 38 32.7	-6.6
MWZ				S*	Sb	05 39 05.2	-8.5
MWZ	**Matawai**	2.82	204	P	P	05 38 32.7	-0.7
MWZ				S	S	05 39 05.2	-1.4
MARZ	**Manawahe**	2.90	220	P*	Pb	05 38 32.6	-7.9
MARZ	**Manawahe**	2.90	220	P	P	05 38 32.6	-1.9
TAZ	**Tarawera**	3.17	218	P*	Pb	05 38 39.2	-6.0
TAZ	**Tarawera**	3.17	218	P	P	05 38 39.2	+0.8
KNZ	**Kokohu**	3.41	198	ePN	Pn	05 38 38.7	-3.3
BKZ	**Black Stump Fm**	3.94	210	P*	Pb	05 38 45.7	-13
BKZ				S*	Sb	05 39 31.3	-15
BKZ	**Black Stump Fm**	3.94	210	eP	P	05 38 45.7	-3.6
MGZ	**Maungaku**	4.25	220	P*	Pb	05 38 55.4	-8.1
MGZ	**Maungaku**	4.25	220	P	P	05 38 55.4	+1.7
NGZ	**Ngauruhoe**	4.35	218	P*	Pb	05 38 54.9	-10
NGZ	**Ngauruhoe**	4.35	218	P	P	05 38 54.9	-0.3
CNZ	**Chateau**	4.39	218	P*	Pb	05 38 57.8	-8.2
TUVZ	**Tukino**	4.39	216	P*	Pb	05 38 58.0	-8.1
TUVZ	**Tukino**	4.39	216	P	P	05 38 58.0	+2.2
FWVZ	**Far West T-bar**	4.43	217	P*	Pb	05 38 57.8	-8.9
FWVZ	**Far West T-bar**	4.43	217	eP	P	05 38 57.8	+1.4
BFZ	**Birch Farm**	5.36	203	PN	Pn	05 39 03.9	-5.7
MRZ	**Mangatainoka R**	5.58	208	PN	Pn	05 39 05.3	-7.3
SNZO	**South Karori**	6.48	210	ePn	Pn	05 39 20.1	-5.2
SNZO				e		05 39 40.7	
SNZO				eSn	Sn	05 40 28.1	-11

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*JMA **06** 05:53:36.5±0.1, 33.11N×137.03E, h39^{km}±4^{km}, M3.8*

ISC 06 05:53:37.1±1.1**, 33.15N**±0.06×**137.04E**±0.04**, h46^{km}**±25^{km}**, n17, σ0^{s}60**/32**, 5D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TK01	**Tokai 1**	0.77	37	eS	S	05 54 01.8	-0.5
TK02	**Tokai 2**	1.00	37	P	P	05 53 54.7	-0.1
TK02				eS	S	05 54 08.3	+0.3
JWZ	**Kozaga**	1.17	289	⇓P	P	05 53 56.9	-0.4
JWZ				S	S	05 54 11.2	-1.1
JIE	**Ise**	1.27	348	⇓P	P	05 53 59.3	+0.6
JIE				eS	S	05 54 15.7	+0.8
JKN	**Kiinagashima**	1.27	330	P	P	05 53 59.0	+0.2
JKN				eS	S	05 54 14.2	-0.7
TK03	**Tokai 3**	1.27	37	P	P	05 53 58.6	-0.2
TK03				eS	S	05 54 15.1	+0.1
TK04	**Tokai 4**	1.42	29	P	P	05 54 00.9	0.0
TK04				eS	S	05 54 18.6	0.0
JAA	**Atsumi**	1.48	3	⇓P	P	05 54 02.0	+0.2
JAA				eS	S	05 54 19.6	-0.5
JWM	**Minabe**	1.57	297	P	P	05 54 02.8	-0.2
JWM				eS	S	05 54 21.7	-0.6
JWY	**Kouya**	1.61	312	⇓P	P	05 54 04.2	+0.6
JWY				eS	S	05 54 23.5	+0.3
TSUJ	**Tsu 2**	1.64	342	P	P	05 54 04.5	+0.5
TSUJ				eS	S	05 54 24.3	+0.3
JHE	**Heguri**	1.87	324	⇓P	P	05 54 07.9	+0.6
JHE				eS	S	05 54 30.5	+0.7
SHZ3	**Shizuoka 3**	2.14	27	eS	S	05 54 35.7	-0.9
JIZS	**Izushimoda**	2.19	44	P	P	05 54 12.3	+0.5
JIZS				eS	S	05 54 36.5	-1.3
JAJ2	**Tsuna**	2.19	306	P	P	05 54 12.5	+0.6
JAJ2				eS	S	05 54 38.2	+0.3
JAI	**Aioi**	2.25	287	P	P	05 54 12.7	0.0
JAI				eS	S	05 54 38.4	-1.0
MAT	**Matsushiro**	3.52	16	P	P	05 54 32.0	+1.3
MAT				S	S	05 55 11.3	-0.2

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*SYO **06** 06:03:14.6, 5.95N×124.40E, h20^{km}, MB4.8*

*BJI **06** 06:03:18.9, 5.95N×124.48E, h68^{km}, mB5.0, mb4.7, Ms4.1, Msz3.8*

*NEIC **06** 06:03:20.6±3.3, 5.93N×124.39E, h69^{km}±30^{km}, mb4.7/14, Error ellipse: s-maj=14.3km s-min=6.7km az=67.0*

*IDC **06** 06:03:28.0±5.9, 5.81N×124.20E, h139^{km}±56^{km}, mb4.0/15, mb1 4.1/15, mb1mx4.1/20, MS3.6/2, Ms1 3.7/2, ms1mx3.2/17, Error ellipse: s-maj=27.5km s-min=11.8km az=63.0*

ISC 06 06:03:18.3±0.8**, 5.92N**±0.05×**124.30E**±0.06**, h59^{km}**±7^{km}**, n81, σ1^{s}21**/84**, mb4.6**/38**, MS3.9**/5**, 4C-3D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	0.66	75	i P	P	06 03 34.0	+1.8
GSPH				i S	S	06 03 45.5	+3.1
CTBH	**Cotabato--PC H**	1.29	357	⇑iP	P	06 03 38.3	-2.4
CTBH				i S	S	06 03 55.6	-1.6
KCP	**Kidapawan**	1.33	36	⇓eP	P	06 03 41.2	-0.1
KCP				i S	S	06 04 02.0	+3.6
DMPH	**Davao City--Mi**	1.66	46	eP	P	06 03 46.2	+0.4
DAV	**Davao City (W)**	1.71	48	i P	P	06 03 47.5	+1.1
DAV	**Davao City (W)**	1.71	48	i S	S	06 04 12.0	+4.9
BUKP	**Musuan**	2.09	21	eP	P	06 03 51.2	-0.5
PAGZ	**Pagadian**	2.12	335	eP	P	06 03 49.0	-3.2
IPIL	**Ipil**	2.53	317	eP	P	06 03 53.8	-4.3
IPIL				eS	S	06 04 21.2	-6.5
CGP	**Cagayan de Oro**	2.55	9	⇑iP	P	06 03 58.6	+0.3
CGP				i S	S	06 04 34.4	+6.2
DCPH	**Dipolog City**	2.81	340	⇑iP	P	06 04 00.3	-1.6
SNPH	**Sibulan**	3.56	343	eP	P	06 04 19.0	+6.5
TBP	**Tagbilaran**	3.77	353	eP	P	06 04 13.1	-2.4
FITZ	**Fitzroy Crossi**	23.90	177	eP	P	06 08 27.4	-0.3
	15nm,0.9s,mb4.4						
FITZ	**Fitzroy Crossi**	23.90	177	P	P	06 08 27.0	-0.8
	7.8nm,0.7s,mb4.2,baz=8.3,slow=8.9,SNR=13						
WRAB	**Tennant Creek**	27.52	159	eP	P	06 08 59.8	-2.0
	18nm,0.9s,mb4.7						
WRA	**Warramunga Arr**	27.53	159	P	P	06 09 00.2	-1.6
	6.4nm,0.7s,mb4.3,baz=332,slow=11,SNR=33						
WB2	**Warramunga Arr**	27.53	159	eP	P	06 08 59.9	-1.9
CMAR	**Chiang Mai Arr**	27.69	299	P	P	06 09 03.3	0.0
	1.1nm,0.5s,mb3.7,baz=113,slow=7.3,SNR=5.4						
CMAR				LR	LR	06 20 18.9	
	comp=Z,141nm,18.9s,MS3.6,baz=250,slow=37						
ENH	**Enshi**	27.95	332	P	P	06 09 04.4	-1.1
KMI	**Kunming**	28.13	315	eP	P	06 09 08.4	+1.2
KMI				AMB	AMB		
	comp=Z,7.0nm,0.5s,mb4.5						
ASPA	**Alice Springs**	30.86	163	eP	P	06 09 29.8	-1.6
XAN	**Xi'an**	31.40	335	P	P	06 09 36.0	-0.1
CD2	**Chengdu**	31.47	325	eP	P	06 09 37.3	+0.6
CD2				AMB	AMB		
	comp=Z,20nm,1.4s,mb4.8						
CTA	**Charters Tower**	33.67	141	P	P	06 09 56.4	+0.4
	comp=Z,3.4nm,0.9s,mb4.3,baz=294,slow=12,SNR=2.6						
BJT	**Baijiatuau**	34.73	349	eP	P	06 10 04.1	-0.7
	comp=Z,9.8nm,0.7s,mb4.8						
BJI	**Beijing**	34.75	349	P	P	06 10 04.5	-0.5
BJI				AMB	AMB		
	comp=Z,12nm,1.1s,mb4.7						
LZH	**Lanzhou**	35.41	331	⇑P	P	06 10 11.5	+0.8
LZH				AP	pP	06 10 27.5	+1.8
LZH				XP	sP	06 10 32.5	-0.6
LZH				AMB	AMB		
	comp=Z,42nm,1.2s,mb5.2						
LZH				LR	LR		
	comp=E,720nm,9.4s						
LZH				LR	LR		
	comp=Z,670nm,12.4s,MS4.6						
SHL	**Shillong**	36.64	306	eP	P	06 10 21.0	-0.2
CN2	**Changchun**	37.74	1	eP	P	06 10 30.8	+0.6
GTA	**Gaotai**	40.00	330	eP	P	06 10 50.8	+1.8
GTA				AP	pP	06 11 05.9	+1.7
GTA				XP	sP	06 11 13.0	+1.8
GTA				AMB	AMB		
	comp=Z,5.0nm,1.3s,mb4.1						
GTA				AMB	AMB		
	comp=Z,70nm,4.9s						
GTA				LR	LR		
	comp=N,139nm,17.1s,MS4.0						
GTA				LR	LR		
	comp=E,146nm,18.6s,MS4.0						
GTA				LR	LR		
	comp=Z,122nm,19.4s,MS3.8						
STKA	**Stephens Creek**	41.04	157	eP	P	06 10 58.0	+0.3
	comp=Z,9.9nm,1.0s,mb4.4						
STKA	**Stephens Creek**	41.04	157	P	P	06 10 58.4	+0.7
	comp=Z,16nm,1.1s,mb4.5,baz=351,slow=8.1,SNR=9.6						
ASAJ	**Asahikawa**	41.29	20	P	P	06 11 01.1	+1.5
	comp=Z,4.8nm,0.8s,mb4.2,baz=315,slow=29,SNR=2.2						
GUN	**Gumba**	42.49	305	eP	P	06 11 12.2	+2.5
	comp=Z,43nm,0.8s,mb5.1						
PKI	**Pulchoki**	42.74	305	eP	P	06 11 13.1	+1.4
	comp=Z,25nm,1.2s,mb4.8						
KKN	**Kakani**	42.93	305	eP	P	06 11 14.4	+1.1

	comp=Z,11nm,0.7s,mb4.7						
DMN	Daman	43.00	305	eP	P	06 11 15.3	+1.4
	comp=Z,19nm,1.1s,mb4.7						
HIA	Hailar	43.37	356	eP	P	06 11 16.7	+0.1
	comp=Z,11nm,1.2s,mb4.5						
GKN	Gorkha	43.54	305	eP	P	06 11 19.5	+1.3
KOLN	Koldanda	44.30	304	eP	P	06 11 24.6	+0.2
	comp=Z,12nm,0.7s,mb4.7						
SONM	Songino Array	44.48	343	P	P	06 11 26.2	+0.7
	comp=Z,5.6nm,0.9s,mb4.3,baz=162,slow=7.8,SNR=12						
WMQ	Urumqi	49.56	325	eP	P	06 12 06.0	+0.6
WMQ				AMB	AMB		
	comp=Z,12nm,1.1s,mb4.8						
WMQ				LR	LR		
	comp=Z,92nm,19.0s,MS3.8						
MKAR	Makanchi Array	54.39	326	P	P	06 12 41.1	-0.4
	comp=Z,1.8nm,0.7s,mb4.1,baz=116,slow=8.2,SNR=8.0						
MKAR				PcP	PcP	06 13 42.5	-2.1
	comp=Z,3.0nm,0.8s,baz=114,slow=5.6,SNR=4.3						
KURK	Kurchatov	58.61	328	eP	P	06 13 10.4	-1.2
	comp=Z,8.3nm,1.0s,mb4.7						
BVAR	Borovoye Array	64.18	327	P	P	06 13 48.1	-0.9
	comp=Z,3.7nm,1.0s,mb4.4,baz=127,slow=7.4,SNR=16						
BRVK	Borovoye	64.25	327	eP	P	06 13 48.4	-1.1
	comp=Z,7.9nm,1.0s,mb4.7						
ZRNK	Zerenda	64.90	327	eP	P	06 13 52.4	-1.3
	comp=Z,8.3nm,1.2s,mb4.6						
RPZ	Rata Peaks	64.93	144	P	P	06 13 53.9	-0.2
	comp=Z,9.2nm,0.8s,mb4.9,baz=243,slow=4.5,SNR=4.0						
CASY	Casey	72.71	186	⇓iP	P	06 14 41.7	+0.1
AFFS	‘Afif	79.69	293	P	P	06 15 22.8	+0.9
IMA	Indian Mountai	81.38	24	eP	P	06 15 30.5	+0.5
	comp=Z,28nm,0.8s,mb5.2						
RSO	Redoubt South	81.40	30	P	P	06 15 29.7	-0.5
SPU	Mount Spurr	81.78	29	eP	P	06 15 31.0	-1.1
SLKM	Skilak Lake	82.66	30	eP	P	06 15 36.3	-0.3
KBRS	Khaybar	83.00	295	P	P	06 15 41.1	+2.0
PMR	Palmer	83.20	29	eP	P	06 15 38.9	-0.4
	comp=Z,12nm,1.1s,mb4.8						
MCK	McKinley	83.30	27	eP	P	06 15 39.5	-0.3
	comp=Z,15nm,1.0s,mb5.0						
SML	Sawmill	83.58	29	eP	P	06 15 41.1	-0.1
COLA	College	83.77	25	eP	P	06 15 40.6	-1.5
	comp=Z,5.2nm,0.8s,mb4.7						
ILAR	Eielson Array	84.18	26	P	P	06 15 42.6	-1.5
	comp=Z,4.9nm,0.7s,mb4.7,baz=244,slow=4.4,SNR=43						
DIV	Divide	84.83	29	eP	P	06 15 47.8	+0.3
JMQS	Jabal Moqyreh	85.80	298	P	P	06 15 54.5	+1.4
HMDT	Nahal Hemdat	85.85	302	P	P	06 15 54.7	+1.5
PRNI	Paran	86.44	300	P	P	06 15 57.6	+1.4
JMOS	Jabal al Moall	86.45	299	P	P	06 15 57.9	+1.6
MBH	Mount Berech	86.57	299	P	P	06 15 58.0	+1.2
HAQS	Haql	86.62	299	P	P	06 15 58.6	+1.5
BRTR	Keskin Array B	86.77	309	P	P	06 15 57.5	-0.1
	comp=Z,1.3nm,0.6s,mb4.4,baz=45,slow=1.7,SNR=3.9						
SBA	Scott Base	86.83	172	P	P	06 15 58.5	+1.5
DAWY	Dawson	87.48	26	eP	P	06 15 59.9	-0.5
KAF	Kangasniemi	88.55	332	ep	P	06 16 04.2	-1.4
	comp=Z,2.6nm,0.7s,mb4.7						
AKASG	Malin Array Be	88.68	321	P	P	06 16 05.2	-1.2
	comp=Z,0.1nm,0.3s,mb3.6,baz=63,slow=4.5,SNR=5.3						
FINES	FINESS Array B	88.77	332	P	P	06 16 05.8	-0.8
	comp=Z,3.6nm,0.8s,mb4.7,baz=98,slow=14,SNR=5.4						
DLBC	Dease Lake	93.11	30	LR	LR	06 54 22.7	
	comp=Z,26nm,21.0s,MS3.6,baz=143,slow=33						
SYO	Syowa Base	93.58	201	⇓pP	P	06 16 34.0	+5.2
NB2	NORSAR Subarra	95.76	333	P	P	06 16 37.6	-1.2
	comp=Z,1.1nm,0.7s,mb4.4,baz=66,slow=4.5						
NB2	NORSAR Subarra	95.76	333	P	P	06 16 37.6	-1.2
	baz=66,slow=4.4						
NOA	NORSAR Array B	95.76	333	P	P	06 16 37.5	-1.4
	comp=Z,1.5nm,0.7s,mb4.5,baz=67,slow=4.5,SNR=4.3						
QSPA	South Pole Qui	95.81	180	eP	P	06 16 37.7	-1.0
	comp=Z,3.7nm,1.2s,mb4.7						
TXAR	Lajitas Array	122.11	50	PKP	PKPdf	06 22 08.4	+1.3
	comp=Z,0.4nm,1.0s,baz=225,slow=1.3,SNR=3.7						

NIED ***06*** *06:35:00, 33.10N×137.10E, h5^{km}, Mw4.5 Best double couple: M$_0$6.9×10^{15} NP1:φ$_s$349°, δ89°, λ119°. NP2:φ$_s$80°, δ29°, λ2°.*

JMA ***06*** *06:35:44.2±0.1, 33.11N×137.07E, h38^{km}±3^{km}, M4.2*

BJI ***06*** *06:35:45.6, 33.19N×137.17E, h28^{km}, mB4.9, mb4.4, Ms4.5, Msz4.1*

NEIC ***06*** *06:35:45.5±0.5, 33.16N×136.75E, h10^{km}, mb4.6/7, MW4.5(NIED), Error ellipse: s-maj=12.8km s-min=9.8km az=142.0*

IDC ***06*** *06:35:46.8±0.8, 33.09N×137.15E, h27^{km}±4^{km}, mb3.9/12, mb1 4.1/14, mb1mx4.0/19, ML3.4/2, MS3.4/2, Ms1 3.4/2, ms1mx3.1/21, Error ellipse: s-maj=30.1km s-min=18.5km az=43.0*

ISC 06 06:35:45.7±0.5**, 33.22N**±0.04×**137.03E**±0.04**, h27**^{km}**, h27**^{km}±1.4^{km}**:pP-P, n49, σ1^{s}07**/60**, mb4.2**/21**, MS4.1**/2**, 9C, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TK01	Tokai 1	0.72	40	P	Pb	06 35 58.9	-0.6
TK02	Tokai 2	0.95	39	P	Pn	06 36 01.9	-1.4
JWZ	Kozaga	1.15	286	⇑P	Pn	06 36 04.8	-1.4
JWZ				S	Sn	06 36 19.8	-1.3
JIE	Ise	1.20	347	⇑P	Pn	06 36 07.2	+0.2
JIE				S	Sn	06 36 23.0	+0.4
JKN	Kiinagashima	1.21	328	⇑P	Pn	06 36 06.9	-0.2
JKN				S	Sn	06 36 22.2	-0.6
TK03	Tokai 3	1.22	39	⇑P	Pn	06 36 06.2	-1.1
TK03				eS	Sn	06 36 22.8	-0.3
TK04	Tokai 4	1.36	31	P	Pn	06 36 08.5	-0.7
JAA	Atsumi	1.42	4	P	Pn	06 36 09.8	-0.2
JAA				S	Sn	06 36 28.1	+0.2
JWM	Minabe	1.54	295	⇑P	Pn	06 36 11.1	-0.7
JWM				eS	Sn	06 36 30.6	-0.5
JWY	Kouya	1.56	310	⇑P	Pn	06 36 12.3	+0.2
JWY				S	Sn	06 36 32.0	+0.3
TSUJ	Tsu 2	1.58	341	⇑P	Pn	06 36 12.4	+0.1
TSUJ				S	Sn	06 36 32.0	0.0
JHE	Heguri	1.82	322	⇑P	Pn	06 36 15.8	0.0
JHE				S	Sn	06 36 38.5	+0.3
JAJ2	Tsuna	2.15	304	⇑P	Pn	06 36 20.5	-0.1
JHJ	Hachijo jima 2	2.31	92	Pn	Pn	06 36 20.8	-2.0
	32nm,0.3s,baz=76,slow=20,SNR=8.1						
JHJ				Sn	Sn	06 36 45.8	-4.9
	91nm,0.3s,baz=251,slow=22,SNR=6.6						
JHJ				LR	LR	06 36 53.1	
	comp=Z,294nm,20.5s,baz=329,slow=30						
MAJO	Matsushiro	3.46	16	eP	Pn	06 36 39.4	+0.2
MAT	Matsushiro	3.46	16	P	Pn	06 36 39.2	+0.1
MAT				S	Sn	06 37 19.3	-0.4
MAT	Matsushiro	3.46	16	eP	Pn	06 36 39.0	-0.1
MAT				eS	Sn	06 37 19.0	-0.7
JNU	Nakatsue	5.16	271	Pn	Pn	06 37 01.1	-2.2
	1.3nm,0.3s,baz=88,slow=11,SNR=5.0						
ASAJ	Asahikawa	11.72	20	LR	LR	06 43 34.9	
	comp=Z,514nm,18.6s,baz=187,slow=40						
BJT	Baijiatuau	18.05	298	eP	P	06 39 56.8	+0.4
	22nm,0.7s						
BJI	Beijing	18.05	298	P	P	06 39 56.2	-0.2
BJI				AMB	AMB		
	comp=Z,33nm,0.7s						
BJI				AMB	AMB		
	comp=Z,517nm,4.7s						
BJI				LR	LR		
	comp=N,709nm,14.3s						
BJI				LR	LR		
	comp=E,477nm,14.3s						
BJI				LR	LR		
	comp=Z,257nm,18.3s						
HHC	Hu-ho-hao-te	21.66	298	eP	P	06 40 40.2	+4.1
HHC				XP		06 40 48.3	
HHC				PP	PP	06 41 03.2	+2.2
HHC				S	S	06 44 34.3	+4.8
HHC				XS		06 44 40.3	
HHC				AMB	AMB		
	comp=Z,15nm,0.7s,mb4.5						
HHC				AMB	AMB		
	comp=Z,299nm,5.1s						
HHC				LR	LR		
	comp=N,927nm,12.6s						
HHC				LR	LR		
	comp=E,3µm,8.2s						
HHC				LR	LR		
	comp=Z,860nm,11.4s,MS4.4						
XAN	Xi’an	23.40	280	P	P	06 40 54.7	+1.4
XAN				AP		06 41 03.2	
XAN				AMB	AMB		
	comp=Z,19nm,1.1s,mb4.4						
ENH	Enshi	23.59	270	eP	P	06 40 56.8	+1.7
	comp=Z,16nm,0.8s,mb4.5						
SONM	Songino Array	27.27	311	P	P	06 41 29.9	+0.3
	comp=Z,3.9nm,0.9s,mb4.0,baz=117,slow=8.3,SNR=20						
GTA	Gaotai	30.47	292	eP	P	06 41 57.9	-0.5
GTA				PP	PP	06 42 58.4	-0.1
GTA				S	S	06 46 57.6	+0.9
GTA				AMB	AMB		
	comp=Z,2.0nm,1.0s,mb3.8						
GTA				AMB	AMB		
	comp=Z,12nm,3.8s						
GTA				LR	LR		
	comp=N,113nm,17.5s,MS3.8						
GTA				LR	LR		
	comp=E,172nm,17.1s,MS3.8						
GTA				LR	LR		
	comp=Z,161nm,17.9s,MS3.7						
MKAR	Makanchi Array	43.23	305	P	P	06 43 47.1	+0.9
	comp=Z,4.5nm,0.8s,mb4.3,baz=91,slow=9.9,SNR=25						
KURK	Kurchatov	45.57	311	P	P	06 44 05.0	0.0
	comp=Z,55nm,0.7s,mb5.6,SNR=9.8						
KURK	Kurchatov	45.57	311	eP	P	06 44 05.0	0.0
	comp=Z,8.7nm,0.9s,mb4.7						
BRVK	Borovoye	50.62	314	eP	P	06 44 44.4	+0.2
	comp=Z,6.9nm,1.2s,mb4.5						
WRA	Warramunga Arr	52.92	183	P	P	06 45 02.5	+0.5
	comp=Z,2.8nm,0.9s,mb4.2,baz=360,slow=7.9,SNR=6.1						
PMR	Palmer	53.81	35	eP	P	06 45 07.4	-0.6
	comp=Z,6.3nm,1.1s,mb4.5						
SML	Sawmill	54.18	34	P	P	06 45 13.0	+2.4
COLA	College	54.20	31	P	P	06 45 13.3	+2.5
	comp=Z,2.6nm,0.8s,mb4.2						
ILAR	Eielson Array	54.62	31	P	P	06 45 16.0	+2.1
	comp=Z,0.3nm,0.6s,mb3.5,baz=285,slow=6.0,SNR=6.0						
MBWA	Marble Bar	56.54	199	eP	P	06 45 25.5	-2.8
	comp=Z,16nm,1.2s,mb4.9						
DLBC	Dease Lake	63.83	36	pP	pP	06 46 26.5	+0.6
	comp=Z,2.5nm,1.0s,baz=299,slow=10,SNR=3.9						
STKA	Stephens Creek	64.89	176	P	P	06 46 22.0	-2.9
	comp=Z,2.1nm,0.8s,mb4.2,baz=328,slow=12,SNR=3.0						
STKA				pP	pP	06 46 31.1	-2.1
	comp=Z,5.1nm,0.8s,baz=336,slow=7.4,SNR=5.5						
STKA	Stephens Creek	64.89	176	P	P	06 46 22.0	-2.9
STKA				pP	pP	06 46 31.1	-2.1
ARCES	ARCESS Array B	66.29	339	pP	pP	06 46 42.7	+1.1
	comp=Z,2.9nm,0.8s,baz=50,slow=9.5,SNR=1.7						
FINES	FINESS Array B	70.48	332	P	P	06 46 58.1	-1.3
	comp=Z,2.3nm,0.9s,mb4.1,baz=56,slow=7.2,SNR=2.9						
FINES				pP	pP	06 47 07.7	-0.2
	comp=Z,0.8nm,0.6s,baz=112,slow=10,SNR=1.4						
AKASG	Malin Array Be	75.07	321	P	P	06 47 26.7	+0.1
	comp=Z,3.7nm,0.7s,mb4.4,baz=49,slow=6.3,SNR=12						
AKASG				pP	pP	06 47 34.8	-0.2
	comp=Z,4.5nm,0.7s,baz=50,slow=6.2,SNR=8.4						
NOA	NORSAR Array B	76.26	336	P	P	06 47 33.5	+0.3
	comp=Z,0.5nm,0.7s,mb3.5,baz=91,slow=8.6,SNR=2.9						
NOA				pP	pP	06 47 41.6	0.0
	comp=Z,0.7nm,0.6s,baz=46,slow=5.5,SNR=3.0						
BRTR	Keskin Array B	78.62	310	P	P	06 47 48.1	+1.4
	comp=Z,3.0nm,1.0s,mb4.2,baz=90,slow=4.9,SNR=5.8						
BRTR				pP	pP	06 47 57.9	+2.8
	comp=Z,1.5nm,0.9s,baz=72,slow=3.9,SNR=3.9						
PDAR	Pinedale Array	82.90	43	P	P	06 48 12.4	+3.2
	comp=Z,0.4nm,0.9s,mb3.5,baz=9.5,slow=5.5,SNR=3.1						
PDAR				pP	pP	06 48 17.8	0.0
	comp=Z,0.5nm,0.8s,baz=315,slow=2.1,SNR=4.1						
KHC	Kasperske Hory	83.83	327	eP	P	06 48 14.5	+0.7
KHC				x	x	06 48 23.5	
KHC	Kasperske Hory	83.83	327	eP	P	06 48 14.5	+0.7
KHC				e	pP	06 48 23.5	+1.2
GERES	GERESS Array B	83.97	326	P	P	06 48 15.6	+1.1
	comp=Z,1.4nm,0.7s,mb4.2,baz=45,slow=5.7,SNR=6.4						
GERES				pP	pP	06 48 23.9	+0.8
	comp=Z,2.1nm,0.6s,baz=34,slow=4.8,SNR=5.7						
TXAR	Lajitas Array	95.31	50	P	P	06 49 10.0	+1.2
	comp=Z,1.0nm,0.9s,mb4.2,baz=291,slow=3.0,SNR=9.0						
TXAR				pP	pP	06 49 18.4	+1.0
	comp=Z,1.6nm,0.9s,baz=291,slow=3.7,SNR=9.3						

IDC ***06*** *06:46:46.9±0.9, 33.55N×136.87E, mb4.1/10, mb1 4.3/12, mb1mx4.2/20, ML3.4/2, Error ellipse: s-maj=26.1km s-min=20.0km az=19.0*

BJI ***06*** *06:46:47.1, 33.20N×137.13E, h37^{km}, mB4.9, mb4.7, Ms4.5, Msz4.3*

NEIC ***06*** *06:46:48.4±0.5, 33.53N×136.68E, h10^{km}, mb4.4/10, Error ellipse: s-maj=13.2km s-min=8.8km az=155.0*

NEIC Recorded [1 JMA] in Mie and Nara Prefectures.

JMA ***06*** *06:46:48.0±0.1, 33.44N×136.80E, h39^{km}±4^{km}, M4.6*

JMA Felt I J1.

MOS ***06*** *06:46:49.8±1.5, 33.59N×136.98E, h33^{km}, mb4.4/6, Error ellipse: s-maj=32.3km s-min=14.4km az=98.2*

NIED ***06*** *06:47:00, 33.40N×136.80E, h8^{km}, Mw4.6 Best double couple: M$_0$1.06×10^{16} NP1:φ$_s$158°, δ88°, λ-135°. NP2: φ$_s$66°, δ45°, λ-3°.*

ISC 06 06:46:46.6±1.4**, 33.45N**±0.03×**136.81E**±0.03**, h11**^{km}±9^{km}**, n76, σ0^{s}89**/85**, mb4.3**/26**, MS4.5**/2**, 7C-4D, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TK01	Tokai 1	0.72	64	P	Pb	06 47 01.8	+1.0
JWZ	Kozaga	0.92	276	⇑P	Pb	06 47 04.6	+0.5
JKN	Kiinagashima	0.92	331	⇑P	Pb	06 47 04.8	+0.6
TK02	Tokai 2	0.93	57	⇓P	Pb	06 47 05.0	+0.6
JIE	Ise	0.95	355	⇓P	Pb	06 47 05.0	+0.4
JIE				S	Sb	06 47 17.4	+0.4
TK03	Tokai 3	1.20	53	eS	Sb	06 47 24.4	+0.1
JWY	Kouya	1.27	308	⇑P	Pb	06 47 09.3	-0.9
JWY				eS	Sb	06 47 26.4	0.0
JWM	Minabe	1.28	289	⇑P	Pb	06 47 09.0	-1.3
TK04	Tokai 4	1.29	43	P	Pb	06 47 09.9	-0.5
TK04				eS	Sb	06 47 26.8	-0.1
TSUJ	Tsu 2	1.30	346	P	Pb	06 47 10.6	-0.1
JHE	Heguri	1.52	323	⇑P	Pn	06 47 13.5	-0.5
JHE				eS	Sb	06 47 31.7	-2.0
SHZ3	Shizuoka 3	1.99	35	P	Pn	06 47 19.2	-1.4
JAI	Aioi	2.00	281	⇑P	Pn	06 47 19.8	-1.0
JIZS	Izushimoda	2.13	53	P	Pn	06 47 24.0	+1.3
JWT	Wachi	2.17	328	⇑P	Pn	06 47 22.8	-0.5
JGM	Miyama	2.25	358	⇓P	Pn	06 47 24.4	0.0
JYN	Shimob	2.50	34	P	Pn	06 47 27.6	-0.3
JHJ	Hachijo jima 2	2.51	97	Pn	Pn	06 47 28.1	0.0
	14nm,0.3s,baz=262,slow=7.4,SNR=4.5						
JHJ				Sn	Sn	06 47 58.4	-0.7
	77nm,0.3s,baz=119,slow=19,SNR=8.8						
JHJ2	Mitsune	2.54	97	P	Pn	06 47 28.2	-0.3
JHJ2				eS	Sn	06 47 57.4	-2.4
JOD2	Odawara 2	2.62	45	P	Pn	06 47 30.0	+0.4
MAJO	Matsushiro	3.30	20	eP	Pn	06 47 39.1	-0.2
MAT	Matsushiro	3.30	20	P	Pn	06 47 39.2	-0.1
MAT				S	Sn	06 48 20.3	+1.4
MAT	Matsushiro	3.30	20	eP	Pn	06 47 39.0	-0.3
MAT				eS	Sn	06 48 20.0	+1.1
JNU	Nakatsue	4.98	268	Pn	Pn	06 48 03.9	+0.7
	1.8nm,0.3s,baz=84,slow=10,SNR=3.3						
YSS	Yuzh-Sakhalins	14.23	17	eP	P	06 50 06.0	-4.1
YSS				MLR	MLR		
	comp=Z,500nm,16.0s						
KLR	Kul’dur	16.21	348	eP	P	06 50 36.0	+0.1
KLR				MLR	MLR		
	comp=N,900nm,17.0s						
KLR				MLR	MLR		
	comp=E,1µm,17.0s						
KLR				MLR	MLR		
	comp=Z,1µm,15.0s						
BJT	Baijiatuau	17.78	298	eP	P	06 50 57.4	+1.7
	comp=Z,20nm,0.8s						
BJI	Beijing	17.78	298	P	P	06 50 56.7	+1.0
BJI				AMB	AMB		
	comp=Z,20nm,0.6s						
BJI				LR	LR		
	comp=N,1µm,15.9s						
BJI				LR	LR		
	comp=E,493nm,15.9s						
BJI				LR	LR		
	comp=Z,455nm,17.5s						
WHN	Wuhan	19.26	267	⇓P	P	06 51 14.7	+0.8
HHC	Hu-ho-hao-te	21.39	297	eP	P	06 51 40.9	+4.5
HHC				XP		06 51 48.6	
HHC				PP	PP	06 52 04.7	+4.3
HHC				S	S	06 55 37.6	+8.8
HHC				XS		06 55 42.5	
HHC				AMB	AMB		
	comp=Z,15nm,0.4s,mb4.7						
HHC				AMB	AMB		
	comp=Z,321nm,5.3s						
HHC				LR	LR		
	comp=N,978nm,16.6s,MS4.4						
HHC				LR	LR		
	comp=E,829nm,19.0s,MS4.4						
HHC				LR	LR		
	comp=Z,594nm,12.5s						
XAN	Xi’an	23.18	279	P	P	06 51 54.7	+0.5
XAN				AP		06 52 03.1	
XAN				AMB	AMB		
	comp=Z,12nm,1.2s,mb4.2						
ENH	Enshi	23.40	270	eP	P	06 51 57.4	+1.0
	comp=Z,34nm,0.9s,mb4.8						
SONM	Songino Array	26.98	311	P	P	06 52 29.6	-0.5
	comp=Z,1.8nm,0.7s,mb3.7,baz=118,slow=8.5,SNR=13						
LZH	Lanzhou	27.14	285	eP	P	06 52 31.1	-0.6
LZH				AP	pP	06 52 43.8	+9.0
LZH				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.6						
LZH				LR	LR		
	comp=E,2µm,14.0s						
LZH				LR	LR		
	comp=Z,2µm,14.6s,MS4.7						
MA2	Magadan	27.73	15	eP	P	06 52 37.1	+0.3
MA2				e		06 52 47.5	
MA2				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.4						
MA2	Magadan	27.73	15	eP	P	06 52 36.9	+0.1
	comp=Z,13nm,0.8s,mb4.6						
CD2	Chengdu	28.03	274	eP	P	06 52 38.1	-1.7
CD2				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.0						
ZAK	Zakamensk	29.82	315	eP	P	06 52 56.3	+0.6
LSA	Lhasa	38.84	277	eP	P	06 54 15.0	+1.4
SHL	Shillong	39.64	271	eP	P	06 54 20.0	-0.2
NVS	Novosibirsk	42.72	317	eP	P	06 54 43.7	-1.5
MKAR	Makanchi Array	42.95	305	P	P	06 54 47.5	+0.4
	comp=Z,4.4nm,0.7s,mb4.3,baz=89,slow=10.0,SNR=25						
MKAR	Makanchi Array	42.95	305	P	P	06 54 47.5	+0.4
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
GUN	Gumba	43.80	277	eP	P	06 54 55.2	+0.9
	comp=Z,41nm,0.9s,mb5.2						
PKI	Pulchoki	44.31	277	eP	P	06 54 57.8	-0.6
KKN	Kakani	44.34	277	eP	P	06 54 58.3	-0.4
DMN	Daman	44.55	277	eP	P	06 54 59.8	-0.5
GKN	Gorkha	44.80	278	eP	P	06 55 02.2	-0.2
KURK	Kurchatov	45.28	311	eP	P	06 55 05.0	-0.9
	comp=Z,3.6nm,0.9s,mb4.2						
KOLN	Koldanda	45.74	278	eP	P	06 55 09.5	-0.3
	comp=Z,11nm,0.9s,mb4.8						
BRVK	Borovoye	50.33	314	P	P	06 55 44.9	-0.3
	comp=Z,4.0nm,1.1s,mb4.4						
WB2	Warramunga Arr	53.14	183	eP	P	06 56 06.2	-0.7
WRA	Warramunga Arr	53.14	183	P	P	06 56 07.2	+0.3
	comp=Z,3.8nm,0.8s,mb4.4,baz=0.5,slow=7.8,SNR=31						
WRA	Warramunga Arr	53.14	183	P	P	06 56 07.2	+0.3
WRA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MCK	McKinley	53.69	32	eP	P	06 56 10.4	+0.1
	comp=Z,0.6nm,0.5s,mb3.8						
PMR	Palmer	53.73	35	eP	P	06 56 09.7	-1.0
	comp=Z,7.2nm,1.2s,mb4.5						
SML	Sawmill	54.09	34	eP	P	06 56 13.5	+0.2
COLA	College	54.10	31	eP	P	06 56 10.6	-2.7
	comp=Z,2.3nm,0.7s,mb4.2						
ILAR	Eielson Array	54.52	31	P	P	06 56 15.3	-1.0
	comp=Z,1.6nm,0.9s,mb4.0,baz=267,slow=5.1,SNR=23						
ILAR	Eielson Array	54.52	31	P	P	06 56 15.3	-1.1
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
AKASG	Malin Array Be	74.77	321	P	P	06 58 27.9	-0.4
	comp=Z,2.2nm,0.8s,mb4.2,baz=50,slow=6.7,SNR=9.4						
AKASG	Malin Array Be	74.77	321	P	P	06 58 27.9	-0.3
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NB2	NORSAR Subarra	75.97	336	P	P	06 58 42.9	+8.0
	comp=Z,1.9nm,0.8s,mb4.1,baz=43,slow=5.6						
BRTR	Keskin Array B	78.33	310	P	P	06 58 49.5	+1.1
	comp=Z,1.2nm,1.0s,mb3.8,baz=59,slow=8.4,SNR=3.9						
BRTR	Keskin Array B	78.33	310	P	P	06 58 49.5	+1.1
BRTR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
TPNV	Topopah Spring	82.35	51	eP	P	06 59 10.6	+0.7
	comp=Z,3.7nm,0.9s,mb4.3						
DUG	Dugway	82.55	46	P	P	06 59 10.7	-0.1
	comp=Z,2.2nm,1.1s,mb4.1						
PDAR	Pinedale Array	82.86	43	P	P	06 59 13.2	+0.8
	comp=Z,0.6nm,0.8s,mb3.7,baz=288,slow=2.9,SNR=5.6						
DAU	Daniels Canyon	83.35	45	P	P	06 59 15.7	+0.7
GERES	GERESS Array B	83.68	326	P	P	06 59 17.8	+1.4
	comp=Z,0.8nm,0.6s,mb4.0,baz=344,slow=7.1,SNR=3.0						
GERES	GERESS Array B	83.68	326	P	P	06 59 17.8	+1.4
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
PV10	Paradox Valley	85.97	46	eP	P	06 59 30.3	+2.2
PV01	Paradox Valley	86.41	46	eP	P	06 59 30.5	+0.2
SCHQ	Schefferville	89.75	13	P	P	06 59 45.6	-0.4
	comp=Z,1.3nm,0.7s,mb4.4,baz=297,slow=9.0,SNR=2.1						
TXAR	Lajitas Array	95.30	50	P	P	07 00 13.6	+1.4
	comp=Z,0.3nm,0.7s,mb3.8,baz=291,slow=2.6,SNR=6.0						
TXAR	Lajitas Array	95.30	50	P	P	07 00 13.6	+1.4

JMA ***06*** *06:49:27.4±0.1, 33.03N×136.87E, h38^{km}±4^{km}, M4.0*

ISC 06 06:49:28.2±1.2**, 33.08N**±0.07×**136.86E**±0.04**, h38**^{km}**, n13, σ0^{s}45**/25**, 3C-5D, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TK01	Tokai 1	0.91	42	P	P	06 49 44.3	-0.4
JWZ	Kozaga	1.06	295	⇑P	P	06 49 46.4	-0.3
JWZ				S	S	06 49 59.5	-1.0
TK02	Tokai 2	1.14	41	P	P	06 49 47.6	-0.3
TK02				eS	S	06 50 02.7	+0.1
JKN	Kiinagashima	1.27	337	⇓P	P	06 49 50.1	+0.4
JKN				S	S	06 50 05.4	-0.4
JIE	Ise	1.31	354	⇓P	P	06 49 51.0	+0.6
JIE				S	S	06 50 07.0	0.0
TK03	Tokai 3	1.42	40	P	P	06 49 51.6	-0.4
TK03				eS	S	06 50 09.6	-0.1
JWM	Minabe	1.47	302	P	P	06 49 52.4	-0.3
JWM				S	S	06 50 10.5	-0.5
JWY	Kouya	1.55	317	⇑P	P	06 49 54.5	+0.7
JWY				S	S	06 50 13.4	+0.5
TK04	Tokai 4	1.55	33	⇓P	P	06 49 53.7	-0.1
TK04				S	S	06 50 13.1	+0.2
JAA	Atsumi	1.56	9	⇓P	P	06 49 54.2	+0.2
JAA				S	S	06 50 12.7	-0.5
TSUJ	Tsu 2	1.66	347	⇓P	P	06 49 56.0	+0.6
TSUJ				S	S	06 50 15.9	+0.1
JHE	Heguri	1.85	328	⇑P	P	06 49 58.6	+0.6
JHE				S	S	06 50 20.8	+0.4
MAT	Matsushiro	3.62	17	P	P	06 50 23.9	+0.5
MAT				S	S	06 51 04.8	-0.7

JMA ***06*** *06:53:29.7±0.1, 33.13N×137.16E, h37^{km}±3^{km}, M3.9*

ISC 06 06:53:30.3±1.1**, 33.16N**±0.06×**137.14E**±0.04**, h40**^{km}±32^{km}**, n17, σ0^{s}52**/31**, 5D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TK01	Tokai 1	0.71	32	P	P	06 53 43.5	-0.5
TK01				eS	S	06 53 53.6	-0.4
TK02	Tokai 2	0.94	33	P	P	06 53 46.9	-0.3
TK02				eS	S	06 53 59.7	0.0
TK03	Tokai 3	1.22	34	eS	S	06 54 06.6	-0.1
JWZ	Kozaga	1.25	288	P	P	06 53 51.5	-0.1
JWZ				eS	S	06 54 06.4	-1.1
JIE	Ise	1.28	344	⇓P	P	06 53 52.7	+0.6
JIE				eS	S	06 54 09.1	+0.7
JKN	Kiinagashima	1.31	326	P	P	06 53 52.7	+0.1
JKN				eS	S	06 54 08.3	-0.8
TK04	Tokai 4	1.37	26	P	P	06 53 53.3	-0.1
TK04				eS	S	06 54 10.4	-0.2
JAA	Atsumi	1.47	0	⇓P	P	06 53 54.8	0.0
JAA				eS	S	06 54 13.4	+0.3

JWM	Minabe	1.65	295	P	P	06 53 57.3	0.0
JWM				*e*S	S	06 54 17.0	-0.4
TSUJ	Tsu 2	1.66	339	⇓P	P	06 53 57.8	+0.3
TSUJ				*e*S	S	06 54 18.0	+0.2
JWY	Kouya	1.67	310	⇓P	P	06 53 58.4	+0.8
JWY				*e*S	S	06 54 18.3	+0.3
JHE	Heguri	1.92	321	⇓P	P	06 54 01.8	+0.6
JHE				*e*S	S	06 54 24.6	+0.3
SHZ3	Shizuoka 3	2.10	25	P	P	06 54 03.3	-0.5
JIZS	Izushimoda	2.12	42	P	P	06 54 04.2	+0.1
JAJ2	Tsuna	2.26	304	P	P	06 54 07.0	+0.9
JAJ2				*e*S	S	06 54 33.2	+0.3
JAI	Aioi	2.34	287	P	P	06 54 07.3	+0.2
JAI				*e*S	S	06 54 33.6	-1.2
MAT	Matsushiro	3.49	14	P	P	06 54 24.0	+0.5
MAT				S	S	06 55 03.3	-0.8

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*NIED **06** 06:54:00, 33.50N×136.80E, h8^{km}, Mw4.7 Best double couple: M$_0$1.24×10^{16} NP1:φ$_s$333°, δ86°, λ145°. NP2:φ$_s$66°, δ55°, λ5°.*

*BJI **06** 06:54:30.1, 33.22N×137.09E, h10^{km}, mB4.8, mb4.6, Ms4.6, Msz4.3*

*IDC **06** 06:54:33.0±0.8, 33.54N×136.83E, mb4.2/13, mb1 4.3/15, mb1mx4.3/20, ML3.6/2, MS4.0/10, Ms1 4.0/10, ms1mx3.8/26, Error ellipse: s-maj=27.1km s-min=18.1km az=28.0*

*NEIC **06** 06:54:34.9±0.3, 33.54N×136.64E, h10^{km}, mb4.5/8, MW4.7(NIED), Error ellipse: s-maj=8.3km s-min=7.3km az=113.0*

NEIC Recorded [1 JMA] in Mie, Nara and Wakayama Prefectures.

*JMA **06** 06:54:36.0±0.1, 33.50N×136.74E, h44^{km}±2^{km}, M4.6*

JMA Felt I J1.

ISC 06 06:54:36.4±0.9**, 33.54N**±0.05×**136.78E**±0.03**, h32**^{km}±6^{km}**, n69, σ0^{s}94**/72**, mb4.5**/30**, MS4.2**/9**, 6C-2D, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	Tokai 1	0.71	71	*e*S	Sb	06 55 01.3	+1.4
JKN	Kiinagashima	0.83	329	⇑P	Pn	06 54 51.5	-0.4
JKN				S	Sb	06 55 02.3	-0.7
JIE	Ise	0.85	356	⇓P	Pn	06 54 52.4	+0.2
JIE				*e*S	Sb	06 55 03.8	+0.1
JWZ	Kozaga	0.89	270	⇑P	Pn	06 54 51.5	-1.3
TK02	Tokai 2	0.91	63	P	Pn	06 54 53.4	+0.3
TK02				S	Sn	06 55 04.4	-0.8
JAA	Atsumi	1.13	15	⇓P	Pn	06 54 56.2	0.0
TK03	Tokai 3	1.17	57	S	Sn	06 55 10.8	-0.9
JWY	Kouya	1.20	305	⇑P	Pn	06 54 57.1	-0.1
TSUJ	Tsu 2	1.20	346	P	Pn	06 54 57.6	+0.3
JWM	Minabe	1.23	285	⇑P	Pn	06 54 56.9	-0.7
TK04	Tokai 4	1.24	47	*e*S	Sn	06 55 13.4	-0.2
JHE	Heguri	1.43	321	⇑P	Pn	06 55 00.4	-0.2
JAJ2	Tsuna	1.80	300	⇑P	Pn	06 55 05.9	+0.1
JHJ	Hachijo jima 2	2.55	99	Pn	Pn	06 55 16.6	0.0
	30nm,0.3s,baz=64,slow=22,SNR=2.0						
JHJ				Sn	Sn	06 55 47.5	+0.6
	86nm,0.3s,baz=102,slow=20,SNR=8.3						
JHJ				LR	LR	06 56 14.0	
	comp=Z,2µm,20.7s,baz=52,slow=40						
MAJO	Matsushiro	3.22	21	*e*Pn	Pn	06 55 25.9	-0.1
MAT	Matsushiro	3.22	21	*e*P	Pn	06 55 26.0	0.0
JNU	Nakatsue	4.96	267	Pn	Pn	06 55 53.2	+2.5
	3.0nm,0.3s,baz=115,slow=35,SNR=3.4						
JNU				LR	LR	06 56 53.0	
	comp=Z,557nm,21.9s,baz=92,slow=28						
CBIJ	Chichi jima	7.94	143	LR	LR	06 59 09.9	
	comp=Z,725nm,20.1s,baz=137,slow=35						
ASAJ	Asahikawa	11.49	22	LR	LR	07 02 39.2	
	comp=Z,561nm,18.3s,baz=193,slow=42						
CN2	Changchun	13.53	323	*e*P	P	06 57 54.8	+6.3
CN2				AMB	AMB		
	comp=Z,30nm,0.7s						
BJT	Baijiatuau	17.71	297	*e*P	P	06 58 44.9	+2.7
	comp=Z,18nm,0.6s						
BJI	Beijing	17.71	297	P	P	06 58 41.5	-0.8
BJI				AMB	AMB		
	comp=Z,39nm,0.9s						
BJI				LR	LR		
	comp=N,1µm,16.7s						
BJI				LR	LR		
	comp=E,469nm,16.7s						
BJI				LR	LR		
	comp=Z,573nm,17.6s						
WHN	Wuhan	19.24	267	P	P	06 59 01.0	+0.1
HIA	Hailar	20.18	326	*e*P	P	06 59 09.1	-1.9
	comp=Z,8.6nm,0.8s						
HHC	Hu-ho-hao-te	21.32	297	*e*P	P	06 59 23.3	+0.5
HHC				XP		06 59 28.6	
HHC				PP	PP	06 59 47.1	+0.4
HHC				S	S	07 03 15.1	+2.2
HHC				XS		07 03 24.1	
HHC				SS	SS	07 03 54.4	+6.7
HHC				PCS		07 07 03.7	
HHC				AMB	AMB		
	comp=Z,19nm,0.5s,mb4.7						
HHC				AMB	AMB		
	comp=Z,214nm,10.7s						
HHC				LR	LR		
	comp=N,994nm,19.6s						
HHC				LR	LR		
	comp=E,903nm,14.3s						
HHC				LR	LR		
	comp=Z,764nm,13.7s						
XAN	Xi'an	23.13	279	P	P	06 59 41.3	+0.5
XAN				AP		06 59 50.4	
XAN				AMB	AMB		
	comp=Z,24nm,1.3s,mb4.5						
ENH	Enshi	23.37	269	*e*P	P	06 59 44.2	+1.1
	comp=Z,76nm,1.0s,mb5.1						
SONM	Songino Array	26.90	311	P	P	07 00 16.2	-0.1
	comp=Z,4.1nm,0.8s,mb4.0,baz=117,slow=8.3,SNR=20						
LZH	Lanzhou	27.09	285	*e*P	P	07 00 17.5	-0.7
LZH				AP	pP	07 00 30.0	+2.6
LZH				AMB	AMB		
	comp=Z,55nm,1.5s,mb4.9						
CD2	Chengdu	27.99	274	P	P	07 00 25.8	-0.6
CD2				AMB	AMB		
	comp=Z,60nm,0.6s,mb5.4						
ZAK	Zakamensk	29.73	315	*e*P	PP	07 01 46.0	+7.1
GTA	Gaotai	30.15	292	*e*P	P	07 00 45.2	-0.5
GTA				S	S	07 05 44.4	+3.1
GTA				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.2						
GTA				AMB	AMB		
	comp=Z,76nm,4.6s						
GTA				LR	LR		
	comp=N,297nm,16.3s,MS4.3						
GTA				LR	LR		
	comp=E,441nm,14.8s,MS4.3						
GTA				LR	LR		
	comp=Z,447nm,14.1s,MS4.3						
KMI	Kunming	30.73	263	*e*P	P	07 00 51.1	+0.2
KMI				XP	sP	07 00 55.5	-8.8
KMI				PP	PP	07 01 51.8	-0.3
KMI				S	S	07 05 51.5	+0.9
KMI				XS		07 05 59.2	
KMI				SS	SS	07 07 34.2	+0.7
KMI				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.5						
KMI				AMB	AMB		
	comp=Z,71nm,4.4s						
KMI				LR	LR		
	comp=N,627nm,13.0s,MS4.6						
KMI				LR	LR		
	comp=E,719nm,13.0s,MS4.6						
KMI				LR	LR		
	comp=Z,880nm,11.6s,MS4.7						
LSA	Lhasa	38.81	277	*e*P	P	07 02 01.4	+1.3
WMQ	Urumqi	39.16	300	*e*P	P	07 02 03.2	+0.3
WMQ				AP	pP	07 02 07.8	-4.5
WMQ				XP	sP	07 02 10.2	-6.1
WMQ				AMB	AMB		
	comp=Z,21nm,1.2s,mb4.7						
WMQ				LR	LR		
	comp=Z,100nm,20.2s,MS3.6						
MKAR	Makanchi Array	42.87	305	P	P	07 02 34.2	+0.9
	comp=Z,7.4nm,0.7s,mb4.5,baz=90,slow=10.0,SNR=42						
MKAR				LR	LR	07 21 24.6	
	comp=Z,375nm,18.4s,MS4.3,baz=88,slow=38						
MKAR	Makanchi Array	42.87	305	P	P	07 02 34.2	+0.9
MKAR				LR	LR	07 21 24.6	
PKI	Pulchoki	44.27	277	*e*P	P	07 02 44.9	0.0
	comp=Z,24nm,1.1s,mb4.8						
KKN	Kakani	44.30	277	*e*P	P	07 02 45.4	+0.2
	comp=Z,28nm,0.9s,mb5.0						
DMN	Daman	44.51	277	*e*P	P	07 02 47.1	+0.3
GKN	Gorkha	44.76	277	*e*P	P	07 02 48.9	+0.1
	comp=Z,39nm,1.2s,mb5.1						
KURK	Kurchatov	45.20	310	P	P	07 02 52.0	0.0
	comp=Z,54nm,0.8s,mb5.4,SNR=9.6						
KURK	Kurchatov	45.20	310	*e*P	P	07 02 51.4	-0.7
	comp=Z,9.2nm,1.0s,mb4.6						
KOLN	Koldanda	45.70	278	*e*P	P	07 02 56.6	+0.3
	comp=Z,37nm,1.1s,mb5.2						
AAK	Ala-Archa	48.87	300	*e*P	P	07 03 20.0	-0.9
	comp=Z,7.7nm,1.3s,mb4.6						
BRVK	Borovoye	50.24	314	P	P	07 03 30.4	-0.9
	comp=Z,2.3nm,0.8s,mb4.3						
WRAB	Tennant Creek	53.22	183	*e*P	P	07 03 52.9	-1.3
WB2	Warramunga Arr	53.23	183	*e*P	P	07 03 52.4	-1.9
WRA	Warramunga Arr	53.23	183	P	P	07 03 52.9	-1.4
	comp=Z,3.1nm,0.8s,mb4.3,baz=0.4,slow=7.7,SNR=24						
WRA				LR	LR	07 23 50.8	
	comp=Z,82nm,20.4s,MS3.8,baz=300,slow=33						
WRA	Warramunga Arr	53.23	183	P	P	07 03 52.9	-1.4
WRA				LR	LR	07 23 50.8	
SML	Sawmill	54.03	35	*e*P	P	07 03 59.1	-0.4
COLA	College	54.03	31	*e*P	P	07 03 59.9	+0.4
	comp=Z,2.9nm,0.8s,mb4.3						
ILAR	Eielson Array	54.45	31	P	P	07 04 01.8	-0.8
	comp=Z,0.8nm,0.7s,mb3.8,baz=272,slow=4.7,SNR=14						
ILAR				LR	LR	07 31 22.1	
	comp=Z,84nm,18.2s,MS3.9,baz=40,slow=41						
ASPA	Alice Springs	56.95	183	*e*P	P	07 04 20.7	-0.6
STKA	Stephens Creek	65.22	175	P	P	07 05 21.5	+4.4
	comp=Z,2.6nm,0.8s,mb4.3,baz=171,slow=6.2,SNR=2.9						
ARCES	ARCESS Array B	65.91	339	P	P	07 05 19.6	-1.2
	comp=Z,4.2nm,0.9s,mb4.5,baz=45,slow=8.6,SNR=4.2						
ARCES				LR	LR	07 38 04.3	
	comp=Z,226nm,18.8s,MS4.4,baz=83,slow=40						
FINES	FINESS Array B	70.10	331	P	P	07 05 46.3	-0.8
	comp=Z,1.1nm,0.6s,mb4.0,baz=45,slow=5.4,SNR=4.7						
FINES				LR	LR	07 36 13.9	
	comp=Z,106nm,18.1s,MS4.1,baz=30,slow=36						
AKASG	Malin Array Be	74.68	321	P	P	07 06 14.6	+0.3
	comp=Z,2.4nm,0.5s,mb4.4,baz=51,slow=6.4,SNR=15						
NB2	NORSAR Subarra	75.88	336	P	P	07 06 19.5	-1.5
	comp=Z,2.2nm,0.9s,mb4.1,baz=45,slow=6.2						
NOA	NORSAR Array B	75.88	336	P	P	07 06 20.3	-0.7
	comp=Z,2.3nm,1.0s,mb4.1,baz=44,slow=5.9,SNR=4.0						
BRTR	Keskin Array B	78.25	310	P	P	07 06 36.1	+1.5
	comp=Z,3.9nm,1.0s,mb4.3,baz=153,slow=2.8,SNR=7.0						
BRTR	Keskin Array B	78.25	310	P	P	07 06 36.1	+1.5
BRTR				pmax	pmax		
	comp=Z,4.0nm,1.0s						
TPNV	Topopah Spring	82.31	51	*e*P	P	07 06 57.7	+1.4
	comp=Z,4.9nm,1.1s,mb4.3						
PDAR	Pinedale Array	82.81	43	P	P	07 06 58.9	+0.2
	comp=Z,0.4nm,0.8s,mb3.5,slow=3.0,SNR=4.3						
GERES	GERESS Array B	83.59	326	P	P	07 07 02.4	-0.2
	comp=Z,1.3nm,0.8s,mb4.1,baz=90,slow=2.7,SNR=5.2						
PV10	Paradox Valley	85.92	46	*e*P	P	07 07 16.9	+2.4
SCHQ	Schefferville	89.67	13	LR	LR	07 50 54.3	
	comp=Z,132nm,18.3s,MS4.4,baz=301,slow=38						
TXAR	Lajitas Array	95.26	50	P	P	07 08 00.2	+1.7
	comp=Z,0.3nm,0.8s,mb3.8,baz=288,slow=4.0,SNR=5.2						
TXAR	Lajitas Array	95.26	50	P	P	07 08 00.2	+1.7

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*MOS **06** 06:54:47.5±1.1, 56.07N×164.28E, h15^{km}, mb4.6/1, Error ellipse: s-maj=23.4km s-min=13.0km az=53.1*

*KRSC **06** 06:54:47.2±0.7, 56.21N×164.34E, h20^{km}±2^{km}, ML4.1*

ISC 06 06:54:47.2±0.7**, 56.13N**±0.04×**164.37E**±0.06**, h17**^{km}±7^{km}**, n40, σ1^{s}05**/75**, Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KBTR	Krutoberegovo	0.87	276	*i* P	Pb	06 55 02.8	-0.7
KBTR				*e*S	Sb	06 55 14.0	-0.7
KBG	Krutoberegovo	0.94	278	*i* P	Pb	06 55 03.9	-0.8
KBG				*e*S	Sb	06 55 15.9	-0.7
KBG				Smax			
	3µm,0.4s						
BKI	Bering	1.30	135	*i* P	Pn	06 55 10.9	+0.2
BKI				*i* S	Sb	06 55 27.6	+0.6
BKI				Smax			
	720nm,0.7s						
SVLR	Shiveluch	1.81	286	*i* P	Pn	06 55 17.9	-0.1
SVLR				*i* S	Sn	06 55 40.5	-0.2
ZLN	Zelenaya	2.00	268	*i* P	Pn	06 55 21.4	+0.6
ZLN				*e*S	Sn	06 55 46.7	+1.1
CIRR	Tsirk	2.03	271	*i* P	Pn	06 55 21.6	+0.5
CIRR				*e*S	Sn	06 55 46.7	+0.5
LGNR	Loginova	2.06	270	*i* P	Pn	06 55 22.3	+0.7
LGNR				*i* S	Sn	06 55 47.8	+0.7
KLY	Klyuchi	2.08	277	P	Pn	06 55 20.7	-1.2
KLY				S	Sn	06 55 45.0	-2.7
KLY	Klyuchi	2.08	277	*i* P	Pn	06 55 20.4	-1.5
KLY				*i* S	Sn	06 55 44.6	-3.1
KRSR	Krestovskiy	2.13	274	*e*P	Pn	06 55 22.7	+0.1
KRSR				*e*S	Sn	06 55 48.5	-0.3
MKZ	Mys Kozlova	2.18	225	P	Pn	06 55 23.3	0.0
MKZ				S	Sn	06 55 49.1	-1.0
MKZ	Mys Kozlova	2.18	225	*i* P	Pn	06 55 23.2	-0.1
MKZ				*e*S	Sn	06 55 49.1	-1.0
KPT	Kopyto	2.33	268	*e*P	Pn	06 55 24.9	-0.6
KPT				*e*S	Sn	06 55 52.9	-1.1
KMNR	Kamenistaya	2.35	263	*e*P	Pn	06 55 26.7	+0.9
KMNR				*e*S	Sn	06 55 55.4	+0.9
KOZR	Kozyr	2.51	270	PN	Pn	06 55 29.4	+1.4
KOZR				S	Sn	06 56 00.3	+1.9
KOZ	Kozyrevsk	2.52	270	P	Pn	06 55 29.4	+1.2
KOZ				S	Sn	06 56 00.3	+1.6
KOZ	Kozyrevsk	2.52	270	*i* P	Pn	06 55 29.3	+1.1
KOZ				*i* S	Sn	06 56 01.0	+2.3
TUMR	Tumrok	2.54	252	*i* P	Pn	06 55 29.4	+1.0
TUMR				*e*S	Sn	06 55 59.8	+0.7
SRDR	Sredinnyy	2.60	276	*i* P	Pn	06 55 29.9	+0.5
SRDR				*e*S	Sn	06 56 01.5	+0.6
OSSR	Ossora	3.21	348	*e*P	Pn	06 55 36.0	-2.0
OSSR				*i* S	Sn	06 56 12.1	-4.1
OSSR				Smax			
	160nm,0.8s						
KII	Karymskiy	3.52	235	P	Pn	06 55 43.0	+0.6
KII	Karymskiy	3.52	235	*e*P	Pn	06 55 42.9	+0.5
KII				*e*S	Sn	06 56 23.6	-0.4
SPN	Mys Shipunski	3.95	222	P	Pn	06 55 47.3	-1.2
SPN				S	Sn	06 56 31.1	-3.8
SPN	Mys Shipunski	3.95	222	*e*P	Pn	06 55 48.1	-0.4
SPN				*e*S	Sn	06 56 31.9	-3.0
NLC	Nalytchevo	4.16	227	P	Pn	06 55 51.2	-0.3
NLC				S	Sn	06 56 37.3	-2.9
NLC	Nalytchevo	4.16	227	*e*P	Pn	06 55 51.1	-0.4
NLC				*e*S	Sn	06 56 37.3	-2.9
SDLR	Sedlovina	4.27	230	*e*P	Pn	06 55 53.5	+0.4
SDLR				*e*S	Sn	06 56 42.6	-0.6
SMAR	Somma	4.32	231	*e*P	Pn	06 55 54.3	+0.5
SMAR				*e*S	Sn	06 56 42.7	-1.6
AVH	Avacha	4.35	231	*e*P	Pn	06 55 55.0	+0.8
AVH				*e*S	Sn	06 56 44.4	-0.6
UGLR	Uglovaya	4.35	230	*e*P	Pn	06 55 54.5	+0.3
KOK	Koryaka	4.37	232	*e*P	Pn	06 55 55.6	+1.1
KOK				*e*S	Sn	06 56 45.4	-0.3
GNL	Ganaly	4.44	239	*e*P	Pn	06 55 56.3	+0.9
PET	Petropavlovsk	4.55	229	P	Pn	06 55 57.2	+0.1
PET				S	Sn	06 56 48.2	-2.0
PET	Petropavlovsk	4.55	229	*e*P	Pn	06 55 57.1	0.0
PET				*e*S	Sn	06 56 47.9	-2.3
RUS	Russkaya	5.05	225	P	Pn	06 56 04.0	-0.1
RUS				S	Sn	06 56 59.2	-3.4
RUS	Russkaya	5.05	225	*e*P	Pn	06 56 03.7	-0.4
RUS				*e*S	Sn	06 56 58.8	-3.8
GRL	Gorelyy	5.14	228	*e*P	Pn	06 56 05.8	+0.5
APC	Apacha	5.28	236	*e*P	Pn	06 56 09.0	+1.6
APC				*e*S	Sn	06 57 07.7	-0.9
MIPR	Malaya Ipel'ka	5.90	232	*e*P	Pn	06 56 17.1	+1.0
KAMR	Kamenskoye	6.42	8	*i* P	Pn	06 56 21.1	-2.3
KAMR				*e*S	Sn	06 57 29.1	-7.9
KAMR				Smax			
	20nm,1.0s						

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*NIED **06** 07:10:00, 33.50N×136.80E, h5^{km}, Mw4.5 Best double couple: M$_0$7.37×10^{15} NP1:φ$_s$156°, δ87°, λ-132°. NP2: φ$_s$63°, δ42°, λ-4°.*

*JMA **06** 07:10:08.4±0.1, 33.50N×136.72E, h41^{km}±3^{km}, M4.1*

JMA Felt I J1.

ISC 06 07:10:08.2±1.4**, 33.51N**±0.07×**136.76E**±0.04**, h37**^{km}±46^{km}**, n12, σ0^{s}54**/18**, 1C, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	Tokai 1	0.74	69	*e*S	S	07 10 33.5	+1.1
JKN	Kiinagashima	0.85	331	P	P	07 10 23.8	+0.1
JKN				*e*S	S	07 10 34.6	-0.5
JWZ	Kozaga	0.87	272	P	P	07 10 23.7	-0.3
JWZ				*e*S	S	07 10 35.1	-0.6
JIE	Ise	0.88	357	P	P	07 10 24.6	+0.4
JIE				*e*S	S	07 10 36.1	+0.1
TK02	Tokai 2	0.94	62	*e*S	S	07 10 36.5	-1.0
JAA	Atsumi	1.17	16	P	P	07 10 28.5	+0.3
JAA				*e*S	S	07 10 43.0	-0.2
TK03	Tokai 3	1.20	56	*e*S	S	07 10 43.5	-0.6
JWM	Minabe	1.22	287	⇑P	P	07 10 29.1	+0.1
JWM				*e*S	S	07 10 44.5	-0.1
TSUJ	Tsu 2	1.23	347	*e*S	S	07 10 45.2	+0.3
TK04	Tokai 4	1.28	46	*e*S	S	07 10 45.8	-0.2
JHE	Heguri	1.45	322	*e*S	S	07 10 50.7	+0.3
JAJ2	Tsuna	1.80	301	P	P	07 10 38.5	+1.1
JAJ2				*e*S	S	07 10 58.8	-0.5

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*IDC **06** 07:29:25.1±4.4, 32.38S×179.32W, h105^{km}±37^{km}, mb4.4/10, mb1 4.6/12, mb1mx4.6/14, MS3.7/6, Ms1 3.7/6, ms1mx3.6/12, Error ellipse: s-maj=27.6km s-min=23.0km az=7.0*

*NEIC **06** 07:29:29.6±1.6, 32.67S×179.23W, h140^{km}±14^{km}, mb4.7/9, Error ellipse: s-maj=19.4km s-min=13.6km az=176.0*

ISC 06 07:29:28.6±0.9**, 33.16S**±0.07×**178.8W**±0.1**, h170**^{km}±8^{km}**, n151, σ1^{s}59**/154**, mb4.7**/15**, 4C-2D, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	4.98	207	P	P	07 30 40.9	-1.9
MXZ				S	S	07 31 44.7	+4.4
MXZ	Matakaoa Point	4.98	207	P	P	07 30 41.2	-1.6
MXZ				S	S	07 31 44.9	+4.6
WIZ	White Island	5.44	216	P	P	07 30 48.9	0.0
WIZ	White Island	5.44	216	P	P	07 30 50.6	+1.7
PUZ	Puketiti	5.45	205	P	P	07 30 47.3	-1.7
PUZ				S	S	07 31 55.5	+4.1
PUZ	Puketiti	5.45	205	*e*P	P	07 30 47.3	-1.7
PUZ				S	S	07 31 55.5	+4.1
KUZ	Kuaotunu	5.73	230	P	P	07 30 52.2	-0.5
KUZ	Kuaotunu	5.73	230	*e*P	P	07 30 53.5	+0.8
MWZ	Matawai	5.96	209	P	P	07 30 53.9	-1.7
MWZ				S	S	07 32 08.3	+5.0
MARZ	Manawahe	6.05	216	P	P	07 30 56.1	-0.8
MARZ	Manawahe	6.05	216	P	P	07 30 56.9	0.0
URZ	Urewera	6.07	212	P	P	07 30 59.2	+2.0
	121nm,0.3s,baz=56,slow=2.7,SNR=89						
URZ				S	S	07 32 11.2	+5.1
	104nm,0.3s,baz=306,slow=22,SNR=8.4						
URZ				LR	LR	07 33 18.9	
	comp=Z,465nm,21.3s,baz=107,slow=36						
URZ	Urewera	6.07	212	P	P	07 30 55.1	-2.0
TGRZ	Tauranga	6.07	220	P	P	07 30 57.2	0.0
EDRZ	Edgecumbe	6.12	215	P	P	07 30 58.6	+0.8
LIRZ	Lichensteins R	6.21	217	P	P	07 31 00.7	+1.6
WCZ	Waipu Caves	6.28	242	P	P	07 30 59.8	-0.1
WCZ	Waipu Caves	6.28	242	*e*P	P	07 30 59.8	-0.1
MTAZ	Motutapu	6.29	233	P	P	07 31 01.1	+1.1
MTAZ	Motutapu	6.29	233	*e*P	P	07 31 01.1	+1.1
TAZ	Tarawera	6.33	215	P	P	07 31 02.4	+1.8
OTAZ	Otara	6.37	232	P	P	07 31 02.7	+1.6
UTU	Utuhina	6.44	218	P	P	07 31 05.0	+2.9
KAAZ	Kauri Point	6.44	234	P	P	07 31 04.1	+2.0
TOZ	Tahuroa Road	6.50	224	P	P	07 31 03.6	+0.8
TOZ	Tahuroa Road	6.50	224	*e*P	P	07 31 04.9	+2.1
KNZ	Kokohu	6.50	205	P	P	07 31 00.1	-2.8
KNZ	Kokohu	6.50	205	*e*P	P	07 31 01.0	-1.9
PATZ	Paeroa	6.56	216	P	P	07 31 03.0	-0.8
PATZ	Paeroa	6.56	216	P	P	07 31 04.7	+0.9
WTAZ	Waiatarua	6.59	233	P	P	07 31 04.6	+0.5
WTAZ	Waiatarua	6.59	233	P	P	07 31 06.1	+2.0
OUZ	Omahuta	6.60	250	P	P	07 31 02.3	-2.0
OUZ	Omahuta	6.60	250	*e*P	P	07 31 02.3	-2.0
WATZ	Wairara	7.08	217	P	P	07 31 11.3	+0.7
BKZ	Black Stump Fm	7.09	211	P	P	07 31 07.4	-3.3
BKZ				S	S	07 32 34.3	+4.0
BKZ	Black Stump Fm	7.09	211	*e*P	P	07 31 08.1	-2.6
RATZ	Rangitukua	7.18	216	P	P	07 31 12.7	+0.7
RATZ	Rangitukua	7.18	216	P	P	07 31 13.4	+1.4
RITZ	Rihia Road	7.23	215	P	P	07 31 11.1	-1.4
KATZ	Kakaramea	7.30	216	P	P	07 31 14.8	+1.2
MGZ	Maungaku	7.40	216	P	P	07 31 12.2	-2.6
MGZ	Maungaku	7.40	216	P	P	07 31 15.5	+0.7
HIZ	Hauiti	7.41	222	P	P	07 31 14.3	-0.6
NGZ	Ngauruhoe	7.50	215	P	P	07 31 14.6	-1.6
NGZ	Ngauruhoe	7.50	215	P	P	07 31 14.8	-1.4
CNZ	Chateau	7.55	215	P	P	07 31 14.7	-2.1
CNZ	Chateau	7.55	215	P	P	07 31 16.3	-0.5
TUVZ	Tukino	7.55	215	*e*P	P	07 31 14.6	-2.3
TUVZ	Tukino	7.55	215	P	P	07 31 17.2	+0.3
FWVZ	Far West T-bar	7.59	215	P	P	07 31 15.6	-1.8
DRZ	Dome Shelter	7.60	215	P	P	07 31 17.9	+0.4
DRZ	Dome Shelter	7.60	215	P	P	07 31 18.5	+1.0
PWZ	Pawanui	7.68	206	P	P	07 31 14.4	-4.2
PWZ				S	S	07 32 46.5	+2.1
PWZ	Pawanui	7.68	206	P	P	07 31 15.4	-3.2
VRZ	Vera Road	7.89	219	P	P	07 31 19.6	-1.8
VRZ	Vera Road	7.89	219	*e*P	P	07 31 21.1	-0.3
TSZ	Takapari Road	8.06	210	P	P	07 31 19.4	-4.2
TSZ	Takapari Road	8.06	210	P	P	07 31 19.8	-3.8
RAEZ	Rainy Point	8.21	220	P	P	07 31 27.0	+1.5
RAEZ	Rainy Point	8.21	220	P	P	07 31 28.4	+2.9
WAZ	Wanganui	8.26	215	P	P	07 31 23.4	-2.7
WAZ	Wanganui	8.26	215	P	P	07 31 24.7	-1.4
NEZ	North Egmont	8.36	221	P	P	07 31 29.3	+1.8
PKE	Pukeiti	8.37	222	P	P	07 31 29.0	+1.4
BFZ	Birch Farm	8.48	206	P	P	07 31 25.0	-4.1
BFZ				S	S	07 33 02.0	-1.3
BFZ	Birch Farm	8.48	206	*e*P	P	07 31 25.0	-4.1
BFZ				S	S	07 33 02.0	-1.3
NWEZ	Newall Road	8.49	222	P	P	07 31 31.3	+2.1
MRZ	Mangatainoka R	8.72	209	P	P	07 31 26.9	-5.4
MRZ				S	S	07 33 10.5	+1.5
MRZ	Mangatainoka R	8.72	209	*e*P	P	07 31 27.5	-4.8
KIW	Kapiti Island	9.17	211	P	P	07 31 33.5	-4.7
MTW	Mount Morrison	9.18	208	P	P	07 31 33.6	-4.6
CAW	Cannon Point	9.31	210	P	P	07 31 34.5	-5.5
CAW	Cannon Point	9.31	210	P	P	07 31 35.2	-4.8
MRW	Makara Radio	9.56	211	P	P	07 31 39.7	-3.6
WEL	Wellington	9.58	210	P	P	07 31 41.0	-2.5
SNZO	South Karori	9.63	210	P	P	07 31 38.5	-5.6
SNZO				S	S	07 33 30.7	+0.4
BHW	Baring Head	9.64	210	P	P	07 31 39.7	-4.6
BHW	Baring Head	9.64	210	P	P	07 31 41.1	-3.2
NNZ	Nelson	10.16	215	P	P	07 31 46.0	-5.1
NNZ				S	S	07 33 43.4	+0.6
NNZ	Nelson	10.16	215	*e*P	P	07 31 46.3	-4.8
QRZ	Quartz Range	10.31	220	P	P	07 31 48.5	-4.5
QRZ				S	S	07 33 46.7	+0.5
QRZ	Quartz Range	10.31	220	*e*P	P	07 31 48.5	-4.5
THZ	Tophouse	10.81	215	P	P	07 31 54.0	-5.5
THZ	Tophouse	10.81	215	*e*P	P	07 31 55.4	-4.1
KHZ	Kahutara	11.04	211	P	P	07 31 56.5	-6.0
KHZ	Kahutara	11.04	211	*e*P	P	07 31 57.8	-4.7
DSZ	Denniston Nort	11.35	218	P	P	07 32 02.2	-4.3
DSZ	Denniston Nort	11.35	218	*e*P	P	07 32 02.2	-4.3
LTZ	Lake Taylor	11.89	214	P	P	07 32 08.7	-4.9
LTZ	Lake Taylor	11.89	214	*e*P	P	07 32 08.7	-4.9
CRLZ	Canterbury Las	12.37	210	*e*P	P	07 32 16.2	-3.5
MQZ	McQueen's Vall	12.46	210	P	P	07 32 16.5	-4.4
MQZ				S	S	07 34 32.0	-4.6
MQZ	McQueen's Vall	12.46	210	*e*P	P	07 32 16.1	-4.8
WVZ	Waitaha Valley	12.85	217	P	P	07 32 20.7	-5.2
WVZ	Waitaha Valley	12.85	217	*e*P	P	07 32 22.0	-3.9
RPZ	Rata Peaks	13.18	214	P	P	07 32 27.6	-2.5
	12nm,0.3s,baz=21,slow=1.0,SNR=76						
RPZ				S	S	07 34 49.3	-3.8

	7.5nm,0.3s,baz=8.5,slow=18,SNR=9.9						
RPZ	Rata Peaks	13.18	214	P	P	07 32 24.6	-5.4
RPZ	Rata Peaks	13.18	214	eP	P	07 32 25.6	-4.4
LBZ	Lake Benmore	14.10	214	P	P	07 32 38.1	-3.5
ODZ	Otahua Downs	14.39	211	P	P	07 32 40.5	-4.9
ODZ	Otahua Downs	14.39	211	eP	P	07 32 40.5	-4.9
JCZ	Jackson Bay	14.57	218	P	P	07 32 42.0	-5.6
MSZ	Milford Sound	15.42	218	P	P	07 32 54.2	-3.9
TUZ	Tuapeka	15.55	211	P	P	07 32 57.6	-2.2
TUZ	Tuapeka	15.55	211	eP	P	07 32 58.7	-1.1
RAR	Rarotonga	20.67	60	P	P	07 34 00.6	+4.1
	17nm,0.6s,baz=248,slow=12,SNR=9.8						
CNB	Canberra Magne	26.32	256	eP	P	07 34 54.6	+4.3
	5.0nm,0.5s,mb4.4						
STKA	Stephens Creek	33.26	261	eP	P	07 35 53.4	+1.8
	2.6nm,0.6s,mb4.1						
STKA	Stephens Creek	33.26	261	P	P	07 35 52.9	+1.3
	3.8nm,0.6s,mb4.3,baz=88,slow=10,SNR=12						
STKA				LR	LR	07 47 58.2	
	comp=Z,157nm,19.8s,baz=228,slow=34						
CTA	Charters Tower	33.65	284	eP	P	07 35 55.4	+0.3
	12nm,0.6s,mb4.8						
CTA	Charters Tower	33.65	284	P	P	07 35 55.1	0.0
	13nm,0.6s,mb4.9,baz=114,slow=10,SNR=26						
CTA				LR	LR	07 46 50.3	
	comp=Z,110nm,20.5s,baz=50,slow=32						
CTAO	Charters Tower	33.65	284	eP	P	07 35 55.3	+0.2
	12nm,0.6s,mb4.8						
WB2	Warramunga Arr	43.56	275	eP	P	07 37 15.1	-2.1
WB2				eSCP		07 42 45.1	
WB2				eS	S	07 43 33.2	+0.4
WRAB	Tennant Creek	43.57	276	eP	P	07 37 14.8	-2.5
	19nm,0.6s,mb4.9						
WRA	Warramunga Arr	43.57	275	P	P	07 37 15.3	-2.0
	7.3nm,0.3s,mb4.8,baz=113,slow=8.1,SNR=170						
WRA				LR	LR	07 52 52.6	
	comp=Z,91nm,21.5s,baz=145,slow=33						
FORT	Forrest	44.72	258	eP	P	07 37 26.1	-0.3
	127nm,0.6s,mb5.7						
SBA	Scott Base	45.24	184	eP	P	07 37 41.8	+12
	28nm,1.0s,mb4.8						
FITZ	Fitzroy Crossi	51.71	272	eP	P	07 38 20.7	+0.3
	6.1nm,0.8s,mb4.3						
FITZ	Fitzroy Crossi	51.71	272	P	P	07 38 19.7	-0.7
	4.4nm,0.5s,mb4.3,baz=165,slow=5.0,SNR=22						
CASY	Casey	52.38	209	eP	P	07 38 29.6	+4.8
NWAO	Narrogin (SRO)	52.81	252	P	P	07 38 28.2	-0.2
	24nm,1.1s,mb4.8,baz=125,slow=16,SNR=4.1						
KLBR	Kellerberrin	52.83	253	⇑iP	P	07 38 29.0	+0.4
	13nm,0.4s,mb5.0						
QSPA	South Pole Qui	56.96	180	eP	P	07 39 07.5	+10
	33nm,0.8s,mb5.2						
QSPA				e		07 39 35.6	
QSPA				e		07 43 48.8	
MAW	Mawson	69.49	201	⇑iP	P	07 40 26.5	+6.7
	9.0nm,0.9s,mb4.5						
MAW	Mawson	69.49	201	P	P	07 40 25.9	+6.1
	6.2nm,0.5s,mb4.6,baz=133,slow=5.9,SNR=25						
MAW				LR	LR	08 08 24.6	
	comp=Z,96nm,19.9s,baz=235,slow=33						
SNAA	Sanae	75.43	179	e	P	07 41 05.2	+11
SNAA	Sanae	75.43	179	⇓iP	P	07 41 01.9	+7.4
SNAA				e		07 41 05.2	
VNA3	Neumayer Olymp	75.61	176	⇑i	P	07 41 05.7	+10
VNA2	Neumayer--Watz	76.03	177	e	P	07 41 11.8	+14
VNA2	Neumayer--Watz	76.03	177	⇓iP	P	07 41 08.3	+10
VNA2				e		07 41 11.8	
VNA1	Neumayer--Stat	76.27	177	e	P	07 41 13.4	+14
VNA1	Neumayer--Stat	76.27	177	⇑iP	P	07 41 09.5	+10
VNA1				e		07 41 13.4	
TXAR	Lajitas Array	94.46	58	P	P	07 42 33.6	+3.2
	1.2nm,0.8s,mb4.1,baz=204,slow=7.7,SNR=15						
LPAZ	La Paz	97.65	115	P	P	07 42 52.6	+7.4
	1.5nm,0.2s,mb5.0,baz=176,slow=0.1,SNR=5.9						
PDAR	Pinedale Array	98.61	44	P	P	07 42 50.2	+1.2
	0.2nm,0.7s,mb3.7,baz=45,slow=2.1,SNR=3.7						
PDAR				LR	LR	08 18 54.8	
	comp=Z,45nm,20.7s,baz=243,slow=30						
PDAR	Pinedale Array	98.61	44	P	P	07 42 50.2	+1.2
PDAR				LR	LR	08 18 54.8	
MKAR	Makanchi Array	118.98	309	PKP	PKPdf	07 47 58.0	+1.5
	0.7nm,0.6s,baz=133,slow=1.2,SNR=5.1						
KEV	Kevo	140.63	346	ep	PKPdf	07 48 38.5	+1.8
	0.6nm,0.3s						
ARCES	ARCESS Array B	141.11	347	PKhKP		07 48 33.0	
	12nm,1.1s,baz=45,slow=3.4,SNR=6.1						
ARCES				PKP	PKPdf	07 48 39.2	+1.7
	5.5nm,0.9s,baz=63,slow=2.7,SNR=5.1						
KAF	Kangasniemi	146.88	339	ep	PKPdf	07 48 50.5	+2.9
	2.3nm,0.3s						
FINES	FINESS Array B	147.45	338	PKPbc	PKPdf	07 48 52.5	+4.0
	8.1nm,0.6s,baz=117,slow=4.3,SNR=32						
NB2	NORSAR Subarra	151.35	350	PKP		07 49 02.6	
	4.6nm,1.0s,baz=32,slow=2.6						
NOA	NORSAR Array B	151.35	350	PKPbc	PKPdf	07 49 03.2	+8.5
	5.9nm,1.1s,baz=17,slow=4.2,SNR=7.9						
NOA				PKPab	PKPab	07 49 14.1	+2.1
	0.8nm,0.8s,baz=41,slow=3.8,SNR=5.0						
LIC	Lamto	152.59	167	ePKP1	PKPdf	07 49 12.1	+14
	35nm,0.8s						
KIC	Kosan Boka	152.78	167	ePKP1	PKPdf	07 49 12.5	+14
	59nm,1.1s						
AKASG	Malin Array Be	152.98	319	PKPbc	PKPdf	07 49 06.4	+9.1
	2.4nm,0.4s,baz=54,slow=2.4,SNR=16						
TIC	Toumodi	153.00	166	ePKP1	PKPdf	07 49 13.0	+15
	10nm,0.2s						
DBIC	Dimbokro	153.06	167	PKP	PKPdf	07 49 04.7	+6.1
	3.3nm,0.7s,baz=154,slow=5.5,SNR=4.5						
DBIC				PKPbc	PKPdf	07 49 13.2	+15
	4.2nm,0.7s,baz=163,slow=2.6,SNR=6.5						
BRTR	Keskin Array B	153.16	293	PKPbc	PKPdf	07 49 08.4	+11
	1.2nm,0.5s,baz=147,slow=3.8,SNR=4.6						
BRTR				PKPab	PKPab	07 49 20.2	-0.2
	2.3nm,1.0s,slow=7.4,SNR=3.7						
ESDC	Sonseca Array	172.29	31	PKP	PKPdf	07 49 21.2	+4.8
	0.7nm,0.6s,baz=289,slow=1.5,SNR=6.0						
ESDC				PKPab	PKPab	07 50 45.1	+1.7
	0.2nm,0.3s,baz=297,slow=2.9,SNR=3.5						

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*NEIC **06** 07:47:25.0, 38.82N×23.30E, h25^{km}, ML3.4(ATH), After ATH.*

*ATH **06** 07:47:25.0, 38.82N×23.30E, h25^{km}±1^{km}, MD3.2/11, ML3.4*

*THE **06** 07:47:26.0, 38.82N×23.29E, h11^{km}, ML3.1*

ISC 06 07:47:25.2±0.6**, 38.78N**±0.02×**23.29E**±0.05**, h18**^{km}±7^{km}**, n26, σ0^{s}74**/36**, 1D, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LKR	Lokris	0.26	241	ePb	Pb	07 47 30.8	-0.4
NEO	Neokhori	0.53	354	ePB	Pb	07 47 35.2	-0.5
NEO				eSB	Sb	07 47 42.7	-0.1
XOR	Xorichti	0.59	352	ePg	Pb	07 47 36.3	-0.4
XOR				eSg	Sb	07 47 44.9	+0.3
MKIT	Kithairon Oros	0.59	183	ePB	Pb	07 47 37.0	+0.3
MKIT				eSN	Sn	07 47 47.0	-0.8
AOS	Alonnisos	0.60	49	ePg	Pb	07 47 36.7	-0.2
AOS				eSg	Sb	07 47 45.6	+0.7
MPAR	Parnis Oros	0.72	151	ePN	Pn	07 47 39.5	-0.8
MPAR				eSN	Sn	07 47 51.0	+0.1
PTL	Penteli	0.86	148	ePN	Pn	07 47 42.0	-0.3
PTL				eSN	Sn	07 47 54.9	+0.5
PTL	Penteli	0.86	148	ePn	Pn	07 47 42.0	-0.3
PTL				eSn	Sn	07 47 55.0	+0.6
ATH	Athens Observa	0.87	157	ePN	Pn	07 47 42.9	+0.3
NSAL	Nisos Salamina	0.88	171	⇓iPN	Pn	07 47 42.3	-0.4
NAIG	Nisos Aigina	1.03	171	ePN	Pn	07 47 45.0	+0.2
EVR	Evrytania	1.17	277	ePN	Pn	07 47 47.5	+0.7
PAIG	Paliouri	1.19	15	ePg	Pb	07 47 47.0	+0.1
PAIG				eSg	Sb	07 48 03.5	+1.7
LIT	Litokhoron	1.46	335	ePb	Pb	07 47 50.7	-0.8
	comp=Z,14nm,0.2s						
LIT				eSb	Sb	07 48 10.1	+0.4
PLG	Polygyros	1.60	4	ePN	Pn	07 47 52.7	-0.3
OUR	Ouranopolis	1.64	19	ePb	Pb	07 47 53.6	-1.1
THE	Thessaloniki	1.87	352	ePb	Pb	07 47 56.1	-2.4
MEV	Metsovon	1.89	303	ePb	Pb	07 48 01.2	+2.3
	comp=Z,4.0nm,0.2s						
SOH	Sokhos	2.04	1	ePn	Pn	07 47 59.4	+0.1
VLI	Veliai	2.08	188	ePN	Pn	07 48 00.6	+0.8
GRG	Griva	2.28	343	ePn	Pn	07 48 02.6	-0.1
SRS	Serrai	2.35	6	ePn	Pn	07 48 03.7	0.0
KNT	Kendrikon	2.40	353	ePn	Pn	07 48 04.6	+0.1
	comp=Z,3.8nm,0.7s						
KNT				eSn	Sn	07 48 33.5	-0.1
APE	Apeiranthos	2.46	133	ePN	Pn	07 48 06.0	+0.7
FNA	Florina	2.49	324	ePn	Pn	07 48 05.5	-0.2
ALN	Alexandroupoli	3.00	44	ePn	Pn	07 48 12.3	-0.6

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*NIED **06** 08:02:00, 33.50N×136.80E, h5^{km}, Mw3.9 Best double couple: M$_0$7.07×10^{14} NP1:φ$_s$163°, δ66°, λ-107°. NP2: φ$_s$20°, δ29°, λ-57°.*

*JMA **06** 08:02:47.5, 33.46N×136.78E, h41^{km}±2^{km}, M3.5*

ISC 06 08:02:47.5±0.9**, 33.45N**±0.06×**136.79E**±0.04**, h41**^{km}**, n13, σ0^{s}52**/23**, 1C-2D, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	Tokai 1	0.73	65	P	P	08 03 01.4	-0.1
TK01				eS	S	08 03 10.9	-0.8
JWZ	Kozaga	0.90	275	⇓P	P	08 03 03.6	-0.3
JWZ				eS	S	08 03 15.5	-0.4
JKN	Kiinagashima	0.91	331	P	P	08 03 03.7	-0.2
JKN				eS	S	08 03 15.0	-1.0
JIE	Ise	0.94	356	⇓P	P	08 03 04.5	+0.1
JIE				eS	S	08 03 16.7	-0.1
TK02	Tokai 2	0.94	58	P	P	08 03 05.1	+0.7
TK02				eS	S	08 03 16.4	-0.5
TK03	Tokai 3	1.21	54	eS	S	08 03 23.2	-0.4
JAA	Atsumi	1.21	14	P	P	08 03 08.3	+0.1
JAA				eS	S	08 03 23.4	-0.3
JWY	Kouya	1.26	308	P	P	08 03 09.3	+0.4
JWY				eS	S	08 03 25.2	+0.3
JWM	Minabe	1.26	289	P	P	08 03 09.1	+0.1
TSUJ	Tsu 2	1.29	346	⇑P	P	08 03 09.6	+0.2
TSUJ				eS	S	08 03 25.5	-0.3
TK04	Tokai 4	1.29	44	eS	S	08 03 26.0	+0.1
JHE	Heguri	1.51	323	P	P	08 03 12.6	0.0
JHE				eS	S	08 03 31.3	+0.1
MAT	Matsushiro	3.29	20	P	P	08 03 39.3	+1.3
MAT				S	S	08 04 17.4	+1.1

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*NIED **06** 08:20:00, 33.30N×137.40E, h11^{km}, Mw4.3 Best double couple: M$_0$3.71×10^{15} NP1:φ$_s$269°, δ51°, λ110°. NP2:φ$_s$59°, δ43°, λ67°.*

*BJI **06** 08:20:19.4, 32.59N×138.46E, h10^{km}, mB5.1, mb4.5*

*NEIC **06** 08:20:30.0±0.3, 33.08N×137.50E, h10^{km}, mb4.6/13, MW4.3(NIED), Error ellipse: s-maj=7.1km s-min=5.9km az=91.0*

NEIC Recorded [1 JMA] in Nara and Shizuoka Prefectures.

*MOS **06** 08:20:30.8±1.6, 33.20N×137.91E, h33^{km}, mb4.5/11, Error ellipse: s-maj=30.4km s-min=11.7km az=96.3*

*JMA **06** 08:20:31.4±0.1, 33.18N×137.35E, h43^{km}±2^{km}, M4.6*

JMA Felt I J1.

*IDC **06** 08:20:33.6±0.6, 33.09N×137.47E, h34^{km}±3^{km}, mb4.0/14, mb1 4.2/16, mb1mx4.1/22, ML3.8/2, MS3.5/6, Ms1 3.6/6, ms1mx3.2/23, Error ellipse: s-maj=17.3km s-min=13.7km az=33.0*

ISC 06 08:20:31.7±0.8**, 33.20N**±0.03×**137.36E**±0.03**, h33**^{km}±5^{km}**, h34**^{km}±.7^{km}**:pP-P, n89, σ1^{s}13**/106**, mb4.3**/28**, MS3.7**/7**, 1C-8D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	Tokai 1	0.60	19	P	Pb	08 20 43.7	-0.2
TK01				eS	Sb	08 20 52.8	+0.6
TK02	Tokai 2	0.82	24	⇓P	Pn	08 20 46.9	-0.1
TK02				eS	Sb	08 20 58.9	+0.6
TK03	Tokai 3	1.09	27	⇓P	Pn	08 20 50.8	-0.1
TK03				eS	Sn	08 21 05.3	+0.3
TK04	Tokai 4	1.26	20	⇓P	Pn	08 20 53.3	-0.1
TK04				eS	Sn	08 21 09.5	+0.2
JIE	Ise	1.31	336	⇓P	Pn	08 20 54.3	+0.3
JIE				eS	Sn	08 21 11.3	+0.8
JKN	Kiinagashima	1.39	319	P	Pn	08 20 55.1	-0.1
JKN				eS	Sn	08 21 11.4	-1.2
JWZ	Kozaga	1.42	284	P	Pn	08 20 55.2	-0.3
JWZ				eS	Sn	08 21 11.6	-1.6
JAA	Atsumi	1.44	353	⇓P	Pn	08 20 55.9	0.0
JAA				eS	Sn	08 21 12.7	-1.2
TSUJ	Tsu 2	1.70	333	⇓P	Pn	08 20 59.8	+0.2
TSUJ				eS	Sn	08 21 20.4	0.0
JWY	Kouya	1.79	305	P	Pn	08 21 01.5	+0.6
JWY				eS	Sn	08 21 22.0	-0.7
JWM	Minabe	1.80	292	P	Pn	08 21 01.1	+0.1
JWM				eS	Sn	08 21 21.5	-1.3
JIZS	Izushimoda	1.98	39	P	Pn	08 21 02.8	-0.8
JIZS				eS	Sn	08 21 25.2	-2.2
SHZ3	Shizuoka 3	2.00	21	⇓P	Pn	08 21 03.2	-0.6
SHZ3				eS	Sn	08 21 26.3	-1.6
JHE	Heguri	2.01	317	⇓P	Pn	08 21 04.3	+0.2
JHE				eS	Sn	08 21 27.5	-0.9
JHJ	Hachijo jima 2	2.04	91	Pn	Pn	08 21 03.9	-0.6
	166nm,0.3s,baz=264,slow=19,SNR=33						
JHJ				Sn	Sn	08 21 26.9	-2.0
	374nm,0.3s,baz=26,slow=21,SNR=15						
JHJ				LR	LR	08 22 01.5	
	comp=Z,1μm,18.6s,baz=306,slow=45						
JAJ2	Tsuna	2.39	301	P	Pn	08 21 10.1	+0.6
JAJ2				eS	Sn	08 21 37.3	-0.7
JAI	Aioi	2.50	285	P	Pn	08 21 11.1	0.0
JAI				eS	Sn	08 21 38.8	-1.9
MAJO	Matsushiro	3.41	12	eP	Pn	08 21 24.2	+0.2
MAT	Matsushiro	3.41	12	P	Pn	08 21 24.3	+0.3
MAT				S	Sn	08 22 03.7	-0.1
MAT	Matsushiro	3.41	12	eP	Pn	08 21 24.0	0.0
MAT				eS	Sn	08 22 04.0	+0.2
JNU	Nakatsue	5.43	271	Pn	Pn	08 21 53.9	+1.2
	1.4nm,0.3s,baz=93,slow=15,SNR=4.2						
JNU				LR	LR	08 24 06.5	
	comp=Z,528nm,18.2s,baz=11,slow=38						
ASAJ	Asahikawa	11.64	19	Pn	P	08 23 15.8	-2.9
	1.9nm,0.3s,baz=235,slow=16,SNR=12						
ASAJ				LR	LR	08 28 15.3	
	comp=Z,281nm,19.0s,baz=180,slow=39						
ASAJ	Asahikawa	11.64	19	P	P	08 23 15.8	-2.9
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,281nm,19.0s						
MDJ	Mudanjiang	12.90	334	P	P	08 23 37.0	+1.5
MDJ				AMB	AMB		
	comp=Z,9.0nm,1.1s						
MDJ				AMB	AMB		
	comp=Z,241nm,6.7s						
MDJ	Mudanjiang	12.90	334	eP	P	08 23 36.5	+1.0
	comp=Z,17nm,1.3s						
SSE	Sheshan	13.86	266	eP	P	08 23 47.4	-0.8
SSE				AMB	AMB		
	comp=Z,19nm,0.7s						
SSE				AMB	AMB		
	comp=Z,307nm,5.7s						
CN2	Changchun	14.09	322	eP	P	08 23 59.6	+8.4
CN2				AMB	AMB		
	comp=Z,20nm,1.1s						
YSS	Yuzh-Sakhalins	14.34	15	eP	P	08 23 50.5	-3.9
YSS	Yuzh-Sakhalins	14.34	15	eP	P	08 23 50.9	-3.6
	comp=Z,14nm,0.6s						
KLR	Kul'dur	16.56	347	eP	P	08 24 22.8	-0.2
KLR				MLR	MLR		
	comp=N,600nm,15.0s						
KLR				MLR	MLR		
	comp=Z,900nm,15.0s						
BJT	Baijiatuau	18.30	298	eP	P	08 24 44.9	0.0
	comp=Z,35nm,1.3s						
BJI	Beijing	18.30	298	P	P	08 24 48.2	+3.3
BJI				AMB	AMB		
	comp=Z,5.0nm,0.9s						
HIA	Hailar	20.73	326	eP	P	08 25 11.2	-0.7
	comp=Z,4.5nm,0.7s						
XAN	Xi'an	23.67	280	P	P	08 25 42.6	+1.5
XAN				AP		08 25 51.0	
XAN				AMB	AMB		
	comp=Z,21nm,0.9s,mb4.6						
ENH	Enshi	23.86	271	eP	P	08 25 45.2	+2.2
	comp=Z,16nm,0.9s,mb4.5						
SONM	Songino Array	27.49	311	P	P	08 26 18.3	+1.4
	comp=Z,1.5nm,0.9s,mb3.5,baz=117,slow=9.7,SNR=3.8						
SONM				pP	pP	08 26 27.3	+0.8
	comp=Z,3.5nm,0.8s,baz=116,slow=9.5,SNR=11						
MA2	Magadan	27.85	15	eP	P	08 26 24.1	+4.1
MA2				eS	S	08 30 49.7	-10
MA2				pmax	pmax		
	comp=Z,20nm,1.6s,mb4.5						
MA2				MLR	MLR		
	comp=Z,1μm,20.0s,MS4.4						
MA2	Magadan	27.85	15	eP	P	08 26 20.6	+0.5
YAK	Yakutsk	29.27	353	eP	P	08 26 25.2	-7.6
YAK				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.6						
YAK				MLR	MLR		
	comp=Z,200nm,16.0s,MS3.8						
ZAK	Zakamensk	30.32	315	eP	P	08 26 47.5	+5.3
CMAR	Chiang Mai Arr	37.34	257	LR	LR	08 45 07.0	
	comp=Z,60nm,19.1s,MS3.4,baz=70,slow=39						
TIXI	Tiksi	38.78	356	eP	P	08 27 52.1	-2.5
TIXI				pmax	pmax		
	comp=Z,6.0nm,1.7s,mb4.0						
TIXI				MLR	MLR		
	comp=Z,100nm,19.0s,MS3.7						
MKAR	Makanchi Array	43.46	305	P	P	08 28 34.6	+1.4
	comp=Z,1.4nm,0.6s,mb3.9,baz=91,slow=10,SNR=12						
MKAR				pP	pP	08 28 44.9	+1.8
	comp=Z,3.4nm,0.6s,baz=90,slow=10.0,SNR=16						
MKAR				PcP	PcP	08 30 21.1	-0.5
	comp=Z,1.1nm,0.7s,baz=90,slow=3.6,SNR=3.7						
MKAR				LR	LR	08 49 13.1	
	comp=Z,49nm,18.8s,MS3.4,baz=266,slow=39						
MKAR	Makanchi Array	43.46	305	P	P	08 28 34.7	+1.4
MKAR				*PP	pP	08 28 44.9	+1.8
MKAR						08 30 21.1	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR				pmax	pmax		
	comp=N,3.0nm,0.6s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR				MLR	MLR		
	comp=Z,49nm,18.8s						
MKAR	Makanchi Array	43.46	305	P	P	08 28 34.6	+1.4
MKAR				pP	pP	08 28 44.9	+1.8
MKAR				PcP	PcP	08 30 21.1	-0.5
MKAR				LR	LR	08 49 13.1	
KURK	Kurchatov	45.79	311	eP	P	08 28 52.6	+0.8
	comp=Z,3.9nm,0.9s,mb4.3						
BVAR	Borovoye Array	50.77	314	P	P	08 29 31.3	+0.8
	comp=Z,2.2nm,0.9s,mb4.1,baz=100,slow=9.0,SNR=7.5						
BRVK	Borovoye	50.83	314	eP	P	08 29 31.7	+0.8
IMA	Indian Mountai	51.66	29	P	P	08 29 38.5	+1.3
	comp=Z,69nm,1.5s,mb5.4						
IMA				e	pP	08 29 49.2	+2.0
FITZ	Fitzroy Crossi	52.22	194	eP	P	08 29 41.0	-1.0
	comp=Z,3.2nm,0.6s,mb4.4						
FITZ	Fitzroy Crossi	52.22	194	P	P	08 29 40.4	-1.6
	comp=Z,4.2nm,0.7s,mb4.5,baz=17,slow=6.3,SNR=10.0						
WRAB	Tennant Creek	52.91	184	eP	P	08 29 45.4	-1.7
	comp=Z,11nm,0.9s,mb4.8						
WRAB				e	pP	08 29 57.3	+0.1
WB2	Warramunga Arr	52.91	184	eP	P	08 29 45.4	-1.7
WRA	Warramunga Arr	52.92	184	P	P	08 29 45.5	-1.6
	comp=Z,5.2nm,0.8s,mb4.5,baz=359,slow=7.7,SNR=99						
WRA				LR	LR	08 51 59.4	
	comp=Z,36nm,18.6s,MS3.5,baz=190,slow=36						
WRA	Warramunga Arr	52.92	184	P	P	08 29 45.5	-1.6
WRA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
WRA				MLR	MLR		
	comp=Z,37nm,18.6s						
MBWA	Marble Bar	56.61	200	eP	P	08 30 12.6	-1.4
	comp=Z,5.7nm,0.6s,mb4.8						
ARU	Arti	57.07	320	⇑iP	P	08 30 10.6	-6.2
ARU				e		08 31 15.7	
ARU				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4						
STKA	Stephens Creek	64.85	176	eP	P	08 31 07.9	-1.9
	comp=Z,6.3nm,0.9s,mb4.7						
STKA	Stephens Creek	64.85	176	P	P	08 31 08.6	-1.2
	comp=Z,7.0nm,0.8s,mb4.7,baz=317,slow=6.3,SNR=9.7						
STKA				LR	LR	08 56 52.1	
	comp=Z,67nm,21.4s,MS3.8,baz=204,slow=34						
YKA	Yellowknife Ar	68.77	28	P	P	08 31 34.1	0.0
	comp=Z,1.1nm,0.7s,mb3.9,baz=148,slow=40,SNR=4.4						
YKA	Yellowknife Ar	68.77	28	P	P	08 31 34.1	-0.1
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FINES	FINESS Array B	70.63	332	P	P	08 31 46.0	+0.5
	comp=Z,1.7nm,0.8s,mb4.0,baz=72,slow=6.0,SNR=3.4						
FINES				pP	pP	08 31 55.8	0.0
	comp=Z,4.6nm,1.1s,baz=79,slow=9.7,SNR=3.0						
FINES	FINESS Array B	70.63	332	P	P	08 31 46.1	+0.6
FINES				*PP	pP	08 31 55.8	0.0
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
FINES				pmax	pmax		
	comp=N,5.0nm,1.1s						
SUMG	Summit	74.48	359	eP	P	08 32 10.5	+2.6
	comp=N,18nm,1.2s,mb4.9						
SUMG				e	pP	08 32 21.5	+3.2
AKASG	Malin Array Be	75.25	321	P	P	08 32 12.3	-0.5
	comp=N,0.2nm,0.3s,mb3.6,baz=42,slow=5.7,SNR=4.8						
AKASG				pP	pP	08 32 23.5	+0.3
	comp=N,3.4nm,0.7s,baz=48,slow=5.8,SNR=4.4						
AKASG	Malin Array Be	75.25	321	P	P	08 32 12.3	-0.5
AKASG				*PP	pP	08 32 23.5	+0.3
AKASG				pmax	pmax		
	comp=N,3.0nm,0.7s						
NB2	NORSAR Subarra	76.39	336	P	P	08 32 29.6	+11
	comp=N,5.2nm,1.1s,mb4.4,baz=42,slow=5.6						
NOA	NORSAR Array B	76.39	336	P	P	08 32 20.9	+1.9
	comp=N,0.6nm,0.6s,mb3.7,baz=50,slow=5.3,SNR=3.2						
NOA	NORSAR Array B	76.39	336	P	P	08 32 20.9	+1.9
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA	NORSAR Array B	76.39	336	P	P	08 32 20.9	+1.9
BRTR	Keskin Array B	78.84	310	P	P	08 32 34.5	+1.5
	comp=Z,5.4nm,0.9s,mb4.5,baz=107,slow=6.0,SNR=12						
BRTR				pP	pP	08 32 45.9	+2.4
	comp=Z,13nm,0.9s,baz=95,slow=5.3,SNR=16						
BRTR	Keskin Array B	78.84	310	P	P	08 32 34.5	+1.5
BRTR				*PP	pP	08 32 45.9	+2.4
BRTR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
BRTR				pmax	pmax		
	comp=N,13nm,0.9s						
ELK	Elko	80.58	47	eP	P	08 32 41.7	-0.6
	comp=N,2.7nm,1.1s,mb4.1						
ELK				e		08 32 54.7	
TPNV	Topopah Spring	82.15	51	eP	P	08 32 51.6	+1.0
	comp=N,5.6nm,0.9s,mb4.5						
TPNV				e	pP	08 33 02.6	+1.5
CLL	Collm	82.69	329	P	P	08 32 54.0	+0.9
	comp=N,logA/T=0.8,mb4.6						
CLL	Collm	82.69	329	eP	P	08 32 54.0	+0.9
CLL				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
CLL	Collm	82.69	329	eP	P	08 32 54.0	+0.9
	comp=Z,4.0nm,0.7s,mb4.6						
PDAR	Pinedale Array	82.73	43	P	P	08 32 54.2	+0.7
	comp=Z,0.3nm,0.5s,mb3.6,slow=3.0,SNR=5.8						
PDAR				pP	pP	08 33 04.9	+0.9
	comp=Z,0.6nm,0.8s,slow=1.5,SNR=5.9						
KHC	Kasperske Hory	83.99	327	eP	P	08 33 00.0	+0.2
KHC				x	x	08 33 12.0	
KHC	Kasperske Hory	83.99	327	eP	P	08 33 00.0	+0.2
KHC				e	pP	08 33 12.0	+1.7
GERES	GERESS Array B	84.14	326	P	P	08 33 01.7	+1.2
	comp=Z,1.2nm,0.7s,mb4.2,slow=4.0,SNR=5.7						
GERES				pP	pP	08 33 12.4	+1.3
	comp=Z,2.1nm,0.6s,baz=63,slow=6.0,SNR=5.7						
GERES	GERESS Array B	84.14	326	P	P	08 33 01.7	+1.2
GERES				*PP	pP	08 33 12.4	+1.3
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
GERES				pmax	pmax		
	comp=N,2.0nm,0.6s						
SRU	San Rafael	84.45	46	eP	P	08 33 03.6	+1.3
SRU				e	pP	08 33 14.7	+1.9
PV10	Paradox Valley	85.81	46	eP	P	08 33 11.6	+2.5
PV10				e	pP	08 33 22.0	+2.3
PV01	Paradox Valley	86.25	46	eP	P	08 33 11.7	+0.4
TXAR	Lajitas Array	95.11	50	P	P	08 33 54.8	+1.8
	comp=N,0.9nm,0.7s,mb4.3,baz=293,slow=3.2,SNR=13						
TXAR				pP	pP	08 34 05.3	+1.8
	comp=N,2.3nm,0.8s,baz=292,slow=3.5,SNR=19						
TXAR	Lajitas Array	95.11	50	P	P	08 33 54.8	+1.8
TXAR				pP	pP	08 34 05.3	+1.8
SAML	Samuel	149.31	43	ePKPbc	PKPdf	08 40 19.3	+0.6
SAML				e		08 40 30.6	
LPAZ	La Paz	151.50	60	PKPbc	PKPdf	08 40 25.8	+3.9

comp=N,5.9nm,0.7s,baz=338,slow=0.5,SNR=10

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*NIED **06** 08:35:00,33.20N×137.10E,h14^{km},Mw4.2 Best double couple: M$_0$2.52×10^{15} NP1:φ$_s$274°,δ52°,λ87°. NP2:φ$_s$99°, δ39°,λ94°.*
*NEIC **06** 08:35:32.2±0.4,33.10N×137.26E,h10^{km},mb4.3/2,Error ellipse: s-maj=10.1km s-min=8.0km az=113.0*
NEIC Recorded [1 JMA] in Nara Prefecture.
*BJI **06** 08:35:33.5,33.10N×137.30E,h10^{km},mB4.7,mb4.5*
*JMA **06** 08:35:33.4±0.1,33.16N×137.15E,h41^{km}±3^{km},M4.5*
JMA Felt I J1.
*IDC **06** 08:35:36.1±0.7,33.13N×137.26E,h36^{km}±4^{km},mb3.9/10, mb1 4.1/12,mb1mx3.9/21,ML3.9/2,MS3.5/1,Ms1 3.5/1, ms1mx2.7/23,Error ellipse: s-maj=20.5km s-min=14.5km az=38.0*

ISC 06 08:35:33.9±0.9**,33.20N**±0.03×**137.15E**±0.03**,h32**^{km}±6^{km}**, h36**^{km}±1.0^{km}**:pP-P,n43,**σ**0**^{s}**92**/60**,mb4.1**/14**,10D,Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	**Tokai 1**	0.67	33	P	Pb	08 35 46.9	-0.3
TK01				*e*S	Sb	08 35 57.2	+0.9
TK02	**Tokai 2**	0.90	34	⇓P	Pn	08 35 50.3	-0.1
TK02				*e*S	Sn	08 36 02.8	+0.4
TK03	**Tokai 3**	1.18	35	⇓P	Pn	08 35 54.3	-0.1
TK03				*e*S	Sn	08 36 09.7	+0.2
JIE	**Ise**	1.24	343	⇓P	Pn	08 35 55.9	+0.6
JIE				*e*S	Sn	08 36 11.9	+0.8
JWZ	**Kozaga**	1.24	286	P	Pn	08 35 55.0	-0.3
JWZ				*e*S	Sn	08 36 09.8	-1.3
JKN	**Kiinagashima**	1.28	325	⇓P	Pn	08 35 56.0	+0.2
JKN				*e*S	Sn	08 36 11.0	-1.0
TK04	**Tokai 4**	1.33	27	⇓P	Pn	08 35 56.7	+0.2
TK04				*e*S	Sn	08 36 13.5	+0.2
JAA	**Atsumi**	1.43	360	⇓P	Pn	08 35 58.1	+0.1
JAA				*e*S	Sn	08 36 16.0	+0.2
TSUJ	**Tsu 2**	1.62	338	⇓P	Pn	08 36 01.1	+0.4
TSUJ				*e*S	Sn	08 36 20.8	+0.1
JWM	**Minabe**	1.63	294	P	Pn	08 36 00.6	-0.3
JWM				*e*S	Sn	08 36 20.1	-0.8
JWY	**Kouya**	1.65	309	⇓P	Pn	08 36 01.7	+0.6
JWY				*e*S	Sn	08 36 21.0	-0.3
JHE	**Heguri**	1.89	320	⇓P	Pn	08 36 04.8	+0.2
JHE				*e*S	Sn	08 36 27.4	-0.2
SHZ3	**Shizuoka 3**	2.06	25	⇓P	Pn	08 36 06.6	-0.4
SHZ3				*e*S	Sn	08 36 31.2	-0.6
JIZS	**Izushimoda**	2.09	43	P	Pn	08 36 07.0	-0.4
JIZS				*e*S	Sn	08 36 31.6	-1.0
JHJ	**Hachijo jima 2**	2.21	91	Pn	Pn	08 36 09.2	0.0
	78nm,0.3s,baz=220,slow=12,SNR=23						
JHJ				Sn	Sn	08 36 33.8	-2.0
	153nm,0.3s,baz=217,slow=20,SNR=11						
JAJ2	**Tsuna**	2.24	303	P	Pn	08 36 10.4	+0.8
JAJ2				*e*S	Sn	08 36 36.0	-0.5
JAI	**Aioi**	2.33	285	P	Pn	08 36 09.6	-1.3
JAI				*e*S	Sn	08 36 37.0	-1.7
MAJO	**Matsushiro**	3.45	14	*e*P	Pn	08 36 27.1	+0.4
MAT	**Matsushiro**	3.45	14	P	Pn	08 36 27.3	+0.6
MAT				S	Sn	08 37 06.3	-0.7
MAT	**Matsushiro**	3.45	14	*e*P	Pn	08 36 27.0	+0.2
MAT				*e*S	Sn	08 37 06.0	-1.0
ASAJ	**Asahikawa**	11.70	20	Pn	P	08 38 19.5	-2.2
	0.9nm,0.3s,baz=241,slow=16,SNR=12						
ASAJ				LR	LR	08 43 29.5	
	comp=Z,195nm,18.1s,baz=255,slow=40						
HHC	**Hu-ho-hao-te**	21.75	298	*e*P	P	08 40 30.9	+6.3
HHC				XP		08 40 36.2	
HHC				PP	PP	08 40 54.6	+4.8
HHC				AMB	AMB		
	comp=Z,12nm,0.6s,mb4.5						
HHC				AMB	AMB		
	comp=Z,207nm,6.9s						
XAN	**Xi’an**	23.49	280	P	P	08 40 44.0	+2.3
XAN				AMB	AMB		
	comp=Z,11nm,0.8s,mb4.3						
ENH	**Enshi**	23.68	270	*e*P	P	08 40 45.1	+1.6
	comp=Z,7.8nm,0.8s,mb4.2						
SONM	**Songino Array**	27.35	311	P	P	08 41 18.6	+0.6
	comp=Z,1.3nm,0.9s,mb3.5,baz=118,slow=7.1,SNR=7.1						
SONM				pP	pP	08 41 29.3	+2.1
	comp=Z,1.6nm,0.7s,baz=112,slow=8.8,SNR=8.8						
MKAR	**Makanchi Array**	43.32	305	P	P	08 43 35.7	+1.3
	comp=Z,1.5nm,0.8s,mb3.8,baz=89,slow=9.6,SNR=11						
MKAR				pP	pP	08 43 46.2	+2.3
	comp=Z,2.1nm,0.6s,baz=91,slow=10,SNR=11						
MKAR	**Makanchi Array**	43.32	305	P	P	08 43 35.7	+1.3
MKAR				pP	pP	08 43 46.2	+2.3
BVAR	**Borovoye Array**	50.64	314	P	P	08 44 31.6	-0.2
	comp=Z,0.6nm,0.5s,mb3.8,baz=100,slow=9.0,SNR=4.4						
WRA	**Warramunga Arr**	52.91	183	P	P	08 44 47.9	-1.5
	comp=Z,2.2nm,0.9s,mb4.1,baz=1.3,slow=7.7,SNR=12						
PMR	**Palmer**	53.77	35	P	P	08 44 54.5	-0.7
COLA	**College**	54.16	31	P	P	08 44 57.5	-0.4
STKA	**Stephens Creek**	64.86	176	P	P	08 46 10.5	-1.8
	comp=Z,3.6nm,0.8s,mb4.5,baz=16,slow=11,SNR=4.5						
STKA				pP	pP	08 46 22.2	0.0
	comp=Z,2.0nm,0.7s,baz=325,slow=16,SNR=2.3						
AKASG	**Malin Array Be**	75.14	321	P	P	08 47 14.3	-0.1
	comp=Z,2.4nm,0.6s,mb4.3,baz=50,slow=6.5,SNR=6.9						
AKASG				pP	pP	08 47 25.9	+1.4
	comp=Z,0.4nm,0.4s,baz=49,slow=6.4,SNR=1.9						
BRTR	**Keskin Array B**	78.70	310	P	P	08 47 36.5	+1.9
	comp=Z,3.6nm,0.9s,mb4.3,baz=90,slow=4.3,SNR=8.3						
TPNV	**Topopah Spring**	82.28	51	*e*P	P	08 47 54.3	+0.7
	comp=Z,2.1nm,0.9s,mb4.1						
TPNV				*e*		08 48 06.5	
PRU	**Pruhonice**	82.84	327	*e*P	P	08 47 57.4	+1.2
PDAR	**Pinedale Array**	82.85	43	P	P	08 47 57.0	+0.6
	comp=Z,0.2nm,0.4s,mb3.5,baz=326,slow=3.3,SNR=3.2						
PDAR				pP	pP	08 48 08.2	+1.5
	comp=Z,0.4nm,0.7s,baz=297,slow=3.3,SNR=3.0						
KHC	**Kasperske Hory**	83.89	327	*e*P	P	08 48 02.5	+0.9
GERES	**GERESS Array B**	84.04	326	P	P	08 48 03.2	+0.9
	comp=Z,0.8nm,0.7s,mb4.0,baz=39,slow=6.3,SNR=4.2						
GERES				pP	pP	08 48 14.7	+2.2
	comp=Z,0.9nm,0.6s,baz=27,slow=6.0,SNR=2.4						
TXAR	**Lajitas Array**	95.24	50	P	P	08 48 57.6	+1.7
	comp=Z,1.4nm,1.0s,mb4.3,baz=287,slow=3.8,SNR=11						
TXAR				pP	pP	08 49 07.8	+1.7
	comp=Z,0.3nm,0.6s,baz=270,slow=2.5,SNR=3.7						
TXAR	**Lajitas Array**	95.24	50	P	P	08 48 57.6	+1.7
TXAR				pP	pP	08 49 07.8	+1.7
SAML	**Samuel**	149.43	42	*e*PKPbc	PKPdf	08 55 21.5	+0.4
LPAZ	**La Paz**	151.65	60	PKPbc	PKPdf	08 55 28.6	+4.2
	comp=Z,2.0nm,0.2s,baz=249,slow=0.6,SNR=2.5						

ISC 06 08:36:18.4±0.8**,9.15N**±0.04×**126.89E**±0.06**,h33**^{km}**,n18,** σ**1**^{s}**01**/24**,mb4.1**/2**,2C-1D,Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BIPH	**Bislig**	1.09	208	*e*P	P	08 36 36.6	-0.7
BIPH				*i* S	S	08 36 48.6	-2.9
BUTP	**Butuan**	1.26	262	*e*P	P	08 36 38.2	-1.6
SCPH	**Surigao**	1.51	295	⇑*e*P	P	08 36 42.7	-0.7
SCPH				*e*S	S	08 37 01.4	-0.7
BUKP	**Musuan**	2.20	235	*e*P	P	08 36 54.2	+0.9
BUKP				*e*S	S	08 37 20.9	+1.3
MSLP	**Maasin**	2.23	296	*e*P	P	08 36 55.0	+1.4
PLP	**Palo**	2.74	317	*e*P	P	08 37 01.7	+0.7
PLP				*i* S	S	08 37 32.7	-0.6
KCP	**Kidapawan**	2.77	220	⇓*e*P	P	08 37 01.8	+0.3
KCP				*i* S	S	08 37 35.4	+1.3
BESP	**Borongan**	2.82	330	*e*P	P	08 37 02.9	+0.8
TBP	**Tagbilaran**	3.03	280	*e*P	P	08 37 05.2	0.0
TBP				*e*S	S	08 37 40.8	+0.1
LLP	**Lapu-Lapu**	3.10	292	*e*P	P	08 37 05.0	-1.1
DCPH	**Dipolog City**	3.54	261	⇑*i*P	P	08 37 10.9	-1.4
SNPH	**Sibulan**	3.61	273	*e*P	P	08 37 13.5	+0.2
CNP	**Catarman**	3.99	327	*e*P	P	08 37 19.2	+0.5
GUIM	**Jordan**	4.48	289	*e*P	P	08 37 26.6	+0.9
KAKA	**Kakadu**	22.39	166	*e*P	P	08 41 16.8	+1.4
	4.2nm,0.4s,mb4.2						
WB2	**Warramunga Arr**	29.83	166	*e*P	P	08 42 23.6	-1.3
ASPA	**Alice Springs**	33.33	168	*e*P	P	08 42 55.0	-0.6
STKA	**Stephens Creek**	43.15	162	*e*P	P	08 44 18.1	+0.3
	1.2nm,0.4s,mb4.0						

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*BJI **06** 08:46:35.9,31.30N×81.30E,h28^{km},mb4.2*
*NEIC **06** 08:46:36.0±5.7,31.28N×81.29E,h29^{km}±39^{km},mb4.1/4, Error ellipse: s-maj=25.0km s-min=11.7km az=52.0*
*NDI **06** 08:46:37.5±3.7,31.16N×81.32E,h33^{km},mb4.2, mb4.1(NEIC)*
*IDC **06** 08:46:38.0±6.2,31.23N×81.32E,h44^{km}±58^{km},mb3.8/9, mb1 4.1/10,mb1mx3.9/19,ML4.1/1,Error ellipse: s-maj=37.5km s-min=16.8km az=50.0*

ISC 06 08:46:35.2±0.4**,31.32N**±0.05×**81.31E**±0.06**,h33**^{km}**,n31,** σ**1**^{s}**20**/36**,mb4.0**/12**,1D,Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JOSI	**Joshimath**	1.69	244	*e*PN	Pn	08 47 04.5	+1.5
JOSI				*e*PG	P	08 47 06.1	+3.3
JOSI				*i* SN	Sn	08 47 23.2	-0.4
PTH	**Pithoragarh**	2.00	208	*e*PG	P	08 47 10.0	+2.7
PTH				*e*SG	S	08 47 37.0	+5.6
LGTI	**Lohaghat**	2.08	207	*e*PG	P	08 47 13.0	+4.6
LGTI				*e*SG	S	08 47 40.0	+6.7
BHK	**Bhakra**	4.19	273	*e*	S	08 48 25.0	-1.9
NDI	**New Delhi**	4.42	235	*e*PG	P	08 47 51.0	+9.3
NDI				*e*SG	S	08 48 46.0	+13
AYAN	**Aya Nagar**	4.60	233	*e*P	P	08 47 45.2	+0.9
AYAN				AMb	AMB	08 47 57.0	
	comp=Z,16nm,0.8s						
SONA	**Sohna**	4.78	231	*e*P	P	08 47 47.3	+0.5
SONA				AMb	AMB	08 47 48.5	
	comp=Z,6.2nm,0.5s						
SONA				*e*		08 48 44.6	
SONA				*e*		08 48 59.5	
KUDL	**Kundal**	5.25	234	*e*P	P	08 47 53.3	-0.2
KUDL				AMb	AMB	08 47 56.6	
	comp=Z,5.3nm,0.5s						
KUDL				*e*S	S	08 48 48.9	-4.8
KHET	**Khetri**	5.78	237	*e*P	P	08 48 01.2	+0.4
KHET				*e*		08 48 47.3	
AJM	**Ajmer**	7.58	232	*e*S	S	08 49 41.0	-11
BHPL	**Bhopal**	8.76	204	⇓*i*S	S	08 50 06.3	-15
BHPL				*i*		08 51 12.1	
SHL	**Shillong**	10.93	119	*e*P	P	08 49 08.7	-3.7
SHL				*e*		08 51 12.5	
POO	**Poona**	14.41	210	*e*	S	08 52 36.0	-2.5
MKAR	**Makanchi Array**	15.47	3	P	P	08 50 12.6	+0.1
	comp=Z,0.8nm,0.3s,baz=196,slow=12,SNR=51						
KURK	**Kurchatov**	19.48	355	*e*P	P	08 50 59.6	-2.4
	comp=Z,6.2nm,0.8s						
CMAR	**Chiang Mai Arr**	20.45	125	P	P	08 51 11.2	-1.4
	comp=Z,4.8nm,0.8s,baz=314,slow=10,SNR=19						
BVAR	**Borovoye Array**	23.10	343	P	P	08 51 39.9	+1.0
	comp=Z,1.3nm,0.6s,mb3.6,baz=166,slow=12,SNR=5.9						
XAN	**Xi’an**	23.37	76	P	P	08 51 43.0	+1.3
ZRNK	**Zerenda**	23.40	341	*e*P	P	08 51 41.0	-0.8
	comp=Z,2.5nm,0.8s,mb3.7						
SONM	**Songino Array**	25.25	42	P	P	08 52 01.4	+1.6
	comp=Z,2.9nm,0.7s,mb3.9,baz=232,slow=9.3,SNR=19						
FINES	**FINESS Array B**	46.52	327	P	P	08 55 02.4	+1.4
	comp=Z,5.1nm,1.1s,mb4.4,baz=129,slow=12,SNR=5.5						
ARCES	**ARCESS Array B**	49.20	337	P	P	08 55 22.0	+0.2
	comp=Z,2.6nm,0.8s,mb4.3,baz=106,slow=8.8,SNR=5.3						
NOA	**NORSAR Array B**	53.58	325	P	P	08 55 55.4	+0.4
	comp=Z,0.8nm,0.8s,mb3.7,baz=96,slow=6.9,SNR=3.1						
WRA	**Warramunga Arr**	72.01	128	P	P	08 57 57.4	-0.4
	comp=Z,1.7nm,0.7s,mb4.1,baz=322,slow=6.2,SNR=25						
ASAR	**Alice Springs**	74.32	131	P	P	08 58 10.4	-1.0
	comp=Z,1.3nm,0.8s,mb3.9,baz=320,slow=5.6						
COLA	**College**	76.78	19	*e*P	P	08 58 24.2	-0.4
	comp=Z,3.4nm,0.9s,mb4.3						
ILAR	**Eielson Array**	77.12	19	P	P	08 58 25.9	-0.7
	comp=Z,1.6nm,0.9s,mb4.0,baz=303,slow=4.8,SNR=22						
PMR	**Palmer**	78.84	22	*e*P	P	08 58 36.0	-0.1
	comp=Z,2.5nm,0.8s,mb4.2						
SML	**Sawmill**	78.93	22	*e*P	P	08 58 36.0	-0.6
DBIC	**Dimbokro**	83.31	274	P	P	08 59 00.1	-0.4
	comp=Z,4.1nm,0.9s,mb4.5,baz=45,slow=4.3,SNR=3.1						
SBA	**Scott Base**	119.41	166	*e*PKPdf	PKPdf	09 05 26.2	+5.5

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*BJI **06** 09:11:57.5,32.74N×137.10E,h33^{km},mB5.0,mb5.0, Ms4.7,Msz4.3*
*NEIC **06** 09:11:57.2±0.1,32.96N×136.86E,h10^{km},mb5.0/66, MW4.6(NIED),Error ellipse: s-maj=3.6km s-min=3.1km az=145.0*
NEIC Recorded [1 JMA] in Aichi, Mie and Nara Prefectures, Honshu.
*JMA **06** 09:11:57.0±0.2,33.00N×136.92E,h32^{km},M4.7*
JMA Felt I J1.
*HRVD **06** 09:11:57.2±0.4,32.96N×136.76E,h17^{km}±2^{km},MW4.8/42, Centroid moment Tensor Solution. LP body waves: s7,c7; Mantle waves: s42,c59; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M$_{rr}$1.18±.18; M$_{\theta\theta}$-1.52±.12; M$_{\phi\phi}$0.34±.10; M$_{r\theta}$0.21±.23; M$_{\theta\phi}$0.73±.06; M$_{\phi r}$-0.77±.34; Best double couple: M$_0$1.75×10^{16} NP1:φ$_s$260°,δ45°,λ43°. NP2:φ$_s$136°, δ61°,λ126°. Principal axes: T 1.65, Plg57°, Azm97°; N .2, Plg31°, Azm297°; P -1.84, Plg9°, Azm201°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **06** 09:11:59.3±0.9,32.97N×136.86E,h33^{km},mb5.1/26 Error ellipse: s-maj=16.4km s-min=7.4km az=112.4*
*NIED **06** 09:12:00,33.10N×137.30E,h11^{km},Mw4.6 Best double couple: M$_0$9.66×10^{15} NP1:φ$_s$252°,δ74°,λ45°. NP2:φ$_s$146°, δ47°,λ158°.*
*IDC **06** 09:12:00.1±0.5,32.98N×136.98E,h28^{km}±3^{km},mb4.6/18, mb1 4.7/21,mb1mx4.7/24,ML3.9/3,MS3.8/13,Ms1 3.8/13, ms1mx3.8/22,Error ellipse: s-maj=15.1km s-min=11.9km az=74.0*

ISC 06 09:11:58.9±0.2**,33.07N**±0.03×**136.89E**±0.03**,h29**^{km}**, h29**^{km}±.3^{km}**:pP-P,n255,**σ**1**^{s}**09**/264**,mb4.9**/103**,MS4.1**/23**, 16C-7D,Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	**Tokai 1**	0.91	40	P	Pn	09 12 13.9	-2.0
TK01				S	Sb	09 12 26.3	-1.5
JWZ	**Kozaga**	1.08	295	⇑P	Pn	09 12 16.8	-1.6
TK02	**Tokai 2**	1.14	39	P	Pn	09 12 17.6	-1.5
TK02				S	Sn	09 12 32.6	-1.3
JKN	**Kiinagashima**	1.29	336	P	Pn	09 12 20.5	-0.8
JKN				S	Sn	09 12 36.0	-1.6
JIE	**Ise**	1.33	354	⇓P	Pn	09 12 21.3	-0.5
JIE				S	Sn	09 12 37.7	-1.0
JWM	**Minabe**	1.50	302	⇑P	Pn	09 12 23.1	-1.2
TK04	**Tokai 4**	1.55	32	⇓P	Pn	09 12 23.7	-1.3
TK04				S	Sn	09 12 42.4	-1.9
JWY	**Kouya**	1.57	317	P	Pn	09 12 25.0	-0.4
TSUJ	**Tsu 2**	1.68	347	P	Pn	09 12 26.3	-0.6
JHE	**Heguri**	1.87	328	⇑P	Pn	09 12 29.1	-0.5
JAI	**Aioi**	2.16	290	⇑P	Pn	09 12 32.5	-1.3
JHJ	**Hachijo jima 2**	2.43	88	Pn	Pn	09 12 35.5	-2.1
	155nm,0.3s,baz=214,slow=8.8,SNR=37						
JHJ				Sn	Sn	09 13 03.5	-3.2
	227nm,0.3s,baz=61,slow=24,SNR=7.1						
JHJ				LR	LR	09 13 42.4	
	comp=Z,2μm,19.3s,baz=288,slow=43						
JHJ2	**Mitsune**	2.46	88	⇑P	Pn	09 12 35.1	-2.9
JWT	**Wachi**	2.53	331	P	Pn	09 12 38.7	-0.3
JGM	**Miyama**	2.63	357	⇓P	Pn	09 12 39.9	-0.5
JGM				S	Sn	09 13 10.8	-0.9
JIM2	**Oshima 3**	2.68	51	P	Pn	09 12 39.5	-1.7
JYN	**Shimob**	2.78	29	P	Pn	09 12 44.5	+1.8
JOD2	**Odawara 2**	2.85	39	P	Pn	09 12 43.4	-0.2
MAJO	**Matsushiro**	3.63	17	⇓*e*Pn	Pn	09 12 54.1	-0.6
MAJO				*e*		09 13 02.9	
MAT	**Matsushiro**	3.63	17	P	Pn	09 12 53.6	-1.1
MAT				S	Sn	09 13 35.0	-2.1
MAT	**Matsushiro**	3.63	17	*e*P	Pn	09 12 54.0	-0.7
MAT				*e*S	Sn	09 13 35.0	-2.1
JNU	**Nakatsue**	5.04	272	Pn	Pn	09 13 11.7	-3.1
	3.8nm,0.3s,baz=107,slow=11,SNR=12						
JNU				LR	LR	09 14 37.5	
	comp=Z,331nm,21.1s,baz=350,slow=31						
ASAJ	**Asahikawa**	11.90	20	Pn	P	09 14 46.2	-3.4
	1.0nm,0.3s,baz=234,slow=16,SNR=14						
ASAJ				LR	LR	09 19 52.4	
	comp=Z,732nm,18.6s,baz=190,slow=40						
ASAJ	**Asahikawa**	11.90	20	P	P	09 14 46.3	-3.4
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,732nm,18.7s						
MDJ	**Mudanjiang**	12.85	336	P	P	09 15 05.4	+3.0
MDJ				AMB	AMB		
	comp=Z,253nm,6.1s						
MDJ				LR	LR		
	comp=N,566nm,13.5s						
MDJ				LR	LR		
	comp=E,1μm,14.9s						
MDJ				LR	LR		
	comp=Z,450nm,14.9s						
SSE	**Sheshan**	13.46	266	*e*P	P	09 15 09.9	-0.6
SSE				S	S	09 17 37.4	-2.7
SSE				AMB	AMB		
	comp=Z,56nm,2.1s						
SSE				LR	LR		
	comp=N,455nm,21.2s						
SSE				LR	LR		
	comp=E,129nm,21.3s						
SSE				LR	LR		
	comp=Z,227nm,14.1s						
CN2	**Changchun**	13.96	323	*e*P	P	09 15 18.0	+1.0
CN2				*e*S	S	09 17 53.6	+1.8
CN2				AMB	AMB		
	comp=Z,40nm,0.7s						
CN2				AMB	AMB		
	comp=Z,600nm,8.0s						
CN2				LR	LR		
	comp=N,1μm,15.0s						
CN2				LR	LR		
	comp=E,1μm,15.0s						
CN2				LR	LR		
	comp=Z,1μm,13.0s						
YSS	**Yuzh-Sakhalins**	14.57	16	⇑*e*P	P	09 15 23.0	-2.0
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS				MLR	MLR		
	comp=N,500nm,15.0s						
YSS				MLR	MLR		
	comp=Z,500nm,15.0s						
YSS	**Yuzh-Sakhalins**	14.57	16	*e*P	P	09 15 23.6	-1.4
	comp=Z,32nm,0.9s						
NJ2	**Nanjing**	15.24	271	*e*P	P	09 15 32.6	-1.3
NJ2				PP	PP	09 15 44.4	-1.5
NJ2				S	S	09 18 20.0	-2.3
NJ2				AMB	AMB		
	comp=Z,60nm,0.6s						
NJ2				LR	LR		
	comp=N,4μm,15.8s						
NJ2				LR	LR		
	comp=E,1μm,19.5s						
NJ2				LR	LR		
	comp=Z,2μm,16.9s						
KLR	**Kul’dur**	16.60	348	*e*P	P	09 15 51.2	+0.1
KLR				MLR	MLR		
	comp=N,800nm,17.0s						
KLR				MLR	MLR		
	comp=E,2μm,17.0s						
KLR				MLR	MLR		
	comp=Z,2μm,13.0s						
BJI	**Beijing**	18.02	299	P	P	09 16 11.2	+2.2
BJI				AMB	AMB		
	comp=Z,36nm,1.1s						
BJI				LR	LR		
	comp=N,679nm,15.5s						
BJI				LR	LR		
	comp=E,575nm,14.6s						
BJI				LR	LR		
	comp=Z,467nm,18.4s						
WHN	**Wuhan**	19.32	269	*e*P	P	09 16 22.0	-2.6
WHN				S	S	09 19 58.0	+2.5
WHN				LR	LR		
	comp=Z,1μm,13.8s						
GUMO	**Guam**	20.71	158	*e*P	P	09 16 38.0	-1.7
	comp=Z,151nm,1.3s						
HHC	**Hu-ho-hao-te**	21.62	298	*e*P	P	09 16 52.6	+3.9
HHC				PP	PP	09 17 17.5	+4.0
HHC				S	S	09 20 46.4	+4.8
HHC				SS	SS	09 21 22.6	+4.3
HHC				AMB	AMB		
	comp=Z,23nm,0.7s,mb4.7						
HHC				AMB	AMB		
	comp=Z,253nm,6.7s						
HHC				LR	LR		
	comp=N,1μm,12.5s,MS4.8						
HHC				LR	LR		
	comp=E,3μm,14.9s,MS4.8						
HHC				LR	LR		
	comp=Z,381nm,17.2s,MS3.9						
BTO	**Baotou**	22.72	297	*e*P	P	09 16 59.2	-0.4
BTO				AMB	AMB		
	comp=Z,107nm,0.7s,mb5.4						
XAN	**Xi’an**	23.30	280	P	P	09 17 06.4	+1.1
XAN				AP		09 17 14.7	
XAN				AMB	AMB		
	comp=Z,52nm,0.8s,mb5.0						
ENH	**Enshi**	23.46	271	*e*P	P	09 17 08.1	+1.1
	comp=Z,312nm,1.4s,mb5.5						
ENH				*e*		09 17 16.1	
PET	**Petropavlovsk**	25.33	32	*e*P	P	09 17 26.5	+1.8
PET				pmax	pmax		
	comp=Z,49nm,1.0s,mb5.0						
PET				MLR	MLR		
	comp=Z,200nm,16.0s,MS3.7						
GYA	**Guiyang**	26.99	264	⇑*i*P	P	09 17 42.3	+2.0
GYA				AMB	AMB		
	comp=Z,50nm,0.7s,mb5.2						
SONM	**Songino Array**	27.28	312	P	P	09 17 42.8	+0.1
	comp=Z,8.2nm,0.8s,mb4.3,baz=115,slow=8.3,SNR=41						
SONM				pP	pP	09 17 52.1	+0.9
	comp=Z,14nm,0.8s,baz=120,slow=8.9,SNR=21						
SONM				PcP	PcP	09 21 02.0	-0.3
	comp=Z,2.3nm,0.7s,baz=131,slow=2.4,SNR=7.8						
SONM				pPcP		09 21 11.1	
	comp=Z,2.3nm,0.6s,baz=117,slow=1.8,SNR=6.9						
LZH	**Lanzhou**	27.30	286	*e*P	P	09 17 42.5	-0.5
LZH				AP	pP	09 17 51.0	-0.5
LZH				XP	sP	09 17 54.5	-0.8
LZH				AMB	AMB		
	comp=Z,42nm,1.3s,mb4.8						
MA2	**Magadan**	28.07	15	*e*P	P	09 17 50.0	+0.2
MA2				*e*S	S	09 22 28.4	-2.7
MA2				MLR	MLR		
	comp=Z,690nm,16.0s,MS4.3						
MA2	**Magadan**	28.07	15	*e*P	P	09 17 49.6	-0.2
	comp=Z,9.0nm,0.9s,mb4.4						
CD2	**Chengdu**	28.12	275	*e*P	P	09 17 50.2	-0.3
CD2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.0						
BOD	**Bodaibo**	29.22	335	*e*P	P	09 17 55.1	-5.0
YAK	**Yakutsk**	29.35	353	*e*P	P	09 18 01.0	-0.2
YAK				pmax	pmax		
	comp=Z,23nm,1.4s,mb4.7						
YAK				MLR	MLR		
	comp=Z,300nm,18.0s,MS4.0						
YAK	**Yakutsk**	29.35	353	P	P	09 17 59.9	-1.4
	comp=Z,32nm,0.9s,mb5.1						
ZAK	**Zakamensk**	30.13	315	*e*P	P	09 18 08.7	+0.4
GTA	**Gaotai**	30.41	293	*e*P	P	09 18 10.2	-0.7
GTA				AP	pP	09 18 19.5	+0.1
GTA				XP	sP	09 18 23.4	+0.2
GTA				AMB	AMB		
	comp=Z,104nm,4.9s						
GTA				LR	LR		
	comp=N,200nm,16.7s,MS4.2						
GTA				LR	LR		
	comp=E,354nm,13.7s,MS4.2						
GTA				LR	LR		
	comp=Z,381nm,14.8s,MS4.2						
KMI	**Kunming**	30.77	264	*e*P	P	09 18 13.2	-1.0
KMI				AMB	AMB		
	comp=Z,7.0nm,0.5s,mb4.8						
CMAR	**Chiang Mai Arr**	36.92	256	P	P	09 19 07.3	0.0
	comp=Z,3.0nm,0.7s,mb4.2,baz=49,slow=8.1,SNR=11						
CMAR				LR	LR	09 36 25.6	
	comp=Z,200nm,18.6s,MS3.9,baz=65,slow=40						
CMAR	**Chiang Mai Arr**	36.92	256	P	P	09 19 07.3	0.0
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
CMAR				MLR	MLR		
	comp=Z,200nm,18.6s						
CMAR	**Chiang Mai Arr**	36.92	256	P	P	09 19 07.3	0.0
CMAR				LR	LR	09 36 25.6	
TIXI	**Tiksi**	38.88	356	*e*P	P	09 19 23.3	+0.1
TIXI				*i*	pP	09 19 33.0	+1.2
TIXI				*e*		09 21 32.4	
TIXI				*e*S	S	09 25 21.3	+2.3

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TIXI                                    pmax     pmax
      comp=Z,11nm,1.5s,mb4.4
TIXI                                    MLR      MLR
      comp=Z,100nm,13.0s,MS3.8
LSA   Lhasa            38.96 278  eP      P          09 19 25.0 +0.7
WMQ   Urumqi           39.48 300  eP      P          09 19 30.0 +1.6
WMQ                                PP      PP         09 21 05.0 +2.1
WMQ                                AMB     AMB
      comp=Z,26nm,1.2s,mb4.8
WMQ                                LR      LR
      comp=Z,139nm,21.8s,MS3.8
SHL   Shillong         39.71 271  eP      P          09 19 32.5 +2.0
NVS   Novosibirsk      43.04 317  i P     P          09 19 56.7  -0.8
NVS                               i                  09 21 45.4
NVS                                pmax    pmax
      comp=Z,22nm,1.1s,mb4.8
NVS                                pmax    pmax
      comp=N,7.0nm,0.9s
NVS                                pmax    pmax
      comp=E,21nm,1.2s
MKAR  Makanchi Array   43.21 305   P      P          09 19 59.6 +0.6
      comp=E,10nm,0.7s,mb4.7,baz=92,slow=9.8,SNR=69
MKAR                               pP      pP         09 20 08.6 +0.9
      comp=E,19nm,0.7s,baz=92,slow=10,SNR=27
MKAR                               PcP     PcP        09 21 48.4  -0.2
      comp=E,4.8nm,1.0s,baz=108,slow=4.6,SNR=2.5
MKAR                               LR      LR         09 39 06.0
      comp=E,238nm,18.8s,MS4.1,baz=196,slow=38
MKAR  Makanchi Array   43.21 305   P      P          09 19 59.6 +0.6
MKAR                               *PP     pP         09 20 08.6 +0.9
MKAR                                                  09 21 48.4
MKAR                               pmax    pmax
      comp=Z,11nm,0.7s
MKAR                               pmax    pmax
      comp=N,19nm,0.7s
MKAR                               pmax    pmax
      comp=Z,5.0nm,1.0s
MKAR                               MLR     MLR
      comp=Z,238nm,18.8s
MKAR  Makanchi Array   43.21 305   P      P          09 19 59.6 +0.6
MKAR                               pP      pP         09 20 08.6 +0.9
MKAR                               PcP     PcP        09 21 48.4  -0.2
MKAR                               LR      LR         09 39 06.0
GUN   Gumba            43.91 277  eP      P          09 20 05.2 +0.3
      comp=Z,120nm,1.0s,mb5.6
PKI   Pulchoki         44.42 277  eP      P          09 20 08.8  -0.2
      comp=Z,59nm,1.1s,mb5.2
KKN   Kakani           44.45 277  eP      P          09 20 09.1  -0.2
      comp=Z,60nm,0.8s,mb5.4
DMN   Daman            44.66 277  eP      P          09 20 10.7  -0.3
GKN   Gorkha           44.91 278  eP      P          09 20 12.8  -0.2
      comp=Z,64nm,0.9s,mb5.4
KURK  Kurchatov        45.58 311   P      P          09 20 17.5  -0.4
      comp=Z,316nm,0.7s,SNR=32
KURK  Kurchatov        45.58 311  i P     P          09 20 18.0 +0.1
KURK                               pmax    pmax
      comp=Z,23nm,0.9s,mb5.1
KURK  Kurchatov        45.58 311  eP      P          09 20 17.7  -0.2
      comp=Z,24nm,0.8s,mb5.2
KURK                              e       pP         09 20 26.7 +0.1
KAKA  Kakadu           45.71 186⇑iP      P          09 20 16.3  -3.2
      comp=Z,11nm,0.6s,mb5.0
KOLN  Koldanda         45.85 278  eP      P          09 20 20.4  -0.1
      comp=Z,64nm,0.9s,mb5.5
KSH   Kashi            48.71 296  eP      P          09 20 46.0 +3.3
KSH                               eAP     pP         09 20 50.7  -0.8
KSH                               ePCP    PcP        09 22 09.4 +1.5
KSH                               ePP     PP         09 22 40.1 +4.5
KSH                               ePCS               09 26 05.1
KSH                               eS      S          09 27 49.8 +7.6
KSH                               eSS     SS         09 31 15.9 +8.0
KSH                                LR      LR
      comp=N,250nm,6.4s
KSH                                LR      LR
      comp=E,170nm,4.5s
AAK   Ala-Archa        49.18 300  eP      P          09 20 45.0  -1.3
      comp=E,4.1nm,0.8s,mb4.5
AAK                               e       pP         09 20 54.3  -0.8
VOSK  Vostochnaya      50.24 314   P      P          09 20 53.7  -0.6
VOSK                               pmax    pmax
      comp=Z,28nm,0.9s,mb5.3
BVA0  Borovoye Array   50.58 314  i P     P          09 20 56.5  -0.3
BVA0                               pmax    pmax
      comp=Z,1.0nm,0.8s
BRVK  Borovoye         50.64 314  eP      P          09 20 56.4  -0.8
      comp=Z,8.9nm,0.7s,mb4.8
BRVK                              e       pP         09 21 06.0  -0.1
TTA   Tatalina         50.77  33  eP      P          09 21 14.3 +16
SVW   Sparrevohn       50.89  35  eP      P          09 21 08.1 +9.0
      comp=Z,6.6nm,0.3s,mb5.0
ZRNK  Zerenda          51.42 314   P      P          09 21 03.0  -0.2
ZRNK                               pmax    pmax
      comp=Z,50nm,1.2s,mb5.3
ZRNK  Zerenda          51.42 314  eP      P          09 21 02.8  -0.4
      comp=Z,16nm,0.9s,mb4.9
ZRNK                              e       pP         09 21 11.4  -0.6
KKAR  Karatay Array    51.96 302  i P     P          09 21 07.2  -0.3
KKAR                               pmax    pmax
      comp=Z,9.0nm,0.6s,mb4.9
FITZ  Fitzroy Crossi   52.00 194  eP      P          09 21 06.1  -2.0
      comp=Z,4.6nm,0.6s,mb4.6
FITZ                              e       pP         09 21 15.6  -1.4
FITZ  Fitzroy Crossi   52.00 194   P      P          09 21 06.6  -1.5
      comp=Z,6.2nm,0.6s,mb4.8,baz=10,slow=7.6,SNR=16
RSO   Redoubt South    52.30  36  eP      P          09 21 09.6  -0.2
SPU   Mount Spurr      52.62  35  eP      P          09 21 11.8  -0.3
SPU                               e       pP         09 21 20.3  -0.6
WRAB  Tennant Creek    52.76 183  eP      P          09 21 10.6  -3.1
      comp=Z,16nm,0.8s,mb5.0
WRAB                              e       pP         09 21 20.4  -2.2
WB2   Warramunga Arr   52.77 183⇑iP      P          09 21 11.1  -2.7
WRA   Warramunga Arr   52.77 183   P      P          09 21 11.3  -2.5
      comp=Z,10nm,0.8s,mb4.8,baz=1.3,slow=7.6,SNR=74
WRA                                LR      LR         09 39 38.4
      comp=Z,89nm,21.4s,MS3.8,baz=335,slow=32
CTA   Charters Tower   53.61 169  eP      P          09 21 16.7  -3.3
      comp=Z,7.1nm,0.8s,mb4.7
CTA   Charters Tower   53.61 169   P      P          09 21 17.6  -2.4
      comp=Z,9.3nm,0.8s,mb4.8,baz=350,slow=8.8,SNR=6.6
CTA   Charters Tower   53.61 169   P      P          09 21 17.6  -2.4
CTA                                pmax    pmax
      comp=Z,9.0nm,0.8s
MCK   McKinley         53.97  32  eP      P          09 21 21.3  -0.7
      comp=Z,2.1nm,0.8s,mb4.1
PMR   Palmer           54.00  35  eP      P          09 21 21.4  -0.9
      comp=Z,21nm,1.1s,mb5.0
SML   Sawmill          54.37  34  eP      P          09 21 24.6  -0.4
HYB   Hyderabad        54.38 268  i P     P          09 21 24.5  -1.2
COLA  College          54.39  31 deP      P          09 21 26.0 +0.9
COLA  College          54.39  31  eP      P          09 21 25.8 +0.7
      comp=Z,8.1nm,0.9s,mb4.7
ILAR  Eielson Array    54.81  31   P      P          09 21 26.9  -1.3
      comp=Z,3.6nm,0.8s,mb4.5,baz=277,slow=5.9,SNR=62
ILAR                               LR      LR         09 45 22.5
      comp=Z,56nm,20.7s,MS3.6,baz=199,slow=36
ILAR  Eielson Array    54.81  31   P      P          09 21 26.9  -1.3
ILAR                               pmax    pmax
      comp=Z,4.0nm,0.8s
ILAR                               MLR     MLR
      comp=Z,57nm,20.7s
DIV   Divide           55.66  35  eP      P          09 21 34.4   0.0
      comp=Z,25nm,0.6s,mb5.4
EYAK  Cordova Ski Ar   55.74  36  eP      P          09 21 34.7  -0.3
EYAK                              e       pP         09 21 43.3  -0.6
ASAR  Alice Springs    56.49 183   P      P          09 21 39.1  -1.8
      comp=Z,4.6nm,0.7s,mb4.6,baz=10.0,slow=12,SNR=24
ASAR                               LR      LR         09 42 32.9
      comp=Z,74nm,19.3s,MS3.8,baz=142,slow=32
ASPA  Alice Springs    56.49 183⇑iP      P          09 21 37.9  -3.0
ARU   Arti             56.91 320⇓iP      P          09 21 42.8  -0.7
ARU                               e                  09 22 38.6
ARU                               e                  09 23 49.1
ARU                               eS      S          09 29 34.8 +1.3
ARU                               eSS     SS         09 33 25.1 +2.0
ARU                                pmax    pmax
      comp=Z,17nm,1.0s,mb5.0
AB31  Akbulak array    57.69 311  i P     P          09 21 48.0  -1.0
AB31                               pmax    pmax
      comp=Z,5.0nm,0.6s,mb4.7
DAWY  Dawson           58.12  31  eP      P          09 21 50.4  -1.4
DLBC  Dease Lake       64.02  36  eP      P          09 22 32.5 +0.8
FORT  Forrest          64.05 188  eP      P          09 22 30.7  -1.8
      comp=Z,76nm,0.7s,mb5.8
FORT                              e       pP         09 22 40.2  -1.3
ARMA  Armidale         64.67 166  eP      P          09 22 34.8  -1.7
STKA  Stephens Creek   64.75 176  eP      P          09 22 34.6  -2.4
      comp=Z,8.0nm,0.8s,mb4.8
STKA  Stephens Creek   64.75 176   P      P          09 22 34.9  -2.1
      comp=Z,9.3nm,0.7s,mb4.9,baz=333,slow=8.2,SNR=18
KEV   Kevo             65.81 339  ep      P          09 22 48.8 +5.6
      comp=Z,0.7nm,0.5s,mb4.0
KEV   Kevo             65.81 339  eP      P          09 22 48.8 +5.6
KEV                                pmax    pmax
      comp=Z,1.0nm,0.5s,mb4.1
ARCES ARCESS Array B   66.38 339   P      P          09 22 47.1 +0.3
      comp=Z,4.2nm,0.6s,mb4.7,baz=63,slow=8.9,SNR=16
ARCES                              pP      pP         09 22 55.6  -0.2
      comp=Z,3.2nm,0.5s,baz=51,slow=7.8,SNR=2.2
ARCES                              LR      LR         09 55 50.3
      comp=Z,167nm,18.6s,MS4.3,baz=180,slow=40
ARCES ARCESS Array B   66.38 339   P      P          09 22 47.1 +0.3
ARCES                              *PP     pP         09 22 55.6  -0.2
ARCES                              pmax    pmax
      comp=Z,4.0nm,0.6s
ARCES                              pmax    pmax
      comp=N,3.0nm,0.5s
ARCES                              MLR     MLR
      comp=Z,167nm,18.6s
OBN   Obninsk          69.02 323  eP      P          09 23 04.1 +0.5
OBN                                pmax    pmax
      comp=Z,9.0nm,0.6s,mb4.9
OBN                                MLR     MLR
      comp=Z,300nm,16.0s,MS4.6
YKA   Yellowknife Ar   69.07  28   P      P          09 23 03.5  -0.3
      comp=Z,41nm,1.3s,mb5.2,baz=296,slow=6.2,SNR=8.6
YKA                                LR      LR         09 54 14.4
      comp=Z,33nm,19.2s,MS3.6,baz=305,slow=37
YKA   Yellowknife Ar   69.07  28   P      P          09 23 03.5  -0.3
YKA                                pmax    pmax
      comp=Z,41nm,1.3s
YKA                                MLR     MLR
      comp=Z,33nm,19.2s
YKA   Yellowknife Ar   69.07  28   P      P          09 23 03.5  -0.3
YKA                                LR      LR         09 54 14.4
KAF   Kangasniemi      70.09 332  ep      P          09 23 08.9  -1.1
      comp=Z,0.4nm,0.3s,baz=47,slow=4.6
ZEI   Tsey             70.42 309  eP      P          09 23 14.0 +1.7
ZEI                                MLR     MLR
      comp=Z,200nm,16.0s,MS4.5
FINES FINESS Array B   70.56 332   P      P          09 23 12.9   0.0
      comp=Z,8.3nm,0.8s,mb4.7,baz=104,slow=7.9,SNR=16
FINES                              pP      pP         09 23 21.7  -0.1
      comp=Z,7.4nm,0.6s,baz=100,slow=12,SNR=7.7
FINES                              LR      LR         09 55 05.6
      comp=Z,74nm,18.2s,MS4.0,baz=5.1,slow=37
FINES FINESS Array B   70.56 332   P      P          09 23 12.9 +0.1
FINES                              *PP     pP         09 23 21.7  -0.2
FINES                              pmax    pmax
      comp=Z,8.0nm,0.8s
FINES                              pmax    pmax
      comp=N,7.0nm,0.6s
FINES                              MLR     MLR
      comp=Z,74nm,18.2s
TOO   Toolangi         70.73 173  eP      P          09 23 12.6  -1.8
      comp=Z,3.6nm,0.8s,mb4.3
MBW   Mount Baker      72.58  43   P      P          09 23 25.5 +0.4
SOC   Sochi            72.73 311  eP      P          09 23 27.3 +1.2
SOC                               e                  09 23 43.6
SOC                               e                  09 26 08.2
SOC                               ePPP    PPP        09 27 48.7  -4.0
SOC                               eS      S          09 32 48.7 +0.4
SOC                               e                  09 33 36.5
SOC                                pmax    pmax
      comp=N,78nm,1.0s
SOC                                pmax    pmax
      comp=Z,78nm,1.0s,mb5.6
SOC                                pmax    pmax
      comp=E,36nm,0.9s
SOC                                MLR     MLR
      comp=Z,207nm,18.0s,MS4.5
SOC                                MLR     MLR
      comp=N,159nm,19.0s,MS4.5
SOC                                MLR     MLR
      comp=E,134nm,16.0s,MS4.5
JCW   Jim Creek        72.86  43   P      P          09 23 27.6 +0.7
RPW   Rockport         72.97  43   P      P          09 23 27.7 +0.2
NLW   Nelson Butte     73.84  43  eP      P          09 23 33.3 +0.8
MIB   Mutribah         74.08 295  eP      P          09 23 34.4 +0.1
MIB                                AMb     AMB        09 23 43.8
      comp=Z,51nm,0.6s,mb5.6
QRN   Al-Qurain        74.15 294  eP      P          09 23 34.4  -0.3
QRN                                AMb     AMB        09 23 48.3
      comp=Z,53nm,1.3s,mb5.3
RDF   Al-Radifah       74.35 294  eP      P          09 23 35.2  -0.7
RDF                                AMb     AMB        09 23 45.0
      comp=Z,82nm,0.7s,mb5.8
RST   Umm Al-Ruwaisa   74.49 295  eP      P          09 23 35.7  -0.9
RST                                AMb     AMB        09 23 45.6
      comp=Z,54nm,0.6s,mb5.6
SUMG  Summit           74.59 359  eP      P          09 23 38.0 +1.6
      comp=Z,23nm,0.8s,mb5.2
SUMG                              e       pP         09 23 47.2 +1.7
AKASG Malin Array Be   75.10 321   P      P          09 23 39.3  -0.4
      comp=Z,5.1nm,0.6s,mb4.7,baz=46,slow=5.7,SNR=22
AKASG                              pP      pP         09 23 48.5  -0.4
      comp=Z,8.3nm,0.6s,baz=47,slow=6.2,SNR=13
AKASG Malin Array Be   75.10 321   P      P          09 23 39.3  -0.5
AKASG                              *PP     pP         09 23 48.5  -0.4
AKASG                              pmax    pmax
      comp=Z,5.0nm,0.6s
AKASG                              pmax    pmax
      comp=N,8.0nm,0.6s
DPW   Davenport        75.16  42  eP      P          09 23 40.6 +0.4
HAWA  Hanford          75.20  44  eP      P          09 23 40.7 +0.3
      comp=N,13nm,1.5s,mb4.7
HAWA                              e       pP         09 23 49.8 +0.3
NEW   Newport          75.56  42  eP      P          09 23 42.7 +0.3
      comp=N,8.4nm,1.1s,mb4.6
SUW   Suwalki          76.17 326  eP      P          09 23 44.9  -0.8
      comp=N,11nm,0.4s,mb5.1
MALT  Malatya          76.23 307  eP      P          09 23 47.2 +0.8
      comp=N,2.8nm,0.8s,mb4.2
MALT                              e       pP         09 23 56.4 +0.8
NB2   NORSAR Subarra   76.34 336   P      P          09 23 46.1  -0.5
      comp=N,8.6nm,0.8s,mb4.7,baz=44,slow=5.8
NOA   NORSAR Array B   76.34 336   P      P          09 23 46.3  -0.3
      comp=N,6.2nm,0.8s,mb4.6,baz=44,slow=5.6,SNR=16
NOA                                pP      pP         09 23 55.6  -0.1
      comp=N,6.8nm,0.8s,baz=45,slow=5.6,SNR=11
NOA                                LR      LR         10 01 43.7
      comp=N,40nm,19.0s,MS3.8,baz=30,slow=39
NOA   NORSAR Array B   76.34 336   P      P          09 23 46.3  -0.3
NOA                                *PP     pP         09 23 55.7   0.0
NOA                                pmax    pmax
      comp=Z,6.0nm,0.8s
NOA                                pmax    pmax
      comp=N,7.0nm,0.8s
NOA                                MLR     MLR
      comp=Z,40nm,19.0s
MOD   Modoc            77.15  48  eP      P          09 23 52.3 +0.8
      comp=Z,1.9nm,0.6s,mb4.2
WVOR  Wild Horse Val   77.90  47  eP      P          09 23 55.9 +0.4
      comp=Z,4.6nm,1.0s,mb4.4
ASMM  Slate Mountain   78.59  51  eP      P          09 23 58.5  -0.9
BRTR  Keskin Array B   78.62 310   P      P          09 24 00.2 +0.6
      comp=Z,4.9nm,0.9s,mb4.5,baz=72,slow=3.9,SNR=12
BRTR                               pP      pP         09 24 09.2 +0.5
      comp=Z,5.7nm,0.7s,baz=102,slow=5.0,SNR=13
BRTR  Keskin Array B   78.62 310   P      P          09 24 00.3 +0.7
BRTR                               *PP     pP         09 24 09.3 +0.5
BRTR                               pmax    pmax
      comp=Z,5.0nm,0.9s
BRTR                               pmax    pmax
      comp=N,6.0nm,0.7s
FFC   Flin Flon        79.02  30  eP      P          09 24 01.5   0.0
FFC                               e       pP         09 24 10.8 +0.2
BSD   Bornholm Skovb   79.10 330  i P     P          09 24 01.1  -0.8
      comp=N,17nm,0.8s,mb5.0
BSD                               i       pP         09 24 10.6  -0.5
KWP   Kalwaria         79.11 323  eP      P          09 24 02.7 +0.7
      comp=N,35nm,1.0s,mb5.2
KWP                               e       pP         09 24 12.0 +0.8
CMB   Columbia Colle   79.22  52  eP      P          09 24 03.1 +0.2
      comp=N,21nm,1.3s,mb4.9
HRY   Holter Researc   79.38  41  eP      P          09 24 04.3 +0.7
KOLS  Kolonicke sedl   79.77 322  eP      P          09 24 06.9 +1.3
KOLS                              esP     sP         09 24 10.6  -7.3
KOLS                              e       pP         09 24 15.4 +0.6
KOLS  Kolonicke sedl   79.77 322  eP      P          09 24 06.9 +1.3
KOLS                              e       pP         09 24 15.4 +0.6
HLID  Hailey           79.79  44  eP      P          09 24 06.3 +0.4
      comp=N,2.7nm,0.8s,mb4.2
HLID                              e       pP         09 24 15.2 +0.1
LCCM  Lewis and Clar   79.88  41   P      P          09 24 07.0 +0.7
MCMT  McKenzie Canyo   79.94  43   P      P          09 24 08.1 +1.4
BOZ   Bozeman (W)      80.14  41  eP      P          09 24 08.3 +0.7
      comp=N,3.6nm,0.8s,mb4.3
OJC   Ojcow            80.18 325⇑iP      P          09 24 08.2 +0.4
OJC                               i       pP         09 24 17.8 +0.8
OJC                               eS      S          09 34 12.4 +3.1
OJC                                MLR     MLR
      comp=Z,300nm,17.0s,MS4.7
MUD   Monsted U’grnd   80.42 334  i P     P          09 24 17.7 +8.8
      comp=Z,14nm,0.7s,mb5.0
MTUM  Tungsten Hills   80.79  51  eP      P          09 24 12.3 +1.0
OKC   Ostrava-Krasne   81.23 325  eP      P          09 24 13.9 +0.5
OKC                               e*PP    pP         09 24 23.5 +0.9
OKC                                MLR     MLR
      comp=Z,22µm,17.5s
TPH   Tonopah          81.25  50  eP      P          09 24 14.5 +0.7
      comp=Z,28nm,1.2s,mb5.1
KSP   Ksiaz            81.43 327  eP      P          09 24 15.0 +0.6
KSP                               e*PP    pP         09 24 24.0 +0.4
MORC  Moravsky Berou   81.56 325  eP      P          09 24 15.4 +0.3
      comp=Z,4.6nm,0.8s,mb4.5
MORC                              e       pP         09 24 23.6  -0.7
PSZ   Piszkesteto      81.64 323  eP      P          09 24 16.2 +0.8
      comp=Z,10nm,1.0s,mb4.7
DPC   Dobruska-Polom   81.75 326  eP      P          09 24 17.2 +1.1
DPC                               epP     pP         09 24 26.0 +0.7
VYHS  Vyhne            81.79 324  eP      P          09 24 17.5 +1.2
VYHS                              e       pP         09 24 26.7 +1.2
UPC   Upice            81.79 326  eP      P          09 24 16.9 +0.7
UPC                               epP     pP         09 24 26.5 +1.0
MOOW  Moose Ponds      81.80  43  eP      P          09 24 17.1 +0.7
HVU   Hansel Valley    81.83  45  eP      P          09 24 17.6 +1.0
TPAW  Teton Pass       81.84  43  eP      P          09 24 16.9 +0.2
WUWY  Wally Ulrich     81.93  43  eP      P          09 24 11.7  -5.4
SNOW  Snow King Moun   81.97  43  eP      P          09 24 19.1 +1.7
DAC   Darwin (Calif)   82.05  52  eP      P          09 24 18.2 +0.3
      comp=Z,5.6nm,0.7s,mb4.6
BGU   Big Grassy Mou   82.19  46  eP      P          09 24 19.2 +0.7
DGMT  Dagmar           82.23  36  eP      P          09 24 18.8 +0.2
      comp=Z,11nm,0.8s,mb4.8
PVCC  Panska Ves       82.44 327  eP      P          09 24 20.5 +0.9
PVCC                              epP     pP         09 24 29.7 +0.8
BRG   Berggiesshubel   82.48 328  eP      P          09 24 20.6 +0.8
BRG                               e       pP         09 24 29.6 +0.5
BRG                                pmax    pmax
      comp=Z,11nm,1.2s,mb4.7
BRG                                MLR     MLR
      comp=N,150nm,13.0s,MS4.8
BRG                                MLR     MLR
      comp=E,200nm,13.0s,MS4.8
BRG                                MLR     MLR
      comp=Z,420nm,17.2s,MS4.9
BRG   Berggiesshubel   82.48 328  eP      P          09 24 20.6 +0.8
      comp=Z,11nm,1.2s,mb4.7
BRG                               e       pP         09 24 29.6 +0.5
BRG                                LR      LR
      comp=Z,420nm,17.2s,MS4.9
TPNV  Topopah Spring   82.54  51  eP      P          09 24 21.2 +0.8
      comp=Z,11nm,0.8s,mb5.0
CLL   Collm            82.59 328 ⇑P      P          09 24 20.8 +0.4
      comp=Z,logA/T=1.3,mb5.1
CLL                               i *PP   pP         09 24 29.7 +0.1
CLL   Collm            82.59 328⇑iP      P          09 24 20.8 +0.4
CLL                               i *PP   pP         09 24 29.7 +0.1
CLL                                pmax    pmax
      comp=Z,28nm,1.3s,mb5.1
CLL                                MLR     MLR
      comp=Z,200nm,18.8s,MS4.5
CLL   Collm            82.59 328⇑iP      P          09 24 20.8 +0.4
      comp=Z,28nm,1.3s,mb5.1
CLL                               i pP    pP         09 24 29.7 +0.1
CLL                                LR      LR
      comp=Z,200nm,18.8s,MS4.5
HWUT  Hardware Ranch   82.65  45  eP      P          09 24 21.8 +0.9
      comp=Z,17nm,1.3s,mb4.9
DUG   Dugway           82.76  46  eP      P          09 24 22.7 +1.2
      comp=Z,20nm,1.4s,mb5.0
PRU   Pruhonice        82.83 327  eP      P          09 24 22.3 +0.6
PRU                               epP     pP         09 24 31.4 +0.5
TCUT  Toone Canyon     83.04  45  eP      P          09 24 23.4 +0.4
BW06  Boulder Array    83.09  43  eP      P          09 24 23.4 +0.3
      comp=Z,2.6nm,0.8s,mb4.3
PDAR  Pinedale Array   83.09  43   P      P          09 24 23.8 +0.6
      comp=Z,2.9nm,0.8s,mb4.3,baz=298,slow=4.1,SNR=27
PDAR                               pP      pP         09 24 33.2 +0.8
      comp=Z,2.3nm,0.8s,baz=300,slow=3.1,SNR=8.9
JLU   Jordanelle       83.34  45  eP      P          09 24 25.4 +1.0
NLU   North Lily Min   83.36  46  eP      P          09 24 25.7 +1.1
DAU   Daniels Canyon   83.57  45  eP      P          09 24 27.1 +1.5
DAU                               e       pP         09 24 37.1 +2.2
MPU   Maple Canyon     83.59  46  eP      P          09 24 27.1 +1.3
MPU                               e       pP         09 24 37.2 +2.2
MOX   Moxa             83.68 328  i P     P          09 24 26.4 +0.5
      comp=Z,logA/T=1.1,mb5.0
MOX   Moxa             83.68 328  eP      P          09 24 26.4 +0.5
MOX                                pmax    pmax
      comp=Z,18nm,1.3s,mb5.0
MOX   Moxa             83.68 328  eP      P          09 24 26.4 +0.5
      comp=Z,18nm,1.3s,mb5.0
KHC   Kasperske Hory   83.88 326  eP      P          09 24 28.0 +1.0
KHC                               epP     pP         09 24 36.7 +0.4
KHC                                x       x          09 25 07.0
KHC   Kasperske Hory   83.88 326  eP      P          09 24 28.0 +1.0
KHC                               epP     pP         09 24 36.7 +0.4
KHC                               e                  09 25 07.0
GERES GERESS Array B   84.03 326   P      P          09 24 28.5 +0.7
      comp=Z,5.6nm,0.7s,mb4.8,baz=63,slow=6.0,SNR=21
GERES                              pP      pP         09 24 37.4 +0.4
      comp=Z,9.2nm,0.7s,baz=45,slow=5.7,SNR=15
GERES GERESS Array B   84.03 326   P      P          09 24 28.5 +0.8
GERES                              *PP     pP         09 24 37.4 +0.4
GERES                              pmax    pmax
      comp=Z,6.0nm,0.7s
GERES                              pmax    pmax
      comp=N,9.0nm,0.7s
DIVS  Divcibare        84.09 320  eP      P          09 24 29.0 +0.8
MSU   Marysvale        84.18  47  eP      P          09 24 30.5 +1.8
MSU                               e       pP         09 24 39.7 +1.6
NEN   Nelson           84.22  51  eP      P          09 24 29.7 +0.7
NEN                               e       pP         09 24 39.8 +1.5
ARSA  Arzberg          84.27 324⇑iP      P          09 24 29.7 +0.7
      comp=N,9.4nm,1.3s,mb4.8
ARSA                              i       pP         09 24 38.9 +0.6
      comp=N,10nm,0.9s
PFO   Pinyon Flat Ob   84.36  53  eP      P          09 24 30.0 +0.2
      comp=N,27nm,1.0s,mb5.3
PFO                               e       pP         09 24 39.5 +0.4
LDFC  Landfair         84.39  52  eP      P          09 24 30.3 +0.4
MOA   Molln            84.46 325⇑iP      P          09 24 30.8 +0.8
      comp=N,8.2nm,1.1s,mb4.8
MOA                               i       pP         09 24 40.1 +0.9
      comp=N,14nm,1.1s
GRA1  Grafenberg Arr   84.55 328  eP      P          09 24 31.6 +1.3
      comp=N,43nm,1.1s,mb5.5
GRA1                              epP     pP         09 24 40.0 +0.4
GRF   Grafenberg Arr   84.55 328  eP      P          09 24 31.6 +1.3
GRF                               e*PP    pP         09 24 40.0 +0.4
GRF                                pmax    pmax
      comp=Z,43nm,1.1s,mb5.5
BAR   Barrett          84.76  54  eP      P          09 24 31.8   0.0
SRU   San Rafael       84.82  46  eP      P          09 24 32.8 +0.8
RSSD  Black Hills      85.25  39   P      P          09 24 35.4 +1.4
      comp=Z,2.1nm,0.7s,mb4.4
HGN   Heimansgroeve    85.99 331  eP      P          09 24 37.7 +0.2
      comp=Z,13nm,0.6s,mb5.4
HGN                               ex      x          09 24 46.9
PV10  Paradox Valley   86.19  46  eP      P          09 24 40.3 +1.5
PV10                              e       pP         09 24 49.5 +1.4
WUAZ  Wupatki          86.54  49  eP      P          09 24 41.9 +1.3
      comp=Z,16nm,1.0s,mb5.2
PV01  Paradox Valley   86.62  46  eP      P          09 24 42.1 +1.2
PV01                              e       pP         09 24 51.7 +1.5
CDF   Champ du Feu     87.23 329  eP      P          09 24 44.1 +0.5
ISCO  Idaho Springs    87.28  43  eP      P          09 24 45.6 +1.5
      comp=Z,11nm,1.3s,mb4.9
ISCO                              e       pP         09 24 55.0 +1.7
SDCO  Great Sand Dun   88.71  45  eP      P          09 24 52.3 +1.4
      comp=Z,39nm,1.8s,mb5.4
SDCO                              e       pP         09 25 01.5 +1.3
CABF  La Chapelle      89.13 329  eP      P          09 24 52.3  -0.5
LOR   Lormes           89.57 330  eP      P          09 24 54.3  -0.5
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LOR				eR			
	comp=Z,117nm,20.0s						
LPL	La Plagne	89.69	327	eP	P	09 24 55.3	-0.1
LPG	La Plagne	89.69	327	eP	P	09 24 55.4	0.0
	comp=Z,8.2nm,0.6s,mb5.0						
SSF	Saint Saulge	89.89	330	eP	P	09 24 55.8	-0.5
ANMO	Albuquerque	89.98	47	d iP	P	09 24 59.0	+1.9
ANMO	Albuquerque	89.98	47	eP	P	09 24 58.5	+1.4
	comp=Z,4.7nm,0.9s,mb4.8						
ANMO				e	pP	09 25 07.3	+1.0
BNI	Bardonecchia	90.07	327	eP	P	09 24 56.5	-0.7
SMF	Signal de Mont	90.07	330	eP	P	09 24 56.6	-0.6
	comp=Z,13nm,0.9s,mb5.0						
SCHQ	Schefferville	90.11	13	LR	LR	10 08 39.2	
	comp=Z,59nm,18.3s,MS4.0,baz=335,slow=38						
AVF	Avril sur Loir	90.16	330	eP	P	09 24 57.2	-0.4
TCF	Toulx Ste Croi	91.04	330	eP	P	09 25 01.5	-0.1
VIVF	Saint-Julien-l	91.12	328	eP	P	09 25 01.7	-0.3
SGMF	Saint Gilles	91.28	334	eP	P	09 25 02.7	0.0
ROSF	Rostrenen	91.47	335	eP	P	09 25 03.7	+0.1
MFF	Saint Martin d	91.74	332	eP	P	09 25 04.8	0.0
	comp=Z,28nm,1.1s,mb5.2						
RJF	Les Rejaudoux	92.12	330	eP	P	09 25 06.8	+0.2
RJF				eR			
	comp=Z,82nm,19.6s						
CAF	Calviac	92.19	330	eP	P	09 25 07.2	+0.2
LFF	La Frestale	92.74	330	eP	P	09 25 09.8	+0.3
WMOK	Wichita Mounta	94.70	43	eP	P	09 25 19.1	+0.3
	comp=Z,11nm,1.3s,mb5.1						
WMOK				e	pP	09 25 27.8	-0.2
LTX	Lajitas	95.50	50	eP	P	09 25 23.2	+0.6
	comp=Z,21nm,1.3s,mb5.4						
LTX				e	pP	09 25 32.6	+0.7
TXAR	Lajitas Array	95.50	50	P	P	09 25 23.6	+1.0
	comp=Z,7.4nm,0.8s,mb5.2,baz=294,slow=3.3,SNR=100						
TXAR				pP	pP	09 25 33.0	+1.1
	comp=Z,5.3nm,0.7s,baz=288,slow=3.5,SNR=18						
CCM	Cathedral Cave	96.26	36	eP	P	09 25 25.9	0.0
	comp=Z,8.5nm,0.8s,mb5.2						
CCM				e	pP	09 25 35.1	-0.1
JCT	Junction City	97.12	47	eP	P	09 25 29.9	0.0
	comp=Z,4.1nm,0.7s,mb5.0						
EVO	Evora	101.65	333	eP	P	09 25 49.8	-0.4
QSPA	South Pole Qui	122.82	180	ePKP	PKPdf	09 30 51.4	-5.0
QSPA				e		09 31 01.2	
QSPA				e		09 34 32.2	
DBIC	Dimbokro	126.32	310	PKP	PKPdf	09 31 00.8	-3.8
	comp=Z,3.9nm,0.8s,baz=185,slow=3.0,SNR=6.0						
DBIC	Dimbokro	126.32	310	PKIKP	PKPdf	09 31 00.9	-3.8
DBIC				pmax	pmax		
	comp=Z,4.0nm,0.8s						
VNA2	Neumayer--Watz	137.48	196	e	PKPdf	09 31 33.0	+8.8
SAML	Samuel	149.67	42	ePKPdf	PKPdf	09 31 42.9	-3.8
SAML				ePKPbc	PKPdf	09 31 47.2	+0.5
SAML				ePKPab	PKPab	09 31 52.7	-1.1
LPAZ	La Paz	151.90	60	PKPbc	PKPdf	09 31 53.9	+3.8
	comp=Z,2.7nm,0.5s,baz=309,slow=0.3,SNR=6.4						
LPAZ	La Paz	151.90	60	PKIKP	PKPdf	09 31 53.9	+3.9
LPAZ				pmax	pmax		
	comp=Z,3.0nm,0.5s						

NEIC 06 09:31:55.3, 41.41S × 173.34E, h99^{km}, ML3.9(WEL), After WEL., South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NNZ	Nelson	0.19	9	P	P	09 32 09.3	-0.1
NNZ				S	S	09 32 19.1	-0.9
THZ	Tophouse	0.48	223	P	P	09 32 10.8	-0.2
QRZ	Quartz Range	0.84	313	P	P	09 32 14.0	-0.3
KHZ	Kahutara	1.02	172	eP	P	09 32 15.7	-0.4
SNZO	South Karori	1.03	85	ePn	P	09 32 17.2	+0.9
SNZO				eSn	S	09 32 31.1	-0.9
MRW	Makara Radio	1.04	80	P	P	09 32 16.0	-0.4
MRW				S	S	09 32 30.4	-1.8
DSZ	Denniston Nort	1.20	253	P	P	09 32 17.6	-0.8
KIW	Kapiti Island	1.31	66	P	P	09 32 19.3	-0.2
CAW	Cannon Point	1.34	78	P	P	09 32 19.2	-0.7
LTZ	Lake Taylor	1.59	210	eP	P	09 32 22.2	-0.8
MTW	Mount Morrison	1.65	82	P	P	09 32 22.5	-1.3
MRZ	Mangatainoka R	1.85	67	eP	P	09 32 25.4	-1.0

WEL 06 09:32:36.8±0.4, **37.83S × 176.27E, h284^{km}**±4^{km}, **ML3.5**/4, **Error ellipse: s-maj=11.7km s-min=7.5km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	Urewera	0.79	123	PN	P	09 33 14.2	-0.4
URZ				SN	S	09 33 43.3	-1.1
MWZ	Matawai	1.11	117	PN	P	09 33 16.5	+0.3
MWZ				SN	S	09 33 46.9	-0.1
BKZ	Black Stump Fm	1.35	173	PN	P	09 33 17.6	0.0
BKZ				SN	S	09 33 48.9	-0.5
WNVZ	Wahianoa	1.59	199	ePN	P	09 33 19.4	+0.2
MXZ	Matakaoa Point	1.64	81	PN	P	09 33 19.4	-0.1
MXZ				SN	S	09 33 52.5	-0.4
TSZ	Takapari Road	2.24	186	PN	P	09 33 23.9	-0.5
MRZ	Mangatainoka R	2.88	191	PN	P	09 33 29.2	-1.3
MRZ				SN	S	09 34 11.3	-1.1
MTW	Mount Morrison	3.38	190	ePN	P	09 33 33.9	-1.9
CAW	Cannon Point	3.40	195	PN	P	09 33 34.2	-1.8
MRW	Makara Radio	3.60	199	ePN	P	09 33 36.1	-2.1
TUWZ	Tuamarina	4.02	206	ePN	P	09 33 40.5	-2.4
TUWZ				SN	S	09 34 27.9	-6.5
NNZ	Nelson	4.05	213	PN	P	09 33 40.3	-2.9
NNZ				SN	S	09 34 31.5	-3.7
QRZ	Quartz Range	4.17	223	ePN	P	09 33 40.6	-4.0
THZ	Tophouse	4.71	212	PN	P	09 33 47.6	-3.2
THZ				SN	S	09 34 45.5	-3.1
KHZ	Kahutara	5.04	204	PN	P	09 33 52.5	-2.2
LTZ	Lake Taylor	5.81	210	ePN	P	09 34 00.4	-3.6
JCZ	Jackson Bay	8.44	220	PN	P	09 34 31.5	-4.9

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*IDC **06** 09:40:51.8±10.0, 33.47N × 136.88E, mb3.5/4, mb1 3.6/4, mb1mx3.5/19, Error ellipse: s-maj=435.0km s-min=24.0km az=63.0*

*JMA **06** 09:40:52.2, 33.36N × 136.90E, h37^{km}±3^{km}, M3.2*

ISC 06 09:40:52.5±0.8, **33.43N**±0.05 × **136.87E**±0.03, **h22**^{km}±6^{km}, **n17,** $\sigma 0\overset{s}{.}$**60**/26, **mb3.4**/4, **1C-2D, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TK01	Tokai 1	0.69	60	P	Pb	09 41 05.5	-0.3
TK01				S	Sb	09 41 15.4	+0.6
TK02	Tokai 2	0.90	55	⇓P	Pb	09 41 08.7	-0.7
TK02				S	Sb	09 41 21.3	+0.3
JKN	Kiinagashima	0.96	329	P	Pb	09 41 10.5	+0.1
JKN				S	Sb	09 41 23.1	+0.3
JWZ	Kozaga	0.97	277	⇑P	Pb	09 41 10.2	-0.4
JWZ				S	Sb	09 41 22.8	-0.2
JIE	Ise	0.97	352	P	Pb	09 41 11.1	+0.5
JIE				S	Sb	09 41 23.8	+0.8
TK03	Tokai 3	1.17	51	S	Sb	09 41 28.0	-0.7
JAA	Atsumi	1.23	11	⇓P	Pn	09 41 14.3	-0.3
TK04	Tokai 4	1.27	41	S	Sb	09 41 31.2	-0.4
JWY	Kouya	1.33	307	P	Pn	09 41 16.1	+0.1
JWY				S	Sn	09 41 33.0	-0.1
JWM	Minabe	1.33	289	P	Pn	09 41 15.8	-0.3
JWM				S	Sn	09 41 32.5	-0.8
TSUJ	Tsu 2	1.33	344	P	Pn	09 41 16.3	+0.2
JHE	Heguri	1.57	322	P	Pn	09 41 19.7	+0.2
JHE				S	Sn	09 41 39.1	-0.3
MAT	Matsushiro	3.30	19	P	Pn	09 41 44.2	0.0
MAT				S	Sn	09 42 22.7	-0.4
SONM	Songino Array	27.03	311	P	P	09 46 34.9	0.0
	0.6nm,0.7s,mb3.2,baz=121,slow=8.4,SNR=3.3						
MKAR	Makanchi Array	43.00	305	P	P	09 48 53.0	+1.2
	1.0nm,0.7s,mb3.7,baz=93,slow=10.0,SNR=8.1						
WRA	Warramunga Arr	53.12	183	P	P	09 50 10.0	-1.0
	0.3nm,0.5s,mb3.5,baz=360,slow=7.8,SNR=6.3						
ASAR	Alice Springs	56.84	183	P	P	09 50 39.8	+1.8
	0.3nm,0.9s,mb3.3,baz=9.5,slow=11,SNR=3.7						

IDC 06 09:44:20.2±7.1, **4.69N × 76.61W, h106**^{km}±76^{km}, **mb2.9**/1, **mb1 3.5**/2, **mb1mx3.2**/16, **ML2.9**/1, **Error ellipse: s-maj=101.0km s-min=41.6km az=39.0, Colombia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ROSC	El Rosal	2.28	86	P	P	09 44 56.8	-0.5
	60nm,0.3s,baz=294,slow=20,SNR=187						
ROSC				S	S	09 45 26.1	+1.0
	42nm,0.3s,baz=66,slow=21,SNR=7.5						
TXAR	Lajitas Array	35.45	317	P	P	09 51 06.6	-1.6
	0.3nm,0.7s,baz=128,slow=9.8,SNR=4.4						
WRA	Warramunga Arr	146.27	241	PKPbc	PKPbc	10 03 48.6	-0.7
	0.4nm,0.8s,baz=106,slow=2.6,SNR=7.2						

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*NEIC **06** 10:06:30.4±1.1, 3.31S × 140.89E, h10^{km}, mb4.3/4, Error ellipse: s-maj=39.4km s-min=8.4km az=97.0*

*IDC **06** 10:06:32.4±1.9, 3.26S × 139.84E, mb4.0/5, mb1 4.3/6, mb1mx4.2/9, ML4.1/1, Error ellipse: s-maj=73.4km s-min=13.8km az=93.0*

ISC 06 10:06:29.6±3.1, **3.33S**±0.08 × **140.8E**±0.2, **h14**^{km}±22^{km}, **n14,** $\sigma 0\overset{s}{.}$**92**/17, **mb4.0**/7, **Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	Kakadu	12.47	221	eP	P	10 09 28.3	-1.4
	35nm,0.5s						
KAKA				eS	S	10 11 49.3	-0.1
WRAB	Tennant Creek	17.66	200	eP	P	10 10 37.9	+1.0
	47nm,0.9s						
WB2	Warramunga Arr	17.67	200	eP	P	10 10 37.2	+0.2
WRA	Warramunga Arr	17.67	200	P	P	10 10 37.6	+0.5
	0.7nm,0.3s,baz=24,slow=12,SNR=45						
WRA				S	S	10 13 50.4	-1.1
	0.1nm,0.3s,baz=15,slow=23,SNR=4.0						
FITZ	Fitzroy Crossi	20.88	224	eP	P	10 11 14.9	+1.0
	6.2nm,0.7s						
FITZ	Fitzroy Crossi	20.88	224	S	S	10 15 04.1	+2.7
	4.0nm,0.9s,baz=178,slow=13,SNR=3.3						
ASAR	Alice Springs	21.29	198	P	P	10 11 17.4	-0.7
	8.3nm,0.7s,mb4.2,baz=30,slow=8.8,SNR=36						
ASAR				S	S	10 15 16.9	+7.8
	2.7nm,1.1s,baz=12,slow=27,SNR=3.4						
ASPA	Alice Springs	21.29	198	eP	P	10 11 17.8	-0.2
STKA	Stephens Creek	28.41	179	P	P	10 12 30.3	+4.5
	2.9nm,0.8s,mb4.0,baz=350,slow=6.1,SNR=3.7						
SONM	Songino Array	59.18	334	P	P	10 16 32.6	+0.2
	0.8nm,1.0s,mb3.7,baz=153,slow=6.4,SNR=4.0						
MKAR	Makanchi Array	71.55	322	P	P	10 17 51.5	-0.7
	1.2nm,1.0s,mb3.8,baz=101,slow=7.3,SNR=6.1						
BVAR	Borovoye Array	81.01	325	P	P	10 18 45.4	+0.1
	0.9nm,0.6s,mb3.9,baz=108,slow=4.6,SNR=6.7						
BRVK	Borovoye	81.08	325	eP	P	10 18 45.1	-0.6
	4.1nm,1.0s,mb4.3						
ZRNK	Zerenda	81.79	324	eP	P	10 18 49.8	+0.4
	1.9nm,0.8s,mb4.1						

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*NEIC **06** 10:12:42.3±0.4, 3.22S × 140.88E, h10^{km}, mb4.5/4, Error ellipse: s-maj=15.2km s-min=7.0km az=102.0*

*IDC **06** 10:12:45.0±5.7, 3.26S × 140.84E, h24^{km}±36^{km}, mb4.2/8, mb1 4.4/9, mb1mx4.2/13, ML4.3/1, MS3.4/4, Ms1 3.4/4, ms1mx3.2/15, Error ellipse: s-maj=30.9km s-min=13.8km az=97.0*

ISC 06 10:12:47.9±3.2, **3.37S**±0.09 × **140.7E**±0.1, **h67**^{km}±30^{km}, **n26,** $\sigma 0\overset{s}{.}$**89**/20, **mb4.2**/10, **Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	Kakadu	12.36	221	eP	P	10 15 41.3	-1.6
	30nm,0.6s						
KAKA				eS	S	10 17 58.9	-0.6
CTA	Charters Tower	17.50	162	LR	LR	10 23 28.9	
	comp=Z,73nm,19.3s,baz=13,slow=37						
WRAB	Tennant Creek	17.58	200	eP	P	10 16 50.8	+0.8
	133nm,1.2s						
WRAB				eS	S	10 19 59.3	-1.7
WB2	Warramunga Arr	17.59	200	eP	P	10 16 50.8	+0.7
WRA	Warramunga Arr	17.59	200	P	P	10 16 50.4	+0.2
	1.1nm,0.3s,baz=24,slow=12,SNR=23						
WRA				LR	LR	10 23 42.5	
	comp=Z,169nm,19.7s,baz=15,slow=37						
FITZ	Fitzroy Crossi	20.76	224	P	P	10 17 26.3	+0.8
	8.8nm,0.9s,baz=104,slow=4.2,SNR=4.4						
FITZ				LR	LR	10 26 26.2	
	comp=Z,86nm,18.6s,baz=70,slow=39						
ASAR	Alice Springs	21.21	197	P	P	10 17 30.4	+0.3
	9.4nm,0.7s,mb4.2,baz=32,slow=9.6,SNR=38						
ASAR				S	S	10 21 27.6	+11
	2.0nm,0.9s,baz=15,slow=28,SNR=2.8						
ASAR				LR	LR	10 25 32.6	
	comp=Z,119nm,19.4s,baz=24,slow=36						
ASPA	Alice Springs	21.21	197	eP	P	10 17 30.0	-0.1
MBWA	Marble Bar	26.96	227	eP	P	10 18 27.2	+1.8
	11nm,1.0s,mb4.3						
ASAJ	Asahikawa	47.30	2	P	P	10 21 15.2	-1.4
	12nm,1.1s,mb4.5,baz=263,slow=12,SNR=4.3						
RPZ	Rata Peaks	48.36	151	P	P	10 21 24.9	+0.1
	13nm,0.9s,mb4.7,baz=7.7,slow=15,SNR=3.2						
SONM	Songino Array	59.15	334	P	P	10 22 44.0	+0.1
	0.9nm,1.0s,mb3.8,baz=129,slow=7.9,SNR=4.1						
MKAR	Makanchi Array	71.49	322	P	P	10 24 03.9	+0.6
	3.1nm,0.9s,mb4.1,baz=117,slow=8.1,SNR=5.7						
MKAR	Makanchi Array	71.49	322	P	P	10 24 03.9	+0.6
BVAR	Borovoye Array	80.96	325	P	P	10 24 57.2	+0.6
	3.3nm,0.9s,mb4.2,baz=101,slow=7.6,SNR=8.4						
BRVK	Borovoye	81.03	325	eP	P	10 24 57.1	+0.1
	5.0nm,1.1s,mb4.3						
ZRNK	Zerenda	81.73	325	eP	P	10 25 00.2	-0.4
	4.6nm,1.0s,mb4.3						
ILAR	Eielson Array	85.63	24	P	P	10 25 19.0	-1.0
	2.5nm,1.1s,mb4.1,baz=246,slow=5.1,SNR=12						
KIC	Kosan Boka	145.40	276	eP	PKPdf	10 32 25.9	+6.6
	82nm,1.2s						
DBIC	Dimbokro	145.49	277	PKPbc	PKPbc	10 32 24.0	+3.9
	4.5nm,0.9s,baz=209,slow=2.9,SNR=4.4						
DBIC	Dimbokro	145.49	277	PKPbc	PKPbc	10 32 24.0	+3.9
LPAZ	La Paz	145.49	125	PKPbc	PKPbc	10 32 22.7	+2.7
	7.6nm,0.8s,baz=281,slow=1.5,SNR=14						
LPAZ	La Paz	145.49	125	PKPbc	PKPbc	10 32 22.7	+2.7
TIC	Toumodi	145.66	277	eP	PKPdf	10 32 23.7	+4.0
	13nm,0.2s						
LIC	Lamto	145.69	276	eP	PKPdf	10 32 26.9	+7.1
	96nm,2.2s						
CPUP	Villa Florida	145.73	151	PKPbc	PKPbc	10 32 22.1	+1.7
	3.1nm,0.9s,baz=264,slow=2.5,SNR=5.2						

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*NEIC **06** 10:13:47.5, 37.69S × 177.34E, h119^{km}, After WEL.*

WEL 06 10:13:47.5±0.2, **37.70S × 177.35E, h121**^{km}±2^{km}, **ML4.0**/5, **1C-5D, Error ellipse: s-maj=1.5km s-min=1.5km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	Urewera	0.59	198	⇓PN	P	10 14 05.9	-0.3
URZ				SN	S	10 14 19.7	-0.8
URZ	Urewera	0.59	198	P	P	10 14 05.9	-0.3
MARZ	Manawahe	0.61	241	PN	P	10 14 05.9	-0.4
EDRZ	Edgecumbe	0.64	229	PN	P	10 14 06.7	+0.2
EDRZ	Edgecumbe	0.64	229	P	P	10 14 06.8	+0.3
MWZ	Matawai	0.66	168	⇓PN	P	10 14 06.6	0.0
MWZ				SN	S	10 14 21.3	+0.1
MXZ	Matakaoa Point	0.77	81	PN	P	10 14 07.4	-0.2
MXZ				SN	S	10 14 22.9	+0.1
MXZ	Matakaoa Point	0.77	81	P	P	10 14 07.4	-0.2
PUZ	Puketiti	0.81	118	⇑PN	P	10 14 07.7	-0.3
PUZ				SN	S	10 14 22.2	-1.2
PUZ	Puketiti	0.81	118	P	P	10 14 07.7	-0.3
PUZ				S	S	10 14 22.2	-1.2
TAZ	Tarawera	0.85	231	PN	P	10 14 08.8	+0.4
TAZ	Tarawera	0.85	231	P	P	10 14 08.8	+0.4
PATZ	Paeroa	1.10	231	PN	P	10 14 10.9	+0.1
KNZ	Kokohu	1.35	169	⇓PN	P	10 14 13.1	-0.5
KNZ				SN	S	10 14 33.0	-0.5
KNZ	Kokohu	1.35	169	P	P	10 14 13.1	-0.5
KNZ				S	S	10 14 33.0	-0.5
KUZ	Kuaotunu	1.61	306	⇓PN	P	10 14 16.0	-0.6
KUZ	Kuaotunu	1.61	306	P	P	10 14 16.0	-0.6
BKZ	Black Stump Fm	1.62	204	PN	P	10 14 15.7	-1.0
BKZ				SN	S	10 14 38.1	-0.8
BKZ	Black Stump Fm	1.62	204	P	P	10 14 15.7	-1.0
MGZ	Maungaku	1.93	227	PN	P	10 14 20.4	-0.1
NGZ	Ngauruhoe	2.02	222	PN	P	10 14 21.2	-0.4
NGZ	Ngauruhoe	2.02	222	P	P	10 14 21.4	-0.2
TUVZ	Tukino	2.06	220	PN	P	10 14 21.5	-0.7
TUVZ	Tukino	2.06	220	P	P	10 14 21.4	-0.8
CNZ	Chateau	2.06	223	PN	P	10 14 22.1	-0.1
CNZ	Chateau	2.06	223	P	P	10 14 22.1	-0.1
WPVZ	Whakapapa	2.07	223	ePN	P	10 14 21.9	-0.4
OTAZ	Otara	2.07	290	ePN	P	10 14 22.4	+0.1
OTAZ	Otara	2.07	290	P	P	10 14 23.2	+0.9
FWVZ	Far West T-bar	2.10	222	PN	P	10 14 22.1	-0.6
FWVZ	Far West T-bar	2.10	222	eP	P	10 14 22.1	-0.6
MOVZ	Moawhango	2.12	216	ePN	P	10 14 21.5	-1.4
MOVZ				SN	S	10 14 47.8	-1.9
WNVZ	Wahianoa	2.13	220	PN	P	10 14 22.1	-1.0
WNVZ				SN	S	10 14 49.0	-1.0
MTAZ	Motutapu	2.15	294	PN	P	10 14 23.7	+0.4
MTAZ	Motutapu	2.15	294	P	P	10 14 23.7	+0.4
PWZ	Pawanui	2.36	189	PN	P	10 14 23.9	-2.2
PWZ				SN	S	10 14 52.8	-2.7
PWZ	Pawanui	2.36	189	P	P	10 14 24.1	-2.1
TSZ	Takapari Road	2.60	204	⇓PN	P	10 14 26.7	-2.6
TSZ				SN	S	10 14 58.5	-2.5
TSZ	Takapari Road	2.60	204	eP	P	10 14 26.7	-2.6
WAZ	Wanganui	2.77	221	PN	P	10 14 30.2	-1.4
WAZ	Wanganui	2.77	221	eP	P	10 14 30.4	-1.2
BFZ	Birch Farm	3.10	196	PN	P	10 14 32.7	-3.3
BFZ				SN	S	10 15 09.1	-3.8
BFZ	Birch Farm	3.10	196	eP	P	10 14 32.7	-3.4
MRZ	Mangatainoka R	3.27	204	PN	P	10 14 34.2	-4.0
MRZ				SN	S	10 15 12.0	-4.9
MRZ	Mangatainoka R	3.27	204	eP	P	10 14 34.6	-3.6
KIW	Kapiti Island	3.69	210	PN	P	10 14 40.1	-3.8
KIW				eSN	S	10 15 21.3	-5.7
KIW	Kapiti Island	3.69	210	P	P	10 14 40.1	-3.8
MTW	Mount Morrison	3.74	202	PN	P	10 14 40.3	-4.4
MTW				eSN	S	10 15 22.1	-6.2
MTW	Mount Morrison	3.74	202	P	P	10 14 40.3	-4.3
CAW	Cannon Point	3.84	207	PN	P	10 14 41.7	-4.2
PAWZ	Paruwai Farm	3.97	201	PN	P	10 14 42.7	-5.0
SNZO	South Karori	4.15	209	PN	P	10 14 44.9	-5.2
SNZO	South Karori	4.15	209	eP	P	10 14 45.3	-4.8
NNZ	Nelson	4.67	220	PN	P	10 14 52.9	-4.2
NNZ				SN	S	10 15 45.2	-5.5
NNZ	Nelson	4.67	220	eP	P	10 14 53.6	-3.5
QRZ	Quartz Range	4.88	229	PN	P	10 14 55.4	-4.5
QRZ				SN	S	10 15 49.6	-6.0
QRZ	Quartz Range	4.88	229	eP	P	10 14 55.6	-4.3
THZ	Tophouse	5.32	219	PN	P	10 15 00.4	-5.3
THZ				SN	S	10 16 00.3	-6.0
THZ	Tophouse	5.32	219	eP	P	10 15 00.9	-4.9
KHZ	Kahutara	5.55	211	PN	P	10 15 03.4	-5.5
KHZ	Kahutara	5.55	211	eP	P	10 15 04.7	-4.2
LTZ	Lake Taylor	6.40	216	PN	P	10 15 14.8	-5.7
LTZ				SN	S	10 16 23.8	-8.8
LTZ	Lake Taylor	6.40	216	eP	P	10 15 14.8	-5.7
ODZ	Otahua Downs	8.90	212	ePN	P	10 15 45.2	-9.1

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*IDC **06** 10:18:22.7±1.4, 9.19N × 126.79E, mb4.1/7, mb1 4.2/7, mb1mx4.0/17, MS3.0/1, Ms1 3.3/1, ms1mx2.7/22, Error ellipse: s-maj=106.0km s-min=16.6km az=70.0*

ISC 06 10:18:24.6±1.4, **9.15N**±0.04 × **126.88E**±0.05, **h20**^{km}±10^{km}, **n24,** $\sigma 1\overset{s}{.}$**20**/30, **mb4.0**/7, **MS2.9**/1, **3C-2D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BIPH	Bislig	1.09	208	⇑eP	Pb	10 18 44.4	-0.1
BIPH				eS	Sb	10 18 56.7	-1.6
BUTP	Butuan	1.26	262	eP	Pn	10 18 45.7	-1.5
BUTP				eS	Sb	10 19 01.9	-1.3
SCPH	Surigao	1.51	295	⇑eP	Pn	10 18 50.7	-0.3
SCPH				eS	Sn	10 19 10.2	0.0
BUKP	Musuan	2.20	235	eP	Pn	10 19 02.3	+1.5
MSLP	Maasin	2.22	296	eP	Pn	10 19 02.3	+1.2
MATI	Mati	2.27	196	eP	Pn	10 19 04.0	+2.2
PLP	Palo	2.75	317	eP	Pn	10 19 10.0	+1.5
PLP				iS	Sn	10 19 46.6	+5.1
KCP	Kidapawan	2.77	220	⇓eP	Pn	10 19 10.1	+1.3
KCP				iS	Sn	10 19 44.3	+2.2
BESP	Borongan	2.82	330	eP	Pn	10 19 10.9	+1.2
TBP	Tagbilaran	3.03	281	eP	Pn	10 19 12.1	-0.5
TBP				eS	Sn	10 19 48.8	+0.1
LLP	Lapu-Lapu	3.10	292	eP	Pn	10 19 12.5	-1.1
DCPH	Dipolog City	3.53	261	⇑iP	Pn	10 19 19.1	-0.6
DCPH				eS	Sn	10 20 00.2	-1.2
SNPH	Sibulan	3.60	273	eP	Pn	10 19 22.0	+1.2
PAGZ	Pagadian	3.69	250	eP	Pn	10 19 23.2	+1.2
CNP	Catarman	3.99	327	eP	Pn	10 19 26.4	+0.1
RCP	Roxas	4.72	301	⇓eP	Pn	10 19 38.1	+1.4
FITZ	Fitzroy Crossi	27.10	183	P	P	10 24 07.8	-0.6
	33nm,1.3s,mb4.7,baz=321,slow=3.3,SNR=4.5						
CMAR	Chiang Mai Arr	28.63	292	LR	LR	10 35 11.7	
	comp=Z,35nm,21.1s,MS2.9,baz=140,slow=35						
WRA	Warramunga Arr	29.82	166	P	P	10 24 31.9	-1.1
	1.4nm,0.7s,mb3.8,baz=347,slow=9.2,SNR=7.7						
ASAR	Alice Springs	33.33	168	P	P	10 25 02.8	-0.9
	0.8nm,0.6s,mb3.8,baz=354,slow=6.5,SNR=15						
SONM	Songino Array	42.28	339	P	P	10 26 17.7	-0.8
	0.3nm,0.4s,mb3.2,baz=142,slow=7.0,SNR=4.5						
STKA	Stephens Creek	43.15	162	P	P	10 26 26.4	+0.5
	4.7nm,1.1s,mb4.1,baz=327,slow=17,SNR=2.0						
MKAR	Makanchi Array	53.28	323	P	P	10 27 42.6	-1.8
	1.7nm,0.5s,mb4.2,baz=125,slow=8.1,SNR=16						
BVAR	Borovoye Array	62.93	326	P	P	10 28 50.1	-1.8
	0.6nm,0.5s,mb4.0,baz=129,slow=9.2,SNR=4.5						

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*DJA **06** 10:28:51.6±0.9, 10.63S × 119.20E, h2^{km}, MD5.1/6, ML5.6/5, Error ellipse: s-maj=21.9km s-min=7.5km az=162.0*

*BJI **06** 10:28:55.9, 10.32S × 119.54E, h33^{km}, mB4.9, mb5.0, Ms4.7, Msz4.2*

*NEIC **06** 10:28:58.6±0.2, 9.99S × 118.83E, h10^{km}, mb4.8/15, Error ellipse: s-maj=10.1km s-min=5.8km az=50.0*

*IDC **06** 10:28:59.3±0.5, 9.73S × 119.04E, h16^{km}±3^{km}, mb4.5/11, mb1 4.6/14, mb1mx4.5/17, ML4.6/3, MS3.4/5, Ms1 3.4/5, ms1mx3.2/17, Error ellipse: s-maj=22.8km s-min=13.4km az=60.0*

*SYO **06** 10:29:00.2, 9.69S × 118.79E, h15^{km}, MB4.8*

ISC 06 10:28:56.1±1.7, **9.92S**±0.04 × **119.05E**±0.04, **h12**^{km}±10^{km}, **h19**^{km}±1.6^{km}**:pP-P, n108,** $\sigma 1\overset{s}{.}$**34**/76, **mb4.8**/33, **MS3.9**/5, **12C-6D, Sumba region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KEDI	Kedomdong	3.23	296	⇓ePn	Pn	10 29 48.5	+0.8
	540nm,0.3s						
KEDI				⇓iSn	Sn	10 30 32.0	+5.5
RATI	Rata	3.67	289	⇓ePn	Pn	10 29 53.7	-0.2
	5µm,0.6s						
RATI				⇑iSn	Sn	10 30 38.1	+0.5
INGI	Ingas	4.00	286	ePn	Pn	10 29 58.1	-0.6
	3µm,0.4s						
INGI				⇓iSn	Sn	10 30 46.9	+0.8
KELI	Kelakatan	4.81	290	⇑ePn	Pn	10 30 09.2	-0.9
	212nm,0.3s						
KELI				⇓iSn	Sn	10 31 05.3	-1.1
NINI	Niniconang	5.51	7	⇑ePn	Pn	10 30 23.8	+3.8
NINI				⇑iSn	Sn	10 31 25.9	+1.9
TANI	Tanete Lipujan	6.45	3	⇑ePn	Pn	10 30 37.0	+3.7
	113nm,0.2s						
FITZ	Fitzroy Crossi	10.34	143	eP	P	10 31 26.0	-1.5
	21nm,0.6s						
FITZ				eS	S	10 33 15.5	-8.9
FITZ	Fitzroy Crossi	10.34	143	Pn	P	10 31 26.7	-0.8
	5.2nm,0.3s,baz=346,slow=9.7,SNR=130						
FITZ				Sn	S	10 33 18.2	-6.1
	5.1nm,0.3s,baz=186,slow=17,SNR=6.1						
FITZ				LR	LR	10 35 23.2	
	comp=Z,119nm,21.7s,baz=306,slow=37						
MBWA	Marble Bar	11.19	177	ePn	P	10 31 35.9	-3.3
	15nm,0.5s						
MBWA				eS	S	10 33 29.9	-15
KAKA	Kakadu	13.38	103	eP	P	10 32 08.6	+0.1
	25nm,0.3s						
KAKA				eS	S	10 34 37.8	-0.4
WRA	Warramunga Arr	17.80	126	P	P	10 33 04.4	-1.1
	1.7nm,0.3s,baz=299,slow=14,SNR=94						
WRA				S	S	10 36 15.5	-6.1
	0.9nm,0.3s,baz=305,slow=23,SNR=4.9						
WRA				LR	LR	10 40 22.8	
	comp=Z,136nm,19.6s,baz=210,slow=38						
WRAB	Tennant Creek	17.81	126	eP	P	10 33 04.8	-0.8
	29nm,0.6s						
WB2	Warramunga Arr	17.81	126	eP	P	10 33 04.7	-1.0

WB2				*e*S	**S**	**10 36 13.5**	**-8.3**
ASPA	**Alice Springs**	**19.70**	**136**	⇑*i*P	**P**	**10 33 29.2**	**+0.9**
ASPA				*e*S	**S**	**10 37 02.4**	**-1.7**
ASAR	**Alice Springs**	**19.70**	**136**	P	**P**	**10 33 29.2**	**+1.0**
	2.4nm,0.3s,baz=313,slow=10,SNR=305						
ASAR				S	**S**	**10 37 03.0**	**-1.2**
	0.6nm,0.3s,baz=312,slow=24,SNR=5.8						
ASAR				LR	LR	10 41 07.7	
	comp=Z,81nm,18.5s,baz=303,slow=37						
FORT	**Forrest**	**22.38**	**159**	*e*P	**P**	**10 33 57.7**	**+1.9**
	47nm,0.6s,mb5.1						
FORT				*e*S	**S**	**10 38 00.8**	**+4.3**
NWAO	**Narrogin (SRO)**	**22.96**	**184**	LR	LR	10 43 13.0	
	comp=Z,121nm,20.2s,MS3.3,baz=305,slow=37						
NWAO	**Narrogin (SRO)**	**22.96**	**184**	P	**P**	**10 34 01.0**	**-0.6**
CTA	**Charters Tower**	**28.11**	**114**	P	**P**	**10 34 52.1**	**+2.0**
	3.1nm,0.7s,mb4.0,baz=284,slow=8.3,SNR=3.8						
CTA				LR	LR	10 46 32.0	
	comp=Z,113nm,21.2s,MS3.4,baz=227,slow=37						
CTAO	**Charters Tower**	**28.11**	**114**	P	**P**	**10 34 52.1**	**+2.0**
STKA	**Stephens Creek**	**30.22**	**140**	*e*P	**P**	**10 35 10.1**	**+1.2**
	6.9nm,0.6s,mb4.6						
STKA	**Stephens Creek**	**30.22**	**140**	P	**P**	**10 35 10.4**	**+1.5**
	7.0nm,0.5s,mb4.6,baz=311,slow=8.4,SNR=33						
TOO	**Toolangi**	**36.40**	**143**	⇑*i*P	**P**	**10 36 05.3**	**+2.9**
	8.5nm,0.6s,mb4.8						
ARMA	**Armidale**	**36.55**	**129**	*e*P	**P**	**10 36 07.1**	**+3.4**
KMI	**Kunming**	**38.29**	**336**	*e*P	**P**	**10 36 20.2**	**+1.8**
KMI				AP	pP	10 36 27.8	+5.8
ENH	**Enshi**	**41.01**	**347**	*e*P	**P**	**10 36 41.4**	**+0.5**
	11nm,0.6s,mb4.7						
CD2	**Chengdu**	**43.17**	**341**	*e*P	**P**	**10 36 59.0**	**+0.4**
CD2				AMB	AMB		
	comp=Z,30nm,0.5s,mb5.3						
SHL	**Shillong**	**44.09**	**324**	*e*P	**P**	**10 37 04.0**	**-2.2**
XAN	**Xi’an**	**44.76**	**348**	P	**P**	**10 37 10.7**	**-0.8**
XAN				AP	pP	10 37 18.6	+3.4
XAN				AMB	AMB		
	comp=Z,5.0nm,0.5s,mb4.6						
PKI	**Pulchoki**	**49.51**	**320**	*e*P	**P**	**10 37 46.9**	**-1.9**
	comp=Z,8.7nm,0.4s,mb5.1						
DMN	**Daman**	**49.73**	**320**	*e*P	**P**	**10 37 48.7**	**-1.8**
	comp=Z,10nm,0.4s,mb5.2						
KKN	**Kakani**	**49.74**	**320**	*e*P	**P**	**10 37 49.6**	**-1.0**
BJT	**Baijiatuau**	**49.76**	**357**	*e*P	**P**	**10 37 50.6**	**+0.1**
	comp=Z,8.9nm,0.5s,mb5.0						
BJI	**Beijing**	**49.78**	**357**	P	**P**	**10 37 49.9**	**-0.8**
BJI				AMB	AMB		
	comp=Z,13nm,0.5s,mb5.2						
BJI				LR	LR		
	comp=N,389nm,15.3s,MS4.6						
BJI				LR	LR		
	comp=E,329nm,15.3s,MS4.6						
BJI				LR	LR		
	comp=Z,96nm,15.3s,MS3.9						
GKN	**Gorkha**	**50.30**	**319**	*e*P	**P**	**10 37 52.4**	**-2.5**
	comp=Z,19nm,0.4s,mb5.5						
KOLN	**Koldanda**	**50.81**	**318**	*e*P	**P**	**10 37 53.9**	**-4.8**
	comp=Z,17nm,0.6s,mb5.2						
GTA	**Gaotai**	**52.23**	**341**	*e*P	**P**	**10 38 10.4**	**+1.0**
GTA				AP	pP	10 38 18.3	+5.2
GTA				XP	sP	10 38 21.8	+7.3
GTA				AMB	AMB		
	comp=Z,3.0nm,0.9s,mb4.2						
GTA				AMB	AMB		
	comp=Z,78nm,4.9s						
GTA				LR	LR		
	comp=N,196nm,13.3s,MS4.4						
GTA				LR	LR		
	comp=E,161nm,15.6s,MS4.4						
GTA				LR	LR		
	comp=Z,161nm,15.6s,MS4.2						
CN2	**Changchun**	**53.78**	**6**	*e*P	**P**	**10 38 24.3**	**+3.5**
MDJ	**Mudanjiang**	**55.11**	**9**	*e*P	**P**	**10 38 29.6**	**-1.0**
	comp=Z,19nm,1.1s,mb5.0						
RPZ	**Rata Peaks**	**56.11**	**136**	P	**P**	**10 38 38.6**	**+0.9**
	comp=Z,8.9nm,0.7s,mb4.9,baz=125,slow=2.8,SNR=8.6						
ASAJ	**Asahikawa**	**57.87**	**20**	P	**P**	**10 38 49.2**	**-1.0**
	comp=Z,6.9nm,0.7s,mb4.8,baz=156,slow=8.5,SNR=7.2						
ASAJ				pP	pP	10 38 54.2	+0.3
	comp=Z,6.4nm,0.6s,baz=179,slow=26,SNR=4.0						
SONM	**Songino Array**	**58.59**	**350**	P	**P**	**10 38 54.1**	**-1.1**
	comp=Z,5.4nm,0.5s,mb4.9,baz=168,slow=8.1,SNR=42						
SONM				pP	pP	10 38 59.6	+0.7
	comp=Z,7.9nm,0.6s,baz=169,slow=8.0,SNR=22						
URZ	**Urewera**	**58.95**	**129**	P	**P**	**10 38 58.2**	**+0.4**
	comp=Z,8.3nm,1.0s,mb4.7,baz=309,slow=6.5,SNR=3.3						
WMQ	**Urumqi**	**60.60**	**334**	*e*P	**P**	**10 39 10.5**	**+1.4**
WMQ				AP	pP	10 39 15.1	+2.2
WMQ				PCP	PcP	10 39 55.5	+2.2
WMQ				AMB	AMB		
	comp=Z,12nm,1.2s,mb4.9						
WMQ				LR	LR		
	comp=Z,91nm,20.0s,MS3.9						
MKAR	**Makanchi Array**	**65.29**	**333**	P	**P**	**10 39 38.5**	**-1.6**
	comp=Z,6.3nm,0.6s,mb4.8,baz=149,slow=6.2,SNR=27						
MKAR				pP	pP	10 39 43.6	-0.4
	comp=Z,9.6nm,0.6s,baz=146,slow=7.4,SNR=25						
AAK	**Ala-Archa**	**66.26**	**326**	*e*P	**P**	**10 39 44.4**	**-2.1**
	comp=Z,5.0nm,0.8s,mb4.6						
MAW	**Mawson**	**68.39**	**200**	P	**P**	**10 40 00.6**	**+1.1**
	comp=Z,3.4nm,0.8s,mb4.4,baz=46,slow=8.8,SNR=8.0						
MA2	**Magadan**	**73.79**	**16**	*e*P	**P**	**10 40 32.3**	**+0.3**
	comp=Z,7.3nm,0.8s,mb4.7						
BVAR	**Borovoye Array**	**75.13**	**332**	P	**P**	**10 40 39.1**	**-0.8**
	comp=Z,3.0nm,0.8s,mb4.3,baz=135,slow=6.3,SNR=8.6						
BRVK	**Borovoye**	**75.20**	**332**	*e*P	**P**	**10 40 39.1**	**-1.1**
	comp=Z,1.9nm,0.4s,mb4.4						
ZRNK	**Zerenda**	**75.72**	**331**	*e*P	**P**	**10 40 42.0**	**-1.2**
	comp=Z,6.9nm,0.8s,mb4.6						
SYO	**Syowa Base**	**77.02**	**201**	⇓P	**P**	**10 40 51.1**	**+0.9**
SYO	**Syowa Base**	**77.02**	**201**	⇑pP	pP	10 40 57.8	+3.7
RST	**Umm Al-Ruwaisa**	**79.58**	**303**	*e*P	**P**	**10 41 04.0**	**-1.1**
RST				AMb	AMB	10 41 10.4	
	comp=Z,34nm,0.5s,mb5.5						
QSPA	**South Pole Qui**	**80.08**	**180**	*e*P	**P**	**10 41 08.7**	**+1.9**
	comp=Z,3.6nm,0.9s,mb4.3						
KMBO	**Kilima Mbogo**	**81.73**	**270**	P	**P**	**10 41 18.7**	**+1.9**
	comp=Z,4.4nm,0.9s,mb4.4,baz=47,slow=19,SNR=3.9						
KMBO				pP	pP	10 41 23.6	+3.0
	comp=Z,4.6nm,0.9s,baz=54,slow=5.8,SNR=8.5						
KMBO	**Kilima Mbogo**	**81.73**	**270**	P	**P**	**10 41 18.5**	**+1.7**
	comp=Z,6.0nm,1.0s,mb4.5						
MBAR	**Mbarara**	**88.23**	**270**	*e*P	**P**	**10 41 50.3**	**+0.9**
	comp=Z,7.4nm,0.9s,mb4.9						
LSZ	**Lusaka**	**88.25**	**255**	*e*P	**P**	**10 41 51.2**	**+1.8**
	comp=Z,9.5nm,0.6s,mb5.2						
ASF	**Jabal al Asfar**	**88.66**	**303**	P	**P**	**10 41 52.5**	**+1.5**
	comp=Z,1.1nm,0.3s,mb4.6,baz=117,slow=2.3,SNR=2.1						
ASF				pP	pP	10 41 57.9	+3.0
	comp=Z,6.0nm,0.9s,baz=320,slow=4.3,SNR=3.0						
SNAA	**Sanae**	**90.13**	**196**	⇑*i*	**P**	**10 41 58.8**	**+1.8**
VNA2	**Neumayer--Watz**	**91.76**	**195**	⇑*i*	**P**	**10 42 09.2**	**+4.7**
VNA3	**Neumayer Olymp**	**92.14**	**195**	⇑*i*	**P**	**10 42 10.7**	**+4.4**
VNA1	**Neumayer--Stat**	**92.16**	**195**	⇑*i*	**P**	**10 42 10.9**	**+4.5**
FINES	**FINESS Array B**	**100.06**	**331**	PKiKP		10 47 11.6	
	comp=Z,0.8nm,0.7s,baz=90,slow=5.6,SNR=5.6						
YKA	**Yellowknife Ar**	**115.01**	**24**	PKP	PKPdf	10 47 39.2	-0.9
	comp=Z,1.2nm,0.4s,baz=290,slow=2.0,SNR=14						
YKA				pPKP		10 47 44.3	
	comp=Z,1.4nm,0.5s,baz=295,slow=1.8,SNR=4.2						
YKA	**Yellowknife Ar**	**115.01**	**24**	PKP	PKPdf	10 47 39.2	-0.9
YKA				pPKP		10 47 44.4	
NEW	**Newport**	**119.60**	**40**	*e*PKPdf	PKPdf	10 47 50.7	+1.4
LNOR	**Lincton Mounta**	**119.61**	**43**	*e*PKPdf	PKPdf	10 47 49.3	-0.1
WVOR	**Wild Horse Val**	**120.33**	**46**	*e*PKPdf	PKPdf	10 47 51.5	+0.5
CHMT	**Chamberlain Mo**	**122.53**	**40**	*e*PKPdf	PKPdf	10 47 54.8	-0.2
HLID	**Hailey**	**122.95**	**44**	*e*PKPdf	PKPdf	10 47 57.2	+1.3
HLID				*e*		10 48 02.4	
ELK	**Elko**	**123.25**	**48**	*e*PKPdf	PKPdf	10 47 57.6	+1.0
ELK				*e*		10 48 02.4	
MCMT	**McKenzie Canyo**	**123.57**	**42**	*e*PKPdf	PKPdf	10 47 57.7	+0.5
MCMT				*e*		10 48 03.3	
BOZ	**Bozeman (W)**	**124.05**	**41**	*e*PKPdf	PKPdf	10 47 58.5	+0.3
BOZ				*e*pPKPdf		10 48 03.6	
KIC	**Kosan Boka**	**124.29**	**271**	*e*PKIKP	PKPdf	10 47 58.6	-0.7
	comp=Z,46nm,1.0s						
DBIC	**Dimbokro**	**124.45**	**271**	PKP	PKPdf	10 47 59.4	-0.3
	comp=Z,4.7nm,0.6s,baz=64,slow=2.7,SNR=13						
LIC	**Lamto**	**124.56**	**271**	*e*PKIKP	PKPdf	10 47 59.0	-1.0
	comp=Z,61nm,1.3s						
TIC	**Toumodi**	**124.61**	**271**	*e*PKIKP	PKPdf	10 47 59.0	-1.1
	comp=Z,23nm,0.7s						
NEN	**Nelson**	**124.90**	**53**	*e*PKPdf	PKPdf	10 48 01.5	+1.5
NEN				*e*pPKPdf		10 48 06.5	
DUG	**Dugway**	**125.18**	**47**	*e*PKPdf	PKPdf	10 48 01.2	+0.8
DUG				*e*		10 48 06.7	
TPAW	**Teton Pass**	**125.33**	**43**	*e*PKPdf	PKPdf	10 48 01.7	+1.0
MOOW	**Moose Ponds**	**125.37**	**43**	*e*PKPdf	PKPdf	10 48 01.4	+0.7
MOOW				*e*pPKPdf		10 48 06.6	
REDW	**Red Top Meadow**	**125.45**	**43**	*e*PKPdf	PKPdf	10 48 02.0	+1.1
REDW				*e*pPKPdf		10 48 07.0	
SNOW	**Snow King Moun**	**125.47**	**43**	*e*PKPdf	PKPdf	10 48 02.3	+1.3
SNOW				*e*pPKPdf		10 48 07.3	
LOHW	**Long Hollow**	**125.52**	**43**	*e*PKPdf	PKPdf	10 48 01.9	+0.9
LOHW				*e*pPKPdf		10 48 07.2	
HWUT	**Hardware Ranch**	**125.60**	**45**	*e*PKPdf	PKPdf	10 48 01.4	+0.1
HWUT				*e*pPKPdf		10 48 07.0	
TCUT	**Toone Canyon**	**125.88**	**46**	*e*PKPdf	PKPdf	10 48 01.5	-0.3
MSU	**Marysvale**	**126.17**	**49**	*e*PKPdf	PKPdf	10 48 03.9	+1.5
MSU				*e*pPKPdf		10 48 09.2	
PDAR	**Pinedale Array**	**126.55**	**43**	PKP	PKPdf	10 48 03.6	+0.7
	comp=Z,0.7nm,0.5s,baz=135,slow=2.0,SNR=8.2						
LAO	**LASA Array**	**126.98**	**38**	*e*PKPdf	PKPdf	10 48 04.3	+0.7
LAO				*e*pPKPdf		10 48 09.3	
SRU	**San Rafael**	**127.20**	**48**	*e*PKPdf	PKPdf	10 48 05.1	+0.8
SRU				*e*pPKPdf		10 48 09.9	
WUAZ	**Wupatki**	**127.67**	**53**	*e*PKPdf	PKPdf	10 48 06.7	+1.4
WUAZ				*e*pPKPdf		10 48 12.2	
PV10	**Paradox Valley**	**128.54**	**48**	*e*PKPdf	PKPdf	10 48 08.5	+1.5
PV10				*e*pPKPdf		10 48 13.6	
PV01	**Paradox Valley**	**128.97**	**49**	*e*PKPdf	PKPdf	10 48 09.3	+1.5
PV01				*e*pPKPdf		10 48 14.1	
TUC	**Tucson**	**128.99**	**56**	*e*PKPdf	PKPdf	10 48 08.6	+0.6
TUC				*e*pPKPdf		10 48 14.2	
RSSD	**Black Hills**	**129.57**	**40**	*e*PKPdf	PKPdf	10 48 08.5	-0.3
RSSD				*e*pPKPdf		10 48 14.1	
SDCO	**Great Sand Dun**	**131.37**	**48**	*e*PKPdf	PKPdf	10 48 13.9	+1.5
SDCO				*e*pPKPdf		10 48 19.1	
ANMO	**Albuquerque**	**131.67**	**52**	*e*PKPdf	PKPdf	10 48 14.4	+1.4
ANMO				*e*pPKPdf		10 48 19.8	
SCHQ	**Schefferville**	**134.96**	**5**	PKP	PKPdf	10 48 18.3	-0.3
	comp=Z,4.4nm,0.8s,baz=316,slow=1.6,SNR=7.3						
SCHQ	**Schefferville**	**134.96**	**5**	PKP	PKPdf	10 48 18.3	-0.3
TXAR	**Lajitas Array**	**135.69**	**58**	PKhKP		10 48 09.6	
	comp=Z,0.2nm,0.6s,baz=217,slow=1.5,SNR=5.8						
TXAR				PKP	PKPdf	10 48 22.6	+1.9
	comp=Z,1.3nm,0.9s,baz=226,slow=2.5,SNR=4.3						
JCT	**Junction City**	**138.49**	**55**	*e*PKPdf	PKPdf	10 48 26.1	+0.4
JCT				*e*		10 48 32.3	
CPUP	**Villa Florida**	**143.79**	**186**	PKP	PKPdf	10 48 33.1	-2.1
	comp=Z,2.1nm,0.5s,baz=196,slow=2.9,SNR=7.2						
SSPA	**Standing Stone**	**145.93**	**23**	*e*PKPdf	PKPdf	10 48 38.3	-0.2
MCWV	**Mont Chateau**	**145.94**	**27**	*e*PKPdf	PKPdf	10 48 39.0	+0.4
BDFB	**Brasilia**	**151.55**	**207**	PKPbc	PKPdf	10 48 54.8	+6.6
	comp=Z,5.1nm,0.7s,baz=108,slow=1.4,SNR=5.6						
BDFB				pPKPbc		10 49 00.1	
	comp=Z,3.1nm,0.5s,baz=151,slow=5.1,SNR=3.6						
LPAZ	**La Paz**	**153.01**	**165**	PKPbc	PKPdf	10 48 57.3	+7.1
	comp=Z,1.6nm,0.2s,baz=162,slow=2.4,SNR=4.4						

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*NIED **06** 10:29:00,33.30N×137.20E,h8^{km},Mw4.4 Best double couple: M$_0$5.15×10^{15} NP1:ϕ_s59°,δ64°,λ55°. NP2:ϕ_s297°, δ42°,λ140°.*

*BJI **06** 10:29:11.6,32.71N×137.71E,h10^{km},mB4.7,mb4.6, Ms4.3,Msz4.0*

*IDC **06** 10:29:16.8±1.0,33.22N×137.24E,mb4.1/9,mb1 4.2/12, mb1mx4.1/23,ML4.0/3,MS3.7/3,Ms1 3.7/3,ms1mx3.2/25, Error ellipse: s-maj=29.2km s-min=18.6km az=9.0*

*NEIC **06** 10:29:18.7±0.6,33.27N×137.25E,h10^{km},mb4.2/6,Error ellipse: s-maj=14.1km s-min=9.1km az=150.0*

NEIC Recorded [2 JMA] in Mie and [1 JMA] in Nara and Shizuoka Prefectures.

*JMA **06** 10:29:19.4±0.1,33.29N×137.16E,h40^{km}±2^{km},M4.5*

JMA Felt II J1.

*MOS **06** 10:29:21.5±1.1,33.53N×137.20E,h33^{km},mb4.9/7,Error ellipse: s-maj=28.1km s-min=11.7km az=90.8*

ISC 06 10:29:20.1±0.8**,33.36N**±0.04×**137.19E**±0.03**,h31**^{km}±5^{km}**, n63,**σ1^{s}**11**/81**,mb4.2**/21**,MS4.1**/3**,2C-9D,Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	**Tokai 1**	**0.53**	**39**	P	**Pb**	**10 29 31.4**	**+0.4**
TK01				S	**Sb**	**10 29 39.9**	**+1.4**
TK02	**Tokai 2**	**0.76**	**39**	⇓P	**Pn**	**10 29 34.8**	**+0.1**
TK02				S	**Sb**	**10 29 44.0**	**-0.8**
JIE	**Ise**	**1.11**	**339**	⇓P	**Pn**	**10 29 40.3**	**+0.6**
JIE				S	**Sn**	**10 29 55.0**	**+1.0**
TK04	**Tokai 4**	**1.17**	**29**	⇓P	**Pn**	**10 29 41.0**	**+0.3**
TK04				S	**Sn**	**10 29 56.4**	**+0.7**
JKN	**Kiinagashima**	**1.18**	**319**	⇓P	**Pn**	**10 29 40.6**	**-0.1**
JKN				S	**Sn**	**10 29 54.9**	**-0.9**
JWZ	**Kozaga**	**1.25**	**278**	⇓P	**Pn**	**10 29 40.5**	**-1.2**
JWZ				S	**Sn**	**10 29 55.3**	**-2.2**
TSUJ	**Tsu 2**	**1.50**	**335**	⇓P	**Pn**	**10 29 45.6**	**+0.4**
TSUJ				S	**Sn**	**10 30 03.9**	**+0.1**
JWY	**Kouya**	**1.58**	**303**	⇓P	**Pn**	**10 29 46.6**	**+0.1**
JWY				S	**Sn**	**10 30 05.4**	**-0.7**
JWM	**Minabe**	**1.61**	**288**	⇓P	**Pn**	**10 29 46.2**	**-0.7**
JWM				S	**Sn**	**10 30 05.0**	**-1.7**
JHE	**Heguri**	**1.80**	**316**	⇓P	**Pn**	**10 29 49.7**	**+0.1**
JHE				S	**Sn**	**10 30 11.9**	**+0.3**
SHZ3	**Shizuoka 3**	**1.90**	**26**	P	**Pn**	**10 29 50.9**	**-0.2**
SHZ3				S	**Sn**	**10 30 13.5**	**-0.7**
JIZS	**Izushimoda**	**1.95**	**45**	P	**Pn**	**10 29 51.1**	**-0.7**
JIZS				S	**Sn**	**10 30 14.7**	**-0.7**
JMY	**Miyakejima3**	**2.06**	**69**	P	**Pn**	**10 29 53.5**	**+0.1**
JMY				S	**Sn**	**10 30 17.6**	**-0.7**
JHJ	**Hachijo jima 2**	**2.19**	**95**	Pn	**Pn**	**10 29 54.8**	**-0.4**
	272nm,0.3s,baz=54,slow=20,SNR=71						
JHJ				Sn	**Sn**	**10 30 19.2**	**-2.2**
	438nm,0.3s,baz=58,slow=22,SNR=14						
MAJO	**Matsushiro**	**3.29**	**14**	*e*Pn	**Pn**	**10 30 11.4**	**+0.6**
MAJO				*e*Sn	**Sn**	**10 30 48.5**	**-0.8**
MAT	**Matsushiro**	**3.29**	**14**	P	**Pn**	**10 30 11.3**	**+0.5**
MAT				S	**Sn**	**10 30 49.1**	**-0.2**
MAT	**Matsushiro**	**3.29**	**14**	*e*P	**Pn**	**10 30 11.0**	**+0.2**
MAT				*e*S	**Sn**	**10 30 49.0**	**-0.3**
JNU	**Nakatsue**	**5.29**	**269**	Pn	**Pn**	**10 30 36.8**	**-2.4**
	3.5nm,0.3s,baz=62,slow=5.2,SNR=15						
JNU				Sn	**Sn**	**10 31 34.5**	**-5.4**
	2.1nm,0.3s,baz=58,slow=19,SNR=3.1						
JNU				LR	LR	10 32 46.3	
	comp=Z,584nm,19.9s,baz=74,slow=39						
CBIJ	**Chichi jima**	**7.59**	**144**	LR	LR	10 33 51.0	
	comp=Z,564nm,20.3s,baz=126,slow=37						
ASAJ	**Asahikawa**	**11.54**	**20**	Pn	**P**	**10 32 03.9**	**-2.0**
	1.2nm,0.3s,baz=238,slow=16,SNR=19						
ASAJ				LR	LR	10 36 55.4	
	comp=Z,363nm,18.2s,baz=192,slow=39						
ASAJ	**Asahikawa**	**11.54**	**20**	P	**P**	**10 32 03.9**	**-2.0**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,363nm,18.2s						
SSE	**Sheshan**	**13.74**	**265**	*e*P	**P**	**10 32 32.1**	**-3.1**
SSE				AMB	AMB		
	comp=Z,9.0nm,0.5s						
SSE				LR	LR		
	comp=N,202nm,23.8s						
SSE				LR	LR		
	comp=E,64nm,23.7s						
CN2	**Changchun**	**13.88**	**322**	*e*P	**P**	**10 32 46.1**	**+9.1**
CN2				AMB	AMB		
	comp=Z,20nm,1.2s						
YSS	**Yuzh-Sakhalins**	**14.23**	**16**	⇑*e*P	**P**	**10 32 39.0**	**-2.5**
YSS	**Yuzh-Sakhalins**	**14.23**	**16**	*e*P	**P**	**10 32 39.0**	**-2.5**
NJ2	**Nanjing**	**15.49**	**270**	*e*P	**P**	**10 32 54.3**	**-3.8**
NJ2				AP		10 33 01.8	
NJ2				XP		10 33 06.9	
NJ2				AMB	AMB		
	comp=Z,20nm,0.7s						
NJ2				LR	LR		
	comp=N,1μm,19.3s						
NJ2				LR	LR		
	comp=E,800nm,14.0s						
NJ2				LR	LR		
	comp=Z,1μm,18.1s						
KLR	**Kul’dur**	**16.37**	**347**	*e*P	**P**	**10 33 10.0**	**+0.8**
BJI	**Beijing**	**18.11**	**298**	P	**P**	**10 33 32.3**	**+1.3**
BJI				AMB	AMB		
	comp=Z,11nm,1.3s						
BJI				LR	LR		
	comp=N,981nm,18.8s						
BJI				LR	LR		
	comp=E,209nm,18.8s						
BJI				LR	LR		
	comp=Z,249nm,18.4s						
BJT	**Baijiatuau**	**18.11**	**298**	*e*P	**P**	**10 33 33.0**	**+2.0**
	comp=Z,5.6nm,0.6s						
WHN	**Wuhan**	**19.58**	**268**	*e*P	**P**	**10 33 49.2**	**+0.7**
HHC	**Hu-ho-hao-te**	**21.71**	**298**	*e*P	**P**	**10 34 14.6**	**+4.1**
HHC				XP		10 34 22.5	
HHC				AMB	AMB		
	comp=Z,20nm,0.4s,mb4.9						
HHC				LR	LR		
	comp=N,764nm,19.6s						
HHC				LR	LR		
	comp=E,1μm,14.3s						
HHC				LR	LR		
	comp=Z,282nm,12.5s						
XAN	**Xi’an**	**23.50**	**280**	P	**P**	**10 34 29.2**	**+1.0**
XAN				AMB	AMB		
	comp=Z,16nm,1.4s,mb4.3						
ENH	**Enshi**	**23.71**	**270**	*e*P	**P**	**10 34 31.0**	**+0.8**
	comp=Z,17nm,0.8s,mb4.5						
PET	**Petropavlovsk**	**24.95**	**32**	*e*P	**P**	**10 34 46.8**	**+4.8**
PET				pmax	pmax		
	comp=Z,34nm,1.3s,mb4.7						
PET				MLR	MLR		
	comp=Z,100nm,17.0s,MS3.4						
SONM	**Songino Array**	**27.28**	**311**	P	**P**	**10 35 04.7**	**+1.1**
	comp=Z,1.3nm,0.8s,mb3.5,baz=117,slow=8.3,SNR=10						
MA2	**Magadan**	**27.73**	**15**	*e*P	**P**	**10 35 07.9**	**+0.3**
MA2				*e*S	**S**	**10 39 43.4**	**-2.9**
MA2				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.4						
MA2				MLR	MLR		
	comp=Z,850nm,17.0s,MS4.4						
MA2	**Magadan**	**27.73**	**15**	*e*P	**P**	**10 35 07.6**	**0.0**
	comp=Z,8.2nm,0.8s,mb4.4						
YAK	**Yakutsk**	**29.09**	**353**	*e*P	**P**	**10 35 18.9**	**-0.9**
YAK				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.5						
ZAK	**Zakamensk**	**30.11**	**315**	*e*P	**P**	**10 35 29.4**	**+0.4**
TIXI	**Tiksi**	**38.61**	**356**	*e*P	**P**	**10 36 41.9**	**+0.1**
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.2						
NVS	**Novosibirsk**	**43.01**	**317**	*e*P	**P**	**10 37 18.6**	**+0.5**
MKAR	**Makanchi Array**	**43.26**	**305**	P	**P**	**10 37 20.8**	**+0.6**
	comp=Z,3.1nm,0.7s,mb4.2,baz=92,slow=10,SNR=21						
MKAR				PcP	PcP	10 39 08.8	-0.8
	comp=Z,1.1nm,0.9s,baz=72,slow=3.8,SNR=4.0						
MKAR	**Makanchi Array**	**43.26**	**305**	P	**P**	**10 37 20.8**	**+0.6**
MKAR						10 39 08.8	
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
BVAR	**Borovoye Array**	**50.56**	**314**	P	**P**	**10 38 18.6**	**+1.0**
	comp=Z,0.8nm,0.6s,mb3.8,baz=135,slow=10,SNR=4.9						
ZRNK	**Zerenda**	**51.40**	**314**	*e*P	**P**	**10 38 23.8**	**-0.1**
	comp=Z,2.0nm,0.9s,mb4.0						
COLA	**College**	**54.01**	**31**	*e*P	**P**	**10 38 44.8**	**+1.6**
COLA	**College**	**54.01**	**31**	*e*P	**P**	**10 38 44.4**	**+1.2**
	comp=Z,2.4nm,1.0s,mb4.1						
ILAR	**Eielson Array**	**54.43**	**31**	P	**P**	**10 38 45.9**	**-0.3**
	comp=Z,0.6nm,0.8s,mb3.6,baz=243,slow=5.2,SNR=12						
ILAR	**Eielson Array**	**54.43**	**31**	P	**P**	**10 38 45.9**	**-0.4**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ARU	**Arti**	**56.86**	**319**	⇑*i*P	**P**	**10 39 01.1**	**-2.9**
ARU				*e*		10 39 58.0	
ARU				*e*S	**S**	**10 46 47.5**	**-6.0**
ARU				*e*SS	SS	10 50 36.9	-6.0
ARU				pmax	pmax		
	comp=Z,22nm,1.1s,mb5.1						
STKA	**Stephens Creek**	**65.02**	**176**	P	**P**	**10 39 57.8**	**-1.8**
	comp=Z,2.6nm,0.8s,mb4.3,baz=337,slow=16,SNR=2.9						
OBN	**Obninsk**	**68.94**	**323**	*e*P	**P**	**10 40 28.2**	**+4.2**
OBN				pmax	pmax		
	comp=Z,25nm,1.5s,mb4.9						
OBN				MLR	MLR		
	comp=Z,200nm,16.0s,MS4.5						
KBD	**Kabd**	**74.23**	**295**	*e*P	**P**	**10 40 58.4**	**+2.4**
RDF	**Al-Radifah**	**74.46**	**295**	*e*P	**P**	**10 40 57.7**	**+0.3**
AKASG	**Malin Array Be**	**75.04**	**321**	P	**P**	**10 40 59.8**	**-0.4**
	comp=Z,0.4nm,0.3s,mb3.8,baz=45,slow=5.6,SNR=6.8						
BRTR	**Keskin Array B**	**78.63**	**310**	P	**P**	**10 41 21.6**	**+1.1**
	comp=Z,9.8nm,1.1s,mb4.6,baz=90,slow=4.9,SNR=12						
BRTR	**Keskin Array B**	**78.63**	**310**	P	**P**	**10 41 21.7**	**+1.2**
BRTR				pmax	pmax		
	comp=Z,10.0nm,1.1s						
HLID	**Hailey**	**79.41**	**45**	*e*P	**P**	**10 41 25.8**	**+1.1**
	comp=Z,3.0nm,1.2s,mb4.1						
PDAR	**Pinedale Array**	**82.71**	**43**	P	**P**	**10 41 42.6**	**+0.6**
	comp=Z,0.5nm,0.8s,mb3.6,baz=304,slow=5.3,SNR=5.4						
PV10	**Paradox Valley**	**85.80**	**46**	*e*P	**P**	**10 41 59.8**	**+2.0**
ANMO	**Albuquerque**	**89.60**	**47**	*e*P	**P**	**10 42 21.9**	**+5.8**
TXAR	**Lajitas Array**	**95.12**	**50**	P	**P**	**10 42 42.8**	**+1.1**
	comp=Z,0.5nm,0.5s,mb4.2,baz=292,slow=2.8,SNR=16						
VNA2	**Neumayer--Watz**	**137.82**	**196**	*e*	PKPdf	10 48 46.1	+0.2

CASC 06 10:38:09.5±2.3**,8.41N**×**83.00W,h3**^{km}±8^{km}**,MD3.6,2C-1D, Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.30**	**325**	*e*P	Pg	10 38 16.2	+0.7
ACR				*e*S	Sg	10 38 21.0	+1.5
BRU2	**Volcan**	**0.49**	**38**	⇓*e*P	Pg	10 38 20.3	+1.0
BRU2				*e*S	Sg	10 38 29.0	+3.2
DVD	**David**	**0.54**	**87**	*e*P	Pg	10 38 19.5	-0.8
DVD				*e*S	Sg	10 38 27.4	-0.2
PTP1	**Petroterminal**	**0.60**	**110**	⇑*e*P	Pg	10 38 14.8	-6.6
PTP1				*e*S	Sg	10 38 20.5	-8.9
BUS	**Buena Vista**	**1.37**	**327**	*e*P	Pb	10 38 34.4	-1.0
BUS				*e*S	Sb	10 38 53.6	+0.5
URSC	**Urasca**	**1.61**	**332**	⇑*e*P	Pn	10 38 37.9	-1.2
URSC				*e*S	Sb	10 39 00.8	+0.5
LCR2	**La Lucha 2**	**1.66**	**323**	*e*P	Pn	10 38 40.0	+0.4
LCR2				*e*S	Sb	10 39 02.8	+1.2
ICR	**Volcan Irazu**	**1.77**	**332**	*e*P	Pn	10 38 41.8	+0.6
ICR				*e*S	Sn	10 39 06.5	+2.1
PRS1	**Puriscal**	**2.03**	**320**	*e*P	Pn	10 38 43.6	-1.4
PRS1				*e*S	Sn	10 39 11.0	-0.2
CGA2	**Cerro Gallo 2**	**2.16**	**318**	*e*P	Pn	10 38 47.2	+0.5
CGA2				*e*S	Sn	10 39 14.7	+0.4
TRTC	**Tortuguero**	**2.27**	**342**	*e*P	Pn	10 38 48.5	+0.1
TRTC				*e*S	Sn	10 39 18.2	+1.0

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*NIED **06** 10:39:00,33.10N×137.20E,h8^{km},Mw4.3 Best double couple: M$_0$3.1×10^{15} NP1:ϕ_s39°,δ88°,λ28°. NP2:ϕ_s308°, δ62°,λ177°.*

*BJI **06** 10:39:40.9,32.79N×137.75E,h10^{km},mB4.7,mb4.6, Ms4.3,Msz3.9*

*JMA **06** 10:39:46.8±0.1,33.12N×137.20E,h35^{km}±3^{km},M4.1*

*NEIC **06** 10:39:47.4±0.3,33.14N×137.22E,h10^{km},mb4.5/5, MW4.3(NIED),Error ellipse: s-maj=8.8km s-min=7.1km az=92.0*

*MOS **06** 10:39:48.3±1.1,33.18N×137.40E,h33^{km},mb4.7/13,Error ellipse: s-maj=22.1km s-min=9.3km az=93.5*

*IDC **06** 10:39:50.2±0.5,33.13N×137.27E,h28^{km}±3^{km},mb4.0/14, mb1 4.2/17,mb1mx4.1/24,ML3.7/3,MS3.7/7,Ms1 3.7/7, ms1mx3.4/26,Error ellipse: s-maj=16.8km s-min=11.6km az=67.0*

ISC 06 10:39:47.7±0.8**,33.19N**±0.03×**137.19E**±0.03**,h25**^{km}±6^{km}**, h29**^{km}±.8^{km}**:pP-P,n76,**σ1^{s}**01**/89**,mb4.3**/27**,MS3.8**/7**,11C, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	**Tokai 1**	**0.66**	**30**	P	**Pb**	**10 40 00.3**	**-0.3**
TK01				S	**Sb**	**10 40 10.8**	**+1.4**
TK02	**Tokai 2**	**0.89**	**32**	⇑P	**Pb**	**10 40 04.0**	**-0.4**
TK02				S	**Sb**	**10 40 17.1**	**+1.2**
JIE	**Ise**	**1.27**	**342**	⇑P	**Pn**	**10 40 10.2**	**+0.2**
JIE				S	**Sn**	**10 40 25.9**	**-0.4**
JWZ	**Kozaga**	**1.28**	**286**	⇑P	**Pn**	**10 40 09.3**	**-1.0**
JWZ				S	**Sn**	**10 40 25.3**	**-1.4**
JKN	**Kiinagashima**	**1.31**	**324**	⇑P	**Pn**	**10 40 10.3**	**-0.4**
JKN				S	**Sn**	**10 40 26.0**	**-1.4**
TK04	**Tokai 4**	**1.32**	**25**	⇑P	**Pn**	**10 40 10.4**	**-0.4**
TK04				S	**Sn**	**10 40 27.4**	**-0.3**
TSUJ	**Tsu 2**	**1.65**	**337**	⇑P	**Pn**	**10 40 15.6**	**+0.1**

TSUJ				S	Sn	10 40 35.6	-0.4
JWM	Minabe	1.67	294	⇑P	Pn	10 40 15.2	-0.6
JWM				S	Sn	10 40 35.3	-1.3
JWY	Kouya	1.68	308	⇑P	Pn	10 40 16.0	0.0
JWY				S	Sn	10 40 36.6	-0.3
JHE	Heguri	1.92	320	⇑P	Pn	10 40 19.3	-0.2
JHE				S	Sn	10 40 42.8	-0.3
SHZ3	Shizuoka 3	2.05	24	⇑P	Pn	10 40 20.4	-0.9
SHZ3				S	Sn	10 40 45.8	-0.6
JHJ	Hachijo jima 2	2.17	91	Pn	Pn	10 40 22.6	-0.5
	27nm,0.3s,baz=178,slow=6.8,SNR=6.5						
JHJ				Sn	Sn	10 40 48.8	-0.7
	60nm,0.3s,baz=261,slow=23,SNR=6.7						
JHJ				LR	LR	10 41 22.9	
	comp=Z,1μm,20.6s,baz=141,slow=43						
MAJO	Matsushiro	3.45	14	*e*Pn	Pn	10 40 41.5	+0.3
MAT	Matsushiro	3.45	14	P	Pn	10 40 41.3	+0.1
MAT				S	Sn	10 41 22.6	+0.9
MAT	Matsushiro	3.45	14	*e*P	Pn	10 40 41.0	-0.2
MAT				*e*S	Sn	10 41 23.0	+1.3
JNU	Nakatsue	5.30	271	Pn	Pn	10 41 05.7	-1.7
	2.0nm,0.3s,baz=110,slow=23,SNR=8.7						
ASAJ	Asahikawa	11.70	20	Pn	P	10 42 33.4	-2.7
	1.1nm,0.3s,baz=198,slow=16,SNR=6.9						
ASAJ				LR	LR	10 47 15.0	
	comp=Z,363nm,20.2s,baz=206,slow=38						
ASAJ	Asahikawa	11.70	20	P	P	10 42 33.4	-2.7
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,363nm,20.2s						
SSE	Sheshan	13.72	266	*e*P	P	10 43 04.1	+1.0
SSE				S	S	10 45 37.3	+1.6
SSE				AMB	AMB		
	comp=Z,25nm,1.8s						
SSE				LR	LR		
	comp=N,203nm,20.0s						
SSE				LR	LR		
	comp=E,83nm,20.0s						
SSE				LR	LR		
	comp=Z,127nm,21.7s						
YSS	Yuzh-Sakhalins	14.39	16	*e*P	P	10 43 11.2	-0.5
NJ2	Nanjing	15.50	271	*e*P	P	10 43 26.5	+0.2
NJ2				AP		10 43 34.0	
NJ2				PP	PP	10 43 39.4	+0.8
NJ2				S	S	10 46 28.0	+10
NJ2				XS		10 46 30.0	
NJ2				AMB	AMB		
	comp=Z,40nm,0.7s						
NJ2				LR	LR		
	comp=N,1μm,19.3s						
NJ2				LR	LR		
	comp=E,800nm,16.0s						
NJ2				LR	LR		
	comp=Z,1μm,18.1s						
KLR	Kul'dur	16.53	347	*e*P	P	10 43 40.6	+1.2
KLR				MLR	MLR		
	comp=N,1μm,14.0s						
KLR				MLR	MLR		
	comp=E,500nm,14.0s						
KLR				MLR	MLR		
	comp=Z,1μm,14.0s						
BJT	Baijiatuau	18.18	298	*e*P	P	10 44 01.8	+1.6
	comp=Z,22nm,1.0s						
BJI	Beijing	18.18	298	P	P	10 44 00.3	+0.1
BJI				S	S	10 47 19.0	-0.2
BJI				AMB	AMB		
	comp=Z,20nm,1.0s						
BJI				LR	LR		
	comp=N,682nm,13.1s						
BJI				LR	LR		
	comp=E,344nm,13.1s						
BJI				LR	LR		
	comp=Z,137nm,19.9s						
WHN	Wuhan	19.57	268	P	P	10 44 18.3	+1.5
HHC	Hu-ho-hao-te	21.79	298	*e*P	P	10 44 43.7	+4.1
HHC				XP		10 44 48.9	
HHC				PP	PP	10 45 07.9	+3.0
HHC				S	S	10 48 39.0	+4.8
HHC				AMB	AMB		
	comp=Z,16nm,0.6s,mb4.6						
HHC				AMB	AMB		
	comp=Z,216nm,7.1s						
HHC				LR	LR		
	comp=N,499nm,13.7s,MS4.2						
HHC				LR	LR		
	comp=E,286nm,11.3s,MS4.2						
HHC				LR	LR		
	comp=Z,238nm,9.5s						
XAN	Xi'an	23.53	280	P	P	10 44 58.1	+1.3
XAN				AMB	AMB		
	comp=Z,27nm,1.0s,mb4.6						
ENH	Enshi	23.72	270	*e*P	P	10 45 00.1	+1.4
	comp=Z,21nm,0.8s,mb4.6						
PET	Petropavlovsk	25.09	31	*e*P	P	10 45 09.8	-1.9
PET				pmax	pmax		
	comp=Z,28nm,1.2s,mb4.7						
SONM	Songino Array	27.39	311	P	P	10 45 33.5	+0.6
	comp=Z,5.4nm,0.9s,mb4.1,baz=116,slow=7.6,SNR=24						
SONM				pP	pP	10 45 42.6	+2.3
	comp=Z,4.6nm,0.9s,baz=120,slow=6.4,SNR=7.9						
MA2	Magadan	27.89	15	*e*P	P	10 45 37.2	-0.2
MA2				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.1						
YAK	Yakutsk	29.26	353	*e*P	P	10 45 49.4	-0.3
YAK				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.7						
ZAK	Zakamensk	30.22	315	*e*P	P	10 45 58.2	-0.2
TIXI	Tiksi	38.78	356	*e*P	P	10 47 09.7	-1.9
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.2						
TIXI				MLR	MLR		
	comp=Z,100nm,15.0s,MS3.8						
ZAL	Zalesovo	42.10	316	LR	LR	11 04 17.2	
	comp=Z,48nm,20.1s,MS3.4,baz=102,slow=35						
NVS	Novosibirsk	43.13	317	*e*P	P	10 47 46.8	-0.7
NVS				pmax	pmax		
	comp=E,13nm,1.3s						
NVS				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.4						
MKAR	Makanchi Array	43.35	305	P	P	10 47 50.7	+1.3
	comp=Z,4.0nm,0.8s,mb4.2,baz=90,slow=9.7,SNR=25						
MKAR				pP	pP	10 47 59.8	+2.8
	comp=Z,5.2nm,1.0s,baz=90,slow=13,SNR=7.6						
MKAR				PcP	PcP	10 49 37.9	-0.6
	comp=Z,2.5nm,0.9s,baz=90,slow=9.7,SNR=3.6						
MKAR	Makanchi Array	43.35	305	P	P	10 47 50.7	+1.3
MKAR				*PP	pP	10 47 59.8	+2.8
MKAR						10 49 37.9	
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MKAR				pmax	pmax		
	comp=N,5.0nm,1.0s						
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MKAR	Makanchi Array	43.35	305	P	P	10 47 50.7	+1.3
MKAR				pP	pP	10 47 59.8	+2.8
MKAR				PcP	PcP	10 49 37.9	-0.6
KURK	Kurchatov	45.69	311	*e*P	P	10 48 08.6	+0.4
	comp=Z,8.0nm,0.9s,mb4.7						
BVAR	Borovoye Array	50.67	314	P	P	10 48 47.1	+0.3
	comp=Z,0.7nm,0.5s,mb3.9,baz=106,slow=11,SNR=7.2						
FITZ	Fitzroy Crossi	52.18	194	*e*P	P	10 48 58.0	-0.7
	comp=Z,2.5nm,0.5s,mb4.4						
FITZ	Fitzroy Crossi	52.18	194	P	P	10 48 58.0	-0.8
	comp=Z,2.4nm,0.7s,mb4.2,baz=344,slow=6.0,SNR=4.0						
FITZ				pP	pP	10 49 06.8	+0.3
	comp=Z,4.9nm,0.7s,baz=12,slow=11,SNR=4.4						
WB2	Warramunga Arr	52.90	183	*e*P	P	10 49 02.3	-1.8
WRA	Warramunga Arr	52.90	183	P	P	10 49 02.4	-1.7
	comp=Z,3.5nm,0.8s,mb4.4,baz=2.1,slow=7.9,SNR=33						
WRA				pP	pP	10 49 11.2	-0.7
	comp=Z,6.0nm,0.7s,baz=0.2,slow=7.8,SNR=16						
WRA				LR	LR	11 08 31.5	
	comp=Z,56nm,19.0s,MS3.6,baz=15,slow=33						
WRA	Warramunga Arr	52.90	183	P	P	10 49 02.4	-1.7
WRA				*PP	pP	10 49 11.2	-0.7
WRA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
WRA				pmax	pmax		
	comp=N,6.0nm,0.7s						
COLA	College	54.16	31	*e*P	P	10 49 12.0	-0.7
ILAR	Eielson Array	54.57	31	P	P	10 49 15.3	-0.4
	comp=N,1.0nm,0.8s,mb3.9,baz=265,slow=4.5,SNR=14						
ILAR	Eielson Array	54.57	31	P	P	10 49 15.3	-0.5
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ASAR	Alice Springs	56.62	184	P	P	10 49 29.9	-1.3
	comp=Z,1.5nm,0.7s,mb4.2,baz=14,slow=11,SNR=24						
ASAR				pP	pP	10 49 39.6	+0.6
	comp=Z,2.4nm,0.6s,baz=14,slow=12,SNR=12						
ASAR				LR	LR	11 10 31.6	
	comp=Z,59nm,20.4s,MS3.7,baz=118,slow=33						
ASPA	Alice Springs	56.63	184	*e*P	P	10 49 31.3	+0.1
ARU	Arti	56.98	319	⇑*i*P	P	10 49 32.8	-0.5
ARU				*e*		10 50 22.9	
ARU				*e*		10 51 41.0	
ARU				*e*S	S	10 57 28.1	+4.0
ARU				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.8						
STKA	Stephens Creek	64.85	176	P	P	10 50 26.2	-0.7
	comp=Z,3.3nm,0.8s,mb4.4,baz=3.4,slow=7.6,SNR=6.2						
STKA				pP	pP	10 50 34.6	-0.2
	comp=Z,7.4nm,0.8s,baz=339,slow=8.4,SNR=6.8						
STKA				LR	LR	11 15 19.0	
	comp=Z,87nm,19.5s,MS4.0,baz=26,slow=33						
ARCES	ARCESS Array B	66.36	339	LR	LR	11 22 05.4	
	comp=Z,164nm,19.1s,MS4.3,baz=2.7,slow=38						
AKASG	Malin Array Be	75.17	321	P	P	10 51 29.8	+0.4
	comp=Z,2.5nm,0.7s,mb4.3,baz=48,slow=6.0,SNR=18						
AKASG	Malin Array Be	75.17	321	P	P	10 51 29.8	+0.4
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.7s						
NB2	NORSAR Subarra	76.34	336	P	P	10 51 35.1	-0.8
	comp=Z,2.1nm,0.8s,mb4.1,baz=46,slow=5.3						
NOA	NORSAR Array B	76.34	336	P	P	10 51 35.9	0.0
	comp=Z,1.5nm,0.7s,mb4.0,baz=46,slow=5.5,SNR=5.4						
NOA	NORSAR Array B	76.34	336	P	P	10 51 35.9	0.0
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BRTR	Keskin Array B	78.74	310	P	P	10 51 51.0	+1.5
	comp=Z,8.7nm,0.9s,mb4.7,baz=104,slow=5.1,SNR=20						
BRTR	Keskin Array B	78.74	310	P	P	10 51 51.1	+1.5
BRTR				pmax	pmax		
	comp=Z,9.0nm,0.9s						
TPNV	Topopah Spring	82.26	51	*e*P	P	10 52 09.8	+1.5
	comp=Z,3.7nm,1.0s,mb4.3						
BRG	Berggiesshubel	82.52	328	*e*P	P	10 52 10.5	+1.2
BRG				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.5						
CLL	Collm	82.62	328	P	P	10 52 11.0	+1.1
	comp=Z,logA/T=0.8,mb4.6						
CLL	Collm	82.62	328	*e*P	P	10 52 10.0	+0.1
CLL				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
PDAR	Pinedale Array	82.83	43	P	P	10 52 12.5	+1.4
	comp=Z,0.3nm,0.6s,mb3.5,baz=333,slow=3.3,SNR=3.9						
PRU	Pruhonice	82.87	327	*e*P	P	10 52 13.0	+1.8
KHC	Kasperske Hory	83.92	327	*e*P	P	10 52 17.0	+0.5
GERES	GERESS Array B	84.07	326	P	P	10 52 18.5	+1.3
	comp=Z,2.3nm,0.8s,mb4.3,baz=34,slow=4.8,SNR=8.6						
GERES	GERESS Array B	84.07	326	P	P	10 52 18.5	+1.2
GERES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
TXAR	Lajitas Array	95.22	50	P	P	10 53 12.3	+1.7
	comp=Z,1.0nm,0.9s,mb4.2,baz=288,slow=4.0,SNR=7.7						
TXAR				pP	pP	10 53 20.9	+2.2
	comp=Z,1.7nm,1.1s,baz=288,slow=4.0,SNR=6.1						
TXAR	Lajitas Array	95.22	50	P	P	10 53 12.3	+1.7
TXAR				pP	pP	10 53 20.9	+2.2
LPAZ	La Paz	151.62	60	PKPbc	PKPdf	10 59 44.5	+5.9
	comp=Z,1.6nm,0.4s,baz=10.0,slow=1.1,SNR=5.4						
LPAZ	La Paz	151.62	60	PKIKP	PKPdf	10 59 44.5	+5.9
LPAZ				pmax	pmax		
	comp=Z,2.0nm,0.4s						
LPAZ	La Paz	151.62	60	PKPbc	PKPdf	10 59 44.5	+5.9
USHA	Ushuaia	151.86	148	PKPbc	PKPdf	10 59 42.8	+4.9
	comp=Z,7.8nm,0.8s,baz=260,slow=8.9,SNR=3.1						

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*IDC **06** 10:44:36.3±0.6, 26.92S×26.59E, mb4.6/18, mb1 4.7/19, mb1mx4.6/22, ML2.9/1, MS3.8/3, Ms1 3.8/3, ms1mx3.4/19, Error ellipse: s-maj=22.2km s-min=16.6km az=103.0*

*BJI **06** 10:44:37.2, 26.45S×26.25E, h8^{km}, mB4.9, mb5.0, Ms4.9, Msz4.3*

*PRE **06** 10:44:37.1±2.0, 26.97S×26.72E, h2^{km}, ML4.9*

*NEIC **06** 10:44:38.2±0.2, 26.78S×26.51E, h10^{km}, mb4.9/25, Error ellipse: s-maj=11.7km s-min=6.1km az=100.0*

NEIC Felt at Johannesburg.

*SYO **06** 10:44:38.3, 26.77S×26.50E, h10^{km}, MB4.8*

ISC 06 10:44:36.9±1.0, **26.89S**±0.03×**26.63E**±0.04, **h18**^{km}±7^{km}, **h19**^{km}±2.2^{km}**:pP-P, n161,** σ**1^{s}00**/111, **mb4.8**/46, **MS4.0**/3, **3C-6D, South Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSR	Koster	1.06	13	*e*P	Pb	10 44 57.3	+0.8
KSR				*e*S	Sb	10 45 10.3	+0.4
KSR				*e*		10 45 19.2	
	comp=Z,16μm,0.7s						
SEK	Senekal	1.68	148	*e*P	Pn	10 45 06.1	+0.4
SEK				*e*S	Sn	10 45 25.6	-1.3
SEK				*e*		10 45 30.4	
	comp=Z,8μm,0.4s						
SLR	Silverton	1.88	52	*e*P	Pn	10 45 09.3	+0.7
SLR				*e*		10 45 11.8	
	comp=Z,15μm,0.4s						
SLR				*e*S	Sn	10 45 33.2	+1.2
BOSA	Boshof	2.10	215	*e*P	Pn	10 45 12.4	+0.5
BOSA				*e*S	Sn	10 45 38.3	+0.5
NWL	Newcastle	3.07	106	*e*P	Pn	10 45 25.0	-0.6
NWL				*e*S	Sn	10 45 59.6	-2.6
NWL				*e*		10 46 11.8	
	comp=Z,5μm,0.6s						
BFT	Belfast (SA)	3.29	69	*e*P	Pn	10 45 28.4	-0.3
BFT				*e*S	Sn	10 46 05.5	-2.3
BFT				*e*		10 46 17.5	
	comp=Z,2μm,0.6s						
LEP	Lephalale	3.38	18	*e*P	Pn	10 45 30.0	0.0
LEP				*e*S	Sn	10 46 19.4	+9.2
LEP				*e*		10 46 25.1	
	comp=Z,4μm,0.4s						
HVD	Hendrik Verwoe	3.83	195	*e*S	Pn	10 45 56.5	+20
HVD				*e*	Sn	10 46 47.8	+26
	comp=Z,878nm,0.6s						
PKA	Prieska	4.40	230	*e*S	Pn	10 46 03.2	+19
UPI	Upington	4.99	252	*e*S	Sn	10 46 47.8	-3.1
UPI				*e*		10 47 16.8	
	comp=Z,906nm,0.6s						
MOPA	Mopani	5.47	53	*e*S	Sn	10 46 57.5	-5.4
MOPA				*e*		10 47 30.4	
	comp=Z,1μm,0.9s						
MSNA	Messina	5.48	35	*e*S	Sn	10 46 58.3	-4.8
MSNA				*e*		10 47 27.2	
	comp=Z,1μm,0.5s						
GRM	Grahamstown	6.40	181	*e*P	Pn	10 46 09.5	-3.3
SUR	Sutherland	7.45	221	*e*P	Pn	10 46 26.1	-1.5
CER	Ceres	9.05	223	*e*S	Sn	10 48 48.0	+16
TSUM	Tsumeb	11.31	311	Pn	P	10 47 17.8	-3.0
	comp=Z,4.5nm,0.3s,baz=144,slow=12,SNR=39						
TSUM				Sn	S	10 49 16.9	-11
	comp=Z,2.1nm,0.3s,baz=259,slow=19,SNR=4.3						
TSUM				Lg		10 50 25.9	
	comp=Z,5.9nm,0.3s,baz=34,slow=24,SNR=6.1						
TSUM				LR	LR	10 51 53.9	
	comp=Z,303nm,20.2s,baz=128,slow=39						
TSUM	Tsumeb	11.31	311	*e*P	P	10 47 16.5	-4.3
LSZ	Lusaka	11.65	7	*e*P	P	10 47 21.5	-3.9
MBAR	Mbarara	26.44	9	*e*P	P	10 50 14.6	-0.2
	comp=Z,34nm,1.4s,mb4.7						
KMBO	Kilima Mbogo	27.58	23	P	P	10 50 25.6	+0.4
	comp=Z,1.0nm,0.7s,baz=192,slow=12,SNR=4.1						
KMBO	Kilima Mbogo	27.58	23	*e*P	P	10 50 25.4	+0.2
	comp=Z,9.7nm,1.4s,mb4.2						
SYO	Syowa Base	42.84	173	⇑P	P	10 52 35.9	+0.7
SYO	Syowa Base	42.84	173	⇑sP	sP	10 52 44.6	+1.9
SYO	Syowa Base	42.84	173	⇓PP	PP	10 54 20.7	+3.5
KIC	Kosan Boka	44.90	313	⇓*i*P	P	10 52 52.4	-0.2
	comp=Z,124nm,1.1s,mb5.7						
LIC	Lamto	44.98	312	*e*P	P	10 52 50.9	-2.4
	comp=Z,58nm,1.1s,mb5.0						
LIC	Lamto	44.98	312	*e*P	P	10 52 53.0	-0.3
	comp=Z,67nm,1.1s,mb5.4						
DBIC	Dimbokro	45.20	313	P	P	10 52 55.1	0.0
	comp=Z,20nm,1.0s,mb4.9,baz=116,slow=10.0,SNR=18						
TIC	Toumodi	45.29	313	⇓*i*P	P	10 52 55.7	-0.1
	comp=Z,290nm,1.0s						
MAW	Mawson	46.24	162	P	P	10 53 02.8	+0.2
	comp=Z,14nm,1.4s,mb4.7,baz=263,slow=2.4,SNR=5.2						
SNAA	Sanae	47.72	192	*e*	P	10 53 16.6	+2.4
SNAA	Sanae	47.72	192	*e*	P	10 53 19.1	+4.9
SNAA	Sanae	47.72	192	*e*S	S	11 00 07.7	-0.7
SNAA	Sanae	47.72	192	⇑*i*P	P	10 53 13.9	-0.3
SNAA				*e*	pP	10 53 19.1	-0.4
SNAA				*e*		10 55 04.3	
SNAA				*e*S	S	11 00 07.7	-0.7
VNA1	Neumayer--Stat	48.06	195	*e*	P	10 53 21.7	+4.8
VNA1	Neumayer--Stat	48.06	195	*e*	P	10 53 24.7	+7.8
VNA1	Neumayer--Stat	48.06	195	*e*S	S	11 00 14.2	+0.9
VNA1	Neumayer--Stat	48.06	195	⇓*i*P	P	10 53 19.2	+2.3
VNA1				*e*		10 53 21.7	
VNA1				*e*	pP	10 53 24.7	+2.5
VNA1				*e*		10 55 07.6	
VNA1				*e*S	S	11 00 14.2	+0.9
VNA2	Neumayer--Watz	48.07	194	*e*	P	10 53 21.5	+4.6
VNA2	Neumayer--Watz	48.07	194	*e*	P	10 53 24.2	+7.3
VNA2	Neumayer--Watz	48.07	194	⇓*i*P	P	10 53 18.9	+2.0
VNA2				*e*		10 53 21.5	
VNA2				*e*	pP	10 53 24.2	+1.9
VNA2				*e*		10 55 09.7	
VNA3	Neumayer Olymp	48.81	195	*e*	P	10 53 26.6	+4.0
VNA3	Neumayer Olymp	48.81	195	*e*	P	10 53 29.3	+6.7
VNA3	Neumayer Olymp	48.81	195	⇓*i*P	P	10 53 24.1	+1.5
VNA3				*e*		10 53 26.6	
VNA3				*e*	pP	10 53 29.3	+1.3
VNA3				*e*		10 55 14.9	
EIL	Elat	56.80	9	P	P	10 54 21.4	-1.3
ASF	Jabal al Asfar	59.55	10	P	P	10 54 43.3	+1.4
	comp=Z,9.0nm,0.9s,mb4.8,baz=180,slow=2.7,SNR=9.1						
QSPA	South Pole Qui	63.30	180	*e*P	P	10 55 05.8	-0.7
	comp=Z,31nm,1.2s,mb5.3						
BRTR	Keskin Array B	66.59	6	P	P	10 55 28.9	+0.6
	comp=Z,2.5nm,0.8s,mb4.3,baz=180,slow=8.6,SNR=7.5						
BAO	Brasilia Array	69.59	262	P	P	10 55 47.9	+0.5
BDFB	Brasilia	69.61	262	P	P	10 55 47.8	+0.3
	comp=Z,16nm,0.9s,mb4.9,baz=114,slow=5.6,SNR=14						
BDFB				LR	LR	11 21 15.0	
	comp=Z,84nm,18.5s,MS4.0,baz=295,slow=32						
USHA	Ushuaia	71.26	217	P	P	10 55 57.3	+0.4
	comp=Z,11nm,1.1s,mb4.7,baz=272,slow=7.8,SNR=3.8						
ESDC	Sonseca Array	72.11	336	P	P	10 56 02.9	+0.7
	comp=Z,2.9nm,0.5s,mb4.4,baz=156,slow=5.7,SNR=16						
LMR	La Mourre	72.29	345	*e*P	P	10 56 02.0	-1.2
	comp=Z,57nm,1.3s,mb5.0						
FRF	La Foret Royal	72.47	345	*e*P	P	10 56 02.7	-1.6
TRQA	Tornquist	72.95	236	*e*P	P	10 56 07.0	-0.2
	comp=Z,5.5nm,0.9s,mb4.5						
CPUP	Villa Florida	73.57	249	P	P	10 56 11.1	0.0
	comp=Z,3.2nm,1.1s,mb4.2,baz=141,slow=4.4,SNR=4.3						
LASF	Ste Croix	73.64	343	*e*P	P	10 56 10.5	-0.6
	comp=Z,46nm,1.2s,mb5.0						
ORIF	Oris-en-Rattie	73.93	345	*e*P	P	10 56 11.8	-1.0
	comp=Z,25nm,1.1s,mb4.8						
SJPF	Ste Jean	74.23	339	*e*P	P	10 56 13.8	-0.7
	comp=Z,27nm,1.1s,mb4.8						
PSZ	Piszkesteto	74.71	355	*e*P	P	10 56 17.6	+0.3
	comp=Z,14nm,1.2s,mb4.8						
CAF	Calviac	74.91	342	*e*P	P	10 56 17.9	-0.6
	comp=Z,22nm,1.0s,mb4.8						
VYHS	Vyhne	75.36	355	*e*P	P	10 56 21.6	+0.6
RJF	Les Rejaudoux	75.41	342	*e*P	P	10 56 20.4	-0.9
CABF	La Chapelle	75.49	346	*e*P	P	10 56 21.0	-0.7
	comp=Z,39nm,1.1s,mb5.0						
SMF	Signal de Mont	76.05	344	*e*P	P	10 56 24.2	-0.7
	comp=Z,28nm,1.0s,mb4.8						
TCF	Toulx Ste Croi	76.13	343	*e*P	P	10 56 25.1	-0.3
	comp=Z,25nm,1.2s,mb4.7						
GERES	GERESS Array B	76.28	351	P	P	10 56 26.9	+0.7
	comp=Z,4.5nm,1.0s,mb4.4,baz=180,slow=5.3,SNR=15						
AVF	Avril sur Loir	76.30	344	*e*P	P	10 56 25.6	-0.7
	comp=Z,44nm,1.1s,mb5.0						
HINF	Hinteralfeld	76.46	346	*e*P	P	10 56 26.3	-0.9
SSF	Saint Saulge	76.52	344	*e*P	P	10 56 26.6	-0.9
	comp=Z,24nm,1.1s,mb4.7						
KHC	Kasperske Hory	76.57	351	*e*P	P	10 56 28.0	+0.2
LOR	Lormes	76.62	344	*e*P	P	10 56 27.2	-0.9
	comp=Z,53nm,1.3s,mb5.0						
HAU	Haudompre	76.75	346	*e*P	P	10 56 28.0	-0.8
MORC	Moravsky Berou	76.75	354	*e*P	P	10 56 29.6	+0.9
	comp=Z,8.0nm,1.0s,mb4.6						
CDF	Champ du Feu	76.94	347	*e*P	P	10 56 29.0	-0.9
OJC	Ojcow	77.01	356	*e*P	P	10 56 30.9	+0.7
OJC				*e*PcP	PcP	10 56 41.8	+0.2
MFF	Saint Martin d	77.06	341	*e*P	P	10 56 30.1	-0.5
	comp=Z,46nm,1.0s,mb5.1						
AKASG	Malin Array Be	77.28	2	P	P	10 56 31.8	+0.1
	comp=Z,2.8nm,0.5s,mb4.5,baz=187,slow=5.2,SNR=31						
PRU	Pruhonice	77.29	352	*e*P	P	10 56 32.9	+1.1
GRA1	Grafenberg Arr	77.47	350	*e*P	P	10 56 33.6	+0.9
	comp=Z,22nm,0.7s,mb5.2						
BRG	Berggiesshubel	78.23	352	P	P	10 56 38.2	+1.3
	comp=Z,9.2nm,1.5s,mb4.5						
MOX	Moxa	78.33	350	*e*P	P	10 56 38.0	+0.5
CLL	Collm	78.78	351	P	P	10 56 41.0	+1.1
	comp=Z,logA/T=1.0,mb4.7						
CLL	Collm	78.78	351	*e*P	P	10 56 41.0	+1.1
	comp=Z,11nm,1.2s,mb4.7						
LDF	La Druitiere	78.87	342	*e*P	P	10 56 39.5	-1.0
GRR	Gorron	78.89	342	*e*P	P	10 56 39.8	-0.8
	comp=Z,14nm,0.6s,mb4.8						
FLN	La Foliniere	79.12	342	*e*P	P	10 56 41.0	-0.9
QUIF	Quistinic	79.14	340	*e*P	P	10 56 41.2	-0.8
SGMF	Saint Gilles	79.26	341	*e*P	P	10 56 41.7	-0.9
KSH	Kashi	80.50	37	*e*P	P	10 56 51.3	+1.8
KSH				*e*AP	pP	10 57 01.5	+6.4
KSH				*e*XP	sP	10 57 05.3	+8.3
LVC	Limon Verde	84.70	247	*e*P	P	10 57 13.3	+1.8
	comp=Z,16nm,1.2s,mb5.0						
SAML	Samuel	85.85	262	*e*P	P	10 57 17.6	+0.2
	comp=Z,5.1nm,0.7s,mb4.9						
LPAZ	La Paz	86.89	253	P	P	10 57 23.8	+1.3
	comp=Z,3.5nm,0.4s,mb4.9,baz=118,slow=0.2,SNR=17						
LPAZ	La Paz	86.89	253	P	P	10 57 23.8	+1.3
FINES	FINESS Array B	88.02	360	P	P	10 57 26.9	+0.1
	comp=Z,6.4nm,0.9s,mb4.8,baz=153,slow=8.5,SNR=8.3						
BRVK	Borovoye	88.20	25	*e*P	P	10 57 28.1	+0.1
	comp=Z,2.2nm,0.8s,mb4.4						
BVAR	Borovoye Array	88.22	25	P	P	10 57 28.4	+0.4
	comp=Z,1.1nm,0.7s,mb4.2,baz=214,slow=5.3,SNR=8.1						
NOA	NORSAR Array B	88.51	353	P	P	10 57 31.7	+2.5
	comp=Z,3.2nm,0.9s,mb4.7,baz=174,slow=4.5,SNR=3.6						
MKAR	Makanchi Array	88.90	35	P	P	10 57 31.7	+0.3
	comp=Z,0.8nm,0.6s,mb4.3,baz=243,slow=5.4,SNR=6.3						
KMI	Kunming	89.75	62	*e*P	P	10 57 40.3	+4.4
KMI				AMB	AMB		
	comp=Z,5.0nm,0.5s,mb5.1						
WMQ	Urumqi	89.86	39	*e*P	P	10 57 39.8	+3.8
WMQ				AP	pP	10 57 44.6	+2.9
WMQ				XP	sP	10 57 46.8	+3.3
WMQ				AMB	AMB		
	comp=Z,9.0nm,1.1s,mb5.0						
WMQ				LR	LR		
	comp=Z,71nm,22.0s,MS4.0						
ASAR	Alice Springs	93.64	119	P	P	10 57 54.9	+1.0
	comp=Z,1.9nm,1.1s,mb4.4,baz=233,slow=4.7,SNR=24						
ASAR				LR	LR	11 36 39.7	
	comp=Z,54nm,21.0s,MS4.0,baz=201,slow=33						
STKA	Stephens Creek	94.83	129	P	P	10 58 00.5	+1.3
	comp=Z,3.6nm,0.9s,mb4.8,baz=288,slow=5.9,SNR=4.2						
CN2	Changchun	114.17	52	*e*PKP	PKPdf	11 03 15.5	-3.7
TXAR	Lajitas Array	136.36	285	PKhKP		11 03 54.6	
	comp=Z,0.4nm,0.8s,baz=121,slow=7.3,SNR=5.8						
TXAR				PKP	PKPdf	11 04 01.6	-0.3
	comp=Z,4.9nm,1.1s,baz=123,slow=2.3,SNR=13						
PV01	Paradox Valley	140.93	298	*e*PKPpre		11 04 02.9	
PDAR	Pinedale Array	141.17	306	PKhKP		11 04 03.4	
	comp=Z,1.2nm,0.9s,baz=72,slow=4.7,SNR=8.7						
PV10	Paradox Valley	141.29	299	*e*PKPpre		11 04 03.7	
COLA	College	141.85	356	*e*PKPpre		11 04 03.7	
ILAR	Eielson Array	141.89	356	PKhKP		11 04 05.8	
	comp=Z,2.2nm,0.8s,baz=329,slow=3.3,SNR=22						
SRU	San Rafael	142.38	300	*e*PKPpre		11 04 06.7	
TCUT	Toone Canyon	142.80	303	*e*PKPpre		11 04 06.5	
WUAZ	Wupatki	143.29	294	*e*PKPdf	PKPdf	11 04 11.4	-2.8
MSU	Marysvale	143.73	299	*e*PKPdf	PKPdf	11 04 11.8	-3.1
DUG	Dugway	144.00	302	*e*PKPdf	PKPdf	11 04 11.8	-3.5
HLID	Hailey	144.47	308	*e*PKPdf	PKPdf	11 04 14.0	-2.0
DLBC	Dease Lake	144.48	339	*e*PKPdf	PKPdf	11 04 13.8	-1.7
NEW	Newport	144.69	317	PKP	PKPdf	11 04 13.2	-3.0
	comp=Z,3.4nm,1.1s,baz=98,slow=2.6,SNR=6.7						
NEW	Newport	144.69	317	*e*PKPdf	PKPdf	11 04 13.2	-3.0
SML	Sawmill	144.93	356	*e*PKPdf	PKPdf	11 04 14.1	-2.2
PMR	Palmer	145.19	356	*e*PKPdf	PKPdf	11 04 14.7	-2.0
DIV	Divide	145.39	354	*e*PKPdf	PKPdf	11 04 15.8	-1.3
DPW	Davenport	145.51	317	*e*PKPdf	PKPdf	11 04 16.3	-1.4

FIB	Fire Island	145.67	357	ePKPbc	PKPbc	11 04 16.0	+1.6
SPU	Mount Spurr	145.71	359	ePKPdf	PKPdf	11 04 16.3	-1.3
ELK	Elko	145.72	304	ePKPbc	PKPbc	11 04 18.1	+2.9
EYAK	Cordova Ski Ar	145.95	353	ePKPdf	PKPdf	11 04 18.2	+0.1
NEN	Nelson	146.11	295	ePKPbc	PKPbc	11 04 19.0	+2.6
SLKM	Skilak Lake	146.33	357	ePKPbc	PKPbc	11 04 18.5	+2.5
LNOR	Lincton Mounta	146.35	314	PKPbc	PKPbc	11 04 18.3	+1.8
LDFC	Landfair	146.36	294	ePKPbc	PKPbc	11 04 20.7	+3.8
WTV	Waterville	146.65	317	P	PKPbc	11 04 20.1	+3.0
NLW	Nelson Butte	146.71	318	ePKPbc	PKPbc	11 04 20.7	+3.4
WAH2	Wahluke Slope	146.82	316	P	PKPbc	11 04 21.2	+3.7
HAWA	Hanford	146.95	315	ePKPbc	PKPbc	11 04 21.1	+3.2
TPNV	Topopah Spring	147.12	297	ePKPbc	PKPdf	11 04 22.4	+1.6
RPW	Rockport	147.22	320	P	PKPdf	11 04 21.6	+1.0
BMN	Battle Mountai	147.26	304	ePKPbc	PKPdf	11 04 22.6	+1.8
PFO	Pinyon Flat Ob	147.54	291	ePKPbc	PKPdf	11 04 23.7	+2.1
TPH	Tonopah	147.72	299	ePKPbc	PKPdf	11 04 24.2	+2.5
BAR	Barrett	147.74	289	ePKPbc	PKPdf	11 04 23.9	+1.9
WVOR	Wild Horse Val	147.76	308	ePKPbc	PKPdf	11 04 23.6	+2.0
RMW	Rattlesnake Mo	147.87	318	ePKPbc	PKPdf	11 04 22.9	+1.3
VGB	Gordon Butte	148.10	314	ePKPbc	PKPdf	11 04 24.4	+2.3
LON	Longmire	148.21	317	ePKPbc	PKPdf	11 04 24.3	+2.1
DAC	Darwin (Calif)	148.27	296	ePKPbc	PKPdf	11 04 25.9	+3.2
MNV	Mina	148.38	300	ePKPbc	PKPdf	11 04 25.9	+3.1
GNW	Green Mountain	148.42	319	ePKPdf	PKPdf	11 04 21.6	-0.9
GNW				ePKPbc	PKPdf	11 04 24.8	+2.3
HDW	Hoodsport	148.51	319	P	PKPdf	11 04 26.3	+3.7
MTUM	Tungsten Hills	148.89	298	ePKPbc	PKPdf	11 04 27.6	+4.0
MOD	Modoc	149.10	308	ePKPbc	PKPdf	11 04 27.2	+3.5
OMM	Old Mammoth Mi	149.18	299	ePKPbc	PKPdf	11 04 28.7	+4.6
SSOR	Sweet Springs	149.46	314	ePKPbc	PKPdf	11 04 26.8	+2.5
BEKR	Beckwourth	149.73	304	ePKPbc	PKPdf	11 04 28.8	+4.0
CMB	Columbia Colle	150.18	300	ePKPbc	PKPdf	11 04 30.1	+4.5
ASMM	Slate Mountain	150.23	302	ePKPbc	PKPdf	11 04 31.5	+5.8
HSO	Harness Mounta	150.43	312	ePKPbc	PKPdf	11 04 29.4	+3.5
HUMO	Hull Mountain	150.70	310	ePKPbc	PKPdf	11 04 30.2	+3.9
OHCM	Honcut	150.71	303	ePKPbc	PKPdf	11 04 31.2	+4.9
LRV	Little Rabbit	150.98	297	ePKPbc	PKPdf	11 04 32.6	+5.8
WDC	Whiskeytown Da	151.12	306	ePKPbc	PKPdf	11 04 30.7	+3.7

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*JMA **06** 10:50:19.9±0.1,33.13N×137.17E,h39^{km}±3^{km},M3.6*

ISC 06 10:50:20.3±1.3,**33.16N**±0.07×**137.18E**±0.04,**h43**^{km}±22^{km}, **n13,**σ**0**^{s}**62**/25,**1D,Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TK01	Tokai 1	0.69	29	P	P	10 50 33.6	-0.1
TK01				S	S	10 50 43.1	-0.5
TK02	Tokai 2	0.92	31	S	S	10 50 49.7	+0.5
JWZ	Kozaga	1.28	287	P	P	10 50 41.7	-0.4
JWZ				S	S	10 50 57.1	-1.3
JIE	Ise	1.29	342	⇓P	P	10 50 42.9	+0.7
JIE				S	S	10 50 59.0	+0.4
JKN	Kiinagashima	1.33	325	P	P	10 50 43.0	+0.2
JKN				S	S	10 50 58.7	-0.8
TK04	Tokai 4	1.35	25	P	P	10 50 43.2	+0.1
TK04				S	S	10 51 00.5	+0.4
TSUJ	Tsu 2	1.67	338	P	P	10 50 48.0	+0.4
TSUJ				S	S	10 51 08.4	+0.4
JWM	Minabe	1.67	295	P	P	10 50 47.9	+0.2
JWM				S	S	10 51 07.4	-0.7
JWY	Kouya	1.69	309	P	P	10 50 48.7	+0.8
JWY				S	S	10 51 08.6	+0.1
JHE	Heguri	1.94	321	P	P	10 50 52.0	+0.6
JHE				S	S	10 51 15.0	+0.3
SHZ3	Shizuoka 3	2.08	24	P	P	10 50 53.5	0.0
SHZ3				S	S	10 51 17.4	-0.9
JIZS	Izushimoda	2.10	42	P	P	10 50 54.0	+0.3
JIZS				S	S	10 51 16.9	-1.8
MAT	Matsushiro	3.48	14	P	P	10 51 13.8	+0.5
MAT				S	S	10 51 54.0	+0.3

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*NIED **06** 10:59:00,33.30N×136.80E,h5^{km},Mw4.6 Best double couple: M$_0$9.44×10^{15} NP1:ϕ_s242°,δ84°,λ-82°. NP2:ϕ_s9°, δ10°,λ-143°.*

*JMA **06** 10:59:28.9±0.1,33.35N×136.84E,h48^{km}±3^{km},M3.7*

JMA Felt I J1.

*IDC **06** 10:59:52.3±1.3,29.96N×129.57E,mb3.7/4,mb1 3.8/5, mb1mx3.6/20,ML2.4/1,MS3.8/1,Ms1 3.7/1,ms1mx3.1/21, Error ellipse: s-maj=53.1km s-min=21.8km az=74.0*

ISC 06 10:59:29.3±0.8,**33.41N**±0.04×**136.84E**±0.03,**h25**^{km}±5^{km}, **n20,**σ**0**^{s}**91**/32,**mb3.7**/4,**MS3.8**/1,**2C,Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TK01	Tokai 1	0.72	61	P	Pb	10 59 43.1	0.0
TK01				S	Sb	10 59 54.5	+1.9
TK02	Tokai 2	0.93	55	P	Pb	10 59 46.8	+0.1
TK02				S	Sb	10 59 57.8	-0.9
JWZ	Kozaga	0.94	277	⇑P	Pb	10 59 46.0	-0.9
JWZ				S	Sb	10 59 58.7	-0.3
JKN	Kiinagashima	0.96	330	P	Pb	10 59 47.0	-0.1
JKN				S	Sb	10 59 59.3	-0.1
JIE	Ise	0.98	354	P	Pb	10 59 47.6	+0.1
JIE				S	Sb	11 00 00.8	+0.7
TK04	Tokai 4	1.30	41	P	Pn	10 59 51.0	-1.1
TK04				S	Sn	11 00 07.9	-0.9
JWY	Kouya	1.31	308	⇑P	Pn	10 59 52.3	0.0
JWY				S	Sn	11 00 09.2	+0.1
JWM	Minabe	1.31	290	P	Pn	10 59 51.8	-0.5
JWM				S	Sn	11 00 08.5	-0.6
TSUJ	Tsu 2	1.34	345	P	Pn	10 59 52.8	+0.1
TSUJ				S	Sn	11 00 09.9	+0.1
JHE	Heguri	1.56	323	P	Pn	10 59 56.1	+0.2
JHE				S	Sn	11 00 15.4	-0.1
JAJ2	Tsuna	1.91	302	P	Pn	11 00 01.1	+0.3
SHZ3	Shizuoka 3	2.00	34	P	Pn	11 00 00.6	-1.6
MAT	Matsushiro	3.32	19	P	Pn	11 00 20.5	-0.4
MAT				S	Sn	11 01 00.6	+0.6
MAT	Matsushiro	3.32	19	eP	Pn	11 00 21.0	+0.1
MAT				eS	Sn	11 01 01.0	+1.0
JNU	Nakatsue	5.00	268	Pn	Pn	11 00 47.6	+2.8
	0.6nm,0.3s,baz=150,slow=9.1,SNR=3.0						
JNU				Sn	Sn	11 01 42.5	0.0
	1.0nm,0.3s,baz=126,slow=13,SNR=3.9						
SONM	Songino Array	27.02	311	P	P	11 05 18.9	+7.7
	1.1nm,0.9s,mb3.4,baz=111,slow=9.1,SNR=6.7						
ZAL	Zalesovo	41.73	316	LR	LR	11 26 19.7	
	comp=Z,126nm,21.4s,MS3.8,baz=111,slow=40						
MKAR	Makanchi Array	42.98	305	P	P	11 07 29.2	+1.2
	0.8nm,0.7s,mb3.6,baz=88,slow=10,SNR=3.5						
WRA	Warramunga Arr	53.11	183	P	P	11 08 45.5	-1.7
	1.5nm,0.9s,mb3.9,slow=7.6,SNR=9.0						
ASAR	Alice Springs	56.83	183	P	P	11 09 16.4	+2.1
	0.6nm,0.8s,mb3.7,baz=7.0,slow=11,SNR=5.2						

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*IDC **06** 11:03:28.5±1.4,9.46N×85.06W,mb3.9/4,mb1 4.2/4, mb1mx4.0/15,MS3.2/1,Ms1 3.2/1,ms1mx2.9/18,Error ellipse: s-maj=51.1km s-min=12.7km az=103.0*

*NEIC **06** 11:03:31.8±1.1,9.41N×84.72W,h35^{km},mb4.1/11,Error ellipse: s-maj=26.2km s-min=18.3km az=85.0*

NEIC Felt at Cobano, Nandayure and in the Valle Central.

*CASC **06** 11:03:35.6±2.6,9.69N×85.05W,h7^{km}±10^{km},MD4.0, ML4.9,MW4.3,mb4.1(NEIC)*

ISC 06 11:03:32.5±1.3,**9.45N**±0.07×**85.20W**±0.04,**h26**^{km}±7^{km}, **n52,**σ**1**^{s}**56**/53,**mb4.0**/15,**9C-9D,Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCR	Jicaral	0.41	12	⇑iP	Pb	11 03 40.0	-1.2
JCR				eS	Sb	11 03 44.8	-2.3
VCR	Vista de Mar	0.80	328	⇑eP	Pb	11 03 48.4	+0.8
VCR				eS	Sb	11 03 59.0	+1.0
JTS	JuntasAbangare	0.87	16	Pg	Pb	11 03 46.1	-2.8
	1μm,0.3s,baz=180,slow=10,SNR=6175						
JTS				Lg		11 03 55.8	
	slow=20						
CGA2	Cerro Gallo 2	0.92	52	⇓iP	Pb	11 03 48.8	-0.9
PRS1	Puriscal	1.02	59	⇓iP	Pb	11 03 49.5	-1.9
PRS1				eS	Sb	11 04 00.3	-4.3
LAJ	Bijagual	1.14	69	⇑iP	Px	11 03 45.6	
LAJ				eS	Sx	11 03 53.6	
FORC	Fortuna	1.15	27	⇓iP	Pn	11 03 52.1	-1.0
VPS2	Volcan Poas 2	1.20	52	⇑eP	Pn	11 03 53.8	-0.1
LCR2	La Lucha 2	1.22	76	⇑eP	Pn	11 03 54.6	+0.5
SJS	Escuela Geolog	1.23	67	⇓iP	Pn	11 03 53.7	-0.6
SJS				eS	Sn	11 04 09.4	-0.8
BUS	Buena Vista	1.43	86	⇑eP	Pn	11 03 58.5	+1.4
ICR	Volcan Irazu	1.45	68	⇓eP	Pn	11 03 58.7	+1.3
URSC	Urasca	1.45	75	⇑iP	Pn	11 03 58.7	+1.3
TRTC	Tortuguero	1.84	52	⇓iP	Pn	11 04 03.6	+0.5
CONN	Concepcion	2.15	349	⇑iP	Pn	11 04 09.2	+1.8
CONN				eS	Sn	11 04 35.9	+2.5
ACR	Cerro Adams	2.16	111	eP	Pn	11 04 09.5	+2.0
ACR				eS	Sn	11 04 35.4	+1.7
LIO	Limon	2.21	75	⇑eP	Pn	11 04 09.3	+1.0
CRUN	El Crucero	2.74	337	eP	Pn	11 04 19.0	+3.1
TICN	Ticuantepe	2.76	339	eP	Pn	11 04 18.2	+2.0
WILN	Americas 2	2.87	340	eP	Pn	11 04 18.1	+0.5
MGAN	Managua	2.87	339	eP	Pn	11 04 20.0	+2.2
MGAN				i		11 05 09.3	
	comp=N,362nm,0.7s						
XAVN	Gruta Xavier	2.90	338	⇓eP	Pn	11 04 21.3	+3.1
COPN	Copaltepe	3.04	333	eP	Pn	11 04 21.4	+1.3
PYTN	Playitas	3.18	345	eP	Pn	11 04 24.5	+2.3
MOMJ	Momotombo	3.22	336	eP	Pn	11 04 25.4	+2.6
MIRN	Miramar	3.32	334	⇓eP	Pn	11 04 28.0	+3.9
LEON	Leon	3.39	331	⇓eP	Pn	11 04 28.7	+3.7
SOMN	Somoto	4.18	341	eP	Pn	11 04 37.2	+0.8
ROSC	El Rosal	11.71	112	LR	LR	11 10 21.2	
	comp=N,121nm,20.3s,baz=129,slow=36						
LRAL	Lakeview Retre	23.53	356	eP	P	11 08 40.7	-1.0
	comp=N,16nm,0.9s,mb4.4						
TXAR	Lajitas Array	26.28	321	P	P	11 09 07.3	-0.6
	comp=N,0.5nm,0.5s,mb3.3,baz=141,slow=11,SNR=10						
TXAR				PcP	PcP	11 12 32.4	-2.1
	comp=N,0.4nm,0.7s,baz=148,slow=4.7,SNR=4.1						
TXAR	Lajitas Array	26.28	321	P	P	11 09 07.3	-0.6
TXAR				PcP	PcP	11 12 32.4	-2.1
WVT	Waverly	26.67	355	eP	P	11 09 08.2	-3.2
	comp=N,6.0nm,0.9s,mb4.1						
WCI	Wyandotte Cave	28.67	358	P	P	11 09 26.8	-2.8
	comp=N,5.7nm,0.8s,mb4.3						
ANMO	Albuquerque	31.97	326	eP	P	11 09 57.2	-1.6
	comp=N,1.9nm,0.8s,mb4.0						
SDCO	Great Sand Dun	33.60	330	eP	P	11 10 11.1	-1.9
	comp=N,2.2nm,0.7s,mb4.2						
WUAZ	Wupatki	35.25	321	eP	P	11 10 27.1	0.0
PV01	Paradox Valley	35.47	327	eP	P	11 10 29.8	+0.8
PV10	Paradox Valley	35.89	327	eP	P	11 10 30.9	-1.7
SRU	San Rafael	37.22	327	eP	P	11 10 42.9	-0.8
DUG	Dugway	39.24	326	eP	P	11 10 59.3	-1.4
	comp=N,2.1nm,1.0s,mb3.8						
PDAR	Pinedale Array	39.45	331	P	P	11 11 00.3	-2.0
	comp=N,0.7nm,0.7s,mb3.5,baz=128,slow=8.8,SNR=8.5						
PDAR				PcP	PcP	11 13 09.3	-1.3
	comp=N,0.5nm,0.8s,baz=90,slow=6.3,SNR=3.9						
HWUT	Hardware Ranch	39.57	328	eP	P	11 11 01.8	-1.6
	comp=N,2.3nm,0.8s,mb4.0						
TPH	Tonopah	40.51	320	eP	P	11 11 11.8	+0.7
	comp=N,4.0nm,1.0s,mb4.0						
ELK	Elko	40.98	325	eP	P	11 11 14.3	-0.7
	comp=N,2.8nm,0.9s,mb3.9						
BOZ	Bozeman (W)	42.61	333	eP	P	11 11 26.2	-2.2
	comp=N,0.9nm,0.7s,mb3.6						
WVOR	Wild Horse Val	44.02	324	eP	P	11 11 39.0	-0.8
	comp=N,13nm,1.1s,mb4.6						
SCHQ	Schefferville	47.56	14	P	P	11 12 03.5	-4.3
	comp=N,6.6nm,0.5s,mb4.9,baz=219,slow=6.8,SNR=26						
ILAR	Eielson Array	69.64	336	P	P	11 14 38.9	-2.7
	comp=N,0.3nm,0.5s,mb3.5,baz=117,slow=4.5,SNR=14						
SONM	Songino Array	122.05	351	PKP	PKPdf	11 22 26.9	-2.9
	comp=N,0.3nm,0.5s,baz=19,slow=0.6,SNR=3.2						
ASAR	Alice Springs	140.09	244	PKP	PKPdf	11 22 58.6	-5.8
	comp=N,0.3nm,0.8s,baz=98,slow=3.4,SNR=2.8						
WRA	Warramunga Arr	140.45	250	PKhKP		11 22 57.5	
	comp=N,0.5nm,1.1s,baz=104,slow=0.4,SNR=5.0						
WRA				PKP	PKPdf	11 23 02.1	-3.1
	comp=N,0.5nm,0.8s,baz=92,slow=2.4,SNR=7.2						

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*IDC **06** 11:58:09.9±10.0,33.24N×136.65E,mb3.7/4,mb1 3.9/4, mb1mx3.7/20,Error ellipse: s-maj=425.0km s-min=23.3km az=63.0*

*JMA **06** 11:58:10.6,33.46N×136.77E,h41^{km}±2^{km},M3.3*

ISC 06 11:58:10.5±0.8,**33.49N**±0.04×**136.77E**±0.04,**h27**^{km}±5^{km}, **n15,**σ**0**^{s}**65**/24,**mb3.6**/4,**1C-2D,Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TK01	Tokai 1	0.74	68	P	Pb	11 58 24.6	-0.1
TK01				S	Sb	11 58 35.7	+1.3
JKN	Kiinagashima	0.87	331	P	Pb	11 58 26.8	-0.1
JKN				S	Sb	11 58 38.1	0.0
JWZ	Kozaga	0.88	273	⇑P	Pb	11 58 26.8	-0.3
JWZ				S	Sb	11 58 38.5	-0.1
JIE	Ise	0.90	357	⇓P	Pb	11 58 27.6	+0.1
JIE				S	Sb	11 58 38.7	-0.4
TK02	Tokai 2	0.94	61	S	Sb	11 58 39.4	-0.8
JWY	Kouya	1.22	307	P	Pn	11 58 32.4	+0.3
JWY				S	Sn	11 58 47.8	0.0
JWM	Minabe	1.23	287	P	Pn	11 58 32.3	0.0
JWM				S	Sn	11 58 47.8	-0.3
TSUJ	Tsu 2	1.25	347	⇓P	Pn	11 58 32.6	+0.1
TSUJ				S	Sn	11 58 48.6	0.0
TK04	Tokai 4	1.28	45	S	Sn	11 58 48.8	-0.5
JHE	Heguri	1.47	323	P	Pn	11 58 35.7	+0.1
JHE				S	Sn	11 58 53.9	-0.2
MAT	Matsushiro	3.27	21	P	Pn	11 59 01.3	0.0
MAT				S	Sn	11 59 39.5	-0.2
SONM	Songino Array	26.93	311	P	P	12 03 54.4	+3.1
	0.2nm,0.3s,mb3.1,baz=79,slow=7.3,SNR=3.1						
MKAR	Makanchi Array	42.89	305	P	P	12 06 09.7	+1.5
	0.9nm,0.9s,mb3.5,baz=106,slow=8.8,SNR=5.5						
WRA	Warramunga Arr	53.18	183	P	P	12 07 27.8	-0.9
	1.3nm,0.7s,mb4.0,baz=359,slow=7.6,SNR=18						
ASAR	Alice Springs	56.90	183	P	P	12 07 55.0	-0.6
	0.8nm,0.6s,mb4.0,baz=14,slow=11,SNR=14						

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*NIED **06** 12:05:00,33.20N×137.10E,h14^{km},Mw3.7 Best double couple: M$_0$4.22×10^{14} NP1:ϕ_s236°,δ87°,λ-6°. NP2:ϕ_s326°, δ84°,λ-177°.*

*JMA **06** 12:05:33.6±0.1,33.19N×137.15E,h36^{km}±3^{km},M3.7*

ISC 06 12:05:33.9±1.3,**33.22N**±0.08×**137.13E**±0.05,**h30**^{km}±9^{km}, **n12,**σ**0**^{s}**40**/23,**5C-3D,Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TK01	Tokai 1	0.66	35	P	Pb	12 05 46.7	-0.2
TK01				S	Sb	12 05 55.7	-0.2
TK02	Tokai 2	0.89	36	⇓P	Pn	12 05 50.0	-0.4
TK02				S	Sn	12 06 02.5	+0.1
JIE	Ise	1.22	343	⇓P	Pn	12 05 55.8	+0.7
JIE				S	Sn	12 06 11.0	+0.3
JWZ	Kozaga	1.22	285	⇑P	Pn	12 05 54.9	-0.3
JWZ				S	Sn	12 06 10.3	-0.6
JKN	Kiinagashima	1.25	325	P	Pn	12 05 55.9	+0.3
JKN				S	Sn	12 06 10.8	-0.8
TK04	Tokai 4	1.31	28	⇓P	Pn	12 05 56.4	-0.1
TK04				S	Sn	12 06 13.0	-0.1
TSUJ	Tsu 2	1.60	338	⇑P	Pn	12 06 01.2	+0.7
TSUJ				S	Sn	12 06 20.3	0.0
JWM	Minabe	1.61	293	⇑P	Pn	12 06 00.7	0.0
JWM				S	Sn	12 06 20.2	-0.5
JWY	Kouya	1.62	308	⇑P	Pn	12 06 01.6	+0.7
JWY				S	Sn	12 06 21.0	+0.1
JHE	Heguri	1.87	320	⇑P	Pn	12 06 04.9	+0.5
JHE				S	Sn	12 06 27.4	+0.2
SHZ3	Shizuoka 3	2.04	26	P	Pn	12 06 06.6	-0.4
MAT	Matsushiro	3.43	15	P	Pn	12 06 26.9	+0.3
MAT				S	Sn	12 07 06.5	-0.2

IDC 06 12:34:36.0±1.1,**37.94N**×**142.94E,mb3.7**/5,**mb1 3.9**/5, **mb1mx3.7**/20,**Error ellipse: s-maj=39.0km s-min=24.2km az=85.0,Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	Makanchi Array	44.67	302	P	P	12 42 48.8	-3.2
	0.2nm,0.4s,baz=92,slow=7.6,SNR=6.2						
ILAR	Eielson Array	48.08	33	P	P	12 43 16.7	-2.0
	0.5nm,0.5s,baz=248,slow=8.9,SNR=38						
BVAR	Borovoye Array	50.86	312	P	P	12 43 39.3	-0.9
	1.2nm,0.4s,baz=108,slow=9.1,SNR=8.1						
WRA	Warramunga Arr	58.14	190	P	P	12 44 30.4	-3.5
	0.5nm,0.5s,baz=13,slow=8.1,SNR=16						
ASAR	Alice Springs	61.86	189	P	P	12 44 58.7	-0.7
	0.3nm,0.6s,baz=18,slow=12,SNR=4.1						

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*IGIL **06** 12:42:56.5,55.31S×28.87W,h2^{km},MS7.0*

*BJI **06** 12:42:57.3,55.40S×29.00W,h10^{km},mB6.7,Ms7.2, Msz7.1*

*MOS **06** 12:42:58.6±1.6,55.35S×28.58W,h10^{km},mb6.0/22, MS6.8/12,Error ellipse: s-maj=31.5km s-min=12.0km az=104.6*

*NEIC **06** 12:42:59.4±0.1,55.37S×28.98W,h10^{km},mb6.0/57, MS6.5/102,MW6.9,Error ellipse: s-maj=6.8km s-min=5.4km az=67.0,Moment Tensor Solution. s16 Moment tensor: Scale 10^{19}Nm; M$_{rr}$0.38; M$_{\theta\theta}$-0.46; M$_{\phi\phi}$0.09; M$_{r\theta}$-1.10; M$_{\theta\phi}$-0.11; M$_{\phi r}$2.20; Best double couple: M$_0$2.5×10^{19} NP1:ϕ_s89°,δ4°,λ26°. NP2:ϕ_s332°, δ88°,λ94°. Principal axes: T 2.69, Plg47°, Azm246°; N -.44, Plg4°, Azm152°; P -2.25, Plg43°, Azm59°;*

*SYO **06** 12:42:59.2,55.33S×28.84W,h10^{km},MB6.0,MS6.5*

*HRVD **06** 12:42:59.4±0.1,55.43S×28.79W,h12^{km},MW6.8/77, Centroid moment Tensor Solution. LP body waves: s77,c196;Mantle waves: s71,c151; Half duration: 5^{s}7 Moment tensor: Scale 10^{19}Nm; M$_{rr}$0.63±.01; M$_{\theta\theta}$-0.63±.01; M$_{\phi\phi}$0.00±.01; M$_{r\theta}$-0.94±.02; M$_{\theta\phi}$0.68±.01; M$_{\phi r}$1.06±.02; Best double couple: M$_0$1.67×10^{19} NP1:ϕ_s95°, δ20°,λ47°. NP2:ϕ_s319°,δ76°,λ104°. Principal axes: T 1.5, Plg57°, Azm247°; N .34, Plg13°, Azm136°; P -1.84, Plg29°, Azm38°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to mantle waves, cutoff=125s.*

*IDC **06** 12:43:00.4±1.7,55.30S×29.11W,h17^{km}±9^{km},mb5.6/12, mb1 5.6/12,mb1mx5.6/12,MS6.7/9,Ms1 6.7/9, ms1mx6.6/10 Error ellipse: s-maj=20.7km s-min=11.5km az=33.0*

ISC 06 12:42:58.9±1.6,**55.40S**±0.04×**29.16W**±0.08,**h11**^{km}±9^{km}, **n738,**σ**1**^{s}**31**/201,**mb6.0**/67,**MS6.6**/137,**50C-26D,South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EFI	East Falkland	17.52	270	Pn	P	12 47 05.2	+0.9
	5μm,0.9s,SNR=9.7						
EFI	East Falkland	17.52	270	eP	P	12 47 05.1	+0.8
	767nm,0.9s						
VNA1	Neumayer--Stat	17.83	157	⇑iP	P	12 47 09.3	+1.2
VNA1	Neumayer--Stat	17.83	157	⇑i	P	12 47 11.2	+3.1
VNA1	Neumayer--Stat	17.83	157	⇑i	P	12 47 11.8	+3.7
VNA1	Neumayer--Stat	17.83	157	⇑i	P	12 47 12.9	+4.8
VNA1	Neumayer--Stat	17.83	157	⇑i		12 47 18.3	
VNA1	Neumayer--Stat	17.83	157	⇓i	P	12 47 24.4	+16
VNA1	Neumayer--Stat	17.83	157	⇑iS	Sx	12 50 51.1	
VNA3	Neumayer Olymp	17.99	160	⇑iP	P	12 47 11.5	+1.4
VNA3	Neumayer Olymp	17.99	160		P	12 47 14.4	+4.3
VNA3	Neumayer Olymp	17.99	160	⇓i	P	12 47 15.8	+5.7
VNA3	Neumayer Olymp	17.99	160	⇑i		12 47 20.5	
VNA3	Neumayer Olymp	17.99	160	⇓i		12 47 22.0	
VNA3	Neumayer Olymp	17.99	160	⇑iS	Sx	12 50 51.7	
VNA3	Neumayer Olymp	17.99	160		PcP	12 51 46.6	+0.5
VNA2	Neumayer--Watz	18.23	157	⇑iP	P	12 47 13.7	+0.6
VNA2	Neumayer--Watz	18.23	157	⇑i	P	12 47 16.3	+3.2
VNA2	Neumayer--Watz	18.23	157	⇑i	P	12 47 17.6	+4.5
VNA2	Neumayer--Watz	18.23	157	⇑i		12 47 21.7	
VNA2	Neumayer--Watz	18.23	157	⇑i		12 47 25.0	
VNA2	Neumayer--Watz	18.23	157	⇑i	P	12 47 26.5	+13
VNA2	Neumayer--Watz	18.23	157	⇓iS	Sx	12 50 55.5	
VNA2	Neumayer--Watz	18.23	157	⇓i		12 51 01.2	
VNA2	Neumayer--Watz	18.23	157		PcP	12 51 45.4	-1.1
PMSA	Palmer Station	19.50	227	P	P	12 47 30.1	+1.6
PMSA				S	S	12 51 14.8	+12
PMSA	Palmer Station	19.50	227	eP	P	12 47 29.8	+1.4
	1μm,1.0s						
SNAA	Sanae	19.80	156	P	P	12 47 29.1	-2.6
SNAA	Sanae	19.80	156	⇑i	P	12 47 30.9	-0.8
SNAA	Sanae	19.80	156	⇑i	P	12 47 32.5	+0.8
SNAA	Sanae	19.80	156	⇑i	P	12 47 33.5	+1.8
SNAA	Sanae	19.80	156	⇑i	P	12 47 35.0	+3.3
SNAA	Sanae	19.80	156	⇑i	P	12 47 38.1	+6.4
SNAA	Sanae	19.80	156	⇑i		12 47 44.4	
SNAA	Sanae	19.80	156	⇓iS	S	12 51 13.9	+5.2
SNAA	Sanae	19.80	156	⇓iS	S	12 51 14.3	+5.6
SNAA	Sanae	19.80	156		ScS	12 59 03.7	-1.3
SNAA	Sanae	19.80	156	eP	P	12 47 27.7	-4.0
SNAA				pmax	pmax		
	comp=Z,180nm,0.6s						
TRIS	Tristan da Cun	21.62	39	eP	P	12 47 48.9	-1.9
	comp=Z,3μm,1.4s,mb6.6						
USHA	Ushuaia	22.27	255	P	P	12 47 57.9	+0.8
	comp=Z,815nm,0.8s,mb6.2,baz=86,slow=12,SNR=63						
USHA				S	S	12 51 57.5	+0.5
	comp=Z,15nm,0.8s,baz=100,slow=6.1,SNR=2.3						
USHA				LR	LR	12 54 37.5	
	comp=Z,93μm,18.1s,MS6.2,baz=84,slow=31						
MAIT	Maitri	23.40	147	eP	P	12 48 13.4	+5.5
MAIT				eS	S	12 52 33.4	+17
TRQA	Tornquist	28.04	294	eP	P	12 48 51.3	-0.5
	comp=Z,175nm,0.7s,mb5.8						
TRQA				LR	LR		
	comp=Z,79μm,21.0s,MS6.3						
LPA	La Plata	28.49	304	c iP	P	12 48 56.0	+0.1
LPA				ePP	PP	12 49 46.0	-1.7
LPA				ePCP	PcP	12 52 05.0	-3.0
LPA				i S	S	12 53 45.0	+3.1
	comp=Z,89μm,21.0s						
SYO	Syowa Base	32.79	142	⇑P	P	12 49 30.2	-3.4
SYO	Syowa Base	32.79	142	⇓pP	pP	12 49 32.8	-4.1
SYO	Syowa Base	32.79	142	⇑sP	sP	12 49 33.7	-4.7
SYO	Syowa Base	32.79	142	⇓P		12 59 56.3	
QSPA	South Pole Qui	34.86	180	eP	P	12 49 49.7	-1.7
	comp=Z,120nm,0.7s,mb5.9						
QSPA				LR	LR		
	comp=Z,150μm,20.9s,MS6.7						
NICH	Los Niches	35.25	288	⇑iP	P	12 49 50.5	-4.7
CPUP	Villa Florida	35.55	313	P	P	12 49 56.2	-1.6
	comp=Z,219nm,0.9s,mb6.1,baz=170,slow=7.7,SNR=95						
CPUP				S	S	12 55 29.1	-3.3
	comp=Z,28nm,1.3s,baz=162,slow=20,SNR=1.7						
CPUP				ScP		12 56 11.8	
	comp=Z,82nm,1.3s,baz=133,slow=5.0,SNR=7.1						
CPUP				LR	LR	13 03 36.4	
	comp=Z,53μm,19.9s,MS6.3,baz=179,slow=35						
CPUP	Villa Florida	35.55	313	P	P	12 49 56.2	-1.6
CPUP				S	S	12 55 30.3	-2.1
CPUP				ScP		12 56 12.6	
LMEL	Las Melosas	35.57	290	⇑iP	P	12 49 56.8	-1.1
FCH	Farellones	36.01	291	⇑iP	P	12 50 00.8	-0.9
CLCH	Cerro Calan	36.09	290	⇑iP	P	12 50 01.3	-1.0
PEL	Peldehue	36.37	290	⇓iP	P	12 50 03.8	-0.9
TLL	Tololo Astrono	38.75	293	⇑iP	P	12 50 24.6	-0.2
MAW	Mawson	41.34	145	⇓iP	P	12 50 45.2	-0.4
	comp=Z,79nm,0.7s,mb5.5						
MAW				eSCP		12 56 30.4	
MAW				eS	S	12 56 56.5	-3.2
MAW				eSCS	ScS	13 00 45.2	-2.5
MAW	Mawson	41.34	145	P	P	12 50 45.2	-0.4
	comp=Z,76nm,0.9s,mb5.3,baz=238,slow=8.0,SNR=79						
MAW				ScP		12 56 30.7	
	comp=Z,28nm,0.8s,baz=276,slow=7.7,SNR=7.9						
MAW				S	S	12 56 53.0	-6.6
	comp=Z,21nm,0.9s,baz=254,slow=9.5,SNR=2.5						
MAW				LR	LR	13 08 45.2	
	comp=Z,136μm,18.0s,MS6.9,baz=254,slow=37						
MAW	Mawson	41.34	145	P	P	12 50 45.2	-0.4
MAW				S	S	12 56 53.0	-6.7
MAW				pmax	pmax		
	comp=Z,76nm,0.9s						
MAW				MLR	MLR		
	comp=Z,136μm,18.0s						
SUR	Sutherland	41.57	78	⇓eP	P	12 50 46.0	-1.9
	comp=Z,145nm,0.9s,mb5.6						
SUR				LR	LR		
	comp=Z,31μm,22.0s,MS6.1						
BAO	Brasilia Array	42.25	332	P	P	12 50 53.8	+0.1
BDFB	Brasilia	42.25	332	P	P	12 50 53.0	-0.7
	comp=Z,71nm,0.8s,mb5.4,baz=147,slow=3.7,SNR=33						
BDFB				S	S	12 57 07.2	-6.5
	comp=Z,9.2nm,0.8s,baz=297,slow=6.8,SNR=1.7						
BDFB	Brasilia	42.25	332	P	P	12 50 53.0	-0.7
BDFB				S	S	12 57 07.2	-6.5
BDFB				pmax	pmax		
	comp=Z,71nm,0.8s						

SHEL	Horse Pasture	43.28	34	P	P	12 51 02.7	+0.6
	comp=Z,3µm,1.4s,mb6.9,SNR=13						
LVC	Limon Verde	44.01	302	⇑iP	P	12 51 08.3	+0.4
	comp=Z,192nm,0.8s,mb5.9						
LVC				LR	LR		
	comp=Z,26µm,20.0s,MS6.1						
SBA	Scott Base	46.65	185	P	P	12 51 28.9	+0.7
SBA				pmax	pmax		
	comp=Z,140nm,0.9s,mb5.9						
SBA	Scott Base	46.65	185	eP	P	12 51 28.6	+0.3
	comp=Z,144nm,0.9s,mb5.9						
SBA				LR	LR		
	comp=Z,15µm,21.0s,MS5.9						
LPAZ	La Paz	49.09	307	P	P	12 51 48.1	+0.1
	comp=Z,153nm,1.0s,mb6.0,baz=144,slow=9.0,SNR=78						
LPAZ				S	S	12 58 52.1	+0.4
	comp=Z,2.4nm,0.5s,baz=204,slow=1.4,SNR=2.3						
LPAZ				LR	LR	13 11 32.4	
	comp=Z,23µm,21.0s,MS6.1,baz=13,slow=35						
RCBR	Riachuelo	49.72	351	eP	P	12 51 50.1	-2.9
	comp=Z,162nm,1.3s,mb5.9						
RCBR				LR	LR		
	comp=Z,45µm,19.0s,MS6.5						
TSUM	Tsumeb	50.36	63	P	P	12 51 54.5	-3.3
	comp=Z,81nm,0.8s,mb5.8,baz=206,slow=6.2,SNR=30						
TSUM	Tsumeb	50.36	63	eP	P	12 51 54.4	-3.4
	comp=Z,2µm,1.9s,mb6.7						
TSUM				eS	S	12 58 55.7	-14
TSUM				LR	LR		
	comp=Z,64µm,20.0s,MS6.6						
ARE	Arequipa	50.51	303	⇑iP	P	12 51 59.4	+0.5
ARE				i		12 53 58.4	
ARE				i		12 59 16.0	
ARE				i		13 01 50.4	
MIR	Mirnyy	50.87	154	cP	P	12 52 00.0	-1.0
MIR				e		12 53 18.0	
MIR				eS	S	12 59 21.0	+5.3
MIR				pmax	pmax		
	comp=N,1µm,4.8s						
MIR				pmax	pmax		
	comp=E,800nm,4.8s						
MIR				pmax	pmax		
	comp=Z,3µm,4.8s						
MIR				pmax	pmax		
	comp=Z,520nm,1.5s,mb6.2						
MIR				smax			
	comp=N,9µm,16.0s						
MIR				smax			
	comp=E,11µm,16.0s						
MIR				MLR	MLR		
	comp=N,36µm,19.0s,MS6.6						
MIR				MLR	MLR		
	comp=E,50µm,19.0s,MS6.6						
MIR				MLR	MLR		
	comp=Z,120µm,19.0s,MS6.9						
SAML	Samuel	53.55	317	P	P	12 52 19.6	-2.2
SAML				S	S	12 59 51.0	-2.1
SAML				ScS	ScS	13 02 05.3	-2.7
SAML	Samuel	53.55	317	eP	P	12 52 19.5	-2.4
	comp=Z,0.3nm,0.5s						
SAML				LR	LR		
	comp=Z,32µm,21.0s						
CASY	Casey	54.89	161	⇑iP	P	12 52 28.5	-2.5
CASY				i S	S	13 00 11.4	+0.9
NNA	Nana	56.95	300	eP	P	12 52 45.3	-1.2
	comp=Z,200nm,1.2s,mb6.0						
NNA				LR	LR		
	comp=Z,4µm,20.0s,MS5.6						
DRV	Dumont d'Urvil	57.99	175	P	P	12 52 51.0	-2.1
DRV				S	S	13 00 49.0	-2.5
DRV				SS	SS	13 04 36.0	-8.2
DRV				R		13 11 00.0	
LSZ	Lusaka	59.20	71	P	P	12 52 58.2	-4.0
LSZ				pmax	pmax		
	comp=Z,2µm,2.1s,mb6.7						
LSZ	Lusaka	59.20	71	eP	P	12 52 58.2	-3.9
	comp=Z,2µm,2.1s,mb6.7						
LSZ				LR	LR		
	comp=Z,124µm,20.0s,MS7.0						
RPN	Rapa Nui	62.66	261	eP	P	12 53 26.4	+0.9
	comp=Z,1µm,1.7s,mb6.8						
RPN				LR	LR		
	comp=Z,5µm,20.0s,MS5.6						
LIC	Lamto	64.59	27	eP	P	12 53 33.8	-4.6
	comp=Z,669nm,1.4s,mb6.2						
LIC	Lamto	64.59	27	eP	P	12 53 34.3	-4.1
	comp=Z,1µm,1.7s,mb6.6						
KIC	Kosan Boka	64.79	27	eP	P	12 53 35.4	-4.3
	comp=Z,3µm,1.7s						
TIC	Toumodi	64.99	27	eP	P	12 53 36.7	-4.3
	comp=Z,756nm,1.0s,mb6.7						
DBIC	Dimbokro	65.06	27	P	P	12 53 37.7	-3.8
	comp=Z,81nm,1.1s,mb5.7,baz=174,slow=7.9,SNR=27						
DBIC				S	S	13 02 16.6	-5.4
	comp=Z,4.5nm,1.1s,baz=217,slow=20,SNR=1.7						
DBIC				LR	LR	13 15 49.1	
	comp=Z,40µm,19.2s,MS6.6,baz=185,slow=30						
DBIC				PKP2bc		13 22 26.7	
	comp=Z,3.8nm,0.9s,baz=23,slow=7.7,SNR=4.3						
DBIC	Dimbokro	65.06	27	P	P	12 53 37.6	-3.9
DBIC				S	S	13 02 16.2	-5.7
DBIC				SKSac		13 03 38.2	
DBIC	Dimbokro	65.06	27	P	P	12 53 37.7	-3.8
DBIC				S	S	13 02 16.6	-5.4
DBIC				LR	LR	13 15 49.1	
DBIC				⇑e		13 22 26.7	
OTAV	Otavalo	68.36	305	eP	P	12 54 01.9	-0.6
	comp=Z,87nm,0.8s,mb5.8						
OTAV				LR	LR		
	comp=Z,22µm,20.0s,MS6.4						
SACV	Santiago Islan	70.25	6	eP	P	12 54 13.9	0.0
	comp=Z,139nm,1.3s,mb5.7						
ROSC	El Rosal	70.63	311	P	P	12 54 14.8	-1.5
	comp=Z,86nm,0.8s,mb5.7,baz=73,slow=2.7,SNR=21						
ROSC				S	S	13 03 29.0	+0.4
	comp=Z,5.9nm,0.3s,baz=122,slow=19,SNR=2.0						
ROSC				LR	LR	13 25 29.0	
	comp=Z,35µm,18.5s,MS6.7,baz=182,slow=36						
TRN	Trinidad (W)	71.12	326	eP	P	12 54 18.6	-0.7
SDV	Santo Domingo	72.76	317	P	P	12 54 27.4	-1.6
SDV				S	S	13 03 50.2	-2.9
SDV	Santo Domingo	72.76	317	eP	P	12 54 27.1	-1.9
	comp=Z,264nm,0.9s,mb6.2						
SDV				LR	LR		
	comp=Z,64µm,19.0s,MS6.9						
MBAR	Mbarara	72.86	65	eP	P	12 54 28.0	-1.7
	comp=Z,682nm,1.8s,mb6.3						
MBAR				LR	LR		
	comp=Z,32µm,22.0s,MS6.6						
PAYG	Puerto Ayora	73.44	294	PFAKE		12 54 40.0	+7.0
PAYG				LR	LR		
	comp=Z,19µm,22.0s,MS6.3						
MCLT	Moule a Chique	73.86	328	eP	P	12 54 33.8	-1.6
DSTT	Stowe	75.43	328	eP	P	12 54 44.4	0.0
MDN	Morne-Daniel	75.52	328	eP	P	12 54 46.7	+1.8
PTCN	Pitcairn Islan	75.64	247	P	P	12 54 46.5	+1.0
	comp=Z,258nm,0.9s,mb6.2						
PTCN				LR	LR		
	comp=Z,26µm,21.0s,MS6.5						
BBL	Barber's Block	75.74	328	eP	P	12 54 46.2	+0.1
KMBO	Kilima Mbogo	75.86	71	P	P	12 54 46.7	-0.3
	comp=Z,3.7nm,0.4s,baz=208,slow=9.9,SNR=11						
KMBO				S	S	13 04 42.3	+15
	comp=Z,0.5nm,0.2s,baz=18,slow=19,SNR=2.5						
KMBO				LR	LR	13 27 00.4	
	comp=Z,160µm,18.8s,baz=199,slow=35						
KMBO	Kilima Mbogo	75.86	71	eP	P	12 54 47.9	+0.9
	comp=Z,2µm,2.8s,mb6.5						
KMBO				eS	S	13 04 28.9	+1.1
KMBO				LR	LR		
	comp=Z,162µm,19.0s,MS7.3						
BPA	Boggy Peak	77.29	328	eP	P	12 54 53.5	-1.4
CPB	Codrington	77.84	328	eP	P	12 54 59.2	+1.4
WKZ	Wanaka	78.97	193	P	P	12 55 04.1	+0.6
WKZ	Wanaka	78.97	193	eP	P	12 55 04.1	+0.6
MSZ	Milford Sound	79.26	192	P	P	12 55 04.6	-0.5
SJG	San Juan	79.65	324	P	P	12 55 06.1	-1.6
SJG				pmax	pmax		
	comp=Z,77nm,1.0s						
SJG	San Juan	79.65	324	eP	P	12 55 05.8	-1.9
	comp=Z,77nm,1.0s,mb5.6						
SJG				LR	LR		
	comp=Z,17µm,20.0s,MS6.4						
RKT	Rikitea	79.77	244	eP	P	12 55 10.6	+2.3
	comp=Z,219nm,1.0s,mb6.0						
RKT	Rikitea	79.77	244	ePP	PP	12 58 05.3	-5.9
RKT				eSS	SS	13 10 20.5	-1.0
RKT				eL		13 16 29.0	
RKT				eR		13 19 47.8	
	comp=Z,54µm,30.8s,baz=143						
JTS	JuntasAbangare	80.22	304	eP	P	12 55 10.3	-0.5
	comp=Z,232nm,1.1s,mb6.0						
JTS				LR	LR		
	comp=Z,3µm,20.0s,MS5.6						
LTZ	Lake Taylor	80.51	196	P	P	12 55 10.7	-1.1
LTZ	Lake Taylor	80.51	196	eP	P	12 55 12.4	+0.6
THZ	Tophouse	81.40	197	P	P	12 55 15.7	-0.9
SNZO	South Karori	81.54	198	eP	P	12 55 18.1	+0.8
	comp=Z,122nm,0.8s,mb5.9						
SNZO				LR	LR		
	comp=Z,37µm,20.0s,MS6.7						
DSZ	Denniston Nort	81.59	196	P	P	12 55 15.7	-1.9
NNZ	Nelson	81.86	197	P	P	12 55 18.1	-0.8
MRZ	Mangatainoka R	82.01	199	P	P	12 55 19.3	-0.4
TAU	Tasmania Unive	82.02	177	P	P	12 55 17.7	-2.0
TAU				pmax	pmax		
	comp=Z,120nm,0.9s,mb5.8						
TAU	Tasmania Unive	82.02	177	eP	P	12 55 17.8	-1.9
	comp=Z,120nm,0.8s,mb5.9						
TAU				LR	LR		
	comp=Z,17µm,19.0s,MS6.4						
QRZ	Quartz Range	82.38	196	P	P	12 55 19.6	-2.0
NGZ	Ngauruhoe	83.45	199	P	P	12 55 26.7	-0.5
NGZ	Ngauruhoe	83.45	199	eP	P	12 55 28.5	+1.3
GWJ	Greenwich	83.52	315	⇓eP	P	12 55 28.5	+0.6
STH	Stony Hill	83.55	315	⇓eP	P	12 55 28.6	+0.5
MGZ	Maungaku	83.63	199	P	P	12 55 26.8	-1.2
MCJ	Malvern	83.77	314	⇓eP	P	12 55 30.2	+1.0
EGOM	La Gomera	83.84	11	P	P	12 55 30.2	+0.8
	comp=Z,387nm,2.7s,mb6.1						
MWZ	Matawai	83.89	201	P	P	12 55 31.2	+1.8
EOSO	Osorio	83.94	12	P	P	12 55 32.8	+2.9
CCAN	Las Canadas	83.97	11	P	P	12 55 34.4	+4.4
	comp=Z,882nm,2.6s,mb6.4						
PUZ	Puketiti	83.99	201	P	P	12 55 33.3	+3.4
URZ	Urewera	84.04	201	P	P	12 55 33.0	+2.8
EBAJ	Bajamar	84.31	11	P	P	12 55 33.2	+1.4
	comp=Z,2µm,3.2s						
EFAM	Famara	85.24	14	P	P	12 55 38.0	+1.7
	comp=Z,2µm,3.7s						
TBI	Tubuai	86.61	233	eP	P	12 55 44.3	+1.0
	comp=Z,316nm,1.1s,mb6.5						
TBI				ePP	PP	12 58 51.7	-16
TBI				eSS	SS	13 11 47.3	-15
TBI				eL		13 19 28.3	
TBI				eR		13 22 50.7	
	comp=Z,55µm,31.5s,baz=153						
WCZ	Waipu Caves	86.82	199	P	P	12 55 40.4	-3.6
WCZ	Waipu Caves	86.82	199	eP	P	12 55 40.4	-3.6
TOO	Toolangi	87.29	176	eP	P	12 55 44.6	-1.6
	comp=Z,19nm,0.8s,mb5.4						
TOO				eSKS	SKS	13 06 16.8	+0.5
NWAO	Narrogin (SRO)	87.44	152	P	P	12 55 46.0	-1.1
	comp=Z,38nm,0.8s,mb5.7,baz=228,slow=6.7,SNR=28						
NWAO	Narrogin (SRO)	87.44	152	P	P	12 55 48.5	+1.4
NWAO				pmax	pmax		
	comp=Z,190nm,1.3s						
NWAO	Narrogin (SRO)	87.44	152	eP	P	12 55 47.0	-0.1
	comp=Z,191nm,1.4s,mb6.1						
NWAO				LR	LR		
	comp=Z,17µm,19.0s,MS6.5						
KLBR	Kellerberrin	88.84	152	eP	P	12 55 53.9	+0.1
	comp=Z,91nm,0.8s,mb6.2						
KLBR				eSKS	SKS	13 06 36.4	+10
ADE	Adelaide	89.40	170	eP	P	12 55 54.9	-1.5
CNB	Canberra Magne	89.64	179	eP	P	12 55 58.3	+0.8
	comp=Z,71nm,1.1s,mb5.9						
HUIG	Huatulco	90.38	298	⇑iP	P	12 56 01.1	-0.3
DGAR	Diego Garcia	90.50	104	PFAKE		12 56 10.0	+8.0
DGAR				LR	LR		
	comp=Z,21µm,19.0s,MS6.6						
RIV	Riverview	91.13	180	eP	P	12 56 05.2	+0.8
TVO	Taravao	91.33	236	eP	P	12 56 07.6	+1.9
	comp=Z,207nm,1.0s,mb6.4						
TIAR	Tiarei	91.57	236	eP	P	12 56 08.5	+1.7
	comp=Z,109nm,1.0s,mb6.1						
PAE	Paea	91.59	235	eP	P	12 56 08.4	+1.5
	comp=Z,118nm,1.3s,mb6.1						
PPT	Papeete	91.67	235	eP	P	12 56 09.1	+1.9
	comp=Z,53nm,1.4s,mb5.7						
PPT	Papeete	91.67	235	ePP	PP	12 59 40.4	-8.0
PPT				ePS	PS	13 08 10.5	-10
PPT				eSS	SS	13 13 14.4	-1.0
PPT				eL		13 22 05.2	
PPT				eR		13 25 10.0	
	comp=Z,74µm,32.5s,baz=156						
FORT	Forrest	91.98	161	eP	P	12 56 09.1	+0.7
	comp=Z,127nm,0.6s,mb6.4						
FORT				eSKS	SKS	13 06 31.0	-14
FORT				i	S	13 07 03.8	-3.5
EVV	El Vigia	92.28	300	eP	P	12 56 09.0	-1.0
BBSR	BB Station	92.57	331	PFAKE		12 56 20.0	+8.9
BBSR				LR	LR		
	comp=Z,10µm,20.0s,MS6.3						
STKA	Stephens Creek	92.72	172	eP	P	12 56 08.3	-3.5
	comp=Z,23nm,0.8s,mb5.7						
STKA				ePP	PP	12 59 53.3	-3.2
STKA				eSKS	SKS	13 06 40.5	-8.5
STKA	Stephens Creek	92.72	172	P	P	12 56 10.1	-1.7
	comp=Z,22nm,0.8s,mb5.7,baz=168,slow=5.5,SNR=31						
STKA				PP	PP	12 59 56.0	-0.5
	comp=Z,12nm,0.9s,baz=158,slow=8.9,SNR=3.8						
STKA				LR	LR	13 39 59.1	
	comp=Z,108µm,18.6s,MS7.3,baz=181,slow=37						
RAR	Rarotonga	92.93	225	P	P	12 56 12.4	-0.6
	comp=Z,142nm,1.5s,mb6.2						
RAR				LR	LR		
	comp=Z,16µm,20.0s,MS6.5						
FRSS	Farasan al Kab	93.42	65	P	P	12 56 17.9	+2.6
SFS	San Fernando	93.59	18	P	P	12 56 15.4	-0.2
EMIJ	Mijas	93.95	19	P	P	12 56 16.1	-1.3
	comp=Z,509nm,1.7s,mb6.7						
ESPR	Espera	94.04	19	P	P	12 56 20.6	+2.9
	comp=Z,1µm,3.3s						
PTEO	Sao Teotonio	94.21	16	eP	P	12 56 20.1	+1.6
	comp=Z,84nm,1.2s,mb6.0						
PTEO				ePP	PP	13 00 05.9	-2.2
PALC	Alcoutim	94.34	17	eP	P	12 56 19.2	+0.1
	comp=Z,81nm,1.1s,mb6.1						
DWPF	Disney	94.39	316	PFAKE		12 56 30.0	+10
DWPF				LR	LR		
	comp=Z,6µm,21.0s,MS6.0						
EGRO	El Granado	94.41	17	P	P	12 56 19.9	+0.5
	comp=Z,525nm,2.0s,mb6.6						
PPM	Popocatepetl	94.44	297	eP	P	12 56 20.0	0.0
ARMA	Armidale	94.53	181	eP	P	12 56 20.3	+0.1
ERON	Agron	94.57	20	P	P	12 56 20.3	+0.1
	comp=Z,43nm,1.0s,mb5.8						
ELOJ	Sierra Loja	94.63	20	P	P	12 56 21.1	+0.7
	comp=Z,54nm,1.5s,mb5.8						
EMIN	Mina Concepcio	94.77	18	P	P	12 56 21.5	+0.4
	comp=Z,804nm,3.4s						
DJNS	Zahran al Janu	94.97	66	P	P	12 56 24.3	+1.9
ELUQ	Luque	95.01	20	P	P	12 56 22.9	+0.7
	comp=Z,134nm,1.4s,mb6.2						
MOE	Montemor	95.23	16	eP	P	12 56 25.0	+1.8
EVO	Evora	95.29	17	eP	P	12 56 24.2	+0.7
	comp=Z,188nm,1.3s,mb6.0						
LIS	Lisbon	95.29	16	eP	P	12 56 20.7	-2.8
LIS				eS	SKS	13 06 57.6	-5.4
LIS				eS	SKS	13 06 57.9	-5.1
LIS				AMS	AMS	13 36 32.9	
	comp=Z,41µm,17.5s,MS7.0						
LIS	Lisbon	95.29	16	eP	P	12 56 20.7	-2.8
LIS				eS	SKS	13 06 57.6	-5.4
	comp=Z,41µm,17.5s						
PLOU	Loures	95.46	16	eP	P	12 56 22.7	-1.5
PLOU				ePP	PP	13 00 16.2	-1.0
EQES	Quesada	95.48	20	P	P	12 56 24.6	+0.3
	comp=Z,245nm,2.4s,mb6.2						
NAMS	An Nimas	95.50	64	P	P	12 56 28.5	+3.7
LTHS	Al Lith	95.51	62	P	P	12 56 31.5	+6.6
EADA	Adamuz	95.54	19	P	P	12 56 24.8	+0.2
	comp=Z,631nm,3.2s						
EBAD	Badajoz	95.68	17	P	P	12 56 24.9	-0.4
	comp=Z,646nm,2.9s,mb6.5						
PTOM	Tomar	96.29	16	eP	P	12 56 28.2	+0.2
PTOM				ePP	PP	13 00 22.1	-1.8
EVIA	Vianos	96.40	21	P	P	12 56 30.4	+1.9
	comp=Z,225nm,1.8s,mb6.3						
TATS	Tathlith	96.46	65	P	P	12 56 32.1	+2.9
ETOB	Tobarra	96.60	21	P	P	12 56 30.0	+0.6
	comp=Z,766nm,3.8s						
PCBR	Castelo Branco	96.66	17	eP	P	12 56 30.1	+0.5
	comp=Z,9.4nm,1.3s,mb5.1						
PCBR				ePP	PP	13 00 21.4	-5.4
ESDC	Sonseca Array	97.11	19	P	P	12 56 32.0	+0.3
	comp=Z,12nm,1.0s,mb5.3,baz=187,slow=4.3,SNR=22						
ESDC				LR	LR	13 34 59.5	
	comp=Z,39µm,21.2s,MS6.9,baz=175,slow=32						
ESDC	Sonseca Array	97.11	19	P	P	12 56 32.3	+0.6
	comp=Z,15nm,1.1s,mb5.3						
MTE	Manteigas	97.19	16	eP	P	12 56 33.6	+1.6
	comp=Z,23nm,1.7s,mb5.3						
MTE				ePP	PP	13 00 27.6	-3.5
MTE				eSKSac		13 07 09.2	
MTE				eS	S	13 07 56.1	+4.3
MTE				eLQ		13 23 44.4	
MTE				eLR	LR	13 28 10.9	
	comp=Z,29µm,18.6s						
MTE	Manteigas	97.19	16	eP	P	12 56 30.9	-1.1
	comp=Z,10nm,0.4s,mb5.6						
PVIS	Viseu	97.44	16	ePP	PP	13 00 29.8	-3.3
EIBI	Ibiza	97.60	24	P	P	12 56 34.3	+0.4
	comp=Z,350nm,2.9s,mb6.4						
PVRL	Vila Real	98.02	16	eP	P	12 56 36.5	+0.8
PVRL				ePP	PP	13 00 34.3	-3.4
NHSC	New Hope	98.35	319	PFAKE		12 56 50.0	+13
NHSC				LR	LR		
	comp=Z,12µm,22.0s,MS6.3						
EMOS	Mosqueruela	98.48	22	P	P	12 56 37.9	+0.1
	comp=Z,248nm,3.2s						
ELOB	Lobios	98.54	16	P	P	12 56 43.1	+5.1
	comp=Z,162nm,2.2s,mb6.2						
ETOR	Torete	98.59	20	P	P	12 56 39.1	+0.7
	comp=Z,531nm,3.6s						
PBRG	Braganca	98.69	17	eP	P	12 56 41.3	+2.5
	comp=Z,23nm,1.3s,mb5.5						
PBRG				ePP	PP	13 00 40.3	-2.1
ERUA	La Rua	99.20	16	P	P	12 56 39.7	-1.3
	comp=Z,18nm,1.1s,mb5.5						
MBWA	Marble Bar	99.28	151	eP	P	12 56 41.2	-0.7
	comp=Z,18nm,0.9s,mb5.6						
MBWA				LR	LR		
	comp=Z,38µm,19.0s,MS6.9						
ZAIG	Zacatecas	99.53	296	⇑iP	P	12 56 43.8	+0.8
ASPA	Alice Springs	99.94	164	ePDIF	P	12 56 42.1	-2.8
ASPA				ePP	PP	13 00 49.4	-3.0
ASPA				eSKS	SKS	13 07 16.3	-11
ASPA				ePKKP	PKKP	13 13 01.3	-2.4
ASAR	Alice Springs	99.94	164	P	P	12 56 41.7	-3.2
	comp=Z,18nm,0.7s,mb5.6,baz=183,slow=3.8,SNR=95						
ASAR				PP	PP	13 00 50.1	-2.3
	comp=Z,16nm,0.8s,baz=180,slow=5.9,SNR=8.2						
ASAR				S	SKS	13 07 17.4	-10
	comp=Z,3.6nm,1.0s,baz=171,slow=7.6,SNR=4.8						
ASAR				PKKPbc		13 12 56.2	
	comp=Z,1.1nm,0.8s,baz=9.6,slow=2.7,SNR=4.7						
ASAR				PKKP	PKKP	13 13 06.2	+2.5
	comp=Z,3.2nm,0.6s,baz=16,slow=2.4,SNR=16						
ASAR				PKPPKP		13 21 14.0	
	comp=Z,2.1nm,1.1s,baz=27,slow=2.0,SNR=6.6						
EIL	Elat	100.82	53	P	P	12 56 46.8	-1.9
	comp=Z,1.9nm,0.5s,baz=170,slow=18,SNR=2.3						
EIL				PP	PP	13 00 51.6	-7.8
	comp=Z,2.4nm,0.5s,baz=20,slow=5.1,SNR=4.0						
EIL	Elat	100.82	53	ePdif	P	12 56 43.9	-4.8
	comp=Z,23nm,1.2s						
ETSF	Etsaut	100.89	21	eP	P	12 56 52.4	+3.7
	comp=Z,31nm,1.2s						
SJPF	Ste Jean	100.97	20	eP	P	12 56 53.2	+4.2
	comp=Z,47nm,1.4s						
LRAL	Lakeview Retre	100.98	314	PFAKE		12 57 00.0	+11
LRAL				LR	LR		
	comp=Z,20µm,20.0s,MS6.6						
EPF	Esparros	101.21	22	eP	P	12 56 53.9	+3.8
ARSS	Ar Rass	101.60	61	P	P	12 56 58.5	+6.2
CBN	Corbin	101.91	323	PFAKE		12 57 00.0	+6.6
CBN				LR	LR		
	comp=Z,13µm,19.0s,MS6.5						
MTLF	Montolieu	101.91	23	eP	P	12 56 57.0	+3.7
	comp=Z,24nm,1.1s						
TIP	Timpagrande	102.02	35	eP	Pdif	12 56 54.0	0.0
BLA	Blacksburg	102.10	320	PFAKE		12 57 10.0	+16
BLA				LR	LR		
	comp=Z,10µm,20.0s,MS6.3						
LASF	Ste Croix	102.98	24	eP	Pdif	12 57 01.9	+3.9
	comp=Z,28nm,1.1s						
NATX	Nacogdoches	103.22	307	PFAKE		12 57 10.0	+11
NATX				LR	LR		
	comp=Z,6µm,19.0s,MS6.1						
OXF	Oxford	103.26	313	PFAKE		12 57 10.0	+10
OXF				LR	LR		
	comp=Z,14µm,20.0s,MS6.5						
SMRF	Simiane la Rot	103.29	25	eP	Pdif	12 57 02.8	+3.4
WRA	Warramunga Arr	103.66	164	Pdiff	Pdif	12 56 59.3	-2.2
	comp=Z,4.1nm,0.7s,baz=193,slow=4.1,SNR=40						
WRA				PP	PP	13 01 16.0	-4.6
	comp=Z,15nm,1.1s,baz=187,slow=6.0,SNR=7.2						
WRA				S	SKS	13 07 36.1	-9.0
	comp=Z,3.6nm,0.9s,baz=210,slow=4.8,SNR=8.0						
WRA				PKKP	PKKP	13 12 55.4	-1.7
	comp=Z,2.3nm,0.7s,baz=356,slow=2.9,SNR=11						
WRA	Warramunga Arr	103.66	164	P	Pdif	12 56 59.3	-2.3
WRA						13 01 16.0	
WRA				S	SKS	13 07 36.1	-9.0
WRA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
WRA				pmax	pmax		
	comp=Z,15nm,1.1s						
WB2	Warramunga Arr	103.66	164	ePDIF	Pdif	12 56 59.3	-2.3
WB2				ePP	PP	13 01 11.2	-9.4
WB2				eSKS	SKS	13 07 34.7	-10
WB2				i SDIF		13 08 37.5	
WB2				ePKKP	PKKP	13 12 53.7	-3.3
WRAB	Tennant Creek	103.67	164	ePdif	Pdif	12 57 00.1	-1.5
	comp=Z,8.7nm,0.7s						
WRAB				LR	LR		
	comp=Z,17µm,19.0s,MS6.6						
NEGI	Negi	103.69	27	P	PP	13 01 16.0	-4.3
FITZ	Fitzroy Crossi	103.73	155	ePDIF	Pdif	12 57 03.1	+1.2
	comp=Z,3.0nm,0.6s						
FITZ				eSKS	SKS	13 07 36.8	-8.7
FITZ	Fitzroy Crossi	103.73	155	Pdiff	Pdif	12 56 59.6	-2.3
	comp=Z,1.8nm,0.6s,baz=172,slow=2.3,SNR=8.4						
FITZ				PP	PP	13 01 14.5	-6.7
	comp=Z,5.9nm,1.0s,baz=192,slow=7.7,SNR=3.1						
FITZ	Fitzroy Crossi	103.73	155	Pdif	Pdif	12 56 59.6	-2.3
FITZ				PP	PP	13 01 14.5	-6.7
FITZ				eSKS	SKS	13 07 36.8	-8.7
WES	Weston	103.79	329	PFAKE		12 57 10.0	+8.4
WES				LR	LR		
	comp=Z,27µm,19.0s,MS6.8						
IMI	Imperia	103.80	27	P	PP	13 01 16.4	-4.7
ASF	Jabal al Asfar	103.82	53	Pdiff	Pdif	12 57 00.2	-1.9
	comp=Z,0.8nm,0.4s,baz=143,slow=5.1,SNR=3.0						
ASF				PP	PP	13 01 14.0	-7.4
	comp=Z,8.4nm,1.0s,baz=174,slow=5.0,SNR=3.8						
MONE	Monesi	103.92	26	P	Px	13 01 08.4	
MONE				P	PP	13 01 17.6	-4.3
HRV	Harvard--Oak R	103.97	329	PFAKE		12 57 10.0	+7.6
HRV				LR	LR		
	comp=Z,25µm,19.0s,MS6.8						
STV	Sta Anna Valdi	103.97	26	P	PP	13 01 18.6	-3.6
STV2	Anna di Valdie	103.97	26	P	PP	13 01 17.7	-4.5
ENR	Entracque	103.98	26	P	PP	13 01 17.7	-4.6
WVT	Waverly	104.00	315	PFAKE		12 57 10.0	+7.2
WVT				LR	LR		
	comp=Z,27µm,22.0s,MS6.7						
RORO		104.03	27	P	PP	13 01 18.2	-4.5
MCWV	Mont Chateau	104.07	322	PFAKE		12 57 10.0	+7.1
MCWV				LR	LR		
	comp=Z,9µm,20.0s,MS6.3						
ROB	Roburent	104.16	26	P	PP	13 01 19.3	-4.4
PZZ	Prazzo	104.16	26	P	PP	13 01 20.5	-3.2
FIN	Finale Ligure	104.16	27	P	PP	13 01 18.6	-5.1
DALT	Dalyan (Mudla)	104.20	44	eP	Px	13 01 11.6	
DALT	Dalyan (Mudla)	104.20	44	eP	Px	13 01 11.6	
SSPA	Standing Stone	104.27	324	PFAKE		12 57 10.0	+6.2
SSPA				LR	LR		
	comp=Z,3µm,22.0s,MS5.8						
MBDF	Montbardon	104.28	26	eP	Pdif	12 57 07.8	+4.0
	comp=Z,9.2nm,0.8s						
MLSB	Milas	104.32	44	eP	PP	13 01 19.1	-6.1
MLSB	Milas	104.32	44	eP	PP	13 01 19.1	-6.1
RRL	Cesana Torines	104.47	26	P	PP	13 01 21.9	-4.3

BHB	**Bricherasio**	**104.51**	**26**	P	PP	13 01 21.7	-4.8
JCT	**Junction City**	**104.55**	**303**	P	Pdif	12 57 08.3	+3.0
JCT				pmax	pmax		
	comp=Z,18nm,1.0s						
JCT	**Junction City**	**104.55**	**303**	*e*Pdif	Pdif	12 57 05.6	+0.3
	comp=Z,18nm,1.0s						
JCT				LR	LR		
	comp=Z,7µm,19.0s,MS6.2						
PCP	**Pian Castagno**	**104.56**	**27**	P	PP	13 01 21.2	-5.7
VINC	**Vinca**	**104.61**	**28**	P	PP	13 01 19.4	-7.9
FENE	**Fenestrelle**	**104.64**	**26**	P	PP	13 01 22.9	-4.7
BACM		**104.72**	**28**	P	PP	13 01 20.2	-7.9
CTAO	**Charters Tower**	**104.72**	**176**	PFAKE		12 57 20.0	+14
CTAO				LR	LR		
	comp=Z,60µm,20.0s,MS7.1						
CODM		**104.76**	**28**	P	PP	13 01 20.8	-7.7
RSP	**Reno Superiore**	**104.80**	**26**	P	PP	13 01 23.8	-5.0
VALM		**104.83**	**28**	P	PP	13 01 21.6	-7.5
EMMW	**East Machias**	**104.87**	**333**	PFAKE		12 57 20.0	+14
EMMW				LR	LR		
	comp=Z,64µm,20.0s,MS7.2						
GRAM		**104.91**	**28**	P	PP	13 01 22.2	-7.5
BINY	**Binghamton**	**105.05**	**326**	PFAKE		13 01 30.0	
BINY				LR	LR		
	comp=Z,14µm,19.0s,MS6.5						
LSD	**Ceresole Reale**	**105.06**	**26**	P	PP	13 01 26.1	-4.8
MIAR	**Mount Ida**	**105.08**	**310**	PFAKE		13 01 30.0	
MIAR				LR	LR		
	comp=Z,7µm,19.0s,MS6.2						
OHR	**Ohrid**	**105.11**	**37**	*i* PKP	PP	13 01 24.8	-6.5
DNZL	**Cakiroluk**	**105.16**	**44**	*i* P	PP	13 01 34.0	+2.3
WCI	**Wyandotte Cave**	**105.21**	**317**	PFAKE		13 01 30.0	
WCI				LR	LR		
	comp=Z,3µm,20.0s,MS5.8						
WVL	**Waterville**	**105.32**	**331**	PFAKE		13 01 30.0	
WVL				LR	LR		
	comp=Z,78µm,19.0s,MS7.3						
LTX	**Lajitas**	**105.50**	**299**	P	Pdif	12 57 06.8	-2.7
LTX				pmax	pmax		
	comp=Z,64nm,1.9s						
LTX	**Lajitas**	**105.50**	**299**	Pdif	Pdif	12 57 07.4	-2.1
	comp=Z,64nm,1.9s						
LTX				LR	LR		
	comp=Z,10µm,21.0s,MS6.3						
TXAR	**Lajitas Array**	**105.50**	**299**	Pdiff	Pdif	12 57 09.8	+0.3
	comp=Z,1.8nm,0.8s,baz=135,slow=7.1,SNR=12						
TXAR				PKiKP		13 01 22.2	
	comp=Z,3.4nm,0.9s,baz=143,slow=4.5,SNR=7.0						
TXAR				PKKPbc		13 12 46.2	
	comp=Z,0.5nm,0.6s,baz=270,slow=0.9,SNR=4.3						
TXAR	**Lajitas Array**	**105.50**	**299**	Pdif	Pdif	12 57 09.8	+0.3
TXAR				PKPdf		13 01 22.2	
TXAR				PKKPbc		13 12 46.2	
STON	**Ston**	**105.66**	**34**	*i* P	PP	13 01 29.6	-5.6
ACSO	**Alum Creek Sta**	**105.70**	**320**	PFAKE		13 01 30.0	
ACSO				LR	LR		
	comp=Z,15µm,21.0s,MS6.5						
ISP	**Isparta**	**105.88**	**45**	*e*P	PP	13 01 11.2	-26
VAY	**Valandovo**	**105.91**	**38**	*i* PKP	PP	13 01 30.7	-6.2
SKO	**Skopje**	**106.09**	**37**	*i* PKP	PP	13 01 34.0	-4.2
SKO				*i*		13 13 03.0	
NCB	**Newcomb**	**106.10**	**328**	PFAKE		13 01 30.0	
NCB				LR	LR		
	comp=Z,20µm,20.0s,MS6.7						
RDF	**Al-Radifah**	**106.28**	**63**	*e*P	PP	13 01 41.4	+1.4
RDF				AMb	AMB	13 01 44.5	
	comp=Z,106nm,1.6s						
ERPA	**Erie**	**106.30**	**323**	PFAKE		13 01 30.0	
ERPA				LR	LR		
	comp=Z,11µm,19.0s,MS6.4						
QRN	**Al-Qurain**	**106.31**	**63**	*e*P	PP	13 01 41.1	+0.7
QRN				AMb	AMB	13 01 45.3	
	comp=Z,136nm,1.8s						
MEST	**Erdemli**	**106.33**	**49**	*i* P	PP	13 01 31.2	-9.0
NVLJ	**Novalja**	**106.33**	**31**	*i* Pdiff	Pdif	12 57 16.3	+3.5
BALB	**Balikesir**	**106.39**	**42**	*e*P	PP	13 01 26.1	-15
BALB	**Balikesir**	**106.39**	**42**	*e*P	PP	13 01 26.1	-15
RST	**Umm Al-Ruwaisa**	**106.46**	**62**	*e*P	PP	13 01 40.7	-0.8
RST				AMb	AMB	13 01 46.2	
	comp=Z,119nm,1.8s						
PQI	**Presque Isle**	**106.83**	**333**	PFAKE		13 01 40.0	
PQI				LR	LR		
	comp=Z,82µm,21.0s,MS7.3						
MIB	**Mutribah**	**106.88**	**62**	*e*P	PP	13 01 44.1	-0.7
DAVOX	**Davos**	**106.98**	**27**	Pdiff	Pdif	12 57 16.2	+0.6
	comp=Z,1.6nm,0.3s,baz=336,slow=19,SNR=1.9						
DAVOX				PKiKP		13 01 28.2	
	comp=Z,15nm,1.2s,baz=253,slow=14,SNR=3.6						
CCM	**Cathedral Cave**	**107.06**	**313**	PFAKE		13 01 40.0	
CCM				LR	LR		
	comp=Z,6µm,19.0s,MS6.2						
MFT	**Murefte**	**107.16**	**41**	*e*P	Px	13 01 27.0	
MFT	**Murefte**	**107.16**	**41**	*e*P	Px	13 01 27.0	
PALK	**Pallekele**	**107.19**	**102**	PFAKE		13 01 40.0	
PALK				LR	LR		
	comp=Z,17µm,19.0s,MS6.6						
CEY	**Cerknica**	**107.27**	**30**	*e*Pdiff	Pdif	12 57 19.9	+3.0
BOJS	**Bojanci**	**107.30**	**31**	*e*Pdiff	Pdif	12 57 19.0	+2.0
BOJS				*e*PP	PP	13 01 43.0	-4.4
JAVS	**Javornik**	**107.31**	**30**	*e*Pdiff	Pdif	12 57 18.6	+1.5
ULDT	**Uludag**	**107.31**	**43**	*i* P	Px	13 01 30.3	
VOY	**Vojsko**	**107.38**	**30**	*e*	Px	13 01 36.0	
VOY				*e*PP	PP	13 01 44.7	-3.4
GMNA	**Gemona**	**107.42**	**29**	*e*PKP	PP	13 01 44.7	-3.7
DAVA	**Damuels**	**107.45**	**27⇑**	*i*P	Px	13 01 31.1	
ESKT	**Eskisehir**	**107.46**	**45**	*i* P	PP	13 01 40.0	-8.7
ROBS	**Robic**	**107.47**	**30**	*e*Pdiff	Pdif	12 57 19.7	+1.9
DIVS	**Divcibare**	**107.50**	**35**	*e*P	Px	13 01 13.2	
PTCC	**Patocco-Chiusa**	**107.57**	**29**	*e*PKP	PP	13 01 40.0	-9.4
LJU	**Ljubljana**	**107.58**	**30**	*e*Pdiff	Pdif	12 57 20.4	+2.1
LJU				*e*PP	PP	13 01 45.6	-3.8
LJU				*e*SKSac		13 07 55.0	
LJU				*e*S	SKS	13 08 44.1	+42
LJU				*e*SKSdf		13 08 48.0	
LJU				*e*		13 11 07.7	
LJU				*e*SS	SS	13 16 51.2	-5.3
LJU	**Ljubljana**	**107.58**	**30**	*e*Pdif	Pdif	12 57 20.4	+2.1
LJU				*e*PP	PP	13 01 45.6	-3.8
LJU				*e*SKSac		13 07 55.0	
LJU				*e*S	SKS	13 08 44.1	+42
LJU				*e*		13 11 07.7	
LJU				*e*SS	SS	13 16 51.2	-5.3
FVI	**Forni Avoltri**	**107.59**	**29**	*e*PKP	PP	13 01 40.9	-8.6
WMOK	**Wichita Mounta**	**107.59**	**306**	*e*P	Pdif	12 57 20.0	+1.4
WMOK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
WMOK	**Wichita Mounta**	**107.59**	**306**	*e*Pdif	Pdif	12 57 19.9	+1.3
	comp=Z,3.2nm,0.8s						
WMOK				LR	LR		
	comp=Z,5µm,19.0s,MS6.1						
YLV	**Yalova**	**107.77**	**43**	*e*P	Px	13 01 37.5	
YLV	**Yalova**	**107.77**	**43**	*e*P	Px	13 01 37.5	
EDRB	**Edirne**	**107.88**	**41**	*e*P	PP	13 01 43.5	-8.1
EDRB	**Edirne**	**107.88**	**41**	*e*P	PP	13 01 43.5	-8.1
BFO	**Black Forest**	**108.04**	**25**	*e*Pdif	Pdif	12 57 21.2	+1.0
BFO				*e*PP	PP	13 01 43.6	-9.0
ISK	**Istanbul-Kandi**	**108.08**	**43**	*e*P	Px	13 01 36.2	
ISK	**Istanbul-Kandi**	**108.08**	**43**	*e*P	Px	13 01 36.2	
KBA	**Koelnbreinsper**	**108.19**	**29⇑**	*i*P	Px	13 01 41.7	
KAHT	**Ahir Dag**	**108.38**	**50**	*i* P	Px	13 01 45.2	
GZT	**Gaziantep**	**108.46**	**51**	*i* P	Px	13 01 35.6	
AVNT	**Avonos**	**108.48**	**48**	*i* P	PP	13 01 46.5	-10
ANTO	**Ankara**	**108.54**	**46**	*e*P	Px	13 01 40.8	
ANTO	**Ankara**	**108.54**	**46**	*e*P	Px	13 01 40.8	
FUR	**Furstenfeldbru**	**108.63**	**27**	*e*Pdif	Pdif	12 57 23.6	+0.8
FUR				*e*PP	PP	13 01 47.8	-10
BRTR	**Keskin Array B**	**108.77**	**46**	Pdiff	Pdif	12 57 30.2	+6.6
	comp=Z,2.2nm,0.9s,baz=225,slow=1.7,SNR=5.5						
BRTR				PKiKP		13 01 29.6	
	comp=Z,3.1nm,0.9s,baz=203,slow=2.2,SNR=3.4						
BRTR				PP	PP	13 01 51.9	-6.8
	comp=Z,13nm,1.1s,baz=188,slow=8.7,SNR=6.7						
BRTR	**Keskin Array B**	**108.77**	**46**	P	Pdif	12 57 30.3	+6.7
BRTR						13 01 51.9	
SGKT	**Sivrigoynuk**	**108.84**	**45**	*i* P	Px	13 01 44.8	
ELDT	**Eldivan**	**109.32**	**46**	*i* P	Px	13 01 49.2	
MALT	**Malatya**	**109.63**	**51**	*e*P	Px	13 01 50.6	
MALT	**Malatya**	**109.63**	**51**	*e*P	Px	13 01 50.6	
SOP	**Sopron**	**109.65**	**31**	*e*	PP	13 02 00.6	-4.3
HGN	**Heimansgroeve**	**109.75**	**23**	*e*Pdif	Pdif	12 57 30.0	+2.3
HGN				*e*PKiKP		13 01 55.6	
HGN				*e*x	x	13 03 09.7	
HGN				SKS	SKS	13 08 06.0	-5.1
HGN				*e*PS	PS	13 11 32.2	+4.4
HGN				*e*x	x	13 16 12.1	
GEC2	**GERESS Array S**	**109.90**	**29**	*e*Pdif	Pdif	12 57 29.4	+1.0
GEC2				*e*PP	PP	13 01 56.8	-10
GERES	**GERESS Array B**	**109.90**	**29**	Pdiff	Pdif	12 57 34.3	+5.9
	comp=Z,0.2nm,0.3s,baz=253,slow=10,SNR=2.4						
GERES				PKiKP		13 01 30.3	
	comp=Z,2.4nm,0.7s,baz=180,slow=1.3,SNR=7.8						
GERES				PP	PP	13 02 01.8	-4.8
	comp=Z,8.0nm,1.0s,baz=207,slow=9.0,SNR=6.0						
GERES				PKKPbc		13 12 34.6	
	comp=Z,0.8nm,0.6s,baz=315,slow=1.4,SNR=3.7						
GERES	**GERESS Array B**	**109.90**	**29**	P	Pdif	12 57 34.3	+5.9
GERES						13 02 01.8	
GERES						13 12 34.6	
GERES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
WET	**Wettzell**	**109.95**	**28**	*e*Pdif	Pdif	12 57 30.2	+1.6
WET				*e*PP	PP	13 01 57.4	-10
GOA	**Goa**	**109.97**	**92**	*i*	PP	13 01 59.5	-8.4
GRA1	**Grafenberg Arr**	**110.02**	**27**	*e*Pdif	Pdif	12 57 30.5	+1.6
GRA1				*e*PP	PP	13 01 57.7	-10
GRA1				*e*SKSac		13 08 04.6	
GRA1				*e*SP	SP	13 11 28.4	-0.7
GRA1				*e*SS	SS	13 17 25.5	-4.0
GRA1				LR	LR		
	comp=Z,26µm,20.1s,MS6.8						
GRF	**Grafenberg Arr**	**110.02**	**27**	*e*P	Pdif	12 57 30.5	+1.6
GRF				*e*		13 08 04.6	
GRF				*e*SP	SP	13 11 28.4	-0.7
GRF				*e*SS	SS	13 17 25.5	-4.0
ELZG	**Elazig**	**110.03**	**51**	*i* P	PKPdf	13 01 38.8	+6.0
VKA	**Vienna**	**110.11**	**30**	*e*	PKPdf	13 01 50.0	+17
VKA				*e*		13 11 30.0	
VKA				MLRZ		13 41 00.0	
	comp=Z,29nm,24.0s						
KHC	**Kasperske Hory**	**110.12**	**28**	*e*x	x	13 00 46.5	
KHC				x	x	13 01 46.0	
KHC				*e*PP	PP	13 02 01.0	-7.2
KHC				*e*SKS	SKS	13 08 05.1	-7.6
KHC				*e*SP	SP	13 11 27.6	-2.6
KHC				*e*PKKP	PKKP	13 12 33.5	-11
KHC				*e*x	x	13 12 52.5	
KHC				*e*x	x	13 17 45.0	
KHC				LR		13 41 20.0	
	comp=Z,89nm,23.0s						
ZST	**Bratislava**	**110.27**	**31⇑**	*e*SKSp		13 08 06.4	
ZST				*e*SP	SP	13 11 32.2	+0.5
ZST				*e*SS	SS	13 17 48.7	+16
ZST	**Bratislava**	**110.27**	**31⇑**	*e*P	Pdif	12 57 35.8	+5.8
ZST				*e*		13 08 06.4	
ZST				*e*SP	SP	13 11 32.2	+0.5
ZST				*e*SS	SS	13 17 48.7	+16
ZST	**Bratislava**	**110.27**	**31**	*e*Pdif	Pdif	12 57 35.8	+5.8
ZST				*e*PP	PP	13 01 49.9	-19
ZST				*e*SKSac		13 08 06.4	
ZST				*e*SP	SP	13 11 32.2	+0.5
ZST				*e*SS	SS	13 17 48.7	+16
BEST	**Besiri**	**110.56**	**53**	*i* P	PP	13 02 05.2	-6.3
MLR	**Muntele Rosu**	**110.75**	**38**	Pdiff	Pdif	12 57 39.9	+7.7
	comp=Z,4.3nm,0.9s,baz=232,slow=12,SNR=2.8						
MLR				PKiKP		13 01 30.7	
	comp=Z,5.5nm,0.8s,baz=160,slow=12,SNR=2.6						
MLR				PP	PP	13 02 07.4	-5.3
	comp=Z,16nm,1.1s,baz=317,slow=1.7,SNR=5.9						
MLR	**Muntele Rosu**	**110.75**	**38**	P	Pdif	12 57 39.9	+7.7
MLR				*e*		13 01 30.7	
MLR						13 02 07.4	
MLR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MLR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
MLR				pmax	pmax		
	comp=Z,16nm,1.1s						
JFWS	**Jewell Farm**	**110.77**	**317**	PFAKE		13 01 40.0	+5.8
JFWS				LR	LR		
	comp=Z,14µm,22.0s,MS6.5						
BNM	**Barren Site**	**110.87**	**300**	*e*PKP	PKPdf	13 01 34.8	+0.2
MOX	**Moxa**	**111.00**	**26**	*e*P	Pdif	12 57 35.0	+1.9
MOX				PKP	PKPdf	13 01 26.0	-8.4
MOX				*e*		13 01 59.0	
MOX				PP	PP	13 02 08.0	-6.2
MOX				SKS	SKS	13 08 11.0	-5.2
MOX				PS	PS	13 11 47.0	+6.8
MOX				PKKP	PKKP	13 12 38.0	-4.9
MOX				L		13 43 47.0	
MOX	**Moxa**	**111.00**	**26**	*e*PKIKP	PKPdf	13 01 26.4	-8.0
MOX				*e*		13 02 08.1	
MOX				pmax	pmax		
	comp=Z,52nm,1.8s						
MOX				MLR	MLR		
	comp=Z,25µm,21.0s,MS6.8						
VYHS	**Vyhne**	**111.06**	**32**	*e*PDIFF		12 57 35.0	
VYHS				*e*		13 01 54.0	
VYHS				*e*		13 08 04.0	
VYHS				*e*SP	SP	13 11 38.7	-0.8
VYHS				*e*SS	SS	13 17 49.5	+6.5
VYHS	**Vyhne**	**111.06**	**32⇑**	*e*P	Pdif	12 57 35.0	+1.5
VYHS				*e*		13 08 04.0	
VYHS				*e*SP	SP	13 11 38.7	-0.8
VYHS				*e*SS	SS	13 17 49.5	+6.5
WTSB	**Winterswijk**	**111.07**	**23**	*e*PKP	PP	13 02 05.9	-8.8
VRAC	**Vranov**	**111.13**	**30**	PKiKP		13 01 34.6	
	comp=Z,2.4nm,0.4s,baz=267,slow=0.6,SNR=3.9						
VRAC				PP	PP	13 02 11.0	-4.2
	comp=Z,6.9nm,0.7s,baz=201,slow=7.9,SNR=5.0						
PRU	**Pruhonice**	**111.17**	**29**	PDIF	Pdif	12 57 33.6	-0.3
PRU				*e*x	x	13 00 52.6	
PRU				*e*x	x	13 01 58.2	
PRU				*e*SKS	SKS	13 08 09.1	-7.8
PRU				*e*SP	SP	13 11 40.6	+0.2
PRU				*e*x	x	13 17 54.7	
PRU				LR		13 41 40.0	
	comp=Z,68nm,22.0s						
PRU	**Pruhonice**	**111.17**	**29**	P	Pdif	12 57 33.6	-0.3
PRU				*e*		13 08 09.1	
PRU				*e*SP	SP	13 11 40.6	+0.2
PRU				*e*SS	SS	13 17 54.7	+10
PRU				MLR	MLR		
	comp=Z,68µm,22.0s,MS7.2						
LAZ	**Ladron**	**111.32**	**300**	*e*Pdif	Pdif	12 57 35.2	+0.2
CBKS	**Cedar Bluff**	**111.38**	**308**	PFAKE		13 01 40.0	+4.6
CBKS				LR	LR		
	comp=Z,8µm,19.0s,MS6.3						
ANMO	**Albuquerque**	**111.43**	**301**	PKP	PKPdf	13 01 34.6	-1.0
ANMO				LR	LR		
	comp=Z,13µm,19.0s,MS6.5						
TUC	**Tucson**	**111.50**	**296**	PKIKP	PKPdf	13 01 35.5	-0.3
TUC	**Tucson**	**111.50**	**296**	*e*PKP	PKPdf	13 01 35.1	-0.7
TUC				LR	LR		
	comp=Z,8µm,20.0s,MS6.3						
PVCC	**Panska Ves**	**111.66**	**28**	*e*PKP	PKPdf	13 01 36.3	+0.7
PVCC				*e*PP	PP	13 02 01.6	-17
PVCC				*e*SKS	SKS	13 08 13.7	-5.2
PVCC				*e*SP	SP	13 11 48.0	+3.1
PVCC				*e*x	x	13 18 08.9	
PVCC				LR		13 41 30.0	
	comp=Z,46nm,22.2s						
PVCC	**Panska Ves**	**111.66**	**28**	*e*PKIKP	PKPdf	13 01 36.3	+0.7
PVCC				*e*		13 08 13.7	
PVCC				*e*SP	SP	13 11 48.0	+3.1
PVCC				*e*SS	SS	13 18 08.9	+18
PVCC				MLR	MLR		
	comp=Z,46µm,22.2s,MS7.0						
MDRS	**Chennai**	**111.67**	**99**	*e*	PP	13 02 12.0	-7.8
MDRS				*e*		13 11 46.0	
CLZ	**Clausthal**	**111.79**	**25**	*e*Pdif	Pdif	12 57 38.7	+2.1
CLZ				*e*PP	PP	13 02 11.1	-8.6
BRG	**Berggiesshubel**	**111.81**	**28**	*e*P	tx	13 01 14.3	
BRG				*i*		13 02 25.5	
BRG				*e*SKS	SKS	13 08 14.0	-5.5
BRG				*e*		13 12 35.9	
BRG				*i* SS	SS	13 17 51.0	-1.8
BRG				LR	LR		
	comp=Z,59µm,23.2s,MS7.1						
WIT	**Witteveen**	**111.84**	**23**	*e*PKiKP		13 02 11.9	
CLL	**Collm**	**111.96**	**27**	*e*PDIF	Pdif	12 57 35.0	-2.4
CLL				*e*PP	PP	13 02 11.0	-10
CLL				*e*		13 08 07.0	
CLL				*e*		13 09 55.0	
CLL				*e*PS	PS	13 11 49.0	+0.1
CLL				*e*SKSP		13 12 08.0	
CLL				*e*PKKP	PKKP	13 12 35.0	-6.0
CLL				*e*SS	SS	13 17 51.0	-3.7
CLL				*e*SSS	SSS	13 22 00.0	-6.6
CLL	**Collm**	**111.96**	**27**	*e*P	Pdif	12 57 35.0	-2.4
CLL				MLR	MLR		
	comp=Z,30µm,20.3s,MS6.9						
CLL	**Collm**	**111.96**	**27**	*e*Pdif	Pdif	12 57 35.0	-2.4
CLL				*e*SKS	SKS	13 08 07.0	-13
CLL				*e*Sdif		13 09 55.0	
CLL				LR	LR		
	comp=Z,30µm,20.3s,MS6.9						
DPC	**Dobruska-Polom**	**111.99**	**30**	*e*PKP	PKPdf	13 01 36.6	+0.4
DPC				*e*PP	PP	13 02 15.0	-6.2
DPC				*e*SKS	SKS	13 08 13.3	-6.9
DPC				*e*SP	SP	13 11 50.5	+2.7
DPC				*e*x	x	13 18 07.0	
DPC				LR		13 44 10.0	
	comp=Z,43nm,20.2s						
UPC	**Upice**	**112.04**	**29**	*e*PP	PP	13 02 14.8	-6.8
OKC	**Ostrava-Krasne**	**112.05**	**31**	*e*PP	PP	13 01 57.0	-25
OKC				*e*SKS	SKS	13 08 14.8	-5.7
OKC				*e*SKKS		13 09 19.4	
OKC				*e*SP	SP	13 11 47.8	-0.6
OKC				LR		13 48 40.0	
	comp=Z,22nm,17.5s						
TVAN	**Van**	**112.05**	**54**	*i* P	PP	13 02 13.8	-8.2
VANB	**Van**	**112.10**	**54**	*e*P	PP	13 02 10.3	-12
VANB	**Van**	**112.10**	**54**	*e*P	PP	13 02 10.3	-12
BOM	**Bombay**	**112.11**	**89**	*e*	PP	13 02 06.4	-16
BOM				*i*		13 02 08.2	
BOM				*e*		13 02 30.8	
	comp=Z,97nm,2.1s						
BOM				*e*		13 11 44.4	
CRVS	**Cervenica-Dubn**	**112.23**	**33⇑**	*e*SKSp		13 08 06.4	
CRVS				*e*SP	SP	13 11 50.7	+0.5
CRVS				*e*SS	SS	13 17 51.1	-7.4
ERZM	**Erzurum**	**112.24**	**52**	*i* P	PP	13 02 15.8	-7.7
RAC	**Raciborz**	**112.28**	**31**	*e*Pdif	Pdif	12 57 43.8	+5.0
RAC				*e*PP	PP	13 02 20.4	-3.2
RAC				*e*SKSac		13 08 18.9	
RAC				*e*SP	SP	13 11 55.6	+4.8
RAC				*e*SS	SS	13 18 01.4	+2.2
RAC				LR	LR		
	comp=Z,40µm,24.4s,MS6.9						
ESK	**Eskdalemuir**	**112.38**	**16**	PFAKE		13 01 50.0	+13
ESK				LR	LR		
	comp=Z,8µm,19.0s,MS6.3						
EKA	**Eskdalemuir Ar**	**112.40**	**16**	PKiKP		13 01 36.0	
	comp=Z,2.2nm,0.8s,baz=225,slow=2.0,SNR=6.1						
EKA				PKKPbc		13 12 25.0	
	comp=Z,1.5nm,0.6s,baz=345,slow=2.7,SNR=4.7						
EKA	**Eskdalemuir Ar**	**112.40**	**16**	*i* PKIKP	PKPdf	13 01 36.1	-0.9
EKA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
POO	**Poona**	**112.41**	**90**	*e*PKP	PKPdf	13 01 36.0	-1.9
POO				*e*		13 11 52.0	
KSP	**Ksiaz**	**112.42**	**29**	*i* PKIKP	PKPdf	13 01 42.0	+4.9
KSP				*e*		13 08 17.0	
KSP				*e*SP	SP	13 11 53.0	+0.9
KSP				*e*SS	SS	13 17 58.0	-3.1
KSP	**Ksiaz**	**112.42**	**29**	*e*Pdif	Pdif	12 57 40.4	+1.0
KSP				*e*PKPdf	PKPdf	13 01 42.0	+4.9
KSP				*e*PP	PP	13 02 16.0	-8.6
KSP				*e*SKSac		13 08 17.0	
KSP				*e*SKKSac		13 09 23.0	
KSP				*e*SP	SP	13 11 53.0	+0.9
KSP				*e*SS	SS	13 17 58.0	-3.1
KSP				LR	LR		
	comp=Z,122µm,21.1s,MS7.5						
OJC	**Ojcow**	**112.88**	**32**	*e*PKIKP	PKPdf	13 01 38.2	+0.1
OJC				*e*		13 02 23.3	
OJC				*e*		13 08 21.2	
OJC				*e*PS	PS	13 12 00.4	+2.3
OJC	**Ojcow**	**112.88**	**32**	*e*Pdif	Pdif	12 57 44.3	+2.8
OJC				*e*PKP	PKPdf	13 01 38.2	+0.1
OJC				*e*PP	PP	13 02 23.3	-5.0
OJC				*e*SKS	SKS	13 08 21.2	-2.6
OJC				*e*PS	PS	13 12 00.4	+2.3
OJC				LR	LR		
	comp=Z,32µm,22.4s,MS6.9						
KIS	**Kishinev**	**113.06**	**39**	*e*PKIKP	PKPdf	13 01 33.0	-5.6
KIS				*i* PPP	PPP	13 04 48.0	-4.9
KIS				*i* PPS	SP	13 11 59.0	+0.5
KIS				MLR	MLR		
	comp=N,12µm,20.0s,MS6.6						
KIS				MLR	MLR		
	comp=E,8µm,20.0s,MS6.6						
KIS				MLR	MLR		
	comp=Z,21µm,20.0s,MS6.7						
KIS				MLR	MLR		
	comp=Z,19µm,20.0s						
SDCO	**Great Sand Dun**	**113.19**	**303**	*e*PKP	PKPdf	13 01 38.3	-0.8
SDCO				LR	LR		
	comp=Z,15µm,19.0s,MS6.6						
KWP	**Kalwaria**	**113.26**	**34**	*e*Pdif	Pdif	12 57 47.6	+4.5
KWP				*e*PKPdf	PKPdf	13 01 19.1	-20
KWP				*e*PKP	PKPdf	13 01 36.4	-2.5
KWP				*e*PP	PP	13 02 26.7	-4.4
KWP				*e*SKS	SKS	13 08 53.1	+28
KWP				*e*PS	PS	13 12 02.7	+1.1
KWP				*e*SP	SP	13 12 08.5	+8.2
KWP				*e*PKKP	PKKP	13 13 17.8	+39
KWP				*e*		13 18 26.3	
SIM	**Simferopol’**	**113.33**	**44*c***	*i*P	Pdif	12 57 50.6	+7.0
BSEG	**Bad Segeberg**	**113.70**	**24**	*e*Pdif	Pdif	12 57 47.0	+2.0
BSEG				*e*PP	PP	13 02 24.3	-10
SCHQ	**Schefferville**	**114.12**	**337**	PKP	PKPdf	13 01 36.5	-4.0
	comp=Z,8.4nm,0.6s,baz=313,slow=0.5,SNR=17						
SCHQ				PP	PP	13 02 37.9	+0.9
	comp=Z,5.9nm,0.9s,baz=151,slow=3.5,SNR=4.5						
SCHQ	**Schefferville**	**114.12**	**337**	PKP	PKPdf	13 01 36.5	-4.0
SCHQ				PP	PP	13 02 37.9	+0.9
HYB	**Hyderabad**	**114.21**	**94**	*i* Pdiff	Pdif	12 57 48.0	0.0
HYB				*e*PKP	PKPdf	13 01 41.0	-0.5
HYB				*e*PP	PP	13 02 34.0	-4.5
HYB				*e*SKS	SKS	13 08 22.0	-7.7
HYB				*e*SKKS		13 09 32.0	
HYB				*e*S		13 10 20.0	
HYB				*e*SP	SP	13 12 14.0	+4.3
HYB				*e*PKKP	PKKP	13 12 20.5	-17
HYB				*e*SS	SS	13 18 22.0	-3.7
HYB				LR	LR	13 44 40.0	
	comp=Z,81nm,18.0s						
HYB	**Hyderabad**	**114.21**	**94**	*e*Pdif	Pdif	12 57 48.0	0.0
HYB				*e*PKP	PKPdf	13 01 41.0	-0.5
WUAZ	**Wupatki**	**114.33**	**297**	*e*PKP	PKPdf	13 01 39.0	-2.3
SOC	**Sochi**	**114.51**	**48**	*i* PKIKP	PKPdf	13 01 37.6	-3.8
SOC				*e*		13 02 31.3	
SOC				*e*PPP	PPP	13 05 00.0	-5.0
SOC				*e*		13 08 20.5	
SOC				*e*		13 12 17.3	
SOC				*e*SS	SS	13 18 39.4	+10
SOC				pmax	pmax		
	comp=Z,60nm,1.3s						
SOC				pmax	pmax		
	comp=N,55nm,1.7s						
SOC				pmax	pmax		
	comp=E,46nm,1.0s						
ANN	**Anapa**	**114.55**	**46**	*e*P	Pdif	12 57 45.0	-3.9
ANN				*e*		13 01 36.8	
ANN				*e*		13 08 23.9	
ANN				*e*SP	SP	13 12 18.3	+5.8
ANN				pmax	pmax		
	comp=Z,912nm,14.5s						
ANN				pmax	pmax		
	comp=Z,79nm,1.3s						
GKP	**Gorka Klasztor**	**114.86**	**29**	*i* PKIKP	PKPdf	13 01 45.7	+3.9
GKP				*e*		13 02 35.4	
GKP				*e*SP	SP	13 12 20.6	+5.2
GKP				*e*		13 18 28.5	
GKP	**Gorka Klasztor**	**114.86**	**29**	*e*PKPdf	PKPdf	13 01 45.7	+3.9
GKP				*e*PP	PP	13 02 35.4	-6.8
GKP				*e*SP	SP	13 12 20.6	+5.2
GKP				*e*PS	PS	13 12 32.3	+16
GKP				*e*		13 18 28.5	
GKP				LR	LR		
	comp=Z,55µm,24.9s,MS7.1						
BAR	**Barrett**	**114.86**	**292**	*e*PKPdf	PKPdf	13 01 41.7	-0.6
ISCO	**Idaho Springs**	**114.88**	**304**	PKIKP	PKPdf	13 01 41.8	-0.4
ISCO	**Idaho Springs**	**114.88**	**304**	*e*PKPdf	PKPdf	13 01 41.6	-0.6
ISCO				LR	LR		
	comp=Z,10µm,20.0s,MS6.4						

PV01	**Paradox Valley**	**114.98**	**301**	*e*PKPdf	PKPdf	13 01 41.2	-1.2
WAR	**Warsaw**	**115.03**	**31**	*i* PKIKP	PKPdf	13 01 39.7	-2.5
WAR				*e*		13 02 39.5	
WAR				*e*SP	SP	13 12 22.5	+5.4
WAR	**Warsaw**	**115.03**	**31**	*e*PKPdf	PKPdf	13 01 39.7	-2.5
WAR				*e*PP	PP	13 02 39.5	-3.9
WAR				*e*SKS	SKS	13 08 40.2	+8.2
WAR				*e*SP	SP	13 12 22.5	+5.4
WAR				*e*PS	PS	13 12 27.6	+9.1
WAR				LR	LR		
	comp=Z,44µm,21.3s,MS7.0						
PV10	**Paradox Valley**	**115.40**	**301**	*e*PKPdf	PKPdf	13 01 40.5	-2.9
PFO	**Pinyon Flat Ob**	**115.47**	**293**	PKIKP	PKPdf	13 01 43.4	-0.2
PFO	**Pinyon Flat Ob**	**115.47**	**293**	*e*PKPdf	PKPdf	13 01 42.3	-1.3
PFO				LR	LR		
	comp=Z,3µm,22.0s,MS5.8						
KGD	**Kothagudem**	**115.53**	**96**	*e*PP	PP	13 02 41.6	-6.1
KGD				*e*SKiK		13 05 16.3	
KGD				*e*SKS	SKS	13 08 29.6	-5.1
KGD				*e*SKKS		13 09 41.4	
KGD				*e*SP	SP	13 12 20.2	-2.3
KGD				*e*SS	SS	13 18 41.8	-1.1
KGD				*e*LR	LR	13 37 08.1	
IPM	**Ipoh**	**115.60**	**122**	⇓*e*P	PKPdf	13 01 42.5	-1.8
MUD	**Monsted U'grnd**	**115.77**	**22**	*i* P	Pdif	12 58 02.8	+8.8
MUD				*i* S	SKS	13 08 26.9	-7.8
MUD				*i*		13 09 48.3	
MUD				*i*		13 10 40.2	
COP	**Copenhagen**	**115.80**	**25**	*i* P	Pdif	12 57 55.6	+1.4
COP	**Copenhagen**	**115.80**	**25**	*i* S	SKS	13 08 30.4	-4.4
COP				*i*		13 09 49.2	
COP	**Copenhagen**	**115.80**	**25**	*e*P	Pdif	12 57 55.6	+1.4
COP				*i* S	SKS	13 08 30.4	-4.4
COP				*i*		13 09 49.2	
BSD	**Bornholm Skovb**	**115.90**	**26**	*i* P	Pdif	12 57 51.8	-2.8
	comp=Z,11nm,1.0s						
BSD	**Bornholm Skovb**	**115.90**	**26**	*i* P	Pdif	12 57 51.8	-2.8
BSD				*i*		13 09 34.8	
LDFC	**Landfair**	**115.90**	**295**	*e*PKPdf	PKPdf	13 01 42.0	-2.4
AKL	**Akola**	**115.94**	**91**	*i*	PP	13 02 47.4	-3.2
	comp=Z,69nm,2.2s						
AKL				*i*		13 06 45.2	
NEN	**Nelson**	**116.20**	**295**	*e*PKPdf	PKPdf	13 01 42.3	-2.7
AKASG	**Malin Array Be**	**116.34**	**37**	PKP	PKPdf	13 01 41.3	-3.6
	comp=Z,8.4nm,0.7s,baz=246,slow=1.8,SNR=34						
AKASG				PP	PP	13 02 46.0	-6.6
	comp=Z,0.6nm,0.4s,baz=215,slow=6.3,SNR=6.1						
AKASG				PKKPbc		13 12 13.8	
	comp=Z,0.5nm,0.3s,baz=29,slow=4.2,SNR=5.3						
SRU	**San Rafael**	**116.70**	**301**	PKIKP	PKPdf	13 01 39.3	-6.6
MWC	**Mount Wilson**	**116.79**	**292**	PKIKP	PKPdf	13 01 45.2	-1.0
MWC	**Mount Wilson**	**116.79**	**292**	*e*PKPdf	PKPdf	13 01 44.8	-1.4
MSU	**Marysvale**	**117.06**	**299**	PKIKP	PKPdf	13 01 44.5	-2.1
MSU	**Marysvale**	**117.06**	**299**	*e*PKPdf	PKPdf	13 01 44.2	-2.3
GOF	**Gofitskoye**	**117.11**	**49**	⇓*i*P	Pdif	12 58 02.0	+1.8
GOF				*i*		13 08 34.0	
GOF				*i*		13 12 36.0	
GOF				pmax	pmax		
	comp=Z,750nm,4.0s						
VIS	**Vishakhapatnam**	**117.16**	**98**	*e*PKP	PKPdf	13 01 47.0	-0.2
SUW	**Suwalki**	**117.21**	**32**	*e*PKIKP	PKPdf	13 01 45.9	-0.5
SUW				*e*		13 08 34.5	
SUW				*e*		13 12 34.7	
SUW				*e*PS	PS	13 12 37.3	-0.8
SUW				*e*		13 18 56.3	
SUW	**Suwalki**	**117.21**	**32**	*e*PKP	PKPdf	13 01 45.9	-0.5
SUW				*e*PP	PP	13 02 49.2	-9.5
SUW				*e*SKS	SKS	13 08 34.5	-5.6
SUW				*e*PKKP	PKKP	13 12 34.7	+3.9
SUW				*e*PS	PS	13 12 37.3	-0.8
SUW				*e*SP	SP	13 12 54.5	+18
SUW				*e*		13 18 56.3	
JASL	**Jaisalmer**	**117.32**	**82**	*e*PKP	PKPdf	13 01 45.2	-2.1
NGP	**Nagpur**	**117.45**	**92**	*e*	PP	13 02 55.1	-6.0
NGP				*e*		13 12 41.6	
MAK	**Makhachkala**	**117.46**	**54**	*e*P	Pdif	12 58 05.0	+3.2
MAK				*e*		13 01 40.0	
MAK				*e*PPP	PPP	13 05 30.0	-0.1
MAK				*i*		13 08 32.0	
MAK				*i*		13 12 32.0	
MAK				*i* PS	PS	13 12 40.0	-0.6
MAK				pmax	pmax		
	comp=N,500nm,14.0s						
MAK				pmax	pmax		
	comp=Z,1µm,14.0s						
KMY	**Karmoy**	**117.53**	**19**	*e*	PKPdf	13 01 47.2	+0.3
KMY				AMb	AMB	13 01 58.6	
	comp=Z,69nm,1.4s						
KMY	**Karmoy**	**117.53**	**19**	*e*P	PKPdf	13 01 47.2	+0.3
RSSD	**Black Hills**	**117.55**	**308**	PKIKP	PKPdf	13 01 43.7	-3.6
RSSD	**Black Hills**	**117.55**	**308**	*e*PKPdf	PKPdf	13 01 43.8	-3.6
RSSD				LR	LR		
	comp=Z,5µm,20.0s,MS6.1						
TPNV	**Topopah Spring**	**117.93**	**295**	PKIKP	PKPdf	13 01 45.6	-2.6
TPNV	**Topopah Spring**	**117.93**	**295**	*e*PKPdf	PKPdf	13 01 45.9	-2.3
TPNV				LR	LR		
	comp=Z,7µm,20.0s,MS6.3						
MPU	**Maple Canyon**	**117.94**	**300**	*e*PKPdf	PKPdf	13 01 46.0	-2.2
DAU	**Daniels Canyon**	**118.06**	**301**	PKIKP	PKPdf	13 01 46.7	-1.7
DAU	**Daniels Canyon**	**118.06**	**301**	*e*PKPdf	PKPdf	13 01 46.2	-2.2
DAC	**Darwin (Calif)**	**118.11**	**294**	PKIKP	PKPdf	13 01 48.1	-0.5
DAC	**Darwin (Calif)**	**118.11**	**294**	*e*PKPdf	PKPdf	13 01 45.9	-2.7
DAC				LR	LR		
	comp=Z,6µm,19.0s,MS6.3						
NLU	**North Lily Min**	**118.11**	**300**	*e*PKPdf	PKPdf	13 01 46.3	-2.3
BHPL	**Bhopal**	**118.17**	**89**	⇓*i*PKP	PKPdf	13 01 44.6	-4.5
JLU	**Jordanelle**	**118.30**	**301**	*e*PKPdf	PKPdf	13 01 46.2	-2.7
DUG	**Dugway**	**118.66**	**300**	PKIKP	PKPdf	13 01 47.0	-2.7
DUG	**Dugway**	**118.66**	**300**	*e*PKPdf	PKPdf	13 01 46.9	-2.7
DUG				LR	LR		
	comp=Z,14µm,19.0s,MS6.6						
TCUT	**Toone Canyon**	**118.68**	**301**	*e*PKPdf	PKPdf	13 01 45.9	-3.8
KONO	**Kongsberg**	**118.79**	**21**	*e*	PP	13 03 24.9	+15
KONO				*e*		13 13 16.1	
KONO				*e*SS	SS	13 19 44.5	+20
KONO				AMS	AMS	13 49 16.0	
	comp=Z,24µm,29.1s,MS6.7						
PDAR	**Pinedale Array**	**119.05**	**304**	PKP	PKPdf	13 01 46.4	-3.9
	comp=Z,7.8nm,0.6s,baz=136,slow=5.4,SNR=29						
PDAR				PKKPbc		13 12 01.9	
	comp=Z,4.1nm,1.1s,baz=346,slow=0.7,SNR=7.0						
BW06	**Boulder Array**	**119.05**	**304**	*e*PKPdf	PKPdf	13 01 46.4	-3.9
BW06				LR	LR		
	comp=Z,10µm,19.0s,MS6.5						
MNK	**Minsk**	**119.07**	**34**	*e*PKIKP	PKPdf	13 01 50.0	-0.1
MNK				*e*SS	SS	13 19 20.0	-8.0
MNK				MLR	MLR		
	comp=E,26µm,20.0s						
MNK				MLR	MLR		
	comp=Z,11µm,18.0s,MS6.5						
AJM	**Ajmer**	**119.09**	**85**	⇓*i*PKP	PKPdf	13 01 49.0	-1.8
HWUT	**Hardware Ranch**	**119.13**	**302**	*e*PKPdf	PKPdf	13 01 47.4	-3.1
HWUT				LR	LR		
	comp=Z,15µm,20.0s,MS6.6						
TPH	**Tonopah**	**119.28**	**295**	PKIKP	PKPdf	13 01 48.7	-2.1
TPH	**Tonopah**	**119.28**	**295**	*e*PKPdf	PKPdf	13 01 48.3	-2.5
TPH				LR	LR		
	comp=Z,7µm,19.0s,MS6.3						
BGU	**Big Grassy Mou**	**119.33**	**300**	*e*PKPdf	PKPdf	13 01 48.1	-2.7
SPUT	**South Promonto**	**119.33**	**301**	*e*PKPdf	PKPdf	13 01 49.8	-1.1
MTUM	**Tungsten Hills**	**119.44**	**294**	*e*PKPdf	PKPdf	13 01 48.7	-2.4
HYA	**Hoyanger**	**119.52**	**19**	*e*	PKPdf	13 01 52.4	+1.7
HYA				AMb	AMB	13 01 58.4	
	comp=Z,81nm,2.0s						
HYA	**Hoyanger**	**119.52**	**19**	*e*P	PKPdf	13 01 52.4	+1.7
FOO	**Floro**	**119.72**	**18**	*e*	PKPdf	13 01 51.2	+0.2
FOO	**Floro**	**119.72**	**18**	*e*P	PKPdf	13 01 51.2	+0.1
AHID	**Auburn Hatcher**	**119.78**	**303**	*e*PKPdf	PKPdf	13 01 50.0	-1.7
AHID				LR	LR		
	comp=Z,9µm,20.0s,MS6.4						
HVU	**Hansel Valley**	**119.85**	**301**	PKIKP	PKPdf	13 01 50.7	-1.1
HVU	**Hansel Valley**	**119.85**	**301**	*e*PKPdf	PKPdf	13 01 49.2	-2.6
OMM	**Old Mammoth Mi**	**119.86**	**294**	*e*PKPdf	PKPdf	13 01 49.5	-2.5
BORG	**Borgarnes**	**119.97**	**4**	PKP	PKPdf	13 01 51.5	+0.1
	comp=Z,36nm,0.9s,baz=153,slow=5.8,SNR=3.0						
BORG	**Borgarnes**	**119.97**	**4**	PKP	PKPdf	13 01 51.5	+0.1
BORG				LR	LR		
	comp=Z,5µm,21.0s,MS6.1						
LRV	**Little Rabbit**	**120.03**	**291**	*e*PKPdf	PKPdf	13 01 51.0	-1.3
MNV	**Mina**	**120.03**	**295**	PKIKP	PKPdf	13 01 50.0	-2.2
MNV	**Mina**	**120.03**	**295**	*e*PKPdf	PKPdf	13 01 49.4	-2.9
HFS	**Hagfors**	**120.11**	**23**	PKP	PKPdf	13 01 49.1	-2.7
	comp=Z,9.3nm,0.7s,baz=180,slow=1.5,SNR=13						
HFS				PP	PP	13 03 08.5	-9.3
	comp=Z,3.6nm,0.8s,baz=323,slow=7.2,SNR=2.6						
HFS				PKKPbc		13 11 58.6	
	comp=Z,2.6nm,0.6s,baz=56,slow=5.2,SNR=4.9						
REDW	**Red Top Meadow**	**120.12**	**303**	*e*PKPdf	PKPdf	13 01 50.0	-2.3
SNOW	**Snow King Moun**	**120.15**	**304**	*e*PKPdf	PKPdf	13 01 49.9	-2.5
LOHW	**Long Hollow**	**120.19**	**304**	*e*PKPdf	PKPdf	13 01 49.4	-3.0
TPAW	**Teton Pass**	**120.26**	**303**	*e*PKPdf	PKPdf	13 01 49.7	-2.9
ELK	**Elko**	**120.29**	**299**	PKIKP	PKPdf	13 01 50.0	-2.7
ELK	**Elko**	**120.29**	**299**	*e*PKPdf	PKPdf	13 01 49.6	-3.1
MOOW	**Moose Ponds**	**120.36**	**304**	*e*PKPdf	PKPdf	13 01 49.5	-3.2
NB2	**NORSAR Subarra**	**120.39**	**21**	PKPdf	PKPdf	13 01 49.3	-3.1
	comp=Z,37nm,1.2s,baz=202,slow=1.9						
NB2	**NORSAR Subarra**	**120.39**	**21**	PKPd		13 01 49.3	
	baz=202,slow=1.9						
NB2	**NORSAR Subarra**	**120.39**	**21**	⇓PKP	PKPdf	13 01 49.3	-3.1
NOA	**NORSAR Array B**	**120.39**	**21**	PKP	PKPdf	13 01 49.1	-3.3
	comp=Z,13nm,0.9s,baz=203,slow=1.8,SNR=22						
NOA				PKKPbc		13 11 57.2	
	comp=Z,1.7nm,0.7s,baz=28,slow=3.4,SNR=6.5						
SAO	**San Andreas Ge**	**120.51**	**291**	PKIKP	PKPdf	13 01 51.2	-2.1
SAO	**San Andreas Ge**	**120.51**	**291**	*e*PKPdf	PKPdf	13 01 50.6	-2.7
SAO				LR	LR		
	comp=Z,7µm,19.0s,MS6.3						
LAO	**LASA Array**	**120.52**	**309**	*e*PKPdf	PKPdf	13 01 49.5	-3.6
LAO				LR	LR		
	comp=Z,18µm,20.0s,MS6.7						
VOR	**Voronezh**	**120.82**	**42**	PKIKP	PKPdf	13 01 55.0	+1.5
VOR						13 03 19.0	
VOR				pmax	pmax		
	comp=Z,110nm,1.9s						
CMB	**Columbia Colle**	**120.90**	**293**	PKPdf	PKPdf	13 01 51.3	-2.7
CMB				PP	PP	13 03 21.1	-2.8
CMB				SKSac		13 08 52.8	
CMB	**Columbia Colle**	**120.90**	**293**	PKIKP	PKPdf	13 01 51.7	-2.4
CMB	**Columbia Colle**	**120.90**	**293**	*e*PKPdf	PKPdf	13 01 51.4	-2.6
CMB				LR	LR		
	comp=Z,8µm,19.0s,MS6.4						
KHET	**Khetri**	**120.98**	**85**	*e*PKP	PKPdf	13 01 50.1	-4.3
KHET				*e*		13 03 25.3	
DGMT	**Dagmar**	**121.00**	**311**	*e*PKPdf	PKPdf	13 01 51.6	-2.4
DGMT				LR	LR		
	comp=Z,12µm,20.0s,MS6.5						
BMN	**Battle Mountai**	**121.05**	**297**	PKIKP	PKPdf	13 01 51.7	-2.6
BMN	**Battle Mountai**	**121.05**	**297**	*e*PKPdf	PKPdf	13 01 51.9	-2.4
BMN				LR	LR		
	comp=Z,10µm,19.0s,MS6.5						
YMR	**Madison River**	**121.16**	**304**	*e*PKPdf	PKPdf	13 01 53.8	-0.6
KUDL	**Kundal**	**121.42**	**85**	*e*PKP	PKPdf	13 01 51.2	-4.1
KUDL				*e*		13 03 28.6	
QLMT	**Earthquake Lak**	**121.50**	**304**	*e*PKPdf	PKPdf	13 01 53.4	-1.6
WCN	**Washoe City**	**121.51**	**294**	PKIKP	PKPdf	13 01 53.5	-1.7
WCN	**Washoe City**	**121.51**	**294**	*e*PKPdf	PKPdf	13 01 53.3	-2.0
LKC	**Lake Chabot**	**121.56**	**292**	*e*PKPdf	PKPdf	13 01 53.4	-1.9
PAHR	**Pah Rah Range**	**121.62**	**295**	*e*PKPdf	PKPdf	13 01 55.5	+0.1
ASMM	**Slate Mountain**	**121.64**	**293**	*e*PKPdf	PKPdf	13 01 53.6	-1.8
HLID	**Hailey**	**121.98**	**301**	*e*PKPdf	PKPdf	13 01 53.2	-2.8
HLID				*e*SKPdf		13 05 29.7	
HLID				LR	LR		
	comp=Z,7µm,19.0s,MS6.3						
AYAN	**Aya Nagar**	**122.04**	**85**	*e*PKP	PKPdf	13 01 52.4	-4.1
AYAN				*e*PP	PP	13 03 32.6	+0.6
BHGR	**Bahadurgarh**	**122.09**	**85**	*e*	PP	13 03 32.6	+0.2
MCMT	**McKenzie Canyo**	**122.17**	**303**	*e*PKPdf	PKPdf	13 01 54.0	-2.3
BOZ	**Bozeman (W)**	**122.20**	**305**	PKIKP	PKPdf	13 01 53.6	-2.7
BOZ	**Bozeman (W)**	**122.20**	**305**	*e*PKPdf	PKPdf	13 01 53.4	-2.9
BOZ				LR	LR		
	comp=Z,15µm,19.0s,MS6.7						
NDI	**New Delhi**	**122.24**	**85**	*e*PKP	PKPdf	13 01 51.0	-5.8
NDI				*e*PP	PP	13 03 30.0	-3.5
NDI				*e*		13 13 30.0	
BEKR	**Beckwourth**	**122.25**	**295**	*e*PKPdf	PKPdf	13 01 54.2	-2.3
NSHM	**Saint Helena R**	**122.43**	**292**	*e*PKPdf	PKPdf	13 01 55.0	-1.9
OHCM	**Honcut**	**122.44**	**293**	*e*PKPdf	PKPdf	13 01 54.3	-2.6
LCCM	**Lewis and Clar**	**122.46**	**305**	P	PKPdf	13 01 54.6	-2.1
OBN	**Obninsk**	**122.51**	**38**	*d i*PKIKP	PKPdf	13 01 53.6	-3.0
OBN				*i*		13 03 28.3	
OBN				*i*		13 08 46.5	
OBN				pmax	pmax		
	comp=Z,97nm,1.1s						
OBN				MLR	MLR		
	comp=Z,22µm,19.0s,MS6.8						
OBN	**Obninsk**	**122.51**	**38**	*e*PKPdf	PKPdf	13 01 54.1	-2.6
OBN				LR	LR		
	comp=Z,6µm,20.0s,MS6.2						
KKR	**Kurukshetra**	**122.98**	**84**	*e*PKP	PKPdf	13 01 56.1	-2.0
HOPS	**Hopland**	**123.03**	**292**	*e*PKPdf	PKPdf	13 01 57.1	-0.9
HOPS				LR	LR		
	comp=Z,9µm,19.0s,MS6.4						
HRY	**Holter Researc**	**123.08**	**305**	*e*PKPdf	PKPdf	13 01 55.2	-2.8
WVOR	**Wild Horse Val**	**123.25**	**298**	PKIKP	PKPdf	13 01 54.6	-3.8
WVOR	**Wild Horse Val**	**123.25**	**298**	*e*PKPdf	PKPdf	13 01 55.7	-2.7
WVOR				LR	LR		
	comp=Z,11µm,19.0s,MS6.5						
NSS	**Namsos**	**123.69**	**20**	*e*P	PKPdf	13 01 57.8	-1.0
NSS				*e*PP	PP	13 03 35.3	-7.5
NSS				*e*		13 13 09.5	
NSS				*e*SS	SS	13 20 24.8	-2.4
NSS				AMS	AMS	13 55 48.8	
	comp=Z,19µm,18.3s,MS6.8						
MOD	**Modoc**	**123.71**	**296**	*e*PKPdf	PKPdf	13 01 57.0	-2.4
MOD				LR	LR		
	comp=Z,10µm,19.0s,MS6.5						
CAL	**Calcutta**	**123.81**	**99**	*e*	PKPdf	13 01 52.1	-7.9
CAL				*i*		13 03 22.4	
CAL				*e*		13 08 43.2	
BHK	**Bhakra**	**123.85**	**83**	*e*	PKPdf	13 02 11.4	+11
CHMT	**Chamberlain Mo**	**123.89**	**305**	*e*PKPdf	PKPdf	13 01 56.1	-3.5
CHMT				*e*SKPdf		13 05 33.1	
WDC	**Whiskeytown Da**	**123.90**	**294**	PKIKP	PKPdf	13 01 56.5	-3.3
WDC	**Whiskeytown Da**	**123.90**	**294**	*e*PKPdf	PKPdf	13 01 56.4	-3.4
MSO	**Missoula**	**124.16**	**304**	*e*PKPdf	PKPdf	13 01 57.0	-3.2
MSO				LR	LR		
	comp=Z,10µm,19.0s,MS6.5						
FINES	**FINESS Array B**	**124.33**	**29**	PKP	PKPdf	13 01 56.0	-4.2
	comp=Z,35nm,0.7s,baz=153,slow=4.3,SNR=37						
FINES				PP	PP	13 03 39.8	-7.2
	comp=Z,11nm,1.1s,baz=202,slow=7.5,SNR=2.6						
FINES	**FINESS Array B**	**124.33**	**29**	PKIKP	PKPdf	13 01 56.0	-4.1
FINES						13 03 39.8	
FINES				pmax	pmax		
	comp=Z,35nm,0.7s						
FINES				pmax	pmax		
	comp=Z,11nm,1.2s						
NST	**Nakhon Sawan**	**124.65**	**115**	P	PKPdf	13 02 02.0	+0.3
KHMM	**Horse Mountain**	**124.74**	**293**	*e*PKPdf	PKPdf	13 01 58.8	-2.5
YBH	**Yreka Blue Hor**	**124.83**	**294**	PKP	PKPdf	13 01 58.5	-2.9
	comp=Z,27nm,0.9s,baz=73,slow=3.2,SNR=29						
YBH				PP	PP	13 03 45.5	-4.9
	comp=Z,5.0nm,1.0s,baz=201,slow=14,SNR=1.3						
YBH	**Yreka Blue Hor**	**124.83**	**294**	PKIKP	PKPdf	13 01 58.5	-2.9
YBH						13 03 45.5	
YBH				pmax	pmax		
	comp=Z,27nm,0.9s						
YBH				pmax	pmax		
	comp=Z,5.0nm,1.0s						
YBH	**Yreka Blue Hor**	**124.83**	**294**	*e*PKPdf	PKPdf	13 01 57.9	-3.5
YBH				LR	LR		
	comp=Z,7µm,20.0s,MS6.3						
FFC	**Flin Flon**	**124.84**	**318**	PKIKP	PKPdf	13 01 58.9	-2.2
FFC	**Flin Flon**	**124.84**	**318**	*e*PKPdf	PKPdf	13 01 58.2	-2.9
FFC				LR	LR		
	comp=Z,3µm,20.0s,MS6.0						
KAF	**Kangasniemi**	**124.95**	**28**	*e*pkp	PKPdf	13 01 57.4	-3.7
FCC	**Fort Churchill**	**125.10**	**325**	PKIKP	PKPdf	13 02 01.1	-0.4
FCC	**Fort Churchill**	**125.10**	**325**	*e*PKPdf	PKPdf	13 01 58.2	-3.3
KOLN	**Koldanda**	**125.19**	**91**	*e*P	PKPdf	13 01 58.3	-4.2
	comp=Z,233nm,0.9s						
BDT	**Bhumibol Dam**	**125.37**	**113**	P	PKPdf	13 02 03.0	-0.1
	comp=Z,20nm,1.0s						
LNOR	**Lincton Mounta**	**125.56**	**301**	PKIKP	PKPdf	13 02 02.1	-0.6
LNOR	**Lincton Mounta**	**125.56**	**301**	*e*PKPdf	PKPdf	13 02 00.9	-1.8
HUMO	**Hull Mountain**	**125.58**	**295**	*e*PKPdf	PKPdf	13 02 00.1	-2.8
MOR8	**Moi Rana**	**125.64**	**20**	*e*P	PKPdf	13 02 02.6	+0.3
MOR8				AMb	AMB	13 02 06.1	
	comp=Z,58nm,1.2s						
DMN	**Daman**	**125.92**	**93**	*e*P	PKPdf	13 02 00.5	-3.4
	comp=Z,302nm,1.3s						
GKN	**Gorkha**	**125.95**	**92**	*e*P	PKPdf	13 01 59.3	-4.7
	comp=Z,288nm,1.2s						
KBO	**Bosley Butte**	**125.96**	**294**	*e*PKPdf	PKPdf	13 02 01.5	-2.1
PKI	**Pulchoki**	**126.06**	**93**	*e*P	PKPdf	13 01 59.7	-4.5
	comp=Z,459nm,1.5s						
KKN	**Kakani**	**126.16**	**93**	*e*P	PKPdf	13 02 01.1	-3.2
	comp=Z,104nm,0.9s						
HSO	**Harness Mounta**	**126.30**	**296**	PKIKP	PKPdf	13 02 02.4	-1.7
HSO	**Harness Mounta**	**126.30**	**296**	*e*PKPdf	PKPdf	13 02 01.9	-2.2
CMAR	**Chiang Mai Arr**	**126.34**	**112**	PKP	PKPdf	13 02 00.6	-4.2
	comp=Z,8.4nm,0.8s,baz=222,slow=3.7,SNR=33						
CMAR				PP	PP	13 03 58.2	-2.9
	comp=Z,7.9nm,0.9s,baz=224,slow=5.9,SNR=3.3						
CMAR	**Chiang Mai Arr**	**126.34**	**112**	PKIKP	PKPdf	13 02 00.6	-4.2
CMAR						13 03 58.2	
CMAR				pmax	pmax		
	comp=Z,8.0nm,0.8s						
CMAR				pmax	pmax		
	comp=Z,8.0nm,0.9s						
KEBM	**Edson Butte**	**126.48**	**294**	*e*PKPdf	PKPdf	13 02 02.2	-2.3
AGT	**Agartala**	**126.51**	**101**	⇑*i*	PKPdf	13 02 10.0	+5.0
AGT				*i*		13 04 02.0	
VGB	**Gordon Butte**	**126.54**	**299**	PKIKP	PKPdf	13 02 01.3	-3.2
VGB	**Gordon Butte**	**126.54**	**299**	*e*PKPdf	PKPdf	13 02 01.0	-3.5
HAWA	**Hanford**	**126.54**	**301**	*e*PKPdf	PKPdf	13 02 01.9	-2.5
HAWA				LR	LR		
	comp=Z,12µm,20.0s,MS6.6						
KKTK	**Khon Kaen**	**126.58**	**117**	PG	PKPdf	13 02 02.0	-3.3
KKTK				SG	x	13 02 07.0	
CHG	**Chiang Mai**	**126.64**	**112**	⇑P	PKPdf	13 02 05.3	-0.1
	comp=Z,35nm,1.2s						
NEW	**Newport**	**126.69**	**304**	PKP	PKPdf	13 02 00.0	-4.7
	comp=Z,12nm,0.7s,baz=101,slow=2.0,SNR=20						
NEW				PP	PP	13 04 00.6	-1.8
	comp=Z,4.1nm,0.9s,baz=76,slow=19,SNR=1.4						
NEW	**Newport**	**126.69**	**304**	PKIKP	PKPdf	13 02 00.0	-4.7
NEW						13 04 00.6	
NEW				pmax	pmax		
	comp=Z,12nm,0.7s						
NEW				pmax	pmax		
	comp=Z,4.0nm,0.9s						
NEW	**Newport**	**126.69**	**304**	*e*PKPdf	PKPdf	13 02 00.2	-4.5
NEW				LR	LR		
	comp=Z,18µm,19.0s,MS6.8						
SSOR	**Sweet Springs**	**126.92**	**297**	PKIKP	PKPdf	13 02 02.5	-2.7
SSOR	**Sweet Springs**	**126.92**	**297**	*e*PKPdf	PKPdf	13 02 02.8	-2.5
DPW	**Davenport**	**126.93**	**303**	PKIKP	PKPdf	13 02 02.7	-2.5
DPW	**Davenport**	**126.93**	**303**	*e*PKPdf	PKPdf	13 02 02.5	-2.7
JMIC	**Jan Mayen**	**126.94**	**8**	*e*	PKPdf	13 02 11.1	+6.5
JMIC				*e*PP	PP	13 03 59.0	-4.3
JMIC				*e*SS	SS	13 21 05.9	-1.9
JMIC				AMS	AMS	13 51 57.9	
	comp=Z,17µm,17.1s,MS6.8						
COR	**Corvallis**	**127.16**	**297**	PKIKP	PKPdf	13 02 05.8	+0.1
COR	**Corvallis**	**127.16**	**297**	*e*PKPdf	PKPdf	13 02 03.0	-2.8
COR				LR	LR		
	comp=Z,2µm,20.0s,MS5.8						
LOF	**Lofoten**	**127.19**	**19**	*e*P	PKPdf	13 02 06.1	+0.9
NANT	**Nan**	**127.55**	**113**	P	PKPdf	13 02 04.0	-3.2
SUMG	**Summit**	**127.84**	**356**	*e*PKPdf	PKPdf	13 02 02.9	-3.5
LON	**Longmire**	**127.91**	**299**	*e*PKPdf	PKPdf	13 02 04.0	-3.2
AB31	**Akbulak array**	**127.92**	**56**	*i* PKIKP	PKPdf	13 02 04.0	-3.2
AB31				pmax	pmax		
	comp=Z,332nm,1.4s						
CHRT	**Chiangrai**	**127.95**	**112**	⇑P	PKPdf	13 02 06.0	-2.0
	comp=Z,242nm,0.6s						
NLW	**Nelson Butte**	**128.11**	**302**	P	PKPdf	13 02 04.0	-3.6
SHL	**Shillong**	**128.19**	**100**	*e*PKP	PKPdf	13 02 05.5	-2.9
SHL				*e*		13 04 10.0	
RMW	**Rattlesnake Mo**	**128.40**	**300**	PKIKP	PKPdf	13 02 04.8	-3.4
BMW	**Boistfort Moun**	**128.43**	**298**	*e*PKPdf	PKPdf	13 02 05.3	-2.9
HTW	**Haystack Looko**	**128.62**	**300**	P	PKPdf	13 02 05.3	-3.2
RPW	**Rockport**	**128.93**	**301**	*e*PKPdf	PKPdf	13 02 05.7	-3.5
GNW	**Green Mountain**	**128.97**	**300**	*e*PKPdf	PKPdf	13 02 06.2	-3.0
KKAR	**Karatay Array**	**129.01**	**68**	*i* PKIKP	PKPdf	13 02 06.2	-3.2
KKAR				pmax	pmax		
	comp=Z,200nm,1.3s						
KSH	**Kashi**	**129.47**	**75**	*e*PKP	PKPdf	13 02 08.3	-2.1
KSH				*e*PP	PP	13 04 19.3	-2.0
KSH				*e*PKS	PKS	13 05 43.2	+0.7
KSH				*e*SKS	SKS	13 09 18.5	-0.2
KSH				*e*SKKS		13 11 10.1	
TRO	**Tromso**	**129.49**	**20**	*e*P	PKPdf	13 02 08.4	-1.2
TRO				*e*PP	PP	13 04 14.6	-6.0
TRO				*e*SS	SS	13 21 37.2	-2.3
TRO				AMS	AMS	13 55 19.2	
	comp=Z,22µm,24.4s,MS6.8						
VDB	**Vedder Mountai**	**129.61**	**301**	P	PKPdf	13 02 07.0	-3.4
OCWA	**Octopus Mounta**	**129.77**	**299**	*e*PKPdf	PKPdf	13 02 09.0	-1.8
OCWA				LR	LR		
	comp=Z,15µm,19.0s,MS6.7						
KTK1	**Kautokeino**	**129.85**	**22**	*e*	PKPdf	13 02 04.8	-5.5
KTK1				AMb	AMB	13 02 16.2	
	comp=Z,250nm,1.7s						
PGC	**Sidney**	**130.02**	**300**	*e*PKPdf	PKPdf	13 02 07.8	-3.4
AML	**Almayashu**	**130.04**	**71**	P	PKPdf	13 02 10.0	-1.5
	SNR=35						
AML	**Almayashu**	**130.04**	**71**	P	PKS	13 05 31.9	-12
	SNR=11						
EKS2	**Erkin-Say**	**130.45**	**71**	P	PKPdf	13 02 13.3	+1.1
	SNR=32						
EKS2	**Erkin-Say**	**130.45**	**71**	P	PKS	13 05 32.4	-12
	SNR=10						
UCH	**Uchtor**	**130.55**	**72**	P	PKPdf	13 02 11.1	-1.3
	SNR=29						
UCH	**Uchtor**	**130.55**	**72**	P	PKS	13 05 31.0	-13
	SNR=10						
ARCES	**ARCESS Array B**	**130.75**	**22**	PKhKP		13 02 00.1	
	comp=Z,7.5nm,0.8s,baz=180,slow=4.5,SNR=4.5						
ARCES				PKP	PKPdf	13 02 09.0	-3.1
	comp=Z,82nm,0.8s,baz=225,slow=1.7,SNR=40						
ARCES				PP	PP	13 04 26.6	-2.4
	comp=Z,11nm,0.8s,baz=225,slow=10,SNR=3.4						
ARCES	**ARCESS Array B**	**130.75**	**22**	PKIKP	PKPdf	13 02 00.2	-12
ARCES						13 04 26.6	
AAK	**Ala-Archa**	**130.82**	**71**	P	PKPdf	13 02 13.4	+0.5
	SNR=26						
AAK	**Ala-Archa**	**130.82**	**71**	P	PKS	13 05 32.7	-12
	SNR=5.7						
AAK	**Ala-Archa**	**130.82**	**71**	*e*PKPdf	PKPdf	13 02 08.8	-4.1
AAK				LR	LR		
	comp=Z,14µm,22.0s,MS6.6						
KZA	**Kyzart**	**130.85**	**72**	P	PKPdf	13 02 11.7	-1.3
	SNR=11						
KZA	**Kyzart**	**130.85**	**72**	P	PKS	13 05 34.5	-11
	SNR=8.0						
LSA	**Lhasa**	**130.95**	**96**	PKP	PKPdf	13 02 12.0	-1.5
FRU	**Bishkek**	**131.02**	**71**	*e*PKIKP	PKPdf	13 02 10.0	-3.3
FRU				*i*		13 04 30.0	
FRU				*e*		13 14 36.2	
FRU				pmax	pmax		
	comp=Z,520nm,2.0s						
KBK	**Karagaybulak**	**131.08**	**72**	P	PKPdf	13 02 13.3	0.0
	SNR=9.7						
KBK	**Karagaybulak**	**131.08**	**72**	P	PKS	13 05 31.8	-14
	SNR=7.5						
APA	**Apatity**	**131.11**	**27**	⇓*i*PKIKP	PKPdf	13 02 09.5	-3.3
APA				*e*		13 09 11.0	
APA				*e*PS	PS	13 14 40.0	+0.4
APA				*i* SS	SS	13 22 02.0	+2.9
APA				pmax	pmax		
	comp=Z,140nm,1.0s						
APA				pmax	pmax		
	comp=Z,2µm,14.0s						
CHMS	**Chumysh**	**131.20**	**71**	P	PKPdf	13 02 11.3	-2.4
	SNR=17						
CHMS	**Chumysh**	**131.20**	**71**	P	PKS	13 05 35.7	-10
	SNR=9.5						
USP	**Ospenovka**	**131.25**	**71**	P	PKPdf	13 02 13.6	-0.1
	SNR=24						
USP	**Ospenovka**	**131.25**	**71**	P	PKS	13 05 35.0	-11
	SNR=12						
KEV	**Kevo**	**131.25**	**23**	*e*pkp	PKPdf	13 02 09.4	-3.6
ULHL	**Ulahol**	**131.50**	**73**	P	PKPdf	13 02 14.4	+0.2
	SNR=9.8						
ULHL	**Ulahol**	**131.50**	**73**	P	PKS	13 05 37.0	-9.2
	SNR=7.2						
OTRP	**Odiongan**	**131.54**	**141**	*e*P	PKS	13 05 33.9	-13
TKM2	**Tokmak 2**	**131.61**	**72**	P	PKPdf	13 02 11.8	-2.6
	SNR=15						
DAG	**Danmarks Havn**	**132.07**	**3**	*j* *i*P	PKPdf	13 02 14.3	-0.1
	comp=Z,40nm,0.9s						
	comp=Z,16µm,20.0s						
DAG	**Danmarks Havn**	**132.07**	**3**	*i* Pdu		13 02 14.3	
DAG				LR	LR		
	comp=Z,16µm,20.0s,MS6.7						
ARU	**Arti**	**132.09**	**48**	*i* PKIKP	PKPdf	13 02 12.3	-2.6
ARU				*i*		13 04 33.4	
ARU				*i* SSS	SSS	13 26 59.2	-7.1

ARU				MLR	MLR		
	comp=Z,31µm,20.0s,MS7.0						
ARU				MLR	MLR		
	comp=N,15µm,22.0s,MS6.8						
ARU				MLR	MLR		
	comp=E,12µm,19.0s,MS6.8						
ARU	**Arti**	**132.09**	**48**	*e*PKPdf	PKPdf	13 02 12.4	-2.5
ARU				LR	LR		
	comp=Z,8µm,20.0s,MS6.4						
LUBP	**Lubang**	**132.14**	**138**	*e*P	PKS	13 05 36.2	-12
QIZ	**Qiongzhong**	**132.34**	**123**	PKP	PKPdf	13 02 15.4	-1.0
QIZ				PP	PP	13 04 37.1	-2.9
QIZ				SS	SS	13 22 12.1	-3.8
QIZ	**Qiongzhong**	**132.34**	**123**	*e*PKPdf	PKPdf	13 02 13.7	-2.7
BOAC	**Boac**	**132.49**	**140**	*e*P	PKS	13 05 37.6	-11
AAA	**Alma-Ata**	**132.58**	**72**	*i* PKIKP	PKPdf	13 02 17.0	+0.8
AAA				*e*		13 04 38.0	
AAA				*e*PPP	PPP	13 07 28.0	-5.5
AAA				*e*		13 14 52.0	
AAA				pmax	pmax		
	comp=Z,2µm,8.0s						
AAA				pmax	pmax		
	comp=Z,8µm,10.0s						
AAA				MLR	MLR		
	comp=Z,15µm,20.0s,MS6.7						
AUQP	**San Andres**	**132.66**	**141**	*e*P	PKS	13 05 39.6	-9.4
LQP	**Lukban**	**132.97**	**140**	*e*P	PKS	13 05 42.2	-7.4
PVCP	**Virac**	**133.43**	**143**	*e*P	PKS	13 05 41.1	-9.4
BJO	**Bjornoya**	**133.56**	**16**	*e*	PKPdf	13 02 21.2	+4.1
BJO				*e*SS	SS	13 22 27.9	-1.2
BJO				AMS	AMS	13 56 47.3	
	comp=Z,10µm,22.0s,MS6.5						
KMI	**Kunming**	**133.80**	**111**	*e*PKP	PKPdf	13 02 18.8	-0.1
KMI				PP	PP	13 04 48.5	-1.0
KMI				PKS	PKS	13 05 52.7	+1.8
KMI				PPP	PPP	13 07 43.4	-0.9
KMI				SKS	SKS	13 09 27.0	-2.3
KMI				SKKS		13 11 40.2	
KMI				SS	SS	13 22 31.3	-2.0
KMI				LR	LR		
	comp=Z,30µm,26.5s,MS6.9						
BBB	**Bella Bella**	**134.57**	**301**	PKP	PKPdf	13 02 16.5	-3.1
	comp=Z,25nm,0.8s,baz=87,slow=2.3,SNR=3.5						
BBB	**Bella Bella**	**134.57**	**301**	PKP	PKPdf	13 02 16.5	-3.1
ZRNK	**Zerenda**	**134.66**	**57**	PKHKP		13 02 06.3	
ZRNK				pmax	pmax		
	comp=Z,256nm,1.8s						
ZRNK	**Zerenda**	**134.66**	**57**	PKPdf	PKPdf	13 02 16.7	-3.1
YKA	**Yellowknife Ar**	**134.94**	**319**	PKhKP		13 02 10.1	
	comp=Z,6.4nm,0.8s,baz=128,slow=4.0,SNR=5.1						
YKA				PKP	PKPdf	13 02 20.3	+0.3
	comp=Z,41nm,0.7s,baz=136,slow=2.0,SNR=52						
YKA				PP	PP	13 04 52.4	-3.0
	comp=Z,10nm,0.9s,baz=122,slow=6.2,SNR=4.8						
YKA				SKPbc		13 05 48.6	
	comp=Z,14nm,0.9s,baz=116,slow=3.3,SNR=7.4						
YKA	**Yellowknife Ar**	**134.94**	**319**	PKIKP	PKPdf	13 02 10.1	-10
YKA						13 04 52.4	
YKA	**Yellowknife Ar**	**134.94**	**319**	PKP	PKPdf	13 02 10.1	-10
YKA				PKP	PKPdf	13 02 20.3	+0.3
YKA				PP	PP	13 04 52.4	-3.0
YKA				SKPbc		13 05 48.6	
YKW3	**Yellowknife Ar**	**134.99**	**319**	*e*PKPdf	PKPdf	13 02 16.4	-3.7
YKW3				*e*SKPbc		13 05 48.0	
BRVK	**Borovoye**	**135.34**	**58**	*e*PKHKP		13 02 07.6	
BRVK	**Borovoye**	**135.34**	**58**	*e*PKPpre		13 02 07.3	
BRVK				*e*PKPdf	PKPdf	13 02 18.2	-2.9
BVA0	**Borovoye Array**	**135.37**	**58**	*i* PKIKP	PKPdf	13 02 18.4	-2.7
BVAR	**Borovoye Array**	**135.37**	**58**	PKhKP		13 02 10.0	
	comp=Z,9.7nm,1.0s,baz=217,slow=7.4,SNR=8.3						
BVAR				PKP	PKPdf	13 02 19.0	-2.1
	comp=Z,66nm,0.8s,baz=225,slow=2.0,SNR=43						
BVAR				PP	PP	13 04 55.9	-2.4
	comp=Z,13nm,0.9s,baz=225,slow=10,SNR=5.6						
BVAR				SKPbc		13 05 48.0	
	comp=Z,24nm,1.0s,baz=180,slow=1.5,SNR=6.1						
VOSK	**Vostochnaya**	**135.48**	**59**	PKHKP		13 02 09.6	
VOSK				pmax	pmax		
	comp=Z,114nm,1.3s						
RES	**Resolute Bay**	**136.84**	**339**	PKIKP	PKPdf	13 02 21.7	-1.5
RES	**Resolute Bay**	**136.84**	**339**	*e*PKPdf	PKPdf	13 02 21.5	-1.7
GYA	**Guiyang**	**136.95**	**114**	PKP	PKPdf	13 02 20.3	-4.3
GYA				PKS	PKS	13 05 55.6	-0.9
GYA				LR	LR		
	comp=N,17µm,17.9s,MS6.8						
GYA				LR	LR		
	comp=E,9µm,19.4s,MS6.8						
GYA				LR	LR		
	comp=Z,21µm,18.2s,MS6.9						
MKAR	**Makanchi Array**	**137.74**	**72**	PKhKP		13 02 12.7	
	comp=Z,4.1nm,0.6s,baz=243,slow=2.8,SNR=15						
MKAR				PKP	PKPdf	13 02 23.6	-2.1
	comp=Z,15nm,0.7s,baz=237,slow=2.8,SNR=20						
MKAR				PP	PP	13 05 12.4	-1.0
	comp=Z,1.2nm,0.3s,baz=353,slow=10,SNR=16						
MKAR				SKPbc		13 05 54.5	
	comp=Z,20nm,1.0s,baz=243,slow=2.7,SNR=6.0						
MKAR	**Makanchi Array**	**137.74**	**72**	PKHKP		13 02 12.7	
MKAR						13 02 23.6	
MKAR						13 05 12.4	
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MKAR				pmax	pmax		
	comp=Z,15nm,0.7s						
GUMO	**Guam**	**138.03**	**171**	*e*PKPdf	PKPdf	13 02 24.8	-2.2
KURK	**Kurchatov**	**138.14**	**65**	*i* PKHKP		13 02 16.2	
KURK				pmax	pmax		
	comp=Z,38nm,1.0s						
KURK	**Kurchatov**	**138.14**	**65**	*e*PKPpre		13 02 16.6	
KURK				*e*PKPdf	PKPdf	13 02 23.2	-3.0
WMQ	**Urumqi**	**138.87**	**79**	PKP	PKPdf	13 02 19.8	-8.0
WMQ				PP	PP	13 05 14.8	-5.8
WMQ				PP	PP		
	comp=Z,8µm,12.0s						
WMQ				LR	LR		
	comp=N,16µm,20.0s,MS6.9						
WMQ				LR	LR		
	comp=E,15µm,19.0s,MS6.9						
WMQ				LR	LR		
	comp=Z,14µm,19.0s,MS6.7						
WMQ	**Urumqi**	**138.87**	**79**	PKPdf	PKPdf	13 02 30.3	+2.5
WMQ				SKPbc		13 05 56.7	
WMQ				SKKSac		13 12 10.2	
CD2	**Chengdu**	**138.91**	**107**	PKP	PKPdf	13 02 24.5	-3.7
CD2				SKS	SKS	13 09 32.1	-5.7
CD2				LR	LR		
	comp=N,32µm,19.7s						
CD2				LR	LR		
	comp=Z,32µm,12.3s						
DLBC	**Dease Lake**	**139.03**	**308**	PKhKP		13 02 17.4	
	comp=Z,3.3nm,0.7s,baz=113,slow=9.2,SNR=8.6						
DLBC				PKP	PKPdf	13 02 24.6	-3.1
	comp=Z,10nm,0.8s,baz=195,slow=5.0,SNR=11						
DLBC	**Dease Lake**	**139.03**	**308**	*e*PKPpre		13 02 17.2	
DLBC				*e*PKPdf	PKPdf	13 02 24.4	-3.3
DLBC				PKP	PKPdf	13 02 24.6	-3.1
DLBC				*e*SKP		13 06 00.7	
ENH	**Enshi**	**141.48**	**113**	*e*PKPdf	PKPdf	13 02 28.2	-4.5
ENH				*e*		13 06 05.3	
QZH	**Quanzhou**	**141.49**	**129**	PKP	PKPdf	13 02 29.4	-3.5
QZH				LR	LR		
	comp=N,46µm,16.8s,MS7.3						
QZH				LR	LR		
	comp=E,16µm,15.3s,MS7.3						
QZH				LR	LR		
	comp=Z,61µm,17.6s,MS7.4						
NVS	**Novosibirsk**	**142.72**	**62**	*i* PKIKP	PKPdf	13 02 27.5	-6.6
NVS				pmax	pmax		
	comp=Z,248nm,1.6s						
NVS				pmax	pmax		
	comp=N,141nm,1.7s						
NVS				pmax	pmax		
	comp=E,60nm,1.8s						
LZH	**Lanzhou**	**142.83**	**101**	PKP	PKPdf	13 02 30.8	-4.1
LZH				APKP		13 02 36.3	
LZH				XPKP		13 02 40.4	
LZH				PP	PP	13 05 42.3	-2.2
LZH				SKKS		13 12 27.3	
LZH				PP	PP		
	comp=Z,5µm,6.2s						
LZH				LR	LR		
	comp=E,34µm,18.8s						
LZH				LR	LR		
	comp=Z,45µm,20.0s,MS7.2						
GTA	**Gaotai**	**142.88**	**94**	*e*PKP	PKPdf	13 02 29.3	-5.5
GTA				APKP		13 02 33.6	
GTA				XPKP		13 02 36.4	
GTA				PP	PP	13 05 40.7	-3.9
GTA				PKS	PKS	13 06 03.5	-2.7
GTA				PPP	PPP	13 08 50.8	-4.6
GTA				SKS	SKS	13 09 37.6	-6.2
GTA				SKKS		13 12 30.9	
GTA				SS	SS	13 24 15.9	-3.7
GTA				LR	LR		
	comp=N,9µm,20.5s,MS6.7						
GTA				LR	LR		
	comp=E,9µm,22.0s,MS6.7						
GTA				LR	LR		
	comp=Z,12µm,22.8s,MS6.6						
ZAL	**Zalesovo**	**143.07**	**64**	PKhKP		13 02 27.9	
	comp=Z,9.0nm,0.7s,baz=130,slow=3.1,SNR=23						
ZAL	**Zalesovo**	**143.07**	**64**	PKIKP	PKPdf	13 02 27.9	-6.8
ZAL				pmax	pmax		
	comp=Z,9.0nm,0.7s						
XAN	**Xi'an**	**144.11**	**109**	PKP	PKPdf	13 02 31.5	-5.6
XAN				PP	PP	13 05 53.8	+1.6
XAN				LR	LR		
	comp=N,9µm,22.7s,MS6.7						
XAN				LR	LR		
	comp=E,8µm,19.4s,MS6.7						
XAN				LR	LR		
	comp=Z,20µm,20.5s,MS6.9						
WHN	**Wuhan**	**144.19**	**119**	PKP	PKPdf	13 02 34.2	-3.2
WHN				PP	PP	13 05 55.0	+2.2
WHN				LR	LR		
	comp=N,17µm,16.6s,MS7.0						
WHN				LR	LR		
	comp=E,10µm,15.8s,MS7.0						
WHN				LR	LR		
	comp=Z,67µm,18.1s,MS7.5						
MIDW	**Midway**	**144.51**	**233**	PKPdf	PKPdf	13 02 35.1	-2.9
DAWY	**Dawson**	**145.53**	**313**	*e*PKPdf	PKPdf	13 02 35.4	-3.2
MID	**Middleton Isla**	**147.04**	**303**	*e*P	PKPdf	13 02 41.3	-0.1
EYAK	**Cordova Ski Ar**	**147.16**	**305**	*e*PKPbc	PKPdf	13 02 41.4	-0.1
DIV	**Divide**	**147.36**	**306**	*e*PKPdf	PKPdf	13 02 39.2	-2.6
NJ2	**Nanjing**	**147.63**	**123**	*e*PKP	PKPdf	13 02 41.7	-1.5
NJ2				PKP2	PKPab	13 02 48.6	+1.5
NJ2				PP	PP	13 06 10.0	-3.4
NJ2				PKS	PKS	13 06 11.0	-3.0
NJ2				PP	PP		
	comp=Z,13µm,11.3s						
NJ2				LR	LR		
	comp=N,28µm,22.3s,MS7.1						
NJ2				LR	LR		
	comp=E,17µm,22.6s,MS7.1						
NJ2				LR	LR		
	comp=Z,27µm,24.3s,MS7.0						
THY	**Trims Highway**	**148.03**	**311**	*e*PKPbc	PKPdf	13 02 41.9	-1.0
THY				*e*PKPab	PKPab	13 02 48.4	+0.7
TIY	**Taiyuan**	**148.74**	**108**	PKP	PKPdf	13 02 37.0	-7.8
TIY				LR	LR		
	comp=N,22µm,19.0s						
TIY				LR	LR		
	comp=Z,24µm,18.0s,MS7.0						
SML	**Sawmill**	**148.74**	**307**	PKHKP		13 02 38.7	
SML	**Sawmill**	**148.74**	**307**	*e*PKPdf	PKPdf	13 02 40.9	-3.1
SML				*e*PKPbc	PKPdf	13 02 46.5	+2.5
ILAR	**Eielson Array**	**148.85**	**313**	PKP	PKPdf	13 02 38.5	-5.6
	comp=Z,7.7nm,0.8s,baz=264,slow=0.8,SNR=58						
ILAR				PKPbc	PKPdf	13 02 45.7	+1.6
	comp=Z,244nm,0.7s,baz=123,slow=1.6,SNR=139						
ILAR				SKPbc		13 06 21.8	
	comp=Z,17nm,1.1s,baz=118,slow=2.2,SNR=2.7						
ILAR	**Eielson Array**	**148.85**	**313**	PKHKP		13 02 38.5	
ILAR						13 02 45.7	
ILAR						13 06 21.8	
ILAR				pmax	pmax		
	comp=Z,8.0nm,0.8s						
ILAR				pmax	pmax		
	comp=Z,244nm,0.7s						
ILAR				pmax	pmax		
	comp=N,17nm,1.1s						
ILAR	**Eielson Array**	**148.85**	**313**	PKP	PKPdf	13 02 38.5	-5.6
ILAR				PKPbc	PKPdf	13 02 45.7	+1.6
ILAR				SKPbc		13 06 21.8	
PMR	**Palmer**	**149.05**	**306**	*e*PKHKP		13 02 38.7	
PMR	**Palmer**	**149.05**	**306**	*e*P	PKPdf	13 02 38.6	-5.9
SLKM	**Skilak Lake**	**149.24**	**304**	PKIKP	PKPdf	13 02 41.8	-3.1
SLKM	**Skilak Lake**	**149.24**	**304**	*e*PKPdf	PKPdf	13 02 42.1	-2.7
SLKM				*e*PKPbc	PKPdf	13 02 47.4	+2.5
COLA	**College**	**149.27**	**313**	⇑*i*PKIKP	PKPdf	13 02 39.5	-5.3
COLA	**College**	**149.27**	**313**	*e*P	PKPdf	13 02 37.3	-7.5
COLA				*e*PKPdf	PKPdf	13 02 41.8	-3.0
COLA				*e*PKPab	PKPab	13 02 50.4	-2.3
FIB	**Fire Island**	**149.41**	**305**	*e*PKPdf	PKPdf	13 02 43.6	-1.6
FIB				*e*PKPab	PKPab	13 02 52.7	-0.7
BTO	**Baotou**	**149.45**	**102**	*e*PKP	PKPdf	13 02 46.3	+0.5
MCK	**McKinley**	**149.49**	**310**	PKIKP	PKPdf	13 02 39.8	-5.4
MCK	**McKinley**	**149.49**	**310**	*e*PKPpre		13 02 39.9	
MCK				*e*PKPbc	PKPdf	13 02 47.3	+2.1
MCK				*e*PKPab	PKPab	13 02 52.2	-1.4
TIA	**Tai'an**	**150.09**	**116**	*e*PKP	PKPdf	13 02 45.8	-1.2
TIA				LR	LR		
	comp=N,9µm,18.0s,MS6.8						
TIA				LR	LR		
	comp=E,8µm,17.0s,MS6.8						
SPU	**Mount Spurr**	**150.29**	**305**	*e*PKPdf	PKPdf	13 02 43.8	-2.7
SPU				*e*PKPbc	PKPdf	13 02 50.2	+3.7
RSO	**Redoubt South**	**150.43**	**303**	*e*PKPdf	PKPdf	13 02 44.1	-2.6
RSO				*e*PKPbc	PKPdf	13 02 51.0	+4.3
HHC	**Hu-ho-hao-te**	**150.47**	**103**	*e*PKP	PKPdf	13 02 44.2	-3.2
HHC				XPKP		13 02 50.2	
HHC				PKS	PKS	13 06 19.5	+1.7
HHC				SKS	SKS	13 09 47.2	-7.2
HHC				LR	LR		
	comp=N,10µm,19.6s,MS6.7						
HHC				LR	LR		
	comp=E,8µm,18.4s,MS6.7						
HHC				LR	LR		
	comp=Z,11µm,20.2s,MS6.6						
MOY	**Mondy**	**150.66**	**76**	*e*PKIKP	PKPdf	13 02 44.4	-2.9
MOY				*e*		13 02 52.0	
ZAK	**Zakamensk**	**151.33**	**80**	*e*PKIKP	PKPdf	13 02 44.7	-3.7
SONM	**Songino Array**	**151.80**	**87**	PKP	PKPdf	13 02 45.5	-3.6
	comp=Z,12nm,1.1s,baz=185,slow=1.4,SNR=22						
SONM				PKPbc	PKPdf	13 02 53.6	+4.4
	comp=Z,196nm,0.8s,baz=220,slow=3.6,SNR=98						
IMA	**Indian Mountai**	**151.85**	**315**	*e*P	PKPdf	13 02 45.5	-3.2
SVW	**Sparrevohn**	**151.96**	**304**	*e*P	PKPdf	13 02 47.9	-1.1
BJT	**Baijiatuau**	**152.42**	**109**	PKPdf	PKPdf	13 02 49.8	-0.5
BJT	**Baijiatuau**	**152.42**	**109**	*e*PKPbc	PKPdf	13 02 54.7	+4.4
BJI	**Beijing**	**152.44**	**109**	PKP	PKPdf	13 02 46.0	-4.4
BJI				PP	PP		
	comp=Z,5µm,7.7s						
BJI				LR	LR		
	comp=N,19µm,20.6s,MS6.9						
BJI				LR	LR		
	comp=E,7µm,20.6s,MS6.9						
BJI				LR	LR		
	comp=Z,23µm,21.9s,MS6.9						
TTA	**Tatalina**	**152.48**	**308**	*e*P	PKPdf	13 02 45.1	-4.6
IRK	**Irkutsk**	**152.73**	**77**	*e*PKIKP	PKPdf	13 02 44.9	-5.5
IRK				*e*		13 06 44.5	
SDPT	**Sand Point**	**152.78**	**290**	*e*P	PKPdf	13 02 47.6	-2.7
DL2	**Dalian**	**154.45**	**118**	*e*PKP	PKPdf	13 02 53.0	-0.1
DL2				LR	LR		
	comp=E,21µm,18.0s						
UNV	**Unalaska Valle**	**155.53**	**284**	*e*PKPdf	PKPdf	13 02 51.5	-2.5
INCN	**Inchon**	**155.73**	**127**	*e*PKPdf	PKPdf	13 02 52.2	-2.6
SNY	**Shenyang**	**157.62**	**116**	⇓PKP	PKPdf	13 02 56.0	-1.3
SNY				SKKS		13 13 53.3	
SNY				LR	LR		
	comp=N,22µm,18.6s						
SNY				LR	LR		
	comp=Z,23µm,19.2s,MS7.0						
MAJO	**Matsushiro**	**159.26**	**150**	PFAKE		13 03 10.0	+11
MAJO				LR	LR		
	comp=Z,19µm,22.0s,MS6.9						
MAT	**Matsushiro**	**159.26**	**150**	PKP	PKPdf	13 02 57.9	-1.5
MAT	**Matsushiro**	**159.26**	**150**	*e*PKP	PKPdf	13 02 58.0	-1.4
MAT				LR	LR		
	comp=Z,14µm,20.0s,MS6.8						
BOD	**Bodaibo**	**159.74**	**68**	*e*PKIKP	PKPdf	13 02 54.6	-4.6
BOD				*e*		13 03 35.4	
CN2	**Changchun**	**159.99**	**115**	*e*PKP	PKPdf	13 02 56.6	-3.4
CN2				*e*PP	PP	13 07 21.2	0.0
CN2				*e*SS	SS	13 27 23.3	-4.5
CN2				LR	LR		
	comp=N,19µm,19.0s,MS7.1						
CN2				LR	LR		
	comp=E,16µm,19.0s,MS7.1						
CN2				LR	LR		
	comp=Z,25µm,19.0s,MS7.1						
HIA	**Hailar**	**160.15**	**95**	*e*PKPdf	PKPdf	13 02 58.0	-2.0
HIA				*e*PKPab	PKPab	13 03 38.9	-0.4
TIXI	**Tiksi**	**161.19**	**22**	⇓*i*PKIKP	PKPdf	13 02 56.6	-3.8
TIXI				*i*		13 07 25.6	
TIXI				*e*		13 09 55.0	
TIXI				*e*SS	SS	13 27 38.4	-0.7
TIXI				pmax	pmax		
	comp=Z,65nm,1.8s						
MDJ	**Mudanjiang**	**162.67**	**120**	PKP	PKPdf	13 02 59.8	-2.8
MDJ				PP	PP	13 07 32.6	-3.0
MDJ				SKS	SKS	13 10 05.5	-1.3
MDJ				SKKS		13 14 22.1	
MDJ				SS	SS	13 27 50.4	-5.2
MDJ				LR	LR		
	comp=N,9µm,23.2s						
MDJ				LR	LR		
	comp=E,17µm,24.0s						
MDJ				LR	LR		
	comp=Z,25µm,20.6s						
MDJ	**Mudanjiang**	**162.67**	**120**	*e*PKPdf	PKPdf	13 03 00.7	-1.9
CLNS	**Chul'man**	**165.49**	**74**	*e*PKIKP	PKPdf	13 03 04.5	-0.5
CLNS				pmax	pmax		
	comp=N,16nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,46nm,1.0s						
CLNS				pmax	pmax		
	comp=E,5.0nm,1.1s						
KLR	**Kul'dur**	**166.81**	**110**	*e*PKIKP	PKPdf	13 03 03.2	-3.1
KLR				*e*		13 08 03.0	
KLR				*e*		13 28 30.0	
KLR				pmax	pmax		
	comp=N,120nm,2.4s						
KLR				pmax	pmax		
	comp=Z,220nm,2.4s						
KLR				pmax	pmax		
	comp=Z,4µm,15.5s						
YAK	**Yakutsk**	**167.20**	**50***d*	*i*PKIKP	PKPdf	13 03 03.7	-2.4
YAK				*e*		13 07 54.8	
YAK				*e*PPP	PPP	13 12 02.7	+4.7
YAK				pmax	pmax		
	comp=Z,392nm,7.5s						
YAK				pmax	pmax		
	comp=N,38nm,7.2s						
YAK				pmax	pmax		
	comp=E,13nm,4.7s						
YAK				pmax	pmax		
	comp=N,524nm,13.4s						
YAK				pmax	pmax		
	comp=Z,5µm,13.4s						
YAK				pmax	pmax		
	comp=E,677nm,10.2s						
YUK	**Yuzh-Kuril'sk**	**168.18**	**162**	PKIKP	PKPdf	13 03 03.0	-4.3
YUK				pmax	pmax		
	comp=Z,5µm,5.0s						
YSS	**Yuzh-Sakhalins**	**170.15**	**146***c*	*i*PKIKP	PKPdf	13 03 05.0	-3.4
YSS				*e*		13 08 12.0	
YSS				pmax	pmax		
	comp=Z,350nm,1.8s						
YSS				pmax	pmax		
	comp=Z,3µm,8.0s						
SEY	**Seymchan**	**172.40**	**355**	*e*PKIKP	PKPdf	13 03 01.6	-7.6
SEY				*e*		13 08 23.7	
SEY				*e*		13 29 29.5	
SEY				pmax	pmax		
	comp=Z,160nm,1.4s						
SKR	**Severo-Kuril's**	**174.31**	**216**	*i* PKIKP	PKPdf	13 03 12.0	+1.8
SKR				*e*PPP	PPP	13 12 56.0	+7.9
SKR				pmax	pmax		
	comp=Z,110nm,1.0s						
SKR				pmax	pmax		
	comp=E,2µm,6.0s						
SKR				pmax	pmax		
	comp=Z,3µm,6.0s						
PET	**Petropavlovsk**	**174.83**	**246***c*	*i*PKIKP	PKPdf	13 03 05.5	-4.8
PET				*e*		13 04 43.5	
PET				*e*		13 08 35.8	
PET				*e*		13 31 15.8	
PET				pmax	pmax		
	comp=Z,3µm,5.9s						
PET				pmax	pmax		
	comp=Z,75nm,2.0s						
PET				pmax	pmax		
	comp=Z,3µm,9.5s						
MA2	**Magadan**	**175.81**	**0**	PKIKP	PKPdf	13 03 08.5	-1.9

*NEIC **06** 12:49:02.7±1.2, 55.40S×28.41W, h10^{km}, Error ellipse: s-maj=35.6km s-min=25.2km az=176.0*

IDC 06 12:49:02.5±1.3**, 55.25S×28.59W, mb4.6**/3**, mb1 4.9**/3**, mb1mx4.5**/11**, Error ellipse: s-maj=55.4km s-min=32.9km az=9.0, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
USHA	**Ushuaia**	**22.62**	**254**	P	P	12 54 04.8	-1.0
	16nm,0.8s,baz=354,slow=10,SNR=3.0						
CPUP	**Villa Florida**	**35.68**	**312**	P	P	12 56 01.5	-2.8
	7.1nm,0.7s,baz=162,slow=7.3,SNR=7.1						
CPUP	**Villa Florida**	**35.68**	**312**	P	P	12 56 01.5	-2.8
LPAZ	**La Paz**	**49.26**	**306**	P	P	12 57 53.9	-1.0
	8.3nm,0.7s,baz=164,slow=7.4,SNR=6.0						
FINES	**FINESS Array B**	**124.05**	**28**	PKP	PKPdf	13 08 03.0	-0.7
	2.5nm,0.8s,baz=207,slow=3.1,SNR=2.5						
YKA	**Yellowknife Ar**	**135.04**	**319**	PKP	PKPdf	13 08 22.2	-2.3
	0.7nm,0.5s,baz=131,slow=2.0,SNR=4.3						
YKA	**Yellowknife Ar**	**135.04**	**319**	PKP	PKPdf	13 08 22.2	-2.3
ILAR	**Eielson Array**	**148.99**	**313**	PKPbc	PKPdf	13 08 49.9	+1.3
	9.3nm,0.7s,baz=126,slow=2.0,SNR=17						
SONM	**Songino Array**	**151.47**	**86**	PKPbc	PKPdf	13 08 55.9	+3.1
	4.6nm,0.7s,baz=217,slow=3.8,SNR=7.2						

*BER **06** 12:49:18.6±2.1, 76.72N×17.60E, h15^{km}±38^{km}, ML2.7(NAO)*

NAO 06 12:49:14.7±14.0**, 76.63N×17.92E, h5**^{km}±75^{km}**, ML2.7, Svalbard region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HSP	**Hornsund**	**0.66**	**306**	*e*Pg	Pg	12 49 23.6	-4.4
HSP				*e*Sg	Sg	12 49 28.1	-8.8
SPA0	**Spitsbergen Ar**	**1.59**	**348**	Pn	Pn	12 49 43.8	+0.1
	baz=172,slow=22						
SPA0				Lg		12 50 05.2	
	baz=162,slow=37						
KBS	**Kingsbay**	**2.63**	**334**	Pn	Pn	12 49 56.3	-2.3
KBS				Pg	Pg	12 50 02.3	-5.0
KBS				Lg		12 50 35.7	

IDC 06 12:53:50.1±3.1**, 55.13S×28.56W, mb4.5**/2**, mb1 4.7**/2**, mb1mx4.2**/9**, Error ellipse: s-maj=285.0km s-min=36.6km az=27.0, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CPUP	**Villa Florida**	**35.62**	**312**	P	P	13 00 48.7	-2.6
	4.1nm,0.8s,baz=182,slow=5.9,SNR=3.3						
LPAZ	**La Paz**	**49.21**	**306**	P	P	13 02 40.8	-1.2
	4.3nm,0.5s,baz=93,slow=9.3,SNR=5.4						
FINES	**FINESS Array B**	**123.93**	**28**	PKP	PKPdf	13 12 48.6	-2.4
	1.6nm,0.5s,baz=146,slow=6.9,SNR=10						
KAF	**Kangasniemi**	**124.55**	**28**	*e*p	PKPdf	13 12 49.1	-3.0
	0.4nm,0.4s						
ARCES	**ARCESS Array B**	**130.38**	**22**	PKP	PKPdf	13 13 00.6	-2.5
	15nm,1.2s,baz=315,slow=1.7,SNR=5.8						
BVAR	**Borovoye Array**	**134.94**	**57**	PKP	PKPdf	13 13 11.1	-1.0
	0.7nm,0.5s,baz=169,slow=3.2,SNR=4.8						
ILAR	**Eielson Array**	**148.92**	**313**	PKPbc	PKPdf	13 13 38.0	+2.0
	20nm,1.1s,baz=121,slow=2.5,SNR=13						
SONM	**Songino Array**	**151.44**	**86**	PKPbc	PKPdf	13 13 43.6	+3.2
	1.6nm,0.6s,baz=221,slow=2.7,SNR=4.9						

IDC 06 13:01:34.8±4.1**, 53.72S×27.11W, mb4.2**/2**, mb1 4.5**/2**, mb1mx4.0**/9**, Error ellipse: s-maj=464.0km s-min=43.7km az=27.0, Southwestern Atlantic Ocean**

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

CPUP	**Villa Florida**	**35.34**	**309**	P	P	13 08 31.5	-2.3
	2.1nm,0.8s,baz=143,slow=10,SNR=3.6						
LPAZ	**La Paz**	**49.09**	**303**	P	P	13 10 24.7	-1.1
	1.9nm,0.3s,baz=160,slow=1.1,SNR=2.7						
ILAR	**Eielson Array**	**148.55**	**315**	PKPbc	PKPdf	13 21 21.3	+1.2
	2.5nm,1.0s,baz=124,slow=1.6,SNR=12						
SONM	**Songino Array**	**150.45**	**82**	PKPbc	PKPdf	13 21 27.3	+3.6
	0.6nm,0.6s,baz=219,slow=4.1,SNR=3.7						

IDC 06 13:03:41.3±3.2**,54.62S×28.17W,mb4.4**/2**,mb1 4.6**/2**,mb1mx4.0**/9**,Error ellipse: s-maj=375.0km s-min=41.0km az=30.0,South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CPUP	**Villa Florida**	**35.45**	**311**	P	P	13 10 38.9	-2.2
	2.9nm,0.6s,baz=177,slow=7.7,SNR=9.5						
LPAZ	**La Paz**	**49.09**	**305**	P	P	13 12 30.9	-1.4
	1.6nm,0.3s,baz=202,slow=8.0,SNR=4.5						
ILAR	**Eielson Array**	**148.73**	**314**	PKPbc	PKPdf	13 23 28.8	+1.9
	3.1nm,0.6s,baz=120,slow=1.7,SNR=58						
SONM	**Songino Array**	**151.18**	**85**	PKPbc	PKPdf	13 23 35.2	+3.9
	0.5nm,0.5s,baz=227,slow=3.2,SNR=5.3						

*IDC **06** 13:06:33.8±1.1,55.27S×28.48W,mb4.3/3,mb1 4.4/3,mb1mx4.1/10,Error ellipse: s-maj=126.0km s-min=24.9km az=44.0*

*NEIC **06** 13:06:35.0±0.8,55.11S×28.08W,h10^{km},mb4.6/1,Error ellipse: s-maj=44.3km s-min=12.8km az=56.0*

ISC 06 13:06:32.8±1.7**,55.1S**±0.4×**28.1W**±0.8**,h10^{km},n8,**σ**1^{s}07**/6**,mb4.4**/4**,1C,South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNAA	**Sanae**	**19.81**	**157**	⇑*i*	**P**	**13 11 05.0**	**-0.9**
QSPA	**South Pole Qui**	**35.14**	**180**	*e*P	**P**	**13 13 28.3**	**+0.4**
	6.3nm,0.7s,mb4.7						
CPUP	**Villa Florida**	**35.81**	**311**	P	**P**	**13 13 33.2**	**-0.9**
	5.2nm,1.0s,mb4.4,baz=180,slow=8.1,SNR=4.8						
CPUP	**Villa Florida**	**35.81**	**311**	P	**P**	**13 13 33.2**	**-0.9**
MAW	**Mawson**	**41.21**	**144**	P	**P**	**13 14 19.4**	**+0.6**
	2.3nm,1.0s,mb3.8,baz=236,slow=12,SNR=3.7						
LPAZ	**La Paz**	**49.42**	**306**	P	**P**	**13 15 25.5**	**+0.8**
	1.6nm,0.3s,mb4.6,baz=191,slow=3.5,SNR=3.4						
ILAR	**Eielson Array**	**149.10**	**313**	PKPbc	PKPdf	13 26 22.5	+4.0
	4.0nm,0.9s,baz=121,slow=2.0,SNR=12						
SONM	**Songino Array**	**151.17**	**85**	PKPbc	PKPdf	13 26 28.3	+6.1
	1.6nm,0.7s,baz=222,slow=3.6,SNR=8.8						

*IDC **06** 13:06:57.1±0.7,55.26S×28.48W,mb4.6/6,mb1 4.7/6,mb1mx4.5/10,MS5.9/1,Ms1 5.9/1,ms1mx5.3/10,Error ellipse: s-maj=43.4km s-min=20.5km az=49.0*

*NEIC **06** 13:06:59.0±0.3,55.29S×28.62W,h10^{km},mb4.7/6,Error ellipse: s-maj=17.8km s-min=8.9km az=57.0*

ISC 06 13:06:56.6±0.5**,55.3S**±0.1×**28.4W**±0.2**,h10^{km},n28,**σ**0^{s}71**/13**,mb4.6**/12**,MS5.9**/1**,1C,South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNAA	**Sanae**	**19.75**	**156**	⇑*i*	**P**	**13 11 28.5**	**-0.7**
QSPA	**South Pole Qui**	**35.00**	**180**	*e*P	**P**	**13 13 51.7**	**+1.1**
	11nm,0.6s,mb5.0						
CPUP	**Villa Florida**	**35.76**	**312**	P	**P**	**13 13 57.4**	**-0.2**
	17nm,0.8s,mb5.0,baz=171,slow=7.7,SNR=18						
MAW	**Mawson**	**41.20**	**144**	P	**P**	**13 14 42.8**	**+0.3**
	5.0nm,0.9s,mb4.1,baz=228,slow=10,SNR=6.8						
MAW				PcP	PcP	13 16 42.1	-0.2
	2.6nm,0.8s,baz=268,slow=7.9,SNR=4.3						
BDFB	**Brasilia**	**42.33**	**331**	P	**P**	**13 14 51.8**	**-0.5**
	3.2nm,0.6s,mb4.1,baz=129,slow=7.0,SNR=5.1						
LVC	**Limon Verde**	**44.30**	**301**	*e*P	**P**	**13 15 08.9**	**+0.7**
	9.4nm,0.8s,mb4.6						
LPAZ	**La Paz**	**49.35**	**306**	P	**P**	**13 15 49.1**	**+1.1**
	8.9nm,0.8s,mb4.9,baz=181,slow=7.0,SNR=13						
TSUM	**Tsumeb**	**49.91**	**63**	LR	LR	13 35 04.0	
	comp=Z,12µm,19.9s,MS5.9,baz=344,slow=34						
TSUM	**Tsumeb**	**49.91**	**63**	*e*P	**P**	**13 15 53.2**	**+0.9**
	4.3nm,0.8s,mb4.5						
SAML	**Samuel**	**53.75**	**316**	*e*P	**P**	**13 16 20.1**	**-1.1**
	7.0nm,1.1s,mb4.5						
CASY	**Casey**	**54.89**	**161**	*e*P	**P**	**13 16 28.4**	**-0.6**
	10nm,1.0s,mb4.8						
DBIC	**Dimbokro**	**64.74**	**26**	P	**P**	**13 17 37.1**	**-0.2**
	5.4nm,1.1s,mb4.5,baz=218,slow=17,SNR=3.2						
SDV	**Santo Domingo**	**72.95**	**316**	*e*P	**P**	**13 18 27.7**	**-0.4**
	9.6nm,0.8s,mb4.8						
ASAR	**Alice Springs**	**99.96**	**164**	P	**P**	**13 20 42.4**	**-0.5**
	0.9nm,0.7s,mb4.3,baz=178,slow=3.8,SNR=6.1						
PDAR	**Pinedale Array**	**119.33**	**303**	PKP	PKPdf	13 25 46.5	-2.1
	0.4nm,0.6s,baz=151,slow=5.1,SNR=4.1						
FINES	**FINESS Array B**	**124.00**	**28**	PKP	PKPdf	13 25 55.4	-1.9
	2.1nm,0.6s,baz=153,slow=6.2,SNR=8.6						
KAF	**Kangasniemi**	**124.61**	**28**	*e*p	PKPdf	13 25 56.3	-2.0
	2.5nm,0.5s						
ARCES	**ARCESS Array B**	**130.46**	**22**	PKP	PKPdf	13 26 07.8	-1.5
	9.4nm,1.1s,baz=270,slow=1.8,SNR=5.3						
BVAR	**Borovoye Array**	**134.93**	**57**	PKP	PKPdf	13 26 17.4	-0.7
	3.4nm,1.0s,baz=180,slow=1.5,SNR=8.9						
YKA	**Yellowknife Ar**	**135.11**	**319**	PKP	PKPdf	13 26 15.9	-2.3
	1.0nm,0.5s,baz=127,slow=2.6,SNR=4.1						
YKA	**Yellowknife Ar**	**135.11**	**319**	PKP	PKPdf	13 26 15.9	-2.3
MKAR	**Makanchi Array**	**137.28**	**71**	PKP	PKPdf	13 26 21.2	-1.4
	0.8nm,0.8s,baz=237,slow=3.3,SNR=3.8						
MKAR	**Makanchi Array**	**137.28**	**71**	PKP	PKPdf	13 26 21.2	-1.4
DIV	**Divide**	**147.62**	**306**	*e*PKPbc	PKPdf	13 26 42.4	+2.3
SML	**Sawmill**	**149.00**	**307**	*e*PKPbc	PKPdf	13 26 45.4	+3.2
ILAR	**Eielson Array**	**149.06**	**313**	PKPbc	PKPdf	13 26 45.4	+3.1
	17nm,0.7s,baz=123,slow=1.7,SNR=24						
COLA	**College**	**149.49**	**313**	*e*PKPbc	PKPdf	13 26 45.6	+2.6
SONM	**Songino Array**	**151.36**	**86**	PKPbc	PKPdf	13 26 52.2	+5.9
	4.5nm,0.6s,baz=222,slow=3.8,SNR=18						

*IDC **06** 13:27:06.6±0.6,55.39S×28.53W,mb4.6/9,mb1 4.6/9,mb1mx4.6/14,Error ellipse: s-maj=22.9km s-min=18.4km az=49.0*

*BJI **06** 13:27:07.6,55.40S×28.70W,h10^{km}*

*NEIC **06** 13:27:08.7±0.2,55.39S×28.74W,h10^{km},mb4.8/11,Error ellipse: s-maj=8.6km s-min=5.7km az=60.0*

ISC 06 13:27:06.7±0.5**,55.24S**±0.07×**28.5W**±0.1**,h10^{km},n49,**σ**1^{s}13**/27**,mb4.6**/16**,4C-2D,South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**17.83**	**158**	⇑*i*	**P**	**13 31 18.5**	**+2.3**
EFI	**East Falkland**	**17.88**	**269**	*e*P	**P**	**13 31 16.4**	**-0.4**
	33nm,0.7s						
VNA3	**Neumayer Olymp**	**18.01**	**160**	⇑*i*	**P**	**13 31 20.1**	**+1.7**
VNA2	**Neumayer--Watz**	**18.23**	**158**		**P**	**13 31 22.1**	**+1.0**
SNAA	**Sanae**	**19.79**	**156**	⇓*i*	**P**	**13 31 37.5**	**-2.1**
PMSA	**Palmer Station**	**19.88**	**227**	*e*P	**P**	**13 31 40.8**	**+0.2**
	50nm,0.8s						
USHA	**Ushuaia**	**22.66**	**254**	P	**P**	**13 32 09.1**	**+0.2**
	9.5nm,0.8s,mb4.2,baz=81,slow=14,SNR=3.6						
QSPA	**South Pole Qui**	**35.01**	**180**	*e*P	**P**	**13 34 00.6**	**-0.1**
	17nm,0.6s,mb5.2						
CPUP	**Villa Florida**	**35.70**	**312**	P	**P**	**13 34 06.9**	**-0.2**
	8.2nm,0.8s,mb4.7,baz=164,slow=7.1,SNR=18						
MAW	**Mawson**	**41.25**	**144**	⇑*i*P	**P**	**13 34 51.9**	**-1.1**
	5.0nm,0.6s,mb4.3						
MAW				*i*		13 36 51.4	
MAW	**Mawson**	**41.25**	**144**	P	**P**	**13 34 52.0**	**-0.9**
	6.0nm,0.6s,mb4.4,baz=230,slow=7.8,SNR=25						
MAW				PcP	PcP	13 36 51.2	-1.2
	3.9nm,0.5s,baz=237,slow=5.4,SNR=8.9						
BDFB	**Brasilia**	**42.28**	**331**	P	**P**	**13 35 03.6**	**+1.7**
	4.7nm,0.9s,mb4.1,baz=146,slow=15,SNR=3.3						
LVC	**Limon Verde**	**44.23**	**301**	*e*P	**P**	**13 35 19.1**	**+1.3**
	11nm,0.6s,mb4.8						
SBA	**Scott Base**	**46.83**	**184**	*e*P	**P**	**13 35 37.5**	**-0.2**
	5.5nm,0.6s,mb4.7						
LPAZ	**La Paz**	**49.29**	**306**	P	**P**	**13 35 58.8**	**+1.2**
	9.8nm,0.6s,mb5.0,baz=201,slow=9.7,SNR=25						
TSUM	**Tsumeb**	**49.97**	**63**	P	**P**	**13 36 03.0**	**+0.2**
	4.9nm,0.9s,mb4.5,baz=265,slow=15,SNR=3.0						
TSUM	**Tsumeb**	**49.97**	**63**	*e*P	**P**	**13 36 02.6**	**-0.2**
	13nm,1.2s,mb4.8						
SAML	**Samuel**	**53.69**	**316**	*e*P	**P**	**13 36 29.9**	**-1.0**
	7.1nm,0.9s,mb4.6						
CASY	**Casey**	**54.93**	**161**	⇑*i*P	**P**	**13 36 37.7**	**-1.6**
LSZ	**Lusaka**	**58.80**	**71**	*e*P	**P**	**13 37 07.8**	**+0.3**
	2.6nm,0.8s,mb4.3						
DBIC	**Dimbokro**	**64.76**	**26**	P	**P**	**13 37 47.2**	**-0.3**
	5.1nm,0.9s,mb4.5,baz=194,slow=10,SNR=3.5						
DBIC	**Dimbokro**	**64.76**	**26**	P	**P**	**13 37 47.2**	**-0.3**
OTAV	**Otavalo**	**68.57**	**305**	*e*P	**P**	**13 38 08.7**	**-3.0**
	4.7nm,0.7s,mb4.5						
SDV	**Santo Domingo**	**72.90**	**316**	*e*P	**P**	**13 38 37.6**	**-0.3**
	16nm,0.9s,mb5.0						
RPZ	**Rata Peaks**	**80.02**	**194**	P	**P**	**13 39 16.5**	**-0.7**
	5.4nm,0.6s,mb4.7,baz=184,slow=1.0,SNR=8.0						
URZ	**Urewera**	**84.32**	**200**	P	**P**	**13 39 39.0**	**-0.5**
	4.9nm,0.8s,mb4.7,baz=169,slow=5.2,SNR=3.6						
ARMA	**Armidale**	**94.69**	**180**	⇓*i*P	**P**	**13 40 32.8**	**+3.9**
SCHQ	**Schefferville**	**114.12**	**337**	PKP	PKPdf	13 45 46.1	-2.2
	2.2nm,0.6s,baz=90,slow=7.1,SNR=5.1						
PDAR	**Pinedale Array**	**119.26**	**304**	PKP	PKPdf	13 45 56.0	-2.6
	0.8nm,0.5s,baz=142,slow=4.7,SNR=10.0						
NOA	**NORSAR Array B**	**120.12**	**21**	PKP	PKPdf	13 45 57.7	-2.1
	1.6nm,1.1s,baz=277,slow=17,SNR=2.5						
HRY	**Holter Researc**	**123.29**	**305**	*e*PKPdf	PKPdf	13 46 04.7	-1.6
FINES	**FINESS Array B**	**124.02**	**28**	PKP	PKPdf	13 46 05.1	-2.3
	3.3nm,0.7s,baz=153,slow=4.3,SNR=13						
FINES	**FINESS Array B**	**124.02**	**28**	PKP	PKPdf	13 46 05.1	-2.3
MSO	**Missoula**	**124.37**	**304**	*e*PKPdf	PKPdf	13 46 06.4	-2.0
KAF	**Kangasniemi**	**124.64**	**28**	*e*p	PKPdf	13 46 05.1	-3.3
	2.7nm,0.7s						
SUMG	**Summit**	**127.71**	**356**	*e*PKPdf	PKPdf	13 46 12.9	-1.2
ARCES	**ARCESS Array B**	**130.47**	**22**	PKP	PKPdf	13 46 17.1	-2.4
	6.6nm,1.0s,SNR=6.8						
YKA	**Yellowknife Ar**	**135.06**	**319**	PKP	PKPdf	13 46 26.3	-1.8
	3.1nm,0.5s,baz=131,slow=2.1,SNR=11						
YKA	**Yellowknife Ar**	**135.06**	**319**	PKP	PKPdf	13 46 26.3	-1.8
XAN	**Xi’an**	**143.81**	**108**	PKP	PKPdf	13 46 39.0	-5.5
DIV	**Divide**	**147.56**	**306**	*e*PKPbc	PKPdf	13 46 51.5	+1.5
SML	**Sawmill**	**148.94**	**307**	*e*PKPbc	PKPdf	13 46 55.1	+2.9
ILAR	**Eielson Array**	**149.01**	**313**	PKPbc	PKPdf	13 46 55.0	+2.8
	44nm,0.6s,baz=126,slow=1.9,SNR=210						
COLA	**College**	**149.43**	**313**	*e*PKPbc	PKPdf	13 46 55.7	+2.7
MCK	**McKinley**	**149.67**	**311**	*e*PKPbc	PKPdf	13 46 57.0	+3.6
HHC	**Hu-ho-hao-te**	**150.16**	**102**	*e*PKP	PKPdf	13 46 54.2	-0.6
SPU	**Mount Spurr**	**150.50**	**305**	*e*PKPbc	PKPdf	13 46 58.3	+3.6
RSO	**Redoubt South**	**150.65**	**303**	*e*PKPbc	PKPdf	13 46 59.1	+4.1
SONM	**Songino Array**	**151.43**	**86**	PKP	PKPdf	13 46 54.8	-1.7
	0.6nm,0.8s,baz=225,slow=1.7,SNR=3.6						
SONM				PKPbc	PKPdf	13 47 01.2	+4.7
	11nm,0.7s,baz=228,slow=3.0,SNR=42						

*IDC **06** 13:33:46.1±1.1,55.18S×28.37W,mb4.4/4,mb1 4.5/4,mb1mx4.2/10,Error ellipse: s-maj=46.8km s-min=23.6km az=36.0*

*NEIC **06** 13:33:47.7±0.5,55.07S×28.39W,h10^{km},mb4.4/5,Error ellipse: s-maj=16.1km s-min=9.1km az=51.0*

ISC 06 13:33:45.9±0.7**,54.9S**±0.1×**28.3W**±0.2**,h10^{km},n19,**σ**1^{s}02**/13**,mb4.4**/8**,2C,South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**18.05**	**158**	⇑*i*	**P**	**13 38 01.7**	**+3.6**
VNA3	**Neumayer Olymp**	**18.24**	**161**		**P**	**13 38 00.9**	**+0.5**
VNA2	**Neumayer--Watz**	**18.45**	**158**	⇑*i*	**P**	**13 38 03.3**	**+0.3**
PMSA	**Palmer Station**	**20.20**	**227**	*e*P	**P**	**13 38 22.9**	**-0.3**
	22nm,0.9s						
USHA	**Ushuaia**	**22.90**	**254**	P	**P**	**13 38 49.5**	**-0.9**
	10.0nm,0.9s,mb4.3,baz=72,slow=12,SNR=3.0						
TRQA	**Tornquist**	**28.34**	**293**	*e*P	**P**	**13 39 41.4**	**-0.2**
	3.0nm,0.7s,mb4.0						
CPUP	**Villa Florida**	**35.62**	**312**	P	**P**	**13 40 46.0**	**+0.4**
	4.0nm,0.5s,mb4.6,baz=174,slow=7.8,SNR=12						
SUR	**Sutherland**	**40.96**	**77**	*e*P	**P**	**13 41 30.0**	**-0.1**
	69nm,1.6s,mb5.0						
MAW	**Mawson**	**41.40**	**145**	P	**P**	**13 41 32.3**	**-1.1**
	2.2nm,0.6s,mb4.0,baz=226,slow=7.3,SNR=7.4						
LVC	**Limon Verde**	**44.22**	**300**	*e*P	**P**	**13 41 58.8**	**+2.0**
	3.2nm,0.6s,mb4.2						
LPAZ	**La Paz**	**49.24**	**306**	P	**P**	**13 42 37.8**	**+1.4**
	2.0nm,0.3s,mb4.6,baz=106,slow=4.6,SNR=6.3						
SAML	**Samuel**	**53.59**	**315**	*e*P	**P**	**13 43 08.3**	**-1.0**
	6.5nm,1.4s,mb4.4						
SDV	**Santo Domingo**	**72.79**	**316**	P	**P**	**13 45 15.1**	**-1.3**
DAWY	**Dawson**	**145.59**	**313**	*e*PKPdf	PKPdf	13 53 24.5	-1.3
DIV	**Divide**	**147.51**	**307**	*e*PKPbc	PKPdf	13 53 31.5	+2.4
ILAR	**Eielson Array**	**148.92**	**313**	PKPbc	PKPdf	13 53 34.1	+2.8
	7.8nm,0.8s,baz=126,slow=1.6,SNR=27						
COLA	**College**	**149.34**	**313**	*e*PKPbc	PKPdf	13 53 33.8	+1.8
MCK	**McKinley**	**149.59**	**311**	*e*PKPbc	PKPdf	13 53 36.0	+3.6
SONM	**Songino Array**	**151.25**	**85**	PKPbc	PKPdf	13 53 40.2	+4.8
	2.2nm,0.8s,baz=221,slow=2.9,SNR=12						

*DJA **06** 13:34:26.0±1.2,6.52S×128.75E,h335^{km}±32^{km},mb5.4/4,Error ellipse: s-maj=61.9km s-min=20.8km az=170.0*

*BJI **06** 13:34:28.9,5.50S×129.21E,h368^{km},mb4.5*

*NEIC **06** 13:34:30.9±0.7,5.80S×128.45E,h357^{km}±7^{km},mb4.8/23,Error ellipse: s-maj=9.2km s-min=3.9km az=49.0*

*IDC **06** 13:34:30.5±2.7,5.85S×128.35E,h347^{km}±28^{km},mb4.4/9,mb1 4.7/12,mb1mx4.6/15,Error ellipse: s-maj=24.3km s-min=9.0km az=63.0*

ISC 06 13:34:29.5±0.9**,5.80S**±0.04×**128.46E**±0.05**,h361^{km}**±10^{km}**,n73,**σ**0^{s}97**/81**,mb4.7**/31**,10C-11D,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**7.88**	**151**	⇓*i*P	**P**	**13 36 22.6**	**-0.6**
	211nm,0.8s						
KAKA				*e*S	**S**	**13 37 45.0**	**-7.7**
NINI	**Niniconang**	**8.78**	**279**	⇑*e*P	**P**	**13 36 35.8**	**+2.0**
	456nm,0.6s						
TANI	**Tanete Lipujan**	**9.35**	**284**	⇑*e*P	**P**	**13 36 42.3**	**+1.7**
FITZ	**Fitzroy Crossi**	**12.53**	**192**	⇓*i*P	**P**	**13 37 17.7**	**-0.9**
	54nm,0.3s						
FITZ	**Fitzroy Crossi**	**12.53**	**192**	P	**P**	**13 37 17.8**	**-0.8**
	23nm,0.3s,baz=18,slow=11,SNR=312						
FITZ				S	**S**	**13 39 34.5**	**+1.8**
	baz=8.1,slow=14,SNR=3.4						
KEDI	**Kedomdong**	**12.54**	**257**	⇓*i*P	**P**	**13 37 18.0**	**-0.7**
	389nm,0.2s						
KEDI				⇑*i*S	**S**	**13 39 33.9**	**+1.0**
RATI	**Rata**	**13.15**	**256**	⇑*i*P	**P**	**13 37 23.7**	**-2.1**
	394nm,0.2s						
RATI				⇑*i*S	**S**	**13 39 46.6**	**+0.7**
INGI	**Ingas**	**13.54**	**256**	*e*P	**P**	**13 37 29.0**	**-1.5**
	1µm,0.4s						
INGI				⇑*i*S	**S**	**13 39 54.2**	**-0.3**
KELI	**Kelakatan**	**14.07**	**259**	⇑*i*P	**P**	**13 37 35.8**	**-0.5**
WRAB	**Tennant Creek**	**15.17**	**158**	⇓*e*P	**P**	**13 37 46.8**	**-1.1**
	585nm,0.6s						
WRAB				*e*S	**S**	**13 40 25.7**	**-1.4**
WRA	**Warramunga Arr**	**15.17**	**158**	P	**P**	**13 37 46.9**	**-1.0**
	50nm,0.3s,baz=340,slow=12,SNR=1498						
WRA				S	**S**	**13 40 26.7**	**-0.6**
	2.5nm,0.3s,baz=337,slow=21,SNR=9.7						
WB2	**Warramunga Arr**	**15.18**	**158**	⇓*i*P	**P**	**13 37 46.9**	**-1.1**
WB2				*e*S	**S**	**13 40 26.4**	**-1.0**
MBWA	**Marble Bar**	**17.46**	**208**	*e*P	**P**	**13 38 11.3**	**-0.3**
	88nm,0.9s						
ASAR	**Alice Springs**	**18.52**	**164**	P	**P**	**13 38 22.9**	**+0.6**
	39nm,0.3s,baz=345,slow=12,SNR=3284						
ASAR				S	**S**	**13 41 35.3**	**+5.0**
	1.8nm,0.3s,baz=349,slow=22,SNR=6.4						
ASPA	**Alice Springs**	**18.52**	**164**	⇓*i*P	**P**	**13 38 22.9**	**+0.7**
ASPA				*e*S	**S**	**13 41 36.2**	**+6.0**
ASPA				*e*SCS	ScS	13 49 13.3	-1.9
CTA	**Charters Tower**	**22.37**	**131**	⇓*i*P	**P**	**13 39 01.2**	**+1.7**
	58nm,0.8s,mb4.9						
CTA				*e*		13 39 55.1	
CTA	**Charters Tower**	**22.37**	**131**	P	**P**	**13 39 01.7**	**+2.2**
	68nm,0.8s,mb5.0,baz=311,slow=13,SNR=56						
CTAO	**Charters Tower**	**22.37**	**131**	*e*P	**P**	**13 39 00.6**	**+1.1**
	87nm,0.8s,mb5.0						
CTAO				*e*pP		13 39 55.4	
FORT	**Forrest**	**24.85**	**181**	*e*P	**P**	**13 39 22.3**	**+0.1**
	158nm,0.6s,mb5.4						
KLBR	**Kellerberrin**	**27.55**	**200**	⇓*i*P	**P**	**13 39 46.1**	**-0.4**
	45nm,0.5s,mb5.0						
STKA	**Stephens Creek**	**28.70**	**156**	⇓*i*P	**P**	**13 39 56.5**	**-0.1**
	31nm,0.8s,mb4.6						
STKA	**Stephens Creek**	**28.70**	**156**	P	**P**	**13 39 56.7**	**0.0**
	31nm,0.5s,mb4.8,baz=328,slow=8.7,SNR=78						
NWAO	**Narrogin (SRO)**	**28.95**	**200**	*e*P	**P**	**13 39 58.5**	**-0.2**
	18nm,0.4s,mb4.7						
ADE	**Adelaide**	**30.53**	**163**	*e*P	**P**	**13 40 13.6**	**+1.2**
KKTK	**Khon Kaen**	**33.58**	**311**	P	**P**	**13 40 39.0**	**+0.3**
CNB	**Canberra Magne**	**35.12**	**150**	⇓*i*P	**P**	**13 40 52.9**	**+1.4**
	31nm,0.9s,mb4.5						
TOO	**Toolangi**	**35.23**	**156**	⇓*i*P	**P**	**13 40 54.4**	**+2.0**
	9.5nm,0.5s,mb4.3						
BDT	**Bhumibol Dam**	**37.04**	**309**	P	**P**	**13 41 06.0**	**-1.7**
	51nm,0.6s,mb4.9						
CMAR	**Chiang Mai Arr**	**37.80**	**310**	P	**P**	**13 41 14.3**	**+0.3**
	28nm,0.6s,mb4.7,baz=137,slow=7.4,SNR=199						
CHG	**Chiang Mai**	**38.01**	**311**	⇑P	**P**	**13 41 16.5**	**+0.8**
	75nm,0.9s,mb4.9						
CHRT	**Chiangrai**	**38.04**	**313**	⇑P	**P**	**13 41 17.0**	**+1.1**
	197nm,0.6s,mb5.5						
ENH	**Enshi**	**40.22**	**334**	*e*P	**P**	**13 41 33.0**	**-0.7**
	8.6nm,0.6s,mb4.2						
XAN	**Xi’an**	**43.73**	**336**	P	**P**	**13 42 00.5**	**-1.5**
XAN				AMB	AMB		
	comp=Z,16nm,0.9s,mb4.2						
SHL	**Shillong**	**47.27**	**313**	*i* P	**P**	**13 42 28.5**	**-1.3**
VIS	**Vishakhapatnam**	**50.31**	**299**	*e*	**P**	**13 42 52.0**	**-0.9**
GTA	**Gaotai**	**52.20**	**332**	⇑P	**P**	**13 43 06.7**	**+0.2**
GTA				AMB	AMB		
	comp=Z,13nm,0.7s,mb4.4						
RPZ	**Rata Peaks**	**53.11**	**142**	P	**P**	**13 43 14.0**	**+0.9**
	comp=Z,42nm,0.6s,mb5.0,baz=304,slow=2.3,SNR=53						
PKI	**Pulchoki**	**53.19**	**311**	*e*P	**P**	**13 43 13.6**	**-0.3**
	comp=Z,61nm,0.5s,mb5.2						
KKN	**Kakani**	**53.40**	**311**	*e*P	**P**	**13 43 15.2**	**-0.3**
	comp=Z,90nm,0.6s,mb5.3						
DMN	**Daman**	**53.44**	**311**	*e*P	**P**	**13 43 15.7**	**0.0**
GKN	**Gorkha**	**54.00**	**311**	*e*P	**P**	**13 43 19.6**	**-0.1**
	comp=Z,132nm,0.4s,mb5.6						
HYB	**Hyderabad**	**54.42**	**296**	*i* P	**P**	**13 43 21.5**	**-1.4**
URZ	**Urewera**	**54.59**	**134**	P	**P**	**13 43 23.3**	**-0.5**
	comp=Z,11nm,0.7s,mb4.3,baz=179,slow=6.7,SNR=4.7						
KOLN	**Koldanda**	**54.66**	**310**	*e*P	**P**	**13 43 24.6**	**+0.1**
SONM	**Songino Array**	**56.84**	**342**	P	**P**	**13 43 39.5**	**+0.1**
	comp=Z,3.6nm,0.6s,mb3.9,baz=154,slow=7.0,SNR=30						
SONM				PcP	PcP	13 44 30.5	0.0
	comp=Z,0.7nm,0.5s,baz=135,slow=5.2,SNR=3.6						
SONM				pP	pP	13 44 53.5	-2.8
	comp=Z,0.6nm,0.5s,baz=164,slow=9.0,SNR=3.6						
KAD	**Karad**	**58.32**	**294**	*e*P	**P**	**13 43 49.1**	**-0.9**
KAD				*e*		13 43 49.7	
	comp=Z,88nm,0.5s						
POO	**Poona**	**59.01**	**296**	*e*P	**P**	**13 43 53.8**	**-1.0**
POO				*e*		13 43 55.2	
	comp=Z,197nm,0.7s						
JOSI	**Joshimath**	**59.11**	**311**	*e*P	**P**	**13 43 55.5**	**+0.2**
AYAN	**Aya Nagar**	**60.03**	**307**	*e*P	**P**	**13 43 60.0**	**-1.5**
AYAN				*e*		13 44 01.0	
	comp=Z,28nm,1.2s						
KUDL	**Kundal**	**60.39**	**307**	*e*P	**P**	**13 44 02.4**	**-1.4**
KUDL				*e*		13 44 03.6	
	comp=Z,32nm,1.0s						
RTK	**Rohtak**	**60.83**	**308**	*e*P	**P**	**13 44 06.0**	**-0.7**
KHET	**Khetri**	**60.90**	**306**	*e*P	**P**	**13 44 06.5**	**-0.7**
KHET				*e*		13 44 07.8	
	comp=Z,40nm,1.2s						
KKR	**Kurukshetra**	**60.93**	**309**	*e*P	**P**	**13 44 07.4**	**0.0**
CASY	**Casey**	**61.65**	**188**	*e*P	**P**	**13 44 11.7**	**+0.1**
CASY	**Casey**	**61.65**	**188**	*e*P	**P**	**13 44 11.4**	**-0.2**
	comp=Z,11nm,0.8s,mb4.4						
MKAR	**Makanchi Array**	**66.39**	**327**	P	**P**	**13 44 42.8**	**+0.5**
	comp=Z,32nm,0.7s,mb5.1,baz=122,slow=7.7,SNR=153						
TKM2	**Tokmak 2**	**68.09**	**321**	P	**P**	**13 44 53.9**	**+1.0**
	SNR=12						
UCH	**Uchtor**	**68.43**	**320**	P	**P**	**13 44 56.5**	**+1.6**
	SNR=10.0						
AAK	**Ala-Archa**	**68.64**	**320**	*e*P	**P**	**13 44 56.2**	**0.0**
	comp=Z,20nm,1.4s,mb4.6						
AML	**Almayashu**	**68.91**	**319**	P	**P**	**13 44 59.5**	**+1.6**
	SNR=7.5						
USP	**Ospenovka**	**68.96**	**321**	P	**P**	**13 44 59.0**	**+0.8**
	SNR=18						
EKS2	**Erkin-Say**	**69.12**	**320**	P	**P**	**13 45 00.6**	**+1.5**
	SNR=13						
KURK	**Kurchatov**	**70.71**	**329**	P	**P**	**13 45 08.6**	**0.0**
	comp=Z,198nm,1.0s,mb5.8,SNR=21						
KURK	**Kurchatov**	**70.71**	**329**	*e*P	**P**	**13 45 08.8**	**+0.2**
	comp=Z,26nm,0.8s,mb5.0						
SBA	**Scott Base**	**74.72**	**172**	*e*P	**P**	**13 45 32.1**	**+0.6**
	comp=Z,5.0nm,0.8s,mb4.3						
MAW	**Mawson**	**75.50**	**201**	P	**P**	**13 45 37.3**	**+1.2**
	comp=Z,2.4nm,0.5s,mb4.2,baz=52,slow=6.8,SNR=11						
BRVK	**Borovoye**	**76.31**	**328**	*e*P	**P**	**13 45 40.8**	**0.0**
	comp=Z,8.1nm,0.9s,mb4.5						
ZRNK	**Zerenda**	**76.94**	**328**	*e*P	**P**	**13 45 44.1**	**-0.1**
	comp=Z,11nm,0.8s,mb4.6						
ARU	**Arti**	**83.89**	**328**	*e*P	**P**	**13 46 20.4**	**0.0**
	comp=Z,7.4nm,0.6s,mb4.7						
QSPA	**South Pole Qui**	**84.17**	**180**	*e*P	**P**	**13 46 22.0**	**+0.6**
	comp=Z,6.6nm,0.7s,mb4.6						
KMBO	**Kilima Mbogo**	**91.09**	**269**	P	**P**	**13 46 56.7**	**+1.0**
	comp=Z,2.0nm,0.8s,mb4.1,baz=80,slow=6.1,SNR=5.5						
CPUP	**Villa Florida**	**147.57**	**170**	PKPbc	PKPdf	13 53 34.7	+5.8
	comp=Z,6.4nm,0.9s,baz=135,slow=0.9,SNR=9.3						
LPAZ	**La Paz**	**152.59**	**143**	PKPbc	PKPdf	13 53 47.9	+11
	comp=Z,1.8nm,0.2s,baz=109,slow=0.2,SNR=1.7						
LPAZ				PKPab	PKPab	13 54 00.7	+1.9
	comp=Z,1.7nm,0.3s,baz=198,slow=5.1,SNR=6.4						

*IDC **06** 13:37:01.4±1.1,55.27S×28.24W,mb4.2/3,mb1 4.3/3,mb1mx4.1/10,Error ellipse: s-maj=132.0km s-min=24.6km az=44.0*

*NEIC **06** 13:37:03.3±0.6,55.37S×28.45W,h10^{km},mb4.1/6,Error ellipse: s-maj=18.4km s-min=11.8km az=54.0*

ISC 06 13:37:01.1±0.8**,55.3S**±0.1×**28.2W**±0.2**,h10^{km},n12,**σ**0^{s}54**/10**,mb4.0**/7**,South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNAA	**Sanae**	**19.67**	**156**	*e*P	**P**	**13 41 32.1**	**-0.6**
	5.3nm,0.5s						
PMSA	**Palmer Station**	**19.99**	**227**	*e*P	**P**	**13 41 35.8**	**-0.4**
	9.2nm,0.8s						
QSPA	**South Pole Qui**	**34.97**	**180**	*e*P	**P**	**13 43 55.4**	**+0.7**
	1.8nm,0.7s,mb4.1						
CPUP	**Villa Florida**	**35.88**	**312**	P	**P**	**13 44 02.0**	**-1.0**
	3.2nm,0.7s,mb4.4,baz=182,slow=6.2,SNR=7.5						
MAW	**Mawson**	**41.10**	**144**	P	**P**	**13 44 46.4**	**+0.3**
	0.5nm,0.5s,mb3.4,baz=216,slow=14,SNR=3.6						
LVC	**Limon Verde**	**44.42**	**301**	*e*P	**P**	**13 45 14.1**	**+0.5**
	2.6nm,0.5s,mb4.2						
LPAZ	**La Paz**	**49.47**	**306**	P	**P**	**13 45 54.0**	**+0.7**
	1.7nm,0.2s,mb4.6,baz=149,slow=4.8,SNR=3.9						
SAML	**Samuel**	**53.86**	**315**	*e*P	**P**	**13 46 19.2**	**-7.3**
	1.0nm,0.5s,mb4.0						
LSZ	**Lusaka**	**58.63**	**70**	P	**P**	**13 47 00.5**	**-0.1**
	0.4nm,0.6s,mb3.6						
SDV	**Santo Domingo**	**73.06**	**316**	P	**P**	**13 48 33.1**	**-0.1**
ILAR	**Eielson Array**	**149.18**	**313**	PKPbc	PKPdf	13 56 49.6	+2.8
	3.3nm,0.7s,baz=117,slow=1.6,SNR=26						
SONM	**Songino Array**	**151.24**	**86**	PKPbc	PKPdf	13 56 55.6	+5.1
	0.8nm,0.5s,baz=233,slow=2.7,SNR=5.6						

*IDC **06** 13:42:56.6±1.2,55.31S×28.41W,mb4.1/3,mb1 4.3/3,mb1mx4.0/10,Error ellipse: s-maj=151.0km s-min=27.5km az=44.0*

*NEIC **06** 13:42:57.9±0.7,55.19S×28.15W,h10^{km},mb4.0/1,Error ellipse: s-maj=23.5km s-min=10.4km az=56.0*

ISC 06 13:42:56.3±1.3**,55.0S**±0.2×**28.1W**±0.4**,h10^{km},n10,**σ**0^{s}93**/8**,mb4.1**/3**,2C-1D,South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**17.96**	**159**	⇑*i*	**P**	**13 47 12.3**	**+4.9**
VNA3	**Neumayer Olymp**	**18.16**	**161**		**P**	**13 47 10.4**	**+0.6**
VNA2	**Neumayer--Watz**	**18.36**	**158**	⇑*i*	**P**	**13 47 13.2**	**+0.8**
SNAA	**Sanae**	**19.91**	**157**	⇓*i*	**P**	**13 47 26.6**	**-4.0**
PMSA	**Palmer Station**	**20.25**	**227**	P	**P**	**13 47 33.6**	**-0.6**
	6.1nm,0.8s						
CPUP	**Villa Florida**	**35.74**	**311**	P	**P**	**13 49 56.6**	**-0.5**
	1.1nm,0.6s,mb4.0,baz=152,slow=7.5,SNR=4.8						
MAW	**Mawson**	**41.30**	**145**	P	**P**	**13 50 41.6**	**-1.3**
	1.7nm,0.9s,mb3.7,baz=230,slow=6.3,SNR=4.2						
LPAZ	**La Paz**	**49.36**	**305**	P	**P**	**13 51 48.9**	**+1.1**
	1.9nm,0.3s,mb4.7,baz=158,slow=3.1,SNR=3.4						
ILAR	**Eielson Array**	**149.04**	**313**	PKPbc	PKPdf	14 02 45.1	+3.2
	1.9nm,0.7s,baz=118,slow=1.1,SNR=20						
SONM	**Songino Array**	**151.14**	**85**	PKPbc	PKPdf	14 02 51.1	+5.4
	0.3nm,0.4s,baz=224,slow=4.2,SNR=2.9						

IDC ***06*** *13:47:46.6±1.1, 55.52S×28.99W, mb4.4/5, mb1 4.4/5, mb1mx4.3/10, Error ellipse: s-maj=48.5km s-min=24.1km az=45.0*

NEIC ***06*** *13:47:48.9±0.7, 55.40S×28.95W, h10^{km}, mb4.4/5, Error ellipse: s-maj=33.6km s-min=13.8km az=55.0*

ISC 06 13:47:48.4±0.7**, 55.2S**±0.1×**29.1W**±0.3**, h10^{km}, n17, σ0^{s}.93**/14**, mb4.3**/10**, 1C-2D, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA1	Neumayer--Stat	18.04	158	⇑*i*	P	13 52 05.7	+5.3
VNA3	Neumayer Olymp	18.21	160	⇓*i*	P	13 52 03.9	+1.4
VNA2	Neumayer--Watz	18.44	157		P	13 52 05.4	0.0
SNAA	Sanae	20.01	156	⇓*i*	P	13 52 18.6	-5.0
TRQA	Tornquist	27.98	294	*e*P	P	13 53 40.6	-0.3
	4.0nm,0.9s,mb4.0						
QSPA	South Pole Qui	35.11	180	*e*P	P	13 54 41.6	-1.6
	2.0nm,0.6s,mb4.2						
CPUP	Villa Florida	35.41	313	P	P	13 54 46.4	+0.1
	5.2nm,0.9s,mb4.5,baz=164,slow=6.8,SNR=7.1						
MAW	Mawson	41.51	145	P	P	13 55 32.2	-4.4
	0.5nm,0.3s,mb3.6,baz=225,slow=8.8,SNR=4.1						
BDFB	Brasilia	42.05	332	P	P	13 55 41.8	+0.1
	5.2nm,0.6s,mb4.3,baz=157,slow=4.4,SNR=5.7						
LVC	Limon Verde	43.91	301	*e*P	P	13 55 57.9	+1.2
	8.6nm,0.8s,mb4.5						
LPAZ	La Paz	48.97	307	P	P	13 56 38.0	+1.2
	8.7nm,0.8s,mb4.8,baz=192,slow=5.6,SNR=7.5						
SAML	Samuel	53.40	316	*e*P	P	13 57 09.5	-1.0
	2.0nm,0.5s,mb4.3						
DBIC	Dimbokro	64.82	27	P	P	13 58 29.6	0.0
	6.3nm,1.1s,mb4.6,baz=180,slow=7.1,SNR=2.7						
SDV	Santo Domingo	72.61	317	*e*P	P	13 59 16.9	-0.9
	3.2nm,0.5s,mb4.5						
ILAR	Eielson Array	148.71	313	PKPbc	PKPdf	14 07 34.4	+0.9
	9.0nm,0.8s,baz=112,slow=1.3,SNR=54						
ILAR	Eielson Array	148.71	313	PKPbc	PKPdf	14 07 34.4	+0.9
SONM	Songino Array	151.74	86	PKPbc	PKPdf	14 07 41.4	+2.7
	1.5nm,0.7s,baz=224,slow=3.0,SNR=11						

DJA ***06*** *14:03:44.7±0.9, 9.18S×111.66E, h160^{km}, MD4.6/4, ML5.1/4, Error ellipse: s-maj=53.8km s-min=19.2km az=171.0*

IDC ***06*** *14:03:45.4±10.0, 8.25S×111.67E, h119^{km}±93^{km}, mb3.9/8, mb1 4.0/9, mb1mx3.8/15, ML4.3/1, Error ellipse: s-maj=43.6km s-min=15.7km az=68.0*

BJI ***06*** *14:03:46.8, 8.30S×111.70E, h135^{km}, mb4.6*

NEIC ***06*** *14:03:46.8±1.6, 8.26S×111.66E, h135^{km}±13^{km}, mb4.3/9, Error ellipse: s-maj=25.1km s-min=7.4km az=54.0*

ISC 06 14:03:47.2±1.8**, 8.2S**±0.1×**111.9E**±0.1**, h154^{km}**±16^{km}**, n30, σ0^{s}.95**/34**, mb4.3**/17**, 5C-2D, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KELI	Kelakatan	2.62	91	⇓*i*Pn	P	14 04 32.2	+1.6
	875nm,0.3s						
KELI				⇑*i*Sn	S	14 05 09.0	+5.3
INGI	Ingas	3.33	102	*e*Pn	P	14 04 39.5	-0.1
	471nm,0.2s						
INGI				⇓*e*Sn	S	14 05 18.5	-1.3
RATI	Rata	3.69	99	⇑*e*Pn	P	14 04 44.9	+0.6
	735nm,0.2s						
RATI				⇑*i*Sn	S	14 05 28.4	+0.2
KEDI	Kedomdong	4.23	95	⇑*i*Pn	P	14 04 51.1	-0.4
	153nm,0.2s						
KEDI				⇑*i*Sn	S	14 05 39.4	-1.5
FITZ	Fitzroy Crossi	16.66	128	*e*P	P	14 07 34.6	+1.4
	1.3nm,0.3s						
FITZ				*e*S	S	14 10 23.8	-8.3
FITZ	Fitzroy Crossi	16.66	128	P	P	14 07 33.5	+0.3
	0.8nm,0.3s,baz=331,slow=8.0,SNR=22						
WRA	Warramunga Arr	24.72	121	P	P	14 08 56.2	+0.4
	3.1nm,0.6s,mb4.0,baz=293,slow=11,SNR=36						
WRAB	Tennant Creek	24.73	121	*e*P	P	14 08 56.4	+0.5
	5.6nm,0.7s,mb4.2						
WB2	Warramunga Arr	24.73	121	*e*P	P	14 08 56.1	+0.1
ASAR	Alice Springs	26.16	129	P	P	14 09 09.3	+0.2
	1.2nm,0.4s,mb3.9,baz=303,slow=8.4,SNR=36						
ASAR				PcP	PcP	14 12 33.4	+0.6
	0.4nm,0.4s,baz=302,slow=1.9,SNR=6.1						
STKA	Stephens Creek	36.35	135	P	P	14 10 38.9	+0.8
	3.0nm,0.5s,mb4.2,baz=318,slow=10,SNR=13						
STKA	Stephens Creek	36.35	135	P	P	14 10 38.9	+0.8
ENH	Enshi	38.28	357	*e*P	P	14 10 56.0	+1.6
	7.9nm,0.5s,mb4.6						
XAN	Xi’an	42.06	356	P	P	14 11 27.2	+1.7
LSA	Lhasa	42.59	333	P	P	14 11 31.4	+1.6
PKI	Pulchoki	43.78	325	*e*P	P	14 11 39.3	-0.1
	2.2nm,0.3s,mb4.3						
DMN	Daman	43.98	325	*e*P	P	14 11 40.9	-0.1
	16nm,0.6s,mb4.9						
KKN	Kakani	44.02	325	*e*P	P	14 11 41.2	-0.2
GKN	Gorkha	44.55	325	*e*P	P	14 11 45.2	-0.4
	14nm,0.3s,mb5.0						
KOLN	Koldanda	44.98	324	*e*P	P	14 11 48.5	-0.5
	19nm,0.5s,mb5.0						
SONM	Songino Array	55.96	356	P	P	14 13 12.6	+0.9
	1.8nm,0.4s,mb4.2,baz=173,slow=9.2,SNR=18						
MKAR	Makanchi Array	60.71	337	P	P	14 13 44.4	-0.3
	1.5nm,0.3s,mb4.3,baz=151,slow=7.6,SNR=25						
MKAR	Makanchi Array	60.71	337	P	P	14 13 44.4	-0.3
KURK	Kurchatov	65.32	337	*e*P	P	14 14 14.3	-0.7
	1.8nm,0.6s,mb4.1						
ZAL	Zalesovo	65.95	343	P	P	14 14 17.8	-1.2
	2.2nm,0.4s,mb4.3,baz=169,slow=4.6,SNR=7.5						
MAW	Mawson	67.71	198	P	P	14 14 28.8	-0.9
	0.9nm,0.5s,mb3.8,baz=78,slow=9.3,SNR=6.2						
BVAR	Borovoye Array	70.38	335	P	P	14 14 46.0	-0.3
	1.4nm,0.7s,mb3.8,baz=143,slow=7.4,SNR=6.9						
BRVK	Borovoye	70.45	335	*e*P	P	14 14 44.4	-2.3
	3.2nm,0.9s,mb4.0						
ZRNK	Zerenda	70.92	334	*e*P	P	14 14 48.5	-1.0
	2.3nm,0.5s,mb4.2						
WVT	Waverly	146.87	30	*e*PKPbc	PKPbc	14 23 14.9	+3.6

IDC ***06*** *14:03:58.3±1.0, 55.27S×27.99W, mb4.2/4, mb1 4.3/4, mb1mx4.1/10, Error ellipse: s-maj=78.2km s-min=21.6km az=43.0*

NEIC ***06*** *14:04:00.2±0.6, 55.21S×28.16W, h10^{km}, mb4.5/5, Error ellipse: s-maj=24.0km s-min=9.4km az=59.0*

ISC 06 14:03:59.5±0.9**, 55.2S**±0.1×**28.4W**±0.3**, h10^{km}, n16, σ1^{s}.24**/14**, mb4.3**/8**, 2C-2D, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA1	Neumayer--Stat	17.87	158	⇑*i*	P	14 08 10.6	+1.2
VNA3	Neumayer Olymp	18.05	160	⇑*i*	P	14 08 13.1	+1.4
VNA2	Neumayer--Watz	18.27	158	⇓*i*	P	14 08 14.5	+0.1
SNAA	Sanae	19.83	156	⇓*i*	P	14 08 28.1	-4.7
PMSA	Palmer Station	20.00	227	*e*P	P	14 08 34.8	0.0
	16nm,0.8s						
TRQA	Tornquist	28.36	293	*e*P	P	14 09 55.3	-0.2
	3.3nm,0.8s,mb4.0						
QSPA	South Pole Qui	35.09	180	*e*P	P	14 10 52.9	-1.3
	3.4nm,0.5s,mb4.5						
CPUP	Villa Florida	35.72	312	P	P	14 10 59.4	-0.7
	4.5nm,0.6s,mb4.5,baz=164,slow=8.6,SNR=14						
CPUP	Villa Florida	35.72	312	P	P	14 10 59.4	-0.7
MAW	Mawson	41.26	144	P	P	14 11 43.1	-2.8
	1.6nm,0.9s,mb3.7,baz=230,slow=7.9,SNR=3.4						
BDFB	Brasilia	42.26	331	P	P	14 11 56.5	+2.0
	1.5nm,0.4s,mb4.0,baz=128,slow=3.3,SNR=4.1						
LVC	Limon Verde	44.27	301	*e*P	P	14 12 11.6	+0.8
	3.8nm,0.5s,mb4.4						
LPAZ	La Paz	49.32	306	P	P	14 12 51.2	+0.6
	2.2nm,0.4s,mb4.5,baz=190,slow=8.0,SNR=8.6						
SAML	Samuel	53.70	316	*e*P	P	14 13 22.2	-1.6
	6.1nm,1.1s,mb4.4						
ILAR	Eielson Array	149.02	313	PKPbc	PKPdf	14 23 46.9	+1.8
	5.7nm,0.7s,baz=125,slow=2.0,SNR=66						
SONM	Songino Array	151.33	86	PKPbc	PKPdf	14 23 53.1	+3.9
	1.1nm,0.6s,baz=231,slow=2.7,SNR=8.8						
SONM				PKPab	PKPab	14 23 58.2	-4.5
	1.2nm,0.6s,baz=226,slow=2.9,SNR=8.8						

IDC ***06*** *14:07:13.6±1.0, 55.37S×29.06W, mb4.3/4, mb1 4.5/4, mb1mx4.2/10, Error ellipse: s-maj=111.0km s-min=23.8km az=46.0*

NEIC ***06*** *14:07:15.7±0.6, 55.26S×28.91W, h10^{km}, mb4.3/6, Error ellipse: s-maj=23.6km s-min=9.4km az=55.0*

ISC 06 14:07:14.2±0.9**, 55.1S**±0.1×**28.9W**±0.3**, h10^{km}, n16, σ1^{s}.28**/13**, mb4.3**/8**, 4C, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA1	Neumayer--Stat	18.04	158	⇑*i*	P	14 11 30.2	+4.0
VNA3	Neumayer Olymp	18.21	160	⇑*i*	P	14 11 30.9	+2.6
VNA2	Neumayer--Watz	18.43	158	⇑*i*	P	14 11 31.8	+0.7
PMSA	Palmer Station	19.80	227	*e*P	P	14 11 46.3	-1.0
	16nm,1.0s						
SNAA	Sanae	20.00	156	⇑*i*	P	14 11 46.0	-3.4
TRQA	Tornquist	28.05	294	*e*P	P	14 13 07.9	+0.5
	2.2nm,0.6s,mb4.0						
QSPA	South Pole Qui	35.14	180	*e*P	P	14 14 08.9	-0.4
	4.6nm,0.7s,mb4.5						
CPUP	Villa Florida	35.45	313	P	P	14 14 11.6	-1.0
	2.3nm,0.5s,mb4.4,baz=178,slow=9.5,SNR=8.1						
MAW	Mawson	41.48	145	P	P	14 15 00.5	-1.9
	1.6nm,0.6s,mb3.8,baz=213,slow=5.7,SNR=6.3						
LVC	Limon Verde	43.98	301	*e*P	P	14 15 24.4	+1.3
	2.6nm,0.6s,mb4.1						
LPAZ	La Paz	49.03	306	P	P	14 16 04.2	+1.1
	1.7nm,0.3s,mb4.6,baz=174,slow=6.0,SNR=4.7						
SAML	Samuel	53.45	316	*e*P	P	14 16 35.4	-1.1
	2.3nm,0.7s,mb4.2						
SDV	Santo Domingo	72.65	316	*e*P	P	14 18 44.2	+0.4
	4.6nm,0.8s,mb4.5						
ASAR	Alice Springs	100.17	164	P	P	14 20 59.1	-2.3
	0.5nm,0.8s,baz=187,slow=4.0,SNR=7.7						
ILAR	Eielson Array	148.76	313	PKPbc	PKPdf	14 27 01.4	+2.1
	4.1nm,0.6s,baz=117,slow=1.6,SNR=68						
SONM	Songino Array	151.64	86	PKPbc	PKPdf	14 27 09.0	+4.7
	1.4nm,0.6s,baz=228,slow=3.1,SNR=12						

IDC ***06*** *14:12:19.4±0.9, 33.53N×136.94E, mb4.0/7, mb1 4.0/8, mb1mx3.8/22, ML3.3/1, MS4.1/1, Ms1 4.1/1, ms1mx3.8/26, Error ellipse: s-maj=30.9km s-min=17.6km az=50.0*

NEIC ***06*** *14:12:20.8±1.1, 33.43N×136.82E, h10^{km}, Error ellipse: s-maj=22.6km s-min=13.0km az=131.0*

JMA ***06*** *14:12:21.4±0.1, 33.45N×136.78E, h43^{km}±3^{km}, M3.8*

ISC 06 14:12:20.7±0.8**, 33.46N**±0.04×**136.80E**±0.03**, h22^{km}**±6^{km}**, n24, σ0^{s}.59**/33**, mb3.9**/7**, 3C-2D, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TK01	Tokai 1	0.73	65	P	Pb	14 12 35.7	+1.1
JKN	Kiinagashima	0.91	331	P	Pb	14 12 37.8	+0.2
JKN				*e*S	Sb	14 12 49.2	-0.1
JWZ	Kozaga	0.91	275	⇑P	Pb	14 12 37.6	-0.1
JWZ				*e*S	Sb	14 12 49.5	+0.2
JIE	Ise	0.94	355	⇓P	Pb	14 12 38.7	+0.6
JIE				*e*S	Sb	14 12 50.6	+0.5
TK02	Tokai 2	0.94	58	P	Pb	14 12 37.8	-0.3
TK02				*e*S	Sb	14 12 50.5	+0.4
TK03	Tokai 3	1.20	54	*e*S	Sb	14 12 57.2	-0.5
JAA	Atsumi	1.21	14	⇓P	Pn	14 12 42.3	-0.2
JAA				*e*S	Sb	14 12 57.7	-0.2
JWY	Kouya	1.26	307	P	Pn	14 12 43.3	0.0
JWM	Minabe	1.27	288	⇑P	Pn	14 12 43.0	-0.4
TK04	Tokai 4	1.29	44	*e*S	Sb	14 13 00.0	-0.2
TSUJ	Tsu 2	1.29	346	P	Pn	14 12 43.7	0.0
TSUJ				*e*S	Sb	14 12 59.6	-0.7
JHE	Heguri	1.51	323	⇑P	Pn	14 12 46.8	-0.1
JHJ	Hachijo jima 2	2.52	97	Pn	Pn	14 13 01.2	-0.1
	14nm,0.3s,baz=215,slow=18,SNR=7.3						
JHJ				Sn	Sn	14 13 31.3	-0.4
	34nm,0.3s,baz=82,slow=23,SNR=8.0						
JHJ				LR	LR	14 13 44.1	
	comp=Z,4µm,21.8s,baz=301,slow=35						
MAJO	Matsushiro	3.29	20	*e*Pn	Pn	14 13 12.4	+0.2
MAT	Matsushiro	3.29	20	P	Pn	14 13 12.3	+0.1
MAT				*e*S	Sn	14 13 51.0	-0.1
MAT	Matsushiro	3.29	20	*e*P	Pn	14 13 12.0	-0.2
MAT				S	Sn	14 13 51.0	-0.1
JNU	Nakatsue	4.97	268	Pn	Pn	14 13 34.4	-1.7
	baz=233,slow=5.1						
SONM	Songino Array	26.96	311	P	P	14 18 02.5	-0.1
	0.8nm,0.6s,mb3.4,baz=120,slow=9.4,SNR=7.0						
MKAR	Makanchi Array	42.93	305	P	P	14 20 20.5	+1.0
	1.8nm,0.5s,mb4.0,baz=91,slow=10,SNR=25						
BVAR	Borovoye Array	50.25	314	P	P	14 21 18.7	+1.5
	0.5nm,0.5s,mb3.8,baz=117,slow=9.7,SNR=3.9						
WRA	Warramunga Arr	53.15	183	P	P	14 21 38.6	-0.8
	0.9nm,0.7s,mb3.8,baz=359,slow=7.6,SNR=18						
ASAR	Alice Springs	56.87	183	P	P	14 22 07.3	+0.9
	0.5nm,0.5s,mb3.8,baz=16,slow=10,SNR=10						
ARCES	ARCESS Array B	65.99	339	P	P	14 23 06.7	-0.4
	5.6nm,0.8s,mb4.6,baz=56,slow=8.7,SNR=4.0						
AKASG	Malin Array Be	74.75	321	P	P	14 24 00.6	0.0
	0.8nm,0.5s,mb3.9,baz=52,slow=6.8,SNR=5.0						

IDC ***06*** *14:17:17.0±0.6, 55.26S×28.76W, mb4.8/8, mb1 4.9/8, mb1mx4.7/11, MS5.3/1, Ms1 5.2/1, ms1mx4.8/11, Error ellipse: s-maj=25.2km s-min=18.1km az=40.0*

NEIC ***06*** *14:17:19.4±0.3, 55.26S×28.78W, h10^{km}, mb5.1/11, Error ellipse: s-maj=9.8km s-min=6.8km az=52.0*

HRVD ***06*** *14:17:19.4±0.9, 55.25S×28.75W, h23^{km}±2^{km}, MW5.7/38, Centroid moment Tensor Solution. LP body waves: s12,c13;Mantle waves: s38,c46; Half duration: 1^{s}.7 Moment tensor: Scale 10^{17}Nm; M_{rr}5.21±.77; $M_{\theta\theta}$-4.46±.45; $M_{\phi\phi}$-0.76±.42; $M_{r\theta}$-1.34±.65; $M_{\theta\phi}$0.70±.29; $M_{\phi r}$0.38±.96; Best double couple: $M_0$5.09×10^{17} NP1:ϕ_s99°, δ37°, λ88°. NP2:ϕ_s282°, δ53°, λ92°. Principal axes: T 5.41, Plg82°, Azm200°; N -.63, Plg1°, Azm101°; P -4.78, Plg8°, Azm11°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

BJI ***06*** *14:17:20.3, 55.30S×28.80W, h10^{km}*

ISC 06 14:17:17.2±0.3**, 55.10S**±0.06×**28.6W**±0.1**, h10^{km}, n58, σ1^{s}.21**/33**, mb5.0**/23**, MS5.3**/1**, 2C, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EFI	East Falkland	17.84	269	*e*P	P	14 21 27.3	+0.5
VNA1	Neumayer--Stat	17.98	158		P	14 21 30.7	+2.2
VNA3	Neumayer Olymp	18.16	160		P	14 21 32.8	+2.0
VNA2	Neumayer--Watz	18.38	158	⇑*i*	P	14 21 34.6	+1.1
SNAA	Sanae	19.94	156	⇑*i*	P	14 21 48.9	-2.9
PMSA	Palmer Station	19.94	227	*e*P	P	14 21 51.1	-0.8
	110nm,1.3s						
USHA	Ushuaia	22.66	254	P	P	14 22 18.8	-0.6
	30nm,1.0s,mb4.7,baz=68,slow=7.6,SNR=9.9						
TRQA	Tornquist	28.21	293	*e*P	P	14 23 11.4	-0.5
	20nm,1.0s,mb4.7						
QSPA	South Pole Qui	35.15	180	*e*P	P	14 24 11.9	-0.6
	31nm,0.7s,mb5.3						
CPUP	Villa Florida	35.58	312	P	P	14 24 15.4	-1.2
	15nm,0.8s,mb5.0,baz=170,slow=7.7,SNR=28						
SUR	Sutherland	41.19	77	*e*P	P	14 25 04.3	+0.9
	15nm,0.8s,mb4.7						
MAW	Mawson	41.39	145	*e*P	P	14 25 02.4	-2.3
	9.0nm,0.6s,mb4.6						
MAW	Mawson	41.39	145	P	P	14 25 03.8	-0.9
	11nm,1.0s,mb4.5,baz=247,slow=7.8,SNR=20						
MAW				PcP	PcP	14 27 02.1	-1.4
	2.5nm,0.7s,baz=249,slow=8.6,SNR=4.7						
BAO	Brasilia Array	42.14	332	P	P	14 25 12.2	+0.9
BDFB	Brasilia	42.14	332	P	P	14 25 11.6	+0.3
	6.4nm,0.7s,mb4.4,baz=156,slow=6.9,SNR=9.9						
BDFB				LR	LR	14 39 55.9	
	comp=Z,4µm,18.8s,MS5.3,baz=256,slow=32						
LVC	Limon Verde	44.12	301	*e*P	P	14 25 29.5	+2.1
	30nm,1.0s,mb5.0						
SBA	Scott Base	46.97	184	*e*P	P	14 25 49.5	+0.1
	8.6nm,0.9s,mb4.7						
LPAZ	La Paz	49.17	306	P	P	14 26 08.2	+1.0
	19nm,0.7s,mb5.2,baz=204,slow=8.3,SNR=24						
TSUM	Tsumeb	49.94	63	P	P	14 26 14.4	+1.3
	12nm,0.7s,mb5.0,baz=241,slow=7.7,SNR=14						
TSUM	Tsumeb	49.94	63	*e*P	P	14 26 13.5	+0.3
	59nm,1.4s,mb5.4						
SAML	Samuel	53.56	316	*e*P	P	14 26 38.9	-1.6
	36nm,1.2s,mb5.2						
CASY	Casey	55.07	161	*e*P	P	14 26 48.8	-2.1
NNA	Nana	57.08	300	*e*P	P	14 27 05.8	-0.2
	29nm,1.2s,mb5.2						
LSZ	Lusaka	58.80	71	*e*P	P	14 27 18.1	+0.1
	21nm,1.3s,mb5.0						
LIC	Lamto	64.18	26	*e*P	P	14 27 53.5	-0.8
	106nm,1.7s,mb5.6						
KIC	Kosan Boka	64.39	26	*e*P	P	14 27 55.0	-0.6
	420nm,1.9s,mb6.1						
TIC	Toumodi	64.59	26	*e*P	P	14 27 56.2	-0.7
	18nm,0.2s,mb5.8						
DBIC	Dimbokro	64.65	26	P	P	14 27 56.8	-0.6
	7.2nm,1.0s,mb4.7,baz=188,slow=8.6,SNR=4.6						
OTAV	Otavalo	68.45	305	*e*P	P	14 28 24.3	+2.7
	7.7nm,0.8s,mb4.8						
MBAR	Mbarara	72.45	64	*e*P	P	14 28 46.1	+0.3
	70nm,2.1s,mb5.2						
SDV	Santo Domingo	72.77	316	*e*P	P	14 28 46.9	-0.8
	12nm,0.8s,mb4.9						
JTS	JuntasAbangare	80.32	304	*e*P	P	14 29 31.7	+1.8
	16nm,0.9s,mb5.0						
STKA	Stephens Creek	92.97	172	P	P	14 30 30.3	-1.2
	3.8nm,0.6s,mb5.0,baz=192,slow=4.7,SNR=7.8						
ASAR	Alice Springs	100.14	164	P	P	14 31 02.9	-1.5
	2.3nm,0.8s,baz=190,slow=4.1,SNR=13						
ASAR				PP	PP	14 35 14.5	+2.0
	2.1nm,0.9s,baz=189,slow=7.8,SNR=7.1						
WRA	Warramunga Arr	103.85	163	Pdiff	Pdif	14 31 19.8	-1.2
	1.4nm,1.2s,baz=197,slow=4.3,SNR=7.3						
WRA				PP	PP	14 35 42.7	+2.2
	1.5nm,1.0s,baz=183,slow=6.4,SNR=6.2						
AKASG	Malin Array Be	115.91	37	PKP	PKPdf	14 36 01.3	-1.2
	0.3nm,0.4s,baz=194,slow=3.8,SNR=4.1						
MSU	Marysvale	117.19	299	*e*PKPdf	PKPdf	14 36 03.6	-1.6
PDAR	Pinedale Array	119.15	304	PKP	PKPdf	14 36 08.4	-0.5
	0.6nm,0.8s,baz=153,slow=3.3,SNR=4.1						
FINES	FINESS Array B	123.92	28	PKP	PKPdf	14 36 15.2	-2.6
	4.0nm,0.8s,baz=135,slow=5.4,SNR=7.1						
KAF	Kangasniemi	124.53	28	*e*p	PKPdf	14 36 16.2	-2.5
	0.6nm,0.3s						
KAF	Kangasniemi	124.53	28	*e*p	PKPdf	14 36 25.6	+6.9
	3.3nm,0.6s						
ARCES	ARCESS Array B	130.36	22	PKP	PKPdf	14 36 28.1	-1.7
	7.3nm,0.8s,baz=180,slow=1.2,SNR=7.1						
BRVK	Borovoye	134.92	57	*e*PKPdf	PKPdf	14 36 36.7	-2.0
YKA	Yellowknife Ar	134.92	319	PKP	PKPdf	14 36 36.0	-2.4
	2.7nm,0.7s,baz=132,slow=2.1,SNR=5.0						
YKA	Yellowknife Ar	134.92	319	PKP	PKPdf	14 36 36.0	-2.4
BVAR	Borovoye Array	134.95	57	PKP	PKPdf	14 36 37.3	-1.4
	9.8nm,1.0s,baz=225,slow=2.1,SNR=20						
MKAR	Makanchi Array	137.35	71	PKhKP		14 36 37.0	
	0.8nm,0.7s,baz=216,slow=2.6,SNR=5.1						
GTA	Gaotai	142.57	93	*e*PKP	PKPdf	14 36 48.4	-4.4
GTA				APKP		14 36 55.4	
GTA				XPKP		14 36 58.4	
XAN	Xi’an	143.90	108	PKP	PKPdf	14 36 52.0	-3.2
XAN				APKP		14 37 03.2	
ILAR	Eielson Array	148.88	313	PKP	PKPdf	14 36 59.5	-3.1
	2.6nm,1.1s,baz=320,slow=1.9,SNR=9.1						
ILAR				PKPbc	PKPdf	14 37 04.7	+2.1
	31nm,0.9s,baz=130,slow=1.8,SNR=152						
PMR	Palmer	149.13	307	*e*P	PKPdf	14 37 06.6	+3.5
COLA	College	149.30	313	*e*P	PKPdf	14 37 05.4	+2.1
TIA	Tai’an	149.93	115	*e*PKP	PKPdf	14 37 08.2	+3.0
HHC	Hu-ho-hao-te	150.23	102	*e*PKP	PKPdf	14 37 10.0	+4.5
HHC				APKP		14 37 13.2	
HHC				PP	PP	14 40 47.9	+1.6
HHC				SKS	SKS	14 44 13.5	+0.9
HHC				SKKS		14 47 32.8	
SONM	Songino Array	151.47	86	PKP	PKPdf	14 37 05.2	-1.9
	6.0nm,1.0s,baz=270,slow=1.2,SNR=7.5						
SONM				PKPbc	PKPdf	14 37 11.7	+4.6
	11nm,0.8s,baz=232,slow=2.5,SNR=46						
BJI	Beijing	152.23	108	PKP	PKPdf	14 37 13.3	+4.8
TTA	Tatalina	152.55	308	*e*P	PKPdf	14 37 11.0	+2.8
SDPT	Sand Point	152.98	291	*e*P	PKPdf	14 37 15.2	+6.2

NEIC ***06*** *14:28:35.9, 15.73N×97.53W, h20^{km}, MD4.4(MEX), After MEX.*

MEX 06 14:28:36.0±0.9**, 15.74N**×**97.53W, h20^{km}**±12^{km}**, MD4.4, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	Pinotepa	0.87	319	*i* P	Pb	14 28 50.1	-2.2
PNIG				*i* S	Sb	14 29 00.1	-3.4
HUIG	Huatulco	1.36	88	*i* P	Pn	14 28 56.2	-4.0
HUIG				*i* S	Sb	14 29 14.5	-3.2
HUIG	Huatulco	1.36	88	*i* P	Pn	14 28 56.2	-4.0
HUIG				*i* S	Sb	14 29 14.8	-2.9
VHO	Vista Hermosa	1.53	30	*i* P	Pn	14 28 58.6	-4.0
VHO				*i* S	Sn	14 29 17.6	-4.4
IISM	Ciudad Serdan	3.24	2	*i* P	Pn	14 29 23.5	-3.4
IISM				*i* S	Sn	14 30 00.0	-5.4
PLIG	Platanillo	3.25	325	*e*P	Pn	14 29 24.1	-3.0
PLIG				*i* S	Sn	14 30 01.2	-4.4
EVV	El Vigia	3.41	37	*e*P	Pn	14 29 26.0	-3.4
EVV				*i* S	Sn	14 30 12.0	+2.2
YAIG	Yautepec	3.44	335	*e*P	Pn	14 29 27.1	-2.8
YAIG				*i* S	Sn	14 30 04.2	-6.2
PPM	Popocatepetl	3.48	343	*i* P	Pn	14 29 28.0	-2.3
PPM				*i* S	Sn	14 30 10.0	-1.4
ZIIG	Zihuatanejo	4.21	297	*i* S	Sn	14 30 23.0	-7.0
MOIG	Morelia	5.25	319	*i* P	Pn	14 29 52.4	-3.1
MOIG				*i* S	Sn	14 30 50.7	-5.5

IDC ***06*** *14:29:15.1±3.2, 55.01S×28.01W, mb4.4/2, mb1 4.6/2, mb1mx4.0/9, Error ellipse: s-maj=350.0km s-min=36.3km az=29.0*

NEIC ***06*** *14:29:16.3±0.6, 55.24S×28.13W, h10^{km}, mb4.3/5, Error ellipse: s-maj=21.7km s-min=7.4km az=58.0*

ISC 06 14:29:14.5±1.0**, 55.1S**±0.1×**28.1W**±0.4**, h10^{km}, n17, σ1^{s}.18**/14**, mb4.3**/6**, 3C, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA1	Neumayer--Stat	17.87	158	⇑*i*	P	14 33 24.1	-0.3
VNA3	Neumayer Olymp	18.06	161	⇑*i*	P	14 33 28.8	+2.0
VNA2	Neumayer--Watz	18.27	158	⇑*i*	P	14 33 30.4	+1.0
SNAA	Sanae	19.82	157		P	14 33 44.9	-2.8
PMSA	Palmer Station	20.18	227	*e*P	P	14 33 51.1	-0.5
	18nm,1.0s						
TRQA	Tornquist	28.50	293	P	P	14 35 11.9	+0.2
	1.9nm,0.6s,mb3.9						
QSPA	South Pole Qui	35.16	180	*e*P	P	14 36 08.8	-1.0
	4.2nm,0.6s,mb4.5						
CPUP	Villa Florida	35.81	311	P	P	14 36 15.3	-0.5
	4.1nm,0.9s,mb4.4,baz=172,slow=8.0,SNR=6.6						
CPUP	Villa Florida	35.81	311	P	P	14 36 15.3	-0.5
LVC	Limon Verde	44.39	300	*e*P	P	14 37 28.9	+2.1
	3.2nm,0.6s,mb4.2						
LPAZ	La Paz	49.42	306	P	P	14 38 07.0	+0.6
	1.8nm,0.3s,mb4.6,baz=185,slow=5.3,SNR=4.1						
LPAZ	La Paz	49.42	306	P	P	14 38 07.0	+0.6
SAML	Samuel	53.78	315	*e*P	P	14 38 38.5	-0.8
	1.4nm,0.6s,mb4.1						
SDV	Santo Domingo	72.98	316	*e*P	P	14 40 45.5	-0.6
BVAR	Borovoye Array	134.67	57	PKP	PKPdf	14 48 34.8	-0.6
	0.5nm,0.5s,baz=315,slow=2.0,SNR=4.1						
ILAR	Eielson Array	149.11	313	PKPbc	PKPdf	14 49 03.5	+3.4
	8.3nm,0.8s,baz=132,slow=2.2,SNR=30						
SONM	Songino Array	151.15	85	PKPbc	PKPdf	14 49 08.5	+4.6
	2.6nm,0.8s,baz=219,slow=3.2,SNR=14						

BJI ***06*** *14:29:46.7, 32.32N×137.17E, h33^{km}, mb4.3*

NEIC ***06*** *14:29:49.9±0.7, 32.95N×137.01E, h10^{km}, mb4.3/4, Error ellipse: s-maj=14.8km s-min=9.8km az=99.0*

JMA ***06*** *14:29:50.3±0.2, 32.95N×136.78E, h42^{km}, M3.8*

IDC ***06*** *14:29:52.7±0.9, 32.95N×136.92E, h27^{km}±5^{km}, mb3.7/5, mb1 3.7/6, mb1mx3.5/21, ML3.0/1, MS4.3/1, Ms1 4.3/1, ms1mx4.1/22, Error ellipse: s-maj=27.4km s-min=16.0km az=54.0*

ISC 06 14:29:51.2±1.6**, 33.04N**±0.04×**136.80E**±0.03**, h30^{km}**±13^{km}**, h27^{km}**±.4^{km}**:pP-P, n29, σ0^{s}.85**/44**, mb4.0**/8**, 6C, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JWZ	Kozaga	1.03	299	⇑P	Pn	14 30 08.9	-0.9
TK02	Tokai 2	1.21	41	P	Pn	14 30 11.9	-0.5
TK02				S	Sn	14 30 27.9	+0.1
JKN	Kiinagashima	1.28	340	P	Pn	14 30 13.4	0.0
JKN				S	Sn	14 30 29.3	-0.4
JIE	Ise	1.35	357	⇑P	Pn	14 30 14.8	+0.4
JIE				S	Sn	14 30 31.0	-0.4

JWM	Minabe	1.45	304	⇑P	Pn	14 30 15.2	-0.6
JWM				S	Sn	14 30 33.1	-0.8
JWY	Kouya	1.54	320	⇑P	Pn	14 30 17.5	+0.4
JWY				S	Sn	14 30 36.3	0.0
TK04	Tokai 4	1.61	34	P	Pn	14 30 18.0	-0.2
TK04				S	Sn	14 30 39.2	+1.1
JAI	Aioi	2.10	292	⇑P	Pn	14 30 24.4	-0.7
JAI				S	Sn	14 30 48.4	-2.0
JHJ	Hachijo jima 2	2.51	87	Pn	Pn	14 30 30.8	-0.2
	7.8nm,0.3s,baz=254,slow=22,SNR=2.4						
JHJ				Sn	Sn	14 30 59.6	-1.2
	15nm,0.3s,baz=63,slow=22,SNR=4.3						
JHJ				LR	LR	14 31 33.6	
	comp=Z,7µm,21.9s,baz=317,slow=41						
JWT	Wachi	2.52	333	⇑P	Pn	14 30 31.4	+0.3
JWT				S	Sn	14 31 00.7	-0.3
JGM	Miyama	2.65	359	P	Pn	14 30 33.3	+0.3
JGM				S	Sn	14 31 04.4	-0.1
JYN	Shimob	2.85	30	P	Pn	14 30 36.0	+0.2
JYN				S	Sn	14 31 08.6	-0.8
JOD2	Odawara 2	2.92	40	P	Pn	14 30 36.8	0.0
JOD2				S	Sn	14 31 11.6	+0.3
JRY	Ryogami san	3.44	30	P	Pn	14 30 45.0	+0.8
JRY				S	Sn	14 31 24.2	-0.2
MAJO	Matsushiro	3.68	18	ePn	Pn	14 30 47.4	-0.2
MAT	Matsushiro	3.68	18	P	Pn	14 30 47.9	+0.3
MAT				S	Sn	14 31 29.8	-0.7
MAT	Matsushiro	3.68	18	eP	Pn	14 30 48.0	+0.4
MAT				eS	Sn	14 31 30.0	-0.5
BJT	Baijiatuau	17.96	299	P	P	14 34 03.3	+2.9
	6.5nm,0.5s						
BJI	Beijing	17.96	299	P	P	14 34 04.7	+4.3
BJI				AMB	AMB		
	comp=Z,9.0nm,0.5s						
XAN	Xi'an	23.23	280	P	P	14 34 59.0	+2.2
SONM	Songino Array	27.24	312	P	P	14 35 35.1	+0.6
	comp=Z,1.9nm,1.1s,mb3.5,baz=119,slow=7.8,SNR=8.2						
YAK	Yakutsk	29.36	353	P	P	14 35 53.6	+0.1
	comp=Z,3.6nm,0.5s,mb4.4						
MKAR	Makanchi Array	43.17	305	P	P	14 37 52.4	+1.7
	comp=Z,3.4nm,1.0s,mb4.0,baz=90,slow=7.7,SNR=6.0						
MKAR				pP	pP	14 38 00.5	+0.7
	comp=Z,1.9nm,0.7s,baz=92,slow=10.0,SNR=5.3						
MKAR	Makanchi Array	43.17	305	P	P	14 37 52.4	+1.7
MKAR				pP	pP	14 38 00.5	+0.7
KURK	Kurchatov	45.53	311	eP	P	14 38 10.5	+0.7
	comp=Z,3.3nm,0.9s,mb4.3						
BVAR	Borovoye Array	50.54	314	P	P	14 38 49.7	+1.0
	comp=Z,2.8nm,0.9s,mb4.2,baz=90,slow=12,SNR=4.4						
BVAR				pP	pP	14 38 57.6	-0.2
	comp=Z,2.1nm,0.7s,baz=108,slow=9.4,SNR=5.8						
ZRNK	Zerenda	51.38	314	eP	P	14 38 55.7	+0.6
	comp=Z,5.6nm,1.4s,mb4.3						
WRA	Warramunga Arr	52.74	183	P	P	14 39 04.1	-1.6
	comp=Z,1.0nm,1.0s,mb3.7,baz=1.0,slow=7.8,SNR=7.1						
WRA				pP	pP	14 39 12.3	-2.6
	comp=Z,1.2nm,0.8s,baz=0.3,slow=7.6,SNR=6.6						
ASAR	Alice Springs	56.46	183	P	P	14 39 31.9	-0.9
	comp=Z,0.3nm,0.7s,mb3.4,baz=8.9,slow=9.1,SNR=3.9						
ASAR				pP	pP	14 39 40.5	-1.5
	comp=Z,0.7nm,0.9s,baz=12,slow=12,SNR=4.7						

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*IDC **06** 14:30:47.1±1.3, 55.26S×28.69W, mb4.4/4, mb1 4.6/4, mb1mx4.2/11, Error ellipse: s-maj=49.9km s-min=32.5km az=22.0*

*NEIC **06** 14:30:51.3±0.9, 55.60S×30.19W, h10^{km}, mb4.4/5, Error ellipse: s-maj=32.4km s-min=10.1km az=57.0*

ISC 06 14:30:47.4±1.3**, 55.0S**±0.2×**28.8W**±0.4**, h10**^{km}**, n17, σ1^{s}15**/14**, mb4.3**/7**, 3C-1D, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA1	Neumayer--Stat	18.12	158	⇓i	P	14 35 01.5	+1.1
VNA1	Neumayer--Stat	18.12	158	⇑i	P	14 35 09.8	+9.4
VNA3	Neumayer Olymp	18.29	160		P	14 35 03.6	+1.0
VNA3	Neumayer Olymp	18.29	160		P	14 35 12.0	+9.4
VNA2	Neumayer--Watz	18.51	158	⇑i	P	14 35 05.3	0.0
PMSA	Palmer Station	19.92	227	eP	P	14 35 13.8	-8.0
	19nm,0.4s						
SNAA	Sanae	20.08	156	⇑i	P	14 35 18.9	-4.5
USHA	Ushuaia	22.57	254	P	P	14 35 48.9	+0.3
	14nm,1.0s,mb4.3,baz=121,slow=9.6,SNR=2.8						
TRQA	Tornquist	28.06	293	P	P	14 36 41.0	+0.3
	3.9nm,0.7s,mb4.2						
QSPA	South Pole Qui	35.25	180	eP	P	14 37 40.5	-3.0
	4.7nm,0.7s,mb4.5						
CPUP	Villa Florida	35.42	312	P	P	14 37 45.6	+0.2
	2.2nm,0.8s,mb4.1,baz=198,slow=9.8,SNR=4.5						
LVC	Limon Verde	43.97	301	eP	P	14 38 55.0	-1.3
	3.4nm,0.6s,mb4.2						
LPAZ	La Paz	49.01	306	P	P	14 39 38.0	+1.9
	1.9nm,0.2s,mb4.7,baz=149,slow=4.1,SNR=3.3						
SAML	Samuel	53.40	316	eP	P	14 40 08.7	-0.8
	2.2nm,0.9s,mb4.1						
ASAR	Alice Springs	100.26	164	P	P	14 44 32.6	-2.4
	0.6nm,0.8s,baz=184,slow=4.1,SNR=4.9						
ILAR	Eielson Array	148.72	313	PKPbc	PKPdf	14 50 35.1	+2.7
	5.4nm,0.9s,baz=128,slow=1.5,SNR=12						
SONM	Songino Array	151.58	86	PKPbc	PKPdf	14 50 42.4	+4.9
	2.6nm,0.6s,baz=221,slow=3.4,SNR=11						

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*NEIC **06** 14:37:38.7, 33.30S×72.04W, h30^{km}, ML3.5(GUC), After GUC.*

GUC 06 14:37:38.7±1.0**, 33.30S**×**72.04W, h30**^{km}±7^{km}**, MD3.4, ML3.5, 6C-7D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IHA	Instituto Hidr	0.43	51	⇓iP	Pb	14 37 47.5	-0.5
IHA				iS	Sb	14 37 54.2	-0.1
LCCH	Las Cruces	0.43	115	⇑iP	Pb	14 37 48.2	+0.2
LCCH				iS	Sb	14 37 54.8	+0.4
LLCH	Llolleo	0.47	132	⇑iP	Pb	14 37 47.7	-0.9
LLCH				iS	Sb	14 37 55.5	0.0
LNV	Longovilo	0.84	142	⇓iP	Pn	14 37 54.2	-0.3
LNV				iS	Sb	14 38 05.6	-0.1
TACH	Talagante	0.98	112	⇑iP	Pn	14 37 56.6	0.0
TACH				iS	Sn	14 38 10.0	+0.5
PEL	Peldehue	1.14	83	⇑iP	Pn	14 37 59.3	+0.4
PEL				iS	Sn	14 38 14.4	+0.8
PEL				AMP		14 38 16.0	
	comp=N,4µm,0.4s						
SAN	Santiago	1.16	98	iS	Sn	14 38 14.9	+0.8
SAN				AMP		14 38 16.8	
	comp=N,1µm,0.3s						
ANTU	Antumapu	1.20	103	iP	Pn	14 37 60.0	+0.2
ANTU				iS	Sn	14 38 16.1	+1.0
ANTU				AMP		14 38 17.9	
	comp=N,2µm,0.6s						
DSCH	Colegio Aleman	1.23	95	iP	Pn	14 38 00.7	+0.5
DSCH				iS	Sn	14 38 17.4	+1.5
DSCH				AMP		14 38 18.2	
	comp=N,3µm,0.3s						
CLCH	Cerro Calan	1.26	95	⇓iP	Pn	14 38 00.8	+0.3
CLCH				iS	Sn	14 38 17.4	+0.9
CLCH				AMP		14 38 22.3	
	comp=N,1µm,0.4s						
CLCH				AMP		14 38 23.3	
	comp=E,2µm,0.5s						
PCH	Pirque	1.31	105	⇑iP	Pn	14 38 01.7	+0.4
PCH				iS	Sn	14 38 18.8	+0.9
CHCH	Chadas Angostu	1.32	119	iP	Pn	14 38 01.6	+0.2
CHCH				iS	Sn	14 38 18.6	+0.6
JACH	Jahuel	1.36	64	iP	Pn	14 38 01.3	-0.7
JACH				iS	Sn	14 38 18.9	-0.1
SJCH	San Jose de Ma	1.45	104	AMP		14 38 22.7	
	comp=E,480nm,0.2s						
CACH	El Canelo	1.45	125	⇓iP	Pn	14 38 04.2	+0.9
CACH				iS	Sn	14 38 23.9	+2.5
FCH	Farellones	1.46	92	⇓iP	Pn	14 38 04.1	+0.7
FCH				iS	Sn	14 38 23.8	+2.1
FCH				AMP		14 38 24.3	
	comp=N,1µm,0.2s						
SFDO	San Fernando	1.56	147	⇓iP	Pn	14 38 05.3	+0.4
SFDO				iS	Sn	14 38 26.2	+1.9
LMEL	Las Melosas	1.62	110	⇓iP	Pn	14 38 06.5	+0.7
LMEL				iS	Sn	14 38 27.6	+1.7
LMEL				AMP		14 38 29.0	
	comp=N,1µm,0.2s						
CICH	Cipreses	1.69	128	⇑iP	Pn	14 38 07.3	+0.7
CICH				iS	Sn	14 38 29.6	+2.1

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*IDC **06** 14:40:58.7±0.7, 55.37S×28.71W, mb4.9/8, mb1 4.9/8, mb1mx4.7/12, Error ellipse: s-maj=26.8km s-min=19.6km az=28.0*

*NEIC **06** 14:41:00.6±0.3, 55.37S×28.89W, h10^{km}, mb5.0/13, Error ellipse: s-maj=11.8km s-min=8.9km az=204.0*

*HRVD **06** 14:41:00.6±0.7, 55.11S×28.85W, h20^{km}±4^{km}, MW5.6/37, Centroid moment Tensor Solution. LP body waves: s1,c1; Mantle waves: s37,c49; Half duration: 1^{s}5 Moment tensor: Scale 10^{17}Nm; M_{rr}0.72±.26; $M_{\theta\theta}$-1.49±.23; $M_{\phi\phi}$0.77±.15; $M_{r\theta}$-2.39±.75; $M_{\theta\phi}$1.55±.17; $M_{\phi r}$1.91±.67; Best double couple: $M_0$3.47×10^{17} NP1:ϕ_s75°,δ21°,λ31°. NP2:ϕ_s316°,δ79°,λ108°. Principal axes: T 2.8, Plg52°, Azm247°; N 1.35, Plg18°, Azm132°; P -4.15, Plg32°, Azm31°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*BJI **06** 14:41:01.5, 55.40S×28.90W, h10^{km}*

ISC 06 14:41:00.3±4.8**, 55.2S**±0.1×**28.7W**±0.1**, h33**^{km}±46^{km}**, n74, σ1^{s}07**/49**, mb5.0**/20**, 18C, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EFI	East Falkland	17.75	269	eP	P	14 45 06.4	+0.2
	139nm,1.1s						
VNA1	Neumayer--Stat	17.91	158	⇑iP	P	14 45 14.7	+6.8
VNA1	Neumayer--Stat	17.91	158	⇑i	P	14 45 19.5	+12
VNA1	Neumayer--Stat	17.91	158	⇑i	P	14 45 23.0	+15
VNA1	Neumayer--Stat	17.91	158	⇑i	P	14 45 29.5	+22
VNA3	Neumayer Olymp	18.08	160	⇑iP	P	14 45 15.9	+5.8
VNA3	Neumayer Olymp	18.08	160	⇑i	P	14 45 18.1	+8.0
VNA3	Neumayer Olymp	18.08	160	⇑i	P	14 45 19.7	+10
VNA3	Neumayer Olymp	18.08	160	⇑i	P	14 45 22.7	+13
VNA3	Neumayer Olymp	18.08	160	⇑i	P	14 45 27.8	+18
VNA3	Neumayer Olymp	18.08	160	⇑i	P	14 45 30.8	+21
VNA3	Neumayer Olymp	18.08	160	⇑iP	P	14 45 18.1	+8.0
VNA2	Neumayer--Watz	18.30	158	⇑iP	P	14 45 19.4	+6.5
VNA2	Neumayer--Watz	18.30	158		P	14 45 23.9	+11
VNA2	Neumayer--Watz	18.30	158		P	14 45 26.1	+13
VNA2	Neumayer--Watz	18.30	158	P	P	14 45 26.1	+13
PMSA	Palmer Station	19.80	227	eP	P	14 45 31.4	+1.1
	86nm,0.8s						
SNAA	Sanae	19.87	156	⇑iP	P	14 45 30.3	-0.6
SNAA	Sanae	19.87	156		P	14 45 32.3	+1.4
SNAA	Sanae	19.87	156	⇑i	P	14 45 34.5	+3.6
SNAA	Sanae	19.87	156	⇑i	P	14 45 38.6	+7.7
SNAA	Sanae	19.87	156	⇑i	P	14 45 40.2	+9.3
SNAA	Sanae	19.87	156	⇑i	P	14 45 43.2	+12
SNAA	Sanae	19.87	156	⇑iS	S	14 49 21.6	+14
USHA	Ushuaia	22.55	254	P	P	14 45 59.9	+1.7
	71nm,0.8s,mb5.1,baz=83,slow=9.8,SNR=32						
TRQA	Tornquist	28.18	294	eP	P	14 46 52.8	+1.3
	19nm,0.9s,mb4.7						
QSPA	South Pole Qui	35.04	180	eP	P	14 47 53.2	+2.0
	13nm,0.6s,mb5.0						
QSPA				e		14 48 17.7	
CPUP	Villa Florida	35.59	312	P	P	14 47 57.9	+1.4
	20nm,0.7s,mb5.2,baz=172,slow=7.2,SNR=43						
SUR	Sutherland	41.30	77	eP	P	14 48 45.2	+1.2
	14nm,0.7s,mb4.7						
MAW	Mawson	41.35	145	eP	P	14 48 44.8	+0.8
	6.4nm,0.8s,mb4.3						
MAW	Mawson	41.35	145	P	P	14 48 44.8	+0.7
	8.7nm,0.9s,mb4.4,baz=234,slow=7.7,SNR=13						
BAO	Brasilia Array	42.20	332	P	P	14 48 55.2	+3.7
BDFB	Brasilia	42.20	332	P	P	14 48 54.7	+3.1
	5.0nm,0.6s,mb4.3,baz=174,slow=3.5,SNR=3.0						
LVC	Limon Verde	44.11	301	eP	P	14 49 09.8	+2.8
	29nm,0.8s,mb5.1						
LPAZ	La Paz	49.17	306	P	P	14 49 49.8	+2.9
	20nm,0.6s,mb5.4,baz=190,slow=8.4,SNR=52						
TSUM	Tsumeb	50.07	63	P	P	14 49 55.7	+2.0
	11nm,1.0s,mb4.8,baz=185,slow=8.4,SNR=7.2						
TSUM	Tsumeb	50.07	63	eP	P	14 49 56.2	+2.5
ARE	Arequipa	50.61	303	eP	P	14 49 59.0	+1.1
SAML	Samuel	53.59	316	eP	P	14 50 21.0	+0.7
	22nm,1.3s,mb4.9						
NNA	Nana	57.07	300	eP	P	14 50 46.6	+1.1
	53nm,1.3s,mb5.4						
LSZ	Lusaka	58.91	71	eP	P	14 50 59.3	+0.9
	5.4nm,0.9s,mb4.6						
LIC	Lamto	64.32	26	eP	P	14 51 36.2	+1.5
	39nm,1.0s,mb5.4						
KIC	Kosan Boka	64.52	27	eP	P	14 51 37.4	+1.4
	77nm,1.1s,mb5.6						
TIC	Toumodi	64.72	26	eP	P	14 51 38.8	+1.5
	72nm,1.0s,mb5.7						
DBIC	Dimbokro	64.79	26	P	P	14 51 39.4	+1.7
	6.3nm,0.9s,mb4.6,baz=192,slow=8.8,SNR=5.8						
DBIC	Dimbokro	64.79	26	P	P	14 51 39.4	+1.7
MBAR	Mbarara	72.57	65	eP	P	14 52 29.2	+3.4
	31nm,1.8s,mb4.9						
SDV	Santo Domingo	72.79	316	eP	P	14 52 28.9	+1.7
	17nm,0.8s,mb5.0						
JTS	JuntasAbangare	80.31	304	eP	P	14 53 12.4	+2.9
	15nm,0.9s,mb4.9						
ASAR	Alice Springs	100.05	164	P	P	14 54 43.6	+0.3
	1.5nm,0.8s,baz=185,slow=4.3,SNR=15						
ASAR				PP	PP	14 58 55.9	+4.5
	0.6nm,0.7s,baz=181,slow=5.8,SNR=4.1						
ASAR				PKKPbc		15 11 11.4	
	0.5nm,0.7s,baz=28,slow=2.2,SNR=5.7						
WRA	Warramunga Arr	103.77	164	Pdiff	Pdif	14 54 59.7	-0.3
	0.3nm,0.9s,baz=192,slow=4.1,SNR=5.7						
WRA				PP	PP	14 59 22.3	+2.8
	0.6nm,0.8s,baz=190,slow=6.0,SNR=4.9						
WRA				PKKPbc		15 10 55.3	
	0.3nm,0.8s,baz=357,slow=3.1,SNR=4.0						
TXAR	Lajitas Array	105.62	299	PKKPbc		15 10 51.8	
	0.8nm,1.1s,baz=333,slow=2.8,SNR=4.1						
PDAR	Pinedale Array	119.15	304	PKP	PKPdf	14 59 49.1	+3.9
	0.7nm,0.5s,baz=158,slow=4.5,SNR=8.8						
NOA	NORSAR Array B	120.14	21	PKP	PKPdf	14 59 51.7	+4.9
	0.7nm,0.7s,baz=176,slow=0.9,SNR=3.5						
NOA	NORSAR Array B	120.14	21	PKP	PKPdf	14 59 51.7	+4.9
FINES	FINESS Array B	124.06	28	PKP	PKPdf	14 59 57.5	+3.2
	2.3nm,0.6s,baz=153,slow=4.3,SNR=10						
KAF	Kangasniemi	124.67	28	ep	PKPdf	14 59 56.0	+0.7
	3.2nm,0.7s						
KOLN	Koldanda	124.95	91	eP	PKPdf	14 59 59.9	+3.1
	18nm,0.9s						
DMN	Daman	125.69	92	eP	PKPdf	15 00 02.9	+4.7
	25nm,1.2s						
GKN	Gorkha	125.72	91	eP	PKPdf	15 00 01.5	+3.3
	63nm,1.5s						
PKI	Pulchoki	125.84	92	eP	PKPdf	15 00 03.1	+4.6
	19nm,1.0s						
KKN	Kakani	125.93	92	eP	PKPdf	15 00 03.1	+4.5
SUMG	Summit	127.68	356	ePKPdf	PKPdf	15 00 06.1	+5.2
ARCES	ARCESS Array B	130.49	22	PKP	PKPdf	15 00 10.4	+4.1
	8.2nm,0.9s,baz=225,slow=1.3,SNR=5.2						
YKA	Yellowknife Ar	134.96	319	PKP	PKPdf	15 00 18.9	+4.1
	2.1nm,0.5s,baz=128,slow=2.4,SNR=7.2						
YKA	Yellowknife Ar	134.96	319	PKP	PKPdf	15 00 18.9	+4.1
MKAR	Makanchi Array	137.46	72	PKP	PKPdf	15 00 21.9	+2.0
	1.6nm,0.9s,baz=245,slow=3.9,SNR=8.6						
GTA	Gaotai	142.65	93	ePKP	PKPdf	15 00 37.8	+8.6
XAN	Xi'an	143.94	108	PKP	PKPdf	15 00 33.0	+1.5
XAN				APKP		15 00 42.5	
WHN	Wuhan	144.07	118	ePKP	PKPdf	15 00 39.4	+7.5
NJ2	Nanjing	147.53	122	ePKP	PKPdf	15 00 40.0	+2.2
NJ2				APKP		15 00 50.8	
NJ2				PKS	PKS	15 04 14.0	+2.1
NJ2				SKKS		15 11 05.0	
ILAR	Eielson Array	148.90	313	PKPbc	PKPdf	15 00 47.0	+8.0
	18nm,0.7s,baz=126,slow=1.6,SNR=131						
SONM	Songino Array	151.55	86	PKPbc	PKPdf	15 00 52.4	+8.8
	12nm,0.8s,baz=221,slow=3.4,SNR=20						
SONM	Songino Array	151.55	86	PKPbc	PKPdf	15 00 52.4	+8.8

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*NIED **06** 15:19:00, 33.00N×136.70E, h5^{km}, Mw4.4 Best double couple: $M_0$4.52×10^{15} NP1:ϕ_s165°,δ90°,λ-142°. NP2: ϕ_s75°,δ52°,λ-1°.*

*NEIC **06** 15:19:36.0±0.5, 32.96N×136.75E, h10^{km}, mb4.4/4, Error ellipse: s-maj=10.9km s-min=7.7km az=109.0*

*JMA **06** 15:19:35.8±0.1, 32.98N×136.73E, h33^{km}, M3.7*

*BJI **06** 15:19:37.8, 32.38N×136.63E, h34^{km}, mb4.2*

*IDC **06** 15:19:38.8±0.8, 32.96N×136.85E, h28^{km}±5^{km}, mb3.8/6, mb1 3.9/8, mb1mx3.7/22, ML2.9/2, MS3.9/4, Ms1 3.9/4, ms1mx3.7/32, Error ellipse: s-maj=22.6km s-min=16.5km az=56.0*

ISC 06 15:19:34.9±0.9**, 33.00N**±0.04×**136.75E**±0.03**, h15**^{km}±6^{km}**, h28**^{km}±1.1^{km}**:pP-P, n33, σ0^{s}81**/44**, mb4.0**/11**, 4C-1D, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JWZ	Kozaga	1.01	301	⇑P	Pb	15 19 53.8	+0.2
JWZ				S	Sb	15 20 06.8	+0.3
TK01	Tokai 1	1.03	43	P	Pb	15 19 54.4	+0.4
TK01				S	Sb	15 20 06.9	-0.2
TK02	Tokai 2	1.26	42	P	Pb	15 19 57.9	0.0
TK02				S	Sb	15 20 14.3	+0.6
JKN	Kiinagashima	1.31	342	P	Pb	15 19 58.8	+0.2
JKN				S	Sb	15 20 14.7	-0.3
JIE	Ise	1.38	359	⇓P	Pn	15 20 00.2	+0.4
JIE				S	Sb	15 20 16.9	-0.3
JWM	Minabe	1.44	306	⇑P	Pn	15 20 00.3	-0.3
JWM				S	Sb	15 20 17.8	-1.0
JWY	Kouya	1.55	322	⇑P	Pn	15 20 02.7	+0.5
JWY				S	Sn	15 20 21.5	-0.5
TK04	Tokai 4	1.67	34	P	Pn	15 20 04.0	+0.2
TK04				S	Sn	15 20 24.6	-0.4
TSUJ	Tsu 2	1.72	351	P	Pn	15 20 05.2	+0.5
TSUJ				S	Sn	15 20 25.9	-0.6
JHE	Heguri	1.87	332	⇑P	Pn	15 20 07.2	+0.5
JHE				S	Sn	15 20 29.6	-0.5
JHJ	Hachijo jima 2	2.55	87	Pn	Pn	15 20 16.1	-0.4
	6.5nm,0.3s,baz=55,slow=21,SNR=3.3						
JHJ				Sn	Sn	15 20 46.9	-0.6
	25nm,0.3s,baz=61,slow=21,SNR=6.6						
JHJ				LR	LR	15 21 16.8	
	comp=Z,809nm,18.8s,baz=308,slow=39						
MAJO	Matsushiro	3.73	18	ePn	Pn	15 20 34.0	+0.7
MAT	Matsushiro	3.73	18	P	Pn	15 20 33.6	+0.4
MAT				S	Sn	15 21 16.4	-0.9
MAT	Matsushiro	3.73	18	eP	Pn	15 20 34.0	+0.8
MAT				eS	Sn	15 21 14.0	-3.3
JNU	Nakatsue	4.93	273	Pn	Pn	15 20 48.7	-1.6
	0.5nm,0.3s,baz=74,slow=13,SNR=3.1						
JNU				LR	LR	15 22 51.5	
	comp=Z,1µm,19.8s,baz=144,slow=38						
CBIJ	Chichi jima	7.54	140	LR	LR	15 23 48.6	
	comp=Z,1µm,18.6s,baz=343,slow=34						
ASAJ	Asahikawa	12.00	21	LR	LR	15 27 14.8	
	comp=Z,1µm,19.8s,baz=214,slow=38						
CN2	Changchun	13.94	324	eP	P	15 23 04.2	+10
YSS	Yuzh-Sakhalins	14.67	16	eP	P	15 23 03.3	-0.3
BJI	Beijing	17.95	299	P	P	15 23 50.0	+4.5
BJI				AMB	AMB		
	comp=Z,7.0nm,1.0s						
XAN	Xi'an	23.20	280	P	P	15 24 41.4	-0.7
XAN				AP		15 24 51.9	
XAN				AMB	AMB		
	comp=Z,8.0nm,1.5s,mb3.9						
ENH	Enshi	23.35	271	eP	P	15 24 45.1	+1.5
	comp=Z,16nm,1.0s,mb4.4						
SONM	Songino Array	27.23	312	P	P	15 25 20.5	+0.5
	comp=Z,1.4nm,0.9s,mb3.5,baz=117,slow=8.3,SNR=7.9						
LSA	Lhasa	38.85	278	P	P	15 27 04.0	+2.8
MKAR	Makanchi Array	43.16	305	P	P	15 27 37.9	+1.5
	comp=Z,1.3nm,0.8s,mb3.7,baz=91,slow=10,SNR=10						
MKAR				pP	pP	15 27 45.5	+4.5
	comp=Z,3.5nm,0.7s,baz=89,slow=9.0,SNR=18						
MKAR	Makanchi Array	43.16	305	P	P	15 27 37.9	+1.5
MKAR				pP	pP	15 27 45.5	+4.5
BRVK	Borovoye	50.60	314	eP	P	15 28 35.6	+0.7
	comp=Z,1.5nm,0.6s,mb4.1						
ZRNK	Zerenda	51.38	314	eP	P	15 28 40.8	0.0
	comp=Z,4.6nm,0.9s,mb4.4						
WRAB	Tennant Creek	52.69	183	eP	P	15 28 49.9	-1.2
	comp=Z,4.8nm,0.9s,mb4.4						
WRA	Warramunga Arr	52.70	183	P	P	15 28 49.9	-1.3
	comp=Z,2.2nm,0.9s,mb4.1,baz=359,slow=7.8,SNR=14						
WRA				pP	pP	15 28 58.3	+2.4
	comp=Z,3.2nm,1.1s,baz=0.3,slow=7.9,SNR=7.7						
ASAR	Alice Springs	56.42	183	P	P	15 29 17.9	-0.4
	comp=Z,0.7nm,0.7s,mb3.8,baz=12,slow=13,SNR=10						
ASAR				pP	pP	15 29 27.1	+4.1
	comp=Z,1.0nm,0.7s,baz=8.6,slow=13,SNR=4.5						
STKA	Stephens Creek	64.69	175	P	P	15 30 13.9	-0.6
	comp=Z,2.5nm,0.8s,mb4.3,baz=115,slow=24,SNR=4.2						
TXAR	Lajitas Array	95.62	50	P	P	15 33 02.5	+1.4
	comp=Z,0.4nm,0.8s,mb3.9,baz=270,slow=5.0,SNR=4.5						
TXAR				pP	pP	15 33 11.7	+5.6
	comp=Z,1.7nm,1.1s,baz=281,slow=3.5,SNR=6.1						

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*PRU **06** 15:28:28.5, 50.41N×18.90E*

*WAR **06** 15:28:29.6, 50.27N×19.00E, ML2.4, Mining Induced*

ISC 06 15:28:27.1±0.9**, 50.37N**±0.07×**18.89E**±0.05**, n8, σ1^{s}44**/13**, Poland**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OJC	Ojcow	0.61	104	ePG	Pg	15 28 39.0	-0.2
OJC				eSG	Sg	15 28 48.0	+0.8
OKC	Ostrava-Krasne	0.72	222	PG	Pg	15 28 42.9	+1.5
OKC				SG	Sg	15 28 52.3	+1.4
NIE	Niedzica	1.33	135	ePG	Pg	15 28 53.0	-0.6
NIE				eSG	Sg	15 29 10.0	-1.3
DPC	Dobruska-Polom	1.64	270	ePG	Pg	15 28 58.2	-1.6
DPC				eSG	Sg	15 29 20.9	-0.8
KSP	Ksiaz	1.72	287	ePG	Pg	15 29 04.0	+2.6
KSP				eSN	Sn	15 29 25.0	+3.6
UPC	Upice	1.84	275	eSG	Sg	15 29 28.3	-0.1
PRU	Pruhonice	2.82	264	eSG	Sg	15 29 58.4	-2.5
KHC	Kasperske Hory	3.66	252	eSG	Sg	15 30 23.3	-5.6

JMA 06 15:31:28.9±0.3**, 23.70N**×**125.85E, h87**^{km}**, M3.6, Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JOGS	Gusukube	1.13	339	P	P	15 31 50.3	+0.1
JOGS				S	S	15 32 06.8	+0.6
JMJ	Miyako jima 2	1.22	336	P	P	15 31 51.0	-0.4
JMJ				S	S	15 32 08.4	+0.2
JTJ	Tarama	1.41	312	P	P	15 31 53.6	-0.2
JTJ				S	S	15 32 11.7	-0.5
JIJ	Ishigaki jima	1.69	293	P	P	15 31 57.7	+0.2
JIJ				S	S	15 32 18.5	-0.1
JKRS	Kuro-shima	1.77	288	P	P	15 31 58.7	+0.3
JKRS				S	S	15 32 20.4	+0.2
HATJ	Hateruma jima	1.91	281	S	S	15 32 23.4	0.0
IRIF	Iriomote-Funau	2.04	288	P	P	15 32 02.3	+0.2
IRIF				S	S	15 32 26.8	+0.2
YOJ	Yonaguni jima	2.70	287	S	S	15 32 42.4	-0.7
JKE	Kume jima 2	2.75	18	P	P	15 32 10.6	-1.4
JKE				S	S	15 32 41.7	-2.5

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*IDC **06** 15:31:30.7±0.5, 9.10N×126.17E, mb4.7/23, mb1 4.8/23, mb1mx4.8/24, MS4.6/8, Ms1 4.7/8, ms1mx4.3/28, Error ellipse: s-maj=26.1km s-min=10.8km az=75.0*

*BJI **06** 15:31:33.2, 8.82N×126.43E, h47^{km}, mB5.4, mb5.0, Ms4.7, Msz4.3*

*MOS **06** 15:31:34.0±1.5, 9.15N×126.29E, h33^{km}, mb4.9/19, Error ellipse: s-maj=18.7km s-min=9.1km az=105.8*

*MAN **06** 15:31:35.6, 9.16N×126.49E, h14^{km}, mb5.2, ML4.2, MS4.4*

MAN F BISLIG SURIGAO DEL SUR - INTENSITY II.

*NEIC **06** 15:31:37.3±1.5, 9.13N×126.33E, h48^{km}±14^{km}, mb4.9/33, Error ellipse: s-maj=10.2km s-min=4.8km az=67.0*

NEIC Felt [II PIVS] at Bislig.

*HRVD **06** 15:31:37.3±0.6, 8.96N×126.48E, h36^{km}±2^{km}, MW5.4/38, Centroid moment Tensor Solution. LP body waves: s10,c11;Mantle waves: s38,c51; Half duration: 1^{s}2 Moment tensor: Scale 10^{17}Nm; M_{rr}1.29±.23; $M_{\theta\theta}$0.14±.12; $M_{\phi\phi}$-1.43±.13; $M_{r\theta}$-0.79±.13; $M_{\theta\phi}$0.08±.07; $M_{\phi r}$0.51±.12; Best double couple: $M_0$1.65×10^{17} NP1:ϕ_s199°,δ39°,λ130°. NP2:ϕ_s332°,δ61°,λ63°. Principal axes: T 1.75, Plg63°, Azm197°; N -.2, Plg24°, Azm346°; P -1.55, Plg12°, Azm82°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 06 15:31:37.8±0.5**, 9.13N**±0.02×**126.44E**±0.04**, h69**^{km}±4^{km}**, n170, σ1^{s}28**/176**, mb4.7**/60**, 7C-10D, Mindanao**

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

BUTP	**Butuan**	0.83	259	*e*P	P	15 31 52.4	-1.9
BUTP				*e*S	S	15 32 04.5	-2.0
BIPH	**Bislig**	0.95	185	⇓*e*P	P	15 31 53.2	-2.6
BIPH				*i* S	S	15 32 05.2	-4.0
SCPH	**Surigao**	1.14	305	⇓*e*P	P	15 31 57.2	-1.1
SCPH				*e*S	S	15 32 12.9	-0.8
BUKP	**Musuan**	1.85	228	*e*P	P	15 32 08.6	+0.7
BUKP				*e*S	S	15 32 31.7	+1.5
MSLP	**Maasin**	1.85	303	*e*P	P	15 32 08.1	+0.1
CGP	**Cagayan de Oro**	1.85	249	⇓*e*P	P	15 32 07.4	-0.6
CGP				*i* S	S	15 32 29.9	-0.5
MATI	**Mati**	2.18	185	*e*P	P	15 32 12.3	-0.2
DAV	**Davao City (W)**	2.22	203	*e*P	P	15 32 14.3	+1.1
DAV	**Davao City (W)**	2.22	203	*i* S	S	15 32 35.0	-4.4
DMPH	**Davao City--Mi**	2.24	205	*e*P	P	15 32 14.6	+1.2
DMPH				*i* S	S	15 32 44.6	+4.7
PLP	**Palo**	2.48	325	*e*P	P	15 32 17.2	+0.4
PLP				*e*S	S	15 32 49.8	+3.8
TBP	**Tagbilaran**	2.61	283	*e*P	P	15 32 18.3	-0.3
TBP				*e*S	S	15 32 50.5	+1.3
OCLP	**Ormoc**	2.63	317	*e*P	P	15 32 19.9	+1.0
BESP	**Borongan**	2.65	338	*e*P	P	15 32 19.4	+0.2
LLP	**Lapu-Lapu**	2.71	296	*e*P	P	15 32 18.5	-1.6
CTBH	**Cotabato--PC H**	2.89	229	⇑*i*P	P	15 32 24.5	+2.0
CTBH				*i* S	S	15 32 59.5	+3.3
DCPH	**Dipolog City**	3.10	260	⇓*i*P	P	15 32 25.1	-0.5
DCPH				*i* S	S	15 33 02.2	+0.6
SNPH	**Sibulan**	3.17	274	⇓*i*P	P	15 32 26.5	-0.1
SNPH				*i* S	S	15 33 01.5	-1.9
PAGZ	**Pagadian**	3.29	247	*e*P	P	15 32 28.1	-0.1
CNP	**Catarman**	3.79	333	*e*P	P	15 32 35.0	-0.1
IPIL	**Ipil**	4.06	251	*e*P	P	15 32 38.8	-0.1
GUIM	**Jordan**	4.08	292	*e*P	P	15 32 39.3	+0.1
MMPH	**Masbate**	4.24	319	⇑*i*P	P	15 32 42.6	+1.1
MMPH				*i* S	S	15 33 35.9	+5.9
RCP	**Roxas**	4.37	304	⇓*e*P	P	15 32 44.9	+1.7
PVCP	**Virac**	4.97	333	*e*P	P	15 32 50.2	-1.4
OTRP	**Odiongan**	5.40	307	*e*P	P	15 32 57.7	+0.1
AUQP	**San Andres**	5.57	319	*e*P	P	15 33 03.2	+3.4
CUYO	**Cuyo Island**	5.61	288	*e*P	P	15 33 00.7	+0.3
SJMP	**San Jose**	6.19	303	*e*P	P	15 33 09.5	+1.0
BOAC	**Boac**	6.23	314	*e*P	P	15 33 10.3	+1.2
BUSP	**Coron**	6.77	295	*e*P	P	15 33 16.9	+0.3
LQP	**Lukban**	6.90	316	*e*P	P	15 33 21.4	+3.0
ENPP	**El Nido**	7.21	287	*e*P	P	15 33 22.5	-0.2
TGY	**Tagaytay City**	7.31	313	Pn	P	15 33 20.7	-3.4
TGY				LR	LR	15 37 20.1	
	comp=Z,6µm,18.6s,baz=2.6,slow=49						
ARP	**Angono**	7.46	317	*e*P	P	15 33 28.3	+2.1
LUBP	**Lubang**	7.60	308	*e*P	P	15 33 30.8	+2.7
LUBP	**Lubang**	7.60	308	*e*P	P	15 33 30.9	+2.8
PPR	**Puerto Princes**	7.64	275	⇑*i*P	P	15 33 28.5	-0.1
BALP	**Baler**	8.11	325	*e*P	P	15 33 33.7	-1.3
BATP	**Bataraza**	8.54	268	*e*P	P	15 33 42.0	+1.0
CAUP	**Cauayan**	8.97	330	*e*P	Px	15 33 19.4	
APYP	**Conner**	10.04	330	*e*P	Px	15 33 10.3	
KKM	**Kota Kinabalu**	10.59	254	⇓*e*P	P	15 34 12.4	+3.4
JOW	**Kunigami**	17.69	5	LR	LR	15 41 47.9	
	comp=Z,2µm,19.5s,baz=126,slow=35						
QIZ	**Qiongzhong**	18.85	303	P	P	15 35 53.9	-1.1
QIZ				S	S	15 39 26.6	+7.3
QIZ				AMB	AMB		
	comp=Z,903nm,10.0s						
QIZ				LR	LR		
	comp=E,2µm,17.9s						
QIZ				LR	LR		
	comp=Z,3µm,17.5s						
QIZ	**Qiongzhong**	18.85	303	*e*P	P	15 35 53.4	-1.6
	comp=Z,20nm,0.9s						
SSE	**Sheshan**	22.39	348	*e*P	P	15 36 29.2	-2.2
SSE				AMB	AMB		
	comp=Z,44nm,2.5s,mb4.3						
SSE				AMB	AMB		
	comp=Z,926nm,4.5s						
SSE				LR	LR		
	comp=Z,947nm,24.8s						
KAKA	**Kakadu**	22.48	165	*e*P	P	15 36 31.9	-0.5
	comp=Z,63nm,0.6s,mb5.1						
KAKA				*e*S	S	15 40 31.2	+1.6
CBIJ	**Chichi jima**	23.26	38	LR	LR	15 43 54.9	
	comp=Z,1µm,21.1s,baz=68,slow=32						
NJ2	**Nanjing**	23.87	344	*e*P	P	15 36 46.1	+0.3
NJ2				AP		15 36 55.5	
NJ2				XP		15 36 59.5	
NJ2				PP	PP	15 37 20.5	-1.0
NJ2				S	S	15 40 58.0	+4.2
NJ2				AMB	AMB		
	comp=Z,70nm,0.7s,mb5.1						
NJ2				LR	LR		
	comp=N,1µm,19.3s						
NJ2				LR	LR		
	comp=E,800nm,14.0s						
NJ2				LR	LR		
	comp=Z,1µm,18.1s						
KKTK	**Khon Kaen**	24.11	290	P	P	15 36 50.0	+1.8
JNU	**Nakatsue**	24.22	9	P	P	15 36 50.9	+1.7
	comp=Z,37nm,1.2s,mb4.6,baz=263,slow=8.1,SNR=3.4						
JNU				LR	LR	15 45 42.2	
	comp=Z,916nm,19.6s,baz=309,slow=35						
IPM	**Ipoh**	25.63	262	⇓*e*P	P	15 37 04.1	+1.3
WAU	**Wau**	26.00	128	*e*P	P	15 37 07.8	+1.5
NST	**Nakhon Sawan**	26.49	287	P	P	15 37 13.5	+2.8
NANT	**Nan**	26.73	294	P	P	15 37 10.0	-3.0
JHJ	**Hachijo jima 2**	26.86	25	LR	LR	15 45 30.7	
	comp=Z,2µm,21.2s,baz=274,slow=31						
FITZ	**Fitzroy Crossi**	27.07	182	*e*P	P	15 37 15.1	-1.0
	comp=Z,65nm,1.0s,mb5.1						
FITZ				*e*S	S	15 42 00.1	+13
FITZ	**Fitzroy Crossi**	27.07	182	P	P	15 37 15.1	-1.0
	comp=Z,80nm,0.9s,mb5.2,baz=4.0,slow=8.4,SNR=137						
BDT	**Bhumibol Dam**	27.88	290	P	P	15 37 28.0	+4.6
CMAR	**Chiang Mai Arr**	28.23	292	P	P	15 37 26.4	-0.2
	comp=Z,2.7nm,0.7s,mb3.9,baz=104,slow=7.4,SNR=10						
CMAR				LR	LR	15 50 02.2	
	comp=Z,978nm,18.5s,baz=105,slow=40						
CMAR	**Chiang Mai Arr**	28.23	292	P	P	15 37 26.4	-0.2
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
CMAR				MLR	MLR		
	comp=Z,978nm,18.5s						
CHG	**Chiang Mai**	28.33	293	⇓P	P	15 37 37.9	+10
	comp=Z,12nm,0.9s,mb4.4						
MAJO	**Matsushiro**	29.30	20	*e*P	P	15 37 34.5	-1.5
	comp=Z,6.5nm,0.8s,mb4.3						
XAN	**Xi’an**	29.56	330	P	P	15 37 40.4	+2.1
WRAB	**Tennant Creek**	29.91	165	*e*P	P	15 37 39.7	-1.8
	comp=Z,12nm,0.6s,mb4.7						
WRAB				*e*		15 44 08.5	
WRA	**Warramunga Arr**	29.92	165	P	P	15 37 39.5	-2.1
	comp=Z,7.5nm,0.8s,mb4.4,baz=346,slow=8.3,SNR=51						
WRA	**Warramunga Arr**	29.92	165	P	P	15 37 39.5	-2.1
WRA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
WB2	**Warramunga Arr**	29.92	165	*e*P	P	15 37 39.8	-1.8
WB2				*e*S	S	15 42 29.1	-3.6
MBWA	**Marble Bar**	30.82	192	*e*P	P	15 37 49.1	-0.4
	comp=Z,10nm,0.5s,mb4.8						
BJT	**Baijiatuau**	32.09	345	*e*P	P	15 37 58.5	-2.0
	comp=Z,6.1nm,0.6s,mb4.5						
SNY	**Shenyang**	32.66	356	⇓P	P	15 38 05.8	+0.4
SNY				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.9						
ASAR	**Alice Springs**	33.40	168	P	P	15 38 10.6	-1.5
	comp=Z,9.1nm,0.5s,mb4.8,baz=351,slow=7.2,SNR=225						
ASAR				ScP		15 44 40.4	
	comp=Z,1.8nm,0.7s,baz=346,slow=2.6,SNR=5.3						
ASPA	**Alice Springs**	33.40	168	*e*P	P	15 38 11.1	-0.9
ASPA				*e*S	S	15 43 25.3	-1.8
CTA	**Charters Tower**	34.98	146	*e*P	P	15 38 26.1	+0.6
	comp=Z,9.5nm,0.8s,mb4.7						
CTA	**Charters Tower**	34.98	146	P	P	15 38 26.4	+0.8
	comp=Z,10nm,0.8s,mb4.7,baz=321,slow=12,SNR=14						
CTA	**Charters Tower**	34.98	146	P	P	15 38 26.4	+0.9
CTA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CTAO	**Charters Tower**	34.98	146	*e*P	P	15 38 25.7	+0.1
	comp=Z,11nm,0.8s,mb4.7						
MDJ	**Mudanjiang**	35.46	4	P	P	15 38 31.1	+1.7
MDJ				AMB	AMB		
	comp=Z,31nm,1.2s,mb5.0						
MDJ				AMB	AMB		
	comp=Z,622nm,7.3s						
MDJ	**Mudanjiang**	35.46	4	*e*P	P	15 38 31.1	+1.7
	comp=Z,38nm,1.1s,mb5.1						
SHL	**Shillong**	36.66	301	⇑*i*P	P	15 38 39.2	-0.5
ASAJ	**Asahikawa**	37.58	19	P	P	15 38 49.5	+2.4
	comp=Z,16nm,0.6s,mb5.0,baz=240,slow=13,SNR=20						
ASAJ	**Asahikawa**	37.58	19	P	P	15 38 49.6	+2.4
ASAJ				pmax	pmax		
	comp=Z,16nm,0.6s						
LSA	**Lhasa**	38.83	307	P	P	15 38 58.7	+0.9
FORT	**Forrest**	39.71	178	*e*P	P	15 39 05.4	+0.3
	comp=Z,176nm,0.5s						
YSS	**Yuzh-Sakhalins**	40.17	17	*e*P	P	15 39 08.0	-0.7
YSS	**Yuzh-Sakhalins**	40.17	17	*e*P	P	15 39 10.2	+1.4
	comp=Z,8.6nm,0.5s,mb4.8						
KLR	**Kul’dur**	40.21	5	*e*P	P	15 39 09.9	+0.9
HIA	**Hailar**	40.40	353	*e*P	P	15 39 09.3	-1.3
	comp=Z,18nm,1.2s,mb4.8						
KLBR	**Kellerberrin**	41.34	191	*e*P	P	15 39 19.0	+0.5
	comp=Z,141nm,1.8s,mb5.5						
SONM	**Songino Array**	42.14	340	P	P	15 39 24.3	-0.5
	comp=Z,0.8nm,0.5s,mb3.7,baz=164,slow=8.9,SNR=9.2						
SONM				ScP		15 45 12.9	
	comp=Z,1.7nm,0.9s,baz=159,slow=1.9,SNR=5.4						
SONM	**Songino Array**	42.14	340	P	P	15 39 24.3	-0.6
SONM				ScP		15 45 12.9	
NWAO	**Narrogin (SRO)**	42.73	191	P	P	15 39 30.6	+0.6
	comp=Z,26nm,0.7s,mb5.1,baz=28,slow=6.4,SNR=18						
NWAO	**Narrogin (SRO)**	42.73	191	P	P	15 39 30.6	+0.6
NWAO				pmax	pmax		
	comp=Z,26nm,0.7s						
PKI	**Pulchoki**	42.79	301	*e*P	P	15 39 29.3	-1.2
	comp=Z,33nm,1.2s,mb4.9						
PKI				*e*P		15 45 07.1	
KKN	**Kakani**	42.97	301	*e*P	P	15 39 31.3	-0.7
	comp=Z,38nm,1.1s,mb5.0						
KKN				*e*P		15 45 07.3	
DMN	**Daman**	43.06	301	*e*P	P	15 39 31.7	-1.0
DMN				*e*P		15 45 08.3	
STKA	**Stephens Creek**	43.28	161	*e*P	P	15 39 33.8	-0.6
	comp=Z,8.1nm,0.3s,mb4.9						
STKA	**Stephens Creek**	43.28	161	P	P	15 39 34.3	-0.2
	comp=Z,11nm,0.4s,mb4.9,baz=342,slow=7.4,SNR=49						
GKN	**Gorkha**	43.57	301	*e*P	P	15 39 35.9	-1.0
	comp=Z,7.8nm,0.5s,mb4.7						
GKN				*e*P		15 45 08.5	
KOLN	**Koldanda**	44.38	301	*e*P	P	15 39 42.6	-0.8
	comp=Z,27nm,0.7s,mb5.1						
KOLN				*e*P		15 45 11.5	
ADE	**Adelaide**	45.37	166	*e*P	P	15 39 53.1	+1.9
ZAK	**Zakamensk**	45.38	339	*e*P	P	15 39 54.4	+3.3
CUD	**Cuddapah**	46.90	281	*e*P	P	15 40 04.6	+1.0
HYB	**Hyderabad**	47.23	285	*i* P	P	15 40 06.5	+0.4
HYB	**Hyderabad**	47.23	285	*e*P	P	15 40 06.5	+0.4
CNB	**Canberra Magne**	49.23	155	*e*P	P	15 40 22.0	+0.7
	comp=Z,31nm,1.3s,mb5.1						
BOD	**Bodaibo**	49.51	351	*e*P	P	15 40 21.4	-1.8
BOD				*e*		15 40 29.0	
TOO	**Toolangi**	49.76	160	*e*P	P	15 40 26.3	+0.8
	comp=Z,14nm,1.3s,mb4.8						
POO	**Poona**	51.76	286	*e*	P	15 40 40.0	-0.8
YAK	**Yakutsk**	52.85	2	*e*P	P	15 40 49.5	+1.1
YAK				pmax	pmax		
	comp=Z,14nm,0.9s,mb5.0						
MKAR	**Makanchi Array**	53.03	323	P	P	15 40 48.4	-1.6
	comp=Z,7.6nm,0.6s,mb4.9,baz=115,slow=6.4,SNR=42						
MKAR				ScP		15 45 59.2	
	comp=Z,1.6nm,0.8s,baz=98,slow=4.5,SNR=4.8						
MKAR	**Makanchi Array**	53.03	323	P	P	15 40 48.4	-1.6
MKAR				pmax	pmax		
	comp=Z,8.0nm,0.6s						
MKAR				pmax	pmax		
	comp=N,2.0nm,0.8s						
MA2	**Magadan**	53.58	15	*e*P	P	15 40 54.5	+0.7
MA2				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.7						
MA2	**Magadan**	53.58	15	*e*P	P	15 40 54.5	+0.7
	comp=Z,10nm,0.6s,mb5.0						
AAK	**Ala-Archa**	56.25	316	*e*P	P	15 41 11.5	-1.9
	comp=Z,16nm,1.5s,mb4.8						
SEY	**Seymchan**	56.88	14	*e*P	P	15 41 22.3	+4.7
SEY				*e*		15 41 30.6	
NVS	**Novosibirsk**	56.98	332	*e*P	P	15 41 15.6	-2.8
KURK	**Kurchatov**	57.10	326	P	P	15 41 17.1	-2.2
	comp=Z,90nm,0.5s,SNR=11						
KURK	**Kurchatov**	57.10	326	*e*P	P	15 41 17.7	-1.7
	comp=Z,11nm,0.8s,mb4.9						
TIXI	**Tiksi**	62.48	1	*e*P	P	15 41 55.8	-0.1
TIXI				*i*		15 42 04.9	
TIXI				*e*		15 42 34.4	
TIXI				*e*		15 44 12.6	
TIXI				*i*		15 50 21.2	
TIXI				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.7						
BVAR	**Borovoye Array**	62.69	326	P	P	15 41 56.0	-1.7
	comp=Z,4.8nm,0.8s,mb4.5,baz=121,slow=8.6,SNR=23						
BRVK	**Borovoye**	62.77	326	*e*P	P	15 41 56.4	-1.7
	comp=Z,5.5nm,0.8s,mb4.5						
ZRNK	**Zerenda**	63.44	325	*e*P	P	15 42 00.8	-1.8
	comp=Z,8.9nm,0.8s,mb4.8						
RPZ	**Rata Peaks**	66.35	146	P	P	15 42 22.1	+0.6
	comp=Z,12nm,0.4s,mb5.0,baz=351,slow=8.2,SNR=16						
URZ	**Urewera**	66.70	138	P	P	15 42 24.2	+0.4
	comp=Z,5.8nm,1.0s,mb4.4,baz=210,slow=6.7,SNR=2.1						
URZ				LR	LR	16 07 59.9	
	comp=Z,688nm,19.4s,baz=247,slow=33						
ARU	**Arti**	70.27	327	⇑*i*P	P	15 42 44.3	-1.2
ARU				*e*	pP	15 43 05.2	+1.0
ARU				*e*		15 45 24.8	
ARU				*e*PPP	PPP	15 47 00.7	-3.2
ARU				*e*S	S	15 51 55.1	+4.5
ARU				*e*		15 52 39.4	
ARU				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.7						
ARU	**Arti**	70.27	327	*e*P	P	15 42 44.1	-1.3
	comp=Z,10.0nm,0.5s,mb4.9						
CASY	**Casey**	76.11	187	*e*P	P	15 43 19.8	+0.3
	comp=Z,11nm,0.8s,mb4.6						
MIR	**Mirnyy**	79.32	193	⇑*e*P	P	15 43 37.5	+0.3
MIR				pmax	pmax		
	comp=Z,70nm,1.3s,mb5.3						
COLA	**College**	79.97	26	*e*P	P	15 43 41.6	+0.8
ILAR	**Eielson Array**	80.39	26	P	P	15 43 43.5	+0.5
	comp=Z,3.7nm,0.6s,mb4.4,baz=240,slow=4.9,SNR=72						
ILAR	**Eielson Array**	80.39	26	P	P	15 43 43.5	+0.5
ILAR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
TATS	**Tathlith**	80.42	288	P	P	15 43 39.4	-4.7
DJNS	**Zahran al Janu**	80.56	286	P	P	15 43 50.5	+5.6
OBN	**Obninsk**	82.51	325	*e*P	P	15 43 54.0	-0.2
OBN				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.7						
APA	**Apatity**	82.79	337	⇑*i*P	P	15 43 55.8	+0.4
APA				*i*		15 44 06.4	
APA				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.0						
MALT	**Malatya**	82.86	308	*e*P	P	15 43 57.4	+1.0
	comp=Z,5.7nm,0.9s,mb4.4						
DAWY	**Dawson**	83.68	26	*e*P	P	15 44 02.6	+2.6
KEV	**Kevo**	84.75	340	*e*p	P	15 44 02.4	-2.8
	comp=Z,1.0nm,0.3s,mb4.2						
KEV	**Kevo**	84.75	340	*e*P	P	15 44 02.4	-2.8
KEV				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.2						
ARCES	**ARCESS Array B**	85.31	340	P	P	15 44 08.8	+0.8
	comp=Z,3.7nm,0.6s,mb4.5,baz=79,slow=6.2,SNR=17						
ARCES	**ARCESS Array B**	85.31	340	P	P	15 44 08.8	+0.8
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.6s						
BRTR	**Keskin Array B**	86.38	309	P	P	15 44 12.9	-1.0
	comp=Z,0.5nm,0.5s,mb3.7,baz=72,slow=7.6,SNR=2.8						
BRTR	**Keskin Array B**	86.38	309	P	P	15 44 12.9	-1.0
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KAF	**Kangasniemi**	86.71	332	*e*p	P	15 44 13.6	-1.3
	comp=Z,0.6nm,0.3s,mb4.0						
KAF	**Kangasniemi**	86.71	332	*e*P	P	15 44 13.6	-1.3
KAF				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.2						
EIL	**Elat**	86.83	299	*e*P	P	15 44 16.3	-0.1
	comp=Z,3.8nm,0.3s,mb4.8						
FINES	**FINESS Array B**	86.97	332	P	P	15 44 16.1	-0.2
	comp=Z,1.8nm,0.4s,mb4.4,baz=90,slow=5.7,SNR=13						
FINES	**FINESS Array B**	86.97	332	P	P	15 44 16.1	-0.1
FINES				pmax	pmax		
	comp=Z,2.0nm,0.4s						
CSS	**Prodhromos**	87.37	305	*e*P	P	15 44 19.0	+0.2
	comp=Z,12nm,0.6s,mb5.0						
AKASG	**Malin Array Be**	87.55	321	P	P	15 44 18.6	-0.7
	comp=Z,2.0nm,0.6s,mb4.4,baz=58,slow=5.3,SNR=10.0						
AKASG	**Malin Array Be**	87.55	321	P	P	15 44 18.6	-0.7
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MAW	**Mawson**	88.69	200	P	P	15 44 26.0	+1.6
	comp=Z,5.9nm,0.5s,mb4.9,baz=45,slow=9.3,SNR=5.4						
MAW	**Mawson**	88.69	200	P	P	15 44 26.0	+1.6
MAW				pmax	pmax		
	comp=Z,6.0nm,0.5s						
KMBO	**Kilima Mbogo**	89.38	269	P	P	15 44 29.9	+1.1
	comp=Z,5.8nm,1.0s,mb4.6,baz=42,slow=7.9,SNR=10						
NB2	**NORSAR Subarra**	93.85	334	P	P	15 44 48.4	+0.1
	comp=Z,3.3nm,1.1s,mb4.6,baz=68,slow=4.5						
NB2	**NORSAR Subarra**	93.85	334	P	P	15 44 48.4	+0.1
	baz=68,slow=4.4						
NOA	**NORSAR Array B**	93.85	334	P	P	15 44 52.8	+4.4
	comp=Z,1.2nm,1.0s,mb4.2,baz=39,slow=4.3,SNR=2.4						
NOA				LR	LR	16 35 21.7	
	comp=Z,248nm,18.5s,baz=335,slow=41						
NOA	**NORSAR Array B**	93.85	334	P	P	15 44 52.8	+4.5
NOA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
NOA				MLR	MLR		
	comp=Z,248nm,18.5s						
YKA	**Yellowknife Ar**	94.72	24	P	P	15 44 53.8	+1.5
	comp=Z,1.2nm,0.5s,mb4.6,baz=299,slow=4.5,SNR=3.8						
YKA	**Yellowknife Ar**	94.72	24	P	P	15 44 53.8	+1.5
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
QSPA	**South Pole Qui**	99.00	180	*e*P	P	15 45 12.3	+0.8
	comp=Z,3.7nm,1.1s,mb4.8						
TXAR	**Lajitas Array**	118.43	50	PKP	PKPdf	15 50 22.6	+4.6
	comp=Z,0.2nm,0.6s,baz=180,slow=0.9,SNR=2.8						
KIC	**Kosan Boka**	128.97	286	*e*P	PKPdf	15 50 42.1	+3.2
	comp=Z,387nm,2.3s						
DBIC	**Dimbokro**	128.99	286	PKP	PKPdf	15 50 42.6	+3.7
	comp=Z,2.2nm,0.9s,baz=32,slow=9.5,SNR=2.5						
DBIC	**Dimbokro**	128.99	286	PKIKP	PKPdf	15 50 42.6	+3.7
DBIC				pmax	pmax		
	comp=Z,2.0nm,0.9s						
TIC	**Toumodi**	129.15	286	*e*P	PKPdf	15 50 41.0	+1.7
	comp=Z,9.5nm,0.2s						
LIC	**Lamto**	129.28	286	*e*P	PKPdf	15 50 39.8	+0.3
	comp=Z,72nm,1.8s						
TRQA	**Tornquist**	150.22	167	*e*PKPbc	PKPdf	15 51 23.4	+7.4

NEIC ***06*** *15:51:11.6±1.3, 51.59N×16.14E, h5^{km}, ML3.0(VIE), ML2.8(SZGRF), ML2.8(CLL), ML2.3(BRG), Error ellipse: s-maj=13.9km s-min=5.5km az=195.0*

PRU ***06*** *15:51:13.4, 51.50N×16.06E*

WAR ***06*** *15:51:13.7, 51.52N×16.06E, ML2.9, Mining Induced*

ISC 06 15:51:11.2±0.8**, 51.48N**±0.04×**16.06E**±0.04**, n18, σ1^{s}25**/37**, 1C, Poland**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	0.66	167	*e*PG	Pg	15 51 26.0	+1.7
KSP				*e*SG	Sg	15 51 35.0	+2.0
KSP	**Ksiaz**	0.66	167	*i* Pg	Pg	15 51 26.4	+2.1
KSP				*e*Sg	Sg	15 51 35.5	+2.5
KSP				*e*		15 51 39.4	
UPC	**Upice**	0.97	182	*e*PG	Pg	15 51 32.2	+1.6
DPC	**Dobruska-Polom**	1.15	171	*e*PG	Pg	15 51 35.2	+1.2
DPC				*e*SG	Sg	15 51 50.0	+0.7
	18nm,0.2s						
PVCC	**Panska Ves**	1.34	225	*e*PG	Pg	15 51 39.1	+1.2
BRG	**Berggiesshubel**	1.46	246	*i* Pg	Pg	15 51 40.7	+0.4
BRG				*i* Sg	Sg	15 52 00.8	+1.0
PRU	**Pruhonice**	1.78	213	*e*PN	Pn	15 51 44.4	+1.0
PRU				PG	Pg	15 51 46.3	-0.3
PRU				*i* x	x	15 52 02.8	
PRU				SG	Sg	15 52 10.1	-0.2
	31nm,0.3s						
CLL	**Collm**	1.92	266	*e*PN	Pn	15 51 46.0	+0.6
CLL				*i* PG	Pg	15 51 48.9	-0.6
CLL				*i*		15 51 52.5	
CLL				*e*SG	Sg	15 52 14.0	-1.1
CLL	**Collm**	1.92	266	*e*Pn	Pn	15 51 46.0	+0.6
CLL				*i* Pg	Pg	15 51 48.9	-0.6
CLL				*e*Sg	Sg	15 52 14.0	-1.1
MORC	**Moravsky Berou**	1.95	150	*e*Pn	Pn	15 51 45.2	-0.6
MORC				*e*Sg	Sg	15 52 15.3	-0.8
OKC	**Ostrava-Krasne**	2.12	140	*e*PG	Pg	15 51 52.9	-0.5
OKC				*e*SG	Sg	15 52 20.5	-1.1
OJC	**Ojcow**	2.69	117	*e*PG	Pg	15 52 03.0	-1.8
OJC				*e*(SG)	Sg	15 52 39.0	-1.6
OJC	**Ojcow**	2.69	117	*e*Pg	Pg	15 52 03.3	-1.5
OJC				*e*Sg	Sg	15 52 39.1	-1.5
KHC	**Kasperske Hory**	2.84	215	*e*PN	Pn	15 51 59.1	+0.6
KHC				*e*PG	Pg	15 52 05.5	-2.3
KHC				*e*x	x	15 52 30.0	
KHC				*e*SG	Sg	15 52 43.3	-2.3
MOX	**Moxa**	2.92	255	*e*Pg	Pg	15 52 08.6	-0.9
MOX				*e*Sg	Sg	15 52 47.5	-1.0
GEC2	**GERESS Array S**	3.04	211	*e*Pn	Pn	15 52 03.5	+2.1
WET	**Wettzell**	3.10	222	*e*Pn	Pn	15 52 03.7	+1.4
WET				*e*Sg	Sg	15 52 52.8	-1.6
MOA	**Molln**	3.82	198	⇑*i*PN	Pn	15 52 13.8	+1.4
MOA				*i* SG	Sg	15 53 17.5	-0.7
	4.8nm,0.4s						

PRE 06 15:52:57.9±1.8**, 26.40S×27.41E, h2^{km}, ML4.0, South Africa**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSR	**Koster**	0.70	319	*e*P	Pg	15 53 10.1	-1.8
KSR				*e*S	Sg	15 53 18.0	-3.2
KSR				*e*		15 53 22.8	
	comp=Z,648nm,0.3s						
SLR	**Silverton**	1.03	50	*e*P	Pb	15 53 16.8	-1.3
SLR				*e*S	Sb	15 53 30.4	-1.5
SLR				*e*		15 53 36.0	
	comp=Z,980nm,0.2s						
NWL	**Newcastle**	2.63	121	*e*P	Pn	15 53 40.3	-1.7
NWL				*e*S	Sn	15 54 11.4	-3.5
NWL				*e*		15 54 26.0	
	comp=Z,644nm,0.5s						
BOSA	**Boshof**	2.92	220	*e*P	Pn	15 53 45.7	-0.5
BOSA				*e*S	Sn	15 54 19.3	-3.1
PKA	**Prieska**	5.24	231	*e*S	Sn	15 55 12.5	-8.6
PKA				*e*		15 55 17.9	
	comp=Z,119nm,0.6s						
UPI	**Upington**	5.81	249	*e*S	Sn	15 55 26.2	-9.1
UPI				*e*		15 56 03.4	
	comp=Z,34nm,0.6s						
CVNA	**Calvinia**	8.39	231	*e*P	P	15 54 44.2	-19
CVNA				*e*		15 55 02.4	
	comp=Z,754nm,0.6s						
CVNA				*e*S	Sn	15 55 58.2	-42

JMA ***06*** *15:53:46.9±0.1, 33.01N×136.95E, h37^{km}, M3.8*

ISC 06 15:53:47.5±1.4**, 33.04N**±0.08×**136.95E**±0.05**, h37^{km}, n11, σ0^{s}53**/21**, 2C-3D, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TK01	**Tokai 1**	0.90	36	S	S	15 54 15.2	-0.4
TK02	**Tokai 2**	1.12	37	P	P	15 54 06.7	-0.2
TK02				S	S	15 54 21.5	0.0
JWZ	**Kozaga**	1.14	295	⇑P	P	15 54 06.9	-0.3
JWZ				S	S	15 54 20.9	-1.1
JKN	**Kiinagashima**	1.33	335	P	P	15 54 10.2	+0.2
JKN				S	S	15 54 26.2	-0.5
JIE	**Ise**	1.36	351	⇓P	P	15 54 10.9	+0.5
JIE				S	S	15 54 28.3	+0.8
TK04	**Tokai 4**	1.54	30	P	P	15 54 12.8	-0.2
TK04				S	S	15 54 32.0	0.0
JWM	**Minabe**	1.56	301	P	P	15 54 13.2	0.0
JWM				S	S	15 54 31.8	-0.6
JWY	**Kouya**	1.63	316	⇑P	P	15 54 14.9	+0.7
JWY				S	S	15 54 34.7	+0.5
TSUJ	**Tsu 2**	1.72	345	⇓P	P	15 54 16.0	+0.5
TSUJ				S	S	15 54 36.6	+0.1
JHE	**Heguri**	1.92	327	⇓P	P	15 54 18.9	+0.5
JHE				S	S	15 54 41.9	+0.4
MAT	**Matsushiro**	3.64	16	P	P	15 54 43.2	+0.3
MAT				S	S	15 55 24.1	-1.1

*MOS **06** 16:01:13.1±0.7, 3.50S×102.10E, h33^{km}, mb5.6/17, Error ellipse: s-maj=20.7km s-min=8.4km az=110.6*
*SYO **06** 16:01:14.2, 4.00S×102.25E, h49^{km}, MB5.4*
*BJI **06** 16:01:15.3, 4.43S×102.16E, h107^{km}, mB5.4, mb5.4*
*NEIC **06** 16:01:18.0±0.8, 4.04S×102.24E, h82^{km}±6^{km}, mb5.2/45, Error ellipse: s-maj=6.5km s-min=3.8km az=45.0*
NEIC Felt [II] at Bengkulu.
*IDC **06** 16:01:18.1±2.6, 4.08S×102.22E, h84^{km}±23^{km}, mb5.0/25, mb1 5.1/25, mb1mx5.1/25, MS4.3/5, Ms1 4.3/5, ms1mx4.0/22, Error ellipse: s-maj=17.9km s-min=8.0km az=43.0*
ISC 06 16:01:15.2±1.0**, 4.04S**±0.03×**102.19E**±0.03**, h72**^{km}±9^{km}**,**
h57^{km}±3.6^{km}**:pP-P, n326,** σ1^{s}**00**/259**, mb5.2**/98**, 28C-14D,**
Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KGM	**Kluang**	**6.12**	**11**	⇓*i*P	**P**	**16 02 46.8**	**+1.9**
	608nm,0.9s						
KLM	**Kuala Lumpur**	**7.12**	**356**	*e*P	**P**	**16 03 02.0**	**+3.2**
IPM	**Ipoh**	**8.64**	**352**	⇓*e*P	**P**	**16 03 19.0**	**-0.6**
	64nm,0.9s						
SNG	**Songkhla**	**11.25**	**352**	P	**P**	**16 03 52.0**	**-3.2**
	170nm,0.8s						
KKM	**Kota Kinabalu**	**17.22**	**55**	⇓*e*P	**P**	**16 05 15.3**	**+2.7**
UBT	**Ubonrachathani**	**19.37**	**8**	⇓P	**P**	**16 05 38.0**	**+0.2**
NST	**Nakhon Sawan**	**19.69**	**354**	P	**P**	**16 05 39.5**	**-1.8**
BATP	**Bataraza**	**20.12**	**51**	*e*P	**P**	**16 05 47.4**	**+1.5**
KKTK	**Khon Kaen**	**20.26**	**2**	⇓P	**P**	**16 05 47.0**	**-0.3**
BDT	**Bhumibol Dam**	**21.38**	**352**	P	**P**	**16 05 57.0**	**-1.7**
	16nm,0.8s,mb4.4						
PPR	**Puerto Princes**	**21.45**	**50**	⇑*i*P	**P**	**16 06 01.7**	**+2.3**
CMAR	**Chiang Mai Arr**	**22.58**	**352**	P	**P**	**16 06 09.4**	**-1.2**
	32nm,0.7s,mb4.8,baz=182,slow=8.9,SNR=129						
CMAR				LR	LR	16 15 16.2	
	comp=Z,408nm,19.6s,baz=175,slow=37						
NANT	**Nan**	**22.74**	**356**	⇑P	**P**	**16 06 12.0**	**-0.2**
ENPP	**El Nido**	**22.88**	**48**	*e*P	**P**	**16 06 15.0**	**+1.4**
CHG	**Chiang Mai**	**22.93**	**352**	⇓P	**P**	**16 06 14.2**	**+0.2**
	42nm,0.6s,mb4.9						
IPIL	**Ipil**	**23.49**	**60**	*e*P	**P**	**16 06 22.0**	**+2.6**
CHRT	**Chiangrai**	**23.88**	**354**	⇑P	**P**	**16 06 23.5**	**+0.4**
	455nm,0.5s,mb6.1						
CUYO	**Cuyo Island**	**23.88**	**52**	*e*P	**P**	**16 06 25.4**	**+2.2**
BUSP	**Coron**	**23.98**	**48**	*e*P	**P**	**16 06 26.2**	**+2.1**
MBWA	**Marble Bar**	**24.09**	**136**	*e*P	**P**	**16 06 24.4**	**-0.7**
	38nm,1.0s,mb4.7						
QIZ	**Qiongzhong**	**24.13**	**18**	P	**P**	**16 06 27.2**	**+1.6**
QIZ	**Qiongzhong**	**24.13**	**18**	*e*P	**P**	**16 06 27.1**	**+1.5**
	131nm,1.0s,mb5.2						
PALK	**Pallekele**	**24.21**	**298**	*e*P	**P**	**16 06 28.1**	**+1.7**
	30nm,1.1s,mb4.5						
PAGZ	**Pagadian**	**24.22**	**61**	*e*P	**P**	**16 06 29.6**	**+3.1**
SJMP	**San Jose**	**24.95**	**49**	*e*P	**P**	**16 06 35.2**	**+1.6**
LUBP	**Lubang**	**25.16**	**45**	*e*P	**P**	**16 06 36.8**	**+1.2**
KCP	**Kidapawan**	**25.36**	**64**	⇑*i*P	**P**	**16 06 31.5**	**-5.9**
OTRP	**Odiongan**	**25.58**	**50**	*e*P	**P**	**16 06 39.4**	**-0.1**
BUKP	**Musuan**	**25.71**	**63**	*e*P	**P**	**16 06 41.6**	**+0.9**
TGY	**Tagaytay City**	**25.90**	**46**	P	**P**	**16 06 43.8**	**+1.4**
	254nm,0.8s,mb5.7,baz=267,slow=18,SNR=7.0						
TGY				LR	LR	16 16 43.0	
	comp=Z,579nm,20.8s,baz=245,slow=36						
FITZ	**Fitzroy Crossi**	**26.87**	**123**	*e*P	**P**	**16 06 49.8**	**-1.6**
	38nm,0.7s,mb5.0						
FITZ	**Fitzroy Crossi**	**26.87**	**123**	P	**P**	**16 06 50.1**	**-1.3**
	106nm,1.2s,mb5.3,baz=321,slow=3.9,SNR=91						
FITZ				LR	LR	16 18 20.3	
	comp=Z,226nm,19.5s,baz=78,slow=38						
KMI	**Kunming**	**28.99**	**1**	⇑*e*P	**P**	**16 07 11.2**	**+0.7**
KMI				PP	PP	16 08 09.3	+2.7
KMI				S	**S**	**16 12 02.7**	**+7.8**
KMI				SS	SS	16 13 32.3	+3.9
KMI				AMB	AMB		
	comp=Z,43nm,0.8s,mb5.1						
KMI				AMB	AMB		
	comp=Z,368nm,5.1s						
KMI				LR	LR		
	comp=N,697nm,21.9s						
KMI				LR	LR		
	comp=E,625nm,16.7s						
KMI				LR	LR		
	comp=Z,662nm,15.6s						
CUD	**Cuddapah**	**29.62**	**309**	*e*P	**P**	**16 07 16.7**	**+0.5**
GYA	**Guiyang**	**30.63**	**8**	⇑*i*P	**P**	**16 07 24.6**	**-0.3**
GYA				PP	PP	16 08 26.2	-1.4
GYA				S	**S**	**16 12 20.3**	**-0.3**
GYA				AMB	AMB		
	comp=Z,70nm,0.8s,mb5.4						
GYA				LR	LR		
	comp=N,1µm,16.4s						
GYA				LR	LR		
	comp=E,2µm,15.8s						
GYA				LR	LR		
	comp=Z,2µm,16.7s						
KAKA	**Kakadu**	**31.07**	**108**	*e*P	**P**	**16 07 25.6**	**-3.4**
	comp=Z,13nm,0.6s,mb4.8						
SHL	**Shillong**	**31.08**	**342**	*e*P	**P**	**16 07 29.0**	**0.0**
SHL				*e*		16 14 02.2	
HYB	**Hyderabad**	**31.61**	**313**	*i* P	**P**	**16 07 33.0**	**-0.6**
NWAO	**Narrogin (SRO)**	**32.00**	**156**	P	**P**	**16 07 36.0**	**-0.9**
	comp=Z,18nm,1.1s,mb4.7,baz=194,slow=17,SNR=4.7						
NWAO				LR	LR	16 18 37.3	
	comp=Z,755nm,19.1s,baz=299,slow=32						
NWAO	**Narrogin (SRO)**	**32.00**	**156**	P	**P**	**16 07 36.0**	**-0.9**
NWAO				LR	LR	16 18 37.3	
CD2	**Chengdu**	**34.79**	**2**	⇓*i*P	**P**	**16 08 00.1**	**-0.8**
CD2				AMB	AMB		
	comp=Z,60nm,0.9s,mb5.4						
ENH	**Enshi**	**34.83**	**11**	*e*P	**P**	**16 08 00.5**	**-0.8**
	comp=Z,47nm,0.8s,mb5.4						
WRA	**Warramunga Arr**	**35.09**	**119**	P	**P**	**16 08 02.2**	**-1.4**
	comp=Z,12nm,0.4s,mb5.1,baz=302,slow=9.0,SNR=322						
WRA				S	**S**	**16 13 30.1**	**0.0**
	comp=Z,4.9nm,1.0s,baz=298,slow=16,SNR=5.8						
WRA				P3KPbc		16 38 54.7	
	comp=Z,1.0nm,0.6s,baz=104,slow=4.1,SNR=16						
WRA	**Warramunga Arr**	**35.09**	**119**	P	**P**	**16 08 02.2**	**-1.4**
WRA				S	**S**	**16 13 30.1**	**0.0**
WRA				*e*		16 38 54.7	
WRAB	**Tennant Creek**	**35.09**	**119**	*e*P	**P**	**16 08 02.3**	**-1.4**
	comp=Z,31nm,0.7s,mb5.2						
WB2	**Warramunga Arr**	**35.10**	**119**	*e*P	**P**	**16 08 02.3**	**-1.4**
WB2				*e*S	**S**	**16 13 29.5**	**-0.7**
LSA	**Lhasa**	**35.18**	**343**	P	**P**	**16 08 04.7**	**+0.4**
PKI	**Pulchoki**	**35.35**	**334**	*e*P	**P**	**16 08 05.8**	**0.0**
	comp=Z,89nm,0.6s,mb5.8						
DMN	**Daman**	**35.52**	**333**	*e*P	**P**	**16 08 07.3**	**+0.1**
	comp=Z,102nm,0.7s,mb5.9						
KKN	**Kakani**	**35.60**	**334**	*e*P	**P**	**16 08 07.9**	**0.0**
	comp=Z,191nm,0.5s,mb6.3						
POO	**Poona**	**35.81**	**310**	*e*P	**P**	**16 08 10.0**	**+0.2**
POO				AMb	AMB	16 08 11.1	
	comp=Z,28nm,0.5s,mb5.4						
GKN	**Gorkha**	**36.07**	**333**	*e*P	**P**	**16 08 12.1**	**+0.2**
	comp=Z,138nm,0.4s,mb6.3						
ASPA	**Alice Springs**	**36.29**	**125**	⇑*i*P	**P**	**16 08 13.0**	**-0.8**
ASPA				*e*		16 08 19.4	
ASPA				*e*S	**S**	**16 13 49.5**	**+0.9**
ASAR	**Alice Springs**	**36.30**	**125**	P	**P**	**16 08 13.1**	**-0.7**
	comp=Z,30nm,0.9s,mb5.2,baz=298,slow=7.8,SNR=187						
ASAR				PcP	PcP	16 10 37.5	-0.2
	comp=Z,6.5nm,1.0s,baz=282,slow=2.2,SNR=5.4						
ASAR				S	**S**	**16 13 48.4**	**-0.2**
	comp=Z,4.6nm,0.7s,baz=297,slow=16,SNR=6.5						
ASAR				P3KPbc		16 38 48.6	
	comp=Z,0.5nm,0.7s,baz=103,slow=4.2,SNR=7.4						
ASAR	**Alice Springs**	**36.30**	**125**	P	**P**	**16 08 13.1**	**-0.7**
ASAR				PcP	PcP	16 10 37.5	-0.2
ASAR				S	**S**	**16 13 48.4**	**-0.2**
ASAR				*e*		16 38 48.6	
WHN	**Wuhan**	**36.30**	**18**	⇓P	**P**	**16 08 14.8**	**+1.0**
WHN				AMB	AMB		
	comp=Z,60nm,0.8s,mb5.6						
BHPL	**Bhopal**	**36.32**	**319**	*e*P	**P**	**16 08 14.6**	**+0.6**
BHPL				AMb	AMB	16 08 15.4	
	comp=Z,27nm,0.8s,mb5.2						
KOLN	**Koldanda**	**36.35**	**332**	*e*P	**P**	**16 08 14.7**	**+0.4**
	comp=Z,212nm,0.7s,mb6.2						
XAN	**Xi'an**	**38.40**	**9**	P	**P**	**16 08 31.0**	**-0.3**
XAN				AMB	AMB		
	comp=Z,89nm,0.7s,mb5.7						
NJ2	**Nanjing**	**39.24**	**23**	*e*P	**P**	**16 08 36.2**	**-2.1**
NJ2				S	**S**	**16 14 27.0**	**-6.2**
NJ2				AMB	AMB		
	comp=Z,80nm,0.7s,mb5.7						
NJ2				LR	LR		
	comp=N,2µm,19.4s						
NJ2				LR	LR		
	comp=E,2µm,19.8s						
NJ2				LR	LR		
	comp=Z,2µm,15.4s						
SSE	**Sheshan**	**39.36**	**26**	*e*P	**P**	**16 08 39.6**	**+0.3**
SSE				AMB	AMB		
	comp=Z,34nm,1.8s,mb4.9						
SSE				AMB	AMB		
	comp=Z,463nm,4.4s						
PTH	**Pithoragarh**	**39.49**	**329**	*e*P	**P**	**16 08 42.0**	**+1.6**
LZH	**Lanzhou**	**39.95**	**2**	P	**P**	**16 08 45.1**	**+1.0**
LZH				AMB	AMB		
	comp=Z,100nm,1.0s,mb5.6						
LZH				LR	LR		
	comp=N,2µm,18.0s						
LZH				LR	LR		
	comp=Z,2µm,20.1s						
NDI	**New Delhi**	**40.44**	**325**	*e*P	**P**	**16 08 46.0**	**-2.2**
GTA	**Gaotai**	**43.29**	**357**	P	**P**	**16 09 11.7**	**+0.1**
GTA				PP	PP	16 10 54.9	-0.3
GTA				PCP	PcP	16 10 59.9	-0.1
GTA				S	**S**	**16 15 37.4**	**+4.3**
GTA				SS	SS	16 18 44.3	+3.1
GTA				AMB	AMB		
	comp=Z,162nm,4.9s						
GTA				LR	LR		
	comp=N,314nm,18.6s						
GTA				LR	LR		
	comp=E,154nm,19.4s						
GTA				LR	LR		
	comp=Z,292nm,20.2s						
HHC	**Hu-ho-hao-te**	**45.49**	**10**	*e*P	**P**	**16 09 30.4**	**+1.2**
HHC				PP	PP	16 11 17.8	+0.6
HHC				PCS		16 15 02.0	
HHC				S	**S**	**16 16 08.5**	**+3.7**
HHC				SS	SS	16 19 21.5	+0.5
HHC				AMB	AMB		
	comp=Z,45nm,0.9s,mb5.2						
HHC				LR	LR		
	comp=N,966nm,16.0s						
HHC				LR	LR		
	comp=E,813nm,17.2s						
HHC				LR	LR		
	comp=Z,596nm,16.1s						
BJT	**Baijiatuau**	**45.69**	**15**	*e*P	**P**	**16 09 31.3**	**+0.5**
	comp=Z,50nm,0.6s,mb5.4						
ADE	**Adelaide**	**45.71**	**137**	*e*P	**P**	**16 09 31.7**	**+0.7**
BJI	**Beijing**	**45.71**	**15**	P	**P**	**16 09 31.4**	**+0.4**
BJI				AMB	AMB		
	comp=Z,63nm,0.6s,mb5.5						
CTA	**Charters Tower**	**45.77**	**114**	*e*P	**P**	**16 09 31.3**	**-0.3**
	comp=Z,28nm,1.0s,mb5.0						
CTA	**Charters Tower**	**45.77**	**114**	P	**P**	**16 09 31.1**	**-0.6**
	comp=Z,44nm,1.1s,mb5.1,baz=283,slow=11,SNR=19						
CTAO	**Charters Tower**	**45.77**	**114**	*e*P	**P**	**16 09 30.9**	**-0.7**
	comp=Z,60nm,1.1s,mb5.2						
JNU	**Nakatsue**	**45.87**	**34**	P	**P**	**16 09 32.3**	**0.0**
	comp=Z,19nm,1.1s,mb4.7,baz=95,slow=15,SNR=4.8						
STKA	**Stephens Creek**	**46.17**	**132**	*e*P	**P**	**16 09 34.5**	**-0.2**
	comp=Z,48nm,0.6s,mb5.4						
STKA	**Stephens Creek**	**46.17**	**132**	P	**P**	**16 09 34.5**	**-0.2**
	comp=Z,64nm,0.6s,mb5.5,baz=305,slow=7.5,SNR=206						
NIL	**Nilore**	**46.40**	**326**	P	**P**	**16 09 36.1**	**-0.4**
	comp=Z,238nm,0.6s,mb6.1,SNR=10						
WMQ	**Urumqi**	**49.40**	**346**	⇑*i*P	**P**	**16 10 00.1**	**+0.4**
WMQ				PCP	PcP	16 11 22.3	+0.9
WMQ				LR	LR		
	comp=Z,2µm,20.0s						
KSH	**Kashi**	**49.62**	**333**	P	**P**	**16 10 01.5**	**+0.1**
KSH				*e*PCP	PcP	16 11 24.1	+1.9
KSH				*e*PP	PP	16 11 57.2	+0.3
KSH				*e*PCS		16 15 19.0	
KSH				*e*S	**S**	**16 17 05.1**	**+2.2**
KSH				*e*SS	SS	16 20 33.5	+1.4
KSH				LR	LR		
	comp=N,150nm,4.0s						
KSH				LR	LR		
	comp=E,290nm,4.8s						
TOO	**Toolangi**	**51.73**	**136**	*e*P	**P**	**16 10 18.4**	**+0.9**
	comp=E,5.1nm,0.7s,mb4.7						
ULHL	**Ulahol**	**51.74**	**336**	P	**P**	**16 10 17.2**	**-0.3**
	SNR=23						
SONM	**Songino Array**	**51.79**	**4**	P	**P**	**16 10 18.3**	**+0.5**
	comp=E,86nm,0.7s,mb5.9,baz=186,slow=9.5,SNR=755						
SONM				PcP	PcP	16 11 29.5	-0.6
	comp=E,7.6nm,0.5s,baz=185,slow=4.3,SNR=7.0						
CN2	**Changchun**	**52.03**	**21**	⇑P	**P**	**16 10 18.0**	**-1.6**
CN2				*e*S	**S**	**16 17 40.0**	**+3.9**
CN2				AMB	AMB		
	comp=Z,60nm,0.7s,mb5.7						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,2µm,18.0s						
CN2				LR	LR		
	comp=E,2µm,18.0s						
CN2				LR	LR		
	comp=Z,2µm,19.0s						
UCH	**Uchtor**	**52.46**	**334**	P	**P**	**16 10 22.9**	**0.0**
	SNR=38						
MAJO	**Matsushiro**	**52.54**	**37**	*e*P	**P**	**16 10 21.6**	**-1.9**
	comp=Z,19nm,0.9s,mb5.1						
MAT	**Matsushiro**	**52.54**	**37**	P	**P**	**16 10 21.7**	**-1.8**
MAT	**Matsushiro**	**52.54**	**37**	*e*P	**P**	**16 10 22.0**	**-1.5**
	comp=Z,14nm,0.9s,mb5.0						
TKM2	**Tokmak 2**	**52.57**	**336**	P	**P**	**16 10 23.3**	**-0.4**
	SNR=96						
KBK	**Karagaybulak**	**52.62**	**335**	P	**P**	**16 10 24.2**	**+0.1**
	SNR=43						
AML	**Almayashu**	**52.74**	**334**	P	**P**	**16 10 25.0**	**0.0**
	SNR=29						
AAK	**Ala-Archa**	**52.80**	**334**	P	**P**	**16 10 25.2**	**-0.2**
	SNR=11						
AAK	**Ala-Archa**	**52.80**	**334**	*e*P	**P**	**16 10 24.1**	**-1.4**
	comp=Z,11nm,0.7s,mb5.0						
FRU	**Bishkek**	**52.91**	**335**	*e*P	**P**	**16 10 26.0**	**-0.3**
FRU				pmax	pmax		
	comp=Z,60nm,1.4s,mb5.4						
CHMS	**Chumysh**	**52.99**	**335**	P	**P**	**16 10 25.8**	**-1.0**
	SNR=13						
EKS2	**Erkin-Say**	**53.13**	**334**	P	**P**	**16 10 27.4**	**-0.5**
	SNR=95						
USP	**Ospenovka**	**53.31**	**335**	P	**P**	**16 10 28.2**	**-1.0**
	SNR=32						
CNB	**Canberra Magne**	**53.50**	**132**	*e*P	**P**	**16 10 30.5**	**-0.2**
	comp=Z,6.4nm,0.8s,mb4.7						
MKAR	**Makanchi Array**	**53.59**	**343**	P	**P**	**16 10 30.7**	**-0.5**
	comp=Z,116nm,0.5s,mb6.2,baz=154,slow=7.4,SNR=780						
MKAR	**Makanchi Array**	**53.59**	**343**	*e*P	**P**	**16 10 30.2**	**-1.0**
MKAR				pmax	pmax		
	comp=Z,29nm,0.5s						
ZAK	**Zakamensk**	**54.21**	**1**	⇓*i*P	**P**	**16 10 34.9**	**-0.8**
ZAK				*e*		16 11 38.9	
MDJ	**Mudanjiang**	**54.30**	**24**	P	**P**	**16 10 35.3**	**-1.2**
MDJ				AMB	AMB		
	comp=Z,18nm,1.1s,mb5.0						
MDJ	**Mudanjiang**	**54.30**	**24**	*e*P	**P**	**16 10 35.2**	**-1.2**
	comp=Z,17nm,0.9s,mb5.1						
KKAR	**Karatay Array**	**54.96**	**332**	*i* P	**P**	**16 10 39.5**	**-1.8**
KKAR				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
HIA	**Hailar**	**55.24**	**14**	*e*P	**P**	**16 10 42.3**	**-0.9**
	comp=Z,22nm,0.8s,mb5.2						
MOY	**Mondy**	**55.50**	**359**	*e*P	**P**	**16 10 45.1**	**0.0**
KURK	**Kurchatov**	**58.18**	**343**	P	**P**	**16 11 02.3**	**-1.7**
	comp=Z,628nm,0.7s,SNR=26						
KURK	**Kurchatov**	**58.18**	**343**	*i* P	**P**	**16 11 02.8**	**-1.2**
KURK				pmax	pmax		
	comp=Z,43nm,0.9s,mb5.5						
KURK	**Kurchatov**	**58.18**	**343**	*e*P	**P**	**16 11 02.6**	**-1.4**
	comp=Z,76nm,0.8s,mb5.8						
HASS	**Wahat al Ahsa'**	**58.62**	**303**	P	**P**	**16 11 06.8**	**-0.6**
KLR	**Kul'dur**	**58.94**	**22**	*e*P	**P**	**16 11 08.1**	**-1.2**
KLR				pmax	pmax		
	comp=Z,32nm,0.8s,mb5.4						
NVS	**Novosibirsk**	**60.75**	**348**	*i* P	**P**	**16 11 18.7**	**-2.9**
NVS				*e*		16 11 32.0	
NVS				*i* S	**S**	**16 19 30.2**	**-1.1**
NVS				pmax	pmax		
	comp=Z,29nm,0.8s,mb5.4						
NVS				pmax	pmax		
	comp=N,34nm,0.9s						
NVS				pmax	pmax		
	comp=E,19nm,0.8s						
QRN	**Al-Qurain**	**61.44**	**306**	*e*P	**P**	**16 11 26.3**	**-0.4**
KAMS	**Al Khamasin**	**61.48**	**296**	P	**P**	**16 11 25.8**	**-1.3**
KBD	**Kabd**	**61.79**	**306**	*e*P	**P**	**16 11 28.8**	**-0.2**
MZLS	**Mizel**	**62.05**	**300**	P	**P**	**16 11 30.6**	**-0.2**
YSS	**Yuzh-Sakhalins**	**62.09**	**30**	⇑*i*P	**P**	**16 11 30.0**	**-0.8**
YSS				*e*	pP	16 11 46.7	-3.0
YSS				pmax	pmax		
	comp=Z,110nm,0.9s,mb5.9						
YSS	**Yuzh-Sakhalins**	**62.09**	**30**	*e*P	**P**	**16 11 29.9**	**-0.8**
	comp=Z,86nm,0.8s,mb5.8						
TATS	**Tathlith**	**62.27**	**294**	P	**P**	**16 11 32.4**	**+0.1**
BOD	**Bodaibo**	**62.39**	**7**	⇓*i*P	**P**	**16 11 31.5**	**-1.1**
VOSK	**Vostochnaya**	**62.39**	**339**	P	**P**	**16 11 30.8**	**-1.9**
VOSK				pmax	pmax		
	comp=Z,25nm,0.8s,mb5.3						
RST	**Umm Al-Ruwaisa**	**62.47**	**306**	*e*P	**P**	**16 11 33.0**	**-0.6**
RST				AMb	AMB	16 11 34.1	
	comp=Z,142nm,0.9s,mb6.0						
BVA0	**Borovoye Array**	**62.85**	**339**	*i* P	**P**	**16 11 33.9**	**-1.9**
BVA0				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
BVAR	**Borovoye Array**	**62.85**	**339**	P	**P**	**16 11 34.0**	**-1.7**
	comp=Z,24nm,0.5s,mb5.4,baz=144,slow=9.2,SNR=230						
BRVK	**Borovoye**	**62.91**	**339**	*e*P	**P**	**16 11 34.3**	**-1.9**
	comp=Z,36nm,0.8s,mb5.3						
ZRNK	**Zerenda**	**63.29**	**338**	P	**P**	**16 11 36.9**	**-1.8**
ZRNK				pmax	pmax		
	comp=Z,14nm,0.7s,mb5.0						
ZRNK	**Zerenda**	**63.29**	**338**	*e*P	**P**	**16 11 36.7**	**-2.0**
	comp=Z,31nm,0.8s,mb5.3						
AFFS	**'Afif**	**63.94**	**299**	P	**P**	**16 11 43.3**	**-0.1**
ARSS	**Ar Rass**	**64.33**	**301**	P	**P**	**16 11 45.3**	**-0.6**
AB31	**Akbulak array**	**64.47**	**331**	*i* P	**P**	**16 11 44.9**	**-1.5**
AB31				pmax	pmax		
	comp=Z,22nm,0.6s,mb5.2						
KMBO	**Kilima Mbogo**	**64.92**	**271**	P	**P**	**16 11 50.0**	**+0.1**
	comp=Z,1.2nm,0.7s,baz=218,slow=24,SNR=4.0						
KMBO	**Kilima Mbogo**	**64.92**	**271**	*e*P	**P**	**16 11 50.6**	**+0.6**
	comp=Z,5.6nm,1.2s,mb4.3						
HILS	**Ha'il**	**66.03**	**302**	P	**P**	**16 11 57.2**	**+0.4**
KBRS	**Khaybar**	**67.72**	**300**	P	**P**	**16 12 08.3**	**+0.8**
MAW	**Mawson**	**68.88**	**195**	*e*P	**P**	**16 12 14.4**	**+0.5**
	comp=Z,2.5nm,0.8s						
MAW	**Mawson**	**68.88**	**195**	P	**P**	**16 12 13.7**	**-0.2**
	comp=Z,2.6nm,0.8s,baz=26,slow=7.7,SNR=7.8						
MAW				LR	LR	16 35 21.2	
	comp=Z,573nm,18.7s,baz=307,slow=30						
YAK	**Yakutsk**	**69.18**	**13**	*c i*P	**P**	**16 12 14.3**	**-1.6**
YAK				pmax	pmax		
	comp=Z,119nm,0.8s,mb5.8						
YAK	**Yakutsk**	**69.18**	**13**	*e*P	**P**	**16 12 14.1**	**-1.8**
	comp=Z,132nm,0.8s,mb5.8						
YAK				*e*	pP	16 12 29.6	-5.5
ARU	**Arti**	**69.94**	**336**	P	**P**	**16 12 19.3**	**-1.3**
	comp=Z,342nm,0.6s,SNR=28						
ARU	**Arti**	**69.94**	**336**	⇑*i*P	**P**	**16 12 19.5**	**-1.1**
ARU				*e*	pP	16 12 39.2	-0.7
ARU				*i*		16 14 48.7	
ARU				pmax	pmax		
	comp=Z,65nm,1.2s,mb5.3						
ARU	**Arti**	**69.94**	**336**	*e*P	**P**	**16 12 19.4**	**-1.2**
	comp=Z,55nm,0.9s,mb5.4						
MSZ	**Milford Sound**	**70.03**	**136**	P	**P**	**16 12 21.9**	**+0.5**
TBKS	**Tabuk**	**70.72**	**302**	P	**P**	**16 12 26.6**	**+0.7**
QURS	**Qurayyt al Mil**	**70.97**	**305**	P	**P**	**16 12 28.8**	**+1.5**
SKR	**Severo-Kuril's**	**71.36**	**33**	*e*P	**P**	**16 12 35.5**	**+6.2**
SKR				pmax	pmax		
	comp=Z,220nm,1.0s,mb5.9						
MBAR	**Mbarara**	**71.45**	**271**	*e*P	**P**	**16 12 30.5**	**0.0**
	comp=Z,13nm,1.2s,mb4.6						
MBAR				*e*		16 12 44.7	
JMQS	**Jabal Moqyreh**	**71.47**	**302**	P	**P**	**16 12 30.8**	**+0.5**
ASF	**Jabal al Asfar**	**71.55**	**306**	P	**P**	**16 12 31.8**	**+1.1**
	comp=Z,40nm,0.9s,mb5.3,baz=327,slow=2.0,SNR=53						
GOF	**Gofitskoye**	**71.75**	**320**	⇓*i*P	**P**	**16 12 31.0**	**-0.7**
GOF				pmax	pmax		
	comp=Z,60nm,1.2s,mb5.3						
ELZG	**Elazig**	**71.97**	**313**	*i* P	**P**	**16 12 32.3**	**-0.9**
RPZ	**Rata Peaks**	**72.00**	**135**	P	**P**	**16 12 33.1**	**-0.1**
	comp=Z,13nm,0.5s,mb5.0,baz=331,slow=2.8,SNR=20						
BDAS	**Al Bad'**	**72.00**	**301**	P	**P**	**16 12 33.8**	**+0.3**
JMOS	**Jabal al Moall**	**72.19**	**302**	P	**P**	**16 12 35.0**	**+0.4**
ALWS	**Ilw as Safayha**	**72.26**	**302**	P	**P**	**16 12 35.4**	**+0.4**
HAQS	**Haql**	**72.31**	**302**	P	**P**	**16 12 35.8**	**+0.5**
MALT	**Malatya**	**72.32**	**312**	*e*P	**P**	**16 12 34.9**	**-0.2**
	comp=Z,21nm,1.1s,mb4.9						
EIL	**Elat**	**72.45**	**303**	P	**P**	**16 12 36.4**	**+0.3**
EIL	**Elat**	**72.45**	**303**	P	**P**	**16 12 36.7**	**+0.5**
	comp=Z,42nm,0.8s,mb5.3,baz=94,slow=2.5,SNR=35						
ZFRI	**Zfri**	**72.50**	**304**	P	**P**	**16 12 36.8**	**+0.4**
MBH	**Mount Berech**	**72.52**	**303**	P	**P**	**16 12 37.0**	**+0.4**
PRNI	**Paran**	**72.59**	**303**	P	**P**	**16 12 37.5**	**+0.5**
DRGI	**Dragot**	**72.61**	**305**	P	**P**	**16 12 36.4**	**-0.7**
GZT	**Gaziantep**	**72.64**	**311**	*i* P	**P**	**16 12 36.4**	**-0.8**
KSHT	**Keshet**	**72.66**	**306**	P	**P**	**16 12 38.2**	**+0.9**
HMDT	**Nahal Hemdat**	**72.68**	**305**	P	**P**	**16 12 37.8**	**+0.3**
HRI	**Mount Hermon**	**72.80**	**306**	P	**P**	**16 12 38.9**	**+0.7**
MMLI	**Mount Malkishu**	**72.82**	**306**	P	**P**	**16 12 38.7**	**+0.4**
THZ	**Tophouse**	**72.97**	**132**	P	**P**	**16 12 38.1**	**-0.9**
OFRI	**'Ofer**	**73.22**	**306**	P	**P**	**16 12 40.9**	**+0.3**
KZIT	**Kziot**	**73.24**	**304**	P	**P**	**16 12 41.0**	**+0.2**
KAHT	**Ahir Dag**	**73.25**	**311**	*i* P	**P**	**16 12 39.8**	**-0.9**
COBT	**Iskenderun**	**73.37**	**310**	*i* P	**P**	**16 12 41.2**	**-0.2**
LSZ	**Lusaka**	**73.52**	**255**	*e*P	**P**	**16 12 42.9**	**+0.3**
LSZ				*e*	pP	16 12 57.4	-4.7
PET	**Petropavlovsk**	**73.91**	**32**	⇑*i*P	**P**	**16 12 43.8**	**-0.5**
PET				*e*		16 12 55.1	
PET				*e*		16 12 56.9	
PET				pmax	pmax		
	comp=Z,93nm,0.6s,mb5.7						
PET	**Petropavlovsk**	**73.91**	**32**	*e*P	**P**	**16 12 43.5**	**-0.8**
	comp=Z,28nm,0.4s,mb5.3						
MA2	**Magadan**	**74.00**	**23**	*e*P	**P**	**16 12 44.7**	**+0.1**
MA2				*e*		16 12 58.7	
MA2				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.0						
MA2	**Magadan**	**74.00**	**23**	*e*P	**P**	**16 12 44.5**	**-0.1**
	comp=Z,42nm,0.8s,mb5.2						
MGZ	**Maungaku**	**74.54**	**129**	P	**P**	**16 12 48.6**	**+0.4**
CNZ	**Chateau**	**74.57**	**129**	P	**P**	**16 12 49.0**	**+0.6**
NGZ	**Ngauruhoe**	**74.61**	**129**	P	**P**	**16 12 48.9**	**+0.3**
TUVZ	**Tukino**	**74.66**	**129**	P	**P**	**16 12 49.2**	**+0.3**
CSS	**Prodhromos**	**75.19**	**308**	*e*P	**P**	**16 12 52.3**	**+0.3**
	comp=Z,70nm,0.9s,mb5.4						
BFZ	**Birch Farm**	**75.30**	**131**	P	**P**	**16 12 50.9**	**-1.6**
BKZ	**Black Stump Fm**	**75.30**	**129**	P	**P**	**16 12 52.1**	**-0.4**
URZ	**Urewera**	**75.67**	**128**	P	**P**	**16 12 54.0**	**-0.7**
	comp=Z,16nm,0.8s,mb4.8,baz=271,slow=9.2,SNR=7.2						
BRTR	**Keskin Array B**	**76.30**	**312**	P	**P**	**16 12 57.4**	**-0.8**
	comp=Z,29nm,0.9s,mb5.0,baz=133,slow=7.3,SNR=69						
SYO	**Syowa Base**	**76.66**	**199**	⇑P	**P**	**16 13 00.2**	**+0.6**
SYO	**Syowa Base**	**76.66**	**199**	⇓PcP	PcP	16 13 12.1	+1.0
SYO	**Syowa Base**	**76.66**	**199**	⇓pP	pP	16 13 16.2	-3.0
SEY	**Seymchan**	**76.71**	**21**	*e*P	**P**	**16 13 01.3**	**+1.3**
SEY				pmax	pmax		
	comp=N,30nm,0.9s						
SEY				pmax	pmax		
	comp=E,40nm,0.9s						
SEY				pmax	pmax		
	comp=Z,130nm,0.9s,mb5.7						
TIXI	**Tiksi**	**77.53**	**8**	*c i*P	**P**	**16 13 03.0**	**-1.4**
TIXI				*e*		16 13 14.2	
TIXI				*e*		16 15 58.6	
TIXI				pmax	pmax		
	comp=Z,34nm,1.1s,mb5.0						
TIXI				MLR	MLR		
	comp=Z,200nm,18.0s						
OBN	**Obninsk**	**79.67**	**328**	*c i*P	**P**	**16 13 16.2**	**-0.2**
OBN				*e*		16 16 17.1	
OBN				pmax	pmax		
	comp=Z,30nm,0.7s,mb5.2						
SUR	**Sutherland**	**80.57**	**238**	*e*P	**P**	**16 13 23.1**	**+1.4**
SUR				*e*pP	pP	16 13 36.8	-4.6
SBA	**Scott Base**	**80.84**	**169**	*e*P	**P**	**16 13 23.1**	**+0.8**
SBA				*e*		16 13 37.5	
IDI	**Anoyia**	**82.00**	**306**	P	**P**	**16 13 29.9**	**+0.7**
	comp=Z,50nm,0.7s,mb5.5,baz=89,slow=6.4,SNR=21						
AKASG	**Malin Array Be**	**82.42**	**322**	P	**P**	**16 13 30.2**	**-0.7**
	comp=Z,3.4nm,0.4s,mb4.5,baz=86,slow=4.8,SNR=29						
AKASG				PP	PP	16 16 38.7	-3.6
	comp=Z,1.8nm,0.7s,baz=92,slow=6.5,SNR=6.5						
GVD	**Gavdhos**	**82.56**	**306**	*e*P	**P**	**16 13 32.4**	**+0.3**

	comp=Z,56nm,0.8s,mb5.5						
DIM	Dimitrovgrad	82.83	313	eP	P	16 13 33.0	-0.2
MLR	Muntele Rosu	83.27	317	P	P	16 13 36.1	+0.8
	comp=Z,45nm,1.1s,mb5.2,baz=149,slow=2.0,SNR=21						
RZN	Rozhen	83.36	313	eP	P	16 13 36.0	+0.1
KKB	Krupnik	84.59	313	eP	P	16 13 41.0	-1.1
VTS	Vitosha	84.63	313	eP	P	16 13 42.0	-0.3
APA	Apatity	85.76	339	⇓iP	P	16 13 46.8	-0.5
APA				i	pP	16 14 03.8	-3.4
APA				pmax	pmax		
	comp=Z,15nm,0.4s,mb5.3						
QSPA	South Pole Qui	85.93	180	eP	P	16 13 48.7	+0.8
	comp=Z,5.8nm,0.9s,mb4.5						
KWP	Kalwaria	86.26	320	eP	P	16 13 50.9	+0.8
KOLS	Kolonicke sedl	86.41	319	i P	P	16 13 52.2	+1.3
KOLS				e		16 13 57.3	
SUW	Suwalki	86.80	325	eP	P	16 13 52.5	-0.2
FINES	FINESS Array B	86.92	332	P	P	16 13 53.5	+0.4
	comp=Z,9.3nm,0.7s,mb4.8,baz=124,slow=6.9,SNR=26						
CRVS	Cervenica-Dubn	86.93	319	eP	P	16 13 56.6	+3.1
KAF	Kangasniemi	86.98	333	ep	P	16 13 53.5	+0.1
	comp=Z,16nm,0.7s,mb5.0,baz=98,slow=4.4						
KAF	Kangasniemi	86.98	333	eP	P	16 13 53.5	+0.1
KAF				pmax	pmax		
	comp=Z,16nm,0.7s,mb5.1						
DIVS	Divcibare	87.19	314	eP	P	16 13 53.4	-1.4
KECS	Kecovo	87.50	319	eP	P	16 13 56.7	+0.5
KECS				e		16 14 01.5	
PSZ	Piszkesteto	87.81	318	eP	P	16 13 58.3	+0.6
	comp=Z,9.6nm,0.9s,mb4.8						
OJC	Ojcow	88.21	320	eP	P	16 14 00.1	+0.5
VYHS	Vyhne	88.59	319	eP	P	16 14 01.8	+0.4
VYHS				e		16 14 06.8	
VYHS				e		16 14 10.1	
VYHS	Vyhne	88.59	319	eP	P	16 14 01.8	+0.4
VYHS				e		16 14 10.1	
KEV	Kevo	88.67	340	ep	P	16 14 01.1	-0.2
	comp=Z,16nm,0.9s,mb5.1						
KEV	Kevo	88.67	340	eP	P	16 14 01.1	-0.2
KEV				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.0						
TIP	Timpagrande	88.98	309	eP	P	16 14 04.9	+1.4
ARCES	ARCESS Array B	89.12	340	P	P	16 14 03.9	+0.4
	comp=Z,138nm,1.2s,mb5.8,baz=93,slow=6.7,SNR=78						
OKC	Ostrava-Krasne	89.21	320	eP	P	16 14 05.0	+0.7
MORC	Moravsky Berou	89.59	320	eP	P	16 14 06.9	+0.8
	comp=Z,10nm,0.8s,mb5.0						
ZST	Bratislava	89.70	318	eP	P	16 14 07.8	+1.1
DPC	Dobruska-Polom	90.44	320	eP	P	16 14 11.4	+1.3
KSP	Ksiaz	90.51	321	eP	P	16 14 11.4	+1.0
UPC	Upice	90.65	320	eP	P	16 14 12.4	+1.4
ARSA	Arzberg	90.67	317	⇑iP	P	16 14 12.0	+0.8
	comp=Z,16nm,1.3s,mb5.0						
SNAA	Sanae	90.88	198	P	P	16 14 13.0	+1.3
SNAA	Sanae	90.88	198	⇑i	P	16 14 20.6	+8.9
SNAA	Sanae	90.88	198	⇑i	pP	16 14 27.8	-4.0
OBKA	Obir	91.27	316	⇑iP	P	16 14 15.0	+0.9
	comp=Z,14nm,1.2s,mb5.0						
PRU	Pruhonice	91.55	320	eP	P	16 14 12.1	-3.1
PVCC	Panska Ves	91.57	320	eP	P	16 14 16.4	+1.1
BRG	Berggiesshubel	91.99	321	eP	P	16 14 18.1	+0.9
BRG				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.9						
BRG	Berggiesshubel	91.99	321	eP	P	16 14 18.1	+0.9
	comp=Z,6.5nm,0.8s,mb4.9						
GERES	GERESS Array B	92.01	319	P	P	16 14 18.0	+0.7
	comp=Z,2.8nm,0.7s,mb4.6,baz=104,slow=5.5,SNR=22						
KHC	Kasperske Hory	92.11	319	eP	P	16 14 18.0	+0.2
KBA	Koelnbreinsper	92.14	317	⇑iP	P	16 14 18.0	0.0
	comp=Z,4.4nm,0.9s,mb4.7						
VNA2	Neumayer--Watz	92.51	198	⇑iP	P	16 14 23.5	+4.3
VNA2	Neumayer--Watz	92.51	198	⇑i	P	16 14 31.3	+12
VNA2	Neumayer--Watz	92.51	198		pP	16 14 35.8	-3.6
VNA2	Neumayer--Watz	92.51	198	⇑i	pP	16 14 38.1	-1.3
HFS	Hagfors	92.72	330	P	P	16 14 20.8	+0.4
	comp=Z,15nm,0.9s,mb5.3,baz=90,slow=4.4,SNR=11						
VNA1	Neumayer--Stat	92.88	198	⇑iP	P	16 14 25.7	+4.8
VNA1	Neumayer--Stat	92.88	198	⇑i	pP	16 14 38.4	-2.6
VNA1	Neumayer--Stat	92.88	198	⇑i	pP	16 14 40.0	-1.0
MOX	Moxa	93.46	320	eP	P	16 14 24.0	0.0
GRA1	Grafenberg Arr	93.68	319	ePKP	P	16 14 26.0	+1.0
GRF	Grafenberg Arr	93.68	319	eP	P	16 14 26.0	+1.0
NB2	NORSAR Subarra	93.98	331	P	P	16 14 25.8	-0.2
	comp=Z,13nm,1.2s,mb5.1,baz=95,slow=4.5						
NB2	NORSAR Subarra	93.98	331	P	P	16 14 25.8	-0.2
	baz=95,slow=4.4						
NOA	NORSAR Array B	93.98	331	P	P	16 14 26.1	+0.1
	comp=Z,2.9nm,0.7s,mb4.7,baz=93,slow=4.6,SNR=7.9						
DAVA	Damuels	94.51	317	⇑iP	P	16 14 29.5	+0.7
	comp=Z,8.1nm,0.9s,mb5.2						
GNW	Green Mountain	121.94	34	ePKPdf	PKPdf	16 20 03.6	+2.1
RPW	Rockport	122.17	33	P	PKPdf	16 20 03.4	+1.5
LON	Longmire	122.97	35	ePKPdf	PKPdf	16 20 04.7	+1.2
TBM	Table Mountain	123.41	34	P	PKPdf	16 20 06.3	+1.9
FCC	Fort Churchill	123.97	10	ePKPdf	PKPdf	16 20 05.7	+0.5
GL2	New Goldendale	123.99	35	P	PKPdf	16 20 07.8	+2.3
VGB	Gordon Butte	124.27	35	ePKPdf	PKPdf	16 20 08.1	+2.0
DPW	Davenport	124.28	32	ePKPdf	PKPdf	16 20 07.5	+1.4
HAWA	Hanford	124.46	34	ePKPdf	PKPdf	16 20 08.3	+1.9
HUMO	Hull Mountain	124.52	39	ePKPdf	PKPdf	16 20 08.9	+2.3
NEW	Newport	124.60	31	ePKPdf	PKPdf	16 20 08.2	+1.5
KHMM	Horse Mountain	124.88	42	ePKPdf	PKPdf	16 20 09.2	+1.8
LNOR	Lincton Mounta	125.47	34	ePKPdf	PKPdf	16 20 09.8	+1.4
FFC	Flin Flon	125.80	17	ePKPdf	PKPdf	16 20 09.8	+1.0
BSMT	Bassoo Peak	126.05	30	P	PKPdf	16 20 11.2	+1.7
MOD	Modoc	126.56	39	ePKPdf	PKPdf	16 20 12.9	+2.3
NSHM	Saint Helena R	126.78	44	ePKPdf	PKPdf	16 20 13.2	+2.1
OHCM	Honcut	127.14	42	ePKPdf	PKPdf	16 20 13.5	+1.7
WVOR	Wild Horse Val	127.29	37	ePKPdf	PKPdf	16 20 14.2	+2.1
CHMT	Chamberlain Mo	127.45	30	ePKPdf	PKPdf	16 20 13.2	+1.0
HRY	Holter Researc	128.30	29	ePKPdf	PKPdf	16 20 15.7	+1.9
SCHQ	Schefferville	128.59	352	PKP	PKPdf	16 20 15.6	+1.4
	comp=Z,5.5nm,0.7s,baz=17,slow=5.7,SNR=11						
SCHQ	Schefferville	128.59	352	PKP	PKPdf	16 20 15.6	+1.4
LRV	Little Rabbit	128.89	45	ePKPdf	PKPdf	16 20 18.7	+3.4
HLID	Hailey	129.07	34	ePKPdf	PKPdf	16 20 18.3	+2.9
MCMT	McKenzie Canyo	129.08	32	ePKPdf	PKPdf	16 20 17.6	+2.2
BOZ	Bozeman (W)	129.14	30	ePKPdf	PKPdf	16 20 17.1	+1.6
QLMT	Earthquake Lak	129.81	31	ePKPdf	PKPdf	16 20 19.6	+2.9
ELK	Elko	130.35	37	ePKPdf	PKPdf	16 20 19.9	+2.0
TPAW	Teton Pass	130.99	32	ePKPdf	PKPdf	16 20 21.0	+2.0
LOHW	Long Hollow	131.09	31	ePKPdf	PKPdf	16 20 21.3	+2.1
SNOW	Snow King Moun	131.11	32	ePKPdf	PKPdf	16 20 21.5	+2.2
REDW	Red Top Meadow	131.13	32	ePKPdf	PKPdf	16 20 21.3	+2.0
HVU	Hansel Valley	131.14	35	ePKPdf	PKPdf	16 20 21.3	+1.9
HWUT	Hardware Ranch	131.94	34	ePKPdf	PKPdf	16 20 22.7	+1.8
DUG	Dugway	132.14	36	ePKPdf	PKPdf	16 20 22.7	+1.4
PDAR	Pinedale Array	132.23	32	PKP	PKPdf	16 20 22.9	+1.4
	comp=Z,2.2nm,0.5s,baz=171,slow=1.1,SNR=22						
TCUT	Toone Canyon	132.35	34	ePKPdf	PKPdf	16 20 23.3	+1.6
NLU	North Lily Min	132.73	36	ePKPdf	PKPdf	16 20 25.7	+3.2
NEN	Nelson	133.57	43	ePKPdf	PKPdf	16 20 26.8	+2.7
MSU	Marysvale	133.58	38	ePKPdf	PKPdf	16 20 27.0	+3.0
RSSD	Black Hills	133.87	26	ePKPpre		16 20 20.0	
RSSD				ePKPdf	PKPdf	16 20 25.4	+0.9
SRU	San Rafael	134.19	36	ePKPdf	PKPdf	16 20 27.2	+2.0
PV10	Paradox Valley	135.54	36	ePKPdf	PKPdf	16 20 30.4	+2.8
WUAZ	Wupatki	135.94	40	ePKPdf	PKPdf	16 20 31.2	+2.7
PV01	Paradox Valley	135.98	35	ePKPdf	PKPdf	16 20 31.1	+2.6
ISCO	Idaho Springs	136.42	31	ePKPdf	PKPdf	16 20 32.6	+3.4
SDCO	Great Sand Dun	137.98	33	ePKPdf	PKPdf	16 20 34.2	+2.0
TUC	Tucson	138.24	44	ePKPpre		16 20 27.2	
TUC				ePKPdf	PKPdf	16 20 35.3	+2.5
ANMO	Albuquerque	139.38	37	ePKPdf	PKPdf	16 20 37.4	+2.6
WMOK	Wichita Mounta	143.79	30	ePKPpre		16 20 41.2	
CPUP	Villa Florida	143.88	212	PKP	PKPdf	16 20 42.7	-0.2
	comp=Z,8.9nm,0.8s,baz=179,slow=1.7,SNR=10						
CCM	Cathedral Cave	143.99	18	ePKPpre		16 20 41.3	
BLO	Bloomington	144.15	12	ePKPpre		16 20 42.0	
FVM	French Village	144.30	17	ePKPpre		16 20 42.3	
BAO	Brasilia Array	144.60	236	i P	PKPbc	16 20 45.5	+1.2
BAO				e		16 20 52.9	
BAO				e		16 21 00.2	
BDFB	Brasilia	144.61	236	PKP	PKPdf	16 20 45.5	+1.0
	comp=Z,35nm,0.6s,baz=121,slow=2.2,SNR=35						
LTX	Lajitas	144.88	41	ePKPdf	PKPdf	16 20 46.3	+1.7
TXAR	Lajitas Array	144.88	41	PKP	PKPdf	16 20 46.7	+2.1
	comp=Z,70nm,0.5s,baz=268,slow=0.9,SNR=878						
USIN	University of	145.06	14	ePKPdf	PKPdf	16 20 45.2	+0.5
WCI	Wyandotte Cave	145.10	12	ePKPdf	PKPdf	16 20 45.6	+0.8
JCT	Junction City	146.50	36	ePKPdf	PKPdf	16 20 49.5	+2.1
JCT				ePKPbc	PKPbc	16 20 50.8	+2.0
FWV	Forest Hill	146.51	4	ePKPbc	PKPbc	16 20 49.2	+0.7
UALR	University of	146.58	22	ePKPbc	PKPbc	16 20 49.5	+0.7
PWV	Princeton	146.73	5	ePKPbc	PKPbc	16 20 50.1	+1.1
WVT	Waverly	146.76	15	ePKPbc	PKPbc	16 20 50.5	+1.4
ELN	Prospectdale	146.86	4	ePKPbc	PKPbc	16 20 50.3	+0.9
OXF	Oxford	147.82	18	ePKPbc	PKPdf	16 20 53.5	+4.0
CPCT	Cooper Cave	148.14	10	ePKPbc	PKPdf	16 20 55.0	+5.1
CPCT				ePKPab	PKPab	16 20 57.8	-0.6
NATX	Nacogdoches	148.21	28	ePKPbc	PKPdf	16 20 55.4	+5.2
LRAL	Lakeview Retre	149.90	16	ePKPbc	PKPdf	16 20 58.4	+5.6
LVC	Limon Verde	152.12	198	ePKPbc	PKPdf	16 21 06.5	+10
LPAZ	La Paz	157.65	205	PKP	PKPdf	16 21 07.0	+3.1
	comp=Z,1.9nm,0.2s,baz=66,slow=0.7,SNR=5.7						
SAML	Samuel	160.53	228	ePKPdf	PKPdf	16 21 09.3	+2.0

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*IDC **06** 16:04:52.8±0.8, 11.67S×165.97E, mb4.5/13, mb1 4.6/13, mb1mx4.6/15, MS4.4/7, Ms1 4.4/7, ms1mx4.2/20, Error ellipse: s-maj=22.7km s-min=21.0km az=90.0*

*NEIC **06** 16:04:57.3±10.0, 11.70S×165.91E, h30^{km}±72^{km}, mb4.9/11, Error ellipse: s-maj=18.7km s-min=10.7km az=220.0*

*HRVD **06** 16:04:57.3±0.8, 11.69S×165.82E, h38^{km}±1^{km}, MW5.4/18, Centroid moment Tensor Solution. LP body waves: s14,c16;Mantle waves: s18,c20; Half duration: 1^{s}1 Moment tensor: Scale 10^{17}Nm; M_{rr}1.39±.16; $M_{\theta\theta}$-0.80±.15; $M_{\phi\phi}$-0.58±.14; $M_{r\theta}$-0.23±.09; $M_{\theta\phi}$0.48±.12; $M_{\phi r}$-0.45±.07; Best double couple: $M_0$1.36×10^{17} NP1: ϕ_s294°,δ45°,λ67°. NP2:ϕ_s144°,δ49°,λ111°. Principal axes: T 1.53, Plg74°, Azm121°; N -.34, Plg16°, Azm310°; P -1.19, Plg2°, Azm220°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 06 16:04:56.3±0.5**, 11.78S**±0.09×**165.9E**±0.1**, h33^{km}, n29, σ0^{s}79**/24**, mb4.7**/24**, MS4.3**/7**, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	20.58	244	LR	LR	16 15 08.1	
	comp=Z,450nm,21.0s,MS3.8,baz=99,slow=30						
URZ	Urewera	28.21	161	P	P	16 10 48.0	-0.3
	7.1nm,0.8s,mb4.3,baz=162,slow=23,SNR=2.5						
STKA	Stephens Creek	30.00	224	LR	LR	16 22 47.6	
	comp=Z,1µm,19.1s,MS4.5,baz=70,slow=36						
WRAB	Tennant Creek	31.35	251	eP	P	16 11 14.6	-1.7
	9.9nm,0.7s,mb4.8						
WRA	Warramunga Arr	31.36	251	P	P	16 11 16.5	+0.1
	5.4nm,0.8s,mb4.4,baz=80,slow=8.8,SNR=10.0						
WRA				PcP	PcP	16 14 09.4	-0.4
	1.9nm,0.7s,baz=89,slow=3.3,SNR=4.8						
RPZ	Rata Peaks	32.13	173	P	P	16 11 22.7	-0.3
	9.2nm,0.7s,mb4.7,baz=132,slow=6.3,SNR=7.7						
ASAR	Alice Springs	32.59	244	P	P	16 11 26.6	-0.5
	8.3nm,0.7s,mb4.8,baz=74,slow=9.5,SNR=13						
ASAR				LR	LR	16 23 41.0	
	comp=Z,423nm,21.4s,MS4.1,baz=172,slow=34						
RAR	Rarotonga	34.18	110	LR	LR	16 22 51.3	
	comp=Z,612nm,19.0s,MS4.3,baz=113,slow=32						
FITZ	Fitzroy Crossi	39.32	256	P	P	16 12 25.0	+0.8
	5.4nm,0.7s,mb4.4,baz=179,slow=8.1,SNR=4.5						
FITZ				LR	LR	16 28 26.3	
	comp=Z,454nm,18.1s,MS4.3,baz=88,slow=36						
MBWA	Marble Bar	45.09	252	eP	P	16 13 12.6	+1.1
	13nm,0.8s,mb4.8						
TGY	Tagaytay City	51.44	299	LR	LR	16 33 13.1	
	comp=Z,377nm,19.9s,MS4.4,baz=356,slow=33						
CASY	Casey	65.74	201	eP	P	16 15 39.5	-0.3
	4.1nm,0.7s,mb4.6						
SBA	Scott Base	66.07	180	eP	P	16 15 41.5	-0.2
	5.7nm,0.7s,mb4.7						
ENH	Enshi	68.46	309	eP	P	16 15 56.6	-0.9
	28nm,1.4s,mb5.1						
CMAR	Chiang Mai Arr	72.52	294	P	P	16 16 23.4	+1.1
	1.8nm,0.7s,mb4.1,baz=130,slow=5.1,SNR=13						
QSPA	South Pole Qui	78.23	180	eP	P	16 16 53.9	+0.1
	19nm,1.2s,mb4.9						
SONM	Songino Array	79.33	324	P	P	16 17 00.7	+0.3
	1.3nm,0.7s,mb4.0,baz=130,slow=4.6,SNR=5.8						
MAW	Mawson	84.09	202	P	P	16 17 26.0	+1.3
	1.6nm,0.9s,mb4.2,baz=83,slow=7.8,SNR=3.3						
PKI	Pulchoki	87.10	299	eP	P	16 17 41.3	+0.7
	43nm,1.6s,mb5.4						
KKN	Kakani	87.27	299	eP	P	16 17 42.3	+0.9
	28nm,1.4s,mb5.3						
DMN	Daman	87.37	299	eP	P	16 17 42.4	+0.5
	13nm,0.6s,mb5.3						
GKN	Gorkha	87.87	299	eP	P	16 17 43.1	-1.1
	11nm,0.7s,mb5.2						
KOLN	Koldanda	88.71	299	eP	P	16 17 47.6	-0.6
	5.3nm,0.5s,mb5.1						
PDAR	Pinedale Array	93.95	47	P	P	16 18 13.1	+0.9
	0.3nm,0.7s,mb3.8,baz=263,slow=7.3,SNR=2.7						
MKAR	Makanchi Array	94.14	317	P	P	16 18 12.8	-0.1
	6.0nm,0.7s,mb5.2,baz=94,slow=6.4,SNR=26						
ZAL	Zalesovo	94.23	324	P	P	16 18 11.9	-1.2
	1.3nm,0.8s,mb4.4,baz=269,slow=7.8,SNR=5.9						
YKA	Yellowknife Ar	95.56	27	P	P	16 18 18.3	-0.8
	1.0nm,0.7s,mb4.3,baz=172,slow=36,SNR=3.7						
TXAR	Lajitas Array	96.07	61	P	P	16 18 22.3	+0.1
	0.4nm,0.8s,mb3.9,baz=80,slow=7.6,SNR=3.4						
TXAR				LR	LR	16 54 10.2	
	comp=Z,282nm,18.3s,MS4.8,baz=285,slow=31						
SAML	Samuel	127.06	111	eP	PKPdf	16 23 60.0	+1.6

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*IDC **06** 16:12:37.0±1.1, 55.24S×28.71W, mb4.3/3, mb1 4.4/3, mb1mx4.1/9, Error ellipse: s-maj=125.0km s-min=24.0km az=44.0*

*NEIC **06** 16:12:39.1±0.6, 55.28S×29.00W, h10^{km}, mb4.4/7, Error ellipse: s-maj=21.8km s-min=11.3km az=57.0*

ISC 06 16:12:37.0±0.7**, 55.1S**±0.1×**28.9W**±0.2**, h10^{km}, n18, σ1^{s}25**/16**, mb4.4**/8**, 3C-1D, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	18.01	158	⇑iP	P	16 16 57.6	+8.9
VNA3	Neumayer Olymp	18.18	160	⇑iP	P	16 16 53.7	+2.9
VNA2	Neumayer--Watz	18.41	158	⇑iP	P	16 16 54.5	+0.9
PMSA	Palmer Station	19.80	227	eP	P	16 17 08.6	-1.6
	14nm,0.9s						
SNAA	Sanae	19.97	156	⇓iP	P	16 17 08.7	-3.2
SNAA	Sanae	19.97	156	eP	P	16 17 08.6	-3.4
	6.1nm,0.6s						
TRQA	Tornquist	28.08	294	eP	P	16 18 30.8	+0.4
	4.3nm,0.8s,mb4.1						
QSPA	South Pole Qui	35.12	180	eP	P	16 19 32.1	+0.1
	5.4nm,0.6s,mb4.7						
CPUP	Villa Florida	35.48	313	P	P	16 19 35.4	-0.1
	5.3nm,0.7s,mb4.6,baz=169,slow=8.1,SNR=9.7						
CPUP	Villa Florida	35.48	313	P	P	16 19 35.4	-0.2
MAW	Mawson	41.46	145	P	P	16 20 23.4	-1.5
	1.3nm,0.6s,mb3.7,baz=233,slow=8.7,SNR=8.5						
LPAZ	La Paz	49.06	306	P	P	16 21 28.3	+2.1
	3.3nm,0.6s,mb4.6,baz=173,slow=8.8,SNR=11						
LPAZ	La Paz	49.06	306	P	P	16 21 28.3	+2.1
TSUM	Tsumeb	50.10	63	eP	P	16 21 33.6	-0.5
	3.9nm,0.8s,mb4.5						
SAML	Samuel	53.47	316	eP	P	16 21 59.3	-0.3
	4.2nm,0.8s,mb4.4						
SDV	Santo Domingo	72.68	316	eP	P	16 24 06.5	-0.4
	5.6nm,0.8s,mb4.5						
ILAR	Eielson Array	148.79	313	PKPbc	PKPdf	16 32 24.7	+2.5
	6.0nm,0.7s,baz=124,slow=1.7,SNR=42						
SONM	Songino Array	151.62	86	PKPbc	PKPdf	16 32 32.0	+4.9
	1.4nm,0.6s,baz=225,slow=3.3,SNR=9.4						

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*IDC **06** 16:19:43.2±2.4, 11.62S×166.14E, mb4.3/7, mb1 4.4/7, mb1mx4.2/13, MS5.1/1, Ms1 5.1/1, ms1mx3.9/19, Error ellipse: s-maj=71.8km s-min=29.8km az=122.0*

*NEIC **06** 16:19:50.6±1.0, 11.64S×165.96E, h45^{km}, mb4.5/8, Error ellipse: s-maj=20.4km s-min=17.8km az=122.0*

ISC 06 16:19:47.5±1.3**, 11.7S**±0.2×**165.9E**±0.2**, h33^{km}, n19, σ0^{s}57**/18**, mb4.4**/11**, MS5.2**/1**, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	20.67	244	eP	P	16 24 29.2	+1.9
	9.6nm,1.2s						
CTA	Charters Tower	20.67	244	P	P	16 24 28.1	+0.9
	15nm,1.2s,baz=63,slow=13,SNR=4.1						
CTAO	Charters Tower	20.67	244	eP	P	16 24 27.0	-0.3
	27nm,1.3s						
STKA	Stephens Creek	30.11	224	P	P	16 25 57.0	+0.6
	1.8nm,0.7s,mb3.9,baz=72,slow=10,SNR=2.5						
WRAB	Tennant Creek	31.43	251	eP	P	16 26 07.9	-0.4
	4.6nm,0.4s,mb4.7						
WB2	Warramunga Arr	31.43	251	eP	P	16 26 08.2	-0.1
WRA	Warramunga Arr	31.45	251	P	P	16 26 08.1	-0.3
	3.3nm,0.7s,mb4.3,baz=83,slow=9.0,SNR=28						
WRA				ScP		16 32 44.2	
	1.0nm,1.0s,baz=74,slow=3.0,SNR=4.7						
ASAR	Alice Springs	32.68	244	P	P	16 26 18.4	-0.7
	4.6nm,0.7s,mb4.5,baz=70,slow=9.5,SNR=46						
ASAR				PcP	PcP	16 29 04.0	-0.6
	0.6nm,0.8s,baz=67,slow=2.7,SNR=4.4						
ASAR				ScP		16 32 49.1	
	1.2nm,1.0s,baz=85,slow=3.6,SNR=4.7						
ASPA	Alice Springs	32.68	244	eP	P	16 26 18.6	-0.5
KAKA	Kakadu	32.78	265	eP	P	16 26 20.1	0.0
	5.7nm,0.6s,mb4.7						
FITZ	Fitzroy Crossi	39.40	256	eP	P	16 27 17.2	+1.1
	4.3nm,1.2s,mb4.0						
FITZ	Fitzroy Crossi	39.40	256	P	P	16 27 16.9	+0.8
	2.9nm,0.8s,mb4.1,baz=112,slow=3.4,SNR=9.2						
MBWA	Marble Bar	45.17	252	eP	P	16 28 03.1	-0.2
	9.0nm,0.8s,mb4.7						
JNU	Nakatsue	55.72	324	LR	LR	16 49 01.0	
	comp=Z,2µm,21.3s,MS5.2,baz=84,slow=32						
CASY	Casey	65.85	201	eP	P	16 30 30.9	-0.7
	1.7nm,0.5s,mb4.3						
SBA	Scott Base	66.15	180	eP	P	16 30 33.9	+0.4
	3.3nm,0.7s,mb4.5						
SONM	Songino Array	79.30	324	P	P	16 31 51.6	+0.2
	0.8nm,0.9s,mb3.6,baz=125,slow=5.5,SNR=5.3						
MKAR	Makanchi Array	94.12	317	P	P	16 33 04.0	0.0
	2.8nm,0.6s,mb4.8,baz=100,slow=6.0,SNR=26						
MKAR	Makanchi Array	94.12	317	P	P	16 33 04.0	0.0

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*IDC **06** 16:27:03.9±0.9, 55.66S×29.25W, mb4.2/5, mb1 4.4/5, mb1mx4.2/10, Error ellipse: s-maj=80.0km s-min=21.3km az=49.0*

*NEIC **06** 16:27:07.0±0.6, 55.29S×29.10W, h10^{km}, mb4.2/4, Error ellipse: s-maj=21.1km s-min=8.4km az=61.0*

ISC 06 16:27:17.3±4.5**, 55.4S**±0.2×**29.0W**±0.3**, h128^{km}**±46^{km}**, n17, σ0^{s}93**/13**, mb4.0**/8**, 4C, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	17.80	157	⇑i	P	16 31 18.4	+0.6
VNA3	Neumayer Olymp	17.97	160	⇑i	P	16 31 20.5	+0.8
VNA2	Neumayer--Watz	18.20	157	⇑i	P	16 31 21.8	-0.5
PMSA	Palmer Station	19.60	227	eP	P	16 31 37.1	-0.2
	17nm,0.9s						
SNAA	Sanae	19.77	156	⇑i	P	16 31 35.5	-3.5
TRQA	Tornquist	28.14	294	eP	P	16 32 58.6	-0.5
	1.7nm,0.5s,mb4.0						
QSPA	South Pole Qui	34.88	180	eP	P	16 33 58.1	+0.7
	3.5nm,0.6s,mb4.2						
CPUP	Villa Florida	35.62	313	P	P	16 34 03.0	-1.1
	2.3nm,0.7s,mb3.9,baz=193,slow=7.2,SNR=6.6						
MAW	Mawson	41.28	145	P	P	16 34 49.0	-1.8
	1.3nm,0.8s,mb3.6,baz=244,slow=16,SNR=3.1						
BDFB	Brasilia	42.29	332	P	P	16 35 00.7	+1.2
	1.3nm,0.4s,mb3.9,baz=203,slow=7.7,SNR=2.5						
LPAZ	La Paz	49.17	307	P	P	16 35 54.3	+0.4
	1.5nm,0.3s,mb4.1,baz=138,slow=1.8,SNR=9.1						
SAML	Samuel	53.62	316	eP	P	16 36 27.4	0.0
	2.7nm,1.1s,mb3.9						
ASAR	Alice Springs	99.92	164	P	P	16 40 49.3	+0.9
	0.6nm,0.7s,mb4.2,baz=178,slow=3.5,SNR=9.1						
FINES	FINESS Array B	124.26	28	PKP	PKPdf	16 46 02.9	+3.1
	1.9nm,0.9s,baz=170,slow=12,SNR=4.2						
BVAR	Borovoye Array	135.26	58	PKP	PKPdf	16 46 24.8	+4.1
	0.7nm,0.5s,baz=207,slow=3.2,SNR=6.2						
ILAR	Eielson Array	148.92	313	PKPbc	PKPdf	16 46 52.7	+8.7
	4.4nm,0.8s,baz=122,slow=1.6,SNR=69						
SONM	Songino Array	151.69	87	PKPbc	PKPdf	16 46 59.5	+11
	3.6nm,0.9s,baz=229,slow=2.8,SNR=16						

IDC 06 16:29:39.1±2.1**, 5.14N**×**124.03E, mb3.4**/3**, mb1 3.6**/3**, mb1mx3.4**/16**, Error ellipse: s-maj=201.0km s-min=26.8km az=64.0, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GSPH	General Santos	1.31	44	eP	Pb	16 30 23.0	+19
PAGZ	Pagadian	2.77	347	eP	Pn	16 30 45.3	+20
MATI	Mati	2.85	51	eP	Pn	16 30 22.6	-4.0
BUKP	Musuan	2.91	21	eP	Pn	16 30 34.3	+6.8
WRA	Warramunga Arr	26.91	158	P	P	16 35 21.4	-2.6
	0.3nm,0.7s,baz=337,slow=10,SNR=6.9						
ASAR	Alice Springs	30.20	162	P	P	16 35 52.2	-1.5
	0.2nm,0.4s,baz=336,slow=7.3,SNR=9.7						
MKAR	Makanchi Array	54.88	326	P	P	16 39 11.4	-2.3
	0.3nm,0.4s,baz=132,slow=8.0,SNR=5.1						

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*HEL **06** 16:32:18.9±0.1, 67.11N×20.84E, ML1.7, ML2.1(UPP), Explosion*

*IDC **06** 16:32:19.0±1.0, 67.08N×21.27E, mb1 3.1/4, mb1mx3.0/18, ML2.4/4, Error ellipse: s-maj=20.4km s-min=9.1km az=108.0*

ISC 06 16:32:17.5±0.4**, 67.07N**±0.02×**20.91E**±0.08**, n31, σ1^{s}24**/48**, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DUNU	Dundret	0.14	293	i P	Pg	16 32 20.8	+0.4
MASU	Masugnsbyn	0.58	47	i P	Pg	16 32 28.4	-0.6
ERTU	Ertsjaerv	0.72	135	i P	Pg	16 32 31.1	-0.7
PAJU	Pajala	0.87	92	i P	Pg	16 32 33.6	-1.2
KUA	Kurravaara	0.92	346	eP	Pg	16 32 34.4	-1.5
SALU	Saltoluokta	0.99	290	eP	Pb	16 32 36.1	-1.0
NIKU	Nikkaluokta	1.08	319	eP	Pb	16 32 36.4	-2.3
SJUU	Sjulsmark	1.59	169	eP	Pn	16 32 47.1	+0.1
SJUU				eS	Sb	16 33 10.4	+2.4
LILU	Lilltraesk	1.84	194	eP	Pn	16 32 51.2	+0.7
KIF	Kilpisjarvi	1.95	359	eP	Pn	16 32 53.0	+0.9
KIF				eS	Sn	16 33 18.6	+1.0
KTK1	Kautokeino	2.14	23	eP	Pn	16 32 56.5	+1.6
SGF	Sodankyl	2.22	78	eP	Pn	16 32 57.1	+1.1
SGF				eS	Sn	16 33 25.9	+1.4
BURU	Burvik	2.50	175	eP	Pn	16 33 00.8	+0.7
SVAU	Svanoeiden	2.64	193	eP	Pn	16 33 03.4	+1.3
TRO	Tromso	2.68	345	eSG	Sg	16 33 41.3	-5.5
MOR8	Moi Rana	2.73	254	e	Sn	16 33 42.4	+4.9
MOR8	Moi Rana	2.73	254	e	Sn	16 33 42.4	+4.9
OUL	Oulu	2.84	132	eP	Pn	16 33 05.8	+0.9
OUL				eS	Sn	16 33 40.6	+0.2
OUL				eSG	Sg	16 33 47.7	-4.5
OUL				MSG		16 33 49.2	
	comp=Z,1.7nm,0.2s						
ARCES	ARCESS Array B	3.01	32	Pn	Pn	16 33 06.5	-0.8
	comp=Z,0.5nm,0.3s,baz=209,slow=14,SNR=26						
ARCES				Sn	Sn	16 33 44.4	-0.2
	comp=Z,0.9nm,0.3s,baz=215,slow=25,SNR=7.6						
UMAU	Umeaa	3.20	182	eP	Pn	16 33 10.9	+0.9
MSF	Maaselka	3.46	106	eP	Pn	16 33 14.6	+0.9
MSF				eS	Sn	16 33 55.9	-0.1
MSF				eSG	Sg	16 34 05.9	-6.7
MSF				MSG		16 34 08.2	
	comp=Z,1.4nm,0.2s						
KEV	Kevo	3.52	37	eP	Pn	16 33 14.6	+0.1
KEV				eS	Sn	16 33 55.9	-1.5
VAF	Ylistaro	4.11	169	eP	Pn	16 33 24.6	+1.7
VAF				eS	Sn	16 34 11.6	-0.9
KJN	Kajaani	4.12	133	eP	Pn	16 33 24.6	+1.6
KJN				eS	Sn	16 34 11.6	-1.0
KJN				eSG	Sg	16 34 26.7	-7.7
KJN				MSG		16 34 28.7	
	comp=Z,1.3nm,0.2s						
SUF	Sumiainen	4.90	150	eP	Pn	16 33 35.9	+1.7
SUF				eS	Sn	16 34 30.9	-1.6
KEF	Keuruu	5.21	159	eP	Pn	16 33 39.0	+0.6
KEF				eS	Sn	16 34 38.5	-1.6
KAF	Kangasniemi	5.49	152	eP	Pn	16 33 42.8	+0.3
KAF				eS	Sn	16 34 44.1	-3.1
FIA0	FINESS Array S	6.08	156	eP	Pn	16 33 50.1	-0.7
FIA0				eS	Sn	16 34 59.2	-2.8
FINES	FINESS Array B	6.08	156	Pn	Pn	16 33 49.7	-1.1
	comp=Z,0.1nm,0.3s,baz=348,slow=12,SNR=9.9						
FINES				Sn	Sn	16 34 59.1	-2.9
	comp=Z,0.2nm,0.3s,baz=346,slow=23,SNR=5.1						
NOA	NORSAR Array B	7.38	220	Pn	Pn	16 34 08.9	-0.2

	comp=Z,0.1nm,0.3s,baz=76,slow=21,SNR=1.2						
HFS	Hagfors	7.66	208	Pn	Pn	16 34 10.2	-2.8
	comp=Z,0.0nm,0.3s,baz=17,slow=15,SNR=4.5						

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*IDC **06** 16:45:16.4±0.8, 33.34N×136.83E, mb3.6/9, mb1 3.8/10, mb1mx3.7/23, ML3.6/1, Error ellipse: s-maj=26.3km s-min=17.0km az=65.0*

*NEIC **06** 16:45:18.3±0.5, 33.42N×136.88E, h10^{km}, mb4.1/8, Error ellipse: s-maj=12.4km s-min=8.7km az=105.0*

NEIC Recorded [1 JMA] in Mie and Nara Prefectures.

ISC 06 16:45:16.9±3.2**, 33.42N**±0.06×**136.97E**±0.08**, h15**^{km}±21^{km}**, n23, σ0^{s}99**/25**, mb3.8**/15**, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHJ	Hachijo jima 2	2.37	96	Pn	Pn	16 45 56.3	+0.3
	32nm,0.3s,baz=49,slow=14,SNR=11						
MAJO	Matsushiro	3.28	18	ePn	Pn	16 46 09.4	+0.5
MAT	Matsushiro	3.28	18	P	Pn	16 46 08.8	-0.1
MAT	Matsushiro	3.28	18	eP	Pn	16 46 09.0	+0.1
MAT				eS	Sn	16 46 47.0	-0.9
YSS	Yuzh-Sakhalins	14.22	16	P	P	16 48 39.5	-0.2
	2.2nm,0.5s						
NJ2	Nanjing	15.31	270	eP	P	16 49 01.0	+6.8
NJ2				AP		16 49 08.5	
NJ2				PP	PP	16 49 13.2	+6.7
NJ2				S	S	16 51 45.0	+0.9
NJ2				XS		16 51 57.0	
NJ2				AMB	AMB		
	comp=Z,30nm,0.7s						
NJ2				LR	LR		
	comp=N,1µm,16.3s						
NJ2				LR	LR		
	comp=E,800nm,14.0s						
NJ2				LR	LR		
	comp=Z,1µm,15.1s						
BJT	Baijiatuau	17.91	298	eP	P	16 49 26.2	-0.9
	comp=Z,2.7nm,0.4s						
HIA	Hailar	20.37	326	eP	P	16 49 54.8	-0.8
	comp=Z,2.2nm,0.4s						
ENH	Enshi	23.53	270	P	P	16 50 29.2	+1.8
	comp=Z,3.7nm,0.4s,mb4.2						
SONM	Songino Array	27.10	311	P	P	16 51 00.0	-0.9
	comp=Z,0.6nm,0.8s,mb3.2,baz=117,slow=11,SNR=4.6						
MA2	Magadan	27.72	15	eP	P	16 51 08.2	+1.9
	comp=Z,4.8nm,0.8s,mb4.2						
ZAL	Zalesovo	41.81	316	P	P	16 53 05.8	-1.6
	comp=Z,0.5nm,0.6s,mb3.4,baz=72,slow=10,SNR=2.2						
MKAR	Makanchi Array	43.07	305	P	P	16 53 18.4	+0.6
	comp=Z,1.2nm,0.6s,mb3.8,baz=91,slow=10,SNR=10						
KURK	Kurchatov	45.40	311	eP	P	16 53 36.3	-0.2
	comp=Z,1.5nm,0.8s,mb3.9						
AAK	Ala-Archa	49.07	300	P	P	16 54 05.5	+0.1
	comp=Z,0.9nm,0.3s,mb4.3						
BVAR	Borovoye Array	50.38	314	P	P	16 54 14.9	-0.4
	comp=Z,0.5nm,0.5s,mb3.9,baz=90,slow=8.9,SNR=4.6						
BRVK	Borovoye	50.45	314	P	P	16 54 16.2	+0.4
	comp=Z,0.8nm,0.4s,mb4.1						
FITZ	Fitzroy Crossi	52.36	194	P	P	16 54 29.6	-1.1
	comp=Z,2.1nm,0.8s,mb4.1,baz=165,slow=4.2,SNR=2.5						
WRAB	Tennant Creek	53.11	183	P	P	16 54 37.4	+1.1
	comp=Z,6.6nm,0.9s,mb4.6						
WRA	Warramunga Arr	53.12	183	P	P	16 54 34.8	-1.5
	comp=Z,0.4nm,0.2s,mb3.9,baz=0.3,slow=7.7,SNR=20						
ILAR	Eielson Array	54.47	31	P	P	16 54 47.7	+2.0
	comp=Z,0.2nm,0.7s,mb3.2,baz=288,slow=4.5,SNR=3.5						
ASAR	Alice Springs	56.84	183	P	P	16 55 02.6	-0.7
	comp=Z,0.5nm,0.8s,mb3.6,baz=18,slow=11,SNR=6.9						
AKASG	Malin Array Be	74.88	321	P	P	16 56 58.5	0.0
	comp=Z,0.1nm,0.3s,mb3.2,baz=55,slow=5.7,SNR=2.9						

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*NIED **06** 16:45:00, 33.50N×136.70E, h5^{km}, Mw4.9 Best double couple: M$_0$2.45×10^{16} NP1:φ$_s$337°, δ88°, λ118°. NP2:φ$_s$71°, δ28°, λ4°.*

*IDC **06** 16:45:27.7±0.8, 33.47N×136.70E, mb4.1/13, mb1 4.2/16, mb1mx4.1/24, ML3.5/3, Error ellipse: s-maj=20.6km s-min=17.4km az=65.0*

*BJI **06** 16:45:28.4, 33.29N×136.83E, h25^{km}, mB5.0, mb4.6, Ms4.5, Msz4.3*

*NEIC **06** 16:45:29.1±0.8, 33.57N×136.76E, h10^{km}, mb4.5/11, Error ellipse: s-maj=17.0km s-min=8.4km az=139.0*

*JMA **06** 16:45:30.1±0.1, 33.48N×136.73E, h41^{km}±2^{km}, M4.7*

JMA Felt I J1.

*MOS **06** 16:45:31.1±0.7, 33.44N×136.53E, h33^{km}, mb4.4/12, Error ellipse: s-maj=23.1km s-min=12.1km az=99.3*

ISC 06 16:45:29.8±0.6**, 33.51N**±0.03×**136.75E**±0.03**, h28**^{km}±4^{km}**, n72, σ1^{s}05**/84**, mb4.3**/31**, MS4.3**/6**, 1D, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	Tokai 1	0.74	70	S	Sb	16 45 55.3	+1.4
JKN	Kiinagashima	0.84	331	P	Pb	16 45 46.0	+0.3
JKN				S	Sb	16 45 56.7	0.0
JWZ	Kozaga	0.87	272	P	Pb	16 45 45.4	-0.7
JWZ				S	Sb	16 45 57.5	+0.1
JIE	Ise	0.88	358	P	Pb	16 45 46.7	+0.3
JIE				S	Sb	16 45 58.2	+0.4
TK02	Tokai 2	0.95	62	S	Sb	16 45 58.7	-0.9
JWM	Minabe	1.21	287	P	Pn	16 45 51.1	0.0
JWM				S	Sn	16 46 06.6	-0.2
TSUJ	Tsu 2	1.23	347	P	Pn	16 45 51.7	+0.3
TSUJ				S	Sn	16 46 07.1	-0.1
TK04	Tokai 4	1.28	47	S	Sn	16 46 07.9	-0.5
JHE	Heguri	1.45	323	P	Pn	16 45 54.6	+0.1
JHE				S	Sn	16 46 12.7	0.0
JHJ	Hachijo jima 2	2.57	98	Pn	Pn	16 46 09.6	-0.9
	37nm,0.3s,baz=265,slow=22,SNR=9.7						
JHJ				Sn	Sn	16 46 39.6	-1.5
	82nm,0.3s,baz=60,slow=23,SNR=7.7						
MAJO	Matsushiro	3.26	21	ePn	Pn	16 46 18.4	-1.8
MAT	Matsushiro	3.26	21	P	Pn	16 46 18.0	-2.3
MAT				S	Sn	16 46 58.0	-0.5
JNU	Nakatsue	4.93	267	Pn	Pn	16 46 41.9	-2.2
	1.7nm,0.3s,baz=52,slow=22,SNR=4.2						
ASAJ	Asahikawa	11.53	22	Pn	P	16 48 13.2	-2.4
	0.4nm,0.3s,baz=213,slow=15,SNR=4.3						
SSE	Sheshan	13.39	264	eP	P	16 48 41.3	+0.8
SSE				S	S	16 51 06.4	-2.9
SSE				AMB	AMB		
	comp=Z,27nm,0.8s						
SSE				LR	LR		
	comp=N,1µm,23.3s						
SSE				LR	LR		
	comp=E,148nm,23.3s						
SSE				LR	LR		
	comp=Z,477nm,20.9s						
YSS	Yuzh-Sakhalins	14.19	17	eP	P	16 48 44.5	-6.4
YSS				MLR	MLR		
	comp=Z,700nm,16.0s						
YSS				MLR	MLR		
	comp=N,700nm,15.0s						
YSS				MLR	MLR		
	comp=E,2µm,18.0s						
YSS	Yuzh-Sakhalins	14.19	17	eP	P	16 48 46.7	-4.2
	comp=E,14nm,1.0s						
KLR	Kul'dur	16.14	348	eP	P	16 49 17.2	+0.9
KLR				MLR	MLR		
	comp=N,900nm,16.0s						
KLR				MLR	MLR		
	comp=E,2µm,16.0s						
KLR				MLR	MLR		
	comp=Z,1µm,14.0s						
BJI	Beijing	17.71	298	P	P	16 49 36.9	+0.9
BJI				AMB	AMB		
	comp=Z,22nm,0.6s						
BJI				LR	LR		
	comp=N,1µm,16.9s						
BJI				LR	LR		
	comp=E,522nm,16.9s						
BJI				LR	LR		
	comp=Z,844nm,18.7s						
BJT	Baijiatuau	17.71	297	eP	P	16 49 35.0	-1.0
	comp=Z,23nm,0.7s						
WHN	Wuhan	19.22	267	eP	P	16 49 55.5	+1.0
WHN				S	S	16 53 23.0	-1.3
WHN				LR	LR		
	comp=Z,3µm,11.8s						
HIA	Hailar	20.19	326	eP	P	16 50 04.7	-0.3
	comp=Z,11nm,0.8s						
HHC	Hu-ho-hao-te	21.32	297	eP	P	16 50 15.1	-1.5
HHC				AP		16 50 20.3	
HHC				PP	PP	16 50 39.3	-1.2
HHC				S	S	16 54 05.0	-1.9
HHC				AMB	AMB		
	comp=Z,15nm,0.8s,mb4.4						
HHC				AMB	AMB		
	comp=Z,1µm,9.8s						
HHC				LR	LR		
	comp=N,766nm,16.1s,MS4.4						
HHC				LR	LR		
	comp=E,831nm,13.1s,MS4.4						
HHC				LR	LR		
	comp=Z,742nm,13.7s,MS4.2						
XAN	Xi'an	23.12	279	P	P	16 50 35.6	+1.1
XAN				AP		16 50 44.9	
XAN				AMB	AMB		
	comp=Z,21nm,1.5s,mb4.3						
ENH	Enshi	23.35	270	eP	P	16 50 37.5	+0.7
	comp=Z,46nm,0.9s,mb4.9						
PET	Petropavlovsk	25.02	32	eP	P	16 50 55.1	+2.4
PET				pmax	pmax		
	comp=Z,40nm,1.2s,mb4.8						
PET				MLR	MLR		
	comp=Z,400nm,18.0s,MS4.0						
SONM	Songino Array	26.90	311	P	P	16 51 10.4	+0.2
	comp=Z,3.5nm,0.9s,mb3.9,baz=120,slow=8.6,SNR=15						
LZH	Lanzhou	27.08	285	eP	P	16 51 13.0	+1.1
LZH				AP	pP	16 51 22.9	+2.8
LZH				XP	sP	16 51 27.2	+3.4
LZH				AMB	AMB		
	comp=Z,50nm,1.2s,mb4.9						
LZH				LR	LR		
	comp=E,2µm,12.0s						
LZH				LR	LR		
	comp=Z,2µm,12.5s,MS4.8						
MA2	Magadan	27.68	15	eP	P	16 51 17.9	+0.7
MA2				eS	S	16 55 55.4	-0.4
MA2				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.3						
MA2				MLR	MLR		
	comp=Z,2µm,20.0s,MS4.6						
MA2	Magadan	27.68	15	eP	P	16 51 17.2	0.0
	comp=Z,13nm,0.9s,mb4.6						
CD2	Chengdu	27.97	274	P	P	16 51 20.0	-0.1
CD2				AMB	AMB		
	comp=Z,40nm,0.5s,mb5.3						
YAK	Yakutsk	28.90	353	eP	P	16 51 32.2	+4.1
YAK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
ZAK	Zakamensk	29.74	315	eP	P	16 51 31.6	-4.2
GTA	Gaotai	30.14	292	eP	P	16 51 39.5	0.0
GTA				S	S	16 56 42.4	+7.0
GTA				AMB	AMB		
	comp=Z,2.0nm,1.0s,mb3.8						
GTA				AMB	AMB		
	comp=Z,116nm,4.6s						
GTA				LR	LR		
	comp=N,370nm,16.0s,MS4.3						
GTA				LR	LR		
	comp=E,412nm,14.5s,MS4.3						
GTA				LR	LR		
	comp=Z,475nm,14.5s,MS4.3						
CMAR	Chiang Mai Arr	36.92	256	P	P	16 52 37.7	-0.5
	comp=Z,1.3nm,0.6s,mb3.9,baz=53,slow=7.4,SNR=11						
CMAR	Chiang Mai Arr	36.92	256	P	P	16 52 37.7	-0.5
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TIXI	Tiksi	38.44	356	eP	P	16 52 52.5	+2.1
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.2						
TIXI				MLR	MLR		
	comp=Z,200nm,18.0s,MS4.0						
LSA	Lhasa	38.79	277	P	P	16 52 55.4	+1.6
ZAL	Zalesovo	41.62	315	P	P	16 53 16.7	-0.1
	comp=Z,0.5nm,0.6s,mb3.4,baz=322,slow=9.0,SNR=4.2						
ZAL	Zalesovo	41.62	315	P	P	16 53 16.7	-0.1
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NVS	Novosibirsk	42.65	317	eP	P	16 53 24.3	-0.9
MKAR	Makanchi Array	42.87	305	P	P	16 53 28.4	+1.3
	comp=Z,6.7nm,0.8s,mb4.4,baz=89,slow=11,SNR=32						
MKAR	Makanchi Array	42.87	305	P	P	16 53 28.5	+1.3
MKAR				pmax	pmax		
	comp=Z,7.0nm,0.8s						
PKI	Pulchoki	44.25	277	eP	P	16 53 39.1	+0.4
	comp=Z,15nm,1.1s,mb4.7						
KKN	Kakani	44.28	277	eP	P	16 53 39.6	+0.7
	comp=Z,23nm,1.0s,mb4.9						
DMN	Daman	44.49	277	eP	P	16 53 41.0	+0.4
	comp=Z,16nm,1.0s,mb4.7						
GKN	Gorkha	44.74	278	eP	P	16 53 42.9	+0.3
	comp=Z,21nm,1.0s,mb4.9						
KURK	Kurchatov	45.20	310	eP	P	16 53 46.0	+0.1
	comp=Z,8.8nm,1.0s,mb4.5						
KOLN	Koldanda	45.68	278	eP	P	16 53 47.0	-3.1
AAK	Ala-Archa	48.87	300	eP	P	16 54 13.8	-1.0
	comp=Z,1.9nm,0.6s,mb4.3						
BVAR	Borovoye Array	50.19	314	P	P	16 54 24.8	0.0
	comp=Z,2.6nm,1.0s,mb4.2,baz=90,slow=7.4,SNR=7.1						
BRVK	Borovoye	50.25	314	eP	P	16 54 24.6	-0.7
	comp=Z,4.0nm,1.1s,mb4.4						
WRA	Warramunga Arr	53.20	183	P	P	16 54 47.3	-0.7
	comp=Z,1.7nm,0.6s,mb4.2,baz=0.2,slow=7.6,SNR=12						
WRA	Warramunga Arr	53.20	183	P	P	16 54 47.3	-0.7
WRA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
COLA	College	54.07	31	eP	P	16 54 55.8	+2.1
HYB	Hyderabad	54.28	268	i P	P	16 54 56.5	+0.6
ILAR	Eielson Array	54.49	31	P	P	16 54 58.7	+1.9
	comp=Z,0.7nm,0.8s,mb3.6,baz=280,slow=6.2,SNR=9.1						
ILAR	Eielson Array	54.49	31	P	P	16 54 58.7	+1.9
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ARU	Arti	56.51	319	⇓iP	P	16 55 11.1	-0.4
ARU				e		16 56 09.6	
ARU				e		16 57 18.6	
ARU				eS	S	17 02 58.6	-0.6
ARU				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
ASAR	Alice Springs	56.92	183	P	P	16 55 14.9	0.0
	comp=Z,1.2nm,0.7s,mb4.0,baz=11,slow=7.3,SNR=6.9						
ARCES	ARCESS Array B	65.93	339	P	P	16 56 15.2	+0.4
	comp=Z,2.4nm,0.8s,mb4.3,baz=78,slow=11,SNR=5.0						
ARCES	ARCESS Array B	65.93	339	P	P	16 56 15.3	+0.4
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
FINES	FINESS Array B	70.12	331	P	P	16 56 41.2	+0.1
	comp=Z,1.1nm,0.6s,mb4.0,baz=76,slow=7.9,SNR=6.6						
FINES	FINESS Array B	70.12	331	P	P	16 56 41.2	+0.1
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	Malin Array Be	74.69	321	P	P	16 57 08.2	-0.1
	comp=Z,1.7nm,0.5s,mb4.2,baz=52,slow=6.2,SNR=8.9						
AKASG	Malin Array Be	74.69	321	P	P	16 57 08.2	-0.1
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
BRTR	Keskin Array B	78.25	310	P	P	16 57 29.8	+1.2
	comp=Z,3.8nm,1.1s,mb4.2,baz=63,slow=2.8,SNR=6.3						
BRTR	Keskin Array B	78.25	310	P	P	16 57 29.8	+1.2
BRTR				pmax	pmax		
	comp=Z,4.0nm,1.1s						
CLL	Collm	82.16	328	e*SP	sP	16 58 03.0	+2.0
GERES	GERESS Array B	83.60	326	P	P	16 57 57.7	+1.2
	comp=Z,0.8nm,0.8s,mb3.9,slow=5.3,SNR=4.8						
GERES	GERESS Array B	83.60	326	P	P	16 57 57.7	+1.1
GERES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
VNA2	Neumayer--Watz	137.86	197		PKPdf	17 05 04.1	+8.3

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*IDC **06** 16:46:34.4±0.8, 33.13N×137.00E, mb4.2/9, mb1 4.4/11, mb1mx4.2/23, ML3.8/2, MS4.0/1, Ms1 4.2/1, ms1mx3.5/25, Error ellipse: s-maj=25.2km s-min=21.5km az=66.0*

*NEIC **06** 16:46:36.1±0.5, 33.07N×136.94E, h10^{km}, mb4.5/2, Error ellipse: s-maj=13.5km s-min=10.1km az=116.0*

*JMA **06** 16:46:38.4±0.1, 33.17N×136.95E, h48^{km}±4^{km}, M4.2*

ISC 06 16:46:36.7±1.9**, 33.13N**±0.04×**137.01E**±0.05**, h26**^{km}±14^{km}**, n25, σ0^{s}81**/32**, mb4.2**/11**, MS3.9**/1**, 2C-5D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JKN	Kiinagashima	1.28	331	⇓P	Pn	16 46 59.3	+0.1
JIE	Ise	1.28	349	⇓P	Pn	16 46 59.6	+0.3
JIE				S	Sn	16 47 15.3	-0.4
TK04	Tokai 4	1.44	30	S	Sn	16 47 19.5	-0.3
JWM	Minabe	1.56	298	⇓P	Pn	16 47 03.2	0.0
JWM				S	Sn	16 47 21.9	-0.8
JWY	Kouya	1.61	313	⇓P	Pn	16 47 04.5	+0.6
JWY				S	Sn	16 47 23.4	-0.5
TSUJ	Tsu 2	1.65	343	P	Pn	16 47 04.8	+0.3
TSUJ				S	Sn	16 47 25.0	0.0
JHE	Heguri	1.88	324	⇓P	Pn	16 47 08.2	+0.4
JHE				S	Sn	16 47 30.4	-0.4
JHJ	Hachijo jima 2	2.33	90	Pn	Pn	16 47 14.4	+0.3
	170nm,0.3s,baz=259,slow=23,SNR=7.6						
JHJ				Sn	Sn	16 47 40.1	-2.1
	187nm,0.3s,baz=28,slow=22,SNR=12						
MAT	Matsushiro	3.54	16	P	Pn	16 47 33.1	+1.6
MAT				S	Sn	16 48 11.8	-1.2
MAT	Matsushiro	3.54	16	P	Pn	16 47 33.0	+1.5
MAT				eS	Sn	16 48 12.0	-1.0
JNU	Nakatsue	5.15	272	Pn	Pn	16 47 52.5	-1.7
	2.4nm,0.3s,baz=73,slow=14,SNR=2.1						
CMAR	Chiang Mai Arr	37.04	256	LR	LR	17 12 07.9	
	comp=Z,182nm,18.2s,MS3.9,baz=65,slow=41						
FITZ	Fitzroy Crossi	52.09	194	P	P	16 55 46.3	-0.7
	2.3nm,0.7s,mb4.2,baz=30,slow=8.1,SNR=2.6						
WRA	Warramunga Arr	52.84	183	P	P	16 55 51.5	-1.0
	1.9nm,1.2s,mb3.9,baz=0.9,slow=7.6,SNR=2.4						
ARCES	ARCESS Array B	66.36	339	P	P	16 57 24.7	-0.2
	3.4nm,0.7s,mb4.5,baz=45,slow=8.6,SNR=4.4						
FINES	FINESS Array B	70.55	332	P	P	16 57 51.1	0.0
	0.9nm,0.6s,mb3.9,baz=37,slow=6.9,SNR=6.4						
AKASG	Malin Array Be	75.12	321	P	P	16 58 17.9	-0.2
	6.7nm,0.9s,mb4.6,baz=51,slow=6.1,SNR=8.1						
BRTR	Keskin Array B	78.66	310	P	P	16 58 38.9	+0.8
	1.0nm,0.9s,mb3.8,baz=127,slow=6.2,SNR=3.6						
BRG	Berggiesshubel	82.49	328	P	P	16 58 58.7	+0.6
	2.7nm,0.9s,mb4.2						
CLL	Collm	82.60	328	⇑P	P	16 58 59.0	+0.4
	logA/T=0.8,mb4.6						
CLL	Collm	82.60	328	⇑eP	P	16 58 59.0	+0.4
	6.0nm,1.0s,mb4.6						
PDAR	Pinedale Array	82.97	43	P	P	16 59 01.1	+0.3
	0.8nm,0.8s,mb3.8,baz=322,slow=3.4,SNR=3.5						
KHC	Kasperske Hory	83.89	327	eP	P	16 59 06.0	+0.7
GERES	GERESS Array B	84.03	326	P	P	16 59 06.9	+0.9
	1.8nm,0.6s,mb4.3,baz=34,slow=4.8,SNR=10.0						
TXAR	Lajitas Array	95.38	50	P	P	17 00 01.9	+1.7
	1.0nm,0.6s,mb4.4,baz=290,slow=3.7,SNR=6.2						

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*IDC **06** 16:54:28.6±1.1, 54.85S×27.61W, mb4.1/3, mb1 4.3/3, mb1mx4.0/9, Error ellipse: s-maj=122.0km s-min=24.9km az=43.0*

*NEIC **06** 16:54:30.3±0.7, 55.12S×27.96W, h10^{km}, mb4.2/6, Error ellipse: s-maj=23.2km s-min=8.8km az=56.0*

ISC 06 16:54:29.1±1.0**, 55.0S**±0.1×**27.9W**±0.3**, h10**^{km}**, n19, σ0^{s}96**/17**, mb4.2**/8**, 5C-1D, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	17.95	159	⇑i	P	16 58 47.1	+7.1
VNA3	Neumayer Olymp	18.14	161	⇑i	P	16 58 43.4	+0.9
VNA2	Neumayer--Watz	18.34	159	⇓i	P	16 58 44.9	-0.1
VNA2	Neumayer--Watz	18.34	159	⇑i	P	16 58 46.1	+1.1
SNAA	Sanae	19.89	157		P	16 58 57.8	-5.4
SNAA	Sanae	19.89	157	⇑i	P	16 59 00.8	-2.4
SNAA	Sanae	19.89	157	⇑iP	P	16 59 00.8	-2.4
PMSA	Palmer Station	20.32	227	P	P	16 59 06.8	-0.9
	11nm,0.9s						
TRQA	Tornquist	28.53	292	eP	P	17 00 26.6	0.0
	2.5nm,0.6s,mb4.1						
QSPA	South Pole Qui	35.28	180	eP	P	17 01 21.5	-3.9
	4.2nm,0.9s,mb4.4						
CPUP	Villa Florida	35.79	311	P	P	17 01 29.8	-0.5
	2.9nm,0.8s,mb4.3,baz=153,slow=11,SNR=5.8						
MAW	Mawson	41.26	144	P	P	17 02 14.9	-0.6
	1.8nm,1.1s,mb3.6,baz=267,slow=8.7,SNR=4.2						
LVC	Limon Verde	44.40	300	eP	P	17 02 42.3	+0.8
	2.9nm,0.7s,mb4.1						
SBA	Scott Base	47.13	184	eP	P	17 03 03.3	+0.9
	2.9nm,0.9s,mb4.2						
LPAZ	La Paz	49.42	305	P	P	17 03 22.0	+1.0
	3.3nm,0.7s,mb4.5,baz=205,slow=5.0,SNR=7.5						
LPAZ	La Paz	49.42	305	P	P	17 03 22.0	+1.0
SAML	Samuel	53.75	315	eP	P	17 03 52.8	-0.9
	1.9nm,0.8s,mb4.1						
ILAR	Eielson Array	149.09	313	PKPbc	PKPdf	17 14 15.2	+0.5
	4.0nm,0.7s,baz=128,slow=1.6,SNR=29						
SONM	Songino Array	151.06	85	PKPbc	PKPdf	17 14 22.5	+4.1
	0.8nm,0.8s,baz=213,slow=2.3,SNR=5.1						

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*JMA **06** 17:07:42.4±0.1, 33.23N×137.21E, h42^{km}±2^{km}, M3.5*

ISC 06 17:07:42.3±0.8**, 33.23N**±0.05×**137.21E**±0.03**, h47**^{km}±16^{km}**, n17, σ0^{s}60**/34**, 7D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	Tokai 1	0.62	31	P	P	17 07 54.7	-0.3
TK01				S	S	17 08 03.6	-0.6
TK02	Tokai 2	0.85	33	⇓P	P	17 07 58.1	+0.1
TK02				S	S	17 08 09.8	+0.2
TK03	Tokai 3	1.12	34	P	P	17 08 02.0	+0.1
TK03				S	S	17 08 16.6	+0.1
JIE	Ise	1.23	340	⇓P	P	17 08 04.1	+0.7
JIE				S	S	17 08 20.1	+1.0
TK04	Tokai 4	1.28	26	⇓P	P	17 08 04.4	+0.3
TK04				S	S	17 08 20.3	-0.1
JKN	Kiinagashima	1.28	322	P	P	17 08 04.5	+0.3
JKN				S	S	17 08 19.4	-1.1
JWZ	Kozaga	1.28	284	⇓P	P	17 08 04.3	+0.1
JWZ				S	S	17 08 19.5	-1.0
TSUJ	Tsu 2	1.61	336	⇓P	P	17 08 09.4	+0.5
TSUJ				S	S	17 08 28.6	0.0
JWM	Minabe	1.66	292	P	P	17 08 10.0	+0.4
JWM				S	S	17 08 29.2	-0.7
JWY	Kouya	1.67	307	⇓P	P	17 08 10.5	+0.8
JWY				S	S	17 08 30.0	+0.1
JHE	Heguri	1.90	319	⇓P	P	17 08 13.6	+0.7
JHE				S	S	17 08 35.9	+0.2
SHZ3	Shizuoka 3	2.01	24	P	P	17 08 14.3	-0.2
SHZ3				S	S	17 08 37.2	-1.3
JIZS	Izushimoda	2.03	43	P	P	17 08 15.0	+0.2
JIZS				S	S	17 08 38.6	-0.4
JHJ2	Mitsune	2.19	92	P	P	17 08 17.6	+0.5
JHJ2				S	S	17 08 42.2	-0.9
JAI	Aioi	2.37	284	P	P	17 08 20.1	+0.5
JAI				S	S	17 08 46.2	-1.4
JGM	Miyama	2.49	351	P	P	17 08 21.9	+0.5
JGM				S	S	17 08 51.3	+0.5
MAT	Matsushiro	3.40	14	P	P	17 08 35.0	+0.7
MAT				S	S	17 09 13.5	-0.3

NEIC 06 17:11:34.0, 19.41N×155.50W, h13^{km}**, MD3.5**(HVO)**, After HVO., Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KKH	Kailua Kona	0.55	297	ePg	Pg	17 11 43.7	-1.5
HKL	Haleakala	1.48	331	ePn	Pn	17 12 00.8	+0.3
HKL				eS	Sb	17 12 13.4	-5.9
KIP	Kipapa	3.09	311	Pn	Pn	17 12 18.4	-5.1

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*NIED **06** 17:23:00, 33.00N×136.80E, h5^{km}, Mw4.5 Best double couple: M$_0$6.98×10^{15} NP1:φ$_s$186°, δ89°, λ-120°. NP2: φ$_s$95°, δ30°, λ-1°.*

*BJI **06** 17:23:37.1, 32.45N×136.89E, h36^{km}, mB4.7, mb4.3, Ms4.2, Msz3.9*

*NEIC **06** 17:23:37.5±0.5, 32.99N×136.86E, h10^{km}, mb4.2/5, Error ellipse: s-maj=11.3km s-min=8.7km az=91.0*

*JMA **06** 17:23:37.0±0.1, 32.97N×136.78E, h37^{km}±3^{km}, M3.8*

*IDC **06** 17:23:40.9±0.9, 32.88N×136.65E, h27^{km}±5^{km}, mb3.7/8, mb1 3.9/10, mb1mx3.7/23, ML3.3/2, MS3.9/3, Ms1 3.9/3, ms1mx3.3/28, Error ellipse: s-maj=28.4km s-min=15.6km az=62.0*

ISC 06 17:23:37.5±0.8**, 33.04N**±0.03×**136.78E**±0.03**, h23**^{km}±6^{km}**, h25**^{km}±.6^{km}**:pP-P, n40, σ0^{s}92**/54**, mb4.0**/13**, MS4.1**/2**, 7C, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	**Tokai 1**	0.99	43	P	Pb	17 23 55.4	-0.5
TK01				S	Sb	17 24 09.1	+0.6
JWZ	**Kozaga**	1.01	299	⇑P	Pb	17 23 55.7	-0.6
JWZ				S	Sb	17 24 09.1	-0.1
TK02	**Tokai 2**	1.22	42	P	Pn	17 23 58.7	-0.7
TK02				S	Sb	17 24 15.7	+0.6
JKN	**Kiinagashima**	1.28	340	P	Pn	17 24 00.3	+0.1
JKN				S	Sn	17 24 16.3	-0.4
JIE	**Ise**	1.35	357	⇑P	Pn	17 24 01.5	+0.3
JIE				S	Sn	17 24 18.6	+0.1
JWM	**Minabe**	1.44	304	⇑P	Pn	17 24 02.0	-0.5
JWM				S	Sn	17 24 20.0	-0.8
JWY	**Kouya**	1.53	320	⇑P	Pn	17 24 04.3	+0.4
JWY				S	Sn	17 24 23.7	+0.5
TK04	**Tokai 4**	1.62	34	P	Pn	17 24 04.9	-0.2
TK04				S	Sn	17 24 25.4	-0.1
TSUJ	**Tsu 2**	1.69	350	⇑P	Pn	17 24 06.4	+0.3
TSUJ				S	Sn	17 24 27.0	-0.2
JHE	**Heguri**	1.85	331	⇑P	Pn	17 24 08.7	+0.4
JHE				S	Sn	17 24 31.1	-0.1
JAI	**Aioi**	2.08	292	⇑P	Pn	17 24 11.2	-0.6
JAI				S	Sn	17 24 35.7	-1.5
JAJ2	**Tsuna**	2.09	312	P	Pn	17 24 12.1	+0.2
JAJ2				S	Sn	17 24 37.3	-0.1
SHZ3	**Shizuoka 3**	2.34	30	P	Pn	17 24 14.9	-0.6
SHZ3				S	Sn	17 24 43.1	-0.7
JHJ	**Hachijo jima 2**	2.52	87	Pn	Pn	17 24 17.7	-0.4
	10.0nm,0.3s,baz=242,slow=20,SNR=3.0						
JHJ				Sn	Sn	17 24 47.8	-0.7
	26nm,0.3s,baz=56,slow=13,SNR=8.3						
MAJO	**Matsushiro**	3.68	18	*e*Pn	Pn	17 24 34.9	+0.3
MAT	**Matsushiro**	3.68	18	P	Pn	17 24 34.1	-0.4
MAT				S	Sn	17 25 16.9	-0.9
MAT	**Matsushiro**	3.68	18	*e*P	Pn	17 24 34.0	-0.5
MAT				*e*S	Sn	17 25 17.0	-0.8
JNU	**Nakatsue**	4.95	273	Pn	Pn	17 24 53.4	+0.9
	1.7nm,0.3s,baz=341,slow=5.8,SNR=3.7						
JNU				Sn	Sn	17 25 47.2	-2.6
	1.5nm,0.3s,baz=179,slow=19,SNR=2.5						
CBIJ	**Chichi jima**	7.55	140	LR	LR	17 27 49.9	
	comp=Z,677nm,20.1s,baz=335,slow=33						
ASAJ	**Asahikawa**	11.95	21	LR	LR	17 31 25.8	
	comp=Z,432nm,20.5s,baz=337,slow=38						
MDJ	**Mudanjiang**	12.84	336	P	P	17 26 41.1	-0.3
	3.3nm,0.5s						
CN2	**Changchun**	13.92	324	*e*P	P	17 27 05.4	+10
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s						
BJT	**Baijiatuau**	17.95	299	*e*P	P	17 27 48.5	+1.3
	comp=Z,9.0nm,0.7s						
BJI	**Beijing**	17.95	299	P	P	17 27 48.9	+1.6
BJI				AMB	AMB		
	comp=Z,11nm,0.7s						
BJI				LR	LR		
	comp=Z,342nm,18.5s						
HHC	**Hu-ho-hao-te**	21.56	298	*e*P	P	17 28 26.3	-1.0
HHC				PP	PP	17 28 51.0	-0.9
HHC				AMB	AMB		
	comp=Z,15nm,0.4s,mb4.8						
HHC				AMB	AMB		
	comp=Z,260nm,6.5s						
HHC				LR	LR		
	comp=N,419nm,16.6s,MS4.0						
HHC				LR	LR		
	comp=E,349nm,14.9s,MS4.0						
HHC				LR	LR		
	comp=Z,353nm,11.9s,MS4.0						
XAN	**Xi’an**	23.22	280	P	P	17 28 46.0	+2.2
ENH	**Enshi**	23.37	271	*e*P	P	17 28 46.8	+1.5
	comp=Z,5.7nm,0.6s,mb4.2						
SONM	**Songino Array**	27.23	312	P	P	17 29 22.5	+1.0
	comp=Z,1.1nm,0.6s,mb3.6,baz=213,slow=2.4,SNR=10						
ZAL	**Zalesovo**	41.97	316	LR	LR	17 50 22.1	
	comp=Z,302nm,18.0s,MS4.2,baz=0.3,slow=38						
MKAR	**Makanchi Array**	43.15	305	P	P	17 31 39.2	+1.3
	comp=Z,2.3nm,0.8s,mb4.0,baz=93,slow=10.0,SNR=15						
MKAR				pP	pP	17 31 47.2	+2.4
	comp=Z,1.5nm,0.6s,baz=100,slow=7.4,SNR=8.3						
MKAR	**Makanchi Array**	43.15	305	P	P	17 31 39.2	+1.3
MKAR				pP	pP	17 31 47.2	+2.4
KURK	**Kurchatov**	45.52	311	*e*P	P	17 31 57.3	+0.4
	comp=Z,3.5nm,0.8s,mb4.3						
BRVK	**Borovoye**	50.59	314	*e*P	P	17 32 36.7	+0.4
	comp=Z,1.9nm,0.8s,mb4.1						
ZRNK	**Zerenda**	51.37	314	*e*P	P	17 32 41.7	-0.5
	comp=Z,2.4nm,0.7s,mb4.2						
FITZ	**Fitzroy Crossi**	51.96	193	P	P	17 32 44.9	-2.3
	comp=Z,2.6nm,1.0s,mb4.1,baz=50,slow=16,SNR=2.7						
WRA	**Warramunga Arr**	52.74	183	P	P	17 32 51.3	-1.7
	comp=Z,0.6nm,0.6s,mb3.7,baz=2.4,slow=8.0,SNR=13						
ASAR	**Alice Springs**	56.46	183	P	P	17 33 20.4	+0.4
	comp=Z,0.5nm,0.7s,mb3.7,baz=12,slow=13,SNR=8.7						
ASAR				pP	pP	17 33 28.1	+0.9
	comp=Z,0.6nm,0.6s,baz=2.3,slow=12,SNR=4.4						
STKA	**Stephens Creek**	64.73	175	P	P	17 34 15.9	-0.4
	comp=Z,2.5nm,0.9s,mb4.2,baz=354,slow=9.2,SNR=3.2						
STKA				pP	pP	17 34 23.5	-0.1
	comp=Z,1.5nm,0.5s,baz=328,slow=7.8,SNR=2.1						
GERES	**GERESS Array B**	84.00	326	P	P	17 36 08.6	+1.5
	comp=Z,0.5nm,0.7s,mb3.8,baz=18,slow=4.2,SNR=4.0						
TXAR	**Lajitas Array**	95.58	50	P	P	17 37 05.2	+2.8
	comp=Z,0.1nm,0.6s,mb3.4,baz=207,slow=2.0,SNR=2.8						
TXAR				pP	pP	17 37 13.6	+3.7
	comp=Z,0.3nm,0.7s,baz=284,slow=2.8,SNR=3.9						

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*HEL **06** 17:26:10.9±0.2, 59.61N×22.35E, ML1.9, ML2.6(UPP), ML2.0(NAO), Explosion*

*IDC **06** 17:26:10.4±3.5, 59.56N×22.51E, mb1 3.3/3, mb1mx3.0/18, ML3.0/3, Error ellipse: s-maj=49.0km s-min=11.0km az=165.0*

*BER **06** 17:26:13.1±3.4, 59.89N×22.22E, h0^{km}±18^{km}, ML2.0(NAO)*

*NAO **06** 17:26:14.0±2.1, 60.11N×22.08E, ML2.0*

ISC 06 17:26:10.1±0.5**, 59.68N**±0.04×**22.36E**±0.05**, n23, σ1^{s}06**/41**, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AAL	**Aland**	1.29	294	*e*P	Pb	17 26 33.6	-1.4
AAL				*e*S	Sb	17 26 50.0	-2.0
NRTU	**Norrtaelje**	1.89	272	*e*P	Pn	17 26 44.6	+0.7
NRTU				*e*S	Sn	17 27 09.4	+0.6
PVF	**Pernaja**	1.96	62	*e*P	Pn	17 26 45.0	+0.1
PVF				*e*S	Sn	17 27 10.1	-0.4
FLYU	**Flymyra**	2.30	283	*e*P	Pn	17 26 50.0	+0.2
FIA0	**FINESS Array S**	2.55	44	*e*P	Pn	17 26 54.3	+0.9
FIA0				*e*S	Sn	17 27 25.5	-0.1
FIA0	**FINESS Array S**	2.55	44	Pn	Pn	17 26 54.8	+1.4
	baz=235,slow=16						
FIA0				Lg		17 27 27.2	
	baz=230,slow=22						
FINES	**FINESS Array B**	2.55	44	Pn	Pn	17 26 54.5	+1.2
	2.0nm,0.3s,baz=233,slow=14,SNR=78						
FINES				Sn	Sn	17 27 27.3	+1.7
	4.6nm,0.3s,baz=238,slow=21,SNR=27						
VSU	**Vasula**	2.57	116	*e*P	Pn	17 26 53.4	-0.2
VSU				*e*S	Sn	17 27 23.7	-2.3
BACU	**Backbrunna**	2.66	276	*e*P	Pn	17 26 55.6	+0.6
VJF	**Virojoki**	2.74	69	*e*P	Pn	17 26 56.5	+0.4
VJF				*e*S	Sn	17 27 29.2	-1.2
KEF	**Keuruu**	2.78	25	*e*P	Pn	17 26 57.9	+1.2
KEF				*e*S	Sn	17 27 31.2	-0.3
KAF	**Kangasniemi**	3.11	37	*e*P	Pn	17 27 02.2	+0.8
KAF				*e*S	Sn	17 27 39.2	-0.6
KAF				MSG		17 27 44.6	
	comp=Z,4.8nm,0.3s						
VAF	**Ylistaro**	3.38	2	*e*P	Pn	17 27 06.5	+1.3
VAF				*e*S	Sn	17 27 46.5	-0.1
SUF	**Sumiainen**	3.56	29	*e*P	Pn	17 27 08.7	+0.9
SUF				*e*S	Sn	17 27 50.5	-0.7
SUF				MSG		17 27 57.3	
	comp=Z,1.5nm,0.2s						
NRAU	**Nora**	3.72	272	*e*P	Pn	17 27 10.8	+0.8
OSKU	**Oskarshamn**	4.12	236	*e*P	Pn	17 27 17.1	+1.4
HFS	**Hagfors**	4.39	280	*e*P	Pn	17 27 18.6	-0.9
HFS				*e*PG	Pg	17 27 28.8	-8.9
HFS				*e*SG	Sg	17 28 24.8	-11
HFS	**Hagfors**	4.39	280	Pn	Pn	17 27 18.6	-0.9
	baz=84,slow=16						
HFS				Pg	Pg	17 27 28.8	-8.9
	baz=101,slow=14						
HFS				Lg		17 28 24.8	
	baz=93,slow=37						
KJN	**Kajaani**	5.10	27	*e*P	Pn	17 27 29.5	0.0
KJN				*e*S	Sn	17 28 26.6	-3.4
KJN				*e*SB	Sb	17 28 43.2	+0.8
NOA	**NORSAR Array B**	5.70	289	Pn	Pn	17 27 36.1	-1.9
	comp=Z,0.3nm,0.3s,baz=84,slow=10.0,SNR=2.8						
NOA				Sn	Sn	17 28 40.2	-4.9
	comp=Z,0.2nm,0.3s,baz=169,slow=20,SNR=2.7						
NOA				Lg		17 29 02.7	
	comp=Z,0.7nm,0.3s,baz=85,slow=10,SNR=4.4						
ARA0	**ARCESS Array S**	9.99	6	Pn	P	17 28 32.2	-5.5
	baz=185,slow=16						
ARA0				Sn	Sn	17 30 18.0	-14
	baz=190,slow=28						
ARA0				Lg		17 31 15.3	
	baz=179,slow=37						
ARA0	**ARCESS Array S**	9.99	6	*e*P	P	17 28 32.2	-5.5
ARA0				*e*		17 30 18.0	
ARA0				*e*		17 31 15.3	
ARCES	**ARCESS Array B**	9.99	6	Pn	P	17 28 33.1	-4.6
	comp=Z,0.2nm,0.3s,baz=184,slow=13,SNR=8.4						

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*IDC **06** 17:31:41.5±1.0, 55.41S×28.51W, mb4.2/4, mb1 4.3/4, mb1mx4.1/10, Error ellipse: s-maj=80.5km s-min=23.9km az=43.0*

*NEIC **06** 17:31:43.8±0.6, 55.26S×28.52W, h10^{km}, mb4.4/4, MS4.1/1, Error ellipse: s-maj=25.2km s-min=11.0km az=60.0*

ISC 06 17:31:46.6±1.0**, 55.2S**±0.1×**28.8W**±0.4**, h33^{km}, n16, σ1^{s}03**/12**, mb4.2**/7**, MS4.1**/1**, 3C, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	17.93	158	⇑*i*	P	17 35 59.7	+5.2
VNA3	**Neumayer Olymp**	18.10	160		P	17 35 58.3	+1.6
VNA2	**Neumayer--Watz**	18.32	158	⇑*i*	P	17 35 59.6	+0.1
PMSA	**Palmer Station**	19.78	227	*e*P	P	17 36 16.6	+0.2
	10.0nm,0.8s						
SNAA	**Sanae**	19.89	156	⇑*i*	P	17 36 14.0	-3.5
QSPA	**South Pole Qui**	35.05	180	*e*P	P	17 38 36.7	-0.9
	2.9nm,0.6s,mb4.4						
QSPA				LR	LR		
	comp=Z,380nm,21.7s,MS4.1						
CPUP	**Villa Florida**	35.56	313	P	P	17 38 42.3	-0.2
	comp=Z,4.9nm,1.0s,mb4.4,baz=150,slow=11,SNR=2.4						
MAW	**Mawson**	41.38	145	P	P	17 39 26.6	-4.0
	comp=Z,1.2nm,0.8s,mb3.5,baz=272,slow=5.9,SNR=4.2						
BDFB	**Brasilia**	42.18	332	P	P	17 39 38.7	+1.0
	comp=Z,1.6nm,0.6s,mb3.8,baz=149,slow=12,SNR=2.3						
LVC	**Limon Verde**	44.08	301	*e*P	P	17 39 53.5	+0.4
	comp=Z,8.3nm,1.0s,mb4.4						
LPAZ	**La Paz**	49.14	306	P	P	17 40 33.1	+0.1
	comp=Z,1.6nm,0.2s,mb4.6,baz=199,slow=0.9,SNR=4.3						
SAML	**Samuel**	53.55	316	*e*P	P	17 41 05.2	-1.1
	comp=Z,7.3nm,1.3s,mb4.5						
FINES	**FINESS Array B**	124.07	28	PKP	PKPdf	17 50 40.0	-0.7
	comp=Z,0.9nm,0.6s,baz=135,slow=5.4,SNR=5.4						
FINES	**FINESS Array B**	124.07	28	PKP	PKPdf	17 50 40.0	-0.7
ILAR	**Eielson Array**	148.87	313	PKPbc	PKPdf	17 51 29.8	+4.6
	comp=Z,1.3nm,0.6s,baz=118,slow=1.7,SNR=15						
SONM	**Songino Array**	151.59	86	PKPbc	PKPdf	17 51 36.8	+6.9
	comp=Z,1.2nm,0.5s,baz=220,slow=3.6,SNR=11						
SONM				PKPab	PKPab	17 51 43.7	-3.3
	comp=Z,1.9nm,0.6s,baz=231,slow=2.5,SNR=12						

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*NEIC **06** 17:39:08.3±3.0, 4.71N×125.38E, h168^{km}±30^{km}, mb4.6/22, Error ellipse: s-maj=11.5km s-min=6.0km az=74.0*

*IDC **06** 17:39:10.2±1.6, 4.66N×125.51E, h188^{km}±13^{km}, mb4.2/10, mb1 4.3/10, mb1mx4.0/18, Error ellipse: s-maj=23.4km s-min=8.2km az=75.0*

ISC 06 17:39:07.5±0.5**, 4.70N**±0.04×**125.43E**±0.07**, h178^{km}**±5^{km}**, n53, σ1^{s}13**/62**, mb4.6**/31**, 1C-8D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GSPH	**General Santos**	1.46	341	⇓*i*P	P	17 39 38.5	-0.7
GSPH				*i* S	S	17 40 00.0	-3.7
KCP	**Kidapawan**	2.32	352	⇓*e*P	P	17 39 48.5	+0.1
KCP				*i* S	S	17 40 21.6	+1.7
MATI	**Mati**	2.38	20	*e*P	P	17 39 47.6	-1.5
CTBH	**Cotabato--PC H**	2.77	335	⇓*i*P	P	17 39 55.4	+1.7
CTBH				*i* S	S	17 40 27.3	-2.1
BUKP	**Musuan**	3.18	353	*e*P	P	17 39 58.5	-0.3
BIPH	**Bislig**	3.58	15	*e*P	P	17 40 05.8	+1.8
BIPH				*i* S	S	17 40 45.4	-2.1
PAGZ	**Pagadian**	3.73	327	*e*P	P	17 40 05.4	-0.4
IPIL	**Ipil**	4.18	317	*e*P	P	17 40 24.3	+13
BUTP	**Butuan**	4.25	3	*e*P	P	17 40 17.7	+5.3
BUTP				*e*S	S	17 41 04.0	+1.5
SCPH	**Surigao**	5.05	1	⇑*e*P	P	17 40 22.8	0.0
KAKA	**Kakadu**	18.62	158	⇓*i*P	P	17 43 13.8	-0.1
	51nm,0.3s						
GUMO	**Guam**	21.11	64	*e*P	P	17 43 41.3	+2.1
	36nm,0.5s,mb5.0						
FITZ	**Fitzroy Crossi**	22.66	179	P	P	17 43 54.2	-0.2
	91nm,0.3s,mb5.6,baz=5.9,slow=9.2,SNR=610						
WRAB	**Tennant Creek**	26.00	161	*e*P	P	17 44 25.2	-0.7
	42nm,0.8s,mb5.1						
WRA	**Warramunga Arr**	26.01	161	P	P	17 44 25.0	-0.9
	12nm,0.4s,mb4.9,baz=330,slow=11,SNR=256						
WRA				S	S	17 48 38.8	-2.7
	3.6nm,1.2s,baz=335,slow=16,SNR=4.5						
WRA				ScP		17 51 13.1	
	1.6nm,0.7s,baz=339,slow=3.2,SNR=6.9						
WB2	**Warramunga Arr**	26.01	161	⇓*i*P	P	17 44 25.5	-0.5
WB2				*e*S	S	17 48 39.7	-1.8
MBWA	**Marble Bar**	26.30	192	*e*P	P	17 44 27.4	-1.1
	48nm,1.0s,mb5.1						
CMAR	**Chiang Mai Arr**	29.26	300	P	P	17 44 56.4	+1.1
	4.3nm,0.8s,mb4.2,baz=112,slow=7.4,SNR=30						
ASAR	**Alice Springs**	29.38	164	P	P	17 44 55.9	-0.4
	7.3nm,0.4s,mb4.8,baz=346,slow=7.7,SNR=208						
ASAR				PcP	PcP	17 47 57.9	0.0
	0.6nm,0.5s,baz=348,slow=3.1,SNR=4.4						
ASAR				S	S	17 49 35.1	-0.3
	1.0nm,0.6s,baz=346,slow=20,SNR=5.1						
ASAR				ScP		17 51 23.1	
	1.9nm,0.7s,baz=341,slow=2.9,SNR=8.5						
ASPA	**Alice Springs**	29.38	164	⇓*i*P	P	17 44 55.8	-0.5
ASPA				*e*S	S	17 49 35.4	0.0
CTAO	**Charters Tower**	32.03	141	*e*P	P	17 45 19.9	+0.4
	2.8nm,0.5s,mb4.2						
MAJO	**Matsushiro**	33.80	19	*e*P	P	17 45 33.0	-1.5
	7.5nm,0.8s,mb4.5						
FORT	**Forrest**	35.37	176	*e*P	P	17 45 47.9	0.0
	102nm,0.6s,mb5.6						
KLBR	**Kellerberrin**	36.82	191	*e*P	P	17 45 59.3	-0.8
	9.4nm,0.4s,mb4.8						
NWAO	**Narrogin (SRO)**	38.22	191	P	P	17 46 12.1	+0.3
	15nm,0.4s,mb5.0,baz=27,slow=7.3,SNR=57						
NWAO	**Narrogin (SRO)**	38.22	191	*e*P	P	17 46 11.4	-0.4
	11nm,0.3s,mb5.0						
SHL	**Shillong**	38.26	306	⇓*i*P	P	17 46 13.2	+1.0
STKA	**Stephens Creek**	39.50	158	⇓*i*P	P	17 46 23.4	+1.1
	16nm,0.4s,mb5.0						
STKA				*e*S	S	17 52 10.8	0.0
STKA	**Stephens Creek**	39.50	158	P	P	17 46 23.5	+1.1
	22nm,0.4s,mb5.2,baz=340,slow=7.6,SNR=46						
ADE	**Adelaide**	41.39	163	*e*P	P	17 46 39.9	+2.1
ASAJ	**Asahikawa**	42.07	19	P	P	17 46 44.2	+1.0
	18nm,0.7s,mb4.8,baz=222,slow=11,SNR=19						
PKI	**Pulchoki**	44.35	305	*e*P	P	17 47 02.9	+1.0
PKI				*e*P		17 52 17.6	
KKN	**Kakani**	44.54	305	*e*P	P	17 47 04.4	+1.0
	4.8nm,0.6s,mb4.3						
KKN				*e*P		17 52 18.3	
DMN	**Daman**	44.61	305	*e*P	P	17 47 05.4	+1.4
	8.1nm,1.1s,mb4.3						
DMN				*e*P		17 52 18.6	
YSS	**Yuzh-Sakhalins**	44.68	17	*e*P	P	17 47 04.0	-0.2
	7.3nm,0.6s,mb4.5						
GKN	**Gorkha**	45.15	305	*e*P	P	17 47 08.0	-0.2
GKN				*e*P		17 52 20.3	
CNB	**Canberra Magne**	45.72	152	*e*P	P	17 47 14.4	+1.8
	14nm,1.3s,mb4.4						
KOLN	**Koldanda**	45.91	305	*e*P	P	17 47 14.2	0.0
	5.9nm,0.6s,mb4.4						
KOLN				*e*P		17 52 23.5	
SONM	**Songino Array**	45.98	342	P	P	17 47 13.5	-1.0
	0.6nm,0.8s,baz=157,slow=8.7,SNR=6.4						
SONM				ScP		17 52 24.0	
	1.6nm,0.8s,baz=168,slow=4.0,SNR=5.1						
TOO	**Toolangi**	46.02	158	*e*P	P	17 47 17.2	+2.3
	6.3nm,0.5s,mb4.5						
MKAR	**Makanchi Array**	56.02	325	P	P	17 48 29.1	-0.7
	1.5nm,0.4s,mb4.2,baz=121,slow=7.6,SNR=30						
MKAR				PcP	PcP	17 49 25.3	-0.5
	1.1nm,0.5s,baz=117,slow=8.1,SNR=4.4						
MKAR				ScP		17 53 06.9	
	1.7nm,0.9s,baz=121,slow=5.1,SNR=5.8						
MKAR	**Makanchi Array**	56.02	325	P	P	17 48 29.1	-0.7
MKAR				PcP	PcP	17 49 25.3	-0.5
MKAR				ScP		17 53 06.9	
YAK	**Yakutsk**	57.29	2	*e*P	P	17 48 37.5	-1.1
	27nm,0.8s,mb5.1						
MA2	**Magadan**	58.10	15	*e*P	P	17 48 44.1	-0.1
	9.4nm,0.7s,mb4.7						
KURK	**Kurchatov**	60.23	328	*e*P	P	17 48 57.4	-1.6
	4.1nm,0.8s,mb4.3						
BVAR	**Borovoye Array**	65.81	327	P	P	17 49 35.4	-0.2
	0.9nm,0.6s,mb3.8,baz=117,slow=3.3,SNR=7.0						
BRVK	**Borovoye**	65.88	327	*e*P	P	17 49 35.7	-0.4
	2.4nm,0.7s,mb4.1						
ZRNK	**Zerenda**	66.53	327	*e*P	P	17 49 38.1	-2.0
	2.8nm,0.9s,mb4.1						
CASY	**Casey**	71.62	186	*e*P	P	17 50 11.2	+0.2
	7.5nm,0.6s,mb4.6						
MCK	**McKinley**	83.88	27	*e*P	P	17 51 19.0	+0.9
	5.8nm,0.8s,mb4.4						
MAW	**Mawson**	84.21	200	P	P	17 51 20.6	+1.0
	1.4nm,0.5s,mb3.9,baz=51,slow=7.7,SNR=10						
ILAR	**Eielson Array**	84.79	25	P	P	17 51 21.7	-0.9
	1.1nm,0.6s,mb3.8,baz=251,slow=5.0,SNR=16						
TXAR	**Lajitas Array**	122.02	51	PKP	PKPdf	17 57 44.1	+2.8
	0.2nm,0.5s,baz=299,slow=0.8,SNR=5.1						

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*IDC **06** 17:44:10.9±0.9, 54.99S×28.81W, mb4.4/5, mb1 4.5/5, mb1mx4.3/10, MS4.1/5, Ms1 4.1/5, ms1mx4.0/11, Error ellipse: s-maj=46.5km s-min=22.5km az=38.0*

*NEIC **06** 17:44:13.1±0.4, 55.17S×29.04W, h10^{km}, mb4.7/9, MS4.3/1, Error ellipse: s-maj=16.1km s-min=9.1km az=56.0*

ISC 06 17:44:16.9±5.5**, 55.1S**±0.1×**28.9W**±0.2**, h58^{km}**±54^{km}**, n34, σ1^{s}29**/20**, mb4.5**/12**, MS4.2**/6**, 4C, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	18.04	158	⇑*i*	P	17 48 31.3	+6.8
VNA3	**Neumayer Olymp**	18.21	160	⇑*i*	P	17 48 28.1	+1.5
VNA2	**Neumayer--Watz**	18.43	158	⇑*i*	P	17 48 29.7	+0.3
PMSA	**Palmer Station**	19.81	227	*e*P	P	17 48 43.1	-1.7
	26nm,1.1s						
SNAA	**Sanae**	20.00	156	⇑*i*	P	17 48 43.8	-3.0
TRQA	**Tornquist**	28.05	294	*e*P	P	17 50 03.3	-1.2
	9.8nm,1.1s,mb4.3						
QSPA	**South Pole Qui**	35.14	180	*e*P	P	17 51 06.9	+0.8
	8.2nm,0.5s,mb4.9						
QSPA				LR	LR		
	comp=Z,560nm,21.5s,MS4.3						
CPUP	**Villa Florida**	35.46	313	P	P	17 51 06.8	-2.5
	comp=Z,7.4nm,1.0s,mb4.6,baz=170,slow=7.4,SNR=10						
CPUP	**Villa Florida**	35.46	313	P	P	17 51 06.8	-2.5
SUR	**Sutherland**	41.36	78	*e*P	P	17 51 57.5	-1.0
	comp=Z,25nm,1.1s,mb4.8						
MAW	**Mawson**	41.48	145	P	P	17 51 59.4	+0.3
	comp=Z,2.5nm,0.7s,mb3.9,baz=236,slow=12,SNR=3.4						
MAW				LR	LR	18 07 26.9	
	comp=Z,166nm,18.1s,MS4.0,baz=77,slow=34						
BDFB	**Brasilia**	42.07	332	P	P	17 52 06.4	+2.1
	comp=Z,2.1nm,0.5s,mb4.0,baz=139,slow=5.3,SNR=3.7						
BDFB				LR	LR	18 06 17.0	
	comp=Z,181nm,19.9s,MS4.0,baz=309,slow=32						
LVC	**Limon Verde**	43.98	301	*e*P	P	17 52 21.8	+1.9
	comp=Z,9.8nm,0.7s,mb4.7						
LPAZ	**La Paz**	49.03	306	P	P	17 53 00.8	+1.1
	comp=Z,1.6nm,0.3s,mb4.6,baz=146,slow=6.9,SNR=9.7						
LPAZ	**La Paz**	49.03	306	P	P	17 53 00.8	+1.1
TSUM	**Tsumeb**	50.10	63	P	P	17 53 06.4	-1.5
	comp=Z,5.0nm,0.8s,mb4.6,baz=178,slow=7.5,SNR=5.3						
TSUM	**Tsumeb**	50.10	63	*e*P	P	17 53 08.2	+0.2
	comp=Z,7.9nm,0.9s,mb4.7						
SAML	**Samuel**	53.45	316	*e*P	P	17 53 33.1	-0.1
	comp=Z,12nm,1.1s,mb4.7						
CASY	**Casey**	55.12	161	*e*P	P	17 53 44.6	-0.1
	comp=Z,8.1nm,1.1s,mb4.7						
DBIC	**Dimbokro**	64.74	27	LR	LR	18 16 02.5	
	comp=Z,119nm,21.2s,MS4.0,baz=86,slow=30						
SDV	**Santo Domingo**	72.65	316	*e*P	P	17 55 40.0	0.0
	comp=Z,7.8nm,0.9s,mb4.6						
KMBO	**Kilima Mbogo**	75.63	71	LR	LR	18 26 40.8	
	comp=Z,248nm,19.0s,MS4.5,baz=85,slow=34						
ESDC	**Sonseca Array**	96.80	19	LR	LR	18 35 20.4	
	comp=Z,137nm,21.8s,MS4.4,baz=330,slow=32						
ASAR	**Alice Springs**	100.17	164	P	P	17 57 57.4	-0.1
	comp=Z,0.6nm,0.7s,baz=189,slow=4.1,SNR=8.2						
FINES	**FINESS Array B**	124.01	28	PKP	PKPdf	18 03 08.9	+1.3
	comp=Z,2.2nm,0.9s,baz=153,slow=8.5,SNR=5.7						
BVAR	**Borovoye Array**	135.10	58	PKP	PKPdf	18 03 32.1	+3.4
	comp=Z,1.4nm,0.7s,baz=207,slow=3.3,SNR=8.1						
BVAR	**Borovoye Array**	135.10	58	PKP	PKPdf	18 03 32.1	+3.4
MKAR	**Makanchi Array**	137.51	72	PKhKP		18 03 29.6	
	comp=Z,0.3nm,0.7s,baz=270,slow=2.9,SNR=3.3						
DAWY	**Dawson**	145.44	313	*e*PKPdf	PKPdf	18 03 49.5	+2.9
DIV	**Divide**	147.31	307	*e*PKPbc	PKPdf	18 03 54.3	+4.4
ILAR	**Eielson Array**	148.76	313	PKPbc	PKPdf	18 03 59.1	+7.0
	comp=Z,6.7nm,0.8s,baz=124,slow=1.3,SNR=47						
COLA	**College**	149.19	313	*e*PKPbc	PKPdf	18 04 00.1	+7.3
MCK	**McKinley**	149.42	311	*e*PKPbc	PKPdf	18 04 01.3	+8.1
SONM	**Songino Array**	151.64	86	PKPbc	PKPdf	18 04 06.2	+9.2
	comp=Z,3.5nm,0.8s,baz=222,slow=3.0,SNR=21						

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*NIED **06** 17:49:00, 33.00N×136.70E, h5^{km}, Mw4.2 Best double couple: $M_0$1.93×10^{15} NP1:ϕ_s347°, δ88°, λ114°. NP2:ϕ_s81°, δ24°, λ4°.*

*IDC **06** 17:49:20.6±1.3, 32.90N×136.74E, mb3.6/4, mb1 3.7/5, mb1mx3.5/21, ML2.9/1, MS3.1/2, Ms1 3.1/2, ms1mx2.9/20, Error ellipse: s-maj=36.8km s-min=24.4km az=50.0*

*NEIC **06** 17:49:21.5±1.0, 32.96N×136.94E, h10^{km}, Error ellipse: s-maj=30.1km s-min=14.3km az=100.0*

*JMA **06** 17:49:21.8±0.1, 32.97N×136.73E, h35^{km}, M3.6*

ISC 06 17:49:22.1±1.1**, 33.02N**±0.04×**136.74E**±0.03**, h27^{km}**±8^{km}**, n22, σ0^{s}81**/35**, mb3.5**/4**, 1C-1D, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JWZ	**Kozaga**	1.00	301	⇑P	Pn	17 49 39.9	-0.6
JWZ				S	Sb	17 49 53.0	-0.5
TK01	**Tokai 1**	1.03	43	S	Sb	17 49 54.2	-0.1
TK02	**Tokai 2**	1.26	42	P	Pn	17 49 43.6	-0.5
TK02				S	Sn	17 50 00.0	-0.2
JKN	**Kiinagashima**	1.29	342	P	Pn	17 49 45.3	+0.7
JKN				S	Sn	17 50 00.6	-0.5
JIE	**Ise**	1.37	359	⇓P	Pn	17 49 46.3	+0.5
JIE				S	Sn	17 50 04.0	+0.8
JWM	**Minabe**	1.43	306	P	Pn	17 49 46.6	0.0
JWM				S	Sn	17 50 03.7	-0.9
JWY	**Kouya**	1.54	322	P	Pn	17 49 48.8	+0.7
JWY				S	Sn	17 50 07.8	+0.5
TK04	**Tokai 4**	1.66	34	P	Pn	17 49 49.7	-0.2
TK04				S	Sn	17 50 10.9	+0.4
TSUJ	**Tsu 2**	1.71	351	P	Pn	17 49 50.7	+0.1
TSUJ				S	Sn	17 50 11.7	-0.1
JHE	**Heguri**	1.85	332	P	Pn	17 49 53.3	+0.6
JHE				S	Sn	17 50 15.6	+0.2
JAI	**Aioi**	2.07	293	P	Pn	17 49 55.3	-0.4
JAI				S	Sn	17 50 19.4	-1.4
JAJ2	**Tsuna**	2.09	313	P	Pn	17 49 56.6	+0.6
JAJ2				S	Sn	17 50 21.6	+0.3
JHJ	**Hachijo jima 2**	2.56	87	Pn	Pn	17 50 03.8	+1.0
	5.8nm,0.3s,baz=68,slow=22,SNR=3.0						
JHJ				Sn	Sn	17 50 32.3	-0.9
	18nm,0.3s,baz=262,slow=23,SNR=3.6						
JHJ				LR	LR	17 51 00.9	
	comp=Z,268nm,20.4s,baz=34,slow=39						
MAJO	**Matsushiro**	3.72	19	*e*Pn	Pn	17 50 19.1	-0.2
MAT	**Matsushiro**	3.72	19	P	Pn	17 50 19.4	+0.2
MAT				*e*S	Sn	17 51 01.0	-1.7
MAT	**Matsushiro**	3.72	19	*e*P	Pn	17 50 19.0	-0.2

MAT				S	Sn	17 51 01.0	-1.7
ASAJ	Asahikawa	11.99	21	LR	LR	17 57 46.8	
	comp=Z,128nm,19.4s,baz=349,slow=42						
SONM	Songino Array	27.22	312	P	P	17 55 06.2	+0.7
	0.6nm,0.8s,mb3.1,baz=116,slow=8.1,SNR=3.9						
MKAR	Makanchi Array	43.14	305	P	P	17 57 23.8	+1.9
	0.7nm,0.8s,mb3.4,baz=104,slow=10.0,SNR=5.2						
MKAR	Makanchi Array	43.14	305	P	P	17 57 23.8	+1.9
WRA	Warramunga Arr	52.71	183	P	P	17 58 34.4	-2.4
	1.2nm,1.1s,mb3.7,baz=358,slow=7.8,SNR=6.2						
ASAR	Alice Springs	56.43	183	P	P	17 59 04.8	+0.9
	0.5nm,0.9s,mb3.5,baz=9.5,slow=11,SNR=3.8						

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*JMA **06** 17:58:32.7±0.1, 33.05N×136.83E, h42^{km}, M3.5*

ISC 06 17:58:33.2±1.4**, 33.08N**±0.08×**136.85E**±0.05**, h42**^{km}**, n13, σ0**^{s}**57**/22**, 5D, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JWZ	Kozaga	1.05	296	⇓P	P	17 58 51.2	-0.4
JWZ				S	S	17 59 04.5	-0.8
TK02	Tokai 2	1.15	41	S	S	17 59 07.6	-0.2
JKN	Kiinagashima	1.26	337	P	P	17 58 54.8	+0.2
JKN				S	S	17 59 10.1	-0.6
JIE	Ise	1.31	355	P	P	17 58 55.7	+0.2
TK03	Tokai 3	1.43	40	S	S	17 59 14.4	-0.4
JWM	Minabe	1.47	302	⇓P	P	17 58 57.3	-0.3
JWM				S	S	17 59 15.5	-0.3
JWY	Kouya	1.54	318	⇓P	P	17 58 59.2	+0.5
JWY				S	S	17 59 18.5	+0.8
TK04	Tokai 4	1.56	33	S	S	17 59 17.6	-0.4
TSUJ	Tsu 2	1.66	348	⇓P	P	17 59 00.7	+0.3
TSUJ				S	S	17 59 20.5	-0.2
JHE	Heguri	1.84	329	P	P	17 59 03.4	+0.5
JHE				S	S	17 59 25.7	+0.5
JEG	Eigenji	2.08	350	P	P	17 59 07.3	+0.9
JEG				S	S	17 59 31.9	+0.7
JAI	Aioi	2.13	290	⇓P	P	17 59 06.7	-0.3
JAI				S	S	17 59 31.7	-0.6
MAT	Matsushiro	3.63	18	P	P	17 59 29.3	+0.9
MAT				S	S	18 00 09.4	-1.1

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*LDG **06** 18:12:29.5±0.1, 42.31N×2.21E, h6^{km}, Md2.6/2, Ml2.5/16, Error ellipse: s-maj=1.0km s-min=0.7km az=154.0*

*NEIC **06** 18:12:29.1, 42.35N×2.20E, h10^{km}, ML2.5(LDG), ML2.2(STR), MN2.1(MDD), After STR.*

*MDD **06** 18:12:29.6±0.3, 42.31N×2.21E, h9^{km}±3^{km}, mbLg1.9/19, Error ellipse: s-maj=3.3km s-min=1.8km az=162.0, PRXIMO*

*STR **06** 18:12:29.1±0.2, 42.35N×2.20E, h10^{km}±1^{km}, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 06 18:12:28.2±0.3**, 42.41N**±0.02×**2.21E**±0.02**, h14**^{km}±2^{km}**, n50, σ1**^{s}**28**/93**, 1C-1D, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBRU	Bruguera	0.13	190	Pg	Pg	18 12 31.1	-0.6
VALF	Valcebollere	0.14	267	Pg	Pg	18 12 33.2	+1.3
VALF				Sg	Sg	18 12 36.0	+1.6
VALF	Valcebollere	0.14	267	P	Pg	18 12 33.2	+1.3
VALF				S	Sg	18 12 35.9	+1.5
CLLI	Llivia	0.19	292	Pg	Pg	18 12 34.5	+1.8
FILF	Fillols	0.30	60	Pg	Pg	18 12 35.3	+0.7
FILF				Sg	Sg	18 12 39.6	+0.6
FILF	Fillols	0.30	60	P	Pg	18 12 35.3	+0.7
FILF				S	Sg	18 12 39.4	+0.4
SJAF	Saint Jean de	0.50	81	Pg	Pg	18 12 39.3	+0.8
SJAF				Sg	Sg	18 12 46.3	+0.9
SJAF	Saint Jean de	0.50	81	P	Pb	18 12 39.4	+1.1
SJAF				S	Sb	18 12 46.3	+1.1
EJON	La Jonquera	0.50	85	⇑Pg	Pg	18 12 39.4	+0.9
	SNR=18						
EJON				Lg		18 12 46.2	
	14nm,0.1s						
CORG	Organya	0.69	255	Pg	Pg	18 12 42.1	0.0
EMIR	Miracle	0.71	226	Pg	Pg	18 12 41.8	-0.8
	7.8nm,0.3s,SNR=6.7						
EMIR				Lg		18 12 50.7	
	10nm,0.1s						
CSOR	Sort	0.80	268	Pg	Pg	18 12 44.7	+0.4
SALF	Salau	0.83	295	Pg	Pg	18 12 45.8	+0.8
SALF				Sg	Sg	18 12 57.3	+1.1
SALF	Salau	0.83	295	P	Pb	18 12 45.7	+1.8
SALF				S	Sg	18 12 57.3	+1.1
MTLF	Montolieu	0.93	0	*e*Pg	Pg	18 12 49.0	+2.1
MTLF				*e*Sg	Sg	18 13 02.2	+2.7
	33nm,0.3s						
MTLF	Montolieu	0.93	0	Pg	Pg	18 12 49.2	+2.3
MTLF				Lg		18 13 02.2	
	16nm,0.3s						
MELF	Melles	1.17	294	S	Sb	18 13 07.5	+3.0
CAVN	Les Avellanes	1.21	245	Pg	Pg	18 12 51.3	-1.1
EPOB	Poblet	1.35	219	⇓Pg	Pg	18 12 53.2	-2.0
	4.3nm,0.3s,SNR=18						
EPOB				Lg		18 13 09.4	
	5.0nm,0.1s						
RESF	Ens	1.44	287	S	Sb	18 13 18.3	+6.0
EPF	Esparros	1.51	295	*e*Pn	Pn	18 12 55.7	+0.6
EPF				*e*Pg	Pg	18 12 58.5	0.0
EPF				*e*Sn	Sn	18 13 15.2	+0.6
EPF				*e*Sg	Sg	18 13 18.9	+0.2
	4.2nm,0.2s						
EPF	Esparros	1.51	295	Pn	Pn	18 12 55.5	+0.4
EPF				Pg	Pg	18 12 58.2	-0.3
EPF				Lg		18 13 16.2	
	3.0nm,0.3s						
LASF	Ste Croix	2.06	35	*e*Pn	Pn	18 13 04.4	+1.6
LASF				*e*Pg	Pg	18 13 09.5	+0.2
LASF				*e*Sn	Sn	18 13 29.0	+0.6
LASF				*e*Sg	Sg	18 13 36.8	+0.1
	4.2nm,0.4s						
LASF	Ste Croix	2.06	35	Pn	Pn	18 13 04.4	+1.6
LASF				Pg	Pg	18 13 09.5	+0.2
LASF				Lg		18 13 36.8	
	2.1nm,0.4s						
ETSF	Etsaut	2.10	284	*e*Pn	Pn	18 13 03.9	+0.4
ETSF				*e*Pg	Pg	18 13 09.3	-0.9
ETSF				*e*Sg	Sg	18 13 36.7	-1.5
	14nm,0.4s						
ETSF	Etsaut	2.10	284	Pn	Pn	18 13 03.4	-0.1
ETSF				Lg		18 13 34.2	
	7.0nm,0.4s						
ESAC	San Caprasio	2.11	252	Pg	Pg	18 13 08.6	-1.7
	4.1nm,0.1s,SNR=7.9						
ESAC				Lg		18 13 36.5	
	17nm,0.2s,SNR=7.9						
ESAC	San Caprasio	2.11	252	Pg	Pg	18 13 08.6	-1.7
ESAC				Lg		18 13 36.5	
CAF	Calviac	2.52	358	*e*Pn	Pn	18 13 10.5	+1.0
CAF				*e*Pg	Pg	18 13 18.5	0.0
CAF				*e*Sn	Sn	18 13 40.6	+0.4
CAF				*e*Sg	Sg	18 13 52.0	-0.1
	4.7nm,0.3s						
CAF	Calviac	2.52	358	Pn	Pn	18 13 11.4	+1.9
CAF				Pg	Pg	18 13 18.7	+0.2
CAF				Lg		18 13 52.0	
	2.3nm,0.3s						
SJPF	Ste Jean	2.63	287	*e*Pn	Pn	18 13 10.9	-0.1
SJPF				*e*Pg	Pg	18 13 18.8	-1.8
SJPF				*e*Sg	Sg	18 13 52.5	-3.2
	4.3nm,0.4s						
SJPF	Ste Jean	2.63	287	Pn	Pn	18 13 10.5	-0.5
SJPF				Pg	Pg	18 13 17.8	-2.8
SJPF				Lg		18 13 52.5	
	2.2nm,0.4s						
LFF	La Frestale	2.75	338	*e*Pn	Pn	18 13 13.5	+0.8
LFF				*e*Pg	Pg	18 13 22.5	-0.5
LFF				*e*Sg	Sg	18 13 58.9	-0.8
	7.0nm,0.3s						
LFF	La Frestale	2.75	338	Pg	Pg	18 13 24.5	+1.5
LFF				Lg		18 13 58.9	
	3.5nm,0.3s						
EALK	Alkurruntz	2.85	288	Lg		18 14 00.9	
	SNR=7.9						
EMOS	Mosqueruela	2.87	226	Pg	Pg	18 13 21.4	-4.2
	SNR=7.9						
EMOS				Lg		18 13 57.7	
	0.8nm,0.2s,SNR=7.9						
SMRF	Simiane la Rot	2.92	56	*e*Pn	Pn	18 13 15.6	+0.5
SMRF				*e*Pg	Pg	18 13 25.2	-1.3
SMRF				*e*Sg	Sg	18 14 02.5	-2.9
	2.7nm,0.4s						
SMRF	Simiane la Rot	2.92	56	Pn	Pn	18 13 15.6	+0.5
SMRF				Pg	Pg	18 13 25.2	-1.3
SMRF				Lg		18 14 03.9	
	2.7nm,0.4s						
RJF	Les Rejaudoux	2.94	350	*e*Pg	Pg	18 13 25.4	-1.5
RJF				*e*Sg	Sg	18 14 04.7	-1.4
	2.7nm,0.2s						
RJF	Les Rejaudoux	2.94	350	Lg		18 14 04.7	
	1.4nm,0.2s						
VIVF	Saint-Julien-l	3.03	35	*e*Pn	Pn	18 13 18.4	+1.7
VIVF				*e*Pg	Pg	18 13 29.1	+0.4
VIVF				*e*Sn	Sn	18 13 54.1	+0.9
VIVF				*e*Sg	Sg	18 14 07.6	-1.5
	2.4nm,0.3s						
LMR	La Mourre	3.29	72	*e*Pn	Pn	18 13 20.1	-0.4
LMR				*e*Sn	Sn	18 13 57.0	-2.8
FRF	La Foret Royal	3.45	69	*e*Pn	Pn	18 13 23.1	+0.3
FRF				*e*Pg	Pg	18 13 33.3	-3.8
FRF				*e*Sn	Sn	18 14 01.2	-2.7
FRF				*e*Sg	Sg	18 14 18.9	-4.3
	3.3nm,0.5s						
FRF	La Foret Royal	3.45	69	Pn	Pn	18 13 23.1	+0.3
FRF				Pg	Pg	18 13 33.3	-3.8
FRF				Sn	Sn	18 14 02.5	-1.4
FRF				Lg		18 14 19.7	
	1.6nm,0.5s						
ETOR	Torete	3.57	245	Sn	Sn	18 14 06.9	+0.1
	0.5nm,0.2s,SNR=7.9						
ETOR				Lg		18 14 23.7	
	1.6nm,0.4s,SNR=7.9						
TCF	Toulx Ste Croi	3.88	360	*e*Pn	Pn	18 13 29.3	+0.5
TCF				*e*Pg	Pg	18 13 43.3	-2.3
TCF				*e*Sg	Sg	18 14 34.1	-3.3
	4.1nm,0.5s						
SBF	Sospel	4.09	67	*e*Pn	Pn	18 13 29.9	-1.9
MFF	Saint Martin d	4.52	339	*e*Pn	Pn	18 13 37.8	-0.1
MFF				*e*Sn	Sn	18 14 28.9	-2.0
MFF				*e*Sg	Sg	18 14 53.7	-4.9
	4.4nm,0.5s						
SSF	Saint Saulge	4.74	11	*e*Sg	Sg	18 15 01.5	-4.6
	2.0nm,0.4s						
LOR	Lormes	5.00	13	*e*Sg	Sg	18 15 09.8	-4.8
	1.7nm,0.2s						

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*JMA **06** 18:27:07.0±0.1, 33.50N×136.76E, h38^{km}, M3.4*

*IDC **06** 18:27:11.0±6.2, 33.23N×136.42E, h32^{km}±7^{km}, mb3.2/4, mb1 3.4/4, mb1mx3.2/20, Error ellipse: s-maj=251.0km s-min=19.1km az=63.0*

ISC 06 18:27:06.6±0.7**, 33.51N**±0.04×**136.78E**±0.03**, h27**^{km}±5^{km}**, h32**^{km}±3.2^{km}**:pP-P, n21, σ0**^{s}**55**/30**, mb3.3**/4**, 5C-3D, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TK01	Tokai 1	0.72	69	P	Pb	18 27 21.2	+0.7
TK01				*e*S	Sb	18 27 30.4	+0.4
JKN	Kiinagashima	0.85	330	P	Pb	18 27 22.6	0.0
JKN				*e*S	Sb	18 27 33.1	-0.5
JIE	Ise	0.88	356	⇓P	Pb	18 27 23.5	+0.4
JIE				*e*S	Sb	18 27 34.6	+0.1
JWZ	Kozaga	0.89	271	⇑P	Pb	18 27 22.8	-0.5
JWZ				*e*S	Sb	18 27 33.9	-0.9
TK02	Tokai 2	0.92	62	P	Pn	18 27 23.1	-0.7
TK02				*e*S	Sb	18 27 35.7	0.0
JAA	Atsumi	1.16	15	⇓P	Pn	18 27 27.3	+0.1
JAA				S	Sn	18 27 41.6	-0.5
TK03	Tokai 3	1.18	56	S	Sn	18 27 42.2	-0.6
JWY	Kouya	1.21	306	P	Pn	18 27 28.2	+0.2
TSUJ	Tsu 2	1.23	346	⇑P	Pn	18 27 28.5	+0.3
JWM	Minabe	1.23	286	⇑P	Pn	18 27 28.1	-0.2
TK04	Tokai 4	1.26	46	*e*S	Sn	18 27 44.7	-0.1
JHE	Heguri	1.46	322	⇑P	Pn	18 27 31.6	+0.2
HMMJ	Hamamatsu 2	1.55	30	P	Pn	18 27 32.4	-0.4
JEG	Eigenji	1.65	349	P	Pn	18 27 35.2	+1.0
JEG				*e*S	Sn	18 27 55.0	+0.3
JAO	Obara	1.79	13	⇓P	Pn	18 27 36.4	+0.1
JAO				*e*S	Sn	18 27 57.9	-0.4
JAJ2	Tsuna	1.81	300	⇑P	Pn	18 27 37.1	+0.5
MAT	Matsushiro	3.24	21	P	Pn	18 27 57.2	+0.3
MAT				S	Sn	18 28 34.3	-0.8
SONM	Songino Array	26.91	311	P	P	18 32 47.9	+0.7
	0.4nm,0.9s,mb2.9,baz=112,slow=7.8,SNR=3.1						
SONM				pP	pP	18 32 59.6	+4.5
	0.4nm,0.7s,baz=125,slow=11,SNR=3.0						
MKAR	Makanchi Array	42.88	305	P	P	18 35 05.7	+1.4
	0.6nm,0.5s,mb3.6,baz=87,slow=11,SNR=10						
WRA	Warramunga Arr	53.21	183	P	P	18 36 24.1	-0.8
	0.3nm,0.7s,mb3.3,baz=360,slow=7.6,SNR=6.6						
WRA				pP	pP	18 36 32.9	-0.4
	0.7nm,0.7s,baz=0.6,slow=7.6,SNR=5.5						
ASAR	Alice Springs	56.93	183	P	P	18 36 51.8	-0.2
	0.4nm,0.8s,mb3.5,baz=7.9,slow=13,SNR=4.8						
ASAR				pP	pP	18 37 00.6	+0.3
	0.5nm,0.7s,baz=14,slow=11,SNR=3.4						

IDC 06 18:43:43.7±44.0**, 56.14S**×**142.30E, mb3.7**/3**, mb1 3.9**/3**, mb1mx3.7**/7**, Error ellipse: s-maj=742.0km s-min=177.0km az=161.0, West of Macquarie Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	Stephens Creek	24.26	359	P	P	18 49 01.9	-1.3
	2.2nm,0.9s,baz=180,slow=20,SNR=2.7						
ASAR	Alice Springs	33.02	346	P	P	18 50 20.6	-1.9
	0.7nm,0.7s,baz=168,slow=9.6,SNR=11						
WRA	Warramunga Arr	36.63	347	P	P	18 50 51.7	-1.9
	0.9nm,0.8s,baz=173,slow=7.7,SNR=11						

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*IDC **06** 18:45:18.6±0.8, 55.65S×26.57W, mb4.5/8, mb1 4.5/8, mb1mx4.4/11, MS4.6/11, Ms1 4.7/11, ms1mx4.6/14, Error ellipse: s-maj=33.8km s-min=19.4km az=41.0*

*NEIC **06** 18:45:20.5±0.4, 55.73S×26.86W, h10^{km}, mb4.8/9, MS4.5/1, Error ellipse: s-maj=13.4km s-min=9.0km az=55.0*

ISC 06 18:45:18.8±0.5**, 55.54S**±0.08×**26.6W**±0.2**, h10**^{km}**, n41, σ0**^{s}**97**/26**, mb4.6**/15**, MS4.7**/12**, 5C, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA1	Neumayer--Stat	17.15	159	⇑*i*	P	18 49 21.7	+2.0
VNA1	Neumayer--Stat	17.15	159	⇑*i*	P	18 49 23.6	+3.9
VNA3	Neumayer Olymp	17.37	162		P	18 49 25.6	+3.2
VNA3	Neumayer Olymp	17.37	162	⇑*i*	P	18 49 26.9	+4.5
VNA2	Neumayer--Watz	17.54	159		P	18 49 28.5	+3.9
VNA2	Neumayer--Watz	17.54	159	⇑*i*	P	18 49 30.5	+5.8
EFI	East Falkland	18.99	269	P	P	18 49 37.4	-5.2
	54nm,1.1s						
SNAA	Sanae	19.08	157	⇑*i*	P	18 49 41.1	-2.4
SNAA	Sanae	19.08	157		P	18 49 44.0	+0.5
PMSA	Palmer Station	20.50	228	*e*P	P	18 49 59.0	-0.4
	92nm,1.1s						
USHA	Ushuaia	23.66	254	LR	LR	18 57 52.7	
	comp=Z,1µm,19.8s,MS4.4,baz=77,slow=32						
TRQA	Tornquist	29.45	292	*e*P	P	18 51 24.4	-0.2
	21nm,1.3s,mb4.7						
QSPA	South Pole Qui	34.72	180	*e*P	P	18 52 09.8	-0.5
	16nm,1.0s,mb4.9						
QSPA				LR	LR		
	comp=Z,870nm,19.0s,MS4.5						
CPUP	Villa Florida	36.74	310	P	P	18 52 27.5	-0.5
	comp=Z,5.3nm,0.7s,mb4.5,baz=163,slow=7.1,SNR=13						
MAW	Mawson	40.36	144	P	P	18 52 57.3	-0.4
	comp=Z,2.3nm,1.0s,mb3.9,baz=122,slow=21,SNR=3.9						
BDFB	Brasilia	43.10	329	P	P	18 53 21.9	+1.2
	comp=Z,2.8nm,0.8s,mb4.0,baz=117,slow=4.5,SNR=2.7						
BDFB				LR	LR	19 10 17.4	
	comp=Z,1µm,18.1s,MS4.9,baz=145,slow=35						
LVC	Limon Verde	45.35	299	*e*P	P	18 53 40.0	+1.2
	comp=Z,15nm,0.6s,mb5.0						
SBA	Scott Base	46.62	184	*e*P	P	18 53 47.5	-0.6
	comp=Z,5.5nm,0.9s,mb4.5						
TSUM	Tsumeb	49.12	61	P	P	18 54 08.1	-0.3
	comp=Z,1.4nm,0.4s,mb4.3,baz=302,slow=2.3,SNR=5.7						
TSUM	Tsumeb	49.12	61	*e*P	P	18 54 07.3	-1.1
LPAZ	La Paz	50.37	304	P	P	18 54 19.1	+1.1
	comp=Z,9.9nm,0.7s,mb5.0,baz=146,slow=6.1,SNR=36						
LPAZ				LR	LR	19 15 30.2	
	comp=Z,226nm,18.7s,MS4.2,baz=98,slow=36						
SAML	Samuel	54.69	314	*e*P	P	18 54 49.0	-1.3
	comp=Z,5.6nm,0.9s,mb4.6						
LSZ	Lusaka	57.86	69	*e*P	P	18 55 13.4	+0.4
	comp=Z,11nm,1.4s,mb4.7						
DBIC	Dimbokro	64.55	24	P	P	18 55 58.3	0.0
	comp=Z,9.6nm,1.2s,mb4.7,baz=182,slow=12,SNR=3.3						
DBIC				LR	LR	19 18 17.7	
	comp=Z,714nm,18.3s,MS4.9,baz=132,slow=31						
ROSC	El Rosal	71.84	309	P	P	18 56 43.6	-0.1
	comp=Z,7.5nm,0.5s,mb4.9,baz=92,slow=21,SNR=3.7						
ROSC				LR	LR	19 29 28.3	
	comp=Z,427nm,18.8s,MS4.7,baz=214,slow=37						
SDV	Santo Domingo	73.89	314	*e*P	P	18 56 55.3	-0.4
	comp=Z,26nm,1.5s,mb5.0						
KMBO	Kilima Mbogo	74.52	69	LR	LR	19 27 25.9	
	comp=Z,417nm,18.6s,MS4.8,baz=96,slow=34						
URZ	Urewera	84.41	199	LR	LR	19 33 02.4	
	comp=Z,306nm,18.6s,MS4.7,baz=234,slow=34						
STKA	Stephens Creek	92.35	170	LR	LR	19 41 25.0	
	comp=Z,820nm,18.3s,MS5.2,baz=204,slow=36						
RAR	Rarotonga	93.86	223	LR	LR	19 35 29.0	
	comp=Z,206nm,18.9s,MS4.6,baz=143,slow=32						
ESDC	Sonseca Array	96.78	17	LR	LR	19 39 15.4	
	comp=Z,222nm,18.0s,MS4.7,baz=150,slow=33						
ASAR	Alice Springs	99.38	162	P	P	18 59 01.9	-0.5
	comp=Z,0.8nm,0.9s,mb4.3,baz=196,slow=3.8,SNR=6.0						
ASAR				LR	LR	19 42 20.3	
	comp=Z,224nm,19.1s,MS4.7,baz=190,slow=34						
WRA	Warramunga Arr	103.09	162	P	Pdif	18 59 18.3	-0.9
	comp=Z,0.7nm,1.1s,baz=203,slow=4.9,SNR=2.6						
DAWY	Dawson	146.70	312	*e*PKPbc	PKPbc	19 05 00.4	+1.4
EYAK	Cordova Ski Ar	148.45	304	*e*PKPbc	PKPdf	19 05 06.0	+2.4
DIV	Divide	148.64	306	*e*PKPbc	PKPdf	19 05 06.3	+2.5
SML	Sawmill	150.01	306	*e*PKPbc	PKPdf	19 05 09.3	+3.3
ILAR	Eielson Array	150.03	312	PKPbc	PKPdf	19 05 08.4	+2.4
	comp=Z,9.6nm,0.9s,baz=125,slow=1.3,SNR=75						
SONM	Songino Array	150.34	85	PKPbc	PKPdf	19 05 09.8	+2.8
	comp=Z,2.0nm,0.8s,baz=242,slow=3.1,SNR=13						
COLA	College	150.46	312	*e*PKPbc	PKPdf	19 05 09.1	+2.5
COLA				*e*PKPab	PKPab	19 05 17.2	-0.5
MCK	McKinley	150.71	310	*e*PKPbc	PKPdf	19 05 11.2	+4.2

IDC 06 18:50:17.5±6.3**, 2.49N**×**98.08E, mb3.3**/3**, mb1 3.5**/3**, mb1mx3.3**/15**, 1C, Error ellipse: s-maj=328.0km s-min=31.2km az=55.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IPM	Ipoh	3.60	55	⇑*e*P	Pn	18 51 37.0	+21
WRA	Warramunga Arr	41.99	124	P	P	18 58 10.5	-1.9
	0.4nm,0.9s,baz=303,slow=9.0,SNR=4.5						
ASAR	Alice Springs	43.49	129	P	P	18 58 23.1	-1.5
	0.3nm,0.8s,baz=294,slow=8.2,SNR=2.7						
MKAR	Makanchi Array	46.22	345	P	P	18 58 44.3	-1.9
	0.2nm,0.5s,baz=167,slow=6.7,SNR=3.7						

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*IDC **06** 19:01:37.8±1.8, 55.41S×28.81W, mb4.3/4, mb1 4.4/4, mb1mx4.1/10, Error ellipse: s-maj=61.6km s-min=34.3km az=22.0*

*NEIC **06** 19:01:40.9±0.6, 55.23S×29.01W, h10^{km}, mb4.1/3, Error ellipse: s-maj=35.6km s-min=10.5km az=62.0*

ISC 06 19:01:39.5±0.8**, 55.0S**±0.1×**28.7W**±0.4**, h10**^{km}**, n19, σ1**^{s}**19**/17**, mb4.2**/6**, 6C, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA1	Neumayer--Stat	18.11	158	⇑*i*	P	19 05 57.6	+5.2
VNA1	Neumayer--Stat	18.11	158	⇑*i*	P	19 05 57.6	+5.2
VNA3	Neumayer Olymp	18.29	160	⇑*i*	P	19 05 55.1	+0.5
VNA3	Neumayer Olymp	18.29	160	⇑*i*	P	19 05 55.1	+0.5
VNA2	Neumayer--Watz	18.50	158	⇑*i*	P	19 05 55.8	-1.5
VNA2	Neumayer--Watz	18.50	158	⇑*i*	P	19 05 55.8	-1.5
SNAA	Sanae	20.07	156		P	19 06 11.0	-4.4
SNAA	Sanae	20.07	156		P	19 06 11.0	-4.4
SNAA	Sanae	20.07	156	P	P	19 06 12.0	-3.4
	14nm,1.3s						
QSPA	South Pole Qui	35.27	180	*e*P	P	19 08 37.6	+1.9
	1.6nm,0.6s,mb4.1						
CPUP	Villa Florida	35.46	312	P	P	19 08 37.2	-0.7
	3.9nm,0.9s,mb4.3,baz=159,slow=6.0,SNR=6.0						
CPUP	Villa Florida	35.46	312	P	P	19 08 37.2	-0.7
BDFB	Brasilia	42.01	332	P	P	19 09 34.0	+1.5
	1.0nm,0.3s,mb3.9,baz=127,slow=10,SNR=2.5						
LPAZ	La Paz	49.06	306	P	P	19 10 28.6	0.0
	1.7nm,0.2s,mb4.7,baz=168,slow=0.4,SNR=5.4						
SAML	Samuel	53.44	316	*e*P	P	19 11 00.4	-1.4
	1.6nm,0.8s,mb4.0						
DBIC	Dimbokro	64.57	26	P	P	19 12 19.3	+0.2
	3.1nm,0.9s,mb4.3,baz=247,slow=10,SNR=7.1						
DBIC	Dimbokro	64.57	26	P	P	19 12 19.3	+0.2
ILAR	Eielson Array	148.76	313	PKPbc	PKPdf	19 21 26.2	+1.6
	3.2nm,0.9s,baz=115,slow=2.0,SNR=32						
SONM	Songino Array	151.51	86	PKPbc	PKPdf	19 21 32.7	+3.3
	0.5nm,0.6s,baz=229,slow=3.6,SNR=8.5						

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*IDC **06** 19:02:28.5±0.9, 55.88S×29.30W, mb4.5/4, mb1 4.6/4, mb1mx4.3/10, Error ellipse: s-maj=75.1km s-min=25.0km az=42.0*

*NEIC **06** 19:02:31.6±0.4, 55.25S×28.87W, h10^{km}, mb4.4/6, Error ellipse: s-maj=20.6km s-min=8.6km az=55.0*

ISC 06 19:02:42.9±4.9**, 55.4S**±0.2×**28.9W**±0.3**, h132**^{km}±50^{km}**, n24, σ1**^{s}**10**/17**, mb4.2**/10**, 7C, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA1	Neumayer--Stat	17.79	157	⇑*i*	P	19 06 43.7	+0.7
VNA1	Neumayer--Stat	17.79	157	⇑*i*	P	19 06 43.7	+0.7
VNA3	Neumayer Olymp	17.95	160	⇑*i*	P	19 06 51.1	+6.2
VNA3	Neumayer Olymp	17.95	160	⇑*i*	P	19 06 51.1	+6.2
VNA2	Neumayer--Watz	18.18	157	⇑*i*	P	19 06 47.1	-0.3
VNA2	Neumayer--Watz	18.18	157	⇑*i*	P	19 06 47.1	-0.3
SNAA	Sanae	19.75	156	⇑*i*	P	19 07 01.4	-2.7
TRQA	Tornquist	28.16	294	P	P	19 08 25.0	+0.6
	3.5nm,0.7s,mb4.2						
QSPA	South Pole Qui	34.87	180	*e*P	P	19 09 23.9	+1.4
	5.6nm,0.7s,mb4.3						
CPUP	Villa Florida	35.63	313	P	P	19 09 28.1	-1.4
	1.3nm,0.6s,mb3.8,baz=145,slow=6.2,SNR=3.4						
MAW	Mawson	41.27	144	P	P	19 10 12.0	-3.9
	6.4nm,0.8s,mb4.3,baz=53,slow=20,SNR=3.7						
SUR	Sutherland	41.43	77	P	P	19 10 18.4	+0.8
	46nm,1.4s,mb4.9						
LVC	Limon Verde	44.11	301	*e*P	P	19 10 39.3	-0.1
	4.1nm,0.8s,mb4.1						
LPAZ	La Paz	49.19	307	P	P	19 11 20.4	+1.2
	3.0nm,0.2s,mb4.5,baz=270,slow=1.4,SNR=5.8						
SAML	Samuel	53.64	316	*e*P	P	19 11 51.5	-1.2
	1.5nm,0.7s,mb3.8						
SDV	Santo Domingo	72.84	317	*e*P	P	19 13 59.5	+0.6
	3.7nm,0.7s,mb4.2						
ASAR	Alice Springs	99.91	164	P	P	19 16 12.9	-0.5
	0.8nm,0.8s,mb4.2,baz=186,slow=4.3,SNR=7.1						
FINES	FINESS Array B	124.26	28	PKP	PKPdf	19 21 27.8	+2.9
	0.9nm,0.5s,baz=146,slow=6.9,SNR=8.4						
ARCES	ARCESS Array B	130.69	22	PKP	PKPdf	19 21 40.2	+3.4
	2.8nm,0.8s,baz=225,slow=1.7,SNR=6.1						
ARCES	ARCESS Array B	130.69	22	PKP	PKPdf	19 21 40.2	+3.4
MKAR	Makanchi Array	137.61	72	PKP	PKPdf	19 21 51.9	+1.7
	1.1nm,1.1s,baz=214,slow=5.2,SNR=3.1						
MKAR	Makanchi Array	137.61	72	PKP	PKPdf	19 21 51.9	+1.7
ILAR	Eielson Array	148.94	313	PKPbc	PKPdf	19 22 17.6	+8.5
	4.8nm,0.6s,baz=127,slow=1.4,SNR=10.0						
SONM	Songino Array	151.67	87	PKPbc	PKPdf	19 22 24.5	+11
	4.2nm,0.8s,baz=225,slow=3.1,SNR=21						
SONM				PKPab	PKPab	19 22 33.9	+2.1
	2.6nm,0.7s,baz=223,slow=3.6,SNR=8.2						

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*HEL **06** 19:51:38.3±0.4, 55.78N×20.27E, ML2.3, ML2.9(UPP), Explosion*

*IDC **06** 19:51:42.1±2.5, 55.99N×20.14E, mb1 3.3/4, mb1mx3.2/17, ML3.0/4, Error ellipse: s-maj=23.4km s-min=12.5km az=177.0*

*BER **06** 19:51:43.0±3.6, 56.05N×19.86E, ML2.3(NAO)*

*NAO **06** 19:51:44.9±4.1, 56.26N×19.93E, ML2.3*

ISC 06 19:51:36.2±1.1**, 55.89N**±0.07×**20.51E**±0.09**, n24, σ1**^{s}**56**/40**, Baltic Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GOTU	Gotland	2.10	330	*e*P	Pn	19 52 14.8	+1.8

GOTU				eS	Sn	19 52 41.1	+0.9
BYXU	Byxelkrok	2.40	307	eP	Pn	19 52 18.4	+1.2
BYXU				eS	Sn	19 52 48.0	+0.3
BLEU	Blekinge	2.67	281	eP	Pn	19 52 21.0	-0.1
OSKU	Oskarshamn	2.77	300	eP	Pn	19 52 22.6	0.0
VSTU	Vaestervik	2.82	311	eP	Pn	19 52 24.5	+1.2
BSD	Bornholm Skovb	3.28	259	i P	Pn	19 52 28.0	-1.8
BSD				i		19 52 36.0	
BSD				i S	Sn	19 53 07.6	-2.5
BSD				eS	Sn	19 53 15.6	+5.5
EKSU	Eksjoe	3.33	303	eP	Pn	19 52 30.7	+0.1
VIKU	Vikbolandet	3.34	323	eP	Pn	19 52 32.4	+1.7
NYNU	Nynaeshamn	3.41	338	eP	Pn	19 52 33.3	+1.6
LNKU	Linkoeping	3.60	313	eP	Pn	19 52 35.0	+0.6
DEL	Delary	3.76	282	eP	Pn	19 52 35.3	-1.3
PVF	Pernaja	5.46	29	eP	Pn	19 53 03.6	+2.8
PVF				eS	Sn	19 54 05.5	+0.3
PVF				eSG	Sg	19 54 28.0	-10
HFS	Hagfors	5.59	322	Pn	Pn	19 53 01.9	-0.7
	0.1nm,0.3s,baz=132,slow=14,SNR=17						
HFS				Pg	Pg	19 53 15.2	-13
	0.1nm,0.3s,baz=135,slow=16,SNR=7.5						
HFS				Sn	Sn	19 54 04.9	-3.7
	0.1nm,0.3s,baz=137,slow=26,SNR=5.1						
HFS				Lg		19 54 28.2	
	0.2nm,0.3s,baz=139,slow=29,SNR=7.6						
HFS	Hagfors	5.59	322	Pn	Pn	19 53 02.1	-0.5
	baz=148,slow=11						
HFS				Pg	Pg	19 53 16.6	-11
	baz=136,slow=16						
HFS				Lg		19 54 24.5	
	baz=143,slow=37						
VJF	Virojoki	5.97	36	eP	Pn	19 53 08.5	+0.6
VJF				eS	Sn	19 54 13.9	-4.0
FIA0	FINESS Array S	6.28	25	eP	Pn	19 53 14.1	+1.7
FIA0				eS	Sn	19 54 23.8	-2.1
FIA0				eSG		19 54 55.5	
FIA0				MSG		19 54 58.0	
	comp=Z,2.4nm,0.5s						
FIA0	FINESS Array S	6.28	25	Pn	Pn	19 53 15.0	+2.6
	baz=213,slow=12						
FIA0				Sn	Sn	19 54 26.1	+0.3
	baz=211,slow=22						
FIA0				Lg		19 54 56.0	
	baz=216,slow=28						
FINES	FINESS Array B	6.28	25	Pn	Pn	19 53 15.4	+3.0
	comp=Z,0.4nm,0.3s,baz=228,slow=11,SNR=24						
FINES				Sn	Sn	19 54 27.0	+1.2
	comp=Z,0.8nm,0.3s,baz=217,slow=21,SNR=9.3						
FINES				Lg		19 54 57.2	
	comp=Z,0.7nm,0.3s,baz=214,slow=30,SNR=7.2						
KEF	Keuruu	6.69	18	eP	Pn	19 53 21.2	+3.1
KEF				eS	Sn	19 54 35.8	-0.2
KAF	Kangasniemi	6.92	23	eP	Pn	19 53 21.9	+0.5
KAF				eS	Sn	19 54 39.3	-2.6
NOA	NORSAR Array B	7.10	320	Pn	Pn	19 53 20.9	-3.0
	comp=Z,0.2nm,0.3s,baz=138,slow=14,SNR=3.0						
NOA				Lg		19 55 19.8	
	comp=Z,0.5nm,0.3s,baz=205,slow=6.4,SNR=4.4						
SUF	Sumiainen	7.43	20	eP	Pn	19 53 29.6	+1.0
SUF				eS	Sn	19 54 52.6	-2.0
ARA0	ARCESS Array S	13.88	7	Pn	P	19 54 53.1	-3.1
	baz=189,slow=14						
ARCES	ARCESS Array B	13.88	7	Pn	P	19 54 53.4	-2.7
	comp=Z,0.1nm,0.3s,baz=190,slow=13,SNR=5.3						

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*NEIC **06** 19:51:33.9±0.3, 55.32S×28.40W, h10^{km}, mb4.8/12, MS4.3/1, Error ellipse: s-maj=9.7km s-min=6.6km az=54.0*

*IDC **06** 19:51:34.1±3.6, 55.32S×28.16W, h14^{km}±21^{km}, mb4.6/10, mb1 4.6/10, mb1mx4.5/12, MS4.4/8, Ms1 4.4/8, ms1mx4.3/13, Error ellipse: s-maj=25.5km s-min=17.6km az=38.0*

ISC 06 19:51:37.5±3.0**, 55.26S**±0.08×**28.2W**±0.1**, h55**^{km}±28^{km}**, n58,** σ**1**^{s}**03**/32**, mb4.8**/22**, MS4.4**/9**, 3C-1D, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	17.75	158	⇑i	P	19 55 45.0	+3.2
VNA3	Neumayer Olymp	17.93	160	⇑i	P	19 55 45.1	+1.0
EFI	East Falkland	18.06	269	eP	P	19 55 44.0	-1.7
	55nm,1.0s						
VNA2	Neumayer--Watz	18.15	158	⇓i	P	19 55 47.9	+1.2
SNAA	Sanae	19.70	156	⇑i	P	19 56 01.9	-2.6
PMSA	Palmer Station	20.00	227	eP	P	19 56 06.5	-1.2
	56nm,0.9s						
USHA	Ushuaia	22.83	254	P	P	19 56 36.9	+0.8
	9.7nm,0.8s,mb4.3,baz=43,slow=5.0,SNR=5.1						
USHA				LR	LR	20 03 15.3	
	comp=Z,1μm,18.3s,MS4.4,baz=218,slow=31						
USHA				ScP		20 04 04.2	
	2.5nm,0.8s,baz=246,slow=10.0,SNR=3.0						
TRQA	Tornquist	28.48	293	eP	P	19 57 28.3	-0.9
	22nm,1.3s,mb4.6						
QSPA	South Pole Qui	34.99	180	eP	P	19 58 26.0	+0.2
	15nm,0.6s,mb5.1						
QSPA				LR	LR		
	comp=Z,530nm,18.8s,MS4.3						
CPUP	Villa Florida	35.85	312	P	P	19 58 32.2	-1.4
	comp=Z,19nm,0.8s,mb5.1,baz=167,slow=7.8,SNR=31						
CPUP				LR	LR	20 12 21.2	
	comp=Z,636nm,18.5s,MS4.4,baz=177,slow=35						
SUR	Sutherland	41.01	77	P	P	19 59 15.9	-0.7
	comp=Z,14nm,0.9s,mb4.6						
MAW	Mawson	41.13	144	P	P	19 59 16.5	-0.7
	comp=Z,3.1nm,0.6s,mb4.1,baz=251,slow=6.5,SNR=14						
MAW				ScP		20 05 03.8	
	comp=Z,3.2nm,0.9s,baz=266,slow=7.3,SNR=6.1						
MAW				LR	LR	20 16 46.7	
	comp=Z,342nm,18.3s,MS4.2,baz=256,slow=37						
BAO	Brasilia Array	42.39	331	P	P	19 59 29.9	+1.9
BDFB	Brasilia	42.39	331	P	P	19 59 28.4	+0.4
	comp=Z,6.1nm,0.7s,mb4.3,baz=137,slow=6.0,SNR=9.5						
LVC	Limon Verde	44.40	301	eP	P	19 59 44.7	+0.4
	comp=Z,9.9nm,0.6s,mb4.7						
SBA	Scott Base	46.83	184	eP	P	20 00 03.2	+0.4
	comp=Z,5.2nm,0.9s,mb4.5						
LPAZ	La Paz	49.44	306	P	P	20 00 24.4	+0.5
	comp=Z,8.3nm,0.4s,mb5.1,baz=124,slow=3.5,SNR=24						
LPAZ				LR	LR	20 20 07.6	
	comp=Z,279nm,20.8s,MS4.2,baz=8.2,slow=35						
TSUM	Tsumeb	49.82	62	P	P	20 00 27.1	+0.4
	comp=Z,6.5nm,0.8s,mb4.7,baz=209,slow=6.2,SNR=6.8						
TSUM				LR	LR	20 18 42.5	
	comp=Z,318nm,18.2s,MS4.4,baz=214,slow=33						
TSUM	Tsumeb	49.82	62	eP	P	20 00 26.9	+0.1
	comp=Z,6.4nm,0.8s,mb4.7						
ARE	Arequipa	50.89	302	eP	P	20 00 36.0	+1.1
CASY	Casey	54.85	161	eP	P	20 01 02.6	-1.1
	comp=Z,15nm,1.2s,mb4.9						
LSZ	Lusaka	58.64	70	eP	P	20 01 30.9	-0.4
	comp=Z,3.8nm,0.9s,mb4.4						
LIC	Lamto	64.22	26	eP	P	20 02 08.6	-0.3
	comp=Z,39nm,0.8s,mb5.5						
KIC	Kosan Boka	64.43	26	eP	P	20 02 09.5	-0.7
	comp=Z,34nm,0.8s,mb5.4						
TIC	Toumodi	64.63	26	eP	P	20 02 11.2	-0.3
	comp=Z,42nm,0.8s,mb5.5						
DBIC	Dimbokro	64.70	26	P	P	20 02 12.0	0.0
	comp=Z,4.5nm,0.8s,mb4.6,baz=171,slow=9.8,SNR=5.7						
DBIC				LR	LR	20 25 38.8	
	comp=Z,141nm,18.6s,MS4.2,baz=100,slow=32						
ROSC	El Rosal	70.94	311	P	P	20 02 52.6	+1.7
	comp=Z,3.7nm,0.3s,mb4.7,baz=287,slow=23,SNR=3.5						
SDV	Santo Domingo	73.03	316	eP	P	20 03 02.9	-0.4
	comp=Z,10nm,0.8s,mb4.8						
KMBO	Kilima Mbogo	75.31	70	LR	LR	20 35 16.5	
	comp=Z,560nm,19.3s,MS4.9,baz=99,slow=35						
JTS	JuntasAbangare	80.59	303	eP	P	20 03 45.7	+0.1
	comp=Z,18nm,1.1s,mb4.9						
STKA	Stephens Creek	92.78	171	P	P	20 04 45.9	+1.2
	comp=Z,3.5nm,0.9s,mb4.8,baz=265,slow=13,SNR=2.8						
STKA	Stephens Creek	92.78	171	P	P	20 04 45.9	+1.2
ASAR	Alice Springs	99.92	163	P	P	20 05 16.7	-0.6
	comp=Z,0.7nm,0.8s,mb4.1,baz=177,slow=4.4,SNR=9.4						
ASAR				LR	LR	20 44 58.7	
	comp=Z,200nm,21.6s,MS4.6,baz=192,slow=32						
WRA	Warramunga Arr	103.64	163	Pdiff	Pdif	20 05 34.3	+0.4
	comp=Z,0.3nm,0.7s,baz=195,slow=4.1,SNR=4.2						
PV01	Paradox Valley	115.38	301	ePKPdf	PKPdf	20 10 14.3	+1.8
WVOR	Wild Horse Val	123.66	297	ePKPdf	PKPdf	20 10 31.0	+2.6
FINES	FINESS Array B	123.95	28	PKP	PKPdf	20 10 30.1	+1.5
	comp=Z,1.0nm,0.5s,baz=332,slow=32,SNR=6.5						
CHMT	Chamberlain Mo	124.26	304	ePKPdf	PKPdf	20 10 31.7	+2.2
KAF	Kangasniemi	124.57	28	ep	PKPdf	20 10 30.0	+0.5
	comp=Z,3.4nm,0.8s						
FFC	Flin Flon	125.10	317	ePKPdf	PKPdf	20 10 33.4	+2.7
SUMG	Summit	127.74	356	ePKPdf	PKPdf	20 10 39.5	+4.1
AAK	Ala-Archa	130.26	71	ePKPdf	PKPdf	20 10 43.1	+2.1
ARCES	ARCESS Array B	130.42	22	PKP	PKPdf	20 10 41.9	+1.3
	comp=Z,2.8nm,0.7s,baz=288,slow=3.8,SNR=7.9						
ZRNK	Zerenda	134.13	57	ePKPdf	PKPdf	20 10 50.6	+2.6
BRVK	Borovoye	134.81	57	ePKPdf	PKPdf	20 10 50.9	+1.6
BVAR	Borovoye Array	134.84	57	PKP	PKPdf	20 10 51.5	+2.2
	comp=Z,1.5nm,0.6s,baz=180,slow=1.5,SNR=11						
YKA	Yellowknife Ar	135.19	319	PKP	PKPdf	20 10 52.4	+2.8
	comp=Z,2.0nm,0.6s,baz=126,slow=2.8,SNR=5.2						
YKA	Yellowknife Ar	135.19	319	PKP	PKPdf	20 10 52.4	+2.8
KURK	Kurchatov	137.59	64	ePKPdf	PKPdf	20 10 54.9	+0.5
DAWY	Dawson	145.83	313	ePKPdf	PKPdf	20 11 10.7	+2.4
EYAK	Cordova Ski Ar	147.52	305	ePKPbc	PKPdf	20 11 16.9	+5.7
DIV	Divide	147.72	306	ePKPbc	PKPdf	20 11 17.0	+5.5
SML	Sawmill	149.09	307	ePKPbc	PKPdf	20 11 19.7	+6.0
ILAR	Eielson Array	149.15	313	PKPbc	PKPdf	20 11 20.2	+6.5
	comp=Z,16nm,0.8s,baz=122,slow=1.4,SNR=91						
PMR	Palmer	149.40	306	ePKPbc	PKPdf	20 11 21.0	+6.7
PMR				ePKPab	PKPab	20 11 26.1	+0.3
COLA	College	149.57	313	ePKPbc	PKPdf	20 11 20.8	+6.3
MCK	McKinley	149.81	310	ePKPbc	PKPdf	20 11 22.1	+7.2
SONM	Songino Array	151.25	86	PKPbc	PKPdf	20 11 23.9	+6.4
	comp=Z,3.2nm,0.7s,baz=222,slow=3.3,SNR=22						

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*NIED **06** 20:02:00, 33.50N×136.70E, h8^{km}, Mw4.3 Best double couple: M$_0$2.83×10^{15} NP1:φ$_s$166°, δ89°, λ-120°. NP2: φ$_s$74°, δ30°, λ-1°.*

*IDC **06** 20:02:42.0±19.0, 34.31N×138.38E, mb3.6/4, mb1 3.8/4, mb1mx3.6/19, Error ellipse: s-maj=757.0km s-min=25.0km az=63.0*

*BJI **06** 20:02:46.1, 33.60N×136.80E, h10^{km}, mB4.9, mb4.8*

*NEIC **06** 20:02:49.1±0.8, 33.61N×136.78E, h10^{km}, Error ellipse: s-maj=23.9km s-min=12.5km az=105.0*

*JMA **06** 20:02:49.5±0.1, 33.51N×136.73E, h41^{km}±3^{km}, M3.6*

ISC 06 20:02:48.9±1.0**, 33.53N**±0.05×**136.76E**±0.05**, h26**^{km}±6^{km}**, n17,** σ**0**^{s}**67**/24**, mb3.7**/5**, 3C-2D, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKN	Kiinagashima	0.83	330	P	Pb	20 03 04.8	+0.2
JKN				S	Sb	20 03 15.5	+0.1
JIE	Ise	0.87	357	⇓P	Pb	20 03 05.7	+0.5
JIE				S	Sb	20 03 17.0	+0.7
JWZ	Kozaga	0.87	271	⇑P	Pb	20 03 05.0	-0.3
JWZ				eS	Sb	20 03 16.3	-0.3
TK02	Tokai 2	0.93	63	S	Sb	20 03 18.0	-0.2
JAA	Atsumi	1.15	16	⇓P	Pn	20 03 09.5	0.0
JAA				S	Sb	20 03 24.2	-0.3
JWM	Minabe	1.22	286	⇑P	Pn	20 03 10.3	-0.2
TK04	Tokai 4	1.26	47	S	Sn	20 03 26.9	-0.5
JHE	Heguri	1.44	322	P	Pn	20 03 13.8	+0.2
JHE				eS	Sn	20 03 31.8	0.0
JAJ2	Tsuna	1.79	300	⇑P	Pn	20 03 19.2	+0.4
MAJO	Matsushiro	3.24	21	ePn	Pn	20 03 38.7	-0.6
MAT	Matsushiro	3.24	21	P	Pn	20 03 39.3	0.0
MAT				S	Sn	20 04 18.0	+0.5
MAT	Matsushiro	3.24	21	eP	Pn	20 03 39.0	-0.3
MAT				eS	Sn	20 04 18.0	+0.5
HHC	Hu-ho-hao-te	21.32	297	eP	P	20 07 34.0	-2.0
HHC				AMB	AMB		
	comp=Z,17nm,0.4s,mb4.7						
SONM	Songino Array	26.90	311	P	P	20 08 28.9	-0.7
	comp=Z,0.6nm,1.0s,mb3.1,baz=114,slow=9.7,SNR=5.1						
MKAR	Makanchi Array	42.87	305	P	P	20 10 47.8	+1.2
	comp=Z,1.1nm,0.8s,mb3.6,baz=85,slow=11,SNR=6.4						
WRA	Warramunga Arr	53.22	183	P	P	20 12 07.5	-0.1
	comp=Z,0.8nm,0.9s,mb3.6,baz=358,slow=7.5,SNR=3.7						
ASAR	Alice Springs	56.94	183	P	P	20 12 36.1	+1.5
	comp=Z,0.2nm,0.6s,mb3.3,baz=18,slow=11,SNR=3.0						

IDC 06 20:04:20.6±2.2**, 6.66S**×**129.11E, mb3.6**/1**, mb1 3.8**/2**, mb1mx3.5**/9**, ML3.6**/1**, Error ellipse: s-maj=146.0km s-min=31.3km az=67.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.14	159	Pn	P	20 07 42.0	-2.7
	0.3nm,0.3s,baz=342,slow=13,SNR=19						
WRA				Sn	S	20 10 09.4	-14
	0.4nm,0.3s,baz=334,slow=21,SNR=6.8						
ASAR	Alice Springs	17.52	165	P	P	20 08 26.9	-1.2
	baz=346,slow=9.9						
ASAR				S	S	20 11 33.2	-9.1
	0.1nm,0.3s,baz=344,slow=25,SNR=3.9						
MKAR	Makanchi Array	67.46	327	P	P	20 15 18.4	-2.1
	0.3nm,0.4s,baz=122,slow=8.3,SNR=6.9						

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*SYO **06** 20:07:22.6, 55.20S×28.23W, h10^{km}, MB4.9*

*BJI **06** 20:07:23.4, 55.30S×28.50W, h10^{km}, mB5.2, Ms5.3, Msz4.9*

*NEIC **06** 20:07:23.4±0.3, 55.29S×28.55W, h10^{km}, mb4.9/9, Error ellipse: s-maj=9.9km s-min=6.6km az=56.0*

*HRVD **06** 20:07:23.4±0.4, 55.24S×28.48W, h12^{km}, MW5.0/39, Centroid moment Tensor Solution. LP body waves: s6,c7; Mantle waves: s39,c52; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M$_{rr}$2.22±.17; M$_{θθ}$-1.08±.20; M$_{φφ}$-1.13±.14; M$_{rθ}$-0.40±.62; M$_{θφ}$2.07±.12; M$_{φr}$2.55±.46; Best double couple: M$_0$3.82×10^{16} NP1:φ$_s$107°, δ33°, λ41°. NP2:φ$_s$341°, δ69°, λ116°. Principal axes: T 3.69, Plg58°, Azm286°; N .26, Plg24°, Azm151°; P -3.94, Plg20°, Azm52°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*IDC **06** 20:07:25.9±4.8, 55.26S×28.45W, h24^{km}±30^{km}, mb4.6/9, mb1 4.6/9, mb1mx4.4/12, MS4.3/6, Ms1 4.3/6, ms1mx4.2/12 Error ellipse: s-maj=25.2km s-min=18.3km az=34.0*

ISC 06 20:07:29.0±3.0**, 55.23S**±0.08×**28.4W**±0.1**, h75**^{km}±29^{km}**, n62,** σ**1**^{s}**06**/31**, mb4.8**/18**, 4C-1D, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	17.81	158	⇑i	P	20 11 34.0	+1.1
EFI	East Falkland	17.96	269	eP	P	20 11 33.4	-1.5
	100nm,1.1s						
VNA3	Neumayer Olymp	17.99	160	⇑i	P	20 11 36.0	+0.9
VNA2	Neumayer--Watz	18.21	158		P	20 11 38.2	+0.6
SNAA	Sanae	19.77	156	⇑i	P	20 11 52.5	-2.5
PMSA	Palmer Station	19.95	227	eP	P	20 11 56.5	-0.5
	35nm,0.8s						
USHA	Ushuaia	22.75	254	P	P	20 12 26.3	+1.3
	34nm,0.9s,mb4.7,baz=70,slow=8.5,SNR=10						
USHA				LR	LR	20 18 41.8	
	comp=Z,1μm,19.0s,baz=73,slow=30						
MAIT	Maitri	23.29	147	eP	P	20 12 30.4	+0.3
TRQA	Tornquist	28.38	293	eP	P	20 13 16.5	-1.5
	5.8nm,0.6s,mb4.3						
SYO	Syowa Base	32.65	142	⇓P	P	20 13 54.9	-0.4
SYO	Syowa Base	32.65	142	⇑PcP	PcP	20 16 40.3	+0.5
QSPA	South Pole Qui	35.02	180	eP	P	20 14 15.9	+0.3
	19nm,0.6s,mb5.1						
CPUP	Villa Florida	35.76	312	P	P	20 14 21.8	-0.6
	7.7nm,0.7s,mb4.7,baz=177,slow=7.3,SNR=17						
CPUP				LR	LR	20 28 08.7	
	comp=Z,372nm,18.9s,baz=174,slow=35						
MAW	Mawson	41.21	144	P	P	20 15 07.3	0.0
	4.7nm,0.6s,mb4.5,baz=236,slow=9.0,SNR=25						
MAW				ScP		20 20 54.1	
	1.6nm,0.9s,baz=270,slow=6.1,SNR=3.7						
MAW				LR	LR	20 31 26.7	
	comp=Z,209nm,19.7s,baz=253,slow=35						
BDFB	Brasilia	42.32	331	P	P	20 15 18.0	+1.2
	2.4nm,0.5s,mb4.2,baz=160,slow=7.6,SNR=4.4						
LVC	Limon Verde	44.30	301	eP	P	20 15 33.4	+0.5
	15nm,1.0s,mb4.7						
SBA	Scott Base	46.85	184	eP	P	20 15 51.6	-0.8
	3.1nm,0.2s,mb4.7						
LPAZ	La Paz	49.35	306	P	P	20 16 14.1	+1.5
	13nm,0.7s,mb5.0,baz=210,slow=7.9,SNR=11						
LPAZ				LR	LR	20 34 17.1	
	comp=Z,232nm,20.2s,baz=257,slow=33						
LPAZ	La Paz	49.35	306	P	P	20 16 14.1	+1.5
LPAZ				LR	LR	20 34 17.1	
TSUM	Tsumeb	49.89	63	P	P	20 16 18.2	+1.5
	10nm,1.2s,mb4.6,baz=205,slow=7.4,SNR=8.3						
TSUM	Tsumeb	49.89	63	eP	P	20 16 17.4	+0.6
	4.2nm,0.8s,mb4.4						
CASY	Casey	54.91	161	eP	P	20 16 52.2	-1.3
	18nm,1.2s,mb5.0						
LSZ	Lusaka	58.72	70	eP	P	20 17 20.0	-1.1
	19nm,1.5s,mb4.9						
LIC	Lamto	64.24	26	eP	P	20 17 58.9	+0.6
	44nm,1.2s,mb5.2						
KIC	Kosan Boka	64.44	26	eP	P	20 17 59.1	-0.5
	107nm,1.4s,mb5.5						
TIC	Toumodi	64.65	26	eP	P	20 18 01.3	+0.3
	166nm,1.5s,mb5.6						
DBIC	Dimbokro	64.71	26	P	P	20 18 01.2	-0.2
	17nm,1.4s,mb4.7,baz=271,slow=5.0,SNR=3.8						
DBIC				LR	LR	20 39 47.9	
	comp=Z,174nm,18.6s,baz=201,slow=30						
DBIC	Dimbokro	64.71	26	P	P	20 18 01.2	-0.2
DBIC				LR	LR	20 39 47.9	
MBAR	Mbarara	72.39	64	P	P	20 18 46.9	-1.9
SDV	Santo Domingo	72.95	316	eP	P	20 18 52.4	+0.4
KMBO	Kilima Mbogo	75.39	70	LR	LR	20 51 17.7	
	comp=Z,505nm,18.3s,baz=97,slow=35						
STKA	Stephens Creek	92.82	171	P	P	20 20 36.9	+2.9
	1.5nm,0.6s,mb4.5,baz=177,slow=13,SNR=2.8						
ASAR	Alice Springs	99.97	164	P	P	20 21 07.0	+0.3
	1.5nm,0.9s,mb4.6,baz=190,slow=3.3,SNR=7.9						
ASAR				PP	PP	20 25 14.0	-0.9
	0.4nm,0.7s,baz=189,slow=6.6,SNR=5.0						
WRA	Warramunga Arr	103.69	163	Pdiff	Pdif	20 21 24.6	+1.4
	0.4nm,0.9s,baz=192,slow=3.9,SNR=4.2						
PDAR	Pinedale Array	119.33	303	PKP	PKPdf	20 26 10.9	+1.9
	0.4nm,0.4s,baz=124,slow=5.2,SNR=4.2						
WVOR	Wild Horse Val	123.57	297	ePKP	PKPdf	20 26 20.7	+3.5
FINES	FINESS Array B	123.97	28	PKP	PKPdf	20 26 20.1	+2.5
	1.1nm,0.5s,baz=162,slow=6.0,SNR=11						
KAF	Kangasniemi	124.59	28	ep	PKPdf	20 26 21.6	+3.0
	1.0nm,0.4s						
LON	Longmire	128.22	299	PKP	PKPdf	20 26 27.1	+1.1
KSH	Kashi	129.00	75	ePKP	PKPdf	20 26 33.1	+5.4
KSH				ePP	PP	20 28 46.1	+5.4
KSH				ePKS	PKS	20 30 08.2	+5.0
KSH				eSKKS		20 35 37.7	
KSH				PP	PP		
	comp=Z,150nm,4.8s						
ARCES	ARCESS Array B	130.43	22	PKP	PKPdf	20 26 32.6	+3.0
	comp=Z,1.9nm,0.6s,baz=225,slow=1.7,SNR=8.8						
ARU	Arti	131.65	48	PKP	PKPdf	20 26 34.5	+2.3
KMI	Kunming	133.44	110	ePKP	PKPdf	20 26 40.0	+3.5
KMI				PP	PP	20 29 11.8	+2.9
KMI				SS	SS	20 46 52.4	+7.1
KMI				PP	PP		
	comp=Z,11nm,3.7s						
KMI				LR	LR		
	comp=N,420nm,16.4s						
KMI				LR	LR		
	comp=E,470nm,12.3s						
KMI				LR	LR		
	comp=Z,303nm,16.4s						
YKA	Yellowknife Ar	135.11	319	PKP	PKPdf	20 26 42.3	+3.8
	comp=Z,1.5nm,0.5s,baz=130,slow=2.2,SNR=4.8						
GYA	Guiyang	136.60	113	PKP	PKPdf	20 26 45.6	+3.4
GYA				PP	PP	20 29 26.3	-1.9
GYA				PKS	PKS	20 30 19.6	+2.1
GYA				SKKS		20 36 16.0	
GYA				PP	PP		
	comp=Z,130nm,6.0s						
MKAR	Makanchi Array	137.26	71	PKhKP		20 26 47.5	
	comp=Z,0.7nm,0.7s,baz=270,slow=1.2,SNR=5.3						
MKAR	Makanchi Array	137.26	71	PKP	PKPdf	20 26 47.5	+4.6
WMQ	Urumqi	138.40	78	ePKP	PKPdf	20 26 48.1	+3.0
WMQ				LR	LR		
	comp=Z,132nm,19.5s						
XAN	Xi’an	143.74	108	PKP	PKPdf	20 26 57.5	+2.9
DAWY	Dawson	145.74	313	ePKP	PKPdf	20 27 00.2	+3.0
EYAK	Cordova Ski Ar	147.43	305	ePKPab	PKPab	20 27 07.0	0.0
DIV	Divide	147.62	306	ePKPbc	PKPdf	20 27 06.1	+5.7
SSE	Sheshan	147.67	126	ePKP	PKPdf	20 27 03.8	+2.4
SML	Sawmill	149.00	307	ePKPbc	PKPdf	20 27 09.9	+7.3
BTO	Baotou	149.04	101	ePKP	PKPdf	20 27 11.7	+8.4
ILAR	Eielson Array	149.06	313	PKPbc	PKPdf	20 27 10.1	+7.4
	comp=Z,13nm,0.6s,baz=132,slow=1.5,SNR=82						
PMR	Palmer	149.31	306	ePKPbc	PKPdf	20 27 11.3	+8.2
COLA	College	149.49	313	ePKPbc	PKPdf	20 27 10.5	+7.2
MCK	McKinley	149.72	311	ePKPbc	PKPdf	20 27 11.9	+8.2
SPU	Mount Spurr	150.56	305	ePKPbc	PKPdf	20 27 13.6	+8.5
RSO	Redoubt South	150.72	303	ePKPbc	PKPdf	20 27 13.6	+8.2
SONM	Songino Array	151.35	86	PKP	PKPdf	20 27 12.0	+5.4
	comp=Z,2.0nm,0.6s,baz=199,slow=2.5,SNR=5.1						
SONM				PKPbc	PKPdf	20 27 16.1	+9.4
	comp=Z,5.6nm,0.8s,baz=223,slow=3.3,SNR=34						
SONM				PKPab	PKPab	20 27 26.3	+2.8
	comp=Z,7.6nm,0.9s,baz=263,slow=1.6,SNR=13						

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*PRU **06** 20:22:51.9, 51.50N×16.11E*

*WAR **06** 20:22:52.3, 51.52N×16.08E, ML2.6, Mining Induced*

ISC 06 20:22:49.5±1.5**, 51.52N**±0.06×**16.09E**±0.06**, n8,** σ**1**^{s}**10**/15**, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.69	169	ePG	Pg	20 23 05.0	+1.8
KSP				eSG	Sg	20 23 13.0	+0.7
UPC	Upice	1.01	183	ePG	Pg	20 23 10.8	+1.1
UPC				eSG	Sg	20 23 24.1	+1.0
DPC	Dobruska-Polom	1.18	173	ePG	Pg	20 23 13.7	+0.7
DPC				eSG	Sg	20 23 28.4	-0.2
PVCC	Panska Ves	1.38	225	ePG	Pg	20 23 17.6	+0.6
PVCC				eSG	Sg	20 23 36.3	+1.0
PRU	Pruhonice	1.82	213	PG	Pg	20 23 25.5	-0.3
PRU				SG	Sg	20 23 48.9	-1.1
	3.5nm,0.4s						
CLL	Collm	1.94	265	eSG	Sg	20 23 54.0	-0.2
OKC	Ostrava-Krasne	2.13	141	ePG	Pg	20 23 31.5	-0.5
OKC				eSG	Sg	20 23 58.4	-2.0
KHC	Kasperske Hory	2.88	215	ePG	Pg	20 23 44.7	-2.2
KHC				eSG	Sg	20 24 24.3	-1.0

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*NIED **06** 20:38:00, 33.20N×137.10E, h11^{km}, Mw3.9 Best double couple: M$_0$7.43×10^{14} NP1:φ$_s$85°, δ48°, λ106°. NP2:φ$_s$242°, δ45°, λ73°.*

*NEIC **06** 20:38:31.3±0.6, 33.13N×137.29E, h10^{km}, Error ellipse: s-maj=21.0km s-min=9.4km az=93.0*

*JMA **06** 20:38:32.2±0.1, 33.18N×137.11E, h40^{km}±3^{km}, M4.1*

*IDC **06** 20:38:34.7±7.2, 33.18N×137.31E, h33^{km}±59^{km}, mb3.8/9, mb1 3.9/11, mb1mx3.7/22, ML3.5/2, MS2.9/1, Ms1 2.9/1, ms1mx2.1/22, Error ellipse: s-maj=37.2km s-min=16.3km az=64.0*

ISC 06 20:38:32.5±0.5**, 33.20N**±0.03×**137.13E**±0.03**, h33**^{km}**, n30,** σ**0**^{s}**96**/45**, mb3.9**/9**, 10D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK01	Tokai 1	0.68	34	P	P	20 38 45.7	+0.1
TK02	Tokai 2	0.91	35	P	P	20 38 49.1	+0.3
TK02				S	S	20 39 01.9	+1.0
TK03	Tokai 3	1.19	36	⇓P	P	20 38 53.0	+0.2
TK03				S	S	20 39 08.4	+0.4
JWZ	Kozaga	1.23	286	⇓P	P	20 38 53.1	-0.2
JWZ				S	S	20 39 07.6	-1.5
JIE	Ise	1.24	344	⇓P	P	20 38 54.2	+0.7
JKN	Kiinagashima	1.27	326	⇓P	P	20 38 54.2	+0.3
JKN				S	S	20 39 09.0	-1.1
TK04	Tokai 4	1.33	28	⇓P	P	20 38 55.4	+0.5
TK04				S	S	20 39 12.5	+0.8
TSUJ	Tsu 2	1.61	339	⇓P	P	20 38 59.4	+0.4
JWM	Minabe	1.62	294	⇓P	P	20 38 58.9	-0.1
JWM				S	S	20 39 17.6	-1.2
JWY	Kouya	1.63	309	⇓P	P	20 38 59.9	+0.7
JWY				S	S	20 39 19.0	-0.3
JHE	Heguri	1.88	321	⇓P	P	20 39 03.3	+0.5
JHE				S	S	20 39 25.4	-0.1
SHZ3	Shizuoka 3	2.06	25	⇓P	P	20 39 05.3	-0.1
SHZ3				S	S	20 39 29.1	-1.1
JIZS	Izushimoda	2.10	43	eS	S	20 39 29.8	-1.2
JHJ	Hachijo jima 2	2.23	91	Pn	P	20 39 07.8	+0.1
	35nm,0.3s,baz=235,slow=22,SNR=13						
JHJ				Sn	S	20 39 32.6	-1.7
	71nm,0.3s,baz=55,slow=20,SNR=15						
JHJ				LR	LR	20 39 55.2	

	comp=Z,275nm,18.7s,baz=142,slow=38						
JHJ2	Mitsune	2.26	92	P	P	20 39 08.2	+0.1
JHJ2				eS	S	20 39 33.7	-1.4
JAI	Aioi	2.31	285	P	P	20 39 09.0	0.0
JAI				S	S	20 39 34.3	-2.2
MAT	Matsushiro	3.45	15	P	P	20 39 25.8	+0.7
MAT				S	S	20 40 04.7	-0.7
MAT	Matsushiro	3.45	15	eP	P	20 39 26.0	+0.9
MAT				eS	S	20 40 05.0	-0.4
MAJO	Matsushiro	3.45	15	ePn	P	20 39 25.4	+0.3
MAJO				eSn	S	20 40 04.8	-0.6
ASAJ	Asahikawa	11.70	20	Pn	P	20 41 18.2	-1.7
	0.5nm,0.3s,baz=247,slow=13,SNR=4.2						
LUBP	Lubang	24.74	222	eP	P	20 43 46.9	-5.5
SONM	Songino Array	27.34	311	P	P	20 44 18.4	+2.2
	1.1nm,0.8s,mb3.4,baz=125,slow=9.6,SNR=7.7						
MKAR	Makanchi Array	43.30	305	P	P	20 46 33.8	+1.2
	0.5nm,0.8s,mb3.3,baz=90,slow=11,SNR=4.4						
WRA	Warramunga Arr	52.91	183	P	P	20 47 46.6	-1.0
	0.9nm,0.6s,mb3.9,baz=360,slow=7.7,SNR=15						
WRA				PcP	PcP	20 48 56.7	+0.3
	0.6nm,1.1s,baz=359,slow=4.1,SNR=5.7						
ASAR	Alice Springs	56.63	184	P	P	20 48 14.5	-0.3
	0.7nm,0.7s,mb3.8,baz=15,slow=12,SNR=7.6						
STKA	Stephens Creek	64.87	176	P	P	20 49 10.4	-0.1
	3.6nm,1.2s,mb4.3,baz=337,slow=7.7,SNR=2.9						
FINES	FINESS Array B	70.53	332	P	P	20 49 46.5	+1.1
	3.9nm,1.0s,mb4.3,baz=18,slow=18,SNR=4.3						
AKASG	Malin Array Be	75.13	321	P	P	20 50 13.6	+0.9
	0.7nm,0.4s,mb3.9,baz=52,slow=6.1,SNR=6.5						
BRTR	Keskin Array B	78.69	310	P	P	20 50 34.9	+2.0
	2.4nm,1.0s,mb4.1,baz=45,slow=5.2,SNR=4.8						
GERES	GERESS Array B	84.03	326	P	P	20 51 02.1	+1.5
	0.7nm,0.6s,mb4.0,baz=34,slow=4.8,SNR=7.8						

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*IDC **06** 20:43:00.5±0.4,19.34N×65.27W,mb4.5/19,mb1 4.7/20, mb1mx4.7/20,ML3.8/1,MS4.5/10,Ms1 4.6/10, ms1mx4.4/20,Error ellipse: s-maj=12.6km s-min=10.7km az=100.0*

*SYO **06** 20:43:01.3,19.41N×65.19W,h8^{km},MB5.0,MS4.7*

*BJI **06** 20:43:02.9,19.40N×65.30W,h14^{km},mB5.0,Msz4.8*

*NEIC **06** 20:43:02.9±1.8,19.41N×65.31W,h14^{km}±11^{km},mb4.9/75, MS4.6/9,MD5.3(RSPR),Error ellipse: s-maj=3.7km s-min=2.9km az=218.0*

NEIC Felt [III] at San Juan.

*HRVD **06** 20:43:02.9±0.3,19.48N×65.50W,h17^{km}±1^{km},MW5.0/47, Centroid moment Tensor Solution. LP body waves: s19,c21;Mantle waves: s47,c68; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.44±.30; $M_{\theta\theta}$-0.70±.16; $M_{\phi\phi}$-2.75±.20; $M_{r\theta}$2.57±.58; $M_{\theta\phi}$1.47±.10; $M_{\phi r}$-0.96±.40; Best double couple: $M_0$4.41×10^{16} NP1:ϕ_s350°,δ33°,λ126°. NP2:ϕ_s130°,δ64°,λ70°. Principal axes: T 4.68, Plg65°, Azm5°; N -.55, Plg18°, Azm139°; P -4.13, Plg17°, Azm235°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*RSPR **06** 20:43:03.5,19.57N×65.20W,h25^{km}±27^{km},MD5.4/13, MD5.4/13*

ISC 06 20:43:02.6±1.3,**19.49N**±0.02×**65.30W**±0.02,**h22**^{km}±9^{km}, **n255**,σ0^{s}**85**/247,**mb4.8**/102,**MS4.6**/19,**18C-9D,Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBYP	Canovanas	1.32	204⇑	eP	Pn	20 43 26.0	-0.1
CBYP				eS	Sn	20 43 43.7	+0.5
MTP	Monte Pirata	1.41	190⇑	iP	Pn	20 43 27.0	-0.3
MTP				eS	Sn	20 43 45.9	+0.5
HUMP	Col San Antoni	1.44	201⇓	eP	Pn	20 43 27.1	-0.6
HUMP				eS	Sn	20 43 46.7	+0.6
CSB	Colonia Sabana	1.44	214⇓	eP	Pn	20 43 27.2	-0.6
CPD	Cerro la Pandu	1.56	202⇓	eP	Pn	20 43 29.1	-0.3
CPD				eS	Sn	20 43 48.9	-0.2
SJG	San Juan	1.59	211⇑	eP	Pn	20 43 29.4	-0.5
SJG				eS	Sn	20 43 48.5	-1.4
SJG	San Juan	1.59	211	Pn	Pn	20 43 28.8	-1.1
	330nm,0.3s,baz=60,slow=7.7,SNR=290						
SJG				Sn	Sn	20 43 48.3	-1.7
	651nm,0.3s,baz=263,slow=18,SNR=19						
SJG	San Juan	1.59	211⇓	iP	Pn	20 43 29.3	-0.7
SJG				eS	Sn	20 43 49.0	-1.0
AOPR	Arecibo Observ	1.78	231⇓	eP	Pn	20 43 32.1	-0.6
AOPR				eS	Sn	20 43 55.6	+0.7
CELP	Cerrillos	1.86	221⇓	iP	Pn	20 43 33.6	-0.2
LRS	Lares	1.89	231⇑	iP	Pn	20 43 34.0	-0.1
PORP	Portuguez	1.91	222⇓	eP	Pn	20 43 34.3	-0.2
LSP	Las Mesas	2.14	233⇑	eP	Pn	20 43 38.0	+0.2
MPR	Mayaguez	2.16	234⇑	eP	Pn	20 43 37.9	-0.1
MPR				eS	Sn	20 44 04.7	+0.3
MGP	Maguayo	2.25	229⇓	eP	Pn	20 43 39.2	-0.1
MGP				eS	Sn	20 44 06.1	-0.6
IDE	Isla Desecheo	2.34	242⇑	eP	Pn	20 43 40.4	-0.2
IDE				eS	Sn	20 44 08.3	-0.7
STMA	St. Maarten, A	2.53	124	eP	Pn	20 43 44.6	+1.3
SABT	Saba	2.70	133	eP	Pn	20 43 47.5	+1.8
CPB	Codrington	3.77	119	eP	Pn	20 44 04.8	+3.8
BPA	Boggy Peak	4.08	126	eP	Pn	20 44 05.9	+0.6
BBL	Barber's Block	5.38	137	eP	Pn	20 44 25.7	+2.0
DLVT	Layou Valley	5.49	137	eP	Pn	20 44 30.6	+5.3
MDN	Morne-Daniel	5.58	137	eP	Pn	20 44 35.7	+9.1
DSTT	Stowe	5.69	137	eP	Pn	20 44 29.7	+1.6
MASC	Masc	8.44	276	eP	P	20 45 02.5	-4.1
MASC				eS	Sn	20 46 32.0	-10
	comp=N,4µm,0.7s						
	comp=E,4µm,0.5s						
MOAC	Moa	9.15	279⇑	iP	P	20 45 11.2	-5.4
MOAC				iS	Sn	20 46 47.3	-13
	comp=N,4µm,0.4s						
	comp=E,4µm,0.5s						
RCC	Rio Carpintero	9.80	275	eP	P	20 45 22.5	-3.2
RCC				eS	Sn	20 47 03.3	-13
	comp=N,1µm,0.4s						
	comp=E,1µm,0.4s						
HLGC	Holguin	10.20	280	eP	P	20 45 26.9	-4.2
HLGC				eS	S	20 47 02.2	-24
	comp=N,16µm,0.7s						
	comp=E,2µm,0.7s						
SDV	Santo Domingo	11.74	207	eP	P	20 45 50.5	-1.6
	comp=E,64nm,0.8s						
BBSR	BB Station	12.84	2	eP	P	20 46 02.3	-4.5
	comp=E,37nm,0.7s						
ROSC	El Rosal	17.00	212	Pn	P	20 47 00.7	-0.3
	comp=E,7.7nm,0.3s,baz=98,slow=23,SNR=16						
ROSC				Sn	S	20 50 10.5	+2.4
	comp=E,1.1nm,0.3s,baz=150,slow=20,SNR=1.5						
RGRS	Roger Stewart	18.87	318	P	P	20 47 23.1	-0.8
JTS	JuntasAbangare	21.06	247	P	P	20 47 46.2	-1.7
	comp=E,34nm,0.8s,mb4.7,baz=58,slow=11,SNR=9.8						
JTS	JuntasAbangare	21.06	247	eP	P	20 47 43.5	-4.4
	comp=E,31nm,0.8s,mb4.7						
TEIG	Tepich	21.62	276	P	P	20 47 54.7	+1.2
	comp=E,0.0nm,0.4s,baz=67,slow=24,SNR=3.1						
BLA	Blacksburg	22.06	326	eP	P	20 47 57.9	+0.2
	comp=E,41nm,0.9s,mb4.9						
ELN	Prospectdale	22.24	326	eP	P	20 47 59.9	+0.3
PWV	Princeton	22.48	326	eP	P	20 48 02.5	+0.6
CPNY	Central Park	22.49	343	eP	P	20 48 02.6	+0.6
FWV	Forest Hill	22.54	326	eP	P	20 48 02.4	-0.2
PAL	Palisades	22.67	343	eP	P	20 48 04.5	+0.6
	comp=E,92nm,1.5s,mb5.0						
BRYW	Bryant College	22.98	348	eP	P	20 48 08.0	+1.2
	comp=E,53nm,0.6s,mb5.2						
CPCT	Cooper Cave	23.25	317	eP	P	20 48 12.4	+2.9
WES	Weston	23.39	349	eP	P	20 48 11.6	+0.8
QUA2	Belchertown	23.49	347	P	P	20 48 10.6	-1.2
	comp=E,43nm,0.7s,mb5.0						
HRV	Harvard--Oak R	23.55	348	eP	P	20 48 12.7	+0.4
	comp=E,75nm,1.5s,mb4.9						
LRAL	Lakeview Retre	23.61	309	eP	P	20 48 14.2	+1.1
	comp=E,31nm,1.2s,mb4.6						
SSPA	Standing Stone	23.67	336	eP	P	20 48 14.5	+0.9
	comp=E,118nm,1.5s,mb5.1						
BINY	Binghamton	24.38	341	eP	P	20 48 20.9	+0.4
	comp=E,36nm,1.0s,mb4.8						
ACCN	Adirondack Com	24.84	345	eP	P	20 48 25.7	+0.8
HNH	Hanover	24.84	348	P	P	20 48 24.3	-0.6
	comp=E,3.2nm,0.6s,mb4.0						
EMMW	East Machias	25.21	356	eP	P	20 48 26.6	-1.8
	comp=E,139nm,1.0s,mb5.4						
WVL	Waterville	25.27	353	eP	P	20 48 29.6	+0.7
	comp=E,172nm,1.2s,mb5.5						
ALLY	Alegheny Colle	25.44	333	eP	P	20 48 30.1	-0.5
MIV	Mineville/With	25.46	346	eP	P	20 48 29.2	-1.6
GENY	Geneseo	25.50	338	eP	P	20 48 31.7	+0.5
NCB	Newcomb	25.53	345	eP	P	20 48 30.4	-0.9
	comp=E,37nm,1.4s,mb4.7						
ACSO	Alum Creek Sta	25.64	328	eP	P	20 48 32.8	+0.3
	comp=E,49nm,0.9s,mb5.0						
ERPA	Erie	25.77	334	eP	P	20 48 34.2	+0.6
	comp=E,43nm,0.6s,mb5.2						
WVT	Waverly	25.82	315	eP	P	20 48 33.5	-0.7
	comp=E,10nm,0.8s,mb4.4						
WCI	Wyandotte Cave	26.10	320	eP	P	20 48 36.6	-0.1
	comp=E,96nm,1.6s,mb5.1						
USIN	University of	26.78	318	eP	P	20 48 43.0	0.0
	comp=E,21nm,0.4s,mb5.0						
BLO	Bloomington	26.84	321	P	P	20 48 43.0	-0.6
SADO	Sadowa	27.72	339	P	P	20 48 53.1	+1.6
	comp=E,5.5nm,0.8s,mb4.2,baz=168,slow=9.8,SNR=3.4						
SADO				LR	LR	20 58 15.3	
	comp=E,818nm,20.4s,MS4.3,baz=4.9,slow=33						
FVM	French Village	28.58	315	eP	P	20 48 58.6	-0.7
	comp=E,15nm,1.0s,mb4.7						
CCM	Cathedral Cave	29.16	315	eP	P	20 49 03.7	-0.9
	comp=E,12nm,0.9s,mb4.6						
JCT	Junction City	33.01	296	eP	P	20 49 38.2	-0.4
	comp=E,35nm,1.4s,mb5.1						
WMOK	Wichita Mounta	33.26	304	eP	P	20 49 39.4	-1.3
	comp=E,46nm,1.9s,mb5.1						
SCHQ	Schefferville	35.30	358	P	P	20 49 58.3	+0.3
	comp=E,7.0nm,1.1s,mb4.5,baz=200,slow=6.0,SNR=6.7						
SCHQ				LR	LR	21 04 22.0	
	comp=E,487nm,18.6s,MS4.3,baz=348,slow=36						
LPAZ	La Paz	35.66	185	P	P	20 49 59.0	-2.5
	comp=E,3.6nm,0.4s,mb4.6,baz=22,slow=5.8,SNR=10						
LTX	Lajitas	36.15	293	eP	P	20 50 05.9	+0.4
	comp=E,38nm,1.5s,mb5.1						
TXAR	Lajitas Array	36.15	293	P	P	20 50 04.8	-0.7
	comp=E,3.0nm,0.6s,mb4.4,baz=116,slow=12,SNR=40						
BDFB	Brasilia	38.83	153	P	P	20 50 26.4	-1.8
	comp=E,6.0nm,0.6s,mb4.5,baz=328,slow=8.9,SNR=11						
BDFB				LR	LR	21 07 45.1	
	comp=E,2µm,18.3s,MS4.9,baz=172,slow=38						
BAO	Brasilia Array	38.84	153	P	P	20 50 28.0	-0.2
SDCO	Great Sand Dun	39.34	306	eP	P	20 50 33.0	+0.8
	comp=E,38nm,1.1s,mb5.0						
SDCO				LR	LR		
	comp=Z,848nm,20.0s,MS4.6						
BNM	Barren Site	39.39	300	eP	P	20 50 33.3	+0.7
ANMO	Albuquerque	39.41	302	eP	P	20 50 33.4	+0.6
	comp=Z,4.3nm,0.9s,mb4.2						
ANMO				LR	LR		
	comp=Z,559nm,20.0s,MS4.4						
LAZ	Ladron	39.85	301	eP	P	20 50 36.8	+0.4
ISCO	Idaho Springs	40.04	309	eP	P	20 50 38.6	+0.7
	comp=Z,37nm,1.6s,mb4.9						
PV01	Paradox Valley	41.79	306	eP	P	20 50 53.3	+0.9
LVC	Limon Verde	41.99	185	eP	P	20 50 50.4	-3.8
	comp=Z,7.1nm,0.6s,mb4.5						
PV10	Paradox Valley	42.20	306	eP	P	20 50 56.0	+0.3
TUC	Tucson	42.57	297	eP	P	20 50 59.5	+0.7
	comp=Z,30nm,1.7s,mb4.7						
WUAZ	Wupatki	43.47	301	eP	P	20 51 06.9	+0.7
	comp=Z,47nm,1.2s,mb5.1						
SRU	San Rafael	43.50	307	eP	P	20 51 06.7	+0.4
BW06	Boulder Array	43.78	312	eP	P	20 51 08.7	+0.1
	comp=Z,49nm,1.8s,mb4.9						
PDAR	Pinedale Array	43.78	312	P	P	20 51 09.2	+0.6
	comp=Z,1.9nm,0.5s,mb4.1,baz=114,slow=10,SNR=27						
PDAR				PcP	PcP	20 52 55.4	-0.2
	comp=Z,1.5nm,0.6s,baz=110,slow=5.2,SNR=4.6						
PDAR				LR	LR	21 09 33.7	
	comp=Z,564nm,19.4s,MS4.5,baz=217,slow=36						
FRB	Frobisher Bay	44.28	358	P	P	20 51 12.6	+0.3
	comp=Z,10.0nm,0.8s,mb4.6,baz=191,slow=8.8,SNR=4.6						
DAU	Daniels Canyon	44.36	308	eP	P	20 51 13.8	+0.5
FCC	Fort Churchill	44.44	339	eP	P	20 51 11.8	-1.8
MPU	Maple Canyon	44.55	308	eP	P	20 51 15.2	+0.4
JLU	Jordanelle	44.55	308	eP	P	20 51 15.6	+0.8
MSU	Marysvale	44.64	305	eP	P	20 51 16.3	+0.7
LOHW	Long Hollow	44.77	313	eP	P	20 51 16.7	+0.1
SNOW	Snow King Moun	44.83	313	eP	P	20 51 17.5	+0.5
WUWY	Wally Ulrich	44.85	313	eP	P	20 51 17.3	+0.1
NLU	North Lily Min	44.86	307	eP	P	20 51 18.0	+0.7
AHID	Auburn Hatcher	44.87	312	eP	P	20 51 17.8	+0.4
	comp=Z,68nm,1.6s,mb5.2						
REDW	Red Top Meadow	44.87	312	eP	P	20 51 17.2	-0.1
HWUT	Hardware Ranch	44.89	310	eP	P	20 51 17.6	+0.1
	comp=Z,17nm,1.1s,mb4.8						
MOOW	Moose Ponds	44.91	313	eP	P	20 51 18.1	+0.5
TPAW	Teton Pass	44.98	313	eP	P	20 51 18.1	-0.1
YMR	Madison River	45.35	314	eP	P	20 51 22.6	+1.5
SPUT	South Promonto	45.46	309	eP	P	20 51 22.1	+0.1
DUG	Dugway	45.47	308	eP	P	20 51 22.6	+0.5
	comp=Z,35nm,1.5s,mb5.0						
DUG				LR	LR		
	comp=Z,959nm,19.0s,MS4.8						
QLMT	Earthquake Lak	45.71	314	eP	P	20 51 25.3	+1.3
BGU	Big Grassy Mou	45.79	309	eP	P	20 51 24.8	+0.2
HVU	Hansel Valley	45.81	310	eP	P	20 51 24.2	-0.6
BOZ	Bozeman (W)	46.11	315	eP	P	20 51 27.8	+0.7
	comp=Z,1.6nm,0.4s,mb4.3						
CPUP	Villa Florida	46.20	170	P	P	20 51 24.8	-3.3
	comp=Z,8.5nm,0.8s,mb4.7,baz=11,slow=8.1,SNR=19						
CPUP				LR	LR	21 13 31.7	
	comp=Z,411nm,20.0s,MS4.4,baz=120,slow=40						
CPUP	Villa Florida	46.20	170	P	P	20 51 24.8	-3.3
CPUP				LR	LR	21 13 31.7	
NEN	Nelson	46.29	301	eP	P	20 51 29.9	+1.2
LDFC	Landfair	46.44	300	eP	P	20 51 31.1	+1.2
HRY	Holter Researc	46.59	317	eP	P	20 51 31.0	+0.2
MCMT	McKenzie Canyo	46.67	314	eP	P	20 51 32.4	+0.8
ELK	Elko	47.39	308	eP	P	20 51 37.6	+0.2
	comp=Z,52nm,1.6s,mb5.2						
HLID	Hailey	47.42	312	eP	P	20 51 38.0	+0.5
	comp=Z,71nm,1.7s,mb5.3						
HLID				LR	LR		
	comp=Z,622nm,19.0s,MS4.6						
TPNV	Topopah Spring	47.57	303	eP	P	20 51 39.7	+0.9
	comp=Z,9.4nm,0.8s,mb4.9						
CHMT	Chamberlain Mo	47.58	316	eP	P	20 51 38.8	+0.1
TPH	Tonopah	48.48	304	eP	P	20 51 46.5	+0.6
	comp=Z,48nm,1.7s,mb5.2						
DAC	Darwin (Calif)	48.58	302	eP	P	20 51 47.2	+0.6
	comp=Z,59nm,1.7s,mb5.3						
BMN	Battle Mountai	48.82	307	eP	P	20 51 48.8	+0.3
	comp=Z,108nm,1.8s,mb5.6						
MNV	Mina	49.25	304	eP	P	20 51 51.9	+0.1
	comp=Z,49nm,1.3s,mb5.4						
MTUM	Tungsten Hills	49.46	303	eP	P	20 51 53.5	+0.1
OMM	Old Mammoth Mi	49.82	303	eP	P	20 51 56.4	+0.2
WVOR	Wild Horse Val	50.21	309	eP	P	20 51 58.9	-0.2
	comp=Z,46nm,1.4s,mb5.3						
WVOR				LR	LR		
	comp=Z,649nm,20.0s,MS4.6						
NEW	Newport	50.48	317	eP	P	20 52 00.6	-0.4
	comp=Z,13nm,0.6s,mb5.1						
NEW				LR	LR		
	comp=Z,1µm,20.0s,MS4.8						
LNOR	Lincton Mounta	50.65	314	eP	P	20 52 02.0	-0.3
CMB	Columbia Colle	50.96	304	eP	P	20 52 04.0	-0.8
	comp=Z,7.0nm,1.3s,mb4.4						
CMB				LR	LR		
	comp=Z,764nm,21.0s,MS4.7						
DPW	Davenport	51.07	316	eP	P	20 52 05.4	-0.1
ASMM	Slate Mountain	51.27	305	eP	P	20 52 09.5	+2.3
OD2	Odessa Site #2	51.29	316	P	P	20 52 07.5	+0.3
MOD	Modoc	51.35	308	eP	P	20 52 06.5	-1.2
	comp=Z,6.7nm,1.0s,mb4.5						
HAWA	Hanford	51.61	314	eP	P	20 52 09.7	0.0
OHCM	Honcut	51.94	305	eP	P	20 52 11.8	-0.4
VGB	Gordon Butte	52.28	313	eP	P	20 52 15.2	+0.5
CROR	Criterion Ridg	52.33	312	P	P	20 52 16.3	+1.2
NLW	Nelson Butte	52.52	316	eP	P	20 52 15.5	-0.9
PBEJ	Beja	52.81	57	eP	P	20 52 19.6	+0.8
	comp=Z,17nm,1.7s,mb4.7						
PVIS	Viseu	53.00	53	eP	P	20 52 17.1	-3.1
	comp=Z,7.2nm,1.2s,mb4.5						
WPW	White Pass	53.03	314	P	P	20 52 20.5	+0.2
PALC	Alcoutim	53.09	57	eP	P	20 52 19.0	-1.8
	comp=Z,39nm,1.5s,mb5.1						
YBH	Yreka Blue Hor	53.11	308	eP	P	20 52 19.6	-1.4
	comp=Z,42nm,1.8s,mb5.1						
FMW	Mount Fremont	53.16	315	P	P	20 52 20.2	-1.0
BBOR	Butler Butte	53.23	309	P	P	20 52 21.4	-0.4
MTE	Manteigas	53.24	54	eP	P	20 52 21.3	-0.6
	comp=Z,12nm,1.3s,mb4.7						
MTE				eS	S	20 59 54.0	+3.9
MTE				eLQ		21 06 10.8	
MTE				eLR	LR	21 07 44.2	
	comp=Z,726nm,18.0s						
RPW	Rockport	53.36	316	P	P	20 52 21.1	-1.6
HUMO	Hull Mountain	53.39	309	eP	P	20 52 21.6	-1.4
	comp=Z,13nm,1.2s,mb4.8						
JCW	Jim Creek	53.58	316	P	P	20 52 22.6	-1.7
BMW	Boistfort Moun	54.13	314	eP	P	20 52 27.6	-0.8
YKA	Yellowknife Ar	54.59	334	P	P	20 52 30.5	-1.0
	comp=Z,2.9nm,0.6s,mb4.5,baz=112,slow=7.4,SNR=7.2						
OCWA	Octopus Mounta	54.98	315	eP	P	20 52 34.3	-0.3
	comp=Z,127nm,1.6s,mb5.7						
DCN	Croghan	55.60	38	eP	P	20 52 39.2	+0.2
ESDC	Sonseca Array	55.93	55	P	P	20 52 39.8	-1.7
	comp=Z,2.3nm,0.8s,mb4.2,baz=268,slow=6.9,SNR=8.2						
ESDC				LR	LR	21 13 37.6	
	comp=Z,300nm,18.5s,MS4.4,baz=280,slow=33						
ROSF	Rostrenen	57.16	45	eP	P	20 52 50.4	+0.2
	comp=Z,104nm,1.3s,mb5.4						
TRQA	Tornquist	57.32	177	P	P	20 52 48.4	-3.2
SJPF	Ste Jean	58.14	51	eP	P	20 52 57.2	+0.1
ETSF	Etsaut	58.62	51	eP	P	20 53 00.4	-0.1
	comp=Z,9.9nm,0.9s,mb4.5						
GRR	Gorron	58.77	45	eP	P	20 53 00.7	-0.8
	comp=Z,18nm,0.9s,mb4.8						
FLN	La Foliniere	59.05	44	eP	P	20 53 03.6	+0.1
	comp=Z,17nm,0.8s,mb4.8						
FLN				eR			
	comp=Z,288nm,17.5s						
MFF	Saint Martin d	59.10	47	eP	P	20 53 04.1	+0.3
LDF	La Druitiere	59.27	45	eP	P	20 53 05.0	0.0
	comp=Z,31nm,0.9s,mb5.0						
EPF	Esparros	59.28	51	eP	P	20 53 05.1	0.0
LFF	La Frestale	59.63	49	eP	P	20 53 07.5	0.0
TIC	Toumodi	59.82	94	eP	P	20 53 08.9	-0.3
	comp=Z,125nm,1.5s,mb5.7						
LIC	Lamto	59.95	94	eP	P	20 53 08.7	-1.4
	comp=Z,19nm,0.8s,mb4.8						
LIC	Lamto	59.95	94	eP	P	20 53 09.9	-0.2
	comp=Z,69nm,1.5s,mb5.5						
DBIC	Dimbokro	59.97	94	P	P	20 53 10.4	+0.2
	comp=Z,7.1nm,0.7s,mb4.8,baz=275,slow=8.6,SNR=14						
KIC	Kosan Boka	60.17	94	eP	P	20 53 11.4	-0.2
	comp=Z,72nm,1.1s,mb5.6						
RJF	Les Rejaudoux	60.19	48	eP	P	20 53 10.6	-0.8
	comp=Z,20nm,1.0s,mb4.8						
RJF				eR			
	comp=Z,309nm,18.8s						
DLBC	Dease Lake	60.40	327	eP	P	20 53 12.7	+0.1
CAF	Calviac	60.57	49	eP	P	20 53 14.1	+0.2
	comp=Z,14nm,1.0s,mb4.8						
MTLF	Montolieu	60.66	51	eP	P	20 53 14.5	-0.1
	comp=Z,10nm,0.9s,mb4.7						
TCF	Toulx Ste Croi	60.71	47	eP	P	20 53 14.7	-0.2
	comp=Z,9.6nm,0.8s,mb4.7						
BGF	Bois d'Agland	61.16	47	eP	P	20 53 18.0	+0.1
AVF	Avril sur Loir	61.51	47	eP	P	20 53 19.8	-0.5
	comp=Z,12nm,0.9s,mb4.7						
SSF	Saint Saulge	61.63	46	eP	P	20 53 20.4	-0.7
LASF	Ste Croix	61.85	50	eP	P	20 53 22.6	0.0
SMF	Signal de Mont	61.85	47	eP	P	20 53 22.2	-0.4
	comp=Z,28nm,1.3s,mb5.0						
LOR	Lormes	61.87	46	eP	P	20 53 22.2	-0.5
	comp=Z,21nm,1.1s,mb4.9						
LOR				eR			
	comp=Z,380nm,19.2s						
VIVF	Saint-Julien-l	62.42	49	eP	P	20 53 26.5	0.0
MEZF	Maizieres J'vi	62.70	45	eP	P	20 53 28.2	0.0
	comp=Z,25nm,0.8s,mb5.1						
ORIF	Oris-en-Rattie	63.28	49	eP	P	20 53 32.1	0.0
ORIF				eR			
	comp=Z,319nm,17.5s						
CABF	La Chapelle	63.40	47	eP	P	20 53 32.7	-0.1
HAU	Haudompre	63.56	45	eP	P	20 53 33.4	-0.5
HAU				eR			
	comp=Z,456nm,17.5s						
LPL	La Plagne	63.87	48	eP	P	20 53 36.5	+0.5
LPG	La Plagne	63.88	48	eP	P	20 53 36.3	+0.3
	comp=Z,8.4nm,0.9s,mb4.5						
HINF	Hinteralfeld	63.90	46	eP	P	20 53 35.3	-0.9
CDF	Champ du Feu	64.18	45	eP	P	20 53 37.6	-0.4
	comp=Z,7.4nm,0.8s,mb4.5						
DAWY	Dawson	65.69	332	eP	P	20 53 47.1	-0.3
DAVA	Damuels	65.97	46⇑	iP	P	20 53 48.5	-1.0
	comp=Z,7.6nm,0.9s,mb4.7						
NB2	NORSAR Subarra	66.62	31	P	P	20 53 53.8	+0.4
	comp=Z,2.2nm,0.7s,mb4.3,baz=269,slow=6.5						
NOA	NORSAR Array B	66.62	31	P	P	20 53 54.1	+0.7
	comp=Z,3.0nm,0.7s,mb4.4,baz=266,slow=6.2,SNR=13						
NOA				LR	LR	21 20 43.1	
	comp=Z,403nm,18.3s,MS4.7,baz=270,slow=34						
GRA1	Grafenberg Arr	66.73	43	eP	P	20 53 54.2	-0.1
MOTA	Moosalm	66.80	46⇑	iP	P	20 53 54.6	-0.2
	comp=Z,1.8nm,0.9s,mb4.1						
SQTA	Sankt Quirin	66.88	46⇓	iP	P	20 53 55.8	+0.5
	comp=Z,5.4nm,1.0s,mb4.5						
WTTA	Wattenberg	67.17	46⇑	iP	P	20 53 57.3	+0.2
	comp=Z,6.2nm,1.0s,mb4.6						
CLL	Collm	67.78	42	P	P	20 54 00.5	-0.4
	comp=Z,logA/T=1.2,mb5.0						
CLL	Collm	67.78	42	iP	P	20 54 00.5	-0.4
	comp=Z,29nm,2.0s,mb5.0						
KHC	Kasperske Hory	68.31	44	eP	P	20 54 04.5	+0.2
KHC				ex	x	21 04 52.9	
KHC				LR		21 25 30.0	
	comp=Z,0.4nm,16.5s						
KBA	Koelnbreinsper	68.34	46⇑	iP	P	20 54 05.1	+0.6
	comp=Z,9.7nm,1.1s,mb4.8						
BRG	Berggiesshubel	68.40	42	eP	P	20 54 05.0	+0.2
	comp=Z,7.3nm,0.9s,mb4.7						
GERES	GERESS Array B	68.41	44	P	P	20 54 04.9	0.0
	comp=Z,2.5nm,0.8s,mb4.3,baz=269,slow=5.7,SNR=19						
THY	Trims Highway	68.49	332	eP	P	20 54 03.8	-1.4
DIV	Divide	68.55	329	eP	P	20 54 04.5	-1.0
BSD	Bornholm Skovb	68.68	37	iP	P	20 54 06.0	-0.5
	comp=Z,13nm,0.8s,mb4.9						
PVCC	Panska Ves	68.82	42	eP	P	20 54 07.8	+0.4
PVCC				ex	x	21 03 37.9	
PVCC				LR		21 30 00.0	
	comp=Z,0.5nm,17.2s						
PRU	Pruhonice	68.86	43	eP	P	20 54 08.1	+0.5
PRU				ex	x	20 56 02.1	
PRU				ex	x	21 05 44.8	
PRU				L		21 32 40.0	
ILAR	Eielson Array	68.97	333	P	P	20 54 08.0	-0.2
	comp=Z,4.7nm,0.6s,mb4.6,baz=107,slow=4.3,SNR=79						
ILAR				LR	LR	21 25 57.2	
	comp=Z,474nm,18.9s,MS4.8,baz=345,slow=37						
COLA	College	69.38	333	eP	P	20 54 10.3	-0.3
UPC	Upice	69.74	42	eP	P	20 54 13.6	+0.6
SML	Sawmill	69.74	330	eP	P	20 54 10.6	-2.2
MCK	McKinley	69.91	332	eP	P	20 54 13.3	-0.5
	comp=Z,3.4nm,0.9s,mb4.3						
DPC	Dobruska-Polom	69.96	42	eP	P	20 54 14.5	+0.2
DPC				eS	S	21 03 24.2	+2.3
DPC				LR		21 29 20.0	
	comp=Z,0.6nm,15.9s						
PMR	Palmer	70.14	330	eP	P	20 54 14.7	-0.6
MORC	Moravsky Berou	70.81	43	eP	P	20 54 18.5	-1.1
	comp=Z,3.6nm,0.8s,mb4.3						
OKC	Ostrava-Krasne	71.19	43	eP	P	20 54 22.5	+0.6
OKC				LR		21 27 30.0	
	comp=Z,0.4nm,17.1s						
SPU	Mount Spurr	71.58	329	eP	P	20 54 23.9	-0.1
RSO	Redoubt South	72.01	329	eP	P	20 54 25.2	-1.3
ARCES	ARCESS Array B	72.19	22	P	P	20 54 27.6	0.0
	comp=Z,8.9nm,0.9s,mb4.7,baz=297,slow=5.4,SNR=9.4						
KAF	Kangasniemi	73.72	29	ep	P	20 54 36.2	-0.3
	comp=Z,2.7nm,0.7s,mb4.3						
FINES	FINESS Array B	73.74	30	P	P	20 54 36.7	+0.1
	comp=Z,3.8nm,0.7s,mb4.4,baz=225,slow=2.7,SNR=9.8						
FINES				LR	LR	21 23 59.9	
	comp=Z,321nm,18.5s,MS4.6,baz=79,slow=33						
FINES	FINESS Array B	73.74	30	P	P	20 54 36.7	+0.1
FINES				LR	LR	21 23 59.9	
AKASG	Malin Array Be	77.96	40	P	P	20 55 00.9	+0.2
	comp=Z,1.3nm,0.7s,mb4.0,baz=276,slow=4.8,SNR=9.4						
BRTR	Keskin Array B	84.37	50	P	P	20 55 36.4	+1.6
	comp=Z,1.8nm,0.7s,mb4.3,baz=333,slow=2.8,SNR=7.0						
PMOR	Pomariorio Ree	88.16	253	eP	P	20 55 55.1	+1.2
	comp=Z,69nm,1.1s,mb5.8						
TSUM	Tsumeb	89.88	110	LR	LR	21 28 50.7	
	comp=Z,288nm,18.1s,MS4.8,baz=130,slow=31						
PPT	Papeete	90.56	252	eP	P	20 56 06.6	+1.5
	comp=Z,52nm,1.5s,mb5.6						
PPT				eSS	SS	21 13 02.7	+0.8

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPT				eR		21 25 33.3	
	comp=Z,217nm,20.5s						
PAE	Paea	90.59	252	eP	P	20 56 06.3	+1.0
	comp=Z,49nm,1.2s,mb5.7						
VNA3	Neumayer Olymp	98.14	164	⇑iP	P	20 56 43.0	+4.4
VNA1	Neumayer--Stat	98.14	164	⇑iP	P	20 56 42.8	+4.2
VNA2	Neumayer--Watz	98.54	164	⇑iP	P	20 56 42.8	+2.4
SNAA	Sanae	100.17	163	⇑iP	P	20 56 48.3	+0.5
WMQ	Urumqi	112.31	21	ePKP	PKPdf	21 01 36.0	-5.1
WMQ				LR	LR		
	comp=Z,242nm,20.0s,MS4.8						
SYO	Syowa Base	113.38	158	⇑pPdiff	Pdif	20 57 49.5	+3.4
SYO	Syowa Base	113.38	158	⇑PKiKP		21 01 41.7	
SYO	Syowa Base	113.38	158	⇑PP	PP	21 02 31.5	-3.0
CN2	Changchun	116.25	351	ePKP	PKPdf	21 01 45.0	-3.9
MAW	Mawson	121.99	159	eP	PKPdf	21 01 56.7	-2.8
	comp=Z,3.1nm,0.6s						
MAW	Mawson	121.99	159	PKP	PKPdf	21 01 56.2	-3.3
	comp=Z,3.6nm,0.6s,baz=118,slow=1.2,SNR=18						
KOLN	Koldanda	124.20	34	eP	PKPdf	21 02 02.9	-1.8
GKN	Gorkha	124.55	33	eP	PKPdf	21 02 02.9	-2.5
KKN	Kakani	125.04	32	eP	PKPdf	21 02 04.0	-2.4
	comp=Z,5.4nm,0.5s						
DMN	Daman	125.11	32	eP	PKPdf	21 02 03.2	-3.3
PKI	Pulchoki	125.29	32	eP	PKPdf	21 02 04.1	-2.8
	comp=Z,6.1nm,0.7s						
SSE	Sheshan	129.32	353	ePKP	PKPdf	21 02 11.9	-2.6
KMI	Kunming	134.15	15	ePKP	PKPdf	21 02 17.4	-6.3
KMI				LR	LR		
	comp=Z,181nm,22.9s,MS4.7						
CNB	Canberra Magne	145.63	235	eP	PKPbc	21 02 42.3	+1.8
	comp=Z,33nm,1.2s						
TOO	Toolangi	147.71	230	eP	PKPdf	21 02 48.2	+0.8
	comp=Z,6.2nm,0.7s						
CTA	Charters Tower	150.32	263	eP	PKPdf	21 02 54.9	+2.8
	comp=Z,11nm,0.9s						
CTAO	Charters Tower	150.32	263	ePKPbc	PKPdf	21 02 54.5	+2.4
STKA	Stephens Creek	152.89	238	eP	PKPdf	21 03 00.3	+4.8
	comp=Z,11nm,0.8s						
STKA	Stephens Creek	152.89	238	PKPbc	PKPdf	21 03 00.1	+4.6
	comp=Z,13nm,0.7s,baz=91,slow=2.8,SNR=21						
WRA	Warramunga Arr	161.50	265	PKP	PKPdf	21 03 04.0	-2.5
	comp=Z,2.6nm,0.9s,baz=62,slow=0.9,SNR=16						
WRA				PKPab	PKPab	21 03 48.5	-0.8
	comp=Z,3.6nm,0.8s,baz=86,slow=4.0,SNR=12						
ASAR	Alice Springs	161.67	253	PKP	PKPdf	21 03 03.6	-3.0
	comp=Z,2.5nm,1.0s,baz=64,slow=1.9,SNR=11						
ASAR				PKPab	PKPab	21 03 48.9	-1.0
	comp=Z,8.1nm,1.1s,baz=101,slow=4.0,SNR=11						

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*NEIC **06** 20:59:43.5±0.8, 33.34N×137.05E, h10^{km}, Error ellipse: s-maj=23.4km s-min=11.3km az=101.0*

*JMA **06** 20:59:43.9±0.1, 33.36N×136.87E, h46^{km}±3^{km}, M3.4*

*IDC **06** 20:59:46.0±7.4, 32.82N×135.81E, mb3.7/4, mb1 3.8/4, mb1mx3.6/20, MS3.3/1, Ms1 3.5/1, ms1mx3.2/24, Error ellipse: s-maj=300.0km s-min=23.9km az=63.0*

ISC 06 20:59:44.2±0.8**, 33.39N**±0.04×**136.88E**±0.03**, h29**^{km}±6^{km}**, n22, σ0^{s}66**/33**, mb3.6**/4**, MS3.3**/1**, 1C, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK01	Tokai 1	0.71	58	P	Pb	20 59 57.8	-0.1
TK01				S	Sb	21 00 09.2	+1.9
TK02	Tokai 2	0.92	53	S	Sb	21 00 12.7	-0.7
JWZ	Kozaga	0.98	279	P	Pn	21 00 01.5	-0.6
JWZ				S	Sb	21 00 14.4	-0.7
JKN	Kiinagashima	1.00	329	P	Pn	21 00 02.1	-0.2
JKN				S	Sb	21 00 15.0	-0.6
JIE	Ise	1.01	352	P	Pn	21 00 02.7	+0.2
JIE				S	Sn	21 00 15.8	0.0
TK03	Tokai 3	1.19	49	S	Sn	21 00 19.5	-1.0
JAA	Atsumi	1.26	10	P	Pn	21 00 05.8	-0.3
JAA				S	Sn	21 00 21.8	-0.4
TK04	Tokai 4	1.30	40	S	Sn	21 00 22.7	-0.4
JWM	Minabe	1.35	290	⇑P	Pn	21 00 07.0	-0.4
JWM				S	Sn	21 00 23.8	-0.6
JWY	Kouya	1.35	308	P	Pn	21 00 07.9	+0.5
JWY				S	Sn	21 00 24.6	+0.1
TSUJ	Tsu 2	1.37	344	P	Pn	21 00 07.8	+0.1
TSUJ				S	Sn	21 00 24.8	-0.2
JHE	Heguri	1.60	322	P	Pn	21 00 11.3	+0.3
JHE				S	Sn	21 00 30.9	0.0
JAJ2	Tsuna	1.95	302	P	Pn	21 00 16.6	+0.7
JAJ2				S	Sn	21 00 40.4	+0.8
MAJO	Matsushiro	3.33	19	ePn	Pn	21 00 35.5	-0.2
MAT	Matsushiro	3.33	19	P	Pn	21 00 35.9	+0.3
MAT				S	Sn	21 01 14.7	0.0
MAT	Matsushiro	3.33	19	P	Pn	21 00 36.0	+0.4
MAT				eS	Sn	21 01 15.0	+0.3
SONM	Songino Array	27.06	311	P	P	21 05 26.6	+0.7
	0.9nm,0.8s,mb3.4,baz=129,slow=8.8,SNR=5.9						
CMAR	Chiang Mai Arr	36.99	256	LR	LR	21 22 43.0	
	comp=Z,49nm,20.8s,MS3.3,baz=335,slow=38						
MKAR	Makanchi Array	43.02	305	P	P	21 07 44.7	+2.1
	1.0nm,0.6s,mb3.7,baz=90,slow=9.5,SNR=9.2						
MKAR	Makanchi Array	43.02	305	P	P	21 07 44.7	+2.1
WRA	Warramunga Arr	53.09	183	P	P	21 09 00.7	-0.7
	0.8nm,0.7s,mb3.8,baz=0.1,slow=7.7,SNR=14						
ASAR	Alice Springs	56.81	183	P	P	21 09 27.9	-0.5
	0.5nm,0.7s,mb3.6,baz=17,slow=9.4,SNR=4.3						

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*IDC **06** 21:07:38.9±1.4, 1.97S×68.81E, mb4.0/9, mb1 4.1/9, mb1mx3.9/18, Error ellipse: s-maj=55.5km s-min=20.3km az=57.0*

*NEIC **06** 21:07:41.4±0.6, 1.94S×68.94E, h10^{km}, mb4.4/2, Error ellipse: s-maj=15.2km s-min=14.0km az=82.0*

ISC 06 21:07:39.5±0.7**, 2.0S**±0.1×**68.9E**±0.1**, h10**^{km}**, n21, σ1^{s}21**/20**, mb4.3**/14**, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	Pallekele	14.95	52	P	P	21 11 11.9	-0.9
DMN	Daman	33.30	27	eP	P	21 14 21.7	+1.9
	23nm,0.9s,mb5.1						
PKI	Pulchoki	33.41	27	eP	P	21 14 22.3	+1.6
	7.7nm,0.9s,mb4.7						
GKN	Gorkha	33.44	26	eP	P	21 14 22.7	+1.8
KKN	Kakani	33.54	27	eP	P	21 14 23.2	+1.4
	22nm,0.8s,mb5.1						
LSZ	Lusaka	42.25	249	eP	P	21 15 36.4	+1.3
MKAR	Makanchi Array	49.98	12	P	P	21 16 35.2	-0.8
	0.6nm,0.8s,mb3.7,baz=174,slow=11,SNR=3.8						
MKAR	Makanchi Array	49.98	12	P	P	21 16 35.2	-0.8
KURK	Kurchatov	53.15	8	eP	P	21 17 00.4	+0.6
	5.3nm,1.0s,mb4.4						
ZRNK	Zerenda	54.73	0	eP	P	21 17 12.0	+0.6
	2.0nm,0.7s,mb4.3						
BVAR	Borovoye Array	54.82	1	P	P	21 17 10.3	-1.8
	0.8nm,0.4s,mb4.1,baz=135,slow=2.0,SNR=3.5						
ZAL	Zalesovo	57.28	11	P	P	21 17 27.9	-1.8
	0.9nm,0.5s,mb4.1,baz=166,slow=10,SNR=4.5						
ZAL	Zalesovo	57.28	11	P	P	21 17 27.9	-1.8
SONM	Songino Array	59.42	28	P	P	21 17 43.6	-1.1
	1.8nm,0.8s,mb4.2,baz=220,slow=7.6,SNR=20						
AKASG	Malin Array Be	62.44	333	P	P	21 18 03.5	-1.7
	0.2nm,0.3s,mb3.7,baz=131,slow=6.1,SNR=3.6						
WRA	Warramunga Arr	66.28	111	P	P	21 18 29.8	-0.9
	0.9nm,0.9s,mb3.8,baz=292,slow=6.1,SNR=5.7						
WRAB	Tennant Creek	66.28	111	P	P	21 18 31.2	+0.5
ASAR	Alice Springs	66.37	115	P	P	21 18 31.3	+0.1
	0.9nm,0.8s,mb3.9,baz=274,slow=6.0,SNR=6.8						
STKA	Stephens Creek	74.28	122	P	P	21 19 19.0	-0.3
	2.5nm,0.9s,mb4.2,baz=310,slow=16,SNR=2.4						
ARCES	ARCESS Array B	77.10	346	P	P	21 19 34.0	-0.5
	6.4nm,1.1s,mb4.5,baz=80,slow=5.5,SNR=2.1						
TXAR	Lajitas Array	151.89	346	PKPbc	PKPdf	21 27 36.1	+4.2
	0.7nm,0.8s,baz=27,slow=2.8,SNR=5.4						

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*STR **06** 21:07:43.8±0.2, 47.79N×7.83E, h10^{km}±1^{km}, Ml1.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LDG **06** 21:07:44.1±0.2, 47.77N×7.78E, h4^{km}, Md2.0/2, Ml2.0/6, Error ellipse: s-maj=3.0km s-min=1.7km az=150.0*

*BGR **06** 21:07:44.4±0.2, 47.79N×7.79E, h10^{km}, ML0.9/1, Error ellipse: s-maj=3.3km s-min=2.2km az=2.0*

*ZUR **06** 21:07:44.2, 47.76N×7.79E, h7^{km}, ML1.2/3*

*LEDBW **06** 21:07:44.3±0.0, 47.79N×7.78E, h7^{km}, ML1.6, Error ellipse: s-maj=2.0km s-min=0.0km az=116.0*

ISC 06 21:07:43.3±0.3**, 47.77N**±0.02×**7.75E**±0.02**, h11**^{km}±4^{km}**, n36, σ0^{s}87**/57**, 2C-2D, Switzerland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FELD	Feldberg	0.20	58	ePg	Pg	21 07 47.9	+0.1
	SNR=9.9						
FELD				eSg	Sg	21 07 50.6	-0.2
	SNR=17						
KIZ	Kirchzarten	0.22	31	⇑iP	Pg	21 07 48.3	+0.2
KIZ				i S	Sg	21 07 51.1	-0.2
SULZ	Sulz-Cheisache	0.35	135	⇓iPg	Pg	21 07 50.8	+0.3
MOF	Molkenrain	0.42	281	eSg	Sg	21 07 59.4	+1.6
	SNR=3.8						
MOF	Molkenrain	0.42	281	Pg	Pg	21 07 53.3	+1.3
MOF				Sg	Sg	21 07 59.8	+2.0
BALST	Balsthal	0.44	185	⇓iPg	Pg	21 07 52.9	+0.6
	0.5nm,0.3s						
BALST				i Sg	Sg	21 07 58.9	+0.6
	0.5nm,0.3s						
SLE	Schleitheim	0.50	90	⇑iPg	Pg	21 07 53.3	-0.2
	1.3nm,0.4s						
SLE				i Sg	Sg	21 07 59.6	-0.7
	1.3nm,0.4s						
SLE	Schleitheim	0.50	90	ePg	Pg	21 07 53.3	-0.2
	SNR=6.0						
SLE				eSg	Sg	21 07 59.6	-0.7
	SNR=33						
BOURR	Bourrignon	0.52	223	ePg	Pg	21 07 54.8	+1.0
BOURR	Bourrignon	0.52	223	ePg	Pg	21 07 54.7	+0.8
	SNR=1.5						
BOURR				eSg	Sg	21 08 02.0	+1.2
	SNR=3.1						
FLACH	Flaach	0.59	110	Pg	Pg	21 07 55.9	+0.7
	1.0nm,0.3s						
FLACH				i Sg	Sg	21 08 03.2	+0.1
	1.0nm,0.3s						
ECH	Echery	0.60	318	ePg	Pg	21 07 56.1	+0.7
	SNR=3.0						
ECH	Echery	0.60	318	Pg	Pg	21 07 55.7	+0.3
HINF	Hinteralfeld	0.61	275	ePg	Pg	21 07 55.9	+0.3
HINF				eSg	Sg	21 08 04.0	+0.2
	9.0nm,0.2s						
HINF	Hinteralfeld	0.61	275	eSg	Sg	21 08 04.4	+0.6
	SNR=10						
TRULL	Truellikon	0.64	101	Pg	Pg	21 07 56.9	+0.6
	2.2nm,0.4s						
TRULL				i Sg	Sg	21 08 04.6	-0.3
	2.2nm,0.4s						
BFO	Black Forest	0.68	35	ePg	Pg	21 07 56.7	-0.3
	SNR=2.2						
BFO				eSg	Sg	21 08 05.3	-0.9
	SNR=7.9						
WLS	Welschbruch	0.70	338	Pg	Pg	21 07 57.5	+0.1
WLS				Sg	Sg	21 08 07.1	+0.4
CDF	Champ du Feu	0.72	334	ePg	Pg	21 07 57.8	0.0
CDF				eSg	Sg	21 08 08.1	+0.7
	1.2nm,0.2s						
CDF	Champ du Feu	0.72	334	ePg	Pg	21 07 58.0	+0.2
	SNR=3.4						
STEIN	Stein am Rhein	0.76	97	ePg	Pg	21 07 58.6	-0.1
STEIN				eSg	Sg	21 08 08.7	-0.2
SISB	Singen-Sch Ber	0.82	95	⇑iP	Pb	21 07 59.7	+0.6
SISB				eS	Sb	21 08 10.5	+0.5
WILA	Wila	0.86	114	eSg	Sg	21 08 11.6	-0.6
	SNR=6.2						
GUT	Gutenstein	0.97	71	i P	Pb	21 08 02.0	+0.5
GUT				eS	Sb	21 08 14.8	+0.7
HAU	Haudompre	0.97	284	ePg	Pg	21 08 03.0	+0.2
HAU				eSg	Sg	21 08 15.0	-0.9
	9.4nm,0.2s						
HAU	Haudompre	0.97	284	ePg	Pg	21 08 02.8	0.0
	SNR=1.7						
HAU				eSg	Sg	21 08 15.8	-0.1
	SNR=5.6						
HASLI	Hasliberg	1.05	165	⇑ePg	Pg	21 08 04.4	0.0
LBG	Lerchenberg	1.14	38	i P	Pb	21 08 04.9	+0.4
LBG				eS	Sb	21 08 19.6	+0.6
THEF	They Montfort	1.27	292	eSg	Sg	21 08 25.0	-0.7
	SNR=2.3						
KAMOR	Kamor	1.27	112	eSg	Sg	21 08 24.4	-1.3
	SNR=1.5						
CABF	La Chapelle	1.62	225	eSg	Sg	21 08 35.8	-1.6
	1.1nm,0.3s						
SFTF	Sexfontaines	1.87	284	eSg	Sg	21 08 42.6	-3.2
	1.7nm,0.3s						
LOR	Lormes	2.69	261	ePg	Pg	21 08 34.6	-2.4
LOR				eSg	Sg	21 09 08.7	-4.1
	1.0nm,0.3s						
SSF	Saint Saulge	2.97	258	ePg	Pg	21 08 39.5	-3.1
SSF				eSg	Sg	21 09 18.2	-4.0
	0.6nm,0.3s						
GIVF	Givet	3.03	321	ePn	Pn	21 08 31.4	-0.7
BAIF	Baives	3.27	316	ePn	Pn	21 08 34.2	-1.4

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*IDC **06** 21:17:33.8±0.6, 55.26S×28.98W, mb4.8/11, mb1 4.8/11, mb1mx4.8/11, MS4.7/1, Ms1 4.8/1, ms1mx4.4/5, Error ellipse: s-maj=23.8km s-min=17.3km az=31.0*

*BJI **06** 21:17:34.0, 54.24S×29.40W, h10^{km}, mB5.5, Ms5.6, Msz5.5*

*SYO **06** 21:17:35.6, 55.16S×28.96W, h10^{km}, MB5.3, MS5.3*

*NEIC **06** 21:17:36.3±0.2, 55.22S×29.19W, h10^{km}, mb5.3/11, MS5.3/91, Error ellipse: s-maj=9.5km s-min=6.6km az=51.0*

*MOS **06** 21:17:36.3±1.6, 55.29S×28.14W, h10^{km}, mb5.5/4, MS5.1/10, Error ellipse: s-maj=61.1km s-min=20.7km az=104.5*

*HRVD **06** 21:17:36.3±0.2, 55.20S×28.88W, h12^{km}, MW5.5/58, Centroid moment Tensor Solution. LP body waves: s48,c78;Mantle waves: s58,c104; Half duration: 1^{s}4 Moment tensor: Scale 10^{17}Nm; M_{rr}1.00±.06; $M_{\theta\theta}$-1.67±.06; $M_{\phi\phi}$0.68±.05; $M_{r\theta}$-0.91±.16; $M_{\theta\phi}$1.54±.05; $M_{\phi r}$1.16±.15; Best double couple: $M_0$2.47×10^{17} NP1:ϕ_s75°, δ45°, λ21°. NP2:ϕ_s330°, δ76°, λ133°. Principal axes: T 2.05, Plg43°, Azm280°; N .85, Plg41°, Azm137°; P -2.9, Plg19°, Azm29°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 06 21:17:33.9±0.3**, 55.11S**±0.06×**28.9W**±0.1**, h10**^{km}**, n182, σ1^{s}15**/40**, mb5.2**/24**, MS5.3**/98**, 7C-1D, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFI	East Falkland	17.66	269	eP	P	21 21 40.8	-0.5
VNA1	Neumayer--Stat	18.04	158	⇑i	P	21 21 48.7	+2.8
VNA3	Neumayer Olymp	18.21	160	⇑i	P	21 21 49.9	+1.8
VNA2	Neumayer--Watz	18.43	158	⇑i	P	21 21 53.0	+2.1
PMSA	Palmer Station	19.80	227	eP	P	21 22 07.0	0.0
	91nm,1.0s						
SNAA	Sanae	20.00	156	⇓i	P	21 22 07.2	-1.9
SNAA	Sanae	20.00	156	eP	P	21 22 06.5	-2.6
SNAA				pmax	pmax		
	comp=Z,36nm,0.5s						
USHA	Ushuaia	22.48	254	P	P	21 22 33.9	-0.5
	comp=Z,38nm,0.9s,mb4.8,baz=83,slow=8.4,SNR=12						
MAIT	Maitri	23.56	147	eP	P	21 22 49.3	+4.6
NVL	N'lazarevskaya	23.59	147	⇑eP	P	21 22 45.0	0.0
NVL				eS	S	21 27 01.0	+5.5
NVL				pmax	pmax		
	comp=Z,242nm,2.0s,mb5.3						
NVL				MLR	MLR		
	comp=Z,3μm,11.0s,MS5.1						
TRQA	Tornquist	28.05	294	eP	P	21 23 26.9	-0.2
	comp=Z,121nm,1.8s,mb5.2						
SYO	Syowa Base	32.93	142	⇑P	P	21 24 08.8	-1.2
SYO	Syowa Base	32.93	142	⇑pP	pP	21 24 11.2	-1.8
QSPA	South Pole Qui	35.14	180	eP	P	21 24 28.5	-0.5
	comp=Z,32nm,0.6s,mb5.4						
QSPA				LR	LR		
	comp=Z,7μm,19.0s,MS5.4						
CPUP	Villa Florida	35.45	313	P	P	21 24 32.0	-0.2
	comp=Z,12nm,0.7s,mb4.9,baz=165,slow=7.3,SNR=24						
MAW	Mawson	41.49	145	P	P	21 25 21.4	-0.7
	comp=Z,7.0nm,0.7s,mb4.4,baz=244,slow=7.5,SNR=16						
BAO	Brasilia Array	42.06	332	P	P	21 25 29.4	+2.1
BAO				e		21 25 51.2	
BAO				e		21 26 24.2	
BDFB	Brasilia	42.06	332	P	P	21 25 28.5	+1.2
	comp=Z,9.4nm,0.9s,mb4.4,baz=138,slow=4.2,SNR=9.7						
LVC	Limon Verde	43.98	301	eP	P	21 25 43.0	+0.2
	comp=Z,44nm,1.1s,mb5.1						
LVC				LR	LR		
	comp=Z,3μm,19.0s,MS5.3						
SBA	Scott Base	46.95	184	PFAKE		21 26 20.0	+14
SBA				LR	LR		
	comp=Z,2μm,19.0s,MS5.0						
LPAZ	La Paz	49.03	306	P	P	21 26 24.3	+1.5
	comp=Z,22nm,0.8s,mb5.2,baz=142,slow=6.6,SNR=44						
LPAZ				LR	LR	21 48 19.4	
	comp=Z,720nm,18.6s,MS4.7,baz=296,slow=38						
RCBR	Riachuelo	49.46	351	PFAKE		21 26 40.0	+14
RCBR				LR	LR		
	comp=Z,2μm,19.0s,MS5.0						
TSUM	Tsumeb	50.11	63	P	P	21 26 31.5	+0.4
	comp=Z,12nm,0.8s,mb5.0,baz=202,slow=6.5,SNR=19						
TSUM	Tsumeb	50.11	63	eP	P	21 26 31.2	+0.1
	comp=Z,131nm,1.6s,mb5.7						
TSUM				LR	LR		
	comp=Z,3μm,19.0s,MS5.3						
ARE	Arequipa	50.47	303	eP	P	21 26 35.0	+1.2
MIR	Mirnyy	51.07	154	⇑eP	P	21 26 37.5	-0.2
MIR				pmax	pmax		
	comp=Z,70nm,1.8s,mb5.3						
SAML	Samuel	53.44	316	eP	P	21 26 55.2	-1.1
	comp=Z,24nm,0.9s,mb5.1						
SAML				LR	LR		
	comp=Z,1μm,20.0s,MS5.0						
CASY	Casey	55.12	161	eP	P	21 27 06.3	-1.6
	comp=Z,15nm,0.9s,mb5.0						
CASY				LR	LR		
	comp=Z,4μm,20.0s,MS5.5						
NNA	Nana	56.93	300	PFAKE		21 27 30.0	+8.4
NNA				LR	LR		
	comp=Z,316nm,19.0s,MS4.4						
LSZ	Lusaka	58.97	71	eP	P	21 27 34.6	-1.3
LSZ				pmax	pmax		
	comp=Z,50nm,1.7s,mb5.3						
LSZ				MLR	MLR		
	comp=Z,4μm,19.0s,MS5.6						
LSZ	Lusaka	58.97	71	eP	P	21 27 34.6	-1.2
	comp=Z,50nm,1.8s,mb5.2						
LSZ				LR	LR		
	comp=Z,4μm,19.0s,MS5.6						
LIC	Lamto	64.27	27	eP	P	21 28 10.8	-0.7
	comp=Z,160nm,1.7s,mb5.8						
KIC	Kosan Boka	64.47	27	eP	P	21 28 11.7	-1.2
	comp=Z,437nm,1.8s,mb6.2						
TIC	Toumodi	64.67	26	eP	P	21 28 13.4	-0.8
	comp=Z,391nm,1.7s,mb6.2						
DBIC	Dimbokro	64.74	27	P	P	21 28 14.1	-0.5
	comp=Z,9.0nm,1.1s,mb4.7,baz=185,slow=9.3,SNR=6.1						
ROSC	El Rosal	70.54	311	P	P	21 28 49.9	-1.1
	comp=Z,8.0nm,0.4s,mb5.0,baz=117,slow=23,SNR=3.8						
MBAR	Mbarara	72.61	65	eP	P	21 29 05.3	+1.9
	comp=Z,62nm,1.8s,mb5.2						
MBAR				LR	LR		
	comp=Z,597nm,19.0s,MS4.9						
SDV	Santo Domingo	72.65	316	eP	P	21 29 03.2	-0.4
	comp=Z,8.1nm,0.3s,mb5.1						
SDV				LR	LR		
	comp=Z,4μm,19.0s,MS5.8						
PAYG	Puerto Ayora	73.45	294	PFAKE		21 29 20.0	+12
PAYG				LR	LR		
	comp=Z,3μm,19.0s,MS5.6						
KMBO	Kilima Mbogo	75.64	71	P	P	21 29 21.3	+0.4
	comp=Z,0.3nm,0.2s,baz=259,slow=10.0,SNR=2.6						
KMBO	Kilima Mbogo	75.64	71	P	P	21 29 21.3	+0.4
KMBO				LR	LR		
	comp=Z,5μm,19.0s,MS5.8						
SJG	San Juan	79.50	324	PFAKE		21 29 50.0	+7.8
SJG				LR	LR		
	comp=Z,834nm,19.0s,MS5.1						
RKT	Rikitea	80.03	244	eL		21 51 05.2	
RKT				eR		21 54 42.9	
	comp=Z,867nm,20.8s						
JTS	JuntasAbangare	80.17	304	eP	P	21 29 45.7	-0.1
	comp=Z,36nm,1.1s,mb5.2						
JTS				LR	LR		
	comp=Z,158nm,19.0s,MS4.4						
SNZO	South Karori	81.86	198	PFAKE		21 30 10.0	+16
SNZO				LR	LR		
	comp=Z,1μm,20.0s,MS5.2						
TBI	Tubuai	86.89	232	eL		21 54 00.6	
TBI				eR		21 57 11.7	
	comp=Z,1μm,28.0s,baz=154						
NWAO	Narrogin (SRO)	87.63	152	PFAKE		21 30 40.0	+17
NWAO				LR	LR		
	comp=Z,1μm,20.0s,MS5.2						
DGAR	Diego Garcia	90.43	104	PFAKE		21 30 50.0	+13
DGAR				LR	LR		
	comp=Z,445nm,19.0s,MS4.9						
PPT	Papeete	91.95	235	eSP	SP	21 42 58.2	+0.8
PPT				eL		21 56 31.7	
PPT				eR		21 59 58.3	
	comp=Z,1μm,29.0s,baz=154						
BBSR	BB Station	92.39	330	PFAKE		21 31 00.0	+15
BBSR				LR	LR		
	comp=Z,803nm,19.0s,MS5.2						
STKA	Stephens Creek	92.98	172	P	P	21 30 47.6	-0.6
	comp=Z,19nm,1.2s,mb5.4,baz=144,slow=10.0,SNR=5.2						
DWPF	Disney	94.29	315	PFAKE		21 31 10.0	+16
DWPF				LR	LR		
	comp=Z,945nm,19.0s,MS5.3						
ESDC	Sonseca Array	96.80	19	P	P	21 31 07.3	+1.8
	comp=Z,0.4nm,0.5s,mb4.1,baz=178,slow=4.7,SNR=4.6						
MBWA	Marble Bar	99.46	151	PFAKE		21 31 30.0	+12
MBWA				LR	LR		
	comp=Z,1μm,19.0s,MS5.4						
ASAR	Alice Springs	100.17	164	P	P	21 31 19.6	-1.5
	comp=Z,3.4nm,0.7s,baz=184,slow=3.8,SNR=23						
LRAL	Lakeview Retre	100.89	313	PFAKE		21 31 40.0	+16
LRAL				LR	LR		
	comp=Z,2μm,19.0s,MS5.7						
BLA	Blacksburg	101.96	320	PFAKE		21 31 40.0	+11
BLA				LR	LR		
	comp=Z,706nm,19.0s,MS5.2						
NATX	Nacogdoches	103.16	307	PFAKE		21 31 50.0	+16
NATX				LR	LR		
	comp=Z,408nm,21.0s,MS4.9						
HRV	Harvard--Oak R	103.79	329	PFAKE		21 31 50.0	+13
HRV				LR	LR		
	comp=Z,856nm,19.0s,MS5.3						
WRA	Warramunga Arr	103.89	164	Pdiff	Pdif	21 31 36.5	-1.3
	comp=Z,0.7nm,0.6s,baz=194,slow=4.3,SNR=10						
WRA				PKKPbc		21 47 25.7	
	comp=Z,0.4nm,0.9s,baz=351,slow=2.9,SNR=2.6						
WB2	Warramunga Arr	103.90	164	eP	Pdif	21 31 36.8	-1.1
MCWV	Mont Chateau	103.93	322	PFAKE		21 31 50.0	+12
MCWV				LR	LR		
	comp=Z,864nm,19.0s,MS5.3						
SSPA	Standing Stone	104.12	324	PFAKE		21 31 50.0	+12
SSPA				LR	LR		
	comp=Z,436nm,19.0s,MS5.0						
JCT	Junction City	104.52	303	PFAKE		21 31 50.0	+10
JCT				LR	LR		
	comp=Z,328nm,21.0s,MS4.8						
EMMW	East Machias	104.68	333	PFAKE		21 31 50.0	+9.3
EMMW				LR	LR		
	comp=Z,2μm,20.0s,MS5.7						
BINY	Binghamton	104.89	326	PFAKE		21 31 50.0	+8.3
BINY				LR	LR		
	comp=Z,431nm,20.0s,MS5.0						
CTAO	Charters Tower	104.99	175	PFAKE		21 31 50.0	+7.3
CTAO				LR	LR		
	comp=Z,2μm,20.0s,MS5.6						
MIAR	Mount Ida	105.01	309	PFAKE		21 31 50.0	+7.5
MIAR				LR	LR		
	comp=Z,628nm,19.0s,MS5.2						
WVL	Waterville	105.14	331	PFAKE		21 36 10.0	
WVL				LR	LR		
	comp=Z,6μm,20.0s,MS6.2						
LTX	Lajitas	105.48	299	PFAKE		21 36 10.0	
LTX				LR	LR		
	comp=Z,918nm,19.0s,MS5.3						
ACSO	Alum Creek Sta	105.57	320	PFAKE		21 36 10.0	
ACSO				LR	LR		
	comp=Z,559nm,20.0s,MS5.1						
NCB	Newcomb	105.93	328	PFAKE		21 36 10.0	
NCB				LR	LR		
	comp=Z,721nm,19.0s,MS5.2						
ERPA	Erie	106.16	323	PFAKE		21 36 10.0	
ERPA				LR	LR		
	comp=Z,727nm,19.0s,MS5.2						
PQI	Presque Isle	106.64	333	PFAKE		21 36 10.0	
PQI				LR	LR		
	comp=Z,3μm,19.0s,MS5.9						
CCM	Cathedral Cave	106.96	313	PFAKE		21 36 10.0	
CCM				LR	LR		
	comp=Z,1μm,20.0s,MS5.5						

PALK	**Pallekele**	**107.12**	**102**	PFAKE		21 36 10.0	
PALK				LR	LR		
	comp=Z,376nm,20.0s,MS4.9						
WMOK	**Wichita Mounta**	**107.54**	**306**	PFAKE		21 36 10.0	
WMOK				LR	LR		
	comp=Z,313nm,19.0s,MS4.9						
JFWS	**Jewell Farm**	**110.66**	**316**	PFAKE		21 36 20.0	+11
JFWS				LR	LR		
	comp=Z,628nm,20.0s,MS5.2						
CBKS	**Cedar Bluff**	**111.31**	**308**	PFAKE		21 36 20.0	+10
CBKS				LR	LR		
	comp=Z,543nm,19.0s,MS5.2						
ANMO	**Albuquerque**	**111.40**	**301**	PFAKE		21 36 20.0	+9.4
ANMO				LR	LR		
	comp=Z,739nm,20.0s,MS5.3						
CLL	**Collm**	**111.64**	**27**	*e*PS	PS	21 46 30.0	+8.8
CLL				*e*PPS	PPS	21 47 23.0	-9.4
CLL				*e*SS	SS	21 52 40.0	+14
CLL				*e*		21 54 48.0	
ESK	**Eskdalemuir**	**112.06**	**16**	PFAKE		21 36 20.0	+8.7
ESK				LR	LR		
	comp=Z,317nm,19.0s,MS4.9						
SDCO	**Great Sand Dun**	**113.16**	**303**	PFAKE		21 36 30.0	+16
SDCO				LR	LR		
	comp=Z,645nm,19.0s,MS5.2						
ISCO	**Idaho Springs**	**114.83**	**304**	PFAKE		21 36 30.0	+13
ISCO				LR	LR		
	comp=Z,539nm,19.0s,MS5.2						
PFO	**Pinyon Flat Ob**	**115.49**	**293**	PFAKE		21 36 30.0	+11
PFO				LR	LR		
	comp=Z,141nm,19.0s,MS4.6						
AKASG	**Malin Array Be**	**116.03**	**37**	PKP	PKPdf	21 36 17.6	-1.8
	comp=Z,0.2nm,0.3s,baz=230,slow=3.2,SNR=4.6						
MSU	**Marysvale**	**117.04**	**299**	*e*PKIKP	PKPdf	21 36 20.3	-1.3
RSSD	**Black Hills**	**117.48**	**308**	PFAKE		21 36 30.0	+7.7
RSSD				LR	LR		
	comp=Z,1µm,19.0s,MS5.5						
TPNV	**Topopah Spring**	**117.93**	**295**	PFAKE		21 36 30.0	+6.7
TPNV				LR	LR		
	comp=Z,691nm,20.0s,MS5.3						
NLU	**North Lily Min**	**118.09**	**300**	PKP	PKPdf	21 36 22.3	-1.3
DAC	**Darwin (Calif)**	**118.13**	**294**	PFAKE		21 36 30.0	+6.2
DAC				LR	LR		
	comp=Z,480nm,19.0s,MS5.1						
KONO	**Kongsberg**	**118.47**	**21**	PFAKE		21 36 30.0	+6.1
KONO				LR	LR		
	comp=Z,1µm,19.0s,MS5.5						
DUG	**Dugway**	**118.64**	**300**	PFAKE		21 36 40.0	+15
DUG				LR	LR		
	comp=Z,1µm,19.0s,MS5.5						
BW06	**Boulder Array**	**119.01**	**304**	PFAKE		21 36 40.0	+15
BW06				LR	LR		
	comp=Z,785nm,19.0s,MS5.4						
PDAR	**Pinedale Array**	**119.01**	**304**	PKP	PKPdf	21 36 23.4	-1.9
	comp=Z,0.6nm,0.7s,baz=144,slow=3.7,SNR=4.8						
HWUT	**Hardware Ranch**	**119.10**	**302**	*e*PKP	PKPdf	21 36 23.4	-2.1
HWUT				LR	LR		
	comp=Z,881nm,19.0s,MS5.4						
TPH	**Tonopah**	**119.29**	**295**	PFAKE		21 36 40.0	+14
TPH				LR	LR		
	comp=Z,463nm,20.0s,MS5.1						
AHID	**Auburn Hatcher**	**119.75**	**303**	PFAKE		21 36 40.0	+13
AHID				LR	LR		
	comp=Z,601nm,19.0s,MS5.2						
MNV	**Mina**	**120.04**	**295**	PFAKE		21 36 40.0	+13
MNV				LR	LR		
	comp=Z,500nm,20.0s,MS5.2						
NOA	**NORSAR Array B**	**120.08**	**21**	PKP	PKPdf	21 36 25.8	-1.0
	comp=Z,0.7nm,0.8s,baz=189,slow=4.4,SNR=2.4						
TPAW	**Teton Pass**	**120.22**	**303**	PKP	PKPdf	21 36 26.2	-1.4
ELK	**Elko**	**120.27**	**299**	PFAKE		21 36 40.0	+12
ELK				LR	LR		
	comp=Z,771nm,19.0s,MS5.4						
LAO	**LASA Array**	**120.44**	**309**	PFAKE		21 36 40.0	+12
LAO				LR	LR		
	comp=Z,788nm,20.0s,MS5.3						
SAO	**San Andreas Ge**	**120.54**	**291**	PFAKE		21 36 40.0	+12
SAO				LR	LR		
	comp=Z,798nm,19.0s,MS5.4						
DGMT	**Dagmar**	**120.91**	**311**	PFAKE		21 36 40.0	+11
DGMT				LR	LR		
	comp=Z,760nm,20.0s,MS5.3						
CMB	**Columbia Colle**	**120.92**	**293**	PFAKE		21 36 40.0	+11
CMB				LR	LR		
	comp=Z,582nm,19.0s,MS5.2						
BMN	**Battle Mountai**	**121.05**	**297**	PFAKE		21 36 40.0	+11
BMN				LR	LR		
	comp=Z,524nm,21.0s,MS5.2						
HLID	**Hailey**	**121.95**	**301**	PFAKE		21 36 40.0	+9.0
HLID				LR	LR		
	comp=Z,683nm,19.0s,MS5.3						
BOZ	**Bozeman (W)**	**122.15**	**305**	PFAKE		21 36 40.0	+8.7
BOZ				LR	LR		
	comp=Z,968nm,19.0s,MS5.5						
OBN	**Obninsk**	**122.20**	**38**	PFAKE		21 36 40.0	+8.8
OBN				LR	LR		
	comp=Z,252nm,19.0s,MS4.9						
HOPS	**Hopland**	**123.05**	**292**	PFAKE		21 36 40.0	+6.9
HOPS				LR	LR		
	comp=Z,833nm,21.0s,MS5.4						
WVOR	**Wild Horse Val**	**123.24**	**298**	*e*PKIKP	PKPdf	21 36 32.7	-0.8
WVOR				MLR	MLR		
	comp=Z,740nm,21.0s,MS5.3						
MOD	**Modoc**	**123.71**	**296**	PFAKE		21 36 40.0	+5.5
MOD				LR	LR		
	comp=Z,522nm,20.0s,MS5.2						
CHMT	**Chamberlain Mo**	**123.85**	**305**	*e*PKP	PKPdf	21 36 33.1	-1.5
FINES	**FINESS Array B**	**124.01**	**28**	PKP	PKPdf	21 36 32.6	-2.0
	comp=Z,2.4nm,0.5s,baz=153,slow=4.3,SNR=18						
MSO	**Missoula**	**124.11**	**304**	PFAKE		21 36 50.0	+15
MSO				LR	LR		
	comp=Z,709nm,19.0s,MS5.3						
KAF	**Kangasniemi**	**124.63**	**28**	*e*p	PKPdf	21 36 33.5	-2.1
	comp=Z,0.7nm,0.4s						
KAF	**Kangasniemi**	**124.63**	**28**	*e*PKIKP	PKPdf	21 36 33.5	-2.1
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KOLN	**Koldanda**	**125.05**	**91**	*e*P	PKPdf	21 36 36.4	-0.9
	comp=Z,27nm,0.9s						
HUMO	**Hull Mountain**	**125.59**	**295**	PFAKE		21 36 50.0	+12
HUMO				LR	LR		
	comp=Z,425nm,20.0s,MS5.1						
DMN	**Daman**	**125.79**	**92**	*e*P	PKPdf	21 36 37.4	-1.4
	comp=Z,31nm,1.2s						
GKN	**Gorkha**	**125.82**	**91**	*e*P	PKPdf	21 36 37.1	-1.7
PKI	**Pulchoki**	**125.94**	**92**	*e*P	PKPdf	21 36 37.5	-1.5
	comp=Z,39nm,1.3s						
KKN	**Kakani**	**126.03**	**92**	*e*P	PKPdf	21 36 36.7	-2.5
	comp=Z,42nm,1.4s						
HAWA	**Hanford**	**126.51**	**301**	PFAKE		21 36 50.0	+10
HAWA				LR	LR		
	comp=Z,916nm,19.0s,MS5.5						
NEW	**Newport**	**126.65**	**304**	PFAKE		21 36 50.0	+10
NEW				LR	LR		
	comp=Z,1µm,19.0s,MS5.6						
COR	**Corvallis**	**127.15**	**297**	PFAKE		21 36 50.0	+9.2
COR				LR	LR		
	comp=Z,766nm,20.0s,MS5.4						
NLW	**Nelson Butte**	**128.07**	**302**	*e*PKP	PKPdf	21 36 39.8	-2.8
SHL	**Shillong**	**128.10**	**100**	*e*P	PKPdf	21 36 42.0	-1.3
KSH	**Kashi**	**129.26**	**75**	*e*PKP	PKPdf	21 36 46.0	+0.9
KSH				*e*PP	PP	21 38 59.6	+4.3
KSH				*e*PKS	PKS	21 40 21.2	+3.8
KSH				*e*SKS	SKS	21 43 56.2	+2.9
KSH				*e*SKKS		21 45 50.9	
KSH				*e*SS	SS	21 56 19.0	+6.0
KIP	**Kipapa**	**129.41**	**249**	PFAKE		21 37 00.0	+14
KIP				LR	LR		
	comp=Z,951nm,21.0s,MS5.5						
OCWA	**Octopus Mounta**	**129.76**	**299**	PFAKE		21 37 00.0	+14
OCWA				LR	LR		
	comp=Z,905nm,19.0s,MS5.5						
ARCES	**ARCESS Array B**	**130.43**	**22**	PKhKP		21 36 39.9	
	comp=Z,2.5nm,0.8s,baz=225,slow=1.3,SNR=2.5						
ARCES				PKP	PKPdf	21 36 44.2	-2.3
	comp=Z,8.2nm,0.8s,baz=208,slow=1.1,SNR=13						
AAK	**Ala-Archa**	**130.59**	**71**	*e*PKIKP	PKPdf	21 36 45.5	-2.1
AAK				MLR	MLR		
	comp=Z,230nm,20.0s,MS4.9						
FRU	**Bishkek**	**130.79**	**71**	*e*PKIKP	PKPdf	21 36 49.0	+1.1
FRU				pmax	pmax		
	comp=Z,50nm,1.6s						
LSA	**Lhasa**	**130.84**	**96**	PKP	PKPdf	21 36 49.0	+0.6
ARU	**Arti**	**131.80**	**48**	*e*PKIKP	PKPdf	21 36 48.3	-1.1
ARU				MLR	MLR		
	comp=Z,190nm,19.0s,MS4.8						
ARU	**Arti**	**131.80**	**48**	*e*PKP	PKPdf	21 36 48.3	-1.1
ARU				LR	LR		
	comp=Z,186nm,19.0s,MS4.8						
QIZ	**Qiongzhong**	**132.38**	**122**	PFAKE		21 37 00.0	+8.4
QIZ				LR	LR		
	comp=Z,813nm,19.0s,MS5.5						
KMI	**Kunming**	**133.77**	**110**	*e*PKP	PKPdf	21 36 52.6	-1.3
KMI				PP	PP	21 39 26.9	+2.4
KMI				LR	LR		
	comp=N,619nm,22.4s,MS5.4						
KMI				LR	LR		
	comp=E,463nm,21.7s,MS5.4						
KMI				LR	LR		
	comp=Z,870nm,23.1s,MS5.4						
ZRNK	**Zerenda**	**134.39**	**57**	*e*PKIKP	PKPdf	21 36 53.8	-0.5
YKA	**Yellowknife Ar**	**134.81**	**319**	PKP	PKPdf	21 36 52.0	-2.9
	comp=Z,2.0nm,0.8s,baz=146,slow=2.2,SNR=2.6						
YKA	**Yellowknife Ar**	**134.81**	**319**	PKP	PKPdf	21 36 52.0	-2.9
BRVK	**Borovoye**	**135.07**	**58**	*e*PKIKP	PKPdf	21 36 55.8	+0.1
BRVK				MLR	MLR		
	comp=Z,220nm,20.0s,MS4.9						
MKAR	**Makanchi Array**	**137.52**	**72**	PKhKP		21 36 50.1	
	comp=Z,0.4nm,0.5s,baz=219,slow=2.1,SNR=6.1						
MKAR				PKP	PKPdf	21 36 56.2	-4.0
	comp=Z,0.9nm,0.6s,baz=180,slow=2.9,SNR=6.5						
KURK	**Kurchatov**	**137.89**	**65**	*e*PKIKP	PKPdf	21 36 59.5	-1.4
KURK				MLR	MLR		
	comp=Z,220nm,20.0s,MS4.9						
GUMO	**Guam**	**138.29**	**171**	PFAKE		21 37 10.0	+7.5
GUMO				LR	LR		
	comp=Z,1µm,19.0s,MS5.6						
WMQ	**Urumqi**	**138.68**	**79**	*e*PKP	PKPdf	21 37 02.1	-0.4
WMQ				PP	PP	21 39 57.5	+2.9
WMQ				SS	SS	21 58 06.1	+0.3
WMQ				PP	PP		
	comp=Z,65nm,9.6s						
WMQ				LR	LR		
	comp=N,255nm,21.0s,MS5.2						
WMQ				LR	LR		
	comp=E,368nm,19.5s,MS5.2						
WMQ				LR	LR		
	comp=Z,425nm,22.0s,MS5.1						
ENH	**Enshi**	**141.47**	**113**	PFAKE		21 37 20.0	+12
ENH				LR	LR		
	comp=Z,713nm,19.0s,MS5.4						
NVS	**Novosibirsk**	**142.46**	**62**	*e*PKHKP		21 36 59.1	
NVS				*e*		21 40 15.2	
NVS				pmax	pmax		
	comp=Z,22nm,1.8s						
NVS				pmax	pmax		
	comp=N,9.0nm,1.7s						
LZH	**Lanzhou**	**142.74**	**101**	*e*PKP	PKPdf	21 37 08.7	-1.1
LZH				APKP		21 37 13.8	
LZH				XPKP		21 37 16.5	
LZH				LR	LR		
	comp=Z,1µm,20.0s,MS5.6						
GTA	**Gaotai**	**142.75**	**93**	*e*PKP	PKPdf	21 37 08.4	-1.3
GTA				PP	PP	21 40 21.7	+2.6
GTA				PKS	PKS	21 40 42.6	+1.4
GTA				PPP	PPP	21 43 32.5	+2.9
GTA				SKS	SKS	21 44 16.3	-2.4
GTA				SKKS		21 47 11.9	
GTA				SS	SS	21 58 58.4	+4.7
GTA				PP	PP		
	comp=Z,158nm,5.7s						
GTA				LR	LR		
	comp=N,187nm,20.9s,MS5.0						
GTA				LR	LR		
	comp=E,212nm,20.9s,MS5.0						
GTA				LR	LR		
	comp=Z,283nm,20.1s,MS5.0						
ZAL	**Zalesovo**	**142.81**	**64**	PKP	PKPdf	21 37 05.1	-4.3
	comp=Z,1.5nm,0.5s,baz=137,slow=2.8,SNR=5.9						
ZAL	**Zalesovo**	**142.81**	**64**	PKP	PKPdf	21 37 05.1	-4.3
XAN	**Xi’an**	**144.07**	**108**	PKP	PKPdf	21 37 10.3	-1.8
MIDW	**Midway**	**144.79**	**233**	PFAKE		21 37 20.0	+9.4
MIDW				LR	LR		
	comp=Z,999nm,19.0s,MS5.6						
DAWY	**Dawson**	**145.43**	**313**	*e*PKP	PKPdf	21 37 12.0	-1.6
EYAK	**Cordova Ski Ar**	**147.11**	**306**	*e*PKP	PKPdf	21 37 16.8	+0.2
NJ2	**Nanjing**	**147.67**	**122**	*e*PKP	PKPdf	21 37 20.0	+1.7
NJ2				PP	PP	21 40 54.0	+5.1
SSE	**Sheshan**	**147.99**	**126**	*e*PKP	PKPdf	21 37 19.4	+0.5
SSE				PP	PP	21 40 53.8	+3.0
SSE				SS	SS	21 59 57.4	+3.9
SSE				LR	LR		
	comp=N,483nm,18.0s,MS5.4						
SSE				LR	LR		
	comp=E,319nm,18.0s,MS5.4						
SSE				LR	LR		
	comp=Z,649nm,18.6s,MS5.5						
SML	**Sawmill**	**148.68**	**307**	*e*PKIKP	PKPdf	21 37 22.4	+3.4
ILAR	**Eielson Array**	**148.76**	**313**	PKPbc	PKPdf	21 37 21.6	+2.5
	comp=Z,47nm,0.9s,baz=111,slow=1.3,SNR=87						
PMR	**Palmer**	**148.99**	**307**	*e*PKIKP	PKPdf	21 37 18.6	-0.9
PMR				MLR	MLR		
	comp=Z,630nm,19.0s,MS5.4						
COLA	**College**	**149.18**	**313**	*e*PKHKP		21 37 22.4	
COLA				MLR	MLR		
	comp=Z,650nm,19.0s,MS5.4						
SLKM	**Skilak Lake**	**149.20**	**304**	*e*PKIKP	PKPdf	21 37 18.8	-1.1
FIB	**Fire Island**	**149.36**	**306**	PFAKE		21 37 30.0	+10
FIB				LR	LR		
	comp=Z,607nm,20.0s,MS5.4						
BTO	**Baotou**	**149.37**	**101**	*e*PKP	PKPdf	21 37 25.1	+4.3
MCK	**McKinley**	**149.41**	**311**	*e*PKIKP	PKPdf	21 37 19.1	-1.0
MCK				*e*		21 37 23.7	
MCK				MLR	MLR		
	comp=Z,470nm,19.0s,MS5.3						
SPU	**Mount Spurr**	**150.24**	**305**	*e*PKPbc	PKPdf	21 37 25.2	+3.7
RSO	**Redoubt South**	**150.39**	**304**	*e*PKPbc	PKPdf	21 37 26.0	+4.2
MOY	**Mondy**	**150.45**	**76**	*e*PKIKP	PKPdf	21 37 29.1	+7.0
SONM	**Songino Array**	**151.65**	**86**	PKP	PKPdf	21 37 23.5	-0.5
	comp=Z,4.5nm,1.2s,baz=198,slow=1.6,SNR=16						
SONM				PKPbc	PKPdf	21 37 29.7	+5.7
	comp=Z,12nm,0.6s,baz=224,slow=3.5,SNR=94						
BJT	**Baijiatuau**	**152.38**	**109**	PFAKE		21 37 40.0	+15
BJT				LR	LR		
	comp=Z,947nm,19.0s,MS5.6						
IRK	**Irkutsk**	**152.53**	**76**	*e*PKIKP	PKPdf	21 37 32.2	+7.0
MAJO	**Matsushiro**	**159.44**	**149**	PFAKE		21 37 50.0	+15
MAJO				LR	LR		
	comp=Z,690nm,21.0s,MS5.5						
CN2	**Changchun**	**159.98**	**114**	*e*PKP	PKPdf	21 37 30.4	-4.6
HIA	**Hailar**	**160.03**	**94**	PFAKE		21 37 50.0	+15
HIA				LR	LR		
	comp=Z,901nm,20.0s						
MDJ	**Mudanjiang**	**162.69**	**118**	PKP	PKPdf	21 37 36.1	-1.6
MDJ	**Mudanjiang**	**162.69**	**118**	PFAKE		21 37 50.0	+12
MDJ				LR	LR		
	comp=Z,1µm,20.0s						
SEY	**Seymchan**	**172.12**	**356**	*e*PKIKP	PKPdf	21 37 39.8	-4.3
SEY				*e*		21 37 46.6	
SEY				*e*		22 04 15.2	
SEY				pmax	pmax		
	comp=Z,30nm,0.8s						
PET	**Petropavlovsk**	**175.08**	**248**	PFAKE		21 38 00.0	+15
PET				LR	LR		
	comp=Z,773nm,20.0s						
MA2	**Magadan**	**175.52**	**2**	PFAKE		21 38 00.0	+15
MA2				LR	LR		
	comp=Z,510nm,19.0s						

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*IDC **06** 21:18:28.1±0.7, 55.33S×28.84W, mb4.9/8, mb1 5.0/8, mb1mx4.7/12, MS5.1/3, Ms1 5.1/3, ms1mx4.9/6, Error ellipse: s-maj=32.8km s-min=22.0km az=36.0*

*NEIC **06** 21:18:30.0±0.4, 55.36S×28.93W, h10^{km}, mb5.0/7, Error ellipse: s-maj=15.3km s-min=8.7km az=14.0*

*HRVD **06** 21:18:30.0±0.3, 55.15S×28.86W, h12^{km}, MW5.6/53, Centroid moment Tensor Solution. LP body waves: s47,c78;Mantle waves: s53,c93; Half duration: 1^{s}5 Moment tensor: Scale 10^{17}Nm; M$_{rr}$1.39±.07; M$_{\theta\theta}$-1.63±.07; M$_{\phi\phi}$0.25±.06; M$_{r\theta}$-1.39±.18; M$_{\theta\phi}$1.40±.06; M$_{\phi r}$1.79±.17; Best double couple: M$_0$3.02×10^{17} NP1:ϕ_s86°, δ28°, λ38°. NP2:ϕ_s321°, δ73°, λ113°. Principal axes: T 2.72, Plg56°, Azm261°; N .61, Plg22°, Azm134°; P -3.33, Plg25°, Azm34°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 06 21:18:28.5±8.4**, 55.3S**±0.1×**28.8W**±0.2**, h15**^{km}±61^{km}**, n31, σ0^{s}82**/17**, mb4.9**/12**, MS5.1**/3**, 1C, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EFI	**East Falkland**	**17.72**	**270**	*e*P	**P**	**21 22 36.9**	**+0.9**
	75nm,0.9s						
PMSA	**Palmer Station**	**19.73**	**227**	*e*P	**P**	**21 22 57.1**	**-2.9**
	64nm,0.7s						
USHA	**Ushuaia**	**22.50**	**255**	P	**P**	**21 23 29.1**	**+0.6**
	58nm,0.8s,mb5.1,baz=84,slow=9.0,SNR=3.7						
TRQA	**Tornquist**	**28.18**	**294**	*e*P	**P**	**21 24 21.1**	**-1.1**
	15nm,0.7s,mb4.7						
SYO	**Syowa Base**	**32.74**	**142**	⇑PnPn		21 25 10.6	
CPUP	**Villa Florida**	**35.63**	**313**	P	**P**	**21 25 27.1**	**-0.5**
	22nm,0.8s,mb5.1,baz=168,slow=7.4,SNR=6.9						
CPUP				LR	LR	21 39 41.3	
	comp=Z,4µm,19.1s,MS5.2,baz=179,slow=36						
MAW	**Mawson**	**41.30**	**145**	P	**P**	**21 26 14.4**	**0.0**
	9.4nm,1.1s,mb4.3,baz=243,slow=6.8,SNR=1.5						
SUR	**Sutherland**	**41.34**	**77**	P	**P**	**21 26 15.2**	**+0.1**
	16nm,0.7s,mb4.8						
BDFB	**Brasilia**	**42.26**	**332**	P	**P**	**21 26 22.9**	**+0.1**
	6.0nm,0.7s,mb4.3,baz=169,slow=9.5,SNR=2.0						
BDFB				LR	LR	21 40 06.7	
	comp=Z,1µm,19.0s,MS4.8,baz=161,slow=31						
BDFB	**Brasilia**	**42.26**	**332**	P	**P**	**21 26 22.9**	**+0.1**
BDFB				LR	LR	21 40 06.7	
LVC	**Limon Verde**	**44.13**	**301**	*e*P	**P**	**21 26 38.0**	**+0.1**
	16nm,0.5s,mb5.0						
LPAZ	**La Paz**	**49.20**	**306**	P	**P**	**21 27 18.3**	**+0.4**
	12nm,0.5s,mb5.2,baz=216,slow=7.8,SNR=2.6						
TSUM	**Tsumeb**	**50.13**	**63**	P	**P**	**21 27 25.4**	**+0.4**
	6.4nm,0.6s,mb4.8,baz=219,slow=10,SNR=2.8						
TSUM	**Tsumeb**	**50.13**	**63**	*e*P	**P**	**21 27 24.6**	**-0.4**
	12nm,0.6s,mb5.1						
SAML	**Samuel**	**53.62**	**316**	*e*P	**P**	**21 27 50.5**	**-0.9**
	27nm,0.8s,mb5.2						
SDV	**Santo Domingo**	**72.83**	**316**	P	**P**	**21 29 59.1**	**+0.7**
STKA	**Stephens Creek**	**92.79**	**172**	P	**P**	**21 31 42.3**	**+1.2**
	2.8nm,0.5s,mb5.0,baz=132,slow=6.1,SNR=3.9						
ASAR	**Alice Springs**	**99.98**	**164**	P	**P**	**21 32 13.2**	**-0.9**
	3.1nm,0.9s,mb4.8,baz=188,slow=3.8,SNR=4.8						
ASAR				LR	LR	22 16 34.5	
	comp=Z,1µm,18.3s,MS5.4,baz=189,slow=35						
WRA	**Warramunga Arr**	**103.70**	**164**	Pdiff	Pdif	21 32 31.0	+0.3
	0.4nm,0.6s,baz=193,slow=4.3,SNR=2.8						
AKASG	**Malin Array Be**	**116.13**	**37**	PKP	PKPdf	21 37 10.4	-3.5
	0.8nm,0.6s,baz=236,slow=1.9,SNR=3.3						
PDAR	**Pinedale Array**	**119.17**	**304**	PKP	PKPdf	21 37 16.6	-3.4
	0.5nm,0.6s,baz=151,slow=9.1,SNR=4.5						
NOA	**NORSAR Array B**	**120.22**	**21**	PKP	PKPdf	21 37 19.8	-1.7
	0.7nm,0.7s,baz=193,slow=5.2,SNR=2.8						
FINES	**FINESS Array B**	**124.14**	**28**	PKP	PKPdf	21 37 27.5	-1.7
	4.0nm,0.5s,baz=146,slow=6.9,SNR=8.3						
FINES	**FINESS Array B**	**124.14**	**28**	PKP	PKPdf	21 37 27.5	-1.7
KAF	**Kangasniemi**	**124.76**	**28**	*e*p	PKPdf	21 37 27.6	-2.6
	4.8nm,0.6s						
ARCES	**ARCESS Array B**	**130.58**	**22**	PKP	PKPdf	21 37 39.3	-1.8
	4.5nm,0.6s,baz=216,slow=0.4,SNR=7.8						
YKA	**Yellowknife Ar**	**135.00**	**319**	PKP	PKPdf	21 37 47.4	-2.2
	2.1nm,0.6s,baz=125,slow=2.1,SNR=3.2						
MKAR	**Makanchi Array**	**137.51**	**72**	PKhKP		21 37 46.8	
	1.1nm,0.7s,baz=258,slow=2.2,SNR=4.0						
ZAL	**Zalesovo**	**142.84**	**64**	PKP	PKPdf	21 37 59.1	-4.6
	1.5nm,0.5s,baz=138,slow=4.9,SNR=3.4						
ILAR	**Eielson Array**	**148.93**	**313**	PKPbc	PKPdf	21 38 16.9	+3.2
	17nm,0.8s,baz=111,slow=1.5,SNR=4.2						
SONM	**Songino Array**	**151.59**	**86**	PKPbc	PKPdf	21 38 23.4	+5.1
	8.3nm,0.5s,baz=224,slow=3.4,SNR=6.8						

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*NEIC **06** 21:23:43.2, 19.59N×65.23W, h38^{km}, MD3.8(RSPR), After RSPR.*

RSPR 06 21:23:43.2, 19.59N×65.23W, h38^{km}±28^{km}**, MD3.8**/12**, MD3.8**/12**, 7C-7D, Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBYP	**Canovanas**	**1.44**	**205**	⇑*e*P	P	21 24 05.0	-2.2
CBYP				*e*S	S	21 24 23.5	-1.6
MTP	**Monte Pirata**	**1.52**	**192**	⇑*e*P	P	21 24 07.0	-1.3
MTP				*e*S	S	21 24 25.2	-1.8
HUMP	**Col San Antoni**	**1.55**	**202**	⇓*e*P	P	21 24 07.2	-1.6
CSB	**Colonia Sabana**	**1.56**	**214**	⇓*i*P	P	21 24 07.0	-2.0
CSB				*e*S	S	21 24 26.8	-1.3
CPD	**Cerro la Pandu**	**1.67**	**203**	⇑*e*P	P	21 24 09.1	-1.4
CPD				*e*S	S	21 24 29.3	-1.6
SJG	**San Juan**	**1.71**	**211**	⇑*e*P	P	21 24 08.5	-2.5
SJG				*e*S	S	21 24 29.9	-2.0
SJG	**San Juan**	**1.71**	**211**	⇓*e*P	P	21 24 09.2	-1.8
SJG				*e*S	S	21 24 29.1	-2.7
AOPR	**Arecibo Observ**	**1.90**	**230**	⇓*i*P	P	21 24 12.2	-1.6
CELP	**Cerrillos**	**1.97**	**221**	⇓*i*P	P	21 24 13.5	-1.4
CELP				*e*S	S	21 24 36.9	-1.6
LRS	**Lares**	**2.00**	**230**	⇑*e*P	P	21 24 12.9	-2.3
PORP	**Portuguez**	**2.02**	**221**	⇓*e*P	P	21 24 14.1	-1.5
LSP	**Las Mesas**	**2.25**	**232**	⇓*e*P	P	21 24 17.6	-1.1
MGP	**Maguayo**	**2.36**	**229**	⇑*e*P	P	21 24 19.1	-1.2
IDE	**Isla Desecheo**	**2.44**	**241**	⇑*e*P	P	21 24 20.1	-1.5
IDE				*e*S	S	21 24 47.4	-3.0

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*NEIC **06** 21:31:17.6±0.7, 5.48S×151.84E, mb4.5/7, Error ellipse: s-maj=23.2km s-min=9.2km az=115.0*

*IDC **06** 21:31:18.1±1.3, 5.54S×151.79E, h62^{km}±8^{km}, mb4.0/7, mb1 4.2/8, mb1mx4.1/12, MS3.7/3, Ms1 3.7/3, ms1mx3.5/15, Error ellipse: s-maj=38.2km s-min=13.9km az=121.0*

ISC 06 21:31:17.2±1.4**, 5.5S**±0.1×**151.7E**±0.3**, h66**^{km}±15^{km}**, n21, σ0^{s}81**/22**, mb4.2**/12**, 1C, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAB	**Rabaul**	**1.33**	**19**	⇑*i*P	**P**	**21 31 40.6**	**+0.2**
CTA	**Charters Tower**	**15.48**	**200**	P	**P**	**21 34 51.8**	**-1.3**
	0.3nm,0.3s,baz=31,slow=12,SNR=2.0						
CTA				LR	LR	21 40 08.2	
	comp=Z,231nm,20.9s,baz=233,slow=34						
KAKA	**Kakadu**	**20.38**	**248**	*e*P	**P**	**21 35 50.1**	**-1.0**
	13nm,0.5s						
KAKA				*e*S	**S**	**21 39 45.2**	**+14**
WRAB	**Tennant Creek**	**22.19**	**228**	*e*P	**P**	**21 36 10.5**	**+1.2**
	11nm,0.8s,mb4.2						
WB2	**Warramunga Arr**	**22.20**	**228**	*e*P	**P**	**21 36 10.0**	**+0.6**
WB2				*e*S	**S**	**21 40 10.5**	**+6.0**
WRA	**Warramunga Arr**	**22.21**	**228**	P	**P**	**21 36 09.8**	**+0.3**
	4.2nm,0.7s,mb3.9,baz=53,slow=10.0,SNR=24						
WRA				pP		21 36 23.7	
	19nm,0.9s,baz=52,slow=9.8,SNR=18						
WRA				S	**S**	**21 40 10.6**	**+5.9**
	4.1nm,1.1s,baz=54,slow=18,SNR=4.9						
WRA				LR	LR	21 44 58.4	
	comp=Z,181nm,20.8s,baz=50,slow=37						
ASAR	**Alice Springs**	**24.95**	**222**	P	**P**	**21 36 36.4**	**+0.2**
	9.8nm,0.7s,mb4.4,baz=58,slow=8.9,SNR=61						
ASAR				pP		21 36 50.6	
	12nm,0.8s,baz=51,slow=8.8,SNR=13						
ASAR				LR	LR	21 45 43.6	
	comp=Z,172nm,18.4s,baz=268,slow=35						
ASPA	**Alice Springs**	**24.95**	**222**	*e*P	**P**	**21 36 37.8**	**+1.7**
FITZ	**Fitzroy Crossi**	**28.41**	**242**	*e*P	**P**	**21 37 07.3**	**-0.6**
	12nm,0.7s,mb4.5						
FITZ	**Fitzroy Crossi**	**28.41**	**242**	P	**P**	**21 37 07.3**	**-0.6**
	16nm,0.8s,mb4.6,baz=66,slow=6.4,SNR=14						
MBWA	**Marble Bar**	**34.72**	**240**	P	**P**	**21 38 02.4**	**-0.7**
	51nm,1.5s,mb5.1						
SONM	**Songino Array**	**66.31**	**328**	P	**P**	**21 42 01.8**	**+0.8**
	2.8nm,0.8s,mb4.2,baz=148,slow=4.8,SNR=7.2						
MKAR	**Makanchi Array**	**80.12**	**319**	P	**P**	**21 43 22.4**	**+0.6**
	2.2nm,0.9s,mb4.0,baz=101,slow=6.2,SNR=8.2						
MKAR				pP	pP	21 43 38.9	-1.1
	1.6nm,1.0s,baz=117,slow=2.7,SNR=3.4						
ZAL	**Zalesovo**	**81.11**	**327**	P	**P**	**21 43 25.9**	**-1.0**
	1.1nm,0.9s,mb3.7,baz=268,slow=5.8,SNR=3.7						
ZAL	**Zalesovo**	**81.11**	**327**	P	**P**	**21 43 25.9**	**-1.0**
ILAR	**Eielson Array**	**83.17**	**22**	P	**P**	**21 43 37.2**	**0.0**
	1.3nm,0.7s,mb3.9,baz=243,slow=5.3,SNR=10						
KURK	**Kurchatov**	**83.63**	**322**	*e*P	**P**	**21 43 39.8**	**0.0**
	5.0nm,1.1s,mb4.3						
BRVK	**Borovoye**	**89.19**	**323**	P	**P**	**21 44 07.0**	**0.0**
	2.4nm,0.8s,mb4.3						
ZRNK	**Zerenda**	**89.94**	**323**	*e*P	**P**	**21 44 09.5**	**-0.9**
	2.9nm,1.1s,mb4.3						
GERES	**GERESS Array B**	**124.05**	**328**	PKP	PKPdf	21 50 09.0	+0.6
	1.0nm,0.7s,baz=90,slow=1.3,SNR=10.0						
BDFB	**Brasilia**	**151.34**	**137**	PKPbc	PKPdf	21 51 05.8	+7.6
	2.8nm,0.7s,baz=213,slow=6.9,SNR=4.3						

*BJI **06** 21:53:44.1,24.26N×104.23E,h16^{km},ML3.3*
*PLV **06** 21:53:46.1±0.9,23.89N×104.53E,h1^{km}±9^{km},MD3.3*
ISC 06 21:53:37.9±0.7,**24.08N**±0.04×**104.34E**±0.06,**h10**^{km},**n6,** σ**1.^{s}52**/18,**1C,Yunnan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	1.79	306	⇑ePG	Pg	21 54 14.7	+1.0
KMI				SG	Sg	21 54 36.1	-1.5
KMI				Smax			
	comp=N,132nm,0.9s						
KMI				Smax			
	comp=E,125nm,0.8s						
BVV	**Ba Vi**	3.11	162	ePN	Pn	21 54 33.4	+5.3
BVV				ePG	Pg	21 54 41.3	+1.2
BVV				eSG	Sg	21 55 20.6	-1.0
MTZV	**Met**	3.12	143	ePN	Pn	21 54 33.4	+5.1
MTZV				ePG	Pg	21 54 41.5	+1.2
MTZV				eSG	Sg	21 55 18.8	-3.2
GYA	**Guiyang**	3.17	41	P	Pn	21 54 31.8	+2.9
GYA				PG	Pg	21 54 39.1	-2.1
GYA				S	Sn	21 55 07.0	-0.1
GYA				SG	Sg	21 55 16.4	-7.0
GYA				Smax			
	comp=N,190nm,0.6s						
GYA				Smax			
	comp=E,100nm,0.8s						
HNV	**Hanoi**	3.30	156	ePN	Pn	21 54 36.5	+5.6
HNV				ePG	Pg	21 54 45.5	+1.5
HNV				eSG	Sg	21 55 26.1	-1.9
YTV	**Yen Tu**	3.64	143	ePN	Pn	21 54 40.5	+4.8
YTV				ePG	Pg	21 54 51.7	+1.0
YTV				eSG	Sg	21 55 34.9	-4.4

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*LDG **06** 22:01:26.9±0.1,44.51N×6.84E,h2^{km},Md2.5/2,Ml2.5/18, Error ellipse: s-maj=1.7km s-min=1.1km az=60.0*
*NEIC **06** 22:01:27.5,44.47N×6.82E,h5^{km},ML2.8(GEN), ML2.5(STR),ML2.5(LDG),After STR.*
*STR **06** 22:01:27.5±0.2,44.47N×6.82E,h5^{km}±1^{km},Ml2.5,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 06 22:01:25.8±0.2,**44.49N**±0.01×**6.75E**±0.02,**h14**^{km}±2^{km}, **n54,**σ**1.^{s}09**/108,**France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SURF	**Saint Ours**	0.04	95	Pg	Pg	22 01 28.0	-0.5
MBDF	**Montbardon**	0.24	3	ePg	Pg	22 01 31.6	+0.3
MBDF				eSg	Sg	22 01 34.6	-0.3
	156nm,0.2s						
PZZ	**Prazzo**	0.25	85	P	Pg	22 01 31.6	+0.2
PZZ				S	Sg	22 01 35.0	-0.1
RRL	**Cesana Torines**	0.44	3	P	Pg	22 01 35.5	+0.6
RRL				S	Sg	22 01 41.5	+0.6
STV	**Sta Anna Valdi**	0.48	120	P	Pb	22 01 35.4	0.0
STV				S	Sb	22 01 41.4	-0.5
STV2	**Anna di Valdie**	0.48	120	P	Pb	22 01 35.4	0.0
STV2				S	Sb	22 01 41.3	-0.6
BHB	**Bricherasio**	0.51	45	P	Pb	22 01 36.2	+0.2
BHB				S	Sb	22 01 42.8	-0.2
ENR	**Entracque**	0.55	118	P	Pb	22 01 36.6	0.0
ENR				S	Sb	22 01 43.4	-0.6
FENE	**Fenestrelle**	0.59	22	P	Pb	22 01 38.0	+0.7
FENE				S	Sb	22 01 45.5	+0.3
MVIF	**Mont Vial**	0.66	154	Pg	Pg	22 01 39.0	-0.1
MVIF				Sg	Sg	22 01 48.3	+0.3
AUTN	**L'Aution**	0.69	135	Pg	Pg	22 01 39.6	-0.2
AUTN				Sg	Sg	22 01 49.0	-0.1
AURF	**Auriere**	0.73	145	Pg	Pg	22 01 40.4	-0.1
AURF				Sg	Sg	22 01 50.2	-0.2
CALN	**Calern**	0.74	172	Pg	Pg	22 01 40.9	+0.1
ORIF	**Oris-en-Rattie**	0.76	305	ePg	Pg	22 01 41.0	-0.1
ORIF				eSg	Sg	22 01 51.3	-0.1
	24nm,0.2s						
RSP	**Reno Superiore**	0.76	28	P	Pb	22 01 41.1	+0.9
RSP				S	Sb	22 01 50.9	+0.8
SAOF	**Saorge**	0.76	130	Pg	Pg	22 01 40.8	-0.4
SAOF				Sg	Sg	22 01 50.6	-0.9
SBF	**Sospel**	0.79	141	ePg	Pg	22 01 41.3	-0.5
SBF				eSg	Sg	22 01 51.5	-1.0
	44nm,0.2s						
ROB	**Roburent**	0.82	103	P	Pb	22 01 41.6	+0.3
ROB				S	Sb	22 01 51.9	-0.2
MONE	**Monesi**	0.83	119	P	Pb	22 01 41.9	+0.4
MONE				S	Sb	22 01 52.2	+0.1
REVF	**Revere**	0.87	149	Pg	Pg	22 01 43.2	-0.1
FRF	**La Foret Royal**	0.93	185	ePg	Pg	22 01 44.1	-0.4
FRF				eSg	Sg	22 01 55.9	-1.0
	28nm,0.2s						
NEGI	**Negi**	0.94	133	P	Pb	22 01 44.0	+0.8
NEGI				S	Sb	22 01 55.7	+0.4
VILF	**Villemus**	0.98	230	Pg	Pg	22 01 47.4	+1.9
SMRF	**Simiane la Rot**	0.99	239	ePg	Pg	22 01 46.5	+0.8
SMRF				eSg	Sg	22 02 00.6	+1.7
	26nm,0.2s						
IMI	**Imperia**	1.00	125	P	Pb	22 01 45.0	+0.6
IMI				S	Sb	22 01 57.5	+0.3
TAVF	**Tavernes**	1.00	210	Pg	Pg	22 01 47.0	+1.1
LPG	**La Plagne**	1.01	360	ePg	Pg	22 01 45.9	-0.3
LPG				eSg	Sg	22 01 58.9	-0.9
	8.4nm,0.2s						
LSD	**Ceresole Reale**	1.01	16	P	Pb	22 01 45.7	+1.1
LSD				S	Sb	22 01 58.9	+1.3
RORO		1.01	111	P	Pb	22 01 44.8	+0.2
RORO				S	Sb	22 01 57.2	-0.3
LPL	**La Plagne**	1.03	359	ePg	Pg	22 01 46.4	-0.1
LPL				eSg	Sg	22 01 59.4	-1.0
	24nm,0.3s						
OCF	**Saint Nazaire**	1.04	276	Pg	Pg	22 01 48.5	+1.8
OG26	**St.-Nazaire-De**	1.04	276	Pg	Pg	22 01 48.5	+1.8
FIN	**Finale Ligure**	1.08	104	P	Pb	22 01 46.0	+0.2
FIN				S	Sb	22 01 59.2	-0.3
LMR	**La Mourre**	1.16	189	ePg	Pg	22 01 48.9	-0.3
LMR				eSg	Sg	22 02 03.5	-1.3
	27nm,0.2s						
PUYF	**Puyloubier**	1.22	219	Pg	Pg	22 01 50.6	+0.4
PCP	**Pian Castagno**	1.28	87	P	Pb	22 01 49.7	+0.5
TREF	**Trevaresse**	1.31	229	Pg	Pg	22 01 53.3	+1.3
TREF				Sg	Sg	22 02 11.6	+2.0
PRAF	**Pradon**	1.33	240	Pg	Pg	22 01 53.5	+1.1
PRAF				Sg	Sg	22 02 11.2	+1.0
BERF	**Bertagne**	1.40	214	Pg	Pg	22 01 54.0	+0.1
BERF				Sg	Sg	22 02 12.8	+0.2
GELF	**Grande-Etoile**	1.46	221	Pg	Pg	22 01 55.6	+0.6
VIVF	**Saint-Julien-l**	1.53	285	ePn	Pn	22 01 54.7	+1.8
VIVF				ePg	Pg	22 01 56.4	0.0
VIVF				eSg	Sg	22 02 14.2	-2.7
	8.0nm,0.3s						
LASF	**Ste Croix**	2.12	260	ePn	Pn	22 02 01.9	+0.6
LASF				ePg	Pg	22 02 07.2	-1.0
LASF				eSn	Sn	22 02 26.7	-0.9
LASF				eSg	Sg	22 02 34.8	-1.7
	3.2nm,0.3s						
CABF	**La Chapelle**	2.18	348	ePn	Pn	22 02 02.3	+0.2
CABF				eSg	Sg	22 02 35.5	-2.9
	5.1nm,0.4s						
PGF	**Pioggiola**	2.53	139	ePn	Pn	22 02 07.6	+0.4
PGF				ePg	Pg	22 02 13.5	-2.9
PGF				eSn	Sn	22 02 36.7	-1.4
	4.5nm,0.3s						
SMF	**Signal de Mont**	2.97	318	ePn	Pn	22 02 15.3	+1.8
SMF				eSg	Sg	22 03 00.9	-4.0
	3.5nm,0.3s						
AVF	**Avril sur Loir**	3.32	315	ePn	Pn	22 02 20.3	+1.9
AVF				ePg	Pg	22 02 28.7	-3.4
AVF				eSg	Sg	22 03 10.8	-5.5
	1.5nm,0.3s						
CAF	**Calviac**	3.37	279	ePn	Pn	22 02 19.3	+0.1
CAF				eSn	Sn	22 02 57.8	-1.5
CAF				eSg	Sg	22 03 14.0	-4.1
	2.8nm,0.5s						
SSF	**Saint Saulge**	3.44	320	ePn	Pn	22 02 21.9	+1.8
SSF				ePg	Pg	22 02 30.9	-3.5
SSF				eSn	Sn	22 02 59.0	-1.9
SSF				eSg	Sg	22 03 15.8	-4.4
	2.4nm,0.6s						
BGF	**Bois d'Agland**	3.44	308	ePn	Pn	22 02 22.0	+1.9
BGF				eSg	Sg	22 03 15.3	-5.1
	3.7nm,0.3s						
LOR	**Lormes**	3.44	325	ePn	Pn	22 02 21.9	+1.8
LOR				ePg	Pg	22 02 30.9	-3.6
LOR				eSn	Sn	22 02 59.1	-2.0
LOR				eSg	Sg	22 03 15.3	-5.1
	3.2nm,0.4s						
MTLF	**Montolieu**	3.47	252	ePn	Pn	22 02 20.1	-0.5
MTLF				ePg	Pg	22 02 32.1	-3.0
MTLF				eSn	Sn	22 03 00.0	-1.8
	1.5nm,0.3s						
TCF	**Toulx Ste Croi**	3.67	301	ePn	Pn	22 02 24.8	+1.4
TCF				ePg	Pg	22 02 35.4	-3.8
TCF				eSn	Sn	22 03 04.3	-2.7
	0.6nm,0.2s						
HYF	**Humbligny**	4.00	316	ePg	Pg	22 02 41.2	-4.5
MFF	**Saint Martin d**	5.29	296	ePn	Pn	22 02 45.0	-1.3

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*JMA **06** 22:22:01.8±0.1,33.23N×137.15E,h41^{km}±2^{km},M3.6*
ISC 06 22:22:01.9±0.9,**33.24N**±0.06×**137.15E**±0.04,**h45**^{km}±23^{km}, **n16,**σ**0.^{s}63**/31,**1C-5D,Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK01	**Tokai 1**	0.64	35	P	P	22 22 14.4	-0.2
TK01				S	S	22 22 23.5	-0.4
TK02	**Tokai 2**	0.87	36	⇓P	P	22 22 17.8	0.0
TK02				S	S	22 22 29.4	-0.1
TK03	**Tokai 3**	1.15	36	P	P	22 22 21.7	0.0
TK03				S	S	22 22 36.7	+0.2
JIE	**Ise**	1.20	342	⇓P	P	22 22 23.3	+0.8
JIE				S	S	22 22 38.7	+0.8
JWZ	**Kozaga**	1.23	284	⇑P	P	22 22 23.0	0.0
JWZ				eS	S	22 22 37.8	-0.9
JKN	**Kiinagashima**	1.25	324	P	P	22 22 23.5	+0.4
JKN				S	S	22 22 38.0	-1.0
TK04	**Tokai 4**	1.29	28	⇓P	P	22 22 24.1	+0.3
TK04				S	S	22 22 40.1	-0.1
TSUJ	**Tsu 2**	1.58	338	P	P	22 22 28.5	+0.5
TSUJ				S	S	22 22 47.1	-0.3
JWM	**Minabe**	1.61	292	P	P	22 22 28.7	+0.3
JWM				eS	S	22 22 47.4	-0.8
JWY	**Kouya**	1.62	307	P	P	22 22 29.3	+0.8
JWY				S	S	22 22 48.3	0.0
JHE	**Heguri**	1.86	320	⇓P	P	22 22 32.5	+0.6
JHE				S	S	22 22 54.4	+0.1
JIZS	**Izushimoda**	2.06	44	P	P	22 22 34.6	-0.1
JIZS				eS	S	22 22 57.6	-1.6
JAJ2	**Tsuna**	2.22	303	P	P	22 22 38.1	+1.1
JAJ2				S	S	22 23 03.4	+0.1
JHJ2	**Mitsune**	2.24	93	P	P	22 22 36.8	-0.5
JAI	**Aioi**	2.32	284	⇓P	P	22 22 38.8	+0.4
JAI				eS	S	22 23 04.5	-1.3
MAT	**Matsushiro**	3.41	15	P	P	22 22 54.7	+0.8
MAT				S	S	22 23 33.6	+0.2

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*JMA **06** 23:01:29.6±0.1,33.04N×136.89E,h40^{km}±5^{km},M4.1*
JMA Felt I J1.
ISC 06 23:01:29.8±0.9,**33.06N**±0.06×**136.91E**±0.03,**h48**^{km}±20^{km}, **n17,**σ**0.^{s}67**/33,**3C-8D,Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK01	**Tokai 1**	0.90	39	P	P	23 01 46.2	-0.1
TK01				S	S	23 01 58.5	0.0
JWZ	**Kozaga**	1.10	295	⇑P	P	23 01 48.8	-0.4
JWZ				S	S	23 02 02.0	-1.5
TK02	**Tokai 2**	1.13	39	⇓P	P	23 01 49.6	+0.1
TK02				S	S	23 02 04.5	+0.3
JKN	**Kiinagashima**	1.30	336	⇓P	P	23 01 52.4	+0.4
JKN				S	S	23 02 07.6	-0.8
JIE	**Ise**	1.33	353	⇓P	P	23 01 53.2	+0.6
JIE				S	S	23 02 09.4	0.0
JWM	**Minabe**	1.52	301	⇑P	P	23 01 55.0	-0.1
JWM				S	S	23 02 13.0	-0.8
TK04	**Tokai 4**	1.54	31	⇓P	P	23 01 55.8	+0.3
TK04				S	S	23 02 14.9	+0.4
JWY	**Kouya**	1.59	317	P	P	23 01 56.9	+0.8
JWY				S	S	23 02 15.8	+0.2
TSUJ	**Tsu 2**	1.69	346	⇓P	P	23 01 58.2	+0.7
TSUJ				S	S	23 02 18.0	-0.1
JHE	**Heguri**	1.88	328	⇓P	P	23 02 01.0	+0.8
JHE				S	S	23 02 23.2	+0.4
JAJ2	**Tsuna**	2.16	309	⇑P	P	23 02 04.9	+0.7
JAJ2				S	S	23 02 29.7	-0.1
JAI	**Aioi**	2.18	290	P	P	23 02 04.4	0.0
JAI				S	S	23 02 29.4	-0.9
SHZ3	**Shizuoka 3**	2.27	28	⇓P	P	23 02 05.5	-0.2
SHZ3				S	S	23 02 31.7	-0.9
JIZS	**Izushimoda**	2.32	44	P	P	23 02 07.6	+1.1
JIZS				S	S	23 02 32.6	-1.4
JHJ2	**Mitsune**	2.44	88	S	S	23 02 35.7	-1.2
JWT	**Wachi**	2.54	331	⇓P	P	23 02 10.3	+0.7
JWT				S	S	23 02 39.8	+0.3
MAT	**Matsushiro**	3.63	17	P	P	23 02 25.9	+0.9
MAT				S	S	23 03 06.6	-0.5

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*IDC **06** 23:03:23.9±1.0,55.45S×26.51W,mb4.5/4,mb1 4.6/4, mb1mx4.2/10,Error ellipse: s-maj=108.0km s-min=22.5km az=44.0*
*NEIC **06** 23:03:25.6±0.4,55.50S×26.64W,h10^{km},mb4.6/9,Error ellipse: s-maj=14.1km s-min=7.2km az=53.0*
ISC 06 23:03:23.8±0.6,**55.41S**±0.10×**26.6W**±0.2,**h10**^{km},**n22,** σ**1.^{s}20**/17,**mb4.5**/11,**3C-1D,South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	17.27	159	⇑i	P	23 07 29.1	+2.9
VNA3	**Neumayer Olymp**	17.49	162	⇓i	P	23 07 31.2	+2.3
VNA2	**Neumayer--Watz**	17.66	159	⇑i	P	23 07 34.4	+3.3
EFI	**East Falkland**	18.98	268	P	P	23 07 46.5	-0.9
	24nm,0.8s						
SNAA	**Sanae**	19.20	157	⇑i	P	23 07 48.2	-1.7
PMSA	**Palmer Station**	20.57	228	eP	P	23 08 04.5	-0.5
	34nm,0.6s						
TRQA	**Tornquist**	29.39	291	eP	P	23 09 29.3	+0.3
	6.1nm,0.8s,mb4.4						
QSPA	**South Pole Qui**	34.84	180	eP	P	23 10 15.1	-1.2
	13nm,0.5s,mb5.1						
CPUP	**Villa Florida**	36.65	310	P	P	23 10 31.9	-0.2
	3.6nm,0.7s,mb4.3,baz=171,slow=6.9,SNR=13						
SUR	**Sutherland**	40.15	75	P	P	23 11 00.7	-0.7
	10nm,0.9s,mb4.6						
MAW	**Mawson**	40.47	144	P	P	23 11 03.4	-0.2
	1.6nm,0.7s,mb3.9,baz=268,slow=9.1,SNR=9.3						
LVC	**Limon Verde**	45.27	299	eP	P	23 11 44.6	+1.5
	13nm,0.7s,mb4.9						
SBA	**Scott Base**	46.74	184	eP	P	23 11 53.3	-0.7
	9.1nm,1.1s,mb4.6						
LPAZ	**La Paz**	50.29	304	P	P	23 12 23.7	+1.4
	4.7nm,0.3s,mb4.9,baz=165,slow=7.6,SNR=16						
SAML	**Samuel**	54.59	314	eP	P	23 12 54.0	-0.6
	3.7nm,0.9s,mb4.4						
SDV	**Santo Domingo**	73.80	314	eP	P	23 15 00.3	+0.2
	5.1nm,0.8s,mb4.5						
ASAR	**Alice Springs**	99.50	162	P	P	23 17 07.2	-0.7
	1.1nm,0.9s,mb4.4,baz=185,slow=4.6,SNR=9.0						
DIV	**Divide**	148.56	306	ePKPbc	PKPdf	23 23 11.7	+3.0
ILAR	**Eielson Array**	149.94	312	PKPbc	PKPdf	23 23 14.5	+3.7
	5.7nm,0.7s,baz=134,slow=3.8,SNR=62						
SONM	**Songino Array**	150.35	85	PKPbc	PKPdf	23 23 15.7	+3.8
	1.6nm,0.8s,baz=220,slow=3.1,SNR=7.7						
COLA	**College**	150.36	312	ePKPbc	PKPdf	23 23 14.7	+3.3
COLA				ePKPab	PKPab	23 23 22.3	0.0
MCK	**McKinley**	150.62	310	ePKPbc	PKPdf	23 23 16.5	+4.6

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*NIC **06** 23:10:42.5±0.4,36.78N×34.50E,h77^{km},ML3.5,MW3.1*
*ISK **06** 23:10:42.0,36.84N×34.33E,h9^{km},MD3.5*
ISC 06 23:10:43.0±0.7,**36.79N**±0.03×**34.33E**±0.04,**h15**^{km}±4^{km}, **n22,**σ**0.^{s}91**/33,**5C,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEST	**Erdemli**	0.25	217	⇑iP	Pg	23 10 48.4	-0.3
MEST				i S	Sg	23 10 53.5	+1.1
IKL	**Isikli**	0.76	224	i PG	Pg	23 10 56.9	-1.4
IKL				i SG	Sg	23 11 09.3	+0.8
CEYT	**Ceyhan**	1.16	79	i PN	Pn	23 11 04.6	-0.1
NIG	**Nigde**	1.34	9	i PN	Pn	23 11 06.4	-0.9
HDMB	**Hadim**	1.49	277	i PN	Pn	23 11 09.6	+0.1
HDMB				i SN	Sn	23 11 29.4	+0.7
COBT	**Iskenderun**	1.57	99	⇑iP	Pn	23 11 10.9	+0.3
COBT				i S	Sn	23 11 32.5	+1.7
HTY	**Hatay**	1.60	114	i PN	Pn	23 11 11.7	+0.6
PHNC	**Paralimni**	1.80	188	P	Pn	23 11 12.7	-1.1
PHNC				S	Sn	23 11 35.0	-1.5
MAMC	**Mammari**	1.85	210	⇑P	Pn	23 11 14.2	-0.4
KONT	**Konya--Tatoy**	1.95	307	PN	Pn	23 11 16.1	+0.1
CSS	**Prodhromos**	1.99	204	⇑P	Pn	23 11 15.0	-1.7
	1.1nm,0.3s						
CSS				S	Sn	23 11 41.2	-0.3
AVNT	**Avonos**	2.03	12	⇑iP	Pn	23 11 17.6	+0.4
AVNT				i S	Sn	23 11 43.0	+0.5
LEF	**Lefka**	2.03	215	ePN	Pn	23 11 17.9	+0.7
ALFC	**Alevga**	2.15	221	P	Pn	23 11 17.7	-1.2
	4.2nm,0.2s						
ALFC				S	Sn	23 11 46.2	+0.7
KAHT	**Ahir Dag**	2.20	67	i P	Pn	23 11 18.9	-0.7
KAHT				i S	Sn	23 11 53.4	+6.7
GAZ	**Gaziantep**	2.34	80	ePN	Pn	23 11 21.4	-0.2
SZAC	**Souni-Zanaja**	2.34	211	P	Pn	23 11 22.9	+1.2
	2.8nm,0.4s						
SZAC				S	Sn	23 11 57.2	+6.8
PPCY	**Paphos**	2.49	221	P	Pn	23 11 26.6	+2.8
KAMT	**Kaman**	2.62	349	ePN	Pn	23 11 25.4	-0.3
GZT	**Gaziantep**	2.65	77	i P	Pn	23 11 26.1	0.0
GZT				i S	Sn	23 12 02.8	+4.6
KIZT	**Kizilcal**	2.85	318	ePN	Pn	23 11 28.4	-0.5
YOZ	**Yozgat**	2.95	15	ePN	Pn	23 11 30.2	-0.2

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*JMA **06** 23:11:24.7±0.2,33.21N×137.17E,h46^{km}±3^{km},M3.6*
ISC 06 23:11:25.3±1.2,**33.25N**±0.06×**137.13E**±0.04,**h43**^{km}±24^{km}, **n16,**σ**0.^{s}66**/32,**4D,Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK01	**Tokai 1**	0.64	37	P	P	23 11 37.5	-0.6
TK01				S	S	23 11 48.3	+0.9
TK02	**Tokai 2**	0.87	37	P	P	23 11 40.5	-0.8
TK02				S	S	23 11 51.6	-1.4
JIE	**Ise**	1.19	343	⇓P	P	23 11 46.4	+0.6
JIE				S	S	23 12 02.4	+1.3
JWZ	**Kozaga**	1.21	284	P	P	23 11 46.1	0.0
JWZ				S	S	23 12 00.7	-0.9
JKN	**Kiinagashima**	1.23	324	P	P	23 11 46.6	+0.3
JKN				S	S	23 12 01.1	-0.9
TK04	**Tokai 4**	1.29	29	⇓P	P	23 11 47.2	-0.1
TK04				S	S	23 12 03.3	-0.4
TSUJ	**Tsu 2**	1.57	338	P	P	23 11 51.7	+0.4
TSUJ				S	S	23 12 10.5	-0.1
JWM	**Minabe**	1.60	293	P	P	23 11 52.0	+0.4
JWM				S	S	23 12 10.7	-0.5
JWY	**Kouya**	1.60	308	P	P	23 11 52.5	+0.8
JWY				S	S	23 12 11.5	+0.1
JHE	**Heguri**	1.84	320	⇓P	P	23 11 55.7	+0.6
JHE				S	S	23 12 17.4	+0.1
SHZ3	**Shizuoka 3**	2.02	26	P	P	23 11 57.1	-0.6
SHZ3				S	S	23 12 21.4	-0.4
JAJ2	**Tsuna**	2.20	303	P	P	23 12 01.2	+1.0
JAJ2				S	S	23 12 26.0	-0.4
JAI	**Aioi**	2.30	284	P	P	23 12 01.9	+0.3
JAI				S	S	23 12 27.4	-1.5
JGM	**Miyama**	2.47	352	P	P	23 12 04.4	+0.4
JGM				S	S	23 12 33.3	+0.2
JWT	**Wachi**	2.48	325	⇓P	P	23 12 04.9	+0.7
JWT				S	S	23 12 33.4	-0.1
MAT	**Matsushiro**	3.40	15	P	P	23 12 17.9	+0.6
MAT				S	S	23 12 56.8	-0.1

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*JMA **06** 23:12:34.3±0.1,33.15N×136.72E,h37^{km}±3^{km},M3.8*
JMA Felt I J1.
ISC 06 23:12:34.4±1.1,**33.16N**±0.06×**136.74E**±0.04,**h37**^{km},**n16,** σ**0.^{s}63**/30,**6D,Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK01	**Tokai 1**	0.93	49	S	S	23 13 02.8	-0.7
JWZ	**Kozaga**	0.94	294	⇓P	P	23 12 50.9	-0.3
JWZ				S	S	23 13 02.6	-1.0
TK02	**Tokai 2**	1.16	47	S	S	23 13 09.1	-0.1
JKN	**Kiinagashima**	1.16	340	P	P	23 12 54.8	+0.5
JKN				S	S	23 13 09.0	-0.2
JIE	**Ise**	1.23	359	⇓P	P	23 12 56.1	+0.7
JIE				S	S	23 13 11.2	+0.1
JWM	**Minabe**	1.35	301	P	P	23 12 57.0	-0.2
JWM				S	S	23 13 13.1	-1.0
JWY	**Kouya**	1.43	318	⇓P	P	23 12 59.0	+0.7
JWY				S	S	23 13 16.3	+0.3
TK04	**Tokai 4**	1.55	37	P	P	23 13 00.1	+0.1
TK04				S	S	23 13 19.1	+0.1
TSUJ	**Tsu 2**	1.57	350	⇓P	P	23 13 00.9	+0.6
TSUJ				S	S	23 13 19.6	0.0
JHE	**Heguri**	1.73	330	⇓P	P	23 13 03.2	+0.6
JHE				S	S	23 13 24.0	+0.3
JAJ2	**Tsuna**	1.99	310	P	P	23 13 06.8	+0.5
JAJ2				S	S	23 13 31.0	+0.7
JAI	**Aioi**	2.02	289	P	P	23 13 06.6	0.0
JAI				S	S	23 13 29.2	-1.6
SHZ3	**Shizuoka 3**	2.26	32	P	P	23 13 09.8	-0.3
SHZ3				S	S	23 13 35.5	-1.5
JWT	**Wachi**	2.39	333	⇓P	P	23 13 12.6	+0.6
JWT				S	S	23 13 40.7	+0.3
JGM	**Miyama**	2.54	360	P	P	23 13 14.5	+0.4
JGM				S	S	23 13 44.3	+0.3
MAT	**Matsushiro**	3.59	19	P	P	23 13 29.8	+0.8
MAT				S	S	23 14 10.1	-0.6

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*MOS **06** 23:13:12.5±1.4,35.70N×70.48E,h33^{km},mb4.6/14,Error ellipse: s-maj=22.0km s-min=8.1km az=96.0*
*IDC **06** 23:13:26.5±1.0,36.07N×70.72E,h134^{km}±8^{km},mb3.9/14, mb1 4.1/16,mb1mx3.9/23,Error ellipse: s-maj=21.8km s-min=12.8km az=35.0*
*BJI **06** 23:13:27.0,36.44N×71.09E,h111^{km},mb4.2*
*NEIC **06** 23:13:27.4±0.6,36.44N×71.02E,mb4.4/6,Error ellipse: s-maj=14.5km s-min=9.7km az=70.0*
*NNC **06** 23:13:34.9±2.9,36.99N×70.60E,h194^{km}±20^{km},mpv5.3, Error ellipse: s-maj=29.0km s-min=21.4km az=75.0*
ISC 06 23:13:25.6±0.5,**36.35N**±0.02×**71.00E**±0.06,**h138**^{km}±6^{km}, **h134**^{km}±2.8^{km}**:pP-P,n97,**σ**1.^{s}28**/117,**mb4.0**/18,**11C-4D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	2.63	163	P	P	23 14 12.5	+3.9
CHCP	**Chirah Chowk**	3.27	145	P	P	23 14 19.1	+2.2
NIL	**Nilore**	3.27	145	Pn	P	23 14 19.1	+2.2
	430nm,0.4s,SNR=34						
THW	**Thamme Wali**	3.60	170	⇑P	P	23 14 22.4	+1.1
SBDP	**Sheikh Budin**	4.05	182	P	P	23 14 28.0	+0.8
SARP	**Sargodha**	4.63	162	P	P	23 14 35.3	+0.3
DRP	**Derazinda**	4.65	188	P	P	23 14 35.8	+0.7
KSH	**Kashi**	5.04	50	⇑P	P	23 14 44.1	+3.7
KSH				S	S	23 15 40.3	+2.3
KSH				Smax			
	comp=N,470nm,0.6s						
KSH				Smax			
	comp=E,870nm,1.2s						
AML	**Almayashu**	6.13	19	P	P	23 14 55.1	+0.1
	SNR=502						
UCH	**Uchtor**	6.47	24	P	P	23 15 01.0	+1.5
	SNR=68						
KZA	**Kyzart**	6.60	29	P	P	23 15 03.6	+2.3
	SNR=6.6						
EKS2	**Erkin-Say**	6.65	18	P	P	23 15 01.6	-0.5
	SNR=108						
BHK	**Bhakra**	6.67	136	e	P	23 15 15.7	+13
BHK				eS	S	23 16 15.3	-2.1
KK31	**Karatay Array**	6.75	357	⇑P	P	23 15 02.5	-0.9
	comp=E,107nm,0.3s,baz=187,slow=13,SNR=4747						
KK31				⇓S	S	23 16 14.5	-4.8
	comp=E,59nm,0.5s,baz=187,slow=23,SNR=9.7						
KKAR	**Karatay Array**	6.75	357	P	P	23 15 02.5	-0.9
KKAR				pmax	pmax		
	comp=Z,58nm,0.3s						
AAK	**Ala-Archa**	6.83	22	P	P	23 15 04.4	0.0
	SNR=63						
AAK	**Ala-Archa**	6.83	22	eP	P	23 15 03.1	-1.3

	comp=Z,44nm,0.4s						
KBK	Karagaybulak	6.99	25	P	P	23 15 09.3	+2.7
	SNR=5.9						
ULHL	Ulahol	7.15	33	P	P	23 15 09.0	+0.3
	SNR=15						
CHMS	Chumysh	7.24	22	P	P	23 15 09.5	-0.4
	SNR=19						
USP	Ospenovka	7.41	20	P	P	23 15 12.2	-0.1
	SNR=48						
TKM2	Tokmak 2	7.45	27	P	P	23 15 15.4	+2.6
	SNR=5.3						
AAA	Alma-Ata	8.28	32	*e*P	P	23 15 25.0	+1.0
AAA				*e*		23 16 57.0	
AAA				pmax	pmax		
	comp=Z,80nm,0.9s						
AAA				smax			
	comp=E,60nm,1.0s						
JOSI	Joshimath	9.19	127	*e*P	P	23 15 36.9	+0.9
JOSI				*e*S	S	23 17 13.2	-4.8
KHET	Khetri	9.20	152	*e*P	P	23 15 34.9	-1.2
KHET				*e*S	S	23 17 10.8	-7.4
NDI	New Delhi	9.27	144	*e*P	P	23 15 36.5	-0.6
NDI				*e*S	S	23 17 15.5	-4.4
AYAN	Aya Nagar	9.40	145	*e*P	P	23 15 38.4	-0.4
AYAN				*e*S	S	23 17 17.0	-5.9
AYAN				*e*		23 17 20.8	
	comp=Z,114nm,0.4s						
JASL	Jaisalmer	9.40	181	*e*P	P	23 15 36.8	-2.0
KUDL	Kundal	9.41	149	*e*P	P	23 15 37.8	-1.1
KUDL				*e*S	S	23 17 16.2	-7.0
KUDL				*e*		23 17 20.2	
	comp=Z,134nm,0.6s						
SONA	Sohna	9.58	146	*e*P	P	23 15 40.9	-0.3
SONA				*e*S	S	23 17 18.6	-8.6
PTH	Pithoragarh	10.29	129	*e*P	P	23 15 49.0	-1.5
PTH				*e*S	S	23 17 36.0	-8.0
AJM	Ajmer	10.32	161	*e*P	P	23 15 50.2	-0.8
AJM				*e*S	S	23 17 38.1	-6.8
AJM				*e*		23 17 41.7	
	comp=E,180nm,0.7s						
AJM				*e*		23 17 41.8	
	comp=N,163nm,0.2s						
LGTI	Lohaghat	10.38	129	*e*P	P	23 15 51.0	-0.7
LGTI				*e*S	S	23 17 40.0	-6.1
MK31	Makanchi Array	13.41	35	⇑P	P	23 16 32.4	+1.2
	comp=N,8.4nm,0.6s,baz=219,slow=14,SNR=88						
MKAR	Makanchi Array	13.41	35	P	P	23 16 32.1	+0.9
	comp=N,1.1nm,0.3s,baz=214,slow=12,SNR=97						
MKAR	Makanchi Array	13.41	35	*i* P	P	23 16 32.3	+1.1
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.6s						
KOLN	Koldanda	13.68	125	*e*P	P	23 16 32.9	-1.8
	comp=Z,62nm,0.7s						
BHPL	Bhopal	14.20	155	*e*P	P	23 16 46.1	+4.6
GKN	Gorkha	14.22	122	*e*P	P	23 16 39.8	-1.9
	comp=Z,181nm,0.5s						
DMN	Daman	14.79	122	*e*P	P	23 16 47.5	-1.5
	comp=Z,56nm,0.5s						
KKN	Kakani	14.80	121	*e*P	P	23 16 47.6	-1.4
	comp=Z,72nm,0.5s						
PKI	Pulchoki	15.03	122	*e*P	P	23 16 51.1	-0.8
	comp=Z,72nm,0.6s						
AB31	Akbulak array	15.21	331	⇑P	P	23 16 52.2	-1.9
	comp=Z,8.1nm,0.3s,baz=148,slow=12,SNR=730						
AB31				⇑S	S	23 19 29.3	-9.4
	comp=Z,13nm,0.5s,baz=155,slow=24,SNR=14						
AB31	Akbulak array	15.21	331	P	P	23 16 54.2	+0.1
AB31				pmax	pmax		
	comp=Z,5.0nm,0.3s						
KURK	Kurchatov	15.37	19	⇑P	P	23 16 54.5	-1.5
	comp=Z,8.6nm,0.8s,baz=203,slow=7.4,SNR=24						
KURK				⇑S	S	23 19 41.4	-0.9
	comp=Z,7.5nm,1.5s						
KURK	Kurchatov	15.37	19	Pn	P	23 16 54.2	-1.8
	comp=Z,127nm,0.7s,SNR=7.4						
KURK	Kurchatov	15.37	19	*i* P	P	23 16 54.5	-1.5
KURK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KURK	Kurchatov	15.37	19	*e*P	P	23 16 54.2	-1.7
	comp=Z,17nm,0.8s						
VOSK	Vostochnaya	16.37	360	⇑P	P	23 17 06.9	-1.5
	comp=Z,24nm,1.1s						
VOSK				⇑S	S	23 20 00.3	-4.6
	comp=Z,7.6nm,0.8s						
VOSK	Vostochnaya	16.37	360	P	P	23 17 06.8	-1.6
VOSK				pmax	pmax		
	comp=Z,25nm,1.1s						
ZRNK	Zerenda	16.65	356	⇑P	P	23 17 10.5	-1.4
	comp=Z,36nm,1.5s						
ZRNK				⇑S	S	23 20 06.6	-4.7
	comp=Z,9.8nm,1.1s						
ZRNK	Zerenda	16.65	356	P	P	23 17 11.1	-0.9
ZRNK				pmax	pmax		
	comp=Z,55nm,1.5s						
ZRNK	Zerenda	16.65	356	*e*P	P	23 17 10.3	-1.6
	comp=Z,14nm,0.6s						
BVA0	Borovoye Array	16.67	359	⇓P	P	23 17 11.2	-1.0
	comp=Z,2.5nm,0.7s,baz=165,slow=14,SNR=96						
BVA0				⇓S	S	23 20 07.1	-4.6
	comp=Z,0.7nm,0.6s,baz=164,slow=23,SNR=4.0						
BVA0	Borovoye Array	16.67	359	*i* P	P	23 17 11.3	-0.9
BVAR	Borovoye Array	16.67	359	P	P	23 17 11.1	-1.1
	comp=Z,2.9nm,0.3s,baz=192,slow=14,SNR=49						
BVAR				S	S	23 20 08.7	-3.1
	comp=Z,0.8nm,0.3s,baz=164,slow=26,SNR=4.9						
BRVK	Borovoye	16.71	358	*e*P	P	23 17 11.2	-1.4
	comp=Z,19nm,0.6s						
POO	Poona	17.93	171	*e*P	P	23 17 28.0	+0.5
POO				*i*		23 20 41.0	
LSA	Lhasa	18.14	106	P	P	23 17 32.0	+2.3
LATR	Latur	18.53	163	*e*P	P	23 17 35.6	+1.6
KAD	Karad	19.18	171	*e*P	P	23 17 42.0	+1.1
KAD				*e*		23 21 35.0	
HYB	Hyderabad	20.01	158	*i* P	P	23 17 50.5	+1.0
HYB				*e*		23 17 53.5	
HYB				*e*S	S	23 21 24.5	+2.9
HYB	Hyderabad	20.01	158	*e*P	P	23 17 50.5	+1.0
NVS	Novosibirsk	20.32	21	*e*P	P	23 17 51.5	-0.8
NVS				pmax	pmax		
	comp=N,27nm,1.2s						
NVS				pmax	pmax		
	comp=Z,26nm,1.2s						
NVS				pmax	pmax		
	comp=E,6.0nm,0.9s						
SHL	Shillong	20.84	115	*e*	P	23 18 00.0	+2.2
SHL				*e*		23 21 37.0	
ARU	Arti	21.77	341	⇓*i*P	P	23 18 07.8	+1.0
ARU				*e*		23 18 28.9	
ARU				*e*S	S	23 22 03.8	+10
ARU				pmax	pmax		
	comp=Z,41nm,0.9s,mb4.9						
GTA	Gaotai	22.90	74	*e*P	P	23 18 24.7	+6.8
GTA				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb3.9						
ZAK	Zakamensk	27.09	49	*e*P	P	23 18 55.9	-1.1
SONM	Songino Array	28.42	55	P	P	23 19 11.3	+2.2
	comp=Z,1.3nm,0.7s,mb3.8,baz=260,slow=8.8,SNR=12						
SONM				pP	pP	23 19 41.5	+3.2
	comp=Z,1.0nm,0.8s,baz=266,slow=8.2,SNR=3.4						
AKASG	Malin Array Be	33.04	309	P	P	23 19 49.5	-0.1
	comp=Z,2.3nm,0.5s,mb4.2,baz=79,slow=7.4,SNR=9.8						
AKASG				pP	pP	23 20 17.9	-1.9
	comp=Z,0.2nm,0.2s,baz=96,slow=6.9,SNR=1.4						
MLR	Muntele Rosu	34.85	299	P	P	23 20 05.5	+0.3
	comp=Z,3.1nm,0.9s,mb3.9,baz=111,slow=14,SNR=2.4						
MLR	Muntele Rosu	34.85	299	P	P	23 20 05.5	+0.4
MLR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
FINES	FINESS Array B	37.60	326	P	P	23 20 28.8	+0.7
	comp=Z,3.6nm,0.4s,mb4.3,baz=123,slow=11,SNR=43						
FINES	FINESS Array B	37.60	326	P	P	23 20 28.8	+0.7
FINES				pmax	pmax		
	comp=Z,4.0nm,0.4s						
KAF	Kangasniemi	37.75	327	*e*p	P	23 20 29.5	+0.2
	comp=Z,0.8nm,0.3s,mb3.8,baz=112,slow=8.6						
KAF	Kangasniemi	37.75	327	*e*P	P	23 20 29.5	+0.2
KAF				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb3.9						
KEV	Kevo	40.94	338	*e*p	P	23 20 55.9	+0.4
	comp=Z,2.4nm,0.3s,mb4.3						
KEV	Kevo	40.94	338	*e*P	P	23 20 55.9	+0.4
KEV				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.2						
ARCES	ARCESS Array B	41.28	338	P	P	23 20 59.4	+1.0
	comp=Z,8.5nm,0.5s,mb4.7,baz=111,slow=8.1,SNR=79						
ARCES	ARCESS Array B	41.28	338	P	P	23 20 59.4	+1.0
ARCES				pmax	pmax		
	comp=Z,9.0nm,0.5s						
HFS	Hagfors	43.18	322	P	P	23 21 14.0	+0.2
	comp=Z,4.8nm,0.4s,mb4.5,baz=108,slow=9.4,SNR=48						
HFS				pP	pP	23 21 44.1	-1.0
	comp=Z,5.1nm,0.6s,baz=106,slow=11,SNR=3.6						
HFS	Hagfors	43.18	322	P	P	23 21 14.0	+0.2
HFS				pmax	pmax		
	comp=Z,5.0nm,0.4s						
HFS				pmax	pmax		
	comp=N,5.0nm,0.6s						
NB2	NORSAR Subarra	44.50	323	P	P	23 21 24.3	-0.1
	comp=N,3.4nm,0.4s,mb4.3,baz=97,slow=7.9						
NOA	NORSAR Array B	44.50	323	P	P	23 21 24.2	-0.1
	comp=N,2.8nm,0.4s,mb4.3,baz=100,slow=7.7,SNR=24						
NOA				pP	pP	23 21 54.1	-1.6
	comp=N,2.4nm,0.8s,baz=98,slow=8.0,SNR=2.6						
NOA	NORSAR Array B	44.50	323	P	P	23 21 24.3	-0.1
NOA				pmax	pmax		
	comp=Z,3.0nm,0.4s						
NOA				pmax	pmax		
	comp=N,2.0nm,0.8s						
KMBO	Kilima Mbogo	48.73	228	P	P	23 21 54.9	-3.3
	comp=N,0.8nm,0.7s,mb3.5,baz=49,slow=19,SNR=2.3						
EKA	Eskdalemuir Ar	52.39	316	P	P	23 22 24.4	-0.9
	comp=N,0.7nm,0.5s,mb3.5,baz=104,slow=6.9,SNR=4.2						
EKA	Eskdalemuir Ar	52.39	316	P	P	23 22 24.5	-0.9
EKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FITZ	Fitzroy Crossi	74.81	127	P	P	23 24 52.9	+0.3
	comp=Z,3.5nm,1.0s,mb4.0,baz=297,slow=4.5,SNR=3.4						
ILAR	Eielson Array	74.92	16	P	P	23 24 54.7	+2.4
	comp=Z,1.6nm,1.1s,mb3.6,baz=301,slow=5.3,SNR=5.1						
ILAR	Eielson Array	74.92	16	P	P	23 24 54.7	+2.4
ILAR				pmax	pmax		
	comp=Z,2.0nm,1.1s						
YKA	Yellowknife Ar	81.39	3	P	P	23 25 29.0	+1.3
	comp=Z,0.9nm,0.5s,mb3.7,baz=351,slow=5.2,SNR=9.0						
YKA	Yellowknife Ar	81.39	3	P	P	23 25 29.0	+1.3
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRA	Warramunga Arr	81.91	122	P	P	23 25 31.1	-0.2
	comp=Z,1.7nm,0.5s,mb3.9,baz=324,slow=4.8,SNR=18						
WRA	Warramunga Arr	81.91	122	P	P	23 25 31.1	-0.2
WRA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
WB2	Warramunga Arr	81.92	122	*e*P	P	23 25 31.1	-0.2
ASAR	Alice Springs	84.17	125	P	P	23 25 42.8	+0.1
	comp=Z,2.0nm,0.7s,mb4.0,baz=313,slow=5.2,SNR=15						

NIED ***06*** *23:29:00,33.30N×137.20E,h11^{km},Mw6.5 Best double couple: M$_{0}$6×10^{18} NP1:φ$_{s}$290°,δ54°,λ114°. NP2:φ$_{s}$74°,δ42°,λ61°.*

BJI ***06*** *23:29:34.3,33.12N×137.50E,h29^{km},mB6.7,mb6.4,Ms6.5,Msz6.4*

BGS ***06*** *23:29:34.2±1.2,32.87N×136.66E,h10^{km},mb6.3*

IGIL ***06*** *23:29:34.3,33.17N×137.22E,h2^{km},MS6.8*

NEIC ***06*** *23:29:35.1±0.1,33.21N×137.23E,h10^{km},mb6.4/192,ME6.5,MS6.3/72,MW6.5,MW6.5(NIED),Error ellipse: s-maj=3.2km s-min=2.5km az=180.0 Broadband fault plane solution: P waves.   NP1:φ$_{s}$280°,δ65°,λ90°. NP2:φ$_{s}$100°,δ25°,λ90°. Principal axes: T Plg70°, Azm190°; N Plg0°, Azm0°; P Plg20°, Azm10°; Moment Tensor Solution. s47 Moment tensor: Scale 10^{18} Nm; M$_{rr}$5.77; M$_{\theta\theta}$-6.16; M$_{\phi\phi}$0.39; M$_{r\theta}$0.01; M$_{\theta\phi}$-1.26; M$_{\phi r}$1.46; Best double couple: M$_{0}$6.3×10^{18} NP1:φ$_{s}$274°,δ46°,λ111°. NP2:φ$_{s}$65°,δ48°,λ70°. Principal axes: T 6.15, Plg75°, Azm264°; N .25, Plg15°, Azm79°; P -6.4, Plg1°, Azm169°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt in southwestern Honshu from Kobe to Tokyo. Recorded [4 JMA] in Osaka, Mie, Shizuoka and Wakayama; [3 JMA] in Aichi, Fukui, Hyogo, Kanagawa, Kyoto, Nara, Shiga, Tottori and Yamanashi; [2 JMA] in Chiba, Hiroshima, Ishikawa, Nagano, Okayama, Saitama, Shimane, Tokyo and Toyama; [1 JMA] in Gumma, Miyagi, Niigata and Yamaguchi Prefectures. Recorded [3 JMA] in Tokushima and [2 JMA] in Ehime, Kagawa and Kochi Prefectures, Shikoku. Also recorded [3 JMA] on Kozu-shima, Nii-jima and O-shima; [2 JMA] on Aoga-shima, Hachijo-jima, Mikura-jima and Miyake-jima.

HRVD ***06*** *23:29:35.1±0.1,33.14N×137.28E,h12^{km},MW6.6/69,Centroid moment Tensor Solution. LP body waves: s69,c170;Mantle waves: s68,c159; Half duration: 5^{s}0 Moment tensor: Scale 10^{19}Nm; M$_{rr}$0.81±.01; M$_{\theta\theta}$-1.12±.01; M$_{\phi\phi}$0.31±.01; M$_{r\theta}$-0.12±.02; M$_{\theta\phi}$-0.08; M$_{\phi r}$0.04±.02; Best double couple: M$_{0}$.98×10^{19} NP1:φ$_{s}$81°,δ42°,λ82°. NP2:φ$_{s}$272°,δ49°,λ97°. Principal axes: T .82, Plg84°, Azm232°; N .31, Plg5°, Azm87°; P -1.13, Plg4°, Azm357°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to mantle waves, cutoff=125s.*

SYO ***06*** *23:29:35.0,33.18N×137.20E,h10^{km},MB6.4,MS6.3*

JMA ***06*** *23:29:36.2±0.1,33.21N×137.29E,h41^{km}±2^{km},M6.5*

JMA Felt IV J1.

DHMR ***06*** *23:29:37.4±2.6,33.19N×137.23E,h15^{km},mb6.5*

MOS ***06*** *23:29:38.2±0.7,33.36N×137.24E,h33^{km},mb6.5/75,MS6.2/26,Error ellipse: s-maj=6.9km s-min=4.6km az=105.0*

IDC ***06*** *23:29:38.8±1.3,33.21N×137.39E,h36^{km}±9^{km},mb5.5/27,mb1 5.6/32,mb1mx5.6/32,ML5.3/5,MS6.2/20,Ms1 6.2/20,ms1mx6.1/28,Error ellipse: s-maj=11.2km s-min=7.6km az=82.0*

ISC 06 23:29:34.9±0.4**,33.20N**±0.01×**137.29E**±0.01**,h17**^{km}±2^{km}**,h20**^{km}±.6^{km}**:pP-P,n1299,σ0^{s}85**/1285**,mb6.3**/320**,MS6.3**/111**,440C-78D,Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TK01	Tokai 1	0.61	24	P	Pb	23 29 48.4	+1.6
TK02	Tokai 2	0.84	27	⇓P	Pb	23 29 51.7	+1.1
TK03	Tokai 3	1.11	30	⇓P	Pb	23 29 55.5	+0.2
TK04	Tokai 4	1.28	22	P	Pb	23 29 58.1	0.0
JIE	Ise	1.28	338	⇓P	Pb	23 29 58.6	+0.4
JIE				S	Sb	23 30 14.2	-0.1
JKN	Kiinagashima	1.35	321	⇓P	Pn	23 29 59.2	0.0
JKN				S	Sb	23 30 14.6	-1.7
JWZ	Kozaga	1.36	284	⇑P	Pn	23 29 59.2	-0.2
JWZ				S	Sb	23 30 15.8	-0.8
JAA	Atsumi	1.43	355	⇓P	Pn	23 30 00.3	-0.1
TSUJ	Tsu 2	1.67	334	⇓P	Pn	23 30 04.0	+0.2
TSUJ				S	Sn	23 30 23.9	-1.1
HMMJ	Hamamatsu 2	1.69	12	⇓P	Pn	23 30 03.5	-0.5
JWM	Minabe	1.74	292	⇑P	Pn	23 30 04.9	+0.1
JWM				S	Sn	23 30 25.4	-1.4
JWY	Kouya	1.74	306	⇓P	Pn	23 30 05.5	+0.7
JWY				S	Sn	23 30 25.9	-0.9
JYZW	Yoshizawa	1.83	11	P	Pn	23 30 05.3	-0.7
JHE	Heguri	1.97	318	⇓P	Pn	23 30 08.3	+0.2
JIZS	Izushimoda	2.01	41	⇓P	Pn	23 30 07.1	-1.5
JAO	Obara	2.06	359	⇓P	Pn	23 30 09.2	-0.2
JEG	Eigenji	2.07	339	⇓P	Pn	23 30 10.0	+0.5
JHJ	Hachijo jima 2	2.09	92	Pn	Pn	23 30 09.8	+0.1
	5µm,0.3s,baz=219,slow=7.6,SNR=310						
JHJ				Sn	Sn	23 30 35.5	0.0
	7µm,0.3s,baz=32,slow=19,SNR=17						
JHJ2	Mitsune	2.12	92	P	Pn	23 30 09.8	-0.4
JHJ2				S	Sn	23 30 36.6	+0.3
JNY	Yasuok	2.20	12	⇓P	Pn	23 30 11.1	-0.3
JIM2	Oshima 3	2.33	49	⇓P	Pn	23 30 12.9	-0.4
JIM2				*e*S	Sn	23 30 40.9	-0.9
JGF	Kuroka	2.40	1	⇓P	Pn	23 30 14.0	-0.1
JAI	Aioi	2.45	285	P	Pn	23 30 15.1	+0.2
JAI				S	Sn	23 30 42.4	-2.3
JMIK	Miki	2.46	311	⇓P	Pn	23 30 15.7	+0.7
JYN	Shimob	2.51	24	⇓P	Pn	23 30 15.3	-0.6
JGM	Miyama	2.54	349	⇓P	Pn	23 30 16.1	-0.1
JOD2	Odawara 2	2.54	35	P	Pn	23 30 15.4	-0.8
JFM	Mihama	2.56	335	⇓P	Pn	23 30 16.9	+0.4
JWT	Wachi	2.60	323	⇓P	Pn	23 30 17.4	+0.3
JWT				S	Sn	23 30 48.2	-0.4
JKS	Kasai	2.70	312	⇓P	Pn	23 30 18.9	+0.4
JNT	Takato	2.76	14	⇓P	Pn	23 30 19.2	-0.1
JGN	Niukaw	3.02	0	⇓P	Pn	23 30 22.8	-0.2
JKY	Yasaka	3.02	324	⇓P	Pn	23 30 23.2	+0.1
JRY	Ryogami san	3.11	25	⇓P	Pn	23 30 24.6	+0.3
JAD	Aida	3.12	305	P	Pn	23 30 24.5	0.0
JKG	Kaga	3.17	346	⇓P	Pn	23 30 25.0	-0.2
JKSM	Kasumi	3.23	318	⇓P	Pn	23 30 25.9	-0.1
JNG	Nsakai	3.27	11	⇓P	Pn	23 30 27.1	+0.5
MAJO	Matsushiro	3.42	12	Pn	Pn	23 30 29.0	+0.2
MAJO	Matsushiro	3.42	12	⇓*e*P	Pn	23 30 29.0	+0.3
MAT	Matsushiro	3.42	12	P	Pn	23 30 28.9	+0.2
MAT				S	Sn	23 31 10.1	+0.8
MAT	Matsushiro	3.42	12	P	Pn	23 30 28.7	0.0
MAT	Matsushiro	3.42	12	*e*P	Pn	23 30 29.0	+0.3
MAT				*e*S	Sn	23 31 10.0	+0.7
JKR	Kurayoshi	3.60	308	⇓P	Pn	23 30 31.8	+0.5
JAG	Ashikaga	3.67	28	P	Pn	23 30 32.7	+0.3
JJG	Jouge	3.73	294	P	Pn	23 30 33.2	+0.1
JHS	Saijyo	3.90	299	P	Pn	23 30 35.7	+0.1
JKT	Katashina	3.90	24	P	Pn	23 30 36.2	+0.6
UWA2	Uwa jima 2	3.91	271	P	Pn	23 30 35.0	-0.8
JNA	Nagahama	4.04	276	P	Pn	23 30 36.9	-0.7
JHM	Kurahashi	4.08	285	P	Pn	23 30 37.6	-0.5
JNM	Ikuma	4.21	304	P	Pn	23 30 40.6	+0.7
JHO	Hitachi	4.34	37	P	Pn	23 30 40.7	-1.1
JKD	Kudamatsu	4.60	282	P	Pn	23 30 45.2	-0.3
JKD				S	Sn	23 31 35.2	-4.0
JFY	Yanaizu	4.64	24	P	Pn	23 30 46.3	+0.3
JUS	Usuki	4.65	270	P	Pn	23 30 45.3	-0.9
JHIK	Hikimi	4.66	288	P	Pn	23 30 46.1	-0.2
JNU	Nakatsue	5.38	271	Pn	Pn	23 30 56.0	-0.6
	65nm,0.3s,baz=85,slow=14,SNR=85						
JNU				Sn	Sn	23 31 54.3	-4.5
	114nm,0.3s,baz=151,slow=19,SNR=5.7						
JNU	Nakatsue	5.38	271	P	Pn	23 30 55.7	-0.8
JFA	Akaike	5.46	277	P	Pn	23 30 56.3	-1.3
JMM	Marumori	5.46	31	P	Pn	23 30 57.7	+0.1
JIU2	Izumi 2	5.49	265	P	Pn	23 30 58.3	+0.2
JOU	Okura	5.84	27	P	Pn	23 31 03.6	+0.7
JYK	Kaneyama	6.22	23	P	Pn	23 31 09.1	+0.7
JMK	Ichinoseki	6.56	28	P	Pn	23 31 13.4	+0.2
OFUJ	Ofunato	6.85	30	P	Pn	23 31 16.6	-0.7
CBIJ	Chichi jima	7.41	144	Pn	Pn	23 31 22.9	-2.3
	126nm,0.3s,baz=312,slow=13,SNR=25						
CBIJ				LR	LR	23 33 59.3	
	comp=Z,439µm,18.1s,baz=331,slow=35						
JSR	Shiriuchi	8.68	16	P	P	23 31 43.3	+0.6
JKB	Kayabe	9.16	18	P	P	23 31 48.9	-0.6
INCN	Inchon	9.70	299	*e*P	P	23 31 56.4	-0.5
	209nm,0.9s						
JNB	Noboribetsu	9.71	17	P	P	23 31 55.7	-1.3
JOW	Kunigami	10.07	233	Pn	P	23 32 01.6	-0.3
	35nm,0.3s,baz=50,slow=12,SNR=23						
JOW				LR	LR	23 35 49.4	
	comp=Z,154µm,21.1s,baz=69,slow=37						
JOW	Kunigami	10.07	233	P	P	23 32 01.5	-0.4
JKE	Kume jima 2	11.41	236	P	P	23 32 18.0	-2.3
JKK2	Kamakawa 2	11.48	20	P	P	23 32 16.8	-4.3
ASAJ	Asahikawa	11.66	19	Pn	P	23 32 19.2	-4.3
	39nm,0.3s,baz=228,slow=17,SNR=107						
ASAJ				LR	LR	23 37 33.6	
	comp=Z,279µm,18.7s,baz=206,slow=41						
ASAJ	Asahikawa	11.66	19	P	P	23 32 19.3	-4.3
ASAJ				pmax	pmax		
	comp=Z,39nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,279µm,18.7s						
JRA	Rausu	12.34	27	P	P	23 32 28.4	-4.4
YUK	Yuzh-Kuril'sk	12.71	29	⇓*i*P	P	23 32 31.5	-6.3
YUK				*i* S	S	23 34 55.0	-5.0
YUK				pmax	pmax		
	comp=E,10µm,3.0s						
YUK				pmax	pmax		
	comp=Z,15µm,3.0s						
YUK				pmax	pmax		
	comp=N,30µm,4.0s						
YUK				pmax	pmax		
	comp=E,3µm,1.0s						
YUK				pmax	pmax		
	comp=Z,5µm,1.0s						
YUK				pmax	pmax		
	comp=N,620nm,0.6s						
YUK				smax			
	comp=N,6µm,1.2s						
YUK				smax			
	comp=E,1µm,1.0s						
YUK				smax			
	comp=N,13µm,2.5s						
YUK				smax			
	comp=E,14µm,2.5s						
YUK				MLR	MLR		
	comp=Z,138µm,15.0s						
YUK				MLR	MLR		
	comp=N,197µm,16.0s						
YUK				MLR	MLR		
	comp=E,219µm,16.0s						
MDJ	Mudanjiang	12.87	335	P	P	23 32 40.7	+0.8
MDJ				AP		23 32 44.5	
MDJ				XP		23 32 49.4	
MDJ				S	S	23 35 04.0	+0.2
MDJ				SS	SS	23 35 20.0	+1.0
MDJ				AMB	AMB		
	comp=Z,850nm,1.6s						
MDJ				AMB	AMB		
	comp=Z,5µm,5.4s						
MDJ				LR	LR		
	comp=N,214µm,13.6s						
MDJ				LR	LR		
	comp=E,154µm,13.6s						
MDJ				LR	LR		
	comp=Z,351µm,13.6s						
MDJ	Mudanjiang	12.87	335	⇓*e*P	P	23 32 39.1	-0.8
SSE	Sheshan	13.81	266	⇑P	P	23 32 52.3	0.0
SSE				S	S	23 35 24.4	-1.8
SSE				LR	LR		
	comp=N,103µm,27.6s						
SSE				LR	LR		
	comp=E,18µm,27.7s						
SSE				LR	LR		
	comp=Z,86µm,12.6s						
SNY	Shenyang	13.87	312	⇓*i*P	P	23 32 54.8	+1.8
SNY				S	S	23 35 28.6	+1.1
SNY				LR	LR		
	comp=E,180µm,12.7s						
SNY				LR	LR		
	comp=Z,157µm,13.3s						
DL2	Dalian	13.89	299	⇑P	P	23 32 53.0	-0.3
DL2				S	S	23 35 23.0	-5.1
DL2				AMB	AMB		
	comp=Z,1µm,1.5s						
CN2	Changchun	14.06	322	⇓P	P	23 32 56.6	+1.1
CN2				*e*XP		23 33 02.7	
CN2				*e*S	S	23 35 32.9	+0.9
CN2				LR	LR		
	comp=N,134µm,15.0s						
CN2				LR	LR		
	comp=E,129µm,15.0s						
CN2				LR	LR		
	comp=Z,166µm,13.0s						
YSS	Yuzh-Sakhalins	14.35	15	κ *i*P	P	23 32 54.4	-5.0
YSS				*i* S	S	23 35 37.0	-2.0
YSS				pmax	pmax		
	comp=E,440nm,1.0s						
YSS				pmax	pmax		
	comp=Z,1µm,1.0s						
YSS				pmax	pmax		
	comp=N,1µm,1.1s						
YSS				pmax	pmax		
	comp=N,8µm,3.0s						
YSS				pmax	pmax		
	comp=Z,6µm,3.0s						
YSS				pmax	pmax		
	comp=E,950nm,1.1s						
YSS				pmax	pmax		
	comp=Z,1µm,1.1s						
YSS				pmax	pmax		
	comp=N,710nm,1.0s						
YSS				MLR	MLR		
	comp=N,139µm,14.0s						
YSS				MLR	MLR		
	comp=Z,196µm,14.0s						
YSS				MLR	MLR		
	comp=E,120µm,16.0s						
YSS	Yuzh-Sakhalins	14.35	15	⇓*e*P	P	23 32 55.0	-4.4
	comp=E,2µm,1.1s						
KUR	Kuril'sk	14.53	31	*b* *i*P	P	23 32 57.0	-4.7
KUR				pmax	pmax		
	comp=N,450nm,0.9s						

KUR				pmax	pmax		
	comp=E,510nm,0.9s						
KUR				pmax	pmax		
	comp=Z,2µm,0.9s						
KUR				pmax	pmax		
	comp=N,14µm,4.0s						
KUR				pmax	pmax		
	comp=E,7µm,4.0s						
KUR				pmax	pmax		
	comp=Z,18µm,4.0s						
KUR				MLR	MLR		
	comp=N,143µm,14.0s						
KUR				MLR	MLR		
	comp=E,176µm,14.0s						
KUR				MLR	MLR		
	comp=Z,135µm,14.0s						
NJ2	**Nanjing**	**15.58**	**271**	*e*P	**P**	**23 33 16.9**	**+1.4**
NJ2				AP		23 33 20.7	
NJ2				XP		23 33 23.9	
NJ2				PP	PP	23 33 29.3	+1.2
NJ2				S	**S**	**23 36 10.0**	**+1.8**
NJ2				SS	SS	23 36 28.0	+1.3
NJ2				AMB	AMB		
	comp=Z,22µm,10.2s						
NJ2				LR	LR		
	comp=N,260µm,20.9s						
NJ2				LR	LR		
	comp=E,158µm,25.7s						
NJ2				LR	LR		
	comp=Z,150µm,22.2s						
TATO	**Taipei**	**16.05**	**243**	P	**P**	**23 33 21.8**	**+0.2**
	comp=Z,5µm,1.6s						
KLR	**Kul’dur**	**16.54**	**347**	⇑*i*P	**P**	**23 33 26.0**	**-1.6**
KLR				*e*S	**S**	**23 36 33.0**	**+2.7**
TIA	**Tai’an**	**16.86**	**286**	⇑P	**P**	**23 33 33.4**	**+1.7**
TIA				AP		23 33 41.2	
TIA				XP		23 33 46.2	
TIA				AMB	AMB		
	comp=Z,2µm,2.1s						
TIA				AMB	AMB		
	comp=Z,7µm,7.0s						
TIA				LR	LR		
	comp=N,48µm,12.3s						
TIA				LR	LR		
	comp=E,50µm,13.1s						
BJT	**Baijiatuau**	**18.25**	**298**	⇑*e*P	**P**	**23 33 50.8**	**+1.6**
BJT				pmax	pmax		
	comp=Z,3µm,1.3s						
BJT	**Baijiatuau**	**18.25**	**298**	⇑*e*P	**P**	**23 33 50.8**	**+1.7**
	comp=Z,3µm,1.4s						
BJI	**Beijing**	**18.25**	**298**	P	**P**	**23 33 50.7**	**+1.5**
BJI				S	**S**	**23 37 16.6**	**+7.2**
BJI				AMB	AMB		
	comp=Z,894nm,1.1s						
BJI				AMB	AMB		
	comp=Z,40µm,6.2s						
BJI				LR	LR		
	comp=N,189µm,20.4s						
BJI				LR	LR		
	comp=E,70µm,21.2s						
BJI				LR	LR		
	comp=Z,81µm,26.1s						
QZH	**Quanzhou**	**18.28**	**248**	⇑*i*P	**P**	**23 33 50.0**	**+0.3**
QZH				S	**S**	**23 37 06.0**	**-4.2**
QZH				AMB	AMB		
	comp=Z,2µm,1.2s						
QZH				LR	LR		
	comp=N,30µm,9.9s						
QZH				LR	LR		
	comp=E,85µm,11.2s						
QZH				LR	LR		
	comp=Z,138µm,23.2s						
BBP	**Basco**	**18.64**	**231**	*e*P	**P**	**23 33 56.6**	**+2.5**
SAPN	**Saipan**	**19.48**	**155**	*e*P	**P**	**23 34 02.4**	**-1.6**
WHN	**Wuhan**	**19.66**	**268**	⇑*i*P	**P**	**23 34 06.8**	**+0.9**
WHN				AP		23 34 14.6	
WHN				AMB	AMB		
	comp=Z,57µm,9.2s						
WHN				LR	LR		
	comp=N,45µm,10.9s						
WHN				LR	LR		
	comp=E,161µm,12.4s						
WHN				LR	LR		
	comp=Z,141µm,14.3s						
SGCP	**Mt. Cagua**	**20.23**	**226**	*e*P	**P**	**23 34 13.9**	**+1.9**
HIA	**Hailar**	**20.70**	**326**	*e*P	**P**	**23 34 15.2**	**-1.6**
HIA				pmax	pmax		
	comp=Z,740nm,1.2s						
HIA	**Hailar**	**20.70**	**326**	*e*P	**P**	**23 34 15.2**	**-1.6**
	comp=Z,739nm,1.2s						
GUMO	**Guam**	**20.71**	**159**	*e*P	**P**	**23 34 17.0**	**-0.1**
GUMO				pmax	pmax		
	comp=Z,1µm,1.2s						
GUMO	**Guam**	**20.71**	**159**	*e*P	**P**	**23 34 16.4**	**-0.7**
	comp=Z,6µm,1.4s						
TIY	**Taiyuan**	**20.72**	**290**	⇑P	**P**	**23 34 13.0**	**-4.1**
TIY				S	**S**	**23 38 06.0**	**+3.1**
TIY				LR	LR		
	comp=N,119µm,14.0s						
CVP	**Callao Caves**	**20.77**	**226**	⇓*e*P	**P**	**23 34 18.8**	**+1.1**
APYP	**Conner**	**21.00**	**227**	*e*P	**P**	**23 34 21.1**	**+1.0**
PIP	**Pasuquin**	**21.05**	**229**	⇑*e*P	**P**	**23 34 22.8**	**+2.3**
CAUP	**Cauayan**	**21.36**	**224**	*e*P	**P**	**23 34 28.8**	**+5.1**
ABRA	**Dolores**	**21.50**	**228**	*e*P	**P**	**23 34 26.4**	**+1.3**
HHC	**Hu-ho-hao-te**	**21.86**	**298**	*e*P	**P**	**23 34 28.3**	**-0.3**
HHC				PP	PP	23 34 56.7	+2.6
HHC				S	**S**	**23 38 25.4**	**+0.9**
HHC				XS		23 38 36.7	
HHC				PCS		23 41 58.9	
HHC				AMB	AMB		
	comp=Z,946nm,1.5s,mb6.0						
HHC				LR	LR		
	comp=N,71µm,23.2s						
HHC				LR	LR		
	comp=E,104µm,11.9s						
HHC				LR	LR		
	comp=Z,99µm,11.3s						
SKR	**Severo-Kuril’s**	**22.28**	**33**	⇓*i*P	**P**	**23 34 29.0**	**-3.7**
SKR				*i*		23 34 36.5	
SKR				*i*		23 34 42.5	
SKR				*i*		23 34 54.0	
SKR				*i* S	**S**	**23 38 36.0**	**+3.9**
SKR				pmax	pmax		
	comp=N,11µm,4.0s						
SKR				pmax	pmax		
	comp=E,13µm,4.0s						
SKR				pmax	pmax		
	comp=Z,22µm,4.0s						
SKR				smax			
	comp=E,66µm,14.0s						
SKR				smax			
	comp=N,59µm,16.0s						
SKR				MLR	MLR		
	comp=N,65µm,20.0s,MS6.4						
SKR				MLR	MLR		
	comp=E,100µm,16.0s,MS6.4						
SKR				MLR	MLR		
	comp=Z,107µm,16.0s,MS6.4						
SKR	**Severo-Kuril’s**	**22.28**	**33**	⇓*i*P	**P**	**23 34 30.0**	**-2.7**
BALP	**Baler**	**22.46**	**223**	*e*P	**P**	**23 34 36.3**	**+1.5**
PVCP	**Virac**	**22.90**	**215**	*e*P	**P**	**23 34 41.7**	**+2.6**
BOLP	**Bolinao**	**22.95**	**227**	*e*P	**P**	**23 34 38.2**	**-1.4**
BTO	**Baotou**	**22.97**	**297**	*e*P	**P**	**23 34 39.4**	**-0.2**
BTO				S	**S**	**23 38 54.5**	**+10**
BTO				AMB	AMB		
	comp=Z,3µm,1.7s,mb6.4						
POLP	**Polilio Island**	**23.08**	**221**	*e*P	**P**	**23 34 41.5**	**+0.7**
GZH	**Guangzhou**	**23.35**	**251**	P	**P**	**23 34 39.7**	**-3.7**
GZH				S	**S**	**23 38 50.0**	**-1.5**
GZH				AMB	AMB		
	comp=Z,21µm,4.5s						
GZH				LR	LR		
	comp=N,48µm,11.4s,MS6.3						
GZH				LR	LR		
	comp=E,58µm,13.7s,MS6.3						
GZH				LR	LR		
	comp=Z,74µm,12.8s,MS6.3						
GQP	**Guinayangan**	**23.49**	**219**	⇓*e*P	**P**	**23 34 46.1**	**+1.3**
CNP	**Catarman**	**23.61**	**212**	*e*P	**P**	**23 34 48.3**	**+2.2**
XAN	**Xi’an**	**23.61**	**280**	P	**P**	**23 34 45.6**	**-0.3**
XAN				AP		23 34 54.5	
XAN				S	**S**	**23 39 00.4**	**+4.4**
XAN				AMB	AMB		
	comp=Z,19µm,8.4s						
XAN				LR	LR		
	comp=N,39µm,11.0s,MS6.2						
XAN				LR	LR		
	comp=E,34µm,13.3s,MS6.2						
XAN				LR	LR		
	comp=Z,55µm,13.3s,MS6.2						
QVPH	**Quezon City--P**	**23.63**	**222**	*e*P	**P**	**23 34 47.6**	**+1.4**
ARP	**Angono**	**23.67**	**222**	*i* P	**P**	**23 34 47.0**	**+0.4**
LQP	**Lukban**	**23.80**	**221**	*e*P	**P**	**23 34 49.8**	**+1.9**
ENH	**Enshi**	**23.80**	**270**	⇑*e*P	**P**	**23 34 48.7**	**+0.9**
	comp=Z,4µm,1.3s,mb6.7						
AUQP	**San Andres**	**23.86**	**217**	*e*P	**P**	**23 34 52.7**	**+4.2**
BESP	**Borongan**	**24.09**	**210**	*e*P	**P**	**23 34 53.5**	**+2.8**
TGY	**Tagaytay City**	**24.14**	**222**	P	**P**	**23 34 52.5**	**+1.2**
	comp=Z,4µm,1.0s,mb6.8,baz=194,slow=4.2,SNR=39						
BOAC	**Boac**	**24.18**	**219**	*e*P	**P**	**23 34 52.6**	**+1.0**
MMPH	**Masbate**	**24.22**	**214**	⇑*i*P	**P**	**23 34 54.1**	**+2.0**
PLP	**Palo**	**24.67**	**210**	*e*P	**P**	**23 34 56.7**	**+0.3**
LUBP	**Lubang**	**24.83**	**223**	*e*P	**P**	**23 34 56.2**	**-1.6**
LUBP	**Lubang**	**24.83**	**223**	*e*P	**P**	**23 34 56.7**	**-1.2**
OTRP	**Odiongan**	**25.01**	**218**	*e*P	**P**	**23 34 59.7**	**+0.1**
PET	**Petropavlovsk**	**25.04**	**31**	*e*P	**P**	**23 34 59.8**	**+0.3**
PET				*e*S	**S**	**23 39 11.7**	**-8.4**
PET				*e*SSS	SSS	23 40 20.5	-15
PET				pmax	pmax		
	comp=Z,13µm,5.9s						
PET				pmax	pmax		
	comp=Z,8µm,14.9s						
PET				pmax	pmax		
	comp=N,10µm,7.5s						
PET				pmax	pmax		
	comp=E,7µm,7.9s						
PET				pmax	pmax		
	comp=Z,18µm,7.1s						
PET				pmax	pmax		
	comp=N,19µm,5.2s						
PET				pmax	pmax		
	comp=Z,33µm,4.9s						
PET				pmax	pmax		
	comp=E,12µm,5.3s						
PET				smax			
	comp=E,11µm,13.4s						
PET				MLR	MLR		
	comp=Z,94µm,18.0s,MS6.3						
PET				MLR	MLR		
	comp=Z,84µm,17.0s						
PET	**Petropavlovsk**	**25.04**	**31**	*e*P	**P**	**23 34 59.7**	**+0.2**
	comp=Z,1µm,1.1s,mb6.3						
PET				LR	LR		
	comp=Z,35µm,21.0s,MS5.8						
CLNS	**Chul’man**	**25.13**	**344**	*e*P	**P**	**23 35 02.6**	**+2.3**
CLNS				*e*		23 35 35.4	
CLNS				*e*		23 38 36.6	
CLNS				*e*S	**S**	**23 39 22.7**	**+1.2**
CLNS				*e*SS	SS	23 40 25.4	+3.6
CLNS				pmax	pmax		
	comp=N,327nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,416nm,1.0s,mb5.9						
CLNS				pmax	pmax		
	comp=E,142nm,1.1s						
CLNS				pmax	pmax		
	comp=Z,216nm,1.0s,mb5.6						
CLNS				pmax	pmax		
	comp=N,371nm,1.2s						
CLNS				pmax	pmax		
	comp=E,138nm,1.2s						
CLNS				smax			
	comp=N,124nm,1.1s						
CLNS				smax			
	comp=E,65nm,1.0s						
CLNS				smax			
	comp=Z,46nm,1.0s						
CLNS				MLR	MLR		
	comp=N,90µm,14.0s,MS6.5						
CLNS				MLR	MLR		
	comp=Z,130µm,14.0s,MS6.6						
CLNS				MLR	MLR		
	comp=E,56µm,12.0s,MS6.5						
RCP	**Roxas**	**25.34**	**215**	⇓*e*P	**P**	**23 35 04.0**	**+1.4**
SJMP	**San Jose**	**25.39**	**219**	*e*P	**P**	**23 35 03.7**	**+0.5**
MSLP	**Maasin**	**25.65**	**209**	*e*P	**P**	**23 35 06.7**	**+1.0**
SCPH	**Surigao**	**25.72**	**208**	⇓*i*P	**P**	**23 35 07.4**	**+1.1**
LLP	**Lapu-Lapu**	**25.87**	**211**	*e*P	**P**	**23 35 05.5**	**-2.1**
GUIM	**Jordan**	**26.22**	**214**	*e*P	**P**	**23 35 11.4**	**+0.4**
BUSP	**Coron**	**26.27**	**221**	*e*P	**P**	**23 35 10.6**	**-0.7**
BUTP	**Butuan**	**26.41**	**207**	*e*P	**P**	**23 35 13.7**	**+0.9**
CUYO	**Cuyo Island**	**26.80**	**218**	*e*P	**P**	**23 35 16.9**	**+0.6**
SNPH	**Sibulan**	**27.05**	**212**	⇑*e*P	**P**	**23 35 17.5**	**-1.1**
	comp=E,95µm,1.5s						
GYA	**Guiyang**	**27.34**	**264**	⇑*i*P	**P**	**23 35 20.0**	**-1.1**
GYA				AP	pP	23 35 24.8	-1.1
GYA				XP	sP	23 35 28.4	+0.3
GYA				PP	PP	23 36 13.6	+5.1
GYA				S	**S**	**23 40 04.9**	**+6.5**
GYA				XS		23 40 16.8	
GYA				AMB	AMB		
	comp=Z,1µm,1.9s,mb6.1						
GYA				LR	LR		
	comp=N,50µm,12.9s,MS6.4						
GYA				LR	LR		
	comp=E,51µm,15.6s,MS6.4						
GYA				LR	LR		
	comp=Z,51µm,18.3s,MS6.1						
ENPP	**El Nido**	**27.35**	**221**	*e*P	**P**	**23 35 21.9**	**+0.7**
SONM	**Songino Array**	**27.45**	**311**	P	**P**	**23 35 21.6**	**-0.2**
	comp=Z,543nm,1.2s,mb5.9,baz=116,slow=7.0,SNR=279						
SONM				PcP	PcP	23 38 39.5	-1.2
	comp=Z,18nm,0.9s,baz=112,slow=0.6,SNR=5.5						
SONM				P3KPbc		00 07 55.2	
	comp=Z,1.2nm,0.9s,baz=270,slow=2.5,SNR=6.5						
SONM	**Songino Array**	**27.45**	**311**	P	**P**	**23 35 21.6**	**-0.2**
SONM				PcP	PcP	23 38 39.5	-1.2
SONM				*e*		00 07 55.2	
LZH	**Lanzhou**	**27.59**	**285**	⇑P	**P**	**23 35 22.9**	**-0.4**
LZH				AP	pP	23 35 30.4	+2.3
LZH				XP	sP	23 35 34.7	+4.4
LZH				PP	PP	23 36 14.0	+2.4
LZH				S	**S**	**23 40 08.2**	**+5.9**
LZH				XS		23 40 22.0	
LZH				AMB	AMB		
	comp=Z,2µm,1.3s,mb6.6						
LZH				AMB	AMB		
	comp=Z,9µm,4.3s						
LZH				LR	LR		
	comp=Z,108µm,14.0s,MS6.6						
BUKP	**Musuan**	**27.63**	**207**	*e*P	**P**	**23 35 23.8**	**0.0**
DCPH	**Dipolog City**	**27.68**	**211**	⇑*e*P	**P**	**23 35 23.5**	**-0.8**
MA2	**Magadan**	**27.86**	**15**	*c* *i*P	**P**	**23 35 25.7**	**+0.3**
MA2				*i*		23 35 41.7	
MA2				*e*		23 36 15.2	
MA2				*e*		23 38 43.2	
MA2				*e*S	**S**	**23 40 05.7**	**-0.6**
MA2				*e*SS	SS	23 41 37.6	+10
MA2				pmax	pmax		
	comp=E,300nm,1.6s						
MA2				pmax	pmax		
	comp=Z,700nm,1.6s,mb6.0						
MA2				pmax	pmax		
	comp=N,500nm,2.0s						
MA2				MLR	MLR		
	comp=Z,40µm,18.0s,MS6.0						
MA2	**Magadan**	**27.86**	**15**	*e*P	**P**	**23 35 25.5**	**+0.1**
	comp=Z,2µm,1.6s,mb6.5						
MA2				LR	LR		
	comp=Z,66µm,19.0s,MS6.2						
DAV	**Davao City (W)**	**28.18**	**205**	*e*P	**P**	**23 35 29.5**	**+0.7**
QIZ	**Qiongzhong**	**28.30**	**247**	P	**P**	**23 35 31.0**	**+1.2**
QIZ				XP	sP	23 35 40.9	+4.1
QIZ				S	**S**	**23 40 16.2**	**+2.4**
QIZ				XS		23 40 27.3	
QIZ				SS	SS	23 41 40.4	+2.5
QIZ				AMB	AMB		
	comp=Z,6µm,8.3s						
QIZ				LR	LR		
	comp=E,42µm,20.7s						
QIZ				LR	LR		
	comp=Z,36µm,21.7s,MS5.9						
QIZ	**Qiongzhong**	**28.30**	**247**	⇑*e*P	**P**	**23 35 30.4**	**+0.6**
	comp=Z,509nm,1.2s,mb6.0						
PAGZ	**Pagadian**	**28.33**	**210**	*e*P	**P**	**23 35 29.8**	**-0.3**
CD2	**Chengdu**	**28.45**	**275**	P	**P**	**23 35 30.3**	**-0.7**
CD2				PP	PP	23 36 25.5	+2.7
CD2				PPP	PPP	23 36 38.5	+3.3
CD2				PCP	PcP	23 38 37.3	-6.0
CD2				S	**S**	**23 40 19.5**	**+3.4**
CD2				XS		23 40 36.3	
CD2				AMB	AMB		
	comp=Z,1µm,1.4s,mb6.3						
CD2				AMB	AMB		
	comp=Z,10µm,6.3s						
CD2				LR	LR		
	comp=N,102µm,17.1s						
CD2				LR	LR		
	comp=Z,78µm,15.8s,MS6.4						
PPR	**Puerto Princes**	**28.91**	**220**	⇓*i*P	**P**	**23 35 34.6**	**-0.8**
BOD	**Bodaibo**	**29.25**	**334**	*e*P	**P**	**23 35 36.2**	**-1.8**
YAK	**Yakutsk**	**29.26**	**353**	*e*P	**P**	**23 35 38.9**	**+0.9**
YAK				e*PP	pP	23 35 47.2	+4.3
YAK				*e*		23 38 40.8	
YAK				*e*S	**S**	**23 40 34.9**	**+6.1**
YAK				*e*SS	SS	23 41 59.7	-0.1
YAK				pmax	pmax		
	comp=Z,214nm,1.0s,mb5.8						
YAK				pmax	pmax		
	comp=N,224nm,1.3s						
YAK				pmax	pmax		
	comp=E,47nm,1.3s						
YAK				smax			
	comp=N,54µm,19.7s						
YAK				smax			
	comp=Z,21µm,20.6s						
YAK				smax			
	comp=E,20µm,20.3s						
YAK				MLR	MLR		
	comp=N,49µm,18.0s,MS6.4						
YAK				MLR	MLR		
	comp=Z,49µm,18.0s,MS6.2						
YAK				MLR	MLR		
	comp=E,66µm,15.0s,MS6.4						
YAK	**Yakutsk**	**29.26**	**353**	*e*P	**P**	**23 35 37.0**	**-1.0**
	comp=E,1µm,1.2s,mb6.5						
YAK				LR	LR		
	comp=Z,42µm,19.0s,MS6.1						
GSPH	**General Santos**	**29.32**	**206**	*e*P	**P**	**23 35 45.0**	**+5.9**
BATP	**Bataraza**	**30.23**	**221**	*e*P	**P**	**23 35 46.8**	**-0.4**
ZAK	**Zakamensk**	**30.28**	**315**	⇑*i*P	**P**	**23 35 47.2**	**0.0**
ZAK				*e*		23 38 45.0	
IRK	**Irkutsk**	**30.45**	**319**	*e*P	**P**	**23 35 48.4**	**-0.3**
IRK				*e*		23 37 08.4	
GTA	**Gaotai**	**30.68**	**292**	⇑*i*P	**P**	**23 35 50.4**	**-0.5**
GTA				AP	pP	23 35 54.7	-1.0
GTA				PP	PP	23 36 50.3	-1.4
GTA				PCP	PcP	23 38 48.8	-0.1
GTA				S	**S**	**23 40 50.3**	**-1.2**
GTA				SCP		23 42 30.1	
GTA				PCS		23 42 31.9	
GTA				SCS	ScS	23 46 24.9	+0.3
GTA				AMB	AMB		
	comp=Z,3µm,7.3s						
GTA				LR	LR		
	comp=N,41µm,12.2s,MS6.3						
GTA				LR	LR		
	comp=E,26µm,13.3s,MS6.3						
GTA				LR	LR		
	comp=Z,33µm,15.6s,MS6.1						
KMI	**Kunming**	**31.12**	**264**	⇑*i*P	**P**	**23 35 54.3**	**-0.6**
KMI				AP	pP	23 35 59.3	-0.5
KMI				PP	PP	23 36 59.8	+2.2
KMI				PPP	PPP	23 37 15.2	+2.6
KMI				PCP	PcP	23 38 53.2	+3.0
KMI				S	**S**	**23 41 00.4**	**+1.8**
KMI				SS	SS	23 42 46.0	+2.1
KMI				AMB	AMB		
	comp=Z,5µm,8.0s						
KMI				LR	LR		
	comp=N,60µm,22.1s,MS6.5						
KMI				LR	LR		
	comp=E,75µm,19.0s,MS6.5						
KMI				LR	LR		
	comp=Z,76µm,16.5s,MS6.4						
SEY	**Seymchan**	**31.25**	**13**	*i* P	**P**	**23 35 55.8**	**+0.2**
SEY				*e*		23 36 53.4	
SEY				*e*PPP	PPP	23 37 12.9	-0.9
SEY				*e*		23 38 47.7	
SEY				*e*S	**S**	**23 40 58.5**	**-1.6**
SEY				*e*SS	SS	23 43 05.0	+18
SEY				pmax	pmax		
	comp=N,20nm,1.1s						
SEY				pmax	pmax		
	comp=Z,50nm,1.1s,mb5.3						
SEY				pmax	pmax		
	comp=E,20nm,1.2s						
MOY	**Mondy**	**32.09**	**316**	*e*P	**P**	**23 36 02.7**	**-0.4**
KKM	**Kota Kinabalu**	**33.38**	**221**	⇓*e*P	**P**	**23 36 16.0**	**+1.2**
UBT	**Ubonrachathani**	**34.24**	**246**	⇓P	**P**	**23 36 23.0**	**+0.8**
	comp=E,1µm,1.0s,mb6.7						
KKTK	**Khon Kaen**	**35.31**	**250**	⇑P	**P**	**23 36 31.0**	**-0.4**
NANT	**Nan**	**35.68**	**256**	⇑P	**P**	**23 36 33.0**	**-1.5**
	comp=E,1µm,0.5s,mb7.1						
CHRT	**Chiangrai**	**35.89**	**258**	P	**P**	**23 36 37.0**	**+0.7**
	comp=E,2µm,0.7s,mb7.1						
LKP	**Lekhapani**	**35.91**	**272**	*e*P	**P**	**23 36 37.5**	**+1.1**
CHG	**Chiang Mai**	**37.10**	**257**	⇑P	**P**	**23 36 47.0**	**+0.6**
	comp=E,150nm,1.1s,mb5.7						
CMAR	**Chiang Mai Arr**	**37.29**	**256**	P	**P**	**23 36 49.1**	**+1.1**
	comp=E,86nm,0.8s,mb5.6,baz=50,slow=7.3,SNR=230						
CMAR				LR	LR	23 54 35.9	
	comp=E,37µm,18.5s,MS6.2,baz=60,slow=40						
CMAR	**Chiang Mai Arr**	**37.29**	**256**	P	**P**	**23 36 49.1**	**+1.1**
CMAR				pmax	pmax		
	comp=Z,86nm,0.8s						
CMAR				MLR	MLR		
	comp=Z,37µm,18.5s						
NST	**Nakhon Sawan**	**37.82**	**252**	⇓P	**P**	**23 36 53.0**	**+0.5**
	comp=Z,392nm,1.0s,mb6.1						
BDT	**Bhumibol Dam**	**37.87**	**255**	P	**P**	**23 36 53.0**	**+0.1**
	comp=Z,111nm,0.8s,mb5.6						
TIXI	**Tiksi**	**38.77**	**356**	*c* *i*P	**P**	**23 36 59.5**	**-0.5**
TIXI				*e*		23 38 28.4	
TIXI				*e*		23 39 11.4	
TIXI				*i* S	**S**	**23 42 55.2**	**-1.0**
TIXI				*e*SS	SS	23 45 30.6	-8.0
TIXI				pmax	pmax		
	comp=Z,225nm,1.0s,mb5.8						
TIXI				MLR	MLR		
	comp=Z,35µm,13.0s,MS6.4						
TIXI	**Tiksi**	**38.77**	**356**	⇑*i*P	**P**	**23 36 59.5**	**-0.5**
TIXI				LR	LR		
	comp=Z,26µm,20.0s,MS6.0						
MIDW	**Midway**	**39.06**	**85**	*e*P	**P**	**23 37 04.3**	**+1.5**
	comp=Z,936nm,1.4s,mb6.3						
MIDW				LR	LR		
	comp=Z,31µm,19.0s,MS6.2						
LSA	**Lhasa**	**39.28**	**278**	⇑*i*P	**P**	**23 37 05.0**	**+0.4**
LSA				AP	pP	23 37 12.0	+2.4
LSA				S	**S**	**23 43 06.0**	**+1.7**
LSA				SCS	ScS	23 47 10.0	-0.8
LSA				LR	LR		
	comp=E,18µm,12.0s						
WMQ	**Urumqi**	**39.70**	**300**	⇑*i*P	**P**	**23 37 08.4**	**+0.4**
WMQ				AP	pP	23 37 13.0	+0.1
WMQ				SP		23 37 15.4	
WMQ				S	**S**	**23 43 11.4**	**+0.9**
WMQ				SS	SS	23 45 59.4	+0.1
WMQ				AMB	AMB		
	comp=Z,1µm,1.2s,mb6.5						
WMQ				AMB	AMB		
	comp=Z,4µm,9.7s						
WMQ				LR	LR		
	comp=N,23µm,19.5s,MS6.3						
WMQ				LR	LR		
	comp=E,33µm,20.5s,MS6.3						
WMQ				LR	LR		
	comp=Z,34µm,22.0s,MS6.1						
NNT	**Nongplab**	**39.92**	**248**	P	**P**	**23 37 11.0**	**+0.9**
AGT	**Agartala**	**41.23**	**269**	*i* P	**P**	**23 37 24.0**	**+3.3**
AGT				*i*		23 38 26.0	
ZAL	**Zalesovo**	**42.16**	**316**	LR	LR	23 56 31.5	
	comp=Z,58µm,18.3s,MS6.5,baz=286,slow=38						
SNG	**Songkhla**	**42.70**	**241**	P	**P**	**23 37 33.0**	**0.0**
	comp=Z,918nm,1.0s,mb6.5						
NIKO	**Nikolski**	**42.85**	**46**	*e*P	**P**	**23 37 31.7**	**-2.0**
NVS	**Novosibirsk**	**43.18**	**317**	*i* P	**P**	**23 37 35.2**	**-1.1**
NVS				*e*		23 39 13.6	
NVS				*i* S	**S**	**23 44 01.3**	**-0.4**
NVS				pmax	pmax		
	comp=Z,1µm,1.8s,mb6.3						
NVS				pmax	pmax		
	comp=E,1µm,1.9s						
NVS				pmax	pmax		

	comp=Z,1µm,2.9s,mb6.2						
NVS				pmax	pmax		
	comp=E,823nm,2.6s						
NVS				smax			
	comp=N,5µm,3.8s						
NVS				smax			
	comp=E,1µm,3.1s						
MKAR	**Makanchi Array**	**43.42**	**305**	P	**P**	**23 37 38.9**	**+0.6**
	comp=E,134nm,0.8s,mb5.7,baz=90,slow=9.7,SNR=623						
MKAR				S	**S**	**23 44 05.4**	**+0.1**
	comp=E,4.4nm,1.2s,baz=77,slow=25,SNR=2.0						
MKAR				LR	LR	23 57 02.6	
	comp=E,36µm,19.7s,MS6.3,baz=270,slow=38						
MKAR				PKPPKP		00 09 21.8	
	comp=E,1.3nm,0.9s,baz=225,slow=1.7,SNR=3.7						
IPM	**Ipoh**	**44.19**	**238**	⇑*e*P	**P**	**23 37 44.9**	**-0.1**
UNV	**Unalaska Valle**	**44.33**	**45**	*e*P	**P**	**23 37 46.3**	**+0.7**
	comp=E,324nm,1.2s,mb5.9						
UNV				LR	LR		
	comp=Z,42µm,19.0s,MS6.4						
KGM	**Kluang**	**44.45**	**233**	⇑*e*P	**P**	**23 37 47.2**	**+0.1**
	comp=Z,568nm,1.1s,mb6.2						
PKI	**Pulchoki**	**44.74**	**277**	*e*P	**P**	**23 37 47.5**	**-1.8**
	comp=Z,2µm,1.5s,mb6.6						
KKN	**Kakani**	**44.77**	**277**	*e*P	**P**	**23 37 48.1**	**-1.5**
	comp=Z,1µm,1.2s,mb6.6						
DMN	**Daman**	**44.98**	**277**	*e*P	**P**	**23 37 49.6**	**-1.6**
	comp=Z,921nm,1.2s,mb6.5						
GKN	**Gorkha**	**45.23**	**278**	*e*P	**P**	**23 37 50.4**	**-2.8**
	comp=Z,2µm,1.4s,mb6.8						
KURK	**Kurchatov**	**45.75**	**311**	P	**P**	**23 37 56.5**	**-0.5**
	comp=Z,2µm,1.1s,mb7.0						
KURK	**Kurchatov**	**45.75**	**311**	⇑*i*P	**P**	**23 37 56.5**	**-0.5**
KURK				pmax	pmax		
	comp=Z,740nm,1.2s,mb6.5						
KURK				MLR	MLR		
	comp=Z,12µm,22.0s,MS5.8						
KURK	**Kurchatov**	**45.75**	**311**	⇑*i*P	**P**	**23 37 56.5**	**-0.4**
	comp=Z,744nm,1.3s,mb6.5						
KURK				LR	LR		
	comp=Z,12µm,22.0s,MS5.8						
TNA	**Tin City**	**45.83**	**28**	*e*P	**P**	**23 37 58.7**	**+1.2**
	comp=Z,461nm,1.0s,mb6.4						
TNA				LR	LR		
	comp=Z,22µm,19.0s,MS6.1						
KAKA	**Kakadu**	**45.88**	**187**	*e*P	**P**	**23 37 57.1**	**-1.4**
	comp=Z,128nm,0.8s,mb5.9						
KOLN	**Koldanda**	**46.17**	**278**	*e*P	**P**	**23 37 58.2**	**-2.5**
	comp=Z,4µm,1.8s,mb7.0						
AAA	**Alma-Ata**	**47.53**	**301**	*e*P	**P**	**23 38 12.0**	**+0.8**
AAA				*i* S	**S**	**23 45 08.0**	**+3.6**
AAA				pmax	pmax		
	comp=Z,9µm,6.0s						
AAA				smax			
	comp=N,10µm,7.0s						
AAA				MLR	MLR		
	comp=Z,44µm,12.0s,MS6.7						
SDPT	**Sand Point**	**47.90**	**43**	*e*P	**P**	**23 38 12.5**	**-1.4**
ULHL	**Ulahol**	**48.21**	**299**	P	**P**	**23 38 17.0**	**+0.5**
	SNR=68						
LGTI	**Lohaghat**	**48.37**	**282**	*e*P	**P**	**23 38 19.0**	**+1.1**
LGTI				*e*		23 39 46.5	
TKM2	**Tokmak 2**	**48.56**	**300**	P	**P**	**23 38 20.1**	**+0.9**
	SNR=355						
KSH	**Kashi**	**48.96**	**296**	⇑*i*P	**P**	**23 38 24.0**	**+1.7**
KSH				AP	pP	23 38 28.6	+1.3
KSH				XP	sP	23 38 31.2	+1.9
KSH				PCP	PcP	23 39 48.0	+1.2
KSH				PP	PP	23 40 17.9	+2.0
KSH				SCP		23 43 41.1	
KSH				PCS		23 43 43.0	
KSH				S	**S**	**23 45 27.5**	**+3.0**
KSH				SCS	ScS	23 48 12.4	+1.3
KSH				SS	SS	23 48 54.1	+3.0
KSH				AMB	AMB		
	comp=Z,950nm,1.6s,mb6.6						
KSH				AMB	AMB		
	comp=Z,6µm,3.1s						
KZA	**Kyzart**	**48.97**	**299**	P	**P**	**23 38 24.2**	**+1.8**
	SNR=11						
KBK	**Karagaybulak**	**49.08**	**300**	P	**P**	**23 38 23.9**	**+0.7**
	SNR=142						
CHMS	**Chumysh**	**49.16**	**301**	P	**P**	**23 38 24.0**	**+0.2**
	SNR=139						
FRU	**Bishkek**	**49.29**	**300**	⇑*i*P	**P**	**23 38 25.0**	**+0.2**
FRU				*e*		23 45 36.0	
FRU				pmax	pmax		
	comp=Z,7µm,4.0s						
USP	**Ospenovka**	**49.29**	**301**	P	**P**	**23 38 24.9**	**+0.1**
	SNR=204						
AAK	**Ala-Archa**	**49.41**	**300**	P	**P**	**23 38 26.1**	**+0.3**
	SNR=81						
AAK	**Ala-Archa**	**49.41**	**300**	⇑*e*P	**P**	**23 38 24.8**	**-1.0**
AAK				pmax	pmax		
	comp=Z,190nm,1.1s,mb6.0						
AAK				MLR	MLR		
	comp=Z,10µm,21.0s,MS5.8						
AAK	**Ala-Archa**	**49.41**	**300**	⇑*e*P	**P**	**23 38 24.8**	**-0.9**
	comp=Z,190nm,1.1s,mb6.0						
AAK				LR	LR		
	comp=Z,10µm,21.0s,MS5.8						
UCH	**Uchtor**	**49.48**	**300**	P	**P**	**23 38 27.6**	**+1.4**
	SNR=239						
BLSP	**Bilaspur**	**49.59**	**272**	*e*P	**P**	**23 38 27.0**	**-0.4**
BLSP				*e*		23 40 22.5	
EKS2	**Erkin-Say**	**49.93**	**300**	P	**P**	**23 38 29.5**	**-0.2**
	SNR=125						
AML	**Almayashu**	**50.09**	**300**	P	**P**	**23 38 32.2**	**+1.2**
	SNR=379						
VOSK	**Vostochnaya**	**50.40**	**314**	P	**P**	**23 38 32.4**	**-0.8**
VOSK				pmax	pmax		
	comp=Z,1µm,1.7s,mb6.6						
TTA	**Tatalina**	**50.48**	**33**	*e*P	**P**	**23 38 33.6**	**0.0**
VIS	**Vishakhapatnam**	**50.58**	**266**	*i* P	**P**	**23 38 34.0**	**-1.0**
SVW	**Sparrevohn**	**50.58**	**35**	*e*P	**P**	**23 38 35.6**	**+1.2**
BVA0	**Borovoye Array**	**50.73**	**314**	*i* P	**P**	**23 38 35.1**	**-0.6**
BVAR	**Borovoye Array**	**50.73**	**314**	P	**P**	**23 38 35.1**	**-0.6**
	comp=Z,32nm,0.6s,mb5.4,baz=90,slow=7.2,SNR=104						
BVAR				S	**S**	**23 45 47.9**	**-1.0**
	comp=Z,1.3nm,0.6s,baz=75,slow=22,SNR=2.8						
BVAR				LR	LR	00 00 42.1	
	comp=Z,249nm,21.8s,baz=215,slow=37						
BRVK	**Borovoye**	**50.79**	**314**	⇑*e*P	**P**	**23 38 35.6**	**-0.5**
BRVK				pmax	pmax		
	comp=Z,340nm,1.1s,mb6.2						
BRVK				MLR	MLR		
	comp=Z,13µm,20.0s,MS5.9						
BRVK	**Borovoye**	**50.79**	**314**	⇑*e*P	**P**	**23 38 35.6**	**-0.6**
	comp=Z,338nm,1.1s,mb6.2						
BRVK				LR	LR		
	comp=Z,13µm,20.0s,MS6.0						
BHK	**Bhakra**	**50.84**	**286**	*e*P	**P**	**23 38 36.8**	**0.0**
BHK				*e*		23 40 57.0	
NDI	**New Delhi**	**51.12**	**282**	*e*P	**P**	**23 38 36.5**	**-2.5**
NDI				*e*S	**S**	**23 45 52.0**	**-2.6**
ZRNK	**Zerenda**	**51.57**	**314**	⇑*e*P	**P**	**23 38 41.1**	**-0.9**
ZRNK				pmax	pmax		
	comp=Z,910nm,1.4s,mb6.5						
ZRNK	**Zerenda**	**51.57**	**314**	⇑*e*P	**P**	**23 38 41.1**	**-0.9**
	comp=Z,908nm,1.5s,mb6.5						
IMA	**Indian Mountai**	**51.68**	**29**	*e*P	**P**	**23 38 43.0**	**+0.3**
RSO	**Redoubt South**	**51.99**	**36**	*e*P	**P**	**23 38 45.0**	**-0.1**
KKAR	**Karatay Array**	**52.18**	**302**	*i* P	**P**	**23 38 46.5**	**-0.3**
KKAR				pmax	pmax		
	comp=Z,6µm,2.1s,mb7.2						
KDAK	**Kodiak Island**	**52.20**	**40**	PFAKE		23 39 00.0	+13
KDAK				LR	LR		
	comp=Z,3µm,22.0s,MS5.3						
FITZ	**Fitzroy Crossi**	**52.21**	**194**	⇑*i*P	**P**	**23 38 46.5**	**-0.9**
	comp=Z,117nm,0.8s,mb5.9						
FITZ				*e*S	**S**	**23 46 11.9**	**+2.1**
FITZ				*e*PKPPKP		00 08 57.4	
FITZ	**Fitzroy Crossi**	**52.21**	**194**	P	**P**	**23 38 46.5**	**-0.8**
	comp=Z,241nm,1.1s,mb6.0,baz=11,slow=8.6,SNR=70						
FITZ				S	**S**	**23 46 10.2**	**+0.4**
	comp=Z,6.9nm,1.1s,baz=189,slow=18,SNR=3.8						
FITZ				PKPPKP		00 08 58.8	
	comp=Z,11nm,0.9s,baz=359,slow=1.3,SNR=4.8						
SPU	**Mount Spurr**	**52.31**	**35**	*e*P	**P**	**23 38 47.5**	**-0.1**
NGP	**Nagpur**	**52.60**	**272**	*e*P	**P**	**23 38 49.4**	**-0.9**
NGP				*e*S	**S**	**23 46 14.3**	**-0.7**
NIL	**Nilore**	**52.65**	**289**	P	**P**	**23 38 50.1**	**-0.4**
	comp=Z,415nm,1.4s,mb6.2,SNR=53						
KGD	**Kothagudem**	**52.88**	**268**	⇑*e*P	**P**	**23 38 50.6**	**-1.8**
KGD				*e*PcP	PcP	23 39 59.6	-1.9
KGD				*e*PP	PP	23 40 49.2	-4.3
KGD				*e*ScP		23 43 56.3	
KGD				*e*S	**S**	**23 46 19.6**	**+0.7**
KGD				*e*ScS	ScS	23 48 29.9	-8.4
KGD				*e*SS	SS	23 50 19.6	+22
WRAB	**Tennant Creek**	**52.91**	**183**	⇑*e*P	**P**	**23 38 50.8**	**-1.8**
	comp=Z,1µm,1.3s,mb6.6						
WB2	**Warramunga Arr**	**52.92**	**183**	⇑*i*P	**P**	**23 38 51.0**	**-1.6**
WB2				*e*S	**S**	**23 46 17.4**	**-1.9**
WB2				*e*SS	SS	23 49 58.1	+0.4
WB2				*e*PKPPKP		00 09 17.2	
WRA	**Warramunga Arr**	**52.92**	**183**	P	**P**	**23 38 51.0**	**-1.7**
	comp=Z,1µm,1.5s,mb6.6,baz=0.5,slow=8.0,SNR=276						
WRA				PcP	PcP	23 39 59.7	-1.8
	comp=Z,67nm,0.9s,baz=354,slow=3.8,SNR=4.6						
WRA				S	**S**	**23 46 16.9**	**-2.5**
	comp=Z,13nm,1.4s,baz=0.3,slow=12,SNR=5.7						
WRA				LR	LR	00 00 38.2	
	comp=Z,20µm,20.1s,MS6.2,baz=20,slow=35						
WRA				PKPPKP		00 08 58.0	
	comp=Z,3.2nm,1.1s,baz=134,slow=2.2,SNR=4.7						
BHPL	**Bhopal**	**53.06**	**276**	*e*P	**P**	**23 38 47.6**	**-6.1**
BHPL				*i*		23 46 06.2	
BHPL				*e*S	**S**	**23 46 20.4**	**-0.9**
FIB	**Fire Island**	**53.23**	**35**	*e*P	**P**	**23 38 54.6**	**+0.2**
FIB				LR	LR		
	comp=Z,10µm,20.0s,MS5.9						
SLKM	**Skilak Lake**	**53.24**	**36**	*e*P	**P**	**23 38 53.6**	**-0.9**
TAS	**Tashkent**	**53.48**	**300**	*c* *e*P	**P**	**23 38 56.0**	**-0.5**
TAS				*e*S	**S**	**23 46 20.0**	**-6.7**
TAS				pmax	pmax		
	comp=Z,11µm,2.0s						
TAS	**Tashkent**	**53.48**	**300**	⇑*e*P	**P**	**23 38 56.0**	**-0.5**
CTA	**Charters Tower**	**53.67**	**170**	*e*P	**P**	**23 38 56.2**	**-2.0**
	comp=Z,45nm,0.8s,mb5.5						
CTA				*e*S	**S**	**23 46 28.7**	**-0.9**
CTA	**Charters Tower**	**53.67**	**170**	S	**S**	**23 46 27.2**	**-2.5**
	comp=Z,1.0nm,0.4s,slow=18,SNR=1.6						
CTAO	**Charters Tower**	**53.67**	**170**	*e*P	**P**	**23 38 56.0**	**-2.2**
CTAO				pmax	pmax		
	comp=Z,310nm,1.3s,mb6.1						
CTAO				MLR	MLR		
	comp=Z,21µm,22.0s,MS6.2						
CTAO	**Charters Tower**	**53.67**	**170**	*e*P	**P**	**23 38 56.0**	**-2.2**
	comp=Z,310nm,1.4s,mb6.0						
CTAO				LR	LR		
	comp=Z,21µm,22.0s,MS6.2						
MCK	**McKinley**	**53.68**	**32**	*e*P	**P**	**23 38 57.4**	**-0.2**
MCK				pmax	pmax		
	comp=Z,240nm,1.3s,mb6.0						
MCK	**McKinley**	**53.68**	**32**	⇑*e*P	**P**	**23 38 56.9**	**-0.8**
	comp=Z,142nm,0.9s,mb5.9						
MCK				LR	LR		
	comp=Z,11µm,19.0s,MS5.9						
PMR	**Palmer**	**53.70**	**35**	P	**P**	**23 38 57.0**	**-0.8**
PMR				pmax	pmax		
	comp=Z,380nm,1.1s,mb6.2						
PMR				MLR	MLR		
	comp=Z,19µm,21.0s,MS6.1						
PMR	**Palmer**	**53.70**	**35**	*e*P	**P**	**23 38 56.9**	**-0.9**
AJM	**Ajmer**	**54.06**	**280**	⇑*i*P	**P**	**23 39 00.0**	**-0.9**
SML	**Sawmill**	**54.06**	**34**	⇑*i*P	**P**	**23 39 00.0**	**-0.5**
COLA	**College**	**54.10**	**31**	P	**P**	**23 39 00.6**	**-0.1**
COLA				pmax	pmax		
	comp=Z,160nm,1.0s,mb5.9						
COLA				MLR	MLR		
	comp=Z,22µm,20.0s,MS6.2						
COLA	**College**	**54.10**	**31**	*e*P	**P**	**23 39 00.5**	**-0.2**
AKL	**Akola**	**54.50**	**273**	*i* S	**S**	**23 46 42.7**	**+1.9**
ILAR	**Eielson Array**	**54.52**	**31**	P	**P**	**23 39 02.4**	**-1.4**
	comp=Z,48nm,1.1s,mb5.4,baz=277,slow=5.7,SNR=269						
ILAR				LR	LR	00 02 04.4	
	comp=Z,19µm,20.8s,MS6.2,baz=297,slow=36						
ILAR	**Eielson Array**	**54.52**	**31**	P	**P**	**23 39 02.4**	**-1.4**
ILAR				pmax	pmax		
	comp=Z,48nm,1.1s						
ILAR				MLR	MLR		
	comp=Z,19µm,20.8s						
HYB	**Hyderabad**	**54.73**	**269**	⇑*i*P	**P**	**23 39 05.5**	**-0.4**
	comp=Z,440nm,1.0s,mb6.4						
HYB				*e*PcP	PcP	23 40 09.0	+0.6
HYB				*e*PP	PP	23 41 07.0	-3.2
HYB				*e*		23 42 46.5	
HYB				*e*S	**S**	**23 46 46.0**	**+2.2**
HYB				*e*ScS	ScS	23 48 52.0	+0.8
HYB				LR	LR	00 06 32.0	
	comp=Z,18nm,18.0s						
HYB	**Hyderabad**	**54.73**	**269**	⇑*e*P	**P**	**23 39 05.5**	**-0.4**
	comp=Z,440nm,1.0s,mb6.4						
HYB				*e*S	**S**	**23 46 46.0**	**+2.2**
THY	**Trims Highway**	**55.12**	**32**	*e*P	**P**	**23 39 07.3**	**-0.9**
MID	**Middleton Isla**	**55.29**	**37**	*e*P	**P**	**23 39 09.4**	**-0.1**
DIV	**Divide**	**55.35**	**35**	⇑*e*P	**P**	**23 39 09.8**	**-0.2**
	comp=Z,4µm,1.4s,mb7.2						
DIV				LR	LR		
	comp=Z,50µm,20.0s,MS6.6						
EYAK	**Cordova Ski Ar**	**55.44**	**36**	⇑*i*P	**P**	**23 39 10.5**	**-0.1**
MDRS	**Chennai**	**55.47**	**263**	*i* P	**P**	**23 39 10.0**	**-1.4**
MDRS				*e*S	**S**	**23 46 58.0**	**+4.2**
MDRS				*e*		23 51 38.0	
LATR	**Latur**	**55.92**	**271**	*e*P	**P**	**23 39 14.4**	**-0.2**
	comp=Z,698nm,1.7s,mb6.4						
CUD	**Cuddapah**	**55.99**	**265**	⇑*e*P	**P**	**23 39 14.7**	**-0.4**
CUD				*e*PP	PP	23 41 17.6	-4.0
CUD				*e*S	**S**	**23 47 02.2**	**+1.5**
CUD				*e*		23 49 11.8	
CUD				*e*		23 53 49.1	
CUD				*e*		23 56 10.9	
MBWA	**Marble Bar**	**56.59**	**200**	⇑*e*P	**P**	**23 39 17.9**	**-1.5**
	comp=Z,231nm,0.9s,mb6.2						
MBWA				LR	LR		
	comp=Z,21µm,21.0s,MS6.2						
ASAR	**Alice Springs**	**56.64**	**184**	P	**P**	**23 39 18.1**	**-1.6**
	comp=Z,98nm,0.9s,mb5.8,baz=5.0,slow=5.7,SNR=129						
ASAR				PcP	PcP	23 40 13.5	-2.3
	comp=Z,41nm,0.9s,baz=334,slow=3.4,SNR=1.5						
ASAR				S	**S**	**23 47 08.5**	**-0.8**
	comp=Z,0.7nm,0.7s,baz=15,slow=10,SNR=2.3						
ASAR				LR	LR	00 02 44.1	
	comp=Z,18µm,21.7s,MS6.1,baz=12,slow=35						
ASAR				PKPPKP		00 08 54.1	
	comp=Z,3.8nm,1.1s,baz=153,slow=2.5,SNR=6.1						
ASPA	**Alice Springs**	**56.64**	**184**	⇑*i*P	**P**	**23 39 18.1**	**-1.6**
ASPA				*e*S	**S**	**23 47 07.1**	**-2.2**
ASPA				*e*PKPPKP		00 09 14.5	
ARU	**Arti**	**57.03**	**320**	P	**P**	**23 39 20.7**	**-1.4**
	comp=Z,3µm,1.4s,mb7.1,SNR=76						
ARU	**Arti**	**57.03**	**320**	⇑*i*P	**P**	**23 39 20.8**	**-1.3**
ARU				*i*		23 40 15.6	
ARU				*i* S	**S**	**23 47 12.8**	**-1.2**
ARU				*i*		23 49 01.8	
ARU				pmax	pmax		
	comp=Z,654nm,1.3s,mb6.5						
ARU				MLR	MLR		
	comp=Z,27µm,16.5s,MS6.4						
ARU				MLR	MLR		
	comp=N,13µm,18.5s,MS6.3						
ARU				MLR	MLR		
	comp=E,18µm,16.0s,MS6.3						
ARU	**Arti**	**57.03**	**320**	⇑*e*P	**P**	**23 39 20.6**	**-1.4**
	comp=E,953nm,1.3s,mb6.7						
ARU				LR	LR		
	comp=Z,8µm,20.0s,MS5.8						
DAWY	**Dawson**	**57.83**	**31**	⇑*e*P	**P**	**23 39 26.7**	**-0.8**
AB31	**Akbulak array**	**57.86**	**311**	*i* P	**P**	**23 39 27.0**	**-0.9**
AB31				pmax	pmax		
	comp=Z,3µm,1.6s,mb7.0						
KIP	**Kipapa**	**57.87**	**84**	P	**P**	**23 39 29.0**	**+0.6**
KIP				pmax	pmax		
	comp=Z,850nm,1.4s,mb6.6						
KIP	**Kipapa**	**57.87**	**84**	⇑*e*P	**P**	**23 39 27.2**	**-1.2**
	comp=Z,857nm,1.3s,mb6.6						
KIP				LR	LR		
	comp=Z,20µm,22.0s,MS6.2						
HON	**Honolulu**	**57.92**	**84**	*e*P	**P**	**23 39 27.8**	**-1.0**
POO	**Poona**	**58.14**	**272**	*e*P	**P**	**23 39 29.4**	**-0.9**
POO				*e*		23 39 32.0	
	comp=Z,461nm,1.1s						
POO				*i* S	**S**	**23 47 32.0**	**+2.9**
PALK	**Pallekele**	**58.23**	**257**	⇑*i*P	**P**	**23 39 30.6**	**-0.4**
	comp=Z,658nm,1.4s,mb6.5						
PALK				LR	LR		
	comp=Z,4µm,20.0s,MS5.5						
KAD	**Karad**	**58.44**	**271**	*e*P	**P**	**23 39 30.7**	**-1.7**
KAD				*e*	pP	23 39 34.9	-2.7
	comp=Z,669nm,1.2s						
BOM	**Bombay**	**58.84**	**273**	*e*P	**P**	**23 39 33.5**	**-1.7**
BOM				*e*	pP	23 39 36.9	-3.5
	comp=Z,800nm,1.6s						
BOM				*i*		23 39 50.7	
BOM				*e*S	**S**	**23 47 41.3**	**+3.0**
BHJ	**Bhuj**	**59.52**	**279**	⇓*e*P	**P**	**23 39 37.8**	**-2.1**
BHJ				*e*S	**S**	**23 47 51.2**	**+4.2**
GOA	**Goa**	**59.62**	**269**	*e*P	**P**	**23 39 39.3**	**-1.4**
GOA				*e*S	**S**	**23 47 53.1**	**+4.7**
HKL	**Haleakala**	**59.65**	**84**	*e*P	**P**	**23 39 41.4**	**+0.6**
KKH	**Kailua Kona**	**60.33**	**85**	P	**P**	**23 39 46.3**	**+0.8**
KKH	**Kailua Kona**	**60.33**	**85**	*e*P	**P**	**23 39 44.1**	**-1.4**
KIH	**Kanekii**	**60.61**	**85**	⇓*e*P	**P**	**23 39 48.3**	**+0.9**
MWH	**Mokuaweoweo**	**60.76**	**85**	⇑*e*P	**P**	**23 39 49.2**	**+0.8**
DAH	**Dandelion**	**60.77**	**85**	⇑*e*P	**P**	**23 39 49.0**	**+0.6**
SWH	**Southwest Rift**	**60.77**	**85**	⇑*e*P	**P**	**23 39 49.1**	**+0.7**
RCO	**Red Cone**	**60.77**	**85**	⇓*e*P	**P**	**23 39 49.5**	**+1.0**
WIH	**Wilkes Camp**	**60.78**	**85**	⇓*e*P	**P**	**23 39 49.2**	**+0.7**
KKU	**Keanakolu**	**60.79**	**84**	*e*P	**P**	**23 39 48.5**	**0.0**
HMH	**Humuula**	**60.80**	**85**	⇓*e*P	**P**	**23 39 49.5**	**+0.9**
PLL	**Puu Ulaula**	**60.86**	**85**	*e*P	**P**	**23 39 49.6**	**+0.6**
AIN	**Ainahou**	**60.93**	**85**	⇑*e*P	**P**	**23 39 49.6**	**+0.1**
MLH	**Mauna Loa**	**60.94**	**85**	⇓*e*P	**P**	**23 39 50.5**	**+1.0**
HPO	**Honuapo**	**60.98**	**85**	*e*P	**P**	**23 39 50.4**	**+0.4**
RSD	**Rainshed**	**61.04**	**85**	⇑*e*P	**P**	**23 39 48.9**	**-1.4**
HLP	**Hilina Pali**	**61.09**	**85**	⇓*e*P	**P**	**23 39 51.7**	**+1.0**
NGH	**National Guard**	**61.14**	**84**	⇓*e*P	**P**	**23 39 53.2**	**+2.3**
NOUC	**Port Laguerre**	**61.56**	**149**	*e*P	**P**	**23 39 53.1**	**-0.8**
DZM	**Mont Dzumac**	**61.60**	**149**	*e*P	**P**	**23 39 49.2**	**-4.9**
DZM	**Mont Dzumac**	**61.60**	**149**	*e*P	**P**	**23 39 49.1**	**-4.9**
DLBC	**Dease Lake**	**63.71**	**36**	⇑*i*P	**P**	**23 40 08.0**	**+0.5**
MSVF	**Nonsavu**	**63.88**	**136**	P	**P**	**23 40 10.6**	**+1.4**
	comp=Z,713nm,1.3s,mb6.5,SNR=13						
LVZ	**Lovozero**	**64.21**	**336**	*c* *i*P	**P**	**23 40 09.5**	**-1.2**
LVZ				*i*		23 42 29.4	
LVZ				*e*S	**S**	**23 48 45.1**	**-0.6**
LVZ				*i* SS	SS	23 52 55.7	-1.1
LVZ				pmax	pmax		
	comp=Z,2µm,3.0s						
LVZ				pmax	pmax		
	comp=N,729nm,3.2s						
LVZ				pmax	pmax		
	comp=E,793nm,2.9s						
LVZ				pmax	pmax		
	comp=Z,189nm,1.4s,mb5.9						
LVZ				pmax	pmax		
	comp=N,56nm,1.2s						
LVZ				pmax	pmax		
	comp=E,96nm,1.3s						
LVZ				smax			
	comp=N,4µm,10.4s						
LVZ				smax			
	comp=Z,2µm,4.7s						
LVZ				smax			
	comp=E,6µm,8.8s						
LVZ				smax			
	comp=N,12µm,20.5s						
LVZ				smax			
	comp=Z,2µm,10.6s						
LVZ				smax			
	comp=E,6µm,16.5s						
LVZ				MLR	MLR		
	comp=Z,26µm,18.0s,MS6.5						
LVZ				MLR	MLR		
	comp=N,14µm,17.0s,MS6.4						
LVZ				MLR	MLR		
	comp=E,17µm,17.0s,MS6.4						
LVZ	**Lovozero**	**64.21**	**336**	⇑*e*P	**P**	**23 40 09.0**	**-1.7**
FORT	**Forrest**	**64.23**	**189**	⇑*i*P	**P**	**23 40 10.0**	**-1.4**
	comp=E,900nm,0.7s,mb6.9						
FORT				*e*S	**S**	**23 48 47.5**	**+1.0**
HSP	**Hornsund**	**64.47**	**348**	*e*P	**P**	**23 40 11.3**	**-0.9**
APA	**Apatity**	**64.78**	**336**	⇓*i*P	**P**	**23 40 12.8**	**-1.6**
APA				*i*		23 40 27.6	
APA				*i*		23 40 45.3	
APA				*e*		23 42 40.0	
APA				*i* S	**S**	**23 48 51.0**	**-1.7**
APA				*i* SS	SS	23 53 03.0	-2.9
APA				pmax	pmax		
	comp=Z,5µm,8.0s						
STKA	**Stephens Creek**	**64.86**	**176**	⇑*i*P	**P**	**23 40 14.1**	**-1.3**
	comp=Z,98nm,0.8s,mb5.9						
STKA				*e*S	**S**	**23 48 54.3**	**+0.1**
STKA				*e*PKPPKP		00 08 59.9	
STKA	**Stephens Creek**	**64.86**	**176**	P	**P**	**23 40 13.7**	**-1.7**
	comp=Z,107nm,0.9s,mb5.9,baz=345,slow=7.0,SNR=52						
STKA				S	**S**	**23 48 52.8**	**-1.4**
	comp=Z,3.1nm,1.0s,baz=126,slow=20,SNR=1.9						
STKA				LR	LR	00 08 40.4	
	comp=Z,17µm,19.9s,MS6.2,baz=1.0,slow=36						
BJO	**Bjornoya**	**65.25**	**345**	*e*P	**P**	**23 40 14.4**	**-2.9**
BJO				*e*	pP	23 40 20.3	-2.1
BJO				*e*PP	PP	23 42 37.8	-5.3
BJO				*e*S	S	23 48 59.6	+1.3
BJO				*e*SS	SS	23 53 13.6	+0.6
BJO				AMS	AMS	00 11 39.5	
	comp=Z,33µm,18.2s,MS6.6						
KEV	**Kevo**	**65.81**	**339**	*e*p	**P**	**23 40 20.0**	**-0.9**
ARCES	**ARCESS Array B**	**66.38**	**339**	P	**P**	**23 40 23.5**	**-1.0**
	comp=Z,37nm,0.8s,mb5.5,baz=62,slow=7.4,SNR=63						
ARCES				LR	LR	00 15 37.1	
	comp=Z,40µm,18.4s,MS6.7,baz=270,slow=42						
KLBR	**Kellerberrin**	**67.03**	**198**	*e*P	**P**	**23 40 27.6**	**-1.8**
	comp=Z,381nm,1.1s,mb6.3						
KLBR				*e*S	S	23 49 22.6	+1.9
KLBR				*e*PKPPKP		00 08 55.6	
RES	**Resolute Bay**	**67.12**	**13**	P	**P**	**23 40 28.8**	**-0.4**
RES				pmax	pmax		
	comp=Z,740nm,1.5s,mb6.5						
RES	**Resolute Bay**	**67.12**	**13**	⇑*e*P	**P**	**23 40 28.7**	**-0.5**
	comp=Z,1µm,1.3s,mb6.7						
KTK1	**Kautokeino**	**67.34**	**339**	*e*P	**P**	**23 40 31.2**	**+0.5**
RIV	**Riverview**	**67.94**	**168**	*e*P	**P**	**23 40 36.4**	**+1.4**
MAK	**Makhachkala**	**68.14**	**308**	*d* *i*P	**P**	**23 40 36.0**	**-0.1**
MAK				*i*		23 40 59.8	
MAK				*i*		23 43 07.0	
MAK				*i* S	S	23 49 34.0	+0.2
MAK				*i* PS	PS	23 50 06.0	+5.3
MAK				*i*		23 50 24.0	
MAK				pmax	pmax		
	comp=Z,2µm,2.0s,mb6.9						
MAK				pmax	pmax		
	comp=N,3µm,7.0s						
MAK				pmax	pmax		
	comp=E,3µm,7.0s						
MAK				pmax	pmax		
	comp=Z,10µm,7.0s						
MAK				pmax	pmax		
	comp=Z,6µm,8.0s						
MAK				pmax	pmax		
	comp=N,2µm,10.0s						
MAK				pmax	pmax		
	comp=E,2µm,10.0s						
MAK				smax			
	comp=N,10µm,8.0s						
MAK				smax			
	comp=E,10µm,8.0s						
MAK				MLR	MLR		
	comp=Z,6µm,16.0s,MS6.0						
TRO	**Tromso**	**68.22**	**341**	*e*P	**P**	**23 40 35.6**	**-0.6**
TRO				*e*PP	PP	23 43 04.2	-4.6
TRO				*e*S	S	23 49 33.9	-0.5
TRO				*e*SS	SS	23 53 58.8	-0.1
TRO				AMS	AMS	00 17 07.6	
	comp=Z,21µm,15.2s,MS6.5						
NWAO	**Narrogin (SRO)**	**68.44**	**198**	P	**P**	**23 40 36.9**	**-1.3**
	comp=Z,211nm,1.0s,mb6.1,baz=20,slow=6.7,SNR=21						
NWAO				S	S	23 49 37.9	+0.3
	comp=Z,23nm,1.1s,baz=245,slow=17,SNR=2.0						
NWAO	**Narrogin (SRO)**	**68.44**	**198**	P	**P**	**23 40 36.9**	**-1.2**
NWAO				S	S	23 49 37.9	+0.4
NWAO				pmax	pmax		
	comp=Z,211nm,1.0s						
NWAO	**Narrogin (SRO)**	**68.44**	**198**	⇑*e*P	**P**	**23 40 36.9**	**-1.2**
	comp=Z,329nm,1.1s,mb6.3						
NWAO				LR	LR		
	comp=Z,11µm,21.0s,MS6.1						
YKW3	**Yellowknife Ar**	**68.75**	**28**	⇑*e*P	**P**	**23 40 38.6**	**-1.0**
YKA	**Yellowknife Ar**	**68.79**	**28**	P	**P**	**23 40 38.3**	**-1.5**
	comp=Z,42nm,1.0s,mb5.3,baz=296,slow=6.0,SNR=56						
YKA				S	S	23 49 38.0	-3.2
	comp=Z,0.5nm,0.5s,baz=336,slow=14,SNR=2.5						
YKA				PKPPKP		00 08 45.3	
	comp=Z,3.9nm,1.0s,baz=108,slow=2.2,SNR=3.9						

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YKA                                LR      LR       00 16 25.1
       comp=Z,14µm,19.0s,MS6.2,baz=295,slow=41
YKA    Yellowknife Ar     68.79  28   P       P        23 40 38.4 -1.5
YKA                                S       S        23 49 38.0 -3.2
YKA                                P'P'             00 08 45.3
YKA                                LR      LR       00 16 25.1
CNB    Canberra Magne     69.09 169  eP       P        23 40 41.2 -0.9
       comp=Z,88nm,1.1s,mb5.6
CNB                               eS       S        23 49 45.4 +0.2
CNB                               ePKPPKP           00 08 49.0
OBN    Obninsk            69.12 323c iP       P        23 40 41.2 -0.8
OBN                               i                 23 43 18.6
OBN                               i S      S        23 49 45.2  0.0
OBN                                pmax    pmax
       comp=Z,504nm,1.4s,mb6.3
OBN                                MLR     MLR
       comp=Z,71µm,15.0s,MS7.0
OBN    Obninsk            69.12 323⇑eP       P        23 40 40.8 -1.2
       comp=Z,359nm,1.1s,mb6.2
OBN                                LR      LR
       comp=Z,9µm,19.0s,MS6.0
DAG    Danmarks Havn      69.27 354j iP       P        23 40 41.1 -1.5
       comp=Z,225nm,0.8s,mb6.2
       comp=Z,14µm,20.0s
DAG    Danmarks Havn      69.27 354  i Pdu             23 40 41.1
VOR    Voronezh           69.31 319⇑iP       P        23 40 42.2 -1.0
VOR                               e*SP     sP       23 40 48.0 -2.2
VOR                                S       S        23 49 45.0 -2.5
VOR                                pmax    pmax
       comp=N,270nm,1.8s
VOR                                pmax    pmax
       comp=E,530nm,1.8s
VOR                                pmax    pmax
       comp=Z,1µm,1.8s,mb6.6
VOR                                smax
       comp=N,170nm,3.0s
VOR                                smax
       comp=E,280nm,3.0s
VOR                                smax
       comp=Z,100nm,3.0s
PUL    Pulkovo            69.75 329c iP       P        23 40 44.0 -1.7
PUL                               i                 23 43 18.7
PUL                               eS       S        23 49 52.7 +0.1
PUL                               i SS     SS       23 54 24.6 +1.9
PUL                                pmax    pmax
       comp=Z,3µm,3.1s
PUL                                pmax    pmax
       comp=N,846nm,3.7s
PUL                                pmax    pmax
       comp=E,2µm,3.6s
PUL                                pmax    pmax
       comp=Z,112nm,0.8s,mb5.8
PUL                                pmax    pmax
       comp=N,125nm,0.7s
PUL                                pmax    pmax
       comp=E,207nm,1.0s
PUL                                smax
       comp=N,5µm,6.4s
PUL                                smax
       comp=Z,3µm,7.0s
PUL                                smax
       comp=E,5µm,5.4s
PUL                                smax
       comp=N,5µm,16.0s
PUL                                smax
       comp=Z,4µm,15.8s
PUL                                smax
       comp=E,5µm,11.0s
PUL                                MLR     MLR
       comp=Z,43µm,20.0s,MS6.7
PUL                                MLR     MLR
       comp=N,18µm,16.0s,MS6.8
PUL                                MLR     MLR
       comp=E,38µm,18.0s,MS6.8
PUL    Pulkovo            69.75 329⇑iP       P        23 40 45.6 -0.1
GOF    Gofitskoye         70.10 311⇓iP       P        23 40 48.0 -0.1
GOF                               i        pP       23 40 54.0 +0.7
GOF                               i                 23 45 03.0
GOF                                pmax    pmax
       comp=Z,1µm,1.0s,mb6.8
GOF                                pmax    pmax
       comp=Z,10µm,4.0s
KAF    Kangasniemi        70.14 332  ep       P        23 40 46.6 -1.4
       comp=Z,1µm,2.4s,mb6.4,baz=52,slow=5.7
KAF    Kangasniemi        70.14 332  eP       P        23 40 46.6 -1.4
KAF                                pmax    pmax
       comp=Z,1µm,2.4s,mb6.4
TI2    Plekhanov          70.52 308⇑iP       P        23 40 51.4 +0.7
TI2                               e                 23 43 28.4
TI2                               i S      S        23 50 02.4 +0.5
TI2                                MLR     MLR
       comp=N,10µm,13.0s,MS6.8
TI2                                MLR     MLR
       comp=E,30µm,13.0s,MS6.8
TI2                                MLR     MLR
       comp=Z,55µm,13.0s,MS7.0
FINES  FINESS Array B     70.60 332   P       P        23 40 49.4 -1.5
       comp=Z,32nm,0.7s,mb5.4,baz=117,slow=8.5,SNR=75
FINES  FINESS Array B     70.60 332   P       P        23 40 49.4 -1.5
FINES                              pmax    pmax
       comp=Z,32nm,0.7s
FINES  FINESS Array B     70.60 332   P       P        23 40 49.4 -1.5
LOF    Lofoten            70.69 341  eP       P        23 40 54.1 +2.8
TOO    Toolangi           70.82 173⇑iP       P        23 40 52.2 -0.5
       comp=Z,57nm,0.9s,mb5.5
TOO                               eS       S        23 50 08.3 +2.8
TOO                               ePKPPKP           00 08 42.9
PGC    Sidney             71.43  44⇑eP       P        23 40 56.1 -0.1
       comp=Z,2µm,1.4s,mb6.9
PGC                               e        pP       23 41 02.9 +1.6
OCWA   Octopus Mounta     71.44  45⇑eP       P        23 40 57.2 +0.9
       comp=Z,2µm,1.4s,mb6.8
OCWA                              e        pP       23 41 04.2 +2.8
OCWA                              e                 23 41 11.2
OCWA                               LR      LR
       comp=Z,10µm,19.0s,MS6.1
MOR8   Moi Rana           71.75 339  eP       P        23 40 55.7 -2.1
MOR8                               AMb     AMB      23 41 05.6
       comp=Z,541nm,1.4s,mb6.3
VSU    Vasula             72.01 329⇑iP       P        23 40 58.8 -0.6
KARS   Kars               72.14 307  i P      P        23 41 01.6 +1.1
MBW    Mount Baker        72.25  43   P       P        23 41 01.4 +0.4
GNW    Green Mountain     72.33  44  eP       P        23 41 02.0 +0.5
GNW                               e        pP       23 41 08.6 +1.9
BMW    Boistfort Moun     72.63  46  eP       P        23 41 03.8 +0.5
RPW    Rockport           72.65  43   P       P        23 41 03.5 +0.2
BCA    Borcka             72.72 308   P       P        23 41 04.3 +0.4
SOC    Sochi              72.90 311  i P      P        23 41 04.3 -0.6
SOC                               e                 23 41 18.0
SOC                               e                 23 43 48.3
SOC                               ePPP     PPP      23 45 27.7 -4.6
SOC                               eS       S        23 50 26.4 -2.8
SOC                                pmax    pmax
       comp=Z,3µm,2.0s,mb6.8
SOC                                pmax    pmax
       comp=N,889nm,1.6s
SOC                                pmax    pmax
       comp=E,1µm,2.8s
SOC                                pmax    pmax
       comp=Z,557nm,1.1s,mb6.4
SOC                                pmax    pmax
       comp=N,405nm,1.4s
SOC                                pmax    pmax
       comp=E,236nm,1.2s
VANB   Van                72.91 305  i P      P        23 41 05.6 +0.5
TVAN   Van                72.93 305  i P      P        23 41 05.4 +0.2
RMW    Rattlesnake Mo     72.98  44  eP       P        23 41 05.7 +0.4
HKR    Hakkari            73.16 304  i P      P        23 41 06.7 +0.1
JNW    Jan Mayen West     73.24 349  e        P        23 41 15.0 +8.7
JMIC   Jan Mayen          73.29 349  eP       P        23 41 06.6  0.0
JMIC                              eS       S        23 50 33.1  0.0
JMIC                              eSS      SS       23 55 16.7 -0.8
JMIC                               AMS     AMS      00 15 25.9
       comp=Z,10µm,19.7s,MS6.1
WRW    Wenatchee Ridg     73.31  43   P       P        23 41 07.6 +0.4
LON    Longmire           73.34  45   P       P        23 41 08.0 +0.6
LON    Longmire           73.34  45⇑eP       P        23 41 07.4  0.0
SHW    Mount Saint He     73.37  45  eP       P        23 41 07.6  0.0
NLW    Nelson Butte       73.51  43  eP       P        23 41 08.5 +0.1
DGAR   Diego Garcia       73.52 249  eP       P        23 41 22.6  +13
COR    Corvallis          73.54  47   P       P        23 41 09.7 +1.1
COR                                S       S        23 50 40.2 +3.8
COR    Corvallis          73.54  47⇑eP       P        23 41 09.7 +1.0
       comp=Z,2µm,1.4s,mb6.8
COR                                LR      LR
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       comp=Z,3µm,19.0s,MS5.6
NSS    Namsos             73.64 338  eP       P        23 41 07.4 -1.4
NSS                               ePP      PP       23 43 49.4 -5.5
NSS                               eS       S        23 50 37.8 +0.7
NSS                               eSS      SS       23 55 21.4 -1.5
NSS                                AMS     AMS      00 19 31.1
       comp=Z,31µm,14.8s,MS6.7
ERZM   Erzurum            73.64 307  i P      P        23 41 09.9 +0.6
EZM    Erzurum            73.64 307   P       P        23 41 10.2 +0.9
ANN    Anapa              73.71 313c iP       P        23 41 09.1 -0.5
ANN                               i S      S        23 50 37.4 -0.9
ANN                                pmax    pmax
       comp=Z,2µm,1.3s,mb6.8
ANN    Anapa              73.71 313⇑iP       P        23 41 09.3 -0.3
MNK    Minsk              73.76 325  eP       P        23 41 08.0 -1.7
MNK                               eS       S        23 50 34.0 -4.6
KEBM   Edson Butte        73.76  49⇑eP       P        23 41 10.2 +0.2
KEBM                              e                 23 41 18.1
KEBM                              e                 23 41 23.1
IZAR   Zarasai            73.78 327  i P      P        23 41 09.4 -0.4
IZAR                               AMPb    AMB      23 41 14.7
       comp=Z,81nm,1.8s,mb5.4
IDID   Didziasalis        73.81 326  i P      P        23 41 09.6 -0.3
IDID                               AMPb    AMB      23 41 14.8
       comp=Z,86nm,1.7s,mb5.4
VRT    Varto              73.92 306  i P      P        23 41 12.6 +1.7
SSOR   Sweet Springs      73.92  47  eP       P        23 41 11.4 +0.6
WTV    Waterville         73.93  43   P       P        23 41 10.7 -0.1
ISAL   Salakas            73.94 327  i P      P        23 41 10.4 -0.3
ISAL                               AMPb    AMB      23 41 16.6
       comp=Z,87nm,1.9s,mb5.4
KBO    Bosley Butte       74.16  50⇑eP       P        23 41 14.6 +2.3
KBO                               e        pP       23 41 20.1 +2.6
UMR    Umm Al-Rimmam      74.17 295  eP       P        23 41 12.3 -0.3
UMR                                AMb     AMB      23 41 16.2
       comp=Z,996nm,1.5s,mb6.5
HSO    Harness Mounta     74.21  48  eP       P        23 41 13.4 +0.9
MIB    Mutribah           74.33 295  eP       P        23 41 13.4 -0.1
MIB                                AMb     AMB      23 41 17.3
       comp=Z,1µm,1.1s,mb6.7
KBD    Kabd               74.37 295  eP       P        23 41 12.7 -1.1
QRN    Al-Qurain          74.41 294  eP       P        23 41 13.5 -0.5
QRN                                AMb     AMB      23 41 17.5
       comp=Z,2µm,1.5s,mb6.7
BTMT   Batman             74.41 306  i P      P        23 41 14.3 +0.5
SUMG   Summit             74.47 359  eP       P        23 41 15.0 +1.5
       comp=Z,1µm,0.9s,mb6.8
VGB    Gordon Butte       74.59  46   P       P        23 41 15.8 +1.1
VGB    Gordon Butte       74.59  46  eP       P        23 41 15.1 +0.4
RDF    Al-Radifah         74.60 295  eP       P        23 41 14.9 -0.2
RDF                                AMb     AMB      23 41 18.5
       comp=Z,2µm,1.5s,mb6.8
GUMT   Gumushane          74.62 308  i P      P        23 41 15.4 +0.5
BEST   Besiri             74.71 305  i P      P        23 41 16.0 +0.4
KRMB   Red Mountain       74.72  50⇑eP       P        23 41 16.2 +0.7
KRMB                              e        pP       23 41 23.0 +2.3
RST    Umm Al-Ruwaisa     74.74 295  eP       P        23 41 15.2 -0.7
RST                                AMb     AMB      23 41 19.1
       comp=Z,2µm,1.5s,mb6.7
BINT   Bingol             74.75 307  i P      P        23 41 16.4 +0.7
EZC    Erzincan           74.75 308  i P      P        23 41 18.6 +2.8
HUMO   Hull Mountain      74.77  49⇑eP       P        23 41 16.7 +1.0
       comp=Z,461nm,1.5s,mb6.2
DPW    Davenport          74.84  42  eP       P        23 41 16.1  0.0
DPW                               e                 23 41 23.6
DPW                               e                 23 41 29.1
HAWA   Hanford            74.86  44⇑eP       P        23 41 16.6 +0.4
       comp=Z,734nm,1.4s,mb6.4
HAWA                              e        pP       23 41 23.8 +2.3
HAWA                              e                 23 41 29.4
HAWA                               LR      LR
       comp=Z,11µm,19.0s,MS6.2
TRON   Trondheim          74.88 338  eP       P        23 41 17.7 +1.7
KELT   Kelkit             74.92 308  i P      P        23 41 15.9 -0.8
KHMM   Horse Mountain     75.16  51⇑eP       P        23 41 19.1 +1.0
AKASG  Malin Array Be     75.21 321   P       P        23 41 17.4 -0.7
       comp=Z,76nm,0.7s,mb5.7,baz=45,slow=6.0,SNR=190
AKASG                              PKPPKP           00 08 28.7
       comp=Z,0.2nm,0.2s,baz=252,slow=2.8,SNR=4.6
AKASG                              LR      LR       00 16 48.2
       comp=Z,19µm,18.2s,MS6.4,baz=55,slow=38
NEW    Newport            75.23  42   P       P        23 41 18.4 +0.1
NEW                                pmax    pmax
       comp=Z,260nm,1.3s
NEW    Newport            75.23  42⇑eP       P        23 41 18.0 -0.3
       comp=Z,465nm,1.4s,mb6.2
NEW                                LR      LR
       comp=Z,12µm,20.0s,MS6.2
YBH    Yreka Blue Hor     75.38  50   P       P        23 41 20.1 +0.8
YBH                                pmax    pmax
       comp=Z,310nm,1.4s
YBH    Yreka Blue Hor     75.38  50⇑eP       P        23 41 19.9 +0.7
       comp=Z,304nm,1.4s,mb6.0
DIY    Diyarbakir         75.42 306  i P      P        23 41 20.4 +0.8
PTK    Pertek             75.47 307  i P      P        23 41 21.0 +1.1
SCO    Scoresbysund       75.54 353  i P      P        23 41 17.4 -2.2
       comp=Z,165nm,0.9s,mb6.0
SCO                               e                 23 41 25.0
SCO                               i S      S        23 51 00.6 +2.5
SIM    Simferopol'        75.64 314c iP       P        23 41 20.7  0.0
SIM                               i S      S        23 50 58.9 -0.9
SIM                               eSS      SS       23 55 48.0 -6.0
SIM                                pmax    pmax
       comp=Z,497nm,1.0s,mb6.4
SIM    Simferopol'        75.64 314⇑iP       P        23 41 20.8 +0.1
LNOR   Lincton Mounta     75.88  44   P       P        23 41 22.6 +0.5
LNOR   Lincton Mounta     75.88  44  eP       P        23 41 22.5 +0.4
ELZG   Elazig             75.95 307  i P      P        23 41 23.9 +1.3
WDC    Whiskeytown Da     76.09  51⇑eP       P        23 41 23.5 +0.1
WDC                               e                 23 41 30.9
WDC                               e                 23 41 36.4
WDC                                pmax    pmax
       comp=Z,470nm,1.2s,mb6.3
WDC    Whiskeytown Da     76.09  51⇑eP       P        23 41 23.5 +0.1
       comp=Z,467nm,1.3s,mb6.3
WDC                               e                 23 41 30.9
WDC                               e                 23 41 36.4
HFS    Hagfors            76.14 335   P       P        23 41 22.5 -0.7
       comp=Z,21nm,0.5s,mb5.3,baz=63,slow=6.6,SNR=7.3
HFS    Hagfors            76.14 335   P       P        23 41 22.5 -0.7
HFS                                pmax    pmax
       comp=Z,21nm,0.5s
SUW    Suwalki            76.25 326⇑eP       P        23 41 23.2 -0.7
SUW                               e                 23 41 34.0
SUW                               eS       S        23 51 05.7 -0.5
SUW                               eSS      SS       23 56 04.0 +0.8
SUW    Suwalki            76.25 326⇑eP       P        23 41 23.2 -0.7
SUW                               epP      pP       23 41 26.8 -2.4
SUW                               ePcP     PcP      23 41 34.0 -2.3
SUW                               eS       S        23 51 05.7 -0.5
SUW                               eSS      SS       23 56 04.0 +0.8
TAU    Tasmania Unive     76.30 172   P       P        23 41 24.9 +0.4
TAU                                pmax    pmax
       comp=Z,400nm,1.6s,mb6.1
TAU    Tasmania Unive     76.30 172⇑eP       P        23 41 24.5  0.0
       comp=Z,148nm,1.0s,mb5.9
DOMB   Dombas             76.34 338  eP       P        23 41 23.7 -0.7
DOMB                               AMb     AMB      23 41 34.1
       comp=Z,534nm,1.6s,mb6.2
NB2    NORSAR Subarra     76.36 336   P       P        23 41 23.7 -0.8
       comp=Z,371nm,1.2s,mb6.2,baz=46,slow=5.6
NB2    NORSAR Subarra     76.36 336   P       P        23 41 23.7 -0.8
       baz=46,slow=5.9
NOA    NORSAR Array B     76.36 336   P       P        23 41 23.4 -1.0
       comp=Z,20nm,0.7s,mb5.1,baz=44,slow=5.6,SNR=76
NOA                                LR      LR       00 21 19.9
       comp=Z,26µm,19.2s,MS6.6,baz=50,slow=41
NOA    NORSAR Array B     76.36 336   P       P        23 41 23.4 -1.0
NOA                                LR      LR       00 21 19.9
MYA    Malataya           76.42 307  i P      P        23 41 26.5 +1.3
MALT   Malatya            76.42 307  i P      P        23 41 26.2 +0.9
MALT   Malatya            76.42 307⇑eP       P        23 41 26.2 +0.9
       comp=Z,571nm,1.0s,mb6.5
MALT                              e                 23 41 33.9
MOL    Molde              76.42 339  eP       P        23 41 29.5 +4.7
MOL                                AMb     AMB      23 41 39.6
       comp=Z,684nm,1.6s,mb6.3
MOL    Molde              76.42 339⇑iP       P        23 41 29.3 +4.5
KVT    Kavak              76.52 310  eP       P        23 41 26.8 +1.0
SVSK   Karacayir          76.52 309  i P      P        23 41 26.9 +1.1
HOPS   Hopland            76.58  52⇑eP       P        23 41 26.4 +0.2
       comp=Z,353nm,1.3s,mb6.1
HOPS                              e        pP       23 41 33.0 +1.6
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TOKT   Tokat              76.60 309   P       P        23 41 26.4 +0.1
SVST   Sivas              76.63 309  i P      P        23 41 27.4 +0.9
MOD    Modoc              76.81  48⇑eP       P        23 41 27.5 +0.1
       comp=Z,437nm,1.4s,mb6.2
MOD                               e                 23 41 34.8
BOYT   Boyabat            77.06 311  i P      P        23 41 29.4 +0.6
BYBT   Boyabat            77.12 311   P       P        23 41 29.0 -0.1
NSHM   Saint Helena R     77.13  52  eP       P        23 41 29.4 +0.1
OSL    Oslo               77.33 336  eP       P        23 41 29.6 -0.2
OSL                                AMb     AMB      23 41 36.5
       comp=Z,206nm,1.8s,mb5.8
BZK    Bozkurt            77.33 312   P       P        23 41 30.8 +0.5
OHCM   Honcut             77.44  51  eP       P        23 41 30.3 -0.6
OHCM                              e                 23 41 37.9
OHCM                              e                 23 41 44.2
GZT    Gaziantep          77.50 306  i P      P        23 41 32.1 +0.7
WVOR   Wild Horse Val     77.56  47⇑eP       P        23 41 31.9 +0.4
WVOR                               pmax    pmax
       comp=Z,510nm,1.4s,mb6.3
WVOR   Wild Horse Val     77.56  47⇑eP       P        23 41 31.9 +0.4
       comp=Z,513nm,1.4s,mb6.3
KIS    Kishinev           77.56 318  i P      P        23 41 30.0 -1.4
KIS                               i S      S        23 51 18.0 -2.6
KIS    Kishinev           77.56 318  eP       P        23 41 30.0 -1.4
CTKT   Corum              77.57 310  i P      P        23 41 32.4 +0.8
YOZ    Yozgat             77.76 309   P       P        23 41 33.5 +0.8
MSO    Missoula           77.82  42⇑eP       P        23 41 32.6 -0.3
       comp=Z,203nm,1.4s,mb5.9
MSO                                LR      LR
       comp=Z,7µm,21.0s,MS6.0
KAHT   Ahir Dag           77.82 307  i P      P        23 41 33.9 +0.9
TOS    Tosya              77.83 311  i P      P        23 41 34.0 +1.0
GAZ    Gaziantep          77.84 306  i P      P        23 41 34.2 +1.0
BEKR   Beckwourth         77.88  50⇑eP       P        23 41 33.7 +0.4
       comp=Z,571nm,1.2s,mb6.4
BEKR                              e        pP       23 41 39.9 +1.3
BEKR                              e                 23 41 46.4
HYA    Hoyanger           77.91 338  eP       P        23 41 33.8 +0.8
HYA                               epP      pP       23 41 36.1 -2.1
HYA                                AMb     AMB      23 41 44.8
       comp=Z,496nm,1.5s,mb6.2
LKC    Lake Chabot        77.91  53  eP       P        23 41 34.0 +0.4
LKC                               e        pP       23 41 41.1 +2.3
KONO   Kongsberg          77.93 336⇑iP       PcP      23 42 03.2  +20
KONO                               AMb     AMB      23 42 09.2
       comp=Z,176nm,2.2s,mb5.6
KONO                              e                 23 51 50.7
KONO                              i                 23 56 50.3
KONO                               AMS     AMS      00 23 21.3
       comp=Z,27µm,27.2s,MS6.4
FOO    Floro              77.93 339⇑iP       P        23 41 33.1  0.0
FOO                                AMb     AMB      23 41 43.1
       comp=Z,384nm,1.8s,mb6.0
CHMT   Chamberlain Mo     78.15  41  eP       P        23 41 34.2 -0.5
ASMM   Slate Mountain     78.24  51  eP       P        23 41 33.8 -1.6
ASMM                              e        pP       23 41 40.7 +0.1
CANT   Cankiri            78.32 311   P       P        23 41 36.4 +0.7
WAR    Warsaw             78.37 326⇑eP       P        23 41 36.2 +0.5
WAR                               e        pP       23 41 41.8 +0.8
WAR                               eS       S        23 51 29.4 +0.2
WAR                               e*SS              23 51 36.0
WAR                               e                 23 51 47.6
WAR                               eSS      SS       23 56 33.8 -1.3
WAR    Warsaw             78.37 326⇑eP       P        23 41 36.2 +0.5
WAR                               epP      pP       23 41 39.2 -1.8
WAR                               ePcP     PcP      23 41 41.8 -3.7
WAR                               eS       S        23 51 29.4 +0.2
WAR                               eSS               23 51 36.0
WAR                               eSKS     SKS      23 51 47.6 -3.2
WAR                               eSS      SS       23 56 33.8 -1.3
WAR                                LR      LR
       comp=Z,17µm,30.0s,MS6.2
LVV    L'vov              78.42 323  eP       P        23 41 36.2 +0.1
LVV    L'vov              78.42 323⇑iP       P        23 41 36.2 +0.1
SUE    Sulen              78.44 339  eP       P        23 41 36.4 +0.5
SUE                               epP      pP       23 41 38.9 -2.3
SUE                                AMb     AMB      23 41 46.2
       comp=Z,332nm,1.4s,mb6.1
ELDT   Eldivan            78.51 311  i P      P        23 41 37.5 +0.7
AVNT   Avonos             78.53 309  i P      P        23 41 37.5 +0.6
SAFT   Safranbolu         78.56 312  i P      P        23 41 37.8 +0.8
WCN    Washoe City        78.58  50  eP       P        23 41 37.7 +0.5
WCN                               e                 23 41 45.1
WCN                               e                 23 41 52.2
WCN                                pmax    pmax
       comp=Z,810nm,1.4s,mb6.5
WCN    Washoe City        78.58  50  eP       P        23 41 37.7 +0.5
       comp=Z,806nm,1.5s,mb6.4
WCN                               e                 23 41 45.1
WCN                               e                 23 41 52.2
PAHR   Pah Rah Range      78.60  50⇑eP       P        23 41 37.7 +0.4
       comp=Z,808nm,1.4s,mb6.5
PAHR                              e        pP       23 41 44.8 +2.3
ODD1   Odda               78.73 337  eP       P        23 41 36.6 -0.9
ODD1                               AMb     AMB      23 41 57.0
       comp=Z,532nm,1.6s,mb6.2
FFC    Flin Flon          78.73  31⇑eP       P        23 41 37.5 -0.2
       comp=Z,693nm,1.4s,mb6.4
FFC                               e        pP       23 41 44.4 +1.4
FFC                                LR      LR
       comp=Z,3µm,21.0s,MS5.7
ASK    Askoy              78.75 338  eP       P        23 41 37.6 -0.1
RUND   Rundenannen        78.75 338  eP       P        23 41 37.6  0.0
RUND                               AMb     AMB      23 41 47.9
       comp=Z,645nm,1.6s,mb6.3
BER    Bergen             78.78 338  eP       P        23 41 37.9 +0.1
BRTR   Keskin Array B     78.80 310   P       P        23 41 38.5 +0.1
       comp=Z,406nm,1.0s,mb6.3,baz=104,slow=3.4,SNR=439
BRTR                               PKKPbc           00 00 28.1
       comp=Z,1.2nm,0.9s,baz=288,slow=4.6,SNR=3.1
BRTR                               PKPPKP           00 08 29.4
       comp=Z,1.5nm,0.9s,baz=37,slow=6.2,SNR=4.6
BRTR                               LR      LR       00 19 41.0
       comp=Z,12µm,21.3s,MS6.2,baz=140,slow=38
COBT   Iskenderun         78.84 306  i P      P        23 41 39.1 +0.4
SAO    San Andreas Ge     78.85  53⇑eP       P        23 41 38.7  0.0
SAO                               e        pP       23 41 45.7 +1.7
SAO                               e                 23 41 51.2
SAO                                pmax    pmax
       comp=Z,400nm,1.4s,mb6.2
SAO    San Andreas Ge     78.85  53⇑eP       P        23 41 38.7 -0.1
       comp=Z,400nm,1.5s,mb6.1
SAO                               e        pP       23 41 45.7 +1.7
SAO                               e                 23 41 51.2
CMB    Columbia Colle     78.86  52⇑eP       P        23 41 38.8  0.0
CMB                               e        pP       23 41 45.2 +1.2
CMB                               e                 23 41 51.9
CMB                                pmax    pmax
       comp=Z,570nm,1.3s,mb6.3
CMB    Columbia Colle     78.86  52⇑eP       P        23 41 38.8  0.0
       comp=Z,572nm,1.4s,mb6.3
CMB                               e        pP       23 41 45.1 +1.1
CMB                               e                 23 41 51.9
MZLS   Mizel              78.89 291   P       P        23 41 39.5 +0.4
EGD    Espegrend          78.90 338  eP       P        23 41 38.5  0.0
FCC    Fort Churchill     78.91  25   P       P        23 41 39.0 +0.5
FCC                                pmax    pmax
       comp=Z,420nm,1.2s,mb6.2
FCC    Fort Churchill     78.91  25⇑eP       P        23 41 38.3 -0.3
       comp=Z,523nm,1.3s,mb6.3
CEYT   Ceyhan             78.91 307  i P      P        23 41 40.1 +1.0
KAMT   Kaman              78.95 310  i P      P        23 41 39.6 +0.4
HRY    Holter Researc     79.06  41  eP       P        23 41 40.0 +0.3
HRY                               e        pP       23 41 46.9 +2.1
HRY                               e                 23 41 54.2
NIG    Nigde              79.06 308  i P      P        23 41 41.1 +1.2
HTY    Hatay              79.13 306   P       P        23 41 40.7 +0.4
BLS5   Blasjo             79.16 337  eP       P        23 41 40.6 +0.7
BLS5                              epP      pP       23 41 43.2 -2.0
BLS5                               AMb     AMB      23 41 58.5
       comp=Z,186nm,1.6s,mb5.8
BSD    Bornholm Skovb     79.16 330⇑iP       P        23 41 39.3 -0.7
       comp=Z,262nm,0.9s,mb6.2
BSD                               i                 23 44 37.1
BSD                               i S      S        23 51 35.3 -2.3
BSD                               i                 23 56 51.5
       comp=Z,24µm,18.0s
KWP    Kalwaria           79.21 323⇑eP       P        23 41 43.3 +2.9
KWP                               e        pP       23 41 48.3 +2.6
KWP                               e                 23 44 41.1
KWP                               eS       S        23 51 37.3 -0.9
LOD    Lodumlu            79.27 311   P       P        23 41 41.7 +0.8
SGKT   Sivrigoynuk        79.33 312  i P      P        23 41 41.9 +0.7
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LRV	**Little Rabbit**	**79.33**	**53**	*e*P	**P**	**23 41 42.0**	**+0.6**
VRI	**Vrincioaia**	**79.39**	**318**	⇑*i*P	**P**	**23 41 42.1**	**+0.6**
VRI	**Vrincioaia**	**79.39**	**318**	⇑*i*P	**P**	**23 41 42.1**	**+0.7**
BRD	**Bordesti**	**79.41**	**318**	⇑*i*P	**P**	**23 41 43.1**	**+1.5**
BRD	**Bordesti**	**79.41**	**318**	⇑*i*P	**P**	**23 41 43.1**	**+1.5**
HARR	**Harsova**	**79.42**	**317**	⇑*i*P	**P**	**23 41 42.0**	**+0.4**
HARR	**Harsova**	**79.42**	**317**	⇑*i*P	**P**	**23 41 42.0**	**+0.4**
GKP	**Gorka Klasztor**	**79.43**	**328**	⇑*e*P	**P**	**23 41 41.9**	**+0.4**
GKP				*e*	pP	23 41 49.0	+2.2
GKP				*e*S	S	23 51 37.7	-2.7
GKP				*e**SS		23 51 49.5	
GKP				*e*		23 51 58.9	
GKP				*e*SS	SS	23 56 51.6	+0.7
GKP	**Gorka Klasztor**	**79.43**	**328**	⇑*e*P	**P**	**23 41 41.9**	**+0.4**
GKP				*e*pP	pP	23 41 44.1	-2.7
GKP				*e*PcP	PcP	23 41 49.0	-1.0
GKP				*e*S	S	23 51 37.7	-2.7
GKP				*e*SS		23 51 49.5	
GKP				*e*SKS	SKS	23 51 58.9	+0.6
GKP				*e*SS	SS	23 56 51.6	+0.7
GKP				LR	LR		
	comp=Z,17µm,25.6s,MS6.3						
HLID	**Hailey**	**79.46**	**45**	⇑*e*P	**P**	**23 41 42.6**	**+0.7**
	comp=Z,91nm,0.8s,mb5.8						
HLID				*e*	pP	23 41 49.3	+2.1
HLID				*e*		23 41 54.4	
HLID				LR	LR		
	comp=Z,8µm,20.0s,MS6.1						
BMN	**Battle Mountai**	**79.56**	**48**	⇑*e*P	**P**	**23 41 43.3**	**+0.8**
	comp=Z,467nm,1.3s,mb6.3						
BMN				*e*	pP	23 41 50.0	+2.3
BMN				*e*		23 41 55.6	
BMN				LR	LR		
	comp=Z,8µm,19.0s,MS6.1						
MCMT	**McKenzie Canyo**	**79.62**	**43**	*e*P	**P**	**23 41 42.8**	**+0.1**
KMY	**Karmoy**	**79.72**	**337**	*e*P	**P**	**23 41 44.5**	**+1.5**
KMY				AMb	AMB	23 41 48.7	
	comp=Z,266nm,1.8s,mb5.9						
HILS	**Ha’il**	**79.76**	**296**	P	**P**	**23 41 44.0**	**+0.2**
COP	**Copenhagen**	**79.76**	**332**	⇑*i*P	**P**	**23 41 43.2**	**0.0**
	comp=Z,184nm,0.9s,mb6.0						
COP				*i*		23 44 44.5	
COP				*i* S	S	23 51 43.8	-0.1
	comp=Z,13µm,16.0s						
STAV	**Stavanger**	**79.78**	**337**	*e*P	**P**	**23 41 44.7**	**+1.4**
STAV				AMb	AMB	23 41 52.9	
	comp=Z,314nm,2.1s,mb5.9						
BOZ	**Bozeman (W)**	**79.81**	**42**	⇑*e*P	**P**	**23 41 42.5**	**-1.3**
	comp=Z,151nm,1.6s,mb5.7						
BOZ				*e*		23 41 50.9	
BOZ				*e*		23 41 57.0	
BOZ				LR	LR		
	comp=Z,13µm,20.0s,MS6.3						
PSN	**Preselentsi**	**79.87**	**316**	*e*P	**P**	**23 41 41.0**	**-3.1**
KOLS	**Kolonicke sedl**	**79.87**	**323**	*e*P	**P**	**23 41 44.1**	**+0.1**
KOLS				*e*		23 41 45.9	
KOLS				*e*		23 41 52.1	
KOLS	**Kolonicke sedl**	**79.87**	**323**	*e*P	**P**	**23 41 44.1**	**+0.1**
KOLS				*e*		23 41 52.1	
HENT	**Hendek**	**79.90**	**312**	*i* P	**P**	**23 41 44.0**	**-0.4**
MDU	**Mudurnu**	**79.91**	**312**	*i* P	**P**	**23 41 45.0**	**+0.6**
ISR	**Istrita**	**79.95**	**318**	⇓*i*P	**P**	**23 41 46.1**	**+1.6**
ISR	**Istrita**	**79.95**	**318**	⇓*i*P	**P**	**23 41 46.1**	**+1.7**
OMM	**Old Mammoth Mi**	**80.01**	**52**	⇑*e*P	**P**	**23 41 45.7**	**+0.8**
UZH	**Uzhgorod**	**80.06**	**322**	*e*P	**P**	**23 41 45.0**	**0.0**
UZH	**Uzhgorod**	**80.06**	**322**	*i* Pr		23 41 45.0	
MLR	**Muntele Rosu**	**80.06**	**318**	⇓*i*P	**P**	**23 41 46.0**	**+1.0**
MLR	**Muntele Rosu**	**80.06**	**318**	⇓*i*P	**P**	**23 41 46.0**	**+0.9**
MNV	**Mina**	**80.10**	**51**	*e*P	**P**	**23 41 45.7**	**+0.3**
MNV				*e*	pP	23 41 52.2	+1.5
MNV				pmax	pmax		
	comp=Z,330nm,1.3s,mb6.1						
MNV	**Mina**	**80.10**	**51**	*e*P	**P**	**23 41 45.7**	**+0.2**
	comp=Z,331nm,1.3s,mb6.1						
MNV				*e*	pP	23 41 52.1	+1.4
URZ	**Urewera**	**80.16**	**149**	P	**P**	**23 41 44.1**	**-1.6**
RGN	**Rugen**	**80.21**	**331**	⇑*e*P	**P**	**23 41 45.7**	**0.0**
	comp=Z,366nm,1.1s,mb6.2						
RGN				*e*		23 41 54.0	
MEST	**Erdemli**	**80.22**	**307**	*i* P	**P**	**23 41 46.0**	**-0.1**
OJC	**Ojcow**	**80.27**	**325**	⇑*i*P	**P**	**23 41 46.3**	**+0.2**
OJC				*i* PcP	PcP	23 41 54.9	+1.2
OJC				*e*PP	PP	23 44 47.9	-2.7
OJC				*e*S	S	23 51 52.4	+3.1
OJC				*e*SS	SS	23 57 04.0	+0.3
OJC				LR	LR		
	comp=Z,41µm,18.7s,MS6.8						
CRVS	**Cervenica-Dubn**	**80.30**	**323**	*e*P	**P**	**23 41 47.2**	**+0.9**
CRVS				*e*		23 44 46.8	
CRVS				*e*S	S	23 51 46.3	-3.4
CRVS				*e*		00 00 28.1	
CRVS	**Cervenica-Dubn**	**80.30**	**323**	*e*P	**P**	**23 41 47.2**	**+0.9**
CRVS				*e*PP	PP	23 44 46.8	-4.1
CRVS				*e*S	S	23 51 46.3	-3.4
CRVS				*e*SS	SS	23 57 10.1	+5.9
CRVS				*e*		00 00 28.1	
KIZT	**Kizilcal**	**80.40**	**310**	*i* P	**P**	**23 41 47.4**	**+0.4**
QLMT	**Earthquake Lak**	**80.42**	**42**	*e*P	**P**	**23 41 47.5**	**+0.5**
QLMT				*e*		23 41 54.8	
MTUM	**Tungsten Hills**	**80.44**	**52**	*e*P	**P**	**23 41 47.5**	**+0.2**
EYL	**Eskiyayla**	**80.51**	**312**	P	**P**	**23 41 47.4**	**-0.2**
YEL1	**Yell**	**80.56**	**341**	*e*P	**P**	**23 41 47.0**	**-0.4**
GPA	**Golpazari**	**80.58**	**312**	P	**P**	**23 41 48.3**	**+0.4**
ELK	**Elko**	**80.61**	**47**	⇑*e*P	**P**	**23 41 48.9**	**+0.8**
ELK				*e*	pP	23 41 55.8	+2.4
ELK				pmax	pmax		
	comp=Z,410nm,1.4s						
ELK	**Elko**	**80.61**	**47**	⇑*e*P	**P**	**23 41 48.9**	**+0.8**
	comp=Z,409nm,1.5s,mb6.1						
ELK				*e*	pP	23 41 55.8	+2.5
PRD	**Provadia**	**80.61**	**316**	*e*P	**P**	**23 41 49.0**	**+0.9**
KONT	**Konya--Tatoy**	**80.62**	**309**	*i* P	**P**	**23 41 48.3**	**+0.1**
AFFS	**‘Afif**	**80.66**	**292**	P	**P**	**23 41 48.9**	**+0.2**
HRT	**Hereke**	**80.67**	**313**	P	**P**	**23 41 48.8**	**+0.4**
ESKT	**Eskisehir**	**80.69**	**311**	*i* P	**P**	**23 41 48.4**	**-0.1**
ESKT	**Eskisehir**	**80.69**	**311**	*i* P	**P**	**23 41 48.7**	**+0.2**
BUC1	**Bucharest**	**80.71**	**317**	⇑*i*P	**P**	**23 41 49.2**	**+0.7**
BUC1	**Bucharest**	**80.71**	**317**	⇑*i*P	**P**	**23 41 49.2**	**+0.6**
MTUR	**Matau**	**80.71**	**318**	⇓*i*P	**P**	**23 41 50.1**	**+1.6**
MTUR	**Matau**	**80.71**	**318**	⇓*i*P	**P**	**23 41 50.1**	**+1.6**
IKL	**Isikli**	**80.72**	**307**	*i* P	**P**	**23 41 48.8**	**0.0**
ASF	**Jabal al Asfar**	**80.77**	**302**	P	**P**	**23 41 49.6**	**+0.5**
	comp=Z,244nm,1.2s,mb6.0,baz=277,slow=0.8,SNR=134						
YMR	**Madison River**	**80.78**	**42**	⇑*e*P	**P**	**23 41 50.0**	**+1.1**
RAR	**Rarotonga**	**80.80**	**123**	*e*P	**P**	**23 41 48.2**	**-1.2**
RAR				pmax	pmax		
	comp=Z,280nm,1.5s						
RAR	**Rarotonga**	**80.80**	**123**	*e*P	**P**	**23 41 48.2**	**-1.3**
	comp=Z,284nm,1.6s,mb6.0						
QURS	**Qurayyt al Mil**	**80.89**	**301**	P	**P**	**23 41 51.7**	**+2.0**
ISK	**Istanbul-Kandi**	**80.89**	**313**	*i* P	**P**	**23 41 49.8**	**+0.2**
MUKL	**Al Mukalla**	**80.91**	**281**	⇑*e*P	**P**	**23 41 50.7**	**+0.6**
MUKL				AMb	AMB	23 41 52.3	
	comp=Z,773nm,1.4s,mb6.4						
TPH	**Tonopah**	**80.91**	**50**	⇑*e*P	**P**	**23 41 50.3**	**+0.6**
TPH				*e*		23 42 02.1	
TPH				pmax	pmax		
	comp=Z,2µm,1.5s,mb6.7						
TPH	**Tonopah**	**80.91**	**50**	⇑*e*P	**P**	**23 41 50.3**	**+0.6**
	comp=Z,2µm,1.5s,mb6.7						
TPH				*e*	pP	23 41 57.3	+2.3
TPH				*e*		23 42 02.1	
TPH				LR	LR		
	comp=Z,10µm,20.0s,MS6.2						
LRW	**Lerwick**	**80.93**	**340**	*e*P	**P**	**23 41 48.3**	**-1.1**
BORG	**Borgarnes**	**80.94**	**351**	LR	LR	00 18 52.2	
	comp=Z,7µm,20.9s,MS6.0,baz=219,slow=36						
BORG	**Borgarnes**	**80.94**	**351**	*e*P	**P**	**23 41 50.9**	**+1.5**
	comp=Z,287nm,1.0s,mb6.2						
WAL1	**Walls**	**80.95**	**341**	*e*P	**P**	**23 41 49.3**	**-0.2**
HRI	**Mount Hermon**	**80.98**	**304**	P	**P**	**23 41 50.3**	**+0.1**
HRI	**Mount Hermon**	**80.98**	**304**	⇑P	**P**	**23 41 50.3**	**+0.1**
YLV	**Yalova**	**81.00**	**313**	*i* P	**P**	**23 41 49.4**	**-0.7**
SAN1	**Sandwick**	**81.04**	**340**	⇑*e*P	**P**	**23 41 49.6**	**-0.4**
KECS	**Kecovo**	**81.07**	**323**	*e*P	**P**	**23 41 50.5**	**+0.2**
KECS				*e*		23 41 52.4	
KECS				*e*		23 41 58.7	
KECS				*e*PP	PP	23 44 57.9	+0.2
KECS				*e*		23 45 10.8	
KECS	**Kecovo**	**81.07**	**323**	*e*P	**P**	**23 41 50.5**	**+0.2**
KECS				*e*		23 41 58.7	
KECS				*e*		23 44 57.9	
KSHT	**Keshet**	**81.08**	**304**	P	**P**	**23 41 51.1**	**+0.3**
KSHT	**Keshet**	**81.08**	**304**	⇑P	**P**	**23 41 51.1**	**+0.3**
HDMB	**Hadim**	**81.10**	**308**	*i* P	**P**	**23 41 50.6**	**-0.2**
RAC	**Raciborz**	**81.13**	**325**	*e*P	**P**	**23 41 51.6**	**+1.0**
RAC				*e*	pP	23 41 57.9	+2.0
RAC				*e*		23 44 57.0	
RAC				*e*S	S	23 51 59.4	+1.2
RAC				*e*		23 52 08.4	
RAC				MLR	MLR		
	comp=Z,48µm,16.9s,MS6.9						
NNZ	**Nelson**	**81.17**	**153**	P	**P**	**23 41 49.5**	**-1.5**
PHNC	**Paralimni**	**81.18**	**306**	P	**P**	**23 41 50.9**	**-0.3**
CTT	**Catalca**	**81.23**	**314**	P	**P**	**23 41 51.1**	**-0.2**
OKC	**Ostrava-Krasne**	**81.32**	**325**	⇑*i*P	**P**	**23 41 51.9**	**+0.3**
OKC				*e*pP	pP	23 41 58.0	+1.1
OKC				*e*PP	PP	23 44 51.2	-8.5
OKC				*e*S	S	23 51 59.8	-0.4
OKC	**Ostrava-Krasne**	**81.32**	**325**	⇑*i*P	**P**	**23 41 51.9**	**+0.3**
OKC				*e**PP	pP	23 41 58.0	+1.1
OKC				*e*S	S	23 51 59.8	-0.4
KAMS	**Al Khamasin**	**81.33**	**288**	P	**P**	**23 41 51.6**	**-0.7**
GLH	**Golan-Tel Qazi**	**81.35**	**303**	P	**P**	**23 41 52.5**	**+0.4**
GLH	**Golan-Tel Qazi**	**81.35**	**303**	⇑P	**P**	**23 41 52.5**	**+0.4**
LIKS	**Likavka**	**81.38**	**324**	*e*P	**P**	**23 41 53.2**	**+1.2**
LIKS				*e*PP	PP	23 45 01.3	+1.1
ULDT	**Uludag**	**81.39**	**313**	*i* P	**P**	**23 41 52.8**	**+0.6**
ALT	**Altintas**	**81.42**	**311**	*i* P	**P**	**23 41 53.0**	**+0.6**
SZH	**Strazhica**	**81.42**	**317**	*e*P	**P**	**23 41 52.0**	**-0.3**
MOOW	**Moose Ponds**	**81.47**	**43**	⇑*e*P	**P**	**23 41 53.6**	**+1.1**
HNTI	**Hanita**	**81.47**	**304**	P	**P**	**23 41 52.9**	**+0.1**
HNTI	**Hanita**	**81.47**	**304**	⇑P	**P**	**23 41 52.9**	**+0.1**
RUE	**Ruedersdorf**	**81.49**	**329**	⇑*e*P	**P**	**23 41 52.4**	**0.0**
	comp=Z,446nm,1.1s,mb6.3						
HVU	**Hansel Valley**	**81.49**	**45**	⇑*e*P	**P**	**23 41 53.7**	**+1.0**
HVU				*e*		23 42 05.1	
HVU	**Hansel Valley**	**81.49**	**45**	⇑*e*P	**P**	**23 41 53.7**	**+1.1**
HVU				*e*	pP	23 42 00.4	+2.4
HVU				*e*		23 42 05.1	
KSP	**Ksiaz**	**81.51**	**327**	*e*P	**P**	**23 41 52.7**	**+0.1**
KSP				*e*pP	pP	23 41 59.8	+1.9
KSP				*e*		23 42 07.9	
KSP				*e*PP	PP	23 44 54.5	-6.7
KSP				*e*S	S	23 51 56.0	-6.1
KSP				*e*SS	SS	23 57 07.0	-15
KSP				LR	LR		
	comp=Z,52µm,19.1s,MS6.9						
TPAW	**Teton Pass**	**81.51**	**43**	⇑*i*P	**P**	**23 41 54.0**	**+1.2**
JMB	**Yambol**	**81.53**	**316**	*e*P	**P**	**23 41 53.0**	**+0.1**
MRZ	**Mangatainoka R**	**81.55**	**152**	P	**P**	**23 41 50.5**	**-2.5**
ORLT	**Orhaneli**	**81.60**	**313**	*i* P	**P**	**23 41 53.9**	**+0.6**
WUWY	**Wally Ulrich**	**81.60**	**43**	⇑*i*P	**P**	**23 41 54.3**	**+1.0**
LOHW	**Long Hollow**	**81.64**	**43**	*e*P	**P**	**23 41 54.0**	**+0.6**
MAMC	**Mammari**	**81.64**	**307**	⇑P	**P**	**23 41 53.6**	**0.0**
MAMC	**Mammari**	**81.64**	**307**	⇑*e*P	**P**	**23 41 53.6**	**0.0**
REDW	**Red Top Meadow**	**81.65**	**43**	⇑*e*P	**P**	**23 41 54.4**	**+0.9**
MORC	**Moravsky Berou**	**81.65**	**325**	⇑*e*P	**P**	**23 41 53.6**	**+0.3**
MORC				*e*		23 42 01.5	
MORC				pmax	pmax		
	comp=Z,370nm,1.1s,mb6.2						
MORC	**Moravsky Berou**	**81.65**	**325**	⇑*e*P	**P**	**23 41 53.6**	**+0.2**
	comp=Z,371nm,1.2s,mb6.2						
MORC				*e*		23 42 01.5	
MMLI	**Mount Malkishu**	**81.66**	**303**	P	**P**	**23 41 54.3**	**+0.5**
MMLI	**Mount Malkishu**	**81.66**	**303**	⇑P	**P**	**23 41 54.3**	**+0.5**
CSS	**Prodhromos**	**81.68**	**306**	⇑P	**P**	**23 41 53.9**	**+0.1**
	comp=Z,4.9nm,1.0s						
CSS	**Prodhromos**	**81.68**	**306**	⇑*e*P	**P**	**23 41 53.5**	**-0.3**
	comp=Z,827nm,1.2s,mb6.5						
HMDT	**Nahal Hemdat**	**81.69**	**303**	P	**P**	**23 41 54.1**	**+0.2**
HMDT	**Nahal Hemdat**	**81.69**	**303**	⇑P	**P**	**23 41 54.1**	**+0.2**
DAC	**Darwin (Calif)**	**81.70**	**52**	⇑*e*P	**P**	**23 41 54.1**	**+0.2**
	comp=Z,352nm,1.4s,mb6.1						
DAC				*e*	pP	23 42 01.2	+2.1
DAC				*e*		23 42 06.4	
DAC				LR	LR		
	comp=Z,10µm,20.0s,MS6.2						
PSZ	**Piszkesteto**	**81.74**	**323**	⇑*i*	**P**	**23 41 54.8**	**+1.0**
PSZ	**Piszkesteto**	**81.74**	**323**	P	**P**	**23 41 54.5**	**+0.7**
PSZ				pmax	pmax		
	comp=Z,860nm,1.5s,mb6.5						
PSZ	**Piszkesteto**	**81.74**	**323**	⇑*i*P	**P**	**23 41 54.4**	**+0.6**
	comp=Z,766nm,1.4s,mb6.4						
HAF	**Haifa**	**81.75**	**304**	P	**P**	**23 41 54.2**	**0.0**
HAF	**Haifa**	**81.75**	**304**	⇑P	**P**	**23 41 54.2**	**0.0**
SNZO	**South Karori**	**81.76**	**152**	⇑*e*P	**P**	**23 41 52.5**	**-1.5**
	comp=Z,270nm,1.3s,mb6.0						
PVL	**Pavlikeni**	**81.80**	**317**	*e*P	**P**	**23 41 55.0**	**+0.7**
DPC	**Dobruska-Polom**	**81.83**	**326**	*i* P	**P**	**23 41 55.1**	**+0.8**
DPC				*e*pP	pP	23 42 02.5	+2.9
DPC				*e*PP	PP	23 45 03.0	-0.8
DPC				*e*S	S	23 52 06.5	+1.0
DPC				LR		00 22 20.0	
	comp=Z,62nm,14.7s						
BFZ	**Birch Farm**	**81.84**	**151**	P	**P**	**23 41 53.5**	**-1.0**
BGU	**Big Grassy Mou**	**81.85**	**46**	⇑*e*P	**P**	**23 41 55.5**	**+0.9**
BGU				*e*	pP	23 42 02.1	+2.3
OFRI	**‘Ofer**	**81.86**	**304**	P	**P**	**23 41 54.9**	**+0.1**
OFRI	**‘Ofer**	**81.86**	**304**	⇑P	**P**	**23 41 54.9**	**+0.1**
UPC	**Upice**	**81.87**	**327**	⇑*e*P	**P**	**23 41 55.0**	**+0.6**
UPC				*e*pP	pP	23 42 02.5	+2.8
UPC				*e*PP	PP	23 45 08.7	+4.6
AHID	**Auburn Hatcher**	**81.88**	**44**	⇑*e*P	**P**	**23 41 55.4**	**+0.8**
	comp=Z,244nm,1.4s,mb5.9						
AHID				LR	LR		
	comp=Z,9µm,19.0s,MS6.1						
BSEG	**Bad Segeberg**	**81.88**	**332**	*e*P	**P**	**23 41 54.6**	**+0.2**
BSEG				pmax	pmax		
	comp=Z,602nm,1.6s,mb6.3						
ISP	**Isparta**	**81.88**	**310**	*i* P	**P**	**23 41 54.7**	**-0.1**
ISP	**Isparta**	**81.88**	**310**	⇑*i*P	**P**	**23 41 54.9**	**+0.1**
VYHS	**Vyhne**	**81.89**	**324**	*i* P	**P**	**23 41 55.4**	**+0.8**
VYHS				*e*		23 42 03.1	
VYHS				*e*		23 42 10.2	
VYHS				*e*		23 45 04.8	
VYHS				*e*S	S	23 52 05.6	-0.4
VYHS				*e*		23 53 17.0	
VYHS				*e*SS	SS	23 57 19.6	-8.3
VYHS	**Vyhne**	**81.89**	**324**	*i* P	**P**	**23 41 55.4**	**+0.8**
VYHS				*e*		23 42 03.1	
VYHS				*e*		23 42 10.2	
VYHS				*e*PP	PP	23 45 04.8	+0.6
VYHS				*e*S	S	23 52 05.6	-0.4
VYHS				*e*SS	SS	23 57 19.6	-8.3
VYHS				*e*		00 00 26.1	
VYHS				*e*		00 08 21.6	
LEF	**Lefka**	**81.89**	**307**	P	**P**	**23 41 54.7**	**-0.2**
DGMT	**Dagmar**	**81.93**	**36**	*e*P	**P**	**23 41 55.3**	**+0.5**
	comp=Z,309nm,1.0s,mb6.2						
SPUT	**South Promonto**	**81.97**	**46**	*e*P	**P**	**23 41 55.8**	**+0.6**
SPUT				*e*	pP	23 42 02.6	+2.1
SPUT				*e*		23 42 09.4	
BNT	**Bandirma**	**82.01**	**313**	P	**P**	**23 41 56.1**	**+0.7**
SLTI	**Sal’it**	**82.04**	**303**	P	**P**	**23 41 56.0**	**+0.3**
SLTI	**Sal’it**	**82.04**	**303**	⇑P	**P**	**23 41 56.0**	**+0.3**
KOLL	**Kolacno**	**82.04**	**324**	*i* P	**P**	**23 41 56.2**	**+0.8**
KOLL				*e*		23 41 57.8	
KOLL				*e*PP	PP	23 45 06.7	+1.2
KOLL	**Kolacno**	**82.04**	**324**	*i* P	**P**	**23 41 56.2**	**+0.8**
KOLL				*e*		23 45 06.7	
BCK	**Bucak**	**82.05**	**310**	*i* P	**P**	**23 41 55.8**	**+0.1**
ALFC	**Alevga**	**82.06**	**307**	⇑P	**P**	**23 41 55.2**	**-0.6**
	comp=Z,7.4nm,0.9s						
ALFC	**Alevga**	**82.06**	**307**	⇑*e*P	**P**	**23 41 55.2**	**-0.6**
LAO	**LASA Array**	**82.07**	**38**	⇑*e*P	**P**	**23 41 56.1**	**+0.5**
	comp=Z,349nm,1.1s,mb6.2						
LAO				*e*	pP	23 42 02.4	+1.5
LAO				*e*		23 42 08.5	
LAO				LR	LR		
	comp=Z,13µm,19.0s,MS6.3						
JCZ	**Jackson Bay**	**82.08**	**158**	P	**P**	**23 41 56.6**	**+0.9**
SZAC	**Souni-Zanaja**	**82.10**	**306**	⇑P	**P**	**23 41 56.1**	**+0.1**
SZAC	**Souni-Zanaja**	**82.10**	**306**	⇑*e*P	**P**	**23 41 56.1**	**+0.1**
MFT	**Murefte**	**82.14**	**314**	*i* P	**P**	**23 41 56.2**	**+0.1**
DRGI	**Dragot**	**82.15**	**303**	P	**P**	**23 41 56.7**	**+0.4**
DRGI	**Dragot**	**82.15**	**303**	⇑P	**P**	**23 41 56.7**	**+0.4**
TPNV	**Topopah Spring**	**82.19**	**51**	⇑*e*P	**P**	**23 41 56.9**	**+0.5**
	comp=Z,568nm,1.2s,mb6.4						
TPNV				*e*	pP	23 42 04.2	+2.5
TPNV				*e*		23 42 10.7	
TPNV				LR	LR		
	comp=Z,12µm,20.0s,MS6.3						
OST	**Stronsay**	**82.19**	**340**	*e*P	**P**	**23 41 55.4**	**-0.5**
KHL	**Karahalli**	**82.23**	**311**	P	**P**	**23 41 56.9**	**+0.3**
HWUT	**Hardware Ranch**	**82.31**	**45**	⇑*e*P	**P**	**23 41 57.8**	**+0.9**
	comp=Z,634nm,1.3s,mb6.4						
HWUT				*e*	pP	23 42 04.7	+2.5
HWUT				LR	LR		
	comp=Z,11µm,22.0s,MS6.2						
KGT	**Karabiga**	**82.33**	**314**	P	**P**	**23 41 59.6**	**+2.5**
MZDA	**Masada**	**82.33**	**302**	P	**P**	**23 41 57.7**	**+0.4**
ANTB	**Antalya**	**82.34**	**309**	P	**P**	**23 41 56.1**	**-1.1**
MSZ	**Milford Sound**	**82.36**	**158**	P	**P**	**23 41 56.6**	**-0.5**
PPCY	**Paphos**	**82.39**	**307**	⇑P	**P**	**23 41 57.3**	**-0.2**
PPCY	**Paphos**	**82.39**	**307**	⇑*e*P	**P**	**23 41 57.3**	**-0.2**
DIM	**Dimitrovgrad**	**82.41**	**316**	*e*P	**P**	**23 41 58.0**	**+0.6**
DUG	**Dugway**	**82.43**	**47**	*e*P	**P**	**23 41 58.4**	**+0.8**
	comp=Z,620nm,1.5s,mb6.3						
DUG				*e*	pP	23 42 05.3	+2.4
DUG				LR	LR		
	comp=Z,10µm,20.0s,MS6.2						
BALB	**Balikesir**	**82.47**	**313**	*i* P	**P**	**23 41 58.1**	**+0.3**
PVCC	**Panska Ves**	**82.52**	**327**	⇑*e*P	**P**	**23 41 58.5**	**+0.7**
PVCC				*e*pP	pP	23 42 05.8	+2.7
PVCC				*e*x	x	23 42 12.6	
PVCC				*e*PP	PP	23 45 11.8	+2.6
PVCC				*e*S	S	23 52 12.9	+0.5
PVCC				LR		00 23 30.0	
	comp=Z,41nm,13.2s						
KBRS	**Khaybar**	**82.52**	**296**	P	**P**	**23 41 59.0**	**+0.7**
RPZ	**Rata Peaks**	**82.52**	**156**	P	**P**	**23 41 57.2**	**-0.8**
	comp=Z,64nm,0.8s,mb5.7,baz=118,slow=3.7,SNR=22						
BRG	**Berggiesshubel**	**82.56**	**328**	⇑*i*P	**P**	**23 41 58.2**	**+0.2**
BRG				*i*		23 42 06.7	
BRG				*i*		23 42 15.4	
BRG				*i*		23 45 08.6	
BRG				*i* S	S	23 52 16.0	+3.2
BRG				pmax	pmax		
	comp=Z,1µm,2.1s,mb6.6						
BRG	**Berggiesshubel**	**82.56**	**328**	⇑*i*P	**P**	**23 41 58.2**	**+0.2**
	comp=Z,1µm,2.1s,mb6.6						
BRG				*i*		23 42 00.2	
BRG				*i*		23 42 06.7	
BRG				*i*		23 42 15.4	
BRG				*i* PP	PP	23 45 08.6	-0.9
BRG				*i* S	S	23 52 16.0	+3.2
BRG				*i* SS	SS	23 57 23.0	-15
BRG				*e*P’P’		00 08 22.3	
BRG				LR	LR		
	comp=Z,70µm,13.5s,MS7.2						
MWC	**Mount Wilson**	**82.56**	**54**	P	**P**	**23 41 58.8**	**+0.4**
SMOL	**Smolenice**	**82.56**	**324**	*i* P	**P**	**23 41 59.2**	**+1.1**
SMOL				*e*		23 42 00.8	
SMOL				*e*PP	PP	23 45 11.5	+1.8
SMOL	**Smolenice**	**82.56**	**324**	*i* P	**P**	**23 41 59.2**	**+1.1**
SMOL				*e*		23 45 11.5	
OHO	**Hoy**	**82.60**	**341**	*e*P	**P**	**23 41 58.0**	**-0.1**
TATS	**Tathlith**	**82.61**	**288**	P	**P**	**23 41 59.5**	**+0.5**
CLL	**Collm**	**82.66**	**328**	⇑P	**P**	**23 41 58.5**	**0.0**
	comp=Z,logA/T=2.8,mb6.6						
CLL				*i* *PP	pP	23 42 06.4	+2.6
CLL				*e*PP	PP	23 45 09.0	-1.4
CLL				*e*S	S	23 52 18.0	+4.1
CLL				*e*SS	SS	23 57 55.0	+15
CLL				*i* PKKP	PKKP	00 00 22.8	+15
CLL				*e*SSS	SSS	00 01 18.0	+14
CLL				*e*		00 08 22.0	
CLL	**Collm**	**82.66**	**328**	⇑*i*P	**P**	**23 41 58.5**	**0.0**
CLL				*i* *PP	pP	23 42 06.4	+2.6
CLL				*e*S	S	23 52 18.0	+4.1
CLL				pmax	pmax		
	comp=Z,998nm,1.7s,mb6.6						
CLL				MLR	MLR		
	comp=Z,17µm,21.5s,MS6.4						
CLL	**Collm**	**82.66**	**328**	⇑*i*P	**P**	**23 41 58.5**	**0.0**
	comp=Z,998nm,1.7s,mb6.6						
CLL				*i* pP	pP	23 42 06.4	+2.6
CLL				*e*S	S	23 52 18.0	+4.1
CLL				P’P’		00 08 22.0	
CLL				LR	LR		
	comp=Z,17µm,21.5s,MS6.4						
TCUT	**Toone Canyon**	**82.71**	**45**	⇑*e*P	**P**	**23 41 59.0**	**0.0**
TCUT				*e*	pP	23 42 06.2	+1.8
KDZ	**Kurdzhali**	**82.72**	**315**	*e*P	**P**	**23 42 00.0**	**+0.9**
MANT	**Manisa**	**82.74**	**311**	*i* P	**P**	**23 41 59.6**	**+0.4**
OBR	**Brabster**	**82.76**	**340**	*e*P	**P**	**23 41 58.8**	**-0.1**
BW06	**Boulder Array**	**82.76**	**43**	⇑*e*P	**P**	**23 41 59.3**	**0.0**
	comp=Z,472nm,1.6s,mb6.3						
BW06				*e*	pP	23 42 06.1	+1.6
BW06				LR	LR		
	comp=Z,11µm,20.0s,MS6.2						
PDAR	**Pinedale Array**	**82.76**	**43**	P	**P**	**23 41 59.1**	**-0.2**
	comp=Z,19nm,0.9s,baz=289,slow=2.3,SNR=118						
PDAR				PKKPbc		00 00 22.1	
	comp=Z,5.8nm,1.4s,baz=135,slow=4.2,SNR=4.2						
PDAR				PKPPKP		00 08 27.8	
	comp=Z,1.0nm,1.0s,baz=135,slow=2.1,SNR=5.3						
ALN	**Alexandroupoli**	**82.81**	**315**	*e*P	**P**	**23 42 00.3**	**+0.8**
LBZ	**Lake Benmore**	**82.83**	**157**	P	**P**	**23 41 58.7**	**-0.8**
PLD	**Plovdiv**	**82.86**	**316**	*e*P	**P**	**23 42 00.0**	**+0.2**
DENT	**Denizli**	**82.88**	**311**	*i* P	**P**	**23 42 00.9**	**+0.9**
ZFRI	**Zfri**	**82.89**	**302**	P	**P**	**23 42 00.4**	**+0.2**
ZFRI	**Zfri**	**82.89**	**302**	⇑P	**P**	**23 42 00.4**	**+0.2**
PGB	**Panagyurishte**	**82.89**	**317**	*e*P	**P**	**23 42 01.0**	**+1.1**
DNZL	**Cakiroluk**	**82.91**	**311**	*i* P	**P**	**23 42 00.6**	**+0.5**
PRU	**Pruhonice**	**82.91**	**327**	⇑*i*P	**P**	**23 42 00.2**	**+0.3**
PRU				*e*		23 42 08.2	
PRU				*e*		23 42 15.3	
PRU				*e*		23 45 17.0	
PRU				*e*S	S	23 52 17.1	+0.7
PRU				pmax	pmax		
	comp=Z,1µm,1.6s,mb6.6						
PRU				MLR	MLR		
	comp=Z,34µm,14.0s,MS6.9						
PRU	**Pruhonice**	**82.91**	**327**	⇑*i*P	**P**	**23 42 00.2**	**+0.3**
	comp=Z,1µm,1.6s,mb6.6						
PRU				*e*		23 42 08.2	
PRU				*e*		23 42 15.3	
PRU				*e*		23 45 03.3	
PRU				*e*PP	PP	23 45 17.0	+4.6
PRU				*e*S	S	23 52 17.1	+0.7
PRU				LR	LR		
	comp=Z,34µm,14.0s,MS6.9						
ELL	**Elmali**	**82.91**	**309**	*i* P	**P**	**23 42 00.6**	**+0.4**
MASH	**Mash‘abbe Sade**	**82.92**	**302**	P	**P**	**23 42 00.3**	**0.0**
MASH	**Mash‘abbe Sade**	**82.92**	**302**	⇑P	**P**	**23 42 00.3**	**0.0**
ZST	**Bratislava**	**82.94**	**324**	*e*P	**P**	**23 42 01.2**	**+1.1**
ZST				*e*		23 42 02.6	
ZST				*e*		23 42 08.9	
ZST				*e*		23 42 16.2	
ZST				*e*PP	PP	23 45 14.3	+1.6
ZST				*e*S	S	23 52 17.7	+0.9
ZST				*e*SS	SS	23 58 23.4	+40
ZST	**Bratislava**	**82.94**	**324**	*e*P	**P**	**23 42 01.2**	**+1.1**
ZST				*e*		23 42 08.9	
ZST				*e*		23 42 16.2	
ZST				*e*		23 45 14.3	
ZST				*e*S	S	23 52 17.7	+0.9
RTMM	**Retamin**	**82.95**	**302**	P	**P**	**23 42 00.5**	**0.0**
RTMM	**Retamin**	**82.95**	**302**	⇑P	**P**	**23 42 00.5**	**0.0**
AKS	**Akhisar**	**82.97**	**312**	*i* P	**P**	**23 42 02.0**	**+1.6**
ORE	**Reay**	**82.98**	**341**	*e*P	**P**	**23 42 00.2**	**+0.2**
JLU	**Jordanelle**	**83.00**	**46**	⇑*e*P	**P**	**23 42 01.4**	**+0.8**
NLU	**North Lily Min**	**83.02**	**46**	⇑*i*P	**P**	**23 42 01.6**	**+0.9**
NLU				*e*	pP	23 42 08.2	+2.2
SVTA	**Shivta**	**83.07**	**302**	P	**P**	**23 42 01.0**	**-0.1**
RZN	**Rozhen**	**83.11**	**316**	*e*P	**P**	**23 42 02.0**	**+0.9**
PRNI	**Paran**	**83.12**	**302**	P	**P**	**23 42 01.7**	**+0.3**
PRNI	**Paran**	**83.12**	**302**	⇑P	**P**	**23 42 01.7**	**+0.3**
TBKS	**Tabuk**	**83.20**	**299**	P	**P**	**23 42 02.0**	**+0.2**
OTO	**Tongue**	**83.20**	**341**	*e*P	**P**	**23 42 01.4**	**+0.2**
DAU	**Daniels Canyon**	**83.23**	**46**	P	**P**	**23 42 02.9**	**+1.2**
DAU	**Daniels Canyon**	**83.23**	**46**	*e*P	**P**	**23 42 02.7**	**+0.9**
KZIT	**Kziot**	**83.24**	**302**	P	**P**	**23 42 02.0**	**0.0**
KZIT	**Kziot**	**83.24**	**302**	⇑P	**P**	**23 42 02.0**	**0.0**
MPU	**Maple Canyon**	**83.25**	**46**	*e*P	**P**	**23 42 02.8**	**+0.9**
VKA	**Vienna**	**83.27**	**325**	⇑*i*P	**P**	**23 42 02.7**	**+0.9**
	comp=Z,4µm,4.0s						
BOLS	**Boljevac**	**83.31**	**319**	⇑*i*P	**P**	**23 42 02.0**	**0.0**
JMQS	**Jabal Moqyreh**	**83.32**	**300**	P	**P**	**23 42 02.6**	**+0.2**
AYVA	**Ayvalik**	**83.40**	**313**	*i* P	**P**	**23 42 03.0**	**+0.4**
CLZ	**Clausthal**	**83.40**	**330**	*e*P	**P**	**23 42 02.7**	**+0.4**
	comp=Z,1µm,1.5s,mb6.7						
CLZ				*e*pP	pP	23 42 10.2	+2.6
VTS	**Vitosha**	**83.41**	**317**	*e*P	**P**	**23 42 03.0**	**+0.4**

SVIS	Svilajnac	83.42	320	⇑*i*P	P	23 42 02.7	+0.1
AQBJ	Aqaba	83.44	301	P	P	23 42 03.0	0.0
KMTI	Karmit	83.46	302	P	P	23 42 03.0	-0.1
KMTI	Karmit	83.46	302	⇑P	P	23 42 03.0	-0.1
BEO	Belgrade	83.49	320	⇓*i*P	P	23 42 03.3	+0.3
MBH	Mount Berech	83.50	301	P	P	23 42 03.3	-0.1
MBH	Mount Berech	83.50	301	⇑P	P	23 42 03.3	-0.1
EIL	Elat	83.55	301	P	P	23 42 03.6	0.0
	comp=Z,230nm,1.1s,mb6.2,baz=26,slow=5.4,SNR=108						
EIL	Elat	83.55	301	⇑P	P	23 42 03.6	0.0
SOP	Sopron	83.56	324	⇑*i*	P	23 42 04.0	+0.8
SOP				*i*		23 45 18.6	
KDAG	Bornova	83.60	312	*i* P	P	23 42 03.7	0.0
IZM	Izmir	83.60	312	*i* P	P	23 42 03.7	0.0
HOPOS	Hopovo Monaste	83.61	321	⇑*i*P	P	23 42 03.6	+0.1
MVH1	Achvaich	83.63	340	*e*P	P	23 42 03.6	+0.3
MCD	Coleburn Disti	83.66	340	*e*P	P	23 42 03.1	-0.4
AYDN	Tasoluk	83.66	311	*i* P	P	23 42 04.9	+0.9
ALWS	Ilw as Safayha	83.67	301	P	P	23 42 04.4	+0.2
NKC	Novy Kostel	83.68	328	⇑LR		00 23 50.0	
	comp=Z,34nm,14.2s						
JMOS	Jabal al Moall	83.72	301	P	P	23 42 04.6	+0.1
DALT	Dalyan (Mudla)	83.72	310	*i* P	P	23 42 04.8	+0.5
YER	Yerkesik	83.72	311	*i* P	P	23 42 05.2	+0.9
MMB	Musomiste	83.75	316	*e*P	P	23 42 05.0	+0.7
MOX	Moxa	83.75	329	⇑*i*P	P	23 42 03.9	-0.2
	comp=Z,logA/T=2.7,mb6.6						
MOX				PP	PP	23 45 28.0	+9.0
MOX				S	S	23 52 27.0	+2.2
MOX				PKKP	PKKP	00 00 19.0	+13
MOX				PKPPKP		00 08 23.0	
MOX				QM		00 18 15.0	
MOX				RM		00 22 56.0	
MOX	Moxa	83.75	329	*e*P	P	23 42 03.9	-0.2
MOX				pmax	pmax		
	comp=Z,893nm,1.8s,mb6.6						
MOX				MLR	MLR		
	comp=Z,16µm,19.0s,MS6.4						
MOX	Moxa	83.75	329	*e*P	P	23 42 03.9	-0.2
	comp=Z,893nm,1.8s,mb6.6						
MOX				LR	LR		
	comp=Z,16µm,19.0s,MS6.4						
REB	Eisghbrachaidh	83.77	341	*e*P	P	23 42 04.3	+0.3
RTO	Tolsta	83.80	342	*e*P	P	23 42 05.1	+0.9
MME1	Meikle Cairn	83.80	340	*e*P	P	23 42 03.6	-0.6
MSU	Marysvale	83.84	48	*e*P	P	23 42 06.1	+1.2
HAQS	Haql	83.91	301	P	P	23 42 05.5	0.0
KKB	Krupnik	83.94	317	*e*P	P	23 42 06.0	+0.7
MLSB	Milas	83.95	311	*i* P	P	23 42 06.5	+1.0
GRUS	Gruza	83.96	319	⇓*i*P	P	23 42 05.7	+0.4
KHC	Kasperske Hory	83.96	327	P	P	23 42 05.6	+0.4
KHC				*e*pP	pP	23 42 13.5	+3.0
KHC				*e*x	x	23 42 20.4	
KHC				*e*PP	PP	23 45 19.5	-1.3
KHC				*e*S	S	23 52 28.5	+1.6
KHC				LR		00 23 40.0	
	comp=Z,82nm,14.8s						
PFO	Pinyon Flat Ob	84.00	54	P	P	23 42 06.2	+0.4
PFO	Pinyon Flat Ob	84.00	54	⇑*e*P	P	23 42 06.0	+0.2
	comp=Z,309nm,1.1s,mb6.3						
BARS	Barje	84.04	318	⇑*i*P	P	23 42 06.5	+0.7
MDO	Dochfour	84.10	340	⇑*e*P	P	23 42 05.2	-0.5
GEC2	GERESS Array S	84.11	326	*e*P	P	23 42 06.2	+0.3
GEC2				pmax	pmax		
	comp=Z,612nm,1.5s,mb6.5						
GEC2	GERESS Array S	84.11	326	*e*P	P	23 42 06.2	+0.3
	comp=Z,612nm,1.5s,mb6.5						
GERES	GERESS Array B	84.11	326	P	P	23 42 06.2	+0.2
	comp=Z,55nm,0.8s,mb5.7,baz=40,slow=5.1,SNR=387						
GERES				PKKPbc		00 00 11.7	
	comp=Z,1.4nm,0.7s,baz=225,slow=1.9,SNR=5.6						
GERES				PKPPKP		00 08 22.2	
	comp=Z,10nm,1.4s,baz=207,slow=3.0,SNR=5.9						
SRS	Serrai	84.12	316	*e*P	P	23 42 06.0	-0.2
KPJ	Monastery St.	84.13	317	⇑*i*P	P	23 42 07.1	+0.8
BDAS	Al Bad‘	84.14	300	P	P	23 42 06.6	0.0
RRR	Rubha Reidh	84.14	341	*e*P	P	23 42 05.5	-0.3
WIT	Witteveen	84.16	332	*e*P	P	23 42 07.5	+1.4
	comp=Z,1µm,1.2s,mb6.9						
DIVS	Divcibare	84.21	320	⇓*i*P	P	23 42 06.7	+0.1
LBOS		84.22	283	⇑*e*P	P	23 42 08.7	+1.5
WET	Wettzell	84.27	327	*e*P	P	23 42 07.4	+0.6
WET				pmax	pmax		
	comp=Z,763nm,1.6s,mb6.6						
WET	Wettzell	84.27	327	*e*P	P	23 42 07.4	+0.6
	comp=Z,763nm,1.6s,mb6.6						
YNBS	Yanbu‘ al Bahr	84.28	295	P	P	23 42 07.8	+0.4
UMJS	Umm Lajj	84.29	296	P	P	23 42 08.2	+0.8
BDRM	Kayabasi	84.30	311	*i* P	P	23 42 07.2	0.0
RRH	Rhenigidale	84.32	342	*e*P	P	23 42 07.7	+0.9
ARSA	Arzberg	84.36	324	⇓*i*P	P	23 42 07.7	+0.4
	comp=Z,2µm,2.1s,mb6.8						
OUR	Ouranopolis	84.39	315	*e*P	P	23 42 08.0	+0.4
BAR	Barrett	84.40	55	⇑*e*P	P	23 42 07.8	-0.1
SOH	Sokhos	84.45	316	*e*P	P	23 42 07.7	-0.2
EDU	Dundee	84.47	339	*e*P	P	23 42 07.0	-0.6
SRU	San Rafael	84.48	46	⇑*e*P	P	23 42 08.9	+0.8
KNT	Kendrikon	84.50	316	*e*P	P	23 42 08.0	-0.1
MOA	Molln	84.55	325	⇑*i*P	P	23 42 08.6	+0.4
	comp=Z,2µm,2.0s,mb6.8						
DHBB	Dhamar BB	84.55	284	⇑*e*P	P	23 42 10.6	+1.7
HAJJ	Hajjah	84.58	285	⇑*e*P	P	23 42 10.6	+1.6
VAY	Valandovo	84.59	317	⇑*i*P	P	23 42 08.1	-0.5
GRA1	Grafenberg Arr	84.62	328	*e*P	P	23 42 09.2	+0.7
	comp=Z,2µm,1.4s,mb7.0						
GRA1				*e*pP	pP	23 42 16.6	+2.8
GRA1				*e*		23 42 22.2	
GRA1				*e*PP	PP	23 45 16.3	-10
GRA1				*e*S	S	23 52 35.1	+1.7
GRA1				*e*SS	SS	23 58 12.2	+4.4
GRF	Grafenberg Arr	84.62	328	*e*P	P	23 42 09.2	+0.7
GRF				*e**PP	pP	23 42 16.6	+2.8
GRF				*e*		23 42 22.2	
GRF				*e*S	S	23 52 35.1	+1.7
GRF				*e*SS	SS	23 58 12.2	+4.4
GRF				pmax	pmax		
	comp=Z,2µm,1.4s,mb7.0						
LTHS	Al Lith	84.64	291	P	P	23 42 09.9	+0.6
NVSS	Nova Varos 2	84.76	320	⇓*i*P	P	23 42 01.5	-7.9
WTSB	Winterswijk	84.76	332	*e*P	P	23 42 09.0	-0.1
	comp=Z,174nm,1.1s,mb6.1						
WTSB				*e*x	x	23 45 39.7	
WTSB				*e*S	S	23 52 31.4	-3.4
THE	Thessaloniki	84.80	316	*e*P	P	23 42 09.6	0.0
SKO	Skopje	84.81	318	⇑*i*P	P	23 42 10.7	+1.1
	comp=Z,0.4nm,1.0s						
SKO				*i*		23 42 19.0	
	comp=Z,0.4nm,1.0s						
SKO				*i*		23 42 25.8	
	comp=Z,0.4nm,1.0s						
PAIG	Paliouri	84.83	315	*e*P	P	23 42 10.0	+0.2
ESY	Stoneypath	84.88	339	⇑*e*P	P	23 42 09.4	-0.2
ESY				AMb	AMB	23 42 28.1	
	comp=Z,362nm,1.4s,mb6.3						
GRG	Griva	84.92	316	*e*P	P	23 42 10.3	+0.1
RSSD	Black Hills	84.93	39	⇑*e*P	P	23 42 10.4	+0.2
RSSD				pmax	pmax		
	comp=Z,310nm,1.4s,mb6.2						
RSSD	Black Hills	84.93	39	⇑*e*P	P	23 42 10.3	+0.2
	comp=Z,309nm,1.4s,mb6.2						
EDI	Edinburgh	85.05	339	*e*P	P	23 42 10.1	-0.3
EDI				AMb	AMB	23 42 20.2	
	comp=Z,228nm,2.3s,mb5.9						
PLE	Pljevlja	85.05	320	⇑*i*P	P	23 42 12.0	+1.2
IVA	Berane	85.08	319	⇑*i*P	P	23 42 11.7	+0.8
EBL	Broad Law	85.13	339	⇑*e*P	P	23 42 10.7	-0.2
EAB	Aberfoyle	85.16	340	⇑*e*P	P	23 42 11.2	+0.1
EAB				AMb	AMB	23 42 20.4	
	comp=Z,358nm,1.1s,mb6.4						
SISC	Sisak	85.18	323	⇑*i*P	P	23 42 12.1	+0.7
AOS	Alonnisos	85.19	314	*e*P	P	23 42 11.8	+0.2
PVY	Plav	85.22	319	⇑*i*P	P	23 42 12.0	+0.4
PCOU	Corrie	85.26	339	⇑*e*P	P	23 42 11.8	+0.2
OBKA	Obir	85.36	324	⇑*i*P	P	23 42 12.1	-0.2
	comp=Z,2µm,3.2s						
UPM	Unac-Piva	85.39	320	⇑*i*P	P	23 42 12.3	-0.2
LIT	Litokhoron	85.42	316	*e*P	P	23 42 12.2	-0.6
XOR	Xorichti	85.48	315	*e*P	P	23 42 14.0	+0.9
POB1	Observatory	85.48	339	⇑*e*P	P	23 42 12.9	+0.3
TRBA	At Turbah	85.49	283	⇑*e*P	P	23 42 15.3	+1.7
BIA	Bitola	85.50	317	*i* P	P	23 42 15.0	+1.9
LCP	Cassop	85.51	337	*e*P	P	23 42 12.5	-0.3
EKA	Eskdalemuir Ar	85.54	339	P	P	23 42 13.0	+0.1
	comp=Z,64nm,1.1s,mb5.8,baz=27,slow=3.7,SNR=44						
EKA				PP	PP	23 45 31.4	-1.8
	comp=Z,18nm,1.0s,baz=30,slow=6.7,SNR=3.5						
EKA	Eskdalemuir Ar	85.54	339	P	P	23 42 13.0	+0.1
EKA						23 45 31.5	
EKA				pmax	pmax		
	comp=Z,64nm,1.1s						
EKA				pmax	pmax		
	comp=Z,18nm,1.0s						
KBA	Koelnbreinsper	85.54	325	⇑*i*P	P	23 42 13.1	0.0
	comp=Z,2µm,2.6s,mb6.8						
PCA1	Carrot	85.55	339	⇑*e*P	P	23 42 12.2	-0.9
ESK	Eskdalemuir	85.56	339	⇑*e*P	P	23 42 12.8	-0.2
ESK	Eskdalemuir	85.56	339	⇑*e*P	P	23 42 13.0	-0.1
ESK				pmax	pmax		
	comp=Z,210nm,1.0s,mb6.3						
ESK	Eskdalemuir	85.56	339	⇑*e*P	P	23 42 13.0	-0.1
	comp=Z,210nm,1.1s,mb6.3						
PMSU	Muirshiel	85.57	340	*e*P	P	23 42 13.2	+0.2
SIND	Sindeldorf	85.58	329	⇑*e*P	P	23 42 13.3	0.0
LWH	Whinny Nab	85.58	337	*e*P	P	23 42 13.5	+0.3
NKY	Niksic	85.61	319	⇑*i*P	P	23 42 13.4	-0.2
FNA	Florina	85.62	317	*e*P	P	23 42 13.3	-0.4
LJU	Ljubljana	85.70	324	*e*P	P	23 42 13.7	-0.3
LJU				*e*	pP	23 42 20.7	+1.4
LJU				*e*PP	PP	23 45 35.6	+0.8
LJU				*e*SKSac		23 52 36.3	
LJU				*e*S	S	23 52 45.4	+1.3
LJU				*e*PS	PS	23 53 50.3	+5.5
LJU				*e*SS	SS	23 58 25.0	+0.8
FUR	Furstenfeldbru	85.71	327	*e*P	P	23 42 14.5	+0.5
FUR				*e**PP	pP	23 42 22.0	+2.7
FUR				pmax	pmax		
	comp=Z,1µm,1.6s,mb7.0						
FUR	Furstenfeldbru	85.71	327	*e*P	P	23 42 14.5	+0.5
	comp=Z,1µm,1.6s,mb7.0						
FUR				*e*pP	pP	23 42 22.0	+2.7
VISS	Visnje	85.72	324	*e*P	P	23 42 13.8	-0.3
BOJS	Bojanci	85.72	323	*e*P	P	23 42 14.1	0.0
TTG	Podgorica	85.72	319	⇑*i*P	P	23 42 14.6	+0.4
TOD	Tromm	85.73	329	⇑*e*P	P	23 42 14.3	+0.2
TOD	Tromm	85.73	329	*e*P	P	23 42 14.4	+0.3
OHR	Ohrid	85.74	317	⇑*i*P	P	23 42 14.0	-0.3
BTA	Talkin	85.75	338	⇑*e*P	P	23 42 14.0	0.0
BHH	Howats Hill	85.76	338	⇑*e*P	P	23 42 14.0	-0.1
BRY	Bratogost	85.80	320	⇑*i*P	P	23 42 14.1	-0.5
BWH	Wardlaw	85.82	339	⇑*e*P	P	23 42 14.5	+0.2
BCC1	Chapelcross	85.82	338	*e*P	P	23 42 14.3	0.0
PV10	Paradox Valley	85.85	46	*e*P	P	23 42 16.2	+1.2
PMOR	Pomariorio Ree	85.87	111	*e*P	P	23 42 14.4	-1.1
	comp=Z,427nm,1.4s,mb6.5						
SWS	Schriesheim	85.87	329	⇑*e*P	P	23 42 14.8	+0.1
HDH	Heidenheim	85.89	328	⇑*e*P	P	23 42 14.5	-0.3
BDL	Dobcross Hall	85.92	338	⇑*e*P	P	23 42 15.2	+0.3
SANT	Santorini	85.98	311	⇑*e*P	P	23 42 13.0	-2.7
	comp=Z,1µm,1.3s,mb6.9						
BUM	Brajici-Budva	86.01	319	⇑*i*P	P	23 42 16.4	+0.8
PTCC	Patocco-Chiusa	86.02	325	*e*P	P	23 42 15.7	+0.2
VOY	Vojsko	86.02	324	*e*P	P	23 42 14.3	-1.3
JAVS	Javornik	86.03	324	*e*P	P	23 42 14.8	-0.8
HGN	Heimansgroeve	86.04	331	*e*P	P	23 42 15.2	-0.4
	comp=Z,182nm,1.1s,mb6.2						
HGN				*e*x	x	23 45 15.8	
HGN				*e*S	S	23 52 40.4	-6.8
HGN				*e*SS	SS	23 58 58.3	+29
ULC	Ulcinj	86.04	319	⇑*i*P	P	23 42 16.2	+0.4
ROBS	Robic	86.06	325	*e*P	P	23 42 14.5	-1.2
ABH	Alteburg	86.06	330	⇑*e*P	P	23 42 15.8	+0.1
PPT	Papeete	86.06	114	*e*P	P	23 42 15.8	-0.6
	comp=Z,154nm,1.6s,mb6.0						
PPT	Papeete	86.06	114	*e*SS	SS	23 58 18.1	-12
PPT				*e*L		00 04 38.2	
PPT				*e*R		00 08 39.0	
	comp=Z,35µm,26.8s,baz=304						
BBO1	Bothel	86.07	338	⇑*e*P	P	23 42 15.6	0.0
PAE	Paea	86.12	114	*e*P	P	23 42 15.8	-0.9
	comp=Z,560nm,1.4s,mb6.6						
HCY	Herceg Novi	86.13	319	⇑*i*P	P	23 42 16.0	-0.2
CKE	Keswick	86.15	338	⇑*e*P	P	23 42 16.1	+0.1
FVI	Forni Avoltri	86.15	325	*e*P	P	23 42 15.4	-0.8
GMNA	Gemona	86.17	325	*e*P	P	23 42 16.7	+0.5
WATA	Walderalm	86.18	326	⇑*i*P	P	23 42 16.3	0.0
	comp=Z,1µm,2.2s,mb6.7						
STU	Stuttgart	86.19	329	⇑*e*P	P	23 42 16.0	-0.4
STU				pmax	pmax		
	comp=Z,380nm,1.0s,mb6.6						
STU	Stuttgart	86.19	329	⇑*e*P	P	23 42 16.0	-0.4
	comp=Z,382nm,1.0s,mb6.6						
WUAZ	Wupatki	86.19	50	⇑*e*P	P	23 42 17.5	+0.8
	comp=Z,380nm,1.2s,mb6.5						
HPK	Haverah Park	86.21	337	⇑*e*P	P	23 42 16.4	+0.2
WTTA	Wattenberg	86.21	326	⇑*i*P	P	23 42 16.5	0.0
	comp=Z,2µm,2.5s,mb6.9						
TIAR	Tiarei	86.24	114	*e*P	P	23 42 16.2	-1.1
	comp=Z,560nm,1.3s,mb6.6						
KTD	Kalmit	86.26	329	*e*P	P	23 42 16.5	-0.2
KTD	Kalmit	86.26	329	*e*P	P	23 42 17.4	+0.7
STON	Ston	86.27	320	*i* P	P	23 42 15.7	-1.2
PV01	Paradox Valley	86.29	46	*e*P	P	23 42 17.9	+0.8
CSF	Scaffel	86.31	338	⇑*e*P	P	23 42 16.9	+0.1
TRI	Trieste	86.31	324	*e*P	P	23 42 17.5	+0.5
LDU	Leeds Universi	86.31	337	*e*P	P	23 42 17.0	+0.2
AEU	East Anglia Un	86.34	335	⇑*e*P	P	23 42 16.8	-0.2
MEV	Metsovon	86.36	316	*e*P	P	23 42 18.6	+1.2
BUCH	Bad Urach	86.36	328	⇑*e*P	P	23 42 17.4	+0.2
CDU1	Dunnerdale	86.39	338	⇑*e*P	P	23 42 16.9	-0.3
MOTA	Moosalm	86.39	327	⇓*i*P	P	23 42 17.2	-0.2
	comp=Z,2µm,2.6s,mb6.8						
RUP	Ruppelstein	86.40	330	⇑*e*P	P	23 42 17.5	+0.2
AWH	Whinburgh	86.43	335	⇑*e*P	P	23 42 17.1	-0.3
SQTA	Sankt Quirin	86.44	326	⇑*i*P	P	23 42 17.4	-0.2
	comp=Z,877nm,2.1s,mb6.6						
TVO	Taravao	86.44	114	*e*P	P	23 42 17.7	-0.6
	comp=Z,543nm,1.4s,mb6.6						
LBG	Lerchenberg	86.45	329	⇑*e*P	P	23 42 17.7	+0.1
NVLJ	Novalja	86.57	323	⇑*i*P	P	23 42 17.1	-1.2
UBR	Uberruh	86.60	327	⇑*e*P	P	23 42 18.1	-0.3
LHO	Holmfirth	86.63	337	⇑*e*P	P	23 42 18.4	+0.1
LANF	Langenberg	86.64	329	⇑*e*P	P	23 42 18.4	-0.1
KSY	Syston	86.69	336	⇑*e*P	P	23 42 18.1	-0.6
GUT	Gutenstein	86.75	328	⇑*e*P	P	23 42 18.7	-0.4
KBI1	Birley Grange	86.76	337	⇑*e*P	P	23 42 18.2	-0.8
WLF	Walferdange	86.80	331	P	P	23 42 19.6	+0.3
WLF				pmax	pmax		
	comp=Z,1µm,1.8s,mb6.9						
WLF	Walferdange	86.80	331	⇑*i*P	P	23 42 19.5	+0.1
	comp=Z,483nm,1.3s,mb6.6						
SPAK	Spaichingen	86.88	328	*e*P	P	23 42 19.6	-0.1
BFO	Black Forest	86.90	329	*e*P	P	23 42 19.7	-0.1
ISCO	Idaho Springs	86.95	43	⇑*e*P	P	23 42 21.5	+1.2
	comp=Z,114nm,1.2s,mb6.0						
ISCO				LR	LR		
	comp=Z,11µm,20.0s,MS6.3						
STR	Strasbourg	86.95	329	*e*P	P	23 42 20.5	+0.4
DAVA	Damuels	87.00	327	⇑*i*P	P	23 42 20.3	0.0
	comp=Z,2µm,2.0s,mb6.9						
GIVF	Givet	87.00	332	⇑*i*P	P	23 42 19.7	-0.6
	comp=Z,1µm,1.6s,mb6.5						
WIM	Isle of Man	87.01	339	⇑*e*P	P	23 42 19.9	-0.3
WIM				AMb	AMB	23 42 29.3	
	comp=Z,394nm,1.3s,mb6.5						
KWE	Weaver Farm	87.07	337	⇑*e*P	P	23 42 20.5	-0.1
CTI	Castel Tesino	87.09	325	*e*P	P	23 42 21.2	+0.4
KTG1	Tilbrook Grang	87.15	336	*e*P	P	23 42 20.8	-0.1
STEIN	Stein am Rhein	87.17	328	⇑*i*P	P	23 42 20.6	-0.5
	comp=Z,677nm,2.2s,mb6.5						
KAMOR	Kamor	87.17	327	⇑*i*P	P	23 42 21.0	-0.2
	comp=Z,1µm,2.7s,mb6.6						
WEIN	Weingarten	87.22	328	⇑*i*P	P	23 42 20.8	-0.6
	comp=Z,637nm,2.2s,mb6.5						
SLE	Schleitheim	87.26	328	⇑*i*P	P	23 42 20.9	-0.7
	comp=Z,710nm,2.5s,mb6.5						
WLS	Welschbruch	87.26	329	⇑*e*P	P	23 42 21.5	-0.1
BAIF	Baives	87.28	332	⇑*i*P	P	23 42 21.3	-0.3
	comp=Z,320nm,1.2s,mb6.1						
CDF	Champ du Feu	87.30	329	⇑*i*P	P	23 42 21.5	-0.2
	comp=Z,1µm,1.6s,mb6.5						
FUORN	Ofenpass	87.32	327	⇑*i*P	P	23 42 22.3	+0.4
	comp=Z,1µm,2.1s,mb6.8						
WILA	Wila	87.34	328	⇑*i*P	P	23 42 21.4	-0.6
	comp=Z,464nm,1.6s,mb6.5						
LIBD	Limburg	87.36	329	*e*P	P	23 42 22.1	+0.1
LIBD	Limburg	87.36	329	⇑*e*P	P	23 42 22.0	0.0
KIZ	Kirchzarten	87.37	329	⇑*e*P	P	23 42 21.6	-0.5
FLACH	Flaach	87.37	328	⇑*i*P	P	23 42 21.5	-0.6
	comp=Z,651nm,2.3s,mb6.4						
BRMO	Bormio	87.37	326	*e*P	P	23 42 22.2	0.0
DAVOX	Davos	87.38	327	P	P	23 42 22.3	+0.2
	comp=Z,55nm,0.6s,mb6.0						
DAVOX				PKPPKP		00 08 17.0	
	comp=Z,2.3nm,1.0s,baz=357,slow=16,SNR=4.0						
DAVOX	Davos	87.38	327	⇑*i*P	P	23 42 22.2	0.0
	comp=Z,441nm,1.6s,mb6.5						
FELD	Feldberg	87.39	329	*e*P	P	23 42 21.8	-0.4
PLONS	Plons	87.40	327	⇑*e*P	P	23 42 21.8	-0.5
	comp=Z,838nm,2.2s,mb6.6						
MEH	Mehetia	87.41	113	*e*P	P	23 42 22.2	-0.8
	comp=Z,197nm,1.5s,mb6.1						
ECH	Echery	87.50	329	⇑*e*P	P	23 42 22.2	-0.5
ZUR	Zurich	87.52	328	⇑*i*P	P	23 42 22.3	-0.5
	comp=Z,786nm,2.8s,mb6.5						
WPM1	Penmaenmawr	87.53	338	⇑*e*P	P	23 42 22.6	-0.2
WPM1				AMb	AMB	23 42 28.3	
	comp=Z,549nm,1.8s,mb6.5						
WME	Myndd Eilian	87.54	338	*e*P	P	23 42 23.3	+0.5
WME				AMb	AMB	23 42 41.3	
	comp=Z,729nm,1.7s,mb6.6						
BERNI	Berninapass	87.58	327	⇑*i*P	P	23 42 23.3	+0.1
	comp=Z,1µm,2.6s,mb6.6						
SULZ	Sulz-Cheisache	87.61	328	⇑*e*P	P	23 42 22.5	-0.8
	comp=Z,799nm,2.2s,mb6.6						
MABI	Malga Bissina	87.62	326	*e*P	P	23 42 22.1	-1.3
WCB1	Church Bay	87.63	338	⇑*e*P	P	23 42 22.2	-1.0
WCB1				AMb	AMB	23 42 26.6	
	comp=Z,322nm,1.6s,mb6.3						
WLF1	Llynfaes	87.66	338	⇑*e*P	P	23 42 23.0	-0.4
WLF1				AMb	AMB	23 42 28.7	
	comp=Z,409nm,1.9s,mb6.3						
LLS	Linth-Limmern	87.72	327	⇑*i*P	P	23 42 23.6	-0.2
	comp=Z,516nm,2.4s,mb6.3						
YRC	Rhoscolyn	87.75	338	⇑*e*P	P	23 42 23.2	-0.6
YRC				AMb	AMB	23 42 33.4	
	comp=Z,449nm,2.3s,mb6.3						
LCI	Lecce	87.77	318	*e*P	P	23 42 25.2	+1.0
VDL	Val di Lei	87.78	327	⇑*i*P	P	23 42 24.2	+0.1
	comp=Z,637nm,1.8s,mb6.6						
MOF	Molkenrain	87.79	329	⇑*e*P	P	23 42 23.6	-0.5
SKP1	Kophill	87.79	335	⇑*e*P	P	23 42 23.2	-0.9
MUO	Muotathal	87.80	328	⇑*i*P	P	23 42 24.0	-0.2
	comp=Z,852nm,2.1s,mb6.6						
GVD	Gavdhos	87.81	311	⇑*e*P	P	23 42 23.6	-1.0
	comp=Z,608nm,1.1s,mb6.7						
BBS	Basel-Blauen	87.92	329	*e*P	P	23 42 24.5	-0.3
YRE	Yr Eifl	87.93	338	⇑*e*P	P	23 42 24.6	0.0
YRE				AMb	AMB	23 42 36.6	
	comp=Z,581nm,2.0s,mb6.5						
HINF	Hinteralfeld	87.94	329	⇑*i*P	P	23 42 23.9	-0.9
BALST	Balsthal	87.94	328	⇑*i*P	P	23 42 24.3	-0.5
	comp=Z,611nm,2.0s,mb6.5						
SAL	Salo	87.95	326	*e*P	P	23 42 24.1	-0.8
BNALP	Bannalp	87.97	328	⇑*i*P	P	23 42 24.7	-0.3
	comp=Z,492nm,1.7s,mb6.5						
THEF	They Montfort	87.99	330	⇑*e*P	P	23 42 24.8	-0.2
HAU	Haudompre	88.00	329	⇑*i*P	P	23 42 24.3	-0.8
HAU				*e*R			
	comp=Z,23µm,20.8s						
FGMS	Monte Sant’Ang	88.01	320	*e*P	P	23 42 26.0	+0.6
BOURR	Bourrignon	88.10	329	⇑*i*P	P	23 42 25.0	-0.6
	comp=Z,686nm,2.2s,mb6.5						
MEZF	Maizieres J’vi	88.16	330	⇑*i*P	P	23 42 25.8	-0.1
	comp=Z,2µm,1.9s,mb6.7						
FUSIO	Fusio	88.17	327	⇑*e*P	P	23 42 25.8	-0.2
	comp=Z,636nm,1.9s,mb6.5						
HASLI	Hasliberg	88.18	328	⇑*i*P	P	23 42 25.6	-0.4
	comp=Z,918nm,2.0s,mb6.7						
RGNG	Rignano Grg	88.23	320	*e*P	P	23 42 26.1	-0.3
RSM	Repubblica di	88.24	324	*e*P	P	23 42 28.4	+2.0
FSSB	Fossombrone	88.25	323	*e*P	P	23 42 26.4	-0.1
CING	Cingoli	88.27	323	*e*P	P	23 42 26.2	-0.3
DSB	Dublin	88.30	339	⇑*e*P	P	23 42 26.3	-0.2
LOMF	Lomont	88.30	329	⇑*e*P	P	23 42 26.7	+0.1
ARV	Arcevia	88.31	323	*e*P	P	23 42 27.1	+0.3
SWN1	Swindon	88.31	336	⇑*e*P	P	23 42 26.6	0.0
SDCO	Great Sand Dun	88.38	45	*e*P	P	23 42 27.7	+0.5
	comp=Z,292nm,1.5s,mb6.3						
SDCO				LR	LR		
	comp=Z,18µm,19.0s,MS6.5						
MUGIO	Muggio	88.40	327	⇑*i*P	P	23 42 25.7	-1.4
	comp=Z,661nm,1.9s,mb6.5						
DCN	Croghan	88.48	340	⇑*i*P	P	23 42 27.2	-0.1
WIMIS	Wimmis	88.48	328	⇑*i*P	P	23 42 26.9	-0.6
	comp=Z,468nm,1.9s,mb6.4						
SFI	Santa Sofia	88.56	324	*e*P	P	23 42 28.5	+0.6
VAI	Varese	88.57	327	*e*P	P	23 42 26.9	-1.0
TUC	Tucson	88.58	52	P	P	23 42 28.7	+0.4
TUC				SKSac		23 53 01.1	
TUC	Tucson	88.58	52	⇑*e*P	P	23 42 28.8	+0.5
TUC				pmax	pmax		
	comp=Z,120nm,1.4s,mb6.0						
TUC	Tucson	88.58	52	⇑*e*P	P	23 42 28.8	+0.5
	comp=Z,125nm,1.4s,mb6.0						
TERO	Teramo	88.60	322	*e*P	P	23 42 27.9	-0.2
PGD	Poggio Sodo	88.64	324	*e*P	P	23 42 29.0	+0.7
FG4	Candela	88.65	320	*e*P	P	23 42 29.4	+1.0
ZCCA	Zocca	88.66	325	*e*P	P	23 42 29.5	+1.1
VMG	Vicchio	88.67	324	*e*P	P	23 42 29.4	+1.0
FG5	Orsara di Pugl	88.68	320	*e*P	P	23 42 29.1	+0.6
MURB	Monte Urbino	88.69	323	*e*P	P	23 42 28.6	0.0
TORNY	Torny	88.69	328	⇑*i*P	P	23 42 28.0	-0.5
	comp=Z,432nm,1.6s,mb6.5						
LKBD	Leukerbad	88.69	328	⇑*i*P	P	23 42 28.0	-0.5
	comp=Z,424nm,2.4s,mb6.3						
SEI	Scarperia	88.69	324	*e*P	P	23 42 29.5	+0.9
NRCA	Norcia	88.70	323	*e*P	P	23 42 28.5	-0.1
CRE	Caprese Michel	88.72	324	*e*P	P	23 42 29.1	+0.5
FNVD	Fontana Vidola	88.72	324	*e*P	P	23 42 29.2	+0.5
ASS	Assisi	88.77	323	*e*P	P	23 42 28.5	-0.4
SWK	Warminster	88.77	336	⇑*e*P	P	23 42 28.8	+0.1
BRANT	Les Verrieres	88.78	329	⇑*i*P	P	23 42 28.4	-0.5
	comp=Z,563nm,2.3s,mb6.5						
MMK	Mattmark	88.80	327	⇑*i*P	P	23 42 29.0	0.0
	comp=Z,774nm,2.1s,mb6.7						
SMD	Mendips	88.80	336	⇑*e*P	P	23 42 28.6	-0.3
GSCL	Gusciola	88.85	325	*e*P	P	23 42 29.6	+0.3
CII	Carovilli	88.88	321	⇑*e*P	P	23 42 29.2	-0.3
	comp=Z,367nm,1.3s,mb6.5						
ERBM	Eremo	88.88	325	*e*P	P	23 42 29.9	+0.5
INTR	Introdacqua	88.88	322	*e*P	P	23 42 28.8	-0.8
ORI	Oriolo Calabro	88.89	319	*e*P	P	23 42 31.0	+1.4
AQU	L’Aquila	88.90	322	P	P	23 42 30.1	+0.5
AQU				pmax	pmax		
	comp=Z,260nm,1.0s,mb6.5						
AQU	L’Aquila	88.90	322	⇑*e*P	P	23 42 29.1	-0.5
	comp=Z,312nm,1.1s,mb6.5						
MRLC	Muro Lucano	88.93	320	*e*P	P	23 42 29.0	-0.8
HPE	Pembroke	88.94	338	⇑*e*P	P	23 42 28.8	-0.7
MRB1	Monte Rocchett	88.94	320	*e*P	P	23 42 29.1	-0.7
GRAM		88.99	325	P	P	23 42 29.9	-0.1
VALM		89.01	325	P	P	23 42 29.9	-0.2
DIX	Grande Dixence	89.02	328	⇑*i*P	P	23 42 30.0	-0.1
	comp=Z,479nm,2.3s,mb6.4						
AIGLE	Aigle	89.03	328	⇑*i*P	P	23 42 29.2	-0.9
	comp=Z,646nm,2.7s,mb6.5						
GRYON	Gryon	89.03	328	⇑*i*P	P	23 42 29.6	-0.5
	comp=Z,479nm,2.3s,mb6.4						
BDI	Bagni Di Lucca	89.06	325	*e*P	P	23 42 29.1	-1.2
BOB	Bobbio (Coli)	89.08	326	*e*P	P	23 42 30.6	+0.2
VLC	Villacollemand	89.09	325	⇑*e*P	P	23 42 29.5	-0.9
	comp=Z,178nm,1.1s,mb6.3						
CSSN	Cassano Irpino	89.11	320	*e*P	P	23 42 29.8	-0.8
SLCN	Sala Consilina	89.11	319	*e*P	P	23 42 31.6	+1.0
ORO	Oropa	89.11	327	*e*P	P	23 42 29.7	-0.8
BACM		89.15	325	P	P	23 42 29.5	-1.2
CSNT	Castellina Chi	89.15	324	*e*P	P	23 42 29.5	-1.3
OG01	Vacheresse	89.16	328	⇑*e*P	P	23 42 30.2	-0.5
SGO	Sicignano	89.16	320	*e*P	P	23 42 30.6	-0.3
SALAN	Lac Salanfe	89.17	328	⇑*e*P	P	23 42 30.3	-0.5
	comp=Z,482nm,2.5s,mb6.4						
CODM		89.17	325	P	P	23 42 30.2	-0.6
GIMEL	Gimel	89.18	329	⇑*i*P	P	23 42 30.4	-0.4
	comp=Z,577nm,2.8s,mb6.4						
CABF	La Chapelle	89.20	329	⇑*i*P	P	23 42 30.3	-0.6
	comp=Z,196nm,1.0s,mb6.1						
MAIM		89.22	325	P	P	23 42 29.4	-1.6
MNS	Montasola	89.25	322	*e*P	P	23 42 30.2	-1.0
EMV	Vieux Emosson	89.27	328	⇑*i*P	P	23 42 30.8	-0.4
	comp=Z,467nm,2.0s,mb6.5						

TRAV		89.31	327	P	P	23 42 30.2	-1.2
MGR	Morigerati	89.33	319	eP	P	23 42 29.9	-1.7
TIP	Timpagrande	89.33	318	⇑iP	P	23 42 31.0	-0.7
HEX	Exmoor	89.36	337	⇑eP	P	23 42 31.4	-0.2
CERT	Cerreto	89.41	322	eP	P	23 42 31.2	-0.8
GRFL	Gerfalco	89.55	324	eP	P	23 42 31.4	-1.2
TBI	Tubuai	89.58	118	eP	P	23 42 32.5	-0.7
TBI				eSS	SS	23 59 13.8	-7.1
TBI				eL		00 06 06.5	
TBI				eR		00 10 17.1	
	comp=Z,33µm,26.0s,baz=317						
LSD	Ceresole Reale	89.61	327	P	P	23 42 33.1	+0.2
LOR	Lormes	89.63	330	⇑iP	P	23 42 32.2	-0.7
	comp=Z,510nm,1.4s,mb6.4						
LOR				eR			
	comp=Z,47µm,21.2s						
ANMO	Albuquerque	89.64	47	c iP	P	23 42 34.3	+1.0
PCP	Pian Castagno	89.67	326	P	P	23 42 32.0	-1.1
RSL	Roselend	89.67	328	⇑eP	P	23 42 32.7	-0.5
LPL	La Plagne	89.76	328	⇑iP	P	23 42 33.4	-0.2
	comp=Z,662nm,1.2s,mb6.5						
GRI	Girifalco	89.76	318	eP	P	23 42 33.8	+0.1
LPG	La Plagne	89.77	328	⇑iP	P	23 42 33.6	0.0
	comp=Z,473nm,1.0s,mb6.5						
RSP	Reno Superiore	89.80	327	P	P	23 42 33.2	-0.6
TOLF	Tolfa	89.83	323	eP	P	23 42 33.0	-1.0
LENM	Lemitar	89.84	48	eP	P	23 42 34.9	+0.7
SCHQ	Schefferville	89.90	14	P	P	23 42 34.0	0.0
	comp=Z,34nm,0.7s,mb5.8,baz=355,slow=5.4,SNR=44						
SCHQ				PKKPbc		00 00 03.4	
	comp=Z,5.6nm,0.9s,baz=137,slow=4.0,SNR=4.1						
SCHQ				LR	LR	00 27 55.3	
	comp=Z,10µm,18.3s,MS6.3,baz=66,slow=39						
SSF	Saint Saulge	89.94	330	⇑iP	P	23 42 33.8	-0.6
	comp=Z,379nm,1.2s,mb6.3						
FENE	Fenestrelle	89.98	327	P	P	23 42 34.0	-0.6
BHB	Bricherasio	90.04	327	P	P	23 42 33.6	-1.2
FIN	Finale Ligure	90.08	326	P	P	23 42 33.5	-1.6
FLN	La Foliniere	90.13	334	eP	P	23 42 34.7	-0.5
	comp=Z,1µm,1.8s,mb6.7						
FLN				eR			
	comp=Z,38µm,20.2s						
HYF	Humbligny	90.13	331	⇑iP	P	23 42 35.3	+0.1
SMF	Signal de Mont	90.13	330	⇑iP	P	23 42 34.7	-0.6
	comp=Z,600nm,1.4s,mb6.4						
LDF	La Druitiere	90.13	333	⇑iP	P	23 42 34.7	-0.5
	comp=Z,817nm,1.5s,mb6.5						
BNI	Bardonecchia	90.14	327	P	P	23 42 35.1	-0.3
BNI				pmax	pmax		
	comp=Z,270nm,1.3s,mb6.4						
BNI	Bardonecchia	90.14	327	⇑eP	P	23 42 34.9	-0.4
	comp=Z,255nm,1.1s,mb6.5						
ROB	Roburent	90.18	326	P	P	23 42 34.0	-1.5
RRL	Cesana Torines	90.20	327	P	P	23 42 35.4	-0.2
AVF	Avril sur Loir	90.22	330	⇑iP	P	23 42 35.2	-0.5
	comp=Z,807nm,1.3s,mb6.6						
RORO		90.22	326	P	P	23 42 34.5	-1.3
GDM	Grand'Maison	90.28	328	⇑eP	P	23 42 35.9	-0.1
CSA1	St Austell	90.33	337	⇑eP	P	23 42 35.6	-0.5
MBDF	Montbardon	90.35	327	⇑iP	P	23 42 35.4	-0.9
	comp=Z,412nm,1.1s,mb6.4						
PZZ	Prazzo	90.37	327	P	P	23 42 35.3	-1.2
MONE	Monesi	90.39	326	P	P	23 42 35.1	-1.4
GRN	Grenoble	90.41	328	eP	P	23 42 36.6	0.0
ENR	Entracque	90.44	327	P	P	23 42 34.5	-2.3
IMI	Imperia	90.46	326	P	P	23 42 35.7	-1.1
STV2	Anna di Valdie	90.47	327	P	P	23 42 35.1	-1.7
STV	Sta Anna Valdi	90.47	327	P	P	23 42 34.8	-2.1
SOI	Samo	90.49	318	eP	P	23 42 37.1	-0.1
SURF	Saint Ours	90.52	327	⇑eP	P	23 42 36.8	-0.3
SCLL	Scilla	90.55	318	eP	P	23 42 37.4	0.0
SAOF	Saorge	90.56	326	eP	P	23 42 36.5	-0.8
VAL	Valentia	90.57	341	⇑iP	P	23 42 37.3	+0.2
VAL				ePP	PP	23 46 16.9	+2.3
VAL				eS	S	23 53 32.0	+2.6
VAL				eSS	SS	23 59 44.9	+10
GRR	Gorron	90.58	334	eP	P	23 42 37.0	-0.3
CRQ2	Rosemanowes 2	90.59	337	⇑eP	P	23 42 36.8	-0.5
CCA1	Carnmenellis	90.59	337	⇑eP	P	23 42 36.3	-1.0
NEGI	Negi	90.59	326	P	P	23 42 35.4	-2.1
ORIF	Oris-en-Rattie	90.60	328	⇑iP	P	23 42 37.1	-0.4
	comp=Z,419nm,1.3s,mb6.3						
ORIF				eR			
	comp=Z,44µm,17.5s						
AUTN	L'Aution	90.61	326	eP	P	23 42 36.8	-0.7
BGF	Bois d'Agland	90.61	330	⇑iP	P	23 42 37.1	-0.4
	comp=Z,557nm,1.4s,mb6.4						
CMA1	Manaccan	90.64	337	⇑eP	P	23 42 37.4	-0.1
CGW	Gweek	90.66	337	⇑eP	P	23 42 37.6	0.0
CGH1	Goonhilly	90.69	337	⇑eP	P	23 42 37.0	-0.7
SBF	Sospel	90.71	326	⇑iP	P	23 42 36.7	-1.3
	comp=Z,570nm,1.4s,mb6.4						
CPZ	Penzance	90.73	337	⇑eP	P	23 42 37.9	-0.1
CPZ				AMb	AMB	23 42 56.2	
	comp=Z,409nm,1.7s,mb6.5						
AURF	Auriere	90.74	326	eP	P	23 42 37.3	-0.8
MVIF	Mont Vial	90.81	326	eP	P	23 42 37.7	-0.8
REVF	Revere	90.83	326	eP	P	23 42 38.6	0.0
AGO	Saint Agoulin	90.90	330	⇑eP	P	23 42 38.8	0.0
CBKS	Cedar Bluff	90.93	41	P	P	23 42 39.4	+0.3
CBKS				pmax	pmax		
	comp=Z,190nm,1.4s,mb6.2						
CBKS	Cedar Bluff	90.93	41	⇑eP	P	23 42 38.7	-0.5
	comp=Z,450nm,1.6s,mb6.5						
CBKS				LR	LR		
	comp=Z,10µm,21.0s,MS6.2						
OG25	Le Caire	90.94	327	⇑eP	P	23 42 38.6	-0.4
PGF	Pioggiola	90.96	325	⇑iP	P	23 42 38.2	-1.0
CALN	Calern	91.05	327	eP	P	23 42 38.9	-0.6
COLF	Collangettes	91.09	329	⇑eP	P	23 42 39.8	+0.1
TCF	Toulx Ste Croi	91.09	331	⇑iP	P	23 42 39.6	-0.1
	comp=Z,515nm,1.3s,mb6.4						
OCF	Saint Nazaire	91.13	328	⇑eP	P	23 42 39.9	0.0
OG26	St.-Nazaire-De	91.13	328	⇑eP	P	23 42 39.9	0.0
ECTS	Castiglione	91.15	318	eP	P	23 42 40.4	+0.2
VIVF	Saint-Julien-l	91.19	328	⇑iP	P	23 42 39.8	-0.4
	comp=Z,718nm,1.3s,mb6.5						
PYM	Petit Puy Mans	91.19	330	⇑eP	P	23 42 40.4	+0.2
FRF	La Foret Royal	91.31	327	⇑iP	P	23 42 39.5	-1.2
	comp=Z,513nm,1.5s,mb6.3						
SGMF	Saint Gilles	91.31	334	⇑iP	P	23 42 40.5	-0.1
	comp=Z,918nm,1.1s,mb6.7						
MNO	Monte Soro	91.35	318	eP	P	23 42 41.9	+0.8
SMRF	Simiane la Rot	91.47	327	⇑iP	P	23 42 41.1	-0.4
	comp=Z,450nm,1.5s,mb6.3						
ROSF	Rostrenen	91.50	335	⇑iP	P	23 42 41.7	+0.2
	comp=Z,900nm,1.0s,mb6.8						
LBL	Lubilhac	91.51	329	⇑eP	P	23 42 41.8	+0.2
VILF	Villemus	91.51	327	eP	P	23 42 41.3	-0.4
AGST	Augusta-Monte	91.53	317	eP	P	23 42 38.9	-3.0
TAVF	Tavernes	91.53	327	eP	P	23 42 41.1	-0.7
LMR	La Mourre	91.55	326	⇑iP	P	23 42 40.8	-1.0
	comp=Z,824nm,1.5s,mb6.5						
USI	Ustica	91.63	320	eP	P	23 42 41.2	-1.2
FRNF	Fournols	91.67	330	⇑eP	P	23 42 42.9	+0.5
PUYF	Puyloubier	91.76	327	eP	P	23 42 43.0	+0.2
MFF	Saint Martin d	91.78	332	⇑iP	P	23 42 43.0	+0.2
	comp=Z,830nm,1.1s,mb6.7						
PRAF	Pradon	91.79	328	eP	P	23 42 43.9	+0.9
QUIF	Quistinic	91.82	335	⇑iP	P	23 42 42.6	-0.4
	comp=Z,496nm,1.1s,mb6.4						
VAE	Valguarnera	91.83	318	P	P	23 42 43.5	+0.2
	comp=Z,6.5nm,0.5s,mb5.3,baz=195,slow=3.5,SNR=4.2						
TREF	Trevaresse	91.84	327	eP	P	23 42 43.0	-0.2
BERF	Bertagne	91.94	327	eP	P	23 42 44.1	+0.4
GELF	Grande-Etoile	92.00	327	eP	P	23 42 44.6	+0.6
LASF	Ste Croix	92.16	328	⇑iP	P	23 42 44.4	-0.3
	comp=Z,935nm,1.6s,mb6.6						
RJF	Les Rejaudoux	92.17	330	⇑iP	P	23 42 44.8	+0.1
	comp=Z,1µm,1.3s,mb6.7						
RJF				eR			
	comp=Z,30µm,18.5s						
CAF	Calviac	92.25	330	⇑iP	P	23 42 45.5	+0.4
	comp=Z,954nm,1.4s,mb6.6						
LRYF	La Roche-sur-Y	92.34	333	⇑eP	P	23 42 45.5	+0.1
LVI	Isola Levanzo	92.61	320	eP	P	23 42 47.3	+0.5
JFWS	Jewell Farm	92.64	33	P	P	23 42 47.3	+0.4
JFWS				pmax	pmax		
	comp=Z,110nm,1.2s,mb6.2						
JFWS	Jewell Farm	92.64	33	⇑eP	P	23 42 46.8	-0.1
	comp=Z,105nm,1.1s,mb6.2						
JFWS				LR	LR		
	comp=Z,16µm,22.0s,MS6.4						
LFF	La Frestale	92.79	331	⇑iP	P	23 42 47.8	+0.3
	comp=Z,785nm,1.0s,mb6.8						
OLEF	Ile d'Oleron	92.80	333	⇑eP	P	23 42 47.9	+0.4
MTLF	Montolieu	93.46	329	⇑iP	P	23 42 50.5	-0.2
EJON	La Jonquera	93.89	328	P	P	23 42 52.1	-0.5
	comp=Z,32nm,1.2s,mb5.6						
EJON				PP	PP	23 46 39.0	-2.4
LPEF	Le Peyrat	93.91	329	eP	P	23 42 51.0	-1.8
MLS	Moulis	94.26	329	⇑eP	P	23 42 54.2	-0.1
VALF	Valcebollere	94.31	328	eP	P	23 42 54.8	+0.2
WMOK	Wichita Mounta	94.37	43	P	P	23 42 55.2	+0.1
WMOK				pmax	pmax		
	comp=Z,170nm,1.5s,mb6.2						
WMOK	Wichita Mounta	94.37	43	⇑eP	P	23 42 55.1	0.0
	comp=Z,220nm,1.4s,mb6.4						
WMOK				LR	LR		
	comp=Z,9µm,20.0s,MS6.2						
EPF	Esparros	94.52	330	⇑iP	P	23 42 54.9	-0.6
	comp=Z,426nm,1.9s,mb6.2						
RESF	Ens	94.70	330	⇑eP	P	23 42 57.2	+0.8
VIEF	Viey	94.77	330	⇑eP	P	23 42 57.3	+0.6
EMIR	Miracle	94.92	328	P	P	23 42 57.4	0.0
	comp=Z,32nm,0.9s,mb5.8						
OSSF	Osses	95.00	331	eP	P	23 42 56.8	-0.9
ETSF	Etsaut	95.00	330	⇑iP	P	23 42 58.2	+0.4
SJPF	Ste Jean	95.10	331	eP	P	23 42 57.8	-0.4
	comp=Z,149nm,1.2s,mb6.0						
EALK	Alkurruntz	95.12	331	P	P	23 42 58.5	+0.2
	comp=Z,59nm,1.3s,mb5.8						
EALK				PP	PP	23 46 47.6	-2.7
LTX	Lajitas	95.15	50	P	P	23 42 59.8	+1.0
LTX				pmax	pmax		
	comp=Z,480nm,1.4s,mb6.7						
LTX	Lajitas	95.15	50	⇑eP	P	23 42 59.5	+0.8
	comp=Z,890nm,1.5s,mb7.0						
LTX				LR	LR		
	comp=Z,12µm,20.0s,MS6.4						
TXAR	Lajitas Array	95.15	50	P	P	23 42 59.1	+0.4
	comp=Z,64nm,1.2s,mb5.9,baz=292,slow=3.3,SNR=137						
TXAR				PP	PP	23 46 48.2	-2.6
	comp=Z,2.5nm,1.0s,baz=321,slow=5.8,SNR=2.4						
TXAR				PKKPbc		23 59 48.1	
	comp=Z,1.4nm,1.0s,baz=135,slow=3.8,SNR=3.0						
TXAR				PKPPKP		00 07 57.6	
	comp=Z,0.5nm,0.9s,baz=124,slow=4.5,SNR=4.0						
TXAR				LR	LR	00 25 40.5	
	comp=Z,11µm,18.3s,MS6.4,baz=90,slow=35						
EPOB	Poblet	95.57	328	P	P	23 43 00.5	+0.1
	comp=Z,24nm,1.1s,mb5.5						
ESAC	San Caprasio	95.93	330	P	P	23 43 03.2	+1.2
	comp=Z,53nm,1.3s,mb5.8						
CCM	Cathedral Cave	95.95	36	P	P	23 43 02.6	+0.3
CCM				pmax	pmax		
	comp=Z,150nm,1.5s,mb6.2						
CCM	Cathedral Cave	95.95	36	⇑eP	P	23 43 02.1	-0.1
	comp=Z,64nm,1.0s,mb6.0						
SLM	Saint Louis	96.00	36	P	P	23 43 02.9	+0.4
SLM				pmax	pmax		
	comp=Z,270nm,1.4s,mb6.5						
SLM	Saint Louis	96.00	36	P	P	23 43 02.9	+0.4
	comp=Z,272nm,1.5s,mb6.5						
JCT	Junction City	96.79	47	P	P	23 43 06.1	-0.1
JCT				pmax	pmax		
	comp=Z,350nm,1.8s,mb6.5						
JCT	Junction City	96.79	47	⇓eP	P	23 43 06.0	-0.2
	comp=Z,234nm,1.5s,mb6.4						
JCT				LR	LR		
	comp=Z,9µm,20.0s,MS6.3						
EMOS	Mosqueruela	97.05	329	P	P	23 43 08.3	+1.2
	comp=Z,20nm,0.8s,mb5.6						
EPON	Pontenova	97.19	335	P	P	23 43 06.6	-1.1
	comp=Z,41nm,0.9s,mb5.9						
EPON				PP	PP	23 46 58.7	-8.0
LOZ	Lake Ozonia	97.30	22	⇑eP	P	23 43 08.1	-0.1
LOZ				ePP	PP	23 47 12.6	+5.0
BLO	Bloomington	97.32	33	eP	P	23 43 08.4	0.0
BLO				pmax	pmax		
	comp=Z,69nm,1.3s,mb5.9						
BLO	Bloomington	97.32	33	eP	P	23 43 08.4	0.0
	comp=Z,69nm,1.4s,mb5.9						
BLO				ePP	PP	23 47 17.0	+9.1
ETOR	Torete	97.35	330	P	P	23 43 07.9	-0.5
	comp=Z,18nm,1.0s,mb5.5						
ETOR				PP	PP	23 47 04.9	-3.3
MIAR	Mount Ida	97.42	40	eP	P	23 43 09.6	+0.6
	comp=Z,37nm,0.9s,mb5.8						
MIAR				LR	LR		
	comp=Z,15µm,20.0s,MS6.5						
ERPA	Erie	97.60	27	eP	P	23 43 10.2	+0.6
	comp=Z,117nm,1.4s,mb6.2						
ERPA				LR	LR		
	comp=Z,18µm,20.0s,MS6.6						
UALR	University of	97.91	39	eP	P	23 43 11.9	+0.8
	comp=Z,38nm,1.3s,mb5.8						
ALLY	Alegheny Colle	97.94	27	eP	P	23 43 10.1	-1.0
NCB	Newcomb	97.99	22	⇑eP	P	23 43 11.6	+0.3
	comp=Z,128nm,1.6s,mb6.2						
NCB				LR	LR		
	comp=Z,20µm,20.0s,MS6.6						
ACSO	Alum Creek Sta	98.00	30	eP	P	23 43 10.3	-1.0
	comp=Z,49nm,1.1s,mb6.0						
ACSO				LR	LR		
	comp=Z,19µm,19.0s,MS6.6						
STS	Santiago	98.07	335	P	P	23 43 11.3	-0.4
	comp=Z,15nm,0.8s,mb5.6						
STS				PP	PP	23 47 03.1	-11
WCI	Wyandotte Cave	98.19	33	P	P	23 43 13.0	+0.7
WCI				pmax	pmax		
	comp=Z,74nm,1.4s,mb6.0						
WCI	Wyandotte Cave	98.19	33	eP	P	23 43 12.0	-0.4
	comp=Z,77nm,1.4s,mb6.0						
ECAL	Calabor	98.24	334	P	P	23 43 12.1	-0.4
	comp=Z,36nm,0.9s,mb5.9						
ECAL				PP	PP	23 47 11.1	-3.9
EBEN	Beniarda	98.31	328	P	P	23 43 14.0	+1.2
	comp=Z,24nm,1.3s,mb5.6						
EBEN				PP	PP	23 47 12.1	-3.4
PBRG	Braganca	98.36	334	eP	P	23 43 13.4	+0.4
	comp=Z,72nm,1.5s,mb6.0						
PBRG				ePP	PP	23 47 13.6	-2.2
ELOB	Lobios	98.79	335	P	P	23 43 14.7	-0.2
	comp=Z,24nm,1.1s,mb5.6						
ELOB				PP	PP	23 47 12.1	-6.8
WVL	Waterville	98.81	19	⇑eP	P	23 43 15.3	+0.4
	comp=Z,188nm,1.3s,mb6.5						
WVL				LR	LR		
	comp=Z,44µm,20.0s,MS7.0						
HNH	Hanover	98.83	21	eP	P	23 43 15.8	+0.7
	comp=Z,1.3nm,0.9s						
NATX	Nacogdoches	98.90	43	PFAKE		23 43 30.0	+14
NATX				LR	LR		
	comp=Z,8µm,21.0s,MS6.2						
ETOB	Tobarra	98.94	329	P	P	23 43 14.8	-0.9
	comp=Z,21nm,0.9s,mb5.7						
BINY	Binghamton	98.98	24	eP	P	23 43 15.6	-0.2
	comp=Z,24nm,1.0s,mb5.7						
BINY				LR	LR		
	comp=Z,16µm,19.0s,MS6.5						
KMBO	Kilima Mbogo	99.02	275	P	P	23 43 16.2	-0.5
	comp=Z,15nm,1.0s,mb5.5,baz=42,slow=6.6,SNR=34						
KMBO				PP	PP	23 47 16.4	-4.7
	comp=Z,3.0nm,0.9s,baz=59,slow=7.2,SNR=6.9						
KMBO	Kilima Mbogo	99.02	275	⇑eP	P	23 43 15.8	-0.8
	comp=Z,49nm,1.2s,mb5.9						
ESDC	Sonseca Array	99.10	331	P	P	23 43 15.8	-0.6
	comp=Z,3.1nm,0.7s,baz=25,slow=3.9,SNR=16						
ESDC				PP	PP	23 47 07.3	-14
	comp=Z,4.6nm,0.9s,baz=28,slow=6.8,SNR=5.1						
ESDC				PKKPbc		23 59 39.5	
	comp=Z,1.9nm,0.9s,baz=228,slow=2.7,SNR=8.6						
ESDC				LR	LR	00 34 51.0	
	comp=Z,22µm,19.1s,baz=25,slow=40						
ESDC	Sonseca Array	99.10	331	P	P	23 43 15.5	-0.9
	comp=Z,20nm,1.0s,mb5.6						
WVT	Waverly	99.15	36	eP	P	23 43 15.9	-0.8
WVT				pmax	pmax		
	comp=Z,37nm,1.2s,mb5.8						
WVT	Waverly	99.15	36	eP	P	23 43 15.9	-0.8
	comp=Z,37nm,1.3s,mb5.8						
PVRL	Vila Real	99.18	334	ePdif	P	23 43 16.8	+0.1
PVRL				ePP	PP	23 47 20.1	-1.7
	comp=Z,57nm,1.5s						
EMMW	East Machias	99.25	18	⇑eP	P	23 43 17.3	+0.4
	comp=Z,230nm,1.2s,mb6.6						
EMMW				LR	LR		
	comp=Z,82µm,19.0s,MS7.2						
EVIA	Vianos	99.36	329	P	P	23 43 17.9	+0.3
	comp=Z,18nm,0.7s,mb5.7						
EVIA				PP	PP	23 47 13.7	-10
EMUR	La Murta	99.47	328	P	P	23 43 18.0	-0.1
	comp=Z,17nm,1.2s,mb5.5						
EMUR				PP	PP	23 47 17.3	-6.8
DRV	Dumont d'Urvil	99.57	179	Pdif	P	23 43 18.0	+0.1
DRV	Dumont d'Urvil	99.57	179	PP	PP	23 47 27.0	+2.8
DRV				SKS	SKS	23 53 54.0	-6.7
DRV				SP	tx	23 55 51.0	
DRV				SS	tx	00 01 13.0	
OXF	Oxford	99.64	38	P	P	23 43 20.5	+1.5
OXF				e		23 43 32.5	
OXF	Oxford	99.64	38	ePdif	P	23 43 18.0	-1.0
	comp=Z,223nm,1.7s,mb6.3						
OXF				LR	LR		
	comp=Z,12µm,20.0s,MS6.4						
SSPA	Standing Stone	99.67	26	eP	P	23 43 17.2	-1.8
	comp=Z,88nm,1.7s,mb5.9						
PVIS	Viseu	99.74	334	ePdif	P	23 43 17.7	-1.6
PVIS				ePP	PP	23 47 26.5	+0.3
	comp=Z,38nm,0.6s						
MCWV	Mont Chateau	99.76	28	PFAKE		23 43 30.0	+11
MCWV				LR	LR		
	comp=Z,16µm,20.0s,MS6.5						
MTE	Manteigas	99.88	333	ePdif	P	23 43 19.4	-0.6
MTE				ePP	PP	23 47 26.5	-0.9
MTE				eSS	SS	00 01 44.5	-1.7
MTE				eLQ		00 11 00.0	
MTE				eLR	LR	00 15 44.1	
	comp=Z,18µm,18.0s						
	comp=Z,65nm,1.4s						
MTE	Manteigas	99.88	333	ePdif	P	23 43 18.4	-1.6
	comp=Z,44nm,1.0s,mb5.8						
EQES	Quesada	100.30	329	P	P	23 43 21.0	-0.9
	comp=Z,26nm,1.0s						
EQES				PP	PP	23 47 23.5	-7.3
ZAIG	Zacatecas	100.30	54	⇑iP	P	23 43 23.5	+1.2
PCBR	Castelo Branco	100.34	333	ePdif	P	23 43 21.7	-0.4
PCBR				ePP	PP	23 47 30.0	-1.1
	comp=Z,41nm,1.5s						
RKT	Rikitea	100.50	111	eSKSac		23 53 54.2	
RKT				ePS	PS	23 56 30.6	-0.6
RKT				eSS	SS	00 01 51.9	-3.3
RKT				eL		00 10 44.2	
RKT				eR		00 15 20.8	
	comp=Z,29µm,24.8s,baz=306						
EADA	Adamuz	100.63	330	P	P	23 43 23.0	-0.4
	comp=Z,21nm,0.9s						
EADA				PP	PP	23 47 19.7	-14
PTOM	Tomar	100.89	334	ePdif	P	23 43 23.5	-1.0
PTOM				ePP	PP	23 47 34.2	-1.3
	comp=Z,22nm,1.4s						
ELUQ	Luque	101.02	330	P	P	23 43 26.2	+1.1
	comp=Z,11nm,0.7s						
ELUQ				PP	PP	23 47 23.2	-13
EBAD	Badajoz	101.11	332	P	P	23 43 22.9	-2.6
	comp=Z,8.3nm,1.3s						
EBAD				PP	PP	23 47 31.1	-6.0
ERON	Agron	101.28	329	P	P	23 43 26.1	-0.3
	comp=Z,8.7nm,0.9s						
ELOJ	Sierra Loja	101.32	329	P	P	23 43 25.0	-1.5
	comp=Z,3.5nm,0.7s						
ELOJ				PP	PP	23 47 30.1	-8.5
BLA	Blacksburg	101.62	30	PFAKE		23 43 40.0	+12
BLA				LR	LR		
	comp=Z,17µm,19.0s,MS6.6						
EVO	Evora	101.69	333	⇑iP	P	23 43 28.4	+0.2
	comp=Z,132nm,1.7s						
EVO				eR			
	comp=Z,27µm,18.8s						
PLOU	Loures	101.81	334	ePdif	P	23 43 28.1	-0.6
	comp=Z,43nm,1.4s						
EMIN	Mina Concepcio	101.83	332	P	P	23 43 28.0	-0.8
	comp=Z,20nm,1.1s						
EMIN				PP	PP	23 47 34.1	-8.1
LIS	Lisbon	101.95	334	eP	P	23 43 29.4	+0.1
LIS				eSS	SS	00 02 18.1	+2.9
LIS				eSS	SS	00 02 18.9	+3.7
LIS				AMS	AMS	00 36 40.4	
	comp=E,21µm,13.8s						
LIS	Lisbon	101.95	334	eP	P	23 43 29.4	+0.1
LIS				eSS	SS	00 02 18.1	+2.9
CBN	Corbin	101.98	27	PFAKE		23 43 40.0	+11
CBN				LR	LR		
	comp=Z,23µm,20.0s,MS6.7						
LRAL	Lakeview Retre	102.03	37	PFAKE		23 43 40.0	+10
LRAL				LR	LR		
	comp=Z,11µm,20.0s,MS6.4						
PBEJ	Beja	102.07	333	ePdif	Pdif	23 43 29.4	-0.6
PBEJ				ePP	PP	23 47 41.7	-2.3
	comp=Z,15nm,1.4s						
EMIJ	Mijas	102.07	330	P	Pdif	23 43 28.1	-1.9
	comp=Z,6.7nm,0.6s						
EMIJ				PP	PP	23 47 38.7	-5.3
ESPR	Espera	102.27	331	P	Pdif	23 43 30.0	-0.9
	comp=Z,30nm,0.9s						
ESPR				PP	PP	23 47 29.8	-16
EGRO	El Granado	102.35	332	P	Pdif	23 43 32.3	+1.1
	comp=Z,9.6nm,0.9s						
EGRO				PP	PP	23 47 36.8	-9.4
PALC	Alcoutim	102.41	332	ePdif	Pdif	23 43 31.5	+0.1
PALC				ePP	PP	23 47 43.6	-3.1
	comp=Z,29nm,1.4s						
PTEO	Sao Teotonio	102.82	333	ePdif	Pdif	23 43 32.6	-0.7
PTEO				ePP	PP	23 47 51.0	+1.0
	comp=Z,67nm,1.8s						
MBAR	Mbarara	104.16	279	⇑ePdif	Pdif	23 43 38.4	-1.3
	comp=Z,139nm,1.6s						
MBAR				LR	LR		
	comp=Z,2µm,22.0s,MS5.6						
NHSC	New Hope	105.20	32	PFAKE		23 48 10.0	
NHSC				LR	LR		
	comp=Z,17µm,21.0s,MS6.6						
ADH	Angra Heroismo	107.08	347	i SS	SS	00 03 28.0	+3.0
ADH				i LR	LR	00 18 20.0	
ADH				i -		23 57 47.5	
PDA	Ponta Delgada	107.65	346	eSS	SS	00 03 48.0	+15
PDA				eLR	LR	00 20 03.0	
PDA				ePP	PP	23 48 32.6	+6.6
PDA				e-		23 57 56.2	
SBA	Scott Base	112.21	174	ePKIKP	PKPdf	23 48 09.0	-3.5
LSZ	Lusaka	114.05	267	P	Pdif	23 44 25.1	+2.0
LSZ	Lusaka	114.05	267	ePdif	Pdif	23 44 24.3	+1.2
MAW	Mawson	114.65	204	ePKP	PKPdf	23 48 15.3	-2.1
	comp=Z,9.2nm,0.7s						
MAW				ePP	PP	23 49 12.6	-3.6
MAW				ePKKP	PKKP	23 58 52.7	-18
MAW				eSKKP		00 02 50.9	
MAW				eSKKP		00 02 50.9	
MAW	Mawson	114.65	204	PKP	PKPdf	23 48 13.9	-3.5
	comp=Z,7.8nm,0.9s,baz=357,slow=2.2,SNR=12						
MAW				PP	PP	23 49 11.9	-4.3
	comp=Z,55nm,1.3s,baz=65,slow=10,SNR=8.8						
MAW				PKKPbc		23 58 53.0	
	comp=Z,6.8nm,0.8s,baz=258,slow=4.3,SNR=21						
MAW	Mawson	114.65	204	PKIKP	PKPdf	23 48 13.9	-3.5
MAW						23 49 11.9	
MAW						23 58 53.0	
MAW				pmax	pmax		
	comp=Z,8.0nm,0.9s						
MAW				pmax	pmax		
	comp=Z,55nm,1.3s						
QSPA	South Pole Qui	122.95	180	⇑ePKPdf	PKPdf	23 48 30.0	-3.3
QSPA				ePP	PP	23 50 05.8	-7.3
SYO	Syowa Base	123.29	205	⇓PKPdf	PKPdf	23 48 30.4	-3.8
SYO	Syowa Base	123.29	205	⇓pPKiKP		23 48 39.2	
SYO	Syowa Base	123.29	205	⇑PP	PP	23 50 13.6	-2.1
TSUM	Tsumeb	124.81	269	PKP	PKPdf	23 48 35.6	-2.8
	comp=Z,73nm,1.1s,baz=84,slow=2.4,SNR=28						
TSUM				PKKPbc		23 58 16.9	
	comp=Z,3.0nm,0.8s,baz=244,slow=2.6,SNR=3.5						
TSUM	Tsumeb	124.81	269	⇑ePKPdf	PKPdf	23 48 35.3	-3.1
TSUM				LR	LR		
	comp=Z,9µm,21.0s,MS6.4						
DBIC	Dimbokro	126.50	311	PKP	PKPdf	23 48 37.5	-4.2
	comp=Z,94nm,1.2s,baz=32,slow=2.2,SNR=26						
DBIC				PP	PP	23 50 32.0	-5.9
	comp=Z,35nm,1.2s,baz=22,slow=8.9,SNR=5.4						
DBIC	Dimbokro	126.50	311	PKPdf	PKPdf	23 48 38.5	-3.2
DBIC	Dimbokro	126.50	311	PKIKP	PKPdf	23 48 37.5	-4.2
DBIC						23 50 32.1	
DBIC				pmax	pmax		
	comp=Z,94nm,1.2s						
DBIC				pmax	pmax		
	comp=Z,35nm,1.2s						

DBIC	**Dimbokro**	126.50	311	PKP	PKPdf	23 48 37.5	-4.2
DBIC				PP	PP	23 50 32.0	-5.9
TIC	**Toumodi**	126.62	311	ePKIKP	PKPdf	23 48 38.4	-3.5
	comp=Z,688nm,1.4s						
KIC	**Kosan Boka**	126.66	310	ePKIKP	PKPdf	23 48 38.5	-3.5
	comp=Z,725nm,1.3s						
LIC	**Lamto**	126.94	311	⇑iPKIKP	PKPdf	23 48 39.0	-3.5
	comp=Z,404nm,1.4s						
LIC	**Lamto**	126.94	311	ePKIKP	PKPdf	23 48 38.9	-3.6
	comp=Z,375nm,1.4s						
SUR	**Sutherland**	127.36	252	ePKPdf	PKPdf	23 48 37.1	-5.9
SDV	**Santo Domingo**	130.42	37	ePKPpre		23 48 42.2	
SDV				ePKPdf	PKPdf	23 48 46.5	-2.8
SDV				eSKP		23 52 09.0	
ROSC	**El Rosal**	131.73	44	PKP	PKPdf	23 48 50.0	-1.8
	comp=Z,29nm,0.9s,baz=8.8,slow=5.1,SNR=31						
ROSC				SKPbc		23 52 11.9	
	comp=Z,7.6nm,0.4s,baz=234,slow=19,SNR=2.1						
NVL	**N'lazarevskaya**	132.48	201	⇑ePKIKP	PKPdf	23 48 48.0	-3.7
NVL				pmax	pmax		
	comp=Z,1µm,3.6s						
MAIT	**Maitri**	132.51	201	eP	PKPdf	23 48 48.7	-3.1
OTAV	**Otavalo**	132.71	53	ePKP	PKPdf	23 48 49.0	-4.7
SNAA	**Sanae**	136.10	197	⇑i	PKPdf	23 48 54.8	-3.5
SNAA	**Sanae**	136.10	197	ePKHKP		23 48 39.4	
SNAA				e		23 48 56.1	
VNA2	**Neumayer--Watz**	137.70	196	⇑iP	PKPdf	23 48 48.0	-13
VNA2	**Neumayer--Watz**	137.70	196	⇓i	PKPdf	23 49 02.6	+1.3
VNA3	**Neumayer Olymp**	137.99	195	P	PKPdf	23 48 50.2	-12
VNA3	**Neumayer Olymp**	137.99	195	⇓i	PKPdf	23 49 02.9	+1.0
VNA1	**Neumayer--Stat**	138.10	196	⇑iP	PKPdf	23 48 49.9	-12
VNA1	**Neumayer--Stat**	138.10	196	⇑i	PKPdf	23 49 04.1	+2.0
NNA	**Nana**	142.33	64	ePKP	PKPdf	23 49 02.5	-8.6
PMSA	**Palmer Station**	145.80	164	ePKPdf	PKPdf	23 49 13.3	-2.3
ARE	**Arequipa**	149.16	64	eP	PKPdf	23 49 23.0	+0.5
ARE				i		23 49 27.6	
SAML	**Samuel**	149.34	43	ePKPdf	PKPdf	23 49 19.8	-3.1
SAML				LR	LR		
	comp=Z,8µm,20.0s,MS6.5						
LPAZ	**La Paz**	151.54	60	PKP	PKPdf	23 49 24.3	-1.9
	comp=Z,68nm,1.4s,baz=222,slow=0.5,SNR=36						
LPAZ				PKPbc	PKPdf	23 49 30.7	+4.5
	comp=Z,91nm,0.8s,baz=11,slow=6.5,SNR=77						
LPAZ	**La Paz**	151.54	60	PKPdf	PKPdf	23 49 24.6	-1.6
LPAZ				PKPdf	PKPdf	23 49 30.9	+4.7
RCBR	**Riachuelo**	152.04	345	ePKPdf	PKPdf	23 49 24.5	-2.5
RCBR				ePKPbc	PKPdf	23 49 30.8	+3.8
RCBR				LR	LR		
	comp=Z,6µm,19.0s,MS6.4						
LVC	**Limon Verde**	154.62	72	ePKPdf	PKPdf	23 49 28.5	-1.8
CLCH	**Cerro Calan**	156.76	98	i P	PKPdf	23 49 27.4	-5.5
FCH	**Farellones**	156.96	98	⇑iP	PKPdf	23 49 31.1	-2.0
EFI	**East Falkland**	158.42	153	PFAKE		23 49 40.0	+5.6
EFI				LR	LR		
	comp=Z,2µm,20.0s,MS6.0						
BAO	**Brasilia Array**	161.87	17	eP	PKPdf	23 49 37.6	-1.5
BAO				e		23 49 44.5	
BAO				e		23 50 04.0	
BAO				e		23 50 23.8	
BAO				e		23 54 05.0	
BDFB	**Brasilia**	161.87	17	PKP	PKPdf	23 49 36.9	-2.2
	comp=Z,23nm,1.1s,baz=13,slow=3.2,SNR=19						
BDFB				PKPab	PKPab	23 50 22.5	-1.2
	comp=Z,34nm,0.8s,baz=325,slow=11,SNR=8.8						
BDFB				PP	PP	23 54 04.0	-4.4
	comp=Z,49nm,1.4s,baz=348,slow=9.5,SNR=3.7						
TRQA	**Tornquist**	163.60	113	ePKPdf	PKPdf	23 49 37.3	-2.9
TRQA				ePKPab	PKPab	23 50 31.6	+1.0
TRQA				ePP	PP	23 54 18.0	+1.0
CPUP	**Villa Florida**	165.58	65	PKP	PKPdf	23 49 39.9	-2.6
	comp=Z,52nm,1.4s,baz=35,slow=1.1,SNR=18						
CPUP				PKPab	PKPab	23 50 39.1	-0.4
	comp=Z,12nm,1.0s,baz=303,slow=7.4,SNR=2.6						
CPUP				PP	PP	23 54 22.6	-5.0
	comp=Z,6.9nm,1.0s,baz=340,slow=9.6,SNR=2.9						
CPUP	**Villa Florida**	165.58	65	PKP	PKPdf	23 49 39.9	-2.6
CPUP				PKPab	PKPab	23 50 39.1	-0.4
CPUP				PP	PP	23 54 22.6	-5.0
LPA	**La Plata**	167.26	102	dePKP	PKPdf	23 49 40.0	-3.5
LPA				i pPKP		23 49 44.0	
LPA	**La Plata**	167.26	102	ePKP	PKPab	23 50 46.0	-0.6
LPA				ePP	PP	23 54 33.0	-2.8
	comp=Z,13µm,21.0s						

NAO ***06*** *23:30:39.8±3.9, 67.85N×20.22E, ML2.0*

BER 06 23:30:43.4±2.7**, 67.88N×20.41E, ML1.6, ML2.0**(NAO)**, Suspected explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KTK1	**Kautokeino**	1.55	41	eP	Pn	23 31 09.1	-3.3
KTK1				AML	AML	23 31 38.1	
	comp=Z,12nm,0.3s						
ARA0	**ARCESS Array S**	2.50	46	Pn	Pn	23 31 21.9	-4.0
	baz=229,slow=16						
ARA0				Sn	Sn	23 31 55.3	-2.3
	baz=229,slow=28						
ARA0				Lg		23 32 00.9	
	baz=223,slow=28						
LOF	**Lofoten**	2.60	279	eSg	Sg	23 32 04.3	-5.6
APA0	**Apatity Array**	4.79	87	Pn	Pn	23 31 54.1	-4.5
	baz=276,slow=12						
APA0				Lg		23 33 10.3	
	baz=280,slow=37						
FIA0	**FINESS Array S**	6.90	157	Lg		23 34 17.2	
	baz=351,slow=37						
FIA0	**FINESS Array S**	6.90	157	Lg		23 34 17.2	
	baz=351,slow=37						

NEIC ***07*** *00:04:07.0, 19.32N×64.60W, h39^{km}, MD3.8(RSPR), After RSPR.*

RSPR 07 00:04:07.0, 19.32N×64.60W, h39^{km}±25^{km}**, MD3.8**/10**, MD3.8**/10**, 9C-3D, Virgin Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MTP	**Monte Pirata**	1.51	217	⇓eP	P	00 04 30.8	-1.4
MTP				eS	S	00 04 49.6	-1.3
CBYP	**Canovanas**	1.58	229	⇑eP	P	00 04 31.1	-1.9
CBYP				eS	S	00 04 50.5	-1.9
HUMP	**Col San Antoni**	1.66	226	⇓eP	P	00 04 32.5	-1.8
HUMP				eS	S	00 04 52.6	-1.9
CPD	**Cerro la Pandu**	1.78	225	⇑eP	P	00 04 34.5	-1.4
CPD				eS	S	00 04 55.5	-1.9
CSB	**Colonia Sabana**	1.79	235	⇑eP	P	00 04 33.9	-2.1
SJG	**San Juan**	1.89	231	⇑eP	P	00 04 35.9	-1.7
SJG				eS	S	00 04 57.9	-2.4
SJG	**San Juan**	1.89	231	⇓eP	P	00 04 35.8	-1.8
SJG				eS	S	00 04 58.1	-2.3
CELP	**Cerrillos**	2.24	237	⇑eP	P	00 04 41.0	-1.6
CELP				eS	S	00 05 07.7	-1.5
AOPR	**Arecibo Observ**	2.25	245	⇑eP	P	00 04 40.8	-1.9
AOPR	**Arecibo Observ**	2.25	245	eS	S	00 05 07.3	-2.1
PORP	**Portuguez**	2.30	237	⇑eP	P	00 04 41.7	-1.7
PORP				eS	S	00 05 08.4	-2.3
LRS	**Lares**	2.35	245	⇑eP	P	00 04 43.0	-1.1
LSP	**Las Mesas**	2.61	245	⇑eP	P	00 04 46.5	-1.3
LSP				eS	S	00 05 17.7	-0.9

ISK ***07*** *00:17:34.8, 36.93N×27.78E, h7^{km}, MD3.1*

NEIC ***07*** *00:17:37.1, 36.91N×27.76E, h41^{km}, MD3.0(ATH), After ATH.*

ATH ***07*** *00:17:37.1, 36.91N×27.76E, h41^{km}±5^{km}, MD3.0/4*

ISC 07 00:17:36.1±0.6**, 36.97N**±0.03×**27.83E**±0.04**, h5**^{km}±6^{km}**, n13, σ0^{s}77**/20**, 1C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	0.33	288	i P	**Pg**	**00 17 42.1**	**-0.5**
BDRM				i S	**Sg**	**00 17 47.5**	**+0.4**
MLSB	**Milas**	0.33	352	PG	**Pg**	**00 17 42.6**	**-0.2**
YER	**Yerkesik**	0.40	65	i PG	**Pg**	**00 17 44.0**	**-0.1**
YER				SG	**Sg**	**00 17 51.0**	**+1.5**
NISR	**Nisiros**	0.67	238	eP	**Pg**	**00 17 49.5**	**+0.1**
NISR				eS	**Sg**	**00 17 59.0**	**+0.7**
DALT	**Dalyan (Mudla)**	0.68	107	ePG	**Pg**	**00 17 48.8**	**-0.8**
AYDN	**Tasoluk**	0.69	3	⇑iP	**Pg**	**00 17 49.4**	**-0.6**
AYDN				i S	**Sg**	**00 17 59.1**	**-0.1**
ARG	**Arkhangelos**	0.79	162	eP	**Pb**	**00 17 51.5**	**-0.4**
ARG				eS	**Sb**	**00 18 04.0**	**+1.4**
SMG	**Samos**	1.08	313	eP	**Pb**	**00 17 56.8**	**-0.2**
SMG				eS	**Sb**	**00 18 12.5**	**+1.2**
DNZL	**Cakiroluk**	1.21	53	i P	**Pb**	**00 17 59.0**	**-0.1**
DNZL				i S	**Sb**	**00 18 15.0**	**+0.1**
DENT	**Denizli**	1.24	50	ePN	**Pn**	**00 18 00.5**	**+0.4**
KARP	**Karpathos**	1.52	201	eP	**Pn**	**00 18 02.4**	**-1.6**
ELL	**Elmali**	1.68	97	ePN	**Pn**	**00 18 05.9**	**-0.5**
AKS	**Akhisar**	1.91	360	ePN	**Pn**	**00 18 08.9**	**-0.8**

IDC 07 00:25:52.2±3.1**, 50.38N×174.44E, mb3.9**/4**, mb1 4.2**/4**, mb1mx3.7**/19**, Error ellipse: s-maj=128.0km s-min=26.6km az=10.0, South of Aleutian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PDAR	**Pinedale Array**	50.67	67	P	P	00 34 52.5	-2.5
	0.8nm,0.5s,baz=308,slow=3.9,SNR=9.3						
MKAR	**Makanchi Array**	57.20	305	P	P	00 35 40.7	-2.4
	1.7nm,1.1s,baz=55,slow=7.4,SNR=6.9						
BVAR	**Borovoye Array**	58.78	317	P	P	00 35 51.8	-2.2
	0.8nm,0.5s,baz=53,slow=7.4,SNR=4.6						
TXAR	**Lajitas Array**	63.05	76	P	P	00 36 22.1	-1.3
	1.5nm,1.1s,baz=284,slow=3.7,SNR=6.3						
MAW	**Mawson**	143.10	216	PKP	PKPdf	00 45 25.0	-3.4
	0.8nm,0.6s,baz=286,slow=14,SNR=4.2						

JMA ***07*** *00:47:32.3±0.1, 43.15N×146.15E, h71^{km}±1^{km}, M4.1*

MOS ***07*** *00:47:33.4±1.1, 43.75N×146.19E, h86^{km}, mb4.0/6, Error ellipse: s-maj=55.0km s-min=24.0km az=134.5*

IDC ***07*** *00:47:35.3±7.6, 43.35N×146.06E, h98^{km}±40^{km}, mb3.6/7, mb1 3.7/8, mb1mx3.5/19, Error ellipse: s-maj=94.4km s-min=46.1km az=169.0*

ISC 07 00:47:30.2±1.0**, 43.16N**±0.07×**146.26E**±0.09**, h80**^{km}±5^{km}**, n25, σ0^{s}83**/37**, mb3.8**/7**, 1D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	0.43	298	P	**P**	**00 47 44.2**	**+0.8**
NEM2				eS	**S**	**00 47 52.8**	**-0.5**
YUK	**Yuzh-Kuril'sk**	0.92	342	⇓iPN	**P**	**00 47 48.0**	**-0.4**
YUK				S	**S**	**00 48 00.5**	**-1.7**
YUK				pmax	pmax		
	comp=N,580nm,0.3s						
YUK				pmax	pmax		
	comp=E,400nm,0.3s						
YUK				pmax	pmax		
	comp=Z,2µm,0.3s						
YUK				smax			
	comp=E,5µm,0.6s						
YUK				smax			
	comp=N,4µm,0.4s						
YUK				smax			
	comp=E,2µm,0.4s						
JRA	**Rausu**	1.13	313	P	**P**	**00 47 52.0**	**+0.9**
JRA				eS	**S**	**00 48 07.0**	**+0.2**
JAK	**Akkeshi**	1.16	262	P	**P**	**00 47 51.9**	**+0.5**
JAK				eS	**S**	**00 48 06.6**	**-0.8**
JNK	**Nakash**	1.20	291	P	**P**	**00 47 52.3**	**+0.3**
JNK				eS	**S**	**00 48 07.1**	**-1.2**
JOB	**Onbets**	1.80	262	P	**P**	**00 48 00.4**	**+0.5**
JOB				eS	**S**	**00 48 21.3**	**-0.5**
JAR	**Ashorobuto**	1.83	275	P	**P**	**00 48 01.0**	**+0.7**
JAR				eS	**S**	**00 48 22.7**	**+0.2**
JTKR	**Abashiri--Toko**	1.89	296	P	**P**	**00 48 02.3**	**+1.1**
JTKR				eS	**S**	**00 48 25.2**	**+1.2**
JCH	**Churui**	2.20	257	P	**P**	**00 48 04.7**	**-0.8**
JCH				eS	**S**	**00 48 30.4**	**-1.2**
JMP	**Maruseppu**	2.27	293	P	**P**	**00 48 07.5**	**+1.1**
JMP				eS	**S**	**00 48 33.0**	**-0.3**
ASAJ	**Asahikawa**	2.83	291	P	**P**	**00 48 15.6**	**+1.4**
	comp=E,20nm,0.3s,baz=103,slow=10.0,SNR=36						
ASAJ				S	**S**	**00 48 47.8**	**+0.6**
	comp=E,4.9nm,0.3s,baz=239,slow=32,SNR=5.9						
ASAJ	**Asahikawa**	2.83	291	PN	**P**	**00 48 15.6**	**+1.4**
ASAJ				S	**S**	**00 48 47.8**	**+0.6**
ASAJ				pmax	pmax		
	comp=Z,20nm,0.3s						
ASAJ				smax			
	comp=N,5.0nm,0.3s						
SONM	**Songino Array**	28.11	294	P	**P**	**00 53 16.6**	**+0.3**
	comp=N,1.5nm,0.7s,mb3.6,baz=83,slow=8.4,SNR=9.0						
ZAL	**Zalesovo**	40.85	307	P	**P**	**00 55 03.5**	**-1.8**
	comp=N,0.5nm,0.5s,mb3.6,baz=247,slow=6.3,SNR=3.7						
ZAL	**Zalesovo**	40.85	307	P	**P**	**00 55 03.5**	**-1.8**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	44.28	298	P	**P**	**00 55 33.3**	**0.0**
	comp=Z,0.8nm,0.5s,mb3.7,baz=84,slow=9.4,SNR=8.4						
MKAR	**Makanchi Array**	44.28	298	P	**P**	**00 55 33.3**	**0.0**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ARCES	**ARCESS Array B**	59.57	339	P	**P**	**00 57 26.8**	**-0.3**
	comp=Z,2.0nm,0.6s,mb4.3,baz=45,slow=5.1,SNR=4.0						
ARCES	**ARCESS Array B**	59.57	339	P	**P**	**00 57 26.8**	**-0.4**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
FINES	**FINESS Array B**	65.10	333	P	**P**	**00 58 03.3**	**-0.6**
	comp=Z,0.8nm,0.5s,mb3.9,baz=37,slow=9.5,SNR=10						
FINES	**FINESS Array B**	65.10	333	P	**P**	**00 58 03.3**	**-0.7**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NOA	**NORSAR Array B**	69.91	339	P	**P**	**00 58 34.5**	**+0.5**
	comp=Z,0.6nm,0.8s,mb3.5,baz=47,slow=5.4,SNR=3.5						
NOA	**NORSAR Array B**	69.91	339	P	**P**	**00 58 34.5**	**+0.5**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
HFS	**Hagfors**	69.98	337	P	**P**	**00 58 34.1**	**-0.3**
	comp=Z,5.3nm,1.1s,mb4.3,baz=34,slow=5.3,SNR=7.0						
HFS	**Hagfors**	69.98	337	P	**P**	**00 58 34.1**	**-0.3**
HFS				pmax	pmax		
	comp=Z,5.0nm,1.1s						

NEIC ***07*** *00:53:31.5, 19.51N×65.39W, h46^{km}, MD3.8(RSPR), After RSPR.*

RSPR 07 00:53:31.5, 19.51N×65.39W, h46^{km}±14^{km}**, MD3.8**/10**, MD3.8**/10**, 4C-9D, Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBYP	**Canovanas**	1.31	200	⇑eP	P	00 53 51.9	-2.0
CBYP				eS	S	00 54 09.0	-1.5
CSB	**Colonia Sabana**	1.42	211	⇑eP	P	00 53 53.6	-1.7
CSB				eS	S	00 54 11.4	-1.7
MTP	**Monte Pirata**	1.42	187	⇓eP	P	00 53 53.5	-1.9
MTP				eS	S	00 54 11.7	-1.4
HUMP	**Col San Antoni**	1.43	198	⇓eP	P	00 53 53.8	-1.7
CPD	**Cerro la Pandu**	1.55	199	⇓eP	P	00 53 55.5	-1.7
CPD				eS	S	00 54 14.6	-1.7
SJG	**San Juan**	1.57	208	eS	S	00 54 14.6	-2.2
SJG	**San Juan**	1.57	208	⇓iP	P	00 53 56.1	-1.4
SJG	**San Juan**	1.57	208	⇓eP	P	00 53 55.8	-1.6
SJG				eS	S	00 54 14.6	-2.2
AOPR	**Arecibo Observ**	1.74	228	⇓eP	P	00 53 58.2	-1.6
AOPR	**Arecibo Observ**	1.74	228	eS	S	00 54 19.1	-1.7
CELP	**Cerrillos**	1.82	219	⇓iP	P	00 53 59.6	-1.4
CELP				eS	S	00 54 21.0	-2.0
LRS	**Lares**	1.84	229	⇑eP	P	00 53 59.6	-1.6
PORP	**Portuguez**	1.88	219	⇓eP	P	00 54 00.3	-1.4
PORP				eS	S	00 54 22.6	-1.7
LSP	**Las Mesas**	2.09	231	⇑eP	P	00 54 04.1	-0.7
MGP	**Maguayo**	2.20	227	⇓eP	P	00 54 05.0	-1.4
MGP				eS	S	00 54 30.8	-1.7

PRU ***07*** *00:58:37.8, 44.24N×12.28E*

NEIC ***07*** *00:58:37.5, 44.21N×12.09E, h10^{km}, MD2.6(ROM), ML3.0(LDG), ML3.0(STR), After ROM.*

LDG ***07*** *00:58:38.9±0.1, 44.27N×12.16E, h10^{km}, Ml3.0/19, Error ellipse: s-maj=1.6km s-min=1.4km az=176.0*

STR ***07*** *00:58:46.0±0.5, 44.52N×11.17E, h10^{km}±1^{km}, Ml3.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ROM 07 00:58:37.4±0.1**, 44.21N×12.09E, h10**^{km}±1^{km}**, MD2.6**/14**, ML2.5**/15**, 3C-5D, Error ellipse: s-maj=1.1km s-min=1.1km az=0.0, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BRSN	**Barisano**	0.07	350	ePG	Pg	00 58 41.0	+1.2
BRSN				SG	Sg	00 58 42.7	+1.3
BRSN	**Barisano**	0.07	350	ePg	Pg	00 58 41.0	+1.3
BRSN				eSg	Sg	00 58 42.7	+1.3
SFI	**Santa Sofia**	0.35	210	ePG	Pg	00 58 44.4	-0.3
SFI				SG	Sg	00 58 51.7	+2.1
SFI	**Santa Sofia**	0.35	210	ePg	Pg	00 58 44.4	-0.3
SFI				eSg	Sg	00 58 51.7	+2.1
RSM	**Repubblica di**	0.38	138	ePG	Pg	00 58 46.0	+0.8
RSM				SG	Sg	00 58 51.1	+0.6
	278nm,0.3s						
RSM	**Repubblica di**	0.38	138	ePg	Pg	00 58 46.0	+0.8
RSM				eSg	Sg	00 58 51.1	+0.7
PGD	**Poggio Sodo**	0.43	219	ePG	Pg	00 58 45.6	-0.6
PGD				SG	Sg	00 58 52.8	+0.7
PGD	**Poggio Sodo**	0.43	219	ePg	Pg	00 58 45.6	-0.6
PGD				eSg	Sg	00 58 52.8	+0.8
VMG	**Vicchio**	0.47	238	ePG	Pg	00 58 46.2	-0.7
VMG				SG	Sg	00 58 54.5	+1.2
	276nm,0.1s						
VMG	**Vicchio**	0.47	238	ePg	Pg	00 58 46.2	-0.7
VMG				eSg	Sg	00 58 54.5	+1.2
SEI	**Scarperia**	0.55	254	ePG	Pg	00 58 48.1	-0.5
SEI				SG	Sg	00 58 57.5	+1.4
	2µm,0.3s						
SEI	**Scarperia**	0.55	254	ePg	Pg	00 58 48.1	-0.5
SEI				eSg	Sg	00 58 57.5	+1.3
CRE	**Caprese Michel**	0.60	190	ePG	Pg	00 58 49.0	-0.5
CRE				SG	Sg	00 58 59.2	+1.5
	312nm,0.3s						
CRE	**Caprese Michel**	0.60	190	ePg	Pg	00 58 49.0	-0.5
CRE				eSg	Sg	00 58 59.2	+1.5
FNVD	**Fontana Vidola**	0.70	267	ePG	Pg	00 58 50.9	-0.6
FNVD				SG	Sg	00 59 02.6	+1.7
FNVD	**Fontana Vidola**	0.70	267	ePg	Pg	00 58 50.9	-0.6
FNVD				eSg	Sg	00 59 02.6	+1.7
FSSB	**Fossombrone**	0.72	136	ePG	Pg	00 58 51.0	-0.8
	166nm,0.2s						
FSSB	**Fossombrone**	0.72	136	ePg	Pg	00 58 51.0	-0.8
CSNT	**Castellina Chi**	0.94	218	ePG	Pg	00 58 55.6	-0.7
	135nm,0.3s						
ARV	**Arcevia**	0.94	139	ePG	Pg	00 58 56.3	0.0
	89nm,0.4s						
ARV	**Arcevia**	0.94	139	ePg	Pg	00 58 56.3	0.0
BDI	**Bagni Di Lucca**	1.09	263	ePN	Pn	00 58 58.4	-0.2
	49nm,0.4s						
GSCL	**Gusciola**	1.09	278	ePN	Pn	00 58 58.8	+0.2
GSCL	**Gusciola**	1.09	278	ePg	Pg	00 58 58.8	-0.4
ASS	**Assisi**	1.22	160	ePN	Pn	00 59 00.2	-0.2
	33nm,0.4s						
ASS	**Assisi**	1.22	160	ePg	Pg	00 59 00.2	-1.6
VLC	**Villacollemand**	1.23	268	ePn	Pn	00 59 01.4	+0.7
GRFL	**Gerfalco**	1.34	218	ePN	Pn	00 59 02.9	+0.7
GRFL	**Gerfalco**	1.34	218	ePg	Pg	00 59 02.9	-1.3
NRCA	**Norcia**	1.56	151	ePN	Pn	00 59 06.1	+0.7
NRCA	**Norcia**	1.56	151	ePg	Pg	00 59 06.1	-2.6
CTI	**Castel Tesino**	1.86	350	ePN	Pn	00 59 08.6	-1.1
	43nm,0.4s						
CTI	**Castel Tesino**	1.86	350	ePg	Pg	00 59 08.6	-6.1
MNS	**Montasola**	1.88	167	ePN	Pn	00 59 10.3	+0.4
	25nm,0.4s						
MNS	**Montasola**	1.88	167	ePg	Pg	00 59 10.3	-4.6
TRI	**Trieste**	1.91	38	ePN	Pn	00 59 08.7	-1.6
	34nm,0.4s						
TRI	**Trieste**	1.91	38	ePg	Pg	00 59 08.7	-6.9
NVLJ	**Novalja**	2.02	79	i Pn	Pn	00 59 11.1	-0.8
NVLJ				i Sn	Sn	00 59 36.4	-1.1
AQU	**L'Aquila**	2.09	152	ePn	Pn	00 59 15.1	+2.2
JAVS	**Javornik**	2.19	39	i Pn	Pn	00 59 12.7	-1.6
GMNA	**Gemona**	2.21	21	ePN	Pn	00 59 13.0	-1.7
GMNA	**Gemona**	2.21	21	ePg	Pg	00 59 13.0	-8.7
VOY	**Vojsko**	2.22	34	ePn	Pn	00 59 12.9	-1.9
VOY				eSn	Sn	00 59 41.3	-1.2
ROBS	**Robic**	2.27	26	i Pn	Pn	00 59 14.0	-1.5
CADS	**Cadrg**	2.33	29	i Pn	Pn	00 59 14.8	-1.5
CADS				eSn	Sn	00 59 43.2	-2.0
PTCC	**Patocco-Chiusa**	2.37	22	ePN	Pn	00 59 15.3	-1.6
	27nm,0.5s						
PTCC	**Patocco-Chiusa**	2.37	22	ePg	Pg	00 59 15.3	-9.4
LJU	**Ljubljana**	2.51	42	ePn	Pn	00 59 17.9	-1.1
LJU				e		00 59 25.9	
LJU				eSg	Sg	01 00 01.5	+0.3
BRMO	**Bormio**	2.57	332	ePN	Pn	00 59 19.6	-0.2
	12nm,0.5s						
BRMO	**Bormio**	2.57	332	ePg	Pg	00 59 19.6	-9.1
VBY	**Vinica-Bojanci**	2.59	59	ePn	Pn	00 59 19.0	-1.1
VBY				e		00 59 28.2	
VBY				eSn	Sn	00 59 50.5	-1.5
PGF	**Pioggiola**	2.80	235	ePn	Pn	00 59 21.7	-1.4
PGF				eSn	Sn	00 59 55.2	-2.1
	17nm,0.5s						
OBKA	**Obir**	2.88	36	⇑iPN	Pn	00 59 23.1	-1.1
OBKA				i SN	Sn	00 59 55.7	-3.4
VAI	**Varese**	2.88	306	ePN	Pn	00 59 23.2	-1.0
	13nm,0.3s						
VAI	**Varese**	2.88	306	ePg	Pg	00 59 23.2	-12
KBA	**Koelnbreinsper**	3.00	17	⇓iPN	Pn	00 59 25.3	-0.6
KBA				i SN	Sn	00 59 59.3	-2.9
WTTA	**Wattenberg**	3.07	354	⇓iPN	Pn	00 59 27.0	+0.1
WTTA				i SN	Sn	01 00 02.8	-1.2
SQTA	**Sankt Quirin**	3.07	349	⇑iPN	Pn	00 59 26.8	-0.1
SQTA				i SN	Sn	01 00 03.4	-0.7
WATA	**Walderalm**	3.15	354	⇑iPN	Pn	00 59 27.8	-0.2
WATA				i SN	Sn	01 00 04.7	-1.2
MOTA	**Moosalm**	3.21	348	⇓iPN	Pn	00 59 28.9	0.0
MOTA				i SN	Sn	01 00 06.6	-1.0
SBF	**Sospel**	3.38	266	ePn	Pn	00 59 31.5	+0.2
SBF				eSn	Sn	01 00 09.1	-2.7
	9.6nm,0.3s						
MBDF	**Montbardon**	3.84	280	ePn	Pn	00 59 36.7	-1.2
ARSA	**Arzberg**	3.87	37	⇓iPN	Pn	00 59 36.2	-2.1
ARSA				i SN	Sn	01 00 20.7	-3.7
MOA	**Molln**	3.94	22	⇓iPN	Pn	00 59 38.1	-1.2
MOA				i SN	Sn	01 00 22.5	-3.6
FRF	**La Foret Royal**	3.99	263	ePn	Pn	00 59 38.8	-1.2
FRF				eSn	Sn	01 00 24.1	-3.3
	5.2nm,0.4s						
LPG	**La Plagne**	4.01	291	ePn	Pn	00 59 37.5	-2.8
LPG				eSn	Sn	01 00 23.8	-4.1
	3.8nm,0.3s						
LPL	**La Plagne**	4.03	291	ePn	Pn	00 59 38.0	-2.5
LMR	**La Mourre**	4.14	260	ePn	Pn	00 59 41.0	-1.1
LMR				eSn	Sn	01 00 26.9	-4.2
	4.0nm,0.3s						
ORIF	**Oris-en-Rattie**	4.50	281	ePn	Pn	00 59 46.7	-0.5
ORIF				eSn	Sn	01 00 35.7	-4.5
	6.1nm,0.4s						
FELD	**Feldberg**	4.64	324	P	Pn	00 59 47.2	-2.0
SMRF	**Simiane la Rot**	4.70	269	ePn	Pn	00 59 48.2	-1.9
SMRF				eSn	Sn	01 00 40.4	-4.9
	2.8nm,0.5s						
CABF	**La Chapelle**	4.86	302	ePn	Pn	00 59 50.5	-1.9
CABF				eSn	Sn	01 00 43.1	-6.3
	4.4nm,0.4s						
MOF	**Molkenrain**	5.02	318	P	Pn	00 59 52.2	-2.4
MOF				S	Sn	01 00 46.4	-6.9
KHC	**Kasperske Hory**	5.03	11	ePN	Pn	00 59 51.5	-3.2
KHC				ex	x	01 00 00.8	
KHC				eSN	Sn	01 00 46.7	-6.8
HINF	**Hinteralfeld**	5.13	316	ePn	Pn	00 59 53.3	-2.8
HINF				eSn	Sn	01 00 48.8	-7.3
	9.8nm,0.4s						
ECH	**Echery**	5.27	321	P	Pn	00 59 55.6	-2.5
ECH				S	Sn	01 00 54.1	-5.5
WLS	**Welschbruch**	5.33	324	P	Pn	00 59 56.8	-2.2
WLS				S	Sn	01 00 55.4	-5.8
VIVF	**Saint-Julien-l**	5.34	280	ePn	Pn	00 59 56.7	-2.5
VIVF				eSn	Sn	01 00 55.5	-6.0
	1.9nm,0.3s						
CDF	**Champ du Feu**	5.37	323	ePn	Pn	00 59 56.8	-2.6
CDF				eSn	Sn	01 00 54.8	-7.2
	3.0nm,0.2s						
HAU	**Haudompre**	5.51	316	ePn	Pn	00 59 58.7	-2.8
HAU				eSn	Sn	01 00 56.5	-9.1
	14nm,0.3s						
LASF	**Ste Croix**	5.93	272	ePn	Pn	01 00 05.1	-2.3
LASF				eSn	Sn	01 01 09.4	-6.8
	1.4nm,0.5s						
SMF	**Signal de Mont**	6.30	296	ePn	Pn	01 00 09.9	-2.7
SMF				eSn	Sn	01 01 18.1	-7.3
	3.0nm,0.3s						
MEZF	**Maizieres J'vi**	6.49	314	eSn	Sn	01 01 21.7	-8.5
	3.1nm,0.3s						
LOR	**Lormes**	6.52	301	ePn	Pn	01 00 12.0	-3.8
LOR				ePg	Pg	01 00 39.9	-7.7

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LOR                                eSn    Sn        01 01 23.0  -8.0
       6.4nm,0.3s
SSF    Saint Saulge       6.66 298 ePn    Pn        01 00 14.6  -3.1
SSF                                eSn    Sn        01 01 23.9   -11
AVF    Avril sur Loir     6.66 296 ePn    Pn        01 00 14.7  -3.0
AVF                                ePg    Pg        01 00 42.0  -8.4
AVF                                eSn    Sn        01 01 26.2  -8.3
       1.0nm,0.3s
BRG    Berggiesshubel     6.78  10 eSg    Sg        01 02 26.4  +3.2
BGF    Bois d'Agland      6.92 293 ePn    Pn        01 00 17.8  -3.6
BGF                                eSn    Sn        01 01 32.3  -8.7
       5.2nm,0.3s
CLL    Collm              7.13   5 eSG    Sg        01 02 33.0  -1.7
CAF    Calviac            7.20 279 ePn    Pn        01 00 22.4  -2.9
MTLF   Montolieu          7.20 266 ePn    Pn        01 00 22.3  -3.0
TCF    Toulx Ste Croi     7.28 290 ePn    Pn        01 00 23.2  -3.2
TCF                                eSn    Sn        01 01 41.3  -8.6
       1.8nm,0.3s
HYF    Humbligny          7.29 298 eSn    Sn        01 01 41.5  -8.6
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*NEIC **07** 01:15:13.0,19.15N×64.78W,h34^{km},MD3.7(RSPR), After RSPR.*

RSPR 07 01:15:13.0,19.15N×64.78W,h34^{km}±26^{km}**,MD3.6**/11, **MD3.6**/11**,7C-6D,Virgin Islands**

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Code   Station Name        Δ°  AZ°   Phase ID            Time      Res
                                    Op     ISC        h  m  s     ISC
MTP    Monte Pirata       1.29 215⇓eP     P         01 15 33.8  -1.0
MTP                                eS     S         01 15 48.7  -2.4
CBYP   Canovanas          1.34 229⇓eP     P         01 15 34.0  -1.6
CBYP                               eS     S         01 15 50.3  -2.3
HUMP   Col San Antoni     1.43 225⇓eP     P         01 15 35.4  -1.4
HUMP                               eS     S         01 15 53.2  -1.5
CPD    Cerro la Pandu     1.54 224⇓eP     P         01 15 37.3  -1.3
CPD                                eS     S         01 15 55.9  -1.8
CSB    Colonia Sabana     1.56 237⇑eP     P         01 15 36.7  -2.1
CSB                                eS     S         01 15 55.4  -2.6
SJG    San Juan           1.66 232⇓eP     P         01 15 38.5  -1.7
SJG                                eS     S         01 15 58.0  -2.5
SJG    San Juan           1.66 232⇓eP     P         01 15 38.3  -1.9
SJG                                eS     S         01 15 59.2  -1.4
CELP   Cerrillos          2.02 238⇑eP     P         01 15 43.7  -1.5
CELP                               eS     S         01 16 07.0  -2.5
AOPR   Arecibo Observ     2.03 247⇑eP     P         01 15 43.6  -1.9
AOPR   Arecibo Observ     2.03 247 eS     S         01 16 08.0  -1.9
PORP   Portuguez          2.07 238⇑eP     P         01 15 44.5  -1.6
PORP                               eS     S         01 16 08.9  -2.0
LRS    Lares              2.14 247⇑eP     P         01 15 45.0  -2.0
LRS                                eS     S         01 16 10.8  -1.8
LSP    Las Mesas          2.39 246⇑eP     P         01 15 49.1  -1.5
MGP    Maguayo            2.47 243⇑eP     P         01 15 50.5  -1.3
MGP                                eS     S         01 16 19.4  -1.7
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*JMA **07** 01:24:52.7±0.1,33.18N×137.35E,h43^{km}±2^{km},M3.5*

ISC 07 01:24:53.0±1.1**,33.20N**±0.06×**137.33E**±0.04**,h42**^{km}±21^{km}**, n17,**σ**0^{s}.59**/31**,4D,Near south coast of eastern Honshu**

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Code   Station Name        Δ°  AZ°   Phase ID            Time      Res
                                    Op     ISC        h  m  s     ISC
TK01   Tokai 1            0.60  21  P      P        01 25 05.0  -0.3
TK01                                S      S        01 25 14.0  -0.1
TK02   Tokai 2            0.83  25 ⇓P      P        01 25 08.1  -0.2
TK02                                S      S        01 25 20.4  +0.8
TK03   Tokai 3            1.10  28  P      P        01 25 12.1  -0.1
TK03                                S      S        01 25 25.8  -0.6
TK04   Tokai 4            1.27  21 ⇓P      P        01 25 14.7  +0.1
TK04                                S      S        01 25 30.6  -0.1
JIE    Ise                1.30 337 ⇓P      P        01 25 15.6  +0.5
JIE                                 S      S        01 25 32.3  +0.7
JKN    Kiinagashima       1.38 320  P      P        01 25 16.4  +0.2
JKN                                 S      S        01 25 32.4  -1.1
JWZ    Kozaga             1.39 284  P      P        01 25 16.4  -0.1
JWZ                                 S      S        01 25 32.8  -1.1
JAA    Atsumi             1.44 354 ⇓P      P        01 25 17.3  +0.2
JAA                                 S      S        01 25 35.0   0.0
TSUJ   Tsu 2              1.69 334  P      P        01 25 21.1  +0.5
TSUJ                                S      S        01 25 41.3  +0.1
JWY    Kouya              1.77 306  P      P        01 25 22.6  +0.8
JWY                                 S      S        01 25 43.4  +0.1
JWM    Minabe             1.77 292  P      P        01 25 22.2  +0.3
JWM                                 S      S        01 25 42.7  -0.6
JIZS   Izushimoda         1.99  40  P      P        01 25 24.9   0.0
JIZS                                S      S        01 25 46.7  -1.9
SHZ3   Shizuoka 3         2.00  21  P      P        01 25 24.6  -0.4
JYN    Shimob             2.50  23  P      P        01 25 32.2   0.0
JOD2   Odawara 2          2.52  35  P      P        01 25 33.0  +0.5
JGM    Miyama             2.55 349  P      P        01 25 33.2  +0.3
JGM                                 S      S        01 26 02.8  -0.1
MAT    Matsushiro         3.41  12  P      P        01 25 46.1  +0.9
MAT                                 S      S        01 26 25.2  +0.3
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*IDC **07** 01:30:39.2±6.5,20.35S×177.85W,h529^{km}±74^{km},mb3.1/6, mb1 3.4/7,mb1mx3.3/11,Error ellipse: s-maj=48.2km s-min=26.7km az=172.0*

*NEIC **07** 01:30:40.1±5.4,20.41S×177.88W,h540^{km}±66^{km},mb4.2/3, Error ellipse: s-maj=38.6km s-min=17.8km az=189.0*

ISC 07 01:30:36.3±0.8**,20.2S**±0.2×**177.9W**±0.1**,h500**^{km}**,n19,** σ**0^{s}.62**/13**,mb3.7**/9**,Fiji Islands region**

```
Code   Station Name        Δ°  AZ°   Phase ID            Time      Res
                                    Op     ISC        h  m  s     ISC
URZ    Urewera           18.47 192  P      P        01 34 20.4  -0.5
       1.2nm,0.3s,slow=3.0,SNR=4.7
CTAO   Charters Tower    33.57 264 eP      P        01 36 36.3  +0.9
       3.5nm,0.4s,mb4.1
STKA   Stephens Creek    37.95 244  P      P        01 37 12.2  +0.6
       2.1nm,0.8s,mb3.6,baz=41,slow=9.3,SNR=2.7
ASAR   Alice Springs     44.63 256  P      P        01 38 05.8  +0.6
       4.0nm,0.6s,mb4.0,baz=94,slow=7.5,SNR=39
ASAR                                PcP    PcP      01 39 36.9  -0.9
       0.6nm,0.5s,baz=103,slow=4.0,SNR=5.9
ASPA   Alice Springs     44.64 256 eP      P        01 38 05.5  +0.3
WB2    Warramunga Arr    44.68 262 eP      P        01 38 05.4  -0.2
WRAB   Tennant Creek     44.68 262 eP      P        01 38 05.2  -0.5
       3.3nm,0.4s,mb4.1
WRA    Warramunga Arr    44.69 262  P      P        01 38 05.0  -0.7
       2.8nm,0.6s,mb3.9,baz=98,slow=8.4,SNR=26
KAKA   Kakadu            48.06 271 eP      P        01 38 30.9  -0.7
       2.0nm,0.3s,mb3.9
FITZ   Fitzroy Crossi    53.12 262 eP      P        01 39 08.7   0.0
TXAR   Lajitas Array     86.87  57  P      P        01 42 29.5  +1.0
       0.1nm,0.7s,mb2.7,baz=221,slow=6.4,SNR=3.8
ILAR   Eielson Array     88.04  13  P      P        01 42 32.2  -1.0
       0.4nm,0.4s,mb3.5,baz=217,slow=4.5,SNR=9.4
PDAR   Pinedale Array    88.73  43  P      P        01 42 37.0  +0.1
       0.4nm,0.6s,mb3.4,baz=236,slow=3.3,SNR=3.8
AKASG  Malin Array Be   142.81 331  PKP    PKPdf    01 49 09.6  -2.2
       2.4nm,0.6s,baz=37,slow=4.1,SNR=10
BRTR   Keskin Array B   146.70 313  PKPbc  PKPbc    01 49 22.0  +1.2
       2.1nm,0.7s,baz=104,slow=5.1,SNR=6.2
CLL    Collm            147.82 347 ePKP1   PKPdf    01 49 25.0  +4.8
KHC    Kasperske Hory   149.73 345 ePKPbc  PKPdf    01 49 30.0  +6.7
GERES  GERESS Array B   149.96 345  PKPbc  PKPdf    01 49 29.8  +6.1
       0.3nm,0.4s,baz=45,slow=1.9,SNR=7.2
GERES  GERESS Array B   149.96 345  PKPbc  PKPdf    01 49 29.8  +6.1
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*BJI **07** 01:37:01.8,32.32N×137.56E,h10^{km},mB4.8,mb4.4*

*IDC **07** 01:37:07.4±0.9,33.16N×137.30E,mb4.2/10,mb1 4.3/10, mb1mx4.1/19,ML3.1/1,Error ellipse: s-maj=32.7km s-min=16.3km az=62.0*

*NEIC **07** 01:37:09.3±0.5,33.20N×137.06E,h10^{km},mb4.3/2,Error ellipse: s-maj=12.6km s-min=7.9km az=91.0*

*JMA **07** 01:37:09.1±0.1,33.15N×137.17E,h38^{km}±2^{km},M3.8*

ISC 07 01:37:09.5±0.9**,33.20N**±0.03×**137.15E**±0.04**,h26**^{km}±6^{km}**, n35,**σ**0^{s}.81**/51**,mb4.2**/12**,5C-1D,Near south coast of eastern Honshu**

```
Code   Station Name        Δ°  AZ°   Phase ID            Time      Res
                                    Op     ISC        h  m  s     ISC
TK01   Tokai 1            0.67  33  P      Pb       01 37 22.6  +0.1
TK01                                S      Sb       01 37 32.4  +0.9
TK02   Tokai 2            0.90  34 ⇓P      Pb       01 37 26.0  -0.4
TK02                                S      Sb       01 37 38.1  +0.1
TK03   Tokai 3            1.18  35  P      Pn       01 37 29.9  -0.6
TK03                                S      Sn       01 37 45.9  +0.1
JIE    Ise                1.25 343 ⇑P      Pn       01 37 31.9  +0.4
JIE                                 S      Sn       01 37 48.0  +0.5
JWZ    Kozaga             1.25 286 ⇑P      Pn       01 37 30.9  -0.6
JKN    Kiinagashima       1.28 325  P      Pn       01 37 31.9  -0.1
JKN                                 S      Sn       01 37 47.2  -1.2
TK04   Tokai 4            1.33  27  P      Pn       01 37 32.3  -0.3
TK04                                S      Sn       01 37 49.6   0.0
TSUJ   Tsu 2              1.62 338  P      Pn       01 37 37.3  +0.4
TSUJ                                S      Sn       01 37 57.0  -0.1
JWM    Minabe             1.64 294 ⇑P      Pn       01 37 36.7  -0.3
JWM                                 S      Sn       01 37 56.3  -1.1
JWY    Kouya              1.65 309  P      Pn       01 37 36.3  -0.9
JWY                                 S      Sn       01 37 57.9  +0.1
JHE    Heguri             1.90 320 ⇑P      Pn       01 37 41.0  +0.3
JHE                                 S      Sn       01 38 03.8  -0.2
JIZS   Izushimoda         2.09  43  P      Pn       01 37 44.2  +0.7
JIZS                                S      Sn       01 38 07.3  -1.6
JHJ    Hachijo jima 2     2.21  91  Pn     Pn       01 37 44.4  -0.9
       16nm,0.3s,baz=224,slow=21,SNR=2.6
JAI    Aioi               2.33 285  P      Pn       01 37 46.6  -0.4
JAI                                 S      Sn       01 38 13.5  -1.6
JGM    Miyama             2.52 352  P      Pn       01 37 49.9  +0.2
JGM                                 S      Sn       01 38 19.9   0.0
JWT    Wachi              2.53 326 ⇑P      Pn       01 37 50.2  +0.3
JWT                                 S      Sn       01 38 20.1  -0.1
JYN    Shimob             2.57  26  P      Pn       01 37 49.8  -0.6
JOD2   Odawara 2          2.61  37  P      Pn       01 37 51.2  +0.2
MAJO   Matsushiro         3.45  14 ePn     Pn       01 38 02.0  -0.8
MAT    Matsushiro         3.45  14  P      Pn       01 38 03.2  +0.3
MAT                                 S      Sn       01 38 43.2  -0.1
MAT    Matsushiro         3.45  14 eP      Pn       01 38 03.0  +0.1
MAT                                eS      Sn       01 38 43.0  -0.3
CN2    Changchun         13.98 323 eP      P        01 40 36.7  +8.5
CN2                                 AMB    AMB
       comp=Z,10.0nm,0.7s
BJT    Baijiatuau        18.15 298  P      P        01 41 22.9  +1.4
       comp=Z,6.1nm,0.5s
HHC    Hu-ho-hao-te      21.76 298 eP      P        01 42 01.3  +0.3
HHC                                 AMB    AMB
       comp=Z,16nm,0.4s,mb4.8
HHC                                 AMB    AMB
       comp=Z,413nm,10.9s
ENH    Enshi             23.68 270  P      P        01 42 21.8  +1.8
       comp=Z,16nm,0.8s,mb4.5
SONM   Songino Array     27.36 311  P      P        01 42 55.3  +1.0
       comp=Z,2.6nm,1.0s,mb3.7,baz=108,slow=7.8,SNR=11
ZAL    Zalesovo          42.07 316  P      P        01 45 01.2  +0.7
       comp=Z,1.8nm,0.3s,mb4.2,baz=155,slow=3.1,SNR=6.1
MKAR   Makanchi Array    43.32 305  P      P        01 45 12.4  +1.7
       comp=Z,2.2nm,0.6s,mb4.0,baz=90,slow=10,SNR=26
FITZ   Fitzroy Crossi    52.18 194  P      P        01 46 19.6  -0.8
       comp=Z,1.6nm,0.6s,mb4.1,baz=37,slow=5.1,SNR=3.8
WRA    Warramunga Arr    52.91 183  P      P        01 46 24.8  -1.0
       comp=Z,1.2nm,0.6s,mb4.0,baz=1.0,slow=7.9,SNR=9.8
ASAR   Alice Springs     56.63 184  P      P        01 46 52.7  -0.1
       comp=Z,1.0nm,0.8s,mb3.9,baz=204,slow=25,SNR=5.0
STKA   Stephens Creek    64.86 176  P      P        01 47 47.5  -1.2
       comp=Z,1.8nm,0.7s,mb4.2,baz=342,slow=13,SNR=3.4
AKASG  Malin Array Be    75.14 321  P      P        01 48 51.8  +0.8
       comp=Z,1.3nm,0.6s,mb4.1,baz=50,slow=6.5,SNR=9.0
BRTR   Keskin Array B    78.71 310  P      P        01 49 12.9  +1.9
       comp=Z,3.5nm,0.9s,mb4.3,baz=98,slow=4.4,SNR=9.7
GERES  GERESS Array B    84.04 326  P      P        01 49 40.0  +1.3
       comp=Z,2.2nm,1.1s,mb4.2,baz=34,slow=4.8,SNR=7.7
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*JMA **07** 01:57:05.6±0.1,33.23N×137.43E,h44^{km}±1^{km},M3.9*

*IDC **07** 01:57:07.5±1.2,32.43N×138.14E,mb3.8/4,mb1 4.0/4, mb1mx3.7/18,Error ellipse: s-maj=33.1km s-min=20.8km az=137.0*

ISC 07 01:57:05.5±0.7**,33.22N**±0.05×**137.44E**±0.03**,h42**^{km}±11^{km}**, n23,**σ**0^{s}.57**/38**,mb3.9**/3**,6D,Near south coast of eastern Honshu**

```
Code   Station Name        Δ°  AZ°   Phase ID            Time      Res
                                    Op     ISC        h  m  s     ISC
TK01   Tokai 1            0.56  13  P      P        01 57 17.1   0.0
TK01                                S      S        01 57 25.5  +0.1
TK02   Tokai 2            0.77  20  P      P        01 57 20.2  +0.2
TK02                                S      S        01 57 31.3  +0.7
TK03   Tokai 3            1.04  25  P      P        01 57 24.0  +0.2
TK03                                S      S        01 57 37.8  +0.4
TK04   Tokai 4            1.22  17 ⇓P      P        01 57 26.7  +0.4
TK04                                S      S        01 57 42.1  +0.2
JIE    Ise                1.32 333 ⇓P      P        01 57 28.3  +0.4
JIE                                 S      S        01 57 44.8  +0.3
JKN    Kiinagashima       1.42 317  P      P        01 57 29.5  +0.2
JKN                                 S      S        01 57 45.9  -1.1
JAA    Atsumi             1.43 350 ⇓P      P        01 57 29.6  +0.2
JAA                                 S      S        01 57 47.0  -0.2
JWZ    Kozaga             1.47 283 ⇓P      P        01 57 30.2  +0.1
JWZ                                 S      S        01 57 47.2  -1.2
TSUJ   Tsu 2              1.71 331 ⇓P      P        01 57 34.1  +0.7
TSUJ                                S      S        01 57 54.1  -0.1
JWY    Kouya              1.83 303  P      P        01 57 35.9  +0.8
JWY                                 S      S        01 57 56.9  -0.3
JWM    Minabe             1.85 290  P      P        01 57 35.8  +0.4
JWM                                 S      S        01 57 56.6  -1.1
JIZS   Izushimoda         1.91  38  P      P        01 57 36.7  +0.4
SHZ3   Shizuoka 3         1.95  19  P      P        01 57 36.8   0.0
JHJ    Hachijo jima 2     1.97  92  Pn     P        01 57 36.5  -0.6
       28nm,0.3s,baz=70,slow=21,SNR=4.2
JHJ                                 Sn     S        01 57 59.2  -1.5
       59nm,0.3s,baz=53,slow=20,SNR=6.3
JHE    Heguri             2.04 315 ⇓P      P        01 57 38.6  +0.5
JHE                                 S      S        01 58 02.3  -0.2
JIM2   Oshima 3           2.23  47  S      S        01 58 07.0  -0.3
JYN    Shimob             2.45  22  P      P        01 57 44.4  +0.5
JYN                                 S      S        01 58 12.5  -0.4
JOD2   Odawara 2          2.45  33  P      P        01 57 44.4  +0.4
JOD2                                S      S        01 58 11.6  -1.4
MAT    Matsushiro         3.37  11  P      P        01 57 57.3  +0.2
MAT                                 S      S        01 58 36.3   0.0
MKAR   Makanchi Array    43.50 305  P      pP       02 05 20.2  +2.0
       0.3nm,0.5s,baz=89,slow=8.7,SNR=4.1
FITZ   Fitzroy Crossi    52.26 194  P      P        02 06 15.9  +0.9
       2.6nm,1.0s,mb4.1,baz=7.1,slow=8.1,SNR=3.5
WRA    Warramunga Arr    52.95 184  P      P        02 06 19.9  -0.2
       0.7nm,0.6s,mb3.8,baz=357,slow=7.4,SNR=5.5
ASAR   Alice Springs     56.67 184  P      P        02 06 47.5  +0.3
       0.9nm,0.8s,mb3.8,baz=4.8,slow=11,SNR=7.5
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*IDC **07** 01:57:08.3±4.4,29.47S×178.52W,mb4.0/3,mb1 4.2/3, mb1mx4.0/7,Error ellipse: s-maj=232.0km s-min=39.8km az=157.0*

ISC 07 01:57:48.6±1.5**,31.36S**±0.09×**179.9E**±0.2**,h300**^{km}**,n12,** σ**1^{s}.12**/8**,mb3.5**/3**,2D,Kermadec Islands region**

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Code   Station Name        Δ°  AZ°   Phase ID            Time      Res
                                    Op     ISC        h  m  s     ISC
MRZ    Mangatainoka R     9.93 200 eS      S        02 01 54.1  -1.4
MQZ    McQueen's Vall    13.60 203 eS      S        02 03 18.1  +1.2
STKA   Stephens Creek    32.53 259  P      P        02 03 56.5  +2.7
       1.9nm,0.8s,mb3.7,baz=103,slow=9.9,SNR=3.9
ASAR   Alice Springs     41.29 269  P      P        02 05 07.0  +0.2
       0.5nm,0.3s,mb3.1,baz=102,slow=7.5,SNR=7.0
WB2    Warramunga Arr    42.36 274⇓iP      P        02 05 14.7  -0.8
WRA    Warramunga Arr    42.37 274  P      P        02 05 14.6  -1.0
       1.6nm,0.3s,mb3.7,baz=110,slow=7.9,SNR=14
VNA3   Neumayer Olymp    77.46 177         P        02 09 12.0  +0.1
VNA2   Neumayer--Watz    77.87 178⇓i       P        02 09 14.4  +0.2
FINES  FINESS Array B   145.40 338  PKP    PKPdf    02 16 43.7  -6.2
       3.2nm,0.7s,baz=26,slow=4.1,SNR=13
NB2    NORSAR Subarra   149.39 349  PKP    PKPdf    02 16 54.8  -1.7
       0.9nm,0.6s,baz=15,slow=2.5
NOA    NORSAR Array B   149.39 349  PKPbc  PKPdf    02 16 54.7  -1.8
       1.6nm,0.8s,baz=14,slow=4.1,SNR=3.7
AKASG  Malin Array Be   150.93 320  PKPbc  PKPdf    02 17 00.3  +1.2
       2.0nm,0.7s,baz=41,slow=2.5,SNR=4.5
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*NEIC **07** 02:21:04.0,56.80N×131.37W,h5^{km},ML4.2(PMR), ML3.9(PGC),After PGC.*

PGC 07 02:21:03.9,56.80N×131.37W,h5^{km}**,ML3.9**/12**,West of Skeena Mountains, British Columbia - Alaska border., Southeastern Alaska**

```
Code   Station Name        Δ°  AZ°   Phase ID            Time      Res
                                    Op     ISC        h  m  s     ISC
DLBC   Dease Lake         1.79  23  Pn     Pn       02 21 36.0  +0.2
DLBC                                Sg     Sg       02 22 01.7  -1.9
DLBC                                Trac            02 22 04.8
       comp=Z,473nm,0.3s
DLBC   Dease Lake         1.79  23  P      Pn       02 21 36.0  +0.2
DLBC                                S      Sn       02 22 01.3  +2.2
SIT    Sitka              2.18 278  P      Pn       02 21 40.1  -1.3
RUBB   Prince Rupert      2.56 165  Pn     Pn       02 21 44.7  -2.1
RUBB                                Pg     Pg       02 21 49.5  -5.5
RUBB                                Sn     Sn       02 22 15.1  -3.7
RUBB                                Sg     Sg       02 22 21.9  -7.4
RUBB                                Trac            02 22 31.6
       comp=Z,231nm,0.5s
BESE   Bessie Mountai     2.58 315  P      Pn       02 21 46.4  -0.6
BESE                                S      Sn       02 22 19.4  +0.2
NDB    Naden              2.99 198  Pn     Pn       02 21 50.9  -2.0
NDB                                 Pg     Pg       02 21 57.9  -5.7
NDB                                 Sg     Sg       02 22 36.9  -6.6
NDB                                 Trac            02 22 39.2
       comp=Z,444nm,0.5s
BNAB   Bonilla            3.34 172  Pn     Pn       02 21 55.4  -2.6
BNAB                                Pg     Pg       02 22 02.1  -8.5
BNAB                                Sg     Sg       02 22 47.0  -8.3
BNAB                                Trac            02 22 48.4
       comp=Z,153nm,0.6s
VIB    Van Inlet          3.62 191  Pn     Pn       02 22 00.1  -1.8
VIB                                 Pg     Pg       02 22 08.2  -8.0
VIB                                 Sn     Sn       02 22 42.9  -2.6
VIB                                 Sg     Sg       02 22 57.6  -6.9
VIB                                 Trac            02 23 02.3
       comp=Z,113nm,0.5s
MOBC   Moresby Island     3.63 185  Pn     Pn       02 22 00.7  -1.2
MOBC                                Pg     Pg       02 22 11.0  -5.3
MOBC                                Sn     Sn       02 22 40.0  -5.7
MOBC                                Sg     Sg       02 22 58.3  -6.4
MOBC                                Trac            02 23 01.9
       comp=Z,107nm,0.6s
BNB    Barry Inlet        4.24 183  Pn     Pn       02 22 08.8  -1.9
BNB                                 Sg     Sg       02 23 16.9  -8.3
BNB                                 Trac            02 23 20.8
       comp=Z,104nm,0.6s
WHY    Whitehorse         4.28 336  Pn     Pn       02 22 09.6  -1.6
WHY                                 Pg     Pg       02 22 20.2  -9.1
WHY                                 Sg     Sg       02 23 15.9   -10
WHY                                 Trac            02 23 26.2
       comp=Z,95nm,0.4s
WHY    Whitehorse         4.28 336  P      Pn       02 22 09.6  -1.6
WHY                                 S      Sn       02 23 00.0  -2.2
FSB    Fort Saint Jam     4.62 117  Pn     Pn       02 22 14.8  -1.3
FSB                                 Pg     Pg       02 22 27.3  -8.8
FSB                                 Sg     Sg       02 23 30.3  -7.4
FSB                                 Trac            02 23 42.2
       comp=Z,105nm,0.8s
FNBB   Fort Nelson        4.93  61  Pn     Pn       02 22 21.6  +1.1
FNBB                                Pg     Pg       02 22 33.4  -9.0
FNBB                                Sg     Sg       02 23 38.3   -10
FNBB                                Trac            02 23 55.4
       comp=Z,39nm,0.7s
BBB    Bella Bella        5.00 156  Pn     Pn       02 22 19.0  -2.4
BBB                                 Pg     Pg       02 22 31.2   -13
BBB                                 Sg     Sg       02 23 39.5   -11
BBB                                 Trac            02 23 39.8
       comp=Z,41nm,0.5s
BBB    Bella Bella        5.00 156  P      Pn       02 22 19.0  -2.5
BBB                                 S      Sn       02 23 15.8  -4.7
PNL    Peninsula          5.12 307  P      Pn       02 22 20.9  -2.2
PNL                                 S      Sn       02 23 19.9  -3.6
BMBC   Bull Mountain      5.19  95  Pn     Pn       02 22 23.4  -0.6
BMBC                                Pg     Pg       02 22 39.3  -8.1
BMBC                                Trac            02 23 59.3
       comp=Z,78nm,0.7s
PCA    Pinnacle           5.71 309  P      Pn       02 22 29.8  -1.7
HOLB   Holberg            6.47 161  Pn     Pn       02 22 39.1  -3.0
HOLB                                Trac            02 24 26.3
       comp=Z,11nm,0.5s
PHC    Port Hardy         6.54 157  Pn     Pn       02 22 40.3  -2.9
PHC                                 Pg     Pg       02 22 58.2   -16
PHC                                 Sg     Sg       02 24 21.9   -20
PHC                                 Trac            02 24 31.9
       comp=Z,17nm,0.7s
MAYB   Maynard            6.88 157  Pn     Pn       02 22 45.3  -2.7
MAYB                                Sg     Sg       02 24 31.7   -21
MAYB                                Trac            02 24 40.3
       comp=Z,22nm,0.7s
BPBC   Brooks Peninsu     7.00 161  Pn     Pn       02 22 47.6  -2.0
BPBC                                Sn     Sn       02 24 06.5  -3.9
BPBC                                Trac            02 24 08.2
       comp=Z,9.0nm,0.3s
NCRB   Newcastle Ridg     7.15 152  Pg     Pg       02 23 11.2   -15
NCRB                                Sg     Sg       02 24 47.2   -15
NCRB                                Trac            02 24 51.1
       comp=Z,9.0nm,0.5s
WOSB   Woss               7.24 155  Pn     Pn       02 22 51.1  -1.9
WOSB                                Sg     Sg       02 24 44.2   -21
WOSB                                Trac            02 24 51.2
       comp=Z,69nm,1.1s
EDB    Eliza Dome         7.39 158  Trac            02 25 06.8
       comp=Z,20nm,0.9s
CBB    Campbell River     7.67 150  Pg     Pg       02 23 17.8   -19
CBB                                 Sg     Sg       02 24 59.8   -20
CBB                                 Trac            02 25 06.1
       comp=Z,15nm,0.9s
GDR    Gold River         7.73 153  Sg     Sg       02 24 59.9   -21
GDR                                 Trac            02 25 03.5
       comp=Z,14nm,0.6s
BTB    Buttle Lake        8.14 152  Pg     P        02 23 26.1   +20
BTB                                 Sg     Sg       02 25 12.1   -23
BTB                                 Trac            02 25 21.9
       comp=Z,12nm,0.6s
TXB    Texada             8.24 147  Trac            02 25 30.8
       comp=Z,16nm,0.8s
DAWY   Dawson             8.29 335  Pn     P        02 23 05.7  -2.0
DAWY                                Sg     Sg       02 25 23.5   -16
DAWY                                Trac            02 25 36.1
       comp=Z,32nm,0.8s
DAWY   Dawson             8.29 335 eP      P        02 23 03.0  -4.6
LLLB   Lillooet           8.37 134  Pn     P        02 23 07.2  -1.7
LLLB                                Sg     Sg       02 25 22.8   -20
LLLB                                Trac            02 26 01.6
       comp=Z,8.0nm,0.8s
MGB    Mount Grey         8.79 150  Trac            02 25 37.2
       comp=Z,18nm,1.2s
MNB    Mounoet Dainar     8.85 116  Pn     P        02 23 14.0  -1.4
MNB                                 Sg     Sg       02 25 37.0   -21
DOWB   Downie Slide       9.21 120  Pn     P        02 23 18.9  -1.4
YKW3   Yellowknife Ar    10.23  49  Pn     P        02 23 30.9  -3.4
PNT    Penticton         10.30 132  Trac            02 26 39.9
       comp=Z,9.0nm,0.8s
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*NEIC **07** 02:23:20.5,37.89N×22.58E,h25^{km},ML3.3(ATH),After ATH.*

*ATH **07** 02:23:20.5,37.89N×22.58E,h25^{km}±2^{km},MD3.4/13, ML3.3*

*THE **07** 02:23:25.7,38.08N×22.76E,h20^{km},ML3.3*

ISC 07 02:23:20.5±1.0**,37.92N**±0.03×**22.63E**±0.05**,h15**^{km}±10^{km}**, n28,**σ**0^{s}.96**/33**,Southern Greece**

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Code   Station Name        Δ°  AZ°   Phase ID            Time      Res
                                    Op     ISC        h  m  s     ISC
NSAL   Nisos Salamina     0.66  91 ePN     Pn       02 23 34.5  -0.5
NAIG   Nisos Aigina       0.70 103 ePN     Pn       02 23 35.0  -0.5
NAIG                               eSN     Sn       02 23 46.0  +0.1
LKR    Lokris             0.78  21 ePN     Pn       02 23 36.3  -0.5
ATH    Athens Observa     0.86  86 ePN     Pn       02 23 38.3  +0.5
ATH                                eSN     Sn       02 23 51.0  +1.0
MPAR   Parnis Oros        0.90  75 ePN     Pn       02 23 39.5  +1.1
ITM    Ithomi             0.93 217 ePN     Pn       02 23 37.2  -1.7
RLS    Riolos of Patr     0.93 279 ePN     Pn       02 23 37.5  -1.4
PTL    Penteli            0.98  82 ePN     Pn       02 23 39.6   0.0
EVR    Evrytania          1.19 327 ePN     Pn       02 23 43.9  +1.4
VLI    Veliai             1.23 169 ePN     Pn       02 23 43.0  -0.1
NEO    Neokhori           1.46  18 ePB     Pb       02 23 47.1  +0.3
XOR    Xorichti           1.50  17 ePb     Pb       02 23 47.6  -0.1
AOS    Alonnisos          1.58  38 ePb     Pb       02 23 48.6  -0.3
VLS    Valsamata          1.63 280 ePN     Pn       02 23 50.5  +1.5
KYTH   Kithira            1.67 169 ePN     Pn       02 23 50.5  +1.0
MEV    Metsovon           2.16 330 ePn     Pn       02 23 57.9  +1.5
       comp=Z,5.2nm,0.3s
MEV                                eSn     Sn       02 24 23.3  +0.2
LIT    Litokhoron         2.18 357 ePn     Pn       02 23 57.4  +0.7
       comp=Z,3.2nm,0.5s
IGT    Igoumenitsa        2.41 312 ePn     Pn       02 24 02.4  +2.3
APE    Apeiranthos        2.46 109 ePn     Pn       02 24 00.5  -0.2
PLG    Polygyros          2.53  14 ePN     Pn       02 24 01.3  -0.4
OUR    Ouranopolis        2.63  23 ePn     Pn       02 24 02.9  -0.2
VAM    Vamos              2.81 153 ePN     Pn       02 24 05.4  -0.4
KEK    Kerkira            2.85 310 ePB     Pb       02 24 07.6  -2.9
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SOH	**Sokhos**	2.95	11	*e*Pn	Pn	02 24 07.7	0.0
FNA	**Florina**	3.02	342	*e*Pn	Pn	02 24 09.2	+0.5
FNA				*e*Sn	Sn	02 24 44.0	-0.9
GRG	**Griva**	3.04	357	*e*Pn	Pn	02 24 09.7	+0.8
KNT	**Kendrikon**	3.24	4	*e*Pn	Pn	02 24 12.1	+0.2
KNT				*e*Sn	Sn	02 24 48.3	-2.3
SRS	**Serrai**	3.27	13	*e*Pn	Pn	02 24 12.7	+0.4

*IDC **07** 02:23:26.6±1.1, 55.04S×28.10W, mb4.2/5, mb1 4.3/5, mb1mx4.1/9, Error ellipse: s-maj=55.0km s-min=24.2km az=45.0*

*NEIC **07** 02:23:28.0±0.4, 55.21S×28.34W, h10^{km}, mb4.6/5, Error ellipse: s-maj=16.1km s-min=6.6km az=62.0*

ISC 07 02:23:33.3±4.9**, 55.1S**±0.1×**28.2W**±0.3**, h75**^{km}±49^{km}**, n18, σ0^{s}74**/14**, mb4.4**/9**, 1C-3D, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	17.86	158	⇓*i*	P	02 27 38.5	+0.7
VNA3	**Neumayer Olymp**	18.05	161	⇓*i*	P	02 27 39.9	-0.1
VNA2	**Neumayer--Watz**	18.25	158	⇑*i*	P	02 27 42.3	-0.2
SNAA	**Sanae**	19.81	156	⇓*i*	P	02 27 56.5	-3.3
PMSA	**Palmer Station**	20.11	227	*e*P	P	02 28 02.7	-0.3
	30nm,0.8s						
QSPA	**South Pole Qui**	35.13	180	*e*P	P	02 30 21.2	+0.4
	10nm,0.4s,mb5.0						
CPUP	**Villa Florida**	35.79	312	P	P	02 30 26.2	-0.7
	3.2nm,0.7s,mb4.4,baz=184,slow=7.4,SNR=16						
MAW	**Mawson**	41.22	144	P	P	02 31 12.2	+0.5
	1.3nm,0.6s,mb3.9,baz=213,slow=8.0,SNR=4.2						
BDFB	**Brasilia**	42.29	331	P	P	02 31 21.6	+0.8
	2.2nm,0.8s,mb3.9,baz=188,slow=15,SNR=3.3						
LVC	**Limon Verde**	44.36	300	*e*P	P	02 31 37.5	-0.1
	5.8nm,0.8s,mb4.4						
LPAZ	**La Paz**	49.39	306	P	P	02 32 18.4	+1.2
	2.0nm,0.2s,mb4.6,baz=164,slow=7.7,SNR=4.6						
SAML	**Samuel**	53.76	315	P	P	02 32 49.3	-0.8
	5.7nm,1.1s,mb4.5						
CASY	**Casey**	54.96	161	*e*P	P	02 32 57.9	-0.2
	4.3nm,0.7s,mb4.6						
DBIC	**Dimbokro**	64.56	26	P	P	02 34 04.3	-0.4
	2.4nm,0.9s,mb4.0,baz=174,slow=8.4,SNR=3.1						
ILAR	**Eielson Array**	149.09	313	PKPbc	PKPdf	02 43 15.3	+8.4
	4.6nm,0.6s,baz=125,slow=1.9,SNR=38						
COLA	**College**	149.51	313	*e*PKPdf	PKPdf	02 43 10.7	+3.1
MCK	**McKinley**	149.75	311	*e*PKPbc	PKPdf	02 43 16.2	+8.2
SONM	**Songino Array**	151.21	86	PKPbc	PKPdf	02 43 21.1	+10
	1.1nm,0.5s,baz=216,slow=3.7,SNR=11						

*LDG **07** 02:26:48.3±0.2, 42.27N×2.24E, h2^{km}, Ml2.4/1, Error ellipse: s-maj=4.9km s-min=1.9km az=162.0*

*STR **07** 02:26:49.1±0.1, 42.56N×2.04E, h5^{km}±1^{km}, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

MDD 07 02:26:49.3±0.4**, 42.31N×2.22E, h10**^{km}±3^{km}**, mbLg1.8**/4**, Error ellipse: s-maj=4.5km s-min=2.4km az=151.0, PRXIMO, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VALF	**Valcebollere**	0.17	301	Pg	Pg	02 26 52.7	-0.4
VALF				Sg	Sg	02 26 55.5	-0.2
VALF	**Valcebollere**	0.17	301	P	Pg	02 26 52.9	-0.2
VALF				S	Sg	02 26 55.5	-0.2
FILF	**Fillols**	0.35	46	Pg	Pg	02 26 54.9	-1.7
FILF				Sg	Sg	02 26 59.1	-2.3
FILF	**Fillols**	0.35	46	P	Pg	02 26 54.9	-1.6
FILF				S	Sg	02 26 59.1	-2.3
EJON	**La Jonquera**	0.52	75	Pg	Pg	02 26 58.9	-0.8
	2.0nm,0.1s,SNR=7.9						
EJON				Lg		02 27 05.8	
	5.8nm,0.2s,SNR=7.9						
EMIR	**Miracle**	0.65	232	Pg	Pg	02 27 01.4	-0.9
	3.7nm,0.1s,SNR=9.6						
EMIR				Lg		02 27 10.4	
	16nm,0.1s,SNR=23						
MTLF	**Montolieu**	1.03	0	*e*Pg	Pg	02 27 08.3	-1.6
MTLF				*e*Sg	Sg	02 27 22.1	-1.5
	7.9nm,0.2s						
EPOB	**Poblet**	1.28	222	Pg	Pg	02 27 12.7	-2.2
	1.7nm,0.1s,SNR=7.9						
EPOB				Lg		02 27 29.4	
	5.1nm,0.1s,SNR=7.9						
EPF	**Esparros**	1.56	298	*e*Pg	Pg	02 27 17.9	-2.5
ETSF	**Etsaut**	2.13	287	*e*Pg	Pg	02 27 28.6	-3.2
LASF	**Ste Croix**	2.13	34	*e*Pn	Pn	02 27 23.6	-1.8
SJPF	**Ste Jean**	2.66	289	*e*Pn	Pn	02 27 29.9	-3.1
RJF	**Les Rejaudoux**	3.03	351	*e*Pn	Pn	02 27 36.0	-2.3
VIVF	**Saint-Julien-l**	3.11	34	*e*Pg	Pg	02 27 46.0	-5.3

*NEIC **07** 02:26:58.6, 42.35N×2.20E, h10^{km}, ML2.6(LDG), ML2.3(STR), MN2.4(MDD), After STR.*

*STR **07** 02:26:58.6±0.5, 42.35N×2.20E, h10^{km}±1^{km}, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LDG **07** 02:26:59.0±0.1, 42.30N×2.22E, h5^{km}, Md2.6/2, Ml2.6/20, Error ellipse: s-maj=0.9km s-min=0.6km az=159.0*

*MDD **07** 02:26:59.0±0.3, 42.30N×2.22E, h9^{km}±2^{km}, mbLg2.1/27, Error ellipse: s-maj=2.7km s-min=1.8km az=160.0, PRXIMO*

ISC 07 02:26:57.3±0.4**, 42.42N**±0.02×**2.23E**±0.02**, h12**^{km}±2^{km}**, n64, σ1^{s}44**/129**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBRU	**Bruguera**	0.14	196	Pg	Pg	02 27 00.6	-0.2
CBRU				Lg		02 27 02.0	
	72nm,0.1s						
VALF	**Valcebollere**	0.16	264	Pg	Pg	02 27 02.6	+1.5
VALF				Sg	Sg	02 27 05.3	+1.6
VALF	**Valcebollere**	0.16	264	P	Pg	02 27 02.8	+1.6
VALF				S	Sg	02 27 05.4	+1.7
CLLI	**Llivia**	0.20	287	Pg	Pg	02 27 04.0	+2.2
CLLI				Lg		02 27 07.6	
	143nm,0.1s						
FILF	**Fillols**	0.28	60	Pg	Pg	02 27 05.6	+2.4
FILF				Sg	Sg	02 27 08.8	+1.5
FILF	**Fillols**	0.28	60	P	Pg	02 27 04.8	+1.6
FILF				S	Sg	02 27 08.8	+1.5
SJAF	**Saint Jean de**	0.48	82	Pg	Pg	02 27 08.7	+1.5
SJAF				Sg	Sg	02 27 15.7	+1.9
EJON	**La Jonquera**	0.49	86	Pg	Pg	02 27 08.8	+1.6
	6.3nm,0.1s,SNR=7.9						
EJON				Lg		02 27 15.7	
	23nm,0.2s,SNR=7.9						
CORG	**Organya**	0.70	255	Pg	Pg	02 27 11.5	0.0
CORG				Lg		02 27 21.3	
	5.1nm,0.0s						
EMIR	**Miracle**	0.73	226	Lg		02 27 20.2	
	28nm,0.1s,SNR=22						
CSOR	**Sort**	0.81	267	Pg	Pg	02 27 14.2	+0.5
CSOR				Lg		02 27 25.5	
	6.8nm,0.1s						
SALF	**Salau**	0.84	294	Pg	Pg	02 27 15.2	+1.0
SALF				Sg	Sg	02 27 26.7	+1.2
SALF	**Salau**	0.84	294	P	Pg	02 27 15.2	+1.0
SALF				S	Sb	02 27 26.8	+2.4
MTLF	**Montolieu**	0.92	359	*e*Pg	Pg	02 27 18.6	+2.8
MTLF				*e*Sg	Sg	02 27 32.1	+4.0
	37nm,0.2s						
MTLF	**Montolieu**	0.92	359	Pg	Pg	02 27 19.0	+3.2
MTLF				Lg		02 27 32.1	
	19nm,0.2s						
MLS	**Moulis**	1.00	303	S	Sb	02 27 32.7	+3.8
MELF	**Melles**	1.18	293	P	Pb	02 27 20.9	+1.9
MELF				S	Sb	02 27 36.9	+2.8
CAVN	**Les Avellanes**	1.23	245	Pg	Pg	02 27 20.6	-1.2
CAVN				Lg		02 27 36.4	
	22nm,0.1s						
EPOB	**Poblet**	1.37	219	Pg	Pg	02 27 22.5	-2.2
	7.7nm,0.1s,SNR=7.9						
EPOB				Lg		02 27 38.9	
	22nm,0.1s,SNR=7.9						
CGAR	**Garraf**	1.39	216	Pg	Pg	02 27 18.4	-6.7
CGAR				Lg		02 27 31.6	
	7.7nm,0.1s						
RESF	**Ens**	1.45	286	S	Sb	02 27 47.6	+5.6
EPF	**Esparros**	1.52	294	*e*Pn	Pn	02 27 25.8	+1.3
EPF				*e*Pg	Pg	02 27 28.4	+0.7
EPF				*e*Sn	Sn	02 27 45.1	+0.8
EPF				*e*Sg	Sg	02 27 48.4	+0.3
	6.3nm,0.2s						
EPF	**Esparros**	1.52	294	Pg	Pg	02 27 27.4	-0.3
EPF				Lg		02 27 47.3	
	3.2nm,0.2s						
EPF	**Esparros**	1.52	294	*e*Pn	Pn	02 27 25.8	+1.3
EPF				*e*Pg	Pg	02 27 28.4	+0.7
EPF				*e*Sn	Sn	02 27 45.1	+0.8
EPF				*e*Sg	Sg	02 27 48.4	+0.3
LASF	**Ste Croix**	2.04	35	*e*Pn	Pn	02 27 33.9	+2.1
LASF				*e*Pg	Pg	02 27 39.0	+1.0
LASF				*e*Sn	Sn	02 27 58.6	+1.2
LASF				*e*Sg	Sg	02 28 06.2	+1.0
	3.3nm,0.2s						
LASF	**Ste Croix**	2.04	35	Pn	Pn	02 27 33.9	+2.1
LASF				Pg	Pg	02 27 39.0	+1.0
LASF				Lg		02 28 06.7	
	1.6nm,0.2s						
ETSF	**Etsaut**	2.11	284	*e*Pn	Pn	02 27 33.5	+0.6
ETSF				*e*Pg	Pg	02 27 38.7	-0.8
ETSF				*e*Sn	Sn	02 27 58.9	-0.4
ETSF				*e*Sg	Sg	02 28 06.2	-1.5
	21nm,0.4s						
ETSF	**Etsaut**	2.11	284	Pn	Pn	02 27 31.6	-1.3
ETSF				Pg	Pg	02 27 38.6	-0.9
ETSF				Lg		02 28 05.6	
	11nm,0.4s						
ETSF	**Etsaut**	2.11	284	*e*Pn	Pn	02 27 33.5	+0.6
ETSF				*e*Pg	Pg	02 27 38.7	-0.8
ETSF				*e*Sn	Sn	02 27 58.9	-0.4
ETSF				*e*Sg	Sg	02 28 06.2	-1.5
ESAC	**San Caprasio**	2.13	252	Pg	Pg	02 27 36.1	-3.7
	10nm,0.2s,SNR=5.0						
ESAC				Lg		02 28 05.1	
	31nm,0.2s,SNR=7.9						
ATE	**Arette**	2.26	288	S	Sn	02 28 11.7	+8.7
CAF	**Calviac**	2.51	357	*e*Pn	Pn	02 27 40.0	+1.4
CAF				*e*Pg	Pg	02 27 47.6	+0.2
CAF				*e*Sn	Sn	02 28 10.3	+0.9
CAF				*e*Sg	Sg	02 28 21.5	+0.7
	5.1nm,0.2s						
CAF	**Calviac**	2.51	357	Pn	Pn	02 27 41.1	+2.5
CAF				Pg	Pg	02 27 48.3	+0.9
CAF				Lg		02 28 20.7	
	2.5nm,0.2s						
SJPF	**Ste Jean**	2.64	286	*e*Pn	Pn	02 27 40.6	+0.2
SJPF				*e*Pg	Pg	02 27 48.4	-1.6
SJPF				*e*Sn	Sn	02 28 11.1	-1.6
SJPF				*e*Sg	Sg	02 28 22.9	-2.3
	4.9nm,0.3s						
SJPF	**Ste Jean**	2.64	286	Pn	Pn	02 27 39.8	-0.6
SJPF				Pg	Pg	02 27 47.8	-2.2
SJPF				Lg		02 28 21.9	
	2.5nm,0.3s						
LFF	**La Frestale**	2.74	337	*e*Pn	Pn	02 27 43.4	+1.5
LFF				*e*Pg	Pg	02 27 51.6	-0.4
LFF				*e*Sg	Sg	02 28 28.6	0.0
	12nm,0.4s						
EALK	**Alkurruntz**	2.87	287	Pg	Pg	02 27 51.8	-2.7
	1.1nm,0.3s,SNR=4.0						
EALK				Lg		02 28 30.3	
	10nm,0.4s,SNR=7.9						
EMOS	**Mosqueruela**	2.89	226	Pg	Pg	02 27 50.3	-4.7
	1.1nm,0.3s,SNR=7.9						
EMOS				Sn	Sn	02 28 18.3	-0.8
	0.6nm,0.2s,SNR=4.0						
EMOS				Lg		02 28 26.5	
	2.1nm,0.2s,SNR=7.9						
SMRF	**Simiane la Rot**	2.90	56	*e*Pn	Pn	02 27 45.2	+1.1
SMRF				*e*Pg	Pg	02 27 54.4	-0.7
SMRF				*e*Sg	Sg	02 28 32.7	-1.1
	1.2nm,0.3s						
RJF	**Les Rejaudoux**	2.93	350	*e*Pn	Pn	02 27 46.2	+1.6
RJF				*e*Pg	Pg	02 27 55.6	-0.2
RJF				*e*Sn	Sn	02 28 19.9	-0.2
RJF				*e*Sg	Sg	02 28 34.1	-0.8
	4.3nm,0.2s						
RJF	**Les Rejaudoux**	2.93	350	Pn	Pn	02 27 46.2	+1.6
RJF				Pg	Pg	02 27 55.6	-0.2
RJF				Lg		02 28 34.1	
	2.2nm,0.2s						
VIVF	**Saint-Julien-l**	3.01	35	*e*Pn	Pn	02 27 46.9	+1.1
VIVF				*e*Pg	Pg	02 27 57.0	-0.4
VIVF				*e*Sg	Sg	02 28 36.2	-1.4
	3.7nm,0.3s						
VIVF	**Saint-Julien-l**	3.01	35	Pg	Pg	02 27 57.0	-0.4
VIVF				Lg		02 28 36.2	
	1.9nm,0.3s						
VIVF	**Saint-Julien-l**	3.01	35	*e*Pn	Pn	02 27 46.9	+1.1
VIVF				*e*Pg	Pg	02 27 57.0	-0.4
VIVF				*e*Sg	Sg	02 28 36.2	-1.4
LMR	**La Mourre**	3.27	72	*e*Pn	Pn	02 27 49.6	+0.1
LMR				*e*Sn	Sn	02 28 26.8	-1.9
LMR				*e*Sg	Sg	02 28 42.7	-3.6
	1.6nm,0.3s						
LMR	**La Mourre**	3.27	72	Pn	Pn	02 27 49.6	+0.1
LMR				Sn	Sn	02 28 27.4	-1.3
LMR				Lg		02 28 42.7	
	0.8nm,0.3s						
FRF	**La Foret Royal**	3.43	69	*e*Pn	Pn	02 27 52.1	+0.4
FRF				*e*Pg	Pg	02 28 03.4	-2.4
FRF				*e*Sn	Sn	02 28 30.6	-2.2
	1.8nm,0.3s						
FRF	**La Foret Royal**	3.43	69	Pn	Pn	02 27 52.1	+0.4
FRF				Pg	Pg	02 28 03.4	-2.4
FRF				Sn	Sn	02 28 31.3	-1.5
	0.9nm,0.3s						
ETOR	**Torete**	3.59	245	Pn	Pn	02 27 55.5	+1.5
	0.2nm,0.2s,SNR=7.9						
ETOR				Sn	Sn	02 28 35.3	-1.5
	0.8nm,0.3s,SNR=7.9						
ETOR				Lg		02 28 52.5	
	2.0nm,0.2s,SNR=7.9						
ETOR	**Torete**	3.59	245	Pn	Pn	02 27 55.5	+1.5
ETOR				Sn	Sn	02 28 35.3	-1.5
ETOR				Lg		02 28 52.5	
TCF	**Toulx Ste Croi**	3.87	360	*e*Pn	Pn	02 27 59.1	+1.2
TCF				*e*Pg	Pg	02 28 13.0	-1.5
TCF				*e*Sg	Sg	02 29 03.6	-2.5
	3.9nm,0.4s						
SBF	**Sospel**	4.07	67	*e*Pn	Pn	02 28 01.3	+0.5
BGF	**Bois d'Agland**	4.16	6	*e*Pn	Pn	02 28 01.5	-0.6
BGF				*e*Pg	Pg	02 28 18.0	-2.3
BGF				*e*Sg	Sg	02 29 13.7	-2.1
	14nm,0.5s						
SMF	**Signal de Mont**	4.38	15	*e*Pn	Pn	02 28 06.0	+0.8
SMF				*e*Pg	Pg	02 28 22.4	-2.3
AVF	**Avril sur Loir**	4.44	10	*e*Pn	Pn	02 28 06.8	+0.7
AVF				*e*Pg	Pg	02 28 24.6	-1.4
AVF				*e*Sg	Sg	02 29 21.6	-3.6
	2.5nm,0.5s						
MFF	**Saint Martin d**	4.51	339	*e*Sn	Sn	02 28 57.8	-2.4
MFF				*e*Sg	Sg	02 29 23.2	-4.4
	1.5nm,0.3s						
MFF	**Saint Martin d**	4.51	339	Sn	Sn	02 28 58.7	-1.5
MFF				Lg		02 29 23.2	
	0.8nm,0.3s						
LOR	**Lormes**	4.98	13	*e*Sg	Sg	02 29 38.1	-5.1
	2.1nm,0.5s						
PGF	**Pioggiola**	5.01	86	*e*Pn	Pn	02 28 12.3	-1.8
PGF				*e*Sn	Sn	02 29 07.6	-5.0
	1.1nm,0.3s						
PGF	**Pioggiola**	5.01	86	Pn	Pn	02 28 12.3	-1.8
PGF				Sn	Sn	02 29 06.0	-6.6
	0.6nm,0.3s						
GRR	**Gorron**	6.35	341	*e*Sg	Sg	02 30 21.5	-7.3
	0.9nm,0.2s						
LDF	**La Druitiere**	6.39	346	*e*Pn	Pn	02 28 33.0	-0.6
QUIF	**Quistinic**	6.69	327	*e*Pn	Pn	02 28 37.1	-0.7
ROSF	**Rostrenen**	7.07	329	*e*Pn	Pn	02 28 42.1	-1.1

*NEIC **07** 02:27:37.2, 19.51N×65.33W, h38^{km}, MD3.5(RSPR), After RSPR.*

RSPR 07 02:27:37.2, 19.51N×65.33W, h38^{km}±17^{km}**, MD3.5**/9**, MD3.5**/9**, 6C-5D, Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBYP	**Canovanas**	1.33	202	⇓*e*P	P	02 27 57.8	-1.9
CBYP				*e*S	S	02 28 14.3	-2.1
MTP	**Monte Pirata**	1.43	189	⇓*e*P	P	02 27 59.1	-1.9
MTP				*e*S	S	02 28 16.5	-2.3
CSB	**Colonia Sabana**	1.45	213	⇑*e*P	P	02 27 59.6	-1.7
CSB				*e*S	S	02 28 17.1	-2.2
HUMP	**Col San Antoni**	1.45	200	⇑*e*P	P	02 27 59.5	-1.9
HUMP				*e*S	S	02 28 17.6	-1.8
CPD	**Cerro la Pandu**	1.57	201	⇓*e*P	P	02 28 01.3	-1.7
CPD				*e*S	S	02 28 20.9	-1.4
SJG	**San Juan**	1.60	209	⇓*i*P	P	02 28 01.8	-1.6
SJG				*e*S	S	02 28 21.3	-1.7
SJG	**San Juan**	1.60	209	⇑*e*P	P	02 28 01.7	-1.8
SJG				*e*S	S	02 28 21.0	-2.0
AOPR	**Arecibo Observ**	1.78	230	*e*S	S	02 28 25.3	-2.3
AOPR	**Arecibo Observ**	1.78	230	⇑*e*P	P	02 28 04.3	-1.7
CELP	**Cerrillos**	1.86	220	⇑*i*P	P	02 28 05.7	-1.5
CELP				*e*S	S	02 28 27.2	-2.3
LRS	**Lares**	1.88	230	⇑*e*P	P	02 28 05.7	-1.8
LRS				*e*S	S	02 28 28.3	-1.8
PORP	**Portuguez**	1.91	221	⇑*e*P	P	02 28 06.3	-1.6
MGP	**Maguayo**	2.24	228	⇓*e*P	P	02 28 11.2	-1.5
MGP				*e*S	S	02 28 37.3	-2.1

*IDC **07** 02:55:26.5±0.7, 55.17S×28.49W, mb4.6/9, mb1 4.6/9, mb1mx4.5/11, MS4.6/7, Ms1 4.6/7, ms1mx4.5/12, Error ellipse: s-maj=26.1km s-min=18.0km az=36.0*

*BJI **07** 02:55:29.6, 55.20S×28.60W, h10^{km}, Ms6.1, Msz5.7*

*NEIC **07** 02:55:29.7±0.3, 55.17S×28.57W, h10^{km}, mb5.0/12, Error ellipse: s-maj=12.3km s-min=7.2km az=56.0*

*SYO **07** 02:55:29.2, 55.09S×28.31W, h10^{km}, MB5.1*

*HRVD **07** 02:55:29.7±0.6, 55.26S×27.99W, h14^{km}±2^{km}, MW5.3/34, Centroid moment Tensor Solution. LP body waves: s7,c8; Mantle waves: s34,c46; Half duration: 1^{s}1 Moment tensor: Scale 10^{17}Nm; M_{rr}0.95±.16; $M_{\theta\theta}$-1.00±.12; $M_{\phi\phi}$0.05±.08; $M_{r\theta}$0.26±.20; $M_{\theta\phi}$0.31±.05; $M_{\phi r}$0.33±.22; Best double couple: $M_0$1.11×10^{17} NP1:ϕ_s305°,δ44°,λ121°. NP2:ϕ_s85°,δ53°,λ63°. Principal axes: T 1.11, Plg68°, Azm296°; N -.01, Plg21°, Azm102°; P -1.1, Plg5°, Azm194°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 07 02:55:27.3±0.4**, 54.97S**±0.06×**28.3W**±0.1**, h10**^{km}**, n68, σ1^{s}22**/32**, mb4.9**/19**, MS5.0**/10**, 3C-5D, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EFI	**East Falkland**	18.02	268	*e*P	P	02 59 39.6	+0.4
	112nm,1.2s						
VNA1	**Neumayer--Stat**	18.03	158	⇓*i*	P	02 59 41.3	+2.1
VNA3	**Neumayer Olymp**	18.22	161	⇑*i*	P	02 59 42.8	+1.2
VNA2	**Neumayer--Watz**	18.43	158	⇓*i*	P	02 59 44.5	+0.3
SNAA	**Sanae**	19.98	157	*e*P	P	02 59 59.1	-3.2
	48nm,0.7s						
PMSA	**Palmer Station**	20.16	227	*e*P	P	03 00 02.7	-1.5
	122nm,1.0s						
USHA	**Ushuaia**	22.86	254	P	P	03 00 27.8	-3.6
	22nm,1.0s,mb4.5,baz=0.8,slow=21,SNR=2.3						
MAIT	**Maitri**	23.48	148	*e*P	P	03 00 38.4	+1.1
TRQA	**Tornquist**	28.32	293	*e*P	P	03 01 23.2	+0.3
	28nm,1.2s,mb4.8						
SYO	**Syowa Base**	32.82	142	⇓pP	pP	03 02 03.3	-2.1
SYO	**Syowa Base**	32.82	142	⇑sP	sP	03 02 05.0	-1.7
SYO	**Syowa Base**	32.82	142	⇑PnPn	Px	03 03 05.7	
SYO	**Syowa Base**	32.82	142	⇓PP	PP	03 03 12.0	-0.2
SYO	**Syowa Base**	32.82	142	⇓PcP	PcP	03 04 47.4	-0.1
QSPA	**South Pole Qui**	35.28	180	*e*P	P	03 02 23.0	-0.6
	25nm,0.6s,mb5.3						
CPUP	**Villa Florida**	35.62	312	P	P	03 02 26.8	-0.2
	12nm,0.7s,mb4.9,baz=168,slow=7.8,SNR=23						
CPUP				LR	LR	03 16 01.9	
	comp=Z,658nm,18.5s,MS4.4,baz=178,slow=35						
MAW	**Mawson**	41.39	145	*e*P	P	03 03 13.8	-0.9
	4.4nm,0.6s,mb4.3						
MAW	**Mawson**	41.39	145	P	P	03 03 13.5	-1.2
	6.5nm,0.8s,mb4.3,baz=232,slow=7.4,SNR=20						
MAW				LR	LR	03 18 54.5	
	comp=Z,611nm,18.4s,MS4.5,baz=256,slow=34						
BDFB	**Brasilia**	42.11	331	P	P	03 03 22.9	+1.8
	3.9nm,0.7s,mb4.2,baz=184,slow=7.0,SNR=5.9						
BDFB				LR	LR	03 17 32.8	
	comp=Z,694nm,18.8s,MS4.6,baz=161,slow=31						
LVC	**Limon Verde**	44.21	300	*e*P	P	03 03 39.7	+1.6
	30nm,1.0s,mb5.0						
SBA	**Scott Base**	47.11	184	*e*P	P	03 04 00.2	-0.3
	14nm,1.0s,mb4.9						
LPAZ	**La Paz**	49.24	306	P	P	03 04 19.2	+1.4
	12nm,0.7s,mb5.0,baz=156,slow=4.8,SNR=20						
LPAZ	**La Paz**	49.24	306	P	P	03 04 19.2	+1.4
TSUM	**Tsumeb**	49.73	63	P	P	03 04 22.3	+0.8
	5.5nm,0.8s,mb4.6,baz=180,slow=3.7,SNR=7.9						
TSUM	**Tsumeb**	49.73	63	*e*P	P	03 04 22.4	+0.9
	9.2nm,0.9s,mb4.8						
ARE	**Arequipa**	50.70	302	*e*P	P	03 04 31.0	+2.1
SAML	**Samuel**	53.59	315	*e*P	P	03 04 49.8	-0.9
	31nm,1.1s,mb5.2						
CASY	**Casey**	55.14	161	*e*P	P	03 04 59.8	-1.6
LSZ	**Lusaka**	58.59	71	*e*P	P	03 05 26.9	+0.3
	21nm,1.5s,mb5.0						
LIC	**Lamto**	63.99	26	*e*P	P	03 06 02.5	-0.6
	53nm,1.3s,mb5.4						
KIC	**Kosan Boka**	64.19	26	*e*P	P	03 06 04.6	+0.2
	84nm,1.3s,mb5.6						
TIC	**Toumodi**	64.39	26	*e*P	P	03 06 04.5	-1.2
	64nm,1.0s,mb5.6						
DBIC	**Dimbokro**	64.46	26	P	P	03 06 05.1	-1.0
	4.0nm,0.8s,mb4.5,baz=196,slow=6.8,SNR=5.3						
DBIC				LR	LR	03 29 05.1	
	comp=Z,557nm,18.4s,MS4.8,baz=248,slow=31						
OTAV	**Otavalo**	68.53	304	P	P	03 06 30.7	-1.3
ROSC	**El Rosal**	70.72	311	P	P	03 06 43.0	-2.5
	9.5nm,1.1s,mb4.6,baz=84,slow=19,SNR=2.0						
SDV	**Santo Domingo**	72.80	316	*e*P	P	03 06 57.8	-0.1
	25nm,1.1s,mb5.1						
KMBO	**Kilima Mbogo**	75.25	70	LR	LR	03 39 08.6	
	comp=Z,1µm,18.1s,MS5.2,baz=14,slow=35						
NWAO	**Narrogin (SRO)**	87.58	152	LR	LR	03 40 35.6	
	comp=Z,197nm,20.9s,MS4.5,baz=302,slow=31						
STKA	**Stephens Creek**	93.07	171	P	P	03 08 42.6	+0.6
	1.5nm,0.6s,mb4.6,baz=23,slow=5.5,SNR=3.8						
ESDC	**Sonseca Array**	96.55	19	LR	LR	03 46 53.7	
	comp=Z,242nm,21.7s,MS4.6,baz=160,slow=32						
ASAR	**Alice Springs**	100.21	163	P	P	03 09 13.8	-1.0
	0.8nm,0.6s,baz=183,slow=4.1,SNR=11						
MSU	**Marysvale**	117.29	299	*e*PKPdf	PKPdf	03 14 15.0	-0.4
MOOW	**Moose Ponds**	120.54	303	*e*PKPdf	PKPdf	03 14 21.3	-0.3
WVOR	**Wild Horse Val**	123.49	297	*e*PKPdf	PKPdf	03 14 27.1	-0.2
CHMT	**Chamberlain Mo**	124.06	304	*e*PKPdf	PKPdf	03 14 27.3	-1.1
KSH	**Kashi**	128.88	74	*e*PKP	PKPdf	03 14 40.3	+2.5
KSH				*e*PP	PP	03 16 53.7	+7.5
KSH				*e*SKS	SKS	03 21 51.3	+5.7
KSH				*e*SKKS		03 23 45.3	
KSH				LR	LR		
	comp=N,180nm,5.1s						
ARCES	**ARCESS Array B**	130.17	22	PKP	PKPdf	03 14 35.7	-3.7
	comp=N,5.1nm,0.8s,baz=95,slow=13,SNR=3.1						
AAK	**Ala-Archa**	130.21	70	*e*PKPdf	PKPdf	03 14 38.7	-1.5
KMI	**Kunming**	133.48	110	*e*PKP	PKPdf	03 14 46.4	-0.4
YKA	**Yellowknife Ar**	134.94	319	PKP	PKPdf	03 14 46.6	-1.9
	comp=N,1.2nm,0.6s,baz=129,slow=2.4,SNR=6.8						
MKAR	**Makanchi Array**	137.13	71	PKP	PKPdf	03 14 49.8	-3.0
	comp=N,1.0nm,0.8s,baz=229,slow=2.9,SNR=6.5						
WMQ	**Urumqi**	138.30	78	*e*PKP	PKPdf	03 14 54.8	-0.4
GTA	**Gaotai**	142.40	92	*e*PKP	PKPdf	03 14 59.4	-3.1
GTA				APKP		03 15 09.3	
GTA				XPKP		03 15 12.6	
GTA				LR	LR		
	comp=N,439nm,14.5s,MS5.5						
GTA				LR	LR		
	comp=E,358nm,13.3s,MS5.5						
GTA				LR	LR		
	comp=Z,378nm,14.1s,MS5.3						
ZAL	**Zalesovo**	142.43	63	PKP	PKPdf	03 14 59.6	-2.5
	comp=Z,1.1nm,0.6s,baz=184,slow=4.1,SNR=3.3						
DAWY	**Dawson**	145.60	313	*e*PKPdf	PKPdf	03 15 06.1	-1.1
EYAK	**Cordova Ski Ar**	147.32	306	*e*PKPdf	PKPdf	03 15 08.7	-1.6
NJ2	**Nanjing**	147.44	121	*e*PKP	PKPdf	03 15 06.5	-4.8
NJ2				PKP2	PKPab	03 15 13.2	-1.7
NJ2				APKP		03 15 16.5	
NJ2				XPKP		03 15 20.2	
NJ2				PP	PP	03 18 39.0	-1.8
NJ2				PKS	PKS	03 18 42.0	-0.3
NJ2				PPP	PPP	03 21 58.0	-1.7
NJ2				LR	LR		
	comp=N,2µm,25.0s,MS6.0						
NJ2				LR	LR		

	comp=E,2µm,24.9s,MS6.0						
NJ2				LR	LR		
	comp=Z,2µm,25.1s,MS5.7						
DIV	Divide	147.51	307	ePKPbc	PKPdf	03 15 12.4	+1.9
SML	Sawmill	148.88	307	ePKPbc	PKPdf	03 15 16.5	+3.8
BTO	Baotou	149.04	100	ePKP	PKPdf	03 15 18.5	+4.9
PMR	Palmer	149.19	307	ePKPbc	PKPdf	03 15 18.1	+4.9
COLA	College	149.35	313	ePKPbc	PKPdf	03 15 16.8	+3.4
MCK	McKinley	149.59	311	ePKPbc	PKPdf	03 15 18.1	+4.3
HHC	Hu-ho-hao-te	150.08	101	ePKP	PKPdf	03 15 21.0	+5.7
HHC				PP	PP	03 18 59.6	+4.2
SPU	Mount Spurr	150.46	305	ePKPbc	PKPdf	03 15 20.7	+5.5
SONM	Songino Array	151.28	85	PKPbc	PKPdf	03 15 20.5	+3.6
	comp=Z,6.7nm,0.6s,baz=225,slow=1.7,SNR=25						
CN2	Changchun	159.71	113	ePKP	PKPdf	03 15 23.0	-5.1
CN2				LR	LR		
	comp=N,1µm,21.0s,MS5.8						
CN2				LR	LR		
	comp=E,600nm,21.0s,MS5.8						
CN2				LR	LR		
	comp=Z,900nm,23.0s,MS5.5						
MDJ	Mudanjiang	162.44	117	PKP	PKPdf	03 15 30.4	-0.4

*NEIC **07** 03:02:35.7, 19.49N×65.27W, h44^{km}, MD3.5(RSPR), After RSPR.*

RSPR 07 03:02:35.7, 19.49N×65.27W, h44^{km}±27^{km}, MD3.5/10, **MD3.5**/10, **5C-8D, Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBYP	Canovanas	1.33	205	⇓eP	P	03 02 56.7	-1.6
CBYP				eS	S	03 03 14.0	-1.1
MTP	Monte Pirata	1.42	191	⇓eP	P	03 02 58.2	-1.2
MTP				eS	S	03 03 15.0	-2.1
HUMP	Col San Antoni	1.45	202	⇑eP	P	03 02 58.8	-1.1
HUMP				eS	S	03 03 16.4	-1.6
CSB	Colonia Sabana	1.46	215	⇓iP	P	03 02 58.1	-1.9
CSB				eS	S	03 03 16.1	-2.1
CPD	Cerro la Pandu	1.57	203	⇓eP	P	03 03 00.4	-1.2
CPD				eS	S	03 03 19.3	-1.6
SJG	San Juan	1.60	211	⇑eP	P	03 03 00.1	-2.0
SJG				eS	S	03 03 19.4	-2.4
SJG	San Juan	1.60	211	⇑eP	P	03 03 01.0	-1.1
SJG				eS	S	03 03 19.9	-1.8
AOPR	Arecibo Observ	1.80	231	eS	S	03 03 25.5	-1.2
AOPR	Arecibo Observ	1.80	231	⇓eP	P	03 03 03.6	-1.3
CELP	Cerrillos	1.88	222	⇓iP	P	03 03 04.5	-1.4
CELP				eS	S	03 03 27.5	-1.0
LRS	Lares	1.91	232	⇓eP	P	03 03 04.0	-2.4
PORP	Portuguez	1.93	222	⇑eP	P	03 03 04.4	-2.3
PORP				eS	S	03 03 27.3	-2.4
LSP	Las Mesas	2.16	233	⇑eP	P	03 03 09.0	-0.9
MGP	Maguayo	2.27	230	⇓eP	P	03 03 10.4	-1.1

*NIED **07** 03:10:00, 33.30N×136.90E, h5^{km}, Mw4.4 Best double couple: M$_0$3.78×10^{15} NP1:φ$_s$182°, δ66°, λ-148°. NP2: φ$_s$78°, δ61°, λ-28°.*

*BJI **07** 03:10:26.8, 32.88N×137.67E, h10^{km}, mB4.9, mb4.5, Ms4.6, Msz4.1*

*MOS **07** 03:10:33.9±3.0, 33.30N×137.00E, h33^{km}, mb4.7/11, Error ellipse: s-maj=31.8km s-min=14.2km az=118.7*

*IDC **07** 03:10:33.9±0.7, 33.27N×137.01E, mb4.2/11, mb1 4.3/12, mb1mx4.2/22, ML3.7/1, MS3.7/5, Ms1 3.7/5, ms1mx3.4/29, Error ellipse: s-maj=23.1km s-min=17.6km az=59.0*

*NEIC **07** 03:10:35.3±0.4, 33.30N×136.94E, h10^{km}, mb4.6/7, MW4.4(NIED), Error ellipse: s-maj=10.5km s-min=7.7km az=92.0*

NEIC Recorded [1 JMA] in Nara Prefecture.

*JMA **07** 03:10:35.7±0.1, 33.30N×136.89E, h45^{km}, M4.2*

JMA Felt I J1.

ISC 07 03:10:35.6±0.6, **33.34N**±0.03×**136.90E**±0.02, **h24**^{km}±4^{km}, **n79**, σ**0^{s}78**/101, **mb4.4**/21, **MS4.1**/1, **20C-3D, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TK01	Tokai 1	0.71	54	P	Pb	03 10 50.4	+1.1
TK01				eS	Sb	03 10 59.4	+0.7
TK02	Tokai 2	0.94	50	⇑P	Pb	03 10 52.5	-0.5
TK02				S	Sb	03 11 05.6	+0.6
JWZ	Kozaga	1.01	281	⇑P	Pb	03 10 53.4	-0.9
JWZ				S	Sb	03 11 06.4	-0.7
JKN	Kiinagashima	1.05	330	⇑P	Pn	03 10 54.8	-0.1
JKN				S	Sb	03 11 07.6	-0.7
JIE	Ise	1.06	351	⇑P	Pn	03 10 55.4	+0.4
JIE				S	Sb	03 11 09.2	+0.6
TK03	Tokai 3	1.21	47	P	Pn	03 10 56.5	-0.7
TK03				S	Sn	03 11 12.5	-0.4
JAA	Atsumi	1.30	9	⇑P	Pn	03 10 58.5	0.0
JAA				S	Sn	03 11 15.0	-0.2
TK04	Tokai 4	1.32	38	⇑P	Pn	03 10 58.2	-0.6
TK04				S	Sn	03 11 15.6	-0.1
JWM	Minabe	1.39	292	⇑P	Pn	03 10 59.2	-0.5
JWM				S	Sn	03 11 16.4	-1.0
JWY	Kouya	1.40	309	⇑P	Pn	03 11 00.1	+0.2
JWY				S	Sn	03 11 17.6	0.0
TSUJ	Tsu 2	1.42	344	⇑P	Pn	03 11 00.5	+0.3
TSUJ				S	Sn	03 11 18.4	+0.1
JHE	Heguri	1.65	323	⇑P	Pn	03 11 03.7	+0.2
JHE				S	Sn	03 11 23.5	-0.6
HMMJ	Hamamatsu 2	1.66	24	P	Pn	03 11 03.0	-0.6
HMMJ				eS	Sn	03 11 22.8	-1.4
JEG	Eigenji	1.84	347	P	Pn	03 11 07.0	+0.8
JEG				S	Sn	03 11 28.9	+0.1
JAO	Obara	1.94	9	⇑P	Pn	03 11 07.6	-0.1
JAJ2	Tsuna	1.99	303	⇑P	Pn	03 11 08.7	+0.3
SHZ3	Shizuoka 3	2.03	32	P	Pn	03 11 08.2	-0.8
SHZ3				S	Sn	03 11 33.5	-0.3
JKO	Kozu shima	2.04	65	eS	Sn	03 11 33.8	-0.3
JAI	Aioi	2.09	283	⇑P	Pn	03 11 09.3	-0.5
JAI				eS	Sn	03 11 33.7	-1.7
JIZS	Izushimoda	2.14	50	P	Pn	03 11 11.9	+1.4
JIZS				S	Sn	03 11 35.6	-0.9
JNY	Yasuok	2.16	21	⇓P	Pn	03 11 10.6	-0.2
JNY				S	Sn	03 11 36.2	-0.9
JGF	Kuroka	2.28	9	P	Pn	03 11 12.5	-0.1
JGF				S	Sn	03 11 39.4	-0.8
JWT	Wachi	2.30	328	⇑P	Pn	03 11 13.1	+0.3
JFM	Mihama	2.31	341	⇑P	Pn	03 11 13.6	+0.7
JFM				S	Sn	03 11 41.0	+0.2
JGM	Miyama	2.36	356	⇑P	Pn	03 11 14.0	+0.4
JGM				eS	Sn	03 11 42.0	0.0
JKS	Kasai	2.36	314	⇑P	Pn	03 11 14.0	+0.3
JHJ	Hachijo jima 2	2.43	94	Pn	Pn	03 11 14.1	-0.6
	46nm,0.3s,baz=244,slow=20,SNR=10						
JHJ				Sn	Sn	03 11 43.0	-0.8
	48nm,0.3s,baz=77,slow=22,SNR=7.7						
JHJ				LR	LR	03 11 43.6	
	comp=Z,737nm,20.5s,baz=295,slow=30						
JHJ2	Mitsune	2.46	95	P	Pn	03 11 14.0	-1.0
JJS	Sakaide	2.68	293	P	Pn	03 11 17.8	-0.4
JKY	Yasaka	2.72	327	⇑P	Pn	03 11 19.0	+0.2
JNT	Takato	2.72	22	P	Pn	03 11 18.7	-0.2
JNT				S	Sn	03 11 50.8	-0.6
JAD	Aida	2.77	306	⇑P	Pn	03 11 19.1	-0.4
JGN	Niukaw	2.89	7	P	Pn	03 11 21.5	+0.2
JKSM	Kasumi	2.90	321	⇑P	Pn	03 11 21.4	0.0
JKG	Kaga	2.96	351	P	Pn	03 11 22.6	+0.3
JKG				eS	Sn	03 11 57.2	-0.3
JNG	Nsakai	3.21	18	⇓P	Pn	03 11 26.4	+0.6
MAJO	Matsushiro	3.37	18	ePn	Pn	03 11 28.1	+0.1
MAT	Matsushiro	3.37	18	P	Pn	03 11 28.3	+0.3
MAT				S	Sn	03 12 08.4	+0.7
MAT	Matsushiro	3.37	18	eP	Pn	03 11 28.0	0.0
MAT				eS	Sn	03 12 08.0	+0.3
JNU	Nakatsue	5.05	269	LR	LR	03 14 05.6	
	comp=Z,1µm,18.5s,baz=327,slow=41						
JOW	Kunigami	9.89	231	LR	LR	03 16 54.0	
	comp=Z,400nm,19.6s,baz=342,slow=38						
ASAJ	Asahikawa	11.64	21	LR	LR	03 17 51.3	
	comp=Z,222nm,20.0s,baz=121,slow=38						
BJI	Beijing	17.90	298	eP	P	03 14 47.2	+2.7
BJI				AMB	AMB		
	comp=Z,22nm,0.9s						
BJI				LR	LR		
	comp=N,820nm,14.4s						
BJI				LR	LR		
	comp=E,1µm,16.6s						
BJI				LR	LR		
	comp=Z,703nm,15.2s						
BJT	Baijiatuau	17.90	298	eP	P	03 14 45.6	+1.1
	comp=Z,50nm,1.1s						
HIA	Hailar	20.40	326	eP	P	03 15 12.3	-1.0
	comp=Z,7.6nm,0.6s						
ENH	Enshi	23.47	270	eP	P	03 15 45.7	+1.5
	comp=Z,21nm,0.8s,mb4.6						
PET	Petropavlovsk	25.09	32	eP	P	03 16 00.8	+1.1
CD2	Chengdu	28.11	274	eP	P	03 16 27.3	-0.3
CD2				AMB	AMB		
	comp=Z,40nm,0.5s,mb5.3						
TIXI	Tiksi	38.61	356	⇓iP	P	03 17 58.9	+0.7
TIXI				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.6						
ZAL	Zalesovo	41.82	316	LR	LR	03 37 06.6	
	comp=Z,252nm,21.4s,MS4.1,baz=214,slow=38						
MKAR	Makanchi Array	43.06	305	P	P	03 18 36.6	+1.6
	comp=Z,4.8nm,0.7s,mb4.3,baz=92,slow=9.9,SNR=32						
MKAR				PcP	PcP	03 20 25.2	-0.2
	comp=Z,1.3nm,0.8s,baz=72,slow=3.8,SNR=3.9						
MKAR	Makanchi Array	43.06	305	P	P	03 18 36.6	+1.5
MKAR						03 20 25.2	
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KURK	Kurchatov	45.41	311	iP	P	03 18 54.0	+0.1
KURK				pmax	pmax		
	comp=Z,9.0nm,1.4s,mb4.4						
KURK	Kurchatov	45.41	311	eP	P	03 18 53.8	0.0
	comp=Z,6.6nm,0.8s,mb4.5						
AAK	Ala-Archa	49.06	300	P	P	03 19 22.1	-0.5
	comp=Z,4.4nm,0.7s,mb4.6						
VOSK	Vostochnaya	50.06	314	P	P	03 19 30.0	-0.2
VOSK				pmax	pmax		
	comp=Z,11nm,1.4s,mb4.7						
BVA0	Borovoye Array	50.39	314	P	P	03 19 32.7	0.0
BRVK	Borovoye	50.45	314	eP	P	03 19 32.9	-0.2
	comp=Z,14nm,1.2s,mb4.9						
ZRNK	Zerenda	51.23	314	P	P	03 19 39.3	+0.2
ZRNK				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.6						
ZRNK	Zerenda	51.23	314	eP	P	03 19 38.9	-0.1
	comp=Z,10nm,1.1s,mb4.7						
KKAR	Karatay Array	51.83	301	iP	P	03 19 44.2	+0.5
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
FITZ	Fitzroy Crossi	52.27	194	P	P	03 19 46.9	-0.5
	comp=Z,2.7nm,0.9s,mb4.2,baz=11,slow=16,SNR=3.4						
WB2	Warramunga Arr	53.04	183	eP	P	03 19 51.6	-1.5
WRA	Warramunga Arr	53.04	183	P	P	03 19 52.0	-1.1
	comp=Z,2.0nm,0.5s,mb4.3,baz=2.3,slow=7.7,SNR=14						
WRA	Warramunga Arr	53.04	183	P	P	03 19 52.0	-1.1
WRA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ASAR	Alice Springs	56.76	183	P	P	03 20 19.3	-0.9
	comp=Z,1.0nm,0.6s,mb4.0,baz=11,slow=6.1,SNR=8.5						
AB31	Akbulak array	57.52	311	P	P	03 20 24.9	-0.2
AB31				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.9						
ARCES	ARCESS Array B	66.13	339	P	P	03 21 23.3	+0.8
	comp=Z,2.9nm,0.6s,mb4.5,baz=60,slow=9.8,SNR=9.1						
ARCES	ARCESS Array B	66.13	339	P	P	03 21 23.3	+0.8
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.6s						
FINES	FINESS Array B	70.32	332	P	P	03 21 48.8	+0.1
	comp=Z,2.2nm,1.1s,mb4.0,baz=51,slow=8.9,SNR=3.0						
FINES	FINESS Array B	70.32	332	P	P	03 21 48.8	+0.1
FINES				pmax	pmax		
	comp=Z,2.0nm,1.1s						
FINES	FINESS Array B	70.32	332	P	P	03 21 48.8	+0.1
AKASG	Malin Array Be	74.90	321	P	P	03 22 16.3	+0.4
	comp=Z,0.3nm,0.3s,mb3.7,baz=42,slow=5.5,SNR=4.7						
BRTR	Keskin Array B	78.45	310	P	P	03 22 38.8	+2.8
	comp=Z,3.7nm,1.2s,mb4.2,baz=56,slow=4.5,SNR=4.0						
BRTR	Keskin Array B	78.45	310	P	P	03 22 38.8	+2.8
BRTR				pmax	pmax		
	comp=Z,4.0nm,1.2s						
PDAR	Pinedale Array	82.88	43	P	P	03 23 01.1	+1.6
	comp=Z,1.0nm,1.1s,mb3.8,baz=297,slow=3.3,SNR=5.5						
GERES	GERESS Array B	83.81	326	P	P	03 23 05.3	+1.4
	comp=Z,0.5nm,0.5s,mb3.9,baz=27,slow=6.0,SNR=7.5						
GERES	GERESS Array B	83.81	326	P	P	03 23 05.3	+1.4
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TXAR	Lajitas Array	95.31	50	P	P	03 24 00.9	+1.9
	comp=Z,1.8nm,1.2s,mb4.4,baz=304,slow=3.3,SNR=4.5						

CASC 07 03:19:54.2±2.3, **12.39N**×**89.06W, h12**^{km}±8^{km}, **mb6.5, MD3.9, ML3.9, 8C-3D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LFRS	El Faro	1.23	360	⇑eP	Pb	03 20 16.0	-0.9
LFRS				eS	Sb	03 20 32.4	-0.2
SNVI	San Vicente	1.24	10	⇓eP	Pb	03 20 17.2	+0.2
SNVI				eS	Sb	03 20 33.6	+0.8
LCBS	La Ceiba	1.26	4	⇑eP	Pb	03 20 16.3	-1.2
LCBS				eS	Sb	03 20 33.5	0.0
VSM	San Miguel	1.29	36	⇓eP	Pb	03 20 17.8	-0.2
VSM				eS	Sb	03 20 36.9	+2.6
SNET	Serv Nac Est T	1.30	353	i	Sb	03 20 39.0	+4.2
	comp=Z,1µm,0.3s						
BLLM	Bellamira	1.32	37	eS	Sb	03 20 35.5	+0.3
LBRS	Las Brisas	1.34	1	⇑eP	Pb	03 20 17.9	-1.0
LFU	La Fuente	1.35	358	eP	Pn	03 20 18.3	-0.7
LFU				eS	Sb	03 20 36.8	+0.6
BOQS	Boqueron	1.36	351	⇑eP	Pn	03 20 18.1	-0.9
BOQS				eS	Sb	03 20 36.6	+0.4
CNCH	Conchagua	1.49	53	eP	Pn	03 20 20.2	-0.7
CNCH				eS	Sb	03 20 43.4	+3.3
SBLS	San Blas	1.54	339	⇑eP	Pn	03 20 20.8	-1.0
SBLS				eS	Sb	03 20 43.0	+1.3
SNJE	San Jose	1.57	340	eP	Pn	03 20 21.1	-1.0
SNJE				eS	Sb	03 20 43.0	+0.6
CAHU	Cacacuatique	1.61	31	eP	Pn	03 20 22.8	+0.1
CAHU				eS	Sn	03 20 45.8	+2.4
RTR	El Retiro	1.61	339	⇑eP	Pn	03 20 21.8	-0.9
RTR				eS	Sn	03 20 44.0	+0.6
CUSS	Cusmapa	1.74	330	eP	Pn	03 20 23.9	-0.7
CUSS				eS	Sn	03 20 48.1	+1.2
MTO2	Montecristo 2	2.02	352	eP	Pn	03 20 28.2	-0.4
MTO2				eS	Sn	03 20 53.8	-0.2
LEON	Leon	2.12	89	eP	Pn	03 20 28.4	-1.6
TELN	Telica	2.19	84	eP	Pn	03 20 29.9	-1.1
TELN				eS	Sn	03 20 58.7	+0.5
IXG	Ixpaco	2.24	323	⇑eP	Pn	03 20 29.9	-1.8
IXG				eS	Sn	03 21 01.1	+1.7
IXG				AML	AML	03 21 08.2	
	comp=E,3µm,0.5s						
MIRN	Miramar	2.30	88	⇑eP	Pn	03 20 31.1	-1.4
MIRN				eS	Sn	03 21 01.2	+0.3
COPN	Copaltepe	2.42	95	⇓eP	Pn	03 20 33.1	-1.3
COPN				eS	Sn	03 21 03.0	-1.1
MOMJ	Momotombo	2.46	89	eP	Pn	03 20 32.9	-2.1
NBG	Las Nubes	2.52	330	eP	Pn	03 20 36.2	+0.5
NBG				eS	Sn	03 21 07.3	+0.6
NBG				AMP		03 21 21.6	
	comp=E,6µm,0.5s						
SOMN	Somoto	2.60	66	eP	Pn	03 20 37.3	+0.5
MGAN	Managua	2.76	95	eS	Sn	03 21 11.0	-1.8
TICN	Ticuantepe	2.79	97	eP	Pn	03 20 39.1	-0.5
WILN	Americas 2	2.82	94	eS	Sn	03 21 12.8	-1.4
TP2	Tecpan 2	3.05	322	eP	Pn	03 20 43.7	+0.4
TP2				eS	Sn	03 21 18.4	-1.7
TP2				AML	AML	03 21 35.9	
	comp=E,132nm,0.5s						
CONN	Concepcion	3.46	103	eP	Pn	03 20 47.4	-1.7
CONN				eS	Sn	03 21 27.1	-3.3
LCR2	La Lucha 2	5.62	117	eP	Pn	03 21 20.8	+1.2
LCR2				eS	Sn	03 22 19.2	-5.7
ICR	Volcan Irazu	5.66	114	eP	Pn	03 21 23.7	+3.4
URSC	Urasca	5.77	116	eP	Pn	03 21 23.6	+1.8
BUS	Buena Vista	5.92	118	eP	Pn	03 21 25.1	+1.2
BUS				eS	Sn	03 22 26.3	-6.1
ACR	Cerro Adams	6.88	122	eP	Pn	03 21 37.8	+0.4

*BJI **07** 03:22:55.1, 0.63S×98.52E, h59^{km}, mB5.3, mb5.4, Ms5.2, Msz4.8*

*MOS **07** 03:22:59.6±1.1, 0.11N×98.51E, h51^{km}, mb5.1/13, Error ellipse: s-maj=25.8km s-min=10.7km az=95.5*

*NEIC **07** 03:23:02.8±1.3, 0.11N×98.73E, h60^{km}±11^{km}, mb4.9/23, Error ellipse: s-maj=12.1km s-min=4.9km az=53.0*

*HRVD **07** 03:23:02.8±1.0, 0.31S×98.82E, h60^{km}, MW5.1/32, Centroid moment Tensor Solution. LP body waves: s13,c14;Mantle waves: s32,c35; Half duration: 1^{s}2 Moment tensor: Scale 10^{16}Nm; M$_{rr}$5.05±1.16; M$_{\theta\theta}$-3.78±.81; M$_{\phi\phi}$-1.26±.89; M$_{r\theta}$3.62±.48; M$_{\theta\phi}$2.22±.34; M$_{\phi r}$1.17±.56; Best double couple: M$_0$6.27×10^{16} NP1: φ$_s$319°, δ35°, λ127°. NP2:φ$_s$96°, δ63°, λ68°. Principal axes: T 6.78, Plg65°, Azm327°; N -1.02, Plg20°, Azm107°; P -5.76, Plg15°, Azm203°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*IDC **07** 03:23:04.7±2.8, 0.15N×98.78E, h74^{km}±24^{km}, mb4.3/18, mb1 4.4/19, mb1mx4.4/20, MS4.2/2, Ms1 4.2/2, ms1mx3.5/19 Error ellipse: s-maj=21.1km s-min=9.6km az=48.0*

ISC 07 03:23:00.8±1.2, **0.07N**±0.05×**98.70E**±0.06, **h59**^{km}±9^{km}, **h42**^{km}±3.4^{km}**:pP-P, n113**, σ**1^{s}01**/107, **mb5.0**/57, **MS4.5**/7, **3C-3D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KLM	Kuala Lumpur	4.21	44	eP	P	03 24 05.0	+0.9
KGM	Kluang	5.00	67	⇓iP	P	03 24 15.1	-0.1
IPM	Ipoh	5.04	27	⇓eP	P	03 24 15.3	-0.4
SNG	Songkhla	7.31	15	P	P	03 24 46.0	-1.3
	436nm,0.9s						
NNT	Nongplab	12.48	5	P	P	03 26 00.0	+2.3
NST	Nakhon Sawan	15.56	5	P	P	03 26 40.0	+1.9
	83nm,0.9s						
BDT	Bhumibol Dam	17.07	1	P	P	03 26 53.0	-3.9
CMAR	Chiang Mai Arr	18.27	1	P	P	03 27 10.3	-1.6
	2.4nm,0.3s,baz=190,slow=11,SNR=40						
CMAR				LR	LR	03 34 49.8	
	comp=Z,492nm,18.1s,baz=190,slow=39						
KKM	Kota Kinabalu	18.46	71	⇓eP	P	03 27 17.2	+3.0
	59nm,0.5s						
CHG	Chiang Mai	18.63	1	⇑P	P	03 27 16.4	+0.3
	16nm,0.7s						
NANT	Nan	18.71	6	P	P	03 27 15.5	-1.6
KMI	Kunming	25.21	9	eP	P	03 28 24.3	+1.6
KMI				AMB	AMB		
	comp=Z,40nm,0.9s,mb5.0						
KMI				LR	LR		
	comp=N,626nm,19.7s,MS4.2						
KMI				LR	LR		
	comp=E,466nm,20.5s,MS4.2						
KMI				LR	LR		
	comp=Z,464nm,23.7s,MS3.9						
SHL	Shillong	26.19	346	iP	P	03 28 31.5	-0.3
HYB	Hyderabad	26.27	312	iP	P	03 28 33.5	+0.8
MBWA	Marble Bar	29.45	137	P	P	03 29 01.9	+0.5
	comp=Z,186nm,1.8s,mb5.5						
PKI	Pulchoki	30.17	336	eP	P	03 29 06.9	-0.8
	comp=Z,11nm,0.7s,mb4.7						
GUN	Gumba	30.29	337	eP	P	03 29 08.9	+0.1
	comp=Z,33nm,0.5s,mb5.3						
LSA	Lhasa	30.33	347	P	P	03 29 09.3	+0.2
DMN	Daman	30.33	336	eP	P	03 29 09.1	0.0
KKN	Kakani	30.42	336	eP	P	03 29 09.2	-0.7
	comp=Z,18nm,0.5s,mb5.0						
GKN	Gorkha	30.87	335	eP	P	03 29 13.0	-0.9
	comp=Z,23nm,0.4s,mb5.4						
CD2	Chengdu	31.04	8	eP	P	03 29 14.6	-0.8
CD2				AMB	AMB		
	comp=Z,40nm,0.6s,mb5.4						
KOLN	Koldanda	31.12	333	eP	P	03 29 15.7	-0.4
	comp=Z,46nm,0.7s,mb5.5						
ENH	Enshi	31.74	18	eP	P	03 29 20.4	-1.1
	comp=Z,89nm,0.4s,mb6.0						
FITZ	Fitzroy Crossi	32.06	126	eP	P	03 29 23.5	-0.9
	comp=Z,4.1nm,0.6s,mb4.4						
FITZ	Fitzroy Crossi	32.06	126	P	P	03 29 23.7	-0.7
	comp=Z,2.3nm,0.6s,mb4.2,baz=339,slow=10,SNR=11						
XAN	Xi'an	35.12	15	P	P	03 29 50.0	-0.7
XAN				AMB	AMB		
	comp=Z,106nm,0.7s,mb5.9						
KAKA	Kakadu	35.75	112	eP	P	03 29 55.2	-1.0
	comp=Z,4.8nm,0.5s,mb4.7						
NJ2	Nanjing	37.08	29	eP	P	03 30 08.8	+1.6
NJ2				PP	PP	03 31 40.0	+5.2
NJ2				AMB	AMB		
	comp=Z,40nm,0.6s,mb5.4						
NJ2				LR	LR		
	comp=N,2µm,14.5s,MS5.2						
NJ2				LR	LR		
	comp=E,2µm,15.3s,MS5.2						
NJ2				LR	LR		
	comp=Z,2µm,15.3s,MS5.0						
GTA	Gaotai	39.16	1	P	P	03 30 24.8	+0.3
GTA				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.5						
GTA				LR	LR		
	comp=Z,145nm,16.7s,MS3.9						
WRA	Warramunga Arr	40.17	122	P	P	03 30 33.2	+0.2
	comp=Z,4.3nm,0.5s,mb4.5,baz=303,slow=9.0,SNR=42						
WRA				PcP	PcP	03 32 38.4	+1.4
	comp=Z,2.0nm,0.6s,baz=312,slow=2.6,SNR=6.4						
WRA				S	S	03 36 33.8	-1.4
	comp=Z,1.5nm,1.1s,baz=299,slow=15,SNR=4.1						
WRAB	Tennant Creek	40.17	122	eP	P	03 30 31.9	-1.1
	comp=Z,8.5nm,0.5s,mb4.7						
WB2	Warramunga Arr	40.18	122	eP	P	03 30 32.8	-0.3
FORT	Forrest	41.45	140	eP	pP	03 30 57.1	-1.6
	comp=Z,136nm,0.7s						
ASPA	Alice Springs	41.52	127	eP	P	03 30 44.7	+0.5
ASAR	Alice Springs	41.52	127	P	P	03 30 44.8	+0.6
	comp=Z,17nm,1.1s,mb4.6,baz=298,slow=7.8,SNR=46						
ASAR				PcP	PcP	03 32 42.9	+1.4
	comp=Z,2.5nm,0.7s,baz=309,slow=3.2,SNR=5.2						
ASAR				S	S	03 36 55.9	+0.5
	comp=Z,1.2nm,0.7s,baz=295,slow=14,SNR=5.9						
HHC	Hu-ho-hao-te	42.24	15	eP	P	03 30 50.3	+0.5
HHC				AP	pP	03 31 00.6	-4.5
HHC				XP	sP	03 31 06.6	-5.6
HHC				PP	PP	03 32 31.6	+0.3
HHC				S	S	03 37 06.3	+0.7
HHC				AMB	AMB		
	comp=Z,36nm,0.6s,mb5.2						
HHC				AMB	AMB		
	comp=Z,128nm,6.8s						
BJT	Baijiatuau	42.83	20	eP	P	03 30 55.8	+1.0
	comp=Z,71nm,0.6s,mb5.6						
BJI	Beijing	42.85	20	eP	P	03 30 56.1	+1.2
BJI				AMB	AMB		
	comp=Z,81nm,0.7s,mb5.6						
WMQ	Urumqi	44.65	349	P	P	03 31 10.8	+1.4
WMQ				AP	pP	03 31 20.8	-3.9
WMQ				PP	PP	03 32 56.1	+0.7
WMQ				AMB	AMB		
	comp=Z,25nm,1.2s,mb4.9						
ULHL	Ulahol	46.60	337	P	P	03 31 25.7	+0.8
	SNR=8.6						
UCH	Uchtor	47.28	336	P	P	03 31 31.3	+1.1
	SNR=12						
TKM2	Tokmak 2	47.43	337	P	P	03 31 32.3	+0.9
	SNR=22						
KBK	Karagaybulak	47.46	336	P	P	03 31 33.4	+1.7
	SNR=7.0						
AML	Almayashu	47.55	335	P	P	03 31 33.6	+1.3
	SNR=13						
AAK	Ala-Archa	47.63	336	eP	P	03 31 32.8	-0.1
	comp=Z,9.3nm,0.9s,mb4.8						
FRU	Bishkek	47.74	336	eP	P	03 31 34.0	+0.1
EKS2	Erkin-Say	47.95	335	P	P	03 31 36.6	+1.1
	SNR=10						
SONM	Songino Array	48.04	7	P	P	03 31 36.8	+0.8
	comp=Z,44nm,0.8s,mb5.5,baz=190,slow=9.2,SNR=110						
SONM				PcP	PcP	03 33 04.2	+0.6
	comp=Z,5.0nm,0.4s,baz=200,slow=3.6,SNR=12						
USP	Ospenovka	48.15	336	P	P	03 31 37.6	+0.6
	SNR=24						
MKAR	Makanchi Array	48.70	345	P	P	03 31 41.3	+0.1
	comp=Z,23nm,0.5s,mb5.5,baz=153,slow=8.5,SNR=255						
MKAR	Makanchi Array	48.70	345	eP	P	03 31 41.1	-0.1
MKAR				pmax	pmax		
	comp=Z,7.0nm,0.5s						
CN2	Changchun	49.65	25	eP	P	03 31 48.4	-0.2
CN2				eS	S	03 38 54.5	+3.2
CN2				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.5						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						

CN2				LR	LR		
	comp=N,600nm,11.0s,MS5.0						
CN2				LR	LR		
	comp=E,700nm,11.0s,MS5.0						
CN2				LR	LR		
	comp=Z,800nm,13.0s,MS4.9						
KKAR	**Karatay Array**	**49.73**	**333**	P	**P**	**03 31 54.2**	**+5.0**
ZAK	**Zakamensk**	**50.27**	**4**	⇑*i*P	**P**	**03 31 53.4**	**+0.2**
CTA	**Charters Tower**	**50.66**	**116**	*e*P	**P**	**03 31 56.7**	**+0.1**
	comp=Z,3.7nm,0.6s,mb4.5						
CTA	**Charters Tower**	**50.66**	**116**	P	**P**	**03 31 56.8**	**+0.2**
	baz=263,slow=7.1						
CTAO	**Charters Tower**	**50.66**	**116**	*e*P	**P**	**03 31 56.2**	**-0.4**
	comp=Z,6.4nm,0.7s,mb4.7						
MOY	**Mondy**	**51.44**	**2**	*e*P	**P**	**03 32 02.6**	**+0.5**
STKA	**Stephens Creek**	**51.49**	**132**	*e*P	**P**	**03 32 03.7**	**+1.0**
	comp=Z,5.7nm,0.4s,mb4.8						
STKA	**Stephens Creek**	**51.49**	**132**	P	**P**	**03 32 02.6**	**-0.1**
	comp=Z,4.3nm,0.5s,mb4.7,baz=308,slow=7.3,SNR=14						
MAT	**Matsushiro**	**51.53**	**41**	P	**P**	**03 32 01.3**	**-1.6**
MAT	**Matsushiro**	**51.53**	**41**	*e*P	**P**	**03 32 02.0**	**-0.9**
	comp=Z,7.0nm,0.5s,mb4.8						
HIA	**Hailar**	**52.24**	**17**	P	**P**	**03 32 07.6**	**-0.5**
	comp=Z,5.7nm,0.5s,mb4.8						
KURK	**Kurchatov**	**53.27**	**344**	P	**P**	**03 32 15.8**	**+0.1**
	comp=Z,118nm,0.8s,mb5.9,SNR=8.5						
KURK	**Kurchatov**	**53.27**	**344**	*i* P	**P**	**03 32 15.5**	**-0.2**
KURK				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
KURK	**Kurchatov**	**53.27**	**344**	*e*P	**P**	**03 32 15.5**	**-0.2**
	comp=Z,17nm,0.8s,mb5.0						
ZAL	**Zalesovo**	**54.90**	**350**	P	**P**	**03 32 26.6**	**-1.0**
	comp=Z,22nm,0.4s,mb5.6,baz=224,slow=4.3,SNR=50						
NVS	**Novosibirsk**	**56.05**	**349**	*e*P	**P**	**03 32 33.4**	**-2.5**
NVS				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
NVS				pmax	pmax		
	comp=N,6.0nm,1.0s						
KLR	**Kul’dur**	**56.60**	**25**	*e*P	**P**	**03 32 39.1**	**-0.8**
VOSK	**Vostochnaya**	**57.35**	**340**	P	**P**	**03 32 43.6**	**-1.6**
VOSK				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.8						
BVA0	**Borovoye Array**	**57.80**	**340**	P	**P**	**03 32 47.2**	**-1.2**
BVAR	**Borovoye Array**	**57.80**	**340**	P	**P**	**03 32 47.2**	**-1.2**
	comp=Z,9.7nm,0.5s,mb5.1,baz=143,slow=9.8,SNR=50						
BRVK	**Borovoye**	**57.87**	**340**	*e*P	**P**	**03 32 47.5**	**-1.3**
	comp=Z,13nm,0.5s,mb5.2						
ZRNK	**Zerenda**	**58.22**	**339**	P	**P**	**03 32 50.0**	**-1.3**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
ZRNK	**Zerenda**	**58.22**	**339**	*e*P	**P**	**03 32 49.8**	**-1.5**
	comp=Z,6.7nm,0.5s,mb4.9						
ASAJ	**Asahikawa**	**58.67**	**36**	P	**P**	**03 32 54.1**	**-0.4**
	comp=Z,9.0nm,0.7s,mb4.9,baz=206,slow=6.5,SNR=9.0						
BOD	**Bodaibo**	**58.85**	**10**	*e*P	**P**	**03 32 55.1**	**-0.5**
AB31	**Akbulak array**	**59.21**	**331**	P	**P**	**03 32 56.8**	**-1.4**
AB31				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.6						
YSS	**Yuzh-Sakhalins**	**60.45**	**33**	*e*P	**P**	**03 33 05.7**	**-1.0**
YSS				*e*	pP	03 33 19.5	-3.2
YSS				pmax	pmax		
	comp=Z,40nm,1.0s,mb5.4						
YSS	**Yuzh-Sakhalins**	**60.45**	**33**	*e*P	**P**	**03 33 05.6**	**-1.1**
	comp=Z,36nm,0.8s,mb5.5						
KMBO	**Kilima Mbogo**	**61.45**	**269**	P	**P**	**03 33 13.8**	**-0.1**
	comp=Z,0.7nm,0.6s,mb4.0,baz=43,slow=23,SNR=3.0						
ARU	**Arti**	**64.80**	**337**	⇑*i*P	**P**	**03 33 34.0**	**-1.4**
ARU				*i*		03 34 03.3	
ARU				*e*		03 35 57.3	
ARU				*e*S	**S**	**03 42 02.9**	**-7.2**
ARU				*e*SS	SS	03 46 17.3	-6.7
ARU				pmax	pmax		
	comp=Z,19nm,1.6s,mb4.9						
ZEI	**Tsey**	**64.83**	**318**	*e*P	**P**	**03 33 36.0**	**+0.1**
ZEI				*e*		03 33 46.0	
ZEI				MLR	MLR		
	comp=Z,500nm,16.0s,MS4.8						
YAK	**Yakutsk**	**66.09**	**15**	*e*P	**P**	**03 33 42.3**	**-1.3**
YAK				pmax	pmax		
	comp=Z,15nm,0.9s,mb5.0						
YAK				pmax	pmax		
	comp=N,7.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.0s						
YAK				pmax	pmax		
	comp=Z,18nm,0.9s,mb5.1						
YAK				pmax	pmax		
	comp=N,7.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,4.0nm,0.9s						
MALT	**Malatya**	**66.99**	**312**	*e*P	**P**	**03 33 49.6**	**-0.1**
	comp=E,4.9nm,0.7s,mb4.7						
EIL	**Elat**	**67.32**	**302**	*e*P	**P**	**03 33 51.9**	**0.0**
	comp=E,6.1nm,0.6s,mb4.8						
SOC	**Sochi**	**67.96**	**318**	*e*P	**P**	**03 33 51.8**	**-3.8**
SOC				*e*	pP	03 34 11.9	-0.1
SOC				*e*PPP	PPP	03 38 04.6	-0.6
SOC				*e*PS	PS	03 43 17.9	-3.5
SOC				*e*		03 43 39.1	
SOC				pmax	pmax		
	comp=Z,24nm,0.9s,mb5.2						
SOC				pmax	pmax		
	comp=N,22nm,1.0s						
SOC				pmax	pmax		
	comp=E,28nm,1.0s						
BRTR	**Keskin Array B**	**70.97**	**312**	P	**P**	**03 34 13.4**	**-0.7**
	comp=E,2.3nm,0.6s,mb4.3,baz=133,slow=6.6,SNR=11						
MA2	**Magadan**	**71.70**	**25**	*e*P	**P**	**03 34 19.8**	**+1.6**
MA2				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
MAW	**Mawson**	**71.97**	**194**	P	**P**	**03 34 20.6**	**+1.0**
	comp=Z,0.9nm,0.7s,baz=279,slow=7.9,SNR=4.5						
MAW				LR	LR	03 59 23.7	
	comp=Z,190nm,20.6s,baz=164,slow=30						
PET	**Petropavlovsk**	**72.33**	**33**	*e*P	**P**	**03 34 22.1**	**+0.1**
PET				pmax	pmax		
	comp=Z,26nm,0.6s,mb5.3						
TIXI	**Tiksi**	**74.03**	**10**	*e*P	**P**	**03 34 31.4**	**-0.3**
TIXI				*e*	pP	03 34 43.2	-5.0
TIXI				*e*S	S	03 43 50.1	-8.1
TIXI				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
TIXI				MLR	MLR		
	comp=Z,100nm,19.0s,MS4.1						
OBN	**Obninsk**	**74.36**	**328**	*e*P	**P**	**03 34 33.2**	**-0.6**
OBN				*e*	pP	03 34 47.6	-2.8
OBN				pmax	pmax		
	comp=Z,33nm,2.0s,mb4.9						
OBN				MLR	MLR		
	comp=Z,200nm,16.0s,MS4.5						
AKASG	**Malin Array Be**	**77.06**	**322**	P	**P**	**03 34 48.6**	**-0.7**
	comp=Z,1.1nm,0.4s,mb4.2,baz=85,slow=4.5,SNR=12						
FINES	**FINESS Array B**	**81.69**	**332**	P	**P**	**03 35 14.5**	**+0.4**
	comp=Z,4.2nm,0.4s,mb4.7,baz=118,slow=7.1,SNR=58						
KAF	**Kangasniemi**	**81.76**	**333**	*e*p	**P**	**03 35 15.2**	**+0.8**
	comp=Z,5.6nm,0.3s,mb5.0,baz=126,slow=5.6						
KAF	**Kangasniemi**	**81.76**	**333**	*e*P	**P**	**03 35 15.2**	**+0.8**
KAF				pmax	pmax		
	comp=Z,6.0nm,0.3s,mb5.0						
ARCES	**ARCESS Array B**	**84.10**	**340**	P	**P**	**03 35 27.1**	**+1.0**
	comp=Z,3.0nm,0.5s,mb4.7,baz=102,slow=4.8,SNR=47						
GERES	**GERESS Array B**	**86.64**	**319**	P	**P**	**03 35 40.6**	**+1.5**
	comp=Z,0.6nm,0.5s,mb4.1,baz=90,slow=2.7,SNR=7.9						
NOA	**NORSAR Array B**	**88.71**	**331**	P	**P**	**03 35 49.9**	**+1.1**
	comp=Z,1.0nm,1.0s,mb4.1,baz=270,slow=7.1,SNR=2.8						
DAVOX	**Davos**	**89.14**	**317**	P	**P**	**03 35 53.0**	**+1.9**
	comp=Z,2.1nm,0.6s,mb4.7,baz=6.8,slow=18,SNR=9.1						
COLA	**College**	**99.72**	**23**	*e*P	**P**	**03 36 39.3**	**+0.1**
NEW	**Newport**	**122.74**	**28**	PKP	PKPdf	03 41 53.2	+3.0
	comp=Z,1.6nm,0.7s,baz=198,slow=3.2,SNR=3.8						
SCHQ	**Schefferville**	**124.00**	**350**	PKP	PKPdf	03 41 54.9	+2.3
	comp=Z,2.0nm,0.6s,SNR=3.4						
PDAR	**Pinedale Array**	**130.38**	**27**	PKP	PKPdf	03 42 08.1	+3.0
	comp=Z,0.9nm,0.8s,baz=105,slow=2.9,SNR=9.7						
MSU	**Marysvale**	**132.26**	**33**	*e*PKPdf	PKPdf	03 42 12.6	+3.8
TUC	**Tucson**	**137.43**	**38**	PKPdf	PKPdf	03 42 19.5	+1.0
ANMO	**Albuquerque**	**137.97**	**31**	*e*PKPdf	PKPdf	03 42 23.2	+3.7
BDFB	**Brasilia**	**143.68**	**243**	PKP	PKPdf	03 42 31.5	+1.5
	comp=Z,4.2nm,0.4s,baz=121,slow=2.4,SNR=13						
TXAR	**Lajitas Array**	**143.79**	**34**	PKP	PKPdf	03 42 30.9	+1.0
	comp=Z,1.1nm,0.5s,baz=328,slow=0.6,SNR=19						
JCT	**Junction City**	**144.89**	**28**	*e*PKP	PKPdf	03 42 33.1	+1.3
CPUP	**Villa Florida**	**145.14**	**220**	PKPbc	PKPbc	03 42 35.5	+2.7
	comp=Z,1.8nm,0.5s,baz=135,slow=4.5,SNR=10						

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*NEIC **07** 03:31:20.9, 36.72N×21.34E, h19^{km}, MD3.6(ATH), After ATH.*

*ATH **07** 03:31:22.6, 36.78N×21.42E, h25^{km}±7^{km}, MD3.5/8*

ISC 07 03:31:22.7±1.4, **36.79N**±0.08×**21.4E**±0.1, **h32**^{km}±10^{km}, **n12**, σ**0^{s}56**/13, **Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ITM	**Ithomi**	**0.57**	**47**	*e*PN	**Pn**	**03 31 33.9**	**-0.7**
ITM				*e*SN	**Sn**	**03 31 43.0**	**+0.1**
VLI	**Veliai**	**1.24**	**93**	*e*PN	**Pb**	**03 31 45.6**	**+0.3**
RLS	**Riolos of Patr**	**1.27**	**2**	*e*PB	**Pb**	**03 31 45.9**	**+0.1**
KYTH	**Kithira**	**1.41**	**111**	*e*PN	**Pb**	**03 31 48.5**	**+0.2**
VLS	**Valsamata**	**1.53**	**335**	*e*PN	**Pb**	**03 31 51.0**	**+0.8**
NAIG	**Nisos Aigina**	**1.93**	**59**	*e*PB	**Pn**	**03 31 54.5**	**+0.6**
NSAL	**Nisos Salamina**	**1.99**	**55**	*e*PN	**Pb**	**03 31 57.5**	**-0.5**
EVR	**Evrytania**	**2.15**	**9**	*e*PB	**Pb**	**03 32 00.3**	**-0.5**
LKR	**Lokris**	**2.25**	**34**	*e*PN	**Pn**	**03 31 59.7**	**+1.2**
MPAR	**Parnis Oros**	**2.30**	**53**	*e*PB	**Pb**	**03 32 03.0**	**-0.4**
VAM	**Vamos**	**2.65**	**121**	*e*Pn	**Pn**	**03 32 04.0**	**-0.3**
KEK	**Kerkira**	**3.18**	**337**	*e*Pn	**Pn**	**03 32 11.0**	**-0.8**

MEX 07 03:31:29.3±0.7, **15.73N**×**95.58W**, **h12**^{km}±469^{km}, **MD3.8**, **Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.51**	**274**	*i* P	Pg	03 31 38.1	-1.5
HUIG				*i* S	Sg	03 31 44.9	-1.6
VHO	**Vista Hermosa**	**1.73**	**321**	*e*P	Pn	03 31 55.8	-3.7
VHO				*i* S	Sn	03 32 16.3	-5.4
OXX	**Oaxaca**	**1.73**	**321**	*i* P	Pn	03 32 02.0	+2.5
OXX				*i* S	Sn	03 32 18.0	-3.7

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*JMA **07** 03:32:54.2±0.2, 33.05N×136.93E, h41^{km}±5^{km}, M3.8*

ISC 07 03:32:54.6±1.8, **33.08N**±0.10×**136.96E**±0.07, **h55**^{km}±22^{km}, **n9**, σ**0^{s}61**/18, **4D**, **Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TK01	**Tokai 1**	**0.86**	**38**	P	**P**	**03 33 10.5**	**-0.2**
TK01				S	**S**	**03 33 22.6**	**-0.1**
TK02	**Tokai 2**	**1.09**	**38**	⇓P	**P**	**03 33 13.9**	**0.0**
TK02				S	**S**	**03 33 28.8**	**+0.6**
JKN	**Kiinagashima**	**1.30**	**334**	P	**P**	**03 33 16.7**	**-0.1**
JKN				S	**S**	**03 33 32.0**	**-1.4**
JIE	**Ise**	**1.32**	**351**	⇓P	**P**	**03 33 17.5**	**+0.2**
JIE				S	**S**	**03 33 34.4**	**+0.3**
TK04	**Tokai 4**	**1.51**	**30**	⇓P	**P**	**03 33 20.1**	**+0.3**
TK04				S	**S**	**03 33 39.1**	**+0.7**
TSUJ	**Tsu 2**	**1.68**	**345**	⇓P	**P**	**03 33 22.5**	**+0.3**
TSUJ				S	**S**	**03 33 43.4**	**+0.7**
SHZ3	**Shizuoka 3**	**2.23**	**27**	P	**P**	**03 33 30.0**	**0.0**
SHZ3				S	**S**	**03 33 55.6**	**-0.8**
JIZS	**Izushimoda**	**2.28**	**44**	P	**P**	**03 33 29.8**	**-0.8**
JIZS				S	**S**	**03 33 56.9**	**-0.7**
MAT	**Matsushiro**	**3.60**	**16**	P	**P**	**03 33 50.3**	**+1.0**
MAT				S	**S**	**03 34 31.0**	**0.0**

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*JMA **07** 03:38:53.4±0.1, 33.04N×136.86E, h37^{km}±4^{km}, M3.5*

ISC 07 03:38:54.4±1.1, **33.10N**±0.07×**136.85E**±0.04, **h37**^{km}, **n14**, σ**0^{s}51**/26, **6D**, **Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TK01	**Tokai 1**	**0.91**	**43**	P	**P**	**03 39 10.3**	**-0.5**
TK01				S	**S**	**03 39 22.3**	**-0.6**
JWZ	**Kozaga**	**1.04**	**295**	⇓P	**P**	**03 39 12.3**	**-0.4**
JWZ				S	**S**	**03 39 25.5**	**-0.8**
TK02	**Tokai 2**	**1.14**	**42**	⇓P	**P**	**03 39 13.6**	**-0.4**
TK02				S	**S**	**03 39 28.6**	**-0.1**
JKN	**Kiinagashima**	**1.25**	**337**	P	**P**	**03 39 16.0**	**+0.4**
JKN				S	**S**	**03 39 30.9**	**-0.6**
JIE	**Ise**	**1.29**	**355**	⇓P	**P**	**03 39 17.0**	**+0.7**
JIE				S	**S**	**03 39 32.7**	**0.0**
JWM	**Minabe**	**1.46**	**301**	P	**P**	**03 39 18.5**	**-0.2**
JWM				S	**S**	**03 39 36.5**	**-0.2**
JWY	**Kouya**	**1.53**	**317**	⇓P	**P**	**03 39 20.4**	**+0.7**
JWY				S	**S**	**03 39 39.1**	**+0.5**
TK04	**Tokai 4**	**1.54**	**33**	P	**P**	**03 39 19.8**	**-0.1**
TK04				S	**S**	**03 39 38.9**	**0.0**
TSUJ	**Tsu 2**	**1.65**	**348**	⇓P	**P**	**03 39 21.9**	**+0.5**
TSUJ				S	**S**	**03 39 41.6**	**+0.1**
JHE	**Heguri**	**1.83**	**328**	⇓P	**P**	**03 39 24.6**	**+0.7**
JHE				S	**S**	**03 39 46.6**	**+0.5**
JAJ2	**Tsuna**	**2.10**	**309**	P	**P**	**03 39 28.6**	**+0.8**
JAI	**Aioi**	**2.12**	**290**	P	**P**	**03 39 27.9**	**-0.2**
JAI				S	**S**	**03 39 52.4**	**-1.1**
JIZS	**Izushimoda**	**2.34**	**46**	P	**P**	**03 39 31.6**	**+0.4**
MAT	**Matsushiro**	**3.61**	**18**	P	**P**	**03 39 49.8**	**+0.4**
MAT				S	**S**	**03 40 30.7**	**-0.7**

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*WEL **07** 03:40:16.4±0.4, 38.00S×176.18E, h192^{km}±3^{km}, ML3.5/5, Error ellipse: s-maj=3.8km s-min=3.5km az=0.0*

ISC 07 03:40:14.1±1.1, **38.15S**±0.08×**176.2E**±0.1, **h212**^{km}±10^{km}, **n23**, σ**1^{s}04**/36, **4C-1D**, **North Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**0.76**	**98**	PN	**P**	**03 40 43.6**	**-0.3**
URZ				SN	**S**	**03 41 04.8**	**-2.2**
MGZ	**Maungaku**	**0.98**	**210**	⇑PN	**P**	**03 40 46.6**	**+1.5**
BKZ	**Black Stump Fm**	**1.05**	**166**	PN	**P**	**03 40 46.7**	**+1.2**
BKZ				SN	**S**	**03 41 10.0**	**0.0**
MWZ	**Matawai**	**1.09**	**100**	PN	**P**	**03 40 46.3**	**+0.4**
MWZ				SN	**S**	**03 41 09.4**	**-1.2**
NGZ	**Ngauruhoe**	**1.11**	**203**	PN	**P**	**03 40 47.5**	**+1.5**
CNZ	**Chateau**	**1.15**	**204**	*e*PN	**P**	**03 40 47.6**	**+1.3**
TUVZ	**Tukino**	**1.18**	**199**	PN	**P**	**03 40 48.0**	**+1.4**
WNVZ	**Wahianoa**	**1.25**	**200**	PN	**P**	**03 40 48.4**	**+1.3**
MOVZ	**Moawhango**	**1.29**	**194**	PN	**P**	**03 40 48.4**	**+0.9**
KNZ	**Kokohu**	**1.47**	**127**	PN	**P**	**03 40 50.2**	**+1.3**
KNZ				*e*SN	**S**	**03 41 15.2**	**-0.6**
MXZ	**Matakaoa Point**	**1.80**	**72**	⇑PN	**P**	**03 40 51.2**	**-0.6**
MXZ				SN	**S**	**03 41 19.2**	**-1.8**
TSZ	**Takapari Road**	**1.91**	**185**	⇑PN	**P**	**03 40 54.2**	**+1.3**
TSZ				SN	**S**	**03 41 24.3**	**+1.4**
BFZ	**Birch Farm**	**2.53**	**178**	PN	**P**	**03 41 00.4**	**+0.9**
BFZ				*e*SN	**S**	**03 41 35.3**	**+0.7**
MRZ	**Mangatainoka R**	**2.54**	**190**	⇑PN	**P**	**03 41 00.2**	**+0.6**
MRZ				SN	**S**	**03 41 34.7**	**-0.2**
KIW	**Kapiti Island**	**2.87**	**199**	PN	**P**	**03 41 03.3**	**0.0**
KIW				*e*SN	**S**	**03 41 40.2**	**-1.2**
MTW	**Mount Morrison**	**3.04**	**189**	*e*PN	**P**	**03 41 05.3**	**0.0**
MRW	**Makara Radio**	**3.27**	**200**	PN	**P**	**03 41 07.9**	**-0.1**
MRW				*e*SN	**S**	**03 41 49.0**	**-0.8**
MSWZ	**Moikau Station**	**3.33**	**192**	*e*PN	**P**	**03 41 08.4**	**-0.4**
NNZ	**Nelson**	**3.74**	**214**	PN	**P**	**03 41 12.9**	**-0.7**
NNZ				SN	**S**	**03 41 58.7**	**-1.1**
QRZ	**Quartz Range**	**3.88**	**225**	*e*PN	**P**	**03 41 14.1**	**-1.2**
QRZ				*e*SN	**S**	**03 42 01.4**	**-1.4**
KHZ	**Kahutara**	**4.71**	**204**	⇓PN	**P**	**03 41 25.3**	**-0.4**
KHZ				SN	**S**	**03 42 20.9**	**-0.4**
LTZ	**Lake Taylor**	**5.49**	**211**	*e*PN	**P**	**03 41 34.2**	**-1.5**
MQZ	**McQueen’s Vall**	**6.15**	**204**	*e*SN	**S**	**03 42 49.4**	**-4.9**

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*NEIC **07** 03:47:55.4±1.1, 51.46N×16.15E, h5^{km}, ML2.7(VIE), ML2.4(SZGRF), ML2.1(BRG), ML1.9(CLL), Error ellipse: s-maj=12.8km s-min=5.3km az=199.0*

*PRU **07** 03:47:56.2, 51.44N×16.13E*

*WAR **07** 03:47:56.6, 51.45N×16.12E, ML2.7, Mining Induced*

ISC 07 03:47:54.3±0.7, **51.41N**±0.03×**16.10E**±0.04, **n20**, σ**1^{s}07**/45, **2C**, **Poland**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.58**	**168**	*i* PG	**Pg**	**03 48 07.8**	**+1.8**
KSP				*e*SG	**Sg**	**03 48 16.8**	**+3.0**
KSP	**Ksiaz**	**0.58**	**168**	*i* Pg	**Pg**	**03 48 07.8**	**+1.8**
KSP				*e*Sg	**Sg**	**03 48 15.2**	**+1.4**
UPC	**Upice**	**0.91**	**183**	*e*PG	**Pg**	**03 48 13.9**	**+1.4**
UPC				*e*SG	**Sg**	**03 48 25.5**	**+0.9**
DPC	**Dobruska-Polom**	**1.07**	**172**	*e*PG	**Pg**	**03 48 16.6**	**+0.8**
DPC				*e*SG	**Sg**	**03 48 29.6**	**-0.5**
	15nm,0.2s						
PVCC	**Panska Ves**	**1.31**	**228**	*e*PG	**Pg**	**03 48 21.2**	**+0.7**
PVCC				*e*SG	**Sg**	**03 48 39.3**	**+1.3**
BRG	**Berggiesshubel**	**1.46**	**249**	*e*Pn	**Pn**	**03 48 22.4**	**+0.4**
BRG				*i* Pg	**Pg**	**03 48 23.7**	**+0.2**
BRG				*i* Sg	**Sg**	**03 48 43.7**	**+0.7**
PRU	**Pruhonice**	**1.73**	**215**	PN	**Pn**	**03 48 26.5**	**+0.5**
PRU				PG	**Pg**	**03 48 28.3**	**-0.7**
PRU				*i* x	x	03 48 32.8	
PRU				*i* x	x	03 48 45.7	
PRU				SG	**Sg**	**03 48 52.2**	**+0.1**
	14nm,0.2s						
MORC	**Moravsky Berou**	**1.88**	**150**	*e*Pn	**Pn**	**03 48 28.4**	**+0.4**
CLL	**Collm**	**1.94**	**268**	*i* PN	**Pn**	**03 48 29.6**	**+0.7**
CLL				*i* PG	**Pg**	**03 48 31.9**	**-1.2**
CLL				*e*		03 48 33.0	
CLL				*e*SG	**Sg**	**03 48 58.0**	**-1.0**
CLL	**Collm**	**1.94**	**268**	*i* Pn	**Pn**	**03 48 29.6**	**+0.7**
CLL				*i* Pg	**Pg**	**03 48 31.9**	**-1.2**
CLL				*e*Sg	**Sg**	**03 48 58.0**	**-1.0**
OKC	**Ostrava-Krasne**	**2.05**	**140**	*e*PG	**Pg**	**03 48 33.1**	**-2.1**
OKC				*e*SG	**Sg**	**03 49 00.5**	**-2.0**
NKC	**Novy Kostel**	**2.60**	**244**	*e*PN	**Pn**	**03 48 39.0**	**+0.7**
NKC				*e*PG	**Pg**	**03 48 45.7**	**-0.5**
NKC				*e*SG	**Sg**	**03 49 20.0**	**-0.8**
OJC	**Ojcow**	**2.63**	**116**	*e*PG	**Pg**	**03 48 47.0**	**+0.1**
OJC				*e*SG	**Sg**	**03 49 21.0**	**-1.0**
OJC	**Ojcow**	**2.63**	**116**	*e*Pg	**Pg**	**03 48 46.6**	**-0.3**
OJC				*e*Sg	**Sg**	**03 49 21.2**	**-0.8**
KHC	**Kasperske Hory**	**2.80**	**216**	*e*PN	**Pn**	**03 48 42.1**	**+0.9**
KHC				*e*PG	**Pg**	**03 48 47.6**	**-2.6**
KHC				*e*SN	**Sn**	**03 49 16.6**	**+0.5**
KHC				*e*SG	**Sg**	**03 49 26.0**	**-1.5**
MOX	**Moxa**	**2.93**	**257**	*e*Pg	**Pg**	**03 48 51.5**	**-1.4**
MOX				*e*Sg	**Sg**	**03 49 31.7**	**-0.3**
GEC2	**GERESS Array S**	**3.00**	**212**	*e*Pn	**Pn**	**03 48 45.6**	**+1.6**
GEC2				*e*Sg	**Sg**	**03 49 32.3**	**-1.8**
WET	**Wettzell**	**3.07**	**224**	*e*Pn	**Pn**	**03 48 45.8**	**+0.8**
MOA	**Molln**	**3.76**	**199**	⇑*i*PN	**Pn**	**03 48 55.5**	**+0.7**
MOA				*i* SG	**Sg**	**03 49 59.2**	**-0.3**
	2.0nm,0.3s						
ARSA	**Arzberg**	**4.18**	**185**	⇑*i*PN	**Pn**	**03 49 01.0**	**+0.2**
ARSA				*i* SG	**Sg**	**03 50 13.1**	**-0.5**
	2.2nm,0.4s						

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*JMA **07** 03:59:44.9±0.1, 33.13N×137.27E, h41^{km}±2^{km}, M3.6*

ISC 07 03:59:45.4±1.0, **33.16N**±0.06×**137.27E**±0.04, **h48**^{km}±15^{km}, **n18**, σ**0^{s}64**/36, **1C-5D**, **Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TK01	**Tokai 1**	**0.66**	**24**	P	**P**	**03 59 58.3**	**-0.3**
TK01				S	**S**	**04 00 08.0**	**-0.2**
TK02	**Tokai 2**	**0.88**	**27**	⇓P	**P**	**04 00 01.5**	**-0.1**
TK02				S	**S**	**04 00 14.2**	**+0.6**
TK03	**Tokai 3**	**1.16**	**30**	P	**P**	**04 00 05.4**	**0.0**
TK03				S	**S**	**04 00 20.4**	**0.0**
JIE	**Ise**	**1.31**	**339**	⇓P	**P**	**04 00 08.4**	**+0.6**
JIE				S	**S**	**04 00 24.6**	**+0.2**
TK04	**Tokai 4**	**1.32**	**22**	⇓P	**P**	**04 00 08.0**	**+0.1**
TK04				S	**S**	**04 00 24.4**	**-0.2**
JWZ	**Kozaga**	**1.35**	**286**	⇑P	**P**	**04 00 07.9**	**-0.5**
JWZ				S	**S**	**04 00 24.1**	**-1.3**
JKN	**Kiinagashima**	**1.37**	**323**	P	**P**	**04 00 08.8**	**+0.2**
JKN				S	**S**	**04 00 25.0**	**-0.8**
TSUJ	**Tsu 2**	**1.70**	**336**	P	**P**	**04 00 13.8**	**+0.6**
TSUJ				S	**S**	**04 00 34.1**	**+0.3**
JWM	**Minabe**	**1.74**	**294**	P	**P**	**04 00 14.1**	**+0.3**
JWM				S	**S**	**04 00 34.3**	**-0.5**
JWY	**Kouya**	**1.75**	**307**	P	**P**	**04 00 14.8**	**+0.9**
JWY				S	**S**	**04 00 35.3**	**+0.2**
JHE	**Heguri**	**1.99**	**319**	⇓P	**P**	**04 00 17.9**	**+0.7**
JHE				S	**S**	**04 00 41.4**	**+0.5**
JIZS	**Izushimoda**	**2.05**	**40**	P	**P**	**04 00 17.7**	**-0.4**
JIZS				S	**S**	**04 00 40.5**	**-2.0**
JAI	**Aioi**	**2.44**	**286**	P	**P**	**04 00 23.9**	**+0.2**
JAI				S	**S**	**04 00 50.8**	**-1.6**
JYN	**Shimob**	**2.56**	**24**	P	**P**	**04 00 25.7**	**+0.3**
JYN				S	**S**	**04 00 55.7**	**+0.2**
JGM	**Miyama**	**2.57**	**350**	P	**P**	**04 00 26.1**	**+0.5**
JGM				S	**S**	**04 00 55.6**	**-0.2**
JOD2	**Odawara 2**	**2.58**	**35**	P	**P**	**04 00 26.2**	**+0.4**
JOD2				S	**S**	**04 00 55.2**	**-0.9**
JWT	**Wachi**	**2.62**	**324**	⇓P	**P**	**04 00 27.1**	**+0.8**
JWT				S	**S**	**04 00 57.3**	**+0.3**
MAT	**Matsushiro**	**3.46**	**13**	P	**P**	**04 00 39.0**	**+0.8**
MAT				S	**S**	**04 01 18.3**	**0.0**

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*BJI **07** 04:01:03.8, 35.62N×78.23E, h13^{km}, mb4.4, ML4.2, Ms4.4*

*NEIC **07** 04:01:05.5±3.8, 35.72N×78.25E, h8^{km}±26^{km}, mb4.2/3, Error ellipse: s-maj=17.7km s-min=4.7km az=69.0*

*MOS **07** 04:01:06.2±3.1, 35.90N×78.10E, h33^{km}, mb4.5/5, Error ellipse: s-maj=25.6km s-min=9.3km az=101.2*

*IDC **07** 04:01:06.2±1.5, 35.93N×78.07E, mb4.3/7, mb1 4.4/10, mb1mx4.1/20, ML3.8/3, MS4.8/1, Ms1 4.8/1, ms1mx3.0/27, Error ellipse: s-maj=29.3km s-min=26.3km az=1.0*

*NNC **07** 04:01:08.9±5.3, 35.72N×78.54E, h44^{km}±46^{km}, Error ellipse: s-maj=45.7km s-min=28.9km az=168.0*

ISC 07 04:01:05.6±1.7, **35.66N**±0.02×**78.35E**±0.06, **h28**^{km}±15^{km}, **n59**, σ**1^{s}04**/69, **mb4.5**/10, **MS4.8**/1, **10C-1D**, **Eastern Kashmir**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**4.28**	**335**	*e*P	**Pn**	**04 02 13.2**	**+2.5**
KSH				*e*SG	**Sn**	**04 03 11.3**	**+11**
KSH				Smax			
	comp=N,480nm,1.1s						
KSH				Smax			
	comp=E,390nm,0.8s						
CHCP	**Chirah Chowk**	**4.64**	**246**	⇑P	**Pn**	**04 02 16.8**	**+1.0**
JOSI	**Joshimath**	**5.19**	**168**	*e*P	**Pn**	**04 02 26.7**	**+3.2**
JOSI				*e*S	**Sn**	**04 03 28.0**	**+4.8**
JOSI				AML	AML	04 03 33.0	
	comp=N,205nm,0.4s						
JOSI				AML	AML	04 03 37.6	
	comp=E,216nm,0.7s						
CEP	**Cherat**	**5.61**	**253**	⇑P	**Pn**	**04 02 30.5**	**+1.1**
CEP				S	Px	04 02 58.0	
KKR	**Kurukshetra**	**5.83**	**193**	*e*	**Pn**	**04 02 38.3**	**+5.8**
KKR				*e*		04 03 45.2	
THW	**Thamme Wali**	**6.17**	**244**	⇑P	**Pn**	**04 02 37.1**	**-0.3**
NDI	**New Delhi**	**7.03**	**188**	*e*PN	**Pn**	**04 02 46.0**	**-3.3**
NDI				*e*		04 04 07.0	
NDI				*e*		04 04 16.0	
AYAN	**Aya Nagar**	**7.24**	**189**	*e*P	**Pn**	**04 02 51.6**	**-0.7**
AYAN				*e*S	**Sn**	**04 04 13.2**	**-1.1**
SONA	**Sohna**	**7.47**	**189**	*e*P	**Pn**	**04 02 56.1**	**+0.5**
SONA				*e*S	**Sn**	**04 04 20.2**	**0.0**
AAK	**Ala-Archa**	**7.58**	**338**	*e*Pn	**Pn**	**04 02 54.5**	**-2.5**
	comp=E,32nm,0.9s						
FRU	**Bishkek**	**7.72**	**339**	*e*P	**Pn**	**04 03 03.0**	**+3.9**
FRU				*e*S	**Sn**	**04 04 26.5**	**0.0**
FRU				pmax	pmax		
	comp=Z,120nm,1.6s						
FRU				pmax	pmax		
	comp=E,280nm,1.8s						
KHET	**Khetri**	**7.87**	**197**	*e*P	**Pn**	**04 03 01.7**	**+0.5**
KHET				*e*S	**Sn**	**04 04 28.0**	**-2.2**
KOLN	**Koldanda**	**9.05**	**149**	*e*P	**P**	**04 03 17.7**	**+0.2**
	comp=E,22nm,0.5s						
GKN	**Gorkha**	**9.32**	**143**	*e*P	**P**	**04 03 22.1**	**+0.9**
	comp=E,17nm,0.3s						
KK31	**Karatay Array**	**9.59**	**323**	⇓P	**P**	**04 03 24.4**	**-0.5**
	comp=E,2.1nm,0.5s						
KK31				⇑S	**Sn**	**04 05 13.1**	**+0.3**
	comp=E,5.0nm,0.6s						
KKAR	**Karatay Array**	**9.59**	**323**	P	**P**	**04 03 24.4**	**-0.5**
KKAR				S	**Sn**	**04 05 13.0**	**+0.3**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KKAR				smax			
	comp=Z,2.0nm,0.5s						
KKN	**Kakani**	**9.82**	**141**	*e*P	**P**	**04 03 28.3**	**+0.2**
	comp=Z,25nm,0.6s						
DMN	**Daman**	**9.88**	**143**	*e*P	**P**	**04 03 29.4**	**+0.5**
	comp=Z,26nm,0.6s						
GUN	**Gumba**	**10.04**	**138**	*e*P	**P**	**04 03 31.7**	**+0.6**
	comp=Z,21nm,0.5s						
PKI	**Pulchoki**	**10.06**	**141**	*e*P	**P**	**04 03 31.5**	**0.0**

	comp=Z,16nm,0.5s						
JASL	**Jaisalmer**	10.79	218	*e*P	P	04 03 39.3	-2.1
MK31	**Makanchi Array**	11.51	14	⇑P	P	04 03 49.4	-1.7
	comp=Z,1.8nm,0.4s,baz=219,slow=34,SNR=52						
MK31				⇑S	S	04 05 55.1	-4.6
	comp=Z,10nm,0.8s,baz=191,slow=27,SNR=9.8						
MKAR	**Makanchi Array**	11.51	14	Pn	P	04 03 49.9	-1.3
	comp=Z,1.0nm,0.3s,baz=187,slow=13,SNR=23						
MKAR				Sn	S	04 05 57.6	-2.0
	comp=Z,1.1nm,0.3s,baz=197,slow=20,SNR=7.5						
MKAR	**Makanchi Array**	11.51	14	P	P	04 03 49.4	-1.7
MKAR				S	S	04 05 55.0	-4.7
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR				smax			
	comp=Z,9.0nm,0.8s						
KURK	**Kurchatov**	15.05	1	⇑P	P	04 04 38.2	+0.3
	comp=Z,2.7nm,1.1s,baz=161,slow=11,SNR=3.4						
KURK	**Kurchatov**	15.05	1	P	P	04 04 38.2	+0.3
KURK				pmax	pmax		
	comp=Z,3.0nm,1.1s						
KURK	**Kurchatov**	15.05	1	*e*P	P	04 04 36.4	-1.5
	comp=Z,4.0nm,0.6s						
BVA0	**Borovoye Array**	18.25	345	⇑P	P	04 05 19.5	+1.1
	comp=Z,1.0nm,0.9s						
BVA0	**Borovoye Array**	18.25	345	P	P	04 05 19.4	+1.0
BVAR	**Borovoye Array**	18.25	345	P	P	04 05 18.5	0.0
	comp=Z,0.8nm,0.3s,baz=156,slow=12,SNR=16						
BRVK	**Borovoye**	18.30	344	*e*P	P	04 05 19.7	+0.6
	comp=Z,17nm,1.0s						
ZRNK	**Zerenda**	18.50	342	⇑P	P	04 05 21.8	+0.3
	comp=Z,8.6nm,1.4s						
ZRNK	**Zerenda**	18.50	342	P	P	04 05 21.8	+0.2
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ZRNK	**Zerenda**	18.50	342	*e*P	P	04 05 22.0	+0.5
	comp=Z,3.4nm,0.5s						
ZAL	**Zalesovo**	18.82	12	P	P	04 05 25.1	-0.3
	comp=Z,0.5nm,0.3s,baz=192,slow=9.2,SNR=5.9						
ZAL	**Zalesovo**	18.82	12	P	P	04 05 25.1	-0.2
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AB31	**Akbulak array**	19.14	321	⇑P	P	04 05 27.8	-1.4
	comp=Z,2.5nm,0.7s						
AB31	**Akbulak array**	19.14	321	P	P	04 05 27.7	-1.4
AB31				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ZAK	**Zakamensk**	23.27	43	*e*P	P	04 06 06.5	-5.1
ZAK				*e*		04 06 20.9	
SONM	**Songino Array**	24.06	51	P	P	04 06 23.6	+4.4
	comp=Z,3.2nm,0.9s,mb3.8,baz=246,slow=9.9,SNR=16						
KBD	**Kabd**	26.61	265	*e*P	P	04 06 44.0	+0.6
MIB	**Mutribah**	26.67	266	*e*P	P	04 06 44.8	+0.8
MIB				AMb	AMB	04 06 48.2	
	comp=Z,35nm,0.7s,mb5.0						
RDF	**Al-Radifah**	26.82	264	*e*P	P	04 06 45.7	+0.3
RDF				AMb	AMB	04 06 49.3	
	comp=Z,35nm,0.8s,mb4.9						
RST	**Umm Al-Ruwaisa**	27.05	266	*e*P	P	04 06 46.8	-0.8
RST				AMb	AMB	04 06 51.4	
	comp=Z,31nm,0.8s,mb4.9						
BRTR	**Keskin Array B**	35.33	290	P	P	04 08 00.8	+0.3
	comp=Z,0.7nm,0.4s,mb3.9,baz=117,slow=8.3,SNR=3.6						
BRTR	**Keskin Array B**	35.33	290	P	P	04 08 00.8	+0.4
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	41.54	325	P	P	04 08 52.5	+0.7
	comp=Z,4.3nm,0.6s,mb4.3,baz=117,slow=13,SNR=20						
FINES	**FINESS Array B**	41.54	325	P	P	04 08 52.6	+0.8
FINES				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ARCES	**ARCESS Array B**	44.25	336	P	P	04 09 14.4	+0.6
	comp=Z,34nm,1.3s,mb4.9,baz=79,slow=6.2,SNR=7.5						
ARCES	**ARCESS Array B**	44.25	336	P	P	04 09 14.4	+0.6
ARCES				pmax	pmax		
	comp=Z,34nm,1.3s						
NB2	**NORSAR Subarra**	48.62	323	P	P	04 09 48.1	-0.3
	comp=Z,0.8nm,0.5s,mb4.0,baz=90,slow=7.9						
NOA	**NORSAR Array B**	48.62	323	P	P	04 09 48.1	-0.3
	comp=Z,3.1nm,1.0s,mb4.3,baz=90,slow=7.6,SNR=4.7						
NOA	**NORSAR Array B**	48.62	323	P	P	04 09 48.1	-0.3
NOA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
JHJ	**Hachijo jima 2**	50.03	74	LR	LR	04 31 42.6	
	comp=Z,1µm,20.1s,MS4.8,baz=345,slow=37						
YKA	**Yellowknife Ar**	81.63	6	P	P	04 13 23.1	+1.2
	comp=Z,1.2nm,0.8s,mb3.9,baz=342,slow=5.6,SNR=5.7						
YKA	**Yellowknife Ar**	81.63	6	P	P	04 13 23.1	+1.3
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA	**Yellowknife Ar**	81.63	6	P	P	04 13 23.1	+1.2
STKA	**Stephens Creek**	89.61	131	P	P	04 14 08.1	+6.0
	comp=Z,3.7nm,0.8s,mb4.7,baz=318,slow=11,SNR=3.5						
STKA	**Stephens Creek**	89.61	131	P	P	04 14 08.1	+6.0
	comp=Z,3.2nm,0.3s,mb5.1						

NEIC ***07*** *04:07:48.4±1.4, 6.82S×116.61E, h512^{km}±16^{km}, mb4.5/8, Error ellipse: s-maj=17.5km s-min=10.6km az=58.0*
IDC ***07*** *04:07:49.7±1.7, 6.81S×116.62E, h526^{km}±19^{km}, mb3.6/10, mb1 3.7/11, mb1mx3.5/18, Error ellipse: s-maj=29.8km s-min=10.4km az=59.0*
DJA ***07*** *04:07:49.6±1.0, 6.83S×116.47E, h500^{km}±12^{km}, MD4.6/5, ML4.9/5, Error ellipse: s-maj=56.7km s-min=12.7km az=137.0*
ISC 07 04:07:48.4±0.4**, 6.95S**±0.08×**116.45E**±0.09**, h528**^{km}±5^{km}**, n37, σ0$\overset{s}{.}$94**/32**, mb4.1**/13**, 8C-4D, Bali Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	1.56	192	⇓*e*Pn	P	04 08 54.8	+0.1
	551nm,0.3s						
KEDI				⇑*i*Sn	S	04 09 42.3	-5.0
RATI	**Rata**	1.98	207	⇓*i*Pn	P	04 08 56.5	0.0
	528nm,0.2s						
RATI				⇑*e*Sn	S	04 09 44.1	-6.4
INGI	**Ingas**	2.26	215	⇓*e*Pn	P	04 08 58.0	+0.1
	3µm,0.4s						
INGI				⇑*e*Sn	S	04 09 50.6	-2.4
KELI	**Kelakatan**	2.31	237	⇑*e*Pn	P	04 08 59.2	+1.0
	261nm,0.3s						
NINI	**Niniconang**	4.14	53	⇑*e*Pn	P	04 09 12.6	+2.2
	173nm,0.4s						
TANI	**Tanete Lipujan**	4.55	40	⇑*i*Pn	P	04 09 14.0	+0.2
FITZ	**Fitzroy Crossi**	14.25	142	⇑*i*P	P	04 10 50.8	+0.2
	12nm,0.3s						
FITZ	**Fitzroy Crossi**	14.25	142	P	P	04 10 50.8	+0.2
	3.8nm,0.3s,baz=353,slow=8.8,SNR=51						
MBWA	**Marble Bar**	14.48	168	*e*P	P	04 10 53.4	+0.5
	85nm,1.3s						
KAKA	**Kakadu**	16.71	111	*e*P	P	04 11 14.7	-0.3
	5.3nm,0.6s						
WRA	**Warramunga Arr**	21.63	128	P	P	04 12 01.6	0.0
	1.9nm,0.3s,mb4.1,baz=310,slow=9.2,SNR=21						
WRA				ScP		04 18 27.6	
	0.5nm,0.8s,baz=294,slow=2.8,SNR=4.9						
WRAB	**Tennant Creek**	21.64	128	*e*P	P	04 12 01.3	-0.3
	4.7nm,0.5s,mb4.4						
WB2	**Warramunga Arr**	21.64	128	⇓*i*P	P	04 12 01.2	-0.4
WB2				*e*S	S	04 15 21.0	-4.0
ASPA	**Alice Springs**	23.60	137	*e*P	P	04 12 19.0	-0.5
ASPA				*e*S	S	04 15 53.1	-3.6
ASAR	**Alice Springs**	23.61	137	P	P	04 12 19.1	-0.4
	6.5nm,0.4s,mb4.6,baz=314,slow=8.2,SNR=81						
ASAR				PcP	PcP	04 15 45.6	-0.8
	2.6nm,0.8s,baz=319,slow=1.3,SNR=11						
ASAR				ScP		04 18 33.5	
	2.5nm,0.7s,baz=324,slow=2.2,SNR=12						
NWAO	**Narrogin (SRO)**	25.86	178	P	P	04 12 39.8	+0.4
	20nm,0.9s,mb4.7,baz=352,slow=9.3,SNR=4.0						
FORT	**Forrest**	26.08	157	*e*P	P	04 12 41.6	+0.2
	88nm,0.6s						
STKA	**Stephens Creek**	34.13	140	⇑*i*P	P	04 13 50.9	+0.5
	3.2nm,0.3s,mb4.3						
STKA	**Stephens Creek**	34.13	140	P	P	04 13 50.9	+0.5
	4.5nm,0.4s,mb4.4,baz=315,slow=8.0,SNR=13						
SONM	**Songino Array**	55.27	352	P	P	04 16 32.9	-0.6
	1.6nm,0.5s,mb3.5,baz=166,slow=9.2,SNR=9.1						
MKAR	**Makanchi Array**	61.51	334	P	P	04 17 15.0	-0.5
	2.7nm,0.5s,mb4.0,baz=155,slow=6.5,SNR=34						
MKAR				PcP	PcP	04 17 51.0	-0.2
	0.3nm,0.6s,baz=150,slow=5.6,SNR=4.3						
KURK	**Kurchatov**	66.07	335	*e*P	P	04 17 43.7	-0.6
	2.7nm,0.6s,mb4.0						
ZAL	**Zalesovo**	66.25	340	P	P	04 17 43.8	-1.6
	3.2nm,0.5s,mb4.1,baz=251,slow=6.4,SNR=9.9						
BVAR	**Borovoye Array**	71.32	333	P	P	04 18 15.4	-0.5
	2.5nm,0.6s,mb3.9,baz=127,slow=7.4,SNR=16						
ZRNK	**Zerenda**	71.91	332	*e*P	P	04 18 18.8	-0.5
	7.1nm,0.5s,mb4.3						
KMBO	**Kilima Mbogo**	79.14	270	P	P	04 19 02.2	+2.3
	1.2nm,0.7s,mb3.4,baz=222,slow=23,SNR=4.9						
ASF	**Jabal al Asfar**	84.90	303	P	P	04 19 30.5	+1.8
	0.9nm,0.3s,mb3.8,baz=252,slow=3.2,SNR=3.5						
DBIC	**Dimbokro**	121.76	274	PKP	PKPdf	04 25 44.3	+1.4
	0.9nm,0.5s,baz=184,slow=16,SNR=1.4						
PDAR	**Pinedale Array**	126.09	41	PKP	PKPdf	04 25 52.0	+1.3
	0.2nm,0.5s,baz=150,slow=1.7,SNR=3.9						
SCHQ	**Schefferville**	132.18	3	PKP	PKPdf	04 26 04.7	+2.8
	3.8nm,1.1s,baz=88,slow=19,SNR=2.4						
SCHQ	**Schefferville**	132.18	3	PKP	PKPdf	04 26 04.7	+2.8
TXAR	**Lajitas Array**	136.18	54	PKP	PKPdf	04 26 13.6	+3.5
	0.1nm,0.5s,baz=207,slow=2.8,SNR=3.4						
OXF	**Oxford**	143.66	37	*e*PKPdf	PKPdf	04 26 22.8	-0.3
SSPA	**Standing Stone**	144.09	19	*e*PKP	PKPdf	04 26 24.5	+0.8
ELN	**Prospectdale**	146.03	25	*e*PKPbc	PKPbc	04 26 30.1	+1.3
CPUP	**Villa Florida**	146.37	190	PKPbc	PKPbc	04 26 32.4	+2.5
	1.6nm,0.7s,baz=155,slow=1.9,SNR=6.7						
CPUP	**Villa Florida**	146.37	190	PKPbc	PKPbc	04 26 32.4	+2.5

JMA ***07*** *04:18:54.6±0.1, 33.22N×137.17E, h40^{km}±2^{km}, M3.8*
ISC 07 04:18:54.9±1.0**, 33.24N**±0.06×**137.16E**±0.04**, h47**^{km}±16^{km}**, n17, σ0$\overset{s}{.}$61**/34**, 6D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	**Tokai 1**	0.63	34	P	P	04 19 07.3	-0.4
TK01				S	S	04 19 16.5	-0.5
TK02	**Tokai 2**	0.86	35	⇓P	P	04 19 10.7	-0.1
TK02				S	S	04 19 22.7	+0.2
TK03	**Tokai 3**	1.14	36	P	P	04 19 14.6	-0.1
TK03				S	S	04 19 29.7	+0.3
JIE	**Ise**	1.21	342	⇓P	P	04 19 16.4	+0.8
JIE				S	S	04 19 31.9	+0.8
JWZ	**Kozaga**	1.24	284	P	P	04 19 16.1	-0.1
JWZ				S	S	04 19 31.0	-1.1
JKN	**Kiinagashima**	1.25	324	P	P	04 19 16.6	+0.3
JKN				S	S	04 19 31.4	-0.9
TK04	**Tokai 4**	1.28	27	⇓P	P	04 19 17.0	+0.2
TK04				S	S	04 19 33.1	-0.1
TSUJ	**Tsu 2**	1.59	337	⇓P	P	04 19 21.7	+0.6
TSUJ				S	S	04 19 40.8	+0.2
JWM	**Minabe**	1.62	292	P	P	04 19 22.0	+0.3
JWM				S	S	04 19 40.9	-0.6
JWY	**Kouya**	1.63	307	P	P	04 19 22.4	+0.7
JWY				S	S	04 19 41.7	+0.1
JHE	**Heguri**	1.87	319	⇓P	P	04 19 25.7	+0.6
JHE				S	S	04 19 47.8	+0.3
SHZ3	**Shizuoka 3**	2.02	25	P	P	04 19 26.9	-0.3
SHZ3				S	S	04 19 50.2	-1.0
JIZS	**Izushimoda**	2.05	44	P	P	04 19 27.6	0.0
JIZS				S	S	04 19 50.8	-1.2
JAI	**Aioi**	2.33	284	P	P	04 19 32.0	+0.4
JAI				S	S	04 19 57.6	-1.6
JGM	**Miyama**	2.48	352	P	P	04 19 34.4	+0.6
JGM				S	S	04 20 03.2	+0.3
JWT	**Wachi**	2.50	325	⇓P	P	04 19 34.9	+0.8
JWT				S	S	04 20 03.6	0.0
MAT	**Matsushiro**	3.40	14	P	P	04 19 47.7	+0.8
MAT				S	S	04 20 25.9	-0.5

NIED ***07*** *04:30:00, 32.90N×137.40E, h11^{km}, Mw4.3 Best double couple: M$_0$3.69×10^{15} NP1:φ$_s$52°, δ81°, λ-29°. NP2:φ$_s$147°, δ61°, λ-170°.*
JMA ***07*** *04:30:12.3±0.1, 32.90N×137.42E, h39^{km}±3^{km}, M4.1*
NEIC ***07*** *04:30:13.8±0.6, 32.97N×137.61E, h10^{km}, mb4.4/5, Error ellipse: s-maj=18.0km s-min=11.1km az=87.0*
IDC ***07*** *04:30:13.2±0.9, 32.81N×137.77E, mb4.0/7, mb1 4.1/7, mb1mx3.9/20, MS3.7/4, Ms1 3.7/4, ms1mx3.3/23, Error ellipse: s-maj=26.1km s-min=20.2km az=24.0*
BJI ***07*** *04:30:17.5, 33.44N×137.12E, h5^{km}, mb4.3, Ms4.2, Msz3.9*
ISC 07 04:30:13.4±1.0**, 32.99N**±0.03×**137.40E**±0.03**, h27**^{km}±7^{km}**, n41, σ1$\overset{s}{.}$06**/56**, mb4.1**/11**, MS3.6**/2**, 2C-3D, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	**Tokai 1**	0.79	12	P	Pb	04 30 28.2	-0.3
TK01				S	Sb	04 30 40.3	+1.5
TK02	**Tokai 2**	1.00	17	⇓P	Pn	04 30 31.4	-0.4
TK02				S	Sb	04 30 45.7	+0.9
TK03	**Tokai 3**	1.27	22	P	Pn	04 30 35.2	-0.4
TK03				S	Sn	04 30 53.1	+1.3
TK04	**Tokai 4**	1.45	16	⇓P	Pn	04 30 37.8	-0.4
TK04				S	Sn	04 30 57.5	+1.0
JWZ	**Kozaga**	1.51	291	⇑P	Pn	04 30 38.3	-0.8
JWZ				S	Sn	04 30 56.8	-1.2
JIE	**Ise**	1.51	338	⇓P	Pn	04 30 39.3	+0.2
JIE				S	Sn	04 30 59.2	+1.1
JKN	**Kiinagashima**	1.57	323	⇑P	Pn	04 30 39.8	-0.2
JKN				S	Sn	04 30 58.6	-1.0
TSUJ	**Tsu 2**	1.90	335	P	Pn	04 30 44.8	+0.1
TSUJ				S	Sn	04 31 08.3	+0.4
JWM	**Minabe**	1.91	297	P	Pn	04 30 44.3	-0.5
JWM				S	Sn	04 31 07.4	-0.8
JWY	**Kouya**	1.94	310	P	Pn	04 30 45.6	+0.3
JWY				S	Sn	04 31 09.3	+0.3
JHJ	**Hachijo jima 2**	2.01	86	Pn	Pn	04 30 43.9	-2.4
	21nm,0.3s,baz=272,slow=22,SNR=4.0						
JHJ				Sn	Sn	04 31 10.1	-0.7
	100nm,0.3s,baz=241,slow=23,SNR=6.0						
JHJ				LR	LR	04 31 12.2	
	comp=Z,466nm,21.3s,baz=71,slow=34						
JHJ2	**Mitsune**	2.04	86	P	Pn	04 30 45.8	-0.9
JIM2	**Oshima 3**	2.42	44	P	Pn	04 30 51.3	-0.8
JAI	**Aioi**	2.59	289	P	Pn	04 30 54.1	-0.4
JAI				S	Sn	04 31 24.2	-1.3
JOD2	**Odawara 2**	2.67	31	P	Pn	04 30 54.9	-0.8
JOD2				S	Sn	04 31 26.2	-1.3
JYN	**Shimob**	2.68	21	P	Pn	04 30 55.4	-0.4
JYN				S	Sn	04 31 27.7	0.0
JGM	**Miyama**	2.76	348	P	Pn	04 30 56.8	-0.2
JGM				S	Sn	04 31 28.9	-0.9
JWT	**Wachi**	2.82	325	P	Pn	04 30 58.2	+0.3
JWT				S	Sn	04 31 30.8	-0.6
MAJO	**Matsushiro**	3.61	10	*e*Pn	Pn	04 31 09.3	+0.3
MAT	**Matsushiro**	3.61	10	P	Pn	04 31 08.9	-0.1
MAT				S	Sn	04 31 49.3	-1.9
MAT	**Matsushiro**	3.61	10	*e*P	Pn	04 31 09.0	0.0
MAT				*e*S	Sn	04 31 49.0	-2.2
JNU	**Nakatsue**	5.47	273	LR	LR	04 33 35.0	
	comp=Z,962nm,18.9s,baz=165,slow=35						
CBIJ	**Chichi jima**	7.19	144	Sn	Sn	04 33 17.1	-4.1
	21nm,0.3s,baz=258,slow=23,SNR=16						
ASAJ	**Asahikawa**	11.83	19	LR	LR	04 38 05.6	
	comp=Z,223nm,18.6s,baz=359,slow=40						
BJT	**Baijiatuau**	18.43	298	*e*P	P	04 34 32.0	+3.2
	16nm,0.8s						
BJI	**Beijing**	18.43	298	*e*P	P	04 34 31.9	+3.2
BJI				AMB	AMB		
	comp=Z,12nm,1.7s						
XAN	**Xi'an**	23.74	280	P	P	04 35 32.5	+8.2
SONM	**Songino Array**	27.65	312	P	P	04 36 04.2	+3.4
	comp=Z,1.1nm,0.9s,mb3.5,baz=118,slow=8.7,SNR=8.6						
CMAR	**Chiang Mai Arr**	37.32	257	LR	LR	04 55 14.1	
	comp=Z,89nm,18.0s,MS3.6,baz=75,slow=40						
MKAR	**Makanchi Array**	43.61	305	P	P	04 38 21.9	+5.0
	comp=Z,1.8nm,0.9s,mb3.8,baz=94,slow=11,SNR=9.9						
MKAR				LR	LR	04 57 26.1	
	comp=Z,81nm,19.3s,MS3.6,baz=200,slow=37						
MKAR	**Makanchi Array**	43.61	305	P	P	04 38 21.9	+5.0
KURK	**Kurchatov**	45.95	311	*e*P	P	04 38 36.5	+0.8
	comp=Z,9.5nm,1.0s,mb4.7						
BRVK	**Borovoye**	51.00	314	P	P	04 39 16.4	+1.6
	comp=Z,5.2nm,1.0s,mb4.4						
ZRNK	**Zerenda**	51.78	314	*e*P	P	04 39 21.5	+0.8
	comp=Z,4.5nm,0.8s,mb4.5						
WRAB	**Tennant Creek**	52.70	184	P	P	04 39 28.1	0.0
	comp=Z,4.4nm,1.3s,mb4.2						
WRA	**Warramunga Arr**	52.71	184	P	P	04 39 27.5	-0.7
	comp=Z,1.1nm,0.8s,mb3.8,baz=1.3,slow=7.7,SNR=7.4						
ASAR	**Alice Springs**	56.44	184	P	P	04 39 56.5	+1.2
	comp=Z,0.9nm,1.0s,mb3.8,baz=14,slow=13,SNR=3.4						
AKASG	**Malin Array Be**	75.43	321	P	P	04 42 01.5	+5.1
	comp=Z,0.2nm,0.3s,mb3.5,baz=41,slow=6.2,SNR=2.9						
BRTR	**Keskin Array B**	79.00	310	P	P	04 42 22.8	+6.3
	comp=Z,1.8nm,1.0s,mb4.0,baz=349,slow=6.3,SNR=3.8						
PV10	**Paradox Valley**	85.93	46	*e*P	P	04 42 54.6	+2.3
TXAR	**Lajitas Array**	95.22	50	P	P	04 43 38.5	+2.4
	comp=Z,2.5nm,1.1s,mb4.5,baz=280,slow=2.6,SNR=3.5						

BJI ***07*** *04:44:03.4, 23.70S×179.80W, h502^{km}, mb4.9*
NEIC ***07*** *04:44:03.4±1.6, 23.72S×179.83W, h503^{km}±20^{km}, mb4.6/22, Error ellipse: s-maj=14.0km s-min=5.9km az=170.0*
IDC ***07*** *04:44:03.5±1.8, 23.77S×179.79W, h500^{km}±19^{km}, mb4.1/9, mb1 4.2/11, mb1mx4.2/12, Error ellipse: s-maj=17.8km s-min=14.2km az=155.0*
ISC 07 04:44:04.2±1.1**, 23.77S**±0.08×**179.90W**±0.07**, h522**^{km}±13^{km}**, n74, σ0$\overset{s}{.}$72**/69**, mb4.6**/28**, 14D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	6.31	342	P	P	04 45 45.7	+0.4
	187nm,0.6s,SNR=14						
URZ	**Urewera**	14.66	189	P	P	04 47 10.8	+0.2
	2.6nm,0.3s,baz=36,slow=4.1,SNR=16						
URZ				S	S	04 49 44.4	+3.3
	1.1nm,0.3s,baz=65,slow=24,SNR=13						
SNZO	**South Karori**	18.06	193	P	P	04 47 42.9	-1.0
	28nm,0.8s						
RAR	**Rarotonga**	18.77	86	P	P	04 47 49.6	-1.2
	0.8nm,0.3s,baz=14,slow=3.0,SNR=1.7						
RPZ	**Rata Peaks**	21.24	198	P	P	04 48 14.1	+0.2
	8.9nm,0.5s,mb4.6,baz=322,slow=1.4,SNR=10						
ARMA	**Armidale**	26.16	249	⇓*i*P	P	04 48 59.3	+1.2
CNB	**Canberra Magne**	29.00	240	⇓*i*P	P	04 49 23.9	+1.0
	39nm,0.9s,mb5.0						
CTA	**Charters Tower**	31.57	270	⇓*i*P	P	04 49 45.7	+0.6
	78nm,0.4s,mb5.6						
CTA	**Charters Tower**	31.57	270	P	P	04 49 45.8	+0.7
	134nm,0.6s,mb5.7,baz=95,slow=11,SNR=237						
CTAO	**Charters Tower**	31.57	270	⇓*e*P	P	04 49 45.2	+0.2
	139nm,0.4s,mb5.8						
TOO	**Toolangi**	32.59	237	⇓*i*P	P	04 49 54.3	+0.7
	14nm,0.5s,mb4.8						
STKA	**Stephens Creek**	34.86	248	⇓*i*P	P	04 50 13.2	+0.6
	12nm,0.6s,mb4.6						
STKA	**Stephens Creek**	34.86	248	P	P	04 50 12.9	+0.3
	14nm,0.6s,mb4.7,baz=91,slow=9.4,SNR=22						
ASAR	**Alice Springs**	42.15	260	P	P	04 51 12.3	+0.3
	31nm,0.5s,mb5.1,baz=96,slow=7.9,SNR=238						
ASAR				ScP		04 55 57.4	
	6.3nm,0.8s,baz=114,slow=4.1,SNR=21						
ASPA	**Alice Springs**	42.15	260	⇓*i*P	P	04 51 11.9	-0.1
WB2	**Warramunga Arr**	42.50	266	⇓*i*P	P	04 51 14.2	-0.6
WB2				*e*SCP		04 55 59.4	
WRAB	**Tennant Creek**	42.50	266	⇓*e*P	P	04 51 14.0	-0.9
	82nm,0.5s,mb5.5						
WRA	**Warramunga Arr**	42.51	266	P	P	04 51 14.1	-0.8
	45nm,0.5s,mb5.3,baz=103,slow=8.2,SNR=197						
WRA				ScP		04 55 59.2	
	5.5nm,1.1s,baz=103,slow=4.1,SNR=9.6						
KAKA	**Kakadu**	46.43	275	⇓*i*P	P	04 51 44.0	-1.5
	41nm,0.6s,mb5.1						
FORT	**Forrest**	46.44	249	⇓*i*P	P	04 51 44.4	-1.0
	456nm,0.6s						
FITZ	**Fitzroy Crossi**	50.93	265	⇓*i*P	P	04 52 18.4	-0.7
	25nm,0.6s,mb4.7						
KLBR	**Kellerberrin**	55.12	247	⇓*i*P	P	04 52 47.6	-1.3
	37nm,0.9s,mb4.6						
CASY	**Casey**	60.27	206	⇓*i*P	P	04 53 21.7	-1.5
CASY	**Casey**	60.27	206	*e*P	P	04 53 18.2	-5.0
	4.9nm,0.6s,mb4.0						
CBIJ	**Chichi jima**	62.44	322	P	P	04 53 38.7	+0.8
	161nm,0.3s,baz=342,slow=21,SNR=9.7						
MAW	**Mawson**	77.90	200	*e*P	P	04 55 09.1	+0.7
	1.9nm,0.7s						
MAW	**Mawson**	77.90	200	P	P	04 55 08.6	+0.2
	2.1nm,0.7s,baz=124,slow=9.6,SNR=10						
CMB	**Columbia Colle**	83.04	43	*e*P	P	04 55 35.4	-0.3
	25nm,1.2s,mb4.6						
OHCM	**Honcut**	83.16	42	P	P	04 55 35.8	-0.3
MTUM	**Tungsten Hills**	83.80	45	*e*P	P	04 55 39.6	+0.2
CN2	**Changchun**	83.84	324	*e*P	P	04 55 42.3	+2.9
WCN	**Washoe City**	84.20	43	*e*P	P	04 55 41.4	+0.1
	16nm,1.1s,mb4.5						
TPNV	**Topopah Spring**	85.07	46	*e*P	P	04 55 45.5	-0.1
	4.6nm,0.6s,mb4.2						
TPH	**Tonopah**	85.08	45	*e*P	P	04 55 45.5	-0.2
	6.0nm,0.7s,mb4.2						
NEN	**Nelson**	85.29	48	*e*P	P	04 55 46.1	-0.6
TUC	**Tucson**	86.37	52	*e*P	P	04 55 52.1	+0.2
	11nm,0.9s,mb4.5						
ENH	**Enshi**	86.44	305	*e*P	P	04 55 52.8	+0.5
	14nm,0.8s,mb4.7						
WVOR	**Wild Horse Val**	86.75	41	*e*P	P	04 55 53.3	-0.2
	5.7nm,0.9s,mb4.2						
HDW	**Hoodsport**	87.51	35	P	P	04 55 57.6	+0.7
GL2	**New Goldendale**	87.64	37	P	P	04 55 58.5	+0.9
GSM	**Grass Mountain**	87.89	35	P	P	04 55 59.0	+0.3
RMW	**Rattlesnake Mo**	88.04	35	P	P	04 55 59.8	+0.4
NAC	**Naches**	88.11	36	P	P	04 56 00.1	+0.3
EBG	**Ellensburg**	88.36	36	P	P	04 56 01.6	+0.7
TBM	**Table Mountain**	88.50	36	P	P	04 56 02.2	+0.6
HAWA	**Hanford**	88.61	37	*e*P	P	04 56 02.0	-0.1
	8.2nm,0.7s,mb4.7						
MSU	**Marysvale**	88.63	47	*e*P	P	04 56 03.4	+1.0
RPW	**Rockport**	88.81	35	P	P	04 56 02.9	-0.1
ETW	**Entiat**	88.92	36	P	P	04 56 03.7	+0.2
WTV	**Waterville**	89.17	36	P	P	04 56 04.8	+0.1
NLW	**Nelson Butte**	89.20	35	*e*P	P	04 56 04.6	-0.2
SPUT	**South Promonto**	89.94	44	*e*P	P	04 56 08.6	+0.3
HLID	**Hailey**	89.94	41	*e*P	P	04 56 08.7	+0.4
	7.2nm,0.9s,mb4.5						
HVU	**Hansel Valley**	89.98	44	*e*P	P	04 56 08.1	-0.4
SRU	**San Rafael**	90.04	47	*e*P	P	04 56 09.2	+0.2
DPW	**Davenport**	90.22	36	*e*P	P	04 56 09.1	-0.4
LTX	**Lajitas**	90.28	58	*e*P	P	04 56 10.7	+0.4
	6.9nm,0.7s,mb4.6						
TXAR	**Lajitas Array**	90.28	58	P	P	04 56 11.1	+0.8
	4.5nm,0.7s,mb4.4,baz=214,slow=6.5,SNR=68						
TCUT	**Toone Canyon**	90.50	45	*e*P	P	04 56 10.3	-0.7
HWUT	**Hardware Ranch**	90.66	44	*e*P	P	04 56 11.3	-0.4
	5.0nm,0.6s,mb4.6						
PV10	**Paradox Valley**	90.67	48	*e*P	P	04 56 10.9	-1.0
ANMO	**Albuquerque**	90.81	52	*e*P	P	04 56 12.6	0.0
	3.9nm,0.9s,mb4.3						
PV01	**Paradox Valley**	90.87	48	*e*P	P	04 56 12.4	-0.3
GDL2	**Guadalupe Moun**	91.06	55	*e*P	P	04 56 14.2	+0.4
MCMT	**McKenzie Canyo**	91.57	41	*e*P	P	04 56 16.3	+0.5
ILAR	**Eielson Array**	91.89	14	P	P	04 56 15.7	-1.1
	0.5nm,0.6s,mb3.7,baz=226,slow=5.5,SNR=9.4						
PDAR	**Pinedale Array**	92.53	44	P	P	04 56 20.0	-0.3
	2.3nm,0.8s,mb4.2,baz=220,slow=3.2,SNR=22						
BOZ	**Bozeman (W)**	92.73	41	*e*P	P	04 56 19.9	-1.3
	2.1nm,0.7s,mb4.3						
ARCES	**ARCESS Array B**	131.78	348	PKhKP		05 02 16.2	
	3.6nm,1.0s,slow=1.2,SNR=6.7						
NOA	**NORSAR Array B**	141.97	351	PKhKP		05 02 33.6	
	1.0nm,0.7s,baz=207,slow=12,SNR=3.3						
MALT	**Malatya**	144.38	303	PKP	PKPdf	05 02 42.3	+1.8
AKASG	**Malin Array Be**	144.92	327	PKP	PKPdf	05 02 43.0	+2.0
	0.6nm,0.3s,baz=43,slow=4.1,SNR=8.2						
ASF	**Jabal al Asfar**	146.57	293	PKPbc	PKPbc	05 02 49.3	+2.9
	2.7nm,0.5s,baz=132,slow=1.5,SNR=5.3						
BRTR	**Keskin Array B**	147.58	307	PKPbc	PKPdf	05 02 50.6	+4.9
	1.9nm,0.6s,baz=63,slow=3.2,SNR=2.8						

JMA ***07*** *05:01:37.5±0.1, 33.22N×137.17E, h40^{km}±2^{km}, M3.7*
ISC 07 05:01:37.8±0.9**, 33.24N**±0.05×**137.16E**±0.04**, h44**^{km}±21^{km}**, n17, σ0$\overset{s}{.}$58**/32**, 1C-4D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	**Tokai 1**	0.63	34	P	P	05 01 50.2	-0.2
TK01				S	S	05 01 59.2	-0.4
TK02	**Tokai 2**	0.86	35	⇓P	P	05 01 53.5	-0.1
TK02				S	S	05 02 05.5	+0.3
TK03	**Tokai 3**	1.14	36	P	P	05 01 57.5	0.0
TK03				S	S	05 02 11.3	-0.9
JIE	**Ise**	1.21	342	⇓P	P	05 01 59.3	+0.8
JIE				S	S	05 02 14.2	+0.3
JWZ	**Kozaga**	1.25	284	⇑P	P	05 01 58.9	-0.1
JWZ				S	S	05 02 14.0	-0.9
JKN	**Kiinagashima**	1.25	324	P	P	05 01 59.5	+0.4

JKN				S	S	05 02 14.3	-0.8
TK04	**Tokai 4**	1.29	27	⇓P	P	05 01 59.9	+0.3
TK04				S	S	05 02 16.0	+0.1
TSUJ	**Tsu 2**	1.59	337	P	P	05 02 04.5	+0.5
TSUJ				S	S	05 02 23.6	+0.1
JWM	**Minabe**	1.63	292	P	P	05 02 04.7	+0.2
JWM				S	S	05 02 23.9	-0.5
JWY	**Kouya**	1.63	307	P	P	05 02 05.5	+1.0
JWY				S	S	05 02 24.7	+0.2
JHE	**Heguri**	1.87	319	⇓P	P	05 02 08.7	+0.8
JHE				S	S	05 02 30.6	+0.2
SHZ3	**Shizuoka 3**	2.02	25	P	P	05 02 09.8	-0.2
SHZ3				S	S	05 02 33.1	-1.0
JMY	**Miyakejima3**	2.13	67	P	P	05 02 11.7	+0.1
JHJ2	**Mitsune**	2.23	93	P	P	05 02 12.5	-0.6
JAI	**Aioi**	2.33	284	P	P	05 02 14.8	+0.3
JAI				S	S	05 02 40.5	-1.6
JGM	**Miyama**	2.48	352	P	P	05 02 17.2	+0.6
JGM				S	S	05 02 46.3	+0.5
MAT	**Matsushiro**	3.40	14	P	P	05 02 30.5	+0.8
MAT				S	S	05 03 08.7	-0.6

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*STR **07** 05:09:59.2±0.2, 45.96N×2.81E, h5^{km}±1^{km}, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 07 05:09:59.5±0.0**, 45.97N×2.81E, h2**^{km}**, Md2.2**/2**, Ml2.2**/12**, Error ellipse: s-maj=0.8km s-min=0.6km az=91.0, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AGO	**Saint Agoulin**	0.24	69	Pg	Pg	05 10 04.3	0.0
AGO				Sg	Sg	05 10 07.7	+0.2
PYM	**Petit Puy Mans**	0.26	148	Pg	Pg	05 10 04.5	-0.2
PYM				Sg	Sg	05 10 08.0	-0.1
VERF	**Verneugheol**	0.32	226	Pg	Pg	05 10 05.5	-0.3
TCF	**Toulx Ste Croi**	0.53	308	*e*Pg	Pg	05 10 09.5	-0.5
TCF				*e*Sg	Sg	05 10 16.5	-0.5
	5.1nm,0.2s						
BGF	**Bois d'Agland**	0.59	2	*e*Pg	Pg	05 10 10.7	-0.6
BGF				*e*Sg	Sg	05 10 18.6	-0.6
	9.5nm,0.3s						
COLF	**Collangettes**	0.77	126	Pg	Pg	05 10 14.0	-0.8
COLF				Sg	Sg	05 10 24.8	-0.2
LBL	**Lubilhac**	0.80	157	Pg	Pg	05 10 14.6	-0.8
LBL				Sg	Sg	05 10 25.1	-1.0
AVF	**Avril sur Loir**	0.90	24	*e*Pg	Pg	05 10 16.6	-0.9
AVF				*e*Sg	Sg	05 10 28.1	-1.5
	6.6nm,0.2s						
SMF	**Signal de Mont**	0.98	46	*e*Pg	Pg	05 10 18.1	-1.0
SMF				*e*Sg	Sg	05 10 30.9	-1.4
	5.2nm,0.2s						
RJF	**Les Rejaudoux**	1.12	234	*e*Pg	Pg	05 10 20.5	-1.5
RJF				*e*Sg	Sg	05 10 35.1	-1.9
	4.0nm,0.3s						
CAF	**Calviac**	1.17	207	*e*Pg	Pg	05 10 21.4	-1.4
CAF				*e*Sg	Sg	05 10 36.7	-1.7
	7.5nm,0.2s						
SSF	**Saint Saulge**	1.19	23	*e*Pg	Pg	05 10 21.9	-1.4
SSF				*e*Sg	Sg	05 10 37.4	-1.9
	5.8nm,0.2s						
HYF	**Humbligny**	1.31	355	*e*Pg	Pg	05 10 24.0	-1.6
HYF				*e*Sg	Sg	05 10 40.0	-3.0
LOR	**Lormes**	1.49	29	*e*Pg	Pg	05 10 27.3	-1.9
LOR				*e*Sg	Sg	05 10 46.2	-2.8
	4.8nm,0.2s						
VIVF	**Saint-Julien-l**	1.72	130	*e*Pn	Pn	05 10 29.0	-1.7
VIVF				*e*Pg	Pg	05 10 31.3	-2.5
VIVF				*e*Sg	Sg	05 10 53.3	-3.5
	1.9nm,0.3s						
LFF	**La Frestale**	1.78	236	*e*Pn	Pn	05 10 29.8	-1.8
LFF				*e*Sg	Sg	05 10 55.9	-3.0
	4.0nm,0.3s						
LASF	**Ste Croix**	2.03	158	*e*Pn	Pn	05 10 33.0	-2.1
LASF				*e*Pg	Pg	05 10 36.8	-3.3
LASF				*e*Sg	Sg	05 11 03.8	-3.4
	1.0nm,0.2s						
MFF	**Saint Martin d**	2.15	288	*e*Pn	Pn	05 10 34.4	-2.4
MFF				*e*Pg	Pg	05 10 39.4	-2.9
MFF				*e*Sn	Sn	05 11 00.0	-4.3
	2.3nm,0.2s						
MTLF	**Montolieu**	2.66	189	*e*Sn	Sn	05 11 12.8	-4.6
MTLF				*e*Sg	Sg	05 11 23.3	-4.8
	1.6nm,0.3s						
MBDF	**Montbardon**	3.06	113	*e*Sg	Sg	05 11 34.8	-6.4
	2.4nm,0.4s						

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*JMA **07** 05:10:15.6±0.1, 33.06N×136.88E, h37^{km}±4^{km}, M3.9*

*NEIC **07** 05:10:21.2±0.9, 33.70N×136.33E, h10^{km}, mb4.2/1, Error ellipse: s-maj=21.1km s-min=14.7km az=111.0*

*IDC **07** 05:10:23.0±1.0, 34.05N×137.15E, h39^{km}±7^{km}, mb3.6/7, mb1 3.9/7, mb1mx3.6/21, MS3.3/1, Ms1 3.3/1, ms1mx2.7/22, Error ellipse: s-maj=37.9km s-min=18.5km az=60.0*

ISC 07 05:10:16.1±1.0**, 33.13N**±0.05×**136.86E**±0.04**, h27**^{km}±6^{km}**, h37**^{km}±1.3^{km}**:pP-P, n28, σ0^{s}67**/42**, mb3.8**/8**, 1C-3D, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	**Tokai 1**	0.88	44	P	**Pb**	**05 10 32.2**	**-0.5**
TK01				S	**Sb**	**05 10 44.5**	**+0.4**
JWZ	**Kozaga**	1.04	293	⇑P	**Pn**	**05 10 34.7**	**-0.4**
JWZ				S	**Sb**	**05 10 47.9**	**-0.7**
TK02	**Tokai 2**	1.11	42	⇓P	**Pn**	**05 10 35.6**	**-0.5**
TK02				S	**Sb**	**05 10 50.5**	**-0.2**
JKN	**Kiinagashima**	1.23	336	P	**Pn**	**05 10 38.1**	**+0.4**
JKN				S	**Sn**	**05 10 53.1**	**-0.4**
JIE	**Ise**	1.27	354	⇓P	**Pn**	**05 10 38.9**	**+0.5**
JIE				S	**Sn**	**05 10 55.6**	**+1.0**
JWM	**Minabe**	1.45	300	P	**Pn**	**05 10 40.9**	**0.0**
JWM				S	**Sn**	**05 10 58.7**	**-0.5**
TK04	**Tokai 4**	1.52	34	P	**Pn**	**05 10 41.8**	**-0.1**
TK04				S	**Sn**	**05 11 00.9**	**0.0**
JWY	**Kouya**	1.52	316	P	**Pn**	**05 10 42.7**	**+0.8**
JWY				S	**Sn**	**05 11 01.3**	**+0.4**
TSUJ	**Tsu 2**	1.62	347	P	**Pn**	**05 10 43.8**	**+0.4**
TSUJ				S	**Sn**	**05 11 03.6**	**0.0**
JHE	**Heguri**	1.81	328	⇓P	**Pn**	**05 10 46.8**	**+0.7**
JHE				S	**Sn**	**05 11 08.8**	**+0.4**
JAJ2	**Tsuna**	2.09	309	P	**Pn**	**05 10 51.0**	**+0.9**
JAJ2				S	**Sn**	**05 11 15.5**	**0.0**
JAI	**Aioi**	2.12	289	P	**Pn**	**05 10 50.4**	**-0.1**
JAI				S	**Sn**	**05 11 15.0**	**-1.2**
SHZ3	**Shizuoka 3**	2.24	30	P	**Pn**	**05 10 51.7**	**-0.5**
SHZ3				S	**Sn**	**05 11 17.3**	**-1.9**
JIZS	**Izushimoda**	2.31	46	P	**Pn**	**05 10 53.8**	**+0.5**
MAJO	**Matsushiro**	3.58	18	*e*Pn	**Pn**	**05 11 11.8**	**+0.4**
MAT	**Matsushiro**	3.58	18	P	**Pn**	**05 11 11.8**	**+0.4**
MAT				S	**Sn**	**05 11 52.6**	**-0.8**
MAT	**Matsushiro**	3.58	18	*e*P	**Pn**	**05 11 12.0**	**+0.6**
MAT				*e*S	**Sn**	**05 11 53.0**	**-0.4**
JNU	**Nakatsue**	5.02	272	LR	LR	05 13 03.0	
	comp=Z,298nm,21.2s,baz=339,slow=30						
SONM	**Songino Array**	27.22	312	P	**P**	**05 16 00.5**	**+0.9**
	0.7nm,1.0s,mb3.2,baz=101,slow=6.3,SNR=3.7						
SONM				pP	pP	05 16 10.6	+3.2
	0.2nm,0.4s,baz=350,slow=14,SNR=2.3						
MKAR	**Makanchi Array**	43.16	305	P	**P**	**05 18 16.1**	**0.0**
	0.7nm,0.6s,mb3.6,baz=85,slow=9.6,SNR=7.3						
MKAR				pP	pP	05 18 27.8	+3.7
	0.4nm,0.6s,baz=90,slow=8.5,SNR=3.2						
MKAR	**Makanchi Array**	43.16	305	P	**P**	**05 18 16.1**	**0.0**
MKAR				pP	pP	05 18 27.8	+3.7
KURK	**Kurchatov**	45.52	311	P	**P**	**05 18 33.0**	**-2.0**
	2.0nm,0.6s,mb4.2						
BVAR	**Borovoye Array**	50.52	314	P	**P**	**05 19 14.2**	**+0.3**
	0.6nm,0.7s,mb3.7,baz=90,slow=7.2,SNR=2.6						
BVAR				pP	pP	05 19 24.7	+2.7
	0.9nm,0.7s,baz=100,slow=9.0,SNR=3.2						
WRA	**Warramunga Arr**	52.82	183	P	**P**	**05 19 40.7**	**+9.0**
	0.4nm,0.5s,mb3.6,baz=4.0,slow=8.0,SNR=5.1						
WRA				pP	pP	05 19 52.7	+13
	0.1nm,0.4s,baz=167,slow=17,SNR=2.5						
STKA	**Stephens Creek**	64.81	176	P	**P**	**05 21 04.5**	**+10**
	3.9nm,1.2s,mb4.3,baz=280,slow=4.3,SNR=3.0						
STKA	**Stephens Creek**	64.81	176	P	**P**	**05 21 04.5**	**+10**
GERES	**GERESS Array B**	83.97	326	P	**P**	**05 22 44.9**	**0.0**
	0.3nm,0.2s,mb4.0,baz=14,slow=5.5,SNR=3.6						
TXAR	**Lajitas Array**	95.48	50	P	**P**	**05 23 40.4**	**+0.4**
	0.6nm,0.8s,mb4.1,baz=277,slow=2.7,SNR=6.8						
TXAR				pP	pP	05 23 52.5	+4.0
	0.2nm,0.6s,baz=293,slow=3.1,SNR=2.3						

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*NIED **07** 05:39:00, 33.30N×136.90E, h11^{km}, Mw4.4 Best double couple: M$_0$4.4×10^{15} NP1:φ$_s$341°, δ65°, λ-48°. NP2:φ$_s$96°, δ48°, λ-146°.*

*IDC **07** 05:39:14.8±3.1, 35.48N×142.51E, mb3.7/4, mb1 4.0/5, mb1mx3.7/20, ML4.5/1, MS4.0/1, Ms1 4.0/1, ms1mx3.0/28, Error ellipse: s-maj=92.8km s-min=26.8km az=65.0*

*JMA **07** 05:39:35.7±0.1, 33.33N×136.91E, h33^{km}, M3.8*

ISC 07 05:39:35.6±0.9**, 33.35N**±0.05×**136.88E**±0.04**, h24**^{km}±6^{km}**, n17, σ0^{s}74**/26**, mb3.6**/4**, MS4.0**/1**, 1C-2D, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	**Tokai 1**	0.72	55	P	**Pb**	**05 39 49.0**	**-0.4**
TK02	**Tokai 2**	0.94	51	P	**Pb**	**05 39 53.0**	**-0.1**
TK02				S	**Sb**	**05 40 05.7**	**+0.5**
JWZ	**Kozaga**	0.99	281	⇑P	**Pb**	**05 39 53.8**	**-0.1**
JWZ				S	**Sb**	**05 40 06.9**	**+0.3**
JKN	**Kiinagashima**	1.03	330	P	**Pb**	**05 39 54.6**	**0.0**
JKN				S	**Sb**	**05 40 07.0**	**-0.7**
JIE	**Ise**	1.04	352	⇓P	**Pn**	**05 39 55.1**	**+0.2**
JIE				S	**Sb**	**05 40 08.3**	**+0.1**
TK03	**Tokai 3**	1.21	48	S	**Sn**	**05 40 12.8**	**-0.3**
JAA	**Atsumi**	1.29	10	⇓P	**Pn**	**05 39 58.5**	**+0.1**
JAA				S	**Sn**	**05 40 14.9**	**-0.2**
TK04	**Tokai 4**	1.32	39	P	**Pn**	**05 39 58.8**	**0.0**
TK04				S	**Sn**	**05 40 15.6**	**-0.2**
JWM	**Minabe**	1.36	292	P	**Pn**	**05 39 59.5**	**+0.1**
JWM				S	**Sn**	**05 40 16.0**	**-0.8**
TSUJ	**Tsu 2**	1.41	344	P	**Pn**	**05 40 00.4**	**+0.4**
TSUJ				S	**Sn**	**05 40 17.6**	**-0.3**
JHE	**Heguri**	1.63	323	P	**Pn**	**05 40 03.6**	**+0.4**
JHE				S	**Sn**	**05 40 23.0**	**-0.6**
MAT	**Matsushiro**	3.36	19	P	**Pn**	**05 40 28.0**	**+0.1**
MAT				S	**Sn**	**05 41 02.9**	**-4.7**
SONM	**Songino Array**	27.08	311	P	**P**	**05 45 20.4**	**+2.2**
	0.5nm,0.7s,mb3.1,baz=111,slow=8.7,SNR=3.6						
ZAL	**Zalesovo**	41.80	316	LR	LR	06 06 22.8	
	comp=Z,176nm,18.5s,MS4.0,baz=283,slow=37						
MKAR	**Makanchi Array**	43.04	305	P	**P**	**05 47 37.0**	**+2.1**
	1.1nm,0.7s,mb3.7,baz=92,slow=9.1,SNR=7.5						
WRA	**Warramunga Arr**	53.05	183	P	**P**	**05 48 51.5**	**-1.8**
	1.5nm,1.1s,mb3.9,baz=7.1,slow=7.7,SNR=4.6						
ASAR	**Alice Springs**	56.77	183	P	**P**	**05 49 19.9**	**-0.4**
	0.7nm,0.9s,mb3.7,slow=7.2,SNR=4.3						

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*JMA **07** 05:45:54.6±0.1, 32.92N×137.43E, h43^{km}±3^{km}, M3.5*

ISC 07 05:45:54.7±1.5**, 32.91N**±0.08×**137.43E**±0.05**, h43**^{km}±32^{km}**, n15, σ0^{s}43**/24**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	**Tokai 1**	0.86	9	P	**P**	**05 46 10.3**	**-0.2**
TK01				*e*S	**S**	**05 46 22.2**	**0.0**
TK02	**Tokai 2**	1.07	15	P	**P**	**05 46 13.4**	**0.0**
TK03	**Tokai 3**	1.33	20	P	**P**	**05 46 17.3**	**0.0**
TK04	**Tokai 4**	1.52	14	P	**P**	**05 46 19.9**	**0.0**
JWZ	**Kozaga**	1.56	294	P	**P**	**05 46 20.4**	**-0.2**
JWZ				*e*S	**S**	**05 46 39.1**	**-0.7**
JIE	**Ise**	1.59	338	P	**P**	**05 46 21.5**	**+0.5**
JIE				*e*S	**S**	**05 46 41.4**	**+0.8**
JKN	**Kiinagashima**	1.65	324	P	**P**	**05 46 21.9**	**+0.1**
JKN				*e*S	**S**	**05 46 40.9**	**-1.1**
JAA	**Atsumi**	1.73	352	P	**P**	**05 46 23.0**	**+0.1**
JAA				*e*S	**S**	**05 46 43.9**	**-0.1**
JWM	**Minabe**	1.97	299	P	**P**	**05 46 26.6**	**+0.3**
JWM				*e*S	**S**	**05 46 49.5**	**-0.4**
TSUJ	**Tsu 2**	1.98	335	*e*S	**S**	**05 46 50.5**	**+0.3**
JWY	**Kouya**	2.01	311	*e*S	**S**	**05 46 51.5**	**+0.5**
JIZS	**Izushimoda**	2.17	33	*e*S	**S**	**05 46 54.3**	**-0.6**
SHZ3	**Shizuoka 3**	2.24	17	P	**P**	**05 46 29.9**	**-0.3**
SHZ3				*e*S	**S**	**05 46 56.9**	**0.0**
JHE	**Heguri**	2.27	321	P	**P**	**05 46 31.1**	**+0.6**
JHE				*e*S	**S**	**05 46 57.4**	**0.0**
MAT	**Matsushiro**	3.68	10	P	**P**	**05 46 51.2**	**+0.6**
MAT				S	**S**	**05 47 33.0**	**-0.2**

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*ATH **07** 05:46:24.4, 37.14N×27.59E, h22^{km}, MD3.5/3*

*ISK **07** 05:46:27.0, 36.92N×27.53E, h11^{km}, MD3.3*

ISC 07 05:46:26.2±1.2**, 36.88N**±0.05×**27.48E**±0.06**, h2**^{km}±9^{km}**, n12, σ0^{s}73**/16**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NISR	**Nisiros**	0.39	227	*e*PN	**Pn**	**05 46 37.1**	**-1.3**
MLSB	**Milas**	0.48	29	*i* PG	**Pg**	**05 46 35.6**	**-0.1**
MLSB				*i* SG	**Sg**	**05 46 42.3**	**+0.3**
YER	**Yerkesik**	0.69	68	*i* PG	**Pg**	**05 46 40.0**	**+0.1**
YER				*i* SG	**Sg**	**05 46 49.3**	**+0.2**
ARG	**Arkhangelos**	0.84	142	*e*PN	**Pn**	**05 46 44.0**	**-0.8**
ARG				*e*SN	**Sn**	**05 46 58.3**	**+0.4**
DALT	**Dalyan (Mudla)**	0.93	96	*i* PG	**Pg**	**05 46 44.8**	**0.0**
KARP	**Karpathos**	1.36	191	*e*PN	**Pn**	**05 46 53.8**	**+1.6**
DNZL	**Cakiroluk**	1.49	57	*i* P	**Pn**	**05 46 53.3**	**-0.7**
DNZL				*i* S	**Sb**	**05 47 14.3**	**+0.9**
DENT	**Denizli**	1.51	54	PN	**Pn**	**05 46 53.7**	**-0.7**
IZM	**Izmir**	1.52	353	PN	**Pn**	**05 46 54.3**	**-0.3**
APE	**Apeiranthos**	1.57	277	*e*PN	**Pn**	**05 46 56.5**	**+1.2**
ELL	**Elmali**	1.95	93	PN	**Pn**	**05 47 00.2**	**-0.5**
AKS	**Akhisar**	2.01	7	PN	**Pn**	**05 47 01.4**	**-0.2**

IGQ 07 05:56:14.3, 2.28S×77.05W, h20^{km}±5^{km}**, mb4.3, 3C-14D, Error ellipse: s-maj=6.0km s-min=1.9km az=96.3, Peru-Ecuador border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PATA	**Patacocha**	1.59	299	⇓P	Pn	05 56 43.9	+2.3
PATA				S	Sn	05 57 03.8	+2.1
ULBA	**Ulba**	1.59	301	P	Pn	05 56 44.2	+2.5
ULBA				S	Sn	05 57 05.8	+3.9
ARRY	**Arrayan**	1.60	299	⇓P	Pn	05 56 43.8	+1.9
ARRY				S	Sn	05 57 04.3	+2.1
RUN2	**Runtun**	1.61	302	⇑P	Pn	05 56 44.1	+2.1
RETU	**Refugio**	1.62	301	⇓P	Pn	05 56 44.3	+2.1
JUIV	**Juive**	1.65	301	⇓P	Pn	05 56 44.5	+1.9
JUIV				S	Sn	05 57 06.5	+3.1
CUSU	**Cusua**	1.66	300	⇑P	Pn	05 56 44.8	+2.2
CUSU				S	Sn	05 57 07.8	+4.3
IGUA	**Igualata**	1.77	296	P	Pn	05 56 46.7	+2.4
PISA	**Pisayambo**	1.81	312	⇓P	Pn	05 56 47.2	+2.4
PISA				S	Sn	05 57 11.0	+3.6
TAMB	**Tambo**	2.06	320	⇓P	Pn	05 56 51.2	+2.8
TAMB				S	Sn	05 57 16.7	+3.0
VC1	**Cotopaxi 1**	2.12	320	⇓P	Pn	05 56 52.3	+3.0
ANTI	**Antisana**	2.13	329	⇓P	Pn	05 56 51.8	+2.3
ANTI				S	Sn	05 57 19.3	+3.6
NAS1	**Nasa**	2.17	319	P	Pn	05 56 52.8	+2.8
CONE	**Cono NE Rev Vo**	2.28	345	P	Pn	05 56 53.4	+1.9
QIL1	**Quilotoa**	2.37	307	⇑P	Pn	05 56 56.1	+3.3
ELAGU	**Cayambe Volc**	2.43	337	⇓P	Pn	05 56 56.3	+2.5
CAYR	**Refugio Cayamb**	2.48	337	⇓P	Pn	05 56 57.3	+2.9
CAYR				S	Sn	05 57 25.6	+1.2
CAYA	**Cayambe**	2.52	338	⇓P	Pn	05 56 57.8	+2.8
JUA2	**San Juan 2**	2.58	323	⇓P	Pn	05 56 57.4	+1.6
GGP	**Refugio Guagua**	2.60	324	P	Pn	05 56 58.0	+1.8
CGGP	**Crater GGP**	2.61	323	P	Pn	05 56 58.0	+1.8
PINO	**Pino**	2.62	324	⇓P	Pn	05 56 58.3	+1.8
YANA	**Yana**	2.63	325	⇓P	Pn	05 56 58.2	+1.6
YANA				S	Sn	05 57 30.4	+2.1
JOR1	**San Jorge 1**	2.77	325	P	Pn	05 56 57.5	-1.1
COTA	**Cotacachi**	2.90	334	P	Pn	05 57 01.9	+1.5

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*NIED **07** 06:10:00, 33.10N×137.30E, h5^{km}, Mw5.0 Best double couple: M$_0$3.05×10^{16} NP1:φ$_s$264°, δ65°, λ104°. NP2:φ$_s$53°, δ28°, λ63°.*

*ORF **07** 06:10:02.2, 32.19N×138.05E, h30^{km}, mb5.5*

*NEIC **07** 06:10:02.7±0.1, 33.17N×137.16E, h10^{km}, mb5.3/98, MW5.0(NIED), Error ellipse: s-maj=3.2km s-min=2.6km az=159.0*

NEIC Recorded [1 JMA] in Aichi, Mie, Nara, Osaka, Shiga and Wakayama Prefectures.

*JMA **07** 06:10:02.8±0.1, 33.16N×137.27E, h42^{km}±2^{km}, M5.0*

JMA Felt I J1.

*HRVD **07** 06:10:02.7±0.3, 33.17N×137.17E, h14^{km}±1^{km}, MW5.0/50, Centroid moment Tensor Solution. LP body waves: s12,c16;Mantle waves: s50,c85; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M$_{rr}$4.03±.37; M$_{\theta\theta}$-3.77±.25; M$_{\phi\phi}$-0.26±.18; M$_{r\theta}$1.18±.38; M$_{\theta\phi}$-1.45±.12; M$_{\phi r}$0.81±.43; Best double couple: M$_0$4.4×10^{16} NP1:φ$_s$256°, δ36°, λ98°. NP2:φ$_s$65°, δ54°, λ84°. Principal axes: T 4.29, Plg80°, Azm311°; N .23, Plg5°, Azm69°; P -4.52, Plg9°, Azm160°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*SYO **07** 06:10:02.4, 33.10N×137.17E, h10^{km}, MB5.3, MS4.5*

*BJI **07** 06:10:02.2, 33.08N×137.58E, h36^{km}, mB5.3, mb5.2, Ms4.9, Msz4.5*

*IDC **07** 06:10:05.9±0.3, 33.14N×137.27E, h29^{km}±1^{km}, mb4.8/25, mb1 4.8/30, mb1mx4.8/31, ML4.2/5, MS4.1/22, Ms1 4.1/22, ms1mx4.1/29, Error ellipse: s-maj=12.2km s-min=8.4km az=76.0*

*MOS **07** 06:10:06.0±0.9, 33.37N×137.09E, h31^{km}, mb5.3/32, MS4.5/27, Error ellipse: s-maj=14.3km s-min=6.5km az=112.9*

ISC 07 06:10:04.5±0.1**, 33.22N**±0.02×**137.21E**±0.02**, h29**^{km}**, h29**^{km}±.3^{km}**:pP-P, n418, σ0^{s}98**/420**, mb5.2**/142**, MS4.4**/44**, 38C-25D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	**Tokai 1**	0.63	30	P	**Pb**	**06 10 15.7**	**-1.2**
TK02	**Tokai 2**	0.86	32	⇓P	**Pn**	**06 10 19.1**	**-1.5**
TK03	**Tokai 3**	1.13	33	P	**Pn**	**06 10 23.0**	**-1.6**
JIE	**Ise**	1.24	340	P	**Pn**	**06 10 25.7**	**-0.4**
JIE				S	**Sn**	**06 10 42.1**	**+0.1**
TK04	**Tokai 4**	1.29	25	⇓P	**Pn**	**06 10 25.4**	**-1.4**
JWZ	**Kozaga**	1.29	284	P	**Pn**	**06 10 25.7**	**-1.1**
JWZ				S	**Sn**	**06 10 41.4**	**-1.8**
JKN	**Kiinagashima**	1.29	323	P	**Pn**	**06 10 26.1**	**-0.8**
JKN				S	**Sn**	**06 10 42.0**	**-1.3**
TSUJ	**Tsu 2**	1.63	336	⇓P	**Pn**	**06 10 31.1**	**-0.5**
TSUJ				S	**Sn**	**06 10 51.6**	**-0.2**
JWM	**Minabe**	1.67	293	⇓P	**Pn**	**06 10 31.6**	**-0.7**
JWM				S	**Sn**	**06 10 51.9**	**-1.0**
JWY	**Kouya**	1.68	307	P	**Pn**	**06 10 32.2**	**-0.1**
JWY				S	**Sn**	**06 10 52.7**	**-0.3**
JHE	**Heguri**	1.91	319	⇓P	**Pn**	**06 10 35.1**	**-0.6**
JHE				S	**Sn**	**06 10 58.9**	**-0.1**
SHZ3	**Shizuoka 3**	2.02	24	⇓P	**Pn**	**06 10 35.4**	**-1.9**
JIZS	**Izushimoda**	2.04	42	P	**Pn**	**06 10 35.7**	**-1.8**
JIZS				S	**Sn**	**06 10 58.5**	**-3.8**
JHJ	**Hachijo jima 2**	2.16	92	Pn	**Pn**	**06 10 36.6**	**-2.6**
	134nm,0.3s,baz=236,slow=10,SNR=21						
JHJ				Sn	**Sn**	**06 10 55.8**	**-10**
	325nm,0.3s,baz=91,slow=23,SNR=9.2						
JHJ2	**Mitsune**	2.19	92	P	**Pn**	**06 10 36.7**	**-3.0**
JHJ2				S	**Sn**	**06 11 02.6**	**-3.5**
JAI	**Aioi**	2.38	285	P	**Pn**	**06 10 41.7**	**-0.6**
JAI				S	**Sn**	**06 11 08.5**	**-2.3**
JIM2	**Oshima 3**	2.38	50	P	**Pn**	**06 10 40.9**	**-1.5**
JIM2				S	**Sn**	**06 11 07.4**	**-3.4**
JGM	**Miyama**	2.51	351	⇓P	**Pn**	**06 10 43.5**	**-0.7**
JYN	**Shimob**	2.53	26	P	**Pn**	**06 10 42.8**	**-1.7**
JWT	**Wachi**	2.55	324	⇓P	**Pn**	**06 10 44.4**	**-0.4**
JWT				S	**Sn**	**06 11 14.4**	**-0.7**
JOD2	**Odawara 2**	2.56	37	P	**Pn**	**06 10 43.0**	**-2.1**
MAJO	**Matsushiro**	3.42	14	*e*Pn	**Pn**	**06 10 56.2**	**-0.9**
MAT	**Matsushiro**	3.42	14	P	**Pn**	**06 10 56.2**	**-0.9**
MAT				S	**Sn**	**06 11 36.4**	**-0.7**
MAT	**Matsushiro**	3.42	14	*e*P	**Pn**	**06 10 56.0**	**-1.1**
MAT				*e*S	**Sn**	**06 11 36.0**	**-1.1**
JNU	**Nakatsue**	5.31	271	Pn	**Pn**	**06 11 22.0**	**-2.0**
	2.2nm,0.3s,baz=60,slow=7.8,SNR=6.3						
JNU				Sn	**Sn**	**06 12 24.9**	**-0.1**
	6.2nm,0.3s,baz=35,slow=18,SNR=3.8						
JNU				LR	LR	06 13 44.2	
	comp=Z,1μm,19.0s,baz=307,slow=41						
CBIJ	**Chichi jima**	7.47	144	Pn	**Pn**	**06 11 49.6**	**-4.7**
	38nm,0.3s,baz=270,slow=18,SNR=6.7						
CBIJ				Sn	**Sn**	**06 13 26.2**	**+7.3**
	9.0nm,0.3s,baz=90,slow=23,SNR=6.6						
CBIJ				LR	LR	06 13 50.9	
	comp=Z,871nm,21.6s,baz=286,slow=30						
JOW	**Kunigami**	10.02	233	Pn	**P**	**06 12 24.1**	**-5.6**
	5.9nm,0.3s,baz=162,slow=22,SNR=3.1						
JOW				LR	LR	06 16 08.8	
	comp=Z,540nm,19.3s,baz=317,slow=36						
ASAJ	**Asahikawa**	11.66	20	Pn	**P**	**06 12 48.5**	**-3.6**
	3.2nm,0.3s,baz=226,slow=14,SNR=39						
ASAJ				LR	LR	06 17 55.1	
	comp=Z,884nm,19.1s,baz=214,slow=40						
ASAJ	**Asahikawa**	11.66	20	P	**P**	**06 12 48.5**	**-3.5**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,884nm,19.1s						
MDJ	**Mudanjiang**	12.82	335	P	**P**	**06 13 08.9**	**+1.3**
MDJ				AMB	AMB		
	comp=Z,41nm,1.0s						
MDJ				AMB	AMB		
	comp=Z,366nm,7.5s						
MDJ				LR	LR		
	comp=N,987nm,22.6s						
MDJ				LR	LR		
	comp=E,637nm,23.7s						
MDJ				LR	LR		
	comp=Z,1μm,25.9s						
MDJ	**Mudanjiang**	12.82	335	P	**P**	**06 13 08.7**	**+1.1**
	comp=Z,46nm,1.1s						
SSE	**Sheshan**	13.74	265	*e*P	**P**	**06 13 17.7**	**-2.0**
SSE				AMB	AMB		
	comp=Z,46nm,0.6s						
SSE				AMB	AMB		
	comp=Z,347nm,4.1s						
SSE				LR	LR		
	comp=N,1μm,12.0s						
SSE				LR	LR		
	comp=E,2μm,12.1s						
SSE				LR	LR		
	comp=Z,2μm,10.8s						
CN2	**Changchun**	14.00	322	*e*P	**P**	**06 13 23.8**	**+0.7**
CN2				*e*S	**S**	**06 16 01.0**	**+2.7**
CN2				AMB	AMB		
	comp=Z,20nm,1.0s						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,1μm,14.0s						
CN2				LR	LR		
	comp=E,2μm,14.0s						
CN2				LR	LR		
	comp=Z,600nm,14.0s						
YSS	**Yuzh-Sakhalins**	14.35	15	⇑*e*P	**P**	**06 13 22.7**	**-5.0**
YSS				S	**S**	**06 16 04.0**	**-2.7**
YSS				pmax	pmax		
	comp=N,40nm,1.0s						
YSS				pmax	pmax		
	comp=Z,40nm,1.0s						
YSS				MLR	MLR		
	comp=N,700nm,16.0s						
YSS				MLR	MLR		
	comp=Z,1μm,16.0s						
YSS				MLR	MLR		
	comp=E,500nm,13.0s						
NJ2	**Nanjing**	15.51	271	*e*P	**P**	**06 13 42.0**	**-0.9**
NJ2				AP		06 13 47.9	
NJ2				PP	PP	06 13 55.0	-0.1
NJ2				AMB	AMB		
	comp=Z,30nm,0.7s						
NJ2				AMB	AMB		
	comp=Z,2μm,4.6s						
NJ2				LR	LR		
	comp=N,2μm,11.3s						
NJ2				LR	LR		
	comp=E,3μm,15.7s						
NJ2				LR	LR		
	comp=Z,3μm,14.5s						
TATO	**Taipei**	16.00	243	*e*P	**P**	**06 13 53.4**	**+4.2**
	comp=Z,288nm,1.3s						
KLR	**Kul'dur**	16.51	347	*e*P	**P**	**06 13 54.0**	**-1.5**
KLR				*e*		06 16 53.0	
KLR				pmax	pmax		
	comp=N,34nm,1.6s						
KLR				pmax	pmax		

	comp=Z,780nm,1.6s						
KLR				pmax	pmax		
	comp=Z,1µm,10.0s						
TIA	**Tai'an**	**16.78**	**286**	*e*P	**P**	**06 14 00.0**	**+1.0**
TIA				LR	LR		
	comp=N,763nm,10.0s						
TIA				LR	LR		
	comp=E,948nm,10.0s						
BJT	**Baijiatuau**	**18.18**	**298**	*e*P	**P**	**06 14 17.1**	**+0.6**
	comp=E,71nm,1.0s						
BJI	**Beijing**	**18.18**	**298**	*e*P	**P**	**06 14 22.1**	**+5.6**
BJI				AMB	AMB		
	comp=Z,63nm,0.9s						
BJI				AMB	AMB		
	comp=Z,1µm,4.7s						
BJI				LR	LR		
	comp=N,2µm,17.9s						
BJI				LR	LR		
	comp=E,973nm,15.4s						
BJI				LR	LR		
	comp=Z,618nm,33.9s						
QZH	**Quanzhou**	**18.23**	**248**	⇓*i*P	**P**	**06 14 16.6**	**-0.6**
QZH				AMB	AMB		
	comp=Z,170nm,1.0s						
WHN	**Wuhan**	**19.59**	**268**	⇑P	**P**	**06 14 33.8**	**+0.6**
WHN				AMB	AMB		
	comp=Z,76nm,0.9s						
HIA	**Hailar**	**20.65**	**326**	*e*P	**P**	**06 14 43.0**	**-1.3**
	comp=Z,79nm,1.1s						
TIY	**Taiyuan**	**20.65**	**290**	⇑P	**P**	**06 14 42.0**	**-2.4**
TIY				S	**S**	**06 18 37.0**	**+8.3**
TIY				LR	LR		
	comp=N,2µm,14.0s						
TIY				LR	LR		
	comp=Z,1µm,14.0s,MS4.4						
GUMO	**Guam**	**20.75**	**159**	*e*P	**P**	**06 14 43.5**	**-2.0**
	comp=Z,233nm,1.1s						
HHC	**Hu-ho-hao-te**	**21.79**	**298**	*e*P	**P**	**06 14 59.3**	**+3.4**
HHC				AP		06 15 03.0	
HHC				PP	PP	06 15 24.8	+3.6
HHC				S	**S**	**06 18 58.6**	**+8.4**
HHC				LR	LR		
	comp=N,903nm,19.0s						
HHC				LR	LR		
	comp=E,1µm,11.3s						
HHC				LR	LR		
	comp=Z,933nm,11.1s						
SKR	**Severo-Kuril's**	**22.30**	**33**	*e*P	**P**	**06 15 01.6**	**+0.7**
SKR				*e*		06 15 16.2	
SKR				*e*		06 15 24.0	
SKR				*e*S	**S**	**06 19 06.0**	**+6.5**
SKR				*e*SS	SS	06 19 56.0	+16
SKR				pmax	pmax		
	comp=Z,1µm,2.0s,mb5.9						
SKR				pmax	pmax		
	comp=N,220nm,1.0s						
SKR				pmax	pmax		
	comp=E,220nm,1.0s						
SKR				pmax	pmax		
	comp=Z,250nm,1.0s,mb5.6						
SKR				smax			
	comp=N,1µm,10.0s						
SKR				smax			
	comp=E,1µm,10.0s						
SKR				MLR	MLR		
	comp=N,1µm,12.0s,MS4.6						
SKR				MLR	MLR		
	comp=E,1µm,12.0s,MS4.6						
SKR				MLR	MLR		
	comp=Z,1µm,12.0s,MS4.5						
BTO	**Baotou**	**22.90**	**297**	*e*P	**P**	**06 15 08.7**	**+1.9**
BTO				AMB	AMB		
	comp=Z,127nm,0.9s,mb5.3						
BTO				LR	LR		
	comp=N,3µm,13.3s,MS5.1						
BTO				LR	LR		
	comp=E,4µm,12.0s,MS5.1						
ENH	**Enshi**	**23.73**	**270**	*e*P	**P**	**06 15 15.9**	**+0.8**
	comp=E,107nm,0.7s,mb5.4						
LQP	**Lukban**	**23.77**	**221**	*e*P	**P**	**06 15 15.8**	**+0.3**
PET	**Petropavlovsk**	**25.06**	**31**	*e*P	**P**	**06 15 28.2**	**+0.6**
PET				*e*S	**S**	**06 19 47.4**	**+0.1**
PET				*e*SSS	SSS	06 21 07.3	+3.3
PET				pmax	pmax		
	comp=Z,500nm,7.3s						
PET				pmax	pmax		
	comp=Z,152nm,1.1s,mb5.4						
PET				pmax	pmax		
	comp=Z,400nm,4.3s						
PET				pmax	pmax		
	comp=Z,200nm,8.2s						
PET				smax			
	comp=E,100nm,10.9s						
PET				smax			
	comp=E,400nm,7.8s						
PET				MLR	MLR		
	comp=Z,300nm,20.0s,MS3.8						
PET	**Petropavlovsk**	**25.06**	**31**	*e*P	**P**	**06 15 27.7**	**+0.1**
	comp=Z,165nm,1.0s,mb5.5						
CLNS	**Chul'man**	**25.09**	**344**	*e*P	**P**	**06 15 29.1**	**+1.2**
CLNS				*e*		06 15 41.1	
CLNS				*e*PPP	PPP	06 16 01.5	-15
CLNS				*e*		06 19 08.3	
CLNS				*e*S	**S**	**06 19 43.3**	**-4.5**
CLNS				pmax	pmax		
	comp=Z,39nm,0.9s,mb4.9						
CLNS				pmax	pmax		
	comp=N,19nm,1.1s						
CLNS				pmax	pmax		
	comp=E,9.0nm,1.1s						
CLNS				pmax	pmax		
	comp=Z,44nm,0.9s,mb5.0						
CLNS				pmax	pmax		
	comp=N,44nm,1.1s						
CLNS				pmax	pmax		
	comp=E,18nm,0.9s						
CLNS				smax			
	comp=N,459nm,11.2s						
CLNS				smax			
	comp=Z,155nm,11.5s						
CLNS				smax			
	comp=E,121nm,9.8s						
CLNS				MLR	MLR		
	comp=Z,1µm,20.0s,MS4.3						
CLNS				MLR	MLR		
	comp=N,500nm,11.0s						
CLNS				MLR	MLR		
	comp=E,100nm,11.0s						
SONM	**Songino Array**	**27.38**	**311**	P	**P**	**06 15 50.2**	**+1.1**
	comp=E,12nm,1.0s,mb4.4,baz=117,slow=8.3,SNR=14						
SONM				pP	pP	06 15 59.0	+1.4
	comp=E,37nm,1.0s,baz=123,slow=3.6,SNR=13						
SONM				PcP	PcP	06 19 07.8	-0.2
	comp=E,3.2nm,0.9s,baz=128,slow=2.4,SNR=3.6						
SONM				pPcP		06 19 16.6	
	comp=E,3.7nm,0.9s,baz=180,slow=3.7,SNR=3.9						
LZH	**Lanzhou**	**27.52**	**285**	P	**P**	**06 15 50.2**	**-0.3**
LZH				AP	pP	06 15 56.4	-2.7
LZH				XS		06 20 50.0	
LZH				AMB	AMB		
	comp=Z,130nm,1.4s,mb5.4						
LZH				AMB	AMB		
	comp=Z,290nm,5.3s						
LZH				LR	LR		
	comp=N,2µm,14.5s						
LZH				LR	LR		
	comp=Z,2µm,16.4s,MS4.7						
MA2	**Magadan**	**27.86**	**15**	*e*P	**P**	**06 15 53.3**	**0.0**
MA2				*e*		06 16 49.8	
MA2				*e*S	**S**	**06 20 31.0**	**-2.1**
MA2				*e*SSS	SSS	06 22 10.0	-2.7
MA2				pmax	pmax		
	comp=Z,20nm,0.8s,mb4.8						
MA2				pmax	pmax		
	comp=N,10.0nm,0.9s						
MA2				MLR	MLR		
	comp=Z,900nm,13.9s,MS4.5						
MA2	**Magadan**	**27.86**	**15**	*e*P	**P**	**06 15 53.3**	**0.0**
	comp=Z,73nm,0.8s,mb5.4						
CD2	**Chengdu**	**28.38**	**275**	P	**P**	**06 15 57.7**	**-0.6**
CD2				PP	PP	06 16 52.6	+2.7
CD2				PPP	PPP	06 17 09.7	+7.4
CD2				S	**S**	**06 20 49.3**	**+7.5**
CD2				AMB	AMB		
	comp=Z,70nm,1.3s,mb5.1						
CD2				AMB	AMB		
	comp=Z,490nm,5.1s						
CD2				LR	LR		
	comp=E,2µm,14.9s						
CD2				LR	LR		
	comp=Z,2µm,14.1s,MS4.8						
BOD	**Bodaibo**	**29.20**	**334**	*e*P	**P**	**06 16 03.7**	**-1.7**
YAK	**Yakutsk**	**29.23**	**353**	*e*P	**P**	**06 16 07.1**	**+1.4**
YAK				*e**PP	pP	06 16 16.8	+2.5
YAK				*e*		06 16 58.0	
YAK				*e*		06 19 11.2	
YAK				*e*S	**S**	**06 20 56.8**	**+1.7**
YAK				*e*SSS	SSS	06 22 44.8	-1.9
YAK				pmax	pmax		
	comp=Z,31nm,1.1s,mb5.0						
YAK				pmax	pmax		
	comp=N,31nm,1.3s						
YAK				pmax	pmax		
	comp=E,7.0nm,1.2s						
YAK				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.7						
YAK				pmax	pmax		
	comp=N,9.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,8.0nm,1.1s						
YAK				smax			
	comp=N,61nm,13.6s						
YAK				MLR	MLR		
	comp=Z,531nm,22.0s,MS4.1						
YAK				MLR	MLR		
	comp=N,434nm,19.0s,MS4.3						
YAK				MLR	MLR		
	comp=E,478nm,16.0s,MS4.3						
YAK	**Yakutsk**	**29.23**	**353**	*e*P	**P**	**06 16 06.6**	**+0.9**
	comp=E,103nm,0.9s,mb5.6						
ZAK	**Zakamensk**	**30.21**	**315**	*e*P	**P**	**06 16 15.3**	**+0.8**
ZAK				*e*		06 17 21.1	
GTA	**Gaotai**	**30.60**	**292**	*e*P	**P**	**06 16 17.7**	**-0.4**
GTA				AP	pP	06 16 27.1	+0.4
GTA				XP	sP	06 16 31.2	+0.7
GTA				PP	PP	06 17 18.3	-0.5
GTA				PCP	PcP	06 19 15.6	-0.6
GTA				S	**S**	**06 21 16.7**	**-0.4**
GTA				XS		06 21 32.3	
GTA				SCP		06 22 53.8	
GTA				AMB	AMB		
	comp=Z,73nm,4.6s						
GTA				LR	LR		
	comp=N,319nm,17.9s,MS4.3						
GTA				LR	LR		
	comp=E,412nm,14.5s,MS4.3						
GTA				LR	LR		
	comp=Z,483nm,13.7s,MS4.3						
KMI	**Kunming**	**31.05**	**264**	*e*P	**P**	**06 16 21.6**	**-0.6**
KMI				AP	pP	06 16 31.5	+0.7
KMI				PP	PP	06 17 25.4	+0.7
KMI				XS		06 21 38.2	
KMI				AMB	AMB		
	comp=Z,129nm,5.7s						
KMI				LR	LR		
	comp=N,675nm,11.9s,MS4.8						
KMI				LR	LR		
	comp=E,1µm,12.3s,MS4.8						
KMI				LR	LR		
	comp=Z,960nm,12.1s,MS4.7						
SEY	**Seymchan**	**31.24**	**13**	*e*P	**P**	**06 16 24.0**	**+0.5**
SEY				*e*	pP	06 16 33.2	+1.1
SEY						06 17 28.2	
SEY						06 19 15.7	
SEY				*e*S	**S**	**06 21 26.9**	**0.0**
SEY				pmax	pmax		
	comp=Z,30nm,0.9s,mb5.1						
SEY				MLR	MLR		
	comp=Z,650nm,16.0s,MS4.4						
MOY	**Mondy**	**32.03**	**316**	*e*P	**P**	**06 16 35.6**	**+5.1**
UBT	**Ubonrachathani**	**34.18**	**246**	P	**P**	**06 16 51.5**	**+1.9**
KKTK	**Khon Kaen**	**35.25**	**250**	P	**P**	**06 16 59.0**	**+0.3**
	comp=Z,494nm,1.0s						
CHG	**Chiang Mai**	**37.04**	**257**	⇑P	**P**	**06 17 14.0**	**+0.2**
	comp=Z,35nm,0.8s,mb5.2						
CMAR	**Chiang Mai Arr**	**37.22**	**256**	P	**P**	**06 17 15.7**	**+0.4**
	comp=Z,15nm,0.7s,mb5.0,baz=49,slow=7.4,SNR=71						
CMAR				LR	LR	06 34 56.8	
	comp=Z,308nm,18.7s,MS4.1,baz=70,slow=40						
CMAR	**Chiang Mai Arr**	**37.22**	**256**	P	**P**	**06 17 15.7**	**+0.4**
CMAR				pmax	pmax		
	comp=Z,15nm,0.7s						
CMAR				MLR	MLR		
	comp=Z,309nm,18.7s						
NST	**Nakhon Sawan**	**37.76**	**252**	P	**P**	**06 17 19.0**	**-0.8**
	comp=Z,42nm,1.0s,mb5.1						
BDT	**Bhumibol Dam**	**37.80**	**255**	P	**P**	**06 17 20.0**	**-0.2**
	comp=Z,16nm,0.8s,mb4.8						
TIXI	**Tiksi**	**38.75**	**356**	*e*P	**P**	**06 17 26.8**	**-0.8**
TIXI				*i*	pP	06 17 36.5	+0.2
TIXI				*e*		06 19 39.0	
TIXI				*i* S	**S**	**06 23 21.9**	**-0.6**
TIXI				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.7						
TIXI				MLR	MLR		
	comp=Z,100nm,15.0s,MS3.8						
LSA	**Lhasa**	**39.21**	**278**	P	**P**	**06 17 32.4**	**+0.6**
WMQ	**Urumqi**	**39.63**	**300**	P	**P**	**06 17 36.0**	**+0.8**
WMQ				AP	pP	06 17 40.4	-3.6
WMQ				PP	PP	06 19 11.2	+1.1
WMQ				*e*S	**S**	**06 23 39.0**	**+2.8**
WMQ				AMB	AMB		
	comp=Z,33nm,1.3s,mb4.9						
WMQ				LR	LR		
	comp=N,386nm,20.0s,MS4.4						
WMQ				LR	LR		
	comp=E,344nm,20.0s,MS4.4						
WMQ				LR	LR		
	comp=Z,396nm,21.0s,MS4.2						
NNT	**Nongplab**	**39.87**	**248**	P	**P**	**06 17 38.3**	**+0.9**
SHL	**Shillong**	**39.97**	**271**	*e*P	**P**	**06 17 37.0**	**-1.2**
SHL				*e*		06 24 12.5	
ZAL	**Zalesovo**	**42.09**	**316**	P	**P**	**06 17 55.9**	**+0.6**
	comp=Z,5.2nm,1.0s,mb4.1,baz=291,slow=12,SNR=4.2						
ZAL				pP	pP	06 18 04.3	+0.3
	comp=Z,16nm,1.1s,baz=279,slow=11,SNR=10						
ZAL				LR	LR	06 36 30.4	
	comp=Z,1µm,18.1s,MS4.8,baz=289,slow=38						
ZAL	**Zalesovo**	**42.09**	**316**	P	**P**	**06 17 55.9**	**+0.7**
ZAL				*PP	pP	06 18 04.3	+0.3
ZAL				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ZAL				pmax	pmax		
	comp=N,16nm,1.1s						
ZAL				MLR	MLR		
	comp=Z,1µm,18.1s						
SNG	**Songkhla**	**42.65**	**241**	P	**P**	**06 18 01.0**	**+0.6**
NVS	**Novosibirsk**	**43.12**	**317**	*e*P	**P**	**06 18 02.9**	**-0.7**
NVS				pmax	pmax		
	comp=Z,41nm,1.0s,mb5.1						
NVS				pmax	pmax		
	comp=E,35nm,1.1s						
MKAR	**Makanchi Array**	**43.35**	**305**	P	**P**	**06 18 06.4**	**+0.8**
	comp=E,9.3nm,0.7s,mb4.6,baz=90,slow=9.7,SNR=52						
MKAR				pP	pP	06 18 16.0	+1.7
	comp=E,40nm,0.8s,baz=93,slow=9.7,SNR=37						
MKAR				PcP	PcP	06 19 53.9	-0.6
	comp=E,10nm,0.8s,baz=78,slow=4.5,SNR=6.1						
MKAR				pPcP		06 20 02.9	
	comp=E,13nm,0.8s,baz=90,slow=4.9,SNR=5.2						
MKAR				LR	LR	06 36 54.6	
	comp=E,372nm,20.1s,MS4.3,baz=95,slow=37						
MKAR	**Makanchi Array**	**43.35**	**305**	P	**P**	**06 18 06.4**	**+0.8**
MKAR				*PP	pP	06 18 16.0	+1.6
MKAR						06 19 53.9	
MKAR				pmax	pmax		
	comp=Z,9.0nm,0.7s						
MKAR				pmax	pmax		
	comp=N,40nm,0.8s						
MKAR				pmax	pmax		
	comp=Z,11nm,0.8s						
MKAR				pmax	pmax		
	comp=N,13nm,0.8s						
MKAR				MLR	MLR		
	comp=Z,372nm,20.1s						
MKAR	**Makanchi Array**	**43.35**	**305**	P	**P**	**06 18 06.4**	**+0.8**
MKAR				pP	pP	06 18 16.0	+1.7
MKAR				PcP	PcP	06 19 53.9	-0.6
MKAR				pPcP		06 20 02.9	
GUN	**Gumba**	**44.16**	**277**	*e*P	**P**	**06 18 13.0**	**+0.6**
	comp=Z,132nm,1.0s,mb5.6						
PKI	**Pulchoki**	**44.67**	**277**	*e*P	**P**	**06 18 16.3**	**-0.3**
	comp=Z,67nm,1.0s,mb5.4						
KKN	**Kakani**	**44.70**	**277**	*e*P	**P**	**06 18 16.6**	**-0.2**
	comp=Z,82nm,0.8s,mb5.6						
DMN	**Daman**	**44.91**	**277**	*e*P	**P**	**06 18 18.1**	**-0.4**
	comp=Z,39nm,0.8s,mb5.3						
GKN	**Gorkha**	**45.16**	**278**	*e*P	**P**	**06 18 20.2**	**-0.3**
	comp=Z,115nm,1.1s,mb5.6						
KURK	**Kurchatov**	**45.68**	**311**	P	**P**	**06 18 24.0**	**-0.3**
	comp=Z,250nm,1.3s,mb6.0,SNR=26						
KURK	**Kurchatov**	**45.68**	**311**	*i* P	**P**	**06 18 24.4**	**+0.1**
KURK				pmax	pmax		
	comp=Z,28nm,1.1s,mb5.1						
KURK	**Kurchatov**	**45.68**	**311**	*e*P	**P**	**06 18 24.2**	**-0.1**
	comp=Z,40nm,0.8s,mb5.4						
KURK				*e*	pP	06 18 33.3	+0.2
TNA	**Tin City**	**45.85**	**28**	*e*P	**P**	**06 18 26.4**	**+1.0**
	comp=Z,80nm,0.8s,mb5.7						
TNA				*e*	pP	06 18 35.6	+1.4
KAKA	**Kakadu**	**45.89**	**187**	⇑*i*P	**P**	**06 18 24.0**	**-2.4**
	comp=Z,21nm,0.8s,mb5.1						
KAKA				*e*	pP	06 18 33.2	-2.0
KOLN	**Koldanda**	**46.10**	**278**	*e*P	**P**	**06 18 27.3**	**-0.6**
	comp=Z,89nm,1.0s,mb5.7						
JOSI	**Joshimath**	**48.49**	**283**	*e*P	**P**	**06 18 48.0**	**+1.4**
JOSI				*e*		06 18 51.4	
	comp=Z,336nm,0.7s						
TKM2	**Tokmak 2**	**48.49**	**300**	P	**P**	**06 18 47.7**	**+1.2**
	SNR=11						
KSH	**Kashi**	**48.88**	**296**	P	**P**	**06 18 51.0**	**+1.5**
KSH				AP	pP	06 18 55.3	-3.1
KSH				PP	PP	06 20 45.4	+2.5
KSH				SCP		06 24 07.9	
KSH				PCS		06 24 09.9	
KSH				S	**S**	**06 25 54.5**	**+4.3**
KSH				SCS	ScS	06 28 39.6	+2.9
KSH				SS	SS	06 29 20.8	+4.4
KSH				LR	LR		
	comp=N,1µm,18.1s						
KSH				LR	LR		
	comp=E,380nm,12.0s						
KBK	**Karagaybulak**	**49.01**	**300**	P	**P**	**06 18 51.4**	**+0.9**
	SNR=5.4						
FRU	**Bishkek**	**49.22**	**300**	*e*P	**P**	**06 18 52.5**	**+0.4**
FRU				*e*	pP	06 19 02.0	+1.0
FRU				pmax	pmax		
	comp=Z,40nm,2.0s,mb5.1						
FRU				MLR	MLR		
	comp=Z,1µm,15.0s,MS4.9						
USP	**Ospenovka**	**49.22**	**301**	P	**P**	**06 18 52.5**	**+0.4**
	SNR=7.2						
AAK	**Ala-Archa**	**49.34**	**300**	P	**P**	**06 18 54.0**	**+0.9**
	SNR=6.0						
AAK	**Ala-Archa**	**49.34**	**300**	*e*P	**P**	**06 18 52.5**	**-0.5**
	comp=Z,19nm,0.8s,mb5.2						
UCH	**Uchtor**	**49.41**	**300**	P	**P**	**06 18 55.1**	**+1.5**
	SNR=12						
EKS2	**Erkin-Say**	**49.86**	**300**	P	**P**	**06 18 57.4**	**+0.4**
	SNR=5.4						
AML	**Almayashu**	**50.02**	**300**	P	**P**	**06 18 59.6**	**+1.4**
	SNR=7.1						
VOSK	**Vostochnaya**	**50.34**	**314**	P	**P**	**06 18 59.9**	**-0.6**
VOSK				pmax	pmax		
	comp=Z,28nm,1.0s,mb5.2						
TTA	**Tatalina**	**50.50**	**33**	*e*P	**P**	**06 19 01.9**	**+0.3**
SVW	**Sparrevohn**	**50.61**	**35**	*e*P	**P**	**06 19 03.1**	**+0.7**
BVA0	**Borovoye Array**	**50.67**	**314**	*i* P	**P**	**06 19 02.7**	**-0.3**
BRVK	**Borovoye**	**50.73**	**314**	⇑*e*P	**P**	**06 19 02.9**	**-0.6**
	comp=Z,26nm,1.0s,mb5.1						
NDI	**New Delhi**	**51.05**	**282**	*e*P	**P**	**06 19 04.0**	**-2.2**
AYAN	**Aya Nagar**	**51.19**	**282**	*e*P	**P**	**06 19 06.6**	**-0.8**
AYAN				*e*		06 19 07.7	
	comp=Z,27nm,1.0s						
SONA	**Sohna**	**51.31**	**281**	*e*P	**P**	**06 19 07.6**	**-0.6**
SONA				*e*		06 19 08.8	
	comp=Z,24nm,0.6s						
ZRNK	**Zerenda**	**51.51**	**314**	P	**P**	**06 19 09.0**	**-0.4**
ZRNK				pmax	pmax		
	comp=Z,25nm,1.0s,mb5.1						
ZRNK	**Zerenda**	**51.51**	**314**	⇑*e*P	**P**	**06 19 08.9**	**-0.5**
	comp=Z,37nm,1.0s,mb5.3						
ZRNK				*e*	pP	06 19 17.8	-0.5
RSO	**Redoubt South**	**52.02**	**36**	*e*P	**P**	**06 19 13.1**	**-0.1**
KKAR	**Karatay Array**	**52.11**	**302**	*i* P	**P**	**06 19 13.8**	**-0.3**
KKAR				pmax	pmax		
	comp=Z,35nm,1.0s,mb5.2						
FITZ	**Fitzroy Crossi**	**52.21**	**194**	⇑*i*P	**P**	**06 19 13.6**	**-1.6**
	comp=Z,19nm,0.6s,mb5.2						
FITZ	**Fitzroy Crossi**	**52.21**	**194**	P	**P**	**06 19 13.7**	**-1.5**
	comp=Z,25nm,0.7s,mb5.3,baz=14,slow=6.7,SNR=47						
FITZ				pP	pP	06 19 23.2	-0.9
	comp=Z,11nm,0.6s,baz=11,slow=9.3,SNR=4.7						
FITZ				LR	LR	06 40 27.5	
	comp=Z,42nm,18.1s,MS3.5,baz=55,slow=35						
KDAK	**Kodiak Island**	**52.23**	**40**	⇑*e*P	**P**	**06 19 13.8**	**-1.0**
	comp=Z,158nm,0.8s,mb6.0						
KDAK				*e*	pP	06 19 22.9	-0.9
KDAK				*e*PcP	PcP	06 20 25.5	-0.5
SPU	**Mount Spurr**	**52.34**	**35**	*e*P	**P**	**06 19 15.6**	**+0.1**
KHET	**Khetri**	**52.42**	**282**	*e*P	**P**	**06 19 16.0**	**-0.7**
KHET				*e*		06 19 17.4	
	comp=Z,43nm,0.8s						
KGD	**Kothagudem**	**52.82**	**267**	*e*P	**P**	**06 19 17.8**	**-1.9**
KGD				*e*pP	pP	06 19 20.9	-7.7
KGD				*e*PP	PP	06 21 16.8	-3.7
KGD				*e*S	**S**	**06 26 46.8**	**+2.2**
KGD				*e*ScS	ScS	06 29 06.8	+3.0
WRAB	**Tennant Creek**	**52.92**	**183**	⇑*e*P	**P**	**06 19 18.0**	**-2.5**
	comp=Z,121nm,1.0s,mb5.8						
WRAB				*e*PcP	PcP	06 20 28.0	-1.1
WB2	**Warramunga Arr**	**52.93**	**183**	⇑*i*P	**P**	**06 19 18.1**	**-2.4**
WB2				*e*PCP	PcP	06 20 28.5	-0.6
WRA	**Warramunga Arr**	**52.93**	**183**	P	**P**	**06 19 18.4**	**-2.2**
	comp=Z,42nm,0.8s,mb5.4,baz=2.6,slow=7.8,SNR=161						
WRA				pP	pP	06 19 27.6	-1.9
	comp=Z,32nm,0.8s,baz=0.6,slow=7.8,SNR=14						
WRA				PcP	PcP	06 20 28.0	-1.1
	comp=Z,16nm,0.8s,baz=358,slow=4.2,SNR=8.4						
WRA				pPcP		06 20 37.8	
	comp=Z,4.9nm,0.9s,baz=23,slow=5.1,SNR=2.5						
WRA				LR	LR	06 38 25.9	
	comp=Z,148nm,19.5s,MS4.0,baz=5.0,slow=32						
WRA	**Warramunga Arr**	**52.93**	**183**	P	**P**	**06 19 18.4**	**-2.1**
WRA				*PP	pP	06 19 27.6	-1.9
WRA						06 20 28.0	
WRA				pmax	pmax		
	comp=Z,43nm,0.8s						
WRA				pmax	pmax		
	comp=N,32nm,0.8s						
WRA				pmax	pmax		
	comp=Z,16nm,0.8s						
WRA				pmax	pmax		
	comp=N,5.0nm,0.9s						
BHPL	**Bhopal**	**52.99**	**275**	*e*P	**P**	**06 19 18.9**	**-2.0**
BHPL				*e*		06 19 21.1	
	comp=Z,34nm,1.4s						
SLKM	**Skilak Lake**	**53.27**	**36**	*e*P	**P**	**06 19 18.1**	**-4.3**
MCK	**McKinley**	**53.70**	**32**	⇑*e*P	**P**	**06 19 24.9**	**-0.7**
	comp=Z,25nm,0.8s,mb5.2						
MCK				*e*	pP	06 19 33.9	-0.6
CTA	**Charters Tower**	**53.70**	**169**	*e*P	**P**	**06 19 24.0**	**-2.2**
	comp=Z,17nm,1.2s,mb4.8						
CTA	**Charters Tower**	**53.70**	**169**	LR	LR	06 39 33.7	
	comp=Z,110nm,20.4s,MS3.9,baz=45,slow=33						
CTAO	**Charters Tower**	**53.70**	**169**	*e*P	**P**	**06 19 23.7**	**-2.5**
	comp=Z,28nm,1.1s,mb5.1						
CTAO				*e*	pP	06 19 33.2	-1.9
PMR	**Palmer**	**53.73**	**35**	*e*P	**P**	**06 19 24.7**	**-1.1**
SML	**Sawmill**	**54.09**	**34**	⇑*e*P	**P**	**06 19 27.9**	**-0.6**
SML				*e*	pP	06 19 36.8	-0.6
COLA	**College**	**54.12**	**31**	*d i*P	**P**	**06 19 28.8**	**+0.2**
COLA				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
COLA	**College**	**54.12**	**31**	*e*P	**P**	**06 19 28.9**	**+0.3**
ILAR	**Eielson Array**	**54.54**	**31**	P	**P**	**06 19 30.8**	**-0.9**
	comp=Z,5.9nm,0.7s,mb4.7,baz=278,slow=6.3,SNR=42						
ILAR				pP	pP	06 19 40.3	-0.3
	comp=Z,20nm,0.8s,baz=292,slow=8.0,SNR=32						
ILAR				LR	LR	06 42 36.8	
	comp=Z,97nm,20.6s,MS3.9,baz=299,slow=36						
ILAR	**Eielson Array**	**54.54**	**31**	P	**P**	**06 19 30.8**	**-0.9**
ILAR				*PP	pP	06 19 40.3	-0.4
ILAR				pmax	pmax		
	comp=Z,6.0nm,0.7s						
ILAR				pmax	pmax		

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             comp=N,20nm,0.8s
ILAR                                   MLR      MLR
             comp=Z,97nm,20.6s
HYB    Hyderabad         54.66 268  i P      P         06 19 32.0 -1.2
HYB                                 e        pP        06 19 41.5 -0.6
HYB    Hyderabad         54.66 268  eP       P         06 19 32.0 -1.2
HYB                                 e        pP        06 19 41.5 -0.6
DIV    Divide            55.38  35⇑eP       P         06 19 37.5 -0.4
             comp=Z,194nm,0.9s,mb6.1
DIV                                 e        pP        06 19 46.7 -0.2
EYAK   Cordova Ski Ar    55.47  36⇑eP       P         06 19 38.2 -0.3
EYAK                                e        pP        06 19 47.4 -0.1
EYAK                                e                  06 19 52.7
CUD    Cuddapah          55.92 265  eP       P         06 19 42.5 +0.1
CUD                                 e        pP        06 19 51.6 +0.3
MBWA   Marble Bar        56.59 200⇑eP       P         06 19 45.0 -2.1
             comp=Z,50nm,0.7s,mb5.7
ASAR   Alice Springs     56.65 184   P       P         06 19 45.3 -2.3
             comp=Z,11nm,0.6s,mb5.1,baz=15,slow=9.8,SNR=84
ASAR                                 pP      pP        06 19 55.8 -0.8
             comp=Z,11nm,0.6s,baz=12,slow=14,SNR=11
ASAR                                 LR      LR        06 42 34.3
             comp=Z,123nm,18.0s,MS4.0,baz=3.5,slow=34
ASPA   Alice Springs     56.66 184⇑iP       P         06 19 45.3 -2.3
ASPA                                e        pP        06 19 55.6 -1.0
JASL   Jaisalmer         56.88 283  eP       P         06 19 48.4 -0.8
ARU    Arti              56.97 319⇓iP       P         06 19 49.7 +0.3
ARU                                 e                  06 20 44.2
ARU                                 i                  06 21 53.0
ARU                                 eS       S         06 27 42.8 +3.0
ARU                                 eSS      SS        06 31 26.0 -3.6
ARU                                  pmax    pmax
             comp=Z,50nm,0.9s,mb5.5
ARU                                  MLR     MLR
             comp=Z,400nm,21.0s,MS4.5
ARU                                  MLR     MLR
             comp=N,400nm,19.0s,MS4.8
ARU                                  MLR     MLR
             comp=E,500nm,17.0s,MS4.8
AB31   Akbulak array     57.79 311  i P      P         06 19 54.4 -0.9
AB31                                 pmax    pmax
             comp=Z,94nm,1.2s,mb5.7
POO    Poona             58.07 272⇓iP       P         06 19 55.0 -2.6
SIT    Sitka             61.52  38  eP       P         06 20 20.8  0.0
             comp=Z,37nm,1.0s,mb5.5
DLBC   Dease Lake        63.74  36⇑eP       P         06 20 36.0 +0.5
DLBC                                e        pP        06 20 45.5 +0.9
STKA   Stephens Creek    64.88 176⇑iP       P         06 20 41.4 -1.9
             comp=Z,29nm,0.9s,mb5.3
STKA                                e        pP        06 20 50.5 -1.9
STKA   Stephens Creek    64.88 176   P       P         06 20 41.5 -1.8
             comp=Z,31nm,0.7s,mb5.4,baz=342,slow=7.4,SNR=33
STKA                                 pP      pP        06 20 50.9 -1.6
             comp=Z,34nm,0.7s,baz=340,slow=8.2,SNR=14
STKA                                 LR      LR        06 49 44.6
             comp=Z,131nm,21.3s,MS4.1,baz=24,slow=37
ARCES  ARCESS Array B    66.33 339   P       P         06 20 53.8 +1.8
             comp=Z,7.7nm,0.9s,mb4.7,baz=56,slow=8.7,SNR=6.0
ARCES                                pP      pP        06 21 00.7 -0.4
             comp=Z,13nm,0.9s,baz=64,slow=9.2,SNR=3.5
ARCES                                LR      LR        06 54 02.8
             comp=Z,502nm,18.1s,MS4.8,baz=90,slow=40
ARCES  ARCESS Array B    66.33 339   P       P         06 20 53.8 +1.8
ARCES                                *PP     pP        06 21 00.7 -0.4
ARCES                                pmax    pmax
             comp=Z,8.0nm,0.9s
ARCES                                pmax    pmax
             comp=N,13nm,0.9s
ARCES                                MLR     MLR
             comp=Z,502nm,18.2s
KLBR   Kellerberrin      67.03 198  eP       P         06 20 54.8 -2.3
             comp=Z,34nm,0.9s,mb5.4
RES    Resolute Bay      67.12  13   P       P         06 20 56.6 -0.4
             comp=Z,85nm,0.8s,mb5.8
RES                                 e        pP        06 21 05.4 -0.7
NWAO   Narrogin (SRO)    68.43 198   P       P         06 21 04.5 -1.3
             comp=Z,26nm,0.8s,mb5.3,baz=50,slow=5.3,SNR=5.9
NWAO                                 pP      pP        06 21 14.4 -0.6
             comp=Z,16nm,0.8s,baz=79,slow=2.8,SNR=2.5
NWAO                                 LR      LR        06 51 53.9
             comp=Z,86nm,19.1s,MS4.0,baz=48,slow=37
NWAO   Narrogin (SRO)    68.43 198   P       P         06 21 04.5 -1.4
NWAO                                 *PP     pP        06 21 14.4 -0.6
NWAO                                 pmax    pmax
             comp=Z,26nm,0.8s
NWAO                                 pmax    pmax
             comp=N,16nm,0.8s
NWAO                                 MLR     MLR
             comp=Z,86nm,19.1s
YKW3   Yellowknife Ar    68.77  28⇑eP       P         06 21 06.7 -0.7
YKW3                                e        pP        06 21 16.1 -0.5
YKA    Yellowknife Ar    68.81  28   P       P         06 21 07.0 -0.6
             comp=Z,9.5nm,0.9s,mb4.7,baz=296,slow=6.0,SNR=25
YKA                                  pP      pP        06 21 16.4 -0.3
             comp=Z,24nm,0.9s,baz=304,slow=6.5,SNR=26
YKA                                  LR      LR        06 56 11.7
             comp=Z,80nm,18.4s,MS4.0,baz=20,slow=40
YKA    Yellowknife Ar    68.81  28   P       P         06 21 07.0 -0.7
YKA                                  *PP     pP        06 21 16.4 -0.4
YKA                                  pmax    pmax
             comp=Z,10.0nm,0.9s
YKA                                  pmax    pmax
             comp=N,24nm,0.9s
YKA                                  MLR     MLR
             comp=Z,80nm,18.4s
YKA    Yellowknife Ar    68.81  28   P       P         06 21 07.0 -0.6
YKA                                  pP      pP        06 21 16.4 -0.4
OBN    Obninsk           69.06 323deP       P         06 21 08.9 -0.4
OBN                                 i        pP        06 21 18.2 -0.3
OBN                                 e                  06 23 43.7
OBN                                  pmax    pmax
             comp=Z,15nm,0.5s,mb5.2
OBN                                  MLR     MLR
             comp=Z,800nm,15.0s,MS5.1
DAG    Danmarks Havn     69.24 354⇑iP       P         06 21 10.2 +0.1
             comp=Z,18nm,1.0s,mb5.0
GOF    Gofitskoye        70.04 311⇑iP       P         06 21 15.5  0.0
GOF                                  pmax    pmax
             comp=Z,70nm,1.3s,mb5.4
ZEI    Tsey              70.53 309  eP       P         06 21 18.0 -0.5
ZEI                                 e                  06 23 50.0
ZEI                                  pmax    pmax
             comp=Z,50nm,4.0s
ZEI                                  MLR     MLR
             comp=Z,500nm,18.0s,MS4.8
FINES  FINESS Array B    70.55 332   P       P         06 21 17.4 -0.9
             comp=Z,7.9nm,1.0s,mb4.6,baz=90,slow=5.7,SNR=8.3
FINES                                pP      pP        06 21 26.7 -0.7
             comp=Z,21nm,1.0s,baz=72,slow=6.0,SNR=12
FINES                                PcP     PcP       06 21 38.2 -1.2
             comp=Z,5.2nm,0.7s,baz=79,slow=9.7,SNR=4.3
FINES                                LR      LR        06 54 54.7
             comp=Z,172nm,19.5s,MS4.3,baz=357,slow=38
FINES  FINESS Array B    70.55 332   P       P         06 21 17.4 -0.9
FINES                                *PP     pP        06 21 26.7 -0.7
FINES                                                  06 21 38.3
FINES                                pmax    pmax
             comp=Z,8.0nm,1.0s
FINES                                pmax    pmax
             comp=N,21nm,1.0s
FINES                                pmax    pmax
             comp=Z,5.0nm,0.7s
FINES                                MLR     MLR
             comp=Z,172nm,19.5s
PGC    Sidney            71.46  44⇑eP       P         06 21 23.9 -0.2
             comp=Z,53nm,0.9s,mb5.5
PGC                                 e        pP        06 21 33.5 +0.3
OCWA   Octopus Mounta    71.48  45  eP       P         06 21 24.9 +0.8
             comp=Z,39nm,1.0s,mb5.3
OCWA                                e        pP        06 21 34.4 +1.1
STW    Striped Peak      71.58  44   P       P         06 21 25.6 +0.9
MBW    Mount Baker       72.29  43   P       P         06 21 29.3 +0.3
GNW    Green Mountain    72.37  44  eP       P         06 21 30.1 +0.6
GNW                                 e        pP        06 21 39.4 +0.8
JCW    Jim Creek         72.57  44   P       P         06 21 31.0 +0.4
RPW    Rockport          72.68  43   P       P         06 21 31.2  0.0
SOC    Sochi             72.83 311  eP       P         06 21 41.2 +8.9
SOC                                 e                  06 21 56.3
SOC                                 e                  06 24 12.5
SOC                                 eS       S         06 31 02.5 +7.5
SOC                                 e                  06 31 31.7
SOC                                 eSS      SS        06 35 33.0 -4.6
SOC                                 eSSS     SSS       06 38 50.1 +2.7
SOC                                  pmax    pmax
             comp=Z,67nm,0.9s,mb5.6
SOC                                  pmax    pmax
             comp=N,31nm,0.7s
SOC                                  pmax    pmax
             comp=E,52nm,1.1s
SOC                                  MLR     MLR
             comp=Z,333nm,20.0s,MS4.6
SOC                                  MLR     MLR
             comp=N,264nm,23.0s
SOC                                  MLR     MLR
             comp=E,95nm,17.0s
HTW    Haystack Looko    72.86  44   P       P         06 21 32.5 +0.2
FMW    Mount Fremont     73.36  45   P       P         06 21 35.8 +0.5
LON    Longmire          73.38  45  eP       P         06 21 34.9 -0.4
NLW    Nelson Butte      73.55  43   P       P         06 21 36.9 +0.6
ANN    Anapa             73.65 313  eP       P         06 21 36.9 -0.1
ANN                                 e*PP     pP        06 21 46.4 +0.3
ANN                                 eS       S         06 30 59.4 -4.7
ANN                                  pmax    pmax
             comp=Z,84nm,0.8s,mb5.7
ETW    Entiat            73.80  43   P       P         06 21 37.8 +0.1
WTV    Waterville        73.96  43   P       P         06 21 38.7  0.0
EBG    Ellensburg        74.02  44   P       P         06 21 39.7 +0.6
KBD    Kabd              74.30 295  i P      P         06 21 41.0  0.0
QRN    Al-Qurain         74.34 294  eP       P         06 21 41.0 -0.3
QRN                                  AMb     AMB       06 21 51.9
             comp=Z,107nm,1.0s,mb5.7
RDF    Al-Radifah        74.53 295  eP       P         06 21 42.0 -0.4
RDF                                  AMb     AMB       06 21 53.0
             comp=Z,152nm,1.0s,mb5.9
VGB    Gordon Butte      74.63  45  eP       P         06 21 43.4 +0.7
RST    Umm Al-Ruwaisa    74.67 295  i P      P         06 21 42.7 -0.5
RST                                  AMb     AMB       06 21 53.4
             comp=Z,94nm,0.9s,mb5.7
DPW    Davenport         74.87  42  eP       P         06 21 44.0  0.0
DPW                                 e        pP        06 21 53.0 -0.2
HAWA   Hanford           74.90  44  eP       P         06 21 44.3 +0.1
             comp=Z,10nm,1.2s,mb4.6
AKASG  Malin Array Be    75.16 321   P       P         06 21 45.2 -0.4
             comp=Z,17nm,0.9s,mb5.0,baz=48,slow=6.1,SNR=64
AKASG                                pP      pP        06 21 54.1 -0.6
             comp=Z,21nm,0.8s,baz=50,slow=6.1,SNR=18
AKASG                                PcP     PcP       06 21 60.0 +0.7
             comp=Z,3.2nm,0.7s,baz=50,slow=5.8,SNR=4.9
AKASG                                LR      LR        06 57 42.8
             comp=Z,259nm,19.7s,MS4.5,baz=55,slow=38
AKASG  Malin Array Be    75.16 321   P       P         06 21 45.2 -0.3
AKASG                                *PP     pP        06 21 54.2 -0.6
AKASG                                                  06 22 00.0
AKASG                                pmax    pmax
             comp=Z,17nm,0.9s
AKASG                                pmax    pmax
             comp=N,21nm,0.8s
AKASG                                pmax    pmax
             comp=Z,3.0nm,0.7s
AKASG                                MLR     MLR
             comp=Z,259nm,19.7s
NEW    Newport           75.26  42  eP       P         06 21 46.2 -0.1
             comp=Z,7.1nm,0.8s,mb4.7
NEW                                 e        pP        06 21 55.6 +0.2
YBH    Yreka Blue Hor    75.42  50  eP       P         06 21 46.9 -0.3
             comp=Z,12nm,1.0s,mb4.8
SIM    Simferopol’       75.58 314  eP       P         06 21 48.9 +0.8
SIM                                 e        pP        06 21 58.0 +0.7
SIM                                  MLR     MLR
             comp=Z,150nm,16.0s,MS4.4
LNOR   Lincton Mounta    75.91  44  eP       P         06 21 50.1 +0.2
SUW    Suwalki           76.19 326  eP       P         06 21 51.6 +0.3
SUW                                 e                  06 22 05.8
SUW    Suwalki           76.19 326  eP       P         06 21 51.6 +0.3
SUW                                 epP      pP        06 21 55.5 -5.1
SUW                                 ePcP     PcP       06 22 05.8 +2.2
NOA    NORSAR Array B    76.32 336   P       P         06 21 51.6 -0.3
             comp=Z,4.2nm,0.8s,mb4.4,baz=44,slow=5.6,SNR=14
NOA                                  pP      pP        06 22 00.8 -0.4
             comp=Z,13nm,0.9s,baz=42,slow=5.4,SNR=15
NOA                                  LR      LR        06 59 02.0
             comp=Z,133nm,18.2s,MS4.3,baz=40,slow=38
NOA    NORSAR Array B    76.32 336   P       P         06 21 51.6 -0.3
NOA                                  *PP     pP        06 22 00.8 -0.4
NOA                                  pmax    pmax
             comp=Z,4.0nm,0.8s
NOA                                  pmax    pmax
             comp=N,13nm,0.9s
NOA                                  MLR     MLR
             comp=Z,133nm,18.2s
NOA    NORSAR Array B    76.32 336   P       P         06 21 51.6 -0.3
NOA                                  pP      pP        06 22 00.8 -0.4
MALT   Malatya           76.35 307⇑eP       P         06 21 53.5 +0.9
             comp=Z,19nm,0.9s,mb5.0
MALT                                e        pP        06 22 03.4 +1.6
MOD    Modoc             76.85  48  eP       P         06 21 55.6 +0.3
             comp=Z,24nm,1.6s,mb4.9
BOYT   Boyabat           77.00 311  i P      P         06 21 56.9 +0.8
GZT    Gaziantep         77.44 306  i P      P         06 22 00.1 +1.4
OHCM   Honcut            77.48  51  eP       P         06 21 58.7 -0.2
KIS    Kishinev          77.50 318  eP       P         06 21 52.0 -6.8
KIS                                  MLR     MLR
             comp=Z,400nm,15.0s,MS4.9
KIS                                  MLR     MLR
             comp=Z,500nm,16.0s
CTKT   Corum             77.50 310  i P      P         06 22 00.0 +1.1
WVOR   Wild Horse Val    77.60  47⇑eP       P         06 21 59.9 +0.5
             comp=Z,8.7nm,0.9s,mb4.7
BEKR   Beckwourth        77.92  50⇑eP       P         06 22 01.4 +0.2
             comp=Z,21nm,1.1s,mb5.0
BEKR                                e        pP        06 22 10.3 -0.2
CHMT   Chamberlain Mo    78.18  41  eP       P         06 22 02.2 -0.3
CHMT                                e        pP        06 22 11.8  0.0
ASMM   Slate Mountain    78.28  51  eP       P         06 22 01.4 -1.8
LVV    L’vov             78.36 323d iP       P         06 22 02.9 -0.6
LVV                                 eS       S         06 31 46.4 -9.3
ELDT   Eldivan           78.44 311  i P      P         06 22 04.4 +0.3
WCN    Washoe City       78.62  50  eP       P         06 22 05.6 +0.5
             comp=Z,20nm,1.1s,mb5.0
BRTR   Keskin Array B    78.73 310   P       P         06 22 06.5 +0.7
             comp=Z,43nm,0.9s,mb5.4,baz=108,slow=3.9,SNR=98
BRTR                                 pP      pP        06 22 15.9 +0.9
             comp=Z,62nm,0.9s,baz=110,slow=4.5,SNR=23
BRTR                                 LR      LR        06 58 45.1
             comp=Z,143nm,21.6s,MS4.3,baz=115,slow=37
BRTR   Keskin Array B    78.73 310   P       P         06 22 06.5 +0.8
BRTR                                 *PP     pP        06 22 15.9 +0.9
BRTR                                 pmax    pmax
             comp=Z,43nm,0.9s
BRTR                                 pmax    pmax
             comp=N,62nm,0.9s
BRTR                                 MLR     MLR
             comp=Z,143nm,21.6s
FFC    Flin Flon         78.75  31⇑eP       P         06 22 05.4 -0.1
             comp=Z,25nm,0.7s,mb5.3
FFC                                 e        pP        06 22 14.9 +0.2
MZLS   Mizel             78.81 291   P       P         06 22 07.1 +0.6
CMB    Columbia Colle    78.91  52  eP       P         06 22 06.7  0.0
             comp=Z,22nm,1.1s,mb5.0
HRY    Holter Researc    79.09  41  eP       P         06 22 07.9 +0.4
HRY                                 e        pP        06 22 17.3 +0.6
BSD    Bornholm Skovb    79.11 330  i P      P         06 22 07.8 +0.4
             comp=Z,21nm,0.8s,mb5.1
BSD                                 i        pP        06 22 16.9 +0.2
BSD    Bornholm Skovb    79.11 330  eP       P         06 22 07.8 +0.4
             comp=Z,21nm,0.8s,mb5.1
BSD                                 i        pP        06 22 16.9 +0.2
KWP    Kalwaria          79.15 323  eP       P         06 22 08.8 +1.0
KWP                                 e        pP        06 22 17.9 +0.8
KWP    Kalwaria          79.15 323  eP       P         06 22 08.8 +1.0
KWP                                 epP      pP        06 22 12.4 -4.7
KWP                                 ePcP     PcP       06 22 17.9 +1.4
SGKT   Sivrigoynuk       79.26 312  i P      P         06 22 09.7 +1.1
ARSS   Ar Rass           79.38 294   P       P         06 22 09.4 -0.1
HLID   Hailey            79.50  45  eP       P         06 22 10.4 +0.6
             comp=Z,7.7nm,1.0s,mb4.6
LCCM   Lewis and Clar    79.59  42   P       P         06 22 10.6 +0.4
BMN    Battle Mountai    79.60  48⇑eP       P         06 22 11.2 +0.7
             comp=Z,14nm,1.2s,mb4.8
MCMT   McKenzie Canyo    79.65  43  eP       P         06 22 10.4 -0.2
HILS   Ha’il             79.69 296   P       P         06 22 11.7 +0.6
KOLS   Kolonicke sedl    79.82 323  eP       P         06 22 09.9 -1.5
KOLS                                e        pP        06 22 19.8 -0.9
BOZ    Bozeman (W)       79.84  42  eP       P         06 22 12.0 +0.4
             comp=Z,9.0nm,0.8s,mb4.8
BOZ                                 e        pP        06 22 20.9  0.0
MNV    Mina              80.14  50  eP       P         06 22 13.2 -0.1
             comp=Z,16nm,1.1s,mb4.9
OJC    Ojcow             80.22 325⇑eP       P         06 22 14.2 +0.7
CRVS   Cervenica-Dubn    80.25 323  eP       P         06 22 17.0 +3.3
CRVS                                e        pP        06 22 24.7 +1.7
QLMT   Earthquake Lak    80.45  42  eP       P         06 22 15.5 +0.7
MTUM   Tungsten Hills    80.49  52  eP       P         06 22 15.6 +0.4
AFFS   ‘Afif             80.58 292   P       P         06 22 16.6 +0.6
ESKT   Eskisehir         80.62 311  i P      P         06 22 15.9  0.0
ELK    Elko              80.65  47  eP       P         06 22 16.8 +0.8
             comp=Z,9.2nm,1.2s,mb4.6
ASF    Jabal al Asfar    80.70 302   P       P         06 22 17.2 +0.8
             comp=Z,18nm,1.1s,mb4.9,baz=252,slow=2.0,SNR=10
ASF                                  pP      pP        06 22 26.8 +1.1
             comp=Z,14nm,0.8s,baz=306,slow=0.3,SNR=7.2
YMR    Madison River     80.81  42  eP       P         06 22 18.0 +1.2
TPH    Tonopah           80.95  50  eP       P         06 22 18.2 +0.6
             comp=Z,18nm,0.8s,mb5.0
TPH                                 e        pP        06 22 27.7 +0.7
OKC    Ostrava-Krasne    81.27 325  eP       P         06 22 19.7 +0.7
OKC                                  LR                07 01 00.0
             comp=Z,0.2nm,16.5s
ULDT   Uludag            81.33 313  i P      P         06 22 20.3 +0.7
KSP    Ksiaz             81.45 327  eP       P         06 22 20.5 +0.5
KSP                                 e*PP     pP        06 22 29.6 +0.3
MOOW   Moose Ponds       81.51  43  eP       P         06 22 21.3 +0.9
HVU    Hansel Valley     81.53  45  eP       P         06 22 21.5 +1.0
HVU                                 e        pP        06 22 30.7 +0.8
TPAW   Teton Pass        81.55  43  eP       P         06 22 21.7 +1.0
MORC   Moravsky Berou    81.60 325  eP       P         06 22 21.1 +0.4
             comp=Z,19nm,1.2s,mb4.9
MORC                                e        pP        06 22 30.5 +0.4
CSS    Prodhromos        81.61 306  eP       P         06 22 20.7 -0.4
             comp=Z,42nm,0.8s,mb5.4
LOHW   Long Hollow       81.67  43  eP       P         06 22 22.2 +0.9
SNOW   Snow King Moun    81.68  43  eP       P         06 22 22.4 +1.1
PSZ    Piszkesteto       81.68 323⇓ePcP     PcP       06 22 22.7 -4.7
PSZ                                 i sP     sP        06 22 31.7 -1.9
PSZ    Piszkesteto       81.68 323⇑eP       P         06 22 22.2 +1.0
             comp=Z,24nm,0.9s,mb5.1
PSZ                                 e        pP        06 22 30.9 +0.3
REDW   Red Top Meadow    81.68  43  eP       P         06 22 22.1 +0.7
DAC    Darwin (Calif)    81.74  52  eP       P         06 22 21.9 +0.1
             comp=Z,16nm,1.0s,mb4.9
DPC    Dobruska-Polom    81.78 326  eP       P         06 22 22.9 +1.2
DPC                                 epP      pP        06 22 31.1 +0.1
DPC                                 ex       x         06 24 51.1
DPC                                  LR                07 02 20.0
             comp=Z,0.3nm,13.6s
DPC    Dobruska-Polom    81.78 326  eP       P         06 22 22.9 +1.2
DPC                                 e*PP     pP        06 22 31.1 +0.1
DPC                                  MLR     MLR
             comp=Z,300nm,13.6s,MS4.8
UPC    Upice             81.82 327⇑eP       P         06 22 23.0 +1.1
UPC                                 epP      pP        06 22 32.4 +1.2
BSEG   Bad Segeberg      81.83 331  i P      P         06 22 22.5 +0.7
VYHS   Vyhne             81.83 324  i P      P         06 22 23.1 +1.1
VYHS                                e        pP        06 22 32.1 +0.8
VYHS                                e                  06 22 36.7
VYHS                                ePP      PP        06 25 39.6 +8.2
BGU    Big Grassy Mou    81.89  46  eP       P         06 22 23.2 +0.8
DGMT   Dagmar            81.95  36  eP       P         06 22 23.1 +0.5
             comp=Z,39nm,1.1s,mb5.2
LAO    LASA Array        82.10  38  eP       P         06 22 24.0 +0.6
             comp=Z,19nm,1.0s,mb5.0
LAO                                 e        pP        06 22 33.4 +0.6
TPNV   Topopah Spring    82.23  51  eP       P         06 22 24.9 +0.6
             comp=Z,23nm,0.8s,mb5.2
TPNV                                e        pP        06 22 34.1 +0.5
HWUT   Hardware Ranch    82.35  45⇑eP       P         06 22 25.7 +0.9
             comp=Z,13nm,0.9s,mb4.9
KBRS   Khaybar           82.45 296   P       P         06 22 26.6 +0.9
PVCC   Panska Ves        82.46 327⇑eP       P         06 22 26.4 +1.2
PVCC                                epP      pP        06 22 35.3 +0.7
PVCC                                ex       x         06 24 18.0
PVCC                                 LR                07 04 20.0
             comp=Z,0.3nm,12.9s
PVCC   Panska Ves        82.46 327  eP       P         06 22 26.4 +1.2
PVCC                                e*PP     pP        06 22 35.3 +0.7
PVCC                                 MLR     MLR
             comp=Z,300nm,12.9s,MS4.8
DUG    Dugway            82.46  47⇑eP       P         06 22 26.3 +0.9
             comp=Z,13nm,0.9s,mb4.9
BRG    Berggiesshubel    82.50 328  eP       P         06 22 26.3 +0.9
BRG                                 e        pP        06 22 35.4 +0.6
BRG                                  pmax    pmax
             comp=Z,12nm,1.0s,mb4.9
BRG                                  MLR     MLR
             comp=N,260nm,11.6s,MS5.0
BRG                                  MLR     MLR
             comp=E,260nm,11.6s,MS5.0
BRG                                  MLR     MLR
             comp=Z,310nm,12.0s,MS4.9
BRG    Berggiesshubel    82.50 328  eP       P         06 22 26.3 +0.9
             comp=Z,12nm,1.0s,mb4.9
BRG                                 e        pP        06 22 35.4 +0.6
SMOL   Smolenice         82.51 324  eP       P         06 22 27.2 +1.7
SMOL                                e        pP        06 22 35.9 +1.1
TATS   Tathlith          82.54 288   P       P         06 22 27.1 +0.9
RPZ    Rata Peaks        82.57 156   P       P         06 22 25.7 -0.2
             comp=Z,19nm,0.9s,mb5.1,baz=94,slow=5.5,SNR=8.9
RPZ                                  pP      pP        06 22 34.9 -0.4
             comp=Z,12nm,0.8s,baz=213,slow=3.9,SNR=4.6
CLL    Collm             82.61 328   P       P         06 22 26.4 +0.4
             comp=Z,logA/T=1.4,mb5.2
CLL                                 i *PP    pP        06 22 35.8 +0.5
CLL    Collm             82.61 328  i P      P         06 22 26.4 +0.4
CLL                                 i *PP    pP        06 22 35.8 +0.5
CLL                                  pmax    pmax
             comp=Z,34nm,1.3s,mb5.2
CLL                                  MLR     MLR
             comp=Z,200nm,19.2s,MS4.5
CLL    Collm             82.61 328  i P      P         06 22 26.4 +0.4
             comp=Z,34nm,1.3s,mb5.2
CLL                                 i pP     pP        06 22 35.8 +0.5
TCUT   Toone Canyon      82.75  45  eP       P         06 22 26.1 -0.7
PDAR   Pinedale Array    82.80  43   P       P         06 22 27.4 +0.3
             comp=Z,3.8nm,0.9s,mb4.4,baz=311,slow=3.3,SNR=37
PDAR                                 pP      pP        06 22 37.2 +0.8
             comp=Z,5.9nm,0.8s,baz=316,slow=2.5,SNR=19
DNZL   Cakiroluk         82.84 311  i P      P         06 22 28.4 +0.9
PRU    Pruhonice         82.86 327⇑iP       P         06 22 27.9 +0.6
             comp=Z,33nm,1.3s,mb5.2
PRU                                 i pP     pP        06 22 37.1 +0.5
PRU                                 ex       x         06 24 50.4
PRU                                  L                 07 07 00.0
PRU    Pruhonice         82.86 327⇑iP       P         06 22 27.9 +0.6
PRU                                 i *PP    pP        06 22 37.1 +0.5
PRU                                  pmax    pmax
             comp=Z,33nm,1.3s,mb5.2
ZST    Bratislava        82.88 324  eP       P         06 22 29.3 +1.8
ZST                                 e        pP        06 22 38.2 +1.4
JLU    Jordanelle        83.04  46  eP       P         06 22 29.2 +0.8
NLU    North Lily Min    83.06  46  eP       P         06 22 29.4 +0.8
JMQS   Jabal Moqyreh     83.25 300   P       P         06 22 30.2 +0.5
DAU    Daniels Canyon    83.27  46  eP       P         06 22 30.8 +1.2
MPU    Maple Canyon      83.29  46  eP       P         06 22 30.5 +0.8
CLZ    Clausthal         83.35 330  i P      P         06 22 30.6 +0.8
DJNS   Zahran al Janu    83.47 287   P       P         06 22 32.5 +1.4
EIL    Elat              83.48 301   P       P         06 22 30.8 -0.1
             comp=Z,9.5nm,0.9s,mb4.8,baz=46,slow=6.9,SNR=8.2
EIL                                  pP      pP        06 22 40.7 +0.5
             comp=Z,11nm,0.9s,baz=57,slow=8.1,SNR=4.2
EIL    Elat              83.48 301  eP       P         06 22 31.3 +0.4
             comp=Z,41nm,1.3s,mb5.3
KDAG   Bornova           83.53 312  i P      P         06 22 31.4 +0.5
JMOS   Jabal al Moall    83.64 301   P       P         06 22 32.6 +0.8
MOX    Moxa              83.70 329  i P      P         06 22 31.9 +0.4
MOX                                  pP      pP        06 22 41.0 +0.1
MOX    Moxa              83.70 329  eP       P         06 22 31.9 +0.4
MOX                                 e        pP        06 22 41.4 +0.5
MOX                                  pmax    pmax
             comp=Z,50nm,1.6s,mb5.4
MOX    Moxa              83.70 329  eP       P         06 22 31.9 +0.4
             comp=Z,50nm,1.6s,mb5.4
MOX                                 e        pP        06 22 41.4 +0.5
NAMS   An Nimas          83.75 289   P       P         06 22 34.0 +1.5
HAQS   Haql              83.84 301   P       P         06 22 33.6 +0.8
MSU    Marysvale         83.88  48  eP       P         06 22 34.1 +1.4
GRUS   Gruza             83.90 319⇓iP       P         06 22 32.7  0.0
KHC    Kasperske Hory    83.91 327  eP       P         06 22 33.4 +0.8
KHC                                 epP      pP        06 22 42.4 +0.4
KHC                                 ex       x         06 24 44.8
KHC                                  LR                07 03 30.0
             comp=Z,0.3nm,14.8s
KHC    Kasperske Hory    83.91 327  eP       P         06 22 33.4 +0.8
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KHC				e*PP	pP	06 22 42.4	+0.4
KHC				MLR	MLR		
	comp=Z,300nm,14.8s,MS4.8						
NEN	**Nelson**	**83.92**	**51**	*e*P	**P**	**06 22 33.3**	**+0.3**
BARS	**Barje**	**83.98**	**318**	⇓*i*P	**P**	**06 22 31.7**	**-1.5**
PFO	**Pinyon Flat Ob**	**84.05**	**54**	*e*P	**P**	**06 22 33.8**	**0.0**
	comp=Z,36nm,1.1s,mb5.4						
GEC2	**GERESS Array S**	**84.05**	**326**	*i* P	**P**	**06 22 34.0**	**+0.6**
GERES	**GERESS Array B**	**84.05**	**326**	P	**P**	**06 22 34.0**	**+0.7**
	comp=Z,10.0nm,0.9s,mb5.0,baz=45,slow=3.8,SNR=54						
GERES				pP	pP	06 22 43.3	+0.6
	comp=Z,14nm,0.8s,baz=34,slow=4.8,SNR=18						
GERES	**GERESS Array B**	**84.05**	**326**	P	**P**	**06 22 34.0**	**+0.6**
GERES				*PP	pP	06 22 43.3	+0.6
GERES				pmax	pmax		
	comp=Z,10.0nm,0.9s						
GERES				pmax	pmax		
	comp=N,14nm,0.8s						
BDAS	**Al Bad‘**	**84.07**	**300**	P	**P**	**06 22 34.2**	**+0.3**
LDFC	**Landfair**	**84.08**	**52**	*e*P	**P**	**06 22 33.8**	**0.0**
DIVS	**Divcibare**	**84.15**	**320**	⇓*i*P	**P**	**06 22 34.2**	**+0.2**
YNBS	**Yanbu‘ al Bahr**	**84.20**	**295**	P	**P**	**06 22 35.7**	**+1.0**
WET	**Wettzell**	**84.22**	**327**	*i* P	**P**	**06 22 35.0**	**+0.8**
UMJS	**Umm Lajj**	**84.22**	**296**	P	**P**	**06 22 36.0**	**+1.3**
ARSA	**Arzberg**	**84.31**	**324**	⇓*i*P	**P**	**06 22 35.4**	**+0.7**
	comp=N,38nm,1.6s,mb5.3						
ARSA				*i*	pP	06 22 44.7	+0.6
	comp=N,44nm,1.3s						
BAR	**Barrett**	**84.45**	**54**	*e*P	**P**	**06 22 35.7**	**-0.1**
MOA	**Molln**	**84.49**	**325**	⇑*i*P	**P**	**06 22 36.4**	**+0.8**
	comp=N,51nm,1.6s,mb5.4						
MOA				*i*	pP	06 22 44.3	-0.7
	comp=N,124nm,2.3s						
SRU	**San Rafael**	**84.52**	**46**	⇑*e*P	**P**	**06 22 36.6**	**+0.7**
SRU				*e*	pP	06 22 45.7	+0.3
SRU				*e*		06 22 51.1	
GRA1	**Grafenberg Arr**	**84.56**	**328**	*i* P	**P**	**06 22 37.1**	**+1.2**
	comp=N,92nm,1.4s,mb5.7						
GRA1				*e*pP	pP	06 22 45.7	+0.4
GRF	**Grafenberg Arr**	**84.56**	**328**	*i* P	**P**	**06 22 37.1**	**+1.2**
GRF				e*PP	pP	06 22 45.7	+0.4
GRF				pmax	pmax		
	comp=Z,92nm,1.4s,mb5.7						
LTHS	**Al Lith**	**84.57**	**291**	P	**P**	**06 22 37.7**	**+1.1**
SKO	**Skopje**	**84.75**	**318**	⇓*i*P	**P**	**06 22 39.0**	**+2.0**
SKO				⇑*i*	pP	06 22 48.0	+1.6
	comp=Z,0.0nm,0.8s						
SKO	**Skopje**	**84.75**	**318**	⇓*i*P	**P**	**06 22 39.0**	**+2.0**
	comp=Z,36nm,0.8s,mb5.5						
SKO				*i*	pP	06 22 48.0	+1.6
GROS	**Grobnik**	**84.87**	**324**	*e*P	**P**	**06 22 37.9**	**+0.4**
GROS				*e*pP	pP	06 22 46.8	-0.1
PERS	**Pernice**	**84.94**	**324**	*e*P	**P**	**06 22 38.3**	**+0.4**
PERS				*i* pP	pP	06 22 47.7	+0.5
RSSD	**Black Hills**	**84.96**	**39**	*e*P	**P**	**06 22 38.2**	**+0.2**
	comp=Z,9.0nm,0.8s,mb5.0						
FRSS	**Farasan al Kab**	**85.14**	**287**	P	**P**	**06 22 40.9**	**+1.4**
PDKS	**Podkum**	**85.39**	**324**	*e*P	**P**	**06 22 40.2**	**+0.1**
PV10	**Paradox Valley**	**85.89**	**46**	*e*P	**P**	**06 22 44.2**	**+1.4**
PV10				*e*	pP	06 22 53.6	+1.5
HGN	**Heimansgroeve**	**85.99**	**331**	*e*P	**P**	**06 22 42.8**	**-0.1**
	comp=Z,19nm,1.2s,mb5.2						
HGN				*e*x	x	06 22 52.5	
WUAZ	**Wupatki**	**86.24**	**50**	*e*P	**P**	**06 22 45.5**	**+0.9**
	comp=Z,20nm,0.9s,mb5.3						
WUAZ				*e*	pP	06 22 54.8	+0.8
PV01	**Paradox Valley**	**86.33**	**46**	*e*P	**P**	**06 22 45.8**	**+0.9**
BFO	**Black Forest**	**86.85**	**329**	*i* P	**P**	**06 22 47.5**	**+0.2**
DAVA	**Damuels**	**86.94**	**327**	⇓*i*P	**P**	**06 22 48.2**	**+0.5**
	comp=Z,14nm,1.1s,mb5.1						
DAVA				*i*	pP	06 22 57.2	+0.1
	comp=Z,27nm,1.1s						
IDI	**Anoyia**	**86.95**	**311**	P	**P**	**06 22 47.2**	**-1.0**
	comp=Z,7.9nm,0.7s,mb5.0,baz=358,slow=14,SNR=1.2						
IDI				pP	pP	06 22 59.3	+1.8
	comp=Z,78nm,1.4s,baz=330,slow=17,SNR=1.6						
ISCO	**Idaho Springs**	**86.98**	**43**	*e*P	**P**	**06 22 48.9**	**+0.8**
	comp=Z,8.4nm,0.7s,mb5.1						
BAIF	**Baives**	**87.23**	**332**	*e*P	**P**	**06 22 48.3**	**-0.7**
CDF	**Champ du Feu**	**87.24**	**329**	*e*P	**P**	**06 22 48.6**	**-0.6**
	comp=Z,21nm,0.9s,mb5.0						
HINF	**Hinteralfeld**	**87.88**	**329**	*e*P	**P**	**06 22 51.1**	**-1.1**
SDCO	**Great Sand Dun**	**88.41**	**45**	*e*P	**P**	**06 22 55.9**	**+0.9**
	comp=Z,6.8nm,1.0s,mb4.8						
VAI	**Varese**	**88.52**	**327**	*e*P	**P**	**06 22 54.9**	**-0.5**
PGD	**Poggio Sodo**	**88.59**	**324**	*e*P	**P**	**06 22 57.0**	**+1.3**
MCGN	**Macugnaga**	**88.80**	**327**	*e*P	**P**	**06 22 57.1**	**+0.4**
BOB	**Bobbio (Coli)**	**89.03**	**326**	*e*P	**P**	**06 22 58.2**	**+0.4**
CABF	**La Chapelle**	**89.15**	**329**	*e*P	**P**	**06 22 57.6**	**-0.7**
	comp=Z,16nm,0.9s,mb5.1						
LOR	**Lormes**	**89.58**	**330**	*e*P	**P**	**06 22 59.3**	**-1.0**
	comp=Z,21nm,0.9s,mb5.2						
LOR				*e*R			
	comp=Z,262nm,18.2s						
ANMO	**Albuquerque**	**89.68**	**47**	*d i*P	**P**	**06 23 02.6**	**+1.4**
ANMO	**Albuquerque**	**89.68**	**47**	*e*P	**P**	**06 23 02.2**	**+1.0**
	comp=Z,4.2nm,0.9s,mb4.8						
LPL	**La Plagne**	**89.71**	**328**	*e*P	**P**	**06 23 00.6**	**-0.4**
LPG	**La Plagne**	**89.71**	**328**	*e*P	**P**	**06 23 00.6**	**-0.4**
	comp=Z,30nm,0.7s,mb5.4						
SSF	**Saint Saulge**	**89.89**	**330**	*e*P	**P**	**06 23 00.8**	**-1.0**
	comp=Z,25nm,1.0s,mb5.2						
SCHQ	**Schefferville**	**89.90**	**14**	P	**P**	**06 23 02.6**	**+1.0**
	comp=Z,5.9nm,0.7s,mb5.0,baz=14,slow=5.3,SNR=8.1						
SCHQ				pP	pP	06 23 11.7	+0.7
	comp=Z,13nm,0.6s,baz=346,slow=5.8,SNR=11						
SCHQ				LR	LR	07 04 09.2	
	comp=Z,93nm,18.6s,MS4.2,baz=328,slow=36						
FLN	**La Foliniere**	**90.08**	**334**	*e*P	**P**	**06 23 03.1**	**+0.5**
FLN				*e*R			
	comp=Z,195nm,20.5s						
SMF	**Signal de Mont**	**90.08**	**330**	*e*P	**P**	**06 23 01.7**	**-1.0**
	comp=Z,40nm,1.1s,mb5.3						
BNI	**Bardonecchia**	**90.09**	**327**	*e*P	**P**	**06 23 02.6**	**-0.1**
	comp=Z,14nm,0.9s,mb5.3						
AVF	**Avril sur Loir**	**90.17**	**330**	*e*P	**P**	**06 23 02.3**	**-0.8**
	comp=Z,50nm,1.2s,mb5.4						
MBDF	**Montbardon**	**90.30**	**327**	*e*P	**P**	**06 23 02.5**	**-1.2**
	comp=Z,16nm,0.8s,mb5.1						
GRR	**Gorron**	**90.53**	**334**	*e*P	**P**	**06 23 04.1**	**-0.6**
ORIF	**Oris-en-Rattie**	**90.55**	**328**	*e*P	**P**	**06 23 04.2**	**-0.7**
ORIF				*e*R			
	comp=Z,316nm,19.2s						
TCF	**Toulx Ste Croi**	**91.04**	**331**	*e*P	**P**	**06 23 06.4**	**-0.7**
VIVF	**Saint-Julien-l**	**91.14**	**328**	*e*P	**P**	**06 23 06.8**	**-0.8**
	comp=Z,43nm,1.1s,mb5.4						
SGMF	**Saint Gilles**	**91.27**	**334**	*e*P	**P**	**06 23 07.5**	**-0.6**
	comp=Z,37nm,0.9s,mb5.4						
ROSF	**Rostrenen**	**91.45**	**335**	*e*P	**P**	**06 23 08.0**	**-1.0**
	comp=Z,80nm,1.0s,mb5.7						
LMR	**La Mourre**	**91.49**	**326**	*e*P	**P**	**06 23 08.1**	**-1.2**
	comp=Z,94nm,1.4s,mb5.6						
MFF	**Saint Martin d**	**91.73**	**332**	*e*P	**P**	**06 23 10.1**	**-0.2**
	comp=Z,53nm,1.0s,mb5.5						
QUIF	**Quistinic**	**91.77**	**335**	*e*P	**P**	**06 23 09.5**	**-0.9**
LASF	**Ste Croix**	**92.11**	**328**	*e*P	**P**	**06 23 11.6**	**-0.5**
	comp=Z,64nm,1.4s,mb5.5						
RJF	**Les Rejaudoux**	**92.12**	**330**	*e*P	**P**	**06 23 11.8**	**-0.3**
	comp=Z,87nm,1.3s,mb5.6						
RJF				*e*R			
	comp=Z,295nm,22.0s						
CAF	**Calviac**	**92.20**	**330**	*e*P	**P**	**06 23 12.6**	**+0.1**
	comp=Z,60nm,1.2s,mb5.5						
LFF	**La Frestale**	**92.74**	**331**	*e*P	**P**	**06 23 14.9**	**-0.1**
	comp=Z,37nm,0.6s,mb5.7						
GDL2	**Guadalupe Moun**	**92.82**	**48**	*e*P	**P**	**06 23 16.2**	**+0.5**
WMOK	**Wichita Mounta**	**94.41**	**43**	*e*P	**P**	**06 23 23.5**	**+0.6**
	comp=Z,5.8nm,0.9s,mb5.0						
LTX	**Lajitas**	**95.19**	**50**	*e*P	**P**	**06 23 27.2**	**+0.6**
	comp=Z,8.5nm,0.7s,mb5.3						
LTX				*e*	pP	06 23 36.8	+0.8
TXAR	**Lajitas Array**	**95.19**	**50**	P	**P**	**06 23 27.5**	**+0.9**
	comp=Z,5.3nm,0.8s,mb5.0,baz=292,slow=2.9,SNR=50						
TXAR				pP	pP	06 23 36.6	+0.6
	comp=Z,9.3nm,0.7s,baz=292,slow=2.6,SNR=20						
CCM	**Cathedral Cave**	**95.98**	**36**	*e*P	**P**	**06 23 29.9**	**-0.1**
	comp=Z,11nm,1.0s,mb5.2						
JCT	**Junction City**	**96.83**	**47**	*e*P	**P**	**06 23 34.0**	**-0.1**
	comp=Z,11nm,0.9s,mb5.3						
KMBO	**Kilima Mbogo**	**98.95**	**275**	P	**P**	**06 23 42.1**	**-1.8**
	comp=Z,0.8nm,0.6s,mb4.4,baz=65,slow=19,SNR=3.9						
KMBO				pP	pP	06 23 53.4	0.0
	comp=Z,1.1nm,0.7s,baz=47,slow=13,SNR=3.0						
ESDC	**Sonseca Array**	**99.05**	**331**	LR	LR	07 15 20.9	
	comp=Z,95nm,18.6s,MS4.3,baz=130,slow=40						
MAW	**Mawson**	**114.64**	**204**	PKP	PKPdf	06 28 40.9	-5.4
	comp=Z,1.6nm,0.9s,baz=340,slow=11,SNR=3.2						
MAW				pPKP		06 28 51.7	
	comp=Z,2.2nm,0.8s,baz=291,slow=6.3,SNR=4.0						
MAW	**Mawson**	**114.64**	**204**	PKIKP	PKPdf	06 28 40.9	-5.4
MAW						06 28 51.7	
MAW				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MAW				pmax	pmax		
	comp=N,2.0nm,0.8s						
QSPA	**South Pole Qui**	**122.97**	**180**	*e*PKP	PKPdf	06 28 57.8	-4.4
QSPA				*e*		06 29 05.9	
SYO	**Syowa Base**	**123.28**	**205**	⇓pPdiff		06 25 38.0	
TSUM	**Tsumeb**	**124.74**	**269**	PKP	PKPdf	06 29 02.7	-4.4
	comp=N,5.8nm,0.8s,baz=17,slow=5.4,SNR=6.8						
TSUM				pPKP		06 29 12.6	
	comp=N,5.7nm,0.8s,baz=47,slow=24,SNR=4.4						
DBIC	**Dimbokro**	**126.43**	**311**	PKP	PKPdf	06 29 06.3	-4.1
	comp=N,6.1nm,0.9s,baz=56,slow=4.4,SNR=6.4						
DBIC				pPKP		06 29 15.6	
	comp=N,7.9nm,1.0s,baz=20,slow=2.9,SNR=4.7						
DBIC	**Dimbokro**	**126.43**	**311**	PKIKP	PKPdf	06 29 06.4	-4.0
DBIC						06 29 15.6	
DBIC				pmax	pmax		
	comp=Z,6.0nm,0.9s						
DBIC				pmax	pmax		
	comp=N,8.0nm,1.0s						
DBIC	**Dimbokro**	**126.43**	**311**	PKP	PKPdf	06 29 06.3	-4.1
DBIC				pPKP		06 29 15.6	
TIC	**Toumodi**	**126.55**	**311**	*e*PKIKP	PKPdf	06 29 06.1	-4.5
	comp=N,80nm,1.2s						
KIC	**Kosan Boka**	**126.59**	**310**	*e*PKIKP	PKPdf	06 29 06.3	-4.4
	comp=N,44nm,1.0s						
LIC	**Lamto**	**126.88**	**310**	*e*PKIKP	PKPdf	06 28 58.6	-13
	comp=N,22nm,1.0s						
LIC	**Lamto**	**126.88**	**310**	*e*PKIKP	PKPdf	06 29 06.6	-4.7
	comp=N,50nm,1.2s						
SDV	**Santo Domingo**	**130.45**	**37**	*e*P	PKPdf	06 29 14.1	-4.1
SNAA	**Sanae**	**136.10**	**197**	*e*	PP	06 32 07.4	+1.7
SNAA	**Sanae**	**136.10**	**197**	*e*PKPdf	PKPdf	06 29 22.0	-5.1
VNA2	**Neumayer--Watz**	**137.70**	**196**	⇓*i*P	Pdif	06 26 32.7	-0.6
VNA2	**Neumayer--Watz**	**137.70**	**196**	*e*	PKPdf	06 29 29.7	-0.4
VNA2	**Neumayer--Watz**	**137.70**	**196**	*e*	PP	06 32 14.7	-1.3
VNA3	**Neumayer Olymp**	**137.99**	**195**	*e*	PP	06 32 13.4	-4.7
VNA1	**Neumayer--Stat**	**138.10**	**196**	*e*	PP	06 32 14.1	-4.6
ARE	**Arequipa**	**149.21**	**64**	*e*P	PKPdf	06 29 53.0	+1.6
SAML	**Samuel**	**149.38**	**43**	*e*PKPdf	PKPdf	06 29 47.9	-3.9
SAML				*e*PKPbc	PKPdf	06 29 52.1	+0.3
LPAZ	**La Paz**	**151.59**	**60**	PKPbc	PKPdf	06 29 59.2	+4.2
	comp=N,28nm,0.9s,baz=351,slow=3.4,SNR=38						
LPAZ				pPKPbc		06 30 08.9	
	comp=N,47nm,0.9s,baz=25,slow=10,SNR=13						
LPAZ	**La Paz**	**151.59**	**60**	PKIKP	PKPdf	06 29 59.2	+4.1
LPAZ						06 30 08.9	
LPAZ				pmax	pmax		
	comp=Z,28nm,0.9s						
LPAZ				pmax	pmax		
	comp=N,47nm,0.9s						
BDFB	**Brasilia**	**161.87**	**16**	PKP	PKPdf	06 30 05.6	-2.4
	comp=N,2.8nm,1.0s,baz=208,slow=12,SNR=3.1						
BDFB				pPKP		06 30 13.7	
	comp=N,2.1nm,0.7s,baz=20,slow=2.3,SNR=2.7						
BDFB				PKPab	PKPab	06 30 50.9	-0.3
	comp=N,9.1nm,1.0s,baz=309,slow=2.1,SNR=6.8						
BDFB				pPKPab		06 31 00.7	
	comp=N,9.5nm,0.8s,baz=208,slow=5.4,SNR=9.3						
BDFB	**Brasilia**	**161.87**	**16**	PKIKP	PKPdf	06 30 05.6	-2.4
BDFB						06 30 13.7	
BDFB						06 30 50.9	
BDFB				pmax	pmax		
	comp=Z,3.0nm,1.0s						
BDFB				pmax	pmax		
	comp=N,2.0nm,0.7s						
BDFB				pmax	pmax		
	comp=Z,9.0nm,1.0s						
BDFB				pmax	pmax		
	comp=N,10.0nm,0.8s						
CPUP	**Villa Florida**	**165.64**	**65**	PKP	PKPdf	06 30 08.7	-2.8
	comp=N,2.4nm,1.0s,baz=197,slow=6.1,SNR=3.6						
CPUP				pPKP		06 30 17.2	
	comp=N,3.6nm,1.1s,baz=220,slow=8.7,SNR=3.8						
CPUP				PKPab	PKPab	06 31 05.5	-1.8
	comp=N,3.7nm,1.1s,baz=344,slow=4.9,SNR=3.0						
CPUP	**Villa Florida**	**165.64**	**65**	PKIKP	PKPdf	06 30 08.7	-2.7
CPUP						06 30 17.2	
CPUP						06 31 05.5	
CPUP				pmax	pmax		
	comp=Z,2.0nm,1.0s						
CPUP				pmax	pmax		
	comp=N,4.0nm,1.1s						
CPUP				pmax	pmax		
	comp=Z,4.0nm,1.2s						
CPUP	**Villa Florida**	**165.64**	**65**	PKP	PKPdf	06 30 08.7	-2.8
CPUP				pPKP		06 30 17.2	
CPUP				PKPab	PKPab	06 31 05.5	-1.8

KRSC 07 06:12:53.8±1.0**,49.84N**×**155.57E,h152**^{km}±7^{km}**,ML4.1, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.91**	**22**	*e*P	P	06 13 15.5	-2.8
SKR				*e*S	S	06 13 35.0	-2.1
ALID	**Alaid**	**1.03**	**359**	*i* P	P	06 13 20.0	+0.8
ALID				*e*S	S	06 13 39.4	+0.7
PAU	**Pauzhetka**	**1.81**	**25**	*i* P	P	06 13 28.5	+1.3
PAU				*i* S	S	06 13 54.3	+1.4
PAU				Smax			
	440nm,0.9s						
MIPR	**Malaya Ipel'ka**	**2.55**	**17**	*e*P	P	06 13 37.1	+0.9
MIPR				*e*S	S	06 14 08.4	-0.3
GRL	**Gorelyy**	**3.14**	**29**	*e*P	P	06 13 45.6	+1.9
GRL				*e*S	S	06 14 24.2	+2.2
RUS	**Russkaya**	**3.19**	**34**	*e*P	P	06 13 45.3	+0.9
RUS				*e*S	S	06 14 22.6	-0.5
APC	**Apacha**	**3.25**	**17**	*e*P	P	06 13 45.9	+0.8
APC				*e*S	S	06 14 23.5	-0.9
APC				Smax			
	10.0nm,0.6s						
PET	**Petropavlovsk**	**3.73**	**30**	*e*P	P	06 13 52.3	+0.9
PET				*e*S	S	06 14 36.0	+0.4
UGLR	**Uglovaya**	**3.94**	**30**	*e*P	P	06 13 56.2	+2.1
UGLR				*e*S	S	06 14 41.4	+0.9
KOK	**Koryaka**	**3.95**	**28**	*e*P	P	06 13 56.6	+2.3
KOK				*e*S	S	06 14 41.0	+0.2
AVH	**Avacha**	**3.96**	**29**	*i* P	P	06 13 56.7	+2.3
AVH				*e*S	S	06 14 41.3	+0.3
SMAR	**Somma**	**3.98**	**29**	*e*P	P	06 13 56.7	+2.1
SMAR				*e*S	S	06 14 42.1	+0.7
SDLR	**Sedlovina**	**4.02**	**30**	*e*P	P	06 13 56.0	+0.9
SDLR				*e*S	S	06 14 40.2	-2.1
NLC	**Nalytchevo**	**4.08**	**34**	*e*P	P	06 13 55.8	-0.3
NLC				*e*S	S	06 14 41.7	-2.2
GNL	**Ganaly**	**4.13**	**20**	*e*P	P	06 13 57.4	+0.7
GNL				*e*S	S	06 14 44.2	-0.8
SPN	**Mys Shipunski**	**4.29**	**39**	*e*P	P	06 13 59.5	+0.8
SPN				*e*S	S	06 14 47.0	-1.7
KII	**Karymskiy**	**4.84**	**28**	*e*P	P	06 14 07.2	+1.2
KII				*e*S	S	06 15 00.5	-1.2
MKZ	**Mys Kozlova**	**6.05**	**36**	*e*P	P	06 14 21.4	-0.7
MKZ				*e*S	S	06 15 25.8	-4.9
TUMR	**Tumrok**	**6.12**	**25**	*e*P	P	06 14 25.8	+2.8
KMNR	**Kamenistaya**	**6.57**	**24**	*e*P	P	06 14 29.8	+0.8
KMNR				*e*S	S	06 15 38.1	-4.9
KBTR	**Krutoberegovo**	**7.73**	**32**	*e*P	P	06 14 43.1	-1.5
KBTR				*e*S	S	06 16 03.2	-7.7
BKI	**Bering**	**8.31**	**46**	*e*P	P	06 14 49.6	-2.7
BKI				*e*S	S	06 16 13.1	-12

NIED ***07*** *06:17:00,33.40N×137.20E,h5^{km},Mw4.3 Best double couple: M$_0$3.27×10^{15} NP1:φ$_s$39°,δ80°,λ-144°. NP2: φ$_s$301°,δ55°,λ-13°.*

JMA ***07*** *06:17:46.1±0.1,33.44N×137.23E,h41^{km}±1^{km},M3.7*

IDC ***07*** *06:17:47.6±0.7,33.88N×137.46E,mb4.0/10,mb1 4.2/11, mb1mx4.1/22,ML3.3/1,MS3.7/2,Ms1 3.7/2,ms1mx3.3/23, Error ellipse: s-maj=21.2km s-min=17.2km az=39.0*

NEIC ***07*** *06:17:49.1±0.6,33.79N×137.28E,h10^{km},mb4.3/6,Error ellipse: s-maj=16.0km s-min=12.4km az=130.0*

ISC 07 06:17:47.6±0.8**,33.58N**±0.05×**137.19E**±0.03**,h19**^{km}±5^{km}**, n36,**σ1^{s}**02**/42**,mb4.0**/16**,6C,Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	**Tokai 1**	**0.38**	**60**	P	**Pb**	**06 17 56.0**	**+0.4**
TK02	**Tokai 2**	**0.60**	**52**	⇑P	**Pb**	**06 17 59.3**	**+0.1**
TK03	**Tokai 3**	**0.87**	**47**	P	**Pb**	**06 18 03.3**	**-0.6**
JIE	**Ise**	**0.91**	**334**	⇑P	**Pb**	**06 18 04.9**	**+0.4**
JIE				S	**Sb**	**06 18 18.9**	**+2.8**
TK04	**Tokai 4**	**0.99**	**35**	⇑P	**Pb**	**06 18 05.4**	**-0.4**
JKN	**Kiinagashima**	**1.02**	**311**	⇑P	**Pb**	**06 18 06.0**	**-0.4**
JKN				S	**Sb**	**06 18 20.2**	**+0.8**
JAA	**Atsumi**	**1.05**	**358**	⇑P	**Pb**	**06 18 06.9**	**-0.1**
JAA				S	**Sb**	**06 18 21.5**	**+1.2**
JWZ	**Kozaga**	**1.23**	**268**	P	**Pn**	**06 18 07.9**	**-2.1**
JWZ				S	**Sb**	**06 18 23.7**	**-1.8**
TSUJ	**Tsu 2**	**1.30**	**331**	⇑P	**Pn**	**06 18 10.8**	**-0.1**
TSUJ				S	**Sb**	**06 18 28.6**	**+1.2**
JWY	**Kouya**	**1.47**	**296**	S	**Sn**	**06 18 31.5**	**-0.8**
JWM	**Minabe**	**1.55**	**281**	P	**Pn**	**06 18 13.2**	**-1.4**
JHE	**Heguri**	**1.65**	**311**	P	**Pn**	**06 18 15.0**	**-0.9**
JHE				S	**Sn**	**06 18 36.8**	**+0.1**
SHZ3	**Shizuoka 3**	**1.71**	**29**	P	**Pn**	**06 18 15.3**	**-1.5**
JHJ	**Hachijo jima 2**	**2.22**	**101**	Pn	**Pn**	**06 18 22.4**	**-1.7**
	20nm,0.3s,baz=238,slow=22,SNR=3.3						
JHJ				Sn	**Sn**	**06 18 51.5**	**+0.4**
	32nm,0.3s,baz=72,slow=23,SNR=3.6						
MAJO	**Matsushiro**	**3.08**	**15**	*e*Pn	**Pn**	**06 18 36.4**	**+0.1**
MAT	**Matsushiro**	**3.08**	**15**	P	**Pn**	**06 18 35.7**	**-0.6**
MAT				S	**Sn**	**06 19 09.6**	**-3.3**
MAT	**Matsushiro**	**3.08**	**15**	*e*P	**Pn**	**06 18 36.0**	**-0.3**
MAT				*e*S	Sn	06 19 39.0	+26
JNU	**Nakatsue**	**5.30**	**267**	LR	LR	06 21 16.0	
	comp=Z,835nm,21.4s,baz=124,slow=38						
JOW	**Kunigami**	**10.23**	**231**	LR	LR	06 23 46.5	
	comp=Z,357nm,20.8s,baz=81,slow=34						
ENH	**Enshi**	**23.71**	**270**	*e*P	**P**	**06 23 00.7**	**+1.4**
	23nm,0.8s,mb4.7						
SONM	**Songino Array**	**27.13**	**311**	P	**P**	**06 23 30.5**	**-0.8**
	0.5nm,0.6s,mb3.2,baz=112,slow=7.8,SNR=3.3						
CMAR	**Chiang Mai Arr**	**37.29**	**256**	P	**P**	**06 25 05.1**	**+4.8**
	1.5nm,0.5s,mb4.1,baz=47,slow=7.2,SNR=10						
MKAR	**Makanchi Array**	**43.13**	**305**	P	**P**	**06 25 48.7**	**+0.4**
	2.1nm,0.7s,mb4.0,baz=93,slow=9.4,SNR=10						
KURK	**Kurchatov**	**45.44**	**310**	*e*P	**P**	**06 26 05.8**	**-1.0**
	1.9nm,0.6s,mb4.1						
BVAR	**Borovoye Array**	**50.41**	**314**	P	**P**	**06 26 45.3**	**-0.2**
	1.8nm,0.8s,mb4.2,baz=90,slow=8.9,SNR=5.6						
ZRNK	**Zerenda**	**51.25**	**314**	P	**P**	**06 26 53.4**	**+1.5**
	2.4nm,0.6s,mb4.3						
WRA	**Warramunga Arr**	**53.29**	**183**	P	**P**	**06 27 10.1**	**+2.4**
	2.2nm,0.8s,mb4.2,baz=1.2,slow=7.7,SNR=9.3						
ILAR	**Eielson Array**	**54.24**	**31**	P	**P**	**06 27 13.0**	**-1.0**
	0.7nm,0.7s,mb3.7,baz=264,slow=4.9,SNR=11						
ASAR	**Alice Springs**	**57.01**	**184**	P	**P**	**06 27 38.0**	**+3.3**
	2.0nm,0.8s,mb4.2,baz=15,slow=8.5,SNR=11						
ARCES	**ARCESS Array B**	**66.00**	**339**	P	**P**	**06 28 35.0**	**+0.6**
	2.9nm,0.8s,mb4.4,baz=53,slow=6.1,SNR=3.8						
HLID	**Hailey**	**79.25**	**45**	*e*P	**P**	**06 29 52.3**	**-0.8**
	1.0nm,0.7s,mb3.9						
TPNV	**Topopah Spring**	**82.02**	**51**	*e*P	**P**	**06 30 08.4**	**+0.6**
	3.5nm,1.1s,mb4.2						
DUG	**Dugway**	**82.23**	**47**	*e*P	**P**	**06 30 08.2**	**-0.7**
	2.6nm,0.9s,mb4.2						
PDAR	**Pinedale Array**	**82.55**	**43**	P	**P**	**06 30 11.5**	**+1.1**
	0.8nm,1.0s,mb3.7,baz=307,slow=4.5,SNR=3.1						
PV10	**Paradox Valley**	**85.65**	**46**	*e*P	**P**	**06 30 28.0**	**+1.8**
TXAR	**Lajitas Array**	**94.97**	**50**	P	**P**	**06 31 10.6**	**+0.4**
	0.6nm,1.0s,mb4.0,baz=293,slow=6.9,SNR=3.1						

IDC ***07*** *06:38:45.2±1.8,8.79S×124.59E,mb3.7/1,mb1 4.0/4, mb1mx3.8/12,ML3.7/3,Error ellipse: s-maj=107.0km s-min=27.0km az=65.0*

NEIC ***07*** *06:38:57.4±3.0,9.44S×124.25E,h115^{km}±32^{km},mb4.1/1, Error ellipse: s-maj=28.8km s-min=25.7km az=58.0*

ISC 07 06:38:59.0±2.1**,9.7S**±0.1×**124.3E**±0.1**,h157**^{km}±25^{km}**,n8,** σ1^{s}**02**/14**,mb3.6**/1**,Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**8.51**	**171**	*e*P	**P**	**06 41 00.5**	**+0.4**
	4.8nm,0.7s						
FITZ				*e*S	**S**	**06 42 33.8**	**-0.9**
FITZ	**Fitzroy Crossi**	**8.51**	**171**	Pn	**P**	**06 40 59.7**	**-0.4**
	0.7nm,0.3s,baz=5.4,slow=10,SNR=43						
FITZ				Sn	**S**	**06 42 34.2**	**-0.6**
	3.3nm,0.3s,baz=172,slow=12,SNR=14						
KAKA	**Kakadu**	**8.55**	**112**	*e*P	**P**	**06 40 59.9**	**-0.8**
	6.2nm,0.4s						
KAKA				*e*S	**S**	**06 42 35.5**	**-0.2**
WRA	**Warramunga Arr**	**14.13**	**138**	Pn	**P**	**06 42 13.6**	**+0.2**
	0.6nm,0.3s,baz=317,slow=13,SNR=12						
WRA				Sn	**S**	**06 44 47.6**	**+1.1**
	0.8nm,0.3s,baz=308,slow=24,SNR=8.4						
WRAB	**Tennant Creek**	**14.13**	**137**	*e*P	**P**	**06 42 14.0**	**+0.6**
	3.6nm,0.3s						
WB2	**Warramunga Arr**	**14.14**	**138**	*e*P	**P**	**06 42 14.0**	**+0.6**
WB2				*e*S	**S**	**06 44 44.8**	**-1.8**
ASAR	**Alice Springs**	**16.72**	**148**	P	**P**	**06 42 48.5**	**+3.0**
	0.3nm,0.3s,baz=326,slow=12,SNR=11						
ASAR				S	**S**	**06 45 55.7**	**+11**
	0.4nm,0.3s,baz=316,slow=21,SNR=9.0						
MKAR	**Makanchi Array**	**67.49**	**330**	P	**P**	**06 49 39.6**	**-0.7**
	0.7nm,0.8s,mb3.6,baz=149,slow=7.1,SNR=5.7						

NIED ***07*** *06:51:00,32.90N×137.40E,h35^{km},Mw4.1 Best double couple: M$_0$1.81×10^{15} NP1:φ$_s$161°,δ86°,λ-145°. NP2: φ$_s$68°,δ55°,λ-4°.*

JMA ***07*** *06:51:48.8±0.1,32.92N×137.43E,h43^{km}±3^{km},M3.7*

IDC ***07*** *06:51:51.9±1.1,33.21N×137.17E,mb3.8/5,mb1 4.0/6, mb1mx3.7/21,ML3.5/1,MS3.8/4,Ms1 3.8/4,ms1mx3.2/28, Error ellipse: s-maj=38.6km s-min=22.8km az=33.0*

NEIC ***07*** *06:51:53.8±1.0,33.32N×137.19E,h10^{km},mb4.4/1,Error ellipse: s-maj=23.6km s-min=15.9km az=110.0*

ISC 07 06:51:50.0±1.2**,33.09N**±0.04×**137.31E**±0.04**,h11**^{km}±8^{km}**, n28,**σ1^{s}**02**/38**,mb3.8**/6**,MS4.3**/2**,Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	**Tokai 1**	**0.72**	**19**	P	**Pg**	**06 52 04.6**	**+0.1**
TK01				*e*S	**Sg**	**06 52 16.4**	**+2.3**
TK02	**Tokai 2**	**0.94**	**23**	P	**Pb**	**06 52 07.6**	**-0.1**
TK02				*e*S	**Sb**	**06 52 20.6**	**+0.7**
TK03	**Tokai 3**	**1.21**	**27**	P	**Pb**	**06 52 11.2**	**-1.2**
TK04	**Tokai 4**	**1.38**	**20**	P	**Pb**	**06 52 14.1**	**-1.2**
JIE	**Ise**	**1.40**	**339**	P	**Pn**	**06 52 15.6**	**+0.1**
JIE				*e*S	**Sb**	**06 52 34.8**	**+1.6**
JWZ	**Kozaga**	**1.41**	**289**	P	**Pn**	**06 52 14.6**	**-1.0**
JWZ				*e*S	**Sb**	**06 52 33.1**	**-0.4**
JKN	**Kiinagashima**	**1.45**	**323**	P	**Pn**	**06 52 16.1**	**-0.1**
JKN				*e*S	**Sb**	**06 52 35.2**	**+0.4**
JAA	**Atsumi**	**1.55**	**355**	P	**Pn**	**06 52 17.2**	**-0.4**
JAA				S	**Sb**	**06 52 38.4**	**+0.7**
TSUJ	**Tsu 2**	**1.78**	**336**	*e*S	**Sn**	**06 52 44.3**	**+0.6**
JWM	**Minabe**	**1.80**	**296**	P	**Pn**	**06 52 20.8**	**-0.5**
JWM				*e*S	**Sn**	**06 52 44.0**	**-0.2**
JWY	**Kouya**	**1.82**	**309**	*e*S	**Sn**	**06 52 45.3**	**+0.5**
JHE	**Heguri**	**2.07**	**320**	P	**Pn**	**06 52 25.3**	**+0.2**
JHE				*e*S	**Sn**	**06 52 51.6**	**+0.6**
JHJ	**Hachijo jima 2**	**2.08**	**88**	Pn	**Pn**	**06 52 28.2**	**+3.0**
	31nm,0.3s,baz=64,slow=24,SNR=7.4						
JHJ				LR	LR	06 53 10.7	
	comp=Z,858nm,21.0s,baz=251,slow=35						
JIZS	**Izushimoda**	**2.09**	**38**	*e*S	**Sn**	**06 52 48.8**	**-2.7**
SHZ3	**Shizuoka 3**	**2.11**	**21**	P	**Pn**	**06 52 24.1**	**-1.6**
SHZ3				*e*S	**Sn**	**06 52 50.8**	**-1.3**
JAI	**Aioi**	**2.49**	**287**	P	**Pn**	**06 52 30.4**	**-0.7**
JAI				*e*S	**Sn**	**06 53 00.5**	**-1.2**
MAJO	**Matsushiro**	**3.53**	**12**	*e*Pn	**Pn**	**06 52 45.6**	**-0.3**
MAT	**Matsushiro**	**3.53**	**12**	P	**Pn**	**06 52 45.2**	**-0.7**
MAT				S	**Sn**	**06 53 27.9**	**-0.1**
MAT	**Matsushiro**	**3.53**	**12**	*e*P	**Pn**	**06 52 45.0**	**-0.9**
MAT				*e*S	**Sn**	**06 53 28.0**	**0.0**
ASAJ	**Asahikawa**	**11.76**	**19**	LR	LR	06 59 08.3	
	comp=Z,116nm,20.1s,baz=171,slow=37						
SONM	**Songino Array**	**27.53**	**312**	P	**P**	**06 57 39.1**	**+0.7**
	0.6nm,0.9s,mb3.2,baz=113,slow=11,SNR=2.6						
MKAR	**Makanchi Array**	**43.49**	**305**	P	**P**	**06 59 54.8**	**+0.1**
	0.6nm,0.9s,mb3.3,baz=90,slow=12,SNR=2.5						
KURK	**Kurchatov**	**45.83**	**311**	*e*P	**P**	**07 00 14.6**	**+1.1**
	4.0nm,0.8s,mb4.4						
BVAR	**Borovoye Array**	**50.82**	**314**	P	**P**	**07 00 52.1**	**-0.1**

	1.4nm,1.1s,mb3.8,baz=76,slow=5.9,SNR=2.8						
WRA	**Warramunga Arr**	**52.80**	**184**	P	**P**	**07 01 10.0**	**+2.3**
	1.6nm,0.7s,mb4.1,slow=7.4,SNR=5.9						
WRA				LR	LR	07 24 26.3	
	comp=Z,259nm,19.0s,MS4.3,baz=350,slow=37						
ASAR	**Alice Springs**	**56.53**	**184**	LR	LR	07 26 54.0	
	comp=Z,201nm,19.0s,MS4.2,baz=229,slow=37						
TXAR	**Lajitas Array**	**95.21**	**50**	P	**P**	**07 05 19.7**	**+4.7**
	0.5nm,0.9s,mb3.9,baz=304,slow=6.5,SNR=4.2						
TXAR	**Lajitas Array**	**95.21**	**50**	P	**P**	**07 05 19.7**	**+4.7**

IDC ***07*** *06:53:27.4±1.3, 13.06N×124.81E, mb4.2/8, mb1 4.3/8, mb1mx4.1/19, Error ellipse: s-maj=89.3km s-min=15.6km az=70.0*

MAN ***07*** *06:53:29.9, 13.51N×125.39E, h32^{km}, mb4.9, ML3.8, MS3.8*

NEIC ***07*** *06:53:31.6±0.6, 13.25N×125.35E, h35^{km}, mb4.7/6, Error ellipse: s-maj=38.4km s-min=6.5km az=70.0*

ISC 07 06:53:29.7±1.0**, 13.50N**±0.04×**125.42E**±0.07**, h48**^{km}±10^{km}**, n34, **σ1^s**18**/41**, mb4.4**/13**, 2C-4D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CNP	**Catarman**	**1.23**	**217**	*e*P	**P**	**06 53 54.5**	**+3.8**
CNP				*e*S	**S**	**06 54 07.7**	**+1.3**
PVCP	**Virac**	**1.24**	**275**	*e*P	**P**	**06 53 50.4**	**-0.4**
PVCP				*e*S	**S**	**06 54 05.3**	**-1.4**
BESP	**Borongan**	**1.88**	**179**	*e*P	**P**	**06 53 60.0**	**-0.1**
MMPH	**Masbate**	**2.08**	**237**	⇓*i*P	**P**	**06 54 06.0**	**+3.1**
MMPH				*i* S	S	06 55 00.4	+33
PLP	**Palo**	**2.36**	**191**	*e*P	**P**	**06 54 06.6**	**-0.2**
PLP				*e*S	**S**	**06 54 34.3**	**-0.3**
OCLP	**Ormoc**	**2.56**	**198**	*e*P	**P**	**06 54 10.9**	**+1.3**
GQP	**Guinayangan**	**2.92**	**278**	⇓*e*P	**P**	**06 54 14.5**	**-0.3**
GQP				*e*S	**S**	**06 54 48.1**	**-0.8**
RCP	**Roxas**	**3.25**	**234**	⇓*e*P	**P**	**06 54 20.2**	**+0.8**
RCP				*e*S	**S**	**06 54 58.3**	**+1.2**
MSLP	**Maasin**	**3.39**	**189**	*e*P	**P**	**06 54 22.6**	**+1.2**
POLP	**Polilio Island**	**3.59**	**290**	*e*P	**P**	**06 54 25.1**	**+0.8**
POLP				*e*S	**S**	**06 55 05.1**	**-0.8**
LQP	**Lukban**	**3.82**	**280**	⇑*e*P	**P**	**06 54 27.5**	**0.0**
TBP	**Tagbilaran**	**4.08**	**202**	*e*P	**P**	**06 54 29.6**	**-1.6**
LBPH	**Los Banos**	**4.17**	**280**	⇓*i*P	**P**	**06 54 32.3**	**-0.1**
ARP	**Angono**	**4.27**	**285**	⇑*i*P	**P**	**06 54 32.9**	**-1.0**
CAUP	**Cauayan**	**4.88**	**315**	*e*P	**P**	**06 54 41.4**	**-1.1**
CVP	**Callao Caves**	**5.43**	**321**	*e*P	**P**	**06 54 50.7**	**+0.6**
CVP				*e*S	**S**	**06 55 46.1**	**-6.1**
APYP	**Conner**	**5.92**	**318**	*e*P	**P**	**06 54 57.2**	**+0.4**
ABRA	**Dolores**	**6.13**	**313**	*e*P	**P**	**06 54 58.5**	**-1.4**
KAKA	**Kakadu**	**26.93**	**165**	*e*P	**P**	**06 59 08.0**	**-0.7**
	13nm,0.6s,mb4.6						
FITZ	**Fitzroy Crossi**	**31.40**	**180**	*e*P	**P**	**06 59 47.5**	**-1.0**
	6.3nm,0.8s,mb4.5						
FITZ	**Fitzroy Crossi**	**31.40**	**180**	P	**P**	**06 59 46.7**	**-1.9**
	3.9nm,0.4s,mb4.6,baz=3.7,slow=9.2,SNR=25						
WRAB	**Tennant Creek**	**34.36**	**165**	*e*P	**P**	**07 00 13.2**	**-1.1**
	6.9nm,0.7s,mb4.7						
WRA	**Warramunga Arr**	**34.37**	**165**	P	**P**	**07 00 13.1**	**-1.2**
	1.4nm,0.5s,mb4.1,baz=330,slow=11,SNR=13						
WB2	**Warramunga Arr**	**34.37**	**165**	*e*P	**P**	**07 00 13.3**	**-1.0**
MBWA	**Marble Bar**	**34.89**	**189**	*e*P	**P**	**07 00 17.4**	**-1.3**
	4.9nm,0.5s,mb4.7						
SONM	**Songino Array**	**37.73**	**339**	P	**P**	**07 00 45.5**	**+3.1**
	0.9nm,0.5s,mb3.8,baz=151,slow=9.6,SNR=6.6						
ASAR	**Alice Springs**	**37.85**	**167**	P	**P**	**07 00 44.2**	**+0.5**
	2.5nm,0.5s,mb4.2,baz=351,slow=7.9,SNR=22						
NWAO	**Narrogin (SRO)**	**46.82**	**189**	P	**P**	**07 01 56.2**	**-0.4**
	28nm,1.1s,mb5.1,baz=16,slow=10.0,SNR=6.7						
STKA	**Stephens Creek**	**47.70**	**161**	P	**P**	**07 02 03.4**	**-0.3**
	2.8nm,0.7s,mb4.4,baz=318,slow=12,SNR=3.9						
STKA	**Stephens Creek**	**47.70**	**161**	P	**P**	**07 02 03.4**	**-0.3**
MKAR	**Makanchi Array**	**48.98**	**321**	P	**P**	**07 02 16.1**	**+2.7**
	0.4nm,0.5s,mb3.8,baz=103,slow=7.2,SNR=5.5						
KURK	**Kurchatov**	**52.96**	**325**	*e*P	**P**	**07 02 45.5**	**+2.1**
	8.6nm,0.9s,mb4.7						
BVAR	**Borovoye Array**	**58.56**	**325**	P	**P**	**07 03 26.1**	**+2.5**
	0.4nm,0.5s,mb3.8,baz=90,slow=4.3,SNR=2.6						
BRVK	**Borovoye**	**58.63**	**325**	P	**P**	**07 03 26.0**	**+1.8**
	4.4nm,0.7s,mb4.6						

BJI ***07*** *07:04:02.5, 5.26N×124.86E, h35^{km}, mB5.3, mb5.1, Ms4.7, Msz4.5*

MAN ***07*** *07:04:04.5, 5.53N×124.05E, h26^{km}, mb5.8, ML4.9, MS5.3*

CSEM ***07*** *07:04:08.0, 6.03N×124.28E, h33^{km}, mb5.5*

NEIC ***07*** *07:04:10.3±1.5, 5.99N×124.41E, h35^{km}±13^{km}, mb5.1/28, Error ellipse: s-maj=9.6km s-min=4.4km az=60.0*

NEIC Felt on Mindanao.

HRVD ***07*** *07:04:10.3±0.3, 5.90N×124.18E, h18^{km}±1^{km}, MW5.2/49, Centroid moment Tensor Solution. LP body waves: s36,c57;Mantle waves: s49,c84; Half duration: 1^{s}0 Moment tensor: Scale 10^{16}Nm; M$_{rr}$4.79±.22; M$_{\theta\theta}$-0.89±.14; M$_{\phi\phi}$-3.90±.16; M$_{r\theta}$1.36±.35; M$_{\theta\phi}$2.52±.11; M$_{\phi r}$-5.80±.52; Best double couple: M$_0$7.83×10^{16} NP1: φ$_s$316°, δ22°, λ65°. NP2: φ$_s$163°, δ70°, λ100°. Principal axes: T 7.69, Plg64°, Azm89°; N .27, Plg9°, Azm340°; P -7.96, Plg25°, Azm246°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

SYO ***07*** *07:04:11.2, 5.97N×124.39E, h45^{km}, MB5.3*

MOS ***07*** *07:04:18.0±1.0, 6.74N×123.99E, h84^{km}, mb5.0/11, Error ellipse: s-maj=27.0km s-min=11.7km az=104.4*

IDC ***07*** *07:04:19.6±4.7, 5.84N×124.25E, h121^{km}±43^{km}, mb4.5/23, mb1 4.6/23, mb1mx4.6/25, MS4.2/11, Ms1 4.3/11, ms1mx4.0/22, Error ellipse: s-maj=21.4km s-min=9.5km az=67.0*

ISC 07 07:04:12.0±0.6**, 5.89N**±0.03×**124.38E**±0.04**, h63**^{km}±4^{km}**, h50**^{km}±6.5^{km}**:pP-P, n194, **σ1^s**18**/200**, mb5.0**/73**, 20C-9D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**0.60**	**70**	⇓*i*P	**P**	**07 04 26.0**	**+0.6**
KCP	**Kidapawan**	**1.32**	**32**	*e*P	**P**	**07 04 33.1**	**-1.8**
KCP				*e*S	**S**	**07 04 57.5**	**+5.7**
CTBH	**Cotabato--PC H**	**1.33**	**354**	⇑*i*P	**P**	**07 04 33.6**	**-1.5**
CTBH				*i* S	**S**	**07 04 50.8**	**-1.3**
DMPH	**Davao City--Mi**	**1.63**	**43**	*e*P	**P**	**07 04 32.4**	**-6.7**
DMPH				*i* S	**S**	**07 05 03.9**	**+4.9**
DAV	**Davao City (W)**	**1.67**	**45**	*e*P	**P**	**07 04 41.5**	**+1.9**
BUKP	**Musuan**	**2.09**	**19**	*e*P	**P**	**07 04 44.4**	**-1.0**
BUKP				*e*S	**S**	**07 05 13.3**	**+3.1**
MATI	**Mati**	**2.14**	**60**	*e*P	**P**	**07 04 46.7**	**+0.6**
MATI				*e*S	**S**	**07 05 16.5**	**+5.0**
PAGZ	**Pagadian**	**2.19**	**333**	*e*P	**P**	**07 04 42.2**	**-4.6**
PAGZ				*e*S	**S**	**07 05 13.5**	**+0.8**
ZMPH	**Zamboanga City**	**2.54**	**295**	⇓*i*P	**P**	**07 04 44.5**	**-7.3**
ZMPH				*i* S	**S**	**07 05 09.0**	**-13**
CGP	**Cagayan de Oro**	**2.57**	**7**	⇓*e*P	**P**	**07 04 53.4**	**+1.2**
CGP				*i* S	**S**	**07 05 27.1**	**+4.7**
IPIL	**Ipil**	**2.61**	**316**	*e*P	**P**	**07 04 46.3**	**-6.5**
DCPH	**Dipolog City**	**2.87**	**339**	⇑*i*P	**P**	**07 04 52.3**	**-4.2**
DCPH				*e*S	**S**	**07 05 30.1**	**+0.2**
BIPH	**Bislig**	**3.01**	**41**	⇑*e*P	**P**	**07 04 58.2**	**-0.2**
BIPH				*i* S	**S**	**07 05 45.8**	**+12**
BUTP	**Butuan**	**3.30**	**22**	*e*P	**P**	**07 05 03.0**	**+0.4**
SNPH	**Sibulan**	**3.62**	**342**	⇑*i*P	**P**	**07 05 13.0**	**+6.0**
TBP	**Tagbilaran**	**3.82**	**352**	*e*P	**P**	**07 05 08.1**	**-1.7**
SCPH	**Surigao**	**4.02**	**16**	⇑*e*P	**P**	**07 05 13.2**	**+0.6**
MSLP	**Maasin**	**4.25**	**6**	*e*P	**P**	**07 05 19.8**	**+4.0**
LLP	**Lapu-Lapu**	**4.42**	**355**	*e*P	**P**	**07 05 20.0**	**+1.8**
GUIM	**Jordan**	**5.03**	**339**	*e*P	**P**	**07 05 30.0**	**+3.2**
PLP	**Palo**	**5.28**	**6**	*e*P	**P**	**07 05 34.4**	**+4.3**
BESP	**Borongan**	**5.77**	**10**	*e*P	**P**	**07 05 39.8**	**+2.9**
RCP	**Roxas**	**5.87**	**344**	⇑*e*P	**P**	**07 05 42.8**	**+4.6**
CUYO	**Cuyo Island**	**5.95**	**326**	*e*P	**P**	**07 05 34.4**	**-5.0**
ENPP	**El Nido**	**7.21**	**317**	*e*P	**P**	**07 05 50.7**	**-6.3**
KKM	**Kota Kinabalu**	**8.13**	**272**	⇑*e*P	**P**	**07 06 04.5**	**-5.1**
QIZ	**Qiongzhong**	**19.27**	**314**	P	**P**	**07 08 37.2**	**+2.9**
QIZ				XP		07 08 50.9	
QIZ				S	**S**	**07 12 07.0**	**+3.8**
QIZ				LR	LR		
	comp=N,960nm,14.5s						
QIZ				LR	LR		
	comp=E,761nm,14.0s						
QIZ				LR	LR		
	comp=Z,1µm,18.6s						
KAKA	**Kakadu**	**20.11**	**157**	⇑*i*P	**P**	**07 08 42.5**	**-0.8**
	comp=Z,67nm,0.6s						
SNG	**Songkhla**	**23.65**	**274**	P	**P**	**07 09 12.0**	**-6.5**
FITZ	**Fitzroy Crossi**	**23.87**	**177**	*e*P	**P**	**07 09 20.7**	**+0.1**
	comp=Z,25nm,0.6s,mb4.8						
FITZ	**Fitzroy Crossi**	**23.87**	**177**	P	**P**	**07 09 20.8**	**+0.2**
	comp=Z,60nm,1.1s,mb4.9,baz=9.7,slow=8.8,SNR=36						
NNT	**Nongplab**	**25.21**	**287**	P	**P**	**07 09 34.0**	**+0.4**
NST	**Nakhon Sawan**	**25.70**	**294**	P	**P**	**07 09 38.0**	**-0.2**
WHN	**Wuhan**	**26.28**	**340**	P	**P**	**07 09 45.3**	**+1.8**
NANT	**Nan**	**26.41**	**301**	P	**P**	**07 09 45.0**	**+0.2**
NJ2	**Nanjing**	**26.54**	**349**	*e*P	**P**	**07 09 45.3**	**-0.5**
NJ2				AP	pP	07 09 55.2	-5.8
NJ2				XP	sP	07 09 59.0	-10
NJ2				PP	PP	07 10 29.9	-1.4
NJ2				PPP	PPP	07 10 42.1	-1.6
NJ2				S	**S**	**07 14 14.0**	**+0.4**
NJ2				AMB	AMB		
	comp=Z,100nm,1.2s,mb5.2						
NJ2				LR	LR		
	comp=N,290nm,16.0s						
NJ2				LR	LR		
	comp=E,630nm,10.0s						
NJ2				LR	LR		
	comp=Z,2µm,16.0s						
CBIJ	**Chichi jima**	**27.06**	**37**	P	**P**	**07 09 51.3**	**+0.7**
	comp=Z,95nm,0.6s,mb5.5,baz=265,slow=18,SNR=2.8						
CBIJ				LR	LR	07 19 55.6	
	comp=Z,391nm,18.1s,baz=355,slow=34						
BDT	**Bhumibol Dam**	**27.27**	**297**	P	**P**	**07 09 59.5**	**+6.9**
WRAB	**Tennant Creek**	**27.47**	**159**	*e*P	**P**	**07 09 53.2**	**-1.2**
	comp=Z,62nm,0.7s,mb5.2						
WRA	**Warramunga Arr**	**27.47**	**159**	P	**P**	**07 09 53.4**	**-1.1**
	comp=Z,17nm,0.8s,mb4.7,baz=337,slow=9.8,SNR=57						
WB2	**Warramunga Arr**	**27.48**	**159**	⇑*i*P	**P**	**07 09 53.3**	**-1.2**
JNU	**Nakatsue**	**27.77**	**12**	P	**P**	**07 09 58.5**	**+1.4**
	comp=Z,38nm,1.1s,mb5.0,baz=173,slow=8.1,SNR=2.8						
CMAR	**Chiang Mai Arr**	**27.78**	**299**	P	**P**	**07 09 57.2**	**-0.1**
	comp=Z,2.2nm,0.6s,mb4.0,baz=119,slow=6.9,SNR=12						
CMAR				LR	LR	07 21 09.7	
	comp=Z,468nm,18.4s,baz=110,slow=36						
ENH	**Enshi**	**28.02**	**332**	*e*P	**P**	**07 09 58.1**	**-1.2**
	comp=Z,25nm,0.8s,mb4.9						
KMI	**Kunming**	**28.21**	**315**	*e*P	**P**	**07 10 02.9**	**+1.8**
JHJ	**Hachijo jima 2**	**30.65**	**26**	LR	LR	07 20 13.4	
	comp=Z,748nm,20.5s,baz=124,slow=31						
ASAR	**Alice Springs**	**30.81**	**163**	P	**P**	**07 10 23.4**	**-0.7**
	comp=Z,8.1nm,0.6s,mb4.7,baz=336,slow=6.3,SNR=62						
ASPA	**Alice Springs**	**30.81**	**163**	*e*P	**P**	**07 10 23.3**	**-0.9**
XAN	**Xi’an**	**31.47**	**335**	P	**P**	**07 10 28.4**	**-1.5**
XAN				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.8						
CD2	**Chengdu**	**31.54**	**325**	P	**P**	**07 10 30.3**	**-0.2**
CD2				AMB	AMB		
	comp=Z,50nm,1.2s,mb5.2						
CTA	**Charters Tower**	**33.60**	**141**	*e*P	**P**	**07 10 48.9**	**+0.4**
	comp=Z,11nm,1.0s,mb4.8						
CTA	**Charters Tower**	**33.60**	**141**	P	**P**	**07 10 49.0**	**+0.4**
	comp=Z,14nm,1.0s,mb4.8,baz=331,slow=11,SNR=8.9						
CTAO	**Charters Tower**	**33.60**	**141**	*e*P	**P**	**07 10 48.9**	**+0.4**
	comp=Z,22nm,1.0s,mb5.0						
BJT	**Baijiatuau**	**34.78**	**349**	*e*P	**P**	**07 10 56.6**	**-1.9**
	comp=Z,64nm,1.1s,mb5.5						
BJI	**Beijing**	**34.80**	**349**	*e*P	**P**	**07 10 57.8**	**-0.8**
BJI				S	**S**	**07 16 37.1**	**+13**
BJI				AMB	AMB		
	comp=Z,38nm,1.0s,mb5.3						
BJI				LR	LR		
	comp=N,601nm,18.8s						
BJI				LR	LR		
	comp=E,557nm,22.4s						
BJI				LR	LR		
	comp=Z,491nm,22.2s						
LZH	**Lanzhou**	**35.48**	**331**	P	**P**	**07 11 05.5**	**+1.0**
LZH				*e*S	**S**	**07 16 45.2**	**+11**
LZH				XS		07 17 02.0	
LZH				AMB	AMB		
	comp=Z,250nm,4.0s						
LZH				LR	LR		
	comp=N,1µm,15.1s						
LZH				LR	LR		
	comp=Z,2µm,22.2s						
SNY	**Shenyang**	**35.80**	**359**	⇑P	**P**	**07 11 08.6**	**+1.5**
SNY				LR	LR		
	comp=E,880nm,17.6s						
SNY				LR	LR		
	comp=Z,940nm,16.3s						
FORT	**Forrest**	**36.63**	**175**	*e*P	**P**	**07 11 13.5**	**-0.7**
	comp=Z,136nm,0.8s,mb5.8						
HHC	**Hu-ho-hao-te**	**36.66**	**344**	*e*P	**P**	**07 11 15.2**	**+0.8**
HHC				AP	pP	07 11 28.2	-2.1
HHC				XP	sP	07 11 33.0	-5.0
HHC				PP	PP	07 12 39.6	-0.8
HHC				S	**S**	**07 16 55.3**	**+3.0**
HHC				XS		07 17 14.8	
HHC				PCS		07 17 24.9	
HHC				SCS	ScS	07 21 24.7	+3.0
HHC				AMB	AMB		
	comp=Z,31nm,0.9s,mb5.1						
HHC				AMB	AMB		
	comp=Z,132nm,9.8s						
HHC				LR	LR		
	comp=N,787nm,18.4s						
HHC				LR	LR		
	comp=E,652nm,19.6s						
HHC				LR	LR		
	comp=Z,335nm,25.0s						
SHL	**Shillong**	**36.73**	**306**	*e*P	**P**	**07 11 15.0**	**-0.1**
SHL				*e*		07 16 50.0	
CN2	**Changchun**	**37.77**	**1**	*e*P	**P**	**07 11 23.7**	**+0.1**
MDJ	**Mudanjiang**	**38.84**	**6**	P	**P**	**07 11 31.4**	**-1.1**
MDJ				AP	pP	07 11 42.2	-6.3
MDJ				XP	sP	07 11 47.2	-9.0
MDJ				PCP	PcP	07 13 37.5	-5.7
MDJ				S	**S**	**07 17 27.9**	**+2.4**
MDJ				XS		07 17 46.3	
MDJ				SCS	ScS	07 21 32.6	-1.5
MDJ				AMB	AMB		
	comp=Z,16nm,1.0s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,145nm,5.3s						
MDJ				LR	LR		
	comp=N,128nm,31.2s						
MDJ				LR	LR		
	comp=E,328nm,27.0s						
MDJ				LR	LR		
	comp=Z,347nm,20.3s						
LSA	**Lhasa**	**39.27**	**311**	P	**P**	**07 11 36.6**	**+0.4**
GTA	**Gaotai**	**40.06**	**330**	P	**P**	**07 11 43.6**	**+0.9**
GTA				AP	pP	07 11 51.1	-7.7
GTA				XP	sP	07 11 54.3	-12
GTA				PP	PP	07 13 19.9	+0.5
GTA				PCP	PcP	07 13 47.8	+0.6
GTA				S	**S**	**07 17 48.7**	**+4.8**
GTA				SCS	ScS	07 21 45.8	+4.5
GTA				AMB	AMB		
	comp=Z,15nm,1.2s,mb4.6						
GTA				AMB	AMB		
	comp=Z,102nm,4.9s						
GTA				LR	LR		
	comp=N,309nm,20.2s						
GTA				LR	LR		
	comp=E,248nm,19.0s						
GTA				LR	LR		
	comp=Z,451nm,20.5s						
STKA	**Stephens Creek**	**40.98**	**157**	⇑*i*P	**P**	**07 11 51.3**	**+0.9**
	comp=Z,33nm,0.9s,mb5.0						
STKA	**Stephens Creek**	**40.98**	**157**	P	**P**	**07 11 51.4**	**+1.0**
	comp=Z,52nm,1.0s,mb5.1,baz=327,slow=7.2,SNR=24						
ASAJ	**Asahikawa**	**41.30**	**20**	P	**P**	**07 11 53.7**	**+0.9**
	comp=Z,4.3nm,0.7s,mb4.2,baz=245,slow=20,SNR=2.7						
GUN	**Gumba**	**42.58**	**305**	*e*P	**P**	**07 12 04.3**	**+0.7**
	comp=Z,98nm,0.9s,mb5.5						
ADE	**Adelaide**	**42.82**	**163**	⇑*i*P	**P**	**07 12 07.1**	**+1.6**
PKI	**Pulchoki**	**42.83**	**305**	*e*P	**P**	**07 12 05.8**	**+0.2**
	comp=Z,54nm,1.2s,mb5.1						
KKN	**Kakani**	**43.02**	**305**	*e*P	**P**	**07 12 07.5**	**+0.3**
	comp=Z,38nm,1.0s,mb5.1						
DMN	**Daman**	**43.09**	**305**	*e*P	**P**	**07 12 07.8**	**0.0**
	comp=Z,39nm,1.0s,mb5.1						
HIA	**Hailar**	**43.41**	**356**	*e*P	**P**	**07 12 09.0**	**-1.1**
	comp=Z,35nm,1.1s,mb5.0						
GKN	**Gorkha**	**43.62**	**305**	*e*P	**P**	**07 12 11.8**	**-0.3**
	comp=Z,40nm,1.1s,mb5.1						
KLR	**Kul’dur**	**43.64**	**7**	*e*P	**P**	**07 12 09.6**	**-2.4**
YSS	**Yuzh-Sakhalins**	**43.87**	**18**	*e*P	**P**	**07 12 13.0**	**-0.8**
KOLN	**Koldanda**	**44.38**	**304**	*e*P	**P**	**07 12 18.0**	**-0.2**
	comp=Z,45nm,0.9s,mb5.2						
SONM	**Songino Array**	**44.54**	**343**	P	**P**	**07 12 19.5**	**+0.3**
	comp=Z,24nm,1.1s,mb4.9,baz=162,slow=7.8,SNR=82						
ARMA	**Armidale**	**44.55**	**146**	⇑*i*P	**P**	**07 12 20.7**	**+1.2**
HYB	**Hyderabad**	**46.20**	**288**	*i* P	**P**	**07 12 35.0**	**+2.2**
CNB	**Canberra Magne**	**47.25**	**152**	*e*P	**P**	**07 12 42.8**	**+2.0**
	comp=Z,24nm,0.9s,mb5.1						
TOO	**Toolangi**	**47.50**	**157**	⇑*i*P	**P**	**07 12 44.4**	**+1.6**
	comp=Z,18nm,1.2s,mb5.0						
ZAK	**Zakamensk**	**47.74**	**342**	*e*P	**P**	**07 12 37.9**	**-6.6**
ZAK				*e*		07 14 12.0	
BHPL	**Bhopal**	**48.36**	**296**	*e*P	**P**	**07 12 50.8**	**+1.1**
BHPL				AMb	AMB	07 12 51.5	
	comp=Z,17nm,1.0s,mb5.0						
JOSI	**Joshimath**	**48.69**	**306**	*e*P	**P**	**07 12 52.3**	**+0.3**
JOSI				AMb	AMB	07 12 54.9	
	comp=Z,151nm,1.4s,mb5.8						
MOY	**Mondy**	**49.58**	**341**	*e*P	**P**	**07 12 59.1**	**+0.4**
WMQ	**Urumqi**	**49.63**	**325**	*e*P	**P**	**07 12 59.8**	**+0.6**
WMQ				AP	pP	07 13 12.2	-3.3
WMQ				XP	sP	07 13 16.8	-6.0
WMQ				PP	PP	07 14 55.1	+0.5
WMQ				*e*S	**S**	**07 20 03.5**	**+2.0**
WMQ				AMB	AMB		
	comp=Z,14nm,1.3s,mb4.8						
WMQ				LR	LR		
	comp=N,361nm,22.3s						
WMQ				LR	LR		
	comp=E,329nm,19.5s						
WMQ				LR	LR		
	comp=Z,432nm,20.0s						
AYAN	**Aya Nagar**	**50.01**	**302**	*e*P	**P**	**07 13 00.6**	**-1.7**
AYAN				AMb	AMB	07 13 02.9	
	comp=Z,15nm,0.9s,mb5.0						
KLP	**Kalpa**	**50.08**	**307**	*e*P	**P**	**07 13 03.0**	**+0.1**
KLP				*e*P		07 13 04.1	
KLP				AMb	AMB	07 13 05.3	
	comp=Z,23nm,1.6s,mb4.9						
POO	**Poona**	**50.79**	**289**	*e*P	**P**	**07 13 07.0**	**-1.4**
KHET	**Khetri**	**51.00**	**302**	*e*P	**P**	**07 13 09.3**	**-0.6**
KHET				AMb	AMB	07 13 11.6	
	comp=Z,20nm,1.0s,mb5.0						
BOD	**Bodaibo**	**52.43**	**353**	*e*P	**P**	**07 13 17.4**	**-2.7**
MKAR	**Makanchi Array**	**54.46**	**326**	P	**P**	**07 13 34.5**	**-0.9**
	comp=Z,7.1nm,0.9s,mb4.6,baz=117,slow=8.1,SNR=23						
MKAR				LR	LR	07 38 16.6	
	comp=Z,405nm,19.4s,baz=252,slow=37						
MKAR	**Makanchi Array**	**54.46**	**326**	*i* P	**P**	**07 13 34.2**	**-1.1**
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
PET	**Petropavlovsk**	**54.70**	**25**	⇓*i*P	**P**	**07 13 36.9**	**-0.1**
PET				*e*S	**S**	**07 21 11.8**	**+1.2**
PET				pmax	pmax		
	comp=Z,33nm,1.1s,mb5.3						
PET				pmax	pmax		
	comp=Z,300nm,3.7s						
PET				pmax	pmax		
	comp=Z,100nm,12.3s						
PET				smax			
	comp=E,100nm,17.8s						
PET				MLR	MLR		
	comp=Z,200nm,17.0s						
PET				MLR	MLR		
	comp=Z,200nm,20.0s						
JASL	**Jaisalmer**	**54.94**	**299**	*e*P	**P**	**07 13 37.6**	**-1.4**
JASL				AMb	AMB	07 13 40.5	
	comp=Z,24nm,0.8s,mb5.2						
YAK	**Yakutsk**	**56.16**	**3**	*d i*P	**P**	**07 13 45.1**	**-2.3**
YAK				pmax	pmax		
	comp=Z,75nm,1.1s,mb5.6						
YAK				MLR	MLR		
	comp=Z,300nm,17.0s						
YAK	**Yakutsk**	**56.16**	**3**	*e*P	**P**	**07 13 44.8**	**-2.5**
	comp=Z,94nm,1.0s,mb5.8						
AAK	**Ala-Archa**	**57.20**	**318**	*e*P	**P**	**07 13 53.8**	**-1.3**
	comp=Z,14nm,1.4s,mb4.8						
FRU	**Bishkek**	**57.20**	**318**	*e*P	**P**	**07 13 56.0**	**+0.9**
MA2	**Magadan**	**57.23**	**16**	*c i*P	**P**	**07 13 53.9**	**-1.1**
MA2				*e**PP	pP	07 14 12.2	+0.4
MA2				*e*S	**S**	**07 21 33.9**	**-10**
MA2				pmax	pmax		
	comp=Z,20nm,1.5s,mb4.9						
MA2	**Magadan**	**57.23**	**16**	*e*P	**P**	**07 13 53.8**	**-1.2**
	comp=Z,69nm,1.4s,mb5.5						
KURK	**Kurchatov**	**58.68**	**328**	P	**P**	**07 14 03.3**	**-1.9**
	comp=Z,90nm,1.0s,mb5.8,SNR=16						
KURK	**Kurchatov**	**58.68**	**328**	*i* P	**P**	**07 14 04.0**	**-1.2**
KURK				pmax	pmax		
	comp=Z,33nm,1.7s,mb5.1						
KURK	**Kurchatov**	**58.68**	**328**	*e*P	**P**	**07 14 03.5**	**-1.8**
	comp=Z,21nm,0.9s,mb5.2						
NVS	**Novosibirsk**	**58.91**	**334**	*e*P	**P**	**07 14 03.6**	**-3.1**
NVS				pmax	pmax		
	comp=Z,18nm,1.1s,mb5.0						
NVS				pmax	pmax		
	comp=N,16nm,1.2s						
NVS				pmax	pmax		
	comp=E,13nm,1.2s						
KKAR	**Karatay Array**	**60.07**	**317**	*i* P	**P**	**07 14 13.6**	**-1.3**
VOSK	**Vostochnaya**	**63.80**	**327**	P	**P**	**07 14 37.7**	**-2.0**
VOSK				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.8						
BVA0	**Borovoye Array**	**64.25**	**327**	P	**P**	**07 14 41.1**	**-1.6**
BVAR	**Borovoye Array**	**64.25**	**327**	P	**P**	**07 14 41.7**	**-1.0**
	comp=Z,14nm,1.1s,mb4.9,baz=127,slow=7.4,SNR=33						
BRVK	**Borovoye**	**64.32**	**327**	*e*P	**P**	**07 14 41.5**	**-1.6**
	comp=Z,40nm,1.1s,mb5.4						
RPZ	**Rata Peaks**	**64.86**	**144**	P	**P**	**07 14 47.3**	**+0.5**
	comp=Z,28nm,0.8s,mb5.3,baz=239,slow=0.3,SNR=16						
ZRNK	**Zerenda**	**64.97**	**327**	P	**P**	**07 14 45.7**	**-1.6**
ZRNK				pmax	pmax		
	comp=Z,29nm,1.3s,mb5.2						
URZ	**Urewera**	**65.70**	**137**	P	**P**	**07 14 52.2**	**-0.1**
	comp=Z,21nm,1.0s,mb5.1,baz=325,slow=4.5,SNR=12						
TIXI	**Tiksi**	**65.75**	**2**	*d i*P	**P**	**07 14 50.0**	**-2.0**
TIXI				*e*		07 15 21.4	
TIXI				pmax	pmax		
	comp=Z,40nm,1.1s,mb5.4						
TIXI				MLR	MLR		
	comp=Z,200nm,15.0s						
AB31	**Akbulak array**	**69.01**	**321**	*i* P	**P**	**07 15 10.8**	**-2.0**
AB31				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
ARU	**Arti**	**71.88**	**328**	⇓*i*P	**P**	**07 15 28.1**	**-1.9**
ARU				*e*	pP	07 15 47.0	-0.4
ARU				*i*		07 18 05.2	
ARU				*e*S	S	07 24 36.2	-8.3
ARU				*e*SS	SS	07 29 10.8	-13
ARU				pmax	pmax		
	comp=Z,14nm,1.2s,mb4.8						
CASY	**Casey**	**72.69**	**186**	⇑*i*P	**P**	**07 15 34.7**	**+0.1**
QRN	**Al-Qurain**	**75.33**	**298**	*e*P	**P**	**07 15 50.6**	**-0.1**
QRN				AMb	AMB	07 15 56.7	
	comp=Z,53nm,1.1s,mb5.4						
KBD	**Kabd**	**75.54**	**298**	*e*P	**P**	**07 15 51.5**	**-0.4**
RDF	**Al-Radifah**	**75.66**	**298**	*e*P	**P**	**07 15 51.9**	**-0.7**
RDF				AMb	AMB	07 15 54.5	
	comp=Z,47nm,1.0s,mb5.4						
RST	**Umm Al-Ruwaisa**	**76.16**	**299**	*e*P	**P**	**07 15 54.7**	**-0.7**
RST				AMb	AMB	07 15 57.2	
	comp=Z,69nm,1.0s,mb5.5						
MZLS	**Mizel**	**77.76**	**293**	P	**P**	**07 16 04.9**	**+0.5**
TATS	**Tathlith**	**79.50**	**289**	P	**P**	**07 16 14.4**	**+0.3**
ARSS	**Ar Rass**	**79.51**	**295**	P	**P**	**07 16 14.5**	**+0.5**
DJNS	**Zahran al Janu**	**79.53**	**287**	P	**P**	**07 16 15.6**	**+1.4**
AFFS	**‘Afif**	**79.78**	**293**	P	**P**	**07 16 15.7**	**+0.2**
SVW	**Sparrevohn**	**80.04**	**29**	*e*P	**P**	**07 16 16.7**	**+0.6**
TTA	**Tatalina**	**80.06**	**27**	*e*P	**P**	**07 16 16.1**	**0.0**
NAMS	**An Nimas**	**80.72**	**288**	P	**P**	**07 16 22.2**	**+1.7**
HILS	**Ha’il**	**80.75**	**297**	P	**P**	**07 16 21.8**	**+1.2**
RSO	**Redoubt South**	**81.39**	**30**	*e*P	**P**	**07 16 20.9**	**-2.3**
SPU	**Mount Spurr**	**81.77**	**29**	*e*P	**P**	**07 16 24.4**	**-0.8**
SOC	**Sochi**	**82.12**	**313**	*e*P	**P**	**07 16 25.0**	**-2.3**
SOC				*e*S	S	07 26 35.3	-0.2
SOC				pmax	pmax		
	comp=Z,43nm,1.2s,mb5.2						
SOC				pmax	pmax		
	comp=N,70nm,1.3s						
SOC				pmax	pmax		
	comp=E,16nm,0.6s						
LTHS	**Al Lith**	**82.35**	**290**	P	**P**	**07 16 30.3**	**+1.3**
SLKM	**Skilak Lake**	**82.64**	**30**	*e*P	**P**	**07 16 29.0**	**-0.7**
KBRS	**Khaybar**	**83.09**	**295**	P	**P**	**07 16 33.8**	**+1.2**
PMR	**Palmer**	**83.19**	**29**	*e*P	**P**	**07 16 31.9**	**-0.5**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MALT	Malatya	83.22	308	eP	P	07 16 34.2	+1.2
	comp=E,5.3nm,0.8s,mb4.6						
MCK	McKinley	83.29	27	eP	P	07 16 32.5	-0.4
	comp=E,61nm,1.0s,mb5.6						
SML	Sawmill	83.57	29	eP	P	07 16 34.1	-0.2
COLA	College	83.76	25c	iP	P	07 16 34.5	-0.7
COLA				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.4						
COLA	College	83.76	25	eP	P	07 16 34.7	-0.5
OBN	Obninsk	83.96	325	i P	P	07 16 34.1	-2.3
OBN				e*PP	pP	07 17 00.1	+5.9
OBN				i		07 17 05.1	
OBN				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.7						
ILAR	Eielson Array	84.17	26	P	P	07 16 36.2	-1.1
	comp=Z,13nm,0.8s,mb5.1,baz=248,slow=5.2,SNR=114						
ILAR				LR	LR	07 52 53.1	
	comp=Z,102nm,20.8s,baz=100,slow=35						
YNBS	Yanbu‘ al Bahr	84.33	294	P	P	07 16 40.6	+1.6
THY	Trims Highway	84.72	27	eP	P	07 16 40.3	+0.2
DIV	Divide	84.81	29	eP	P	07 16 40.8	+0.3
	comp=Z,224nm,1.3s,mb6.1						
EYAK	Cordova Ski Ar	84.85	30	eP	P	07 16 41.4	+0.6
UMJS	Umm Lajj	84.88	295	P	P	07 16 43.7	+1.9
MAW	Mawson	84.97	200	eP	P	07 16 41.6	+0.4
	comp=Z,3.0nm,1.2s,mb4.3						
MAW	Mawson	84.97	200	P	P	07 16 40.0	-1.2
	comp=Z,5.8nm,1.2s,mb4.6,baz=52,slow=7.3,SNR=5.5						
TBKS	Tabuk	85.35	298	P	P	07 16 45.7	+1.7
JMQS	Jabal Moqyreh	85.89	298	P	P	07 16 47.7	+1.0
HMDT	Nahal Hemdat	85.93	302	P	P	07 16 47.4	+0.6
MMLI	Mount Malkishu	86.01	302	P	P	07 16 48.1	+1.0
DRGI	Dragot	86.10	301	P	P	07 16 48.0	+0.4
PRNI	Paran	86.53	300	P	P	07 16 50.4	+0.6
JMOS	Jabal al Moall	86.54	299	P	P	07 16 51.2	+1.4
AQBJ	Aqaba	86.54	299	P	P	07 16 50.4	+0.6
ALWS	Ilw as Safayha	86.56	299	P	P	07 16 50.9	+1.0
BDAS	Al Bad‘	86.61	298	P	P	07 16 51.1	+1.0
EIL	Elat	86.63	299	P	P	07 16 50.8	+0.5
MBH	Mount Berech	86.65	299	P	P	07 16 50.9	+0.5
HAQS	Haql	86.70	299	P	P	07 16 51.9	+1.3
BRTR	Keskin Array B	86.86	309	P	P	07 16 50.9	-0.2
	comp=Z,1.7nm,0.5s,mb4.5,baz=135,slow=3.5,SNR=8.4						
BRTR				LR	LR	08 03 04.1	
	comp=Z,66nm,21.0s,baz=45,slow=41						
KMBO	Kilima Mbogo	87.26	269	LR	LR	07 55 25.3	
	comp=Z,94nm,18.1s,baz=94,slow=35						
DAWY	Dawson	87.47	26	eP	P	07 16 53.3	-0.2
ARCES	ARCESS Array B	87.63	340	P	P	07 16 53.6	-0.6
	comp=Z,4.1nm,0.7s,mb4.8,baz=68,slow=6.5,SNR=5.1						
ARCES				LR	LR	07 58 43.9	
	comp=Z,182nm,18.7s,baz=290,slow=37						
PPT	Papeete	88.00	108	eS	S	07 27 46.4	+13
PPT				eR		07 45 13.1	
	comp=Z,268nm,28.0s,baz=289						
KAF	Kangasniemi	88.61	332	ep	P	07 16 56.9	-2.1
	baz=76,slow=4.3						
AKASG	Malin Array Be	88.75	321	P	P	07 16 58.8	-1.1
	comp=Z,3.0nm,0.7s,mb4.7,baz=67,slow=4.6,SNR=4.7						
TBI	Tubuai	88.79	113	eSS	SS	07 33 51.5	+15
TBI				eR		07 45 38.4	
	comp=Z,196nm,25.2s						
FINES	FINESS Array B	88.84	332	P	P	07 16 59.1	-1.0
	comp=Z,6.2nm,0.8s,mb5.0,baz=104,slow=7.9,SNR=7.6						
FINES				LR	LR	08 00 23.1	
	comp=Z,141nm,20.9s,baz=32,slow=38						
DLBC	Dease Lake	93.09	30	eP	P	07 17 20.6	+0.7
SYO	Syowa Base	93.58	201	⇑P	P	07 17 22.2	+0.3
SYO	Syowa Base	93.58	201	⇑pP	pP	07 17 40.7	+0.7
QSPA	South Pole Qui	95.78	180	eP	P	07 17 32.5	+0.8
	comp=Z,7.7nm,1.1s,mb5.0						
NB2	NORSAR Subarra	95.83	333	P	P	07 17 30.6	-1.7
	comp=Z,1.9nm,0.7s,mb4.6,baz=66,slow=4.6						
NOA	NORSAR Array B	95.83	333	P	P	07 17 30.9	-1.3
	comp=Z,3.1nm,0.7s,mb4.8,baz=66,slow=4.6,SNR=8.5						
NOA				LR	LR	08 02 33.2	
	comp=Z,158nm,19.5s,baz=40,slow=36						
BRG	Berggiesshubel	98.12	323	eP	P	07 17 43.5	+0.5
BRG				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb5.2						
BRG	Berggiesshubel	98.12	323	eP	P	07 17 43.5	+0.5
	comp=Z,9.9nm,1.3s,mb5.2						
YKA	Yellowknife Ar	98.50	24	P	P	07 17 44.8	+0.4
	comp=Z,2.2nm,0.8s,mb4.7,baz=301,slow=4.7,SNR=6.6						
YKA				LR	LR	08 04 10.4	
	comp=Z,71nm,20.1s,baz=270,slow=36						
YKA	Yellowknife Ar	98.50	24	P	P	07 17 44.8	+0.4
GERES	GERESS Array B	98.95	321	P	P	07 17 46.5	-0.2
	comp=Z,0.9nm,0.7s,mb4.4,baz=63,slow=3.0,SNR=6.3						
VNA2	Neumayer--Watz	108.31	195	⇓iP	Pdif	07 18 34.6	+6.8
VNA3	Neumayer Olymp	108.67	194	⇓iP	Pdif	07 18 36.4	+7.0
ANMO	Albuquerque	117.25	46	⇑iPKIKP	PKPdf	07 22 52.6	+2.0
TXAR	Lajitas Array	122.07	50	PKP	PKPdf	07 23 00.7	+0.6
	comp=Z,0.4nm,0.7s,baz=270,slow=2.5,SNR=5.8						
JCT	Junction City	124.36	47	ePKPdf	PKPdf	07 23 05.8	+1.2
WVT	Waverly	128.43	33	ePKPdf	PKPdf	07 23 13.4	+1.1
TRQA	Tornquist	147.46	171	ePKPdf	PKPdf	07 23 50.1	+3.6
SDV	Santo Domingo	159.04	46	ePKPdf	PKPdf	07 24 05.1	+1.5
LPAZ	La Paz	163.96	131	PKP	PKPdf	07 24 11.0	+2.4
	comp=Z,1.8nm,0.2s,baz=48,slow=0.9,SNR=6.2						

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*NEIC **07** 07:15:16.9,44.87N×8.48E,h10^{km},ML3.1(GEN), ML2.9(LDG),ML2.8(STR),After GEN.*
*ROM **07** 07:15:17.3±0.3,44.85N×8.05E,h10^{km},MD2.7/4,ML2.2/6, Error ellipse: s-maj=4.6km s-min=1.8km az=90.0*
*STR **07** 07:15:18.5±0.4,44.85N×8.28E,h10^{km}±1^{km},Ml2.8,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **07** 07:15:19.4±0.2,44.77N×8.35E,h10^{km},Md2.9/2,Ml2.9/16, Error ellipse: s-maj=4.8km s-min=2.3km az=95.0*
ISC 07 07:15:16.3±0.4,**44.84N**±0.01×**8.40E**±0.02,**h9**^{km}±2^{km},**n66**, σ1^{s}**02**/112,**Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCP	Pian Castagno	0.31	161	P	Pg	07 15 23.6	+0.8
PCP				S	Sg	07 15 28.0	+0.9
FIN	Finale Ligure	0.64	193	ePG	Pg	07 15 29.6	+0.3
FIN				SG	Sg	07 15 39.2	+1.3
	127nm,0.2s						
FIN	Finale Ligure	0.64	193	ePg	Pg	07 15 29.6	+0.3
FIN				eSg	Sg	07 15 39.1	+1.2
ROB	Roburent	0.66	215	P	Pb	07 15 30.0	+0.3
ROB				S	Sg	07 15 39.4	+0.8
RORO		0.77	199	P	Pb	07 15 31.7	+0.3
RORO				S	Sb	07 15 42.3	+0.7
BHB	Bricherasio	0.81	271	P	Pb	07 15 32.8	+0.6
BHB				S	Sb	07 15 43.7	+0.7
TRAV		0.82	326	P	Pb	07 15 33.4	+1.2
RSP	Reno Superiore	0.87	291	P	Pb	07 15 33.6	+0.4
RSP				S	Sb	07 15 45.0	+0.3
MONE	Monesi	0.89	212	P	Pb	07 15 34.2	+0.7
MONE				S	Sb	07 15 46.1	+0.9
ENR	Entracque	0.93	229	P	Pb	07 15 34.8	+0.6
ENR				S	Sb	07 15 47.4	+0.9
FENE	Fenestrelle	0.97	282	P	Pb	07 15 35.3	+0.4
FENE				S	Sb	07 15 48.2	+0.5
STV2	Anna di Valdie	0.97	233	P	Pb	07 15 35.6	+0.7
STV2				S	Sb	07 15 48.3	+0.7
STV	Sta Anna Valdi	0.97	233	P	Pb	07 15 35.6	+0.7
STV				S	Sb	07 15 48.3	+0.6
PZZ	Prazzo	0.99	251	P	Pb	07 15 35.9	+0.8
PZZ				S	Sb	07 15 48.5	+0.5
IMI	Imperia	1.00	202	ePG	Pg	07 15 36.4	+0.1
IMI				SG	Sg	07 15 50.6	+0.9
	91nm,0.4s						
IMI	Imperia	1.00	202	ePg	Pg	07 15 36.4	+0.1
IMI				eSg	Sg	07 15 50.6	+1.0
SAOF	Saorge	1.05	216	Pg	Pg	07 15 37.1	-0.2
SAOF				Sg	Sg	07 15 51.1	-0.1
VAI	Varese	1.06	14	ePN	Pn	07 15 37.8	+0.5
	37nm,0.3s						
VAI	Varese	1.06	14	ePg	Pg	07 15 37.8	+0.2
LSD	Ceresole Reale	1.08	305	P	Pb	07 15 37.4	+0.7
LSD				S	Sb	07 15 51.8	+1.0
AUTN	L’Aution	1.09	220	Pg	Pg	07 15 38.3	+0.1
AUTN				Sg	Sg	07 15 53.0	+0.1
NEGI	Negi	1.11	207	P	Pb	07 15 37.0	-0.3
NEGI				S	Sb	07 15 50.9	-0.7
CODM		1.12	113	P	Pb	07 15 37.2	-0.3
RRL	Cesana Torines	1.15	275	P	Pb	07 15 38.7	+0.7
MCGN	Macugnaga	1.16	345	ePN	Pn	07 15 38.8	+0.1
MCGN				SN	Sn	07 15 54.7	0.0
	24nm,0.4s						
MCGN	Macugnaga	1.16	345	ePg	Pn	07 15 38.8	+0.1
MCGN				eSg	Sg	07 15 54.7	-0.2
MBDF	Montbardon	1.17	265	ePn	Pn	07 15 38.8	0.0
MBDF				eSg	Sg	07 15 54.8	-0.5
	27nm,0.2s						
SURF	Saint Ours	1.19	253	Pg	Pg	07 15 39.4	-0.7
SBF	Sospel	1.20	216	ePg	Pg	07 15 40.0	-0.3
SBF				eSg	Sg	07 15 56.0	-0.3
	188nm,0.3s						
AURF	Auriere	1.23	219	Pg	Pg	07 15 40.5	-0.3
GRAM		1.24	106	P	Pb	07 15 38.2	-1.1
BNI	Bardonecchia	1.24	281	ePn	Pn	07 15 40.0	+0.1
MVIF	Mont Vial	1.30	224	Pg	Pg	07 15 42.1	-0.2
MVIF				Sg	Sg	07 15 59.9	+0.2
BACM		1.32	115	P	Pb	07 15 39.5	-1.3
REVF	Revere	1.33	214	Pg	Pg	07 15 43.2	+0.4
REVF				Sg	Sg	07 16 01.6	+1.1
LPG	La Plagne	1.34	300	ePn	Pn	07 15 41.8	+0.5
LPG				ePg	Pg	07 15 45.3	+2.2
LPG				eSn	Sn	07 15 59.3	-0.1
	17nm,0.3s						
LPL	La Plagne	1.36	300	ePn	Pn	07 15 42.3	+0.7
LPL				ePg	Pg	07 15 46.3	+2.7
LPL				eSg	Sg	07 16 01.3	-0.5
	38nm,0.5s						
VALM		1.41	110	P	Pn	07 15 40.9	-1.3
VINC	Vinca	1.43	119	P	Pn	07 15 41.1	-1.5
ERBM	Eremo	1.49	106	ePN	Pn	07 15 47.8	+4.3
	47nm,0.6s						
ERBM	Eremo	1.49	106	ePg	Pg	07 15 47.8	+1.6
CALN	Calern	1.54	226	Pg	Pg	07 15 47.1	+0.1
CALN				Sg	Sg	07 16 06.6	-0.9
GSCL	Gusciola	1.64	107	ePN	Pn	07 15 49.7	+4.2
	15nm,0.5s						
GSCL	Gusciola	1.64	107	ePg	Pg	07 15 49.7	+0.7
OG25	Le Caire	1.73	255	Pg	Pg	07 15 49.3	-1.6
MAIM		1.76	121	P	Pn	07 15 45.5	-1.7
ORIF	Oris-en-Rattie	1.80	273	ePn	Pn	07 15 50.3	+2.5
ORIF				eSg	Sg	07 16 15.0	-1.2
	31nm,0.4s						
FRF	La Foret Royal	1.80	225	ePn	Pn	07 15 48.4	+0.6
FRF				ePg	Pg	07 15 50.7	-1.5
FRF				eSg	Sg	07 16 13.6	-2.6
	31nm,0.2s						
LMR	La Mourre	2.03	223	ePn	Pn	07 15 51.4	+0.2
LMR				ePg	Pg	07 15 55.0	-1.9
LMR				eSg	Sg	07 16 20.0	-4.0
	59nm,0.3s						
TAVF	Tavernes	2.08	235	Pg	Pg	07 15 56.7	-1.2
TAVF				Sg	Sg	07 16 24.7	-1.0
VILF	Villemus	2.17	244	Pg	Pg	07 15 58.1	-1.5
SMRF	Simiane la Rot	2.20	248	ePn	Pn	07 15 55.0	+1.4
SMRF				ePg	Pg	07 15 58.2	-2.1
SMRF				eSg	Sg	07 16 27.0	-2.7
	13nm,0.3s						
PGF	Pioggiola	2.33	169	ePn	Pn	07 15 55.6	+0.2
PGF				eSn	Sn	07 16 22.2	-2.3
	4.2nm,0.2s						
CABF	La Chapelle	2.40	318	ePn	Pn	07 15 58.0	+1.5
CABF				eSn	Sn	07 16 25.0	-1.3
	6.3nm,0.3s						
VIVF	Saint-Julien-l	2.65	272	ePn	Pn	07 15 59.2	-0.9
VIVF				eSn	Sn	07 16 32.2	-0.5
	6.2nm,0.2s						
HINF	Hinteralfeld	3.17	341	ePn	Pn	07 16 08.1	+0.7
HINF				eSn	Sn	07 16 43.0	-2.7
	5.4nm,0.4s						
LASF	Ste Croix	3.34	258	ePn	Pn	07 16 08.8	-1.1
LASF				eSn	Sn	07 16 45.6	-4.6
	4.3nm,0.4s						
HAU	Haudompre	3.47	337	ePn	Pn	07 16 12.2	+0.5
HAU				eSn	Sn	07 16 51.3	-2.1
	31nm,0.5s						
CDF	Champ du Feu	3.66	348	ePn	Pn	07 16 14.2	-0.1
SMF	Signal de Mont	3.67	301	ePn	Pn	07 16 15.2	+0.7
SMF				eSn	Sn	07 16 55.1	-3.3
	2.4nm,0.2s						
LOR	Lormes	3.99	309	ePn	Pn	07 16 19.6	+0.6
LOR				eSn	Sn	07 17 02.9	-3.6
	4.9nm,0.3s						
AVF	Avril sur Loir	4.04	301	ePn	Pn	07 16 20.1	+0.4
SSF	Saint Saulge	4.08	305	ePn	Pn	07 16 20.4	+0.1
BGF	Bois d’Agland	4.26	296	ePn	Pn	07 16 23.2	+0.3
TCF	Toulx Ste Croi	4.58	291	ePn	Pn	07 16 27.1	-0.4
MTLF	Montolieu	4.70	254	ePn	Pn	07 16 27.9	-1.3

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*IDC **07** 08:01:38.7±2.4,55.21S×26.18W,mb4.1/3,mb1 4.3/3, mb1mx4.0/10,Error ellipse: s-maj=303.0km s-min=26.0km az=45.0*
*NEIC **07** 08:01:40.5±0.9,55.42S×26.36W,h10^{km},mb4.3/4,Error ellipse: s-maj=28.1km s-min=11.9km az=53.0*
ISC 07 08:01:51.4±5.8,**55.6S**±0.2×**26.8W**±0.4,**h119**^{km}±59^{km},**n11**, σ0^{s}**59**/10,**mb4.1**/6,**1C-2D,South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	17.16	159	⇑i	P	08 05 45.3	+0.6
VNA3	Neumayer Olymp	17.37	161	⇓i	P	08 05 47.0	-0.3
SNAA	Sanae	19.09	157	⇓i	P	08 06 01.9	-4.9
PMSA	Palmer Station	20.36	228	eP	P	08 06 19.8	-0.1
	9.6nm,0.6s						
TRQA	Tornquist	29.33	292	P	P	08 07 44.4	-0.2
	2.2nm,0.8s,mb3.8						
QSPA	South Pole Qui	34.67	180	eP	P	08 08 30.6	-0.1
	3.0nm,0.6s,mb4.3						
CPUP	Villa Florida	36.66	310	P	P	08 08 46.8	-1.1
	1.1nm,0.8s,mb3.8,baz=162,slow=9.6,SNR=3.1						
MAW	Mawson	40.41	144	P	P	08 09 18.4	-0.2
	0.9nm,0.8s,mb3.7,baz=236,slow=9.6,SNR=4.3						
LVC	Limon Verde	45.24	299	eP	P	08 09 58.9	+0.7
	2.9nm,0.6s,mb4.2						
LPAZ	La Paz	50.27	305	P	P	08 10 38.3	+0.9
	5.5nm,0.3s,mb5.0,baz=144,slow=11,SNR=17						
ILAR	Eielson Array	149.95	312	PKPbc	PKPdf	08 21 29.2	+8.3
	1.2nm,0.7s,baz=113,slow=2.4,SNR=23						

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*IDC **07** 08:15:17.0±0.8,55.23S×28.71W,mb4.4/4,mb1 4.5/4, mb1mx4.2/9,MS3.8/1,Ms1 3.9/1,ms1mx3.4/12,Error ellipse: s-maj=83.3km s-min=20.9km az=47.0*
*NEIC **07** 08:15:18.7±0.4,55.35S×29.03W,h10^{km},mb4.5/5,Error ellipse: s-maj=20.1km s-min=8.3km az=61.0*
ISC 07 08:15:24.9±5.9,**55.4S**±0.2×**29.1W**±0.3,**h78**^{km}±60^{km},**n23**, σ1^{s}**09**/13,**mb4.4**/8,**3C-1D,South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	17.83	157	⇑i	P	08 19 38.6	+10
VNA3	Neumayer Olymp	18.00	160	⇑i	P	08 19 32.0	+1.1
VNA2	Neumayer--Watz	18.23	157	⇑i	P	08 19 33.8	+0.1
PMSA	Palmer Station	19.54	227	eP	P	08 19 47.3	-1.1
	20nm,1.1s						
SNAA	Sanae	19.80	156	⇓i	P	08 19 48.8	-2.3
TRQA	Tornquist	28.06	294	eP	P	08 21 11.2	+0.5
	5.9nm,1.0s,mb4.1						
QSPA	South Pole Qui	34.88	180	eP	P	08 22 11.7	+1.8
	5.0nm,0.6s,mb4.5						
CPUP	Villa Florida	35.55	313	P	P	08 22 15.5	-0.7
	5.9nm,0.7s,mb4.6,baz=174,slow=6.9,SNR=14						
MAW	Mawson	41.34	145	P	P	08 23 03.4	-0.4
	1.9nm,0.6s,mb4.1,baz=242,slow=8.0,SNR=10						
MAW				PcP	PcP	08 25 02.4	+0.8
	0.9nm,0.8s,baz=320,slow=8.8,SNR=3.6						
BDFB	Brasilia	42.25	332	P	P	08 23 12.1	+0.3
	3.7nm,0.8s,mb4.2,baz=159,slow=5.6,SNR=6.5						
LPAZ	La Paz	49.10	307	P	P	08 24 07.7	+1.4
	2.5nm,0.3s,mb4.6,baz=147,slow=4.6,SNR=8.2						
SAML	Samuel	53.56	317	eP	P	08 24 38.8	-1.2
	6.4nm,1.0s,mb4.6						
SDV	Santo Domingo	72.77	317	eP	P	08 26 46.6	+0.1
	9.3nm,1.0s,mb4.6						
ESDC	Sonseca Array	97.08	19	LR	LR	09 06 59.9	
	comp=Z,41nm,18.2s,baz=290,slow=32						
FINES	FINESS Array B	124.30	29	PKP	PKPdf	08 34 15.1	+1.4
	3.8nm,1.1s,baz=90,slow=1.9,SNR=6.7						
FINES	FINESS Array B	124.30	29	PKP	PKPdf	08 34 15.1	+1.4
ARCES	ARCESS Array B	130.72	22	PKP	PKPdf	08 34 27.5	+1.8
	5.7nm,1.1s,baz=90,slow=2.4,SNR=4.5						
DAWY	Dawson	145.53	313	ePKPdf	PKPdf	08 34 55.0	+2.6
DIV	Divide	147.38	306	ePKPbc	PKPdf	08 35 01.8	+6.2
ILAR	Eielson Array	148.86	313	PKPbc	PKPdf	08 35 04.8	+7.0
	9.4nm,0.8s,baz=121,slow=1.9,SNR=126						
COLA	College	149.28	313	ePKPbc	PKPdf	08 35 05.1	+6.6
MCK	McKinley	149.50	310	ePKPbc	PKPdf	08 35 06.7	+7.8
SONM	Songino Array	151.77	87	PKPbc	PKPdf	08 35 11.9	+9.1
	4.1nm,0.7s,baz=220,slow=3.4,SNR=27						

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*NIED **07** 08:53:00,33.50N×136.80E,h5^{km},Mw4.2 Best double couple: M$_0$2.4×10^{15} NP1:φ$_s$335°,δ83°,λ137°. NP2:φ$_s$71°, δ47°,λ9°.*
*IDC **07** 08:53:21.1±0.9,33.58N×136.87E,mb3.6/6,mb1 3.8/7, mb1mx3.7/20,ML3.4/1,MS3.2/4,Ms1 3.2/4,ms1mx3.0/34, Error ellipse: s-maj=26.2km s-min=22.1km az=60.0*
*NEIC **07** 08:53:22.9±0.7,33.58N×136.73E,h10^{km},mb4.5/2, MW4.2(NIED),Error ellipse: s-maj=18.4km s-min=11.4km az=112.0*
*JMA **07** 08:53:22.7,33.49N×136.76E,h42^{km}±2^{km},M3.9*
ISC 07 08:53:22.2±0.7,**33.51N**±0.04×**136.79E**±0.03,**h23**^{km}±5^{km}, **n27**,σ0^{s}**85**/37,**mb3.8**/8,**MS3.6**/1,**1C-2D,Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	Tokai 1	0.72	69	P	Pb	08 53 37.1	+1.2
TK01				eS	Sb	08 53 45.9	+0.6
JKN	Kiinagashima	0.85	329	P	Pb	08 53 38.4	+0.2
JKN				S	Sb	08 53 49.1	-0.1
JIE	Ise	0.88	356	⇓P	Pb	08 53 39.3	+0.7
JIE				eS	Sb	08 53 50.8	+0.9
JWZ	Kozaga	0.90	271	⇑P	Pb	08 53 38.5	-0.4
JWZ				eS	Sb	08 53 50.3	-0.1
TK02	Tokai 2	0.92	62	P	Pb	08 53 39.3	0.0
TK02				S	Sb	08 53 51.3	+0.2
JAA	Atsumi	1.15	15	⇓P	Pn	08 53 43.1	0.0
JAA				S	Sb	08 53 57.7	-0.2
TK03	Tokai 3	1.18	56	eS	Sb	08 53 58.0	-0.5
JWY	Kouya	1.22	306	P	Pn	08 53 44.1	+0.1
TSUJ	Tsu 2	1.23	346	P	Pn	08 53 44.3	+0.1
TSUJ				S	Sb	08 53 59.6	-0.5
JWM	Minabe	1.24	286	P	Pn	08 53 43.9	-0.5
JWM				eS	Sb	08 53 59.2	-1.1
TK04	Tokai 4	1.25	46	P	Pn	08 53 44.4	-0.2
TK04				eS	Sb	08 54 00.4	-0.4
JHE	Heguri	1.46	322	P	Pn	08 53 47.4	-0.1
JHE				eS	Sn	08 54 05.5	-0.5
JHJ	Hachijo jima 2	2.54	98	Pn	Pn	08 54 01.0	-2.0
	18nm,0.3s,baz=25,slow=23,SNR=3.7						
JHJ				Sn	Sn	08 54 31.9	-1.6
	55nm,0.3s,baz=97,slow=23,SNR=5.2						
JHJ				LR	LR	08 54 47.2	
	comp=Z,301nm,20.7s,baz=103,slow=34						
MAJO	Matsushiro	3.24	21	ePn	Pn	08 54 13.4	+0.5
MAT	Matsushiro	3.24	21	P	Pn	08 54 13.0	+0.1
MAT				S	Sn	08 54 51.1	-0.1
MAT	Matsushiro	3.24	21	eP	Pn	08 54 13.0	+0.1
MAT				eS	Sn	08 54 51.0	-0.2
JNU	Nakatsue	4.96	267	LR	LR	08 55 41.9	
	comp=Z,120nm,20.6s,baz=156,slow=28						
ASAJ	Asahikawa	11.51	21	LR	LR	09 01 17.1	
	comp=Z,105nm,20.7s,baz=357,slow=42						
ENH	Enshi	23.38	270	eP	P	08 58 31.3	+1.1
	13nm,0.8s,mb4.4						
SONM	Songino Array	26.92	311	P	P	08 59 03.0	-0.4
	0.8nm,0.7s,mb3.4,baz=120,slow=10.0,SNR=4.3						
ZAL	Zalesovo	41.63	315	LR	LR	09 20 37.2	
	comp=Z,82nm,18.6s,MS3.6,baz=239,slow=39						
MKAR	Makanchi Array	42.89	305	P	P	09 01 21.2	+0.7
	1.3nm,0.5s,mb3.9,baz=84,slow=9.9,SNR=14						
WRAB	Tennant Creek	53.20	183	eP	P	09 02 42.0	+0.9
	5.2nm,0.8s,mb4.5						
WRA	Warramunga Arr	53.21	183	P	P	09 02 40.0	-1.1
	0.6nm,0.6s,mb3.7,baz=360,slow=7.8,SNR=7.4						
ILAR	Eielson Array	54.47	31	P	P	09 02 48.7	-1.0
	0.3nm,0.7s,mb3.3,baz=263,slow=7.3,SNR=6.1						
ASAR	Alice Springs	56.93	183	P	P	09 03 10.3	+2.1
	0.4nm,0.6s,mb3.6,baz=18,slow=10,SNR=5.7						
PDAR	Pinedale Array	82.82	43	P	P	09 05 48.9	+3.0
	0.2nm,0.6s,mb3.3,baz=301,slow=5.3,SNR=3.1						

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*BJI **07** 09:15:33.0,52.20N×173.90E,h39^{km},mB5.0,mb4.9, Ms4.6,Msz4.3*
*NEIC **07** 09:15:33.1±1.1,52.17N×173.94E,h40^{km}±9^{km},mb4.6/34, MS4.4/2,ML4.4(PMR),Error ellipse: s-maj=12.8km s-min=4.9km az=185.0*
*MOS **07** 09:15:34.2±1.0,52.56N×173.83E,h48^{km},mb4.8/21,Error ellipse: s-maj=16.5km s-min=9.5km az=113.0*
*IDC **07** 09:15:34.6±6.2,52.48N×174.04E,h38^{km}±54^{km},mb4.2/19, mb1 4.4/19,mb1mx4.3/24,MS4.2/21,Ms1 4.2/21, ms1mx4.2/27,Error ellipse: s-maj=22.0km s-min=12.4km az=170.0*
ISC 07 09:15:32.2±0.9,**52.19N**±0.07×**173.98E**±0.04,**h46**^{km}±7^{km}, **h42**^{km}±1.9^{km}**:pP-P**,**n170**,σ1^{s}**07**/167,**mb4.6**/74,**MS4.3**/35, **3C-4D,Near Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SMY	Shemya	0.55	8	eP	P	09 15 43.9	0.0
PET	Petropavlovsk	9.37	281	eP	P	09 17 46.9	-0.5
PET				pmax	pmax		
	comp=Z,25nm,1.2s						
PET				MLR	MLR		
	comp=Z,600nm,14.0s						
PET	Petropavlovsk	9.37	281	eP	P	09 17 44.2	-3.3
NIKO	Nikolski	10.48	79	eP	P	09 18 03.6	+1.0
SKR	Severo-Kuril’s	11.25	269	eP	P	09 18 07.5	-5.6
SKR				pmax	pmax		
	comp=Z,50nm,0.7s						
SKR				pmax	pmax		
	comp=E,20nm,0.5s						
SKR				MLR	MLR		
	comp=E,1µm,14.0s						
MA2	Magadan	14.92	309	P	P	09 18 57.8	-3.6
MA2				eS	S	09 21 39.4	-6.5
MA2				pmax	pmax		
	comp=Z,10.0nm,1.5s						
MA2				MLR	MLR		
	comp=Z,4µm,17.0s						
MA2	Magadan	14.92	309	P	P	09 18 58.8	-2.6
	comp=Z,12nm,0.6s						
SEY	Seymchan	15.72	322	eP	P	09 19 17.2	+5.5
SEY				e		09 22 06.3	
SEY				pmax	pmax		
	comp=Z,30nm,0.9s						
SVW	Sparrevohn	18.79	50	eP	P	09 19 50.8	+0.9
	comp=Z,2.7nm,0.6s						
RSO	Redoubt South	20.03	53	eP	P	09 20 04.3	+0.7
SPU	Mount Spurr	20.49	51	eP	P	09 20 09.4	+1.0
YSS	Yuzh-Sakhalins	20.81	268c	eP	P	09 20 12.0	+0.1
YSS				pmax	pmax		
	comp=Z,23nm,1.2s						
SLKM	Skilak Lake	21.27	53	eP	P	09 20 17.4	+1.0
IMA	Indian Mountai	21.31	37	eP	P	09 20 16.7	-0.1
	comp=Z,10nm,1.0s,mb4.1						
PMR	Palmer	21.95	50	eP	P	09 20 23.6	+0.5
	comp=Z,2.5nm,0.5s,mb3.9						
ASAJ	Asahikawa	22.30	261	P	P	09 20 28.6	+1.9
	comp=Z,16nm,1.1s,mb4.4,baz=141,slow=5.3,SNR=5.4						
ASAJ				LR	LR	09 28 36.4	
	comp=Z,489nm,20.0s,MS3.9,baz=48,slow=35						
ASAJ	Asahikawa	22.30	261	P	P	09 20 28.6	+1.9
ASAJ				pmax	pmax		
	comp=Z,17nm,1.1s						
ASAJ				MLR	MLR		
	comp=Z,489nm,20.0s						
SML	Sawmill	22.36	50	eP	P	09 20 27.4	+0.3
MCK	McKinley	22.45	45	eP	P	09 20 27.4	-0.7
	comp=Z,3.4nm,0.7s,mb3.9						
COLA	College	23.19	42c	iP	P	09 20 35.8	+0.7
COLA				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.6						
COLA	College	23.19	42	eP	P	09 20 36.7	+1.6
	comp=Z,18nm,0.7s,mb4.6						
COLA				LR	LR		
	comp=Z,700nm,17.0s,MS4.2						
EYAK	Cordova Ski Ar	23.48	53	P	P	09 20 39.3	+1.3
DIV	Divide	23.50	52	eP	P	09 20 38.2	-0.1
	comp=Z,18nm,0.7s,mb4.6						
ILAR	Eielson Array	23.56	43	P	P	09 20 38.6	-0.2
	comp=Z,2.4nm,0.5s,mb3.9,baz=253,slow=6.6,SNR=59						

ILAR				LR	LR	09 30 05.1	
	comp=Z,280nm,19.9s,MS3.7,baz=269,slow=37						
ILAR	**Eielson Array**	**23.56**	**43**	P	**P**	**09 20 38.6**	**-0.2**
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ILAR				MLR	MLR		
	comp=Z,280nm,19.9s						
THY	**Trims Highway**	**23.78**	**46**	*e*P	**P**	**09 20 41.1**	**+0.3**
YAK	**Yakutsk**	**25.49**	**310***c*	*i*P	**P**	**09 20 56.9**	**-0.4**
YAK				*e*		09 21 38.7	
YAK				*e*PPP	PPP	09 21 48.1	-1.1
YAK				*e*SS	SS	09 26 29.0	+5.4
YAK				*e*		09 31 47.5	
YAK				pmax	pmax		
	comp=Z,16nm,0.6s,mb4.7						
YAK				pmax	pmax		
	comp=E,9.0nm,0.9s						
YAK				MLR	MLR		
	comp=E,166nm,17.0s						
YAK				MLR	MLR		
	comp=Z,217nm,17.0s,MS3.7						
YAK				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.5						
YAK				pmax	pmax		
	comp=N,6.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,18nm,1.1s						
YAK	**Yakutsk**	**25.49**	**310**	*e*P	**P**	**09 20 56.8**	**-0.6**
	comp=E,51nm,0.6s,mb5.2						
DAWY	**Dawson**	**26.67**	**45**	*e*P	**P**	**09 21 08.1**	**-0.2**
TIXI	**Tiksi**	**27.74**	**331**	*i* P	**P**	**09 21 16.1**	**-1.9**
TIXI				*i*		09 21 59.2	
TIXI				*i*		09 24 33.3	
TIXI				pmax	pmax		
	comp=Z,16nm,1.3s,mb4.5						
TIXI				MLR	MLR		
	comp=Z,300nm,16.0s,MS4.0						
MAJO	**Matsushiro**	**29.61**	**252**	P	**P**	**09 21 34.1**	**-0.9**
MDJ	**Mudanjiang**	**30.02**	**273**	P	**P**	**09 21 36.2**	**-2.4**
MDJ				AP	pP	09 21 46.0	-4.7
MDJ				XP	sP	09 21 53.2	-3.2
MDJ				S	**S**	**09 26 31.3**	**-1.0**
MDJ				XS		09 26 49.1	
MDJ				SCP		09 28 17.2	
MDJ				PCS		09 28 21.6	
MDJ				SCS	ScS	09 32 10.9	-0.2
MDJ				AMB	AMB		
	comp=Z,15nm,1.8s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,128nm,4.6s						
MDJ				LR	LR		
	comp=N,229nm,31.0s						
MDJ				LR	LR		
	comp=E,124nm,39.0s						
MDJ				LR	LR		
	comp=Z,351nm,34.4s,MS3.8						
DLBC	**Dease Lake**	**31.65**	**56**	P	**P**	**09 21 53.3**	**+0.5**
	comp=Z,0.8nm,0.6s,mb3.7,baz=307,slow=18,SNR=2.7						
DLBC	**Dease Lake**	**31.65**	**56**	*e*P	**P**	**09 21 52.4**	**-0.4**
CN2	**Changchun**	**32.99**	**275**	*e*P	**P**	**09 22 04.2**	**-0.5**
CN2				*e*AP	pP	09 22 16.2	-0.7
CN2				*e*S	**S**	**09 27 17.0**	**-1.8**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,500nm,15.0s,MS4.5						
CN2				LR	LR		
	comp=E,500nm,15.0s,MS4.5						
CN2				LR	LR		
	comp=Z,500nm,21.0s						
BOD	**Bodaibo**	**33.85**	**304**	*e*P	**P**	**09 22 10.4**	**-1.5**
JNU	**Nakatsue**	**36.31**	**256**	LR	LR	09 36 39.9	
	comp=Z,560nm,19.0s,MS4.4,baz=314,slow=35						
YKA	**Yellowknife Ar**	**37.91**	**46**	P	**P**	**09 22 44.4**	**-1.9**
	comp=Z,0.9nm,0.4s,mb3.9,baz=287,slow=7.4,SNR=13						
YKA	**Yellowknife Ar**	**37.91**	**46**	P	**P**	**09 22 44.4**	**-1.9**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
PGC	**Sidney**	**38.93**	**69**	P	**P**	**09 22 56.5**	**+1.6**
BJI	**Beijing**	**40.82**	**276**	*e*P	**P**	**09 23 12.8**	**+2.2**
BJI				PP	PP	09 24 49.5	+1.3
BJI				S	**S**	**09 29 19.2**	**+1.0**
BJI				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.3						
BJI				LR	LR		
	comp=N,312nm,18.6s,MS4.3						
BJI				LR	LR		
	comp=E,335nm,20.4s,MS4.3						
BJI				LR	LR		
	comp=Z,282nm,29.3s						
SONM	**Songino Array**	**42.23**	**292**	P	**P**	**09 23 23.5**	**+1.4**
	comp=Z,1.8nm,0.5s,mb4.0,baz=62,slow=8.0,SNR=26						
SONM				PcP	PcP	09 25 15.0	-1.1
	comp=Z,1.5nm,1.0s,baz=63,slow=3.2,SNR=3.0						
DPW	**Davenport**	**42.34**	**68**	*e*P	**P**	**09 23 22.4**	**-0.6**
HAWA	**Hanford**	**42.38**	**70**	*e*P	**P**	**09 23 23.4**	**+0.1**
	comp=Z,2.4nm,0.5s,mb4.1						
ZAK	**Zakamensk**	**42.64**	**297**	*i* P	**P**	**09 23 26.1**	**+0.7**
NEW	**Newport**	**42.75**	**67**	P	**P**	**09 23 26.3**	**0.0**
	comp=Z,1.1nm,0.3s,mb4.0,baz=354,slow=5.6,SNR=3.6						
NEW	**Newport**	**42.75**	**67**	P	**P**	**09 23 26.3**	**0.0**
NEW				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NEW	**Newport**	**42.75**	**67**	*e*P	**P**	**09 23 25.7**	**-0.6**
	comp=Z,22nm,1.1s,mb4.8						
LNOR	**Lincton Mounta**	**43.39**	**70**	P	**P**	**09 23 34.0**	**+2.4**
SSE	**Sheshan**	**43.58**	**262**	*e*P	**P**	**09 23 32.3**	**-1.1**
SSE				AP	pP	09 23 45.4	-0.4
SSE				S	**S**	**09 29 56.8**	**-2.1**
SSE				AMB	AMB		
	comp=Z,26nm,0.7s,mb5.1						
SSE				LR	LR		
	comp=N,159nm,27.3s,MS3.9						
SSE				LR	LR		
	comp=E,95nm,27.2s,MS3.9						
SSE				LR	LR		
	comp=Z,188nm,27.4s,MS3.9						
NJ2	**Nanjing**	**44.35**	**265**	*e*P	**P**	**09 23 40.6**	**+1.1**
NJ2				AP	pP	09 23 49.4	-2.6
NJ2				XP	sP	09 23 54.3	-3.2
NJ2				PP	PP	09 25 24.4	-0.1
NJ2				PPP	PPP	09 26 02.8	-1.0
NJ2				S	**S**	**09 30 10.0**	**0.0**
NJ2				XS		09 30 27.0	
NJ2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.0						
NJ2				LR	LR		
	comp=N,2µm,14.1s,MS5.2						
NJ2				LR	LR		
	comp=E,1µm,14.6s,MS5.2						
NJ2				LR	LR		
	comp=Z,370nm,14.6s,MS4.4						
MOD	**Modoc**	**44.50**	**76**	P	**P**	**09 23 40.5**	**-0.1**
WVOR	**Wild Horse Val**	**45.17**	**74**	P	**P**	**09 23 46.8**	**+0.9**
	comp=Z,3.5nm,1.0s,mb4.1						
OHCM	**Honcut**	**45.35**	**80**	*e*P	**P**	**09 23 47.1**	**-0.3**
CHMT	**Chamberlain Mo**	**45.68**	**66**	*e*P	**P**	**09 23 50.3**	**+0.4**
HRY	**Holter Researc**	**46.59**	**66**	*e*P	**P**	**09 23 54.7**	**-2.4**
CMB	**Columbia Colle**	**46.84**	**80**	P	**P**	**09 23 57.6**	**-1.6**
	comp=Z,6.3nm,1.3s,mb4.4						
HLID	**Hailey**	**46.98**	**71**	*e*P	**P**	**09 24 00.6**	**+0.5**
	comp=Z,9.5nm,1.2s,mb4.6						
BOZ	**Bozeman (W)**	**47.33**	**67**	*e*P	**P**	**09 24 02.1**	**-0.8**
	comp=Z,2.5nm,0.8s,mb4.2						
QLMT	**Earthquake Lak**	**47.93**	**68**	*e*P	**P**	**09 24 10.5**	**+2.8**
MNV	**Mina**	**47.94**	**79**	P	**P**	**09 24 08.7**	**+0.9**
WHN	**Wuhan**	**48.16**	**268**	⇓P	**P**	**09 24 11.0**	**+1.4**
ELK	**Elko**	**48.22**	**74**	*e*P	**P**	**09 24 08.7**	**-1.2**
	comp=Z,2.9nm,0.9s,mb4.3						
YMR	**Madison River**	**48.29**	**67**	P	**P**	**09 24 10.7**	**+0.3**
MTUM	**Tungsten Hills**	**48.38**	**80**	P	**P**	**09 24 13.3**	**+2.0**
TPH	**Tonopah**	**48.73**	**78**	P	**P**	**09 24 15.0**	**+1.1**
	comp=Z,8.6nm,1.4s,mb4.6						
LOHW	**Long Hollow**	**49.14**	**68**	P	**P**	**09 24 15.6**	**-1.5**
BGU	**Big Grassy Mou**	**49.41**	**73**	P	**P**	**09 24 18.7**	**-0.4**
LAO	**LASA Array**	**49.71**	**63**	*e*P	**P**	**09 24 19.7**	**-1.6**
	comp=Z,5.3nm,0.9s,mb4.6						
HWUT	**Hardware Ranch**	**49.84**	**71**	*e*P	**P**	**09 24 21.8**	**-0.6**
	comp=Z,31nm,1.3s,mb5.2						
DUG	**Dugway**	**50.00**	**73**	P	**P**	**09 24 21.6**	**-2.0**
	comp=Z,8.2nm,1.1s,mb4.7						
TPNV	**Topopah Spring**	**50.05**	**79**	*e*P	**P**	**09 24 22.9**	**-1.2**
	comp=Z,5.1nm,0.9s,mb4.5						
ZAL	**Zalesovo**	**50.16**	**310**	P	**P**	**09 24 23.1**	**-1.5**
	comp=Z,1.6nm,0.6s,mb4.2,baz=292,slow=8.2,SNR=3.6						
ZAL				PcP	PcP	09 25 43.0	-0.8
	comp=Z,1.4nm,0.7s,baz=328,slow=4.2,SNR=4.5						
ZAL				LR	LR	09 47 39.1	
	comp=Z,471nm,18.6s,MS4.5,baz=8.9,slow=38						
ZAL	**Zalesovo**	**50.16**	**310**	P	**P**	**09 24 23.2**	**-1.5**
ZAL						09 25 43.0	
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ZAL				MLR	MLR		
	comp=Z,471nm,18.6s						
ZAL	**Zalesovo**	**50.16**	**310**	P	**P**	**09 24 23.1**	**-1.5**
ZAL				PcP	PcP	09 25 43.0	-0.8
ZAL				LR	LR	09 47 39.1	
BW06	**Boulder Array**	**50.27**	**69**	*e*P	**P**	**09 24 25.3**	**-0.4**
	comp=Z,1.9nm,0.8s,mb4.2						
PDAR	**Pinedale Array**	**50.27**	**69**	P	**P**	**09 24 25.2**	**-0.4**
	comp=Z,2.0nm,0.7s,mb4.3,baz=310,slow=3.7,SNR=9.8						
PDAR				LR	LR	09 44 14.6	
	comp=Z,100nm,20.9s,MS3.8,baz=320,slow=34						
NVS	**Novosibirsk**	**50.34**	**311**	*e*P	**P**	**09 24 24.4**	**-1.7**
NVS				pmax	pmax		
	comp=Z,32nm,2.0s,mb5.0						
NVS				pmax	pmax		
	comp=E,14nm,1.6s						
MWC	**Mount Wilson**	**50.76**	**83**	P	**P**	**09 24 30.0**	**+0.4**
DAU	**Daniels Canyon**	**50.77**	**72**	*e*P	**P**	**09 24 29.5**	**0.0**
LZH	**Lanzhou**	**50.83**	**281**	P	**P**	**09 24 31.8**	**+1.7**
LZH				AP	pP	09 24 44.5	+1.8
LZH				XP	sP	09 24 50.9	+2.8
LZH				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.3						
LZH				LR	LR		
	comp=E,860nm,15.2s						
LZH				LR	LR		
	comp=Z,940nm,20.7s						
GTA	**Gaotai**	**51.06**	**287**	P	**P**	**09 24 33.1**	**+1.3**
GTA				AP	pP	09 24 45.5	+1.1
GTA				XP	sP	09 24 50.8	+1.0
GTA				PCP	PcP	09 25 49.0	+1.7
GTA				PP	PP	09 26 30.9	+1.6
GTA				S	**S**	**09 31 46.5**	**+2.0**
GTA				SCS	ScS	09 34 16.4	+1.3
GTA				AMB	AMB		
	comp=Z,5.0nm,0.6s,mb4.6						
GTA				AMB	AMB		
	comp=Z,33nm,4.9s						
GTA				LR	LR		
	comp=N,141nm,18.6s,MS4.2						
GTA				LR	LR		
	comp=E,176nm,18.6s,MS4.2						
GTA				LR	LR		
	comp=Z,208nm,20.2s,MS4.2						
MSU	**Marysvale**	**51.46**	**74**	P	**P**	**09 24 34.7**	**-0.1**
SRU	**San Rafael**	**52.05**	**73**	P	**P**	**09 24 37.0**	**-2.2**
RSSD	**Black Hills**	**52.52**	**64**	P	**P**	**09 24 42.2**	**-0.4**
	comp=Z,10nm,1.3s,mb4.6						
ULM	**Lac du Bonnet**	**52.91**	**54**	P	**P**	**09 24 44.7**	**-0.7**
	comp=Z,3.1nm,0.5s,mb4.5						
ULM	**Lac du Bonnet**	**52.91**	**54**	P	**P**	**09 24 44.7**	**-0.7**
PV10	**Paradox Valley**	**53.40**	**73**	*e*P	**P**	**09 24 48.3**	**-1.0**
PV01	**Paradox Valley**	**53.84**	**72**	*e*P	**P**	**09 24 54.4**	**+1.9**
WMQ	**Urumqi**	**55.07**	**298**	P	**P**	**09 25 01.3**	**-0.1**
WMQ				AP	pP	09 25 14.0	-0.2
WMQ				XP	sP	09 25 19.3	-0.2
WMQ				PP	PP	09 27 06.1	-0.2
WMQ				*e*S	**S**	**09 32 38.4**	**-0.4**
WMQ				AMB	AMB		
	comp=Z,12nm,0.8s,mb5.0						
WMQ				LR	LR		
	comp=N,240nm,21.0s,MS4.4						
WMQ				LR	LR		
	comp=E,284nm,22.0s,MS4.4						
WMQ				LR	LR		
	comp=Z,437nm,22.0s,MS4.5						
KURK	**Kurchatov**	**55.13**	**310**	P	**P**	**09 25 01.9**	**+0.2**
	comp=Z,215nm,1.0s,SNR=43						
KURK	**Kurchatov**	**55.13**	**310**	P	**P**	**09 25 01.4**	**-0.3**
KURK				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.9						
KURK	**Kurchatov**	**55.13**	**310**	*e*P	**P**	**09 25 01.2**	**-0.5**
	comp=Z,24nm,0.8s,mb5.3						
GYA	**Guiyang**	**55.80**	**270**	P	**P**	**09 25 05.6**	**-1.3**
GYA				AMB	AMB		
	comp=Z,20nm,1.1s,mb5.1						
SDCO	**Great Sand Dun**	**55.90**	**71**	P	**P**	**09 25 07.2**	**-0.2**
	comp=Z,9.7nm,1.3s,mb4.7						
MKAR	**Makanchi Array**	**55.94**	**304**	P	**P**	**09 25 06.8**	**-0.8**
	comp=Z,9.5nm,0.4s,mb5.2,baz=56,slow=6.0,SNR=198						
MKAR				LR	LR	09 50 16.5	
	comp=Z,567nm,20.4s,MS4.7,baz=35,slow=37						
MKAR	**Makanchi Array**	**55.94**	**304**	P	**P**	**09 25 06.8**	**-0.8**
MKAR				pmax	pmax		
	comp=Z,10.0nm,0.4s						
MKAR				MLR	MLR		
	comp=Z,567nm,20.4s						
MKAR	**Makanchi Array**	**55.94**	**304**	P	**P**	**09 25 06.8**	**-0.8**
MKAR				LR	LR	09 50 16.5	
ARCES	**ARCESS Array B**	**56.42**	**347**	P	**P**	**09 25 09.8**	**-0.9**
	comp=Z,2.9nm,0.5s,mb4.6,baz=40,slow=7.8,SNR=20						
ARCES				LR	LR	09 50 55.8	
	comp=Z,280nm,18.3s,MS4.4,baz=267,slow=38						
ARCES	**ARCESS Array B**	**56.42**	**347**	P	**P**	**09 25 09.9**	**-0.9**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.5s						
ARCES				MLR	MLR		
	comp=Z,280nm,18.3s						
JMIC	**Jan Mayen**	**57.12**	**1**	LR	LR	09 47 23.5	
	comp=Z,131nm,21.3s,MS4.0,baz=256,slow=34						
LAZ	**Ladron**	**57.23**	**75**	P	**P**	**09 25 14.9**	**-2.1**
VOSK	**Vostochnaya**	**57.23**	**315**	P	**P**	**09 25 16.2**	**-0.6**
VOSK				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
ANMO	**Albuquerque**	**57.25**	**74**	⇓*e*P	**P**	**09 25 25.7**	**+8.5**
ANMO				pmax	pmax		
	comp=Z,2.0nm,2.3s						
ANMO	**Albuquerque**	**57.25**	**74**	P	**P**	**09 25 17.3**	**+0.1**
	comp=Z,8.5nm,1.9s,mb4.5						
BVA0	**Borovoye Array**	**57.27**	**316**	P	**P**	**09 25 16.8**	**-0.3**
BVAR	**Borovoye Array**	**57.27**	**316**	LR	LR	09 50 43.7	
	comp=Z,5.1nm,20.0s,baz=100,slow=37						
BRVK	**Borovoye**	**57.30**	**316**	*e*P	**P**	**09 25 16.5**	**-0.7**
	comp=Z,11nm,0.4s,mb5.2						
ZRNK	**Zerenda**	**57.92**	**316**	P	**P**	**09 25 21.2**	**-0.4**
ZRNK				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.7						
ZRNK	**Zerenda**	**57.92**	**316**	*e*P	**P**	**09 25 20.8**	**-0.8**
	comp=Z,12nm,0.7s,mb5.0						
KMI	**Kunming**	**59.19**	**272**	*e*P	**P**	**09 25 30.3**	**-0.5**
KMI				AP	pP	09 25 42.5	-1.2
KMI				XP	sP	09 25 48.8	-0.2
KMI				S	**S**	**09 33 31.5**	**-1.8**
KMI				XS		09 33 53.6	
KMI				SS	SS	09 37 27.1	-2.6
KMI				AMB	AMB		
	comp=Z,9.0nm,1.3s,mb4.6						
KMI				AMB	AMB		
	comp=Z,174nm,4.6s						
KMI				LR	LR		
	comp=N,196nm,19.1s,MS4.5						
KMI				LR	LR		
	comp=E,214nm,17.0s,MS4.5						
KMI				LR	LR		
	comp=Z,178nm,22.5s						
ARU	**Arti**	**59.44**	**324**	⇓*i*P	**P**	**09 25 30.9**	**-1.2**
ARU				*e*		09 26 18.0	
ARU				*e*		09 27 41.0	
ARU				*e*S	**S**	**09 33 36.4**	**+0.2**
ARU				*e*SS	SS	09 37 27.8	-5.3
ARU				pmax	pmax		
	comp=Z,25nm,0.7s,mb5.3						
ARU				MLR	MLR		
	comp=Z,300nm,17.0s,MS4.5						
ARU				MLR	MLR		
	comp=N,200nm,16.5s,MS4.5						
ARU				MLR	MLR		
	comp=E,300nm,19.0s,MS4.5						
WMOK	**Wichita Mounta**	**61.88**	**69**	*e*P	**P**	**09 25 47.0**	**-1.9**
SCHQ	**Schefferville**	**62.03**	**35**	P	**P**	**09 25 48.5**	**-1.1**
	comp=E,17nm,0.8s,mb5.2,baz=334,slow=7.4,SNR=19						
SCHQ				LR	LR	09 55 25.4	
	comp=E,358nm,19.3s,MS4.5,baz=341,slow=39						
FRU	**Bishkek**	**62.60**	**305**	*e*P	**P**	**09 25 54.0**	**+0.3**
FRU				*e*	pP	09 26 06.0	-0.7
BORG	**Borgarnes**	**62.80**	**7**	LR	LR	09 50 52.6	
	comp=E,245nm,19.1s,MS4.4,baz=31,slow=34						
AAK	**Ala-Archa**	**62.81**	**305**	*e*P	**P**	**09 25 54.3**	**-0.9**
	comp=E,2.8nm,0.6s,mb4.6						
LTX	**Lajitas**	**62.90**	**76**	*e*P	**P**	**09 25 54.8**	**-1.1**
	comp=E,6.6nm,0.9s,mb4.8						
TXAR	**Lajitas Array**	**62.90**	**76**	P	**P**	**09 25 55.9**	**0.0**
	comp=E,0.8nm,0.4s,mb4.2,baz=305,slow=5.1,SNR=19						
TXAR				LR	LR	09 49 41.5	
	comp=E,98nm,20.0s,MS4.0,baz=260,slow=33						
KAF	**Kangasniemi**	**63.20**	**344**	*e*p	**P**	**09 25 56.6**	**-0.8**
	baz=27,slow=6.5						
FINES	**FINESS Array B**	**63.87**	**343**	P	**P**	**09 26 01.1**	**-0.5**
	comp=E,16nm,1.1s,mb5.0,baz=24,slow=7.0,SNR=13						
FINES				LR	LR	09 55 44.0	
	comp=E,262nm,20.1s,MS4.4,baz=355,slow=38						
FINES	**FINESS Array B**	**63.87**	**343**	P	**P**	**09 26 01.1**	**-0.5**
FINES				pmax	pmax		
	comp=Z,16nm,1.1s						
FINES				MLR	MLR		
	comp=Z,262nm,20.1s						
KKAR	**Karatay Array**	**64.44**	**308**	*i* P	**P**	**09 26 05.5**	**-0.1**
KKAR				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
AB31	**Akbulak array**	**64.47**	**318**	P	**P**	**09 26 05.9**	**+0.2**
AB31				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.5						
SHL	**Shillong**	**65.50**	**281**	*e*P	**P**	**09 26 13.0**	**+0.2**
NB2	**NORSAR Subarra**	**66.29**	**351**	P	**P**	**09 26 16.6**	**-0.6**
	comp=Z,3.5nm,0.5s,mb4.7,baz=10.0,slow=6.2						
NOA	**NORSAR Array B**	**66.29**	**351**	P	**P**	**09 26 16.9**	**-0.3**
	comp=Z,4.3nm,0.5s,mb4.8,baz=12,slow=6.4,SNR=24						
NOA				LR	LR	09 54 39.4	
	comp=Z,107nm,19.2s,MS4.1,slow=36						
CMAR	**Chiang Mai Arr**	**66.49**	**270**	P	**P**	**09 26 20.1**	**+1.0**
	comp=Z,8.4nm,1.0s,mb4.7,baz=26,slow=6.9,SNR=23						
CMAR	**Chiang Mai Arr**	**66.49**	**270**	P	**P**	**09 26 20.2**	**+1.0**
CMAR				pmax	pmax		
	comp=Z,8.0nm,1.0s						
OBN	**Obninsk**	**67.39**	**335**	⇓*e*P	**P**	**09 26 24.0**	**-0.2**
OBN				*e*	pP	09 26 36.0	-1.4
OBN				*e*		09 26 52.2	
OBN				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
OBN				MLR	MLR		
	comp=Z,700nm,20.0s,MS4.9						
KKN	**Kakani**	**67.80**	**287**	*e*P	**P**	**09 26 28.0**	**+0.7**
	comp=Z,30nm,1.0s,mb5.3						
PKI	**Pulchoki**	**67.89**	**287**	*e*P	**P**	**09 26 28.3**	**+0.5**
	comp=Z,14nm,0.6s,mb5.2						
GKN	**Gorkha**	**68.02**	**288**	*e*P	**P**	**09 26 29.3**	**+0.7**
	comp=Z,29nm,1.0s,mb5.3						
DMN	**Daman**	**68.04**	**287**	*e*P	**P**	**09 26 29.8**	**+1.1**
	comp=Z,12nm,0.6s,mb5.1						
SSPA	**Standing Stone**	**68.57**	**51**	*e*P	**P**	**09 26 30.8**	**-1.0**
	comp=Z,5.4nm,0.7s,mb4.6						
KOLN	**Koldanda**	**68.80**	**288**	*e*P	**P**	**09 26 34.0**	**+0.5**
	comp=Z,12nm,0.8s,mb4.8						
BLA	**Blacksburg**	**69.98**	**55**	P	**P**	**09 26 39.6**	**-0.9**
AKASG	**Malin Array Be**	**73.24**	**337**	P	**P**	**09 27 00.1**	**+0.4**
	comp=Z,3.6nm,0.3s,mb4.7,baz=23,slow=6.0,SNR=21						
AKASG				LR	LR	10 05 42.6	
	comp=Z,188nm,18.1s,MS4.4,slow=41						
OJC	**Ojcow**	**75.65**	**343**	*e*P	**P**	**09 27 14.9**	**+1.3**
CTA	**Charters Tower**	**75.92**	**207**	P	**P**	**09 27 20.2**	**+4.5**
	comp=Z,2.7nm,0.6s,mb4.3,baz=5.2,slow=11,SNR=2.5						
CTA				LR	LR	09 58 44.0	
	comp=Z,157nm,19.5s,MS4.3,baz=47,slow=34						
PPT	**Papeete**	**76.35**	**144**	*e*S	S	09 36 51.7	-6.6
PPT				*e*R		09 50 12.9	
	comp=Z,564nm,24.2s,baz=339						
KIS	**Kishinev**	**76.78**	**336**	*e*P	**P**	**09 27 26.0**	**+5.9**
KIS				*e*		09 37 34.0	
KIS				MLR	MLR		
	comp=Z,400nm,18.0s,MS4.8						
KIS				MLR	MLR		
	comp=Z,400nm,18.0s						
KHC	**Kasperske Hory**	**77.69**	**347**	*e*P	**P**	**09 27 26.0**	**+0.9**
GERES	**GERESS Array B**	**77.95**	**347**	P	**P**	**09 27 27.3**	**+0.8**
	comp=Z,0.6nm,0.3s,mb3.9,baz=18,slow=4.2,SNR=7.2						
GERES	**GERESS Array B**	**77.95**	**347**	P	**P**	**09 27 27.3**	**+0.8**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MLR	**Muntele Rosu**	**78.89**	**338**	LR	LR	10 05 14.9	
	comp=Z,317nm,20.3s,MS4.6,baz=28,slow=38						
FLN	**La Foliniere**	**79.32**	**356**	*e*P	**P**	**09 27 35.2**	**+1.2**
FLN				*e*R			
	comp=Z,133nm,20.2s						
LDF	**La Druitiere**	**79.47**	**356**	*e*P	**P**	**09 27 35.2**	**+0.3**
HYB	**Hyderabad**	**79.70**	**285**	*i* P	**P**	**09 27 37.5**	**+0.8**
WRA	**Warramunga Arr**	**79.70**	**218**	LR	LR	10 01 26.6	
	comp=Z,98nm,20.4s,MS4.1,baz=45,slow=34						
GRR	**Gorron**	**79.71**	**357**	*e*P	**P**	**09 27 36.6**	**+0.5**
	comp=Z,14nm,0.7s,mb4.7						
SSF	**Saint Saulge**	**80.80**	**353**	*e*P	**P**	**09 27 42.1**	**+0.2**
AVF	**Avril sur Loir**	**81.08**	**353**	*e*P	**P**	**09 27 43.5**	**+0.1**
SMF	**Signal de Mont**	**81.19**	**353**	*e*P	**P**	**09 27 44.5**	**+0.5**
POO	**Poona**	**81.59**	**289**	*e*	**P**	**09 27 47.0**	**+0.3**
TCF	**Toulx Ste Croi**	**81.65**	**354**	*e*P	**P**	**09 27 47.4**	**+1.0**
BRTR	**Keskin Array B**	**82.18**	**330**	P	**P**	**09 27 50.8**	**+1.4**
	comp=Z,7.5nm,0.9s,mb4.6,baz=53,slow=3.2,SNR=19						
BRTR				LR	LR	10 10 06.7	
	comp=Z,108nm,18.9s,MS4.2,baz=325,slow=40						
RJF	**Les Rejaudoux**	**82.67**	**355**	*e*P	**P**	**09 27 52.6**	**+0.9**
RJF				*e*R			
	comp=Z,194nm,19.8s						
ORIF	**Oris-en-Rattie**	**82.73**	**352**	*e*P	**P**	**09 27 52.0**	**0.0**
	comp=Z,11nm,0.8s,mb4.6						
ORIF				*e*R			
	comp=Z,188nm,22.5s						
MBDF	**Montbardon**	**82.84**	**351**	*e*P	**P**	**09 27 52.9**	**+0.3**
	comp=Z,13nm,0.9s,mb4.7						
CAF	**Calviac**	**83.02**	**354**	*e*P	**P**	**09 27 55.2**	**+1.7**
ASAR	**Alice Springs**	**83.25**	**216**	LR	LR	10 00 55.4	
	comp=Z,89nm,21.5s,MS4.1,baz=20,slow=33						
MTLF	**Montolieu**	**84.59**	**354**	*e*P	**P**	**09 28 01.9**	**+0.6**
SJPF	**Ste Jean**	**84.99**	**356**	*e*P	**P**	**09 28 05.3**	**+2.0**
	comp=Z,9.1nm,0.8s,mb4.7						
ETSF	**Etsaut**	**85.18**	**356**	*e*P	**P**	**09 28 06.2**	**+1.9**
	comp=Z,11nm,0.7s,mb4.8						
VAE	**Valguarnera**	**88.94**	**344**	LR	LR	10 09 01.2	
	comp=Z,198nm,21.6s,MS4.5,baz=315,slow=36						
ROSC	**El Rosal**	**99.24**	**70**	LR	LR	10 11 02.8	
	comp=Z,183nm,19.8s,MS4.6,baz=9.0,slow=34						
MAW	**Mawson**	**144.37**	**218**	*e*P	PKPbc	09 35 02.3	+1.0
	comp=Z,4.1nm,0.6s						
MAW	**Mawson**	**144.37**	**218**	PKP	PKPdf	09 35 02.5	+0.8
	comp=Z,3.1nm,0.6s,baz=96,slow=3.8,SNR=11						
MAW	**Mawson**	**144.37**	**218**	PKIKP	PKPdf	09 35 02.5	+0.8
MAW				pmax	pmax		
	comp=Z,3.0nm,0.6s						

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*NEIC **07** 09:21:39.8±2.8, 4.78S×152.40E, h102^{km}±25^{km}, mb5.0/11, Error ellipse: s-maj=13.2km s-min=10.6km az=119.0*

*IDC **07** 09:21:41.7±3.3, 4.81S×152.38E, h117^{km}±29^{km}, mb4.2/14, mb1 4.4/15, mb1mx4.4/15, MS3.5/6, Ms1 3.6/6, ms1mx3.4/14, Error ellipse: s-maj=20.3km s-min=12.1km az=113.0*

ISC 07 09:21:35.1±3.0**, 4.72S**±0.09×**152.4E**±0.1**, h73**^{km}±27^{km}**, n39, σ0^{s}84**/37**, mb4.6**/22**, 3C-2D, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**16.41**	**201**	*e*P	**P**	**09 25 23.9**	**+1.6**
	5.2nm,0.7s						
CTA	**Charters Tower**	**16.41**	**201**	P	**P**	**09 25 23.9**	**+1.5**
	0.4nm,0.3s,baz=15,slow=13,SNR=8.1						
CTAO	**Charters Tower**	**16.41**	**201**	*e*P	**P**	**09 25 24.1**	**+1.8**
	7.4nm,0.7s						
KAKA	**Kakadu**	**21.30**	**247**	⇑*i*P	**P**	**09 26 17.2**	**-0.6**
	33nm,0.9s,mb4.7						
WRAB	**Tennant Creek**	**23.20**	**228**	*e*P	**P**	**09 26 36.8**	**+0.3**
	98nm,0.8s,mb5.2						
WB2	**Warramunga Arr**	**23.21**	**228**	⇑*i*P	**P**	**09 26 37.4**	**+0.9**
WRA	**Warramunga Arr**	**23.21**	**228**	P	**P**	**09 26 37.5**	**+0.9**
	57nm,1.0s,mb4.9,baz=52,slow=10.0,SNR=83						
WRA				S	**S**	**09 30 40.5**	**+1.1**
	0.5nm,0.6s,baz=46,slow=16,SNR=2.5						
WRA				LR	LR	09 36 11.6	
	comp=Z,67nm,20.1s,baz=45,slow=38						
ASAR	**Alice Springs**	**25.95**	**222**	P	**P**	**09 27 02.6**	**-0.2**
	18nm,0.4s,mb4.8,baz=54,slow=9.1,SNR=165						
ASAR				LR	LR	09 36 24.7	

	comp=Z,95nm,19.8s,baz=19,slow=34						
ASPA	Alice Springs	25.96	222	eP	P	09 27 02.6	-0.2
STKA	Stephens Creek	28.86	199	eP	P	09 27 26.9	-2.2
	14nm,2.0s,mb4.2						
STKA	Stephens Creek	28.86	199	P	P	09 27 27.3	-1.8
	4.8nm,0.7s,mb4.3,baz=28,slow=12,SNR=10						
FITZ	Fitzroy Crossi	29.37	241	⇑iP	P	09 27 32.9	-0.8
	17nm,0.3s,mb5.2						
FITZ	Fitzroy Crossi	29.37	241	P	P	09 27 33.0	-0.7
	41nm,0.6s,mb5.3,baz=58,slow=4.0,SNR=186						
FITZ				LR	LR	09 41 37.7	
	comp=Z,51nm,18.0s,baz=82,slow=41						
FORT	Forrest	34.61	219	eP	P	09 28 18.6	-0.7
	166nm,0.5s						
MBWA	Marble Bar	35.68	240	eP	P	09 28 27.8	-0.8
	29nm,0.5s,mb5.5						
KLBR	Kellerberrin	42.09	226	eP	P	09 29 20.2	-1.5
	55nm,1.4s,mb5.1						
RPZ	Rata Peaks	42.18	160	P	P	09 29 22.5	+0.2
	5.3nm,0.6s,mb4.5,baz=216,slow=1.7,SNR=11						
ASAJ	Asahikawa	49.41	351	P	P	09 30 19.8	+0.1
	6.7nm,0.8s,mb4.6,baz=172,slow=14,SNR=4.0						
CMAR	Chiang Mai Arr	57.50	295	P	P	09 31 19.8	+0.2
	2.2nm,0.8s,mb4.3,baz=101,slow=4.6,SNR=7.6						
CMAR				LR	LR	09 54 47.9	
	comp=Z,56nm,19.9s,baz=60,slow=34						
SONM	Songino Array	66.05	328	P	P	09 32 17.8	+1.3
	0.5nm,0.5s,mb3.6,baz=145,slow=5.7,SNR=3.6						
PMR	Palmer	79.77	24	⇓eP	P	09 33 36.1	-0.6
	12nm,0.6s,mb4.9						
PMR				e		09 33 44.8	
MKAR	Makanchi Array	80.01	319	P	P	09 33 39.1	+0.8
	1.7nm,0.8s,mb3.9,baz=95,slow=5.9,SNR=8.4						
SML	Sawmill	80.21	24	eP	P	09 33 39.0	0.0
ZAL	Zalesovo	80.88	326	P	P	09 33 41.7	-1.0
	1.2nm,0.4s,mb4.1,baz=164,slow=9.4,SNR=3.1						
ZAL				LR	LR	10 07 34.9	
	comp=Z,50nm,20.1s,baz=204,slow=34						
ZAL	Zalesovo	80.88	326	P	P	09 33 41.7	-1.0
MCK	McKinley	80.93	23	⇓eP	P	09 33 42.1	-0.7
	22nm,0.8s,mb5.0						
DIV	Divide	80.96	26	eP	P	09 33 43.3	+0.2
	31nm,0.5s,mb5.4						
THY	Trims Highway	82.03	24	P	P	09 33 48.4	-0.2
ILAR	Eielson Array	82.23	22	P	P	09 33 48.1	-1.4
	12nm,0.6s,mb4.9,baz=246,slow=5.8,SNR=238						
QSPA	South Pole Qui	85.24	180	ePKP	P	09 34 04.9	+0.5
MAW	Mawson	85.50	203	P	P	09 34 06.3	+0.4
	0.9nm,0.6s,mb3.9,baz=93,slow=6.0,SNR=10						
DLBC	Dease Lake	87.51	31	eP	P	09 34 17.2	+1.3
BRVK	Borovoye	89.02	323	P	P	09 34 23.9	+0.7
	5.0nm,0.9s,mb4.5						
YKA	Yellowknife Ar	95.53	28	P	P	09 34 53.5	+0.6
	1.4nm,0.6s,mb4.6,baz=272,slow=4.5,SNR=6.2						
YKA	Yellowknife Ar	95.53	28	P	P	09 34 53.5	+0.6
PDAR	Pinedale Array	99.08	48	P	P	09 35 09.4	-0.2
	0.3nm,0.6s,mb4.0,baz=297,slow=2.0,SNR=3.1						
PDAR				LR	LR	10 10 20.0	
	comp=Z,42nm,21.8s,baz=156,slow=29						
GERES	GERESS Array B	123.79	328	PKP	PKPdf	09 40 26.3	+1.3
	0.9nm,0.7s,baz=27,slow=2.2,SNR=3.3						
BDFB	Brasilia	151.39	135	PKPbc	PKPdf	09 41 24.2	+8.8
	3.1nm,0.9s,baz=230,slow=6.4,SNR=5.5						
DBIC	Dimbokro	157.31	276	PKPab	PKPab	09 41 55.9	-1.5
	2.6nm,0.9s,baz=144,slow=15,SNR=4.7						

IDC 07 09:33:39.2±5.7**, 6.47N×73.61W, h193**^{km}±35^{km}**, mb2.9**/1**, mb1 3.4**/1**, mb1mx2.9**/17**, Error ellipse: s-maj=117.0km s-min=42.9km az=71.0, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ROSC	El Rosal	1.75	204	P	P	09 34 15.2	+0.1
	34nm,0.3s,baz=310,slow=14,SNR=150						
ROSC				S	S	09 34 43.5	+0.7
	37nm,0.3s,baz=58,slow=20,SNR=9.0						
TXAR	Lajitas Array	36.33	312	P	P	09 40 24.8	-1.6
	0.3nm,0.5s,baz=120,slow=9.7,SNR=4.2						
WRA	Warramunga Arr	149.74	241	PKPbc	PKPdf	09 53 06.7	+4.8
	0.3nm,0.5s,baz=106,slow=2.8,SNR=5.0						

ISK ***07*** *09:44:23.6, 35.92N×27.51E, h33^{km}, MD3.3*
ATH ***07*** *09:44:24.1, 35.78N×27.88E, h25^{km}±5^{km}, MD3.2/5*
NEIC ***07*** *09:44:25.4, 35.85N×27.76E, h20^{km}, MD3.1(ATH), After ATH.*
ISC 07 09:44:24.2±1.1**, 36.04N**±0.05×**27.54E**±0.06**, h15**^{km}±11^{km}**, n13, σ0^{s}88**/19**, 1C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARG	Arkhangelos	0.51	69	⇑iPB	Pb	09 44 34.3	+0.1
ARG				eSB	Sb	09 44 41.5	+0.4
KARP	Karpathos	0.58	212	ePN	Pn	09 44 36.9	-0.6
KARP				eSN	Sn	09 44 45.6	-1.0
NISR	Nisiros	0.66	330	ePN	Pn	09 44 44.2	+5.5
BDRM	Kayabasi	1.03	356	i P	Pb	09 44 42.3	-0.8
BDRM				i S	Sb	09 44 56.0	-0.1
DALT	Dalyan (Mudla)	1.15	50	i PN	Pn	09 44 45.3	-0.4
DALT				i SN	Sn	09 45 01.1	0.0
YER	Yerkesik	1.25	29	i PN	Pn	09 44 46.7	-0.4
YER				i SN	Sn	09 45 03.7	+0.1
MLSB	Milas	1.27	9	PN	Pn	09 44 47.6	+0.2
AYDN	Tasoluk	1.64	10	i P	Pn	09 44 54.2	+1.4
AYDN				i S	Sn	09 45 01.5	-12
KSL	Kastellorizon	1.66	86	ePn	Pn	09 44 54.4	+1.4
NPS	Neapolis	1.75	244	ePN	Pn	09 44 54.5	+0.3
XRY	Khrisi	1.90	233	ePN	Pn	09 44 59.0	+2.6
ELL	Elmali	2.04	69	PN	Pn	09 44 57.1	-1.3
DENT	Denizli	2.09	35	ePN	Pn	09 44 58.4	-0.8

HEL ***07*** *09:59:56.8±0.2, 59.71N×22.24E, ML1.8, ML3.0(UPP), ML2.6(NAO), Explosion*
BER ***07*** *09:59:58.1±3.1, 59.93N×22.19E, ML2.6(NAO), Suspected explosion*
NAO ***07*** *09:59:59.0±2.5, 60.10N×22.07E, ML2.6*
ISC 07 09:59:56.5±0.7**, 59.85N**±0.07×**22.23E**±0.06**, n21, σ1^{s}15**/36**, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AAL	Aland	1.17	287	eP	Pb	10 00 18.4	-1.0
AAL				eS	Sb	10 00 34.0	-0.9
NRTU	Norrtaelje	1.83	266	eP	Pn	10 00 29.5	0.0
NRTU				eS	Sn	10 00 54.0	+0.3
GRAU	Graesoe	1.91	286	eP	Pn	10 00 30.5	-0.2
GRAU				eS	Sn	10 00 56.5	+0.7
PVF	Pernaja	1.94	67	eP	Pn	10 00 30.7	-0.3
PVF				eS	Sn	10 00 55.3	-1.2
NYNU	Nynaeshamn	2.32	250	eP	Pn	10 00 36.6	+0.1
FIA0	FINESS Array S	2.48	48	eP	Pn	10 00 39.5	+0.8
FIA0				eS	Sn	10 01 11.4	+1.2
FIA0	FINESS Array S	2.48	48	Pn	Pn	10 00 39.4	+0.6
	baz=227,slow=14						
FIA0				Lg		10 01 11.8	
	baz=228,slow=28						
BACU	Backbrunna	2.59	272	eP	Pn	10 00 40.3	0.0
BACU				eS	Sn	10 01 13.7	+0.8
OSTU	Oestervaala	2.59	281	eP	Pn	10 00 40.2	-0.1
OSTU				eS	Sn	10 01 13.1	+0.1
IGGU	Iggoen	2.65	295	eP	Pn	10 00 41.1	-0.1
KEF	Keuruu	2.66	28	eP	Pn	10 00 42.8	+1.5
KEF				eS	Sn	10 01 17.5	+2.8
KEF				eSG	Sg	10 01 22.0	-3.0
KEF				MSG		10 01 22.5	
	comp=Z,2.4nm,0.2s						
VJF	Virojoki	2.75	73	eS	Sn	10 01 16.3	-0.7
KAF	Kangasniemi	3.02	39	eP	Pn	10 00 47.5	+1.1
KAF				eS	Sn	10 01 25.6	+1.8
KAF				eSG	Sg	10 01 32.9	-4.0
KAF				MSG		10 01 36.0	
	comp=Z,2.7nm,0.2s						
VAF	Ylistaro	3.21	4	eP	Pn	10 00 50.6	+1.4
SUF	Sumiainen	3.44	32	eP	Pn	10 00 52.9	+0.4
SUF				eS	Sn	10 01 34.7	0.0
HFS	Hagfors	4.30	277	eP	Pn	10 01 03.4	-1.3
HFS				ePG	Pg	10 01 13.3	-9.1
HFS				eSG		10 02 09.4	
HFS	Hagfors	4.30	277	Pn	Pn	10 01 03.4	-1.3
	baz=100,slow=12						
HFS				Pg	Pg	10 01 13.3	-9.1
	baz=97,slow=16						
HFS				Lg		10 02 09.4	
	baz=95,slow=37						
APA0	Apatity Array	9.11	27	Pn	P	10 02 09.6	-2.7
	baz=229,slow=12						
APA0	Apatity Array	9.11	27	eP	P	10 02 09.6	-2.7
ARA0	ARCESS Array S	9.82	7	Pn	P	10 02 17.2	-4.7
	baz=192,slow=14						
ARA0				Sn	Sn	10 04 01.6	-13
	baz=193,slow=28						
ARA0	ARCESS Array S	9.82	7	eP	P	10 02 17.2	-4.7
ARA0				e		10 04 01.6	

NAO ***07*** *09:59:58.6±1.5, 67.88N×25.59E, ML2.1*
HEL ***07*** *10:00:01.0±0.1, 67.93N×25.92E, ML1.7, ML1.6(BER), ML2.1(NAO), Explosion*
BER ***07*** *10:00:01.5±2.5, 67.96N×26.00E, ML1.6, ML2.1(NAO), Suspected explosion*
ISC 07 09:59:59.6±0.6**, 67.92N**±0.03×**25.9E**±0.1**, n10, σ0^{s}71**/17**, Finland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SGF	Sodankyl	0.54	153	eP	Pg	10 00 10.8	+0.6
SGF				eS	Sg	10 00 17.6	+0.2
KTK1	Kautokeino	1.47	319	eP	Pn	10 00 27.5	0.0
KTK1				eS	Sb	10 00 45.8	-0.9
KTK1				AML	AML	10 00 50.8	
	comp=Z,12nm,0.6s						
ARA0	ARCESS Array S	1.63	355	eP	Pn	10 00 29.5	-0.2
ARA0				eS	Sb	10 00 50.4	-0.9
ARA0	ARCESS Array S	1.63	355	Pn	Pn	10 00 29.5	-0.2
	baz=179,slow=18						
ARA0				Lg		10 00 50.4	
	baz=179,slow=37						
KEV	Kevo	1.89	12	eP	Pn	10 00 33.8	+0.4
KEV				eS	Sn	10 00 58.4	+0.1
KIF	Kilpisjarvi	2.17	302	eP	Pn	10 00 38.8	+1.3
KIF				eS	Sn	10 01 06.1	+0.6
MSF	Maaselka	2.37	147	ePB	Pb	10 00 42.8	0.0
MSF				eSG	Sg	10 01 13.5	-4.8
MSF				MSG		10 01 14.6	
	comp=Z,2.9nm,0.2s						
APA0	Apatity Array	2.72	93	eP	Pn	10 00 45.8	+0.5
APA0				eSB	Sb	10 01 22.6	-0.3
APA0	Apatity Array	2.72	93	Pn	Pn	10 00 45.8	+0.5
	baz=273,slow=14						
APA0				Lg		10 01 22.6	
	baz=278,slow=28						
OUL	Oulu	2.84	180	eS	Sn	10 01 21.0	-1.6

NEIC 07 10:21:41.3, 16.81S×71.87W, h97^{km}**, mb4.0**/1**, 1D, After LIM., Southern Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARE	Arequipa	0.50	46	⇓iP	P	10 21 57.0	0.0
ARE				i S	S	10 22 07.5	-1.1
LVC	Limon Verde	6.41	155	ePn	P	10 23 14.5	-0.2
NNA	Nana	6.80	314	Pn	P	10 23 15.1	-4.9
SAML	Samuel	11.52	48	eP	P	10 24 17.8	-6.1
QSPA	South Pole Qui	73.36	180	eP	P	10 33 05.7	+2.0
	1.5nm,0.6s						

JMA ***07*** *10:22:17.9±0.1, 33.24N×137.18E, h40^{km}±2^{km}, M3.5*
ISC 07 10:22:18.4±1.2**, 33.26N**±0.07×**137.17E**±0.05**, h41**^{km}±24^{km}**, n15, σ0^{s}54**/29**, 7D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	Tokai 1	0.61	35	P	P	10 22 30.3	-0.3
TK01				eS	S	10 22 39.1	-0.4
TK02	Tokai 2	0.84	36	⇓P	P	10 22 33.6	-0.2
TK02				eS	S	10 22 45.4	+0.2
TK03	Tokai 3	1.12	36	eS	S	10 22 52.2	0.0
JIE	Ise	1.19	341	⇓P	P	10 22 39.5	+0.7
JIE				eS	S	10 22 54.7	+0.7
JKN	Kiinagashima	1.24	323	P	P	10 22 39.7	+0.2
JKN				eS	S	10 22 54.5	-0.8
JWZ	Kozaga	1.25	283	⇓P	P	10 22 39.4	-0.2
JWZ				eS	S	10 22 54.6	-0.8
TK04	Tokai 4	1.27	28	⇓P	P	10 22 39.9	0.0
TK04				eS	S	10 22 55.9	-0.1
TSUJ	Tsu 2	1.57	337	P	P	10 22 44.8	+0.5
TSUJ				eS	S	10 23 03.8	+0.2
JWY	Kouya	1.62	306	⇓P	P	10 22 45.7	+0.7
JWY				eS	S	10 23 05.1	+0.2
JWM	Minabe	1.62	292	⇓P	P	10 22 45.1	+0.1
JWM				eS	S	10 23 04.3	-0.6
JHE	Heguri	1.86	319	⇓P	P	10 22 48.8	+0.5
JHE				eS	S	10 23 11.4	+0.7
SHZ3	Shizuoka 3	2.00	25	P	P	10 22 50.2	-0.1
SHZ3				eS	S	10 23 13.0	-1.2
JAI	Aioi	2.33	284	P	P	10 22 55.3	+0.2
JAI				eS	S	10 23 21.7	-1.0
JGM	Miyama	2.46	351	P	P	10 22 57.3	+0.4
JGM				eS	S	10 23 26.1	+0.1
MAT	Matsushiro	3.38	14	P	P	10 23 10.8	+0.8
MAT				S	S	10 23 48.7	-0.7

MOS ***07*** *10:57:37.0±2.1, 33.90S×72.20W, h10^{km}, mb5.3/12, Error ellipse: s-maj=25.9km s-min=14.4km az=66.0*
IDC ***07*** *10:57:37.0±0.5, 33.95S×72.25W, mb4.9/12, mb1 5.0/14, mb1mx5.0/14, ML4.4/2, MS4.7/8, Ms1 4.7/8, ms1mx4.5/16, Error ellipse: s-maj=17.1km s-min=9.9km az=95.0*
NEIC ***07*** *10:57:39.7, 33.97S×72.42W, h36^{km}, mb5.3/55, ML5.3(GUC), After GUC.*
NEIC Felt [III] at Curico, Pichilemu and Talca; [II] at Rancagua, Santiago and Valparaiso.
GUC ***07*** *10:57:39.7±0.8, 33.97S×72.42W, h36^{km}±2^{km}, ML5.3*
HRVD ***07*** *10:57:39.7±0.3, 34.10S×72.49W, h14^{km}, MW5.2/47, Centroid moment Tensor Solution. LP body waves: s35,c52;Mantle waves: s47,c82; Half duration: 1^{s}1 Moment tensor: Scale 10^{16}Nm; M_{rr}4.33±.21; $M_{\theta\theta}$0.02±.12; $M_{\phi\phi}$-4.36±.16; $M_{r\theta}$0.93±.30; $M_{\theta\phi}$-0.14±.10; $M_{\phi r}$-6.91±.38; Best double couple: $M_0$8.22×10^{16} NP1:ϕ_s10°, δ16°, λ105°. NP2:ϕ_s174°, δ74°, λ86°. Principal axes: T 8.24, Plg61°, Azm77°; N -.06, Plg4°, Azm175°; P -8.19, Plg29°, Azm267°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
BJI ***07*** *10:57:40.9, 34.23S×71.67W, h36^{km}, mB5.6, Ms5.8, Msz5.4*
SYO ***07*** *10:57:42.2, 33.88S×72.08W, h30^{km}, MB5.3*
ISC 07 10:57:39.4±0.8**, 33.99S**±0.03×**72.41W**±0.03**, h22**^{km}±5^{km}**, h29**^{km}±.7^{km}**:pP-P, n253, σ1^{s}05**/184**, mb5.2**/67**, MS4.8**/9**, 23C-16D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LLCH	Llolleo	0.76	60	eP	Pb	10 57 53.3	-0.6
LLCH				i S	Sb	10 58 04.5	+0.7
LNV	Longovilo	0.83	88	⇓iP	Pb	10 57 55.3	+0.2
LCCH	Las Cruces	0.87	54	⇑iP	Pb	10 57 55.8	+0.1
IHA	Instituto Hidr	1.16	34	⇑iP	Pn	10 58 00.2	-0.3
IHA				i S	Sb	10 58 15.4	+0.2
TACH	Talagante	1.27	75	⇓iP	Pn	10 58 01.9	-0.3
SFDO	San Fernando	1.31	119	⇑iP	Pn	10 58 02.1	-0.7
NICH	Los Niches	1.41	136	⇓iP	Pn	10 58 04.4	+0.4
NICH				i S	Sn	10 58 23.0	+0.9
CHCH	Chadas Angostu	1.46	88	⇑iP	Pn	10 58 05.1	+0.2
PUEX	Pudahuel	1.48	69	eP	Pn	10 58 06.6	+1.4
CACH	El Canelo	1.51	95	⇓iP	Pn	10 58 06.4	+0.8
ANTU	Antumapu	1.54	75	eP	Pn	10 58 06.2	+0.2
ANTU				i S	Sn	10 58 26.1	+0.6
ANTU				AMP		10 58 31.7	
	comp=E,87µm,0.5s						
SAN	Santiago	1.55	70	eP	Pn	10 58 06.3	+0.2
SAN				i S	Sn	10 58 26.6	+0.7
PCH	Pirque	1.62	77	⇓iP	Pn	10 58 07.3	+0.2
PEL	Peldehue	1.67	60	⇓iP	Pn	10 58 08.6	+0.7
PEL				AMP		10 58 40.6	
	comp=N,201µm,0.6s						
CLCH	Cerro Calan	1.67	70	⇑iP	Pn	10 58 08.2	+0.4
CLCH				i S	Sn	10 58 28.9	+0.1
CLCH				AMP		10 58 37.8	
	comp=N,66µm,0.6s						
SJCH	San Jose de Ma	1.75	79	⇓iP	Pn	10 58 08.8	-0.2
SJCH				AMP		10 58 41.3	
	comp=N,70µm,0.6s						
LMEL	Las Melosas	1.84	86	⇑iP	Pn	10 58 11.1	+0.8
LMEL				i S	Sn	10 58 34.3	+1.2
LMEL				AMP		10 58 39.0	
	comp=N,39µm,0.7s						
FCH	Farellones	1.89	70	⇑iP	Pn	10 58 11.5	+0.5
FCH				i S	Sn	10 58 35.6	+1.3
FCH				AMP		10 58 43.2	
	comp=N,50µm,0.6s						
JACH	Jahuel	2.01	50	⇓iP	Pn	10 58 12.6	-0.1
COCH	Cobquecura	2.16	188	eP	Pn	10 58 14.7	-0.2
COCH				i S	Sn	10 58 39.1	-2.1
COCH				AMP		10 58 57.5	
	comp=E,7µm,0.7s						
ILCH	Illapel	2.57	24	⇓iP	Pn	10 58 20.2	-0.5
ILCH				AMP		10 59 12.4	
	comp=E,12µm,0.6s						
CCHI	Chillan	2.62	174	eP	Pn	10 58 21.0	-0.5
CCHI				AMP		10 59 17.3	
	comp=N,17µm,0.7s						
MDZ	Mendoza	3.18	71	i P	Pn	10 58 30.9	+1.6
MDZ				i S	Sn	10 59 17.9	+11
TLL	Tololo Astrono	4.05	20	⇑iP	Pn	10 58 40.5	-1.2
LSCH	La Serena	4.19	14	eP	Pn	10 58 42.0	-1.7
TRQA	Tornquist	9.37	119	ePn	P	10 59 53.8	-2.6
	comp=N,278nm,1.3s						
LVC	Limon Verde	11.75	16	eP	P	11 00 22.2	-6.7
	comp=N,6.2nm,0.6s						
CPUP	Villa Florida	15.11	64	Pn	P	11 01 06.5	-6.8
	comp=N,0.1nm,0.3s,baz=264,slow=13,SNR=8.6						
CPUP				Sn	S	11 03 59.0	-1.7
	comp=N,1.2nm,0.3s,baz=197,slow=16,SNR=1.9						
CPUP				LR	LR	11 07 48.2	
	comp=N,4µm,18.9s,baz=260,slow=41						
CPUP	Villa Florida	15.11	64	Pn	P	11 01 06.5	-6.8
CPUP				Sn	S	11 03 59.0	-1.7
ARE	Arequipa	17.47	3	⇓iP	P	11 01 44.5	+0.9
LPAZ	La Paz	18.04	13	P	P	11 01 49.3	-1.4
	comp=N,1.7nm,0.3s,baz=191,slow=6.8,SNR=59						
LPAZ				S	S	11 05 13.1	+4.7
	comp=N,0.4nm,0.3s,baz=251,slow=11,SNR=1.7						
LPAZ	La Paz	18.04	13	P	P	11 01 49.3	-1.4
LPAZ				S	S	11 05 13.1	+4.6
LPAZ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
EFI	East Falkland	20.50	154	Pn	P	11 02 16.2	-2.4
	comp=Z,553nm,0.8s,SNR=12						
EFI	East Falkland	20.50	154	eP	P	11 02 15.9	-2.7
	comp=Z,115nm,0.8s						
USHA	Ushuaia	21.02	174	P	P	11 02 24.2	+0.2
	comp=Z,71nm,0.8s,mb5.0,baz=317,slow=6.0,SNR=6.6						
USHA				S	S	11 06 18.5	+6.4
	comp=Z,20nm,1.2s,baz=279,slow=9.5,SNR=3.0						
USHA				LR	LR	11 11 57.1	
	comp=Z,1µm,18.9s,MS4.4,baz=156,slow=41						
NNA	Nana	22.27	348	eP	P	11 02 37.0	+0.2
	comp=Z,69nm,0.9s,mb5.1						
SAML	Samuel	26.33	21	⇑eP	P	11 03 14.3	-1.5
	comp=Z,94nm,1.1s,mb5.2						
SAML				e		11 03 25.0	
BDFB	Brasilia	28.59	56	P	P	11 03 33.7	-2.5
	comp=Z,40nm,0.8s,mb5.2,baz=237,slow=8.0,SNR=59						
BDFB				S	S	11 08 21.9	0.0
	comp=Z,8.5nm,0.9s,baz=63,slow=21,SNR=2.1						
BDFB				LR	LR	11 15 52.1	
	comp=Z,3µm,19.5s,MS4.9,baz=233,slow=38						
BDFB	Brasilia	28.59	56	P	P	11 03 33.7	-2.5
BDFB				S	S	11 08 21.9	+0.1
BDFB				pmax	pmax		
	comp=Z,41nm,0.8s						
BDFB				MLR	MLR		
	comp=Z,3µm,19.5s						
BAO	Brasilia Array	28.61	56	eP	P	11 03 33.8	-2.6
BAO				e		11 11 33.7	
CAM4	Nova Friburgo	28.65	74	eP	P	11 03 25.9	-11
CAM4				i		11 03 34.7	
CAM4				i		11 03 42.8	
CAM4				i		11 03 55.1	
OTAV	Otavalo	34.52	349	eP	P	11 04 29.1	+0.7
	comp=Z,54nm,1.6s,mb5.2						
ROSC	El Rosal	38.68	357	P	P	11 05 01.0	-2.5
	comp=Z,6.0nm,0.5s,mb4.6,baz=129,slow=23,SNR=2.7						
SDV	Santo Domingo	42.67	3	eP	P	11 05 35.4	-1.1
	comp=Z,35nm,0.9s,mb5.1						
VNA3	Neumayer Olymp	49.48	158	e	pP	11 06 37.9	+1.5
VNA3	Neumayer Olymp	49.48	158	e	sP	11 06 41.7	+2.7
VNA3	Neumayer Olymp	49.48	158	⇑iP	P	11 06 31.7	+2.0
VNA3				e	pP	11 06 37.9	+1.5
VNA3				e		11 06 41.7	
VNA3				e		11 08 22.5	
VNA1	Neumayer--Stat	49.80	157	e	pP	11 06 40.7	+1.9
VNA1	Neumayer--Stat	49.80	157	e	sP	11 06 44.4	+3.0
VNA1	Neumayer--Stat	49.80	157	⇑iP	P	11 06 34.2	+2.0
VNA1				e	pP	11 06 40.7	+1.9
VNA1				e		11 06 44.4	
VNA1				e		11 08 25.1	
VNA2	Neumayer--Watz	50.14	157	e	pP	11 06 42.9	+1.5
VNA2	Neumayer--Watz	50.14	157	e	sP	11 06 46.6	+2.6
VNA2	Neumayer--Watz	50.14	157	⇑iP	P	11 06 36.8	+2.0
VNA2				e	pP	11 06 42.9	+1.5
VNA2				e		11 06 46.6	
VNA2				e		11 08 27.5	
SNAA	Sanae	51.71	158	e	P	11 06 52.5	+5.8
SNAA	Sanae	51.71	158	e	pP	11 06 56.2	+2.9
SNAA	Sanae	51.71	158	⇓iP	P	11 06 45.9	-0.8
SNAA				e	pP	11 06 52.5	-0.8
SNAA				e		11 06 56.2	
SNAA				e		11 08 36.3	
SJG	San Juan	52.15	8	P	P	11 06 48.7	-2.0
	comp=Z,32nm,0.7s,mb5.3,baz=311,slow=5.8,SNR=10						
SJG	San Juan	52.15	8	P	P	11 06 48.7	-2.0
SJG				pmax	pmax		
	comp=Z,32nm,0.7s						
SJG	San Juan	52.15	8	⇑eP	P	11 06 47.9	-2.8
	comp=Z,82nm,0.9s,mb5.7						
SJG				epP	pP	11 06 57.1	-0.3
RKT	Rikitea	55.27	264	eS	S	11 14 34.7	-20
RKT				eR		11 23 10.5	
	comp=Z,571nm,27.5s						
QSPA	South Pole Qui	56.25	180	eP	P	11 07 19.9	0.0
	comp=Z,75nm,1.0s,mb5.7						
MAIT	Maitri	56.42	157	eP	P	11 07 20.9	-0.4
NVL	N'lazarevskaya	56.45	157	⇑eP	P	11 07 20.0	-1.5
NVL				pmax	pmax		
	comp=Z,113nm,1.3s,mb5.7						
SYO	Syowa Base	65.99	159	⇓P	P	11 08 24.2	-1.6
SYO	Syowa Base	65.99	159	⇑pP	pP	11 08 32.6	0.0
SYO	Syowa Base	65.99	159	⇓PcP	PcP	11 08 51.1	-5.2
TBI	Tubuai	67.02	257	eS	S	11 17 03.8	-20
TBI				eR		11 28 33.2	
	comp=Z,1µm,27.5s,baz=118						
LRAL	Lakeview Retre	68.07	347	eP	P	11 08 37.9	-1.7
	comp=Z,18nm,0.8s,mb5.2						
LRAL				epP	pP	11 08 47.0	+0.6
NATX	Nacogdoches	68.68	340	eP	P	11 08 43.6	+0.2
	comp=Z,136nm,0.9s,mb5.9						
NATX				epP	pP	11 08 52.8	+2.5
JCT	Junction City	69.14	335	⇓eP	P	11 08 45.9	-0.4
	comp=Z,84nm,0.9s,mb5.7						
JCT				epP	pP	11 08 55.2	+2.2
LTX	Lajitas	69.57	331	eP	P	11 08 48.9	0.0
	comp=Z,13nm,0.8s,mb4.9						
TXAR	Lajitas Array	69.57	331	P	P	11 08 49.0	0.0
	comp=Z,4.6nm,0.8s,mb4.5,baz=150,slow=8.2,SNR=33						
TXAR				S	S	11 17 58.3	+4.0
	comp=Z,0.2nm,0.8s,baz=221,slow=46,SNR=2.2						
TXAR				LR	LR	11 34 60.0	
	comp=Z,561nm,18.2s,MS4.8,baz=150,slow=32						
PPT	Papeete	69.94	262	eS	S	11 17 38.4	-20
PPT				eR		11 29 59.7	
	comp=Z,879nm,28.0s,baz=122						
OXF	Oxford	69.98	345	eP	P	11 08 49.5	-1.9
	comp=Z,208nm,1.0s,mb6.0						
OXF				epP	pP	11 08 58.9	+0.8
CPCT	Cooper Cave	70.00	349	eP	P	11 08 53.5	+2.1
CPCT				epP	pP	11 09 02.5	+4.2
UALR	University of	70.91	343	P	P	11 08 53.8	-3.2
	comp=Z,38nm,1.0s,mb5.3						
WVT	Waverly	71.23	347	⇑eP	P	11 08 57.6	-1.3
	comp=Z,40nm,0.8s,mb5.4						
WVT				epP	pP	11 09 06.8	+1.1
ELN	Prospectdale	71.28	353	eP	P	11 08 57.6	-1.5
ELN				epP	pP	11 09 07.0	+1.0

UTMT	**University of**	**71.64**	**346**	P	**P**	**11 09 01.4**	**+0.1**
	comp=Z,140nm,0.8s,mb5.9						
GDL2	**Guadalupe Moun**	**72.39**	**332**	*e*P	**P**	**11 09 05.7**	**-0.2**
GDL2				*e*pP	pP	11 09 15.7	+3.0
WMOK	**Wichita Mounta**	**72.70**	**337**	*e*P	**P**	**11 09 06.5**	**-1.2**
	comp=Z,18nm,1.0s,mb4.9						
CPRX	**Cap Rock**	**72.93**	**333**	*e*P	**P**	**11 09 09.2**	**+0.1**
USIN	**University of**	**72.98**	**347**	*e*P	**P**	**11 09 07.6**	**-1.7**
	comp=Z,81nm,1.3s,mb5.5						
USIN				*e*pP	pP	11 09 16.4	+0.3
MAW	**Mawson**	**73.28**	**164**	⇑*i*P	**P**	**11 09 10.2**	**-0.2**
	comp=Z,11nm,0.7s,mb4.9						
MAW				*e*	pP	11 09 18.5	+1.3
MAW	**Mawson**	**73.28**	**164**	P	**P**	**11 09 10.3**	**0.0**
	comp=Z,16nm,0.8s,mb5.0,baz=212,slow=6.4,SNR=49						
MAW				LR	LR	11 43 58.3	
	comp=Z,719nm,18.8s,MS5.0,baz=231,slow=38						
MAW	**Mawson**	**73.28**	**164**	P	**P**	**11 09 10.3**	**-0.1**
MAW				pmax	pmax		
	comp=Z,17nm,0.8s						
MAW				MLR	MLR		
	comp=Z,719nm,18.8s						
FVM	**French Village**	**73.54**	**345**	*e*P	**P**	**11 09 11.4**	**-1.2**
	comp=Z,67nm,1.0s,mb5.5						
CCM	**Cathedral Cave**	**73.79**	**345**	⇑*e*P	**P**	**11 09 12.9**	**-1.0**
	comp=Z,76nm,1.1s,mb5.5						
CCM				*e*pP	pP	11 09 21.5	+0.7
BLO	**Bloomington**	**73.96**	**349**	P	**P**	**11 09 13.1**	**-1.8**
	comp=Z,21nm,0.6s,mb5.2						
SLM	**Saint Louis**	**74.13**	**346**	*e*P	**P**	**11 09 14.8**	**-1.1**
	comp=Z,22nm,0.5s,mb5.3						
SLM				*e*pP	pP	11 09 24.0	+1.3
SSPA	**Standing Stone**	**74.43**	**356**	*e*P	**P**	**11 09 16.9**	**-0.7**
	comp=Z,13nm,1.0s,mb4.8						
ACSO	**Alum Creek Sta**	**74.50**	**352**	*e*P	**P**	**11 09 16.7**	**-1.3**
	comp=Z,51nm,0.7s,mb5.6						
ACSO				*e*pP	pP	11 09 25.7	+0.9
BNM	**Barren Site**	**75.00**	**331**	*e*P	**P**	**11 09 21.6**	**+0.6**
LIC	**Lamto**	**75.06**	**72**	⇑*i*P	**P**	**11 09 20.6**	**-1.2**
	comp=Z,145nm,1.3s,mb5.8						
SUR	**Sutherland**	**75.11**	**119**	*e*P	**P**	**11 09 21.8**	**+0.1**
	comp=Z,64nm,1.0s,mb5.5						
TUC	**Tucson**	**75.19**	**327**	*e*P	**P**	**11 09 22.9**	**+0.8**
	comp=Z,33nm,1.5s,mb5.0						
TIC	**Toumodi**	**75.33**	**71**	⇑*i*P	**P**	**11 09 22.2**	**-1.1**
	comp=Z,235nm,1.3s,mb6.0						
KIC	**Kosan Boka**	**75.37**	**72**	⇑*i*P	**P**	**11 09 22.5**	**-1.1**
	comp=Z,480nm,1.2s,mb6.3						
LAZ	**Ladron**	**75.42**	**331**	*e*P	**P**	**11 09 24.5**	**+1.0**
DBIC	**Dimbokro**	**75.47**	**72**	P	**P**	**11 09 23.2**	**-0.9**
	comp=Z,32nm,0.8s,mb5.3,baz=205,slow=6.2,SNR=41						
DBIC				S	S	11 19 05.9	+4.1
	comp=Z,1.1nm,0.8s,baz=158,slow=14,SNR=2.4						
DBIC	**Dimbokro**	**75.47**	**72**	P	**P**	**11 09 23.2**	**-0.9**
DBIC				S	S	11 19 05.9	+4.1
DBIC				pmax	pmax		
	comp=Z,33nm,0.9s						
DBIC	**Dimbokro**	**75.47**	**72**	P	**P**	**11 09 23.2**	**-1.0**
DBIC				S	S	11 19 05.9	+4.1
ANMO	**Albuquerque**	**75.63**	**332**	*c i*P	**P**	**11 09 25.3**	**+0.7**
ANMO				pmax	pmax		
	comp=Z,1.0nm,1.1s						
ANMO	**Albuquerque**	**75.63**	**332**	*e*P	**P**	**11 09 25.1**	**+0.4**
	comp=Z,23nm,1.1s,mb5.0						
ANMO				*e*pP	pP	11 09 34.8	+3.3
RAR	**Rarotonga**	**76.36**	**254**	LR	LR	11 34 05.1	
	comp=Z,477nm,18.4s,MS4.8,baz=115,slow=29						
GENY	**Geneseo**	**76.55**	**356**	*e*P	**P**	**11 09 28.9**	**-0.7**
CBKS	**Cedar Bluff**	**76.74**	**338**	*e*P	**P**	**11 09 30.1**	**-0.7**
	comp=Z,75nm,1.1s,mb5.5						
ACCN	**Adirondack Com**	**77.01**	**359**	P	**P**	**11 09 30.2**	**-2.0**
SDCO	**Great Sand Dun**	**77.72**	**334**	*e*P	**P**	**11 09 36.6**	**+0.4**
	comp=Z,14nm,1.1s,mb4.8						
WUAZ	**Wupatki**	**78.16**	**328**	*e*P	**P**	**11 09 40.0**	**+1.3**
	comp=Z,31nm,1.2s,mb5.1						
JFWS	**Jewell Farm**	**78.26**	**347**	*e*P	**P**	**11 09 38.0**	**-1.1**
	comp=Z,91nm,1.6s,mb5.5						
LOZ	**Lake Ozonia**	**78.26**	**358**	*e*P	**P**	**11 09 38.2**	**-0.8**
BAR	**Barrett**	**78.30**	**323**	*e*P	**P**	**11 09 40.5**	**+1.0**
SADO	**Sadowa**	**78.63**	**355**	LR	LR	11 47 57.9	
	comp=Z,212nm,21.7s,MS4.4,baz=328,slow=38						
PFO	**Pinyon Flat Ob**	**78.94**	**324**	*e*P	**P**	**11 09 44.0**	**+1.0**
	comp=Z,12nm,1.2s,mb4.7						
PV01	**Paradox Valley**	**79.23**	**332**	*e*P	**P**	**11 09 45.4**	**+0.9**
LDFC	**Landfair**	**79.48**	**326**	P	**P**	**11 09 47.7**	**+1.8**
TSUM	**Tsumeb**	**79.52**	**106**	P	**P**	**11 09 45.6**	**-0.8**
	comp=Z,22nm,1.1s,mb5.0,baz=237,slow=5.2,SNR=14						
TSUM	**Tsumeb**	**79.52**	**106**	*e*P	**P**	**11 09 45.0**	**-1.4**
	comp=Z,72nm,1.4s,mb5.4						
ISCO	**Idaho Springs**	**79.58**	**335**	*e*P	**P**	**11 09 47.2**	**+0.8**
	comp=Z,10nm,0.9s,mb4.8						
PV10	**Paradox Valley**	**79.63**	**332**	*e*P	**P**	**11 09 46.6**	**-0.1**
NEN	**Nelson**	**79.83**	**326**	*e*P	**P**	**11 09 48.5**	**+0.8**
CASY	**Casey**	**80.03**	**181**	*e*P	**P**	**11 09 47.4**	**-0.8**
SRU	**San Rafael**	**80.85**	**331**	*e*P	**P**	**11 09 53.6**	**+0.4**
MSU	**Marysvale**	**81.03**	**329**	*e*P	**P**	**11 09 55.0**	**+0.9**
TPNV	**Topopah Spring**	**81.54**	**326**	*e*P	**P**	**11 09 58.1**	**+1.3**
	comp=Z,12nm,0.9s,mb4.8						
TPNV				*e*pP	pP	11 10 08.1	+4.3
DAC	**Darwin (Calif)**	**81.64**	**325**	*e*P	**P**	**11 09 59.0**	**+1.7**
	comp=Z,31nm,1.3s,mb5.1						
MPU	**Maple Canyon**	**82.07**	**331**	*e*P	**P**	**11 10 00.2**	**+0.8**
MPU				*e*pP	pP	11 10 09.0	+2.6
NLU	**North Lily Min**	**82.20**	**330**	*e*P	**P**	**11 10 00.6**	**+0.4**
DAU	**Daniels Canyon**	**82.25**	**331**	*e*P	**P**	**11 10 01.5**	**+1.1**
JLU	**Jordanelle**	**82.49**	**331**	*e*P	**P**	**11 10 02.4**	**+0.8**
DUG	**Dugway**	**82.71**	**330**	*e*P	**P**	**11 10 03.7**	**+0.9**
	comp=Z,34nm,1.3s,mb5.2						
RSSD	**Black Hills**	**82.91**	**338**	*e*P	**P**	**11 10 02.6**	**-1.1**
	comp=Z,15nm,0.9s,mb5.0						
RSSD				*e*pP	pP	11 10 13.0	+2.4
TPH	**Tonopah**	**82.91**	**326**	*e*P	**P**	**11 10 04.8**	**+1.0**
	comp=Z,21nm,1.0s,mb5.1						
TCUT	**Toone Canyon**	**82.91**	**331**	*e*P	**P**	**11 10 03.5**	**-0.3**
MTUM	**Tungsten Hills**	**82.96**	**325**	*e*P	**P**	**11 10 04.9**	**+0.7**
OMM	**Old Mammoth Mi**	**83.38**	**325**	*e*P	**P**	**11 10 07.5**	**+1.2**
HWUT	**Hardware Ranch**	**83.39**	**332**	*e*P	**P**	**11 10 06.5**	**+0.2**
	comp=Z,23nm,1.0s,mb5.2						
HWUT				*e*pP	pP	11 10 15.7	+2.5
BGU	**Big Grassy Mou**	**83.41**	**330**	*e*P	**P**	**11 10 07.1**	**+0.7**
RPZ	**Rata Peaks**	**83.45**	**221**	P	**P**	**11 10 08.2**	**+1.7**
	comp=Z,16nm,1.1s,mb5.0,baz=57,slow=4.5,SNR=5.6						
SPUT	**South Promonto**	**83.49**	**331**	*e*P	**P**	**11 10 07.1**	**+0.3**
PDAR	**Pinedale Array**	**83.61**	**333**	P	**P**	**11 10 07.0**	**-0.3**
	comp=Z,1.7nm,0.8s,mb4.2,baz=180,slow=3.0,SNR=8.9						
HVU	**Hansel Valley**	**84.02**	**331**	*e*P	**P**	**11 10 09.6**	**+0.1**
ELK	**Elko**	**84.19**	**329**	*e*P	**P**	**11 10 10.9**	**+0.6**
	comp=Z,9.9nm,0.9s,mb4.9						
ELK				*e*pP	pP	11 10 20.2	+2.9
AHID	**Auburn Hatcher**	**84.20**	**332**	P	**P**	**11 10 10.2**	**0.0**
	comp=Z,19nm,1.0s,mb5.2						
CMB	**Columbia Colle**	**84.39**	**324**	*e*P	**P**	**11 10 11.8**	**+0.4**
	comp=Z,17nm,1.1s,mb5.1						
REDW	**Red Top Meadow**	**84.61**	**333**	*e*P	**P**	**11 10 12.5**	**+0.1**
SNOW	**Snow King Moun**	**84.66**	**333**	*e*P	**P**	**11 10 12.8**	**+0.2**
WUWY	**Wally Ulrich**	**84.72**	**333**	*e*P	**P**	**11 10 13.3**	**+0.4**
LOHW	**Long Hollow**	**84.73**	**333**	*e*P	**P**	**11 10 13.0**	**+0.1**
TPAW	**Teton Pass**	**84.76**	**333**	*e*P	**P**	**11 10 13.3**	**+0.3**
TPAW				*e*pP	pP	11 10 22.9	+2.8
MOOW	**Moose Ponds**	**84.90**	**333**	*e*P	**P**	**11 10 13.3**	**-0.4**
ASMM	**Slate Mountain**	**85.15**	**324**	P	**P**	**11 10 16.0**	**+0.9**
YMR	**Madison River**	**85.77**	**334**	P	**P**	**11 10 17.3**	**-0.8**
YMR				*e*pP	pP	11 10 28.3	+3.2
BEKR	**Beckwourth**	**85.81**	**325**	*e*P	**P**	**11 10 19.8**	**+1.4**
	comp=Z,27nm,1.3s,mb5.3						
NSHM	**Saint Helena R**	**85.86**	**323**	*e*P	**P**	**11 10 19.9**	**+1.2**
LAO	**LASA Array**	**85.89**	**337**	*e*P	**P**	**11 10 18.0**	**-0.6**
	comp=Z,30nm,1.0s,mb5.5						
OHCM	**Honcut**	**85.94**	**324**	*e*P	**P**	**11 10 20.2**	**+1.2**
QLMT	**Earthquake Lak**	**86.08**	**333**	*e*P	**P**	**11 10 21.2**	**+1.5**
HLID	**Hailey**	**86.17**	**331**	*e*P	**P**	**11 10 20.5**	**+0.4**
	comp=Z,17nm,1.0s,mb5.2						
HLID				*e*pP	pP	11 10 30.4	+3.2
ULM	**Lac du Bonnet**	**86.41**	**345**	P	**P**	**11 10 20.4**	**-0.7**
	comp=Z,5.2nm,0.8s,mb4.8						
ULM	**Lac du Bonnet**	**86.41**	**345**	P	**P**	**11 10 20.4**	**-0.7**
MCMT	**McKenzie Canyo**	**86.61**	**332**	*e*P	**P**	**11 10 23.6**	**+1.4**
BOZ	**Bozeman (W)**	**86.85**	**334**	*e*P	**P**	**11 10 23.1**	**-0.3**
	comp=Z,6.9nm,0.8s,mb4.9						
BOZ				*e*pP	pP	11 10 32.4	+2.0
DGMT	**Dagmar**	**86.86**	**339**	*e*P	**P**	**11 10 23.4**	**0.0**
	comp=Z,113nm,1.1s,mb6.0						
WVOR	**Wild Horse Val**	**87.05**	**328**	*e*P	**P**	**11 10 25.1**	**+0.7**
	comp=Z,19nm,1.2s,mb5.2						
MOD	**Modoc**	**87.38**	**326**	*e*P	**P**	**11 10 27.2**	**+1.2**
	comp=Z,19nm,1.1s,mb5.2						
WDC	**Whiskeytown Da**	**87.41**	**324**	*e*P	**P**	**11 10 25.8**	**-0.4**
	comp=Z,14nm,0.9s,mb5.2						
HRY	**Holter Researc**	**87.83**	**334**	*e*P	**P**	**11 10 28.9**	**+0.8**
YBH	**Yreka Blue Hor**	**88.38**	**325**	*e*P	**P**	**11 10 30.7**	**-0.2**
	comp=Z,8.0nm,0.8s,mb5.0						
CHMT	**Chamberlain Mo**	**88.52**	**333**	*e*P	**P**	**11 10 32.0**	**+0.6**
SCHQ	**Schefferville**	**88.59**	**3**	P	**P**	**11 10 30.9**	**-0.6**
	comp=Z,11nm,1.2s,mb5.1,baz=207,slow=6.2,SNR=4.3						
LSZ	**Lusaka**	**90.10**	**108**	*e*P	**P**	**11 10 39.0**	**-0.5**
	comp=Z,52nm,1.4s,mb5.7						
VGB	**Gordon Butte**	**90.43**	**328**	P	**P**	**11 10 42.7**	**+2.3**
HAWA	**Hanford**	**90.59**	**330**	*e*P	**P**	**11 10 41.4**	**+0.3**
	comp=Z,19nm,1.2s,mb5.3						
NEW	**Newport**	**91.11**	**332**	P	**P**	**11 10 46.1**	**+2.7**
	comp=Z,5.4nm,0.9s,mb4.9						
DPW	**Davenport**	**91.22**	**331**	*e*P	**P**	**11 10 43.0**	**-1.0**
LON	**Longmire**	**91.84**	**329**	*e*P	**P**	**11 10 46.5**	**-0.4**
RPW	**Rockport**	**93.04**	**330**	*e*P	**P**	**11 10 56.6**	**+4.3**
ESDC	**Sonseca Array**	**96.79**	**46**	P	**P**	**11 11 09.2**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=216,slow=4.6,SNR=6.1						
FRB	**Frobisher Bay**	**97.45**	**2**	LR	LR	11 55 51.0	
	comp=Z,182nm,20.8s,MS4.5,baz=329,slow=36						
GERES	**GERESS Array B**	**112.37**	**45**	PKiKP		11 16 14.1	
	comp=Z,2.1nm,1.0s,baz=180,slow=1.3,SNR=6.0						
GERES	**GERESS Array B**	**112.37**	**45**	*i* PKIKP	PKPdf	11 16 14.1	-3.5
GERES				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ASAR	**Alice Springs**	**117.44**	**207**	PKP	PKPdf	11 16 24.4	-3.8
	comp=Z,1.1nm,1.0s,baz=187,slow=23,SNR=3.0						
KWP	**Kalwaria**	**118.10**	**47**	*e*PKIKP	PKPdf	11 16 25.6	-3.2
MLR	**Muntele Rosu**	**118.72**	**53**	PKP	PKPdf	11 16 25.0	-5.1
	comp=Z,4.0nm,0.7s,baz=353,slow=8.8,SNR=4.2						
MLR	**Muntele Rosu**	**118.72**	**53**	PKIKP	PKPdf	11 16 25.0	-5.1
MLR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
SUW	**Suwalki**	**119.80**	**43**	*e*PKIKP	PKPdf	11 16 28.4	-3.5
WRA	**Warramunga Arr**	**120.62**	**209**	PKP	PKPdf	11 16 30.5	-3.9
	comp=Z,1.2nm,0.8s,baz=152,slow=1.8,SNR=20						
WRA	**Warramunga Arr**	**120.62**	**209**	PKIKP	PKPdf	11 16 30.5	-3.9
WRA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
BRTR	**Keskin Array B**	**122.10**	**61**	PKP	PKPdf	11 16 32.4	-4.4
	comp=Z,3.4nm,0.8s,baz=153,slow=2.8,SNR=12						
BRTR	**Keskin Array B**	**122.10**	**61**	PKIKP	PKPdf	11 16 32.4	-4.4
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
AKASG	**Malin Array Be**	**122.41**	**48**	PKP	PKPdf	11 16 32.4	-4.7
	comp=Z,2.4nm,0.6s,baz=268,slow=2.8,SNR=18						
AKASG	**Malin Array Be**	**122.41**	**48**	PKIKP	PKPdf	11 16 32.4	-4.7
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
FINES	**FINESS Array B**	**123.16**	**35**	PKP	PKPdf	11 16 34.5	-3.8
	comp=Z,4.6nm,0.9s,baz=270,slow=7.6,SNR=3.9						
FINES	**FINESS Array B**	**123.16**	**35**	PKIKP	PKPdf	11 16 34.5	-3.8
FINES				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ARCES	**ARCESS Array B**	**124.14**	**25**	PKP	PKPdf	11 16 36.0	-4.1
	comp=Z,1.8nm,0.5s,baz=288,slow=3.8,SNR=5.5						
ARCES	**ARCESS Array B**	**124.14**	**25**	PKIKP	PKPdf	11 16 36.0	-4.1
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MALT	**Malatya**	**125.17**	**64**	*e*PKPdf	PKPdf	11 16 40.0	-2.8
FITZ	**Fitzroy Crossi**	**125.42**	**201**	PKP	PKPdf	11 16 40.5	-3.3
	comp=Z,2.7nm,0.9s,baz=228,slow=18,SNR=3.3						
OBN	**Obninsk**	**127.64**	**43**	*i* PKIKP	PKPdf	11 16 42.8	-4.3
OBN				pmax	pmax		
	comp=Z,37nm,1.2s						
OBN				MLR	MLR		
	comp=Z,400nm,6.0s						
GOF	**Gofitskoye**	**130.21**	**57**	⇓*i*PKIKP	PKPdf	11 16 50.0	-2.3
GOF				pmax	pmax		
	comp=Z,40nm,1.1s						
ARU	**Arti**	**139.94**	**41**	*i* PKIKP	PKPdf	11 17 07.2	-2.7
ARU				*e*		11 20 02.2	
ARU				*e*SS	SS	11 38 21.3	-1.9
TIXI	**Tiksi**	**140.63**	**350**	*e*PKIKP	PKPdf	11 17 09.2	-1.5
TIXI				*e*		11 24 16.1	
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.6s						
TIXI				MLR	MLR		
	comp=Z,200nm,13.0s,MS5.0						
AB31	**Akbulak array**	**141.92**	**52**	PKHKP		11 17 04.1	
AB31				pmax	pmax		
	comp=Z,2.0nm,0.5s						
KAD	**Karad**	**145.81**	**111**	⇑*i*P	PKPbc	11 17 18.3	+0.5
POO	**Poona**	**146.24**	**109**	*e*P	PKPbc	11 17 18.4	-0.4
ZRNK	**Zerenda**	**146.72**	**43**	PKP2	PKPab	11 17 19.1	-3.3
ZRNK				pmax	pmax		
	comp=Z,83nm,1.3s						
ZRNK	**Zerenda**	**146.72**	**43**	*e*PKPdf	PKPdf	11 17 19.2	-2.5
BRVK	**Borovoye**	**147.41**	**43**	*e*PKPdf	PKPdf	11 17 20.1	-2.8
BRVK				*e*PKPbc	PKPdf	11 17 22.7	-0.1
BVA0	**Borovoye Array**	**147.49**	**43**	PKP2	PKPab	11 17 20.6	-4.8
BVAR	**Borovoye Array**	**147.49**	**43**	PKPbc	PKPdf	11 17 20.3	-2.7
	comp=Z,27nm,0.9s,baz=270,slow=3.0,SNR=41						
BVAR				PKPab	PKPab	11 17 23.1	-2.2
	comp=Z,27nm,0.9s,baz=274,slow=2.2,SNR=52						
CUD	**Cuddapah**	**147.50**	**120**	*e*P	PKPdf	11 17 23.6	-0.5
JASL	**Jaisalmer**	**147.73**	**93**	*e*P	PKPdf	11 17 18.6	-5.6
VOSK	**Vostochnaya**	**147.93**	**43**	PKP2	PKPab	11 17 21.4	-5.7
VOSK				pmax	pmax		
	comp=Z,34nm,0.9s						
VOSK	**Vostochnaya**	**147.93**	**43**	*i* PKP	PKPdf	11 17 21.4	-2.3
YAK	**Yakutsk**	**148.62**	**340**	*d i*PKP2	PKPab	11 17 25.2	-4.4
YAK	**Yakutsk**	**148.62**	**340**	*e*PKPbc	PKPdf	11 17 25.2	+0.7
HYB	**Hyderabad**	**149.22**	**115**	*i* PKP	PKPdf	11 17 27.5	+0.7
HYB				*e*		11 17 32.5	
HYB	**Hyderabad**	**149.22**	**115**	*e*PKP	PKPdf	11 17 27.5	+0.7
KKAR	**Karatay Array**	**149.81**	**61**	*i* PKP2	PKPab	11 17 28.6	-6.6
KKAR				pmax	pmax		
	comp=Z,15nm,0.9s						
YSS	**Yuzh-Sakhalins**	**150.54**	**307**	*e*PKIKP	PKPdf	11 17 30.0	+2.0
YSS	**Yuzh-Sakhalins**	**150.54**	**307**	*e*PKPbc	PKPdf	11 17 30.1	+2.1
YSS				*e*PKPab	PKPab	11 17 39.3	+1.3
BHPL	**Bhopal**	**151.53**	**104**	*e*	PKPdf	11 17 32.8	+2.6
KHET	**Khetri**	**152.21**	**94**	*e*P	PKPdf	11 17 28.5	-2.6
AAK	**Ala-Archa**	**152.78**	**62**	*e*PKPdf	PKPdf	11 17 28.4	-3.0
AAK				*e*PKPbc	PKPdf	11 17 35.6	+4.2
AAK				*e*SKPdf		11 20 53.9	
FRU	**Bishkek**	**152.84**	**61**	*e*PKIKP	PKPdf	11 17 30.0	-1.5
FRU				*i*		11 17 37.0	
NVS	**Novosibirsk**	**153.10**	**32**	*i* PKIKP	PKPdf	11 17 28.2	-3.2
NVS				*i*		11 17 35.4	
NVS				*i*		11 17 43.2	
NVS				*e*		11 21 23.9	
NVS				pmax	pmax		
	comp=Z,50nm,1.0s						
NVS				pmax	pmax		
	comp=E,14nm,1.3s						
SONA	**Sohna**	**153.32**	**94**	*e*P	PKPdf	11 17 28.7	-3.9
AYAN	**Aya Nagar**	**153.44**	**94**	*e*P	PKPdf	11 17 26.1	-6.7
ZAL	**Zalesovo**	**154.38**	**32**	PKP	PKPdf	11 17 29.3	-4.0
	comp=E,1.9nm,0.8s,baz=139,slow=3.1,SNR=13						
ZAL				PKPbc	PKPdf	11 17 37.8	+4.6
	comp=E,6.1nm,0.8s,baz=91,slow=2.8,SNR=12						
ZAL	**Zalesovo**	**154.38**	**32**	PKIKP	PKPdf	11 17 29.3	-3.9
ZAL						11 17 37.8	
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ZAL				pmax	pmax		
	comp=Z,6.0nm,0.9s						
ZAL	**Zalesovo**	**154.38**	**32**	PKP	PKPdf	11 17 29.3	-4.0
ZAL				PKPbc	PKPdf	11 17 37.8	+4.6
KLP	**Kalpa**	**155.24**	**88**	*e*P	PKPdf	11 17 31.7	-3.4
BOD	**Bodaibo**	**155.78**	**352**	*e*PKP2	PKPab	11 17 57.2	-2.6
KLR	**Kul'dur**	**156.52**	**318**	*e*PKIKP	PKPdf	11 17 37.8	+1.6
MKAR	**Makanchi Array**	**156.99**	**49**	PKP	PKPdf	11 17 33.0	-4.0
	comp=Z,2.6nm,0.8s,baz=270,slow=2.4,SNR=12						
MKAR				PKPab	PKPab	11 18 04.1	-1.2
	comp=Z,10nm,0.9s,baz=303,slow=2.9,SNR=13						
MKAR	**Makanchi Array**	**156.99**	**49**	PKIKP	PKPdf	11 17 33.0	-4.0
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MKAR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
KOLN	**Koldanda**	**158.52**	**100**	*e*P	PKPdf	11 17 36.5	-3.0
	comp=Z,47nm,1.4s						
GKN	**Gorkha**	**159.46**	**101**	*e*P	PKPdf	11 17 37.3	-3.3
	comp=Z,45nm,1.3s						
DMN	**Daman**	**159.69**	**102**	*e*P	PKPdf	11 17 37.5	-3.3
KKN	**Kakani**	**159.90**	**102**	*e*P	PKPdf	11 17 37.0	-4.1
	comp=Z,17nm,0.9s						
PKI	**Pulchoki**	**159.92**	**103**	*e*P	PKPdf	11 17 37.8	-3.3
MDJ	**Mudanjiang**	**160.00**	**309**	PKP	PKPdf	11 17 37.8	-2.8
MDJ				APKP		11 17 46.0	
MDJ				LR	LR		
	comp=N,195nm,21.6s,MS5.1						
MDJ				LR	LR		
	comp=E,230nm,19.3s,MS5.1						
MDJ				LR	LR		
	comp=Z,205nm,17.7s,MS5.0						
WMQ	**Urumqi**	**161.71**	**52**	*e*PKP	PKPdf	11 17 38.8	-3.6
CN2	**Changchun**	**163.02**	**310**	*e*PKP	PKPdf	11 17 40.6	-3.1
CN2				LR	LR		
	comp=N,800nm,21.0s						
CN2				LR	LR		
	comp=E,600nm,21.0s						
CN2				LR	LR		
	comp=Z,400nm,23.0s						
ZAK	**Zakamensk**	**163.32**	**10**	*e*PKIKP	PKPdf	11 17 39.2	-4.6
SHL	**Shillong**	**164.00**	**117**	*e*P	PKPdf	11 17 43.0	-2.2
SONM	**Songino Array**	**166.14**	**3**	PKP	PKPdf	11 17 43.9	-2.7
	comp=Z,1.1nm,0.9s,baz=315,slow=2.0,SNR=5.6						
SONM				PKPab	PKPab	11 18 45.1	+0.1
	comp=Z,4.7nm,1.0s,baz=342,slow=3.9,SNR=13						
SSE	**Sheshan**	**168.17**	**260**	*e*PKP	PKPdf	11 17 47.0	-1.4
NJ2	**Nanjing**	**170.34**	**262**	*e*PKP	PKPdf	11 17 46.2	-3.5
NJ2				PKS	PKS	11 21 17.0	+0.1
NJ2				PP	PP	11 22 52.0	-3.0
NJ2				SKS	SKS	11 24 43.0	-9.3
NJ2				LR	LR		
	comp=E,370nm,28.0s						
NJ2				LR	LR		
	comp=Z,130nm,24.0s						
GTA	**Gaotai**	**171.74**	**47**	*e*PKP	PKPdf	11 17 48.2	-2.1
GTA				PKP2	PKPab	11 19 10.7	+0.8
GTA				PKS	PKS	11 21 19.8	+2.5
GTA				SKS	SKS	11 24 45.9	-6.7
GTA				PPP	PPP	11 27 14.6	+4.4
GTA				PP	PP		
	comp=Z,96nm,6.5s						
GTA				LR	LR		
	comp=N,527nm,20.2s						
GTA				LR	LR		
	comp=E,778nm,17.5s						
GTA				LR	LR		
	comp=Z,618nm,21.7s						
XAN	**Xi'an**	**178.89**	**273**	PKP	PKPdf	11 17 49.5	-2.9

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*NIED **07** 10:58:00,33.30N×137.30E,h5^{km},Mw4.6 Best double couple: M$_0$8.74×10^{15} NP1:ϕ_s156°,δ83°,λ-122°. NP2: ϕ_s54°,δ32°,λ-13°.*

*BJI **07** 10:58:52.3,32.89N×137.30E,h21^{km},mB5.0,mb4.4, Ms4.6,Msz4.2*

*NEIC **07** 10:58:52.6±0.5,33.30N×137.40E,h10^{km},mb4.6/5, MW4.6(NIED),Error ellipse: s-maj=12.2km s-min=8.0km az=106.0*

*JMA **07** 10:58:52.6±0.1,33.30N×137.32E,h40^{km}±1^{km},M4.1*

*IDC **07** 10:58:55.3±0.9,33.30N×137.47E,h28^{km}±6^{km},mb3.8/9, mb1 4.0/10,mb1mx3.8/22,ML3.8/1,MS3.7/9,Ms1 3.8/9, ms1mx3.5/30,Error ellipse: s-maj=18.1km s-min=15.8km az=60.0*

ISC 07 10:58:53.1±0.4**,33.35N**±0.03×**137.33E**±0.03**,h28^{km}, (h28^{km}**±2.3^{km}**:pP-P),n44,**σ1^{s}**05**/59**,mb4.1**/16**,MS3.7**/7**, 5C-6D,Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK01	**Tokai 1**	**0.46**	**28**	P	**Pb**	**10 59 03.3**	**+0.5**
TK01				S	**Sb**	**10 59 11.4**	**+1.9**
TK02	**Tokai 2**	**0.69**	**31**	⇓P	**Pb**	**10 59 06.7**	**+0.2**
TK02				S	**Sb**	**10 59 17.9**	**+2.2**
TK03	**Tokai 3**	**0.96**	**33**	⇓P	**Pn**	**10 59 10.6**	**-0.3**
TK03				S	**Sb**	**10 59 24.6**	**+1.1**
TK04	**Tokai 4**	**1.12**	**24**	⇓P	**Pn**	**10 59 13.1**	**0.0**
TK04				S	**Sn**	**10 59 28.5**	**+0.8**
JIE	**Ise**	**1.16**	**333**	⇓P	**Pn**	**10 59 13.8**	**+0.1**
JIE				S	**Sn**	**10 59 28.0**	**-0.6**
JKN	**Kiinagashima**	**1.26**	**315**	⇑P	**Pn**	**10 59 14.7**	**-0.4**
JKN				*e*S	**Sn**	**10 59 29.8**	**-1.4**
JAA	**Atsumi**	**1.28**	**353**	⇓P	**Pn**	**10 59 15.5**	**+0.1**
JAA				S	**Sn**	**10 59 30.5**	**-1.3**
JWZ	**Kozaga**	**1.36**	**278**	⇑P	**Pn**	**10 59 15.6**	**-1.0**
JWZ				*e*S	**Sn**	**10 59 32.1**	**-1.8**
TSUJ	**Tsu 2**	**1.55**	**331**	⇑P	**Pn**	**10 59 19.6**	**+0.3**
TSUJ				S	**Sn**	**10 59 38.4**	**-0.2**
JWY	**Kouya**	**1.69**	**301**	P	**Pn**	**10 59 21.3**	**+0.1**
JWY				*e*S	**Sn**	**10 59 41.8**	**-0.2**
JWM	**Minabe**	**1.72**	**287**	⇑P	**Pn**	**10 59 21.3**	**-0.4**
JWM				*e*S	**Sn**	**10 59 41.4**	**-1.6**
SHZ3	**Shizuoka 3**	**1.86**	**23**	⇓P	**Pn**	**10 59 23.1**	**-0.5**
SHZ3				*e*S	**Sn**	**10 59 45.4**	**-0.9**
JIZS	**Izushimoda**	**1.87**	**43**	*e*S	**Sn**	**10 59 46.9**	**+0.2**
JHE	**Heguri**	**1.89**	**314**	⇑P	**Pn**	**10 59 23.9**	**-0.1**
JHE				*e*S	**Sn**	**10 59 46.3**	**-0.8**
JMY	**Miyakejima3**	**1.95**	**68**	*e*S	**Sn**	**10 59 48.7**	**-0.1**
JHJ	**Hachijo jima 2**	**2.07**	**96**	Pn	**Pn**	**10 59 26.4**	**-0.2**
	97nm,0.3s,baz=84,slow=17,SNR=12						
JHJ				Sn	**Sn**	**10 59 50.0**	**-1.7**
	174nm,0.3s,baz=47,slow=22,SNR=9.5						
JHJ				LR	LR	11 00 08.2	
	comp=Z,595nm,21.9s,baz=341,slow=37						
JHJ2	**Mitsune**	**2.10**	**96**	P	**Pn**	**10 59 26.4**	**-0.7**
JHJ2				*e*S	**Sn**	**10 59 51.2**	**-1.3**
JIM2	**Oshima 3**	**2.21**	**51**	P	**Pn**	**10 59 29.1**	**+0.4**
JIM2				S	**Sn**	**10 59 54.1**	**-1.3**
MAJO	**Matsushiro**	**3.26**	**12**	*e*Pn	**Pn**	**10 59 43.9**	**+0.2**
MAT	**Matsushiro**	**3.26**	**12**	P	**Pn**	**10 59 43.9**	**+0.2**
MAT				S	**Sn**	**11 00 20.1**	**-1.9**
MAT	**Matsushiro**	**3.26**	**12**	*e*P	**Pn**	**10 59 44.0**	**+0.3**
MAT				*e*S	**Sn**	**11 00 20.0**	**-2.0**
JOW	**Kunigami**	**10.18**	**233**	LR	LR	11 04 55.9	
	comp=Z,263nm,18.9s,baz=149,slow=35						
ASAJ	**Asahikawa**	**11.50**	**19**	Pn	**P**	**11 01 36.1**	**-2.5**
	0.8nm,0.3s,baz=225,slow=15,SNR=9.3						
ASAJ				LR	LR	11 06 25.8	
	comp=Z,543nm,19.9s,baz=180,slow=39						
BJI	**Beijing**	**18.21**	**298**	*e*P	**P**	**11 03 07.9**	**+2.3**
BJI				AMB	AMB		
	comp=Z,14nm,1.0s						
BJI				LR	LR		
	comp=N,812nm,16.9s						
BJI				LR	LR		
	comp=E,565nm,14.3s						
BJI				LR	LR		
	comp=Z,256nm,23.8s						
XAN	**Xi'an**	**23.62**	**280**	P	**P**	**11 04 04.5**	**+1.8**
XAN				AP		11 04 12.4	
XAN				AMB	AMB		
	comp=Z,6.0nm,0.5s,mb4.3						
ENH	**Enshi**	**23.83**	**270**	*e*P	**P**	**11 04 06.1**	**+1.3**
	comp=Z,24nm,0.7s,mb4.7						
SONM	**Songino Array**	**27.37**	**311**	P	**P**	**11 04 38.0**	**+0.2**
	comp=Z,0.9nm,0.9s,mb3.3,baz=104,slow=5.1,SNR=3.6						
CD2	**Chengdu**	**28.47**	**274**	*e*P	**P**	**11 04 48.6**	**+0.7**
CD2				AMB	AMB		
	comp=Z,20nm,0.7s,mb4.9						
CMAR	**Chiang Mai Arr**	**37.35**	**256**	P	**P**	**11 06 05.6**	**+0.4**
	comp=Z,1.3nm,0.7s,mb3.9,baz=49,slow=8.3,SNR=6.1						
CMAR				pP	pP	11 06 15.2	+1.6
	comp=Z,0.8nm,0.7s,baz=339,slow=43,SNR=7.6						
CMAR				LR	LR	11 24 08.1	
	comp=Z,52nm,19.6s,MS3.3,baz=65,slow=40						
ZAL	**Zalesovo**	**42.07**	**316**	P	**P**	**11 06 44.4**	**+0.6**
	comp=Z,1.7nm,0.3s,mb4.2,baz=141,slow=12,SNR=4.9						
ZAL				LR	LR	11 25 54.3	
	comp=Z,182nm,18.1s,MS4.0,baz=125,slow=38						
MKAR	**Makanchi Array**	**43.35**	**305**	P	**P**	**11 06 56.2**	**+1.8**
	comp=Z,3.3nm,0.7s,mb4.2,baz=88,slow=9.1,SNR=16						
MKAR				pP	pP	11 07 04.6	+1.7
	comp=Z,8.8nm,0.8s,baz=90,slow=9.7,SNR=24						
MKAR				LR	LR	11 25 54.0	
	comp=Z,162nm,19.8s,MS3.9,baz=308,slow=37						
MKAR	**Makanchi Array**	**43.35**	**305**	P	**P**	**11 06 56.2**	**+1.8**
MKAR				pP	pP	11 07 04.6	+1.7
KURK	**Kurchatov**	**45.67**	**311**	P	**P**	**11 07 14.8**	**+1.8**
	comp=Z,12nm,1.1s,mb4.7						
AAK	**Ala-Archa**	**49.36**	**300**	P	**P**	**11 07 42.4**	**+0.4**
	comp=Z,4.6nm,0.8s,mb4.6						
BVAR	**Borovoye Array**	**50.65**	**314**	P	**P**	**11 07 53.6**	**+2.0**
	comp=Z,0.7nm,0.5s,mb3.9,baz=256,slow=41,SNR=3.1						
BVAR				pP	pP	11 08 00.6	+0.4
	comp=Z,1.6nm,0.6s,baz=90,slow=8.9,SNR=5.6						
ZRNK	**Zerenda**	**51.49**	**314**	*e*P	**P**	**11 07 59.0**	**+1.0**
	comp=Z,4.6nm,0.9s,mb4.4						
FITZ	**Fitzroy Crossi**	**52.37**	**194**	P	**P**	**11 08 04.1**	**-1.0**

	comp=Z,1.4nm,0.8s,mb4.0,baz=21,slow=17,SNR=2.4						
WB2	Warramunga Arr	53.07	184	eP	P	11 08 18.7	+8.4
WRA	Warramunga Arr	53.07	184	P	P	11 08 09.4	-0.9
	comp=Z,0.9nm,0.6s,mb3.9,baz=0.8,slow=7.8,SNR=16						
WRA				LR	LR	11 27 20.4	
	comp=Z,61nm,22.0s,MS3.6,baz=280,slow=32						
MCK	McKinley	53.53	32	P	P	11 08 13.9	+0.8
	comp=Z,2.0nm,1.0s,mb4.0						
CTA	Charters Tower	53.82	170	LR	LR	11 29 25.4	
	comp=Z,88nm,18.4s,MS3.9,baz=51,slow=34						
ILAR	Eielson Array	54.37	31	P	P	11 08 19.5	+0.3
	comp=Z,0.7nm,0.7s,mb3.7,baz=282,slow=5.5,SNR=14						
ILAR				LR	LR	11 32 14.1	
	comp=Z,55nm,18.2s,MS3.7,baz=82,slow=37						
ASAR	Alice Springs	56.80	184	P	P	11 08 37.3	-0.1
	comp=Z,0.7nm,0.8s,mb3.7,baz=11,slow=13,SNR=6.9						
ASAR				LR	LR	11 30 40.6	
	comp=Z,67nm,20.4s,MS3.7,baz=148,slow=34						
BRTR	Keskin Array B	78.72	310	pP	pP	11 11 04.5	+1.0
	comp=Z,1.9nm,0.9s,baz=117,slow=6.4,SNR=3.4						

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*MDD **07** 11:02:42.8±0.4, 38.08N×8.34W, mbLg1.8/6, Error ellipse: s-maj=4.2km s-min=2.8km az=85.0, PRXIMO*
*INMG **07** 11:02:42.8±1.1, 38.07N×8.32W, h2^{km}±5^{km}, ML1.8, Error ellipse: s-maj=2.8km s-min=1.7km az=76.0*
ISC 07 11:02:41.5±0.6**, 38.07N**±0.03×**8.30W**±0.05**, h4**^{km}±7^{km}**, n14, σ0^{s}62**/24**, Portugal**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MOE	Montemor	0.45	355	ePg	Pg	11 02 51.4	+0.8
MOE				eSg	Sg	11 02 57.2	+0.6
PTEO	Sao Teotonio	0.62	213	ePg	Pg	11 02 54.2	+0.2
PTEO				eSg	Sg	11 03 02.2	-0.1
	13nm,0.1s						
PTEO	Sao Teotonio	0.62	213	Pg	Pg	11 02 54.2	+0.2
PTEO				Lg		11 03 02.2	
	6.6nm,0.1s						
EGRO	El Granado	0.84	129	Pg	Pg	11 02 58.5	+0.1
	3.7nm,0.3s,SNR=5.8						
EGRO				Lg		11 03 11.2	
	15nm,0.3s,SNR=14						
PALC	Alcoutim	0.89	133	eP	Pb	11 02 59.2	0.0
PALC				eS	Sg	11 03 11.8	+0.5
	26nm,0.2s						
PALC	Alcoutim	0.89	133	P	Pb	11 02 59.2	0.0
PALC				S	Sg	11 03 11.8	+0.5
	13nm,0.2s						
PLOU	Loures	1.05	321	eP	Pb	11 03 02.1	+0.2
PLOU				eS	Sb	11 03 15.7	-0.2
	15nm,0.3s						
PLOU	Loures	1.05	321	P	Pb	11 03 02.1	+0.2
PLOU				S	Sb	11 03 15.7	-0.2
	7.7nm,0.3s						
EBAD	Badajoz	1.22	56	Pg	Pg	11 03 06.0	+0.1
	1.6nm,0.3s,SNR=7.9						
EBAD				Lg		11 03 22.4	
	8.2nm,0.3s,SNR=22						
EMIN	Mina Concepcio	1.32	103	Pg	Pg	11 03 07.2	-0.8
	1.6nm,0.3s,SNR=18						
EMIN				Lg		11 03 25.1	
	8.2nm,0.2s,SNR=13						
PTOM	Tomar	1.55	357	ePn	Pn	11 03 09.8	-0.2
PTOM				eSn	Sn	11 03 30.3	-0.5
	20nm,0.3s						
PTOM	Tomar	1.55	357	Pn	Pn	11 03 09.8	-0.2
PTOM				Sn	Sn	11 03 30.3	-0.5
	10nm,0.3s						
PCBR	Castelo Branco	1.88	20	ePg	Pg	11 03 17.4	-1.7
PCBR				eSn	Sn	11 03 40.1	+0.8
	4.0nm,0.2s						
PCBR	Castelo Branco	1.88	20	Pg	Pg	11 03 17.4	-1.7
PCBR				Sn	Sn	11 03 40.1	+0.8
	2.0nm,0.2s						

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*BJI **07** 11:12:27.3, 0.06S×100.24E, h182^{km}, mB5.2, mb4.6*
*SYO **07** 11:12:33.4, 0.62N×100.28E, h174^{km}, MB4.8*
*NEIC **07** 11:12:34.4±0.2, 0.57N×100.22E, mb4.7/11, Error ellipse: s-maj=9.8km s-min=5.4km az=53.0*
*IDC **07** 11:12:34.4±0.5, 0.63N×100.28E, h184^{km}±4^{km}, mb4.2/20, mb1 4.3/21, mb1mx4.2/23, Error ellipse: s-maj=19.3km s-min=7.5km az=56.0*
ISC 07 11:12:32.9±0.3**, 0.54N**±0.06×**100.24E**±0.07**, h182**^{km}**, h182**^{km}±1.6^{km}**:pP-P, n76, σ1^{s}04**/57**, mb4.5**/32**, 1C-2D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KLM	Kuala Lumpur	2.91	29	⇑eP	P	11 13 22.0	+1.0
KGM	Kluang	3.41	64	⇓iP	P	11 13 29.1	+1.8
	538nm,0.8s						
IPM	Ipoh	4.09	11	eP	P	11 13 37.0	+1.1
	176nm,0.7s						
CMAR	Chiang Mai Arr	17.85	356	P	P	11 16 29.5	-1.5
	0.4nm,0.3s,baz=186,slow=9.7,SNR=10						
KMI	Kunming	24.56	5	eP	P	11 17 37.8	+0.2
KMI				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.2						
GYA	Guiyang	26.50	13	PKP	P	11 17 49.3	-6.2
GYA				PP	PP		
	comp=Z,380nm,5.1s						
GYA				LR	LR		
	comp=N,730nm,18.3s						
GYA				LR	LR		
	comp=E,620nm,19.4s						
GYA				LR	LR		
	comp=Z,540nm,20.8s						
FITZ	Fitzroy Crossi	31.10	128	P	P	11 18 36.4	-0.1
	comp=Z,2.3nm,0.8s,mb4.0,baz=352,slow=9.6,SNR=3.1						
FITZ				PcP	PcP	11 21 27.1	-0.3
	comp=Z,2.1nm,0.6s,baz=23,slow=6.3,SNR=3.4						
FITZ				ScP		11 24 50.6	
	comp=Z,3.6nm,0.7s,baz=154,slow=2.3,SNR=8.1						
XAN	Xi'an	34.30	13	P	P	11 19 01.6	-2.3
KAKA	Kakadu	34.51	114	eP	P	11 19 05.5	-0.3
	comp=Z,6.8nm,0.6s,mb4.5						
NWAO	Narrogin (SRO)	36.94	156	P	P	11 19 27.1	+0.9
	comp=Z,13nm,1.0s,mb4.5,baz=348,slow=14,SNR=4.0						
WRA	Warramunga Arr	39.12	123	P	P	11 19 44.3	-0.1
	comp=Z,16nm,0.6s,mb4.8,baz=302,slow=9.0,SNR=135						
WRA				PcP	PcP	11 21 50.5	-0.3
	comp=Z,2.8nm,0.6s,baz=315,slow=2.5,SNR=14						
WRA				ScP		11 25 20.1	
	comp=Z,2.9nm,0.8s,baz=314,slow=3.3,SNR=14						
WRAB	Tennant Creek	39.12	123	eP	P	11 19 43.7	-0.7
	comp=Z,32nm,0.7s,mb5.1						
WB2	Warramunga Arr	39.13	123	eP	P	11 19 45.0	+0.5
ASAR	Alice Springs	40.59	129	P	P	11 19 55.7	-0.7
	comp=Z,1.8nm,0.6s,mb3.9,baz=300,slow=8.0,SNR=29						
ASAR				PcP	PcP	11 21 55.4	-0.1
	comp=Z,5.2nm,0.7s,baz=308,slow=2.9,SNR=21						
ASAR				ScP		11 25 25.6	
	comp=Z,3.6nm,0.7s,baz=304,slow=3.6,SNR=18						
BJT	Baijiatuau	41.89	18	eP	P	11 20 06.3	-0.6
	comp=Z,20nm,0.8s,mb4.8						
BJI	Beijing	41.91	18	eP	P	11 20 06.7	-0.4
BJI				AMB	AMB		
	comp=Z,16nm,0.9s,mb4.7						
WMQ	Urumqi	44.52	347	eP	P	11 20 27.7	-0.4
WMQ				AP	pP	11 21 05.9	-2.0
WMQ				XP	sP	11 21 23.9	-5.0
WMQ				AMB	AMB		
	comp=Z,15nm,0.8s,mb4.7						
SONM	Songino Array	47.41	6	P	P	11 20 49.9	-0.8
	comp=Z,11nm,0.7s,mb4.6,baz=189,slow=6.3,SNR=35						
SONM				pP	pP	11 21 31.1	0.0
	comp=Z,3.7nm,0.7s,baz=192,slow=8.7,SNR=4.3						
SONM				PcP	PcP	11 22 17.8	-0.8
	comp=Z,3.7nm,0.5s,baz=184,slow=3.7,SNR=8.8						
SONM				ScP		11 25 52.6	
	comp=Z,1.6nm,0.8s,baz=180,slow=3.7,SNR=5.7						
UCH	Uchtor	47.52	334	P	P	11 20 52.8	+1.1
	SNR=8.8						
TKM2	Tokmak 2	47.63	336	P	P	11 20 53.0	+0.6
	SNR=20						
KBK	Karagaybulak	47.68	335	P	P	11 20 54.1	+1.2
	SNR=7.0						
AAK	Ala-Archa	47.86	334	P	P	11 20 55.5	+1.2
	SNR=6.8						
CHMS	Chumysh	48.04	335	P	P	11 20 56.1	+0.4
	SNR=7.9						
EKS2	Erkin-Say	48.19	334	P	P	11 20 57.8	+1.0
	SNR=21						
USP	Ospenovka	48.37	335	P	P	11 20 58.4	+0.2
	SNR=18						
CN2	Changchun	48.58	24	eP	P	11 21 00.4	+0.6
MKAR	Makanchi Array	48.67	344	P	P	11 20 59.7	-0.7
	comp=Z,6.0nm,0.4s,mb4.6,baz=162,slow=8.4,SNR=63						
MKAR				pP	pP	11 21 39.9	-1.1
	comp=Z,3.4nm,0.8s,baz=158,slow=7.8,SNR=2.2						
MKAR	Makanchi Array	48.67	344	P	P	11 20 59.7	-0.7
MKAR				pP	pP	11 21 39.9	-1.1
CTA	Charters Tower	49.49	117	eP	P	11 21 08.9	+1.9
	comp=Z,12nm,0.7s,mb4.6						
CTA	Charters Tower	49.49	117	P	P	11 21 06.9	-0.1
	comp=Z,14nm,0.7s,mb4.7,baz=290,slow=7.8,SNR=18						
CTA				PcP	PcP	11 22 26.5	-0.1
	comp=Z,2.7nm,0.6s,baz=306,slow=5.6,SNR=3.3						
CTAO	Charters Tower	49.49	117	eP	P	11 21 07.7	+0.7
	comp=Z,25nm,0.8s,mb4.9						
STKA	Stephens Creek	50.68	133	P	P	11 21 14.7	-1.2
	comp=Z,3.0nm,0.6s,mb4.1,baz=294,slow=7.2,SNR=9.3						
ZAL	Zalesovo	54.73	349	P	P	11 21 43.5	-2.0
	comp=Z,8.6nm,0.5s,mb4.7,baz=204,slow=6.9,SNR=14						
ZAL				pP	pP	11 22 25.2	-1.7
	comp=Z,3.6nm,0.6s,baz=241,slow=4.3,SNR=3.1						
ARMA	Armidale	57.70	127	eP	P	11 22 06.9	0.0
BVAR	Borovoye Array	57.91	339	P	P	11 22 06.7	-1.3
	comp=Z,25nm,0.7s,mb5.2,baz=141,slow=9.5,SNR=50						
BVAR				pP	pP	11 22 48.4	-1.5
	comp=Z,2.8nm,0.7s,baz=135,slow=8.4,SNR=2.3						
BRVK	Borovoye	57.97	339	eP	P	11 22 06.3	-2.2
	comp=Z,20nm,0.6s,mb5.1						
BRVK				epP	pP	11 22 50.1	-0.2
ARU	Arti	65.00	336	eP	P	11 22 53.3	-2.1
	comp=Z,37nm,1.0s,mb5.2						
MALT	Malatya	67.83	312	eP	P	11 23 13.0	-0.6
	comp=Z,4.3nm,0.7s,mb4.3						
MALT				epP	pP	11 23 56.4	-0.4
EIL	Elat	68.38	302	eP	P	11 23 15.8	-1.4
	comp=Z,11nm,0.8s,mb4.7						
BRTR	Keskin Array B	71.81	312	P	P	11 23 36.4	-1.2
	comp=Z,8.1nm,0.7s,mb4.6,baz=130,slow=7.0,SNR=29						
BRTR				pP	pP	11 24 19.8	-1.5
	comp=Z,3.4nm,1.1s,baz=135,slow=7.0,SNR=2.2						
MAW	Mawson	72.79	194	P	P	11 23 43.6	+0.7
	comp=Z,1.3nm,0.7s,mb3.8,baz=22,slow=10.0,SNR=5.0						
MAW				pP	pP	11 24 26.4	-0.2
	comp=Z,1.2nm,0.7s,baz=41,slow=11,SNR=2.8						
RPZ	Rata Peaks	76.59	135	P	P	11 24 04.0	-1.0
	comp=Z,2.3nm,0.6s,mb4.0,baz=320,slow=8.7,SNR=5.8						
AKASG	Malin Array Be	77.64	322	P	P	11 24 08.7	-2.0
	comp=Z,3.1nm,0.6s,mb4.1,baz=85,slow=4.8,SNR=18						
MLR	Muntele Rosu	78.64	316	P	P	11 24 16.7	+0.5
	comp=Z,8.5nm,0.7s,mb4.5,baz=158,slow=3.2,SNR=11						
SYO	Syowa Base	80.33	199	⇓PcP	PcP	11 24 35.6	+3.9
KOLS	Kolonicke sedl	81.69	319	eP	P	11 24 34.1	+1.8
KOLS				e		11 24 37.9	
FINES	FINESS Array B	81.99	332	P	P	11 24 33.4	-0.2
	comp=Z,9.7nm,0.6s,mb4.6,baz=105,slow=6.5,SNR=46						
KAF	Kangasniemi	82.05	333	ep	P	11 24 34.1	+0.2
	baz=98,slow=4.8						
KECS	Kecovo	82.80	319	eP	P	11 24 39.0	+1.0
VYHS	Vyhne	83.89	319	eP	P	11 24 44.0	+0.4
ARCES	ARCESS Array B	84.18	340	P	P	11 24 44.6	+0.1
	comp=Z,6.7nm,0.5s,mb4.7,baz=108,slow=4.1,SNR=54						
MORC	Moravsky Berou	84.87	320	P	P	11 24 49.2	+0.8
	comp=Z,5.5nm,0.7s,mb4.4						
BRG	Berggiesshubel	87.24	321	eP	P	11 25 01.2	+1.3
	comp=Z,7.2nm,0.8s,mb4.5						
GERES	GERESS Array B	87.31	319	P	P	11 25 01.1	+0.9
	comp=Z,2.3nm,0.6s,mb4.2,baz=90,slow=2.7,SNR=14						
MOX	Moxa	88.71	320	eP	P	11 25 08.0	+1.2
NOA	NORSAR Array B	89.06	331	P	P	11 25 08.3	+0.1
	comp=Z,0.6nm,0.7s,mb3.6,baz=0.1,slow=6.7,SNR=2.8						
DAVOX	Davos	89.86	317	P	P	11 25 13.3	+1.0
	comp=Z,13nm,0.6s,mb5.1,baz=127,slow=4.1,SNR=12						
DAVOX	Davos	89.86	317	P	P	11 25 13.3	+1.0
NEW	Newport	121.61	28	PKP	PKPdf	11 31 06.3	+1.3
	comp=Z,2.0nm,0.7s,baz=229,slow=2.4,SNR=4.1						
NEW	Newport	121.61	28	PKP	PKPdf	11 31 06.3	+1.3
HAWA	Hanford	121.68	31	ePKPdf	PKPdf	11 31 06.6	+1.4
MOD	Modoc	124.13	36	ePKPdf	PKPdf	11 31 11.4	+1.3
MCMT	McKenzie Canyo	126.13	29	ePKPdf	PKPdf	11 31 16.1	+2.3
HLID	Hailey	126.27	31	ePKPdf	PKPdf	11 31 16.0	+1.8
ULM	Lac du Bonnet	127.56	13	PKP	PKPdf	11 31 16.2	-0.3
	comp=Z,3.8nm,0.6s						
PDAR	Pinedale Array	129.25	28	PKP	PKPdf	11 31 20.2	+0.2
	comp=Z,0.7nm,0.5s,baz=103,slow=0.5,SNR=7.9						
MSU	Marysvale	131.03	34	ePKPdf	PKPdf	11 31 25.8	+2.3
NEN	Nelson	131.38	39	ePKPdf	PKPdf	11 31 26.3	+2.1
SRU	San Rafael	131.50	32	ePKPdf	PKPdf	11 31 25.5	+1.1
PV10	Paradox Valley	132.82	32	ePKPdf	PKPdf	11 31 29.0	+2.1
ANMO	Albuquerque	136.76	33	ePKPdf	PKPdf	11 31 36.0	+1.8
TXAR	Lajitas Array	142.53	36	PKhKP		11 31 42.5	
	comp=Z,2.5nm,0.8s,baz=270,slow=1.8,SNR=24						
TXAR				PKP	PKPdf	11 31 47.8	+3.1
	comp=Z,2.1nm,0.5s,baz=210,slow=0.2,SNR=20						
TXAR				SKPbc		11 35 04.5	
	comp=Z,0.8nm,0.7s,baz=270,slow=0.8,SNR=5.8						
JCT	Junction City	143.73	30	ePKPdf	PKPdf	11 31 46.0	-0.7
NATX	Nacogdoches	144.91	22	ePKPdf	PKPdf	11 31 49.2	+0.4
BDFB	Brasilia	145.26	243	PKPbc	PKPbc	11 31 52.0	+1.6
	comp=Z,1.5nm,0.5s,baz=138,slow=14,SNR=3.5						
CPUP	Villa Florida	146.47	218	PKPbc	PKPbc	11 31 54.7	+1.6
	comp=Z,3.1nm,0.8s,baz=143,slow=3.4,SNR=7.9						
CPUP				pPKPbc		11 32 41.0	
	comp=Z,5.3nm,0.9s,baz=160,slow=4.0,SNR=4.8						

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*NIED **07** 11:18:00, 37.40N×138.90E, h5^{km}, Mw3.6 Best double couple: M$_{0}$2.75×10^{14} NP1:ϕ$_{s}$37°, δ54°, λ97°. NP2:ϕ$_{s}$204°, δ37°, λ80°.*
*JMA **07** 11:18:44.9, 37.40N×138.93E, M3.5 Broadband fault plane solution: P waves. NP1:ϕ$_{s}$84°, δ38°, λ158°. NP2: ϕ$_{s}$192°, δ77°, λ54°. Principal axes: T Plg46°, Azm65°; N Plg35°, Azm202°; P Plg23°, Azm309°;*
JMA Felt III J1.
ISC 07 11:18:45.0±0.7**, 37.39N**±0.04×**138.95E**±0.06**, h14**^{km}±5^{km}**, n6, σ0^{s}32**/12**, 1C-3D, Near west coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHK	Hiroka	0.15	158	⇓P	Pg	11 18 48.6	-0.3
JHK				eS	Sg	11 18 51.5	+0.1
JIZZ	Izumozaki	0.24	307	⇓P	Pg	11 18 50.0	-0.3
JIZZ				eS	Sg	11 18 54.4	+0.5
JNS	Sasagawa	0.52	34	⇑P	Pb	11 18 55.2	-0.2
JNS				S	Sb	11 19 02.6	+0.1
JKT	Katashina	0.67	159	⇓P	Pb	11 18 57.9	0.0
JKT				S	Sb	11 19 07.3	+0.6
MAT	Matsushiro	1.03	215	P	Pb	11 19 03.7	-0.5
MAT				S	Sb	11 19 17.3	0.0
MAT	Matsushiro	1.03	215	P	Pb	11 19 03.8	-0.4
MAT				S	Sb	11 19 17.3	0.0

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*NIED **07** 11:45:00, 25.00N×122.00E, h5^{km}, Mw3.8 Best double couple: M$_{0}$5.92×10^{14} NP1:ϕ$_{s}$295°, δ63°, λ-50°. NP2:ϕ$_{s}$53°, δ47°, λ-141°.*
*TAP **07** 11:45:55.2, 24.65N×121.85E, h13^{km}, ML4.0*
TAP Felt III J at Suao, II J at Ilan, II J at Neicheng, III J at Nanau, I J at Santiao Chiao, I J, I J at Nanshan, II J at Nioudou.
*JMA **07** 11:45:56.5±0.3, 25.03N×121.99E, h35^{km}, M3.7*
ISC 07 11:45:56.1±0.3**, 24.68N**±0.02×**121.91E**±0.02**, h13**^{km}**, n46, σ1^{s}10**/75**, 1C-8D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TWC	Suao	0.09	218	⇓iP	Pg	11 45 58.0	-1.0
ILA	Ilan	0.17	299	⇓iP	Pg	11 45 59.4	-0.8
ILA				S	Sg	11 46 02.0	-0.9
TWE	Neicheng	0.23	280	⇓iP	Pg	11 45 59.8	-1.3
TWE				S	Sg	11 46 02.5	-2.0
ENA	Nanau	0.30	212	⇓iP	Pg	11 46 01.4	-1.0
ENA				S	Sg	11 46 04.9	-1.8
TWB1	Santiao Chiao	0.33	12	⇓iP	Pg	11 46 03.1	0.0
TWB1				S	Sg	11 46 07.6	-0.1
NWF	Wu-fen Shan	0.41	343	⇓iP	Pg	11 46 04.5	0.0
NWF				S	Sg	11 46 09.8	-0.3
TWA	Mucha	0.42	315	⇓iP	Pg	11 46 04.3	-0.5
TWA				S	Sg	11 46 09.4	-1.2
TAP1	Taipei	0.50	315	eP	Pb	11 46 06.1	-0.1
TAP1				S	Sb	11 46 12.6	-0.6
NSK	Sanguang	0.51	269	⇓iP	Pb	11 46 04.8	-1.5
NSK				S	Sb	11 46 10.2	-3.1
TAP	Taipei	0.51	314	eP	Pb	11 46 06.2	-0.2
TAP				S	Sb	11 46 13.3	-0.2
NNS	Nan Shan	0.55	244	⇑iP	Pb	11 46 05.4	-1.6
NNS				S	Sb	11 46 12.6	-1.9
TWS1	Kuangyinshan	0.61	313	eP	Pb	11 46 08.6	+0.4
TWS1				S	Sb	11 46 16.2	-0.2
TWY	Chenhua	0.66	334	eP	Pb	11 46 09.2	+0.3
TWD	Chiawan	0.67	206	P	Pb	11 46 08.1	-1.0
TWD				S	Sb	11 46 16.4	-1.5
NCU	National Centr	0.72	294	eP	Pb	11 46 10.5	+0.5
NCU				S	Sb	11 46 21.6	+2.2
HWA	Hwalien	0.76	202	eP	Pb	11 46 10.6	0.0
HWA				S	Sb	11 46 20.5	-0.1
NSTT	Nanjuang	0.83	267	eP	Pb	11 46 11.3	-0.6
NSTT				S	Sb	11 46 22.5	-0.3
HSN	Hsinchu	0.87	278	eP	Pb	11 46 12.8	+0.3
HSN				S	Sb	11 46 24.4	+0.7
PCYT	Pengchaiyu	0.95	9	eP	Pb	11 46 14.7	+0.7
PCYT				S	Sb	11 46 28.4	+2.1
ESL	Shilin	0.97	207	eP	Pb	11 46 13.6	-0.6
ESL				S	Sb	11 46 25.1	-1.7
YOJ	Yonaguni jima	1.02	102	P	Pb	11 46 15.8	+0.6
YOJ				S	Sb	11 46 29.6	+1.3
NSY	Sanyi	1.08	256	eP	Pb	11 46 16.8	+0.6
NSY				S	Sb	11 46 32.1	+2.1
SMLT	Sun Moon Lake	1.22	229	eP	Pb	11 46 18.0	-0.6
SMLT				S	Sb	11 46 34.9	+0.8
TYC	Yuchr	1.24	231	eP	Pb	11 46 18.2	-0.6
TCU	Taichung	1.25	245	eP	Pb	11 46 20.2	+1.2
TCU				S	Sb	11 46 37.7	+2.9
EHY	Hungye	1.29	205	eP	Pb	11 46 19.5	-0.2
EHY				S	Sb	11 46 35.5	-0.6
WNT	Mingjian	1.38	235	eP	Pn	11 46 22.7	+1.5
TWF1	Yuli	1.44	203	eP	Pn	11 46 22.1	0.0
TWF1				S	Sb	11 46 41.5	+1.1
ALS	Alishan	1.54	221	eP	Pn	11 46 24.4	+0.9
CHN5	Tsauling	1.56	226	eP	Pn	11 46 25.2	+1.4
WGK	Gukeng	1.58	231	eP	Pn	11 46 25.9	+1.8
CHKT	Chengkung	1.65	198	eP	Pn	11 46 24.8	-0.3
IRIF	Iriomote-Funau	1.69	101	P	Pn	11 46 25.2	-0.4
IRIF				S	Sn	11 46 46.5	-0.8
ELDTW	Lidau	1.70	209	eP	Pn	11 46 25.9	+0.1
ELDTW				S	Sn	11 46 48.2	+0.8
CHY	Chiayi	1.80	229	eP	Pn	11 46 29.3	+2.1
HATJ	Hateruma jima	1.83	109	P	Pn	11 46 27.9	+0.2
HATJ				S	Sn	11 46 50.8	-0.1
STYT	Tauyuan	1.85	215	eP	Pn	11 46 30.0	+2.1
WTP	Ta-pu	1.86	220	eP	Pn	11 46 30.2	+2.2
WSF	Szhu	1.86	236	eP	Pn	11 46 29.4	+1.3
CHN1	Nanshi	1.96	221	eP	Pn	11 46 31.8	+2.3
JKRS	Kuro-shima	1.96	103	P	Pn	11 46 29.4	-0.1
JKRS				S	Sn	11 46 53.6	-0.5
TWG	Pinlang	2.01	203	eP	Pn	11 46 30.6	+0.5
JIJ	Ishigaki jima	2.06	98	P	Pn	11 46 30.2	-0.7
JIJ				S	Sn	11 46 54.8	-1.7
PNG	Penghu	2.42	243	eP	Pn	11 46 35.6	-0.6
WDGT	Dungji	2.50	236	eP	Pn	11 46 37.8	+0.6
JTJ	Tarama	2.54	90	P	Pn	11 46 37.0	-0.8

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*IGIL **07** 11:53:04.3, 28.58S×65.83W, h0^{km}, MS6.1*
*LDG **07** 11:53:05.4±0.4, 28.07S×65.51W, h10^{km}, Mb5.8/37, Ms6.1/9, Error ellipse: s-maj=26.8km s-min=15.4km az=76.0*
*IDC **07** 11:53:06.0±1.6, 28.62S×65.64W, h21^{km}±8^{km}, mb5.5/12, mb1 5.7/14, mb1mx5.7/14, ML5.4/2, MS6.2/15, Ms1 6.1/15, ms1mx6.0/22, Error ellipse: s-maj=12.7km s-min=9.3km az=71.0*
*GUC **07** 11:53:05.2±0.8, 28.60S×65.84W, h25^{km}, ML6.3*
*BJI **07** 11:53:06.1, 28.60S×65.80W, h22^{km}, mB6.4, Ms6.4, Msz6.4*
*SYO **07** 11:53:06.1, 28.59S×65.86W, h22^{km}, MB6.1, MS6.1*
*HRVD **07** 11:53:06.1±0.1, 28.91S×65.79W, h20^{km}, MW6.1/72, Centroid moment Tensor Solution. LP body waves: s72, c172; Mantle waves: s67, c113; Half duration: 2^{s}9 Moment tensor: Scale 10^{18}Nm; M$_{rr}$1.49±.02; M$_{θθ}$-0.66±.02; M$_{ϕϕ}$-0.84±.02; M$_{rθ}$0.45±.04; M$_{θϕ}$-0.94±.02; M$_{ϕr}$0.27±.05; Best double couple: M$_{0}$1.68×10^{18} NP1: ϕ$_{s}$216°, δ37°, λ80°. NP2:ϕ$_{s}$48°, δ54°, λ97°. Principal axes: T 1.58, Plg79°, Azm348°; N .18, Plg6°, Azm224°; P -1.77, Plg9°, Azm133°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to mantle waves, cutoff=125s.*
*NEIC **07** 11:53:06.1±0.1, 28.57S×65.84W, mb6.1/146, ME6.3, MS6.1/88, MW6.4 Error ellipse: s-maj=3.0km s-min=2.6km az=113.0 Broadband fault plane solution: P waves. NP1: ϕ$_{s}$40°, δ65°, λ90°. NP2:ϕ$_{s}$220°, δ25°, λ90°. Principal axes: T Plg70°, Azm310°; N Plg0°, Azm0°; P Plg20°, Azm130°; Moment Tensor Solution. s51 Moment tensor: Scale 10^{18} Nm; M$_{rr}$3.35; M$_{θθ}$0.35; M$_{ϕϕ}$-3.70; M$_{rθ}$-1.29; M$_{θϕ}$-1.67; M$_{ϕr}$0.98; Best double couple: M$_{0}$4.2×10^{18} NP1: ϕ$_{s}$224°, δ47°, λ127°. NP2:ϕ$_{s}$356°, δ54°, λ57°. Principal axes: T 4.13, Plg64°, Azm207°; N .2, Plg26°, Azm17°; P -4.33, Plg4°, Azm109°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC At least one person killed, several people injured and some buildings damaged [VI] at Catamarca. Felt [III] at San Juan. Felt as far east as Buenos Aires and in parts of Chile.
*MOS **07** 11:53:06.0±2.4, 28.60S×65.60W, h20^{km}, mb6.4/41, MS6.2/17 Error ellipse: s-maj=18.8km s-min=6.9km az=109.7*
ISC 07 11:53:04.5±0.1**, 28.57S**±0.02×**65.88W**±0.03**, h22**^{km}**, h22**^{km}±.1^{km}**:pP-P, n750, σ0^{s}93**/485**, mb6.0**/177**, MS6.1**/114**, 102C-23D, Santiago del Estero Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CPCH	Copiapo	4.13	286	eP	Pn	11 54 08.6	+0.6
CPCH				AMP		11 55 12.7	
	comp=N,14μm,0.2s						
VACH	Vallenar	4.29	269	eP	Pn	11 54 02.0	-8.3
VACH				iS	Sn	11 54 51.6	-8.6
TLL	Tololo Astrono	4.58	248	⇑iP	Pn	11 54 15.6	+1.2
TLL				iS	Sn	11 55 08.4	+0.8
LSCH	La Serena	4.87	253	eP	Pn	11 54 18.4	-0.1
LSCH				iS	Sn	11 55 13.6	-1.3
MDZ	Mendoza	5.00	210	iP	Pn	11 54 21.5	+1.2
MDZ				i		11 54 33.7	
MDZ				iS	Sn	11 55 19.8	+1.6
CPN1	Cerro Paranal	5.64	313	⇓iP	Pn	11 54 30.0	+0.7
JACH	Jahuel	5.77	224	⇓iP	Pn	11 54 30.9	-0.2
FCH	Farellones	6.07	218	⇑iP	Pn	11 54 35.6	+0.2
FCH				iS	Sn	11 55 43.4	-1.5
PEL	Peldehue	6.15	221	⇓iP	Pn	11 54 35.5	-1.0
CLCH	Cerro Calan	6.25	219	⇑iP	Pn	11 54 37.4	-0.6
CLCH				iS	Sn	11 55 47.1	-2.4
SJCH	San Jose de Ma	6.34	216	eP	Pn	11 54 38.1	-1.1
SJCH				iS	Sn	11 55 52.4	+0.6
ANCH	Antofagasta	6.34	319	eP	Pn	11 54 38.6	-0.7
PCH	Pirque	6.41	217	eP	Pn	11 54 39.3	-0.9
ANTU	Antumapu	6.44	218	eP	Pn	11 54 40.1	-0.4
LVC	Limon Verde	6.53	335	⇑eP	Pn	11 54 44.8	+2.9
	comp=N,125nm,2.8s						
CHCH	Chadas Angostu	6.73	216	⇓iP	Pn	11 54 43.3	-1.3
CACH	El Canelo	6.84	215	iP	Pn	11 54 45.4	-0.9
LCCH	Las Cruces	6.91	224	iP	Pn	11 54 44.8	-2.4
CPUP	Villa Florida	7.92	76	Pn	Pn	11 55 00.1	-1.2
	comp=N,18nm,0.3s,baz=278,slow=12,SNR=182						
CPUP				Lg		11 57 17.3	
	comp=N,191nm,0.3s,baz=180,slow=18,SNR=2.5						
CPUP				LR	LR	11 58 10.1	
	comp=N,115μm,19.4s,baz=275,slow=39						
CPUP	Villa Florida	7.92	76	Pn	Pn	11 55 00.3	-1.0
CPUP				Pn	Pn	11 55 00.4	-1.0
CPUP	Villa Florida	7.92	76	Pn	Pn	11 55 00.1	-1.2
CPUP				Lg		11 57 17.3	
CPUP				LR	LR	11 58 10.1	
LPA	La Plata	9.26	135	ceP	P	11 55 18.0	-1.9
LPA				epP		11 55 24.0	
CCHI	Chillan	9.56	212	eP	P	11 55 19.4	-4.7
TRQA	Tornquist	10.01	162	⇓eP	P	11 55 27.3	-2.9
	comp=N,563nm,1.4s						
LPAZ	La Paz	12.40	350	Pn	P	11 56 03.0	+0.2
	comp=N,6.8nm,0.3s,baz=164,slow=8.3,SNR=121						

LPAZ				Sn	S	11 58 22.2	+0.9
	comp=N,1.7nm,0.3s,baz=52,slow=13,SNR=2.7						
ARE	**Arequipa**	13.12	336	*e*P	P	11 56 09.0	-3.3
ARE				*i*		11 56 15.9	
ARE				*i*		11 56 24.2	
ARE				*e*		11 56 38.8	
VAO3	**Socorro**	18.52	76	*e*P	P	11 57 16.5	-5.1
VAO3				*e*		11 57 18.6	
VAO3				*i*		11 57 20.5	
VAO3				*i*		11 57 54.9	
VAO3				*i*		11 58 33.4	
VAO3	**Socorro**	18.52	76	*e*P	P	11 57 16.5	-5.1
VAO3				*e*		11 57 18.6	
VAO3				*i*		11 57 20.4	
VAO3				*i*		11 57 54.9	
VAO3				*i*		11 58 33.4	
NNA	**Nana**	19.42	326⇑	*i*P	P	11 57 31.6	-0.7
	comp=N,2µm,1.3s						
SAML	**Samuel**	19.68	8⇑	*i*P	P	11 57 33.2	-2.1
	comp=N,304nm,0.8s						
BDFB	**Brasilia**	20.93	56	P	P	11 57 47.2	-1.1
	comp=N,150nm,0.8s,baz=230,slow=11,SNR=77						
BDFB				S	S	12 01 40.1	+4.4
	comp=N,95nm,0.9s,baz=40,slow=18,SNR=2.1						
BAO	**Brasilia Array**	20.95	56	*e*P	P	11 57 50.2	+1.6
BAO				*i*		11 57 54.1	
BAO				*e*		11 58 08.8	
BAO				*e*		11 58 22.6	
BAO				*e*		11 58 35.4	
CAM4	**Nova Friburgo**	21.92	79	*e*P	P	11 58 01.2	+2.9
CAM4				*i*		11 58 01.7	
CAM4				*i*		11 58 08.0	
CAM4	**Nova Friburgo**	21.92	79	*e*P	P	11 58 01.2	+2.9
CAM4				*i*		11 58 01.7	
CAM4				*i*		11 58 08.0	
EFI	**East Falkland**	23.81	168	P	P	11 58 16.2	-0.4
	comp=N,3µm,1.4s,mb6.5,SNR=48						
EFI	**East Falkland**	23.81	168	*e*P	P	11 58 15.9	-0.6
	comp=N,1µm,1.4s,mb6.1						
EFI				LR	LR		
	comp=Z,25µm,20.0s,MS5.7						
CAM3	**Guarapari**	24.30	77⇓	*e*P	P	11 58 21.0	-0.7
CAM3				*i*		11 58 25.2	
CAM3				*i*		11 58 31.4	
CAM3				*i*		11 58 33.6	
CAM3				*e*		11 58 37.9	
CAM3	**Guarapari**	24.30	77⇓	*e*P	P	11 58 21.0	-0.7
CAM3				*i*		11 58 25.2	
CAM3				*i*		11 58 31.4	
CAM3				*i*		11 58 33.6	
CAM3				*e*		11 58 37.9	
USHA	**Ushuaia**	26.31	183	P	P	11 58 40.6	+0.3
	comp=Z,43nm,0.8s,mb5.1,baz=353,slow=7.3,SNR=16						
USHA				S	S	12 03 13.7	+4.1
	comp=Z,42nm,1.0s,baz=59,slow=22,SNR=3.3						
OTAV	**Otavalo**	31.07	335⇑	*i*P	P	11 59 24.4	+0.8
OTAV				LR	LR		
	comp=Z,61µm,20.0s,MS6.3						
ROSC	**El Rosal**	34.21	345	P	P	11 59 50.3	-0.6
	comp=Z,85nm,0.5s,mb5.9,baz=148,slow=13,SNR=21						
ROSC				S	S	12 05 21.0	+5.8
	comp=Z,8.6nm,0.5s,baz=206,slow=24,SNR=1.6						
ROSC				LR	LR	12 15 04.5	
	comp=Z,69µm,20.9s,MS6.4,baz=193,slow=38						
PMSA	**Palmer Station**	36.23	179	*e*P	P	12 00 07.4	-0.2
	comp=Z,464nm,1.4s,mb6.2						
PMSA				LR	LR		
	comp=Z,68µm,19.0s,MS6.4						
PAYG	**Puerto Ayora**	36.24	316	*e*P	P	12 00 09.2	+1.0
	comp=Z,879nm,1.7s,mb6.4						
PAYG				LR	LR		
	comp=Z,44µm,21.0s,MS6.2						
RCBR	**Riachuelo**	36.29	57⇑	*i*P	P	12 00 08.9	+0.3
	comp=Z,296nm,0.9s,mb6.2						
RCBR				LR	LR		
	comp=Z,64µm,21.0s,MS6.4						
SDV	**Santo Domingo**	37.52	352	P	P	12 00 16.9	-2.0
SDV				S	S	12 06 08.4	+2.2
SDV	**Santo Domingo**	37.52	352⇑	*i*P	P	12 00 16.7	-2.2
	comp=Z,511nm,1.4s,mb6.1						
SDV				LR	LR		
	comp=Z,49µm,22.0s,MS6.3						
RPN	**Rapa Nui**	38.29	262	*e*P	P	12 00 25.3	0.0
	comp=Z,404nm,1.1s,mb6.1						
RPN				LR	LR		
	comp=Z,4µm,19.0s,MS5.3						
MCLT	**Moule a Chique**	42.30	7	*e*P	P	12 00 57.1	-1.4
SLB	**Belfond**	42.41	7	*e*P	P	12 00 58.7	-0.7
SLPE	**Piton Saint Es**	42.43	7	*e*P	P	12 00 57.9	-1.7
JTS	**JuntasAbangare**	42.81	332	P	P	12 01 04.0	+1.3
	comp=Z,315nm,0.9s,mb6.0,baz=156,slow=2.9,SNR=119						
JTS				PP	PP	12 02 43.7	-0.9
	comp=Z,28nm,1.0s,baz=155,slow=19,SNR=1.3						
JTS				S	S	12 07 31.0	+5.7
	comp=Z,8.1nm,1.0s,baz=26,slow=21,SNR=1.5						
JTS	**JuntasAbangare**	42.81	332⇑	*i*P	P	12 01 03.8	+1.1
	comp=Z,759nm,1.1s,mb6.3						
JTS				*e*pP	pP	12 01 10.5	+1.2
JTS				LR	LR		
	comp=Z,4µm,19.0s,MS5.3						
MDN	**Morne-Daniel**	43.84	6	*e*P	P	12 01 11.0	-0.1
DLVT	**Layou Valley**	43.96	6	*e*P	P	12 01 11.0	-1.1
BBL	**Barber's Block**	44.04	6	*e*P	P	12 01 11.7	-1.0
TRIS	**Tristan da Cun**	45.30	115	PFAKE		12 01 30.0	+7.4
TRIS				LR	LR		
	comp=Z,19µm,20.0s,MS6.0						
BPA	**Boggy Peak**	45.51	5	*e*P	P	12 01 18.9	-5.6
SJG	**San Juan**	46.41	360	S	S	12 08 19.8	+2.6
	comp=Z,7.2nm,0.3s,baz=350,slow=22,SNR=2.9						
SJG				LR	LR	12 24 23.6	
	comp=Z,38µm,18.3s,MS6.4,baz=180,slow=40						
SJG	**San Juan**	46.41	360	P	P	12 01 28.1	-3.4
SJG				pmax	pmax		
	comp=Z,620nm,1.4s						
SJG	**San Juan**	46.41	360⇑	*i*P	P	12 01 28.4	-3.1
	comp=Z,624nm,1.4s,mb6.3						
SJG				*e*pP	pP	12 01 35.4	-2.8
SJG				LR	LR		
	comp=Z,35µm,19.0s,MS6.3						
PCJ	**Portland Cotta**	47.31	345⇑	*e*P	P	12 01 36.4	-2.4
CMJ	**Castle Mountai**	47.53	346⇓	*e*P	P	12 01 39.1	-1.3
GWJ	**Greenwich**	47.54	346⇑	*e*P	P	12 01 39.5	-1.0
STH	**Stony Hill**	47.56	346⇑	*e*P	P	12 01 39.9	-0.8
MCJ	**Malvern**	47.61	345⇑	*e*P	P	12 01 40.8	-0.2
BNJ	**Bonny Gate**	47.83	346⇑	*e*P	P	12 01 41.6	-1.2
CVJ	**Coleyville**	47.87	345⇑	*e*P	P	12 01 42.8	-0.3
BBJ	**Bamboo Saint A**	47.96	345⇑	*e*P	P	12 01 43.0	-0.8
TPX	**Tapachula**	50.19	326	*i* P	P	12 02 01.0	0.0
VNA3	**Neumayer Olymp**	52.52	160⇑	*i*P	P	12 02 21.6	+3.7
VNA3	**Neumayer Olymp**	52.52	160⇓	*i*	P	12 02 28.9	+11
VNA3	**Neumayer Olymp**	52.52	160⇑	*i*	PP	12 04 28.3	+10
VNA3	**Neumayer Olymp**	52.52	160⇑	*i*S	S	12 09 48.4	+6.7
VNA1	**Neumayer--Stat**	52.73	159⇑	*i*P	P	12 02 23.4	+3.9
VNA1	**Neumayer--Stat**	52.73	159⇓	*i*	P	12 02 30.6	+11
VNA1	**Neumayer--Stat**	52.73	159⇓	*i*	PP	12 04 26.4	+6.3
HUIG	**Huatulco**	52.90	323⇑	*i*P	P	12 02 20.8	-0.6
VNA2	**Neumayer--Watz**	53.10	159⇑	*i*P	P	12 02 26.3	+4.1
VNA2	**Neumayer--Watz**	53.10	159⇑	*i*	P	12 02 33.2	+11
VNA2	**Neumayer--Watz**	53.10	159		PP	12 04 26.0	+2.3
VNA2	**Neumayer--Watz**	53.10	159	S	S	12 09 55.9	+6.4
OXX	**Oaxaca**	54.31	323	*i* P	P	12 02 32.5	+0.7
SNAA	**Sanae**	54.73	160⇑	*i*P	P	12 02 33.6	-0.6
SNAA	**Sanae**	54.73	160⇑	*i*	P	12 02 40.1	+5.9
SNAA	**Sanae**	54.73	160⇑	*i*	PP	12 04 32.8	-5.5
SNAA	**Sanae**	54.73	160	S	S	12 10 12.5	+1.0
SNAA	**Sanae**	54.73	160	P	P	12 02 33.2	-1.0
SNAA				pmax	pmax		
	comp=Z,2µm,1.5s						
EVV	**El Vigia**	54.75	325	*i* P	P	12 02 34.0	-1.0
ACX	**Acapulco**	55.89	320	*e*P	P	12 02 43.0	-0.3
IISM	**Ciudad Serdan**	56.23	324	*e*P	P	12 02 46.0	+0.3
PTCN	**Pitcairn Islan**	56.81	257	*e*P	P	12 02 48.9	-0.9
	comp=Z,267nm,0.8s,mb6.3						
PTCN				LR	LR		
	comp=Z,11µm,21.0s,MS5.9						
PPM	**Popocatepetl**	56.96	322	*i* P	P	12 02 51.5	+0.5
ZIIG	**Zihuatanejo**	57.37	319⇑	*i*P	P	12 02 53.3	-0.5
UNM	**Universidad Na**	57.47	322	*i* P	P	12 02 55.0	+0.5
DWPF	**Disney**	58.30	344	*e*P	P	12 02 59.1	-1.1
	comp=Z,472nm,1.2s,mb6.4						
DWPF				LR	LR		
	comp=Z,2µm,20.0s,MS5.3						
MOIG	**Morelia**	58.86	320⇑	*i*P	P	12 03 04.7	+0.5
MAIT	**Maitri**	59.24	158⇑	*i*P	P	12 03 06.0	-0.2
NVL	**N'lazarevskaya**	59.28	158⇑	*e*P	P	12 03 05.0	-1.5
NVL				*e*S	S	12 11 08.0	-3.6
NVL				pmax	pmax		
	comp=Z,4µm,2.2s,mb7.0						
NVL				MLR	MLR		
	comp=Z,10µm,13.0s,MS6.2						
BBSR	**BB Station**	60.62	1	P	P	12 03 15.0	-1.1
BBSR	**BB Station**	60.62	1	*e*P	P	12 03 14.8	-1.4
	comp=Z,805nm,1.5s,mb6.6						
BBSR				LR	LR		
	comp=Z,9µm,22.0s,MS5.9						
CJM	**Chamela**	60.95	317⇑	*i*P	P	12 03 18.4	-0.2
QSPA	**South Pole Qui**	61.65	180⇑	*i*P	P	12 03 22.5	-0.1
	comp=Z,1µm,1.4s,mb6.8						
QSPA				LR	LR		
	comp=Z,19µm,20.1s,MS6.2						
RKT	**Rikitea**	61.66	258	*e*P	P	12 03 22.8	-0.5
	comp=Z,162nm,1.4s,mb6.0						
RKT	**Rikitea**	61.66	258	*e*L		12 19 39.3	
RKT				*e*R		12 22 22.0	
	comp=Z,18µm,23.0s,baz=115						
ZAIG	**Zacatecas**	62.10	321⇑	*i*P	P	12 03 26.3	0.0
RGRS	**Roger Stewart**	62.63	346	*e*P	P	12 03 29.1	-0.6
CSU	**Charleston Sou**	62.68	347	*e*P	P	12 03 29.5	-0.6
CSU				*e*pP	pP	12 03 36.4	-0.6
HBF	**Harts Bluff**	62.70	346	P	P	12 03 30.8	+0.7
HBF	**Harts Bluff**	62.70	346	*e*P	P	12 03 29.6	-0.6
NHSC	**New Hope**	62.82	347	*e*P	P	12 03 30.4	-0.5
	comp=Z,975nm,1.1s,mb6.8						
NHSC				*e*pP	pP	12 03 37.3	-0.6
NHSC				LR	LR		
	comp=Z,17µm,20.0s,MS6.2						
LRAL	**Lakeview Retre**	64.46	340	*e*P	P	12 03 39.5	-2.2
	comp=Z,354nm,1.3s,mb6.2						
LRAL				*e*pP	pP	12 03 46.6	-2.1
LRAL				LR	LR		
	comp=Z,10µm,20.0s,MS6.0						
MYNC	**Murphy**	65.61	344	PFAKE		12 04 00.0	+11
MYNC				LR	LR		
	comp=Z,5µm,21.0s,MS5.7						
NATX	**Nacogdoches**	65.95	333⇓	*i*P	P	12 03 50.9	-0.5
	comp=Z,478nm,0.9s,mb6.5						
NATX				*e*pP	pP	12 03 57.6	-0.6
NATX				LR	LR		
	comp=Z,4µm,19.0s,MS5.7						
CPCT	**Cooper Cave**	66.06	343⇑	*i*P	P	12 03 53.3	+1.3
OXF	**Oxford**	66.57	339	P	P	12 03 53.2	-2.1
OXF				pmax	pmax		
	comp=Z,590nm,1.0s,mb6.6						
OXF	**Oxford**	66.57	339⇑	*i*P	P	12 03 53.0	-2.3
	comp=Z,594nm,1.1s,mb6.5						
OXF				*e*pP	pP	12 03 59.6	-2.6
OXF				LR	LR		
	comp=Z,5µm,20.0s,MS5.7						
BLA	**Blacksburg**	66.84	347	P	P	12 03 56.6	-0.4
BLA				pmax	pmax		
	comp=Z,1µm,1.7s,mb6.6						
BLA	**Blacksburg**	66.84	347	*e*P	P	12 03 56.3	-0.7
	comp=Z,1µm,1.7s,mb6.6						
BLA				LR	LR		
	comp=Z,18µm,20.0s,MS6.3						
ELN	**Prospectdale**	66.92	347	*e*P	P	12 03 56.9	-0.6
JCT	**Junction City**	67.05	328	*e*P	P	12 03 57.7	-0.7
JCT				pmax	pmax		
	comp=Z,12nm,0.7s,mb5.0						
JCT	**Junction City**	67.05	328⇓	*i*P	P	12 03 57.3	-1.1
	comp=Z,12nm,0.7s,mb5.0						
JCT				LR	LR		
	comp=Z,3µm,19.0s,MS5.6						
FWV	**Forest Hill**	67.28	347	*e*P	P	12 03 58.8	-1.0
CBN	**Corbin**	67.29	350	*e*P	P	12 03 59.1	-0.7
	comp=Z,97nm,0.7s,mb5.9						
CBN				*e*pP	pP	12 04 06.0	-0.7
CBN				LR	LR		
	comp=Z,17µm,21.0s,MS6.2						
MET	**Memphis--Engin**	67.30	339	*e*P	P	12 03 58.3	-1.6
MET				*e*pP	pP	12 04 05.2	-1.6
WVT	**Waverly**	67.59	341	P	P	12 03 59.8	-1.9
WVT				pmax	pmax		
	comp=Z,410nm,0.8s,mb6.5						
WVT	**Waverly**	67.59	341⇑	*e*P	P	12 03 59.7	-2.0
	comp=Z,407nm,0.8s,mb6.5						
WVT				*e*pP	pP	12 04 06.6	-2.0
WVT				LR	LR		
	comp=Z,10µm,20.0s,MS6.0						
LPIG	**La Paz**	67.61	316⇑	*i*P	P	12 04 01.7	-0.3
UALR	**University of**	67.78	337⇑	*i*P	P	12 04 01.3	-1.7
	comp=Z,163nm,0.9s,mb6.1						
UALR				*e*pP	pP	12 04 08.3	-1.5
HBAR	**Harrisburg**	67.93	338	*e*P	P	12 04 02.3	-1.5
HBAR				*e*pP	pP	12 04 09.3	-1.4
LTX	**Lajitas**	67.97	325	P	P	12 04 03.8	-0.4
LTX				pmax	pmax		
	comp=Z,900nm,2.0s,mb6.5						
LTX	**Lajitas**	67.97	325⇑	*i*P	P	12 04 03.7	-0.5
	comp=Z,903nm,2.0s,mb6.5						
LTX				LR	LR		
	comp=Z,13µm,21.0s,MS6.1						
TXAR	**Lajitas Array**	67.97	325	P	P	12 04 03.6	-0.6
	comp=Z,47nm,0.9s,mb5.5,baz=141,slow=8.0,SNR=186						
TXAR				S	S	12 13 05.0	+4.6
	comp=Z,2.3nm,1.3s,baz=328,slow=31,SNR=2.4						
TXAR				PKPPKP		12 32 22.4	
	comp=Z,1.9nm,1.1s,baz=333,slow=2.0,SNR=3.3						
LIC	**Lamto**	68.00	69	*e*P	P	12 04 03.5	-1.1
	comp=Z,199nm,1.0s,mb6.1						
MIAR	**Mount Ida**	68.02	336⇑	*i*P	P	12 04 03.1	-1.3
	comp=Z,429nm,1.4s,mb6.3						
MIAR				*e*pP	pP	12 04 10.1	-1.2
MIAR				LR	LR		
	comp=Z,4µm,20.0s,MS5.7						
UTMT	**University of**	68.09	340	*e*P	P	12 04 03.3	-1.5
	comp=Z,2µm,1.1s,mb7.0						
UTMT				*e*pP	pP	12 04 10.2	-1.6
GNAR	**Gosnell**	68.10	339	*e*P	P	12 04 03.9	-1.0
GNAR				*e*pP	pP	12 04 10.8	-1.0
GLAT	**Glass**	68.15	340	*e*P	P	12 04 03.6	-1.7
GLAT				*e*pP	pP	12 04 10.8	-1.4
TIC	**Toumodi**	68.24	69	*e*P	P	12 04 05.1	-1.0
	comp=Z,712nm,1.5s,mb6.5						
KIC	**Kosan Boka**	68.31	70	*e*P	P	12 04 04.8	-1.8
	comp=Z,1µm,1.4s,mb6.7						
DBIC	**Dimbokro**	68.39	69	P	P	12 04 05.1	-2.0
	comp=Z,67nm,0.8s,mb5.7,baz=213,slow=7.1,SNR=124						
DBIC				S	S	12 13 03.1	-2.4
	comp=Z,5.6nm,1.1s,baz=172,slow=18,SNR=2.4						
DBIC				LR	LR	12 30 45.6	
	comp=Z,12µm,20.1s,MS6.1,baz=216,slow=33						
DBIC				PKPPKP		12 32 18.4	
	comp=Z,14nm,1.3s,baz=331,slow=2.2,SNR=2.4						
DBIC	**Dimbokro**	68.39	69	P	P	12 04 05.1	-1.9
DBIC				S	S	12 13 03.1	-2.5
DBIC				P'P'df		12 32 21.9	
DBIC	**Dimbokro**	68.39	69	P	P	12 04 05.1	-2.0
DBIC				S	S	12 13 03.1	-2.4
DBIC				LR	LR	12 30 45.6	
DBIC				P'P'		12 32 18.4	
PVMO	**Portageville**	68.41	339	*e*P	P	12 04 05.9	-0.9
PVMO				*e*pP	pP	12 04 12.7	-1.1
SYO	**Syowa Base**	68.95	158	⇑P	P	12 04 09.0	-0.6
SYO	**Syowa Base**	68.95	158	⇓pP	pP	12 04 14.9	-1.6
SYO	**Syowa Base**	68.95	158	⇑PcP	PcP	12 04 34.0	+0.1
MCWV	**Mont Chateau**	69.11	348	*e*P	P	12 04 10.6	-0.5
	comp=Z,331nm,0.8s,mb6.3						
MCWV				*e*pP	pP	12 04 17.4	-0.6
MCWV				LR	LR		
	comp=Z,20µm,22.0s,MS6.3						
WCI	**Wyandotte Cave**	69.14	343	P	P	12 04 08.7	-2.6
WCI				pmax	pmax		
	comp=Z,340nm,1.2s,mb6.2						
WCI	**Wyandotte Cave**	69.14	343	*e*P	P	12 04 09.0	-2.3
	comp=Z,344nm,1.3s,mb6.1						
WCI				*e*pP	pP	12 04 16.0	-2.2
WCI				LR	LR		
	comp=Z,3µm,21.0s,MS5.5						
USIN	**University of**	69.26	342	*e*P	P	12 04 09.6	-2.4
	comp=Z,55nm,0.7s,mb5.6						
USIN				*e*pP	pP	12 04 16.5	-2.5
SBA	**Scott Base**	69.40	190	P	P	12 04 12.9	+0.6
SBA				pmax	pmax		
	comp=Z,8.0nm,1.4s						
SBA	**Scott Base**	69.40	190	*e*P	P	12 04 13.2	+0.9
	comp=Z,8.0nm,1.4s						
SBA				LR	LR		
	comp=Z,10µm,21.0s						
CPNY	**Central Park**	69.42	353	*e*P	P	12 04 12.3	-0.6
CPNY				*e*pP	pP	12 04 19.1	-0.7
PAL	**Palisades**	69.62	354	P	P	12 04 14.0	-0.2
PAL				pmax	pmax		
	comp=Z,550nm,1.8s,mb6.2						
PAL	**Palisades**	69.62	354	*e*P	P	12 04 13.2	-1.0
	comp=Z,548nm,1.8s,mb6.2						
SSPA	**Standing Stone**	69.75	350⇑	*i*P	P	12 04 14.3	-0.6
	comp=Z,445nm,1.4s,mb6.2						
SSPA				LR	LR		
	comp=Z,3µm,22.0s,MS5.5						
FVM	**French Village**	70.08	340	P	P	12 04 15.6	-1.4
FVM				pmax	pmax		
	comp=Z,18nm,2.7s						
FVM	**French Village**	70.08	340⇑	*i*P	P	12 04 15.4	-1.6
	comp=Z,18nm,2.8s						
FVM				*e*pP	pP	12 04 22.3	-1.6
BLO	**Bloomington**	70.09	343	P	P	12 04 15.3	-1.8
BLO				pmax	pmax		
	comp=Z,170nm,0.8s,mb6.0						
BLO	**Bloomington**	70.09	343	*e*P	P	12 04 15.0	-2.1
	comp=Z,172nm,0.8s,mb6.0						
BLO				*e*pP	pP	12 04 22.0	-2.0
WMOK	**Wichita Mounta**	70.22	332	P	P	12 04 16.3	-1.7
WMOK				pmax	pmax		
	comp=Z,360nm,1.5s,mb6.1						
WMOK	**Wichita Mounta**	70.22	332⇑	*i*P	P	12 04 16.4	-1.6
	comp=Z,362nm,1.5s,mb6.1						
WMOK				*e*pP	pP	12 04 23.5	-1.4
WMOK				LR	LR		
	comp=Z,5µm,20.0s,MS5.7						
ACSO	**Alum Creek Sta**	70.27	346	*e*P	P	12 04 16.6	-1.6
	comp=Z,367nm,1.0s,mb6.3						
ACSO				*e*pP	pP	12 04 23.4	-1.6
ACSO				LR	LR		
	comp=Z,13µm,22.0s,MS6.1						
BRYW	**Bryant College**	70.33	356⇑	*i*P	P	12 04 18.2	-0.2
	comp=Z,1µm,1.5s,mb6.6						
BRYW				*e*pP	pP	12 04 25.1	-0.3
CCM	**Cathedral Cave**	70.40	339	P	P	12 04 17.7	-1.3
CCM				pmax	pmax		
	comp=Z,320nm,0.8s,mb6.3						
CCM	**Cathedral Cave**	70.40	339⇑	*i*P	P	12 04 17.5	-1.5
	comp=Z,321nm,0.8s,mb6.3						
CCM				*e*pP	pP	12 04 24.5	-1.4
CCM				LR	LR		
	comp=Z,1µm,20.0s,MS5.1						
SLM	**Saint Louis**	70.63	340	P	P	12 04 18.7	-1.6
SLM				pmax	pmax		
	comp=Z,100nm,0.8s,mb5.8						
SLM	**Saint Louis**	70.63	340	*e*P	P	12 04 18.6	-1.8
	comp=Z,100nm,0.8s,mb5.8						
GDL2	**Guadalupe Moun**	70.64	326	*e*P	P	12 04 20.0	-0.6
GDL2				*e*pP	pP	12 04 27.1	-0.4
QUA2	**Belchertown**	70.75	355	*e*P	P	12 04 23.2	+2.1
	comp=Z,268nm,1.4s,mb6.0						
QUA2				*e*pP	pP	12 04 30.9	+3.0
WES	**Weston**	70.78	356	P	P	12 04 21.5	+0.3
WES				pmax	pmax		
	comp=Z,310nm,1.2s,mb6.1						
WES	**Weston**	70.78	356	*e*P	P	12 04 20.7	-0.5
	comp=Z,310nm,1.3s,mb6.1						
WES				*e*pP	pP	12 04 27.8	-0.4
HRV	**Harvard--Oak R**	70.92	356	P	P	12 04 22.3	+0.3
HRV				pmax	pmax		
	comp=Z,220nm,1.2s,mb6.0						
HRV	**Harvard--Oak R**	70.92	356	*e*P	P	12 04 20.5	-1.5
	comp=Z,223nm,1.2s,mb6.0						
HRV				*e*pP	pP	12 04 28.9	-0.1
BINY	**Binghamton**	71.03	352	*e*P	P	12 04 22.4	-0.4
	comp=Z,468nm,1.3s,mb6.3						
BINY				*e*pP	pP	12 04 29.4	-0.3
BINY				LR	LR		
	comp=Z,12µm,19.0s,MS6.2						
CPRX	**Cap Rock**	71.08	327	*e*P	P	12 04 22.8	-0.4
ALLY	**Alegheny Colle**	71.10	349	*e*P	P	12 04 22.2	-1.0
ALLY				*e*pP	pP	12 04 29.3	-0.8
ERPA	**Erie**	71.53	349	*e*P	P	12 04 24.9	-0.8
	comp=Z,526nm,0.9s,mb6.5						
ERPA				*e*pP	pP	12 04 31.8	-0.9
ERPA				LR	LR		
	comp=Z,17µm,22.0s,MS6.2						
GENY	**Geneseo**	71.83	351	*e*P	P	12 04 26.9	-0.6
ACCN	**Adirondack Com**	71.96	354	*e*P	P	12 04 27.9	-0.3
BUF	**Buffalo**	72.14	350	P	P	12 04 28.6	-0.8
HNH	**Hanover**	72.16	355	*e*P	P	12 04 29.9	+0.4
	comp=Z,53nm,1.2s,mb5.3						
NCB	**Newcomb**	72.59	354	*e*P	P	12 04 31.7	-0.3
	comp=Z,163nm,0.9s,mb6.0						
NCB				LR	LR		
	comp=Z,15µm,22.0s,MS6.2						
SUR	**Sutherland**	72.75	118	*e*P	P	12 04 33.8	+0.6
	comp=Z,141nm,1.6s,mb5.6						
SUR				LR	LR		
	comp=Z,8µm,20.0s,MS6.0						
WVL	**Waterville**	72.86	357	*e*P	P	12 04 34.0	+0.4
	comp=Z,3µm,1.8s,mb6.9						
WVL				LR	LR		
	comp=Z,46µm,22.0s,MS6.7						
EMMW	**East Machias**	72.94	359	*e*P	P	12 04 34.1	+0.1
	comp=Z,3µm,1.7s,mb7.0						
EMMW				LR	LR		
	comp=Z,38µm,20.0s,MS6.7						
PTN	**Potsdam (NY)**	73.26	353	P	P	12 04 36.3	+0.4
PTN	**Potsdam (NY)**	73.26	353	*e*P	P	12 04 35.8	-0.1
LOZ	**Lake Ozonia**	73.27	354	*e*P	P	12 04 35.3	-0.7
BNM	**Barren Site**	73.33	326	*e*P	P	12 04 37.0	+0.4
LENM	**Lemitar**	73.52	325	*e*P	P	12 04 38.2	+0.6
MSNY	**Massena**	73.67	353	*e*P	P	12 04 38.1	-0.1
LAZ	**Ladron**	73.79	325	*e*P	P	12 04 39.9	+0.7
LAZ				*e*pP	pP	12 04 46.8	+0.6
TBI	**Tubuai**	73.87	252	*e*P	P	12 04 40.4	+0.6
	comp=Z,667nm,1.3s,mb6.4						
TBI				*e*L		12 24 47.2	
TBI				*e*R		12 27 27.3	
	comp=Z,7µm,27.0s,baz=118						
ANMO	**Albuquerque**	73.89	326	P	P	12 04 40.2	+0.4
ANMO	**Albuquerque**	73.89	326	*i* P	P	12 04 40.2	+0.4
ANMO				pmax	pmax		
	comp=Z,50nm,1.5s						
ANMO	**Albuquerque**	73.89	326	*e*P	P	12 04 40.1	+0.4
	comp=Z,33nm,0.7s,mb5.4						
TUC	**Tucson**	74.07	322	P	P	12 04 40.8	-0.1
TUC	**Tucson**	74.07	322	*e*P	P	12 04 41.0	+0.1
	comp=Z,141nm,2.8s,mb5.4						
TUC				LR	LR		
	comp=Z,10µm,22.0s,MS6.0						
CBKS	**Cedar Bluff**	74.12	333	P	P	12 04 41.0	0.0
CBKS				pmax	pmax		
	comp=Z,270nm,0.9s,mb6.2						
CBKS	**Cedar Bluff**	74.12	333	*e*P	P	12 04 40.9	-0.1
	comp=Z,266nm,0.9s,mb6.2						
CBKS				*e*pP	pP	12 04 48.3	+0.3
CBKS				LR	LR		
	comp=Z,4µm,19.0s,MS5.7						
JFWS	**Jewell Farm**	74.58	342	P	P	12 04 42.6	-1.0
JFWS				pmax	pmax		
	comp=Z,210nm,0.7s,mb6.2						
JFWS	**Jewell Farm**	74.58	342	*e*P	P	12 04 42.5	-1.1
	comp=Z,207nm,0.7s,mb6.2						
JFWS				*e*pP	pP	12 04 49.6	-1.0
JFWS				LR	LR		
	comp=Z,13µm,21.0s,MS6.2						
PQI	**Presque Isle**	74.91	358⇑	*e*P	P	12 04 45.1	-0.3
	comp=Z,2µm,1.3s,mb7.0						
PQI				LR	LR		
	comp=Z,36µm,22.0s,MS6.6						
MEH	**Mehetia**	74.99	258	*e*P	P	12 04 47.0	+0.6
	comp=Z,210nm,1.2s,mb6.0						
CALA	**Caldeira**	75.30	29	*e*P	P	12 04 48.8	+1.0
PCED	**Cedros**	75.34	29	*e*P	P	12 04 48.4	+0.4
	comp=Z,176nm,1.4s,mb5.8						
PICO	**Pico**	75.35	30	*e*P	P	12 04 48.3	+0.2
PPNO	**Prainha do Nor**	75.40	30	*e*P	P	12 04 48.9	+0.5
	comp=Z,244nm,1.4s,mb5.9						
PID	**Ribeirinha**	75.44	30	*e*P	P	12 04 49.9	+1.3
TSUM	**Tsumeb**	75.51	104	P	P	12 04 48.2	-1.2
	comp=Z,40nm,1.0s,mb5.3,baz=222,slow=5.9,SNR=50						
TSUM				S	S	12 14 24.9	-2.4
	comp=Z,5.7nm,1.3s,baz=145,slow=24,SNR=2.2						
TSUM				LR	LR	12 35 11.8	
	comp=Z,13µm,18.9s,MS6.3,baz=238,slow=34						
TSUM	**Tsumeb**	75.51	104	*e*P	P	12 04 49.5	+0.1
	comp=Z,197nm,1.5s,mb5.8						
TSUM				LR	LR		
	comp=Z,17µm,22.0s,MS6.3						

PMAN	**Manadas**	**75.61**	**30**	*e*P	**P**	**12 04 50.2**	**+0.6**
	comp=Z,273nm,0.9s,mb6.2						
ROSA	**Rosais**	**75.61**	**30**	*e*P	**P**	**12 04 51.0**	**+1.4**
PSMA	**Santa Maria**	**75.62**	**33**	*e*P	**P**	**12 04 48.1**	**-1.6**
	comp=Z,214nm,1.4s,mb5.9						
SDCO	**Great Sand Dun**	**75.69**	**329**	*e*P	**P**	**12 04 50.6**	**+0.5**
	comp=Z,1µm,2.1s,mb6.5						
SDCO				LR	LR		
	comp=Z,9µm,20.0s,MS6.1						
PDA	**Ponta Delgada**	**75.97**	**32**	*e*P	**P**	**12 04 52.8**	**+1.1**
PDA				*e*S	S	12 14 51.0	+19
PDA				*e*SKKS		12 15 27.0	
PDA				*e*SS	SS	12 19 30.8	+3.0
PDA				*e*LQ		12 25 38.6	
PDA				*e*LR	LR	12 28 05.0	
PGRA	**Graciosa**	**75.98**	**30**	*e*P	**P**	**12 04 52.9**	**+1.2**
	comp=Z,290nm,1.0s,mb6.2						
ADH	**Angra Heroismo**	**76.00**	**30**	*e*LR	LR	12 29 20.0	
PSET	**Sete Cidades**	**76.01**	**32**	*e*P	**P**	**12 04 52.6**	**+0.7**
	comp=Z,193nm,1.3s,mb5.9						
TVO	**Taravao**	**76.04**	**257**	*e*P	**P**	**12 04 53.4**	**+1.0**
	comp=Z,589nm,1.2s,mb6.4						
PSBA	**Serra de Santa**	**76.05**	**30**	*e*P	**P**	**12 04 52.8**	**+0.7**
	comp=Z,412nm,1.4s,mb6.2						
LFA	**Lagoa do Fogo**	**76.08**	**32**	*e*P	**P**	**12 04 52.9**	**+0.6**
PMOR	**Pomariorio Ree**	**76.08**	**260**	*e*P	**P**	**12 04 53.5**	**+0.8**
	comp=Z,255nm,1.1s,mb6.0						
PMOR				*e*pP	pP	12 04 59.1	-0.6
PSCM	**Serra do Cume**	**76.09**	**30**	*e*P	**P**	**12 04 52.4**	**+0.1**
	comp=Z,247nm,1.1s,mb6.0						
TIAR	**Tiarei**	**76.22**	**257**	*e*P	**P**	**12 04 54.1**	**+0.7**
	comp=Z,181nm,0.8s,mb6.0						
BART	**Pico Bartolome**	**76.23**	**32**	*e*P	**P**	**12 04 53.3**	**+0.2**
	comp=Z,198nm,1.4s,mb5.8						
PAE	**Paea**	**76.38**	**257**	*e*P	**P**	**12 04 55.1**	**+0.8**
	comp=Z,469nm,1.1s,mb6.3						
PPT	**Papeete**	**76.42**	**257**	*e*P	**P**	**12 04 55.4**	**+0.9**
	comp=Z,310nm,1.2s,mb6.1						
PPT	**Papeete**	**76.42**	**257**	*e*L		12 25 38.8	
PPT				*e*R		12 29 03.5	
	comp=Z,22µm,22.8s,baz=113						
MAW	**Mawson**	**76.79**	**162**	*e*P	**P**	**12 04 55.4**	**-0.3**
	comp=Z,99nm,1.4s,mb5.5						
MAW				*e*S	S	12 14 40.9	+0.6
MAW	**Mawson**	**76.79**	**162**	P	**P**	**12 04 55.2**	**-0.5**
	comp=Z,26nm,0.6s,mb5.3,baz=209,slow=6.3,SNR=109						
MAW				S	S	12 14 40.4	+0.1
	comp=Z,1.3nm,0.7s,baz=344,slow=22,SNR=2.2						
MAW				LR	LR	12 38 17.5	
	comp=Z,21µm,21.6s,MS6.4,baz=228,slow=35						
WUAZ	**Wupatki**	**76.83**	**323**	*e*P	**P**	**12 04 57.5**	**+0.9**
	comp=Z,533nm,1.3s,mb6.3						
WUAZ				LR	LR		
	comp=Z,20µm,21.0s,MS6.4						
ISCO	**Idaho Springs**	**77.42**	**330**	P	**P**	**12 05 00.5**	**+0.8**
ISCO				pmax	pmax		
	comp=Z,130nm,0.9s,mb5.9						
ISCO	**Idaho Springs**	**77.42**	**330**	*e*P	**P**	**12 05 00.4**	**+0.7**
	comp=Z,134nm,0.9s,mb5.9						
ISCO				LR	LR		
	comp=Z,5µm,20.0s,MS5.8						
PV01	**Paradox Valley**	**77.45**	**327**	*e*P	**P**	**12 05 00.5**	**+0.6**
PV10	**Paradox Valley**	**77.87**	**327**	*e*P	**P**	**12 05 02.1**	**-0.1**
PFO	**Pinyon Flat Ob**	**78.22**	**319**	P	**P**	**12 05 05.1**	**+0.9**
PFO				pmax	pmax		
	comp=Z,6.0nm,2.7s						
PFO	**Pinyon Flat Ob**	**78.22**	**319**	*e*P	**P**	**12 05 05.2**	**+1.0**
	comp=Z,6.0nm,2.8s						
LDFC	**Landfair**	**78.53**	**321**	*e*P	**P**	**12 05 06.9**	**+1.0**
NEN	**Nelson**	**78.80**	**321**	*e*P	**P**	**12 05 07.6**	**+0.3**
SRU	**San Rafael**	**79.16**	**326**	*e*P	**P**	**12 05 09.6**	**+0.4**
SRU				*e*pP	pP	12 05 16.4	+0.1
MSU	**Marysvale**	**79.53**	**325**	P	**P**	**12 05 12.4**	**+1.1**
MSU	**Marysvale**	**79.53**	**325**	⇑*i*P	**P**	**12 05 12.3**	**+1.0**
MWC	**Mount Wilson**	**79.60**	**318**	*e*P	**P**	**12 05 12.2**	**+0.4**
MWC				*e*pP	pP	12 05 19.1	+0.4
RSSD	**Black Hills**	**80.32**	**333**	*e*P	**P**	**12 05 15.5**	**+0.1**
RSSD				*e**PP	pP	12 05 22.5	+0.1
RSSD				pmax	pmax		
	comp=Z,210nm,1.1s,mb6.0						
RSSD	**Black Hills**	**80.32**	**333**	*e*P	**P**	**12 05 15.5**	**+0.1**
	comp=Z,205nm,1.1s,mb6.0						
RSSD				*e*pP	pP	12 05 22.0	-0.4
RSSD				LR	LR		
	comp=Z,1µm,19.0s,MS5.2						
MPU	**Maple Canyon**	**80.41**	**326**	⇑*i*P	**P**	**12 05 16.4**	**+0.5**
MPU				*e*pP	pP	12 05 23.5	+0.5
TPNV	**Topopah Spring**	**80.52**	**321**	⇑*i*P	**P**	**12 05 17.5**	**+0.9**
	comp=Z,1µm,1.8s,mb6.5						
TPNV				LR	LR		
	comp=Z,7µm,20.0s,MS6.0						
DAU	**Daniels Canyon**	**80.53**	**327**	*e*P	**P**	**12 05 17.5**	**+0.9**
NLU	**North Lily Min**	**80.58**	**326**	⇑*i*P	**P**	**12 05 17.6**	**+0.8**
NLU				*e*pP	pP	12 05 24.6	+0.7
JLU	**Jordanelle**	**80.77**	**327**	⇑*i*P	**P**	**12 05 18.6**	**+0.7**
DAC	**Darwin (Calif)**	**80.79**	**320**	⇑*i*P	**P**	**12 05 18.5**	**+0.5**
	comp=Z,428nm,1.4s,mb6.2						
DAC				*e*pP	pP	12 05 25.5	+0.4
DAC				LR	LR		
	comp=Z,9µm,21.0s,MS6.1						
CTU	**Camp Tracy**	**80.98**	**326**	*e*P	**P**	**12 05 20.0**	**+1.1**
DUG	**Dugway**	**81.13**	**326**	⇑*i*P	**P**	**12 05 20.3**	**+0.6**
	comp=Z,476nm,1.5s,mb6.2						
DUG				*e*pP	pP	12 05 27.4	+0.6
DUG				LR	LR		
	comp=Z,7µm,22.0s,MS6.0						
TCUT	**Toone Canyon**	**81.15**	**327**	⇑*i*P	**P**	**12 05 19.5**	**-0.3**
PDAR	**Pinedale Array**	**81.57**	**329**	P	**P**	**12 05 22.2**	**+0.2**
	comp=Z,73nm,0.7s,mb5.7,baz=131,slow=6.8,SNR=289						
PDAR				S	S	12 15 34.5	+3.2
	comp=Z,0.4nm,0.9s,baz=236,slow=5.3,SNR=2.1						
PDAR				PKPPKP		12 31 56.6	
	comp=Z,0.5nm,0.9s,baz=63,slow=3.3,SNR=2.9						
PDAR	**Pinedale Array**	**81.57**	**329**	P	**P**	**12 05 22.2**	**+0.2**
PDAR				S	S	12 15 34.5	+3.2
PDAR				P’P’		12 31 56.6	
BW06	**Boulder Array**	**81.57**	**329**	*e*P	**P**	**12 05 22.1**	**+0.1**
	comp=Z,379nm,1.6s,mb6.1						
BW06				LR	LR		
	comp=Z,6µm,21.0s,MS6.0						
HWUT	**Hardware Ranch**	**81.60**	**327**	*e*P	**P**	**12 05 22.5**	**+0.4**
	comp=Z,602nm,1.0s,mb6.5						
HWUT				LR	LR		
	comp=Z,22µm,22.0s,MS6.5						
BGU	**Big Grassy Mou**	**81.79**	**326**	*e*P	**P**	**12 05 23.4**	**+0.2**
SPUT	**South Promonto**	**81.80**	**326**	*e*P	**P**	**12 05 23.9**	**+0.7**
TPH	**Tonopah**	**81.87**	**321**	*e*P	**P**	**12 05 24.4**	**+0.8**
TPH				pmax	pmax		
	comp=Z,350nm,1.2s,mb6.2						
TPH	**Tonopah**	**81.87**	**321**	*e*P	**P**	**12 05 24.3**	**+0.7**
	comp=Z,351nm,1.3s,mb6.1						
TPH				LR	LR		
	comp=Z,5µm,22.0s,MS5.8						
MTUM	**Tungsten Hills**	**82.10**	**320**	*e*P	**P**	**12 05 25.5**	**+0.7**
AHID	**Auburn Hatcher**	**82.28**	**328**	*e*P	**P**	**12 05 26.1**	**+0.4**
	comp=Z,1µm,1.6s,mb6.6						
AHID				LR	LR		
	comp=Z,14µm,21.0s,MS6.3						
HVU	**Hansel Valley**	**82.31**	**327**	*e*P	**P**	**12 05 26.1**	**+0.3**
HVU				*e*pP	pP	12 05 33.1	+0.2
OMM	**Old Mammoth Mi**	**82.53**	**320**	*e*P	**P**	**12 05 27.8**	**+0.7**
REDW	**Red Top Meadow**	**82.63**	**329**	*e*P	**P**	**12 05 28.0**	**+0.6**
MNV	**Mina**	**82.63**	**321**	*e*P	**P**	**12 05 27.8**	**+0.2**
MNV				pmax	pmax		
	comp=Z,390nm,1.7s,mb6.2						
MNV	**Mina**	**82.63**	**321**	*e*P	**P**	**12 05 27.8**	**+0.2**
	comp=Z,394nm,1.7s,mb6.2						
SNOW	**Snow King Moun**	**82.66**	**329**	*e*P	**P**	**12 05 28.4**	**+0.8**
LOHW	**Long Hollow**	**82.71**	**329**	*e*P	**P**	**12 05 28.1**	**+0.3**
WUWY	**Wally Ulrich**	**82.71**	**329**	*e*P	**P**	**12 05 28.2**	**+0.3**
ELK	**Elko**	**82.76**	**324**	P	**P**	**12 05 28.7**	**+0.5**
ELK				*e**PP	pP	12 05 35.6	+0.3
ELK				pmax	pmax		
	comp=Z,140nm,0.9s						
ELK	**Elko**	**82.76**	**324**	⇑*i*P	**P**	**12 05 28.7**	**+0.5**
	comp=Z,144nm,0.9s,mb6.0						
ELK				*e*pP	pP	12 05 35.6	+0.3
TPAW	**Teton Pass**	**82.77**	**329**	⇑*i*P	**P**	**12 05 28.7**	**+0.5**
ULM	**Lac du Bonnet**	**82.86**	**341**	S	S	12 15 45.6	+1.3
ULM				LR	LR	12 48 03.9	
	comp=Z,11µm,18.2s,MS6.3,baz=147,slow=40						
LRV	**Little Rabbit**	**82.86**	**318**	*e*P	**P**	**12 05 29.9**	**+1.1**
MOOW	**Moose Ponds**	**82.88**	**329**	⇑*i*P	**P**	**12 05 29.0**	**+0.3**
MOOW				*e*pP	pP	12 05 36.0	+0.2
DRV	**Dumont d’Urvil**	**83.04**	**190**	P	**P**	**12 05 33.0**	**+3.9**
SCHQ	**Schefferville**	**83.06**	**359**	P	**P**	**12 05 29.2**	**-0.2**
	comp=Z,98nm,0.9s,mb5.8,baz=168,slow=3.8,SNR=56						
SCHQ				S	S	12 15 46.4	+0.1
	comp=Z,2.4nm,0.8s,baz=316,slow=14,SNR=2.1						
SCHQ				LR	LR	12 42 28.8	
	comp=Z,4µm,21.6s,MS5.8,baz=184,slow=36						
LAO	**LASA Array**	**83.31**	**333**	⇑*i*P	**P**	**12 05 30.8**	**-0.1**
	comp=Z,462nm,1.3s,mb6.3						
LAO				*e*pP	pP	12 05 37.8	-0.2
LAO				LR	LR		
	comp=Z,5µm,21.0s,MS5.9						
SAO	**San Andreas Ge**	**83.34**	**318**	P	**P**	**12 05 31.8**	**+0.5**
SAO				pmax	pmax		
	comp=Z,150nm,1.4s,mb5.8						
SAO	**San Andreas Ge**	**83.34**	**318**	*e*P	**P**	**12 05 31.3**	**0.0**
	comp=Z,152nm,1.4s,mb5.8						
SAO				LR	LR		
	comp=Z,5µm,21.0s,MS5.8						
RAR	**Rarotonga**	**83.37**	**250**	LR	LR	12 35 01.5	
	comp=Z,15µm,18.4s,MS6.4,baz=125,slow=30						
BMN	**Battle Mountai**	**83.56**	**323**	P	**P**	**12 05 32.2**	**-0.1**
BMN				pmax	pmax		
	comp=Z,57nm,1.0s,mb5.7						
BMN	**Battle Mountai**	**83.56**	**323**	*e*P	**P**	**12 05 31.6**	**-0.7**
	comp=Z,58nm,1.0s,mb5.7						
BMN				LR	LR		
	comp=Z,8µm,20.0s,MS6.1						
CMB	**Columbia Colle**	**83.61**	**320**	P	**P**	**12 05 32.6**	**0.0**
CMB				pmax	pmax		
	comp=Z,280nm,1.5s,mb6.2						
CMB	**Columbia Colle**	**83.61**	**320**	⇑*i*P	**P**	**12 05 32.7**	**+0.1**
	comp=Z,276nm,1.6s,mb6.1						
CMB				LR	LR		
	comp=Z,5µm,22.0s,MS5.9						
MIR	**Mirnyy**	**83.82**	**172**	α*e*P	**P**	**12 05 32.5**	**-0.5**
MIR				*e*S	S	12 15 54.0	+0.5
MIR				*e*SS	SS	12 21 30.0	+5.9
MIR				pmax	pmax		
	comp=Z,315nm,2.0s,mb6.1						
MIR				pmax	pmax		
	comp=Z,4µm,8.0s						
MIR				smax			
	comp=E,2µm,14.0s						
MIR				smax			
	comp=N,2µm,10.0s						
MIR				MLR	MLR		
	comp=N,11µm,20.0s,MS6.3						
MIR				MLR	MLR		
	comp=E,7µm,20.0s,MS6.3						
MIR				MLR	MLR		
	comp=Z,26µm,20.0s,MS6.6						
DGMT	**Dagmar**	**84.02**	**335**	⇓*i*P	**P**	**12 05 34.8**	**+0.4**
	comp=Z,440nm,1.0s,mb6.5						
DGMT				*e*pP	pP	12 05 41.7	+0.2
DGMT				LR	LR		
	comp=Z,5µm,19.0s,MS5.9						
QLMT	**Earthquake Lak**	**84.03**	**329**	*e*P	**P**	**12 05 35.9**	**+1.3**
WCN	**Washoe City**	**84.13**	**321**	P	**P**	**12 05 36.3**	**+1.1**
WCN				pmax	pmax		
	comp=Z,7.0nm,1.1s						
ASMM	**Slate Mountain**	**84.32**	**320**	*e*P	**P**	**12 05 38.3**	**+2.1**
LKC	**Lake Chabot**	**84.37**	**319**	*e*P	**P**	**12 05 37.4**	**+1.0**
HLID	**Hailey**	**84.45**	**327**	⇑*i*P	**P**	**12 05 37.8**	**+1.1**
	comp=Z,237nm,0.9s,mb6.3						
HLID				*e*pP	pP	12 05 44.9	+1.1
HLID				LR	LR		
	comp=Z,5µm,22.0s,MS5.8						
MCMT	**McKenzie Canyo**	**84.67**	**329**	*e*P	**P**	**12 05 39.0**	**+1.2**
BOZ	**Bozeman (W)**	**84.75**	**330**	⇑*i*P	**P**	**12 05 38.3**	**+0.1**
	comp=Z,193nm,1.4s,mb6.0						
BOZ				LR	LR		
	comp=Z,12µm,22.0s,MS6.2						
PTEO	**Sao Teotonio**	**84.81**	**42**	*e*P	**P**	**12 05 38.8**	**+0.1**
	comp=Z,158nm,1.4s,mb6.0						
BEKR	**Beckwourth**	**84.86**	**321**	⇑*i*P	**P**	**12 05 39.5**	**+0.7**
	comp=Z,14nm,1.1s,mb5.0						
OHCM	**Honcut**	**85.12**	**320**	*e*P	**P**	**12 05 40.4**	**+0.2**
NSHM	**Saint Helena R**	**85.21**	**319**	*e*P	**P**	**12 05 41.2**	**+0.5**
LIS	**Lisbon**	**85.35**	**41**	*e*P	**P**	**12 05 42.7**	**+1.4**
LIS				*e*S	S	12 16 09.1	-0.2
LIS				*e*S	S	12 16 09.4	+0.2
LIS				AMS	AMS	12 40 55.7	
	comp=Z,8µm,22.3s,MS6.1						
LIS	**Lisbon**	**85.35**	**41**	*e*P	**P**	**12 05 42.7**	**+1.4**
LIS				*e*S	S	12 16 09.1	-0.1
	comp=Z,8µm,22.3s						
CASY	**Casey**	**85.42**	**179**	⇑*i*P	**P**	**12 05 41.6**	**+0.7**
	comp=Z,84nm,0.7s,mb6.0						
CASY				LR	LR		
	comp=Z,18µm,20.0s,MS6.5						
PLOU	**Loures**	**85.46**	**41**	*e*P	**P**	**12 05 41.8**	**-0.1**
	comp=Z,76nm,1.4s,mb5.6						
PALC	**Alcoutim**	**85.50**	**43**	*e*P	**P**	**12 05 41.9**	**-0.2**
	comp=Z,160nm,1.0s,mb6.1						
EGRO	**El Granado**	**85.54**	**43**	P	**P**	**12 05 42.3**	**0.0**
	comp=Z,431nm,2.1s,mb6.3						
SFS	**San Fernando**	**85.61**	**44**	*e*P	**P**	**12 05 43.3**	**+0.6**
HRY	**Holter Researc**	**85.66**	**330**	*e*P	**P**	**12 05 43.5**	**+0.8**
MOE	**Montemor**	**85.68**	**42**	*e*P	**P**	**12 05 43.7**	**+0.7**
WVOR	**Wild Horse Val**	**85.74**	**324**	⇑*i*P	**P**	**12 05 43.3**	**+0.1**
	comp=Z,329nm,1.5s,mb6.3						
WVOR				LR	LR		
	comp=Z,13µm,22.0s,MS6.3						
HOPS	**Hopland**	**85.80**	**319**	*e*P	**P**	**12 05 43.9**	**+0.4**
	comp=Z,301nm,1.5s,mb6.3						
HOPS				*e*pP	pP	12 05 51.2	+0.5
HOPS				LR	LR		
	comp=Z,6µm,21.0s,MS6.0						
EVO	**Evora**	**85.89**	**42**	⇑*i*P	**P**	**12 05 43.5**	**-0.5**
	comp=Z,112nm,0.9s,mb5.8						
EVO				*e*R			
	comp=Z,13µm,22.5s						
ESPR	**Espera**	**86.09**	**44**	P	**P**	**12 05 45.3**	**+0.2**
	comp=Z,60nm,0.7s,mb5.9						
EMIN	**Mina Concepcio**	**86.18**	**43**	P	**P**	**12 05 45.7**	**+0.2**
	comp=Z,31nm,1.5s,mb5.3						
MOD	**Modoc**	**86.25**	**323**	*e*P	**P**	**12 05 46.1**	**+0.4**
	comp=Z,190nm,1.0s,mb6.3						
MOD				*e*pP	pP	12 05 53.2	+0.4
MOD				LR	LR		
	comp=Z,7µm,21.0s,MS6.0						
PTOM	**Tomar**	**86.38**	**41**	*e*P	**P**	**12 05 46.2**	**-0.2**
	comp=Z,222nm,1.3s,mb6.2						
CHMT	**Chamberlain Mo**	**86.44**	**330**	*e*P	**P**	**12 05 47.2**	**+0.7**
EMIJ	**Mijas**	**86.56**	**45**	P	**P**	**12 05 47.3**	**-0.1**
	comp=Z,19nm,0.5s,mb5.6						
WDC	**Whiskeytown Da**	**86.56**	**320**	P	**P**	**12 05 46.2**	**-1.1**
WDC				pmax	pmax		
	comp=Z,230nm,1.3s,mb6.2						
WDC	**Whiskeytown Da**	**86.56**	**320**	⇑*e*P	**P**	**12 05 46.2**	**-1.1**
	comp=Z,231nm,1.3s,mb6.2						
WDC				*e*pP	pP	12 05 53.1	-1.3
WDC				LR	LR		
	comp=Z,3µm,20.0s,MS5.7						
EBAD	**Badajoz**	**86.62**	**42**	P	**P**	**12 05 47.1**	**-0.5**
	comp=Z,655nm,2.5s,mb6.4						
MSO	**Missoula**	**86.69**	**329**	⇑*i*P	**P**	**12 05 48.2**	**+0.5**
	comp=Z,440nm,1.8s,mb6.4						
MSO				*e*pP	pP	12 05 55.3	+0.5
MSO				LR	LR		
	comp=Z,7µm,22.0s,MS6.0						
PCBR	**Castelo Branco**	**87.06**	**41**	*e*P	**P**	**12 05 49.3**	**-0.4**
	comp=Z,97nm,1.1s,mb6.0						
ELOJ	**Sierra Loja**	**87.32**	**45**	P	**P**	**12 05 50.8**	**-0.2**
	comp=Z,21nm,0.7s,mb5.5						
MTE	**Manteigas**	**87.39**	**41**	*e*P	**P**	**12 05 50.9**	**-0.4**
	comp=Z,142nm,1.5s,mb6.0						
MTE				*e*SKSac		12 16 18.9	
MTE				*e*LQ		12 30 25.0	
MTE				*e*LR	LR	12 35 40.5	
	comp=Z,13µm,15.9s						
MTE	**Manteigas**	**87.39**	**41**	*e*P	**P**	**12 05 50.9**	**-0.4**
	comp=Z,97nm,0.9s,mb6.0						
PVIS	**Viseu**	**87.40**	**40**	*e*P	**P**	**12 05 51.8**	**+0.4**
	comp=Z,57nm,0.8s,mb5.8						
KHMM	**Horse Mountain**	**87.43**	**320**	*e*P	**P**	**12 05 52.5**	**+1.0**
KHMM				*e*pP	pP	12 05 59.3	+0.7
YBH	**Yreka Blue Hor**	**87.44**	**321**	P	**P**	**12 05 51.0**	**-0.5**
YBH				pmax	pmax		
	comp=Z,66nm,0.8s						
YBH	**Yreka Blue Hor**	**87.44**	**321**	⇑*i*P	**P**	**12 05 50.8**	**-0.7**
	comp=Z,66nm,0.8s,mb5.9						
YBH				LR	LR		
	comp=Z,7µm,22.0s,MS6.0						
ERON	**Agron**	**87.45**	**45**	P	**P**	**12 05 52.0**	**+0.3**
	comp=Z,14nm,0.8s,mb5.2						
ELUQ	**Luque**	**87.51**	**44**	P	**P**	**12 05 51.9**	**0.0**
	comp=Z,41nm,0.8s,mb5.7						
EADA	**Adamuz**	**87.70**	**44**	P	**P**	**12 05 51.7**	**-1.1**
	comp=Z,218nm,1.4s,mb6.2						
PINOR	**Pine Mountain**	**87.87**	**324**	P	**P**	**12 05 54.8**	**+1.3**
PVRL	**Vila Real**	**87.88**	**40**	*e*P	**P**	**12 05 53.5**	**-0.1**
	comp=Z,130nm,1.4s,mb6.0						
KRMB	**Red Mountain**	**87.96**	**320**	⇑*i*P	**P**	**12 05 54.9**	**+0.8**
KRMB				*e*pP	pP	12 06 01.7	+0.6
LNOR	**Lincton Mounta**	**88.02**	**326**	P	**P**	**12 05 53.7**	**-0.5**
LNOR	**Lincton Mounta**	**88.02**	**326**	*e*P	**P**	**12 05 53.4**	**-0.7**
ELOB	**Lobios**	**88.08**	**39**	P	**P**	**12 05 53.1**	**-1.5**
	comp=Z,400nm,2.4s,mb6.2						
HUMO	**Hull Mountain**	**88.16**	**322**	*e*P	**P**	**12 05 54.5**	**-0.5**
	comp=Z,36nm,0.6s,mb5.8						
EQES	**Quesada**	**88.40**	**45**	P	**P**	**12 05 54.8**	**-1.4**
	comp=Z,25nm,0.6s,mb5.6						
STS	**Santiago**	**88.49**	**38**	P	**P**	**12 05 57.0**	**+0.5**
	comp=Z,9.2nm,0.6s,mb5.2						
FFC	**Flin Flon**	**88.58**	**340**	⇑*i*P	**P**	**12 05 56.3**	**-0.3**
	comp=Z,323nm,1.5s,mb6.4						
FFC				*e*pP	pP	12 06 03.4	-0.3
PBRG	**Braganca**	**88.78**	**40**	*e*P	**P**	**12 05 57.8**	**-0.1**
	comp=Z,60nm,2.4s,mb5.5						
HSO	**Harness Mounta**	**88.85**	**322**	P	**P**	**12 05 59.1**	**+0.9**
ERUA	**La Rua**	**88.94**	**39**	P	**P**	**12 05 59.8**	**+1.1**
	comp=Z,19nm,0.6s,mb5.6						
HAWA	**Hanford**	**89.00**	**326**	*e*P	**P**	**12 05 59.2**	**+0.4**
	comp=Z,1µm,1.8s,mb6.9						
HAWA				LR	LR		
	comp=Z,8µm,20.0s,MS6.2						
VGB	**Gordon Butte**	**89.01**	**325**	P	**P**	**12 05 59.7**	**+0.8**
VGB	**Gordon Butte**	**89.01**	**325**	*e*P	**P**	**12 05 58.7**	**-0.3**
ESDC	**Sonseca Array**	**89.02**	**43**	P	**P**	**12 05 58.6**	**-0.5**
	comp=Z,12nm,0.7s,mb5.4,baz=237,slow=4.4,SNR=47						
ESDC				S	S	12 16 28.7	-15
	comp=Z,0.3nm,0.5s,baz=100,slow=41,SNR=2.8						
ESDC				LR	LR	12 46 58.2	
	comp=Z,6µm,18.7s,MS6.1,baz=210,slow=36						
ESDC	**Sonseca Array**	**89.02**	**43**	P	**P**	**12 06 00.1**	**+0.9**
	comp=Z,13nm,0.7s,mb5.4						
RSW	**Rattlesnake Hi**	**89.03**	**326**	P	**P**	**12 05 59.7**	**+0.7**
KEBM	**Edson Butte**	**89.09**	**321**	*e*P	**P**	**12 06 00.3**	**+0.9**
NEW	**Newport**	**89.20**	**329**	P	**P**	**12 05 59.2**	**-0.5**
NEW				pmax	pmax		
	comp=Z,300nm,1.7s						
NEW	**Newport**	**89.20**	**329**	⇑*i*P	**P**	**12 05 58.8**	**-0.9**
	comp=Z,298nm,1.7s,mb6.3						
NEW				LR	LR		
	comp=Z,6µm,20.0s,MS6.0						
EVIA	**Vianos**	**89.27**	**44**	P	**P**	**12 06 01.0**	**+0.7**
	comp=Z,28nm,0.6s,mb5.8						
MDW	**Midway**	**89.27**	**326**	P	**P**	**12 06 00.3**	**+0.2**
DPW	**Davenport**	**89.42**	**328**	P	**P**	**12 05 59.0**	**-1.8**
DPW	**Davenport**	**89.42**	**328**	*e*P	**P**	**12 06 00.8**	**0.0**
SSOR	**Sweet Springs**	**89.42**	**324**	P	**P**	**12 06 00.8**	**-0.1**
SSOR	**Sweet Springs**	**89.42**	**324**	*e*P	**P**	**12 06 00.6**	**-0.3**
EPON	**Pontenova**	**89.55**	**39**	P	**P**	**12 06 00.9**	**-0.6**
	comp=Z,535nm,3.0s						
EMUR	**La Murta**	**89.56**	**46**	P	**P**	**12 06 00.9**	**-0.8**
	comp=Z,204nm,2.2s,mb6.1						
COR	**Corvallis**	**89.68**	**323**	P	**P**	**12 06 02.9**	**+0.8**
COR	**Corvallis**	**89.68**	**323**	P	**P**	**12 06 03.0**	**+0.9**
COR				pmax	pmax		
	comp=Z,1µm,1.4s,mb7.0						
COR	**Corvallis**	**89.68**	**323**	⇑*i*P	**P**	**12 06 02.8**	**+0.7**
	comp=Z,1µm,1.4s,mb7.0						
COR				LR	LR		
	comp=Z,2µm,21.0s,MS5.5						
FCC	**Fort Churchill**	**90.12**	**346**	P	**P**	**12 06 04.6**	**+0.8**
FCC				pmax	pmax		
	comp=Z,150nm,0.8s,mb6.4						
FCC	**Fort Churchill**	**90.12**	**346**	⇑*i*P	**P**	**12 06 03.8**	**0.0**
	comp=Z,148nm,0.8s,mb6.4						
FCC				*e*pP	pP	12 06 10.4	-0.5
WTV	**Waterville**	**90.12**	**327**	P	**P**	**12 06 04.1**	**0.0**
SHW	**Mount Saint He**	**90.21**	**325**	P	**P**	**12 06 06.4**	**+1.9**
LON	**Longmire**	**90.38**	**325**	*e*P	**P**	**12 06 04.9**	**-0.4**
LON	**Longmire**	**90.38**	**325**	⇑*i*P	**P**	**12 06 04.8**	**-0.5**
NLW	**Nelson Butte**	**90.58**	**327**	*e*P	**P**	**12 06 05.8**	**-0.4**
RVC	**Mount Rainier-**	**90.59**	**325**	P	**P**	**12 06 06.5**	**+0.2**
PUZ	**Puketiti**	**90.61**	**225**	*e*P	**P**	**12 06 07.4**	**+0.8**
PUZ	**Puketiti**	**90.61**	**225**	*e*P	**P**	**12 06 05.7**	**-0.9**
KHZ	**Kahutara**	**90.67**	**220**	*e*P	**P**	**12 06 07.4**	**+0.7**
KHZ	**Kahutara**	**90.67**	**220**	*e*P	**P**	**12 06 08.2**	**+1.5**
RMW	**Rattlesnake Mo**	**90.86**	**326**	P	**P**	**12 06 07.0**	**-0.5**
RMW	**Rattlesnake Mo**	**90.86**	**326**	*e*P	**P**	**12 06 06.9**	**-0.6**
ETOR	**Torete**	**90.88**	**43**	P	**P**	**12 06 08.6**	**+0.9**
	comp=Z,35nm,0.6s,mb5.9						
MXZ	**Matakaoa Point**	**90.89**	**226**	*e*P	**P**	**12 06 09.6**	**+1.7**
BMW	**Boistfort Moun**	**90.91**	**324**	P	**P**	**12 06 08.1**	**+0.4**
LTZ	**Lake Taylor**	**91.13**	**219**	*e*P	**P**	**12 06 09.8**	**+0.9**
LTZ	**Lake Taylor**	**91.13**	**219**	*e*P	**P**	**12 06 10.2**	**+1.3**
RPZ	**Rata Peaks**	**91.17**	**217**	LR	LR	12 40 28.3	
	comp=Z,9µm,18.1s,MS6.2,baz=139,slow=31						
RPZ	**Rata Peaks**	**91.17**	**217**	*e*P	**P**	**12 06 09.6**	**+0.6**
RPZ	**Rata Peaks**	**91.17**	**217**	*e*P	**P**	**12 06 10.2**	**+1.2**
LBZ	**Lake Benmore**	**91.17**	**217**	*e*P	**P**	**12 06 09.4**	**+0.4**
LBZ	**Lake Benmore**	**91.17**	**217**	P	**P**	**12 06 10.4**	**+1.4**
URZ	**Urewera**	**91.21**	**225**	S	SKS	12 16 41.6	-4.0
	comp=Z,5.6nm,0.9s,baz=72,slow=23,SNR=3.1						
URZ				PKKPbc		12 23 30.7	
	comp=Z,4.3nm,0.6s,baz=93,slow=8.8,SNR=7.1						
URZ				LR	LR	12 38 32.1	
	comp=Z,6µm,20.6s,MS6.0,baz=154,slow=30						
RPW	**Rockport**	**91.40**	**327**	P	**P**	**12 06 09.3**	**-0.7**
GNW	**Green Mountain**	**91.44**	**325**	*e*P	**P**	**12 06 09.8**	**-0.3**
THZ	**Tophouse**	**91.45**	**220**	*e*P	**P**	**12 06 11.4**	**+1.0**
THZ	**Tophouse**	**91.45**	**220**	*e*P	**P**	**12 06 11.8**	**+1.4**
NNZ	**Nelson**	**91.54**	**220**	*e*P	**P**	**12 06 11.7**	**+0.9**
NNZ	**Nelson**	**91.54**	**220**	*e*P	**P**	**12 06 10.1**	**-0.7**
EMOS	**Mosqueruela**	**91.56**	**44**	P	**P**	**12 06 11.5**	**+0.6**
	comp=Z,98nm,2.0s,mb5.8						
ELAN	**Lanestosa**	**91.57**	**40**	P	**P**	**12 06 11.3**	**+0.5**
	comp=Z,307nm,1.9s,mb6.3						
WVZ	**Waitaha Valley**	**91.77**	**218**	*e*P	**P**	**12 06 11.5**	**-0.3**
WVZ	**Waitaha Valley**	**91.77**	**218**	*e*P	**P**	**12 06 12.3**	**+0.5**
JCZ	**Jackson Bay**	**92.13**	**216**	*e*P	**P**	**12 06 13.7**	**+0.3**
JCZ	**Jackson Bay**	**92.13**	**216**	P	**P**	**12 06 14.9**	**+1.5**
OCWA	**Octopus Mounta**	**92.24**	**325**	*e*P	**P**	**12 06 14.5**	**+0.6**
	comp=Z,184nm,1.0s,mb6.4						
OCWA				LR	LR		
	comp=Z,10µm,22.0s,MS6.2						
QRZ	**Quartz Range**	**92.28**	**220**	*e*P	**P**	**12 06 12.6**	**-1.6**
QRZ	**Quartz Range**	**92.28**	**220**	*e*P	**P**	**12 06 13.8**	**-0.4**
HIZ	**Hauiti**	**92.42**	**223**	*e*P	**P**	**12 06 15.5**	**+0.6**
SNB	**Saturna Island**	**92.43**	**326**	P	**P**	**12 06 15.3**	**+0.7**
SJPF	**Ste Jean**	**92.77**	**41**	*e*P	**P**	**12 06 17.5**	**+1.1**
	comp=Z,74nm,0.9s,mb5.8						
LARF	**Larrau**	**92.86**	**42**	*e*P	**P**	**12 06 17.3**	**+0.5**
FDAF	**Les Forges d’A**	**92.97**	**42**	*e*P	**P**	**12 06 16.5**	**-0.8**
ETSF	**Etsaut**	**93.03**	**42**	*e*P	**P**	**12 06 18.7**	**+1.1**
	comp=Z,65nm,0.9s,mb5.8						
REYF	**Montagne du Re**	**93.23**	**42**	*e*P	**P**	**12 06 19.0**	**+0.5**
EPF	**Esparros**	**93.64**	**42**	*e*P	**P**	**12 06 21.2**	**+0.8**
EMIR	**Miracle**	**93.69**	**44**	P	**P**	**12 06 21.8**	**+1.2**
	comp=Z,31nm,0.8s,mb5.8						
MELF	**Melles**	**93.79**	**43**	*e*P	**P**	**12 06 21.0**	**-0.1**
VAL	**Valentia**	**93.80**	**31**	⇑*i*P	**P**	**12 06 20.9**	**0.0**
VAL	**Valentia**	**93.80**	**31**	⇓*i*S	SKS	12 17 04.5	+4.6
VAL				*e*PS	PS	12 18 53.8	+5.4
SALF	**Salau**	**93.98**	**43**	*e*P	**P**	**12 06 22.8**	**+0.8**
MLS	**Moulis**	**94.04**	**43**	*e*P	**P**	**12 06 22.5**	**+0.3**
QUIF	**Quistinic**	**94.63**	**37**	*e*P	**P**	**12 06 24.9**	**+0.1**
	comp=Z,63nm,0.9s,mb5.8						
ROSF	**Rostrenen**	**94.84**	**36**	*e*P	**P**	**12 06 25.9**	**+0.1**
	comp=Z,85nm,0.8s,mb5.9						
MTLF	**Montolieu**	**94.93**	**43**	*e*P	**P**	**12 06 26.7**	**+0.4**
	comp=Z,30nm,0.8s,mb5.5						
LFF	**La Frestale**	**94.99**	**41**	*e*P	**P**	**12 06 27.0**	**+0.4**
	comp=Z,71nm,0.6s,mb6.0						
SGMF	**Saint Gilles**	**95.16**	**37**	*e*P	**P**	**12 06 27.1**	**-0.2**
	comp=Z,33nm,0.8s,mb5.5						
MFF	**Saint Martin d**	**95.47**	**39**	*e*P	**P**	**12 06 29.1**	**+0.4**
	comp=Z,114nm,1.2s,mb5.9						
RJF	**Les Rejaudoux**	**95.65**	**41**	*e*P	**P**	**12 06 29.8**	**+0.2**
	comp=Z,28nm,0.8s,mb5.4						
RJF				*e*R			
	comp=Z,14µm,20.2s						
CAF	**Calviac**	**95.75**	**41**	*e*P	**P**	**12 06 30.6**	**+0.5**
	comp=Z,19nm,0.7s,mb5.3						
GRR	**Gorron**	**96.15**	**37**	*e*P	**P**	**12 06 31.5**	**-0.3**
	comp=Z,25nm,0.7s,mb5.5						
LASF	**Ste Croix**	**96.33**	**43**	*e*P	**P**	**12 06 33.3**	**+0.6**
	comp=Z,29nm,1.0s,mb5.4						

VERF	**Verneugheol**	**96.47**	**41**	*e*P	**P**	**12 06 34.2**	**+0.9**
FLN	**La Foliniere**	**96.57**	**37**	*e*P	**P**	**12 06 34.8**	**+1.1**
	comp=Z,22nm,0.7s,mb5.4						
FLN				*e*R			
	comp=Z,13µm,20.0s						
TCF	**Toulx Ste Croi**	**96.61**	**40**	*e*P	**P**	**12 06 34.1**	**+0.2**
	comp=Z,40nm,0.9s,mb5.6						
LBL	**Lubilhac**	**96.62**	**42**	*e*P	**P**	**12 06 33.7**	**-0.3**
LDF	**La Druitiere**	**96.66**	**38**	*e*P	**P**	**12 06 34.1**	**0.0**
	comp=Z,30nm,0.8s,mb5.5						
PYM	**Petit Puy Mans**	**96.77**	**41**	*e*P	**P**	**12 06 35.1**	**+0.5**
PRAF	**Pradon**	**96.97**	**44**	*e*P	**P**	**12 06 33.8**	**-1.8**
AGO	**Saint Agoulin**	**97.01**	**41**	*e*P	**P**	**12 06 35.8**	**+0.1**
BERF	**Bertagne**	**97.02**	**44**	*e*P	**P**	**12 06 36.4**	**+0.6**
COLF	**Collangettes**	**97.04**	**42**	*e*P	**P**	**12 06 36.4**	**+0.6**
BGF	**Bois d'Agland**	**97.13**	**40**	*e*P	**P**	**12 06 36.6**	**+0.4**
	comp=Z,53nm,0.9s,mb5.7						
VIVF	**Saint-Julien-l**	**97.25**	**43**	*e*P	**P**	**12 06 37.7**	**+0.9**
	comp=Z,71nm,1.3s,mb5.6						
SMRF	**Simiane la Rot**	**97.31**	**44**	*e*P	**P**	**12 06 38.4**	**+1.3**
	comp=Z,59nm,0.9s,mb5.7						
VILF	**Villemus**	**97.33**	**44**	*e*P	**P**	**12 06 38.0**	**+0.8**
TAVF	**Tavernes**	**97.41**	**44**	*e*P	**P**	**12 06 35.2**	**-2.4**
LMR	**La Mourre**	**97.54**	**45**	*e*P	**P**	**12 06 38.8**	**+0.7**
	comp=Z,54nm,0.9s,mb5.8						
AVF	**Avril sur Loir**	**97.55**	**40**	*e*P	**P**	**12 06 38.3**	**+0.2**
	comp=Z,23nm,0.7s,mb5.5						
FRF	**La Foret Royal**	**97.74**	**44**	*e*P	**P**	**12 06 39.7**	**+0.6**
SMF	**Signal de Mont**	**97.75**	**41**	*e*P	**P**	**12 06 39.5**	**+0.5**
	comp=Z,62nm,0.7s,mb6.0						
SSF	**Saint Saulge**	**97.79**	**40**	*e*P	**P**	**12 06 39.3**	**+0.1**
	comp=Z,47nm,0.8s,mb5.8						
CALN	**Calern**	**97.99**	**44**	*e*P	**P**	**12 06 41.0**	**+0.8**
ORIF	**Oris-en-Rattie**	**98.00**	**43**	*e*P	**P**	**12 06 41.5**	**+1.3**
	comp=Z,53nm,0.8s,mb5.8						
ORIF				*e*R			
	comp=Z,13µm,20.5s						
LOR	**Lormes**	**98.10**	**40**	*e*P	**P**	**12 06 40.7**	**+0.1**
	comp=Z,42nm,0.8s,mb5.7						
LOR				*e*R			
	comp=Z,14µm,20.0s						
SURF	**Saint Ours**	**98.33**	**44**	*e*P	**P**	**12 06 42.7**	**+1.0**
SBF	**Sospel**	**98.39**	**44**	*e*P	**P**	**12 06 42.8**	**+0.8**
MBDF	**Montbardon**	**98.44**	**43**	*e*P	**P**	**12 06 43.3**	**+1.1**
	comp=Z,38nm,0.9s,mb5.6						
STV	**Sta Anna Valdi**	**98.52**	**44**	P	**P**	**12 06 42.9**	**+0.3**
PZZ	**Prazzo**	**98.52**	**44**	P	**P**	**12 06 42.9**	**+0.3**
STV2	**Anna di Valdie**	**98.52**	**44**	P	**P**	**12 06 41.8**	**-0.7**
NEGI	**Negi**	**98.55**	**45**	P	**P**	**12 06 40.5**	**-2.2**
RRL	**Cesana Torines**	**98.55**	**43**	P	**P**	**12 06 43.6**	**+1.0**
BNI	**Bardonecchia**	**98.55**	**43**	P	**P**	**12 06 43.9**	**+1.2**
BNI				pmax	pmax		
	comp=Z,17nm,1.0s,mb5.5						
BNI	**Bardonecchia**	**98.55**	**43**	*e*P	**P**	**12 06 43.8**	**+1.1**
	comp=Z,17nm,1.0s,mb5.5						
ENR	**Entracque**	**98.57**	**44**	P	**P**	**12 06 42.9**	**+0.1**
IMI	**Imperia**	**98.69**	**45**	P	**P**	**12 06 42.0**	**-1.4**
MONE	**Monesi**	**98.70**	**44**	P	**P**	**12 06 42.4**	**-1.0**
YKA	**Yellowknife Ar**	**98.74**	**339**	P	**P**	**12 06 42.4**	**-0.7**
	comp=Z,22nm,0.8s,mb5.7,baz=132,slow=4.4,SNR=67						
YKA				PP	PP	12 10 43.1	-3.8
	comp=Z,11nm,1.1s,baz=138,slow=7.1,SNR=3.4						
YKA				PKiKP		12 11 15.7	
	comp=Z,1.7nm,0.7s,baz=150,slow=1.4,SNR=6.4						
YKA				S	SKS	12 17 18.9	-6.9
	comp=Z,0.9nm,0.7s,baz=154,slow=37,SNR=3.0						
YKA				PKKPbc		12 23 11.1	
	comp=Z,1.0nm,0.8s,baz=319,slow=3.7,SNR=5.2						
YKA				LR	LR	12 57 14.1	
	comp=Z,9µm,18.5s,MS6.3,baz=120,slow=39						
FENE	**Fenestrelle**	**98.77**	**43**	P	**P**	**12 06 44.3**	**+0.7**
BHB	**Bricherasio**	**98.80**	**44**	P	**P**	**12 06 44.5**	**+0.7**
LPL	**La Plagne**	**98.83**	**43**	*e*P	**P**	**12 06 45.3**	**+1.4**
	comp=Z,75nm,0.9s,mb5.9						
LPG	**La Plagne**	**98.83**	**43**	*e*P	**P**	**12 06 45.6**	**+1.7**
	comp=Z,70nm,0.8s,mb5.9						
ROB	**Roburent**	**98.88**	**44**	P	**P**	**12 06 42.2**	**-1.9**
RORO		**98.91**	**44**	P	**P**	**12 06 43.0**	**-1.3**
RSP	**Reno Superiore**	**98.95**	**43**	P	**P**	**12 06 44.4**	**0.0**
CABF	**La Chapelle**	**99.03**	**42**	*e*P	**P**	**12 06 44.9**	**+0.1**
	comp=Z,45nm,0.9s,mb5.7						
FIN	**Finale Ligure**	**99.04**	**44**	P	**P**	**12 06 42.7**	**-2.2**
LSD	**Ceresole Reale**	**99.05**	**43**	P	**P**	**12 06 45.7**	**+0.8**
BORG	**Borgarnes**	**99.26**	**18**	LR	LR	12 50 45.4	
	comp=Z,9µm,19.9s,MS6.2,baz=134,slow=35						
PCP	**Pian Castagno**	**99.42**	**44**	P	**P**	**12 06 44.3**	**-2.3**
MEZF	**Maizieres J'vi**	**99.45**	**40**	*e*P	**P**	**12 06 46.9**	**+0.2**
VAE	**Valguarnera**	**99.80**	**53**	LR	LR	12 52 49.5	
	comp=Z,21µm,18.1s,MS6.7,baz=228,slow=36						
BAIF	**Baives**	**99.83**	**38**	*e*P	**P**	**12 06 48.4**	**0.0**
	comp=Z,23nm,0.8s,mb5.4						
THEF	**They Montfort**	**99.83**	**40**	*e*P	**P**	**12 06 48.3**	**-0.1**
LOMF	**Lomont**	**99.85**	**41**	*e*P	**P**	**12 06 48.5**	**0.0**
HAU	**Haudompre**	**99.92**	**40**	*e*P	**P**	**12 06 48.8**	**0.0**
	comp=Z,27nm,0.7s,mb5.5						
HAU				*e*R			
	comp=Z,14µm,19.8s						
HINF	**Hinteralfeld**	**100.11**	**41**	*e*P	P	12 06 49.8	+0.1
	comp=Z,31nm,0.9s						
CODM		**100.15**	**45**	P	P	12 06 44.3	-5.7
GIVF	**Givet**	**100.19**	**38**	*e*P	P	12 06 50.2	+0.2
	comp=Z,24nm,0.6s						
MOF	**Molkenrain**	**100.29**	**41**	*e*P	P	12 06 50.2	-0.3
MAIM		**100.31**	**46**	P	P	12 06 43.9	-6.8
GRAM		**100.33**	**45**	P	P	12 06 45.0	-5.8
VALM		**100.38**	**45**	P	P	12 06 44.9	-6.2
ECH	**Echery**	**100.49**	**41**	*e*P	P	12 06 50.2	-1.2
CDF	**Champ du Feu**	**100.66**	**40**	*e*P	P	12 06 52.3	+0.1
	comp=Z,31nm,0.8s						
WLF	**Walferdange**	**100.68**	**39**	P	P	12 06 53.1	+0.9
WLF				pmax	pmax		
	comp=Z,23nm,0.9s						
WLF	**Walferdange**	**100.68**	**39**	*e*Pdif	P	12 06 51.0	-1.2
	comp=Z,22nm,0.8s						
WLS	**Welschbruch**	**100.70**	**40**	*e*P	P	12 06 51.8	-0.6
FELD	**Feldberg**	**100.80**	**41**	*e*P	P	12 06 52.7	-0.1
KMBO	**Kilima Mbogo**	**100.98**	**97**	PP	PP	12 10 57.7	-8.1
	comp=Z,0.6nm,0.4s,baz=232,slow=21,SNR=2.0						
KMBO				S	SKS	12 17 34.1	-4.0
	comp=Z,0.3nm,0.4s,baz=245,slow=24,SNR=1.8						
STR	**Strasbourg**	**101.03**	**40**	*e*P	P	12 06 54.0	+0.2
RUP	**Ruppelstein**	**101.20**	**39**	*e*P	P	12 06 54.7	+0.1
BFO	**Black Forest**	**101.22**	**41**	*e*P	P	12 06 54.4	-0.3
LANF	**Langenberg**	**101.25**	**40**	*e*P	P	12 06 53.2	-1.6
DAVOX	**Davos**	**101.36**	**43**	P	P	12 06 56.1	+0.8
	comp=Z,10nm,0.7s,baz=222,slow=6.3,SNR=10						
DAVOX				PP	PP	12 11 00.1	-7.4
	comp=Z,1.8nm,0.3s,baz=225,slow=6.5,SNR=4.9						
DAVOX				PKKPbc		12 23 05.5	
	comp=Z,4.8nm,0.5s,baz=210,slow=4.8,SNR=6.7						
KTD	**Kalmit**	**101.58**	**40**	*e*P	P	12 06 55.0	-1.3
DAVA	**Damuels**	**101.61**	**42⇑**	*i*P	PP	12 11 03.1	-6.2
DLBC	**Dease Lake**	**101.70**	**331**	S	SKS	12 17 32.5	-8.0
	comp=Z,0.3nm,0.3s,baz=291,slow=15,SNR=2.1						
WTSB	**Winterswijk**	**102.23**	**37**	*e*P	PP	12 11 05.0	-8.7
	comp=Z,32nm,1.6s						
WTTA	**Wattenberg**	**102.64**	**43⇓**	*i*P	PP	12 11 11.3	-5.9
FUR	**Furstenfeldbru**	**102.86**	**42**	*e*P	Pdif	12 07 02.7	+0.7
NVLJ	**Novalja**	**103.39**	**46**	*i* P	Pdif	12 07 04.0	-0.5
GRA1	**Grafenberg Arr**	**103.55**	**41**	*e*Pdif	Pdif	12 07 05.3	+0.3
GRA1				*e*PP	PP	12 11 15.2	-8.6
GRA1				*e*Sdif		12 18 52.0	
GRA1				*e*SP	SP	12 20 36.0	+7.2
GRA1				*e*SS	SS	12 25 55.0	-10
GRA1				LR	LR		
	comp=Z,7µm,21.0s,MS6.2						
GRF	**Grafenberg Arr**	**103.55**	**41**	*e*P	Pdif	12 07 05.3	+0.3
GRF				*e*S	S	12 18 52.0	+3.8
GRF				*e*SP	SP	12 20 36.0	+7.2
GRF				MLR	MLR		
	comp=Z,7µm,21.0s,MS6.2						
KBA	**Koelnbreinsper**	**103.59**	**44⇑**	*i*P	PP	12 11 17.4	-6.8
LJU	**Ljubljana**	**103.84**	**45**	*e*Pdiff	Pdif	12 07 06.6	+0.2
LJU				*e*PP	PP	12 11 19.8	-6.2
LJU				*e*		12 11 26.4	
LJU				*e*		12 11 34.2	
LJU				*e*		12 13 27.7	
LJU				*e*		12 13 48.2	
LJU				*e*Sdiff		12 18 56.0	
LJU				*e*		12 20 43.7	
LJU				*e*		12 23 03.9	
LJU				*e*SS	SS	12 26 00.0	-9.0
LJU	**Ljubljana**	**103.84**	**45**	*e*Pdif	Pdif	12 07 06.6	+0.2
LJU				*e*Sdif		12 18 56.0	
VISS	**Visnje**	**103.93**	**45**	*e*Pdiff	Pdif	12 07 04.9	-1.9
VISS				*e*PP	PP	12 11 19.8	-6.8
VISS				*e*SKSac		12 17 48.5	
VISS				*e*		12 23 03.1	
VISS				*e*		12 23 16.7	
BOJS	**Bojanci**	**104.06**	**46**	*e*Pdiff	Pdif	12 07 07.7	+0.4
BOJS				*e*PP	PP	12 11 20.9	-6.6
BOJS				*e*		12 11 28.1	
BOJS				*e*SKSac		12 17 49.6	
BOJS				*e*		12 23 03.1	
BOJS				*e*		12 23 23.2	
BOJS				*e*SS	SS	12 26 07.9	-4.0
OBKA	**Obir**	**104.07**	**45⇑**	*i*P	PP	12 11 21.8	-5.8
CLZ	**Clausthal**	**104.09**	**38**	*e*Pdif	Pdif	12 07 08.1	+0.8
MOX	**Moxa**	**104.22**	**40**	*e*P	Pdif	12 07 08.0	+0.1
MOX				PP	PP	12 11 24.0	-4.7
MOX				PS	PS	12 20 35.0	-3.1
MOX				PKKP	PKKP	12 23 02.0	+3.3
MOX				SS	SS	12 26 11.0	-3.0
MOX				L		12 55 25.0	
WET	**Wettzell**	**104.25**	**42**	*e*P	Pdif	12 07 09.1	+1.0
NKC	**Novy Kostel**	**104.50**	**41**	*e*PP	PP	12 11 24.0	-7.0
NKC				*e*SDIF		12 19 03.4	
NKC				*e*PS	PS	12 20 29.0	-12
NKC				LR		12 54 20.0	
	comp=Z,8.6nm,19.3s						
GEC2	**GERESS Array S**	**104.60**	**42**	*e*P	Pdif	12 07 09.8	+0.2
GERES	**GERESS Array B**	**104.60**	**42**	Pdiff	Pdif	12 07 10.4	+0.7
	comp=Z,1.5nm,0.8s,baz=198,slow=4.2,SNR=5.4						
GERES				PKiKP		12 11 25.8	
	comp=Z,1.8nm,0.7s,baz=180,slow=2.0,SNR=5.2						
GERES				PKKPbc		12 22 55.2	
	comp=Z,4.2nm,1.1s,baz=90,slow=2.7,SNR=8.7						
GERES				PKKPab		12 23 14.0	
	comp=Z,2.8nm,0.9s,baz=76,slow=5.5,SNR=4.5						
GROS	**Grobnik**	**104.64**	**45**	*e*	PP	12 11 25.4	-6.8
GROS				*e*		12 11 31.3	
KHC	**Kasperske Hory**	**104.66**	**42**	*e*x	x	12 11 16.5	
KHC				*e*PP	PP	12 11 30.9	-1.4
KHC				*e*SDIF		12 19 00.6	
KHC				*e*PS	PS	12 20 40.4	-2.2
KHC				*e*x	x	12 21 47.8	
KHC				*e*PKKP	PKKP	12 22 55.0	-2.9
KHC				LR		12 55 40.0	
	comp=Z,5.7nm,19.0s						
SISC	**Sisak**	**104.75**	**46**	*i* PP	PP	12 11 25.2	-7.9
BSEG	**Bad Segeberg**	**105.05**	**36**	*e*P	Pdif	12 07 11.6	+0.1
CLL	**Collm**	**105.30**	**40**	*e*PDIF	Pdif	12 07 15.0	+2.3
CLL				*e*PP	PP	12 11 33.0	-4.0
CLL				*e*		12 17 49.0	
CLL				*e*		12 19 04.0	
CLL				*e*PS	PS	12 20 43.0	-6.0
CLL				*e*PKKP	PKKP	12 22 54.0	-2.7
CLL				*e*PKKP	PKKP	12 23 11.0	+14
CLL				*e*SS	SS	12 26 14.0	-15
CLL				*e*SSS	SSS	12 29 56.0	-32
CLL	**Collm**	**105.30**	**40**	*e*P	Pdif	12 07 15.0	+2.3
CLL				*e*		12 17 49.0	
CLL				*e*S		12 19 04.0	
CLL				MLR	MLR		
	comp=Z,14µm,19.8s,MS6.5						
PRU	**Pruhonice**	**105.60**	**41**	PDIF	Pdif	12 07 14.4	+0.4
PRU				*e*PP	PP	12 11 31.5	-7.7
PRU				*e*SKS	SKS	12 17 56.7	-1.9
PRU				*e*SDIF		12 19 13.6	
PRU				*e*PS	PS	12 20 51.8	-0.2
PRU				*e*x	x	12 21 58.3	
PRU				L		12 57 20.0	
PRU	**Pruhonice**	**105.60**	**41**	P	Pdif	12 07 14.4	+0.4
PRU				*e*		12 17 56.7	
PRU				*e*S		12 19 13.6	
PRU				*e*PS	PS	12 20 51.8	-0.2
BRG	**Berggiesshubel**	**105.64**	**40**	*e*P	Pdif	12 07 17.2	+3.0
BRG				*i*		12 17 57.0	
BRG				*i* S		12 19 06.0	
BRG				pmax	pmax		
	comp=Z,20nm,1.7s						
BRG				MLR	MLR		
	comp=N,2µm,19.1s,MS6.2						
BRG				MLR	MLR		
	comp=E,6µm,19.1s,MS6.2						
BRG				MLR	MLR		
	comp=Z,980nm,19.1s,MS5.4						
BRG	**Berggiesshubel**	**105.64**	**40**	*e*P	Pdif	12 07 17.2	+3.0
	comp=Z,20nm,1.7s						
BRG				*e*PP	PP	12 11 18.0	-21
BRG				*i* SKS	SKS	12 17 57.0	-1.8
BRG				*i* S		12 19 06.0	
BRG				*i* SS	SS	12 26 03.0	-31
BRG				LR	LR		
	comp=Z,980nm,19.1s,MS5.4						
MUD	**Monsted U'grnd**	**105.65**	**34**	*i* P	Pdif	12 07 19.7	+5.6
MUD				*i*		12 10 53.5	
MUD				*i* S		12 19 13.9	
MUD				*i*		12 20 50.6	
	comp=Z,9µm,18.0s						
PVCC	**Panska Ves**	**105.85**	**41**	*e*SDIF		12 19 13.5	
PVCC				*e*PS	PS	12 20 59.2	+4.7
PVCC				*e*x	x	12 22 03.4	
PVCC				LR		12 55 20.0	
	comp=Z,12nm,19.3s						
ZST	**Bratislava**	**106.36**	**44**	*e*PKP	PP	12 11 35.8	-9.1
ZST				*e*PP	PP	12 11 44.2	-0.7
DPC	**Dobruska-Polom**	**106.79**	**42**	*e*PDIF	Pdif	12 07 21.6	+2.4
DPC				*e*PP	PP	12 11 36.9	-11
DPC				*e*SDIF		12 19 21.6	
DPC				*e*PS	PS	12 21 07.9	+4.0
DPC				*e*x	x	12 22 15.9	
DPC				LR		12 56 30.0	
	comp=Z,7.2nm,19.6s						
DPC	**Dobruska-Polom**	**106.79**	**42**	*e*P	Pdif	12 07 21.6	+2.4
DPC				*e*PS	PS	12 21 07.9	+4.0
DPC				MLR	MLR		
	comp=Z,7µm,19.6s,MS6.2						
COP	**Copenhagen**	**106.93**	**35**	*i* P	PP	12 11 43.8	-5.5
COP				*i*		12 19 18.3	
COP				*i*		12 22 10.7	
COP				*i*		12 30 28.1	
	comp=Z,3µm,21.0s						
KSP	**Ksiaz**	**106.98**	**41**	*e*P	Pdif	12 07 21.0	+1.0
KSP				*e*SP	SP	12 21 04.0	+1.0
KSP				*e*SS	SS	12 26 50.0	-1.6
KSP				MLR	MLR		
	comp=Z,25µm,19.7s,MS6.8						
KSP	**Ksiaz**	**106.98**	**41**	*e*Pdif	Pdif	12 07 21.0	+1.0
KSP				*e*PP	PP	12 11 40.0	-10
KSP				*e*Sdif		12 19 21.0	
KSP				*e*SP	SP	12 21 04.0	+1.0
KSP				*e*SS	SS	12 26 50.0	-1.6
KSP				LR	LR		
	comp=Z,25µm,19.7s,MS6.8						
JMIC	**Jan Mayen**	**107.10**	**17**	*e*PP	PP	12 11 45.7	-4.5
JMIC				*e*SKSa		12 17 58.3	
JMIC				AMS	AMS	12 56 40.9	
	comp=Z,3µm,18.0s,MS5.9						
VAY	**Valandovo**	**107.16**	**52**	*i* PKP	PP	12 11 45.0	-6.3
KONO	**Kongsberg**	**107.33**	**31**	*e*	Pdif	12 07 51.5	+30
KONO				*e*PP	PP	12 11 58.2	+6.2
KONO				*e*		12 19 43.8	
KONO				AMS	AMS	12 55 45.1	
	comp=Z,7µm,25.7s,MS6.1						
VYHS	**Vyhne**	**107.54**	**44**	*e*PKP		12 11 32.3	
VYHS				*e*		12 11 37.8	
OKC	**Ostrava-Krasne**	**107.66**	**43**	*e*SDIF		12 19 33.0	
OKC				*e*PS	PS	12 21 15.2	+2.7
OKC				*e*x	x	12 22 25.4	
OKC				LR		12 52 40.0	
	comp=Z,4.3nm,20.4s						
RAC	**Raciborz**	**107.78**	**42**	*e*P	Pdif	12 07 24.6	+1.0
RAC				*e*		12 11 49.7	
RAC				*e*SP	SP	12 21 16.4	+5.3
RAC				MLR	MLR		
	comp=Z,7µm,23.8s,MS6.1						
RAC				MLR	MLR		
	comp=Z,4µm,19.4s						
BSD	**Bornholm Skovb**	**107.97**	**37**	*i* P	Pdif	12 07 30.0	+5.7
BSD				*i*		12 11 49.9	
BSD				*i* S		12 19 27.3	
BSD				*i*		12 21 12.4	
	comp=Z,6µm,22.0s						
GKP	**Gorka Klasztor**	**108.49**	**39**	*e*PKPdf		12 11 37.4	
GKP				*e*PP	PP	12 12 03.7	+2.9
GKP				LR	LR		
	comp=Z,12µm,19.2s,MS6.5						
NOA	**NORSAR Array B**	**108.66**	**30**	Pdiff	Pdif	12 07 27.4	+0.2
	comp=Z,0.8nm,0.9s,baz=235,slow=3.9,SNR=2.2						
NOA				PKiKP		12 11 33.1	
	comp=Z,0.7nm,0.8s,baz=226,slow=2.4,SNR=2.9						
NOA				PKKPab		12 22 53.5	
	comp=Z,3.4nm,0.8s,baz=67,slow=4.6,SNR=6.9						
OJC	**Ojcow**	**108.79**	**43**	*e*Pdif	Pdif	12 07 30.0	+2.0
OJC				*e*PKPdf		12 11 35.9	
OJC				*e*PP	PP	12 11 59.0	-4.3
OJC				*e*SKSac		12 18 09.1	
OJC				*e*SP	SP	12 21 24.3	+3.9
OJC				*e*SS	SS	12 27 18.1	+1.9
OJC				LR	LR		
	comp=Z,7µm,21.0s,MS6.2						
DAG	**Danmarks Havn**	**108.99**	**10**	*i* P	Px	12 10 52.0	
	comp=Z,11µm,19.0s						
HFS	**Hagfors**	**109.40**	**31**	PKKPab		12 22 50.5	
	comp=Z,4.6nm,0.6s,baz=76,slow=5.9,SNR=5.1						
WAR	**Warsaw**	**110.24**	**41**	*i* PKIKP	PKPdf	12 11 38.8	+0.2
WAR				*e*		12 12 15.3	
WAR				MLR	MLR		
	comp=Z,7µm,21.1s,MS6.2						
WAR	**Warsaw**	**110.24**	**41**	*e*PKPdf	PKPdf	12 11 38.8	+0.2
WAR				*e*PP	PP	12 12 15.3	+1.7
WAR				LR	LR		
	comp=Z,7µm,21.1s,MS6.2						
KWP	**Kalwaria**	**110.33**	**44**	*i* PKIKP	PKPdf	12 11 36.1	-2.8
KWP				*e*		12 12 18.6	
KWP	**Kalwaria**	**110.33**	**44**	*e*PKPdf	PKPdf	12 11 36.1	-2.8
KWP				*e*PP	PP	12 12 18.6	+4.3
NSS	**Namsos**	**110.42**	**27**	*e*PP	PP	12 12 10.7	-3.9
NSS				AMS	AMS	13 01 00.8	
	comp=Z,4µm,18.7s,MS6.0						
ILAR	**Eielson Array**	**111.77**	**333**	Pdiff	Pdif	12 07 40.8	0.0
	comp=Z,0.7nm,0.7s,baz=136,slow=2.5,SNR=12						
ILAR				PKiKP		12 11 38.4	
	comp=Z,5.3nm,1.0s,baz=287,slow=0.8,SNR=22						
ILAR				PP	PP	12 12 19.5	-4.5
	comp=Z,11nm,1.1s,baz=99,slow=4.8,SNR=5.6						
SUW	**Suwalki**	**112.06**	**40**	*i* PKIKP	PKPdf	12 11 39.6	-2.5
SUW				MLR	MLR		
	comp=Z,12µm,20.4s,MS6.5						
SUW	**Suwalki**	**112.06**	**40**	*e*PKPdf	PKPdf	12 11 39.6	-2.5
COLA	**College**	**112.19**	**333**	*i* PKIKP	PKPdf	12 11 38.6	-3.5
COLA	**College**	**112.19**	**333**	*e*P	Pdif	12 07 42.9	+0.2
COLA				*i* PKP	PKPdf	12 11 38.6	-3.5
MCK	**McKinley**	**112.25**	**331**	*e*PKiKP		12 11 39.0	
RSO	**Redoubt South**	**112.92**	**328**	*e*Pdif	Pdif	12 07 47.3	+1.3
STKA	**Stephens Creek**	**114.45**	**206**	*e*PKP	PKPdf	12 11 44.7	-2.7
	comp=Z,3.3nm,0.7s						
STKA				*e*PKKP	PKKP	12 22 21.1	-19
STKA	**Stephens Creek**	**114.45**	**206**	PKP	PKPdf	12 11 45.0	-2.3
	comp=Z,4.1nm,0.8s,baz=129,slow=7.1,SNR=4.7						
STKA				PKKPbc		12 22 22.2	
	comp=Z,2.7nm,0.6s,baz=121,slow=0.7,SNR=7.5						
STKA				PKKPab		12 22 30.2	
	comp=Z,25nm,1.2s,baz=339,slow=6.9,SNR=7.4						
BRTR	**Keskin Array B**	**114.52**	**57**	PKP	PKPdf	12 11 44.2	-3.1
	comp=Z,2.9nm,0.7s,baz=195,slow=3.9,SNR=9.4						
BRTR				PP	PP	12 12 41.0	-3.9
	comp=Z,2.0nm,0.8s,baz=248,slow=7.8,SNR=2.6						
BRTR				PKKPbc		12 22 24.9	
	comp=Z,1.2nm,0.7s,baz=90,slow=4.9,SNR=2.9						
BRTR				PKKPab		12 22 30.2	
	comp=Z,3.8nm,0.8s,baz=102,slow=4.2,SNR=9.6						
AKASG	**Malin Array Be**	**114.64**	**44**	PKP	PKPdf	12 11 43.4	-3.9
	comp=Z,5.7nm,0.5s,baz=261,slow=2.7,SNR=47						
AKASG				PP	PP	12 12 38.0	-7.4
	comp=Z,3.2nm,0.8s,baz=262,slow=3.5,SNR=4.1						
AKASG				PKKPbc		12 22 22.6	
	comp=Z,3.0nm,0.9s,baz=72,slow=4.2,SNR=5.7						
ASF	**Jabal al Asfar**	**114.65**	**66**	PKKPbc		12 22 24.4	
	comp=Z,2.8nm,0.7s,baz=115,slow=2.3,SNR=2.9						
TRO	**Tromso**	**114.69**	**23**	*e*PP	PP	12 12 41.5	-3.8
TRO				*e*SS	SS	12 28 36.0	+1.5
TRO				AMS	AMS	12 55 33.0	
	comp=Z,4µm,18.2s,MS6.1						
AVNT	**Avonos**	**115.14**	**58**	*i* P	PKPdf	12 11 45.9	-2.7
VSU	**Vasula**	**115.20**	**35**	*i* PKP	PKPdf	12 11 42.0	-6.2
COBT	**Iskenderun**	**115.52**	**61**	*i* P	PKPdf	12 11 46.1	-3.3
FINES	**FINESS Array B**	**115.57**	**32**	PKP	PKPdf	12 11 45.4	-3.4
	comp=Z,2.2nm,0.7s,baz=90,slow=1.9,SNR=5.1						
FINES				PKKPbc		12 22 19.6	
	comp=Z,3.0nm,0.5s,baz=92,slow=4.8,SNR=21						
FINES				PKKP	PKKP	12 22 44.4	+7.4
	comp=Z,4.2nm,1.1s,baz=45,slow=5.4,SNR=2.1						
FINES	**FINESS Array B**	**115.57**	**32**	PKP	PKPdf	12 11 45.4	-3.4
FINES				PKKPbc		12 22 19.6	
FINES				PKKP	PKKP	12 22 44.4	+7.4
BJO	**Bjornoya**	**115.97**	**17**	*e*PP	PP	12 12 47.9	-6.4
BJO				AMS	AMS	12 54 48.8	
	comp=Z,2µm,19.9s,MS5.7						
SIM	**Simferopol'**	**116.32**	**51**	*i* PKIKP	PKPdf	12 11 51.1	+0.4
SIM				*e*		12 12 52.9	
SIM				PS	PS	12 22 41.6	+6.6
SIM				pmax	pmax		
	comp=Z,270nm,10.7s						
KAHT	**Ahir Dag**	**116.32**	**60**	*i* P	PKPdf	12 11 54.3	+3.4
GZT	**Gaziantep**	**116.77**	**60**	*i* P	PKPdf	12 11 50.2	-1.6
ARCES	**ARCESS Array B**	**116.93**	**23**	PKP	PKPdf	12 11 48.2	-3.1
	comp=Z,4.5nm,0.6s,baz=255,slow=3.0,SNR=16						
ARCES				PKKPbc		12 22 14.7	
	comp=Z,8.6nm,0.6s,baz=92,slow=4.3,SNR=35						
ARCES	**ARCESS Array B**	**116.93**	**23**	PKP	PKPdf	12 11 48.2	-3.1
ARCES				PKKPbc		12 22 14.7	
MALT	**Malatya**	**117.69**	**59**	*e*PKPdf	PKPdf	12 11 51.4	-2.1
ELZG	**Elazig**	**118.16**	**59**	*i* P	PKPdf	12 11 52.9	-1.5
ANN	**Anapa**	**118.58**	**52**	*i* PKIKP	PKPdf	12 11 51.7	-3.4
ANN				*e*		12 18 47.8	
ANN				pmax	pmax		
	comp=Z,99nm,1.6s						
NWAO	**Narrogin (SRO)**	**118.77**	**183**	PKKPbc		12 22 08.2	
	comp=Z,4.0nm,0.8s,baz=35,slow=12,SNR=3.2						
NWAO	**Narrogin (SRO)**	**118.77**	**183**	*e*PKPdf	PKPdf	12 11 50.8	-5.0
APA	**Apatity**	**119.59**	**26⇓**	*e*PKIKP	PKPdf	12 11 54.0	-2.5
APA				*i*		12 12 00.0	
APA				*e*		12 19 01.0	
APA				*i*		12 23 02.0	
APA				pmax	pmax		
	comp=Z,11nm,0.7s						
BEST	**Besiri**	**119.75**	**61**	*i* P	PKPdf	12 11 55.8	-1.7
OBN	**Obninsk**	**119.89**	**40***c*	*i*PKIKP	PKPdf	12 11 54.2	-3.1
OBN				*e*		12 12 01.3	
OBN				*i*		12 13 22.8	
OBN				*e*		12 18 43.8	
OBN				*i* PPS	PPS	12 24 35.9	+5.5
OBN				*i* SS	SS	12 29 40.5	-1.9
OBN				pmax	pmax		
	comp=Z,87nm,1.2s						
OBN				MLR	MLR		
	comp=Z,8µm,22.0s,MS6.3						
OBN	**Obninsk**	**119.89**	**40**	*e*PKPdf	PKPdf	12 11 55.3	-2.0
SOC	**Sochi**	**119.91**	**54**	*i* PKIKP	PKPdf	12 11 54.5	-3.1
SOC				*e*		12 13 18.6	
SOC				*e*		12 18 47.8	
SOC				*e*		12 23 07.4	
SOC				*e*SS	SS	12 29 47.4	+4.4
SOC				pmax	pmax		
	comp=Z,84nm,0.9s						
SOC				pmax	pmax		
	comp=N,18nm,1.0s						
SOC				pmax	pmax		
	comp=E,28nm,0.8s						
SOC				MLR	MLR		
	comp=Z,2µm,20.0s,MS5.8						
SOC				MLR	MLR		
	comp=N,2µm,22.0s,MS5.9						
SOC				MLR	MLR		
	comp=E,1µm,20.0s,MS5.9						
KLBR	**Kellerberrin**	**120.07**	**184**	*e*PKP	PKPdf	12 11 53.0	-5.3
	comp=E,116nm,1.8s						
KLBR				*e*PP	PP	12 13 19.9	-3.0
VOR	**Voronezh**	**120.99**	**44**	*e*PKIKP	PKPdf	12 11 56.0	-3.6
VOR				pmax	pmax		
	comp=Z,140nm,2.0s						
RST	**Umm Al-Ruwaisa**	**122.09**	**71**	*e*P	PKPdf	12 11 59.7	-2.5
RST				AMb	AMB	12 12 07.9	
	comp=Z,177nm,0.8s						
RDF	**Al-Radifah**	**122.38**	**72**	*e*P	PKPdf	12 12 00.3	-2.5
RDF				AMb	AMB	12 12 08.1	
	comp=Z,66nm,1.0s						
CTA	**Charters Tower**	**122.52**	**216**	*e*PKP	PKPdf	12 12 00.5	-2.7
	comp=Z,12nm,0.6s						

CTA				*e*PP	PP	12 13 33.6	-6.7
CTA	**Charters Tower**	**122.52**	**216**	PKP	PKPdf	12 12 00.6	-2.7
	comp=Z,16nm,0.7s,baz=131,slow=2.0,SNR=27						
CTAO	**Charters Tower**	**122.52**	**216**	PKIKP	PKPdf	12 12 00.8	-2.4
CTAO	**Charters Tower**	**122.52**	**216**	*e*PKPdf	PKPdf	12 12 00.2	-3.0
GOF	**Gofitskoye**	**122.53**	**53**	⇑*i*PKIKP	PKPdf	12 12 00.0	-2.7
GOF				*e*		12 19 03.0	
GOF				*e*		12 23 27.0	
GOF				pmax	pmax		
	comp=Z,60nm,1.2s						
GOF				pmax	pmax		
	comp=Z,170nm,1.4s						
GOF				pmax	pmax		
	comp=Z,500nm,3.0s						
GOF				pmax	pmax		
	comp=Z,600nm,4.0s						
KBD	**Kabd**	**122.57**	**72**	*e*P	PKPdf	12 12 00.6	-2.6
QRN	**Al-Qurain**	**122.64**	**73**	*e*P	PKPdf	12 12 01.1	-2.2
QRN				AMb	AMB	12 12 09.0	
	comp=Z,102nm,1.2s						
ZEI	**Tsey**	**122.76**	**55**	*i* PKIKP	PKPdf	12 12 00.0	-3.2
ZEI				*e*		12 13 36.0	
ZEI				*i*		12 16 18.0	
ZEI				*i*		12 19 05.0	
ZEI				*e*		12 25 00.0	
ZEI				pmax	pmax		
	comp=Z,200nm,2.0s						
ZEI				MLR	MLR		
	comp=Z,6µm,22.0s,MS6.2						
TI2	**Plekhanov**	**123.19**	**57**	*e*PKIKP	PKPdf	12 12 01.0	-3.1
TI2				*i* S	PS	12 23 40.0	+3.3
TI2				MLR	MLR		
	comp=N,2µm,18.0s,MS5.9						
TI2				MLR	MLR		
	comp=E,2µm,18.0s,MS5.9						
TI2				MLR	MLR		
	comp=Z,2µm,18.0s,MS5.9						
ASAR	**Alice Springs**	**124.68**	**202**	PKP	PKPdf	12 12 04.1	-3.4
	comp=Z,23nm,0.7s,baz=141,slow=1.9,SNR=77						
ASAR				PKKPbc		12 21 46.4	
	comp=Z,3.9nm,0.6s,baz=339,slow=3.3,SNR=49						
ASAR				PKKP	PKKP	12 22 26.4	+4.8
	comp=Z,1.0nm,0.6s,baz=347,slow=2.3,SNR=5.7						
ASPA	**Alice Springs**	**124.68**	**202**	*e*PKP	PKPdf	12 12 04.2	-3.3
ASPA				*e*PKKP	PKKP	12 21 47.2	-34
MAK	**Makhachkala**	**125.41**	**56**	*e*PKIKP	PKPdf	12 12 05.5	-2.8
MAK				*e*		12 13 56.0	
MAK				*e*PPP	PPP	12 16 34.0	-5.8
MAK				*e*		12 25 29.0	
MAK				pmax	pmax		
	comp=Z,2µm,8.0s						
MAK				pmax	pmax		
	comp=Z,1µm,10.0s						
WB2	**Warramunga Arr**	**127.96**	**204**	*e*PKP	PKPdf	12 12 10.1	-3.8
WB2				*e*PKS	PKS	12 15 30.0	-15
WB2				*e*SKKP		12 25 06.4	
WRA	**Warramunga Arr**	**127.96**	**204**	PKP	PKPdf	12 12 10.5	-3.4
	comp=Z,41nm,0.6s,baz=170,slow=1.6,SNR=90						
WRA				PP	PP	12 14 10.9	-5.6
	comp=Z,4.3nm,0.8s,baz=157,slow=2.3,SNR=4.1						
WRA				PKKPbc		12 21 33.8	
	comp=Z,0.6nm,0.6s,baz=338,slow=3.7,SNR=6.9						
WRA				PKKP	PKKP	12 22 20.1	+5.0
	comp=Z,0.6nm,0.7s,baz=321,slow=1.7,SNR=5.1						
MBWA	**Marble Bar**	**130.27**	**187**	*e*PKPpre		12 12 06.7	
MBWA				*e*PKPdf	PKPdf	12 12 15.5	-2.7
ARU	**Arti**	**132.22**	**38**	⇓*i*PKIKP	PKPdf	12 12 18.2	-2.8
ARU				*i*		12 14 40.2	
ARU				*i* PPP	PPP	12 17 31.4	-3.3
ARU				*e*SSS	SSS	12 37 11.5	-0.5
ARU				pmax	pmax		
	comp=Z,105nm,1.5s						
ARU				MLR	MLR		
	comp=Z,10µm,21.0s,MS6.5						
ARU				MLR	MLR		
	comp=N,2µm,18.5s,MS6.4						
ARU				MLR	MLR		
	comp=E,8µm,21.0s,MS6.4						
ARU	**Arti**	**132.22**	**38**	*e*PKPdf	PKPdf	12 12 18.3	-2.7
ARU				LR	LR		
	comp=Z,3µm,22.0s,MS5.9						
FITZ	**Fitzroy Crossi**	**132.28**	**195**	*e*PKP	PKPdf	12 12 19.8	-2.3
	comp=Z,23nm,1.4s						
FITZ				*e*SKP		12 15 43.7	
FITZ	**Fitzroy Crossi**	**132.28**	**195**	PKP	PKPdf	12 12 19.2	-2.9
	comp=Z,16nm,0.7s,baz=188,slow=5.6,SNR=10						
WAU	**Wau**	**132.42**	**226**	*e*P	PKPdf	12 12 20.7	-1.8
AB31	**Akbulak array**	**134.16**	**48**	PKIKP	PKPdf	12 12 22.1	-2.7
AB31				pmax	pmax		
	comp=Z,2µm,2.4s						
KAKA	**Kakadu**	**135.32**	**206**	*e*PKP	PKPdf	12 12 11.2	-17
	comp=Z,10nm,0.5s						
KAKA				*e*SKP		12 15 53.9	
KAKA				*e*SKKP		12 24 33.4	
TIXI	**Tiksi**	**136.11**	**353**	⇑*i*PKIKP	PKPdf	12 12 24.4	-3.4
TIXI				*i*		12 12 31.0	
TIXI				*i*		12 19 27.8	
TIXI				*e*SS	SS	12 33 10.5	+7.2
TIXI				pmax	pmax		
	comp=Z,120nm,2.6s						
TIXI				MLR	MLR		
	comp=Z,3µm,23.0s,MS6.0						
TIXI	**Tiksi**	**136.11**	**353**	⇑*i*PKP	PKPdf	12 12 24.5	-3.3
SEY	**Seymchan**	**137.65**	**335**	*e*PKHKP		12 12 19.6	
SEY				*e*		12 12 30.4	
SEY				*e*		12 27 37.8	
ZRNK	**Zerenda**	**138.97**	**41**	PKHKP		12 12 23.2	
ZRNK				pmax	pmax		
	comp=Z,358nm,1.9s						
ZRNK	**Zerenda**	**138.97**	**41**	*e*P	PKPdf	12 12 31.6	-1.9
PET	**Petropavlovsk**	**139.28**	**320**	*c* *i*PKIKP	PKPdf	12 12 31.5	-2.6
PET	**Petropavlovsk**	**139.28**	**320**	*e*PKPpre		12 12 25.0	
PET				*e*PKPdf	PKPdf	12 12 31.7	-2.4
BVA0	**Borovoye Array**	**139.74**	**40**	PKHKP		12 12 25.5	
BVAR	**Borovoye Array**	**139.74**	**40**	PKhKP		12 12 23.6	
	comp=Z,2.6nm,0.5s,baz=297,slow=3.3,SNR=14						
BVAR				PKP	PKPdf	12 12 33.1	-1.8
	comp=Z,14nm,0.9s,baz=207,slow=3.3,SNR=21						
BVAR	**Borovoye Array**	**139.74**	**40**	PKP	PKPdf	12 12 33.1	-1.8
VOSK	**Vostochnaya**	**140.18**	**40**	PKHKP		12 12 24.2	
VOSK				pmax	pmax		
	comp=Z,146nm,1.3s						
MA2	**Magadan**	**140.24**	**332**	*c* *i*PKIKP	PKPdf	12 12 32.8	-2.8
MA2				*e*		12 15 31.0	
MA2				*e*PPS	PPS	12 27 53.5	+2.5
MA2				pmax	pmax		
	comp=Z,60nm,1.9s						
MA2				MLR	MLR		
	comp=Z,10µm,25.0s,MS6.4						
MA2	**Magadan**	**140.24**	**332**	*e*PKP	PKPdf	12 12 32.8	-2.8
SKR	**Severo-Kuril's**	**141.53**	**317**	*e*PKHKP		12 12 25.5	
SKR				pmax	pmax		
	comp=Z,3µm,6.0s						
SKR				pmax	pmax		
	comp=N,1µm,4.0s						
SKR				pmax	pmax		
	comp=E,2µm,4.0s						
SKR				pmax	pmax		
	comp=N,70nm,1.0s						
SKR				pmax	pmax		
	comp=Z,130nm,1.0s						
SKR				pmax	pmax		
	comp=E,780nm,2.0s						
KAD	**Karad**	**141.72**	**98**	*e*PKP	PKPdf	12 12 31.0	-8.4
POO	**Poona**	**141.91**	**96**	*e*PKP	PKPdf	12 12 32.1	-7.6
POO				⇑*i*PKP	PKPdf	12 12 33.0	-6.7
PALK	**Pallekele**	**142.01**	**117**	*e*PKPpre		12 12 32.3	
PALK				LR	LR		
	comp=Z,2µm,20.0s,MS5.9						
KKAR	**Karatay Array**	**142.22**	**56**	*i* PKHKP		12 12 31.3	
KKAR				pmax	pmax		
	comp=Z,284nm,1.7s						
LATR	**Latur**	**144.23**	**98**	*e*PKP	PKPdf	12 12 38.8	-4.9
CUD	**Cuddapah**	**144.40**	**106**	⇑*e*P	PKPbc	12 12 38.6	-0.7
CUD				*e*		12 15 51.1	
CUD				*e*		12 53 36.2	
EKS2	**Erkin-Say**	**144.66**	**56**	P	PKPbc	12 12 40.9	+1.6
	SNR=74						
AML	**Almayashu**	**144.69**	**57**	P	PKPbc	12 12 41.0	+1.5
	SNR=46						
MDRS	**Chennai**	**144.94**	**109**	*e*PKP	PKPdf	12 12 40.0	-5.0
MDRS				*e*		12 16 06.0	
YAK	**Yakutsk**	**144.99**	**347**	*c* *i*PKP2	PKPab	12 12 40.3	-0.4
YAK				pmax	pmax		
	comp=Z,315nm,0.7s						
YAK				pmax	pmax		
	comp=N,102nm,1.2s						
YAK				pmax	pmax		
	comp=E,21nm,0.8s						
YAK				pmax	pmax		
	comp=Z,561nm,15.8s						
YAK				pmax	pmax		
	comp=N,233nm,16.2s						
YAK				pmax	pmax		
	comp=E,159nm,16.9s						
YAK	**Yakutsk**	**144.99**	**347**	*e*PKPdf	PKPdf	12 12 39.9	-3.8
YAK				*e*pPKPdf		12 12 46.7	
AJM	**Ajmer**	**145.04**	**84**	*i* PKP	PKPdf	12 12 40.0	-4.9
USP	**Ospenovka**	**145.07**	**54**	P	PKPbc	12 12 43.4	+3.0
	SNR=11						
AAK	**Ala-Archa**	**145.19**	**56**	P	PKPbc	12 12 43.4	+2.6
	SNR=7.8						
AAK	**Ala-Archa**	**145.19**	**56**	*e*PKIKP	PKPdf	12 12 40.9	-3.8
AAK	**Ala-Archa**	**145.19**	**56**	*e*PKPdf	PKPdf	12 12 41.2	-3.5
AAK				LR	LR		
	comp=Z,1µm,21.0s,MS5.7						
FRU	**Bishkek**	**145.24**	**55**	⇑*i*PKIKP	PKPdf	12 12 42.0	-2.8
FRU				pmax	pmax		
	comp=Z,800nm,2.0s						
FRU				MLR	MLR		
	comp=Z,5µm,20.0s,MS6.3						
UCH	**Uchtor**	**145.28**	**56**	P	PKPbc	12 12 43.6	+2.7
	SNR=26						
CHMS	**Chumysh**	**145.30**	**55**	P	PKPbc	12 12 44.3	+3.3
	SNR=8.9						
KBK	**Karagaybulak**	**145.51**	**55**	P	PKPbc	12 12 44.5	+3.0
	SNR=12						
HYB	**Hyderabad**	**145.55**	**101**	*i* PKP	PKPdf	12 12 43.0	-3.0
	comp=Z,670nm,1.0s						
HYB				*e*		12 12 49.5	
HYB				*e*		12 13 48.0	
HYB				*e*PP	PP	12 16 02.0	-4.2
HYB				*e*PKS	PKS	12 16 28.0	+12
HYB				*e*SKKS		12 22 50.0	
HYB				*e*		12 26 12.0	
HYB				*e*		12 28 44.0	
HYB				*e*SS	SS	12 35 00.0	+5.8
HYB				LR	LR	13 18 12.0	
	comp=Z,11nm,18.0s						
HYB	**Hyderabad**	**145.55**	**101**	*e*PKP	PKPdf	12 12 43.0	-3.0
TKM2	**Tokmak 2**	**145.93**	**55**	P	PKPbc	12 12 44.4	+1.8
	SNR=319						
KHET	**Khetri**	**146.37**	**81**	*e*PKP	PKPdf	12 12 44.6	-2.6
BHPL	**Bhopal**	**146.66**	**91**	*e*PKP	PKPdf	12 12 45.7	-2.1
BHPL				*e*		12 12 50.7	
	comp=Z,388nm,1.5s						
KSH	**Kashi**	**146.78**	**61**	PKP	PKPdf	12 12 46.7	-0.8
KSH				PKS	PKS	12 16 20.7	+3.4
KSH				SKS	SKS	12 19 49.8	-5.3
ZAL	**Zalesovo**	**146.84**	**32**	PKPbc	PKPbc	12 12 45.0	+0.7
	comp=Z,191nm,0.8s,baz=80,slow=3.4,SNR=222						
BHK	**Bhakra**	**147.33**	**76**	*e*	PKPdf	12 12 53.3	+4.6
NGP	**Nagpur**	**147.42**	**95**	*e*PKP	PKPdf	12 12 46.7	-2.4
NGP				*e*		12 26 30.0	
KGD	**Kothagudem**	**147.43**	**102**	*e*PKP	PKPdf	12 12 48.8	-0.3
KGD				*e*PP	PP	12 16 13.5	-4.0
KGD				*e*SS	SS	12 35 16.2	+0.3
AYAN	**Aya Nagar**	**147.58**	**81**	*e*PKP	PKPdf	12 12 47.3	-1.9
NDI	**New Delhi**	**147.69**	**81**	*e*PKP	PKPdf	12 12 45.0	-4.3
GUMO	**Guam**	**147.79**	**249**	PKHKP		12 12 46.9	
GUMO	**Guam**	**147.79**	**249**	*e*PKPdf	PKPdf	12 12 46.8	-3.0
SAPN	**Saipan**	**147.89**	**252**	*e*PKPdf	PKPdf	12 12 45.8	-4.1
SAPN				*e*PKPbc	PKPdf	12 12 48.9	-1.0
MKAR	**Makanchi Array**	**149.22**	**45**	PKP	PKPdf	12 12 48.9	-2.3
	comp=Z,156nm,0.6s,baz=301,slow=0.9,SNR=196						
MKAR				PKPbc	PKPdf	12 12 53.5	+2.3
	comp=Z,159nm,0.6s,baz=290,slow=2.8,SNR=306						
MKAR	**Makanchi Array**	**149.22**	**45**	PKIKP	PKPdf	12 12 48.8	-2.4
MKAR				pmax	pmax		
	comp=Z,627nm,1.0s						
VIS	**Vishakhapatnam**	**149.78**	**104**	*i* PKP	PKPdf	12 12 50.0	-2.9
YUK	**Yuzh-Kuril'sk**	**150.35**	**310**	⇑*i*PKIKP	PKPdf	12 12 49.0	-4.1
YUK				pmax	pmax		
	comp=Z,7µm,3.0s						
YUK				pmax	pmax		
	comp=Z,1µm,1.1s						
PTH	**Pithoragarh**	**150.41**	**80**	*e*PKP	PKPdf	12 12 52.0	-1.6
PTH				*e*		12 20 28.0	
LGTI	**Lohaghat**	**150.42**	**80**	*e*PKP	PKPdf	12 12 53.0	-0.6
LGTI				*e*		12 15 35.0	
BLSP	**Bilaspur**	**150.45**	**95**	*i* PKP	PKPdf	12 12 51.7	-2.2
CLNS	**Chul'man**	**150.73**	**348**	*e*PKIKP	PKPdf	12 12 51.2	-2.0
CLNS				pmax	pmax		
	comp=Z,375nm,1.1s						
CLNS				pmax	pmax		
	comp=N,188nm,1.0s						
CLNS				pmax	pmax		
	comp=E,108nm,1.0s						
BOD	**Bodaibo**	**150.76**	**0**	*e*PKIKP	PKPdf	12 12 49.4	-3.8
BOD				*e*		12 12 55.6	
YSS	**Yuzh-Sakhalins**	**151.10**	**317**	α *i*PKIKP	PKPdf	12 12 51.2	-2.9
YSS				*i*		12 12 56.8	
YSS				*i*		12 13 02.2	
YSS				*e*		12 19 52.0	
YSS				*e*PPS	PPS	12 29 38.0	+8.1
YSS				pmax	pmax		
	comp=Z,460nm,1.9s						
YSS				pmax	pmax		
	comp=E,350nm,1.1s						
YSS				pmax	pmax		
	comp=Z,550nm,1.1s						
YSS				pmax	pmax		
	comp=Z,2µm,3.0s						
YSS				pmax	pmax		
	comp=N,230nm,1.2s						
YSS				pmax	pmax		
	comp=Z,570nm,1.2s						
YSS				pmax	pmax		
	comp=E,220nm,1.0s						
YSS				pmax	pmax		
	comp=E,1µm,6.0s						
YSS				pmax	pmax		
	comp=Z,5µm,6.0s						
YSS	**Yuzh-Sakhalins**	**151.10**	**317**	*e*P	PKPdf	12 12 51.9	-2.2
KGM	**Kluang**	**151.65**	**157**	*e*P	PKPdf	12 12 54.1	-1.8
ASAJ	**Asahikawa**	**152.49**	**312**	PKP	PKPdf	12 12 54.5	-1.8
	comp=Z,40nm,1.0s,baz=259,slow=7.8,SNR=11						
ASAJ				PKPbc	PKPdf	12 13 00.6	+4.4
	comp=Z,148nm,1.0s,baz=258,slow=6.4,SNR=33						
IPM	**Ipoh**	**153.09**	**150**	*e*P	PKPdf	12 12 56.0	-2.0
KOLN	**Koldanda**	**153.12**	**84**	*e*P	PKPdf	12 12 54.3	-3.3
	comp=Z,124nm,0.6s						
WMQ	**Urumqi**	**153.95**	**47**	PKP	PKPdf	12 12 54.0	-4.2
WMQ				APKP		12 13 04.8	
WMQ				XPKP		12 13 08.4	
WMQ				PP	PP	12 16 53.8	0.0
WMQ				PP	PP		
	comp=Z,527nm,8.0s						
WMQ				LR	LR		
	comp=Z,6µm,22.0s,MS6.4						
GKN	**Gorkha**	**154.06**	**84**	*e*P	PKPdf	12 12 56.3	-2.6
	comp=Z,216nm,0.8s						
DMN	**Daman**	**154.41**	**85**	*e*P	PKPdf	12 12 57.0	-2.4
	comp=Z,167nm,0.8s						
KKN	**Kakani**	**154.59**	**85**	*e*P	PKPdf	12 12 56.9	-2.7
	comp=Z,150nm,0.8s						
PKI	**Pulchoki**	**154.67**	**85**	*e*P	PKPdf	12 12 57.0	-2.7
	comp=Z,248nm,1.6s						
MOY	**Mondy**	**154.92**	**19**	*e*PKIKP	PKPdf	12 12 58.1	-1.2
MOY				*e*		12 16 56.3	
CBIJ	**Chichi jima**	**155.16**	**273**	PKPab	PKPab	12 13 21.1	-2.2
	comp=Z,198nm,0.8s,baz=232,slow=2.5,SNR=5.8						
SNG	**Songkhla**	**155.19**	**146**	P	PKPdf	12 13 03.0	+2.2
	comp=Z,240nm,1.2s						
IRK	**Irkutsk**	**155.24**	**15**	*e*PKIKP	PKPdf	12 12 57.3	-2.4
IRK				*e*		12 13 22.4	
IRK				*e*		12 16 58.2	
IRK				*e*		12 19 55.2	
KLR	**Kul'dur**	**155.34**	**332**	⇓*i*PKIKP	PKPdf	12 12 56.7	-3.2
KLR				*e*		12 13 22.0	
KLR				*e*		12 16 58.0	
KLR				pmax	pmax		
	comp=N,100nm,1.6s						
KLR				pmax	pmax		
	comp=Z,160nm,1.6s						
KLR				pmax	pmax		
	comp=Z,3µm,9.5s						
CAL	**Calcutta**	**156.00**	**99**	*i*	PKPdf	12 12 48.4	-13
CAL				*e*		12 16 26.4	
CAL				*e*		12 23 16.9	
DAV	**Davao City (W)**	**156.03**	**209**	*e*P	PKPdf	12 13 04.0	+2.1
ZAK	**Zakamensk**	**156.72**	**18**	*e*PKIKP	PKPdf	12 13 00.3	-1.4
ZAK				*e*		12 13 29.6	
MAJO	**Matsushiro**	**158.23**	**298**	*e*PKPdf	PKPdf	12 13 00.6	-3.5
MAJO				*e*PKPbc	PKPdf	12 13 14.0	+10
MAJO				*e*PKPab	PKPab	12 13 36.6	+0.3
MAT	**Matsushiro**	**158.23**	**298**	PKP	PKPdf	12 13 00.5	-3.6
MAT	**Matsushiro**	**158.23**	**298**	*e*PKP	PKPdf	12 13 01.0	-3.1
MAT				LR	LR		
	comp=Z,3µm,20.0s,MS6.1						
HIA	**Hailar**	**158.89**	**350**	*e*PKPdf	PKPdf	12 13 01.0	-3.5
AGT	**Agartala**	**158.97**	**98**	⇓*i*	PKPdf	12 13 08.0	+2.6
AGT				*i*		12 13 42.0	
NNT	**Nongplab**	**159.20**	**137**	P	PKPab	12 13 41.5	+0.5
VLA	**Vladivostok**	**159.61**	**320**	⇓*i*PKIKP	PKPdf	12 13 00.0	-5.5
VLA				*i*		12 13 40.0	
VLA				*i*		12 17 22.0	
VLA				*i*		12 21 10.0	
VLA				*e*		12 38 31.0	
VLA				pmax	pmax		
	comp=Z,2µm,8.0s						
MDJ	**Mudanjiang**	**159.79**	**327**	PKP	PKPdf	12 13 02.8	-2.9
MDJ				APKP		12 13 09.7	
MDJ				XPKP		12 13 12.2	
MDJ				PKS	PKS	12 16 36.9	+3.2
MDJ				PP	PP	12 17 24.2	-0.8
MDJ				SKS	SKS	12 20 06.5	-3.5
MDJ				LR	LR		
	comp=N,2µm,23.0s,MS6.2						
MDJ				LR	LR		
	comp=E,4µm,20.3s,MS6.2						
MDJ				LR	LR		
	comp=Z,5µm,18.9s,MS6.4						
MDJ	**Mudanjiang**	**159.79**	**327**	*e*PKPdf	PKPdf	12 13 03.1	-2.5
SONM	**Songino Array**	**159.85**	**15**	PKP	PKPdf	12 13 03.5	-2.1
	comp=Z,20nm,0.9s,baz=258,slow=0.7,SNR=119						
SONM				PKPab	PKPab	12 13 43.0	+0.2
	comp=Z,26nm,0.7s,baz=305,slow=3.1,SNR=14						
SONM				PP	PP	12 17 22.4	-2.8
	comp=Z,5.4nm,1.1s,baz=342,slow=4.6,SNR=3.3						
LSA	**Lhasa**	**159.91**	**81**	PKP	PKPdf	12 13 05.1	-1.2
LSA				APKP		12 13 11.0	
SHL	**Shillong**	**159.98**	**93**	⇑*i*PKP	PKPdf	12 13 04.5	-2.0
SHL				*e*		12 19 05.5	
SHL				*e*		12 23 18.0	
NST	**Nakhon Sawan**	**161.78**	**132**	P	PKPdf	12 13 07.0	-1.5
BDT	**Bhumibol Dam**	**162.10**	**126**	P	PKPdf	12 13 06.0	-2.8
CN2	**Changchun**	**162.29**	**332**	*e*PKP	PKPdf	12 13 04.2	-4.0
CN2				APKP		12 13 14.9	
CN2				PKP2	PKPab	12 13 53.4	-0.2
CN2				PP	PP	12 17 36.6	-2.0
CN2				SKS	SKS	12 20 04.4	-7.7
CN2				LR	LR		
	comp=N,4µm,22.0s						
CN2				LR	LR		
	comp=E,2µm,22.0s						
CN2				LR	LR		
	comp=Z,6µm,23.0s						
PVCP	**Virac**	**162.42**	**214**	*e*P	PKPdf	12 13 14.1	+5.0
CMAR	**Chiang Mai Arr**	**162.84**	**123**	PKP	PKPdf	12 13 07.5	-1.9
	comp=Z,12nm,1.1s,baz=246,slow=2.1,SNR=36						
CMAR				PKPab	PKPab	12 13 54.4	-2.2
	comp=Z,9.3nm,0.9s,baz=233,slow=3.3,SNR=5.1						
CMAR				PP	PP	12 17 40.2	-1.9
	comp=Z,3.3nm,1.0s,baz=233,slow=4.5,SNR=3.0						
AUQP	**San Andres**	**162.87**	**209**	*e*P	PKPdf	12 13 11.9	+2.3
CHG	**Chiang Mai**	**163.06**	**122**	⇑P	PKPdf	12 13 07.6	-2.1
	comp=Z,53nm,1.4s						
GTA	**Gaotai**	**163.97**	**44**	PKP	PKPdf	12 13 08.2	-1.8
GTA				APKP		12 13 14.2	
GTA				XPKP		12 13 17.4	
GTA				PKP2	PKPab	12 14 03.6	+2.6
GTA				PKS	PKS	12 16 39.8	+2.0
GTA				PP	PP		
	comp=Z,1µm,6.5s						
GTA				LR	LR		
	comp=N,2µm,20.5s						
GTA				LR	LR		
	comp=E,2µm,21.3s						
GTA				LR	LR		
	comp=Z,4µm,23.2s						
KKTK	**Khon Kaen**	**163.98**	**137**	P	PKPab	12 14 02.0	+0.3
	comp=Z,710nm,0.7s						
LQP	**Lukban**	**164.05**	**207**	*e*P	PKPab	12 13 53.8	-8.3
LUBP	**Lubang**	**164.18**	**202**	*e*P	PKPab	12 14 02.5	-0.1
UBT	**Ubonrachathani**	**164.29**	**146**	P	PKPab	12 14 04.0	+0.9
CHRT	**Chiangrai**	**164.33**	**120**	P	PKPdf	12 13 02.0	-8.9
	comp=Z,2µm,0.5s						
NANT	**Nan**	**164.34**	**125**	P	PKPdf	12 13 08.0	-3.0
SNY	**Shenyang**	**164.69**	**332**	⇑PKP	PKPdf	12 13 08.1	-2.6
SNY				XPKP		12 13 14.6	
SNY				PKP2	PKPab	12 14 05.4	+1.3
SNY				PP	PP	12 17 48.6	-3.1
SNY				LR	LR		
	comp=N,4µm,20.8s						
SNY				LR	LR		
	comp=E,3µm,19.6s						
SNY				LR	LR		
	comp=Z,6µm,21.3s						
JNU	**Nakatsue**	**164.91**	**292**	PKPab	PKPab	12 14 05.7	+0.4
	comp=Z,32nm,0.9s,baz=15,slow=9.2,SNR=5.8						
BALP	**Baler**	**165.49**	**210**	*e*P	PKPdf	12 13 09.3	-2.8
APYP	**Conner**	**167.50**	**213**	*e*P	PKPdf	12 13 09.7	-3.9
BTO	**Baotou**	**167.53**	**15**	*e*PKP	PKPdf	12 13 10.6	-2.4
HHC	**Hu-ho-hao-te**	**167.57**	**9**	*e*PKP	PKPdf	12 13 11.9	-1.1
HHC				PKP2	PKPab	12 14 17.2	+0.6
HHC				PKS	PKS	12 16 44.2	+4.0
HHC				LR	LR		
	comp=N,3µm,21.4s						
HHC				LR	LR		
	comp=E,3µm,20.2s						
HHC				LR	LR		
	comp=Z,3µm,19.6s						
DL2	**Dalian**	**167.95**	**331**	⇑*i*PKP	PKPdf	12 13 11.0	-2.3
DL2				PKP2	PKPab	12 14 16.9	-1.5
DL2				PP	PP	12 18 05.9	-2.1
DL2				PPP	PPP	12 22 17.0	+8.1
DL2				*e*SS	SS	12 38 54.0	+0.9
DL2				PP	PP		
	comp=Z,2µm,11.1s						
DL2				LR	LR		
	comp=N,1µm,20.4s						
DL2				LR	LR		
	comp=E,2µm,20.4s						
DL2				LR	LR		
	comp=Z,2µm,18.2s						
BJI	**Beijing**	**168.43**	**352**	PKP	PKPdf	12 13 10.8	-2.7
BJI				PKP2	PKPab	12 14 19.3	-1.1
BJI				LR	LR		
	comp=N,4µm,19.6s						
BJI				LR	LR		
	comp=E,4µm,21.7s						
BJI				LR	LR		
	comp=Z,5µm,20.4s						
BJT	**Baijiatuau**	**168.46**	**352**	*e*PKPdf	PKPdf	12 13 11.3	-2.2
LZH	**Lanzhou**	**168.53**	**47**	⇑PKP	PKPdf	12 13 12.8	-0.9
LZH				APKP		12 13 19.1	
LZH				XPKP		12 13 22.3	
KMI	**Kunming**	**169.28**	**106**	*e*PKP	PKPdf	12 13 12.6	-1.9
KMI				APKP		12 13 18.8	
KMI				PKP2	PKPab	12 14 23.1	-1.5
KMI				PP	PP		
	comp=Z,3µm,9.5s						
KMI				LR	LR		
	comp=N,3µm,23.2s						
KMI				LR	LR		
	comp=E,4µm,20.6s						
KMI				LR	LR		
	comp=Z,5µm,18.1s						
QIZ	**Qiongzhong**	**169.73**	**157**	PKP	PKPdf	12 13 10.6	-4.3
QIZ				PKP2	PKPab	12 14 26.9	+0.2
QIZ				PP	PP	12 18 16.8	-0.7
QIZ				LR	LR		
	comp=N,3µm,19.1s						
QIZ				LR	LR		
	comp=E,3µm,20.9s						
QIZ				LR	LR		
	comp=Z,8µm,20.2s						
QIZ	**Qiongzhong**	**169.73**	**157**	*e*PKPdf	PKPdf	12 13 14.0	-0.9
CD2	**Chengdu**	**170.70**	**73**	PKP	PKPdf	12 13 13.3	-1.9
TIY	**Taiyuan**	**170.77**	**8**	⇑PKP	PKPdf	12 13 09.0	-6.0
TIY				LR	LR		
	comp=N,5µm,17.0s						

TIY				LR	LR		
	comp=Z,5µm,17.0s						
TIA	**Tai'an**	**171.97**	**342**	*e*PKP	PKPdf	12 13 13.3	-2.5
XAN	**Xi'an**	**172.97**	**38**	PKP	PKPdf	12 13 14.8	-1.5
XAN				APKP		12 13 20.0	
GYA	**Guiyang**	**173.05**	**106**	PKP	PKPdf	12 13 13.6	-3.0
GYA				APKP		12 13 20.4	
GYA				PP	PP		
	comp=Z,3µm,9.9s						
GYA				LR	LR		
	comp=N,2µm,20.7s						
GYA				LR	LR		
	comp=E,5µm,24.9s						
GYA				LR	LR		
	comp=Z,4µm,19.5s						
SSE	**Sheshan**	**173.37**	**294**	⇓PKP	PKPdf	12 13 12.9	-3.7
SSE				APKP		12 13 21.1	
SSE				PKP2	PKPab	12 14 44.4	+1.8
SSE				PP	PP		
	comp=Z,2µm,9.2s						
SSE				LR	LR		
	comp=N,5µm,20.7s						
SSE				LR	LR		
	comp=E,3µm,20.7s						
SSE				LR	LR		
	comp=Z,9µm,20.4s						
GZH	**Guangzhou**	**174.50**	**173**	PKP	PKPdf	12 13 16.8	-0.3
GZH				LR	LR		
	comp=Z,3µm,13.7s						
QZH	**Quanzhou**	**174.61**	**229**	⇑*i*PKP	PKPdf	12 13 14.8	-2.3
QZH				PKP2	PKPab	12 14 47.1	-1.2
QZH				PP	PP	12 18 37.4	-4.3
QZH				PP	PP		
	comp=Z,4µm,8.2s						
QZH				LR	LR		
	comp=Z,11µm,22.0s						
NJ2	**Nanjing**	**174.63**	**311**	*e*PKP	PKPdf	12 13 15.1	-1.8
NJ2				PKS	PKS	12 16 44.0	+0.3
NJ2				PP	PP	12 18 40.3	-1.4
NJ2				LR	LR		
	comp=Z,5µm,26.0s						
ENH	**Enshi**	**175.62**	**66**	*e*PKPdf	PKPdf	12 13 14.3	-2.9
WHN	**Wuhan**	**178.02**	**354**	⇑PKP	PKPdf	12 13 15.0	-2.6
WHN				APKP		12 13 21.5	
WHN				PKP2	PKPab	12 15 02.2	-1.0
WHN				PP	PP		
	comp=Z,5µm,9.0s						
WHN				LR	LR		
	comp=N,4µm,20.0s						
WHN				LR	LR		
	comp=E,5µm,20.0s						
WHN				LR	LR		
	comp=Z,12µm,21.6s						

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*NIED **07** 11:56:00, 33.30N×136.90E, h5^{km}, Mw4.3 Best double couple: M$_0$3.53×10^{15} NP1:φ$_s$175°,δ71°,λ-150°. NP2: φ$_s$75°,δ62°,λ-21°.*
*IDC **07** 11:56:31.6±1.0, 33.37N×137.01E, mb3.9/6, mb1 4.0/7, mb1mx3.8/23, ML3.3/1, MS3.4/3, Ms1 3.4/3, ms1mx3.3/36, Error ellipse: s-maj=31.4km s-min=18.0km az=45.0*
*NEIC **07** 11:56:33.1±0.5, 33.37N×136.99E, h10^{km}, mb4.2/2, Error ellipse: s-maj=15.7km s-min=8.7km az=92.0*
*JMA **07** 11:56:33.2±0.1, 33.34N×136.89E, h38^{km}±2^{km}, M3.7*
ISC 07 11:56:32.9±0.7**, 33.37N**±0.04×**136.87E**±0.03**, h24**^{km}±5^{km}**, n29, σ0^{s}70**/42**, mb3.9**/8**, MS3.0**/1**, 1C-4D, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TK01	**Tokai 1**	**0.72**	**56**	P	**Pb**	**11 56 46.9**	**+0.2**
TK02	**Tokai 2**	**0.93**	**52**	⇓P	**Pb**	**11 56 50.1**	**-0.3**
TK02				S	**Sb**	**11 57 03.0**	**+0.7**
JWZ	**Kozaga**	**0.98**	**280**	⇑P	**Pb**	**11 56 50.9**	**-0.3**
JWZ				S	**Sb**	**11 57 03.6**	**-0.1**
JKN	**Kiinagashima**	**1.01**	**330**	P	**Pb**	**11 56 51.6**	**-0.1**
JKN				S	**Sb**	**11 57 03.9**	**-0.7**
JIE	**Ise**	**1.03**	**352**	⇓P	**Pn**	**11 56 52.3**	**+0.3**
JIE				S	**Sb**	**11 57 05.3**	**+0.2**
TK03	**Tokai 3**	**1.21**	**49**	P	**Pn**	**11 56 54.0**	**-0.5**
TK03				S	**Sn**	**11 57 09.8**	**-0.4**
JAA	**Atsumi**	**1.28**	**10**	⇓P	**Pn**	**11 56 55.6**	**+0.1**
TK04	**Tokai 4**	**1.31**	**39**	⇓P	**Pn**	**11 56 55.8**	**-0.2**
TK04				S	**Sn**	**11 57 12.6**	**-0.2**
JWM	**Minabe**	**1.35**	**291**	P	**Pn**	**11 56 56.7**	**+0.1**
JWM				S	**Sn**	**11 57 13.4**	**-0.6**
JWY	**Kouya**	**1.36**	**309**	P	**Pn**	**11 56 57.2**	**+0.5**
TSUJ	**Tsu 2**	**1.39**	**344**	P	**Pn**	**11 56 57.4**	**+0.3**
TSUJ				S	**Sn**	**11 57 14.7**	**-0.1**
JHE	**Heguri**	**1.62**	**323**	P	**Pn**	**11 57 00.6**	**+0.2**
JHE				S	**Sn**	**11 57 20.3**	**-0.3**
JAJ2	**Tsuna**	**1.96**	**303**	P	**Pn**	**11 57 06.0**	**+0.8**
JAJ2				S	**Sn**	**11 57 28.4**	**-0.9**
SHZ3	**Shizuoka 3**	**2.02**	**33**	S	**Sn**	**11 57 29.1**	**-1.8**
JAI	**Aioi**	**2.07**	**282**	P	**Pn**	**11 57 07.1**	**+0.3**
JAI				S	**Sn**	**11 57 30.3**	**-1.7**
JIZS	**Izushimoda**	**2.14**	**51**	P	**Pn**	**11 57 07.6**	**-0.3**
JHJ	**Hachijo jima 2**	**2.45**	**95**	Pn	**Pn**	**11 57 12.4**	**+0.1**
	19nm,0.3s,baz=239,slow=22,SNR=2.9						
JHJ				Sn	**Sn**	**11 57 40.5**	**-1.3**
	40nm,0.3s,baz=52,slow=21,SNR=3.9						
JHJ				LR	LR	11 57 41.4	
	comp=Z,2µm,21.5s,baz=96,slow=30						
MAJO	**Matsushiro**	**3.35**	**19**	*e*Pn	**Pn**	**11 57 25.2**	**+0.2**
MAT	**Matsushiro**	**3.35**	**19**	P	**Pn**	**11 57 25.4**	**+0.3**
MAT				S	**Sn**	**11 58 06.2**	**+1.7**
MAT	**Matsushiro**	**3.35**	**19**	*e*P	**Pn**	**11 57 25.0**	**-0.1**
MAT				*e*S	**Sn**	**11 58 06.0**	**+1.5**
ASAJ	**Asahikawa**	**11.62**	**21**	LR	LR	12 04 10.7	
	comp=Z,261nm,19.9s,baz=167,slow=40						
SONM	**Songino Array**	**27.07**	**311**	P	**P**	**12 02 16.0**	**+0.7**
	0.7nm,0.8s,mb3.2,baz=122,slow=7.8,SNR=3.5						
MKAR	**Makanchi Array**	**43.03**	**305**	P	**P**	**12 04 34.1**	**+2.0**
	0.7nm,0.6s,mb3.6,baz=90,slow=12,SNR=4.9						
BVAR	**Borovoye Array**	**50.36**	**314**	P	**P**	**12 05 30.6**	**+0.8**
	0.6nm,0.5s,mb3.9,baz=79,slow=7.3,SNR=5.3						
BVAR				LR	LR	12 28 13.5	
	comp=Z,14nm,18.7s,MS3.0,baz=290,slow=38						
BRVK	**Borovoye**	**50.42**	**314**	P	**P**	**12 05 31.0**	**+0.8**
	2.6nm,0.9s,mb4.3						
ZRNK	**Zerenda**	**51.20**	**314**	*e*P	**P**	**12 05 36.4**	**+0.2**
	1.7nm,0.6s,mb4.2						
WRA	**Warramunga Arr**	**53.07**	**183**	P	**P**	**12 05 50.3**	**-0.3**
	2.0nm,0.9s,mb4.0,baz=2.8,slow=7.8,SNR=14						
CTA	**Charters Tower**	**53.91**	**169**	P	**P**	**12 05 57.0**	**+0.2**
	3.5nm,0.8s,mb4.3,baz=4.4,slow=13,SNR=2.7						
ASAR	**Alice Springs**	**56.79**	**183**	P	**P**	**12 06 17.4**	**-0.3**
	1.2nm,0.9s,mb3.9,baz=15,slow=11,SNR=4.7						

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*TAP **07** 12:07:06.0, 24.67N×121.85E, h13^{km}, ML3.2*
TAP Felt II J at Suao, I J at Ilan, II J at Nanau.
*JMA **07** 12:07:07.2±0.3, 24.80N×121.85E, h40^{km}, M2.7*
ISC 07 12:07:06.3±0.4**, 24.66N**±0.02×**121.93E**±0.02**, h3**^{km}±4^{km}**, n40, σ0^{s}95**/62**, 3C-4D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TWC	**Suao**	**0.09**	**234**	⇓*i*P	**Pg**	**12 07 09.0**	**+0.9**
TWC				S	**Sg**	**12 07 10.2**	**+0.8**
ILA	**Ilan**	**0.19**	**301**	*i* P	**Pg**	**12 07 10.4**	**+0.2**
ILA				S	**Sg**	**12 07 13.6**	**+0.8**
TWE	**Neicheng**	**0.25**	**283**	⇓*i*P	**Pg**	**12 07 10.9**	**-0.3**
TWE				S	**Sg**	**12 07 13.7**	**-0.8**
ENA	**Nanau**	**0.29**	**216**	⇑*i*P	**Pg**	**12 07 12.4**	**+0.3**
ENA				S	**Sg**	**12 07 16.0**	**0.0**
TWB1	**Santiao Chiao**	**0.35**	**9**	⇑*i*P	**Pg**	**12 07 14.1**	**+0.9**
TWB1				S	**Sg**	**12 07 18.6**	**+0.8**
NWF	**Wu-fen Shan**	**0.43**	**342**	P	**Pg**	**12 07 15.4**	**+0.5**
NWF				S	**Sg**	**12 07 20.8**	**+0.2**
TWA	**Mucha**	**0.45**	**315**	⇓*i*P	**Pg**	**12 07 15.3**	**+0.2**
TWA				S	**Sg**	**12 07 19.8**	**-1.3**
NSK	**Sanguang**	**0.52**	**271**	⇓*i*P	**Pg**	**12 07 15.8**	**-0.9**
NSK				S	**Sg**	**12 07 22.2**	**-1.4**
TAP1	**Taipei**	**0.53**	**315**	*e*P	**Pg**	**12 07 16.6**	**-0.2**
TAP	**Taipei**	**0.54**	**314**	*e*P	**Pg**	**12 07 16.0**	**-1.0**
TAP				S	**Sg**	**12 07 23.2**	**-1.0**
NNS	**Nan Shan**	**0.55**	**246**	⇑P	**Pg**	**12 07 16.5**	**-0.8**
NNS				S	**Sg**	**12 07 23.2**	**-1.5**
TWS1	**Kuangyinshan**	**0.64**	**313**	*e*P	**Pg**	**12 07 19.6**	**+0.5**
TWD	**Chiawan**	**0.66**	**208**	P	**Pg**	**12 07 19.2**	**-0.2**
TWD				S	**Sg**	**12 07 27.6**	**-0.5**
TWY	**Chenhua**	**0.68**	**334**	*e*P	**Pg**	**12 07 20.0**	**+0.1**
TWY				S	**Sg**	**12 07 28.0**	**-0.9**
NCU	**National Centr**	**0.74**	**294**	*e*P	**Pg**	**12 07 21.4**	**+0.4**
NCU				S	**Sg**	**12 07 32.5**	**+1.6**
HWA	**Hwalien**	**0.74**	**204**	*e*P	**Pg**	**12 07 21.0**	**-0.2**
NSTT	**Nanjuang**	**0.85**	**268**	*e*P	**Pb**	**12 07 22.4**	**-0.9**
NSTT				S	**Sg**	**12 07 33.4**	**-1.1**
ESL	**Shilin**	**0.96**	**208**	*e*P	**Pb**	**12 07 24.2**	**-1.0**
YOJ	**Yonaguni jima**	**1.00**	**101**	P	**Pb**	**12 07 26.7**	**+0.7**
YOJ				S	**Sb**	**12 07 41.0**	**+1.5**
NSY	**Sanyi**	**1.09**	**257**	*e*P	**Pb**	**12 07 28.0**	**+0.5**
NSY				S	**Sb**	**12 07 42.9**	**+0.9**
SMLT	**Sun Moon Lake**	**1.22**	**231**	*e*P	**Pb**	**12 07 29.1**	**-0.6**
TYC	**Yuchr**	**1.24**	**233**	*e*P	**Pb**	**12 07 29.4**	**-0.6**
TCU	**Taichung**	**1.25**	**246**	*e*P	**Pb**	**12 07 32.3**	**+2.1**
EHY	**Hungye**	**1.28**	**206**	*e*P	**Pb**	**12 07 30.4**	**-0.3**
EHY				S	**Sb**	**12 07 46.2**	**-1.2**
TWF1	**Yuli**	**1.43**	**204**	*e*P	**Pn**	**12 07 32.9**	**-0.3**
TWF1				S	**Sb**	**12 07 50.4**	**-1.4**
ALS	**Alishan**	**1.54**	**222**	*e*P	**Pn**	**12 07 35.4**	**+0.5**
CHN5	**Tsauling**	**1.56**	**227**	*e*P	**Pn**	**12 07 35.7**	**+0.5**
WGK	**Gukeng**	**1.58**	**232**	*e*P	**Pn**	**12 07 37.0**	**+1.5**
IRIF	**Iriomote-Funau**	**1.67**	**101**	P	**Pn**	**12 07 36.1**	**-0.6**
IRIF				*e*S	**Sb**	**12 07 57.9**	**-0.9**
ELDTW	**Lidau**	**1.69**	**210**	*e*P	**Pn**	**12 07 37.7**	**+0.7**
HATJ	**Hateruma jima**	**1.81**	**109**	P	**Pn**	**12 07 38.8**	**+0.1**
HATJ				*e*S	**Sn**	**12 08 02.0**	**-0.6**
STYT	**Tauyuan**	**1.84**	**216**	*e*P	**Pn**	**12 07 40.1**	**+1.0**
WTP	**Ta-pu**	**1.85**	**221**	*e*P	**Pn**	**12 07 41.1**	**+1.8**
JKRS	**Kuro-shima**	**1.94**	**102**	P	**Pn**	**12 07 40.4**	**-0.2**
JKRS				S	**Sn**	**12 08 04.4**	**-1.4**
CHN1	**Nanshi**	**1.95**	**221**	*e*P	**Pn**	**12 07 42.3**	**+1.6**
TWG	**Pinlang**	**2.00**	**203**	*e*P	**Pn**	**12 07 42.8**	**+1.4**
JIJ	**Ishigaki jima**	**2.04**	**98**	P	**Pn**	**12 07 41.2**	**-0.7**
JIJ				S	**Sn**	**12 08 06.2**	**-2.0**
SSD	**Sandimen**	**2.25**	**212**	*e*P	**Pn**	**12 07 45.5**	**+0.5**
EAST	**Anshuo**	**2.48**	**204**	*e*P	**Pn**	**12 07 50.2**	**+1.9**
JTJ	**Tarama**	**2.52**	**90**	P	**Pn**	**12 07 49.0**	**+0.1**

IDC 07 12:15:17.5±1.4**, 28.84S**×**66.09W, mb3.7**/1**, mb1 4.2**/2**, mb1mx3.9**/11**, ML4.3**/1**, Error ellipse: s-maj=73.4km s-min=29.6km az=169.0, Catamarca Province**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CPUP	**Villa Florida**	**8.16**	**74**	Pn	P	12 17 16.8	-3.3
	1.0nm,0.3s,baz=248,slow=11,SNR=14						
CPUP				Lg		12 19 36.6	
	16nm,0.3s,baz=10.0,slow=8.9,SNR=6.2						
PDAR	**Pinedale Array**	**81.71**	**329**	P	P	12 27 37.8	-1.5
	0.6nm,0.9s,baz=129,slow=5.8,SNR=3.8						
WRA	**Warramunga Arr**	**127.64**	**204**	PKP	PKPdf	12 34 24.9	-2.4
	0.6nm,0.7s,baz=165,slow=1.7,SNR=10.0						
ZAL	**Zalesovo**	**147.16**	**32**	PKPbc	PKPdf	12 35 01.7	-0.1
	2.4nm,0.7s,baz=70,slow=6.4,SNR=12						
MKAR	**Makanchi Array**	**149.54**	**45**	PKPbc	PKPdf	12 35 08.7	+2.9
	1.7nm,0.5s,baz=297,slow=2.7,SNR=4.6						

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*BJI **07** 12:15:48.1, 34.70N×103.93E, h9^{km}, mB5.3, mb5.0, ML5.0, Ms5.0, Msz4.9*
*IDC **07** 12:15:48.2±0.4, 34.76N×103.92E, mb4.7/30, mb1 4.8/32, mb1mx4.8/33, ML4.3/2, Error ellipse: s-maj=19.1km s-min=10.7km az=52.0*
*NEIC **07** 12:15:49.8±0.2, 34.68N×103.78E, h10^{km}, mb5.2/39, Error ellipse: s-maj=4.8km s-min=4.1km az=215.0*
NEIC At least nineteen people injured, 600 houses destroyed and more than 3,800 houses damaged in Gansu Province.
*MOS **07** 12:15:52.2±1.5, 34.72N×103.90E, h40^{km}, mb4.8/15, Error ellipse: s-maj=16.3km s-min=8.6km az=114.0*
ISC 07 12:15:46.9±1.0**, 34.69N**±0.02×**103.83E**±0.03**, h2**^{km}±6^{km}**, n180, σ1^{s}08**/185**, mb4.9**/65**, MS5.2**/2**, 5C-2D, Gansu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LZH	**Lanzhou**	**1.39**	**0**	PG	**Pg**	**12 16 13.8**	**-0.8**
LZH				SG	**Sg**	**12 16 31.5**	**-1.7**
LZH				Smax			
	comp=N,26µm,0.7s						
LZH				Smax			
	comp=E,33µm,0.8s						
CD2	**Chengdu**	**3.77**	**181**	P	**Pn**	**12 16 50.0**	**+2.7**
CD2				SG	Sg	12 17 52.6	+0.1
CD2				Smax			
	comp=N,2µm,1.1s						
CD2				Smax			
	comp=E,2µm,1.4s						
CD2				LR	LR		
	comp=N,17µm,5.9s						
CD2				LR	LR		
	comp=Z,12µm,7.5s						
XAN	**Xi'an**	**4.26**	**97**	P	**Pn**	**12 16 54.3**	**+0.1**
XAN				PG	**Pg**	**12 17 05.5**	**-6.4**
XAN				S	**Sn**	**12 17 48.5**	**+3.3**
XAN				SG	**Sg**	**12 17 59.3**	**-9.4**
XAN				Smax			
	comp=N,3µm,1.0s						
XAN				Smax			
	comp=E,3µm,1.1s						
GTA	**Gaotai**	**5.70**	**327**	P	**Pn**	**12 17 15.6**	**+1.0**
GTA				PG	**Pg**	**12 17 32.9**	**-7.8**
GTA				S	**Sn**	**12 18 21.3**	**-0.2**
GTA				SG	Sg	12 18 48.4	-8.3
GTA				Smax			
	comp=N,221nm,1.8s						
GTA				Smax			
	comp=E,224nm,1.5s						
GTA				LR	LR		
	comp=N,5µm,8.7s						
GTA				LR	LR		
	comp=E,4µm,9.9s						
GTA				LR	LR		
	comp=Z,5µm,8.4s						
ENH	**Enshi**	**6.50**	**131**	*e*Pn	**Pn**	**12 17 25.8**	**-0.1**
	comp=Z,0.6nm,1.2s						
TIY	**Taiyuan**	**7.58**	**64**	*e*P	**Pn**	**12 17 35.0**	**-6.0**
TIY				PG	Pg	12 18 04.8	-13
TIY				S	**Sn**	**12 19 06.0**	**-2.4**
TIY				Smax			
	comp=N,2µm,0.8s						
TIY				Smax			
	comp=E,1µm,0.4s						
BTO	**Baotou**	**7.67**	**38**	P	**Pn**	**12 17 42.1**	**-0.3**
BTO				PG	**Pg**	**12 18 01.7**	**-18**
BTO				SG	Sg	12 19 42.7	-20
BTO				Smax			
	comp=N,856nm,1.0s						
BTO				Smax			
	comp=E,874nm,1.5s						
GYA	**Guiyang**	**8.56**	**163**	⇑*i*P	**P**	**12 17 54.0**	**-0.7**
GYA				S	**Sn**	**12 19 32.1**	**-0.9**
GYA				AMB	AMB		
	comp=Z,80nm,0.7s						
GYA				LR	LR		
	comp=N,2µm,6.2s						
GYA				LR	LR		
	comp=E,3µm,4.8s						
GYA				LR	LR		
	comp=Z,4µm,9.4s						
HHC	**Hu-ho-hao-te**	**8.67**	**43**	*e*P	**P**	**12 17 54.7**	**-1.5**
HHC				S	**Sn**	**12 19 30.4**	**-5.3**
HHC				Smax			
	comp=N,659nm,0.9s						
HHC				Smax			
	comp=E,567nm,1.1s						
HHC				LR	LR		
	comp=N,4µm,7.6s						
HHC				LR	LR		
	comp=E,5µm,8.9s						
KMI	**Kunming**	**9.59**	**186**	*e*P	**P**	**12 18 08.8**	**-0.1**
KMI				AP		12 18 16.6	
KMI				XP		12 18 21.9	
KMI				S	**Sn**	**12 19 57.4**	**-1.0**
KMI				SS	SS	12 20 11.6	+0.4
KMI				AMB	AMB		
	comp=Z,135nm,3.5s						
KMI				LR	LR		
	comp=N,3µm,9.8s						
KMI				LR	LR		
	comp=E,2µm,6.7s						
KMI				LR	LR		
	comp=Z,4µm,11.0s						
WHN	**Wuhan**	**9.79**	**112**	P	**P**	**12 18 10.6**	**-1.1**
WHN				S	**Sn**	**12 19 55.5**	**-7.8**
WHN				LR	LR		
	comp=N,7µm,8.0s						
WHN				LR	LR		
	comp=E,5µm,6.0s						
WHN				LR	LR		
	comp=Z,10µm,9.7s						
BJI	**Beijing**	**11.17**	**58**	*e*P	**P**	**12 18 31.9**	**+1.2**
BJI				AMB	AMB		
	comp=Z,15nm,0.7s						
BJI				LR	LR		
	comp=N,9µm,6.5s						
BJI				LR	LR		
	comp=E,8µm,6.3s						
NJ2	**Nanjing**	**12.83**	**98**	*e*P	**P**	**12 18 54.1**	**+1.1**
NJ2				AP		12 18 57.3	
NJ2				XP		12 19 01.9	
NJ2				PP	PP	12 19 05.3	+2.1
NJ2				PPP	PPP	12 19 11.8	+1.6
NJ2				S	**S**	**12 21 17.0**	**-0.6**
NJ2				XS		12 21 26.0	
NJ2				AMB	AMB		
	comp=Z,30nm,1.0s						
NJ2				LR	LR		
	comp=N,5µm,12.0s						
NJ2				LR	LR		
	comp=E,2µm,20.0s						
NJ2				LR	LR		
	comp=Z,6µm,20.0s						
SONM	**Songino Array**	**13.27**	**8**	Pn	**P**	**12 18 57.4**	**-1.4**
	comp=Z,1.0nm,0.3s,baz=189,slow=15,SNR=12						
SONM				Lg		12 22 54.8	
	comp=Z,0.6nm,0.3s,baz=187,slow=29,SNR=4.8						
SSE	**Sheshan**	**15.01**	**99**	*e*P	**P**	**12 19 21.2**	**-0.6**
SSE				AMB	AMB		
	comp=Z,46nm,2.4s						
SSE				AMB	AMB		
	comp=Z,2µm,12.0s						
WMQ	**Urumqi**	**15.45**	**311**	*e*P	**P**	**12 19 26.0**	**-1.4**
WMQ				AP		12 19 29.3	
WMQ				XP		12 19 33.0	
WMQ				PP	PP	12 19 38.6	-1.2
WMQ				*e*S	**S**	**12 22 18.1**	**-1.7**
WMQ				SS	SS	12 22 36.0	-1.6
WMQ				LR	LR		
	comp=N,4µm,10.0s						
WMQ				LR	LR		
	comp=E,3µm,10.1s						
WMQ				LR	LR		
	comp=Z,3µm,10.0s						
ZAK	**Zakamensk**	**15.68**	**359**	*e*P	**P**	**12 19 31.9**	**+1.5**
QZH	**Quanzhou**	**16.06**	**123**	⇑*i*P	**P**	**12 19 38.1**	**+2.7**
QZH				S	**S**	**12 22 33.0**	**-1.2**
QZH				AMB	AMB		
	comp=Z,250nm,1.0s						
QZH				LR	LR		
	comp=N,7µm,14.0s						
QZH				LR	LR		
	comp=E,8µm,13.8s						
QZH				LR	LR		
	comp=Z,5µm,8.6s						
QIZ	**Qiongzhong**	**16.49**	**160**	*e*P	**P**	**12 19 44.4**	**+3.5**
CMAR	**Chiang Mai Arr**	**16.75**	**196**	Pn	**P**	**12 19 45.9**	**+1.8**
	comp=Z,0.2nm,0.3s,baz=6.0,slow=9.2,SNR=11						
SNY	**Shenyang**	**17.05**	**59**	⇑P	**P**	**12 19 50.7**	**+2.9**
SNY				LR	LR		
	comp=N,3µm,19.5s						
SNY				LR	LR		
	comp=Z,1µm,12.7s						
KKN	**Kakani**	**17.28**	**252**	*e*P	**P**	**12 19 50.4**	**-0.5**
	comp=Z,961nm,1.7s						
PKI	**Pulchoki**	**17.29**	**251**	*e*P	**P**	**12 19 50.2**	**-0.7**
	comp=Z,360nm,1.1s						
DMN	**Daman**	**17.50**	**251**	*e*P	**P**	**12 19 51.5**	**-2.1**
	comp=Z,872nm,1.4s						
GKN	**Gorkha**	**17.69**	**253**	*e*P	**P**	**12 19 53.4**	**-2.6**
	comp=Z,1µm,1.5s						
KOLN	**Koldanda**	**18.61**	**254**	*e*P	**P**	**12 20 02.3**	**-5.2**
	comp=Z,260nm,1.0s						
HIA	**Hailar**	**18.70**	**34**	*e*P	**P**	**12 20 09.4**	**+1.0**
	comp=Z,84nm,1.0s						
CN2	**Changchun**	**19.01**	**55**	*e*P	**P**	**12 20 11.3**	**-0.8**
CN2				*e*AP		12 20 15.0	
CN2				*e*XP		12 20 18.3	
CN2				PP	PP	12 20 28.0	-0.7
CN2				*e*S	**S**	**12 23 39.4**	**-2.0**
CN2				PCS		12 28 12.8	
CN2				AMB	AMB		
	comp=Z,60nm,1.3s						
CN2				AMB	AMB		
	comp=Z,700nm,7.0s						
CN2				LR	LR		
	comp=N,2µm,10.0s						
CN2				LR	LR		
	comp=E,2µm,10.0s						
CN2				LR	LR		
	comp=Z,3µm,11.0s						
MKAR	**Makanchi Array**	**20.24**	**313**	P	**P**	**12 20 25.0**	**-0.9**
	comp=Z,4.4nm,0.8s,baz=122,slow=12,SNR=4.3						
MKAR	**Makanchi Array**	**20.24**	**313**	P	**P**	**12 20 25.5**	**-0.4**
MKAR				pmax	pmax		
	comp=Z,15nm,0.8s						
MKAR	**Makanchi Array**	**20.24**	**313**	P	**P**	**12 20 25.0**	**-0.9**
MDJ	**Mudanjiang**	**22.09**	**56**	P	**P**	**12 20 43.2**	**-1.7**
MDJ				AP		12 20 45.9	
MDJ				PCP	PcP	12 24 40.8	-2.6
MDJ				S	**S**	**12 24 45.5**	**+1.4**
MDJ				SCP		12 28 16.5	
MDJ				PCS		12 28 19.2	
MDJ				SCS	ScS	12 32 03.6	-0.2
MDJ				AMB	AMB		
	comp=Z,415nm,10.9s						
MDJ				LR	LR		
	comp=N,2µm,18.4s,MS4.7						
MDJ				LR	LR		
	comp=E,833nm,13.8s,MS4.7						
MDJ				LR	LR		
	comp=Z,3µm,18.4s,MS4.7						
MDJ	**Mudanjiang**	**22.09**	**56**	*e*P	**P**	**12 20 45.0**	**+0.2**
	comp=Z,34nm,0.9s,mb4.8						
JOW	**Kunigami**	**22.38**	**104**	P	**P**	**12 20 49.3**	**+1.4**
	comp=Z,66nm,0.9s,mb5.1,baz=280,slow=6.1,SNR=3.8						
JNU	**Nakatsue**	**22.48**	**86**	P	**P**	**12 20 51.5**	**+2.7**
	comp=Z,37nm,0.9s,mb4.8,baz=315,slow=2.9,SNR=4.6						
KSH	**Kashi**	**22.69**	**290**	P	**P**	**12 20 54.0**	**+3.1**
KSH				*e*AP		12 20 58.0	
KSH				*e*XP		12 21 01.5	
KSH				*e*PP	PP	12 21 24.0	+4.8
KSH				*e*PCP	PcP	12 24 45.2	+0.6
KSH				*e*S	**S**	**12 24 59.6**	**+4.5**
KSH				*e*XS		12 25 06.1	
KSH				*e*SS	SS	12 25 44.0	+7.0
KSH				*e*SCP		12 28 21.1	
KSH				*e*PCS		12 28 23.1	
KSH				*e*SCS	ScS	12 32 05.7	-0.3
KSH				AMB	AMB		
	comp=Z,70nm,1.0s,mb5.0						
KSH				AMB	AMB		
	comp=Z,490nm,3.2s						
KSH				LR	LR		
	comp=N,720nm,7.6s						
KSH				LR	LR		
	comp=E,1µm,8.2s						
ZAL	**Zalesovo**	**23.44**	**331**	P	**P**	**12 20 57.2**	**-0.8**
	comp=E,13nm,1.2s,mb4.2,baz=239,slow=12,SNR=4.9						
ZAL	**Zalesovo**	**23.44**	**331**	P	**P**	**12 20 57.2**	**-0.8**
ZAL				pmax	pmax		
	comp=Z,13nm,1.2s						
ZAL	**Zalesovo**	**23.44**	**331**	P	**P**	**12 20 57.2**	**-0.8**
AAK	**Ala-Archa**	**24.15**	**298**	*e*P	**P**	**12 21 07.5**	**+2.4**
	comp=Z,16nm,0.8s,mb4.5						
KLR	**Kul'dur**	**25.15**	**46**	*e*P	**P**	**12 21 15.8**	**+1.2**
KKAR	**Karatay Array**	**27.12**	**298**	P	**P**	**12 21 32.9**	**0.0**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BVAR	**Borovoye Array**	**29.90**	**318**	P	**P**	**12 21 58.1**	**+0.1**
	comp=Z,2.4nm,0.8s,mb4.0,baz=122,slow=14,SNR=2.9						
BVAR				PcP	PcP	12 25 00.2	-0.8
	comp=Z,8.2nm,0.8s,baz=135,slow=4.2,SNR=8.0						
BRVK	**Borovoye**	**29.98**	**318**	P	**P**	**12 21 58.8**	**+0.2**
YSS	**Yuzh-Sakhalins**	**31.58**	**55**	⇓*e*P	**P**	**12 22 11.6**	**-1.2**
YSS				*e*		12 25 04.8	
YSS				pmax	pmax		
	comp=Z,50nm,1.1s,mb5.3						

YSS	Yuzh-Sakhalins	31.58	55	eP	P	12 22 11.8	-1.0
	comp=Z,70nm,1.2s,mb5.4						
AB31	Akbulak array	35.20	308	P	P	12 22 44.4	+0.2
AB31				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
ARU	Arti	37.51	320	eP	P	12 23 09.2	+5.6
ARU	Arti	37.51	320	eP	P	12 23 03.5	-0.1
	comp=Z,29nm,0.8s,mb5.1						
GOF	Gofitskoye	46.79	302	eP	P	12 24 21.0	+1.5
GOF				pmax	pmax		
	comp=Z,60nm,1.2s,mb5.4						
KBD	Kabd	47.45	280	eP	P	12 24 25.6	+0.8
RDF	Al-Radifah	47.66	279	eP	P	12 24 26.7	+0.2
RDF				AMb	AMB	12 24 31.2	
	comp=Z,72nm,0.8s,mb5.8						
RST	Umm Al-Ruwaisa	47.89	280	eP	P	12 24 28.5	+0.1
RST				AMb	AMB	12 24 33.5	
	comp=Z,76nm,0.9s,mb5.7						
OBN	Obninsk	49.71	316	eP	P	12 24 41.9	-0.1
OBN				pmax	pmax		
	comp=Z,35nm,1.2s,mb5.3						
ARCES	ARCESS Array B	53.91	335	P	P	12 25 12.6	-0.9
	comp=Z,11nm,1.2s,mb4.7,baz=74,slow=8.8,SNR=7.8						
ARCES				PcP	PcP	12 26 18.3	-0.6
	comp=Z,9.4nm,1.0s,baz=76,slow=5.0,SNR=5.6						
ARCES	ARCESS Array B	53.91	335	P	P	12 25 12.6	-0.8
ARCES						12 26 18.3	
ARCES				pmax	pmax		
	comp=Z,11nm,1.2s						
ARCES				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KAKA	Kakadu	54.38	145	eP	P	12 25 16.1	-1.4
	comp=Z,12nm,0.9s,mb4.8						
FINES	FINESS Array B	54.49	325	P	P	12 25 16.8	-0.9
	comp=Z,4.3nm,0.6s,mb4.6,baz=98,slow=8.4,SNR=9.7						
FINES	FINESS Array B	54.49	325	P	P	12 25 16.8	-0.9
FINES				pmax	pmax		
	comp=Z,4.0nm,0.6s						
AKASG	Malin Array Be	54.81	311	P	P	12 25 19.2	-1.0
	comp=Z,1.4nm,0.4s,mb4.4,baz=62,slow=7.7,SNR=6.4						
AKASG	Malin Array Be	54.81	311	P	P	12 25 19.3	-1.0
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BRTR	Keskin Array B	54.83	297	P	P	12 25 20.9	+0.3
	comp=Z,11nm,1.1s,mb4.8,baz=101,slow=6.3,SNR=9.5						
BRTR	Keskin Array B	54.83	297	P	P	12 25 20.9	+0.3
BRTR				pmax	pmax		
	comp=Z,11nm,1.1s						
FITZ	Fitzroy Crossi	56.45	155	eP	P	12 25 31.8	-0.8
	comp=Z,6.1nm,0.9s,mb4.6						
FITZ	Fitzroy Crossi	56.45	155	P	P	12 25 29.1	-3.5
	comp=Z,6.4nm,1.0s,mb4.6,baz=333,slow=4.7,SNR=3.2						
EIL	Elat	57.49	286	P	P	12 25 40.4	+0.5
	comp=Z,8.5nm,0.9s,mb4.8,baz=27,slow=6.2,SNR=4.2						
MLR	Muntele Rosu	58.38	306	P	P	12 25 46.3	+0.5
	comp=Z,7.0nm,1.1s,mb4.6,baz=142,slow=19,SNR=3.3						
MLR	Muntele Rosu	58.38	306	P	P	12 25 46.3	+0.5
MLR				pmax	pmax		
	comp=Z,7.0nm,1.1s						
KWP	Kalwaria	59.13	312	eP	P	12 25 51.2	+0.2
KWP				MLR	MLR		
	comp=Z,7µm,21.7s,MS5.8						
KWP	Kalwaria	59.13	312	eP	P	12 25 51.2	+0.2
KWP				e		12 25 54.1	
KOLS	Kolonicke sedl	59.62	311	eP	P	12 25 56.8	+2.4
KOLS				esP	sP	12 26 01.4	+5.9
HFS	Hagfors	60.69	325	P	P	12 26 00.2	-1.3
	comp=Z,4.0nm,0.6s,mb4.7,baz=76,slow=5.9,SNR=6.3						
HFS	Hagfors	60.69	325	P	P	12 26 00.2	-1.4
HFS				pmax	pmax		
	comp=Z,4.0nm,0.6s						
OJC	Ojcow	60.71	313	eP	P	12 26 01.7	-0.1
PSZ	Piszkesteto	61.46	310	P	P	12 26 01.2	-5.8
NB2	NORSAR Subarra	61.53	326	P	P	12 26 05.6	-1.7
	comp=Z,1.9nm,0.6s,mb4.4,baz=70,slow=6.5						
NOA	NORSAR Array B	61.53	326	P	P	12 26 05.9	-1.4
	comp=Z,5.5nm,1.0s,mb4.7,baz=70,slow=6.8,SNR=7.7						
NOA	NORSAR Array B	61.53	326	P	P	12 26 05.9	-1.4
NOA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
WRAB	Tennant Creek	61.59	147	eP	P	12 26 06.7	-1.5
	comp=Z,42nm,0.9s,mb5.6						
WRA	Warramunga Arr	61.59	147	P	P	12 26 06.2	-2.0
	comp=Z,36nm,1.1s,mb5.4,baz=337,slow=7.4,SNR=42						
WRA	Warramunga Arr	61.59	147	P	P	12 26 06.2	-2.0
WRA				pmax	pmax		
	comp=Z,36nm,1.1s						
WB2	Warramunga Arr	61.59	147	⇑iP	P	12 26 07.0	-1.2
VYHS	Vyhne	61.91	311	eP	P	12 26 13.0	+3.0
VRAC	Vranov	62.98	313	P	P	12 26 16.5	-0.5
	comp=Z,6.9nm,0.9s,mb4.8,baz=59,slow=8.6,SNR=3.2						
CLL	Collm	64.31	316	i *PP	pP	12 26 28.6	+2.1
ASPA	Alice Springs	64.68	149	⇓iP	P	12 26 28.0	-0.6
ASAR	Alice Springs	64.68	149	P	P	12 26 27.9	-0.7
	comp=Z,10.0nm,0.7s,mb5.0,baz=332,slow=6.5,SNR=35						
GERES	GERESS Array B	64.91	313	P	P	12 26 30.2	+0.6
	comp=Z,2.6nm,0.8s,mb4.3,baz=63,slow=6.0,SNR=7.3						
GERES	GERESS Array B	64.91	313	P	P	12 26 30.2	+0.5
GERES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
SVW	Sparrevohn	65.04	32	eP	P	12 26 32.8	+2.5
COLA	College	66.31	26	eP	P	12 26 37.8	-0.6
MCK	McKinley	66.50	28	eP	P	12 26 38.9	-0.7
	comp=Z,8.6nm,0.9s,mb4.8						
ILAR	Eielson Array	66.72	26	P	P	12 26 39.3	-1.7
	comp=Z,9.8nm,0.9s,mb4.8,baz=288,slow=6.3,SNR=30						
ILAR	Eielson Array	66.72	26	P	P	12 26 39.3	-1.7
ILAR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
KLBR	Kellerberrin	67.22	167	eP	P	12 26 44.4	-0.4
	comp=Z,40nm,1.2s,mb5.3						
MUN	Mundaring	67.33	169	eP	P	12 26 45.5	0.0
	comp=Z,19nm,1.1s,mb5.0						
PMR	Palmer	67.53	30	eP	P	12 26 45.1	-1.1
SML	Sawmill	67.74	29	eP	P	12 26 46.5	-1.0
CTA	Charters Tower	67.77	137	eP	P	12 26 48.0	-0.4
	comp=Z,13nm,1.0s,mb4.9						
CTA	Charters Tower	67.77	137	P	P	12 26 48.0	-0.4
	comp=Z,18nm,1.0s,mb5.0,baz=313,slow=6.8,SNR=6.7						
CTA	Charters Tower	67.77	137	P	P	12 26 48.0	-0.4
CTA				pmax	pmax		
	comp=Z,18nm,1.0s						
DAVOX	Davos	68.13	312	P	P	12 26 49.3	-0.9
	comp=Z,5.0nm,0.6s,mb4.7,baz=52,slow=6.8,SNR=3.8						
NWAO	Narrogin (SRO)	68.43	168	P	P	12 26 52.4	0.0
	comp=Z,24nm,0.9s,mb5.2,baz=350,slow=9.7,SNR=5.7						
NWAO	Narrogin (SRO)	68.43	168	P	P	12 26 52.4	+0.1
NWAO				pmax	pmax		
	comp=Z,24nm,0.9s						
DIV	Divide	69.14	29	P	P	12 26 46.7	-10
	comp=Z,68nm,1.1s,mb5.5						
DAWY	Dawson	69.78	25	eP	P	12 26 59.1	-0.9
CABF	La Chapelle	70.50	314	eP	P	12 27 04.2	-0.5
LPG	La Plagne	70.65	312	eP	P	12 27 06.1	+0.4
	comp=Z,17nm,0.7s,mb4.8						
LPL	La Plagne	70.65	312	eP	P	12 27 06.0	+0.3
PGF	Pioggiola	70.71	309	eP	P	12 27 06.2	+0.1
	comp=Z,62nm,1.1s,mb5.2						
EKA	Eskdalemuir Ar	70.89	325	P	P	12 27 06.6	-0.4
	comp=Z,2.4nm,0.9s,mb4.1,baz=56,slow=6.0,SNR=4.3						
EKA	Eskdalemuir Ar	70.89	325	P	P	12 27 06.6	-0.4
EKA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
BNI	Bardonecchia	70.92	312	eP	P	12 27 07.3	0.0
	comp=Z,37nm,1.5s,mb5.1						
MBDF	Montbardon	71.03	312	eP	P	12 27 07.5	-0.5
	comp=Z,11nm,0.7s,mb4.6						
SBF	Sospel	71.05	311	eP	P	12 27 07.6	-0.5
	comp=Z,122nm,1.3s,mb5.4						
ORIF	Oris-en-Rattie	71.48	312	eP	P	12 27 10.5	-0.2
	comp=Z,19nm,0.8s,mb4.8						
KMBO	Kilima Mbogo	71.56	255	P	P	12 27 12.7	+1.0
	comp=Z,7.2nm,1.0s,mb4.6,baz=36,slow=9.4,SNR=10						
KMBO	Kilima Mbogo	71.56	255	eP	P	12 27 12.5	+0.8
	comp=Z,15nm,1.2s,mb4.8						
FRF	La Foret Royal	71.69	311	eP	P	12 27 11.9	-0.1
SSF	Saint Saulge	71.79	315	eP	P	12 27 11.7	-0.8
SMF	Signal de Mont	71.81	314	eP	P	12 27 12.0	-0.7
LMR	La Mourre	71.89	310	eP	P	12 27 13.0	-0.2
AVF	Avril sur Loir	72.02	315	eP	P	12 27 13.2	-0.7
	comp=Z,51nm,1.2s,mb5.0						
SMRF	Simiane la Rot	72.15	311	eP	P	12 27 14.6	-0.1
VIVF	Saint-Julien-l	72.24	312	eP	P	12 27 15.0	-0.3
TCF	Toulx Ste Croi	72.96	315	eP	P	12 27 19.1	-0.3
	comp=Z,46nm,1.3s,mb5.0						
LDF	La Druitiere	73.04	318	eP	P	12 27 19.3	-0.5
FLN	La Foliniere	73.14	318	eP	P	12 27 20.1	-0.3
LASF	Ste Croix	73.15	312	eP	P	12 27 20.6	0.0
	comp=Z,33nm,1.1s,mb4.9						
GRR	Gorron	73.56	318	eP	P	12 27 22.3	-0.6
	comp=Z,77nm,1.2s,mb5.2						
CAF	Calviac	73.78	314	eP	P	12 27 24.6	+0.4
	comp=Z,38nm,1.2s,mb4.9						
RJF	Les Rejaudoux	73.90	314	eP	P	12 27 25.3	+0.4
	comp=Z,82nm,1.6s,mb5.1						
MFF	Saint Martin d	74.15	316	eP	P	12 27 26.4	+0.1
	comp=Z,56nm,1.0s,mb5.2						
LFF	La Frestale	74.56	314	eP	P	12 27 29.2	+0.5
SGMF	Saint Gilles	74.57	318	eP	P	12 27 28.7	0.0
STKA	Stephens Creek	75.14	147	eP	P	12 27 31.9	-0.5
	comp=Z,9.4nm,0.8s,mb4.8						
STKA	Stephens Creek	75.14	147	P	P	12 27 32.2	-0.2
	comp=Z,15nm,0.9s,mb4.9,baz=319,slow=6.6,SNR=12						
ETSF	Etsaut	76.48	313	eP	P	12 27 40.6	+0.9
	comp=Z,44nm,1.1s,mb5.0						
SJPF	Ste Jean	76.76	313	eP	P	12 27 42.3	+1.0
	comp=Z,40nm,1.2s,mb4.9						
DLBC	Dease Lake	76.92	26	P	P	12 27 42.8	+0.9
	comp=Z,11nm,1.0s,mb4.7,baz=303,slow=6.0,SNR=11						
DLBC	Dease Lake	76.92	26	eP	P	12 27 42.5	+0.6
YKA	Yellowknife Ar	78.34	17	P	P	12 27 49.6	0.0
	comp=Z,4.1nm,0.8s,mb4.4,baz=327,slow=4.9,SNR=11						
YKA	Yellowknife Ar	78.34	17	P	P	12 27 49.6	0.0
YKA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ESDC	Sonseca Array	80.45	312	P	P	12 28 02.5	+1.0
	comp=Z,6.5nm,1.0s,mb4.5,baz=49,slow=5.8,SNR=11						
CNB	Canberra Magne	81.60	144	eP	P	12 28 08.0	+0.3
	comp=Z,38nm,1.3s,mb5.2						
EVO	Evora	83.63	313	eP	P	12 28 19.0	+1.0
	comp=Z,41nm,1.3s,mb5.1						
LSZ	Lusaka	87.20	249	eP	P	12 28 36.0	-0.2
	comp=Z,8.0nm,1.0s,mb4.9						
NLW	Nelson Butte	88.63	28	P	P	12 28 43.3	+0.9
ETW	Entiat	89.02	28	P	P	12 28 45.3	+1.0
FMW	Mount Fremont	89.03	29	P	P	12 28 45.2	+0.8
WTV	Waterville	89.09	28	P	P	12 28 45.0	+0.5
EBG	Ellensburg	89.49	29	P	P	12 28 47.4	+0.9
EPH	Ephrata	89.51	28	P	P	12 28 46.8	+0.2
DPW	Davenport	89.61	27	eP	P	12 28 48.1	+1.0
NEW	Newport	89.67	26	P	P	12 28 48.6	+1.3
	comp=Z,14nm,1.0s,mb5.3,baz=344,slow=2.9,SNR=11						
NEW	Newport	89.67	26	P	P	12 28 48.7	+1.3
NEW				pmax	pmax		
	comp=Z,14nm,1.0s						
NEW	Newport	89.67	26	eP	P	12 28 48.2	+0.9
	comp=Z,25nm,1.1s,mb5.5						
GL2	New Goldendale	90.17	29	P	P	12 28 51.1	+1.4
HAWA	Hanford	90.33	28	eP	P	12 28 51.9	+1.4
	comp=Z,27nm,1.1s,mb5.5						
VFP	Flag Point	90.43	30	P	P	12 28 51.6	+0.7
SCHQ	Schefferville	90.48	355	P	P	12 28 50.8	-0.1
	comp=Z,7.5nm,1.2s,mb4.9,baz=22,slow=5.4,SNR=3.8						
VGB	Gordon Butte	90.55	30	eP	P	12 28 53.0	+1.5
BSMT	Bassoo Peak	90.85	25	P	P	12 28 54.6	+1.8
HSO	Harness Mounta	91.18	32	eP	P	12 28 55.4	+1.0
LNOR	Lincton Mounta	91.24	28	eP	P	12 28 56.1	+1.5
HRY	Holter Researc	92.84	24	eP	P	12 29 01.5	-0.5
MCMT	McKenzie Canyo	94.14	25	eP	P	12 29 09.0	+1.0
RSSD	Black Hills	97.56	20	eP	P	12 29 24.8	+1.2
	comp=Z,15nm,0.9s,mb5.5						
DRV	Dumont d'Urvil	104.76	166	L		12 29 00.0	
DRV				R		12 34 00.0	
QSPA	South Pole Qui	124.46	180	ePKP	PKPdf	12 34 47.2	-1.8
SNAA	Sanae	127.75	203	PKPdf	PKPdf	12 34 53.6	-1.7
VNA2	Neumayer--Watz	129.28	203	⇑i	PKPdf	12 34 59.6	+1.3
SDV	Santo Domingo	136.34	352	ePKPdf	PKPdf	12 35 11.8	-1.1
ROSC	El Rosal	140.62	357	PKP	PKPdf	12 35 22.2	+1.4
	comp=Z,15nm,0.9s,baz=288,slow=19,SNR=2.6						
OTAV	Otavalo	145.19	4	ePKPdf	PKPdf	12 35 29.2	+0.4
CAM4	Nova Friburgo	148.17	284	(P)	PKPdf	12 35 35.5	+2.1
CAM4				i		12 35 38.6	
CAM4	Nova Friburgo	148.17	284	P	PKPdf	12 35 35.5	+2.1
CAM4				i		12 35 38.6	
BDFB	Brasilia	148.40	300	PKPbc	PKPdf	12 35 36.6	+2.7
	comp=Z,13nm,0.9s,baz=141,slow=5.4,SNR=9.1						
BDFB	Brasilia	148.40	300	PKP2	PKPab	12 35 36.6	-4.1
BDFB				pmax	pmax		
	comp=Z,13nm,0.9s						
SAML	Samuel	151.74	332	ePKPdf	PKPdf	12 35 41.4	+2.1

DJA 07 12:22:07.7±0.9**, 8.48S**×**114.10E, h118**^{km}±6^{km}**, MD4.6**/4**, ML4.8**/2**, 2C-6D, Error ellipse: s-maj=34.9km s-min=15.7km az=23.0, Bali region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KELI	Kelakatan	0.47	56	⇑iPn	P	12 22 25.2	-0.2
	514nm,0.2s						
KELI				⇓iSn	S	12 22 38.0	-0.8
INGI	Ingas	1.09	108	⇓iPn	P	12 22 30.4	-0.4
INGI				⇓iSn	S	12 22 46.9	-1.2
RATI	Rata	1.44	100	⇑iPn	P	12 22 34.5	-0.3
	1µm,0.2s						
RATI				⇓iSn	S	12 22 53.9	-1.4
KEDI	Kedomdong	2.00	90	⇓iPn	P	12 22 40.7	-0.7
	360nm,0.2s						
KEDI				⇓iSn	S	12 23 05.0	-1.9

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*ISK **07** 12:31:29.4, 38.63N×26.64E, h14^{km}, MD3.2, ML3.2*
*ATH **07** 12:31:29.9, 38.61N×26.56E, h30^{km}, MD3.2/3*
ISC 07 12:31:28.6±0.9**, 38.61N**±0.03×**26.58E**±0.05**, h9**^{km}±5^{km}**, n18, σ0**^{s}**77**/29**, 1C, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IZM	Izmir	0.58	111	i PG	Pg	12 31 40.4	+0.1
IZM				i SG	Sg	12 31 48.4	+0.3
KDAG	Bornova	0.58	111	⇑iP	Pg	12 31 40.5	+0.2
KDAG				i S	Sg	12 31 45.7	-2.4
PRK	Paraskevi	0.68	340	ePN	Pn	12 31 43.5	-0.7
PRK				eSN	Sn	12 31 53.5	-1.4
AYVA	Ayvalik	0.70	7	i P	Pb	12 31 43.0	+0.3
AYVA				i S	Sg	12 31 53.4	+1.2
SMG	Samos	0.92	167	ePN	Pn	12 31 47.9	+0.2
AKS	Akhisar	1.00	74	i PG	Pg	12 31 48.5	-0.2
AKS				i SG	Sg	12 32 01.5	-0.7
AYDN	Tasoluk	1.40	132	i P	Pn	12 31 54.6	+0.1
AYDN				i S	Sb	12 32 12.4	0.0
BALB	Balikesir	1.45	44	PN	Pn	12 31 55.3	+0.2
MANT	Manisa	1.56	94	i P	Pn	12 31 56.7	0.0
MANT				i S	Sb	12 32 17.9	+0.9
BDRM	Kayabasi	1.69	156	i P	Pn	12 31 58.4	-0.2
BDRM				i S	Sn	12 32 19.3	-1.3
APE	Apeiranthos	1.75	209	ePN	Pn	12 32 00.2	+0.8
LPK	Lapseki	1.77	5	PN	Pn	12 32 00.0	+0.3
LPK				SN	Sn	12 32 22.3	-0.2
DST	Dursunbey	1.88	57	PN	Pn	12 32 02.1	+0.7
YER	Yerkesik	2.00	137	PN	Pn	12 32 03.2	+0.1
KCT	Karacabey	2.15	39	PN	Pn	12 32 05.0	-0.3
DNZL	Cakiroluk	2.15	114	i P	Pn	12 32 05.4	+0.1
DNZL				i S	Sn	12 32 34.3	+1.9
ORLT	Orhaneli	2.30	51	ePN	Pn	12 32 07.7	+0.3
ULDT	Uludag	2.51	52	i P	Pn	12 32 15.5	+5.2
ULDT				i S	Sn	12 32 40.5	-0.8

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*GUC **07** 12:33:55.6±0.8, 34.00S×72.35W, h18^{km}±13^{km}, ML5.3*
*BJI **07** 12:33:56.2, 34.00S×72.20W, h16^{km}, mB5.7, Ms5.6, Msz5.5*
*NEIC **07** 12:33:56.2±0.1, 34.01S×72.19W, mb5.7/49, MS5.3/23, ML5.3(GUC), Error ellipse: s-maj=3.8km s-min=3.5km az=196.0*
NEIC Felt [IV] at Pichilemu; [III] at Curico, Linares, Rancagua, San Antonio, Talca and Valparaiso; [II] at Los Quenes and Santiago.
*HRVD **07** 12:33:56.2±0.3, 34.14S×72.52W, h14^{km}±1^{km}, MW5.7/59, Centroid moment Tensor Solution. LP body waves: s22,c28;Mantle waves: s59,c96; Half duration: 1^{s}8 Moment tensor: Scale 10^{17}Nm; M$_{rr}$1.35±.11; M$_{\theta\theta}$0.14±.05; M$_{\phi\phi}$-1.48±.08; M$_{r\theta}$0.43±.22; M$_{\theta\phi}$0.02±.03; M$_{\phi r}$-3.76±.30; Best double couple: M$_0$4.04×10^{17} NP1:φ$_s$6°, δ10°, λ102°. NP2:φ$_s$174°, δ80°, λ88°. Principal axes: T 3.98, Plg55°, Azm81°; N .12, Plg2°, Azm174°; P -4.1, Plg35°, Azm266°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*SYO **07** 12:33:56.2, 33.90S×71.78W, h17^{km}, MB5.7, MS5.3*
*MOS **07** 12:33:59.4±0.8, 33.39S×71.76W, h33^{km}, mb5.8/26, Error ellipse: s-maj=41.8km s-min=10.7km az=110.5*
*IDC **07** 12:34:01.4±4.1, 33.93S×72.02W, h56^{km}±35^{km}, mb4.8/16, mb1 4.8/18, mb1mx4.8/18, ML5.0/2, MS5.4/7, Ms1 5.4/7, ms1mx5.1/17, Error ellipse: s-maj=20.8km s-min=13.7km az=86.0*
ISC 07 12:33:55.6±0.8**, 34.00S**±0.03×**72.32W**±0.03**, h20**^{km}±5^{km}**, h17**^{km}±.4^{km}**:pP-P, n289, σ1**^{s}**05**/207**, mb5.5**/74**, MS5.4**/31**, 22C-14D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LLCH	Llolleo	0.70	57	⇑iP	Pb	12 34 08.4	-0.5
LLCH				i S	Sb	12 34 18.9	+0.9
LNV	Longovilo	0.75	87	⇓iP	Pb	12 34 10.3	+0.5
LCCH	Las Cruces	0.81	50	⇑iP	Pb	12 34 10.9	+0.1
IHA	Instituto Hidr	1.12	30	eP	Pb	12 34 15.4	-0.7
TACH	Talagante	1.20	74	⇑iP	Pn	12 34 17.0	-0.4
SFDO	San Fernando	1.24	120	⇑iP	Pn	12 34 17.2	-0.8
NICH	Los Niches	1.34	139	⇓iP	Pn	12 34 19.4	0.0
NICH				i S	Sb	12 34 39.9	+3.2
CHCH	Chadas Angostu	1.38	88	⇑iP	Pn	12 34 20.1	+0.1
PUEX	Pudahuel	1.41	67	eP	Pn	12 34 20.3	-0.1
PUEX				i S	Sn	12 34 39.1	+0.5
PUEX				AMP		12 34 50.1	
	comp=E,88µm,0.8s						
CACH	El Canelo	1.43	95	⇓iP	Pn	12 34 21.4	+0.7
ANTU	Antumapu	1.46	74	eP	Pn	12 34 21.3	+0.2
ANTU				i S	Sn	12 34 40.6	+0.7
ANTU				AMP		12 34 48.6	
	comp=E,57µm,0.7s						
SAN	Santiago	1.48	69	eP	Pn	12 34 21.4	0.0
SAN				i S	Sn	12 34 40.9	+0.5
PCH	Pirque	1.55	76	⇓iP	Pn	12 34 22.5	+0.1
CLCH	Cerro Calan	1.60	68	⇑iP	Pn	12 34 23.4	+0.3
CLCH				i S	Sn	12 34 44.7	+1.4
CLCH				AMP		12 35 00.7	
	comp=E,49µm,0.3s						
SJCH	San Jose de Ma	1.67	78	eP	Pn	12 34 23.5	-0.6
SJCH				i S	Sn	12 34 45.5	+0.3
SJCH				AMP		12 34 55.9	
	comp=N,34µm,0.6s						
LMEL	Las Melosas	1.76	86	⇑iP	Pn	12 34 26.1	+0.7
LMEL				i S	Sn	12 34 49.7	+2.3
LMEL				AMP		12 34 55.9	
	comp=N,29µm,0.2s						
JACH	Jahuel	1.95	48	⇑iP	Pn	12 34 27.9	-0.2
COCH	Cobquecura	2.17	190	eP	Pn	12 34 29.9	-1.3
COCH				AMP		12 35 13.0	
	comp=N,22µm,0.7s						
ILCH	Illapel	2.54	23	eP	Pn	12 34 35.7	-1.0
CCHI	Chillan	2.61	176	⇓iP	Pn	12 34 37.9	+0.4
CCHI				AMP		12 35 26.1	
	comp=E,36µm,0.6s						
CCHI				AMP		12 35 26.4	
	comp=E,61µm,0.5s						
MDZ	Mendoza	3.10	70	i P	Pn	12 34 47.9	+3.3
MDZ				i		12 34 52.6	
MDZ				i S	Sn	12 35 41.8	+20
TLL	Tololo Astrono	4.03	19	eP	Pn	12 34 55.8	-1.9
TRQA	Tornquist	9.30	119	ePn	P	12 36 10.7	-1.0
LVC	Limon Verde	11.73	16	eP	P	12 36 37.6	-7.4
	comp=E,7.4nm,0.5s						
CPUP	Villa Florida	15.04	63	P	P	12 37 28.0	-0.8
	comp=E,1.3nm,0.3s,baz=259,slow=12,SNR=11						
CPUP				LR	LR	12 44 05.2	
	comp=E,11µm,20.1s,baz=262,slow=41						
ARE	Arequipa	17.48	3	⇓iP	P	12 38 01.0	+1.1
LPAZ	La Paz	18.03	13	P	P	12 38 07.6	+0.7
	comp=E,2.6nm,0.3s,baz=185,slow=10,SNR=29						
LPAZ	La Paz	18.03	13	P	P	12 38 07.6	+0.7
EFI	East Falkland	20.46	154	P	P	12 38 31.4	-3.1
	comp=E,522nm,0.6s,SNR=30						
EFI	East Falkland	20.46	154	eP	P	12 38 31.2	-3.3
	comp=E,48nm,0.6s						
USHA	Ushuaia	21.01	174	P	P	12 38 39.8	-0.3
	comp=E,45nm,0.9s,mb4.8,baz=302,slow=5.8,SNR=13						
NNA	Nana	22.30	348	eP	P	12 38 53.9	+0.6
	comp=E,126nm,1.0s,mb5.3						
SAML	Samuel	26.31	21	eP	P	12 39 29.4	-2.5
	comp=E,121nm,1.2s,mb5.3						
SAML				LR	LR		
	comp=Z,8µm,21.0s,MS5.2						
BDFB	Brasilia	28.52	56	P	P	12 39 49.4	-2.6
	comp=Z,23nm,0.8s,mb5.0,baz=233,slow=8.2,SNR=19						
BDFB				LR	LR	12 52 17.3	
	comp=Z,15µm,18.3s,MS5.6,baz=243,slow=39						
BAO	Brasilia Array	28.54	56	eP	P	12 39 50.3	-1.8
CAM4	Nova Friburgo	28.57	74	eP	P	12 39 48.4	-4.0
CAM4				i	pP	12 39 52.3	-6.0
CAM4				i		12 39 56.4	
CAM4				i		12 40 10.5	
CAM4	Nova Friburgo	28.57	74	eP	P	12 39 48.4	-4.0
CAM4				i	pP	12 39 52.3	-6.0
CAM4				i		12 39 56.4	
CAM4				i		12 40 10.5	
CAM3	Guarapari	31.04	73	(P)	P	12 40 12.6	-1.8
CAM3				(P)I	pP	12 40 20.4	+0.1
CAM3				i		12 40 25.6	
CAM3				i		12 40 44.3	
PMSA	Palmer Station	31.22	173	eP	P	12 40 16.2	+0.6
	comp=Z,54nm,1.0s,mb5.3						
OTAV	Otavalo	34.54	349	eP	P	12 40 46.6	+1.7
	comp=Z,76nm,1.7s,mb5.3						
OTAV				LR	LR		
	comp=Z,3µm,20.0s,MS5.0						
ROSC	El Rosal	38.69	357	P	P	12 41 20.1	+0.1
	comp=Z,11nm,0.7s,mb4.7,baz=150,slow=20,SNR=2.3						
SDV	Santo Domingo	42.67	2	eP	P	12 41 51.6	-1.2
	comp=Z,27nm,1.0s,mb4.9						
SDV				LR	LR		
	comp=Z,3µm,19.0s,MS5.2						
JTS	JuntasAbangare	45.65	342	P	P	12 42 17.4	+0.6
	comp=Z,6.5nm,0.9s,mb4.6,baz=11,slow=1.3,SNR=3.6						
JTS	JuntasAbangare	45.65	342	P	P	12 42 17.4	+0.6
JTS				LR	LR		
	comp=Z,356nm,19.0s,MS4.3						
VNA3	Neumayer Olymp	49.45	158	P	P	12 42 49.4	+3.6
VNA3	Neumayer Olymp	49.45	158	⇑i	P	12 42 53.2	+7.4
VNA3	Neumayer Olymp	49.45	158	⇑i	P	12 42 54.4	+8.6
VNA1	Neumayer--Stat	49.77	157	⇓iP	P	12 42 51.8	+3.5
VNA1	Neumayer--Stat	49.77	157	⇑i	P	12 42 55.2	+6.9
VNA1	Neumayer--Stat	49.77	157	⇑i	P	12 42 56.6	+8.3
VNA2	Neumayer--Watz	50.10	157	⇑iP	P	12 42 53.8	+3.0
VNA2	Neumayer--Watz	50.10	157	⇑i	P	12 42 57.1	+6.3
VNA2	Neumayer--Watz	50.10	157	⇑i	P	12 42 59.3	+8.5
SNAA	Sanae	51.67	158	⇓iP	P	12 43 02.8	0.0
SNAA	Sanae	51.67	158		P	12 43 06.2	+3.4
SNAA	Sanae	51.67	158	⇑i	P	12 43 08.8	+6.0
SNAA	Sanae	51.67	158	eP	P	12 43 00.9	-1.9
SNAA				pmax	pmax		
	comp=Z,140nm,1.1s						
SJG	San Juan	52.15	7	P	P	12 43 04.6	-2.4
	comp=Z,53nm,0.9s,mb5.5,baz=346,slow=21,SNR=9.6						
SJG	San Juan	52.15	7	eP	P	12 43 03.3	-3.7
SJG				pmax	pmax		
	comp=Z,190nm,1.4s						
SJG	San Juan	52.15	7	eP	P	12 43 03.3	-3.7
	comp=Z,190nm,1.4s,mb5.8						
RKT	Rikitea	55.35	264	eP	P	12 43 31.6	+1.0
	comp=Z,105nm,1.3s,mb5.7						
TEIG	Tepich	56.02	342	P	P	12 43 34.4	-1.0
	comp=Z,0.0nm,0.3s,baz=343,slow=20,SNR=4.2						
QSPA	South Pole Qui	56.24	180	eP	P	12 43 34.9	-1.3
	comp=Z,95nm,1.0s,mb5.8						
MAIT	Maitri	56.38	157	eP	P	12 43 36.7	-0.7
PPM	Popocatepetl	58.42	331	eP	P	12 43 55.0	+2.6
MOIG	Morelia	60.05	328	eP	P	12 44 04.0	+0.3
SBA	Scott Base	63.03	192	eP	P	12 44 23.3	+0.3
	comp=Z,38nm,1.6s,mb5.3						
ZAIG	Zacatecas	63.37	329	eP	P	12 44 25.4	-0.5
SYO	Syowa Base	65.95	159	⇑P	P	12 44 40.2	-1.8
SYO	Syowa Base	65.95	159	⇓pP	pP	12 44 47.1	-1.1
TBI	Tubuai	67.09	257	eP	P	12 44 50.2	+0.2
	comp=Z,110nm,0.9s,mb5.9						
TBI				eR		13 04 50.6	
	comp=Z,4µm,27.2s						
LRAL	Lakeview Retre	68.09	347	eP	P	12 44 54.3	-1.8
	comp=Z,34nm,0.9s,mb5.4						
LRAL				LR	LR		
	comp=Z,1µm,19.0s,MS5.2						

MEH	**Mehetia**	**68.62**	**262**	*e*P	**P**	**12 44 59.0**	**-0.6**
	comp=Z,36nm,1.2s,mb5.2						
NATX	**Nacogdoches**	**68.71**	**340**	*e*P	**P**	**12 44 59.8**	**-0.2**
	comp=Z,182nm,1.1s,mb5.9						
NATX				LR	LR		
	comp=Z,1µm,19.0s,MS5.1						
JCT	**Junction City**	**69.18**	**335**	*e*P	**P**	**12 45 02.0**	**-0.9**
	comp=Z,114nm,1.0s,mb5.8						
JCT				LR	LR		
	comp=Z,808nm,20.0s,MS5.0						
LTX	**Lajitas**	**69.62**	**331**	P	**P**	**12 45 05.5**	**-0.1**
LTX				pmax	pmax		
	comp=Z,96nm,1.3s,mb5.6						
LTX	**Lajitas**	**69.62**	**331**	*e*P	**P**	**12 45 05.3**	**-0.3**
	comp=Z,90nm,1.1s,mb5.6						
LTX				LR	LR		
	comp=Z,2µm,21.0s,MS5.4						
TXAR	**Lajitas Array**	**69.62**	**331**	P	**P**	**12 45 05.2**	**-0.4**
	comp=Z,20nm,0.7s,mb5.2,baz=153,slow=5.6,SNR=20						
TVO	**Taravao**	**69.64**	**262**	*e*P	**P**	**12 45 05.5**	**-0.4**
	comp=Z,60nm,0.9s,mb5.5						
TIAR	**Tiarei**	**69.83**	**262**	*e*P	**P**	**12 45 06.9**	**-0.2**
	comp=Z,210nm,1.0s,mb6.0						
PMOR	**Pomariorio Ree**	**69.93**	**265**	*e*P	**P**	**12 45 06.9**	**-0.8**
	comp=Z,28nm,0.9s,mb5.2						
PAE	**Paea**	**69.97**	**262**	*e*P	**P**	**12 45 08.0**	**+0.1**
	comp=Z,184nm,1.2s,mb5.9						
OXF	**Oxford**	**70.01**	**345**	P	**P**	**12 45 06.9**	**-1.0**
OXF				pmax	pmax		
	comp=Z,160nm,0.9s,mb6.0						
OXF	**Oxford**	**70.01**	**345**	*e*P	**P**	**12 45 06.4**	**-1.5**
	comp=Z,169nm,1.0s,mb5.9						
OXF				*e*pP	pP	12 45 11.6	-2.6
PPT	**Papeete**	**70.02**	**262**	*e*P	**P**	**12 45 07.9**	**-0.3**
	comp=Z,100nm,1.2s,mb5.6						
CPCT	**Cooper Cave**	**70.02**	**349**	*e*P	**P**	**12 45 09.5**	**+1.6**
CPCT				*e*pP	pP	12 45 14.9	+0.6
UALR	**University of**	**70.94**	**343**	*e*P	**P**	**12 45 12.9**	**-0.7**
	comp=Z,89nm,1.2s,mb5.6						
BLA	**Blacksburg**	**71.25**	**353**	*e*P	**P**	**12 45 13.5**	**-1.9**
	comp=Z,48nm,0.9s,mb5.4						
WVT	**Waverly**	**71.25**	**347**	P	**P**	**12 45 12.9**	**-2.5**
WVT				pmax	pmax		
	comp=Z,160nm,0.8s,mb6.0						
WVT	**Waverly**	**71.25**	**347**	*e*P	**P**	**12 45 13.8**	**-1.6**
	comp=Z,189nm,0.8s,mb6.1						
WVT				*e*pP	pP	12 45 19.4	-2.3
ELN	**Prospectdale**	**71.30**	**353**	*e*P	**P**	**12 45 14.8**	**-0.8**
FWV	**Forest Hill**	**71.65**	**353**	*e*P	**P**	**12 45 17.3**	**-0.5**
GDL2	**Guadalupe Moun**	**72.43**	**332**	*e*P	**P**	**12 45 21.9**	**-0.6**
WMOK	**Wichita Mounta**	**72.73**	**337**	P	**P**	**12 45 23.4**	**-0.9**
WMOK				pmax	pmax		
	comp=Z,56nm,1.1s,mb5.4						
WMOK	**Wichita Mounta**	**72.73**	**337**	*e*P	**P**	**12 45 23.2**	**-1.0**
	comp=Z,70nm,1.1s,mb5.5						
CPRX	**Cap Rock**	**72.97**	**333**	*e*P	**P**	**12 45 25.4**	**-0.3**
USIN	**University of**	**73.00**	**347**	*e*P	**P**	**12 45 24.0**	**-1.8**
	comp=Z,130nm,0.8s,mb5.9						
MAW	**Mawson**	**73.25**	**164**	P	**P**	**12 45 25.7**	**-0.9**
	comp=Z,22nm,0.6s,mb5.3,baz=218,slow=6.7,SNR=57						
MAW				LR	LR	13 15 15.0	
	comp=Z,3µm,18.5s,MS5.6,baz=236,slow=34						
FVM	**French Village**	**73.57**	**345**	P	**P**	**12 45 27.8**	**-1.2**
FVM				pmax	pmax		
	comp=Z,110nm,1.2s,mb5.7						
FVM	**French Village**	**73.57**	**345**	*e*P	**P**	**12 45 28.0**	**-1.0**
	comp=Z,173nm,1.3s,mb5.8						
CCM	**Cathedral Cave**	**73.81**	**345**	P	**P**	**12 45 28.8**	**-1.7**
CCM				pmax	pmax		
	comp=Z,84nm,0.9s,mb5.7						
CCM	**Cathedral Cave**	**73.81**	**345**	*e*P	**P**	**12 45 29.1**	**-1.4**
	comp=Z,88nm,0.8s,mb5.7						
CCM				*e*pP	pP	12 45 34.6	-2.2
BLO	**Bloomington**	**73.98**	**349**	P	**P**	**12 45 35.4**	**+4.0**
BLO				pmax	pmax		
	comp=Z,63nm,1.0s,mb5.5						
BLO	**Bloomington**	**73.98**	**349**	*e*P	**P**	**12 45 30.5**	**-0.9**
	comp=Z,44nm,0.6s,mb5.6						
BLO				*e*pP	pP	12 45 35.0	-2.7
SLM	**Saint Louis**	**74.16**	**345**	P	**P**	**12 45 36.8**	**+4.4**
SLM				pmax	pmax		
	comp=Z,91nm,1.0s,mb5.7						
SLM	**Saint Louis**	**74.16**	**345**	*e*P	**P**	**12 45 31.7**	**-0.8**
	comp=Z,144nm,1.0s,mb5.9						
SSPA	**Standing Stone**	**74.44**	**356**	PFAKE		12 45 50.0	+16
SSPA				LR	LR		
	comp=Z,1µm,19.0s,MS5.1						
ACSO	**Alum Creek Sta**	**74.51**	**352**	*e*P	**P**	**12 45 32.9**	**-1.5**
	comp=Z,101nm,0.7s,mb5.9						
ACSO				*e*pP	pP	12 45 38.4	-2.4
LIC	**Lamto**	**74.99**	**72**	*e*P	**P**	**12 45 36.9**	**-0.9**
	comp=Z,152nm,1.3s,mb5.8						
BNM	**Barren Site**	**75.04**	**331**	*e*P	**P**	**12 45 38.3**	**+0.6**
LENM	**Lemitar**	**75.19**	**331**	*e*P	**P**	**12 45 38.9**	**+0.4**
TUC	**Tucson**	**75.24**	**327**	P	**P**	**12 45 39.3**	**+0.4**
TUC	**Tucson**	**75.24**	**327**	P	**P**	**12 45 39.2**	**+0.4**
TUC				pmax	pmax		
	comp=Z,28nm,1.1s,mb5.1						
TUC	**Tucson**	**75.24**	**327**	*e*P	**P**	**12 45 39.0**	**+0.1**
	comp=Z,45nm,1.2s,mb5.3						
TUC				*e*pP	pP	12 45 44.0	-1.2
TUC				LR	LR		
	comp=Z,857nm,22.0s,MS5.0						
TIC	**Toumodi**	**75.25**	**71**	*e*P	**P**	**12 45 38.5**	**-0.7**
	comp=Z,332nm,1.4s,mb6.1						
KIC	**Kosan Boka**	**75.30**	**72**	*e*P	**P**	**12 45 39.0**	**-0.5**
	comp=Z,330nm,1.2s,mb6.1						
DBIC	**Dimbokro**	**75.40**	**71**	P	**P**	**12 45 38.3**	**-1.8**
	comp=Z,31nm,1.0s,mb5.2,baz=207,slow=5.4,SNR=22						
DBIC	**Dimbokro**	**75.40**	**71**	P	**P**	**12 45 38.2**	**-1.9**
LAZ	**Ladron**	**75.47**	**331**	*e*P	**P**	**12 45 40.8**	**+0.7**
LAZ				*e*pP	pP	12 45 45.9	-0.5
BRYW	**Bryant College**	**75.55**	**1**	*e*P	**P**	**12 45 40.0**	**-0.4**
	comp=Z,83nm,1.0s,mb5.6						
ANMO	**Albuquerque**	**75.67**	**332⇓**	*e*P	**P**	**12 45 42.2**	**+0.9**
ANMO				pmax	pmax		
	comp=Z,13nm,1.6s						
ANMO	**Albuquerque**	**75.67**	**332**	*e*P	**P**	**12 45 41.6**	**+0.3**
	comp=Z,79nm,1.2s,mb5.5						
ANMO				*e*pP	pP	12 45 46.6	-0.9
ANMO				LR	LR		
	comp=Z,2µm,19.0s,MS5.5						
RAR	**Rarotonga**	**76.43**	**254**	LR	LR	13 11 40.5	
	comp=Z,1µm,18.3s,MS5.3,baz=318,slow=30						
GENY	**Geneseo**	**76.56**	**356**	P	**P**	**12 45 43.8**	**-2.2**
CBKS	**Cedar Bluff**	**76.78**	**338**	P	**P**	**12 45 48.9**	**+1.5**
CBKS				pmax	pmax		
	comp=Z,53nm,0.8s,mb5.5						
CBKS	**Cedar Bluff**	**76.78**	**338**	*e*P	**P**	**12 45 47.5**	**+0.1**
	comp=Z,132nm,1.1s,mb5.8						
CBKS				*e*pP	pP	12 45 52.4	-1.3
ACCN	**Adirondack Com**	**77.02**	**359**	*e*P	**P**	**12 45 48.5**	**-0.1**
NCB	**Newcomb**	**77.61**	**359**	*e*P	**P**	**12 45 51.4**	**-0.5**
	comp=Z,20nm,0.9s,mb5.0						
SDCO	**Great Sand Dun**	**77.77**	**334**	*e*P	**P**	**12 45 53.1**	**+0.2**
	comp=Z,26nm,0.8s,mb5.2						
SDCO				*e*pP	pP	12 45 58.5	-0.8
SDCO				LR	LR		
	comp=Z,2µm,19.0s,MS5.4						
WUAZ	**Wupatki**	**78.20**	**328**	*e*P	**P**	**12 45 56.6**	**+1.3**
	comp=Z,94nm,1.1s,mb5.6						
WUAZ				*e*pP	pP	12 46 01.4	-0.3
WVL	**Waterville**	**78.23**	**2**	*e*P	**P**	**12 45 55.2**	**0.0**
	comp=Z,70nm,0.5s,mb5.8						
BAR	**Barrett**	**78.35**	**323**	*e*P	**P**	**12 45 56.7**	**+0.5**
BAR				*e*pP	pP	12 46 01.9	-0.6
EMMW	**East Machias**	**78.46**	**4**	*e*P	**P**	**12 45 55.7**	**-0.8**
	comp=Z,275nm,1.1s,mb6.1						
SADO	**Sadowa**	**78.64**	**355**	P	**P**	**12 45 56.3**	**-1.2**
	comp=Z,30nm,1.0s,mb5.2,baz=213,slow=2.4,SNR=5.3						
MSNY	**Massena**	**78.66**	**358**	*e*P	**P**	**12 45 56.7**	**-0.9**
PFO	**Pinyon Flat Ob**	**78.99**	**324**	P	**P**	**12 46 01.0**	**+1.3**
PFO				pmax	pmax		
	comp=Z,32nm,1.0s,mb5.2						
PFO	**Pinyon Flat Ob**	**78.99**	**324**	*e*P	**P**	**12 46 00.8**	**+1.2**
	comp=Z,45nm,0.9s,mb5.4						
PFO				*e*pP	pP	12 46 06.0	-0.1
MIR	**Mirnyy**	**79.14**	**174⇑**	*e*P	**P**	**12 46 03.5**	**+3.7**
MIR				pmax	pmax		
	comp=Z,50nm,1.5s,mb5.2						
PV01	**Paradox Valley**	**79.28**	**332**	*e*P	**P**	**12 46 01.8**	**+0.6**
TSUM	**Tsumeb**	**79.44**	**106**	LR	LR	13 16 43.5	
	comp=Z,3µm,19.2s,MS5.6,baz=51,slow=32						
LDFC	**Landfair**	**79.54**	**325**	*e*P	**P**	**12 46 03.8**	**+1.2**
ISCO	**Idaho Springs**	**79.62**	**335**	PFAKE		12 46 10.0	+7.0
ISCO				LR	LR		
	comp=Z,1µm,19.0s,MS5.2						
PV10	**Paradox Valley**	**79.67**	**331**	*e*P	**P**	**12 46 03.2**	**0.0**
NEN	**Nelson**	**79.88**	**326**	*e*P	**P**	**12 46 05.0**	**+0.6**
NEN				*e*pP	pP	12 46 10.3	-0.6
CASY	**Casey**	**80.02**	**181**	*e*P	**P**	**12 46 04.7**	**+0.1**
	comp=Z,84nm,1.1s,mb5.6						
MWC	**Mount Wilson**	**80.28**	**323**	P	**P**	**12 46 07.5**	**+0.9**
MWC	**Mount Wilson**	**80.28**	**323**	*e*P	**P**	**12 46 07.4**	**+0.8**
MSU	**Marysvale**	**81.07**	**329**	P	**P**	**12 46 11.7**	**+1.0**
MSU	**Marysvale**	**81.07**	**329**	*e*P	**P**	**12 46 11.5**	**+0.8**
MSU				*e*pP	pP	12 46 16.8	-0.3
TPNV	**Topopah Spring**	**81.59**	**326**	*e*P	**P**	**12 46 14.2**	**+0.8**
TPNV				pmax	pmax		
	comp=Z,66nm,1.4s,mb5.4						
TPNV	**Topopah Spring**	**81.59**	**326**	*e*P	**P**	**12 46 14.2**	**+0.7**
	comp=Z,66nm,1.4s,mb5.4						
TPNV				*e*pP	pP	12 46 19.7	-0.1
DAC	**Darwin (Calif)**	**81.69**	**325**	*e*P	**P**	**12 46 15.7**	**+1.8**
DAC				pmax	pmax		
	comp=Z,37nm,1.0s,mb5.3						
DAC	**Darwin (Calif)**	**81.69**	**325**	*e*P	**P**	**12 46 15.7**	**+1.7**
	comp=Z,37nm,1.0s,mb5.3						
DAC				*e*pP	pP	12 46 20.1	-0.3
DAU	**Daniels Canyon**	**82.30**	**331**	*e*P	**P**	**12 46 18.0**	**+1.0**
DUG	**Dugway**	**82.75**	**330**	*e*P	**P**	**12 46 19.7**	**+0.3**
DUG				pmax	pmax		
	comp=Z,79nm,1.3s,mb5.6						
DUG	**Dugway**	**82.75**	**330**	*e*P	**P**	**12 46 19.7**	**+0.3**
	comp=Z,79nm,1.3s,mb5.6						
DUG				*e*	pP	12 46 25.3	-0.5
RSSD	**Black Hills**	**82.94**	**338**	PFAKE		12 46 30.0	+10
RSSD				LR	LR		
	comp=Z,1µm,20.0s,MS5.3						
TPH	**Tonopah**	**82.96**	**326**	*e*P	**P**	**12 46 21.3**	**+0.8**
TPH				pmax	pmax		
	comp=Z,60nm,1.1s,mb5.5						
TPH	**Tonopah**	**82.96**	**326**	*e*P	**P**	**12 46 21.3**	**+0.8**
	comp=Z,60nm,1.2s,mb5.5						
TPH				*e*pP	pP	12 46 26.5	-0.5
MTUM	**Tungsten Hills**	**83.02**	**325**	*e*P	**P**	**12 46 22.6**	**+1.7**
HWUT	**Hardware Ranch**	**83.44**	**331**	*e*P	**P**	**12 46 22.8**	**-0.1**
	comp=Z,55nm,1.2s,mb5.5						
HWUT				*e*pP	pP	12 46 28.0	-1.3
HWUT				LR	LR		
	comp=Z,2µm,19.0s,MS5.4						
URZ	**Urewera**	**83.49**	**228**	P	**P**	**12 46 26.3**	**+3.0**
	comp=Z,19nm,0.8s,mb5.2,baz=210,slow=2.0,SNR=7.1						
RPZ	**Rata Peaks**	**83.50**	**221**	P	**P**	**12 46 24.3**	**+1.2**
	comp=Z,59nm,0.9s,mb5.6,baz=171,slow=3.2,SNR=12						
RPZ				LR	LR	13 17 16.6	
	comp=Z,2µm,18.3s,MS5.6,baz=97,slow=31						
LRV	**Little Rabbit**	**83.50**	**322**	*e*P	**P**	**12 46 25.1**	**+1.8**
PDAR	**Pinedale Array**	**83.66**	**333**	P	**P**	**12 46 23.6**	**-0.3**
	comp=Z,2.2nm,0.9s,mb4.3,baz=135,slow=4.2,SNR=17						
PDAR				PKKPbc		13 04 45.1	
	comp=Z,0.5nm,0.6s,baz=315,slow=1.3,SNR=4.5						
MNV	**Mina**	**83.68**	**325**	*e*P	**P**	**12 46 25.0**	**+0.8**
MNV				pmax	pmax		
	comp=Z,16nm,1.0s,mb5.1						
MNV	**Mina**	**83.68**	**325**	*e*P	**P**	**12 46 25.0**	**+0.8**
	comp=Z,16nm,1.0s,mb5.1						
MNV				*e*pP	pP	12 46 29.8	-0.8
HVU	**Hansel Valley**	**84.07**	**331**	P	**P**	**12 46 26.5**	**+0.5**
HVU	**Hansel Valley**	**84.07**	**331**	*e*P	**P**	**12 46 26.0**	**0.0**
AHID	**Auburn Hatcher**	**84.24**	**332**	PFAKE		12 46 40.0	+13
AHID				LR	LR		
	comp=Z,1µm,21.0s,MS5.3						
ELK	**Elko**	**84.24**	**329**	P	**P**	**12 46 27.5**	**+0.6**
ELK				pmax	pmax		
	comp=Z,31nm,1.0s						
ELK	**Elko**	**84.24**	**329**	*e*P	**P**	**12 46 27.5**	**+0.6**
	comp=Z,50nm,1.0s,mb5.6						
REDW	**Red Top Meadow**	**84.65**	**333**	*e*P	**P**	**12 46 29.0**	**+0.1**
TPAW	**Teton Pass**	**84.80**	**333**	*e*P	**P**	**12 46 29.8**	**+0.2**
WCN	**Washoe City**	**85.13**	**325**	P	**P**	**12 46 33.7**	**+2.3**
WCN				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.9						
WCN	**Washoe City**	**85.13**	**325**	*e*P	**P**	**12 46 33.5**	**+2.1**
	comp=Z,16nm,1.0s,mb5.1						
ASMM	**Slate Mountain**	**85.20**	**324**	*e*P	**P**	**12 46 35.1**	**+3.3**
YMR	**Madison River**	**85.81**	**333**	*e*P	**P**	**12 46 35.7**	**+1.1**
NSHM	**Saint Helena R**	**85.92**	**323**	*e*P	**P**	**12 46 36.7**	**+1.3**
NSHM				*e*pP	pP	12 46 41.8	0.0
LAO	**LASA Array**	**85.93**	**337**	*e*P	**P**	**12 46 34.6**	**-0.6**
	comp=Z,63nm,1.2s,mb5.7						
LAO				*e*pP	pP	12 46 40.1	-1.5
OHCM	**Honcut**	**85.99**	**324**	*e*P	**P**	**12 46 36.6**	**+0.9**
QLMT	**Earthquake Lak**	**86.12**	**333**	*e*P	**P**	**12 46 37.2**	**+0.9**
HLID	**Hailey**	**86.22**	**331**	*e*P	**P**	**12 46 37.5**	**+0.7**
	comp=Z,57nm,1.3s,mb5.6						
HLID				LR	LR		
	comp=Z,2µm,19.0s,MS5.4						
ULM	**Lac du Bonnet**	**86.43**	**345**	P	**P**	**12 46 37.0**	**-0.6**
	baz=270,slow=20						
MCMT	**McKenzie Canyo**	**86.66**	**332**	*e*P	**P**	**12 46 39.5**	**+0.6**
BOZ	**Bozeman (W)**	**86.89**	**334**	PFAKE		12 46 50.0	+10
BOZ				LR	LR		
	comp=Z,2µm,19.0s,MS5.4						
DGMT	**Dagmar**	**86.90**	**339**	*e*P	**P**	**12 46 39.8**	**-0.1**
	comp=Z,190nm,1.4s,mb6.1						
WVOR	**Wild Horse Val**	**87.10**	**328**	PFAKE		12 46 50.0	+9.0
WVOR				LR	LR		
	comp=Z,1µm,19.0s,MS5.4						
MOD	**Modoc**	**87.43**	**326**	*e*P	**P**	**12 46 43.4**	**+0.7**
	comp=Z,30nm,0.9s,mb5.5						
MOD				*e*pP	pP	12 46 48.7	-0.4
WDC	**Whiskeytown Da**	**87.47**	**324**	P	**P**	**12 46 42.4**	**-0.5**
WDC				pmax	pmax		
	comp=Z,27nm,0.9s,mb5.5						
WDC	**Whiskeytown Da**	**87.47**	**324**	*e*P	**P**	**12 46 42.3**	**-0.5**
	comp=Z,27nm,0.7s,mb5.6						
WDC				*e*pP	pP	12 46 47.6	-1.7
HRY	**Holter Researc**	**87.87**	**334**	*e*P	**P**	**12 46 44.5**	**-0.1**
KHMM	**Horse Mountain**	**88.27**	**324**	*e*P	**P**	**12 46 48.0**	**+1.3**
KHMM				*e*pP	pP	12 46 53.5	+0.3
YBH	**Yreka Blue Hor**	**88.43**	**325**	P	**P**	**12 46 47.1**	**-0.3**
	comp=Z,24nm,1.1s,mb5.3,baz=106,slow=15,SNR=10.0						
YBH	**Yreka Blue Hor**	**88.43**	**325**	P	**P**	**12 46 47.8**	**+0.3**
YBH				pmax	pmax		
	comp=Z,17nm,0.9s						
YBH	**Yreka Blue Hor**	**88.43**	**325**	*e*P	**P**	**12 46 47.0**	**-0.4**
	comp=Z,21nm,0.9s,mb5.4						
YBH				*e*pP	pP	12 46 52.4	-1.6
CHMT	**Chamberlain Mo**	**88.56**	**333**	*e*P	**P**	**12 46 48.3**	**+0.4**
SCHQ	**Schefferville**	**88.59**	**3**	P	**P**	**12 46 46.0**	**-1.8**
	comp=Z,23nm,1.2s,mb5.4,baz=180,slow=3.4,SNR=8.6						
VIPM	**Ingram Point**	**89.62**	**328**	P	**P**	**12 46 54.4**	**+1.4**
VGB	**Gordon Butte**	**90.48**	**328**	*e*P	**P**	**12 46 58.3**	**+1.3**
OD2	**Odessa Site #2**	**91.09**	**331**	P	**P**	**12 47 00.3**	**+0.6**
NEW	**Newport**	**91.16**	**332**	P	**P**	**12 47 00.1**	**+0.1**
	comp=Z,3.4nm,0.8s,mb4.7,baz=176,slow=5.0,SNR=4.9						
DPW	**Davenport**	**91.27**	**331**	P	**P**	**12 47 01.0**	**+0.4**
DPW	**Davenport**	**91.27**	**331**	*e*P	**P**	**12 47 00.5**	**0.0**
BMW	**Boistfort Moun**	**92.31**	**328**	P	**P**	**12 47 07.0**	**+1.6**
BMW	**Boistfort Moun**	**92.31**	**328**	*e*P	**P**	**12 47 05.7**	**+0.3**
RPW	**Rockport**	**93.08**	**330**	*e*P	**P**	**12 47 08.1**	**-0.8**
OCWA	**Octopus Mounta**	**93.70**	**328**	PFAKE		12 47 20.0	+8.3
OCWA				LR	LR		
	comp=Z,2µm,19.0s,MS5.6						
ESDC	**Sonseca Array**	**96.74**	**46**	P	**P**	**12 47 25.2**	**-0.6**
	comp=Z,0.3nm,0.4s,mb4.1,baz=247,slow=3.0,SNR=6.3						
ESDC				LR	LR	13 30 22.6	
	comp=Z,1µm,18.0s,MS5.5,baz=175,slow=35						
DIV	**Divide**	**111.83**	**330**	PFAKE		12 52 40.0	+7.6
DIV				LR	LR		
	comp=Z,4µm,19.0s,MS6.0						
MOX	**Moxa**	**111.92**	**43**	*e*P	PKPdf	12 52 30.0	-2.9
GERES	**GERESS Array B**	**112.31**	**45**	PKiKP		12 52 30.0	
	comp=Z,0.4nm,0.3s,baz=225,slow=1.4,SNR=6.6						
PMR	**Palmer**	**113.46**	**329**	PFAKE		12 52 40.0	+4.2
PMR				LR	LR		
	comp=Z,1µm,19.0s,MS5.5						
COLA	**College**	**114.50**	**333**	*i* PKP	PKPdf	12 52 34.3	-3.4
COLA				LR	LR		
	comp=Z,1µm,22.0s,MS5.5						
ASAR	**Alice Springs**	**117.47**	**207**	PKP	PKPdf	12 52 41.3	-3.1
	comp=Z,2.3nm,0.9s,baz=113,slow=1.9,SNR=7.4						
ESKT	**Eskisehir**	**119.94**	**60**	*i* P	PKPdf	12 52 46.4	-2.5
WB2	**Warramunga Arr**	**120.65**	**209**	*e*P	PKPdf	12 52 46.1	-4.6
WRA	**Warramunga Arr**	**120.65**	**209**	PKP	PKPdf	12 52 46.1	-4.6
	comp=Z,3.7nm,1.0s,baz=154,slow=1.8,SNR=15						
BRTR	**Keskin Array B**	**122.03**	**61**	PKP	PKPdf	12 52 49.6	-3.3
	comp=Z,4.7nm,1.0s,baz=180,slow=4.9,SNR=12						
AKASG	**Malin Array Be**	**122.36**	**48**	PKP	PKPdf	12 52 48.4	-4.9
	comp=Z,4.8nm,0.8s,baz=275,slow=2.7,SNR=18						
AVNT	**Avonos**	**122.61**	**62**	*i* P	PKPdf	12 52 49.4	-4.6
VSU	**Vasula**	**122.83**	**38**	*e*PKPr		12 52 48.9	
FINES	**FINESS Array B**	**123.12**	**35**	PKP	PKPdf	12 52 50.0	-4.5
	comp=Z,7.6nm,1.0s,baz=207,slow=8.5,SNR=5.7						
KAF	**Kangasniemi**	**123.35**	**34**	*e*p	PKPdf	12 52 50.1	-4.8
KAHT	**Ahir Dag**	**123.72**	**64**	*i* P	PKPdf	12 52 54.2	-2.1
SIM	**Simferopol’**	**123.97**	**55*c***	*i*PKIKP	PKPdf	12 52 53.4	-3.2
SIM				pmax	pmax		
	comp=Z,6µm,18.0s						
ARCES	**ARCESS Array B**	**124.11**	**25**	PKP	PKPdf	12 52 51.2	-5.1
	comp=Z,3.6nm,0.9s,baz=243,slow=2.7,SNR=6.4						
ARCES	**ARCESS Array B**	**124.11**	**25**	PKP	PKPdf	12 52 51.2	-5.1
GZT	**Gaziantep**	**124.15**	**65**	*i* P	PKPdf	12 52 54.4	-2.7
MALT	**Malatya**	**125.11**	**64**	*e*PKPdf	PKPdf	12 52 56.1	-2.8
FITZ	**Fitzroy Crossi**	**125.44**	**201**	*e*P	PKPdf	12 52 56.1	-3.9
	comp=Z,6.5nm,0.9s						
FITZ	**Fitzroy Crossi**	**125.44**	**201**	PKP	PKPdf	12 52 56.3	-3.7
	comp=Z,6.2nm,0.9s,baz=141,slow=2.9,SNR=5.9						
ELZG	**Elazig**	**125.58**	**64**	*i* P	PKPdf	12 52 57.5	-2.3
OBN	**Obninsk**	**127.59**	**43*d***	*i*PKIKP	PKPdf	12 52 58.8	-4.4
OBN				pmax	pmax		
	comp=Z,41nm,1.4s						
OBN	**Obninsk**	**127.59**	**43**	*i* PKPr		12 52 58.8	
OBN				LR	LR		
	comp=Z,2µm,20.0s,MS5.9						
GOF	**Gofitskoye**	**130.15**	**57⇓**	*i*PKIKP	PKPdf	12 53 06.0	-2.4
GOF				pmax	pmax		
	comp=Z,40nm,1.2s						
ZEI	**Tsey**	**130.30**	**60**	*e*PKIKP	PKPdf	12 53 04.0	-4.7
ARU	**Arti**	**139.89**	**41**	*e*PKIKP	PKPdf	12 53 27.1	+1.0
TIXI	**Tiksi**	**140.65**	**350⇑**	*i*PKIKP	PKPdf	12 53 21.9	-5.1
TIXI				*e*		13 00 24.4	
TIXI				pmax	pmax		
	comp=Z,10.0nm,1.0s						
TIXI				MLR	MLR		
	comp=Z,900nm,19.0s,MS5.5						
AB31	**Akbulak array**	**141.86**	**52**	PKHKP		12 53 19.6	
AB31				pmax	pmax		
	comp=Z,7.0nm,0.7s						
MA2	**Magadan**	**141.99**	**326**	*i* PKIKP	PKPdf	12 53 29.7	+0.1
MA2	**Magadan**	**141.99**	**326**	*i* PKP	PKPdf	12 53 29.8	+0.2
KAD	**Karad**	**145.73**	**111⇓**	*i*P	PKPbc	12 53 33.0	-1.0
POO	**Poona**	**146.16**	**108⇓**	*i*P	PKPbc	12 53 35.0	0.0
ZRNK	**Zerenda**	**146.67**	**43**	PKP2	PKPab	12 53 35.1	-3.5
ZRNK				pmax	pmax		
	comp=Z,78nm,1.1s						
ZRNK	**Zerenda**	**146.67**	**43**	*e*PKPdf	PKPdf	12 53 34.9	-2.9
BRVK	**Borovoye**	**147.36**	**43**	*e*PKIKP	PKPdf	12 53 36.0	-3.0
CUD	**Cuddapah**	**147.42**	**120**	*e*P	PKPdf	12 53 40.1	-0.1
CUD				*e*		12 57 32.1	
CUD				*e*		13 01 05.7	
CUD				*e*		13 03 56.4	
BVA0	**Borovoye Array**	**147.43**	**43**	*i* PKIKP	PKPdf	12 53 35.3	-3.8
BVAR	**Borovoye Array**	**147.43**	**43**	PKPbc	PKPdf	12 53 36.5	-2.6
	comp=Z,12nm,0.5s,baz=290,slow=2.0,SNR=47						
VOSK	**Vostochnaya**	**147.88**	**43**	PKIKP	PKPdf	12 53 37.2	-2.6
VOSK				pmax	pmax		
	comp=Z,38nm,0.9s						
KGM	**Kluang**	**147.92**	**172⇑**	*e*P	PKPdf	12 53 41.3	+0.2
YAK	**Yakutsk**	**148.65**	**340**	*e*PKP2	PKPab	12 53 41.1	-5.1
YAK				pmax	pmax		
	comp=Z,45nm,1.3s						
YAK				pmax	pmax		
	comp=N,7.0nm,1.5s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.2s						
YAK	**Yakutsk**	**148.65**	**340**	*e*PKPdf	PKPdf	12 53 37.6	-3.2
YAK				*e*PKPbc	PKPdf	12 53 41.0	+0.3
HYB	**Hyderabad**	**149.14**	**115**	*i* PKP	PKPdf	12 53 40.5	-2.4
HYB				*e*		12 53 48.0	
HYB	**Hyderabad**	**149.14**	**115**	*e*PKP	PKPdf	12 53 40.5	-2.4
KKAR	**Karatay Array**	**149.75**	**61**	*i* PKP2	PKPab	12 53 44.1	-7.2
KKAR				pmax	pmax		
	comp=Z,26nm,0.9s						
IPM	**Ipoh**	**150.08**	**167**	*e*P	PKPdf	12 53 45.5	+1.0
YSS	**Yuzh-Sakhalins**	**150.61**	**307**	*e*PKIKP	PKPdf	12 53 46.2	+1.9
YSS				pmax	pmax		
	comp=Z,70nm,1.1s						
YSS	**Yuzh-Sakhalins**	**150.61**	**307**	*e*PKPbc	PKPdf	12 53 47.2	+2.8
KGD	**Kothagudem**	**150.81**	**117**	*e*PKiK		12 53 47.4	
KGD				*e*PKP	PKPdf	12 53 53.0	+7.5
KGD				*e*PP	PP	12 57 22.8	-5.0
AAK	**Ala-Archa**	**152.71**	**62**	PKIKP	PKPdf	12 53 45.2	-2.3
AAK	**Ala-Archa**	**152.71**	**62**	*e*PKPdf	PKPdf	12 53 44.5	-3.1
AAK				*e*PKPbc	PKPdf	12 53 51.5	+4.0
VIS	**Vishakhapatnam**	**152.84**	**121**	*e*	PKPdf	12 53 52.0	+3.6
NVS	**Novosibirsk**	**153.06**	**32**	*i* PKIKP	PKPdf	12 53 44.2	-3.4
NVS				*e*		12 57 37.7	
NVS				pmax	pmax		
	comp=E,24nm,1.3s						
NVS				pmax	pmax		
	comp=Z,83nm,1.3s						
ZAL	**Zalesovo**	**154.34**	**32**	PKP	PKPdf	12 53 46.2	-3.2
	comp=Z,4.7nm,1.1s,baz=102,slow=2.3,SNR=17						
MKAR	**Makanchi Array**	**156.94**	**49**	PKP	PKPdf	12 53 50.5	-2.6
	comp=Z,9.9nm,1.2s,baz=270,slow=1.2,SNR=13						
MKAR				PKPab	PKPab	12 54 20.0	-1.5
	comp=Z,7.2nm,0.6s,baz=277,slow=2.9,SNR=19						
MKAR	**Makanchi Array**	**156.94**	**49**	PKP	PKPdf	12 53 50.5	-2.6
MKAR				PKPab	PKPab	12 54 20.0	-1.5
KOLN	**Koldanda**	**158.44**	**100**	*e*P	PKPdf	12 53 52.9	-2.7
	comp=Z,60nm,1.3s						
GKN	**Gorkha**	**159.38**	**101**	*e*P	PKPdf	12 53 53.8	-2.9
	comp=Z,70nm,1.3s						
DMN	**Daman**	**159.61**	**102**	*e*P	PKPdf	12 53 54.5	-2.5
KKN	**Kakani**	**159.82**	**102**	*e*P	PKPdf	12 53 54.3	-2.9
PKI	**Pulchoki**	**159.84**	**103**	*e*P	PKPdf	12 53 54.0	-3.2
	comp=Z,57nm,1.4s						
MDJ	**Mudanjiang**	**160.06**	**309**	PKP	PKPdf	12 53 55.0	-1.9
WMQ	**Urumqi**	**161.65**	**52**	*e*PKP	PKPdf	12 53 55.7	-2.8
WMQ				*e*PP	PP	12 58 26.3	-0.2
WMQ				PP	PP		
	comp=Z,489nm,10.0s						
WMQ				LR	LR		
	comp=N,423nm,20.0s						
WMQ				LR	LR		
	comp=E,612nm,19.0s						
WMQ				LR	LR		
	comp=Z,752nm,20.0s						
CMAR	**Chiang Mai Arr**	**162.66**	**151**	PKP	PKPdf	12 53 57.7	-2.5
	comp=Z,6.1nm,1.1s,baz=258,slow=1.8,SNR=24						
CHG	**Chiang Mai**	**162.99**	**151**	⇑P	PKPdf	12 54 03.5	+2.9
	comp=Z,10nm,1.2s						
NANT	**Nan**	**163.63**	**156**	P	PKPdf	12 53 58.0	-3.2
SONM	**Songino Array**	**166.14**	**4**	PKP	PKPdf	12 53 60.0	-2.8
	comp=Z,1.5nm,1.0s,slow=1.2,SNR=7.3						
SONM				PKPab	PKPab	12 55 01.5	+0.2
	comp=Z,6.1nm,1.0s,baz=333,slow=2.8,SNR=14						
SONM				PP	PP	12 58 49.6	-0.2
	comp=Z,2.4nm,1.1s,baz=297,slow=2.8,SNR=4.9						
SSE	**Sheshan**	**168.25**	**259**	*e*PKP	PKPdf	12 54 05.4	+0.7
KMI	**Kunming**	**170.17**	**153**	*e*PKP	PKPdf	12 54 02.9	-3.1
KMI				APKP		12 54 08.9	
KMI				PKP2	PKPab	12 55 19.6	-0.1
KMI				PP	PP	12 59 10.8	+0.1
KMI				LR	LR		
	comp=Z,753nm,20.0s						
NJ2	**Nanjing**	**170.42**	**261**	*e*PKP	PKPdf	12 54 03.1	-2.8
NJ2				PP	PP	12 59 16.0	+4.2
NJ2				SKS	SKS	13 01 01.0	-7.6
BJI	**Beijing**	**170.92**	**314**	PKP	PKPdf	12 54 06.5	+0.5
GTA	**Gaotai**	**171.69**	**47**	*e*PKP	PKPdf	12 54 03.5	-3.0
GTA				APKP		12 54 08.5	
GTA				XPKP		12 54 10.5	
GTA				PKP2	PKPab	12 55 27.1	+1.0
GTA				PKS	PKS	12 57 34.5	+0.8
GTA				PP	PP	12 59 20.9	+3.0
GTA				SKS	SKS	13 01 05.4	-3.5
GTA				PP	PP		
	comp=Z,206nm,8.0s						
GTA				LR	LR		
	comp=N,283nm,17.1s						
GTA				LR	LR		
	comp=E,211nm,17.5s						
GTA				LR	LR		
	comp=Z,436nm,18.3s						
GYA	**Guiyang**	**172.44**	**173**	PKP	PKPdf	12 54 05.4	-1.9
GYA				PKS	PKS	12 57 36.8	+2.5
GYA				PP	PP		
	comp=Z,1µm,8.9s						
HHC	**Hu-ho-hao-te**	**172.50**	**337**	*e*PKP	PKPdf	12 54 07.9	+1.0
WHN	**Wuhan**	**173.39**	**240**	*e*PKP	PKPdf	12 54 04.8	-2.8
LZH	**Lanzhou**	**176.22**	**55**	*e*PKP	PKPdf	12 54 06.7	-1.5
LZH				APKP		12 54 11.8	

LZH				XPKP		12 54 15.2	
LZH				PKP2	PKPab	12 55 46.5	+0.3
LZH				PP	PP	12 59 40.0	-0.4
LZH				SKKS		13 06 22.0	
LZH				SS	SS	13 21 01.0	-3.1
LZH	comp=Z,350nm,6.0s			PP	PP		
LZH	comp=E,1μm,18.6s			LR	LR		
LZH	comp=Z,1μm,21.0s			LR	LR		
XAN	Xi'an	178.97	273	PKP	PKPdf	12 54 06.0	-2.6

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*NEIC **07** 12:40:56.9±2.3, 37.32N×138.97E, h9^{km}±13^{km}, mb4.6/2, Error ellipse: s-maj=17.0km s-min=10.3km az=87.0*

NEIC Recorded [4 JMA] in Niigata and [1 JMA] in Fukushima, Gumma, Nagano and Saitama Prefectures.

*JMA **07** 12:40:57.5±0.2, 37.40N×138.93E, M4.3 Broadband fault plane solution: P waves. NP1:φ$_s$56°, δ40°, λ99°. NP2: φ$_s$224°, δ50°, λ82°. Principal axes: T Plg82°, Azm91°; N Plg6°, Azm228°; P Plg5°, Azm319°;*

JMA Felt IV J1.

*IDC **07** 12:41:01.1±7.2, 37.37N×138.85E, h33^{km}±55^{km}, mb3.7/12, mb1 3.9/13, mb1mx3.8/23, ML3.8/1 Error ellipse: s-maj=24.3km s-min=16.0km az=89.0*

ISC 07 12:40:57.2±0.5**, 37.37N**±0.03×**138.96E**±0.06**, h22**^{km}±3^{km}**, n27, σ0^{s}96**/31**, mb3.9**/14**, 1C-3D, Near west coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHK	Hiroka	0.13	160	⇓P	Pb	12 41 01.2	-0.4
JHK				*e*S	Sb	12 41 04.1	-0.5
JIZZ	Izumozaki	0.26	309	⇓P	Pb	12 41 02.6	-0.7
JIZZ				*e*S	Sb	12 41 07.1	-0.4
JNS	Sasagawa	0.53	32	⇑P	Pb	12 41 07.7	0.0
JNS				*e*S	Sb	12 41 15.2	+0.3
JKT	Katashina	0.64	159	⇓P	Pb	12 41 10.6	+1.0
MAJO	Matsushiro	1.02	216	*e*Pn	Pn	12 41 16.1	-0.2
MAJO				*e*S	Sb	12 41 30.2	+1.1
MAT	Matsushiro	1.02	216	P	Pb	12 41 16.3	+0.2
MAT				S	Sb	12 41 29.9	+0.8
MAT	Matsushiro	1.02	216	*e*P	Pb	12 41 16.0	-0.1
MAT				*e*S	Sb	12 41 30.0	+0.9
ASAJ	Asahikawa 1.6nm,0.3s,baz=241,slow=7.9,SNR=10	7.28	21	Pn	Pn	12 42 46.1	+1.0
ENH	Enshi 12nm,0.9s,mb4.4	25.42	263	P	P	12 46 25.3	+0.4
SONM	Songino Array 0.9nm,0.8s,mb3.3,baz=112,slow=6.7,SNR=6.9	25.98	304	P	P	12 46 29.2	-0.7
MKAR	Makanchi Array 0.4nm,0.5s,mb3.3,baz=90,slow=11,SNR=3.9	42.28	301	P	P	12 48 52.4	+1.8
KURK	Kurchatov	44.18	308	P	P	12 49 21.4	+15
BVAR	Borovoye Array 1.6nm,0.5s,baz=102,slow=4.0,SNR=9.4	48.89	312	PcP	PcP	12 51 07.3	-0.5
ILAR	Eielson Array 0.5nm,0.7s,mb3.6,baz=269,slow=5.9,SNR=9.2	50.26	32	P	P	12 49 53.2	-0.3
FITZ	Fitzroy Crossi 1.8nm,0.7s,mb4.2,baz=326,slow=7.3,SNR=4.4	56.58	195	P	P	12 50 40.9	+0.1
WRAB	Tennant Creek 2.5nm,0.5s,mb4.5	57.16	185	*e*P	P	12 50 42.8	-2.2
WB2	Warramunga Arr	57.17	185	*e*P	P	12 50 44.0	-1.0
WRA	Warramunga Arr 1.0nm,0.5s,mb4.1,baz=360,slow=7.5,SNR=33	57.17	185	P	P	12 50 44.2	-0.8
WRA	1.4nm,0.9s,baz=360,slow=4.4,SNR=5.3			PcP	PcP	12 51 39.5	+0.2
ASAR	Alice Springs 0.4nm,0.4s,mb3.9,baz=0.9,slow=4.8,SNR=8.7	60.89	185	P	P	12 51 09.3	-1.4
FINES	FINESS Array B 1.3nm,0.8s,mb4.0,baz=333,slow=4.3,SNR=4.2	67.59	331	P	P	12 51 54.0	+0.1
AKASG	Malin Array Be 0.5nm,0.3s,mb3.9,baz=39,slow=6.1,SNR=4.2	72.82	321	P	P	12 52 24.1	-1.6
NB2	NORSAR Subarra 0.9nm,0.7s,mb3.8,baz=40,slow=5.3	73.11	336	P	P	12 52 26.6	-0.6
NOA	NORSAR Array B 1.3nm,0.7s,mb4.0,baz=39,slow=5.7,SNR=4.6	73.11	336	P	P	12 52 27.2	0.0
PDAR	Pinedale Array 0.9nm,0.8s,mb3.8,baz=297,slow=3.3,SNR=4.9	78.81	44	P	P	12 53 01.4	+1.6
GERES	GERESS Array B 0.7nm,0.5s,mb3.9,baz=45,slow=4.2,SNR=3.5	81.38	327	P	P	12 53 13.9	+0.5
TXAR	Lajitas Array 0.7nm,0.8s,mb4.1,baz=296,slow=5.0,SNR=5.2	91.45	51	P	P	12 54 04.8	+1.7
LPAZ	La Paz 1.8nm,0.3s,baz=322,slow=4.0,SNR=3.9	148.17	56	PKPbc	PKPdf	13 00 45.7	+2.9

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*JMA **07** 12:42:42.3±0.2, 33.06N×137.07E, h43^{km}, M3.7*

ISC 07 12:42:42.9±1.3**, 33.10N**±0.08×**137.06E**±0.05**, h43**^{km}**, n13, σ0^{s}38**/20**, 5D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK02	Tokai 2	1.03	34	S	S	12 43 14.3	-0.2
JWZ	Kozaga	1.21	291	⇓P	P	12 43 03.3	-0.3
JWZ				S	S	12 43 18.5	-0.6
TK03	Tokai 3	1.30	35	S	S	12 43 21.3	-0.3
JIE	Ise	1.32	347	⇓P	P	12 43 05.6	+0.2
JKN	Kiinagashima	1.33	330	P	P	12 43 05.5	+0.1
JKN				S	S	12 43 21.5	-0.6
TK04	Tokai 4	1.45	28	⇓P	P	12 43 06.8	-0.4
TK04				S	S	12 43 24.9	-0.3
JWM	Minabe	1.61	298	P	P	12 43 09.3	-0.1
JWY	Kouya	1.66	313	⇓P	P	12 43 10.6	+0.5
JWY				S	S	12 43 30.7	+0.4
TSUJ	Tsu 2	1.69	342	P	P	12 43 10.7	+0.1
TSUJ				S	S	12 43 31.7	+0.5
JHE	Heguri	1.93	324	⇓P	P	12 43 14.2	+0.3
JHE				S	S	12 43 37.5	+0.5
SHZ3	Shizuoka 3	2.18	26	P	P	12 43 17.6	+0.1
JIZS	Izushimoda	2.21	43	P	P	12 43 18.4	+0.4
JAI	Aioi	2.29	288	P	P	12 43 19.4	+0.3
JAI				S	S	12 43 45.6	-0.6

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*TIR **07** 12:51:30.5, 41.67N×20.20E, h19^{km}, Ml3.1*

*PDG **07** 12:51:31.0±0.2, 41.64N×20.19E, h10^{km}±1^{km}*

*NEIC **07** 12:51:31.0, 41.64N×20.19E, h10^{km}, ML3.5(PDG), After PDG.*

*THE **07** 12:51:39.3, 41.41N×20.49E, h20^{km}, ML3.4*

ISC 07 12:51:31.5±0.3**, 41.67N**±0.02×**20.19E**±0.02**, h14**^{km}±2^{km}**, n48, σ1^{s}27**/81**, 12C-5D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PHP	Peshkopia	0.19	85	*i* Pg	Pg	12 51 35.8	-0.2
PHP				*i* Sg	Sg	12 51 38.5	-0.5
QSH	Qafa e Shtames	0.26	236	*i* Pg	Pg	12 51 38.0	+0.7
QSH				*i* Sg	Sg	12 51 42.6	+1.5
TIR	Tirane	0.40	218	*i* Pg	Pg	12 51 38.5	-1.4
TIR				*i* Sg	Sg	12 51 45.5	-0.1
PUK	Puka	0.44	329	*i* Pg	Pg	12 51 39.8	-0.8
PUK				*i* Sg	Sg	12 51 47.6	+1.0
SDA	Shkodra	0.65	307	*i* Pg	Pg	12 51 44.5	-0.1
SDA				*i* Sg	Sg	12 51 54.2	+0.8
BCI	Bajram Curri	0.70	352	*i* Pg	Pg	12 51 44.9	-0.9
BCI				*i* Sg	Sg	12 51 56.9	+1.6
ULC	Ulcinj	0.76	293	⇑*i*Pg	Pg	12 51 45.4	-1.6
ULC				*e*Sg	Sg	12 51 57.5	+0.2
PVY	Plav	0.94	350	⇑*i*Pg	Pg	12 51 48.6	-1.9
PVY				*e*Sg	Sg	12 52 03.9	+0.7
SKO	Skopje	0.98	72	*i* Pg	Pg	12 51 49.6	-1.7
SKO				*i*		12 51 53.0	
SKO				*i* Sg	Sg	12 52 04.5	+0.1
SKO	comp=Z,0.6nm,0.5s			Lg		12 52 05.0	
TTG	Podgorica	1.03	318	⇑*i*Pg	Pg	12 51 50.2	-2.1
TTG				*e*Sg	Sg	12 52 07.2	+1.2
BIA	Bitola	1.07	127	⇑*i*Pn	Pn	12 51 51.7	-0.4
BIA				*i*		12 51 52.8	
BIA				*i* Sg	Sg	12 52 08.4	+1.0
KBN	Korca	1.14	156	*i* Pg	Pg	12 51 53.3	-1.0
KBN				*i* Sg	Sg	12 52 11.5	+1.9
BUM	Brajici-Budva	1.15	304	⇓*i*Pg	Pg	12 51 52.8	-1.9
BUM				*e*Sg	Sg	12 52 11.1	+0.9
IVA	Berane	1.22	350	*e*Pg	Pg	12 51 53.5	-2.5
IVA				*e*Sg	Sg	12 52 13.7	+1.3
FNA	Florina comp=Z,14nm,0.2s	1.26	134	*e*Pg	Pg	12 51 54.8	-1.9
FNA				*e*Sg	Sg	12 52 07.9	-5.6
NKY	Niksic	1.45	323	⇓*i*Pg	Pg	12 51 58.1	-2.4
NKY				*e*Sg	Sg	12 52 21.1	+1.2
HCY	Herceg Novi	1.48	302	⇑*i*Pg	Pg	12 51 58.3	-2.9
HCY				*e*Sg	Sg	12 52 21.7	+0.6
BARS	Barje	1.67	46	⇓*i*Pn	Pn	12 52 01.6	+0.9
BARS				Sn	Sn	12 52 26.3	+4.3
KPJ	Monastery St.	1.71	71	*e*Pn	Pn	12 52 02.6	+1.4
KPJ				*i*		12 52 03.9	
KPJ				*e*Sn	Sn	12 52 27.4	+4.5
KPJ				*i*		12 52 28.6	
BRY	Bratogost	1.74	316	⇑*i*Pn	Pn	12 52 02.6	+1.1
BRY				*e*Sn	Sn	12 52 29.4	+5.8
PLE	Pljevlja	1.76	341	⇑*i*Pn	Pn	12 52 04.2	+2.2
PLE				*e*Sn	Sn	12 52 29.9	+5.6
UPM	Unac-Piva	1.80	329	*e*Pn	Pn	12 52 04.9	+2.3
UPM				*e*Sn	Sn	12 52 31.5	+6.2
GRG	Griva	1.81	112	*e*Pb	Pb	12 52 03.9	-0.1
GRG				*e*Sb	Sb	12 52 22.6	-3.8
VAY	Valandovo	1.82	100	*i* Sg	Sg	12 52 29.9	-2.3
MEV	Metsovon	2.04	157	*e*Pb	Pb	12 52 07.0	-1.0
KNT	Kendrikon comp=Z,8.1nm,0.6s	2.10	103	*e*Pb	Pb	12 52 08.3	-0.6
KNT				*e*Sb	Sb	12 52 30.5	-4.3
IGT	Igoumenitsa	2.14	177	*e*Pb	Pb	12 52 08.7	-0.8
KKB	Krupnik	2.17	84	*i* P	Pn	12 52 08.0	+0.2
GRUS	Gruza	2.25	10	⇓*i*Pn	Pn	12 52 09.6	+0.6
GRUS				Sn	Sn	12 52 34.1	-2.7
THE	Thessaloniki	2.34	115	*e*Pn	Pn	12 52 11.2	+1.0
LIT	Litokhoron comp=Z,6.2nm,0.6s	2.34	131	*e*Pn	Pn	12 52 10.4	+0.1
VTS	Vitosha	2.43	67	*i* P	Pn	12 52 13.0	+1.5
DIVS	Divcibare	2.43	357	⇑*i*Pn	Pn	12 52 12.5	+0.9
DIVS				Sn	Sn	12 52 39.1	-2.3
BOLS	Boljevac	2.52	30	⇑*i*Pn	Pn	12 52 16.3	+3.4
BOLS				Sn	Sn	12 52 44.1	+0.4
SRS	Serrai	2.62	101	*e*Pn	Pn	12 52 15.4	+1.2
MMB	Musomiste	2.65	91	*e*P	Pn	12 52 16.0	+1.3
SVIS	Svilajnac	2.73	16	*e*Pn	Pn	12 52 18.4	+2.6
SVIS				Sn	Sn	12 52 47.6	-1.4
LKD	Levkas	2.98	173	*e*Pn	Pn	12 52 20.3	+0.9
RZN	Rozhen	3.39	88	*e*P	Pn	12 52 27.0	+1.8
VISS	Visnje	5.67	319	*i* Pn	Pn	12 52 57.9	+0.5
JAVS	Javornik	6.12	316	*i* Pn	Pn	12 53 03.8	-0.1
PERS	Pernice	6.16	325	*e*Pn	Pn	12 53 04.4	0.0
VOY	Vojsko	6.30	316	*e*Pn	Pn	12 53 06.2	-0.3
VOY				*e*Sn	Sn	12 54 18.2	-0.8
OBKA	Obir	6.32	322	⇑*i*PN	Pn	12 53 06.7	+0.1
OBKA				*i* SN	Sn	12 54 18.4	-0.9
ARSA	Arzberg	6.50	331	⇑*i*PN	Pn	12 53 09.8	+0.5
ARSA				*i* SN	Sn	12 54 24.4	+0.4
KBA	Koelnbreinsper	7.30	320	⇓*i*PN	Pn	12 53 20.1	-0.3
KBA				*i* SN	Sn	12 54 41.9	-2.0
MOA	Molln	7.48	328	⇑*i*PN	Pn	12 53 23.3	+0.3
MOA				*i* SN	Sn	12 54 47.8	-0.6
KHC	Kasperske Hory	8.79	330	*e*P	Sn	12 55 19.5	-1.6

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*NEIC **07** 12:56:41.3, 28.05S×70.71W, h79^{km}, mb4.2/1, After GUC.*

NEIC Felt [III] at Copiapo and Tierra Amarilla; [II] at Vallenar.

*GUC **07** 12:56:41.3±1.0, 28.05S×70.71W, h79^{km}±15^{km}, ML4.6*

*IDC **07** 12:56:42.5±8.7, 28.44S×70.36W, h64^{km}±71^{km}, mb3.2/1, mb1 3.9/2, mb1mx3.5/10, ML4.3/1, Error ellipse: s-maj=75.2km s-min=50.2km az=64.0*

ISC 07 12:56:41.6±0.6**, 28.13S**±0.04×**70.2W**±0.1**, h70**^{km}±9^{km}**, n22, σ1^{s}13**/17**, mb3.7**/2**, 5C-3D, Central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VACH	Vallenar	0.64	226	⇑*i*P	P	12 56 45.1	-11
VACH				*i* S	S	12 56 53.6	-13
VACH	comp=N,77μm,0.2s			AMP		12 56 54.0	
CPCH	Copiapo	0.78	352	⇓*i*P	P	12 56 58.3	+0.8
CPCH				*i* S	S	12 57 10.0	+0.7
LSCH	La Serena	1.98	206	*i* P	P	12 57 12.4	-1.1
LSCH				*i* S	S	12 57 35.9	-1.2
LSCH	comp=E,4μm,0.3s			AMP		12 57 40.6	
TLL	Tololo Astrono	2.09	194	⇑*i*P	P	12 57 15.5	+0.4
TLL				*i* S	S	12 57 41.5	+1.6
TLL	comp=N,3μm,0.6s			AMP		12 57 48.7	
CPN1	Cerro Paranal	3.49	358	⇓*i*P	P	12 57 33.3	-1.6
JACH	Jahuel	4.55	184	*e*P	P	12 57 49.1	-0.4
FCH	Farellones	5.18	180	*e*P	P	12 57 59.6	+1.3
LVC	Limon Verde comp=N,5.8nm,0.3s	5.62	13	*e*Pn	P	12 58 03.3	-1.1
CPUP	Villa Florida comp=N,0.4nm,0.3s,baz=236,slow=12,SNR=6.5	11.63	84	P	P	12 59 27.5	+0.9
CPUP	Villa Florida	11.63	84	P	P	12 59 27.5	+0.9
TRQA	Tornquist	12.07	147	*e*P	P	12 59 30.6	-1.9
VNA3	Neumayer Olymp	54.26	160	⇑*i*	pP	13 06 22.0	+1.8
VNA1	Neumayer--Stat	54.51	159	⇑*i*	pP	13 06 18.8	-3.3
VNA2	Neumayer--Watz	54.87	159	⇑*i*	pP	13 06 25.5	+0.8
SNAA	Sanae	56.48	159	⇓*i*	pP	13 06 33.3	-3.1
QSPA	South Pole Qui comp=N,1.5nm,0.7s,mb4.1	62.09	180	*e*P	P	13 06 56.8	0.0
PDAR	Pinedale Array comp=N,0.5nm,1.0s,mb3.3,baz=164,slow=6.6,SNR=2.9	79.29	332	P	P	13 08 42.4	+1.4
ASAR	Alice Springs comp=N,0.3nm,0.5s,baz=131,slow=1.7,SNR=7.4	123.49	207	PKP	PKPdf	13 15 32.2	+0.8
WRA	Warramunga Arr comp=N,0.2nm,0.4s,baz=158,slow=1.7,SNR=14	126.63	209	PKP	PKPdf	13 15 38.4	+0.8
POO	Poona	145.78	98	*e*	PKPdf	13 16 18.0	+5.3
ZAL	Zalesovo comp=N,3.3nm,0.3s,baz=87,slow=3.7,SNR=15	148.39	28	PKPbc	PKPdf	13 16 21.6	+5.7
MKAR	Makanchi Array comp=N,1.9nm,0.4s,baz=318,slow=2.2,SNR=14	151.54	42	PKPbc	PKPdf	13 16 29.6	+8.6

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*JMA **07** 12:58:15.2±0.1, 33.06N×137.06E, h41^{km}±3^{km}, M4.0*

*IDC **07** 12:58:17.3±1.1, 32.20N×137.82E, mb3.8/5, mb1 4.0/5, mb1mx3.7/19, Error ellipse: s-maj=24.6km s-min=23.7km az=122.0*

ISC 07 12:58:15.3±0.7**, 33.06N**±0.05×**137.07E**±0.03**, h48**^{km}±12^{km}**, n23, σ0^{s}61**/35**, mb3.7**/2**, 11D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	Tokai 1	0.82	32	P	P	12 58 30.7	0.0
TK01				S	S	12 58 41.8	-0.2
TK02	Tokai 2	1.05	33	⇓P	P	12 58 34.0	+0.1
TK02				S	S	12 58 48.1	+0.5
JWZ	Kozaga	1.23	293	⇓P	P	12 58 36.2	-0.2
JWZ				S	S	12 58 50.7	-1.5
TK03	Tokai 3	1.33	34	P	P	12 58 37.9	0.0
TK03				S	S	12 58 54.8	+0.1
JIE	Ise	1.36	347	⇓P	P	12 58 38.8	+0.4
JIE				S	S	12 58 56.2	+0.7
JKN	Kiinagashima	1.36	330	⇓P	P	12 58 38.5	+0.1
JKN				S	S	12 58 54.4	-1.1
TK04	Tokai 4	1.48	27	⇓P	P	12 58 40.2	+0.2
TK04				S	S	12 58 58.6	+0.3
JWM	Minabe	1.64	299	⇓P	P	12 58 42.2	0.0
JWM				S	S	12 59 01.5	-0.7
JWY	Kouya	1.69	313	⇓P	P	12 58 43.5	+0.5
JWY				S	S	12 59 03.6	+0.1
TSUJ	Tsu 2	1.73	342	⇓P	P	12 58 43.9	+0.4
TSUJ				S	S	12 59 04.7	+0.2
JHE	Heguri	1.96	324	⇓P	P	12 58 47.3	+0.5
JHE				S	S	12 59 10.1	-0.1
SHZ3	Shizuoka 3	2.21	25	S	S	12 59 15.2	-1.3
JIZS	Izushimoda	2.23	42	P	P	12 58 51.9	+1.3
JAJ2	Tsuna	2.27	307	⇓P	P	12 58 51.9	+0.7
JAJ2				S	S	12 59 18.2	+0.1
JHJ	Hachijo jima 2 33nm,0.3s,baz=229,slow=20,SNR=4.1	2.27	88	Pn	P	12 58 50.8	-0.5
JHJ	59nm,0.3s,baz=109,slow=24,SNR=6.3			Sn	S	12 59 16.8	-1.4
JAI	Aioi	2.31	289	P	P	12 58 51.9	+0.1
JWT	Wachi	2.61	328	⇓P	P	12 58 56.6	+0.5
JWT				S	S	12 59 26.6	-0.1
MAT	Matsushiro	3.59	15	P	P	12 59 10.8	+0.8
MAT				S	S	12 59 50.9	-0.7
SONM	Songino Array 0.5nm,0.5s,baz=119,slow=6.4,SNR=3.6	27.40	312	P	pP	13 04 13.3	+2.8
MKAR	Makanchi Array 1.1nm,0.7s,baz=96,slow=11,SNR=5.8	43.34	305	P	pP	13 06 28.9	+1.7
WRA	Warramunga Arr 0.6nm,0.8s,mb3.6,baz=0.6,slow=7.7,SNR=6.1	52.77	183	P	P	13 07 28.0	0.0
ASAR	Alice Springs 1.3nm,1.1s,mb3.9,baz=7.4,slow=7.8,SNR=4.1	56.49	183	P	P	13 07 55.2	+0.2
GERES	GERESS Array B 0.3nm,0.3s,baz=108,slow=4.2,SNR=3.7	84.12	326	P	pP	13 10 56.8	+0.6

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*JMA **07** 13:15:08.9±0.1, 33.10N×137.02E, h37^{km}±3^{km}, M3.6*

ISC 07 13:15:09.7±1.0**, 33.14N**±0.06×**137.01E**±0.04**, h37**^{km}**, n16, σ0^{s}64**/30**, 2C-1D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	Tokai 1	0.79	38	P	P	13 15 24.0	-0.3
TK01				S	S	13 15 34.8	-0.2
TK02	Tokai 2	1.01	38	P	P	13 15 27.4	-0.2
TK02				S	S	13 15 40.9	+0.1
JWZ	Kozaga	1.15	290	⇑P	P	13 15 29.1	-0.4
JWZ				S	S	13 15 43.4	-0.9
JKN	Kiinagashima	1.27	331	P	P	13 15 31.4	+0.3
JKN				S	S	13 15 46.6	-0.6
JIE	Ise	1.27	349	⇓P	P	13 15 31.8	+0.6
JIE				S	S	13 15 47.8	+0.4
TK03	Tokai 3	1.29	38	P	P	13 15 31.3	-0.2
TK03				S	S	13 15 47.8	-0.1
TK04	Tokai 4	1.43	30	P	P	13 15 33.6	0.0
TK04				S	S	13 15 51.6	+0.2
JWM	Minabe	1.55	297	P	P	13 15 35.3	0.0
JWM				S	S	13 15 54.1	-0.4
JWY	Kouya	1.60	313	P	P	13 15 36.5	+0.6
JWY				S	S	13 15 56.1	+0.6
TSUJ	Tsu 2	1.64	343	P	P	13 15 36.9	+0.4
TSUJ				S	S	13 15 57.2	+0.6
JHE	Heguri	1.87	324	⇑P	P	13 15 40.4	+0.6
JHE				S	S	13 16 02.6	+0.3
SHZ3	Shizuoka 3	2.16	27	S	S	13 16 08.2	-1.5
JIZS	Izushimoda	2.21	44	P	P	13 15 45.0	+0.4
JAI	Aioi	2.24	288	P	P	13 15 45.2	+0.1
JAI				S	S	13 16 10.2	-1.5
JWT	Wachi	2.52	328	P	P	13 15 49.7	+0.6
JWT				S	S	13 16 19.4	+0.6
MAT	Matsushiro	3.53	16	P	P	13 16 04.6	+1.1
MAT				S	S	13 16 43.3	-1.3

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*IDC **07** 13:24:54.7±0.7, 55.49S×28.54W, mb4.4/8, mb1 4.5/8, mb1mx4.4/13, Error ellipse: s-maj=28.0km s-min=18.7km az=39.0*

*NEIC **07** 13:24:56.2±0.3, 55.35S×28.41W, h10^{km}, mb4.8/6, Error ellipse: s-maj=12.0km s-min=8.4km az=53.0*

ISC 07 13:24:58.2±0.6**, 55.32S**±0.09×**28.5W**±0.2**, h33**^{km}**, n31, σ1^{s}18**/18**, mb4.5**/13**, 5C, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	17.76	158	⇑*i*	P	13 29 07.8	+3.7
VNA3	Neumayer Olymp	17.94	160	⇑*i*	P	13 29 09.4	+3.1
VNA2	Neumayer--Watz	18.16	158	⇑*i*	P	13 29 11.8	+2.7
SNAA	Sanae	19.72	156	⇑*i*	P	13 29 25.0	-2.3
SNAA	Sanae	19.72	156	⇑*i*	PcP	13 33 43.2	-1.7
PMSA	Palmer Station 36nm,0.8s	19.83	227	*e*P	P	13 29 29.0	+0.4
USHA	Ushuaia 7.6nm,0.8s,mb4.2,baz=96,slow=10,SNR=2.7	22.65	255	P	P	13 29 56.7	-0.5
TRQA	Tornquist 4.1nm,0.6s,mb4.2	28.34	294	*e*P	P	13 30 50.9	-0.1
QSPA	South Pole Qui 11nm,0.6s,mb5.0	34.94	180	*e*P	P	13 31 48.5	+0.1
CPUP	Villa Florida 10nm,0.8s,mb4.8,baz=171,slow=6.6,SNR=16	35.76	312	P	P	13 31 55.7	-0.2
MAW	Mawson 3.8nm,0.6s,mb4.2,baz=229,slow=8.0,SNR=16	41.19	144	P	P	13 32 39.5	-1.2
MAW	2.2nm,0.6s,baz=255,slow=7.8,SNR=4.9			PcP	PcP	13 34 39.2	-0.9
BDFB	Brasilia 1.4nm,0.4s,mb3.9,baz=175,slow=11,SNR=4.3	42.35	331	P	P	13 32 52.0	+1.2
LVC	Limon Verde 9.3nm,0.8s,mb4.6	44.28	301	*e*P	P	13 33 06.6	+0.2
LPAZ	La Paz 5.4nm,0.6s,mb4.7,baz=200,slow=7.1,SNR=11	49.34	306	P	P	13 33 47.4	+1.2
TSUM	Tsumeb 1.5nm,0.7s,mb4.1,baz=192,slow=9.3,SNR=4.2	49.99	63	P	P	13 33 51.4	+0.3
SAML	Samuel 10nm,1.0s,mb4.7	53.75	316	*e*P	P	13 34 18.4	-1.0
SDV	Santo Domingo 13nm,0.9s,mb4.8	72.96	316	*e*P	P	13 36 26.0	-0.1
RPZ	Rata Peaks 2.1nm,0.6s,mb4.2,baz=214,slow=3.6,SNR=4.0	79.95	194	P	P	13 37 04.0	-1.0
ASAR	Alice Springs 1.3nm,0.9s,mb4.4,baz=198,slow=5.1,SNR=7.6	99.91	164	P	P	13 38 39.6	-1.0
PDAR	Pinedale Array 0.4nm,0.5s,baz=126,slow=4.6,SNR=4.6	119.31	303	PKP	PKPdf	13 43 44.5	+0.9
FINES	FINESS Array B 2.2nm,0.7s,baz=166,slow=7.9,SNR=3.4	124.08	28	PKP	PKPdf	13 43 52.5	+0.2
YKA	Yellowknife Ar 1.6nm,0.7s,baz=125,slow=3.0,SNR=5.3	135.12	319	PKP	PKPdf	13 44 14.5	+1.4
YKA	Yellowknife Ar	135.12	319	PKP	PKPdf	13 44 14.5	+1.4
MKAR	Makanchi Array 0.5nm,0.8s,baz=255,slow=2.8,SNR=3.6	137.36	71	PKP	PKPdf	13 44 19.4	+1.8
MKAR	Makanchi Array	137.36	71	PKP	PKPdf	13 44 19.4	+1.8
DIV	Divide	147.61	306	*e*PKPbc	PKPdf	13 44 39.9	+4.9
ILAR	Eielson Array 15nm,0.6s,baz=123,slow=1.8,SNR=209	149.06	313	PKPbc	PKPdf	13 44 43.3	+6.1
COLA	College	149.49	313	*e*PKPbc	PKPdf	13 44 43.4	+5.6
COLA				*e*PKPab	PKPab	13 44 48.2	-1.3
MCK	McKinley	149.72	310	*e*PKPbc	PKPdf	13 44 45.4	+7.2
KDAK	Kodiak Island	149.81	298	*e*PKPbc	PKPdf	13 44 45.1	+6.6
KDAK				*e*PKPab	PKPab	13 44 49.0	-1.9
SONM	Songino Array 3.9nm,0.6s,baz=224,slow=3.1,SNR=38	151.43	86	PKPbc	PKPdf	13 44 49.4	+8.1

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*IDC **07** 13:33:20.8±1.5, 28.53S×65.99W, mb3.7/1, mb1 4.1/2, mb1mx3.8/10, ML3.9/1, Error ellipse: s-maj=69.5km s-min=29.1km az=173.0*

*NEIC **07** 13:33:24.7±3.5, 28.57S×66.00W, h27^{km}±27^{km}, mb3.4/1, Error ellipse: s-maj=22.1km s-min=12.7km az=69.0*

ISC 07 13:33:22.8±1.1**, 28.6S**±0.1×**65.9W**±0.2**, h33**^{km}**, n7, σ1^{s}53**/5**, mb3.5**/1**, Santiago del Estero Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	Limon Verde	6.53	335	Pn	Pn	13 34 59.4	+0.2
CPUP	Villa Florida 0.4nm,0.3s,baz=276,slow=12,SNR=10	7.96	76	Pn	Pn	13 35 20.0	+0.7
CPUP	1.2nm,0.3s,baz=188,slow=19,SNR=3.8			Lg		13 37 31.6	
TRQA	Tornquist	10.00	162	*e*P	P	13 35 46.8	-0.5
SAML	Samuel 2.2nm,1.0s	19.71	8	P	P	13 37 50.5	-1.9
PDAR	Pinedale Array 0.6nm,0.9s,mb3.5,baz=127,slow=4.5,SNR=3.2	81.56	329	P	P	13 45 40.0	+1.4
WRA	Warramunga Arr 0.4nm,0.6s,baz=156,slow=1.7,SNR=8.7	127.93	204	PKP	PKPdf	13 52 28.7	+2.6
MKAR	Makanchi Array 1.3nm,0.7s,baz=296,slow=3.9,SNR=7.5	149.26	45	PKPbc	PKPdf	13 53 11.3	+7.9

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*PRU **07** 13:58:17.3, 51.53N×16.10E*

*WAR **07** 13:58:17.8, 51.53N×16.05E, ML2.6, Mining Induced*

ISC 07 13:58:16.9±2.4**, 51.50N**±0.09×**16.0E**±0.1**, n5, σ0^{s}54**/9**, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	Ksiaz	0.68	166	*e*PG	Pg	13 58 31.0	+0.6
KSP				*e*SG	Sg	13 58 40.0	+0.6
UPC	Upice	0.99	181	*e*PG	Pg	13 58 37.1	+0.4
UPC				*e*SG	Sg	13 58 50.2	+0.3
DPC	Dobruska-Polom	1.16	171	*e*PG	Pg	13 58 39.6	-0.5
DPC				*e*SG	Sg	13 58 54.6	-1.1
PVCC	Panska Ves	1.34	224	*e*PG	Pg	13 58 43.2	-0.5
PVCC				*e*SG	Sg	13 59 01.9	+0.3
PRU	Pruhonice 5.8nm,0.4s	1.79	213	*e*SG	Sg	13 59 16.2	-0.1

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*TAP **07** 14:12:13.7, 23.75N×121.55E, h32^{km}, ML3.2*

*JMA **07** 14:12:15.5±0.4, 23.82N×121.56E, h76^{km}, M2.8*

ISC 07 14:12:14.7±2.2**, 24.0N**±0.4×**121.5E**±0.1**, h85**^{km}±52^{km}**, n6, σ0^{s}53**/12**, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	1.48	70	P	P	14 12 40.8	+0.3
YOJ				*e*S	S	14 12 59.1	-0.4

IRIF	**Iriomote-Funau**	**2.09**	**79**	P	**P**	**14 12 48.8**	**+0.3**
IRIF				S	**S**	**14 13 14.3**	**+0.9**
HATJ	**Hateruma jima**	**2.12**	**87**	P	**P**	**14 12 48.6**	**-0.4**
HATJ				*e*S	**S**	**14 13 13.9**	**-0.5**
JKRS	**Kuro-shima**	**2.33**	**82**	P	**P**	**14 12 52.0**	**+0.2**
JKRS				S	**S**	**14 13 20.3**	**+0.9**
JIJ	**Ishigaki jima**	**2.46**	**80**	P	**P**	**14 12 53.3**	**-0.4**
JIJ				S	**S**	**14 13 22.0**	**-0.8**
JTJ	**Tarama**	**3.02**	**76**	P	**P**	**14 13 01.4**	**0.0**
JTJ				*e*S	**S**	**14 13 36.3**	**-0.2**

JMA 07 14:12:20.9±0.6**, 44.15N**×**148.14E, M3.6, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.91**	**247**	P	Pn	14 12 55.0	0.0
NEM2				*e*S	Sn	14 13 20.4	+0.4
JRA	**Rausu**	**2.19**	**265**	P	Pn	14 12 59.2	+0.2
JNK	**Nakash**	**2.54**	**258**	P	Pn	14 13 04.3	+0.3
JAK	**Akkeshi**	**2.75**	**246**	P	Pn	14 13 06.9	-0.2
JAK				*e*S	Sn	14 13 41.6	0.0
JAR	**Ashorobuto**	**3.28**	**256**	P	Pn	14 13 15.5	+0.9
JAR				*e*S	Sn	14 13 56.9	+2.0
JCH	**Churui**	**3.81**	**248**	P	Pn	14 13 22.8	+0.8
JCH				*e*S	Sn	14 14 08.3	+0.1

IDC 07 14:18:39.7±3.0**, 13.42S**×**169.82E, h663**^{km}±38^{km}**, mb3.1**/3**, mb1 3.3**/3**, mb1mx3.0**/11**, Error ellipse: s-maj=70.7km s-min=21.4km az=157.0, Vanuatu Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**31.72**	**230**	P	P	14 24 12.3	-2.2
	3.8nm,0.4s,baz=46,slow=7.7,SNR=20						
WB2	**Warramunga Arr**	**34.54**	**254**	*e*P	P	14 24 37.0	-0.9
WRA	**Warramunga Arr**	**34.55**	**254**	P	P	14 24 37.2	-0.8
	0.9nm,0.4s,baz=86,slow=8.7,SNR=37						
WRA				S	S	14 29 21.2	-3.6
	0.5nm,1.1s,baz=86,slow=14,SNR=3.2						
ASAR	**Alice Springs**	**35.45**	**248**	P	P	14 24 44.3	-1.1
	2.6nm,0.4s,baz=74,slow=9.4,SNR=88						
ASAR				PcP	PcP	14 26 54.1	-1.8
	1.3nm,1.0s,baz=87,slow=1.6,SNR=5.8						
ASAR				S	S	14 29 37.1	-1.0
	0.6nm,0.7s,baz=76,slow=17,SNR=6.2						
ASPA	**Alice Springs**	**35.45**	**248**	*e*P	P	14 24 44.4	-1.0
ARCES	**ARCESS Array B**	**119.59**	**346**	PKP	PKPdf	14 36 15.2	-0.7
	4.9nm,1.0s,baz=45,slow=3.4,SNR=7.1						

CASC 07 14:46:25.6±1.4**, 13.44N**×**90.14W, h42**^{km}±19^{km}**, MD4.0, ML4.4, 5C-15D, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUSS	**Cusmapa**	**0.51**	**22**	⇓*e*P	P	14 46 36.8	+0.3
CUSS				*e*S	S	14 46 44.7	+0.5
SBLS	**San Blas**	**0.64**	**51**	⇓*i*P	P	14 46 38.7	+0.3
SBLS				*e*S	S	14 46 48.9	+1.3
RTR	**El Retiro**	**0.66**	**46**	⇓*i*P	P	14 46 39.1	+0.5
RTR				*e*S	S	14 46 50.0	+1.9
SNJE	**San Jose**	**0.67**	**50**	⇓*e*P	P	14 46 39.1	+0.3
SNJE				*e*S	S	14 46 50.0	+1.6
IXG	**Ixpaco**	**0.79**	**337**	⇓*e*P	P	14 46 40.5	0.0
IXG				*e*S	S	14 46 51.9	+0.6
IXG				AML	AML	14 46 54.1	
	comp=N,45µm,0.2s						
RBDL	**Robledal**	**0.80**	**33**	⇑*e*P	P	14 46 40.7	+0.1
BOQS	**Boqueron**	**0.89**	**70**	⇓*e*P	P	14 46 41.9	+0.1
BOQS				*e*S	S	14 46 54.7	+1.0
SNET	**Serv Nac Est T**	**0.92**	**74**	⇓*e*P	P	14 46 42.2	0.0
SNET				*e*S	S	14 46 54.6	+0.2
SNET				*i*		14 46 57.4	
	comp=Z,4µm,0.3s						
LFU	**La Fuente**	**1.04**	**73**	⇑*e*P	P	14 46 44.0	0.0
LFU				*e*S	S	14 46 57.5	-0.2
PCG	**Pacaya**	**1.05**	**335**	*e*P	P	14 46 44.8	+0.7
PCG				*e*S	S	14 46 58.6	+0.7
LFRS	**El Faro**	**1.06**	**80**	⇓*e*P	P	14 46 44.0	-0.2
LFRS				*e*S	S	14 46 58.3	+0.2
LBRS	**Las Brisas**	**1.11**	**74**	⇑*e*P	P	14 46 44.8	-0.1
LBRS				*e*S	S	14 47 00.6	+1.4
LCBS	**La Ceiba**	**1.15**	**79**	⇓*e*P	P	14 46 44.9	-0.5
LCBS				*e*S	S	14 47 00.3	0.0
NBG	**Las Nubes**	**1.16**	**350**	⇓*e*P	P	14 46 46.3	+0.7
NBG				*e*S	S	14 47 03.1	+2.5
NBG				AML	AML	14 47 04.3	
	comp=N,16µm,0.2s						
FUG	**Fuego 3**	**1.21**	**326**	⇑*e*P	P	14 46 46.5	+0.1
MTO2	**Montecristo 2**	**1.22**	**38**	⇓*i*P	P	14 46 46.1	-0.4
MTO2				*e*S	S	14 47 02.2	+0.2
SNVI	**San Vicente**	**1.28**	**82**	⇓*e*P	P	14 46 47.2	-0.2
SNVI				*e*S	S	14 47 04.1	+0.5
MRL	**Marmol**	**1.68**	**15**	*e*P	P	14 46 52.9	-0.2
JAT	**Jato**	**1.70**	**301**	*e*P	P	14 46 52.8	-0.5
JAT				*e*S	S	14 47 13.7	-0.3
JAT				AML	AML	14 47 19.9	
	comp=N,3µm,0.3s						
VSM	**San Miguel**	**1.81**	**90**	⇑*e*P	P	14 46 55.0	0.0
VSM				*e*S	S	14 47 18.6	+1.7
BLLM	**Bellamira**	**1.85**	**90**	⇓*e*P	P	14 46 56.2	+0.8
BLLM				*e*S	S	14 47 17.2	-0.6
CAHU	**Cacacuatique**	**1.91**	**80**	⇓*e*P	P	14 46 55.3	-1.0
CAHU				*e*S	S	14 47 10.3	-8.8
CNCH	**Conchagua**	**2.25**	**94**	⇓*e*P	P	14 47 00.4	-0.8
CNCH				*e*S	S	14 47 29.1	+1.2

NEIC ***07*** *14:55:54.3, 33.92S×72.39W, h34^{km}, ML3.4(GUC), After GUC.*

GUC 07 14:55:54.3±0.8**, 33.92S**×**72.39W, h34**^{km}±3^{km}**, MD3.9, ML3.4, 2C-3D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCCH	**Las Cruces**	**0.82**	**58**	*e*P	P	14 56 09.8	+0.5
LNV	**Longovilo**	**0.82**	**93**	⇓*i*P	P	14 56 09.2	-0.1
LNV				*i* S	S	14 56 21.1	+0.7
TACH	**Talagante**	**1.24**	**78**	*e*P	P	14 56 15.6	+0.2
TACH				*i* S	S	14 56 32.4	+1.1
SFDO	**San Fernando**	**1.34**	**122**	*e*P	P	14 56 17.5	+0.7
SFDO				*e*S	S	14 56 35.2	+1.6
RCDM	**Rinconada Maip**	**1.39**	**73**	*e*P	P	14 56 18.4	+0.8
RCDM				*i* S	S	14 56 36.4	+1.4
RCDM				AMP		14 56 41.2	
	comp=N,775nm,0.4s						
CHCH	**Chadas Angostu**	**1.45**	**91**	⇑*i*P	P	14 56 19.1	+0.7
CHCH				*i* S	S	14 56 38.5	+2.1
NICH	**Los Niches**	**1.45**	**139**	*i* P	P	14 56 19.8	+1.4
NICH				*i* S	S	14 56 38.6	+2.2
CACH	**El Canelo**	**1.50**	**98**	⇑*i*P	P	14 56 20.6	+1.4
CACH				*i* S	S	14 56 41.3	+3.5
ANTU	**Antumapu**	**1.51**	**77**	*e*P	P	14 56 20.5	+1.3
ANTU				*i* S	S	14 56 40.2	+2.3
ANTU				AMP		14 56 40.8	
	comp=N,910nm,0.4s						
PCH	**Pirque**	**1.59**	**80**	*e*P	P	14 56 22.0	+1.5
PCH				*i* S	S	14 56 43.1	+3.0
PEL	**Peldehue**	**1.62**	**62**	AMP		14 56 53.3	
	comp=N,2µm,0.6s						
CLCH	**Cerro Calan**	**1.63**	**72**	⇓*i*P	P	14 56 22.9	+1.9
CLCH				*i* S	S	14 56 43.0	+1.9
CLCH				AMP		14 56 50.7	
	comp=E,568nm,1.0s						
CICH	**Cipreses**	**1.69**	**104**	⇓*i*P	P	14 56 22.5	+0.7
CICH				*i* S	S	14 56 45.0	+2.6
FCH	**Farellones**	**1.85**	**72**	*e*P	P	14 56 25.9	+1.7
FCH				*i* S	S	14 56 49.7	+3.1
FCH				AMP		14 56 51.0	
	comp=N,473nm,0.3s						

NEIC ***07*** *15:01:42.5, 33.98S×72.36W, h33^{km}, ML3.8(GUC), After GUC.*

GUC 07 15:01:42.5±0.6**, 33.98S**×**72.36W, h33**^{km}±1^{km}**, MD3.7, ML3.8, 3C-2D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.79**	**88**	⇓*i*P	Pn	15 01 57.0	-0.4
LNV				*i* S	Sn	15 02 08.0	-0.2
LCCH	**Las Cruces**	**0.83**	**53**	⇓*i*P	Pn	15 01 58.0	0.0
LCCH				*i* S	Sn	15 02 09.5	+0.3
TACH	**Talagante**	**1.23**	**75**	*i* P	Pn	15 02 03.9	+0.2
TACH				*i* S	Sn	15 02 20.3	+1.0
SFDO	**San Fernando**	**1.28**	**120**	*i* P	Pn	15 02 05.1	+0.7
SFDO				*i* S	Sn	15 02 22.4	+1.8
NICH	**Los Niches**	**1.38**	**138**	*i* P	Pn	15 02 06.5	+0.6
NICH				*i* S	Sn	15 02 24.4	+1.2
RCDM	**Rinconada Maip**	**1.39**	**70**	*i* P	Pn	15 02 06.2	+0.2
RCDM				*i* S	Sn	15 02 24.4	+1.2
RCDM				AMP		15 02 28.6	
	comp=N,2µm,0.4s						
CHCH	**Chadas Angostu**	**1.42**	**89**	*i* P	Pn	15 02 07.0	+0.6
CHCH				*i* S	Sn	15 02 26.1	+2.0
CACH	**El Canelo**	**1.47**	**96**	⇑*i*P	Pn	15 02 08.4	+1.3
CACH				*i* S	Sn	15 02 28.4	+3.1
ANTU	**Antumapu**	**1.50**	**75**	*i* P	Pn	15 02 08.2	+0.7
ANTU				*i* S	Sn	15 02 27.9	+1.8
ANTU				AMP		15 02 28.6	
	comp=N,2µm,0.3s						
DSCH	**Colegio Aleman**	**1.60**	**69**	*i* P	Pn	15 02 09.9	+0.9
DSCH				*i* S	Sn	15 02 30.8	+2.0
DSCH				AMP		15 02 37.8	
	comp=E,2µm,0.7s						
CLCH	**Cerro Calan**	**1.63**	**70**	*i* P	Pn	15 02 10.5	+1.1
CLCH				*i* S	Sn	15 02 32.1	+2.6
CLCH				AMP		15 02 39.0	
	comp=E,1µm,0.6s						
CLCH				AMP		15 02 39.6	
	comp=E,2µm,0.4s						
PEL	**Peldehue**	**1.63**	**60**	*e*P	Pn	15 02 10.6	+1.2
PEL				*i* S	Sn	15 02 31.6	+2.1
PEL				AMP		15 02 41.0	
	comp=N,4µm,0.6s						
CICH	**Cipreses**	**1.65**	**102**	⇑*i*P	Pn	15 02 10.3	+0.7
CICH				*i* S	Sn	15 02 32.1	+2.3
SJCH	**San Jose de Ma**	**1.71**	**79**	*i* S	Sn	15 02 33.6	+2.2
SJCH				AMP		15 02 38.1	
	comp=N,1µm,0.5s						
LMEL	**Las Melosas**	**1.80**	**86**	*i* P	Pn	15 02 13.2	+1.4
LMEL				*i* S	Sn	15 02 36.3	+2.5
LMEL				AMP		15 02 38.5	
	comp=N,2µm,0.2s						
FCH	**Farellones**	**1.85**	**70**	⇑*i*P	Pn	15 02 14.0	+1.5
FCH				*i* S	Sn	15 02 37.7	+2.8
FCH				AMP		15 02 39.0	
	comp=N,1µm,0.2s						

IDC 07 15:13:49.7±3.8**, 19.40S**×**175.59W, mb4.3**/3**, mb1 4.5**/3**, mb1mx4.0**/11**, Error ellipse: s-maj=222.0km s-min=73.7km az=165.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**35.87**	**262**	P	P	15 20 52.4	-1.1
	2.6nm,0.4s,baz=106,slow=11,SNR=5.1						
ASAR	**Alice Springs**	**46.99**	**255**	P	P	15 22 22.9	-1.8
	2.2nm,0.6s,baz=86,slow=8.1,SNR=77						
ASAR				PcP	PcP	15 23 54.2	-3.2
	0.4nm,0.9s,baz=96,slow=4.3,SNR=3.7						
ASPA	**Alice Springs**	**46.99**	**255**	*e*P	P	15 22 22.5	-2.1
WB2	**Warramunga Arr**	**47.00**	**261**	*e*P	P	15 22 22.6	-2.2
WRA	**Warramunga Arr**	**47.01**	**261**	P	P	15 22 22.6	-2.3
	1.4nm,0.3s,baz=98,slow=7.0,SNR=108						
FITZ	**Fitzroy Crossi**	**55.43**	**261**	*e*P	P	15 23 25.3	-3.3
	2.8nm,1.1s						
AKASG	**Malin Array Be**	**143.10**	**334**	PKP	PKPdf	15 33 27.4	+0.1
	0.7nm,0.4s,baz=40,slow=4.7,SNR=4.9						

NEIC ***07*** *15:34:02.8, 33.97S×72.40W, h32^{km}, ML3.2(GUC), After GUC.*

GUC 07 15:34:02.8±0.8**, 33.97S**×**72.40W, h32**^{km}±4^{km}**, MD3.8, ML3.2, 3D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.82**	**89**	⇓*i*P	Pn	15 34 18.0	-0.3
LNV				*i* S	Sn	15 34 28.9	-0.4
LCCH	**Las Cruces**	**0.85**	**55**	*e*P	Pn	15 34 18.6	-0.1
LCCH				*e*S	Sn	15 34 30.3	+0.2
TACH	**Talagante**	**1.26**	**76**	*e*P	Pn	15 34 25.0	+0.5
TACH				*i* S	Sn	15 34 41.6	+1.1
SFDO	**San Fernando**	**1.31**	**119**	*e*P	Pn	15 34 25.4	+0.1
NICH	**Los Niches**	**1.41**	**137**	*e*P	Pn	15 34 28.0	+1.4
NICH				*i* S	Sn	15 34 45.6	+1.4
RCDM	**Rinconada Maip**	**1.42**	**70**	⇓*i*P	Pn	15 34 27.0	+0.3
RCDM				*i* S	Sn	15 34 45.7	+1.3
RCDM				AMP		15 34 49.8	
	comp=N,431nm,0.5s						
CHCH	**Chadas Angostu**	**1.46**	**89**	*e*P	Pn	15 34 27.9	+0.6
CACH	**El Canelo**	**1.50**	**96**	*e*P	Pn	15 34 29.2	+1.3
CACH				*i* S	Sn	15 34 49.6	+3.0
PCH	**Pirque**	**1.61**	**78**	⇓*i*P	Pn	15 34 30.5	+1.0
PEL	**Peldehue**	**1.66**	**60**	AMP		15 35 02.1	
	comp=N,937nm,0.8s						
CLCH	**Cerro Calan**	**1.66**	**70**	*i* P	Pn	15 34 31.6	+1.5
CLCH				*i* S	Sn	15 34 53.3	+2.7
CLCH				AMP		15 35 04.4	
	comp=N,518nm,0.5s						
CLCH				AMP		15 35 05.0	
	comp=N,536nm,0.6s						
CICH	**Cipreses**	**1.68**	**102**	*i* P	Pn	15 34 31.3	+0.9
LMEL	**Las Melosas**	**1.83**	**87**	*e*P	Pn	15 34 34.1	+1.5
LMEL				*i* S	Sn	15 34 58.2	+3.2
LMEL				AMP		15 35 05.6	
	comp=N,432nm,0.3s						
FCH	**Farellones**	**1.88**	**70**	*e*P	Pn	15 34 34.6	+1.3
FCH				*i* S	Sn	15 34 58.6	+2.6
FCH				AMP		15 35 08.3	
	comp=E,303nm,0.7s						
JACH	**Jahuel**	**1.99**	**50**	*e*P	Pn	15 34 35.5	+0.6

NEIC ***07*** *15:39:13.1, 33.96S×72.28W, h2^{km}, ML3.3(GUC), After GUC.*

GUC 07 15:39:13.1±0.8**, 33.96S**×**72.28W, h2**^{km}±3^{km}**, MD3.9, ML3.3, 3C-5D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.72**	**90**	⇑*i*P	Pg	15 39 27.9	+0.4
LNV				*i* S	Sg	15 39 38.9	+1.8
LCCH	**Las Cruces**	**0.76**	**51**	⇓*i*P	Pg	15 39 28.8	+0.5
LCCH				*e*S	Sg	15 39 40.2	+1.8
TACH	**Talagante**	**1.16**	**75**	*e*P	Pb	15 39 34.6	-0.9
TACH				*i* S	Sb	15 39 50.8	+0.1
SFDO	**San Fernando**	**1.23**	**122**	*i* S	Sb	15 39 53.4	+0.4
RCDM	**Rinconada Maip**	**1.31**	**69**	⇑*i*P	Pb	15 39 37.1	-1.0
RCDM				*i* S	Sb	15 39 55.2	0.0
RCDM				AMP		15 39 57.1	
	comp=E,678nm,0.1s						
CHCH	**Chadas Angostu**	**1.35**	**89**	⇓*i*P	Pb	15 39 37.9	-0.9
CHCH				*i* S	Sb	15 39 57.2	+0.8
NICH	**Los Niches**	**1.35**	**141**	⇓*i*P	Pb	15 39 38.0	-0.8
NICH				*i* S	Sb	15 39 57.1	+0.6
CACH	**El Canelo**	**1.40**	**97**	*e*P	Pb	15 39 38.9	-0.7
CACH				*i* S	Sb	15 39 59.6	+1.8
ANTU	**Antumapu**	**1.42**	**75**	*i* S	Sb	15 39 59.1	+0.6
ANTU				AMP		15 39 59.4	
	comp=N,1µm,0.3s						
PCH	**Pirque**	**1.51**	**78**	*e*P	Pn	15 39 40.4	-0.9
CLCH	**Cerro Calan**	**1.56**	**69**	⇓*i*P	Pn	15 39 41.6	-0.3
CLCH				*e*S	Sb	15 40 02.7	+0.3
CLCH				AMP		15 40 09.9	
	comp=E,597nm,0.4s						
CLCH				AMP		15 40 10.5	
	comp=E,749nm,0.4s						
CICH	**Cipreses**	**1.58**	**104**	⇓*i*P	Pn	15 39 41.2	-1.1
CICH				*i* S	Sb	15 40 03.2	+0.1
LMEL	**Las Melosas**	**1.73**	**87**	⇑*i*P	Pn	15 39 44.0	-0.4
LMEL				*i* S	Sn	15 40 07.6	+0.3
LMEL				AMP		15 40 09.3	
	comp=N,911nm,0.3s						
FCH	**Farellones**	**1.77**	**70**	*e*P	Pn	15 39 44.8	-0.2
FCH				*i* S	Sn	15 40 09.0	+0.5
FCH				AMP		15 40 09.8	
	comp=N,527nm,0.2s						

IDC ***07*** *15:41:08.5±14.0, 17.38S×177.23W, h314^{km}±145^{km}, mb3.8/6, mb1 4.0/6, mb1mx3.7/12, MS3.6/2, Ms1 3.6/2, ms1mx3.2/15, Error ellipse: s-maj=55.2km s-min=26.1km az=6.0*

NEIC ***07*** *15:41:09.1±7.5, 17.31S×177.25W, h322^{km}±73^{km}, mb4.4/5, Error ellipse: s-maj=34.2km s-min=23.1km az=167.0*

ISC 07 15:41:19.8±1.6**, 16.7S**±0.1×**178.0W**±0.2**, h424**^{km}±14^{km}**, n24,** σ**0**^{s}**.72**/17**, mb4.2**/10**, 1C-4D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.93**	**254**	Pn	**P**	**15 42 33.1**	**-0.1**
	654nm,0.7s,SNR=29						
MXZ	**Matakaoa Point**	**21.03**	**188**	*e*P	**P**	**15 45 34.7**	**+1.8**
PUZ	**Puketiti**	**21.54**	**188**	*e*P	**P**	**15 45 36.8**	**-0.9**
URZ	**Urewera**	**21.90**	**190**	P	**P**	**15 45 30.8**	**-10**
	3.2nm,0.4s,mb4.1,baz=351,slow=2.6,SNR=8.9						
MWZ	**Matawai**	**21.90**	**190**	*e*P	**P**	**15 45 46.7**	**+5.6**
CTA	**Charters Tower**	**34.07**	**259**	LR	LR	15 59 29.9	
	comp=Z,48nm,21.0s,slow=32						
TOO	**Toolangi**	**38.25**	**230**	⇓*i*P	**P**	**15 48 01.9**	**-0.9**
	8.0nm,0.5s,mb4.3						
STKA	**Stephens Creek**	**39.57**	**240**	⇓*i*P	**P**	**15 48 14.0**	**+0.2**
	3.7nm,0.6s,mb3.9						
STKA	**Stephens Creek**	**39.57**	**240**	P	**P**	**15 48 14.0**	**+0.2**
	10nm,1.1s,mb4.1,baz=113,slow=11,SNR=8.9						
WB2	**Warramunga Arr**	**45.25**	**258**	*e*P	**P**	**15 48 59.6**	**+0.3**
WRA	**Warramunga Arr**	**45.27**	**258**	P	**P**	**15 48 59.5**	**+0.1**
	1.4nm,0.8s,mb3.4,baz=94,slow=7.0,SNR=23						
ASAR	**Alice Springs**	**45.52**	**253**	P	**P**	**15 49 01.9**	**+0.6**
	26nm,0.9s,mb4.5,baz=89,slow=7.9,SNR=231						
ASPA	**Alice Springs**	**45.52**	**253**	⇓*i*P	**P**	**15 49 01.9**	**+0.6**
FORT	**Forrest**	**50.90**	**244**	*e*P	**P**	**15 49 41.1**	**-0.9**
	54nm,0.6s,mb5.0						
KLBR	**Kellerberrin**	**59.73**	**243**	⇓*i*P	**P**	**15 50 43.3**	**-0.7**
	13nm,0.7s,mb4.5						
MCK	**McKinley**	**83.29**	**13**	P	**P**	**15 53 01.5**	**+0.4**
	4.3nm,0.8s,mb4.2						
ILAR	**Eielson Array**	**84.63**	**13**	P	**P**	**15 53 07.9**	**+0.1**
	2.2nm,0.8s,mb3.9,baz=228,slow=5.0,SNR=20						
TXAR	**Lajitas Array**	**85.01**	**58**	P	**P**	**15 53 09.9**	**-0.5**
	2.5nm,0.8s,mb4.0,baz=225,slow=5.3,SNR=14						
JTS	**JuntasAbangare**	**95.77**	**81**	LR	LR	16 26 32.4	
	comp=Z,54nm,19.2s,baz=224,slow=29						
BRTR	**Keskin Array B**	**144.22**	**316**	PKP	PKPdf	16 00 08.3	+2.2
	1.7nm,0.7s,baz=117,slow=2.8,SNR=6.5						
CLL	**Collm**	**144.39**	**348**	⇑*i*PKIKP	PKPdf	16 00 08.2	+2.2
	logA/T=1.1						
BRG	**Berggiesshubel**	**144.60**	**347**	*e*P	PKPdf	16 00 09.3	+2.9
KHC	**Kasperske Hory**	**146.32**	**346**	*e*PKP	PKPdf	16 00 14.5	+5.1
GERES	**GERESS Array B**	**146.56**	**346**	PKPbc	PKPbc	16 00 14.4	+2.7
	1.0nm,0.7s,baz=14,slow=5.5,SNR=5.3						

IDC 07 15:50:15.4±4.7**, 22.60S**×**176.97W, mb3.9**/3**, mb1 4.1**/4**, mb1mx3.9**/11**, ML4.6**/1**, Error ellipse: s-maj=93.0km s-min=64.3km az=74.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**16.41**	**197**	Pn	P	15 54 05.4	-3.3
	2.2nm,0.3s,baz=312,slow=3.8,SNR=13						
STKA	**Stephens Creek**	**37.79**	**247**	P	P	15 57 32.5	-2.6
	2.9nm,1.0s,baz=95,slow=11,SNR=4.9						
ASAR	**Alice Springs**	**45.01**	**259**	P	P	15 58 33.0	-1.6
	0.5nm,0.6s,baz=93,slow=7.5,SNR=22						
ASAR				PcP	PcP	16 00 14.2	-2.1
	0.3nm,0.5s,baz=112,slow=4.1,SNR=4.8						
WB2	**Warramunga Arr**	**45.28**	**264**	*e*P	P	15 58 36.6	-0.2
WRA	**Warramunga Arr**	**45.29**	**264**	P	P	15 58 35.7	-1.3
	0.5nm,0.3s,baz=93,slow=8.3,SNR=52						

IDC ***07*** *16:18:50.7±0.7, 50.71S×72.14W, mb4.6/8, mb1 4.6/9, mb1mx4.6/11, ML4.6/1, MS4.0/8, Ms1 4.0/8, ms1mx4.0/10, Error ellipse: s-maj=32.8km s-min=14.7km az=82.0*

BJI ***07*** *16:18:53.5, 51.69S×71.46W, h25^{km}, mB5.3, Ms4.5, Msz4.4*

NEIC ***07*** *16:18:54.6±3.5, 50.69S×72.24W, h26^{km}±23^{km}, mb5.0/5, Error ellipse: s-maj=19.3km s-min=7.2km az=90.0*

HRVD ***07*** *16:18:54.6±0.7, 51.05S×72.53W, h14^{km}±2^{km}, MW4.9/26, Centroid moment Tensor Solution. LP body waves: s8,c8; Mantle waves: s26,c37; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.03±.30; $M_{\theta\theta}$-0.30±.17; $M_{\phi\phi}$-1.73±.20; $M_{r\theta}$1.17±.51; $M_{\theta\phi}$-0.45±.14; $M_{\phi r}$-1.29±.43; Best double couple: $M_0$2.53×10^{16} NP1:ϕ_s32°,δ34°,λ130°. NP2:ϕ_s166°, δ65°,λ66°. Principal axes: T 2.92, Plg63°, Azm38°; N -.79, Plg21°, Azm177°; P -2.13, Plg16°, Azm273°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

SYO ***07*** *16:18:57.1, 50.67S×72.08W, h47^{km}, MB5.1*

ISC 07 16:18:50.5±4.3**, 50.69S**±0.06×**72.2W**±0.2**, h8**^{km}±26^{km}**, n50,** σ**0**^{s}**.94**/27**, mb4.8**/16**, MS4.1**/7**, 8C-2D, Southern Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
USHA	**Ushuaia**	**4.74**	**153**	Pn	**Pn**	**16 20 03.1**	**-0.9**
	24nm,0.3s,baz=314,slow=11,SNR=198						
USHA				Sn	**Sn**	**16 20 59.1**	**-0.7**
	28nm,0.3s,baz=279,slow=16,SNR=10						
USHA				Lg		16 21 17.3	
	26nm,0.3s,baz=235,slow=16,SNR=4.0						
USHA				LR	LR	16 21 39.8	
	comp=Z,819nm,18.3s,baz=301,slow=36						
EFI	**East Falkland**	**8.95**	**102**	*e*P	**P**	**16 21 01.7**	**-1.3**
TRQA	**Tornquist**	**14.58**	**34**	*e*P	**P**	**16 22 20.7**	**+2.0**
CPUP	**Villa Florida**	**26.86**	**31**	P	**P**	**16 24 32.2**	**-1.1**
	3.7nm,0.7s,mb4.0,baz=236,slow=8.4,SNR=7.1						
CPUP				LR	LR	16 34 44.3	
	comp=Z,144nm,20.9s,MS3.5,baz=225,slow=36						
VNA3	**Neumayer Olymp**	**34.41**	**149**	⇑*i*	**P**	**16 25 44.3**	**+4.6**
LPAZ	**La Paz**	**34.47**	**7**	P	**P**	**16 25 41.1**	**+0.3**
	5.0nm,0.6s,mb4.7,baz=176,slow=4.6,SNR=9.3						
LPAZ				LR	LR	16 40 05.9	
	comp=Z,147nm,19.7s,MS3.7,baz=120,slow=37						
VNA1	**Neumayer--Stat**	**34.85**	**148**	⇑*i*	**P**	**16 25 48.7**	**+5.2**
VNA2	**Neumayer--Watz**	**35.15**	**149**	⇑*i*	**P**	**16 25 51.0**	**+5.0**
SNAA	**Sanae**	**36.59**	**150**	⇑*i*	**P**	**16 25 59.1**	**+0.9**
QSPA	**South Pole Qui**	**39.56**	**180**	*e*P	**P**	**16 26 24.4**	**+1.4**
	27nm,0.7s,mb5.1						
BDFB	**Brasilia**	**40.03**	**38**	P	**P**	**16 26 27.2**	**-0.3**
	15nm,0.7s,mb4.8,baz=218,slow=6.8,SNR=19						
BDFB				LR	LR	16 45 10.7	
	comp=Z,571nm,19.0s,MS4.4,baz=24,slow=40						
BAO	**Brasilia Array**	**40.04**	**38**	*e*P	**P**	**16 26 28.1**	**+0.5**
MAIT	**Maitri**	**41.39**	**150**	⇑*i*P	**P**	**16 26 40.1**	**+2.0**
SAML	**Samuel**	**42.28**	**13**	⇑*e*P	**P**	**16 26 44.5**	**-1.5**
	9.2nm,1.0s,mb4.4						
SYO	**Syowa Base**	**50.61**	**154**	⇑P	**P**	**16 27 44.8**	**-6.3**
SYO	**Syowa Base**	**50.61**	**154**	⇓pP	pP	16 28 00.8	+7.1
SYO	**Syowa Base**	**50.61**	**154**	⇓sP	sP	16 28 04.2	+10
OTAV	**Otavalo**	**51.01**	**352**	*e*P	**P**	**16 27 55.0**	**+0.1**
	6.5nm,0.8s,mb4.6						
ROSC	**El Rosal**	**55.35**	**357**	P	**P**	**16 28 27.2**	**0.0**
	5.7nm,0.4s,mb5.0,baz=60,slow=21,SNR=5.7						
MAW	**Mawson**	**57.31**	**161**	P	**P**	**16 28 40.4**	**0.0**
	4.6nm,1.0s,mb4.5,baz=203,slow=8.6,SNR=9.1						
MAW				LR	LR	16 52 52.1	
	comp=Z,324nm,18.1s,MS4.5,baz=14,slow=36						
JTS	**JuntasAbangare**	**61.73**	**346**	P	**P**	**16 29 10.5**	**-1.1**
	7.0nm,0.7s,mb4.9,baz=299,slow=15,SNR=3.6						
CASY	**Casey**	**63.34**	**181**	⇑*e*P	**P**	**16 29 21.2**	**-0.4**
	17nm,0.7s,mb5.3						
LIC	**Lamto**	**80.67**	**68**	*e*P	**P**	**16 31 06.1**	**+0.7**
	15nm,0.5s,mb5.2						
KIC	**Kosan Boka**	**80.95**	**68**	*e*P	**P**	**16 31 07.4**	**+0.5**
	52nm,1.3s,mb5.3						
TIC	**Toumodi**	**81.01**	**68**	*e*P	**P**	**16 31 07.7**	**+0.5**
	13nm,0.2s,mb5.5						
DBIC	**Dimbokro**	**81.13**	**68**	P	**P**	**16 31 08.3**	**+0.5**
	2.2nm,0.6s,mb4.3,baz=185,slow=7.2,SNR=6.9						
DBIC				LR	LR	17 00 42.5	
	comp=Z,142nm,20.1s,MS4.3,baz=205,slow=31						
TXAR	**Lajitas Array**	**84.39**	**333**	LR	LR	17 02 49.9	
	comp=Z,55nm,18.6s,MS4.0,baz=160,slow=31						
CCM	**Cathedral Cave**	**89.94**	**345**	*e*P	**P**	**16 31 49.8**	**-1.3**
	18nm,0.8s,mb5.5						
STKA	**Stephens Creek**	**92.53**	**208**	P	**P**	**16 32 02.8**	**-0.3**
	2.6nm,0.8s,mb4.7,baz=107,slow=9.4,SNR=3.6						
PDAR	**Pinedale Array**	**98.61**	**333**	LR	LR	17 11 17.8	
	comp=Z,55nm,18.8s,MS4.1,baz=245,slow=32						
ASAR	**Alice Springs**	**102.46**	**204**	P	Pdif	16 32 47.0	-1.3
	0.4nm,0.8s,baz=166,slow=3.6,SNR=4.4						
GERES	**GERESS Array B**	**123.32**	**52**	PKP	PKPdf	16 37 48.3	-1.9
	0.9nm,0.7s,baz=180,slow=1.3,SNR=7.1						

ILAR	**Eielson Array**	**128.69**	**328**	PKP	PKPdf	16 37 58.3	-1.8
	1.3nm,0.7s,baz=169,slow=1.8,SNR=18						
BRTR	**Keskin Array B**	**128.69**	**72**	PKP	PKPdf	16 37 59.6	-1.2
	1.7nm,0.8s,baz=135,slow=1.7,SNR=6.5						
MALT	**Malatya**	**130.75**	**76**	*e*PKPdf	PKPdf	16 38 03.6	-1.2
AKASG	**Malin Array Be**	**132.51**	**58**	PKP	PKPdf	16 38 05.0	-2.7
	1.2nm,0.6s,baz=264,slow=2.3,SNR=8.5						
CMAR	**Chiang Mai Arr**	**147.08**	**164**	PKPbc	PKPdf	16 38 34.9	+0.3
	4.4nm,1.0s,baz=215,slow=3.7,SNR=14						
KOLN	**Koldanda**	**150.67**	**132**	*e*P	PKPdf	16 38 44.2	+4.2
	41nm,0.7s						
DMN	**Daman**	**151.22**	**135**	*e*P	PKPdf	16 38 45.3	+4.5
	34nm,0.8s						
PKI	**Pulchoki**	**151.33**	**135**	*e*P	PKPdf	16 38 45.5	+4.5
	28nm,0.7s						
GKN	**Gorkha**	**151.35**	**134**	*e*P	PKPdf	16 38 45.6	+4.6
	40nm,0.7s						
KKN	**Kakani**	**151.46**	**135**	*e*P	PKPdf	16 38 46.0	+4.8
	30nm,0.7s						
AAK	**Ala-Archa**	**155.94**	**97**	PKPdf	PKPdf	16 38 45.8	-1.1
ZRNK	**Zerenda**	**156.12**	**69**	*e*PKPdf	PKPdf	16 38 45.2	-1.6
BRVK	**Borovoye**	**156.90**	**69**	PKPdf	PKPdf	16 38 48.0	+0.2
KURK	**Kurchatov**	**161.57**	**79**	PKPdf	PKPdf	16 38 50.8	-2.4
KURK				*e*		16 39 05.1	
MKAR	**Makanchi Array**	**162.77**	**93**	PKP	PKPdf	16 38 53.5	-1.0
	0.6nm,0.8s,baz=297,slow=2.7,SNR=3.5						
MKAR				PKPab	PKPab	16 39 42.1	-0.9
	1.3nm,0.7s,baz=225,slow=5.1,SNR=6.0						
WMQ	**Urumqi**	**164.75**	**109**	*e*PKP	PKPdf	16 38 55.4	-1.2
WMQ				LR	LR		
	comp=E,52nm,20.0s						
WMQ				LR	LR		
	comp=Z,70nm,28.0s						
ZAL	**Zalesovo**	**165.59**	**68**	PKP	PKPdf	16 38 54.5	-2.6
	comp=Z,0.5nm,0.4s,baz=257,slow=12,SNR=2.7						
SONM	**Songino Array**	**177.00**	**162**	PKP	PKPdf	16 39 02.1	-0.8
	comp=Z,0.7nm,1.2s,baz=135,slow=4.1,SNR=4.1						
SONM				PKPab	PKPab	16 40 45.1	-0.5
	comp=Z,1.4nm,1.0s,baz=194,slow=3.6,SNR=8.3						

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*NEIC **07** 16:31:35.0, 33.97S×72.35W, h37^{km}, MD3.6(GUC), After GUC.*

GUC 07 16:31:35.0±0.8**, 33.97S×72.35W, h37**^{km}±3^{km}**, MD3.6, ML2.7, 5D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.78**	**89**	⇓*i*P	P	16 31 49.4	-0.1
LNV				*i* S	S	16 32 00.3	+0.1
LCCH	**Las Cruces**	**0.81**	**53**	*e*P	P	16 31 49.7	-0.3
TACH	**Talagante**	**1.22**	**75**	⇓*i*P	P	16 31 56.5	+0.8
TACH				*i* S	S	16 32 13.2	+2.0
RCDM	**Rinconada Maip**	**1.37**	**70**	*e*P	P	16 31 58.9	+0.9
RCDM				*i* S	S	16 32 16.5	+1.3
RCDM				AMP		16 32 19.2	
	comp=N,153nm,0.1s						
CHCH	**Chadas Angostu**	**1.41**	**89**	⇓*i*P	P	16 31 59.4	+0.8
CACH	**El Canelo**	**1.46**	**96**	*e*P	P	16 32 00.8	+1.6
CACH				*i* S	S	16 32 21.1	+3.7
PCH	**Pirque**	**1.57**	**78**	*e*P	P	16 32 01.6	+0.8
CICH	**Cipreses**	**1.64**	**103**	*e*P	P	16 32 02.6	+0.8
LMEL	**Las Melosas**	**1.79**	**87**	⇓*i*P	P	16 32 05.5	+1.5
LMEL				*i* S	S	16 32 27.4	+1.7
LMEL				AMP		16 32 30.9	
	comp=N,168nm,0.1s						
FCH	**Farellones**	**1.83**	**70**	⇓*i*P	P	16 32 06.1	+1.5
FCH				*e*S	S	16 32 29.4	+2.6
FCH				AMP		16 32 36.2	
	comp=N,100nm,0.2s						

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*LDG **07** 16:45:21.8±0.3, 43.08N×1.57W, h2^{km}, Md2.2/2, Ml2.3/1, Error ellipse: s-maj=5.1km s-min=4.5km az=62.0*
*STR **07** 16:45:21.8±0.7, 43.15N×1.54W, h10^{km}±1^{km}, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*MDD **07** 16:45:22.5±0.7, 43.10N×1.53W, h11^{km}±3^{km}, mbLg1.4/4, Error ellipse: s-maj=7.6km s-min=3.2km az=26.0, PRXIMO*

ISC 07 16:45:21.9±1.5**, 43.08N**±0.08×**1.51W**±0.08**, h11**^{km}±7^{km}**, n12, σ0^{s}58**/21**, 1D, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EALK	**Alkurruntz**	**0.14**	**2**	⇓Pg	**Pg**	**16 45 25.4**	**0.0**
	16nm,0.1s,SNR=18						
EALK				Lg		16 45 27.8	
	151nm,0.1s,SNR=7.9						
SJPF	**Ste Jean**	**0.21**	**80**	*e*Pg	**Pg**	**16 45 26.9**	**+0.3**
SJPF				*e*Sg	**Sg**	**16 45 30.1**	**+0.3**
	16nm,0.2s						
OSSF	**Osses**	**0.26**	**46**	Pg	**Pg**	**16 45 27.1**	**-0.3**
OSSF				Sg	**Sg**	**16 45 30.8**	**-0.3**
OSSF	**Osses**	**0.26**	**46**	P	**Pg**	**16 45 27.3**	**-0.1**
OSSF				S	**Sg**	**16 45 30.9**	**-0.2**
LARF	**Larrau**	**0.39**	**95**	Pg	**Pg**	**16 45 30.0**	**+0.1**
LARF				Sg	**Sg**	**16 45 36.1**	**+0.9**
LARF	**Larrau**	**0.39**	**95**	P	**Pg**	**16 45 30.1**	**+0.2**
LARF				S	**Sg**	**16 45 35.7**	**+0.5**
ORDF	**Ordiarp**	**0.45**	**72**	Pg	**Pg**	**16 45 30.9**	**-0.1**
ORDF				Sg	**Sg**	**16 45 37.6**	**+0.5**
ORDF	**Ordiarp**	**0.45**	**72**	P	**Pg**	**16 45 31.1**	**+0.1**
ORDF				S	**Sg**	**16 45 37.6**	**+0.6**
ATE	**Arette**	**0.60**	**89**	P	**Pb**	**16 45 34.0**	**+0.2**
ATE				S	**Sb**	**16 45 42.2**	**+0.3**
ETSF	**Etsaut**	**0.72**	**104**	*e*Pg	**Pg**	**16 45 35.8**	**-0.6**
ETSF				*e*Sg	**Sg**	**16 45 46.4**	**+0.2**
	5.4nm,0.3s						
EPF	**Esparros**	**1.36**	**91**	*e*Pn	**Pn**	**16 45 46.9**	**+0.1**
EPF				*e*Sg	**Sg**	**16 46 05.3**	**-2.0**
	4.1nm,0.2s						
EPF	**Esparros**	**1.36**	**91**	Lg		16 46 05.3	
	2.0nm,0.2s						

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*NEIC **07** 16:53:55.4, 34.07S×72.25W, h37^{km}, MD3.9(GUC), After GUC.*

GUC 07 16:53:55.4±0.8**, 34.07S×72.25W, h37**^{km}±3^{km}**, MD3.9, ML3.1, 4D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.71**	**81**	⇓*i*P	P	16 54 09.0	+0.1
LNV				*i* S	S	16 54 19.4	+0.6
LCCH	**Las Cruces**	**0.82**	**44**	⇓*i*P	P	16 54 10.4	-0.1
LCCH				*i* S	S	16 54 22.9	+1.2
SFDO	**San Fernando**	**1.16**	**118**	*e*P	P	16 54 16.1	+0.8
TACH	**Talagante**	**1.17**	**70**	*e*P	P	16 54 15.6	+0.1
TACH				*i* S	S	16 54 31.7	+1.2
CHCH	**Chadas Angostu**	**1.34**	**85**	*e*P	P	16 54 18.7	+0.7
RCDM	**Rinconada Maip**	**1.34**	**65**	*e*P	P	16 54 17.8	-0.1
RCDM				*i* S	S	16 54 36.2	+1.4
RCDM				AMP		16 54 40.6	
	comp=N,397nm,0.4s						
CACH	**El Canelo**	**1.37**	**92**	*e*P	P	16 54 19.9	+1.4
PCH	**Pirque**	**1.52**	**73**	⇓*i*P	P	16 54 21.6	+1.1
CICH	**Cipreses**	**1.54**	**100**	*e*P	P	16 54 22.2	+1.4
CICH				*e*S	S	16 54 42.3	+2.4
CLCH	**Cerro Calan**	**1.58**	**65**	⇓*i*P	P	16 54 22.8	+1.4
CLCH				*i* S	S	16 54 42.9	+2.0
CLCH				AMP		16 54 48.5	
	comp=N,276nm,0.6s						
PEL	**Peldehue**	**1.60**	**55**	*e*S	S	16 54 43.6	+2.2
PEL				AMP		16 54 52.9	
	comp=N,572nm,0.4s						
LMEL	**Las Melosas**	**1.72**	**83**	*e*P	P	16 54 24.9	+1.5
LMEL				AMP		16 54 50.5	
	comp=N,399nm,0.2s						
FCH	**Farellones**	**1.80**	**66**	*e*S	S	16 54 48.5	+2.2
FCH				AMP		16 54 56.9	
	comp=N,258nm,0.2s						

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*JMA **07** 17:09:42.1±0.2, 33.20N×137.10E, h40^{km}±4^{km}, M3.7*

ISC 07 17:09:42.3±1.2**, 33.21N**±0.07×**137.09E**±0.04**, h40**^{km}**, n14, σ0^{s}60**/25**, 1D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	**Tokai 1**	**0.69**	**37**	S	**S**	**17 10 04.7**	**-0.7**
TK02	**Tokai 2**	**0.92**	**37**	S	**S**	**17 10 11.0**	**-0.2**
JWZ	**Kozaga**	**1.19**	**286**	P	**P**	**17 10 02.7**	**0.0**
JWZ				S	**S**	**17 10 17.4**	**-0.7**
JIE	**Ise**	**1.22**	**345**	⇓P	**P**	**17 10 03.9**	**+0.8**
JIE				S	**S**	**17 10 19.6**	**+0.8**
JKN	**Kiinagashima**	**1.24**	**327**	P	**P**	**17 10 03.9**	**+0.4**
JKN				S	**S**	**17 10 18.7**	**-0.6**
TK04	**Tokai 4**	**1.34**	**29**	P	**P**	**17 10 04.8**	**-0.2**
TK04				S	**S**	**17 10 21.6**	**-0.3**
JWM	**Minabe**	**1.58**	**294**	S	**S**	**17 10 27.4**	**-0.4**
TSUJ	**Tsu 2**	**1.60**	**340**	P	**P**	**17 10 09.0**	**+0.4**
TSUJ				S	**S**	**17 10 28.2**	**0.0**
JWY	**Kouya**	**1.60**	**309**	P	**P**	**17 10 07.8**	**-0.9**
JWY				S	**S**	**17 10 28.7**	**+0.4**
JHE	**Heguri**	**1.85**	**321**	P	**P**	**17 10 12.8**	**+0.6**
JHE				S	**S**	**17 10 35.1**	**+0.5**
JAJ2	**Tsuna**	**2.20**	**304**	P	**P**	**17 10 17.6**	**+0.5**
JAJ2				S	**S**	**17 10 43.4**	**+0.2**
JAI	**Aioi**	**2.28**	**285**	P	**P**	**17 10 18.8**	**+0.5**
JAI				S	**S**	**17 10 43.9**	**-1.5**
JWT	**Wachi**	**2.50**	**326**	P	**P**	**17 10 22.1**	**+0.7**
JWT				S	**S**	**17 10 50.9**	**0.0**
MAT	**Matsushiro**	**3.45**	**15**	P	**P**	**17 10 35.5**	**+0.5**
MAT				S	**S**	**17 11 14.1**	**-1.0**

WEL 07 17:14:00.8±0.4**, 38.16S×176.09E, h180**^{km}±3^{km}**, ML3.5**/6**, 5C, Error ellipse: s-maj=3.5km s-min=2.9km az=0.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.81**	**97**	⇑PN	P	17 14 27.1	-0.4
URZ				SN	S	17 14 47.3	-0.8
MGZ	**Maungaku**	**0.94**	**207**	⇑PN	P	17 14 28.5	+0.2
BKZ	**Black Stump Fm**	**1.05**	**162**	⇑PN	P	17 14 29.0	-0.1
BKZ				SN	S	17 14 50.2	-0.8
NGZ	**Ngauruhoe**	**1.08**	**200**	PN	P	17 14 29.4	0.0
CNZ	**Chateau**	**1.12**	**202**	PN	P	17 14 29.5	-0.2
MWZ	**Matawai**	**1.15**	**99**	PN	P	17 14 29.8	-0.2
MWZ				SN	S	17 14 51.7	-0.8
TUVZ	**Tukino**	**1.15**	**197**	PN	P	17 14 29.9	-0.1
WNVZ	**Wahianoa**	**1.22**	**198**	PN	P	17 14 30.3	-0.3
MOVZ	**Moawhango**	**1.27**	**192**	PN	P	17 14 30.2	-0.8
KNZ	**Kokohu**	**1.51**	**125**	PN	P	17 14 33.2	-0.1
KNZ				SN	S	17 14 57.8	-0.5
PUZ	**Puketiti**	**1.71**	**88**	PN	P	17 14 34.7	-0.6
PUZ				SN	S	17 15 00.7	-1.2
WAZ	**Wanganui**	**1.81**	**208**	PN	P	17 14 34.7	-1.5
WAZ				SN	S	17 15 02.9	-0.6
MXZ	**Matakaoa Point**	**1.86**	**72**	PN	P	17 14 36.4	-0.4
MXZ				SN	S	17 15 03.3	-1.2
TSZ	**Takapari Road**	**1.90**	**183**	⇑PN	P	17 14 36.0	-1.1
TSZ				*e*SN	S	17 15 04.0	-1.1
PWZ	**Pawanui**	**1.96**	**162**	PN	P	17 14 37.0	-0.8
PWZ				*e*SN	S	17 15 05.3	-1.0
BFZ	**Birch Farm**	**2.52**	**177**	PN	P	17 14 42.0	-2.3
BFZ				SN	S	17 15 14.1	-3.6
MRZ	**Mangatainoka R**	**2.53**	**189**	⇑PN	P	17 14 41.9	-2.5
MRZ				SN	S	17 15 13.9	-3.9
KIW	**Kapiti Island**	**2.84**	**198**	PN	P	17 14 45.0	-3.1
MTW	**Mount Morrison**	**3.02**	**188**	PN	P	17 14 46.9	-3.5
CAW	**Cannon Point**	**3.04**	**195**	PN	P	17 14 47.3	-3.3
CAW				*e*SN	S	17 15 24.8	-4.1
MSWZ	**Moikau Station**	**3.31**	**191**	PN	P	17 14 50.1	-3.8
MSWZ				PN	P	17 14 50.2	-3.7
QRZ	**Quartz Range**	**3.83**	**225**	*e*PN	P	17 14 55.3	-5.1
THZ	**Tophouse**	**4.35**	**213**	*e*PN	P	17 15 02.6	-4.5
KHZ	**Kahutara**	**4.67**	**204**	PN	P	17 15 07.0	-4.4
LTZ	**Lake Taylor**	**5.45**	**211**	*e*PN	P	17 15 16.2	-5.3
MQZ	**McQueen's Vall**	**6.12**	**204**	SN	S	17 16 28.5	-11

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*NIED **07** 17:20:00, 32.90N×136.70E, h5^{km}, Mw4.3 Best double couple: M$_0$2.7×10^{15} NP1:ϕ$_s$338°, δ85°, λ153°. NP2:ϕ$_s$71°, δ63°, λ6°.*
*BJI **07** 17:20:31.8, 32.02N×136.64E, h42^{km}, mB4.7, mb4.4, Ms4.1, Msz3.7*
*NEIC **07** 17:20:31.9±0.9, 32.92N×136.85E, h10^{km}, mb4.3/2, Error ellipse: s-maj=23.7km s-min=13.2km az=100.0*
*JMA **07** 17:20:31.3±0.1, 32.93N×136.71E, h35^{km}, M4.1*
*IDC **07** 17:20:39.8±5.6, 31.71N×133.78E, mb3.7/5, mb1 3.9/5, mb1mx3.7/21, MS3.8/6, Ms1 3.8/6, ms1mx3.3/31, Error ellipse: s-maj=255.0km s-min=21.1km az=65.0*

ISC 07 17:20:30.9±1.3**, 33.00N**±0.04×**136.74E**±0.05**, h15**^{km}±8^{km}**, n29, σ0^{s}77**/36**, mb3.9**/8**, MS3.9**/7**, 4C-3D, Southeast of Shikoku**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JWZ	**Kozaga**	**1.01**	**302**	⇑P	**Pb**	**17 20 49.4**	**-0.1**
JWZ				S	**Sb**	**17 21 02.6**	**+0.2**
TK02	**Tokai 2**	**1.27**	**42**	P	**Pn**	**17 20 53.3**	**-0.9**
JKN	**Kiinagashima**	**1.31**	**343**	⇓P	**Pn**	**17 20 54.7**	**-0.1**
JKN				S	**Sb**	**17 21 11.0**	**-0.1**
JIE	**Ise**	**1.39**	**359**	⇓P	**Pn**	**17 20 56.2**	**+0.3**
JIE				S	**Sb**	**17 21 13.8**	**+0.4**
JWM	**Minabe**	**1.44**	**307**	⇑P	**Pn**	**17 20 55.9**	**-0.7**
JWM				S	**Sb**	**17 21 13.6**	**-1.2**
JWY	**Kouya**	**1.55**	**322**	⇑P	**Pn**	**17 20 58.4**	**+0.2**
JWY				S	**Sn**	**17 21 17.5**	**-0.6**
TK03	**Tokai 3**	**1.55**	**41**	S	**Sn**	**17 21 17.9**	**-0.2**
JAA	**Atsumi**	**1.67**	**12**	⇓P	**Pn**	**17 20 59.9**	**+0.1**
JAA				S	**Sn**	**17 21 21.1**	**+0.1**
TK04	**Tokai 4**	**1.68**	**34**	P	**Pn**	**17 20 59.8**	**-0.2**
TK04				S	**Sn**	**17 21 21.2**	**-0.1**
TSUJ	**Tsu 2**	**1.73**	**351**	P	**Pn**	**17 21 01.0**	**+0.2**
TSUJ				S	**Sn**	**17 21 22.4**	**-0.2**
JHE	**Heguri**	**1.87**	**332**	⇑P	**Pn**	**17 21 03.1**	**+0.3**
JHE				S	**Sn**	**17 21 25.7**	**-0.5**
MAJO	**Matsushiro**	**3.74**	**18**	*e*Pn	**Pn**	**17 21 30.5**	**+1.1**
MAT	**Matsushiro**	**3.74**	**18**	P	**Pn**	**17 21 30.4**	**+1.0**
MAT				S	**Sn**	**17 22 13.0**	**-0.6**
MAT	**Matsushiro**	**3.74**	**18**	P	**Pn**	**17 21 30.0**	**+0.6**
MAT				*e*S	**Sn**	**17 22 13.0**	**-0.6**
CN2	**Changchun**	**13.94**	**324**	*e*P	**P**	**17 24 00.4**	**+10**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s						
BJI	**Beijing**	**17.94**	**299**	*e*P	**P**	**17 24 43.7**	**+2.3**
BJI				AMB	AMB		
	comp=Z,8.0nm,1.0s						
BJI				LR	LR		
	comp=N,379nm,13.5s						
BJI				LR	LR		
	comp=E,353nm,14.6s						
BJI				LR	LR		
	comp=Z,182nm,24.4s						
HHC	**Hu-ho-hao-te**	**21.55**	**299**	*e*P	**P**	**17 25 25.5**	**+3.8**
HHC				AP		17 25 32.5	
HHC				XP		17 25 37.9	
HHC				AMB	AMB		
	comp=Z,13nm,0.5s,mb4.6						
HHC				AMB	AMB		
	comp=Z,256nm,8.0s						
HHC				LR	LR		
	comp=N,232nm,15.5s,MS3.9						
HHC				LR	LR		
	comp=E,235nm,11.3s,MS3.9						
HHC				LR	LR		
	comp=Z,154nm,19.6s						
XAN	**Xi'an**	**23.19**	**280**	P	**P**	**17 25 38.0**	**0.0**
SONM	**Songino Array**	**27.23**	**312**	P	**P**	**17 26 16.4**	**+0.3**
	comp=Z,1.2nm,0.8s,mb3.5,baz=122,slow=7.8,SNR=9.4						
ZAL	**Zalesovo**	**41.98**	**316**	P	**P**	**17 28 25.6**	**+3.0**
	comp=Z,0.6nm,0.3s,mb3.7,baz=54,slow=8.4,SNR=3.9						
MKAR	**Makanchi Array**	**43.15**	**305**	P	**P**	**17 28 32.5**	**+0.1**
	comp=Z,2.3nm,0.9s,mb3.9,baz=87,slow=9.5,SNR=10						
MKAR				LR	LR	17 47 27.2	
	comp=Z,71nm,18.2s,MS3.6,baz=118,slow=38						
BRVK	**Borovoye**	**50.60**	**314**	P	**P**	**17 29 30.5**	**-0.4**
	comp=Z,2.9nm,0.9s,mb4.2						
ZRNK	**Zerenda**	**51.38**	**314**	*e*P	**P**	**17 29 37.2**	**+0.4**
	comp=Z,4.2nm,0.9s,mb4.4						
WRA	**Warramunga Arr**	**52.69**	**183**	P	**P**	**17 29 45.1**	**-2.0**
	comp=Z,1.1nm,1.0s,mb3.7,baz=0.5,slow=8.4,SNR=4.1						
WRA				LR	LR	17 49 30.9	
	comp=Z,67nm,21.9s,MS3.6,baz=225,slow=34						
ASAR	**Alice Springs**	**56.41**	**183**	P	**P**	**17 30 14.2**	**-0.1**
	comp=Z,0.2nm,0.6s,mb3.3,baz=3.6,slow=14,SNR=3.7						
STKA	**Stephens Creek**	**64.69**	**175**	LR	LR	17 57 25.4	
	comp=Z,77nm,18.8s,MS3.9,baz=72,slow=35						
NOA	**NORSAR Array B**	**76.36**	**336**	LR	LR	18 08 37.0	
	comp=Z,35nm,20.4s,MS3.7,baz=125,slow=38						
EIL	**Elat**	**83.25**	**301**	LR	LR	18 12 25.8	
	comp=Z,212nm,18.3s,MS4.5,baz=121,slow=38						
SCHQ	**Schefferville**	**90.20**	**13**	LR	LR	18 14 16.4	
	comp=Z,50nm,19.6s,MS4.0,baz=52,slow=35						

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*IDC **07** 17:46:20.6±0.9, 56.49S×25.59W, mb4.6/5, mb1 4.7/5, mb1mx4.4/10, Error ellipse: s-maj=47.3km s-min=22.5km az=45.0*
*NEIC **07** 17:46:22.3±0.5, 56.32S×25.60W, h10^{km}, mb4.9/5, Error ellipse: s-maj=25.4km s-min=10.2km az=53.0*

ISC 07 17:46:24.8±0.5**, 56.16S**±0.08×**25.7W**±0.2**, h33**^{km}**, n22, σ1^{s}13**/18**, mb4.9**/13**, 3C-1D, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**16.40**	**159**	⇑*i*	**P**	**17 50 14.8**	**+1.2**
VNA3	**Neumayer Olymp**	**16.63**	**162**	⇑*i*	**P**	**17 50 17.8**	**+1.4**
VNA2	**Neumayer--Watz**	**16.79**	**159**	⇑*i*	**P**	**17 50 19.5**	**+1.0**
SNAA	**Sanae**	**18.32**	**157**	⇓*i*	**P**	**17 50 35.2**	**-2.5**
TRQA	**Tornquist**	**30.12**	**292**	*e*P	**P**	**17 52 31.7**	**-1.6**
	5.4nm,0.5s,mb4.5						
QSPA	**South Pole Qui**	**34.09**	**180**	*e*P	**P**	**17 53 06.0**	**-1.7**
	20nm,0.6s,mb5.2						
CPUP	**Villa Florida**	**37.50**	**309**	P	**P**	**17 53 37.3**	**+0.2**
	9.1nm,0.7s,mb4.6,baz=174,slow=7.1,SNR=18						
MAW	**Mawson**	**39.58**	**143**	P	**P**	**17 53 49.3**	**-4.6**
	3.0nm,0.7s,mb4.1,baz=231,slow=5.2,SNR=7.2						
LVC	**Limon Verde**	**46.06**	**299**	*e*P	**P**	**17 54 48.0**	**+0.9**
	43nm,0.6s,mb5.6						
LPAZ	**La Paz**	**51.11**	**304**	P	**P**	**17 55 27.9**	**+1.6**
	11nm,0.4s,mb5.1,baz=40,slow=0.2,SNR=30						
ARE	**Arequipa**	**52.56**	**300**	*e*P	**P**	**17 55 38.0**	**+0.9**
SAML	**Samuel**	**55.46**	**313**	*e*P	**P**	**17 55 57.2**	**-1.4**
	4.2nm,0.7s,mb4.6						
LIC	**Lamto**	**64.46**	**23**	*e*P	**P**	**17 56 59.9**	**-0.3**
	18nm,0.8s,mb5.2						
KIC	**Kosan Boka**	**64.66**	**23**	*e*P	**P**	**17 57 01.8**	**+0.3**
	26nm,0.9s,mb5.3						
TIC	**Toumodi**	**64.87**	**23**	*e*P	**P**	**17 57 02.5**	**-0.4**
	15nm,0.2s,mb5.7						
DBIC	**Dimbokro**	**64.93**	**23**	P	**P**	**17 57 03.5**	**+0.2**
	3.8nm,0.8s,mb4.5,baz=186,slow=5.9,SNR=5.5						
SDV	**Santo Domingo**	**74.67**	**314**	*e*P	**P**	**17 58 03.1**	**+0.4**
	7.0nm,0.6s,mb4.8						
ASAR	**Alice Springs**	**98.64**	**161**	P	**P**	**18 00 00.5**	**-1.0**
	0.7nm,0.7s,mb4.3,baz=187,slow=4.1,SNR=5.4						
DAWY	**Dawson**	**147.47**	**311**	*e*PKPbc	PKPdf	18 06 05.2	+4.0
DIV	**Divide**	**149.38**	**304**	*e*PKPbc	PKPdf	18 06 11.1	+6.7
SONM	**Songino Array**	**149.92**	**86**	PKPbc	PKPdf	18 06 11.7	+6.1
	2.4nm,0.7s,baz=230,slow=3.0,SNR=20						
ILAR	**Eielson Array**	**150.80**	**311**	PKPbc	PKPdf	18 06 13.9	+7.5
	6.1nm,0.8s,baz=132,slow=4.8,SNR=55						

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*JMA **07** 17:52:23.1±0.1, 32.98N×136.89E, h37^{km}, M3.5*

ISC 07 17:52:23.5±1.2**, 32.99N**±0.07×**136.89E**±0.04**, h40**^{km}±42^{km}**, n15, σ0^{s}49**/27**, 1C-4D, Southeast of Shikoku**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	**Tokai 1**	**0.97**	**37**	P	**P**	**17 52 40.4**	**-0.4**
TK01				S	**S**	**17 52 52.9**	**-0.7**
JWZ	**Kozaga**	**1.12**	**299**	⇑P	**P**	**17 52 42.8**	**-0.1**
JWZ				S	**S**	**17 52 56.5**	**-0.9**
TK02	**Tokai 2**	**1.20**	**37**	⇓P	**P**	**17 52 43.8**	**-0.2**
TK02				S	**S**	**17 52 59.5**	**+0.1**
JKN	**Kiinagashima**	**1.36**	**338**	P	**P**	**17 52 46.7**	**+0.3**
JKN				S	**S**	**17 53 02.4**	**-1.1**
JIE	**Ise**	**1.40**	**354**	⇓P	**P**	**17 52 47.5**	**+0.4**
JIE				S	**S**	**17 53 05.1**	**+0.5**
JWM	**Minabe**	**1.54**	**304**	P	**P**	**17 52 49.1**	**+0.1**
JWM				S	**S**	**17 53 07.5**	**-0.5**
TK04	**Tokai 4**	**1.61**	**30**	⇓P	**P**	**17 52 50.1**	**0.0**
TK04				S	**S**	**17 53 09.8**	**-0.1**
JWY	**Kouya**	**1.63**	**319**	P	**P**	**17 52 51.0**	**+0.7**
JWY				S	**S**	**17 53 10.4**	**+0.1**
TSUJ	**Tsu 2**	**1.76**	**347**	⇓P	**P**	**17 52 52.5**	**+0.4**
TSUJ				S	**S**	**17 53 13.5**	**+0.1**
JHE	**Heguri**	**1.94**	**329**	P	**P**	**17 52 55.2**	**+0.6**
JHE				S	**S**	**17 53 18.1**	**+0.2**
JAI	**Aioi**	**2.19**	**292**	P	**P**	**17 52 58.3**	**+0.1**
JAI				S	**S**	**17 53 23.7**	**-0.6**
JAJ2	**Tsuna**	**2.19**	**311**	P	**P**	**17 52 59.1**	**+0.8**
SHZ3	**Shizuoka 3**	**2.34**	**28**	P	**P**	**17 52 59.8**	**-0.6**
JIZS	**Izushimoda**	**2.39**	**43**	P	**P**	**17 53 00.4**	**-0.7**
MAT	**Matsushiro**	**3.71**	**17**	P	**P**	**17 53 20.3**	**+0.5**
MAT				S	**S**	**17 54 03.0**	**+0.2**

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*ISK **07** 18:05:35.5, 38.68N×31.22E, h5^{km}, ML4.4*
*CSEM **07** 18:05:38.0, 38.57N×31.24E, h30^{km}, mb4.5*
*BJI **07** 18:05:39.2, 38.70N×31.20E, h36^{km}, mb4.7, Ms5.1, Msz4.9*
*MOS **07** 18:05:39.6±1.1, 38.69N×31.18E, h10^{km}, mb4.4/12, Error ellipse: s-maj=8.4km s-min=4.9km az=112.3*
*NIC **07** 18:05:41.8±0.3, 38.67N×31.34E, h23^{km}, mb4.8, ML4.5, MW3.8, Earthquake Turkey 13 km NW Sultandagi.*
*NEIC **07** 18:05:41.3±0.2, 38.67N×31.23E, h36^{km}±3^{km}, mb4.5/52, Error ellipse: s-maj=2.8km s-min=2.0km az=215.0*
*MED_RC **07** 18:05:41.3±0.2, 38.94N×31.11E, h40^{km}, MW4.7/21, Moment Tensor Solution. Body waves: s21,c23; Duration: 1^{s}0 Moment tensor: Scale 10^{16}Nm; M$_{rr}$0.39±.10; M$_{\theta\theta}$-0.32±.08; M$_{\phi\phi}$-0.06±.08; M$_{r\theta}$0.43±.02; M$_{\theta\phi}$1.12±.11; M$_{\phi r}$0.08±.02; Best double couple: M$_0$1.23×10^{16} NP1: ϕ$_s$354°, δ65°, λ167°. NP2:ϕ$_s$90°, δ78°, λ26°. Principal axes: T 1.1, Plg27°, Azm315°; N .26, Plg62°, Azm113°; P -1.36, Plg9°, Azm220°; nsta1 refers to waves, cutoff=35s.*
*IDC **07** 18:05:41.3±1.6, 38.72N×31.25E, h39^{km}±14^{km}, mb4.0/15, mb1 4.2/25, mb1mx4.1/29, ML3.9/10, MS3.3/5, Ms1 3.3/5, ms1mx3.1/22 Error ellipse: s-maj=14.0km s-min=12.6km az=32.0*
*ZUR_RM **07** 18:05:41, 38.67N×31.23E, h15^{km}, Mw4.6/21, Moment Tensor Solution. s21 Moment tensor: Scale 10^{15}Nm; M$_{rr}$-7.92; M$_{\theta\theta}$4.77; M$_{\phi\phi}$3.15; M$_{r\theta}$0.35; M$_{\theta\phi}$4.22; M$_{\phi r}$-0.39; Best double couple: M$_0$8.1×10^{15} NP1:ϕ$_s$234°, δ45°, λ-84°. NP2:ϕ$_s$46°, δ45°, λ-96°. Principal axes: T 8.255, Plg0°, Azm320°; N -.301, Plg4°, Azm50°; P -7.955, Plg86°, Azm229°;*

ISC 07 18:05:36.0±0.1**, 38.69N**±0.01×**31.21E**±0.02**, h5**^{km}**, n311, σ1^{s}08**/331**, mb4.5**/59**, MS3.1**/5**, 25C-6D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KIZT	**Kizilcal**	**0.56**	**70**	*i* PG	**Pg**	**18 05 47.8**	**+0.6**
ESKT	**Eskisehir**	**0.88**	**342**	*i* P	**Pb**	**18 05 53.2**	**-0.2**
ESKT				*i* S	**Sb**	**18 06 04.5**	**-0.6**
ALT	**Altintas**	**0.93**	**293**	*i* PG	**Pg**	**18 05 54.6**	**-0.1**
ISP	**Isparta**	**1.01**	**213**	*i* P	**Pb**	**18 05 55.7**	**+0.1**
ISP				*i* S	**Sb**	**18 06 11.0**	**+2.1**
ISP	**Isparta**	**1.01**	**213**	*i* PG	**Pb**	**18 05 55.7**	**+0.1**
ISP				*i* SG	**Sg**	**18 06 11.7**	**+2.1**
KONT	**Konya--Tatoy**	**1.17**	**129**	*i* PN	**Pn**	**18 05 58.4**	**-0.6**
BCK	**Bucak**	**1.32**	**202**	PN	**Pn**	**18 06 01.5**	**+0.4**
KHL	**Karahalli**	**1.37**	**255**	*i* PN	**Pn**	**18 06 02.6**	**+0.7**
LOD	**Lodumlu**	**1.70**	**45**	PN	**Pn**	**18 06 07.5**	**+0.9**
GPA	**Golpazari**	**1.74**	**337**	PN	**Pn**	**18 06 08.7**	**+1.5**
MDU	**Mudurnu**	**1.77**	**0**	*i* PN	**Pn**	**18 06 09.4**	**+1.8**
ANTB	**Antalya**	**1.84**	**194**	PN	**Pn**	**18 06 10.0**	**+1.4**
DENT	**Denizli**	**1.95**	**242**	PN	**Pn**	**18 06 10.9**	**+0.7**
DNZL	**Cakiroluk**	**1.97**	**240**	*i* P	**Pn**	**18 06 11.2**	**+0.8**
DNZL				*i* S	**Sg**	**18 06 47.5**	**+5.7**
SGKT	**Sivrigoynuk**	**1.99**	**19**	*i* P	**Pn**	**18 06 12.4**	**+1.6**
SGKT				*i* S	**Sn**	**18 06 36.4**	**0.0**
HDMB	**Hadim**	**2.00**	**149**	*e*PN	**Pn**	**18 06 11.5**	**+0.7**
KAMT	**Kaman**	**2.06**	**70**	PN	**Pn**	**18 06 12.8**	**+1.0**
MANT	**Manisa**	**2.09**	**265**	*i* P	**Pn**	**18 06 12.9**	**+0.8**
MANT				*i* S	**Sn**	**18 06 46.4**	**+7.6**
HENT	**Hendek**	**2.15**	**354**	*i* P	**Pn**	**18 06 14.4**	**+1.4**
HENT				*i* S	**Sn**	**18 06 44.0**	**+3.8**
BRTR	**Keskin Array B**	**2.15**	**60**	Pn	**Pn**	**18 06 14.1**	**+1.0**
	24nm,0.3s,baz=252,slow=24,SNR=99						
BRTR				Sn	**Sn**	**18 06 40.5**	**0.0**
	72nm,0.3s,baz=234,slow=25,SNR=12						
BRTR	**Keskin Array B**	**2.15**	**60**	P	**Pn**	**18 06 14.1**	**+1.0**
BRTR						18 06 40.5	
BRTR				pmax	pmax		
	comp=Z,25nm,0.3s						
BRTR				smax			
	comp=N,72nm,0.3s						

ULDT	Uludag	2.17	313	*i* P	Pn	18 06 14.3	+1.1
ULDT				*i* S	Sn	18 06 45.6	+4.9
ELL	Elmali	2.19	208	PN	Pn	18 06 14.7	+1.1
ORLT	Orhaneli	2.25	308	PN	Pn	18 06 16.0	+1.6
YLV	Yalova	2.35	323	*e*PN	Pn	18 06 17.1	+1.2
HRT	Hereke	2.44	331	*e*PN	Pn	18 06 18.6	+1.4
ELDT	Eldivan	2.48	43	*i* P	Pn	18 06 18.7	+0.9
AKS	Akhisar	2.66	275	PN	Pn	18 06 21.1	+0.8
CANT	Cankiri	2.67	43	*e*PN	Pn	18 06 21.2	+0.7
BTOK	Tokmak	2.69	294	*i* P	Pn	18 06 21.7	+0.9
BTOK				*i* S	Sg	18 07 05.7	+0.1
BADT	Buyukada	2.70	324	*e*PN	Pn	18 06 21.5	+0.7
NIG	Nigde	2.73	101	*i* PN	Pn	18 06 22.3	+0.9
BALB	Balikesir	2.76	291	*e*PN	Pn	18 06 22.6	+0.9
YER	Yerkesik	2.79	237	PN	Pn	18 06 23.5	+1.4
SAFT	Safranbolu	2.79	24	PN	Pn	18 06 22.9	+0.7
DALT	Dalyan (Mudla)	2.80	228	*e*PN	Pn	18 06 23.1	+0.8
AYDN	Tasoluk	2.82	250	*i* P	Pn	18 06 22.9	+0.4
AYDN				*i* S	Sg	18 07 10.5	+0.6
AVNT	Avonos	2.85	87	*i* P	Pn	18 06 23.4	+0.3
AVNT				*i* S	Sn	18 06 59.6	+1.4
ISK	Istanbul-Kandi	2.89	326	PN	Pn	18 06 24.3	+0.7
BNT	Bandirma	3.04	304	*e*PN	Pn	18 06 26.3	+0.6
MLSB	Milas	3.05	244	*e*PN	Pn	18 06 26.5	+0.7
EDC	Edincik	3.07	304	*e*PN	Pn	18 06 26.7	+0.5
KDAG	Bornova	3.10	266	*i* P	Pn	18 06 27.0	+0.4
KDAG				*i* S	Sn	18 07 03.8	-0.8
IZM	Izmir	3.11	266	*e*PN	Pn	18 06 26.9	+0.2
MEST	Erdemli	3.13	131	*i* P	Pn	18 06 27.7	+0.6
IKL	Isikli	3.14	140	PN	Pn	18 06 27.6	+0.5
TOS	Tosya	3.19	42	PN	Pn	18 06 28.2	+0.3
CTT	Catalca	3.26	320	*e*PN	Pn	18 06 29.3	+0.5
YOZ	Yozgat	3.33	72	*e*PN	Pn	18 06 30.2	+0.3
CTKT	Corum	3.37	54	*i* P	Pn	18 06 31.3	+0.9
BDRM	Kayabasi	3.39	243	*i* P	Pn	18 06 31.2	+0.5
BDRM				*i* S	Sg	18 07 27.1	-1.8
ARG	Arkhangelos	3.48	226	*e*P	Pn	18 06 33.3	+1.3
AYVA	Ayvalik	3.58	281	*i* P	Pn	18 06 34.1	+0.8
BNN	Bunyan	3.63	86	*e*PN	Pn	18 06 35.6	+1.5
MFT	Murefte	3.68	306	*e*PN	Pn	18 06 36.4	+1.6
ALFC	Alevga	3.70	162	P	Pn	18 06 35.2	+0.2
	comp=N,9.5nm,0.7s						
ALFC				S	Sn	18 07 18.2	-1.4
AKMC	Akamas	3.76	166	P	Pn	18 06 37.3	+1.3
LPK	Lapseki	3.83	297	*e*PN	Pn	18 06 37.5	+0.6
MAMC	Mammari	3.86	155	P	Pn	18 06 38.3	+0.9
PRK	Paraskevi	3.89	280	⇓*i*P	Pn	18 06 38.5	+0.7
BYBT	Boyabat	3.89	43	*e*PN	Pn	18 06 37.8	0.0
BZK	Bozkurt	3.90	32	*e*PN	Pn	18 06 38.4	+0.4
PPCY	Paphos	3.90	166	⇑P	Pn	18 06 40.3	+2.3
PPCY	Paphos	3.90	166	⇑*i*P	Pn	18 06 40.3	+2.3
BOYT	Boyabat	3.94	45	*i* P	Pn	18 06 38.9	+0.5
CEYT	Ceyhan	3.96	114	*e*PN	Pn	18 06 40.3	+1.5
CSS	Prodhromos	4.09	155	P	Pn	18 06 41.3	+0.7
	comp=N,4.3nm,0.6s						
CSS				S	Sn	18 07 27.7	-1.8
SZAC	Souni-Zanaja	4.15	161	⇑P	Pn	18 06 42.5	+1.0
	comp=N,9.4nm,0.8s						
SZAC				S	Sn	18 07 29.9	-1.1
BOZC	Bozcaada	4.17	288	*i* P	Pn	18 06 42.3	+0.6
PHNC	Paralimni	4.32	148	P	Pn	18 06 44.3	+0.4
TOKT	Tokat	4.44	67	*e*PN	Pn	18 06 46.7	+1.1
KARP	Karpathos	4.50	227	*e*P	Pn	18 06 47.0	+0.5
ALN	Alexandroupoli	4.55	301	*e*P	Pn	18 06 47.2	+0.1
COBT	Iskenderun	4.55	117	*i* P	Pn	18 06 48.8	+1.5
KAHT	Ahir Dag	4.59	102	*i* P	Pn	18 06 49.6	+1.9
SVST	Sivas	4.59	75	*e*P	Pn	18 06 51.4	+3.7
SVSK	Karacayir	4.66	73	*e*PN	Pn	18 06 49.2	+0.5
APE	Apeiranthos	4.77	252	*e*P	Pn	18 06 50.9	+0.5
LOS	Limnos	4.91	287	*e*P	Pn	18 06 52.7	+0.4
RDO	Rodhopi	5.00	301	*e*P	Pn	18 06 54.0	+0.4
RDO	Rodhopi	5.00	301	P	Pn	18 06 53.9	+0.3
GZT	Gaziantep	5.19	103	*i* P	Pn	18 06 57.4	+1.1
KDZ	Kurdzhali	5.33	306	*i* P	Pn	18 06 58.0	-0.2
PRD	Provadia	5.35	329	*i* P	Pn	18 06 59.0	+0.5
DIM	Dimitrovgrad	5.48	310	*i* P	Pn	18 06 59.5	-0.9
PSN	Preselentsi	5.49	336	*i* P	Pn	18 07 00.0	-0.4
MALT	Malatya	5.67	92	*e*PN	Pn	18 07 04.5	+1.4
AOS	Alonnisos	5.74	277	*e*P	Pn	18 07 05.0	+1.1
RZN	Rozhen	5.80	303	*i* P	Pn	18 07 05.0	+0.1
OUR	Ouranopolis	5.83	289	*e*P	Pn	18 07 05.2	+0.1
PLD	Plovdiv	6.03	307	*i* P	Pn	18 07 07.5	-0.5
SZH	Strazhica	6.07	321	*i* P	Pn	18 07 07.0	-1.6
IDI	Anoyia	6.09	238	Pn	Pn	18 07 09.4	+0.4
	comp=N,2.7nm,0.3s,baz=53,slow=14,SNR=15						
ELZG	Elazig	6.09	89	*e*P	Pn	18 07 05.6	-3.4
TIRR	Tirgusor	6.13	341	P	Pn	18 07 09.4	-0.1
PLG	Polygyros	6.23	288	*e*P	Pg	18 07 38.5	-2.0
XOR	Xorichti	6.28	279	*e*P	Pn	18 07 11.8	+0.2
SRS	Serrai	6.34	295	*e*P	Pn	18 07 12.1	-0.3
PVL	Pavlikeni	6.34	317	*i* P	Pn	18 07 12.5	0.0
PTK	Pertek	6.40	86	*e*PN	Pn	18 07 15.2	+2.0
SOH	Sokhos	6.42	292	*e*P	Pn	18 07 13.5	-0.1
MMB	Musomiste	6.42	299	*i* P	Pn	18 07 15.0	+1.4
HARR	Harsova	6.48	339	⇑*i*P	Pn	18 07 13.9	-0.5
HARR	Harsova	6.48	339	⇑*i*P	Pn	18 07 13.9	-0.5
HRI	Mount Hermon	6.54	145	P	Pn	18 07 14.8	-0.4
KSDI	Kefar Szold	6.56	145	P	Pn	18 07 14.7	-0.9
SIM	Simferopol’	6.62	18	*ce*P	Pn	18 07 16.6	+0.2
SIM				*e*S	Sn	18 08 29.0	-4.2
SIM				pmax	pmax		
	comp=Z,52nm,0.6s						
SIM				MLR	MLR		
	comp=Z,160nm,16.0s						
EZC	Erzincan	6.77	78	*e*PN	Pn	18 07 14.7	-3.8
OFRI	‘Ofer	6.79	152	P	Pn	18 07 18.7	-0.1
KSHT	Keshet	6.81	145	P	Pn	18 07 18.8	-0.3
KNT	Kendrikon	6.85	294	*e*P	Pn	18 07 19.8	+0.1
LIT	Litokhoron	6.90	285	*e*P	Pn	18 07 20.3	-0.1
KKB	Krupnik	6.98	300	*i* P	Pn	18 07 20.5	-0.9
MMLI	Mount Malkishu	7.12	150	P	Pn	18 07 23.6	+0.2
GRG	Griva	7.15	291	*e*P	Pn	18 07 23.9	+0.1
VTS	Vitosha	7.22	305	*i* P	Pn	18 07 24.5	-0.4
VTS	Vitosha	7.22	305	P	Pn	18 07 25.2	+0.3
ISR	Istrita	7.31	333	⇑*i*P	Pn	18 07 27.8	+1.8
ISR	Istrita	7.31	333	⇑*i*P	Pn	18 07 27.8	+1.7
HMDT	Nahal Hemdat	7.32	150	P	Pn	18 07 25.9	-0.4
KPJ	Monastery St.	7.61	300	⇑*i*Pn	Pn	18 07 30.7	+0.4
KPJ				*i*		18 07 37.7	
KPJ				*i*		18 07 47.7	
ANN	Anapa	7.67	35	*e*P	Pn	18 07 25.4	-5.8
ANN				*e*S	Sn	18 08 50.6	-8.9
ANN				pmax	pmax		
	comp=Z,41nm,0.9s						
ANN				MLR	MLR		
	comp=Z,122nm,9.0s						
ANN				MLR	MLR		
	comp=N,135nm,8.0s						
ANN				MLR	MLR		
	comp=E,230nm,11.0s						
MEV	Metsovon	7.82	281	*e*P	Pn	18 07 34.1	+0.8
MLR	Muntele Rosu	7.84	332	Pn	Pn	18 07 34.0	+0.5
	comp=E,2.9nm,0.3s,baz=329,slow=2.2,SNR=31						
MLR				Sn	Sn	18 09 01.9	-1.8
	comp=E,2.1nm,0.3s,baz=114,slow=21,SNR=3.2						
MLR	Muntele Rosu	7.84	332	⇑*i*P	Pn	18 07 34.8	+1.3
MLR	Muntele Rosu	7.84	332	P	Pn	18 07 34.0	+0.5
MLR						18 09 01.9	
MLR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
MLR				smax			
	comp=N,2.0nm,0.3s						
MLR	Muntele Rosu	7.84	332	⇑*i*P	Pn	18 07 34.8	+1.3
FNA	Florina	7.86	289	*e*P	Pn	18 07 34.4	+0.6
DRGI	Dragot	7.86	153	P	Pn	18 07 32.8	-1.0
VRI	Vrincioaia	7.90	337	⇑*i*P	Pn	18 07 34.4	0.0
VRI	Vrincioaia	7.90	337	⇑*i*P	Pn	18 07 34.4	0.0
ASF	Jabal al Asfar	7.99	143	Pn	Pn	18 07 36.0	+0.4
	comp=N,0.4nm,0.3s,baz=354,slow=3.3,SNR=3.0						
SOC	Sochi	8.07	50	*e*P	P	18 07 35.8	-0.9
SOC				*e*S	Sn	18 09 04.7	-4.6
SOC				pmax	pmax		
	comp=Z,19nm,1.5s						
SOC				pmax	pmax		
	comp=N,25nm,1.0s						
SOC				pmax	pmax		
	comp=E,8.0nm,0.5s						
SOC				MLR	MLR		
	comp=Z,292nm,14.0s						
SOC				MLR	MLR		
	comp=N,276nm,12.0s						
SOC				MLR	MLR		
	comp=E,313nm,14.0s						
MZDA	Masada	8.11	154	P	P	18 07 36.4	-0.9
SKO	Skopje	8.15	297	*i* Pn	P	18 07 39.4	+1.6
SKO				*i*		18 10 10.0	
KZIT	Kziot	8.19	160	P	P	18 07 37.9	-0.5
BARS	Barje	8.23	303	⇑*i*P	P	18 07 38.6	-0.4
KIS	Kishinev	8.49	349	*e*P	P	18 07 43.0	+0.5
KIS				*i* S	Sn	18 09 15.0	-4.8
KIS				smax			
	comp=N,600nm,1.0s						
KIS				smax			
	comp=E,400nm,1.0s						
KIS				smax			
	comp=N,600nm,1.0s						
KIS				smax			
	comp=E,400nm,1.0s						
KIS				MLR	MLR		
	comp=Z,300nm,10.0s						
KIS				MLR	MLR		
	comp=Z,500nm,10.0s						
BOLS	Boljevac	8.65	309	⇑*i*P	P	18 07 43.9	-0.9
ZFRI	Zfri	8.75	157	P	P	18 07 45.1	-1.0
PRNI	Paran	8.88	158	P	P	18 07 46.2	-1.8
SVIS	Svilajnac	9.35	310	⇓*i*P	P	18 07 53.3	-1.2
GRUS	Gruza	9.45	307	⇓*i*P	P	18 07 53.5	-2.4
EIL	Elat	9.51	160	Pn	P	18 07 54.0	-2.7
	comp=Z,0.5nm,0.3s,baz=326,slow=20,SNR=5.8						
EIL	Elat	9.51	160	*e*P	P	18 07 53.1	-3.6
	comp=Z,9.2nm,0.7s						
KMPD	K-Podol’skiy	10.45	342	P	P	18 08 09.0	-0.6
ZEI	Tsey	10.46	63	*e*P	P	18 08 10.0	+0.3
GOF	Gofitskoye	10.87	50	⇓*i*P	P	18 08 16.5	+1.2
GOF				pmax	pmax		
	comp=Z,40nm,1.4s						
TIP	Timpagrande	11.27	277	*e*P	P	18 08 19.1	-1.7
AKASG	Malin Array Be	12.09	354	Pn	P	18 08 28.0	-3.9
	comp=Z,7.0nm,0.3s,baz=167,slow=12,SNR=36						
AKASG				Sn	S	18 10 37.1	-11
	comp=Z,4.0nm,0.3s,baz=185,slow=23,SNR=5.4						
AKASG	Malin Array Be	12.09	354	P	P	18 08 28.0	-3.9
AKASG						18 10 37.1	
AKASG				pmax	pmax		
	comp=Z,7.0nm,0.3s						
AKASG				smax			
	comp=N,4.0nm,0.3s						
KOLS	Kolonicke sedl	12.10	331	*e*PN	P	18 08 31.9	0.0
KOLS				*e*		18 08 40.9	
PSZ	Piszkesteto	12.36	322	*e*P	P	18 08 35.4	0.0
	comp=N,2.3nm,0.7s						
KWP	Kalwaria	12.52	334	*e*P	P	18 08 40.3	+2.7
KWP	Kalwaria	12.52	334	*e*P	P	18 08 36.7	-0.9
	comp=N,38nm,1.1s						
VAE	Valguarnera	13.29	270	Pn	P	18 08 49.2	+1.3
	comp=N,0.3nm,0.3s,baz=42,slow=19,SNR=2.7						
PTQR	Pietraquaria	13.98	289	*e*P	P	18 09 01.7	+4.7
OJC	Ojcow	14.10	329	*e*P	P	18 08 58.3	-0.1
OKC	Ostrava-Krasne	14.53	324	L		18 15 40.0	
	comp=N,0.6nm,8.9s						
VRAC	Vranov	14.92	320	Pn	P	18 09 12.4	+3.3
	comp=N,0.3nm,0.3s,baz=127,slow=12,SNR=7.2						
PTCC	Patocco-Chiusa	15.23	306	*e*P	P	18 09 19.1	+5.7
WAR	Warsaw	15.30	336	*e*P	P	18 09 19.7	+5.5
MOA	Molln	15.34	312	⇑*i*P	P	18 09 21.2	+6.5
	comp=N,22nm,1.3s						
KBA	Koelnbreinsper	15.52	308	⇓*i*P	P	18 09 22.2	+5.1
	comp=N,17nm,1.3s						
PGD	Poggio Sodo	15.53	296	*e*P	P	18 09 24.3	+7.0
VMG	Vicchio	15.68	296	*e*P	P	18 09 25.9	+6.8
DPC	Dobruska-Polom	15.73	323	*e*P	P	18 09 23.0	+3.2
DPC				L		18 16 40.0	
	comp=N,0.6nm,8.7s						
RST	Umm Al-Ruwaisa	15.95	120	*e*P	P	18 09 21.8	-1.0
RST				AMb	AMB	18 09 31.4	
	comp=Z,63nm,0.8s						
UPC	Upice	15.99	323	*e*P	P	18 09 23.8	+0.7
MIB	Mutribah	16.00	119	*e*P	P	18 09 23.0	-0.3
MIB				AMb	AMB	18 09 28.5	
	comp=Z,41nm,0.8s						
KSP	Ksiaz	16.08	324	*e*P	P	18 09 24.7	+0.4
GERES	GERESS Array B	16.18	315	Pn	P	18 09 27.4	+1.8
	comp=Z,0.1nm,0.3s,baz=120,slow=11,SNR=19						
SUW	Suwalki	16.28	343	*e*P	P	18 09 30.2	+3.4
PRU	Pruhonice	16.38	319	*e*P	P	18 09 35.0	+6.9
PRU				L		18 17 00.0	
KHC	Kasperske Hory	16.40	315	*e*P	P	18 09 31.9	+3.5
KHC				LR		18 16 40.0	
	comp=Z,0.3nm,16.3s						
ERBM	Eremo	16.57	297	*e*P	P	18 09 39.1	+8.5
KBD	Kabd	16.63	120	*e*P	P	18 09 31.3	-0.1
PVCC	Panska Ves	16.70	321	LR		18 17 00.0	
	comp=Z,0.4nm,12.0s						
OBN	Obninsk	16.83	11	*e*P	P	18 09 33.3	-0.4
OBN				pmax	pmax		
	comp=Z,8.0nm,0.6s						
OBN				MLR	MLR		
	comp=Z,100nm,15.0s						
OBN	Obninsk	16.83	11	⇑*e*P	P	18 09 36.1	+2.4
PGF	Pioggiola	17.29	290	*e*P	P	18 09 40.4	+0.8
	comp=Z,53nm,1.2s						
GKP	Gorka Klasztor	17.47	331	*e*P	P	18 09 44.3	+2.5
DAVOX	Davos	17.60	304	P	P	18 09 44.7	+1.2
	comp=Z,0.3nm,0.3s,baz=117,slow=8.5,SNR=9.3						
DAVA	Damuels	17.77	306	⇑*i*P	P	18 09 47.5	+1.9
	comp=Z,36nm,1.7s						
CLL	Collm	17.96	321	*e**PP		18 10 00.0	
GRA1	Grafenberg Arr	18.01	314	*e*P	P	18 09 50.0	+1.4
	comp=Z,8.0nm,0.9s						
GRF	Grafenberg Arr	18.01	314	*e*P	P	18 09 50.0	+1.4
GRF				pmax	pmax		
	comp=Z,8.0nm,0.9s						
VAI	Varese	18.05	301	*e*P	P	18 09 52.3	+3.2
MOX	Moxa	18.29	317	*i* P	P	18 09 52.5	+0.4
	comp=Z,logA/T=1.1						
MOX				L		18 18 03.0	
MOX	Moxa	18.29	317	*e*P	P	18 09 52.5	+0.4
MOX				pmax	pmax		
	comp=Z,24nm,1.8s						
MOX				MLR	MLR		
	comp=Z,200nm,15.0s						
MOX	Moxa	18.29	317	*e*P	P	18 09 52.5	+0.4
	comp=Z,24nm,1.8s						
WILA	Wila	18.44	305	⇑P	P	18 09 54.5	+0.6
MUO	Muotathal	18.46	304	⇑P	P	18 09 55.8	+1.6
SBF	Sospel	18.58	294	*e*P	P	18 09 55.6	-0.1
	comp=Z,35nm,0.8s						
ZUR	Zurich	18.63	305	⇑P	P	18 09 58.4	+2.1
LKBD	Leukerbad	18.96	302	⇑P	P	18 10 00.9	+0.6
DIX	Grande Dixence	19.02	300	⇓P	P	18 10 02.4	+1.4
FRF	La Foret Royal	19.11	293	*e*P	P	18 10 02.0	-0.1
	comp=Z,71nm,1.1s						
FELD	Feldberg	19.17	306	*e*P	P	18 10 02.6	-0.1
MBDF	Montbardon	19.18	296	*e*P	P	18 10 02.7	-0.2
	comp=Z,32nm,0.7s						
LMR	La Mourre	19.18	292	*e*P	P	18 10 02.4	-0.6
	comp=Z,30nm,1.1s						
BNI	Bardonecchia	19.30	297	*e*P	P	18 10 04.0	-0.3
	comp=Z,32nm,1.1s						
LPG	La Plagne	19.34	298	*e*P	P	18 10 05.0	+0.2
	comp=Z,41nm,0.8s						
LPL	La Plagne	19.36	298	*e*P	P	18 10 05.1	+0.1
	comp=Z,34nm,1.0s						
EMV	Vieux Emosson	19.37	300	⇑P	P	18 10 05.1	0.0
RSL	Roselend	19.47	299	*e*P	P	18 10 06.1	-0.2
TAVF	Tavernes	19.54	293	*e*P	P	18 10 07.8	+0.7
MOF	Molkenrain	19.71	305	*e*P	P	18 10 08.4	-0.6
LOMF	Lomont	19.76	304	*e*P	P	18 10 07.9	-1.6
BERF	Bertagne	19.78	292	*e*P	P	18 10 10.0	+0.2
VILF	Villemus	19.81	293	*e*P	P	18 10 10.7	+0.6
CDF	Champ du Feu	19.81	307	*e*P	P	18 10 09.4	-0.7
	comp=Z,22nm,0.8s						
ECH	Echery	19.82	306	*e*P	P	18 10 10.1	-0.1
ORIF	Oris-en-Rattie	19.84	296	*e*P	P	18 10 09.2	-1.3
	comp=Z,72nm,1.1s						
ORIF				*e*R			
	comp=Z,400nm,19.0s						
HINF	Hinteralfeld	19.88	305	*e*P	P	18 10 09.5	-1.4
	comp=Z,24nm,0.8s						
SMRF	Simiane la Rot	19.93	294	*e*P	P	18 10 10.0	-1.4
	comp=Z,47nm,1.1s						
GRN	Grenoble	19.99	297	*e*P	P	18 10 11.2	-0.9
VSU	Vasula	20.00	353	⇑*e*P	P	18 10 12.9	+0.8
TREF	Trevaresse	20.03	293	*e*P	P	18 10 12.8	+0.3
CABF	La Chapelle	20.04	301	*e*P	P	18 10 11.6	-1.1
	comp=Z,20nm,0.9s						
PRAF	Pradon	20.20	293	*e*P	P	18 10 14.7	+0.4
HAU	Haudompre	20.26	305	*e*P	P	18 10 14.1	-0.9
	comp=Z,100nm,1.0s						
HAU				*e*R			
	comp=Z,157nm,17.2s						
VIVF	Saint-Julien-l	20.68	296	*e*P	P	18 10 17.7	-1.6
	comp=Z,24nm,1.0s						
WLF	Walferdange	20.96	310	*e*P	P	18 10 20.7	-1.4
	comp=Z,11nm,0.8s						
LASF	Ste Croix	21.17	293	*e*P	P	18 10 23.6	-0.7
	comp=Z,52nm,1.2s,mb4.4						
MEZF	Maizieres J’vi	21.24	306	*e*P	P	18 10 24.0	-1.0
	comp=Z,44nm,0.8s,mb4.6						
HGN	Heimansgroeve	21.52	312	*e*P	P	18 10 28.0	+0.1
	comp=Z,14nm,1.4s,mb4.2						
SMF	Signal de Mont	21.56	300	*e*P	P	18 10 27.3	-1.0
	comp=Z,67nm,1.2s,mb4.7						
WTSB	Winterswijk	21.57	316	*e*P	P	18 10 27.6	-0.7
	comp=Z,17nm,0.8s,mb4.5						
LOR	Lormes	21.68	302	*e*P	P	18 10 28.5	-1.0
	comp=Z,18nm,0.8s,mb4.2						
LOR				*e*R			
	comp=Z,213nm,22.8s						
LBL	Lubilhac	21.73	297	*e*P	P	18 10 30.7	+0.7
SSF	Saint Saulge	21.87	301	*e*P	P	18 10 30.5	-0.9
	comp=Z,31nm,1.0s,mb4.4						
AVF	Avril sur Loir	21.92	301	*e*P	P	18 10 31.0	-0.9
	comp=Z,38nm,0.8s,mb4.6						
BAIF	Baives	22.27	309	*e*P	P	18 10 34.2	-1.2
	comp=Z,20nm,1.0s,mb4.2						
MTLF	Montolieu	22.31	291	*e*P	P	18 10 35.5	-0.3
	comp=Z,24nm,0.9s,mb4.3						
CAF	Calviac	22.53	295	*e*P	P	18 10 37.2	-0.7
	comp=Z,14nm,0.8s,mb4.1						
TCF	Toulx Ste Croi	22.60	299	*e*P	P	18 10 38.5	-0.1
	comp=Z,28nm,0.9s,mb4.4						
RJF	Les Rejaudoux	22.95	296	*e*P	P	18 10 41.3	-0.8
	comp=Z,39nm,1.2s,mb4.4						
RJF				*e*R			
	comp=Z,178nm,20.5s						
FINES	FINESS Array B	23.00	354	P	P	18 10 42.4	0.0
	comp=Z,8.1nm,0.8s,mb4.2,baz=153,slow=11,SNR=15						
FINES				LR	LR	18 20 24.1	
	comp=Z,34nm,21.9s,MS2.8,baz=338,slow=38						
FINES	FINESS Array B	23.00	354	P	P	18 10 42.4	0.0
FINES				pmax	pmax		
	comp=Z,8.0nm,0.8s						
FINES				MLR	MLR		
	comp=Z,34nm,21.9s						
FINES	FINESS Array B	23.00	354	P	P	18 10 42.4	0.0
FINES				LR	LR	18 20 24.1	
EPF	Esparros	23.68	290	*e*P	P	18 10 48.7	-0.4
HFS	Hagfors	24.15	338	P	P	18 10 53.6	+0.1
	comp=Z,5.9nm,0.9s,mb4.0,baz=135,slow=8.4,SNR=5.8						
HFS	Hagfors	24.15	338	P	P	18 10 53.6	0.0
HFS				pmax	pmax		
	comp=Z,6.0nm,0.9s						
MFF	Saint Martin d	24.26	299	*e*P	P	18 10 54.1	-0.7
	comp=Z,24nm,1.0s,mb4.3						
ETSF	Etsaut	24.34	290	*e*P	P	18 10 55.3	-0.3
	comp=Z,19nm,0.9s,mb4.2						
LDF	La Druitiere	24.59	304	*e*P	P	18 10 57.2	-0.7
	comp=Z,29nm,0.7s,mb4.6						
SJPF	Ste Jean	24.82	291	*e*P	P	18 10 59.7	-0.5
FLN	La Foliniere	24.86	304	*e*P	P	18 10 59.5	-1.0
	comp=Z,52nm,0.9s,mb4.7						
FLN				*e*R			
	comp=Z,111nm,19.0s						
GRR	Gorron	25.03	303	*e*P	P	18 11 01.0	-1.1
	comp=Z,95nm,0.8s,mb5.1						
ARU	Arti	25.34	37	⇑*i*P	P	18 11 04.1	-0.9
ARU				*e*		18 11 40.1	
ARU				*e*S	S	18 15 32.8	+3.7
ARU				*e*SS	SS	18 16 27.5	-2.5
ARU				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.5						
ARU				MLR	MLR		
	comp=Z,40nm,17.0s,MS3.0						
ARU	Arti	25.34	37	*e*P	P	18 11 04.4	-0.6
NB2	NORSAR Subarra	25.61	337	P	P	18 11 06.1	-1.4
	comp=Z,6.1nm,0.9s,mb4.1,baz=141,slow=9.3						
NOA	NORSAR Array B	25.61	337	P	P	18 11 06.7	-0.9
	comp=Z,3.8nm,0.8s,mb4.0,baz=140,slow=9.3,SNR=10						
NOA	NORSAR Array B	25.61	337	P	P	18 11 06.7	-0.8
NOA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
SGMF	Saint Gilles	26.12	302	*e*P	P	18 11 11.4	-1.0
	comp=Z,34nm,0.8s,mb4.6						
QUIF	Quistinic	26.48	302	*e*P	P	18 11 14.1	-1.6
	comp=Z,29nm,0.9s,mb4.5						
ROSF	Rostrenen	26.61	302	*e*P	P	18 11 15.6	-1.3
	comp=Z,19nm,0.8s,mb4.4						
ESDC	Sonseca Array	27.18	283	P	P	18 11 20.4	-1.8
	comp=Z,1.2nm,0.7s,mb3.6,baz=72,slow=11,SNR=5.0						
ESDC				LR	LR	18 22 52.5	
	comp=Z,48nm,18.1s,MS3.1,baz=150,slow=38						
EKA	Eskdalemuir Ar	28.36	317	P	P	18 11 31.1	-1.7
	comp=Z,3.6nm,1.2s,mb3.9,baz=111,slow=7.1,SNR=3.5						
EKA	Eskdalemuir Ar	28.36	317	P	P	18 11 31.1	-1.6
EKA				pmax	pmax		
	comp=Z,4.0nm,1.2s						
ZRNK	Zerenda	29.56	49	*e*P	P	18 11 42.3	-1.3
	comp=Z,4.7nm,1.0s,mb4.2						
BRVK	Borovoye	30.34	49	*e*P	P	18 11 49.9	-0.6
EVO	Evora	30.49	282	*e*P	P	18 11 49.2	-2.8
	comp=Z,13nm,1.0s,mb4.3						
EVO				*e*R			
	comp=Z,84nm,18.8s						
ARCES	ARCESS Array B	31.06	356	P	P	18 11 53.8	-2.9
	comp=Z,7.8nm,0.7s,mb4.6,baz=169,slow=6.2,SNR=12						
ARCES				LR	LR	18 26 41.4	
	comp=Z,95nm,18.5s,MS3.5,baz=34,slow=41						
ARCES	ARCESS Array B	31.06	356	P	P	18 11 53.8	-2.9
ARCES				pmax	pmax		
	comp=Z,8.0nm,0.7s						
ARCES				MLR	MLR		
	comp=Z,95nm,18.5s						
AAK	Ala-Archa	32.81	69	*e*P	P	18 12 10.8	-1.5
	comp=Z,3.4nm,1.0s,mb4.2						
FRU	Bishkek	32.87	69	*e*P	P	18 12 14.0	+1.2
KURK	Kurchatov	35.19	54	P	P	18 12 44.6	+12
	comp=Z,62nm,1.1s,mb5.5,SNR=18						
KURK	Kurchatov	35.19	54	P	P	18 12 32.2	-0.6
	comp=Z,14nm,1.1s,mb4.8						
MKAR	Makanchi Array	37.80	61	P	P	18 12 54.1	-0.7
	comp=Z,1.8nm,0.6s,mb4.0,baz=270,slow=8.2,SNR=14						
MKAR	Makanchi Array	37.80	61	P	P	18 12 54.1	-0.7
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NVS	Novosibirsk	38.16	48	*i* P	P	18 12 56.5	-1.2
NVS				*e*		18 14 25.8	
NVS				pmax	pmax		
	comp=Z,11nm,1.4s,mb4.4						
NVS				pmax	pmax		
	comp=N,9.0nm,1.5s						
NVS				pmax	pmax		
	comp=E,9.0nm,1.5s						
ZAL	Zalesovo	39.04	49	P	P	18 13 03.0	-2.1
	comp=E,1.2nm,0.7s,mb3.7,baz=115,slow=7.2,SNR=4.1						
ZAL	Zalesovo	39.04	49	P	P	18 13 03.0	-2.1
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WMQ	Urumqi	42.07	64	*e*P	P	18 13 33.2	+3.0
WMQ				AP	pP	18 13 37.8	+6.1
WMQ				AMB	AMB		
	comp=Z,25nm,1.2s,mb4.7						
KOLN	Koldanda	44.62	88	*e*P	P	18 13 50.3	-0.9
	comp=Z,40nm,1.2s,mb5.1						
GKN	Gorkha	45.33	87	*e*P	P	18 13 55.6	-1.2
	comp=Z,66nm,1.3s,mb5.3						
DBIC	Dimbokro	45.55	235	P	P	18 13 57.7	-1.1
	comp=Z,2.0nm,0.7s,mb4.2,baz=43,slow=7.6,SNR=4.8						
DBIC	Dimbokro	45.55	235	P	P	18 13 57.7	-1.1
DBIC				pmax	pmax		
	comp=Z,2.0nm,0.7s						
TIC	Toumodi	45.68	235	*e*P	P	18 13 58.6	-1.1
	comp=Z,39nm,0.2s						
KIC	Kosan Boka	45.72	235	*e*P	P	18 13 59.0	-1.0
	comp=Z,12nm,0.7s,mb5.0						
DMN	Daman	45.88	87	*e*P	P	18 13 58.6	-2.5
	comp=Z,35nm,1.0s,mb5.3						
KKN	Kakani	45.93	87	*e*P	P	18 14 00.7	-0.8
	comp=Z,15nm,0.7s,mb5.0						
LIC	Lamto	46.00	235	*e*P	P	18 14 00.6	-1.7
	comp=Z,69nm,1.9s,mb5.3						
LIC	Lamto	46.00	235	*e*P	P	18 14 00.5	-1.8
	comp=Z,6.5nm,0.8s,mb4.6						

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PKI   Pulchoki          46.13  87 eP       P        18 14 01.9 -1.2
      comp=Z,26nm,1.3s,mb5.0
ZAK   Zakamensk         50.77  52 eP       P        18 14 38.2 -0.6
SONM  Songino Array     53.50  54  P       P        18 14 58.3 -1.1
      comp=Z,1.9nm,1.1s,mb3.9,baz=280,slow=7.5,SNR=8.1
BOD   Bodaibo           54.66  41 eP       P        18 15 05.0 -2.7
FRB   Frobisher Bay     60.09 330  LR      LR       18 40 10.3
      comp=Z,27nm,19.9s,MS3.4,baz=335,slow=34
YAK   Yakutsk           60.35  32 eP       P        18 15 47.8 -0.1
YAK                                pmax    pmax
      comp=Z,3.0nm,0.8s,mb4.4
KMI   Kunming           60.82  80 eP       P        18 15 49.5 -2.1
KMI                                AMB     AMB
      comp=Z,4.0nm,1.2s,mb4.4
HIA   Hailar            61.09  48 eP       P        18 15 52.6 -0.4
      comp=Z,11nm,1.1s,mb4.9
GYA   Guiyang           63.12  77  P       P        18 16 07.6 +0.6
GYA                                AMB     AMB
      comp=Z,10.0nm,0.9s,mb5.0
SCHQ  Schefferville     63.62 320  P       P        18 16 07.8 -1.9
      comp=Z,9.2nm,0.8s,mb4.9,baz=60,slow=9.9,SNR=4.4
SCHQ  Schefferville     63.62 320  P       P        18 16 07.8 -1.9
NJ2   Nanjing           69.14  65 eP       P        18 16 42.4 -3.0
NJ2                                PP      PP       18 19 15.9 -4.5
NJ2                                S       S        18 25 45.0 -5.1
NJ2                                SCS     ScS      18 26 37.0 -6.2
NJ2                                AMB     AMB
      comp=Z,40nm,1.0s,mb5.3
MDJ   Mudanjiang        69.25  49  P       P        18 16 41.7 -4.1
MDJ                                AMB     AMB
      comp=Z,15nm,2.5s,mb4.5
SSE   Sheshan           71.33  65 eP       P        18 16 55.1 -3.6
YKA   Yellowknife Ar    75.48 344  P       P        18 17 20.6 -1.7
      comp=Z,2.5nm,0.8s,mb4.2,baz=30,slow=5.9,SNR=5.3
YKA   Yellowknife Ar    75.48 344  P       P        18 17 20.6 -1.7
YKA                                pmax    pmax
      comp=Z,3.0nm,0.8s
ILAR  Eielson Array     76.87 359  P       P        18 17 29.4 -0.6
      comp=Z,0.9nm,0.8s,mb3.7,baz=351,slow=4.6,SNR=9.8
ILAR  Eielson Array     76.87 359  P       P        18 17 29.5 -0.6
ILAR                               pmax    pmax
      comp=Z,1.0nm,0.9s
DAWY  Dawson            77.32 356  P       P        18 17 31.4 -1.1
FFC   Flin Flon         78.68 334  P       P        18 17 39.5 -0.8
      comp=Z,8.8nm,0.9s,mb4.7
ULM   Lac du Bonnet     79.96 329  P       P        18 17 44.8 -2.5
      comp=Z,5.8nm,1.0s,mb4.5,baz=41,slow=9.3,SNR=3.5
EYAK  Cordova Ski Ar    81.08 358  P       P        18 17 51.5 -1.6
BW06  Boulder Array     91.45 332 eP       P        18 18 43.1 -1.1
      comp=Z,1.4nm,0.8s,mb4.3
PDAR  Pinedale Array    91.45 332  P       P        18 18 43.4 -0.9
      comp=Z,0.9nm,0.7s,mb4.2,baz=18,slow=4.7,SNR=4.8
HWUT  Hardware Ranch    93.18 333 eP       P        18 18 51.9 -0.4
      comp=Z,4.6nm,0.8s,mb5.0
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IDC ***07*** *18:28:02.3±4.4, 20.73S×176.19W, h162^{km}±34^{km}, mb4.2/5, mb1 4.2/6, mb1mx3.9/14, MS5.0/1, Ms1 4.9/1, ms1mx3.6/12, Error ellipse: s-maj=31.4km s-min=28.8km az=86.0*

NEIC ***07*** *18:28:24.0±6.5, 21.09S×176.77W, h348^{km}±55^{km}, mb4.1/8, Error ellipse: s-maj=42.0km s-min=21.4km az=60.0*

ISC 07 18:28:00.6±3.6**, 20.6S**±0.3×**175.7W**±0.4**, h200**^{km}**, n24, σ1**^{s}**01**/17**, mb4.2**/10**, Tonga Islands**

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Code  Station Name       Δ°   AZ°    Phase ID           Time     Res
                                   Op      ISC        h  m  s   ISC
NOUC  Port Laguerre     16.85 262 eP       P        18 31 47.9 +1.6
URZ   Urewera           18.69 198  P       P        18 32 04.1 -1.8
      1.7nm,0.3s,baz=282,slow=3.9,SNR=12
RPZ   Rata Peaks        25.59 203  P       P        18 33 14.1 +1.2
      7.4nm,0.7s,mb4.4,baz=278,slow=2.0,SNR=11
CTA   Charters Tower    35.64 264 eP       P        18 34 41.7 +0.5
      5.4nm,0.4s,mb4.4
CTA   Charters Tower    35.64 264  P       P        18 34 41.6 +0.4
      11nm,0.7s,mb4.5,baz=95,slow=11,SNR=28
CTAO  Charters Tower    35.64 264 eP       P        18 34 41.2  0.0
      8.7nm,0.4s,mb4.6
TOO   Toolangi          37.61 235 eP       P        18 34 57.1 -0.5
      4.1nm,0.5s,mb4.2
STKA  Stephens Creek    39.71 245 eP       P        18 35 14.7 -0.3
      4.4nm,0.6s,mb4.1
STKA  Stephens Creek    39.71 245  P       P        18 35 14.7 -0.4
      5.3nm,0.5s,mb4.2,baz=105,slow=10.0,SNR=16
ASAR  Alice Springs     46.61 256  P       P        18 36 10.2 -0.3
      8.1nm,0.8s,mb4.1,baz=86,slow=8.2,SNR=74
ASAR                               PcP     PcP      18 37 43.4 +1.8
      0.6nm,0.6s,baz=108,slow=3.8,SNR=4.1
ASAR                               ScP              18 41 21.7
      0.4nm,0.7s,baz=87,slow=3.9,SNR=4.8
ASPA  Alice Springs     46.61 256 eP       P        18 36 10.3 -0.2
WB2   Warramunga Arr    46.72 262 eP       P        18 36 10.5 -1.0
WRAB  Tennant Creek     46.73 262 eP       P        18 36 10.5 -0.9
      10nm,0.7s,mb4.3
WRA   Warramunga Arr    46.73 262  P       P        18 36 10.9 -0.7
      3.7nm,0.5s,mb3.9,baz=95,slow=5.2,SNR=70
KAKA  Kakadu            50.18 270 eP       P        18 36 37.9 -0.2
      10nm,0.4s,mb4.5
FITZ  Fitzroy Crossi    55.16 262 eP       P        18 37 16.0 +1.3
      4.0nm,1.1s,mb3.9
CASY  Casey             64.82 205 eP       P        18 38 21.4 +1.8
      2.6nm,0.6s,mb4.0
YKA   Yellowknife Ar    95.69  24  LR      LR       19 16 40.8
      comp=Z,636nm,20.8s,baz=260,slow=30
AKASG Malin Array Be   144.10 333  PKP     PKPdf    18 47 15.7 +3.6
      3.1nm,0.5s,baz=41,slow=4.4,SNR=26
MALT  Malatya          145.69 308 ePKPdf   PKPdf    18 47 22.0 +6.8
BRTR  Keskin Array B   148.48 314  PKPbc   PKPdf    18 47 29.1 +9.4
      2.4nm,0.5s,baz=137,slow=4.9,SNR=9.5
ASF   Jabal al Asfar   148.72 298  PKPbc   PKPdf    18 47 30.3  +10
      2.3nm,0.8s,baz=345,slow=3.9,SNR=5.2
GERES GERESS Array B   150.81 347  PKPbc   PKPdf    18 47 35.5  +12
      0.5nm,0.7s,slow=2.7,SNR=4.4
EIL   Elat             150.89 294  PKPbc   PKPdf    18 47 35.1  +11
      5.7nm,0.8s,baz=303,slow=11,SNR=5.0
```

NIED ***07*** *18:36:00, 33.30N×137.20E, h11^{km}, Mw5.5 Best double couple: M$_0$2.06×10^{17} NP1:φ$_s$92°, δ57°, λ100°. NP2:φ$_s$254°, δ34°, λ75°.*

BJI ***07*** *18:36:14.7, 33.09N×137.69E, h10^{km}, mB5.6, mb5.4, Ms5.4, Msz5.3*

IDC ***07*** *18:36:18.8±0.4, 33.24N×137.18E, mb5.2/34, mb1 5.2/39, mb1mx5.2/40, ML4.7/5, MS5.1/21, Ms1 5.1/21, ms1mx5.0/26, Error ellipse: s-maj=12.0km s-min=11.2km az=48.0*

NEIC ***07*** *18:36:20.3±0.1, 33.24N×137.09E, h10^{km}, mb5.4/122, MS5.0/26, MW5.5, MW5.5(NIED), Error ellipse: s-maj=3.2km s-min=2.7km az=168.0, Moment Tensor Solution. s46 Moment tensor: Scale 10^{17}Nm; M$_{rr}$2.09; M$_{θθ}$-1.83; M$_{φφ}$-0.26; M$_{rθ}$0.21; M$_{θφ}$-0.53; M$_{φr}$-0.21; Best double couple: M$_0$2.1×10^{17} NP1:φ$_s$246°, δ43°, λ80°. NP2: φ$_s$80°, δ47°, λ99°. Principal axes: T 2.12, Plg83°, Azm57°; N -.12, Plg7°, Azm253°; P -2, Plg2°, Azm163°;*

NEIC Felt in Aichi and Osaka Prefectures. Recorded [3 JMA] in Aichi, Gifu, Mie, Nara and Wakayama; [2 JMA] in Fukui, Kyoto, Osaka, Shiga, Shizuoka and Tottori; [1 JMA] in Ishikawa, Kagawa, Nagano, Okayama and Yamanashi Prefectures. Also recorded [1 JMA] on Kozu-shima and Nii-jima.

HRVD ***07*** *18:36:20.3±0.1, 33.27N×137.13E, h21^{km}, MW5.6/67, Centroid moment Tensor Solution. LP body waves: s60,c124;Mantle waves: s67,c136; Half duration: 1^{s}6 Moment tensor: Scale 10^{17}Nm; M$_{rr}$2.91±.05; M$_{θθ}$-3.28±.04; M$_{φφ}$0.38±.04; M$_{rθ}$0.80±.08; M$_{θφ}$-0.47±.03; M$_{φr}$-0.27±.10; Best double couple: M$_0$3.24×10^{17} NP1: φ$_s$255°, δ39°, λ77°. NP2:φ$_s$91°, δ52°, λ100°. Principal axes: T 3.05, Plg80°, Azm43°; N .38, Plg8°, Azm264°; P -3.43, Plg7°, Azm174°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

JMA ***07*** *18:36:21.0±0.1, 33.23N×137.19E, h40^{km}±1^{km}, M5.5*

JMA Felt III J1.

MOS ***07*** *18:36:24.1±0.8, 33.50N×137.10E, h36^{km}, mb5.6/69, MS5.3/47, Error ellipse: s-maj=7.9km s-min=4.8km az=102.4*

CSEM ***07*** *18:36:27.7, 34.07N×136.99E, h40^{km}, mb5.7*

ISC 07 18:36:20.0±0.6**, 33.22N**±0.02×**137.18E**±0.02**, h15**^{km}±3^{km}**, h15**^{km}±1.3^{km}**:pP-P, n671, σ0**^{s}**85**/683**, mb5.4**/186**, MS5.2**/74**, 184C-46D, Near south coast of eastern Honshu**

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Code  Station Name       Δ°   AZ°    Phase ID           Time     Res
                                   Op      ISC        h  m  s   ISC
TK01  Tokai 1            0.64  33  P       Pb       18 36 33.5 +1.1
TK02  Tokai 2            0.87  34  P       Pb       18 36 36.8 +0.5
TK03  Tokai 3            1.15  35 ⇓P       Pb       18 36 41.1 +0.1
JIE   Ise                1.23 342 ⇓P       Pb       18 36 42.7 +0.3
JIE                               eS       Sb       18 36 58.6 +0.7
JWZ   Kozaga             1.26 284 ⇓P       Pb       18 36 42.8 -0.2
JWZ                               eS       Sb       18 36 58.1 -0.7
JKN   Kiinagashima       1.27 324 ⇓P       Pb       18 36 43.0 -0.2
TK04  Tokai 4            1.30  26  P       Pb       18 36 43.2 -0.4
JAA   Atsumi             1.40 359 ⇓P       Pn       18 36 44.8 -0.4
TSUJ  Tsu 2              1.61 337 ⇓P       Pn       18 36 48.0 -0.2
OMA   Omae zaki          1.62  32  P       Pn       18 36 47.9 -0.5
OMA                               eS       Sn       18 37 06.8 -2.3
JWM   Minabe             1.64 293  P       Pn       18 36 48.4 -0.3
JWY   Kouya              1.65 307  P       Pn       18 36 49.0 +0.2
JWY                               eS       Sn       18 37 08.7 -1.1
JSG   Sagara             1.67  30 ⇓P       Pn       18 36 48.7 -0.4
JSG                               eS       Sn       18 37 08.2 -2.1
JHE   Heguri             1.89 319 ⇓P       Pn       18 36 52.1 -0.1
JKO   Kozu shima         1.90  59  P       Pn       18 36 52.5 +0.3
JKO                               eS       Sn       18 37 13.6 -2.4
JEG   Eigenji            2.01 341 ⇓P       Pn       18 36 54.2 +0.2
JHJ   Hachijo jima 2     2.19  92  Pn      Pn       18 36 56.2 -0.2
      533nm,0.3s,baz=272,slow=22,SNR=56
JHJ                                Sn      Sn       18 37 20.7 -2.7
      2µm,0.3s,baz=57,slow=16,SNR=22
JHJ2  Mitsune            2.22  92 ⇑P       Pn       18 36 56.4 -0.5
JHJ2                              eS       Sn       18 37 21.9 -2.3
JAJ2  Tsuna              2.25 303 ⇓P       Pn       18 36 57.7 +0.4
JAI   Aioi               2.35 285 ⇓P       Pn       18 36 58.7  0.0
JAI                               eS       Sn       18 37 24.9 -2.5
JMIK  Miki               2.37 312 ⇓P       Pn       18 36 59.5 +0.5
JIM2  Oshima 3           2.39  51  P       Pn       18 36 59.4  0.0
JIM2                              eS       Sn       18 37 26.2 -2.4
JFM   Mihama             2.50 337 ⇓P       Pn       18 37 01.1 +0.2
JWT   Wachi              2.52 325 ⇓P       Pn       18 37 01.3  0.0
JWT                               eS       Sn       18 37 30.6 -1.4
JYN   Shimob             2.53  26 ⇓P       Pn       18 37 00.6 -0.8
JYN                               eS       Sn       18 37 30.0 -2.2
JOD2  Odawara 2          2.58  37  P       Pn       18 37 01.7 -0.3
JOD2                              eS       Sn       18 37 31.0 -2.3
JKS   Kasai              2.61 313 ⇓P       Pn       18 37 02.6 +0.1
JNT   Takato             2.76  16 ⇓P       Pn       18 37 04.3 -0.3
JJS   Sakaide            2.94 294  P       Pn       18 37 06.9 -0.2
JKY   Yasaka             2.95 325 ⇓P       Pn       18 37 07.1 -0.2
JGN   Niukaw             2.99   2 ⇓P       Pn       18 37 07.6 -0.4
JAD   Aida               3.03 305 ⇓P       Pn       18 37 08.1 -0.3
JKG   Kaga               3.12 347 ⇓P       Pn       18 37 09.7 -0.1
JKG                               eS       Sn       18 37 45.8 -1.3
JRY   Ryogami san        3.13  27 ⇓P       Pn       18 37 09.9 +0.1
JRY                               eS       Sn       18 37 45.5 -1.7
JKSM  Kasumi             3.14 319 ⇓P       Pn       18 37 09.8 -0.2
JNG   Nsakai             3.26  13 ⇓P       Pn       18 37 12.1 +0.3
MAJO  Matsushiro         3.42  14 eP       Pn       18 37 14.0  0.0
MAJO                              eS       Sn       18 37 52.6 -2.0
MAT   Matsushiro         3.42  14  P       Pn       18 37 13.9 -0.1
MAT                                S       Sn       18 37 52.6 -2.0
MAT   Matsushiro         3.42  14 eP       Pn       18 37 14.0  0.0
MAT                               eS       Sn       18 37 53.0 -1.6
BSO1  Boso 1             3.47  65  P       Pn       18 37 13.1 -1.6
JKR   Kurayoshi          3.51 309 ⇓P       Pn       18 37 15.5 +0.2
JAG   Ashikaga           3.70  30 ⇓P       Pn       18 37 18.5 +0.5
UWA2  Uwa jima 2         3.81 271  P       Pn       18 37 18.9 -0.7
JUS   Usuki              4.55 269  P       Pn       18 37 28.8 -1.3
JKI   Kunimi             4.71 276  P       Pn       18 37 31.4 -0.9
JTY   Toyota             5.20 283  P       Pn       18 37 38.5 -0.7
JNU   Nakatsue           5.28 271  Pn      Pn       18 37 39.3 -1.1
      10nm,0.3s,baz=65,slow=9.5,SNR=28
JNU                                Sn      Sn       18 38 42.3 +0.6
      30nm,0.3s,baz=199,slow=13,SNR=4.5
JNU   Nakatsue           5.28 271  P       Pn       18 37 39.4 -1.0
JFA   Akaike             5.36 277  P       Pn       18 37 40.0 -1.4
JTA   Tamana             5.58 269  P       Pn       18 37 43.7 -0.9
CBIJ  Chichi jima        7.49 143  Pn      Pn       18 38 09.7 -1.8
      110nm,0.3s,baz=278,slow=6.8,SNR=18
CBIJ                               LR      LR       18 40 43.9
      comp=Z,23µm,19.0s,baz=331,slow=35
INCN  Inchon             9.60 299  Pn      P        18 38 39.2 -1.5
JOW   Kunigami          10.00 233  Pn      P        18 38 45.2 -1.1
      8.3nm,0.3s,baz=64,slow=12,SNR=9.9
JOW                                LR      LR       18 42 26.1
      comp=Z,14µm,21.4s,baz=71,slow=37
JKE   Kume jima 2       11.34 235  P       P        18 39 02.8 -1.8
ASAJ  Asahikawa         11.67  20  Pn      P        18 39 06.2 -2.8
      11nm,0.3s,baz=216,slow=11,SNR=53
ASAJ                               LR      LR       18 43 59.8
      comp=Z,14µm,18.9s,baz=47,slow=40
ASAJ  Asahikawa         11.67  20  P       P        18 39 06.2 -2.8
ASAJ                               pmax    pmax
      comp=Z,11nm,0.3s
ASAJ                               MLR     MLR
      comp=Z,14µm,19.0s
YUK   Yuzh-Kuril'sk     12.74  30  P       P        18 39 17.0 -6.4
YUK                                S       S        18 41 39.0 -7.0
YUK                                pmax    pmax
      comp=Z,2µm,1.2s
YUK                                pmax    pmax
      comp=N,3µm,2.0s
YUK                                pmax    pmax
      comp=E,2µm,1.5s
YUK                                pmax    pmax
      comp=Z,280nm,0.7s
YUK                                pmax    pmax
      comp=N,290nm,0.6s
YUK                                pmax    pmax
      comp=E,320nm,0.7s
YUK                                smax
      comp=N,2µm,2.8s
YUK                                smax
      comp=E,2µm,1.8s
YUK                                MLR     MLR
      comp=Z,5µm,15.0s
YUK                                MLR     MLR
      comp=N,6µm,18.0s
YUK                                MLR     MLR
      comp=E,11µm,16.0s
MDJ   Mudanjiang        12.81 335  P       P        18 39 26.2 +1.9
MDJ                                S       S        18 41 46.4 -1.2
MDJ                                AMB     AMB
      comp=Z,52nm,0.9s
MDJ                                AMB     AMB
      comp=Z,2µm,9.9s
MDJ                                LR      LR
      comp=N,5µm,19.8s
MDJ                                LR      LR
      comp=E,10µm,14.8s
MDJ                                LR      LR
      comp=Z,15µm,13.6s
SSE   Sheshan           13.71 265 ⇓P       P        18 39 34.4 -2.0
SSE                                AMB     AMB
      comp=Z,37nm,0.7s
SSE                                AMB     AMB
      comp=Z,223nm,3.6s
SSE                                LR      LR
      comp=N,1µm,10.5s
SSE                                LR      LR
      comp=E,10µm,10.5s
SSE                                LR      LR
      comp=Z,13µm,13.0s
CN2   Changchun         13.98 322 eP       P        18 39 40.1 +0.4
CN2                               eAP               18 39 43.4
CN2                               eXP               18 39 46.9
CN2                                PP      PP       18 39 51.6 +0.7
CN2                               eS       S        18 42 16.3 +0.8
CN2                                AMB     AMB
      comp=Z,30nm,0.9s
CN2                                LR      LR
      comp=Z,12µm,12.0s
YSS   Yuzh-Sakhalins    14.36  16d iP      P        18 39 40.4 -4.3
YSS                                pmax    pmax
      comp=Z,240nm,1.1s
YSS                                MLR     MLR
      comp=Z,10µm,14.0s
YSS   Yuzh-Sakhalins    14.36  16 eP       P        18 39 40.3 -4.4
KUR   Kuril'sk          14.56  31b iP      P        18 39 43.2 -4.1
KUR                                pmax    pmax
      comp=Z,170nm,0.9s
KUR                                MLR     MLR
      comp=N,8µm,15.0s
KUR                                MLR     MLR
      comp=E,5µm,15.0s
KUR                                MLR     MLR
      comp=Z,9µm,15.0s
NJ2   Nanjing           15.48 271 eP       P        18 40 03.1 +3.6
NJ2                                AP               18 40 06.3
NJ2                                XP               18 40 10.5
NJ2                                PP      PP       18 40 16.0 +4.0
NJ2                                AMB     AMB
      comp=Z,1µm,4.0s
KLR   Kul'dur           16.50 347 eP       P        18 40 12.0 -0.4
KLR                                pmax    pmax
      comp=N,140nm,1.8s
KLR                                pmax    pmax
      comp=Z,210nm,1.8s
KLR                                pmax    pmax
      comp=N,3µm,7.5s
KLR                                pmax    pmax
      comp=E,1µm,7.5s
KLR                                pmax    pmax
      comp=Z,4µm,7.5s
KLR                                MLR     MLR
      comp=E,11µm,13.0s
KLR                                MLR     MLR
      comp=Z,32µm,13.0s
TIA   Tai'an            16.75 286  P       P        18 40 16.8 +1.1
TIA                                LR      LR
      comp=N,6µm,15.0s
TIA                                LR      LR
      comp=E,11µm,14.0s
BJI   Beijing           18.16 298  P       P        18 40 34.5 +1.2
BJI                                S       S        18 44 00.8 +8.2
BJI                                AMB     AMB
      comp=Z,150nm,1.2s
BJI                                AMB     AMB
      comp=Z,2µm,4.1s
BJI                                LR      LR
      comp=N,14µm,20.4s
BJI                                LR      LR
      comp=E,5µm,20.4s
BJI                                LR      LR
      comp=Z,5µm,21.3s
QZH   Quanzhou          18.20 248⇑iP       P        18 40 35.0 +1.1
QZH                                AMB     AMB
      comp=Z,3µm,9.2s
QZH                                LR      LR
      comp=Z,12µm,17.8s
SAPN  Saipan            19.54 155  P       P        18 40 48.9 -1.1
WHN   Wuhan             19.56 268 ⇑P       P        18 40 51.0 +0.9
WHN                                S       S        18 44 32.0 +7.7
TIY   Taiyuan           20.62 290 ⇑P       P        18 40 58.0 -3.4
TIY                                S       S        18 44 47.0 +0.6
TIY                                LR      LR
      comp=Z,13µm,15.0s,MS5.4
GUMO  Guam              20.77 158 eP       P        18 41 02.4 -0.6
GUMO                               pmax    pmax
      comp=Z,650nm,1.3s
GUMO  Guam              20.77 158 eP       P        18 41 02.4 -0.7
      comp=Z,650nm,1.3s
HHC   Hu-ho-hao-te      21.77 298 eP       P        18 41 12.7 -0.3
HHC                                AP               18 41 18.8
HHC                                XP               18 41 21.1
HHC                                PP      PP       18 41 36.5 -1.7
HHC                                S       S        18 45 08.5 +0.4
HHC                                AMB     AMB
      comp=Z,80nm,1.2s,mb5.0
HHC                                AMB     AMB
      comp=Z,223nm,4.6s
HHC                                LR      LR
      comp=N,6µm,19.0s
HHC                                LR      LR
      comp=E,9µm,11.4s
HHC                                LR      LR
      comp=Z,10µm,12.0s
SKR   Severo-Kuril's    22.31  33 eP       P        18 41 14.0 -4.4
SKR                               e                 18 41 41.0
SKR                               ePPP     PPP      18 41 55.0 -0.5
SKR                               eS       S        18 45 20.0 +1.9
SKR                               eSS      SS       18 46 06.0 +7.3
SKR                                pmax    pmax
      comp=N,130nm,1.0s
SKR                                pmax    pmax
      comp=Z,220nm,1.0s,mb5.5
SKR                                pmax    pmax
      comp=E,100nm,0.8s
SKR                                pmax    pmax
      comp=N,2µm,3.0s
SKR                                pmax    pmax
      comp=Z,3µm,3.0s
SKR                                pmax    pmax
      comp=E,2µm,6.0s
SKR                                smax
      comp=N,4µm,10.0s
SKR                                smax
      comp=E,6µm,10.0s
SKR                                MLR     MLR
      comp=E,2µm,14.0s,MS4.9
SKR                                MLR     MLR
      comp=Z,3µm,14.0s,MS4.9
SKR                                MLR     MLR
      comp=N,2µm,16.0s,MS4.9
BTO   Baotou            22.87 297 eP       P        18 41 24.2 +0.3
BTO                                S       S        18 45 38.6  +10
BTO                                AMB     AMB
      comp=Z,394nm,1.0s,mb5.8
XAN   Xi'an             23.51 280  P       P        18 41 30.5 +0.2
XAN                                AP               18 41 39.0
XAN                                AMB     AMB
      comp=Z,161nm,1.5s,mb5.2
XAN                                LR      LR
      comp=N,4µm,11.4s,MS5.3
XAN                                LR      LR
      comp=E,5µm,13.1s,MS5.3
XAN                                LR      LR
      comp=Z,7µm,12.3s,MS5.4
TGY   Tagaytay City     24.10 222  LR      LR       18 49 49.1
      comp=Z,2µm,18.1s,MS4.7,baz=262,slow=34
PET   Petropavlovsk     25.07  31c iP      P        18 41 44.9 -0.2
PET                                pmax    pmax
      comp=Z,309nm,1.9s,mb5.5
PET                                MLR     MLR
      comp=Z,2µm,14.0s,MS4.9
PET   Petropavlovsk     25.07  31 eP       P        18 41 45.0 -0.2
      comp=Z,160nm,1.3s,mb5.4
CLNS  Chul'man          25.08 344 eP       P        18 41 45.5 +0.4
CLNS                              e*PP     pP       18 41 52.0 +2.5
CLNS                              ePPP     PPP      18 42 17.6  -17
CLNS                              e                 18 45 13.6
CLNS                              eS       S        18 46 00.6 -5.6
CLNS                              eSS      SS       18 47 14.1 +8.1
CLNS                               pmax    pmax
      comp=Z,63nm,0.9s,mb5.2
CLNS                               pmax    pmax
      comp=N,43nm,1.0s
CLNS                               pmax    pmax
      comp=E,18nm,1.1s
CLNS                               smax
      comp=N,4µm,11.4s
CLNS                               smax
      comp=Z,1µm,12.6s
CLNS                               smax
      comp=E,186nm,11.8s
CLNS                               MLR     MLR
      comp=Z,10µm,14.0s,MS5.5
CLNS                               MLR     MLR
      comp=N,7µm,12.0s,MS5.4
CLNS                               MLR     MLR
      comp=E,700nm,11.0s,MS5.4
GYA   Guiyang           27.25 264⇑iP       P        18 42 04.8 -0.8
GYA                                AP      pP       18 42 09.2 -0.8
GYA                                XP      sP       18 42 11.8 -0.1
GYA                                PP      PP       18 42 49.0 -3.6
GYA                                S       S        18 46 39.7 -2.6
GYA                                AMB     AMB
      comp=Z,30nm,1.2s,mb4.7
GYA                                AMB     AMB
      comp=Z,330nm,5.4s
GYA                                LR      LR
      comp=N,3µm,13.5s,MS5.4
GYA                                LR      LR
      comp=E,6µm,13.2s,MS5.4
GYA                                LR      LR
      comp=Z,7µm,12.6s,MS5.5
SONM  Songino Array     27.36 311  P       P        18 42 06.2 -0.2
      comp=Z,76nm,1.0s,mb5.2,baz=117,slow=7.4,SNR=252
SONM                               PcP     PcP      18 45 24.0 -1.9
      comp=Z,3.7nm,0.9s,baz=111,slow=2.5,SNR=6.9
LZH   Lanzhou           27.49 285  P       P        18 42 08.0 +0.3
LZH                                AP      pP       18 42 13.1 +1.0
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LZH                              XP     sP      18 42 15.6 +1.5
LZH                              PP     PP      18 42 56.0 +0.4
LZH                              S      S       18 46 46.3 +0.1
LZH                              XS             18 47 00.0
LZH                              AMB    AMB
     comp=Z,280nm,1.3s,mb5.6
LZH                              AMB    AMB
     comp=Z,850nm,5.8s
MA2  Magadan          27.86  15ceP  P       18 42 10.3 -0.5
MA2                             e               18 43 03.0
MA2                             eS      S       18 46 46.4 -5.4
MA2                              pmax   pmax
     comp=Z,90nm,1.8s,mb5.1
MA2                              MLR    MLR
     comp=Z,16µm,16.0s,MS5.7
MA2  Magadan          27.86  15⇑eP  P       18 42 10.2 -0.6
     comp=Z,42nm,0.8s,mb5.1
QIZ  Qiongzhong       28.21 247  P      P       18 42 14.1 -0.3
QIZ                              XP     sP      18 42 21.4 +0.7
QIZ                              PP     PP      18 43 07.5 +2.3
QIZ                              S      S       18 46 58.3 +0.3
QIZ                              AMB    AMB
     comp=Z,470nm,10.0s
QIZ                              LR     LR
     comp=N,4µm,16.6s
QIZ                              LR     LR
     comp=Z,4µm,17.8s,MS5.0
CD2  Chengdu          28.35 274  P      P       18 42 14.5 -1.0
CD2                              PP     PP      18 43 09.0 +2.2
CD2                              PPP    PPP     18 43 24.8 +5.6
CD2                              S      S       18 46 59.4 -0.6
CD2                              AMB    AMB
     comp=Z,150nm,1.1s,mb5.5
CD2                              AMB    AMB
     comp=Z,930nm,9.6s
BOD  Bodaibo          29.18 334 eP      P       18 42 19.9 -2.8
YAK  Yakutsk          29.22 353⇑eP      P       18 42 21.9 -1.1
YAK                             e               18 45 26.9
YAK                              pmax   pmax
     comp=Z,54nm,0.6s,mb5.5
YAK  Yakutsk          29.22 353⇑eP      P       18 42 21.9 -1.1
     comp=Z,54nm,0.6s,mb5.5
YAK                             ePcP    PcP     18 45 26.9 -3.4
ZAK  Zakamensk        30.19 315⇑iP      P       18 42 31.1 -0.7
IRK  Irkutsk          30.37 319 eP      P       18 42 32.5 -0.9
IRK                             e               18 43 48.2
GTA  Gaotai           30.58 292  P      P       18 42 34.8 -0.5
GTA                              AP     pP      18 42 39.3 -0.4
GTA                              XP     sP      18 42 41.8 +0.1
GTA                              PP     PP      18 43 33.7 -2.0
GTA                              S      S       18 47 32.8 -2.6
GTA                              SCS    ScS     18 53 09.8 +0.2
GTA                              AMB    AMB
     comp=Z,27nm,1.1s,mb5.0
GTA                              AMB    AMB
     comp=Z,228nm,7.6s
GTA                              LR     LR
     comp=N,3µm,16.0s,MS5.3
GTA                              LR     LR
     comp=E,5µm,14.8s,MS5.3
GTA                              LR     LR
     comp=Z,5µm,14.8s,MS5.3
KMI  Kunming          31.03 264 eP      P       18 42 38.5 -0.9
KMI                              AMB    AMB
     comp=Z,443nm,7.0s
KMI                              LR     LR
     comp=Z,6µm,15.1s,MS5.4
SEY  Seymchan         31.25  13 eP      P       18 42 41.9 +0.9
SEY                             e               18 43 46.0
SEY                             e               18 45 33.9
SEY                             eS      S       18 47 44.8 -0.8
SEY                              pmax   pmax
     comp=Z,90nm,1.1s,mb5.5
SEY                              pmax   pmax
     comp=N,50nm,1.2s
SEY                              pmax   pmax
     comp=E,50nm,1.3s
MOY  Mondy            32.00 316 eP      P       18 42 47.0 -0.7
KKTK Khon Kaen        35.23 250  P      P       18 43 16.0  0.0
     comp=E,401nm,0.8s,mb6.4
NANT Nan              35.59 255  P      P       18 43 18.5 -0.6
CHG  Chiang Mai       37.01 257 ⇑P      P       18 43 31.2 +0.2
     comp=E,32nm,0.9s,mb5.2
CMAR Chiang Mai Arr   37.20 256  P      P       18 43 32.7 +0.1
     comp=E,14nm,0.6s,mb5.0,baz=50,slow=7.3,SNR=68
CMAR                             LR     LR      19 01 12.3
     comp=E,4µm,18.2s,MS5.2,baz=60,slow=40
CMAR Chiang Mai Arr   37.20 256  P      P       18 43 32.7 +0.1
CMAR                             pmax   pmax
     comp=Z,14nm,0.6s
CMAR                             MLR    MLR
     comp=Z,4µm,18.2s
NST  Nakhon Sawan     37.73 251  P      P       18 43 38.0 +0.9
BDT  Bhumibol Dam     37.78 255  P      P       18 43 37.0 -0.5
TIXI Tiksi            38.74 356d iP     P       18 43 44.1 -0.9
TIXI                            i               18 45 55.0
TIXI                            eS      S       18 49 40.5 -0.7
TIXI                             pmax   pmax
     comp=Z,46nm,0.7s,mb5.3
TIXI                             MLR    MLR
     comp=Z,3µm,12.0s,MS5.3
TIXI Tiksi            38.74 356 i Pr            18 43 44.2
WMQ  Urumqi           39.60 300 ⇑P      P       18 43 52.6 +0.1
WMQ                              AP     pP      18 43 57.1 +0.1
WMQ                              XP     sP      18 43 59.6 +0.7
WMQ                              PP     PP      18 45 27.8 +0.4
WMQ                              S      S       18 49 54.8 +0.3
WMQ                              AMB    AMB
     comp=Z,101nm,1.3s,mb5.4
WMQ                              LR     LR
     comp=N,1µm,15.6s,MS5.3
WMQ                              LR     LR
     comp=E,3µm,16.1s,MS5.3
WMQ                              LR     LR
     comp=Z,3µm,16.0s,MS5.3
NNT  Nongplab         39.84 248  P      P       18 43 56.0 +1.3
SHL  Shillong         39.95 271 eP      P       18 43 56.0 +0.5
SHL                             e               18 49 52.0
ZAL  Zalesovo         42.07 316  P      P       18 44 12.2 -0.4
     comp=Z,76nm,1.3s,mb5.2,baz=282,slow=9.2,SNR=94
ZAL                              PcP    PcP     18 46 06.3 -1.7
     comp=Z,3.6nm,0.7s,baz=246,slow=2.0,SNR=3.6
ZAL                              LR     LR      19 00 52.9
     comp=Z,3µm,18.1s,MS5.2,baz=285,slow=35
ZAL  Zalesovo         42.07 316  P      P       18 44 12.2 -0.3
ZAL                                             18 46 06.4
ZAL                              pmax   pmax
     comp=Z,76nm,1.3s
ZAL                              MLR    MLR
     comp=Z,3µm,18.1s
NVS  Novosibirsk      43.09 317 i P     P       18 44 19.8 -1.1
NVS                             i               18 46 09.1
NVS                             i S     S       18 50 45.0 -1.0
NVS                              pmax   pmax
     comp=N,62nm,1.2s
NVS                              pmax   pmax
     comp=E,94nm,1.2s
NVS                              pmax   pmax
     comp=Z,93nm,1.2s,mb5.4
NVS                              smax
     comp=N,565nm,4.2s
NVS                              smax
     comp=E,128nm,2.9s
MKAR Makanchi Array   43.32 305  P      P       18 44 22.8 -0.1
     comp=E,40nm,0.6s,mb5.3,baz=91,slow=9.8,SNR=198
MKAR                             LR     LR      19 03 16.9
     comp=E,3µm,18.9s,MS5.2,baz=271,slow=37
MKAR Makanchi Array   43.32 305  P      P       18 44 22.8 -0.1
MKAR                             pmax   pmax
     comp=Z,40nm,0.6s
MKAR                             MLR    MLR
     comp=Z,3µm,18.9s
IPM  Ipoh             44.12 238⇓eP      P       18 44 30.0 +0.2
PKI  Pulchoki         44.64 277 eP      P       18 44 33.0 -0.8
     comp=Z,76nm,1.0s,mb5.5
KKN  Kakani           44.67 277 eP      P       18 44 33.8 -0.3
     comp=Z,117nm,1.0s,mb5.7
DMN  Daman            44.88 277 eP      P       18 44 35.2 -0.6
     comp=Z,73nm,1.0s,mb5.5
GKN  Gorkha           45.13 278 eP      P       18 44 37.1 -0.7
     comp=Z,110nm,1.0s,mb5.6
KURK Kurchatov        45.66 311  P      pP      18 44 53.3 +7.2
     comp=Z,480nm,1.1s,SNR=42
KURK Kurchatov        45.66 311⇑eP      pP      18 44 54.0 +7.9
TNA  Tin City         45.86  28⇑eP      P       18 44 43.6 +0.6
     comp=Z,26nm,0.7s,mb5.3
KAKA Kakadu           45.89 186 eP      P       18 44 42.5 -1.4
     comp=Z,15nm,0.7s,mb5.0
KAKA                            e               18 44 54.3
KOLN Koldanda         46.07 278 eP      P       18 44 44.6 -0.6
     comp=Z,88nm,1.0s,mb5.6
AAA  Alma-Ata         47.43 301 eP      P       18 44 53.2 -2.6
AAA                             eS      S       18 51 45.8 -2.7
AAA                              pmax   pmax
     comp=Z,600nm,6.0s
AAA                              smax
     comp=E,500nm,12.0s
PTH  Pithoragarh      48.26 282 eP      P       18 45 02.0 -0.4
PTH                             e               18 46 28.0
KSH  Kashi            48.86 296⇑iP      P       18 45 08.2 +1.3
KSH                              AP     pP      18 45 13.1 +1.7
KSH                              XP     sP      18 45 15.5 +2.3
KSH                              PP     PP      18 47 02.5 +2.2
KSH                              SCP            18 50 25.7
KSH                              PCS            18 50 27.8
KSH                              S      S       18 52 12.2 +3.6
KSH                              SCS    ScS     18 54 57.7 +1.7
KSH                              SS     SS      18 55 38.6 +3.7
KSH                              AMB    AMB
     comp=Z,90nm,1.6s,mb5.5
KSH                              AMB    AMB
     comp=Z,650nm,3.5s
FRU  Bishkek          49.19 300⇑iP      P       18 45 10.0 +0.6
FRU                             eS      S       18 52 15.0 +1.8
FRU                              pmax   pmax
     comp=Z,200nm,2.0s,mb5.8
FRU                              smax
     comp=E,1µm,8.0s
FRU                              MLR    MLR
     comp=Z,6µm,17.0s,MS5.7
KLP  Kalpa            49.21 285 eP      P       18 45 08.6 -1.1
KLP                             e               18 45 11.1
     comp=Z,23nm,1.9s
AAK  Ala-Archa        49.32 300⇑eP      P       18 45 09.1 -1.3
AAK                             e               18 46 31.6
AAK                              pmax   pmax
     comp=Z,17nm,1.0s,mb5.0
AAK  Ala-Archa        49.32 300⇑eP      P       18 45 09.1 -1.3
     comp=Z,17nm,1.0s,mb5.0
AAK                             ePcP    PcP     18 46 31.6 -1.8
VOSK Vostochnaya      50.31 314  P      P       18 45 16.4 -1.4
VOSK                             pmax   pmax
     comp=Z,37nm,0.9s,mb5.4
TTA  Tatalina         50.51  33 eP      P       18 45 19.1 -0.1
ASOR Ausora           50.54 282 eP      P       18 45 17.2 -2.7
SVW  Sparrevohn       50.62  35 eP      P       18 45 21.1 +1.0
BVA0 Borovoye Array   50.64 314 i P     P       18 45 19.5 -0.8
BVAR Borovoye Array   50.64 314  LR     LR      19 07 10.7
     comp=Z,29nm,18.3s,baz=15,slow=37
BRVK Borovoye         50.70 314⇑eP      P       18 45 20.0 -0.8
BRVK                            e               18 46 37.1
BRVK                             pmax   pmax
     comp=Z,37nm,1.3s,mb5.2
BRVK                             MLR    MLR
     comp=Z,680nm,19.0s,MS4.7
BRVK Borovoye         50.70 314⇑eP      P       18 45 20.0 -0.8
     comp=Z,37nm,1.3s,mb5.2
BRVK                            ePcP    PcP     18 46 37.1 -1.2
BRVK                             LR     LR
     comp=Z,682nm,19.0s,MS4.7
KKR  Kurukshetra      50.89 284 eP      P       18 45 22.4 -0.2
NDI  New Delhi        51.02 282 eP      P       18 45 20.5 -3.0
AYAN Aya Nagar        51.16 282 eP      P       18 45 23.6 -1.1
AYAN                            e               18 45 25.1
     comp=Z,42nm,0.9s
BHGR Bahadurgarh      51.24 282 eP      P       18 45 21.9 -3.3
ZRNK Zerenda          51.48 314  P      P       18 45 26.0 -0.7
ZRNK                             pmax   pmax
     comp=Z,132nm,1.6s,mb5.6
RTK  Rohtak           51.55 283 eP      P       18 45 26.6 -1.0
RSO  Redoubt South    52.03  36 eP      P       18 45 30.5 -0.3
KKAR Karatay Array    52.09 302 i P     P       18 45 30.7 -0.8
KKAR                             pmax   pmax
     comp=Z,99nm,1.1s,mb5.7
FITZ Fitzroy Crossi   52.21 194⇓iP      P       18 45 31.9 -0.8
     comp=Z,12nm,0.9s,mb4.8
FITZ                            e               18 45 43.6
FITZ                            eS      S       18 52 55.8 +0.5
KDAK Kodiak Island    52.24  40⇑eP      P       18 45 31.3 -1.1
     comp=Z,79nm,0.6s,mb5.8
KDAK                            ePcP    PcP     18 46 43.3 -0.7
SPU  Mount Spurr      52.35  35 eP      P       18 45 33.0 -0.1
SPU                             e               18 45 45.3
SPU                             ePcP    PcP     18 46 42.9 -1.4
KHET Khetri           52.40 282 eP      P       18 45 32.7 -1.3
KHET                            e               18 45 34.7
     comp=Z,64nm,0.7s
KGD  Kothagudem       52.79 267 eP      P       18 45 34.2 -2.8
KGD                             esP     sP      18 45 38.7 -4.7
KGD                             ePcP    PcP     18 46 42.6 -3.9
KGD                             ePP     PP      18 47 33.6 -4.3
KGD                             eScP            18 50 41.3
KGD                             eS      S       18 53 03.2 +0.1
WRAB Tennant Creek    52.93 183⇑eP      P       18 45 35.9 -2.2
     comp=Z,35nm,0.9s,mb5.3
WRAB                             LR     LR
     comp=Z,463nm,20.0s,MS4.5
WB2  Warramunga Arr   52.94 183⇑iP      P       18 45 36.3 -1.8
WB2                             e               18 45 48.5
WB2                             eS      S       18 52 53.0  -12
WRA  Warramunga Arr   52.94 183  P      P       18 45 36.4 -1.7
     comp=Z,11nm,0.6s,mb4.9,baz=0.7,slow=7.6,SNR=188
WRA                              PcP    PcP     18 46 46.1 -0.9
     comp=Z,6.9nm,0.9s,baz=355,slow=4.0,SNR=6.3
WRA                              LR     LR      19 07 19.9
     comp=Z,1µm,19.4s,MS4.9,baz=20,slow=35
WRA  Warramunga Arr   52.94 183  P      P       18 45 36.4 -1.7
WRA                                             18 46 46.1
WRA                              pmax   pmax
     comp=Z,11nm,0.6s
WRA                              MLR    MLR
     comp=Z,1µm,19.4s
SLKM Skilak Lake      53.28  36 eP      P       18 45 39.7 -0.4
SLKM                            e               18 46 47.8
MCK  McKinley         53.71  32⇑eP      P       18 45 42.5 -0.7
MCK                              pmax   pmax
     comp=Z,36nm,1.0s,mb5.3
MCK  McKinley         53.71  32⇑eP      P       18 45 42.5 -0.7
     comp=Z,36nm,1.1s,mb5.2
CTA  Charters Tower   53.72 169 eP      P       18 45 42.7 -1.1
     comp=Z,6.0nm,0.6s,mb4.7
CTA                             e               18 45 54.4
CTA                             eS      S       18 53 11.9 -3.8
CTAO Charters Tower   53.72 169 eP      P       18 45 42.0 -1.8
CTAO                             pmax   pmax
     comp=Z,20nm,1.1s,mb5.0
CTAO                             MLR    MLR
     comp=Z,890nm,20.0s,MS4.8
CTAO Charters Tower   53.72 169 eP      P       18 45 42.0 -1.8
     comp=Z,20nm,1.1s,mb5.0
CTAO                             LR     LR
     comp=Z,894nm,20.0s,MS4.8
PMR  Palmer           53.74  35 eP      P       18 45 42.1 -1.3
PMR                             e               18 46 49.1
PMR                              pmax   pmax
     comp=Z,210nm,1.5s,mb5.8
PMR  Palmer           53.74  35 eP      P       18 45 42.4 -1.0
PMR                              LR     LR
     comp=Z,1µm,22.0s,MS4.9
SML  Sawmill          54.10  34⇑iP      P       18 45 45.2 -0.9
COLA College          54.13  31⇑eP      P       18 45 45.9 -0.4
COLA                             pmax   pmax
     comp=Z,27nm,0.7s,mb5.3
COLA College          54.13  31⇑eP      P       18 45 45.9 -0.4
     comp=Z,27nm,0.6s,mb5.3
ILAR Eielson Array    54.55  31  P      P       18 45 48.0 -1.3
     comp=Z,6.5nm,0.7s,mb4.8,baz=273,slow=5.5,SNR=55
ILAR                             LR     LR      19 11 16.8
     comp=Z,917nm,19.8s,MS4.8,baz=303,slow=38
ILAR Eielson Array    54.55  31  P      P       18 45 48.0 -1.3
ILAR                             pmax   pmax
     comp=Z,7.0nm,0.7s
ILAR                             MLR    MLR
     comp=Z,917nm,19.8s
HYB  Hyderabad        54.63 268 i P     P       18 45 50.0 -0.5
HYB                             ePcP    PcP     18 46 52.5 -1.0
HYB  Hyderabad        54.63 268 eP      P       18 45 50.0 -0.5
HYB                             e               18 46 52.5
THY  Trims Highway    55.15  32 eP      P       18 45 52.9 -0.9
DIV  Divide           55.39  35⇑iP      P       18 45 55.1 -0.5
     comp=Z,267nm,1.4s,mb6.1
DIV                             ePcP    PcP     18 46 55.5 -0.4
EYAK Cordova Ski Ar   55.48  36⇑iP      P       18 45 55.7 -0.5
MBWA Marble Bar       56.58 200 eP      P       18 46 03.6 -1.1
     comp=Z,33nm,0.7s,mb5.5
ASAR Alice Springs    56.66 184  P      P       18 46 03.5 -1.7
     comp=Z,13nm,0.7s,mb5.1,baz=15,slow=12,SNR=92
ASAR                             LR     LR      19 09 24.7
     comp=Z,1µm,19.0s,MS5.0,baz=21,slow=35
ASAR                             PKP2bc         19 16 10.7
     comp=Z,2.5nm,0.9s,baz=170,slow=1.7,SNR=9.1
ASAR Alice Springs    56.66 184  P      P       18 46 03.5 -1.7
ASAR                             LR     LR      19 09 24.7
ASAR                           ⇑e               19 16 10.7
ASPA Alice Springs    56.66 184 eP      P       18 46 03.4 -1.8
ASPA                            e               18 46 15.0
ASPA                            eS      S       18 53 52.7 -2.3
JASL Jaisalmer        56.86 283 eP      P       18 46 05.9 -0.6
ARU  Arti             56.95 319  P      P       18 46 05.8 -1.0
     comp=Z,538nm,0.7s,SNR=23
ARU  Arti             56.95 319⇑iP      P       18 46 05.2 -1.6
ARU                             i               18 47 00.1
ARU                             i               18 48 11.1
ARU                             ePPP    PPP     18 49 27.7 -6.6
ARU                             eS      S       18 53 58.0 -0.4
ARU                             eSS     SS      18 57 46.1 -2.2
ARU                              pmax   pmax
     comp=Z,106nm,1.3s,mb5.7
ARU                              MLR    MLR
     comp=N,1µm,17.0s,MS5.2
ARU                              MLR    MLR
     comp=Z,2µm,17.0s,MS5.2
ARU                              MLR    MLR
     comp=E,1µm,16.5s,MS5.2
ARU  Arti             56.95 319 eP      P       18 46 05.3 -1.5
     comp=E,61nm,0.6s,mb5.8
ARU                             ePcP    PcP     18 46 59.5 -2.5
ARU                              LR     LR
     comp=Z,399nm,19.0s,MS4.5
AB31 Akbulak array    57.77 311 i P     P       18 46 11.4 -1.3
AB31                             pmax   pmax
     comp=Z,24nm,0.6s,mb5.4
DAWY Dawson           57.86  31 eP      P       18 46 12.5 -0.6
POO  Poona            58.04 272⇓iP      P       18 46 13.0 -2.0
KAD  Karad            58.34 271 eP      P       18 46 14.5 -2.6
DLBC Dease Lake       63.75  36  P      P       18 46 52.7 -0.4
     comp=Z,30nm,1.1s,mb5.2,baz=306,slow=6.4,SNR=23
DLBC Dease Lake       63.75  36⇑iP      P       18 46 53.3 +0.2
KBS  Kingsbay         63.80 350 eP      P       18 46 47.1 -6.1
KBS                             eS      S       18 55 27.3 +1.4
KBS                             eSS     SS      18 59 37.2 +1.5
KBS                              AMS    AMS     19 17 34.9
     comp=Z,3µm,18.8s,MS5.5
KBS  Kingsbay         63.80 350 eP      P       18 46 48.1 -5.1
KBS                             e               18 55 31.1
KBS                             i               18 59 40.6
KBS                              LR     LR
     comp=Z,2877µm,18.8s
FORT Forrest          64.24 189 eP      P       18 46 56.5 -0.3
     comp=Z,81nm,0.7s,mb5.9
FORT                            e               18 47 07.0
APA  Apatity          64.72 336⇑iP      P       18 46 58.7 -0.6
APA                             i               18 47 11.0
APA                             eS      S       18 55 40.0 +2.6
APA                             eSS     SS      18 59 40.0  -10
APA                              pmax   pmax
     comp=Z,36nm,1.2s,mb5.3
STKA Stephens Creek   64.89 176 eP      P       18 46 59.4 -1.6
     comp=Z,15nm,0.8s,mb5.1
STKA                            e               18 47 11.1
STKA                            eS      S       18 55 25.0  -15
STKA Stephens Creek   64.89 176  P      P       18 46 59.5 -1.5
     comp=Z,18nm,0.7s,mb5.2,baz=340,slow=6.9,SNR=33
STKA                             LR     LR      19 13 05.0
     comp=Z,874nm,21.4s,MS4.9,baz=1.7,slow=34
BJO  Bjornoya         65.20 345  AMS    AMS     19 18 36.5
     comp=Z,3µm,18.6s,MS5.5
KEV  Kevo             65.76 339 ep      P       18 47 04.5 -1.4
ARCES ARCESS Array B  66.32 339  P      P       18 47 08.8 -0.7
     comp=Z,13nm,0.6s,mb5.2,baz=62,slow=8.7,SNR=73
ARCES                            LR     LR      19 20 33.7
     comp=Z,4µm,18.1s,MS5.7,baz=89,slow=40
ARCES ARCESS Array B  66.32 339  P      P       18 47 08.8 -0.7
ARCES                            pmax   pmax
     comp=Z,13nm,0.6s
ARCES                            MLR    MLR
     comp=Z,4µm,18.1s
ARCES ARCESS Array B  66.32 339  P      P       18 47 08.8 -0.7
ARCES                            LR     LR      19 20 33.7
RES  Resolute Bay     67.12  13⇑eP      P       18 47 13.8 -0.8
RES                              pmax   pmax
     comp=Z,30nm,0.5s,mb5.6
RES  Resolute Bay     67.12  13⇑eP      P       18 47 13.8 -0.8
     comp=Z,30nm,0.5s,mb5.6
BBB  Bella Bella      67.21  42  P      P       18 47 14.5 -1.0
     comp=Z,11nm,0.9s,mb4.9,baz=306,slow=4.3,SNR=5.3
KTK1 Kautokeino       67.28 339 eP      P       18 47 15.3 -0.4
KTK1 Kautokeino       67.28 339 eP      P       18 47 16.3 +0.6
MUN  Mundaring        67.80 199 eP      pP      18 47 30.1 +5.8
     comp=Z,9.0nm,0.9s
MAK  Makhachkala      68.05 308⇓iP      P       18 47 20.0 -0.9
MAK                             i S     S       18 56 18.0 -0.2
TRO  Tromso           68.17 341 eS      S       18 56 18.7 -0.5
TRO                             eSS     SS      19 00 43.1 -0.4
TRO                              AMS    AMS     19 23 49.1
     comp=Z,1µm,17.8s,MS5.1
YKW3 Yellowknife Ar   68.78  28⇑eP      P       18 47 23.9 -1.2
YKA  Yellowknife Ar   68.82  28  P      P       18 47 24.4 -0.9
     comp=Z,27nm,1.1s,mb5.1,baz=296,slow=6.2,SNR=25
YKA                              LR     LR      19 16 40.7
     comp=Z,693nm,20.8s,MS4.9,baz=325,slow=35
YKA  Yellowknife Ar   68.82  28  P      P       18 47 24.4 -0.9
YKA                              pmax   pmax
     comp=Z,27nm,1.1s
YKA                              MLR    MLR
     comp=Z,693nm,20.8s
YKA  Yellowknife Ar   68.82  28  P      P       18 47 24.4 -0.9
YKA                              LR     LR      19 16 40.7
OBN  Obninsk          69.04 323c iP     P       18 47 25.5 -1.3
OBN                             i               18 47 40.9
OBN                             e               18 49 56.5
OBN                             i S     S       18 56 29.3 -0.5
OBN                              pmax   pmax
     comp=Z,110nm,1.7s,mb5.5
OBN                              MLR    MLR
     comp=Z,4µm,16.0s,MS5.7
OBN  Obninsk          69.04 323⇑eP      P       18 47 25.4 -1.4
     comp=Z,26nm,0.7s,mb5.3
VOR  Voronezh         69.22 319 eP      P       18 47 26.1 -1.9
VOR                              pmax   pmax
     comp=Z,220nm,2.0s,mb5.7
DAG  Danmarks Havn    69.23 354⇓iP      P       18 47 27.4 -0.3
     comp=Z,44nm,1.0s,mb5.3
PUL  Pulkovo          69.68 329 eP      P       18 47 20.3  -10
PUL                             eS      S       18 56 28.2 -9.0
PUL                              pmax   pmax
     comp=E,18nm,0.4s
PUL                              pmax   pmax
     comp=Z,29nm,0.4s,mb5.6
PUL                              pmax   pmax
     comp=N,66nm,0.7s
PUL                              pmax   pmax
     comp=Z,59nm,0.5s,mb5.8
PUL                              pmax   pmax
     comp=N,50nm,0.6s
PUL                              pmax   pmax
     comp=E,29nm,0.7s
PUL                              MLR    MLR
     comp=E,2µm,14.0s,MS5.4
PUL                              MLR    MLR
     comp=Z,2µm,14.0s,MS5.5
PUL                              MLR    MLR
     comp=N,478nm,18.0s,MS5.4
GOF  Gofitskoye       70.02 311⇓iP      P       18 47 32.0 -1.0
GOF                             i S     S       18 56 40.0 -1.5
GOF                              pmax   pmax
     comp=Z,240nm,1.3s,mb6.0
GOF                              pmax   pmax
     comp=Z,1µm,4.0s
GOF                              smax
     comp=E,2µm,6.0s
KAF  Kangasniemi      70.07 332 ep      P       18 47 31.7 -1.3
     comp=E,13nm,0.5s,mb5.1,baz=54,slow=5.7
KAF  Kangasniemi      70.07 332 eP      P       18 47 31.7 -1.3
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KAF				pmax	pmax		
	comp=Z,13nm,0.5s,mb5.1						
TI2	**Plekhanov**	**70.42**	**307**	*i* P	**P**	**18 47 35.0**	**-0.5**
TI2				*i* S	S	18 56 48.0	+1.7
ZEI	**Tsey**	**70.51**	**309**	⇑*i*P	**P**	**18 47 34.0**	**-2.0**
ZEI				*e*		18 50 09.0	
ZEI				*e*S	S	18 56 46.0	-1.3
ZEI				pmax	pmax		
	comp=Z,300nm,5.0s						
ZEI				MLR	MLR		
	comp=Z,2µm,15.0s,MS5.6						
FINES	**FINESS Array B**	**70.53**	**332**	P	**P**	**18 47 34.5**	**-1.3**
	comp=Z,13nm,0.6s,mb5.1,baz=81,slow=5.3,SNR=78						
FINES				LR	LR	19 21 18.0	
	comp=Z,1µm,18.9s,MS5.2,baz=211,slow=38						
FINES	**FINESS Array B**	**70.53**	**332**	P	**P**	**18 47 34.5**	**-1.3**
FINES				pmax	pmax		
	comp=Z,13nm,0.6s						
FINES				MLR	MLR		
	comp=Z,1µm,18.9s						
LOF	**Lofoten**	**70.63**	**341**	*e*P	**P**	**18 47 38.0**	**+1.7**
TOO	**Toolangi**	**70.86**	**173**	*e*P	**P**	**18 47 38.2**	**0.0**
	comp=Z,4.6nm,0.6s,mb4.6						
TOO				*e*		18 47 49.0	
PGC	**Sidney**	**71.48**	**44**	⇑*e*P	**P**	**18 47 41.6**	**-0.2**
	comp=Z,83nm,0.9s,mb5.7						
OCWA	**Octopus Mounta**	**71.50**	**45**	⇑*e*P	**P**	**18 47 42.5**	**+0.6**
	comp=Z,50nm,1.0s,mb5.4						
MOR8	**Moi Rana**	**71.69**	**339**	*e*P	**P**	**18 47 40.8**	**-2.0**
MOR8				*e*pP	pP	18 47 44.5	-3.0
VSU	**Vasula**	**71.94**	**329**	⇓*i*P	**P**	**18 47 42.4**	**-1.9**
GNW	**Green Mountain**	**72.38**	**44**	*e*P	**P**	**18 47 47.6**	**+0.4**
JCW	**Jim Creek**	**72.59**	**44**	P	**P**	**18 47 48.6**	**+0.3**
BMW	**Boistfort Moun**	**72.69**	**46**	*e*P	**P**	**18 47 49.2**	**+0.2**
RPW	**Rockport**	**72.70**	**43**	P	**P**	**18 47 48.8**	**-0.1**
SOC	**Sochi**	**72.81**	**311**	*i* P	**P**	**18 47 48.9**	**-0.8**
SOC				*e*S	S	18 57 08.9	-4.8
SOC				*e*		18 58 06.3	
SOC				*e*SS	SS	19 01 50.8	-5.4
SOC				pmax	pmax		
	comp=Z,114nm,1.3s,mb5.6						
SOC				pmax	pmax		
	comp=N,31nm,0.8s						
SOC				pmax	pmax		
	comp=E,12nm,0.6s						
SOC				pmax	pmax		
	comp=Z,204nm,1.4s,mb5.9						
SOC				pmax	pmax		
	comp=N,116nm,2.3s						
SOC				pmax	pmax		
	comp=E,184nm,2.5s						
SOC				MLR	MLR		
	comp=N,1µm,15.0s,MS5.5						
SOC				MLR	MLR		
	comp=Z,2µm,15.0s,MS5.5						
SOC				MLR	MLR		
	comp=E,1µm,14.0s,MS5.5						
RMW	**Rattlesnake Mo**	**73.03**	**44**	*e*P	**P**	**18 47 51.3**	**+0.3**
JMIC	**Jan Mayen**	**73.24**	**349**	*e*PP	PP	18 50 30.1	-6.9
JMIC				*e*S	S	18 57 18.8	+0.7
JMIC				AMS	AMS	19 23 15.2	
	comp=Z,479nm,16.8s,MS4.8						
PNT	**Penticton**	**73.32**	**42**	P	**P**	**18 47 52.1**	**-0.5**
LON	**Longmire**	**73.39**	**45**	⇑*e*P	**P**	**18 47 52.5**	**-0.6**
NLW	**Nelson Butte**	**73.56**	**43**	*e*P	**P**	**18 47 53.8**	**-0.2**
NSS	**Namsos**	**73.58**	**338**	AMS	AMS	19 25 38.6	
	comp=Z,1µm,16.4s,MS5.3						
COR	**Corvallis**	**73.59**	**47**	P	**P**	**18 47 55.2**	**+0.9**
COR	**Corvallis**	**73.59**	**47**	⇑*e*P	**P**	**18 47 54.9**	**+0.6**
COR				pmax	pmax		
	comp=Z,190nm,1.3s,mb5.9						
COR	**Corvallis**	**73.59**	**47**	⇑*e*P	**P**	**18 47 54.9**	**+0.6**
	comp=Z,190nm,1.4s,mb5.8						
ANN	**Anapa**	**73.62**	**313**	*c i*P	**P**	**18 47 53.8**	**-0.7**
ANN				*e*		18 48 06.8	
ANN				*e*S	S	18 57 21.4	-1.4
ANN				pmax	pmax		
	comp=Z,200nm,1.0s,mb6.0						
ANN	**Anapa**	**73.62**	**313**	⇑*i*P	**P**	**18 47 53.8**	**-0.7**
LTY	**Liberty**	**73.80**	**44**	P	**P**	**18 47 55.1**	**-0.3**
SSOR	**Sweet Springs**	**73.97**	**47**	*e*P	**P**	**18 47 56.9**	**+0.4**
UMR	**Umm Al-Rimmam**	**74.07**	**295**	*e*P	**P**	**18 47 56.9**	**-0.5**
UMR				AMb	AMB	18 47 58.2	
	comp=Z,112nm,0.7s,mb5.9						
MIB	**Mutribah**	**74.23**	**295**	*e*P	**P**	**18 47 57.8**	**-0.5**
MIB				AMb	AMB	18 47 59.3	
	comp=Z,143nm,0.7s,mb6.0						
HSO	**Harness Mounta**	**74.27**	**48**	*e*P	**P**	**18 47 59.0**	**+0.8**
KBD	**Kabd**	**74.27**	**295**	*e*P	**P**	**18 47 58.1**	**-0.4**
QRN	**Al-Qurain**	**74.31**	**294**	*e*P	**P**	**18 47 57.7**	**-1.1**
RDF	**Al-Radifah**	**74.50**	**295**	*e*P	**P**	**18 47 59.0**	**-0.9**
RDF				AMb	AMB	18 48 01.8	
	comp=Z,222nm,0.8s,mb6.2						
RST	**Umm Al-Ruwaisa**	**74.64**	**295**	*e*P	**P**	**18 47 59.7**	**-1.0**
RST				AMb	AMB	18 48 02.3	
	comp=Z,181nm,0.6s,mb6.2						
HUMO	**Hull Mountain**	**74.82**	**49**	*e*P	**P**	**18 48 01.7**	**+0.3**
	comp=Z,12nm,0.8s,mb4.9						
DPW	**Davenport**	**74.89**	**42**	*e*P	**P**	**18 48 01.5**	**-0.2**
HAWA	**Hanford**	**74.92**	**44**	⇑*e*P	**P**	**18 48 01.8**	**-0.2**
	comp=Z,109nm,1.6s,mb5.5						
AKASG	**Malin Array Be**	**75.13**	**321**	P	**P**	**18 48 01.9**	**-1.2**
	comp=Z,20nm,0.6s,mb5.2,baz=47,slow=6.1,SNR=113						
AKASG				LR	LR	19 22 29.4	
	comp=Z,597nm,19.2s,MS4.9,baz=50,slow=37						
AKASG	**Malin Array Be**	**75.13**	**321**	P	**P**	**18 48 01.9**	**-1.2**
AKASG				pmax	pmax		
	comp=Z,20nm,0.6s						
AKASG				MLR	MLR		
	comp=Z,597nm,19.2s						
NEW	**Newport**	**75.28**	**42**	P	**P**	**18 48 03.8**	**-0.1**
	comp=Z,9.4nm,0.6s,mb4.9,baz=305,slow=5.9,SNR=22						
NEW	**Newport**	**75.28**	**42**	⇑*e*P	**P**	**18 48 03.7**	**-0.2**
NEW				pmax	pmax		
	comp=Z,13nm,0.7s						
NEW	**Newport**	**75.28**	**42**	⇑*e*P	**P**	**18 48 03.7**	**-0.2**
	comp=Z,13nm,0.7s,mb5.0						
YBH	**Yreka Blue Hor**	**75.44**	**50**	P	**P**	**18 48 05.2**	**+0.2**
	comp=Z,6.7nm,0.7s,mb4.7,baz=31,slow=4.2,SNR=15						
YBH	**Yreka Blue Hor**	**75.44**	**50**	P	**P**	**18 48 05.2**	**+0.2**
YBH				pmax	pmax		
	comp=Z,7.0nm,0.7s						
SIM	**Simferopol’**	**75.56**	**314**	*ce*P	**P**	**18 48 05.6**	**0.0**
SIM				*e*S	S	18 57 44.9	+0.5
SIM				pmax	pmax		
	comp=Z,180nm,9.9s						
LNOR	**Lincton Mounta**	**75.93**	**44**	*e*P	**P**	**18 48 07.9**	**+0.2**
HFS	**Hagfors**	**76.07**	**335**	P	**P**	**18 48 07.1**	**-1.1**
	comp=Z,15nm,0.5s,mb5.2,baz=90,slow=4.4,SNR=8.3						
HFS	**Hagfors**	**76.07**	**335**	P	**P**	**18 48 07.1**	**-1.1**
HFS				pmax	pmax		
	comp=Z,15nm,0.5s						
WDC	**Whiskeytown Da**	**76.15**	**51**	*e*P	**P**	**18 48 08.9**	**-0.2**
WDC				pmax	pmax		
	comp=Z,56nm,1.4s,mb5.3						
WDC	**Whiskeytown Da**	**76.15**	**51**	*e*P	**P**	**18 48 08.8**	**-0.2**
	comp=Z,56nm,1.5s,mb5.3						
SUW	**Suwalki**	**76.17**	**326**	⇑*e*P	**P**	**18 48 08.1**	**-0.8**
SUW				MLR	MLR		
	comp=Z,2µm,19.8s,MS5.4						
NB2	**NORSAR Subarra**	**76.30**	**336**	P	**P**	**18 48 08.6**	**-0.9**
	comp=Z,860nm,3.3s,baz=43,slow=5.6						
NB2	**NORSAR Subarra**	**76.30**	**336**	P	**P**	**18 48 08.6**	**-0.9**
	baz=43,slow=5.6						
NOA	**NORSAR Array B**	**76.30**	**336**	P	**P**	**18 48 08.5**	**-1.0**
	comp=Z,8.5nm,0.6s,mb4.9,baz=45,slow=5.6,SNR=28						
NOA				LR	LR	19 26 35.6	
	comp=Z,1µm,18.9s,MS5.2,baz=25,slow=40						
NOA	**NORSAR Array B**	**76.30**	**336**	P	**P**	**18 48 08.5**	**-1.0**
NOA				pmax	pmax		
	comp=Z,9.0nm,0.6s						
NOA				MLR	MLR		
	comp=Z,1µm,18.9s						
NOA	**NORSAR Array B**	**76.30**	**336**	P	**P**	**18 48 08.5**	**-1.0**
NOA				LR	LR	19 26 35.6	
MALT	**Malatya**	**76.33**	**307**	⇑*i*P	**P**	**18 48 10.6**	**+0.5**
	comp=Z,61nm,1.0s,mb5.5						
MOL	**Molde**	**76.36**	**338**	*e*P	**P**	**18 48 11.6**	**+1.8**
MOD	**Modoc**	**76.87**	**48**	⇑*e*P	**P**	**18 48 13.2**	**+0.1**
	comp=Z,14nm,0.7s,mb5.0						
KIS	**Kishinev**	**77.47**	**318**	α*i*P	**P**	**18 48 15.0**	**-1.3**
KIS				*e*		18 48 24.0	
KIS				*e*		18 51 10.0	
KIS				*i* S	S	18 58 04.0	-1.2
KIS				*e*PS	SKS	18 58 20.0	-10
KIS				pmax	pmax		
	comp=Z,500nm,10.0s						
OHCM	**Honcut**	**77.50**	**51**	*e*P	**P**	**18 48 16.1**	**-0.5**
RYDS	**Riyadh**	**77.58**	**291**	P	**P**	**18 48 15.5**	**-1.9**
WVOR	**Wild Horse Val**	**77.61**	**47**	*e*P	**P**	**18 48 17.3**	**+0.1**
WVOR				pmax	pmax		
	comp=Z,24nm,1.2s,mb5.0						
WVOR	**Wild Horse Val**	**77.61**	**47**	*e*P	**P**	**18 48 17.3**	**+0.1**
	comp=Z,24nm,1.3s,mb5.0						
MSO	**Missoula**	**77.87**	**42**	*e*P	**P**	**18 48 18.1**	**-0.4**
	comp=Z,2.8nm,0.6s,mb4.4						
KONO	**Kongsberg**	**77.87**	**336**	*e*	Px	18 48 48.1	
KONO				*e*SS	SS	19 03 10.7	-2.2
KONO				AMS	AMS	19 28 12.8	
	comp=Z,878nm,18.6s,MS5.1						
BEKR	**Beckwourth**	**77.94**	**50**	⇑*i*P	**P**	**18 48 19.0**	**0.0**
	comp=Z,41nm,1.1s,mb5.3						
ASMM	**Slate Mountain**	**78.30**	**51**	*e*P	**P**	**18 48 19.5**	**-1.5**
LVV	**L’vov**	**78.34**	**323**	*i* P	**P**	**18 48 21.0**	**0.0**
LVV				*e*S	S	18 58 13.0	-1.5
WCN	**Washoe City**	**78.64**	**50**	*e*P	**P**	**18 48 23.2**	**+0.3**
WCN				pmax	pmax		
	comp=Z,82nm,1.4s,mb5.5						
WCN	**Washoe City**	**78.64**	**50**	*e*P	**P**	**18 48 23.2**	**+0.3**
	comp=Z,82nm,1.5s,mb5.4						
PAHR	**Pah Rah Range**	**78.66**	**50**	*e*P	**P**	**18 48 23.0**	**+0.1**
	comp=Z,41nm,1.1s,mb5.3						
ODD1	**Odda**	**78.67**	**337**	*e*P	**P**	**18 48 21.9**	**-0.7**
ODD1				*e*pP	pP	18 48 25.8	-1.5
BRTR	**Keskin Array B**	**78.71**	**310**	P	**P**	**18 48 23.4**	**+0.1**
	comp=Z,65nm,0.8s,mb5.6,baz=108,slow=3.9,SNR=150						
BRTR	**Keskin Array B**	**78.71**	**310**	P	**P**	**18 48 23.4**	**+0.2**
BRTR				pmax	pmax		
	comp=Z,65nm,0.9s						
MZLS	**Mizel**	**78.79**	**291**	P	**P**	**18 48 24.8**	**+0.8**
FCC	**Fort Churchill**	**78.93**	**24**	⇑*e*P	**P**	**18 48 23.6**	**-0.4**
FCC				pmax	pmax		
	comp=Z,71nm,0.9s,mb5.6						
FCC	**Fort Churchill**	**78.93**	**24**	⇑*e*P	**P**	**18 48 23.6**	**-0.4**
	comp=Z,71nm,0.8s,mb5.7						
CMB	**Columbia Colle**	**78.93**	**52**	⇑*e*P	**P**	**18 48 24.2**	**-0.3**
CMB				pmax	pmax		
	comp=Z,100nm,1.4s,mb5.5						
CMB	**Columbia Colle**	**78.93**	**52**	⇑*e*P	**P**	**18 48 24.2**	**-0.3**
	comp=Z,102nm,1.4s,mb5.6						
BSD	**Bornholm Skovb**	**79.09**	**330**	⇑*i*P	**P**	**18 48 23.8**	**-1.2**
	comp=Z,46nm,0.9s,mb5.4						
BSD				*i*		18 51 23.1	
BSD				*i* S	S	18 58 20.8	-1.5
	comp=Z,1µm,16.0s						
KWP	**Kalwaria**	**79.13**	**323**	⇑*e*P	**P**	**18 48 25.9**	**+0.6**
KWP				MLR	MLR		
	comp=Z,5µm,17.2s,MS5.9						
VRI	**Vrincioaia**	**79.31**	**318**	⇑*i*P	**P**	**18 48 27.1**	**+0.7**
VRI	**Vrincioaia**	**79.31**	**318**	⇑*i*P	**P**	**18 48 27.1**	**+0.7**
BRD	**Bordesti**	**79.33**	**318**	⇑*i*P	**P**	**18 48 29.7**	**+3.2**
BRD	**Bordesti**	**79.33**	**318**	⇑*i*P	**P**	**18 48 29.7**	**+3.3**
GKP	**Gorka Klasztor**	**79.36**	**328**	⇑*e*P	**P**	**18 48 26.4**	**-0.1**
GKP				MLR	MLR		
	comp=Z,5µm,14.6s,MS6.0						
HLID	**Hailey**	**79.51**	**45**	⇑*e*P	**P**	**18 48 28.1**	**+0.6**
	comp=Z,19nm,1.1s,mb4.9						
LCCM	**Lewis and Clar**	**79.61**	**42**	P	**P**	**18 48 28.2**	**+0.2**
BMN	**Battle Mountai**	**79.62**	**48**	⇑*e*P	**P**	**18 48 28.5**	**+0.3**
BMN				pmax	pmax		
	comp=Z,17nm,0.8s,mb5.0						
BMN	**Battle Mountai**	**79.62**	**48**	⇑*e*P	**P**	**18 48 28.5**	**+0.3**
	comp=Z,17nm,0.8s,mb5.0						
HILS	**Ha’il**	**79.66**	**296**	P	**P**	**18 48 29.2**	**+0.6**
KOLS	**Kolonicke sedl**	**79.79**	**323**	*e*P	**P**	**18 48 29.0**	**+0.1**
KOLS				*e*PP	PP	18 51 30.7	-1.2
BOZ	**Bozeman (W)**	**79.86**	**42**	⇑*e*P	**P**	**18 48 29.5**	**+0.2**
BOZ				pmax	pmax		
	comp=Z,9.0nm,0.5s,mb5.0						
BOZ	**Bozeman (W)**	**79.86**	**42**	⇑*e*P	**P**	**18 48 29.5**	**+0.2**
	comp=Z,9.3nm,0.5s,mb5.0						
ISR	**Istrita**	**79.86**	**318**	⇑*i*P	**P**	**18 48 28.9**	**-0.5**
ISR	**Istrita**	**79.86**	**318**	⇑*i*P	**P**	**18 48 28.9**	**-0.4**
MLR	**Muntele Rosu**	**79.97**	**318**	P	**P**	**18 48 30.1**	**+0.2**
	comp=Z,13nm,0.5s,mb5.1,baz=354,slow=4.2,SNR=29						
MLR	**Muntele Rosu**	**79.97**	**318**	P	**P**	**18 48 30.1**	**+0.1**
MLR				pmax	pmax		
	comp=Z,13nm,0.5s						
UZH	**Uzhgorod**	**79.98**	**322**	*e*P	**P**	**18 48 31.0**	**+1.1**
UZH				*e*S	S	18 58 26.0	-5.8
OMM	**Old Mammoth Mi**	**80.08**	**52**	*e*P	**P**	**18 48 30.8**	**+0.1**
MNV	**Mina**	**80.16**	**50**	⇑*e*P	**P**	**18 48 31.1**	**0.0**
MNV				pmax	pmax		
	comp=Z,20nm,1.3s,mb4.9						
MNV	**Mina**	**80.16**	**50**	⇑*e*P	**P**	**18 48 31.1**	**0.0**
	comp=Z,20nm,1.4s,mb4.9						
OJC	**Ojcow**	**80.19**	**325**	⇑*i*P	**P**	**18 48 31.0**	**0.0**
OJC				*e**PP	pP	18 48 33.4	-2.4
OJC				*e*		18 51 29.8	
OJC				*e*S	S	18 58 32.2	-1.8
OJC				*e*SS	SS	19 03 46.2	-1.8
OJC				MLR	MLR		
	comp=Z,3µm,18.0s,MS5.7						
CRVS	**Cervenica-Dubn**	**80.23**	**323**	*e*P	**P**	**18 48 34.7**	**+3.5**
URZ	**Urewera**	**80.23**	**149**	P	**P**	**18 48 30.4**	**-1.1**
	comp=Z,12nm,0.7s,mb4.9,baz=342,slow=6.3,SNR=8.4						
MUD	**Monsted U’grnd**	**80.38**	**334**	⇓*i*P	**P**	**18 48 32.2**	**+0.3**
	comp=Z,18nm,0.8s,mb5.0						
MUD				*i*		18 51 40.4	
MUD				*i* S	S	18 58 38.0	+2.1
MUD				*i*		19 03 55.0	
	comp=Z,1µm,16.0s						
MUD	**Monsted U’grnd**	**80.38**	**334**	⇓*e*P	**P**	**18 48 32.2**	**+0.3**
	comp=Z,18nm,0.8s,mb5.0						
MUD				*i*		18 51 40.4	
MUD				*i* S	S	18 58 38.0	+2.1
MUD				*i*		19 03 55.0	
MTUM	**Tungsten Hills**	**80.51**	**52**	*e*P	**P**	**18 48 32.8**	**-0.1**
KONT	**Konya--Tatoy**	**80.53**	**309**	*i* PN	**P**	**18 48 31.4**	**-1.7**
AFFS	**‘Afif**	**80.56**	**292**	P	**P**	**18 48 34.1**	**+0.6**
ELK	**Elko**	**80.67**	**47**	⇑*e*P	**P**	**18 48 34.3**	**+0.5**
ELK				pmax	pmax		
	comp=Z,7.0nm,0.7s						
ELK	**Elko**	**80.67**	**47**	⇑*e*P	**P**	**18 48 34.3**	**+0.6**
	comp=Z,7.4nm,0.7s,mb4.7						
ASF	**Jabal al Asfar**	**80.67**	**302**	P	**P**	**18 48 34.2**	**+0.3**
	comp=Z,12nm,0.7s,mb4.9,baz=251,slow=2.0,SNR=15						
TPH	**Tonopah**	**80.97**	**50**	⇑*e*P	**P**	**18 48 35.8**	**+0.4**
TPH				pmax	pmax		
	comp=Z,37nm,1.3s,mb5.2						
TPH	**Tonopah**	**80.97**	**50**	⇑*e*P	**P**	**18 48 35.8**	**+0.4**
	comp=Z,37nm,1.4s,mb5.1						
KECS	**Kecovo**	**80.99**	**323**	*e*P	**P**	**18 48 35.4**	**+0.1**
RAC	**Raciborz**	**81.06**	**325**	*e*P	**P**	**18 48 36.1**	**+0.5**
RAC				*e*		18 51 39.6	
RAC				*e*S	S	18 58 44.7	+1.7
RAC				MLR	MLR		
	comp=E,2µm,25.6s						
RAC				MLR	MLR		
	comp=N,4µm,18.0s						
RAC				MLR	MLR		
	comp=Z,3µm,17.5s						
PHNC	**Paralimni**	**81.09**	**306**	P	**P**	**18 48 35.7**	**-0.4**
KAMS	**Al Khamasin**	**81.23**	**288**	P	**P**	**18 48 36.6**	**-0.5**
OKC	**Ostrava-Krasne**	**81.25**	**325**	⇑*e*P	**P**	**18 48 36.7**	**+0.1**
OKC				*e*S	S	18 58 50.4	+5.5
OKC				*e*SS	SS	19 04 36.1	+32
OKC				*e*x	x	19 10 08.2	
OKC				LR		19 27 20.0	
	comp=Z,2.4nm,16.5s						
OKC	**Ostrava-Krasne**	**81.25**	**325**	*e*P	**P**	**18 48 36.7**	**+0.1**
OKC				*e*S	S	18 58 50.4	+5.5
OKC				MLR	MLR		
	comp=Z,2µm,16.5s,MS5.6						
SZH	**Strazhica**	**81.34**	**316**	*i* P	**P**	**18 48 38.0**	**+0.8**
KSP	**Ksiaz**	**81.44**	**327**	⇑*e*P	**P**	**18 48 37.6**	**+0.1**
KSP				*e*	pP	18 48 44.1	+1.8
KSP				*e*		18 51 40.0	
KSP				*e*S	S	18 58 44.0	-2.9
KSP				*e*SS	SS	19 04 01.0	-5.6
KSP				MLR	MLR		
	comp=Z,3µm,20.1s,MS5.7						
KSP	**Ksiaz**	**81.44**	**327**	⇑*e*P	**P**	**18 48 37.6**	**+0.1**
KSP				*e*PcP	PcP	18 48 44.1	0.0
KSP				*e*PP	PP	18 51 40.0	-5.9
KSP				*e*S	S	18 58 44.0	-2.9
KSP				*e*SS	SS	19 04 01.0	-5.6
KSP				*e*SSS	Sx	19 08 00.0	
KSP				LR	LR		
	comp=Z,3µm,20.1s,MS5.7						
MOOW	**Moose Ponds**	**81.52**	**43**	*e*P	**P**	**18 48 39.0**	**+0.9**
HVU	**Hansel Valley**	**81.54**	**45**	⇑*e*P	**P**	**18 48 39.0**	**+0.7**
MAMC	**Mammari**	**81.54**	**307**	⇑P	**P**	**18 48 38.1**	**-0.4**
MAMC	**Mammari**	**81.54**	**307**	⇑*i*P	**P**	**18 48 38.1**	**-0.4**
TPAW	**Teton Pass**	**81.56**	**43**	⇑*e*P	**P**	**18 48 39.5**	**+1.1**
MORC	**Moravsky Berou**	**81.58**	**325**	⇑*e*P	**P**	**18 48 38.3**	**0.0**
MORC				pmax	pmax		
	comp=Z,30nm,1.2s,mb5.1						
MORC	**Moravsky Berou**	**81.58**	**325**	⇑*e*P	**P**	**18 48 38.3**	**0.0**
	comp=Z,30nm,1.3s,mb5.1						
CSS	**Prodhromos**	**81.59**	**306**	⇑P	**P**	**18 48 38.4**	**-0.3**
	comp=Z,0.7nm,0.7s						
CSS	**Prodhromos**	**81.59**	**306**	⇑*e*P	**P**	**18 48 38.4**	**-0.3**
	comp=Z,0.7nm,0.7s						
PSZ	**Piszkesteto**	**81.66**	**323**	⇑*e*P	**P**	**18 48 39.2**	**+0.4**
PSZ	**Piszkesteto**	**81.66**	**323**	⇑*i*P	**P**	**18 48 39.1**	**+0.3**
PSZ				pmax	pmax		
	comp=Z,41nm,1.1s,mb5.3						
PSZ	**Piszkesteto**	**81.66**	**323**	⇑*i*P	**P**	**18 48 39.1**	**+0.3**
	comp=Z,41nm,1.1s,mb5.3						
LOHW	**Long Hollow**	**81.69**	**43**	*e*P	**P**	**18 48 39.6**	**+0.6**
REDW	**Red Top Meadow**	**81.70**	**43**	⇑*e*P	**P**	**18 48 39.7**	**+0.6**
DAC	**Darwin (Calif)**	**81.76**	**52**	⇑*e*P	**P**	**18 48 39.5**	**-0.1**
DAC				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
DAC	**Darwin (Calif)**	**81.76**	**52**	⇑*e*P	**P**	**18 48 39.5**	**-0.1**
	comp=Z,8.1nm,0.8s,mb4.7						
DPC	**Dobruska-Polom**	**81.76**	**326**	⇑*i*P	**P**	**18 48 39.8**	**+0.6**
DPC				*e*S	S	18 58 54.3	+4.1
DPC				*e*SS	SS	19 04 20.2	+8.7
DPC				*e*x	x	19 10 17.6	
DPC				LR		19 28 40.0	
	comp=Z,2.8nm,15.6s						
DPC	**Dobruska-Polom**	**81.76**	**326**	⇑*i*P	**P**	**18 48 39.8**	**+0.6**
DPC				*e*S	S	18 58 54.3	+4.1
DPC				MLR	MLR		
	comp=Z,3µm,15.6s,MS5.7						
UPC	**Upice**	**81.80**	**326**	⇑*e*P	**P**	**18 48 39.8**	**+0.4**
VYHS	**Vyhne**	**81.81**	**324**	*i* P	**P**	**18 48 40.1**	**+0.6**
VYHS				*e*		18 48 52.4	
VYHS				*e*PP	PP	18 51 48.6	-0.4
BSEG	**Bad Segeberg**	**81.81**	**331**	*e*P	**P**	**18 48 39.0**	**-0.4**
BSEG				pmax	pmax		
	comp=Z,66nm,1.4s,mb5.4						
BGU	**Big Grassy Mou**	**81.91**	**46**	*e*P	**P**	**18 48 40.7**	**+0.5**
DGMT	**Dagmar**	**81.97**	**36**	⇓*e*P	**P**	**18 48 40.2**	**-0.2**
	comp=Z,20nm,0.5s,mb5.3						
DGMT				LR	LR		
	comp=Z,772nm,20.0s,MS5.1						
ALFC	**Alevga**	**81.97**	**307**	P	**P**	**18 48 40.3**	**-0.4**
	comp=Z,1.2nm,0.6s						
SZAC	**Souni-Zanaja**	**82.01**	**306**	⇑P	**P**	**18 48 40.8**	**-0.1**
SZAC	**Souni-Zanaja**	**82.01**	**306**	⇑*i*P	**P**	**18 48 40.8**	**-0.1**
SPUT	**South Promonto**	**82.02**	**45**	⇑*e*P	**P**	**18 48 41.3**	**+0.5**
LAO	**LASA Array**	**82.12**	**38**	⇑*e*P	**P**	**18 48 41.4**	**+0.2**
	comp=Z,32nm,0.9s,mb5.2						
LAO				LR	LR		
	comp=Z,744nm,21.0s,MS5.0						
TPNV	**Topopah Spring**	**82.25**	**51**	⇑*e*P	**P**	**18 48 42.5**	**+0.4**
TPNV				pmax	pmax		
	comp=Z,31nm,0.9s,mb5.2						
TPNV				MLR	MLR		
	comp=Z,850nm,22.0s,MS5.1						
TPNV	**Topopah Spring**	**82.25**	**51**	⇑*e*P	**P**	**18 48 42.5**	**+0.4**
	comp=Z,31nm,0.8s,mb5.3						
TPNV				LR	LR		
	comp=Z,851nm,22.0s,MS5.1						
PPCY	**Paphos**	**82.30**	**307**	⇑P	**P**	**18 48 41.8**	**-0.6**
PPCY	**Paphos**	**82.30**	**307**	⇑*e*P	**P**	**18 48 41.8**	**-0.6**
VRAC	**Vranov**	**82.35**	**325**	P	**P**	**18 48 42.9**	**+0.6**
	comp=Z,43nm,1.1s,mb5.3,baz=61,slow=5.3,SNR=50						
HWUT	**Hardware Ranch**	**82.37**	**45**	⇑*e*P	**P**	**18 48 43.3**	**+0.7**
	comp=Z,35nm,1.5s,mb5.1						
KBRS	**Khaybar**	**82.42**	**296**	P	**P**	**18 48 44.2**	**+1.0**
PVCC	**Panska Ves**	**82.44**	**327**	⇑*e*P	**P**	**18 48 43.1**	**+0.3**
PVCC				*e*S	S	18 58 58.5	+1.3
PVCC				*e*x	x	19 04 53.2	
PVCC				*e*SKKP		19 10 35.7	
PVCC				LR		19 30 10.0	
	comp=Z,2.3nm,14.2s						
PVCC	**Panska Ves**	**82.44**	**327**	*e*P	**P**	**18 48 43.1**	**+0.3**
PVCC				*e*S	S	18 58 58.5	+1.3
PVCC				MLR	MLR		
	comp=Z,2µm,14.2s,MS5.7						
DUG	**Dugway**	**82.48**	**47**	⇑*e*P	**P**	**18 48 43.9**	**+0.7**
DUG				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.9						
DUG				MLR	MLR		
	comp=Z,380nm,20.0s,MS4.8						
DUG	**Dugway**	**82.48**	**47**	⇑*e*P	**P**	**18 48 43.9**	**+0.6**
	comp=Z,8.5nm,0.6s,mb4.8						
DUG				LR	LR		
	comp=Z,380nm,20.0s,MS4.8						
BRG	**Berggiesshubel**	**82.48**	**328**	*e*P	**P**	**18 48 42.9**	**-0.1**
BRG				*e*		18 51 53.0	
BRG				*e*S	S	18 59 01.0	+3.4
BRG				pmax	pmax		
	comp=Z,124nm,1.9s,mb5.5						
BRG				MLR	MLR		
	comp=N,2µm,14.4s,MS5.8						
BRG				MLR	MLR		
	comp=E,2µm,14.4s,MS5.8						
BRG				MLR	MLR		
	comp=Z,3µm,14.4s,MS5.8						
BRG	**Berggiesshubel**	**82.48**	**328**	*e*P	**P**	**18 48 42.9**	**-0.1**
	comp=Z,124nm,1.9s,mb5.5						
BRG				*e*PP	PP	18 51 53.0	-1.3
BRG				*e*S	S	18 59 01.0	+3.4
BRG				*e*SS	SS	19 04 28.0	+5.7
BRG				LR	LR		
	comp=Z,3µm,14.4s,MS5.8						
SMOL	**Smolenice**	**82.49**	**324**	*e*P	**P**	**18 48 44.2**	**+1.1**
TATS	**Tathlith**	**82.51**	**288**	P	**P**	**18 48 44.1**	**+0.4**
RPZ	**Rata Peaks**	**82.58**	**156**	P	**P**	**18 48 44.1**	**+0.4**
	comp=Z,5.6nm,0.6s,mb4.8,baz=168,slow=5.0,SNR=4.1						
CLL	**Collm**	**82.59**	**328**	⇑P	**P**	**18 48 43.2**	**-0.3**
	comp=Z,logA/T=1.9,mb5.7						
CLL				*e*PP	PP	18 51 56.0	+0.8
CLL				*e*S	S	18 59 06.0	+7.3
CLL				*e*SS	SS	19 04 39.0	+15
CLL				*e*SSS	SSS	19 08 03.0	+15
CLL	**Collm**	**82.59**	**328**	⇑*i*P	**P**	**18 48 43.2**	**-0.3**
CLL				pmax	pmax		
	comp=Z,122nm,1.6s,mb5.7						
CLL				MLR	MLR		
	comp=Z,2µm,19.4s,MS5.5						
CLL	**Collm**	**82.59**	**328**	⇑*i*P	**P**	**18 48 43.2**	**-0.3**
	comp=Z,122nm,1.6s,mb5.7						
CLL				*e*S	S	18 59 06.0	+7.3
CLL				LR	LR		
	comp=Z,2µm,19.4s,MS5.5						
MWC	**Mount Wilson**	**82.63**	**54**	⇑*e*P	**P**	**18 48 43.9**	**-0.2**
MANT	**Manisa**	**82.65**	**311**	*i* P	**P**	**18 48 45.6**	**+1.5**
ALN	**Alexandroupoli**	**82.73**	**315**	*e*P	**P**	**18 48 43.8**	**-0.6**
TCUT	**Toone Canyon**	**82.76**	**45**	⇑*e*P	**P**	**18 48 44.5**	**-0.2**
PGB	**Panagyurishte**	**82.80**	**317**	*i* P	**P**	**18 48 46.0**	**+1.2**
PDAR	**Pinedale Array**	**82.81**	**43**	P	**P**	**18 48 45.0**	**+0.1**
	comp=Z,7.7nm,0.7s,mb4.8,baz=143,slow=1.0,SNR=45						
PRU	**Pruhonice**	**82.83**	**327**	⇑*i*P	**P**	**18 48 44.7**	**-0.1**
	comp=Z,111nm,1.5s,mb5.7						
PRU				PP	PP	18 51 55.9	-1.3
PRU				*e*S	S	18 59 01.4	+0.2
PRU				*e*SS	SS	19 04 35.5	+7.8
PRU				*e*x	x	19 10 55.9	
PRU				LR		19 29 10.0	
	comp=Z,2.9nm,15.0s						
PRU	**Pruhonice**	**82.83**	**327**	⇑*i*P	**P**	**18 48 44.7**	**-0.1**
PRU						18 51 55.9	
PRU				*e*S	S	18 59 01.4	+0.2
PRU				pmax	pmax		
	comp=Z,111nm,1.5s,mb5.7						
PRU				MLR	MLR		
	comp=Z,3µm,15.0s,MS5.8						
ZST	**Bratislava**	**82.86**	**324**	*i* P	**P**	**18 48 45.7**	**+0.7**
RZN	**Rozhen**	**83.02**	**316**	*i* P	**P**	**18 48 47.0**	**+1.0**
JLU	**Jordanelle**	**83.06**	**46**	*e*P	**P**	**18 48 46.7**	**+0.5**
NLU	**North Lily Min**	**83.08**	**46**	⇑*e*P	**P**	**18 48 46.7**	**+0.4**
TBKS	**Tabuk**	**83.10**	**299**	P	**P**	**18 48 47.3**	**+0.6**
JMQS	**Jabal Moqyreh**	**83.22**	**300**	P	**P**	**18 48 47.5**	**+0.3**
BOLS	**Boljevac**	**83.23**	**319**	⇑*i*P	**P**	**18 48 46.6**	**-0.4**
DAU	**Daniels Canyon**	**83.29**	**46**	*e*P	**P**	**18 48 48.4**	**+1.0**
MPU	**Maple Canyon**	**83.31**	**46**	⇑*e*P	**P**	**18 48 48.1**	**+0.6**
VTS	**Vitosha**	**83.32**	**317**	*i* P	**P**	**18 48 48.0**	**+0.5**

CLZ	Clausthal	83.33	330	eP	P	18 48 47.3	0.0
	comp=Z,105nm,1.2s,mb5.7						
SVIS	Svilajnac	83.33	319⇑	iP	P	18 48 47.4	-0.1
DJNS	Zahran al Janu	83.44	287	P	P	18 48 49.3	+0.7
EIL	Elat	83.45	301	P	P	18 48 48.4	0.0
	comp=Z,34nm,1.2s,mb5.2,baz=311,slow=2.8,SNR=18						
EIL	Elat	83.45	301	eP	P	18 48 48.3	-0.1
	comp=Z,76nm,1.3s,mb5.6						
SOP	Sopron	83.48	324⇑	iPcP	PcP	18 48 48.7	-4.4
HOPOS	Hopovo Monaste	83.53	321	eP	P	18 48 48.1	-0.4
ALWS	Ilw as Safayha	83.57	301	P	P	18 48 49.5	+0.5
NKC	Novy Kostel	83.61	328⇑	iP	P	18 48 48.9	+0.2
NKC				eS	S	18 59 12.4	+3.5
NKC				eSS	SS	19 04 46.0	+7.4
NKC				ex	x	19 11 02.9	
NKC				LR		19 29 40.0	
	comp=Z,3.2nm,14.1s						
NKC	Novy Kostel	83.61	328⇑	iP	P	18 48 48.9	+0.2
NKC				eS	S	18 59 12.4	+3.5
NKC				MLR	MLR		
	comp=Z,3µm,14.1s,MS5.8						
JMOS	Jabal al Moall	83.62	301	P	P	18 48 49.8	+0.5
MMB	Musomiste	83.66	316	i P	P	18 48 50.0	+0.8
MOX	Moxa	83.68	329⇑	iP	P	18 48 49.1	0.0
	comp=Z,logA/T=1.8,mb5.7						
MOX				S	S	18 59 14.0	+4.4
MOX				SS	SS	19 04 33.0	-6.5
MOX				L		19 30 07.0	
MOX	Moxa	83.68	329	eP	P	18 48 49.1	0.0
MOX				pmax	pmax		
	comp=Z,99nm,1.6s,mb5.7						
MOX				MLR	MLR		
	comp=Z,2µm,19.0s,MS5.4						
MOX	Moxa	83.68	329	eP	P	18 48 49.1	0.0
	comp=Z,99nm,1.6s,mb5.7						
MOX				LR	LR		
	comp=Z,2µm,19.0s,MS5.4						
HAQS	Haql	83.81	301	P	P	18 48 50.7	+0.4
BLJS	Baljurashi	83.82	290	P	P	18 48 51.4	+0.9
KKB	Krupnik	83.86	317	i P	P	18 48 50.0	-0.2
GRUS	Gruza	83.88	319⇓	iP	P	18 48 50.4	+0.1
KHC	Kasperske Hory	83.89	327⇑	iP	P	18 48 50.3	+0.1
KHC				x	x	18 48 59.5	
KHC				eS	S	18 59 15.3	+3.6
KHC				eSS	SS	19 04 49.2	+6.7
KHC				ex	x	19 11 11.2	
KHC				LR		19 30 00.0	
	comp=Z,4.3nm,15.2s						
KHC	Kasperske Hory	83.89	327⇑	iP	P	18 48 50.3	+0.1
KHC				e		18 48 59.5	
KHC				eS	S	18 59 15.3	+3.6
KHC				MLR	MLR		
	comp=Z,4µm,15.2s,MS5.9						
KHC	Kasperske Hory	83.89	327⇑	iP	P	18 48 50.3	+0.1
KHC				e		18 48 59.5	
KHC				eS	S	18 59 15.3	+3.6
KHC				eSS	SS	19 04 49.2	+6.7
KHC				e		19 11 11.2	
KHC				LR	LR		
	comp=Z,4µm,15.2s,MS5.9						
MSU	Marysvale	83.90	48	eP	P	18 48 51.8	+1.3
NEN	Nelson	83.93	51⇑	eP	P	18 48 50.9	+0.1
BARS	Barje	83.96	318⇑	iP	P	18 48 51.1	+0.3
GEC2	GERESS Array S	84.03	326	eP	P	18 48 50.9	0.0
GEC2				pmax	pmax		
	comp=Z,103nm,1.5s,mb5.7						
GEC2	GERESS Array S	84.03	326	eP	P	18 48 50.9	0.0
	comp=Z,103nm,1.5s,mb5.7						
GERES	GERESS Array B	84.03	326	P	P	18 48 50.8	-0.2
	comp=Z,16nm,0.8s,mb5.2,baz=45,slow=3.8,SNR=89						
GERES				PKKPbc		19 07 06.0	
	comp=Z,0.6nm,0.8s,baz=225,slow=3.8,SNR=4.1						
BDAS	Al Bad‘	84.04	300	P	P	18 48 52.1	+0.7
SRS	Serrai	84.04	316	eP	P	18 48 50.5	-0.7
KPJ	Monastery St.	84.05	317⇑	iP	P	18 48 52.0	+0.8
AYUS	‘Aynunah	84.05	300	P	P	18 48 51.9	+0.3
PFO	Pinyon Flat Ob	84.07	54⇑	eP	P	18 48 51.1	-0.4
PFO				pmax	pmax		
	comp=Z,67nm,1.5s,mb5.5						
PFO				MLR	MLR		
	comp=Z,240nm,21.0s,MS4.5						
PFO	Pinyon Flat Ob	84.07	54⇑	eP	P	18 48 51.1	-0.4
	comp=Z,67nm,1.5s,mb5.5						
PFO				LR	LR		
	comp=Z,237nm,21.0s,MS4.5						
LDFC	Landfair	84.10	52⇑	eP	P	18 48 51.4	-0.2
TAYS	Tayyib Ism	84.14	300	P	P	18 48 52.1	+0.1
YNBS	Yanbu‘ al Bahr	84.18	295	P	P	18 48 52.5	+0.3
UMJS	Umm Lajj	84.19	296	P	P	18 48 53.0	+0.7
WET	Wettzell	84.20	327	eP	P	18 48 51.8	0.0
WET				pmax	pmax		
	comp=Z,98nm,1.5s,mb5.7						
WET	Wettzell	84.20	327	eP	P	18 48 51.8	0.0
	comp=Z,98nm,1.5s,mb5.7						
ARSA	Arzberg	84.29	324⇑	iP	P	18 48 52.5	+0.2
	comp=Z,178nm,1.8s,mb5.9						
SOH	Sokhos	84.37	316	eP	P	18 48 52.4	-0.4
KNT	Kendrikon	84.41	316	eP	P	18 48 51.8	-1.3
BAR	Barrett	84.47	54	eP	P	18 48 53.3	-0.2
MOA	Molln	84.47	325⇑	iP	P	18 48 53.5	+0.3
	comp=Z,165nm,1.7s,mb5.9						
VAY	Valandovo	84.50	317⇑	iP	P	18 48 53.5	0.0
LTHS	Al Lith	84.54	291	P	P	18 48 54.7	+0.5
SRU	San Rafael	84.54	46⇑	eP	P	18 48 54.2	+0.5
GRA1	Grafenberg Arr	84.55	328	eP	P	18 48 53.8	+0.3
	comp=Z,296nm,1.5s,mb6.2						
GRA1				eS	S	18 59 17.0	-1.2
GRA1				LR	LR		
	comp=Z,2µm,19.1s,MS5.5						
GRF	Grafenberg Arr	84.55	328	eP	P	18 48 53.8	+0.3
GRF				eS	S	18 59 17.0	-1.2
GRF				pmax	pmax		
	comp=Z,296nm,1.5s,mb6.2						
GRF				MLR	MLR		
	comp=Z,2µm,19.1s,MS5.5						
GRFO	Grafenberg	84.55	328	P	P	18 48 53.9	+0.4
ULM	Lac du Bonnet	84.57	31	P	P	18 48 53.0	-0.6
	comp=Z,41nm,1.1s,mb5.5,baz=335,slow=4.2,SNR=13						
ULM				LR	LR	19 29 21.7	
	comp=Z,775nm,20.1s,MS5.1,baz=8.3,slow=38						
NVSS	Nova Varos 2	84.68	320⇓	iP	P	18 48 54.8	+0.4
WTSB	Winterswijk	84.69	332⇓	eP	P	18 48 54.0	-0.2
	comp=Z,34nm,1.5s,mb5.3						
THE	Thessaloniki	84.72	316	eP	P	18 48 54.5	0.0
SKO	Skopje	84.73	318⇑	iP	P	18 48 55.5	+0.9
	comp=Z,0.1nm,0.7s						
GRG	Griva	84.83	316	eP	P	18 48 55.0	-0.2
GROS	Grobnik	84.85	324⇑	eP	P	18 48 54.7	-0.4
GROS				ePP	PP	18 52 19.5	+6.2
RSSD	Black Hills	84.97	39	eP	P	18 48 55.4	-0.4
RSSD				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb5.0						
RSSD				MLR	MLR		
	comp=Z,580nm,19.0s,MS5.0						
RSSD	Black Hills	84.97	39	eP	P	18 48 55.4	-0.4
	comp=Z,9.6nm,0.7s,mb5.0						
RSSD				LR	LR		
	comp=Z,580nm,19.0s,MS5.0						
SISC	Sisak	85.10	323	i P	P	18 48 56.6	+0.2
FRSS	Farasan al Kab	85.11	287	P	P	18 48 58.4	+1.4
LIT	Litokhoron	85.33	316	eP	P	18 48 57.2	-0.5
XOR	Xorichti	85.39	315	eP	P	18 48 57.8	-0.1
KBA	Koelnbreinsper	85.46	325⇑	iP	P	18 48 57.7	-0.4
	comp=Z,226nm,2.5s,mb5.9						
EKA	Eskdalemuir Ar	85.48	339	P	P	18 48 57.6	-0.4
	comp=Z,3.7nm,0.6s,mb4.7,baz=23,slow=5.4,SNR=7.6						
EKA	Eskdalemuir Ar	85.48	339	P	P	18 48 57.6	-0.4
EKA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ESK	Eskdalemuir	85.51	339	P	P	18 48 57.4	-0.7
ESK				MLR	MLR		
	comp=Z,200nm,20.0s,MS4.5						
SIND	Sindeldorf	85.51	329⇑	eP	P	18 48 57.9	-0.4
FNA	Florina	85.54	317	eP	P	18 48 58.2	-0.5
LJU	Ljubljana	85.62	324⇑	eP	P	18 48 58.5	-0.5
LJU				ePP	PP	18 52 19.8	+0.3
LJU				eS	S	18 59 28.0	-0.9
LJU	Ljubljana	85.62	324⇑	eP	P	18 48 58.5	-0.5
LJU				ePP	PP	18 52 19.8	+0.3
LJU				eS	S	18 59 18.0	-11
FUR	Furstenfeldbru	85.64	327	eP	P	18 48 59.0	0.0
FUR				pmax	pmax		
	comp=Z,264nm,1.6s,mb6.2						
FUR	Furstenfeldbru	85.64	327	eP	P	18 48 59.0	0.0
	comp=Z,264nm,1.6s,mb6.2						
VISS	Visnje	85.64	324⇑	eP	P	18 48 58.1	-1.0
VISS				eS	S	18 59 28.1	-1.0
VISS				e		19 00 21.8	
VISS				e		19 00 34.7	
OHR	Ohrid	85.65	317⇑	iP	P	18 48 58.7	-0.5
TOD	Tromm	85.66	329⇑	eP	P	18 48 58.9	-0.2
TOD	Tromm	85.66	329	eP	P	18 48 59.0	-0.1
SWS	Schriesheim	85.80	329⇑	eP	P	18 48 59.4	-0.3
HDH	Heidenheim	85.81	328⇑	eP	P	18 48 59.4	-0.4
PV10	Paradox Valley	85.90	46	eP	P	18 49 01.8	+1.2
HGN	Heimansgroeve	85.97	331	eP	P	18 49 00.0	-0.5
	comp=Z,38nm,1.1s,mb5.5						
HGN	Heimansgroeve	85.97	331	eS	S	18 59 29.1	-3.0
ABH	Alteburg	85.99	330⇑	eP	P	18 49 00.3	-0.4
FVI	Forni Avoltri	86.08	325	eP	P	18 49 00.3	-0.9
GMNA	Gemona	86.09	325	eP	P	18 49 00.5	-0.7
WATA	Walderalm	86.11	326⇑	iP	P	18 49 01.2	-0.1
	comp=Z,18nm,1.3s,mb5.1						
STU	Stuttgart	86.12	328	eP	P	18 49 00.9	-0.5
STU				pmax	pmax		
	comp=Z,110nm,1.2s,mb6.0						
STU	Stuttgart	86.12	328	eP	P	18 49 00.9	-0.4
	comp=Z,107nm,1.2s,mb6.0						
WTTA	Wattenberg	86.13	326⇑	iP	P	18 49 00.9	-0.6
	comp=Z,426nm,3.6s						
PPT	Papeete	86.17	114	eS	S	18 59 32.4	-2.3
PPT				eSS	SS	19 05 07.5	-10
PPT				eL		19 11 41.2	
PPT				eR		19 15 21.0	
	comp=Z,818nm,24.8s,baz=307						
KTD	Kalmit	86.19	329	eP	P	18 49 01.4	-0.3
WUAZ	Wupatki	86.25	50⇑	eP	P	18 49 02.8	+0.4
	comp=Z,45nm,1.2s,mb5.6						
MEV	Metsovon	86.28	316	eP	P	18 49 03.4	+1.1
BUCH	Bad Urach	86.29	328⇑	eP	P	18 49 02.1	-0.1
MOTA	Moosalm	86.32	327⇑	iP	P	18 49 02.2	-0.2
	comp=Z,36nm,1.5s,mb5.4						
RUP	Ruppelstein	86.33	330⇑	eP	P	18 49 02.2	-0.2
RUP	Ruppelstein	86.33	330	eP	P	18 49 02.0	-0.4
PV01	Paradox Valley	86.34	46	eP	P	18 49 03.2	+0.5
SQTA	Sankt Quirin	86.36	326⇑	iP	P	18 49 02.4	-0.2
	comp=Z,38nm,1.5s,mb5.4						
LBG	Lerchenberg	86.37	329⇑	eP	P	18 49 02.4	-0.2
NVLJ	Novalja	86.50	323	i P	P	18 49 01.8	-1.5
UBR	Uberruh	86.53	327⇑	eP	P	18 49 02.9	-0.5
LANF	Langenberg	86.56	329	eP	P	18 49 03.5	0.0
GUT	Gutenstein	86.68	328⇑	eP	P	18 49 03.5	-0.6
SPAK	Spaichingen	86.80	328⇑	eP	P	18 49 04.1	-0.6
BFO	Black Forest	86.83	329	eP	P	18 49 04.2	-0.7
BFO				pmax	pmax		
	comp=Z,68nm,1.4s,mb5.7						
BFO	Black Forest	86.83	329	eP	P	18 49 04.2	-0.7
	comp=Z,68nm,1.4s,mb5.7						
DAVA	Damuels	86.92	327⇑	iP	P	18 49 05.0	-0.3
	comp=Z,214nm,2.0s,mb6.0						
GIVF	Givet	86.93	332	eP	P	18 49 04.6	-0.7
	comp=Z,120nm,1.4s,mb5.6						
IDI	Anoyia	86.93	311	P	P	18 49 04.7	-1.0
	comp=Z,31nm,0.6s,mb5.7,baz=20,slow=9.1,SNR=24						
IGT	Igoumenitsa	86.96	316	eP	P	18 49 05.1	-0.6
ISCO	Idaho Springs	87.00	43	eP	P	18 49 06.8	+0.9
ISCO				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb5.0						
ISCO				MLR	MLR		
	comp=Z,420nm,20.0s,MS4.8						
ISCO	Idaho Springs	87.00	43	eP	P	18 49 06.8	+1.0
	comp=Z,8.4nm,0.9s,mb5.0						
ISCO				LR	LR		
	comp=Z,420nm,20.0s,MS4.8						
CTI	Castel Tesino	87.01	325	eP	P	18 49 05.0	-0.8
WLS	Welschbruch	87.19	329	eP	P	18 49 06.5	-0.1
BAIF	Baives	87.21	332	eP	P	18 49 05.9	-0.7
	comp=Z,43nm,1.2s,mb5.3						
CDF	Champ du Feu	87.22	329	eP	P	18 49 06.3	-0.5
LIBD	Limburg	87.28	329⇑	eP	P	18 49 06.9	-0.2
LIBD	Limburg	87.28	329	eP	P	18 49 07.1	0.0
KIZ	Kirchzarten	87.30	329⇑	eP	P	18 49 06.3	-0.8
BRMO	Bormio	87.30	326	eP	P	18 49 07.6	+0.4
DAVOX	Davos	87.30	327	P	P	18 49 07.1	0.0
	comp=Z,18nm,0.6s,mb5.5,baz=358,slow=1.6,SNR=32						
FELD	Feldberg	87.32	329⇑	eP	P	18 49 06.5	-0.7
ECH	Echery	87.43	329	eP	P	18 49 07.2	-0.5
MOF	Molkenrain	87.72	329	eP	P	18 49 08.6	-0.5
BBS	Basel-Blauen	87.85	328⇑	eP	P	18 49 09.1	-0.7
HINF	Hinteralfeld	87.86	329	eP	P	18 49 08.8	-1.0
THEF	They Montfort	87.92	330	eP	P	18 49 08.9	-1.2
HAU	Haudompre	87.93	329	eP	P	18 49 09.4	-0.8
	comp=Z,17nm,0.8s,mb5.0						
HAU				eR			
	comp=Z,2µm,18.0s						
LOMF	Lomont	88.23	329	eP	P	18 49 10.9	-0.7
SDCO	Great Sand Dun	88.43	45⇓	eP	P	18 49 13.5	+0.7
	comp=Z,26nm,2.0s,mb5.1						
SDCO				LR	LR		
	comp=Z,555nm,20.0s,MS5.0						
SFI	Santa Sofia	88.48	324	eP	P	18 49 13.9	+1.0
VAI	Varese	88.50	327	eP	P	18 49 12.0	-1.0
PGD	Poggio Sodo	88.57	324	eP	P	18 49 14.6	+1.3
ZCCA	Zocca	88.58	325	eP	P	18 49 14.8	+1.4
VMG	Vicchio	88.59	324	eP	P	18 49 14.2	+0.8
NRCA	Norcia	88.62	322	eP	P	18 49 14.0	+0.4
CRE	Caprese Michel	88.64	324	eP	P	18 49 14.2	+0.6
TUC	Tucson	88.64	52	P	P	18 49 14.2	+0.2
TUC	Tucson	88.64	52⇑	eP	P	18 49 13.8	-0.2
TUC				pmax	pmax		
	comp=Z,17nm,1.3s,mb5.2						
TUC				MLR	MLR		
	comp=Z,600nm,22.0s,MS5.0						
TUC	Tucson	88.64	52⇑	eP	P	18 49 13.8	-0.1
	comp=Z,17nm,1.4s,mb5.2						
TUC				LR	LR		
	comp=Z,602nm,22.0s,MS5.0						
FNVD	Fontana Vidola	88.65	324	eP	P	18 49 13.8	+0.1
ASS	Assisi	88.69	323	eP	P	18 49 13.8	-0.2
MCGN	Macugnaga	88.78	327	eP	P	18 49 14.3	0.0
CII	Carovilli	88.80	321	eP	P	18 49 14.8	+0.3
AQU	L’Aquila	88.82	322⇑	eP	P	18 49 14.4	-0.2
AQU				pmax	pmax		
	comp=Z,47nm,1.1s,mb5.7						
AQU	L’Aquila	88.82	322	eP	P	18 49 15.2	+0.7
GRAM		88.92	325	P	P	18 49 14.8	-0.1
VALM		88.94	325	P	P	18 49 15.0	-0.1
BDI	Bagni Di Lucca	88.98	325	eP	P	18 49 14.4	-0.8
BOB	Bobbio (Coli)	89.01	326	eP	P	18 49 15.7	+0.3
ORO	Oropa	89.04	327	eP	P	18 49 14.8	-0.8
PTQR	Pietraquaria	89.06	322	eP	P	18 49 15.8	+0.1
CODM		89.10	325	P	P	18 49 14.9	-0.9
CABF	La Chapelle	89.13	329	eP	P	18 49 15.0	-0.9
	comp=Z,17nm,0.8s,mb5.2						
VINC	Vinca	89.14	325	P	P	18 49 14.3	-1.7
MAIM		89.14	325	P	P	18 49 14.5	-1.6
TRAV		89.23	327	P	P	18 49 16.1	-0.4
LSD	Ceresole Reale	89.54	327	P	P	18 49 17.7	-0.2
LOR	Lormes	89.56	330	eP	P	18 49 16.9	-1.0
	comp=Z,16nm,0.7s,mb5.2						
LOR				eR			
	comp=Z,1µm,19.5s						
PCP	Pian Castagno	89.60	326	P	P	18 49 17.2	-1.0
RSL	Roselend	89.60	328	eP	P	18 49 17.5	-0.7
LAZ	Ladron	89.64	48	eP	P	18 49 19.6	+0.9
TBI	Tubuai	89.67	118	eSS	SS	19 06 00.7	-7.2
TBI				eL		19 13 32.0	
TBI				eR		19 17 31.7	
	comp=Z,977nm,25.8s,baz=318						
LPL	La Plagne	89.69	328	eP	P	18 49 17.9	-0.7
	comp=Z,36nm,0.7s,mb5.5						
LPG	La Plagne	89.69	328	eP	P	18 49 18.2	-0.4
	comp=Z,40nm,0.7s,mb5.6						
ANMO	Albuquerque	89.70	47c	iP	P	18 49 19.5	+0.6
ANMO				pmax	pmax		
	comp=Z,4.0nm,1.8s						
ANMO	Albuquerque	89.70	47⇑	eP	P	18 49 19.4	+0.5
	comp=Z,22nm,1.4s,mb5.3						
RSP	Reno Superiore	89.73	327	P	P	18 49 18.9	+0.1
SSF	Saint Saulge	89.87	330	eP	P	18 49 18.5	-0.9
	comp=Z,19nm,1.0s,mb5.1						
SCHQ	Schefferville	89.90	14	P	P	18 49 20.1	+0.8
	comp=Z,8.6nm,0.7s,mb5.2,baz=25,slow=6.5,SNR=8.4						
SCHQ				LR	LR	19 33 29.4	
	comp=Z,898nm,18.8s,MS5.2,baz=100,slow=38						
FENE	Fenestrelle	89.91	327	P	P	18 49 18.7	-0.9
BHB	Bricherasio	89.97	327	P	P	18 49 18.7	-1.2
FIN	Finale Ligure	90.01	326	eP	P	18 49 19.0	-1.1
SMF	Signal de Mont	90.06	330	eP	P	18 49 19.6	-0.7
	comp=Z,30nm,1.0s,mb5.3						
FLN	La Foliniere	90.06	334	eP	P	18 49 19.4	-0.8
	comp=Z,16nm,0.7s,mb5.1						
FLN				eR			
	comp=Z,1µm,18.8s						
LDF	La Druitiere	90.07	333	eP	P	18 49 19.5	-0.8
	comp=Z,28nm,0.8s,mb5.3						
BNI	Bardonecchia	90.07	327	eP	P	18 49 20.3	-0.1
BNI				pmax	pmax		
	comp=Z,19nm,0.9s,mb5.4						
BNI	Bardonecchia	90.07	327	eP	P	18 49 20.3	-0.1
	comp=Z,19nm,0.9s,mb5.4						
ROB	Roburent	90.10	326	P	P	18 49 18.9	-1.7
BNM	Barren Site	90.12	48	eP	P	18 49 22.0	+1.1
RRL	Cesana Torines	90.12	327	P	P	18 49 20.3	-0.3
AVF	Avril sur Loir	90.15	330	eP	P	18 49 20.1	-0.6
	comp=Z,102nm,1.3s,mb5.7						
RORO		90.15	326	P	P	18 49 19.4	-1.4
MBDF	Montbardon	90.28	327	eP	P	18 49 20.0	-1.3
	comp=Z,23nm,0.8s,mb5.3						
PZZ	Prazzo	90.30	327	P	P	18 49 19.6	-1.8
MONE	Monesi	90.32	326	P	P	18 49 20.4	-1.1
ENR	Entracque	90.36	326	P	P	18 49 20.1	-1.6
IMI	Imperia	90.39	326	P	P	18 49 19.8	-2.0
STV2	Anna di Valdie	90.39	327	P	P	18 49 20.5	-1.4
SAOF	Saorge	90.48	326	eP	P	18 49 20.8	-1.5
GRR	Gorron	90.51	334	eP	P	18 49 21.7	-0.6
NEGI	Negi	90.52	326	P	P	18 49 20.7	-1.8
ORIF	Oris-en-Rattie	90.53	328	eP	P	18 49 21.7	-0.8
	comp=Z,15nm,0.8s,mb5.1						
ORIF				eR			
	comp=Z,3µm,17.5s						
AUTN	L’Aution	90.54	326	eP	P	18 49 19.7	-2.9
BGF	Bois d’Agland	90.55	330	eP	P	18 49 22.0	-0.5
	comp=Z,52nm,1.3s,mb5.4						
SBF	Sospel	90.63	326	eP	P	18 49 21.4	-1.6
	comp=Z,91nm,1.2s,mb5.7						
AURF	Auriere	90.67	326	eP	P	18 49 22.1	-1.1
MVIF	Mont Vial	90.74	326	eP	P	18 49 22.1	-1.4
AGO	Saint Agoulin	90.83	330	eP	P	18 49 23.6	-0.3
OG25	Le Caire	90.87	327	eP	P	18 49 23.4	-0.7
PGF	Pioggiola	90.89	324	eP	P	18 49 22.8	-1.4
	comp=Z,38nm,1.2s,mb5.3						
CALN	Calern	90.97	326	eP	P	18 49 23.1	-1.5
TCF	Toulx Ste Croi	91.02	331	eP	P	18 49 24.2	-0.5
	comp=Z,81nm,1.3s,mb5.6						
OCF	Saint Nazaire	91.06	328	eP	P	18 49 24.1	-0.8
OG26	St.-Nazaire-De	91.06	328	eP	P	18 49 24.1	-0.8
VIVF	Saint-Julien-l	91.12	328	eP	P	18 49 24.4	-0.8
	comp=Z,103nm,1.3s,mb5.7						
PYM	Petit Puy Mans	91.12	330	eP	P	18 49 24.8	-0.4
FRF	La Foret Royal	91.23	326	eP	P	18 49 24.3	-1.5
SGMF	Saint Gilles	91.25	334	eP	P	18 49 25.4	-0.3
	comp=Z,126nm,1.2s,mb5.8						
SMRF	Simiane la Rot	91.40	327	eP	P	18 49 25.7	-0.8
	comp=Z,70nm,1.5s,mb5.5						
LBL	Lubilhac	91.44	329	eP	P	18 49 26.6	-0.1
ROSF	Rostrenen	91.44	335	eP	P	18 49 26.2	-0.4
	comp=Z,69nm,0.9s,mb5.7						
LMR	La Mourre	91.47	326	eP	P	18 49 25.5	-1.4
	comp=Z,82nm,1.3s,mb5.6						
MFF	Saint Martin d	91.72	332	eP	P	18 49 27.7	-0.2
	comp=Z,82nm,1.0s,mb5.7						
QUIF	Quistinic	91.75	335	eP	P	18 49 27.3	-0.7
	comp=Z,37nm,1.0s,mb5.4						
LASF	Ste Croix	92.09	328	eP	P	18 49 29.0	-0.7
RJF	Les Rejaudoux	92.11	330	eP	P	18 49 29.4	-0.3
	comp=Z,168nm,1.3s,mb5.9						
RJF				eR			
	comp=Z,1µm,17.0s						
CAF	Calviac	92.18	330	eP	P	18 49 29.9	-0.2
	comp=Z,114nm,1.3s,mb5.8						
CPRX	Cap Rock	92.58	47	eP	P	18 49 33.2	+1.0
LFF	La Frestale	92.72	331	eP	P	18 49 32.5	-0.1
	comp=Z,60nm,0.7s,mb5.8						
GDL2	Guadalupe Moun	92.83	48	eP	P	18 49 33.8	+0.4
MTLF	Montolieu	93.39	329	eP	P	18 49 35.1	-0.6
WMOK	Wichita Mounta	94.42	43	eP	P	18 49 40.9	+0.2
WMOK				pmax	pmax		
	comp=Z,56nm,1.5s,mb5.8						
WMOK				MLR	MLR		
	comp=Z,480nm,20.0s,MS5.0						
WMOK	Wichita Mounta	94.42	43	eP	P	18 49 40.9	+0.2
	comp=Z,56nm,1.5s,mb5.8						
WMOK				LR	LR		
	comp=Z,481nm,20.0s,MS5.0						
EPF	Esparros	94.45	330	eP	P	18 49 39.6	-1.0
LTX	Lajitas	95.21	50⇑	eP	P	18 49 44.8	+0.4
LTX				pmax	pmax		
	comp=Z,85nm,1.2s,mb6.0						
LTX				MLR	MLR		
	comp=Z,570nm,21.0s,MS5.0						
LTX	Lajitas	95.21	50⇑	eP	P	18 49 44.8	+0.4
	comp=Z,85nm,1.3s,mb6.0						
LTX				LR	LR		
	comp=Z,571nm,21.0s,MS5.0						
TXAR	Lajitas Array	95.21	50	P	P	18 49 45.0	+0.6
	comp=Z,55nm,1.2s,mb5.8,baz=292,slow=2.5,SNR=52						
TXAR				LR	LR	19 29 48.0	
	comp=Z,408nm,19.9s,MS4.9,baz=330,slow=34						
SADO	Sadowa	95.64	25	P	P	18 49 47.2	+1.2
	comp=Z,5.3nm,0.8s,mb5.0,baz=296,slow=3.3,SNR=3.6						
SADO	Sadowa	95.64	25	P	P	18 49 47.2	+1.1
CCM	Cathedral Cave	95.99	36⇑	eP	P	18 49 47.3	-0.5
CCM				pmax	pmax		
	comp=Z,44nm,1.2s,mb5.8						
CCM	Cathedral Cave	95.99	36⇑	eP	P	18 49 47.3	-0.5
	comp=Z,44nm,1.3s,mb5.7						
JCT	Junction City	96.84	47⇓	eP	P	18 49 51.6	-0.2
JCT				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb5.2						
JCT	Junction City	96.84	47⇓	eP	P	18 49 51.6	-0.2
	comp=Z,4.1nm,0.4s,mb5.2						
KMBO	Kilima Mbogo	98.92	275	P	P	18 50 02.0	+0.5
	comp=Z,2.5nm,0.8s,mb4.8,baz=53,slow=20,SNR=6.2						
KMBO				LR	LR	19 40 42.1	
	comp=Z,429nm,18.7s,MS5.0,baz=92,slow=39						
ESDC	Sonseca Array	99.03	331	LR	LR	19 40 16.5	
	comp=Z,862nm,18.2s,MS5.3,baz=45,slow=39						
QSPA	South Pole Qui	122.98	180	ePKP	PKPdf	18 55 14.9	-3.6
QSPA				e		18 55 26.1	
QSPA				e		18 56 56.0	
QSPA				LR	LR		
	comp=Z,380nm,19.9s,MS5.0						
DBIC	Dimbokro	126.41	311	PKP	PKPdf	18 55 24.1	-2.6
	comp=Z,5.7nm,0.7s,baz=23,slow=2.6,SNR=14						
DBIC	Dimbokro	126.41	311	PKIKP	PKPdf	18 55 24.1	-2.6
DBIC				pmax	pmax		
	comp=Z,6.0nm,0.7s						
TIC	Toumodi	126.53	311	ePKP1	PKPdf	18 55 24.6	-2.4
	comp=Z,50nm,0.2s						
KIC	Kosan Boka	126.57	310	ePKP1	PKPdf	18 55 24.8	-2.2
	comp=Z,52nm,0.9s						
LIC	Lamto	126.85	310	ePKP1	PKPdf	18 55 24.1	-3.5
	comp=Z,57nm,1.2s						
SDV	Santo Domingo	130.46	37	ePKPdf	PKPdf	18 55 31.8	-2.8
ROSC	El Rosal	131.78	44	PKP	PKPdf	18 55 35.7	-1.4
	comp=Z,6.7nm,0.4s,baz=162,slow=23,SNR=5.0						
SNAA	Sanae	136.10	197⇑	i	PKPdf	18 55 34.2	-9.3
SNAA	Sanae	136.10	197⇑	i	PKPdf	18 55 40.0	-3.5
SNAA	Sanae	136.10	197	ePKIKP	PKPdf	18 55 40.2	-3.3
SNAA	Sanae	136.10	197⇑	iP	PKPdf	18 55 40.0	-3.5
VNA2	Neumayer--Watz	137.69	196	P	PKPdf	18 55 36.8	-10
VNA2	Neumayer--Watz	137.69	196⇑	i	PKPdf	18 55 47.6	+1.1
VNA3	Neumayer Olymp	137.99	195⇑	i	PKPdf	18 55 48.6	+1.5
VNA1	Neumayer--Stat	138.09	196⇑	iP	PKPdf	18 55 48.4	+1.1
SAML	Samuel	149.39	42	ePKPdf	PKPdf	18 56 05.8	-2.4
SAML				ePKPbc	PKPdf	18 56 09.6	+1.4
LPAZ	La Paz	151.61	60	PKP	PKPdf	18 56 10.5	-1.0
	comp=Z,1.7nm,0.2s,baz=338,slow=1.3,SNR=6.6						
LPAZ				PKPbc	PKPdf	18 56 16.8	+5.3
	comp=Z,12nm,0.8s,baz=3.7,slow=3.0,SNR=23						
LPAZ	La Paz	151.61	60	PKIKP	PKPdf	18 56 10.5	-1.0
LPAZ						18 56 16.8	
LPAZ				pmax	pmax		
	comp=Z,2.0nm,0.2s						
BDFB	Brasilia	161.87	16	PKP	PKPdf	18 56 23.1	-1.2
	comp=Z,5.5nm,1.0s,baz=359,slow=4.5,SNR=5.2						
BDFB				PKPab	PKPab	18 57 08.2	-0.9
	comp=Z,3.8nm,0.6s,baz=352,slow=4.0,SNR=7.5						
BDFB				PP	PP	19 00 50.7	-3.0
	comp=Z,13nm,1.2s,baz=337,slow=6.2,SNR=5.6						
BDFB	Brasilia	161.87	16	PKIKP	PKPdf	18 56 23.1	-1.2
BDFB						18 57 08.2	

BDFB						19 00 50.7	
BDFB				pmax	pmax		
	comp=Z,6.0nm,1.0s						
BDFB				pmax	pmax		
	comp=Z,4.0nm,0.6s						
BDFB				pmax	pmax		
	comp=Z,13nm,1.2s						
CPUP	Villa Florida	165.66	65	PKP	PKPdf	18 56 25.9	-1.9
	comp=Z,1.2nm,0.6s,baz=264,slow=3.4,SNR=3.0						
CPUP				PKPab	PKPab	18 57 23.9	-1.4
	comp=Z,1.1nm,0.5s,baz=36,slow=1.8,SNR=4.6						
CPUP	Villa Florida	165.66	65	PKIKP	PKPdf	18 56 26.0	-1.8
CPUP						18 57 23.9	
CPUP				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CPUP				pmax	pmax		
	comp=Z,1.0nm,0.5s						

ISK ***07*** *18:48:08.8,38.67N×31.19E,h4^{km},MD3.5,ML3.6*
IDC ***07*** *18:48:12.4±5.3,38.94N×31.32E,mb3.4/1,mb1 3.4/2, mb1mx3.2/18,ML4.0/1,Error ellipse: s-maj=74.4km s-min=30.7km az=28.0*
ISC 07 18:48:09.4±0.4,**38.67N**±0.03×**31.21E**±0.04,**h4**^{km}**,n28, σ0^{s}83**/34,**mb3.2**/1,**1C,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KIZT	Kizilcal	0.56	68	*i* PG	Pg	18 48 20.6	0.0
ESKT	Eskisehir	0.89	342	⇑*i* P	Pb	18 48 26.0	-1.0
ESKT				*i* S	Sb	18 48 38.7	-0.4
ESKT	Eskisehir	0.89	342	*i* PG	Pg	18 48 26.0	-1.2
ESKT				*i* SG	Sg	18 48 38.9	-0.2
ALT	Altintas	0.94	294	*i* PG	Pg	18 48 27.3	-0.9
ISP	Isparta	0.99	214	*i* P	Pb	18 48 28.3	-0.5
ISP				*i* S	Sb	18 48 42.1	0.0
ISP	Isparta	0.99	214	*i* PG	Pg	18 48 28.1	-1.1
BCK	Bucak	1.30	202	*i* PN	Pn	18 48 34.4	0.0
KHL	Karahalli	1.37	256	PN	Pn	18 48 34.9	-0.4
GPA	Golpazari	1.76	337	PN	Pn	18 48 40.7	-0.2
MDU	Mudurnu	1.79	0	PN	Pn	18 48 42.0	+0.7
DENT	Denizli	1.95	243	*e*PN	Pn	18 48 43.8	+0.3
DNZL	Cakiroluk	1.97	241	*i* P	Pn	18 48 45.4	+1.6
DNZL				*i* S	Sn	18 49 14.0	+4.8
HDMB	Hadim	1.98	149	PN	Pn	18 48 44.3	+0.3
SGKT	Sivrigoynuk	2.01	19	*i* P	Pn	18 48 45.8	+1.4
KAMT	Kaman	2.07	70	PN	Pn	18 48 46.5	+1.2
BRTR	Keskin Array B	2.16	60	Pn	Pn	18 48 47.0	+0.4
	2.5nm,0.3s,baz=241,slow=14,SNR=29						
BRTR				Sn	Sn	18 49 13.6	-0.5
	6.2nm,0.3s,baz=354,slow=12,SNR=6.8						
HENT	Hendek	2.16	354	*i* P	Pn	18 48 48.3	+1.6
ULDT	Uludag	2.18	313	*i* P	Pn	18 48 47.7	+0.9
ORLT	Orhaneli	2.26	308	PN	Pn	18 48 47.4	-0.7
YLV	Yalova	2.37	324	PN	Pn	18 48 49.5	-0.1
HRT	Hereke	2.46	331	PN	Pn	18 48 50.6	-0.2
ELDT	Eldivan	2.50	43	*i* P	Pn	18 48 51.8	+0.4
BALB	Balikesir	2.77	292	*e*PN	Pn	18 48 55.8	+0.5
SAFT	Safranbolu	2.81	23	*e*PN	Pn	18 48 56.3	+0.5
AVNT	Avonos	2.85	87	*i* P	Pg	18 49 04.9	-1.4
AVNT				*i* S	Sg	18 49 40.8	-3.5
ISK	Istanbul-Kandi	2.91	326	*e*PN	Pn	18 48 57.4	+0.1
AKASG	Malin Array Be	12.11	354	Pn	P	18 51 01.8	-3.9
	1.0nm,0.3s,baz=170,slow=12,SNR=4.3						
MKAR	Makanchi Array	37.81	61	P	P	18 55 28.6	+0.2
	0.3nm,0.6s,mb3.2,baz=282,slow=8.1,SNR=3.0						

NNC ***07*** *18:56:06.8±5.1,37.14N×68.67E,mpv4.0,Error ellipse: s-maj=47.5km s-min=35.0km az=134.0*
ISC 07 18:55:59.2±0.9,**36.21N**±0.05×**69.9E**±0.2,**h168**^{km}±17^{km}, **n21,σ0^{s}56**/25,**3C-2D,Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CEP	Cherat	2.90	145	P	P	18 56 47.4	+0.7
THW	Thamme Wali	3.73	155	⇑P	P	18 56 57.1	-0.2
THW				S	S	18 57 38.0	-4.0
CHCP	Chirah Chowk	3.76	132	P	P	18 56 58.0	+0.4
SBDP	Sheikh Budin	3.98	169	P	P	18 57 00.4	0.0
DRP	Derazinda	4.46	177	P	P	18 57 07.2	+0.4
SARP	Sargodha	4.86	151	P	P	18 57 10.9	-1.0
SARP				S	S	18 58 04.0	-4.1
AML	Almayashu	6.60	25	P	P	18 57 34.7	-0.2
	SNR=44						
KK31	Karatay Array	6.90	4	⇓P	P	18 57 38.1	-0.8
	4.5nm,0.3s,baz=196,slow=13,SNR=233						
KK31				⇑S	S	18 58 50.8	-5.6
	3.2nm,0.2s,baz=188,slow=27,SNR=6.0						
UCH	Uchtor	6.99	29	P	P	18 57 40.2	+0.1
	SNR=74						
EKS2	Erkin-Say	7.10	24	P	P	18 57 41.4	-0.2
	SNR=48						
AAK	Ala-Archa	7.33	28	P	P	18 57 44.7	+0.2
	SNR=21						
KBK	Karagaybulak	7.53	30	P	P	18 57 48.0	+0.8
	SNR=14						
CHMS	Chumysh	7.74	27	P	P	18 57 49.7	-0.3
	SNR=30						
USP	Ospenovka	7.88	25	P	P	18 57 51.2	-0.7
	SNR=38						
TKM2	Tokmak 2	8.01	32	P	P	18 57 54.2	+0.6
	SNR=12						
KOLN	Koldanda	14.34	122	*e*P	P	18 59 14.7	-0.8
	4.3nm,0.3s						
GKN	Gorkha	14.92	119	*e*P	P	18 59 22.7	-0.1
	10nm,0.2s						
AB31	Akbulak array	14.93	334	⇑P	P	18 59 23.1	+0.3
	0.5nm,0.3s,baz=200,slow=16,SNR=5.6						
AB31				⇓S	S	19 01 54.6	-9.1
	2.5nm,0.5s,baz=152,slow=24,SNR=9.3						
DMN	Daman	15.49	119	*e*P	P	18 59 29.9	0.0
	5.8nm,0.4s						
KKN	Kakani	15.50	118	*e*P	P	18 59 30.5	+0.4
	15nm,0.6s						
PKI	Pulchoki	15.72	119	*e*P	P	18 59 33.2	+0.4
	5.3nm,0.3s						

JMA ***07*** *18:58:17.5±0.1,32.94N×136.75E,h39^{km}±3^{km},M3.6*
ISC 07 18:58:18.2±1.6,**33.01N**±0.08×**136.74E**±0.05,**h28**^{km}±13^{km}, **n12,σ0^{s}42**/22,**4C-1D,Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JWZ	Kozaga	1.01	302	⇑P	Pn	18 58 36.1	-0.5
JWZ				*e*S	Sb	18 58 49.6	-0.2
TK02	Tokai 2	1.27	42	*e*S	Sn	18 58 56.6	+0.1
JKN	Kiinagashima	1.30	342	P	Pn	18 58 40.8	0.0
JKN				*e*S	Sn	18 58 56.9	-0.5
JIE	Ise	1.38	359	⇓P	Pn	18 58 42.0	0.0
JIE				*e*S	Sn	18 58 58.9	-0.6
JWM	Minabe	1.43	306	⇑P	Pn	18 58 42.6	-0.1
JWM				*e*S	Sn	18 59 00.6	-0.1
JWY	Kouya	1.54	322	⇑P	Pn	18 58 44.7	+0.4
JWY				*e*S	Sn	18 59 04.4	+0.9
TK04	Tokai 4	1.67	34	P	Pn	18 58 45.3	-0.8
TK04				*e*S	Sn	18 59 06.6	-0.1
TSUJ	Tsu 2	1.72	351	P	Pn	18 58 47.1	+0.3
TSUJ				*e*S	Sn	18 59 08.1	+0.1
JHE	Heguri	1.86	332	P	Pn	18 58 49.3	+0.4
JHE				*e*S	Sn	18 59 12.0	+0.3
JAI	Aioi	2.07	293	P	Pn	18 58 51.5	-0.3
JAI				*e*S	Sn	18 59 16.5	-0.4
JAJ2	Tsuna	2.10	313	⇑P	Pn	18 58 52.7	+0.5
MAT	Matsushiro	3.73	18	P	Pn	18 59 16.1	+0.7
MAT				S	Sn	18 59 58.8	-0.1

LDG ***07*** *19:02:59.8±0.0,45.97N×2.79E,h2^{km},Md2.8/3,Ml2.6/30, Error ellipse: s-maj=0.8km s-min=0.8km az=102.0*
NEIC ***07*** *19:02:59.8,45.97N×2.79E,h2^{km},ML2.7(STR), ML2.6(LDG),After LDG.*
STR ***07*** *19:02:59.6±0.2,45.97N×2.80E,h5^{km}±1^{km},Ml2.7,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 07 19:02:57.3±0.2,**45.97N**±0.01×**2.79E**±0.02,**h15**^{km}±3^{km}, **n44,σ1^{s}65**/94,**France**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AGO	Saint Agoulin	0.25	71	Pg	Pg	19 03 04.7	+1.8
AGO				Sg	Sg	19 03 08.1	+1.4
PYM	Petit Puy Mans	0.27	145	Pg	Pg	19 03 04.9	+1.7
PYM				Sg	Sg	19 03 08.5	+1.3
CFF	Clermont-Ferra	0.30	133	Pg	Pg	19 03 05.8	+1.9
VERF	Verneugheol	0.31	224	Pg	Pg	19 03 05.9	+1.9
TCF	Toulx Ste Croi	0.51	308	*e*Pg	Pg	19 03 09.8	+1.9
TCF				*e*Sg	Sg	19 03 17.0	+2.0
	19nm,0.2s						
PLDF	La Plantade	0.58	90	Pg	Pg	19 03 10.8	+1.7
PLDF				Sg	Sg	19 03 18.4	+1.4
BGF	Bois d'Agland	0.59	4	*e*Pg	Pg	19 03 11.4	+2.1
BGF				*e*Sg	Sg	19 03 19.1	+1.7
	49nm,0.3s						
FRNF	Fournols	0.60	195	Pg	Pg	19 03 11.2	+1.6
FRNF				Sg	Sg	19 03 18.9	+1.0
COLF	Collangettes	0.78	125	Pg	Pg	19 03 14.4	+1.4
COLF				Sg	Sg	19 03 25.6	+2.1
LBL	Lubilhac	0.80	156	Pg	Pg	19 03 15.0	+1.5
AVF	Avril sur Loir	0.91	25	*e*Pg	Pg	19 03 16.9	+1.3
AVF				*e*Sg	Sg	19 03 28.2	+0.4
	36nm,0.2s						
SMF	Signal de Mont	0.99	47	*e*Pg	Pg	19 03 18.4	+1.1
SMF				*e*Sg	Sg	19 03 30.0	-0.6
	25nm,0.2s						
RJF	Les Rejaudoux	1.11	234	*e*Pg	Pg	19 03 20.9	+1.2
RJF				*e*Sg	Sg	19 03 34.7	0.0
	16nm,0.2s						
CAF	Calviac	1.16	206	*e*Pn	Pn	19 03 21.4	+2.4
CAF				*e*Pg	Pg	19 03 21.9	+1.3
CAF				*e*Sg	Sg	19 03 36.5	+0.3
	36nm,0.2s						
SSF	Saint Saulge	1.20	24	*e*Pg	Pg	19 03 22.3	+1.0
SSF				*e*Sg	Sg	19 03 37.7	+0.3
	34nm,0.2s						
HYF	Humbligny	1.30	355	*e*Pn	Pn	19 03 23.2	+2.2
HYF				*e*Pg	Pg	19 03 25.1	+1.7
HYF				*e*Sg	Sg	19 03 39.5	-1.4
LOR	Lormes	1.49	29	*e*Pg	Pg	19 03 27.7	+0.5
LOR				*e*Sg	Sg	19 03 46.6	-0.5
	24nm,0.2s						
VIVF	Saint-Julien-l	1.73	129	*e*Pg	Pg	19 03 31.7	-0.2
VIVF				*e*Sg	Sg	19 03 53.7	-1.4
	5.6nm,0.2s						
LFF	La Frestale	1.77	235	*e*Sg	Sg	19 03 55.8	-0.7
	14nm,0.3s						
LASF	Ste Croix	2.04	158	*e*Pg	Pg	19 03 37.4	-0.7
LASF				*e*Sg	Sg	19 04 03.7	-1.6
	6.1nm,0.2s						
MFF	Saint Martin d	2.13	288	*e*Pn	Pn	19 03 34.7	+1.8
MFF				*e*Pg	Pg	19 03 39.3	-0.6
MFF				*e*Sg	Sg	19 04 05.7	-2.7
	7.8nm,0.2s						
CABF	La Chapelle	2.37	73	*e*Pn	Pn	19 03 38.2	+1.9
CABF				*e*Pg	Pg	19 03 44.2	-0.5
CABF				*e*Sg	Sg	19 04 13.0	-3.4
	4.4nm,0.2s						
ORIF	Oris-en-Rattie	2.42	115	*e*Pn	Pn	19 03 38.6	+1.7
ORIF				*e*Pg	Pg	19 03 44.9	-0.6
ORIF				*e*Sg	Sg	19 04 13.8	-4.0
	2.9nm,0.3s						
MTLF	Montolieu	2.66	189	*e*Pg	Pg	19 03 49.3	-1.1
MTLF				*e*Sg	Sg	19 04 22.6	-3.3
	4.7nm,0.2s						
LPL	La Plagne	2.80	98	*e*Pn	Pn	19 03 43.9	+1.5
LPL				*e*Pg	Pg	19 03 52.1	-1.0
LPL				*e*Sg	Sg	19 04 26.0	-4.5
	3.0nm,0.3s						
SMRF	Simiane la Rot	2.81	134	*e*Pg	Pg	19 03 53.5	+0.1
SMRF				*e*Sg	Sg	19 04 27.9	-2.9
	19nm,0.8s						
LPG	La Plagne	2.81	98	*e*Pn	Pn	19 03 44.3	+1.7
LPG				*e*Pg	Pg	19 03 52.4	-1.1
LPG				*e*Sg	Sg	19 04 27.4	-3.6
	2.2nm,0.2s						
MEZF	Maizieres J'vi	2.96	30	*e*Pg	Pg	19 03 55.0	-1.5
MEZF				*e*Sg	Sg	19 04 32.6	-3.4
	9.9nm,0.3s						
MBDF	Montbardon	3.07	112	*e*Pg	Pg	19 03 58.0	-0.6
MBDF				*e*Sg	Sg	19 04 35.7	-3.8
	1.9nm,0.4s						
HAU	Haudompre	3.17	49	*e*Pg	Pg	19 03 59.2	-1.5
HAU				*e*Sn	Sn	19 04 23.9	-1.7
HAU				*e*Sg	Sg	19 04 38.2	-4.8
	6.3nm,0.3s						
LDF	La Druitiere	3.29	324	*e*Pn	Pn	19 03 50.8	+1.4
LDF				*e*Pg	Pg	19 04 00.2	-2.8
LDF				*e*Sg	Sg	19 04 41.2	-5.7
	3.4nm,0.3s						
HINF	Hinteralfeld	3.34	55	*e*Pg	Pg	19 04 01.9	-2.1
HINF				*e*Sn	Sn	19 04 29.0	-0.9
HINF				*e*Sg	Sg	19 04 44.1	-4.5
	2.6nm,0.2s						
EPF	Esparros	3.42	212	*e*Pg	Pg	19 04 03.0	-2.6
EPF				*e*Sg	Sg	19 04 48.0	-3.3
	4.9nm,0.3s						
GRR	Gorron	3.47	315	*e*Pg	Pg	19 04 04.1	-2.5
GRR				*e*Sn	Sn	19 04 32.3	-0.8
GRR				*e*Sg	Sg	19 04 46.1	-6.8
	2.6nm,0.2s						
FLN	La Foliniere	3.57	323	*e*Pn	Pn	19 03 54.6	+1.2
FLN				*e*Pg	Pg	19 04 06.2	-2.4
FLN				*e*Sg	Sg	19 04 49.9	-6.3
	3.3nm,0.2s						
FRF	La Foret Royal	3.65	130	*e*Pg	Pg	19 04 07.0	-3.2
LMR	La Mourre	3.74	133	*e*Pg	Pg	19 04 08.8	-3.2
ETSF	Etsaut	3.90	219	*e*Pn	Pn	19 03 58.5	+0.5
ETSF				*e*Sn	Sn	19 04 43.4	-0.5
ETSF				*e*Sg	Sg	19 05 02.3	-4.8
	2.2nm,0.5s						
CDF	Champ du Feu	3.91	50	*e*Pg	Pg	19 04 12.7	-2.7
CDF				*e*Sg	Sg	19 05 03.0	-4.6
	2.4nm,0.3s						
SBF	Sospel	3.91	121	*e*Pg	Pg	19 04 12.0	-3.4
SJPF	Ste Jean	4.05	227	*e*Pn	Pn	19 04 00.0	-0.2
SJPF				*e*Sn	Sn	19 04 44.9	-2.9
SJPF				*e*Sg	Sg	19 05 06.9	-5.3
	1.6nm,0.4s						
SGMF	Saint Gilles	4.31	304	*e*Pn	Pn	19 04 04.1	+0.3
SGMF				*e*Sg	Sg	19 05 14.2	-6.5
	1.5nm,0.3s						
QUIF	Quistinic	4.52	298	*e*Sg	Sg	19 05 21.0	-6.8
	2.2nm,0.2s						
ROSF	Rostrenen	4.77	302	*e*Pn	Pn	19 04 10.4	+0.1
ROSF				*e*Sg	Sg	19 05 27.8	-8.2
	1.1nm,0.2s						

JMA ***07*** *19:35:20.6±0.1,33.13N×137.21E,h39^{km}±3^{km},M3.5*
ISC 07 19:35:21.2±1.3,**33.15N**±0.07×**137.19E**±0.05,**h41**^{km}±26^{km}, **n15,σ0^{s}50**/29,**2C-1D,Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	Tokai 1	0.70	28	P	P	19 35 34.1	-0.5
TK01				S	S	19 35 44.1	-0.3
TK02	Tokai 2	0.92	31	P	P	19 35 37.5	-0.3
TK02				S	S	19 35 50.6	+0.5
TK03	Tokai 3	1.20	32	*e*S	S	19 35 57.3	+0.3
JWZ	Kozaga	1.29	287	⇑P	P	19 35 42.9	-0.2
JWZ				*e*S	S	19 35 58.7	-0.8
JIE	Ise	1.30	342	⇓P	P	19 35 43.7	+0.4
JIE				S	S	19 36 00.2	+0.5
JKN	Kiinagashima	1.34	325	P	P	19 35 43.9	+0.1
JKN				S	S	19 35 59.6	-1.1
TK04	Tokai 4	1.35	25	P	P	19 35 43.9	-0.1
TK04				S	S	19 36 01.2	+0.2
TSUJ	Tsu 2	1.68	338	P	P	19 35 49.0	+0.4
TSUJ				S	S	19 36 09.3	+0.2
JWM	Minabe	1.69	295	⇑P	P	19 35 48.8	+0.1
JWM				*e*S	S	19 36 09.1	-0.1
JWY	Kouya	1.71	309	P	P	19 35 49.8	+0.8
JWY				*e*S	S	19 36 10.1	+0.4
JHE	Heguri	1.95	320	P	P	19 35 53.0	+0.5
JHE				*e*S	S	19 36 16.1	+0.2
SHZ3	Shizuoka 3	2.09	24	P	P	19 35 53.8	-0.6
SHZ3				*e*S	S	19 36 18.2	-1.1
JAI	Aioi	2.38	286	P	P	19 35 59.0	+0.4
JAI				*e*S	S	19 36 25.8	-0.9
JWT	Wachi	2.59	326	P	P	19 36 02.2	+0.6
JWT				*e*S	S	19 36 32.3	+0.2
MAT	Matsushiro	3.48	14	P	P	19 36 14.5	+0.2
MAT				S	S	19 36 54.8	0.0

IDC 07 19:37:18.3±26.0,**17.40S**×**172.45W,mb4.2**/4,**mb1 4.4**/4, **mb1mx4.0**/14,**Error ellipse: s-maj=522.0km s-min=160.3km az=88.0,Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	43.87	242	P	P	19 45 27.4	-0.9
	3.9nm,1.0s,baz=92,slow=9.4,SNR=4.9						
WB2	Warramunga Arr	50.29	258	*e*P	P	19 46 15.6	-3.3
WRA	Warramunga Arr	50.30	258	P	P	19 46 15.5	-3.5
	0.5nm,0.4s,baz=98,slow=6.1,SNR=22						
ASAR	Alice Springs	50.39	253	P	P	19 46 17.1	-2.5
	3.4nm,0.5s,baz=89,slow=8.4,SNR=46						
ASPA	Alice Springs	50.39	253	*e*P	P	19 46 17.2	-2.4
KAKA	Kakadu	53.32	267	*e*P	P	19 46 39.7	-2.1
	1.5nm,0.3s						
FITZ	Fitzroy Crossi	58.71	259	*e*P	P	19 47 19.9	-0.6
	2.0nm,0.7s						
FITZ	Fitzroy Crossi	58.71	259	P	P	19 47 19.7	-0.8
	3.7nm,1.0s,baz=76,slow=4.2,SNR=4.8						

WEL 07 19:38:17.2±1.0,**35.60S**×**178.55E,h250**^{km}±10^{km},**ML3.6**/3, **Error ellipse: s-maj=26.7km s-min=17.7km az=90.0,Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.97	186	PN	P	19 38 59.5	-0.2
MXZ				SN	S	19 39 31.3	-1.3
PUZ	Puketiti	2.48	185	PN	P	19 39 04.8	+0.1
PUZ				SN	S	19 39 40.1	-1.4
MWZ	Matawai	2.85	196	*e*PN	P	19 39 07.8	-0.7
URZ	Urewera	2.90	203	*e*PN	P	19 39 08.1	-0.9
URZ				SN	S	19 39 49.7	+0.5
TSZ	Takapari Road	4.90	204	*e*PN	P	19 39 31.7	-0.6
BFZ	Birch Farm	5.39	199	*e*PN	P	19 39 38.5	+0.2
MRZ	Mangatainoka R	5.57	204	PN	P	19 39 39.9	-0.7

NIED ***07*** *19:42:00,33.40N×136.80E,h5^{km},Mw4.2 Best double couple: $M_0$1.9×10^{15} NP1:ϕ_s166°,δ84°,λ-138°. NP2:ϕ_s70°, δ48°,λ-8°.*
IDC ***07*** *19:42:38.5±2.5,34.66N×139.83E,mb3.9/4,mb1 4.2/5, mb1mx3.7/25,ML3.8/1,MS3.3/1,Ms1 3.3/1,ms1mx2.9/26, Error ellipse: s-maj=74.7km s-min=24.0km az=60.0*
JMA ***07*** *19:42:50.4±0.1,33.42N×136.81E,h39^{km}±2^{km},M3.6*
ISC 07 19:42:50.0±0.8,**33.43N**±0.04×**136.81E**±0.03,**h25**^{km}±5^{km}, **n22,σ0^{s}52**/30,**mb3.8**/4,**1C-2D,Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	Tokai 1	0.73	63	S	Sb	19 43 13.7	+0.1
JWZ	Kozaga	0.92	276	⇓P	Pb	19 43 07.0	-0.2
JWZ				*e*S	Sb	19 43 18.9	-0.2
JKN	Kiinagashima	0.93	331	P	Pb	19 43 07.4	0.0
JKN				S	Sb	19 43 18.8	-0.6
TK02	Tokai 2	0.94	57	P	Pb	19 43 07.2	-0.3
TK02				S	Sb	19 43 19.9	+0.3
JIE	Ise	0.96	355	P	Pb	19 43 08.3	+0.4
JIE				*e*S	Sb	19 43 20.4	+0.2
TK03	Tokai 3	1.21	52	*e*S	Sn	19 43 26.6	-0.7
JAA	Atsumi	1.23	13	⇓P	Pn	19 43 11.9	0.0
JAA				S	Sn	19 43 27.1	-0.7
JWY	Kouya	1.28	308	⇑P	Pn	19 43 12.9	+0.2
JWY				*e*S	Sn	19 43 28.8	-0.4
JWM	Minabe	1.28	289	P	Pn	19 43 12.6	-0.1
JWM				*e*S	Sn	19 43 28.5	-0.7
TK04	Tokai 4	1.30	43	*e*S	Sn	19 43 29.1	-0.5
TSUJ	Tsu 2	1.31	346	P	Pn	19 43 13.3	+0.2
TSUJ				S	Sn	19 43 29.4	-0.6
JHE	Heguri	1.54	323	P	Pn	19 43 16.3	0.0
JAJ2	Tsuna	1.88	302	P	Pn	19 43 21.9	+0.7
JAJ2				*e*S	Sn	19 43 44.9	+0.6
MAT	Matsushiro	3.31	20	P	Pn	19 43 41.7	+0.1
MAT				*e*S	Sn	19 44 21.7	+1.1
JNU	Nakatsue	4.98	268	Pn	Px	19 44 32.5	
	1.4nm,0.3s,baz=65,slow=26,SNR=4.0						
CBIJ	Chichi jima	7.84	142	LR	LR	19 47 25.0	
	comp=Z,222nm,18.9s,baz=321,slow=37						
SONM	Songino Array	26.99	311	P	P	19 48 32.0	+0.3
	0.3nm,0.6s,mb3.0,baz=122,slow=9.6,SNR=4.2						
MKAR	Makanchi Array	42.95	305	P	P	19 50 50.1	+1.6
	0.9nm,0.7s,mb3.6,baz=90,slow=11,SNR=7.2						
WB2	Warramunga Arr	53.13	183	*e*P	P	19 52 07.8	-0.4
WRA	Warramunga Arr	53.13	183	P	P	19 52 07.7	-0.5
	3.3nm,0.8s,mb4.3,baz=1.0,slow=7.7,SNR=30						
ASAR	Alice Springs	56.85	183	P	P	19 52 35.4	+0.2
	1.1nm,0.6s,mb4.1,baz=11,slow=12,SNR=20						
ASPA	Alice Springs	56.85	183	*e*P	P	19 52 35.0	-0.2

IDC 07 19:54:51.4±61.0,**14.66S**×**170.29W,mb4.0**/3,**mb1 4.2**/3, **mb1mx3.8**/13,**Error ellipse: s-maj=1207.0km s-min=200.8km az=79.0,Samoa Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	47.01	240	P	P	20 03 24.8	-1.7
	1.4nm,0.6s,baz=84,slow=11,SNR=6.0						
WRA	Warramunga Arr	52.94	256	P	P	20 04 09.5	-2.6
	0.4nm,0.5s,baz=95,slow=6.7,SNR=8.8						
ASAR	Alice Springs	53.20	251	P	P	20 04 12.0	-1.9
	2.4nm,0.5s,baz=89,slow=7.7,SNR=72						

IDC 07 20:07:44.4±3.3,**19.65S**×**172.14W,mb4.0**/3,**mb1 4.3**/3, **mb1mx3.9**/13,**Error ellipse: s-maj=286.0km s-min=32.6km az=157.0,Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAR	Alice Springs	50.07	255	P	P	20 16 41.5	-1.8
	1.9nm,0.6s,baz=88,slow=7.8,SNR=27						
WRA	Warramunga Arr	50.18	260	P	P	20 16 41.5	-2.6
	1.1nm,0.8s,baz=89,slow=7.0,SNR=7.6						
TXAR	Lajitas Array	82.00	55	P	P	20 20 06.2	-1.8
	0.4nm,0.3s,baz=201,slow=7.7,SNR=3.9						
BRTR	Keskin Array B	150.15	318	PKPbc	PKPdf	20 27 38.5	+4.4
	0.7nm,0.8s,baz=63,slow=3.2,SNR=4.5						

IDC ***07*** *20:24:20.7±1.9,14.13S×166.59E,mb4.0/6,mb1 4.2/6, mb1mx4.1/13,MS3.7/4,Ms1 3.7/4,ms1mx3.4/21,Error ellipse: s-maj=78.6km s-min=23.8km az=137.0*
LDG ***07*** *20:24:23.6±0.3,14.14S×166.00E,h10^{km},Mb4.5/2,Error ellipse: s-maj=53.5km s-min=11.2km az=79.0*
NEIC ***07*** *20:24:28.5±0.5,14.11S×166.41E,h50^{km},mb4.6/2,Error ellipse: s-maj=29.7km s-min=13.1km az=137.0*
ISC 07 20:24:27.1±1.0,**14.1S**±0.2×**166.3E**±0.2,**h50**^{km}**,n34, σ0^{s}75**/9,**mb4.1**/7,**MS3.6**/4,**Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	20.05	250	P	P	20 28 59.1	+0.2
	4.7nm,1.0s,baz=86,slow=13,SNR=3.5						
CTA				LR	LR	20 35 38.2	
	comp=Z,132nm,18.4s,MS3.3,baz=71,slow=33						
STKA	Stephens Creek	28.71	228	P	P	20 30 22.0	+0.1
	1.9nm,0.9s,mb3.8,baz=52,slow=12,SNR=3.1						
STKA				LR	LR	20 42 03.5	
	comp=Z,216nm,19.1s,MS3.8,baz=144,slow=37						
STKA	Stephens Creek	28.71	228	P	P	20 30 22.0	+0.1
WRA	Warramunga Arr	31.06	255	P	P	20 30 42.2	-0.7
	3.9nm,1.3s,mb4.1,baz=85,slow=9.4,SNR=10						
ASAR	Alice Springs	32.02	248	P	P	20 30 51.0	-0.3
	1.1nm,0.7s,mb3.8,baz=72,slow=9.6,SNR=12						
ASAR				LR	LR	20 42 56.6	
	comp=Z,112nm,19.8s,MS3.5,baz=276,slow=35						
FITZ	Fitzroy Crossi	39.20	259	LR	LR	20 48 17.1	
	comp=Z,91nm,18.2s,MS3.6,baz=97,slow=36						
QSPA	South Pole Qui	75.97	180	*e*P	P	20 36 10.4	+0.4
	10nm,1.0s,mb4.7						
SONM	Songino Array	81.39	324	P	P	20 36 41.7	+1.6
	0.7nm,0.8s,mb3.6,baz=143,slow=6.2,SNR=8.7						
MCK	McKinley	84.82	18	P	P	20 36 57.2	0.0
	3.9nm,1.2s,mb4.4						
ILAR	Eielson Array	86.19	18	P	P	20 37 02.7	-1.2
	1.4nm,0.6s,mb4.4,baz=239,slow=4.9,SNR=14						
ARCES	ARCESS Array B	119.36	345	PKP	PKPdf	20 43 11.8	+1.2
	4.1nm,0.8s,baz=72,slow=2.9,SNR=4.0						
ARCES	ARCESS Array B	119.36	345	PKP	PKPdf	20 43 11.8	+1.2

FINES	FINESS Array B	124.74	338	PKP	PKPdf	20 43 22.2	+1.0
	2.2nm,0.9s,baz=236,slow=5.0,SNR=2.7						
SSF	Saint Saulge	144.08	340	*e*PKP1	PKPbc	20 43 58.7	+2.2
	6.2nm,0.9s						
LPL	La Plagne	144.18	335	*e*PKP1	PKPbc	20 43 58.5	+1.6
	3.3nm,0.7s						
LPG	La Plagne	144.19	335	*e*PKP1	PKPbc	20 43 58.7	+1.8
	3.3nm,0.6s						
SMF	Signal de Mont	144.32	339	*e*PKP1	PKPbc	20 43 58.2	+0.9
	3.7nm,0.5s						
AVF	Avril sur Loir	144.36	340	*e*PKP1	PKPbc	20 43 58.2	+0.8
	11nm,1.0s						
SGMF	Saint Gilles	144.67	347	*e*PKP1	PKPbc	20 43 58.0	-0.2
	15nm,0.9s						
BGF	Bois d'Agland	144.74	340	*e*PKP1	PKPbc	20 43 59.8	+1.4
	8.7nm,0.8s						
MBDF	Montbardon	144.81	334	*e*PKP1	PKPbc	20 44 00.1	+1.4
	4.8nm,0.7s						
ORIF	Oris-en-Rattie	145.02	335	*e*PKP1	PKPbc	20 44 01.2	+1.9
	14nm,0.8s						
TCF	Toulx Ste Croi	145.18	341	*e*PKP1	PKPbc	20 44 01.2	+1.6
	7.4nm,0.9s						
SBF	Sospel	145.21	333	*e*PKP1	PKPbc	20 44 01.2	+1.4
	24nm,0.8s						
PGF	Pioggiola	145.49	330	*e*PKP1	PKPbc	20 44 02.4	+1.9
	20nm,1.0s						
VIVF	Saint-Julien-l	145.55	337	*e*PKP1	PKPbc	20 44 02.8	+2.2
	19nm,1.2s						
FRF	La Foret Royal	145.80	333	*e*PKP1	PKPbc	20 44 03.1	+1.9
	14nm,0.8s						
SMRF	Simiane la Rot	145.92	335	*e*PKP1	PKPbc	20 44 04.0	+2.5
	6.6nm,0.8s						
LMR	La Mourre	146.04	333	*e*PKP1	PKPbc	20 44 03.8	+2.0
	20nm,1.1s						
CAF	Calviac	146.43	340	*e*PKP1	PKPbc	20 44 05.4	+2.7
LASF	Ste Croix	146.52	337	*e*PKP1	PKPbc	20 44 05.7	+2.8
	4.6nm,0.6s						
LFF	La Frestale	146.85	341	*e*PKP1	PKPbc	20 44 06.4	+2.7
	7.5nm,0.6s						
MTLF	Montolieu	147.76	338	*e*PKP1	PKPdf	20 44 09.2	+5.6
	18nm,1.0s						
EPF	Esparros	148.69	340	*e*PKP1	PKPdf	20 44 10.4	+5.3

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*IDC **07** 20:29:43.4±0.9, 51.58N×176.98W, mb4.0/8, mb1 4.2/8, mb1mx3.9/23, Error ellipse: s-maj=30.7km s-min=23.2km az=144.0*

*NEIC **07** 20:29:49.7, 51.36N×176.76W, h32^{km}, mb4.3/1, ML4.0(AEIC), After AEIC.*

ISC 07 20:29:49.8±0.8**, 51.6N**±0.1×**176.79W**±0.08**, h61**^{km}±6^{km}**, n27,** σ**0**^{s}**84**/29**, mb4.1**/8**, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KIMD	Kanaga Island	0.33	303	P	P	20 29 59.4	-0.9
KIWB	Kanaga Island	0.35	320	P	P	20 30 00.1	-0.4
KIKV	Kanaga Island	0.38	321	P	P	20 30 00.5	-0.2
KINC	Kanaga Island	0.41	329	P	P	20 30 01.0	+0.1
ADAG	Mount Adagdak	0.42	16	P	P	20 30 01.4	+0.4
GSCK	Great Sitkin C	0.58	42	P	P	20 30 03.3	+0.5
GSCK				S	S	20 30 13.3	+1.0
GSTD	Great Sitkin T	0.62	40	P	P	20 30 03.7	+0.5
GSMY	Great Sitkin M	0.65	44	P	P	20 30 03.8	+0.3
GSIG	Igitkin Island	0.67	53	P	P	20 30 03.7	-0.1
GSTR	Great Sitkin T	0.68	41	P	P	20 30 04.7	+0.7
ATKA	Atka Island	1.72	68	P	P	20 30 17.5	-0.5
ATKA				S	S	20 30 39.8	+0.8
NIKO	Nikolski	5.07	71	P	P	20 31 04.0	-1.0
NIKO				S	S	20 32 01.2	-1.7
MSW	Makushin Switc	6.51	65	P	P	20 31 24.3	-0.8
UNV	Unalaska Valle	6.65	66	P	P	20 31 25.9	-1.2
SPIA	Saint Paul Isl	6.78	32	P	P	20 31 29.1	+0.1
THY	Trims Highway	20.21	42	*e*P	P	20 34 22.7	+0.9
ILAR	Eielson Array	20.30	38	P	P	20 34 20.5	-2.2
	0.8nm,0.6s,baz=248,slow=9.7,SNR=6.2						
HLID	Hailey	41.67	76	P	P	20 37 34.8	+1.2
BW06	Boulder Array	45.05	74	*e*P	P	20 38 01.8	+0.9
	1.5nm,0.4s,mb4.2						
PDAR	Pinedale Array	45.05	74	P	P	20 38 02.2	+1.3
	1.4nm,0.4s,mb4.1,baz=327,slow=3.2,SNR=11						
SONM	Songino Array	47.68	297	P	P	20 38 21.1	-0.5
	0.5nm,0.6s,mb3.7,baz=50,slow=6.2,SNR=7.9						
SONM				PcP	PcP	20 39 49.5	-1.0
	1.0nm,0.7s,baz=77,slow=2.3,SNR=9.4						
BVAR	Borovoye Array	61.54	321	P	P	20 40 01.5	-0.8
	1.1nm,0.4s,mb4.3,baz=54,slow=6.7,SNR=14						
WRA	Warramunga Arr	83.04	226	P	P	20 42 09.6	-0.3
	0.7nm,0.6s,mb3.9,baz=32,slow=5.8,SNR=12						
BRTR	Keskin Array B	85.27	337	P	P	20 42 21.2	+0.6
	0.8nm,0.7s,mb4.0,baz=22,slow=7.8,SNR=3.3						
FITZ	Fitzroy Crossi	85.59	234	P	P	20 42 23.3	+0.6
	2.2nm,0.6s,mb4.6,baz=37,slow=4.7,SNR=7.3						
ASAR	Alice Springs	86.50	224	P	P	20 42 27.2	+0.2
	1.0nm,0.7s,mb4.1,baz=22,slow=5.5,SNR=7.5						
MAW	Mawson	147.41	218	PKPbc	PKPdf	20 49 27.3	+4.7
	1.1nm,0.4s,baz=90,slow=3.9,SNR=4.3						

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*LDG **07** 20:30:46.6±0.1, 51.07N×5.91E, h5^{km}, Ml2.8/22, Error ellipse: s-maj=1.6km s-min=1.0km az=158.0*

*NEIC **07** 20:30:46.6, 51.07N×5.91E, h5^{km}, ML2.8(LDG), After LDG.*

*BNS **07** 20:30:46.7±0.6, 51.08N×5.93E, h6^{km}±10^{km}, ML2.1*

BGR 07 20:30:46.4±0.7**, 51.06N×5.93E, h10**^{km}**, ML2.3**/2**, 2C-1D, Error ellipse: s-maj=12.2km s-min=3.3km az=110.0, The Netherlands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HGN	Heimansgroeve	0.29	180	*e*Pg	Pg	20 30 52.3	-0.2
	SNR=24						
HGN				*e*Sg	Sg	20 30 56.3	-0.3
	SNR=7.5						
HGN	Heimansgroeve	0.29	180	⇑*e*Pg	Pg	20 30 52.3	-0.3
	14nm,0.1s,baz=350						
HGN				*e*x	x	20 30 54.9	
HGN				*e*Sg	Sg	20 30 56.6	+0.1
KLL	Kalltalsperre	0.47	150	⇓*e*Pg	Pg	20 30 55.9	-0.2
KLL				*e*Sg	Sg	20 31 02.5	0.0
	35nm,0.2s						
STB	Steinbach	0.74	128	⇑*e*Pg	Pg	20 31 01.0	-0.2
STB				*e*Sg	Sg	20 31 10.8	-0.4
	32nm,0.3s						
BNS	Bensberg	0.79	96	*e*Pg	Pg	20 31 01.9	-0.4
BNS				*e*Sg	Sg	20 31 12.3	-0.6
	193nm,0.2s						
BUG	Bochum--Univer	0.92	65	*e*Pg	Pg	20 31 03.7	-1.2
	SNR=6.3						
BUG				*e*Sg	Sg	20 31 15.9	-1.4
	SNR=10						
BUG	Bochum--Univer	0.92	65	*e*Pg	Pg	20 31 03.7	-1.3
BUG				*e*Sg	Sg	20 31 15.9	-1.4
WTSB	Winterswijk	1.06	30	*e*Pg	Pg	20 31 06.3	-1.4
	SNR=8.0						
WTSB				*e*Sg	Sg	20 31 20.6	-1.2
	SNR=4.6						
WTSB	Winterswijk	1.06	30	*e*Pg	Pg	20 31 06.2	-1.5
	27nm,0.3s						
WTSB				*e*Sg	Sg	20 31 20.6	-1.3
GIVF	Givet	1.19	217	*e*Pg	Pg	20 31 08.7	-1.5
GIVF				*e*Sg	Sg	20 31 24.8	-1.3
	80nm,0.2s						
BGG	Burgeitz	1.23	133	*e*Pg	Pg	20 31 09.1	-2.1
BGG				*e*Sg	Sg	20 31 25.7	-1.9
	57nm,0.1s						
WLF	Walferdange	1.40	174	*e*Pg	Pg	20 31 12.5	-1.9
	SNR=2.8						
WLF				*e*Sg	Sg	20 31 31.0	-2.1
	SNR=7.1						
WLF	Walferdange	1.40	174	*e*Pn	Pn	20 31 12.3	+0.2
BAIF	Baives	1.48	229	*e*Pn	Pn	20 31 12.2	-1.1
BAIF				*e*Pg	Pg	20 31 14.3	-1.8
BAIF				*e*Sg	Sg	20 31 33.2	-2.8
	28nm,0.3s						
IBBN	Ibbenburen	1.69	41	*e*Sg	Sg	20 31 39.9	-2.9
	SNR=2.1						
RFYF	Reffroy	2.45	187	*e*Pn	Pn	20 31 25.2	-1.9
RFYF				*e*Pg	Pg	20 31 32.1	-3.2
RFYF				*e*Sg	Sg	20 32 03.6	-4.3
	13nm,0.2s						
MEZF	Maizieres J'vi	2.62	193	*e*Pn	Pn	20 31 27.4	-2.2
MEZF				*e*Pg	Pg	20 31 35.1	-3.6
MEZF				*e*Sg	Sg	20 32 09.0	-4.7
	15nm,0.4s						
CDF	Champ du Feu	2.79	161	*e*Pn	Pn	20 31 29.7	-2.2
CDF				*e*Sn	Sn	20 32 02.6	-3.3
CDF				*e*Sg	Sg	20 32 12.6	-6.6
	2.7nm,0.3s						
SFTF	Sexfontaines	2.91	192	*e*Pn	Pn	20 31 31.4	-2.3
SFTF				*e*Pg	Pg	20 31 40.5	-4.1
SFTF				*e*Sg	Sg	20 32 17.8	-5.6
	7.4nm,0.2s						
HAU	Haudompre	3.06	175	*e*Pn	Pn	20 31 33.7	-2.2
HAU				*e*Pg	Pg	20 31 43.3	-4.3
HAU				*e*Sg	Sg	20 32 22.1	-6.4
	5.8nm,0.2s						
HINF	Hinteralfeld	3.30	169	*e*Pn	Pn	20 31 37.9	-1.3
HINF				*e*Sg	Sg	20 32 28.3	-7.9
	3.2nm,0.2s						
LOR	Lormes	4.03	201	*e*Pn	Pn	20 31 47.1	-2.5
LOR				*e*Sg	Sg	20 32 53.4	-7.1
	3.6nm,0.2s						
SSF	Saint Saulge	4.30	203	*e*Pn	Pn	20 31 51.1	-2.4
SSF				*e*Sn	Sn	20 32 39.0	-5.4
SSF				*e*Sg	Sg	20 33 01.7	-8.0
CABF	La Chapelle	4.45	179	*e*Pn	Pn	20 31 53.2	-2.4
CABF				*e*Pg	Pg	20 32 09.4	-5.9
CABF				*e*Sg	Sg	20 33 06.7	-7.9
	4.0nm,0.4s						
AVF	Avril sur Loir	4.59	203	*e*Pn	Pn	20 31 54.9	-2.7
AVF				*e*Sg	Sg	20 33 10.9	-8.5
	3.2nm,0.5s						
SMF	Signal de Mont	4.62	198	*e*Pn	Pn	20 31 55.5	-2.6
SMF				*e*Pg	Pg	20 32 12.8	-6.0
SMF				*e*Sg	Sg	20 33 11.3	-9.1
	4.6nm,0.3s						
LDF	La Druitiere	4.63	240	*e*Pn	Pn	20 31 55.9	-2.2
LDF				*e*Sn	Sn	20 32 46.1	-6.5
	1.3nm,0.2s						
FLN	La Foliniere	4.74	244	*e*Pn	Pn	20 31 56.0	-3.7
FLN				*e*Sn	Sn	20 32 48.3	-7.1
	4.0nm,0.4s						
BGF	Bois d'Agland	4.94	206	*e*Pn	Pn	20 31 59.3	-3.3
BGF				*e*Sg	Sg	20 33 21.8	-9.2
	8.7nm,0.4s						
GRR	Gorron	5.15	241	*e*Pn	Pn	20 32 03.0	-2.5
GRR				*e*Sn	Sn	20 32 58.0	-7.8
	3.6nm,0.2s						
TCF	Toulx Ste Croi	5.37	209	*e*Pn	Pn	20 32 05.4	-3.2
TCF				*e*Sg	Sg	20 33 33.5	-12
	0.8nm,0.2s						
MFF	Saint Martin d	6.00	224	*e*Pn	Pn	20 32 13.9	-3.5
MFF				*e*Sn	Sn	20 33 17.7	-9.3
	0.9nm,0.2s						
SGMF	Saint Gilles	6.18	246	*e*Pn	Pn	20 32 15.6	-4.5
SGMF				*e*Sn	Sn	20 33 23.3	-8.4
	0.8nm,0.2s						
ROSF	Rostrenen	6.56	249	*e*Pn	Pn	20 32 21.4	-4.0
ROSF				*e*Sn	Sn	20 33 31.8	-9.3
QUIF	Quistinic	6.71	246	*e*Pn	Pn	20 32 23.2	-4.3
QUIF				*e*Sn	Sn	20 33 34.5	-10
	0.8nm,0.3s						

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*MAN **07** 20:37:55.8, 8.85N×122.66E, h196^{km}, mb4.9, ML3.8, MS3.8*

*NEIC **07** 20:38:05.9±0.4, 9.23N×122.22E, mb4.9/4, Error ellipse: s-maj=13.2km s-min=6.2km az=62.0*

*HRVD **07** 20:38:05.9±1.3, 9.14N×122.30E, h51^{km}, MW4.8/35, Centroid moment Tensor Solution. LP body waves: s6,c6; Mantle waves: s35,c44; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.29±.34; $M_{\theta\theta}$0.30±.20; $M_{\phi\phi}$-1.60±.23; $M_{r\theta}$-0.87±.10; $M_{\theta\phi}$-0.27±.13; $M_{\phi r}$0.05±.22; Best double couple: $M_0$1.72×10^{16} NP1:ϕ_s341°,δ51°,λ49°. NP2:ϕ_s215°, δ54°,λ129°. Principal axes: T 1.8, Plg59°, Azm186°; N -.17, Plg31°, Azm10°; P -1.64, Plg2°, Azm279°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*IDC **07** 20:38:05.8±0.6, 9.29N×122.30E, h53^{km}±4^{km}, mb3.5/9, mb1 3.7/9, mb1mx3.6/14, MS3.5/2, Ms1 3.6/2, ms1mx3.0/24 Error ellipse: s-maj=45.3km s-min=10.5km az=62.0*

ISC 07 20:38:03.8±0.9**, 9.23N**±0.06×**122.27E**±0.07**, h50**^{km}±10^{km}**, h51**^{km}±.6^{km}**:pP-P, n46,** σ**0**^{s}**95**/27**, mb4.0**/12**, MS3.5**/1**, 5C-2D, Negros**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNPH	Sibulan	0.96	83	⇑*i*P	P	20 38 20.5	-0.6
SNPH				*i* S	S	20 38 35.0	+1.0
AAP	Anini-y	1.23	345	*e*P	Px	20 38 36.0	
DCPH	Dipolog City	1.25	121	⇑*i*P	P	20 38 24.3	-0.8
DCPH				*i* S	Sx	20 38 56.1	
GUIM	Jordan	1.43	13	*e*P	Px	20 38 40.2	
GUIM				*e*S	Sx	20 38 59.9	
TBP	Tagbilaran	1.64	73	*e*P	P	20 38 30.6	-0.1
TBP				*e*S	Sx	20 39 04.5	
LLP	Lapu-Lapu	1.99	57	*i* P	P	20 38 33.5	-2.2
LLP				*i* S	Sx	20 39 15.0	
CUYO	Cuyo Island	2.03	323	*e*P	P	20 38 47.8	+12
CUYO				*e*S	Sx	20 39 10.3	
RCP	Roxas	2.37	11	⇑*e*P	P	20 38 42.1	+1.0
RCP				*e*S	Sx	20 38 58.1	
KALP	Kalibo	2.44	2	⇑*e*P	P	20 38 44.4	+2.4
CGP	Cagayan de Oro	2.52	108	⇑*e*P	P	20 38 43.0	-0.1
CGP				*e*S	Sx	20 39 29.2	
CTBH	Cotabato--PC H	2.79	135	*e*P	P	20 38 48.0	+0.9
CTBH				*i* S	Sx	20 39 43.0	
SCPH	Surigao	3.22	80	⇓*e*P	Px	20 39 08.4	
PLP	Palo	3.29	54	*e*P	P	20 38 53.3	-0.9
MMPH	Masbate	3.39	23	*e*P	Px	20 39 10.0	
SJMP	San Jose	3.41	341	*e*P	Px	20 39 08.9	
SJMP				*e*S	Sx	20 39 46.3	
ENPP	El Nido	3.42	305	*e*P	Px	20 39 07.1	
ENPP				*e*S	Sx	20 39 43.2	
LUBP	Lubang	4.90	336	*e*P	Px	20 39 30.9	
LUBP				*e*S	Sx	20 40 22.5	
KKM	Kota Kinabalu	6.78	243	⇓*e*P	P	20 39 42.2	-0.9
JOW	Kunigami	18.41	17	LR	LR	20 49 47.6	
	comp=Z,95nm,18.1s,baz=151,slow=38						
KAKA	Kakadu	23.99	155	*e*P	P	20 43 16.3	+1.4
	21nm,0.8s,mb4.6						
CMAR	Chiang Mai Arr	24.41	295	P	P	20 43 19.7	+0.7
	0.8nm,0.9s,mb3.1,baz=111,slow=7.7,SNR=3.8						
CMAR				pP		20 43 33.1	
	4.9nm,1.2s,baz=111,slow=7.7,SNR=7.5						
CMAR				LR	LR	20 52 55.1	
	comp=Z,146nm,18.6s,MS3.5,baz=105,slow=36						
WRAB	Tennant Creek	31.32	158	P	P	20 44 25.7	+3.8
	22nm,1.1s,mb4.9						
WRA	Warramunga Arr	31.32	158	P	P	20 44 21.3	-0.6
	1.1nm,0.7s,mb3.8,baz=340,slow=9.1,SNR=9.4						
WRA				pP	pP	20 44 34.8	0.0
	5.1nm,1.0s,baz=336,slow=9.5,SNR=19						
WRA				sP	sP	20 44 43.3	+2.1
	1.8nm,0.6s,baz=339,slow=9.4,SNR=5.6						
WRA				PcP	PcP	20 47 14.4	-0.6
	0.6nm,0.7s,baz=338,slow=2.9,SNR=3.9						
WRA				pPcP		20 47 28.0	
	2.2nm,0.9s,baz=336,slow=3.0,SNR=8.5						
WB2	Warramunga Arr	31.33	158	*e*P	P	20 44 21.6	-0.3
WB2				*e*	pP	20 44 35.0	+0.1
ASPA	Alice Springs	34.61	161	*e*P	P	20 44 51.3	+1.0
ASPA				*e*	pP	20 45 04.9	+1.4
ASAR	Alice Springs	34.61	161	P	P	20 44 50.2	0.0
	1.8nm,0.6s,mb4.2,baz=342,slow=7.1,SNR=28						
ASAR				pP	pP	20 45 04.1	+0.6
	4.3nm,0.6s,baz=341,slow=7.2,SNR=19						
ASAR				pPcP		20 47 36.5	
	2.2nm,1.0s,baz=356,slow=3.3,SNR=5.4						
PKI	Pulchoki	39.24	303	*e*P	pP	20 45 43.3	+0.8
	20nm,1.2s						
KKN	Kakani	39.42	303	*e*P	pP	20 45 44.1	+0.1
	16nm,1.1s						
DMN	Daman	39.50	303	*e*P	pP	20 45 45.9	+1.2
	30nm,1.2s						
GKN	Gorkha	40.03	303	*e*P	pP	20 45 49.0	0.0
	2.9nm,0.2s						
SONM	Songino Array	40.76	344	P	P	20 45 41.7	+0.2
	0.6nm,0.9s,mb3.2,baz=168,slow=11,SNR=4.7						
SONM				pP	pP	20 45 55.5	+0.7
	1.4nm,0.7s,baz=161,slow=8.5,SNR=9.0						
KOLN	Koldanda	40.81	302	*e*P	pP	20 45 56.4	+0.8
	14nm,0.9s						
STKA	Stephens Creek	44.85	156	P	P	20 46 15.2	+0.1
	1.2nm,0.6s,mb3.9,baz=302,slow=16,SNR=3.6						
STKA				pP	pP	20 46 29.0	+0.4
	3.6nm,0.7s,baz=346,slow=2.1,SNR=4.4						
MKAR	Makanchi Array	50.54	325	P	P	20 46 59.0	-0.3
	1.5nm,1.0s,mb3.9,baz=112,slow=7.8,SNR=4.5						
MKAR				pP	pP	20 47 12.3	-0.6
	1.6nm,0.7s,baz=129,slow=9.2,SNR=6.2						
ZAL	Zalesovo	53.72	333	P	P	20 47 21.8	-1.2
	0.5nm,0.4s,mb3.8,baz=270,slow=8.1,SNR=2.9						
ZAL				pP	pP	20 47 35.5	-1.2
	0.8nm,0.4s,baz=264,slow=5.1,SNR=3.1						
ZAL	Zalesovo	53.72	333	P	P	20 47 21.8	-1.2
ZAL				pP	pP	20 47 35.5	-1.2
KURK	Kurchatov	54.76	328	*e*P	pP	20 47 43.8	-0.6
KURK				*e*pP	tx	20 47 57.0	
BVAR	Borovoye Array	60.33	327	P	P	20 48 09.1	-0.7
	0.7nm,0.7s,mb3.8,baz=100,slow=9.0,SNR=4.0						
BVAR				pP	pP	20 48 22.9	-0.9
	4.7nm,1.1s,baz=117,slow=9.9,SNR=7.0						
BRVK	Borovoye	60.40	327	*e*pP	pP	20 48 23.8	-0.5
	12nm,1.1s						
ZRNK	Zerenda	61.05	326	*e*P	P	20 48 14.2	-0.5
	12nm,1.2s,mb4.9						
ZRNK				*e*pP	pP	20 48 27.8	-0.9
ASF	Jabal al Asfar	81.26	301	pP	pP	20 50 29.7	-1.3
	3.7nm,1.0s,baz=112,slow=9.5,SNR=2.4						
BRTR	Keskin Array B	83.13	309	P	P	20 50 26.5	+0.6
	1.4nm,1.0s,mb3.9,baz=18,slow=14,SNR=2.3						
BRTR				pP	pP	20 50 41.8	+1.3
	1.5nm,0.8s,baz=117,slow=5.5,SNR=3.9						
ARCES	ARCESS Array B	83.79	339	pP	pP	20 50 43.6	+0.3
	3.3nm,0.7s,baz=31,slow=7.1,SNR=1.8						
AKASG	Malin Array Be	84.86	320	pP	pP	20 50 48.1	-0.9
	0.7nm,0.6s,baz=78,slow=3.9,SNR=3.0						
FINES	FINESS Array B	84.92	331	pP	pP	20 50 47.6	-1.5
	0.7nm,0.5s,baz=76,slow=5.7,SNR=1.2						
KMBO	Kilima Mbogo	85.26	268	pP	pP	20 50 51.8	-0.2
	2.8nm,0.9s,baz=42,slow=12,SNR=3.2						

MAN 07 20:44:29.3, 9.22N×122.15E, h32^{km}**, mb4.0, ML2.8, MS2.5, 1C, Negros**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNPH	Sibulan	1.08	84	*i* P	Pn	20 44 48.5	+0.2
DCPH	Dipolog City	1.35	118	⇑*e*P	Pn	20 44 51.5	-0.7
GUIM	Jordan	1.46	17	*e*P	Pn	20 44 53.4	-0.4
GUIM				*e*S	Sn	20 45 11.6	-0.4
IPIL	Ipil	1.48	164	*e*P	Pn	20 44 54.3	+0.1
IPIL				*e*S	Sn	20 45 11.8	-0.8
CUYO	Cuyo Island	1.96	326	*e*P	Pn	20 45 01.0	0.0
CUYO				*e*S	Sn	20 45 24.3	-0.5
ENPP	El Nido	3.33	307	*e*P	Pn	20 45 20.0	-0.5

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*MDD **07** 20:55:24.4±0.8, 37.58N×7.93W, h9^{km}±15^{km}, mbLg1.2/5, Error ellipse: s-maj=4.5km s-min=2.7km az=33.0, PRXIMO SIN SOLUCIN*

*INMG **07** 20:55:24.7±0.6, 37.58N×7.92W, ML0.6, Error ellipse: s-maj=1.7km s-min=1.2km az=40.0*

ISC 07 20:55:23.6±0.9**, 37.57N**±0.05×**7.92W**±0.05**, h9**^{km}**, n9,** σ**0**^{s}**63**/11**, Portugal**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EGRO	El Granado	0.34	96	Pg	Pg	20 55 30.9	+0.3
	0.8nm,0.1s,SNR=11						
EGRO				Lg		20 55 36.2	
	5.4nm,0.2s,SNR=16						
PALC	Alcoutim	0.36	106	*e*Pg	Pg	20 55 31.3	+0.3
PALC				*e*Sg	Sg	20 55 36.6	+0.6
	4.2nm,0.1s						
PALC	Alcoutim	0.36	106	Pg	Pg	20 55 31.3	+0.3
PALC				Lg		20 55 36.6	
	2.1nm,0.1s						
PBEJ	Beja	0.46	5	*e*Pg	Pg	20 55 32.7	-0.2
PBEJ				*e*Sg	Sg	20 55 39.1	0.0
	2.1nm,0.1s						
PBEJ	Beja	0.46	5	Pg	Pg	20 55 32.7	-0.2
PBEJ				Lg		20 55 39.1	
	1.1nm,0.1s						
PTEO	Sao Teotonio	0.64	268	*e*Sg	Sg	20 55 45.0	-0.2
EMIN	Mina Concepcio	1.01	78	Pg	Pg	20 55 43.0	-0.8
	0.4nm,0.1s,SNR=7.7						
EMIN				Lg		20 55 56.8	
	1.5nm,0.1s,SNR=13						
MOE	Montemor	1.01	340	*e*S	Sb	20 55 57.2	+1.1
EBAD	Badajoz	1.38	31	Pg	Pg	20 55 50.1	-1.1
	1.9nm,0.2s,SNR=9.2						
EBAD				Lg		20 56 08.4	
	4.3nm,0.2s,SNR=10						

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*NIED **07** 21:02:00, 33.40N×137.20E, h8^{km}, Mw4.4 Best double couple: $M_0$4.13×10^{15} NP1:ϕ_s188°,δ90°,λ82°. NP2:ϕ_s95°, δ8°,λ177°.*

*IDC **07** 21:02:08.7±0.9, 33.68N×137.35E, mb3.8/7, mb1 3.9/8, mb1mx3.7/23, ML3.4/1, MS3.3/1, Ms1 3.3/1, ms1mx2.6/26, Error ellipse: s-maj=32.5km s-min=17.1km az=48.0*

*NEIC **07** 21:02:11.2±0.8, 33.54N×137.10E, h10^{km}, mb4.3/2, Error ellipse: s-maj=20.6km s-min=12.2km az=106.0*

*JMA **07** 21:02:11.4±0.1, 33.41N×137.19E, h41^{km}±2^{km}, M3.8*

ISC 07 21:02:11.7±0.9**, 33.42N**±0.04×**137.17E**±0.03**, h32**^{km}±7^{km}**, n29,** σ**0**^{s}**71**/42**, mb3.8**/9**, 5C-1D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	Tokai 1	0.49	45	P	Pb	21 02 21.8	-0.2
TK02	Tokai 2	0.72	43	P	Pn	21 02 25.6	0.0
TK02				*e*S	Sb	21 02 36.0	+0.7
TK03	Tokai 3	1.00	41	P	Pn	21 02 29.2	-0.4
TK03				*e*S	Sn	21 02 43.1	+0.5
JIE	Ise	1.04	338	⇑P	Pn	21 02 30.3	0.0
JIE				*e*S	Sn	21 02 44.2	+0.4
JKN	Kiinagashima	1.12	318	⇑P	Pn	21 02 31.1	-0.2
JKN				*e*S	Sn	21 02 45.1	-0.6
TK04	Tokai 4	1.13	31	P	Pn	21 02 31.2	-0.3
TK04				*e*S	Sn	21 02 46.0	0.0
JAA	Atsumi	1.21	359	⇑P	Pn	21 02 32.2	-0.4
JAA				*e*S	Sn	21 02 47.6	-0.4
JWZ	Kozaga	1.22	276	⇓P	Pn	21 02 32.6	-0.2
JWZ				*e*S	Sn	21 02 48.1	-0.2
TSUJ	Tsu 2	1.43	334	⇑P	Pn	21 02 36.0	+0.2
TSUJ				S	Sn	21 02 54.0	+0.4
JWY	Kouya	1.54	302	P	Pn	21 02 37.7	+0.4
JWY				*e*S	Sn	21 02 56.5	+0.2
JWM	Minabe	1.57	286	P	Pn	21 02 38.1	+0.3
JWM				*e*S	Sn	21 02 57.2	-0.1
JHE	Heguri	1.74	315	⇑P	Pn	21 02 40.3	0.0
JHE				*e*S	Sn	21 03 01.9	+0.3
SHZ3	Shizuoka 3	1.85	27	P	Pn	21 02 41.2	-0.7
JHJ	Hachijo jima 2	2.21	97	Pn	Pn	21 02 46.2	-0.7
	27nm,0.3s,baz=229,slow=19,SNR=3.2						
JHJ				Sn	Sn	21 03 13.5	0.0
	31nm,0.3s,baz=255,slow=23,SNR=3.9						
MAJO	Matsushiro	3.23	15	*e*Pn	Pn	21 03 01.3	-0.2
MAT	Matsushiro	3.23	15	P	Pn	21 03 01.2	-0.3
MAT				*e*S	Sn	21 03 40.7	+1.4
MAT	Matsushiro	3.23	15	*e*P	Pn	21 03 01.0	-0.5
MAT				S	Sn	21 03 41.0	+1.7
ASAJ	Asahikawa	11.49	20	LR	LR	21 09 43.9	
	comp=Z,136nm,19.1s,baz=164,slow=41						
ENH	Enshi	23.70	270	P	P	21 07 24.1	+2.5
	7.4nm,0.7s,mb4.2						
SONM	Songino Array	27.22	311	P	P	21 07 53.9	-0.7
	0.5nm,0.8s,mb3.1,baz=124,slow=6.9,SNR=4.0						
ZAL	Zalesovo	41.92	316	P	P	21 10 00.3	-0.4
	0.6nm,0.8s,mb3.3,baz=290,slow=8.2,SNR=3.6						
ZAL	Zalesovo	41.92	316	P	P	21 10 00.3	-0.4
MKAR	Makanchi Array	43.21	305	P	P	21 10 11.5	+0.2
	1.2nm,0.7s,mb3.7,baz=96,slow=10,SNR=7.5						
KURK	Kurchatov	45.53	311	P	P	21 10 44.1	+14
BVAR	Borovoye Array	50.50	314	P	P	21 11 07.7	-0.9
	0.2nm,0.4s,mb3.4,baz=79,slow=7.3,SNR=3.1						
ZRNK	Zerenda	51.34	314	P	P	21 11 08.6	-6.3
	3.4nm,1.1s,mb4.2						
WRA	Warramunga Arr	53.13	183	P	P	21 11 29.1	+0.3
	0.9nm,0.6s,mb3.9,baz=1.0,slow=7.9,SNR=9.1						
ASAR	Alice Springs	56.85	184	P	P	21 11 57.8	+2.0
	0.9nm,0.8s,mb3.8,baz=8.2,slow=8.9,SNR=3.5						
ARCES	ARCESS Array B	66.14	339	P	P	21 12 55.5	-2.0
	3.4nm,0.8s,mb4.4,baz=24,slow=8.9,SNR=2.8						

IDC 07 21:11:54.9±6.3**,7.68S**×**118.28E,h131**^{km}±108^{km}**,mb3.3**/2**, mb1 3.4**/3**,mb1mx3.1**/14**,ML3.6**/1**,Error ellipse: s-maj=190.0km s-min=67.8km az=27.0,Flores Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	19.77	130	P	P	21 16 14.4	-2.5
	0.2nm,0.3s,baz=309,slow=10,SNR=21						
WRA				S	S	21 19 51.5	+4.1
	0.1nm,0.3s,baz=305,slow=23,SNR=4.9						
ASAR	Alice Springs	21.85	138	P	P	21 16 37.6	-0.1
	0.4nm,0.4s,baz=310,slow=9.5,SNR=7.2						
STKA	Stephens Creek	32.42	141	P	P	21 18 12.4	-2.2
	3.1nm,1.0s,baz=312,slow=12,SNR=3.6						

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*STR **07** 22:06:54.6±0.2, 42.89N×0.22E, h10^{km}±1^{km}, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LDG **07** 22:06:55.4±0.1, 42.90N×0.24E, h2^{km}, Md1.6/2, Ml1.7/2, Error ellipse: s-maj=2.3km s-min=1.2km az=173.0*

ISC 07 22:06:54.9±0.6**,42.92N**±0.05×**0.26E**±0.03**,h2**^{km}**,n8, σ1**^{s}**11**/15**,Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EPF	Esparros	0.12	29	*e*Pg	Pg	22 06 58.8	+1.4
EPF				*e*Sg	Sg	22 07 00.5	+1.4
	36nm,0.2s						
RESF	Ens	0.13	153	Pg	Pg	22 06 58.2	+0.7
VIEF	Viey	0.18	258	Pg	Pg	22 06 59.0	+0.6
VIEF				Sg	Sg	22 07 01.2	+0.4
MELF	Melles	0.37	97	Pg	Pg	22 07 02.7	+0.4
MELF				Sg	Sg	22 07 08.3	+1.0
ETSF	Etsaut	0.60	268	*e*Pg	Pg	22 07 06.6	-0.3
ETSF				*e*Sg	Sg	22 07 14.0	-0.9
	3.5nm,0.2s						
SALF	Salau	0.70	103	Pg	Pg	22 07 08.9	0.0
SALF				Sg	Sg	22 07 18.7	+0.4
MTLF	Montolieu	1.49	73	*e*Pg	Pg	22 07 23.4	-1.3
MTLF				*e*Sg	Sg	22 07 42.2	-2.5
	1.0nm,0.2s						
LASF	Ste Croix	2.86	65	*e*Pn	Pn	22 07 40.5	-1.9
LASF				*e*Sg	Sg	22 08 26.1	-4.1
	0.4nm,0.2s						

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*LDG **07** 22:06:52.6±0.3, 17.56S×168.29E, h10^{km}, Mb4.7/2, Error ellipse: s-maj=42.1km s-min=23.3km az=33.0*

*IDC **07** 22:07:06.8±1.2, 17.85S×168.46E, h123^{km}±8^{km}, mb4.2/12, mb1 4.3/12, mb1mx4.3/16, MS4.3/1, Ms1 4.3/1, ms1mx3.1/17, Error ellipse: s-maj=21.1km s-min=17.7km az=140.0*

*BJI **07** 22:07:07.4, 18.13S×168.12E, h134^{km}, mB5.1, mb4.9*

*NEIC **07** 22:07:08.2±1.5, 17.88S×168.48E, h138^{km}±13^{km}, mb4.7/12, Error ellipse: s-maj=12.8km s-min=9.6km az=178.0*

*SYO **07** 22:07:12.0, 17.98S×168.50E, h173^{km}, MB4.7*

ISC 07 22:07:07.6±0.8**,17.97S**±0.06×**168.39E**±0.08**,h143**^{km}±7^{km}**, h124**^{km}±4.4^{km}**:pP-P,n129,σ0**^{s}**90**/48**,mb4.5**/25**,15C-5D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BKM	Butte a Klehm	0.33	335	⇑*i*P	P	22 07 28.0	+0.1
DZM	Mont Dzumac	4.47	204	⇑*e*P	P	22 08 15.0	+0.2
DZM				*e*S	S	22 09 05.3	-1.2
DZM	Mont Dzumac	4.47	204	⇑*e*P	P	22 08 15.0	+0.2
DZM				*e*S	S	22 09 05.3	-1.3
NOUC	Port Laguerre	4.55	205	⇓*e*P	P	22 08 16.9	+1.0
NOUC				*e*S	S	22 09 08.2	-0.3
NOUC	Port Laguerre	4.55	205	⇓*e*P	P	22 08 16.9	+1.0
NOUC				*e*S	S	22 09 08.2	-0.3
CTA	Charters Tower	21.03	261	P	P	22 11 43.5	+2.1
	2.8nm,0.4s,mb3.9,baz=108,slow=11,SNR=7.0						
CTA				pP		22 12 05.8	
	10nm,0.9s,baz=87,slow=12,SNR=5.2						
CTA	Charters Tower	21.03	261	P	P	22 11 43.5	+2.1
CTA				pP		22 12 05.8	
CTAO	Charters Tower	21.03	261	*e*P	P	22 11 44.1	+2.8
	6.5nm,0.7s,mb4.1						
CTAO				*e*		22 12 06.6	
URZ	Urewera	21.61	161	P	P	22 11 49.4	+2.5
	7.5nm,0.5s,mb4.4,baz=110,slow=0.5,SNR=6.9						
STKA	Stephens Creek	27.87	235	*e*P	P	22 12 46.2	+0.1
	4.1nm,0.7s,mb4.3						
STKA	Stephens Creek	27.87	235	P	P	22 12 46.2	+0.1
	4.4nm,0.7s,mb4.3,baz=74,slow=8.5,SNR=10						
STKA				pP	pP	22 13 12.7	-3.4
	2.9nm,0.7s,baz=326,slow=9.4,SNR=1.9						
STKA				PcP	PcP	22 15 57.6	-0.8
	3.3nm,1.0s,baz=337,slow=16,SNR=2.9						
WB2	Warramunga Arr	32.22	261	*e*P	P	22 13 23.5	-1.1
WRA	Warramunga Arr	32.23	261	P	P	22 13 24.0	-0.6
	2.9nm,0.4s,mb4.4,baz=80,slow=6.2,SNR=58						
WRA				pP	pP	22 13 49.9	-5.6
	0.4nm,0.5s,baz=84,slow=8.4,SNR=1.7						
WRA				PcP	PcP	22 16 08.6	-1.2
	0.5nm,0.8s,baz=88,slow=3.1,SNR=6.0						
ASAR	Alice Springs	32.67	254	P	P	22 13 28.3	-0.1
	14nm,0.6s,mb4.9,baz=78,slow=9.0,SNR=80						
ASAR				pP	pP	22 13 55.0	-4.4
	3.6nm,0.7s,baz=82,slow=8.4,SNR=2.6						
ASPA	Alice Springs	32.67	254	*e*P	P	22 13 28.2	-0.3
KAKA	Kakadu	35.06	273	*e*P	P	22 13 48.0	-0.9
	3.0nm,0.3s,mb4.4						
FITZ	Fitzroy Crossi	40.58	263	⇑*i*P	P	22 14 35.6	+0.8
	11nm,0.6s,mb4.7						
FITZ	Fitzroy Crossi	40.58	263	P	P	22 14 35.4	+0.6
	13nm,0.6s,mb4.7,baz=137,slow=4.2,SNR=21						
FITZ				pP	pP	22 15 02.7	-4.0
	6.9nm,1.0s,baz=127,slow=5.1,SNR=2.6						
MBWA	Marble Bar	45.82	258	*e*P	P	22 15 17.0	-0.1
	10nm,0.6s,mb4.6						
NWAO	Narrogin (SRO)	48.09	242	P	P	22 15 33.9	-0.8
	5.7nm,0.6s,mb4.4,baz=75,slow=13,SNR=7.4						
NWAO	Narrogin (SRO)	48.09	242	P	P	22 15 33.9	-0.8
SBA	Scott Base	59.92	180	*e*P	P	22 16 59.4	-1.1
	5.9nm,0.4s,mb4.8						
JNU	Nakatsue	62.17	325	LR	LR	22 38 07.0	
	comp=Z,238nm,21.6s,baz=319,slow=30						
ASAJ	Asahikawa	66.14	340	P	P	22 17 41.4	-0.5
	9.7nm,0.7s,mb4.8,baz=65,slow=9.4,SNR=5.3						
QSPA	South Pole Qui	72.08	180	*e*P	P	22 18 17.3	-0.2
	17nm,1.1s,mb4.7						
QSPA				*e*	pP	22 18 52.1	-0.5
ENH	Enshi	74.25	310	*e*P	P	22 18 30.0	-1.0
	8.8nm,0.6s,mb4.7						
XAN	Xi’an	76.66	313	P	P	22 18 44.5	0.0
XAN				AMB	AMB		
	comp=Z,12nm,0.7s,mb4.6						
KMI	Kunming	76.92	302	*e*P	P	22 18 47.4	+1.2
KMI				AMB	AMB		
	comp=Z,18nm,0.8s,mb4.8						
CMAR	Chiang Mai Arr	77.25	294	P	P	22 18 49.1	+1.1
	comp=Z,5.7nm,0.7s,mb4.3,baz=134,slow=4.8,SNR=37						
MAW	Mawson	79.30	202	P	P	22 18 59.2	+0.9
	comp=Z,2.6nm,0.7s,mb4.0,baz=123,slow=10,SNR=5.3						
SONM	Songino Array	85.72	323	P	P	22 19 31.8	+0.2
	comp=Z,4.0nm,0.6s,mb4.3,baz=144,slow=5.9,SNR=34						
SYO	Syowa Base	85.92	196	⇑P	P	22 19 31.7	-0.4
SYO	Syowa Base	85.92	196	⇓PcP	PcP	22 19 32.9	-2.1
SYO	Syowa Base	85.92	196	⇓pP	pP	22 20 15.1	+6.6
SYO	Syowa Base	85.92	196	⇑P	sP	22 20 21.7	-2.4
CMB	Columbia Colle	86.92	48	*e*P	P	22 19 37.1	-0.6
	comp=Z,16nm,0.9s,mb4.9						
YBH	Yreka Blue Hor	86.96	44	P	P	22 19 37.9	+0.2
	comp=Z,3.6nm,0.8s,mb4.2,baz=210,slow=0.8,SNR=8.5						
MTUM	Tungsten Hills	87.94	50	*e*P	P	22 19 42.3	-0.3
MNV	Mina	88.68	49	*e*P	P	22 19 45.3	-0.7
	comp=Z,9.0nm,1.0s,mb4.7						
TPNV	Topopah Spring	89.48	51	*e*P	P	22 19 49.3	-0.5
	comp=Z,7.5nm,0.9s,mb4.6						
WVOR	Wild Horse Val	89.99	45	*e*P	P	22 19 52.1	0.0
	comp=Z,15nm,1.2s,mb4.8						
NEN	Nelson	90.03	52	*e*P	P	22 19 52.0	-0.5
SNAA	Sanae	90.39	183	⇑*i*	P	22 19 52.5	-0.8
VNA3	Neumayer Olymp	91.01	181	⇑*i*	P	22 19 59.0	+2.8
VNA2	Neumayer--Watz	91.29	181		P	22 20 01.1	+3.6
VNA1	Neumayer--Stat	91.58	181	⇑*i*	P	22 19 58.7	-0.2
ELK	Elko	91.66	48	*e*P	P	22 19 59.4	-0.6
	comp=Z,5.0nm,1.1s,mb4.5						
WMQ	Urumqi	95.75	314	*e*P	P	22 20 19.8	+1.3
WMQ				AMB	AMB		
	comp=Z,23nm,1.2s,mb5.4						
ARCES	ARCESS Array B	123.64	345	PKP	PKPdf	22 25 47.7	-0.1
	comp=Z,2.3nm,0.3s,baz=57,slow=2.1,SNR=41						
ARCES	ARCESS Array B	123.64	345	PKP	PKPdf	22 25 47.7	-0.1
KMBO	Kilima Mbogo	128.32	254	PKP	PKPdf	22 26 00.1	+1.8
	comp=Z,1.4nm,0.9s,baz=210,slow=5.3,SNR=4.5						
KAF	Kangasniemi	128.59	338	*e*p	PKPdf	22 25 57.1	-0.3
	baz=47,slow=1.9						
FINES	FINESS Array B	129.11	338	PKP	PKPdf	22 25 58.9	+0.4
	comp=Z,0.5nm,0.2s,baz=80,slow=2.9,SNR=15						
AKASG	Malin Array Be	134.00	325	PKP	PKPdf	22 26 07.4	-0.5
	comp=Z,1.0nm,0.5s,baz=48,slow=2.4,SNR=5.5						
NOA	NORSAR Array B	134.02	345	PKP	PKPdf	22 26 08.7	+1.1
	comp=Z,1.1nm,1.0s,baz=32,slow=4.2,SNR=2.6						
KHC	Kasperske Hory	142.84	332	*e*PKPpre		22 26 19.0	
GERES	GERESS Array B	143.00	332	PKhKP		22 26 21.6	
	comp=Z,1.3nm,0.7s,baz=39,slow=3.7,SNR=12						
MOA	Molln	143.46	330	⇑*i*P	PKPbc	22 26 24.1	+0.5
	comp=Z,3.7nm,0.8s						
KBA	Koelnbreinsper	144.45	330	⇑*i*P	PKPbc	22 26 26.4	-0.1
	comp=Z,11nm,0.6s						
DCN	Croghan	144.54	356	⇓*i*P	PKPbc	22 26 26.7	+0.1
BOJS	Bojanci	144.60	327	*i* PKP	PKPdf	22 26 27.7	+0.6
VISS	Visnje	144.61	327	*i* PKP	PKPdf	22 26 27.4	+0.3
WATA	Walderalm	145.07	332	⇑*i*P	PKPdf	22 26 28.6	+0.7
	comp=Z,10nm,0.6s						
WTTA	Wattenberg	145.10	332	⇑*i*P	PKPdf	22 26 28.9	+1.0
	comp=Z,18nm,0.8s						
MOTA	Moosalm	145.28	333	⇑*i*P	PKPdf	22 26 28.4	+0.2
	comp=Z,19nm,0.8s						
SQTA	Sankt Quirin	145.32	332	⇑*i*P	PKPdf	22 26 29.7	+1.4
	comp=Z,27nm,0.7s						
GIVF	Givet	145.34	341	*e*PKP1	PKPbc	22 26 29.1	+0.3
BAIF	Baives	145.56	342	*e*PKP1	PKPbc	22 26 30.0	+0.6
	comp=Z,29nm,0.9s						
DAVA	Damuels	145.85	334	⇑*i*P	PKPdf	22 26 31.4	+2.2
	comp=Z,10nm,0.7s						
CDF	Champ du Feu	145.97	337	*e*PKP1	PKPbc	22 26 31.3	+0.9
	comp=Z,34nm,0.7s						
HINF	Hinteralfeld	146.62	337	*e*PKP1	PKPbc	22 26 32.8	+0.8
	comp=Z,6.4nm,0.6s						
HAU	Haudompre	146.64	338	*e*PKP1	PKPbc	22 26 33.1	+1.1
	comp=Z,10nm,0.6s						
MEZF	Maizieres J’vi	146.66	340	*e*PKP1	PKPbc	22 26 33.6	+1.6
	comp=Z,25nm,0.6s						
TIP	Timpagrande	147.55	316	*e*PKPbc	PKPdf	22 26 36.5	+4.3
AQU	L’Aquila	147.69	324	*e*PKPbc	PKPdf	22 26 36.8	+4.4
GRAM		147.91	330	P	PKPdf	22 26 37.1	+4.4
CABF	La Chapelle	147.91	337	*e*PKP1	PKPdf	22 26 37.3	+4.7
	comp=Z,44nm,0.8s						
VALM		147.93	330	P	PKPdf	22 26 36.5	+3.8
FLN	La Foliniere	147.98	346	*e*PKP1	PKPdf	22 26 36.4	+3.7
LDF	La Druitiere	148.06	346	*e*PKP1	PKPdf	22 26 36.4	+3.6
	comp=Z,18nm,0.7s						
BACM		148.07	330	P	PKPdf	22 26 36.7	+3.7
CODM		148.09	330	P	PKPdf	22 26 36.8	+3.8
VINC	Vinca	148.13	330	P	PKPdf	22 26 36.5	+3.5
TRAV		148.16	334	P	PKPdf	22 26 36.4	+3.4
GRR	Gorron	148.42	346	*e*PKP1	PKPdf	22 26 37.6	+4.2
SSF	Saint Saulge	148.43	340	*e*PKP1	PKPdf	22 26 38.1	+4.7
	comp=Z,46nm,0.8s						
LSD	Ceresole Reale	148.45	334	P	PKPdf	22 26 39.0	+5.5
HYF	Humbligny	148.52	341	*e*PKP1	PKPdf	22 26 38.2	+4.6
LPL	La Plagne	148.57	335	*e*PKP1	PKPdf	22 26 39.0	+5.3
	comp=Z,22nm,0.7s						
LPG	La Plagne	148.58	335	*e*PKP1	PKPdf	22 26 39.1	+5.4
	comp=Z,22nm,0.6s						
RSP	Reno Superiore	148.65	334	P	PKPdf	22 26 38.2	+4.3
SMF	Signal de Mont	148.69	339	*e*PKP1	PKPdf	22 26 38.5	+4.6
AVF	Avril sur Loir	148.72	340	*e*PKP1	PKPdf	22 26 38.5	+4.6
FENE	Fenestrelle	148.83	334	P	PKPdf	22 26 39.1	+5.0
BHB	Bricherasio	148.90	334	P	PKPdf	22 26 38.0	+3.8
SGMF	Saint Gilles	148.91	348	*e*PKP1	PKPdf	22 26 38.8	+4.6
	comp=Z,5.2nm,0.4s						
ROSF	Rostrenen	148.96	349	*e*PKP1	PKPdf	22 26 38.9	+4.7
BNI	Bardonecchia	148.97	334	*e*PKPbc	PKPdf	22 26 40.0	+5.7
FIN	Finale Ligure	148.99	332	P	PKPdf	22 26 38.5	+4.1
RRL	Cesana Torines	149.03	334	P	PKPdf	22 26 39.9	+5.5
ROB	Roburent	149.07	332	P	PKPdf	22 26 39.0	+4.4
BGF	Bois d’Agland	149.09	340	*e*PKP1	PKPdf	22 26 39.7	+5.2
	comp=Z,30nm,0.7s						
RORO		149.12	332	P	PKPdf	22 26 39.2	+4.6
MBDF	Montbardon	149.20	334	*e*PKP1	PKPdf	22 26 40.0	+5.3
	comp=Z,9.5nm,0.6s						
PZZ	Prazzo	149.24	333	P	PKPdf	22 26 39.0	+4.2
MONE	Monesi	149.29	332	P	PKPdf	22 26 39.6	+4.7
ENR	Entracque	149.32	333	P	PKPdf	22 26 39.0	+4.1
QUIF	Quistinic	149.34	349	*e*PKP1	PKPdf	22 26 39.6	+4.8
STV2	Anna di Valdie	149.35	333	P	PKPdf	22 26 39.4	+4.4
STV	Sta Anna Valdi	149.35	333	P	PKPdf	22 26 39.4	+4.4
IMI	Imperia	149.36	332	P	PKPdf	22 26 39.9	+4.9
ORIF	Oris-en-Rattie	149.41	335	*e*PKP1	PKPdf	22 26 40.9	+5.9
	comp=Z,29nm,0.6s						
NEGI	Negi	149.49	332	P	PKPdf	22 26 40.1	+5.0
TCF	Toulx Ste Croi	149.53	341	*e*PKP1	PKPdf	22 26 40.8	+5.6
	comp=Z,38nm,1.1s						
SBF	Sospel	149.60	332	*e*PKP1	PKPdf	22 26 40.8	+5.4
PGF	Pioggiola	149.88	329	*e*PKP1	PKPdf	22 26 41.7	+5.9
	comp=Z,91nm,0.8s						
MFF	Saint Martin d	149.92	344	*e*PKP1	PKPdf	22 26 41.5	+5.8
	comp=Z,19nm,0.6s						
VIVF	Saint-Julien-l	149.93	337	*e*PKP1	PKPdf	22 26 41.9	+6.1
	comp=Z,27nm,0.9s						
FRF	La Foret Royal	150.19	333	*e*PKP1	PKPdf	22 26 42.2	+5.9
	comp=Z,22nm,0.7s						
SMRF	Simiane la Rot	150.31	334	*e*PKP1	PKPdf	22 26 43.1	+6.7
	comp=Z,45nm,0.9s						
LMR	La Mourre	150.43	333	*e*PKP1	PKPdf	22 26 42.9	+6.3
	comp=Z,38nm,0.8s						
RJF	Les Rejaudoux	150.63	341	*e*PKP1	PKPdf	22 26 43.4	+6.5
	comp=Z,19nm,0.9s						
CAF	Calviac	150.79	340	*e*PKP1	PKPdf	22 26 43.9	+6.8
	comp=Z,12nm,0.8s						
LASF	Ste Croix	150.90	337	*e*PKP1	PKPdf	22 26 44.3	+7.0
	comp=Z,40nm,0.8s						
LFF	La Frestale	151.19	342	*e*PKP1	PKPdf	22 26 44.8	+7.1
	comp=Z,28nm,0.7s						
MTLF	Montolieu	152.13	338	*e*PKP1	PKPdf	22 26 46.9	+7.7
	comp=Z,12nm,0.8s						
EPF	Esparros	153.04	340	*e*PKP1	PKPdf	22 26 48.7	+8.3
SJPF	Ste Jean	153.43	343	*e*PKP1	PKPdf	22 26 50.0	+9.0
ETSF	Etsaut	153.44	342	*e*PKP1	PKPdf	22 26 50.1	+9.1

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*JMA **07** 22:34:29.5±0.1, 33.03N×137.05E, h41^{km}±3^{km}, M3.7*

ISC 07 22:34:30.1±1.2**,33.06N**±0.07×**137.04E**±0.04**,h42**^{km}±26^{km}**, n16,σ0**^{s}**61**/31**,6D,Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TK01	Tokai 1	0.84	33	P	P	22 34 45.2	-0.3
TK01				S	S	22 34 56.6	-0.2
TK02	Tokai 2	1.06	34	P	P	22 34 48.6	-0.1
TK02				S	S	22 35 02.6	0.0
JWZ	Kozaga	1.21	293	⇓P	P	22 34 50.4	-0.3
JWZ				*e*S	S	22 35 05.2	-1.0
TK03	Tokai 3	1.34	35	*e*S	S	22 35 09.8	+0.2
JKN	Kiinagashima	1.35	331	P	P	22 34 53.0	+0.1
JKN				S	S	22 35 09.1	-0.7
JIE	Ise	1.35	348	⇓P	P	22 34 53.3	+0.3
JIE				*e*S	S	22 35 10.6	+0.6
TK04	Tokai 4	1.49	28	P	P	22 34 54.9	0.0
TK04				S	S	22 35 13.4	+0.1
JWM	Minabe	1.61	300	⇓P	P	22 34 56.5	-0.1
JWM				*e*S	S	22 35 16.0	-0.4
JWY	Kouya	1.67	314	⇓P	P	22 34 58.0	+0.6
JWY				*e*S	S	22 35 18.1	+0.3
TSUJ	Tsu 2	1.72	343	P	P	22 34 58.5	+0.4
TSUJ				S	S	22 35 19.2	+0.1
JHE	Heguri	1.95	325	⇓P	P	22 35 01.9	+0.6
JHE				*e*S	S	22 35 25.6	+0.9
SHZ3	Shizuoka 3	2.22	26	P	P	22 35 04.8	-0.4
SHZ3				*e*S	S	22 35 30.1	-1.5
JAI	Aioi	2.29	289	P	P	22 35 06.1	-0.1
JAI				*e*S	S	22 35 32.2	-1.1
JWT	Wachi	2.60	329	⇓P	P	22 35 11.1	+0.5
JWT				*e*S	S	22 35 42.0	+0.8
JYN	Shimob	2.73	27	P	P	22 35 13.1	+0.6
JYN				S	S	22 35 43.9	-0.6
MAT	Matsushiro	3.60	15	P	P	22 35 26.2	+1.3
MAT				S	S	22 36 06.0	-0.6

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*NEIC **07** 22:41:05.7, 49.36N×6.91E, h1^{km}, ML2.6(LDG), ML2.3(STR), After LDG.*

*BNS **07** 22:41:07.0±1.5, 49.41N×7.01E, h1^{km}, ML1.7*

LDG 07 22:41:05.7±0.1**,49.36N**×**6.91E,h1**^{km}**,Md2.6**/4**,Ml2.6**/14**, Error ellipse: s-maj=1.3km s-min=0.9km az=78.0, Suspected Mining induced.,Germany**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WLF	Walferdange	0.58	302	*e*Pg	Pg	22 41 16.9	-0.4
WLF	Walferdange	0.58	302	*e*P	Pg	22 41 17.0	-0.3
BGG	Burgeitz	0.90	18	*e*Pg	Pg	22 41 22.0	-1.6
BGG				*e*Sg	Sg	22 41 34.4	-1.2
	37nm,0.2s						
CDF	Champ du Feu	0.97	166	*e*Pg	Pg	22 41 24.4	-0.8
CDF				*e*Sg	Sg	22 41 36.9	-1.3
	19nm,0.3s						
WLS	Welschbruch	0.99	163	Pg	Pg	22 41 25.0	-0.4
WLS				Sg	Sg	22 41 39.3	+0.7
ECH	Echery	1.15	172	Pg	Pg	22 41 27.8	-0.9
ECH				Sg	Sg	22 41 43.0	-1.1
STB	Steinbach	1.24	358	*e*Pg	Pg	22 41 29.8	-0.7
STB				*e*Sg	Sg	22 41 45.0	-2.0
	12nm,1.0s						
THEF	They Montfort	1.28	209	Pg	Pg	22 41 29.8	-1.5
THEF				Sg	Sg	22 41 46.8	-1.7
KLL	Kalltalsperre	1.35	344	*e*Pg	Pg	22 41 30.3	-2.4
KLL				*e*Sg	Sg	22 41 47.3	-3.3
BFO	Black Forest	1.39	137	*e*Pg	Pg	22 41 32.1	-1.3
BFO				*e*Sg	Sg	22 41 49.6	-2.3
HAU	Haudompre	1.40	196	*e*Pg	Pg	22 41 32.0	-1.7
HAU				*e*Sg	Sg	22 41 50.2	-2.2
	14nm,0.3s						
MEZF	Maizieres J’vi	1.49	236	*e*Pg	Pg	22 41 33.8	-1.7
MEZF				*e*Sg	Sg	22 41 52.3	-3.1
	20nm,0.5s						
MOF	Molkenrain	1.51	174	Pg	Pg	22 41 34.3	-1.6
MOF				Sg	Sg	22 41 54.6	-1.5
HINF	Hinteralfeld	1.54	181	*e*Pg	Pg	22 41 34.6	-1.9
HINF				*e*Sg	Sg	22 41 54.3	-2.7
	23nm,0.3s						
HGN	Heimansgroeve	1.54	336	*e*Pg	Pg	22 41 33.1	-3.5
	6.5nm,0.6s						
HGN				*e*Sg	Sg	22 41 53.4	-3.7
GIVF	Givet	1.55	300	*e*Pn	Pn	22 41 32.9	-1.6
GIVF				*e*Pg	Pg	22 41 34.9	-1.7
GIVF				*e*Sn	Sn	22 41 52.0	-3.5
GIVF				*e*Sg	Sg	22 41 54.6	-2.6
	13nm,0.4s						
BAIF	Baives	1.89	293	*e*Pn	Pn	22 41 37.9	-1.5
BAIF				*e*Pg	Pg	22 41 40.9	-2.5
BAIF				*e*Sn	Sn	22 42 00.5	-3.7
BAIF				*e*Sg	Sg	22 42 05.2	-3.4
	6.0nm,0.3s						
CABF	La Chapelle	2.80	192	*e*Pn	Pn	22 41 50.2	-2.3
CABF				*e*Pg	Pg	22 41 57.8	-3.8
CABF				*e*Sg	Sg	22 42 33.6	-5.4
	9.2nm,0.6s						
SSF	Saint Saulge	3.23	226	*e*Pn	Pn	22 41 55.7	-2.9
SSF				*e*Sn	Sn	22 42 32.7	-5.6
SSF				*e*Sg	Sg	22 42 45.6	-7.7
	5.8nm,0.5s						
SMF	Signal de Mont	3.41	218	*e*Pn	Pn	22 41 57.7	-3.4
SMF				*e*Sn	Sn	22 42 36.4	-6.3
SMF				*e*Sg	Sg	22 42 52.3	-6.8
	2.8nm,0.3s						
AVF	Avril sur Loir	3.50	224	*e*Pn	Pn	22 41 59.3	-3.1
AVF				*e*Pg	Pg	22 42 10.3	-5.3
AVF				*e*Sn	Sn	22 42 39.4	-5.7
AVF				*e*Sg	Sg	22 42 55.2	-7.1
	1.6nm,0.4s						
HYF	Humbligny	3.53	235	*e*Pn	Pn	22 42 00.4	-2.5
HYF				*e*Sn	Sn	22 42 38.3	-7.6
BGF	Bois d’Agland	3.91	226	*e*Pn	Pn	22 42 04.9	-3.3
BGF				*e*Sn	Sn	22 42 49.3	-6.1
	10.0nm,0.4s						
KHC	Kasperske Hory	4.38	90	*e*PN	Pn	22 42 12.0	-2.8
KHC				PG	Pg	22 42 31.0	-2.0
KHC	Kasperske Hory	4.38	90	*e*P	Pn	22 42 12.0	-2.8
KHC				*e*		22 42 31.0	
TCF	Toulx Ste Croi	4.41	228	*e*Sn	Sn	22 43 00.5	-7.6
TCF				*e*Sg	Sg	22 43 22.6	-10
	0.9nm,0.3s						
LDF	La Druitiere	4.69	263	*e*Pn	Pn	22 42 15.3	-4.1
FLN	La Foliniere	4.90	266	*e*Pn	Pn	22 42 18.5	-3.7
SGMF	Saint Gilles	6.35	264	*e*Pn	Pn	22 42 38.1	-4.6

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*HEL **07** 22:45:27.2±0.4, 55.88N×19.96E, ML2.4, ML2.9(UPP), Explosion*

*IDC **07** 22:45:29.5±2.5, 56.05N×19.91E, mb1 3.5/4, mb1mx3.3/19, ML3.1/4, Error ellipse: s-maj=23.4km s-min=12.2km az=2.0*

ISC 07 22:45:24.9±1.1**,55.96N**±0.07×**20.22E**±0.09**,n19,σ1**^{s}**57**/31**, Baltic Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GOTU	Gotland	1.95	333	*e*P	Pn	22 46 01.2	+1.5
GOTU				*e*S	Sn	22 46 26.3	+1.1
BYXU	Byxelkrok	2.22	308	*e*P	Pn	22 46 04.0	+0.5
BYXU				*e*S	Sn	22 46 31.9	-0.1
BLEU	Blekinge	2.49	280	*e*P	Pn	22 46 07.1	-0.2
OSKU	Oskarshamn	2.59	300	*e*P	Pn	22 46 09.1	+0.3
BSD	Bornholm Skovb	3.13	256	*i* P	Pn	22 46 15.1	-1.4
BSD				*i*		22 46 22.1	
BSD				*i* S	Sn	22 46 53.5	-1.6
BSD				*i*		22 47 01.3	
VIKU	Vikbolandet	3.19	325	*e*P	Pn	22 46 19.1	+1.9
NYNU	Nynaeshamn	3.28	340	*e*P	Pn	22 46 20.3	+1.7
LNKU	Linkoeping	3.43	313	*e*P	Pn	22 46 21.5	+0.8
DEL	Delary	3.58	281	*e*P	Pn	22 46 21.6	-1.2
NRTU	Norrtaelje	3.82	348	*e*P	Pn	22 46 28.6	+2.2
HFS	Hagfors	5.43	323	Pn	Pn	22 46 47.9	-1.2
	0.1nm,0.3s,baz=138,slow=19,SNR=30						
HFS				Sn	Sn	22 47 49.5	-3.8
	0.1nm,0.3s,baz=143,slow=29,SNR=4.2						
HFS				Lg		22 48 11.2	
	0.3nm,0.3s,baz=135,slow=26,SNR=8.1						
PVF	Pernaja	5.48	31	*e*P	Pn	22 46 52.4	+2.6
PVF				*e*S	Sn	22 47 52.7	-1.8
PVF				*e*SG	Sg	22 48 16.9	-10
PVF				MSG		22 48 22.2	
	comp=Z,3.6nm,0.3s						
VJF	Virojoki	6.01	37	*e*P	Pn	22 46 58.0	+0.8
VJF				*e*S	Sn	22 48 04.7	-3.0
FIA0	FINESS Array S	6.29	27	*e*P	Pn	22 47 02.6	+1.4
FIA0				*e*S	Sn	22 48 12.2	-2.6
FINES	FINESS Array B	6.29	27	Pn	Pn	22 47 02.5	+1.3
	comp=Z,0.6nm,0.3s,baz=205,slow=11,SNR=24						
FINES				Sn	Sn	22 48 14.6	-0.2
	comp=Z,1.0nm,0.3s,baz=216,slow=22,SNR=11						
FINES				Lg		22 48 47.9	
	comp=Z,0.9nm,0.3s,baz=219,slow=24,SNR=5.4						
KEF	Keuruu	6.67	19	*e*P	Pn	22 47 08.4	+1.8
KEF				*e*S	Sn	22 48 22.9	-1.4
KAF	Kangasniemi	6.92	24	*e*P	Pn	22 47 11.2	+1.0
KAF				*e*S	Sn	22 48 28.0	-2.6
NOA	NORSAR Array B	6.94	321	Pn	Pn	22 47 07.4	-2.9
	comp=Z,0.2nm,0.3s,baz=135,slow=13,SNR=2.8						
NOA				Sn	Sn	22 48 22.3	-8.7
	comp=Z,0.1nm,0.3s,baz=352,slow=3.9,SNR=2.5						
NOA				Lg		22 48 59.1	
	comp=Z,0.8nm,0.3s,baz=238,slow=13,SNR=5.5						
ARCES	ARCESS Array B	13.83	8	Pn	P	22 48 39.2	-5.0
	comp=Z,0.1nm,0.3s,baz=191,slow=14,SNR=6.4						

MAN 07 22:58:22.4,17.58N×**120.33E,h26**^{km}**,mb4.1,ML2.9, MS2.5,1D,Luzon**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ABRA	Dolores	0.37	79	*e*P	Pb	22 58 31.3	+0.8
ABRA				*e*S	Sb	22 58 38.2	+2.2
PIP	Pasuquin	0.79	20	⇓*i*P	Pb	22 58 37.6	+0.2
PIP				*i* S	Sb	22 58 49.2	+1.5
APYP	Conner	0.91	72	*e*P	Pb	22 58 39.3	-0.2
APYP				*e*S	Sb	22 58 51.9	+0.7
BCPH	Baguio City Da	1.22	169	*i* P	Pn	22 58 42.9	-1.0
BCPH				*i* S	Sn	22 58 58.6	-1.0
BOLP	Bolinao	1.26	199	*e*P	Pn	22 58 43.7	-0.8
CVP	Callao Caves	1.43	85	*e*P	Pn	22 58 48.7	+1.8
CVP				*e*S	Sn	22 59 07.5	+2.5
CAUP	Cauayan	1.56	114	*e*P	Pn	22 58 50.8	+2.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	1.76	68	*e*P	Pn	22 58 52.0	+0.2
BALP	**Baler**	2.18	147	*e*P	Pn	22 58 59.1	+1.3

MDD ***07*** *23:05:15.3±3.2, 40.19N×14.22W, mb3.4/6, Error ellipse: s-maj=29.4km s-min=20.8km az=90.0, PRXIMO SOLUCIN POBRE*

INMG ***07*** *23:05:16.6±0.6, 40.16N×14.72W, h10^{km}, ML1.7, Error ellipse: s-maj=6.8km s-min=4.0km az=78.0*

ISC 07 23:05:17.6±1.7, **40.22N**±0.07×**13.8W**±0.1, **h10**^{km}, **n9, σ1^{s}21**/17, **North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PTOM	**Tomar**	4.17	97	*e*Pn	Pn	23 06 24.0	+1.2
PTOM				*e*Sn	Sn	23 07 14.7	+2.5
ELOB	**Lobios**	4.63	67	Pn	Pn	23 06 30.6	+1.4
	0.3nm,0.1s,SNR=7.9						
ELOB				Sn	Sn	23 07 24.0	+0.3
	0.6nm,0.1s,SNR=7.9						
PTEO	**Sao Teotonio**	4.76	122	*e*Pn	Pn	23 06 30.2	-1.0
PTEO				*e*Sn	Sn	23 07 25.5	-1.6
PCBR	**Castelo Branco**	4.85	92	*e*Pn	Pn	23 06 33.5	+1.1
PCBR				*e*Sn	Sn	23 07 31.0	+1.6
EBAD	**Badajoz**	5.43	103	Pn	Pn	23 06 40.9	+0.2
	0.2nm,0.1s,SNR=7.9						
EBAD				Sn	Sn	23 07 44.5	+0.4
	0.3nm,0.1s,SNR=7.9						
ECAL	**Calabor**	5.59	70	Pn	Pn	23 06 43.2	+0.3
	0.1nm,0.1s,SNR=4.0						
ECAL				Sn	Sn	23 07 45.8	-2.2
	0.3nm,0.2s,SNR=7.9						
EGRO	**El Granado**	5.60	117	Pn	Pn	23 06 42.7	-0.2
	0.2nm,0.1s,SNR=7.9						
EGRO				Sn	Sn	23 07 47.0	-1.0
	0.2nm,0.1s,SNR=7.9						
EPON	**Pontenova**	5.85	56	Pn	Pn	23 06 45.9	-0.6
	0.1nm,0.1s,SNR=7.9						
EPON				Sn	Sn	23 07 52.5	-1.8
	0.2nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	6.05	112	Pn	Pn	23 06 48.8	-0.5
	0.1nm,0.1s,SNR=7.9						

HEL ***07*** *23:29:07.1±0.1, 67.85N×20.30E, ML1.5, ML2.3(UPP), ML1.9(BER), Explosion*

BER ***07*** *23:29:07.7±3.5, 67.82N×20.22E, ML1.9, Suspected explosion*

ISC 07 23:29:05.4±0.5, **67.81N**±0.03×**20.21E**±0.09, **n17, σ1^{s}18**/27, **Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUA	**Kurravaara**	0.15	19	*i* P	Pg	23 29 08.8	+0.5
KUA				*i* S	Sg	23 29 10.6	+0.3
NIKU	**Nikkaluokta**	0.45	277	*i* P	Pg	23 29 13.8	-0.5
DUNU	**Dundret**	0.71	169	*i* P	Pg	23 29 20.2	+0.6
MASU	**Masugnsbyn**	0.77	117	*i* P	Pg	23 29 21.0	+0.2
KIF	**Kilpisjarvi**	1.22	10	*e*P	Pb	23 29 28.8	-0.1
KIF				*e*S	Sb	23 29 44.6	-0.5
PAJU	**Pajala**	1.37	124	*e*P	Pb	23 29 31.7	+0.1
ERTU	**Ertsjaerv**	1.48	148	*e*P	Pn	23 29 33.8	+0.5
KTK1	**Kautokeino**	1.64	42	*e*P	Pn	23 29 36.9	+1.3
KTK1				*e*SN	Sn	23 29 58.5	+0.7
KTK1				AML	AML	23 30 02.0	
	comp=Z,13nm,0.3s						
TRO	**Tromso**	1.89	346	*e*P	Pn	23 29 39.8	+0.7
TRO				*e*SG	Sg	23 30 04.4	-3.8
TRO				AML	AML	23 30 07.3	
	comp=Z,20nm,0.4s						
SGF	**Sodankyl**	2.44	96	*e*P	Pn	23 29 48.3	+1.1
SGF				*e*S	Sn	23 30 17.1	-1.0
SGF				*e*SG	Sg	23 30 20.8	-6.0
SGF				MSG		23 30 22.9	
	comp=Z,1.9nm,0.2s						
LOF	**Lofoten**	2.53	280	*e*SG	Sg	23 30 28.6	-1.1
LOF				AML	AML	23 30 30.2	
	comp=Z,9.7nm,0.3s						
MOR8	**Moi Rana**	2.80	237	*e*SG	Sg	23 30 29.8	-8.9
MOR8				AML	AML	23 30 32.6	
	comp=Z,18nm,0.5s						
KEV	**Kevo**	3.15	49	*e*P	Pn	23 29 57.7	+0.6
KEV				*e*S	Sn	23 30 33.4	-2.6
KEV				*e*SG	Sg	23 30 41.2	-9.0
OUL	**Oulu**	3.56	138	*e*P	Pn	23 30 04.7	+1.6
OUL				*e*SG	Sg	23 30 55.1	-9.0
MSF	**Maaselka**	3.97	115	*e*S	Sn	23 30 53.6	-3.3
NSS	**Namsos**	4.69	229	*e*SG	Sg	23 31 32.7	-9.0
KJN	**Kajaani**	4.84	137	*e*P	Pn	23 30 21.7	+0.5
KJN				*e*S	Sn	23 31 15.4	-3.4

NIED ***07*** *23:34:00, 33.80N×142.30E, h8^{km}, Mw4.2 Best double couple: M$_0$2.51×10^{15} NP1:φ$_s$171°, δ56°, λ-106°. NP2: φ$_s$19°, δ37°, λ-67°.*

MOS ***07*** *23:34:29.5±2.9, 33.70N×142.20E, h33^{km}, mb4.3/8, Error ellipse: s-maj=32.2km s-min=17.7km az=116.7*

IDC ***07*** *23:34:29.4±0.7, 33.74N×142.20E, mb4.1/14, mb1 4.2/15, mb1mx4.2/21, ML3.9/1, MS3.4/6, Ms1 3.4/6, ms1mx3.1/33, Error ellipse: s-maj=19.1km s-min=16.6km az=98.0*

JMA ***07*** *23:34:31.9±0.3, 33.76N×142.31E, h63^{km}, M4.0*

BJI ***07*** *23:34:33.1, 32.80N×142.04E, h61^{km}, mB4.9, mb4.9*

NEIC ***07*** *23:34:36.1±1.4, 33.72N×142.16E, h47^{km}±12^{km}, mb4.5/4, MW4.2(NIED), Error ellipse: s-maj=13.2km s-min=8.6km az=83.0*

ISC 07 23:34:30.5±1.7, **33.72N**±0.04×**142.25E**±0.05, **h19**^{km}±12^{km}, **n57, σ1^{s}06**/63, **mb4.2**/22, **MS3.5**/3, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BSO1	**Boso 1**	1.41	312	P	Pn	23 34 56.0	+0.6
BSO1				S	Sn	23 35 13.1	-0.4
BSO2	**Boso 2**	1.61	310	S	Sn	23 35 20.2	+1.5
BSO3	**Boso 3**	1.80	307	P	Pn	23 35 01.8	+0.8
BSO3				*e*S	Sn	23 35 23.8	+0.3
BSO4	**Boso 4**	2.03	309	P	Pn	23 35 05.3	+1.0
BSO4				*e*S	Sn	23 35 29.7	+0.4
JHJ2	**Mitsune**	2.13	254	P	Pn	23 35 06.8	+1.1
JHJ2				S	Sn	23 35 31.3	-0.5
JHJ	**Hachijo jima 2**	2.15	254	Pn	Pn	23 35 06.5	+0.4
	83nm,0.3s,baz=55,slow=22,SNR=30						
JHJ				Sn	Sn	23 35 31.3	-1.2
	227nm,0.3s,baz=58,slow=21,SNR=16						
JHJ				LR	LR	23 35 36.1	
	comp=Z,483nm,20.5s,baz=74,slow=32						
JOD2	**Odawara 2**	3.03	301	P	Pn	23 35 18.9	+0.3
JOD2				*e*S	Sn	23 35 54.7	-0.1
JHO	**Hitachi**	3.19	335	P	Pn	23 35 19.6	-1.3
JYN	**Shimob**	3.53	301	S	Sn	23 36 06.8	-0.7
JAG	**Ashikaga**	3.54	320	P	Pn	23 35 25.3	-0.5
JRY	**Ryogami san**	3.58	311	P	Pn	23 35 26.4	0.0
JRY				*e*S	Sn	23 36 08.6	-0.1
JFK	**Kawauchi**	3.80	343	P	Pn	23 35 27.7	-1.9
JFT	**Otama**	4.09	338	P	Pn	23 35 32.8	-0.9
JMM	**Marumori**	4.30	344	P	Pn	23 35 34.8	-1.8
MAJO	**Matsushiro**	4.35	311	Pn	Pn	23 35 39.8	+2.5
MAT	**Matsushiro**	4.35	311	P	Pn	23 35 38.4	+1.1
MAT				S	Sn	23 36 25.2	-2.9
MAT	**Matsushiro**	4.35	311	P	Pn	23 35 38.0	+0.7
MAT				*e*S	Sn	23 36 25.0	-3.1
ASAJ	**Asahikawa**	10.38	1	LR	LR	23 41 19.9	
	comp=Z,146nm,19.4s,baz=346,slow=40						
JOW	**Kunigami**	13.89	244	LR	LR	23 41 53.7	
	comp=Z,160nm,20.9s,baz=339,slow=32						
HHC	**Hu-ho-hao-te**	25.34	295	*e*P	P	23 39 59.0	+1.2
HHC				AMB	AMB		
	comp=Z,33nm,1.0s,mb4.8						
HHC				AMB	AMB		
	comp=Z,151nm,6.9s						
BTO	**Baotou**	26.49	294	*e*P	P	23 40 09.3	+0.9
BTO				AMB	AMB		
	comp=Z,47nm,0.8s,mb5.1						
XAN	**Xi'an**	27.61	280	P	P	23 40 16.3	-2.4
XAN				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.2						
SONM	**Songino Array**	30.29	309	P	P	23 40 43.1	+0.5
	comp=Z,6.6nm,0.8s,mb4.4,baz=109,slow=7.1,SNR=37						
ZAK	**Zakamensk**	32.93	312	*e*P	P	23 41 06.4	+0.7
CMAR	**Chiang Mai Arr**	41.45	260	P	P	23 42 17.3	-0.5
	comp=Z,1.7nm,0.8s,mb3.7,baz=50,slow=7.2,SNR=9.7						
CMAR				LR	LR	00 02 30.4	
	comp=Z,59nm,18.7s,MS3.5,baz=70,slow=41						
CMAR	**Chiang Mai Arr**	41.45	260	P	P	23 42 17.3	-0.5
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
CMAR				MLR	MLR		
	comp=Z,59nm,18.7s						
WMQ	**Urumqi**	43.02	300	*e*P	P	23 42 32.0	+1.6
WMQ				AMB	AMB		
	comp=Z,14nm,0.8s,mb4.7						
ZAL	**Zalesovo**	44.70	315	P	P	23 42 43.2	-0.7
	comp=Z,1.2nm,0.8s,mb3.8,baz=296,slow=6.7,SNR=7.6						
ZAL	**Zalesovo**	44.70	315	P	P	23 42 43.2	-0.7
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ZAL	**Zalesovo**	44.70	315	P	P	23 42 43.2	-0.7
MKAR	**Makanchi Array**	46.52	305	P	P	23 42 58.0	-0.4
	comp=Z,2.8nm,0.8s,mb4.2,baz=87,slow=8.9,SNR=12						
MKAR				LR	LR	00 01 51.3	
	comp=Z,42nm,19.4s,MS3.4,baz=233,slow=35						
MKAR	**Makanchi Array**	46.52	305	P	P	23 42 58.0	-0.3
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MKAR				MLR	MLR		
	comp=Z,42nm,19.4s						
KURK	**Kurchatov**	48.56	311	P	P	23 43 26.9	+13
	comp=Z,103nm,0.9s,SNR=20						
ILAR	**Eielson Array**	51.95	31	P	P	23 43 38.8	-1.2
	comp=Z,0.7nm,0.9s,mb3.6,baz=263,slow=7.3,SNR=5.4						
ILAR	**Eielson Array**	51.95	31	P	P	23 43 38.8	-1.2
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
BRVK	**Borovoye**	53.40	314	*e*P	P	23 43 50.5	-0.4
	comp=Z,4.2nm,0.8s,mb4.4						
CTA	**Charters Tower**	53.65	175	P	P	23 43 52.4	-0.8
	comp=Z,1.1nm,0.5s,mb4.0,baz=353,slow=12,SNR=3.9						
CTA	**Charters Tower**	53.65	175	P	P	23 43 52.4	-0.8
CTA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
CTA	**Charters Tower**	53.65	175	P	P	23 43 52.4	-0.8
WRAB	**Tennant Creek**	53.89	189	*e*P	P	23 43 54.9	0.0
	comp=Z,7.8nm,0.8s,mb4.7						
WB2	**Warramunga Arr**	53.90	189	*e*P	P	23 43 54.5	-0.5
WRA	**Warramunga Arr**	53.90	189	P	P	23 43 54.9	-0.1
	comp=Z,3.4nm,0.7s,mb4.4,baz=6.8,slow=7.6,SNR=25						
WRA	**Warramunga Arr**	53.90	189	P	P	23 43 54.9	-0.1
WRA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ZRNK	**Zerenda**	54.17	314	*e*P	P	23 43 55.8	-0.8
	comp=Z,5.5nm,0.9s,mb4.5						
ZRNK				*e*		23 44 09.5	
ASAR	**Alice Springs**	57.62	189	P	P	23 44 21.3	-0.6
	comp=Z,3.1nm,0.9s,mb4.3,baz=6.2,slow=5.2,SNR=23						
ARU	**Arti**	59.31	320	*e*P	P	23 44 32.0	-1.2
ARU				*e*		23 44 45.9	
FINES	**FINESS Array B**	72.06	333	P	P	23 45 54.9	0.0
	comp=Z,3.1nm,0.9s,mb4.2,baz=72,slow=4.4,SNR=3.7						
FINES	**FINESS Array B**	72.06	333	P	P	23 45 54.9	0.0
FINES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
AKASG	**Malin Array Be**	77.34	323	P	P	23 46 25.4	+0.1
	comp=Z,0.3nm,0.3s,mb3.6,baz=43,slow=6.3,SNR=7.1						
PDAR	**Pinedale Array**	79.50	45	P	P	23 46 39.1	+1.8
	comp=Z,0.5nm,0.6s,mb3.6,baz=225,slow=2.1,SNR=4.5						
BRTR	**Keskin Array B**	81.57	312	P	P	23 46 49.1	+0.8
	comp=Z,2.1nm,0.9s,mb4.1,baz=104,slow=5.1,SNR=7.1						
BRTR				LR	LR	00 28 33.2	
	comp=Z,21nm,18.6s,MS3.5,baz=30,slow=40						
PV10	**Paradox Valley**	82.44	49	*e*P	P	23 46 54.6	+1.7
CLL	**Collm**	84.31	331	P	P	23 47 03.0	+0.9
CLL				*e*		23 47 29.0	
GERES	**GERESS Array B**	85.89	329	P	P	23 47 10.5	+0.5
	comp=Z,0.2nm,0.4s,mb3.7,baz=63,slow=3.0,SNR=3.7						
ANMO	**Albuquerque**	86.18	50	P	P	23 47 09.6	-2.2
	comp=Z,1.3nm,0.7s,mb4.3						
TXAR	**Lajitas Array**	91.58	53	P	P	23 47 39.3	+1.7
	comp=Z,0.5nm,0.3s,mb4.3,baz=315,slow=6.4,SNR=8.4						
SAML	**Samuel**	146.00	49	*e*PKPbc	PKPbc	23 54 11.2	+1.3

IDC 08 00:30:51.9±3.4, **55.14S**×**29.09W**, **mb4.3**/1, **mb1 4.5**/1, **mb1mx3.8**/9, **MS3.5**/1, **Ms1 3.5**/1, **ms1mx3.1**/9, **1C-1D, Error ellipse: s-maj=341.0km s-min=47.7km az=31.0, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	18.05	158	⇑*i*	P	00 35 10.6	+5.3
SNAA	**Sanae**	20.02	156	⇓*i*	P	00 35 24.1	-4.6
CPUP	**Villa Florida**	35.40	313	P	P	00 37 48.9	-2.3
	5.4nm,1.3s,baz=162,slow=9.6,SNR=3.1						
CPUP				LR	LR	00 51 43.0	
	comp=Z,67nm,18.5s,baz=163,slow=35						
FINES	**FINESS Array B**	124.08	28	PKP	PKPdf	00 49 50.9	-2.3
	2.6nm,0.9s,baz=180,slow=1.4,SNR=3.9						
ILAR	**Eielson Array**	148.70	313	PKPbc	PKPdf	00 50 39.1	+1.7
	0.9nm,0.5s,baz=121,slow=2.0,SNR=12						
SONM	**Songino Array**	151.75	86	PKPbc	PKPdf	00 50 47.0	+4.4
	1.6nm,1.0s,baz=209,slow=3.0,SNR=9.3						

IDC ***08*** *00:44:39.1±1.0, 55.27S×28.45W, mb4.4/5, mb1 4.5/5, mb1mx4.2/10, MS4.1/5, Ms1 4.0/5, ms1mx3.8/10, Error ellipse: s-maj=91.9km s-min=22.7km az=48.0*

NEIC ***08*** *00:44:45.0±4.2, 55.07S×28.07W, h45^{km}±38^{km}, mb4.7/6, Error ellipse: s-maj=27.8km s-min=10.1km az=53.0*

ISC 08 00:44:46.1±6.4, **55.1S**±0.1×**28.1W**±0.3, **h74**^{km}±62^{km}, **n21, σ0^{s}86**/14, **mb4.4**/9, **1C-2D, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	17.86	158	⇓*i*	P	00 48 57.6	+6.9
VNA2	**Neumayer--Watz**	18.26	158	⇓*i*	P	00 48 56.5	+1.0
SNAA	**Sanae**	19.81	157	⇑*i*	P	00 49 10.1	-2.7
PMSA	**Palmer Station**	20.14	227	*e*P	P	00 49 15.8	-0.3
	37nm,0.8s						
QSPA	**South Pole Qui**	35.14	180	*e*P	P	00 51 33.8	-0.1
	6.9nm,0.5s,mb4.7						
CPUP	**Villa Florida**	35.80	312	P	P	00 51 39.2	-0.8
	5.3nm,0.7s,mb4.6,baz=174,slow=7.2,SNR=18						
CPUP	**Villa Florida**	35.80	312	P	P	00 51 39.2	-0.8
MAW	**Mawson**	41.22	144	P	P	00 52 24.8	+0.2
	2.6nm,0.9s,mb4.1,baz=237,slow=9.9,SNR=4.1						
MAW				LR	LR	01 09 43.6	
	comp=Z,171nm,18.1s,baz=67,slow=36						
BDFB	**Brasilia**	42.29	331	P	P	00 52 34.2	+0.3
	1.4nm,0.5s,mb3.9,baz=141,slow=6.1,SNR=3.6						
BDFB				LR	LR	01 09 10.2	
	comp=Z,296nm,18.5s,baz=138,slow=35						
LVC	**Limon Verde**	44.37	300	P	P	00 52 51.1	+0.4
	4.1nm,0.7s,mb4.3						
SBA	**Scott Base**	46.98	184	*e*P	P	00 53 11.4	+0.8
	4.7nm,0.9s,mb4.2						
LPAZ	**La Paz**	49.40	306	P	P	00 53 31.3	+1.1
	2.0nm,0.3s,mb4.5,baz=155,slow=3.1,SNR=6.6						
SAML	**Samuel**	53.77	315	*e*P	P	00 54 02.2	-0.9
	7.7nm,1.0s,mb4.7						
CASY	**Casey**	54.97	161	*e*P	P	00 54 10.9	-0.3
	7.0nm,0.9s,mb4.7						
DBIC	**Dimbokro**	64.54	26	LR	LR	01 18 06.9	
	comp=Z,83nm,18.7s,baz=113,slow=31						
STKA	**Stephens Creek**	92.91	171	LR	LR	01 40 12.4	
	comp=Z,171nm,20.9s,baz=204,slow=36						
ESDC	**Sonseca Array**	96.65	19	LR	LR	01 40 41.2	
	comp=Z,40nm,18.7s,baz=230,slow=35						
ASAR	**Alice Springs**	100.04	163	P	P	00 58 24.8	+0.5
	1.0nm,0.9s,baz=190,slow=3.6,SNR=7.1						
ZRNK	**Zerenda**	134.01	57	*e*P	PKPdf	01 03 55.1	+1.1
ILAR	**Eielson Array**	149.09	313	PKPbc	PKPdf	01 04 27.4	+7.5
	6.9nm,0.7s,baz=118,slow=1.3,SNR=91						
SONM	**Songino Array**	151.19	85	PKPbc	PKPdf	01 04 33.9	+10
	2.2nm,0.8s,baz=225,slow=2.6,SNR=17						

NIED ***08*** *01:07:00, 23.40N×121.70E, h35^{km}, Mw3.6 Best double couple: M$_0$3.31×10^{14} NP1:φ$_s$332°, δ78°, λ-24°. NP2:φ$_s$67°, δ66°, λ-166°.*

TAP ***08*** *01:07:47.8, 23.32N×121.60E, h26^{km}, ML4.0*

TAP Felt I J at Yuli, II J at Chenggung, I J at Hungye, I J at Shilin, I J at Lidau.

JMA ***08*** *01:07:49.9±0.2, 23.38N×121.69E, h84^{km}, M3.6*

ISC 08 01:07:47.7±0.4, **23.30N**±0.02×**121.68E**±0.02, **h18**^{km}±4^{km}, **n49, σ0^{s}80**/88, **7C-9D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHKT	**Chengkung**	0.35	236	⇓*i*P	Pb	01 07 56.0	+0.8
CHKT				S	Sb	01 08 01.0	+0.6
TWF1	**Yuli**	0.36	278	⇓*i*P	Pb	01 07 55.4	+0.1
TWF1				S	Sb	01 08 00.4	-0.1
EHY	**Hungye**	0.39	302	⇑*i*P	Pb	01 07 55.7	-0.2
EHY				S	Sb	01 08 01.2	-0.1
ESL	**Shilin**	0.56	336	*i* P	Pb	01 07 58.6	-0.1
ESL				S	Sb	01 08 05.7	-0.5
ELDTW	**Lidau**	0.62	260	⇓*i*P	Pb	01 07 59.2	-0.6
ELDTW				S	Sb	01 08 06.4	-1.6
HWA	**Hwalien**	0.68	354	⇓P	Pb	01 08 01.1	+0.4
HWA				S	Sb	01 08 12.9	+3.3
TWG	**Pinlang**	0.74	230	⇓*i*P	Pb	01 08 01.6	-0.2
TWG				S	Sb	01 08 10.6	-0.8
TWD	**Chiawan**	0.78	354	⇓*i*P	Pb	01 08 02.4	-0.1
TWD				S	Sb	01 08 12.8	+0.3
ALS	**Alishan**	0.83	285	⇑*i*P	Pb	01 08 03.3	-0.1
ALS				S	Sb	01 08 13.4	-0.7
STYT	**Tauyuan**	0.86	261	⇓*i*P	Pb	01 08 03.6	-0.3
STYT				S	Sb	01 08 14.0	-1.0
SMLT	**Sun Moon Lake**	0.92	309	⇑P	Pb	01 08 04.3	-0.6
TYC	**Yuchr**	0.97	309	⇑P	Pb	01 08 05.0	-0.6
TYC				S	Sb	01 08 18.2	+0.3
CHN5	**Tsauling**	0.97	288	⇑P	Pb	01 08 05.8	+0.1
CHN5				S	Sb	01 08 19.1	+1.0
ECL	**Taimali**	0.97	224	⇓*i*P	Pb	01 08 04.6	-1.1
ECL				S	Sb	01 08 17.2	-0.9
WTP	**Ta-pu**	0.98	267	⇑P	Pb	01 08 06.0	+0.1
WTP				S	Sb	01 08 18.4	-0.1
CHN4	**Tsaushan**	1.00	273	⇑P	Pb	01 08 06.5	+0.2
CHN4				S	Sb	01 08 19.5	+0.4
CHN1	**Nanshi**	1.07	264	*e*P	Pb	01 08 07.8	+0.4
CHN1				S	Sb	01 08 21.8	+0.9
WNT	**Mingjian**	1.08	302	*e*P	Pb	01 08 07.8	+0.2
WNT				S	Sb	01 08 21.8	+0.5
WGK	**Gukeng**	1.10	291	*e*P	Pb	01 08 08.0	+0.1
WGK				S	Sb	01 08 22.4	+0.7
SSD	**Sandimen**	1.11	241	*e*P	Pb	01 08 07.4	-0.7
SSD				S	Sb	01 08 24.7	+2.5
ENA	**Nanau**	1.12	3	⇓P	Pb	01 08 07.7	-0.6
ENA				S	Sb	01 08 22.4	-0.2
NNS	**Nan Shan**	1.17	346	*e*P	Pb	01 08 08.5	-0.6
NNS				S	Sb	01 08 22.4	-1.4
CHY	**Chiayi**	1.17	280	*e*P	Pb	01 08 09.4	+0.3
CHY				S	Sb	01 08 24.2	+0.2
EAST	**Anshuo**	1.20	220	*e*P	Pb	01 08 08.6	-0.9
SGLT	**Jiouru**	1.24	243	*e*P	Pn	01 08 12.9	+2.6
TCU	**Taichung**	1.25	313	*e*P	Pn	01 08 10.7	+0.2
TCU				S	Sb	01 08 26.5	+0.3
TWC	**Suao**	1.31	7	*e*P	Pn	01 08 10.9	-0.4
TWC				S	Sb	01 08 28.2	+0.2
SCZT	**Fangliau**	1.35	227	*e*P	Pn	01 08 11.6	-0.3
CHN8	**Yiju**	1.35	272	S	Sb	01 08 29.4	+0.3
NSY	**Sanyi**	1.40	323	*e*P	Pn	01 08 13.6	+1.1
NSY				S	Sb	01 08 31.6	+1.3
NSK	**Sanguang**	1.40	348	*e*P	Pn	01 08 12.3	-0.3
NSK				S	Sb	01 08 29.1	-1.4
WTCT	**Ta-ch'eng**	1.40	294	*e*P	Pn	01 08 12.6	-0.1
WTCT				S	Sb	01 08 30.2	-0.4
TWE	**Neicheng**	1.41	359	*e*P	Pn	01 08 12.5	-0.3
NSTT	**Nanjuang**	1.46	335	*e*P	Pn	01 08 14.2	+0.6
NSTT				S	Sn	01 08 31.3	-1.1
TWP	**Hsiaoliuchiu**	1.54	232	*e*P	Pn	01 08 17.4	+2.7
HEN	**Hengchun**	1.56	214	*e*P	Pn	01 08 17.6	+2.7
TWK1	**Hengchun**	1.58	211	*e*P	Pn	01 08 14.9	-0.2
TWK1				S	Sn	01 08 34.6	-0.5
TWA	**Mucha**	1.68	357	*e*P	Pn	01 08 17.0	+0.5
TWA				S	Sn	01 08 37.3	-0.4
YOJ	**Yonaguni jima**	1.68	46	P	Pn	01 08 17.3	+0.7
YOJ				*e*S	Sn	01 08 37.7	-0.1
TWB1	**Santiao Chiao**	1.72	9	*e*P	Pn	01 08 17.6	+0.3
TWB1				S	Sn	01 08 39.1	+0.2
NWF	**Wu-fen Shan**	1.77	3	*e*P	Pn	01 08 18.4	+0.5
NWF				S	Sn	01 08 40.4	+0.4
TWS1	**Kuangyinshan**	1.81	352	*e*P	Pn	01 08 18.9	+0.5
WDGT	**Dungji**	1.86	269	*e*P	Pn	01 08 18.5	-0.7
PNG	**Penghu**	1.97	278	*e*P	Pn	01 08 19.9	-0.9
PNG				S	Sn	01 08 42.2	-3.1
HATJ	**Hateruma jima**	2.09	68	P	Pn	01 08 23.0	+0.6
HATJ				*e*S	Sn	01 08 47.8	-0.3
IRIF	**Iriomote-Funau**	2.14	61	P	Pn	01 08 23.7	+0.5
IRIF				*e*S	Sn	01 08 49.9	+0.4
JKRS	**Kuro-shima**	2.33	66	P	Pn	01 08 26.6	+0.7
JKRS				*e*S	Sn	01 08 54.1	-0.2
JIJ	**Ishigaki jima**	2.49	64	P	Pn	01 08 28.3	+0.1
JIJ				*e*S	Sn	01 08 57.5	-0.9
JTJ	**Tarama**	3.07	64	P	Pn	01 08 36.4	0.0
JTJ				*e*S	Sn	01 09 12.0	-1.0

LDG ***08*** *01:30:12.8±0.1, 45.97N×2.80E, h2^{km}, Md2.2/2, Ml2.2/26, Error ellipse: s-maj=0.9km s-min=0.8km az=122.0*

NEIC ***08*** *01:30:12.8, 45.97N×2.80E, h2^{km}, ML2.5(STR), ML2.2(LDG), After LDG.*

STR ***08*** *01:30:12.8±0.2, 45.95N×2.80E, h5^{km}±1^{km}, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 08 01:30:10.4±0.3, **45.98N**±0.01×**2.80E**±0.02, **h2**^{km}, **n36, σ1^{s}60**/71, **France**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AGO	**Saint Agoulin**	0.24	71	Pg	Pg	01 30 17.9	+2.6
AGO				Sg	Sg	01 30 21.4	+2.8
PYM	**Petit Puy Mans**	0.27	147	Pg	Pg	01 30 17.9	+2.1
PYM				Sg	Sg	01 30 21.4	+2.0
VERF	**Verneugheol**	0.31	224	Pg	Pg	01 30 18.9	+2.2
TCF	**Toulx Ste Croi**	0.52	308	*e*Pg	Pg	01 30 22.8	+2.1
TCF				*e*Sg	Sg	01 30 29.8	+2.2
	10.0nm,0.2s						
PLDF	**La Plantade**	0.57	90	Pg	Pg	01 30 24.2	+2.3
BGF	**Bois d'Agland**	0.58	3	*e*Pg	Pg	01 30 24.3	+2.2
BGF				*e*Sg	Sg	01 30 32.1	+2.2
	18nm,0.3s						
FRNF	**Fournols**	0.61	196	Pg	Pg	01 30 24.3	+1.7
FRNF				Sg	Sg	01 30 31.9	+1.1
COLF	**Collangettes**	0.78	126	Pg	Pg	01 30 27.4	+1.5
COLF				Sg	Sg	01 30 38.5	+2.2
LBL	**Lubilhac**	0.81	157	Pg	Pg	01 30 28.0	+1.5
LBL				Sg	Sg	01 30 38.0	+0.7
AVF	**Avril sur Loir**	0.90	25	*e*Pg	Pg	01 30 29.9	+1.5
AVF				*e*Sg	Sg	01 30 41.3	+0.8
	14nm,0.2s						
SMF	**Signal de Mont**	0.99	47	*e*Pg	Pg	01 30 31.4	+1.3
SMF				*e*Sg	Sg	01 30 43.0	-0.3
	10nm,0.2s						
RJF	**Les Rejaudoux**	1.12	234	*e*Pg	Pg	01 30 33.9	+1.1
RJF				*e*Sg	Sg	01 30 47.7	0.0
	5.6nm,0.2s						
CAF	**Calviac**	1.17	206	*e*Pn	Pn	01 30 34.4	+0.7
CAF				*e*Pg	Pg	01 30 34.9	+1.1
CAF				*e*Sg	Sg	01 30 49.4	+0.1
	16nm,0.2s						
SSF	**Saint Saulge**	1.19	24	*e*Pg	Pg	01 30 35.2	+1.0
SSF				*e*Sg	Sg	01 30 50.7	+0.6
	14nm,0.2s						
HYF	**Humbligny**	1.30	355	*e*Pg	Pg	01 30 38.1	+1.8
HYF				*e*Sg	Sg	01 30 53.5	-0.2
VIVF	**Saint-Julien-l**	1.73	130	*e*Pn	Pn	01 30 41.9	+0.2
VIVF				*e*Pg	Pg	01 30 44.7	-0.3
VIVF				*e*Sg	Sg	01 31 06.5	-1.6
	2.4nm,0.2s						
LFF	**La Frestale**	1.78	235	*e*Pg	Pg	01 30 46.1	+0.2
LFF				*e*Sg	Sg	01 31 08.8	-0.9
	5.2nm,0.3s						
LASF	**Ste Croix**	2.04	158	*e*Pg	Pg	01 30 50.4	-0.8
LASF				*e*Sg	Sg	01 31 16.7	-1.7
	2.8nm,0.2s						
MFF	**Saint Martin d**	2.13	288	*e*Pn	Pn	01 30 47.8	+0.3
MFF				*e*Pg	Pg	01 30 52.2	-0.8
MFF				*e*Sg	Sg	01 31 18.7	-2.8
	3.5nm,0.2s						
CABF	**La Chapelle**	2.37	73	*e*Pn	Pn	01 30 51.0	+0.1
CABF				*e*Pg	Pg	01 30 57.4	-0.3
CABF				*e*Sg	Sg	01 31 26.5	-2.8
	2.2nm,0.3s						
ORIF	**Oris-en-Rattie**	2.41	115	*e*Sg	Sg	01 31 29.1	-1.7
	1.2nm,0.4s						
MTLF	**Montolieu**	2.67	189	*e*Pn	Pn	01 30 52.5	-2.6

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MTLF				ePg	**Pg**	**01 31 02.3**	**-1.3**
MTLF				eSg	**Sg**	**01 31 34.2**	**-5.0**
	2.5nm,0.2s						
LPL	**La Plagne**	**2.79**	**98**	eSg	**Sg**	**01 31 39.2**	**-4.2**
	1.0nm,0.3s						
SMRF	**Simiane la Rot**	**2.81**	**134**	ePg	**Pg**	**01 31 06.1**	**-0.4**
SMRF				eSg	**Sg**	**01 31 41.0**	**-2.9**
	1.0nm,0.4s						
LPG	**La Plagne**	**2.81**	**98**	eSg	**Sg**	**01 31 40.3**	**-3.7**
	1.1nm,0.2s						
MEZF	**Maizieres J'vi**	**2.96**	**30**	ePg	**Pg**	**01 31 08.0**	**-1.5**
MEZF				eSg	**Sg**	**01 31 45.6**	**-3.3**
	6.4nm,0.5s						
HAU	**Haudompre**	**3.17**	**49**	ePg	**Pg**	**01 31 12.1**	**-1.6**
HAU				eSg	**Sg**	**01 31 51.3**	**-4.6**
	2.7nm,0.3s						
LDF	**La Druitiere**	**3.29**	**324**	ePn	**Pn**	**01 31 03.3**	**-0.7**
LDF				ePg	**Pg**	**01 31 14.0**	**-2.1**
LDF				eSg	**Sg**	**01 31 53.1**	**-6.8**
	1.6nm,0.3s						
HINF	**Hinteralfeld**	**3.34**	**55**	ePn	**Pn**	**01 31 04.1**	**-0.6**
HINF				ePg	**Pg**	**01 31 14.9**	**-2.1**
HINF				eSn	**Sn**	**01 31 42.0**	**-3.4**
HINF				eSg	**Sg**	**01 31 57.1**	**-4.4**
	1.7nm,0.3s						
EPF	**Esparros**	**3.43**	**212**	ePg	**Pg**	**01 31 16.2**	**-2.7**
EPF				eSg	**Sg**	**01 32 00.2**	**-4.3**
	2.1nm,0.3s						
GRR	**Gorron**	**3.47**	**315**	ePg	**Pg**	**01 31 16.8**	**-2.9**
GRR				eSg	**Sg**	**01 32 01.5**	**-4.4**
	0.9nm,0.2s						
FLN	**La Foliniere**	**3.57**	**323**	eSg	**Sg**	**01 32 02.2**	**-7.1**
	1.8nm,0.3s						
ETSF	**Etsaut**	**3.90**	**219**	eSg	**Sg**	**01 32 14.9**	**-5.5**
	1.8nm,0.4s						
SJPF	**Ste Jean**	**4.06**	**227**	ePn	**Pn**	**01 31 13.7**	**-1.2**
SJPF				eSg	**Sg**	**01 32 19.8**	**-5.6**
	0.3nm,0.2s						
SGMF	**Saint Gilles**	**4.31**	**304**	eSg	**Sg**	**01 32 27.2**	**-6.6**
	0.4nm,0.2s						
QUIF	**Quistinic**	**4.52**	**298**	eSg	**Sg**	**01 32 34.6**	**-6.4**
	1.0nm,0.3s						

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*IDC **08** 01:55:39.8±4.2, 3.33S×139.99E, mb3.4/2, mb1 3.8/3, mb1mx3.6/9, ML3.7/1, Error ellipse: s-maj=179.0km s-min=28.3km az=91.0*

ISC 08 01:55:43.0±1.6**, 3.3S**±0.1×**139.8E**±0.3**, h33^{km}, n5, σ0$\overset{s}{.}$94**/6**, mb3.4**/2**, Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**11.85**	**218**	eP	**P**	**01 58 28.6**	**-4.1**
	7.3nm,0.6s						
KAKA				eS	**S**	**02 00 44.7**	**0.0**
WB2	**Warramunga Arr**	**17.35**	**197**	eP	**P**	**01 59 45.2**	**+0.9**
WRA	**Warramunga Arr**	**17.35**	**197**	P	**P**	**01 59 44.4**	**+0.1**
	0.2nm,0.3s,baz=18,slow=12,SNR=17						
ASAR	**Alice Springs**	**21.00**	**195**	P	**P**	**02 00 25.3**	**-0.9**
	0.9nm,0.5s,mb3.4,baz=29,slow=9.9,SNR=7.8						
SONM	**Songino Array**	**58.75**	**334**	P	**P**	**02 05 40.3**	**+0.1**
	0.2nm,0.5s,mb3.4,baz=124,slow=10,SNR=2.5						

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*DJA **08** 02:43:56.2±0.9, 7.20S×112.29E, h225^{km}±15^{km}, MD4.7/3, ML5.1/2, Error ellipse: s-maj=82.8km s-min=27.2km az=17.0*

*IDC **08** 02:44:01.7±1.8, 8.97S×112.46E, h42^{km}±9^{km}, mb3.8/4, mb1 4.0/5, mb1mx3.7/15, ML3.8/1, Error ellipse: s-maj=68.6km s-min=18.8km az=56.0*

*NEIC **08** 02:44:02.4±3.5, 8.85S×112.83E, h35^{km}, mb4.3/1, Error ellipse: s-maj=146.0km s-min=21.2km az=56.0*

ISC 08 02:43:55.8±1.2**, 9.3S**±0.1×**111.75E**±0.09**, h33^{km}, n10, σ0$\overset{s}{.}$78**/15**, mb4.0**/5**, 3C-5D, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KELI	**Kelakatan**	**2.92**	**68**	⇑iPn	**Pn**	**02 44 41.4**	**+0.3**
	582nm,0.3s						
KELI				⇓iSn	**Sn**	**02 45 14.8**	**-0.6**
INGI	**Ingas**	**3.38**	**82**	⇓iPn	**Pn**	**02 44 52.2**	**+4.5**
INGI				⇓iSn	**Sn**	**02 45 30.8**	**+3.6**
RATI	**Rata**	**3.78**	**81**	⇑iPn	**Pn**	**02 44 53.7**	**+0.4**
	1μm,0.2s						
RATI				⇓iSn	**Sn**	**02 45 37.8**	**+0.6**
KEDI	**Kedomdong**	**4.38**	**80**	⇑iPn	**Pn**	**02 45 00.4**	**-1.6**
KEDI				⇓iSn	**Sn**	**02 45 46.8**	**-5.8**
FITZ	**Fitzroy Crossi**	**16.06**	**124**	P	**P**	**02 47 36.3**	**-4.7**
	0.3nm,0.3s,baz=343,slow=7.6,SNR=5.0						
FITZ				S	**S**	**02 50 20.9**	**-17**
	0.3nm,0.3s,baz=162,slow=5.9,SNR=3.7						
WRA	**Warramunga Arr**	**24.24**	**118**	P	**P**	**02 49 10.6**	**-0.5**
	3.5nm,0.6s,mb4.0,baz=293,slow=11,SNR=33						
WRA				pP		02 49 22.3	
	2.5nm,0.6s,baz=294,slow=11,SNR=8.8						
WRA				PcP	PcP	02 52 53.1	+0.9
	0.4nm,0.4s,baz=309,slow=1.7,SNR=11						
WRA				pPcP		02 53 05.4	
	0.6nm,0.4s,baz=299,slow=1.9,SNR=8.3						
WRAB	**Tennant Creek**	**24.25**	**118**	eP	**P**	**02 49 10.9**	**-0.2**
	8.7nm,0.8s,mb4.2						
ASAR	**Alice Springs**	**25.53**	**127**	P	**P**	**02 49 24.1**	**+0.7**
	2.8nm,0.7s,mb3.9,baz=304,slow=8.9,SNR=22						
ASAR				pP	pP	02 49 34.6	+1.9
	1.4nm,0.5s,baz=303,slow=8.8,SNR=6.1						
ASAR				PcP	PcP	02 52 56.8	+1.8
	1.1nm,1.0s,baz=297,slow=1.3,SNR=5.3						
ASAR				pPcP		02 53 08.4	
	0.6nm,0.5s,baz=306,slow=1.6,SNR=5.7						
STKA	**Stephens Creek**	**35.62**	**133**	P	**P**	**02 50 52.6**	**-0.1**
	2.9nm,0.8s,mb4.3,baz=307,slow=10,SNR=5.6						
SONM	**Songino Array**	**57.09**	**356**	P	**P**	**02 53 41.8**	**+0.4**
	0.4nm,0.6s,mb3.6,baz=178,slow=8.5,SNR=5.3						
SONM				pP	pP	02 53 54.0	+2.5
	0.5nm,0.6s,baz=176,slow=7.5,SNR=3.8						

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*JMA **08** 03:19:14.2±0.2, 22.92N×121.43E, h2^{km}, M3.4*

TAP 08 03:19:13.2, 22.79N×121.33E, h14^{km}±1^{km}, ML3.4, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**2.27**	**42**	P	Pn	03 19 51.1	+0.2
YOJ				eS	Sn	03 20 18.4	-0.5
HATJ	**Hateruma jima**	**2.60**	**61**	P	Pn	03 19 56.0	+0.4
HATJ				eS	Sn	03 20 26.8	-0.5
IRIF	**Iriomote-Funau**	**2.69**	**55**	P	Pn	03 19 57.6	+0.8
IRIF				eS	Sn	03 20 29.4	-0.1
JKRS	**Kuro-shima**	**2.85**	**59**	P	Pn	03 19 59.9	+0.7
JKRS				eS	Sn	03 20 33.2	-0.4
JIJ	**Ishigaki jima**	**3.02**	**58**	P	Pn	03 20 02.3	+0.7
JIJ				eS	Sn	03 20 36.6	-1.3
JTJ	**Tarama**	**3.60**	**59**	eS	Sn	03 20 51.9	-0.6

IDC 08 03:50:35.7±4.1**, 16.87S**×**177.47W, mb4.3**/3**, mb1 4.5**/3**, mb1mx3.9**/12**, Error ellipse: s-maj=169.0km s-min=49.5km az=139.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.92**	**240**	P	P	03 58 12.6	-0.8
	3.1nm,0.7s,baz=107,slow=12,SNR=7.9						
WB2	**Warramunga Arr**	**45.70**	**258**	eP	P	03 58 58.2	-2.4
WRA	**Warramunga Arr**	**45.71**	**258**	P	P	03 58 58.2	-2.4
	0.4nm,0.3s,baz=96,slow=7.6,SNR=34						
ASAR	**Alice Springs**	**45.95**	**253**	P	P	03 59 00.5	-2.0
	7.7nm,0.5s,baz=89,slow=8.1,SNR=129						
ASPA	**Alice Springs**	**45.95**	**253**	eP	P	03 59 00.2	-2.3
GERES	**GERESS Array B**	**146.83**	**346**	PKPbc	PKPbc	04 10 19.3	-0.2
	0.3nm,0.5s,baz=27,slow=2.2,SNR=3.5						

KRSC 08 03:50:55.5±1.1**, 49.25N**×**154.98E, h90^{km}±9^{km}, ML4.1, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.61**	**27**	eS	S	03 51 41.1	-2.4
ALID	**Alaid**	**1.66**	**13**	eP	P	03 51 25.4	+1.6
ALID				eS	S	03 51 47.0	+2.4
PAU	**Pauzhetka**	**2.51**	**27**	eP	P	03 51 36.7	+1.4
PAU				eS	S	03 52 07.6	+2.6
PAU				Smax			
	200nm,0.2s						
MIPR	**Malaya Ipel'ka**	**3.23**	**20**	eP	P	03 51 45.6	+0.3
GRL	**Gorelyy**	**3.84**	**29**	eP	P	03 51 55.2	+1.5
GRL				eS	S	03 52 38.7	+0.8
RUS	**Russkaya**	**3.90**	**34**	eP	P	03 51 54.4	0.0
RUS				eS	S	03 52 38.3	-0.9
APC	**Apacha**	**3.93**	**20**	eP	P	03 51 54.7	-0.2
APC				eS	S	03 52 37.3	-2.7
PET	**Petropavlovsk**	**4.43**	**30**	eP	P	03 52 02.0	+0.2
PET				eS	S	03 52 50.1	-2.4
UGLR	**Uglovaya**	**4.64**	**30**	eP	P	03 52 06.1	+1.4
UGLR				eS	S	03 52 57.5	-0.3
KOK	**Koryaka**	**4.65**	**28**	eP	P	03 52 05.9	+1.0
KOK				eS	S	03 52 56.5	-1.5
AVH	**Avacha**	**4.66**	**29**	eP	P	03 52 06.2	+1.2
AVH				eS	S	03 52 58.1	-0.1
SMAR	**Somma**	**4.68**	**29**	eP	P	03 52 07.0	+1.8
SMAR				eS	S	03 52 58.6	-0.1
SDLR	**Sedlovina**	**4.72**	**30**	eP	P	03 52 06.2	+0.4
SDLR				eS	S	03 52 58.6	-1.1
NLC	**Nalytchevo**	**4.79**	**33**	eP	P	03 52 06.1	-0.6
NLC				eS	S	03 52 57.4	-4.0
GNL	**Ganaly**	**4.82**	**21**	eP	P	03 52 06.8	-0.4
GNL				eS	S	03 52 58.0	-4.2
SPN	**Mys Shipunski**	**4.99**	**38**	eP	P	03 52 08.7	-0.8
SPN				eS	S	03 53 01.7	-4.7
MKZ	**Mys Kozlova**	**6.76**	**36**	eP	P	03 52 31.5	-2.3
MKZ				eS	S	03 53 43.1	-6.8
TUMR	**Tumrok**	**6.82**	**26**	eP	P	03 52 35.2	+0.5
KMNR	**Kamenistaya**	**7.26**	**24**	eP	P	03 52 40.1	-0.7
KMNR				eS	S	03 53 57.3	-5.0
ZLN	**Zelenaya**	**7.65**	**25**	eP	P	03 52 46.4	+0.4
LGNR	**Loginova**	**7.67**	**25**	eP	P	03 52 46.8	+0.4
LGNR				eS	S	03 54 05.9	-6.4
KBTR	**Krutoberegovo**	**8.43**	**31**	eP	P	03 52 54.9	-1.8
KBTR				eS	S	03 54 22.7	-8.3
BKI	**Bering**	**9.00**	**44**	eP	P	03 53 01.5	-2.8
BKI				eS	S	03 54 33.8	-11

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*NEIC **08** 04:49:49.6, 34.26S×70.02W, h5^{km}, ML3.1(GUC), After GUC.*

GUC 08 04:49:49.6±0.7**, 34.26S**×**70.02W, h5^{km}±1^{km}, MD3.5, ML3.1, 7C-3D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LMEL	**Las Melosas**	**0.44**	**340**	⇑iP	Pg	04 49 58.7	+0.3
LMEL				i S	Sg	04 50 06.0	+1.6
LMEL				AMP		04 50 07.0	
	comp=N,4μm,0.6s						
CACH	**El Canelo**	**0.50**	**287**	i P	Pg	04 49 59.8	+0.1
CACH				i S	Sg	04 50 07.2	+0.9
CHCH	**Chadas Angostu**	**0.62**	**302**	⇓iP	Pg	04 50 02.1	+0.1
CHCH				i S	Sg	04 50 11.5	+1.3
SJCH	**San Jose de Ma**	**0.68**	**336**	⇑iP	Pg	04 50 02.2	-0.9
SJCH				i S	Sg	04 50 12.6	+0.3
SJCH				AMP		04 50 14.7	
	comp=N,954nm,0.7s						
PCH	**Pirque**	**0.76**	**327**	⇓iP	Pg	04 50 04.5	-0.3
PCH				i S	Sg	04 50 15.8	+0.9
ANTU	**Antumapu**	**0.86**	**323**	⇑iP	Pb	04 50 06.3	-0.3
ANTU				i S	Sb	04 50 18.8	+0.6
ANTU				AMP		04 50 19.6	
	comp=N,1μm,0.4s						
SFDO	**San Fernando**	**0.89**	**247**	⇑iP	Pb	04 50 06.7	-0.5
SFDO				i S	Sb	04 50 19.7	+0.5
FCH	**Farellones**	**0.96**	**346**	⇑iP	Pb	04 50 08.0	-0.3
FCH				i S	Sb	04 50 22.7	+1.6
FCH				AMP		04 50 23.3	
	comp=N,783nm,0.5s						
CLCH	**Cerro Calan**	**0.96**	**333**	⇑iP	Pb	04 50 08.2	-0.2
CLCH				i S	Sb	04 50 22.2	+1.0
CLCH				AMP		04 50 24.9	
	comp=E,2μm,0.6s						
CLCH				AMP		04 50 25.6	
	comp=E,2μm,0.6s						
SAN	**Santiago**	**0.97**	**326**	AMP		04 50 22.5	
	comp=E,692nm,0.5s						
TACH	**Talagante**	**0.97**	**308**	⇓iP	Pb	04 50 08.3	-0.3
TACH				i S	Sb	04 50 22.1	+0.6
DSCH	**Colegio Aleman**	**0.97**	**332**	i P	Pb	04 50 08.4	-0.2
DSCH				i S	Sb	04 50 22.2	+0.6
DSCH				AMP		04 50 34.5	
	comp=E,1μm,0.7s						
PUEX	**Pudahuel**	**1.02**	**323**	i P	Pb	04 50 08.7	-0.7
PUEX				i S	Sb	04 50 23.6	+0.6
PUEX				AMP		04 50 25.2	
	comp=E,2μm,0.4s						
LNV	**Longovilo**	**1.19**	**284**	⇑iP	Pb	04 50 11.6	-0.7
LNV				i S	Sb	04 50 27.9	0.0
PEL	**Peldehue**	**1.25**	**333**	AMP		04 50 36.8	
	comp=N,894nm,0.5s						
MDZ	**Mendoza**	**1.69**	**36**	eP	Pn	04 50 21.2	+1.2
MDZ				eS	Sn	04 50 44.1	+1.9

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*NEIC **08** 04:52:33.9±1.0, 22.46S×67.72W, h156^{km}±13^{km}, mb4.2/2, Error ellipse: s-maj=33.5km s-min=14.7km az=128.0*

*IDC **08** 04:52:38.2±8.2, 22.37S×67.55W, h187^{km}±71^{km}, mb3.9/1, mb1 3.6/3, mb1mx3.3/12, Error ellipse: s-maj=79.4km s-min=38.4km az=11.0*

ISC 08 04:52:32.8±1.6**, 22.7S**±0.1×**67.5W**±0.3**, h153^{km}**±26^{km}**, n7, σ1$\overset{s}{.}$39**/7**, mb4.3**/2**, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.31**	**272**	eP	**P**	**04 53 00.6**	**-0.4**
LPAZ	**La Paz**	**6.37**	**354**	P	**P**	**04 54 07.3**	**+2.1**
	3.7nm,0.3s,baz=174,slow=2.2,SNR=34						
LPAZ				S	**S**	**04 55 16.9**	**-0.2**
	0.2nm,0.3s,baz=299,slow=19,SNR=3.7						
SAML	**Samuel**	**14.24**	**18**	eP	**P**	**04 55 47.0**	**-1.6**
	5.7nm,1.2s						
BDFB	**Brasilia**	**19.67**	**73**	P	**P**	**04 56 52.5**	**+0.5**
	0.6nm,0.3s,baz=250,slow=13,SNR=10						
QSPA	**South Pole Qui**	**67.54**	**180**	eP	**P**	**05 03 14.2**	**+0.1**
	4.5nm,0.5s,mb4.5						
DBIC	**Dimbokro**	**67.82**	**72**	P	**P**	**05 03 16.6**	**-0.2**
	1.9nm,0.5s,mb4.1,baz=240,slow=8.5,SNR=6.0						
WRA	**Warramunga Arr**	**132.60**	**208**	PKP	PKPdf	05 11 30.9	+0.9
	0.2nm,0.4s,baz=155,slow=1.7,SNR=5.8						

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*IDC **08** 05:03:48.5±0.7, 62.73S×158.01W, mb4.6/9, mb1 4.7/9, mb1mx4.6/12, MS4.5/10, Ms1 4.4/10, ms1mx4.4/10, Error ellipse: s-maj=34.3km s-min=17.4km az=23.0*

*NEIC **08** 05:03:50.0±0.4, 62.89S×158.20W, h10^{km}, mb4.8/10, Error ellipse: s-maj=14.6km s-min=8.1km az=217.0*

ISC 08 05:03:48.4±0.5**, 62.9S**±0.1×**158.2W**±0.2**, h10^{km}, n34, σ0$\overset{s}{.}$99**/22**, mb4.6**/16**, MS4.5**/10**, Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SBA	**Scott Base**	**18.55**	**202**	eP	**P**	**05 08 06.5**	**-0.1**
	19nm,0.9s						
RPZ	**Rata Peaks**	**26.12**	**303**	P	**P**	**05 09 25.4**	**+1.6**
	29nm,0.9s,mb4.8,baz=156,slow=8.4,SNR=7.4						
RPZ				LR	LR	05 17 53.4	
	comp=Z,324nm,19.5s,MS3.9,baz=95,slow=32						
QSPA	**South Pole Qui**	**27.25**	**180**	eP	**P**	**05 09 35.1**	**+1.2**
	37nm,1.4s,mb4.7						
URZ	**Urewera**	**28.83**	**317**	P	**P**	**05 09 49.1**	**+0.5**
	4.7nm,0.9s,mb4.2,baz=104,slow=7.9,SNR=4.2						
URZ				LR	LR	05 18 22.1	
	comp=Z,1μm,21.2s,MS4.5,baz=184,slow=30						
PMSA	**Palmer Station**	**37.95**	**136**	P	**P**	**05 11 07.3**	**+0.1**
	18nm,1.2s,mb4.7						
TBI	**Tubuai**	**39.94**	**13**	eL		05 20 31.8	
TBI				eR		05 22 00.3	
	2μm,27.8s,baz=188						
RKT	**Rikitea**	**42.71**	**32**	eL		05 21 24.6	
SNAA	**Sanae**	**44.67**	**169**	eP	**P**	**05 12 01.9**	**-0.4**
	20nm,1.5s,mb4.7						
PPT	**Papeete**	**45.65**	**12**	eL		05 22 37.0	
PPT				eR		05 24 34.6	
	2μm,27.5s,baz=191						
MAW	**Mawson**	**46.49**	**200**	P	**P**	**05 12 19.8**	**+3.1**
	1.3nm,0.7s,mb4.0,baz=69,slow=23,SNR=3.2						
MAW				LR	LR	05 30 05.2	
	comp=Z,417nm,18.5s,MS4.4,baz=152,slow=34						
MAW	**Mawson**	**46.49**	**200**	P	**P**	**05 12 19.8**	**+3.1**
MAW				LR	LR	05 30 05.2	
NOUC	**Port Laguerre**	**47.25**	**313**	eP	**P**	**05 12 24.1**	**+0.7**
STKA	**Stephens Creek**	**48.62**	**280**	eP	**P**	**05 12 34.0**	**+0.2**
	7.1nm,0.9s,mb4.7						
STKA	**Stephens Creek**	**48.62**	**280**	P	**P**	**05 12 35.0**	**+1.1**
	7.7nm,0.8s,mb4.8,baz=148,slow=10,SNR=9.3						
STKA				LR	LR	05 30 03.6	
	comp=Z,449nm,18.5s,MS4.5,baz=313,slow=32						
CTA	**Charters Tower**	**56.81**	**292**	P	**P**	**05 13 35.3**	**+0.3**
	7.1nm,0.9s,mb4.7,baz=134,slow=8.1,SNR=7.4						
CTAO	**Charters Tower**	**56.81**	**292**	eP	**P**	**05 13 35.2**	**+0.1**
	9.9nm,1.0s,mb4.8						
ASAR	**Alice Springs**	**59.13**	**278**	P	**P**	**05 13 50.2**	**-1.0**
	7.4nm,1.0s,mb4.7,baz=150,slow=6.9,SNR=22						
ASAR				LR	LR	05 35 17.3	
	comp=Z,487nm,20.0s,MS4.6,baz=151,slow=32						
TRQA	**Tornquist**	**59.60**	**115**	eP	**P**	**05 13 53.1**	**-1.2**
	6.2nm,0.8s,mb4.7						
WB2	**Warramunga Arr**	**62.16**	**281**	eP	**P**	**05 14 10.6**	**-1.4**
WRA	**Warramunga Arr**	**62.17**	**281**	P	**P**	**05 14 10.6**	**-1.4**
	3.3nm,0.7s,mb4.6,baz=157,slow=6.0,SNR=18						
WRA				LR	LR	05 38 23.3	
	comp=Z,372nm,18.9s,MS4.6,baz=155,slow=33						
MBWA	**Marble Bar**	**67.78**	**267**	P	**P**	**05 14 47.7**	**-0.5**
	36nm,1.4s,mb5.2						
KAKA	**Kakadu**	**69.40**	**283**	eP	**P**	**05 14 57.7**	**-0.7**
	11nm,1.4s,mb4.6						
LVC	**Limon Verde**	**69.83**	**100**	eP	**P**	**05 15 01.3**	**+0.4**
	8.6nm,0.7s,mb4.8						
CPUP	**Villa Florida**	**71.69**	**112**	P	**P**	**05 15 11.2**	**-0.9**
	3.6nm,0.6s,mb4.5,baz=238,slow=6.8,SNR=8.7						
CPUP				LR	LR	05 42 43.2	
	comp=Z,386nm,18.1s,MS4.7,baz=229,slow=33						
LPAZ	**La Paz**	**75.71**	**98**	P	**P**	**05 15 36.6**	**+1.0**
	2.6nm,0.2s,mb4.7,baz=202,slow=2.4,SNR=12						
LPAZ				LR	LR	05 42 01.4	
	comp=Z,110nm,20.0s,MS4.2,baz=326,slow=30						
BDFB	**Brasilia**	**85.10**	**115**	LR	LR	05 51 44.1	
	comp=Z,725nm,18.0s,MS5.1,baz=57,slow=34						
ROSC	**El Rosal**	**91.50**	**82**	LR	LR	05 52 22.3	
	comp=Z,124nm,18.1s,MS4.4,baz=232,slow=32						
ILAR	**Eielson Array**	**127.61**	**6**	PKP	PKPdf	05 22 53.7	-1.8
	1.2nm,0.8s,baz=234,slow=2.0,SNR=9.2						
ILAR	**Eielson Array**	**127.61**	**6**	PKP	PKPdf	05 22 53.7	-1.8
ZAL	**Zalesovo**	**147.10**	**284**	PKPbc	PKPdf	05 23 29.6	-1.4
	1.4nm,0.8s,baz=266,slow=4.0,SNR=5.5						
KURK	**Kurchatov**	**147.71**	**275**	ePKPdf	PKPdf	05 23 31.2	-0.9
BVAR	**Borovoye Array**	**153.04**	**271**	PKPbc	PKPdf	05 23 45.9	+5.8
	1.8nm,0.7s,baz=135,slow=2.1,SNR=7.1						
ZRNK	**Zerenda**	**153.62**	**270**	ePKPbc	PKPdf	05 23 46.0	+5.1
BRTR	**Keskin Array B**	**155.75**	**203**	PKPab	PKPab	05 24 09.4	-0.7
	2.3nm,1.1s,baz=284,slow=5.1,SNR=4.1						

WEL 08 05:03:59.6±0.4**, 45.06S**×**167.48E, h121^{km}±3^{km}, ML3.5**/4**, 1C-1D, Error ellipse: s-maj=3.6km s-min=1.6km az=90.0, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.47**	**209**	PN	P	05 04 17.0	-0.6
DCZ				SN	S	05 04 29.9	-1.3
MSZ	**Milford Sound**	**0.50**	**40**	⇑PN	P	05 04 17.7	-0.1
MSZ				SN	S	05 04 30.7	-0.8
MLZ	**Mavora Lakes**	**0.57**	**120**	PN	P	05 04 17.9	-0.3
WHZ	**Wether Hill Ro**	**0.90**	**159**	PN	P	05 04 20.7	-0.3
WHZ				SN	S	05 04 36.4	-0.6
WKZ	**Wanaka**	**1.12**	**79**	PN	P	05 04 22.7	-0.5
JCZ	**Jackson Bay**	**1.35**	**43**	PN	P	05 04 24.9	-0.8
TUZ	**Tuapeka**	**1.76**	**121**	PN	P	05 04 30.1	-0.5
TUZ				SN	S	05 04 50.9	-3.1
LBZ	**Lake Benmore**	**2.04**	**72**	PN	P	05 04 32.1	-1.9
LBZ				SN	S	05 04 56.4	-3.8
ODZ	**Otahua Downs**	**2.25**	**91**	⇓PN	P	05 04 35.1	-1.6
ODZ				SN	S	05 05 00.3	-4.5

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*JMA **08** 05:32:15.6±0.1, 32.92N×136.61E, h36^{km}±4^{km}, M3.4*

*IDC **08** 05:32:20.8±11.0, 32.96N×137.08E, mb3.5/3, mb1 3.7/3, mb1mx3.4/22, MS3.6/2, Ms1 3.6/2, ms1mx3.1/21, Error ellipse: s-maj=490.0km s-min=32.8km az=65.0*

ISC 08 05:32:15.8±1.6**, 33.06N**±0.07×**136.64E**±0.04**, h11^{km}**±13^{km}**, n17, σ0$\overset{s}{.}$96**/26**, mb3.4**/3**, MS4.2**/1**, 4C-3D, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JWZ	**Kozaga**	**0.91**	**302**	⇑P	**Pb**	**05 32 33.0**	**-0.1**
JWZ				S	**Sb**	**05 32 45.5**	**+0.5**
JKN	**Kiinagashima**	**1.23**	**345**	P	**Pb**	**05 32 38.9**	**+0.3**
JKN				S	**Sb**	**05 32 55.3**	**+1.0**
TK02	**Tokai 2**	**1.29**	**46**	P	**Pb**	**05 32 38.7**	**-0.8**
TK02				S	**Sb**	**05 32 56.1**	**+0.2**
JIE	**Ise**	**1.33**	**2**	⇓P	**Pb**	**05 32 40.7**	**+0.4**
JIE				S	**Sb**	**05 32 58.3**	**+1.0**
JWM	**Minabe**	**1.34**	**307**	⇑P	**Pb**	**05 32 39.6**	**-0.8**
JWM				S	**Sb**	**05 32 56.7**	**-0.6**
JWY	**Kouya**	**1.45**	**323**	⇑P	**Pn**	**05 32 42.4**	**+0.3**
JWY				S	**Sb**	**05 33 01.0**	**+0.3**
TK04	**Tokai 4**	**1.68**	**37**	P	**Pn**	**05 32 44.7**	**-0.6**
TK04				S	**Sn**	**05 33 06.3**	**-0.6**
JHE	**Heguri**	**1.78**	**334**	⇓P	**Pn**	**05 32 47.1**	**+0.3**
JHE				S	**Sn**	**05 33 10.1**	**+0.5**
JAI	**Aioi**	**1.98**	**292**	⇑P	**Pn**	**05 32 48.1**	**-1.4**
JAI				S	**Sn**	**05 33 11.8**	**-2.6**
JAJ2	**Tsuna**	**2.00**	**313**	P	**Pn**	**05 32 49.9**	**0.0**
JWT	**Wachi**	**2.45**	**335**	⇓P	**Pn**	**05 32 56.5**	**+0.2**
JWT				S	**Sn**	**05 33 26.7**	**+0.2**
JHJ	**Hachijo jima 2**	**2.64**	**88**	LR	LR	05 34 00.5	
	comp=Z,360nm,19.3s,baz=269,slow=43						
MAT	**Matsushiro**	**3.71**	**20**	P	**Pn**	**05 33 14.4**	**+0.1**
MAT				S	**Sn**	**05 33 56.9**	**-1.5**
SONM	**Songino Array**	**27.13**	**312**	P	**P**	**05 38 08.7**	**+8.1**
	0.5nm,0.8s,mb3.1,baz=101,slow=7.3,SNR=2.8						
WRA	**Warramunga Arr**	**52.74**	**183**	P	**P**	**05 41 37.0**	**+4.0**
	0.4nm,0.5s,mb3.6,baz=359,slow=7.7,SNR=9.5						
ASAR	**Alice Springs**	**56.46**	**183**	P	**P**	**05 42 03.6**	**+3.5**
	0.5nm,0.8s,mb3.6,baz=6.1,slow=12,SNR=4.5						
ASF	**Jabal al Asfar**	**80.38**	**302**	LR	LR	06 26 39.4	
	comp=Z,112nm,20.8s,MS4.2,baz=47,slow=40						

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*IDC **08** 05:56:09.5±3.6, 19.88S×175.34W, h85^{km}±30^{km}, mb4.4/10, mb1 4.6/12, mb1mx4.6/17, MS3.8/9, Ms1 3.8/9, ms1mx3.7/16, Error ellipse: s-maj=24.6km s-min=15.5km az=142.0*

*BJI **08** 05:56:11.8, 20.36S×175.40W, h121^{km}, mB5.1, mb5.0*

*NEIC **08** 05:56:12.6±0.2, 19.89S×175.44W, mb4.6/25, Error ellipse: s-maj=9.7km s-min=5.1km az=142.0*

*SYO **08** 05:56:12.4, 19.89S×175.39W, h109^{km}, MB4.6*

ISC 08 05:56:10.6±0.2**, 20.06S**±0.06×**175.40W**±0.06**, h107^{km}, h107^{km}**±2.1^{km}**:pP-P, n143, σ1$\overset{s}{.}$04**/89**, mb4.6**/38**, 7C-8D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.62**	**289**	Pn	**P**	**05 57 55.5**	**+8.7**
	2μm,0.7s,SNR=45						
RAR	**Rarotonga**	**14.68**	**97**	P	**P**	**05 59 28.2**	**-5.8**
	9.6nm,0.3s,baz=242,slow=7.5,SNR=8.6						
RAR				S	**S**	**06 01 54.2**	**-20**
	5.7nm,0.3s,baz=151,slow=19,SNR=5.4						
RAR				LR	LR	06 04 33.2	
	comp=Z,482nm,18.4s,baz=266,slow=34						
RAR				T		06 13 43.3	
	16nm,0.3s,baz=147,slow=11,SNR=4.9						
RAR	**Rarotonga**	**14.68**	**97**	eP	**P**	**05 59 31.0**	**-3.0**
	75nm,0.7s						
BKM	**Butte a Klehm**	**15.66**	**276**	⇑iP	**P**	**05 59 55.3**	**+8.7**
NOUC	**Port Laguerre**	**17.20**	**260**	eP	**P**	**06 00 11.4**	**+5.8**
NOUC	**Port Laguerre**	**17.20**	**260**	eP	**P**	**06 00 11.4**	**+5.8**
URZ	**Urewera**	**19.27**	**198**	P	**P**	**06 00 28.1**	**-1.1**
	7.3nm,0.3s,baz=11,slow=2.1,SNR=40						
URZ				S	**S**	**06 03 48.2**	**-8.2**
	0.7nm,0.3s,baz=41,slow=19,SNR=5.4						
QRZ	**Quartz Range**	**23.13**	**204**	P	**P**	**06 01 07.9**	**+0.1**
NNZ	**Nelson**	**23.16**	**202**	P	**P**	**06 01 06.7**	**-1.4**
THZ	**Tophouse**	**23.81**	**202**	P	**P**	**06 01 12.9**	**-1.5**
PPT	**Papeete**	**24.56**	**89**	eL		06 05 36.4	
PPT				eR		06 06 26.4	
	2μm,34.2s,baz=253						
WVZ	**Waitaha Valley**	**25.74**	**204**	P	**P**	**06 01 31.2**	**-1.6**
RPZ	**Rata Peaks**	**26.17**	**203**	P	**P**	**06 01 38.9**	**+2.2**
	22nm,0.4s,mb4.9,baz=356,slow=3.9,SNR=12						

RPZ				LR	LR	06 10 32.5	
	comp=Z,167nm,19.1s,baz=47,slow=33						
ARMA	**Armidale**	**31.46**	**244**	*e*P	**P**	**06 02 25.0**	**+0.8**
CTA	**Charters Tower**	**35.97**	**263**	*e*P	**P**	**06 03 03.7**	**+0.8**
	62nm,0.5s,mb5.8						
CTA				*e*	pP	06 03 31.3	+3.8
CTA	**Charters Tower**	**35.97**	**263**	P	**P**	**06 03 03.8**	**+0.9**
	73nm,0.5s,mb5.8,baz=99,slow=9.8,SNR=90						
CTAO	**Charters Tower**	**35.97**	**263**	*e*P	**P**	**06 03 03.7**	**+0.8**
	80nm,0.6s,mb5.8						
CTAO				*e*pP	pP	06 03 30.8	+3.3
TOO	**Toolangi**	**38.13**	**234**	*e*P	**P**	**06 03 20.9**	**0.0**
	6.4nm,0.5s,mb4.7						
STKA	**Stephens Creek**	**40.18**	**244**	*e*P	**P**	**06 03 38.2**	**+0.3**
	5.3nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**40.18**	**244**	P	**P**	**06 03 38.5**	**+0.6**
	6.2nm,0.5s,mb4.7,baz=96,slow=7.8,SNR=7.7						
STKA				LR	LR	06 19 04.3	
	comp=Z,146nm,19.2s,baz=32,slow=34						
ASAR	**Alice Springs**	**46.99**	**256**	P	**P**	**06 04 32.9**	**-0.1**
	48nm,0.6s,mb5.4,baz=101,slow=8.3,SNR=130						
ASAR				PcP	PcP	06 06 03.5	-0.4
	5.0nm,0.6s,baz=102,slow=4.8,SNR=6.2						
ASAR				ScP		06 09 50.6	
	0.8nm,0.7s,baz=93,slow=4.4,SNR=3.8						
ASAR				S	**S**	**06 11 15.4**	**+0.1**
	1.3nm,0.7s,baz=93,slow=15,SNR=8.5						
ASAR				LR	LR	06 22 35.0	
	comp=Z,87nm,20.2s,baz=0.8,slow=34						
ASPA	**Alice Springs**	**47.00**	**256**	*e*P	**P**	**06 04 32.5**	**-0.5**
WB2	**Warramunga Arr**	**47.07**	**261**	*e*P	**P**	**06 04 32.8**	**-0.8**
WRAB	**Tennant Creek**	**47.07**	**261**	*e*P	**P**	**06 04 33.3**	**-0.3**
	30nm,0.6s,mb5.2						
WRA	**Warramunga Arr**	**47.08**	**261**	P	**P**	**06 04 33.1**	**-0.6**
	20nm,0.6s,mb5.0,baz=95,slow=7.4,SNR=310						
WRA				PcP	PcP	06 06 04.0	-0.3
	3.3nm,0.6s,baz=100,slow=3.6,SNR=4.9						
WRA				S	**S**	**06 11 16.2**	**-0.3**
	1.3nm,0.3s,baz=164,slow=32,SNR=20						
WRA				LR	LR	06 22 28.6	
	comp=Z,166nm,19.1s,baz=135,slow=34						
KAKA	**Kakadu**	**50.45**	**270**	*e*P	**P**	**06 04 58.6**	**-1.1**
	30nm,0.4s,mb5.6						
FORT	**Forrest**	**51.71**	**246**	*e*P	**P**	**06 05 07.2**	**-1.9**
	83nm,0.5s						
FITZ	**Fitzroy Crossi**	**55.51**	**261**	*e*P	**P**	**06 05 36.5**	**-0.6**
	2.3nm,0.3s,mb4.7						
FITZ	**Fitzroy Crossi**	**55.51**	**261**	LR	LR	06 26 30.7	
	comp=Z,70nm,21.1s,baz=91,slow=33						
SBA	**Scott Base**	**58.48**	**184**	*e*P	**P**	**06 05 59.1**	**+1.7**
	3.8nm,0.6s,mb4.6						
MBWA	**Marble Bar**	**60.33**	**257**	*e*P	**P**	**06 06 09.0**	**-1.8**
	12nm,0.8s,mb5.0						
NWAO	**Narrogin (SRO)**	**60.74**	**243**	LR	LR	06 29 06.8	
	comp=Z,138nm,21.2s,baz=57,slow=32						
CASY	**Casey**	**65.41**	**205**	*e*P	**P**	**06 06 43.7**	**+0.1**
QSPA	**South Pole Qui**	**70.01**	**180**	*e*P	**P**	**06 07 12.7**	**+0.6**
	13nm,0.8s,mb4.8						
MAT	**Matsushiro**	**71.33**	**322**	P	**P**	**06 07 20.2**	**-0.5**
MAT	**Matsushiro**	**71.33**	**322**	*e*P	**P**	**06 07 20.0**	**-0.7**
	14nm,0.7s,mb4.9						
MTUM	**Tungsten Hills**	**78.24**	**43**	*e*P	**P**	**06 07 59.8**	**-0.4**
YBH	**Yreka Blue Hor**	**78.44**	**37**	P	**P**	**06 08 01.3**	**+0.1**
	2.9nm,0.7s,mb4.1,baz=331,slow=1.6,SNR=6.8						
MNV	**Mina**	**79.14**	**42**	*e*P	**P**	**06 08 04.3**	**-0.8**
	3.9nm,0.8s,mb4.3						
MNV				*e*pP	pP	06 08 32.2	-0.6
LDFC	**Landfair**	**79.22**	**46**	*e*P	**P**	**06 08 06.6**	**+1.0**
SSE	**Sheshan**	**79.30**	**309**	P	**P**	**06 08 07.2**	**+1.1**
SSE				AP	pP	06 08 34.0	+0.2
SSE				XP	sP	06 08 47.3	+1.6
SSE				S	S	06 17 57.3	+1.2
SSE				AMB	AMB		
	comp=Z,15nm,1.4s,mb4.6						
SSE				AMB	AMB		
	comp=Z,210nm,3.4s						
SSE				LR	LR		
	comp=N,62nm,37.9s						
SSE				LR	LR		
	comp=E,67nm,37.9s						
SSE				LR	LR		
	comp=Z,83nm,33.9s						
TPNV	**Topopah Spring**	**79.50**	**44**	*e*P	**P**	**06 08 06.4**	**-0.7**
	comp=Z,3.8nm,0.7s,mb4.3						
TPNV				*e*pP	pP	06 08 34.4	-0.5
TPH	**Tonopah**	**79.52**	**43**	*e*P	**P**	**06 08 06.4**	**-0.8**
	comp=Z,2.4nm,0.6s,mb4.2						
NEN	**Nelson**	**79.71**	**46**	*e*P	**P**	**06 08 08.3**	**0.0**
MOD	**Modoc**	**79.94**	**38**	*e*P	**P**	**06 08 09.1**	**-0.2**
	comp=Z,5.6nm,0.8s,mb4.5						
MOD				*e*pP	pP	06 08 37.4	+0.4
PMSA	**Palmer Station**	**80.72**	**156**	*e*P	**P**	**06 08 13.7**	**+0.7**
	comp=Z,4.7nm,0.8s,mb4.4						
WVOR	**Wild Horse Val**	**81.24**	**39**	*e*P	**P**	**06 08 15.9**	**-0.3**
	comp=Z,3.4nm,0.7s,mb4.3						
NJ2	**Nanjing**	**81.50**	**308**	*e*P	**P**	**06 08 19.0**	**+1.2**
NJ2				AP	pP	06 08 46.0	+0.4
NJ2				XP	sP	06 08 59.5	+2.0
NJ2				PP	PP	06 11 26.5	-0.4
NJ2				PPP	PPP	06 13 21.5	+2.1
NJ2				S	S	06 18 21.0	+2.1
NJ2				XS		06 19 12.0	
NJ2				LR	LR		
	comp=N,770nm,14.2s						
NJ2				LR	LR		
	comp=E,620nm,11.8s						
NJ2				LR	LR		
	comp=Z,590nm,12.3s						
MDJ	**Mudanjiang**	**81.58**	**324**	P	**P**	**06 08 18.9**	**+0.9**
MDJ				AMB	AMB		
	comp=Z,29nm,4.6s						
MDJ	**Mudanjiang**	**81.58**	**324**	*e*P	**P**	**06 08 19.5**	**+1.5**
	comp=Z,14nm,0.8s,mb4.8						
OCWA	**Octopus Mounta**	**81.62**	**32**	*e*P	**P**	**06 08 16.3**	**-1.8**
MAW	**Mawson**	**82.80**	**199**	P	**P**	**06 08 25.5**	**+1.7**
	comp=Z,2.7nm,0.6s,mb4.3,baz=147,slow=6.8,SNR=7.7						
MSU	**Marysvale**	**83.06**	**45**	*e*P	**P**	**06 08 26.1**	**+0.4**
CN2	**Changchun**	**83.46**	**321**	*e*P	**P**	**06 08 30.4**	**+2.8**
PMR	**Palmer**	**84.04**	**12**	*e*P	**P**	**06 08 28.5**	**-1.6**
	comp=Z,2.5nm,0.7s,mb4.2						
HLID	**Hailey**	**84.41**	**40**	*e*P	**P**	**06 08 32.8**	**+0.5**
	comp=Z,5.8nm,0.7s,mb4.5						
HLID				*e*pP	pP	06 09 00.5	+0.1
SRU	**San Rafael**	**84.47**	**45**	*e*P	**P**	**06 08 33.1**	**+0.3**
LAZ	**Ladron**	**84.48**	**51**	*e*P	**P**	**06 08 33.5**	**+0.5**
LENM	**Lemitar**	**84.49**	**51**	*e*P	**P**	**06 08 33.9**	**+0.9**
BNM	**Barren Site**	**84.73**	**51**	*e*P	**P**	**06 08 34.5**	**+0.3**
LTX	**Lajitas**	**84.77**	**56**	*e*P	**P**	**06 08 34.2**	**-0.3**
	comp=Z,5.0nm,0.9s,mb4.4						
TXAR	**Lajitas Array**	**84.77**	**56**	P	**P**	**06 08 34.8**	**+0.3**
	comp=Z,3.4nm,0.8s,mb4.3,baz=212,slow=7.7,SNR=33						
TXAR				LR	LR	06 39 06.9	
	comp=Z,33nm,18.8s,baz=185,slow=30						
TXAR	**Lajitas Array**	**84.77**	**56**	P	**P**	**06 08 34.8**	**+0.3**
TXAR				LR	LR	06 39 06.9	
DPW	**Davenport**	**84.79**	**35**	*e*P	**P**	**06 08 34.2**	**+0.1**
TCUT	**Toone Canyon**	**84.94**	**43**	*e*P	**P**	**06 08 34.6**	**-0.4**
TCUT				*e*pP	pP	06 09 02.7	-0.4
PV10	**Paradox Valley**	**85.09**	**46**	*e*P	**P**	**06 08 35.4**	**-0.5**
ANMO	**Albuquerque**	**85.23**	**50**	*e*P	**P**	**06 08 36.8**	**+0.1**
	comp=Z,7.8nm,0.7s,mb4.8						
ANMO				*e*pP	pP	06 09 04.5	-0.2
PV01	**Paradox Valley**	**85.29**	**47**	*e*P	**P**	**06 08 36.3**	**-0.5**
PV01				*e*pP	pP	06 09 04.9	-0.1
GDL2	**Guadalupe Moun**	**85.51**	**54**	*e*P	**P**	**06 08 38.2**	**+0.1**
GDL2				*e*		06 09 00.8	
GDL2				*e*pP	pP	06 09 07.1	+0.9
MCMT	**McKenzie Canyo**	**86.05**	**39**	*e*P	**P**	**06 08 40.9**	**+0.5**
MCMT				*e*	pP	06 09 05.2	-3.4
CPRX	**Cap Rock**	**86.26**	**53**	*e*P	**P**	**06 08 42.1**	**+0.4**
PDAR	**Pinedale Array**	**86.98**	**42**	P	**P**	**06 08 44.3**	**-0.7**
	comp=Z,0.8nm,0.5s,mb3.9,baz=224,slow=3.0,SNR=10						
SDCO	**Great Sand Dun**	**87.23**	**48**	*e*P	**P**	**06 08 46.4**	**+0.1**
	comp=Z,3.9nm,0.8s,mb4.4						
COLA	**College**	**87.27**	**11**	*e*P	**P**	**06 08 44.7**	**-1.1**
	comp=Z,5.2nm,0.7s,mb4.6						
COLA				*e*pP	pP	06 09 16.2	+2.1
BJT	**Baijiatuau**	**87.30**	**314**	*e*P	**P**	**06 08 45.0**	**-1.6**
	comp=Z,10nm,0.7s,mb4.9						
BJI	**Beijing**	**87.31**	**314**	P	**P**	**06 08 46.5**	**-0.1**
BJI				AMB	AMB		
	comp=Z,8.0nm,0.6s,mb4.8						
ILAR	**Eielson Array**	**87.36**	**12**	P	**P**	**06 08 45.2**	**-1.1**
	comp=Z,0.7nm,0.6s,mb3.8,baz=211,slow=5.6,SNR=16						
ILAR	**Eielson Array**	**87.36**	**12**	P	**P**	**06 08 45.2**	**-1.1**
SYO	**Syowa Base**	**87.68**	**192**	⇓P	**P**	**06 08 47.8**	**+0.1**
SYO	**Syowa Base**	**87.68**	**192**	⇑PcP	PcP	06 08 49.3	-0.5
SYO	**Syowa Base**	**87.68**	**192**	⇓pP	pP	06 09 16.2	+0.2
SYO	**Syowa Base**	**87.68**	**192**	⇓sP	sP	06 09 27.7	+0.2
SYO	**Syowa Base**	**87.68**	**192**	⇑PP	PP	06 12 17.5	+1.0
ENH	**Enshi**	**87.83**	**303**	*e*P	**P**	**06 08 50.6**	**+1.3**
ISCO	**Idaho Springs**	**88.11**	**46**	*e*P	**P**	**06 08 50.8**	**+0.3**
	comp=Z,2.0nm,0.8s,mb4.2						
SNAA	**Sanae**	**88.37**	**178**	*e*	PP	06 12 19.4	-2.6
SNAA	**Sanae**	**88.37**	**178**	⇑*i*P	**P**	**06 08 51.5**	**+0.5**
SNAA				*e*	pP	06 09 16.7	-2.6
SNAA				*e*		06 09 28.9	
SNAA				*e*		06 12 19.4	
SNAA				*e*		06 13 47.2	
DAWY	**Dawson**	**88.38**	**15**	*e*P	**P**	**06 08 50.1**	**-1.1**
DAWY				*e*		06 09 07.6	
VNA2	**Neumayer--Watz**	**88.88**	**176**	P	**P**	**06 08 56.4**	**+3.1**
VNA1	**Neumayer--Stat**	**89.09**	**176**	*e*	PP	06 12 25.0	-2.8
VNA1	**Neumayer--Stat**	**89.09**	**176**	⇑*i*P	**P**	**06 08 57.1**	**+2.8**
VNA1				*e*	pP	06 09 22.3	-0.4
VNA1				*e*		06 09 35.0	
VNA1				*e*		06 12 25.0	
VNA1				*e*		06 13 52.8	
HHC	**Hu-ho-hao-te**	**90.81**	**313**	*e*P	**P**	**06 09 06.2**	**+3.1**
HHC				AP	pP	06 09 35.7	+4.2
HHC				XP	sP	06 09 48.2	+5.2
HHC				AMB	AMB		
	comp=Z,9.0nm,0.6s,mb5.1						
KMI	**Kunming**	**91.33**	**296**	*e*P	**P**	**06 09 07.5**	**+1.6**
KMI				XP	sP	06 09 46.8	+1.0
KMI				S	S	06 19 53.3	+0.3
KMI				XS		06 20 44.5	
KMI				SS	SS	06 26 05.1	+1.1
KMI				AMB	AMB		
	comp=Z,6.0nm,1.1s,mb4.6						
KMI				AMB	AMB		
	comp=Z,88nm,5.4s						
KMI				LR	LR		
	comp=N,154nm,21.4s						
KMI				LR	LR		
	comp=E,217nm,24.7s						
KMI				LR	LR		
	comp=Z,143nm,27.3s						
SONM	**Songino Array**	**97.03**	**318**	P	**P**	**06 09 33.2**	**+1.8**
	comp=Z,0.5nm,0.5s,mb4.2,baz=130,slow=2.6,SNR=4.9						
LPAZ	**La Paz**	**99.96**	**111**	LR	LR	06 44 57.7	
	comp=Z,46nm,19.5s,baz=329,slow=29						
ZAL	**Zalesovo**	**111.69**	**321**	PKiKP		06 14 31.7	
	comp=Z,0.9nm,0.7s,baz=240,slow=6.7,SNR=3.5						
MKAR	**Makanchi Array**	**112.67**	**313**	PKiKP		06 14 35.1	
	comp=Z,1.3nm,0.9s,baz=63,slow=3.2,SNR=6.3						
BVAR	**Borovoye Array**	**120.30**	**320**	PKP	PKPdf	06 14 49.8	+0.7
	comp=Z,1.4nm,0.5s,baz=25,slow=3.8,SNR=5.0						
ZRNK	**Zerenda**	**121.14**	**320**	*e*PKPdf	PKPdf	06 14 50.8	0.0
ARCES	**ARCESS Array B**	**128.90**	**351**	PKP	PKPdf	06 15 05.6	+0.4
	comp=Z,2.5nm,0.6s,baz=356,slow=1.5,SNR=12						
FINES	**FINESS Array B**	**136.00**	**345**	PKP	PKPdf	06 15 19.9	+1.2
	comp=Z,2.3nm,0.8s,baz=27,slow=4.3,SNR=5.6						
FINES	**FINESS Array B**	**136.00**	**345**	PKP	PKPdf	06 15 19.9	+1.2
NOA	**NORSAR Array B**	**138.79**	**355**	PKP	PKPdf	06 15 24.4	+0.6
	comp=Z,0.6nm,0.7s,baz=14,slow=3.7,SNR=3.3						
NOA	**NORSAR Array B**	**138.79**	**355**	PKP	PKPdf	06 15 24.4	+0.6
AKASG	**Malin Array Be**	**143.76**	**333**	PKhKP		06 15 30.6	
	comp=Z,4.6nm,0.8s,baz=40,slow=4.1,SNR=17						
MALT	**Malatya**	**145.57**	**309**	*e*PKPdf	PKPdf	06 15 39.2	+2.8
MALT				*e*PKPab	tx	06 16 08.1	
GZT	**Gaziantep**	**146.56**	**308**	*i* P	PKPdf	06 15 42.0	+4.0
KWP	**Kalwaria**	**147.14**	**338**	*e*PKP	PKPdf	06 15 42.3	+3.7
COBT	**Iskenderun**	**147.85**	**307**	*i* P	PKPdf	06 15 45.3	+5.1
ELDT	**Eldivan**	**148.06**	**316**	*i* P	PKPdf	06 15 45.0	+4.5
CLL	**Collm**	**148.12**	**350**	⇓*i*PKP1	PKPdf	06 15 44.8	+4.6
CLL				*i* PKP2	PKPab	06 15 47.6	-1.2
CLL				*e**PPKP		06 16 20.0	
CLL				*i*		06 16 26.6	
CLL	**Collm**	**148.12**	**350**	⇓*i*P	PKPdf	06 15 44.8	+4.6
CLL				*e*		06 16 20.0	
UPC	**Upice**	**148.30**	**346**	*e*PKPbc	PKPdf	06 15 45.9	+5.4
BRTR	**Keskin Array B**	**148.31**	**315**	PKPbc	PKPdf	06 15 45.6	+4.7
	comp=Z,3.8nm,0.7s,baz=145,slow=4.6,SNR=12						
DPC	**Dobruska-Polom**	**148.37**	**346**	*e*PKPbc	PKPdf	06 15 46.3	+5.7
BRG	**Berggiesshubel**	**148.37**	**349**	*e*P	PKPdf	06 15 45.8	+5.2
OKC	**Ostrava-Krasne**	**148.38**	**343**	*e*PKPbc	PKPdf	06 15 45.3	+4.7
PVCC	**Panska Ves**	**148.58**	**348**	*e*PKPbc	PKPdf	06 15 47.8	+6.9
ASF	**Jabal al Asfar**	**148.71**	**299**	PKPbc	PKPdf	06 15 46.6	+4.9
	comp=Z,7.9nm,1.0s,baz=169,slow=5.2,SNR=4.4						
PRU	**Pruhonice**	**149.10**	**347**	*e*PKPbc	PKPdf	06 15 48.0	+6.2
MLR	**Muntele Rosu**	**149.12**	**330**	PKPbc	PKPdf	06 15 47.0	+5.1
	comp=Z,6.2nm,0.8s,baz=161,slow=18,SNR=10.0						
NKC	**Novy Kostel**	**149.25**	**350**	*e*PKPbc	PKPdf	06 15 48.3	+6.3
GRA1	**Grafenberg Arr**	**149.96**	**351**	*e*PKP	PKPdf	06 15 50.2	+7.1
GIVF	**Givet**	**150.02**	**360**	*e*PKP1	PKPdf	06 15 49.2	+6.0
BAIF	**Baives**	**150.06**	**1**	*e*PKP1	PKPdf	06 15 49.5	+6.2
	comp=Z,11nm,0.7s						
KHC	**Kasperske Hory**	**150.11**	**348**	*e*PKPbc	PKPdf	06 15 50.1	+6.7
GERES	**GERESS Array B**	**150.36**	**348**	PKP	PKPdf	06 15 45.9	+2.1
	comp=Z,5.1nm,0.9s,baz=27,slow=3.0,SNR=13						
GERES				PKPbc	PKPdf	06 15 50.3	+6.6
	comp=Z,3.9nm,0.8s,baz=27,slow=2.2,SNR=12						
EIL	**Elat**	**150.92**	**295**	PKPbc	PKPdf	06 15 53.2	+7.9
	comp=Z,6.4nm,0.8s,baz=261,slow=20,SNR=5.1						
MOA	**Molln**	**151.19**	**346**	⇓*i*P	PKPdf	06 15 52.5	+7.5
SGMF	**Saint Gilles**	**151.28**	**10**	*e*PKP1	PKPdf	06 15 52.2	+7.0
	comp=Z,21nm,0.8s						
GRR	**Gorron**	**151.39**	**8**	*e*PKP1	PKPdf	06 15 52.8	+7.5
	comp=Z,18nm,0.7s						
CDF	**Champ du Feu**	**151.63**	**356**	*e*PKP1	PKPdf	06 15 53.7	+8.0
	comp=Z,12nm,0.8s						
HAU	**Haudompre**	**152.08**	**357**	*e*PKP1	PKPdf	06 15 54.5	+8.1
	comp=Z,17nm,0.7s						
KBA	**Koelnbreinsper**	**152.12**	**347**	⇑*i*P	PKPdf	06 15 55.0	+8.6
WATA	**Walderalm**	**152.20**	**350**	⇓*i*P	PKPdf	06 15 54.7	+8.1
HINF	**Hinteralfeld**	**152.25**	**357**	*e*PKP1	PKPdf	06 15 54.1	+7.5
	comp=Z,8.4nm,0.7s						
WTTA	**Wattenberg**	**152.26**	**350**	⇓*i*P	PKPdf	06 15 55.0	+8.4
SQTA	**Sankt Quirin**	**152.37**	**350**	⇑*i*P	PKPdf	06 15 55.4	+8.6
DAVOX	**Davos**	**153.00**	**352**	PKPbc	PKPdf	06 15 56.8	+9.1
	comp=Z,3.6nm,0.5s,baz=294,slow=9.5,SNR=5.0						
SSF	**Saint Saulge**	**153.05**	**2**	*e*PKP1	PKPdf	06 15 56.2	+8.5
MFF	**Saint Martin d**	**153.24**	**7**	*e*PKP1	PKPdf	06 15 57.5	+9.5
LIC	**Lamto**	**163.37**	**144**	*e*PKIKP	PKPdf	06 15 59.5	-1.5
	comp=Z,69nm,1.7s						
DBIC	**Dimbokro**	**163.83**	**144**	PKPab	PKPab	06 16 55.6	-1.2
	comp=Z,3.5nm,0.6s,baz=180,slow=6.2,SNR=9.8						

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*NEIC **08** 05:57:49.9,18.18N×103.48W,h8^{km},MD3.9(MEX),After MEX.*

MEX 08 05:57:49.9±0.8**,18.18N×103.48W,h8**^{km}±16^{km}**,MD3.9, Near coast of Michoacan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CGX	**Ciudad Guzman**	**1.50**	**359**	*i* P	Pn	05 58 14.0	-3.3
CGX				*i* S	Sb	05 58 33.0	-3.8
CJM	**Chamela**	**1.98**	**312**	*i* P	Pn	05 58 19.3	-4.7
CJM				*i* S	Sn	05 58 44.2	-5.1
ZIIG	**Zihuatanejo**	**2.00**	**106**	*i* P	Pn	05 58 21.8	-2.6
ZIIG				*i* S	Sn	05 58 45.1	-4.8
SFJM	**Santa Fe**	**2.33**	**10**	*i* P	Pn	05 58 25.5	-3.6
SFJM				*i* S	Sn	05 58 52.5	-5.8
MOIG	**Morelia**	**2.63**	**55**	*e*P	Pn	05 58 29.2	-4.3
MOIG				*i* S	Sn	05 58 59.1	-6.8

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*PRU **08** 06:08:06.5,50.10N×18.35E*

WAR 08 06:08:05.0,50.06N×18.45E,ML2.6,Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAC	**Raciborz**	**0.17**	**280**	*e*PG	Pg	06 08 09.0	+0.7
RAC				*e*SG	Sg	06 08 13.0	+2.5
OKC	**Ostrava-Krasne**	**0.29**	**222**	*e*PG	Pg	06 08 11.4	+0.6
OKC				*e*SG	Sg	06 08 16.0	+1.3
OJC	**Ojcow**	**0.89**	**79**	*e*PG	Pg	06 08 22.0	-0.7
OJC				*e*SG	Sg	06 08 35.0	+0.5
LIKS	**Likavka**	**1.09**	**157**	*e*PN	Pn	06 08 28.1	+0.7
LIKS				*e*SN	Sn	06 08 43.9	+0.4
NIE	**Niedzica**	**1.37**	**117**	*e*PG	Pg	06 08 31.0	-1.3
NIE				*e*SG	Sg	06 08 50.0	-0.5
DPC	**Dobruska-Polom**	**1.40**	**283**	*e*PG	Pg	06 08 31.0	-1.9
DPC				*e*SG	Sg	06 08 49.2	-2.3
	61nm,0.6s						
KOLL	**Kolacno**	**1.48**	**181**	*e*PN	Pn	06 08 34.0	+1.1
KOLL				*e*SN	Sn	06 08 54.2	+1.0
VYHS	**Vyhne**	**1.58**	**171**	*i* PN	Pn	06 08 34.3	-0.1
VYHS				*e*SN	Sn	06 08 55.8	-0.1
KSP	**Ksiaz**	**1.59**	**301**	*e*PN	Pn	06 08 34.0	-0.5
KSP				*e*SG	Sg	06 08 55.0	-2.8
UPC	**Upice**	**1.63**	**287**	*e*PG	Pg	06 08 35.3	-2.2
CRVS	**Cervenica-Dubn**	**2.28**	**119**	*e*PN	Pn	06 08 48.7	+4.3
CRVS				*e*SN	Sn	06 09 17.8	+4.2
PRU	**Pruhonice**	**2.52**	**270**	*e*SG	Sg	06 09 24.4	-4.5
	10nm,0.5s						
KWP	**Kalwaria**	**2.79**	**97**	*e*PN	Pg	06 09 00.0	-0.7
KWP				*e*SG	Sx	06 10 35.0	
KHC	**Kasperske Hory**	**3.30**	**256**	*e*PG	Pg	06 09 05.7	-5.2
KHC				*e*SG	Sg	06 09 48.1	-6.8
MOA	**Molln**	**3.53**	**233**	*i*	Pn	06 09 08.5	+6.3
MOA	**Molln**	**3.53**	**233**	*i* SG	Sg	06 09 57.4	-5.1
	2.9nm,0.3s						
CLL	**Collm**	**3.68**	**292**	*e*SG	Sg	06 10 04.0	-3.6

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*NIED **08** 06:20:00,33.20N×137.20E,h26^{km},Mw3.7 Best double couple: M$_0$4.26×10^{14} NP1:φ$_s$286°,δ74°,λ139°. NP2:φ$_s$30°,δ51°,λ21°.*

*JMA **08** 06:20:19.7±0.1,33.18N×137.23E,h41^{km}±3^{km},M3.7*

ISC 08 06:20:20.5±1.0**,33.23N**±0.06×**137.20E**±0.04**,h43**^{km}±23^{km}**, n19,σ0^{s}64**/33**,5D,Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TK01	**Tokai 1**	**0.62**	**31**	*e*S	**S**	**06 20 41.5**	**-0.6**
TK02	**Tokai 2**	**0.85**	**33**	P	**P**	**06 20 35.6**	**-0.5**
TK02				*e*S	**S**	**06 20 47.7**	**+0.1**
TK03	**Tokai 3**	**1.13**	**34**	S	**S**	**06 20 54.4**	**-0.2**
JIE	**Ise**	**1.23**	**341**	⇓P	**P**	**06 20 42.1**	**+0.6**
JIE				*e*S	**S**	**06 20 58.4**	**+1.2**
JWZ	**Kozaga**	**1.28**	**284**	P	**P**	**06 20 42.0**	**-0.2**
JWZ				*e*S	**S**	**06 20 57.4**	**-1.1**
TK04	**Tokai 4**	**1.28**	**26**	⇓P	**P**	**06 20 42.2**	**0.0**
TK04				*e*S	**S**	**06 20 58.3**	**-0.2**
JKN	**Kiinagashima**	**1.28**	**323**	P	**P**	**06 20 42.5**	**+0.2**
JKN				S	**S**	**06 20 57.7**	**-0.8**
TSUJ	**Tsu 2**	**1.61**	**336**	P	**P**	**06 20 47.4**	**+0.4**
TSUJ				*e*S	**S**	**06 21 07.1**	**+0.4**
JWM	**Minabe**	**1.66**	**292**	P	**P**	**06 20 47.7**	**0.0**
JWM				*e*S	**S**	**06 21 07.5**	**-0.5**
JWY	**Kouya**	**1.66**	**307**	⇓P	**P**	**06 20 48.3**	**+0.6**
JWY				*e*S	**S**	**06 21 08.3**	**+0.3**
JHE	**Heguri**	**1.90**	**319**	⇓P	**P**	**06 20 51.5**	**+0.5**
JHE				*e*S	**S**	**06 21 14.3**	**+0.4**
SHZ3	**Shizuoka 3**	**2.01**	**24**	P	**P**	**06 20 52.2**	**-0.5**
JIZS	**Izushimoda**	**2.04**	**43**	P	**P**	**06 20 53.7**	**+0.7**
JAI	**Aioi**	**2.37**	**284**	P	**P**	**06 20 58.0**	**+0.3**
JAI				*e*S	**S**	**06 21 24.3**	**-1.4**
JGM	**Miyama**	**2.50**	**351**	P	**P**	**06 20 59.8**	**+0.2**
JGM				*e*S	**S**	**06 21 29.4**	**+0.4**
JYN	**Shimob**	**2.52**	**26**	P	**P**	**06 21 00.0**	**+0.1**
JWT	**Wachi**	**2.53**	**324**	⇓P	**P**	**06 21 00.7**	**+0.6**
JWT				*e*S	**S**	**06 21 30.1**	**+0.2**
JOD2	**Odawara 2**	**2.56**	**37**	P	**P**	**06 21 01.4**	**+0.9**
JOD2				*e*S	**S**	**06 21 29.3**	**-1.3**
MAT	**Matsushiro**	**3.41**	**14**	P	**P**	**06 21 12.9**	**+0.4**
MAT				S	**S**	**06 21 50.8**	**-1.3**

DHMR 08 06:26:30.1±0.9**,13.68N×42.76E,h40**^{km}±4^{km}**,MD3.5, ML3.4,2C-4D,Ethiopia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UDYN	**Al ‘Udayn**	**1.23**	**76**	⇑*i*P	P	06 26 51.9	+0.8
UDYN				*i* S	S	06 27 09.3	+2.4
UDYN				AML	AML	06 27 15.5	
	comp=E,502nm,0.7s						
TRBA	**At Turbah**	**1.41**	**109**	⇓*i*P	P	06 26 54.7	+1.0
TRBA				*i* S	S	06 27 13.8	+2.4
TRBA				AML	AML	06 27 20.0	
	comp=Z,468nm,0.5s						
DHBB	**Dhamar BB**	**1.81**	**61**	⇓*i*P	P	06 27 00.9	+1.6
DHBB				*i* S	S	06 27 25.4	+4.2
HAJJ	**Hajjah**	**2.17**	**22**	⇓*i*P	P	06 27 06.7	+2.2
HAJJ				*i* S	S	06 27 34.8	+4.5
HAJJ				AML	AML	06 27 44.3	
	comp=E,357nm,0.4s						
LBOS		**2.43**	**85**	⇑*i*P	P	06 27 09.6	+1.3
LBOS				*i* S	S	06 27 41.3	+4.3
BDHA	**Al Bayda’**	**2.75**	**84**	⇓*i*P	P	06 27 14.5	+1.8
BDHA				*i* S	S	06 27 49.1	+4.1
BDHA				AML	AML	06 28 02.6	
	comp=N,277nm,0.5s						

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*JMA **08** 06:34:22.0±0.1,33.01N×136.99E,h37^{km}±4^{km},M3.6*

ISC 08 06:34:22.7±1.1**,33.03N**±0.06×**136.98E**±0.04**,h37**^{km}**,n16, σ0^{s}51**/31**,10D,Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TK01	**Tokai 1**	**0.89**	**35**	P	**P**	**06 34 38.4**	**-0.4**
TK01				*e*S	**S**	**06 34 50.3**	**-0.4**
TK02	**Tokai 2**	**1.12**	**35**	⇓P	**P**	**06 34 41.7**	**-0.3**
TK02				*e*S	**S**	**06 34 56.5**	**0.0**
JWZ	**Kozaga**	**1.17**	**295**	⇓P	**P**	**06 34 42.5**	**-0.3**
JWZ				*e*S	**S**	**06 34 56.8**	**-1.0**
JKN	**Kiinagashima**	**1.35**	**334**	P	**P**	**06 34 45.6**	**+0.1**
JKN				*e*S	**S**	**06 35 01.8**	**-0.6**
JIE	**Ise**	**1.38**	**351**	⇓P	**P**	**06 34 46.2**	**+0.4**
JIE				*e*S	**S**	**06 35 02.9**	**-0.1**
TK03	**Tokai 3**	**1.40**	**36**	*e*S	**S**	**06 35 03.5**	**0.0**
TK04	**Tokai 4**	**1.54**	**29**	⇓P	**P**	**06 34 48.1**	**0.0**
TK04				*e*S	**S**	**06 35 07.1**	**-0.1**
JWM	**Minabe**	**1.58**	**301**	⇓P	**P**	**06 34 48.7**	**-0.1**
JWM				*e*S	**S**	**06 35 07.6**	**-0.6**
JWY	**Kouya**	**1.66**	**316**	⇓P	**P**	**06 34 50.3**	**+0.5**
JWY				*e*S	**S**	**06 35 10.5**	**+0.5**
TSUJ	**Tsu 2**	**1.74**	**345**	⇓P	**P**	**06 34 51.3**	**+0.4**
TSUJ				*e*S	**S**	**06 35 12.3**	**+0.2**
JHE	**Heguri**	**1.94**	**327**	⇓P	**P**	**06 34 54.4**	**+0.5**
JHE				*e*S	**S**	**06 35 17.5**	**+0.2**
JAJ2	**Tsuna**	**2.23**	**309**	P	**P**	**06 34 58.5**	**+0.6**
JAJ2				*e*S	**S**	**06 35 25.2**	**+0.7**
JAI	**Aioi**	**2.25**	**290**	P	**P**	**06 34 58.1**	**-0.1**
JAI				*e*S	**S**	**06 35 23.7**	**-1.3**
JWT	**Wachi**	**2.60**	**330**	⇓P	**P**	**06 35 03.7**	**+0.5**
JWT				*e*S	**S**	**06 35 34.6**	**+0.7**
JGM	**Miyama**	**2.67**	**355**	⇓P	**P**	**06 35 04.6**	**+0.4**
JGM				*e*S	**S**	**06 35 35.7**	**0.0**
MAT	**Matsushiro**	**3.65**	**16**	P	**P**	**06 35 18.6**	**+0.5**
MAT				S	**S**	**06 35 59.4**	**-1.1**

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*NEIC **08** 06:51:40.1±0.9,24.14S×67.04W,h185^{km}±10^{km},mb4.2/3, Error ellipse: s-maj=18.4km s-min=11.2km az=93.0*

*IDC **08** 06:51:45.3±3.6,23.77S×67.01W,h224^{km}±30^{km}, mb1 3.4/3,mb1mx3.1/13,Error ellipse: s-maj=40.7km s-min=21.7km az=39.0*

ISC 08 06:51:39.5±1.2**,24.12S**±0.08×**67.0W**±0.2**,h195**^{km}±24^{km}**, n10,σ0^{s}83**/8**,mb4.2**/1**,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.29**	**311**	*e*P	**P**	**06 52 20.8**	**-0.4**
LPAZ	**La Paz**	**7.86**	**352**	P	**P**	**06 53 33.1**	**+1.4**
	2.1nm,0.3s,baz=149,slow=3.2,SNR=17						
LPAZ				S	**S**	**06 54 59.1**	**-0.3**
	baz=337,slow=20,SNR=7.8						
CPUP	**Villa Florida**	**9.06**	**106**	P	**P**	**06 53 54.8**	**+7.4**
	0.2nm,0.3s,baz=292,slow=9.8,SNR=6.4						
TRQA	**Tornquist**	**14.54**	**164**	*e*P	**P**	**06 54 57.3**	**0.0**
	8.8nm,0.7s						
SAML	**Samuel**	**15.53**	**14**	*e*P	**P**	**06 55 09.1**	**-0.6**
	2.8nm,0.7s						
BDFB	**Brasilia**	**19.76**	**68**	P	**P**	**06 55 56.2**	**0.0**
	0.7nm,0.3s,baz=241,slow=11,SNR=11						
QSPA	**South Pole Qui**	**66.08**	**180**	*e*P	**P**	**07 02 06.9**	**0.0**
	2.9nm,0.5s,mb4.2						
ASAR	**Alice Springs**	**128.34**	**205**	PKP	PKPdf	07 10 24.8	+1.4
	0.6nm,0.7s,baz=148,slow=1.5,SNR=5.7						
WRA	**Warramunga Arr**	**131.51**	**207**	PKP	PKPdf	07 10 31.3	+1.8
	0.4nm,0.5s,baz=162,slow=1.6,SNR=13						
MKAR	**Makanchi Array**	**146.64**	**40**	PKPbc	PKPbc	07 11 00.6	+3.2
	1.0nm,0.8s,baz=323,slow=2.4,SNR=6.7						

IDC 08 06:57:03.8±31.0**,52.49S**×**162.94E,mb4.0**/3**,mb1 4.2**/3**, mb1mx4.0**/8**,MS3.5**/1**,Ms1 3.5**/1**,ms1mx3.1**/8**,Error ellipse: s-maj=524.0km s-min=405.9km az=127.0, Macquarie Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	25.79	315	P	P	07 02 36.1	-1.8
	2.0nm,0.8s,baz=151,slow=13,SNR=3.8						
ASAR	Alice Springs	36.29	311	P	P	07 04 08.9	-1.9
	2.1nm,0.7s,baz=150,slow=8.3,SNR=27						
ASAR				LR	LR	07 17 58.9	
	comp=Z,69nm,19.8s,baz=204,slow=35						
WRA	Warramunga Arr	39.34	315	P	P	07 04 34.7	-1.7
	1.6nm,0.7s,baz=154,slow=7.5,SNR=13						

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*NEIC **08** 07:03:02.7,41.84S×172.72E,h93^{km},ML4.1(WEL),After WEL.*

WEL 08 07:03:02.8±0.2**,41.83S**×**172.74E,h91**^{km}±2^{km}**,ML4.2**/9**, 3C-3D,Error ellipse: s-maj=1.5km s-min=1.1km az=90.0, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
THZ	Tophouse	0.14	63	⇓PN	P	07 03 15.8	0.0
THZ				SN	S	07 03 24.8	-0.7
THZ	Tophouse	0.14	63	P	P	07 03 15.8	0.0
THZ				S	S	07 03 24.6	-0.9
DSZ	Denniston Nort	0.70	276	⇓PN	P	07 03 19.5	-0.2
DSZ				SN	S	07 03 30.7	-1.5
DSZ	Denniston Nort	0.70	276	P	P	07 03 19.5	-0.2
DSZ				S	S	07 03 30.5	-1.7
NNZ	Nelson	0.78	39	⇑PN	P	07 03 20.5	+0.1
KHZ	Kahutara	0.84	135	⇑PN	P	07 03 21.0	0.0
KHZ				SN	S	07 03 33.5	-1.1
KHZ	Kahutara	0.84	135	P	P	07 03 21.0	0.0
BSWZ	Blackbirch Sta	0.86	83	PN	P	07 03 21.7	+0.5
BSWZ				SN	S	07 03 35.0	+0.1
QRZ	Quartz Range	1.01	351	⇓PN	P	07 03 22.9	0.0
QRZ				SN	S	07 03 36.5	-1.5
QRZ	Quartz Range	1.01	351	P	P	07 03 22.9	0.0
LTZ	Lake Taylor	1.02	200	⇑PN	P	07 03 23.1	+0.1
LTZ				SN	S	07 03 37.3	-0.9
LTZ	Lake Taylor	1.02	200	P	P	07 03 23.1	+0.1
CMWZ	Cape Campbell	1.11	86	PN	P	07 03 24.7	+0.6
SNZO	South Karori	1.56	71	PN	P	07 03 29.2	-0.7
SNZO				SN	S	07 03 49.0	-0.9
SNZO	South Karori	1.56	71	P	P	07 03 29.3	-0.6
MRW	Makara Radio	1.59	69	PN	P	07 03 29.6	-0.6
MRW				SN	S	07 03 48.6	-1.8
WEL	Wellington	1.62	71	PN	P	07 03 29.9	-0.6
WEL	Wellington	1.62	71	P	P	07 03 30.0	-0.5
BHW	Baring Head	1.65	76	PN	P	07 03 30.0	-0.9
BHW				SN	S	07 03 49.7	-2.1
BHW	Baring Head	1.65	76	P	P	07 03 30.1	-0.9
CRLZ	Canterbury Las	1.75	183	PN	P	07 03 31.0	-1.3
CRLZ	Canterbury Las	1.75	183	P	P	07 03 31.0	-1.3
MQZ	McQueen's Vall	1.88	182	PN	P	07 03 32.4	-1.6
MQZ	McQueen's Vall	1.88	182	P	P	07 03 32.4	-1.6
CAW	Cannon Point	1.89	69	PN	P	07 03 33.2	-0.9
CAW				SN	S	07 03 55.5	-1.7
CAW	Cannon Point	1.89	69	P	P	07 03 33.2	-0.9
KIW	Kapiti Island	1.90	60	PN	P	07 03 33.8	-0.4
KIW				SN	S	07 03 56.0	-1.4
KIW	Kapiti Island	1.90	60	P	P	07 03 33.8	-0.4
MSWZ	Moikau Station	1.93	79	PN	P	07 03 33.3	-1.3
MSWZ				SN	S	07 03 55.7	-2.3
WVZ	Waitaha Valley	1.94	229	PN	P	07 03 34.0	-0.7
WVZ	Waitaha Valley	1.94	229	P	P	07 03 34.0	-0.7
PAWZ	Paruwai Farm	2.06	78	PN	P	07 03 34.8	-1.6
PAWZ				SN	S	07 03 58.4	-2.9
MTW	Mount Morrison	2.18	73	PN	P	07 03 36.2	-1.8
MTW				SN	S	07 04 01.7	-2.5
MTW	Mount Morrison	2.18	73	P	P	07 03 36.3	-1.7
RPZ	Rata Peaks	2.26	213	PN	P	07 03 37.5	-1.7
RPZ	Rata Peaks	2.26	213	P	P	07 03 37.5	-1.6
MRZ	Mangatainoka R	2.44	62	PN	P	07 03 39.8	-1.9
MRZ	Mangatainoka R	2.44	62	P	P	07 03 39.8	-1.8
NRZ	Ngariki Road	2.65	20	PN	P	07 03 45.1	+0.6
NRZ	Ngariki Road	2.65	20	P	P	07 03 45.1	+0.6
WAZ	Wanganui	2.68	40	PN	P	07 03 45.1	+0.1
WAZ	Wanganui	2.68	40	P	P	07 03 45.4	+0.4
NWEZ	Newall Road	2.69	19	PN	P	07 03 45.7	+0.6
NWEZ				*e*SN	S	07 04 16.9	+0.1
NWEZ	Newall Road	2.69	19	P	P	07 03 45.7	+0.6
DFE	Dawson Falls	2.70	23	PN	P	07 03 45.7	+0.4
DFE	Dawson Falls	2.70	23	P	P	07 03 45.8	+0.5
NEZ	North Egmont	2.75	23	PN	P	07 03 46.1	+0.1
NEZ	North Egmont	2.75	23	P	P	07 03 46.3	+0.3
PKE	Pukeiti	2.79	20	PN	P	07 03 46.9	+0.3
PKE				SN	S	07 04 19.3	-0.1
RAEZ	Rainy Point	2.83	27	PN	P	07 03 47.6	+0.5
RAEZ	Rainy Point	2.83	27	P	P	07 03 47.7	+0.6
BFZ	Birch Farm	2.88	68	PN	P	07 03 44.6	-3.2
BFZ	Birch Farm	2.88	68	*e*P	P	07 03 44.9	-2.9
TSZ	Takapari Road	3.01	55	PN	P	07 03 47.2	-2.4
TSZ	Takapari Road	3.01	55	P	P	07 03 47.3	-2.3
VRZ	Vera Road	3.11	30	PN	P	07 03 50.9	0.0
VRZ	Vera Road	3.11	30	P	P	07 03 51.0	+0.1
LBZ	Lake Benmore	3.17	215	PN	P	07 03 49.0	-2.8
LBZ	Lake Benmore	3.17	215	*e*P	P	07 03 49.0	-2.7
WNVZ	Wahianoa	3.31	42	PN	P	07 03 52.7	-0.9
MOVZ	Moawhango	3.33	45	PN	P	07 03 52.0	-1.9
DRZ	Dome Shelter	3.33	41	PN	P	07 03 53.5	-0.5
WPVZ	Whakapapa	3.38	40	PN	P	07 03 53.4	-1.2
TUVZ	Tukino	3.38	42	PN	P	07 03 53.5	-1.2
TUVZ	Tukino	3.38	42	P	P	07 03 54.3	-0.4
CNZ	Chateau	3.39	40	PN	P	07 03 53.4	-1.4
CNZ	Chateau	3.39	40	P	P	07 03 54.1	-0.6
NGZ	Ngauruhoe	3.43	40	PN	P	07 03 54.4	-1.0
NGZ	Ngauruhoe	3.43	40	P	P	07 03 54.7	-0.6
TWVZ	Taurewa	3.44	38	PN	P	07 03 54.0	-1.4
WTVZ	West Tongariro	3.47	40	PN	P	07 03 54.2	-1.7
KAVZ	Karewarewa	3.51	40	PN	P	07 03 55.5	-1.0
KAVZ	Karewarewa	3.51	40	P	P	07 03 56.3	-0.2
MGZ	Maungaku	3.54	38	PN	P	07 03 55.0	-1.8
MGZ	Maungaku	3.54	38	P	P	07 03 55.6	-1.2
ODZ	Otahua Downs	3.56	205	PN	P	07 03 54.8	-2.3
ODZ	Otahua Downs	3.56	205	*e*P	P	07 03 54.9	-2.2
PWZ	Pawanui	3.60	61	PN	P	07 03 53.6	-4.1
PWZ	Pawanui	3.60	61	*e*P	P	07 03 54.2	-3.5
KATZ	Kakaramea	3.63	39	PN	P	07 03 57.3	-0.8
KATZ	Kakaramea	3.63	39	P	P	07 03 57.8	-0.3
HIZ	Hauiti	3.68	27	PN	P	07 03 57.8	-1.0
HIZ	Hauiti	3.68	27	P	P	07 03 58.2	-0.6
JCZ	Jackson Bay	3.69	231	PN	P	07 03 55.6	-3.3
JCZ	Jackson Bay	3.69	231	*e*P	P	07 03 56.0	-2.8
RATZ	Rangitukua	3.75	39	*e*PN	P	07 03 59.4	-0.4
WATZ	Wairara	3.87	37	PN	P	07 04 00.4	-0.9
WATZ	Wairara	3.87	37	P	P	07 04 02.2	+0.9
BKZ	Black Stump Fm	3.91	48	PN	P	07 03 58.6	-3.2
BKZ	Black Stump Fm	3.91	48	P	P	07 03 58.9	-2.9
WKZ	Wanaka	4.05	221	PN	P	07 03 59.5	-4.3
WKZ	Wanaka	4.05	221	*e*P	P	07 03 59.7	-4.1
MSZ	Milford Sound	4.52	229	PN	P	07 04 07.9	-2.5
TOZ	Tahuroa Road	4.61	28	PN	P	07 04 09.9	-1.7
TOZ	Tahuroa Road	4.61	28	*e*P	P	07 04 10.1	-1.5
KNZ	Kokohu	4.69	55	PN	P	07 04 11.0	-1.7
TUZ	Tuapeka	4.70	207	PN	P	07 04 09.6	-3.2
TUZ	Tuapeka	4.70	207	*e*P	P	07 04 09.7	-3.1
MLZ	Mavora Lakes	4.83	222	PN	P	07 04 10.7	-3.9
MLZ	Mavora Lakes	4.83	222	*e*P	P	07 04 11.3	-3.4
URZ	Urewera	4.89	45	PN	P	07 04 10.6	-4.8
URZ	Urewera	4.89	45	P	P	07 04 10.8	-4.6
MWZ	Matawai	5.06	48	PN	P	07 04 13.1	-4.6
MWZ	Matawai	5.06	48	P	P	07 04 13.2	-4.6
WTAZ	Waiatarua	5.09	17	PN	P	07 04 18.9	+0.8
MTAZ	Motutapu	5.31	19	PN	P	07 04 21.0	-0.1
KUZ	Kuaotunu	5.58	25	PN	P	07 04 22.4	-2.3
WCZ	Waipu Caves	6.01	13	PN	P	07 04 29.7	-1.0
MXZ	Matakaoa Point	6.05	47	PN	P	07 04 26.4	-4.8
OUZ	Omahuta	6.63	6	PN	P	07 04 38.2	-1.1

IDC 08 07:20:52.9±2.1**,13.25S**×**179.10E,mb4.0**/3**,mb1 4.4**/3**, mb1mx3.9**/12**,MS3.8**/6**,Ms1 3.8**/6**,ms1mx3.6**/14**,Error ellipse: s-maj=268.0km s-min=31.5km az=157.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	39.02	235	LR	LR	07 42 08.4	
	comp=Z,186nm,21.5s,baz=27,slow=33						
WRA	Warramunga Arr	43.31	255	P	P	07 28 57.0	-1.4
	1.5nm,0.7s,baz=90,slow=8.8,SNR=22						
ASAR	Alice Springs	43.94	250	P	P	07 29 01.6	-1.9
	5.3nm,0.7s,baz=82,slow=8.6,SNR=48						
ASAR				LR	LR	07 45 41.0	
	comp=Z,84nm,18.9s,baz=215,slow=34						
CMAR	Chiang Mai Arr	85.04	290	LR	LR	08 10 04.3	
	comp=Z,29nm,19.3s,baz=190,slow=35						
TXAR	Lajitas Array	85.59	59	P	P	07 33 33.6	-1.2
	0.4nm,0.7s,baz=248,slow=6.7,SNR=5.6						
TXAR				LR	LR	08 03 42.6	
	comp=Z,43nm,19.8s,baz=275,slow=30						
PDAR	Pinedale Array	85.68	44	LR	LR	08 06 02.6	
	comp=Z,48nm,18.8s,baz=190,slow=32						
YKA	Yellowknife Ar	91.14	25	LR	LR	08 12 54.4	
	comp=Z,47nm,18.1s,baz=190,slow=34						

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*IDC **08** 07:43:23.0±1.0,34.91S×70.22W,mb4.2/5,mb1 4.3/7, mb1mx4.2/12,ML4.1/2,MS3.7/3,Ms1 3.7/3,ms1mx3.4/18, Error ellipse: s-maj=31.9km s-min=26.5km az=88.0*

*NEIC **08** 07:43:23.4,35.01S×70.52W,h3^{km},mb4.3/2,ML4.3(GUC), After GUC.*

*GUC **08** 07:43:23.4±0.7,35.01S×70.52W,h3^{km}±2^{km},MD4.2, ML4.3*

ISC 08 07:43:22.1±0.4**,35.07S**±0.02×**70.41W**±0.04**,h3**^{km}**,n47, σ0**^{s}**91**/76**,mb4.2**/7**,MS3.6**/1**,10C-12D,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFDO	San Fernando	0.67	312	⇓*i*P	Pg	07 43 35.0	-0.5
SFDO				⇓*i*S	Sg	07 43 44.1	-0.5
SFDO	San Fernando	0.67	312	⇓*i*P	Pg	07 43 35.0	-0.5
SFDO				⇓*i*S	Sg	07 43 44.1	-0.5
NICH	Los Niches	0.68	276	⇓*i*P	Pg	07 43 34.9	-0.7
NICH				*i* S	Sg	07 43 43.9	-0.7
NICH	Los Niches	0.68	276	⇓*i*P	Pg	07 43 34.9	-0.7
NICH				*i* S	Sg	07 43 43.9	-0.7
CACH	El Canelo	0.96	351	⇑*i*P	Pb	07 43 40.6	-0.5
CACH				*i* S	Sb	07 43 53.8	-0.2
CACH	El Canelo	0.96	351	⇑*i*P	Pb	07 43 40.6	-0.5
CACH				*i* S	Sb	07 43 53.8	-0.2
CHCH	Chadas Angostu	1.15	350	⇓*i*P	Pb	07 43 44.2	-0.1
CHCH				*i* S	Sb	07 43 59.1	-0.4
CHCH	Chadas Angostu	1.15	350	⇓*i*P	Pb	07 43 44.2	-0.1
CHCH				*i* S	Sb	07 43 59.1	-0.4
LMEL	Las Melosas	1.23	8	*e*P	Pb	07 43 45.9	+0.2
LMEL				*i* S	Sb	07 44 02.8	+1.0
LMEL				AMP		07 44 08.4	
	comp=N,2µm,0.2s						
LMEL	Las Melosas	1.23	8	*e*P	Pb	07 43 45.9	+0.2
LMEL				*i* S	Sb	07 44 02.8	+1.0
LNV	Longovilo	1.39	323	*e*P	Pb	07 43 47.2	-1.1
LNV				*i* S	Sb	07 44 04.6	-1.7
LNV	Longovilo	1.39	323	*e*P	Pb	07 43 47.2	-1.1
LNV				*i* S	Sb	07 44 04.6	-1.7
SJCH	San Jose de Ma	1.43	2	⇑*i*P	Pn	07 43 48.6	-0.3
SJCH				*i* S	Sb	07 44 07.6	+0.1
SJCH				AMP		07 44 14.2	
	comp=N,2µm,0.5s						
SJCH	San Jose de Ma	1.43	2	⇑*i*P	Pn	07 43 48.6	-0.3
SJCH				*i* S	Sb	07 44 07.6	+0.1
TACH	Talagante	1.48	343	*e*P	Pn	07 43 49.3	-0.4
TACH				*i* S	Sb	07 44 08.0	-1.0
TACH	Talagante	1.48	343	*e*P	Pn	07 43 49.3	-0.4
TACH				*i* S	Sb	07 44 08.0	-1.0
ANTU	Antumapu	1.51	353	⇑*i*P	Pn	07 43 50.6	+0.5
ANTU				*i* S	Sb	07 44 10.6	+0.8
ANTU				AMP		07 44 11.9	
	comp=N,6µm,0.5s						
ANTU	Antumapu	1.51	353	⇑*i*P	Pn	07 43 50.6	+0.5
ANTU				*i* S	Sb	07 44 10.6	+0.8
SAN	Santiago	1.63	353	AMP		07 44 16.3	
	comp=N,5µm,0.3s						
PUEX	Pudahuel	1.65	350	*i* P	Pn	07 43 53.1	+1.0
PUEX				*i* S	Sb	07 44 14.7	+0.7
PUEX				AMP		07 44 22.1	
	comp=N,12µm,0.6s						
PUEX	Pudahuel	1.65	350	*i* P	Pn	07 43 53.1	+1.0
PUEX				*i* S	Sb	07 44 14.7	+0.7
DSCH	Colegio Aleman	1.67	355	*i* P	Pn	07 43 53.3	+0.8
DSCH				*i* S	Sb	07 44 15.3	+0.7
DSCH				AMP		07 44 24.4	
	comp=N,12µm,0.8s						
DSCH	Colegio Aleman	1.67	355	*i* P	Pn	07 43 53.3	+0.8
DSCH				*i* S	Sb	07 44 15.3	+0.7
CLCH	Cerro Calan	1.67	356	⇑*i*P	Pn	07 43 53.3	+0.8
CLCH				*i* S	Sb	07 44 15.2	+0.6
CLCH				AMP		07 44 18.2	
	comp=N,7µm,0.5s						
CLCH				AMP		07 44 18.8	
	comp=N,8µm,0.4s						
CLCH	Cerro Calan	1.67	356	⇑*i*P	Pn	07 43 53.3	+0.8
CLCH				*i* S	Sb	07 44 15.2	+0.6
FCH	Farellones	1.74	3	⇓*i*P	Pn	07 43 54.9	+1.5
FCH				*i* S	Sn	07 44 18.5	+2.1
FCH				AMP		07 44 19.9	
	comp=N,4µm,0.3s						
FCH	Farellones	1.74	3	⇓*i*P	Pn	07 43 54.9	+1.5
FCH				*i* S	Sn	07 44 19.2	+2.8
LCCH	Las Cruces	1.86	329	*e*P	Pn	07 43 55.4	+0.3
LCCH				*i* S	Sn	07 44 19.2	-0.2
LCCH	Las Cruces	1.86	329	*e*P	Pn	07 43 55.4	+0.3
LCCH				*i* S	Sn	07 44 19.2	-0.2
CCHI	Chillan	2.04	221	⇓*i*P	Pn	07 43 58.5	+0.8
CCHI				*i* S	Sn	07 44 25.8	+1.8
CCHI				AMP		07 44 31.1	
	comp=E,5µm,0.9s						
CCHI				AMP		07 44 31.2	
	comp=E,8µm,0.8s						
CCHI	Chillan	2.04	221	⇓*i*P	Pn	07 43 58.5	+0.8
CCHI				*i* S	Sn	07 44 25.8	+1.8
COCH	Cobquecura	2.21	241	⇑*i*P	Pn	07 44 00.9	+0.8
COCH				*i* S	Sn	07 44 28.9	+0.6
COCH				AMP		07 44 32.1	
	comp=N,2µm,0.5s						
COCH	Cobquecura	2.21	241	⇑*i*P	Pn	07 44 00.9	+0.8
COCH				*i* S	Sn	07 44 28.9	+0.6
ILCH	Illapel	3.48	349	AMP		07 45 13.5	
	comp=E,1µm,0.6s						
TRQA	Tornquist	7.41	116	*e*P	Pn	07 45 12.7	-1.1
	comp=E,29nm,0.3s						
CPUP	Villa Florida	14.22	56	Pn	P	07 46 44.5	-2.1
	comp=E,0.2nm,0.3s,baz=258,slow=13,SNR=4.5						
CPUP				Lg		07 50 59.1	
	comp=E,0.3nm,0.3s,baz=172,slow=17,SNR=2.3						
CPUP				LR	LR	07 52 44.7	
	comp=E,248nm,18.0s,baz=257,slow=40						
CPUP	Villa Florida	14.22	56	Pn	P	07 46 44.5	-2.1
CPUP				Lg		07 50 59.1	
CPUP				LR	LR	07 52 44.8	
LPAZ	La Paz	18.82	7	P	P	07 47 43.2	-1.8
	comp=E,0.4nm,0.3s,baz=151,slow=0.2,SNR=5.0						
USHA	Ushuaia	19.81	177	LR	LR	07 56 02.4	
	comp=E,242nm,18.9s,baz=254,slow=38						
BDFB	Brasilia	27.88	52	P	P	07 49 11.5	-3.7
	comp=E,2.0nm,0.6s,mb3.9,baz=243,slow=9.0,SNR=2.3						
BDFB				LR	LR	08 01 19.4	
	comp=E,160nm,18.5s,MS3.6,baz=246,slow=39						
BDFB	Brasilia	27.88	52	P	P	07 49 11.5	-3.7
BDFB				LR	LR	08 01 19.4	
SNAA	Sanae	50.09	158	*e*P	P	07 52 19.1	-0.6
	comp=E,3.2nm,0.9s,mb4.3						
QSPA	South Pole Qui	55.17	180	*e*P	P	07 52 57.8	+0.1
	comp=E,4.0nm,0.9s,mb4.5						
TXAR	Lajitas Array	71.33	330	P	P	07 54 44.3	-0.9
	comp=E,1.0nm,0.6s,mb3.9,baz=153,slow=8.5,SNR=17						
MAW	Mawson	71.77	163	P	P	07 54 47.5	+0.3
	comp=E,2.0nm,0.8s,mb4.1,baz=227,slow=11,SNR=3.3						
DBIC	Dimbokro	74.27	70	P	P	07 55 01.9	-0.8
	comp=E,7.5nm,1.1s,mb4.5,baz=173,slow=8.0,SNR=4.1						
PDAR	Pinedale Array	85.33	332	P	P	07 56 01.9	+0.3
	comp=E,1.1nm,0.8s,mb4.0,baz=135,slow=4.2,SNR=6.9						

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*MDD **08** 07:51:29.8±1.0,37.80N×8.84W,mbLg1.5/4,Error ellipse: s-maj=8.7km s-min=3.5km az=100.0,PRXIMO*

*INMG **08** 07:51:29.6±0.6,37.79N×8.87W,h11^{km}±2^{km},ML1.3,Error ellipse: s-maj=3.3km s-min=1.5km az=93.0*

ISC 08 07:51:29.0±1.4**,37.80N**±0.04×**8.8W**±0.1**,h0**^{km}±8^{km}**,n10, σ0**^{s}**81**/16**,1D,Portugal**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PTEO	Sao Teotonio	0.26	166	*i* Pg	Pg	07 51 34.6	+0.4
PTEO				*e*Sg	Sg	07 51 38.7	+1.0
	9.5nm,0.2s						
PTEO	Sao Teotonio	0.26	166	⇓Pg	Pg	07 51 34.6	+0.4
PTEO				Lg		07 51 38.7	
	4.8nm,0.2s						
PBEJ	Beja	0.78	73	*e*Pg	Pg	07 51 44.4	0.0
PBEJ				*e*Sg	Sg	07 51 55.9	+1.1
	4.9nm,0.1s						
PBEJ	Beja	0.78	73	Pg	Pg	07 51 44.4	0.0
PBEJ				Lg		07 51 55.9	
	2.5nm,0.1s						
MOE	Montemor	0.81	26	*e*Pg	Pg	07 51 45.1	+0.1
MOE				*e*Sg	Sg	07 51 56.2	+0.4
EGRO	El Granado	1.08	104	Pg	Pg	07 51 49.6	-0.9
	1.5nm,0.1s,SNR=7.9						
EGRO				Lg		07 52 05.4	
	5.0nm,0.1s,SNR=7.9						
PALC	Alcoutim	1.11	107	*e*P	Pb	07 51 50.1	-0.5
PALC				*e*S	Sb	07 52 05.3	-0.1
	5.7nm,0.1s						
PALC	Alcoutim	1.11	107	P	Pb	07 51 50.1	-0.5
PALC				S	Sb	07 52 05.3	-0.1
	2.8nm,0.1s						
EMIN	Mina Concepcio	1.69	90	Pg	Pg	07 52 00.6	-2.1
	0.2nm,0.1s,SNR=7.9						
EMIN				Lg		07 52 25.0	
	0.3nm,0.1s,SNR=7.9						
EBAD	Badajoz	1.70	55	Pn	Pn	07 51 59.9	-0.1
	0.8nm,0.1s,SNR=7.9						
EBAD				Sn	Sn	07 52 23.3	+0.5
	1.8nm,0.0s,SNR=7.9						

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*IDC **08** 08:05:58.5±0.8,34.01S×72.20W,mb4.5/5,mb1 4.6/7, mb1mx4.4/12,ML4.2/2,MS4.3/2,Ms1 4.3/2,ms1mx3.7/16, Error ellipse: s-maj=29.8km s-min=24.9km az=88.0*

*NEIC **08** 08:06:00.8,34.00S×72.40W,h34^{km},mb4.6/11, ML4.7(GUC),After GUC.*

NEIC Felt [III] at Curico and Los Quenes; [II] at Santiago.

*GUC **08** 08:06:00.8±1.0,34.00S×72.40W,h34^{km}±3^{km},ML4.7*

ISC 08 08:06:00.2±0.9**,34.01S**±0.04×**72.42W**±0.04**,h18**^{km}±6^{km}**, n63,σ0**^{s}**91**/61**,mb4.6**/18**,MS4.5**/1**,11C-5D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LLCH	Llolleo	0.77	60	*i* P	Pb	08 06 14.3	-0.5
LLCH				*i* S	Sb	08 06 25.4	+0.5
LNV	Longovilo	0.84	87	⇓*i*P	Pb	08 06 15.5	-0.5
LCCH	Las Cruces	0.88	53	*i* P	Pb	08 06 16.6	-0.1
IHA	Instituto Hidr	1.17	34	⇑*i*P	Pb	08 06 21.5	-0.1
IHA				*i* S	Sb	08 06 37.1	+0.7
TACH	Talagante	1.28	74	*i* P	Pn	08 06 22.6	-0.7
SFDO	San Fernando	1.31	118	⇑*i*P	Pn	08 06 23.5	-0.3
NICH	Los Niches	1.40	136	⇓*i*P	Pn	08 06 25.0	0.0
NICH				*i* S	Sb	08 06 43.4	+0.5
CHCH	Chadas Angostu	1.47	88	⇑*i*P	Pn	08 06 25.7	-0.4
PUEX	Pudahuel	1.49	68	⇑*i*P	Pn	08 06 26.4	0.0
PUEX				*i* S	Sn	08 06 46.0	+0.4
PUEX				AMP		08 06 56.0	
	comp=E,31µm,0.6s						
CACH	El Canelo	1.51	95	*i* P	Pn	08 06 27.0	+0.4
ANTU	Antumapu	1.55	74	⇑*i*P	Pn	08 06 27.4	+0.2
ANTU				*i* S	Sn	08 06 47.1	+0.2
ANTU				AMP		08 06 51.3	
	comp=E,18µm,0.4s						
SAN	Santiago	1.56	70	⇑*i*P	Pn	08 06 27.4	0.0
SAN				*i* S	Sn	08 06 47.5	+0.2
SAN				AMP		08 06 58.9	
	comp=N,15µm,0.7s						
PCH	Pirque	1.63	77	*i* P	Pn	08 06 28.4	0.0
DSCH	Colegio Aleman	1.66	69	⇑*i*P	Pn	08 06 29.3	+0.6
DSCH				*i* S	Sn	08 06 50.5	+0.8
DSCH				AMP		08 06 56.2	
	comp=N,29µm,0.6s						
CLCH	Cerro Calan	1.68	69	⇑*i*P	Pn	08 06 29.3	+0.2
CLCH				*i* S	Sn	08 06 51.0	+0.7
CLCH				AMP		08 07 01.9	
	comp=N,14µm,0.5s						
CLCH				AMP		08 07 02.5	
	comp=N,17µm,0.6s						
PEL	Peldehue	1.68	60	⇓*i*P	Pn	08 06 29.5	+0.4
PEL				*i* S	Sn	08 06 50.9	+0.6
PEL				AMP		08 07 00.3	
	comp=N,55µm,0.5s						
FCH	Farellones	1.90	70	⇑*i*P	Pn	08 06 32.5	+0.3
FCH				*i* S	Sn	08 06 56.5	+0.7
FCH				AMP		08 07 11.8	
	comp=N,7µm,0.7s						
JACH	Jahuel	2.02	50	*i* P	Pn	08 06 34.0	+0.1
COCH	Cobquecura	2.14	188	AMP		08 07 18.8	
	comp=E,1µm,0.5s						
ILCH	Illapel	2.59	24	⇓*i*P	Pn	08 06 41.6	-0.4
ILCH				*i* S	Sn	08 07 12.4	-0.9
ILCH				AMP		08 07 34.9	
	comp=N,3µm,0.5s						
CCHI	Chillan	2.61	174	AMP		08 07 42.0	
	comp=N,4µm,0.5s						
CCHI				AMP		08 07 42.2	
	comp=N,6µm,0.5s						
TRQA	Tornquist	9.37	119	*e*P	P	08 08 16.6	-0.9
	comp=N,22nm,0.9s						
CPUP	Villa Florida	15.12	64	Pn	P	08 09 32.6	-2.0
	comp=N,0.1nm,0.3s,baz=269,slow=12,SNR=4.5						
CPUP				Lg		08 13 26.4	
	comp=N,0.2nm,0.3s,baz=30,slow=18,SNR=2.6						
CPUP				LR	LR	08 16 07.7	
	comp=N,907nm,18.7s,baz=261,slow=41						
LPAZ	La Paz	18.06	13	P	P	08 10 12.4	+0.4
	comp=N,0.8nm,0.3s,baz=190,slow=8.3,SNR=48						
BDFB	Brasilia	28.60	56	P	P	08 11 54.8	-2.8
	comp=N,9.5nm,0.7s,mb4.6,baz=227,slow=8.5,SNR=16						
BAO	Brasilia Array	28.62	56	*e*P	P	08 11 55.4	-2.4
SDV	Santo Domingo	42.69	3	*e*P	P	08 13 57.4	-0.4
	comp=N,4.4nm,0.8s,mb4.2						
VNA1	Neumayer--Stat	49.79	157	⇑*i*	P	08 14 59.2	+5.8
VNA2	Neumayer--Watz	50.13	157	⇓*i*	P	08 14 58.2	+2.3
SNAA	Sanae	51.70	158	⇑*i*	P	08 15 07.6	-0.3
QSPA	South Pole Qui	56.23	180	*e*P	P	08 15 41.9	+0.8
	comp=N,14nm,1.1s,mb4.9						
TBI	Tubuai	67.01	257	*e*S	S	08 25 47.6	+2.1
TBI				*e*R		08 37 10.8	
	comp=N,208nm,28.5s						
TXAR	Lajitas Array	69.58	331	P	P	08 17 10.0	-0.3
	comp=N,1.1nm,0.7s,mb3.9,baz=153,slow=7.8,SNR=16						
PPT	Papeete	69.93	262	*e*S	S	08 26 20.4	+0.1
PPT				*e*R		08 38 27.2	
	comp=N,197nm,27.8s						
WVT	Waverly	71.24	347	*e*P	P	08 17 18.3	-2.0
	comp=N,23nm,0.9s,mb5.1						
GDL2	Guadalupe Moun	72.40	332	*e*P	P	08 17 27.0	-0.3
WMOK	Wichita Mounta	72.71	337	*e*P	P	08 17 28.7	-0.3
	comp=N,7.3nm,1.3s,mb4.5						
CPRX	Cap Rock	72.94	333	*e*P	P	08 17 31.2	+0.8
MAW	Mawson	73.27	164	*e*P	P	08 17 31.3	-0.3
	comp=N,6.7nm,0.6s,mb4.8						
MAW	Mawson	73.27	164	P	P	08 17 31.5	-0.1
	comp=N,9.1nm,0.8s,mb4.8,baz=210,slow=6.0,SNR=18						
CCM	Cathedral Cave	73.80	345	*e*P	P	08 17 34.6	-0.8
	comp=N,13nm,0.9s,mb4.9						
LIC	Lamto	75.07	72	*e*P	P	08 17 41.5	-1.7
	comp=N,46nm,1.5s,mb5.2						
TIC	Toumodi	75.33	71	*e*P	P	08 17 43.4	-1.2
	comp=N,58nm,1.1s,mb5.4						
KIC	Kosan Boka	75.38	72	*e*P	P	08 17 43.7	-1.2
	comp=N,124nm,1.4s,mb5.7						
DBIC	Dimbokro	75.48	72	P	P	08 17 43.7	-1.8
	comp=N,7.5nm,0.8s,mb4.7,baz=198,slow=6.9,SNR=8.5						
ANMO	Albuquerque	75.64	332	*e*P	P	08 17 46.7	+0.7
	comp=N,4.1nm,1.1s,mb4.3						
PV10	Paradox Valley	79.64	332	*e*P	P	08 18 09.0	+1.1
NEN	Nelson	79.84	326	*e*P	P	08 18 10.3	+1.2
TPNV	Topopah Spring	81.55	326	*e*P	P	08 18 19.9	+1.8
	comp=N,4.5nm,1.1s,mb4.3						
HWUT	Hardware Ranch	83.40	332	*e*P	P	08 18 27.6	0.0
	comp=N,3.7nm,1.1s,mb4.3						
RPZ	Rata Peaks	83.44	221	LR	LR	08 49 31.7	

	comp=N,182nm,19.5s,MS4.5,baz=226,slow=31						
PDAR	**Pinedale Array**	**83.62**	**333**	P	**P**	**08 18 29.7**	**+1.0**
	comp=N,0.7nm,0.9s,mb3.8,baz=162,slow=4.7,SNR=5.1						
ELK	**Elko**	**84.20**	**329**	*e*P	**P**	**08 18 32.0**	**+0.4**
	comp=N,2.5nm,1.0s,mb4.3						
HLID	**Hailey**	**86.19**	**331**	*e*P	**P**	**08 18 42.9**	**+1.4**
	comp=N,7.8nm,1.4s,mb4.8						
MCMT	**McKenzie Canyo**	**86.63**	**332**	*e*P	**P**	**08 18 44.8**	**+1.2**
WRA	**Warramunga Arr**	**120.60**	**209**	PKP	PKPdf	08 24 52.0	-3.4
	comp=N,0.6nm,0.5s,baz=156,slow=1.8,SNR=17						
BRTR	**Keskin Array B**	**122.11**	**61**	PKP	PKPdf	08 24 55.0	-2.9
	comp=N,1.7nm,0.8s,baz=207,slow=2.8,SNR=5.5						
AKASG	**Malin Array Be**	**122.43**	**48**	PKP	PKPdf	08 24 54.1	-4.0
	comp=N,0.7nm,0.4s,baz=263,slow=3.0,SNR=11						
BRVK	**Borovoye**	**147.43**	**43**	*e*P	PKPdf	08 25 42.4	-1.5
HYB	**Hyderabad**	**149.21**	**115**	*i* PKP	PKPdf	08 25 49.0	+1.2
AAK	**Ala-Archa**	**152.79**	**62**	*e*P	PKPdf	08 25 56.6	+4.2
ZAL	**Zalesovo**	**154.40**	**32**	PKP	PKPdf	08 25 51.1	-3.2
	comp=N,1.2nm,0.4s,baz=100,slow=3.2,SNR=5.4						
ZAL				PKPbc	PKPdf	08 25 59.8	+5.5
	comp=N,5.6nm,0.7s,baz=87,slow=2.7,SNR=21						
SONM	**Songino Array**	**166.16**	**3**	PKPab	PKPab	08 27 05.7	-0.7
	comp=N,1.4nm,0.8s,baz=327,slow=4.6,SNR=7.9						

BJI ***08*** *08:16:01.7,33.15S×72.97W,h31^{km},mB5.3,Ms4.8, Msz4.9*

NEIC ***08*** *08:16:01.2,33.99S×72.32W,h32^{km},mb5.0/52,MS4.5/7, ML5.1(GUC),After GUC.*

NEIC Felt [III] at Curico, Pichilemu, San Antonio and Talca; [II] at Santiago and Valparaiso.

GUC ***08*** *08:16:01.2±0.9,33.99S×72.32W,h32^{km}±4^{km},ML5.1*

HRVD ***08*** *08:16:01.2±0.2,34.13S×72.40W,h15^{km}±1^{km},MW5.1/51, Centroid moment Tensor Solution. LP body waves: s39,c55;Mantle waves: s51,c90; Half duration: 1^{s}0 Moment tensor: Scale 10^{16}Nm; M$_{rr}$3.47±.22; M$_{\theta\theta}$0.17±.12; M$_{\phi\phi}$-3.64±.18; M$_{r\theta}$0.74±.40; M$_{\theta\phi}$0.42±.10; M$_{\phi r}$-3.44±1.42; Best double couple: M$_0$5.02×10^{16} NP1:φ$_s$359°,δ23°,λ98°. NP2:φ$_s$170°,δ67°,λ86°. Principal axes: T 4.92, Plg68°, Azm73°; N .19, Plg3°, Azm171°; P -5.12, Plg22°, Azm262°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

IDC ***08*** *08:16:02.5±0.5,33.85S×72.19W,h25^{km}±3^{km},mb4.7/13, mb1 4.8/15,mb1mx4.7/17,ML4.8/2,MS4.8/7,Ms1 4.8/7, ms1mx4.5/14 Error ellipse: s-maj=19.0km s-min=14.8km az=96.0*

SYO ***08*** *08:16:02.7,33.96S×72.19W,h25^{km},MB5.0,MS4.6*

MOS ***08*** *08:16:03.3±1.1,33.89S×72.12W,h33^{km},mb5.6/5,Error ellipse: s-maj=35.1km s-min=18.5km az=60.7*

ISC 08 08:16:00.8±0.8**,34.00S**±0.02×**72.33W**±0.03**,h23**^{km}±5^{km}**, h25**^{km}±.5^{km}**:pP-P,n197,**σ**1**^{s}**03**/149**,mb5.0**/65**,MS4.7**/15**, 21C-12D,Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LLCH	**Llolleo**	**0.71**	**57**	⇑*i*P	**Pb**	**08 16 13.8**	**-0.6**
LLCH				*i* S	**Sb**	**08 16 24.4**	**+0.7**
LLCH				AMP		08 16 36.9	
	comp=N,120µm,0.6s						
LNV	**Longovilo**	**0.77**	**87**	⇓*i*P	**Pb**	**08 16 15.4**	**0.0**
LCCH	**Las Cruces**	**0.82**	**51**	⇑*i*P	**Pb**	**08 16 16.0**	**-0.3**
IHA	**Instituto Hidr**	**1.13**	**31**	⇑*i*P	**Pn**	**08 16 20.9**	**-0.4**
IHA				*i* S	**Sb**	**08 16 35.9**	**+0.1**
TACH	**Talagante**	**1.21**	**74**	⇑*i*P	**Pn**	**08 16 22.0**	**-0.5**
SFDO	**San Fernando**	**1.25**	**120**	⇑*i*P	**Pn**	**08 16 22.9**	**-0.2**
NICH	**Los Niches**	**1.35**	**138**	⇓*i*P	**Pn**	**08 16 24.8**	**+0.2**
NICH				*i* S	**Sn**	**08 16 42.3**	**+0.4**
CHCH	**Chadas Angostu**	**1.40**	**88**	⇑*i*P	**Pn**	**08 16 25.6**	**+0.4**
PUEX	**Pudahuel**	**1.42**	**67**	*i* P	**Pn**	**08 16 25.6**	**0.0**
PUEX				*i* S	**Sn**	**08 16 44.5**	**+0.7**
PUEX				AMP		08 16 59.7	
	comp=N,59µm,0.6s						
CACH	**El Canelo**	**1.44**	**95**	⇑*i*P	**Pn**	**08 16 26.7**	**+0.8**
ANTU	**Antumapu**	**1.48**	**74**	⇓*i*P	**Pn**	**08 16 26.8**	**+0.4**
ANTU				*i* S	**Sn**	**08 16 45.5**	**+0.5**
ANTU				AMP		08 16 47.9	
	comp=N,33µm,0.4s						
SAN	**Santiago**	**1.49**	**69**	⇓*i*P	**Pn**	**08 16 27.1**	**+0.5**
SAN				*i* S	**Sn**	**08 16 45.5**	**0.0**
SAN				AMP		08 16 55.9	
	comp=N,20µm,0.4s						
ROCH	**El Roble**	**1.50**	**47**	⇑*i*P	**Pn**	**08 16 27.5**	**+0.7**
PCH	**Pirque**	**1.56**	**76**	⇓*i*P	**Pn**	**08 16 27.8**	**+0.3**
CLCH	**Cerro Calan**	**1.61**	**69**	⇑*i*P	**Pn**	**08 16 28.6**	**+0.4**
CLCH				*i* S	**Sn**	**08 16 49.0**	**+0.5**
CLCH				AMP		08 16 59.4	
	comp=N,37µm,0.4s						
CLCH				AMP		08 16 59.9	
	comp=N,43µm,0.6s						
PEL	**Peldehue**	**1.62**	**59**	*e*P	**Pn**	**08 16 28.6**	**+0.3**
PEL				*i* S	**Sn**	**08 16 49.6**	**+1.0**
FCH	**Farellones**	**1.83**	**69**	⇑*i*P	**Pn**	**08 16 32.5**	**+1.1**
FCH				*i* S	**Sn**	**08 16 56.3**	**+2.3**
FCH				AMP		08 17 05.4	
	comp=E,31µm,0.5s						
JACH	**Jahuel**	**1.96**	**48**	⇓*i*P	**Pn**	**08 16 33.5**	**+0.2**
COCH	**Cobquecura**	**2.16**	**190**	*e*P	**Pn**	**08 16 36.1**	**0.0**
COCH				*i* S	**Sn**	**08 17 00.0**	**-2.5**
COCH				AMP		08 17 17.3	
	comp=E,8µm,0.6s						
ILCH	**Illapel**	**2.55**	**23**	*i* P	**Pn**	**08 16 41.1**	**-0.6**
ILCH				AMP		08 17 30.9	
	comp=N,7µm,0.6s						
CCHI	**Chillan**	**2.61**	**176**	⇑*i*P	**Pn**	**08 16 42.2**	**-0.3**
CCHI				*i* S	**Sn**	**08 17 14.4**	**+0.6**
CCHI				AMP		08 17 28.9	
	comp=E,24µm,0.5s						
CCHI				AMP		08 17 34.4	
	comp=N,38µm,0.7s						
TLL	**Tololo Astrono**	**4.03**	**19**	⇑*i*P	**Pn**	**08 17 01.6**	**-1.2**
TRQA	**Tornquist**	**9.31**	**119**	*e*P	**P**	**08 18 15.7**	**-1.1**
	comp=N,177nm,1.1s						
LVC	**Limon Verde**	**11.73**	**16**	*e*P	**P**	**08 18 42.4**	**-7.6**
	comp=N,6.7nm,0.6s						
LPA	**La Plata**	**11.92**	**98**	*de*P	**P**	**08 18 45.0**	**-7.5**
CPUP	**Villa Florida**	**15.05**	**63**	Pn	**P**	**08 19 33.2**	**-0.7**
	comp=N,0.8nm,0.3s,baz=264,slow=12,SNR=10						
CPUP				Sn	**S**	**08 22 18.1**	**-2.5**
	comp=N,0.3nm,0.3s,baz=212,slow=14,SNR=1.4						
CPUP				Lg		08 23 36.5	
	comp=N,0.9nm,0.3s,baz=148,slow=14,SNR=6.6						
CPUP				LR	LR	08 25 42.4	
	comp=N,4µm,20.3s,baz=265,slow=39						
CPUP	**Villa Florida**	**15.05**	**63**	Pn	**P**	**08 19 33.2**	**-0.7**
CPUP				Sn	**S**	**08 22 18.1**	**-2.5**
CPUP				Lg		08 23 36.5	
CPUP				LR	LR	08 25 42.4	
LPAZ	**La Paz**	**18.04**	**13**	P	**P**	**08 20 11.4**	**-0.4**
	comp=N,2.0nm,0.3s,baz=192,slow=6.7,SNR=85						
EFI	**East Falkland**	**20.47**	**154**	P	**P**	**08 20 36.3**	**-3.1**
	comp=N,505nm,0.5s,SNR=20						
EFI	**East Falkland**	**20.47**	**154**	*e*P	**P**	**08 20 36.6**	**-2.8**
	comp=N,54nm,0.7s						
USHA	**Ushuaia**	**21.01**	**174**	P	**P**	**08 20 45.8**	**+0.8**
	comp=N,63nm,0.8s,mb5.0,baz=330,slow=12,SNR=7.1						
NNA	**Nana**	**22.30**	**348**	*e*P	**P**	**08 20 58.7**	**+0.5**
	comp=N,99nm,1.2s,mb5.1						
SAML	**Samuel**	**26.31**	**21**	⇑*e*P	**P**	**08 21 35.5**	**-1.3**
	comp=N,33nm,0.8s,mb4.9						
BDFB	**Brasilia**	**28.53**	**56**	P	**P**	**08 21 54.0**	**-3.0**
	comp=N,19nm,0.7s,mb5.0,baz=230,slow=10,SNR=24						
BDFB				LR	LR	08 34 38.2	
	comp=N,4µm,18.1s,MS5.1,baz=232,slow=39						
BAO	**Brasilia Array**	**28.55**	**56**	*e*P	**P**	**08 21 54.8**	**-2.3**
BAO				*e*		08 29 55.6	
PMSA	**Palmer Station**	**31.22**	**173**	*e*P	**P**	**08 22 20.9**	**+0.5**
	comp=N,20nm,1.1s,mb4.9						
OTAV	**Otavalo**	**34.54**	**349**	P	**P**	**08 22 52.3**	**+2.5**
	comp=N,14nm,1.4s,mb4.7						
ROSC	**El Rosal**	**38.69**	**357**	P	**P**	**08 23 23.3**	**-1.6**
	comp=N,5.3nm,0.7s,mb4.4,baz=252,slow=14,SNR=2.4						
SDV	**Santo Domingo**	**42.68**	**2**	*e*P	**P**	**08 23 56.8**	**-1.0**
	comp=N,60nm,1.5s,mb5.1						
RCBR	**Riachuelo**	**43.85**	**59**	*e*P	**P**	**08 24 07.1**	**-0.2**
VNA2	**Neumayer--Watz**	**50.11**	**157**	*e*	pP	08 25 05.5	+2.7
VNA2	**Neumayer--Watz**	**50.11**	**157**	*e*	sP	08 25 08.6	+3.0
VNA2	**Neumayer--Watz**	**50.11**	**157**	*e*P	**P**	**08 24 57.8**	**+2.1**
VNA2				*e*	pP	08 25 05.5	+2.7
VNA2				*e*		08 25 08.6	
SNAA	**Sanae**	**51.68**	**158**	*e*	pP	08 25 14.7	0.0
SNAA	**Sanae**	**51.68**	**158**	*e*	sP	08 25 17.9	+0.4
SNAA	**Sanae**	**51.68**	**158**	⇑*i*P	**P**	**08 25 07.1**	**-0.5**
SNAA				*e*	pP	08 25 14.7	0.0
SNAA				*e*		08 25 17.9	
SNAA				*e*		08 26 17.4	
SJG	**San Juan**	**52.15**	**7**	*e*P	**P**	**08 25 09.5**	**-2.4**
	comp=N,13nm,0.8s,mb4.9						
QSPA	**South Pole Qui**	**56.24**	**180**	*e*P	**P**	**08 25 41.4**	**+0.3**
	comp=N,24nm,0.9s,mb5.2						
QSPA				LR	LR		
	comp=Z,260nm,18.0s,MS4.4						
MAIT	**Maitri**	**56.38**	**157**	⇑*i*P	**P**	**08 25 41.6**	**-0.6**
SBA	**Scott Base**	**63.03**	**192**	*e*P	**P**	**08 26 26.7**	**-1.1**
	comp=Z,15nm,1.3s,mb5.0						
SYO	**Syowa Base**	**65.96**	**159**	⇓P	**P**	**08 26 45.4**	**-1.4**
SYO	**Syowa Base**	**65.96**	**159**	⇓pP	pP	08 26 54.1	+0.1
SYO	**Syowa Base**	**65.96**	**159**	⇓PcP	PcP	08 27 13.4	-4.0
LRAL	**Lakeview Retre**	**68.09**	**347**	*e*P	**P**	**08 26 59.5**	**-1.4**
	comp=Z,24nm,1.1s,mb5.1						
LRAL				*e*pP	pP	08 27 06.4	-1.8
NATX	**Nacogdoches**	**68.71**	**340**	*e*P	**P**	**08 27 04.8**	**0.0**
NATX				*e*pP	pP	08 27 12.1	0.0
JCT	**Junction City**	**69.18**	**335**	*e*P	**P**	**08 27 07.4**	**-0.3**
	comp=Z,94nm,1.3s,mb5.6						
LTX	**Lajitas**	**69.61**	**331**	*e*P	**P**	**08 27 10.3**	**-0.1**
	comp=Z,13nm,0.9s,mb4.8						
TXAR	**Lajitas Array**	**69.61**	**331**	P	**P**	**08 27 10.3**	**0.0**
	comp=Z,4.7nm,0.8s,mb4.5,baz=154,slow=8.2,SNR=53						
TXAR				LR	LR	08 53 31.2	
	comp=Z,402nm,18.3s,MS4.7,baz=165,slow=32						
PPT	**Papeete**	**70.01**	**262**	*e*S	S	08 36 20.7	+0.1
PPT				*e*R		08 48 24.4	
	comp=Z,732nm,27.2s,baz=124						
OXF	**Oxford**	**70.01**	**345**	*e*P	**P**	**08 27 11.7**	**-1.0**
	comp=Z,126nm,1.1s,mb5.8						
CPCT	**Cooper Cave**	**70.02**	**349**	*e*P	**P**	**08 27 14.6**	**+1.8**
CPCT				*e*pP	pP	08 27 22.8	+2.8
UALR	**University of**	**70.94**	**343**	*e*P	**P**	**08 27 17.7**	**-0.7**
	comp=Z,30nm,1.2s,mb5.1						
UALR				*e*pP	pP	08 27 24.2	-1.4
MIAR	**Mount Ida**	**71.03**	**342**	*e*P	**P**	**08 27 18.6**	**-0.4**
	comp=Z,32nm,1.2s,mb5.1						
WVT	**Waverly**	**71.25**	**347**	⇑*e*P	**P**	**08 27 18.3**	**-1.9**
	comp=Z,45nm,0.8s,mb5.5						
WVT				*e*pP	pP	08 27 27.2	-0.3
UTMT	**University of**	**71.66**	**346**	*e*P	**P**	**08 27 21.6**	**-1.1**
	comp=Z,29nm,0.7s,mb5.3						
UTMT				*e*pP	pP	08 27 29.4	-0.6
GDL2	**Guadalupe Moun**	**72.43**	**332**	*e*P	**P**	**08 27 27.1**	**-0.3**
WMOK	**Wichita Mounta**	**72.73**	**337**	*e*P	**P**	**08 27 27.6**	**-1.4**
	comp=Z,15nm,1.2s,mb4.8						
CPRX	**Cap Rock**	**72.97**	**333**	*e*P	**P**	**08 27 30.6**	**+0.1**
WCI	**Wyandotte Cave**	**73.02**	**349**	*e*P	**P**	**08 27 28.0**	**-2.7**
	comp=Z,16nm,1.0s,mb4.9						
MAW	**Mawson**	**73.25**	**164**	*e*P	**P**	**08 27 31.6**	**+0.2**
	comp=Z,21nm,0.6s,mb5.2						
MAW	**Mawson**	**73.25**	**164**	P	**P**	**08 27 31.7**	**+0.3**
	comp=Z,25nm,0.6s,mb5.3,baz=205,slow=6.6,SNR=63						
MAW				LR	LR	09 02 38.1	
	comp=Z,711nm,19.0s,MS5.0,baz=230,slow=38						
FVM	**French Village**	**73.57**	**345**	*e*P	**P**	**08 27 32.7**	**-1.2**
	comp=Z,59nm,1.2s,mb5.4						
CCM	**Cathedral Cave**	**73.81**	**345**	*e*P	**P**	**08 27 34.1**	**-1.2**
	comp=Z,47nm,0.9s,mb5.4						
CCM				*e*pP	pP	08 27 41.3	-1.3
BLO	**Bloomington**	**73.98**	**349**	*e*P	**P**	**08 27 34.4**	**-1.8**
	comp=Z,18nm,0.8s,mb5.0						
SLM	**Saint Louis**	**74.15**	**346**	*e*P	**P**	**08 27 36.6**	**-0.7**
	comp=Z,16nm,0.6s,mb5.1						
SLM				*e*pP	pP	08 27 43.0	-1.5
ACSO	**Alum Creek Sta**	**74.51**	**352**	*e*P	**P**	**08 27 37.8**	**-1.5**
	comp=Z,23nm,0.9s,mb5.1						
ACSO				*e*pP	pP	08 27 46.0	-0.6
LIC	**Lamto**	**75.00**	**72**	⇑*i*P	**P**	**08 27 41.4**	**-1.2**
	comp=Z,92nm,1.4s,mb5.5						
BNM	**Barren Site**	**75.04**	**331**	*e*P	**P**	**08 27 42.9**	**+0.5**
SUR	**Sutherland**	**75.04**	**119**	P	**P**	**08 27 43.4**	**+0.9**
	comp=Z,11nm,0.7s,mb4.9,baz=273,slow=6.4,SNR=10						
SUR				pP	pP	08 27 50.4	+0.5
	comp=Z,35nm,0.9s,baz=252,slow=3.8,SNR=8.6						
SUR	**Sutherland**	**75.04**	**119**	*e*P	**P**	**08 27 43.4**	**+0.8**
	comp=Z,44nm,1.0s,mb5.3						
LENM	**Lemitar**	**75.19**	**331**	*e*P	**P**	**08 27 43.8**	**+0.5**
LENM				*e*pP	pP	08 27 51.0	+0.3
TUC	**Tucson**	**75.23**	**327**	*e*P	**P**	**08 27 43.1**	**-0.5**
	comp=Z,12nm,1.4s,mb4.7						
TIC	**Toumodi**	**75.26**	**71**	⇑*i*P	**P**	**08 27 43.0**	**-1.1**
	comp=Z,115nm,1.1s,mb5.7						
KIC	**Kosan Boka**	**75.31**	**72**	⇑*i*P	**P**	**08 27 43.5**	**-0.9**
	comp=Z,123nm,0.9s,mb5.8						
DBIC	**Dimbokro**	**75.41**	**71**	P	**P**	**08 27 44.0**	**-1.0**
	comp=Z,20nm,0.8s,mb5.1,baz=205,slow=6.1,SNR=28						
DBIC				LR	LR	08 59 39.8	
	comp=Z,419nm,18.5s,MS4.8,baz=213,slow=35						
LAZ	**Ladron**	**75.46**	**331**	*e*P	**P**	**08 27 45.5**	**+0.6**
BRYW	**Bryant College**	**75.55**	**1**	*e*P	**P**	**08 27 44.4**	**-0.8**
ANMO	**Albuquerque**	**75.67**	**332**	*e*P	**P**	**08 27 46.2**	**+0.2**
ANMO				pmax	pmax		
	comp=Z,1.0nm,1.2s						
ANMO	**Albuquerque**	**75.67**	**332**	*e*P	**P**	**08 27 46.2**	**+0.2**
	comp=Z,13nm,1.2s,mb4.8						
QUA2	**Belchertown**	**75.91**	**360**	*e*P	**P**	**08 27 50.0**	**+2.8**
	comp=Z,15nm,1.1s,mb4.8						
QUA2				*e*pP	pP	08 27 58.5	+3.9
GENY	**Geneseo**	**76.56**	**356**	*e*P	**P**	**08 27 49.1**	**-1.7**
GENY				*e*pP	pP	08 27 57.6	-0.7
CBKS	**Cedar Bluff**	**76.78**	**338**	*e*P	**P**	**08 27 51.3**	**-0.9**
	comp=Z,26nm,1.0s,mb5.1						
SDCO	**Great Sand Dun**	**77.76**	**334**	*e*P	**P**	**08 27 58.4**	**+0.7**
	comp=Z,7.5nm,0.9s,mb4.6						
SDCO				*e*pP	pP	08 28 06.5	+1.5
WUAZ	**Wupatki**	**78.20**	**328**	*e*P	**P**	**08 28 01.3**	**+1.2**
	comp=Z,21nm,1.1s,mb5.0						
LOZ	**Lake Ozonia**	**78.27**	**358**	*e*P	**P**	**08 27 59.5**	**-0.8**
EMMW	**East Machias**	**78.46**	**4**	*e*P	**P**	**08 28 02.0**	**+0.6**
	comp=Z,167nm,1.0s,mb5.9						
EMMW				*e*pP	pP	08 28 09.8	+1.1
SADO	**Sadowa**	**78.64**	**355**	P	**P**	**08 28 00.8**	**-1.5**
	comp=Z,11nm,1.0s,mb4.7,baz=210,slow=6.3,SNR=4.4						
SADO	**Sadowa**	**78.64**	**355**	P	**P**	**08 28 00.8**	**-1.5**
PFO	**Pinyon Flat Ob**	**78.99**	**324**	*e*P	**P**	**08 28 06.0**	**+1.5**
	comp=Z,3.9nm,0.9s,mb4.3						
PFO				*e*		08 28 17.1	
PV01	**Paradox Valley**	**79.27**	**332**	*e*P	**P**	**08 28 06.8**	**+0.9**
PV01				*e*pP	pP	08 28 14.3	+1.0
TSUM	**Tsumeb**	**79.45**	**106**	*e*P	**P**	**08 28 06.5**	**-0.7**
	comp=Z,25nm,1.1s,mb5.1						
TSUM				*e*pP	pP	08 28 15.2	+0.6
LDFC	**Landfair**	**79.53**	**325**	*e*P	**P**	**08 28 08.8**	**+1.4**
ISCO	**Idaho Springs**	**79.62**	**335**	*e*P	**P**	**08 28 08.3**	**+0.5**
	comp=Z,3.4nm,0.8s,mb4.3						
ISCO				LR	LR		
	comp=Z,163nm,19.0s,MS4.4						
PV10	**Paradox Valley**	**79.67**	**331**	*e*P	**P**	**08 28 07.9**	**-0.2**
NEN	**Nelson**	**79.87**	**326**	*e*P	**P**	**08 28 10.1**	**+0.9**
MSU	**Marysvale**	**81.07**	**329**	*e*P	**P**	**08 28 16.5**	**+1.0**
MVU	**Marysvale**	**81.08**	**329**	*e*P	**P**	**08 28 17.1**	**+1.6**
	comp=Z,5.3nm,0.9s,mb4.5						
TPNV	**Topopah Spring**	**81.59**	**326**	*e*P	**P**	**08 28 19.7**	**+1.5**
	comp=Z,4.2nm,1.0s,mb4.3						
DAC	**Darwin (Calif)**	**81.68**	**325**	*e*P	**P**	**08 28 19.9**	**+1.2**
	comp=Z,17nm,1.2s,mb4.8						
MPU	**Maple Canyon**	**82.11**	**331**	*e*P	**P**	**08 28 22.0**	**+1.2**
DAU	**Daniels Canyon**	**82.30**	**331**	*e*P	**P**	**08 28 22.7**	**+0.9**
JLU	**Jordanelle**	**82.53**	**331**	*e*P	**P**	**08 28 23.6**	**+0.6**
DUG	**Dugway**	**82.75**	**330**	*e*P	**P**	**08 28 25.3**	**+1.1**
	comp=Z,27nm,1.3s,mb5.1						
RSSD	**Black Hills**	**82.94**	**338**	*e*P	**P**	**08 28 25.3**	**+0.2**
	comp=Z,11nm,1.0s,mb4.8						
TPH	**Tonopah**	**82.95**	**326**	*e*P	**P**	**08 28 26.5**	**+1.2**
	comp=Z,2.6nm,0.3s,mb4.7						
TCUT	**Toone Canyon**	**82.95**	**331**	*e*P	**P**	**08 28 25.7**	**+0.5**
TCUT				*e*pP	pP	08 28 31.9	-0.7
HWUT	**Hardware Ranch**	**83.43**	**331**	*e*P	**P**	**08 28 28.1**	**+0.5**
	comp=Z,9.4nm,0.9s,mb4.8						
HWUT				*e*pP	pP	08 28 34.6	-0.4
BGU	**Big Grassy Mou**	**83.45**	**330**	*e*P	**P**	**08 28 28.6**	**+0.9**
URZ	**Urewera**	**83.48**	**228**	P	**P**	**08 28 29.8**	**+1.8**
	comp=Z,6.2nm,0.9s,mb4.6,baz=317,slow=22,SNR=3.2						
URZ				pP	pP	08 28 37.9	+2.5
	comp=Z,5.9nm,0.8s,baz=172,slow=3.7,SNR=3.5						
RPZ	**Rata Peaks**	**83.49**	**221**	P	**P**	**08 28 29.5**	**+1.6**
	comp=Z,14nm,0.9s,mb5.0,baz=334,slow=23,SNR=5.6						
RPZ				pP	pP	08 28 37.8	+2.4
	comp=Z,22nm,0.9s,baz=210,slow=4.0,SNR=6.3						
SPUT	**South Promonto**	**83.53**	**331**	*e*P	**P**	**08 28 29.0**	**+0.8**
PDAR	**Pinedale Array**	**83.65**	**333**	P	**P**	**08 28 27.8**	**-0.9**
	comp=Z,2.0nm,0.9s,mb4.2,baz=162,slow=4.7,SNR=9.5						
PDAR				LR	LR	09 02 20.8	
	comp=Z,273nm,18.2s,MS4.7,baz=142,slow=33						
MNV	**Mina**	**83.68**	**325**	*e*P	**P**	**08 28 30.1**	**+1.2**
	comp=Z,7.3nm,1.4s,mb4.6						
HVU	**Hansel Valley**	**84.06**	**331**	*e*P	**P**	**08 28 31.1**	**+0.2**
ELK	**Elko**	**84.23**	**329**	*e*P	**P**	**08 28 32.4**	**+0.7**
	comp=Z,9.2nm,1.0s,mb4.9						
ELK				LR	LR		
	comp=Z,275nm,19.0s,MS4.7						
SNOW	**Snow King Moun**	**84.70**	**333**	*e*P	**P**	**08 28 33.8**	**-0.2**
LOHW	**Long Hollow**	**84.77**	**333**	*e*P	**P**	**08 28 34.5**	**+0.2**
TPAW	**Teton Pass**	**84.80**	**333**	*e*P	**P**	**08 28 34.9**	**+0.4**
TPAW				*e*pP	pP	08 28 43.2	+1.3
MOOW	**Moose Ponds**	**84.94**	**333**	*e*P	**P**	**08 28 34.9**	**-0.2**
ASMM	**Slate Mountain**	**85.20**	**324**	P	**P**	**08 28 39.0**	**+2.4**
YMR	**Madison River**	**85.81**	**333**	*e*P	**P**	**08 28 40.4**	**+0.9**
HLID	**Hailey**	**86.22**	**331**	*e*P	**P**	**08 28 42.2**	**+0.7**
	comp=Z,6.9nm,0.9s,mb4.9						
HLID				LR	LR		
	comp=Z,190nm,21.0s,MS4.5						
ULM	**Lac du Bonnet**	**86.43**	**345**	P	**P**	**08 28 41.4**	**-1.0**
	comp=Z,6.8nm,0.8s,mb5.0,baz=109,slow=7.5,SNR=6.3						
ULM				pP	pP	08 28 50.5	+0.6
	comp=Z,14nm,0.9s,baz=162,slow=2.7,SNR=8.2						
BOZ	**Bozeman (W)**	**86.89**	**334**	*e*P	**P**	**08 28 43.7**	**-1.0**
	comp=Z,3.1nm,1.1s,mb4.5						
BOZ				*e*pP	pP	08 28 52.9	+0.7
BOZ				LR	LR		
	comp=Z,276nm,19.0s,MS4.7						
DGMT	**Dagmar**	**86.90**	**339**	*e*P	**P**	**08 28 45.0**	**+0.3**
	comp=Z,33nm,1.1s,mb5.5						
WVOR	**Wild Horse Val**	**87.09**	**328**	*e*P	**P**	**08 28 47.2**	**+1.4**
	comp=Z,6.6nm,1.1s,mb4.8						
WVOR				*e*pP	pP	08 28 56.0	+2.7
MOD	**Modoc**	**87.43**	**326**	*e*P	**P**	**08 28 47.3**	**-0.1**
	comp=Z,7.5nm,0.9s,mb4.9						
MOD				LR	LR		
	comp=Z,180nm,20.0s,MS4.5						
WDC	**Whiskeytown Da**	**87.46**	**324**	*e*P	**P**	**08 28 47.6**	**-0.1**
	comp=Z,9.1nm,0.9s,mb5.0						
YBH	**Yreka Blue Hor**	**88.43**	**325**	*e*P	**P**	**08 28 52.1**	**-0.1**
	comp=Z,8.2nm,0.9s,mb5.0						
VGB	**Gordon Butte**	**90.48**	**328**	P	**P**	**08 29 00.5**	**-1.3**
HAWA	**Hanford**	**90.63**	**329**	*e*P	**P**	**08 29 03.0**	**+0.5**
HAWA				LR	LR		
	comp=Z,238nm,20.0s,MS4.6						
DPW	**Davenport**	**91.27**	**331**	*e*P	**P**	**08 29 05.8**	**+0.4**
DPW				*e*pP	pP	08 29 13.7	+0.9
ESDC	**Sonseca Array**	**96.75**	**46**	P	**P**	**08 29 30.1**	**-0.6**
	comp=Z,0.3nm,0.3s,mb4.2,baz=243,slow=3.3,SNR=4.1						
ESDC				LR	LR	09 12 45.6	
	comp=Z,270nm,19.3s,MS4.7,baz=260,slow=35						
MOX	**Moxa**	**111.93**	**43**	*e*P	PKPdf	08 34 34.0	-4.0
MOX				L		09 20 53.0	
GERES	**GERESS Array B**	**112.33**	**45**	PKiKP		08 34 35.3	
	comp=Z,1.7nm,0.7s,baz=236,slow=4.8,SNR=5.6						
ASAR	**Alice Springs**	**117.46**	**207**	PKP	PKPdf	08 34 45.3	-4.2
	comp=Z,0.9nm,0.6s,baz=146,slow=1.8,SNR=12						
ASAR				PKKPbc		08 45 07.8	
	comp=Z,0.8nm,1.0s,baz=328,slow=2.2,SNR=4.9						
WB2	**Warramunga Arr**	**120.64**	**209**	*e*P	PKPdf	08 34 51.4	-4.4
WRA	**Warramunga Arr**	**120.65**	**209**	PKP	PKPdf	08 34 51.5	-4.3
	comp=Z,2.6nm,0.6s,baz=160,slow=1.7,SNR=83						
BRTR	**Keskin Array B**	**122.04**	**61**	PKP	PKPdf	08 34 54.4	-3.7
	comp=Z,4.2nm,0.7s,baz=189,slow=2.8,SNR=19						
BRTR				pPKP		08 35 03.0	
	comp=Z,2.7nm,0.8s,baz=169,slow=2.2,SNR=7.0						
AKASG	**Malin Array Be**	**122.37**	**48**	PKP	PKPdf	08 34 53.5	-4.8
	comp=Z,5.8nm,0.7s,baz=262,slow=3.0,SNR=33						
AKASG				pPKP		08 35 02.1	
	comp=Z,4.1nm,0.7s,baz=267,slow=2.7,SNR=5.0						
FINES	**FINESS Array B**	**123.13**	**35**	PKP	PKPdf	08 34 55.1	-4.4
	comp=Z,4.6nm,1.0s,slow=1.9,SNR=4.5						
FINES				pPKP		08 35 03.4	
	comp=Z,3.8nm,0.9s,baz=304,slow=6.9,SNR=2.8						
ARCES	**ARCESS Array B**	**124.11**	**25**	PKP	PKPdf	08 34 57.0	-4.3
	comp=Z,4.1nm,0.8s,slow=3.6,SNR=6.6						
MALT	**Malatya**	**125.12**	**64**	*e*P	PKPdf	08 35 01.2	-2.8
FITZ	**Fitzroy Crossi**	**125.43**	**201**	*e*P	PKPdf	08 35 01.6	-3.5
	comp=Z,3.3nm,0.7s						
OBN	**Obninsk**	**127.60**	**43**	⇓*i*PKIKP	PKPdf	08 35 04.7	-3.6
OBN				*e*		08 35 13.5	
OBN						08 37 13.0	
OBN				*e*		08 42 16.3	
OBN				PS	PS	08 47 03.0	-7.6
OBN				pmax	pmax		
	comp=Z,14nm,0.9s						
OBN				MLR	MLR		
	comp=Z,200nm,19.0s,MS4.8						
GOF	**Gofitskoye**	**130.16**	**57**	*e*PKIKP	PKPdf	08 35 11.0	-2.5
GOF				pmax	pmax		
	comp=Z,40nm,1.3s						
TIXI	**Tiksi**	**140.65**	**350**	⇑*i*PKIKP	PKPdf	08 35 27.4	-4.7
TIXI				*e*		08 42 34.1	
TIXI				*e*SS	SS	08 56 46.7	-5.5
TIXI				pmax	pmax		
	comp=Z,22nm,1.1s						
TIXI				MLR	MLR		
	comp=Z,100nm,20.0s,MS4.6						
AB31	**Akbulak array**	**141.87**	**52**	PKHKP		08 35 26.1	
AB31				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KAD	**Karad**	**145.74**	**111**	⇑*i*P	PKPbc	08 35 39.4	+0.6
POO	**Poona**	**146.17**	**108**	*e*P	PKPbc	08 35 40.0	+0.2
ZRNK	**Zerenda**	**146.68**	**43**	PKP2	PKPab	08 35 40.4	-3.0
ZRNK				pmax	pmax		
	comp=Z,103nm,1.4s						
BRVK	**Borovoye**	**147.37**	**43**	*e*P	PKPdf	08 35 41.7	-2.4
CUD	**Cuddapah**	**147.43**	**120**	*e*P	PKPdf	08 35 44.5	-0.8
CUD				*e*		08 35 55.0	
BVA0	**Borovoye Array**	**147.44**	**43**	*i* PKIKP	PKPdf	08 35 41.5	-2.7
VOSK	**Vostochnaya**	**147.89**	**43**	PKIKP	PKPdf	08 35 42.5	-2.4
VOSK				pmax	pmax		
	comp=Z,21nm,0.7s						
YAK	**Yakutsk**	**148.65**	**340**	*i* PKHKP		08 35 41.6	
YAK	**Yakutsk**	**148.65**	**340**	*e*PKP2	PKPab	08 35 46.2	-4.7
YAK				pmax	pmax		
	comp=Z,22nm,0.9s						
YAK				pmax	pmax		
	comp=N,10.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,8.0nm,1.1s						
YAK	**Yakutsk**	**148.65**	**340**	*e*PKPdf	PKPdf	08 35 42.8	-3.1
YAK				*e*PKPbc	PKPdf	08 35 45.9	0.0
HYB	**Hyderabad**	**149.15**	**115**	*i* PKP	PKPdf	08 35 49.0	+1.0
HYB				*e*		08 35 53.5	
HYB	**Hyderabad**	**149.15**	**115**	*e*P	PKPdf	08 35 49.0	+1.0
KKAR	**Karatay Array**	**149.76**	**61**	*i* PKP2	PKPab	08 35 49.5	-6.6
KKAR				pmax	pmax		
	comp=Z,5.0nm,0.6s						
IPM	**Ipoh**	**150.08**	**167**	⇓*e*P	PKPdf	08 35 51.3	+1.7
AML	**Almayashu**	**152.19**	**63**	P	PKPdf	08 35 56.9	+5.0
	SNR=7.8						
EKS2	**Erkin-Say**	**152.19**	**62**	P	PKPdf	08 35 50.2	-1.7
	SNR=6.4						
USP	**Ospenovka**	**152.63**	**60**	P	PKPdf	08 35 50.2	-2.3
	SNR=6.4						
AAK	**Ala-Archa**	**152.72**	**62**	P	PKPdf	08 35 57.5	+4.8
	SNR=13						
AAK	**Ala-Archa**	**152.72**	**62**	*e*PKPdf	PKPdf	08 35 49.6	-3.1
AAK				*e*PKPbc	PKPdf	08 35 56.4	+3.8
AAK				*e*PKPab	PKPab	08 36 05.6	-3.0
UCH	**Uchtor**	**152.78**	**63**	P	PKPdf	08 35 51.7	-1.1
	SNR=7.0						
CHMS	**Chumysh**	**152.86**	**61**	P	PKPdf	08 35 57.6	+4.7
	SNR=5.4						
KURK	**Kurchatov**	**153.04**	**43**	*i* PKIKP	PKPdf	08 35 56.9	+4.1
KURK				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KURK	**Kurchatov**	**153.04**	**43**	*e*PKPdf	PKPdf	08 35 49.3	-3.5
KURK				*e*PKPbc	PKPdf	08 35 56.9	+4.1
TKM2	**Tokmak 2**	**153.48**	**61**	P	PKPdf	08 35 59.0	+5.3
	SNR=5.6						
ZAL	**Zalesovo**	**154.35**	**32**	PKP	PKPdf	08 35 50.5	-4.0
	comp=Z,2.7nm,0.3s,baz=359,slow=12,SNR=11						
ZAL				PKPbc	PKPdf	08 35 58.8	+4.3
	comp=Z,13nm,0.6s,baz=82,slow=3.6,SNR=32						
ZAL				pPKPbc		08 36 07.3	
	comp=Z,6.9nm,0.6s,baz=129,slow=3.0,SNR=5.1						
BOD	**Bodaibo**	**155.79**	**352**	*e*PKP2	PKPab	08 36 19.0	-2.0
KOLN	**Koldanda**	**158.45**	**100**	*e*P	PKPdf	08 35 57.1	-3.7
GKN	**Gorkha**	**159.39**	**101**	*e*P	PKPdf	08 35 58.4	-3.4
DMN	**Daman**	**159.62**	**102**	*e*P	PKPdf	08 35 59.5	-2.6

KKN	Kakani	159.83	102	*e*P	PKPdf	08 35 58.7	-3.6
PKI	Pulchoki	159.85	103	*e*P	PKPdf	08 35 58.3	-4.0
WMQ	Urumqi	161.66	52	*e*PKP	PKPdf	08 35 58.9	-4.8
WMQ				LR	LR		
	comp=E,108nm,22.0s						
WMQ				LR	LR		
	comp=Z,151nm,22.0s						
ZAK	Zakamensk	163.31	10	*e*PKP2	PKPab	08 36 52.6	-1.1
SONM	Songino Array	166.14	4	PKP	PKPdf	08 36 04.5	-3.4
	comp=Z,0.6nm,0.6s,baz=270,slow=1.2,SNR=5.2						
SONM				PKPab	PKPab	08 37 05.9	-0.3
	comp=Z,3.5nm,0.8s,baz=330,slow=5.0,SNR=12						
SONM				pPKPab		08 37 14.3	
	comp=Z,4.9nm,0.9s,baz=342,slow=3.9,SNR=8.5						
SSE	Sheshan	168.23	259	PKP	PKPdf	08 36 05.1	-4.6
SSE				PP	PP	08 41 06.0	+0.3
SSE				LR	LR		
	comp=N,60nm,23.2s						
SSE				LR	LR		
	comp=E,60nm,23.2s						
SSE				LR	LR		
	comp=Z,78nm,20.9s						
KMI	Kunming	170.17	153	*e*PKP	PKPdf	08 36 07.9	-3.2
KMI				PKP2	PKPab	08 37 24.6	+0.1
KMI				PP	PP	08 41 16.0	+0.5
KMI				LR	LR		
	comp=N,216nm,23.1s						
KMI				LR	LR		
	comp=E,133nm,18.2s						
KMI				LR	LR		
	comp=Z,188nm,17.8s						
NJ2	Nanjing	170.41	261	*e*PKP	PKPdf	08 36 06.0	-5.0
NJ2				APKP		08 36 17.0	
NJ2				XPKP		08 36 21.4	
NJ2				PKP2	PKPab	08 37 26.0	+0.6
NJ2				PP	PP	08 41 18.0	+1.5
NJ2				SKKS		08 48 00.0	
GTA	Gaotai	171.70	47	*e*PKP	PKPdf	08 36 09.3	-2.3
GTA				APKP		08 36 18.4	
GTA				XPKP		08 36 22.6	
GTA				PKP2	PKPab	08 37 31.3	+0.4
XAN	Xi'an	178.96	273	PKP	PKPdf	08 36 10.3	-3.4
XAN				APKP		08 36 19.3	

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*IDC **08** 08:25:42.6±1.1, 34.10S×72.42W, mb4.0/2, mb1 4.3/4, mb1mx4.1/12, ML4.0/2, Error ellipse: s-maj=54.1km s-min=30.2km az=83.0*

*NEIC **08** 08:25:45.7, 33.98S×72.26W, h4^{km}, ML4.2(GUC), After GUC.*

*GUC **08** 08:25:45.7±0.7, 33.98S×72.26W, h4^{km}±4^{km}, MD3.9, ML4.2*

ISC 08 08:25:44.7±0.9**, 33.99S**±0.04×**72.41W**±0.05**, h19**^{km}±5^{km}**, n28, σ0^{s}44**/39**, mb3.9**/2**, 10C-7D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LLCH	Llolleo	0.76	60	⇑*i*P	Pb	08 25 58.6	-0.5
LNV	Longovilo	0.83	88	⇓*i*P	Pb	08 26 00.1	-0.2
LNV				*i* S	Sb	08 26 11.0	-0.1
LCCH	Las Cruces	0.87	54	⇓*i*P	Pb	08 26 01.1	+0.1
LCCH				*i* S	Sb	08 26 12.2	0.0
IHA	Instituto Hidr	1.16	34	⇑*i*P	Pb	08 26 05.8	-0.1
IHA				*i* S	Sb	08 26 21.0	+0.5
TACH	Talagante	1.27	75	⇑*i*P	Pn	08 26 06.9	-0.7
TACH				*i* S	Sb	08 26 23.1	-0.7
SFDO	San Fernando	1.31	119	⇑*e*P	Pn	08 26 07.6	-0.6
SFDO				*i* S	Sb	08 26 25.2	+0.3
NICH	Los Niches	1.40	136	⇓*i*P	Pn	08 26 09.5	0.0
NICH				*i* S	Sb	08 26 28.1	+0.6
CHCH	Chadas Angostu	1.46	88	⇑*i*P	Pn	08 26 10.1	-0.3
CHCH				⇓*i*S	Sn	08 26 28.7	-0.4
PUEX	Pudahuel	1.48	69	⇑*i*P	Pn	08 26 10.6	-0.1
PUEX				*i* S	Sn	08 26 29.4	-0.1
PUEX				AMP		08 26 34.1	
	comp=E,13µm,0.5s						
CACH	El Canelo	1.51	95	*e*P	Pn	08 26 11.4	+0.4
CACH				*i* S	Sn	08 26 31.4	+1.2
ANTU	Antumapu	1.54	75	⇑*i*P	Pn	08 26 11.5	0.0
ANTU				*i* S	Sn	08 26 30.7	-0.3
ANTU				AMP		08 26 31.4	
	comp=N,10µm,0.3s						
SAN	Santiago	1.55	70	⇓*i*P	Pn	08 26 12.0	+0.3
SAN				*i* S	Sn	08 26 30.8	-0.6
SAN				AMP		08 26 33.1	
	comp=N,7µm,0.4s						
PCH	Pirque	1.62	77	⇑*i*P	Pn	08 26 12.6	0.0
PCH				*i* S	Sn	08 26 33.2	+0.1
DSCH	Colegio Aleman	1.65	69	*e*P	Pn	08 26 13.1	+0.1
DSCH				*i* S	Sn	08 26 33.6	-0.2
DSCH				AMP		08 26 37.9	
	comp=E,8µm,0.5s						
PEL	Peldehue	1.67	60	⇓*i*P	Pn	08 26 13.9	+0.5
PEL				*i* S	Sn	08 26 35.0	+0.7
PEL				AMP		08 26 43.7	
	comp=N,9µm,0.5s						
CLCH	Cerro Calan	1.67	70	⇑*i*P	Pn	08 26 13.5	+0.1
CLCH				*i* S	Sn	08 26 34.4	0.0
CLCH				AMP		08 26 51.5	
	comp=E,4µm,0.8s						
CLCH				AMP		08 26 57.5	
	comp=E,5µm,0.5s						
SJCH	San Jose de Ma	1.75	79	⇓*i*P	Pn	08 26 13.7	-0.7
SJCH				*i* S	Sn	08 26 35.8	-0.6
SJCH				AMP		08 26 37.9	
	comp=N,3µm,0.3s						
LMEL	Las Melosas	1.84	86	⇑*i*P	Pn	08 26 16.2	+0.4
LMEL				*i* S	Sn	08 26 39.4	+0.7
LMEL				AMP		08 26 42.5	
	comp=N,6µm,0.2s						
FCH	Farellones	1.89	70	AMP		08 26 44.7	
	comp=N,4µm,0.3s						
COCH	Cobquecura	2.16	188	AMP		08 27 02.8	
	comp=E,796nm,0.6s						
ILCH	Illapel	2.57	24	AMP		08 27 16.2	
	comp=E,689nm,0.6s						
CCHI	Chillan	2.62	174	AMP		08 27 18.1	
	comp=E,1µm,0.8s						
CCHI				AMP		08 27 18.4	
	comp=E,2µm,0.7s						
CPUP	Villa Florida	15.10	64	Pn	P	08 29 18.8	-0.1
	comp=E,0.1nm,0.3s,baz=202,slow=19,SNR=1.9						
CPUP				Lg		08 33 20.1	
	comp=E,0.1nm,0.3s,baz=165,slow=2.1,SNR=3.9						
LPAZ	La Paz	18.04	13	P	P	08 29 56.9	+0.7
	comp=E,0.4nm,0.3s,baz=178,slow=8.4,SNR=4.1						
TXAR	Lajitas Array	69.58	331	P	P	08 36 54.7	+0.1
	comp=E,0.3nm,0.5s,mb3.5,baz=157,slow=8.3,SNR=8.2						
MAW	Mawson	73.28	164	P	P	08 37 15.4	-0.6
	comp=E,1.6nm,0.4s,mb4.3,baz=212,slow=9.3,SNR=6.3						
WRA	Warramunga Arr	120.62	209	PKP	PKPdf	08 44 36.0	-3.9
	comp=E,0.2nm,0.4s,baz=158,slow=1.7,SNR=16						
ZAL	Zalesovo	154.38	32	PKPbc	PKPdf	08 45 43.2	+4.5
	comp=E,1.7nm,0.5s,baz=1.5,slow=3.5,SNR=4.8						

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*IDC **08** 08:29:26.1±2.6, 10.73N×86.27W, mb4.0/1, mb1 4.5/1, mb1mx3.7/17, Error ellipse: s-maj=119.0km s-min=15.1km az=26.0*

*CASC **08** 08:29:32.1±2.0, 10.94N×86.04W, h27^{km}±4^{km}, MD4.1, MW4.0*

ISC 08 08:29:31.4±0.8**, 10.89N**±0.03×**86.10W**±0.06**, h26**^{km}±6^{km}**, n37, σ0^{s}86**/54**, mb3.9**/1**, 15C-7D, Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CONN	Concepcion	0.82	35	⇓*e*P	Pb	08 29 46.5	-0.3
CONN				*e*S	Sb	08 29 56.4	-1.1
VCR	Vista de Mar	0.89	148	⇑*e*P	Pb	08 29 47.4	-0.7
VCR				*e*S	Sb	08 30 01.7	+2.1
APON	Apoyo	1.02	2	⇑*e*P	Pn	08 29 49.9	-0.3
APON				*e*S	Sb	08 30 05.3	+2.0
MASN	Masaya	1.09	358	*e*P	Pn	08 29 51.8	+0.6
CRUN	El Crucero	1.10	350	⇓*e*P	Pn	08 29 51.8	+0.4
TICN	Ticuantepe	1.14	354	⇑*e*P	Pn	08 29 51.9	-0.1
TICN				*e*S	Sb	08 30 06.8	0.0
MGAN	Managua	1.26	354	⇑*e*P	Pn	08 29 53.4	-0.1
MGAN				*e*S	Sn	08 30 09.9	+0.2
WILN	Americas 2	1.27	356	⇑*e*P	Pn	08 29 53.5	-0.1
WILN				*e*S	Sn	08 30 10.7	+0.8
XAVN	Gruta Xavier	1.27	350	⇑*e*P	Pn	08 29 53.7	0.0
XAVN				*e*S	Sn	08 30 10.3	+0.3
JTS	JuntasAbangare	1.28	118	Pg	Pn	08 29 52.8	-1.1
	141nm,0.3s,baz=311,slow=16,SNR=674						
JTS				Lg		08 30 09.5	
	312nm,0.3s,baz=357,slow=22,SNR=19						
APYN	Apoyeque	1.36	350	⇓*e*P	Pn	08 29 55.2	+0.3
APYN				*e*S	Sn	08 30 13.2	+0.9
COPN	Copaltepe	1.37	340	⇓*e*P	Pn	08 29 54.9	-0.2
COPN				*e*S	Sn	08 30 13.4	+0.9
JCR	Jicaral	1.42	137	⇑*e*P	Pn	08 29 54.8	-1.1
JCR				*e*S	Sn	08 30 15.3	+1.4
FORC	Fortuna	1.47	106	⇓*e*P	Pn	08 29 56.0	-0.6
MOMJ	Momotombo	1.57	344	⇑*e*P	Pn	08 29 57.7	-0.3
MOMJ				*e*S	Sn	08 30 16.7	-0.9
PYTN	Playitas	1.64	2	⇑*e*P	Pn	08 29 58.5	-0.5
PYTN				*e*S	Sn	08 30 18.9	-0.5
MIRN	Miramar	1.65	339	⇑*e*P	Pn	08 29 59.3	+0.1
MIRN				*e*S	Sn	08 30 20.2	+0.5
LEON	Leon	1.70	333	⇓*e*P	Pn	08 29 59.9	0.0
LEON				*e*S	Sn	08 30 20.4	-0.6
CNGN	Cerro Negro	1.70	340	⇓*e*P	Pn	08 29 59.9	-0.1
CNGN				*e*S	Sn	08 30 19.7	-1.3
CGA2	Cerro Gallo 2	1.83	118	*e*P	Pn	08 30 02.0	+0.2
TELN	Telica	1.85	337	*e*S	Sn	08 30 26.1	+1.4
VPS2	Volcan Poas 2	1.96	111	*e*P	Pn	08 30 04.3	+0.7
PRS1	Puriscal	1.98	117	*e*P	Pn	08 30 03.8	-0.1
LAJ	Bijagual	2.20	117	*e*P	Pn	08 30 03.4	-3.7
SJS	Escuela Geolog	2.23	115	*e*P	Pn	08 30 07.2	-0.2
SJS				*e*S	Sn	08 30 34.6	+0.2
QUIN	Quiabu	2.24	352	⇑*e*P	Pn	08 30 07.0	-0.7
QUIN				*e*S	Sn	08 30 34.9	+0.2
LCR2	La Lucha 2	2.36	119	*e*P	Pn	08 30 08.5	-0.8
LCR2				*e*S	Sn	08 30 39.7	+2.0
TRTC	Tortuguero	2.37	97	⇑*e*P	Pn	08 30 07.5	-2.0
ICR	Volcan Irazu	2.41	112	⇑*e*P	Pn	08 30 09.7	-0.4
URSC	Urasca	2.52	114	⇑*e*P	Pn	08 30 11.4	-0.1
SOMN	Somoto	2.56	349	⇑*e*P	Pn	08 30 13.3	+1.1
SOMN				*e*S	Sn	08 30 42.9	0.0
BUS	Buena Vista	2.66	120	*e*P	Pn	08 30 13.8	+0.1
LIO	Limon	3.14	106	*e*P	Pn	08 30 20.3	-0.2
ACR	Cerro Adams	3.65	127	*e*P	Pn	08 30 28.4	+0.7
TXAR	Lajitas Array	24.61	321	P	P	08 34 48.5	-2.6
	2.4nm,0.6s,mb3.9,baz=141,slow=10,SNR=29						
ASAR	Alice Springs	139.88	246	PKP	PKPdf	08 48 55.6	-7.3
	0.2nm,0.5s,baz=89,slow=1.5,SNR=5.3						
WRA	Warramunga Arr	140.08	252	PKP	PKPdf	08 48 55.9	-7.5
	0.3nm,0.5s,baz=93,slow=2.3,SNR=15						

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*NEIC **08** 08:39:44.6, 34.99S×70.63W, h11^{km}, ML3.3(GUC), After GUC.*

GUC 08 08:39:44.6±0.6**, 34.99S×70.63W, h11**^{km}±4^{km}**, MD3.8, ML3.3, 3C-2D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFDO	San Fernando	0.48	320	⇓*i*P	Pg	08 39 54.5	0.0
SFDO				*i* S	Sg	08 40 02.2	+1.2
NICH	Los Niches	0.49	268	⇓*i*P	Pg	08 39 54.4	-0.1
NICH				*i* S	Sg	08 40 02.5	+1.3
CACH	El Canelo	0.87	2	⇑*i*P	Pb	08 40 00.6	-0.6
CACH				*i* S	Sb	08 40 13.0	+0.4
CHCH	Chadas Angostu	1.05	359	*e*P	Pb	08 40 03.6	-0.7
LMEL	Las Melosas	1.19	18	⇑*i*P	Pb	08 40 06.1	-0.7
LMEL				*i* S	Sb	08 40 22.5	+0.6
LMEL				AMP		08 40 23.5	
	comp=N,1µm,0.2s						
LNV	Longovilo	1.21	328	*e*P	Pb	08 40 06.0	-1.1
SJCH	San Jose de Ma	1.36	10	⇑*i*P	Pn	08 40 08.5	-1.1
PCH	Pirque	1.36	4	*e*P	Pn	08 40 08.7	-1.0
PCH				*i* S	Sb	08 40 26.6	-0.4
ANTU	Antumapu	1.41	0	*e*P	Pn	08 40 10.5	+0.1
ANTU				AMP		08 40 31.4	
	comp=E,815nm,0.2s						
DSCH	Colegio Aleman	1.58	2	*e*P	Pn	08 40 12.9	0.0
DSCH				AMP		08 40 39.2	
	comp=N,487nm,0.6s						
CLCH	Cerro Calan	1.59	3	*e*P	Pn	08 40 12.9	+0.1
CLCH				AMP		08 40 37.2	
	comp=E,547nm,0.2s						
FCH	Farellones	1.68	10	*e*P	Pn	08 40 14.6	+0.4
FCH				*i* S	Sn	08 40 37.4	+1.6
FCH				AMP		08 40 39.7	
	comp=N,619nm,0.2s						
CCHI	Chillan	2.00	216	*e*P	Pn	08 40 18.7	0.0
CCHI				*i* S	Sn	08 40 44.0	+0.2
CCHI				AMP		08 40 48.8	
	comp=N,410nm,0.5s						

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*IDC **08** 08:53:25.9±1.6, 6.46N×126.29E, mb3.9/6, mb1 4.0/6, mb1mx3.8/20, Error ellipse: s-maj=112.0km s-min=19.2km az=68.0*

*NEIC **08** 08:53:27.0±1.0, 6.48N×126.55E, h10^{km}, mb4.3/4, Error ellipse: s-maj=66.2km s-min=12.5km az=70.0*

ISC 08 08:53:33.1±1.1**, 6.34N**±0.08×**126.4E**±0.1**, h73**^{km}±10^{km}**, n17, σ1^{s}21**/19**, mb3.8**/10**, 1D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MATI	Mati	0.62	350	*e*P	P	08 53 46.3	-1.3
GSPH	General Santos	1.43	260	*e*P	P	08 53 57.0	-0.8
GSPH				*i* S	S	08 54 15.0	-1.1
KCP	Kidapawan	1.44	298	⇓*e*P	P	08 53 58.6	+0.7
KCP				*i* S	S	08 54 17.4	+1.2
BUKP	Musuan	2.01	320	*e*P	P	08 54 11.2	+5.7
BUKP	Musuan	2.01	320	*e*P	P	08 54 11.7	+6.2
CGP	Cagayan de Oro	2.68	322	*e*P	P	08 54 17.1	+2.0
FITZ	Fitzroy Crossi	24.29	182	P	P	08 58 46.7	+1.7
	1.7nm,0.5s,mb3.6,baz=15,slow=12,SNR=6.9						
WRAB	Tennant Creek	27.26	163	P	P	08 59 09.9	-2.9
	2.6nm,0.8s,mb3.8						
WRA	Warramunga Arr	27.27	163	P	P	08 59 14.1	+1.3
	0.4nm,0.4s,mb3.3,baz=343,slow=10,SNR=9.3						
MBWA	Marble Bar	28.09	193	*e*P	P	08 59 20.3	+0.1
	3.3nm,0.7s,mb4.0						
ASAR	Alice Springs	30.71	166	P	P	08 59 43.0	-0.5
	0.5nm,0.4s,mb3.6,baz=345,slow=7.2,SNR=8.8						
STKA	Stephens Creek	40.68	160	P	P	09 01 09.0	+1.0
	3.3nm,1.0s,mb4.1,baz=338,slow=13,SNR=2.9						
STKA	Stephens Creek	40.68	160	P	P	09 01 09.0	+1.0
MKAR	Makanchi Array	55.23	324	P	P	09 02 59.3	-1.7
	1.2nm,0.5s,mb4.2,baz=120,slow=8.5,SNR=12						
BVAR	Borovoye Array	64.96	326	P	P	09 04 07.0	-0.3
	0.3nm,0.4s,mb3.5,baz=141,slow=9.2,SNR=4.7						
BRVK	Borovoye	65.03	326	*e*P	P	09 04 07.8	0.0
	2.3nm,0.7s,mb4.1						
ZRNK	Zerenda	65.69	326	*e*P	P	09 04 11.5	-0.5
	1.7nm,0.6s,mb4.0						

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*NEIC **08** 08:53:40.3, 34.99S×70.62W, h6^{km}, ML3.6(GUC), After GUC.*

NEIC Felt [III] at Los Quenes and [II] at Curico.

GUC 08 08:53:40.3±0.6**, 34.99S×70.62W, h6**^{km}±2^{km}**, MD4.1, ML3.6, 2C-2D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFDO	San Fernando	0.50	319	⇑*i*P	Pg	08 53 50.3	0.0
SFDO				*i* S	Sg	08 53 58.2	+1.2
NICH	Los Niches	0.50	268	⇓*i*P	Pg	08 53 50.5	+0.1
NICH				*i* S	Sg	08 53 58.7	+1.5
CACH	El Canelo	0.87	1	*e*P	Pb	08 53 56.1	-1.3
CACH				*i* S	Sb	08 54 08.8	-0.3
CHCH	Chadas Angostu	1.05	358	*i* P	Pb	08 53 59.7	-0.8
CHCH				*i* S	Sb	08 54 14.7	+0.2
LNV	Longovilo	1.22	327	*i* P	Pb	08 54 02.5	-0.9
LNV				*i* S	Sb	08 54 19.6	+0.2
TACH	Talagante	1.36	349	⇑*i*P	Pb	08 54 04.8	-1.0
TACH				*i* S	Sb	08 54 22.9	-0.4
PCH	Pirque	1.37	4	*e*P	Pb	08 54 05.0	-0.9
PCH				*i* S	Sb	08 54 24.0	+0.4
ANTU	Antumapu	1.42	359	*e*P	Pn	08 54 05.9	-0.8
ANTU				*i* S	Sb	08 54 25.4	+0.4
ANTU				AMP		08 54 27.3	
	comp=E,2µm,0.5s						
PUEX	Pudahuel	1.55	356	*e*P	Pn	08 54 07.9	-0.7
PUEX				AMP		08 54 36.7	
	comp=N,2µm,0.5s						
DSCH	Colegio Aleman	1.59	1	*e*P	Pn	08 54 08.7	-0.4
DSCH				*i* S	Sb	08 54 29.9	0.0
DSCH				AMP		08 54 33.4	
	comp=E,1µm,0.7s						
CLCH	Cerro Calan	1.59	2	*e*P	Pn	08 54 08.7	-0.5
CLCH				AMP		08 54 34.7	
	comp=E,1µm,0.5s						
FCH	Farellones	1.68	9	*e*P	Pn	08 54 10.4	-0.1
FCH				*i* S	Sn	08 54 33.2	+0.7
FCH				AMP		08 54 35.4	
	comp=N,936nm,0.2s						
CCHI	Chillan	2.00	216	⇓*i*P	Pn	08 54 14.8	-0.3
CCHI				*i* S	Sn	08 54 41.3	+0.6
CCHI				AMP		08 54 45.2	
	comp=N,771nm,0.6s						
COCH	Cobquecura	2.11	237	*e*P	Pn	08 54 16.3	-0.2
COCH				*i* S	Sn	08 54 43.7	+0.4
COCH				AMP		08 54 50.5	
	comp=E,505nm,0.7s						

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*MDD **08** 09:01:06.5±0.3, 36.96N×4.98W, h11^{km}, mbLg2.5/19, Error ellipse: s-maj=3.1km s-min=2.4km az=12.0, PRXIMO*

*INMG **08** 09:01:06.6±1.1, 36.96N×4.98W, h11^{km}±4^{km}, ML2.6, Error ellipse: s-maj=2.5km s-min=2.0km az=12.0*

ISC 08 09:01:04.4±0.5**, 37.17N**±0.03×**5.01W**±0.02**, h1**^{km}±3^{km}**, n31, σ1^{s}17**/55**, 3C-1D, Spain**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LIJA	Lijar	0.41	230	P	Pg	09 01 12.2	-0.4
LIJA				S	Sg	09 01 22.1	+4.0
EMAL	Malaga-Limoner	0.62	131	Pg	Pg	09 01 15.4	-1.4
	3.7nm,0.1s,SNR=7.9						
EMAL				Lg		09 01 22.0	
	29nm,0.2s,SNR=7.9						
EMIJ	Mijas	0.64	162	Pg	Pg	09 01 14.8	-2.3
	19nm,0.2s,SNR=7.9						
EMIJ				Lg		09 01 20.2	
	232nm,0.4s,SNR=7.9						
REAL	Reales	0.71	193	⇓P	Pg	09 01 18.6	+0.1
REAL				S	Sg	09 01 27.5	-0.4
ELUQ	Luque	0.71	57	Pg	Pg	09 01 21.5	+2.9
	32nm,0.2s,SNR=15						
ELUQ				Lg		09 01 33.3	
	49nm,0.2s,SNR=7.9						
ESPR	Espera	0.74	246	Pg	Pg	09 01 23.1	+3.9
	16nm,0.1s,SNR=7.9						
ESPR				Lg		09 01 32.3	
	65nm,0.2s,SNR=7.9						
EJIF	Jimena Fronter	0.81	207	Lg		09 01 27.1	
	0.3nm,0.2s,SNR=7.9						
EADA	Adamuz	1.05	19	Pg	Pg	09 01 28.0	+2.6
	8.6nm,0.2s,SNR=113						
EADA				Lg		09 01 44.7	
	75nm,0.3s,SNR=7.9						
EMIN	Mina Concepcio	1.45	295	⇑Pn	Pn	09 01 32.9	+1.2
	5.4nm,0.2s,SNR=18						
EMIN				Pg	Pg	09 01 35.4	+2.1
	24nm,0.1s,SNR=7.9						
EMIN				Sn	Sn	09 01 50.0	-1.6
	SNR=7.9						
EMIN				Lg		09 01 56.4	
	22nm,0.2s,SNR=7.9						
EQES	Quesada	1.67	67	Pn	Pn	09 01 36.2	+1.3
	13nm,0.4s,SNR=15						
EQES				Pg	Pg	09 01 38.4	+0.7
	9.1nm,0.2s,SNR=7.9						
EQES				Sn	Sn	09 01 57.3	+0.1
	SNR=7.9						
EQES				Lg		09 02 01.4	
	79nm,0.3s,SNR=7.9						
ERIP	Rio Piedras	1.80	277	Pn	Pn	09 01 37.2	+0.4
	1.3nm,0.1s,SNR=7.9						
ERIP				Pg	Pg	09 01 40.7	+0.4
	4.8nm,0.1s,SNR=7.9						
ERIP				Sn	Sn	09 02 00.4	-0.2
	5.4nm,0.1s,SNR=7.9						
ERIP				Lg		09 02 06.0	
	28nm,0.1s,SNR=7.9						
PALC	Alcoutim	1.98	279	*i* Pn	Pn	09 01 40.0	+0.5
PALC				*e*Sn	Sn	09 02 04.6	-0.7
	30nm,0.3s						
PALC	Alcoutim	1.98	279	⇑Pn	Pn	09 01 40.0	+0.5
PALC				Sn	Sn	09 02 04.6	-0.7
	15nm,0.3s						
EGRO	El Granado	2.00	281	⇑Pn	Pn	09 01 40.3	+0.6
	12nm,0.2s,SNR=18						
EGRO				Pg	Pg	09 01 44.1	-0.3
	2.0nm,0.1s,SNR=7.9						
EGRO				Sn	Sn	09 02 06.0	+0.3
	SNR=7.9						
EGRO				Lg		09 02 11.8	
	13nm,0.2s,SNR=7.9						
EBAD	Badajoz	2.23	316	Pn	Pn	09 01 44.2	+1.1
	3.1nm,0.1s,SNR=18						
EBAD				Pg	Pg	09 01 49.4	+0.4
	3.5nm,0.1s,SNR=7.9						
EBAD				Sn	Sn	09 02 13.0	+1.3
	12nm,0.2s,SNR=7.9						
EBAD				Lg		09 02 20.8	
	25nm,0.2s,SNR=7.9						
PBEJ	Beja	2.42	291	*e*Pn	Pn	09 01 46.3	+0.6
PBEJ				*e*Sn	Sn	09 02 17.1	+0.7
PBEJ				*e*Sg	Sg	09 02 26.7	+1.7
	12nm,0.3s						
PBEJ	Beja	2.42	291	Pn	Pn	09 01 46.3	+0.6
PBEJ				Sn	Sn	09 02 17.1	+0.7
PBEJ				Lg		09 02 26.7	
	6.1nm,0.3s						
EVIA	Vianos	2.47	53	Pg	Pg	09 01 52.7	-0.9
	12nm,0.5s,SNR=7.9						
EVIA				Sn	Sn	09 02 16.9	-0.7
	7.0nm,0.4s,SNR=7.9						
EVIA				Lg		09 02 28.1	
	18nm,0.4s,SNR=7.9						
MOE	Montemor	2.96	298	*e*Pn	Pn	09 01 54.4	+0.9
MOE				*e*Sn	Sn	09 02 29.7	-0.5
MOE				*e*Sg	Sg	09 02 43.5	+0.4
PTEO	Sao Teotonio	2.98	278	*e*Pn	Pn	09 01 53.5	-0.2
PTEO				*e*Sn	Sn	09 02 28.8	-1.8
PTEO				*e*Sg	Sg	09 02 41.5	-2.1
	21nm,0.4s						
PTEO	Sao Teotonio	2.98	278	Pn	Pn	09 01 53.5	-0.2
PTEO				Sn	Sn	09 02 28.8	-1.8
PTEO				Lg		09 02 41.5	
	11nm,0.4s						
ETOB	Tobarra	3.11	61	Pn	Pn	09 01 55.3	-0.2
	0.6nm,0.2s,SNR=7.9						
ETOB				Lg		09 02 45.5	
	6.8nm,0.2s,SNR=7.9						
PCBR	Castelo Branco	3.29	325	*e*Pn	Pn	09 01 59.8	+1.7
PCBR				*e*Sn	Sn	09 02 37.9	-0.5
PCBR				*e*Sg	Sg	09 02 53.0	-0.9
	19nm,0.5s						
PCBR	Castelo Branco	3.29	325	Pn	Pn	09 01 59.8	+1.7
PCBR				Sn	Sn	09 02 37.9	-0.5
PCBR				Lg		09 02 53.0	
	9.4nm,0.5s						
PTOM	Tomar	3.62	313	*e*Sg	Sg	09 03 03.4	-1.4
	15nm,0.5s						
PTOM	Tomar	3.62	313	Lg		09 03 03.4	
	7.7nm,0.5s						
MTE	Manteigas	3.78	329	*e*Sg	Sg	09 03 09.2	-1.0
	21nm,0.6s						
MTE	Manteigas	3.78	329	Lg		09 03 09.2	
	11nm,0.6s						
ETOR	Torete	4.31	31	Pn	Pn	09 02 13.3	+0.7
	SNR=7.9						
ETOR				Pg	Pg	09 02 29.1	-1.3
	SNR=7.9						
ETOR				Sn	Sn	09 03 02.4	-1.8
	0.8nm,0.2s,SNR=7.9						
ETOR				Lg		09 03 24.6	
	4.2nm,0.4s,SNR=7.9						
PBRG	Braganca	4.81	344	*e*Sg	Sg	09 03 41.5	-3.2
	4.8nm,0.5s						
PBRG	Braganca	4.81	344	Lg		09 03 41.5	
	2.4nm,0.5s						

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*IDC **08** 09:18:28.3±0.9, 34.01S×72.22W, mb4.2/3, mb1 4.3/5, mb1mx4.1/12, ML3.8/2, MS3.8/5, Ms1 3.7/5, ms1mx3.5/13, Error ellipse: s-maj=37.6km s-min=26.7km az=94.0*

*GUC **08** 09:18:31.5±0.7, 34.01S×72.31W, h35^{km}±1^{km}, MD4.1, ML4.4*

*NEIC **08** 09:18:31.5, 34.01S×72.31W, h35^{km}, ML4.4(GUC), After*

GUC.

ISC 08 09:18:30.1±1.0**,34.01S**±0.04×**72.41W**±0.05**,h21**^{km}±5^{km}**, n37,**σ**0^{s}63**/44**,mb4.1**/3**,MS3.9**/4**,10C-11D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LLCH	Llolleo	0.77	59	⇓iP	Pb	09 18 44.3	-0.4
LLCH				iS	Sb	09 18 55.5	+0.8
LNV	Longovilo	0.83	87	⇓iP	Pb	09 18 45.7	-0.1
LNV				iS	Sb	09 18 56.3	-0.2
LCCH	Las Cruces	0.88	53	⇑iP	Pb	09 18 46.4	-0.1
LCCH				iS	Sb	09 18 58.4	+0.6
IHA	Instituto Hidr	1.17	34	⇑iP	Pn	09 18 51.2	-0.2
IHA				iS	Sb	09 19 06.7	+0.5
TACH	Talagante	1.28	74	⇑iP	Pn	09 18 52.4	-0.6
TACH				iS	Sb	09 19 08.4	-0.9
SFDO	San Fernando	1.31	118	⇓iP	Pn	09 18 53.0	-0.4
SFDO				iS	Sb	09 19 09.6	-0.6
NICH	Los Niches	1.39	136	⇓iP	Pn	09 18 54.9	+0.3
NICH				iS	Sn	09 19 12.7	+0.2
CHCH	Chadas Angostu	1.46	88	⇑eP	Pn	09 18 55.5	-0.2
CHCH				⇑iP		09 18 55.5	
CHCH				⇓iS	Sn	09 19 13.4	-0.9
CHCH	Chadas Angostu	1.46	88	⇑iP	Pn	09 18 55.5	-0.1
CHCH				iS	Sn	09 19 13.4	-0.9
PUEX	Pudahuel	1.49	68	⇑iP	Pn	09 18 56.1	+0.2
PUEX				iS	Sn	09 19 14.7	-0.2
PUEX				AMP		09 19 19.6	
	comp=N,24µm,0.5s						
CACH	El Canelo	1.51	95	⇓iP	Pn	09 18 56.8	+0.5
CACH				⇓iS	Sn	09 19 16.4	+1.0
ANTU	Antumapu	1.54	74	iP	Pn	09 18 57.0	+0.2
ANTU				iS	Sn	09 19 16.1	-0.2
ANTU				AMP		09 19 16.9	
	comp=N,13µm,0.4s						
SAN	Santiago	1.56	70	⇓iP	Pn	09 18 57.2	+0.2
SAN				iS	Sn	09 19 16.4	-0.3
SAN				AMP		09 19 18.7	
	comp=N,8µm,0.4s						
PCH	Pirque	1.63	77	⇓iP	Pn	09 18 58.0	+0.1
PCH				iS	Sn	09 19 18.2	-0.2
DSCH	Colegio Aleman	1.65	69	⇓iP	Pn	09 18 58.5	+0.2
DSCH				iS	Sn	09 19 19.2	+0.2
DSCH				AMP		09 19 24.5	
	comp=N,11µm,0.4s						
CLCH	Cerro Calan	1.68	69	⇑iP	Pn	09 18 58.9	+0.3
CLCH				iS	Sn	09 19 19.7	0.0
CLCH				AMP		09 19 36.7	
	comp=E,6µm,0.6s						
CLCH				AMP		09 19 37.3	
	comp=E,7µm,0.7s						
PEL	Peldehue	1.68	60	AMP		09 19 30.0	
	comp=N,12µm,0.8s						
SJCH	San Jose de Ma	1.75	79	AMP		09 19 23.4	
	comp=N,5µm,0.3s						
LMEL	Las Melosas	1.84	86	⇑iP	Pn	09 19 01.7	+0.6
LMEL				iS	Sn	09 19 24.1	+0.1
LMEL				AMP		09 19 31.4	
	comp=N,7µm,0.3s						
FCH	Farellones	1.89	70	⇑iP	Pn	09 19 02.2	+0.4
FCH				iS	Sn	09 19 26.0	+0.8
FCH				AMP		09 19 30.4	
	comp=N,5µm,0.3s						
COCH	Cobquecura	2.14	188	AMP		09 19 48.0	
	comp=E,1µm,0.4s						
ILCH	Illapel	2.58	24	AMP		09 19 55.5	
	comp=E,1µm,0.7s						
CCHI	Chillan	2.61	174	AMP		09 20 00.1	
	comp=E,3µm,0.6s						
CCHI				AMP		09 20 00.3	
	comp=E,4µm,0.6s						
TRQA	Tornquist	9.37	119	eP	P	09 20 48.4	+1.4
	comp=E,5.9nm,0.7s						
CPUP	Villa Florida	15.11	64	Pn	P	09 22 02.6	-1.6
	comp=E,0.1nm,0.3s,baz=263,slow=17,SNR=2.3						
CPUP				LR	LR	09 28 26.6	
	comp=E,184nm,19.2s,baz=357,slow=40						
LPAZ	La Paz	18.06	13	P	P	09 22 41.4	-0.3
	comp=E,0.1nm,0.3s,baz=161,slow=0.2,SNR=8.7						
BDFB	Brasilia	28.59	56	P	P	09 24 24.4	-2.6
	comp=E,2.8nm,0.8s,mb4.0,baz=216,slow=14,SNR=3.6						
BDFB				LR	LR	09 37 14.5	
	comp=E,163nm,18.4s,MS3.7,baz=219,slow=40						
SNAA	Sanae	51.70	158	e	P	09 27 44.5	+7.2
SNAA	Sanae	51.70	158	⇓iP	P	09 27 37.1	-0.2
SNAA				e	pP	09 27 44.5	+0.7
TXAR	Lajitas Array	69.59	331	P	P	09 29 40.2	+0.4
	comp=E,0.5nm,0.5s,mb3.7,baz=157,slow=8.7,SNR=23						
TXAR				LR	LR	09 55 44.6	
	comp=E,45nm,18.8s,MS3.7,baz=310,slow=32						
MAW	Mawson	73.26	164	P	P	09 30 01.3	+0.2
	comp=E,3.4nm,0.5s,mb4.5,baz=204,slow=5.8,SNR=11						
MAW				LR	LR	10 01 47.1	
	comp=E,56nm,18.6s,MS3.9,baz=124,slow=36						
URZ	Urewera	83.43	228	LR	LR	09 58 44.1	
	comp=E,103nm,20.2s,MS4.2,baz=4.7,slow=29						
WB2	Warramunga Arr	120.60	209	eP	PKPdf	09 37 21.5	-3.6
WRA	Warramunga Arr	120.61	209	PKP	PKPdf	09 37 21.6	-3.6
	comp=E,0.6nm,0.5s,baz=161,slow=1.7,SNR=29						
AKASG	Malin Array Be	122.42	48	PKP	PKPdf	09 37 23.3	-4.5
	comp=E,0.2nm,0.3s,baz=258,slow=2.8,SNR=4.4						
BVAR	Borovoye Array	147.50	43	PKPbc	PKPdf	09 38 13.9	+0.2
	comp=E,2.4nm,0.4s,baz=297,slow=3.3,SNR=12						
ZAL	Zalesovo	154.39	32	PKPbc	PKPdf	09 38 29.4	+5.5
	comp=E,2.4nm,0.5s,baz=69,slow=5.1,SNR=8.2						
ZAL				PKPab	PKPab	09 38 43.8	-1.0
	comp=E,1.3nm,0.7s,baz=107,slow=2.5,SNR=4.6						

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*HEL **08** 09:30:21.4±0.3,67.68N×34.26E,ML2.1,ML2.2(BER), ML2.4(NAO),Explosion*

*NAO **08** 09:30:24.6±2.8,67.74N×33.77E,ML2.4*

ISC 08 09:30:20.3±1.4**,67.70N**±0.05×**34.2E**±0.2**,n11,**σ**0^{s}82**/22**,**
Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
APA0	Apatity Array	0.46	259	iP	Pg	09 30 29.9	+0.5
APA0				iS	Sg	09 30 36.6	+1.0
MSF	Maaselka	2.71	231	ePB	Pb	09 31 08.6	-0.9
MSF				eSB	Sb	09 31 43.1	-0.2
SGF	Sodankyl	2.94	269	eP	Pn	09 31 09.3	+0.1
SGF				eS	Sn	09 31 45.7	0.0
KEV	Kevo	3.33	312	eP	Pn	09 31 15.7	+1.0
KEV				eS	Sn	09 31 54.6	-0.9
KEV				MSG		09 32 10.7	
	comp=Z,5.8nm,0.2s						
ARA0	ARCESS Array S	3.67	304	eP	Pn	09 31 19.9	+0.3
ARA0				ePG	Pg	09 31 28.4	-5.2
ARA0				eS	Sn	09 32 02.8	-1.4
ARA0				eSG	Sg	09 32 15.0	-7.5
ARA0	ARCESS Array S	3.67	304	Pn	Pn	09 31 19.9	+0.3
	baz=120,slow=16						
ARA0				Pg	Pg	09 31 28.4	-5.2
	baz=113,slow=16						
ARA0				Sn	Sn	09 32 02.8	-1.4
	baz=124,slow=28						
ARA0				Lg		09 32 15.0	
	baz=109,slow=37						
OUL	Oulu	4.24	236	eSG	Sg	09 32 32.8	-8.5
KTK1	Kautokeino	4.26	293	eP	Pn	09 31 29.0	+1.1
KTK1				eSG	Sg	09 32 32.8	-9.3
KTK1				AML	AML	09 32 36.5	
	comp=Z,11nm,0.3s						
KJN	Kajaani	4.49	219	eP	Pn	09 31 30.7	-0.4
KJN				eS	Sn	09 32 21.2	-3.7
KJN				MSG		09 32 42.8	
	comp=Z,2.2nm,0.2s						
FIA0	FINESS Array S	7.17	213	eP	Pn	09 32 09.2	+0.2
FIA0				eSG		09 34 02.4	
FIA0	FINESS Array S	7.17	213	Pn	Pn	09 32 09.2	+0.2
FIA0				Lg		09 34 02.4	
	baz=34,slow=28						

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*IDC **08** 09:39:27.9±2.0,5.11S×151.27E,h149^{km}±16^{km},mb4.1/9, mb1 4.3/10,mb1mx4.2/14,Error ellipse: s-maj=24.3km s-min=11.3km az=117.0*

*NEIC **08** 09:39:28.9±1.1,5.05S×151.16E,h158^{km}±9^{km},mb4.5/14, Error ellipse: s-maj=18.3km s-min=9.7km az=111.0*

ISC 08 09:39:27.7±0.7**,5.05S**±0.09×**151.2E**±0.1**,h160**^{km}±6^{km}**,**
n34,σ**0^{s}95**/34**,mb4.4**/18**,2D,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KMBE	Kimbe	1.16	244	eP	P	09 39 54.4	-0.7
RAB	Rabaul	1.28	48	⇓iP	P	09 39 56.2	0.0
PMG	Port Moresby	5.90	223	eP	P	09 40 55.4	+1.4
CTA	Charters Tower	15.70	197	eP	P	09 43 02.7	+1.1
	9.2nm,0.6s						
CTA	Charters Tower	15.70	197	P	P	09 43 02.4	+0.8
	1.4nm,0.3s,baz=23,slow=11,SNR=24						
CTAO	Charters Tower	15.70	197	eP	P	09 43 02.6	+1.0
	14nm,0.7s						
KAKA	Kakadu	20.06	246	eP	P	09 43 47.3	-3.2
	40nm,0.4s						
KAKA				eS	S	09 47 23.2	+1.4
WRAB	Tennant Creek	22.09	226	eP	P	09 44 11.1	+0.6
	22nm,0.6s,mb4.8						
WB2	Warramunga Arr	22.09	226	⇓iP	P	09 44 11.2	+0.6
WB2				eS	S	09 47 54.6	-4.1
WRA	Warramunga Arr	22.10	226	P	P	09 44 11.3	+0.7
	18nm,0.7s,mb4.6,baz=52,slow=10,SNR=59						
WRA				pP		09 44 37.9	
	3.5nm,0.6s,baz=49,slow=10,SNR=2.7						
WRA				S	S	09 48 04.1	+5.2
	1.3nm,0.6s,baz=49,slow=17,SNR=4.6						
WRA				ScP		09 51 26.6	
	1.8nm,0.7s,baz=50,slow=2.8,SNR=18						
ASAR	Alice Springs	24.91	220	P	P	09 44 37.6	0.0
	26nm,0.7s,mb4.9,baz=54,slow=9.0,SNR=171						
ASAR				S	S	09 48 51.6	+5.1
	0.6nm,0.6s,baz=45,slow=13,SNR=4.4						
ASAR				ScP		09 51 34.8	
	1.4nm,0.7s,baz=41,slow=3.6,SNR=10.0						
ASPA	Alice Springs	24.91	220	eP	P	09 44 37.5	-0.1
FITZ	Fitzroy Crossi	28.15	240	eP	P	09 45 06.7	-0.6
	3.2nm,0.3s,mb4.5						
FITZ	Fitzroy Crossi	28.15	240	P	P	09 45 06.4	-0.9
	3.5nm,0.3s,mb4.6,baz=42,slow=4.7,SNR=35						
STKA	Stephens Creek	28.16	198	eP	P	09 45 05.7	-1.6
	1.6nm,0.4s,mb4.1						
STKA	Stephens Creek	28.16	198	P	P	09 45 05.6	-1.7
	3.4nm,0.8s,mb4.1,baz=30,slow=6.0,SNR=7.3						
STKA				PP	PP	09 45 54.9	-9.3
	2.9nm,0.8s,baz=353,slow=15,SNR=3.3						
MSVF	Nonsavu	29.12	118	P	pP	09 45 39.2	-10
	63nm,0.4s,SNR=16						
FORT	Forrest	33.60	218	eP	P	09 45 53.8	-1.1
	17nm,0.5s,mb5.0						
MBWA	Marble Bar	34.47	239	eP	P	09 46 01.9	-0.5
	3.8nm,0.5s,mb4.4						
KLBR	Kellerberrin	40.98	226	eP	P	09 46 55.5	-1.0
	86nm,1.9s,mb5.1						
HIA	Hailar	60.62	337	eP	P	09 49 24.6	+0.7
	7.4nm,0.8s,mb4.6						
SONM	Songino Array	65.70	329	P	P	09 49 58.2	+0.9
	3.4nm,0.6s,mb4.3,baz=145,slow=4.5,SNR=20						
MKAR	Makanchi Array	79.47	319	P	P	09 51 18.9	+1.0
	1.5nm,0.5s,mb3.9,baz=105,slow=6.9,SNR=21						
ZAL	Zalesovo	80.49	327	P	P	09 51 22.6	-0.6
	1.7nm,0.3s,mb4.1,baz=235,slow=3.3,SNR=6.2						
COLA	College	82.68	22	eP	P	09 51 32.8	-1.6
	2.3nm,0.6s,mb4.1						
ILAR	Eielson Array	82.99	22	P	P	09 51 35.1	-0.9
	2.4nm,0.5s,mb4.2,baz=249,slow=5.4,SNR=35						
QSPA	South Pole Qui	84.91	180	eP	P	09 51 45.8	+0.5
	1.8nm,0.6s,mb4.0						
BVAR	Borovoye Array	88.49	323	P	P	09 52 02.9	-0.1
	1.5nm,0.6s,mb4.0,baz=117,slow=3.3,SNR=6.5						
ZRNK	Zerenda	89.30	323	eP	P	09 52 06.6	-0.3
MNV	Mina	93.61	52	eP	P	09 52 28.2	+1.1
	3.5nm,1.1s,mb4.4						
TPNV	Topopah Spring	95.04	53	eP	P	09 52 35.0	+1.3
	1.2nm,0.7s,mb4.2						
PDAR	Pinedale Array	100.19	48	P	P	09 52 56.9	-0.1
	0.5nm,0.5s,baz=261,slow=2.6,SNR=5.0						
LPAZ	La Paz	135.69	119	PKhKP		09 58 18.9	
	1.9nm,0.2s,baz=250,SNR=3.7						
LPAZ				PKP	PKPdf	09 58 32.6	+2.4
	1.5nm,0.2s,baz=226,slow=0.3,SNR=4.3						
BDFB	Brasilia	151.99	138	PKPbc	PKPdf	09 59 06.2	+8.2
	3.3nm,0.4s,baz=271,slow=3.2,SNR=5.7						
BDFB				PKPab	PKPab	09 59 16.3	-0.7
	3.2nm,0.8s,baz=156,slow=7.6,SNR=4.5						

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*IDC **08** 09:50:00.1±5.9,20.97S×169.61E,mb3.6/3,mb1 3.8/3, mb1mx3.7/9,Error ellipse: s-maj=206.0km s-min=47.7km az=145.0*

ISC 08 09:50:01.1±3.8**,22.5S**±0.5×**170.3E**±0.2**,h59**^{km}±27^{km}**,n6,**
σ**0^{s}36**/7**,mb3.7**/3**,1D,Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.62	276	⇓eP	P	09 50 56.4	+0.2
DZM				eS	S	09 51 38.5	+0.4
NOUC	Port Laguerre	3.75	275	eP	P	09 50 57.8	-0.2
NOUC				eS	S	09 51 40.8	-0.4
ASAR	Alice Springs	33.48	261	P	P	09 56 37.1	+0.2
	0.3nm,0.4s,mb3.6,baz=74,slow=9.5,SNR=5.7						
WRA	Warramunga Arr	33.60	267	P	P	09 56 37.8	-0.2
	0.5nm,1.0s,mb3.4,baz=96,slow=8.1,SNR=4.7						
SONM	Songino Array	90.41	323	P	P	10 02 57.2	0.0
	0.9nm,0.9s,mb4.1,baz=134,slow=4.2,SNR=4.8						
GERES	GERESS Array B	147.81	331	PKPbc	PKPdf	10 09 40.5	+4.3
	0.9nm,0.7s,baz=27,slow=3.0,SNR=4.9						

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*JMA **08** 10:11:56.2±0.2,37.40N×138.93E,M3.2 Broadband fault plane solution: P waves. NP1:ϕ_s84°,δ38°,λ153°. NP2: ϕ_s196°,δ74°,λ55°. Principal axes: T Plg49°, Azm68°; N Plg33°, Azm207°; P Plg21°, Azm312°;*

JMA Felt III J1.

*NIED **08** 10:12:00,37.40N×138.90E,h5^{km},Mw3.5 Best double couple: M$_0$2.08×10^{14} NP1:ϕ_s191°,δ59°,λ79°. NP2:ϕ_s32°, δ32°,λ108°.*

ISC 08 10:11:56.1±0.9**,37.40N**±0.05×**138.93E**±0.08**,h13**^{km}±6^{km}**,**
n6,σ**0^{s}17**/9**,2C-3D,Near west coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHK	Hiroka	0.17	154	⇓P	Pg	10 12 00.0	-0.2
JHK				S	Sg	10 12 03.0	+0.1
JIZZ	Izumozaki	0.22	308	⇓P	Pg	10 12 01.2	+0.1
JNS	Sasagawa	0.52	36	⇑P	Pb	10 12 06.4	-0.2
JNS				S	Sb	10 12 13.8	+0.1
JFY	Yanaizu	0.62	89	⇑P	Pb	10 12 08.4	+0.1
JKT	Katashina	0.68	158	⇓P	Pb	10 12 09.3	0.0
MAT	Matsushiro	1.03	214	P	Pb	10 12 15.0	-0.3
MAT				S	Sb	10 12 28.7	+0.2

IDC 08 10:28:57.0±6.1**,49.01S**×**121.61E,mb3.9**/2**,mb1 4.2**/2**,**
mb1mx3.8/8**,MS3.8**/6**,Ms1 3.7**/6**,ms1mx3.6**/11**,Error ellipse: s-maj=404.0km s-min=76.2km az=104.0,**
Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NWAO	Narrogin (SRO)	16.40	347	LR	LR	10 37 40.3	
	comp=Z,334nm,20.9s,baz=337,slow=32						
STKA	Stephens Creek	22.78	49	LR	LR	10 41 17.9	
	comp=Z,193nm,20.2s,baz=208,slow=32						
ASAR	Alice Springs	27.09	25	P	P	10 34 41.5	-1.7
	3.2nm,1.2s,baz=195,slow=9.9,SNR=6.7						
ASAR				LR	LR	10 44 08.6	
	comp=Z,205nm,21.0s,baz=197,slow=34						
WRA	Warramunga Arr	30.75	24	P	P	10 35 13.8	-2.2
	1.0nm,0.9s,baz=198,slow=8.1,SNR=5.3						
WRA				LR	LR	10 46 11.2	
	comp=Z,205nm,21.6s,baz=165,slow=34						
MAW	Mawson	34.30	216	LR	LR	10 46 30.3	
	comp=Z,97nm,21.9s,baz=220,slow=31						
CTA	Charters Tower	34.97	43	LR	LR	10 49 46.1	
	comp=Z,153nm,19.0s,baz=225,slow=36						
PDAR	Pinedale Array	144.41	80	PKP	PKPdf	10 48 34.1	-2.1
	1.0nm,1.1s,baz=135,slow=2.1,SNR=4.5						

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*IDC **08** 10:47:44.6±1.1,0.03N×125.36E,mb3.6/4,mb1 3.8/4, mb1mx3.7/15,Error ellipse: s-maj=135.0km s-min=20.5km az=67.0*

NEIC 08 10:47:47.0±0.7**,0.08N**×**125.53E,h15**^{km}**,mb4.2**/2**,Error ellipse: s-maj=141.0km s-min=10.5km az=67.0,**
Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRAB	Tennant Creek	21.69	157	eP	P	10 52 37.1	-2.4
	5.1nm,0.7s						
WRA	Warramunga Arr	21.69	157	P	P	10 52 37.1	-2.4
	3.1nm,0.7s,baz=335,slow=11,SNR=19						
WB2	Warramunga Arr	21.70	157	eP	P	10 52 37.0	-2.5
ASAR	Alice Springs	24.97	162	P	P	10 53 10.7	-0.9
	0.6nm,0.7s,baz=340,slow=7.7,SNR=16						
ASAR				PcP	PcP	10 56 45.0	-2.8
	0.8nm,1.0s,baz=350,slow=1.7,SNR=6.2						
ASPA	Alice Springs	24.97	162	eP	P	10 53 11.5	-0.1
SONM	Songino Array	50.39	343	P	P	10 56 43.9	-1.8
	0.3nm,0.5s,baz=158,slow=7.8,SNR=2.8						
SONM	Songino Array	50.39	343	P	P	10 56 43.9	-1.8
MKAR	Makanchi Array	59.90	327	P	P	10 57 51.9	-2.8
	0.5nm,0.4s,baz=124,slow=7.2,SNR=9.9						
MKAR	Makanchi Array	59.90	327	P	P	10 57 51.9	-2.8
KURK	Kurchatov	64.19	329	P	P	10 58 20.6	-2.9
	1.2nm,0.6s						

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*NEIC **08** 10:51:50.8±1.3,4.49S×153.60E,h15^{km},mb4.4/3,Error ellipse: s-maj=37.3km s-min=23.1km az=114.0*

*IDC **08** 10:53:05.6±16.0,5.05S×149.62E,h626^{km}±153^{km}, mb3.1/5,mb1 3.2/5,mb1mx3.0/12,Error ellipse: s-maj=202.0km s-min=28.2km az=81.0*

ISC 08 10:51:48.7±1.3**,4.5S**±0.2×**153.6E**±0.3**,h10**^{km}**,n9,**σ**0^{s}85**/9**,**
mb4.1/8**,New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	Kakadu	22.49	247	eP	P	10 56 48.2	-1.6
	2.4nm,0.3s,mb4.1						
KAKA				e		10 56 54.2	
WRAB	Tennant Creek	24.26	229	eP	P	10 57 07.8	+0.6
	4.3nm,0.4s,mb4.2						
WB2	Warramunga Arr	24.26	229	eP	P	10 57 07.4	+0.2
WB2				e		10 57 11.9	
WRA	Warramunga Arr	24.27	229	P	P	10 57 07.2	-0.1
	2.0nm,0.3s,mb4.0,baz=50,slow=10,SNR=26						
WRA				PcP	PcP	11 00 47.3	-1.6
	0.6nm,0.8s,baz=59,slow=2.4,SNR=5.3						
ASAR	Alice Springs	26.95	223	P	P	10 57 33.8	+1.4
	0.4nm,0.4s,mb3.3,baz=56,slow=9.2,SNR=5.4						
ASAR				PcP	PcP	11 00 53.5	-1.2
	0.4nm,0.7s,baz=58,slow=2.8,SNR=5.5						
MKAR	Makanchi Array	80.59	319	P	P	11 04 03.9	+0.9
	0.8nm,0.5s,mb4.0,baz=103,slow=7.3,SNR=16						
QSPA	South Pole Qui	85.51	180	eP	P	11 04 27.3	-0.2
	3.1nm,0.5s,mb4.8						
MAW	Mawson	86.20	203	P	P	11 04 30.4	-0.8
	1.3nm,0.6s,mb4.3,baz=76,slow=8.3,SNR=3.5						
BVAR	Borovoye Array	89.44	323	P	P	11 04 46.8	-0.3
	1.4nm,0.8s,mb4.3,baz=135,slow=10,SNR=6.0						

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*NEIC **08** 10:55:07.2,33.99S×72.30W,h34^{km},ML3.1(GUC),After GUC.*

GUC 08 10:55:07.2±0.7**,33.99S**×**72.30W,h34**^{km}±2^{km}**,MD3.6,**
ML3.1,5C-6D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LNV	Longovilo	0.74	88	⇓iP	P	10 55 21.1	-0.1
LNV				iS	S	10 55 31.5	+0.1
LCCH	Las Cruces	0.80	50	⇓iP	P	10 55 22.2	+0.2
LCCH				iS	S	10 55 33.1	+0.3
TACH	Talagante	1.19	74	⇑iP	P	10 55 27.8	+0.3
TACH				iS	S	10 55 43.6	+0.9
SFDO	San Fernando	1.23	121	⇑iP	P	10 55 29.2	+1.0
SFDO				iS	S	10 55 45.1	+1.2
NICH	Los Niches	1.34	139	⇓iP	P	10 55 30.4	+0.6
NICH				iS	S	10 55 48.2	+1.5
CHCH	Chadas Angostu	1.37	88	⇑iP	P	10 55 31.0	+0.8
CHCH				iS	S	10 55 49.5	+2.0
CACH	El Canelo	1.42	96	⇑iP	P	10 55 32.3	+1.4
CACH				iS	S	10 55 52.0	+3.4
SAN	Santiago	1.47	69	AMP		10 55 53.8	
	comp=N,593nm,0.8s						
PCH	Pirque	1.54	77	⇑iP	P	10 55 33.6	+1.1
PCH				iS	S	10 55 54.0	+2.5
CLCH	Cerro Calan	1.59	69	⇓iP	P	10 55 34.6	+1.3
CLCH				iS	S	10 55 55.5	+2.6
CLCH				AMP		10 56 12.5	
	comp=E,458nm,0.6s						
LMEL	Las Melosas	1.75	86	⇓iP	P	10 55 37.2	+1.6
LMEL				iS	S	10 55 59.9	+2.9
LMEL				AMP		10 56 02.7	
	comp=N,399nm,0.6s						
FCH	Farellones	1.80	69	⇓iP	P	10 55 37.7	+1.3
FCH				iS	S	10 56 01.0	+2.6
FCH				AMP		10 56 09.6	
	comp=N,210nm,0.4s						

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*IDC **08** 11:00:16.2±0.5,15.17S×173.44W,mb5.1/15,mb1 5.3/16, mb1mx5.3/17,ML4.9/1,MS5.4/14,Ms1 5.4/14, ms1mx5.4/15,Error ellipse: s-maj=23.4km s-min=14.2km az=140.0*

*CSEM **08** 11:00:17.2,15.29S×172.69W,h2^{km},mb5.6*

*SYO **08** 11:00:17.8,15.20S×173.40W,h10^{km},MB5.6,MS5.6*

*BJI **08** 11:00:17.1,15.10S×173.91W,h5^{km},mB5.9,mb5.5,Ms5.6, Msz5.5*

*NEIC **08** 11:00:18.4±2.9,15.15S×173.43W,h13^{km}±17^{km},mb5.6/66, ME5.5,MS5.6/16,MW5.8,Error ellipse: s-maj=7.1km s-min=3.5km az=137.0,Moment Tensor Solution. s57 Moment tensor: Scale 10^{17}Nm; M$_{rr}$3.63; M$_{\theta\theta}$-3.12; M$_{\phi\phi}$-0.51; M$_{r\theta}$-3.35; M$_{\theta\phi}$1.00; M$_{\phi r}$0.76; Best double couple: M$_0$4.9×10^{17} NP1:ϕ_s112°,δ23°,λ97°. NP2:ϕ_s285°, δ67°,λ87°. Principal axes: T 5.03, Plg68°, Azm189°; N -.19, Plg3°, Azm286°; P -4.84, Plg22°, Azm17°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*

*HRVD **08** 11:00:18.5±0.1,15.03S×173.04W,h12^{km},MW5.9/76, Centroid moment Tensor Solution. LP body waves: s72,c160;Mantle waves: s76,c170; Half duration: 2^{s}1 Moment tensor: Scale 10^{17}Nm; M$_{rr}$5.08±.06; M$_{\theta\theta}$-3.28±.06; M$_{\phi\phi}$-1.81±.06; M$_{r\theta}$-4.86±.17; M$_{\theta\phi}$3.50±.05; M$_{\phi r}$2.25±.18; Best double couple: M$_0$7.77×10^{17} NP1: ϕ_s143°,δ25°,λ112°. NP2:ϕ_s298°,δ67°,λ80°. Principal axes: T 7.35, Plg66°, Azm191°; N .82, Plg9°, Azm302°; P -8.18, Plg22°, Azm36°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*MOS **08** 11:00:20.5±0.9,15.09S×173.41W,h33^{km},mb5.8/43, MS5.5/19 Error ellipse: s-maj=17.0km s-min=7.5km az=57.0*

ISC 08 11:00:17.0±0.1**,15.17S**±0.03×**173.42W**±0.04**,h13**^{km}**,**
h13^{km}±1.2^{km}**:pP-P,n697,**σ**0^{s}93**/298**,mb5.4**/105**,MS5.5**/53**,**
74C-14D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	2.02	52	Pn	Pn	11 00 44.4	-6.9
MSVF	Nonsavu	8.57	252	Pn	P	11 02 32.4	+8.7
	3µm,1.3s,SNR=40						
RAR	Rarotonga	14.29	117	Pn	P	11 03 34.2	-7.1
	6.1nm,0.3s,baz=238,slow=9.5,SNR=8.0						
RAR				Sn	S	11 06 03.1	-18
	1.5nm,0.3s,baz=141,slow=17,SNR=2.8						
RAR				T		11 17 59.5	
	43nm,0.3s,baz=95,slow=11,SNR=5.6						
RAR	Rarotonga	14.29	117	eP	P	11 03 32.1	-9.2
RAR				pmax	pmax		
	comp=Z,81nm,0.8s						
RAR	Rarotonga	14.29	117	eP	P	11 03 32.1	-9.3
	comp=Z,81nm,0.8s						
DZM	Mont Dzumac	20.27	247	eP	P	11 04 56.2	+1.1
NOUC	Port Laguerre	20.40	247	eP	P	11 04 56.9	+0.4
PAE	Paea	23.00	99	eP	P	11 05 21.9	-0.9
	comp=Z,192nm,1.2s,mb5.4						
PPT	Papeete	23.00	99	P	P	11 05 22.0	-0.8
	comp=Z,92nm,1.1s,mb5.1,baz=326,slow=17,SNR=3.7						
PPT	Papeete	23.00	99	eP	P	11 05 22.3	-0.5
	comp=Z,88nm,1.2s,mb5.1						
PPT	Papeete	23.00	99	eL		11 09 30.5	
PPT				eR		11 10 52.6	
	baz=266						
TIAR	Tiarei	23.22	99	eP	P	11 05 24.3	-0.7
	comp=Z,154nm,1.0s,mb5.4						

TVO	**Taravao**	23.32	100	*e*P	P	11 05 25.4	-0.5
	comp=Z,178nm,1.2s,mb5.4						
WCZ	**Waipu Caves**	23.40	206	P	P	11 05 28.3	+1.7
WCZ	**Waipu Caves**	23.40	206	*e*P	P	11 05 28.7	+2.1
KUZ	**Kuaotunu**	23.57	202	P	P	11 05 29.4	+1.2
KUZ	**Kuaotunu**	23.57	202	*e*P	P	11 05 29.7	+1.5
MTAZ	**Motutapu**	23.91	204	P	P	11 05 33.2	+1.7
TBI	**Tubuai**	24.01	113	*e*P	P	11 05 32.4	-0.2
	comp=Z,249nm,1.0s,mb5.6						
TBI				*e*L		11 10 01.8	
TBI				*e*R		11 11 08.3	
	comp=Z,6µm,23.8s,baz=293						
OTAZ	**Otara**	24.05	203	P	P	11 05 34.6	+1.8
OTAZ	**Otara**	24.05	203	*e*P	P	11 05 34.8	+2.0
WTAZ	**Waiatarua**	24.17	204	P	P	11 05 35.7	+1.7
WTAZ	**Waiatarua**	24.17	204	*e*P	P	11 05 33.3	-0.7
MEH	**Mehetia**	24.45	100	*e*P	P	11 05 36.4	-0.5
	comp=Z,84nm,1.3s,mb5.0						
URZ	**Urewera**	24.48	198	P	P	11 05 35.8	-1.2
	comp=Z,25nm,0.6s,mb4.8,baz=2.8,slow=4.9,SNR=25						
URZ				LR	LR	11 13 47.0	
	comp=Z,12µm,19.6s,MS5.4,baz=230,slow=33						
URZ	**Urewera**	24.48	198	P	P	11 05 35.6	-1.4
URZ	**Urewera**	24.48	198	*e*P	P	11 05 37.3	+0.3
PMOR	**Pomariorio Ree**	24.65	93	*e*P	P	11 05 37.6	-1.2
	comp=Z,375nm,1.1s,mb5.8						
HIZ	**Hauiti**	25.45	202	P	P	11 05 46.2	-0.1
HIZ	**Hauiti**	25.45	202	*e*P	P	11 05 46.2	-0.1
BFZ	**Birch Farm**	26.97	198	P	P	11 05 59.4	-0.9
BFZ	**Birch Farm**	26.97	198	*e*P	P	11 05 59.4	-0.9
SNZO	**South Karori**	28.01	199	*e*P	P	11 06 10.8	+1.0
NNZ	**Nelson**	28.37	201	P	P	11 06 12.3	-0.7
NNZ	**Nelson**	28.37	201	*e*P	P	11 06 12.9	-0.1
THZ	**Tophouse**	29.02	201	P	P	11 06 18.4	-0.4
THZ	**Tophouse**	29.02	201	*e*P	P	11 06 18.9	+0.1
KHZ	**Kahutara**	29.39	200	P	P	11 06 21.4	-0.7
KHZ	**Kahutara**	29.39	200	*e*P	P	11 06 21.4	-0.7
RPZ	**Rata Peaks**	31.39	202	P	P	11 06 39.1	-0.8
	comp=Z,12nm,0.7s,mb4.9,baz=121,slow=2.7,SNR=11						
TUZ	**Tuapeka**	33.83	201	P	P	11 07 02.4	+1.3
TUZ	**Tuapeka**	33.83	201	*e*P	P	11 07 02.5	+1.4
WHZ	**Wether Hill Ro**	34.40	203	P	P	11 07 07.3	+1.3
WHZ	**Wether Hill Ro**	34.40	203	*e*P	P	11 07 05.7	-0.3
RKT	**Rikitea**	37.09	108	*e*P	P	11 07 28.1	-0.9
	comp=Z,112nm,1.3s,mb5.5						
RKT	**Rikitea**	37.09	108	*e*L		11 15 28.0	
RKT				*e*R		11 17 46.4	
	comp=Z,3µm,21.8s						
CTA	**Charters Tower**	38.67	257	*e*P	P	11 07 42.1	-0.3
	comp=Z,6.8nm,0.8s,mb4.4						
CTA				*e*S	S	11 13 39.5	+1.2
CTA	**Charters Tower**	38.67	257	P	P	11 07 41.8	-0.6
	comp=Z,9.9nm,0.9s,mb4.5,baz=82,slow=11,SNR=11						
CTA				LR	LR	11 19 46.4	
	comp=Z,3µm,20.8s,MS5.1,baz=342,slow=30						
CTAO	**Charters Tower**	38.67	257	*e*P	P	11 07 41.9	-0.5
	comp=Z,11nm,0.9s,mb4.6						
CTAO				LR	LR		
	comp=Z,4µm,22.0s,MS5.2						
CNB	**Canberra Magne**	38.88	232	*e*P	P	11 07 43.0	-0.9
	comp=Z,120nm,1.5s,mb5.4						
KIP	**Kipapa**	39.38	23	*e*P	P	11 07 48.1	-0.2
KIP				pmax	pmax		
	comp=Z,210nm,1.4s,mb5.7						
KIP	**Kipapa**	39.38	23	*e*P	P	11 07 48.1	-0.2
	comp=Z,208nm,1.4s,mb5.7						
TOO	**Toolangi**	42.60	230	*e*P	P	11 08 13.4	-1.2
	comp=Z,31nm,0.9s,mb5.0						
TOO				*e*S	S	11 14 27.6	-9.1
STKA	**Stephens Creek**	44.13	240	*e*P	P	11 08 25.8	-1.4
	comp=Z,17nm,0.8s,mb4.8						
STKA				*e*S	S	11 15 06.6	+7.5
STKA	**Stephens Creek**	44.13	240	P	P	11 08 26.8	-0.4
	comp=Z,18nm,0.8s,mb4.9,baz=79,slow=8.9,SNR=32						
STKA				LR	LR	11 23 44.1	
	comp=Z,3µm,20.9s,MS5.2,baz=79,slow=32						
WB2	**Warramunga Arr**	49.87	257	*e*P	P	11 09 09.9	-2.5
WB2				*e*S	S	11 16 10.2	-10
WRAB	**Tennant Creek**	49.87	257	*e*P	P	11 09 10.1	-2.2
	comp=Z,141nm,1.4s,mb5.8						
WRAB				LR	LR		
	comp=Z,1µm,19.0s,MS5.0						
WRA	**Warramunga Arr**	49.88	257	P	P	11 09 10.3	-2.2
	comp=Z,15nm,0.6s,mb5.2,baz=90,slow=6.9,SNR=280						
WRA				LR	LR	11 28 48.7	
	comp=Z,3µm,19.4s,MS5.3,baz=85,slow=34						
ASAR	**Alice Springs**	50.16	252	P	P	11 09 12.8	-1.8
	comp=Z,84nm,0.6s,mb5.9,baz=86,slow=8.3,SNR=474						
ASAR				LR	LR	11 28 09.2	
	comp=Z,4µm,20.8s,MS5.4,baz=92,slow=33						
ASPA	**Alice Springs**	50.16	252	*e*P	P	11 09 13.0	-1.6
KAKA	**Kakadu**	52.53	265	⇑*i*P	P	11 09 30.6	-2.1
	comp=Z,12nm,0.6s,mb5.0						
FORT	**Forrest**	55.50	243	*e*P	P	11 09 52.2	-2.1
	comp=Z,68nm,0.6s,mb5.8						
FORT				*e*S	S	11 17 37.3	0.0
FITZ	**Fitzroy Crossi**	58.24	258	*e*P	P	11 10 13.1	-0.7
	comp=Z,5.6nm,1.5s,mb4.4						
DRV	**Dumont d'Urvil**	59.81	200	P	P	11 10 23.0	-1.1
DRV				S	S	11 18 42.0	+8.7
SBA	**Scott Base**	63.48	185	*e*P	P	11 10 50.3	+1.6
	comp=Z,320nm,1.7s,mb6.2						
SBA				LR	LR		
	comp=Z,4µm,19.0s,MS5.6						
KLBR	**Kellerberrin**	64.33	242	*e*P	P	11 10 53.9	-1.0
	comp=Z,41nm,1.0s,mb5.4						
NWAO	**Narrogin (SRO)**	64.71	240	LR	LR	11 37 49.3	
	comp=Z,2µm,18.9s,MS5.3,baz=87,slow=35						
NWAO	**Narrogin (SRO)**	64.71	240	P	P	11 10 55.5	-1.9
MUN	**Mundaring**	65.62	241	*e*P	P	11 11 03.1	-0.2
	comp=Z,7.7nm,0.8s,mb4.8						
MAJO	**Matsushiro**	68.75	320	P	P	11 11 22.9	0.0
MAJO	**Matsushiro**	68.75	320	*e*P	P	11 11 22.8	-0.2
	comp=Z,151nm,1.8s,mb5.6						
MAJO				LR	LR		
	comp=Z,3µm,20.0s,MS5.5						
MAT	**Matsushiro**	68.75	320	P	P	11 11 22.7	-0.2
MAT				S	S	11 20 23.0	-1.5
MAT	**Matsushiro**	68.75	320	*e*P	P	11 11 23.0	+0.1
	comp=Z,36nm,0.8s,mb5.3						
MAT				*e*S	S	11 20 23.0	-1.5
MAT				LR	LR		
	comp=Z,3µm,21.0s,MS5.5						
CASY	**Casey**	70.61	205	*e*P	P	11 11 32.9	-0.9
CASY				LR	LR		
	comp=Z,2µm,19.0s,MS5.4						
SKR	**Severo-Kuril's**	70.80	340	*e*P	P	11 11 30.0	-5.2
SKR				*e*		11 11 55.0	
SKR				*e*S	S	11 20 49.0	+0.7
SKR				*e*		11 21 30.0	
SKR				*e*SS	SS	11 25 24.0	+1.4
SKR				pmax	pmax		
	comp=N,1µm,6.0s						
SKR				pmax	pmax		
	comp=Z,2µm,6.0s						
SKR				smax			
	comp=E,2µm,14.0s						
SKR				smax			
	comp=N,2µm,12.0s						
SKR				MLR	MLR		
	comp=N,2µm,18.0s,MS5.6						
SKR				MLR	MLR		
	comp=E,2µm,18.0s,MS5.6						
SKR				MLR	MLR		
	comp=Z,2µm,18.0s,MS5.5						
SAO	**San Andreas Ge**	71.17	42	*e*P	P	11 11 37.9	+0.2
SAO				pmax	pmax		
	comp=Z,28nm,1.1s,mb5.1						
SAO	**San Andreas Ge**	71.17	42	*e*P	P	11 11 37.6	-0.1
SAO				*e*		11 11 50.5	
LRV	**Little Rabbit**	71.25	42	*e*P	P	11 11 38.0	-0.1
LRV				*e*		11 11 52.1	
MWC	**Mount Wilson**	71.99	46	P	P	11 11 42.1	-0.5
MWC	**Mount Wilson**	71.99	46	*e*P	P	11 11 42.3	-0.3
MWC				*e*		11 11 55.9	
PET	**Petropavlovsk**	72.05	343	*c* *i*P	P	11 11 42.8	+0.1
PET				*e*		11 11 59.8	
PET				*e*		11 14 29.3	
PET				*e*PPP	PPP	11 16 05.1	-1.4
PET				*i* S	S	11 21 06.1	+3.4
PET				*e*PS	PS	11 21 39.3	+4.2
PET				*e*		11 21 46.0	
PET				*e*PPS	PPS	11 21 50.4	+2.3
PET				*e*SS	SS	11 25 45.0	+3.4
PET				pmax	pmax		
	comp=Z,44nm,2.0s,mb5.0						
PET				pmax	pmax		
	comp=Z,1µm,6.5s						
PET				pmax	pmax		
	comp=Z,300nm,11.0s						
PET				pmax	pmax		
	comp=N,100nm,11.4s						
PET				pmax	pmax		
	comp=E,100nm,11.4s						
PET				smax			
	comp=E,2µm,17.0s						
PET				smax			
	comp=E,2µm,15.7s						
PET				MLR	MLR		
	comp=Z,2µm,15.0s,MS5.4						
PET				MLR	MLR		
	comp=Z,2µm,19.0s						
BAR	**Barrett**	72.14	48	*e*P	P	11 11 43.6	0.0
CMB	**Columbia Colle**	72.60	41	P	P	11 11 45.7	-0.6
CMB				pmax	pmax		
	comp=Z,27nm,1.2s,mb5.0						
CMB	**Columbia Colle**	72.60	41	*e*P	P	11 11 45.1	-1.1
	comp=Z,27nm,1.3s,mb5.0						
CMB				*e*		11 11 59.6	
OHCM	**Honcut**	72.69	40	*e*P	P	11 11 46.0	-0.7
PFO	**Pinyon Flat Ob**	72.78	47	P	P	11 11 46.7	-0.7
PFO				pmax	pmax		
	comp=Z,60nm,1.6s,mb5.3						
PFO	**Pinyon Flat Ob**	72.78	47	*e*P	P	11 11 46.4	-1.0
	comp=Z,60nm,1.6s,mb5.3						
WDC	**Whiskeytown Da**	72.81	38	P	P	11 11 47.0	-0.4
WDC				pmax	pmax		
	comp=Z,130nm,1.5s,mb5.6						
WDC	**Whiskeytown Da**	72.81	38	*e*P	P	11 11 46.7	-0.7
	comp=Z,131nm,1.5s,mb5.6						
WDC				*e*		11 12 01.3	
ASMM	**Slate Mountain**	72.88	41	*e*P	P	11 11 45.2	-2.6
ASMM				*e*		11 12 00.2	
OMM	**Old Mammoth Mi**	73.26	42	*e*P	P	11 11 49.4	-0.7
OMM				*e*		11 12 04.0	
MTUM	**Tungsten Hills**	73.39	43	*e*P	P	11 11 50.7	-0.2
MTUM				*e*		11 12 05.3	
YBH	**Yreka Blue Hor**	73.43	37	P	P	11 11 51.0	0.0
YBH				pmax	pmax		
	comp=Z,31nm,1.0s						
YBH	**Yreka Blue Hor**	73.43	37	*e*P	P	11 11 50.8	-0.2
	comp=Z,31nm,1.1s,mb5.2						
YBH				*e*		11 12 05.4	
DAC	**Darwin (Calif)**	73.44	44	P	P	11 11 52.2	+1.0
DAC				pmax	pmax		
	comp=Z,47nm,1.7s,mb5.1						
DAC	**Darwin (Calif)**	73.44	44	*e*P	P	11 11 51.4	+0.2
	comp=Z,47nm,1.7s,mb5.1						
BEKR	**Beckwourth**	73.70	40	*e*P	P	11 11 51.9	-0.7
	comp=Z,127nm,2.0s,mb5.5						
BEKR				*e*		11 12 06.2	
WCN	**Washoe City**	73.75	41	P	P	11 11 52.9	0.0
WCN				pmax	pmax		
	comp=Z,64nm,1.4s,mb5.4						
WCN	**Washoe City**	73.75	41	*e*P	P	11 11 52.5	-0.4
	comp=Z,64nm,1.5s,mb5.3						
WCN				*e*		11 12 06.6	
HUMO	**Hull Mountain**	73.83	36	*e*P	P	11 11 52.9	-0.5
	comp=Z,88nm,1.3s,mb5.5						
PAHR	**Pah Rah Range**	74.22	40	P	P	11 11 53.5	-2.1
MNV	**Mina**	74.27	42	P	P	11 11 55.6	-0.3
MNV				pmax	pmax		
	comp=Z,200nm,1.7s,mb5.8						
MNV	**Mina**	74.27	42	*e*P	P	11 11 55.5	-0.4
	comp=Z,197nm,1.7s,mb5.8						
MNV				*e*		11 12 09.2	
HSO	**Harness Mounta**	74.34	36	P	P	11 11 57.4	+1.2
HSO	**Harness Mounta**	74.34	36	*e*P	P	11 11 56.8	+0.5
LDFC	**Landfair**	74.50	46	*e*P	P	11 11 56.7	-0.7
TPH	**Tonopah**	74.68	43	P	P	11 11 58.3	0.0
TPH				pmax	pmax		
	comp=Z,73nm,1.3s,mb5.5						
TPH	**Tonopah**	74.68	43	*e*P	P	11 11 58.2	-0.1
	comp=Z,73nm,1.4s,mb5.4						
TPH				*e*		11 12 12.0	
TPNV	**Topopah Spring**	74.71	44	P	P	11 11 58.0	-0.5
TPNV				pmax	pmax		
	comp=Z,140nm,1.8s,mb5.6						
TPNV	**Topopah Spring**	74.71	44	*e*P	P	11 11 57.8	-0.7
	comp=Z,34nm,1.2s,mb5.2						
QSPA	**South Pole Qui**	74.88	180	⇑*e*P	P	11 11 59.9	+1.2
	comp=Z,250nm,1.2s,mb6.0						
QSPA				LR	LR		
	comp=Z,1µm,21.7s,MS5.2						
COR	**Corvallis**	74.90	35	P	P	11 12 00.0	+0.6
COR				pmax	pmax		
	comp=Z,130nm,1.4s,mb5.7						
COR	**Corvallis**	74.90	35	*e*P	P	11 11 54.8	-4.6
	comp=Z,129nm,1.4s,mb5.7						
MOD	**Modoc**	74.95	38	*e*P	P	11 11 59.3	-0.5
	comp=Z,88nm,1.5s,mb5.5						
NEN	**Nelson**	74.98	46	*e*P	P	11 11 59.3	-0.8
KMOR	**Kings Mountain**	75.47	34	P	P	11 12 02.8	+0.1
SSOR	**Sweet Springs**	75.53	35	*e*P	P	11 12 02.8	-0.3
BMN	**Battle Mountai**	75.99	41	P	P	11 12 05.7	-0.1
BMN				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.9						
BMN	**Battle Mountai**	75.99	41	*e*P	P	11 12 05.1	-0.7
	comp=Z,15nm,0.8s,mb5.0						
BMW	**Boistfort Moun**	76.15	33	P	P	11 12 06.7	+0.1
BMW	**Boistfort Moun**	76.15	33	*e*P	P	11 12 05.7	-0.8
BMW				*e*		11 12 21.1	
TUC	**Tucson**	76.26	51	P	P	11 12 07.2	-0.3
TUC				pmax	pmax		
	comp=Z,55nm,1.5s,mb5.3						
TUC	**Tucson**	76.26	51	*e*P	P	11 12 07.0	-0.5
	comp=Z,55nm,1.5s,mb5.3						
TUC				*e*		11 12 21.8	
WVOR	**Wild Horse Val**	76.27	39	P	P	11 12 07.2	-0.1
WVOR				pmax	pmax		
	comp=Z,87nm,1.6s,mb5.4						
WVOR	**Wild Horse Val**	76.27	39	*e*P	P	11 12 06.8	-0.4
	comp=Z,87nm,1.6s,mb5.4						
WVOR				*e*		11 12 21.7	
CROR	**Criterion Ridg**	76.43	35	P	P	11 12 07.9	-0.3
OCWA	**Octopus Mounta**	76.49	32	*e*P	P	11 12 09.0	+0.6
	comp=Z,174nm,1.4s,mb5.8						
SHW	**Mount Saint He**	76.50	34	P	P	11 12 08.3	-0.2
INCN	**Inchon**	76.87	315	*e*P	P	11 12 11.8	+1.1
VGB	**Gordon Butte**	76.88	35	P	P	11 12 12.2	+1.6
VGB	**Gordon Butte**	76.88	35	*e*P	P	11 12 12.1	+1.5
GNW	**Green Mountain**	77.07	32	*e*P	P	11 12 11.8	+0.1
GNW				*e*		11 12 25.4	
LON	**Longmire**	77.08	34	P	P	11 12 12.4	+0.7
LON	**Longmire**	77.08	34	*e*P	P	11 12 12.2	+0.5
RSO	**Redoubt South**	77.18	10	*e*P	P	11 12 12.0	0.0
QZH	**Quanzhou**	77.32	300	P	P	11 12 13.1	-0.4
WUAZ	**Wupatki**	77.36	48	*e*P	P	11 12 13.9	+0.4
	comp=Z,67nm,1.5s,mb5.3						
ELK	**Elko**	77.42	41	P	P	11 12 13.7	0.0
ELK				pmax	pmax		
	comp=Z,79nm,1.6s						
ELK	**Elko**	77.42	41	*e*P	P	11 12 13.2	-0.5
	comp=Z,46nm,1.3s,mb5.2						
PGC	**Sidney**	77.45	31	*e*P	P	11 12 11.1	-2.7
	comp=Z,310nm,1.8s,mb5.9						
RMW	**Rattlesnake Mo**	77.53	33	P	P	11 12 14.3	+0.1
RMW	**Rattlesnake Mo**	77.53	33	P	P	11 12 15.6	+1.3
MIR	**Mirnyy**	77.63	204	α*e*P	P	11 12 14.0	-0.3
MIR				pmax	pmax		
	comp=Z,1µm,7.5s						
MIR				pmax	pmax		
	comp=Z,135nm,1.6s,mb5.6						
MIR				MLR	MLR		
	comp=Z,2µm,16.0s,MS5.5						
SFJM	**Santa Fe**	77.67	65	*e*P	P	11 12 16.0	+0.5
SLKM	**Skilak Lake**	77.69	12	P	P	11 12 15.2	+0.4
SLKM	**Skilak Lake**	77.69	12	*e*P	P	11 12 15.0	+0.2
SLKM				*e*		11 12 28.7	
SSE	**Sheshan**	77.80	307	P	P	11 12 16.1	+0.1
SSE				S	S	11 22 07.3	+0.4
SSE				SS	SS	11 27 06.5	-3.8
SSE				AMB	AMB		
	comp=Z,38nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,701nm,5.8s						
EBG	**Ellensburg**	77.85	34	P	P	11 12 17.1	+1.2
JCW	**Jim Creek**	77.93	32	P	P	11 12 17.5	+1.1
SPU	**Mount Spurr**	77.98	10	*e*P	P	11 12 14.8	-1.5
HAWA	**Hanford**	78.10	35	*e*P	P	11 12 17.3	0.0
	comp=Z,88nm,1.5s,mb5.5						
HAWA				*e*		11 12 31.4	
GBB	**Gable Butte**	78.18	35	P	P	11 12 19.0	+1.3
MVU	**Marysvale**	78.25	45	*e*P	P	11 12 18.5	+0.1
	comp=Z,48nm,1.5s,mb5.2						
GBL	**Gable Mountain**	78.26	35	P	P	11 12 18.2	0.0
MSU	**Marysvale**	78.28	45	P	P	11 12 19.4	+0.9
MSU	**Marysvale**	78.28	45	*e*P	P	11 12 18.6	+0.2
RPW	**Rockport**	78.31	32	*e*P	P	11 12 18.9	+0.4
LNOR	**Lincton Mounta**	78.48	36	P	P	11 12 20.8	+1.3
LNOR	**Lincton Mounta**	78.48	36	*e*P	P	11 12 20.6	+1.2
WTV	**Waterville**	78.66	34	P	P	11 12 21.2	+0.8
NLW	**Nelson Butte**	78.69	33	*e*P	P	11 12 20.8	+0.3
NLW				*e*		11 12 34.5	
DUG	**Dugway**	78.70	43	P	P	11 12 20.8	0.0
DUG				pmax	pmax		
	comp=Z,130nm,2.0s,mb5.5						
DUG	**Dugway**	78.70	43	*e*P	P	11 12 20.8	0.0
	comp=Z,125nm,2.0s,mb5.5						
MDJ	**Mudanjiang**	78.83	322	P	P	11 12 22.3	+0.9
MDJ				AP	pP	11 12 25.8	+0.3
MDJ				PP	PP	11 15 25.0	+3.2
MDJ				XS		11 22 32.5	
MDJ				AMB	AMB		
	comp=Z,45nm,2.0s,mb5.0						
MDJ				LR	LR		
	comp=N,634nm,20.7s,MS5.2						
MDJ				LR	LR		
	comp=E,1µm,22.2s,MS5.2						
MDJ				LR	LR		
	comp=Z,1µm,22.2s,MS5.3						
PMR	**Palmer**	78.90	12	P	P	11 12 20.3	-1.1
PMR				pmax	pmax		
	comp=Z,93nm,1.4s,mb5.5						
PMR	**Palmer**	78.90	12	*e*P	P	11 12 20.8	-0.6
PMR				LR	LR		
	comp=Z,2µm,17.0s,MS5.5						
ZAIG	**Zacatecas**	78.92	63	*i* P	P	11 12 22.5	+0.2
BGU	**Big Grassy Mou**	78.94	42	*e*P	P	11 12 22.9	+0.8
TTA	**Tatalina**	79.03	8	*e*P	P	11 12 22.3	+0.2
NLU	**North Lily Min**	79.07	43	*e*P	P	11 12 23.4	+0.6
MPU	**Maple Canyon**	79.39	44	*e*P	P	11 12 25.3	+0.7
HLID	**Hailey**	79.46	39	*e*P	P	11 12 24.6	-0.2
	comp=Z,96nm,1.3s,mb5.6						
HLID				*e*		11 12 39.4	
SPUT	**South Promonto**	79.51	42	*e*P	P	11 12 25.6	+0.5
SPUT				*e*		11 12 39.6	
HVU	**Hansel Valley**	79.55	42	P	P	11 12 25.7	+0.4
HVU	**Hansel Valley**	79.55	42	*e*P	P	11 12 25.5	+0.1
HVU				*e*		11 12 39.3	
SRU	**San Rafael**	79.69	45	*e*P	P	11 12 26.4	+0.2
DPW	**Davenport**	79.71	34	P	P	11 12 25.8	-0.3
DPW	**Davenport**	79.71	34	*e*P	P	11 12 25.9	-0.2
JLU	**Jordanelle**	79.81	43	*e*P	P	11 12 26.7	-0.1
DAU	**Daniels Canyon**	79.84	43	*e*P	P	11 12 28.2	+1.3
LAZ	**Ladron**	79.93	50	*e*P	P	11 12 28.0	+0.5
MA2	**Magadan**	79.94	342	*ce*P	P	11 12 26.4	-0.7
MA2				*e*		11 12 39.2	
MA2				*e*S	S	11 22 24.9	-4.1
MA2				*e*PS	tx	11 23 34.9	
MA2				pmax	pmax		
	comp=Z,30nm,1.6s,mb5.0						
MA2				MLR	MLR		
	comp=Z,1µm,20.0s,MS5.2						
MA2	**Magadan**	79.94	342	*e*P	P	11 12 26.1	-0.9
	comp=Z,78nm,1.6s,mb5.4						
LENM	**Lemitar**	79.94	51	*e*P	P	11 12 28.6	+1.0
NJ2	**Nanjing**	80.01	307	*e*P	P	11 12 27.3	-0.7
NJ2				XP	sP	11 12 34.4	+0.9
NJ2				PP	PP	11 15 32.0	+0.5
NJ2				PPP	PPP	11 17 22.5	0.0
NJ2				S	S	11 22 31.0	+0.7
NJ2				XS		11 22 40.0	
NJ2				AMB	AMB		
	comp=Z,420nm,5.6s						
NJ2				LR	LR		
	comp=Z,3µm,19.1s,MS5.7						
TCUT	**Toone Canyon**	80.09	43	*e*P	P	11 12 27.4	-0.9
BNM	**Barren Site**	80.20	51	*e*P	P	11 12 30.2	+1.2
HWUT	**Hardware Ranch**	80.24	42	*e*P	P	11 12 28.5	-0.6
	comp=Z,92nm,1.9s,mb5.4						
PV10	**Paradox Valley**	80.36	46	*e*P	P	11 12 29.8	0.0
LTX	**Lajitas**	80.50	56	P	P	11 12 31.8	+1.1
LTX				pmax	pmax		
	comp=Z,210nm,1.7s,mb5.8						
LTX	**Lajitas**	80.50	56	*e*P	P	11 12 31.8	+1.1
	comp=Z,162nm,1.6s,mb5.7						
TXAR	**Lajitas Array**	80.50	56	P	P	11 12 30.6	-0.1
	comp=Z,10nm,1.1s,mb4.7,baz=225,slow=5.3,SNR=53						
TXAR				LR	LR	11 42 45.7	
	comp=Z,2µm,18.8s,MS5.6,baz=230,slow=32						
NEW	**Newport**	80.53	34	P	P	11 12 31.0	+0.6
NEW				pmax	pmax		
	comp=Z,70nm,2.0s						
NEW	**Newport**	80.53	34	*e*P	P	11 12 30.3	-0.1
	comp=Z,21nm,1.2s,mb5.0						
PV01	**Paradox Valley**	80.58	46	*e*P	P	11 12 31.8	+0.9
ANMO	**Albuquerque**	80.67	50	P	P	11 12 31.6	+0.1
ANMO				pmax	pmax		
	comp=Z,110nm,1.9s						
ANMO	**Albuquerque**	80.67	50	*e*P	P	11 12 31.4	0.0
	comp=Z,29nm,1.3s,mb5.0						
CN2	**Changchun**	80.89	320	*e*P	P	11 12 33.0	+0.5
CN2				*e*XP	sP	11 12 40.0	+2.0
CN2				*e*S	S	11 22 40.7	+1.4
CN2				AMB	AMB		
	comp=Z,90nm,0.8s,mb5.8						
CN2				LR	LR		
	comp=N,2µm,11.0s,MS5.8						
CN2				LR	LR		
	comp=E,2µm,11.0s,MS5.8						
CN2				LR	LR		
	comp=Z,2µm,12.0s,MS5.6						
PPM	**Popocatepetl**	81.08	68	*e*P	P	11 12 25.0	-8.9
MCMT	**McKenzie Canyo**	81.09	39	*e*P	P	11 12 33.5	0.0
MCMT				*e*		11 12 48.1	
SNY	**Shenyang**	81.09	318	⇑P	P	11 12 34.5	+1.0
SNY				AMB	AMB		
	comp=Z,80nm,1.6s,mb5.4						
GDL2	**Guadalupe Moun**	81.10	53	*e*P	P	11 12 34.0	+0.2
GDL2				*e*		11 12 49.1	
AHID	**Auburn Hatcher**	81.12	41	*e*P	P	11 12 33.4	-0.2
	comp=Z,36nm,1.3s,mb5.1						
AHID				*e*		11 12 47.9	
DLBC	**Dease Lake**	81.49	21	*e*P	P	11 12 36.1	+0.8
DLBC				*e*		11 12 49.2	
MSO	**Missoula**	81.51	37	*e*P	P	11 12 34.6	-1.0
	comp=Z,66nm,1.6s,mb5.3						
MSO				*e*		11 12 48.4	
REDW	**Red Top Meadow**	81.57	41	*e*P	P	11 12 36.0	-0.1
REDW				*e*		11 12 50.6	
TPAW	**Teton Pass**	81.58	41	*e*P	P	11 12 36.3	+0.3
TPAW				*e*		11 12 50.9	
SNOW	**Snow King Moun**	81.69	41	*e*P	P	11 12 36.8	+0.2
SNOW				*e*		11 12 50.6	
WUWY	**Wally Ulrich**	81.73	41	*e*P	P	11 12 36.9	0.0
CPRX	**Cap Rock**	81.82	53	*e*P	P	11 12 37.7	+0.1
MOOW	**Moose Ponds**	81.83	41	*e*P	P	11 12 38.9	+1.5
LOHW	**Long Hollow**	81.86	41	*e*P	P	11 12 37.3	-0.2
CHMT	**Chamberlain Mo**	81.95	37	*e*P	P	11 12 37.3	-0.7
QLMT	**Earthquake Lak**	81.95	39	*e*P	P	11 12 38.7	+0.7
PDAR	**Pinedale Array**	82.11	42	P	P	11 12 38.8	-0.1
	comp=Z,6.7nm,0.9s,mb4.6,baz=215,slow=3.4,SNR=44						
PDAR				LR	LR	11 45 10.0	
	comp=Z,3µm,18.6s,MS5.7,baz=231,slow=33						
COLA	**College**	82.14	11	P	P	11 12 37.9	-0.6
COLA				pmax	pmax		
	comp=Z,100nm,1.0s,mb5.7						
COLA	**College**	82.14	11	*e*P	P	11 12 37.7	-0.8
	comp=Z,102nm,0.9s,mb5.8						
YMR	**Madison River**	82.16	40	*e*P	P	11 12 40.0	+0.9
ILAR	**Eielson Array**	82.22	11	P	P	11 12 38.1	-0.8
	comp=Z,49nm,1.3s,mb5.3,baz=212,slow=5.5,SNR=106						
ILAR				LR	LR	11 42 14.3	
	comp=Z,2µm,21.4s,MS5.4,baz=37,slow=31						
BOZ	**Bozeman (W)**	82.25	39	P	P	11 12 39.8	+0.3
BOZ				pmax	pmax		
	comp=Z,110nm,1.5s,mb5.6						
BOZ	**Bozeman (W)**	82.25	39	*e*P	P	11 12 39.2	-0.3
	comp=Z,112nm,1.5s,mb5.6						
SEY	**Seymchan**	82.29	345	*e*P	P	11 12 40.3	+1.0
SEY						11 12 53.3	
SEY				*e*S	S	11 22 56.7	+3.5
SEY				*e*SS	SS	11 28 15.4	-1.6

SEY				pmax	pmax		
	comp=Z,270nm,1.9s,mb5.8						
SEY				pmax	pmax		
	comp=E,60nm,1.8s						
SEY				smax			
	comp=N,1µm,17.9s						
SEY				smax			
	comp=E,4µm,20.3s						
IMA	Indian Mountai	82.34	8	P	P	11 12 39.9	+0.4
	comp=E,112nm,0.8s,mb5.8						
SDCO	Great Sand Dun	82.57	48	*e*P	P	11 12 41.7	+0.4
	comp=E,122nm,1.8s,mb5.6						
HRY	Holter Researc	82.68	38	*e*P	P	11 12 41.5	-0.1
QIZ	Qiongzhong	82.80	292	P	P	11 12 42.1	-0.8
QIZ				PP	PP	11 15 53.7	-1.4
QIZ				*e*S	S	11 22 58.1	-1.2
QIZ				XS		11 23 09.8	
QIZ				AMB	AMB		
	comp=Z,632nm,8.9s						
DAWY	Dawson	83.20	14	*e*P	P	11 12 43.7	-0.4
DAWY				*e*		11 12 58.4	
ISCO	Idaho Springs	83.38	46	P	P	11 12 45.9	+0.4
ISCO				pmax	pmax		
	comp=Z,92nm,1.8s,mb5.5						
ISCO	Idaho Springs	83.38	46	*e*P	P	11 12 45.7	+0.2
	comp=Z,92nm,1.8s,mb5.5						
JCT	Junction City	84.04	56	P	P	11 12 48.6	-0.5
JCT				pmax	pmax		
	comp=Z,24nm,1.0s,mb5.3						
JCT	Junction City	84.04	56	*e*P	P	11 12 48.5	-0.6
	comp=Z,24nm,1.0s,mb5.3						
PMSA	Palmer Station	84.40	156	*e*P	P	11 12 51.0	+1.0
	comp=Z,163nm,1.8s,mb5.9						
BJT	Baijiatuau	85.29	313	*e*P	P	11 12 56.5	+1.4
	comp=Z,274nm,1.8s,mb6.1						
BJI	Beijing	85.29	313	P	P	11 12 56.5	+1.4
BJI				S	S	11 23 20.6	-3.1
BJI				AMB	AMB		
	comp=Z,58nm,1.7s,mb5.4						
BJI				LR	LR		
	comp=N,1µm,15.6s,MS5.5						
BJI				LR	LR		
	comp=E,906nm,15.4s,MS5.5						
LAO	LASA Array	86.04	40	*e*P	P	11 12 59.2	+0.5
	comp=E,220nm,1.6s,mb6.1						
LAO				*e*		11 13 14.0	
RSSD	Black Hills	86.30	42	P	P	11 12 59.6	-0.4
RSSD				pmax	pmax		
	comp=Z,95nm,1.6s,mb5.8						
RSSD	Black Hills	86.30	42	*e*P	P	11 12 59.6	-0.4
	comp=Z,95nm,1.6s,mb5.8						
RSSD				*e*		11 13 14.4	
WMOK	Wichita Mounta	86.38	53	P	P	11 13 00.1	-0.5
WMOK				pmax	pmax		
	comp=Z,89nm,2.0s,mb5.7						
WMOK	Wichita Mounta	86.38	53	*e*P	P	11 12 59.4	-1.2
	comp=Z,89nm,2.0s,mb5.7						
ENH	Enshi	86.78	302	*e*P	P	11 13 04.2	+1.5
	comp=Z,91nm,1.7s,mb5.7						
IPM	Ipoh	86.90	276	⇓*e*P	P	11 13 04.0	+0.3
HIA	Hailar	87.00	323	*e*P	P	11 13 04.2	+0.9
	comp=Z,48nm,1.2s,mb5.6						
CBKS	Cedar Bluff	87.16	49	*e*P	P	11 13 04.0	-0.3
GYA	Guiyang	87.92	298	⇑*i*P	P	11 13 09.5	+1.2
GYA				AP	pP	11 13 15.2	+2.8
GYA				XP	sP	11 13 16.8	+3.1
GYA				PP	PP	11 16 37.6	+0.6
GYA				S	S	11 23 40.7	-8.4
GYA				AMB	AMB		
	comp=Z,20nm,1.2s,mb5.2						
GYA				AMB	AMB		
	comp=Z,630nm,5.7s						
GYA				LR	LR		
	comp=N,310nm,16.4s,MS5.1						
GYA				LR	LR		
	comp=E,500nm,17.6s,MS5.1						
GYA				LR	LR		
	comp=Z,650nm,16.8s,MS5.1						
MAW	Mawson	88.00	199	*e*P	P	11 13 08.1	+0.4
	comp=Z,16nm,0.8s,mb5.3						
MAW	Mawson	88.00	199	P	P	11 13 08.7	+1.0
	comp=Z,19nm,0.8s,mb5.4,baz=127,slow=6.3,SNR=28						
MAW				LR	LR	11 50 15.6	
	comp=Z,4µm,19.0s,MS5.8,baz=117,slow=34						
CLNS	Chul’man	88.02	331	*e*P	P	11 13 07.6	-0.4
CLNS				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.3						
CLNS				pmax	pmax		
	comp=N,9.0nm,1.2s						
CLNS				pmax	pmax		
	comp=E,7.0nm,0.8s						
DGMT	Dagmar	88.06	39	*e*P	P	11 13 08.9	+0.5
	comp=E,171nm,1.6s,mb6.0						
DGMT				*e*		11 13 23.1	
XAN	Xi’an	88.48	306	P	P	11 13 11.2	+0.4
NATX	Nacogdoches	88.62	57	*e*P	P	11 13 12.0	+0.5
	comp=E,281nm,1.8s,mb6.3						
HHC	Hu-ho-hao-te	88.85	313	*e*P	P	11 13 14.2	+1.8
HHC				AP	pP	11 13 17.7	+1.1
HHC				XP	sP	11 13 20.3	+2.4
HHC				SKS	SKS	11 23 42.2	-2.7
HHC				S	S	11 24 03.8	+6.3
HHC				XS		11 24 12.3	
HHC				AMB	AMB		
	comp=Z,8.0nm,0.6s,mb5.2						
YAK	Yakutsk	88.89	337	*e*P	P	11 13 11.8	-0.3
YAK				pmax	pmax		
	comp=Z,12nm,0.9s,mb5.2						
BTO	Baotou	89.86	312	*e*P	P	11 13 18.5	+1.3
BTO				AMB	AMB		
	comp=Z,100nm,1.6s,mb5.9						
YKA	Yellowknife Ar	89.89	23	P	P	11 13 15.9	-0.9
	comp=Z,8.6nm,0.8s,mb5.1,baz=235,slow=4.4,SNR=22						
YKA				LR	LR	11 48 24.9	
	comp=Z,3µm,19.7s,MS5.7,baz=230,slow=32						
YKW3	Yellowknife Ar	89.93	23	*e*P	P	11 13 16.2	-0.7
KMI	Kunming	90.91	296	*e*P	P	11 13 22.7	+0.3
KMI				AP	pP	11 13 26.8	+0.3
KMI				PP	PP	11 17 01.3	+0.4
KMI				SKS	SKS	11 23 52.4	-5.3
KMI				S	S	11 24 17.1	+0.6
KMI				XS		11 24 27.1	
KMI				PS	PS	11 25 29.0	-0.9
KMI				SS	SS	11 30 23.6	+0.4
KMI				SSS	SSS	11 33 59.9	-0.1
KMI				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb5.2						
KMI				AMB	AMB		
	comp=Z,666nm,7.1s						
KMI				LR	LR		
	comp=N,531nm,17.5s,MS5.2						
KMI				LR	LR		
	comp=E,651nm,18.9s,MS5.2						
KMI				LR	LR		
	comp=Z,901nm,17.5s,MS5.3						
JTS	JuntasAbangare	91.19	80	*e*P	P	11 13 25.0	+1.1
	comp=Z,132nm,1.3s,mb6.1						
JTS				*e*		11 13 41.0	
UALR	University of	91.39	54	*e*P	P	11 13 24.5	+0.1
CMAR	Chiang Mai Arr	92.52	288	LR	LR	11 50 15.9	
	comp=Z,363nm,18.8s,MS4.8,baz=110,slow=32						
SYO	Syowa Base	92.82	191	⇓P	P	11 13 29.6	-0.5
SYO	Syowa Base	92.82	191	⇓PcP	PcP	11 13 31.6	+0.5
SYO	Syowa Base	92.82	191	⇑pP	pP	11 13 32.9	-1.4
LZH	Lanzhou	93.07	306	*e*P	P	11 13 33.7	+1.6
LZH				AP	pP	11 13 39.5	+3.3
LZH				XP	sP	11 13 43.5	+6.0
LZH				SKS	SKS	11 24 05.3	-4.4
LZH				AMB	AMB		
	comp=Z,130nm,1.7s,mb6.1						
LZH				LR	LR		
	comp=E,2µm,17.9s						
LZH				LR	LR		
	comp=Z,2µm,18.1s,MS5.6						
VNA3	Neumayer Olymp	93.09	175	*e*	P	11 13 34.6	+3.3
VNA3	Neumayer Olymp	93.09	175	*e*	P	11 13 36.3	+5.0
VNA3	Neumayer Olymp	93.09	175	⇓*i*P	P	11 13 31.7	+0.4
VNA3				*e*	pP	11 13 34.6	-0.9
VNA3				*e*	pP	11 13 36.3	+0.8
SNAA	Sanae	93.14	177	*e*	P	11 13 32.5	+1.0
SNAA	Sanae	93.14	177	*e*	P	11 13 34.2	+2.7
SNAA	Sanae	93.14	177	*e*P	P	11 13 32.0	+0.5
SNAA				pmax	pmax		
	comp=Z,75nm,1.4s						
SNAA	Sanae	93.14	177	⇓*i*P	P	11 13 29.6	-1.9
SNAA				*e*	pP	11 13 32.5	-3.2
SNAA				*e*	pP	11 13 34.2	-1.5
CCM	Cathedral Cave	93.20	52	*e*P	P	11 13 31.2	-1.4
CCM				pmax	pmax		
	comp=Z,19nm,1.4s,mb5.3						
CCM	Cathedral Cave	93.20	52	*e*P	P	11 13 30.7	-2.0
	comp=Z,19nm,1.4s,mb5.3						
VNA2	Neumayer--Watz	93.58	175	*e*	P	11 13 37.2	+3.6
VNA2	Neumayer--Watz	93.58	175	*e*	P	11 13 38.9	+5.3
VNA2	Neumayer--Watz	93.58	175	P	P	11 13 34.4	+0.8
VNA2				*e*	pP	11 13 37.2	-0.6
VNA2				*e*	pP	11 13 38.9	+1.1
OXF	Oxford	93.64	55	P	P	11 13 34.9	+0.2
OXF				pmax	pmax		
	comp=Z,70nm,1.1s,mb6.0						
OXF	Oxford	93.64	55	*e*P	P	11 13 34.2	-0.5
	comp=Z,70nm,1.1s,mb6.0						
BOD	Bodaibo	93.72	329	*e*P	P	11 13 33.2	-1.3
ULM	Lac du Bonnet	93.77	39	P	P	11 13 32.3	-2.6
	comp=Z,11nm,1.1s,mb5.2,baz=230,slow=4.6,SNR=5.3						
ULM				LR	LR	11 51 22.5	
	comp=Z,4µm,19.2s,MS5.9,baz=238,slow=33						
VNA1	Neumayer--Stat	93.78	175	*e*	P	11 13 38.7	+4.2
VNA1	Neumayer--Stat	93.78	175	*e*	P	11 13 39.9	+5.4
VNA1	Neumayer--Stat	93.78	175	⇓*i*P	P	11 13 36.0	+1.5
VNA1				*e*	pP	11 13 38.7	0.0
VNA1				*e*	pP	11 13 39.9	+1.2
FVM	French Village	93.80	52	*e*P	P	11 13 34.2	-1.2
FVM				pmax	pmax		
	comp=Z,22nm,1.2s,mb5.5						
FVM	French Village	93.80	52	*e*P	P	11 13 34.2	-1.2
	comp=Z,22nm,1.2s,mb5.5						
MAIT	Maitri	94.20	182	*e*P	P	11 13 37.3	+0.9
NVL	N’lazarevskaya	94.21	182	⇑*e*P	P	11 13 33.0	-3.5
NVL				pmax	pmax		
	comp=Z,353nm,2.7s,mb6.3						
UTMT	University of	94.56	54	*e*P	P	11 13 39.2	+0.3
SONM	Songino Array	94.66	318	P	P	11 13 39.7	+0.6
	comp=Z,3.0nm,0.8s,mb4.8,baz=117,slow=2.8,SNR=18						
SONM				PP	PP	11 17 27.3	-2.4
	comp=Z,4.0nm,1.3s,baz=98,slow=8.7,SNR=4.6						
TIXI	Tiksi	94.77	344	⇓*i*P	P	11 13 35.6	-3.5
TIXI				*e*	PP	11 17 26.0	-4.0
TIXI				*i* S	SKS	11 24 12.4	-5.9
TIXI				*e*PS	PS	11 26 09.1	-3.4
TIXI				*e*SS	SS	11 31 16.8	-0.4
TIXI				pmax	pmax		
	comp=Z,24nm,1.4s,mb5.4						
JFWS	Jewell Farm	95.28	47	P	P	11 13 41.4	-0.7
JFWS	Jewell Farm	95.28	47	*e*P	P	11 13 41.3	-0.8
WVT	Waverly	95.31	54	P	P	11 13 41.8	-0.6
WVT				pmax	pmax		
	comp=Z,38nm,1.6s,mb5.6						
WVT	Waverly	95.31	54	*e*P	P	11 13 41.6	-0.7
	comp=Z,38nm,1.6s,mb5.6						
GTA	Gaotai	97.02	309	*e*P	P	11 13 51.9	+1.9
GTA				AP	pP	11 13 56.4	+2.2
GTA				XP	sP	11 13 59.0	+3.5
GTA				SKS	SKS	11 24 28.4	-2.6
GTA				S	S	11 25 14.4	+5.5
GTA				XS		11 25 22.4	
GTA				AMB	AMB		
	comp=Z,201nm,6.1s						
GTA				LR	LR		
	comp=N,366nm,19.0s,MS5.1						
GTA				LR	LR		
	comp=E,456nm,19.0s,MS5.1						
LVC	Limon Verde	97.13	116	P	P	11 13 53.1	+2.2
ZAK	Zakamensk	97.33	320	⇑*i*P	P	11 13 51.1	0.0
ZAK				*e*		11 17 44.6	
LPAZ	La Paz	99.91	110	P	P	11 14 05.3	+1.7
	comp=E,2.5nm,0.2s,mb5.3,baz=318,slow=6.4,SNR=4.2						
LPAZ				LR	LR	11 52 19.7	
	comp=E,763nm,18.2s,MS5.2,baz=48,slow=31						
WMQ	Urumqi	106.70	312	*e*PDIF	Pdif	11 14 33.0	-0.2
WMQ				PP	PP	11 19 01.2	-0.6
WMQ				PP	PP		
	comp=Z,53nm,9.0s						
WMQ				LR	LR		
	comp=N,449nm,20.2s,MS5.1						
WMQ				LR	LR		
	comp=E,285nm,21.0s,MS5.1						
ZAL	Zalesovo	109.04	322	Pdiff	Pdif	11 14 43.0	-0.2
	comp=E,0.9nm,0.3s,baz=47,slow=13,SNR=6.1						
ZAL				PKiKP		11 18 47.2	
	comp=E,1.5nm,0.4s,baz=288,slow=4.5,SNR=4.8						
ZAL	Zalesovo	109.04	322	Pdif	Pdif	11 14 43.0	-0.2
ZAL				PKPdf		11 18 47.2	
MKAR	Makanchi Array	110.65	315	Pdiff	Pdif	11 14 50.6	+0.1
	comp=E,0.4nm,0.8s,baz=124,slow=5.2,SNR=2.5						
KURK	Kurchatov	112.95	319	*e*PKiKP		11 18 51.2	
KBS	Kingsbay	116.17	359	*e*	PKKP	11 29 25.7	-25
KBS				*e*SS	SS	11 36 09.3	+0.8
KBS				AMS	AMS	12 05 13.4	
	comp=Z,465nm,20.0s,MS5.1						
BRVK	Borovoye	117.74	322	*e*PKPdf	PKPdf	11 19 04.2	-2.2
ZRNK	Zerenda	118.52	322	*e*P	PKPdf	11 19 05.2	-2.8
ARU	Arti	123.13	328	*i* PKIKP	PKPdf	11 19 14.5	-2.2
ARU				*e*		11 20 51.4	
ARU				*e*		11 26 14.7	
ARU				*e*PS	PS	11 30 49.9	-0.1
JMIC	Jan Mayen	123.45	6	*e*SS	SS	11 37 43.7	+0.9
JMIC				AMS	AMS	12 06 20.2	
	comp=Z,840nm,15.0s,MS5.5						
ARCES	ARCESS Array B	124.38	352	PKP	PKPdf	11 19 16.2	-2.7
	comp=Z,7.4nm,0.7s,slow=2.4,SNR=9.2						
APA	Apatity	124.81	348	⇓*i*PKIKP	PKPdf	11 19 15.9	-3.9
APA				pmax	pmax		
	comp=Z,110nm,1.7s						
APA				MLR	MLR		
	comp=Z,1µm,20.0s,MS5.5						
TRO	Tromso	125.02	355	*e*SS	SS	11 37 59.7	-2.9
TRO				AMS	AMS	12 06 28.0	
	comp=Z,467nm,26.0s,MS5.0						
FINES	FINESS Array B	131.71	348	PKP	PKPdf	11 19 30.5	-2.6
	comp=Z,6.7nm,1.0s,slow=3.8,SNR=6.5						
OBN	Obninsk	133.89	337	α*i*PKIKP	PKPdf	11 19 35.0	-2.3
OBN				*e*		11 19 43.5	
OBN						11 22 02.0	
OBN						11 26 46.0	
OBN				*e*SS	SS	11 39 43.1	-9.2
OBN				*e*SSS	SSS	11 44 49.8	-1.4
OBN				pmax	pmax		
	comp=Z,93nm,2.1s						
OBN				MLR	MLR		
	comp=Z,1µm,20.0s,MS5.6						
NB2	NORSAR Subarra	134.07	357	PKPdf	PKPdf	11 19 34.2	-3.3
	comp=Z,49nm,2.0s,baz=14,slow=1.8						
NB2	NORSAR Subarra	134.07	357	PKPd		11 19 34.2	
	baz=14,slow=1.8						
NB2	NORSAR Subarra	134.07	357	⇓PKP	PKPdf	11 19 34.2	-3.3
NOA	NORSAR Array B	134.07	357	PKP	PKPdf	11 19 34.8	-2.7
	comp=Z,2.3nm,0.9s,baz=13,slow=4.0,SNR=4.7						
VOR	Voronezh	135.19	332	PKIKP	PKPdf	11 19 39.0	-0.9
VOR				pmax	pmax		
	comp=Z,150nm,2.0s						
MAK	Makhachkala	135.41	317	*e*PKIKP	PKPdf	11 19 37.0	-3.5
MAK				*e*PPP	PPP	11 25 16.0	+0.5
MAK				*e*		11 32 36.0	
MAK				pmax	pmax		
	comp=Z,900nm,5.0s						
KONO	Kongsberg	135.53	358	*e*P	PKPdf	11 20 09.3	+29
KONO				AMS	AMS	12 20 57.9	
	comp=Z,756nm,18.6s,MS5.5						
GOF	Gofitskoye	137.21	322	*e*PKIKP	PKPdf	11 19 42.0	-1.7
GOF				pmax	pmax		
	comp=Z,60nm,1.4s						
TI2	Plekhanov	137.78	316	*e*PKIKP	PKPdf	11 19 44.8	-0.1
ZEI	Tsey	137.85	318	*i* PKIKP	PKPdf	11 19 44.0	-1.0
ZEI				pmax	pmax		
	comp=Z,500nm,6.0s						
ZEI				MLR	MLR		
	comp=Z,2µm,20.0s,MS5.7						
SOC	Sochi	140.01	322	*i* PKHKP		11 19 33.7	
SOC				*e*		11 26 51.9	
SOC				MLR	MLR		
	comp=Z,976nm,23.0s,MS5.5						
SOC				MLR	MLR		
	comp=N,526nm,20.0s,MS5.4						
SOC				MLR	MLR		
	comp=E,443nm,18.0s,MS5.4						
VANB	Van	140.11	313	*e*P	PKPdf	11 19 48.4	-0.8
AKASG	Malin Array Be	140.12	338	PKhKP		11 19 37.9	
	comp=E,1.0nm,0.4s,baz=34,slow=3.4,SNR=7.8						
AKASG				PKP	PKPdf	11 19 46.0	-2.9
	comp=E,5.4nm,0.7s,baz=21,slow=2.1,SNR=18						
ANN	Anapa	140.60	325	*e*PKIKP	PKPdf	11 19 45.1	-4.9
ANN				*e*		11 26 50.3	
ANN				pmax	pmax		
	comp=Z,28nm,1.7s						
EZC	Erzincan	142.02	317	*e*P	PKPdf	11 19 50.0	-2.6
EZC	Erzincan	142.02	317	P	PKPdf	11 19 50.0	-2.6
ADH	Angra Heroismo	142.18	45	*i* LR	LR	12 06 00.0	
MZLS	Mizel	142.66	290	P	PKPdf	11 19 49.8	-4.3
LSZ	Lusaka	142.97	216	*e*PKPpre		11 19 48.9	
KIS	Kishinev	143.26	334	*e*PKHKP		11 19 47.0	
KIS				*e*		11 23 06.0	
KIS				pmax	pmax		
	comp=Z,600nm,6.0s						
KIS				pmax	pmax		
	comp=Z,600nm,6.0s						
WTSB	Winterswijk	143.29	360	*e*PKP	PKPdf	11 19 49.6	-4.7
	comp=Z,26nm,1.3s						
OJC	Ojcow	143.43	346	*e*PKIKP	PKPdf	11 19 50.3	-4.3
OJC				*e*		11 23 00.3	
OJC				MLR	MLR		
	comp=Z,1µm,20.0s,MS5.6						
OJC	Ojcow	143.43	346	*e*PKPdf	PKPdf	11 19 50.3	-4.3
OJC				*e*PP	PP	11 23 00.3	-6.3
OJC				*e*SKSdf		11 27 03.7	
OJC				*e*SS	SS	11 41 49.5	+4.9
OJC				LR	LR		
	comp=Z,1µm,20.0s,MS5.6						
KSP	Ksiaz	143.56	350	*e*PKP	PKPdf	11 19 50.0	-4.8
KSP				*e*PKPdf	PKPdf	11 19 53.7	-1.1
KSP				LR	LR		
	comp=Z,2µm,22.1s,MS5.9						
CLL	Collm	143.58	353	*e*PKIKP	PKPdf	11 19 51.0	-3.8
CLL				*e**PPKP		11 20 08.0	
CLL				*e*PP	PP	11 23 07.0	-0.5
CLL				*e*PKS	PKS	11 23 36.0	+10
CLL				*e*		11 35 51.0	
CLL				*e*SS	SS	11 42 07.0	+21
CLL				*e*SSS	SSS	11 47 16.0	+6.0
CLL				*e*		11 51 08.0	
CLL	Collm	143.58	353	*e*PKIKP	PKPdf	11 19 51.0	-3.8
CLL				MLR	MLR		
	comp=Z,1µm,18.8s,MS5.7						
CLL	Collm	143.58	353	*e*PKP	PKPdf	11 19 51.0	-3.8
CLL				*e*pPKP		11 20 08.0	
CLL				*e*PKS	PKS	11 23 36.0	+10
CLL				LR	LR		
	comp=Z,1µm,18.8s,MS5.7						
MYA	Malataya	143.68	316	P	PKPbc	11 19 52.7	+1.8
MYA	Malataya	143.68	316	P	PKPbc	11 19 52.7	+1.8
KVT	Kavak	143.68	321	*e*P	PKPbc	11 19 51.2	+0.4
KVT	Kavak	143.68	321	P	PKPbc	11 19 51.2	+0.4
MALT	Malatya	143.68	316	P	PKPbc	11 19 52.0	+1.1
MALT	Malatya	143.68	316	P	PKPbc	11 19 52.0	+1.1
PDA	Ponta Delgada	143.70	46	*e*LR	LR	12 08 14.0	
SVSK	Karacayir	143.76	319	*e*P	PKPbc	11 19 51.2	+0.1
SVSK	Karacayir	143.76	319	P	PKPbc	11 19 51.2	+0.1
BRG	Berggiesshubel	143.89	352	*e*PKIKP	PKPdf	11 19 51.9	-3.5
BRG				*e*		11 19 59.4	
BRG				pmax	pmax		
	comp=Z,16nm,1.1s						
BRG	Berggiesshubel	143.89	352	*e*P	PKPbc	11 19 51.9	+0.8
BRG				*e*		11 19 59.4	
BRG				*e*		11 20 09.5	
RAC	Raciborz	143.92	347	*e*PKIKP	PKPdf	11 19 51.9	-3.6
RAC				MLR	MLR		
	comp=Z,2µm,21.8s,MS5.8						
UPC	Upice	143.93	350	*e*PKP	PKPdf	11 19 52.3	-3.2
UPC				*e*pPKP		11 19 58.7	
KOLS	Kolonicke sedl	143.95	342	*e*PKP	PKPdf	11 19 50.5	-5.0
DPC	Dobruska-Polom	144.03	349	*e*PKP	PKPdf	11 19 51.6	-4.0
DPC				*e*pPKP		11 19 57.9	
DPC				*e*x	x	11 20 09.0	
DPC				*e*SS	SS	11 41 51.4	-0.4
DPC				*e*x	x	11 47 08.6	
DPC				LR		12 30 30.0	
	comp=Z,1.2nm,17.8s						
DPC	Dobruska-Polom	144.03	349	*e*PKIKP	PKPdf	11 19 51.6	-4.0
DPC				*e*		11 19 57.9	
DPC				*e*SS	SS	11 41 51.4	-0.4
DPC				*e*		11 47 08.6	
DPC				MLR	MLR		
	comp=Z,1µm,17.8s,MS5.7						
PVCC	Panska Ves	144.14	351	*e*PKP	PKPdf	11 19 52.1	-3.7
PVCC				LR		12 24 50.0	
	comp=Z,1.3nm,19.1s						
BOYT	Boyabat	144.16	322	*i* P	PKPbc	11 19 53.6	+1.4
OKC	Ostrava-Krasne	144.16	347	*e*PKP	PKPdf	11 19 51.8	-4.1
OKC				*e*x	x	11 20 08.8	
OKC				*e*SS	SS	11 42 00.5	+7.2
OKC				LR		12 23 10.0	
	comp=Z,0.9nm,19.8s						
OKC	Ostrava-Krasne	144.16	347	*e*PKIKP	PKPdf	11 19 51.8	-4.1
OKC				MLR	MLR		
	comp=Z,900nm,19.8s,MS5.5						
ARSS	Ar Rass	144.16	293	P	PKPbc	11 19 53.3	+0.7
TSUM	Tsumeb	144.17	198	*e*PKPdf	PKPdf	11 19 53.9	-2.9
BYBT	Boyabat	144.21	323	P	PKPbc	11 19 54.0	+1.7
BYBT	Boyabat	144.21	323	P	PKPbc	11 19 54.0	+1.7
BZK	Bozkurt	144.34	324	*e*P	PKPbc	11 19 54.6	+1.9
BZK	Bozkurt	144.34	324	P	PKPbc	11 19 54.6	+1.9
MORC	Moravsky Berou	144.34	348	*e*PKPdf	PKPdf	11 19 53.0	-3.2
MOX	Moxa	144.38	354	*i* P	PKPbc	11 19 53.1	+0.6
	comp=Z,logA/T=1.7						
MOX				SS	SS	11 42 25.0	+29
MOX				L		12 27 26.0	
MOX	Moxa	144.38	354	*e*PKIKP	PKPdf	11 19 53.1	-3.2
MOX				pmax	pmax		
	comp=Z,86nm,1.7s						
MOX				MLR	MLR		
	comp=Z,900nm,21.0s,MS5.5						
HGN	Heimansgroeve	144.49	1	*e*PKP	PKPdf	11 19 49.7	-6.8
	comp=Z,21nm,1.3s						
HGN				*e*x	x	11 20 08.6	
AFFS	‘Afif	144.67	290	P	PKPbc	11 19 54.9	+0.7
PRU	Pruhonice	144.67	351	*e*PKP	PKPdf	11 19 54.1	-2.7
PRU				*e*x	x	11 20 10.9	
PRU				*e*SS	SS	11 42 01.9	+3.0
PRU				*e*x	x	11 47 32.1	
PRU				LR		12 25 40.0	
	comp=Z,1.6nm,17.0s						
PRU	Pruhonice	144.67	351	*e*PKIKP	PKPdf	11 19 54.1	-2.7
PRU				*e*		11 20 10.9	
PRU				*e*SS	SS	11 42 01.9	+3.0
PRU				MLR	MLR		
	comp=Z,2µm,17.0s,MS5.9						
NKC	Novy Kostel	144.70	353	*e*PKP	PKPdf	11 19 54.0	-2.9
NKC				*e*pPKP		11 20 01.2	
NKC				*e*x	x	11 20 11.0	
NKC				*e*x	x	11 42 40.0	
NKC				*e*x	x	11 47 34.1	
NKC				LR		12 35 40.0	
	comp=Z,1.5nm,17.0s						
NKC	Novy Kostel	144.70	353	*e*PKIKP	PKPdf	11 19 54.0	-2.9
NKC				*e*		11 20 01.2	
NKC				*e*SS	SS	11 42 40.0	+41
NKC				MLR	MLR		
	comp=Z,2µm,17.0s,MS5.8						
CTKT	Corum	144.72	321	*i* P	PKPbc	11 19 55.4	+1.6
GZT	Gaziantep	144.76	315	*i* P	PKPbc	11 19 55.3	+1.3
KECS	Kecovo	144.86	344	*i* PKP	PKPdf	11 19 54.5	-2.7
TOS	Tosya	144.91	323	*i* P	PKPbc	11 19 57.1	+2.8
TOS	Tosya	144.91	323	P	PKPbc	11 19 57.1	+2.8
BALT	Daday	144.96	324	*i* P	PKPbc	11 19 55.6	+1.2
KAHT	Ahir Dag	145.09	316	*i* P	PKPbc	11 19 56.5	+1.7
GAZ	Gaziantep	145.09	315	*i* P	PKPbc	11 19 57.2	+2.3
GAZ	Gaziantep	145.09	315	P	PKPbc	11 19 57.2	+2.3
BNN	Bunyan	145.10	318	*i* P	PKPbc	11 19 57.3	+2.4
BNN	Bunyan	145.10	318	P	PKPbc	11 19 57.3	+2.4
GIVF	Givet	145.13	2	⇑*i*PKP1	PKPbc	11 19 55.1	+0.5
	comp=Z,249nm,1.5s						
HILS	Ha’il	145.13	296	P	PKPbc	11 19 57.1	+1.8
BAIF	Baives	145.15	3	⇑*i*PKP1	PKPbc	11 19 55.2	+0.6
	comp=Z,281nm,1.5s						
VYHS	Vyhne	145.27	346	*i* PKP	PKPdf	11 19 56.3	-1.6
KOLL	Kolacno	145.29	346	*i* PKP	PKPdf	11 19 56.6	-1.3
GRA1	Grafenberg Arr	145.36	355	*e*PKPbc	PKPbc	11 19 56.2	+1.0
GRA1				*e*pPKPbc		11 20 12.4	
GRA1				LR	LR		
	comp=Z,1µm,20.7s,MS5.6						
GRF	Grafenberg Arr	145.36	355	*e*PKIKP	PKPdf	11 19 56.2	-1.8

GRF				e		11 20 12.4	
GRF				MLR	MLR		
	comp=Z,1µm,20.7s,MS5.6						
GRFO	Grafenberg	145.36	355	PKPbc	PKPbc	11 19 56.4	+1.2
ABH	Alteburg	145.37	359	⇑eP	PKPbc	11 19 56.1	+0.9
CANT	Cankiri	145.42	322	i P	PKPbc	11 19 58.6	+3.0
CANT	Cankiri	145.42	322	P	PKPbc	11 19 58.6	+3.0
PSZ	Piszkesteto	145.53	344	⇑ePKP/p		11 19 57.0	
PSZ	Piszkesteto	145.53	344	ePKPdf	PKPdf	11 19 57.0	-1.4
SAFT	Safranbolu	145.55	324	P	PKPbc	11 19 57.6	+1.7
SAFT	Safranbolu	145.55	324	P	PKPbc	11 19 57.6	+1.7
RUP	Ruppelstein	145.56	359	⇑eP	PKPbc	11 19 57.0	+1.3
SMOL	Smolenice	145.57	347	ePKP	PKPdf	11 19 57.7	-0.7
SMOL				e		11 20 13.4	
WLF	Walferdange	145.59	0	ePKPdf	PKPdf	11 19 57.3	-1.1
TOD	Tromm	145.61	357	⇑eP	PKPbc	11 19 56.9	+1.1
ELDT	Eldivan	145.61	322	i P	PKPbc	11 19 57.4	+1.3
KMBO	Kilima Mbogo	145.62	245	PKPbc	PKPbc	11 19 58.6	+1.7
	comp=Z,12nm,1.1s,baz=77,slow=2.8,SNR=22						
KMBO	Kilima Mbogo	145.62	245	ePKPdf	PKPdf	11 19 58.6	-1.0
KHC	Kasperske Hory	145.65	352	ePKP	PKPdf	11 19 57.1	-1.4
KHC				epPKP		11 20 03.0	
KHC				ex	x	11 20 13.3	
KHC				eSS	SS	11 42 08.6	-1.1
KHC				ex	x	11 47 37.3	
KHC				LR		12 27 40.0	
	comp=Z,1.3nm,19.5s						
KHC	Kasperske Hory	145.65	352	ePKP2	PKPab	11 19 57.1	-0.7
KHC				eSS	SS	11 42 08.6	-1.1
KHC				e		11 47 37.3	
KHC				MLR	MLR		
	comp=Z,1µm,19.5s,MS5.7						
WET	Wettzell	145.73	353	ePKP2	PKPab	11 19 57.2	-0.9
SWS	Schriesheim	145.73	358	eP	PKPbc	11 19 57.3	+1.2
NAMS	An Nimas	145.76	282	P	PKPbc	11 20 00.0	+2.9
AVNT	Avonos	145.78	319	i P	PKPbc	11 19 57.6	+1.0
SIND	Sindeldorf	145.82	356	⇑eP	PKPbc	11 19 57.3	+1.0
GEC2	GERESS Array S	145.91	352	ePKPbc	PKPbc	11 19 58.2	+1.6
GEC2				epPKPbc		11 20 13.9	
GERES	GERESS Array B	145.91	352	PKPbc	PKPbc	11 19 58.2	+1.6
	comp=Z,15nm,0.8s,baz=45,slow=1.9,SNR=65						
KTD	Kalmit	145.92	358	eP	PKPbc	11 19 58.1	+1.5
ZST	Bratislava	145.94	347	i PKP	PKPdf	11 19 59.1	0.0
ZST				e		11 20 14.8	
ROSF	Rostrenen	145.94	12	⇑iPKP1	PKPbc	11 19 57.1	+0.4
	comp=Z,312nm,1.5s						
BRTR	Keskin Array B	145.96	321	PKP	PKPdf	11 19 57.1	-2.2
	comp=Z,95nm,0.8s,baz=126,slow=1.9,SNR=272						
BRTR				PKPbc	PKPbc	11 19 58.6	+1.6
	comp=Z,98nm,0.8s,baz=105,slow=2.4,SNR=272						
FLN	La Foliniere	146.00	8	⇑iPKP1	PKPbc	11 19 57.4	+0.6
	comp=Z,511nm,1.6s						
FLN				eR			
	comp=Z,3µm,22.2s						
SRO	Srobarova	146.03	346	ePKP	PKPdf	11 19 59.7	+0.5
SRO				e		11 20 14.8	
VKA	Vienna	146.03	348	⇑iPKP	PKPdf	11 19 57.8	-1.4
COBT	Iskenderun	146.09	314	i P	PKPbc	11 19 58.7	+1.3
KAMT	Kaman	146.14	321	P	PKPbc	11 19 57.5	+0.1
KAMT	Kaman	146.14	321	P	PKPbc	11 19 57.5	+0.1
SGMF	Saint Gilles	146.16	11	⇑iPKP1	PKPbc	11 19 57.8	+0.6
	comp=Z,892nm,1.7s						
CEYT	Ceyhan	146.18	316	eP	PKPbc	11 19 59.9	+2.3
CEYT	Ceyhan	146.18	316	P	PKPbc	11 19 59.9	+2.3
LDF	La Druitiere	146.22	8	⇑iPKP1	PKPbc	11 19 58.1	+0.8
	comp=Z,489nm,1.7s						
LANF	Langenberg	146.27	359	PKP	PKPdf	11 19 59.3	-0.3
GRR	Gorron	146.31	9	⇑iPKP1	PKPbc	11 19 58.6	+1.1
	comp=Z,594nm,1.6s						
BLJS	Baljurashi	146.32	283	P	PKPbc	11 20 00.3	+1.9
NIG	Nigde	146.32	318	P	PKPbc	11 19 59.1	+1.2
NIG	Nigde	146.32	318	P	PKPbc	11 19 59.1	+1.2
SGKT	Sivrigoynuk	146.35	324	i P	PKPbc	11 19 58.6	+0.7
QUIF	Quistinic	146.36	12	⇑iPKP1	PKPbc	11 19 58.4	+0.7
	comp=Z,641nm,1.9s						
HTY	Hatay	146.37	314	eP	PKPbc	11 19 59.7	+1.6
HTY	Hatay	146.37	314	P	PKPbc	11 19 59.7	+1.6
LOD	Lodumlu	146.38	322	eP	PKPbc	11 20 01.0	+3.0
LOD	Lodumlu	146.38	322	P	PKPbc	11 20 01.0	+3.0
STU	Stuttgart	146.42	357	ePKPdf	PKPdf	11 19 57.0	-2.9
LBG	Lerchenberg	146.55	357	eP	PKPbc	11 19 58.3	+0.2
KMR	Kremsmunster	146.62	351	c iP	PKPbc	11 19 59.0	+0.8
KMR	Kremsmunster	146.62	351	⇑iP	PKPbc	11 19 59.0	+0.8
STR	Strasbourg	146.66	359	PKP	PKPdf	11 20 00.6	+0.3
BUCH	Bad Urach	146.73	357	⇑eP	PKPbc	11 19 58.8	+0.3
MEZF	Maizieres J'vi	146.74	2	⇑iPKP1	PKPbc	11 20 00.5	+2.0
	comp=Z,567nm,1.6s						
MOA	Molln	146.80	351	⇑iP	PKPbc	11 19 58.8	+0.1
HENT	Hendek	146.83	325	i P	PKPbc	11 19 59.7	+0.7
WLS	Welschbruch	146.84	359	PKP	PKPdf	11 20 00.7	+0.1
CDF	Champ du Feu	146.84	359	⇑iPKP1	PKPbc	11 20 00.7	+2.0
	comp=Z,739nm,1.8s						
FUR	Furstenfeldbru	146.87	354	ePKPbc	PKPbc	11 20 00.8	+2.0
FUR				epPKPbc		11 20 17.1	
BFO	Black Forest	146.90	358	ePKPbc	PKPbc	11 20 00.5	+1.6
BFO				epPKPbc		11 20 17.1	
MDU	Mudurnu	146.90	324	P	PKPbc	11 20 01.6	+2.5
MDU	Mudurnu	146.90	324	P	PKPbc	11 20 01.6	+2.4
THEF	They Montfort	147.03	1	PKP	PKPdf	11 20 01.2	+0.3
ECH	Echery	147.04	359	PKP	PKPdf	11 20 00.7	-0.2
LIBD	Limburg	147.10	359	eP	PKPdf	11 20 01.8	+0.8
LIBD	Limburg	147.10	359	PKP	PKPdf	11 20 01.7	+0.7
SPAK	Spaichingen	147.11	357	eP	PKPdf	11 20 01.5	+0.5
GUT	Gutenstein	147.12	357	⇑eP	PKPdf	11 19 59.4	-1.7
ARSA	Arzberg	147.16	349	⇑iP	PKPdf	11 19 59.5	-1.6
HAU	Haudompre	147.26	0	⇑iPKP1	PKPdf	11 20 01.7	+0.4
	comp=Z,301nm,1.4s						
HAU				eR			
	comp=Z,1µm,20.0s						
KIZ	Kirchzarten	147.29	358	⇑eP	PKPdf	11 20 01.6	+0.3
KIZ	Kirchzarten	147.29	358	P	PKPdf	11 20 00.7	-0.6
FELD	Feldberg	147.37	358	eP	PKPdf	11 20 02.2	+0.7
MOF	Molkenrain	147.41	359	PKP	PKPdf	11 20 01.9	+0.4
HINF	Hinteralfeld	147.44	360	⇑iPKP1	PKPdf	11 20 02.2	+0.6
	comp=Z,218nm,1.8s						
UBR	Uberruh	147.45	356	eP	PKPdf	11 19 59.9	-1.7
SZH	Strazhica	147.46	333	i P	PKPdf	11 20 03.7	+1.9
MEST	Erdemli	147.49	316	i P	PKPdf	11 20 02.9	+0.9
HRT	Hereke	147.50	326	eP	PKPdf	11 20 02.8	+0.9
HRT	Hereke	147.50	326	P	PKPdf	11 20 02.8	+0.9
KIZT	Kizilcal	147.56	322	P	PKPdf	11 20 00.7	-1.4
ISK	Istanbul-Kandi	147.65	327	P	PKPdf	11 19 57.0	-5.1
WATA	Walderalm	147.66	354	⇑iP	PKPdf	11 20 03.0	+1.1
KBA	Koelnbreinsper	147.69	351	⇑iP	PKPdf	11 20 00.1	-1.9
KBRS	Khaybar	147.69	294	P	PKPdf	11 19 52.7	-10
MOTA	Moosalm	147.70	354	⇓iP	PKPdf	11 20 01.0	-1.0
WTTA	Wattenberg	147.72	354	⇑iP	PKPdf	11 20 00.5	-1.5
ESKT	Eskisehir	147.74	323	i P	PKPdf	11 20 01.5	-0.8
ESKT	Eskisehir	147.74	323	P	PKPdf	11 20 03.4	+1.1
ESKT	Eskisehir	147.74	323	P	PKPdf	11 20 03.4	+1.1
PVL	Pavlikeni	147.76	334	i P	PKPdf	11 20 04.5	+2.3
BBS	Basel-Blauen	147.79	359	eP	PKPdf	11 20 03.3	+1.2
SQTA	Sankt Quirin	147.81	354	⇓iP	PKPdf	11 20 01.5	-0.7
HYF	Humbligny	147.83	5	ePKP1	PKPdf	11 20 03.5	+1.3
YLV	Yalova	147.84	326	eP	PKPdf	11 19 58.6	-3.9
YLV	Yalova	147.84	326	P	PKPdf	11 19 58.6	-3.9
KONT	Konya--Tatoy	147.85	320	eP	PKPdf	11 20 04.0	+1.4
KONT	Konya--Tatoy	147.85	320	P	PKPdf	11 20 04.0	+1.4
DAVA	Damuels	147.86	356	⇑iP	PKPdf	11 20 00.1	-2.2
LOMF	Lomont	147.91	360	PKP	PKPdf	11 20 03.1	+0.8
CTT	Catalca	147.92	328	eP	PKPdf	11 20 04.1	+1.5
CTT	Catalca	147.92	328	P	PKPdf	11 20 04.1	+1.5
IKL	Isikli	147.99	316	eP	PKPdf	11 20 04.8	+2.0
IKL	Isikli	147.99	316	P	PKPdf	11 20 04.8	+1.9
HRI	Mount Hermon	148.04	310	P	PKPdf	11 20 05.4	+2.4
OBKA	Obir	148.05	350	⇑iP	PKPdf	11 20 00.6	-2.0
SSF	Saint Saulge	148.10	4	⇑iPKP1	PKPdf	11 20 04.2	+1.5
	comp=Z,310nm,1.4s						
KSHT	Keshet	148.11	309	P	PKPdf	11 20 05.6	+2.5
MFF	Saint Martin d	148.16	9	⇑iPKP1	PKPdf	11 20 03.9	+1.1
	comp=Z,310nm,1.4s						
EDRB	Edirne	148.22	331	eP	PKPdf	11 20 04.4	+1.4
EDRB	Edirne	148.22	331	P	PKPdf	11 20 04.4	+1.4
ULDT	Uludag	148.27	326	i P	PKPdf	11 20 01.8	-1.4
PTCC	Patocco-Chiusa	148.34	351	ePKP	PKPdf	11 20 00.7	-2.4
AVF	Avril sur Loir	148.36	4	⇑iPKP1	PKPdf	11 20 04.5	+1.4
	comp=Z,274nm,1.5s						
HDMB	Hadim	148.36	318	eP	PKPdf	11 20 00.2	-3.2
HDMB	Hadim	148.36	318	P	PKPdf	11 20 00.2	-3.2
SVIS	Svilajnac	148.41	340	⇑iP	PKPdf	11 20 05.3	+2.1
ALT	Altintas	148.48	324	P	PKPdf	11 20 05.6	+2.1
ALT	Altintas	148.48	324	P	PKPdf	11 20 05.6	+2.0
GMNA	Gemona	148.49	351	ePKP	PKPdf	11 20 01.2	-2.1
LJU	Ljubljana	148.50	349	ePKPdf	PKPdf	11 20 01.5	-1.8
LJU				ePKPbc	PKPdf	11 20 05.1	+1.7
LJU				ePKPab	PKPab	11 20 08.9	-0.2
LJU				e		11 20 21.3	
SMF	Signal de Mont	148.53	4	⇑iPKP1	PKPdf	11 20 05.1	+1.7
	comp=Z,289nm,1.5s						
HNTI	Hanita	148.54	310	P	PKPdf	11 20 06.5	+2.7
BGF	Bois d'Agland	148.55	5	⇑iPKP1	PKPdf	11 20 05.2	+1.8
	comp=Z,439nm,1.6s						
BOLS	Boljevac	148.56	338	⇓iP	PKPdf	11 20 00.7	-2.8
VOY	Vojsko	148.62	350	ePKPdf	PKPdf	11 20 00.3	-3.2
VOY				ePKPbc	PKPdf	11 20 04.8	+1.3
BRMO	Bormio	148.63	355	ePKP	PKPdf	11 20 05.5	+2.0
CABF	La Chapelle	148.65	1	⇑iPKP1	PKPdf	11 20 06.2	+2.6
	comp=Z,428nm,1.4s						
MMLI	Mount Malkishu	148.65	308	P	PKPdf	11 20 07.0	+3.0
HMDT	Nahal Hemdat	148.65	308	P	PKPdf	11 20 07.0	+3.0
SISC	Sisak	148.68	347	i PKP	PKPdf	11 20 02.5	-1.1
TCF	Toulx Ste Croi	148.76	6	⇑iPKP1	PKPdf	11 20 05.5	+1.8
	comp=Z,183nm,1.5s						
MFT	Murefte	148.76	329	eP	PKPdf	11 20 02.8	-1.1
MFT	Murefte	148.76	329	P	PKPdf	11 20 02.8	-1.1
BOJS	Bojanci	148.89	348	ePKPdf	PKPdf	11 20 02.6	-1.3
BOJS				i PKPbc	PKPdf	11 20 06.5	+2.5
BOJS				ePKPab	PKPab	11 20 10.1	-0.7
BOJS				i		11 20 22.2	
OFRI	'Ofer	148.90	309	P	PKPdf	11 20 07.3	+2.9
OFRI	'Ofer	148.90	309	⇓P	PKPdf	11 20 07.3	+2.9
CTI	Castel Tesino	148.92	353	ePKP	PKPdf	11 20 02.6	-1.4
CSS	Prodhromos	148.93	314	eP	PKPdf	11 20 07.2	+2.8
DST	Dursunbey	148.93	326	P	PKPdf	11 20 04.7	+0.5
DST	Dursunbey	148.93	326	P	PKPdf	11 20 04.7	+0.5
OG01	Vacheresse	148.93	360	PKP	PKPdf	11 20 07.0	+3.0
GRUS	Gruza	148.94	340	⇓iP	PKPdf	11 20 02.4	-1.7
TRI	Trieste	148.96	350	ePKP	PKPdf	11 20 02.6	-1.5
DIVS	Divcibare	148.99	341	⇑iP	PKPdf	11 20 02.9	-1.2
KDZ	Kurdzhali	148.99	332	i P	PKPdf	11 20 07.5	+3.2
SLTI	Sal'it	149.03	308	P	PKPdf	11 20 07.5	+2.9
MABI	Malga Bissina	149.03	355	ePKP	PKPdf	11 20 02.6	-1.6
DRGI	Dragot	149.04	307	P	PKPdf	11 20 07.7	+3.0
ISP	Isparta	149.05	321	eP	PKPdf	11 20 01.8	-2.7
ISP	Isparta	149.05	321	P	PKPdf	11 20 01.8	-2.7
YNBS	Yanbu' al Bahr	149.12	292	P	PKPdf	11 20 08.9	+3.9
BTOK	Tokmak	149.13	327	i P	PKPdf	11 20 08.1	+3.5
LEF	Lefka	149.15	315	P	PKPdf	11 20 08.1	+3.4
VTS	Vitosha	149.16	336	i P	PKPdf	11 20 07.5	+3.0
MZDA	Masada	149.18	306	P	PKPdf	11 20 08.0	+3.1
OG05	Jujurieux	149.21	2	PKP	PKPdf	11 20 07.5	+3.0
RZN	Rozhen	149.27	333	i P	PKPdf	11 20 07.5	+2.8
MCGN	Macugnaga	149.28	358	ePKP	PKPdf	11 20 03.5	-1.1
BALB	Balikesir	149.30	327	eP	PKPdf	11 20 07.4	+2.6
VERF	Verneugheol	149.32	6	PKP	PKPdf	11 20 07.1	+2.4
VAI	Varese	149.34	357	ePKP	PKPdf	11 20 03.1	-1.6
PYM	Petit Puy Mans	149.37	5	PKP	PKPdf	11 20 06.8	+2.1
BARS	Barje	149.49	338	⇑iP	PKPdf	11 20 07.8	+2.7
EPON	Pontenova	149.57	20	P	PKPdf	11 20 04.8	-0.3
NVSS	Nova Varos 2	149.61	341	⇑iP	PKPdf	11 20 04.3	-0.9
ZFRI	Zfri	149.64	305	P	PKPdf	11 20 09.2	+3.5
COLF	Collangettes	149.65	4	PKP	PKPdf	11 20 08.4	+3.2
RJF	Les Rejaudoux	149.66	7	⇑iPKP1	PKPdf	11 20 08.0	+2.8
	comp=Z,355nm,1.7s						
RJF				eR			
	comp=Z,3µm,22.0s						
FRNF	Fournols	149.69	6	PKP	PKPdf	11 20 08.6	+3.3
TRAV		149.74	358	P	PKPdf	11 20 04.6	-0.7
LPL	La Plagne	149.75	360	⇑iPKP1	PKPdf	11 20 09.5	+4.1
	comp=Z,706nm,1.9s						
MANT	Manisa	149.75	324	i P	PKPdf	11 20 08.8	+3.2
LPG	La Plagne	149.76	360	⇑iPKP1	PKPdf	11 20 09.6	+4.2
	comp=Z,666nm,1.8s						
MMB	Musomiste	149.78	334	i P	PKPdf	11 20 08.5	+3.0
LSD	Ceresole Reale	149.80	359	P	PKPdf	11 20 04.8	-0.7
KKB	Krupnik	149.81	335	i P	PKPdf	11 20 07.3	+1.7
PRNI	Paran	149.86	305	P	PKPdf	11 20 09.8	+3.8
NVLJ	Novalja	149.87	348	i P	PKPdf	11 20 03.4	-2.2
AKS	Akhisar	149.89	326	i P	PKPdf	11 20 09.5	+3.7
AKS	Akhisar	149.89	326	P	PKPdf	11 20 09.5	+3.7
LBL	Lubilhac	149.90	5	PKP	PKPdf	11 20 09.6	+4.0
LFF	La Frestale	149.91	8	⇑iPKP1	PKPdf	11 20 08.7	+3.1
	comp=Z,314nm,1.6s						
DNZL	Cakiroluk	150.02	323	i P	PKPdf	11 20 09.9	+3.9
GDM	Grand'Maison	150.06	1	PKP	PKPdf	11 20 10.2	+4.4
CAF	Calviac	150.09	6	⇑iPKP1	PKPdf	11 20 09.3	+3.4
	comp=Z,205nm,1.6s						
KZIT	Kziot	150.10	306	P	PKPdf	11 20 10.3	+3.9
RSP	Reno Superiore	150.11	359	P	PKPdf	11 20 05.2	-0.7
ELL	Elmali	150.12	320	eP	PKPdf	11 20 09.7	+3.5
ELL	Elmali	150.12	320	P	PKPdf	11 20 09.7	+3.4
MBH	Mount Berech	150.15	304	P	PKPdf	11 20 10.4	+3.9
EIL	Elat	150.17	304	P	PKPdf	11 20 10.5	+4.0
AYVA	Ayvalik	150.17	328	i P	PKPdf	11 20 08.8	+2.6
KMTI	Karmit	150.18	305	P	PKPdf	11 20 10.2	+3.7
BNI	Bardonecchia	150.21	360	ePKPdf	PKPdf	11 20 05.3	-0.8
BNI				ePKPbc	PKPdf	11 20 09.8	+3.7
BNI				ePKPab	PKPab	11 20 15.3	-0.9
FENE	Fenestrelle	150.23	359	P	PKPdf	11 20 05.2	-0.9
ORIF	Oris-en-Rattie	150.34	1	⇑iPKP1	PKPdf	11 20 10.5	+4.2
	comp=Z,148nm,1.3s						
ORIF				eR			
	comp=Z,2µm,17.2s						
RRL	Cesana Torines	150.34	360	P	PKPdf	11 20 06.0	-0.3
SKO	Skopje	150.37	337	ePKIKP	PKPdf	11 20 05.0	-1.4
SKO				⇑iPKHKP		11 20 10.3	
	comp=Z,0.1nm,1.0s						
BOB	Bobbio (Coli)	150.40	356	ePKP	PKPdf	11 20 04.0	-2.4
ERUA	La Rua	150.41	21	P	PKPdf	11 20 08.2	+1.8
BHB	Bricherasio	150.42	359	P	PKPdf	11 20 05.0	-1.4
VAY	Valandovo	150.48	335	i PKIKP	PKPdf	11 20 05.5	-1.1
KDAG	Bornova	150.53	326	i P	PKPdf	11 20 10.0	+3.2
IZM	Izmir	150.53	326	eP	PKPdf	11 20 09.7	+2.9
IZM	Izmir	150.53	326	P	PKPdf	11 20 09.7	+2.9
MBDF	Montbardon	150.54	360	⇑iPKP1	PKPdf	11 20 10.9	+4.3
	comp=Z,319nm,1.6s						
ELOB	Lobios	150.54	23	P	PKPdf	11 20 02.6	-4.1
GRAM		150.62	355	P	PKPdf	11 20 04.7	-2.0
ERBM	Eremo	150.66	354	ePKP	PKPdf	11 20 07.8	+1.0
OCF	Saint Nazaire	150.66	2	PKP	PKPdf	11 20 11.6	+4.8
OG26	St.-Nazaire-De	150.66	2	PKP	PKPdf	11 20 11.6	+4.8
ZCCA	Zocca	150.67	354	ePKP	PKPdf	11 20 06.6	-0.2
PCP	Pian Castagno	150.67	357	P	PKPdf	11 20 05.3	-1.5
AYDN	Tasoluk	150.71	324	i P	PKPdf	11 20 11.5	+4.4
GSCL	Gusciola	150.71	354	ePKP	PKPdf	11 20 06.6	-0.3
CODM		150.74	355	P	PKPdf	11 20 04.6	-2.3
ELAN	Lanestosa	150.75	15	P	PKPdf	11 20 06.0	-1.0
VALM		150.75	355	P	PKPdf	11 20 04.0	-3.0
PZZ	Prazzo	150.75	359	P	PKPdf	11 20 06.0	-0.9
SURF	Saint Ours	150.78	360	PKP	PKPdf	11 20 12.2	+5.2
STON	Ston	150.79	343	i P	PKPdf	11 20 10.1	+3.1
BACM		150.83	355	P	PKPdf	11 20 04.1	-2.9
FNVD	Fontana Vidola	150.84	353	ePKP	PKPdf	11 20 05.4	-1.6
YER	Yerkesik	150.84	323	eP	PKPdf	11 20 12.0	+4.7
YER	Yerkesik	150.84	323	P	PKPdf	11 20 12.0	+4.7
DALT	Dalyan (Mudla)	150.88	322	eP	PKPdf	11 20 06.0	-1.4
DALT	Dalyan (Mudla)	150.88	322	P	PKPdf	11 20 06.0	-1.4
VLC	Villacollemand	150.92	354	ePKPbc	PKPdf	11 20 10.2	+3.0
ECAL	Calabor	150.95	21	P	PKPdf	11 20 10.4	+3.1
ROB	Roburent	150.95	358	P	PKPdf	11 20 05.8	-1.4
VINC	Vinca	150.96	355	P	PKPdf	11 20 04.0	-3.3
SFI	Santa Sofia	151.01	352	ePKP	PKPdf	11 20 05.8	-1.5
STV2	Anna di Valdie	151.01	359	P	PKPdf	11 20 05.8	-1.5
STV	Sta Anna Valdi	151.01	359	P	PKPdf	11 20 05.5	-1.8
FIN	Finale Ligure	151.02	358	P	PKPdf	11 20 04.2	-3.1
MLSB	Milas	151.02	323	eP	PKPdf	11 20 04.4	-3.2
MLSB	Milas	151.02	323	P	PKPdf	11 20 04.4	-3.2
ENR	Entracque	151.03	359	P	PKPdf	11 20 05.6	-1.7
PGD	Poggio Sodo	151.05	352	ePKP	PKPdf	11 20 07.8	+0.4
PBRG	Braganca	151.07	21	ePKPbc	PKPdf	11 20 11.5	+4.0
LASF	Ste Croix	151.09	4	⇑iPKP1	PKPdf	11 20 12.2	+4.8
	comp=Z,298nm,1.7s						
RORO		151.12	358	P	PKPdf	11 20 05.1	-2.4
MAIM		151.16	354	P	PKPdf	11 20 04.0	-3.6
MONE	Monesi	151.17	358	P	PKPdf	11 20 05.6	-2.0
EALK	Alkurruntz	151.20	12	P	PKPdf	11 20 07.9	+0.3
AUTN	L'Aution	151.26	359	PKP	PKPdf	11 20 12.8	+5.1
SAOF	Saorge	151.26	359	PKP	PKPdf	11 20 12.3	+4.6
SMRF	Simiane la Rot	151.27	2	⇑iPKP1	PKPdf	11 20 13.0	+5.3
	comp=Z,482nm,1.7s						
QSH	Qafa e Shtames	151.31	339	i p	PKPdf	11 20 14.0	+6.1
IMI	Imperia	151.33	358	ePKP	PKPdf	11 20 06.8	-1.0
OHR	Ohrid	151.35	337	⇑iPKIKP	PKPdf	11 20 06.0	-1.9
OHR				⇑iPKHKP		11 20 12.3	
SJPF	Ste Jean	151.36	12	ePKP1	PKPdf	11 20 12.3	+4.4
	comp=Z,123nm,1.5s						
MVIF	Mont Vial	151.36	359	PKP	PKPdf	11 20 12.5	+4.7
AURF	Auriere	151.37	359	PKP	PKPdf	11 20 12.3	+4.4
BDRM	Kayabasi	151.37	324	i P	PKPdf	11 20 12.4	+4.3
SBF	Sospel	151.39	359	⇑iPKP1	PKPdf	11 20 12.1	+4.2
	comp=Z,528nm,1.8s						
NEGI	Negi	151.40	358	P	PKPdf	11 20 05.3	-2.6
MBAR	Mbarara	151.43	239	ePKPbc	PKPdf	11 20 12.3	+3.4
CSNT	Castellina Chi	151.50	353	ePKP	PKPdf	11 20 05.5	-2.6
CALN	Calern	151.51	360	PKP	PKPdf	11 20 12.9	+4.8
REVF	Revere	151.51	359	PKP	PKPdf	11 20 12.3	+4.2
MTLF	Montolieu	151.68	7	⇑iPKP1	PKPdf	11 20 13.1	+4.8
	comp=Z,277nm,1.9s						
ETSF	Etsaut	151.69	11	⇑iPKP1	PKPdf	11 20 13.5	+5.1
	comp=Z,131nm,1.3s						
FRF	La Foret Royal	151.70	360	⇑iPKP1	PKPdf	11 20 13.0	+4.6
	comp=Z,395nm,1.8s						
EPF	Esparros	151.72	10	⇑iPKP1	PKPdf	11 20 13.0	+4.6
	comp=Z,173nm,1.9s						
NRCA	Norcia	151.86	350	ePKP	PKPdf	11 20 06.8	-1.8
LMR	La Mourre	151.93	0	⇑iPKP1	PKPdf	11 20 13.5	+4.8
	comp=Z,253nm,1.6s						
MTE	Manteigas	152.01	23	ePKPdf	PKPdf	11 20 06.5	-2.4
MTE				ePKPbc	PKPdf	11 20 13.5	+4.6
MTE				e-		11 48 41.9	
MTE				eLQ		12 03 45.6	
MTE				eLR	LR	12 10 59.0	
	comp=Z,2µm,19.3s						
MTE	Manteigas	152.01	23	ePKPbc	PKPdf	11 20 13.4	+4.5
AQU	L'Aquila	152.28	349	PKPbc	PKPdf	11 20 14.3	+5.0
AQU				ePKPab	PKPab	11 20 24.9	-0.1
PTOM	Tomar	152.33	25	ePKPbc	PKPdf	11 20 14.4	+5.0
MNS	Montasola	152.37	350	ePKP	PKPdf	11 20 07.8	-1.6
INTR	Introdacqua	152.51	348	ePKP	PKPdf	11 20 03.3	-6.3
PCBR	Castelo Branco	152.51	24	ePKPdf	PKPdf	11 20 08.2	-1.5
PCBR				ePKPbc	PKPdf	11 20 14.9	+5.2
PLOU	Loures	152.62	27	ePKPdf	PKPdf	11 20 09.4	-0.4
PLOU				ePKPbc	PKPdf	11 20 15.0	+5.2
EJON	La Jonquera	152.63	6	P	PKPdf	11 20 04.8	-4.9
PGF	Pioggiola	152.63	356	⇑iPKP1	PKPdf	11 20 14.9	+5.2
	comp=Z,351nm,1.6s						
CERT	Cerreto	152.75	350	ePKP	PKPdf	11 20 06.6	-3.4
EMIR	Miracle	152.99	8	P	PKPdf	11 20 10.5	+0.2
EVO	Evora	153.41	26	ePKIKP	PKPdf	11 20 09.7	-1.2
EVO				eR			
	comp=Z,3µm,23.0s						
EBAD	Badajoz	153.63	24	P	PKPdf	11 20 09.3	-1.9
PBEJ	Beja	153.89	27	ePKPdf	PKPdf	11 20 07.4	-4.2
ESDC	Sonseca Array	153.90	19	PKP	PKPdf	11 20 10.6	-1.0
	comp=Z,0.3nm,0.3s,baz=342,slow=4.1,SNR=3.7						
ESDC				PKPbc	PKPdf	11 20 17.3	+5.7
	comp=Z,3.4nm,0.9s,baz=334,slow=1.7,SNR=7.0						
ESDC				PKPab	PKPab	11 20 31.3	-0.5
	comp=Z,5.1nm,0.8s,baz=323,slow=3.0,SNR=10						
ESDC	Sonseca Array	153.90	19	P	PKPdf	11 20 07.1	-4.5
ESDC				PKP	PKPdf	11 20 10.6	-1.0
ESDC				PKPbc	PKPdf	11 20 17.3	+5.7
ESDC				PKPab	PKPab	11 20 31.3	-0.5
PTEO	Sao Teotonio	153.91	28	ePKPdf	PKPdf	11 20 11.6	-0.1
MGR	Morigerati	153.92	344	ePKP	PKPdf	11 20 08.4	-3.2
EMOS	Mosqueruela	154.15	12	P	PKPdf	11 20 12.7	+0.8
TIP	Timpagrande	154.46	341	ePKPdf	PKPdf	11 20 10.5	-1.9
TIP				ePKPbc	PKPdf	11 20 19.1	+6.7
EGRO	El Granado	154.47	27	P	PKPdf	11 20 11.6	-0.8
PALC	Alcoutim	154.53	27	ePKPdf	PKPdf	11 20 12.6	+0.1
EMIN	Mina Concepcio	154.61	25	P	PKPdf	11 20 11.6	-1.0
GRI	Girifalco	154.89	342	ePKP	PKPdf	11 20 11.3	-1.6
EADA	Adamuz	155.06	21	P	PKPdf	11 20 11.6	-1.6
ESPR	Espera	155.72	25	P	PKPdf	11 20 10.5	-3.6
EQES	Quesada	155.89	19	P	PKPdf	11 20 11.6	-2.7
EMIJ	Mijas	156.41	23	P	PKPdf	11 20 12.7	-2.3
LIC	Lamto	165.55	127	⇑iPKIKP	PKPdf	11 20 23.0	-2.6
	comp=Z,65nm,1.3s						
LIC	Lamto	165.55	127	ePKIKP	PKPdf	11 20 23.0	-2.6
	comp=Z,116nm,2.0s						
LIC				ePKP1	PKPab	11 21 21.4	-1.5
TIC	Toumodi	165.81	125	ePKIKP	PKPdf	11 20 23.2	-2.6
	comp=Z,170nm,1.5s						
TIC				ePKP1	PKPab	11 21 22.7	-1.3
KIC	Kosan Boka	165.86	127	ePKIKP	PKPdf	11 20 23.2	-2.7
	comp=Z,375nm,2.0s						
KIC				ePKP1	PKPab	11 21 23.0	-1.2
DBIC	Dimbokro	165.96	126	PKP	PKPdf	11 20 23.3	-2.6
	comp=Z,7.2nm,1.1s,baz=257,slow=1.4,SNR=4.8						
DBIC				PKPab	PKPab	11 21 24.0	-0.7
	comp=Z,17nm,1.0s,baz=198,slow=3.8,SNR=9.1						
DBIC	Dimbokro	165.96	126	PKPdf	PKPdf	11 20 23.2	-2.7
DBIC				PKPab	PKPab	11 21 23.6	-1.0
DBIC				PP	PP	11 25 09.7	-3.3

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*IDC **08** 11:52:14.5±0.9, 14.99S×173.52W, mb4.0/8, mb1 4.3/8, mb1mx4.2/13, MS3.9/1, Ms1 3.9/1, ms1mx3.4/19, Error ellipse: s-maj=46.4km s-min=20.1km az=138.0*

*NEIC **08** 11:52:20.2±0.3, 14.97S×173.58W, h35^{km}, mb4.5/3, Error ellipse: s-maj=16.2km s-min=8.1km az=136.0*

ISC 08 11:52:18.4±0.5**, 15.0S**±0.1×**173.6W**±0.1**, h33**^{km}**, n21, σ0**^{s}**61**/19**, mb4.1**/11**, MS3.9**/1**, Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	Rarotonga	14.57	117	T		12 10 01.8	
	11nm,0.3s,baz=78,slow=15,SNR=3.7						
URZ	Urewera	24.60	198	P	P	11 57 36.6	-0.3
	2.9nm,0.7s,mb3.9,baz=229,slow=9.3,SNR=3.1						
STKA	Stephens Creek	44.05	239	P	P	12 00 25.5	+0.4
	1.4nm,0.5s,mb4.0,baz=67,slow=7.3,SNR=3.3						
WB2	Warramunga Arr	49.71	256	eP	P	12 01 09.7	+0.1
WRAB	Tennant Creek	49.71	256	P	P	12 01 08.8	-0.8
WRA	Warramunga Arr	49.72	256	P	P	12 01 09.5	-0.2
	0.7nm,0.7s,mb3.8,baz=96,slow=6.8,SNR=18						
ASAR	Alice Springs	50.03	252	P	P	12 01 11.4	-0.6
	4.2nm,0.6s,mb4.7,baz=87,slow=8.3,SNR=57						
ASAR				LR	LR	12 21 39.9	
	comp=Z,123nm,21.6s,MS3.9,baz=272,slow=35						
ASPA	Alice Springs	50.03	252	eP	P	12 01 11.7	-0.3
MBWA	Marble Bar	63.26	254	P	P	12 02 47.6	+1.2
SBA	Scott Base	63.66	185	eP	P	12 02 48.1	-0.1
	4.8nm,1.0s,mb4.5						
QSPA	South Pole Qui	75.08	180	eP	P	12 03 58.7	+0.6
	2.6nm,0.8s,mb4.2						
PV10	Paradox Valley	80.38	46	eP	P	12 04 27.1	-1.1
TXAR	Lajitas Array	80.56	56	P	P	12 04 28.6	-0.9
	0.6nm,0.8s,mb3.5,baz=225,slow=5.3,SNR=6.4						
MCMT	McKenzie Canyo	81.06	39	eP	P	12 04 32.4	+0.6
COLA	College	81.98	11	eP	P	12 04 36.3	+0.2
	9.2nm,0.9s,mb4.7						
ILAR	Eielson Array	82.06	11	P	P	12 04 36.2	-0.2
	1.5nm,0.7s,mb4.0,baz=230,slow=6.4,SNR=34						
PDAR	Pinedale Array	82.10	42	P	P	12 04 37.0	-0.1
	0.6nm,0.8s,mb3.6,baz=189,slow=3.6,SNR=5.6						
HRY	Holter Researc	82.64	38	eP	P	12 04 40.1	+0.2
DAWY	Dawson	83.06	14	eP	P	12 04 42.6	+1.0
MAW	Mawson	88.13	199	P	P	12 05 06.9	+0.4
	1.3nm,0.7s,mb4.3,baz=145,slow=11,SNR=3.4						
GERES	GERESS Array B	145.68	351	PKPbc	PKPbc	12 11 55.8	+1.7
	0.2nm,0.3s,baz=14,slow=4.0,SNR=3.9						

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*ATH **08** 11:54:10.0, 37.16N×20.86E, h8^{km}±4^{km}, MD3.6/5*

*NEIC **08** 11:54:11.3, 37.19N×20.93E, h13^{km}, MD3.6(ATH), After ATH.*

ISC 08 11:54:06.2±2.5**, 37.0N**±0.1×**20.7E**±0.2**, h5**^{km}±12^{km}**, n9, σ0**^{s}**70**/11**, 2D, Central Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	Ithomi	0.97	78	ePG	Pg	11 54 25.8	+0.1
ITM				eSB	Sb	11 54 38.3	+0.1
VLS	Valsamata	1.19	355	ePg	Pg	11 54 30.0	0.0
VLS				eSb	Sg	11 54 46.7	+0.8
RLS	Riolos of Patr	1.22	28	ePG	Pn	11 54 29.1	-0.8
VLI	Veliai	1.79	98	ePG	Pg	11 54 42.3	+0.4
KYTH	Kithira	1.98	110	ePN	Pg	11 54 45.9	+0.1
EVR	Evrytania	2.10	23	⇓iPG	Pg	11 54 47.0	-1.2
EVR	Evrytania	2.10	23	⇓iPg	Pg	11 54 47.1	-1.1
LKR	Lokris	2.44	47	ePN	Pb	11 54 49.7	-0.7
NEO	Neokhori	3.04	40	ePB	Pn	11 54 57.2	+1.3

JMA 08 11:59:32.2, 41.26N×140.82E, h12^{km}±1^{km}**, M3.7, 2C-5D**

Broadband fault plane solution: P waves. NP1:ϕ_s64°, δ56°,λ162°. **NP2:**ϕ_s164°,δ75°,λ35°. **Principal axes:** T Plg35°, Azm29°; N Plg52°, Azm184°; P Plg12°, Azm290°;
Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JOT	**Ohata**	**0.21**	**55**	⇓P	Pg	11 59 36.9	0.0
JOT				*e*S	Sg	11 59 40.1	0.0
JSI2	**Shiura 2**	**0.37**	**237**	⇑P	Pg	11 59 39.4	-0.5
JSI2				*e*S	Sg	11 59 44.4	-0.6
JSR	**Shiriuchi**	**0.41**	**312**	⇓P	Pg	11 59 40.3	-0.3
JSR				*e*S	Sg	11 59 46.1	-0.1
JTM	**Tenmabayashi**	**0.51**	**158**	⇓P	Pb	11 59 41.8	-0.8
JTM				*e*S	Sg	11 59 48.6	-0.9
JIW	**Iwasaki**	**0.91**	**223**	⇑P	Pb	11 59 48.9	-0.5
JIW				*e*S	Sb	12 00 00.7	-0.5
JYM2	**Yakumo 2**	**0.92**	**339**	⇓P	Pb	11 59 49.2	-0.4
JYM2				*e*S	Sb	12 00 01.6	0.0
JANG	**Nango**	**1.03**	**149**	⇓P	Pb	11 59 50.8	-0.7
JAH	**Hinai**	**1.08**	**188**	P	Pb	11 59 51.8	-0.5

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*IDC **08** 12:01:27.6±4.0, 12.03S×117.51E, mb3.9/1, mb1 3.5/4, mb1mx3.4/13, ML3.0/3 Error ellipse: s-maj=253.0km s-min=25.4km az=45.0*
*DJA **08** 12:01:34.9±0.9, 10.77S×116.31E, h80^{km}, ML4.7/2, Error ellipse: s-maj=20.9km s-min=17.1km az=39.0*
NEIC 08 12:01:28.8±1.3**, 12.25S×117.38E, h10^{km}, mb3.8**/2**, 1C-7D, Error ellipse: s-maj=23.9km s-min=17.4km az=49.0, South of Sumbawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**3.94**	**342**	⇓*e*Pn	Px	12 02 10.1	
	416nm,0.2s						
KEDI	**Kedomdong**	**3.94**	**342**	*e*Pg	Px	12 02 11.0	
KEDI				⇓*e*Sn	Sx	12 02 36.6	
RATI	**Rata**	**3.95**	**332**	⇓*e*Pn	Px	12 02 09.3	
RATI				⇓*e*Sn	Sx	12 02 33.9	
INGI	**Ingas**	**4.06**	**327**	⇓*e*Pn	Px	12 02 09.5	
	330nm,0.2s						
INGI				⇓*e*Sn	Sx	12 02 36.0	
KELI	**Kelakatan**	**4.91**	**324**	⇓*e*Pn	Px	12 02 22.2	
KELI				⇑*e*Sn	Sx	12 02 56.1	
MBWA	**Marble Bar**	**9.14**	**166**	*e*P	P	12 03 39.1	-4.7
FITZ	**Fitzroy Crossi**	**9.87**	**127**	Pn	P	12 03 51.6	-2.4
	0.2nm,0.3s,baz=315,slow=5.7,SNR=6.7						
FITZ				Sn	Sn	12 05 40.7	-5.2
	0.4nm,0.3s,baz=15,slow=21,SNR=11						
WRA	**Warramunga Arr**	**17.99**	**117**	P	P	12 05 38.9	-2.0
	0.1nm,0.3s,baz=292,slow=13,SNR=6.6						
WRA				S	S	12 08 53.4	-5.6
	0.1nm,0.3s,baz=290,slow=24,SNR=7.5						
WRAB	**Tennant Creek**	**18.00**	**117**	P	P	12 05 38.9	-2.0
	5.4nm,1.3s						
ASAR	**Alice Springs**	**19.37**	**128**	P	P	12 05 55.6	-2.0
	0.0nm,0.3s,baz=300,slow=10,SNR=4.7						
ASAR				S	S	12 09 27.4	-2.7
	0.1nm,0.3s,baz=301,slow=24,SNR=10.0						
NWAO	**Narrogin (SRO)**	**20.58**	**180**	*e*P	P	12 06 09.4	-1.2
	8.2nm,0.8s						
MKAR	**Makanchi Array**	**66.65**	**335**	P	P	12 12 19.1	-2.7
	0.5nm,0.4s,baz=153,slow=7.2,SNR=7.6						

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*JMA **08** 12:09:58.5±0.2, 37.83N×142.32E, h43^{km}±3^{km}, M3.9*
ISC 08 12:09:59.5±2.1**, 37.85N**±0.06×**142.2E**±0.1**, h29**^{km}±10^{km}**,**
n13, σ0^{s}58/21**, 6D, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.91**	**312**	⇓P	**Pb**	**12 10 16.4**	**-0.2**
JIO				S	**Sb**	**12 10 28.7**	**+0.3**
JMM	**Marumori**	**1.13**	**271**	⇓P	**Pn**	**12 10 19.3**	**-0.3**
JMM				S	**Sb**	**12 10 34.3**	**-0.3**
JFK	**Kawauchi**	**1.17**	**246**	⇓P	**Pn**	**12 10 19.5**	**-0.7**
JFK				*e*S	**Sn**	**12 10 34.8**	**-0.5**
JOU	**Okura**	**1.33**	**293**	⇓P	**Pn**	**12 10 22.7**	**+0.3**
JMK	**Ichinoseki**	**1.35**	**325**	⇓P	**Pn**	**12 10 22.6**	**-0.1**
JMK				*e*S	**Sn**	**12 10 40.2**	**+0.4**
JFT	**Otama**	**1.53**	**258**	P	**Pn**	**12 10 25.8**	**+0.5**
JFT				*e*S	**Sn**	**12 10 45.0**	**+0.6**
JYS	**Shirataka**	**1.74**	**283**	P	**Pn**	**12 10 28.6**	**+0.3**
JOM	**Ohasama**	**1.77**	**336**	⇓P	**Pn**	**12 10 28.2**	**-0.6**
JOM				*e*S	**Sn**	**12 10 50.1**	**-0.5**
JYK	**Kaneyama**	**1.81**	**307**	P	**Pn**	**12 10 29.4**	**+0.1**
JFY	**Yanaizu**	**2.04**	**258**	P	**Pn**	**12 10 32.9**	**+0.2**
JYA	**Atsumi**	**2.11**	**291**	P	**Pn**	**12 10 34.0**	**+0.4**
MAT	**Matsushiro**	**3.46**	**249**	P	**Pn**	**12 10 53.6**	**+0.8**
MAT				S	**Sn**	**12 11 30.7**	**-2.6**
MAT	**Matsushiro**	**3.46**	**249**	P	**Pn**	**12 10 54.0**	**+1.2**
MAT				*e*S	**Sn**	**12 11 38.0**	**+4.7**

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*MOS **08** 12:28:33.8±1.4, 52.39N×157.47E, h147^{km}, mb4.1/4, Error ellipse: s-maj=26.9km s-min=9.5km az=65.6*
*KRSC **08** 12:28:34.3±1.1, 52.33N×157.74E, h150^{km}±2^{km}, ML4.5*
*BJI **08** 12:28:35.4, 52.50N×157.30E, h141^{km}, mb4.9*
*NEIC **08** 12:28:35.5±0.6, 52.53N×157.31E, h142^{km}±5^{km}, mb4.4/21, Error ellipse: s-maj=8.4km s-min=4.0km az=155.0*
*IDC **08** 12:28:39.4±4.6, 52.60N×157.20E, h179^{km}±44^{km}, mb3.8/12, mb1 4.1/13, mb1mx3.8/25, Error ellipse: s-maj=20.1km s-min=10.7km az=152.0*
ISC 08 12:28:34.7±0.2**, 52.41N**±0.03×**157.51E**±0.07**, h150**^{km}±1^{km}**,**
n100, σ0^{s}97/140**, mb4.2**/30**, 1C-1D, Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GRL	**Gorelyy**	**0.37**	**67**	*i* P	**P**	**12 28 55.9**	**-0.1**
GRL				*i* S	**S**	**12 29 12.6**	**+0.3**
MIPR	**Malaya Ipel'ka**	**0.48**	**254**	*e*P	**P**	**12 28 56.9**	**+0.4**
MIPR				*e*S	**S**	**12 29 13.1**	**-0.1**
APC	**Apacha**	**0.56**	**338**	*i* P	**P**	**12 28 57.3**	**+0.4**
APC				*i* S	**S**	**12 29 13.6**	**-0.3**
APC				Smax			
	3µm,0.9s						
RUS	**Russkaya**	**0.61**	**87**	*i* P	**P**	**12 28 56.2**	**-1.0**
RUS				*e*S	**S**	**12 29 12.0**	**-2.4**
PET	**Petropavlovsk**	**0.93**	**48**	P	**P**	**12 28 58.9**	**-0.2**
PET				S	**S**	**12 29 16.9**	**-1.0**
PET	**Petropavlovsk**	**0.93**	**48**	*i* P	**P**	**12 28 58.8**	**-0.3**
PET				*e*S	**S**	**12 29 16.7**	**-1.2**
PET	**Petropavlovsk**	**0.93**	**48**	⇓*i*P	**P**	**12 28 58.7**	**-0.4**
PAU	**Pauzhetka**	**1.04**	**205**	*i* P	**P**	**12 29 00.9**	**+0.9**
PAU				*i* S	**S**	**12 29 20.1**	**+0.6**
PAU				Smax			
	3µm,0.9s						
KOK	**Koryaka**	**1.12**	**37**	*i* P	**P**	**12 29 01.2**	**+0.4**
KOK				*e*S	**S**	**12 29 21.2**	**+0.4**
UGLR	**Uglovaya**	**1.13**	**44**	*i* P	**P**	**12 29 01.2**	**+0.3**
UGLR				*e*S	**S**	**12 29 21.6**	**+0.5**
AVH	**Avacha**	**1.14**	**41**	*i* P	**P**	**12 29 01.4**	**+0.4**
AVH				*e*S	**S**	**12 29 21.5**	**+0.3**
SMAR	**Somma**	**1.16**	**42**	*i* P	**P**	**12 29 01.4**	**+0.2**
SMAR				*e*S	**S**	**12 29 21.4**	**-0.2**
SDLR	**Sedlovina**	**1.20**	**43**	*i* P	**P**	**12 29 01.6**	**0.0**
SDLR				*e*S	**S**	**12 29 21.9**	**-0.5**
GNL	**Ganaly**	**1.31**	**11**	*i* P	**P**	**12 29 03.1**	**+0.4**
GNL				*i* S	**S**	**12 29 24.3**	**0.0**
NLC	**Nalytchevo**	**1.35**	**55**	P	**P**	**12 29 02.0**	**-1.1**
NLC				S	**S**	**12 29 22.4**	**-2.6**
NLC	**Nalytchevo**	**1.35**	**55**	*e*P	**P**	**12 29 01.7**	**-1.4**
SPN	**Mys Shipunski**	**1.68**	**65**	*i* P	**P**	**12 29 05.3**	**-1.2**
SPN				*i* S	**S**	**12 29 27.3**	**-3.7**
SKR	**Severo-Kuril's**	**1.94**	**207**	*i* P	**P**	**12 29 06.6**	**-2.8**
SKR				*e*S	**S**	**12 29 32.5**	**-3.7**
SKR	**Severo-Kuril's**	**1.94**	**207**	⇑*i*PN	**P**	**12 29 06.6**	**-2.8**
SKR				*e*S	**S**	**12 29 32.5**	**-3.7**
SKR				pmax	pmax		
	comp=N,120nm,0.5s						
SKR				pmax	pmax		
	comp=E,90nm,0.5s						
SKR				pmax	pmax		
	comp=Z,350nm,0.5s						
SKR				pmax	pmax		
	comp=Z,1µm,1.0s						
SKR				smax			
	comp=E,770nm,0.5s						
SKR				smax			
	comp=N,1µm,0.7s						
SKR				smax			
	comp=N,3µm,2.0s						
SKR				smax			
	comp=E,2µm,2.0s						
ALID	**Alaid**	**1.97**	**219**	*e*P	**P**	**12 29 11.0**	**+1.2**
ALID				*e*S	**S**	**12 29 38.3**	**+1.5**
KII	**Karymskiy**	**2.00**	**35**	P	**P**	**12 29 10.8**	**+0.6**
KII				S	**S**	**12 29 37.6**	**+0.1**
KII	**Karymskiy**	**2.00**	**35**	*i* P	**P**	**12 29 10.6**	**+0.4**
KII				*e*S	**S**	**12 29 37.6**	**+0.1**
TUMR	**Tumrok**	**3.27**	**27**	*i* P	**P**	**12 29 27.6**	**+1.2**
TUMR				*i* S	**S**	**12 30 07.9**	**+2.0**
MKZ	**Mys Kozlova**	**3.31**	**48**	P	**P**	**12 29 25.6**	**-1.3**
MKZ				S	**S**	**12 30 02.0**	**-4.8**
MKZ	**Mys Kozlova**	**3.31**	**48**	*i* P	**P**	**12 29 25.6**	**-1.3**
MKZ				*i* S	**S**	**12 30 02.4**	**-4.4**
ESO	**Esso**	**3.59**	**11**	*i* P	**P**	**12 29 31.2**	**+0.7**
KMNR	**Kamenistaya**	**3.72**	**25**	*i* P	**P**	**12 29 33.4**	**+1.3**
KMNR				*e*S	**S**	**12 30 17.5**	**+1.3**
KPT	**Kopyto**	**3.90**	**23**	*e*P	**P**	**12 29 35.3**	**+0.7**
KPT				*e*S	**S**	**12 30 20.3**	**-0.2**
KOZ	**Kozyrevsk**	**3.91**	**20**	P	**P**	**12 29 35.2**	**+0.6**
KOZ				S	**S**	**12 30 19.9**	**-0.8**
KOZ	**Kozyrevsk**	**3.91**	**20**	*e*P	**P**	**12 29 35.1**	**+0.5**
KOZ				*e*S	**S**	**12 30 20.4**	**-0.3**
KOZR	**Kozyr**	**3.92**	**20**	PN	**P**	**12 29 35.2**	**+0.4**
KOZR				S	**S**	**12 30 19.9**	**-1.1**
ZLN	**Zelenaya**	**4.10**	**27**	*i* P	**P**	**12 29 38.7**	**+1.6**
ZLN				*e*S	**S**	**12 30 25.3**	**+0.2**
SRDR	**Sredinnyy**	**4.12**	**17**	*e*P	**P**	**12 29 38.6**	**+1.2**
SRDR				*e*S	**S**	**12 30 26.2**	**+0.5**
LGNR	**Loginova**	**4.12**	**26**	*i* P	**P**	**12 29 38.9**	**+1.4**
LGNR				*e*S	**S**	**12 30 26.0**	**+0.3**
CIRR	**Tsirk**	**4.17**	**26**	*i* P	**P**	**12 29 39.2**	**+1.1**
CIRR				*e*S	**S**	**12 30 26.9**	**+0.1**
KRSR	**Krestovskiy**	**4.21**	**24**	*e*P	**P**	**12 29 39.0**	**+0.4**
KRSR				*e*S	**S**	**12 30 25.1**	**-2.7**
KLY	**Klyuchi**	**4.32**	**24**	P	**P**	**12 29 41.5**	**+1.4**
KLY				S	**S**	**12 30 30.6**	**+0.3**
KLY	**Klyuchi**	**4.32**	**24**	*i* P	**P**	**12 29 41.3**	**+1.2**
KLY				*e*S	**S**	**12 30 30.8**	**+0.5**
SVLR	**Shiveluch**	**4.70**	**26**	*i* P	**P**	**12 29 45.9**	**+0.8**
SVLR				*e*S	**S**	**12 30 37.8**	**-1.5**
KBG	**Krutoberegovo**	**4.91**	**36**	*i* P	**P**	**12 29 46.9**	**-0.9**
KBG				*e*S	**S**	**12 30 38.8**	**-5.4**
KBG				Smax			
	comp=E,480nm,0.8s						
KBTR	**Krutoberegovo**	**4.91**	**37**	P	**P**	**12 29 46.8**	**-1.1**
KBTR				S	**S**	**12 30 39.1**	**-5.2**
KBTR	**Krutoberegovo**	**4.91**	**37**	*e*P	**P**	**12 29 46.7**	**-1.2**
KBTR				*i* S	**S**	**12 30 38.9**	**-5.4**
BKI	**Bering**	**5.74**	**57**	*e*P	**P**	**12 29 56.9**	**-1.9**
BKI				*i* S	**S**	**12 30 55.8**	**-8.3**
BKI				Smax			
	comp=E,350nm,0.4s						
ASAJ	**Asahikawa**	**12.93**	**236**	P	**P**	**12 31 35.5**	**+1.9**
	comp=E,1.6nm,0.3s,baz=270,slow=26,SNR=8.9						
ASAJ	**Asahikawa**	**12.93**	**236**	PN	**P**	**12 31 35.5**	**+1.9**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
YAK	**Yakutsk**	**17.74**	**314**	*e*P	**P**	**12 32 31.7**	**-1.5**
YAK				pmax	pmax		
	comp=Z,19nm,0.8s						
YAK				pmax	pmax		
	comp=N,3.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,6.0nm,1.0s						
YAK	**Yakutsk**	**17.74**	**314**	*e*P	**P**	**12 32 31.7**	**-1.5**
	comp=E,33nm,0.7s						
MDJ	**Mudanjiang**	**19.98**	**258**	*e*P	**P**	**12 32 55.1**	**-1.8**
MAJO	**Matsushiro**	**20.91**	**228**	*e*P	**P**	**12 33 06.5**	**+0.2**
	comp=E,13nm,0.6s						
MAT	**Matsushiro**	**20.91**	**228**	P	**P**	**12 33 06.5**	**+0.2**
MAT	**Matsushiro**	**20.91**	**228**	*e*P	**P**	**12 33 07.0**	**+0.7**
	comp=E,13nm,0.7s						
CN2	**Changchun**	**22.92**	**261**	*e*P	**P**	**12 33 24.8**	**-1.0**
HIA	**Hailar**	**23.88**	**278**	*e*P	**P**	**12 33 34.8**	**-0.2**
	comp=E,25nm,0.8s,mb4.8						
PMR	**Palmer**	**29.66**	**51**	*e*P	**P**	**12 34 26.4**	**-1.3**
	comp=E,3.6nm,0.6s,mb4.3						
COLA	**College**	**29.99**	**44**	*e*P	**P**	**12 34 30.2**	**-0.5**
COLA	**College**	**29.99**	**44**	*e*P	**P**	**12 34 29.6**	**-1.1**
	comp=E,5.7nm,0.6s,mb4.5						
ILAR	**Eielson Array**	**30.41**	**44**	P	**P**	**12 34 33.1**	**-1.3**
	comp=E,8.0nm,0.7s,mb4.6,baz=264,slow=5.9,SNR=124						
ILAR	**Eielson Array**	**30.41**	**44**	P	**P**	**12 34 33.1**	**-1.3**
ILAR				pmax	pmax		
	comp=Z,8.0nm,0.7s						
SONM	**Songino Array**	**32.52**	**283**	P	**P**	**12 34 52.3**	**-0.7**
	comp=Z,0.3nm,0.4s,mb3.4,baz=53,slow=7.2,SNR=2.6						
DAWY	**Dawson**	**33.72**	**45**	*e*P	**P**	**12 35 02.1**	**-1.0**
DLBC	**Dease Lake**	**39.71**	**52**	P	**P**	**12 35 54.6**	**+1.3**
	comp=Z,2.1nm,0.5s,mb4.0,baz=267,slow=10,SNR=7.9						
YKA	**Yellowknife Ar**	**44.72**	**41**	P	**P**	**12 36 33.7**	**-0.1**
	comp=Z,1.2nm,0.3s,mb4.0,baz=301,slow=7.3,SNR=10						
YKA	**Yellowknife Ar**	**44.72**	**41**	P	**P**	**12 36 33.7**	**-0.1**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.3s						
YKA	**Yellowknife Ar**	**44.72**	**41**	P	**P**	**12 36 33.7**	**-0.1**
KURK	**Kurchatov**	**46.75**	**301**	*e*P	**P**	**12 36 47.9**	**-2.0**
MKAR	**Makanchi Array**	**47.03**	**295**	P	**P**	**12 36 50.2**	**-1.9**
	comp=Z,1.8nm,0.5s,mb3.9,baz=57,slow=7.1,SNR=16						
MKAR	**Makanchi Array**	**47.03**	**295**	P	**P**	**12 36 50.3**	**-1.8**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
BVAR	**Borovoye Array**	**49.57**	**308**	P	**P**	**12 37 09.2**	**-2.5**
	comp=Z,1.2nm,0.4s,mb3.9,baz=68,slow=8.0,SNR=7.8						
BVAR				PcP	PcP	12 38 29.0	-2.4
	comp=Z,1.0nm,0.3s,baz=76,slow=2.7,SNR=5.8						
YBH	**Yreka Blue Hor**	**52.73**	**68**	P	**P**	**12 37 36.9**	**+1.2**
	comp=Z,2.9nm,0.7s,mb4.1,baz=21,slow=2.0,SNR=8.3						
YBH	**Yreka Blue Hor**	**52.73**	**68**	P	**P**	**12 37 36.9**	**+1.2**
YBH				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MOD	**Modoc**	**53.98**	**66**	*e*P	**P**	**12 37 45.5**	**+0.7**
	comp=Z,9.1nm,0.6s,mb4.7						
WVOR	**Wild Horse Val**	**54.55**	**65**	*e*P	**P**	**12 37 49.2**	**+0.2**
	comp=Z,7.1nm,1.0s,mb4.3						
WCN	**Washoe City**	**56.03**	**68**	P	**P**	**12 38 00.1**	**+0.4**
MNV	**Mina**	**57.54**	**68**	*e*P	**P**	**12 38 10.5**	**+0.2**
	comp=Z,2.7nm,0.7s,mb4.2						
ELK	**Elko**	**57.57**	**64**	*e*P	**P**	**12 38 10.9**	**+0.4**
	comp=Z,3.0nm,0.8s,mb4.2						
MOOW	**Moose Ponds**	**57.92**	**59**	*e*P	**P**	**12 38 13.4**	**+0.5**
TPH	**Tonopah**	**58.31**	**68**	*e*P	**P**	**12 38 15.9**	**+0.2**
	comp=Z,5.5nm,0.9s,mb4.4						
HWUT	**Hardware Ranch**	**58.97**	**61**	*e*P	**P**	**12 38 20.6**	**+0.3**
	comp=Z,4.7nm,0.7s,mb4.4						
PDAR	**Pinedale Array**	**59.23**	**59**	P	**P**	**12 38 22.1**	**+0.1**
	comp=Z,7.1nm,0.7s,mb4.6,baz=321,slow=3.2,SNR=68						
DUG	**Dugway**	**59.29**	**63**	*e*P	**P**	**12 38 22.8**	**+0.4**
	comp=Z,4.6nm,0.8s,mb4.4						
TPNV	**Topopah Spring**	**59.65**	**68**	*e*P	**P**	**12 38 25.0**	**0.0**
	comp=Z,2.6nm,0.6s,mb4.2						
DAU	**Daniels Canyon**	**59.98**	**62**	*e*P	**P**	**12 38 28.3**	**+1.1**
ULM	**Lac du Bonnet**	**60.42**	**45**	P	**P**	**12 38 29.0**	**-1.1**
	comp=Z,1.4nm,0.4s,mb4.1,baz=310,slow=7.6,SNR=3.2						
RSSD	**Black Hills**	**61.09**	**54**	*e*P	**P**	**12 38 34.2**	**-0.4**
	comp=Z,8.5nm,0.9s,mb4.6						
SRU	**San Rafael**	**61.30**	**62**	*e*P	**P**	**12 38 36.4**	**+0.2**
PV10	**Paradox Valley**	**62.63**	**62**	*e*P	**P**	**12 38 45.5**	**+0.4**
PV01	**Paradox Valley**	**63.06**	**62**	*e*P	**P**	**12 38 47.9**	**+0.1**
ISCO	**Idaho Springs**	**63.42**	**59**	*e*P	**P**	**12 38 50.8**	**+0.6**
	comp=Z,3.4nm,0.8s,mb4.2						
SDCO	**Great Sand Dun**	**64.99**	**60**	*e*P	**P**	**12 39 00.7**	**+0.3**
	comp=Z,1.6nm,0.7s,mb4.0						
LAZ	**Ladron**	**66.59**	**64**	*e*P	**P**	**12 39 11.4**	**+0.8**
KAKA	**Kakadu**	**68.37**	**206**	*e*P	**P**	**12 39 21.6**	**-0.3**
	comp=Z,2.7nm,0.5s,mb4.2						
CPRX	**Cap Rock**	**69.41**	**63**	*e*P	**P**	**12 39 28.4**	**+0.4**
WMOK	**Wichita Mounta**	**70.81**	**58**	*e*P	**P**	**12 39 35.8**	**-0.6**
	comp=Z,2.2nm,0.8s,mb3.9						
TXAR	**Lajitas Array**	**72.35**	**65**	P	**P**	**12 39 46.3**	**+0.7**
	comp=Z,10nm,1.1s,mb4.5,baz=296,slow=4.5,SNR=22						
MIAR	**Mount Ida**	**73.61**	**54**	*e*P	**P**	**12 39 52.4**	**-0.5**
	comp=Z,4.1nm,0.9s,mb4.2						
WB2	**Warramunga Arr**	**74.82**	**203**	*e*P	**P**	**12 39 59.7**	**-0.3**
WRA	**Warramunga Arr**	**74.82**	**203**	P	**P**	**12 39 59.9**	**-0.2**
	comp=Z,1.1nm,0.4s,mb3.8,baz=19,slow=6.1,SNR=60						
WRA	**Warramunga Arr**	**74.82**	**203**	P	**P**	**12 39 59.9**	**-0.1**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FITZ	**Fitzroy Crossi**	**75.48**	**211**	*e*P	**P**	**12 40 03.7**	**-0.1**
	comp=Z,4.3nm,1.2s,mb4.0						
ASAR	**Alice Springs**	**78.51**	**202**	P	**P**	**12 40 21.4**	**+0.9**
	comp=Z,1.1nm,0.5s,mb3.8,baz=14,slow=5.3,SNR=17						

IDC 08 12:40:48.8±2.7**, 11.95S×166.87E, mb3.2**/2**, mb1 3.4**/2**,**
mb1mx3.4/12**, Error ellipse: s-maj=105.0km s-min=48.9km az=135.0, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.23**	**252**	P	P	12 47 19.5	-1.8
	0.2nm,0.8s,baz=84,slow=9.0,SNR=5.4						
WRA				PcP	PcP	12 50 08.0	-1.9
	0.6nm,1.3s,baz=70,slow=2.9,SNR=4.5						
ASAR	**Alice Springs**	**33.39**	**245**	P	P	12 47 29.1	-2.2
	0.3nm,0.7s,baz=68,slow=9.7,SNR=3.2						
ASAR				PcP	PcP	12 50 10.4	-2.7
	0.5nm,0.6s,baz=64,slow=2.4,SNR=6.9						
MKAR	**Makanchi Array**	**94.93**	**317**	P	P	12 54 13.1	-1.2
	1.3nm,0.5s,baz=90,slow=6.1,SNR=12						

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*MOS **08** 12:57:20.6±1.2, 54.69N×165.85E, h31^{km}, mb4.4/1, Error ellipse: s-maj=23.0km s-min=17.2km az=175.3*
KRSC 08 12:57:20.5±1.3**, 54.85N×166.04E, h32**^{km}±4^{km}**, ML4.4, Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BKI	**Bering**	**0.36**	**354**	*i* P	Pb	12 57 28.2	-0.7
BKI				*e*S	Sb	12 57 34.0	-0.6
BKI				Smax			
	6µm,0.3s						
KBTR	**Krutoberegovo**	**2.28**	**308**	P	Pn	12 57 56.5	-0.3
KBTR				S	Sn	12 58 22.7	-1.4
KBTR	**Krutoberegovo**	**2.28**	**308**	*e*P	Pn	12 57 56.4	-0.4
KBTR				*e*S	Sn	12 58 22.6	-1.5
KBG	**Krutoberegovo**	**2.36**	**308**	*e*P	Pn	12 57 58.2	+0.3
KBG				*e*S	Sn	12 58 28.0	+1.9
KBG				Smax			
	2µm,0.8s						
MKZ	**Mys Kozlova**	**2.52**	**265**	P	Pn	12 57 59.7	-0.5
MKZ				S	Sn	12 58 28.4	-1.7
MKZ	**Mys Kozlova**	**2.52**	**265**	*e*P	Pn	12 57 59.6	-0.6
MKZ				*i* S	Sn	12 58 28.1	-2.0
ZLN	**Zelenaya**	**3.20**	**294**	*e*P	Pn	12 58 10.7	+0.8
ZLN				*e*S	Sn	12 58 47.5	0.0
SVLR	**Shiveluch**	**3.23**	**304**	*e*P	Pn	12 58 10.7	+0.4
SVLR				*e*S	Sn	12 58 49.7	+1.6
CIRR	**Tsirk**	**3.27**	**295**	*e*P	Pn	12 58 12.6	+1.8
CIRR				*e*S	Sn	12 58 50.9	+1.8
LGNR	**Loginova**	**3.29**	**294**	*e*P	Pn	12 58 12.1	+1.0
LGNR				*e*S	Sn	12 58 51.3	+1.8
KLY	**Klyuchi**	**3.39**	**298**	P	Pn	12 58 12.9	+0.3
KLY				S	Sn	12 58 51.1	-1.1
KLY	**Klyuchi**	**3.39**	**298**	*e*P	Pn	12 58 12.2	-0.4
KLY				*e*S	Sn	12 58 50.3	-1.9
KRSR	**Krestovskiy**	**3.40**	**296**	*e*P	Pn	12 58 13.4	+0.7
KRSR				*e*S	Sn	12 58 51.8	-0.6
TUMR	**Tumrok**	**3.42**	**280**	*e*P	Pn	12 58 14.0	+1.1
TUMR				*e*S	Sn	12 58 52.8	0.0
KMNR	**Kamenistaya**	**3.44**	**288**	*e*P	Pn	12 58 14.2	+0.9
KMNR				*e*S	Sn	12 58 54.1	+0.7
KPT	**Kopyto**	**3.50**	**291**	*e*P	Pn	12 58 14.4	+0.3
KPT				*e*S	Sn	12 58 53.9	-1.0
KOZR	**Kozyr**	**3.70**	**292**	PN	Pn	12 58 18.5	+1.5
KOZR				S	Sn	12 58 59.8	-0.3
KOZ	**Kozyrevsk**	**3.71**	**292**	P	Pn	12 58 18.5	+1.3
KOZ				S	Sn	12 58 59.8	-0.6
KOZ	**Kozyrevsk**	**3.71**	**292**	*e*P	Pn	12 58 18.2	+1.0
KOZ				*e*S	Sn	12 58 59.8	-0.6
SRDR	**Sredinnyy**	**3.88**	**295**	*e*P	Pn	12 58 20.2	+0.7
SRDR				*e*S	Sn	12 59 04.3	-0.2
KII	**Karymskiy**	**3.93**	**261**	P	Pn	12 58 19.8	-0.5
KII				S	Sn	12 59 03.2	-2.7
KII	**Karymskiy**	**3.93**	**261**	*e*P	Pn	12 58 18.9	-1.4
KII				*e*S	Sn	12 59 02.8	-3.1
SPN	**Mys Shipunski**	**3.96**	**246**	P	Pn	12 58 19.4	-1.3
SPN				S	Sn	12 59 01.7	-4.9
SPN	**Mys Shipunski**	**3.96**	**246**	*e*P	Pn	12 58 19.4	-1.3
SPN				*e*S	Sn	12 59 03.2	-3.4
NLC	**Nalytchevo**	**4.29**	**250**	P	Pn	12 58 24.0	-1.4
NLC				S	Sn	12 59 09.4	-5.6
NLC	**Nalytchevo**	**4.29**	**250**	*e*P	Pn	12 58 24.3	-1.1
ESO	**Esso**	**4.32**	**287**	*e*P	Pn	12 58 26.1	+0.3
ESO				*e*S	Sn	12 59 12.6	-3.2
ESO				Smax			
	40nm,0.8s						
SDLR	**Sedlovina**	**4.50**	**252**	*e*P	Pn	12 58 29.1	+0.8
SDLR				*e*S	Sn	12 59 17.4	-2.9
SMAR	**Somma**	**4.55**	**253**	*e*P	Pn	12 58 30.4	+1.3
SMAR				*e*S	Sn	12 59 19.5	-2.1
UGLR	**Uglovaya**	**4.56**	**252**	*e*P	Pn	12 58 29.2	0.0
UGLR				*e*S	Sn	12 59 18.4	-3.4
AVH	**Avacha**	**4.59**	**253**	*e*P	Pn	12 58 29.3	-0.3
AVH				*e*S	Sn	12 59 19.2	-3.2
KOK	**Koryaka**	**4.63**	**253**	*e*P	Pn	12 58 28.7	-1.5
KOK				*e*S	Sn	12 59 17.8	-5.8
PET	**Petropavlovsk**	**4.73**	**250**	P	Pn	12 58 30.0	-1.6
PET				S	Sn	12 59 20.8	-5.3
PET	**Petropavlovsk**	**4.73**	**250**	*e*P	Pn	12 58 30.1	-1.5
PET				*e*S	Sn	12 59 20.8	-5.3
PET	**Petropavlovsk**	**4.73**	**250**	*e*PN	Pn	12 58 29.5	-2.1
GNL	**Ganaly**	**4.89**	**260**	*e*P	Pn	12 58 34.0	+0.2
GNL				*e*S	Sn	12 59 27.9	-2.1
RUS	**Russkaya**	**5.09**	**245**	P	Pn	12 58 35.2	-1.5
RUS				S	Sn	12 59 29.6	-5.5
RUS	**Russkaya**	**5.09**	**245**	*e*P	Pn	12 58 35.1	-1.6
RUS				*e*S	Sn	12 59 30.2	-4.9
GRL	**Gorelyy**	**5.26**	**247**	*e*P	Pn	12 58 39.0	-0.1
GRL				*e*S	Sn	12 59 35.8	-3.6
APC	**Apacha**	**5.60**	**253**	*e*P	Pn	12 58 45.7	+1.9
APC				*e*S	Sn	12 59 46.0	-1.8
KAMR	**Kamenskoye**	**7.63**	**1**	*e*P	Pn	12 59 10.9	-1.5
KAMR				*e*S	Sn	13 00 31.7	-6.9

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*IDC **08** 13:28:12.2±1.2, 64.91N×39.11W, mb4.0/12, mb1 4.2/14, mb1mx4.1/25, ML3.0/2, MS3.6/9, Ms1 3.6/9, ms1mx3.4/27, Error ellipse: s-maj=40.4km s-min=14.8km az=175.0*
*NEIC **08** 13:28:14.8±0.5, 65.16N×39.04W, h10^{km}, mb4.2/1, Error ellipse: s-maj=15.5km s-min=7.6km az=162.0*
ISC 08 13:28:13.4±0.5**, 65.2N**±0.1×**38.9W**±0.1**, h10**^{km}**, n35,**
σ0^{s}87/28**, mb4.0**/13**, MS3.6**/6**, 1C, Eastern Kalaallit Nunaat**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SUMG	**Summit**	**7.38**	**1**	*e*P	**Pn**	**13 30 03.5**	**-0.4**
	60nm,0.6s						
BORG	**Borgarnes**	**7.47**	**86**	Pn	**Pn**	**13 30 05.4**	**+0.3**
	0.2nm,0.3s,baz=294,slow=12,SNR=1.5						
BORG				Sn	**Sn**	**13 31 30.0**	**-0.8**
	2.2nm,0.3s,baz=278,slow=4.2,SNR=2.4						
BORG				LR	LR	13 32 23.8	
	comp=Z,180nm,19.3s,baz=153,slow=33						
FRB	**Frobisher Bay**	**12.79**	**277**	LR	LR	13 36 09.9	
	comp=Z,262nm,18.0s,baz=52,slow=37						
DAG	**Danmarks Havn**	**13.21**	**20**	⇑*i*P	**P**	**13 31 23.1**	**-0.2**
	9.6nm,0.7s						
SCHQ	**Schefferville**	**17.23**	**246**	P	**P**	**13 32 15.1**	**-0.2**
	0.5nm,0.3s,baz=37,slow=15,SNR=3.6						
SCHQ				LR	LR	13 37 50.3	
	comp=Z,130nm,18.5s,baz=304,slow=34						
SCHQ	**Schefferville**	**17.23**	**246**	P	**P**	**13 32 15.1**	**-0.2**
SCHQ				LR	LR	13 37 50.3	
NOA	**NORSAR Array B**	**22.53**	**77**	LR	LR	13 41 03.5	
	comp=Z,45nm,19.1s,MS2.9,baz=320,slow=34						
ARCES	**ARCESS Array B**	**24.09**	**51**	P	**P**	**13 33 31.0**	**+1.8**
	17nm,1.1s,mb4.4,baz=291,slow=7.9,SNR=14						
ARCES	**ARCESS Array B**	**24.09**	**51**	P	**P**	**13 33 31.0**	**+1.8**
FINES	**FINESS Array B**	**28.25**	**67**	P	**P**	**13 34 08.9**	**+0.8**
	3.0nm,0.7s,mb4.0,baz=284,slow=7.9,SNR=6.4						
YKA	**Yellowknife Ar**	**31.61**	**301**	P	**P**	**13 34 37.0**	**-1.0**
	0.7nm,0.5s,mb3.8,baz=52,slow=9.6,SNR=4.1						
YKA				LR	LR	13 46 43.3	
	comp=Z,144nm,18.3s,MS3.7,baz=60,slow=35						
YKA	**Yellowknife Ar**	**31.61**	**301**	P	**P**	**13 34 37.0**	**-1.0**
YKA				LR	LR	13 46 43.3	
ESDC	**Sonseca Array**	**32.52**	**125**	LR	LR	13 46 54.9	
	comp=Z,69nm,18.8s,MS3.4,baz=335,slow=35						
AKASG	**Malin Array Be**	**36.91**	**79**	P	**P**	**13 35 23.4**	**-0.1**
	1.0nm,0.6s,mb3.8,baz=318,slow=8.8,SNR=6.9						

DAWY	Dawson	38.66	316	*e*P	P	13 35 37.4	-0.8
ILAR	Eielson Array	40.21	321	P	P	13 35 52.9	+1.8
	0.6nm,0.6s,mb3.5,baz=32,slow=7.0,SNR=10						
MCMT	McKenzie Canyo	43.93	280	*e*P	P	13 36 22.7	+1.2
PDAR	Pinedale Array	44.24	275	P	P	13 36 23.2	-0.8
	3.2nm,1.2s,mb3.9,baz=49,slow=7.3,SNR=6.0						
VGB	Gordon Butte	46.62	287	*e*P	P	13 36 43.4	+0.4
BRTR	Keskin Array B	47.57	85	P	P	13 36 51.0	+0.4
	1.0nm,0.8s,mb3.9,baz=346,slow=5.1,SNR=3.6						
PV10	Paradox Valley	47.67	271	*e*P	P	13 36 51.7	+0.2
MSU	Marysvale	48.88	274	*e*P	P	13 37 01.0	+0.3
MVU	Marysvale	48.90	274	*e*P	P	13 37 01.3	+0.4
	2.0nm,0.8s,mb4.2						
LAZ	Ladron	50.26	267	*e*P	P	13 37 10.4	-1.0
BVAR	Borovoye Array	50.31	48	P	P	13 37 12.3	+0.8
	1.0nm,0.6s,mb4.0,baz=306,slow=12,SNR=5.1						
SJG	San Juan	50.47	214	LR	LR	13 54 16.0	
	comp=Z,67nm,21.5s,MS3.6,baz=287,slow=31						
TXAR	Lajitas Array	53.20	260	P	P	13 37 30.0	-3.7
	1.0nm,0.9s,mb3.8,baz=56,slow=6.5,SNR=6.5						
ZAL	Zalesovo	53.62	38	P	P	13 37 35.3	-1.1
	1.3nm,0.9s,mb3.9,baz=9.6,slow=6.0,SNR=6.0						
KURK	Kurchatov	54.82	44	*e*P	P	13 37 44.0	-1.3
MKAR	Makanchi Array	59.41	43	P	P	13 38 17.6	-0.2
	3.4nm,0.4s,mb4.7,baz=355,slow=4.8,SNR=58						
MKAR				LR	LR	14 07 44.8	
	comp=Z,71nm,18.3s,MS3.8,baz=240,slow=40						
SONM	Songino Array	64.10	25	P	P	13 38 49.4	+0.2
	3.8nm,1.1s,mb4.3,baz=329,slow=7.2,SNR=7.8						
BDFB	Brasilia	80.92	189	LR	LR	14 11 07.4	
	comp=Z,174nm,19.1s,MS4.4,baz=335,slow=32						
WRA	Warramunga Arr	134.52	9	PKhKP		13 47 22.7	
	0.1nm,0.5s,baz=359,slow=5.0,SNR=5.4						
ASAR	Alice Springs	138.18	10	PKP	PKPdf	13 47 38.4	-3.0
	0.2nm,0.5s,baz=352,slow=2.2,SNR=5.1						
STKA	Stephens Creek	146.62	359	PKPbc	PKPbc	13 47 53.6	-0.5
	6.3nm,1.1s,baz=105,slow=6.8,SNR=6.2						

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*NEIC **08** 13:52:25.7, 33.99S×72.24W, h34^{km}, mb4.5/1, ML4.2(GUC), After GUC.*

NEIC Felt [IV] at Marchihue and Pichilemu; [III] at Lolol.

*GUC **08** 13:52:25.7±0.8, 33.99S×72.24W, h34^{km}±3^{km}, MD4.2, ML4.2*

ISC 08 13:52:24.5±1.1, 34.00S±0.04×72.32W±0.07, h20^{km}±6^{km}, n21, $\sigma 0^{s}46$/36, mb4.5/1, 11C-5D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LLCH	Llolleo	0.70	57	⇑*i*P	Pb	13 52 37.8	-0.2
LLCH				*i* S	Sb	13 52 47.3	+0.2
LLCH				AMP		13 52 53.1	
	comp=N,10μm,0.5s						
LNV	Longovilo	0.76	87	⇓*i*P	Pb	13 52 38.9	0.0
LCCH	Las Cruces	0.81	50	⇑*i*P	Pb	13 52 39.6	-0.2
LCCH				*i* S	Sb	13 52 50.7	+0.4
TACH	Talagante	1.20	74	⇑*i*P	Pn	13 52 45.6	-0.8
TACH				*i* S	Sb	13 53 00.7	-0.8
SFDO	San Fernando	1.25	120	⇓*i*P	Pn	13 52 46.2	-0.8
NICH	Los Niches	1.35	138	⇓*i*P	Pn	13 52 48.1	-0.3
NICH				*i* S	Sb	13 53 06.3	+0.5
CHCH	Chadas Angostu	1.39	88	⇑*i*P	Pn	13 52 48.8	-0.3
PUEX	Pudahuel	1.42	67	⇑*i*P	Pn	13 52 49.6	+0.1
PUEX				*i* S	Sn	13 53 06.9	-0.8
PUEX				AMP		13 53 18.0	
	comp=E,10μm,0.6s						
CACH	El Canelo	1.44	95	⇓*i*P	Pn	13 52 50.0	+0.3
CACH				*i* S	Sn	13 53 08.5	+0.4
ANTU	Antumapu	1.47	74	*e*P	Pn	13 52 50.0	-0.2
ANTU				*i* S	Sn	13 53 08.9	0.0
ANTU				AMP		13 53 14.2	
	comp=E,5μm,0.6s						
SAN	Santiago	1.49	69	⇑*i*P	Pn	13 52 50.4	-0.1
SAN				*i* S	Sn	13 53 08.9	-0.6
SAN				AMP		13 53 11.8	
	comp=N,3μm,0.6s						
PCH	Pirque	1.55	76	⇑*i*P	Pn	13 52 51.2	-0.1
PCH				*i* S	Sn	13 53 10.6	-0.5
DSCH	Colegio Aleman	1.58	68	*i* P	Pn	13 52 51.8	0.0
DSCH				*i* S	Sn	13 53 12.1	+0.3
DSCH				AMP		13 53 17.9	
	comp=N,6μm,0.5s						
CLCH	Cerro Calan	1.60	69	*i* P	Pn	13 52 52.4	+0.3
CLCH				*i* S	Sn	13 53 12.5	+0.1
CLCH				AMP		13 53 30.4	
	comp=E,4μm,0.7s						
CLCH				AMP		13 53 31.0	
	comp=E,4μm,0.7s						
CICH	Cipreses	1.61	102	⇑*i*P	Pn	13 52 52.2	0.0
CICH				*i* S	Sn	13 53 12.9	+0.3
PEL	Peldehue	1.61	59	⇓*i*P	Pn	13 52 53.0	+0.8
PEL				*i* S	Sn	13 53 12.2	-0.4
LMEL	Las Melosas	1.77	86	⇑*i*P	Pn	13 52 55.0	+0.5
LMEL				AMP		13 53 24.6	
	comp=N,4μm,0.2s						
FCH	Farellones	1.82	69	⇑*i*P	Pn	13 52 55.5	+0.2
FCH				*i* S	Sn	13 53 18.6	+0.7
FCH				AMP		13 53 29.0	
	comp=E,3μm,0.4s						
JACH	Jahuel	1.95	48	⇑*i*P	Pn	13 52 57.1	0.0
JACH				*i* S	Sn	13 53 22.2	+1.0
CCHI	Chillan	2.61	176	*i* P	Pn	13 53 07.1	+0.6
CCHI				AMP		13 53 52.2	
	comp=E,2μm,0.5s						
CCHI				AMP		13 53 52.5	
	comp=E,4μm,0.5s						
QSPA	South Pole Qui	56.24	180	*e*P	P	14 02 04.6	-0.6
	comp=E,4.8nm,1.0s,mb4.5						

WEL 08 14:04:43.6±0.3, 38.29S×176.13E, h158^{km}±2^{km}, ML3.5/7, 2C, Error ellipse: s-maj=2.6km s-min=2.5km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	0.77	88	PN	P	14 05 07.5	-0.3
URZ				SN	S	14 05 25.3	-1.0
MGZ	Maungaku	0.85	213	PN	P	14 05 08.3	+0.1
BKZ	Black Stump Fm	0.92	162	⇑PN	P	14 05 08.8	+0.2
BKZ				SN	S	14 05 27.5	-0.5
NGZ	Ngauruhoe	0.97	205	PN	P	14 05 09.2	+0.1
CNZ	Chateau	1.01	207	PN	P	14 05 09.3	-0.1
WPVZ	Whakapapa	1.02	206	PN	P	14 05 09.5	0.0
TUVZ	Tukino	1.04	201	PN	P	14 05 09.7	0.0
TUVZ				*e*SN	S	14 05 30.1	+0.3
MWZ	Matawai	1.10	93	PN	P	14 05 10.3	+0.1
MWZ				SN	S	14 05 30.5	-0.2
WNVZ	Wahianoa	1.11	202	PN	P	14 05 10.0	-0.4
MOVZ	Moawhango	1.15	195	PN	P	14 05 10.0	-0.6
KNZ	Kokohu	1.41	122	PN	P	14 05 13.2	0.0
PUZ	Puketiti	1.69	83	SN	S	14 05 39.5	-1.7
PUZ				SN	S	14 05 39.9	-1.3
WAZ	Wanganui	1.71	211	PN	P	14 05 15.5	-0.8
WAZ				SN	S	14 05 41.7	+0.1
TSZ	Takapari Road	1.77	184	PN	P	14 05 16.1	-0.9
TSZ				SN	S	14 05 40.4	-2.3
PWZ	Pawanui	1.82	162	PN	P	14 05 17.3	-0.3
PWZ				SN	S	14 05 42.1	-1.7
MXZ	Matakaoa Point	1.87	68	PN	P	14 05 17.8	-0.2
BFZ	Birch Farm	2.39	178	PN	P	14 05 22.5	-1.8
BFZ				SN	S	14 05 51.0	-4.5
MRZ	Mangatainoka R	2.40	190	PN	P	14 05 22.4	-2.1
MRZ				SN	S	14 05 52.7	-3.2
KIW	Kapiti Island	2.73	200	PN	P	14 05 25.4	-3.2
KIW				SN	S	14 05 58.3	-4.8
MTW	Mount Morrison	2.90	189	PN	P	14 05 27.5	-3.2
CAW	Cannon Point	2.93	196	PN	P	14 05 28.0	-3.0
MRW	Makara Radio	3.13	200	SN	S	14 06 06.2	-5.9
PAWZ	Paruwai Farm	3.13	190	SN	S	14 06 06.3	-5.7
MSWZ	Moikau Station	3.19	192	⇑PN	P	14 05 30.9	-3.5
NNZ	Nelson	3.61	215	PN	P	14 05 35.2	-4.6
NNZ				SN	S	14 06 17.0	-6.0
QRZ	Quartz Range	3.76	227	PN	P	14 05 36.7	-5.1
THZ	Tophouse	4.26	215	PN	P	14 05 42.8	-5.4
KHZ	Kahutara	4.57	205	PN	P	14 05 47.9	-4.5
DSZ	Denniston Nort	4.79	223	SN	S	14 06 42.4	-8.1
CRLZ	Canterbury Las	5.91	206	SN	S	14 07 06.9	-10
MQZ	McQueen's Vall	6.01	205	SN	S	14 07 08.1	-11

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*IDC **08** 14:18:51.2±1.2, 33.12N×136.78E, mb3.7/4, mb1 3.8/5, mb1mx3.6/22, ML3.0/1, MS2.2/1, Ms1 2.2/1, ms1mx2.1/23, Error ellipse: s-maj=32.7km s-min=21.6km az=38.0*

*JMA **08** 14:18:52.6±0.1, 33.02N×136.66E, h36^{km}±3^{km}, M3.2*

*NEIC **08** 14:18:55.6±0.7, 33.11N×136.68E, h25^{km}, mb4.4/3, Error ellipse: s-maj=16.1km s-min=11.2km az=114.0*

ISC 08 14:18:53.2±1.0, 33.11N±0.04×136.69E±0.04, h25^{km}±7^{km}, n24, $\sigma 0^{s}75$/33, mb4.0/7, 7C, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JWZ	Kozaga	0.92	297	⇑P	Pb	14 19 09.6	-0.8
JWZ				*e*S	Sb	14 19 22.3	+0.2
TK01	Tokai 1	1.00	49	*e*S	Sb	14 19 24.9	+0.5
JKN	Kiinagashima	1.19	343	P	Pn	14 19 14.4	-0.1
JKN				*e*S	Sn	14 19 30.2	+0.3
TK02	Tokai 2	1.22	47	*e*S	Sn	14 19 30.8	0.0
JIE	Ise	1.28	1	⇑P	Pn	14 19 16.0	+0.2
JIE				*e*S	Sn	14 19 32.4	+0.2
JWM	Minabe	1.33	304	⇑P	Pn	14 19 16.1	-0.5
JWM				*e*S	Sn	14 19 32.8	-0.9
JWY	Kouya	1.43	321	⇑P	Pn	14 19 18.2	+0.2
JWY				*e*S	Sn	14 19 36.7	+0.5
TK04	Tokai 4	1.61	38	*e*S	Sn	14 19 40.6	0.0
TSUJ	Tsu 2	1.61	352	⇑P	Pn	14 19 20.7	+0.2
JHE	Heguri	1.75	332	⇑P	Pn	14 19 22.8	+0.3
JHE				*e*S	Sn	14 19 43.7	-0.5
JAI	Aioi	1.99	291	P	Pn	14 19 25.1	-0.9
JAJ2	Tsuna	1.99	311	⇑P	Pn	14 19 26.1	+0.1
JHJ	Hachijo jima 2	2.60	89	Pn	Pn	14 19 34.2	-0.4
	6.5nm,0.3s,baz=73,slow=19,SNR=2.1						
JHJ				Sn	Sn	14 20 05.3	-0.4
	9.6nm,0.3s,baz=92,slow=22,SNR=3.0						
MAJO	Matsushiro	3.64	20	*e*P	Pn	14 19 50.1	+0.6
MAT	Matsushiro	3.64	20	P	Pn	14 19 50.4	+0.9
MAT				S	Sn	14 20 29.5	-2.7
MAT	Matsushiro	3.64	20	P	Pn	14 19 50.0	+0.5
MAT				*e*S	Sn	14 20 30.0	-2.2
ENH	Enshi	23.30	270	*e*P	P	14 24 02.1	+2.0
	15nm,1.0s,mb4.4						
SONM	Songino Array	27.12	312	P	P	14 24 35.8	-0.3
	0.6nm,0.4s,mb3.5,baz=124,slow=9.0,SNR=6.1						
MKAR	Makanchi Array	43.05	305	P	P	14 26 53.4	+0.9
	0.5nm,0.4s,mb3.6,baz=94,slow=11,SNR=10.0						
KURK	Kurchatov	45.42	311	*e*P	P	14 27 11.7	+0.1
	6.5nm,1.2s,mb4.3						
ZRNK	Zerenda	51.27	314	*e*P	P	14 27 57.1	+0.2
	4.3nm,1.0s,mb4.3						
WRA	Warramunga Arr	52.80	183	P	P	14 28 08.0	-1.0
	0.6nm,0.7s,mb3.7,baz=0.2,slow=7.8,SNR=9.4						
ASAR	Alice Springs	56.52	183	P	P	14 28 35.8	-0.2
	1.1nm,1.1s,mb3.8,baz=11,slow=12,SNR=6.1						
PV10	Paradox Valley	86.28	46	*e*P	P	14 31 37.5	+3.4

BJI 08 14:24:21.1, 42.10N×128.02E, h23^{km}, ML3.6, 1D, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CN2	Changchun	2.54	313	*e*P	Pn	14 25 02.9	+1.0
CN2				PG	Pn	14 25 07.7	+5.8
CN2				SG	Sn	14 25 45.9	+13
CN2				Smax			
	comp=N,100nm,0.7s						
CN2				Smax			
	comp=E,100nm,0.7s						
MDJ	Mudanjiang	2.76	24	P	Pn	14 25 06.6	+1.5
MDJ				PG	Pn	14 25 12.5	+7.4
MDJ				SG	Sn	14 25 49.1	+11
MDJ				Smax			
	comp=N,158nm,0.8s						
MDJ				Smax			
	comp=E,238nm,1.0s						
SNY	Shenyang	3.32	267	⇓P	Pn	14 25 13.3	+0.3
SNY				PG	Pn	14 25 20.4	+7.4
SNY				SG	Sn	14 26 06.3	+14
SNY				Smax			
	comp=N,200nm,1.1s						
SNY				Smax			
	comp=E,120nm,0.8s						

IDC 08 14:25:03.5±8.5, 15.39S×173.73W, mb3.6/2, mb1 3.9/2, mb1mx3.7/11, MS4.2/1, Ms1 4.2/1, ms1mx3.9/16, Error ellipse: s-maj=373.0km s-min=61.5km az=139.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAR	Rarotonga	14.46	116	LR	LR	14 32 48.4	
	comp=Z,978nm,21.8s,baz=280,slow=32						
WRA	Warramunga Arr	49.54	257	P	P	14 33 55.9	-2.5
	0.4nm,0.7s,baz=92,slow=6.6,SNR=4.7						
ASAR	Alice Springs	49.81	252	P	P	14 33 58.9	-1.6
	1.1nm,0.8s,baz=88,slow=8.2,SNR=9.5						
BRTR	Keskin Array B	145.95	321	PKPbc	PKPbc	14 44 44.9	-0.7
	1.3nm,0.7s,baz=90,slow=2.5,SNR=7.3						

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*MAN **08** 14:25:28.9, 11.91N×124.07E, h6^{km}, MS3.6*

MAN F Bugo Northern Cebu- Intensity II Placer Masbate- Intensity II.

*IDC **08** 14:25:29.2±3.2, 11.98N×125.08E, mb3.6/3, mb1 3.8/3, mb1mx3.5/17, Error ellipse: s-maj=248.0km s-min=29.6km az=64.0*

ISC 08 14:25:29.3±0.3, 11.91N±0.03×124.05E±0.03, h6^{km}, n32, $\sigma 1^{s}17$/43, mb3.8/4, 1C-4D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MMPH	Masbate	0.62	317	⇓*i*P	Pg	14 25 41.3	-0.4
MMPH				*i* S	Sg	14 25 50.3	+0.4
CNP	Catarman	0.85	45	*e*P	Pb	14 25 44.8	-1.2
CNP				*e*S	Sb	14 25 57.8	+0.4
OCLP	Ormoc	1.01	147	*e*P	Pb	14 25 49.3	+0.5
OCLP				*e*S	Sb	14 26 06.5	+4.5
PLP	Palo	1.17	129	*i* P	Pb	14 25 51.7	+0.2
PLP				*i* S	Sb	14 26 07.4	+0.7
RCP	Roxas	1.33	255	⇓*e*P	Pb	14 25 53.6	-0.6
RCP				*e*S	Sb	14 26 12.4	+1.0
BESP	Borongan	1.39	102	*e*P	Pb	14 25 54.5	-0.8
BESP				*e*S	Sb	14 26 14.3	+1.1
LLP	Lapu-Lapu	1.58	183	*e*P	Pn	14 25 55.0	-3.0
LLP				*i* S	Sb	14 26 15.0	-3.7
PVCP	Virac	1.68	3	*e*P	Pn	14 25 57.8	-1.7
KALP	Kalibo	1.70	263	*e*P	Pn	14 26 02.0	+2.3
GUIM	Jordan	1.92	229	*e*P	Pn	14 26 03.0	+0.1
GUIM				*e*S	Sn	14 26 29.0	+1.4
MSLP	Maasin	1.93	156	*e*P	Pn	14 26 03.2	+0.2
MSLP				*e*S	Sn	14 26 30.0	+2.1
AUQP	San Andres	1.95	316	*e*P	Pn	14 26 04.8	+1.5
OTRP	Odiongan	2.04	283	*e*P	Pn	14 26 04.0	-0.6
TBP	Tagbilaran	2.21	185	*e*P	Pn	14 26 06.1	-0.9
TBP				*e*S	Sn	14 26 35.5	+0.5
SCPH	Surigao	2.54	146	⇓*e*P	Pn	14 26 13.8	+2.0
AAP	Anini-y	2.54	235	*e*P	Pn	14 26 21.0	+9.2
BOAC	Boac	2.65	306	*e*P	Pn	14 26 13.5	+0.1
SNPH	Sibulan	2.67	198	⇓*e*P	Pn	14 26 13.5	-0.1
SJMP	San Jose	2.92	281	*e*P	Pn	14 26 17.7	+0.5
LQP	Lukban	3.29	312	*e*P	Pn	14 26 23.3	+0.9
BUTP	Butuan	3.30	152	*e*P	Pn	14 26 27.4	+4.8
DCPH	Dipolog City	3.37	192	⇑*i*P	Pn	14 26 21.7	-1.9
DCPH				*i* S	Sn	14 27 03.2	-1.3
BUSP	Coron	3.77	272	*e*P	Pn	14 26 29.1	-0.2
PAGZ	Pagadian	4.09	189	*e*P	Pn	14 26 33.4	-0.3
BUKP	Musuan	4.12	166	*e*P	Pn	14 26 34.4	+0.1
LUBP	Lubang	4.13	296	*e*P	Pn	14 26 34.1	-0.4
IPIL	Ipil	4.34	200	*e*P	Pn	14 26 36.7	-0.7
ENPP	El Nido	4.59	262	*e*P	Pn	14 26 40.0	-0.9
KAKA	Kakadu	25.81	161	*e*P	P	14 31 02.9	-0.3
	6.3nm,0.6s,mb4.3						
WRA	Warramunga Arr	33.23	162	P	P	14 32 06.4	-3.1
	0.6nm,0.7s,mb3.7,baz=343,slow=9.2,SNR=5.5						
ASAR	Alice Springs	36.64	165	P	P	14 32 36.0	-2.6
	1.0nm,0.7s,mb3.8,baz=349,slow=7.3,SNR=9.5						
MKAR	Makanchi Array	49.42	323	P	P	14 34 25.0	+3.0
	0.4nm,0.8s,mb3.5,baz=127,slow=7.2,SNR=2.8						

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*ORF **08** 14:25:35.3, 20.39S×168.77W, h30^{km}, mb5.9*

*IDC **08** 14:25:37.6±0.6, 15.16S×173.49W, mb4.6/14, mb1 4.8/15, mb1mx4.8/18, ML5.0/1, MS5.0/1, Ms1 5.0/1, ms1mx4.4/16, Error ellipse: s-maj=31.5km s-min=14.1km az=135.0*

*BJI **08** 14:25:38.7, 15.10S×173.50W, h10^{km}, mb5.2, Ms5.2, Msz5.2*

*SYO **08** 14:25:38.8, 15.07S×173.46W, h10^{km}, MB4.8*

*NEIC **08** 14:25:38.8±0.1, 15.11S×173.47W, h10^{km}, mb4.8/29, Error ellipse: s-maj=10.4km s-min=4.2km az=137.0*

*MOS **08** 14:25:42.7±1.4, 14.87S×173.80W, h33^{km}, mb5.0/4, Error ellipse: s-maj=26.6km s-min=21.9km az=66.0*

ISC 08 14:25:37.2±0.2, 15.13S±0.07×173.47W±0.07, h10^{km}, (h14^{km}±1.7^{km}:pP-P), n213, $\sigma 0^{s}85$/118, mb4.8/46, MS5.0/4, 14C-6D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	Nonsavu	8.54	251	Pn	P	14 27 54.9	+11
	1μm,0.9s,SNR=16						
RAR	Rarotonga	14.35	117	Pn	P	14 28 56.9	-5.8
	7.2nm,0.3s,baz=198,slow=6.0,SNR=3.9						
RAR				T		14 43 28.7	
RAR	Rarotonga	14.35	117	*e*P	P	14 28 55.2	-7.5
DZM	Mont Dzumac	20.24	247	*e*P	P	14 30 17.6	+2.2
DZM	Mont Dzumac	20.24	247	*e*P	P	14 30 17.6	+2.1
NOUC	Port Laguerre	20.37	247	*e*P	P	14 30 16.0	-0.9
URZ	Urewera	24.50	198	P	P	14 30 57.8	0.0
	14nm,0.5s,mb4.7,baz=358,slow=4.6,SNR=8.9						
RPZ	Rata Peaks	31.41	202	P	P	14 31 59.6	-1.1
	3.2nm,0.5s,mb4.5,baz=36,slow=5.7,SNR=3.5						
RPZ				LR	LR	14 43 26.9	
	comp=Z,3μm,21.7s,MS4.9,baz=17,slow=34						
CTA	Charters Tower	38.63	257	*e*P	P	14 33 02.3	-0.4
	3.5nm,0.9s,mb4.1						
CTA	Charters Tower	38.63	257	P	P	14 33 02.5	-0.2
	5.2nm,0.9s,mb4.2,baz=100,slow=8.9,SNR=6.5						
CNB	Canberra Magne	38.86	232	*e*P	P	14 33 04.2	-0.3
	33nm,1.2s,mb4.9						
TOO	Toolangi	42.58	230	*e*P	P	14 33 34.4	-0.7
	21nm,0.8s,mb4.9						
STKA	Stephens Creek	44.11	240	*e*P	P	14 33 47.3	-0.3
	12nm,0.7s,mb4.7						
STKA	Stephens Creek	44.11	240	P	P	14 33 47.4	-0.3
	14nm,0.7s,mb4.8,baz=90,slow=8.4,SNR=24						
WB2	Warramunga Arr	49.83	257	*e*P	P	14 34 31.6	-1.1
WB2				*e*S	S	14 41 29.2	-12
WRAB	Tennant Creek	49.83	257	*e*P	P	14 34 30.8	-1.9
	12nm,0.8s,mb5.0						
WRA	Warramunga Arr	49.84	257	P	P	14 34 31.7	-1.1
	6.2nm,0.7s,mb4.8,baz=90,slow=7.4,SNR=49						
ASAR	Alice Springs	50.13	252	P	P	14 34 33.6	-1.4
	26nm,0.7s,mb5.4,baz=86,slow=8.1,SNR=74						
ASPA	Alice Springs	50.13	252	*e*P	P	14 34 33.0	-2.0
KAKA	Kakadu	52.49	265	*e*P	P	14 34 43.2	-10
	6.2nm,0.4s,mb4.9						
FITZ	Fitzroy Crossi	58.20	258	*e*P	P	14 35 35.4	+1.2
	1.3nm,0.6s,mb4.1						
FITZ	Fitzroy Crossi	58.20	258	P	P	14 35 35.1	+0.9
	2.8nm,0.8s,mb4.3,baz=145,slow=5.9,SNR=4.1						
SBA	Scott Base	63.51	185	*e*P	P	14 36 10.2	+0.6
SCPH	Surigao	65.34	288	⇓*e*P	P	14 36 30.9	+8.5
PET	Petropavlovsk	72.00	343	*e*P	P	14 37 11.9	+8.9
PET				*e*		14 46 28.1	
CMB	Columbia Colle	72.61	41	*e*P	P	14 37 06.1	-0.8
	4.1nm,0.8s,mb4.4						
MTUM	Tungsten Hills	73.40	43	P	P	14 37 11.8	+0.2
YBH	Yreka Blue Hor	73.42	37	P	P	14 37 11.8	+0.1
	10nm,1.1s,mb4.7,baz=192,slow=1.8,SNR=9.7						
YBH	Yreka Blue Hor	73.42	37	*e*P	P	14 37 11.4	-0.3
	10.0nm,0.8s,mb4.8						
HUMO	Hull Mountain	73.83	36	*e*P	P	14 37 13.6	-0.4
	23nm,1.6s,mb4.9						
PAHR	Pah Rah Range	74.22	40	P	P	14 37 14.8	-1.4
MNV	Mina	74.27	42	*e*P	P	14 37 16.4	-0.2
	15nm,1.3s,mb4.8						
HSO	Harness Mounta	74.34	36	*e*P	P	14 37 17.1	+0.2
LDFC	Landfair	74.51	46	*e*P	P	14 37 17.6	-0.4
TPH	Tonopah	74.68	43	*e*P	P	14 37 19.0	0.0
	12nm,1.1s,mb4.8						
TPNV	Topopah Spring	74.72	44	*e*P	P	14 37 18.9	-0.3
	3.0nm,0.8s,mb4.3						
QSPA	South Pole Qui	74.92	180	*e*P	P	14 37 20.1	+0.5
	54nm,0.8s,mb5.5						
QSPA				LR	LR		
	comp=Z,200nm,20.6s,MS4.4						
MOD	Modoc	74.95	38	*e*P	P	14 37 20.0	-0.5
	comp=Z,7.7nm,0.9s,mb4.6						
NEN	Nelson	74.99	46	*e*P	P	14 37 20.6	-0.2
BMN	Battle Mountai	75.99	41	*e*P	P	14 37 26.1	-0.4
BMW	Boistfort Moun	76.15	33	*e*P	P	14 37 27.0	-0.2
WVOR	Wild Horse Val	76.27	39	*e*P	P	14 37 26.9	-1.0
	comp=Z,19nm,1.2s,mb4.9						
TUC	Tucson	76.27	51	*e*P	P	14 37 28.5	+0.2
	comp=Z,6.0nm,1.1s,mb4.4						
GNW	Green Mountain	77.06	33	*e*P	P	14 37 31.4	-0.9
LON	Longmire	77.08	34	*e*P	P	14 37 32.0	-0.4
ELK	Elko	77.43	41	*e*P	P	14 37 33.6	-0.9
	comp=Z,7.3nm,1.1s,mb4.5						
SLKM	Skilak Lake	77.66	12	*e*P	P	14 37 35.1	-0.2
SSE	Sheshan	77.74	307	P	P	14 37 36.5	+0.1
SSE				AMB	AMB		
	comp=Z,26nm,0.8s,mb5.2						
MVU	Marysvale	78.25	45	*e*P	P	14 37 38.3	-0.8
	comp=Z,11nm,1.1s,mb4.7						
MSU	Marysvale	78.28	45	*e*P	P	14 37 39.9	+0.7
DUG	Dugway	78.71	43	*e*P	P	14 37 41.9	+0.3
	comp=Z,10nm,1.1s,mb4.7						
PMR	Palmer	78.87	12	*e*P	P	14 37 42.2	+0.3
TTA	Tatalina	79.00	8	*e*P	P	14 37 43.5	+0.9
HLID	Hailey	79.46	39	*e*P	P	14 37 46.0	+0.5
	comp=Z,12nm,1.0s,mb4.8						
SPUT	South Promonto	79.52	42	*e*P	P	14 37 46.5	+0.7
HVU	Hansel Valley	79.55	42	*e*P	P	14 37 46.2	+0.1
SRU	San Rafael	79.70	45	*e*P	P	14 37 47.5	+0.5
DPW	Davenport	79.71	34	*e*P	P	14 37 46.1	-0.6
JLU	Jordanelle	79.81	43	*e*P	P	14 37 47.5	0.0
DAU	Daniels Canyon	79.85	43	*e*P	P	14 37 47.9	+0.2
LAZ	Ladron	79.94	50	*e*P	P	14 37 49.4	+1.1
NJ2	Nanjing	79.94	307	*e*P	P	14 37 48.1	-0.3
NJ2				AP	pP	14 37 52.9	+1.3
NJ2				XP	sP	14 37 54.1	+1.5
NJ2				PP	PP	14 40 49.8	-1.9
NJ2				PPP	PPP	14 42 42.9	+0.3
TCUT	Toone Canyon	80.10	43	*e*P	P	14 37 47.8	-1.2
BNM	Barren Site	80.21	51	*e*P	P	14 37 50.4	+0.6
HWUT	Hardware Ranch	80.24	42	*e*P	P	14 37 48.9	-0.9
	comp=Z,8.9nm,1.3s,mb4.5						
PV10	Paradox Valley	80.37	46	*e*P	P	14 37 50.7	+0.2
LTX	Lajitas	80.52	56	*e*P	P	14 37 51.8	+0.3
	comp=Z,18nm,1.2s,mb4.9						
TXAR	Lajitas Array	80.52	56	P	P	14 37 52.8	+1.3
	comp=Z,1.2nm,0.7s,mb3.9,baz=225,slow=5.3,SNR=11						
PV01	Paradox Valley	80.59	46	*e*P	P	14 37 51.2	-0.5
ANMO	Albuquerque	80.68	50	*e*P	P	14 37 52.9	+0.7
ANMO	Albuquerque	80.68	50	*e*P	P	14 37 52.4	+0.2
	comp=Z,4.2nm,0.8s,mb4.4						
CN2	Changchun	80.83	320	*e*P	P	14 37 54.8	+2.0
CN2				*e*AP	pP	14 37 59.5	+3.5
CN2				*e*XP	sP	14 38 02.0	+4.9
CN2				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.2						
MCMT	McKenzie Canyo	81.09	39	*e*P	P	14 37 54.3	+0.1
GDL2	Guadalupe Moun	81.12	53	*e*P	P	14 37 55.2	+0.6
DLBC	Dease Lake	81.47	21	P	P	14 37 54.8	-1.1
REDW	Red Top Meadow	81.58	41	*e*P	P	14 37 55.7	-1.0
TPAW	Teton Pass	81.58	41	*e*P	P	14 37 56.8	0.0
WUWY	Wally Ulrich	81.73	41	*e*P	P	14 37 57.7	+0.2
CPRX	Cap Rock	81.83	53	*e*P	P	14 37 58.7	+0.4
MOOW	Moose Ponds	81.84	41	*e*P	P	14 37 58.2	+0.1
LOHW	Long Hollow	81.86	41	*e*P	P	14 37 57.8	-0.3
CHMT	Chamberlain Mo	81.95	37	*e*P	P	14 37 58.2	-0.4
QLMT	Earthquake Lak	81.95	39	*e*P	P	14 37 59.9	+1.2
COLA	College	82.11	11	*e*P	P	14 37 59.1	+0.1
BW06	Boulder Array	82.11	42	*e*P	P	14 37 58.9	-0.6
	comp=Z,7.2nm,1.0s,mb4.6						
PDAR	Pinedale Array	82.11	42	P	P	14 37 59.5	-0.1
	comp=Z,3.6nm,0.8s,mb4.4,baz=218,slow=2.2,SNR=24						
ILAR	Eielson Array	82.19	11	P	P	14 37 59.0	-0.5
	comp=Z,5.8nm,0.8s,mb4.6,baz=226,slow=5.7,SNR=32						
BOZ	Bozeman (W)	82.25	39	*e*P	P	14 37 59.8	-0.4
	comp=Z,27nm,1.6s,mb4.9						
SDCO	Great Sand Dun	82.58	48	*e*P	P	14 38 03.1	+1.0
	comp=Z,12nm,1.3s,mb4.8						
HRY	Holter Researc	82.68	38	*e*P	P	14 38 01.6	-0.8
DAWY	Dawson	83.18	14	*e*P	P	14 38 04.6	0.0

RSSD	**Black Hills**	**86.31**	**43**	eP	**P**	**14 38 19.9**	**-0.8**
	comp=Z,12nm,0.9s,mb5.1						
GYA	**Guiyang**	**87.85**	**298**	eP	**P**	**14 38 29.9**	**+1.2**
GYA				AP	pP	14 38 34.8	+2.9
GYA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb5.2						
GYA				LR	LR		
	comp=N,240nm,16.2s,MS5.0						
GYA				LR	LR		
	comp=E,480nm,18.0s,MS5.0						
GYA				LR	LR		
	comp=Z,360nm,17.0s,MS4.8						
MAW	**Mawson**	**88.03**	**199**	eP	**P**	**14 38 29.8**	**+1.3**
	comp=Z,6.0nm,0.8s,mb4.9						
MAW	**Mawson**	**88.03**	**199**	P	**P**	**14 38 30.0**	**+1.5**
	comp=Z,7.1nm,0.7s,mb5.0,baz=129,slow=6.0,SNR=20						
XAN	**Xi'an**	**88.42**	**306**	P	**P**	**14 38 32.5**	**+1.3**
XAN				AP	pP	14 38 43.2	+8.8
HHC	**Hu-ho-hao-te**	**88.79**	**313**	eP	**P**	**14 38 35.9**	**+3.1**
HHC				XP	sP	14 38 40.9	+3.9
HHC				PP	PP	14 42 10.3	+6.0
HHC				AMB	AMB		
	comp=Z,25nm,0.5s,mb5.8						
HHC				LR	LR		
	comp=Z,3µm,18.4s,MS5.8						
YAK	**Yakutsk**	**88.84**	**337**	eP	**P**	**14 38 32.8**	**+0.3**
YAK				pmax	pmax		
	comp=Z,16nm,1.7s,mb5.1						
YKA	**Yellowknife Ar**	**89.88**	**23**	P	**P**	**14 38 37.5**	**+0.1**
	comp=Z,1.9nm,0.8s,mb4.5,baz=234,slow=4.9,SNR=5.2						
YKA	**Yellowknife Ar**	**89.88**	**23**	P	**P**	**14 38 37.5**	**+0.1**
KMI	**Kunming**	**90.84**	**296**	eP	**P**	**14 38 44.1**	**+1.3**
KMI				AP	pP	14 38 47.1	+1.1
KMI				AMB	AMB		
	comp=Z,6.0nm,1.1s,mb4.8						
SYO	**Syowa Base**	**92.85**	**191**	⇑P	**P**	**14 38 51.1**	**+0.1**
SYO	**Syowa Base**	**92.85**	**191**	⇓PcP	PcP	14 38 52.3	+0.4
SYO	**Syowa Base**	**92.85**	**191**	⇓sP	sP	14 38 59.6	+4.4
VNA3	**Neumayer Olymp**	**93.13**	**175**	⇑iP	**P**	**14 38 53.6**	**+1.4**
VNA3	**Neumayer Olymp**	**93.13**	**175**	⇑i	**P**	**14 38 54.7**	**+2.5**
VNA3	**Neumayer Olymp**	**93.13**	**175**	⇑i	**P**	**14 38 55.2**	**+3.0**
VNA3	**Neumayer Olymp**	**93.13**	**175**	⇑i	**P**	**14 38 57.4**	**+5.2**
VNA3	**Neumayer Olymp**	**93.13**	**175**	⇑i		14 43 37.0	
SNAA	**Sanae**	**93.18**	**177**	P	**P**	**14 38 52.0**	**-0.4**
SNAA	**Sanae**	**93.18**	**177**	⇑i	**P**	**14 38 53.1**	**+0.7**
SNAA	**Sanae**	**93.18**	**177**	⇑i	**P**	**14 38 55.2**	**+2.8**
SNAA	**Sanae**	**93.18**	**177**	⇑i	**P**	**14 38 57.4**	**+5.0**
SNAA	**Sanae**	**93.18**	**177**	⇓i		14 43 37.9	
VNA2	**Neumayer--Watz**	**93.63**	**175**	P	**P**	**14 38 55.6**	**+1.1**
VNA2	**Neumayer--Watz**	**93.63**	**175**		**P**	**14 38 59.1**	**+4.6**
VNA2	**Neumayer--Watz**	**93.63**	**175**		**P**	**14 39 00.1**	**+5.6**
VNA2	**Neumayer--Watz**	**93.63**	**175**			14 43 40.8	
SONM	**Songino Array**	**94.59**	**318**	P	**P**	**14 39 01.0**	**+1.5**
	comp=Z,0.7nm,0.7s,mb4.2,baz=117,slow=5.5,SNR=4.2						
SONM				PP	PP	14 42 48.7	-1.2
	comp=Z,0.7nm,0.9s,baz=100,slow=7.5,SNR=3.7						
TIXI	**Tiksi**	**94.72**	**344**	eP	**P**	**14 38 58.8**	**-0.7**
TIXI				e		14 39 09.3	
TIXI				e		14 42 47.0	
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb5.0						
GTA	**Gaotai**	**96.95**	**309**	eP	**P**	**14 39 17.4**	**+7.0**
GTA				AP	pP	14 39 21.6	+7.9
GTA				XP	sP	14 39 24.4	+10
GTA				AMB	AMB		
	comp=Z,1.0nm,0.7s,mb4.3						
ZAK	**Zakamensk**	**97.27**	**320**	eP	**P**	**14 39 12.9**	**+1.3**
BVAR	**Borovoye Array**	**117.62**	**322**	PKP	PKPdf	14 44 24.9	-1.7
	comp=Z,1.9nm,0.8s,baz=45,slow=2.1,SNR=9.8						
ARCES	**ARCESS Array B**	**124.33**	**352**	PKP	PKPdf	14 44 38.6	-0.6
	comp=Z,4.3nm,0.8s,SNR=5.7						
OBN	**Obninsk**	**133.84**	**336**	ePKIKP	PKPdf	14 44 56.9	-0.6
OBN				PS	PS	14 57 47.0	+4.7
OBN				SS	SS	15 05 14.0	+1.4
OBN				pmax	pmax		
	comp=Z,14nm,0.6s						
SOC	**Sochi**	**139.95**	**322**	i PKIKP	PKPdf	14 45 08.4	-0.8
SOC				e		14 48 06.9	
SOC				ePPP	PPP	14 51 09.2	-2.3
AKASG	**Malin Array Be**	**140.06**	**338**	PKP	PKPdf	14 45 07.9	-1.2
	comp=Z,1.5nm,0.6s,baz=22,slow=2.3,SNR=6.8						
KWP	**Kalwaria**	**143.14**	**342**	PKP	PKPdf	14 45 11.4	-3.1
CLL	**Collm**	**143.54**	**353**	ePKIKP	PKPdf	14 45 12.0	-3.1
	comp=Z,logA/T=0.9						
CLL	**Collm**	**143.54**	**353**	ePKIKP	PKPdf	14 45 12.0	-3.1
CLL				pmax	pmax		
	comp=Z,5.0nm,0.7s						
BRG	**Berggiesshubel**	**143.85**	**352**	ePKIKP	PKPdf	14 45 15.7	0.0
BRG				pmax	pmax		
	comp=Z,4.0nm,0.7s						
UPC	**Upice**	**143.88**	**350**	ePKP	PKPdf	14 45 12.4	-3.3
UPC				epPKP		14 45 19.2	
DPC	**Dobruska-Polom**	**143.98**	**349**	ePKP	PKPdf	14 45 15.0	-0.9
DPC				epPKP		14 45 18.9	
BOYT	**Boyabat**	**144.09**	**322**	i P	PKPbc	14 45 15.1	+2.4
PVCC	**Panska Ves**	**144.10**	**351**	ePKP	PKPdf	14 45 14.5	-1.6
PVCC				epPKP		14 45 18.6	
OKC	**Ostrava-Krasne**	**144.11**	**347**	ePKP	PKPdf	14 45 13.5	-2.7
OKC				epPKP		14 45 19.6	
UZH	**Uzhgorod**	**144.16**	**342**	ePKIKP	PKPdf	14 45 12.0	-4.3
TSUM	**Tsumeb**	**144.19**	**198**	ePKP	PKPdf	14 45 15.1	-2.2
MORC	**Moravsky Berou**	**144.30**	**348**	ePKP	PKPdf	14 45 14.8	-1.7
MOX	**Moxa**	**144.34**	**354**	i P	PKPbc	14 45 20.5	+7.4
MOX	**Moxa**	**144.34**	**354**	ePKIKP	PKPdf	14 45 20.5	+4.0
PRU	**Pruhonice**	**144.63**	**351**	ePKP	PKPdf	14 45 15.3	-1.8
PRU				epPKP		14 45 21.0	
PRU				ex	x	14 45 32.6	
CTKT	**Corum**	**144.66**	**321**	i P	PKPbc	14 45 16.5	+2.3
NKC	**Novy Kostel**	**144.66**	**353**	ePKP	PKPdf	14 45 21.1	+4.0
NKC				ex	x	14 45 25.1	
NKC				ex	x	14 45 32.7	
NKC	**Novy Kostel**	**144.66**	**353**	ePKIKP	PKPdf	14 45 21.1	+4.0
NKC				e		14 45 32.7	
GZT	**Gaziantep**	**144.70**	**315**	i P	PKPbc	14 45 16.9	+2.4
KECS	**Kecovo**	**144.81**	**344**	ePKP	PKPdf	14 45 18.0	+0.5
BALT	**Daday**	**144.90**	**324**	i P	PKPbc	14 45 17.2	+2.2
KAHT	**Ahir Dag**	**145.02**	**316**	i P	PKPbc	14 45 17.8	+2.4
GIVF	**Givet**	**145.09**	**2**	ePKP1	PKPbc	14 45 15.1	-0.1
	comp=Z,46nm,1.0s						
BAIF	**Baives**	**145.11**	**3**	ePKP1	PKPbc	14 45 15.4	+0.2
	comp=Z,67nm,1.0s						
VYHS	**Vyhne**	**145.22**	**346**	ePKP	PKPdf	14 45 16.8	-1.4
VYHS				e		14 45 21.0	
GRA1	**Grafenberg Arr**	**145.32**	**355**	ePKPbc	PKPbc	14 45 17.1	+1.4
GRA1				epPKPbc		14 45 23.4	
GRF	**Grafenberg Arr**	**145.32**	**355**	ePKIKP	PKPdf	14 45 17.1	-1.2
GRF				e		14 45 23.4	
PSZ	**Piszkesteto**	**145.48**	**344**	⇓iP	PKPbc	14 45 18.4	+2.2
PSZ	**Piszkesteto**	**145.48**	**344**	ePKP	PKPdf	14 45 18.0	-0.7
ELDT	**Eldivan**	**145.55**	**322**	i P	PKPbc	14 45 19.2	+2.6
WLF	**Walferdange**	**145.56**	**0**	ePKP	PKPdf	14 45 17.9	-0.8
KMBO	**Kilima Mbogo**	**145.59**	**245**	PKPbc	PKPbc	14 45 20.3	+2.7
	comp=Z,5.2nm,1.1s,baz=55,slow=3.6,SNR=5.9						
KMBO	**Kilima Mbogo**	**145.59**	**245**	ePKP	PKPdf	14 45 19.7	-0.2
KHC	**Kasperske Hory**	**145.60**	**352**	ePKP	PKPdf	14 45 18.7	-0.1
KHC				epPKP		14 45 24.2	
KHC				ex	x	14 45 35.1	
WET	**Wettzell**	**145.68**	**353**	ePKIKP	PKPdf	14 45 18.1	-0.8
WET				e		14 45 24.3	
AVNT	**Avonos**	**145.71**	**319**	i P	PKPbc	14 45 19.2	+2.1
GEC2	**GERESS Array S**	**145.86**	**352**	ePKPbc	PKPbc	14 45 19.1	+2.0
GEC2				epPKPbc		14 45 24.9	
GERES	**GERESS Array B**	**145.86**	**352**	PKPbc	PKPbc	14 45 19.3	+2.2
	comp=Z,5.0nm,0.7s,baz=27,slow=3.0,SNR=27						
ZST	**Bratislava**	**145.89**	**347**	ePKP	PKPdf	14 45 19.9	+0.6
ZST				e		14 45 35.9	
BRTR	**Keskin Array B**	**145.90**	**321**	PKPbc	PKPbc	14 45 20.2	+2.7
	comp=Z,30nm,0.8s,baz=105,slow=2.5,SNR=96						
FLN	**La Foliniere**	**145.97**	**8**	ePKP1	PKPbc	14 45 19.6	+2.2
COBT	**Iskenderun**	**146.02**	**314**	i P	PKPbc	14 45 19.9	+2.0
LDF	**La Druitiere**	**146.18**	**8**	ePKP1	PKPbc	14 45 19.5	+1.6
GRR	**Gorron**	**146.28**	**9**	ePKP1	PKPbc	14 45 19.6	+1.5
	comp=Z,23nm,0.9s						
SGKT	**Sivrigoynuk**	**146.29**	**324**	i P	PKPbc	14 45 21.2	+2.8
MOA	**Molln**	**146.75**	**350**	⇓iP	PKPbc	14 45 22.3	+3.1
CDF	**Champ du Feu**	**146.81**	**359**	ePKP1	PKPbc	14 45 21.8	+2.5
	comp=Z,46nm,0.9s						
BFO	**Black Forest**	**146.86**	**358**	ePKP2	PKPab	14 45 21.4	-1.8
ARSA	**Arzberg**	**147.11**	**349**	⇑iP	PKPdf	14 45 22.8	+1.4
HAU	**Haudompre**	**147.22**	**0**	ePKP1	PKPdf	14 45 24.3	+2.7
	comp=Z,63nm,1.1s						
HINF	**Hinteralfeld**	**147.41**	**360**	ePKP1	PKPdf	14 45 23.8	+1.9
MEST	**Erdemli**	**147.42**	**316**	i P	PKPdf	14 45 24.2	+1.9
KBA	**Koelnbreinsper**	**147.64**	**351**	⇑iP	PKPdf	14 45 24.9	+2.6
ESKT	**Eskisehir**	**147.68**	**323**	i P	PKPdf	14 45 21.2	-1.4
DAVA	**Damuels**	**147.81**	**356**	⇑iP	PKPdf	14 45 25.0	+2.5
LOR	**Lormes**	**147.88**	**3**	ePKP1	PKPdf	14 45 24.6	+1.9
	comp=Z,19nm,0.8s						
SSF	**Saint Saulge**	**148.06**	**4**	ePKP1	PKPdf	14 45 25.3	+2.3
	comp=Z,40nm,1.1s						
MFF	**Saint Martin d**	**148.13**	**9**	ePKP1	PKPdf	14 45 25.2	+2.1
ULDT	**Uludag**	**148.21**	**326**	i P	PKPdf	14 45 24.9	+1.5
AVF	**Avril sur Loir**	**148.32**	**4**	ePKP1	PKPdf	14 45 25.6	+2.2
	comp=Z,15nm,0.8s						
SMF	**Signal de Mont**	**148.50**	**4**	ePKP1	PKPdf	14 45 26.2	+2.5
BRMO	**Bormio**	**148.58**	**355**	ePKP	PKPdf	14 45 27.3	+3.5
CABF	**La Chapelle**	**148.61**	**1**	ePKP1	PKPdf	14 45 27.3	+3.5
	comp=Z,46nm,1.0s						
TCF	**Toulx Ste Croi**	**148.72**	**6**	ePKP1	PKPdf	14 45 28.2	+4.2
	comp=Z,28nm,0.9s						
GRUS	**Gruza**	**148.89**	**340**	⇑iP	PKPdf	14 45 27.6	+3.2
DIVS	**Divcibare**	**148.93**	**341**	⇑iP	PKPdf	14 45 28.1	+3.6
VAI	**Varese**	**149.30**	**357**	ePKP	PKPdf	14 45 28.2	+3.2
RJF	**Les Rejaudoux**	**149.62**	**7**	ePKP1	PKPdf	14 45 31.4	+5.9
LPL	**La Plagne**	**149.71**	**360**	ePKP1	PKPdf	14 45 30.7	+5.1
MMB	**Musomiste**	**149.72**	**334**	i P	PKPdf	14 45 30.0	+4.2
LPG	**La Plagne**	**149.73**	**360**	ePKP1	PKPdf	14 45 30.8	+5.1
	comp=Z,9.8nm,0.7s						
KKB	**Krupnik**	**149.76**	**335**	i P	PKPdf	14 45 30.3	+4.5
CAF	**Calviac**	**150.06**	**6**	ePKP1	PKPdf	14 45 31.6	+5.4
EIL	**Elat**	**150.10**	**304**	ePKPbc	PKPdf	14 45 31.0	+4.2
AYVA	**Ayvalik**	**150.11**	**328**	i P	PKPdf	14 45 13.8	-13
BNI	**Bardonecchia**	**150.17**	**360**	ePKPdf	PKPdf	14 45 26.1	-0.3
BNI				ePKPbc	PKPdf	14 45 31.7	+5.3
ORIF	**Oris-en-Rattie**	**150.30**	**1**	ePKP1	PKPdf	14 45 31.4	+4.8
VIVF	**Saint-Julien-l**	**150.33**	**3**	ePKP1	PKPdf	14 45 31.6	+5.0
MBDF	**Montbardon**	**150.50**	**360**	ePKP1	PKPdf	14 45 30.9	+4.0
	comp=Z,21nm,1.1s						
LASF	**Ste Croix**	**151.06**	**4**	ePKP1	PKPdf	14 45 33.3	+5.6
	comp=Z,51nm,1.4s						
SMRF	**Simiane la Rot**	**151.24**	**1**	ePKP1	PKPdf	14 45 33.6	+5.6
MBAR	**Mbarara**	**151.41**	**239**	PKPdf	PKPdf	14 45 28.1	-1.1
LMR	**La Mourre**	**151.89**	**0**	ePKP1	PKPdf	14 45 34.8	+5.8
	comp=Z,24nm,1.1s						
MTE	**Manteigas**	**151.99**	**23**	ePKPdf	PKPdf	14 45 28.3	-0.9
PGF	**Pioggiola**	**152.59**	**356**	ePKP1	PKPdf	14 45 38.5	+8.5
	comp=Z,21nm,1.0s						
ESDC	**Sonseca Array**	**153.88**	**19**	PKPbc	PKPdf	14 45 39.6	+7.7
	comp=Z,1.2nm,0.7s,slow=5.1,SNR=3.7						
ESDC				PKPab	PKPab	14 45 52.8	+0.3
	comp=Z,0.5nm,0.4s,baz=327,slow=5.1,SNR=5.9						

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*NIED **08** 14:40:00,33.10N×137.30E,h5^{km},Mw5.3 Best double couple: M$_0$9.43×10^{16} NP1:ϕ_s329°,δ88°,λ173°. NP2:ϕ_s59°, δ83°,λ2°.*

*IDC **08** 14:40:06.6±0.4,32.99N×137.39E,mb4.9/21,mb1 5.0/25, mb1mx5.0/28,ML4.1/4,MS4.9/2,Ms1 4.9/2,ms1mx4.5/32, Error ellipse: s-maj=15.3km s-min=12.4km az=71.0*

*JMA **08** 14:40:07.4±0.1,32.96N×137.32E,h43^{km}±2^{km},M5.4 Broadband fault plane solution: P waves. NP1:ϕ_s240°, δ33°,λ3°. NP2:ϕ_s147°,δ88°,λ123°. Principal axes: T Plg38°, Azm86°; N Plg33°, Azm326°; P Plg35°, Azm209°;*

JMA Felt II J1.

*BJI **08** 14:40:08.5,32.93N×137.62E,h41^{km},mB5.4,mb5.2, Ms5.5,Msz5.2*

*SYO **08** 14:40:08.4,32.94N×137.29E,h10^{km},MB5.3*

*NEIC **08** 14:40:10.4±1.4,32.95N×137.25E,h24^{km}±9^{km},mb5.3/93, MW5.3(NIED),Error ellipse: s-maj=3.8km s-min=3.3km az=155.0*

NEIC Recorded [2 JMA] in Nara and [1 JMA] in Aichi, Mie, Osaka, Shiga, Shizuoka and Wakayama Prefectures, Honshu.

*HRVD **08** 14:40:10.4±0.2,33.05N×137.23E,h12^{km},MW5.4/64, Centroid moment Tensor Solution. LP body waves: s51,c95;Mantle waves: s64,c121; Half duration: 1^{s}2 Moment tensor: Scale 10^{17}Nm; M$_{rr}$0.18±.03; M$_{\theta\theta}$-1.58±.03; M$_{\phi\phi}$1.41±.03; M$_{r\theta}$0.09±.08; M$_{\theta\phi}$0.50±.03; M$_{\phi r}$-0.16±.08; Best double couple: M$_0$1.59×10^{17} NP1: ϕ_s234°,δ83°,λ2°. NP2:ϕ_s144°,δ88°,λ173°. Principal axes: T 1.51, Plg6°, Azm99°; N .17, Plg83°, Azm310°; P -1.67, Plg4°, Azm189°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*MOS **08** 14:40:12.1±0.9,33.29N×137.15E,h31^{km},mb5.5/31, MS5.2/9 Error ellipse: s-maj=14.9km s-min=6.5km az=108.4*

*CSEM **08** 14:40:14.3,33.52N×137.30E,h40^{km},mb5.5*

ISC 08 14:40:09.7±0.1**,33.12N**±0.02×**137.24E**±0.02**,h24^{km}, h24^{km}±.8^{km}:pP-P,n418,**σ**1^{s}01**/441**,mb5.2**/132**,MS5.2**/22**, 43C-32D,Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK01	**Tokai 1**	**0.71**	**24**	P	**Pb**	**14 40 22.7**	**-0.7**
TK01				eS	**Sb**	**14 40 34.4**	**+1.7**
TK02	**Tokai 2**	**0.93**	**28**	⇓P	**Pb**	**14 40 25.9**	**-1.2**
TK03	**Tokai 3**	**1.21**	**30**	⇓P	**Pn**	**14 40 29.8**	**-1.6**
TK03				eS	**Sb**	**14 40 47.0**	**0.0**
JWZ	**Kozaga**	**1.34**	**288**	⇑P	**Pn**	**14 40 31.7**	**-1.6**
JWZ				eS	**Sn**	**14 40 49.1**	**-1.3**
JIE	**Ise**	**1.34**	**341**	⇓P	**Pn**	**14 40 33.1**	**-0.2**
JIE				eS	**Sn**	**14 40 51.0**	**+0.4**
TK04	**Tokai 4**	**1.37**	**23**	⇓P	**Pn**	**14 40 32.5**	**-1.2**
TK04				eS	**Sn**	**14 40 51.4**	**+0.2**
JKN	**Kiinagashima**	**1.39**	**324**	⇑P	**Pn**	**14 40 33.5**	**-0.5**
JKN				eS	**Sn**	**14 40 51.0**	**-0.7**
JAA	**Atsumi**	**1.51**	**357**	⇓P	**Pn**	**14 40 35.0**	**-0.7**
TSUJ	**Tsu 2**	**1.73**	**337**	⇓P	**Pn**	**14 40 38.5**	**-0.3**
TSUJ				eS	**Sn**	**14 41 00.6**	**+0.3**
JWM	**Minabe**	**1.73**	**295**	⇑P	**Pn**	**14 40 37.9**	**-1.0**
JWM				eS	**Sn**	**14 40 59.8**	**-0.6**
JSG	**Sagara**	**1.74**	**27**	⇓P	**Pn**	**14 40 37.4**	**-1.6**
JWY	**Kouya**	**1.76**	**309**	⇑P	**Pn**	**14 40 39.1**	**-0.1**
JWY				eS	**Sn**	**14 41 01.3**	**+0.3**
HMMJ	**Hamamatsu 2**	**1.78**	**13**	⇓P	**Pn**	**14 40 38.1**	**-1.4**
JHE	**Heguri**	**2.00**	**320**	⇑P	**Pn**	**14 40 42.5**	**-0.3**
SHZ3	**Shizuoka 3**	**2.10**	**22**	⇓P	**Pn**	**14 40 42.4**	**-1.8**
JEG	**Eigenji**	**2.13**	**341**	⇓P	**Pn**	**14 40 44.7**	**+0.1**
JHJ	**Hachijo jima 2**	**2.14**	**89**	Pn	**Pn**	**14 40 41.1**	**-3.6**
	174nm,0.3s,baz=237,slow=11,SNR=57						
JHJ				Sn	**Sn**	**14 41 05.3**	**-5.4**
	523nm,0.3s,baz=97,slow=19,SNR=12						
JHJ2	**Mitsune**	**2.17**	**89**	⇑P	**Pn**	**14 40 41.0**	**-4.1**
JHJ2				eS	**Sn**	**14 41 05.4**	**-6.0**
JAJ2	**Tsuna**	**2.35**	**304**	⇑P	**Pn**	**14 40 47.4**	**-0.3**
JIM2	**Oshima 3**	**2.42**	**48**	⇑P	**Pn**	**14 40 46.7**	**-2.1**
JIM2				eS	**Sn**	**14 41 15.7**	**-2.3**
JAI	**Aioi**	**2.42**	**287**	⇑P	**Pn**	**14 40 47.5**	**-1.3**
JAI				eS	**Sn**	**14 41 16.9**	**-1.1**
JMIK	**Miki**	**2.48**	**313**	⇑P	**Pn**	**14 40 49.5**	**0.0**
MRT2	**Murotomisaki 2**	**2.61**	**277**	⇑P	**Pn**	**14 40 49.3**	**-2.1**
JYN	**Shimob**	**2.61**	**24**	P	**Pn**	**14 40 49.7**	**-1.7**
JGM	**Miyama**	**2.61**	**351**	⇓P	**Pn**	**14 40 50.8**	**-0.6**
JGM				eS	**Sn**	**14 41 23.7**	**+1.0**
JFM	**Mihama**	**2.62**	**337**	⇓P	**Pn**	**14 40 51.5**	**0.0**
JOD2	**Odawara 2**	**2.63**	**35**	P	**Pn**	**14 40 50.5**	**-1.2**
JOD2				eS	**Sn**	**14 41 22.3**	**-1.0**
JWT	**Wachi**	**2.64**	**325**	⇑P	**Pn**	**14 40 51.7**	**-0.2**
JWT				eS	**Sn**	**14 41 23.6**	**+0.1**
JKS	**Kasai**	**2.72**	**314**	⇑P	**Pn**	**14 40 52.7**	**-0.3**
JNT	**Takato**	**2.85**	**15**	⇓P	**Pn**	**14 40 53.8**	**-1.0**
JAD	**Aida**	**3.13**	**306**	⇑P	**Pn**	**14 40 57.8**	**-1.0**
JRY	**Ryogami san**	**3.20**	**25**	⇓P	**Pn**	**14 40 59.2**	**-0.6**
JKSM	**Kasumi**	**3.26**	**320**	P	**Pn**	**14 41 00.2**	**-0.4**
MAJO	**Matsushiro**	**3.51**	**13**	eP	**Pn**	**14 41 03.3**	**-0.9**
MAT	**Matsushiro**	**3.51**	**13**	P	**Pn**	**14 41 03.4**	**-0.8**
MAT				S	**Sn**	**14 41 44.7**	**-0.7**
MAT	**Matsushiro**	**3.51**	**13**	eP	**Pn**	**14 41 03.0**	**-1.2**
MAT				eS	**Sn**	**14 41 45.0**	**-0.4**
JET	**Tanbara**	**3.56**	**282**	⇑P	**Pn**	**14 41 03.0**	**-2.0**
JTO	**Tosashimizu**	**3.74**	**267**	⇑P	**Pn**	**14 41 04.6**	**-2.8**
UWA2	**Uwa jima 2**	**3.87**	**273**	⇑P	**Pn**	**14 41 07.0**	**-2.3**
JHS	**Saijyo**	**3.90**	**300**	P	**Pn**	**14 41 08.5**	**-1.3**
JHM	**Kurahashi**	**4.06**	**286**	⇑P	**Pn**	**14 41 10.2**	**-1.8**
JKD	**Kudamatsu**	**4.57**	**283**	⇑P	**Pn**	**14 41 17.3**	**-2.0**
JKI	**Kunimi**	**4.77**	**278**	P	**Pn**	**14 41 19.8**	**-2.3**
JTSN	**Tsuno**	**4.91**	**261**	P	**Pn**	**14 41 21.6**	**-2.5**
JTY	**Toyota**	**5.27**	**284**	⇑P	**Pn**	**14 41 27.0**	**-2.2**
CBIJ	**Chichi jima**	**7.37**	**143**	Pn	**Pn**	**14 41 53.0**	**-5.7**
	16nm,0.3s,baz=308,slow=19,SNR=2.6						
JOW	**Kunigami**	**9.98**	**233**	Pn	**P**	**14 42 28.9**	**-6.0**
	2.9nm,0.3s,baz=120,slow=9.6,SNR=7.6						
ASAJ	**Asahikawa**	**11.75**	**19**	Pn	**P**	**14 42 54.0**	**-5.0**
	1.5nm,0.3s,baz=240,slow=6.2,SNR=12						
ASAJ				LR	LR	14 47 49.5	
	comp=Z,13µm,19.7s,baz=190,slow=39						
ASAJ	**Asahikawa**	**11.75**	**19**	P	**P**	**14 42 54.0**	**-5.0**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,13µm,19.7s						
MDJ	**Mudanjiang**	**12.93**	**335**	P	**P**	**14 43 15.4**	**+0.7**
MDJ				S	**S**	**14 45 44.1**	**+5.3**
MDJ				LR	LR		
	comp=N,9µm,15.5s						
MDJ				LR	LR		
	comp=E,13µm,14.7s						
MDJ				LR	LR		
	comp=Z,9µm,13.5s						
MDJ	**Mudanjiang**	**12.93**	**335**	eP	**P**	**14 43 16.8**	**+2.1**
	comp=Z,134nm,1.8s						
SSE	**Sheshan**	**13.76**	**266**	P	**P**	**14 43 25.3**	**-0.5**
SSE				S	**S**	**14 45 59.7**	**+1.0**
SSE				AMB	AMB		
	comp=Z,60nm,0.7s						
SSE				AMB	AMB		
	comp=Z,738nm,11.0s						
SSE				LR	LR		
	comp=N,8µm,15.0s						
SSE				LR	LR		
	comp=E,6µm,15.0s						
SSE				LR	LR		
	comp=Z,7µm,11.1s						
CN2	**Changchun**	**14.09**	**323**	eP	**P**	**14 43 31.2**	**+1.1**
CN2				eS	**S**	**14 46 09.7**	**+3.1**
CN2				AMB	AMB		
	comp=Z,30nm,1.5s						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,15µm,12.0s						
CN2				LR	LR		
	comp=E,13µm,12.0s						
YSS	**Yuzh-Sakhalins**	**14.44**	**15**	i P	**P**	**14 43 32.7**	**-2.0**
YSS				pmax	pmax		
	comp=Z,310nm,2.3s						
YSS				MLR	MLR		
	comp=Z,5µm,18.0s						
YSS	**Yuzh-Sakhalins**	**14.44**	**15**	eP	**P**	**14 43 31.1**	**-3.5**
	comp=Z,48nm,0.8s						
NJ2	**Nanjing**	**15.54**	**271**	eP	**P**	**14 43 51.3**	**+2.3**
NJ2				PP	PP	14 44 07.5	+6.1
NJ2				PPP	PPP	14 44 10.0	+1.1
NJ2				S	**S**	**14 46 43.0**	**+2.2**
NJ2				AMB	AMB		
	comp=Z,420nm,7.4s						
NJ2				LR	LR		
	comp=N,15µm,18.6s						
NJ2				LR	LR		
	comp=E,10µm,18.8s						
NJ2				LR	LR		
	comp=Z,12µm,18.8s						
KLR	**Kul'dur**	**16.61**	**347**	eP	**P**	**14 44 03.8**	**+1.2**
TIA	**Tai'an**	**16.83**	**286**	P	**P**	**14 44 06.6**	**+1.1**
TIA				AMB	AMB		
	comp=Z,100nm,1.5s						
TIA				LR	LR		
	comp=N,6µm,14.0s						
TIA				LR	LR		
	comp=E,9µm,14.0s						
QZH	**Quanzhou**	**18.21**	**248**	⇑iP	**P**	**14 44 21.9**	**-0.9**
QZH				S	**S**	**14 47 35.0**	**-7.1**
QZH				AMB	AMB		
	comp=Z,710nm,1.6s						
QZH				LR	LR		
	comp=N,9µm,10.6s						
QZH				LR	LR		
	comp=E,4µm,10.0s						
QZH				LR	LR		
	comp=Z,8µm,14.5s						
BJT	**Baijiatuau**	**18.25**	**298**	eP	**P**	**14 44 24.0**	**+0.8**
	comp=Z,151nm,1.3s						
BJI	**Beijing**	**18.25**	**298**	P	**P**	**14 44 23.7**	**+0.5**
BJI				S	**S**	**14 47 54.2**	**+11**
BJI				AMB	AMB		
	comp=Z,79nm,1.4s						
BJI				LR	LR		
	comp=N,12µm,13.2s						
BJI				LR	LR		
	comp=E,6µm,17.2s						
BJI				LR	LR		
	comp=Z,5µm,23.1s						
WHN	**Wuhan**	**19.61**	**269**	⇓P	**P**	**14 44 39.5**	**+0.1**
WHN				S	**S**	**14 48 26.0**	**+12**
WHN				LR	LR		
	comp=N,7µm,12.0s						
WHN				LR	LR		
	comp=E,5µm,13.0s						
WHN				LR	LR		
	comp=Z,12µm,13.1s						
GUMO	**Guam**	**20.65**	**159**	eP	**P**	**14 44 45.8**	**-4.6**
	comp=Z,265nm,1.4s						
TIY	**Taiyuan**	**20.71**	**290**	⇑P	**P**	**14 44 48.4**	**-2.5**
TIY				S	**S**	**14 48 43.0**	**+7.0**
TIY				LR	LR		
	comp=N,9µm,16.0s						
TIY				LR	LR		
	comp=Z,9µm,15.0s,MS5.3						
HIA	**Hailar**	**20.74**	**326**	eP	**P**	**14 44 49.9**	**-1.2**
	comp=Z,40nm,1.0s						
HHC	**Hu-ho-hao-te**	**21.86**	**298**	eP	**P**	**14 45 02.9**	**+0.4**
HHC				PP	PP	14 45 28.6	+0.6
HHC				S	**S**	**14 49 00.7**	**+2.9**
HHC				PCS		14 52 38.3	
HHC				AMB	AMB		
	comp=Z,95nm,1.3s,mb5.1						
HHC				AMB	AMB		
	comp=Z,2µm,6.9s						
HHC				LR	LR		
	comp=N,5µm,14.9s,MS5.2						
HHC				LR	LR		
	comp=E,4µm,10.7s,MS5.2						
HHC				LR	LR		
	comp=Z,4µm,11.9s,MS5.0						
BTO	**Baotou**	**22.96**	**297**	eP	**P**	**14 45 14.5**	**+1.1**
BTO				S	**S**	**14 49 29.5**	**+12**
BTO				AMB	AMB		
	comp=Z,277nm,0.9s,mb5.7						
BTO				LR	LR		
	comp=N,18µm,13.5s,MS5.8						
BTO				LR	LR		
	comp=E,16µm,14.3s,MS5.8						
XAN	**Xi'an**	**23.58**	**280**	P	**P**	**14 45 20.5**	**+1.0**
XAN				AP		14 45 28.9	
XAN				S	**S**	**14 49 33.3**	**+4.6**
XAN				AMB	AMB		
	comp=Z,116nm,1.5s,mb5.1						
XAN				LR	LR		
	comp=N,2µm,11.9s,MS5.1						
XAN				LR	LR		
	comp=E,3µm,11.9s,MS5.1						
XAN				LR	LR		
	comp=Z,4µm,11.6s,MS5.2						
ENH	**Enshi**	**23.76**	**271**	eP	**P**	**14 45 21.7**	**+0.5**
	comp=Z,542nm,1.6s,mb5.7						
TGY	**Tagaytay City**	**24.05**	**222**	LR	LR	14 52 37.0	
	comp=Z,1µm,19.8s,MS4.4,baz=6.7,slow=31						
PET	**Petropavlovsk**	**25.14**	**31**	⇓iP	**P**	**14 45 36.1**	**+1.8**
PET				e		14 46 14.2	
PET				eS	**S**	**14 49 58.1**	**+3.2**
PET				pmax	pmax		
	comp=Z,106nm,1.1s,mb5.3						
PET				pmax	pmax		
	comp=N,81nm,1.2s						
PET				pmax	pmax		
	comp=Z,400nm,11.8s						
PET				smax			
	comp=E,2µm,19.6s						
PET				MLR	MLR		
	comp=Z,2µm,17.0s,MS4.7						
CLNS	**Chul'man**	**25.19**	**344**	eP	**P**	**14 45 35.1**	**+0.3**
CLNS				e*PP	pP	14 45 39.1	-2.7
CLNS				e		14 46 08.3	
CLNS				ePPP	PPP	14 46 16.9	-7.4
CLNS				eS	**S**	**14 49 58.2**	**+2.3**
CLNS				eSSS	SSS	14 51 15.8	+2.4

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CLNS                                pmax    pmax
       comp=Z,47nm,0.6s,mb5.2
CLNS                                pmax    pmax
       comp=N,13nm,0.7s
CLNS                                pmax    pmax
       comp=E,7.0nm,0.9s
CLNS                                pmax    pmax
       comp=Z,16nm,1.1s,mb4.5
CLNS                                pmax    pmax
       comp=N,15nm,0.9s
CLNS                                pmax    pmax
       comp=E,9.0nm,1.1s
CLNS                                smax
       comp=N,10.0nm,0.7s
CLNS                                smax
       comp=Z,10.0nm,1.0s
CLNS                                smax
       comp=E,8.0nm,0.8s
CLNS                                MLR     MLR
       comp=Z,6µm,13.0s,MS5.2
CLNS                                MLR     MLR
       comp=N,4µm,12.0s,MS5.1
CLNS                                MLR     MLR
       comp=E,400nm,15.0s,MS5.1
GYA    Guiyang          27.29 264⇑ iP       P       14 45 56.3 +1.8
GYA                                 AP      pP      14 46 05.8 +4.3
GYA                                 XP      sP      14 46 09.6 +5.0
GYA                                 S       S       14 50 39.1 +8.4
GYA                                 AMB     AMB
       comp=Z,30nm,0.8s,mb4.9
GYA                                 AMB     AMB
       comp=Z,220nm,3.6s
GYA                                 LR      LR
       comp=N,3µm,13.2s,MS5.3
GYA                                 LR      LR
       comp=E,4µm,12.6s,MS5.3
GYA                                 LR      LR
       comp=Z,5µm,13.8s,MS5.2
SONM   Songino Array    27.46 311   P       P       14 45 56.1 +0.2
       comp=Z,25nm,0.9s,mb4.7,baz=116,slow=8.3,SNR=79
SONM                                PcP     PcP     14 49 14.0 -0.4
       comp=Z,3.4nm,0.8s,baz=119,slow=3.1,SNR=4.0
LZH    Lanzhou          27.57 286 ⇓ P       P       14 45 56.4 -0.5
LZH                                 AMB     AMB
       comp=Z,40nm,1.0s,mb5.0
LZH                                 AMB     AMB
       comp=Z,920nm,5.4s
LZH                                 LR      LR
       comp=E,10µm,13.2s
LZH                                 LR      LR
       comp=Z,12µm,14.0s,MS5.6
MA2    Magadan          27.95  15 c eP      P       14 45 59.7 -0.4
MA2                               eS        S       14 50 37.8 -3.2
MA2                               eSS       SS      14 52 02.7 -0.3
MA2                                 pmax    pmax
       comp=Z,130nm,1.5s,mb5.3
MA2                                 MLR     MLR
       comp=Z,8µm,14.0s,MS5.5
MA2    Magadan          27.95  15   eP      P       14 46 00.1  0.0
       comp=Z,72nm,1.1s,mb5.2
QIZ    Qiongzhong       28.22 247   eP      P       14 46 03.5 +0.5
QIZ                                 S       S       14 50 51.8 +6.0
QIZ                                 LR      LR
       comp=N,2µm,20.4s,MS4.7
QIZ                                 LR      LR
       comp=E,1µm,20.9s,MS4.7
QIZ                                 LR      LR
       comp=Z,2µm,14.5s
CD2    Chengdu          28.41 275   P       P       14 46 03.0 -1.5
CD2                                 PP      PP      14 46 58.8 +2.6
CD2                                 PPP     PPP     14 47 12.8 +4.2
CD2                                 S       S       14 50 52.3 +3.6
CD2                                 XS              14 51 07.1
CD2                                 AMB     AMB
       comp=Z,440nm,7.5s
CD2                                 LR      LR
       comp=N,11µm,17.1s
CD2                                 LR      LR
       comp=Z,9µm,14.9s,MS5.5
BOD    Bodaibo          29.30 334   eP      P       14 46 10.2 -2.1
YAK    Yakutsk          29.33 353   eP      P       14 46 12.2 -0.4
YAK                                 e               14 47 05.9
YAK                                 ePPP    PPP     14 47 19.1 -2.2
YAK                                 e               14 49 17.0
YAK                                 eS      S       14 51 09.2 +6.0
YAK                                 eSS     SS      14 52 31.3 -3.8
YAK                                 eSSS    SSS     14 52 46.3 -9.2
YAK                                 e               14 56 52.0
YAK                                 pmax    pmax
       comp=Z,21nm,1.1s,mb4.8
YAK                                 pmax    pmax
       comp=N,17nm,1.4s
YAK                                 pmax    pmax
       comp=E,5.0nm,1.3s
YAK                                 pmax    pmax
       comp=Z,16nm,1.1s,mb4.7
YAK                                 pmax    pmax
       comp=N,10.0nm,1.0s
YAK                                 pmax    pmax
       comp=E,7.0nm,0.9s
YAK                                 smax
       comp=E,501nm,8.6s
YAK                                 smax
       comp=Z,587nm,18.3s
YAK                                 smax
       comp=N,1µm,17.9s
YAK                                 MLR     MLR
       comp=Z,4µm,18.0s,MS5.1
YAK                                 MLR     MLR
       comp=N,3µm,15.0s,MS5.3
YAK                                 MLR     MLR
       comp=E,4µm,12.0s,MS5.3
YAK    Yakutsk          29.33 353   eP      P       14 46 11.8 -0.8
       comp=E,27nm,0.8s,mb5.0
ZAK    Zakamensk        30.30 315   eP      P       14 46 20.2 -1.1
GTA    Gaotai           30.66 293 ⇑ P       P       14 46 23.9 -0.7
GTA                                 PP      PP      14 47 25.2 -0.2
GTA                                 PCP     PcP     14 49 22.7 +0.2
GTA                                 S       S       14 51 25.2 +0.7
GTA                                 PCS             14 53 05.6
GTA                                 SCS     ScS     14 56 56.2 -1.1
GTA                                 AMB     AMB
       comp=Z,369nm,6.3s
GTA                                 LR      LR
       comp=N,2µm,17.1s,MS4.9
GTA                                 LR      LR
       comp=E,2µm,17.9s,MS4.9
GTA                                 LR      LR
       comp=Z,2µm,17.9s,MS4.8
KMI    Kunming          31.07 264   eP      P       14 46 26.9 -1.4
KMI                                 PP      PP      14 47 31.0 +0.2
KMI                                 S       S       14 51 33.3 +2.4
KMI                                 SS      SS      14 53 21.4 +5.3
KMI                                 AMB     AMB
       comp=Z,184nm,3.9s
KMI                                 LR      LR
       comp=N,4µm,13.8s,MS5.4
KMI                                 LR      LR
       comp=E,4µm,12.2s,MS5.4
KMI                                 LR      LR
       comp=Z,6µm,14.1s,MS5.4
SEY    Seymchan         31.34  13   eP      P       14 46 32.5 +2.2
SEY                                                 14 47 38.2
SEY                                                 14 49 25.9
SEY                                 eS      S       14 51 35.9 +1.1
SEY                                 SS      SS      14 53 21.3 -0.9
SEY                                 eSSS    SSS     14 53 43.1 -1.4
SEY                                 pmax    pmax
       comp=N,10.0nm,0.8s
SEY                                 pmax    pmax
       comp=Z,40nm,0.8s,mb5.3
SEY                                 pmax    pmax
       comp=E,5.0nm,0.7s
KKTK   Khon Kaen        35.24 250   P       P       14 47 04.8 +0.2
       comp=E,247nm,0.7s,mb6.2
NANT   Nan              35.62 256 ⇓ P       P       14 47 06.0 -1.8
       comp=E,75nm,1.0s,mb5.6
CHG    Chiang Mai       37.04 257 ⇑ P       P       14 47 19.2 -0.5
       comp=E,16nm,0.6s,mb5.0
CMAR   Chiang Mai Arr   37.22 257   P       P       14 47 21.6 +0.3
       comp=E,7.0nm,0.7s,mb4.6,baz=57,slow=7.4,SNR=39
CMAR   Chiang Mai Arr   37.22 257   P       P       14 47 21.6 +0.3
CMAR                                pmax    pmax
       comp=Z,7.0nm,0.7s
NST    Nakhon Sawan     37.75 252   P       P       14 47 26.0 +0.3
BDT    Bhumibol Dam     37.80 255   P       P       14 47 26.0 -0.1
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TIXI   Tiksi            38.85 356 d iP      P       14 47 34.1 -0.3
TIXI                                e       pP      14 47 39.9 -1.7
TIXI                                e               14 49 02.4
TIXI                                i               14 49 45.4
TIXI                                iS      S       14 53 32.3 +1.8
TIXI                                pmax    pmax
       comp=Z,34nm,0.8s,mb5.1
TIXI                                MLR     MLR
       comp=Z,2µm,16.0s,MS5.0
LSA    Lhasa            39.24 278   P       P       14 47 39.2 +1.1
WMQ    Urumqi           39.70 300   P       P       14 47 42.2 +0.4
WMQ                                 AMB     AMB
       comp=Z,68nm,1.4s,mb5.2
WMQ                                 LR      LR
       comp=N,1µm,20.0s,MS5.0
WMQ                                 LR      LR
       comp=E,2µm,19.5s,MS5.0
WMQ                                 LR      LR
       comp=Z,2µm,22.0s,MS5.0
SHL    Shillong         40.00 271   eP      P       14 47 44.0 -0.4
ZAL    Zalesovo         42.18 316   P       P       14 48 02.0  0.0
       comp=Z,6.5nm,0.8s,mb4.3,baz=286,slow=8.4,SNR=33
ZAL                                 PcP     PcP     14 49 55.2 -1.5
       comp=Z,6.4nm,1.0s,baz=272,slow=6.8,SNR=5.1
ZAL    Zalesovo         42.18 316   P       P       14 48 02.0  0.0
ZAL                                                 14 49 55.2
ZAL                                 pmax    pmax
       comp=Z,7.0nm,0.8s
ZAL                                 pmax    pmax
       comp=Z,6.0nm,1.0s
ZAL    Zalesovo         42.18 316   P       P       14 48 02.0  0.0
ZAL                                 PcP     PcP     14 49 55.2 -1.5
NVS    Novosibirsk      43.21 317   iP      P       14 48 10.3  0.0
NVS                                 pmax    pmax
       comp=N,18nm,1.7s
NVS                                 pmax    pmax
       comp=Z,60nm,1.7s,mb5.0
NVS                                 pmax    pmax
       comp=E,43nm,1.4s
MKAR   Makanchi Array   43.42 305   P       P       14 48 12.3 +0.1
       comp=E,21nm,0.8s,mb4.9,baz=92,slow=10,SNR=116
MKAR                                PcP     PcP     14 49 59.3 -1.6
       comp=E,9.8nm,0.8s,baz=90,slow=6.1,SNR=4.9
MKAR   Makanchi Array   43.42 305   P       P       14 48 12.4 +0.2
MKAR                                                14 49 59.3
MKAR                                pmax    pmax
       comp=Z,21nm,0.8s
MKAR                                pmax    pmax
       comp=Z,10.0nm,0.8s
IPM    Ipoh             44.10 238⇓  eP      P       14 48 18.3 +0.1
PKI    Pulchoki         44.70 277   eP      P       14 48 22.2 -0.6
       comp=Z,136nm,1.5s,mb5.6
KKN    Kakani           44.73 278   eP      P       14 48 22.7 -0.4
       comp=Z,86nm,1.2s,mb5.5
DMN    Daman            44.94 277   eP      P       14 48 24.6 -0.2
GKN    Gorkha           45.20 278   eP      P       14 48 26.1 -0.7
KURK   Kurchatov        45.77 311   eP      P       14 48 31.3 +0.3
       comp=Z,84nm,1.1s,mb5.6
KAKA   Kakadu           45.79 187   eP      P       14 48 28.4 -3.2
       comp=Z,18nm,1.0s,mb5.0
KOLN   Koldanda         46.14 278   eP      P       14 48 33.8 -0.4
       comp=Z,106nm,1.3s,mb5.6
TKM2   Tokmak 2         48.56 300   P       P       14 48 54.6 +1.5
       SNR=18
KSH    Kashi            48.95 296   P       P       14 48 57.8 +1.8
KSH                                 ePCP    PcP     14 50 21.2 +0.8
KSH                                 ePP     PP      14 50 51.9 +2.3
KSH                                 ePCS            14 54 16.2
KSH                                 eS      S       14 56 02.3 +4.7
KSH                                 eSS     SS      14 59 30.1 +6.0
KSH                                 AMB     AMB
       comp=Z,20nm,0.5s,mb5.4
KSH                                 LR      LR
       comp=N,2µm,8.8s
KSH                                 LR      LR
       comp=E,2µm,6.6s
KBK    Karagaybulak     49.08 300   P       P       14 48 58.4 +1.3
       SNR=13
CHMS   Chumysh          49.16 301   P       P       14 48 58.4 +0.8
       SNR=6.4
USP    Ospenovka        49.29 301   P       P       14 48 58.7  0.0
       SNR=12
AAK    Ala-Archa        49.41 300   P       P       14 48 59.8 +0.2
       SNR=10
AAK    Ala-Archa        49.41 300   eP      P       14 48 58.8 -0.8
       comp=E,7.2nm,0.6s,mb4.9
UCH    Uchtor           49.48 300   P       P       14 49 01.9 +1.8
       SNR=15
EKS2   Erkin-Say        49.93 300   P       P       14 49 04.3 +0.7
       SNR=5.2
AML    Almayashu        50.09 300   P       P       14 49 05.8 +1.0
       SNR=27
TTA    Tatalina         50.57  33   eP      P       14 49 08.0 -0.2
       comp=E,13nm,0.9s,mb4.8
SVW    Sparrevohn       50.68  35   eP      P       14 49 10.2 +1.2
       comp=E,52nm,1.3s,mb5.3
BVAR   Borovoye Array   50.75 314   P       P       14 49 09.3 -0.4
       comp=E,15nm,0.8s,mb5.0,baz=100,slow=9.0,SNR=60
BVAR                                PcP     PcP     14 50 26.1 -0.6
       comp=E,5.3nm,0.6s,baz=45,slow=2.1,SNR=4.7
BRVK   Borovoye         50.81 314   eP      P       14 49 09.9 -0.2
       comp=E,56nm,1.2s,mb5.4
ZRNK   Zerenda          51.59 314   eP      P       14 49 15.7 -0.3
       comp=E,70nm,1.2s,mb5.5
IMA    Indian Mountai   51.78  29   eP      P       14 49 17.7 +0.4
       comp=E,9.2nm,0.3s,mb5.2
RSO    Redoubt South    52.08  36   eP      P       14 49 19.3 -0.4
FITZ   Fitzroy Crossi   52.12 194   eP      P       14 49 17.9 -2.6
       comp=E,13nm,0.9s,mb4.8
FITZ   Fitzroy Crossi   52.12 194   P       P       14 49 18.4 -2.1
       comp=E,15nm,0.9s,mb4.9,baz=12,slow=8.4,SNR=13
SPU    Mount Spurr      52.41  35   eP      P       14 49 21.8 -0.3
WRAB   Tennant Creek    52.82 183   eP      P       14 49 22.2 -3.5
       comp=E,47nm,0.9s,mb5.4
WB2    Warramunga Arr   52.83 183   eP      P       14 49 22.0 -3.8
WRA    Warramunga Arr   52.83 183   P       P       14 49 22.2 -3.6
       comp=E,25nm,0.9s,mb5.1,baz=2.1,slow=7.8,SNR=92
WRA                                 S       S       14 56 47.4 -3.9
       comp=E,1.7nm,1.2s,baz=6.5,slow=13,SNR=5.9
WRA    Warramunga Arr   52.83 183   P       P       14 49 22.2 -3.6
WRA                                 S       S       14 56 47.4 -3.9
WRA                                 pmax    pmax
       comp=Z,25nm,0.9s
WRA                                 smax
       comp=N,2.0nm,1.2s
SLKM   Skilak Lake      53.34  36   eP      P       14 49 26.4 -2.6
CTA    Charters Tower   53.60 169   eP      P       14 49 28.4 -3.1
       comp=N,11nm,1.1s,mb4.7
CTAO   Charters Tower   53.60 169   eP      P       14 49 27.7 -3.8
       comp=N,20nm,1.1s,mb5.0
PMR    Palmer           53.80  35   eP      P       14 49 30.8 -1.5
       comp=N,63nm,1.3s,mb5.4
COLA   College          54.20  31   eP      P       14 49 35.3 +0.1
COLA   College          54.20  31   eP      P       14 49 33.1 -2.1
       comp=N,8.4nm,0.8s,mb4.7
ILAR   Eielson Array    54.61  31   P       P       14 49 36.9 -1.4
       comp=N,7.9nm,1.0s,mb4.7,baz=278,slow=6.6,SNR=53
ILAR   Eielson Array    54.61  31   P       P       14 49 36.9 -1.4
ILAR                                pmax    pmax
       comp=Z,8.0nm,1.0s
HYB    Hyderabad        54.67 269   iP      P       14 49 38.5 -0.9
HYB                                 e       pP      14 49 46.0 -0.7
HYB    Hyderabad        54.67 269   eP      P       14 49 38.5 -0.9
CUD    Cuddapah         55.93 265   eP      P       14 49 48.3 -0.2
MBWA   Marble Bar       56.50 200   eP      P       14 49 45.4 -7.2
       comp=Z,64nm,1.5s,mb5.4
ASAR   Alice Springs    56.56 184   P       P       14 49 49.6 -3.2
       comp=Z,7.8nm,1.0s,mb4.7,baz=18,slow=10.0,SNR=32
ASPA   Alice Springs    56.56 184   eP      P       14 49 50.4 -2.5
ARU    Arti             57.06 320   P       P       14 49 55.0 -1.1
       comp=Z,334nm,0.9s,mb6.4,SNR=17
ARU    Arti             57.06 320⇓ iP       P       14 49 55.8 -0.3
ARU                                 e               14 50 48.8
ARU                                 e               14 52 03.0
ARU                                 eS      S       14 57 48.4 +0.9
ARU                                 eSS     SS      15 01 32.6 -5.1
ARU                                 pmax    pmax
       comp=Z,52nm,0.9s,mb5.6
ARU    Arti             57.06 320   eP      P       14 49 55.4 -0.7
       comp=Z,104nm,1.3s,mb5.7
DAWY   Dawson           57.93  31   eP      P       14 50 01.2 -0.8
DLBC   Dease Lake       63.81  36   eP      P       14 50 42.1 +0.2
STKA   Stephens Creek   64.78 176   eP      P       14 50 45.9 -2.8
       comp=Z,11nm,0.8s,mb4.9
STKA   Stephens Creek   64.78 176   P       P       14 50 45.6 -3.1
       comp=Z,14nm,0.9s,mb5.0,baz=356,slow=7.3,SNR=14
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APA    Apatity          64.84 336⇓ iP       P       14 50 51.9 +3.4
APA                                 MLR     MLR
       comp=Z,9µm,13.0s,MS6.2
ARCES  ARCESS Array B   66.44 339   P       P       14 50 58.5 -0.2
       comp=Z,9.8nm,0.8s,mb4.9,baz=67,slow=9.2,SNR=7.8
ARCES  ARCESS Array B   66.44 339   P       P       14 50 58.5 -0.2
ARCES                               pmax    pmax
       comp=Z,10.0nm,0.8s
ARCES  ARCESS Array B   66.44 339   P       P       14 50 58.5 -0.2
KLBR   Kellerberrin     66.94 198   eP      P       14 50 59.9 -2.7
       comp=Z,51nm,1.4s,mb5.4
RES    Resolute Bay     67.21  13   eP      P       14 51 03.1 -0.4
MAK    Makhachkala      68.15 308   eP      P       14 51 17.5 +7.5
MAK                                 eS      S       15 00 14.0 +7.0
MAK                                 ePS     PS      15 00 38.0 +3.1
MAK                                 e               15 01 10.0
MAK                                 pmax    pmax
       comp=Z,900nm,6.0s
MAK                                 smax
       comp=N,600nm,6.0s
MAK                                 smax
       comp=E,1µm,6.0s
NWAO   Narrogin (SRO)   68.34 198   eP      P       14 51 07.9 -3.4
YKA    Yellowknife Ar   68.89  28   P       P       14 51 13.2 -0.9
       comp=E,8.3nm,0.9s,mb4.7,baz=295,slow=6.1,SNR=7.7
YKA    Yellowknife Ar   68.89  28   P       P       14 51 13.2 -1.0
YKA                                 pmax    pmax
       comp=Z,8.0nm,0.9s
YKA    Yellowknife Ar   68.89  28   P       P       14 51 13.2 -1.0
OBN    Obninsk          69.16 323α iP       P       14 51 15.6 -0.4
OBN                                 i       pP      14 51 23.6 +0.2
OBN                                                 14 51 34.0
OBN                                 iS      S       15 00 26.5 +7.8
OBN                                 e               15 01 08.0
OBN                                 SS      SS      15 04 44.0 -3.0
OBN                                 pmax    pmax
       comp=Z,80nm,1.1s,mb5.6
OBN                                 pmax    pmax
       comp=Z,100nm,1.3s,mb5.6
OBN                                 MLR     MLR
       comp=Z,2µm,18.0s,MS5.3
OBN    Obninsk          69.16 323   eP      P       14 51 15.5 -0.4
       comp=Z,32nm,1.0s,mb5.2
DAG    Danmarks Havn    69.34 354⇓ iP       P       14 51 17.2 +0.4
       comp=Z,134nm,1.4s,mb5.7
GOF    Gofitskoye       70.12 311⇑ iP       P       14 51 22.0  0.0
GOF                                 pmax    pmax
       comp=Z,80nm,1.4s,mb5.5
KAF    Kangasniemi      70.19 332   ep      P       14 51 20.8 -1.3
       comp=Z,11nm,0.9s,mb4.8,baz=53,slow=6.0
KAF    Kangasniemi      70.19 332   eP      P       14 51 20.8 -1.3
KAF                                 pmax    pmax
       comp=Z,11nm,0.9s,mb4.8
ZEI    Tsey             70.61 309   eP      P       14 51 25.0 -0.1
ZEI                                 MLR     MLR
       comp=Z,2µm,16.0s,MS5.5
FINES  FINESS Array B   70.65 332   P       P       14 51 24.4 -0.6
       comp=Z,11nm,0.8s,mb4.8,baz=90,slow=5.7,SNR=14
FINES  FINESS Array B   70.65 332   P       P       14 51 24.4 -0.6
FINES                               pmax    pmax
       comp=Z,11nm,0.8s
PGC    Sidney           71.52  44   eP      P       14 51 30.2 -0.2
OCWA   Octopus Mounta   71.53  45   eP      P       14 51 31.2 +0.6
STW    Striped Peak     71.64  44   P       P       14 51 31.9 +0.7
MBW    Mount Baker      72.35  43   P       P       14 51 35.2 -0.1
CMW    Cultus Mountai   72.40  43   P       P       14 51 36.5 +0.8
GNW    Green Mountain   72.42  44   P       P       14 51 36.0 +0.1
JCW    Jim Creek        72.63  44   P       P       14 51 37.7 +0.7
BMW    Boistfort Moun   72.73  46   eP      P       14 51 38.1 +0.5
RPW    Rockport         72.74  43   P       P       14 51 37.6  0.0
SOC    Sochi            72.92 311   eP      P       14 51 38.0 -0.8
SOC                                 e               14 51 53.9
SOC                                 e               14 54 22.0
SOC                                 ePPP    PPP     14 55 59.7 -6.5
SOC                                 eS      S       15 00 56.7 -5.8
SOC                                 e               15 01 28.4
SOC                                 eSSS    SSS     15 08 58.8 +3.4
SOC                                 pmax    pmax
       comp=Z,51nm,1.0s,mb5.4
SOC                                 pmax    pmax
       comp=N,16nm,1.1s
SOC                                 pmax    pmax
       comp=E,26nm,1.0s
SOC                                 MLR     MLR
       comp=Z,1µm,17.0s,MS5.2
SOC                                 MLR     MLR
       comp=N,839nm,12.0s,MS5.4
SOC                                 MLR     MLR
       comp=E,1µm,15.0s,MS5.4
RMW    Rattlesnake Mo   73.07  44   eP      P       14 51 39.6  0.0
LON    Longmire         73.43  45   eP      P       14 51 40.4 -1.4
NLW    Nelson Butte     73.60  43   P       P       14 51 43.1 +0.5
COR    Corvallis        73.63  47   eP      P       14 51 43.7 +0.8
ANN    Anapa            73.73 313 d iP      P       14 51 43.7 +0.2
ANN                                 e*PP    pP      14 51 51.6 +0.6
ANN                                 e               14 52 02.5
ANN                                 ePPP    PPP     14 56 09.1 -5.2
ANN                                 eS      S       15 01 12.2 +0.6
ANN                                 pmax    pmax
       comp=Z,106nm,1.0s,mb5.7
HSO    Harness Mounta   74.30  48   eP      P       14 51 47.5 +0.7
KBD    Kabd             74.36 295   eP      P       14 51 47.1 -0.4
QRN    Al-Qurain        74.40 294   eP      P       14 51 47.7  0.0
EPH    Ephrata          74.41  43   P       P       14 51 47.4 +0.1
SUMG   Summit           74.55 359   eP      P       14 51 49.3 +1.6
       comp=Z,93nm,0.8s,mb5.8
RDF    Al-Radifah       74.59 295   eP      P       14 51 48.6 -0.2
RDF                                 AMb     AMB     14 51 49.8
       comp=Z,123nm,0.9s,mb5.8
VGB    Gordon Butte     74.68  45   eP      P       14 51 48.4 -0.6
RST    Umm Al-Ruwaisa   74.73 295   eP      P       14 51 49.1 -0.5
RST                                 AMb     AMB     14 51 50.3
       comp=Z,90nm,1.1s,mb5.6
HASS   Wahat al Ahsa’   74.77 290   P       P       14 51 49.2 -0.7
DPW    Davenport        74.93  42   eP      P       14 51 50.2 -0.1
HAWA   Hanford          74.96  44   eP      P       14 51 50.0 -0.6
AKASG  Malin Array Be   75.25 321   P       P       14 51 51.5 -0.6
       comp=Z,38nm,0.9s,mb5.3,baz=48,slow=6.0,SNR=128
AKASG  Malin Array Be   75.25 321   P       P       14 51 51.5 -0.6
AKASG                               pmax    pmax
       comp=Z,38nm,0.9s
NEW    Newport          75.32  42   P       P       14 51 52.0 -0.6
       comp=Z,6.9nm,0.9s,mb4.6,baz=302,slow=6.8,SNR=6.5
NEW    Newport          75.32  42   P       P       14 51 52.1 -0.5
NEW                                 pmax    pmax
       comp=Z,7.0nm,0.9s
NEW    Newport          75.32  42   eP      P       14 51 52.4 -0.3
       comp=Z,17nm,1.4s,mb4.8
YBH    Yreka Blue Hor   75.47  50   eP      P       14 51 53.9 +0.3
       comp=Z,11nm,1.1s,mb4.7
SIM    Simferopol’      75.67 314   eP      P       14 51 55.4 +0.8
SIM                                 S       S       15 01 40.0 +6.9
LNOR   Lincton Mounta   75.97  44   eP      P       14 51 56.5 +0.1
WDC    Whiskeytown Da   76.18  51   eP      P       14 51 57.5 -0.2
       comp=Z,25nm,1.3s,mb5.0
HFS    Hagfors          76.19 335   P       P       14 51 56.9 -0.4
       comp=Z,12nm,0.6s,mb5.0,baz=63,slow=3.2,SNR=18
HFS    Hagfors          76.19 335   P       P       14 51 56.9 -0.4
HFS                                 pmax    pmax
       comp=Z,12nm,0.6s
SUW    Suwalki          76.29 326   eP      P       14 51 58.1 +0.2
NB2    NORSAR Subarra   76.42 336   P       P       14 51 58.4 -0.1
       comp=Z,36nm,0.9s,mb5.3,baz=43,slow=5.8
NB2    NORSAR Subarra   76.42 336   P       P       14 51 58.4 -0.1
       baz=43,slow=5.9
NOA    NORSAR Array B   76.42 336   P       P       14 51 58.3 -0.2
       comp=Z,16nm,0.9s,mb5.0,baz=44,slow=5.6,SNR=41
NOA    NORSAR Array B   76.42 336   P       P       14 51 58.3 -0.2
NOA                                 pmax    pmax
       comp=Z,17nm,0.9s
MALT   Malatya          76.43 307   eP      P       14 52 00.1 +1.0
       comp=Z,30nm,1.3s,mb5.1
MOD    Modoc            76.90  48   eP      P       14 52 01.9 +0.2
       comp=Z,9.3nm,1.1s,mb4.6
BOYT   Boyabat          77.08 311   iP      P       14 52 03.1 +0.4
GZT    Gaziantep        77.52 306   iP      P       14 52 06.4 +1.2
OHCM   Honcut           77.53  51   eP      P       14 52 04.9 -0.3
CTKT   Corum            77.59 310   iP      P       14 52 06.3 +0.9
KIS    Kishinev         77.59 318   eP      P       14 52 05.0 -0.3
KIS                                 e       pP      14 52 12.0 -0.9
KIS                                 pmax    pmax
       comp=Z,110nm,1.4s,mb5.6
WVOR   Wild Horse Val   77.65  47   eP      P       14 52 05.9 +0.1
       comp=Z,73nm,1.9s,mb5.3
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KAHT	Ahir Dag	77.83	307	i P	P	14 52 08.1	+1.3
BEKR	Beckwourth	77.97	50	eP	P	14 52 07.4	-0.2
	comp=Z,60nm,1.5s,mb5.3						
BALT	Daday	77.97	312	i P	P	14 52 08.7	+1.2
CHMT	Chamberlain Mo	78.24	41	eP	P	14 52 08.7	-0.2
LVV	L'vov	78.46	323	d iP	P	14 52 09.5	-0.5
AVNT	Avonos	78.55	309	i P	P	14 52 10.9	+0.2
WCN	Washoe City	78.67	50	eP	P	14 52 11.8	+0.4
	comp=Z,25nm,1.2s,mb5.0						
BRTR	Keskin Array B	78.81	310	P	P	14 52 13.2	+0.9
	comp=Z,35nm,0.9s,mb5.3,baz=108,slow=3.9,SNR=106						
BRTR	Keskin Array B	78.81	310	P	P	14 52 13.2	+1.0
BRTR				pmax	pmax		
	comp=Z,35nm,0.9s						
FFC	Flin Flon	78.83	31	eP	P	14 52 11.4	-0.5
COBT	Iskenderun	78.85	306	i P	P	14 52 11.8	-0.6
MZLS	Mizel	78.87	291	P	P	14 52 13.4	+0.6
CMB	Columbia Colle	78.95	52	eP	P	14 52 12.8	-0.2
	comp=Z,48nm,1.4s,mb5.2						
HRY	Holter Researc	79.15	41	eP	P	14 52 14.0	+0.1
KWP	Kalwaria	79.25	323	eP	P	14 52 15.7	+1.4
SGKT	Sivrigoynuk	79.34	312	i P	P	14 52 14.8	-0.2
VRI	Vrincioaia	79.42	318	⇑iP	P	14 52 17.4	+2.0
ARSS	Ar Rass	79.44	294	P	P	14 52 16.0	+0.1
HLID	Hailey	79.55	45	eP	P	14 52 16.4	+0.3
	comp=Z,6.2nm,1.1s,mb4.5						
BMN	Battle Mountai	79.65	48	eP	P	14 52 17.5	+0.7
	comp=Z,24nm,1.2s,mb5.0						
HILS	Ha'il	79.75	296	P	P	14 52 18.4	+0.8
BOZ	Bozeman (W)	79.90	42	eP	P	14 52 18.1	+0.2
	comp=Z,14nm,1.4s,mb4.7						
KOLS	Kolonicke sedl	79.91	323	eP	P	14 52 18.8	+0.9
ISR	Istrita	79.98	318	⇓iP	P	14 52 20.1	+1.7
UZH	Uzhgorod	80.09	322	d iP	P	14 52 21.0	+2.1
OMM	Old Mammoth Mi	80.10	52	eP	P	14 52 20.1	+0.9
MNV	Mina	80.19	50	eP	P	14 52 19.5	-0.2
	comp=Z,39nm,1.8s,mb5.0						
OJC	Ojcow	80.31	325	⇑eP	P	14 52 20.7	+0.7
CRVS	Cervenica-Dubn	80.34	323	eP	P	14 52 22.0	+1.8
QLMT	Earthquake Lak	80.51	42	eP	P	14 52 22.0	+0.8
AFFS	'Afif	80.64	292	P	P	14 52 23.1	+0.7
ELK	Elko	80.70	47	eP	P	14 52 23.0	+0.7
	comp=Z,76nm,2.0s,mb5.3						
ESKT	Eskisehir	80.71	311	i P	P	14 52 22.6	+0.3
TPH	Tonopah	81.00	50	eP	P	14 52 24.4	+0.5
OKC	Ostrava-Krasne	81.36	325	eP	P	14 52 26.8	+1.2
OKC				epP	pP	14 52 33.9	+0.7
OKC				eS	S	15 02 44.5	+11
KSP	Ksiaz	81.55	327	⇑eP	P	14 52 27.5	+1.0
KSP				e*PP	pP	14 52 35.0	+0.8
KSP				eS	S	15 02 36.0	+0.4
MOOW	Moose Ponds	81.56	43	eP	P	14 52 27.9	+1.1
HVU	Hansel Valley	81.58	45	eP	P	14 52 27.5	+0.6
TPAW	Teton Pass	81.61	43	eP	P	14 52 26.5	-0.5
CSS	Prodhromos	81.69	306	eP	P	14 52 28.7	+1.1
	comp=Z,19nm,0.7s,mb5.1						
MORC	Moravsky Berou	81.69	325	eP	P	14 52 27.8	+0.5
	comp=Z,33nm,1.2s,mb5.1						
LOHW	Long Hollow	81.73	43	eP	P	14 52 27.8	+0.1
PSZ	Piszkesteto	81.77	323	⇓iP	P	14 52 29.1	+1.3
PSZ	Piszkesteto	81.77	323	eP	P	14 52 29.0	+1.2
	comp=Z,66nm,1.4s,mb5.4						
DAC	Darwin (Calif)	81.78	52	eP	P	14 52 27.9	-0.2
	comp=Z,9.7nm,1.0s,mb4.7						
DPC	Dobruska-Polom	81.88	326	eP	P	14 52 29.4	+1.2
DPC				epP	pP	14 52 37.2	+1.3
DPC				eS	S	15 02 43.7	+4.8
UPC	Upice	81.91	327	eP	P	14 52 29.1	+0.7
UPC				epP	pP	14 52 37.1	+1.0
VYHS	Vyhne	81.92	324	i P	P	14 52 29.7	+1.2
BSEG	Bad Segeberg	81.93	331	eP	P	14 52 28.6	+0.2
BSEG				pmax	pmax		
	comp=Z,43nm,1.0s,mb5.3						
BGU	Big Grassy Mou	81.94	46	eP	P	14 52 29.7	+0.9
SPUT	South Promonto	82.06	46	eP	P	14 52 29.8	+0.4
TPNV	Topopah Spring	82.28	51	eP	P	14 52 30.8	+0.2
	comp=Z,32nm,1.0s,mb5.2						
HWUT	Hardware Ranch	82.41	45	eP	P	14 52 32.0	+0.8
	comp=Z,106nm,1.9s,mb5.4						
KBRS	Khaybar	82.51	296	P	P	14 52 33.3	+1.2
DUG	Dugway	82.52	47	eP	P	14 52 32.6	+0.8
	comp=Z,7.7nm,0.8s,mb4.8						
PVCC	Panska Ves	82.56	327	eP	P	14 52 32.9	+1.1
PVCC				epP	pP	14 52 40.6	+1.2
PVCC				eS	S	15 03 37.5	+52
PVCC				ex	x	15 04 50.3	
TATS	Tathlith	82.59	288	P	P	14 52 33.6	+1.0
BRG	Berggiesshubel	82.60	328	eP	P	14 52 31.3	-0.7
BRG				pmax	pmax		
	comp=Z,15nm,1.2s,mb4.9						
BRG	Berggiesshubel	82.60	328	eP	P	14 52 31.3	-0.7
	comp=Z,15nm,1.2s,mb4.9						
MWC	Mount Wilson	82.65	54	eP	P	14 52 32.6	0.0
CLL	Collm	82.71	328	⇑P	P	14 52 33.0	+0.5
	comp=Z,logA/T=1.8,mb5.6						
CLL				i *PP	pP	14 52 40.9	+0.7
CLL	Collm	82.71	328	⇑iP	P	14 52 33.0	+0.5
CLL				i *PP	pP	14 52 40.9	+0.7
CLL				pmax	pmax		
	comp=Z,80nm,1.4s,mb5.6						
CLL				MLR	MLR		
	comp=Z,3μm,23.9s,MS5.5						
CLL	Collm	82.71	328	⇑iP	P	14 52 33.0	+0.5
	comp=Z,80nm,1.4s,mb5.6						
CLL				i pP	pP	14 52 40.9	+0.7
CLL				LR	LR		
	comp=Z,3μm,23.9s,MS5.5						
TCUT	Toone Canyon	82.80	45	eP	P	14 52 32.9	-0.4
PDAR	Pinedale Array	82.86	43	P	P	14 52 33.5	0.0
	comp=Z,4.0nm,0.9s,mb4.5,baz=311,slow=2.7,SNR=25						
PRU	Pruhonice	82.95	327	eP	P	14 52 34.6	+0.8
PRU				epP	pP	14 52 42.3	+0.8
PRU				eS	S	15 02 55.6	+5.7
PRU				ex	x	15 04 00.0	
ZST	Bratislava	82.98	324	eP	P	14 52 33.3	-0.7
JLU	Jordanelle	83.09	46	eP	P	14 52 35.6	+0.8
NLU	North Lily Min	83.11	46	eP	P	14 52 35.4	+0.5
TBKS	Tabuk	83.20	299	P	P	14 52 36.3	+0.8
JMQS	Jabal Moqyreh	83.32	300	P	P	14 52 36.9	+0.7
DAU	Daniels Canyon	83.33	46	eP	P	14 52 37.0	+1.0
MPU	Maple Canyon	83.34	46	eP	P	14 52 36.8	+0.7
BOLS	Boljevac	83.34	319	⇑iP	P	14 52 35.4	-0.6
AYVA	Ayvalik	83.42	313	i P	P	14 52 28.3	-8.1
CLZ	Clausthal	83.45	330	eP	P	14 52 37.1	+0.8
	comp=Z,78nm,1.1s,mb5.7						
DJNS	Zahran al Janu	83.52	287	P	P	14 52 38.9	+1.5
EIL	Elat	83.55	301	eP	P	14 52 37.8	+0.4
	comp=Z,42nm,1.4s,mb5.4						
ALWS	Ilw as Safayha	83.67	301	P	P	14 52 38.7	+0.8
JMOS	Jabal al Moall	83.72	301	P	P	14 52 38.9	+0.7
NKC	Novy Kostel	83.72	328	eP	P	14 52 38.6	+0.9
NKC				epP	pP	14 52 47.0	+1.6
NKC				eS	S	15 02 59.0	+1.4
NKC				ex	x	15 03 50.0	
MOX	Moxa	83.79	329	i P	P	14 52 38.8	+0.7
	comp=Z,logA/T=1.6,mb5.5						
MOX	Moxa	83.79	329	eP	P	14 52 38.8	+0.7
MOX				pmax	pmax		
	comp=Z,71nm,1.6s,mb5.5						
MOX	Moxa	83.79	329	eP	P	14 52 38.8	+0.7
	comp=Z,71nm,1.6s,mb5.5						
BLJS	Baljurashi	83.90	290	P	P	14 52 41.0	+1.7
HAQS	Haql	83.91	301	P	P	14 52 39.8	+0.6
MVU	Marysvale	83.92	48	eP	P	14 52 40.3	+1.3
	comp=Z,4.8nm,1.1s,mb4.5						
MSU	Marysvale	83.93	48	eP	P	14 52 40.2	+1.1
NEN	Nelson	83.96	51	eP	P	14 52 39.4	+0.1
GRUS	Gruza	83.99	319	⇓iP	P	14 52 39.4	+0.2
KHC	Kasperske Hory	84.00	327	eP	P	14 52 39.8	+0.6
KHC				epP	pP	14 52 47.8	+1.0
KHC				eS	S	15 03 05.1	+4.7
KHC				ex	x	15 04 10.5	
BARS	Barje	84.07	318	⇑iP	P	14 52 40.5	+0.9
PFO	Pinyon Flat Ob	84.09	54	eP	P	14 52 39.8	-0.2
	comp=Z,45nm,1.3s,mb5.4						
LDFC	Landfair	84.12	52	eP	P	14 52 40.1	-0.1
BDAS	Al Bad'	84.14	300	P	P	14 52 40.9	+0.5
GEC2	GERESS Array S	84.15	326	eP	P	14 52 40.2	+0.3
GEC2				pmax	pmax		
	comp=Z,38nm,1.3s,mb5.4						
GEC2	GERESS Array S	84.15	326	eP	P	14 52 40.2	+0.3
	comp=Z,38nm,1.3s,mb5.4						
GERES	GERESS Array B	84.15	326	P	P	14 52 40.2	+0.3
	comp=Z,9.4nm,0.8s,mb5.0,baz=45,slow=3.8,SNR=56						
GERES	GERESS Array B	84.15	326	P	P	14 52 40.2	+0.3
GERES				pmax	pmax		
	comp=Z,9.0nm,0.8s						
DIVS	Divcibare	84.25	320	eP	P	14 52 38.5	-2.0
YNBS	Yanbu' al Bahr	84.27	295	P	P	14 52 42.3	+1.2
UMJS	Umm Lajj	84.29	296	P	P	14 52 42.7	+1.5
WET	Wettzell	84.31	327	eP	P	14 52 41.2	+0.5
WET				pmax	pmax		
	comp=Z,60nm,1.6s,mb5.5						
WET	Wettzell	84.31	327	eP	P	14 52 41.2	+0.5
	comp=Z,60nm,1.6s,mb5.5						
ARSA	Arzberg	84.40	324	⇑iP	P	14 52 42.0	+0.8
	comp=Z,63nm,1.7s,mb5.5						
BAR	Barrett	84.49	54	eP	P	14 52 41.6	-0.4
SRU	San Rafael	84.58	46	eP	P	14 52 42.5	+0.2
MOA	Molln	84.59	325	⇑iP	P	14 52 43.0	+0.9
	comp=Z,67nm,1.7s,mb5.5						
LTHS	Al Lith	84.62	291	P	P	14 52 44.2	+1.3
ULM	Lac du Bonnet	84.63	31	P	P	14 52 41.7	-0.6
	comp=Z,13nm,1.1s,mb5.0,baz=300,slow=7.3,SNR=5.1						
ULM	Lac du Bonnet	84.63	31	P	P	14 52 41.7	-0.6
GRA1	Grafenberg Arr	84.66	328	eP	P	14 52 43.6	+1.1
	comp=Z,128nm,1.4s,mb5.9						
GRF	Grafenberg Arr	84.66	328	eP	P	14 52 43.6	+1.1
GRF				pmax	pmax		
	comp=Z,128nm,1.4s,mb5.9						
WTSB	Winterswijk	84.81	332	eP	P	14 52 43.2	+0.1
	comp=Z,21nm,1.1s,mb5.2						
SKO	Skopje	84.84	318	⇓iP	P	14 52 45.3	+1.8
FRSS	Farasan al Kab	85.19	287	P	P	14 52 47.2	+1.4
LJU	Ljubljana	85.74	324	eP	P	14 52 49.1	+1.2
FUR	Furstenfeldbru	85.76	327	eP	P	14 52 49.1	+1.1
FUR				pmax	pmax		
	comp=Z,36nm,0.8s,mb5.7						
FUR	Furstenfeldbru	85.76	327	eP	P	14 52 49.1	+1.1
	comp=Z,36nm,0.8s,mb5.7						
BOJS	Bojanci	85.76	323	eP	P	14 52 48.0	-0.1
BOJS				e	pP	14 52 55.4	-0.3
PV10	Paradox Valley	85.94	46	eP	P	14 52 50.1	+1.0
CEY	Cerknica	86.00	324	eP	P	14 52 48.2	-1.0
JAVS	Javornik	86.07	324	eP	P	14 52 48.7	-0.9
HGN	Heimansgroeve	86.09	331	eP	P	14 52 49.9	+0.3
	comp=Z,26nm,0.8s,mb5.5						
STU	Stuttgart	86.24	329	eP	P	14 52 51.1	+0.8
WUAZ	Wupatki	86.28	50	eP	P	14 52 51.6	+0.7
	comp=Z,45nm,1.4s,mb5.5						
PV01	Paradox Valley	86.38	46	eP	P	14 52 51.8	+0.6
BFO	Black Forest	86.95	329	eP	P	14 52 53.7	-0.1
BFO				pmax	pmax		
	comp=Z,50nm,1.8s,mb5.4						
BFO	Black Forest	86.95	329	eP	P	14 52 53.7	-0.1
	comp=Z,50nm,1.8s,mb5.4						
ISCO	Idaho Springs	87.04	43	eP	P	14 52 55.4	+0.9
	comp=Z,3.5nm,0.8s,mb4.6						
DAVA	Damuels	87.04	327	⇑iP	P	14 52 54.6	+0.3
	comp=Z,72nm,2.1s,mb5.5						
GIVF	Givet	87.05	332	eP	P	14 52 53.5	-0.7
BAIF	Baives	87.33	332	eP	P	14 52 55.0	-0.6
	comp=Z,28nm,1.0s,mb5.1						
CDF	Champ du Feu	87.34	329	eP	P	14 52 55.1	-0.6
	comp=Z,84nm,1.6s,mb5.4						
HINF	Hinteralfeld	87.98	329	eP	P	14 52 57.9	-0.9
HAU	Haudompre	88.05	329	eP	P	14 52 58.5	-0.6
MEZF	Maizieres J'vi	88.21	330	eP	P	14 52 59.8	-0.1
SDCO	Great Sand Dun	88.47	45	eP	P	14 53 02.4	+1.1
	comp=Z,29nm,1.5s,mb5.3						
TUC	Tucson	88.67	52	eP	P	14 53 03.1	+0.6
	comp=Z,3.2nm,0.9s,mb4.7						
CABF	La Chapelle	89.24	329	eP	P	14 53 04.1	-0.7
LAZ	Ladron	89.67	48	eP	P	14 53 07.8	+0.6
LOR	Lormes	89.68	330	eP	P	14 53 05.9	-1.0
ANMO	Albuquerque	89.73	47	⇓iP	P	14 53 08.6	+1.1
LPL	La Plagne	89.80	328	eP	P	14 53 07.0	-0.5
	comp=Z,16nm,0.9s,mb5.0						
LPG	La Plagne	89.81	328	eP	P	14 53 07.2	-0.3
	comp=Z,34nm,1.1s,mb5.3						
SSF	Saint Saulge	89.99	330	eP	P	14 53 07.5	-0.8
	comp=Z,16nm,1.1s,mb5.0						
SMF	Signal de Mont	90.18	330	eP	P	14 53 08.4	-0.8
	comp=Z,32nm,1.3s,mb5.2						
LDF	La Druitiere	90.18	333	eP	P	14 53 09.6	+0.4
AVF	Avril sur Loir	90.27	330	eP	P	14 53 08.8	-0.8
	comp=Z,53nm,1.3s,mb5.4						
MBDF	Montbardon	90.39	327	eP	P	14 53 08.9	-1.4
	comp=Z,15nm,1.1s,mb4.9						
GRR	Gorron	90.63	334	eP	P	14 53 10.7	-0.6
	comp=Z,115nm,1.4s,mb5.7						
ORIF	Oris-en-Rattie	90.65	328	eP	P	14 53 10.8	-0.6
SBF	Sospel	90.75	326	eP	P	14 53 10.3	-1.6
PGF	Pioggiola	91.00	325	eP	P	14 53 11.9	-1.2
	comp=Z,24nm,1.1s,mb5.2						
TCF	Toulx Ste Croi	91.14	331	eP	P	14 53 13.1	-0.5
	comp=Z,45nm,1.5s,mb5.3						
VIVF	Saint-Julien-l	91.23	328	eP	P	14 53 13.4	-0.7
	comp=Z,81nm,1.5s,mb5.5						
FRF	La Foret Royal	91.35	326	eP	P	14 53 13.5	-1.2
SGMF	Saint Gilles	91.37	334	eP	P	14 53 14.3	-0.3
	comp=Z,121nm,1.4s,mb5.7						
SMRF	Simiane la Rot	91.52	327	eP	P	14 53 14.6	-0.8
	comp=Z,37nm,1.5s,mb5.2						
ROSF	Rostrenen	91.56	335	eP	P	14 53 15.3	-0.2
	comp=Z,34nm,0.9s,mb5.4						
LMR	La Mourre	91.59	326	eP	P	14 53 14.2	-1.6
	comp=Z,64nm,1.3s,mb5.5						
MFF	Saint Martin d	91.83	332	eP	P	14 53 16.5	-0.3
	comp=Z,71nm,1.2s,mb5.6						
QUIF	Quistinic	91.87	335	eP	P	14 53 16.3	-0.7
	comp=Z,83nm,1.2s,mb5.7						
LASF	Ste Croix	92.21	328	eP	P	14 53 18.1	-0.5
	comp=Z,23nm,1.3s,mb5.0						
RJF	Les Rejaudoux	92.22	330	eP	P	14 53 18.4	-0.2
	comp=Z,75nm,1.4s,mb5.5						
CAF	Calviac	92.30	330	eP	P	14 53 19.0	0.0
	comp=Z,55nm,1.3s,mb5.4						
LFF	La Frestale	92.84	331	eP	P	14 53 21.5	0.0
	comp=Z,41nm,0.9s,mb5.6						
WMOK	Wichita Mounta	94.47	43	eP	P	14 53 29.5	+0.3
LTX	Lajitas	95.24	50	eP	P	14 53 33.2	+0.3
	comp=Z,43nm,1.2s,mb5.8						
TXAR	Lajitas Array	95.24	50	P	P	14 53 33.2	+0.3
	comp=Z,22nm,1.0s,mb5.5,baz=288,slow=4.0,SNR=82						
TXAR				PP	PP	14 57 23.6	-1.6
	comp=Z,0.4nm,0.3s,baz=304,slow=4.5,SNR=3.4						
TXAR	Lajitas Array	95.24	50	P	P	14 53 33.2	+0.3
TXAR				PP	PP	14 57 23.6	-1.6
JCT	Junction City	96.88	47	eP	P	14 53 40.2	-0.1
QSPA	South Pole Qui	122.87	180	ePKP	PKPdf	14 59 03.2	-4.4
SYO	Syowa Base	123.19	205	⇑Pdiff	Pdif	14 55 38.8	+3.0
SYO	Syowa Base	123.19	205	⇓PKPdf	PKPdf	14 59 03.0	-5.4
DBIC	Dimbokro	126.51	311	PKP	PKPdf	14 59 12.3	-3.8
	comp=Z,7.2nm,0.9s,baz=17,slow=2.5,SNR=6.9						
DBIC	Dimbokro	126.51	311	PKIKP	PKPdf	14 59 12.4	-3.8
DBIC				pmax	pmax		
	comp=Z,7.0nm,1.0s						
TIC	Toumodi	126.64	311	eP	PKPdf	14 59 12.0	-4.4
	comp=Z,7.5nm,0.2s						
KIC	Kosan Boka	126.67	310	eP	PKPdf	14 59 12.2	-4.3
	comp=Z,68nm,1.1s						
LIC	Lamto	126.96	310	ePKIKP	PKPdf	14 59 11.9	-5.1
	comp=Z,56nm,1.3s						
LIC	Lamto	126.96	310	eP	PKPdf	14 59 13.6	-3.4
	comp=Z,51nm,1.6s						
SDV	Santo Domingo	130.51	37	ePKPdf	PKPdf	14 59 19.6	-4.3
SNAA	Sanae	136.01	197	⇑i	PKPdf	14 59 36.2	+3.6
VNA2	Neumayer--Watz	137.61	196		PKPdf	14 59 35.9	+0.3
VNA3	Neumayer Olymp	137.90	195	⇑i	PKPdf	14 59 35.7	-0.4
SAML	Samuel	149.44	43	ePKPdf	PKPdf	14 59 53.7	-3.8
SAML				ePKPbc	PKPdf	14 59 58.0	+0.5
LPAZ	La Paz	151.62	60	PKP	PKPdf	14 59 58.5	-2.2
	comp=Z,1.4nm,0.2s,baz=324,slow=1.2,SNR=6.7						
LPAZ				PKPbc	PKPdf	15 00 04.7	+4.0
	comp=Z,8.8nm,0.8s,baz=1.9,slow=3.8,SNR=31						
LPAZ	La Paz	151.62	60	PKIKP	PKPdf	14 59 58.5	-2.2
LPAZ				e		15 00 04.7	
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.2s						
LPAZ				pmax	pmax		
	comp=Z,9.0nm,0.8s						
LPAZ	La Paz	151.62	60	PKP	PKPdf	14 59 58.5	-2.2
LPAZ				PKPbc	PKPdf	15 00 04.7	+4.0
BDFB	Brasilia	161.96	17	PKP	PKPdf	15 00 10.7	-2.9
	comp=Z,2.2nm,0.6s,baz=121,slow=4.2,SNR=3.5						
BDFB				PKPab	PKPab	15 00 57.1	-0.6
	comp=Z,9.6nm,1.1s,baz=16,slow=6.1,SNR=4.5						
BDFB	Brasilia	161.96	17	PKIKP	PKPdf	15 00 10.7	-2.9
BDFB						15 00 57.1	
BDFB				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BDFB				pmax	pmax		
	comp=Z,10.0nm,1.1s						
LPA	La Plata	167.29	102	cePKP	PKPab	15 01 15.0	-5.3

JMA 08 14:45:24.0±0.2,33.02N×137.30E,h40^{km},M3.9,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK02	Tokai 2	1.00	22	P	P	14 45 41.9	+0.2
TK03	Tokai 3	1.27	26	eS	S	14 46 02.0	+0.3
JWZ	Kozaga	1.42	291	P	P	14 45 47.9	+0.1
JWZ				eS	S	14 46 04.9	-0.6
TK04	Tokai 4	1.44	19	P	P	14 45 48.2	+0.1
TK04				S	S	14 46 06.8	+0.7
JIE	Ise	1.46	340	P	P	14 45 49.0	+0.7
JKN	Kiinagashima	1.50	325	P	P	14 45 49.4	+0.5
JKN				S	S	14 46 06.9	-0.6
TSUJ	Tsu 2	1.84	337	P	P	14 45 54.9	+1.2
TSUJ				S	S	14 46 16.1	+0.2
JWY	Kouya	1.86	310	P	P	14 45 55.0	+1.0
JWY				S	S	14 46 16.8	+0.4
JIM2	Oshima 3	2.45	46	P	P	14 46 02.7	+0.2
JIM2				eS	S	14 46 31.9	+0.5
JAI	Aioi	2.50	289	eS	S	14 46 32.2	-0.6
JYN	Shimob	2.68	22	eS	S	14 46 37.8	+0.6
JOD2	Odawara 2	2.68	33	P	P	14 46 06.6	+0.8
JOD2				eS	S	14 46 38.6	+1.2
JGM	Miyama	2.72	350	P	P	14 46 06.7	+0.5
JWT	Wachi	2.75	326	P	P	14 46 07.8	+1.1
JWT				S	S	14 46 39.3	+0.2

JMA 08 14:46:05.4±0.1,33.19N×137.19E,h46^{km},M3.8,1C,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIE	Ise	1.26	342	⇑P	P	14 46 27.2	+0.2
JIE				S	S	14 46 43.8	+0.7
JWZ	Kozaga	1.28	286	P	P	14 46 27.2	0.0
JWZ				S	S	14 46 43.3	-0.2
JKN	Kiinagashima	1.31	324	P	P	14 46 27.6	-0.1
JKN				S	S	14 46 43.4	-0.9
TK04	Tokai 4	1.32	25	eS	S	14 46 43.5	-1.1
TSUJ	Tsu 2	1.65	337	S	S	14 46 52.5	0.0
JWM	Minabe	1.67	294	P	P	14 46 33.1	+0.4
JWM				S	S	14 46 53.2	+0.1
JWY	Kouya	1.68	308	S	S	14 46 53.9	+0.5
JAI	Aioi	2.37	285	S	S	14 47 09.8	-0.8
JGM	Miyama	2.53	351	S	S	14 47 15.1	+0.3
JWT	Wachi	2.56	325	S	S	14 47 16.3	+0.8

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*NIED **08** 14:58:00,33.20N×137.20E,h5^{km},Mw6.1 Best double couple: $M_0$1.62×10^{18} NP1:ϕ_s101°,δ61°,λ114°. NP2: ϕ_s239°,δ37°,λ54°.*

*IDC **08** 14:58:22.4±0.4,33.17N×137.30E,mb5.7/22,mb1 5.7/26, mb1mx5.7/26,ML5.0/4,MS6.0/30,Ms1 6.0/30, ms1mx6.0/37,Error ellipse: s-maj=13.9km s-min=11.4km az=83.0*

*JMA **08** 14:58:23.1±0.1,33.12N×137.29E,h36^{km}±2^{km},M6.5*

JMA Felt III J1.

*BJI **08** 14:58:24.0,33.10N×137.52E,h39^{km},mB6.3,mb6.1, Ms6.3,Msz6.1*

*IGIL **08** 14:58:24.3,33.10N×137.10E,h0^{km},MS6.6*

*SYO **08** 14:58:24.0,33.13N×137.18E,h10^{km},MB6.2,MS5.8*

*NEIC **08** 14:58:25.8±1.3,33.14N×137.20E,h21^{km}±9^{km},mb6.2/176, ME6.3,MS5.8/109,MW6.1,MW6.1(NIED),Error ellipse: s-maj=3.0km s-min=2.6km az=190.0 Broadband fault plane solution: P waves. NP1:ϕ_s240°,δ45°,λ40°. NP2: ϕ_s119°,δ63°,λ127°. Principal axes: T Plg55°, Azm78°; N Plg0°, Azm0°; P Plg10°, Azm183°; Moment Tensor Solution. s38 Moment tensor: Scale 10^{18} Nm; M_{rr}0.96; $M_{\theta\theta}$-1.11; $M_{\phi\phi}$0.15; $M_{r\theta}$0.95; $M_{\theta\phi}$-0.42; $M_{\phi r}$-0.33; Best double couple: $M_0$1.5×10^{18} NP1:ϕ_s229°,δ32°,λ46°. NP2: ϕ_s97°,δ68°,λ113°. Principal axes: T 1.49, Plg60°, Azm42°; N .04, Plg22°, Azm268°; P -1.53, Plg19°, Azm170°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt in much of southeastern Honshu. Recorded [3 JMA] in Aichi, Mie, Nara and Shiga; [2 JMA] in Fukui, Gifu, Hyogo, Kyoto, Osaka, Shizuoka and Wakayama; [1 JMA] in Ishikawa, Kanagawa, Okayama, Nagano, Tottori and Yamanashi Prefectures. Recorded [1 JMA] in Kagawa and Tokushima Prefectures, Shikoku. Also recorded [2 JMA] on Nii-jima and [1 JMA] on Aoga-shima, Kozu-shima, Mikura-jima and Miyake-jima.

*HRVD **08** 14:58:25.8±0.1,33.14N×137.32E,h12^{km},MW6.1/67, Centroid moment Tensor Solution. LP body waves: s67,c149;Mantle waves: s60,c109; Half duration: 2^{s}8 Moment tensor: Scale 10^{18}Nm; M_{rr}1.26±.01; $M_{\theta\theta}$-2.17±.02; $M_{\phi\phi}$0.90±.02; $M_{r\theta}$0.23±.05; $M_{\theta\phi}$-0.48±.01; $M_{\phi r}$-0.25±.04; Best double couple: $M_0$1.85×10^{18} NP1: ϕ_s233°,δ50°,λ47°. NP2:ϕ_s108°,δ56°,λ129°. Principal axes: T 1.44, Plg59°, Azm76°; N .81, Plg31°, Azm263°; P -2.25, Plg3°, Azm172°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to mantle waves, cutoff=125s.*

*DHMR **08** 14:58:27.4±2.8,33.22N×137.11E,h20^{km},mb6.3*

*MOS **08** 14:58:27.1±0.9,33.30N×137.11E,h33^{km},mb6.4/75, MS6.5/36,Error ellipse: s-maj=7.6km s-min=4.8km az=101.9*

*BGS **08** 14:58:30.1,33.62N×135.00E,h15^{km},mb6.2*

ISC 08 14:58:26.0±0.1,33.20N±0.01×137.19E±0.02,h30^{km}, h30^{km}±.5^{km}:pP-P,n1178,σ0^{s}98/1143,mb6.2/276, MS6.0/165,280C-34D,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	Tokai 1	0.66	31	P	Pb	14 58 36.3	-2.7
TK02	Tokai 2	0.89	32	⇑P	Pn	14 58 39.9	-2.6
TK03	Tokai 3	1.16	34	⇑P	Pn	14 58 43.8	-2.6
JIE	Ise	1.26	342	⇑P	Pn	14 58 46.6	-1.2
JIE				S	Sn	14 59 03.5	-0.3
JWZ	Kozaga	1.28	286	⇑P	Pn	14 58 46.5	-1.6
JWZ				S	Sn	14 59 04.2	-0.1
JKN	Kiinagashima	1.30	324	⇑P	Pn	14 58 47.0	-1.4
JKN				S	Sn	14 59 04.2	-0.7
TK04	Tokai 4	1.32	26	⇑P	Pn	14 58 46.4	-2.2
JAA	Atsumi	1.43	359	⇑P	Pn	14 58 48.4	-1.9
TSUJ	Tsu 2	1.64	337	⇑P	Pn	14 58 52.2	-1.0
TSUJ				eS	Sn	14 59 13.6	+0.1
JWM	Minabe	1.66	294	⇑P	Pn	14 58 52.3	-1.3
JWY	Kouya	1.68	308	⇑P	Pn	14 58 53.0	-0.8
JWY				S	Sn	14 59 14.9	+0.5
HMMJ	Hamamatsu 2	1.71	15	⇑P	Pn	14 58 51.7	-2.6
JHE	Heguri	1.92	320	⇑P	Pn	14 58 56.1	-1.1
SHZ3	Shizuoka 3	2.05	24	⇑P	Pn	14 58 56.2	-2.9
JAO	Obara	2.07	2	⇑P	Pn	14 58 57.4	-2.0
JHJ	Hachijo jima 2	2.18	91	Pn	Pn	14 58 57.8	-3.2
	2μm,0.3s,baz=234,slow=8.1,SNR=265						
JHJ				Sn	Sn	14 59 22.1	-5.0
	3μm,0.3s,baz=30,slow=21,SNR=17						
JHJ				LR	LR	14 59 41.7	
	comp=Z,149μm,18.5s,baz=168,slow=38						
JHJ2	Mitsune	2.21	91	P	Pn	14 58 57.7	-3.7
JHJ2				eS	Sn	14 59 22.1	-5.8
JNY	Yasuok	2.23	14	⇑P	Pn	14 58 59.4	-2.3
JAJ2	Tsuna	2.27	303	⇑P	Pn	14 59 01.7	-0.6
JAI	Aioi	2.36	285	⇑P	Pn	14 59 02.4	-1.2
JAI				eS	Sn	14 59 31.3	-0.6
JMIK	Miki	2.39	313	⇑P	Pn	14 59 03.3	-0.7
JGF	Kuroka	2.40	3	⇑P	Pn	14 59 02.3	-1.9
JIM2	Oshima 3	2.40	50	P	Pn	14 59 01.5	-2.7
JIM2				S	Sn	14 59 28.6	-4.3
JGM	Miyama	2.53	351	P	Pn	14 59 04.4	-1.5
JFM	Mihama	2.53	337	⇑P	Pn	14 59 05.0	-1.0
JWT	Wachi	2.55	325	⇑P	Pn	14 59 05.3	-1.0
JWT				eS	Sn	14 59 36.7	0.0
JYN	Shimob	2.56	26	P	Pn	14 59 03.5	-2.9

MRT2	**Murotomisaki 2**	**2.56**	**275**	⇑P	**Pn**	**14 59 04.4**	**-2.0**
JOD2	**Odawara 2**	**2.59**	**37**	P	**Pn**	**14 59 04.5**	**-2.4**
JKS	**Kasai**	**2.64**	**313**	⇑P	**Pn**	**14 59 06.6**	**-0.9**
JNT	**Takato**	**2.78**	**16**	⇑P	**Pn**	**14 59 07.5**	**-2.1**
JKY	**Yasaka**	**2.98**	**325**	⇑P	**Pn**	**14 59 11.1**	**-1.2**
JAD	**Aida**	**3.05**	**306**	⇑P	**Pn**	**14 59 12.0**	**-1.4**
JRY	**Ryogami san**	**3.15**	**26**	⇑P	**Pn**	**14 59 12.7**	**-2.1**
JKG	**Kaga**	**3.15**	**347**	P	**Pn**	**14 59 13.1**	**-1.7**
JKSM	**Kasumi**	**3.17**	**320**	P	**Pn**	**14 59 13.7**	**-1.4**
JNG	**Nsakai**	**3.29**	**13**	P	**Pn**	**14 59 15.3**	**-1.5**
MAJO	**Matsushiro**	**3.44**	**14**	Pn	**Pn**	**14 59 17.2**	**-1.7**
MAJO	**Matsushiro**	**3.44**	**14**	*e*P	**Pn**	**14 59 17.1**	**-1.8**
MAT	**Matsushiro**	**3.44**	**14**	P	**Pn**	**14 59 17.2**	**-1.7**
MAT				S	**Sn**	**14 59 58.2**	**-1.0**
MAT	**Matsushiro**	**3.44**	**14**	*e*P	**Pn**	**14 59 17.0**	**-1.9**
MAT				*e*S	**Sn**	**14 59 58.0**	**-1.2**
JKR	**Kurayoshi**	**3.54**	**309**	⇑P	**Pn**	**14 59 19.4**	**-0.9**
JTO	**Tosashimizu**	**3.70**	**266**	P	**Pn**	**14 59 20.0**	**-2.6**
JNA	**Nagahama**	**3.96**	**276**	⇑P	**Pn**	**14 59 24.1**	**-2.2**
JKD	**Kudamatsu**	**4.51**	**282**	P	**Pn**	**14 59 32.2**	**-2.0**
JUS	**Usuki**	**4.56**	**270**	P	**Pn**	**14 59 32.2**	**-2.7**
JKI	**Kunimi**	**4.72**	**277**	P	**Pn**	**14 59 35.0**	**-2.1**
JTY	**Toyota**	**5.21**	**283**	P	**Pn**	**14 59 42.0**	**-2.0**
JNAR	**Kushima--Naru**	**5.28**	**253**	P	**Pn**	**14 59 45.1**	**+0.2**
JTZ	**Takazaki**	**5.31**	**258**	P	**Pn**	**14 59 44.5**	**-0.9**
JFA	**Akaike**	**5.37**	**277**	P	**Pn**	**14 59 43.6**	**-2.6**
JNN	**Nakanoshima**	**7.08**	**244**	P	**Pn**	**15 00 09.1**	**-1.3**
CBIJ	**Chichi jima**	**7.46**	**143**	Pn	**Pn**	**15 00 11.2**	**-4.5**
	184nm,0.3s,baz=329,slow=5.8,SNR=19						
CBIJ				Sn	**Sn**	**15 01 34.9**	**-5.3**
	baz=329,slow=19,SNR=2.0						
CBIJ				LR	LR	15 02 48.4	
	comp=Z,117µm,21.3s,baz=330,slow=36						
JTK	**Tokunoshima**	**8.92**	**235**	P	**P**	**15 00 34.5**	**-1.4**
JOW	**Kunigami**	**9.99**	**233**	Pn	**P**	**15 00 48.4**	**-2.3**
	12nm,0.3s,baz=66,slow=9.6,SNR=30						
JOW				LR	LR	15 04 27.4	
	comp=Z,56µm,21.1s,baz=73,slow=36						
JKE	**Kume jima 2**	**11.33**	**236**	P	**P**	**15 01 06.6**	**-2.5**
ASAJ	**Asahikawa**	**11.69**	**20**	Pn	**P**	**15 01 10.2**	**-3.6**
	10nm,0.3s,baz=227,slow=13,SNR=53						
ASAJ				LR	LR	15 05 51.4	
	comp=Z,100µm,21.7s,baz=213,slow=38						
ASAJ	**Asahikawa**	**11.69**	**20**	P	**P**	**15 01 10.3**	**-3.5**
ASAJ				pmax	pmax		
	comp=Z,11nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,100µm,21.7s						
YUK	**Yuzh-Kuril'sk**	**12.76**	**30**	*e*P	**P**	**15 01 21.0**	**-7.2**
YUK				pmax	pmax		
	comp=Z,330nm,0.5s						
YUK				pmax	pmax		
	comp=Z,11µm,4.0s						
YUK				MLR	MLR		
	comp=Z,96µm,16.0s						
YUK				MLR	MLR		
	comp=N,55µm,15.0s						
YUK				MLR	MLR		
	comp=E,39µm,15.0s						
MDJ	**Mudanjiang**	**12.84**	**335**	P	**P**	**15 01 29.9**	**+0.7**
MDJ				AP		15 01 33.3	
MDJ				XP		15 01 37.7	
MDJ				S	**S**	**15 03 55.8**	**+3.8**
MDJ				PCS		15 10 32.8	
MDJ				AMB	AMB		
	comp=Z,253nm,1.2s						
MDJ				AMB	AMB		
	comp=Z,12µm,10.4s						
MDJ				LR	LR		
	comp=N,94µm,14.2s						
MDJ				LR	LR		
	comp=E,87µm,13.7s						
MDJ				LR	LR		
	comp=Z,138µm,14.8s						
MDJ	**Mudanjiang**	**12.84**	**335**	*e*P	**P**	**15 01 28.4**	**-0.8**
	comp=Z,156nm,1.0s						
SSE	**Sheshan**	**13.72**	**266**	P	**P**	**15 01 38.9**	**-2.0**
SSE				S	**S**	**15 04 10.9**	**-2.3**
SSE				LR	LR		
	comp=Z,114µm,12.4s						
SNY	**Shenyang**	**13.80**	**313**	⇑P	**P**	**15 01 42.6**	**+0.7**
SNY				S	**S**	**15 04 23.5**	**+8.4**
SNY				AMB	AMB		
	comp=Z,9µm,8.3s						
SNY				LR	LR		
	comp=Z,72µm,13.5s						
DL2	**Dalian**	**13.81**	**299**	P	**P**	**15 01 43.9**	**+1.8**
DL2				S	**S**	**15 04 16.6**	**+1.3**
DL2				AMB	AMB		
	comp=Z,230nm,1.4s						
DL2				AMB	AMB		
	comp=Z,4µm,7.7s						
DL2				LR	LR		
	comp=N,111µm,13.7s						
DL2				LR	LR		
	comp=E,52µm,16.3s						
DL2				LR	LR		
	comp=Z,112µm,10.8s						
CN2	**Changchun**	**14.01**	**323**	*e*P	**P**	**15 01 44.6**	**0.0**
CN2				*e*AP		15 01 48.9	
CN2				*e*S	**S**	**15 04 20.8**	**+1.0**
CN2				LR	LR		
	comp=Z,109µm,17.0s						
YSS	**Yuzh-Sakhalins**	**14.38**	**16**	⇑*i*P	**P**	**15 01 44.3**	**-5.1**
YSS				*e*S	**S**	**15 04 22.0**	**-6.7**
YSS				pmax	pmax		
	comp=N,980nm,2.0s						
YSS				pmax	pmax		
	comp=Z,2µm,2.0s						
YSS				pmax	pmax		
	comp=Z,260nm,0.8s						
YSS	**Yuzh-Sakhalins**	**14.38**	**16**	*e*P	**P**	**15 01 46.3**	**-3.1**
NJ2	**Nanjing**	**15.49**	**271**	*e*P	**P**	**15 02 06.7**	**+2.6**
NJ2				AP		15 02 11.9	
NJ2				XP		15 02 13.3	
NJ2				PP	PP	15 02 17.9	+1.6
NJ2				PPP	PPP	15 02 27.2	+3.4
NJ2				S	**S**	**15 04 54.0**	**-1.0**
NJ2				AMB	AMB		
	comp=Z,2µm,1.2s						
NJ2				AMB	AMB		
	comp=Z,4µm,5.8s						
NJ2				LR	LR		
	comp=N,15µm,13.1s						
NJ2				LR	LR		
	comp=E,12µm,17.2s						
TATO	**Taipei**	**15.97**	**243**	*e*P	**P**	**15 02 14.8**	**+4.5**
	comp=E,1µm,1.5s						
KLR	**Kul'dur**	**16.52**	**347**	*e*P	**P**	**15 02 16.8**	**-0.3**
TIA	**Tai'an**	**16.77**	**286**	⇑P	**P**	**15 02 21.0**	**+0.7**
TIA				AP		15 02 30.0	
TIA				AMB	AMB		
	comp=Z,729nm,1.8s						
SARN	**Sarigan**	**18.16**	**153**	⇑*e*P	**P**	**15 02 35.0**	**-2.9**
BJI	**Beijing**	**18.18**	**298**	P	**P**	**15 02 39.2**	**+1.3**
BJI				S	**S**	**15 06 08.3**	**+12**
BJI				AMB	AMB		
	comp=Z,783nm,1.5s						
BJI				LR	LR		
	comp=Z,22µm,17.1s						
BJT	**Baijiatuau**	**18.18**	**298**	*e*P	**P**	**15 02 38.5**	**+0.6**
	comp=Z,2µm,1.4s						
QZH	**Quanzhou**	**18.20**	**248**	⇑*i*P	**P**	**15 02 37.3**	**-1.0**
QZH				S	**S**	**15 05 54.0**	**-3.1**
QZH				AMB	AMB		
	comp=Z,900nm,1.1s						
QZH				AMB	AMB		
	comp=Z,14µm,3.3s						
QZH				LR	LR		
	comp=Z,72µm,13.3s						
BBP	**Basco**	**18.57**	**231**	*e*P	**P**	**15 02 44.8**	**+2.0**
SAPN	**Saipan**	**19.52**	**155**	⇓*e*P	**P**	**15 02 51.1**	**-2.8**
WHN	**Wuhan**	**19.57**	**268**	⇑P	**P**	**15 02 55.0**	**+0.6**
WHN				S	**S**	**15 06 39.0**	**+11**
WHN				LR	LR		
	comp=Z,16µm,13.4s						
TIY	**Taiyuan**	**20.64**	**290**	⇑P	**P**	**15 03 02.0**	**-3.7**
TIY				S	**S**	**15 06 57.0**	**+7.2**
TIY				AMB	AMB		
	comp=Z,8µm,5.0s						
HIA	**Hailar**	**20.65**	**326**	*e*P	**P**	**15 03 03.4**	**-2.3**
	comp=Z,348nm,1.1s						
CVP	**Callao Caves**	**20.71**	**226**	⇓*e*P	**P**	**15 03 07.4**	**+1.0**
GUMO	**Guam**	**20.74**	**158**	*e*P	**P**	**15 03 03.9**	**-2.9**
	comp=Z,3µm,1.5s						
GUMO				LR	LR		
	comp=Z,50µm,20.0s,MS5.9						
APYP	**Conner**	**20.94**	**227**	*e*P	**P**	**15 03 08.3**	**-0.5**
CAUP	**Cauayan**	**21.30**	**224**	*e*P	**P**	**15 03 16.8**	**+4.3**
ABRA	**Dolores**	**21.43**	**228**	*e*P	**P**	**15 03 12.5**	**-1.2**
HHC	**Hu-ho-hao-te**	**21.79**	**298**	*e*P	**P**	**15 03 16.7**	**-0.5**
HHC				PP	PP	15 03 41.3	-1.2
HHC				S	**S**	**15 07 18.9**	**+7.5**
HHC				SS	SS	15 07 48.7	-0.4
HHC				PCS		15 10 55.4	
HHC				AMB	AMB		
	comp=Z,670nm,1.6s,mb5.8						
HHC				AMB	AMB		
	comp=Z,8µm,5.3s						
HHC				LR	LR		
	comp=Z,37µm,11.3s,MS6.0						
SKR	**Severo-Kuril's**	**22.33**	**33**	⇑*i*P	**P**	**15 03 17.0**	**-5.6**
SKR				*e*PPP	PPP	15 04 05.0	+5.2
SKR				*i* S	**S**	**15 07 22.0**	**+0.7**
SKR				*e*SS	SS	15 08 04.0	+1.7
SKR				pmax	pmax		
	comp=E,470nm,1.0s						
SKR				pmax	pmax		
	comp=Z,1µm,1.0s,mb6.2						
SKR				pmax	pmax		
	comp=N,4µm,2.0s						
SKR				pmax	pmax		
	comp=N,15µm,4.0s						
SKR				pmax	pmax		
	comp=E,13µm,4.0s						
SKR				pmax	pmax		
	comp=Z,24µm,4.0s						
SKR				smax			
	comp=N,24µm,24.0s						
SKR				smax			
	comp=E,40µm,14.0s						
SKR				MLR	MLR		
	comp=N,14µm,16.0s,MS6.1						
SKR				MLR	MLR		
	comp=E,52µm,14.0s,MS6.1						
SKR				MLR	MLR		
	comp=Z,35µm,14.0s,MS5.9						
BALP	**Baler**	**22.40**	**223**	*e*P	**P**	**15 03 24.0**	**+0.6**
BCPH	**Baguio City Da**	**22.48**	**226**	⇓*i*P	**P**	**15 03 23.7**	**-0.5**
PVCP	**Virac**	**22.84**	**214**	*e*P	**P**	**15 03 29.0**	**+1.1**
BOLP	**Bolinao**	**22.88**	**227**	*e*P	**P**	**15 03 29.4**	**+1.1**
BTO	**Baotou**	**22.89**	**297**	*e*P	**P**	**15 03 27.9**	**-0.2**
BTO				AMB	AMB		
	comp=Z,1µm,1.5s,mb6.2						
POLP	**Polilio Island**	**23.02**	**221**	*e*P	**P**	**15 03 32.2**	**+2.6**
HKC	**Hong Kong**	**23.03**	**248**	⇑*i*P	**P**	**15 03 32.0**	**+2.3**
HKC				*i* S	**S**	**15 07 44.0**	**+10**
GZH	**Guangzhou**	**23.27**	**250**	P	**P**	**15 03 27.9**	**-4.0**
GZH				S	**S**	**15 07 33.3**	**-4.9**
GZH				AMB	AMB		
	comp=Z,9µm,5.9s						
GZH				LR	LR		
	comp=N,35µm,13.7s,MS6.1						
GZH				LR	LR		
	comp=E,43µm,16.1s,MS6.1						
GZH				LR	LR		
	comp=Z,60µm,14.7s,MS6.2						
SCZP	**Santa Cruz**	**23.35**	**226**	*e*P	**P**	**15 03 33.3**	**+0.5**
GQP	**Guinayangan**	**23.43**	**218**	⇓*e*P	**P**	**15 03 34.5**	**+0.9**
XAN	**Xi'an**	**23.53**	**280**	P	**P**	**15 03 34.0**	**-0.4**
XAN				AP		15 03 45.1	
XAN				S	**S**	**15 07 48.2**	**+5.5**
XAN				AMB	AMB		
	comp=Z,8µm,6.0s						
XAN				LR	LR		
	comp=Z,55µm,12.2s,MS6.2						
CNP	**Catarman**	**23.56**	**212**	*e*P	**P**	**15 03 37.0**	**+2.1**
QVPH	**Quezon City--P**	**23.57**	**222**	⇑*e*P	**P**	**15 03 36.1**	**+1.2**
ARP	**Angono**	**23.61**	**222**	⇑*e*P	**P**	**15 03 36.2**	**+0.9**
ENH	**Enshi**	**23.71**	**270**	*e*P	**P**	**15 03 36.9**	**+0.7**
	comp=Z,3µm,1.6s,mb6.5						
LQP	**Lukban**	**23.74**	**221**	⇑*e*P	**P**	**15 03 37.3**	**+0.7**
AUQP	**San Andres**	**23.80**	**217**	*e*P	**P**	**15 03 40.3**	**+3.1**
BESP	**Borongan**	**24.04**	**209**	*e*P	**P**	**15 03 41.0**	**+1.5**
TGY	**Tagaytay City**	**24.08**	**222**	P	**P**	**15 03 40.6**	**+0.6**
	comp=Z,3µm,1.3s,mb6.5,baz=37,slow=14,SNR=14						
BOAC	**Boac**	**24.12**	**219**	*e*P	**P**	**15 03 40.7**	**+0.4**
PLP	**Palo**	**24.63**	**210**	*e*P	**P**	**15 03 44.6**	**-0.6**
LUBP	**Lubang**	**24.77**	**223**	⇑*e*P	**P**	**15 03 45.3**	**-1.3**
LUBP	**Lubang**	**24.77**	**223**	*e*P	**P**	**15 03 45.6**	**-1.0**
OTRP	**Odiongan**	**24.95**	**217**	*e*P	**P**	**15 03 48.9**	**+0.6**
PET	**Petropavlovsk**	**25.09**	**31**	α*i*P	**P**	**15 03 49.1**	**-0.2**
PET				*e*		15 04 27.5	
PET				*i* S	**S**	**15 08 13.1**	**+4.0**
PET				pmax	pmax		
	comp=Z,1µm,1.3s,mb6.2						
PET				pmax	pmax		
	comp=N,543nm,1.3s						
PET				pmax	pmax		
	comp=E,363nm,1.1s						
PET				pmax	pmax		
	comp=Z,26µm,4.8s						
PET				pmax	pmax		
	comp=N,12µm,4.3s						
PET				pmax	pmax		
	comp=E,8µm,3.8s						
PET				pmax	pmax		
	comp=Z,6µm,12.1s						
PET				smax			
	comp=E,18µm,7.9s						
PET				smax			
	comp=N,21µm,18.8s						
PET				smax			
	comp=E,23µm,19.2s						
PET				MLR	MLR		
	comp=Z,35µm,16.0s,MS6.0						
PET				MLR	MLR		
	comp=Z,34µm,15.0s						
PET				MLR	MLR		
	comp=E,24µm,21.0s						
PET				MLR	MLR		
	comp=E,20µm,23.0s						
PET				MLR	MLR		
	comp=N,24µm,14.0s						
PET				MLR	MLR		
	comp=N,26µm,15.0s						
CLNS	**Chul'man**	**25.11**	**344**	*e*P	**P**	**15 03 49.4**	**0.0**
CLNS				*e**PP	pP	15 03 55.8	-2.5
CLNS				*e*		15 04 24.5	
CLNS				*e*PPP	PPP	15 04 34.2	-4.4
CLNS				*e*		15 07 21.7	
CLNS				*e*S	**S**	**15 08 15.8**	**+6.5**
CLNS				*e*SS	SS	15 09 17.8	+8.0
CLNS				*e*		15 14 44.6	
CLNS				pmax	pmax		
	comp=Z,750nm,1.1s,mb6.1						
CLNS				pmax	pmax		
	comp=N,695nm,1.3s						
CLNS				pmax	pmax		
	comp=E,189nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,222nm,1.2s,mb5.6						
CLNS				pmax	pmax		
	comp=N,266nm,1.3s						
CLNS				pmax	pmax		
	comp=E,43nm,0.8s						
CLNS				smax			
	comp=N,135nm,1.5s						
CLNS				smax			
	comp=Z,39nm,2.1s						
CLNS				smax			
	comp=E,32nm,1.0s						
CLNS				MLR	MLR		
	comp=E,13µm,13.0s,MS6.4						
CLNS				MLR	MLR		
	comp=Z,104µm,13.0s,MS6.5						
CLNS				MLR	MLR		
	comp=N,86µm,14.0s,MS6.4						
RCP	**Roxas**	**25.28**	**215**	⇓*e*P	**P**	**15 03 51.9**	**+0.5**
SJMP	**San Jose**	**25.34**	**219**	*e*P	**P**	**15 03 53.8**	**+1.8**
MSLP	**Maasin**	**25.61**	**209**	*e*P	**P**	**15 03 54.6**	**+0.1**
GUIM	**Jordan**	**26.17**	**214**	*e*P	**P**	**15 03 58.8**	**-0.9**
BUSP	**Coron**	**26.21**	**220**	*e*P	**P**	**15 03 59.7**	**-0.4**
BUTP	**Butuan**	**26.37**	**206**	*e*P	**P**	**15 04 01.9**	**+0.3**
CUYO	**Cuyo Island**	**26.75**	**217**	*e*P	**P**	**15 04 04.5**	**-0.5**
SNPH	**Sibulan**	**27.00**	**212**	⇑*e*P	**P**	**15 04 07.0**	**-0.4**
GYA	**Guiyang**	**27.25**	**264**	⇑*i*P	**P**	**15 04 09.2**	**-0.4**
GYA				AP	pP	15 04 18.6	+0.1
GYA				XP	sP	15 04 22.7	+0.2
GYA				PP	PP	15 05 01.2	+4.4
GYA				S	**S**	**15 08 50.6**	**+5.6**
GYA				AMB	AMB		
	comp=Z,450nm,1.2s,mb5.9						
GYA				AMB	AMB		
	comp=Z,4µm,8.4s						
GYA				LR	LR		
	comp=Z,46µm,12.6s,MS6.2						
ENPP	**El Nido**	**27.29**	**221**	*e*P	**P**	**15 04 08.9**	**-1.0**
SONM	**Songino Array**	**27.38**	**311**	P	**P**	**15 04 10.0**	**-0.5**
	comp=Z,211nm,1.0s,mb5.6,baz=121,slow=7.2,SNR=146						
SONM				PcP	PcP	15 07 29.8	+0.4
	comp=Z,134nm,1.5s,baz=180,slow=1.2,SNR=4.0						
LZH	**Lanzhou**	**27.51**	**285**	P	**P**	**15 04 12.6**	**+0.8**
LZH				AP	pP	15 04 18.1	-2.6
LZH				XP	sP	15 04 22.0	-2.7
LZH				S	**S**	**15 08 51.1**	**+2.1**
LZH				SS	SS	15 10 10.0	+2.3
LZH				AMB	AMB		
	comp=Z,1µm,1.4s,mb6.3						
LZH				AMB	AMB		
	comp=Z,5µm,4.4s						
BUKP	**Musuan**	**27.58**	**207**	*e*P	**P**	**15 04 12.5**	**-0.2**
MA2	**Magadan**	**27.89**	**15**	*ce*P	**P**	**15 04 13.4**	**-1.5**
MA2				*e*		15 05 14.1	
MA2				*e*S	**S**	**15 08 51.9**	**-2.9**
MA2				*e*SS	SS	15 10 14.8	-1.7
MA2				pmax	pmax		
	comp=Z,370nm,1.4s,mb5.8						
MA2				MLR	MLR		
	comp=Z,113µm,14.0s,MS6.6						
MA2	**Magadan**	**27.89**	**15**	⇑*i*P	**P**	**15 04 13.4**	**-1.5**
MA2				LR	LR		
	comp=Z,17µm,22.0s,MS5.6						
MATI	**Mati**	**28.02**	**204**	*e*P	**P**	**15 04 17.2**	**+0.5**
DAV	**Davao City (W)**	**28.14**	**205**	*e*P	**P**	**15 04 19.0**	**+1.3**
QIZ	**Qiongzhong**	**28.21**	**247**	P	**P**	**15 04 18.3**	**0.0**
QIZ				XP	sP	15 04 28.3	-2.9
QIZ				S	**S**	**15 09 04.8**	**+4.3**
QIZ				SS	SS	15 10 30.0	+5.5
QIZ				AMB	AMB		
	comp=Z,3µm,5.8s						
QIZ				LR	LR		
	comp=N,34µm,13.6s,MS6.2						
QIZ				LR	LR		
	comp=E,18µm,12.8s,MS6.2						
QIZ				LR	LR		
	comp=Z,20µm,14.5s,MS5.8						
QIZ	**Qiongzhong**	**28.21**	**247**	*e*P	**P**	**15 04 18.2**	**-0.1**
	comp=Z,333nm,1.6s,mb5.7						
PAGZ	**Pagadian**	**28.28**	**210**	*e*P	**P**	**15 04 17.9**	**-1.1**
CD2	**Chengdu**	**28.36**	**275**	P	**P**	**15 04 18.6**	**-0.9**
CD2				PP	PP	15 05 11.5	+0.4
CD2				PPP	PPP	15 05 30.9	+7.5
CD2				S	**S**	**15 09 05.2**	**+2.4**
CD2				XS		15 09 21.5	
CD2				SS	SS	15 10 33.5	+5.7
CD2				AMB	AMB		
	comp=Z,440nm,1.5s,mb5.9						
CD2				AMB	AMB		
	comp=Z,4µm,6.6s						
IPIL	**Ipil**	**28.68**	**211**	*e*P	**P**	**15 04 21.4**	**-1.1**
BOD	**Bodaibo**	**29.21**	**334**	*e*P	**P**	**15 04 23.6**	**-3.3**
YAK	**Yakutsk**	**29.25**	**353**	*c i*P	**P**	**15 04 26.1**	**-1.1**
YAK				*e*PPP	PPP	15 05 28.7	-6.9
YAK				*e*		15 07 32.4	
YAK				*e*S	**S**	**15 09 19.6**	**+2.9**
YAK				*e*SS	SS	15 10 40.3	-7.9
YAK				*e*SSS	SSS	15 11 10.2	+1.7
YAK				*e*		15 14 59.0	
YAK				pmax	pmax		
	comp=Z,606nm,1.4s,mb6.1						
YAK				pmax	pmax		
	comp=N,678nm,1.5s						
YAK				pmax	pmax		
	comp=E,135nm,1.2s						
YAK				smax			
	comp=N,133nm,1.5s						
YAK				smax			
	comp=E,33nm,1.3s						
YAK				smax			
	comp=Z,30nm,1.3s						
YAK				MLR	MLR		
	comp=N,73µm,14.0s,MS6.5						
YAK				MLR	MLR		
	comp=E,45µm,13.0s,MS6.5						
YAK				MLR	MLR		
	comp=Z,79µm,13.0s,MS6.5						
YAK	**Yakutsk**	**29.25**	**353**	*e*P	**P**	**15 04 25.9**	**-1.3**
	comp=Z,1µm,1.4s,mb6.4						
YAK				LR	LR		
	comp=Z,87µm,19.0s,MS6.4						
BATP	**Bataraza**	**30.17**	**221**	*e*P	**P**	**15 04 35.5**	**-0.4**
ZAK	**Zakamensk**	**30.22**	**315**	⇑*i*P	**P**	**15 04 35.6**	**-0.3**
IRK	**Irkutsk**	**30.40**	**319**	*e*P	**P**	**15 04 36.8**	**-0.7**
IRK				*e*		15 05 51.2	
GTA	**Gaotai**	**30.59**	**292**	⇑*i*P	**P**	**15 04 38.8**	**-0.6**
GTA				PP	PP	15 05 39.2	-0.8
GTA				PCP	PcP	15 07 37.9	+0.4
GTA				S	**S**	**15 09 39.5**	**+1.3**
GTA				PCS		15 11 21.1	
GTA				SS	SS	15 11 22.5	+2.4
GTA				SCS	ScS	15 15 13.8	+2.3
GTA				AMB	AMB		
	comp=Z,2µm,5.7s						
GTA				LR	LR		
	comp=Z,31µm,14.4s,MS6.1						
KMI	**Kunming**	**31.03**	**264**	*e*P	**P**	**15 04 43.3**	**-0.1**
KMI				PP	PP	15 05 43.1	-2.8
KMI				S	**S**	**15 09 49.1**	**+3.9**
KMI				SS	SS	15 11 32.7	+2.3
KMI				AMB	AMB		
	comp=Z,2µm,4.8s						
SEY	**Seymchan**	**31.27**	**13**	*i* P	**P**	**15 04 46.3**	**+1.2**
SEY				pmax	pmax		
	comp=N,150nm,1.2s						
SEY				pmax	pmax		
	comp=Z,460nm,1.2s,mb6.2						
SEY				pmax	pmax		
	comp=E,140nm,1.3s						
SEY				MLR	MLR		
	comp=Z,68µm,17.0s,MS6.4						
MOY	**Mondy**	**32.03**	**316**	*e*P	**P**	**15 04 51.9**	**0.0**
SMY	**Shemya**	**32.83**	**42**	*e*P	**P**	**15 04 59.4**	**+0.6**
KKM	**Kota Kinabalu**	**33.32**	**220**	⇓*e*P	**P**	**15 05 04.1**	**+0.6**
UBT	**Ubonrachathani**	**34.16**	**246**	⇓P	**P**	**15 05 12.0**	**+1.3**
KKTK	**Khon Kaen**	**35.23**	**250**	⇑P	**P**	**15 05 19.6**	**-0.3**
	comp=Z,1µm,0.6s,mb7.1						
NANT	**Nan**	**35.59**	**255**	PG	**P**	**15 05 20.0**	**-3.0**
NANT				SG	pP	15 05 29.5	-2.5
CHG	**Chiang Mai**	**37.02**	**257**	⇑P	**P**	**15 05 34.9**	**0.0**
	comp=Z,110nm,0.9s,mb5.7						
CHG				S	Sx	15 14 10.6	
CMAR	**Chiang Mai Arr**	**37.20**	**256**	P	**P**	**15 05 36.2**	**-0.3**
	comp=Z,53nm,0.8s,mb5.4,baz=50,slow=7.4,SNR=123						
CMAR				PcP	PcP	15 07 56.5	0.0
	comp=Z,22nm,1.1s,baz=5.1,slow=0.5,SNR=6.3						
CMAR				LR	LR	15 23 16.7	
	comp=Z,17µm,19.0s,MS5.9,baz=60,slow=40						
CMAR	**Chiang Mai Arr**	**37.20**	**256**	P	**P**	**15 05 36.2**	**-0.3**
CMAR						15 07 56.5	
CMAR				pmax	pmax		
	comp=Z,53nm,0.8s						
CMAR				MLR	MLR		
	comp=Z,17µm,19.0s						
BDT	**Bhumibol Dam**	**37.78**	**255**	P	**P**	**15 05 41.0**	**-0.4**
	comp=Z,64nm,0.9s,mb5.3						
TIXI	**Tiksi**	**38.77**	**356**	*c i*P	**P**	**15 05 48.4**	**-0.8**
TIXI				*i*		15 06 04.5	
TIXI				*e*		15 07 16.4	
TIXI				*i*		15 07 59.5	
TIXI				*i* S	**S**	**15 11 44.7**	**+0.6**
TIXI				pmax	pmax		
	comp=Z,216nm,1.0s,mb5.8						
TIXI				MLR	MLR		
	comp=Z,25µm,16.0s,MS6.1						
TIXI	**Tiksi**	**38.77**	**356**	⇑*i*P	**P**	**15 05 48.5**	**-0.7**
TIXI				LR	LR		
	comp=Z,15µm,21.0s,MS5.8						
MIDW	**Midway**	**39.15**	**85**	*e*P	**P**	**15 05 51.6**	**-1.1**
MIDW				LR	LR		
	comp=Z,11µm,21.0s,MS5.7						
LSA	**Lhasa**	**39.19**	**278**	P	**P**	**15 05 54.0**	**+0.9**
LSA				S	**S**	**15 11 47.0**	**-3.9**

LSA				XS		15 12 13.0	
WMQ	**Urumqi**	39.63	300	⇑P	P	15 05 56.7	+0.1
WMQ				PP	PP	15 07 32.1	+0.7
WMQ				S	S	15 11 59.0	+1.6
WMQ				SS	SS	15 14 46.9	+0.7
WMQ				AMB	AMB		
	comp=Z,693nm,1.4s,mb6.2						
WMQ				LR	LR		
	comp=N,25µm,19.0s,MS6.2						
WMQ				LR	LR		
	comp=E,20µm,18.6s,MS6.2						
WMQ				LR	LR		
	comp=Z,25µm,20.0s,MS6.0						
SHL	**Shillong**	39.96	271	⇑*i*P	P	15 05 59.3	-0.2
SHL				*e*		15 11 53.2	
AGT	**Agartala**	41.14	269	⇓*i*P	P	15 06 13.0	+3.9
AGT				*i*		15 07 17.0	
WAU	**Wau**	41.32	166	*e*P	P	15 06 09.2	-1.6
ZAL	**Zalesovo**	42.09	316	P	P	15 06 16.2	-0.4
	comp=Z,150nm,1.2s,mb5.5,baz=283,slow=9.5,SNR=173						
ZAL				LR	LR	15 25 14.7	
	comp=Z,74µm,18.6s,MS6.6,baz=286,slow=38						
ZAL	**Zalesovo**	42.09	316	P	P	15 06 16.3	-0.3
ZAL				pmax	pmax		
	comp=Z,150nm,1.2s						
ZAL				MLR	MLR		
	comp=Z,74µm,18.6s						
SNG	**Songkhla**	42.62	241	P	P	15 06 20.0	-1.5
	comp=Z,280nm,1.0s,mb6.0						
NVS	**Novosibirsk**	43.12	317	*i* P	P	15 06 27.2	+2.2
NVS				*i*	pP	15 06 36.7	+2.6
NVS				*i*		15 08 00.9	
NVS				*i* S	S	15 12 56.8	+8.0
NVS				pmax	pmax		
	comp=N,147nm,1.4s						
NVS				pmax	pmax		
	comp=Z,532nm,1.4s,mb6.1						
NVS				pmax	pmax		
	comp=E,464nm,1.5s						
NVS				pmax	pmax		
	comp=Z,223nm,1.8s,mb5.6						
MKAR	**Makanchi Array**	43.35	305	P	P	15 06 27.5	+0.6
	comp=Z,206nm,1.1s,mb5.8,baz=90,slow=7.3,SNR=364						
MKAR				PcP	PcP	15 08 15.4	-0.5
	comp=Z,60nm,1.0s,baz=90,slow=5.8,SNR=4.6						
MKAR				S	S	15 12 54.9	+2.6
	comp=Z,5.3nm,1.2s,baz=45,slow=8.2,SNR=2.1						
MKAR				LR	LR	15 25 36.9	
	comp=Z,27µm,18.1s,MS6.2,baz=92,slow=38						
MKAR	**Makanchi Array**	43.35	305	P	P	15 06 27.5	+0.6
MKAR						15 08 15.4	
MKAR				S	S	15 12 54.9	+2.7
MKAR				pmax	pmax		
	comp=Z,206nm,1.1s						
MKAR				MLR	MLR		
	comp=Z,27µm,18.1s						
IPM	**Ipoh**	44.11	238	⇑*e*P	P	15 06 34.0	+0.4
	comp=Z,114nm,0.9s,mb5.6						
CAL	**Calcutta**	44.13	269	*e*	P	15 06 21.2	-13
CAL				*e*		15 13 13.1	
KGM	**Kluang**	44.37	233	⇑*e*P	P	15 06 36.0	+0.3
	comp=Z,211nm,1.2s,mb5.8						
PKI	**Pulchoki**	44.65	277	*e*P	P	15 06 36.7	-1.1
	comp=Z,745nm,1.3s,mb6.4						
KKN	**Kakani**	44.68	277	*e*P	P	15 06 37.1	-1.0
	comp=Z,511nm,1.0s,mb6.3						
DMN	**Daman**	44.89	277	*e*P	P	15 06 38.4	-1.3
	comp=Z,662nm,1.3s,mb6.3						
GKN	**Gorkha**	45.14	278	*e*P	P	15 06 40.4	-1.3
	comp=Z,1µm,1.3s,mb6.6						
KURK	**Kurchatov**	45.68	311	P	P	15 06 45.4	-0.3
	comp=Z,2µm,1.1s,mb7.0						
KURK	**Kurchatov**	45.68	311	*e*P	P	15 06 44.9	-0.8
	comp=Z,490nm,1.1s,mb6.3						
KURK				LR	LR		
	comp=Z,8µm,20.0s,MS5.7						
KAKA	**Kakadu**	45.87	187	*e*P	P	15 06 45.5	-2.1
	comp=Z,502nm,2.0s,mb6.1						
KAKA				*e*S	S	15 13 27.0	-2.0
KOLN	**Koldanda**	46.09	278	*e*P	P	15 06 48.1	-1.1
	comp=Z,1µm,1.5s,mb6.7						
ANM	**Nome**	46.66	30	*e*P	P	15 06 54.6	+1.4
SDPT	**Sand Point**	47.96	43	*e*P	P	15 07 00.1	-3.5
JOSI	**Joshimath**	48.48	283	*e*P	P	15 07 08.6	+0.6
TKM2	**Tokmak 2**	48.49	300	P	P	15 07 09.9	+2.1
	SNR=155						
KSH	**Kashi**	48.88	296	P	P	15 07 12.7	+1.8
KSH				AP	pP	15 07 19.3	-0.8
KSH				PP	PP	15 09 08.9	+4.8
KSH				PCS		15 12 32.2	
KSH				S	S	15 14 17.7	+6.4
KSH				SS	SS	15 17 44.6	+7.1
KSH				AMB	AMB		
	comp=Z,750nm,1.9s,mb6.4						
KSH				AMB	AMB		
	comp=Z,5µm,5.8s						
KBK	**Karagaybulak**	49.01	300	P	P	15 07 12.3	+0.5
	SNR=86						
CHMS	**Chumysh**	49.09	301	P	P	15 07 12.5	+0.1
	SNR=69						
FRU	**Bishkek**	49.21	300	⇑*i*P	P	15 07 14.0	+0.6
FRU				*i* S	S	15 14 26.0	+10
FRU				pmax	pmax		
	comp=Z,5µm,8.0s						
FRU				smax			
	comp=E,6µm,8.0s						
USP	**Ospenovka**	49.22	301	P	P	15 07 13.4	0.0
	SNR=131						
KLP	**Kalpa**	49.23	285	*e*P	P	15 07 14.8	+1.2
KLP				*e*		15 07 17.3	
	comp=Z,265nm,1.5s						
AAK	**Ala-Archa**	49.34	300	P	P	15 07 14.5	+0.1
	SNR=48						
AAK	**Ala-Archa**	49.34	300	*e*P	P	15 07 13.2	-1.1
	comp=Z,201nm,1.4s,mb6.0						
AAK				LR	LR		
	comp=Z,9µm,20.0s,MS5.8						
UCH	**Uchtor**	49.40	300	P	P	15 07 16.0	+1.1
	SNR=137						
BLSP	**Bilaspur**	49.50	272	*i* P	P	15 07 15.0	-0.9
BLSP				*e*		15 08 38.0	
EKS2	**Erkin-Say**	49.85	300	P	P	15 07 19.2	+0.9
	SNR=62						
AML	**Almayashu**	50.02	300	P	P	15 07 20.7	+1.1
	SNR=95						
VOSK	**Vostochnaya**	50.34	314	P	P	15 07 20.9	-1.0
VOSK				pmax	pmax		
	comp=Z,3µm,2.1s,mb7.0						
VOSK	**Vostochnaya**	50.34	314	*i* P	P	15 07 20.0	-1.9
VIS	**Vishakhapatnam**	50.49	266	*e*P	P	15 07 23.0	-0.5
TTA	**Tatalina**	50.53	33	*e*P	P	15 07 22.4	-0.8
SVW	**Sparrevohn**	50.64	35	*e*P	P	15 07 24.1	+0.1
BVAR	**Borovoye Array**	50.67	314	LR	LR	15 30 02.1	
	comp=Z,685nm,18.9s,baz=190,slow=37						
BVAR				P4KPbc		15 44 56.0	
	comp=Z,1.2nm,0.8s,baz=90,slow=5.9,SNR=9.1						
BRVK	**Borovoye**	50.73	314	P	P	15 07 23.3	-1.5
BRVK				pmax	pmax		
	comp=Z,2µm,2.3s,mb6.7						
BRVK	**Borovoye**	50.73	314	*e*P	P	15 07 24.3	-0.6
	comp=Z,520nm,1.5s,mb6.2						
BRVK				LR	LR		
	comp=Z,13µm,19.0s,MS6.0						
BHK	**Bhakra**	50.75	286	*e*P	P	15 07 28.8	+3.5
BHK				*e*		15 09 43.4	
KKR	**Kurukshetra**	50.91	284	*e*	P	15 07 29.8	+3.3
	comp=Z,624nm,1.2s,mb6.4						
AYAN	**Aya Nagar**	51.18	282	*e*P	P	15 07 27.9	-0.7
AYAN				*e*		15 07 31.2	
	comp=Z,302nm,1.8s						
ZRNK	**Zerenda**	51.51	314	P	P	15 07 29.9	-0.8
ZRNK				pmax	pmax		
	comp=Z,4µm,2.2s,mb7.0						
ZRNK	**Zerenda**	51.51	314	*i* P	P	15 07 29.0	-1.7
IMA	**Indian Mountai**	51.73	29	*e*P	P	15 07 31.9	-0.4
KUDL	**Kundal**	51.83	282	*e*P	P	15 07 29.5	-4.0
RSO	**Redoubt South**	52.05	36	*e*P	P	15 07 34.0	-0.7
KKAR	**Karatay Array**	52.11	302	*i* P	P	15 07 34.9	-0.5
KKAR				pmax	pmax		
	comp=Z,2µm,1.7s,mb6.7						
FITZ	**Fitzroy Crossi**	52.19	194	*e*P	P	15 07 35.0	-1.4
	comp=Z,53nm,1.0s,mb5.4						
FITZ				*e*S	S	15 14 57.1	-0.2
FITZ	**Fitzroy Crossi**	52.19	194	S	S	15 14 57.7	+0.4
	comp=Z,10.0nm,1.3s,baz=183,slow=19,SNR=3.4						
FITZ				LR	LR	15 28 30.7	
	comp=Z,3µm,18.9s,MS5.4,baz=50,slow=35						
SPU	**Mount Spurr**	52.37	35	*e*P	P	15 07 36.4	-0.7
KHET	**Khetri**	52.41	282	*e*P	P	15 07 37.7	-0.2
KHET				*e*		15 07 41.5	
	comp=Z,463nm,1.6s						
NGP	**Nagpur**	52.51	272	*e*P	P	15 07 37.8	-1.0
NGP				*e*S	S	15 15 05.5	+3.8
NIL	**Nilore**	52.57	289	P	P	15 07 40.1	+1.1
	comp=Z,283nm,1.3s,mb6.0,SNR=28						
KGD	**Kothagudem**	52.80	267	*e*P	P	15 07 39.3	-1.6
KGD				*e*PcP	PcP	15 08 48.1	-1.9
KGD				*e*PP	PP	15 09 45.9	+4.3
KGD				*e*ScP		15 12 45.3	
KGD				*e*S	S	15 15 08.1	+2.5
KGD				*e*SS	SS	15 18 48.9	+5.5
WRAB	**Tennant Creek**	52.90	183	*e*P	P	15 07 39.6	-2.1
	comp=Z,666nm,1.4s,mb6.4						
WRAB				LR	LR		
	comp=Z,7µm,22.0s,MS5.7						
WB2	**Warramunga Arr**	52.91	183	⇓*i*P	P	15 07 39.1	-2.6
WB2				*e*S	S	15 14 59.8	-7.3
WRA	**Warramunga Arr**	52.91	183	P	P	15 07 39.0	-2.7
	comp=Z,59nm,0.7s,mb5.6,baz=1.0,slow=7.6,SNR=280						
WRA				PcP	PcP	15 08 49.9	-0.5
	comp=Z,54nm,0.9s,baz=2.4,slow=4.2,SNR=5.7						
WRA				S	S	15 15 07.8	+0.7
	comp=Z,14nm,1.3s,baz=360,slow=12,SNR=8.9						
WRA				LR	LR	15 27 34.7	
	comp=Z,13µm,20.4s,MS6.0,baz=5.0,slow=33						
WRA				P4KPbc		15 45 05.2	
	comp=Z,1.0nm,1.1s,baz=352,slow=4.1,SNR=4.7						
BHPL	**Bhopal**	52.97	276	*e*P	P	15 07 40.6	-1.6
BHPL				*e*		15 07 44.0	
	comp=Z,354nm,1.4s						
SLKM	**Skilak Lake**	53.30	36	*e*P	P	15 07 43.0	-1.0
TAS	**Tashkent**	53.41	300	*e*P	P	15 07 25.2	-20
TAS				*e*S	S	15 15 16.0	+2.4
CTA	**Charters Tower**	53.69	169	⇑*i*P	P	15 07 45.2	-2.2
	comp=Z,68nm,1.4s,mb5.4						
CTA				*e*S	S	15 15 17.8	+0.1
CTA	**Charters Tower**	53.69	169	P	P	15 07 45.3	-2.2
	comp=Z,372nm,1.5s,mb6.1,baz=347,slow=9.0						
CTA				S	S	15 15 14.6	-3.1
	comp=Z,15nm,1.4s,baz=234,slow=5.9,SNR=2.9						
CTA				LR	LR	15 26 32.0	
	comp=Z,13µm,21.9s,MS6.0,baz=352,slow=32						
CTAO	**Charters Tower**	53.69	169	*e*P	P	15 07 45.2	-2.3
	comp=Z,290nm,1.4s,mb6.0						
CTAO				LR	LR		
	comp=Z,9µm,22.0s,MS5.8						
PMR	**Palmer**	53.75	35	*e*P	P	15 07 45.7	-1.6
PMR				pmax	pmax		
	comp=Z,400nm,1.2s,mb6.2						
PMR	**Palmer**	53.75	35	*e*P	P	15 07 45.8	-1.6
AJM	**Ajmer**	53.97	280	*e*P	P	15 07 48.4	-1.1
AJM				*e*		15 07 51.8	
	comp=Z,302nm,1.2s						
AJM				*e*S	S	15 15 25.8	+4.3
COLA	**College**	54.15	31	*e*P	P	15 07 49.7	-0.5
ILAR	**Eielson Array**	54.57	31	P	P	15 07 52.0	-1.2
	comp=Z,48nm,0.9s,mb5.5,baz=278,slow=6.4,SNR=302						
ILAR				S	S	15 15 32.5	+3.6
	comp=Z,1.5nm,1.2s,baz=342,slow=5.7,SNR=2.1						
ILAR				LR	LR	15 31 40.7	
	comp=Z,9µm,20.9s,MS5.8,baz=301,slow=37						
ILAR	**Eielson Array**	54.57	31	P	P	15 07 52.1	-1.2
ILAR				S	S	15 15 32.6	+3.7
ILAR				pmax	pmax		
	comp=Z,48nm,0.9s						
ILAR				MLR	MLR		
	comp=Z,9µm,20.9s						
HYB	**Hyderabad**	54.64	268	⇑*i*P	P	15 07 53.5	-0.9
	comp=Z,769nm,1.6s,mb6.5						
HYB				*e*	pP	15 08 03.5	-0.2
HYB				*e*PcP	PcP	15 09 06.0	+9.0
HYB				*e*S	S	15 15 34.0	+3.5
HYB				*e*ScS	ScS	15 17 44.0	+6.2
HYB				*e*SS	SS	15 19 18.0	+5.0
HYB				LR	LR	15 33 36.0	
	comp=Z,15nm,16.0s						
HYB	**Hyderabad**	54.64	268	⇑*e*P	P	15 07 53.5	-0.9
	comp=Z,769nm,1.6s,mb6.5						
HYB				*e*	pP	15 08 03.5	-0.2
HYB				*e*S	S	15 15 34.0	+3.5
MID	**Middleton Isla**	55.35	37	*e*P	P	15 07 59.5	+0.4
MDRS	**Chennai**	55.38	263	*e*P	P	15 07 58.0	-1.9
MDRS				*i*		15 11 56.0	
MDRS				*i*		15 21 57.0	
LATR	**Latur**	55.84	271	*e*P	P	15 08 02.0	-1.1
CUD	**Cuddapah**	55.90	265	⇑*e*P	P	15 08 03.0	-0.6
CUD				*e*	pP	15 08 13.2	+0.3
CUD				*e*S	S	15 15 44.3	-3.1
CUD				*e*		15 19 44.0	
CUD				*e*		15 26 50.4	
MBWA	**Marble Bar**	56.56	200	*e*P	P	15 08 06.8	-1.6
	comp=Z,226nm,1.3s,mb6.0						
MBWA				LR	LR		
	comp=Z,7µm,19.0s,MS5.8						
ASAR	**Alice Springs**	56.63	184	P	P	15 08 06.8	-2.0
	comp=Z,40nm,0.7s,mb5.6,baz=18,slow=14,SNR=150						
ASAR				S	S	15 15 56.9	-0.1
	comp=Z,0.8nm,1.0s,baz=349,slow=9.2,SNR=2.4						
ASAR				LR	LR	15 32 06.5	
	comp=Z,10µm,20.4s,MS5.9,baz=6.5,slow=36						
ASAR				PKPPKP		15 38 09.4	
	comp=Z,2.3nm,1.0s,baz=153,slow=3.4,SNR=4.4						
ASAR				P4KPbc		15 45 22.4	
	comp=Z,0.9nm,1.1s,baz=22,slow=7.7,SNR=4.3						
ASPA	**Alice Springs**	56.63	184	⇑*i*P	P	15 08 06.8	-2.0
ASPA				*e*S	S	15 15 56.9	-0.1
JASL	**Jaisalmer**	56.87	283	*e*P	P	15 08 04.4	-6.1
ARU	**Arti**	56.98	319	P	P	15 08 10.5	-0.3
	comp=Z,2µm,1.4s,mb7.0,SNR=96						
ARU	**Arti**	56.98	319	⇑*i*P	P	15 08 09.8	-1.0
ARU				*i*		15 09 04.6	
ARU				*i*		15 10 15.6	
ARU				*i* S	S	15 16 03.5	+2.4
ARU				pmax	pmax		
	comp=Z,469nm,1.3s,mb6.4						
ARU				MLR	MLR		
	comp=Z,29µm,21.0s,MS6.3						
ARU				MLR	MLR		
	comp=N,6µm,16.0s						
ARU				MLR	MLR		
	comp=E,24µm,22.0s						
ARU	**Arti**	56.98	319	*e*P	P	15 08 09.3	-1.5
	comp=E,439nm,1.1s,mb6.4						
ARU				LR	LR		
	comp=Z,8µm,22.0s,MS5.8						
AB31	**Akbulak array**	57.79	311	P	P	15 08 15.6	-1.0
AB31				pmax	pmax		
	comp=Z,2µm,1.6s,mb6.8						
DAWY	**Dawson**	57.88	31	*e*P	P	15 08 15.8	-1.2
KIP	**Kipapa**	57.96	84	P	P	15 08 18.4	+0.3
KIP				pmax	pmax		
	comp=Z,340nm,1.2s,mb6.2						
KIP	**Kipapa**	57.96	84	*e*P	P	15 08 18.3	+0.2
	comp=Z,336nm,1.2s,mb6.2						
KIP				LR	LR		
	comp=Z,5µm,21.0s,MS5.6						
POO	**Poona**	58.05	272	*e*P	P	15 08 18.0	-0.8
POO				*e*		15 08 20.2	
	comp=Z,162nm,1.0s						
PALK	**Pallekele**	58.14	257	*e*P	P	15 08 18.9	-0.6
	comp=Z,262nm,1.3s,mb6.1						
PALK				LR	LR		
	comp=Z,2µm,19.0s,MS5.3						
KAD	**Karad**	58.35	271	⇓*i*P	P	15 08 20.8	-0.1
BOM	**Bombay**	58.75	273	*e*P	P	15 08 22.4	-1.4
BOM				*i*		15 08 39.2	
BOM				*e*S	S	15 16 29.4	+4.5
BHJ	**Bhuj**	59.43	279	*e*P	P	15 08 28.2	-0.2
BHJ				*e*		15 08 30.5	
	comp=Z,265nm,1.1s						
GOA	**Goa**	59.53	269	*i* P	P	15 08 28.0	-1.2
GOA				*i* S	S	15 16 39.6	+4.5
KKH	**Kailua Kona**	60.42	85	P	P	15 08 36.4	+1.2
KKH				*e*	pP	15 08 46.2	+1.5
KKH	**Kailua Kona**	60.42	85	*e*P	P	15 08 36.2	+1.0
TRD	**Trivandrum**	60.53	260	*e*P	P	15 08 35.1	-1.0
TRD				*e*		15 08 38.4	
	comp=Z,151nm,1.5s						
NOUC	**Port Laguerre**	61.61	149	*e*P	P	15 08 41.9	-1.3
DZM	**Mont Dzumac**	61.64	149	⇑*e*P	P	15 08 42.5	-0.9
DZM	**Mont Dzumac**	61.64	149	⇑*e*P	P	15 08 42.5	-0.9
DLBC	**Dease Lake**	63.77	36	*e*P	P	15 08 56.8	-0.2
KBS	**Kingsbay**	63.83	350	*e*P	P	15 08 57.9	+0.8
KBS				*e*PP	PP	15 11 16.6	-2.6
KBS				*e*S	S	15 17 30.2	+1.7
KBS				*e*SS	SS	15 21 42.6	+4.2
KBS				AMS	AMS	15 39 46.1	
	comp=Z,25µm,21.4s,MS6.4						
KBS	**Kingsbay**	63.83	350	P	P	15 08 57.4	+0.3
KBS				pmax	pmax		
	comp=Z,100nm,1.0s,mb5.8						
KBS	**Kingsbay**	63.83	350	*e*P	P	15 08 53.1	-4.0
KBS				*e*P		15 08 57.1	
KBS				LR	LR		
	comp=Z,16µm,19.0s,MS6.2						
MSVF	**Nonsavu**	63.93	136	P	P	15 08 59.7	+0.9
	comp=Z,898nm,1.3s,mb6.6,SNR=15						
LVZ	**Lovozero**	64.18	336	*e*P	P	15 08 57.1	-2.5
LVZ				*e*S	S	15 17 26.6	-6.5
LVZ				pmax	pmax		
	comp=Z,94nm,1.4s,mb5.6						
LVZ				pmax	pmax		
	comp=N,7.0nm,0.9s						
LVZ				pmax	pmax		
	comp=E,11nm,1.3s						
LVZ				pmax	pmax		
	comp=Z,3µm,4.8s						
LVZ				pmax	pmax		
	comp=N,836nm,3.9s						
LVZ				pmax	pmax		
	comp=E,1µm,4.2s						
LVZ				smax			
	comp=N,1µm,5.5s						
LVZ				smax			
	comp=Z,980nm,4.7s						
LVZ				smax			
	comp=E,1µm,5.7s						
LVZ				MLR	MLR		
	comp=N,15µm,14.0s,MS6.4						
LVZ				MLR	MLR		
	comp=E,10µm,15.0s,MS6.4						
LVZ				MLR	MLR		
	comp=Z,25µm,15.0s,MS6.5						
LVZ	**Lovozero**	64.18	336	*e*P	P	15 08 58.6	-0.9
APA	**Apatity**	64.75	336	⇑*i*P	P	15 09 02.8	-0.5
APA				*i*	pP	15 09 13.1	+0.3
APA				*i* PPP	PPP	15 12 57.0	-4.2
APA				*i* S	S	15 17 46.0	+5.9
APA				pmax	pmax		
	comp=Z,160nm,1.4s,mb5.9						
APA				pmax	pmax		
	comp=Z,6µm,6.0s						
APA				MLR	MLR		
	comp=Z,42µm,15.0s,MS6.8						
STKA	**Stephens Creek**	64.86	176	⇑*i*P	P	15 09 03.0	-1.6
	comp=Z,57nm,0.8s,mb5.7						
STKA				*e*S	S	15 17 41.5	-0.5
STKA	**Stephens Creek**	64.86	176	P	P	15 09 02.8	-1.8
	comp=Z,64nm,0.8s,mb5.7,baz=349,slow=6.9,SNR=6.3						
STKA				S	S	15 17 42.3	+0.3
	comp=Z,3.6nm,1.1s,baz=143,slow=18,SNR=3.1						
STKA				LR	LR	15 38 28.7	
	comp=Z,6µm,20.1s,MS5.8,baz=1.8,slow=37						
BJO	**Bjornoya**	65.22	345	*e*P	P	15 09 03.1	-3.1
BJO				*e*P		15 09 08.6	
BJO				*e*PP	PP	15 11 28.2	-3.6
BJO				*e*S	S	15 17 48.9	+3.1
BJO				AMS	AMS	15 40 29.6	
	comp=Z,31µm,22.1s,MS6.5						
KEV	**Kevo**	65.78	339	*e*p	P	15 09 08.7	-1.2
	comp=Z,111nm,1.2s,mb5.8						
KEV	**Kevo**	65.78	339	*e*P	P	15 09 08.7	-1.2
KEV				pmax	pmax		
	comp=Z,111nm,1.2s,mb5.8						
ARCES	**ARCESS Array B**	66.35	339	P	P	15 09 12.7	-0.7
	comp=Z,49nm,1.0s,mb5.5,baz=245,slow=1.6,SNR=37						
ARCES				LR	LR	15 42 35.1	
	comp=Z,60µm,18.5s,MS6.8,baz=90,slow=40						
ARCES	**ARCESS Array B**	66.35	339	P	P	15 09 12.7	-0.8
ARCES				pmax	pmax		
	comp=Z,49nm,1.0s						
ARCES				MLR	MLR		
	comp=Z,60µm,18.5s						
KLBR	**Kellerberrin**	67.00	198	*e*P	P	15 09 16.5	-1.8
	comp=Z,191nm,1.3s,mb6.0						
KLBR				*e*S	S	15 18 10.4	+2.3
RES	**Resolute Bay**	67.14	13	P	P	15 09 18.8	+0.3
RES				pmax	pmax		
	comp=Z,290nm,0.9s,mb6.3						
RES	**Resolute Bay**	67.14	13	*e*P	P	15 09 18.2	-0.3
	comp=Z,295nm,0.9s,mb6.3						
MUN	**Mundaring**	67.78	199	*e*P	P	15 09 22.2	-1.0
	comp=Z,92nm,3.2s						
MUN				*e*S	S	15 18 16.2	-1.3
MAK	**Makhachkala**	68.07	308	*d* *i*P	P	15 09 24.0	-0.8
MAK				*e*		15 09 52.0	
MAK				*i*		15 11 54.0	
MAK				S	S	15 18 25.0	+4.2
MAK				*e*PS	PS	15 18 55.0	+5.7
MAK				pmax	pmax		
	comp=Z,7µm,6.0s						
MAK				pmax	pmax		
	comp=N,1µm,8.0s						
MAK				pmax	pmax		
	comp=E,800nm,8.0s						
MAK				pmax	pmax		
	comp=Z,2µm,8.0s						
MAK				MLR	MLR		
	comp=N,23µm,13.0s,MS6.9						
MAK				MLR	MLR		
	comp=E,46µm,13.0s,MS6.9						
MAK				MLR	MLR		
	comp=Z,42µm,13.0s,MS6.8						
TRO	**Tromso**	68.19	341	⇑*i*P	P	15 09 24.4	-0.8
TRO				*e*PP	PP	15 11 53.3	-4.3
TRO				*e*S	S	15 18 22.4	+0.6
TRO				*e*SS	SS	15 22 45.9	-0.3
TRO				AMS	AMS	15 44 25.2	
	comp=Z,14µm,16.5s,MS6.3						
NWAO	**Narrogin (SRO)**	68.40	198	S	S	15 18 25.4	+0.5
	comp=Z,13nm,1.1s,baz=141,slow=14,SNR=2.5						
NWAO				PKPPKP		15 37 44.5	
	comp=Z,43nm,1.1s,baz=207,slow=2.9,SNR=8.0						
NWAO				LR	LR	15 39 50.1	
	comp=Z,4µm,21.8s,MS5.7,baz=314,slow=36						
NWAO	**Narrogin (SRO)**	68.40	198	*e*P	P	15 09 25.6	-1.5
YKW3	**Yellowknife Ar**	68.80	28	*e*P	P	15 09 27.8	-1.2
YKA	**Yellowknife Ar**	68.84	28	P	P	15 09 28.3	-0.9
	comp=Z,76nm,1.0s,mb5.6,baz=296,slow=6.1,SNR=86						
YKA				PKPPKP		15 37 35.4	
	comp=Z,2.6nm,0.9s,baz=102,slow=4.6,SNR=6.7						
YKA				LR	LR	15 45 03.7	
	comp=Z,4µm,18.7s,MS5.7,baz=300,slow=41						
OBN	**Obninsk**	69.07	323	P	P	15 09 30.8	0.0
	comp=Z,1µm,1.1s,mb6.7,SNR=14						
OBN	**Obninsk**	69.07	323	α*i*P	P	15 09 30.0	-0.8
OBN				*i*	pP	15 09 39.4	-0.9
OBN				*e*		15 09 51.8	
OBN				*i*		15 12 04.9	
OBN				*i* S	S	15 18 35.5	+3.1
OBN				*i* PS	PS	15 18 55.6	-6.4
OBN				*i*		15 19 21.6	
OBN				pmax	pmax		
	comp=Z,378nm,1.4s,mb6.1						
OBN				pmax	pmax		
	comp=Z,4µm,4.3s						
OBN				MLR	MLR		
	comp=Z,62µm,16.0s,MS6.9						
OBN	**Obninsk**	69.07	323	*e*P	P	15 09 30.3	-0.4
	comp=Z,366nm,1.3s,mb6.2						
OBN				LR	LR		
	comp=Z,12µm,19.0s,MS6.2						
CNB	**Canberra Magne**	69.10	169	*e*P	P	15 09 29.7	-1.6
	comp=Z,121nm,1.4s,mb5.6						
VOR	**Voronezh**	69.25	319	*e*P	P	15 09 30.5	-1.4
VOR				*e**SP	sP	15 09 36.5	-8.3
VOR				*e*		15 18 39.0	
VOR				pmax	pmax		
	comp=N,190nm,1.6s						
VOR				pmax	pmax		
	comp=E,330nm,1.6s						
VOR				pmax	pmax		
	comp=Z,760nm,1.6s,mb6.4						
DAG	**Danmarks Havn**	69.26	354	*j* *i*P	P	15 09 31.0	-0.6
	comp=Z,634nm,1.3s,mb6.4						
	comp=Z,6µm,18.0s						

DAG	Danmarks Havn	69.26	354	*i* Pdu		15 09 31.0	
	comp=Z,635nm,1.3s						
DAG				LR	LR		
	comp=Z,6µm,18.0s,MS5.8						
PUL	Pulkovo	69.70	329	*e*P	P	15 09 31.2	-3.3
PUL				*e*S	S	15 18 38.7	-1.1
PUL				pmax	pmax		
	comp=Z,28nm,0.4s,mb5.5						
PUL				pmax	pmax		
	comp=N,13nm,0.5s						
PUL				pmax	pmax		
	comp=E,127nm,1.2s						
PUL				MLR	MLR		
	comp=N,12µm,13.0s,MS6.6						
PUL				MLR	MLR		
	comp=E,20µm,13.0s,MS6.6						
PUL				MLR	MLR		
	comp=Z,22µm,13.0s,MS6.6						
GOF	Gofitskoye	70.04	311⇓	*i*P	P	15 09 36.0	-0.8
GOF				pmax	pmax		
	comp=Z,580nm,1.3s,mb6.3						
KAF	Kangasniemi	70.10	332	*e*p	P	15 09 35.5	-1.4
	comp=Z,112nm,1.1s,mb5.7,baz=54,slow=5.8						
KAF	Kangasniemi	70.10	332	*e*P	P	15 09 35.5	-1.4
KAF				pmax	pmax		
	comp=Z,112nm,1.1s,mb5.7						
TI2	Plekhanov	70.45	307⇑	*i*P	P	15 09 38.6	-0.8
TI2				*i* S	S	15 18 55.0	+6.2
TI2				MLR	MLR		
	comp=N,13µm,17.0s,MS6.5						
TI2				MLR	MLR		
	comp=E,16µm,17.0s,MS6.5						
TI2				MLR	MLR		
	comp=Z,21µm,17.0s,MS6.5						
ZEI	Tsey	70.53	309⇑	*i*P	P	15 09 40.0	+0.1
ZEI				*e*		15 12 15.0	
ZEI				*i* S	S	15 18 52.0	+2.2
ZEI				pmax	pmax		
	comp=Z,2µm,7.0s						
ZEI				smax			
	comp=N,2µm,12.0s						
ZEI				MLR	MLR		
	comp=Z,33µm,20.0s,MS6.6						
FINES	FINESS Array B	70.56	332	P	P	15 09 39.6	-0.2
	comp=Z,20nm,0.6s,mb5.2,baz=62,slow=5.2,SNR=55						
FINES	FINESS Array B	70.56	332	P	P	15 09 39.6	-0.1
FINES				pmax	pmax		
	comp=Z,20nm,0.6s						
LOF	Lofoten	70.66	341	*e*P	P	15 09 42.7	+2.5
LOF				AMb	AMB	15 09 47.1	
	comp=Z,156nm,1.4s,mb5.8						
LOF	Lofoten	70.66	341	*e*P	P	15 09 44.5	+4.3
	comp=Z,156nm,1.4s,mb5.8						
TOO	Toolangi	70.83	173	*e*P	P	15 09 41.1	-0.7
	comp=Z,37nm,1.3s,mb5.2						
TOO				*e*S	S	15 18 58.2	+4.8
PGC	Sidney	71.49	44	*e*P	P	15 09 45.8	+0.2
	comp=Z,286nm,1.1s,mb6.1						
OCWA	Octopus Mounta	71.51	45	*e*P	P	15 09 46.8	+1.1
	comp=Z,351nm,1.3s,mb6.1						
OCWA				LR	LR		
	comp=Z,4µm,20.0s,MS5.6						
MOR8	Moi Rana	71.72	339	*e*P	P	15 09 45.3	-1.4
MOR8				AMb	AMB	15 09 50.4	
	comp=Z,165nm,1.6s,mb5.7						
MOR8				*e*sP	sP	15 09 54.9	-4.7
MOR8	Moi Rana	71.72	339	*e*P	P	15 09 45.3	-1.4
	comp=Z,165nm,1.6s,mb5.7						
VSU	Vasula	71.97	329⇑	*i*P	P	15 09 47.7	-0.5
KARS	Kars	72.08	307	P	P	15 09 51.5	+2.3
GNW	Green Mountain	72.39	44	*e*P	P	15 09 52.0	+1.0
GNW				*e*	pP	15 10 00.8	+0.3
JCW	Jim Creek	72.60	44	P	P	15 09 52.0	-0.2
AGRT	Agri	72.63	306	P	P	15 09 54.4	+1.9
BCA	Borcka	72.65	308	P	P	15 09 53.5	+0.9
BMW	Boistfort Moun	72.70	46	P	P	15 09 53.9	+1.1
BMW	Boistfort Moun	72.70	46	*e*P	P	15 09 52.6	-0.2
RPW	Rockport	72.71	43	*e*P	P	15 09 52.5	-0.3
SOC	Sochi	72.83	311	*i* P	P	15 09 53.0	-0.6
SOC				*e*		15 10 09.1	
SOC				*e*		15 12 37.4	
SOC				*e*PPP	PPP	15 14 21.5	+0.9
SOC				*e*S	S	15 19 14.0	-2.2
SOC				*e*		15 19 50.7	
SOC				*e*SS	SS	15 23 58.7	-0.2
SOC				pmax	pmax		
	comp=Z,543nm,1.5s,mb6.3						
SOC				pmax	pmax		
	comp=N,189nm,1.3s						
SOC				pmax	pmax		
	comp=E,148nm,1.3s						
SOC				MLR	MLR		
	comp=Z,26µm,18.0s,MS6.5						
SOC				MLR	MLR		
	comp=N,11µm,15.0s,MS6.5						
SOC				MLR	MLR		
	comp=E,18µm,17.0s,MS6.5						
VANB	Van	72.84	305	P	P	15 09 54.5	+0.7
TVAN	Van	72.86	305	*i* P	P	15 09 54.9	+1.0
KMOR	Kings Mountain	72.96	46	P	P	15 09 54.3	0.0
RMW	Rattlesnake Mo	73.04	44	*e*P	P	15 09 56.0	+1.2
RMW	Rattlesnake Mo	73.04	44	*e*P	P	15 09 55.6	+0.9
RVC	Mount Rainier-	73.21	45	P	P	15 09 56.0	+0.2
JMIC	Jan Mayen	73.27	349	LR	LR	15 45 21.1	
	comp=E,8µm,18.1s,MS6.0,baz=294,slow=38						
JMIC	Jan Mayen	73.27	349⇑	*i*P	P	15 09 56.2	+0.6
JMIC				*e*PP	PP	15 12 36.5	-4.4
JMIC				*e*S	S	15 19 22.3	+1.7
JMIC				AMS	AMS	15 45 31.9	
	comp=Z,7µm,18.9s,MS6.0						
PNT	Penticton	73.33	42	P	P	15 09 55.7	-0.7
LON	Longmire	73.40	45	P	P	15 09 57.5	+0.6
LON	Longmire	73.40	45	*e*P	P	15 09 57.2	+0.4
DGAR	Diego Garcia	73.44	249	PFAKE		15 10 10.0	+12
DGAR				LR	LR		
	comp=Z,1µm,19.0s,MS5.2						
SHW	Mount Saint He	73.44	45	P	P	15 09 59.4	+2.3
SHW	Mount Saint He	73.44	45	*e*P	P	15 09 58.5	+1.4
NLW	Nelson Butte	73.57	43	*e*P	P	15 09 58.1	+0.3
ERZM	Erzurum	73.58	307	*i* P	P	15 09 59.8	+1.8
NSS	Namsos	73.61	338⇑	*i*P	P	15 09 55.6	-2.0
NSS				*e*PP	PP	15 12 37.9	-5.8
NSS				*e*S	S	15 19 25.1	+0.6
NSS				AMS	AMS	15 45 53.7	
	comp=Z,18µm,19.7s,MS6.4						
COR	Corvallis	73.61	47	P	P	15 09 59.1	+1.0
COR				pmax	pmax		
	comp=Z,510nm,1.4s,mb6.3						
COR	Corvallis	73.61	47	*e*P	P	15 09 59.0	+0.9
	comp=Z,511nm,1.4s,mb6.3						
COR				LR	LR		
	comp=Z,770nm,20.0s,MS5.0						
ANN	Anapa	73.65	313*c*	*i*P	P	15 09 57.7	-0.6
ANN				*e**PP	pP	15 10 08.0	+0.1
ANN				*e*		15 10 13.5	
ANN				*e*PPP	PPP	15 14 29.4	+0.7
ANN				*e*S	S	15 19 27.6	+2.2
ANN				*e*SP	SP	15 19 51.3	-7.6
ANN				pmax	pmax		
	comp=Z,1µm,1.3s,mb6.7						
ANN				MLR	MLR		
	comp=N,16µm,17.0s,MS6.5						
ANN				MLR	MLR		
	comp=E,10µm,15.0s,MS6.5						
ANN				MLR	MLR		
	comp=Z,14µm,15.0s,MS6.4						
EBG	Ellensburg	74.05	44	P	P	15 10 01.1	+0.5
HSO	Harness Mounta	74.28	48	*e*P	P	15 10 03.6	+1.6
HSO	Harness Mounta	74.28	48	*e*P	P	15 10 03.5	+1.5
KBD	Kabd	74.29	295	*i* P	P	15 10 01.7	-0.7
QRN	Al-Qurain	74.33	294	*e*P	P	15 10 02.1	-0.5
QRN				AMb	AMB	15 10 05.9	
	comp=Z,997nm,1.4s,mb6.6						
SUMG	Summit	74.47	359	*e*P	P	15 10 03.5	+0.9
	comp=Z,792nm,1.2s,mb6.5						
RDF	Al-Radifah	74.52	295	*e*P	P	15 10 03.0	-0.7
RDF				AMb	AMB	15 10 06.8	
	comp=Z,1µm,1.3s,mb6.6						
GUMT	Gumushane	74.55	308	P	P	15 10 05.4	+1.8
BEST	Besiri	74.64	305	*i* P	P	15 10 03.7	-0.5
VGB	Gordon Butte	74.66	45	P	P	15 10 05.2	+1.0
VGB	Gordon Butte	74.66	45	*e*P	P	15 10 04.9	+0.8
RST	Umm Al-Ruwaisa	74.66	295	*e*P	P	15 10 03.1	-1.4
RST				AMb	AMB	15 10 07.3	
	comp=Z,917nm,1.1s,mb6.6						
BINT	Bingol	74.68	307	P	P	15 10 06.1	+1.7
EZC	Erzincan	74.69	308	P	P	15 10 08.1	+3.7
HASS	Wahat al Ahsa’	74.70	290	P	P	15 10 03.6	-1.3
HUMO	Hull Mountain	74.83	49	*e*P	P	15 10 05.8	+0.6
	comp=Z,116nm,1.5s,mb5.6						
HUMO				LR	LR		
	comp=Z,3µm,21.0s,MS5.6						
KELT	Kelkit	74.85	308	*i* P	P	15 10 06.6	+1.2
DPW	Davenport	74.90	42	P	P	15 10 05.6	+0.1
DPW	Davenport	74.90	42	*e*P	P	15 10 05.0	-0.5
HAWA	Hanford	74.93	44	*e*P	P	15 10 05.9	+0.2
	comp=Z,304nm,1.7s,mb6.0						
HAWA				LR	LR		
	comp=Z,3µm,20.0s,MS5.6						
AKASG	Malin Array Be	75.16	321	P	P	15 10 06.0	-0.9
	comp=Z,131nm,1.0s,mb5.8,baz=46,slow=6.0,SNR=302						
AKASG				LR	LR	15 45 13.8	
	comp=Z,19µm,20.7s,MS6.4,baz=50,slow=37						
AKASG	Malin Array Be	75.16	321	P	P	15 10 06.1	-0.8
AKASG				pmax	pmax		
	comp=Z,131nm,1.0s						
AKASG				MLR	MLR		
	comp=Z,19µm,20.7s						
NEW	Newport	75.29	42	P	P	15 10 08.4	+0.7
NEW				pmax	pmax		
	comp=Z,96nm,1.3s						
NEW	Newport	75.29	42	*e*P	P	15 10 07.8	+0.1
	comp=Z,98nm,1.2s,mb5.6						
NEW				LR	LR		
	comp=Z,5µm,19.0s,MS5.8						
DIY	Diyarbakir	75.35	306	P	P	15 10 09.9	+1.6
YBH	Yreka Blue Hor	75.45	50	P	P	15 10 09.8	+1.0
YBH				pmax	pmax		
	comp=Z,180nm,1.5s						
YBH	Yreka Blue Hor	75.45	50	*e*P	P	15 10 09.5	+0.8
	comp=Z,116nm,1.3s,mb5.7						
YBH				*e*	pP	15 10 18.7	+0.3
YBH				LR	LR		
	comp=Z,3µm,20.0s,MS5.6						
PINOR	Pine Mountain	75.50	47	P	P	15 10 09.6	+0.6
SCO	Scoresbysund	75.53	353	*i* P	P	15 10 08.4	-0.3
	comp=Z,51nm,1.2s,mb5.3						
SIM	Simferopol’	75.58	314*c*	*e*P	P	15 10 09.8	+0.3
SIM				*e*S	S	15 19 51.3	+4.4
SIM				pmax	pmax		
	comp=Z,580nm,8.0s						
SIM				MLR	MLR		
	comp=Z,16µm,19.0s,MS6.3						
ELZG	Elazig	75.88	307	*i* P	P	15 10 11.9	+0.6
LNOR	Lincton Mounta	75.94	44	P	P	15 10 12.5	+1.0
LNOR	Lincton Mounta	75.94	44	*e*P	P	15 10 11.7	+0.3
WDC	Whiskeytown Da	76.16	51	P	P	15 10 13.7	+0.9
WDC				pmax	pmax		
	comp=Z,100nm,1.1s,mb5.7						
WDC	Whiskeytown Da	76.16	51	*e*P	P	15 10 13.3	+0.5
	comp=Z,101nm,1.1s,mb5.7						
WDC				LR	LR		
	comp=Z,3µm,19.0s,MS5.6						
SUW	Suwalki	76.20	326	*e*P	P	15 10 12.2	-0.6
SUW				*e*	pP	15 10 23.1	+0.7
SUW				*e*S	S	15 19 57.1	+3.7
SUW				MLR	MLR		
	comp=Z,21µm,23.6s,MS6.4						
SUW	Suwalki	76.20	326	*e*P	P	15 10 12.2	-0.6
SUW				*e*pP	pP	15 10 14.7	-7.7
SUW				*e*PcP	PcP	15 10 23.1	-1.9
SUW				*e*S	S	15 19 57.1	+3.7
SUW				*e*SS		15 20 02.6	
TAU	Tasmania Unive	76.30	172	*e*P	P	15 10 13.1	-0.5
	comp=Z,104nm,1.0s,mb5.7						
TAU				LR	LR		
	comp=Z,2µm,20.0s,MS5.5						
DOMB	Dombas	76.31	338	*e*P	P	15 10 13.1	-0.1
DOMB				AMb	AMB	15 10 16.1	
	comp=Z,189nm,1.8s,mb5.7						
DOMB				*e*sP	sP	15 10 22.8	-3.3
DOMB	Dombas	76.31	338	*e*P	P	15 10 13.1	-0.1
	comp=Z,189nm,1.8s,mb5.7						
NB2	NORSAR Subarra	76.33	336	P	P	15 10 13.0	-0.4
	comp=Z,312nm,1.7s,mb6.0,baz=43,slow=5.6						
NB2	NORSAR Subarra	76.33	336	P	P	15 10 13.0	-0.4
	baz=43,slow=5.9						
NOA	NORSAR Array B	76.33	336	P	P	15 10 12.5	-0.8
	comp=Z,24nm,1.0s,mb5.1,baz=44,slow=5.6,SNR=35						
NOA				LR	LR	15 49 56.7	
	comp=Z,12µm,18.1s,MS6.2,baz=40,slow=40						
MYA	Malataya	76.35	307	P	P	15 10 16.1	+2.2
MALT	Malatya	76.35	307	*e*P	P	15 10 14.8	+0.8
	comp=Z,275nm,1.0s,mb6.1						
MOL	Molde	76.39	338	*e*P	P	15 10 15.3	+1.7
MOL				AMb	AMB	15 10 18.5	
	comp=Z,248nm,1.8s,mb5.8						
MOL	Molde	76.39	338	*e*P	P	15 10 15.3	+1.7
	comp=Z,248nm,1.8s,mb5.8						
KVT	Kavak	76.45	310	P	P	15 10 14.8	+0.4
SVSK	Karacayir	76.46	309	P	P	15 10 14.7	+0.2
TOKT	Tokat	76.54	309	P	P	15 10 16.4	+1.4
SVST	Sivas	76.56	309	*i* P	P	15 10 16.8	+1.7
HOPS	Hopland	76.65	52	*e*P	P	15 10 15.9	+0.3
	comp=Z,77nm,1.2s,mb5.5						
HOPS				LR	LR		
	comp=Z,4µm,22.0s,MS5.7						
MOD	Modoc	76.88	48	*e*P	P	15 10 16.7	-0.1
	comp=Z,237nm,1.6s,mb5.9						
MOD				LR	LR		
	comp=Z,3µm,19.0s,MS5.6						
BOYT	Boyabat	77.00	311	*i* P	P	15 10 17.9	+0.4
BYBT	Boyabat	77.06	311	P	P	15 10 19.4	+1.6
NSHM	Saint Helena R	77.21	52	*e*P	P	15 10 19.0	+0.3
BZK	Bozkurt	77.27	312	P	P	15 10 19.8	+0.8
GZT	Gaziantep	77.44	306	*i* P	P	15 10 20.6	+0.6
KIS	Kishinev	77.50	318α	*e*P	P	15 10 18.5	-1.7
KIS				*i*	pP	15 10 29.0	-0.8
KIS				*i*		15 10 36.0	
KIS				*e*		15 13 15.0	
KIS				*e*S	S	15 20 07.0	-0.7
KIS				*e*		15 20 23.0	
KIS				*e*PS	PS	15 20 36.0	-16
KIS				*e*SSS	SSS	15 28 27.0	0.0
KIS				pmax	pmax		
	comp=N,370nm,1.6s						
KIS				pmax	pmax		
	comp=Z,770nm,1.6s,mb6.4						
KIS				pmax	pmax		
	comp=E,560nm,1.9s						
KIS				pmax	pmax		
	comp=N,1µm,6.0s						
KIS				pmax	pmax		
	comp=Z,4µm,6.0s						
KIS				pmax	pmax		
	comp=E,1µm,5.0s						
KIS				pmax	pmax		
	comp=Z,4µm,8.0s						
KIS				MLR	MLR		
	comp=N,14µm,17.0s						
KIS				MLR	MLR		
	comp=Z,30µm,17.0s,MS6.7						
KIS				MLR	MLR		
	comp=Z,29µm,17.0s						
CTKT	Corum	77.50	310	*i* P	P	15 10 20.9	+0.6
OHCM	Honcut	77.51	51	*e*P	P	15 10 20.6	+0.2
RYDS	Riyadh	77.60	291	P	P	15 10 20.2	-1.0
WVOR	Wild Horse Val	77.62	47	P	P	15 10 21.2	+0.3
WVOR				pmax	pmax		
	comp=Z,340nm,1.7s,mb6.0						
WVOR	Wild Horse Val	77.62	47	*e*P	P	15 10 21.1	+0.1
	comp=Z,342nm,1.8s,mb6.0						
WVOR				LR	LR		
	comp=Z,4µm,20.0s,MS5.7						
YOZ	Yozgat	77.70	309	P	P	15 10 22.4	+1.1
KAHT	Ahir Dag	77.75	307	*i* P	P	15 10 22.6	+0.9
TOS	Tosya	77.77	311	P	P	15 10 22.8	+1.1
GAZ	Gaziantep	77.77	306	P	P	15 10 22.9	+1.0
BNN	Bunyan	77.78	308	P	P	15 10 23.6	+1.7
SAC	San Andreas	77.83	53	P	P	15 10 23.3	+1.1
SAC				*e*	pP	15 10 32.6	+0.8
SAC	San Andreas	77.83	53	*e*P	P	15 10 22.4	+0.2
MSO	Missoula	77.88	42	*e*P	P	15 10 21.8	-0.5
	comp=Z,69nm,1.5s,mb5.4						
MSO				LR	LR		
	comp=Z,3µm,20.0s,MS5.6						
BALT	Daday	77.89	312	*i* P	P	15 10 23.4	+1.1
KONO	Kongsberg	77.90	336	*e*P	PcP	15 10 52.3	+20
KONO				AMb	AMB	15 10 56.0	
	comp=Z,142nm,1.4s,mb5.7						
KONO				*e*		15 20 41.2	
KONO				AMS	AMS	15 52 03.9	
	comp=Z,11µm,22.9s,MS6.1						
BEKR	Beckwourth	77.95	50	*e*P	P	15 10 23.5	+0.7
	comp=Z,204nm,1.3s,mb5.9						
LKC	Lake Chabot	77.99	53	*e*P	P	15 10 23.7	+0.7
CHMT	Chamberlain Mo	78.21	41	*e*P	P	15 10 24.2	+0.1
CANT	Cankiri	78.26	311	P	P	15 10 26.2	+1.8
ASMM	Slate Mountain	78.31	51	*e*P	P	15 10 23.8	-0.9
WAR	Warsaw	78.32	326	*e*P	P	15 10 25.9	+1.4
WAR				*e**PP	pP	15 10 28.7	-5.5
WAR				*e*S	S	15 20 22.3	+5.9
WAR				MLR	MLR		
	comp=Z,20µm,23.6s,MS6.4						
LVV	L’vov	78.37	323*c*	*i*P	P	15 10 25.0	+0.1
LVV				*i* S	S	15 20 21.0	+4.0
LVV				MLR	MLR		
	comp=Z,21µm,18.3s,MS6.5						
ELDT	Eldivan	78.44	311	*i* P	P	15 10 26.0	+0.5
AVNT	Avonos	78.47	309	*i* P	P	15 10 25.8	+0.2
SAFT	Safranbolu	78.49	312	P	P	15 10 26.4	+0.7
WCN	Washoe City	78.65	50	P	P	15 10 27.9	+1.3
WCN				pmax	pmax		
	comp=Z,270nm,1.7s,mb5.9						
WCN	Washoe City	78.65	50⇑	*e*P	P	15 10 26.8	+0.2
	comp=Z,275nm,1.7s,mb5.9						
PAHR	Pah Rah Range	78.67	50	*e*P	P	15 10 26.5	-0.2
RUND	Rundenannen	78.72	338	*e*P	P	15 10 26.9	+0.3
RUND				AMb	AMB	15 10 30.0	
	comp=Z,450nm,1.5s,mb6.2						
RUND				*e*sP	sP	15 10 36.5	-3.0
BRTR	Keskin Array B	78.73	310	P	P	15 10 27.2	+0.2
	comp=Z,394nm,1.1s,mb6.3,baz=97,slow=2.8,SNR=398						
BRTR				PKKPbc		15 29 21.5	
	comp=Z,1.7nm,1.0s,baz=194,slow=5.1,SNR=4.9						
BRTR				LR	LR	15 47 08.6	
	comp=Z,12µm,20.7s,MS6.2,baz=70,slow=37						
COBT	Iskenderun	78.77	306	*i* P	P	15 10 27.8	+0.5
FFC	Flin Flon	78.78	31	*e*P	P	15 10 26.9	-0.1
	comp=Z,303nm,1.4s,mb6.0						
FFC				LR	LR		
	comp=Z,2µm,20.0s,MS5.4						
MZLS	Mizel	78.81	291	P	P	15 10 27.8	0.0
CEYT	Ceyhan	78.84	307	P	P	15 10 29.6	+1.8
KAMT	Kaman	78.88	310	P	P	15 10 28.2	+0.3
SAO	San Andreas Ge	78.93	53	P	P	15 10 28.7	+0.5
SAO				pmax	pmax		
	comp=Z,64nm,1.1s,mb5.5						
SAO	San Andreas Ge	78.93	53	*e*P	P	15 10 27.7	-0.5
	comp=Z,64nm,1.1s,mb5.5						
SAO				LR	LR		
	comp=Z,3µm,19.0s,MS5.7						
CMB	Columbia Colle	78.94	52⇑	*i*P	P	15 10 27.8	-0.5
	comp=Z,222nm,1.4s,mb5.9						
CMB				LR	LR		
	comp=Z,3µm,20.0s,MS5.6						
FCC	Fort Churchill	78.95	24	P	P	15 10 28.2	+0.4
FCC				pmax	pmax		
	comp=Z,460nm,1.4s,mb6.2						
FCC	Fort Churchill	78.95	24	*e*P	P	15 10 27.3	-0.5
	comp=Z,463nm,1.4s,mb6.2						
NIG	Nigde	79.00	308	P	P	15 10 30.6	+2.1
HTY	Hatay	79.06	306	P	P	15 10 29.9	+0.9
HRY	Holter Researc	79.12	41	*e*P	P	15 10 29.6	+0.6
BSD	Bornholm Skovb	79.12	330⇑	*i*P	P	15 10 28.1	-0.7
	comp=Z,237nm,1.1s,mb6.0						
BSD				*i*		15 10 48.0	
BSD				*i*		15 13 30.8	
BSD				*i* S	S	15 20 28.2	+3.4
	comp=Z,19µm,18.0s						
KWP	Kalwaria	79.16	323	*e*P	P	15 10 29.8	+0.6
KWP				*e*	pP	15 10 37.7	-1.1
KWP				*e*S	S	15 20 29.6	+4.2
KWP				*e**SS		15 20 35.8	
KWP				MLR	MLR		
	comp=Z,78µm,17.0s,MS7.1						
LOD	Lodumlu	79.20	311	P	P	15 10 30.6	+0.9
VRI	Vrincioaia	79.34	318⇓	*i*P	P	15 10 32.0	+1.8
VRI	Vrincioaia	79.34	318⇓	*i*P	P	15 10 32.0	+1.8
BRD	Bordesti	79.36	318⇓	*i*P	P	15 10 33.4	+3.1
BRD	Bordesti	79.36	318⇓	*i*P	P	15 10 33.4	+3.1
HARR	Harsova	79.36	317⇓	*i*P	P	15 10 31.8	+1.4
HARR	Harsova	79.36	317⇓	*i*P	P	15 10 31.8	+1.4
ARSS	Ar Rass	79.37	294	P	P	15 10 30.3	-0.6
GKP	Gorka Klasztor	79.38	328	*e*P	P	15 10 30.5	+0.2
GKP				*e*	pP	15 10 38.4	-1.6
GKP				*e*S	S	15 20 32.1	+4.4
GKP	Gorka Klasztor	79.38	328	*e*P	P	15 10 30.5	+0.2
GKP				*e*pP	pP	15 10 33.5	-6.5
GKP				*e*PcP	PcP	15 10 38.4	-0.3
GKP				*e*S	S	15 20 32.1	+4.4
LRV	Little Rabbit	79.40	53	*e*P	P	15 10 31.5	+0.7
HLID	Hailey	79.52	45⇑	*i*P	P	15 10 31.5	+0.2
	comp=Z,272nm,1.9s,mb5.9						
HLID				LR	LR		
	comp=Z,3µm,21.0s,MS5.6						
BMN	Battle Mountai	79.63	48	P	P	15 10 33.2	+1.3
BMN				pmax	pmax		
	comp=Z,85nm,1.0s,mb5.6						
BMN	Battle Mountai	79.63	48⇑	*e*P	P	15 10 31.9	-0.1
	comp=Z,85nm,1.1s,mb5.6						
BMN				LR	LR		
	comp=Z,3µm,20.0s,MS5.6						
HILS	Ha’il	79.68	296	P	P	15 10 32.7	+0.2
MCMT	McKenzie Canyo	79.68	43	*e*P	P	15 10 32.5	+0.4
COP	Copenhagen	79.72	332⇑	*i*P	P	15 10 32.3	+0.2
	comp=Z,134nm,1.0s,mb5.8						
COP				*i*		15 13 32.8	
COP				*i* S	S	15 20 29.0	-2.2
	comp=Z,8µm,17.0s						
KOLS	Kolonicke sedl	79.82	323	*i* P	P	15 10 32.7	-0.1
KOLS				*e*		15 10 33.8	
KOLS				*e*	pP	15 10 41.0	-1.4
KOLS				*e*		15 10 57.9	
KOLS				*e*PP	PP	15 13 35.8	+0.1
KOLS	Kolonicke sedl	79.82	323	*i* P	P	15 10 32.7	-0.1
KOLS				*e*	pP	15 10 41.0	-1.4
KOLS				*e*		15 13 35.8	
HENT	Hendek	79.84	312	*i* P	P	15 10 33.3	+0.3
MDU	Mudurnu	79.85	312	P	P	15 10 33.6	+0.5
BOZ	Bozeman (W)	79.87	42	P	P	15 10 33.1	0.0
BOZ				pmax	pmax		
	comp=Z,330nm,1.8s,mb6.0						
BOZ	Bozeman (W)	79.87	42	*e*P	P	15 10 33.0	-0.1
	comp=Z,333nm,1.9s,mb5.9						
BOZ				LR	LR		
	comp=Z,5µm,19.0s,MS5.9						
ISR	Istrita	79.89	318⇓	*i*P	P	15 10 35.3	+2.1
ISR	Istrita	79.89	318⇓	*i*P	P	15 10 35.4	+2.1
MLR	Muntele Rosu	80.00	318	LR	LR	15 49 01.3	
	comp=Z,35µm,19.2s,MS6.7,baz=70,slow=38						
MLR	Muntele Rosu	80.00	318⇓	*i*P	P	15 10 35.5	+1.7
MLR	Muntele Rosu	80.00	318⇓	*i*P	P	15 10 35.5	+1.6
UZH	Uzhgorod	80.00	322*c*	*i*P	P	15 10 25.0	-8.7
OMM	Old Mammoth Mi	80.09	52⇑	*e*P	P	15 10 34.6	+0.1
MEST	Erdemli	80.15	307	*i* P	P	15 10 34.8	0.0
MNV	Mina	80.17	50	P	P	15 10 34.6	-0.3
MNV				pmax	pmax		
	comp=Z,210nm,1.6s,mb5.8						
MNV	Mina	80.17	50⇑	*e*P	P	15 10 34.5	-0.4
	comp=Z,213nm,1.6s,mb5.8						
MNV				LR	LR		
	comp=Z,4µm,19.0s,MS5.7						
RGN	Rugen	80.17	331	*e*P	P	15 10 34.5	0.0
URZ	Urewera	80.20	149	LR	LR	15 42 50.8	
	comp=Z,3µm,18.9s,MS5.7,baz=334,slow=33						
URZ	Urewera	80.20	149	P	P	15 10 32.5	-2.5
URZ	Urewera	80.20	149	*e*P	P	15 10 32.3	-2.7
OJC	Ojcow	80.22	325⇑	*i*P	P	15 10 35.3	+0.4
OJC				*e*		15 13 40.1	
OJC				*i* S	S	15 20 41.6	+5.1
OJC				*e*SS	SS	15 25 53.8	+3.1
OJC				MLR	MLR		
	comp=Z,28µm,19.4s,MS6.6						
OJC	Ojcow	80.22	325⇑	*i*P	P	15 10 35.3	+0.4
OJC				*e*pP	pP	15 10 37.9	-6.7
OJC				*e*PP	PP	15 13 40.1	+1.0
OJC				*i* S	S	15 20 41.6	+5.1
OJC				*e*SS	SS	15 25 53.8	+3.1
OJC				LR	LR		
	comp=Z,28µm,19.4s,MS6.6						
CRVS	Cervenica-Dubn	80.25	323	*i* P	P	15 10 35.8	+0.7
CRVS				*e*		15 10 56.0	

CRVS				eS	S	15 20 38.7	+1.9
CRVS	Cervenica-Dubn	80.25	323	iP	P	15 10 35.8	+0.7
CRVS				eS	S	15 20 38.7	+1.9
KIZT	Kizilcal	80.34	310	P	P	15 10 37.1	+1.4
MUD	Monsted U’grnd	80.41	334	⇑iP	P	15 10 35.2	-0.6
	comp=Z,143nm,1.2s,mb5.8						
MUD				i		15 13 38.7	
MUD				iS	S	15 20 37.6	-0.7
	comp=Z,19µm,17.0s						
MWZ	Matawai	80.44	149	P	P	15 10 34.4	-1.9
MWZ	Matawai	80.44	149	eP	P	15 10 34.4	-1.9
QLMT	Earthquake Lak	80.48	42	eP	P	15 10 37.4	+1.0
MTUM	Tungsten Hills	80.52	52	eP	P	15 10 37.4	+0.7
YEL1	Yell	80.53	341	⇑eP	P	15 10 35.7	-0.6
QRZ	Quartz Range	80.55	154	P	P	15 10 36.5	-0.3
QRZ	Quartz Range	80.55	154	eP	P	15 10 36.7	-0.1
KONT	Konya--Tatoy	80.56	309	P	P	15 10 36.9	0.0
AFFS	‘Afif	80.58	292	P	P	15 10 37.5	+0.2
HRT	Hereke	80.60	313	P	P	15 10 38.7	+1.6
ESKT	Eskisehir	80.62	311	P	P	15 10 37.4	+0.1
BUC1	Bucharest	80.65	317	⇑iP	P	15 10 38.1	+0.8
BUC1	Bucharest	80.65	317	⇑iP	P	15 10 38.1	+0.9
IKL	Isikli	80.65	307	P	P	15 10 38.5	+1.0
MTUR	Matau	80.66	318	⇓iP	P	15 10 38.5	+1.2
MTUR	Matau	80.66	318	⇓iP	P	15 10 38.5	+1.2
ELK	Elko	80.68	47	P	P	15 10 37.9	+0.4
ELK				pmax	pmax		
	comp=Z,790nm,2.3s						
ELK	Elko	80.68	47	⇑eP	P	15 10 38.0	+0.5
	comp=Z,794nm,2.3s,mb6.2						
ELK				LR	LR		
	comp=Z,3µm,19.0s,MS5.7						
BKZ	Black Stump Fm	80.70	150	P	P	15 10 35.6	-2.1
BKZ	Black Stump Fm	80.70	150	eP	P	15 10 35.4	-2.3
ISK	Istanbul-Kandi	80.83	313	P	P	15 10 37.6	-0.7
YMR	Madison River	80.84	42	⇑eP	P	15 10 39.0	+0.8
RAR	Rarotonga	80.87	123	LR	LR	15 46 51.1	
	comp=Z,7µm,18.1s,MS6.1,baz=310,slow=36						
RAR	Rarotonga	80.87	123	PFAKE		15 10 50.0	+11
RAR				LR	LR		
	comp=Z,7µm,19.0s,MS6.0						
LRW	Lerwick	80.90	340	⇑eP	P	15 10 37.9	-0.3
HRI	Mount Hermon	80.91	304	P	P	15 10 38.8	-0.1
WAL1	Walls	80.92	341	eP	P	15 10 37.0	-1.3
YLV	Yalova	80.93	313	P	P	15 10 38.3	-0.5
BORG	Borgarnes	80.94	351	eP	P	15 10 40.3	+2.0
BORG				LR	LR		
	comp=Z,1µm,21.0s,MS5.3						
TPH	Tonopah	80.98	50	⇑iP	P	15 10 39.2	0.0
	comp=Z,268nm,1.4s,mb6.0						
TPH				LR	LR		
	comp=Z,3µm,19.0s,MS5.7						
KSHT	Keshet	81.01	303	P	P	15 10 39.5	+0.1
SAN1	Sandwick	81.02	340	⇑eP	P	15 10 38.5	-0.4
KECS	Kecovo	81.02	323	eP	P	15 10 39.5	+0.4
KECS				e		15 10 40.4	
KECS				e		15 10 55.9	
KECS				ePP	PP	15 13 44.6	-1.7
KECS	Kecovo	81.02	323	eP	P	15 10 39.5	+0.4
KECS				e		15 10 55.9	
KECS				e		15 13 44.6	
HDMB	Hadim	81.04	308	P	P	15 10 38.8	-0.6
RAC	Raciborz	81.08	325	eP	P	15 10 40.4	+1.0
RAC				e		15 10 47.4	
RAC				e		15 13 45.3	
RAC				eS	S	15 20 51.5	+6.1
RAC				MLR	MLR		
	comp=E,31µm,19.8s						
RAC				MLR	MLR		
	comp=Z,30µm,18.0s,MS6.7						
PHNC	Paralimni	81.11	306	⇑P	P	15 10 39.7	-0.2
PHNC	Paralimni	81.11	306	⇑eP	P	15 10 39.7	-0.2
CTT	Catalca	81.17	314	P	P	15 10 41.3	+1.2
NNZ	Nelson	81.21	153	P	P	15 10 38.7	-1.6
NNZ	Nelson	81.21	153	eP	P	15 10 38.7	-1.6
TSZ	Takapari Road	81.23	151	P	P	15 10 39.0	-1.4
TSZ	Takapari Road	81.23	151	eP	P	15 10 39.1	-1.3
KAMS	Al Khamasin	81.25	288	P	P	15 10 40.9	+0.1
FRB	Frobisher Bay	81.25	11	LR	LR	15 48 56.5	
	comp=Z,9µm,19.7s,MS6.1,baz=333,slow=37						
OKC	Ostrava-Krasne	81.27	325	⇑iP	P	15 10 40.8	+0.4
OKC				epP	pP	15 10 50.9	+0.8
OKC				ePP	PP	15 13 48.3	0.0
OKC				eS	S	15 20 51.7	+4.3
OKC				LR		15 50 30.0	
	comp=Z,21nm,14.8s						
ULDT	Uludag	81.33	312	iP	P	15 10 41.0	+0.1
LIKS	Likavka	81.33	324	eP	P	15 10 42.8	+2.1
ALT	Altintas	81.36	311	P	P	15 10 41.7	+0.5
HNTI	Hanita	81.40	304	P	P	15 10 41.4	-0.1
RUE	Ruedersdorf	81.44	329	eP	P	15 10 41.4	+0.2
	comp=Z,254nm,1.1s,mb6.1						
KSP	Ksiaz	81.46	327	⇑eP	P	15 10 41.7	+0.3
KSP				e*PP	pP	15 10 51.0	-0.1
KSP				e		15 13 47.0	
KSP				eS	S	15 20 47.0	-2.3
KSP				e		15 20 55.0	
KSP				eSS	SS	15 26 07.0	-2.3
KSP				MLR	MLR		
	comp=Z,74µm,16.1s,MS7.1						
THZ	Tophouse	81.51	154	P	P	15 10 39.9	-1.9
THZ	Tophouse	81.51	154	eP	P	15 10 39.9	-1.9
MOOW	Moose Ponds	81.53	43	⇑iP	P	15 10 42.6	+0.7
HVU	Hansel Valley	81.56	45	P	P	15 10 43.4	+1.3
HVU	Hansel Valley	81.56	45	eP	P	15 10 42.8	+0.7
MAMC	Mammari	81.57	307	⇑P	P	15 10 43.0	+0.7
MAMC	Mammari	81.57	307	⇑eP	P	15 10 43.0	+0.7
TPAW	Teton Pass	81.58	43	eP	P	15 10 43.0	+0.9
MMLI	Mount Malkishu	81.59	303	P	P	15 10 42.8	+0.4
MMLI	Mount Malkishu	81.59	303	⇑P	P	15 10 42.8	+0.4
MORC	Moravsky Berou	81.60	325	P	P	15 10 42.6	+0.5
MORC				pmax	pmax		
	comp=Z,310nm,1.3s,mb6.1						
MORC	Moravsky Berou	81.60	325	⇑eP	P	15 10 42.5	+0.3
	comp=Z,310nm,1.4s,mb6.0						
CSS	Prodhromos	81.61	306	⇑P	P	15 10 43.1	+0.6
	comp=Z,3.8nm,1.2s						
CSS	Prodhromos	81.61	306	eP	P	15 10 42.4	-0.1
	comp=Z,238nm,0.9s,mb6.1						
HMDT	Nahal Hemdat	81.62	303	P	P	15 10 42.7	+0.1
HMDT	Nahal Hemdat	81.62	303	⇑P	P	15 10 42.7	+0.1
WUWY	Wally Ulrich	81.67	43	eP	P	15 10 43.2	+0.6
HAF	Haifa	81.67	304	P	P	15 10 42.7	-0.2
PSZ	Piszkesteto	81.69	323	⇑iP	P	15 10 43.5	+0.9
PSZ				iPP	PP	15 13 52.0	+0.3
PSZ	Piszkesteto	81.69	323	P	P	15 10 43.3	+0.7
PSZ				pmax	pmax		
	comp=Z,580nm,1.4s,mb6.3						
PSZ	Piszkesteto	81.69	323	⇑iP	P	15 10 43.2	+0.5
	comp=Z,580nm,1.4s,mb6.3						
PSZ				ePP	PP	15 13 53.5	+1.8
LOHW	Long Hollow	81.70	43	⇑eP	P	15 10 43.5	+0.8
SNOW	Snow King Moun	81.71	43	eP	P	15 10 43.8	+1.0
REDW	Red Top Meadow	81.71	43	eP	P	15 10 43.6	+0.7
EDRB	Edirne	81.76	315	P	P	15 10 43.8	+0.7
DAC	Darwin (Calif)	81.77	52	P	P	15 10 43.9	+0.6
DAC				pmax	pmax		
	comp=Z,31nm,1.0s,mb5.2						
DAC	Darwin (Calif)	81.77	52	⇑eP	P	15 10 43.1	-0.2
	comp=Z,31nm,1.0s,mb5.2						
DAC				LR	LR		
	comp=Z,3µm,20.0s,MS5.6						
DPC	Dobruska-Polom	81.79	326	⇑iP	P	15 10 44.1	+1.0
DPC				epP	pP	15 10 53.9	+1.1
DPC				ePP	PP	15 13 52.5	+0.1
DPC				eS	S	15 20 57.6	+4.9
DPC				ex	x	15 21 28.6	
DPC				LR		15 50 50.0	
	comp=Z,43nm,15.4s						
DPC	Dobruska-Polom	81.79	326	⇑iP	P	15 10 44.1	+1.0
DPC				e	pP	15 10 53.9	+1.1
DPC				e		15 13 52.5	
DPC				eS	S	15 20 57.6	+4.9
DPC				MLR	MLR		
	comp=Z,43µm,15.4s,MS6.9						
OFRI	‘Ofer	81.79	304	P	P	15 10 43.4	-0.1
OFRI	‘Ofer	81.79	304	⇑P	P	15 10 43.4	-0.1
SNZO	South Karori	81.80	152	eP	P	15 10 41.8	-1.5
SNZO				LR	LR		
	comp=Z,5µm,20.0s,MS5.8						
ISP	Isparta	81.81	310	⇑iP	P	15 10 43.0	-0.5
LEF	Lefka	81.82	307	P	P	15 10 44.6	+1.0
UPC	Upice	81.82	327	⇑iP	P	15 10 44.0	+0.7
UPC				epP	pP	15 10 54.2	+1.2
UPC				ePP	PP	15 13 52.4	-0.3
VYHS	Vyhne	81.84	324	iP	P	15 10 43.9	+0.5
VYHS				e		15 10 45.2	
VYHS				esP	sP	15 10 53.5	-2.8
VYHS				ePP	PP	15 13 53.9	+1.1
VYHS				eS	S	15 20 57.2	+4.0
VYHS				epS		15 21 05.5	
VYHS	Vyhne	81.84	324	iP	P	15 10 43.9	+0.5
VYHS				e	pP	15 10 53.5	+0.4
VYHS				e		15 13 53.9	
VYHS				eS	S	15 20 57.2	+4.0
BSEG	Bad Segeberg	81.84	331	eP	P	15 10 43.6	+0.3
BSEG				e*PP	pP	15 10 53.6	+0.6
BSEG				pmax	pmax		
	comp=Z,304nm,1.3s,mb6.1						
BGU	Big Grassy Mou	81.92	46	⇑iP	P	15 10 44.5	+0.5
AHID	Auburn Hatcher	81.94	44	eP	P	15 10 44.3	+0.3
	comp=Z,28nm,1.0s,mb5.1						
AHID				LR	LR		
	comp=Z,3µm,21.0s,MS5.6						
BNT	Bandirma	81.95	313	P	P	15 10 45.6	+1.5
DST	Dursunbey	81.96	312	P	P	15 10 45.2	+1.0
SLTI	Sal’it	81.97	303	P	P	15 10 44.5	+0.1
DGMT	Dagmar	81.98	36	eP	P	15 10 44.0	-0.2
	comp=Z,80nm,1.0s,mb5.6						
DGMT				LR	LR		
	comp=Z,5µm,20.0s,MS5.9						
BCK	Bucak	81.98	310	P	P	15 10 44.5	+0.1
ALFC	Alevga	81.99	307	⇑P	P	15 10 44.4	-0.1
	comp=Z,4.6nm,1.1s						
ALFC	Alevga	81.99	307	⇑eP	P	15 10 44.4	-0.1
KOLL	Kolacno	81.99	324	eP	P	15 10 44.9	+0.7
KOLL				e		15 10 46.1	
KOLL				esP	sP	15 10 54.6	-2.5
KOLL				ePP	PP	15 13 54.0	-0.1
KOLL	Kolacno	81.99	324	eP	P	15 10 44.9	+0.7
KOLL				e	pP	15 10 54.6	+0.7
KOLL				e		15 13 54.0	
SZAC	Souni-Zanaja	82.03	306	⇑P	P	15 10 45.2	+0.5
SZAC	Souni-Zanaja	82.03	306	⇑eP	P	15 10 45.2	+0.5
SPUT	South Promonto	82.04	45	⇑iP	P	15 10 45.1	+0.5
DRGI	Dragot	82.08	302	P	P	15 10 45.1	+0.1
DRGI	Dragot	82.08	302	⇑P	P	15 10 45.1	+0.1
MFT	Murefte	82.08	314	P	P	15 10 45.2	+0.5
LAO	LASA Array	82.13	38	eP	P	15 10 45.2	+0.2
	comp=Z,1µm,2.1s,mb6.4						
LAO				LR	LR		
	comp=Z,4µm,19.0s,MS5.8						
KHL	Karahalli	82.16	311	P	P	15 10 46.9	+1.6
LTZ	Lake Taylor	82.16	155	P	P	15 10 44.7	-0.5
LTZ	Lake Taylor	82.16	155	eP	P	15 10 44.7	-0.5
OST	Stronsay	82.17	340	eP	P	15 10 44.8	-0.1
AKMC	Akamas	82.25	307	P	P	15 10 46.2	+0.4
AKMC	Akamas	82.25	307	eP	P	15 10 46.2	+0.4
MZDA	Masada	82.26	302	P	P	15 10 46.1	+0.2
MZDA	Masada	82.26	302	⇑P	P	15 10 46.1	+0.2
TPNV	Topopah Spring	82.26	51	P	P	15 10 45.8	0.0
TPNV				pmax	pmax		
	comp=Z,520nm,1.7s,mb6.2						
TPNV	Topopah Spring	82.26	51	⇑iP	P	15 10 45.9	0.0
	comp=Z,519nm,1.7s,mb6.2						
TPNV				LR	LR		
	comp=Z,3µm,20.0s,MS5.7						
KHZ	Kahutara	82.31	154	P	P	15 10 51.7	+5.7
PPCY	Paphos	82.32	307	⇑P	P	15 10 46.7	+0.5
PPCY	Paphos	82.32	307	⇑eP	P	15 10 46.7	+0.5
VRAC	Vranov	82.38	325	LR	LR	15 50 27.9	
	comp=Z,21µm,19.0s,MS6.5,baz=325,slow=38						
HWUT	Hardware Ranch	82.38	45	⇑iP	P	15 10 46.7	+0.4
	comp=Z,286nm,1.5s,mb6.0						
HWUT				LR	LR		
	comp=Z,6µm,22.0s,MS5.9						
BALB	Balikesir	82.41	313	P	P	15 10 47.0	+0.5
BUD	Budapest	82.42	323	ePd		15 10 47.9	
KBRS	Khaybar	82.44	296	P	P	15 10 48.6	+1.6
PVCC	Panska Ves	82.47	327	⇑iP	P	15 10 47.2	+0.6
PVCC				epP	pP	15 10 57.2	+0.8
PVCC				ePP	PP	15 13 57.0	-0.9
PVCC				eS	S	15 21 05.7	+6.0
PVCC				LR		15 51 20.0	
	comp=Z,18nm,14.3s						
DUG	Dugway	82.49	47	P	P	15 10 47.5	+0.5
DUG				pmax	pmax		
	comp=Z,220nm,1.5s,mb5.9						
DUG	Dugway	82.49	47	⇑iP	P	15 10 47.3	+0.4
	comp=Z,222nm,1.5s,mb5.9						
DUG				LR	LR		
	comp=Z,3µm,19.0s,MS5.7						
BRG	Berggiesshubel	82.51	328	iP	P	15 10 47.8	+1.0
BRG				i	pP	15 10 57.2	+0.7
BRG				e		15 13 57.6	
BRG				iS	S	15 21 06.0	+5.9
BRG				pmax	pmax		
	comp=Z,804nm,2.1s,mb6.4						
BRG				MLR	MLR		
	comp=N,14µm,14.6s,MS6.7						
BRG				MLR	MLR		
	comp=E,18µm,14.6s,MS6.7						
BRG				MLR	MLR		
	comp=Z,30µm,14.6s,MS6.8						
BRG	Berggiesshubel	82.51	328	iP	P	15 10 47.8	+1.0
	comp=Z,804nm,2.1s,mb6.4						
BRG				i	pP	15 10 57.2	+0.7
BRG				ePP	PP	15 13 57.6	-0.6
BRG				iS	S	15 21 06.0	+5.9
BRG				iSS	SS	15 26 32.0	+7.0
BRG				ePKKP	PKKP	15 29 13.4	+18
BRG				LR	LR		
	comp=Z,30µm,14.6s,MS6.8						
SMOL	Smolenice	82.52	324	eP	P	15 10 48.0	+1.1
SMOL				e		15 10 49.1	
SMOL				e		15 11 03.1	
SMOL				ePP	PP	15 13 59.4	+1.1
SMOL	Smolenice	82.52	324	eP	P	15 10 48.0	+1.1
SMOL				e		15 11 03.1	
SMOL				e		15 13 59.4	
TATS	Tathlith	82.53	288	P	P	15 10 48.0	+0.4
SRO	Srobarova	82.55	323	eP	P	15 10 49.1	+2.0
RPZ	Rata Peaks	82.56	156	LR	LR	15 43 14.5	
	comp=Z,9µm,21.1s,MS6.1,baz=323,slow=33						
OHO	Hoy	82.57	340	⇑eP	P	15 10 47.2	+0.2
CLL	Collm	82.62	328	⇑P	P	15 10 47.3	-0.1
	comp=Z,logA/T=2.6,mb6.4						
CLL				i*PP	pP	15 10 57.3	+0.2
CLL				ePP	PP	15 13 57.0	-2.0
CLL				eS	S	15 21 02.0	+0.9
CLL				eSP	SP	15 21 51.0	-0.9
CLL				eSS	SS	15 26 33.0	+6.4
CLL				ePKKP	PKKP	15 29 12.0	+17
CLL				e		15 32 33.0	
CLL				e		15 37 13.0	
CLL	Collm	82.62	328	⇑iP	P	15 10 47.3	-0.1
CLL				i*PP	pP	15 10 57.3	+0.2
CLL				eS	S	15 21 02.0	+0.9
CLL				pmax	pmax		
	comp=Z,614nm,1.5s,mb6.4						
CLL				MLR	MLR		
	comp=Z,23µm,17.8s,MS6.6						
CLL	Collm	82.62	328	⇑iP	P	15 10 47.3	-0.1
	comp=Z,614nm,1.5s,mb6.4						
CLL				ipP	pP	15 10 57.3	+0.2
CLL				eS	S	15 21 02.0	+0.9
CLL				ePKKP	PKKP	15 29 12.0	+17
CLL				P’P’		15 37 13.0	
CLL				LR	LR		
	comp=Z,23µm,17.8s,MS6.6						
MWC	Mount Wilson	82.64	54	eP	P	15 10 48.6	+0.7
MWC	Mount Wilson	82.64	54	⇑iP	P	15 10 47.7	-0.2
LPK	Lapseki	82.64	314	P	P	15 10 49.5	+1.7
MANT	Manisa	82.67	311	iP	P	15 10 48.2	+0.3
OBR	Brabster	82.73	340	⇑eP	P	15 10 47.9	+0.1
ALN	Alexandroupoli	82.75	315	eP	P	15 10 49.1	+0.8
TCUT	Toone Canyon	82.77	45	⇑iP	P	15 10 47.8	-0.6
DENT	Denizli	82.81	311	P	P	15 10 50.3	+1.6
ZFRI	Zfri	82.81	302	P	P	15 10 48.9	+0.1
BW06	Boulder Array	82.83	43	⇑iP	P	15 10 48.5	-0.1
	comp=Z,162nm,1.7s,mb5.8						
BW06				LR	LR		
	comp=Z,3µm,20.0s,MS5.6						
PDAR	Pinedale Array	82.83	43	P	P	15 10 48.4	-0.2
	comp=Z,18nm,0.9s,mb5.1,baz=297,slow=3.3,SNR=104						
PDAR				PP	PP	15 14 02.8	+1.9
	comp=Z,9.5nm,1.1s,baz=315,slow=6.3,SNR=4.8						
PDAR				S	S	15 20 58.8	-4.7
	comp=Z,0.2nm,0.3s,baz=227,slow=26,SNR=3.7						
PDAR				PKKPab		15 30 10.3	
	comp=Z,3.1nm,1.2s,baz=63,slow=3.3,SNR=4.7						
DNZL	Cakiroluk	82.84	311	iP	P	15 10 49.9	+1.1
MASH	Mash‘abbe Sade	82.84	302	P	P	15 10 48.7	-0.3
ELL	Elmali	82.84	309	P	P	15 10 49.5	+0.6
LBZ	Lake Benmore	82.86	157	P	P	15 10 45.0	-3.8
LBZ	Lake Benmore	82.86	157	eP	P	15 10 45.1	-3.7
PRU	Pruhonice	82.86	327	⇑iP	P	15 10 49.1	+0.4
	comp=Z,658nm,1.4s,mb6.5						
PRU				epP	pP	15 10 59.1	+0.7
PRU				ePP	PP	15 14 00.0	-1.0
PRU				eS	S	15 21 08.9	+5.2
PRU				ex	x	15 21 47.8	
PRU				LR		15 51 20.0	
	comp=Z,30nm,13.0s						
PRU	Pruhonice	82.86	327	⇑iP	P	15 10 49.1	+0.4
PRU				e*PP	pP	15 10 59.1	+0.7
PRU				e		15 14 00.0	
PRU				eS	S	15 21 08.9	+5.2
PRU				e		15 21 47.8	
PRU				pmax	pmax		
	comp=Z,658nm,1.4s,mb6.5						
PRU				MLR	MLR		
	comp=Z,30µm,13.0s,MS6.8						
ZST	Bratislava	82.89	324	eP	P	15 10 50.2	+1.3
ZST				e		15 10 51.0	
ZST				esP	sP	15 10 59.9	-1.9
ZST				ePP	PP	15 14 01.6	+0.3
ZST				eS	S	15 21 10.9	+6.9
ZST	Bratislava	82.89	324	eP	P	15 10 50.2	+1.3
ZST				e	pP	15 10 59.9	+1.3
ZST				e		15 14 01.6	
ZST				eS	S	15 21 10.9	+6.9
AKS	Akhisar	82.90	312	P	P	15 10 50.0	+0.9
ORE	Reay	82.96	341	⇑eP	P	15 10 49.1	+0.1
SVTA	Shivta	83.00	302	P	P	15 10 49.6	-0.2
PRNI	Paran	83.05	302	P	P	15 10 50.2	+0.1
PRNI	Paran	83.05	302	⇑P	P	15 10 50.2	+0.1
MLA1	Latheron	83.05	340	⇑eP	P	15 10 49.4	-0.1
JLU	Jordanelle	83.07	46	⇑iP	P	15 10 50.3	+0.4
NLU	North Lily Min	83.09	46	eP	P	15 10 50.6	+0.6
TBKS	Tabuk	83.12	299	P	P	15 10 51.9	+1.4
KZIT	Kziot	83.17	302	P	P	15 10 50.4	-0.3
VKA	Vienna	83.22	325	⇑iP	P	15 10 52.1	+1.5
	comp=Z,5µm,5.0s						
VKA				LR	LR		
	comp=Z,16µm,14.0s,MS6.5						
JMQS	Jabal Moqyreh	83.24	300	P	P	15 10 52.4	+1.4
DAU	Daniels Canyon	83.30	46	P	P	15 10 52.7	+1.6
DAU	Daniels Canyon	83.30	46	eP	P	15 10 52.6	+1.5
MPU	Maple Canyon	83.32	46	⇑eP	P	15 10 51.6	+0.4
AYVA	Ayvalik	83.34	313	iP	P	15 10 49.6	-1.7
CLZ	Clausthal	83.36	330	eP	P	15 10 51.5	+0.3
	comp=Z,698nm,1.4s,mb6.5						
CLZ				epP	pP	15 11 01.8	+0.9
AQBJ	Aqaba	83.37	301	P	P	15 10 51.5	-0.2
KMTI	Karmit	83.39	302	P	P	15 10 51.4	-0.4
MBH	Mount Berech	83.43	301	P	P	15 10 51.8	-0.2
DJNS	Zahran al Janu	83.46	287	P	P	15 10 53.4	+1.1
EIL	Elat	83.47	301	P	P	15 10 52.0	-0.2
EIL	Elat	83.47	301	⇑P	P	15 10 52.0	-0.2
IZM	Izmir	83.54	312	P	P	15 10 53.8	+1.4
ALWS	Ilw as Safayha	83.59	301	P	P	15 10 54.2	+1.3
ODZ	Otahua Downs	83.59	157	P	P	15 10 52.6	+0.1
MVH1	Achvaich	83.61	340	⇑eP	P	15 10 51.5	-0.7
MCD	Coleburn Disti	83.63	340	⇑eP	P	15 10 52.1	-0.3
NKC	Novy Kostel	83.64	328	⇑iP	P	15 10 53.1	+0.5
NKC				epP	pP	15 11 02.7	+0.4
NKC				ePP	PP	15 14 06.0	-1.2
NKC				eS	S	15 21 15.8	+4.4
NKC				LR		15 51 50.0	
	comp=Z,34nm,15.6s						
JMOS	Jabal al Moall	83.64	301	P	P	15 10 54.5	+1.4
DALT	Dalyan (Mudla)	83.65	310	P	P	15 10 53.3	+0.3
YER	Yerkesik	83.66	310	P	P	15 10 54.6	+1.5
MOX	Moxa	83.70	329	⇑iP	P	15 10 53.0	+0.1
	comp=Z,logA/T=2.6,mb6.5						
MOX				pP	pP	15 11 04.0	+1.3
MOX				sP	sP	15 11 08.0	+2.2
MOX				PP	PP	15 14 09.0	+1.3
MOX				pPP		15 14 20.0	
MOX				sPP		15 14 26.0	
MOX				S	S	15 21 21.0	+9.0
MOX				SS	Sx	15 27 22.0	
MOX				PKKP	PKKP	15 29 10.0	+17
MOX				PKPPKP		15 37 10.0	
MOX				L		15 48 09.0	
MOX	Moxa	83.70	329	eP	P	15 10 53.0	+0.1
MOX				e		15 14 09.2	
MOX				pmax	pmax		
	comp=Z,626nm,1.6s,mb6.5						
MOX				MLR	MLR		
	comp=Z,10µm,18.0s,MS6.2						
MOX	Moxa	83.70	329	eP	P	15 10 53.0	+0.1
	comp=Z,626nm,1.6s,mb6.5						
MOX				e		15 14 09.2	
MOX				LR	LR		
	comp=Z,10µm,18.0s,MS6.2						
MME1	Meikle Cairn	83.78	340	eP	P	15 10 52.5	-0.6
HAQS	Haql	83.83	301	P	P	15 10 54.7	+0.6
BLJS	Baljurashi	83.84	290	P	P	15 10 55.4	+1.1
MLSB	Milas	83.88	311	P	P	15 10 54.6	+0.5
MVU	Marysvale	83.89	48	⇑iP	P	15 10 55.0	+0.8
	comp=Z,882nm,2.2s,mb6.5						
MVU				LR	LR		
	comp=Z,2µm,20.0s,MS5.5						
MSU	Marysvale	83.91	48	P	P	15 10 55.3	+1.0
MSU	Marysvale	83.91	48	eP	P	15 10 55.2	+0.9
KHC	Kasperske Hory	83.91	327	⇑iP	P	15 10 54.3	+0.3
KHC				epP	pP	15 11 04.5	+0.7
KHC				ePP	PP	15 14 08.7	-0.7
KHC				eS	S	15 21 19.1	+5.0
KHC				ex	x	15 22 04.6	
KHC				LR		15 52 30.0	
	comp=Z,51nm,14.7s						
LOS	Limnos	83.93	314	eP	P	15 10 54.1	-0.2
NEN	Nelson	83.94	51	eP	P	15 10 54.3	-0.2
GEC2	GERESS Array S	84.06	326	eP	P	15 10 54.6	-0.2
GEC2				e*PP	pP	15 11 05.2	+0.7
GEC2				pmax	pmax		
	comp=Z,441nm,1.5s,mb6.4						
GEC2	GERESS Array S	84.06	326	eP	P	15 10 54.6	-0.2
	comp=Z,441nm,1.5s,mb6.4						
GEC2				epP	pP	15 11 05.2	+0.7
GERES	GERESS Array B	84.06	326	P	P	15 10 54.9	+0.2
	comp=Z,78nm,0.9s,mb5.8,baz=45,slow=3.8,SNR=146						
GERES				PKKPbc		15 29 09.4	
	comp=Z,2.1nm,1.0s,baz=270,slow=2.7,SNR=9.7						
GERES				PKPPKP		15 37 16.5	
	comp=Z,1.3nm,0.9s,baz=315,slow=1.9,SNR=3.6						
BDAS	Al Bad‘	84.06	300	P	P	15 10 56.2	+0.9
SRS	Serrai	84.07	316	eP	P	15 10 54.8	-0.2
MDO	Dochfour	84.07	340	⇑eP	P	15 10 53.8	-0.8
AYUS	‘Aynunah	84.08	300	P	P	15 10 56.7	+1.4
KPJ	Monastery St.	84.08	317	⇑iP	P	15 10 56.6	+1.6
KPJ				i	pP	15 11 06.0	+1.2
PFO	Pinyon Flat Ob	84.08	54	P	P	15 10 55.8	+0.6
PFO				pmax	pmax		
	comp=Z,2µm,2.4s,mb6.8						
PFO	Pinyon Flat Ob	84.08	54	⇑iP	P	15 10 54.8	-0.5
	comp=Z,2µm,2.5s,mb6.7						
PFO				LR	LR		
	comp=Z,796nm,22.0s,MS5.0						
LDFC	Landfair	84.11	52	eP	P	15 10 55.2	-0.1
WIT	Witteveen	84.12	332	eP	P	15 10 57.2	+2.3
LBOS		84.13	283	⇑eP	P	15 10 57.5	+1.6
YNBS	Yanbu‘ al Bahr	84.20	295	P	P	15 10 57.7	+1.7
UMJS	Umm Lajj	84.22	296	P	P	15 10 57.0	+0.9
WET	Wettzell	84.23	327	eP	P	15 10 55.8	+0.2
WET				e*PP	pP	15 11 06.1	+0.8
WET				pmax	pmax		
	comp=Z,509nm,1.6s,mb6.4						
WET	Wettzell	84.23	327	eP	P	15 10 55.8	+0.2
	comp=Z,509nm,1.6s,mb6.4						
WET				epP	pP	15 11 06.1	+0.8
BDRM	Kayabasi	84.23	311	iP	P	15 10 56.7	+0.7
ARSA	Arzberg	84.32	324	⇑iP	P	15 10 56.5	+0.4
	comp=Z,1µm,2.1s,mb6.7						

OUR	Ouranopolis	84.33	315	eP	P	15 10 57.1	+0.8
SOH	Sokhos	84.39	316	eP	P	15 10 56.8	+0.2
KMR	Kremsmunster	84.42	326	c iP	P	15 10 57.6	+1.0
KMR	Kremsmunster	84.42	326	⇑iP	P	15 10 57.6	+1.0
KNT	Kendrikon	84.44	316	eP	P	15 10 56.9	+0.1
DHBB	Dhamar BB	84.46	284	⇑eP	P	15 10 59.4	+1.8
BAR	Barrett	84.48	54	eP	P	15 10 56.7	-0.6
HAJJ	Hajjah	84.49	285	⇓eP	P	15 10 59.2	+1.5
MOA	Molln	84.50	325	⇑iP	P	15 10 57.6	+0.6
	comp=Z,1µm,1.9s,mb6.7						
VAY	Valandovo	84.53	317	⇑iP	P	15 10 57.5	+0.2
SRU	San Rafael	84.55	46	P	P	15 10 57.7	+0.2
SRU	San Rafael	84.55	46	⇑iP	P	15 10 57.6	+0.1
SRU				ePP	PP	15 14 12.3	-2.4
LTHS	Al Lith	84.56	291	P	P	15 10 58.7	+0.7
GRA1	Grafenberg Arr	84.57	328	eP	P	15 10 57.8	+0.5
	comp=Z,1µm,1.5s,mb6.9						
GRA1				epP	pP	15 11 08.6	+1.5
GRA1				ePP	PP	15 14 15.0	+0.3
GRA1				eS	S	15 21 26.5	+5.8
GRA1				eSS	SS	15 27 02.9	+8.0
GRA1				LR	LR		
	comp=Z,14µm,19.2s,MS6.4						
GRF	Grafenberg Arr	84.57	328	eP	P	15 10 57.8	+0.5
GRF				e*PP	pP	15 11 08.6	+1.5
GRF				e		15 14 15.0	
GRF				eS	S	15 21 26.5	+5.8
GRF				pmax	pmax		
	comp=Z,1µm,1.5s,mb6.9						
ULM	Lac du Bonnet	84.59	31	P	P	15 10 56.5	-0.9
	comp=Z,79nm,1.1s,mb5.8,baz=313,slow=5.0,SNR=38						
ULM				LR	LR	15 51 49.9	
	comp=Z,5µm,20.2s,MS5.9,baz=231,slow=38						
WTSB	Winterswijk	84.72	332	eP	P	15 10 57.5	-0.5
	comp=Z,158nm,1.5s,mb5.9						
WTSB				ex	x	15 11 07.3	
SKO	Skopje	84.75	318	⇑iP	P	15 10 59.5	+1.1
	comp=Z,0.6nm,1.3s						
SKO				⇑i	pP	15 11 09.0	+0.8
PAIG	Paliouri	84.77	315	eP	P	15 10 58.7	+0.1
EBH	Black Hill	84.84	339	⇑eP	P	15 10 58.9	+0.4
ESY	Stoneypath	84.85	339	⇑eP	P	15 10 58.1	-0.4
ESY				AMb	AMB	15 11 01.5	
	comp=Z,291nm,1.4s,mb6.2						
GRG	Griva	84.86	316	eP	P	15 10 59.1	+0.1
GROS	Grobnik	84.88	324	eP	P	15 10 58.8	-0.1
PERS	Pernice	84.94	324	⇑eP	P	15 10 59.3	0.0
PERS				ePcP	PcP	15 11 02.1	-0.8
RSSD	Black Hills	84.99	39	P	P	15 10 59.6	+0.1
RSSD				pmax	pmax		
	comp=Z,1µm,2.8s,mb6.6						
RSSD	Black Hills	84.99	39	⇑iP	P	15 10 59.3	-0.2
	comp=Z,1µm,2.8s,mb6.6						
RSSD				LR	LR		
	comp=Z,807nm,20.0s,MS5.1						
PLE	Pljevlja	84.99	320	⇓iP	P	15 11 00.3	+0.8
EDI	Edinburgh	85.02	339	⇑eP	P	15 10 59.4	0.0
EDI				AMb	AMB	15 11 10.5	
	comp=Z,128nm,1.5s,mb5.8						
IVA	Berane	85.02	319	⇑iP	P	15 10 60.0	+0.3
EBL	Broad Law	85.10	339	⇑eP	P	15 10 59.5	-0.3
FRSS	Farasan al Kab	85.13	287	P	P	15 11 02.7	+1.9
SISC	Sisak	85.13	323	i P	P	15 11 00.8	+0.6
EAB	Aberfoyle	85.13	340	⇑eP	P	15 10 59.8	-0.2
EAB				AMb	AMB	15 11 03.2	
	comp=Z,312nm,1.4s,mb6.2						
PVY	Plav	85.16	319	⇑iP	P	15 11 00.4	0.0
PCOU	Corrie	85.23	339	⇑eP	P	15 11 00.4	-0.1
GCIS	Gornji Cirnik	85.24	323	eP	P	15 11 00.5	-0.3
OBKA	Obir	85.31	324	⇓iP	P	15 11 01.0	-0.1
	comp=Z,3µm,4.0s						
UPM	Unac-Piva	85.34	320	⇑iP	P	15 11 00.6	-0.7
LIT	Litokhoron	85.36	316	eP	P	15 11 01.2	-0.3
PDKS	Podkum	85.39	324	eP	P	15 11 01.2	-0.3
TRBA	At Turbah	85.41	283	⇑eP	P	15 11 03.9	+1.6
TRBA				AMb	AMB	15 11 04.9	
	comp=Z,416nm,1.4s,mb6.4						
XOR	Xorichti	85.42	315	eP	P	15 11 01.9	+0.1
POB1	Observatory	85.45	339	⇑eP	P	15 11 02.5	+0.9
LCP	Cassop	85.48	337	eP	P	15 11 01.8	+0.1
KBA	Koelnbreinsper	85.49	325	⇑iP	P	15 11 02.2	+0.3
	comp=Z,1µm,2.5s,mb6.6						
PCA1	Carrot	85.53	339	⇑eP	P	15 11 02.1	+0.2
ESK	Eskdalemuir	85.53	339	⇑eP	P	15 11 01.7	-0.3
ESK				AMb	AMB	15 11 05.0	
	comp=Z,244nm,1.5s,mb6.2						
ESK	Eskdalemuir	85.53	339	P	P	15 11 03.2	+1.2
ESK				pmax	pmax		
	comp=Z,190nm,1.3s,mb6.2						
ESK	Eskdalemuir	85.53	339	⇑eP	P	15 11 01.9	-0.1
	comp=Z,187nm,1.3s,mb6.2						
ESK				ePP	PP	15 14 19.1	-3.1
ESK				LR	LR		
	comp=Z,4µm,19.0s,MS5.9						
SIND	Sindeldorf	85.54	329	eP	P	15 11 02.1	0.0
LWH	Whinny Nab	85.55	337	eP	P	15 11 01.7	-0.3
NKY	Niksic	85.55	319	⇑iP	P	15 11 03.1	+0.7
BBH	Bruntsheil	85.61	338	⇑eP	P	15 11 01.6	-0.7
LJU	Ljubljana	85.65	324	⇑eP	P	15 11 02.2	-0.6
LJU				ePcP	PcP	15 11 05.3	-0.8
LJU				ePP	PP	15 14 24.3	+0.9
FUR	Furstenfeldbru	85.67	327	eP	P	15 11 03.2	+0.4
FUR				e*PP	pP	15 11 13.3	+0.7
FUR				pmax	pmax		
	comp=Z,1µm,1.5s,mb6.8						
FUR	Furstenfeldbru	85.67	327	eP	P	15 11 03.2	+0.4
	comp=Z,1µm,1.5s,mb6.8						
FUR				epP	pP	15 11 13.3	+0.7
TTG	Podgorica	85.67	319	⇑iP	P	15 11 03.7	+0.7
VISS	Visnje	85.67	324	eP	P	15 11 02.2	-0.6
BOJS	Bojanci	85.67	323	⇑eP	P	15 11 02.8	-0.1
BOJS				ePcP	PcP	15 11 05.5	-0.7
OHR	Ohrid	85.68	317	⇑iP	P	15 11 02.8	-0.3
TOD	Tromm	85.69	329	eP	P	15 11 03.0	+0.1
BTA	Talkin	85.72	338	⇑eP	P	15 11 03.4	+0.4
BHH	Howats Hill	85.73	338	⇑eP	P	15 11 03.1	+0.2
BRY	Bratogost	85.74	320	⇑iP	P	15 11 03.2	-0.1
BWH	Wardlaw	85.79	339	eP	P	15 11 03.5	+0.2
SWS	Schriesheim	85.83	329	eP	P	15 11 03.5	-0.1
BDL	Dobcross Hall	85.89	338	eP	P	15 11 04.1	+0.4
QSH	Qafa e Shtames	85.91	318	i p	P	15 11 04.6	+0.4
PV10	Paradox Valley	85.92	46	eP	P	15 11 05.2	+0.9
CEY	Cerknica	85.92	324	eP	P	15 11 03.3	-0.8
SANT	Santorini	85.92	311	eP	P	15 11 02.5	-1.8
	comp=Z,723nm,1.4s,mb6.7						
PMOR	Pomariorio Ree	85.95	111	eP	P	15 11 05.3	+0.4
	comp=Z,287nm,1.5s,mb6.3						
BUM	Brajici-Budva	85.95	319	⇑iP	P	15 11 04.7	+0.3
PTCC	Patocco-Chiusa	85.97	325	eP	P	15 11 02.8	-1.6
VOY	Vojsko	85.97	324	eP	P	15 11 02.6	-1.8
VOY				e		15 11 04.4	
ULC	Ulcinj	85.98	319	⇑iP	P	15 11 05.4	+0.8
JAVS	Javornik	85.99	324	⇑eP	P	15 11 03.4	-1.0
JAVS				ePcP	PcP	15 11 06.5	-1.0
HGN	Heimansgroeve	86.00	331	eP	P	15 11 04.0	-0.4
	comp=Z,197nm,1.2s,mb6.2						
HGN				ex	x	15 11 14.2	
HGN	Heimansgroeve	86.00	331	eS	S	15 21 33.4	-1.1
ROBS	Robic	86.01	325	⇑eP	P	15 11 02.9	-1.6
ABH	Alteburg	86.02	330	eP	P	15 11 04.6	+0.1
BBO1	Bothel	86.04	338	⇑eP	P	15 11 04.5	0.0
TIR	Tirane	86.05	318	ep	P	15 11 06.4	+1.5
HCY	Herceg Novi	86.07	319	⇑iP	P	15 11 04.9	-0.1
FVI	Forni Avoltri	86.11	325	eP	P	15 11 04.5	-0.5
GMNA	Gemona	86.12	325	eP	P	15 11 04.7	-0.4
PPT	Papeete	86.14	114	eSS	SS	15 27 14.7	-4.4
PPT				eL		15 33 45.5	
PPT				eR		15 39 52.9	
	comp=Z,5µm,21.5s,baz=296						
STU	Stuttgart	86.15	328	P	P	15 11 05.5	+0.3
STU				pmax	pmax		
	comp=Z,420nm,1.3s,mb6.5						
STU	Stuttgart	86.15	328	eP	P	15 11 04.9	-0.3
	comp=Z,419nm,1.4s,mb6.5						
WTTA	Wattenberg	86.16	326	⇑iP	P	15 11 05.3	0.0
	comp=Z,3µm,4.2s						
HPK	Haverah Park	86.18	337	⇑eP	P	15 11 05.0	-0.1
PAE	Paea	86.20	114	eP	P	15 11 06.6	+0.5
	comp=Z,199nm,1.4s,mb6.2						
KTD	Kalmit	86.22	329	eP	P	15 11 05.1	-0.4
STON	Ston	86.22	320	⇑iP	P	15 11 04.6	-1.1
TRI	Trieste	86.27	324	⇓iP	P	15 11 05.9	+0.1
WUAZ	Wupatki	86.27	50	⇑iP	P	15 11 06.5	+0.4
	comp=Z,246nm,1.5s,mb6.2						
CSF	Scaffel	86.28	338	⇑eP	P	15 11 06.3	+0.6
LDU	Leeds Universi	86.28	337	eP	P	15 11 05.3	-0.5
TIAR	Tiarei	86.32	114	eP	P	15 11 07.3	+0.6
	comp=Z,278nm,1.4s,mb6.3						
BUCH	Bad Urach	86.32	328	eP	P	15 11 05.9	-0.1
MOTA	Moosalm	86.35	327	⇑iP	P	15 11 06.2	0.0
	comp=Z,216nm,1.7s,mb6.1						
PV01	Paradox Valley	86.35	46	eP	P	15 11 07.6	+1.2
RUP	Ruppelstein	86.36	330	eP	P	15 11 06.2	0.0
CDU1	Dunnerdale	86.36	338	⇑eP	P	15 11 05.6	-0.4
SQTA	Sankt Quirin	86.39	326	⇑iP	P	15 11 06.1	-0.3
	comp=Z,226nm,1.6s,mb6.2						
LBG	Lerchenberg	86.40	329	eP	P	15 11 06.3	-0.1
TVO	Taravao	86.52	114	eP	P	15 11 08.4	+0.7
	comp=Z,178nm,1.2s,mb6.2						
NVLJ	Novalja	86.52	323	⇑iP	P	15 11 05.8	-1.4
UBR	Uberruh	86.56	327	eP	P	15 11 06.7	-0.5
LANF	Langenberg	86.59	329	eP	P	15 11 07.4	0.0
LHO	Holmfirth	86.60	337	⇑eP	P	15 11 06.8	-0.4
GUT	Gutenstein	86.71	328	eP	P	15 11 07.1	-0.8
KBI1	Birley Grange	86.73	337	⇑eP	P	15 11 07.4	-0.5
WLF	Walferdange	86.76	331	P	P	15 11 08.4	+0.2
WLF				pmax	pmax		
	comp=Z,480nm,1.5s,mb6.5						
WLF	Walferdange	86.76	331	⇑eP	P	15 11 08.2	+0.1
	comp=Z,482nm,1.5s,mb6.5						
SPAK	Spaichingen	86.83	328	eP	P	15 11 08.1	-0.4
BFO	Black Forest	86.86	329	eP	P	15 11 08.2	-0.5
BFO				e*PP	pP	15 11 18.4	-0.1
BFO				pmax	pmax		
	comp=Z,401nm,1.5s,mb6.4						
BFO	Black Forest	86.86	329	eP	P	15 11 08.2	-0.5
	comp=Z,401nm,1.5s,mb6.4						
BFO				epP	pP	15 11 18.4	-0.1
STR	Strasbourg	86.91	329	eP	P	15 11 09.0	+0.1
DAVA	Damuels	86.95	327	⇑iP	P	15 11 09.1	-0.1
	comp=Z,1µm,2.0s,mb6.7						
GIVF	Givet	86.96	332	eP	P	15 11 09.4	+0.3
	comp=Z,674nm,1.5s,mb6.3						
WIM	Isle of Man	86.98	339	⇑eP	P	15 11 09.8	+0.7
WIM				AMb	AMB	15 11 12.2	
	comp=Z,308nm,1.5s,mb6.3						
ISCO	Idaho Springs	87.01	43	P	P	15 11 11.1	+1.5
ISCO				pmax	pmax		
	comp=Z,440nm,2.1s,mb6.3						
ISCO	Idaho Springs	87.01	43	eP	P	15 11 10.2	+0.6
	comp=Z,439nm,2.1s,mb6.3						
ISCO				LR	LR		
	comp=Z,4µm,20.0s,MS5.8						
KWE	Weaver Farm	87.03	337	⇑eP	P	15 11 08.8	-0.6
CTI	Castel Tesino	87.04	325	eP	P	15 11 09.5	-0.1
KAMOR	Kamor	87.13	327	⇑iP	P	15 11 09.7	-0.3
	comp=Z,542nm,1.7s,mb6.5						
SLE	Schleitheim	87.21	328	⇑eP	P	15 11 09.2	-1.2
	comp=Z,387nm,1.8s,mb6.3						
WLS	Welschbruch	87.22	329	eP	P	15 11 10.7	+0.3
BAIF	Baives	87.24	332	eP	P	15 11 10.9	+0.4
	comp=Z,318nm,1.4s,mb6.1						
CDF	Champ du Feu	87.25	329	eP	P	15 11 11.3	+0.7
	comp=Z,862nm,1.7s,mb6.4						
FUORN	Ofenpass	87.27	327	⇑iP	P	15 11 10.9	+0.2
	comp=Z,718nm,1.5s,mb6.7						
WILA	Wila	87.30	328	⇑eP	P	15 11 10.2	-0.6
	comp=Z,488nm,1.9s,mb6.4						
LIBD	Limburg	87.31	329	eP	P	15 11 10.7	-0.2
KIZ	Kirchzarten	87.32	329	eP	P	15 11 10.4	-0.5
BRMO	Bormio	87.33	326	⇓iP	P	15 11 12.0	+1.1
DAVOX	Davos	87.33	327	⇑iP	P	15 11 10.8	-0.2
	comp=Z,307nm,1.5s,mb6.3						
FELD	Feldberg	87.35	329	eP	P	15 11 10.5	-0.5
PLONS	Plons	87.36	327	⇑iP	P	15 11 10.6	-0.5
	comp=Z,520nm,1.9s,mb6.4						
ECH	Echery	87.45	329	eP	P	15 11 11.6	+0.1
WPM1	Penmaenmawr	87.50	338	⇑eP	P	15 11 12.3	+0.7
WPM1				AMb	AMB	15 11 14.8	
	comp=Z,476nm,1.5s,mb6.5						
WME	Myndd Eilian	87.51	338	⇑eP	P	15 11 12.2	+0.6
WME				AMb	AMB	15 11 14.8	
	comp=Z,378nm,1.5s,mb6.4						
BERNI	Berninapass	87.54	327	⇑eP	P	15 11 12.1	+0.1
	comp=Z,502nm,1.6s,mb6.5						
SULZ	Sulz-Cheisache	87.56	328	⇑eP	P	15 11 11.4	-0.7
	comp=Z,453nm,1.5s,mb6.5						
MABI	Malga Bissina	87.57	326	eP	P	15 11 11.2	-1.0
WCB1	Church Bay	87.60	338	⇑eP	P	15 11 11.6	-0.5
WCB1				AMb	AMB	15 11 15.1	
	comp=Z,298nm,1.6s,mb6.3						
WLF1	Llynfaes	87.63	338	⇑eP	P	15 11 12.9	+0.6
WLF1				AMb	AMB	15 11 15.3	
	comp=Z,389nm,1.5s,mb6.4						
LLS	Linth-Limmern	87.68	327	⇑iP	P	15 11 12.2	-0.4
	comp=Z,417nm,2.5s,mb6.2						
YLL	Llanberis	87.69	338	⇑eP	P	15 11 13.3	+0.8
YLL				AMb	AMB	15 11 15.6	
	comp=Z,362nm,1.5s,mb6.4						
YRC	Rhoscolyn	87.72	338	⇑eP	P	15 11 13.0	+0.3
YRC				AMb	AMB	15 11 15.6	
	comp=Z,262nm,1.6s,mb6.2						
VDL	Val di Lei	87.74	327	⇑iP	P	15 11 12.9	0.0
	comp=Z,449nm,2.0s,mb6.4						
MOF	Molkenrain	87.74	329	eP	P	15 11 12.5	-0.4
GVD	Gavdhos	87.75	311	eP	P	15 11 13.4	+0.1
	comp=Z,199nm,1.1s,mb6.3						
MUO	Muotathal	87.75	328	⇑eP	P	15 11 12.7	-0.3
	comp=Z,538nm,1.6s,mb6.5						
HLM1	Long Mynd	87.80	337	⇑eP	P	15 11 12.9	-0.1
BBS	Basel-Blauen	87.88	328	eP	P	15 11 12.8	-0.8
HINF	Hinteralfeld	87.89	329	eP	P	15 11 13.7	+0.1
	comp=Z,126nm,1.2s,mb5.7						
BALST	Balsthal	87.89	328	⇑iP	P	15 11 13.0	-0.7
	comp=Z,397nm,1.6s,mb6.4						
SAL	Salo	87.90	326	eP	P	15 11 14.2	+0.4
YRE	Yr Eifl	87.90	338	⇑eP	P	15 11 13.7	+0.1
YRE				AMb	AMB	15 11 16.7	
	comp=Z,448nm,1.7s,mb6.4						
BNALP	Bannalp	87.92	328	⇑iP	P	15 11 13.4	-0.4
	comp=Z,353nm,1.5s,mb6.4						
THEF	They Montfort	87.94	330	eP	P	15 11 13.7	-0.2
SSP1	Stoney Pound	87.96	337	⇑eP	P	15 11 13.9	0.0
HAU	Haudompre	87.96	329	eP	P	15 11 14.3	+0.3
	comp=Z,444nm,1.8s,mb6.1						
HAU				eR			
	comp=Z,24µm,17.2s						
BOURR	Bourrignon	88.05	329	⇑eP	P	15 11 13.9	-0.5
	comp=Z,416nm,2.0s,mb6.3						
HAE	Alders End	88.09	336	⇑eP	P	15 11 14.4	-0.1
HAE				AMb	AMB	15 11 17.5	
	comp=Z,755nm,1.4s,mb6.7						
MEZF	Maizieres J’vi	88.12	330	eP	P	15 11 15.3	+0.6
	comp=Z,1µm,1.9s,mb6.5						
FUSIO	Fusio	88.13	327	⇑iP	P	15 11 14.6	-0.2
	comp=Z,328nm,1.5s,mb6.3						
HASLI	Hasliberg	88.13	328	⇑iP	P	15 11 14.3	-0.5
	comp=Z,485nm,1.6s,mb6.5						
RGNG	Rignano Grg	88.18	320	eP	P	15 11 15.5	+0.3
RSM	Repubblica di	88.19	324	eP	P	15 11 16.7	+1.5
FSSB	Fossombrone	88.20	323	eP	P	15 11 16.2	+1.0
CING	Cingoli	88.22	323	eP	P	15 11 14.8	-0.5
ARV	Arcevia	88.26	323	eP	P	15 11 15.9	+0.4
LOMF	Lomont	88.26	329	eP	P	15 11 15.1	-0.3
DSB	Dublin	88.27	339	⇑eP	P	15 11 14.8	-0.5
MCH1	Michaelchurch	88.28	337	⇑eP	P	15 11 15.3	-0.1
HTR	Trewern Hill	88.30	337	⇑eP	P	15 11 15.4	-0.1
HTR				AMb	AMB	15 11 18.6	
	comp=Z,510nm,1.5s,mb6.5						
MUGIO	Muggio	88.36	327	⇑iP	P	15 11 14.5	-1.4
	comp=Z,327nm,1.5s,mb6.3						
WIMIS	Wimmis	88.44	328	⇑eP	P	15 11 15.4	-0.9
	comp=Z,265nm,1.5s,mb6.2						
SDCO	Great Sand Dun	88.44	45	⇓eP	P	15 11 17.2	+0.6
	comp=Z,422nm,2.0s,mb6.3						
SDCO				LR	LR		
	comp=Z,5µm,21.0s,MS5.9						
DCN	Croghan	88.45	340	⇑iP	P	15 11 17.1	+0.9
DCN	Croghan	88.45	340	⇑iP	P	15 11 26.6	+10
SFI	Santa Sofia	88.51	324	eP	P	15 11 18.3	+1.6
HGH	Gray Hill	88.52	336	⇑eP	P	15 11 16.1	-0.4
HGH				AMb	AMB	15 11 19.2	
	comp=Z,267nm,1.5s,mb6.3						
VAI	Varese	88.52	327	eP	P	15 11 15.8	-1.0
TERO	Teramo	88.55	322	eP	P	15 11 16.5	-0.4
FG4	Candela	88.59	320	eP	P	15 11 17.9	+0.7
PGD	Poggio Sodo	88.59	324	eP	P	15 11 18.1	+0.9
ZCCA	Zocca	88.61	325	eP	P	15 11 18.4	+1.3
VMG	Vicchio	88.62	324	eP	P	15 11 18.7	+1.4
MURB	Monte Urbino	88.64	323	eP	P	15 11 16.1	-1.2
SEI	Scarperia	88.64	324	eP	P	15 11 18.9	+1.6
LKBD	Leukerbad	88.65	328	⇑iP	P	15 11 16.8	-0.5
	comp=Z,317nm,2.5s,mb6.2						
TORNY	Torny	88.65	328	⇑iP	P	15 11 16.8	-0.5
	comp=Z,465nm,2.2s,mb6.4						
NRCA	Norcia	88.65	322	eP	P	15 11 17.9	+0.5
TUC	Tucson	88.65	52	P	P	15 11 17.8	+0.2
TUC				PP	PP	15 14 45.2	-3.5
TUC	Tucson	88.65	52	P	P	15 11 17.9	+0.2
TUC				pmax	pmax		
	comp=Z,550nm,2.7s,mb6.4						
TUC	Tucson	88.65	52	⇑iP	P	15 11 17.7	+0.1
	comp=Z,554nm,2.7s,mb6.4						
TUC				ePP	PP	15 14 44.8	-3.9
TUC				LR	LR		
	comp=Z,4µm,21.0s,MS5.8						
CRE	Caprese Michel	88.67	324	eP	P	15 11 18.5	+1.0
FNVD	Fontana Vidola	88.67	324	eP	P	15 11 17.8	+0.3
ASS	Assisi	88.72	323	eP	P	15 11 18.0	+0.3
BRANT	Les Verrieres	88.73	329	⇑iP	P	15 11 17.1	-0.6
	comp=Z,404nm,2.1s,mb6.4						
MMK	Mattmark	88.75	327	⇑eP	P	15 11 17.6	-0.2
	comp=Z,520nm,2.2s,mb6.5						
GSCL	Gusciola	88.80	325	eP	P	15 11 19.0	+0.9
MCGN	Macugnaga	88.81	327	eP	P	15 11 17.7	-0.4
CII	Carovilli	88.82	321	eP	P	15 11 18.3	0.0
	comp=Z,168nm,1.3s,mb6.2						
INTR	Introdacqua	88.83	321	eP	P	15 11 17.2	-1.1
ORI	Oriolo Calabro	88.83	319	eP	P	15 11 19.4	+1.0
ERBM	Eremo	88.83	325	eP	P	15 11 18.6	+0.4
AQU	L’Aquila	88.85	322	P	P	15 11 19.7	+1.3
AQU				pmax	pmax		
	comp=Z,350nm,1.3s,mb6.5						
AQU	L’Aquila	88.85	322	eP	P	15 11 18.4	+0.1
	comp=Z,348nm,1.4s,mb6.5						
MRLC	Muro Lucano	88.87	320	eP	P	15 11 18.6	+0.1
MRB1	Monte Rocchett	88.89	320	eP	P	15 11 18.4	-0.2
HPE	Pembroke	88.91	338	⇑eP	P	15 11 17.6	-0.9
GRAM		88.95	325	P	P	15 11 18.9	+0.1
VALM		88.97	325	P	P	15 11 18.8	-0.1
DIX	Grande Dixence	88.98	328	⇑eP	P	15 11 18.7	-0.2
	comp=Z,343nm,2.2s,mb6.3						
AIGLE	Aigle	88.98	328	⇑iP	P	15 11 18.0	-0.9
	comp=Z,328nm,1.7s,mb6.4						
GRYON	Gryon	88.98	328	⇑iP	P	15 11 18.2	-0.7
	comp=Z,249nm,1.6s,mb6.3						
BDI	Bagni Di Lucca	89.01	325	eP	P	15 11 18.5	-0.6
SGG	Gregorio Mates	89.02	321	eP	P	15 11 18.9	-0.4
VLC	Villacollemand	89.04	325	eP	P	15 11 18.2	-1.1
	comp=Z,215nm,1.5s,mb6.3						
PTQR	Pietraquaria	89.08	322	eP	P	15 11 20.2	+0.7
BACM		89.10	325	P	P	15 11 19.4	-0.1
CSNT	Castellina Chi	89.10	324	eP	P	15 11 19.1	-0.5
SGO	Sicignano	89.11	320	eP	P	15 11 19.6	0.0
OG01	Vacheresse	89.11	328	eP	P	15 11 19.6	+0.1
CODM		89.12	325	P	P	15 11 19.6	-0.1
SALAN	Lac Salanfe	89.12	328	⇑iP	P	15 11 18.9	-0.7
	comp=Z,343nm,2.7s,mb6.2						
GIMEL	Gimel	89.14	329	⇑iP	P	15 11 19.3	-0.3
	comp=Z,394nm,2.8s,mb6.2						
CABF	La Chapelle	89.16	329	eP	P	15 11 20.0	+0.3
	comp=Z,293nm,1.6s,mb6.1						
VINC	Vinca	89.17	325	P	P	15 11 19.3	-0.5
MAIM		89.17	325	P	P	15 11 19.2	-0.7
MNS	Montasola	89.19	322	eP	P	15 11 19.8	-0.3
EMV	Vieux Emosson	89.22	328	⇑iP	P	15 11 19.4	-0.6
	comp=Z,401nm,2.6s,mb6.3						
TRAV		89.26	327	P	P	15 11 20.4	+0.1
TIP	Timpagrande	89.27	318	eP	P	15 11 20.1	-0.3
TIP				ePP	PP	15 14 51.5	-2.0
HEX	Exmoor	89.33	337	⇑eP	P	15 11 19.8	-0.6
CERT	Cerreto	89.35	322	eP	P	15 11 19.5	-1.3
GRFL	Gerfalco	89.50	324	eP	P	15 11 21.5	+0.1
LSD	Ceresole Reale	89.57	327	P	P	15 11 22.4	+0.6
LOR	Lormes	89.59	330	eP	P	15 11 21.9	+0.2
	comp=Z,288nm,1.4s,mb6.1						
LOR				eR			
	comp=Z,33µm,18.5s						
PCP	Pian Castagno	89.63	326	P	P	15 11 20.9	-1.1
LAZ	Ladron	89.65	48	eP	P	15 11 23.2	+0.9
TBI	Tubuai	89.65	118	eSS	SS	15 28 01.3	-8.5
TBI				eL		15 34 50.4	
TBI				eR		15 40 48.2	
	comp=Z,7µm,22.2s,baz=299						
ANMO	Albuquerque	89.71	47	P	P	15 11 24.3	+1.7
ANMO				pmax	pmax		
	comp=Z,220nm,2.4s						
ANMO	Albuquerque	89.71	47	eP	P	15 11 23.2	+0.5
	comp=Z,218nm,2.5s,mb6.0						
ANMO				LR	LR		
	comp=Z,3µm,19.0s,MS5.7						
LPL	La Plagne	89.72	328	eP	P	15 11 23.1	+0.7
	comp=Z,291nm,1.2s,mb6.2						
LPG	La Plagne	89.72	328	eP	P	15 11 23.1	+0.7
	comp=Z,498nm,1.4s,mb6.4						
RSP	Reno Superiore	89.76	327	P	P	15 11 21.3	-1.3
TOLF	Tolfa	89.78	323	eP	P	15 11 21.3	-1.5
OG05	Jujurieux	89.87	329	eP	P	15 11 23.3	+0.2
SSF	Saint Saulge	89.90	330	eP	P	15 11 23.5	+0.3
	comp=Z,177nm,1.3s,mb5.9						
LENM	Lemitar	89.91	48	eP	P	15 11 24.4	+0.8
SCHQ	Schefferville	89.92	14	P	P	15 11 23.1	0.0
	comp=Z,65nm,1.1s,mb5.9,baz=351,slow=5.5,SNR=14						
SCHQ				LR	LR	15 55 22.4	
	comp=Z,6µm,18.3s,MS6.0,baz=330,slow=38						
FENE	Fenestrelle	89.94	327	P	P	15 11 22.9	-0.6
BHB	Bricherasio	89.99	327	P	P	15 11 22.2	-1.5
FIN	Finale Ligure	90.04	326	⇓iP	P	15 11 23.4	-0.5
SBD	Saint Breward	90.05	337	eP	P	15 11 12.5	-11
HYF	Humbligny	90.09	331	eP	P	15 11 24.8	+0.7
SMF	Signal de Mont	90.09	330	eP	P	15 11 24.3	+0.2
	comp=Z,503nm,1.5s,mb6.3						
FLN	La Foliniere	90.09	334	eP	P	15 11 24.4	+0.4
	comp=Z,614nm,1.6s,mb6.4						
FLN				eR			
	comp=Z,18µm,18.8s						
LDF	La Druitiere	90.09	333	eP	P	15 11 24.4	+0.3
	comp=Z,680nm,1.6s,mb6.4						
BNI	Bardonecchia	90.10	327	P	P	15 11 24.8	+0.6
BNI				pmax	pmax		
	comp=Z,190nm,1.4s,mb6.2						
BNI	Bardonecchia	90.10	327	⇑eP	P	15 11 23.6	-0.6
	comp=Z,190nm,1.4s,mb6.2						
BNI				ePP	PP	15 15 00.1	+0.2
ROB	Roburent	90.13	326	P	P	15 11 23.4	-0.9
BNM	Barren Site	90.13	48	eP	P	15 11 25.7	+1.1
BNM				ePP	PP	15 14 55.8	-4.8
RRL	Cesana Torines	90.15	327	P	P	15 11 24.5	0.0
AVF	Avril sur Loir	90.18	330	eP	P	15 11 24.7	+0.2
	comp=Z,563nm,1.4s,mb6.4						
RORO		90.18	326	P	P	15 11 23.7	-0.9
GDM	Grand’Maison	90.23	328	eP	P	15 11 24.9	+0.1
MBDF	Montbardon	90.31	327	eP	P	15 11 24.8	-0.3
	comp=Z,186nm,1.1s,mb6.0						
PZZ	Prazzo	90.33	327	P	P	15 11 23.9	-1.3
MONE	Monesi	90.35	326	P	P	15 11 24.3	-1.0
GRN	Grenoble	90.37	328	eP	P	15 11 25.8	+0.4
ENR	Entracque	90.39	326	P	P	15 11 23.5	-2.0
IMI	Imperia	90.41	326	⇓iP	P	15 11 25.6	0.0
STV2	Anna di Valdie	90.42	327	P	P	15 11 23.8	-1.9
STV	Sta Anna Valdi	90.42	327	P	P	15 11 23.7	-2.0
SOI	Samo	90.43	318	eP	P	15 11 26.6	+0.7
SURF	Saint Ours	90.48	327	eP	P	15 11 25.3	-0.6
GRR	Gorron	90.54	334	eP	P	15 11 26.6	+0.5
	comp=Z,864nm,1.5s,mb6.6						
VAL	Valentia	90.55	341	⇑iP	P	15 11 26.5	+0.4
VAL				ePP	PP	15 15 06.6	+3.2
VAL				eSS	SS	15 28 33.9	+12
NEGI	Negi	90.55	326	P	P	15 11 25.4	-0.9
ORIF	Oris-en-Rattie	90.56	328	eP	P	15 11 26.8	+0.5
	comp=Z,359nm,1.4s,mb6.2						
ORIF				eR			
	comp=Z,37µm,17.8s						
BGF	Bois d’Agland	90.57	330	eP	P	15 11 26.8	+0.5
	comp=Z,305nm,1.4s,mb6.1						
SBF	Sospel	90.66	326	eP	P	15 11 26.2	-0.6
	comp=Z,436nm,1.4s,mb6.3						
MTTG	Motta San Giov	90.68	318	eP	P	15 11 27.6	+0.5
AGO	Saint Agoulin	90.86	330	eP	P	15 11 28.3	+0.7
PGF	Pioggiola	90.91	324	eP	P	15 11 27.8	-0.2
	comp=Z,257nm,1.5s,mb6.0						
CBKS	Cedar Bluff	90.99	41	PFAKE		15 11 40.0	+12

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CBKS                                LR        LR
      comp=Z,5µm,21.0s,MS5.9
TCF   Toulx Ste Croi    91.05 331  eP        P          15 11 29.3 +0.8
      comp=Z,452nm,1.4s,mb6.3
OCF   Saint Nazaire     91.08 328  eP        P          15 11 29.1 +0.4
OG26  St.-Nazaire-De    91.08 328  eP        P          15 11 29.1 +0.4
VIVF  Saint-Julien-l    91.14 328  eP        P          15 11 29.4 +0.4
      comp=Z,529nm,1.4s,mb6.4
PYM   Petit Puy Mans    91.15 330  eP        P          15 11 29.7 +0.7
FRF   La Foret Royal    91.26 326  eP        P          15 11 29.2 -0.4
      comp=Z,330nm,1.4s,mb6.2
SGMF  Saint Gilles      91.28 334  eP        P          15 11 30.2 +0.7
      comp=Z,882nm,1.5s,mb6.6
MNO   Monte Soro        91.29 318  eP        P          15 11 30.1 +0.3
VERF  Verneugheol       91.37 330  eP        P          15 11 30.2 +0.2
SMRF  Simiane la Rot    91.43 327  eP        P          15 11 30.7 +0.4
      comp=Z,263nm,1.4s,mb6.1
VILF  Villemus          91.46 327  eP        P          15 11 31.2 +0.7
LBL   Lubilhac          91.46 329  eP        P          15 11 31.1 +0.6
ROSF  Rostrenen         91.47 335  eP        P          15 11 31.2 +0.8
      comp=Z,833nm,1.4s,mb6.6
AGST  Augusta-Monte     91.47 317  eP        P          15 11 31.2 +0.5
TAVF  Tavernes          91.49 327  eP        P          15 11 30.9 +0.3
LMR   La Mourre         91.50 326  eP        P          15 11 30.6 -0.1
      comp=Z,609nm,1.6s,mb6.4
SSY   Sortino           91.63 317  eP        P          15 11 30.8 -0.6
MFF   Saint Martin d    91.74 332  eP        P          15 11 32.5 +0.8
      comp=Z,662nm,1.3s,mb6.5
PRAF  Pradon            91.75 327  eP        P          15 11 32.8 +1.0
VAE   Valguarnera       91.77 318   LR       LR         15 58 34.3
      comp=Z,16µm,18.8s,MS6.5,baz=180,slow=39
QUIF  Quistinic         91.78 335  eP        P          15 11 32.4 +0.6
      comp=Z,533nm,1.4s,mb6.4
TREF  Trevaresse        91.79 327  eP        P          15 11 32.8 +0.8
BERF  Bertagne          91.89 327  eP        P          15 11 32.8 +0.3
GELF  Grande-Etoile     91.96 327  eP        P          15 11 33.0 +0.2
LASF  Ste Croix         92.12 328  eP        P          15 11 34.1 +0.6
      comp=Z,481nm,1.5s,mb6.3
RJF   Les Rejaudoux     92.13 330  eP        P          15 11 34.3 +0.8
      comp=Z,874nm,1.4s,mb6.6
RJF                                eR
      comp=Z,23µm,19.8s
CAF   Calviac           92.21 330  eP        P          15 11 35.0 +1.1
      comp=Z,728nm,1.5s,mb6.5
LVI   Isola Levanzo     92.56 320  eP        P          15 11 35.9 +0.3
CPRX  Cap Rock          92.59  47  eP        P          15 11 36.5 +0.5
JFWS  Jewell Farm       92.69  33   P        P          15 11 37.0 +0.8
JFWS                                pmax     pmax
      comp=Z,200nm,1.8s,mb6.2
JFWS  Jewell Farm       92.69  33  eP        P          15 11 35.7 -0.5
      comp=Z,200nm,1.8s,mb6.2
JFWS                                LR       LR
      comp=Z,6µm,20.0s,MS6.0
LFF   La Frestale       92.75 331  eP        P          15 11 37.3 +0.9
      comp=Z,885nm,1.4s,mb6.7
GDL2  Guadalupe Moun    92.85  48  eP        P          15 11 38.1 +1.0
MTLF  Montolieu         93.42 329  eP        P          15 11 40.2 +0.7
      comp=Z,383nm,1.7s,mb6.2
PTS   Pantelleria       93.60 319  eP        P          15 11 41.0 +0.5
EJON  La Jonquera       93.84 328   P        P          15 11 40.5 -0.9
      comp=Z,380nm,3.2s
LPEF  Le Peyrat         93.87 329  eP        P          15 11 41.7 +0.1
FILF  Fillols           93.90 328  eP        P          15 11 41.6 -0.1
MLS   Moulis            94.22 329  eP        P          15 11 43.5 +0.3
VALF  Valcebollere      94.26 328  eP        P          15 11 43.9 +0.5
WMOK  Wichita Mounta    94.44  43   P        P          15 11 45.2 +0.8
WMOK                                pmax     pmax
      comp=Z,180nm,1.8s,mb6.2
WMOK  Wichita Mounta    94.44  43  eP        P          15 11 44.8 +0.4
      comp=Z,216nm,1.8s,mb6.3
WMOK                                LR       LR
      comp=Z,5µm,20.0s,MS6.0
EPF   Esparros          94.48 330  eP        P          15 11 44.5 +0.1
      comp=Z,239nm,1.6s,mb6.1
RESF  Ens               94.66 330  eP        P          15 11 46.4 +1.2
VIEF  Viey              94.73 330  eP        P          15 11 45.9 +0.4
REYF  Montagne du Re    94.75 330  eP        P          15 11 46.6 +1.0
ORDF  Ordiarp           94.86 331  eP        P          15 11 46.1  0.0
EMIR  Miracle           94.87 328   P        P          15 11 45.9 -0.4
      comp=Z,581nm,2.7s,mb6.5
ETSF  Etsaut            94.96 330  eP        P          15 11 47.9 +1.3
      comp=Z,490nm,1.9s,mb6.3
SJPF  Ste Jean          95.06 331  eP        P          15 11 47.9 +0.9
      comp=Z,117nm,1.4s,mb5.8
EALK  Alkurruntz        95.08 331   P        P          15 11 47.4 +0.2
      comp=Z,410nm,1.8s,mb6.6
LTX   Lajitas           95.22  50   P        P          15 11 48.7 +0.6
LTX                                 pmax     pmax
      comp=Z,170nm,1.3s,mb6.3
LTX   Lajitas           95.22  50  eP        P          15 11 48.6 +0.5
      comp=Z,216nm,1.4s,mb6.4
LTX                                ePP       PP         15 15 37.4 -2.9
LTX                                 LR       LR
      comp=Z,3µm,20.0s,MS5.8
TXAR  Lajitas Array     95.22  50   P        P          15 11 48.4 +0.3
      comp=Z,35nm,0.9s,mb5.8,baz=297,slow=2.8,SNR=178
TXAR                                PP       PP         15 15 37.5 -2.9
      comp=Z,15nm,1.2s,baz=284,slow=5.2,SNR=5.9
TXAR                                PKKPbc              15 28 50.9
      comp=Z,0.3nm,0.3s,baz=124,slow=4.5,SNR=3.6
TXAR                                PKPPKP              15 36 54.6
      comp=Z,0.1nm,0.3s,baz=135,slow=3.5,SNR=3.5
EPOB  Poblet            95.52 328   P        P          15 11 48.5 -0.7
      comp=Z,44nm,1.3s,mb5.7
ELAN  Lanestosa         95.84 332   P        P          15 11 49.8 -0.9
      comp=Z,533nm,2.8s,mb6.5
ESAC  San Caprasio      95.89 330   P        P          15 11 50.6 -0.3
      comp=Z,392nm,1.6s,mb6.6
CCM   Cathedral Cave    96.01  36   P        P          15 11 51.3 -0.2
CCM                                 pmax     pmax
      comp=Z,120nm,1.5s,mb6.1
CCM   Cathedral Cave    96.01  36  eP        P          15 11 51.0 -0.5
      comp=Z,118nm,1.5s,mb6.1
CCM                                 LR       LR
      comp=Z,1µm,19.0s,MS5.4
FVM   French Village    96.47  36   P        P          15 11 53.6  0.0
FVM                                e         pP         15 12 03.4  0.0
FVM   French Village    96.47  36  eP        P          15 11 52.8 -0.8
JCT   Junction City     96.85  47   P        P          15 11 56.2 +0.7
JCT                                 pmax     pmax
      comp=Z,260nm,1.9s,mb6.3
JCT   Junction City     96.85  47  eP        P          15 11 55.2 -0.4
      comp=Z,262nm,1.9s,mb6.3
JCT                                 LR       LR
      comp=Z,2µm,20.0s,MS5.7
MSNY  Massena           96.91  22  eP        P          15 11 56.2 +0.8
EMOS  Mosqueruela       97.01 329   P        P          15 11 54.4 -1.6
      comp=Z,574nm,3.3s
EPON  Pontenova         97.16 335   P        P          15 11 54.0 -2.6
      comp=Z,177nm,2.1s,mb6.1
ETOR  Torete            97.31 330   P        P          15 11 58.1 +0.8
      comp=Z,37nm,1.3s,mb5.7
PQI   Presque Isle      97.31  17   PFAKE               15 12 10.0  +13
PQI                                 LR       LR
      comp=Z,26µm,20.0s,MS6.7
MIAR  Mount Ida         97.48  40   PFAKE               15 12 10.0  +12
MIAR                                LR       LR
      comp=Z,4µm,22.0s,MS5.9
ERPA  Erie              97.64  27   PFAKE               15 12 10.0  +11
ERPA                                LR       LR
      comp=Z,6µm,22.0s,MS6.0
USIN  University of     97.82  34  eP        P          15 12 00.2 +0.5
GENY  Geneseo           97.88  25  eP        P          15 12 00.5 +0.7
ERUA  La Rua            97.97 334   P        P          15 11 59.8 -0.5
      comp=Z,32nm,1.2s,mb5.7
NCB   Newcomb           98.03  22   PFAKE               15 12 10.0  +10
NCB                                 LR       LR
      comp=Z,7µm,21.0s,MS6.2
ACSO  Alum Creek Sta    98.04  30   PFAKE               15 12 10.0 +9.4
ACSO                                LR       LR
      comp=Z,4µm,20.0s,MS6.0
ECAL  Calabor           98.21 334   P        P          15 11 59.6 -1.7
      comp=Z,214nm,2.2s,mb6.3
WCI   Wyandotte Cave    98.24  33   PFAKE               15 12 10.0 +8.4
WCI                                 LR       LR
      comp=Z,2µm,21.0s,MS5.5
PBRG  Braganca          98.33 334  ePdif     P          15 12 01.7 -0.2
PBRG                               ePP       PP         15 16 03.1 -1.5
WVL   Waterville        98.84  19  eP        P          15 12 05.3 +1.2
ETOB  Tobarra           98.90 328   P        P          15 12 03.2 -1.3
      comp=Z,171nm,2.3s,mb6.2
KMBO  Kilima Mbogo      98.93 275   P        P          15 12 06.3 +1.0
      comp=Z,10nm,1.1s,mb5.3,baz=34,slow=7.1,SNR=18
KMBO                                PP       PP         15 16 08.8 -0.7
      comp=Z,0.5nm,0.4s,baz=45,slow=11,SNR=4.8
KMBO  Kilima Mbogo      98.93 275  eP        P          15 12 05.0 -0.3
      comp=Z,19nm,1.0s,mb5.6
KMBO                                LR       LR
      comp=Z,5µm,20.0s,MS6.0
NATX  Nacogdoches       98.96  43   PFAKE               15 12 20.0  +15
NATX                                LR       LR
      comp=Z,4µm,20.0s,MS6.0
BINY  Binghamton        99.02  24   PFAKE               15 12 20.0  +15
BINY                                LR       LR
      comp=Z,7µm,20.0s,MS6.2
ESDC  Sonseca Array     99.06 331   P        P          15 12 04.9 -0.4
      comp=Z,0.5nm,0.4s,baz=29,slow=3.3,SNR=11
ESDC                                PP       PP         15 16 06.2 -3.6
      comp=Z,5.1nm,1.0s,baz=18,slow=7.0,SNR=4.2
ESDC                                PKKPbc              15 28 31.7
      comp=Z,0.5nm,0.5s,baz=201,slow=2.1,SNR=5.8
ESDC                                LR       LR         16 00 20.7
      comp=Z,8µm,21.9s,MS6.2,baz=45,slow=38
ESDC  Sonseca Array     99.06 331   P        P          15 12 05.7 +0.5
      comp=Z,1.2nm,0.6s
PVRL  Vila Real         99.15 334  ePdif     P          15 12 05.8 +0.2
PVRL                               ePP       PP         15 16 08.8 -1.7
WVT   Waverly           99.20  35   P        P          15 12 06.8 +0.8
WVT   Waverly           99.20  35  eP        P          15 12 05.2 -0.7
WVT                                 LR       LR
      comp=Z,5µm,21.0s,MS6.0
EMMW  East Machias      99.28  18  eP        P          15 12 07.8 +1.7
EMMW                                LR       LR
      comp=Z,27µm,20.0s,MS6.8
EVIA  Vianos            99.32 329   P        P          15 12 06.2 -0.2
      comp=Z,16nm,0.9s,mb5.6
DRV   Dumont d'Urvil    99.57 179   PP       PP         15 16 18.0 +4.8
OXF   Oxford            99.70  37   PFAKE               15 12 20.0  +12
OXF                                 LR       LR
      comp=Z,5µm,19.0s,MS6.1
PVIS  Viseu             99.70 334  ePdif     P          15 12 08.4 +0.2
SSPA  Standing Stone    99.71  26  eP        P          15 12 08.4 +0.2
      comp=Z,11nm,0.9s,mb5.3
SSPA                                LR       LR
      comp=Z,2µm,22.0s,MS5.5
MTE   Manteigas         99.85 333  ePdif     P          15 12 08.7 -0.1
MTE                                ePP       PP         15 16 06.4  -10
MTE                                eSS       SS         15 30 42.1 +8.7
MTE                                eLQ                  15 42 18.5
MTE                                eLR       LR         15 46 29.7
      comp=Z,11µm,18.8s
MTE   Manteigas         99.85 333  ePdif     P          15 12 09.5 +0.6
      comp=Z,30nm,1.4s,mb5.5
HRV   Harvard--Oak R   100.18  21   PFAKE               15 12 20.0  +10
HRV                                 LR       LR
      comp=Z,8µm,22.0s,MS6.2
EQES  Quesada          100.26 329   P        P          15 12 10.0 -0.8
      comp=Z,167nm,3.3s
PCBR  Castelo Branco   100.31 333  ePdif     P          15 12 10.5 -0.4
PCBR                               ePP       PP         15 16 16.1 -3.7
RKT   Rikitea          100.58 111  eSS       SS         15 30 43.6 -0.5
RKT                                eL                   15 39 12.3
RKT                                eR                   15 45 28.2
      comp=Z,5µm,29.2s
EADA  Adamuz           100.59 330   P        P          15 12 10.5 -1.8
      comp=Z,431nm,3.1s
PTOM  Tomar            100.85 334  ePdif     P          15 12 13.4  0.0
PTOM                               ePP       PP         15 16 21.6 -2.6
ELUQ  Luque            100.97 330   P        P          15 12 14.4 +0.4
      comp=Z,4.5nm,0.2s
EBAD  Badajoz          101.07 332   P        P          15 12 13.4 -1.0
      comp=Z,310nm,3.6s
CASY  Casey            101.25 191   PFAKE               15 12 30.0  +15
CASY                                LR       LR
      comp=Z,4µm,22.0s,MS5.9
EVO   Evora            101.65 333⇑iP        P          15 12 16.7 -0.3
      comp=Z,66nm,1.5s
EVO                                eR
      comp=Z,19µm,18.2s
BLA   Blacksburg       101.66  30   PFAKE               15 12 30.0  +13
BLA                                 LR       LR
      comp=Z,5µm,20.0s,MS6.0
EMIN  Mina Concepcio   101.79 331   P        P          15 12 16.9 -0.8
      comp=Z,148nm,4.0s
MYNC  Murphy           101.82  34   PFAKE               15 12 30.0  +12
MYNC                                LR       LR
      comp=Z,7µm,21.0s,MS6.2
LIS   Lisbon           101.92 334  eP        P          15 12 19.1 +0.9
LIS                                eSS       SS         15 31 09.5 +7.0
LIS                                eSS       SS         15 31 10.4 +8.0
LIS                                 AMS      AMS        16 05 06.4
      comp=E,15µm,15.0s
PBEJ  Beja             102.03 332  ePdif     Pdif       15 12 17.6 -1.1
PBEJ                               ePP       PP         15 16 28.4 -4.3
LRAL  Lakeview Retre   102.09  37   PFAKE               15 12 30.0  +11
LRAL                                LR       LR
      comp=Z,7µm,20.0s,MS6.2
ESPR  Espera           102.23 330   P        Pdif       15 12 18.7 -0.9
      comp=Z,766nm,5.7s
EGRO  El Granado       102.31 332   P        Pdif       15 12 19.3 -0.6
      comp=Z,131nm,2.1s
PALC  Alcoutim         102.37 332  ePdif     Pdif       15 12 19.9 -0.2
PTEO  Sao Teotonio     102.78 333  ePdif     Pdif       15 12 21.6 -0.4
MBAR  Mbarara          104.07 279  ePdif     Pdif       15 12 27.8 -0.4
      comp=Z,52nm,1.6s
MBAR                                LR       LR
      comp=Z,1µm,20.0s,MS5.4
NHSC  New Hope         105.25  32   PFAKE               15 17 00.0
NHSC                                LR       LR
      comp=Z,6µm,19.0s,MS6.2
PTCN  Pitcairn Islan   105.41 110   PFAKE               15 17 00.0
PTCN                                LR       LR
      comp=Z,5µm,19.0s,MS6.0
ADH   Angra Heroismo   107.06 347  eSS       SS         15 32 20.0 +7.5
ADH                                i LR      LR         15 49 35.0
PDA   Ponta Delgada    107.64 346  i PP      PP         15 17 18.0 +3.2
DWPF  Disney           108.86  36   PFAKE               15 17 10.0
DWPF                                LR       LR
      comp=Z,1µm,21.0s,MS5.5
BBSR  BB Station       111.60  20   PFAKE               15 17 10.0 +7.4
BBSR                                LR       LR
      comp=Z,3µm,20.0s,MS5.9
SBA   Scott Base       112.22 174   PFAKE               15 17 10.0 +7.2
SBA                                 LR       LR
      comp=Z,3µm,20.0s,MS5.9
LSZ   Lusaka           113.96 267   PFAKE               15 17 20.0  +12
LSZ                                 LR       LR
      comp=Z,6µm,21.0s,MS6.1
MAW   Mawson           114.61 204  ePKP      PKPdf      15 17 04.3 -3.4
      comp=Z,8.3nm,1.4s
MAW                                ePP       PP         15 18 01.6 -3.4
MAW   Mawson           114.61 204   PKP      PKPdf      15 17 04.1 -3.6
      comp=Z,9.5nm,1.1s,baz=44,slow=3.8,SNR=7.7
MAW                                 PP       PP         15 18 01.0 -4.0
      comp=Z,14nm,1.2s,baz=65,slow=9.6,SNR=4.8
MAW   Mawson           114.61 204   PKIKP    PKPdf      15 17 04.1 -3.6
MAW                                                     15 18 01.0
MAW                                 pmax     pmax
      comp=Z,10.0nm,1.1s
MAW                                 pmax     pmax
      comp=Z,14nm,1.2s
JTS   JuntasAbangare   121.01  50   PFAKE               15 17 30.0 +8.6
JTS                                 LR       LR
      comp=Z,516nm,19.0s,MS5.2
QSPA  South Pole Qui   122.95 180  ePKP      PKPdf      15 17 18.7 -4.9
QSPA                               e                    15 17 29.4
QSPA                               e                    15 18 58.5
QSPA                               e                    15 27 11.7
QSPA                               e                    15 30 49.6
QSPA                                LR       LR
      comp=Z,2µm,21.5s,MS5.8
SYO   Syowa Base       123.25 205 ⇑PKPdf    PKPdf      15 17 20.2 -4.2
SYO   Syowa Base       123.25 205 ⇓sPKPdf              15 17 29.6
SJG   San Juan         124.32  27   PP       PP         15 19 07.8 -4.9
      comp=Z,9.1nm,0.4s,baz=283,slow=21,SNR=3.4
SJG   San Juan         124.32  27   PFAKE               15 17 40.0  +12
SJG                                 LR       LR
      comp=Z,3µm,22.0s,MS5.9
TSUM  Tsumeb           124.72 269  ePKPdf    PKPdf      15 17 25.2 -3.3
TSUM                                LR       LR
      comp=Z,4µm,20.0s,MS6.1
PAYG  Puerto Ayora     124.97  64   PFAKE               15 17 40.0  +11
PAYG                                LR       LR
      comp=Z,2µm,20.0s,MS5.8
DBIC  Dimbokro         126.43 311   PKP      PKPdf      15 17 28.1 -3.8
      comp=Z,73nm,1.2s,baz=7.2,slow=1.5,SNR=21
DBIC                                PP       PP         15 19 23.1 -3.5
      comp=Z,18nm,1.0s,baz=17,slow=7.3,SNR=4.8
DBIC  Dimbokro         126.43 311   PKIKP    PKPdf      15 17 28.1 -3.8
DBIC                                                    15 19 23.1
DBIC                                pmax     pmax
      comp=Z,73nm,1.2s
DBIC                                pmax     pmax
      comp=Z,19nm,1.0s
TIC   Toumodi          126.55 311  ePKIKP    PKPdf      15 17 27.9 -4.2
      comp=Z,435nm,1.3s
KIC   Kosan Boka       126.59 310  ePKIKP    PKPdf      15 17 28.1 -4.1
      comp=Z,543nm,1.3s
LIC   Lamto            126.88 310  ePKIKP    PKPdf      15 17 28.7 -4.0
      comp=Z,277nm,1.3s
LIC   Lamto            126.88 310  ePKIKP    PKPdf      15 17 28.5 -4.2
      comp=Z,282nm,1.3s
SUR   Sutherland       127.27 252   PFAKE               15 17 40.0 +6.9
SUR                                 LR       LR
      comp=Z,904nm,19.0s,MS5.5
SDV   Santo Domingo    130.48  37  ePKPdf    PKPdf      15 17 35.9 -3.8
SDV                                 LR       LR
      comp=Z,5µm,21.0s,MS6.2
ROSC  El Rosal         131.79  44   PKP      PKPdf      15 17 39.7 -2.5
      comp=Z,44nm,1.1s,baz=280,slow=9.4,SNR=22
NVL   N'lazarevskaya   132.45 201⇑ePKIKP    PKPdf      15 17 36.0 -5.9
NVL                                 pmax     pmax
      comp=Z,874nm,3.7s
SNAA  Sanae            136.07 197⇑i         PKPdf      15 17 41.9 -6.7
SNAA  Sanae            136.07 197  ePKPpre              15 17 29.1
SNAA                              ⇑iP                   15 17 41.9
VNA2  Neumayer--Watz   137.67 196⇑i         PKPdf      15 17 42.0  -10
VNA2  Neumayer--Watz   137.67 196⇑i         PKPdf      15 17 47.5 -4.1
VNA2  Neumayer--Watz   137.67 196⇑i         PKPdf      15 17 51.5 -0.1
VNA2  Neumayer--Watz   137.67 196⇑iP        PKPdf      15 17 47.5 -4.1
VNA3  Neumayer Olymp   137.97 195⇑i         PKPdf      15 17 47.6 -4.5
VNA3  Neumayer Olymp   137.97 195⇑i         PKPdf      15 17 49.7 -2.4
VNA3  Neumayer Olymp   137.97 195⇑i         PKPdf      15 17 51.2 -0.9
NNA   Nana             142.41  64  ePKPpre              15 17 54.1
NNA                                 LR       LR
      comp=Z,717nm,21.0s,MS5.4
PMSA  Palmer Station   145.82 164   PKPdf    PKPdf      15 18 01.9 -4.0
PMSA  Palmer Station   145.82 164  ePKPdf    PKPdf      15 18 01.6 -4.3
PMSA                                LR       LR
      comp=Z,3µm,19.0s,MS6.0
SAML  Samuel           149.41  43  ePKPdf    PKPdf      15 18 09.9 -3.4
SAML                                LR       LR
      comp=Z,4µm,20.0s,MS6.2
LPAZ  La Paz           151.62  60   PKP      PKPdf      15 18 13.8 -2.7
      comp=Z,7.5nm,0.8s,baz=352,slow=4.6,SNR=30
LPAZ                                PKPbc    PKPdf      15 18 20.9 +4.3
      comp=Z,72nm,1.0s,baz=0.5,slow=6.0,SNR=73
LPAZ  La Paz           151.62  60   PKIKP    PKPdf      15 18 13.8 -2.8
LPAZ                                                    15 18 20.9
LPAZ                                pmax     pmax
      comp=Z,8.0nm,0.8s
LPAZ  La Paz           151.62  60   PKP      PKPdf      15 18 13.8 -2.7
LPAZ                                PKPbc    PKPdf      15 18 20.9 +4.3
RCBR  Riachuelo        152.02 345  ePKPdf    PKPdf      15 18 14.1 -3.2
RCBR                                LR       LR
      comp=Z,5µm,22.0s,MS6.3
LVC   Limon Verde      154.70  72  ePKPdf    PKPdf      15 18 18.7 -2.0
LVC                                 LR       LR
      comp=Z,4µm,21.0s,MS6.2
EFI   East Falkland    158.45 154   PFAKE               15 18 30.0 +5.2
EFI                                 LR       LR
      comp=Z,1µm,21.0s,MS5.8
BAO   Brasilia Array   161.90  16   P        PKPdf      15 18 27.3 -2.2
BAO                                e                    15 18 36.4
BAO                                i                    15 19 13.0
BAO                                e                    15 19 22.5
BAO                                e                    15 22 54.9
BDFB  Brasilia         161.90  16   PKP      PKPdf      15 18 26.0 -3.4
      comp=Z,20nm,1.1s,baz=345,slow=3.0,SNR=12
BDFB                                PKPab    PKPab      15 19 13.0 +0.4
      comp=Z,42nm,1.0s,baz=352,slow=3.0,SNR=14
BDFB                                PP       PP         15 22 55.0 -2.4
      comp=Z,36nm,1.2s,baz=342,slow=7.8,SNR=6.2
BDFB  Brasilia         161.90  16   PKIKP    PKPdf      15 18 26.0 -3.4
BDFB                                                    15 22 55.0
BDFB                                pmax     pmax
      comp=Z,36nm,1.2s
TRQA  Tornquist        163.68 113  ePKPdf    PKPdf      15 18 26.6 -4.1
TRQA                                LR       LR
      comp=Z,5µm,20.0s
CPUP  Villa Florida    165.66  65   PKP      PKPdf      15 18 28.9 -4.0
      comp=Z,21nm,1.2s,baz=26,slow=1.7,SNR=8.9
CPUP                                PKPab    PKPab      15 19 28.3 -0.5
      comp=Z,17nm,1.2s,baz=301,slow=4.3,SNR=4.8
CPUP                                PP       PP         15 23 16.2 -0.9
      comp=Z,13nm,1.4s,baz=2.3,slow=3.4,SNR=4.3
CPUP  Villa Florida    165.66  65   PKPdf    PKPdf      15 18 29.3 -3.6
CPUP  Villa Florida    165.66  65   PKIKP    PKPdf      15 18 29.0 -3.9
CPUP                                                    15 19 28.3
CPUP                                                    15 23 16.2
CPUP                                pmax     pmax
      comp=Z,21nm,1.2s
CPUP                                pmax     pmax
      comp=Z,17nm,1.3s
CPUP                                pmax     pmax
      comp=Z,13nm,1.4s
CPUP  Villa Florida    165.66  65   PKP      PKPdf      15 18 28.9 -4.0
CPUP                                PKPab    PKPab      15 19 28.3 -0.5
CPUP                                PP       PP         15 23 16.2 -0.9
LPA   La Plata         167.34 102cePKP      PKPdf      15 18 33.0 -0.9
LPA                                ePP       PP         15 23 25.0 -0.2
```

IDC ***08*** *15:07:46.2±3.5, 33.21N×137.66E, mb3.9/6, mb1 4.0/6, mb1mx3.9/21, Error ellipse: s-maj=158.0km s-min=22.7km az=68.0*

JMA ***08*** *15:07:48.9±0.1, 33.09N×137.26E, h39km±2km, M4.0*

NEIC ***08*** *15:07:51.3±0.7, 33.06N×137.14E, h20km, mb4.6/2, Error ellipse: s-maj=15.7km s-min=10.5km az=103.0*

ISC 08 15:07:49.8±0.5**, 33.13N**±0.04×**137.27E**±0.03**, h39**km**, n31,** σ**0.95**/47**, mb4.0**/8**, 4C-1D, Near south coast of eastern Honshu**

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Code  Station Name       Δ°   AZ°    Phase ID            Time     Res
                                    Op        ISC        h  m  s  ISC
TK01  Tokai 1            0.68  23   P        P          15 08 02.7 -0.4
TK01                               eS        S          15 08 13.0 +0.3
TK02  Tokai 2            0.91  26   P        P          15 08 06.3 +0.1
TK02                               eS        S          15 08 18.1 -0.2
TK03  Tokai 3            1.18  29   P        P          15 08 10.1  0.0
TK03                               eS        S          15 08 24.5 -0.7
JIE   Ise                1.34 340 ⇓P        P          15 08 12.8 +0.3
JIE                                eS        S          15 08 29.9 +0.6
TK04  Tokai 4            1.35  22 ⇑P        P          15 08 12.7 +0.1
TK04                                S        S          15 08 29.6 +0.1
JWZ   Kozaga             1.36 287 ⇑P        P          15 08 11.8 -1.0
JWZ                                 S        S          15 08 28.4 -1.4
JKN   Kiinagashima       1.39 323 ⇑P        P          15 08 13.0 -0.2
JKN                                 S        S          15 08 29.3 -1.3
TSUJ  Tsu 2              1.72 336   P        P          15 08 18.4 +0.5
TSUJ                                S        S          15 08 38.9  0.0
JWM   Minabe             1.75 295   P        P          15 08 17.9 -0.4
JWM                                eS        S          15 08 38.6 -1.0
JWY   Kouya              1.77 308 ⇑P        P          15 08 18.7 +0.2
JWY                                eS        S          15 08 39.7 -0.3
JHE   Heguri             2.01 319   P        P          15 08 22.2 +0.2
JHE                                 S        S          15 08 46.0 -0.1
JIZS  Izushimoda         2.07  40   P        P          15 08 23.0 +0.2
JIZS                               eS        S          15 08 47.2 -0.4
SHZ3  Shizuoka 3         2.08  22   P        P          15 08 22.7 -0.3
JMY   Miyakejima3        2.09  63   P        P          15 08 23.0 -0.2
JMY                                eS        S          15 08 47.5 -0.6
JHJ   Hachijo jima 2     2.11  90   Sn       S          15 08 45.6 -3.0
JHJ2  Mitsune            2.14  90   P        P          15 08 22.9 -0.9
JIM2  Oshima 3           2.39  48  eS        S          15 08 54.7 -1.1
JAI   Aioi               2.45 286   P        P          15 08 28.0 -0.2
JAI                                eS        S          15 08 55.3 -1.9
MAJO  Matsushiro         3.49  12  eP        P          15 08 43.7 +0.7
MAT   Matsushiro         3.49  12   P        P          15 08 43.8 +0.8
MAT                                eS        S          15 09 26.0 +2.4
MAT   Matsushiro         3.49  12   P        P          15 08 44.0 +1.0
MAT                                 S        S          15 09 26.0 +2.4
BJT   Baijiatuau        18.27 298   P        P          15 12 03.2 +1.2
ENH   Enshi             23.78 271  eP        P          15 13 03.0 +3.2
      18nm,1.0s,mb4.5
SONM  Songino Array     27.48 311   P        P          15 13 34.7 +0.4
      3.0nm,1.0s,mb3.8,baz=117,slow=9.7,SNR=3.2
MKAR  Makanchi Array    43.44 305   P        P          15 15 53.2 +2.7
      1.7nm,0.9s,mb3.8,baz=86,slow=9.6,SNR=4.1
KURK  Kurchatov         45.78 311  eP        P          15 16 10.9 +1.7
      8.4nm,1.0s,mb4.6
WRA   Warramunga Arr    52.85 183   P        P          15 17 04.1 +0.1
      1.1nm,0.7s,mb3.9,baz=4.1,slow=7.5,SNR=5.6
ASAR  Alice Springs     56.57 184   P        P          15 17 31.3 +0.2
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	0.8nm,0.7s,mb3.9,baz=20,slow=11,SNR=4.5						
AKASG	Malin Array Be	75.25	321	P	P	15 19 30.9	+0.8
	0.3nm,0.3s,mb3.7,baz=45,slow=6.0,SNR=4.1						
BRTR	Keskin Array B	78.83	310	P	P	15 19 53.8	+3.5
	1.8nm,0.9s,mb4.0,baz=90,slow=3.7,SNR=4.7						
TPNV	Topopah Spring	82.25	51	P	P	15 20 14.9	+6.4

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*JMA **08** 15:13:44.9±0.1,33.24N×136.94E,h38^{km}±3^{km},M3.8*

*IDC **08** 15:13:47.7±0.6,33.20N×137.05E,h22^{km}±3^{km},mb4.0/11, mb1 4.1/12,mb1mx4.0/24,ML3.5/1,Error ellipse: s-maj=21.1km s-min=12.7km az=69.0*

*NEIC **08** 15:13:48.4±0.3,33.21N×136.96E,h25^{km},mb4.5/9,Error ellipse: s-maj=8.5km s-min=6.2km az=86.0*

ISC 08 15:13:44.4±1.5,**33.28N**±0.03×**136.93E**±0.03,**h13**^{km}±10^{km}, **h23**^{km}±.9^{km}**:pP-P,n47,**σ**1**^{s}**05**/57,**mb4.3**/18,**3C,Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TK01	Tokai 1	0.73	48	P	Pb	15 13 59.1	+0.6
TK02	Tokai 2	0.96	46	P	Pb	15 14 02.3	-0.1
JWZ	Kozaga	1.05	284	⇑P	Pb	15 14 03.6	-0.3
JWZ				S	Sb	15 14 16.7	-0.6
JKN	Kiinagashima	1.12	330	P	Pb	15 14 05.0	-0.1
JKN				S	Sb	15 14 18.5	-0.8
JIE	Ise	1.13	351	⇑P	Pb	15 14 05.6	+0.4
JIE				S	Sb	15 14 20.3	+0.7
TK04	Tokai 4	1.36	35	P	Pn	15 14 08.1	-1.0
TK04				S	Sb	15 14 25.7	-0.5
JWM	Minabe	1.43	294	P	Pn	15 14 09.6	-0.6
JWM				S	Sb	15 14 26.9	-1.6
JWY	Kouya	1.46	310	P	Pn	15 14 10.4	-0.1
JWY				S	Sb	15 14 28.0	-1.2
TSUJ	Tsu 2	1.49	344	P	Pn	15 14 10.7	-0.3
JHE	Heguri	1.72	323	P	Pn	15 14 14.4	+0.1
JHE				*e*S	Sn	15 14 34.8	-1.4
JAJ2	Tsuna	2.05	304	P	Pn	15 14 19.1	+0.1
SHZ3	Shizuoka 3	2.08	30	P	Pn	15 14 18.3	-1.1
JAI	Aioi	2.13	285	P	Pn	15 14 20.0	-0.2
JAI				*e*S	Sn	15 14 43.6	-3.1
JIZS	Izushimoda	2.16	48	P	Pn	15 14 20.6	-0.1
JHJ	Hachijo jima 2	2.40	93	Pn	Pn	15 14 23.9	-0.2
	29nm,0.3s,baz=279,slow=18,SNR=8.1						
JHJ				Sn	Sn	15 14 52.1	-1.3
	92nm,0.3s,baz=68,slow=22,SNR=9.1						
MAJO	Matsushiro	3.42	17	*e*P	Pn	15 14 38.3	-0.3
MAT	Matsushiro	3.42	17	P	Pn	15 14 38.4	-0.2
MAT				S	Sn	15 15 19.1	-0.3
MAT	Matsushiro	3.42	17	*e*P	Pn	15 14 38.0	-0.6
MAT				*e*S	Sn	15 15 19.0	-0.4
BJT	Baijiatuau	17.95	298	P	P	15 17 56.7	+1.5
	17nm,0.9s						
HIA	Hailar	20.47	326	P	P	15 18 24.2	-0.1
ENH	Enshi	23.50	270	*e*P	P	15 18 56.8	+2.0
	36nm,1.2s,mb4.7						
SONM	Songino Array	27.17	311	P	P	15 19 31.2	+1.9
	1.9nm,0.8s,mb3.7,baz=117,slow=10,SNR=6.5						
ZAL	Zalesovo	41.89	316	PcP	PcP	15 23 30.9	-1.2
	1.0nm,0.4s,baz=279,slow=4.7,SNR=5.3						
ZAL				pPcP		15 23 37.6	
	1.8nm,0.7s,baz=147,slow=0.2,SNR=8.6						
MKAR	Makanchi Array	43.12	305	P	P	15 21 47.5	+1.6
	0.8nm,0.6s,mb3.6,baz=100,slow=8.8,SNR=4.1						
MKAR				pP	pP	15 21 54.0	+4.1
	4.4nm,0.8s,baz=92,slow=9.9,SNR=12						
MKAR				PcP	PcP	15 23 35.4	-0.9
	1.2nm,1.0s,baz=90,slow=5.8,SNR=2.9						
MKAR				pPcP		15 23 42.9	
	0.7nm,0.6s,baz=117,slow=5.4,SNR=3.7						
PKI	Pulchoki	44.43	277	*e*P	P	15 21 57.3	+0.5
	8.2nm,0.7s,mb4.6						
KKN	Kakani	44.46	277	*e*P	P	15 21 58.7	+1.7
	15nm,0.8s,mb4.8						
DMN	Daman	44.67	277	*e*P	P	15 21 59.3	+0.6
GKN	Gorkha	44.92	278	*e*P	P	15 22 02.8	+2.1
KURK	Kurchatov	45.47	311	P	P	15 22 05.8	+1.1
	3.4nm,0.8s,mb4.2						
KOLN	Koldanda	45.86	278	*e*P	P	15 22 08.2	0.0
	15nm,0.9s,mb4.9						
KAKA	Kakadu	45.92	186	*e*P	P	15 22 07.1	-1.7
	5.1nm,0.8s,mb4.5						
BVAR	Borovoye Array	50.46	314	P	P	15 22 43.7	+0.1
	0.9nm,0.9s,mb3.8,baz=90,slow=8.6,SNR=3.9						
BVAR				pP	pP	15 22 50.6	+2.9
	4.3nm,1.1s,baz=117,slow=6.6,SNR=6.8						
BVAR				PcP	PcP	15 24 01.5	-0.5
	1.0nm,0.6s,baz=104,slow=6.1,SNR=3.8						
BVAR				pPcP		15 24 08.2	
	1.7nm,0.7s,baz=72,slow=4.7,SNR=6.0						
BRVK	Borovoye	50.52	314	*e*P	P	15 22 45.1	+1.1
	5.3nm,1.0s,mb4.4						
ZRNK	Zerenda	51.30	314	*e*P	P	15 22 50.2	+0.3
FITZ	Fitzroy Crossi	52.22	194	*e*P	P	15 22 57.1	-0.3
	4.3nm,1.0s,mb4.3						
FITZ	Fitzroy Crossi	52.22	194	P	P	15 22 56.7	-0.7
	6.2nm,1.0s,mb4.5,baz=8.0,slow=12,SNR=7.6						
WB2	Warramunga Arr	52.98	183	⇑*i*P	P	15 23 01.8	-1.3
WRA	Warramunga Arr	52.98	183	P	P	15 23 01.5	-1.5
	9.7nm,1.0s,mb4.7,baz=359,slow=7.7,SNR=75						
WRA				pP	pP	15 23 09.0	+1.9
	4.7nm,0.9s,baz=1.1,slow=7.8,SNR=11						
CTA	Charters Tower	53.81	169	P	P	15 23 07.4	-1.7
	6.0nm,0.8s,mb4.6,baz=339,slow=6.9,SNR=6.4						
ILAR	Eielson Array	54.61	31	P	P	15 23 15.0	+0.5
	0.2nm,0.6s,mb3.4,baz=288,slow=5.7,SNR=3.4						
ASAR	Alice Springs	56.70	183	P	P	15 23 29.2	-0.9
	3.6nm,0.9s,mb4.4,baz=14,slow=11,SNR=28						
ASAR				pP	pP	15 23 37.0	+2.8
	1.5nm,0.7s,baz=13,slow=9.7,SNR=6.6						
ASPA	Alice Springs	56.70	183	*e*P	P	15 23 29.2	-0.9
ARCES	ARCESS Array B	66.20	339	P	P	15 24 35.1	+1.7
	7.1nm,1.0s,mb4.6,baz=45,slow=7.7,SNR=2.4						
ARCES				pP	pP	15 24 41.1	+3.5
	6.2nm,0.9s,baz=60,slow=9.8,SNR=1.5						
AKASG	Malin Array Be	74.96	321	P	P	15 25 27.2	+0.5
	0.2nm,0.2s,mb3.6,baz=50,slow=6.4,SNR=3.4						
AKASG				pP	pP	15 25 34.3	+3.3
	1.1nm,0.6s,baz=47,slow=6.1,SNR=2.9						
HWUT	Hardware Ranch	82.47	45	P	P	15 26 08.7	+0.9
PDAR	Pinedale Array	82.91	43	P	P	15 26 11.2	+1.1
	0.8nm,0.9s,mb3.8,baz=270,slow=1.8,SNR=2.9						
PV10	Paradox Valley	86.02	46	*e*P	P	15 26 28.1	+2.4

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*IDC **08** 15:19:46.8±18.0,36.45N×138.27E,mb4.1/4,mb1 4.1/4, mb1mx3.7/22,Error ellipse: s-maj=456.0km s-min=93.0km az=172.0*

*JMA **08** 15:20:47.2±0.5,38.88N×136.23E,h366^{km}±4^{km},M3.9*

ISC 08 15:20:45.5±0.6,**38.97N**±0.09×**136.2E**±0.2,**h383**^{km}±18^{km}, **n16,**σ**0**^{s}**65**/21,**mb3.6**/4,**Eastern Sea of Japan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JSD	Sado	1.84	120	P	P	15 21 38.6	-0.6
MAT	Matsushiro	2.88	147	S	P	15 21 46.3	-0.4
MAT	Matsushiro	2.88	147	P	P	15 21 46.3	-0.4
JYK	Kaneyama	3.21	90	P	P	15 21 50.2	+0.6
JAG	Ashikaga	3.60	134	P	P	15 21 53.1	0.0
JRY	Ryogami san	3.63	143	P	P	15 21 53.4	0.0
JMM	Marumori	3.74	106	P	P	15 21 55.0	+0.6
JMM				*e*S	S	15 22 48.0	-0.6
JMK	Ichinoseki	3.88	89	P	P	15 21 56.6	+0.8
JMK				*e*S	S	15 22 50.5	-0.5
JOM	Ohasama	3.96	81	P	P	15 21 57.3	+0.8
JOM				*e*S	S	15 22 52.8	+0.5
JOD2	Odawara 2	4.34	148	P	P	15 22 01.0	+0.6
BSO1	Boso 1	5.75	137	P	P	15 22 14.5	-0.7
BSO1				*e*S	S	15 23 25.6	-0.1
JCH	Churui	6.52	54	P	P	15 22 24.3	+0.4
JCH				*e*S	S	15 23 38.2	-3.1
SONM	Songino Array	23.30	302	P	P	15 25 22.1	-0.1
	5.8nm,0.5s,mb4.3,baz=105,slow=9.0,SNR=38						
MKAR	Makanchi Array	39.62	299	P	P	15 27 42.2	-0.5
	1.3nm,0.9s,mb3.3,baz=83,slow=9.9,SNR=5.4						
BVAR	Borovoye Array	46.23	310	P	P	15 28 34.8	-0.4
	0.5nm,0.3s,mb3.3,baz=92,slow=8.2,SNR=6.5						
FINES	FINESS Array B	65.15	330	P	P	15 30 48.5	+0.6
	1.4nm,0.6s,mb3.7,baz=76,slow=7.9,SNR=6.7						

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*NEIC **08** 15:25:29.0±2.1,4.49S×147.54E,h173^{km}±19^{km},mb4.4/3, Error ellipse: s-maj=36.8km s-min=22.6km az=104.0*

*IDC **08** 15:25:46.7±3.8,5.50S×145.48E,h134^{km}±64^{km},mb3.9/3, mb1 3.9/5,mb1mx3.7/12,Error ellipse: s-maj=55.3km s-min=46.5km az=74.0*

ISC 08 15:25:34.4±1.9,**4.9S**±0.2×**147.1E**±0.1,**h191**^{km}±13^{km}**,n15,** σ**1**^{s}**41**/20,**mb4.2**/4,**1D,Bismarck Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WAU	Wau	2.46	188	*e*P	P	15 26 18.0	+0.2
PMG	Port Moresby	4.48	179	⇓*i*P	P	15 26 40.4	-2.3
CTA	Charters Tower	15.12	183	P	P	15 29 06.5	+6.8
	0.5nm,0.3s,baz=356,slow=14,SNR=5.7						
CTA	Charters Tower	15.12	183	P	P	15 29 06.5	+6.7
CTAO	Charters Tower	15.12	183	*e*P	P	15 28 59.7	0.0
KAKA	Kakadu	16.42	241	*e*P	P	15 29 15.7	0.0
	18nm,0.5s						
KAKA				*e*S	S	15 32 11.1	-0.2
WB2	Warramunga Arr	19.41	219	*e*P	P	15 29 47.7	-0.3
WB2				*e*S	S	15 33 09.5	-2.7
WRA	Warramunga Arr	19.42	219	P	P	15 29 47.7	-0.4
	2.3nm,0.3s,baz=38,slow=11,SNR=153						
WRA				S	S	15 33 09.4	-3.0
	0.1nm,0.3s,baz=38,slow=20,SNR=6.6						
ASAR	Alice Springs	22.57	213	P	P	15 30 20.9	+1.6
	4.7nm,0.5s,mb4.2,baz=46,slow=8.1,SNR=87						
ASAR				S	S	15 34 09.3	+0.5
	0.6nm,0.7s,baz=34,slow=15,SNR=3.9						
ASPA	Alice Springs	22.57	213	*e*P	P	15 30 20.9	+1.6
ASPA				*e*		15 30 24.6	
ASPA				*e*S	S	15 34 09.0	+0.1
FITZ	Fitzroy Crossi	24.71	236	*e*P	P	15 30 41.6	+1.9
	2.5nm,0.4s,mb4.1						
FITZ	Fitzroy Crossi	24.71	236	P	P	15 30 40.9	+1.1
	2.9nm,0.5s,mb4.1,baz=26,slow=7.1,SNR=20						
STKA	Stephens Creek	27.33	190	P	P	15 31 12.8	+9.2
	2.1nm,0.3s,mb4.2,baz=11,slow=9.8,SNR=3.9						
KURK	Kurchatov	80.36	323	*e*P	P	15 37 21.5	-4.2
	5.2nm,0.8s,mb4.2						
ZRNK	Zerenda	86.71	324	P	P	15 37 52.0	-5.7

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*NIED **08** 15:28:00,33.00N×137.30E,h5^{km},Mw4.6 Best double couple: M$_0$8.94×10^{15} NP1:φ$_s$142°,δ81°,λ-164°. NP2: φ$_s$49°,δ74°,λ-9°.*

*JMA **08** 15:28:17.5±0.1,33.14N×137.24E,h28^{km}±2^{km},M2.6*

ISC 08 15:28:17.4±1.6,**33.15N**±0.08×**137.19E**±0.06,**h19**^{km}±10^{km}, **n11,**σ**0**^{s}**41**/18,**Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TK01	Tokai 1	0.69	29	P	Pb	15 28 30.6	-0.1
TK02	Tokai 2	0.92	31	P	Pb	15 28 34.2	-0.4
TK02				*e*S	Sb	15 28 46.5	+0.2
JWZ	Kozaga	1.29	287	P	Pn	15 28 40.6	-0.1
JWZ				S	Sb	15 28 57.1	+0.1
JIE	Ise	1.30	342	P	Pn	15 28 40.8	0.0
JIE				*e*S	Sb	15 28 57.8	+0.5
JKN	Kiinagashima	1.34	325	P	Pn	15 28 41.2	-0.1
JKN				S	Sb	15 28 57.7	-0.7
TK04	Tokai 4	1.35	25	P	Pn	15 28 40.9	-0.7
TSUJ	Tsu 2	1.68	338	P	Pn	15 28 46.9	+0.7
TSUJ				S	Sn	15 29 07.2	-0.2
JWM	Minabe	1.68	295	P	Pn	15 28 46.4	+0.1
JWM				S	Sn	15 29 07.4	-0.1
JWY	Kouya	1.70	309	S	Sn	15 29 08.1	+0.1
JHE	Heguri	1.95	320	P	Pn	15 28 50.9	+0.8
JAI	Aioi	2.38	286	P	Pn	15 28 56.5	+0.3
JAI				S	Sn	15 29 24.4	-0.7

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*IDC **08** 15:28:57.1±0.7,33.03N×137.50E,mb4.2/15,mb1 4.3/16, mb1mx4.2/24,ML3.8/1,Error ellipse: s-maj=20.0km s-min=14.5km az=63.0*

*BJI **08** 15:28:58.5,32.83N×137.75E,h39^{km},mb4.6*

*JMA **08** 15:28:58.9±0.1,33.03N×137.26E,h39^{km}±3^{km},M4.6*

JMA Felt I J1.

*MOS **08** 15:28:58.9±1.1,32.99N×137.75E,h33^{km},mb4.4/12,Error ellipse: s-maj=29.0km s-min=13.7km az=102.5*

*NEIC **08** 15:28:59.1±5.5,33.04N×137.44E,h13^{km}±35^{km},mb4.2/3, Error ellipse: s-maj=16.0km s-min=11.1km az=86.0*

ISC 08 15:28:59.1±1.0,**33.08N**±0.04×**137.30E**±0.03,**h26**^{km}±7^{km}, **n58,**σ**1**^{s}**14**/71,**mb4.2**/19,**4C-4D,Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TK01	Tokai 1	0.73	19	P	Pb	15 29 13.6	+0.5
TK02	Tokai 2	0.95	24	P	Pb	15 29 17.0	+0.2
TK02				*e*S	Sb	15 29 30.1	+1.0
TK03	Tokai 3	1.22	27	P	Pn	15 29 20.7	-0.1
TK03				*e*S	Sn	15 29 37.4	+0.8
TK04	Tokai 4	1.39	20	P	Pn	15 29 23.3	+0.1
JWZ	Kozaga	1.40	289	⇑P	Pn	15 29 22.4	-1.0
JWZ				S	Sn	15 29 39.0	-2.2
JIE	Ise	1.40	340	⇓P	Pn	15 29 23.7	+0.3
JIE				S	Sn	15 29 41.5	+0.3
JKN	Kiinagashima	1.45	324	⇓P	Pn	15 29 23.8	-0.3
JKN				S	Sn	15 29 40.7	-1.8
TSUJ	Tsu 2	1.79	336	⇓P	Pn	15 29 29.0	+0.1
TSUJ				S	Sn	15 29 50.1	-0.9
JWM	Minabe	1.80	296	⇑P	Pn	15 29 28.4	-0.7
JWM				S	Sn	15 29 49.5	-1.8
JWY	Kouya	1.82	309	⇑P	Pn	15 29 29.5	+0.1
JWY				S	Sn	15 29 51.0	-0.9
JHE	Heguri	2.07	320	P	Pn	15 29 32.9	0.0
JHE				S	Sn	15 29 56.9	-1.2
JHJ	Hachijo jima 2	2.09	88	Pn	Pn	15 29 32.5	-0.6
	74nm,0.3s,baz=220,slow=12,SNR=34						
JHJ				Sn	Sn	15 29 56.1	-2.4
	289nm,0.3s,baz=69,slow=22,SNR=15						
JHJ2	Mitsune	2.11	88	⇑P	Pn	15 29 32.8	-0.8
JHJ2				S	Sn	15 29 57.0	-2.3
JAI	Aioi	2.49	288	P	Pn	15 29 38.2	-0.7
JOD2	Odawara 2	2.64	34	P	Pn	15 29 41.5	+0.4
JGM	Miyama	2.66	350	P	Pn	15 29 41.4	0.0
MAJO	Matsushiro	3.54	12	*e*P	Pn	15 29 54.1	+0.2
MAT	Matsushiro	3.54	12	P	Pn	15 29 54.2	+0.3
MAT				S	Sn	15 30 35.8	+0.4
MAT	Matsushiro	3.54	12	*e*P	Pn	15 29 54.0	+0.1
MAT				*e*S	Sn	15 30 36.0	+0.6
ASAJ	Asahikawa	11.77	19	Pn	P	15 31 46.3	-2.2
	0.7nm,0.3s,baz=59,slow=31,SNR=7.1						
ASAJ	Asahikawa	11.77	19	P	P	15 31 46.3	-2.2
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MDJ	Mudanjiang	12.99	335	*e*P	P	15 31 58.0	-6.7
BJT	Baijiatuau	18.32	298	*e*P	P	15 33 12.7	-0.5
	comp=Z,16nm,0.9s						
WHN	Wuhan	19.66	269	⇓P	P	15 33 30.5	+1.4
HIA	Hailar	20.81	326	*e*P	P	15 33 40.4	-0.5
	comp=Z,3.2nm,0.5s						
XAN	Xi'an	23.64	280	P	P	15 34 11.8	+2.6
XAN				AP		15 34 19.2	
XAN				AMB	AMB		
	comp=Z,25nm,1.0s,mb4.6						
ENH	Enshi	23.81	271	*e*P	P	15 34 13.2	+2.3
	comp=Z,17nm,0.7s,mb4.6						
CLNS	Chul'man	25.25	344	*e*P	P	15 34 25.8	+1.3
CLNS				pmax	pmax		
	comp=Z,11nm,0.6s,mb4.6						
CLNS				pmax	pmax		
	comp=N,7.0nm,0.8s						
CLNS				pmax	pmax		
	comp=E,7.0nm,1.1s						
SONM	Songino Array	27.53	312	P	P	15 34 47.3	+1.7
	comp=E,3.3nm,0.9s,mb4.0,baz=121,slow=8.0,SNR=14						
YAK	Yakutsk	29.38	353	*e*P	P	15 35 02.0	-0.2
YAK				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.3						
CMAR	Chiang Mai Arr	37.26	257	P	P	15 36 11.9	+1.2
	comp=Z,1.6nm,0.6s,mb4.0,baz=48,slow=8.0,SNR=16						
CMAR	Chiang Mai Arr	37.26	257	P	P	15 36 11.9	+1.2
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ZAL	Zalesovo	42.25	316	P	P	15 36 54.0	+2.3
	comp=Z,0.8nm,0.6s,mb3.5,baz=290,slow=18,SNR=4.3						
ZAL	Zalesovo	42.25	316	P	P	15 36 54.0	+2.3
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NVS	Novosibirsk	43.27	317	*e*P	P	15 37 09.7	+10
MKAR	Makanchi Array	43.49	305	P	P	15 37 03.8	+1.9
	comp=Z,2.7nm,0.7s,mb4.1,baz=91,slow=9.8,SNR=16						
MKAR	Makanchi Array	43.49	305	P	P	15 37 03.8	+1.9
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BVAR	Borovoye Array	50.82	314	P	P	15 38 00.1	+0.8
	comp=Z,1.7nm,0.9s,mb4.0,baz=135,slow=6.3,SNR=5.9						
FITZ	Fitzroy Crossi	52.09	194	P	P	15 38 08.8	-0.6
	comp=Z,3.4nm,0.9s,mb4.3,baz=346,slow=9.2,SNR=3.5						
WRA	Warramunga Arr	52.79	183	P	P	15 38 13.0	-1.7
	comp=Z,2.6nm,0.9s,mb4.2,baz=3.0,slow=7.7,SNR=20						
WRA	Warramunga Arr	52.79	183	P	P	15 38 13.0	-1.7
WRA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ASAR	Alice Springs	56.52	184	P	P	15 38 41.6	-0.1
	comp=Z,0.9nm,0.6s,mb4.0,baz=16,slow=13,SNR=11						
STKA	Stephens Creek	64.73	176	P	P	15 39 36.9	-0.6
	comp=Z,2.7nm,0.8s,mb4.3,baz=312,slow=23,SNR=4.4						
STKA	Stephens Creek	64.73	176	P	P	15 39 36.9	-0.6
ARCES	ARCESS Array B	66.50	339	P	P	15 39 49.0	+0.8
	comp=Z,3.9nm,1.0s,mb4.4,baz=31,slow=10,SNR=3.2						
ARCES	ARCESS Array B	66.50	339	P	P	15 39 49.0	+0.8
ARCES				pmax	pmax		
	comp=Z,4.0nm,1.0s						
RES	Resolute Bay	67.24	13	P	P	15 39 53.0	+0.1
FINES	FINESS Array B	70.71	332	P	P	15 40 13.8	-0.6
	comp=Z,2.3nm,0.9s,mb4.1,baz=233,slow=9.5,SNR=3.8						
FINES	FINESS Array B	70.71	332	P	P	15 40 13.9	-0.6
FINES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
AKASG	Malin Array Be	75.31	321	P	P	15 40 42.4	+0.8
	comp=Z,2.4nm,0.6s,mb4.3,baz=49,slow=5.8,SNR=14						
AKASG	Malin Array Be	75.31	321	P	P	15 40 42.4	+0.8
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NOA	NORSAR Array B	76.48	336	P	P	15 40 48.6	+0.6
	comp=Z,1.4nm,0.9s,mb3.9,baz=41,slow=5.7,SNR=3.7						
NOA	NORSAR Array B	76.48	336	P	P	15 40 48.6	+0.6
NOA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
BRTR	Keskin Array B	78.88	310	P	P	15 41 03.9	+2.2
	comp=Z,5.1nm,1.0s,mb4.4,baz=118,slow=4.9,SNR=12						
BRTR	Keskin Array B	78.88	310	P	P	15 41 03.9	+2.2
BRTR				pmax	pmax		
	comp=Z,5.0nm,1.0s						
PRU	Pruhonice	83.02	327	*e*P	P	15 41 21.8	-1.5
GERES	GERESS Array B	84.21	326	P	P	15 41 31.0	+1.7
	comp=Z,0.7nm,0.5s,mb4.0,baz=108,slow=4.2,SNR=4.8						
GERES	GERESS Array B	84.21	326	P	P	15 41 31.0	+1.7
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						

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*IDC **08** 15:40:21.9±0.6,52.28S×5.01W,mb4.8/12,mb1 4.8/12, mb1mx4.8/14,MS5.2/9,Ms1 5.2/9,ms1mx4.9/22,Error ellipse: s-maj=21.4km s-min=17.8km az=12.0*

*BJI **08** 15:40:23.6,52.20S×5.00W,h10^{km},Ms5.5,Msz5.6*

*NEIC **08** 15:40:23.6±0.2,52.16S×4.97W,h10^{km},mb5.2/9,MS5.2/2, Error ellipse: s-maj=8.5km s-min=8.2km az=149.0*

*HRVD **08** 15:40:23.6±0.3,52.21S×4.87W,h12^{km},MW5.5/62, Centroid moment Tensor Solution. LP body waves: s27,c48;Mantle waves: s62,c102; Half duration: 1^{s}5 Moment tensor: Scale 10^{17}Nm; M$_{rr}$-1.87±.08; M$_{\theta\theta}$1.45±.08; M$_{\phi\phi}$0.42±.08; M$_{r\theta}$-0.17±.26; M$_{\theta\phi}$-1.83±.06; M$_{\phi r}$0.96±.29; Best double couple: M$_0$2.62×10^{17} NP1: φ$_s$281°,δ43°,λ-130°. NP2:φ$_s$150°,δ59°,λ-59°. Principal axes: T 2.94, Plg9°, Azm219°; N -.64, Plg26°, Azm313°; P -2.3, Plg63°, Azm112°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*SYO **08** 15:40:24.8,52.12S×5.03W,h16^{km},MB5.2*

ISC 08 15:40:22.6±0.3,**52.23S**±0.06×**5.1W**±0.1,**h10**^{km}**,n83,** σ**1**^{s}**36**/42,**mb5.1**/23,**MS5.3**/13,**7C-1D,Southern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA2	Neumayer--Watz	18.80	182	⇑	S	15 48 23.8	+13
VNA3	Neumayer Olymp	19.20	184	⇑	S	15 48 31.8	+12
SNAA	Sanae	19.54	178	⇑*i*	P	15 44 53.6	+0.8
SNAA	Sanae	19.54	178	⇑	S	15 48 34.2	+6.9
MAIT	Maitri	20.13	164	*e*P	P	15 44 58.8	-0.4
SYO	Syowa Base	26.75	146	⇑P	P	15 46 01.8	-1.9
SYO	Syowa Base	26.75	146	⇑pP	pP	15 46 08.7	+2.1
SYO	Syowa Base	26.75	146	⇓PcP	PcP	15 49 25.1	-2.3
SUR	Sutherland	27.34	54	P	P	15 46 09.2	-0.2
	26nm,1.1s,mb4.7,baz=180,slow=6.3,SNR=3.2						
SUR				LR	LR	15 54 11.7	
	comp=Z,8μm,21.2s,MS5.3,baz=252,slow=30						
MAW	Mawson	35.26	142	P	P	15 47 17.6	-1.3
	24nm,1.0s,mb5.1,baz=258,slow=8.7,SNR=32						
MAW				PcP	PcP	15 49 48.0	-1.9
	5.7nm,0.9s,baz=278,slow=5.0,SNR=3.9						
USHA	Ushuaia	36.60	240	LR	LR	15 59 22.9	
	comp=Z,2μm,19.7s,MS4.9,baz=102,slow=31						
TSUM	Tsumeb	37.43	37	P	P	15 47 37.0	-0.7
	30nm,1.0s,mb5.1,baz=192,slow=9.6,SNR=43						
TSUM				LR	LR	15 59 58.8	
	comp=Z,4μm,20.1s,MS5.2,baz=270,slow=31						
TSUM	Tsumeb	37.43	37	*e*P	P	15 47 36.0	-1.7
	44nm,1.0s,mb5.2						
QSPA	South Pole Qui	38.03	180	*e*P	P	15 47 41.5	-0.6
	71nm,1.4s,mb5.2						
QSPA				*e*		15 49 12.7	
QSPA				*e*		15 49 56.2	
TRQA	Tornquist	41.46	267	*e*P	P	15 48 11.8	+0.8
	62nm,1.3s,mb5.1						
TRQA				LR	LR		
	comp=Z,2μm,21.0s,MS4.9						
LSZ	Lusaka	45.36	48	*e*P	P	15 48 40.9	-2.0
	comp=Z,53nm,1.4s,mb5.2						
LSZ				LR	LR		
	comp=Z,5μm,20.0s,MS5.5						
CPUP	Villa Florida	46.68	283	P	P	15 48 53.4	+0.2
	comp=Z,11nm,0.8s,mb4.8,baz=150,slow=6.7,SNR=21						
BAO	Brasilia Array	49.80	301	*e*P	P	15 49 17.7	+0.2
BDFB	Brasilia	49.81	301	P	P	15 49 17.9	+0.3
	comp=Z,10nm,0.9s,mb4.8,baz=149,slow=7.1,SNR=7.1						
SBA	Scott Base	50.09	178	*e*P	P	15 49 19.7	+0.7
	comp=Z,40nm,1.4s,mb5.2						
LVC	Limon Verde	56.47	276	*e*P	P	15 50 06.8	-0.2
	comp=Z,66nm,0.9s,mb5.7						
LIC	Lamto	58.22	0	*e*P	P	15 50 17.7	-1.7
	comp=Z,110nm,0.8s,mb5.9						
KIC	Kosan Boka	58.36	0	*e*P	P	15 50 18.0	-2.4
	comp=Z,78nm,0.9s,mb5.7						
TIC	Toumodi	58.64	0	*e*P	P	15 50 20.3	-2.0
	comp=Z,181nm,1.3s,mb6.0						
DBIC	Dimbokro	58.66	0	P	P	15 50 20.6	-1.9
	comp=Z,22nm,0.8s,mb5.2,baz=151,slow=9.0,SNR=25						
MBAR	Mbarara	59.55	43	*e*P	P	15 50 27.2	-1.4
	comp=Z,17nm,1.2s,mb4.9						
LPAZ	La Paz	60.80	281	P	P	15 50 37.3	+0.1
	comp=Z,3.1nm,0.6s,mb4.6,baz=135,slow=2.3,SNR=7.2						
KMBO	Kilima Mbogo	61.98	50	P	P	15 50 45.1	-0.1
	comp=Z,1.5nm,1.0s,mb4.1,baz=215,slow=11,SNR=4.1						
KMBO				LR	LR	16 14 36.7	
	comp=Z,5μm,20.7s,MS5.7,baz=276,slow=33						
KMBO	Kilima Mbogo	61.98	50	P	P	15 50 45.0	-0.2
SAML	Samuel	63.69	291	*e*P	P	15 50 54.5	-2.1
	comp=Z,13nm,1.1s,mb4.9						
ROSC	El Rosal	81.30	290	P	P	15 52 41.3	+0.6
	comp=Z,5.4nm,0.4s,mb4.8,baz=132,slow=23,SNR=4.9						
NWAO	Narrogin (SRO)	81.39	134	LR	LR	16 22 57.1	
	comp=Z,760nm,18.4s,MS5.1,baz=292,slow=31						
NAMS	An Nimas	82.14	45	P	P	15 52 46.8	+2.0
BLJS	Baljurashi	82.50	44	P	P	15 52 49.2	+2.4
TATS	Tathlith	83.02	45	P	P	15 52 50.8	+1.4
RPZ	Rata Peaks	84.38	177	LR	LR	16 27 17.5	
	comp=Z,2μm,19.6s,MS5.4,baz=204,slow=33						
AFFS	'Afif	86.68	43	P	P	15 53 08.8	+1.2
KBRS	Khaybar	86.83	39	P	P	15 53 10.1	+1.7
AYUS	'Aynunah	87.53	35	P	P	15 53 13.7	+2.0
BDAS	Al Bad'	87.69	35	P	P	15 53 14.5	+2.0
JMQS	Jabal Moqyreh	88.38	35	P	P	15 53 18.1	+2.4
ARSS	Ar Rass	88.51	42	P	P	15 53 17.5	+1.0
EIL	Elat	88.77	34	LR	LR	16 29 40.6	
	comp=Z,628nm,19.0s,MS5.0,baz=39,slow=33						
EIL	Elat	88.77	34	*e*P	P	15 53 17.3	-0.3
	comp=Z,50nm,1.8s,mb5.5						
HILS	Ha'il	89.25	40	P	P	15 53 22.8	+2.9
STKA	Stephens Creek	91.33	152	P	P	15 53 28.9	-0.5
	comp=Z,11nm,1.0s,mb5.1,baz=194,slow=1.6,SNR=9.2						
ESDC	Sonseca Array	91.53	1	P	P	15 53 30.1	0.0
	comp=Z,4.0nm,0.9s,mb4.7,baz=162,slow=5.0,SNR=11						
ASF	Jabal al Asfar	91.73	35	LR	LR	16 31 24.2	
	comp=Z,1μm,21.0s,MS5.4,baz=262,slow=33						

ASAR	Alice Springs	96.38	143	P	P	15 53 52.1	-0.7
	comp=Z,1.2nm,0.8s,mb4.4,baz=203,slow=4.1,SNR=6.9						
BRTR	Keskin Array B	97.58	29	LR	LR	16 38 09.9	
	comp=Z,1µm,20.2s,MS5.4,baz=230,slow=36						
TXAR	Lajitas Array	117.66	283	PKP	PKPdf	15 59 08.7	-3.1
	comp=Z,0.6nm,0.7s,baz=180,slow=1.3,SNR=5.5						
KMI	Kunming	120.25	87	ePKP	PKPdf	15 59 16.8	-0.1
BVAR	Borovoye Array	122.36	44	PKP	PKPdf	15 59 16.7	-3.6
	comp=Z,2.8nm,0.8s,baz=225,slow=4.1						
ARCES	ARCESS Array B	123.49	12	PKP	PKPdf	15 59 18.5	-3.6
	comp=Z,6.3nm,0.9s,baz=338,slow=4.9,SNR=3.6						
ARCES	ARCESS Array B	123.49	12	PKP	PKPdf	15 59 18.5	-3.7
MKAR	Makanchi Array	123.62	56	PKP	PKPdf	15 59 19.7	-3.3
	comp=Z,3.2nm,0.9s,baz=252,slow=3.8,SNR=20						
MKAR	Makanchi Array	123.62	56	PKP	PKPdf	15 59 19.7	-3.3
WMQ	Urumqi	124.46	61	ePKP	PKPdf	15 59 22.7	-2.0
WMQ				LR	LR		
	comp=N,556nm,20.0s						
WMQ				LR	LR		
	comp=Z,614nm,20.2s,MS5.3						
PV10	Paradox Valley	127.14	287	ePKP	PKPdf	15 59 28.0	-1.8
ULM	Lac du Bonnet	127.57	306	PKP	PKPdf	15 59 26.7	-3.7
	comp=Z,4.6nm,0.8s,baz=198,slow=3.2,SNR=4.1						
ULM	Lac du Bonnet	127.57	306	PKP	PKPdf	15 59 26.7	-3.7
DAG	Danmarks Havn	129.01	356	⇑iP	PKPdf	15 59 30.0	-2.5
	comp=Z,6.0nm,0.8s						
MSU	Marysvale	129.09	285	ePKP	PKPdf	15 59 31.9	-1.7
ZAL	Zalesovo	129.44	50	PKP	PKPdf	15 59 30.0	-3.9
	comp=Z,1.2nm,0.4s,baz=76,slow=1.1,SNR=7.4						
DAU	Daniels Canyon	129.77	287	ePKP	PKPdf	15 59 32.2	-2.6
PDAR	Pinedale Array	130.27	291	PKP	PKPdf	15 59 32.9	-2.9
	comp=Z,3.6nm,1.0s,baz=135,slow=2.1,SNR=16						
TPAW	Teton Pass	131.52	291	ePKP	PKPdf	15 59 36.3	-1.9
HRY	Holter Researc	133.93	294	ePKP	PKPdf	15 59 41.1	-1.4
NJ2	Nanjing	135.09	94	ePKP	PKPdf	15 59 40.1	-5.0
NJ2				PP	PP	16 02 21.0	-0.3
NJ2				PKS	PKS	16 03 15.0	-2.2
NJ2				LR	LR		
	comp=Z,2µm,26.1s,MS5.6						
WVOR	Wild Horse Val	135.38	285	ePKP	PKPdf	15 59 43.4	-2.0
HHC	Hu-ho-hao-te	136.32	79	ePKP	PKPdf	15 59 48.7	+1.7
SONM	Songino Array	137.27	67	PKP	PKPdf	15 59 46.0	-2.6
	comp=Z,3.4nm,0.9s,baz=270,slow=1.2,SNR=12						
DPW	Davenport	138.19	292	PKP	PKPdf	15 59 48.0	-2.3
LON	Longmire	139.68	288	ePKP	PKPdf	15 59 50.4	-2.7
BMW	Boistfort Moun	140.37	287	ePKP	PKPdf	15 59 52.8	-1.5
YKA	Yellowknife Ar	142.52	314	PKhKP		15 59 50.5	
	comp=Z,3.1nm,0.9s,baz=96,slow=2.2,SNR=6.0						
YKA	Yellowknife Ar	142.52	314	PKP	PKPdf	15 59 50.5	-6.9
CN2	Changchun	146.45	84	ePKP	PKPdf	16 00 02.7	-2.1
CN2				PP	PP	16 03 31.4	+1.4
DLBC	Dease Lake	148.84	304	PKPbc	PKPdf	16 00 10.7	+2.5
	baz=99,slow=3.4						
DLBC	Dease Lake	148.84	304	ePKPbc	PKPdf	16 00 10.4	+2.2
MAT	Matsushiro	149.85	107	PKP	PKPdf	16 00 12.8	+2.3
MAT	Matsushiro	149.85	107	ePKP	PKPdf	16 00 13.0	+2.5
YAK	Yakutsk	154.11	50	ePKPbc	PKPdf	16 00 20.8	+4.9
YAK				ePKPab	PKPab	16 00 35.8	-1.3

*JMA **08** 15:41:32.3±0.1, 33.03N×137.28E, h36^{km}±3^{km}, M3.7*

ISC 08 15:41:32.6±1.3**, 33.04N**±0.07×**137.28E**±0.05**, h36**^{km}±34^{km}**, n15, σ0^{s}.49**/27**, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	Tokai 1	0.77	20	P	P	15 41 46.8	-0.2
TK01				S	S	15 41 57.1	-0.4
TK02	Tokai 2	0.99	24	P	P	15 41 50.0	-0.2
TK02				S	S	15 42 03.3	+0.2
TK03	Tokai 3	1.26	27	S	S	15 42 09.6	-0.4
JWZ	Kozaga	1.40	291	P	P	15 41 55.8	-0.3
JWZ				S	S	15 42 12.9	-0.7
TK04	Tokai 4	1.43	20	P	P	15 41 56.5	0.0
TK04				S	S	15 42 14.6	+0.3
JIE	Ise	1.43	341	P	P	15 41 57.1	+0.6
JIE				S	S	15 42 14.4	+0.1
JKN	Kiinagashima	1.47	325	P	P	15 41 57.3	+0.2
JKN				S	S	15 42 14.6	-0.8
JWM	Minabe	1.80	297	P	P	15 42 01.9	+0.1
JWM				S	S	15 42 23.6	-0.1
TSUJ	Tsu 2	1.81	337	P	P	15 42 02.4	+0.4
TSUJ				S	S	15 42 24.0	0.0
JWY	Kouya	1.83	310	P	P	15 42 03.0	+0.7
JWY				S	S	15 42 24.8	+0.3
JHE	Heguri	2.09	321	P	P	15 42 06.4	+0.5
JHE				eS	S	15 42 31.2	+0.3
JIM2	Oshima 3	2.45	46	eS	S	15 42 38.9	-1.2
JAI	Aioi	2.48	288	P	P	15 42 11.6	+0.1
JAI				S	S	15 42 39.9	-1.0
JGM	Miyama	2.69	350	P	P	15 42 14.9	+0.3
MAT	Matsushiro	3.58	12	P	P	15 42 27.8	+0.7
MAT				S	S	15 43 09.1	+0.4

*NEIC **08** 15:53:43.9±0.8, 33.15N×138.15E, h10^{km}, mb3.8/1, Error ellipse: s-maj=28.3km s-min=10.3km az=88.0*

*JMA **08** 15:53:43.3±0.1, 33.33N×137.03E, h42^{km}±2^{km}, M2.9*

*IDC **08** 15:53:45.5±6.6, 32.74N×137.22E, mb3.6/5, mb1 3.8/5, mb1mx3.6/21, Error ellipse: s-maj=273.0km s-min=21.7km az=65.0*

ISC 08 15:53:42.8±0.9**, 33.34N**±0.05×**137.00E**±0.03**, h23**^{km}±6^{km}**, n23, σ0^{s}.56**/33**, mb3.5**/6**, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	Tokai 1	0.65	49	P	Pb	15 53 55.9	+0.5
TK01				S	Sb	15 54 04.8	+0.8
TK02	Tokai 2	0.87	46	eS	Sb	15 54 10.8	+0.4
JIE	Ise	1.07	347	P	Pb	15 54 02.6	+0.1
JIE				S	Sb	15 54 16.6	+0.5
JWZ	Kozaga	1.09	280	P	Pb	15 54 02.5	-0.3
JWZ				S	Sb	15 54 16.5	-0.1
JKN	Kiinagashima	1.09	326	P	Pb	15 54 02.6	-0.2
JKN				eS	Sb	15 54 16.0	-0.6
TK03	Tokai 3	1.15	44	P	Pn	15 54 02.8	-0.8
TK03				eS	Sb	15 54 17.3	-1.1
TK04	Tokai 4	1.27	35	P	Pn	15 54 04.6	-0.7
TSUJ	Tsu 2	1.45	341	P	Pn	15 54 08.0	+0.2
TSUJ				S	Sn	15 54 26.0	-0.2
JWY	Kouya	1.46	307	P	Pn	15 54 09.0	+1.0
JWY				eS	Sn	15 54 26.7	+0.2
JWM	Minabe	1.46	291	P	Pn	15 54 08.4	+0.4
JWM				S	Sn	15 54 26.3	-0.3
JHE	Heguri	1.70	321	P	Pn	15 54 11.7	+0.2
SHZ3	Shizuoka 3	1.99	30	P	Pn	15 54 14.6	-1.0
JIZS	Izushimoda	2.08	48	P	Pn	15 54 17.2	+0.3
MAJO	Matsushiro	3.34	17	eP	Pn	15 54 34.7	-0.2
MAT	Matsushiro	3.34	17	P	Pn	15 54 35.4	+0.5
MAT				S	Sn	15 55 14.8	+0.5
MAT	Matsushiro	3.34	17	eP	Pn	15 54 35.0	+0.1
MAT				eS	Sn	15 55 15.0	+0.7
SONM	Songino Array	27.16	311	P	P	15 59 35.8	+10
	0.8nm,1.0s,mb3.2,baz=108,slow=4.6,SNR=3.4						
ZAL	Zalesovo	41.88	316	P	P	16 01 41.6	+9.0
	0.5nm,0.3s,mb3.6,baz=121,slow=6.9,SNR=3.2						
MKAR	Makanchi Array	43.13	305	P	P	16 01 51.5	+8.6
	0.7nm,0.7s,mb3.5,baz=90,slow=10,SNR=3.9						
KURK	Kurchatov	45.47	311	P	P	16 02 09.0	+7.3
	0.8nm,0.7s,mb3.7						
WRA	Warramunga Arr	53.05	183	P	P	16 02 59.9	-0.6
	0.5nm,0.6s,mb3.7,baz=1.7,slow=7.6,SNR=12						
MBWA	Marble Bar	56.65	199	P	P	16 03 27.6	+1.0
ASAR	Alice Springs	56.77	183	P	P	16 03 27.4	-0.2
	0.4nm,0.6s,mb3.6,baz=14,slow=11,SNR=7.6						

OTT 08 16:00:17.6±0.1**, 52.78N**×**67.22W, MN2.7**/5**, Blast, Mount Wright, Qc Mining explosion., Northern Quebec**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCHQ	Schefferville	2.07	6	PN	Pn	16 00 53.5	-0.6
SCHQ				SG	Sg	16 01 22.1	-4.6
SCHQ				Trac		16 01 24.1	
	comp=Z,22nm,0.2s						
MNQ	Manicouagan	2.44	204	PN	Pn	16 00 58.0	-1.4
MNQ				SN	Sn	16 01 28.8	-1.6
MNQ				Trac		16 01 35.5	
	comp=Z,9.4nm,0.1s						
SMQ	Clarke City	2.58	173	PN	Pn	16 01 00.6	-0.7
SMQ				Trac		16 01 35.9	
	comp=Z,15nm,0.3s						
ICQ	Pointe Anglais	3.26	181	PN	Pn	16 01 09.0	-2.0
ICQ				SN	Sn	16 01 46.8	-4.2
ICQ				Trac		16 02 01.6	
	comp=Z,6.2nm,0.2s						
CNQ	Baie Comeau	3.52	189	PN	Pn	16 01 13.1	-1.6
CNQ				SN	Sn	16 01 50.9	-6.8
CNQ				Trac		16 02 05.8	
	comp=Z,6.0nm,0.2s						
GSQ	Grosses Roches	3.87	179	PN	Pn	16 01 17.7	-2.0
LG4Q	La Grande 4	4.22	284	PN	Pn	16 01 22.6	-2.1
LG4Q				SN	Sn	16 02 09.5	-5.9
LG4Q				SG	Sg	16 02 25.1	-13
LMQ	La Malbaie	5.60	202	PN	Pn	16 01 39.0	-5.2
LMQ				SN	Sn	16 02 44.0	-6.2
DRLN	Deer Lake	7.07	116	PN	Pn	16 02 00.8	-4.1
VIMO	Victor Mine	10.01	277	PN	P	16 02 36.7	-8.9
VIMO				SN	S	16 04 22.0	-18
SILO	Sutton Inlier	10.64	286	PN	P	16 02 47.5	-6.8
SILO				SN	S	16 04 36.7	-19

*IDC **08** 16:03:52.3±0.6, 33.18N×137.02E, mb4.0/13, mb1 4.2/16, mb1mx4.1/24, ML4.0/3, Error ellipse: s-maj=19.6km s-min=15.5km az=46.0*

*NEIC **08** 16:03:54.0±0.5, 33.05N×136.94E, h10^{km}, mb4.3/10, Error ellipse: s-maj=11.5km s-min=8.8km az=111.0*

NEIC Recorded [1 JMA] in Mie, Nara and Wakayama Prefectures.

*BJI **08** 16:03:55.1, 33.45N×136.80E, h5^{km}, mb4.3*

*JMA **08** 16:03:55.4±0.1, 33.17N×136.93E, h39^{km}±3^{km}, M4.4*

JMA Felt I J1.

ISC 08 16:03:55.3±1.0**, 33.18N**±0.03×**136.95E**±0.03**, h31**^{km}±7^{km}**, n53, σ1^{s}.00**/71**, mb4.1**/24**, 1C-11D, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	Tokai 1	0.79	42	P	Pn	16 04 10.4	0.0
TK01				eS	Sb	16 04 21.1	+0.1
TK02	Tokai 2	1.02	41	⇓P	Pn	16 04 13.7	+0.1
TK02				eS	Sn	16 04 27.6	+0.7
JWZ	Kozaga	1.09	289	⇓P	Pn	16 04 14.3	-0.3
JWZ				S	Sn	16 04 27.4	-1.3
JKN	Kiinagashima	1.21	332	⇓P	Pn	16 04 16.5	+0.2
JKN				eS	Sn	16 04 30.6	-1.1
JIE	Ise	1.23	351	⇓P	Pn	16 04 17.1	+0.6
JIE				eS	Sn	16 04 32.2	+0.1
TK04	Tokai 4	1.43	32	⇓P	Pn	16 04 19.8	+0.4
TK04				S	Sn	16 04 37.4	+0.1
JWM	Minabe	1.49	297	⇓P	Pn	16 04 20.2	-0.1
JWM				eS	Sn	16 04 38.4	-0.4
JWY	Kouya	1.53	313	⇓P	Pn	16 04 21.5	+0.6
JWY				eS	Sn	16 04 39.6	-0.3
TSUJ	Tsu 2	1.59	344	⇓P	Pn	16 04 22.2	+0.5
TSUJ				eS	Sn	16 04 40.9	-0.4
JHE	Heguri	1.81	325	⇓P	Pn	16 04 25.3	+0.5
JHE				eS	Sn	16 04 46.6	-0.3
JAJ2	Tsuna	2.12	306	⇓P	Pn	16 04 29.8	+0.5
JAJ2				eS	Sn	16 04 54.3	-0.5
SHZ3	Shizuoka 3	2.15	29	P	Pn	16 04 29.5	-0.3
SHZ3				eS	Sn	16 04 53.8	-1.9
JAI	Aioi	2.17	287	⇓P	Pn	16 04 30.0	-0.1
JAI				eS	Sn	16 04 54.0	-2.2
JIZS	Izushimoda	2.22	46	P	Pn	16 04 32.3	+1.5
JIZS				eS	Sn	16 04 56.1	-1.3
JMY	Miyakejima3	2.32	67	P	Pn	16 04 32.7	+0.5
JMY				eS	Sn	16 04 59.8	-0.1
JHJ	Hachijo jima 2	2.38	91	Pn	Pn	16 04 33.1	+0.1
	139nm,0.3s,baz=102,slow=20,SNR=55						
JHJ				Sn	Sn	16 05 00.8	-0.7
	96nm,0.3s,baz=72,slow=23,SNR=14						
JHJ2	Mitsune	2.41	91	⇑P	Pn	16 04 33.3	-0.2
JHJ2				eS	Sn	16 05 00.3	-1.9
MAJO	Matsushiro	3.51	17	eP	Pn	16 04 49.5	+0.4
MAT	Matsushiro	3.51	17	P	Pn	16 04 49.6	+0.5
MAT				S	Sn	16 05 29.0	-1.1
MAT	Matsushiro	3.51	17	eP	Pn	16 04 50.0	+0.9
MAT				eS	Sn	16 05 29.0	-1.1
CBIJ	Chichi jima	7.57	142	Pn	Pn	16 05 43.6	-2.7
	16nm,0.3s,baz=129,slow=20,SNR=3.6						
JOW	Kunigami	9.82	232	Pn	P	16 06 16.4	-1.3
	1.1nm,0.3s,baz=87,slow=14,SNR=5.2						
BJT	Baijiatuau	18.01	298	P	P	16 08 04.8	-0.1
	24nm,1.4s						
HIA	Hailar	20.56	327	P	P	16 08 33.5	-0.3
HHC	Hu-ho-hao-te	21.62	298	eP	P	16 08 45.2	+0.5
HHC				AMB	AMB		
	comp=Z,24nm,0.4s,mb5.0						
XAN	Xi'an	23.33	280	P	P	16 09 04.0	+2.3
XAN				AP		16 09 09.3	
XAN				AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.1						
ENH	Enshi	23.51	270	eP	P	16 09 05.6	+2.2
	comp=Z,4.6nm,0.7s,mb4.0						
SONM	Songino Array	27.24	312	P	P	16 09 38.4	+0.1
	comp=Z,0.5nm,0.6s,mb3.2,baz=146,slow=13,SNR=3.0						
YAK	Yakutsk	29.24	353	eP	P	16 09 56.4	+0.1
	comp=Z,4.4nm,0.8s,mb4.2						
CMAR	Chiang Mai Arr	37.00	256	P	P	16 11 04.5	+0.5
	comp=Z,0.8nm,0.6s,mb3.7,baz=57,slow=7.5,SNR=8.7						
ZAL	Zalesovo	41.97	316	PcP	PcP	16 13 39.6	-0.7
	comp=Z,1.2nm,0.8s,baz=60,slow=16,SNR=4.9						
MKAR	Makanchi Array	43.19	305	P	P	16 11 56.2	+1.4
	comp=Z,2.0nm,0.8s,mb3.9,baz=90,slow=9.7,SNR=8.7						
MKAR	Makanchi Array	43.19	305	P	P	16 11 56.2	+1.4
KURK	Kurchatov	45.54	311	eP	P	16 12 13.2	-0.5
	comp=Z,3.1nm,0.9s,mb4.2						
BVAR	Borovoye Array	50.54	314	P	P	16 12 52.6	+0.1
	comp=Z,0.7nm,0.6s,mb3.7,baz=117,slow=9.9,SNR=6.3						
BVAR				PcP	PcP	16 14 10.0	-0.3
	comp=Z,1.2nm,0.5s,baz=90,slow=3.0,SNR=6.4						
BRVK	Borovoye	50.60	314	eP	P	16 12 53.8	+0.8
	comp=Z,3.0nm,0.8s,mb4.3						
ZRNK	Zerenda	51.38	314	eP	P	16 12 59.1	+0.2
	comp=Z,4.6nm,1.0s,mb4.4						
WRAB	Tennant Creek	52.87	183	eP	P	16 13 09.1	-1.5
	comp=Z,3.1nm,0.9s,mb4.2						
WRA	Warramunga Arr	52.88	183	P	P	16 13 09.4	-1.3
	comp=Z,1.1nm,0.6s,mb4.0,baz=359,slow=7.7,SNR=33						
WRA				PcP	PcP	16 14 19.5	0.0
	comp=Z,0.7nm,0.7s,baz=356,slow=4.1,SNR=5.7						
MBWA	Marble Bar	56.48	199	eP	P	16 13 32.6	-4.3
	comp=Z,4.2nm,0.7s,mb4.6						
ASAR	Alice Springs	56.60	183	P	P	16 13 36.8	-1.0
	comp=Z,1.0nm,0.6s,mb4.0,baz=14,slow=11,SNR=16						
ARU	Arti	56.86	319	P	P	16 13 37.1	-2.0
	comp=Z,8.7nm,1.2s,mb4.7						
FINES	FINESS Array B	70.48	332	P	P	16 15 08.8	+0.4
	comp=Z,2.6nm,1.0s,mb4.1,baz=59,slow=8.1,SNR=3.7						
AKASG	Malin Array Be	75.05	321	P	P	16 15 34.4	-1.1
	comp=Z,1.3nm,0.6s,mb4.1,baz=50,slow=6.6,SNR=5.8						
NOA	NORSAR Array B	76.27	336	P	P	16 15 43.0	+0.9
	comp=Z,0.4nm,0.7s,mb3.5,baz=72,slow=4.1,SNR=2.4						
BRTR	Keskin Array B	78.59	310	P	P	16 15 56.2	+0.8
	comp=Z,1.4nm,1.0s,mb3.9,baz=108,slow=3.9,SNR=4.8						
TPNV	Topopah Spring	82.43	51	eP	P	16 16 17.2	+1.4
	comp=Z,2.3nm,0.8s,mb4.2						
PDAR	Pinedale Array	82.97	43	P	P	16 16 19.4	+0.8
	comp=Z,0.6nm,0.7s,mb3.7,baz=270,slow=3.0,SNR=4.0						
KHC	Kasperske Hory	83.82	327	eP	P	16 16 24.5	+1.8
GERES	GERESS Array B	83.96	326	P	P	16 16 24.3	+0.9
	comp=Z,2.6nm,0.8s,mb4.4,baz=34,slow=4.8,SNR=9.0						
PV10	Paradox Valley	86.07	46	P	P	16 16 33.6	-0.6
PV01	Paradox Valley	86.51	46	eP	P	16 16 38.8	+2.5
TXAR	Lajitas Array	95.39	50	P	P	16 17 19.6	+1.6
	comp=Z,1.0nm,0.5s,mb4.5,baz=285,slow=3.3,SNR=7.0						

*IDC **08** 16:07:57.8±1.4, 19.20S×174.90E, mb4.3/6, mb1 4.5/7, mb1mx4.3/12, ML3.8/1, Error ellipse: s-maj=38.2km s-min=29.6km az=168.0*

ISC 08 16:08:01.5±1.3**, 19.3S**±0.2×**174.9E**±0.2**, h33**^{km}**, n8, σ0^{s}.62**/7**, mb4.2**/6**, Vanuatu Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	18.97	175	P	P	16 12 22.7	0.0
	0.3nm,0.3s,baz=349,slow=6.7,SNR=6.3						
STKA	Stephens Creek	32.37	241	P	P	16 14 30.8	+0.4
	5.4nm,0.8s,mb4.4,baz=84,slow=9.5,SNR=6.3						
WRA	Warramunga Arr	38.11	262	P	P	16 15 18.3	-1.0
	2.6nm,0.9s,mb4.0,baz=95,slow=8.7,SNR=8.9						
ASAR	Alice Springs	38.27	256	P	P	16 15 20.2	-0.3
	14nm,1.2s,mb4.5,baz=84,slow=8.6,SNR=22						
FITZ	Fitzroy Crossi	46.52	263	P	P	16 16 29.0	+1.1
	4.9nm,1.1s,mb4.3,baz=90,slow=5.1,SNR=2.8						
MAW	Mawson	80.31	201	P	P	16 20 10.2	-0.2
	1.9nm,0.8s,mb4.1,baz=159,slow=5.5,SNR=5.1						
TXAR	Lajitas Array	92.17	60	P	P	16 21 09.5	0.0
	0.3nm,0.3s,mb4.1,baz=204,slow=8.9,SNR=3.7						
GERES	GERESS Array B	146.87	337	PKPbc	PKPbc	16 27 41.3	+1.3
	1.0nm,0.9s,baz=45,slow=3.8,SNR=4.3						

*NEIC **08** 16:11:45.8±0.8, 24.01S×67.11W, h180^{km}±10^{km}, mb4.1/2, MD3.9(SJA), Error ellipse: s-maj=14.7km s-min=10.5km az=101.0*

NEIC Felt [III] in the Los Gigantes area.

*IDC **08** 16:11:45.4±4.6, 24.06S×67.11W, h173^{km}±34^{km}, mb1 4.1/2, mb1mx3.6/11, Error ellipse: s-maj=47.3km s-min=32.0km az=28.0*

ISC 08 16:11:45.0±1.2**, 24.05S**±0.08×**67.1W**±0.2**, h185**^{km}±23^{km}**, n11, σ0^{s}.70**/11**, mb4.5**/1**, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	Limon Verde	2.23	310	eP	P	16 12 24.6	-0.7
LVC				eS	S	16 12 48.7	-7.6
LPAZ	La Paz	7.79	352	P	P	16 13 37.2	+0.8
	4.2nm,0.3s,baz=159,slow=4.3,SNR=17						
LPAZ				S	S	16 15 04.0	+0.7
	0.3nm,0.3s,baz=335,slow=16,SNR=4.2						
LPAZ	La Paz	7.79	352	P	P	16 13 37.2	+0.8
LPAZ				S	S	16 15 04.0	+0.7
TRQA	Tornquist	14.62	164	eP	P	16 15 04.9	+0.7
SAML	Samuel	15.46	14	eP	P	16 15 13.5	-1.4
	2.9nm,0.6s						
BDFB	Brasilia	19.75	68	P	P	16 16 02.6	0.0
	3.4nm,0.3s,baz=246,slow=9.2,SNR=25						
BAO	Brasilia Array	19.77	68	eP	P	16 16 02.7	-0.1
QSPA	South Pole Qui	66.16	180	eP	P	16 22 14.0	-0.1
	3.5nm,0.5s,mb4.5						
ASAR	Alice Springs	128.39	205	PKP	PKPdf	16 30 31.5	+1.1
	0.5nm,0.8s,baz=158,slow=2.1,SNR=6.6						
WRA	Warramunga Arr	131.56	207	PKP	PKPdf	16 30 37.7	+1.2
	0.2nm,0.3s,baz=161,slow=1.7,SNR=8.7						
WRA				SKPbc		16 33 46.3	
	0.2nm,0.5s,baz=152,slow=3.4,SNR=6.0						
MKAR	Makanchi Array	146.59	40	PKPbc	PKPbc	16 31 06.4	+2.2
	0.6nm,0.5s,baz=307,slow=2.8,SNR=5.1						

*ISK **08** 16:16:42.4, 38.45N×39.14E, h3^{km}, MD4.0, ML4.1*

*NEIC **08** 16:16:44.1±0.7, 38.25N×39.05E, h10^{km}, mb3.8/7, Error ellipse: s-maj=14.0km s-min=8.4km az=175.0*

*IDC **08** 16:16:44.3±1.2, 38.47N×39.08E, mb3.7/7, mb1 3.9/11, mb1mx3.8/23, ML3.6/3, Error ellipse: s-maj=20.5km s-min=17.4km az=12.0*

*MOS **08** 16:16:45.3±0.6, 38.56N×38.96E, h10^{km}, mb3.9/6, Error ellipse: s-maj=36.4km s-min=15.6km az=130.0*

ISC 08 16:16:42.7±0.6**, 38.41N**±0.03×**39.15E**±0.03**, h2**^{km}±4^{km}**, n58, σ0^{s}.91**/64**, mb3.7**/11**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ELZG	Elazig	0.16	304	i P	Pg	16 16 46.4	+0.5
ELZG				i S	Sg	16 16 54.8	+6.8
PTK	Pertek	0.52	21	i PG	Pg	16 16 52.8	-0.2
PTK				i SG	Sg	16 16 59.7	-0.2
MYA	Malataya	0.58	262	i PG	Pg	16 16 53.7	-0.5
MALT	Malatya	0.58	261	eP	Pg	16 16 53.0	-1.3
DIY	Diyarbakir	0.99	121	PG	Pg	16 17 02.6	+0.1
DIY				SG	Sg	16 17 17.2	+1.5
BINT	Bingol	1.15	66	PN	Pn	16 17 04.7	-0.9
EZC	Erzincan	1.43	21	PN	Pn	16 17 07.6	-2.1
KELT	Kelkit	1.74	3	i P	Sn	16 17 38.8	+1.7
KELT				i S	Sg	16 17 47.9	+7.4
BEST	Besiri	1.75	107	i P	Sn	16 17 38.8	+1.4
BTMT	Batman	1.85	96	PN	Pn	16 17 15.0	-0.7
GAZ	Gaziantep	1.97	232	ePN	Pn	16 17 17.2	-0.3
GUMT	Gumushane	2.06	7	ePN	Pn	16 17 18.8	0.0
SVST	Sivas	2.19	309	i P	Sn	16 17 38.8	-10
SVST				i S	Sg	16 17 57.5	+2.1
SVSK	Karacayir	2.25	313	ePN	Pn	16 17 22.1	+0.6
EZM	Erzurum	2.28	48	ePN	Pn	16 17 22.6	+0.8
BNN	Bunyan	2.63	281	PN	Pn	16 17 27.5	+0.7
TOKT	Tokat	2.78	314	PN	Pn	16 17 29.6	+0.6
COBT	Iskenderun	2.98	232	i P	Pn	16 17 38.8	+7.0
COBT				i S	Sn	16 18 10.0	+1.3
YOZ	Yozgat	3.23	294	ePN	Pn	16 17 35.6	+0.2
VANB	Van	3.33	86	ePN	Pn	16 17 36.9	+0.1
KVT	Kavak	3.58	319	ePN	Pn	16 17 39.7	-0.7
NIG	Nigde	3.59	267	PN	Pn	16 17 40.9	+0.4
KAMT	Kaman	4.35	284	ePN	Pn	16 17 51.1	-0.2
BRTR	Keskin Array B	4.49	289	Pn	Pn	16 17 53.1	-0.1
	3.6nm,0.3s,baz=112,slow=13,SNR=58						
BRTR				Lg		16 19 05.8	
	baz=162,slow=7.8,SNR=1.6						
BRTR	Keskin Array B	4.49	289	P	Pn	16 17 53.2	-0.1
BRTR				pmax	pmax		
	comp=Z,4.0nm,0.3s						
TOS	Tosya	4.75	305	ePN	Pn	16 17 57.6	+0.7
KIZT	Kizilcal	5.71	277	ePN	Pn	16 18 11.0	+0.4
CSS	Prodhromos	5.81	235	eP	Pn	16 18 11.7	-0.3
	comp=Z,9.4nm,0.6s						
ASF	Jabal al Asfar	6.49	197	Pn	Pn	16 18 19.9	-1.7
	comp=Z,0.7nm,0.3s,baz=271,slow=2.5,SNR=9.5						
ASF				Lg		16 20 13.1	
	comp=Z,3.8nm,0.3s,baz=252,slow=21,SNR=4.0						
EIL	Elat	9.39	203	P	P	16 18 56.6	-5.4
IDI	Anoyia	11.84	259	Pn	P	16 19 36.8	+1.2
	comp=Z,0.8nm,0.3s,baz=83,slow=17,SNR=5.1						
AKASG	Malin Array Be	14.16	333	Pn	P	16 20 02.3	-4.0
	baz=136,slow=13,SNR=1.3						
OBN	Obninsk	16.80	355	eP	P	16 20 54.2	+14
OBN				pmax	pmax		
	comp=Z,12nm,1.2s						
PSZ	Piszkesteto	16.92	310	P	P	16 20 41.5	-0.5
	comp=Z,3.6nm,0.8s						
TIP	Timpagrande	17.47	280	eP	P	16 20 49.1	+0.1
MORC	Moravsky Berou	19.16	313	eP	P	16 21 05.6	-4.1
	comp=Z,3.2nm,1.0s						
AQU	L'Aquila	19.98	290	P	P	16 21 18.9	-0.2
	comp=Z,47nm,1.3s						
PRU	Pruhonice	21.00	311	eP	P	16 21 29.0	-0.6
GERES	GERESS Array B	21.07	308	P	P	16 21 29.3	-1.1
	comp=Z,2.2nm,0.9s,mb3.5,baz=117,slow=9.0,SNR=14						
GERES	GERESS Array B	21.07	308	P	P	16 21 29.3	-1.1
GERES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KHC	Kasperske Hory	21.25	309	eP	P	16 21 30.5	-1.7
ARU	Arti	22.17	29	eP	P	16 21 39.6	-1.7
	comp=Z,3.8nm,0.8s,mb3.9						
CLL	Collm	22.44	314	e	P	16 21 49.0	+4.9
GRA1	Grafenberg Arr	22.89	309	eP	P	16 21 48.5	0.0
	comp=Z,6.0nm,1.3s,mb3.9						
GRF	Grafenberg Arr	22.89	309	eP	P	16 21 48.5	0.0
GRF				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb3.9						
FINES	FINESS Array B	24.45	345	P	P	16 22 03.4	-0.2
	comp=Z,4.1nm,1.0s,mb3.8,baz=135,slow=14,SNR=7.7						
FINES	FINESS Array B	24.45	345	P	P	16 22 03.4	-0.2
FINES				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ZRNK	Zerenda	25.19	45	eP	P	16 22 10.7	-0.1
	comp=Z,0.5nm,0.4s,mb3.4						
BVAR	Borovoye Array	25.99	46	P	P	16 22 19.7	+1.4
	comp=Z,0.3nm,0.4s,mb3.1,baz=225,slow=8.4,SNR=3.7						
HFS	Hagfors	27.04	332	P	P	16 22 27.5	-0.4
	comp=Z,1.6nm,0.5s,mb3.8,baz=127,slow=7.4,SNR=7.1						
HFS	Hagfors	27.04	332	P	P	16 22 27.5	-0.4
HFS				pmax	pmax		
	comp=Z,2.0nm,0.5s						
NOA	NORSAR Array B	28.56	332	P	P	16 22 42.4	+0.7
	comp=Z,0.8nm,0.9s,mb3.5,baz=127,slow=8.1,SNR=2.5						
NOA	NORSAR Array B	28.56	332	P	P	16 22 42.4	+0.8
NOA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
KURK	Kurchatov	30.33	53	eP	P	16 22 57.1	-0.4
	comp=Z,2.2nm,0.6s,mb4.1						
MKAR	Makanchi Array	32.50	61	P	P	16 23 16.8	+0.1
	comp=Z,1.0nm,0.7s,mb3.8,baz=279,slow=6.0,SNR=6.7						
MKAR	Makanchi Array	32.50	61	P	P	16 23 16.8	+0.2
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						

MKAR	**Makanchi Array**	**32.50**	**61**	P	**P**	**16 23 16.8**	**+0.1**
SONM	**Songino Array**	**48.55**	**56**	P	**P**	**16 25 28.7**	**-0.3**
	comp=Z,0.6nm,0.7s,mb3.7,baz=301,slow=7.2,SNR=3.6						

CASC 08 16:24:48.2±2.8, 13.63N×91.14W, h6^{km}±17^{km}, MD3.6, ML3.6, 5C-5D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAT	**Jato**	**0.83**	**325**	⇓*e*P	Pb	16 25 03.3	-1.3
JAT				*e*S	Sb	16 25 15.8	-0.2
JAT				AML	AML	16 25 16.3	
	comp=N,2μm,0.3s						
IXG	**Ixpaco**	**0.86**	**51**	⇑*e*P	Pb	16 25 05.0	-0.1
IXG				*e*S	Sb	16 25 17.2	+0.6
IXG				AML	AML	16 25 18.8	
	comp=E,2μm,0.2s						
FUG	**Fuego 3**	**0.86**	**20**	⇓*e*P	Pb	16 25 04.8	-0.4
FUG				*e*S	Sb	16 25 17.7	+1.0
TP2	**Tecpan 2**	**1.15**	**6**	⇑*e*P	Pb	16 25 08.8	-1.3
TP2				*e*S	Sb	16 25 24.7	-0.4
TP2				AML	AML	16 25 25.2	
	comp=E,2μm,0.3s						
NBG	**Las Nubes**	**1.22**	**39**	⇓*e*P	Pb	16 25 11.0	-0.3
NBG				*e*S	Sb	16 25 28.6	+1.4
NBG				AML	AML	16 25 32.0	
	comp=N,1μm,0.3s						
RTR	**El Retiro**	**1.48**	**80**	⇓*e*P	Pn	16 25 14.0	-1.4
RTR				*e*S	Sb	16 25 35.3	+0.7
SBLS	**San Blas**	**1.49**	**82**	*e*P	Pn	16 25 14.9	-0.7
SBLS				*e*S	Sb	16 25 34.3	-0.7
SNJE	**San Jose**	**1.51**	**81**	*e*P	Pn	16 25 15.3	-0.6
SNJE				*e*S	Sb	16 25 34.4	-1.2
BOQS	**Boqueron**	**1.81**	**87**	⇑*e*P	Pn	16 25 36.5	+16
MTO2	**Montecristo 2**	**1.89**	**66**	*e*P	Pn	16 25 19.8	-1.5
MRL	**Marmol**	**2.00**	**44**	⇑*e*P	Pn	16 25 23.9	+1.0
MRL				*e*S	Sn	16 25 51.1	+2.5
LFRS	**El Faro**	**2.02**	**90**	⇓*e*P	Pn	16 25 22.7	-0.6
LFRS				*e*S	Sn	16 25 48.1	-1.0
LCBS	**La Ceiba**	**2.10**	**89**	⇑*e*P	Pn	16 25 24.3	-0.2
LCBS				*e*S	Sn	16 25 50.6	-0.6

IDC 08 16:47:12.1±2.2, 6.10S×130.18E, mb3.6/1, mb1 3.8/4, mb1mx3.6/11, ML3.5/3, Error ellipse: s-maj=92.1km s-min=28.1km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.72**	**200**	Pn	P	16 50 16.2	-1.0
	0.4nm,0.3s,baz=18,slow=8.3,SNR=13						
FITZ				Sn	S	16 52 28.4	-12
	0.3nm,0.3s,baz=174,slow=18,SNR=4.2						
WRA	**Warramunga Arr**	**14.34**	**164**	Pn	P	16 50 35.3	-3.3
	0.3nm,0.3s,baz=344,slow=13,SNR=30						
WRA				Sn	S	16 53 04.6	-15
	0.3nm,0.3s,baz=331,slow=23,SNR=7.3						
ASAR	**Alice Springs**	**17.83**	**169**	P	P	16 51 21.3	-2.0
	0.1nm,0.3s,baz=344,slow=9.8,SNR=15						
MKAR	**Makanchi Array**	**67.58**	**327**	P	P	16 58 10.6	-2.1
	0.3nm,0.4s,baz=110,slow=6.8,SNR=6.5						

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*BJI **08** 16:55:16.5, 6.21S×129.92E, h170^{km}, mb4.6*
*NEIC **08** 16:55:18.2±0.2, 6.22S×129.79E, mb4.7/28, Error ellipse: s-maj=8.5km s-min=4.5km az=67.0*
*IDC **08** 16:55:18.4±0.8, 6.20S×129.86E, h168^{km}±7^{km}, mb4.3/12, mb1 4.5/15, mb1mx4.5/17, Error ellipse: s-maj=24.0km s-min=9.7km az=63.0*
ISC 08 16:55:16.5±0.3, 6.29S±0.04×129.80E±0.08, h168^{km}, h168^{km}±2.6^{km}:pP-P, n73, σ1^{s}09/75, mb4.7/38, 6D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**6.87**	**158**	⇓*i*P	**P**	**16 56 55.1**	**-0.6**
	244nm,0.4s						
KAKA				*e*S	**S**	**16 58 06.7**	**-6.2**
FITZ	**Fitzroy Crossi**	**12.42**	**199**	⇓*i*P	**P**	**16 58 06.2**	**-2.3**
	80nm,0.4s						
FITZ				*e*S	**S**	**17 00 18.4**	**-5.3**
FITZ	**Fitzroy Crossi**	**12.42**	**199**	P	**P**	**16 58 06.1**	**-2.4**
	17nm,0.3s,baz=23,slow=9.0,SNR=185						
FITZ				S	**S**	**17 00 17.3**	**-6.4**
	13nm,0.3s,baz=165,slow=20,SNR=9.3						
WRAB	**Tennant Creek**	**14.26**	**162**	*e*P	**P**	**16 58 28.9**	**-3.1**
	100nm,0.6s						
WRAB				*e*S	**S**	**17 00 56.4**	**-10**
WRA	**Warramunga Arr**	**14.27**	**162**	P	**P**	**16 58 29.0**	**-3.1**
	4.5nm,0.3s,baz=342,slow=13,SNR=103						
WRA				S	**S**	**17 00 58.6**	**-7.7**
	11nm,0.3s,baz=344,slow=21,SNR=16						
WB2	**Warramunga Arr**	**14.27**	**162**	⇓*i*P	**P**	**16 58 29.0**	**-3.2**
WB2				*e*S	**S**	**17 00 58.8**	**-7.6**
PMG	**Port Moresby**	**17.48**	**101**	*e*P	**P**	**16 59 12.4**	**+1.0**
MBWA	**Marble Bar**	**17.70**	**212**	*e*P	**P**	**16 59 13.7**	**-0.2**
	110nm,0.7s						
MBWA				*e*S	**S**	**17 02 10.4**	**-13**
ASAR	**Alice Springs**	**17.72**	**168**	P	**P**	**16 59 13.9**	**-0.2**
	18nm,0.3s,baz=349,slow=11,SNR=712						
ASAR				S	**S**	**17 02 24.6**	**+1.0**
	5.0nm,0.3s,baz=350,slow=26,SNR=8.7						
ASPA	**Alice Springs**	**17.72**	**168**	⇓*i*P	**P**	**16 59 14.3**	**+0.2**
ASPA				*e*S	**S**	**17 02 25.9**	**+2.4**
ASPA				*e*SS	SS	17 02 38.7	-18
KKM	**Kota Kinabalu**	**18.27**	**312**	⇓*e*P	**P**	**16 59 20.7**	**+0.6**
CTA	**Charters Tower**	**21.06**	**132**	*e*P	**P**	**16 59 50.1**	**+1.6**
	10nm,0.6s,mb4.3						
CTA				*e*S	tx	17 04 04.0	
CTA	**Charters Tower**	**21.06**	**132**	P	**P**	**16 59 50.1**	**+1.6**
	14nm,0.6s,mb4.5,baz=308,slow=12,SNR=40						
CTAO	**Charters Tower**	**21.06**	**132**	*e*P	**P**	**16 59 49.9**	**+1.4**
	22nm,0.8s,mb4.5						
KLBR	**Kellerberrin**	**27.58**	**203**	*e*P	**P**	**17 00 50.1**	**0.0**
	27nm,0.4s,mb5.3						
STKA	**Stephens Creek**	**27.74**	**158**	*e*P	**P**	**17 00 51.9**	**+0.4**
	5.5nm,0.4s,mb4.6						
STKA				*e*S	tx	17 06 11.1	
STKA	**Stephens Creek**	**27.74**	**158**	P	**P**	**17 00 51.5**	**0.0**
	7.7nm,0.9s,mb4.4,baz=345,slow=6.0,SNR=9.9						
MUN	**Mundaring**	**28.53**	**205**	*e*P	**P**	**17 00 58.5**	**-0.1**
	16nm,0.6s,mb4.9						
NWAO	**Narrogin (SRO)**	**28.96**	**202**	P	**P**	**17 01 02.6**	**+0.2**
	14nm,0.4s,mb5.1,baz=40,slow=8.7,SNR=38						
NWAO	**Narrogin (SRO)**	**28.96**	**202**	*e*P	**P**	**17 01 02.5**	**0.0**
	12nm,0.4s,mb5.0						
QIZ	**Qiongzhong**	**31.93**	**322**	*e*P	**P**	**17 01 24.6**	**-4.1**
	21nm,1.2s,mb4.8						
CNB	**Canberra Magne**	**34.04**	**151**	*e*P	**P**	**17 01 48.6**	**+2.1**
	22nm,1.4s,mb4.7						
TOO	**Toolangi**	**34.26**	**158**	*e*P	**P**	**17 01 50.3**	**+1.9**
	3.0nm,0.6s,mb4.2						
BDT	**Bhumibol Dam**	**38.38**	**308**	P	**P**	**17 02 24.0**	**+0.8**
	16nm,0.6s,mb4.8						
CMAR	**Chiang Mai Arr**	**39.13**	**310**	P	**P**	**17 02 30.2**	**+0.8**
	8.3nm,0.5s,mb4.6,baz=136,slow=7.1,SNR=92						
CHG	**Chiang Mai**	**39.34**	**310**	⇓P	**P**	**17 02 32.2**	**+1.1**
	18nm,0.8s,mb4.7						
KMI	**Kunming**	**40.84**	**321**	*e*P	**P**	**17 02 44.8**	**+1.4**
KMI				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.4						
ENH	**Enshi**	**41.24**	**333**	*e*P	**P**	**17 02 46.1**	**-0.6**
	comp=Z,13nm,0.9s,mb4.6						
MAJO	**Matsushiro**	**43.33**	**10**	*e*P	**P**	**17 03 02.0**	**-1.6**
	comp=Z,29nm,0.8s,mb5.0						
MAT	**Matsushiro**	**43.33**	**10**	P	**P**	**17 03 02.0**	**-1.6**
MAT	**Matsushiro**	**43.33**	**10**	*e*P	**P**	**17 03 02.0**	**-1.6**
	comp=Z,30nm,0.9s,mb4.9						
BJT	**Baijiatuau**	**47.77**	**346**	*e*P	**P**	**17 03 38.2**	**-0.3**
	comp=Z,11nm,0.6s,mb4.7						
SHL	**Shillong**	**48.58**	**312**	*e*	**P**	**17 03 44.0**	**-1.0**
LZH	**Lanzhou**	**48.69**	**332**	*e*P	**P**	**17 03 46.0**	**+0.3**
LZH				AMB	AMB		
	comp=Z,29nm,1.5s,mb4.7						
MDJ	**Mudanjiang**	**50.67**	**360**	*e*P	**P**	**17 04 00.0**	**-0.7**
	comp=Z,11nm,0.8s,mb4.5						
RPZ	**Rata Peaks**	**51.91**	**143**	P	**P**	**17 04 10.4**	**+0.4**
	comp=Z,14nm,0.6s,mb4.7,baz=348,slow=12,SNR=11						
GTA	**Gaotai**	**53.26**	**331**	P	**P**	**17 04 20.0**	**0.0**
GTA				AP	pP	17 05 02.5	+4.0
GTA				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.1						
URZ	**Urewera**	**53.30**	**134**	P	**P**	**17 04 19.3**	**-1.0**
	comp=Z,2.3nm,0.3s,mb4.3,baz=26,slow=5.8,SNR=6.4						
PKI	**Pulchoki**	**54.52**	**310**	*e*P	**P**	**17 04 28.3**	**-1.1**
	comp=Z,6.4nm,0.4s,mb4.7						
KKN	**Kakani**	**54.73**	**310**	*e*P	**P**	**17 04 30.3**	**-0.6**
	comp=Z,11nm,0.5s,mb4.8						
DMN	**Daman**	**54.77**	**310**	*e*P	**P**	**17 04 30.7**	**-0.5**
	comp=Z,14nm,0.5s,mb4.9						
GKN	**Gorkha**	**55.32**	**310**	*e*P	**P**	**17 04 34.7**	**-0.5**
	comp=Z,23nm,0.4s,mb5.3						
KOLN	**Koldanda**	**56.00**	**310**	*e*P	**P**	**17 04 39.7**	**-0.3**
SONM	**Songino Array**	**57.71**	**342**	P	**P**	**17 04 51.4**	**-0.4**
	comp=Z,3.7nm,1.0s,mb4.2,baz=154,slow=7.3,SNR=10						
WMQ	**Urumqi**	**62.69**	**327**	*e*P	**P**	**17 05 26.0**	**+0.3**
MKAR	**Makanchi Array**	**67.53**	**327**	P	**P**	**17 05 56.9**	**+0.2**
	comp=Z,21nm,0.6s,mb5.0,baz=125,slow=7.9,SNR=253						
MKAR				pP	pP	17 06 37.1	+0.2
	comp=Z,7.4nm,0.7s,baz=129,slow=7.8,SNR=3.7						
YAK	**Yakutsk**	**68.12**	**360**	*e*P	**P**	**17 05 59.3**	**-0.8**
	comp=Z,72nm,0.7s,mb5.5						
TKM2	**Tokmak 2**	**69.31**	**320**	P	**P**	**17 06 08.6**	**+0.9**
	SNR=9.7						
KBK	**Karagaybulak**	**69.59**	**320**	P	**P**	**17 06 10.5**	**+1.1**
	SNR=5.1						
UCH	**Uchtor**	**69.66**	**319**	P	**P**	**17 06 11.4**	**+1.6**
	SNR=9.1						
AAK	**Ala-Archa**	**69.87**	**320**	P	**P**	**17 06 12.7**	**+1.6**
	SNR=6.0						
AAK	**Ala-Archa**	**69.87**	**320**	*e*P	**P**	**17 06 11.2**	**+0.1**
	comp=Z,8.9nm,1.0s,mb4.5						
USP	**Ospenovka**	**70.18**	**320**	P	**P**	**17 06 13.7**	**+0.7**
	SNR=19						
EKS2	**Erkin-Say**	**70.35**	**319**	P	**P**	**17 06 15.3**	**+1.3**
	SNR=17						
ZAL	**Zalesovo**	**70.86**	**334**	P	**P**	**17 06 15.4**	**-1.5**
	comp=Z,3.2nm,0.6s,mb4.2,baz=255,slow=4.9,SNR=19						
ZAL				pP	pP	17 06 56.2	-1.3
	comp=Z,2.1nm,0.9s,baz=302,slow=6.8,SNR=2.8						
KURK	**Kurchatov**	**71.81**	**329**	P	**P**	**17 06 22.0**	**-0.5**
	comp=Z,88nm,1.0s,mb5.5,SNR=18						
KURK	**Kurchatov**	**71.81**	**329**	*e*P	**P**	**17 06 22.4**	**-0.2**
	comp=Z,21nm,1.1s,mb4.8						
KURK				*e*pP	pP	17 07 01.8	-1.4
SBA	**Scott Base**	**74.06**	**172**	*e*P	**P**	**17 06 33.9**	**-1.4**
	comp=Z,5.7nm,0.9s,mb4.3						
MAW	**Mawson**	**75.53**	**201**	*e*P	**P**	**17 06 44.5**	**+0.8**
	comp=Z,4.4nm,0.6s,mb4.3						
MAW	**Mawson**	**75.53**	**201**	P	**P**	**17 06 44.8**	**+1.1**
	comp=Z,5.5nm,0.7s,mb4.3,baz=78,slow=6.2,SNR=12						
BVAR	**Borovoye Array**	**77.36**	**328**	P	**P**	**17 06 54.3**	**+0.1**
	comp=Z,33nm,1.3s,mb4.8,baz=124,slow=5.3,SNR=32						
BVAR				pP	pP	17 07 35.0	-0.5
	comp=Z,6.2nm,1.0s,baz=117,slow=6.6,SNR=2.8						
BRVK	**Borovoye**	**77.43**	**328**	*e*P	**P**	**17 06 54.2**	**-0.3**
	comp=Z,7.1nm,0.8s,mb4.3						
BRVK				*e*pP	pP	17 07 35.6	-0.3
ZRNK	**Zerenda**	**78.06**	**327**	*e*P	**P**	**17 06 57.9**	**-0.2**
	comp=Z,11nm,0.8s,mb4.5						
ZRNK				*e*pP	pP	17 07 38.5	-0.9
QSPA	**South Pole Qui**	**83.68**	**180**	*e*P	**P**	**17 07 27.9**	**+0.9**
	comp=Z,4.9nm,0.5s,mb4.5						
DAWY	**Dawson**	**95.97**	**26**	*e*P	**P**	**17 08 25.7**	**+0.6**
BRTR	**Keskin Array B**	**98.72**	**309**	P	**P**	**17 08 37.9**	**-0.3**
	comp=Z,0.7nm,0.7s,mb4.2,baz=98,slow=7.1,SNR=3.4						
PDAR	**Pinedale Array**	**116.54**	**45**	PKP	PKPdf	17 13 42.4	+1.7
	comp=Z,0.7nm,0.6s,baz=9.0,slow=0.5,SNR=6.1						
RSSD	**Black Hills**	**119.87**	**42**	*e*PKP	PKPdf	17 13 48.5	+1.5
ULM	**Lac du Bonnet**	**121.97**	**33**	PKP	PKPdf	17 13 51.6	+0.7
	comp=Z,2.3nm,0.8s,baz=334,slow=18,SNR=5.6						
TXAR	**Lajitas Array**	**124.74**	**59**	PKP	PKPdf	17 13 59.1	+2.2
	comp=Z,1.1nm,0.8s,baz=180,slow=2.5,SNR=8.3						
JCT	**Junction City**	**127.67**	**56**	*e*P	PKPdf	17 14 05.0	+2.4
CPUP	**Villa Florida**	**146.84**	**168**	PKPbc	PKPbc	17 14 41.8	+2.6
	comp=Z,2.8nm,0.7s,baz=347,slow=0.5,SNR=7.8						
LPAZ	**La Paz**	**151.40**	**142**	PKPbc	PKPdf	17 14 54.4	+10
	comp=Z,1.5nm,0.5s,baz=331,slow=0.8,SNR=4.5						

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*ATH **08** 16:56:17.6, 39.86N×26.04E, h10^{km}*
*ISK **08** 16:56:20.2, 39.96N×26.23E, h5^{km}, MD3.0*
ISC 08 16:56:17.9±0.9, 39.81N±0.08×25.98E±0.07, h10^{km}, n10, σ0^{s}74/11, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EZN	**Ezine**	**0.27**	**87**	*i* PG	**Pg**	**16 56 23.1**	**-0.4**
EZN				*i* SG	**Sg**	**16 56 26.8**	**-0.5**
PRK	**Paraskevi**	**0.61**	**158**	*e*PB	**Pb**	**16 56 29.8**	**-0.4**
LIA	**Limnos Island**	**0.62**	**278**	*e*PB	**Pb**	**16 56 30.3**	**-0.1**
LPK	**Lapseki**	**0.82**	**47**	*i* PG	**Pg**	**16 56 33.2**	**-1.2**
RDO	**Rodhopi**	**1.38**	**346**	*e*PB	**Pb**	**16 56 42.9**	**-0.4**
MFT	**Murefte**	**1.39**	**45**	PN	**Pn**	**16 56 43.4**	**-0.1**
EDC	**Edincik**	**1.54**	**69**	*e*PN	**Pn**	**16 56 46.0**	**+0.4**
BNT	**Bandirma**	**1.58**	**69**	PN	**Pn**	**16 56 46.1**	**-0.1**
KCT	**Karacabey**	**1.88**	**75**	PN	**Pn**	**16 56 51.9**	**+1.4**
CTT	**Catalca**	**2.30**	**54**	*e*PN	**Pn**	**16 56 57.8**	**+1.4**

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*NEIC **08** 17:07:28.9±0.8, 33.26N×136.69E, h10^{km}, Error ellipse: s-maj=24.4km s-min=11.9km az=105.0*
NEIC Recorded [1 JMA] in Mie, Nara and Wakayama Prefectures.
*JMA **08** 17:07:29.5±0.1, 33.25N×137.24E, h44^{km}±2^{km}, M4.0*
JMA Felt I J1.
*IDC **08** 17:07:32.1±7.3, 33.56N×137.49E, h58^{km}±90^{km}, mb2.9/3, mb1 3.2/4, mb1mx3.1/22, ML3.8/1, Error ellipse: s-maj=81.4km s-min=25.2km az=52.0*
ISC 08 17:07:29.6±0.7, 33.25N±0.05×137.23E±0.03, h43^{km}±9^{km}, n23, σ0^{s}63/40, mb3.2/3, 1C-6D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TK01	**Tokai 1**	**0.60**	**30**	P	**P**	**17 07 41.6**	**-0.1**
TK01				*e*S	**S**	**17 07 50.3**	**-0.2**
TK02	**Tokai 2**	**0.83**	**32**	P	**P**	**17 07 44.8**	**-0.1**
TK02				*e*S	**S**	**17 07 56.1**	**0.0**
TK03	**Tokai 3**	**1.10**	**34**	P	**P**	**17 07 48.8**	**0.0**
TK03				*e*S	**S**	**17 08 03.2**	**+0.1**
JIE	**Ise**	**1.22**	**339**	⇓P	**P**	**17 07 51.2**	**+0.7**
JIE				*e*S	**S**	**17 08 06.9**	**+0.8**
TK04	**Tokai 4**	**1.26**	**25**	⇓P	**P**	**17 07 51.2**	**+0.2**
TK04				S	**S**	**17 08 06.7**	**-0.3**
JKN	**Kiinagashima**	**1.28**	**321**	⇓P	**P**	**17 07 51.6**	**+0.2**
JKN				*e*S	**S**	**17 08 06.7**	**-0.9**
JWZ	**Kozaga**	**1.30**	**283**	⇑P	**P**	**17 07 51.4**	**-0.2**
JWZ				*e*S	**S**	**17 08 06.8**	**-1.2**
JAA	**Atsumi**	**1.38**	**357**	⇓P	**P**	**17 07 53.0**	**+0.1**
JAA				S	**S**	**17 08 10.3**	**+0.1**
TSUJ	**Tsu 2**	**1.61**	**335**	⇓P	**P**	**17 07 56.5**	**+0.5**
TSUJ				*e*S	**S**	**17 08 15.6**	**-0.1**
JWY	**Kouya**	**1.67**	**306**	P	**P**	**17 07 57.6**	**+0.7**
JWY				*e*S	**S**	**17 08 17.3**	**0.0**
JWM	**Minabe**	**1.68**	**292**	P	**P**	**17 07 57.0**	**0.0**
JWM				*e*S	**S**	**17 08 16.7**	**-0.7**
JHE	**Heguri**	**1.90**	**318**	⇓P	**P**	**17 08 00.7**	**+0.5**
JHE				*e*S	**S**	**17 08 23.3**	**+0.3**
SHZ3	**Shizuoka 3**	**1.99**	**24**	P	**P**	**17 08 01.2**	**-0.2**
SHZ3				*e*S	**S**	**17 08 23.5**	**-1.7**
JIZS	**Izushimoda**	**2.01**	**43**	P	**P**	**17 08 02.6**	**+0.9**
JMY	**Miyakejima3**	**2.08**	**66**	P	**P**	**17 08 02.7**	**0.0**
JMY				*e*S	**S**	**17 08 27.5**	**+0.1**
JHJ	**Hachijo jima 2**	**2.15**	**93**	P	**P**	**17 08 03.5**	**-0.1**
	83nm,0.3s,baz=48,slow=22,SNR=32						
JHJ				S	**S**	**17 08 27.9**	**-1.3**
	65nm,0.3s,baz=80,slow=21,SNR=8.1						
MAJO	**Matsushiro**	**3.38**	**13**	*e*P	**P**	**17 08 21.7**	**+0.4**
MAT	**Matsushiro**	**3.38**	**13**	P	**P**	**17 08 22.0**	**+0.7**
MAT				S	**S**	**17 09 00.9**	**+0.2**
MAT	**Matsushiro**	**3.38**	**13**	*e*P	**P**	**17 08 22.0**	**+0.7**
MAT				*e*S	**S**	**17 09 01.0**	**+0.3**
MKAR	**Makanchi Array**	**43.34**	**305**	P	**P**	**17 15 28.3**	**-0.8**
	0.2nm,0.7s,mb3.0,baz=77,slow=9.4,SNR=2.2						
MKAR				pP	pP	17 15 43.4	+2.3
	0.8nm,0.8s,baz=92,slow=9.9,SNR=4.8						
KURK	**Kurchatov**	**45.68**	**311**	P	**P**	**17 15 47.1**	**-0.6**
WRA	**Warramunga Arr**	**52.96**	**183**	P	**P**	**17 16 43.9**	**-0.2**
	0.3nm,0.8s,mb3.3,baz=359,slow=7.4,SNR=4.8						
ASAR	**Alice Springs**	**56.68**	**184**	P	**P**	**17 17 12.9**	**+1.7**
	0.3nm,1.0s,mb3.3,baz=16,slow=13,SNR=3.9						

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*IDC **08** 17:11:54.6±1.4, 19.25S×174.51E, mb4.1/5, mb1 4.3/6, mb1mx4.2/12, ML3.9/1, Error ellipse: s-maj=42.0km s-min=28.3km az=162.0*
*NEIC **08** 17:12:00.9±7.3, 19.34S×174.46E, h43^{km}±64^{km}, mb4.6/5, Error ellipse: s-maj=31.5km s-min=12.9km az=196.0*
ISC 08 17:11:58.5±0.8, 19.5S±0.2×174.5E±0.1, h33^{km}, n18, σ0^{s}77/15, mb4.2/10, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**18.85**	**174**	P	**P**	**17 16 18.6**	**+0.3**
	0.4nm,0.3s,baz=2.3,slow=10,SNR=5.4						
CTAO	**Charters Tower**	**26.53**	**264**	*e*P	**P**	**17 17 35.6**	**+0.4**
	3.8nm,0.9s,mb3.9						
STKA	**Stephens Creek**	**31.95**	**241**	P	**P**	**17 18 24.6**	**+1.0**
	5.6nm,1.1s,mb4.3,baz=67,slow=13,SNR=4.3						
WB2	**Warramunga Arr**	**37.69**	**262**	*e*P	**P**	**17 19 11.9**	**-0.9**
WRAB	**Tennant Creek**	**37.69**	**262**	*e*P	**P**	**17 19 12.6**	**-0.2**
	7.6nm,0.9s,mb4.4						
WRA	**Warramunga Arr**	**37.70**	**262**	P	**P**	**17 19 11.9**	**-1.0**
	1.0nm,0.8s,mb3.6,baz=99,slow=8.6,SNR=11						
ASAR	**Alice Springs**	**37.85**	**256**	P	**P**	**17 19 14.6**	**+0.5**
	4.7nm,1.0s,mb4.2,baz=85,slow=8.7,SNR=33						
ASPA	**Alice Springs**	**37.85**	**256**	*e*P	**P**	**17 19 14.4**	**+0.3**
FITZ	**Fitzroy Crossi**	**46.11**	**263**	P	**P**	**17 20 22.0**	**+0.3**
	2.4nm,1.0s,mb4.1,baz=140,slow=15,SNR=2.2						
MBWA	**Marble Bar**	**51.13**	**258**	P	**P**	**17 21 00.4**	**-0.1**
QSPA	**South Pole Qui**	**70.58**	**180**	*e*P	**P**	**17 23 09.0**	**-2.7**
	6.6nm,1.0s,mb4.5						
PMSA	**Palmer Station**	**84.94**	**158**	*e*P	**P**	**17 24 31.7**	**+0.7**
	5.4nm,0.7s,mb4.8						
TPNV	**Topopah Spring**	**86.06**	**49**	*e*P	**P**	**17 24 37.6**	**+0.3**
	3.9nm,1.2s,mb4.5						
TXAR	**Lajitas Array**	**92.59**	**60**	P	**P**	**17 25 08.3**	**-0.1**
	0.7nm,0.8s,mb4.2,baz=214,slow=4.5,SNR=6.3						
TXAR	**Lajitas Array**	**92.59**	**60**	P	**P**	**17 25 08.3**	**-0.1**
CLL	**Collm**	**145.03**	**340**	*e*PKIKP	PKPdf	17 31 34.0	+1.8
	logA/T=0.9						
BRG	**Berggiesshubel**	**145.08**	**338**	*e*P	PKPdf	17 31 32.5	+0.2
GERES	**GERESS Array B**	**146.85**	**337**	PKPbc	PKPbc	17 31 36.8	-0.2
	0.8nm,0.7s,baz=27,slow=6.0,SNR=5.2						

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*NNC **08** 17:17:38.9±18.0, 38.82N×74.64E, mpv3.9, Error ellipse: s-maj=139.5km s-min=125.8km az=137.0*
*IDC **08** 17:17:41.4±2.6, 38.85N×73.96E, mb4.0/4, mb1 4.0/6, mb1mx3.7/21, ML3.2/2, Error ellipse: s-maj=40.6km s-min=26.6km az=176.0*
*BJI **08** 17:17:43.5, 39.37N×74.22E, h33^{km}, mb3.8, ML3.9*
*NEIC **08** 17:17:50.2±1.6, 39.28N×73.87E, h45^{km}, Error ellipse: s-maj=22.8km s-min=16.2km az=184.0*
ISC 08 17:17:43.2±0.7, 38.71N±0.06×74.30E±0.08, h33^{km}, n27, σ1^{s}75/29, mb3.9/4, 1C-2D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**1.54**	**58**	⇑PG	**P**	**17 18 07.4**	**-1.1**
KSH				SG	**S**	**17 18 26.0**	**-1.5**
KSH				Smax			
	comp=N,620nm,0.5s						
KSH				Smax			
	comp=E,460nm,0.6s						
AML	**Almayashu**	**3.45**	**353**	P	**P**	**17 18 39.8**	**+3.8**
	SNR=24						
UCH	**Uchtor**	**3.52**	**3**	P	**P**	**17 18 37.0**	**+0.1**
	SNR=14						
AAK	**Ala-Archa**	**3.93**	**2**	P	**P**	**17 18 44.8**	**+2.2**
	SNR=26						
AAK	**Ala-Archa**	**3.93**	**2**	*e*P	**P**	**17 18 42.0**	**-0.7**
EKS2	**Erkin-Say**	**3.97**	**354**	P	**P**	**17 18 45.8**	**+2.5**
	SNR=11						
KBK	**Karagaybulak**	**3.98**	**7**	P	**P**	**17 18 46.7**	**+3.4**
	SNR=26						
CHMS	**Chumysh**	**4.30**	**4**	P	**P**	**17 18 50.8**	**+2.8**
	SNR=10						
TKM2	**Tokmak 2**	**4.33**	**13**	P	**P**	**17 18 51.3**	**+3.0**
	SNR=28						
USP	**Ospenovka**	**4.56**	**2**	P	**P**	**17 18 54.1**	**+2.5**
	SNR=5.8						
KK31	**Karatay Array**	**5.25**	**328**	P	**P**	**17 19 00.3**	**-1.0**
	comp=E,11nm,0.7s,baz=134,slow=13,SNR=43						
KK31				⇓S	**S**	**17 20 02.2**	**+0.7**
	comp=E,11nm,0.5s,baz=144,slow=26,SNR=4.3						
MKAR	**Makanchi Array**	**9.99**	**33**	Pn	**P**	**17 20 06.0**	**-1.3**
	comp=E,0.2nm,0.3s,baz=222,slow=14,SNR=8.9						
MKAR				Lg		17 22 45.7	
	comp=E,0.1nm,0.3s,baz=218,slow=24,SNR=3.5						
MKAR	**Makanchi Array**	**9.99**	**33**	Pn	**P**	**17 20 06.0**	**-1.3**
MKAR				Lg		17 22 45.7	
KOLN	**Koldanda**	**13.39**	**142**	*e*P	**P**	**17 20 50.4**	**-2.9**
	comp=E,4.3nm,0.4s						
GKN	**Gorkha**	**13.72**	**138**	*e*P	**P**	**17 20 58.5**	**+0.9**
KKN	**Kakani**	**14.23**	**137**	*e*P	**P**	**17 21 05.6**	**+1.3**
	comp=E,5.4nm,0.5s						
PKI	**Pulchoki**	**14.47**	**137**	*e*P	**P**	**17 21 08.3**	**+0.8**
BVAR	**Borovoye Array**	**14.57**	**351**	Pn	**P**	**17 21 05.6**	**-3.0**
	comp=E,0.2nm,0.3s,baz=162,slow=14,SNR=10.0						
BVAR				Lg		17 25 18.6	
	comp=E,0.1nm,0.3s,baz=148,slow=27,SNR=3.1						
BRVK	**Borovoye**	**14.62**	**350**	P	**P**	**17 21 05.7**	**-3.6**
	comp=E,1.5nm,0.8s						
ZRNK	**Zerenda**	**14.71**	**347**	P	**P**	**17 21 06.1**	**-4.3**
	comp=E,4.6nm,1.1s						
AB31	**Akbulak array**	**14.74**	**320**	⇓P	**P**	**17 21 06.3**	**-4.6**
	comp=E,0.7nm,0.5s,baz=130,slow=14						
GTA	**Gaotai**	**19.81**	**80**	*e*P	**P**	**17 22 16.9**	**+3.3**
GTA				AP		17 22 22.5	
GTA				XP		17 22 25.2	
GTA				AMB	AMB		
	comp=Z,2.0nm,1.0s						
SONM	**Songino Array**	**24.94**	**58**	P	**P**	**17 23 09.5**	**+4.9**
	comp=Z,1.2nm,0.6s,mb3.6,baz=239,slow=8.4,SNR=4.4						
FINES	**FINESS Array B**	**37.19**	**324**	P	**P**	**17 24 51.4**	**-1.3**
	comp=Z,1.1nm,0.3s,mb4.1,baz=116,slow=10,SNR=15						
ARCES	**ARCESS Array B**	**40.16**	**336**	P	**P**	**17 25 16.0**	**-1.3**
	comp=Z,5.2nm,0.9s,mb4.2,baz=107,slow=9.4,SNR=3.3						
NB2	**NORSAR Subarra**	**44.24**	**322**	P	**P**	**17 25 48.4**	**-2.3**
	comp=Z,1.0nm,0.5s,mb3.8,baz=92,slow=7.9						
NOA	**NORSAR Array B**	**44.24**	**322**	P	**P**	**17 25 49.2**	**-1.4**
	comp=Z,0.9nm,0.5s,mb3.8,baz=92,slow=7.7,SNR=5.5						

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*IDC **08** 17:19:38.7±3.7, 7.32S×126.60E, h293^{km}±37^{km}, mb3.8/7, mb1 3.9/10, mb1mx3.7/16, Error ellipse: s-maj=28.4km s-min=16.1km az=55.0*
*NEIC **08** 17:19:39.1±1.0, 7.30S×126.64E, h299^{km}±11^{km}, mb4.1/16, Error ellipse: s-maj=11.5km s-min=6.8km az=54.0*
ISC 08 17:19:37.3±1.4, 7.32S±0.08×126.6E±0.1, h296^{km}±15^{km}, n34, σ0^{s}68/37, mb4.1/17, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**7.81**	**134**	*e*P	**P**	**17 21 30.3**	**+1.0**
	21nm,0.6s						
FITZ	**Fitzroy Crossi**	**10.76**	**185**	*e*P	**P**	**17 22 06.4**	**+0.7**
	7.3nm,0.6s						
FITZ	**Fitzroy Crossi**	**10.76**	**185**	P	**P**	**17 22 06.4**	**+0.7**
	0.6nm,0.3s,baz=23,slow=9.8,SNR=16						
FITZ				S	**S**	**17 24 12.2**	**+9.3**
	0.6nm,0.3s,baz=180,slow=9.9,SNR=5.1						
WRAB	**Tennant Creek**	**14.61**	**150**	*e*P	**P**	**17 22 51.6**	**-1.1**
	8.2nm,0.8s						
WRA	**Warramunga Arr**	**14.62**	**150**	P	**P**	**17 22 51.7**	**-1.0**
	1.4nm,0.3s,baz=325,slow=12,SNR=105						
WRA				S	**S**	**17 25 28.4**	**+0.5**
	0.6nm,0.3s,baz=328,slow=21,SNR=12						
WB2	**Warramunga Arr**	**14.62**	**150**	*e*P	**P**	**17 22 51.7**	**-1.1**
WB2				*e*S	**S**	**17 25 27.6**	**-0.4**
MBWA	**Marble Bar**	**15.28**	**205**	*e*P	**P**	**17 23 00.2**	**-0.2**
	15nm,0.7s						
ASPA	**Alice Springs**	**17.70**	**158**	*e*P	**P**	**17 23 26.4**	**+0.4**
ASPA				*e*S	**S**	**17 26 37.8**	**+7.8**
ASAR	**Alice Springs**	**17.70**	**157**	P	**P**	**17 23 26.1**	**+0.1**
	5.2nm,0.3s,baz=335,slow=11,SNR=554						
ASAR				S	**S**	**17 26 30.8**	**+0.7**
	0.2nm,0.3s,baz=340,slow=21,SNR=5.4						
CTA	**Charters Tower**	**22.88**	**126**	*e*P	**P**	**17 24 17.3**	**+0.3**
	4.8nm,0.6s,mb4.0						
CTA	**Charters Tower**	**22.88**	**126**	P	**P**	**17 24 17.6**	**+0.6**
	7.2nm,0.6s,mb4.2,baz=309,slow=12,SNR=17						
CTAO	**Charters Tower**	**22.88**	**126**	*e*P	**P**	**17 24 17.1**	**+0.1**
	7.7nm,0.7s,mb4.1						
KLBR	**Kellerberrin**	**25.53**	**198**	*e*P	**P**	**17 24 40.7**	**-0.5**
	86nm,1.8s,mb4.9						
NWAO	**Narrogin (SRO)**	**26.93**	**198**	P	**P**	**17 24 53.2**	**-0.7**
	6.9nm,0.7s,mb4.2,baz=35,slow=11,SNR=6.4						
NWAO	**Narrogin (SRO)**	**26.93**	**198**	P	**P**	**17 24 53.2**	**-0.7**

STKA	Stephens Creek	28.14	152	*e*P	P	17 25 04.4	-0.5
	8.4nm,0.6s,mb4.3						
STKA	Stephens Creek	28.14	152	P	P	17 25 04.4	-0.4
	12nm,0.6s,mb4.5,baz=325,slow=8.4,SNR=32						
TOO	Toolangi	34.65	153	*e*P	P	17 26 02.5	+1.6
	3.6nm,0.6s,mb4.1						
PKI	Pulchoki	52.83	313	*e*P	P	17 28 25.3	+0.3
	5.4nm,0.5s,mb4.1						
KKN	Kakani	53.04	313	*e*P	P	17 28 26.8	+0.2
	8.5nm,0.6s,mb4.2						
DMN	Daman	53.07	313	*e*P	P	17 28 27.3	+0.6
	4.2nm,0.5s,mb4.0						
RPZ	Rata Peaks	53.08	141	P	P	17 28 26.3	-0.3
	7.7nm,0.5s,mb4.3,baz=269,slow=5.8,SNR=5.3						
RPZ	Rata Peaks	53.08	141	P	P	17 28 26.3	-0.3
GKN	Gorkha	53.63	313	*e*P	P	17 28 31.1	+0.3
	9.3nm,0.4s,mb4.5						
KOLN	Koldanda	54.26	312	*e*P	P	17 28 35.9	+0.6
	11nm,0.6s,mb4.3						
MKAR	Makanchi Array	66.69	328	P	P	17 29 58.5	0.0
	0.5nm,0.5s,mb3.5,baz=120,slow=7.2,SNR=12						
MKAR				PcP	PcP	17 30 25.5	0.0
	0.8nm,0.7s,baz=120,slow=6.6,SNR=4.5						
MKAR	Makanchi Array	66.69	328	P	P	17 29 58.5	0.0
MKAR				PcP	PcP	17 30 25.5	0.0
KURK	Kurchatov	71.07	330	*e*P	P	17 30 23.8	-1.4
	1.1nm,0.4s,mb3.8						
MAW	Mawson	73.44	201	P	P	17 30 39.2	+0.4
	0.7nm,0.3s,mb3.8,baz=72,slow=6.4,SNR=4.3						
BVAR	Borovoye Array	76.57	329	P	P	17 30 56.7	-0.1
	0.8nm,0.5s,mb3.7,baz=131,slow=11,SNR=8.1						
ZRNK	Zerenda	77.25	328	*e*P	P	17 31 00.1	-0.5
	2.1nm,0.6s,mb4.0						
QSPA	South Pole Qui	82.66	180	*e*P	P	17 31 28.7	+0.1
	3.3nm,0.7s,mb4.3						
CPUP	Villa Florida	146.33	174	PKPbc	PKPbc	17 38 45.2	+1.4
	4.2nm,1.0s,baz=208,slow=2.9,SNR=5.6						
CPUP	Villa Florida	146.33	174	PKPbc	PKPbc	17 38 45.2	+1.4

IDC 08 17:54:48.9±1.7**,0.14N**×**125.51E,mb3.8**/4**,mb1 4.0**/4**, mb1mx3.7**/13**,Error ellipse: s-maj=174.0km s-min=23.0km az=64.0,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	21.75	157	P	P	17 59 41.2	-2.9
	2.1nm,0.6s,baz=335,slow=11,SNR=34						
ASAR	Alice Springs	25.03	162	P	P	18 00 16.1	-0.2
	4.7nm,1.1s,baz=344,slow=11,SNR=42						
STKA	Stephens Creek	35.29	156	P	P	18 01 45.0	-2.8
	1.2nm,0.7s,baz=345,slow=12,SNR=4.3						
MKAR	Makanchi Array	59.84	327	P	P	18 04 56.2	-2.4
	0.6nm,0.6s,baz=119,slow=7.4,SNR=8.5						

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*DJA **08** 18:13:57.6±1.2,12.47S×120.88E,h33^{km},mb6.0/1, MD4.9/4,ML5.6/3,Error ellipse: s-maj=120.4km s-min=22.2km az=33.0*
*NEIC **08** 18:14:03.7±0.5,7.27S×120.12E,h558^{km}±8^{km},mb4.3/6, Error ellipse: s-maj=15.0km s-min=5.7km az=49.0*
*IDC **08** 18:14:04.8±1.8,7.28S×120.18E,h573^{km}±23^{km},mb3.5/6, mb1 3.6/8,mb1mx3.4/17,Error ellipse: s-maj=38.7km s-min=11.2km az=61.0*
ISC 08 18:14:03.0±0.7**,7.3S**±0.1×**120.0E**±0.1**,h569**^{km}±13^{km}**,n23, σ0^{s}61**/27**,mb4.0**/7**,4C-5D,Flores Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KEDI	Kedomdong	4.02	253	⇑*e*Pn	P	18 15 27.5	+0.6
	96nm,0.3s						
KEDI				⇑*e*Sn	S	18 16 33.9	+0.4
RATI	Rata	4.64	252	*e*Pn	P	18 15 31.7	+0.1
	359nm,0.2s						
RATI				⇑*e*Sn	S	18 16 40.1	-1.8
INGI	Ingas	5.04	252	⇓*e*Pn	P	18 15 35.3	+0.5
	2μm,0.3s						
INGI				⇑*e*Sn	S	18 16 46.9	-0.7
KELI	Kelakatan	5.53	260	⇓*e*P	P	18 15 39.9	+0.9
	331nm,0.2s						
FITZ	Fitzroy Crossi	12.04	153	⇓*i*P	P	18 16 42.7	+0.5
	6.5nm,0.8s						
FITZ	Fitzroy Crossi	12.04	153	P	P	18 16 42.8	+0.5
	1.3nm,0.3s,baz=346,slow=10.0,SNR=28						
KAKA	Kakadu	13.33	115	⇓*i*P	P	18 16 54.7	-0.4
	13nm,0.6s						
MBWA	Marble Bar	13.76	181	*e*P	P	18 17 00.4	+0.8
	3.5nm,0.6s						
WRA	Warramunga Arr	18.73	133	P	P	18 17 47.4	0.0
	1.9nm,0.3s,baz=308,slow=11,SNR=166						
WRAB	Tennant Creek	18.73	133	*e*P	P	18 17 47.9	+0.4
	33nm,0.7s						
WB2	Warramunga Arr	18.74	133	*e*P	P	18 17 47.3	-0.2
ASPA	Alice Springs	21.03	142	*e*P	P	18 18 08.3	-0.4
ASAR	Alice Springs	21.03	142	P	P	18 18 08.5	-0.2
	5.9nm,0.3s,mb4.6,baz=320,slow=8.4,SNR=263						
ASAR				S	S	18 21 24.4	-1.6
	0.4nm,0.7s,baz=310,slow=14,SNR=3.3						
ASAR				PcP	PcP	18 21 50.9	-0.8
	0.4nm,0.6s,baz=324,slow=1.1,SNR=4.5						
ASAR				ScP		18 24 34.3	
	0.5nm,0.7s,baz=328,slow=1.9,SNR=7.9						
NWAO	Narrogin (SRO)	25.61	185	P	P	18 18 50.2	+0.5
	4.6nm,0.8s,mb4.1,baz=13,slow=14,SNR=2.9						
NWAO	Narrogin (SRO)	25.61	185	P	P	18 18 50.2	+0.5
STKA	Stephens Creek	31.66	143	⇓*i*P	P	18 19 42.0	+0.1
	5.4nm,0.4s,mb4.4						
STKA	Stephens Creek	31.66	143	P	P	18 19 42.0	+0.2
	6.1nm,0.4s,mb4.5,baz=323,slow=8.1,SNR=55						
ENH	Enshi	38.71	345	*e*P	P	18 20 40.4	+0.1
SONM	Songino Array	56.22	349	P	P	18 22 51.4	-0.1
	2.0nm,0.6s,mb3.5,baz=162,slow=5.9,SNR=7.3						
MKAR	Makanchi Array	63.43	332	P	P	18 23 39.4	+0.2
	4.9nm,0.5s,mb4.2,baz=145,slow=7.6,SNR=86						
MKAR	Makanchi Array	63.43	332	P	P	18 23 39.4	+0.2
KURK	Kurchatov	67.95	333	*e*P	P	18 24 06.8	-0.4
	3.9nm,0.8s,mb4.0						
BVAR	Borovoye Array	73.30	331	P	P	18 24 38.1	-0.3
	0.8nm,0.7s,mb3.3,baz=117,slow=6.6,SNR=5.6						

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*JMA **08** 18:24:53.6±0.2,24.86N×122.01E,h46^{km}*
TAP 08 18:24:54.1,24.34N×121.96E,h20^{km}±1^{km}**,ML2.8, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	Yonaguni jima	0.97	83	P	Pb	18 25 11.3	-0.7
YOJ				*e*S	Sb	18 25 24.3	0.0
IRIF	Iriomote-Funau	1.61	90	P	Pn	18 25 20.7	-1.1
IRIF				*e*S	Sn	18 25 40.2	-2.0
JKRS	Kuro-shima	1.87	93	P	Pn	18 25 24.8	-0.7
JKRS				*e*S	Sn	18 25 48.2	-0.6
JIJ	Ishigaki jima	1.99	89	P	Pn	18 25 26.1	-1.1
JIJ				*e*S	Sn	18 25 49.1	-2.7

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*BJI **08** 18:26:55.0,44.59N×150.34E,h46^{km},mb4.7*
*MOS **08** 18:26:59.7±1.2,44.29N×149.53E,h48^{km},mb4.6/10,Error ellipse: s-maj=20.6km s-min=12.2km az=128.4*
*NIED **08** 18:27:00,44.50N×149.40E,h20^{km},Mw4.4 Best double couple: M$_0$4.99×10^{15} NP1:ϕ_s50°,δ69°,λ99°. NP2:ϕ_s206°, δ23°,λ68°.*
*SKHL **08** 18:27:00.5±2.8,44.48N×149.67E,h66^{km}±13^{km},mb5.6/3*
*NEIC **08** 18:27:02.0±2.0,44.38N×149.49E,h46^{km}±16^{km},mb4.5/25, Error ellipse: s-maj=14.0km s-min=11.4km az=99.0*
*IDC **08** 18:27:03.3±3.7,44.42N×149.44E,h58^{km}±32^{km},mb3.8/14, mb1 4.0/15,mb1mx3.9/21,ML4.0/1,MS3.9/2,Ms1 4.0/2, ms1mx3.3/25,Error ellipse: s-maj=19.6km s-min=17.8km az=103.0*
ISC 08 18:26:59.0±2.9**,44.32N**±0.07×**149.52E**±0.07**,h33**^{km}±19^{km}**, n82,σ1^{s}04**/87**,mb4.4**/42**,MS3.9**/1**,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	Kuril'sk	1.49	309	*e*P	Pn	18 27 24.2	+0.3
KUR				AMB	AMB	18 27 26.0	
	513nm,0.4s						
KUR				AMB	AMB	18 27 26.0	
	489nm,0.4s						
KUR				AMB	AMB	18 27 26.0	
	1μm,0.4s						
KUR				*e*S	Sn	18 27 42.0	-0.4
KUR				A		18 27 46.0	
	6μm,1.2s						
KUR				A		18 27 46.0	
	10μm,1.2s						
KUR				A		18 27 47.0	
	2μm,0.6s						
KUR				A		18 27 47.0	
	4μm,0.6s						
KUR	Kuril'sk	1.49	309	*e*PN	Pn	18 27 24.2	+0.3
KUR				*e*S	Sn	18 27 42.0	-0.4
KUR				pmax	pmax		
	comp=N,510nm,0.4s						
KUR				pmax	pmax		
	comp=E,490nm,0.4s						
KUR				pmax	pmax		
	comp=Z,1μm,0.4s						
KUR				smax			
	comp=N,6μm,1.2s						
KUR				smax			
	comp=E,10μm,1.2s						
KUR				smax			
	comp=N,2μm,0.6s						
KUR				smax			
	comp=E,4μm,0.6s						
YUK	Yuzh-Kuril'sk	2.65	265	*e*P	Pn	18 27 40.2	-0.2
YUK				AMB	AMB	18 27 42.4	
	comp=E,510nm,0.2s						
YUK				*i* S	Sn	18 28 11.5	-0.2
YUK				A		18 28 22.5	
	comp=E,880nm,0.5s						
YUK				A		18 28 22.5	
	comp=E,1μm,0.5s						
YUK				A		18 28 22.5	
	comp=E,3μm,0.6s						
YUK	Yuzh-Kuril'sk	2.65	265	*e*PN	Pn	18 27 40.2	-0.2
YUK				*i* S	Sn	18 28 11.5	-0.2
YUK				pmax	pmax		
	comp=Z,510nm,0.2s						
YUK				smax			
	comp=E,1μm,0.6s						
YUK				smax			
	comp=N,880nm,0.4s						
YUK				smax			
	comp=E,3μm,0.6s						
ASAJ	Asahikawa	4.98	270	P	Pn	18 28 15.7	+2.2
	comp=E,5.1nm,0.3s,baz=76,slow=16,SNR=22						
ASAJ				S	Sn	18 29 10.8	+0.1
	comp=E,0.6nm,0.3s,baz=171,slow=22,SNR=1.9						
ASAJ				LR	LR	18 30 40.3	
	comp=E,1μm,18.9s,baz=18,slow=44						
ASAJ	Asahikawa	4.98	270	PN	Pn	18 28 15.7	+2.2
ASAJ				S	Sn	18 29 10.8	+0.1
ASAJ				pmax	pmax		
	comp=Z,5.0nm,0.3s						
ASAJ				smax			
	comp=N,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,1μm,18.9s						
YSS	Yuzh-Sakhalins	5.43	301	*e*P	Pn	18 28 21.0	+1.2
YSS				*e*S	Sn	18 29 21.0	-0.9
YSS	Yuzh-Sakhalins	5.43	301	*e*P	Pn	18 28 20.7	+0.9
	comp=Z,14nm,0.5s						
SKR	Severo-Kuril's	7.78	33	*e*P	Pn	18 28 48.0	-4.9
SKR				AMB	AMB	18 28 55.0	
	comp=Z,2μm,2.0s						
SKR				AMB	AMB	18 28 55.0	
	comp=Z,180nm,1.0s						
SKR				*e*S	Sn	18 30 07.7	-13
SKR				A		18 30 11.0	
	comp=Z,1μm,2.0s						
SKR				A		18 30 11.0	
	comp=Z,2μm,2.0s						
SKR				A		18 30 11.0	
	comp=Z,2μm,2.0s						
SKR				AMS	AMS	18 32 06.0	
	comp=Z,3μm,14.0s						
SKR				AMS	AMS	18 32 06.0	
	comp=Z,2μm,14.0s						
SKR	Severo-Kuril's	7.78	33	*e*PN	Pn	18 28 48.0	-4.9
SKR				pmax	pmax		
	comp=N,2μm,2.0s						
SKR				pmax	pmax		
	comp=Z,2μm,2.0s						
SKR				pmax	pmax		
	comp=E,180nm,1.0s						
SKR				MLR	MLR		
	comp=E,3μm,14.0s						
SKR				MLR	MLR		
	comp=Z,2μm,14.0s						
MAT	Matsushiro	11.59	232	P	P	18 29 42.3	-2.8
MAT	Matsushiro	11.59	232	*e*P	P	18 29 57.0	+12
CN2	Changchun	17.30	277	*e*P	P	18 30 58.8	-0.5
YAK	Yakutsk	21.20	334	*e*P	P	18 31 40.5	-3.1
	comp=Z,6.7nm,0.3s,mb4.5						
SONM	Songino Array	29.83	292	P	P	18 33 03.4	-1.6
	comp=Z,0.9nm,0.7s,mb3.6,baz=86,slow=7.1,SNR=3.7						
GTA	Gaotai	36.88	280	*e*P	P	18 34 06.9	+0.8
GTA				AMB	AMB		
	comp=Z,4.0nm,0.5s,mb4.5						
ILAR	Eielson Array	40.02	37	P	P	18 34 31.7	-0.2
	comp=Z,0.6nm,0.6s,mb3.5,baz=272,slow=8.4,SNR=5.4						
ILAR	Eielson Array	40.02	37	P	P	18 34 31.7	-0.3
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	Makanchi Array	45.83	298	P	P	18 35 19.2	-0.2
	comp=Z,5.1nm,0.8s,mb4.5,baz=72,slow=7.7,SNR=26						
MKAR				PcP	PcP	18 36 56.0	-0.8
	comp=Z,1.1nm,0.6s,baz=78,slow=4.2,SNR=4.7						
MKAR	Makanchi Array	45.83	298	P	P	18 35 19.2	-0.2
MKAR						18 36 56.0	
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	Makanchi Array	45.83	298	P	P	18 35 19.2	-0.2
MKAR				PcP	PcP	18 36 56.0	-0.8
KURK	Kurchatov	46.63	304	*e*P	P	18 35 24.2	-1.3
	comp=Z,1.0nm,0.5s,mb4.0						
CMAR	Chiang Mai Arr	49.32	255	LR	LR	18 59 24.5	
	comp=Z,103nm,18.5s,MS3.9,baz=40,slow=39						
BVAR	Borovoye Array	50.46	310	P	P	18 35 54.1	-1.1
	comp=Z,0.4nm,0.4s,mb3.8,baz=76,slow=12,SNR=3.7						
KKN	Kakani	53.18	275	*e*P	P	18 36 16.0	0.0
	comp=Z,1.5nm,0.3s,mb4.4						
PKI	Pulchoki	53.22	274	*e*P	P	18 36 16.2	-0.1
	comp=Z,2.2nm,0.4s,mb4.4						
DMN	Daman	53.41	275	*e*P	P	18 36 17.8	+0.1
	comp=Z,5.4nm,0.6s,mb4.7						
KOLN	Koldanda	54.39	276	*e*P	P	18 36 25.0	0.0
ARCES	ARCESS Array B	59.30	340	P	P	18 36 57.0	-2.3
	comp=Z,4.7nm,0.8s,mb4.5,baz=40,slow=7.0,SNR=3.1						
ARCES	ARCESS Array B	59.30	340	P	P	18 36 57.0	-2.3
ARCES				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KAF	Kangasniemi	64.56	334	*e*p	P	18 37 32.6	-1.8
	comp=Z,0.9nm,0.4s,mb4.2,baz=40,slow=6.2						
KAF	Kangasniemi	64.56	334	*e*P	P	18 37 32.6	-1.8
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
FINES	FINESS Array B	65.14	334	P	P	18 37 35.9	-2.3
	comp=Z,3.2nm,0.5s,mb4.6,baz=45,slow=7.0,SNR=23						
FINES	FINESS Array B	65.14	334	P	P	18 37 35.9	-2.3
FINES				pmax	pmax		
	comp=Z,3.0nm,0.5s						
WRAB	Tennant Creek	65.42	196	*e*P	P	18 37 39.2	-1.5
	comp=Z,2.8nm,0.9s,mb4.3						
WRA	Warramunga Arr	65.43	196	P	P	18 37 39.0	-1.8
	comp=Z,1.0nm,0.8s,mb3.9,baz=16,slow=6.9,SNR=6.6						
WRA	Warramunga Arr	65.43	196	P	P	18 37 39.0	-1.8
WRA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
PDAR	Pinedale Array	68.23	51	P	P	18 37 57.8	-0.3
	comp=Z,0.4nm,0.7s,mb3.6,baz=333,slow=2.0,SNR=3.5						
ASAR	Alice Springs	69.14	195	P	P	18 38 04.5	+0.5
	comp=Z,0.8nm,0.7s,mb3.8,baz=12,slow=5.6,SNR=13						
NB2	NORSAR Subarra	69.68	340	P	P	18 38 04.9	-1.7
	comp=Z,2.2nm,0.6s,mb4.3,baz=28,slow=6.2						
NOA	NORSAR Array B	69.68	340	P	P	18 38 05.2	-1.4
	comp=Z,3.4nm,0.5s,mb4.6,baz=30,slow=6.4,SNR=15						
NOA	NORSAR Array B	69.68	340	P	P	18 38 05.3	-1.3
NOA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
AKASG	Malin Array Be	72.12	325	P	P	18 38 20.9	-0.6
	comp=Z,5.0nm,0.8s,mb4.5,baz=36,slow=5.9,SNR=21						
AKASG	Malin Array Be	72.12	325	P	P	18 38 20.9	-0.6
AKASG				pmax	pmax		
	comp=Z,5.0nm,0.8s						
OKC	Ostrava-Krasne	77.09	330	*e*P	P	18 38 51.4	+1.2
DPC	Dobruska-Polom	77.31	331	*e*P	P	18 38 52.0	+0.6
DPC				*e*x	x	18 39 12.9	
CLL	Collm	77.58	334	P	P	18 38 52.0	-0.9
	comp=Z,logA/T=1.1,mb4.8						
CLL	Collm	77.58	334	*e*P	P	18 38 52.0	-0.9
CLL				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.8						
CLL	Collm	77.58	334	*e*P	P	18 38 52.0	-0.9
	comp=Z,6.0nm,0.5s,mb4.8						
BRG	Berggiesshubel	77.66	333	*e*P	P	18 38 51.7	-1.6
BRG				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
BRG	Berggiesshubel	77.66	333	P	P	18 38 51.7	-1.6
	comp=Z,3.4nm,0.9s,mb4.3						
BRTR	Keskin Array B	78.37	315	P	P	18 38 57.5	0.0
	comp=Z,0.9nm,0.6s,mb3.9,baz=49,slow=4.0,SNR=6.0						
BRTR	Keskin Array B	78.37	315	P	P	18 38 57.5	0.0
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NKC	Novy Kostel	78.69	334	*e*P	P	18 38 52.7	-6.3
KHC	Kasperske Hory	79.28	332	*e*P	P	18 39 02.2	0.0
KHC				*e*x	x	18 39 28.2	
GERES	GERESS Array B	79.48	332	P	P	18 39 03.3	0.0
	comp=Z,1.0nm,0.4s,mb4.1,baz=36,slow=5.7,SNR=13						
GERES	GERESS Array B	79.48	332	P	P	18 39 03.3	0.0
GERES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
TXAR	Lajitas Array	80.91	58	P	P	18 39 11.4	+0.1
	comp=Z,0.7nm,0.5s,mb3.9,baz=297,slow=2.6,SNR=7.1						
BAIF	Baives	81.27	338	*e*P	P	18 39 14.2	+1.4
	comp=Z,2.7nm,0.4s,mb4.2						
CDF	Champ du Feu	81.89	336	*e*P	P	18 39 16.8	+0.7
	comp=Z,4.4nm,0.6s,mb4.3						
HINF	Hinteralfeld	82.55	336	*e*P	P	18 39 17.8	-1.7
	comp=Z,3.2nm,0.5s,mb4.3						
CABF	La Chapelle	83.87	336	*e*P	P	18 39 27.0	+0.9
	comp=Z,14nm,1.0s,mb4.8						
GRR	Gorron	84.09	341	*e*P	P	18 39 27.7	+0.5
	comp=Z,13nm,0.7s,mb4.9						
SMF	Signal de Mont	84.48	337	*e*P	P	18 39 29.3	+0.1
	comp=Z,9.6nm,0.8s,mb4.7						
AVF	Avril sur Loir	84.49	337	*e*P	P	18 39 29.1	-0.1
	comp=Z,3.9nm,0.7s,mb4.4						
SGMF	Saint Gilles	84.61	342	*e*P	P	18 39 29.3	-0.5
	comp=Z,9.3nm,0.6s,mb4.8						
LPL	La Plagne	84.66	335	*e*P	P	18 39 30.3	+0.2
	comp=Z,6.0nm,0.8s,mb4.5						
LPG	La Plagne	84.67	335	*e*P	P	18 39 30.2	0.0
	comp=Z,4.3nm,0.8s,mb4.4						
BGF	Bois d'Agland	84.84	338	*e*P	P	18 39 31.9	+0.9
	comp=Z,9.0nm,0.7s,mb4.7						
MBDF	Montbardon	85.36	334	*e*P	P	18 39 35.0	+1.4
	comp=Z,5.6nm,0.7s,mb4.5						
ORIF	Oris-en-Rattie	85.46	335	*e*P	P	18 39 35.4	+1.3
	comp=Z,7.1nm,0.8s,mb4.6						
MFF	Saint Martin d	85.58	340	*e*P	P	18 39 35.0	+0.3
	comp=Z,5.7nm,0.5s,mb4.7						
VIVF	Saint-Julien-l	85.88	336	*e*P	P	18 39 37.6	+1.5
SBF	Sospel	85.92	334	*e*P	P	18 39 37.3	+0.9
RJF	Les Rejaudoux	86.35	338	*e*P	P	18 39 38.4	-0.1
CAF	Calviac	86.56	337	*e*P	P	18 39 39.9	+0.4
	comp=Z,6.7nm,0.8s,mb4.6						
LMR	La Mourre	86.69	334	*e*P	P	18 39 39.7	-0.5
	comp=Z,10nm,0.8s,mb4.8						
LFF	La Frestale	86.90	338	*e*P	P	18 39 40.7	-0.4
	comp=Z,4.9nm,0.5s,mb4.7						
EPF	Esparros	88.78	338	*e*P	P	18 39 49.4	-0.8
ETSF	Etsaut	89.14	338	*e*P	P	18 39 53.5	+1.5
	comp=Z,14nm,1.0s,mb4.9						
BDFB	Brasilia	147.78	33	PKPbc	PKPdf	18 46 43.3	+5.6
	comp=Z,0.9nm,0.4s,baz=315,slow=1.4,SNR=3.0						
BDFB	Brasilia	147.78	33	PKP2	PKPab	18 46 43.3	-1.8
BDFB				pmax	pmax		
	comp=Z,1.0nm,0.4s						

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*NEIC **08** 18:43:18.1,17.27N×94.96W,h95^{km},MD4.2(MEX),After MEX.*
MEX 08 18:43:17.3±1.4**,17.27N**×**94.92W,h99**^{km}±22^{km}**,MD4.2,2C, Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EVV	El Vigia	1.25	341	*i* P	P	18 43 39.0	-1.9
EVV				*i* S	S	18 43 56.0	-2.5
OXX	Oaxaca	1.73	264	*i* P	P	18 43 46.0	-0.8
OXX				*i* S	S	18 44 07.5	-1.2
VHO	Vista Hermosa	1.74	264	*i* P	P	18 43 45.9	-1.0
VHO				*i* S	S	18 44 08.0	-1.0
HUIG	Huatulco	1.88	217	⇑*i*P	P	18 43 45.7	-3.0
HUIG				*i* S	S	18 44 10.3	-1.7
HUIG	Huatulco	1.88	217	⇑*i*P	P	18 43 45.7	-3.0
HUIG				*i* S	S	18 44 09.8	-2.2
SCX	San Cristobal	2.25	103	*e*P	P	18 43 53.0	-0.8
SCX				*i* S	S	18 44 20.0	-1.0
SCX	San Cristobal	2.25	103	*e*P	P	18 43 55.0	+1.2
SCX				*i* S	S	18 44 22.5	+1.5
CCIG	Comitan	2.84	110	*i* P	P	18 44 02.7	+0.8
CCIG				*i* S	S	18 44 35.6	+0.1
CCIG	Comitan	2.84	110	*i* P	P	18 44 02.9	+1.0
CCIG				*i* S	S	18 44 35.6	+0.1
IISM	Ciudad Serdan	2.89	307	*i* P	P	18 44 01.0	-1.6
IISM				*i* S	S	18 44 35.0	-1.5
IISM	Ciudad Serdan	2.89	307	*i* P	P	18 44 01.0	-1.6
IISM				*i* S	S	18 44 29.0	-7.5
TPX	Tapachula	3.48	132	*e*P	P	18 44 15.0	+4.4
TPX				*e*S	S	18 44 53.0	+2.1
PPM	Popocatepetl	3.95	297	*i* P	P	18 44 16.0	-1.0

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*NIED **08** 18:50:00,33.10N×137.30E,h8^{km},Mw4.2 Best double couple: M$_0$2.25×10^{15} NP1:ϕ_s350°,δ86°,λ138°. NP2:ϕ_s84°, δ48°,λ5°.*
*JMA **08** 18:50:42.9±0.1,33.11N×137.26E,h43^{km}±2^{km},M4.0*
*IDC **08** 18:50:44.0±0.9,33.81N×137.72E,mb3.8/6,mb1 4.0/6, mb1mx3.8/20,MS3.4/3,Ms1 3.4/3,ms1mx3.0/30,Error ellipse: s-maj=29.5km s-min=19.6km az=43.0*
*NEIC **08** 18:50:49.3±9.1,33.55N×136.75E,h18^{km}±60^{km},mb4.3/2, Error ellipse: s-maj=21.0km s-min=15.7km az=57.0*
ISC 08 18:50:43.6±0.6**,33.15N**±0.04×**137.27E**±0.03**,h33**^{km}**,n37, σ0^{s}78**/58**,mb3.9**/8**,MS3.5**/1**,9C-3D,Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TK01	Tokai 1	0.67	23	P	P	18 50 56.4	-0.1
TK01				*e*S	S	18 51 06.7	+0.9
TK02	Tokai 2	0.89	27	⇓P	P	18 50 59.7	+0.1
TK02				S	S	18 51 12.6	+1.1
TK03	Tokai 3	1.16	30	P	P	18 51 03.7	+0.1
TK03				S	S	18 51 18.9	+0.4
JIE	Ise	1.32	339	⇑P	P	18 51 06.4	+0.5
JIE				S	S	18 51 22.3	-0.2
TK04	Tokai 4	1.33	22	⇓P	P	18 51 06.2	+0.2
TK04				S	S	18 51 23.0	+0.3
JWZ	Kozaga	1.36	287	⇑P	P	18 51 05.9	-0.5
JWZ				S	S	18 51 22.2	-1.2
JKN	Kiinagashima	1.38	323	⇑P	P	18 51 06.7	0.0
JKN				S	S	18 51 22.8	-1.2
TSUJ	Tsu 2	1.71	336	⇑P	P	18 51 11.8	+0.4
TSUJ				S	S	18 51 32.0	-0.3
JWM	Minabe	1.75	294	⇑P	P	18 51 11.7	-0.2
JWM				*e*S	S	18 51 32.8	-0.5
JWY	Kouya	1.76	308	⇑P	P	18 51 12.5	+0.4
JWY				S	S	18 51 33.3	-0.2
JHE	Heguri	2.00	319	⇑P	P	18 51 15.8	+0.3
JHE				S	S	18 51 39.6	0.0
JIZS	Izushimoda	2.06	40	P	P	18 51 16.1	-0.3
JIZS				*e*S	S	18 51 39.9	-1.2
SHZ3	Shizuoka 3	2.06	22	⇓P	P	18 51 16.1	-0.4
SHZ3				S	S	18 51 41.0	-0.2
JHJ	Hachijo jima 2	2.11	90	Pn	Pn	18 51 16.8	-0.5
	51nm,0.3s,baz=273,slow=19,SNR=23						
JHJ				Sn	Sn	18 51 41.1	-1.5
	66nm,0.3s,baz=231,slow=23,SNR=7.5						
JHJ2	Mitsune	2.13	90	P	P	18 51 17.3	-0.2
JHJ2				S	S	18 51 41.9	-1.2
JIM2	Oshima 3	2.38	48	P	P	18 51 20.8	-0.2
JIM2				*e*S	S	18 51 49.7	+0.4
JAI	Aioi	2.44	286	⇑P	P	18 51 21.7	-0.2
JAI				S	S	18 51 49.5	-1.4
JYN	Shimob	2.57	24	P	P	18 51 23.6	-0.1

JYN				*e*S	S	18 51 54.1	+0.1
JGM	Miyama	2.58	350	P	P	18 51 24.3	+0.4
JGM				S	S	18 51 54.2	-0.3
JOD2	Odawara 2	2.59	35	P	P	18 51 24.3	+0.3
JOD2				S	S	18 51 54.2	-0.4
JWT	Wachi	2.63	324	⇑P	P	18 51 25.0	+0.4
JWT				S	S	18 51 55.1	-0.6
MAJO	Matsushiro	3.47	13	*e*P	P	18 51 37.0	+0.5
MAT	Matsushiro	3.47	13	P	P	18 51 36.7	+0.2
MAT				S	S	18 52 16.6	-0.4
MAT	Matsushiro	3.47	13	*e*P	P	18 51 37.0	+0.5
MAT				*e*S	S	18 52 17.0	0.0
JOW	Kunigami	10.02	233	LR	LR	18 56 26.4	
	comp=Z,120nm,21.3s,baz=45,slow=32						
ASAJ	Asahikawa	11.71	19	LR	LR	18 58 07.8	
	comp=Z,232nm,20.6s,baz=182,slow=40						
ENH	Enshi	23.79	271	P	P	18 55 56.9	+2.9
	10nm,0.8s,mb4.3						
MKAR	Makanchi Array	43.43	305	P	P	18 58 47.6	+2.8
	0.7nm,0.6s,mb3.5,baz=83,slow=11,SNR=11						
MKAR				LR	LR	19 15 19.9	
	comp=Z,54nm,18.3s,MS3.5,baz=188,slow=34						
MKAR	Makanchi Array	43.43	305	P	P	18 58 47.6	+2.8
MKAR				LR	LR	19 15 19.9	
KURK	Kurchatov	45.77	311	*e*P	P	18 59 04.6	+1.1
	3.5nm,0.9s,mb4.3						
WRAB	Tennant Creek	52.86	183	*e*P	P	18 59 52.3	-6.2
WRA	Warramunga Arr	52.87	183	P	P	19 00 04.8	+6.3
	1.3nm,0.6s,mb4.0,baz=2.2,slow=7.8,SNR=5.2						
ASAR	Alice Springs	56.59	184	P	P	19 00 34.4	+8.7
	0.4nm,0.6s,mb3.6,baz=10,slow=15,SNR=5.0						
STKA	Stephens Creek	64.81	176	P	P	19 01 30.1	+8.7
	1.4nm,0.6s,mb4.1,baz=335,slow=18,SNR=4.0						
YKA	Yellowknife Ar	68.84	28	P	P	19 01 46.2	0.0
	0.7nm,0.7s,mb3.7,baz=270,slow=2.8,SNR=3.7						
YKA	Yellowknife Ar	68.84	28	P	P	19 01 46.2	0.0
BRTR	Keskin Array B	78.82	310	P	P	19 02 47.4	+2.6
	0.4nm,0.4s,mb3.7,baz=108,slow=3.9,SNR=4.0						

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*IDC **08** 18:51:50.1±2.3, 0.48S×132.76E, mb3.5/2, mb1 3.8/4, mb1mx3.7/15, ML3.8/2, Error ellipse: s-maj=96.1km s-min=24.4km az=77.0*

*NEIC **08** 18:51:51.8±1.3, 0.49S×132.75E, h10^{km}, mb3.8/1, Error ellipse: s-maj=50.5km s-min=13.2km az=76.0*

ISC 08 18:51:57.4±3.2**, 1.2S**±0.3×**132.8E**±0.2**, h12**^{km}±39^{km}**, n8, σ0^{s}45**/11**, mb3.5**/2**, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	Kakadu	11.48	182	*e*P	P	18 54 45.2	+0.9
	4.5nm,0.3s						
KAKA				*e*S	S	18 56 53.3	-0.1
FITZ	Fitzroy Crossi	18.26	202	P	P	18 56 11.9	-0.7
	0.2nm,0.3s,baz=30,slow=13,SNR=6.4						
FITZ				S	S	18 59 33.5	+0.3
	0.1nm,0.3s,baz=188,slow=16,SNR=2.7						
WRAB	Tennant Creek	18.72	176	*e*P	P	18 56 17.6	-0.5
	3.2nm,0.6s						
WRA	Warramunga Arr	18.73	176	P	P	18 56 17.9	-0.4
	0.3nm,0.3s,baz=355,slow=12,SNR=22						
WRA				S	S	18 59 43.7	-0.1
	0.1nm,0.3s,baz=352,slow=24,SNR=3.8						
WB2	Warramunga Arr	18.73	176	*e*P	P	18 56 18.5	+0.2
ASAR	Alice Springs	22.40	177	P	P	18 56 57.8	+0.4
	2.0nm,0.7s,mb3.7,baz=356,slow=11,SNR=49						
ASPA	Alice Springs	22.40	177	*e*P	P	18 56 57.4	+0.1
MKAR	Makanchi Array	65.04	324	P	P	19 02 28.4	-11
	0.2nm,0.5s,mb3.4,baz=110,slow=7.4,SNR=3.2						

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*ATH **08** 19:07:13.6, 40.43N×25.77E, h10^{km}, MD3.1/3*

*THE **08** 19:07:16.2, 40.24N×25.87E, h20^{km}, ML3.1*

ISC 08 19:07:15.6±0.7**, 40.31N**±0.03×**25.71E**±0.04**, h11**^{km}±6^{km}**, n13, σ0^{s}97**/21**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BOZC	Bozcaada	0.53	150	*i*P	Pg	19 07 25.7	-0.8
BOZC				*i*S	Sg	19 07 32.6	-1.1
LOS	Limnos	0.60	233	*e*Pg	Pg	19 07 28.1	+0.2
LOS				*e*Sg	Sg	19 07 38.1	+2.1
ALN	Alexandroupoli	0.65	23	*e*Pg	Pg	19 07 28.8	+0.1
	comp=Z,5.3nm,0.4s						
ALN				*e*Sg	Sg	19 07 37.9	+0.5
RDO	Rodhopi	0.85	351	*e*PB	Pb	19 07 27.6	-4.3
PRK	Paraskevi	1.14	157	*e*PB	Pb	19 07 37.0	+0.1
AYVA	Ayvalik	1.25	142	*i*P	Pb	19 07 38.8	+0.1
AYVA				*i*S	Sb	19 07 56.2	+1.5
OUR	Ouranopolis	1.32	272	*e*Pb	Pb	19 07 40.2	+0.3
	comp=Z,4.7nm,0.3s						
PLG	Polygyros	1.73	273	*e*PN	Pn	19 07 46.1	+0.2
SRS	Serrai	1.80	297	*e*Pb	Pb	19 07 46.3	-1.9
SRS				*e*Sb	Sb	19 08 10.7	0.0
AOS	Alonnisos	1.81	232	*e*Pb	Pb	19 07 46.1	-2.2
KDAG	Bornova	2.25	147	*i*P	Pn	19 07 53.7	+0.3
KDAG				*i*S	Sn	19 08 21.2	-0.1
KNT	Kendrikon	2.30	293	*e*Pn	Pn	19 07 55.0	+1.0
KNT				*e*Sn	Sn	19 08 22.4	-0.2
ULDT	Uludag	2.63	92	*i*P	Pn	19 08 05.7	+6.9
ULDT				*i*S	Sn	19 08 38.6	+7.6

WEL 08 19:17:11.6±0.3**, 36.74S**×**177.61E, h167**^{km}±3^{km}**, ML3.5**/2**, Error ellipse: s-maj=5.7km s-min=2.7km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.99	146	PN	P	19 17 37.8	-0.2
MXZ				SN	S	19 17 58.0	-0.4
PUZ	Puketiti	1.43	159	PN	P	19 17 41.9	-0.2
PUZ				SN	S	19 18 04.7	-0.9
URZ	Urewera	1.57	195	PN	P	19 17 43.5	0.0
URZ				SN	S	19 18 07.8	-0.3
MWZ	Matawai	1.60	182	PN	P	19 17 43.5	-0.2
MWZ				SN	S	19 18 07.9	-0.6
KNZ	Kokohu	2.28	179	PN	P	19 17 50.8	-0.6
KNZ				SN	S	19 18 20.0	-2.1
TSZ	Takapari Road	3.56	201	PN	P	19 18 05.0	-2.3
TSZ				SN	S	19 18 47.2	-3.1
BFZ	Birch Farm	4.08	195	PN	P	19 18 11.6	-2.4
BFZ				SN	S	19 18 59.5	-2.7

IDC 08 19:31:54.8±2.3**, 3.04S**×**128.00E, mb3.1**/2**, mb1 3.3**/3**, mb1mx3.2**/13**, ML3.0**/1**, Error ellipse: s-maj=180.0km s-min=28.9km az=67.0, Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	17.91	160	P	P	19 36 03.9	-3.1
	0.1nm,0.3s,baz=342,slow=12,SNR=5.1						
ASAR	Alice Springs	21.29	165	P	P	19 36 44.1	-1.2
	0.2nm,0.5s,baz=340,slow=9.1,SNR=3.8						
MKAR	Makanchi Array	63.84	327	P	P	19 42 29.1	-2.3
	0.4nm,0.7s,baz=112,slow=7.8,SNR=4.1						

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*ISK **08** 19:46:49.4, 39.26N×25.41E, h11^{km}, MD3.7, ML3.9*

*NEIC **08** 19:46:49.8, 39.19N×25.49E, h28^{km}, MD3.6(ATH), After ATH.*

*ATH **08** 19:46:49.8, 39.19N×25.49E, h28^{km}±1^{km}, MD3.6/15, ML3.4*

*THE **08** 19:46:52.1, 39.19N×25.50E, h23^{km}, ML3.5*

*SOF **08** 19:46:53.7, 39.58N×25.54E, h10^{km}, MD3.1*

ISC 08 19:46:50.0±0.6**, 39.20N**±0.02×**25.46E**±0.02**, h13**^{km}±5^{km}**, n96, σ0^{s}87**/117**, 3C-1D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PRK	Paraskevi	0.63	86	⇓*i*PN	Pn	19 47 02.5	-1.9
PRK				*e*SN	Sn	19 47 11.4	-2.9
LIA	Limnos Island	0.73	343	*e*PN	Pn	19 47 04.8	-0.9
LIA				*e*SN	Sn	19 47 15.1	-1.5
LOS	Limnos	0.79	338	*e*Pg	Pg	19 47 06.5	+0.6
LOS				*e*Sg	Sg	19 47 18.3	+1.8
BOZC	Bozcaada	0.79	36	⇑*i*P	Pb	19 47 04.9	-0.2
BOZC				*i*S	Sb	19 47 17.4	+2.1
EZN	Ezine	0.92	47	*i*PG	Pg	19 47 07.4	-1.0
EZN				*i*SG	Sg	19 47 20.1	-0.6
EZN	Ezine	0.92	47	Pg	Pg	19 47 07.3	-1.1
EZN				Sg	Sg	19 47 20.3	-0.4
AYVA	Ayvalik	0.96	83	*i*P	Pb	19 47 08.3	+0.2
AYVA				*i*S	Sb	19 47 21.6	+1.1
AOS	Alonnisos	1.23	269	*e*Pb	Pb	19 47 13.5	+1.0
AOS				*e*Sb	Sb	19 47 30.2	+2.0
LPK	Lapseki	1.54	40	*i*PN	Pn	19 47 17.7	+0.3
LPK	Lapseki	1.54	40	Pn	Pn	19 47 17.4	0.0
PAIG	Paliouri	1.55	298	*e*Pb	Pb	19 47 17.6	-0.5
PAIG				*e*Sb	Sb	19 47 38.3	+0.7
OUR	Ouranopolis	1.60	315	*e*Pb	Pb	19 47 18.9	-0.2
IZM	Izmir	1.62	119	PN	Pn	19 47 19.4	+0.9
IZM	Izmir	1.62	119	Pn	Pn	19 47 18.8	+0.3
KDAG	Bornova	1.62	119	⇑*i*P	Pn	19 47 18.8	+0.3
KDAG				*i*S	Sn	19 47 40.9	+1.5
PTL	Penteli	1.70	228	*e*PB	Pb	19 47 19.6	-1.0
MPAR	Parnis Oros	1.71	233	*e*PB	Pb	19 47 19.5	-1.3
NEO	Neokhori	1.74	274	*e*PB	Pb	19 47 20.2	-1.1
ALN	Alexandroupoli	1.75	15	*e*Pb	Pb	19 47 20.0	-1.6
	comp=Z,12nm,0.2s						
ALN				*e*Sb	Sb	19 47 42.1	-1.2
XOR	Xorichti	1.77	276	*e*Pb	Pb	19 47 21.1	-0.6
ATH	Athens Observa	1.84	229	*e*PB	Pb	19 47 21.8	-1.2
SMG	Samos	1.84	144	*e*PN	Pn	19 47 21.9	+0.2
AKS	Akhisar	1.86	99	PN	Pn	19 47 23.6	+1.6
AKS	Akhisar	1.86	99	Pn	Pn	19 47 23.2	+1.2
KGT	Karabiga	1.89	48	*e*PN	Pn	19 47 22.9	+0.5
KGT	Karabiga	1.89	48	Pn	Pn	19 47 22.7	+0.3
BALB	Balikesir	1.93	76	PN	Pn	19 47 23.5	+0.6
BALB	Balikesir	1.93	76	Pn	Pn	19 47 23.9	+1.0
PLG	Polygyros	1.94	308	*e*PB	Pb	19 47 23.3	-1.5
RDO	Rodhopi	1.94	2	⇑*i*PN	Pn	19 47 22.9	-0.2
LKR	Lokris	2.00	255	*e*PN	Pn	19 47 23.9	0.0
MKIT	Kithairon Oros	2.00	240	*e*PN	Pn	19 47 24.0	+0.1
NSAL	Nisos Salamina	2.03	231	*e*PN	Pn	19 47 24.5	+0.1
NAIG	Nisos Aigina	2.11	228	*e*PN	Pn	19 47 25.5	-0.1
MFT	Murefte	2.11	41	*e*PN	Pn	19 47 24.5	-1.1
MFT	Murefte	2.11	41	Pn	Pn	19 47 24.9	-0.7
APE	Apeiranthos	2.13	178	*e*PN	Pn	19 47 27.1	+1.3
APE	Apeiranthos	2.13	178	*e*PN	Pn	19 47 25.0	-0.8
EDC	Edincik	2.18	58	*e*PN	Pn	19 47 26.0	-0.5
EDC	Edincik	2.18	58	Pn	Pn	19 47 26.5	0.0
BNT	Bandirma	2.22	58	PN	Pn	19 47 27.1	0.0
BNT	Bandirma	2.22	58	Pn	Pn	19 47 27.3	+0.2
SOH	Sokhos	2.29	316	*e*Pn	Pn	19 47 28.7	+0.7
SOH				*e*Sn	Sn	19 47 56.3	0.0
SRS	Serrai	2.39	324	*e*Pn	Pn	19 47 29.9	+0.3
SRS				*e*Sn	Sn	19 47 58.5	-0.3
THE	Thessaloniki	2.39	307	*e*Pn	Pn	19 47 29.9	+0.3
AYDN	Tasoluk	2.45	128	*i*P	Pn	19 47 29.1	-1.3
AYDN				*i*S	Sn	19 48 21.6	+21
KDZ	Kurdzhali	2.45	359	*i*P	Pn	19 47 30.0	-0.3
LIT	Litokhoron	2.46	292	*e*Pn	Pn	19 47 31.0	+0.4
	comp=Z,3.1nm,0.2s						
LIT				*e*Sn	Sn	19 47 59.7	-1.0
NVR	Nevrokopi	2.47	331	*e*PN	Pn	19 47 30.8	+0.1
KCT	Karacabey	2.48	64	PN	Pn	19 47 31.4	+0.7
KCT	Karacabey	2.48	64	Pn	Pn	19 47 31.5	+0.8
DST	Dursunbey	2.49	80	PN	Pn	19 47 31.5	+0.6
MANT	Manisa	2.52	105	*i*P	Pn	19 47 31.6	+0.2
MANT				*i*S	Sn	19 48 10.8	+8.5
RZN	Rozhen	2.55	347	*i*P	Pn	19 47 32.3	+0.5
MLSB	Milas	2.64	135	*e*PN	Pn	19 47 33.9	+0.8
BDRM	Kayabasi	2.65	143	*i*P	Pn	19 47 32.6	-0.6
BDRM				*i*S	Sn	19 48 17.0	+12
MMB	Musomiste	2.73	332	*i*P	Pn	19 47 34.2	-0.1
THR4	Thira Island,	2.74	181	*e*Pn	Pn	19 47 33.6	-0.9
KNT	Kendrikon	2.77	316	*e*Pn	Pn	19 47 35.6	+0.7
	comp=Z,6.0nm,0.5s						
KNT				*e*Sn	Sn	19 48 08.8	+0.3
THR5	Thira Island,	2.78	182	*e*Pn	Pn	19 47 34.1	-1.0
ORLT	Orhaneli	2.79	71	*e*PN	Pn	19 47 36.1	+0.9
ORLT	Orhaneli	2.79	71	Pn	Pn	19 47 36.6	+1.4
THR3	Thira Island,	2.79	181	*e*Pn	Pn	19 47 34.5	-0.8
EDRB	Edirne	2.82	20	*e*PN	Pn	19 47 35.0	-0.6
EDRB	Edirne	2.82	20	Pn	Pn	19 47 34.5	-1.1
DIM	Dimitrovgrad	2.85	1	*i*P	Pn	19 47 35.5	-0.5
EVR	Evrytania	2.85	265	*e*PN	Pn	19 47 37.0	+0.8
GRG	Griva	2.93	308	*e*Pn	Pn	19 47 38.0	+0.8
PLD	Plovdiv	2.96	349	P	Pn	19 47 38.0	+0.4
ULDT	Uludag	2.99	71	*i*P	Pn	19 47 39.1	+1.0
ULDT				*i*S	Sn	19 48 23.2	+9.1
CTT	Catalca	2.99	49	PN	Pn	19 47 37.3	-0.8
YER	Yerkesik	3.04	132	*e*PN	Pn	19 47 39.2	+0.5
YER	Yerkesik	3.04	132	Pn	Pn	19 47 39.3	+0.6
KZN	Kozani	3.05	292	*e*PN	Pn	19 47 39.7	+0.8
VLI	Veliai	3.18	220	*e*PN	Pn	19 47 40.2	-0.6
DNZL	Cakiroluk	3.20	117	*i*P	Pn	19 47 42.2	+1.2
DNZL				*i*S	Sn	19 48 31.6	+12
KKB	Krupnik	3.22	327	*i*P	Pn	19 47 41.7	+0.4
BADT	Buyukada	3.26	58	*e*PN	Pn	19 47 41.6	-0.3
YLV	Yalova	3.31	64	*e*PN	Pn	19 47 42.6	0.0
YLV	Yalova	3.31	64	Pn	Pn	19 47 43.6	+1.0
ISK	Istanbul-Kandi	3.33	55	*e*PN	Pn	19 47 42.6	-0.3
ISK	Istanbul-Kandi	3.33	55	Pn	Pn	19 47 42.5	-0.4
ITM	Ithomi	3.44	235	*e*PN	Pn	19 47 45.6	+1.2
PGB	Panagyurishte	3.48	344	*i*P	Pn	19 47 45.0	-0.1
FNA	Florina	3.51	298	*e*Pn	Pn	19 47 46.3	+0.8
HRT	Hereke	3.62	62	*e*PN	Pn	19 47 46.4	-0.6
HRT	Hereke	3.62	62	Pn	Pn	19 47 46.6	-0.4
ALT	Altintas	3.62	91	*e*PN	Pn	19 47 46.9	-0.1
ALT	Altintas	3.62	91	Pn	Pn	19 47 47.2	+0.2
VTS	Vitosha	3.79	334	*i*P	Pn	19 47 50.3	+0.8
SZH	Strazhica	4.08	5	*i*P	Pn	19 47 53.0	-0.5
ESKT	Eskisehir	4.19	84	*i*P	Pn	19 47 54.6	-0.5
ESKT				*i*S	Sn	19 49 03.8	+19
ESKT	Eskisehir	4.19	84	*e*PN	Pn	19 47 55.3	+0.1
HENT	Hendek	4.48	67	*i*P	Pn	19 47 57.9	-1.4
HENT				*i*S	Sn	19 49 12.8	+21
KIZT	Kizilcal	5.01	92	*e*PN	Pn	19 48 07.1	+0.3
SGKT	Sivrigoynuk	5.26	73	*i*P	Pn	19 48 09.9	-0.3
SGKT				*i*S	Sn	19 49 38.1	+27

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*IDC **08** 19:58:48.8±0.9, 16.43S×173.95W, mb4.5/8, mb1 4.7/8, mb1mx4.5/16, MS3.4/1, Ms1 3.4/1, ms1mx3.0/18, Error ellipse: s-maj=41.2km s-min=19.0km az=135.0*

*NEIC **08** 19:58:50.5±0.6, 16.30S×174.04W, h10^{km}, mb4.4/3, Error ellipse: s-maj=25.1km s-min=13.5km az=131.0*

ISC 08 19:58:49.0±0.7**, 16.4S**±0.2×**174.1W**±0.2**, h10**^{km}**, n16, σ0^{s}85**/12**, mb4.4**/11**, MS3.4**/1**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAR	Rarotonga	14.36	112	T		20 16 28.4	
	8.6nm,0.3s,baz=179,slow=11,SNR=3.7						
URZ	Urewera	23.17	198	P	P	20 03 56.6	-0.2
	46nm,0.6s,mb5.1,baz=358,slow=3.6,SNR=41						
RPZ	Rata Peaks	30.07	202	P	P	20 04 59.3	-1.5
	2.4nm,0.4s,mb4.3,baz=325,slow=19,SNR=2.4						
CTA	Charters Tower	37.83	258	LR	LR	20 18 11.3	
	comp=Z,52nm,18.6s,MS3.4,baz=291,slow=31						
STKA	Stephens Creek	43.03	241	P	P	20 06 51.0	+0.3
	5.2nm,0.8s,mb4.3,baz=81,slow=12,SNR=8.2						
WRAB	Tennant Creek	49.02	258	*e*P	P	20 07 38.8	+0.5
	2.4nm,0.8s,mb4.3						
WRA	Warramunga Arr	49.03	258	P	P	20 07 37.8	-0.6
	0.6nm,0.5s,mb3.9,baz=96,slow=7.3,SNR=16						
ASAR	Alice Springs	49.23	253	P	P	20 07 40.3	+0.4
	15nm,0.6s,mb5.2,baz=89,slow=8.2,SNR=253						
ASPA	Alice Springs	49.23	253	*e*P	P	20 07 40.2	+0.3
QSPA	South Pole Qui	73.70	180	*e*P	P	20 10 27.3	+3.0
	3.4nm,0.8s,mb4.3						
YBH	Yreka Blue Hor	74.73	37	P	P	20 10 31.4	+0.4
	1.3nm,0.6s,mb4.1,baz=236,slow=3.6,SNR=4.6						
TXAR	Lajitas Array	81.66	56	P	P	20 11 09.5	+0.3
	0.5nm,0.3s,mb3.9,baz=194,slow=5.2,SNR=4.0						
MCK	McKinley	82.17	11	*e*P	P	20 11 10.2	-1.0
	2.9nm,0.8s,mb4.3						
PDAR	Pinedale Array	83.38	42	P	P	20 11 17.7	-0.3
	3.2nm,0.6s,mb4.5,baz=207,slow=4.0,SNR=3.8						
BRTR	Keskin Array B	146.48	320	PKPbc	PKPbc	20 18 33.0	+2.3
	1.8nm,0.5s,baz=153,slow=2.8,SNR=8.8						
GERES	GERESS Array B	146.98	351	PKPbc	PKPbc	20 18 31.7	+0.2
	0.6nm,0.9s,slow=2.7,SNR=4.4						

IDC 08 20:07:16.0±2.2**, 30.96S**×**178.45W, mb4.0**/3**, mb1 4.1**/4**, mb1mx3.9**/12**, ML3.3**/1**, Error ellipse: s-maj=56.6km s-min=33.3km az=122.0, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	8.15	205	Pn	P	20 09 14.5	-3.9
	0.4nm,0.3s,baz=41,slow=18,SNR=1.9						
URZ				Sn	Sn	20 10 49.5	-2.8
	1.2nm,0.3s,baz=62,slow=23,SNR=4.8						
STKA	Stephens Creek	33.98	258	P	P	20 14 03.1	-0.3
	1.9nm,0.7s,baz=81,slow=10.0,SNR=4.3						
ASAR	Alice Springs	42.70	268	P	P	20 15 14.3	-2.1
	1.2nm,0.8s,baz=105,slow=7.2,SNR=13						
WRA	Warramunga Arr	43.74	273	P	P	20 15 22.5	-2.4
	1.2nm,0.5s,baz=111,slow=8.0,SNR=32						
FINES	FINESS Array B	145.53	339	PKPbc	PKPbc	20 26 54.6	-1.3
	1.8nm,0.6s,baz=90,slow=5.6,SNR=7.0						
AKASG	Malin Array Be	151.50	322	PKPbc	PKPdf	20 27 11.7	+4.6
	0.2nm,0.3s,baz=39,slow=1.4,SNR=4.0						

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*IDC **08** 20:07:45.7±2.9, 44.02N×105.81W, h28^{km}±23^{km}, mb4.2/1, mb1 4.3/3, mb1mx3.6/19, ML3.8/2, Error ellipse: s-maj=55.0km s-min=9.9km az=145.0*

NEIC 08 20:07:41.1±0.5**, 43.76N**×**105.23W, ML3.2, Error ellipse: s-maj=7.9km s-min=5.7km az=144.0, Suspected Mining explosion., Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RSSD	Black Hills	0.93	67	*e*P	Pg	20 08 00.6	+0.9
LAO	LASA Array	3.01	347	*e*P	Pn	20 08 27.2	-3.8
BW06	Boulder Array	3.32	254	*e*P	Pn	20 08 34.5	-0.8
PDAR	Pinedale Array	3.32	254	Pn	Pn	20 08 34.6	-0.7
	6.0nm,0.3s,baz=72,slow=15,SNR=78						
PDAR				Lg		20 09 19.7	
	14nm,0.3s,baz=67,slow=31,SNR=16						
LOHW	Long Hollow	3.90	270	*e*P	Pn	20 08 42.9	-0.8
ISCO	Idaho Springs	3.97	184	*e*P	Pn	20 08 43.7	-0.9
MOOW	Moose Ponds	4.00	272	*e*P	Pn	20 08 45.0	0.0
WUWY	Wally Ulrich	4.01	269	P	Pn	20 08 42.6	-2.6
SNOW	Snow King Moun	4.03	268	*e*P	Pn	20 08 45.0	-0.4
REDW	Red Top Meadow	4.11	266	*e*P	Pn	20 08 46.3	-0.2
TPAW	Teton Pass	4.17	268	*e*P	Pn	20 08 47.1	-0.3
AHID	Auburn Hatcher	4.40	259	P	Pn	20 08 49.0	-1.8
BOZ	Bozeman (W)	4.94	295	*e*P	Pn	20 08 56.7	-1.7
HWUT	Hardware Ranch	5.14	247	*e*P	Pn	20 08 59.6	-1.7
	3.3nm,0.5s						
TCUT	Toone Canyon	5.28	242	*e*P	Pn	20 09 00.9	-2.3
HRY	Holter Researc	5.52	305	*e*P	Pn	20 09 04.3	-2.2
DAU	Daniels Canyon	5.60	235	*e*P	Pn	20 09 02.3	-5.3
JLU	Jordanelle	5.60	238	P	Pn	20 09 05.5	-2.2
SPUT	South Promonto	5.87	248	*e*P	Pn	20 09 09.8	-1.7
HVU	Hansel Valley	5.90	253	*e*P	Pn	20 09 09.6	-2.3
SDCO	Great Sand Dun	6.01	182	*e*P	Pn	20 09 09.6	-3.9
	1.2nm,0.5s						
SRU	San Rafael	6.12	222	*e*P	Pn	20 09 11.5	-3.5
PV01	Paradox Valley	6.17	205	*e*P	Pn	20 09 14.2	-1.5
DUG	Dugway	6.68	240	*e*P	Pn	20 09 20.8	-2.1
	3.2nm,0.5s						
MSU	Marysvale	7.42	227	*e*P	Pn	20 09 30.8	-2.4
ULM	Lac du Bonnet	9.10	41	Pn	P	20 09 53.5	-3.2
	3.7nm,0.3s,baz=236,slow=11,SNR=21						
ULM				Lg		20 12 31.7	
	0.4nm,0.3s,baz=140,slow=13,SNR=3.3						
ULM	Lac du Bonnet	9.10	41	Pn	P	20 09 53.5	-3.2
ULM				Lg		20 12 31.7	
ARCES	ARCESS Array B	61.39	18	P	P	20 17 58.4	-2.3
	3.4nm,0.8s,baz=338,slow=6.5,SNR=6.9						

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*NEIC **08** 20:10:48.8, 40.97S×174.68E, h63^{km}, ML3.9(WEL), After WEL.*

WEL 08 20:10:48.7±0.1**, 40.95S**×**174.68E, h62**^{km}±1^{km}**, ML3.6**/8**, 3C-3D, Error ellipse: s-maj=0.8km s-min=0.7km az=90.0, Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KIW	Kapiti Island	0.20	63	⇓PN	P	20 10 58.1	-0.2
KIW				SN	S	20 11 04.9	-0.6
KIW	Kapiti Island	0.20	63	P	P	20 10 58.1	-0.3
KIW				S	S	20 11 04.9	-0.6
MRW	Makara Radio	0.28	177	⇓PN	P	20 10 58.7	-0.3
MRW				SN	S	20 11 05.8	-0.7
MRW	Makara Radio	0.28	177	P	P	20 10 58.7	-0.3
MRW				S	S	20 11 05.8	-0.7
CAW	Cannon Point	0.34	118	⇓PN	P	20 10 59.1	-0.3
CAW				SN	S	20 11 06.8	-0.5
WEL	Wellington	0.34	169	PN	P	20 10 59.0	-0.5
WEL				SN	S	20 11 06.9	-0.5
WEL	Wellington	0.34	169	P	P	20 10 59.1	-0.4
SNZO	South Karori	0.36	177	PN	P	20 10 59.2	-0.4
SNZO				PN	P	20 10 59.3	-0.4
SNZO				SN	S	20 11 06.7	-1.0
SNZO				SN	S	20 11 07.1	-0.5
SNZO	South Karori	0.36	177	P	P	20 10 59.3	-0.3
SNZO				S	S	20 11 07.1	-0.6
BHW	Baring Head	0.48	162	⇑PN	P	20 11 00.4	-0.4
BHW				SN	S	20 11 08.9	-0.7
BHW	Baring Head	0.48	162	P	P	20 11 00.4	-0.4
BHW				S	S	20 11 08.9	-0.7
MSWZ	Moikau Station	0.63	137	⇑PN	P	20 11 02.1	-0.3
MSWZ				SN	S	20 11 11.9	-0.7
MTW	Mount Morrison	0.66	109	PN	P	20 11 02.3	-0.4
MTW				SN	S	20 11 12.0	-1.1
MTW	Mount Morrison	0.66	109	P	P	20 11 02.3	-0.4
PAWZ	Paruwai Farm	0.71	128	⇑PN	P	20 11 03.0	-0.3
PAWZ				SN	S	20 11 13.6	-0.6
TUWZ	Tuamarina	0.73	229	PN	P	20 11 03.0	-0.6
TUWZ				SN	S	20 11 13.5	-1.2
MRZ	Mangatainoka R	0.74	67	PN	P	20 11 03.0	-0.8
MRZ				SN	S	20 11 14.0	-0.9
MRZ	Mangatainoka R	0.74	67	P	P	20 11 03.0	-0.7
BSWZ	Blackbirch Sta	0.97	218	PN	P	20 11 06.1	-0.7
BSWZ				SN	S	20 11 19.3	-0.9
NNZ	Nelson	1.02	254	PN	P	20 11 06.6	-0.7
NNZ				SN	S	20 11 20.3	-0.8
NNZ	Nelson	1.02	254	P	P	20 11 06.7	-0.7
WAZ	Wanganui	1.22	11	PN	P	20 11 09.7	-0.3
WAZ	Wanganui	1.22	11	P	P	20 11 10.0	0.0
BFZ	Birch Farm	1.22	78	PN	P	20 11 08.6	-1.5
BFZ	Birch Farm	1.22	78	P	P	20 11 08.8	-1.3
TSZ	Takapari Road	1.32	48	PN	P	20 11 09.6	-2.0
TSZ	Takapari Road	1.32	48	P	P	20 11 10.1	-1.5
THZ	Tophouse	1.56	238	PN	P	20 11 13.4	-1.4
THZ	Tophouse	1.56	238	*e*P	P	20 11 13.9	-1.0
QRZ	Quartz Range	1.63	274	PN	P	20 11 14.4	-1.5
QRZ	Quartz Range	1.63	274	*e*P	P	20 11 14.5	-1.3
RAEZ	Rainy Point	1.68	352	PN	P	20 11 16.2	-0.2
RAEZ	Rainy Point	1.68	352	P	P	20 11 16.6	+0.2
DFE	Dawson Falls	1.68	345	PN	P	20 11 16.3	-0.2
DFE	Dawson Falls	1.68	345	P	P	20 11 16.5	0.0
KHZ	Kahutara	1.70	210	PN	P	20 11 15.4	-1.3
KHZ				SN	S	20 11 34.6	-2.7
KHZ	Kahutara	1.70	210	P	P	20 11 15.4	-1.3
NRZ	Ngariki Road	1.71	340	PN	P	20 11 16.6	-0.3
NRZ	Ngariki Road	1.71	340	P	P	20 11 16.6	-0.3
NEZ	North Egmont	1.73	345	PN	P	20 11 17.2	0.0
NEZ	North Egmont	1.73	345	P	P	20 11 17.3	+0.1
MOVZ	Moawhango	1.75	28	PN	P	20 11 15.6	-1.8
MOVZ				SN	S	20 11 36.3	-2.2
WNVZ	Wahianoa	1.77	24	PN	P	20 11 16.6	-1.1
WNVZ				SN	S	20 11 38.1	-0.9
NWEZ	Newall Road	1.79	339	PN	P	20 11 17.1	-0.8
NWEZ	Newall Road	1.79	339	P	P	20 11 17.5	-0.4
DRZ	Dome Shelter	1.81	22	PN	P	20 11 17.2	-1.0
DRZ	Dome Shelter	1.81	22	P	P	20 11 17.8	-0.4
FWVZ	Far West T-bar	1.82	22	PN	P	20 11 17.2	-1.2
FWVZ	Far West T-bar	1.82	22	P	P	20 11 17.8	-0.6
VRZ	Vera Road	1.82	2	PN	P	20 11 17.8	-0.6
VRZ				SN	S	20 11 39.4	-1.0
VRZ	Vera Road	1.82	2	P	P	20 11 18.0	-0.4
PKE	Pukeiti	1.83	343	PN	P	20 11 18.1	-0.5
PKE				SN	S	20 11 39.8	-0.8
PKE	Pukeiti	1.83	343	P	P	20 11 18.2	-0.3
TUVZ	Tukino	1.84	24	PN	P	20 11 17.8	-0.9
TUVZ				SN	S	20 11 40.0	-0.8
TUVZ	Tukino	1.84	24	P	P	20 11 17.9	-0.7
WPVZ	Whakapapa	1.87	21	PN	P	20 11 18.3	-0.7
WPVZ				SN	S	20 11 40.7	-0.7
CNZ	Chateau	1.87	21	PN	P	20 11 18.3	-0.8
CNZ	Chateau	1.87	21	P	P	20 11 18.4	-0.7
PWZ	Pawanui	1.90	62	PN	P	20 11 16.9	-2.7
PWZ				SN	S	20 11 41.4	-0.9
NGZ	Ngauruhoe	1.91	22	PN	P	20 11 18.7	-0.9
NGZ	Ngauruhoe	1.91	22	P	P	20 11 18.9	-0.7

WTVZ	West Tongariro	1.96	21	PN	P	20 11 19.4	-0.9
TWVZ	Taurewa	1.96	18	PN	P	20 11 19.1	-1.3
KAVZ	Karewarewa	1.99	22	PN	P	20 11 19.8	-1.0
KAVZ	Karewarewa	1.99	22	P	P	20 11 20.0	-0.8
MGZ	Maungaku	2.06	19	PN	P	20 11 20.3	-1.4
MGZ	Maungaku	2.06	19	P	P	20 11 20.6	-1.1
KATZ	Kakaramea	2.12	22	PN	P	20 11 21.5	-1.1
KATZ	Kakaramea	2.12	22	P	P	20 11 21.6	-1.0
RATZ	Rangitukua	2.24	22	PN	P	20 11 23.7	-0.6
BKZ	Black Stump Fm	2.26	39	PN	P	20 11 22.1	-2.5
DSZ	Denniston Nort	2.31	249	PN	P	20 11 23.1	-2.2
DSZ	Denniston Nort	2.31	249	P	P	20 11 23.3	-1.9
HIZ	Hauiti	2.44	3	PN	P	20 11 26.1	-1.0
HIZ	Hauiti	2.44	3	P	P	20 11 26.4	-0.7
LTZ	Lake Taylor	2.57	224	PN	P	20 11 26.5	-2.4
LTZ				SN	S	20 11 54.7	-4.3
LTZ	Lake Taylor	2.57	224	*e*P	P	20 11 26.6	-2.3
CRLZ	Canterbury Las	3.04	210	SN	S	20 12 04.0	-6.9
MQZ	McQueen's Vall	3.14	208	PN	P	20 11 32.6	-4.4
MQZ				SN	S	20 12 04.8	-8.6
MQZ	McQueen's Vall	3.14	208	P	P	20 11 32.7	-4.3
URZ	Urewera	3.28	36	PN	P	20 11 34.4	-4.5
URZ				SN	S	20 12 12.1	-4.8
URZ	Urewera	3.28	36	*e*P	P	20 11 34.5	-4.5
WVZ	Waitaha Valley	3.62	233	PN	P	20 11 41.5	-2.3
WVZ				SN	S	20 12 19.9	-5.8
ODZ	Otahua Downs	5.05	215	PN	P	20 11 58.7	-5.0
ODZ				SN	S	20 12 50.7	-11
ODZ	Otahua Downs	5.05	215	*e*P	P	20 11 58.8	-4.9
JCZ	Jackson Bay	5.37	233	*e*P	P	20 12 10.4	+2.2
TUZ	Tuapeka	6.21	215	SN	S	20 13 18.9	-11

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*NEIC **08** 20:21:37.5±4.9, 43.24N×45.27E, h64^{km}±46^{km}, mb3.7/2, Error ellipse: s-maj=26.4km s-min=10.9km az=191.0*
*IDC **08** 20:21:42.0±14.0, 43.31N×45.30E, h109^{km}±145^{km}, mb3.6/6, mb1 3.5/9, mb1mx3.4/19, ML4.1/3, Error ellipse: s-maj=44.0km s-min=20.8km az=13.0*
*TIF **08** 20:21:42.4, 43.02N×45.86E, h5^{km}, Mpv4.3*
*MOS **08** 20:21:43.5±2.8, 43.44N×45.40E, h118^{km}, mb3.8/6, Error ellipse: s-maj=21.7km s-min=11.0km az=128.3*
*NNC **08** 20:21:47.6±4.1, 43.55N×46.07E, h105^{km}±32^{km}, Error ellipse: s-maj=30.4km s-min=26.5km az=96.0*
ISC 08 20:21:42.5±0.4, **43.39N**±0.05×**45.39E**±0.06, **h133**^{km}±5^{km}, **n37**, σ**0^{s}84**/46, **mb3.7**/6, **3C-6D, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DBC	Dubki	1.12	109	⇓*i*P	P	20 22 07.0	-0.1
DBC				*i* S	S	20 22 24.5	-1.3
DBC				pmax	pmax		
	comp=Z,232nm,0.2s						
XNZR	Khunzakh	1.29	131	*i* P	P	20 22 09.5	+0.6
XNZR				*e*S	S	20 22 29.0	+0.1
BUJR	Buynaksk	1.38	114	⇑*i*P	P	20 22 11.0	+1.1
BUJR				*e*S	S	20 22 31.2	+0.3
BUJR				pmax	pmax		
	comp=Z,602nm,0.2s						
DUS	Dusheti	1.40	201	⇓*i*P	P	20 22 11.3	+1.2
DUS				*i* S	S	20 22 31.9	+0.7
MAK	Makhachkala	1.61	105	*e*P	P	20 22 15.2	+2.7
MAK				*i*		20 22 35.2	
MAK				smax			
	comp=N,2μm,0.3s						
MAK				smax			
	comp=Z,740nm,0.3s						
MAK				smax			
	comp=N,2μm,0.6s						
MAK				smax			
	comp=E,2μm,0.6s						
TI2	Plekhanov	1.73	196	*e*P	P	20 22 14.0	+0.2
TI2				*i* S	S	20 22 37.0	-0.7
TI2				smax			
	comp=N,1μm,0.4s						
TBLG	Delisi	1.73	196	*e*P	P	20 22 14.0	+0.2
TBLG				*i* S	S	20 22 37.0	-0.7
MTA	Mtatsminda	1.75	195	⇑*i*P	P	20 22 14.7	+0.6
MTA				*i* S	S	20 22 37.7	-0.6
GOF	Gofitskoye	2.37	315	*e*P	P	20 22 21.0	-0.8
GOF				*i* S	S	20 22 52.0	+0.2
GOF				smax			
	comp=N,600nm,1.4s						
GOF				smax			
	comp=E,400nm,1.4s						
STE	Stepanavan	2.50	197	*i* S	S	20 22 54.0	-0.7
AB31	Akbulak array	11.64	55	⇓P	P	20 24 23.7	-1.6
	comp=E,3.6nm,0.4s,baz=244,slow=11						
AB31				⇓S	S	20 26 26.7	-6.3
	comp=E,3.0nm,0.5s,baz=245,slow=20						
AKASG	Malin Array Be	13.21	309	P	P	20 24 51.9	+6.2
	comp=E,0.9nm,0.3s,baz=123,slow=9.0,SNR=5.6						
AKASG	Malin Array Be	13.21	309	P	P	20 24 51.9	+6.2
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MLR	Muntele Rosu	14.05	285	P	P	20 25 03.1	+6.7
	comp=Z,0.2nm,0.3s,baz=247,slow=13,SNR=4.4						
ARU	Arti	15.53	28	P	P	20 25 13.9	-1.1
KK31	Karatay Array	18.29	82	P	P	20 25 47.5	-1.0
	comp=Z,1.5nm,0.7s,baz=294,slow=11,SNR=21						
ZRNK	Zerenda	18.35	50	⇓P	P	20 25 47.7	-1.3
	comp=Z,4.8nm,1.4s						
ZRNK	Zerenda	18.35	50	*e*P	P	20 25 48.4	-0.7
	comp=Z,4.2nm,0.9s						
BRVK	Borovoye	19.11	51	*e*P	P	20 25 57.1	-0.1
	comp=Z,4.6nm,0.8s						
BVA0	Borovoye Array	19.16	51	⇑P	P	20 25 57.8	+0.1
	comp=Z,0.4nm,0.5s,baz=246,slow=10,SNR=10						
BVAR	Borovoye Array	19.16	51	P	P	20 25 57.8	+0.1
	comp=Z,0.4nm,0.3s,baz=249,slow=13,SNR=11						
VOSK	Vostochnaya	19.39	52	⇓P	P	20 25 59.9	-0.3
	comp=Z,1.7nm,0.7s						
FINES	FINESS Array B	21.42	334	P	P	20 26 21.4	+0.8
	comp=Z,0.8nm,0.4s,mb3.4,baz=151,slow=14,SNR=13						
FINES	FINESS Array B	21.42	334	P	P	20 26 21.4	+0.8
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KURK	Kurchatov	23.65	60	*e*P	P	20 26 43.6	+1.5
HFS	Hagfors	25.43	322	P	P	20 26 59.6	+0.6
	comp=Z,0.8nm,0.3s,mb3.7,baz=130,slow=9.8,SNR=10						
HFS	Hagfors	25.43	322	P	P	20 26 59.6	+0.6
HFS				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR	Makanchi Array	26.12	70	P	P	20 27 06.4	+0.9
	comp=Z,0.9nm,0.4s,mb3.8,baz=268,slow=8.5,SNR=28						
MKAR	Makanchi Array	26.12	70	P	P	20 27 06.4	+0.9
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NB2	NORSAR Subarra	26.93	323	P	P	20 27 12.4	-0.4
	comp=Z,0.5nm,0.4s,mb3.5,baz=125,slow=9.3						
NOA	NORSAR Array B	26.93	323	P	P	20 27 12.7	-0.1
	comp=Z,0.7nm,0.8s,mb3.3,baz=115,slow=9.2,SNR=2.8						
NOA	NORSAR Array B	26.93	323	P	P	20 27 12.7	-0.1
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ARCES	ARCESS Array B	28.12	345	P	P	20 27 23.9	+0.4
	comp=Z,4.1nm,0.9s,mb4.1,baz=158,slow=9.5,SNR=9.2						
ARCES	ARCESS Array B	28.12	345	P	P	20 27 24.0	+0.4
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
DBIC	Dimbokro	57.18	245	P	P	20 31 16.9	-0.9
	comp=Z,0.7nm,0.3s,mb4.0,baz=23,slow=8.0,SNR=8.4						
DBIC	Dimbokro	57.18	245	P	P	20 31 16.9	-1.0
DBIC				pmax	pmax		
	comp=Z,1.0nm,0.3s						
DBIC	Dimbokro	57.18	245	P	P	20 31 16.9	-0.9

IDC 08 20:31:31.0±3.1, **33.71S**×**178.78W**, **mb3.7**/2, **mb1 4.0**/3, **mb1mx3.9**/10, **ML3.8**/1, **Error ellipse: s-maj=71.0km s-min=36.1km az=117.0, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	5.63	215	Pn	Pn	20 32 56.8	-1.3
	3.1nm,0.3s,baz=20,slow=3.4,SNR=17						
URZ				Sn	Sn	20 34 00.9	-3.6
	5.5nm,0.3s,baz=162,slow=20,SNR=10.0						
ASAR	Alice Springs	42.39	271	P	P	20 39 27.4	-1.5
	0.6nm,0.6s,baz=114,slow=7.2,SNR=9.8						
WRA	Warramunga Arr	43.68	276	P	P	20 39 37.6	-1.8
	1.2nm,0.7s,baz=118,slow=7.7,SNR=17						
FINES	FINESS Array B	147.98	338	PKPbc	PKPdf	20 51 16.8	+0.6
	1.7nm,0.8s,baz=37,slow=6.9,SNR=5.3						

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*PRU **08** 20:36:48.7, 51.57N×16.08E*
*WAR **08** 20:36:49.3, 51.56N×16.01E, ML2.6, Mining Induced*
ISC 08 20:36:45.9±1.4, **51.60N**±0.06×**16.03E**±0.06, **n9**, σ**1^{s}12**/18, **Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	Ksiaz	0.78	167	*e*PG	Pg	20 37 03.0	+1.6
KSP				*i* SG	Sg	20 37 12.9	+1.1
UPC	Upice	1.09	180	*e*PG	Pg	20 37 09.3	+1.6
UPC				*e*SG	Sg	20 37 22.5	+0.2
DPC	Dobruska-Polom	1.27	171	*e*PG	Pg	20 37 12.2	+1.0
DPC				*e*SG	Sg	20 37 27.7	-0.3
	7.0nm,0.3s						
PVCC	Panska Ves	1.41	221	*e*PG	Pg	20 37 15.0	+0.9
PVCC				*e*SG	Sg	20 37 34.0	+1.0
PRU	Pruhonice	1.87	211	*e*PG	Pg	20 37 22.3	-0.9
PRU				*e*SG	Sg	20 37 47.4	-0.7
	4.5nm,0.4s						
CLL	Collm	1.91	262	*e*SG	Sg	20 37 49.0	-0.6
OKC	Ostrava-Krasne	2.22	142	*e*PG	Pg	20 37 29.1	-1.1
OKC				*e*SG	Sg	20 37 58.0	-1.8
NKC	Novy Kostel	2.65	240	*e*PN	Pn	20 37 32.1	+1.6
NKC				*e*PG	Pg	20 37 37.8	-0.9
NKC				*e*SG	Sg	20 38 14.1	+0.1
KHC	Kasperske Hory	2.93	213	*e*PG	Pg	20 37 42.4	-1.9
KHC				*e*SG	Sg	20 38 22.6	-0.8

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*NEIC **08** 21:06:33.0±6.5, 26.39N×140.70E, h372^{km}±69^{km}, mb4.1/14, Error ellipse: s-maj=19.0km s-min=14.0km az=83.0*
*IDC **08** 21:06:38.5±1.0, 26.34N×140.81E, h437^{km}±11^{km}, mb3.5/17, mb1 3.7/19, mb1mx3.6/25, Error ellipse: s-maj=14.4km s-min=10.7km az=98.0*
*JMA **08** 21:06:40.2±0.1, 26.74N×141.38E, h436^{km}, M4.2*
ISC 08 21:06:37.1±0.4, **26.37N**±0.04×**140.76E**±0.09, **h435**^{km}±4^{km}, **n61**, σ**0^{s}92**/64, **mb3.9**/30, **Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHHJ	Haha-jima-NKT	1.30	78	P	P	21 07 34.6	+1.4
JHHJ				S	S	21 08 17.7	+0.2
CBIJ	Chichi jima	1.47	60	P	P	21 07 34.8	+0.8
	62nm,0.3s,baz=283,slow=19,SNR=16						
CBIJ				S	S	21 08 17.3	-1.5
	206nm,0.3s,baz=270,slow=22,SNR=21						
CBIJ	Chichi jima	1.47	60	P	P	21 07 34.7	+0.8
CBIJ				*e*S	S	21 08 17.1	-1.7
JHJ2	Mitsune	6.77	353	P	P	21 08 20.2	+0.3
JHJ	Hachijo jima 2	6.78	353	P	P	21 08 20.2	+0.2
	64nm,0.3s,baz=225,slow=6.6,SNR=23						
BSO1	Boso 1	8.26	1	P	P	21 08 36.5	+0.1
JIM2	Oshima 3	8.40	352	P	P	21 08 38.0	+0.1
BSO3	Boso 3	8.40	359	P	P	21 08 37.7	-0.3
BSO4	Boso 4	8.60	358	P	P	21 08 40.5	+0.3
JIE	Ise	8.72	337	P	P	21 08 43.7	+2.1
JNY	Yasuok	9.30	345	P	P	21 08 48.6	+0.6
JAO	Obara	9.36	342	P	P	21 08 50.7	+2.0
JHU	Hanno	9.53	353	P	P	21 08 49.5	-1.2
JRY	Ryogami san	9.74	351	P	P	21 08 52.5	-0.6
JYT	Yasato	9.84	357	P	P	21 08 53.9	-0.2
JAG	Ashikaga	10.08	354	P	P	21 08 55.4	-1.5
JAG				*e*S	S	21 10 45.5	-2.3
JHO	Hitachi	10.21	359	P	P	21 08 58.2	-0.1
JHO				*e*S	S	21 10 50.2	-0.2
MAJO	Matsushiro	10.37	349	*e*P	P	21 08 58.6	-1.5
	17nm,0.5s						
MAT	Matsushiro	10.37	349	P	P	21 09 00.0	-0.1
MAT				*e*S	Px	21 09 07.9	
MAT	Matsushiro	10.37	349	P	P	21 09 00.0	-0.1
MAT				S	Px	21 09 08.0	
JOW	Kunigami	11.18	275	P	P	21 09 10.8	+1.6
	1.8nm,0.3s,baz=129,slow=13,SNR=5.4						
GUMO	Guam	13.29	162	*e*P	P	21 09 32.8	+0.6
	73nm,1.1s						
CMAR	Chiang Mai Arr	39.31	267	P	P	21 13 29.2	+1.1
	1.1nm,0.7s,mb3.3,baz=77,slow=5.6,SNR=12						
KAKA	Kakadu	39.68	193	*e*P	P	21 13 31.2	0.0
	1.2nm,0.6s,mb3.4						
WRAB	Tennant Creek	46.45	188	*e*P	P	21 14 23.5	-1.3
	4.4nm,0.4s,mb4.1						
WB2	Warramunga Arr	46.45	188	*e*P	P	21 14 23.9	-1.0
WRA	Warramunga Arr	46.46	188	P	P	21 14 24.0	-1.0
	2.9nm,0.3s,mb4.0,baz=7.8,slow=7.9,SNR=90						
WRA				PcP	PcP	21 15 50.6	-1.0
	0.4nm,0.4s,baz=3.0,slow=4.0,SNR=6.2						
WRA				S	S	21 20 36.3	-3.5
	1.8nm,1.4s,baz=359,slow=13,SNR=5.4						
FITZ	Fitzroy Crossi	46.58	200	*e*P	P	21 14 25.7	-0.2
	3.7nm,1.1s,mb3.6						
FITZ	Fitzroy Crossi	46.58	200	P	P	21 14 25.2	-0.7
	5.5nm,1.2s,mb3.8,baz=6.3,slow=12,SNR=4.8						
MKAR	Makanchi Array	49.96	310	P	P	21 14 51.4	+0.2
	1.3nm,0.7s,mb3.4,baz=93,slow=9.0,SNR=12						
MKAR				PcP	PcP	21 16 03.1	-0.8
	0.9nm,0.6s,baz=74,slow=8.0,SNR=8.7						
ASAR	Alice Springs	50.18	188	P	P	21 14 51.6	-1.5
	0.2nm,0.3s,mb2.9,baz=2.6,slow=4.6,SNR=6.9						
ASAR				PcP	PcP	21 16 04.5	-0.6
	1.3nm,1.1s,baz=13,slow=4.7,SNR=4.9						
KURK	Kurchatov	52.59	315	*e*P	P	21 15 10.2	-0.3
	2.3nm,0.8s,mb3.5						
IMA	Indian Mountai	56.31	27	*e*P	P	21 15 37.5	+0.9
	13nm,1.0s,mb4.2						
BVAR	Borovoye Array	57.71	318	P	P	21 15 46.3	0.0
	6.1nm,0.3s,mb4.3,baz=96,slow=7.8,SNR=45						
BVAR				PcP	PcP	21 16 32.7	-0.9
	1.2nm,0.3s,baz=117,slow=2.2,SNR=5.3						
BRVK	Borovoye	57.78	318	*e*P	P	21 15 46.9	+0.1
	2.8nm,0.6s,mb3.8						
MCK	McKinley	57.98	30	*e*P	P	21 15 47.9	-0.1
	5.0nm,0.8s,mb3.9						
SML	Sawmill	58.12	32	*e*P	P	21 15 49.0	0.0
ZRNK	Zerenda	58.55	318	*e*P	P	21 15 51.7	-0.4
	2.3nm,0.5s,mb3.8						
ILAR	Eielson Array	58.96	28	P	P	21 15 53.4	-1.1
	2.7nm,0.7s,mb3.7,baz=246,slow=5.9,SNR=20						
ARU	Arti	64.21	322	*e*P	P	21 16 27.6	-1.5
	6.5nm,0.4s,mb4.5						
DLBC	Dease Lake	67.53	35	P	P	21 16 51.3	+1.5
	1.2nm,0.7s,mb3.6,baz=315,slow=14,SNR=3.5						
KEV	Kevo	73.24	341	*e*p	P	21 17 23.4	0.0
	12nm,0.8s,mb4.5						
YKA	Yellowknife Ar	73.38	28	P	P	21 17 24.4	+0.1
	2.1nm,0.6s,mb3.8,baz=296,slow=5.8,SNR=8.0						
YKA	Yellowknife Ar	73.38	28	P	P	21 17 24.4	+0.1
ARCES	ARCESS Array B	73.80	341	P	P	21 17 27.1	+0.5
	4.8nm,0.6s,mb4.3,baz=68,slow=8.2,SNR=22						
YBH	Yreka Blue Hor	77.49	50	P	P	21 17 48.6	+1.0
	1.0nm,0.6s,mb3.6,baz=330,slow=5.9,SNR=4.9						
KAF	Kangasniemi	77.57	334	*e*p	P	21 17 46.8	-0.8
	3.2nm,0.4s,mb4.3,baz=55,slow=5.0						
FINES	FINESS Array B	78.03	333	P	P	21 17 50.0	-0.1
	6.0nm,0.5s,mb4.5,baz=73,slow=5.0,SNR=97						
MIB	Mutribah	80.10	298	*e*P	P	21 18 02.5	+0.8
MIB				AMb	AMB	21 18 02.9	
	comp=Z,12nm,0.6s,mb4.7						
RDF	Al-Radifah	80.30	297	*e*P	P	21 18 03.2	+0.5
RST	Umm Al-Ruwaisa	80.49	298	*e*P	P	21 18 03.7	-0.1
RST				AMb	AMB	21 18 04.6	
	comp=Z,9.8nm,0.5s,mb4.7						
AKASG	Malin Array Be	82.44	323	P	P	21 18 13.1	-0.1
	comp=Z,2.9nm,0.3s,mb4.4,baz=50,slow=5.3,SNR=20						
ELK	Elko	82.97	48	*e*P	P	21 18 17.8	+1.7
	comp=Z,1.6nm,0.6s,mb3.9						
NB2	NORSAR Subarra	83.80	338	P	P	21 18 19.2	-0.6
	comp=Z,1.8nm,0.5s,mb4.1,baz=49,slow=4.6						
NOA	NORSAR Array B	83.80	338	P	P	21 18 19.4	-0.3
	comp=Z,2.4nm,0.5s,mb4.2,baz=46,slow=4.7,SNR=10						
BRTR	Keskin Array B	85.55	312	P	P	21 18 29.1	+0.2
	comp=Z,0.8nm,0.7s,mb3.5,baz=103,slow=3.7,SNR=4.2						
PDAR	Pinedale Array	85.62	44	P	P	21 18 30.4	+1.2
	comp=Z,0.5nm,0.5s,mb3.5,baz=291,slow=2.7,SNR=5.7						
GERES	GERESS Array B	91.46	328	P	P	21 18 56.3	-0.1
	comp=Z,0.4nm,0.3s,mb3.7,baz=45,slow=5.7,SNR=5.2						
DBIC	Dimbokro	133.19	310	PKP	PKPdf	21 25 05.0	+2.0
	comp=Z,1.4nm,0.5s,baz=360,slow=4.1,SNR=4.0						
DBIC	Dimbokro	133.19	310	PKP	PKPdf	21 25 05.0	+2.0
LPAZ	La Paz	151.34	75	PKPbc	PKPdf	21 25 43.5	+9.3
	comp=Z,3.0nm,0.5s,baz=326,slow=3.7,SNR=5.1						

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*IDC **08** 21:26:30.9±6.5, 32.05S×179.92W, h346^{km}±71^{km}, mb2.8/3, mb1 3.2/5, mb1mx3.1/12, Error ellipse: s-maj=77.1km s-min=39.2km az=179.0*
ISC 08 21:26:33.7±1.1, **32.4S**±0.1×**179.8W**±0.3, **h409**^{km}±17^{km}, **n28**, σ**1^{s}06**/39, **mb3.0**/3, **South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	5.34	196	P	P	21 28 02.0	+1.7
PUZ	Puketiti	5.84	195	P	P	21 28 06.1	+0.6
PUZ				S	S	21 29 17.9	+0.2
MWZ	Matawai	6.27	199	P	P	21 28 12.2	+1.9
MWZ				S	S	21 29 26.1	-0.2
URZ	Urewera	6.33	202	P	P	21 28 10.7	-0.2
	4.5nm,0.3s,baz=280,slow=2.5,SNR=35						
URZ				S	S	21 29 26.6	-0.8
	6.3nm,0.3s,baz=77,slow=21,SNR=22						
KNZ	Kokohu	6.88	196	P	P	21 28 19.0	+1.9
BKZ	Black Stump Fm	7.35	203	P	P	21 28 22.8	+0.4
BKZ				S	S	21 29 48.1	0.0
MGZ	Maungaku	7.55	209	P	P	21 28 25.9	+1.2
NGZ	Ngauruhoe	7.68	208	P	P	21 28 25.9	-0.2
TUVZ	Tukino	7.74	207	P	P	21 28 27.7	+0.9
PWZ	Pawanui	8.04	198	P	P	21 28 29.8	-0.4
PWZ				S	S	21 30 01.3	-0.7
TSZ	Takapari Road	8.33	203	P	P	21 28 33.3	-0.3
TSZ				S	S	21 30 06.6	-1.5
BFZ	Birch Farm	8.81	200	P	P	21 28 39.3	+0.2
BFZ				S	S	21 30 19.4	+1.3
KIW	Kapiti Island	9.41	205	P	P	21 28 45.0	-0.9
MTW	Mount Morrison	9.47	202	P	P	21 28 46.3	-0.4
CAW	Cannon Point	9.57	204	P	P	21 28 47.0	-0.8
MRW	Makara Radio	9.81	205	P	P	21 28 50.0	-0.5
NNZ	Nelson	10.31	210	P	P	21 28 54.7	-1.7
NNZ				S	S	21 30 49.6	+0.2
QRZ	Quartz Range	10.38	214	P	P	21 28 55.4	-1.8
THZ	Tophouse	10.96	210	P	P	21 29 01.9	-2.1
THZ				S	S	21 31 03.4	+0.4
KHZ	Kahutara	11.27	206	P	P	21 29 05.4	-2.0
KHZ				S	S	21 31 09.8	+0.4
DSZ	Denniston Nort	11.44	213	P	P	21 29 07.6	-1.7
DSZ				S	S	21 31 13.9	+0.9
LTZ	Lake Taylor	12.07	209	P	P	21 29 15.8	-0.6
MQZ	McQueen's Vall	12.71	206	P	P	21 29 23.9	+0.3
MQZ				S	S	21 31 40.4	+1.3
RPZ	Rata Peaks	13.34	210	P	P	21 29 31.4	+0.9
	1.3nm,0.3s,baz=74,slow=4.7,SNR=4.7						
STKA	Stephens Creek	32.54	260	P	P	21 32 31.6	+1.5
	2.4nm,1.1s,mb3.5,baz=90,slow=9.1,SNR=7.2						
ASAR	Alice Springs	41.48	270	P	P	21 33 45.4	+1.1
	0.3nm,1.0s,mb2.6,baz=107,slow=7.6,SNR=3.4						
WRA	Warramunga Arr	42.66	275	P	P	21 33 52.8	-1.0
	0.3nm,0.3s,mb3.1,baz=112,slow=8.0,SNR=9.0						
FINES	FINESS Array B	146.47	338	PKPbc	PKPbc	21 45 28.8	+2.5
	1.0nm,0.8s,baz=72,slow=4.4,SNR=8.9						

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*IGQ **08** 21:27:36.4, 0.48N×78.75W, h14^{km}±1^{km}, mb4.2, Error ellipse: s-maj=0.9km s-min=0.8km az=122.9*
ISC 08 21:27:36.0±0.8, **0.53N**±0.05×**78.74W**±0.05, **h1**^{km}±6^{km}, **n28**, σ**0^{s}67**/33, **18C-8D, Colombia-Ecuador border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
COTA	Cotacachi	0.44	115	⇓P	Pg	21 27 46.1	+1.2
JOR1	San Jorge 1	0.53	169	⇑P	Pg	21 27 50.2	+3.6
YANA	Yana	0.66	165	⇑P	Pg	21 27 49.3	+0.1
PINO	Pino	0.69	169	⇑P	Pg	21 27 49.9	+0.1
CGGP	Crater GGP	0.71	169	⇑P	Pg	21 27 50.1	-0.1
GGP	Refugio Guagua	0.71	168	⇑P	Pg	21 27 50.2	0.0
JUA2	San Juan 2	0.75	170	⇑P	Pg	21 27 50.6	-0.3
LORE	San Lorenzo	0.77	352	P	Pg	21 27 51.2	-0.2
CUPA	Cupa	0.78	258	⇓P	Pg	21 27 51.0	-0.6
CAYA	Cayambe	0.87	121	⇓P	Pg	21 27 53.3	-0.2
CAYR	Refugio Cayamb	0.89	125	⇓P	Pg	21 27 53.8	0.0
ELAGU	Cayambe Volc	0.93	126	⇓P	Pg	21 27 54.1	-0.4
ANTI	Antisana	1.13	149	⇑P	Pb	21 27 57.4	-0.6
NAS1	Nasa	1.18	167	⇑P	Pb	21 27 58.7	-0.3
VC1	Cotopaxi 1	1.21	164	⇑P	Pb	21 27 59.0	-0.4
CONE	Cono NE Rev Vo	1.25	118	⇑P	Pb	21 27 59.7	-0.4
EPALM	Reventador vol	1.25	126	P	Pb	21 28 00.1	-0.1
EPALM				S	Sb	21 28 15.9	-0.7
TAMB	Tambo	1.27	163	⇑P	Pb	21 28 00.0	-0.4
MARY	Rancho Maria	1.27	169	⇓P	Pb	21 28 00.6	0.0
QIL1	Quilotoa	1.38	188	⇑P	Pb	21 28 00.9	-1.4
PISA	Pisayambo	1.61	167	⇑P	Pn	21 28 05.8	0.0
PISA				S	Sb	21 28 27.4	+0.2
JUIV	Juive	1.96	172	⇑P	Pn	21 28 11.1	+0.4
CUSU	Cusua	1.97	172	⇓P	Pn	21 28 12.0	+1.0
CUSU				S	Sn	21 28 34.9	-1.8
RETU	Refugio	1.98	171	⇓P	Pn	21 28 12.1	+0.9
ULBA	Ulba	1.99	170	⇑P	Pn	21 28 11.6	+0.4
IGUA	Igualata	2.00	177	⇑P	Pn	21 28 12.0	+0.5
ARRY	Arrayan	2.04	172	⇑P	Pn	21 28 12.4	+0.5
ARRY				S	Sn	21 28 38.7	+0.3
PATA	Patacocha	2.04	171	⇑P	Pn	21 28 12.8	+0.9
PATA				S	Sn	21 28 39.0	+0.6

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*PRU **08** 21:35:45.9, 50.31N×18.80E*
WAR 08 21:35:44.5, 50.24N×18.92E, ML2.6, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OJC	Ojcow	0.56	92	*e*PG	Pg	21 35 56.0	+0.3
OJC				*e*SG	Sg	21 36 04.0	+0.8
OKC	Ostrava-Krasne	0.64	232	*e*PG	Pg	21 35 57.7	+0.4
OKC				*e*SG	Sg	21 36 06.8	+1.0
NIE	Niedzica	1.22	132	*e*PG	Pg	21 36 08.0	-0.8
NIE				*e*SG	Sg	21 36 25.0	-0.1
DPC	Dobruska-Polom	1.67	275	*e*PG	Pg	21 36 15.5	-2.4
DPC				*e*SG	Sg	21 36 36.9	-3.2
	6.6nm,0.2s						
KSP	Ksiaz	1.78	291	*e*PG	Pg	21 36 18.0	-2.1
KSP				*e*SG	Sg	21 36 41.0	-2.9
UPC	Upice	1.88	279	*e*SG	Sg	21 36 44.8	-2.4
PRU	Pruhonice	2.83	267	*e*PG	Pg	21 36 35.6	-5.4
PRU				*e*SG	Sg	21 37 14.0	-4.7
	3.0nm,0.5s						
KHC	Kasperske Hory	3.64	254	*e*PG	Pg	21 36 50.1	-7.1
KHC				*e*x	x	21 37 02.5	
KHC				*e*SG	Sg	21 37 40.1	-5.7
CLL	Collm	3.91	288	*e*SG	Sg	21 37 49.0	-5.6

DHMR 08 21:45:56.6±0.9, **13.77N**×**42.62E**, **h45**^{km}±4^{km}, **MD4.1, ML4.1, 2C-3D, Ethiopia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
UDYN	Al 'Udayn	1.34	81	⇓*i*P	P	21 46 20.4	+1.0
UDYN				*i* S	S	21 46 38.7	+2.4
UDYN				AML	AML	21 46 45.6	
	comp=E,3μm,0.5s						
TRBA	At Turbah	1.56	111	⇑*i*P	P	21 46 23.2	+0.8
TRBA				*i* S	S	21 46 45.0	+3.3
TRBA				AML	AML	21 46 46.5	
	comp=N,2μm,0.7s						
DHBB	Dhamar BB	1.88	65	⇓*i*P	P	21 46 29.4	+2.4
DHBB				*i* S	S	21 46 53.8	+4.2
HAJJ	Hajjah	2.14	26	⇑*i*P	P	21 46 31.8	+1.2
HAJJ				*i* S	S	21 47 00.3	+4.3
HAJJ				AML	AML	21 47 16.2	
	comp=E,2μm,0.4s						
LBOS		2.56	87	*i* P	P	21 46 38.0	+1.5
LBOS				*i* S	S	21 47 10.5	+3.9
BDHA	Al Bayda'	2.87	86	⇓*i*P	P	21 46 42.6	+1.6
BDHA				*i* S	S	21 47 17.8	+3.3
BDHA				AML	AML	21 47 35.6	
	comp=N,2μm,0.5s						

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*NEIC **08** 21:59:11.8±2.9, 23.30S×179.74W, h525^{km}±30^{km}, mb4.2/9, Error ellipse: s-maj=28.0km s-min=13.4km az=206.0*
*IDC **08** 21:59:11.6±7.2, 23.31S×179.69W, h519^{km}±75^{km}, mb3.7/5, mb1 3.8/6, mb1mx3.6/14, Error ellipse: s-maj=62.0km s-min=32.0km az=18.0*
ISC 08 21:59:17.4±2.4, **23.9S**±0.1×**179.7E**±0.3, **h561**^{km}±32^{km}, **n32**, σ**0^{s}92**/20, **mb4.3**/11, **South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	14.53	188	P	P	22 02 22.6	+1.1
	1.2nm,0.3s,baz=10,slow=5.5,SNR=7.3						
URZ				S	S	22 04 48.6	-1.3
	0.6nm,0.3s,baz=130,slow=18,SNR=5.1						
CTA	Charters Tower	31.22	270	P	P	22 04 53.7	+0.6
	12nm,0.4s,mb4.8,baz=97,slow=11,SNR=25						
CTAO	Charters Tower	31.22	270	eP	P	22 04 53.4	+0.4
	12nm,0.4s,mb4.8						
STKA	Stephens Creek	34.50	248	eP	P	22 05 22.2	+1.7
	2.4nm,0.4s,mb4.1						
STKA	Stephens Creek	34.50	248	P	P	22 05 22.3	+1.8
	3.7nm,0.5s,mb4.2,baz=58,slow=9.8,SNR=15						
STKA				PcP	PcP	22 07 39.0	-0.9
	1.7nm,0.9s,baz=98,slow=7.1,SNR=2.9						
ASAR	Alice Springs	41.79	261	P	P	22 06 20.2	+0.4
	4.8nm,0.5s,mb4.3,baz=95,slow=7.9,SNR=49						
ASAR				S	S	22 11 60.0	+1.9
	0.4nm,0.6s,baz=100,slow=14,SNR=5.4						
ASPA	Alice Springs	41.79	261	eP	P	22 06 20.2	+0.3
WB2	Warramunga Arr	42.15	266	eP	P	22 06 22.1	-0.6
WRA	Warramunga Arr	42.16	266	P	P	22 06 22.2	-0.5
	4.7nm,0.4s,mb4.3,baz=92,slow=8.5,SNR=118						
WRA				S	S	22 12 02.9	-0.3
	1.6nm,1.2s,baz=121,slow=16,SNR=3.1						
FORT	Forrest	46.09	250	eP	P	22 06 53.2	0.0
	38nm,0.6s,mb5.1						
KAKA	Kakadu	46.09	275	eP	P	22 06 51.5	-1.9
	4.6nm,0.6s,mb4.2						
FITZ	Fitzroy Crossi	50.58	266	eP	P	22 07 26.5	-0.4
	2.4nm,0.4s,mb3.9						
FITZ	Fitzroy Crossi	50.58	266	P	P	22 07 26.6	-0.3
	3.6nm,0.5s,mb4.0,baz=141,slow=4.2,SNR=18						
KLBR	Kellerberrin	54.77	247	eP	P	22 07 56.3	-0.3
	40nm,1.3s,mb4.5						
MBWA	Marble Bar	55.13	260	eP	P	22 07 58.3	-0.9
	3.7nm,0.5s,mb3.9						
MUN	Mundaring	56.02	247	eP	P	22 08 05.5	+0.3
	19nm,1.8s,mb4.0						
QSPA	South Pole Qui	66.22	180	eP	P	22 09 11.8	+0.7
	4.7nm,0.7s,mb4.1						
MKAR	Makanchi Array	111.94	313	PKiKP		22 16 46.3	
	0.6nm,0.6s,baz=159,slow=1.6,SNR=5.6						
BVAR	Borovoye Array	120.24	319	PKP	PKPdf	22 17 02.1	-2.5
	0.6nm,0.4s,baz=98,slow=1.9,SNR=4.9						
ZRNK	Zerenda	121.08	319	ePKPdf	PKPdf	22 17 03.6	-2.6
ARCES	ARCESS Array B	131.79	348	PKP	PKPdf	22 17 23.5	-2.8
	8.7nm,1.1s,baz=315,slow=6.9,SNR=5.8						
ARCES	ARCESS Array B	131.79	348	PKP	PKPdf	22 17 23.5	-2.8
FINES	FINESS Array B	138.33	341	PKP	PKPdf	22 17 37.1	-1.4
	2.3nm,0.8s,baz=117,slow=4.3,SNR=4.5						
HFS	Hagfors	142.46	349	PKhKP		22 17 39.6	
	3.5nm,0.3s,baz=63,slow=3.3,SNR=45						
AKASG	Malin Array Be	144.80	327	PKP	PKPdf	22 17 48.2	-1.9
	2.8nm,0.5s,baz=42,slow=4.0,SNR=23						
ASF	Jabal al Asfar	146.28	293	PKPbc	PKPbc	22 17 55.4	+0.3
	3.5nm,0.7s,baz=281,slow=1.3,SNR=6.2						
BRTR	Keskin Array B	147.35	307	PKPbc	PKPdf	22 17 56.5	+1.8
	1.2nm,0.7s,baz=138,slow=5.2,SNR=7.9						
BRTR				PKPab	PKPab	22 18 01.1	-3.3
	1.4nm,0.5s,baz=82,slow=4.5,SNR=8.7						
EKA	Eskdalemuir Ar	148.49	3	PKPbc	PKPdf	22 17 57.5	+1.6
	1.1nm,0.5s,baz=346,slow=2.5,SNR=7.5						
CLL	Collm	150.74	343	ePKIKP	PKPdf	22 17 58.0	-1.6
CLL				i PKP1	PKPdf	22 18 04.3	+4.7
CLL				i PKP2	PKPab	22 18 12.8	-5.1
CLL	Collm	150.74	343	eP	PKPdf	22 18 04.0	+4.4
BRG	Berggiesshubel	150.87	341	P	PKPdf	22 18 03.6	+3.8
GERES	GERESS Array B	152.73	340	PKPbc	PKPdf	22 18 08.5	+6.0
	0.7nm,0.9s,SNR=4.0						

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*MOS **08** 22:19:21.6±2.2, 30.19N×51.48E, h33^{km}, mb4.4/9, Error ellipse: s-maj=37.4km s-min=9.5km az=117.3*

*KISR **08** 22:19:31.3±1.2, 31.71N×51.43E, h34^{km}±759^{km}, ML4.0*

*THR **08** 22:19:32.1±1.4, 31.60N×51.15E, h14^{km}±23^{km}, ML4.0*

*IDC **08** 22:19:32.8±2.1, 31.86N×50.89E, mb4.2/14, mb1 4.3/17, mb1mx4.2/27, ML3.8/3, MS3.5/8, Ms1 3.6/8, ms1mx3.3/24, Error ellipse: s-maj=45.6km s-min=17.5km az=174.0*

*NEIC **08** 22:19:37.5±1.3, 31.64N×50.84E, h49^{km}±11^{km}, mb4.7/25, Error ellipse: s-maj=18.8km s-min=6.4km az=173.0*

*ZUR_RM **08** 22:19:37, 31.64N×50.84E, h15^{km}, Mw4.5/4, Moment Tensor Solution. s4 Moment tensor: Scale 10^{15}Nm; M$_{rr}$6.86; M$_{\theta\theta}$-6.68; M$_{\phi\phi}$-0.18; M$_{r\theta}$2.15; M$_{\theta\phi}$1.36; M$_{\phi r}$0.52; Best double couple: M$_0$7.26×10^{15} NP1:ϕ_s94°,δ54°,λ81°. NP2:ϕ_s289°,δ37°,λ102°. Principal axes: T 7.268, Plg79°, Azm329°; N -.026, Plg7°, Azm99°; P -7.242, Plg8°, Azm190°;*

*BJI **08** 22:19:38.7, 31.58N×51.51E, h49^{km}, mb4.7*

ISC 08 22:19:36.0±0.5**, 31.67N**±0.04×**51.03E**±0.03**, h57**^{km}±5^{km}**, h44**^{km}±4.7^{km}**:pP-P, n119,** σ**1**^{s}**30**/122**, mb4.5**/48**, MS3.5**/9**, 1C-2D, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NASN	Na'in	1.88	53	ePG	P	22 20 05.3	-1.1
NASN				eSG	S	22 20 30.9	+1.9
ASAO	Ashtian	3.00	344	ePN	P	22 20 23.2	+0.9
ASAO				AMP		22 21 19.1	
	comp=E,503nm,0.7s						
ASAO				AMP		22 21 23.3	
	comp=N,699nm,1.1s						
UMR	Umm Al-Rimmam	3.55	234	eP	P	22 20 31.1	+1.0
UMR				eS	S	22 21 14.6	+3.5
UMR				AML	AML	22 21 21.7	
	comp=Z,146nm,0.4s						
MIB	Mutribah	3.68	241	eP	P	22 20 32.4	+0.5
MIB				eS	S	22 21 17.5	+3.1
MIB				AML	AML	22 21 21.1	
	comp=Z,326nm,0.7s						
GHIR	Ghir-Karzin	3.77	153	ePN	P	22 20 30.5	-2.7
GHIR				AMP		22 21 43.8	
	comp=N,161nm,0.6s						
GHIR				AMP		22 21 48.3	
	comp=E,242nm,0.6s						
KBD	Kabd	3.81	230	eP	P	22 20 34.1	+0.5
KBD				eS	S	22 21 19.4	+1.9
QRN	Al-Qurain	3.97	224	eP	P	22 20 35.3	-0.6
QRN				eS	S	22 21 23.9	+2.3
QRN				AML	AML	22 21 29.4	
	comp=Z,152nm,0.4s						
DAMV	Damavand	4.03	11	ePN	P	22 20 36.7	-0.1
DAMV				AMP		22 21 53.5	
	comp=E,178nm,0.7s						
DAMV				AMP		22 21 54.4	
	comp=N,191nm,0.7s						
RDF	Al-Radifah	4.07	229	eP	P	22 20 37.0	-0.3
RDF				eS	S	22 21 25.8	+1.7
RDF				AML	AML	22 21 28.8	
	comp=Z,201nm,0.5s						
RST	Umm Al-Ruwaisa	4.09	239	eP	P	22 20 37.8	+0.1
THKV	Tehran--Karaj	4.24	358	ePN	P	22 20 39.7	0.0
THKV				AMP		22 22 11.1	
	comp=N,178nm,0.7s						
THKV				AMP		22 22 11.1	
	comp=E,216nm,0.7s						
SNGE	Sanandaj	4.60	319	ePN	P	22 20 44.5	-0.3
KRBR	Kerman	5.21	107	ePN	P	22 20 51.0	-2.2
HASS	Wahat al Ahsa'	6.56	191	P	P	22 21 09.8	-2.3
ZHSF	Zahedan	8.64	101	ePN	P	22 21 37.9	-2.9
ARSS	Ar Rass	8.94	232	P	P	22 21 40.4	-4.7
HILS	Ha'il	9.11	244	P	P	22 21 42.3	-5.0
MZLS	Mizel	9.19	216	P	P	22 21 43.5	-4.9
AFFS	'Afif	10.48	225	P	P	22 22 01.7	-4.4
ASF	Jabal al Asfar	12.02	276	Pn	P	22 22 22.9	-3.9
	comp=E,1.9nm,0.3s,baz=315,slow=9.8,SNR=11						
ASF				Sn	S	22 24 32.2	-8.0
	comp=E,0.4nm,0.3s,baz=143,slow=20,SNR=3.3						
MALT	Malatya	12.27	306	eP	P	22 22 26.8	-3.4
	comp=E,5.5nm,1.0s						
GZT	Gaziantep	12.47	301	i P	P	22 22 27.0	-5.8
TATS	Tathlith	13.86	211	P	P	22 22 47.7	-3.5
EIL	Elat	13.98	266	Pn	P	22 22 52.7	0.0
	comp=E,0.3nm,0.3s,baz=87,slow=18,SNR=2.3						
GOF	Gofitskoye	14.76	337	eP	P	22 23 13.0	+10
AVNT	Avonos	14.99	303	i P	P	22 23 11.0	+5.2
CTKT	Corum	15.86	309	i P	P	22 23 21.4	+4.6
BOYT	Boyabat	16.19	311	i P	P	22 23 13.3	-7.7
BRTR	Keskin Array B	16.24	304	Pn	P	22 23 21.0	-0.7
	comp=E,0.1nm,0.3s,baz=126,slow=13,SNR=12						
ELDT	Eldivan	16.71	307	i P	P	22 23 29.8	+2.2
BALT	Daday	17.23	310	i P	P	22 23 33.1	-0.9
SGKT	Sivrigoynuk	17.69	305	i P	P	22 23 39.1	-0.8
ESKT	Eskisehir	18.16	301	i P	P	22 23 44.3	-1.4
MANT	Manisa	19.59	297	i P	P	22 24 02.0	0.0
ULDT	Uludag	19.61	302	i P	P	22 24 00.2	-2.1
AAK	Ala-Archa	21.60	53	eP	P	22 24 23.8	+1.1
	comp=E,17nm,1.4s,mb4.3						
IDI	Anoyia	22.08	286	P	P	22 24 28.7	+1.2
	comp=E,17nm,0.8s,mb4.5,baz=114,slow=8.3,SNR=4.7						
KIS	Kishinev	22.90	318	eP	P	22 24 34.0	-1.4
KIS				e		22 24 43.0	
KIS				e		22 25 09.0	
KIS				e		22 25 16.0	
MLR	Muntele Rosu	23.86	312	P	P	22 24 49.4	+4.7
	comp=E,8.5nm,0.7s,mb4.3,baz=231,slow=6.3,SNR=12						
MLR	Muntele Rosu	23.86	312	P	P	22 24 49.4	+4.7
MLR				pmax	pmax		
	comp=Z,9.0nm,0.7s						
ZRNK	Zerenda	24.95	26	eP	P	22 24 56.6	+1.4
	comp=Z,21nm,1.1s,mb4.6						
AKASG	Malin Array Be	24.96	326	P	P	22 24 55.6	+0.3
	comp=Z,13nm,0.9s,mb4.5,baz=135,slow=8.4,SNR=37						
AKASG	Malin Array Be	24.96	326	P	P	22 24 55.6	+0.2
AKASG				pmax	pmax		
	comp=Z,13nm,0.9s						
ARU	Arti	25.31	10	eP	P	22 24 59.9	+1.3
ARU	Arti	25.31	10	eP	P	22 25 00.7	+2.0
	comp=Z,6.2nm,0.9s,mb4.1						
BRVK	Borovoye	25.52	28	eP	P	22 25 01.5	+0.8
	comp=Z,19nm,1.3s,mb4.5						
BVAR	Borovoye Array	25.54	28	P	P	22 25 02.2	+1.4
	comp=Z,6.1nm,0.9s,mb4.2,baz=225,slow=6.3,SNR=21						
OBN	Obninsk	25.58	341κ	iP	P	22 25 02.0	+0.8
OBN				e		22 25 47.9	
OBN				eS	S	22 29 45.9	+23
OBN				pmax	pmax		
	comp=Z,53nm,1.7s,mb4.8						
OBN				MLR	MLR		
	comp=Z,100nm,19.0s,MS3.4						
OBN	Obninsk	25.58	341	eP	P	22 25 01.9	+0.8
	comp=Z,46nm,1.4s,mb4.8						
KURK	Kurchatov	27.91	39	P	P	22 25 24.8	+2.2
	comp=Z,96nm,0.9s,mb5.4,SNR=22						
KURK	Kurchatov	27.91	39	eP	P	22 25 24.0	+1.4
	comp=Z,19nm,1.0s,mb4.7						
MKAR	Makanchi Array	28.31	49	P	P	22 25 27.6	+1.4
	comp=Z,1.4nm,0.7s,mb3.7,baz=239,slow=7.1,SNR=15						
MKAR				PcP	PcP	22 28 40.2	+2.0
	comp=Z,0.6nm,0.7s,baz=297,slow=1.2,SNR=3.9						
MKAR				LR	LR	22 37 37.5	
	comp=Z,76nm,19.5s,MS3.3,baz=172,slow=38						
MKAR	Makanchi Array	28.31	49	P	P	22 25 27.6	+1.4
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR				MLR	MLR		
	comp=Z,76nm,19.5s						
KOLN	Koldanda	28.49	89	eP	P	22 25 24.0	-4.0
	comp=Z,62nm,1.8s,mb4.9						
HYB	Hyderabad	28.67	113	i P	P	22 25 30.5	+0.8
GKN	Gorkha	29.31	88	eP	P	22 25 30.8	-4.6
	comp=Z,12nm,0.9s,mb4.6						
OJC	Ojcow	29.69	318	eP	P	22 25 39.4	+1.0
DMN	Daman	29.82	89	eP	P	22 25 35.3	-4.6
KKN	Kakani	29.92	89	eP	P	22 25 35.5	-5.2
	comp=Z,17nm,0.9s,mb4.8						
SUW	Suwalki	29.92	326	eP	P	22 25 40.0	-0.5
	comp=Z,60nm,1.3s,mb5.2						
PKI	Pulchoki	30.09	89	eP	P	22 25 37.7	-4.5
	comp=Z,37nm,1.2s,mb5.0						
GERES	GERESS Array B	32.85	312	P	P	22 26 05.8	-0.4
	comp=Z,2.6nm,1.1s,mb4.1,baz=106,slow=9.7,SNR=5.1						
GERES	GERESS Array B	32.85	312	P	P	22 26 05.8	-0.4
GERES				pmax	pmax		
	comp=Z,3.0nm,1.1s						
KHC	Kasperske Hory	33.01	313	eP	P	22 26 08.0	+0.3
KHC				pP	pP	22 26 20.0	-2.2
KHC	Kasperske Hory	33.01	313	eP	P	22 26 08.0	+0.3
KHC				e	pP	22 26 20.0	-2.2
FINES	FINESS Array B	33.94	339	P	P	22 26 15.4	-0.1
	comp=Z,1.8nm,0.8s,mb4.0,baz=146,slow=12,SNR=8.8						
FINES				LR	LR	22 41 29.7	
	comp=Z,68nm,19.4s,MS3.4,baz=338,slow=39						
FINES	FINESS Array B	33.94	339	P	P	22 26 15.4	-0.1
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
FINES				MLR	MLR		
	comp=Z,68nm,19.4s						
BSD	Bornholm Skovb	34.58	323	i P	P	22 26 20.2	-0.9
	comp=Z,26nm,0.9s,mb5.2						
DAVOX	Davos	34.84	308	P	P	22 26 23.1	-0.3
	comp=Z,5.5nm,1.0s,mb4.4,baz=133,slow=17,SNR=6.1						
PGF	Pioggiola	34.91	300	eP	P	22 26 22.6	-1.5
	comp=Z,24nm,1.3s,mb4.7						
DAVA	Damuels	34.94	309⇑	iP	P	22 26 23.8	-0.4
	comp=Z,5.2nm,0.4s,mb4.8						
SBF	Sospel	36.16	302	eP	P	22 26 33.8	-0.8
	comp=Z,12nm,0.8s,mb4.6						
SHL	Shillong	36.22	89	eP	P	22 26 35.0	-0.3
MBDF	Montbardon	36.71	304	eP	P	22 26 39.0	-0.2
	comp=Z,12nm,0.7s,mb4.5						
LPG	La Plagne	36.80	305	eP	P	22 26 39.5	-0.5
	comp=Z,8.4nm,0.6s,mb4.5						
BNI	Bardonecchia	36.80	304	eP	P	22 26 39.6	-0.4
	comp=Z,13nm,0.7s,mb4.9						
LPL	La Plagne	36.81	305	eP	P	22 26 39.6	-0.5
	comp=Z,22nm,0.9s,mb4.7						
CDF	Champ du Feu	36.88	310	eP	P	22 26 39.9	-0.7
ORIF	Oris-en-Rattie	37.36	304	eP	P	22 26 43.8	-0.8
ORIF				eR			
	comp=Z,110nm,19.8s						
CABF	La Chapelle	37.39	307	eP	P	22 26 44.9	0.0
	comp=Z,16nm,0.8s,mb4.6						
HFS	Hagfors	37.66	330	P	P	22 26 47.6	+0.6
	comp=Z,14nm,0.9s,mb4.7,baz=117,slow=9.9,SNR=33						
HFS	Hagfors	37.66	330	P	P	22 26 47.6	+0.5
HFS				pmax	pmax		
	comp=Z,14nm,0.9s						
MUD	Monsted U'grnd	38.09	323	i P	P	22 26 52.7	+2.1
	comp=Z,12nm,0.9s,mb4.6						
VIVF	Saint-Julien-l	38.21	304	eP	P	22 26 50.8	-0.9
	comp=Z,6.2nm,0.8s,mb4.1						
LASF	Ste Croix	38.75	302	eP	P	22 26 54.8	-1.4
	comp=Z,3.9nm,0.8s,mb3.9						
SMF	Signal de Mont	38.93	306	eP	P	22 26 57.0	-0.7
	comp=Z,12nm,0.7s,mb4.4						
LOR	Lormes	38.99	307	eP	P	22 26 57.5	-0.7
LOR				eR			
	comp=Z,68nm,20.5s						
NB2	NORSAR Subarra	39.18	330	P	P	22 26 59.3	-0.4
	comp=Z,3.4nm,0.8s,mb4.1,baz=122,slow=8.6						
NOA	NORSAR Array B	39.18	330	P	P	22 26 59.5	-0.1
	comp=Z,1.9nm,0.6s,mb4.0,baz=122,slow=8.3,SNR=8.1						
NOA				LR	LR	22 43 37.0	
	comp=Z,85nm,19.2s,MS3.6,baz=120,slow=37						
NOA	NORSAR Array B	39.18	330	P	P	22 26 59.6	-0.1
NOA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NOA				MLR	MLR		
	comp=Z,85nm,19.3s						
SSF	Saint Saulge	39.20	307	eP	P	22 26 59.5	-0.5
	comp=Z,7.3nm,0.8s,mb4.2						
AVF	Avril sur Loir	39.28	307	eP	P	22 27 00.2	-0.4
BGF	Bois d'Agland	39.61	306	eP	P	22 27 02.1	-1.3
MTLF	Montolieu	39.92	301	eP	P	22 27 04.7	-1.3
GTA	Gaotai	40.04	65	P	P	22 27 09.3	+2.3
GTA				AP	pP	22 27 19.0	-2.8
GTA				XP	sP	22 27 22.9	-5.7
GTA				AMB	AMB		
	comp=Z,7.0nm,1.3s,mb4.2						
ARCES	ARCESS Array B	40.56	347	P	P	22 27 12.8	+1.8
	comp=Z,4.8nm,0.8s,mb4.2,baz=150,slow=9.8,SNR=7.7						
ARCES				LR	LR	22 48 04.4	
	comp=Z,63nm,19.2s,MS3.5,baz=243,slow=42						
ARCES	ARCESS Array B	40.56	347	P	P	22 27 12.8	+1.8
ARCES				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ARCES				MLR	MLR		
	comp=Z,63nm,19.2s						
ARCES	ARCESS Array B	40.56	347	P	P	22 27 12.8	+1.8
ARCES				LR	LR	22 48 04.4	
MFF	Saint Martin d	41.67	306	eP	P	22 27 20.1	-0.2
LDF	La Druitiere	41.78	309	eP	P	22 27 19.7	-1.5
	comp=Z,18nm,1.0s,mb4.4						
FLN	La Foliniere	42.03	309	eP	P	22 27 21.7	-1.5
FLN				eR			
	comp=Z,65nm,19.5s						
GRR	Gorron	42.25	309	eP	P	22 27 24.2	-0.9
SGMF	Saint Gilles	43.38	308	eP	P	22 27 33.2	-1.1
	comp=Z,24nm,0.9s,mb4.6						
LZH	Lanzhou	43.63	69	eP	P	22 27 38.5	+2.0
LZH				AP	pP	22 27 53.5	+2.1
LZH				XP	sP	22 27 58.0	-0.1
LZH				AMB	AMB		
	comp=Z,42nm,1.5s,mb5.0						
EKA	Eskdalemuir Ar	44.45	319	P	P	22 27 43.0	+0.1
	comp=Z,1.0nm,0.6s,mb3.8,baz=107,slow=7.0,SNR=6.5						
EKA	Eskdalemuir Ar	44.45	319	P	P	22 27 43.0	+0.1
EKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SONM	Songino Array	44.55	52	P	P	22 27 46.8	+3.0
	comp=Z,1.2nm,0.7s,mb3.9,baz=292,slow=6.7,SNR=4.2						
ESDC	Sonseca Array	44.79	296	P	P	22 27 46.9	+1.1
	comp=Z,2.9nm,1.0s,mb4.0,baz=76,slow=7.2,SNR=6.4						
CMAR	Chiang Mai Arr	45.02	95	LR	LR	22 49 10.2	
	comp=Z,36nm,21.1s,MS3.3,baz=170,slow=39						
KMI	Kunming	45.61	85	eP	P	22 27 53.0	+0.5
KMI				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
EVO	Evora	48.08	295	eP	P	22 28 13.1	+1.4
XAN	Xi'an	48.13	71	P	P	22 28 13.2	+1.0
XAN				AP	pP	22 28 25.3	-1.9
XAN				AMB	AMB		
	comp=Z,14nm,1.1s,mb4.9						
ENH	Enshi	49.61	75	eP	P	22 28 23.8	+0.1
	comp=Z,12nm,1.1s,mb4.8						
HIA	Hailar	53.31	50	eP	P	22 28 53.4	+2.2
	comp=Z,2.6nm,0.3s,mb4.6						
DBIC	Dimbokro	57.64	257	LR	LR	22 56 49.6	
	comp=Z,70nm,18.6s,MS3.8,baz=59,slow=39						
IMA	Indian Mountai	80.74	10	eP	P	22 31 45.4	+1.3
	comp=Z,21nm,1.1s,mb5.0						
ILAR	Eielson Array	82.86	8	LR	LR	23 15 43.7	
	comp=Z,23nm,20.4s,MS3.5,baz=213,slow=41						
DAWY	Dawson	84.24	5	eP	P	22 32 04.9	+2.9
YKA	Yellowknife Ar	85.46	353	LR	LR	23 12 43.3	
	comp=Z,29nm,19.3s,MS3.7,slow=37						

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*JMA **08** 22:47:53.0±0.3, 23.28N×121.67E, h46^{km}*

TAP 08 22:47:51.6, 23.33N×121.62E, h22^{km}, ML2.9, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	1.70	48	P	Pn	22 48 20.9	+0.4
HATJ	Hateruma jima	2.13	70	P	Pn	22 48 26.7	0.0
HATJ				eS	Sn	22 48 51.5	-1.2
IRIF	Iriomote-Funau	2.18	62	P	Pn	22 48 27.6	+0.3
IRIF				eS	Sn	22 48 53.5	-0.4
JKRS	Kuro-shima	2.37	67	eS	Sn	22 48 58.0	-0.8
JIJ	Ishigaki jima	2.53	65	P	Pn	22 48 32.2	-0.2
JIJ				eS	Sn	22 49 01.3	-1.5
JTJ	Tarama	3.11	65	P	Pn	22 48 40.9	+0.3
JTJ				eS	Sn	22 49 16.6	-0.9

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*NIED **08** 23:05:00, 25.00N×128.00E, h35^{km}, Mw3.8 Best double couple: M$_0$5.92×10^{14} NP1:ϕ_s233°,δ51°,λ-92°. NP2:ϕ_s57°, δ39°,λ-87°.*

*IDC **08** 23:05:15.2±1.4, 24.94N×128.06E, mb3.8/3, mb1 4.0/3, mb1mx3.6/18, Error ellipse: s-maj=62.0km s-min=21.6km az=78.0*

*NEIC **08** 23:05:16.7±0.8, 24.94N×128.13E, h10^{km}, mb3.6/1, Error ellipse: s-maj=37.6km s-min=13.0km az=81.0*

*JMA **08** 23:05:19.1±0.2, 24.99N×128.00E, h72^{km}, M3.8*

ISC 08 23:05:18.2±1.0**, 24.96N**±0.05×**127.98E**±0.06**, h72**^{km}**, n20,** σ**0**^{s}**98**/36**, mb3.7**/4**, Southeast of Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JJT2	Tamagusuku 2	1.19	350	P	P	23 05 40.1	+0.5
JJT2				eS	S	23 05 56.0	+0.5
NAH1	Naha	1.27	348	P	P	23 05 41.0	+0.4
NAH1				S	S	23 05 56.8	-0.4
JKE	Kume jima 2	1.73	322	P	P	23 05 47.6	+0.7
JKE				eS	S	23 06 09.3	+1.2
JAGN	Aguni-jima	1.75	338	P	P	23 05 48.2	+1.0
JAGN				S	S	23 06 08.9	+0.4
JOW	Kunigami	1.89	8	Pn	P	23 05 49.0	+0.1
	50nm,0.3s,baz=164,slow=16,SNR=242						
JOW				Sn	S	23 06 09.8	-1.9
	70nm,0.3s,baz=43,slow=19,SNR=18						
JOW	Kunigami	1.89	8	P	P	23 05 49.0	+0.1
JOW				eS	S	23 06 11.0	-0.6
JIH	Iheya	2.07	360	P	P	23 05 52.1	+0.6
JIH				eS	S	23 06 15.2	-0.9
JOGS	Gusukube	2.34	266	P	P	23 05 56.2	+0.8
JOGS				eS	S	23 06 23.7	+0.7
JMJ	Miyako jima 2	2.44	267	P	P	23 05 57.6	+0.9
JMJ				eS	S	23 06 26.0	+0.6
JTK	Tokunoshima	2.95	17	P	P	23 06 03.4	-0.5
JTK				eS	S	23 06 37.2	-1.0
JTJ	Tarama	2.99	265	P	P	23 06 04.6	+0.1
JTJ				eS	S	23 06 37.8	-1.5
JMZ	Minamidaito 2	3.06	73	P	P	23 06 01.7	-3.7
JMZ				eS	S	23 06 33.5	-7.4
JIJ	Ishigaki jima	3.54	261	P	P	23 06 11.7	-0.4
JIJ				eS	S	23 06 50.1	-2.8
JKRS	Kuro-shima	3.68	260	P	P	23 06 14.4	+0.3
JKRS				eS	S	23 06 54.3	-2.2
JAM	Amami Oshima	3.73	23	P	P	23 06 14.7	-0.1
JAM				eS	S	23 06 53.2	-4.7
IRIF	Iriomote-Funau	3.91	262	P	P	23 06 17.7	+0.4
IRIF				eS	S	23 07 01.8	-0.5
MKAR	Makanchi Array	42.22	313	P	P	23 13 10.4	+4.8
	1.1nm,0.4s,mb3.9,baz=96,slow=9.2,SNR=20						
WRA	Warramunga Arr	45.06	172	P	P	23 13 32.3	+3.4
	1.1nm,0.8s,mb3.6,baz=353,slow=8.6,SNR=5.4						
ASAR	Alice Springs	48.68	173	P	P	23 14 01.4	+4.1
	0.4nm,0.5s,mb3.6,slow=7.2,SNR=6.1						
ZRNK	Zerenda	51.89	319	eP	P	23 14 26.3	+5.0
	0.6nm,0.7s,mb3.7						

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*NAO **08** 23:30:46.3±1.7, 67.83N×20.44E, ML2.1*

*BER **08** 23:30:47.9±3.5, 67.85N×20.33E, ML2.0, ML2.1(NAO), Suspected explosion*

HEL 08 23:30:46.8±0.1**, 67.83N×20.16E, ML2.0, ML1.9**(UPP)**, ML2.0**(BER)**, Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUA	Kurravaara	0.14	28	i P	Pg	23 30 48.8	-0.9
KUA				i S	Sg	23 30 50.9	-0.7
NIKU	Nikkaluokta	0.43	276	i P	Pg	23 30 54.5	-0.9
DUNU	Dundret	0.73	167	i P	Pg	23 30 59.7	-1.7
MASU	Masugnsbyn	0.80	117	i P	Pg	23 31 00.9	-1.9
KIF	Kilpisjarvi	1.21	11	eP	Pb	23 31 09.1	-1.1
KIF				eS	Sb	23 31 25.1	-1.1
KTK1	Kautokeino	1.65	42	eP	Pn	23 31 17.2	+0.1
KTK1				eSN	Sn	23 31 40.1	+0.8
KTK1				AML	AML	23 31 41.8	
	comp=Z,15nm,0.2s						
TRO	Tromso	1.87	347	eP	Pn	23 31 20.2	-0.1
TRO				eSG	Sg	23 31 45.1	-3.8
TRO				AML	AML	23 31 47.9	
	comp=Z,23nm,0.4s						
SGF	Sodankyl	2.47	96	eP	Pn	23 31 27.9	-1.0
SGF				eS	Sn	23 31 59.1	-1.1
ARA0	ARCESS Array S	2.60	46	eP	Pn	23 31 29.4	-1.4
ARA0				eSB	Sb	23 32 04.4	-2.3
ARA0	ARCESS Array S	2.60	46	Pn	Pn	23 31 29.4	-1.4
	baz=236,slow=14						
ARA0				Sg	Sg	23 32 04.4	-9.0
	baz=227,slow=28						
MOR8	Moi Rana	2.79	236	eSG	Sg	23 32 10.0	-10
MOR8				AML	AML	23 32 11.2	
	comp=Z,22nm,0.4s						
KEV	Kevo	3.15	49	eP	Pn	23 31 37.8	-0.9
KEV				eS	Sn	23 32 15.9	-1.7
KEV				MSG		23 32 22.8	
	comp=Z,5.3nm,0.3s						
OUL	Oulu	3.59	137	eP	Pn	23 31 44.6	-0.3
OUL				eSB	Sb	23 32 33.9	-1.5
MSF	Maaselka	4.00	115	eSB	Sb	23 32 46.4	-0.9
MSF				MSG		23 32 53.6	
	comp=Z,2.1nm,0.3s						
KJN	Kajaani	4.86	137	eS	Sn	23 32 56.2	-4.7
APA0	Apatity Array	4.89	87	Lg		23 33 14.9	

	baz=282,slow=37						
APA0	**Apatity Array**	**4.89**	**87**	*e*SG	Sg	23 33 14.9	-15
APA0	**Apatity Array**	**4.89**	**87**	Lg		23 33 14.9	
	baz=282,slow=37						
FIA0	**FINESS Array S**	**6.89**	**156**	Pn	Pn	23 32 28.2	-3.4
	baz=343,slow=18						
FIA0				Sn	Sn	23 33 40.6	-11
FIA0				Lg		23 34 21.8	
	baz=344,slow=37						
FIA0	**FINESS Array S**	**6.89**	**156**	*e*P	Pn	23 32 28.2	-3.4
FIA0				*e*S	Sn	23 33 40.6	-11
FIA0				*e*SG	Sg	23 34 21.8	-15
HFS	**Hagfors**	**8.23**	**203**	*e*P	P	23 32 45.4	-4.9
HFS				*e*S	Sn	23 34 16.6	-8.4
HFS				*e*SG	Sg	23 35 03.3	-17
HFS	**Hagfors**	**8.23**	**203**	P	P	23 32 45.4	-4.9
HFS				Sn	Sn	23 34 16.6	-8.4
	baz=20,slow=22						
HFS				Lg		23 35 03.3	
	baz=24,slow=28						

NIED ***09*** *00:18:00,32.90N×136.70E,h5^{km},Mw4.0 Best double couple: $M_0$9.65×10^{14} NP1:ϕ_s349°,δ84°,λ135°. NP2:ϕ_s85°, δ46°,λ9°.*

JMA ***09*** *00:18:51.6±0.1,32.92N×136.70E,h32^{km}±4^{km},M3.5*

ISC 09 00:18:51.8±1.7**,32.96N**±0.09×**136.71E**±0.05**,h26**^{km}±15^{km}**, n11,**σ**0$\overset{s}{.}$39**/21**,3C-1D,Southeast of Shikoku**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JWZ	**Kozaga**	**1.01**	**304**	⇑P	**Pn**	**00 19 09.9**	**-0.5**
JWZ				S	**Sb**	**00 19 23.0**	**-0.3**
TK02	**Tokai 2**	**1.31**	**42**	P	**Pn**	**00 19 14.1**	**-0.7**
TK02				S	**Sn**	**00 19 31.4**	**-0.2**
JKN	**Kiinagashima**	**1.33**	**344**	P	**Pn**	**00 19 15.3**	**+0.2**
JKN				S	**Sn**	**00 19 31.8**	**-0.3**
JIE	**Ise**	**1.42**	**360**	⇓P	**Pn**	**00 19 17.0**	**+0.7**
JIE				S	**Sn**	**00 19 34.4**	**0.0**
JWM	**Minabe**	**1.44**	**308**	⇑P	**Pn**	**00 19 16.7**	**+0.2**
JWM				S	**Sn**	**00 19 34.1**	**-0.6**
JWY	**Kouya**	**1.56**	**324**	⇑P	**Pn**	**00 19 18.9**	**+0.6**
JWY				S	**Sn**	**00 19 38.0**	**+0.2**
TK03	**Tokai 3**	**1.59**	**41**	S	**Sn**	**00 19 38.6**	**-0.1**
JAA	**Atsumi**	**1.70**	**12**	P	**Pn**	**00 19 20.6**	**+0.3**
JAA				S	**Sn**	**00 19 41.8**	**+0.3**
TK04	**Tokai 4**	**1.72**	**34**	P	**Pn**	**00 19 20.1**	**-0.5**
TK04				S	**Sn**	**00 19 41.8**	**-0.1**
TSUJ	**Tsu 2**	**1.76**	**352**	P	**Pn**	**00 19 21.5**	**+0.4**
TSUJ				S	**Sn**	**00 19 43.1**	**+0.2**
MAT	**Matsushiro**	**3.78**	**19**	P	**Pn**	**00 19 50.4**	**+0.5**
MAT				S	**Sn**	**00 20 33.6**	**-0.4**

IDC ***09*** *00:49:38.8±2.4,18.79S×170.11E,mb4.3/5,mb1 4.5/5, mb1mx4.2/12,Error ellipse: s-maj=98.3km s-min=38.7km az=153.0*

NEIC ***09*** *00:50:05.7±3.1,18.73S×169.31E,h206^{km}±19^{km},mb4.0/6, Error ellipse: s-maj=40.6km s-min=20.1km az=206.0*

ISC 09 00:50:07.2±1.9**,18.9S**±0.1×**169.2E**±0.3**,h228**^{km}±7^{km}**,n18,** σ**0$\overset{s}{.}$86**/17**,mb4.0**/8**,2C-1D,Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BKM	**Butte a Klehm**	**1.53**	**324**	⇑*i*P	**P**	**00 50 44.8**	**+0.7**
BKM				S	**S**	**00 51 12.1**	**-0.5**
DZM	**Mont Dzumac**	**4.05**	**219**	*e*P	**P**	**00 51 11.3**	**0.0**
NOUC	**Port Laguerre**	**4.16**	**220**	*e*P	**P**	**00 51 12.5**	**-0.1**
NOUC	**Port Laguerre**	**4.16**	**220**	*e*P	**P**	**00 51 12.4**	**-0.1**
CTA	**Charters Tower**	**21.64**	**263**	P	**P**	**00 54 42.5**	**+2.4**
	2.6nm,0.6s,mb3.9,baz=79,slow=11,SNR=4.7						
CTAO	**Charters Tower**	**21.64**	**263**	*e*P	**P**	**00 54 42.6**	**+2.5**
	2.4nm,0.6s,mb3.9						
STKA	**Stephens Creek**	**27.97**	**237**	P	**P**	**00 55 39.5**	**+0.6**
	1.6nm,0.5s,mb3.9,baz=78,slow=7.2,SNR=7.7						
WB2	**Warramunga Arr**	**32.83**	**262**	*e*P	**P**	**00 56 20.6**	**-0.9**
WRAB	**Tennant Creek**	**32.83**	**262**	*e*P	**P**	**00 56 20.5**	**-1.1**
	3.0nm,0.4s,mb4.2						
WRA	**Warramunga Arr**	**32.84**	**262**	P	**P**	**00 56 20.5**	**-1.1**
	1.5nm,0.5s,mb3.8,baz=98,slow=8.5,SNR=6.2						
ASAR	**Alice Springs**	**33.15**	**256**	P	**P**	**00 56 24.1**	**-0.2**
	9.5nm,0.4s,mb4.7,baz=83,slow=8.8,SNR=212						
ASPA	**Alice Springs**	**33.16**	**256**	⇓*i*P	**P**	**00 56 24.0**	**-0.3**
FITZ	**Fitzroy Crossi**	**41.22**	**264**	⇑*i*P	**P**	**00 57 32.7**	**+1.1**
	2.6nm,0.6s,mb3.8						
FITZ	**Fitzroy Crossi**	**41.22**	**264**	P	**P**	**00 57 32.8**	**+1.2**
	3.8nm,0.7s,mb3.9,baz=106,slow=2.8,SNR=8.5						
MBWA	**Marble Bar**	**46.36**	**259**	*e*P	**P**	**00 58 13.0**	**+0.4**
	0.9nm,0.4s,mb3.5						
SBA	**Scott Base**	**58.98**	**181**	P	**P**	**00 59 44.4**	**-0.2**
	1.9nm,0.7s,mb3.8						
ARCES	**ARCESS Array B**	**124.75**	**345**	PKP	PKPdf	01 08 40.0	+0.7
	6.4nm,1.1s,baz=56,slow=3.3,SNR=4.3						
GERES	**GERESS Array B**	**144.19**	**332**	PKP	PKPdf	01 09 16.9	+1.3
	0.8nm,0.7s,baz=56,slow=3.5,SNR=7.5						

BJI ***09*** *00:50:27.9,23.60S×66.40W,h211^{km},mB4.0*

NEIC ***09*** *00:50:27.9±0.7,23.58S×66.39W,h211^{km}±6^{km},mb4.2/15, Error ellipse: s-maj=10.4km s-min=7.1km az=52.0*

SYO ***09*** *00:50:27.3,23.56S×66.29W,h205^{km},MB4.2*

IDC ***09*** *00:50:28.5±2.7,23.45S×66.37W,h215^{km}±21^{km},mb3.7/8, mb1 3.9/11,mb1mx3.8/13,Error ellipse: s-maj=31.6km s-min=14.8km az=41.0*

ISC 09 00:50:27.2±0.7**,23.54S**±0.07×**66.37W**±0.08**,h216**^{km}±6^{km}**, n38,**σ**0$\overset{s}{.}$96**/35**,mb4.0**/21**,1C,Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.51**	**291**	*e*Pn	**P**	**00 51 13.1**	**+0.4**
LVC				*e*Sn	**S**	**00 51 47.4**	**-0.4**
LPAZ	**La Paz**	**7.40**	**347**	P	**P**	**00 52 15.1**	**+1.7**
	4.3nm,0.3s,baz=145,slow=2.4,SNR=24						
LPAZ				S	**S**	**00 53 35.8**	**-0.6**
	0.4nm,0.3s,baz=61,slow=24,SNR=3.0						
CPUP	**Villa Florida**	**8.66**	**111**	P	**P**	**00 52 29.8**	**0.0**
	0.3nm,0.3s,baz=308,slow=11,SNR=19						
SAML	**Samuel**	**14.82**	**12**	*e*P	**P**	**00 53 48.2**	**+0.4**
	4.8nm,0.8s						
TRQA	**Tornquist**	**14.95**	**166**	*e*P	**P**	**00 53 47.1**	**-2.1**
	5.4nm,0.6s						
BDFB	**Brasilia**	**18.98**	**69**	P	**P**	**00 54 34.7**	**+0.3**
	1.9nm,0.3s,baz=254,slow=9.9,SNR=12						
BAO	**Brasilia Array**	**19.00**	**69**	*e*P	**P**	**00 54 35.0**	**+0.4**
WVT	**Waverly**	**62.72**	**341**	*e*P	**P**	**01 00 28.9**	**-2.4**
	4.5nm,0.7s,mb4.2						
MIAR	**Mount Ida**	**63.28**	**335**	*e*P	**P**	**01 00 33.1**	**-1.9**
	2.1nm,0.6s,mb3.9						
TXAR	**Lajitas Array**	**63.64**	**324**	P	**P**	**01 00 36.4**	**-1.1**
	0.7nm,0.8s,mb3.4,baz=148,slow=7.4,SNR=8.9						
QSPA	**South Pole Qui**	**66.67**	**180**	*e*P	**P**	**01 00 56.5**	**+0.6**
	7.0nm,0.6s,mb4.5						
QSPA	**South Pole Qui**	**66.67**	**180**	*e*P	**P**	**01 00 56.6**	**+0.6**
	4.0nm,0.5s,mb4.3						
DBIC	**Dimbokro**	**67.11**	**71**	P	**P**	**01 00 58.4**	**-1.4**
	2.9nm,0.9s,mb3.9,baz=268,slow=7.2,SNR=7.9						
ANMO	**Albuquerque**	**69.49**	**326**	*e*P	**P**	**01 01 14.2**	**0.0**
	3.4nm,0.8s,mb4.0						
SDCO	**Great Sand Dun**	**71.20**	**328**	*e*P	**P**	**01 01 24.8**	**+0.4**
	12nm,1.3s,mb4.3						
ISCO	**Idaho Springs**	**72.88**	**329**	*e*P	**P**	**01 01 34.7**	**+0.4**
	2.4nm,0.7s,mb3.9						
SYO	**Syowa Base**	**73.77**	**159**	⇑sP	sP	01 02 49.5	-3.6
SRU	**San Rafael**	**74.76**	**326**	*e*P	**P**	**01 01 45.5**	**+0.3**
SUR	**Sutherland**	**75.53**	**119**	P	**P**	**01 01 44.4**	**-5.3**
	29nm,1.2s,mb4.8						
RSSD	**Black Hills**	**75.65**	**333**	*e*P	**P**	**01 01 49.7**	**-0.4**
	3.3nm,0.8s,mb4.0						
JLU	**Jordanelle**	**76.35**	**326**	*e*P	**P**	**01 01 54.8**	**+0.8**
BW06	**Boulder Array**	**77.05**	**329**	*e*P	**P**	**01 01 57.8**	**-0.1**
	1.5nm,0.5s,mb3.9						
PDAR	**Pinedale Array**	**77.05**	**329**	P	**P**	**01 01 58.1**	**+0.3**
	1.2nm,0.5s,mb3.8,baz=135,slow=6.3,SNR=5.8						
HWUT	**Hardware Ranch**	**77.15**	**327**	*e*P	**P**	**01 01 58.5**	**+0.1**
	4.3nm,0.5s,mb4.3						
TPH	**Tonopah**	**77.68**	**321**	*e*P	**P**	**01 02 01.9**	**+0.5**
	3.4nm,1.0s,mb3.9						
ULM	**Lac du Bonnet**	**77.97**	**341**	P	**P**	**01 02 01.9**	**-0.9**
	4.8nm,0.9s,mb4.1,baz=148,slow=7.8,SNR=7.2						
SCHQ	**Schefferville**	**78.05**	**360**	P	**P**	**01 02 02.4**	**-0.7**
	4.7nm,0.8s,mb4.2,baz=86,slow=9.0,SNR=2.9						
HLID	**Hailey**	**80.02**	**327**	*e*P	**P**	**01 02 15.3**	**+1.5**
	5.0nm,0.6s,mb4.3						
MCMT	**McKenzie Canyo**	**80.17**	**328**	*e*P	**P**	**01 02 16.0**	**+1.4**
MAW	**Mawson**	**81.70**	**163**	P	**P**	**01 02 23.2**	**+1.0**
	1.8nm,0.8s,mb3.8,baz=291,slow=19,SNR=3.8						
YBH	**Yreka Blue Hor**	**83.26**	**321**	P	**P**	**01 02 30.0**	**-0.7**
	1.0nm,0.8s,mb3.6,baz=102,slow=3.0,SNR=4.8						
CASY	**Casey**	**90.44**	**179**	P	**P**	**01 03 06.1**	**+1.4**
	1.1nm,0.6s,mb3.9						
YKA	**Yellowknife Ar**	**93.89**	**340**	P	**P**	**01 03 20.3**	**-0.3**
	0.8nm,0.7s,mb3.9,baz=129,slow=4.5,SNR=5.0						
YKA	**Yellowknife Ar**	**93.89**	**340**	P	**P**	**01 03 20.3**	**-0.3**
ASAR	**Alice Springs**	**129.11**	**204**	PKP	PKPdf	01 09 10.8	+0.7
	0.9nm,0.5s,baz=160,slow=1.9,SNR=10						
WRA	**Warramunga Arr**	**132.30**	**207**	PKP	PKPdf	01 09 17.2	+1.0
	0.6nm,0.4s,baz=168,slow=1.3,SNR=7.3						
MKAR	**Makanchi Array**	**145.80**	**39**	PKPbc	PKPbc	01 09 42.0	+1.3
	2.6nm,0.5s,baz=310,slow=3.2,SNR=30						
WMQ	**Urumqi**	**150.62**	**40**	*e*PKP	PKPdf	01 09 46.4	-1.1

KISR ***09*** *01:27:00.0±2.9,24.67N×66.03E,h96^{km}±999^{km},mb5.5*

BJI ***09*** *01:27:37.1,26.44N×63.36E,h30^{km},mb5.2*

NEIC ***09*** *01:27:38.9±2.8,26.54N×63.05E,h39^{km}±29^{km},mb4.7/27, Error ellipse: s-maj=13.1km s-min=8.2km az=187.0*

IDC ***09*** *01:27:40.5±1.4,26.63N×63.21E,h44^{km}±5^{km},mb4.1/12, mb1 4.2/12,mb1mx4.0/20,MS3.5/7,Ms1 3.5/7, ms1mx3.2/26,Error ellipse: s-maj=30.4km s-min=14.4km az=2.0*

ISC 09 01:27:37.1±0.4**,26.57N**±0.07×**63.15E**±0.03**,h45**^{km}**, h45**^{km}±1.5^{km}**:pP-P,n94,**σ**1$\overset{s}{.}$36**/90**,mb4.5**/31**,MS3.5**/7**, 4C-2D,Southwestern Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JASL	**Jaisalmer**	**6.94**	**85**	*e*P	**P**	**01 29 18.1**	**-0.7**
DRP	**Derazinda**	**8.03**	**48**	⇓P	**P**	**01 29 33.5**	**-0.5**
SBDP	**Sheikh Budin**	**8.78**	**48**	⇓P	**P**	**01 29 43.4**	**-0.9**
THW	**Thamme Wali**	**9.71**	**48**	⇑P	**P**	**01 29 54.8**	**-2.3**
SARP	**Sargodha**	**9.87**	**55**	⇑P	**P**	**01 29 57.2**	**-2.2**
CEP	**Cherat**	**10.46**	**44**	⇑P	**P**	**01 30 05.5**	**-2.0**
CEP				S	**S**	**01 31 57.0**	**-7.4**
NIL	**Nilore**	**11.23**	**49**	Pn	**P**	**01 30 16.4**	**-1.4**
	159nm,0.6s,SNR=12						
CHCP	**Chirah Chowk**	**11.24**	**49**	⇑P	**P**	**01 30 16.2**	**-1.8**
KHET	**Khetri**	**11.35**	**80**	*e*P	**P**	**01 30 17.0**	**-2.5**
KHET				*e*		01 32 17.0	
	comp=N,93nm,0.7s						
KHET				*e*		01 32 17.1	
	comp=E,70nm,0.5s						
KUDL	**Kundal**	**11.96**	**79**	*e*	**P**	**01 30 25.0**	**-2.7**
SONA	**Sohna**	**12.49**	**79**	*e*P	**P**	**01 30 35.8**	**+1.0**
SONA				*e*		01 32 42.2	
	comp=N,43nm,0.5s						
BHPL	**Bhopal**	**13.37**	**101**	*e*P	**P**	**01 30 45.5**	**-1.0**
QRN	**Al-Qurain**	**13.67**	**283**	*e*P	**P**	**01 30 47.9**	**-2.5**
QRN				AMb	AMB	01 30 49.3	
	comp=Z,180nm,0.4s						
QRN				AML	AML	01 33 10.1	
	comp=Z,248nm,0.3s						
KBD	**Kabd**	**13.92**	**284**	*e*P	**P**	**01 30 51.0**	**-2.6**
KBD				AMb	AMB	01 30 53.1	
	comp=Z,413nm,0.5s						
UMR	**Umm Al-Rimmam**	**13.95**	**286**	*e*P	**P**	**01 30 52.0**	**-2.0**
UMR				AMb	AMB	01 30 53.6	
	comp=Z,334nm,0.5s						
UMR				AML	AML	01 33 18.0	
	comp=Z,362nm,0.4s						
RDF	**Al-Radifah**	**14.01**	**283**	*e*P	**P**	**01 30 52.1**	**-2.7**
RDF				AMb	AMB	01 30 53.6	
	comp=Z,183nm,0.6s						
RDF				AML	AML	01 33 19.1	
	comp=Z,190nm,0.3s						
MIB	**Mutribah**	**14.31**	**287**	*e*P	**P**	**01 30 56.4**	**-2.4**
MIB				AMb	AMB	01 30 58.8	
	comp=Z,256nm,0.5s						
RST	**Umm Al-Ruwaisa**	**14.56**	**285**	*e*P	**P**	**01 30 59.1**	**-3.0**
RST				AMb	AMB	01 31 01.4	
	comp=Z,84nm,0.6s						
RST				AML	AML	01 33 19.2	
	comp=Z,28nm,0.4s						
RYDS	**Riyadh**	**15.11**	**265**	P	**P**	**01 31 06.5**	**-2.8**
MZLS	**Mizel**	**16.43**	**265**	P	**P**	**01 31 22.9**	**-3.1**
KSH	**Kashi**	**16.77**	**37**	*e*P	**P**	**01 31 31.2**	**+0.9**
KSH				*e*AP		01 31 41.0	
KSH				*e*XP		01 31 45.6	
KSH				AMB	AMB		
	comp=Z,40nm,0.4s						
HYB	**Hyderabad**	**16.93**	**119**	*i* P	**P**	**01 31 33.0**	**+0.7**
HYB	**Hyderabad**	**16.93**	**119**	*e*P	**P**	**01 31 33.0**	**+0.7**
KAMS	**Al Khamasin**	**18.14**	**254**	P	**P**	**01 31 45.6**	**-1.9**
KOLN	**Koldanda**	**18.24**	**82**	*e*P	**P**	**01 31 48.6**	**0.0**
	comp=Z,33nm,0.4s						
AFFS	**‘Afif**	**18.42**	**266**	P	**P**	**01 31 49.7**	**-1.2**
AAK	**Ala-Archa**	**18.51**	**27**	*e*P	**P**	**01 31 51.5**	**-0.5**
	comp=Z,10nm,0.8s						
HILS	**Ha’il**	**19.05**	**277**	P	**P**	**01 31 58.2**	**-0.2**
GKN	**Gorkha**	**19.15**	**81**	*e*P	**P**	**01 32 00.3**	**+0.9**
	comp=Z,32nm,0.4s						
DMN	**Daman**	**19.58**	**82**	*e*P	**P**	**01 32 05.3**	**+1.2**
	comp=Z,30nm,0.4s						
KKN	**Kakani**	**19.72**	**81**	*e*P	**P**	**01 32 07.0**	**+1.3**
	comp=Z,28nm,0.4s						
PKI	**Pulchoki**	**19.85**	**82**	*e*P	**P**	**01 32 08.9**	**+1.9**
	comp=Z,31nm,0.5s						
DJNS	**Zahran al Janu**	**20.17**	**248**	P	**P**	**01 32 11.2**	**+0.7**
KBRS	**Khaybar**	**21.45**	**273**	P	**P**	**01 32 26.8**	**+3.2**
BEST	**Besiri**	**21.62**	**307**	*i* P	**P**	**01 32 26.6**	**+1.4**
LTHS	**Al Lith**	**21.77**	**258**	P	**P**	**01 32 29.4**	**+2.6**
ERZM	**Erzurum**	**22.48**	**312**	*i* P	**P**	**01 32 36.2**	**+2.5**
ASF	**Jabal al Asfar**	**23.52**	**290**	P	**P**	**01 32 48.6**	**+4.7**
	comp=Z,9.1nm,0.9s,mb4.2,baz=315,slow=5.7,SNR=8.5						
ASF				S	**S**	**01 37 00.0**	**+8.9**
	comp=Z,7.9nm,0.7s,baz=134,slow=16,SNR=6.0						
MALT	**Malatya**	**23.85**	**306**	*e*P	**P**	**01 32 48.9**	**+1.8**
	comp=Z,12nm,0.9s,mb4.3						
KELT	**Kelkit**	**24.02**	**310**	*i* P	**P**	**01 32 50.6**	**+1.9**
GZT	**Gaziantep**	**24.15**	**303**	*i* P	**P**	**01 32 51.6**	**+1.6**
COBT	**Iskenderun**	**24.90**	**300**	*i* P	**P**	**01 33 00.2**	**+2.9**
EIL	**Elat**	**25.04**	**284**	P	**P**	**01 33 01.0**	**+2.3**
	comp=Z,5.0nm,0.8s,mb4.1,baz=15,slow=17,SNR=5.1						
EIL	**Elat**	**25.04**	**284**	*e*P	**P**	**01 33 00.6**	**+1.9**
	comp=Z,29nm,1.0s,mb4.8						
MKAR	**Makanchi Array**	**25.23**	**32**	P	**P**	**01 33 02.0**	**+1.7**
	comp=Z,4.8nm,0.5s,mb4.3,baz=209,slow=11,SNR=45						
MKAR				LR	LR	01 43 48.7	
	comp=Z,93nm,21.0s,MS3.3,baz=232,slow=38						
AVNT	**Avonos**	**26.63**	**304**	*i* P	**P**	**01 33 11.7**	**-1.7**
KURK	**Kurchatov**	**26.85**	**22**	*e*P	**P**	**01 33 11.4**	**-3.9**
	comp=Z,7.0nm,1.1s,mb4.1						
BVAR	**Borovoye Array**	**26.97**	**10**	P	**P**	**01 33 17.5**	**+1.1**
	comp=Z,3.4nm,0.5s,mb4.2,baz=182,slow=9.7,SNR=19						
BRVK	**Borovoye**	**26.99**	**10**	*e*P	**P**	**01 33 18.1**	**+1.6**
	comp=Z,24nm,1.2s,mb4.6						
BRTR	**Keskin Array B**	**27.83**	**306**	P	**P**	**01 33 25.1**	**+0.7**
	comp=Z,5.1nm,0.9s,mb4.2,baz=117,slow=8.3,SNR=17						
BRTR				LR	LR	01 45 57.4	
	comp=Z,126nm,21.6s,MS3.5,baz=115,slow=39						
OBN	**Obninsk**	**34.48**	**333**	*e*P	pP	01 34 35.4	+0.6
OBN				*e*		01 34 44.2	
AKASG	**Malin Array Be**	**35.32**	**322**	P	**P**	**01 34 30.4**	**+0.6**
	comp=Z,8.0nm,0.4s,mb5.0,baz=125,slow=8.1,SNR=47						
AKASG				pP	pP	01 34 42.7	+0.7
	comp=Z,6.6nm,0.7s,baz=123,slow=7.6,SNR=4.8						
KMBO	**Kilima Mbogo**	**37.18**	**226**	pP	pP	01 34 59.2	+1.0
	comp=Z,1.1nm,0.8s,baz=31,slow=12,SNR=4.1						
KMBO				LR	LR	01 49 22.0	
	comp=Z,47nm,19.2s,MS3.3,baz=220,slow=35						
KMBO	**Kilima Mbogo**	**37.18**	**226**	*e*P	pP	01 34 59.1	+1.0
SONM	**Songino Array**	**39.80**	**46**	P	**P**	**01 35 08.6**	**+1.3**
	comp=Z,1.5nm,0.6s,mb3.9,baz=260,slow=7.5,SNR=5.6						
SONM				pP	pP	01 35 21.9	+2.2
	comp=Z,0.6nm,0.3s,baz=225,slow=4.1,SNR=2.3						
SUW	**Suwalki**	**40.16**	**324**	*e*Pn	**P**	**01 35 10.4**	**+0.2**
	comp=Z,63nm,1.1s						
FINES	**FINESS Array B**	**42.81**	**335**	P	**P**	**01 35 34.0**	**+2.1**
	comp=Z,2.3nm,0.3s,mb4.3,baz=130,slow=8.5,SNR=37						
FINES				pP	pP	01 35 45.5	+1.1
	comp=Z,4.7nm,0.7s,baz=124,slow=14,SNR=5.6						
FINES				LR	LR	01 54 58.4	
	comp=Z,70nm,19.3s,MS3.6,baz=304,slow=38						
KAF	**Kangasniemi**	**43.14**	**336**	*e*p	**P**	**01 35 35.5**	**+0.9**
AQU	**L’Aquila**	**43.31**	**304**	P	**P**	**01 35 37.5**	**+1.2**
	comp=Z,24nm,1.2s,mb4.8						
GERES	**GERESS Array B**	**44.06**	**314**	P	**P**	**01 35 44.0**	**+1.8**
	comp=Z,4.1nm,0.6s,mb4.3,baz=124,slow=11,SNR=3.7						
GERES				pP	pP	01 35 55.5	+0.8
	comp=Z,6.7nm,0.8s,baz=108,slow=6.2,SNR=1.5						
SBF	**Sospel**	**47.77**	**306**	*e*P	**P**	**01 36 11.5**	**-0.2**
	comp=Z,24nm,0.7s,mb5.0						
KEV	**Kevo**	**48.02**	**344**	*e*p	**P**	**01 36 17.0**	**+3.7**
ARCES	**ARCESS Array B**	**48.25**	**343**	P	**P**	**01 36 15.9**	**+0.8**
	comp=Z,8.7nm,0.9s,mb4.8,baz=146,slow=8.7,SNR=16						
ARCES				pP	pP	01 36 28.4	+0.9
	comp=Z,2.6nm,0.6s,baz=138,slow=8.1,SNR=2.5						
ARCES				LR	LR	01 58 04.0	
	comp=Z,72nm,21.9s,MS3.6,baz=270,slow=38						
ARCES	**ARCESS Array B**	**48.25**	**343**	P	**P**	**01 36 15.9**	**+0.8**
ARCES				pP	pP	01 36 28.4	+0.9
MBDF	**Montbardon**	**48.28**	**307**	*e*P	**P**	**01 36 16.3**	**+0.7**
	comp=Z,13nm,0.6s,mb4.8						
LPG	**La Plagne**	**48.33**	**308**	*e*P	**P**	**01 36 15.7**	**-0.3**
	comp=Z,14nm,0.7s,mb4.8						
FRF	**La Foret Royal**	**48.33**	**306**	*e*P	**P**	**01 36 14.6**	**-1.5**
	comp=Z,16nm,1.3s,mb4.6						
LPL	**La Plagne**	**48.34**	**308**	*e*P	**P**	**01 36 16.0**	**-0.1**
	comp=Z,10nm,0.6s,mb4.7						
BNI	**Bardonecchia**	**48.36**	**308**	P	**P**	**01 36 15.7**	**-0.6**
	comp=Z,14nm,0.8s,mb5.0						
HINF	**Hinteralfeld**	**48.42**	**311**	*e*P	**P**	**01 36 16.1**	**-0.6**
LMR	**La Mourre**	**48.43**	**305**	*e*P	**P**	**01 36 15.5**	**-1.3**
	comp=Z,16nm,1.3s,mb4.6						
HAU	**Haudompre**	**48.78**	**312**	*e*P	**P**	**01 36 19.5**	**+0.1**
HAU				*e*R			
	comp=Z,46nm,22.5s						
CABF	**La Chapelle**	**48.85**	**310**	*e*P	**P**	**01 36 20.4**	**+0.4**
NOA	**NORSAR Array B**	**48.90**	**329**	P	**P**	**01 36 19.8**	**-0.4**
	comp=Z,1.9nm,0.7s,mb4.2,baz=118,slow=7.2,SNR=6.0						
NOA				pP	pP	01 36 33.0	+0.3
	comp=Z,1.5nm,0.6s,baz=110,slow=7.7,SNR=6.2						
NOA				sP	sP	01 36 39.6	+1.6
	comp=Z,1.6nm,0.8s,baz=110,slow=7.6,SNR=3.6						
ORIF	**Oris-en-Rattie**	**48.92**	**308**	*e*P	**P**	**01 36 19.2**	**-1.4**
	comp=Z,6.5nm,0.6s,mb4.5						
ORIF				*e*R			
	comp=Z,37nm,22.5s						
MEZF	**Maizieres J’vi**	**49.68**	**312**	*e*P	**P**	**01 36 26.7**	**+0.3**
	comp=Z,21nm,0.7s,mb5.0						
VIVF	**Saint-Julien-l**	**49.77**	**307**	*e*P	**P**	**01 36 26.8**	**-0.4**
	comp=Z,19nm,1.1s,mb4.8						
LASF	**Ste Croix**	**50.35**	**306**	*e*P	**P**	**01 36 31.5**	**-0.1**
	comp=Z,12nm,0.9s,mb4.6						
SMF	**Signal de Mont**	**50.40**	**310**	*e*P	**P**	**01 36 31.7**	**-0.2**
	comp=Z,11nm,0.7s,mb4.7						
SSF	**Saint Saulge**	**50.64**	**310**	*e*P	**P**	**01 36 33.5**	**-0.3**
	comp=Z,9.7nm,0.8s,mb4.5						
AVF	**Avril sur Loir**	**50.74**	**310**	*e*P	**P**	**01 36 34.0**	**-0.5**
BGF	**Bois d’Agland**	**51.08**	**310**	*e*P	**P**	**01 36 36.8**	**-0.3**
TCF	**Toulx Ste Croi**	**51.52**	**309**	*e*P	**P**	**01 36 40.3**	**-0.1**
	comp=Z,7.5nm,1.0s,mb4.3						
MTLF	**Montolieu**	**51.56**	**305**	*e*P	**P**	**01 36 40.7**	**0.0**
CAF	**Calviac**	**51.63**	**308**	*e*P	**P**	**01 36 41.3**	**+0.1**
RJF	**Les Rejaudoux**	**52.01**	**308**	*e*P	**P**	**01 36 44.2**	**+0.1**
RJF				*e*R			
	comp=Z,36nm,18.0s						
LFF	**La Frestale**	**52.57**	**308**	*e*P	**P**	**01 36 48.4**	**+0.1**
	comp=Z,15nm,0.8s,mb4.7						
LDF	**La Druitiere**	**53.12**	**312**	*e*P	**P**	**01 36 51.8**	**-0.6**
ETSF	**Etsaut**	**53.61**	**305**	*e*P	**P**	**01 36 56.7**	**+0.6**
SJPF	**Ste Jean**	**54.08**	**305**	*e*P	**P**	**01 37 00.3**	**+0.8**
ESDC	**Sonseca Array**	**56.51**	**302**	LR	LR	02 03 28.0	
	comp=Z,52nm,21.7s,MS3.6,baz=75,slow=38						
TSUM	**Tsumeb**	**63.45**	**229**	LR	LR	02 07 38.1	
	comp=Z,28nm,19.8s,MS3.5,baz=346,slow=38						
DBIC	**Dimbokro**	**67.39**	**266**	pP	pP	01 38 43.4	0.0
	comp=Z,7.4nm,1.2s,baz=49,slow=9.3,SNR=2.1						
WRA	**Warramunga Arr**	**83.06**	**116**	P	**P**	**01 40 01.4**	**+1.8**
	comp=Z,1.0nm,1.1s,mb3.7,baz=318,slow=4.5,SNR=6.9						

WAR ***09*** *01:33:26.6,50.06N×18.45E,ML3.1,Mining Induced*

NEIC ***09*** *01:33:26.0±0.6,50.09N×18.44E,h2^{km}±5^{km}, ML3.6(SZGRF),ML3.1(VIE),Error ellipse: s-maj=5.6km s-min=3.8km az=214.0*

BGR ***09*** *01:33:26.9±0.8,49.92N×18.39E,h1^{km},ML3.6/9,Error ellipse: s-maj=8.9km s-min=5.6km az=3.0*

PRU ***09*** *01:33:27.5,50.09N×18.37E*

ISC 09 01:33:25.3±0.3**,50.08N**±0.02×**18.32E**±0.03**,n44,**σ**1$\overset{s}{.}$47**/91**, 2C-5D,Poland**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAC	**Raciborz**	**0.08**	**269**	⇓*i*PG	**Pg**	**01 33 31.0**	**+4.1**
RAC				⇓*e*SG	**Sg**	**01 33 34.0**	**+6.0**
RAC	**Raciborz**	**0.08**	**269**	⇓*i*Pg	**Pg**	**01 33 31.0**	**+4.1**
RAC				*e*Sg	**Sg**	**01 33 34.3**	**+6.3**
OKC	**Ostrava-Krasne**	**0.27**	**204**	*i* PG	**Pg**	**01 33 32.9**	**+2.2**
OKC				*e*SG	**Sg**	**01 33 37.5**	**+3.2**
MORC	**Moravsky Berou**	**0.59**	**239**	*e*Pg	**Pg**	**01 33 38.9**	**+1.9**
MORC				*e*Sg	**Sg**	**01 33 47.5**	**+2.6**
OJC	**Ojcow**	**0.96**	**81**	⇓*i*PG	**Pg**	**01 33 43.4**	**-1.1**
OJC				⇓*i*SG	**Sg**	**01 33 56.6**	**-0.8**
LIKS	**Likavka**	**1.16**	**153**	*e*PN	**Pn**	**01 33 48.9**	**+0.3**
LIKS				*e*SN	**Sn**	**01 34 06.3**	**+0.9**
DPC	**Dobruska-Polom**	**1.31**	**283**	*i* PG	**Pg**	**01 33 52.4**	**+1.0**
DPC				*e*SG	**Sg**	**01 34 11.4**	**+2.5**
	271nm,0.5s						
NIE	**Niedzica**	**1.46**	**116**	*i* PG	**Pg**	**01 33 52.0**	**-2.4**
NIE				*i* SG	**Sg**	**01 34 11.9**	**-1.9**
KSP	**Ksiaz**	**1.50**	**301**	*e*PN	**Pn**	**01 33 55.0**	**+1.4**
KSP				*i* PG	**Pg**	**01 33 57.2**	**+1.9**
KSP				*e*SN	**Sn**	**01 34 16.2**	**+2.1**
KSP	**Ksiaz**	**1.50**	**301**	*e*Pn	**Pn**	**01 33 54.9**	**+1.3**
KSP				*i* Pg	**Pg**	**01 33 57.2**	**+1.9**
KSP				*e*Sg	**Sg**	**01 34 16.3**	**+1.0**
KOLL	**Kolacno**	**1.51**	**178**	*e*PN	**Pn**	**01 33 53.7**	**0.0**
KOLL				*e*SN	**Sn**	**01 34 15.4**	**+1.1**
UPC	**Upice**	**1.54**	**287**	*i* PG	**Pg**	**01 33 55.8**	**-0.2**
VYHS	**Vyhne**	**1.63**	**168**	*i* PN	**Pn**	**01 33 55.0**	**-0.4**
VYHS				*e*SN	**Sn**	**01 34 16.9**	**-0.5**
SMOL	**Smolenice**	**1.68**	**201**	*e*PN	**Pn**	**01 33 56.7**	**+0.6**
SMOL				*e*SN	**Sn**	**01 34 19.4**	**+0.8**
ZST	**Bratislava**	**2.05**	**203**	*e*PN	**Pn**	**01 34 02.2**	**+0.7**
ZST				*e*SN	**Sn**	**01 34 27.5**	**-0.6**
KECS	**Kecovo**	**2.14**	**138**	*e*PN	**Pn**	**01 34 02.1**	**-0.6**
KECS				*e*PG	**Pg**	**01 34 08.1**	**0.0**
KECS				*e*SN	**Sn**	**01 34 30.2**	**-0.2**
VKA	**Vienna**	**2.24**	**217**	(PN)	**Pn**	**01 34 05.0**	**+0.8**
VKA				*i* PG	**Pg**	**01 34 11.5**	**+1.4**
VKA				*i* SG	**Sg**	**01 34 36.2**	**-3.8**
SRO	**Srobarova**	**2.27**	**180**	*e*PG	**Pg**	**01 34 10.3**	**-0.4**
SRO				*e*SG	**Sg**	**01 34 41.2**	**+0.2**
CRVS	**Cervenica-Dubn**	**2.37**	**119**	*e*PB	**Pb**	**01 34 08.9**	**+0.3**
CRVS				*e*SB	**Sb**	**01 34 40.6**	**+2.2**
PSZ	**Piszkesteto**	**2.40**	**154**	*e*Pn	**Pn**	**01 34 05.8**	**-0.7**
PRU	**Pruhonice**	**2.44**	**269**	PN	**Pn**	**01 34 06.8**	**-0.2**
PRU				PG	**Pg**	**01 34 11.6**	**-2.4**
PRU				SG	**Sg**	**01 34 44.1**	**-2.3**
	51nm,0.6s						
PVCC	**Panska Ves**	**2.44**	**282**	*e*PN	**Pn**	**01 34 08.5**	**+1.4**
PVCC				*e*PG	**Pg**	**01 34 13.3**	**-0.8**
KOLS	**Kolonicke sedl**	**2.82**	**113**	*e*PG	**Pg**	**01 34 19.6**	**-2.1**
KOLS				*e*SG	**Sg**	**01 34 55.9**	**-3.4**
BRG	**Berggiesshubel**	**2.90**	**287**	*e*Pg	**Pg**	**01 34 21.4**	**-1.9**
BRG				*e*Sg	**Sg**	**01 35 02.3**	**+0.3**
BRG	**Berggiesshubel**	**2.90**	**287**	*e*Pn	**Pn**	**01 34 20.3**	**+6.7**
BRG				*i* Pg	**Pg**	**01 34 21.5**	**-1.8**
BRG				*i* Sg	**Sg**	**01 35 00.7**	**-1.3**
KHC	**Kasperske Hory**	**3.23**	**255**	*e*PN	**Pn**	**01 34 18.4**	**+0.2**
KHC				*i* PG	**Pg**	**01 34 27.2**	**-2.5**
KHC				*e*x	x	01 35 05.5	
KHC				*e*SG	**Sg**	**01 35 10.1**	**-2.6**
GEC2	**GERESS Array S**	**3.26**	**249**	*e*Sg	**Sg**	**01 35 10.0**	**-3.7**
GKP	**Gorka Klasztor**	**3.26**	**349**	*e*Pn	**Pn**	**01 34 20.0**	**+1.3**
GKP				*e*Pg	**Pg**	**01 34 33.2**	**+2.8**
ARSA	**Arzberg**	**3.39**	**214**	⇑*i*PN	**Pn**	**01 34 21.1**	**+0.6**
ARSA				*i* SG	**Sg**	**01 35 18.3**	**+0.2**
	7.8nm,0.4s						
MOA	**Molln**	**3.48**	**232**	⇑*i*PN	**Pn**	**01 34 21.8**	**-0.1**
MOA				*i* SG	**Sg**	**01 35 18.6**	**-2.6**
	31nm,0.7s						
CLL	**Collm**	**3.59**	**292**	*e*Pn	**Pn**	**01 34 25.1**	**+1.7**
CLL				*e*Sg	**Sg**	**01 35 24.9**	**0.0**
CLL	**Collm**	**3.59**	**292**	*e*PG	**Pg**	**01 34 34.0**	**-3.1**
CLL				*i* SG	**Sg**	**01 35 24.7**	**-0.3**
CLL				*i*		01 35 55.1	
WET	**Wettzell**	**3.66**	**257**	*e*Pn	**Pn**	**01 34 24.8**	**+0.4**
WET				*e*Sg	**Sg**	**01 35 24.5**	**-2.7**
WET	**Wettzell**	**3.66**	**257**	*e*Pn	**Pn**	**01 34 24.8**	**+0.4**
WET				*e*Sg	**Sg**	**01 35 24.5**	**-2.7**

TANN	Tannenbergstha	3.77	277	*e*Pn	Pn	01 34 26.3	+0.3
TANN				*e*Sg	Sg	01 35 28.5	-2.4
NKC	Novy Kostel	3.78	275	*e*PN	Pn	01 34 26.4	+0.3
NKC				*i* PG	Pg	01 34 36.8	-3.9
GUNZ	Gunzen	3.85	276	*e*Pn	Pn	01 34 28.5	+1.4
GUNZ				*e*Sg	Sg	01 35 30.9	-2.8
WERD	Werda	3.87	278	*e*Sg	Sg	01 35 31.6	-2.7
MOX	Moxa	4.33	280	*e*Pn	Pn	01 34 34.0	+0.2
MOX				*e*Sg	Sg	01 35 47.4	-1.9
MOX	Moxa	4.33	280	*i* P	Pn	01 34 33.5	-0.4
MOX				Pg	Pg	01 34 48.0	-3.7
MOX				Sg	Sg	01 35 48.0	-1.4
MOX	Moxa	4.33	280	*e*Pn	Pn	01 34 33.5	-0.4
MOX				*e*Pg	Pg	01 34 48.0	-3.7
MOX				*e*Sg	Sg	01 35 47.6	-1.8
GRF	Grafenberg Arr	4.61	268	*e*Sg	Sg	01 35 54.3	-4.3
BSD	Bornholm Skovb	5.45	339	*i* P	Pn	01 34 48.7	-1.0
BSD				*i* S	Sn	01 35 45.0	-9.1
NB2	NORSAR Subarra	11.68	343	P	P	01 36 19.0	+2.8
	3.0nm,0.8s,baz=113,slow=7.4						

*IDC **09** 01:41:24.8±8.4, 5.67N×94.67E, h171^{km}±77^{km}, mb3.6/10, mb1 3.7/11, mb1mx3.5/20, MS2.8/1, Ms1 3.0/1, ms1mx2.8/20, Error ellipse: s-maj=44.5km s-min=13.1km az=55.0*

*NEIC **09** 01:41:25.1±4.8, 5.63N×94.65E, h175^{km}±43^{km}, mb3.9/1, Error ellipse: s-maj=34.2km s-min=12.2km az=54.0*

ISC 09 01:41:25.3±5.6, **5.7N**±0.2×**94.7E**±0.3, **h194**^{km}±49^{km}, **n14, σ0^{s}.90**/13, **mb3.6**/11, **Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	Chiang Mai Arr	13.40	18	P	P	01 44 28.9	0.0
	1.0nm,0.3s,baz=208,slow=14,SNR=6.5						
CMAR				LR	LR	01 49 13.6	
	comp=Z,42nm,19.0s,baz=250,slow=35						
JOW	Kunigami	38.33	53	P	P	01 48 27.9	-1.2
	20nm,0.8s,mb4.7,baz=258,slow=27,SNR=3.4						
FITZ	Fitzroy Crossi	38.61	128	P	P	01 48 31.4	-0.1
	1.4nm,0.7s,mb3.6,baz=320,slow=7.9,SNR=2.8						
MKAR	Makanchi Array	42.36	347	P	P	01 49 01.9	0.0
	1.7nm,0.6s,mb3.7,baz=168,slow=8.1,SNR=18						
SONM	Songino Array	43.22	12	P	P	01 49 10.1	+1.3
	1.1nm,0.8s,mb3.4,baz=194,slow=5.9,SNR=3.0						
WRA	Warramunga Arr	46.57	124	P	P	01 49 35.6	0.0
	1.9nm,0.7s,mb3.5,baz=301,slow=9.2,SNR=8.2						
KURK	Kurchatov	46.88	346	*e*P	P	01 49 38.5	+0.8
	4.8nm,1.1s,mb3.7						
ASAR	Alice Springs	48.11	129	P	P	01 49 48.1	+0.5
	0.7nm,0.7s,mb3.1,baz=302,slow=7.6,SNR=7.5						
BVAR	Borovoye Array	51.25	341	P	P	01 50 10.3	-0.8
	0.9nm,0.6s,mb3.4,baz=141,slow=9.5,SNR=5.0						
BRVK	Borovoye	51.31	341	*e*P	P	01 50 07.5	-4.1
BRTR	Keskin Array B	64.28	312	P	P	01 51 40.3	-1.8
	0.5nm,0.6s,mb3.3,baz=141,slow=9.2,SNR=3.5						
FINES	FINESS Array B	74.91	332	P	P	01 52 46.4	+0.1
	1.9nm,0.9s,mb3.7,baz=90,slow=7.6,SNR=5.1						
GERES	GERESS Array B	79.83	318	P	P	01 53 14.8	+1.3
	2.1nm,1.0s,mb3.7,baz=90,slow=4.0,SNR=8.0						
CPUP	Villa Florida	146.27	229	PKPbc	PKPbc	02 00 46.3	+2.7
	3.3nm,1.1s,baz=153,slow=4.5,SNR=3.8						

*NEIC **09** 01:45:15.7, 15.99N×96.97W, h20^{km}, MD3.9(MEX), After MEX.*

MEX 09 01:45:17.5±1.1, **16.06N**×**96.83W, h30**^{km}**, MD3.9, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HUIG	Huatulco	0.75	113	*i* P	Pb	01 45 29.0	-3.0
HUIG				*i* S	Sb	01 45 39.9	-2.1
HUIG	Huatulco	0.75	113	*i* P	Pb	01 45 29.4	-2.6
HUIG				*i* S	Sb	01 45 39.9	-2.1
OXX	Oaxaca	1.02	6	*i* P	Pn	01 45 32.5	-3.4
OXX				*i* S	Sn	01 45 46.5	-2.7
IISM	Ciudad Serdan	2.95	350	*e*P	Pn	01 46 00.0	-3.6
IISM				*i* S	Sn	01 46 37.0	-1.4
PPM	Popocatepetl	3.44	330	*e*P	Pn	01 46 10.0	-0.5

*IDC **09** 01:47:52.3±1.0, 15.10S×173.50W, mb4.0/8, mb1 4.3/8, mb1mx4.2/12, MS3.9/3, Ms1 3.9/3, ms1mx3.5/14, Error ellipse: s-maj=57.1km s-min=20.1km az=142.0*

*NEIC **09** 01:47:54.2±0.6, 15.02S×173.59W, h10^{km}, mb4.5/3, Error ellipse: s-maj=33.7km s-min=11.3km az=143.0*

ISC 09 01:47:52.5±0.7, **14.9S**±0.2×**173.7W**±0.2, **h10**^{km}**, n30, σ0^{s}.48**/12, **mb4.1**/11, **MS4.1**/2, **Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAR	Rarotonga	14.66	117	LR	LR	01 55 18.5	
	comp=Z,290nm,18.9s,baz=278,slow=31						
STKA	Stephens Creek	44.03	239	P	P	01 56 02.0	-0.4
	1.3nm,0.6s,mb3.9,baz=134,slow=13,SNR=3.1						
WB2	Warramunga Arr	49.66	256	*e*P	P	01 56 47.3	+0.5
WRA	Warramunga Arr	49.67	256	P	P	01 56 46.6	-0.2
	0.5nm,0.4s,mb3.9,baz=91,slow=7.1,SNR=8.3						
ASAR	Alice Springs	49.98	252	P	P	01 56 49.1	-0.1
	2.1nm,0.5s,mb4.4,baz=86,slow=8.0,SNR=29						
ASAR				LR	LR	02 15 32.1	
	comp=Z,94nm,19.2s,MS3.8,baz=238,slow=33						
YBH	Yreka Blue Hor	73.38	37	P	P	01 59 25.9	-0.8
	1.6nm,0.8s,mb4.0,baz=220,slow=8.1,SNR=3.8						
TXAR	Lajitas Array	80.58	56	P	P	02 00 07.2	+0.1
	1.9nm,1.3s,mb3.9,baz=214,slow=4.5,SNR=4.2						
MCK	McKinley	80.68	11	*e*P	P	02 00 06.8	-0.1
	3.7nm,0.7s,mb4.4						
ANMO	Albuquerque	80.70	50	P	P	02 00 08.6	+0.9
	1.2nm,0.9s,mb3.8						
COLA	College	81.92	11	*e*P	P	02 00 13.7	+0.3
	12nm,0.9s,mb4.8						
ILAR	Eielson Array	82.01	11	P	P	02 00 14.3	+0.5
	1.4nm,0.8s,mb3.9,baz=210,slow=5.5,SNR=15						
PDAR	Pinedale Array	82.09	42	P	P	02 00 14.0	-0.7
	0.7nm,0.8s,mb3.6,baz=225,slow=1.3,SNR=5.7						
MAW	Mawson	88.18	199	P	P	02 00 44.8	+0.2
	0.6nm,0.5s,mb4.1,baz=100,slow=6.1,SNR=2.7						
MAW				LR	LR	02 39 39.2	
	comp=Z,116nm,19.5s,MS4.3,baz=243,slow=35						
CLL	Collm	143.28	353	*e*PKIKP	PKPdf	02 07 30.0	0.0
GRA1	Grafenberg Arr	145.06	354	*e*PKP	PKPdf	02 07 32.9	-0.3
KHC	Kasperske Hory	145.34	352	*e*PKP	PKPdf	02 07 33.5	-0.2
BRTR	Keskin Array B	145.57	321	PKPbc	PKPbc	02 07 35.4	+3.3
	5.2nm,0.8s,baz=50,slow=1.4,SNR=27						
GERES	GERESS Array B	145.60	351	PKPbc	PKPbc	02 07 33.8	+2.0
	1.2nm,0.8s,baz=45,slow=2.8,SNR=8.1						
FLN	La Foliniere	145.77	8	*e*PKP1	PKPbc	02 07 34.1	+1.9
CDF	Champ du Feu	146.56	359	*e*PKP1	PKPbc	02 07 37.1	+3.0
	20nm,1.2s						
LOR	Lormes	147.66	3	*e*PKP1	PKPdf	02 07 39.0	+1.4
	5.9nm,0.8s						
SSF	Saint Saulge	147.84	4	*e*PKP1	PKPdf	02 07 39.5	+1.6
	14nm,1.1s						
SMF	Signal de Mont	148.28	3	*e*PKP1	PKPdf	02 07 40.6	+2.0
BGF	Bois d’Agland	148.30	5	*e*PKP1	PKPdf	02 07 40.7	+2.0
	9.4nm,0.8s						
CABF	La Chapelle	148.38	0	*e*PKP1	PKPdf	02 07 41.7	+2.9
	16nm,1.1s						
TCF	Toulx Ste Croi	148.51	5	*e*PKP1	PKPdf	02 07 41.0	+2.0
LPL	La Plagne	149.47	359	*e*PKP1	PKPdf	02 07 44.9	+4.3
	4.9nm,0.9s						
LPG	La Plagne	149.49	359	*e*PKP1	PKPdf	02 07 45.1	+4.5
ORIF	Oris-en-Rattie	150.07	1	*e*PKP1	PKPdf	02 07 45.9	+4.3
MBDF	Montbardon	150.26	359	*e*PKP1	PKPdf	02 07 46.4	+4.5
	9.2nm,1.1s						

*NEIC **09** 02:04:49.6, 35.00S×70.57W, h2^{km}, ML2.8(GUC), After GUC.*

GUC 09 02:04:49.6±0.6, **35.00S**×**70.57W, h2**^{km}**, MD3.7, ML2.8, 6C-3D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFDO	San Fernando	0.53	316	⇑*i*P	Pg	02 05 00.3	+0.1
SFDO				*i* S	Sg	02 05 08.4	+1.2
CICH	Cipreses	0.69	10	⇓*i*P	Pg	02 05 02.8	-0.5
CICH				*i* S	Sg	02 05 13.6	+1.0
CACH	El Canelo	0.88	358	*i* P	Pg	02 05 06.3	-0.8
CACH				*i* S	Sg	02 05 20.0	+1.1
CHCH	Chadas Angostu	1.06	356	⇓*i*P	Pb	02 05 09.9	-0.5
CHCH				*i* S	Sb	02 05 25.2	+0.6
LMEL	Las Melosas	1.19	15	⇑*i*P	Pb	02 05 11.5	-1.0
LMEL				*i* S	Sb	02 05 28.8	+0.6
LMEL				AMP		02 05 31.4	
	comp=N,213nm,0.2s						
LNV	Longovilo	1.25	326	⇑*i*P	Pb	02 05 12.7	-0.9
LNV				*i* S	Sb	02 05 30.1	+0.1
PCH	Pirque	1.38	2	⇓*i*P	Pb	02 05 15.1	-0.7
PCH				*i* S	Sb	02 05 34.3	+0.6
TACH	Talagante	1.38	347	⇑*i*P	Pb	02 05 14.9	-0.8
TACH				*i* S	Sb	02 05 33.9	+0.2
RCDM	Rinconada Maip	1.52	353	⇑*i*P	Pn	02 05 17.5	-0.4
RCDM				*i* S	Sb	02 05 37.7	-0.1
RCDM				AMP		02 05 39.5	
	comp=E,663nm,0.1s						
CLCH	Cerro Calan	1.60	1	*e*P	Pn	02 05 18.6	-0.5
CLCH				AMP		02 05 44.4	
	comp=E,170nm,0.6s						
FCH	Farellones	1.68	8	*e*P	Pn	02 05 20.4	+0.1
FCH				*i* S	Sb	02 05 44.1	+1.5
FCH				AMP		02 05 46.1	
	comp=N,217nm,0.3s						
LCCH	Las Cruces	1.73	331	⇑*i*P	Pn	02 05 21.1	+0.2
LCCH				*i* S	Sn	02 05 44.6	+0.7

*NEIC **09** 02:14:42.9, 33.99S×72.35W, h32^{km}, ML3.3(GUC), After GUC.*

GUC 09 02:14:42.9±0.6, **33.99S**×**72.35W, h32**^{km}±3^{km}**, MD3.7, ML3.3, 3C-5D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LNV	Longovilo	0.78	88	⇓*i*P	Pn	02 14 57.3	-0.4
LNV				*i* S	Sb	02 15 08.2	0.0
LCCH	Las Cruces	0.83	52	*e*P	Pn	02 14 58.3	-0.2
LCCH				*i* S	Sn	02 15 10.0	+0.3
TACH	Talagante	1.22	74	⇓*i*P	Pn	02 15 04.2	+0.1
TACH				*i* S	Sn	02 15 20.4	+0.7
SFDO	San Fernando	1.27	120	*e*P	Pn	02 15 05.3	+0.6
RCDM	Rinconada Maip	1.38	69	*i* P	Pn	02 15 06.5	+0.2
RCDM				*i* S	Sn	02 15 24.5	+0.9
RCDM				AMP		02 15 29.0	
	comp=N,710nm,0.6s						
CHCH	Chadas Angostu	1.41	88	⇑*i*P	Pn	02 15 07.2	+0.5
CHCH				*i* S	Sn	02 15 25.8	+1.4
CACH	El Canelo	1.46	95	⇓*i*P	Pn	02 15 08.8	+1.4
CACH				*i* S	Sn	02 15 28.8	+3.2
PCH	Pirque	1.57	77	*e*P	Pn	02 15 10.4	+1.3
PCH				*i* S	Sn	02 15 30.4	+1.9
DSCH	Colegio Aleman	1.60	69	*e*P	Pn	02 15 10.3	+0.8
DSCH				*i* S	Sn	02 15 31.2	+2.1
DSCH				AMP		02 15 38.1	
	comp=E,781nm,0.5s						
CLCH	Cerro Calan	1.62	69	⇓*i*P	Pn	02 15 11.0	+1.2
CLCH				*i* S	Sn	02 15 31.4	+1.6
CLCH				AMP		02 15 38.8	
	comp=E,518nm,0.8s						
CLCH				AMP		02 15 39.7	
	comp=E,654nm,0.6s						
CICH	Cipreses	1.63	102	⇑*i*P	Pn	02 15 10.7	+0.8
CICH				*i* S	Sn	02 15 32.4	+2.4
LMEL	Las Melosas	1.79	86	⇑*i*P	Pn	02 15 13.3	+1.1
LMEL				*i* S	Sn	02 15 36.8	+2.8
LMEL				AMP		02 15 38.8	
	comp=N,623nm,0.3s						
FCH	Farellones	1.84	69	⇓*i*P	Pn	02 15 14.0	+1.1
FCH				*i* S	Sn	02 15 37.5	+2.2
FCH				AMP		02 15 38.8	
	comp=N,530nm,0.2s						

GUC 09 02:17:02.6±0.6, **33.96S**×**72.32W, h34**^{km}±2^{km}**, MD3.6, ML3.0, 4C-3D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LNV	Longovilo	0.76	90	⇓*i*P	P	02 17 16.5	-0.2
LNV				*i* S	S	02 17 27.4	+0.3
LCCH	Las Cruces	0.79	53	*e*P	P	02 17 17.6	+0.3
LCCH				*i* S	S	02 17 28.4	+0.3
TACH	Talagante	1.19	76	⇑*i*P	P	02 17 23.5	+0.6
TACH				*i* S	S	02 17 39.0	+0.8
SFDO	San Fernando	1.26	122	*i* P	P	02 17 24.5	+0.5
SFDO				*i* S	S	02 17 42.1	+2.0
RCDM	Rinconada Maip	1.34	70	*e*P	P	02 17 25.7	+0.5
RCDM				*i* S	S	02 17 43.2	+1.1
RCDM				AMP		02 17 48.2	
	comp=N,427nm,0.4s						
CHCH	Chadas Angostu	1.39	89	*e*P	P	02 17 26.6	+0.8
CHCH				*i* S	S	02 17 44.9	+1.7
CACH	El Canelo	1.44	97	⇓*i*P	P	02 17 28.0	+1.4
CACH				*i* S	S	02 17 48.0	+3.6
PCH	Pirque	1.54	78	⇑*i*P	P	02 17 29.2	+1.2
CLCH	Cerro Calan	1.59	70	*i* P	P	02 17 30.2	+1.5
CLCH				*i* S	S	02 17 50.5	+2.2
CLCH				AMP		02 17 57.1	
	comp=E,254nm,0.5s						
CLCH				AMP		02 17 57.7	
	comp=E,373nm,0.5s						
PEL	Peldehue	1.59	60	⇑*i*P	P	02 17 30.3	+1.6
CICH	Cipreses	1.61	103	*i* P	P	02 17 29.8	+0.7
CICH				*i* S	S	02 17 51.5	+2.5
LMEL	Las Melosas	1.76	87	⇑*i*P	P	02 17 32.5	+1.3
LMEL				*i* S	S	02 17 55.3	+2.6
LMEL				AMP		02 17 58.5	
	comp=N,364nm,0.2s						
FCH	Farellones	1.81	70	⇓*i*P	P	02 17 33.3	+1.5
FCH				*i* S	S	02 17 57.1	+3.3
FCH				AMP		02 17 58.4	
	comp=N,268nm,0.3s						

*NEIC **09** 02:18:49.7, 33.98S×72.37W, h31^{km}, ML2.8(GUC), After GUC.*

GUC 09 02:18:49.7±0.7, **33.98S**×**72.37W, h31**^{km}±3^{km}**, MD3.5, ML2.8, 2C-4D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LNV	Longovilo	0.80	88	⇓*i*P	Pn	02 19 04.5	-0.4
LNV				*i* S	Sb	02 19 15.2	-0.3
LCCH	Las Cruces	0.84	53	*e*P	Pn	02 19 05.7	+0.3
LCCH				*i* S	Sb	02 19 17.2	+0.5
TACH	Talagante	1.24	75	*i* P	Pn	02 19 11.3	+0.1
TACH				*i* S	Sn	02 19 27.5	+0.5
SFDO	San Fernando	1.29	120	⇓*i*P	Pn	02 19 12.0	+0.2
SFDO				*i* S	Sn	02 19 29.9	+1.7
RCDM	Rinconada Maip	1.40	70	*e*P	Pn	02 19 13.6	+0.2
RCDM				*i* S	Sn	02 19 31.6	+0.7
RCDM				AMP		02 19 39.7	
	comp=E,147nm,0.2s						
CHCH	Chadas Angostu	1.43	88	⇑*i*P	Pn	02 19 14.6	+0.7
CHCH				*i* S	Sn	02 19 32.8	+1.0
CACH	El Canelo	1.48	96	⇓*i*P	Pn	02 19 15.9	+1.3
CACH				*i* S	Sn	02 19 36.6	+3.6
PCH	Pirque	1.59	77	⇓*i*P	Pn	02 19 17.2	+1.0
PCH				*i* S	Sn	02 19 37.9	+2.1
CICH	Cipreses	1.65	102	*e*P	Pn	02 19 18.0	+0.9
CICH				*i* S	Sn	02 19 40.0	+2.5
LMEL	Las Melosas	1.81	86	⇑*i*P	Pn	02 19 20.4	+1.1
LMEL				*i* S	Sn	02 19 44.2	+2.8
LMEL				AMP		02 19 50.2	
	comp=N,239nm,0.2s						
FCH	Farellones	1.85	70	*e*P	Pn	02 19 21.3	+1.3
FCH				*i* S	Sn	02 19 45.6	+3.0
FCH				AMP		02 19 52.0	
	comp=N,123nm,0.3s						

*BGR **09** 02:27:36.2±0.2, 50.67N×7.25E, h10^{km}, ML2.3/7, Error ellipse: s-maj=2.2km s-min=2.2km az=10.0*

*LDG **09** 02:27:37.3±0.1, 50.68N×7.18E, h8^{km}, Md3.1/1, Ml2.8/20, Error ellipse: s-maj=0.9km s-min=0.6km az=89.0*

*NEIC **09** 02:27:37.3, 50.68N×7.18E, h8^{km}, ML2.8(LDG), ML2.5(STR), ML2.3(SZGRF), After LDG.*

*BNS **09** 02:27:37.3±1.2, 50.69N×7.19E, h8^{km}±27^{km}, ML2.1*

*STR **09** 02:27:41.6±0.7, 50.42N×7.16E, h10^{km}±1^{km}, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 09 02:27:34.1±0.2, **50.61N**±0.01×**7.26E**±0.02, **h10**^{km}**, n51, σ1^{s}.39**/132, **4C-2D, Germany**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STB	Steinbach	0.27	268	⇑*i*Pg	Pg	02 27 42.4	+2.8
STB				*i* Sg	Sg	02 27 45.6	+2.2
	268nm,0.5s						
BNS	Bensberg	0.36	352	⇓*i*Pg	Pg	02 27 43.0	+1.4
BNS				*e*Sg	Sg	02 27 46.9	+0.3
	496nm,0.4s						
BGG	Burgeitz	0.40	173	⇓*i*Pg	Pg	02 27 46.8	+4.5
BGG				*e*Sg	Sg	02 27 53.5	+5.7
	98nm,0.1s						
KLL	Kalltalsperre	0.60	274	*e*Pg	Pg	02 27 47.6	+1.3
KLL				*e*Sg	Sg	02 27 54.7	+0.3
	44nm,0.2s						
JUE	Julich	0.62	300	*i* Sg	Sg	02 27 55.6	+0.7
BUG	Bochum--Univer	0.84	1	*e*Pg	Pg	02 27 51.4	+0.5
	SNR=2.4						
BUG				*e*Sg	Sg	02 28 01.5	-0.6
	SNR=5.6						
BUG	Bochum--Univer	0.84	1	*e*Pg	Pg	02 27 51.4	+0.5
BUG				*e*Sg	Sg	02 28 03.2	+1.1
HGN	Heimansgroeve	0.86	281	*e*Pg	Pg	02 27 52.1	+0.8
	SNR=5.0						
HGN				*e*Sg	Sg	02 28 02.8	0.0
	SNR=3.2						
HGN	Heimansgroeve	0.86	281	⇑*e*Pg	Pg	02 27 46.5	-4.8
	8.6nm,0.2s						
HGN				⇑*i*Pg	Pg	02 27 52.1	+0.8
	44nm,0.1s,baz=75						
HGN				*e*Sg	Sg	02 28 02.2	-0.6
WLF	Walferdange	1.18	217	*e*Pg	Pg	02 27 59.7	+2.0
	SNR=4.7						
WLF				*e*Sg	Sg	02 28 14.2	+0.7
	SNR=4.5						
WLF	Walferdange	1.18	217	*e*Pg	Pg	02 27 58.5	+0.8
WTSB	Winterswijk	1.39	348	*e*Pg	Pg	02 28 00.7	-1.2
	SNR=4.1						
WTSB				*e*Sg	Sg	02 28 18.3	-2.3
	SNR=5.5						
WTSB	Winterswijk	1.39	348	⇑*e*Pg	Pg	02 28 01.0	-1.0
	27nm,0.7s						
WTSB				*e*Sg	Sg	02 28 18.0	-2.6
GIVF	Givet	1.64	253	*e*Pn	Pn	02 28 04.6	+1.4
GIVF				*e*P		02 28 06.5	
GIVF				*e*Pg	Pg	02 28 07.5	+0.7
GIVF				*e*Sn	Sn	02 28 24.2	-0.2
GIVF				*e*Sg	Sg	02 28 28.5	-0.2
	35nm,0.2s						
GIVF	Givet	1.64	253	*e*Pn	Pn	02 28 04.6	+1.4
GIVF				*e*Pg	Pg	02 28 07.5	+0.7
GIVF				*e*Sn	Sn	02 28 24.2	-0.2
GIVF				*e*Sg	Sg	02 28 28.5	-0.2
IBBN	Ibbenburen	1.73	10	*e*Sg	Sg	02 28 29.0	-2.8
	SNR=3.9						
UBBA	Unterbreizbach	1.76	82	*e*Pn	Pn	02 28 06.2	+1.3
	SNR=1.4						
UBBA				*e*Pg	Pg	02 28 09.1	-0.1
	SNR=3.1						
UBBA				*e*Sg	Sg	02 28 31.9	-0.8
	SNR=2.5						
BAIF	Baives	2.03	256	*e*Pn	Pn	02 28 09.8	+1.0
BAIF				*e*Pg	Pg	02 28 14.6	0.0
BAIF				*e*Sn	Sn	02 28 33.6	-0.8
BAIF				*e*Sg	Sg	02 28 40.5	-1.2
	25nm,0.3s						
CDF	Champ du Feu	2.19	180	*e*Pn	Pn	02 28 13.5	+2.4
CDF				*e*Sn	Sn	02 28 40.1	+1.5
CDF				*e*Sg	Sg	02 28 48.6	+1.4
	6.8nm,0.2s						
WLS	Welschbruch	2.19	178	Pn	Pn	02 28 14.3	+3.2
CLZ	Clausthal	2.32	56	*e*Pn	Pn	02 28 13.2	+0.3
	SNR=1.7						
CLZ				*e*Pg	Pg	02 28 19.2	-1.2
	SNR=4.9						
CLZ				*e*Sg	Sg	02 28 48.4	-2.9
	SNR=2.8						
CLZ	Clausthal	2.32	56	*e*Pn	Pn	02 28 13.6	+0.7
CLZ				*e*Sg	Sg	02 28 48.6	-2.7
BFO	Black Forest	2.38	163	*e*Pn	Pn	02 28 16.9	+3.1
	SNR=1.8						
BFO				*e*Pg	Pg	02 28 22.4	+0.7
	SNR=4.3						
BFO				*e*Sg	Sg	02 28 53.3	-0.1
	SNR=1.3						
BFO	Black Forest	2.38	163	*e*Pn	Pn	02 28 17.0	+3.2
ECH	Echery	2.39	182	Pn	Pn	02 28 16.6	+2.6
ECH				Sg	Sg	02 28 53.2	-0.6
THEF	They Montfort	2.52	200	Pn	Pn	02 28 19.2	+3.4
THEF				Sg	Sg	02 28 57.2	-0.8
MEZF	Maizieres J’vi	2.55	215	*e*Pn	Pn	02 28 17.7	+1.5
MEZF				*e*Pg	Pg	02 28 25.6	+0.6
MEZF				*e*Sn	Sn	02 28 47.0	-0.6
MEZF				*e*Sg	Sg	02 28 58.2	-0.8
	4.9nm,0.2s						
HAU	Haudompre	2.67	193	*e*Pn	Pn	02 28 19.7	+1.8
HAU				*e*Pg	Pg	02 28 27.7	+0.3
HAU				*e*Sn	Sn	02 28 51.0	+0.4
HAU				*e*Sg	Sg	02 29 03.1	+0.1
	10nm,0.2s						
GRA1	Grafenberg Arr	2.71	108	*e*Pn	Pn	02 28 21.3	+2.8
GRF	Grafenberg Arr	2.71	108	*e*Pn	Pn	02 28 20.6	+2.1
	SNR=1.1						
GRF				*e*Sg	Sg	02 29 03.6	-0.7
	SNR=1.8						
MOF	Molkenrain	2.76	182	Pn	Pn	02 28 21.2	+2.0
MOF				Sg	Sg	02 29 06.5	+0.6
MOX	Moxa	2.78	87	*e*Pn	Pn	02 28 21.1	+1.7
	SNR=2.3						
MOX				*e*Pg	Pg	02 28 28.9	-0.6
	SNR=2.4						
MOX				*e*Sn	Sn	02 28 54.9	+1.5
MOX				*e*Sg	Sg	02 29 03.8	-2.8
	SNR=2.0						
MOX	Moxa	2.78	87	*i* P	Pn	02 28 21.1	+1.6
MOX				Pg	Pg	02 28 29.0	-0.5
MOX				S	Sn	02 28 54.0	+0.6
MOX	Moxa	2.78	87	*e*Pn	Pn	02 28 21.1	+1.6
MOX				*e*Pg	Pg	02 28 28.8	-0.7
MOX				*e*Sn	Sn	02 28 54.9	+1.5
HINF	Hinteralfeld	2.80	186	*e*Pn	Pn	02 28 21.6	+1.8
HINF				*e*Pg	Pg	02 28 31.3	+1.2
HINF				*e*Sn	Sn	02 28 54.6	+0.6
HINF				*e*Sg	Sg	02 29 07.7	+0.2
	3.3nm,0.2s						
SFTF	Sexfontaines	2.81	212	*e*Pn	Pn	02 28 21.2	+1.3
SFTF				*e*Pg	Pg	02 28 30.4	+0.3
SFTF				*e*Sn	Sn	02 28 53.7	-0.4
SFTF				*e*Sg	Sg	02 29 06.3	-1.2
	7.6nm,0.2s						
WERD	Werda	3.23	91	*e*Pn	Pn	02 28 27.0	+1.1
	SNR=4.2						
WERD				*e*Sg	Sg	02 29 19.4	-2.2
	SNR=1.9						
GUNZ	Gunzen	3.25	92	*e*Pg	Pg	02 28 38.1	-0.9
	SNR=2.4						
GUNZ				*e*Sg	Sg	02 29 18.9	-3.4
	SNR=2.0						
TANN	Tannenbergstha	3.33	91	*e*Pn	Pn	02 28 28.3	+1.0
	SNR=3.0						
TANN				*e*Sg	Sg	02 29 21.1	-3.8
	SNR=1.6						
LOR	Lormes	4.02	215	*e*Pn	Pn	02 28 37.8	+0.7
LOR				*e*Pg	Pg	02 28 52.5	-1.9
LOR				*e*Sn	Sn	02 29 22.3	-2.6
LOR				*e*Sg	Sg	02 29 44.2	-3.8
	5.5nm,0.3s						
CABF	La Chapelle	4.07	191	*e*Pn	Pn	02 28 38.9	+1.0
CABF				*e*Pg	Pg	02 28 53.7	-1.7
CABF				*e*Sn	Sn	02 29 25.0	-1.2
CABF				*e*Sg	Sg	02 29 47.0	-2.7
	1.0nm,0.3s						
SSF	Saint Saulge	4.33	216	*e*Pn	Pn	02 28 42.0	+0.5
SSF				*e*Pg	Pg	02 28 57.7	-2.7
SSF				*e*Sn	Sn	02 29 29.7	-2.9
SSF				*e*Sg	Sg	02 29 53.4	-4.7
	2.7nm,0.3s						
HYF	Humbligny	4.52	224	*e*Pn	Pn	02 28 44.3	+0.1
HYF				*e*Pg	Pg	02 29 01.5	-2.8
HYF				*e*Sg	Sg	02 29 58.6	-5.9
SMF	Signal de Mont	4.56	211	*e*Pn	Pn	02 28 45.0	+0.1
SMF				*e*Pg	Pg	02 29 02.6	-2.6
SMF				*e*Sn	Sn	02 29 35.4	-3.2
SMF				*e*Sg	Sg	02 30 00.7	-5.3
	2.4nm,0.2s						
AVF	Avril sur Loir	4.61	216	*e*Pn	Pn	02 28 45.7	+0.2
AVF				*e*Pg	Pg	02 29 03.1	-3.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
AVF				*e*Sn	**Sn**	**02 29 37.0**	**-2.8**
AVF				*e*Sg	**Sg**	**02 30 01.8**	**-5.8**
	1.3nm,0.3s						
BGF	**Bois d'Agland**	**5.00**	**218**	*e*Pn	**Pn**	**02 28 51.1**	**+0.1**
BGF				*e*Sn	**Sn**	**02 29 45.8**	**-3.7**
BGF				*e*Sg	**Sg**	**02 30 14.3**	**-6.1**
	8.3nm,0.4s						
LDF	**La Druitiere**	**5.20**	**250**	*e*Pn	**Pn**	**02 28 53.1**	**-0.8**
LDF				*e*Pg	**Pg**	**02 29 12.9**	**-5.1**
LDF				*e*Sg	**Sg**	**02 30 19.8**	**-7.5**
	1.7nm,0.2s						
FLN	**La Foliniere**	**5.35**	**253**	*e*Pn	**Pn**	**02 28 55.0**	**-1.0**
FLN				*e*Sg	**Sg**	**02 30 23.8**	**-8.5**
	2.3nm,0.3s						
TCF	**Toulx Ste Croi**	**5.47**	**220**	*e*Pn	**Pn**	**02 28 57.3**	**-0.4**
TCF				*e*Sn	**Sn**	**02 29 57.1**	**-4.3**
TCF				*e*Sg	**Sg**	**02 30 29.1**	**-7.1**
	1.0nm,0.3s						
GRR	**Gorron**	**5.73**	**250**	*e*Pn	**Pn**	**02 29 00.1**	**-1.3**
GRR				*e*Sn	**Sn**	**02 30 01.6**	**-6.4**
	0.8nm,0.2s						
MFF	**Saint Martin d**	**6.33**	**234**	*e*Pn	**Pn**	**02 29 08.8**	**-1.1**

NEIC 09 03:03:47.0,19.55N×65.22W,h62^{km},MD3.6(RSPR), **9C-1D,After RSPR.,Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBYP	**Canovanas**	**1.41**	**206**	⇑*e*P	P	03 04 09.4	-1.6
MTP	**Monte Pirata**	**1.48**	**193**	⇓*e*P	P	03 04 11.1	-1.0
MTP				*e*S	S	03 04 29.1	-1.5
HUMP	**Col San Antoni**	**1.52**	**203**	⇑*e*P	P	03 04 11.2	-1.4
HUMP				*e*S	S	03 04 29.5	-2.0
CSB	**Colonia Sabana**	**1.54**	**216**	⇑*e*P	P	03 04 11.2	-1.6
CSB				*e*S	S	03 04 30.8	-1.0
CPD	**Cerro la Pandu**	**1.64**	**204**	⇑*e*P	P	03 04 12.9	-1.2
CPD				*e*S	S	03 04 33.4	-0.9
SJG	**San Juan**	**1.68**	**212**	⇑*e*P	P	03 04 13.5	-1.2
SJG				*e*S	S	03 04 34.1	-1.1
CELP	**Cerrillos**	**1.95**	**222**	⇑*e*P	P	03 04 17.2	-1.3
CELP				*e*S	S	03 04 40.5	-1.2
LRS	**Lares**	**1.98**	**231**	⇑*e*P	P	03 04 17.6	-1.3
PORP	**Portuguez**	**2.00**	**222**	⇑*e*P	P	03 04 17.7	-1.5
PORP				*e*S	S	03 04 41.9	-1.2
LSP	**Las Mesas**	**2.23**	**233**	⇑*e*P	P	03 04 21.7	-0.8

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*NEIC **09** 03:12:31.9,57.29N×154.23W,h44^{km},ML4.1(PMR), ML3.9(AEIC),After AEIC.*

*IDC **09** 03:12:32.7±1.2,57.73N×154.24W,h57^{km}±5^{km},mb3.9/11, mb1 4.1/13,mb1mx4.0/17,Error ellipse: s-maj=25.3km s-min=15.5km az=9.0*

ISC 09 03:12:28.5±0.3**,57.24N**±0.03×**154.13W**±0.04**,h71**^{km}±4^{km}**, n120,σ0^{s}97**/152**,mb4.1**/10**,Kodiak Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**1.00**	**56**	P	**P**	**03 12 48.9**	**+1.6**
KDAK				S	**S**	**03 13 02.1**	**+0.7**
KABR	**Katmai Barrier**	**1.00**	**334**	P	**P**	**03 12 47.7**	**+0.3**
KABR				S	**S**	**03 13 00.1**	**-1.3**
CAHL	**Cahill**	**1.03**	**323**	P	**P**	**03 12 48.2**	**+0.5**
CAHL				S	**S**	**03 13 00.6**	**-1.4**
KJL	**Kejulik**	**1.13**	**317**	P	**P**	**03 12 49.6**	**+0.7**
KJL				S	**S**	**03 13 02.8**	**-1.4**
ACHA	**Angle Creek He**	**1.17**	**327**	P	**P**	**03 12 50.2**	**+0.7**
ACHA				S	**S**	**03 13 04.4**	**-0.8**
MGLS	**Mageik LS**	**1.17**	**327**	P	**P**	**03 12 48.5**	**-1.0**
MGLS				S	**S**	**03 13 01.6**	**-3.6**
KAWH	**Katmai**	**1.21**	**343**	P	**P**	**03 12 50.6**	**+0.6**
KAWH				S	**S**	**03 13 05.4**	**-0.6**
ANCK	**Angle Creek**	**1.21**	**324**	P	**P**	**03 12 50.7**	**+0.6**
ANCK				S	**S**	**03 13 05.8**	**-0.4**
KAHG	**Katmai Hook Gl**	**1.28**	**350**	P	**P**	**03 12 52.2**	**+1.2**
KAHG				S	**S**	**03 13 08.8**	**+1.0**
KARR	**Katmai Rainbow**	**1.30**	**347**	P	**P**	**03 12 52.3**	**+0.8**
KAPH	**Katmai Pasha**	**1.37**	**355**	P	**P**	**03 12 53.5**	**+1.1**
KAPH				S	**S**	**03 13 10.7**	**+0.7**
KAHC	**Katmai Hardscr**	**1.49**	**342**	P	**P**	**03 12 54.6**	**+0.6**
KAHC				S	**S**	**03 13 12.7**	**-0.1**
SYI	**Shuyak Island**	**1.66**	**33**	P	**P**	**03 12 57.6**	**+1.4**
MCNL	**McNeil River**	**1.96**	**357**	P	**P**	**03 13 01.2**	**+0.9**
MCNL				S	**S**	**03 13 23.9**	**+0.3**
AUI	**Augustine Isla**	**2.14**	**10**	P	**P**	**03 13 04.2**	**+1.4**
AUI				S	**S**	**03 13 28.8**	**+0.6**
AGU	**Augustine-Summ**	**2.16**	**10**	P	**P**	**03 13 04.7**	**+1.6**
AUP	**Augustine Pinn**	**2.17**	**10**	P	**P**	**03 13 04.2**	**+1.0**
AUE	**Augustine Isla**	**2.17**	**10**	P	**P**	**03 13 04.8**	**+1.6**
AUE				S	**S**	**03 13 31.4**	**+2.5**
AUW	**Augustine West**	**2.17**	**9**	P	**P**	**03 13 04.9**	**+1.7**
AUL	**Augustine Lava**	**2.19**	**9**	P	**P**	**03 13 05.0**	**+1.5**
ANPB	**Aniakchak Plen**	**2.31**	**261**	P	**P**	**03 13 06.0**	**+0.8**
OPT	**Oil Point**	**2.47**	**11**	P	**P**	**03 13 08.7**	**+1.2**
OPT				S	**S**	**03 13 36.7**	**+0.2**
CNPM	**China Poot**	**2.76**	**32**	P	**P**	**03 13 12.5**	**+1.0**
HOM	**Homer**	**2.76**	**27**	P	**P**	**03 13 12.8**	**+1.2**
HOM				S	**S**	**03 13 44.6**	**+0.8**
ILS	**Iliamna Low So**	**2.79**	**11**	P	**P**	**03 13 12.7**	**+0.7**
IVS	**Iliamna South**	**2.84**	**11**	P	**P**	**03 13 13.5**	**+0.9**
IVS				S	**S**	**03 13 45.2**	**-0.5**
ILW	**Iliamna West**	**2.88**	**10**	P	**P**	**03 13 14.2**	**+0.9**
ILW				S	**S**	**03 13 45.9**	**-1.0**
ILIM	**Iliamna**	**2.92**	**12**	P	**P**	**03 13 14.4**	**+0.6**
BRLK	**Bradley Lake**	**3.06**	**33**	P	**P**	**03 13 16.2**	**+0.5**
NNL	**Ninilchik**	**3.18**	**27**	P	**P**	**03 13 19.0**	**+1.5**
RED	**Redoubt Volcan**	**3.27**	**12**	P	**P**	**03 13 19.9**	**+1.2**
RED				S	**S**	**03 13 55.8**	**-0.8**
RSO	**Redoubt South**	**3.32**	**12**	P	**P**	**03 13 20.3**	**+0.9**
RSO				S	**S**	**03 13 57.5**	**-0.3**
REF	**Redoubt East F**	**3.35**	**12**	P	**P**	**03 13 20.5**	**+0.8**
RDT	**Redoubt**	**3.47**	**14**	P	**P**	**03 13 21.9**	**+0.5**
SEW	**Seward**	**3.78**	**38**	P	**P**	**03 13 25.1**	**-0.7**
SLKM	**Skilak Lake**	**3.86**	**30**	P	**P**	**03 13 26.8**	**-0.1**
SVW	**Sparrevohn**	**3.96**	**349**	P	**P**	**03 13 28.6**	**+0.3**
BKG	**Blockade Glaci**	**3.97**	**13**	P	**P**	**03 13 28.9**	**+0.5**
BKG				S	**S**	**03 14 12.4**	**-1.6**
SDPT	**Sand Point**	**4.01**	**245**	P	**P**	**03 13 28.7**	**-0.3**
CKL	**Chakachamna La**	**4.08**	**12**	P	**P**	**03 13 30.3**	**+0.3**
CKL				S	**S**	**03 14 15.3**	**-1.5**
MPA	**Moose Pass**	**4.10**	**35**	P	**P**	**03 13 30.2**	**0.0**
SPU	**Mount Spurr**	**4.10**	**14**	P	**P**	**03 13 30.4**	**+0.1**
SPU				S	**S**	**03 14 15.7**	**-1.6**
LTI	**Latouche**	**4.32**	**47**	P	**P**	**03 13 32.7**	**-0.7**
FIB	**Fire Island**	**4.44**	**26**	P	**P**	**03 13 35.0**	**+0.1**
RC01	**Rabbit Creek A**	**4.48**	**28**	P	**P**	**03 13 35.2**	**-0.4**
SUA	**Susitna One**	**4.58**	**21**	P	**P**	**03 13 36.9**	**-0.1**
PVV	**Pavlof Volcano**	**4.65**	**250**	P	**P**	**03 13 38.3**	**+0.3**
BLHA	**Black Hill**	**4.66**	**254**	P	**P**	**03 13 38.1**	**0.0**
BLHA				S	**S**	**03 14 29.0**	**-2.3**
PN7A	**Pavlof North-7**	**4.73**	**251**	P	**P**	**03 13 39.9**	**+0.8**
HAG	**Hague Volcano**	**4.74**	**249**	P	**P**	**03 13 39.5**	**+0.3**
DOL	**Dolgoi Island**	**4.80**	**247**	P	**P**	**03 13 39.7**	**-0.2**
DOL				S	**S**	**03 14 31.7**	**-3.1**
SKT	**Skwentna**	**4.94**	**14**	P	**P**	**03 13 42.0**	**+0.1**
DTNA	**Dutton South F**	**4.99**	**249**	P	**P**	**03 13 42.6**	**0.0**
DTNA				S	**S**	**03 14 37.5**	**-2.1**
PMR	**Palmer**	**5.06**	**28**	*e*P	**P**	**03 13 42.2**	**-1.4**
DRIA	**Deer Island**	**5.09**	**247**	P	**P**	**03 13 43.4**	**-0.6**
KNK	**Knik Glacier**	**5.10**	**32**	P	**P**	**03 13 43.5**	**-0.7**
CFI	**College Fiord**	**5.13**	**37**	P	**P**	**03 13 43.7**	**-0.9**
BALA	**Baldy Mountain**	**5.24**	**251**	P	**P**	**03 13 47.0**	**+0.9**
JPK	**Jack Peak**	**5.45**	**42**	P	**P**	**03 13 48.4**	**-0.5**
SML	**Sawmill**	**5.45**	**30**	P	**P**	**03 13 48.7**	**-0.3**
CVA	**Cordova**	**5.47**	**49**	P	**P**	**03 13 48.8**	**-0.4**
EYAK	**Cordova Ski Ar**	**5.47**	**49**	P	**P**	**03 13 48.5**	**-0.7**
VLZ	**Valdez**	**5.60**	**42**	P	**P**	**03 13 50.5**	**-0.5**
VLZ				S	**S**	**03 14 50.3**	**-4.4**
SGAM	**Sherman Glacie**	**5.67**	**51**	P	**P**	**03 13 51.8**	**-0.2**
FALS	**False Pass**	**5.72**	**249**	P	**P**	**03 13 53.1**	**+0.4**
KAIM	**Kayak Island**	**5.75**	**58**	P	**P**	**03 13 52.9**	**-0.3**
SCM	**Sheep Creek Mo**	**5.77**	**34**	P	**P**	**03 13 52.9**	**-0.4**
TT01	**Tatalina**	**5.77**	**351**	P	**P**	**03 13 53.1**	**-0.2**
TTA	**Tatalina**	**5.79**	**351**	*e*P	**P**	**03 13 53.5**	**-0.1**
DIV	**Divide**	**5.81**	**44**	P	**P**	**03 13 53.4**	**-0.5**
DIV				S	**S**	**03 14 56.3**	**-3.6**
KLU	**Klutina**	**5.99**	**41**	P	**P**	**03 13 55.9**	**-0.4**
KLU				S	**S**	**03 14 59.6**	**-4.7**
BMRM	**Bremner River**	**6.17**	**49**	P	**P**	**03 13 57.9**	**-1.0**
BMRM				S	**S**	**03 15 05.0**	**-3.9**
TRF	**Thorofare Moun**	**6.52**	**15**	P	**P**	**03 14 03.1**	**-0.7**
KTH	**Kantishna Hill**	**6.54**	**13**	P	**P**	**03 14 04.3**	**+0.2**
SNH	**Sunshine Point**	**6.58**	**59**	P	**P**	**03 14 04.8**	**0.0**
SNH				S	**S**	**03 15 15.9**	**-3.1**
WAX	**Waxell Ridge**	**6.68**	**56**	P	**P**	**03 14 05.6**	**-0.5**
CRQM	**Cirque**	**6.69**	**54**	P	**P**	**03 14 05.8**	**-0.4**
GLB	**Gilahina Butte**	**6.76**	**47**	P	**P**	**03 14 06.3**	**-0.9**
DHY	**Denali Highway**	**6.76**	**27**	P	**P**	**03 14 06.7**	**-0.5**
TGL	**Tana Glacier**	**6.82**	**54**	P	**P**	**03 14 07.4**	**-0.7**
MCK	**McKinley**	**7.00**	**19**	*e*P	**P**	**03 14 09.3**	**-1.3**
BALM	**Baldy**	**7.16**	**53**	P	**P**	**03 14 12.1**	**-0.7**
BALM				S	**S**	**03 15 28.9**	**-4.4**
PAX	**Paxson**	**7.20**	**33**	P	**P**	**03 14 12.5**	**-0.8**
AKGG	**Akutan Green G**	**7.36**	**251**	P	**P**	**03 14 15.5**	**+0.1**
CHX	**Chaix Hills**	**7.36**	**62**	P	**P**	**03 14 15.6**	**+0.1**
THY	**Trims Highway**	**7.46**	**30**	*e*P	**P**	**03 14 16.5**	**-0.4**
CTGM	**Chitina Glacie**	**7.58**	**55**	P	**P**	**03 14 18.3**	**-0.1**
PCA	**Pinnacle**	**7.78**	**63**	P	**P**	**03 14 21.0**	**-0.3**
UNV	**Unalaska Valle**	**7.79**	**249**	P	**P**	**03 14 20.4**	**-1.0**
MTBL	**Makushin Table**	**7.82**	**251**	P	**P**	**03 14 21.7**	**-0.1**
MSW	**Makushin Switc**	**7.90**	**250**	P	**P**	**03 14 22.2**	**-0.8**
MCIR	**Makushin Cirqu**	**7.94**	**251**	P	**P**	**03 14 23.0**	**-0.4**
CCB	**Clear Creek Bu**	**8.04**	**20**	P	**P**	**03 14 22.4**	**-2.5**
PNL	**Peninsula**	**8.10**	**66**	P	**P**	**03 14 24.9**	**-0.8**
DOT	**Dot Lake**	**8.13**	**34**	P	**P**	**03 14 25.6**	**-0.4**
COLA	**College**	**8.24**	**19**	P	**P**	**03 14 26.6**	**-1.0**
IL1	**Eielson Array**	**8.34**	**22**	P	**P**	**03 14 26.9**	**-2.0**
ILAR	**Eielson Array**	**8.34**	**22**	P	**P**	**03 14 26.6**	**-2.3**
	1.2nm,0.3s,baz=212,slow=13,SNR=52						
ILAR				S	**S**	**03 15 51.1**	**-11**
	0.8nm,0.3s,baz=211,slow=21,SNR=5.2						
BCA3	**Beaver Creek A**	**8.48**	**41**	P	**P**	**03 14 30.4**	**-0.5**
IM3	**Indian Mountai**	**8.78**	**1**	P	**P**	**03 14 33.7**	**-1.2**
IMA	**Indian Mountai**	**8.87**	**1**	*e*P	**P**	**03 14 36.7**	**+0.5**
DAWY	**Dawson**	**9.94**	**40**	P	**P**	**03 14 51.0**	**+0.3**
WHY	**Whitehorse**	**10.51**	**63**	P	**P**	**03 14 58.3**	**0.0**
DLBC	**Dease Lake**	**12.88**	**75**	P	**P**	**03 15 31.7**	**+1.6**
	0.5nm,0.3s,baz=288,slow=11,SNR=11						
DLBC				S	**S**	**03 17 50.9**	**-1.3**
	0.3nm,0.3s,baz=308,slow=19,SNR=4.2						
YKA	**Yellowknife Ar**	**20.28**	**59**	P	**P**	**03 17 01.0**	**+0.7**
	4.0nm,0.6s,baz=270,slow=9.3,SNR=12						
YKA				pP		03 17 15.0	
	1.3nm,0.5s,baz=271,slow=9.8,SNR=3.8						
YBH	**Yreka Blue Hor**	**25.33**	**114**	pP	pP	03 18 10.6	+4.2
	1.8nm,0.9s,baz=306,slow=4.7,SNR=3.1						
PDAR	**Pinedale Array**	**31.46**	**98**	P	**P**	**03 18 49.2**	**+4.1**
	0.5nm,0.5s,mb3.5,baz=310,slow=4.4,SNR=6.1						
PDAR				pP	pP	03 19 04.6	+2.4
	0.2nm,0.7s,baz=48,slow=54,SNR=2.7						
ULM	**Lac du Bonnet**	**34.20**	**76**	P	**P**	**03 19 11.4**	**+2.7**
	2.1nm,0.5s,mb4.2,baz=309,slow=13,SNR=2.8						
TXAR	**Lajitas Array**	**44.66**	**107**	pP	pP	03 20 54.8	+1.5
	0.5nm,0.7s,baz=309,slow=4.9,SNR=6.2						
ARCES	**ARCESS Array B**	**53.53**	**0**	P	**P**	**03 21 43.4**	**0.0**
	2.2nm,0.6s,mb4.3,baz=7.1,slow=9.8,SNR=6.7						
SONM	**Songino Array**	**55.95**	**307**	P	**P**	**03 22 02.2**	**+1.0**
	7.0nm,0.8s,mb4.8,baz=41,slow=6.9,SNR=38						
KAF	**Kangasniemi**	**60.99**	**360**	*e*p	**P**	**03 22 35.6**	**-0.5**
NB2	**NORSAR Subarra**	**61.51**	**8**	P	**P**	**03 22 40.3**	**+0.7**
	1.0nm,0.6s,mb4.0,baz=352,slow=6.5						
NOA	**NORSAR Array B**	**61.51**	**8**	P	**P**	**03 22 40.7**	**+1.1**
	3.5nm,1.0s,mb4.3,baz=351,slow=6.7,SNR=6.5						
FINES	**FINESS Array B**	**61.66**	**360**	P	**P**	**03 22 40.7**	**+0.1**
	1.2nm,0.5s,mb4.2,baz=9.9,slow=8.2,SNR=20						
MKAR	**Makanchi Array**	**66.22**	**321**	P	**P**	**03 23 10.8**	**+0.3**
	2.3nm,0.5s,mb4.3,baz=30,slow=6.0,SNR=32						
MKAR				sP	sP	03 23 34.0	-3.1
	0.8nm,0.5s,baz=25,slow=12,SNR=3.4						
MKAR	**Makanchi Array**	**66.22**	**321**	P	**P**	**03 23 10.8**	**+0.3**
MKAR				sP	sP	03 23 34.0	-3.1
AKASG	**Malin Array Be**	**72.39**	**358**	P	**P**	**03 23 48.8**	**+0.7**
	3.5nm,0.7s,mb4.3,baz=5.2,slow=6.2,SNR=11						
AKASG				sP	sP	03 24 10.7	-4.1
	0.6nm,0.5s,baz=3.5,slow=5.5,SNR=2.1						
GERES	**GERESS Array B**	**73.81**	**8**	P	**P**	**03 23 58.0**	**+1.7**
	0.6nm,0.5s,mb3.5,slow=5.3,SNR=6.3						
BRTR	**Keskin Array B**	**83.18**	**354**	P	**P**	**03 24 50.0**	**+2.3**
	0.8nm,0.7s,mb3.6,slow=3.7,SNR=4.4						

IDC 09 03:12:46.8±39.0**,14.87S×164.85E,mb3.8**/4**,mb1 4.0**/4**, mb1mx3.7**/12**,Error ellipse: s-maj=665.0km s-min=87.7km az=68.0,Vanuatu Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**27.15**	**227**	P	P	03 18 31.8	-2.0
	1.4nm,0.4s,baz=46,slow=9.6,SNR=8.5						
WRA	**Warramunga Arr**	**29.52**	**256**	P	P	03 18 53.5	-1.8
	0.4nm,0.5s,baz=86,slow=9.3,SNR=6.0						
ASAR	**Alice Springs**	**30.44**	**249**	P	P	03 19 01.3	-2.1
	0.5nm,0.7s,baz=77,slow=9.2,SNR=7.6						
FITZ	**Fitzroy Crossi**	**37.69**	**260**	P	P	03 20 04.0	-1.8
	1.2nm,0.8s,baz=90,slow=9.1,SNR=2.4						

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*LDG **09** 03:18:29.9±0.1,45.47N×6.71E,h2^{km},Md2.7/2,Ml2.4/11, Error ellipse: s-maj=1.6km s-min=1.0km az=85.0*

*STR **09** 03:18:29.4±1.6,45.55N×6.38E,h5^{km}±1^{km},Ml2.5,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 09 03:18:28.5±0.4**,45.49N**±0.02×**6.60E**±0.03**,h2**^{km}**,n19, σ1^{s}34**/30**,France**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPL	**La Plagne**	**0.10**	**77**	*e*Pg	**Pg**	**03 18 31.3**	**+0.8**
LPL				*e*Sg	**Sg**	**03 18 31.8**	**0.0**
	426nm,0.3s						
LPG	**La Plagne**	**0.11**	**88**	*e*Pg	**Pg**	**03 18 31.4**	**+0.7**
LPG				*e*Sg	**Sg**	**03 18 32.5**	**+0.3**
	2μm,0.5s						
ORIF	**Oris-en-Rattie**	**0.77**	**222**	*e*Pg	**Pg**	**03 18 45.0**	**+1.2**
ORIF				*e*Sg	**Sg**	**03 18 56.0**	**+2.0**
	36nm,0.4s						
MBDF	**Montbardon**	**0.78**	**171**	*e*Pg	**Pg**	**03 18 44.2**	**+0.2**
MBDF				*e*Sg	**Sg**	**03 18 53.9**	**-0.5**
	30nm,0.5s						
CABF	**La Chapelle**	**1.17**	**343**	*e*Pg	**Pg**	**03 18 54.0**	**+2.1**
CABF				*e*Sg	**Sg**	**03 19 09.0**	**+1.5**
	15nm,0.3s						
VIVF	**Saint-Julien-l**	**1.50**	**246**	*e*Pg	**Pg**	**03 18 58.9**	**+0.4**
VIVF				*e*Sg	**Sg**	**03 19 19.6**	**+1.1**
	10nm,0.3s						
AUTN	**L'Aution**	**1.61**	**158**	Pg	**Pg**	**03 19 02.9**	**+2.2**
AUTN				Sg	**Sg**	**03 19 25.4**	**+3.3**
SAOF	**Saorge**	**1.66**	**155**	Pg	**Pg**	**03 19 01.8**	**+0.3**
SAOF				Sg	**Sg**	**03 19 27.9**	**+4.3**
SMRF	**Simiane la Rot**	**1.68**	**206**	*e*Pg	**Pg**	**03 19 01.5**	**-0.6**
SMRF				*e*Sg	**Sg**	**03 19 23.3**	**-1.2**
	7.9nm,0.6s						
AURF	**Auriere**	**1.69**	**162**	Pg	**Pg**	**03 19 03.3**	**+1.1**
SBF	**Sospel**	**1.74**	**160**	*e*Pg	**Pg**	**03 19 01.3**	**-1.9**
SBF				*e*Sg	**Sg**	**03 19 23.3**	**-3.0**
	32nm,0.7s						
CALN	**Calern**	**1.75**	**173**	Pg	**Pg**	**03 19 03.9**	**+0.4**
FRF	**La Foret Royal**	**1.93**	**179**	*e*Pg	**Pg**	**03 19 05.8**	**-1.3**
FRF				*e*Sg	**Sg**	**03 19 30.8**	**-2.1**
	15nm,0.7s						
LMR	**La Mourre**	**2.16**	**182**	*e*Sg	**Sg**	**03 19 36.9**	**-3.5**
	3.4nm,0.3s						
SMF	**Signal de Mont**	**2.24**	**302**	*e*Sg	**Sg**	**03 19 42.8**	**-0.2**
	10nm,0.6s						
HINF	**Hinteralfeld**	**2.33**	**4**	*e*Sg	**Sg**	**03 19 44.1**	**-2.0**
	3.3nm,0.4s						
HAU	**Haudompre**	**2.52**	**356**	*e*Sg	**Sg**	**03 19 50.3**	**-2.0**
	2.5nm,0.2s						
AVF	**Avril sur Loir**	**2.60**	**301**	*e*Sg	**Sg**	**03 19 54.3**	**-0.8**
	6.4nm,0.6s						
BGF	**Bois d'Agland**	**2.82**	**294**	*e*Sg	**Sg**	**03 20 01.6**	**-0.8**
	6.8nm,0.4s						

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*PRU **09** 03:31:04.0,51.47N×16.12E*

*WAR **09** 03:31:04.3,51.51N×16.09E,ML2.6,Mining Induced*

*NEIC **09** 03:31:07.3±1.7,51.29N×15.85E,h5^{km},ML2.6(VIE),Error ellipse: s-maj=21.7km s-min=10.0km az=195.0*

ISC 09 03:31:01.6±0.7**,51.49N**±0.04×**16.09E**±0.04**,n15,σ1^{s}17**/31**, 1C,Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.66**	**169**	*e*PG	**Pg**	**03 31 17.0**	**+2.1**
KSP				*e*SG	**Sg**	**03 31 26.0**	**+2.3**
UPC	**Upice**	**0.99**	**183**	*e*PG	**Pg**	**03 31 22.8**	**+1.5**
DPC	**Dobruska-Polom**	**1.15**	**173**	*e*PG	**Pg**	**03 31 25.3**	**+0.6**
DPC				*e*SG	**Sg**	**03 31 40.2**	**+0.2**
PVCC	**Panska Ves**	**1.36**	**225**	*e*PG	**Pg**	**03 31 29.7**	**+0.9**
BRG	**Berggiesshubel**	**1.49**	**246**	*e*Pn	**Pn**	**03 31 31.1**	**+1.4**
BRG				*i* Pg	**Pg**	**03 31 31.9**	**+0.6**
BRG				*i* Sg	**Sg**	**03 31 51.7**	**+0.6**
PRU	**Pruhonice**	**1.80**	**214**	*e*PG	**Pg**	**03 31 36.9**	**-0.6**
PRU				*i* x	x	03 31 38.7	
PRU				*i* x	x	03 31 53.7	
PRU				SG	**Sg**	**03 32 01.4**	**-0.1**
	9.4nm,0.3s						
CLL	**Collm**	**1.94**	**266**	*e*PG	**Pg**	**03 31 40.0**	**-0.4**
CLL				*i* SG	**Sg**	**03 32 05.9**	**-0.4**
MORC	**Moravsky Berou**	**1.95**	**151**	*e*Pn	**Pn**	**03 31 36.5**	**+0.2**
OKC	**Ostrava-Krasne**	**2.11**	**141**	*e*PG	**Pg**	**03 31 42.3**	**-1.5**
OKC				*e*SG	**Sg**	**03 32 10.5**	**-1.5**
NKC	**Novy Kostel**	**2.63**	**243**	*e*PN	**Pn**	**03 31 48.0**	**+2.0**
NKC				*e*PG	**Pg**	**03 31 53.7**	**-0.4**
NKC				*e*SG	**Sg**	**03 32 28.2**	**-1.0**
OJC	**Ojcow**	**2.67**	**117**	*e*PG	**Pg**	**03 31 55.0**	**0.0**
OJC				*e*SG	**Sg**	**03 32 30.0**	**-0.7**
OJC	**Ojcow**	**2.67**	**117**	*e*Pg	**Pg**	**03 31 54.6**	**-0.4**
OJC				*e*Sg	**Sg**	**03 32 30.3**	**-0.4**
KHC	**Kasperske Hory**	**2.86**	**215**	*e*PN	**Pn**	**03 31 50.2**	**+0.9**
KHC				*e*PG	**Pg**	**03 31 56.8**	**-1.9**
KHC				*e*SN	**Sn**	**03 32 25.0**	**0.0**
KHC				*e*SG	**Sg**	**03 32 34.5**	**-2.3**
BSD	**Bornholm Skovb**	**3.70**	**349**	*i* P	**Pn**	**03 31 59.8**	**-1.4**
BSD				*i* S	**Sn**	**03 32 39.2**	**-7.0**
MOA	**Molln**	**3.83**	**199**	⇑*i*PN	**Pn**	**03 32 04.0**	**+0.8**
MOA				*i* SG	**Sg**	**03 33 07.6**	**-1.7**
	1.1nm,0.3s						

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*NEIC **09** 03:56:44.4±2.1,23.07S×176.84W,h82^{km}±19^{km},mb4.8/11, Error ellipse: s-maj=15.2km s-min=9.0km az=164.0*

*IDC **09** 03:56:58.1±3.4,23.04S×177.11W,h199^{km}±30^{km},mb3.8/7, mb1 4.0/9,mb1mx3.9/13,Error ellipse: s-maj=38.1km s-min=15.3km az=161.0*

ISC 09 03:56:45.3±2.8**,23.06S**±0.09×**177.03W**±0.09, **h98**^{km}±27^{km}**,n36,σ0^{s}78**/27**,mb4.5**/16**,2C,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**7.03**	**318**	Pn	**P**	**03 58 35.2**	**+7.9**
	214nm,0.7s,SNR=10.0						
URZ	**Urewera**	**15.96**	**197**	P	**P**	**04 00 24.2**	**-1.1**
	1.2nm,0.3s,baz=348,slow=2.0,SNR=5.5						
URZ				S	**S**	**04 03 19.2**	**+0.3**
	1.2nm,0.3s,baz=277,slow=23,SNR=8.4						
RAR	**Rarotonga**	**16.09**	**87**	P	**P**	**04 00 27.5**	**+0.4**
	2.3nm,0.3s,baz=200,slow=9.5,SNR=2.8						
RAR				S	**S**	**04 03 09.1**	**-13**
	2.4nm,0.3s,baz=70,slow=17,SNR=3.3						
RPZ	**Rata Peaks**	**22.83**	**203**	P	**P**	**04 01 40.1**	**-0.4**
	3.7nm,0.5s,mb4.0,baz=334,slow=16,SNR=2.1						
CTA	**Charters Tower**	**34.22**	**268**	P	**P**	**04 03 25.3**	**+1.6**
	43nm,0.5s,mb5.6,baz=97,slow=10,SNR=118						
CTA	**Charters Tower**	**34.22**	**268**	P	**P**	**04 03 25.3**	**+1.6**
CTAO	**Charters Tower**	**34.22**	**268**	⇑*i*P	**P**	**04 03 25.2**	**+1.5**
	54nm,0.6s,mb5.6						
STKA	**Stephens Creek**	**37.56**	**247**	*e*P	**P**	**04 03 53.4**	**+1.6**
	2.9nm,0.9s,mb4.1						
STKA	**Stephens Creek**	**37.56**	**247**	P	**P**	**04 03 52.9**	**+1.1**
	1.4nm,0.3s,mb4.2,baz=26,slow=8.3,SNR=9.8						
ASAR	**Alice Springs**	**44.87**	**259**	P	**P**	**04 04 52.1**	**+0.3**
	3.5nm,0.5s,mb4.4,baz=92,slow=8.0,SNR=42						
ASAR				PcP	PcP	04 06 31.3	-1.0
	0.6nm,0.4s,baz=112,slow=4.3,SNR=4.5						
ASPA	**Alice Springs**	**44.87**	**259**	*e*P	**P**	**04 04 52.8**	**+1.0**
WB2	**Warramunga Arr**	**45.19**	**264**	*e*P	**P**	**04 04 53.7**	**-0.7**
WRAB	**Tennant Creek**	**45.19**	**264**	⇑*e*P	**P**	**04 04 53.8**	**-0.6**
	24nm,0.6s,mb5.1						
WRA	**Warramunga Arr**	**45.20**	**264**	P	**P**	**04 04 53.9**	**-0.5**
	13nm,0.5s,mb4.9,baz=102,slow=8.2,SNR=111						
WRA				S	**S**	**04 11 19.6**	**-6.5**
	0.9nm,0.8s,baz=100,slow=14,SNR=4.2						
KAKA	**Kakadu**	**49.01**	**273**	*e*P	**P**	**04 05 20.5**	**-3.8**
	14nm,0.5s,mb5.1						
FITZ	**Fitzroy Crossi**	**53.62**	**264**	*e*P	**P**	**04 05 58.8**	**-0.3**
	8.0nm,0.5s,mb5.0						
SBA	**Scott Base**	**55.39**	**184**	*e*P	**P**	**04 06 12.4**	**+1.2**
	4.7nm,0.8s,mb4.6						
SBA				*e*	pP	04 06 31.8	-3.5
MBWA	**Marble Bar**	**58.21**	**259**	*e*P	**P**	**04 06 30.7**	**-1.1**
	10nm,0.6s,mb5.0						
CASY	**Casey**	**62.05**	**206**	*e*P	**P**	**04 06 57.0**	**-0.4**
	1.8nm,0.5s,mb4.4						
QSPA	**South Pole Qui**	**67.02**	**180**	*e*P	**P**	**04 07 29.6**	**+0.3**
	9.0nm,1.0s,mb4.5						
MAW	**Mawson**	**79.47**	**200**	P	**P**	**04 08 42.0**	**0.0**
	2.6nm,0.7s,mb4.2,baz=136,slow=6.3,SNR=6.4						
SNAA	**Sanae**	**85.44**	**178**	*e*P	**P**	**04 09 11.9**	**-0.5**
	3.4nm,1.0s,mb4.2						
TXAR	**Lajitas Array**	**87.68**	**57**	P	**P**	**04 09 24.2**	**-0.2**
	1.5nm,1.1s,mb3.9,baz=211,slow=7.3,SNR=8.1						
PDAR	**Pinedale Array**	**90.21**	**43**	P	**P**	**04 09 35.7**	**-0.3**
	0.3nm,0.7s,mb3.5,baz=225,slow=3.8,SNR=2.7						
MKAR	**Makanchi Array**	**113.60**	**313**	PKiKP		04 15 12.3	
	0.2nm,0.5s,baz=220,slow=1.6,SNR=4.3						
ARCES	**ARCESS Array B**	**131.59**	**350**	PKP	PKPdf	04 15 46.3	+0.2
	5.4nm,0.9s,baz=315,slow=3.4,SNR=6.6						
FINES	**FINESS Array B**	**138.47**	**343**	PKP	PKPdf	04 16 00.2	+1.2
	6.2nm,1.2s,baz=225,slow=2.7,SNR=3.2						
FINES	**FINESS Array B**	**138.47**	**343**	PKP	PKPdf	04 16 00.2	+1.2
NOA	**NORSAR Array B**	**141.62**	**354**	PKP	PKPdf	04 16 05.2	+0.7
	0.8nm,0.9s,baz=13,slow=2.1,SNR=3.0						
AKASG	**Malin Array Be**	**145.68**	**330**	PKPbc	PKPbc	04 16 12.0	-0.7
	6.1nm,0.5s,baz=41,slow=4.1,SNR=17						
BRTR	**Keskin Array B**	**149.20**	**310**	PKPbc	PKPdf	04 16 22.9	+4.8
	2.2nm,0.6s,baz=137,slow=5.3,SNR=8.1						
CLL	**Collm**	**150.75**	**347**	*i* PKP1	PKPdf	04 16 27.5	+7.4
CLL				*i* PKP2	PKPab	04 16 34.3	-1.1
CLL	**Collm**	**150.75**	**347**	*i* P	PKPdf	04 16 26.3	+6.2
CLL				*i*		04 16 34.3	
CLL				*i*		04 17 05.5	
BRG	**Berggiesshubel**	**150.96**	**346**	*e*P	PKPdf	04 16 27.5	+7.1
KHC	**Kasperske Hory**	**152.66**	**345**	*e*P	PKPdf	04 16 31.5	+8.6
GERES	**GERESS Array B**	**152.90**	**344**	PKPbc	PKPdf	04 16 31.9	+8.6
	0.8nm,0.6s,slow=1.3,SNR=4.7						

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*JMA **09** 04:06:06.5±0.5,23.69N×122.22E,h25^{km},M2.3*

TAP 09 04:06:04.8,23.73N×122.04E,h11^{km}±1^{km}**,ML3.1, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**1.15**	**50**	P	Pb	04 06 25.6	-0.6
YOJ				*e*S	Sb	04 06 38.8	-2.1
HATJ	**Hateruma jima**	**1.65**	**78**	P	Pn	04 06 32.1	-1.8
HATJ				*e*S	Sn	04 06 51.9	-3.4
IRIF	**Iriomote-Funau**	**1.66**	**68**	P	Pn	04 06 32.9	-1.2
IRIF				*e*S	Sn	04 06 52.4	-3.1
JIJ	**Ishigaki jima**	**2.02**	**71**	P	Pn	04 06 37.5	-1.8
JIJ				*e*S	Sn	04 07 01.2	-3.6

IDC 09 04:13:17.9±2.2**,15.77S×172.97W,mb3.8**/4**,mb1 4.2**/4**, mb1mx3.9**/13**,MS3.5**/2**,Ms1 3.5**/2**,ms1mx3.0**/16**,Error ellipse: s-maj=122.0km s-min=27.2km az=149.0,Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	**Urewera**	**24.05**	**199**	LR	LR	04 27 27.1	
	comp=Z,94nm,18.5s,baz=343,slow=35						
WRA	**Warramunga Arr**	**50.17**	**257**	P	P	04 22 16.2	-1.4
	0.6nm,0.8s,baz=92,slow=7.1,SNR=4.3						
ASAR	**Alice Springs**	**50.39**	**252**	P	P	04 22 16.2	-3.0
	1.8nm,0.8s,baz=88,slow=8.4,SNR=16						
TXAR	**Lajitas Array**	**80.47**	**56**	P	P	04 25 32.0	-1.5
	1.5nm,1.2s,baz=233,slow=4.5,SNR=4.2						
TXAR				LR	LR	04 55 38.9	
	comp=Z,32nm,19.9s,baz=190,slow=32						
ILAR	**Eielson Array**	**82.73**	**11**	P	P	04 25 42.0	-2.6
	0.9nm,1.0s,baz=211,slow=5.3,SNR=6.7						
GERES	**GERESS Array B**	**146.57**	**352**	PKPbc	PKPbc	04 33 02.1	+1.1
	0.3nm,0.4s,slow=2.0,SNR=4.1						
BRTR	**Keskin Array B**	**146.71**	**321**	PKPbc	PKPbc	04 33 02.5	+0.9
	0.6nm,0.4s,baz=90,slow=2.9,SNR=3.2						

SNSN 09 04:16:42.8, 24.91N×49.44E, h7^{km}, Ml3.5, Eastern Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HASS	**Wahat al Ahsa’**	**0.37**	**40**	P	Pg	04 16 49.9	-0.3
HASS				S	Sg	04 16 55.2	+0.1
MZLS	**Mizel**	**3.95**	**258**	P	Pn	04 17 44.2	-1.0
MZLS				S	Sn	04 18 31.5	-0.9
ARSS	**Ar Rass**	**5.69**	**281**	P	Pn	04 18 08.0	-1.8

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*NAO **09** 04:29:26.6±3.8, 60.23N×25.13E, ML2.3*
*BER **09** 04:29:26.1±5.2, 60.10N×25.40E, ML2.3(NAO)*
*HEL **09** 04:29:27.5±0.1, 60.18N×25.24E, ML2.0, ML2.1(UPP), ML2.3(NAO), Explosion*
ISC 09 04:29:26.0±0.5**, 60.18N**±0.04×**25.23E**±0.06**, n16, σ0^{s}98**/27**, Finland**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PVF	**Pernaja**	**0.49**	**40**	*e*P	**Pg**	**04 29 36.0**	**+0.2**
PVF				*e*S	**Sg**	**04 29 42.2**	**0.0**
VJF	**Virojoki**	**1.21**	**72**	*e*P	**Pb**	**04 29 48.8**	**-0.8**
VJF				*e*S	**Sb**	**04 30 04.6**	**-1.0**
FIA0	**FINESS Array S**	**1.34**	**18**	*e*P	**Pb**	**04 29 51.5**	**-0.2**
FIA0				*e*S	**Sb**	**04 30 08.4**	**-0.9**
FIA0	**FINESS Array S**	**1.34**	**18**	Pn	**Pn**	**04 29 51.5**	**-0.5**
	baz=184,slow=18						
FIA0				Lg		04 30 08.8	
	baz=192,slow=28						
VSU	**Vasula**	**1.89**	**155**	*e*P	**Pn**	**04 30 00.9**	**+1.1**
VSU				*e*S	**Sn**	**04 30 24.9**	**+0.3**
KEF	**Keuruu**	**2.01**	**355**	*e*P	**Pn**	**04 30 02.9**	**+1.4**
KEF				*e*S	**Sn**	**04 30 28.6**	**+0.9**
KEF				MSG		04 30 31.6	
	comp=Z,10nm,0.2s						
KAF	**Kangasniemi**	**2.01**	**15**	*e*P	**Pn**	**04 30 02.9**	**+1.3**
KAF				*e*S	**Sn**	**04 30 28.5**	**+0.6**
KAF				MSG		04 30 33.3	
	comp=Z,5.5nm,0.1s						
SUF	**Sumiainen**	**2.59**	**9**	MSG		04 30 47.0	
	comp=Z,5.8nm,0.2s						
AAL	**Aland**	**2.62**	**272**	*e*P	**Pn**	**04 30 11.0**	**+0.7**
AAL				*e*S	**Sn**	**04 30 44.5**	**+1.3**
FLYU	**Flymyra**	**3.67**	**272**	*e*P	**Pn**	**04 30 25.7**	**+0.4**
FLYU				*e*S	**Sn**	**04 31 08.2**	**-1.7**
IGGU	**Iggoen**	**3.97**	**284**	*e*P	**Pn**	**04 30 28.8**	**-0.7**
OSTU	**Oestervaala**	**4.04**	**274**	*e*P	**Pn**	**04 30 30.2**	**-0.3**
HFS	**Hagfors**	**5.76**	**275**	Pn	**Pn**	**04 30 52.8**	**-2.1**
	baz=116,slow=12						
HFS				Sn	**Sn**	**04 31 57.3**	**-5.3**
	baz=78,slow=28						
HFS				Lg		04 32 24.9	
	baz=89,slow=37						
HFS	**Hagfors**	**5.76**	**275**	*e*P	**Pn**	**04 30 52.8**	**-2.1**
HFS				*e*S	**Sn**	**04 31 57.3**	**-5.3**
HFS				*e*SG	**Sg**	**04 32 24.9**	**-13**
ARA0	**ARCESS Array S**	**9.40**	**1**	*e*P	**P**	**04 31 41.0**	**-4.7**
ARA0				*e*SG	**Sg**	**04 34 18.9**	**-20**
ARA0	**ARCESS Array S**	**9.40**	**1**	Pn	**P**	**04 31 41.0**	**-4.7**
	baz=179,slow=14						
ARA0				Lg		04 34 18.9	
	baz=174,slow=28						

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*ISK **09** 04:32:39.6, 36.89N×27.65E, h9^{km}, MD3.8, ML3.9*
*IDC **09** 04:32:40.9±1.0, 36.75N×27.92E, mb4.0/4, mb1 3.8/10, mb1mx3.7/22, ML3.4/5, Error ellipse: s-maj=22.3km s-min=13.1km az=145.0*
*NEIC **09** 04:32:42.3, 36.91N×27.69E, h13^{km}, MD3.5(ATH), After ATH.*
*ATH **09** 04:32:42.3, 36.91N×27.69E, h13^{km}±6^{km}, MD3.3/8*
ISC 09 04:32:41.9±0.5**, 36.93N**±0.02×**27.77E**±0.03**, h12^{km}**±4^{km}**, n59, σ1^{s}15**/77**, mb3.9**/4**, 3C-1D, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDRM	**Kayabasi**	**0.29**	**298**	*i* P	**Pg**	**04 32 48.0**	**-0.2**
BDRM				*i* S	**Sg**	**04 32 52.8**	**+0.5**
MLSB	**Milas**	**0.37**	**1**	*i* PG	**Pg**	**04 32 48.9**	**-0.6**
MLSB				*i* SG	**Sg**	**04 32 54.7**	**+0.1**
YER	**Yerkesik**	**0.46**	**63**	*i* PG	**Pg**	**04 32 50.8**	**-0.5**
NISR	**Nisiros**	**0.60**	**239**	*e*PB	**Pb**	**04 32 53.9**	**-0.1**
DALT	**Dalyan (Mudla)**	**0.71**	**103**	*i* PG	**Pg**	**04 32 55.4**	**-0.9**
DALT				*i* SG	**Sg**	**04 33 07.0**	**+1.1**
AYDN	**Tasoluk**	**0.74**	**7**	⇑*i*P	**Pb**	**04 32 56.2**	**-0.1**
AYDN				*i* S	**Sb**	**04 33 07.0**	**+1.0**
ARG	**Arkhangelos**	**0.77**	**158**	⇑*i*PB	**Pb**	**04 32 56.0**	**-0.7**
ARG				*e*SB	**Sb**	**04 33 09.0**	**+2.1**
SMG	**Samos**	**1.08**	**317**	⇓*i*PB	**Pb**	**04 33 02.3**	**+0.2**
DNZL	**Cakiroluk**	**1.27**	**53**	*i* P	**Pb**	**04 33 05.6**	**+0.3**
DNZL				*i* S	**Sb**	**04 33 23.0**	**+1.5**
DENT	**Denizli**	**1.30**	**50**	PN	**Pn**	**04 33 06.1**	**+0.1**
KARP	**Karpathos**	**1.46**	**200**	*e*PN	**Pn**	**04 33 07.5**	**-0.9**
IZM	**Izmir**	**1.52**	**345**	PN	**Pn**	**04 33 08.2**	**-1.0**
KDAG	**Bornova**	**1.52**	**345**	⇑*i*P	**Pn**	**04 33 10.9**	**+1.7**
KDAG				*i* S	**Sb**	**04 33 31.8**	**+2.9**
KSL	**Kastellorizon**	**1.65**	**117**	*e*PN	**Pn**	**04 33 13.8**	**+2.7**
MANT	**Manisa**	**1.68**	**22**	*i* P	**Pn**	**04 33 11.3**	**-0.1**
MANT				*i* S	**Sn**	**04 33 37.1**	**+4.0**
ELL	**Elmali**	**1.73**	**95**	*e*PN	**Pn**	**04 33 12.1**	**0.0**
APE	**Apeiranthos**	**1.80**	**275**	*e*PB	**Pb**	**04 33 13.0**	**-1.4**
AKS	**Akhisar**	**1.95**	**1**	*e*PN	**Pn**	**04 33 14.3**	**-1.0**
KHL	**Karahalli**	**1.97**	**44**	*e*PN	**Pn**	**04 33 15.4**	**-0.2**
ANTB	**Antalya**	**2.31**	**90**	*e*PN	**Pn**	**04 33 21.0**	**+0.5**
BCK	**Bucak**	**2.31**	**76**	*e*PN	**Pn**	**04 33 21.3**	**+0.8**
ISP	**Isparta**	**2.37**	**66**	*e*PN	**Pn**	**04 33 20.6**	**-0.7**
NPS	**Neapolis**	**2.41**	**227**	*e*PN	**Pn**	**04 33 23.4**	**+1.5**
AYVA	**Ayvalik**	**2.52**	**341**	*i* P	**Pn**	**04 33 30.1**	**+6.5**
AYVA				*i* S	**Sg**	**04 34 08.6**	**+2.6**
XRY	**Khrisi**	**2.65**	**220**	*e*PN	**Pn**	**04 33 27.0**	**+1.6**
BALB	**Balikesir**	**2.71**	**2**	*e*PN	**Pn**	**04 33 24.5**	**-1.7**
DST	**Dursunbey**	**2.76**	**14**	PN	**Pn**	**04 33 25.7**	**-1.2**
ALT	**Altintas**	**2.81**	**40**	*e*PN	**Pn**	**04 33 28.2**	**+0.5**
BTOK	**Tokmak**	**2.84**	**4**	*i* P	**Pn**	**04 33 34.7**	**+6.7**
IDI	**Anoyia**	**2.85**	**236**	Pn	**Pn**	**04 33 27.4**	**-0.8**
	1.2nm,0.3s,baz=34,slow=11,SNR=8.4						
IDI				Sn	**Sn**	**04 34 05.0**	**+2.2**
	3.0nm,0.3s,baz=303,slow=18,SNR=4.1						
IDI				Lg		04 34 11.5	
	5.6nm,0.3s,baz=308,slow=23,SNR=6.4						
BOZC	**Bozcaada**	**3.21**	**336**	*i* P	**Pn**	**04 33 32.4**	**-0.9**
ULDT	**Uludag**	**3.38**	**18**	*i* P	**Pn**	**04 33 44.3**	**+8.5**
ULDT				*i* S	**Sg**	**04 34 36.3**	**+1.7**
BNT	**Bandirma**	**3.42**	**2**	*e*PN	**Pn**	**04 33 34.7**	**-1.6**
ESKT	**Eskisehir**	**3.55**	**42**	*i* P	**Pn**	**04 33 38.9**	**+0.9**
ESKT	**Eskisehir**	**3.55**	**42**	*e*PN	**Pn**	**04 33 37.8**	**-0.3**
HDMB	**Hadim**	**3.78**	**88**	*e*PN	**Pn**	**04 33 41.7**	**+0.3**
KIZT	**Kizilcal**	**3.79**	**58**	*e*PN	**Pn**	**04 33 41.8**	**+0.3**
YLV	**Yalova**	**3.84**	**19**	PN	**Pn**	**04 33 41.1**	**-1.2**
MFT	**Murefte**	**3.87**	**354**	*e*PN	**Pn**	**04 33 42.0**	**-0.7**
LEF	**Lefka**	**4.53**	**112**	*e*PN	**Pn**	**04 33 50.7**	**-1.3**
HENT	**Hendek**	**4.59**	**31**	*i* P	**Pg**	**04 34 04.8**	**-8.8**
HENT				*i* S	**Sg**	**04 35 14.1**	**-0.7**
IKL	**Isikli**	**4.81**	**96**	*e*PN	**Pn**	**04 33 56.1**	**+0.1**
SGKT	**Sivrigoynuk**	**4.95**	**41**	*i* P	**Pn**	**04 33 58.4**	**+0.5**
MEST	**Erdemli**	**5.13**	**92**	*i* P	**Pn**	**04 34 02.8**	**+2.2**
MEST				*i* S	**Sn**	**04 35 02.5**	**+2.1**
KAMT	**Kaman**	**5.28**	**61**	*e*PN	**Pn**	**04 34 01.8**	**-0.8**
BRTR	**Keskin Array B**	**5.39**	**57**	Pn	**Pn**	**04 34 04.4**	**+0.1**
	1.4nm,0.3s,baz=239,slow=14,SNR=25						
BRTR				Sn	**Sn**	**04 35 05.5**	**-1.5**
	0.3nm,0.3s,baz=236,slow=26,SNR=3.1						
BRTR	**Keskin Array B**	**5.39**	**57**	Pn	**Pn**	**04 34 04.4**	**+0.1**
BRTR				Sn	**Sn**	**04 35 05.5**	**-1.5**
ELDT	**Eldivan**	**5.67**	**49**	*i* P	**Pn**	**04 34 08.1**	**-0.2**
BALT	**Daday**	**6.34**	**42**	*i* P	**Pn**	**04 34 16.2**	**-1.4**
COBT	**Iskenderun**	**6.83**	**91**	*i* P	**Pn**	**04 34 24.6**	**+0.2**
BOYT	**Boyabat**	**7.13**	**49**	*i* P	**Pn**	**04 34 27.7**	**-1.0**
MLR	**Muntele Rosu**	**8.66**	**351**	Pn	**P**	**04 34 50.4**	**+0.3**
	0.1nm,0.3s,baz=195,slow=14,SNR=2.4						
MLR				Sn	**Sn**	**04 36 24.7**	**-4.1**
	0.1nm,0.3s,baz=274,slow=21,SNR=1.6						
ASF	**Jabal al Asfar**	**8.90**	**120**	Pn	**P**	**04 34 52.1**	**-1.3**
	0.4nm,0.3s,baz=202,slow=17,SNR=4.5						
ASF				Sn	**Sn**	**04 36 29.0**	**-5.5**
	0.6nm,0.3s,baz=162,slow=20,SNR=3.1						
EIL	**Elat**	**9.40**	**138**	Pn	**P**	**04 34 56.6**	**-3.8**
	0.4nm,0.3s,baz=346,slow=17,SNR=3.7						
EIL				Sn	**Sn**	**04 36 38.0**	**-9.1**
	1.4nm,0.3s,baz=71,slow=18,SNR=4.9						
GERES	**GERESS Array B**	**15.72**	**324**	Pn	**P**	**04 36 29.7**	**+4.9**
	baz=135,slow=8.3,SNR=2.7						
FINES	**FINESS Array B**	**24.56**	**358**	P	**P**	**04 38 04.0**	**+1.5**
	1.1nm,0.7s,mb3.5,baz=180,slow=20,SNR=1.8						
MKAR	**Makanchi Array**	**41.04**	**58**	P	**P**	**04 40 25.5**	**-1.1**
	2.5nm,0.7s,mb4.0,baz=272,slow=8.9,SNR=22						
DBIC	**Dimbokro**	**42.32**	**233**	P	**P**	**04 40 36.2**	**-1.3**
	5.1nm,1.1s,mb4.1,baz=31,slow=5.9,SNR=3.5						
SONM	**Songino Array**	**56.73**	**52**	P	**P**	**04 42 26.3**	**-1.4**
	0.9nm,0.5s,mb4.0,baz=289,slow=8.3,SNR=9.9						

GUC 09 04:44:44.9±0.7**, 28.01S**×**70.98W, h68^{km}**±19^{km}**, MD3.3, ML3.8, 1C-1D, Central Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VACH	**Vallenar**	**0.59**	**161**	⇓*i*P	P	04 44 50.3	-8.4
VACH				*i* S	S	04 45 00.6	-8.1
VACH				AMP		04 45 01.3	
	comp=E,11µm,0.1s						
CPCH	**Copiapo**	**0.85**	**40**	*i* P	P	04 45 01.6	0.0
CPCH				*i* S	S	04 45 14.6	+0.6
CPCH				AMP		04 45 16.7	
	comp=N,6µm,0.1s						
LSCH	**La Serena**	**1.91**	**187**	*i* P	P	04 45 15.5	-0.3
LSCH				*i* S	S	04 45 39.0	+0.4
TLL	**Tololo Astrono**	**2.15**	**176**	*i* P	P	04 45 21.4	+2.1
TLL				*i* S	S	04 45 48.0	+3.2
TLL				AMP		04 46 01.3	
	comp=N,296nm,0.5s						
CMCH	**Combarbala**	**3.15**	**180**	⇑*i*P	P	04 45 33.2	-0.1
CMCH				*i* S	S	04 46 09.1	-0.8
CMCH				AMP		04 46 27.0	
	comp=E,310nm,0.6s						

FUNV 09 05:19:11.3, 6.80N×73.21W, h178^{km}, MD3.8, 4C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.39**	**40**	⇑*i*P	P	05 19 41.5	-0.9
CAPV				*e*S	S	05 20 03.6	-2.8
VIGV	**El Vigia**	**2.27**	**39**	*e*P	P	05 19 56.0	+4.2
VIGV				*e*S	S	05 20 28.9	+6.0
SOCV	**Socops**	**2.77**	**58**	⇑*e*P	P	05 19 56.3	-1.3
SOCV				*e*S	S	05 20 28.6	-4.6
ELOV	**Elorza**	**3.71**	**87**	⇑*i*P	P	05 20 07.6	-1.8
ELOV				*e*S	S	05 20 49.7	-4.4
VIRV	**Villa del Rosa**	**3.77**	**12**	⇑*i*P	P	05 20 08.5	-1.6
VIRV				*e*S	S	05 20 49.8	-5.7
CURV	**Curarigua**	**4.53**	**45**	*e*P	P	05 20 18.3	-1.6
DABV	**Dabajuro**	**4.83**	**32**	*e*P	P	05 20 21.6	-2.1
DABV				*e*S	S	05 21 13.3	-6.4
BAUV	**El Baul**	**5.55**	**67**	⇓*i*P	P	05 20 29.7	-3.5
BAUV				*e*S	S	05 21 29.5	-7.2
PAYV	**Puerto Ayacuch**	**5.69**	**104**	*e*P	P	05 20 32.3	-2.7
PAYV				*e*S	S	05 21 32.3	-7.8

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*NEIC **09** 05:24:47.5±0.7, 13.66N×145.16E, h121^{km}±7^{km}, mb4.3/2, Error ellipse: s-maj=21.1km s-min=10.3km az=106.0*
*IDC **09** 05:24:48.2±8.7, 13.76N×145.38E, h137^{km}±81^{km}, mb3.6/12, mb1 3.7/12, mb1mx3.7/19, MS3.7/1, Ms1 3.7/1, ms1mx2.5/23, Error ellipse: s-maj=36.2km s-min=15.3km az=86.0*
ISC 09 05:24:46.5±0.7**, 13.68N**±0.08×**145.0E**±0.1**, h122^{km}**±6^{km}**, n23, σ0^{s}97**/24**, mb3.9**/13**, 1C-1D, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.19**	**241**	*e*Pg	**P**	**05 25 03.4**	**0.0**
GUMO				*e*Sg	**S**	**05 25 11.4**	**-4.8**
SAPN	**Saipan**	**1.67**	**24**	⇑*i*P	**P**	**05 25 16.5**	**0.0**
SAPN				*e*S	**S**	**05 25 37.2**	**-1.9**
ANA2	**Anatahan**	**2.72**	**14**	*e*P	**P**	**05 25 30.8**	**+0.9**
ANAT	**Anatahan**	**2.72**	**13**	*e*P	**P**	**05 25 30.8**	**+0.8**
SARN	**Sarigan**	**3.08**	**13**	⇓*e*P	**P**	**05 25 35.8**	**+1.0**
JOW	**Kunigami**	**20.43**	**312**	P	**P**	**05 29 17.1**	**+1.2**
	17nm,1.0s,baz=125,slow=12,SNR=2.7						
JOW				LR	LR	05 35 57.2	
	comp=Z,208nm,20.8s,baz=118,slow=32						
JOW	**Kunigami**	**20.43**	**312**	P	**P**	**05 29 17.1**	**+1.2**
JOW				LR	LR	05 35 57.2	
WRA	**Warramunga Arr**	**35.03**	**198**	P	**P**	**05 31 29.1**	**-0.4**
	0.8nm,0.6s,mb3.8,baz=21,slow=9.5,SNR=12						
WRA				pP	pP	05 32 02.5	+5.6
	0.8nm,0.7s,baz=19,slow=9.6,SNR=5.2						
FITZ	**Fitzroy Crossi**	**36.93**	**212**	P	**P**	**05 31 45.4**	**-0.1**
	1.7nm,0.9s,mb4.0,baz=26,slow=8.7,SNR=5.7						
ASAR	**Alice Springs**	**38.69**	**196**	P	**P**	**05 32 01.0**	**+0.9**
	0.3nm,0.5s,mb3.4,baz=24,slow=12,SNR=3.4						
ASAR	**Alice Springs**	**38.69**	**196**	P	**P**	**05 32 01.0**	**+0.9**
STKA	**Stephens Creek**	**45.42**	**184**	P	**P**	**05 32 54.1**	**-0.8**
	0.5nm,0.4s,mb3.6,baz=31,slow=12,SNR=3.0						
SONM	**Songino Array**	**46.75**	**325**	P	**P**	**05 33 04.4**	**-0.7**
	0.2nm,0.4s,mb3.2,baz=169,slow=7.3,SNR=3.3						
MKAR	**Makanchi Array**	**61.54**	**316**	P	**P**	**05 34 52.0**	**-0.9**
	0.8nm,0.4s,mb4.1,baz=92,slow=8.6,SNR=12						
ILAR	**Eielson Array**	**68.41**	**25**	P	**P**	**05 35 33.0**	**-3.8**
	0.7nm,0.5s,mb3.8,baz=250,slow=6.0,SNR=35						
YBH	**Yreka Blue Hor**	**82.68**	**49**	P	**P**	**05 36 58.9**	**+1.0**
	2.4nm,0.8s,mb4.1,baz=270,slow=4.6,SNR=6.1						
YKA	**Yellowknife Ar**	**82.70**	**27**	P	**P**	**05 36 56.5**	**-1.0**
	0.4nm,0.4s,mb3.6,baz=286,slow=5.2,SNR=4.7						
NEW	**Newport**	**85.05**	**42**	P	**P**	**05 37 08.5**	**-1.1**
ARCES	**ARCESS Array B**	**87.05**	**342**	P	**P**	**05 37 18.8**	**-0.1**
	5.6nm,0.9s,mb4.5,baz=34,slow=6.5,SNR=3.6						
HLID	**Hailey**	**88.16**	**46**	*e*P	**P**	**05 37 26.0**	**+1.2**
	1.6nm,0.7s,mb4.2						
ELK	**Elko**	**88.39**	**49**	*e*P	**P**	**05 37 27.2**	**+1.3**
	2.8nm,0.7s,mb4.4						
FINES	**FINESS Array B**	**91.15**	**335**	P	**P**	**05 37 37.2**	**-1.2**
	1.7nm,0.9s,mb4.2,baz=72,slow=4.4,SNR=5.0						
DBIC	**Dimbokro**	**143.92**	**302**	PKP	PKPdf	05 44 07.8	-0.4
	1.9nm,0.5s,baz=24,slow=3.3,SNR=14						

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*NEIC **09** 05:33:54.7±0.9, 4.43S×152.00E, h136^{km}±8^{km}, mb4.2/4, Error ellipse: s-maj=22.2km s-min=13.2km az=128.0*
*IDC **09** 05:33:54.8±1.1, 4.52S×151.98E, h135^{km}±7^{km}, mb3.7/7, mb1 3.9/8, mb1mx3.7/13, Error ellipse: s-maj=27.9km s-min=13.9km az=131.0*
ISC 09 05:33:53.6±0.9**, 4.4S**±0.1×**152.0E**±0.1**, h139^{km}**±9^{km}**, n15, σ1^{s}02**/17**, mb4.0**/11**, 1C, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAB	**Rabaul**	**0.25**	**29**	⇑*i*P	**P**	**05 34 13.4**	**+0.3**
CTA	**Charters Tower**	**16.57**	**199**	P	**P**	**05 37 40.4**	**+1.2**
	0.3nm,0.3s,baz=13,slow=12,SNR=3.7						
CTA	**Charters Tower**	**16.57**	**199**	P	**P**	**05 37 40.4**	**+1.2**
KAKA	**Kakadu**	**21.08**	**246**	*e*P	**P**	**05 38 27.5**	**-0.8**
	2.8nm,0.4s,mb4.0						
WRAB	**Tennant Creek**	**23.13**	**227**	*e*P	**P**	**05 38 46.4**	**-2.0**
	9.3nm,0.6s,mb4.4						
WRAB				*e*		05 39 14.2	
WB2	**Warramunga Arr**	**23.14**	**227**	*e*P	**P**	**05 38 49.0**	**+0.6**
WRA	**Warramunga Arr**	**23.15**	**227**	P	**P**	**05 38 49.3**	**+0.7**
	3.1nm,0.4s,mb4.1,baz=51,slow=9.3,SNR=49						
WRA				pP		05 39 14.1	
	4.0nm,0.7s,baz=52,slow=9.8,SNR=7.4						
WRA				S	**S**	**05 42 48.3**	**+2.4**
	0.6nm,1.1s,baz=51,slow=12,SNR=3.4						
ASAR	**Alice Springs**	**25.94**	**221**	P	**P**	**05 39 14.1**	**-0.9**
	0.7nm,0.4s,mb3.7,baz=55,slow=8.7,SNR=12						
ASAR				pP	pP	05 39 43.1	-0.7
	2.9nm,0.8s,baz=56,slow=8.7,SNR=10						
ASAR				sP	sP	05 39 56.8	-3.2
	2.0nm,0.8s,baz=56,slow=10,SNR=4.7						
ASAR				S	**S**	**05 43 34.0**	**+1.2**
	0.5nm,0.9s,baz=217,slow=21,SNR=2.8						
FITZ	**Fitzroy Crossi**	**29.19**	**240**	P	**P**	**05 39 43.4**	**-1.0**
	4.1nm,1.0s,mb4.1,baz=70,slow=12,SNR=3.0						
FITZ				pP	pP	05 40 11.8	-2.0
	2.1nm,0.8s,baz=19,slow=7.5,SNR=2.8						
URZ	**Urewera**	**40.70**	**149**	P	**P**	**05 41 21.9**	**-0.1**
	3.8nm,0.4s,mb4.4,baz=282,slow=4.4,SNR=6.7						
YSS	**Yuzh-Sakhalins**	**51.80**	**352**	P	**P**	**05 42 44.4**	**-4.9**
	33nm,1.0s,mb4.9						
CASY	**Casey**	**68.16**	**197**	*e*P	**P**	**05 44 39.3**	**-1.3**
	0.8nm,0.5s,mb3.7						
MKAR	**Makanchi Array**	**79.54**	**319**	P	**P**	**05 45 47.7**	**+1.2**
	0.2nm,0.4s,mb3.1,baz=108,slow=9.1,SNR=2.6						
ILAR	**Eielson Array**	**82.09**	**22**	P	**P**	**05 45 59.8**	**+0.1**
	0.5nm,0.9s,mb3.1,baz=248,slow=5.5,SNR=6.2						
PDAR	**Pinedale Array**	**99.15**	**48**	P	**P**	**05 47 20.7**	**+0.1**
	0.4nm,0.5s,mb4.1,baz=225,slow=2.1,SNR=5.1						

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*NEIC **09** 05:55:46.1±5.5, 29.47N×80.28E, h6^{km}±36^{km}, mb4.4/6, Error ellipse: s-maj=16.9km s-min=9.5km az=67.0*
*NDI **09** 05:55:49.4±5.2, 29.57N×80.28E, h16^{km}±11^{km}, MD3.8, ML3.9, mb4.4(NEIC)*
*NNC **09** 05:55:56.5±12.0, 30.41N×80.06E, h9^{km}±96^{km}, Error ellipse: s-maj=89.9km s-min=64.0km az=54.0*
*IDC **09** 05:55:58.3±6.7, 29.54N×80.43E, h103^{km}±62^{km}, mb3.6/13, mb1 3.8/14, mb1mx3.7/21, ML4.0/1, Error ellipse: s-maj=26.7km s-min=14.8km az=37.0*
ISC 09 05:55:47.1±0.6**, 29.38N**±0.04×**80.26E**±0.06**, h26^{km}**±4^{km}**, n43, σ1^{s}08**/54**, mb4.0**/20**, 5C-1D, Nepal-India border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LGTI	**Lohaghat**	**0.07**	**348**	*e*P	**Pb**	**05 55 52.0**	**+0.4**
LGTI				*e*		05 56 02.5	
PTH	**Pithoragarh**	**0.17**	**347**	*e*PG	**Pb**	**05 55 52.0**	**-0.5**
PTH				*e*SG	**Sb**	**05 55 56.0**	**-0.1**
DDI	**Dehra Dun**	**2.13**	**297**	*e*PG	**Pn**	**05 56 28.0**	**+6.2**
DDI				*e*SG	**Sn**	**05 56 58.0**	**+10**
NDI	**New Delhi**	**2.76**	**256**	*e*PN	**Pn**	**05 56 34.5**	**+3.8**
NDI				*e*PG	**Pn**	**05 56 44.5**	**+14**
AYAN	**Aya Nagar**	**2.89**	**253**	*e*PN	**Pn**	**05 56 37.2**	**+4.6**
AYAN				*e*PG	**Pn**	**05 56 47.5**	**+15**
AYAN				*e*		05 57 13.2	
SMLA	**Simla**	**3.19**	**304**	⇓*i*PG	**Pn**	**05 56 50.3**	**+13**
SMLA				*e*		05 57 27.2	
BHK	**Bhakra**	**3.89**	**302**	*e*PG	**Pn**	**05 57 06.1**	**+19**
BHK				*e*SG	**Sn**	**05 57 53.8**	**+22**
AJM	**Ajmer**	**5.75**	**241**	*e*S	**Sn**	**05 58 18.0**	**-1.1**
BHPL	**Bhopal**	**6.62**	**203**	*e*P	**Pn**	**05 57 27.9**	**+2.4**
BHPL				*e*S	**Sn**	**05 58 40.8**	**0.0**
BHPL				*e*		05 59 31.3	
	comp=E,137nm,0.4s						
BHPL				*e*		05 59 31.6	
	comp=N,101nm,0.3s						
BLSP	**Bilaspur**	**7.42**	**166**	*e*	**Pn**	**05 57 53.0**	**+16**
BLSP				*e*		05 58 56.5	
SHL	**Shillong**	**11.00**	**107**	*e*P	**P**	**05 58 25.0**	**-1.0**
SHL				*e*S	**S**	**06 00 19.0**	**-10**
LATR	**Latur**	**11.43**	**198**	*e*S	**S**	**06 00 35.3**	**-4.4**
LATR				*e*		06 01 48.7	
HYB	**Hyderabad**	**12.01**	**188**	*i* P	**P**	**05 58 39.0**	**-0.8**
HYB				*e*S	**S**	**06 00 46.0**	**-8.0**
HYB	**Hyderabad**	**12.01**	**188**	*e*P	**P**	**05 58 39.0**	**-0.8**
HYB				*e*S	**S**	**06 00 46.0**	**-8.0**
POO	**Poona**	**12.29**	**210**	*e*	**P**	**05 59 00.5**	**+17**
POO				*e*S	**S**	**06 00 50.2**	**-10**
KAD	**Karad**	**13.25**	**206**	*e*	**S**	**06 01 17.1**	**-6.6**
KAD				*i*		06 02 45.5	
KK31	**Karatay Array**	**15.77**	**333**	⇑P	**P**	**05 59 25.8**	**-3.4**
	comp=N,0.7nm,0.3s,baz=156,slow=14,SNR=15						
KK31				⇑S	**S**	**06 02 10.8**	**-13**
	comp=N,1.5nm,0.5s,baz=166,slow=25,SNR=6.8						
MKAR	**Makanchi Array**	**17.46**	**5**	P	**P**	**05 59 47.2**	**-3.2**
	comp=N,0.5nm,0.3s,baz=185,slow=12,SNR=14						
MKAR	**Makanchi Array**	**17.46**	**5**	P	**P**	**05 59 47.2**	**-3.2**
CMAR	**Chiang Mai Arr**	**20.22**	**118**	P	**P**	**06 00 24.2**	**+1.1**
	comp=N,0.8nm,0.4s,baz=302,slow=14,SNR=3.7						
KURK	**Kurchatov**	**21.34**	**357**	⇑P	**P**	**06 00 32.6**	**-1.8**
	comp=N,4.2nm,0.8s,mb3.8,baz=183,slow=8.5,SNR=13						
KURK	**Kurchatov**	**21.34**	**357**	P	**P**	**06 00 32.4**	**-2.0**
	comp=N,79nm,0.5s,SNR=10						
KURK	**Kurchatov**	**21.34**	**357**	*e*P	**P**	**06 00 32.1**	**-2.3**
	comp=N,9.2nm,0.7s,mb4.2						
VOSK	**Vostochnaya**	**24.31**	**346**	⇑P	**P**	**06 01 04.1**	**+0.6**
	comp=N,2.2nm,0.7s,mb3.7						
BVAR	**Borovoye Array**	**24.71**	**346**	P	**P**	**06 01 07.8**	**+0.4**
	comp=N,1.6nm,0.4s,mb3.9,baz=146,slow=11,SNR=9.8						
ZRNK	**Zerenda**	**24.96**	**344**	⇑P	**P**	**06 01 10.3**	**+0.5**
	comp=N,3.5nm,1.2s,mb3.8						
ZRNK	**Zerenda**	**24.96**	**344**	*e*P	**P**	**06 01 09.7**	**-0.1**
	comp=N,3.2nm,0.9s,mb3.9						
AB31	**Akbulak array**	**25.18**	**328**	P	**P**	**06 01 13.6**	**+1.7**
	comp=N,1.8nm,0.5s,mb3.9,baz=127,slow=9.6,SNR=40						
ENH	**Enshi**	**25.34**	**81**	*e*P	**P**	**06 01 13.6**	**0.0**
	comp=N,8.0nm,0.6s,mb4.4						
SONM	**Songino Array**	**27.30**	**40**	P	**P**	**06 01 32.3**	**+0.8**
	comp=N,1.0nm,0.5s,mb3.6,baz=229,slow=10.0,SNR=10						
ASF	**Jabal al Asfar**	**37.18**	**286**	P	**P**	**06 03 01.8**	**+3.9**
	comp=N,1.5nm,0.5s,mb4.1,baz=87,slow=10,SNR=2.4						
EIL	**Elat**	**39.23**	**282**	P	**P**	**06 03 12.3**	**-2.8**
	comp=N,6.8nm,0.9s,mb4.4						
AKASG	**Malin Array Be**	**43.47**	**314**	P	**P**	**06 03 49.4**	**-0.3**
	comp=N,0.5nm,0.4s,mb3.6,baz=77,slow=6.0,SNR=4.6						
FINES	**FINESS Array B**	**47.66**	**328**	P	**P**	**06 04 23.6**	**+0.6**
	comp=N,1.6nm,0.5s,mb4.3,baz=121,slow=11,SNR=8.7						
ARCES	**ARCESS Array B**	**50.65**	**338**	P	**P**	**06 04 46.3**	**+0.5**
	comp=N,2.7nm,0.8s,mb4.2,baz=90,slow=7.3,SNR=6.0						
GERES	**GERESS Array B**	**53.43**	**311**	P	**P**	**06 05 07.4**	**+0.4**
	comp=N,0.2nm,0.2s,mb3.6,baz=80,slow=6.0,SNR=3.3						
NOA	**NORSAR Array B**	**54.67**	**326**	P	**P**	**06 05 15.1**	**-0.7**
	comp=N,2.5nm,1.1s,mb4.2,baz=95,slow=6.9,SNR=2.7						
WRA	**Warramunga Arr**	**71.56**	**127**	P	**P**	**06 07 08.6**	**+0.2**
	comp=N,0.7nm,0.8s,mb3.6,baz=322,slow=6.1,SNR=6.8						
WRAB	**Tennant Creek**	**71.57**	**127**	*e*P	**P**	**06 07 06.7**	**-1.6**
	comp=N,7.4nm,1.1s,mb4.5						
ASAR	**Alice Springs**	**73.77**	**130**	P	**P**	**06 07 21.1**	**-0.2**
	comp=N,0.5nm,0.6s,mb3.6,baz=319,slow=5.8,SNR=5.7						
COLA	**College**	**78.90**	**19**	*e*P	**P**	**06 07 49.8**	**+0.5**
	comp=N,3.1nm,0.8s,mb4.3						
ILAR	**Eielson Array**	**79.25**	**19**	P	**P**	**06 07 51.1**	**-0.1**
	comp=N,1.5nm,0.9s,mb3.9,baz=301,slow=4.8,SNR=17						
YKA	**Yellowknife Ar**	**87.67**	**7**	P	**P**	**06 08 34.1**	**0.0**
	comp=N,0.6nm,0.6s,mb4.0,baz=345,slow=6.0,SNR=3.8						

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*BJI **09** 07:24:19.5, 39.32N×71.45E, h22^{km}, mB4.1, mb3.9, ML4.4, Ms3.8*
*NEIC **09** 07:24:19.3±5.3, 39.08N×71.80E, h4^{km}±36^{km}, mb4.4/9, Error ellipse: s-maj=14.5km s-min=8.8km az=59.0*
*IDC **09** 07:24:19.4±0.7, 39.22N×71.78E, mb4.1/17, mb1 4.2/19, mb1mx4.1/25, ML3.4/2, MS3.6/4, Ms1 3.6/4, ms1mx3.2/21, Error ellipse: s-maj=14.7km s-min=13.6km az=27.0*
*NNC **09** 07:24:20.4±1.1, 39.49N×71.55E, mpv4.4, Error ellipse: s-maj=14.2km s-min=6.8km az=94.0*
*MOS **09** 07:24:23.7±1.2, 39.39N×71.65E, h33^{km}, mb4.4/9, Error ellipse: s-maj=14.4km s-min=8.5km az=99.4*
ISC 09 07:24:23.1±0.6**, 39.24N**±0.03×**71.70E**±0.05**, h37^{km}**±6^{km}**, n88, σ1^{s}51**/105**, mb4.1**/23**, MS3.5**/6**, 11C-5D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TAS	**Tashkent**	**2.78**	**319**	⇓*e*PN	**P**	**07 25 04.5**	**-1.7**
TAS				*e*S	**S**	**07 25 38.0**	**-0.9**
TAS				pmax	pmax		
	comp=Z,480µm,1.2s						
AML	**Almayashu**	**3.26**	**27**	P	**P**	**07 25 15.9**	**+2.7**
	SNR=44						
KSH	**Kashi**	**3.33**	**84**	*e*P	**P**	**07 25 16.1**	**+2.0**
KSH				S	**S**	**07 25 59.8**	**+6.9**
KSH				Smax			
	comp=N,1µm,1.0s						
KSH				Smax			
	comp=E,1µm,1.0s						
UCH	**Uchtor**	**3.67**	**35**	P	**P**	**07 25 20.9**	**+2.0**
	SNR=51						
EKS2	**Erkin-Say**	**3.76**	**24**	P	**P**	**07 25 21.4**	**+1.1**
	SNR=32						
KK31	**Karatay Array**	**3.96**	**347**	⇑Pn	**P**	**07 25 22.1**	**-1.0**
	comp=E,67nm,0.7s,baz=173,slow=12,SNR=308						
KK31				⇑Lg		07 26 16.8	
	comp=E,110nm,0.7s,baz=162,slow=29,SNR=4.3						
KKAR	**Karatay Array**	**3.96**	**347**	*e*PN	**P**	**07 25 22.2**	**-0.9**
KKAR				*e*S	**S**	**07 26 20.6**	**+12**
KKAR				pmax	pmax		
	comp=Z,11nm,0.3s						
KKAR				smax			
	comp=Z,46nm,0.5s						
AAK	**Ala-Archa**	**4.00**	**31**	P	**P**	**07 25 25.4**	**+1.8**
	SNR=60						
AAK	**Ala-Archa**	**4.00**	**31**	*e*Pn	**P**	**07 25 23.3**	**-0.3**
AAK				*e*Sn	**S**	**07 26 11.6**	**+1.7**
KBK	**Karagaybulak**	**4.21**	**35**	P	**P**	**07 25 27.6**	**+1.1**
	SNR=37						

CHMS	**Chumysh**	4.41	31	P	P	07 25 30.1	+0.7
	SNR=64						
USP	**Ospenovka**	4.54	27	P	P	07 25 31.1	-0.2
	SNR=32						
TKM2	**Tokmak 2**	4.71	37	P	P	07 25 33.9	+0.2
	SNR=34						
CEP	**Cherat**	5.41	178	P	P	07 25 47.5	+4.0
CEP				S	S	07 26 55.0	+10
AAA	**Alma-Ata**	5.65	43	*e*PN	P	07 25 48.0	+1.2
AAA				*e*		07 27 11.5	
AAA				pmax	pmax		
	comp=Z,400nm,0.5s						
AAA				smax			
	comp=N,400nm,1.0s						
CHCP	**Chirah Chowk**	5.71	167	⇓P	P	07 25 52.5	+4.8
THW	**Thamme Wali**	6.43	180	P	P	07 26 01.5	+3.6
SBDP	**Sheikh Budin**	6.96	186	⇑P	P	07 26 07.3	+2.0
SARP	**Sargodha**	7.35	173	P	P	07 26 15.2	+4.6
DRP	**Derazinda**	7.58	190	P	P	07 26 16.6	+2.7
KLP	**Kalpa**	9.37	143	*e*P	P	07 26 38.3	-0.4
KLP				*e*S	S	07 28 17.7	-6.2
KLP				*e*S	S	07 28 23.2	-0.7
KLP				AML	AML	07 28 34.0	
	comp=E,180nm,0.7s						
KLP				AML	AML	07 28 34.4	
	comp=N,193nm,1.4s						
JOSI	**Joshimath**	10.80	141	*e*P	P	07 26 56.2	-2.1
MKAR	**Makanchi Array**	10.82	42	Pn	P	07 26 57.1	-1.3
	comp=N,0.2nm,0.3s,baz=232,slow=13,SNR=31						
MKAR				Lg		07 29 59.6	
	comp=N,0.1nm,0.3s,baz=242,slow=21,SNR=3.2						
NDI	**New Delhi**	11.48	155	*e*P	P	07 27 05.0	-2.6
NDI				*e*S	S	07 29 12.0	-3.6
AYAN	**Aya Nagar**	11.64	156	*e*P	P	07 27 07.9	-1.8
AYAN				*e*		07 29 01.7	
KHET	**Khetri**	11.65	162	*e*P	P	07 27 07.2	-2.6
KHET				*e*S	S	07 29 16.0	-3.7
KHET				AML	AML	07 29 28.7	
	comp=N,18nm,0.7s						
KHET				AML	AML	07 29 30.3	
	comp=E,14nm,0.3s						
KUDL	**Kundal**	11.76	159	*e*P	P	07 27 09.4	-2.0
KUDL				*e*S	S	07 29 18.1	-4.3
SONA	**Sohna**	11.84	156	*e*P	P	07 27 10.6	-1.8
SONA				*e*S	S	07 29 20.4	-3.8
SONA				*i* S	S	07 29 23.1	-1.2
SONA				AML	AML	07 29 27.8	
	comp=E,21nm,0.3s						
SONA				AML	AML	07 29 28.1	
	comp=N,11nm,0.0s						
KURK	**Kurchatov**	12.47	21	⇑Pn	P	07 27 16.3	-4.5
	comp=N,3.4nm,1.1s,baz=215,slow=9.8,SNR=7.8						
KURK				⇑Lg		07 30 49.7	
	comp=N,19nm,1.0s,baz=329,slow=16,SNR=3.6						
KURK	**Kurchatov**	12.47	21	*e*P	P	07 27 14.1	-6.7
KURK				*e*S	S	07 29 34.2	-5.2
AB31	**Akbulak array**	13.07	324	⇓Pn	P	07 27 23.4	-5.4
	comp=N,6.6nm,0.6s						
AB31				⇑Sn	S	07 29 46.7	-7.1
	comp=N,14nm,0.7s						
AB31	**Akbulak array**	13.07	324	P	P	07 27 22.8	-6.0
AB31				S	S	07 29 44.0	-10
AB31				pmax	pmax		
	comp=Z,4.0nm,0.5s						
AB31				smax			
	comp=Z,22nm,0.8s						
VOSK	**Vostochnaya**	13.49	358	⇑Pn	P	07 27 28.9	-5.5
	comp=Z,2.8nm,0.7s						
VOSK				⇓Lg		07 31 19.1	
	comp=Z,19nm,1.5s						
BVA0	**Borovoye Array**	13.82	357	⇓Pn	P	07 27 35.7	-2.7
	comp=Z,0.8nm,0.9s,baz=203,slow=14,SNR=14						
BVA0				⇑Lg		07 31 30.8	
	comp=Z,4.9nm,1.6s,baz=169,slow=26,SNR=4.9						
BVAR	**Borovoye Array**	13.82	357	Pn	P	07 27 32.6	-5.9
	comp=Z,0.3nm,0.3s,baz=160,slow=17,SNR=10						
BVAR				Sn	S	07 30 03.8	-7.8
	comp=Z,0.1nm,0.3s,baz=165,slow=22,SNR=3.2						
BVAR				Lg		07 31 33.4	
	comp=Z,0.2nm,0.3s,baz=159,slow=25,SNR=3.3						
ZRNK	**Zerenda**	13.84	353	⇑Pn	P	07 27 36.0	-2.7
	comp=Z,5.5nm,0.7s						
ZRNK				⇑Lg		07 31 32.6	
	comp=Z,55nm,1.9s						
ZRNK	**Zerenda**	13.84	353	P	P	07 27 35.7	-3.1
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ZRNK	**Zerenda**	13.84	353	*e*P	P	07 27 35.6	-3.2
BRVK	**Borovoye**	13.86	356	*e*P	P	07 27 36.0	-3.0
	comp=Z,9.9nm,0.8s						
KOLN	**Koldanda**	15.13	136	*e*P	P	07 27 51.5	-4.3
	comp=Z,22nm,0.5s						
GKN	**Gorkha**	15.53	132	*e*P	P	07 27 57.9	-3.1
	comp=Z,55nm,0.4s						
KKN	**Kakani**	16.06	131	*e*P	P	07 28 04.5	-3.3
	comp=Z,33nm,0.5s						
DMN	**Daman**	16.10	132	*e*P	P	07 28 04.1	-4.2
	comp=Z,57nm,0.9s						
PKI	**Pulchoki**	16.30	131	*e*P	P	07 28 06.6	-4.2
	comp=Z,36nm,0.6s						
NVS	**Novosibirsk**	17.44	23	*i* P	P	07 28 24.0	-0.9
NVS				pmax	pmax		
	comp=N,6.0nm,0.9s						
NVS				pmax	pmax		
	comp=Z,7.0nm,0.9s						
NVS				pmax	pmax		
	comp=E,2.0nm,0.6s						
ARU	**Arti**	19.27	338	⇑*i*P	P	07 28 44.8	-2.3
ARU				pmax	pmax		
	comp=Z,9.0nm,0.9s						
ARU				MLR	MLR		
	comp=Z,100nm,17.0s						
ARU				MLR	MLR		
	comp=N,90nm,16.0s						
ARU				MLR	MLR		
	comp=E,50nm,16.0s						
ARU	**Arti**	19.27	338	*e*P	P	07 28 44.8	-2.3
	comp=E,19nm,1.1s						
ZEI	**Tsey**	21.23	289	*e*P	P	07 29 14.0	+6.1
ZEI				pmax	pmax		
	comp=Z,50nm,4.0s						
ZEI				MLR	MLR		
	comp=Z,200nm,14.0s,MS3.7						
GTA	**Gaotai**	21.72	81	*e*P	P	07 29 13.3	+0.5
GTA				AP		07 29 17.0	
GTA				XP		07 29 20.1	
GTA				AMB	AMB		
	comp=Z,4.0nm,0.7s,mb4.0						
GTA				AMB	AMB		
	comp=Z,39nm,4.2s						
GTA				LR	LR		
	comp=N,55nm,12.2s,MS3.3						
GTA				LR	LR		
	comp=E,51nm,13.3s,MS3.3						
SHL	**Shillong**	21.76	123	*e*	P	07 29 13.0	-0.3
HYB	**Hyderabad**	22.55	163	*i* P	P	07 29 23.0	+1.8
ZAK	**Zakamensk**	24.84	53	*e*P	P	07 29 43.7	+0.5
SONM	**Songino Array**	26.40	60	P	P	07 29 57.5	-0.3
	comp=E,0.9nm,0.7s,mb3.4,baz=272,slow=8.4,SNR=7.6						
OBN	**Obninsk**	28.29	316	*e*P	P	07 30 16.6	+1.7
OBN				*e**PP	pP	07 30 29.6	+4.3
OBN				*e*		07 31 03.2	
OBN				*e*S	S	07 34 46.3	-11
OBN				pmax	pmax		
	comp=Z,6.0nm,0.4s,mb4.6						
OBN				MLR	MLR		
	comp=Z,100nm,9.0s						
BRTR	**Keskin Array B**	29.23	283	P	P	07 30 24.8	+1.3
	comp=Z,1.6nm,0.4s,mb4.1,baz=74,slow=23,SNR=2.8						
BRTR	**Keskin Array B**	29.23	283	P	P	07 30 24.8	+1.3
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
BRTR	**Keskin Array B**	29.23	283	P	P	07 30 24.8	+1.3
CMAR	**Chiang Mai Arr**	31.39	123	P	P	07 30 45.4	+2.5
	comp=Z,0.7nm,0.4s,mb3.8,baz=315,slow=8.9,SNR=4.1						
CMAR				LR	LR	07 45 31.5	
	comp=Z,69nm,18.0s,MS3.4,baz=118,slow=41						
CMAR	**Chiang Mai Arr**	31.39	123	P	P	07 30 45.4	+2.5
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
CMAR				MLR	MLR		
	comp=Z,69nm,18.0s						
AKASG	**Malin Array Be**	31.74	305	P	P	07 30 45.4	-0.2
	comp=Z,0.3nm,0.3s,mb3.6,baz=76,slow=7.7,SNR=4.0						
BOD	**Bodaibo**	32.91	42	*e*P	P	07 30 53.4	-2.3
FINES	**FINESS Array B**	35.56	324	P	P	07 31 19.2	+0.7
	comp=Z,2.5nm,0.7s,mb4.2,baz=114,slow=10,SNR=7.5						
FINES				LR	LR	07 46 50.3	
	comp=Z,78nm,19.0s,MS3.5,baz=347,slow=38						
FINES	**FINESS Array B**	35.56	324	P	P	07 31 19.2	+0.7
FINES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
FINES				MLR	MLR		
	comp=Z,78nm,19.0s						
FINES	**FINESS Array B**	35.56	324	P	P	07 31 19.2	+0.7
FINES				LR	LR	07 46 50.3	
ARCES	**ARCESS Array B**	38.84	336	P	P	07 31 45.8	-0.1
	comp=Z,3.5nm,0.8s,mb4.2,baz=124,slow=8.7,SNR=6.6						
ARCES				LR	LR	07 47 37.1	
	comp=Z,81nm,21.6s,MS3.5,baz=95,slow=36						
ARCES	**ARCESS Array B**	38.84	336	P	P	07 31 45.8	-0.1
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ARCES				MLR	MLR		
	comp=Z,81nm,21.6s						
MORC	**Moravsky Berou**	39.24	304	P	P	07 31 51.7	+2.4
	comp=Z,3.7nm,1.0s,mb4.1						
HFS	**Hagfors**	41.29	320	P	P	07 32 05.8	-0.5
	comp=Z,2.6nm,0.5s,mb4.1,baz=98,slow=10,SNR=15						
HFS	**Hagfors**	41.29	320	P	P	07 32 05.8	-0.5
HFS				pmax	pmax		
	comp=Z,3.0nm,0.5s						
GERES	**GERESS Array B**	41.85	303	P	P	07 32 13.0	+2.0
	comp=Z,0.4nm,0.3s,mb3.5,baz=72,slow=8.4,SNR=5.1						
NB2	**NORSAR Subarra**	42.56	321	P	P	07 32 15.9	-0.7
	comp=Z,0.9nm,0.6s,mb3.7,baz=91,slow=7.9						
NOA	**NORSAR Array B**	42.56	321	P	P	07 32 16.7	+0.1
	comp=Z,0.5nm,0.5s,mb3.5,baz=110,slow=7.8,SNR=3.3						
NOA				LR	LR	07 50 59.8	
	comp=Z,85nm,19.0s,MS3.7,baz=70,slow=38						
NOA	**NORSAR Array B**	42.56	321	P	P	07 32 16.7	+0.1
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NOA				MLR	MLR		
	comp=Z,85nm,19.0s						
DAVOX	**Davos**	44.79	301	P	P	07 32 35.7	+0.9
	comp=Z,2.8nm,0.3s,mb4.5,baz=82,slow=12,SNR=3.8						
EKA	**Eskdalemuir Ar**	50.73	315	P	P	07 33 21.3	+0.3
	comp=Z,0.8nm,0.7s,mb3.8,baz=96,slow=7.1,SNR=3.6						
EKA	**Eskdalemuir Ar**	50.73	315	P	P	07 33 21.3	+0.3
EKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SUMG	**Summit**	58.66	341	P	P	07 34 22.3	+3.8
	comp=Z,3.7nm,0.8s,mb4.5						
COLA	**College**	71.70	17	*e*P	P	07 35 42.4	-0.2
	comp=Z,3.2nm,0.9s,mb4.2						
ILAR	**Eielson Array**	72.00	16	P	P	07 35 44.1	-0.2
	comp=Z,0.4nm,0.8s,mb3.4,baz=315,slow=5.1,SNR=7.5						
DBIC	**Dimbokro**	75.40	267	P	P	07 36 04.8	-0.2
	comp=Z,2.7nm,0.8s,mb4.2,baz=115,slow=16,SNR=2.3						
DBIC	**Dimbokro**	75.40	267	P	P	07 36 04.9	-0.2
DBIC				pmax	pmax		
	comp=Z,3.0nm,0.9s						
FITZ	**Fitzroy Crossi**	76.10	128	P	P	07 36 09.1	+0.1
	comp=Z,3.3nm,0.9s,mb4.2,baz=311,slow=9.3,SNR=1.7						
YKA	**Yellowknife Ar**	78.49	3	P	P	07 36 21.2	-0.2
	comp=Z,1.6nm,0.8s,mb4.0,baz=350,slow=5.3,SNR=4.4						
YKA	**Yellowknife Ar**	78.49	3	P	P	07 36 21.2	-0.2
YKA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
WRA	**Warramunga Arr**	82.99	123	P	P	07 36 46.0	0.0
	comp=Z,3.4nm,0.7s,mb4.5,baz=326,slow=5.0,SNR=22						
WRA	**Warramunga Arr**	82.99	123	P	P	07 36 46.0	0.0
WRA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
WRAB	**Tennant Creek**	82.99	123	*e*P	P	07 36 46.0	+0.1
	comp=Z,7.9nm,0.7s,mb4.8						
ASAR	**Alice Springs**	85.38	126	P	P	07 36 58.2	+0.2
	comp=Z,2.0nm,0.7s,mb4.4,baz=315,slow=4.7,SNR=13						

IDC 09 07:28:16.5±23.0**, 18.87S×176.75W, h401**^{km}±231^{km}**,**
mb3.1/5**, mb1 3.2**/5**, mb1mx3.1**/13**, Error ellipse:**
s-maj=264.0km s-min=61.3km az=52.0, Fiji Islands
region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	**Urewera**	20.04	194	P	P	07 32 21.1	-0.5
	2.5nm,0.3s,baz=10,slow=11,SNR=5.5						
CTA	**Charters Tower**	34.86	262	P	P	07 34 32.1	-1.2
	0.5nm,0.3s,baz=100,slow=12,SNR=2.7						
STKA	**Stephens Creek**	39.57	243	P	P	07 35 11.2	-1.1
	1.0nm,0.5s,baz=74,slow=8.8,SNR=3.6						
WRA	**Warramunga Arr**	46.02	260	P	P	07 36 01.8	-2.1
	0.4nm,0.4s,baz=96,slow=7.7,SNR=11						
ASAR	**Alice Springs**	46.06	255	P	P	07 36 02.8	-1.3
	1.4nm,0.6s,baz=92,slow=8.2,SNR=15						

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*IDC **09** 07:30:37.1±1.6, 9.82S×124.48E, mb3.5/1, mb1 3.4/4,*
mb1mx3.3/11, ML3.0/3, MS3.0/1, Ms1 3.0/1, ms1mx2.5/12,
Error ellipse: s-maj=78.6km s-min=21.9km az=64.0
ISC 09 07:30:36.5±3.8**, 9.8S**±0.1×**124.5E**±0.2**, h10**^{km}±25^{km}**, n4,**
σ**1**^{s}.**49**/7**, mb3.6**/1**, Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	8.30	173	Pn	P	07 32 39.1	-0.8
	0.2nm,0.3s,baz=357,slow=9.2,SNR=3.8						
FITZ				Sn	Sn	07 34 14.7	0.0
	1.4nm,0.3s,baz=172,slow=16,SNR=13						
WRA	**Warramunga Arr**	13.82	138	Pn	P	07 33 55.1	+0.1
	0.1nm,0.3s,baz=320,slow=14,SNR=5.3						
WRA				Sn	S	07 36 28.3	-1.2
	0.3nm,0.3s,baz=314,slow=25,SNR=7.0						
ASAR	**Alice Springs**	16.43	148	Pn	P	07 34 29.7	+0.9
	0.1nm,0.3s,baz=320,slow=11,SNR=4.5						
ASAR				Sn	S	07 37 34.8	+3.9
	0.1nm,0.3s,baz=313,slow=21,SNR=3.1						
ASAR				LR	LR	07 40 18.0	
	comp=Z,50nm,20.4s,baz=314,slow=35						
MKAR	**Makanchi Array**	67.78	330	P	P	07 41 36.6	-0.1
	0.3nm,0.5s,mb3.6,baz=134,slow=8.6,SNR=2.1						

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*NIED **09** 07:34:00, 43.60N×147.40E, h32^{km}, Mw3.5 Best double*
couple: $M_0$2.32×10^{14} NP1:ϕ_s330°, δ87°, λ-51°. NP2:ϕ_s64°,
δ39°, λ-175°.
*JMA **09** 07:34:19.1±0.3, 43.62N×147.40E, h16^{km}±4^{km}, M4.3*
ISC 09 07:34:19.0±2.1**, 43.6N**±0.2×**147.4E**±0.1**, h16**^{km}±14^{km}**, n10,**
σ**0**^{s}.**26**/15**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	1.26	261	P	Pb	07 34 41.5	-0.4
NEM2				*e*S	Sb	07 34 57.9	+0.3
JRA	**Rausu**	1.72	283	P	Pn	07 34 48.3	-0.3
JNK	**Nakash**	1.98	271	P	Pn	07 34 52.0	-0.4
JNK				*e*S	Sn	07 35 16.6	-0.4
JAK	**Akkeshi**	2.09	255	P	Pn	07 34 53.9	0.0
JTKR	**Abashiri--Toko**	2.59	280	P	Pn	07 35 01.3	+0.2
JTKR				*e*S	Sn	07 35 32.7	+0.2
JAR	**Ashorobuto**	2.69	265	P	Pn	07 35 02.9	+0.4
JAR				*e*S	Sn	07 35 35.1	0.0
JOB	**Onbets**	2.72	257	P	Pn	07 35 03.1	+0.1
JMP	**Maruseppu**	2.99	280	P	Pn	07 35 07.1	+0.3
JCH	**Churui**	3.14	253	P	Pn	07 35 09.2	+0.3
JCH				*e*S	Sn	07 35 46.4	-0.1
JNBK	**Urakawa-nobuka**	3.68	251	P	Pn	07 35 16.5	-0.1

IDC 09 07:42:17.0±6.1**, 0.36N×122.22E, h261**^{km}±61^{km}**, mb3.1**/4**,**
mb1 3.2/4**, mb1mx3.1**/14**, Error ellipse: s-maj=104.0km**
s-min=14.2km az=66.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	23.41	150	P	P	07 47 01.8	-2.7
	0.3nm,0.4s,baz=325,slow=11,SNR=7.2						
WRA				pP		07 47 45.9	
	1.3nm,0.6s,baz=333,slow=9.9,SNR=5.9						
WRA				PcP	PcP	07 50 40.9	-3.0
	0.6nm,1.1s,baz=327,slow=2.2,SNR=6.1						
ASAR	**Alice Springs**	26.44	155	P	P	07 47 31.9	-0.4
	0.3nm,0.6s,baz=333,slow=10,SNR=3.1						
ASAR				pP	pP	07 48 16.4	-5.8
	0.6nm,0.9s,baz=334,slow=13,SNR=2.6						
ASAR				PcP	PcP	07 50 48.5	-2.0
	0.5nm,0.3s,baz=346,slow=2.1,SNR=10.0						
SONM	**Songino Array**	49.24	346	P	P	07 50 39.6	-1.6
	2.2nm,0.6s,baz=164,slow=9.0,SNR=20						
MKAR	**Makanchi Array**	57.90	329	P	P	07 51 41.9	-2.1
	1.1nm,0.3s,baz=127,slow=8.5,SNR=17						

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*HEL **09** 08:09:56.7±0.3, 59.67N×22.28E, ML2.1, ML2.6(UPP),*
ML2.3(NAO), Explosion
*IDC **09** 08:09:58.1±1.6, 59.84N×22.20E, mb1 3.1/4,*
mb1mx3.0/19, ML2.7/4, Error ellipse: s-maj=21.9km
s-min=6.1km az=161.0
*NAO **09** 08:09:59.7±2.7, 60.11N×22.08E, ML2.3*
*BER **09** 08:09:59.7±5.0, 60.01N×22.20E, ML2.3(NAO),*
Suspected explosion
ISC 09 08:09:56.5±1.0**, 59.9N**±0.1×**22.22E**±0.06**, n21,** σ**1**^{s}.**48**/37**,**
Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AAL	**Aland**	1.17	287	*e*P	Pb	08 10 19.2	-0.1
AAL				*e*S	Sb	08 10 34.5	-0.2
GRAU	**Graesoe**	1.91	286	*e*P	Pn	08 10 31.2	+0.7
PVF	**Pernaja**	1.95	68	*e*P	Pn	08 10 31.5	+0.3
PVF				*e*S	Sn	08 10 55.9	-0.8
FLYU	**Flymyra**	2.20	279	*e*P	Pn	08 10 35.4	+0.7
FLYU				*e*S	Sn	08 11 04.9	+1.9
FIA0	**FINESS Array S**	2.48	48	*e*P	Pn	08 10 40.0	+1.2
FIA0				*e*S	Sn	08 11 11.2	+0.9
FIA0				MSG		08 11 13.6	
	comp=Z,6.9nm,0.2s						
FIA0	**FINESS Array S**	2.48	48	Pn	Pn	08 10 40.4	+1.5
	baz=228,slow=14						
FIA0				Lg		08 11 12.6	
	baz=233,slow=28						
FINES	**FINESS Array B**	2.48	48	Pn	Pn	08 10 40.0	+1.2
	comp=Z,1.7nm,0.3s,baz=227,slow=14,SNR=46						
FINES				Sn	Sn	08 11 12.4	+2.1
	comp=Z,4.8nm,0.3s,baz=236,slow=25,SNR=31						
FINES				Lg		08 11 18.0	
	comp=Z,1.8nm,0.3s,baz=240,slow=26,SNR=4.1						
FINES				Rg		08 11 27.2	
	comp=Z,16nm,0.9s,baz=222,slow=28,SNR=6.9						
BACU	**Backbrunna**	2.58	272	*e*P	Pn	08 10 43.5	+3.3
OSTU	**Oestervaala**	2.58	281	*e*P	Pn	08 10 41.0	+0.8
IGGU	**Iggoen**	2.64	295	*e*P	Pn	08 10 44.2	+3.1
KEF	**Keuruu**	2.66	28	*e*P	Pn	08 10 43.5	+2.2
KEF				*e*S	Sn	08 11 17.3	+2.6
KEF				MSG		08 11 21.6	
	comp=Z,5.0nm,0.1s						
VJF	**Virojoki**	2.75	73	*e*P	Pn	08 10 42.2	-0.5
VJF				*e*S	Sn	08 11 16.2	-0.9
HFS	**Hagfors**	4.29	277	*e*P	Pn	08 11 04.1	-0.5
HFS				*e*PG	Pg	08 11 14.1	-8.1
HFS				*e*S	Sn	08 11 55.0	-1.1
HFS				*e*SG	Sg	08 12 09.7	-10
HFS	**Hagfors**	4.29	277	Pn	Pn	08 11 03.7	-0.8
	comp=Z,0.1nm,0.3s,baz=105,slow=12,SNR=12						
HFS				Pg	Pg	08 11 13.0	-9.2
	comp=Z,0.1nm,0.3s,baz=90,slow=15,SNR=11						
HFS				Sn	Sn	08 11 54.9	-1.2
	comp=Z,0.1nm,0.3s,baz=101,slow=24,SNR=2.4						
HFS				Lg		08 12 09.5	
	comp=Z,0.3nm,0.3s,baz=93,slow=31,SNR=8.3						
HFS	**Hagfors**	4.29	277	Pn	Pn	08 11 04.1	-0.5
	baz=100,slow=11						
HFS				Pg	Pg	08 11 14.1	-8.1
	baz=93,slow=16						
HFS				Sn	Sn	08 11 55.0	-1.1
	baz=96,slow=28						
HFS				Lg		08 12 09.7	
	baz=88,slow=37						
NOA	**NORSAR Array B**	5.58	287	Pn	Pn	08 11 21.3	-1.4
	comp=Z,0.3nm,0.3s,baz=94,slow=18,SNR=2.3						
NOA				Sn	Sn	08 12 24.8	-3.8
	comp=Z,0.1nm,0.3s,baz=90,slow=22,SNR=2.5						
NOA				Lg		08 12 49.3	
	comp=Z,0.5nm,0.3s,baz=102,slow=20,SNR=3.8						
APA0	**Apatity Array**	9.12	27	Pn	P	08 12 08.3	-4.0
	baz=247,slow=10						
APA0	**Apatity Array**	9.12	27	*e*P	P	08 12 08.3	-4.0
ARA0	**ARCESS Array S**	9.82	7	Pn	P	08 12 17.6	-4.3
	baz=184,slow=16						
ARA0	**ARCESS Array S**	9.82	7	*e*P	P	08 12 17.6	-4.3
ARCES	**ARCESS Array B**	9.82	7	Pn	P	08 12 17.5	-4.3
	comp=Z,0.1nm,0.3s,baz=193,slow=14,SNR=9.1						
ARCES				Sn	Sn	08 14 03.9	-10
	comp=Z,0.1nm,0.3s,baz=190,slow=25,SNR=2.7						

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*BER **09** 08:29:33.4±5.0, 77.77N×8.32E, ML3.2(NAO)*
NAO 09 08:29:32.3±4.0**, 77.87N×8.01E, ML3.2, Svalbard region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KBS	**Kingsbay**	1.33	35	Pg	Pg	08 29 57.8	-1.0
KBS				Lg		08 30 13.7	
SPA0	**Spitsbergen Ar**	1.77	76	Pn	Pn	08 30 04.3	-0.2
	baz=260,slow=12						
SPA0				Pg	Pg	08 30 05.2	-2.5
	baz=238,slow=14						
SPA0				Lg		08 30 27.6	
	baz=256,slow=28						
HSP	**Hornsund**	1.86	114	*e*P	Pn	08 30 03.7	-2.0
HSP				*e*S	Sn	08 30 20.1	-10
ARA0	**ARCESS Array S**	9.64	141	Pn	P	08 31 49.3	-5.8
	baz=321,slow=12						

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*ISK **09** 08:32:24.4, 36.93N×27.76E, h8^{km}, MD3.0*
*NEIC **09** 08:32:24.6, 36.91N×27.72E, h27^{km}, MD2.9(ATH), After*
ATH.
*ATH **09** 08:32:24.6, 36.91N×27.72E, h28^{km}±2^{km}, MD2.9/4*
ISC 09 08:32:24.0±0.6**, 36.88N**±0.03×**27.72E**±0.04**, h9**^{km}±4^{km}**,**
n15, σ**0**^{s}.**97**/25**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	0.29	311	*i* P	Pg	08 32 30.8	+0.8
BDRM				*i* S	Sg	08 32 35.8	+1.7
MLSB	**Milas**	0.42	6	*i* PG	Pg	08 32 31.8	-0.8
MLSB				*i* SG	Sg	08 32 37.8	-0.5
YER	**Yerkesik**	0.52	60	*i* PG	Pg	08 32 33.7	-0.8
YER				*i* SG	Sg	08 32 40.9	-0.7
NISR	**Nisiros**	0.54	241	*e*PN	Pn	08 32 35.5	-2.0
NISR				*e*SN	Sn	08 32 45.0	-1.6
ARG	**Arkhangelos**	0.73	153	*e*PN	Pn	08 32 39.5	-0.7
ARG				*e*SN	Sn	08 32 51.5	0.0
DALT	**Dalyan (Mudla)**	0.74	98	PG	Pg	08 32 39.0	0.0
DALT				SG	Sg	08 32 49.5	+0.6
AYDN	**Tasoluk**	0.80	9	*i* P	Pb	08 32 39.0	-0.5
AYDN				*i* S	Sb	08 32 48.9	-1.2
SMG	**Samos**	1.09	320	*e*PN	Pn	08 32 45.5	+0.2
DNZL	**Cakiroluk**	1.33	52	*i* P	Pb	08 32 49.0	+0.3
DNZL				*i* S	Sb	08 33 06.1	+0.3
DENT	**Denizli**	1.37	50	PN	Pn	08 32 49.4	+0.1
KARP	**Karpathos**	1.40	199	*e*PB	Pb	08 32 50.2	+0.4
KARP				*e*SN	Sn	08 33 10.0	+1.6
IZM	**Izmir**	1.56	347	PN	Pn	08 32 52.1	0.0
MANT	**Manisa**	1.75	22	*i* P	Pn	08 32 53.9	-0.8
MANT				*i* S	Sn	08 33 19.5	+2.3
ELL	**Elmali**	1.76	93	*e*PN	Pn	08 32 55.9	+1.0
AKS	**Akhisar**	2.00	2	*e*PN	Pn	08 32 59.2	+0.8

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*LDG **09** 08:46:55.1±0.2, 44.43N×7.45E, h2^{km}, Md2.1/2, Ml2.1/5,*
Error ellipse: s-maj=3.5km s-min=1.4km az=66.0
*STR **09** 08:46:55.5±0.2, 44.41N×7.47E, h5^{km}±1^{km}, Ml1.8, Error*
ellipse: s-maj=0.0km s-min=0.0km az=1.0
ISC 09 08:46:54.7±0.9**, 44.42N**±0.03×**7.38E**±0.07**, h2**^{km}**, n12,**
σ**0**^{s}.**79**/22**, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AUTN	**L'Aution**	0.43	175	Pg	Pg	08 47 03.5	+0.2
AUTN				Sg	Sg	08 47 09.1	+0.1
SAOF	**Saorge**	0.45	164	Pg	Pg	08 47 03.9	+0.1
MBDF	**Montbardon**	0.53	305	*e*Pg	Pg	08 47 06.0	+0.7
MBDF				*e*Sg	Sg	08 47 14.2	+1.8
	7.1nm,0.2s						
AURF	**Auriere**	0.54	184	Pg	Pg	08 47 05.6	+0.2
AURF				Sg	Sg	08 47 13.2	+0.7
MVIF	**Mont Vial**	0.55	197	Pg	Pg	08 47 06.1	+0.4
MVIF				Sg	Sg	08 47 14.0	+1.0
SBF	**Sospel**	0.56	176	*e*Pg	Pg	08 47 05.8	-0.1
SBF				*e*Sg	Sg	08 47 12.7	-0.7

	11nm,0.2s						
CALN	Calern	0.76	208	Pg	Pg	08 47 10.1	+0.3
CALN				Sg	Sg	08 47 21.2	+1.3
FRF	La Foret Royal	1.01	212	ePg	Pg	08 47 14.3	-0.6
FRF				eSg	Sg	08 47 27.2	-1.2
	4.6nm,0.2s						
LPG	La Plagne	1.17	338	eSg	Sg	08 47 32.3	-1.2
	3.3nm,0.4s						
ORIF	Oris-en-Rattie	1.18	295	ePg	Pg	08 47 18.0	-0.3
ORIF				eSg	Sg	08 47 33.7	-0.3
	1.6nm,0.2s						
LMR	La Mourre	1.26	210	ePg	Pg	08 47 19.0	-0.8
LMR				eSg	Sg	08 47 34.9	-1.6
	8.3nm,0.2s						
SMRF	Simiane la Rot	1.37	252	ePg	Pg	08 47 22.5	+0.4
SMRF				eSg	Sg	08 47 40.2	-0.2
	3.7nm,0.3s						

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*IDC **09** 08:47:49.1±0.7, 34.00S×72.07W, mb4.4/9, mb1 4.5/11, mb1mx4.5/12, ML4.1/2, MS4.4/6, Ms1 4.4/6, ms1mx4.1/13, Error ellipse: s-maj=26.4km s-min=21.6km az=79.0*

*BJI **09** 08:47:51.8, 34.59S×71.66W, h24^{km}, mB4.8, Ms4.5, Msz4.6*

*GUC **09** 08:47:51.0±0.9, 34.02S×72.25W, h7^{km}±5^{km}, ML4.8*

*NEIC **09** 08:47:53.2±1.3, 33.91S×72.15W, h25^{km}±8^{km}, mb4.8/25, ML4.8(GUC), Error ellipse: s-maj=8.1km s-min=4.7km az=71.0*

NEIC Felt [III] at Hualane, Licanten, Pichilemu and Talca.

*SYO **09** 08:47:55.9, 33.84S×72.07W, h45^{km}, MB4.7*

ISC 09 08:47:49.6±1.1, **33.98S**±0.03×**72.37W**±0.03, **h13**^{km}±7^{km}, **n117, σ1^{s}14**/97, **mb4.7**/37, **MS4.4**/5, **13C-9D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LLCH	Llolleo	0.73	60	eP	Pb	08 48 03.6	+0.1
LLCH				i S	Sb	08 48 14.6	+1.5
LNV	Longovilo	0.80	89	⇓iP	Pb	08 48 05.2	+0.5
LCCH	Las Cruces	0.83	53	⇑iP	Pb	08 48 06.1	+0.8
IHA	Instituto Hidr	1.13	33	⇑iP	Pb	08 48 11.5	+1.1
IHA				i S	Sb	08 48 26.9	+2.1
TACH	Talagante	1.24	75	⇑iP	Pb	08 48 11.9	-0.4
SFDO	San Fernando	1.29	120	⇑iP	Pb	08 48 12.3	-0.9
CTCH	Constitucion	1.35	181	eP	Pn	08 48 14.7	+0.6
CTCH				i S	Sb	08 48 31.8	+0.6
RCDM	Rinconada Maip	1.39	70	eP	Pn	08 48 14.2	-0.5
RCDM				i S	Sb	08 48 32.4	0.0
RCDM				AMP		08 48 37.2	
	comp=E,12µm,0.9s						
CHCH	Chadas Angostu	1.43	89	⇑iP	Pn	08 48 15.0	-0.3
PUEX	Pudahuel	1.45	69	eP	Pn	08 48 15.6	+0.1
PUEX				i S	Sb	08 48 34.0	0.0
PUEX				AMP		08 48 39.3	
	comp=E,36µm,0.5s						
CACH	El Canelo	1.48	96	⇓iP	Pn	08 48 16.3	+0.3
ANTU	Antumapu	1.50	75	⇓iP	Pn	08 48 16.4	+0.1
ANTU				i S	Sb	08 48 35.5	-0.1
ANTU				AMP		08 48 40.1	
	comp=E,22µm,0.5s						
PCH	Pirque	1.59	78	⇑iP	Pn	08 48 17.5	-0.1
DSCH	Colegio Aleman	1.61	69	⇑iP	Pn	08 48 18.3	+0.5
DSCH				i S	Sn	08 48 38.8	+0.2
DSCH				AMP		08 48 48.3	
	comp=N,30µm,0.8s						
CLCH	Cerro Calan	1.64	70	⇓iP	Pn	08 48 18.8	+0.6
CLCH				i S	Sn	08 48 39.3	+0.1
CLCH				AMP		08 48 51.4	
	comp=N,29µm,0.7s						
CICH	Cipreses	1.65	102	⇑iP	Pn	08 48 18.5	0.0
LMEL	Las Melosas	1.81	86	⇓iP	Pn	08 48 21.1	+0.4
LMEL				i S	Sn	08 48 44.7	+1.1
LMEL				AMP		08 48 48.8	
	comp=E,19µm,0.7s						
FCH	Farellones	1.85	70	⇓iP	Pn	08 48 22.2	+0.8
FCH				i S	Sn	08 48 46.1	+1.4
FCH				AMP		08 48 50.9	
	comp=N,13µm,0.3s						
COCH	Cobquecura	2.18	189	eP	Pn	08 48 26.0	+0.1
COCH				AMP		08 49 07.2	
	comp=E,5µm,0.4s						
ILCH	Illapel	2.54	24	eP	Pn	08 48 31.1	-0.1
CCHI	Chillan	2.63	175	⇓iP	Pn	08 48 34.0	+1.5
CCHI				i S	Sn	08 49 10.3	+5.9
CCHI				AMP		08 49 22.2	
	comp=E,13µm,0.4s						
MDZ	Mendoza	3.14	71	i P	Pn	08 48 43.2	+3.5
MDZ				i		08 49 23.3	
MDZ				i S	Sg	08 49 33.3	-0.9
TLL	Tololo Astrono	4.03	20	eP	Pn	08 48 51.9	-0.5
LSCH	La Serena	4.17	14	eP	Pn	08 48 53.5	-0.9
TRQA	Tornquist	9.35	119	ePn	P	08 50 06.7	-0.3
TRQA				eS	Sx	08 52 23.9	
LVC	Limon Verde	11.72	16	eP	P	08 50 32.6	-6.9
LVC				eS	S	08 53 14.1	+23
CPUP	Villa Florida	15.07	64	Pn	P	08 51 20.6	-3.3
	comp=E,0.1nm,0.3s,baz=248,slow=10.0,SNR=4.3						
CPUP				Sn	S	08 54 08.9	-2.4
	comp=E,0.3nm,0.3s,baz=264,slow=14,SNR=2.1						
CPUP				LR	LR	08 57 57.6	
	comp=E,2µm,18.6s,baz=260,slow=41						
LPAZ	La Paz	18.02	13	P	P	08 52 02.2	+0.7
	comp=E,0.9nm,0.3s,baz=190,slow=7.3,SNR=20						
LPAZ	La Paz	18.02	13	P	P	08 52 02.2	+0.7
EFI	East Falkland	20.50	154	eP	P	08 52 27.2	-2.5
	comp=E,188nm,1.2s						
USHA	Ushuaia	21.03	174	P	P	08 52 41.8	+6.6
	comp=E,19nm,1.1s,mb4.3,baz=9.5,slow=6.1,SNR=1.7						
USHA				LR	LR	09 00 32.3	
	comp=E,759nm,19.1s,MS4.1,baz=173,slow=36						
NNA	Nana	22.27	348	eP	P	08 52 48.5	+0.6
	comp=E,33nm,1.2s,mb4.6						
SAML	Samuel	26.31	21	eP	P	08 53 25.6	-1.2
	comp=E,19nm,0.9s,mb4.6						
BDFB	Brasilia	28.55	56	P	P	08 53 44.4	-2.8
	comp=E,8.3nm,0.8s,mb4.5,baz=219,slow=8.6,SNR=11						
BDFB				LR	LR	09 06 28.2	
	comp=E,2µm,18.8s,MS4.6,baz=235,slow=40						
BAO	Brasilia Array	28.57	56	eP	P	08 53 44.6	-2.8
PMSA	Palmer Station	31.24	173	eP	P	08 54 19.0	+8.3
	comp=E,5.4nm,0.7s,mb4.5						
OTAV	Otavalo	34.51	349	P	P	08 54 36.3	-3.3
	comp=E,8.5nm,1.3s,mb4.5						
ROSC	El Rosal	38.67	357	P	P	08 55 18.8	+4.0
	comp=E,3.4nm,0.7s,mb4.2,baz=150,slow=23,SNR=2.2						
SDV	Santo Domingo	42.66	3	eP	P	08 55 45.6	-2.1
	comp=E,23nm,1.4s,mb4.7						
RCBR	Riachuelo	43.87	59	eP	P	08 55 55.2	-2.3
	comp=E,26nm,1.1s,mb4.9						
VNA3	Neumayer Olymp	49.48	158	⇑iP	P	08 56 42.9	+1.9
VNA3	Neumayer Olymp	49.48	158	e	pP	08 56 53.1	+8.0
VNA3	Neumayer Olymp	49.48	158	e	sP	08 56 58.7	+12
VNA1	Neumayer--Stat	49.80	157	⇑iP	P	08 56 45.4	+1.9
VNA1	Neumayer--Stat	49.80	157	e	pP	08 56 55.8	+8.2
VNA1	Neumayer--Stat	49.80	157	e	sP	08 57 00.5	+11
VNA2	Neumayer--Watz	50.14	157	P	P	08 56 47.1	+1.0
VNA2	Neumayer--Watz	50.14	157	e	pP	08 56 57.7	+7.5
VNA2	Neumayer--Watz	50.14	157	e	sP	08 57 02.8	+11
SNAA	Sanae	51.71	158	⇑iP	P	08 56 57.2	-0.8
SNAA	Sanae	51.71	158	e	pP	08 57 07.5	+5.4
SNAA	Sanae	51.71	158	e	sP	08 57 12.4	+8.8
RKT	Rikitea	55.30	264	eS	S	09 05 18.2	+11
RKT				eR		09 13 29.1	
	comp=E,206nm,26.2s						
TEIG	Tepich	55.99	342	P	P	08 57 30.2	+0.1
	comp=E,0.0nm,0.3s,baz=326,slow=24,SNR=2.5						
QSPA	South Pole Qui	56.26	180	eP	P	08 57 31.4	+0.1
	comp=E,19nm,1.2s,mb5.0						
MAIT	Maitri	56.42	157	eP	P	08 57 31.8	-0.8
SYO	Syowa Base	65.99	159	⇓P	P	08 58 35.3	-1.9
SYO	Syowa Base	65.99	159	⇑pP	pP	08 58 48.4	+7.1
SYO	Syowa Base	65.99	159	⇓sP	sP	08 58 52.6	+10
SYO	Syowa Base	65.99	159	⇑PcP	PcP	08 59 03.7	-4.1
TBI	Tubuai	67.05	257	eS	S	09 07 47.5	+11
TBI				eR		09 18 53.4	
	comp=E,390nm,26.8s,baz=99						
JCT	Junction City	69.15	335	eP	P	08 58 57.3	-0.4
	comp=E,23nm,1.3s,mb5.0						
JCT				e		08 59 06.1	
TXAR	Lajitas Array	69.58	331	P	P	08 59 00.5	+0.2
	comp=E,0.7nm,0.5s,mb3.8,baz=154,slow=8.3,SNR=22						
TXAR	Lajitas Array	69.58	331	P	P	08 59 00.5	+0.2
LTX	Lajitas	69.58	331	eP	P	08 59 00.8	+0.4
	comp=E,3.4nm,0.8s,mb4.3						
LTX				e		08 59 09.2	
PPT	Papeete	69.97	262	eS	S	09 08 22.3	+11
PPT				eR		09 20 16.0	
	comp=E,325nm,28.0s,baz=137						
OXF	Oxford	69.98	345	eP	P	08 59 01.6	-1.1
	comp=E,44nm,1.2s,mb5.3						
OXF				e		08 59 11.2	
MIAR	Mount Ida	71.00	342	eP	P	08 59 06.7	-2.2
	comp=E,17nm,1.5s,mb4.8						
MIAR				e		08 59 16.5	
WVT	Waverly	71.22	347	eP	P	08 59 08.9	-1.3
	comp=E,49nm,1.2s,mb5.3						
WVT				e		08 59 17.4	
GDL2	Guadalupe Moun	72.39	332	eP	P	08 59 17.6	+0.4
GDL2				e		08 59 26.2	
WMOK	Wichita Mounta	72.70	337	eP	P	08 59 17.0	-2.0
	comp=E,8.9nm,1.4s,mb4.5						
WMOK				e		08 59 27.0	
CPRX	Cap Rock	72.94	333	eP	P	08 59 21.2	+0.7
CPRX				e		08 59 30.4	
MAW	Mawson	73.28	164	P	P	08 59 21.5	-0.2
	comp=E,5.6nm,0.6s,mb4.6,baz=217,slow=7.2,SNR=21						
MAW				LR	LR	09 33 43.8	
	comp=E,198nm,20.0s,MS4.4,baz=231,slow=38						
CCM	Cathedral Cave	73.78	345	eP	P	08 59 24.4	-0.9
	comp=E,31nm,1.3s,mb5.1						
CCM				e		08 59 32.2	
ACSO	Alum Creek Sta	74.49	352	eP	P	08 59 28.5	-0.8
	comp=E,14nm,0.8s,mb4.9						
LIC	Lamto	75.03	72	eP	P	08 59 31.2	-1.8
	comp=E,48nm,1.4s,mb5.2						
SUR	Sutherland	75.08	119	eP	P	08 59 32.5	-0.5
	comp=E,20nm,1.0s,mb5.0						
TIC	Toumodi	75.29	71	eP	P	08 59 33.1	-1.4
	comp=E,125nm,1.4s,mb5.7						
KIC	Kosan Boka	75.34	72	eP	P	08 59 33.4	-1.4
	comp=E,92nm,1.3s,mb5.6						
LAZ	Ladron	75.43	331	eP	P	08 59 35.9	+1.0
LAZ				e		08 59 44.6	
DBIC	Dimbokro	75.43	71	P	P	08 59 33.7	-1.6
	comp=E,6.3nm,0.9s,mb4.6,baz=190,slow=6.9,SNR=6.7						
DBIC				LR	LR	09 31 28.5	
	comp=E,192nm,18.7s,MS4.4,baz=238,slow=35						
DBIC	Dimbokro	75.43	71	P	P	08 59 33.7	-1.6
DBIC				LR	LR	09 31 28.5	
ANMO	Albuquerque	75.64	332	eP	P	08 59 36.6	+0.5
	comp=E,5.9nm,1.3s,mb4.4						
ANMO				e		08 59 43.0	
SDCO	Great Sand Dun	77.73	334	eP	P	08 59 47.9	+0.2
	comp=E,2.6nm,1.0s,mb4.1						
PV01	Paradox Valley	79.24	332	eP	P	08 59 57.3	+1.4
TSUM	Tsumeb	79.49	106	eP	P	08 59 57.1	-0.5
	comp=E,20nm,1.4s,mb4.8						
TSUM				e		09 00 03.5	
TSUM				e		09 00 10.5	
PV10	Paradox Valley	79.63	332	eP	P	09 00 00.4	+2.4
PV10				e		09 00 09.4	
CASY	Casey	80.04	181	eP	P	08 59 59.8	+0.2
	comp=E,13nm,1.4s,mb4.7						
CASY				e		09 00 06.6	
DUG	Dugway	82.71	330	eP	P	09 00 15.8	+1.6
	comp=E,0.8nm,1.4s,mb3.6						
DUG				e		09 00 24.1	
HWUT	Hardware Ranch	83.40	332	eP	P	09 00 18.6	+0.9
	comp=E,8.7nm,1.3s,mb4.6						
HWUT				e		09 00 25.5	
PDAR	Pinedale Array	83.62	333	P	P	09 00 18.7	0.0
	comp=E,0.5nm,0.8s,mb3.7,baz=270,slow=1.5,SNR=4.5						
ELK	Elko	84.20	329	eP	P	09 00 21.9	+0.2
	comp=E,4.9nm,1.2s,mb4.5						
ELK				e		09 00 31.3	
HLID	Hailey	86.18	331	eP	P	09 00 32.7	+1.2
	comp=E,7.9nm,1.4s,mb4.8						
ULM	Lac du Bonnet	86.40	345	P	P	09 00 34.9	+2.4
	comp=E,3.3nm,0.8s,mb4.6,baz=128,slow=7.4,SNR=2.8						
MCMT	McKenzie Canyo	86.62	332	eP	P	09 00 35.0	+1.4
MCMT				e		09 00 42.9	
SCHQ	Schefferville	88.58	3	P	P	09 00 43.6	+0.8
	comp=E,4.8nm,0.9s,mb4.8,baz=273,slow=19,SNR=2.4						
LSZ	Lusaka	90.08	108	eP	P	09 00 51.9	+1.1
	comp=E,3.6nm,0.9s,mb4.7						
ESDC	Sonseca Array	96.76	46	LR	LR	09 44 24.2	
	comp=E,91nm,18.1s,MS4.3,baz=200,slow=35						
WRA	Warramunga Arr	120.65	209	PKP	PKPdf	09 06 42.5	-2.5
	comp=E,0.4nm,0.7s,baz=151,slow=1.7,SNR=3.4						
BRTR	Keskin Array B	122.06	61	PKP	PKPdf	09 06 45.4	-2.0
	comp=E,0.3nm,0.4s,baz=135,slow=1.7,SNR=5.0						
AKASG	Malin Array Be	122.38	48	PKP	PKPdf	09 06 43.7	-3.9
	comp=E,1.3nm,0.7s,baz=272,slow=2.5,SNR=7.6						
ARCES	ARCESS Array B	124.11	25	PKP	PKPdf	09 06 47.5	-3.2
	comp=E,2.8nm,0.9s,baz=315,slow=1.7,SNR=4.1						
FITZ	Fitzroy Crossi	125.44	201	PKP	PKPdf	09 06 53.9	-0.5
	comp=E,2.8nm,0.8s,baz=184,slow=3.7,SNR=2.4						
ZRNK	Zerenda	146.69	43	ePKPdf	PKPdf	09 07 30.5	-1.7
ZRNK				e		09 07 39.8	
BRVK	Borovoye	147.38	43	ePKPbc	PKPdf	09 07 33.8	+0.4
BVAR	Borovoye Array	147.45	43	PKP	PKPdf	09 07 32.0	-1.5
	comp=E,4.7nm,0.6s,baz=288,slow=4.7,SNR=14						
BVAR				PKPbc	PKPdf	09 07 34.7	+1.2
	comp=E,4.8nm,0.6s,baz=296,slow=3.4,SNR=12						
HYB	Hyderabad	149.19	115	i PKP	PKPdf	09 07 39.5	+2.2
HYB	Hyderabad	149.19	115	eP	PKPdf	09 07 39.5	+2.2
AAK	Ala-Archa	152.74	62	ePKPdf	PKPdf	09 07 41.7	-0.3
AAK				ePKPbc	PKPdf	09 07 46.3	+4.3
AAK				e		09 07 54.8	
KURK	Kurchatov	153.05	43	ePKPbc	PKPdf	09 07 47.1	+5.0
KURK				e		09 07 55.3	
MKAR	Makanchi Array	156.96	49	PKP	PKPdf	09 07 44.6	-2.9
	comp=E,1.9nm,1.0s,baz=63,slow=2.7,SNR=3.6						
MKAR				PKPab	PKPab	09 08 15.4	-1.3
	comp=E,1.9nm,0.6s,baz=290,slow=4.6,SNR=7.4						
WMQ	Urumqi	161.67	52	ePKP	PKPdf	09 07 51.8	-1.1
WMQ				LR	LR		
	comp=Z,82nm,22.0s						
SONM	Songino Array	166.13	3	PKPab	PKPab	09 08 56.1	-0.2
	comp=Z,1.2nm,0.9s,baz=342,slow=3.9,SNR=5.8						
SSE	Sheshan	168.20	260	PKP	PKPdf	09 07 58.0	-1.0
NJ2	Nanjing	170.38	262	ePKP	PKPdf	09 07 59.3	-1.0
GTA	Gaotai	171.71	47	ePKP	PKPdf	09 07 59.7	-1.1
GTA				APKP		09 08 10.9	
GTA				PKP2	PKPab	09 09 22.0	+0.8
GTA				PP	PP	09 13 14.9	+1.9
GTA				SKKS		09 19 56.4	
GTA				PP	PP		
	comp=Z,28nm,4.9s						
GYA	Guiyang	172.46	173	ePKP	PKPdf	09 07 59.9	-1.7
GYA				APKP		09 08 11.0	
GYA				PP	PP	09 13 11.6	-5.5
GYA				PP	PP		
	comp=Z,180nm,9.7s						

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*MAN **09** 08:55:48.0, 4.55N×125.96E, h146^{km}, mb5.0, ML3.9, MS4.0*

*IDC **09** 08:55:48.8±0.8, 4.44N×125.93E, h182^{km}±7^{km}, mb4.1/16, mb1 4.1/16, mb1mx4.0/20, Error ellipse: s-maj=19.2km s-min=7.2km az=72.0*

*NEIC **09** 08:55:50.0±2.7, 4.47N×125.97E, h197^{km}±27^{km}, mb4.6/12, Error ellipse: s-maj=14.8km s-min=7.0km az=76.0*

ISC 09 08:55:45.6±0.5, **4.46N**±0.05×**125.91E**±0.07, **h168**^{km}±6^{km}, **h184**^{km}±5.2^{km}**:pP-P, n52, σ1^{s}14**/63, **mb4.5**/24, **2C-4D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	General Santos	1.88	330	i P	P	08 56 21.0	+0.2
GSPH				i S	S	08 56 46.0	-2.0
MATI	Mati	2.50	8	eP	P	08 56 27.6	-0.5
CTBH	Cotabato--PC H	3.20	329	⇑iP	P	08 56 37.3	+0.4
CTBH				eS	S	08 57 15.2	-1.1
BUKP	Musuan	3.50	346	eP	P	08 56 41.5	+0.8
BUKP				eS	S	08 57 23.2	+0.1
BIPH	Bislig	3.73	7	⇓eP	P	08 56 42.8	-0.8
BIPH				i S	S	08 57 26.1	-2.2
PAGZ	Pagadian	4.20	323	eP	P	08 56 49.7	0.0
BUTP	Butuan	4.49	356	eP	P	08 56 54.0	+0.5
IPIL	Ipil	4.68	315	eP	P	08 56 55.7	-0.3
IPIL				eS	S	08 57 48.5	-1.9
DCPH	Dipolog City	4.82	328	⇓eP	P	08 56 59.7	+1.9
SNPH	Sibulan	5.53	332	eP	P	08 57 09.0	+1.9
TBP	Tagbilaran	5.58	339	eP	P	08 57 04.5	-3.2
MSLP	Maasin	5.74	350	eP	P	08 57 11.8	+2.1
OCLP	Ormoc	6.68	349	eP	P	08 57 25.6	+3.3
GUIM	Jordan	6.96	332	eP	P	08 57 28.4	+2.4
BESP	Borongan	7.11	356	eP	P	08 57 30.1	+2.0
KAKA	Kakadu	18.23	159	⇓iP	P	08 59 48.3	-0.4
	9.1nm,0.4s						
KAKA				eS	S	09 03 08.6	+5.3
JOW	Kunigami	22.36	6	P	P	09 00 32.5	+2.1
	20nm,0.9s,mb4.5,baz=281,slow=5.3,SNR=3.1						
FITZ	Fitzroy Crossi	22.42	181	eP	P	09 00 31.9	+1.0
	11nm,0.3s,mb4.8						
FITZ				ePCP	PcP	09 04 25.6	+4.3
FITZ	Fitzroy Crossi	22.42	181	P	P	09 00 31.9	+1.0
	15nm,0.3s,mb4.8,baz=10.0,slow=7.7,SNR=123						
FITZ				S	S	09 04 25.9	+5.0
	10nm,1.0s,baz=180,slow=11,SNR=4.9						
WRAB	Tennant Creek	25.62	161	eP	P	09 01 00.7	-0.7
	4.7nm,0.4s,mb4.5						
WRA	Warramunga Arr	25.62	161	P	P	09 01 01.3	-0.2
	2.4nm,0.3s,mb4.2,baz=330,slow=11,SNR=23						
WRA				pP	pP	09 01 38.2	+2.8
	2.7nm,0.5s,baz=342,slow=10,SNR=2.6						
WRA				S	S	09 05 14.2	-0.8
	1.2nm,0.7s,baz=340,slow=14,SNR=5.8						
WRA				ScP		09 07 51.9	
	0.7nm,0.6s,baz=343,slow=3.1,SNR=5.4						
WB2	Warramunga Arr	25.63	161	eP	P	09 01 01.3	-0.2
WB2				eS	S	09 05 13.9	-1.1
MBWA	Marble Bar	26.17	193	eP	P	09 01 06.0	-0.4
	35nm,1.0s,mb5.0						
CBIJ	Chichi jima	27.36	33	P	P	09 01 17.7	+0.5
	32nm,0.4s,mb5.3,baz=277,slow=21,SNR=2.5						
ASAR	Alice Springs	29.02	165	P	P	09 01 31.5	-0.6
	3.0nm,0.4s,mb4.4,baz=344,slow=7.4,SNR=72						
ASAR				PcP	PcP	09 04 36.1	-0.2
	1.0nm,0.6s,baz=335,slow=2.9,SNR=4.1						
ASAR				S	S	09 06 09.8	+0.3
	0.8nm,0.6s,baz=334,slow=12,SNR=4.3						
ASAR				ScP		09 08 02.2	
	1.8nm,0.6s,baz=344,slow=3.1,SNR=10						
ASPA	Alice Springs	29.02	165	⇓iP	P	09 01 31.8	-0.3
ASPA				eS	S	09 06 06.2	-3.4
CMAR	Chiang Mai Arr	29.80	300	P	P	09 01 40.4	+1.3
	1.7nm,0.7s,mb3.9,baz=104,slow=7.3,SNR=5.8						
CTA	Charters Tower	31.54	141	eP	P	09 01 54.9	+0.5
	3.6nm,1.0s,mb4.1						
CTA	Charters Tower	31.54	141	P	P	09 01 55.0	+0.7
	3.3nm,0.6s,mb4.2,baz=330,slow=12,SNR=9.4						
FORT	Forrest	35.10	177	⇑iP	P	09 02 24.9	+0.2
	254nm,0.5s						
KLBR	Kellerberrin	36.68	192	eP	P	09 02 37.6	-0.4
	8.2nm,0.3s,mb4.8						
MUN	Mundaring	37.39	194	eP	P	09 02 43.9	0.0
	23nm,0.5s,mb5.1						
NWAO	Narrogin (SRO)	38.08	192	P	P	09 02 50.2	+0.5
	18nm,0.4s,mb5.1,baz=20,slow=8.1,SNR=25						
NWAO	Narrogin (SRO)	38.08	192	P	P	09 02 50.2	+0.5
STKA	Stephens Creek	39.10	159	eP	P	09 02 59.2	+1.0
	5.4nm,0.6s,mb4.3						
STKA	Stephens Creek	39.10	159	P	P	09 02 58.5	+0.4
	2.2nm,0.4s,mb4.2,baz=333,slow=7.9,SNR=9.8						
STKA				pP	pP	09 03 36.0	+1.3
	5.5nm,0.8s,baz=344,slow=3.7,SNR=2.6						
STKA				S	S	09 08 44.7	0.0
	4.3nm,0.8s,baz=105,slow=12,SNR=4.1						
SONM	Songino Array	46.35	342	P	P	09 03 55.9	-0.6
	0.8nm,1.0s,baz=150,slow=12,SNR=2.8						
SONM				PcP	PcP	09 05 27.0	-2.1
	0.9nm,0.8s,baz=107,slow=1.2,SNR=2.5						
PET	Petropavlovsk	55.38	23	P	P	09 05 02.1	-2.3
	78nm,1.3s,mb5.3						
MKAR	Makanchi Array	56.49	325	P	P	09 05 11.1	-1.3
	1.6nm,0.3s,mb4.3,baz=123,slow=8.2,SNR=21						
MKAR				PcP	PcP	09 06 06.6	-0.3
	2.6nm,0.5s,baz=122,slow=4.3,SNR=7.1						
MKAR				ScP		09 09 50.1	
	1.9nm,0.6s,baz=125,slow=4.1,SNR=6.1						
MKAR	Makanchi Array	56.49	325	P	P	09 05 11.1	-1.3
MKAR				PcP	PcP	09 06 06.6	-0.3
MKAR				ScP		09 09 50.1	
KURK	Kurchatov	60.69	328	P	P	09 05 40.4	-1.0
	3.0nm,0.6s,mb4.3						
BVAR	Borovoye Array	66.27	327	P	P	09 06 16.6	-1.1
	0.3nm,0.3s,mb3.6,baz=121,slow=8.4,SNR=3.0						
BVAR				PcP	PcP	09 06 45.1	-1.2
	0.7nm,0.5s,baz=135,slow=6.3,SNR=4.3						
BVAR				pP	pP	09 07 02.1	+4.3
	2.0nm,0.8s,baz=124,slow=10,SNR=2.7						
ARU	Arti	73.89	328	P	P	09 07 04.0	+0.3
	3.8nm,0.6s,mb4.3						
RAR	Rarotonga	77.08	113	P	P	09 07 22.0	-0.4
	30nm,0.7s,mb5.0,baz=108,slow=7.4,SNR=3.1						
MAW	Mawson	84.15	200	P	P	09 07 59.9	+1.2
	2.9nm,0.7s,mb4.1,baz=63,slow=4.6,SNR=14						
KMBO	Kilima Mbogo	88.74	269	P	P	09 08 21.8	-0.3
	0.8nm,0.5s,mb3.9,baz=40,slow=16,SNR=3.8						
BRTR	Keskin Array B	88.93	310	P	P	09 08 23.8	+1.4
	1.0nm,0.8s,mb3.8,baz=101,slow=7.3,SNR=4.7						
ARCES	ARCESS Array B	89.49	340	P	P	09 08 24.2	-0.1
	4.7nm,0.9s,mb4.4,baz=78,slow=5.9,SNR=6.4						
ARCES	ARCESS Array B	89.49	340	P	P	09 08 24.2	-0.1
NB2	NORSAR Subarra	97.77	333	P	P	09 09 01.4	-1.1
	1.2nm,0.6s,mb4.5,baz=68,slow=4.3						
NOA	NORSAR Array B	97.77	333	P	P	09 09 01.5	-1.0
	1.0nm,0.7s,mb4.4,baz=66,slow=4.5,SNR=3.8						
DBIC	Dimbokro	129.62	282	PKP	PKPdf	09 14 37.6	+1.9
	1.9nm,0.6s,baz=199,slow=4.6,SNR=5.3						

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*HEL **09** 09:00:00.9±0.1, 67.91N×25.63E, ML1.5, ML2.0(NAO), Explosion*

*NAO **09** 09:00:01.0±3.4, 67.96N×26.14E, ML2.0*

*BER **09** 09:00:03.1±0.7, 68.00N×26.20E, ML2.0(NAO)*

ISC 09 08:59:59.6±0.7, **67.96N**±0.04×**25.8E**±0.1, **n9, σ0^{s}78**/12, **Finland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGF	Sodankyl	0.59	153	eP	Pg	09 00 11.4	+0.1
SGF				eS	Sg	09 00 18.7	-0.3
ARA0	ARCESS Array S	1.59	356	eP	Pn	09 00 30.1	+1.1
ARA0				eSG	Sg	09 00 51.2	-1.2
ARA0	ARCESS Array S	1.59	356	P	Pn	09 00 30.1	+1.1
	baz=173,slow=16						
ARA0				Lg		09 00 51.2	
	baz=171,slow=37						
KEV	Kevo	1.85	13	eP	Pn	09 00 34.2	+1.3
KEV				eS	Sn	09 00 57.1	-0.2
KEV				MSG		09 01 02.3	
	comp=Z,1.7nm,0.2s						
KIF	Kilpisjarvi	2.13	302	eP	Pn	09 00 37.6	+0.8
KIF				eS	Sn	09 01 03.3	-1.0
MSF	Maaselka	2.42	147	eS	Sn	09 01 11.0	-0.7
MSF				eSB	Sb	09 01 14.3	+0.2
MSF				MSG		09 01 15.4	
	comp=Z,2.0nm,0.2s						
APA0	Apatity Array	2.75	94	Lg		09 01 23.5	
	baz=280,slow=28						
APA0	Apatity Array	2.75	94	eSB	Sb	09 01 23.5	-0.2
APA0	Apatity Array	2.75	94	Lg		09 01 23.5	
	baz=280,slow=28						

IDC 09 09:08:45.4±2.8, **4.41S**×**148.10E, mb3.6**/4, **mb1 3.9**/4, **mb1mx3.7**/10, **Error ellipse: s-maj=94.4km s-min=34.2km az=109.0, Bismarck Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	20.45	220	P	P	09 13 24.7	-2.6
	0.7nm,0.2s,baz=37,slow=11,SNR=17						
WRA				PcP	PcP	09 17 36.5	-3.0
	0.4nm,0.8s,baz=16,slow=1.9,SNR=5.2						
ASAR	Alice Springs	23.54	214	P	P	09 13 57.9	-0.5
	1.6nm,0.9s,baz=46,slow=8.4,SNR=9.6						
FITZ	Fitzroy Crossi	25.84	236	P	P	09 14 18.4	-2.1
	1.3nm,0.4s,baz=53,slow=5.1,SNR=5.0						
MKAR	Makanchi Array	76.98	320	P	P	09 20 40.7	-1.1
	0.2nm,0.5s,baz=127,slow=7.2,SNR=2.8						

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*IDC **09** 09:17:49.8±0.8, 20.27S×173.82W, mb4.1/9, mb1 4.4/11, mb1mx4.3/16, ML4.6/2, MS3.9/3, Ms1 3.9/3, ms1mx3.5/16, Error ellipse: s-maj=40.5km s-min=17.8km az=143.0*

*BJI **09** 09:17:51.7, 20.20S×173.90W, h10^{km}, mb4.6, Ms4.2,* *Msz4.0*

*SYO **09** 09:17:51.9, 20.11S×173.94W, h10^{km}, MB4.5*

*NEIC **09** 09:17:51.7±0.2, 20.18S×173.92W, h10^{km}, mb4.5/9, Error ellipse: s-maj=12.2km s-min=5.8km az=142.0*

ISC 09 09:17:50.1±0.4, **20.23S**±0.10×**173.94W**±0.09, **h10^{km}, n40, σ0$.^{s}$65**/35, **mb4.2**/18, **MS3.9**/3, **2D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAR	Rarotonga	13.29	97	Pn	P	09 20 48.0	-14
	5.8nm,0.3s,baz=231,slow=8.1,SNR=9.2						
URZ	Urewera	19.57	201	P	P	09 22 20.1	-1.0
	1.1nm,0.3s,baz=264,slow=2.9,SNR=7.6						
URZ				S	S	09 25 45.3	-10
	0.2nm,0.3s,baz=335,slow=20,SNR=3.4						
CTA	Charters Tower	37.31	263	P	P	09 25 05.2	+0.7
	2.9nm,0.8s,mb4.2,baz=95,slow=12,SNR=7.1						
CTAO	Charters Tower	37.31	263	eP	P	09 25 05.1	+0.6
	3.7nm,0.8s,mb4.3						
STKA	Stephens Creek	41.34	244	P	P	09 25 37.5	-0.3
	4.2nm,0.9s,mb4.1,baz=114,slow=12,SNR=4.0						
STKA				LR	LR	09 40 58.9	
	comp=Z,276nm,18.7s,MS4.2,baz=204,slow=34						
ASAR	Alice Springs	48.29	256	P	P	09 26 33.5	-0.2
	3.6nm,1.0s,mb4.4,baz=86,slow=8.5,SNR=20						
ASAR				PcP	PcP	09 27 59.8	-1.3
	1.7nm,0.7s,baz=102,slow=3.6,SNR=7.6						
ASAR				LR	LR	09 45 31.4	
	comp=Z,89nm,19.1s,MS3.8,baz=199,slow=34						
WB2	Warramunga Arr	48.40	261	eP	P	09 26 34.4	-0.2
WRAB	Tennant Creek	48.40	261	eP	P	09 26 34.0	-0.7
	15nm,1.3s,mb4.9						
WRA	Warramunga Arr	48.41	261	P	P	09 26 34.5	-0.2
	1.3nm,0.7s,mb4.1,baz=98,slow=6.7,SNR=9.6						
WRA				PcP	PcP	09 28 01.1	-0.4
	1.4nm,0.9s,baz=95,slow=3.8,SNR=4.5						
KAKA	Kakadu	51.83	270	eP	P	09 27 01.0	+0.1
	2.3nm,0.4s,mb4.5						
SBA	Scott Base	58.42	185	eP	P	09 27 48.3	+0.3
	5.6nm,1.0s,mb4.5						
MBWA	Marble Bar	61.63	256	eP	P	09 28 10.6	-0.1
CASY	Casey	65.84	205	eP	P	09 28 37.9	+0.3
	3.3nm,0.9s,mb4.4						
QSPA	South Pole Qui	69.84	180	eP	P	09 29 02.8	+0.3
	2.1nm,0.8s,mb4.1						
YBH	Yreka Blue Hor	77.75	37	P	P	09 29 48.8	-0.3
	0.8nm,0.5s,mb3.9,baz=222,slow=2.1,SNR=4.9						
MNV	Mina	78.35	42	eP	P	09 29 52.3	-0.2
	2.2nm,0.8s,mb4.1						
MNV				e		09 30 03.7	
TPH	Tonopah	78.72	42	eP	P	09 29 54.5	0.0
	6.8nm,0.9s,mb4.6						
TPH				e		09 30 06.2	
SSE	Sheshan	80.48	308	P	P	09 30 04.3	+0.2
MSU	Marysvale	82.22	44	eP	P	09 30 14.2	+1.2
MSU				e		09 30 25.5	
NJ2	Nanjing	82.69	308	eP	P	09 30 16.2	+0.6
MAW	Mawson	83.08	199	P	P	09 30 16.8	-0.1
	1.5nm,0.9s,mb4.0,baz=132,slow=15,SNR=3.4						
SRU	San Rafael	83.63	44	eP	P	09 30 20.7	+0.4
SRU				e		09 30 32.0	
HLID	Hailey	83.67	39	eP	P	09 30 20.8	+0.3
HLID				e		09 30 32.6	
TXAR	Lajitas Array	83.73	56	P	P	09 30 20.7	-0.3
	0.7nm,0.8s,mb3.8,baz=219,slow=8.0,SNR=8.5						
TXAR				LR	LR	09 59 55.6	
	comp=Z,44nm,18.1s,MS3.9,baz=195,slow=30						
TCUT	Toone Canyon	84.14	42	eP	P	09 30 21.9	-1.0
TCUT				e		09 30 34.1	
PV10	Paradox Valley	84.23	46	eP	P	09 30 23.4	0.0
PV10				e		09 30 35.2	
HWUT	Hardware Ranch	84.31	42	eP	P	09 30 23.1	-0.6
	2.0nm,0.9s,mb4.2						
GDL2	Guadalupe Moun	84.52	53	P	P	09 30 22.0	-3.0
GDL2				e		09 30 35.0	
CPRX	Cap Rock	85.27	52	eP	P	09 30 29.3	+0.6
CPRX				e		09 30 40.5	
MCMT	McKenzie Canyo	85.32	39	eP	P	09 30 29.2	+0.5
MCMT				e		09 30 40.8	
MCK	McKinley	85.94	11	eP	P	09 30 31.8	+0.5
	4.8nm,0.9s,mb4.7						
MCK				e		09 30 43.2	
PDAR	Pinedale Array	86.19	42	P	P	09 30 32.2	-0.8
	0.7nm,0.8s,mb4.0,baz=243,slow=3.3,SNR=6.5						
ILAR	Eielson Array	87.26	11	P	P	09 30 37.6	-0.1
	0.9nm,0.8s,mb4.1,baz=212,slow=6.1,SNR=14						
SYO	Syowa Base	87.79	191	⇓P	P	09 30 41.6	+1.4
SYO	Syowa Base	87.79	191	⇓PcP	PcP	09 30 43.4	+0.9
KMBO	Kilima Mbogo	142.79	239	PKP	PKPdf	09 37 26.3	-1.6
	1.1nm,0.8s,baz=39,slow=22,SNR=3.5						
AKASG	Malin Array Be	144.52	334	PKP	PKPdf	09 37 27.2	-2.5
	5.0nm,0.8s,baz=38,slow=4.3,SNR=16						
CLL	Collm	148.51	352	ePKP1	PKPdf	09 37 40.0	+3.6
CLL				e*PPKP		09 37 48.0	
BRTR	Keskin Array B	149.41	315	PKPbc	PKPdf	09 37 40.5	+2.3
	0.9nm,0.7s,baz=166,slow=5.1,SNR=4.1						
GERES	GERESS Array B	150.80	350	PKPbc	PKPdf	09 37 46.3	+6.3
	0.8nm,0.7s,baz=11,slow=5.0,SNR=3.3						

SKHL 09 09:28:20.2±0.2, **52.99N**×**142.84E, h11^{km}**±2^{km}, **mb3.8**/3, **Sakhalin Island**

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*PDG **09** 09:33:20.9±0.3, 41.69N×20.17E, h8^{km}*

*NEIC **09** 09:33:20.9, 41.69N×20.17E, h8^{km}, MD3.6(PDG), MD3.0(ATH), After PDG.*

*TIR **09** 09:33:20.4, 41.73N×20.17E, h13^{km}, Ml3.4*

*IDC **09** 09:33:21.0±5.5, 41.59N×20.11E, mb3.3/2, mb1 3.6/3, mb1mx3.5/19, ML3.7/1, Error ellipse: s-maj=93.3km s-min=38.2km az=39.0*

*THE **09** 09:33:23.3, 41.66N×20.33E, h1^{km}, ML3.7*

ISC 09 09:33:21.4±0.3, **41.71N**±0.01×**20.16E**±0.02, **h9^{km}**±2^{km}, **n76, σ1$.^{s}$22**/128, **14C-6D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
QSH	Qafa e Shtames	0.27	226	i Pg	Pg	09 33 26.0	-1.0
LACI	Lac	0.34	258	i Pg	Pg	09 33 28.4	-0.1
LACI				i Sg	Sg	09 33 35.0	+1.8
PUK	Puka	0.39	329	i Pg	Pg	09 33 28.7	-0.7
PUK				i Sg	Sg	09 33 36.3	+1.6
TIR	Tirane	0.42	212	⇑iPg	Pg	09 33 29.5	-0.5
TIR				i Sg	Sg	09 33 36.5	+0.8
PRZA	Preza	0.46	233	i Pg	Pg	09 33 32.0	+1.3
PRZA				i Sg	Sg	09 33 42.0	+5.0
BCI	Bajram Curri	0.66	354	i Pg	Pg	09 33 34.0	-0.7
BCI				i Sg	Sg	09 33 47.0	+3.4
ULC	Ulcinj	0.73	291	⇓iPg	Pg	09 33 34.5	-1.5
ULC				eSg	Sg	09 33 46.2	+0.4
OHR	Ohrid	0.77	141	i Pg	Pg	09 33 33.7	-3.1
OHR				i		09 33 35.1	
OHR				i		09 33 36.3	
OHR				i Sg	Sg	09 33 47.0	0.0
PVY	Plav	0.90	351	⇓iPg	Pg	09 33 37.9	-1.6
PVY				eSg	Sg	09 33 52.3	+0.9
TTG	Podgorica	0.98	317	⇑iPg	Pg	09 33 39.0	-2.1
TTG				eSg	Sg	09 33 54.8	+0.5
SKO	Skopje	0.99	74	i Pg	Pg	09 33 39.8	-1.5
SKO				i		09 33 43.2	
SKO				i		09 33 44.8	
SKO				i Sg	Sg	09 33 54.4	-0.2
SKO				Lg		09 33 55.0	
	comp=Z,0.8nm,0.5s						
BUM	Brajici-Budva	1.11	303	⇓iPg	Pg	09 33 41.6	-2.0
BUM				eSg	Sg	09 33 58.6	+0.1
BIA	Bitola	1.11	128	i Pn	Pn	09 33 41.5	-1.6
BIA				i		09 33 43.3	
BIA				i		09 33 44.7	
BIA				i Sn	Sn	09 33 57.9	-0.7
IVA	Berane	1.18	351	⇑iPg	Pg	09 33 43.1	-1.9
IVA				eSg	Sg	09 34 01.9	+1.2
KBN	Korca	1.18	156	i Pg	Pg	09 33 44.1	-1.0
KBN				i Sg	Sg	09 34 02.3	+1.5
FNA	Florina	1.30	135	ePb	Pb	09 33 44.8	-0.8
	comp=Z,33nm,0.2s						
FNA				eSb	Sb	09 34 02.7	+0.5
NKY	Niksic	1.40	322	ePg	Pg	09 33 47.1	-2.3
NKY				eSg	Sg	09 34 09.0	+0.9
HCY	Herceg Novi	1.44	301	⇓iPg	Pg	09 33 47.4	-2.8
HCY				eSg	Sg	09 34 10.1	+0.6
LSK	Leskovik	1.59	168	i Pg	Pg	09 33 50.8	-2.4
LSK				i Sg	Sg	09 34 16.3	+1.9
BARS	Barje	1.66	47	⇓iPn	Pn	09 33 51.6	+0.7
BARS				Sn	Sn	09 34 13.9	+1.4
BRY	Bratogost	1.69	315	⇑iPn	Pn	09 33 52.2	+0.9
BRY				eSn	Sn	09 34 16.5	+3.3
PLE	Pljevlja	1.72	341	⇑iPn	Pn	09 33 52.8	+1.1
PLE				eSn	Sn	09 34 17.5	+3.5
NVSS	Nova Varos 2	1.83	349	⇑iPn	Pn	09 33 54.0	+0.6
NVSS				Sn	Sn	09 34 20.0	+3.1
GRG	Griva	1.85	113	ePb	Pb	09 33 52.7	-2.3
GRG				eSb	Sb	09 34 16.4	-1.7
VAY	Valandovo	1.85	101	ePn	Pn	09 33 54.7	+1.1
VAY				i		09 33 57.9	
VAY				eSn	Sn	09 34 18.2	+0.9
KZN	Kozani	1.86	138	ePn	Pn	09 33 55.3	+1.6
KZN				eSn	Sn	09 34 22.2	+4.7
KEK	Kerkira	2.01	188	ePn	Pn	09 33 58.6	+2.7
KEK				eSn	Sn	09 34 25.9	+4.5
MEV	Metsovon	2.08	157	ePn	Pn	09 33 58.2	+1.2
	comp=Z,11nm,0.4s						
MEV				eSn	Sn	09 34 23.9	+0.6
JAN	Janina	2.12	165	⇑iPb	Pb	09 34 02.5	+3.0
JAN				eSn	Sn	09 34 29.7	+5.7
KNT	Kendrikon	2.13	104	ePn	Pn	09 33 57.0	-0.6
	comp=Z,6.8nm,0.4s						
KNT				eSn	Sn	09 34 23.7	-0.7
STON	Ston	2.16	303	i Pn	Pn	09 33 59.8	+1.6
STON				i Sn	Sn	09 34 27.5	+2.2
IGT	Igoumenitsa	2.18	176	ePn	Pn	09 33 59.3	+1.0
IGT				eSn	Sn	09 34 26.4	+0.8
GRUS	Gruza	2.22	10	⇑iPn	Pn	09 34 00.0	+1.1
GRUS				Sn	Sn	09 34 25.2	-1.5
THE	Thessaloniki	2.38	116	ePn	Pn	09 34 01.0	-0.1
	comp=Z,2.0nm,0.4s						
LIT	Litokhoron	2.39	131	ePn	Pn	09 34 01.4	+0.1
	comp=Z,8.8nm,0.4s						
LIT				eSn	Sn	09 34 31.5	+0.6
DIVS	Divcibare	2.39	357	⇑iPn	Pn	09 34 02.7	+1.3
DIVS				Sn	Sn	09 34 29.9	-1.2
BOLS	Boljevac	2.50	31	⇑iPn	Pn	09 34 04.0	+1.1
BOLS				Sn	Sn	09 34 33.1	-0.8
SOH	Sokhos	2.56	109	ePn	Pn	09 34 03.5	-0.3
SRS	Serrai	2.65	102	ePn	Pn	09 34 05.0	-0.1
SRS				eSn	Sn	09 34 36.8	-0.8
SVIS	Svilajnac	2.70	16	⇑iPn	Pn	09 34 05.7	-0.1
SVIS				Sn	Sn	09 34 37.0	-2.0
NVR	Nevrokopi	2.80	96	ePn	Pn	09 34 08.3	+1.1
PLG	Polygyros	2.82	117	ePn	Pn	09 34 07.7	+0.2
EVR	Evrytania	3.06	155	ePn	Pn	09 34 13.9	+3.0
OUR	Ouranopolis	3.20	114	ePn	Pn	09 34 12.7	-0.2
	comp=Z,4.0nm,0.4s						
PAIG	Paliouri	3.21	122	ePn	Pn	09 34 13.0	0.0
XOR	Xorichti	3.29	134	ePn	Pn	09 34 13.0	-1.1
RGNG	Rignano Grg	3.42	271	ePn	Pn	09 34 16.3	+0.2
RGNG				eSn	Sn	09 34 55.9	-1.4
FG5	Orsara di Pugl	3.70	265	ePn	Pn	09 34 21.7	+1.7
MGR	Morigerati	3.83	247	ePn	Pn	09 34 20.9	-0.9
MGR				eSn	Sn	09 35 05.2	-2.2
SGO	Sicignano	3.84	254	ePn	Pn	09 34 21.6	-0.3
SGO				eSn	Sn	09 35 06.6	-1.2
CSSN	Cassano Irpino	3.96	259	ePn	Pn	09 34 23.3	-0.4
CSSN				eSn	Sn	09 35 08.8	-2.0
RDO	Rodhopi	4.08	96	ePn	Pn	09 34 27.0	+1.6
SGG	Gregorio Mates	4.35	268	ePn	Pn	09 34 29.5	+0.3
SGG				eSn	Sn	09 35 18.6	-2.1
ALN	Alexandroupoli	4.51	98	ePn	Pn	09 34 31.1	-0.4
TERO	Teramo	4.96	283	ePn	Pn	09 34 37.4	-0.4
BOJS	Bojanci	5.21	318	ePn	Pn	09 34 41.9	+0.5
BOJS				eSn	Sn	09 35 41.8	-0.5
	comp=Z,41nm,0.9s						
CRES	Cresnjevec ost	5.34	322	ePn	Pn	09 34 43.0	-0.3
CRES				eSn	Sn	09 35 47.0	+1.3
	comp=Z,24nm,0.7s						
NRCA	Norcia	5.35	284	ePn	Pn	09 34 41.8	-1.6
MNS	Montasola	5.61	279	ePn	Pn	09 34 47.5	+0.4
ASS	Assisi	5.72	286	ePn	Pn	09 34 48.3	-0.4
CEY	Cerknica	5.79	316	ePn	Pn	09 34 50.7	+1.2
FSSB	Fossombrone	5.79	292	ePn	Pn	09 34 49.0	-0.5
PERS	Pernice	6.12	325	ePn	Pn	09 34 55.1	+0.9
PSZ	Piszkesteto	6.21	358	ePn	Pn	09 34 55.1	-0.4
	comp=Z,11nm,0.8s						
PSZ				eSn	Sn	09 36 00.3	-7.2
VOY	Vojsko	6.26	316	ePn	Pn	09 34 56.0	-0.2
VOY				eSn	Sn	09 36 06.8	-1.9
OBKA	Obir	6.27	322	⇑iPN	Pn	09 34 57.1	+0.7
OBKA				i SN	Sn	09 36 09.2	+0.2
ARSA	Arzberg	6.46	331	⇑iPN	Pn	09 35 00.3	+1.3
ARSA				i SN	Sn	09 36 15.0	+1.4
VYHS	Vyhne	6.85	353	ePN	Pn	09 35 06.5	+1.9
VYHS				eSN	Sn	09 36 18.6	-4.9
CRVS	Cervenica-Dubn	7.25	7	ePN	Pn	09 35 10.0	-0.2
KBA	Koelnbreinsper	7.25	320	⇑iPN	Pn	09 35 09.9	-0.3
KBA				i SN	Sn	09 36 33.1	-0.5
MOA	Molln	7.43	328	⇓iPN	Pn	09 35 12.6	-0.1
MOA				i SN	Sn	09 36 38.3	+0.3
GERES	GERESS Array B	8.46	330	Pn	P	09 35 26.8	-0.3
	comp=Z,0.4nm,0.3s,baz=151,slow=14,SNR=6.8						
GERES				Sn	Sn	09 37 02.9	-0.9
	comp=Z,0.3nm,0.3s,baz=143,slow=24,SNR=2.9						
KHC	Kasperske Hory	8.74	330	eP	P	09 35 26.5	-4.5
KHC				ex	x	09 35 39.0	
FINES	FINESS Array B	20.09	8	P	P	09 37 56.6	-1.2
	comp=Z,1.3nm,0.6s,baz=196,slow=10,SNR=3.7						
NB2	NORSAR Subarra	20.11	347	P	P	09 37 54.7	-3.3
	comp=Z,0.5nm,0.4s,baz=148,slow=10						
NOA	NORSAR Array B	20.11	347	P	P	09 37 58.8	+0.8
	comp=Z,0.5nm,0.5s,baz=161,slow=12,SNR=4.7						

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*TAP **09** 09:36:22.0, 24.56N×122.91E, h98^{km}±1^{km}, ML3.4*

*JMA **09** 09:36:22.4±0.1, 24.67N×122.89E, h96^{km}±1^{km}, M2.3*

ISC 09 09:36:21.7±1.7, **24.7N**±0.2×**122.89E**±0.09, **h99^{km}**±14^{km}, **n9, σ0$.^{s}$59**/15, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	Yonaguni jima	0.25	154	P	P	09 36 36.3	+0.2
YOJ				S	S	09 36 46.8	-0.1
IRIF	Iriomote-Funau	0.84	115	P	P	09 36 40.8	+0.1
IRIF				eS	S	09 36 54.6	-0.2
HATJ	Hateruma jima	1.05	127	P	P	09 36 43.1	+0.2
HATJ				S	S	09 36 58.5	-0.3
JKRS	Kuro-shima	1.12	114	P	P	09 36 44.0	+0.3
JKRS				S	S	09 37 00.3	+0.1
JIJ	Ishigaki jima	1.19	106	P	P	09 36 44.8	+0.2
JIJ				S	S	09 37 00.7	-1.0
JTJ	Tarama	1.65	91	P	P	09 36 50.9	+0.7
JTJ				eS	S	09 37 11.7	+0.3
JOGS	Gusukube	2.29	88	eS	S	09 37 27.0	+0.7
JKE	Kume jima 2	3.88	64	P	P	09 37 20.9	+0.4
JOW	Kunigami	5.30	65	P	P	09 37 38.2	-1.7

GUC 09 09:40:10.9±0.8, **35.02S**×**70.54W, h5^{km}, MD3.5, ML2.6, 5C-4D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFDO	San Fernando	0.56	316	⇑iP	Pg	09 40 22.0	-0.1
SFDO				i S	Sg	09 40 30.9	+1.2
CICH	Cipreses	0.70	8	⇓iP	Pg	09 40 24.1	-0.9
CICH				i S	Sg	09 40 34.5	+0.1
CACH	El Canelo	0.90	357	⇑iP	Pb	09 40 27.7	-1.0
CACH				i S	Sb	09 40 41.2	+0.5
CHCH	Chadas Angostu	1.09	355	⇓iP	Pb	09 40 31.3	-0.6
LMEL	Las Melosas	1.20	13	⇑iP	Pb	09 40 32.8	-1.0
LMEL				i S	Sb	09 40 50.1	+0.7
LMEL				AMP		09 40 53.6	
	comp=N,163nm,0.1s						
LNV	Longovilo	1.28	326	⇑iP	Pb	09 40 34.4	-0.8
LNV				i S	Sb	09 40 52.0	+0.2
PCH	Pirque	1.40	1	eP	Pb	09 40 36.5	-0.6
PCH				i S	Sb	09 40 56.4	+1.3
TACH	Talagante	1.40	346	⇓iP	Pn	09 40 36.3	-0.9
TACH				i S	Sb	09 40 55.7	+0.4
CLCH	Cerro Calan	1.62	0	⇑iP	Pn	09 40 40.5	+0.2
CLCH				i S	Sb	09 41 02.9	+1.3
CLCH				AMP		09 41 10.3	
	comp=E,129nm,0.5s						
FCH	Farellones	1.70	7	⇓iP	Pn	09 40 41.8	+0.3
FCH				i S	Sn	09 41 05.5	+1.7
FCH				AMP		09 41 07.5	
	comp=N,121nm,0.2s						
LCCH	Las Cruces	1.76	331	eP	Pn	09 40 42.2	-0.1
JACH	Jahuel	2.33	359	eP	Pn	09 40 52.3	+1.8
JACH				i S	Sn	09 41 22.8	+2.9

MAN 09 09:42:51.2, 16.55N×120.24E, h62^{km}, mb4.3, ML3.1, MS2.9, 1C-2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOLP	Bolinao	0.35	242	eP	P	09 43 03.3	+1.3
BOLP				eS	S	09 43 13.8	+3.8
BCPH	Baguio City Da	0.37	117	⇓iP	P	09 43 03.8	+1.6
BCPH				i S	S	09 43 13.4	+3.2
SCZP	Santa Cruz	0.83	202	eP	P	09 43 21.3	+14
SCZP				eS	S	09 43 21.3	+2.0
BALP	Baler	1.52	122	eP	P	09 43 17.1	+0.3
BALP				eS	S	09 43 38.7	+3.2
CAUP	Cauayan	1.57	75	eP	P	09 43 18.9	+1.5
CAUP				eS	S	09 43 42.0	+5.2
APYP	Conner	1.62	36	eP	P	09 43 18.4	+0.2
APYP				eS	S	09 43 39.1	+1.0
PIP	Pasuquin	1.81	12	⇓iP	P	09 43 20.7	0.0
PIP				i S	S	09 43 42.6	+0.2
CVP	Callao Caves	1.90	53	eP	P	09 43 21.8	-0.2
CVP				eS	S	09 43 45.3	+0.5
LQP	Lukban	2.73	152	⇑eP	P	09 43 34.4	+0.7
LUBP	Lubang	2.80	180	eP	P	09 43 32.8	-1.9
LUBP				eS	S	09 44 08.4	+1.1

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*HEL **09** 10:00:12.3±0.1, 59.82N×22.28E, ML2.1, ML2.8(UPP), ML2.5(NAO), Explosion*

*IDC **09** 10:00:12.9±2.0, 59.89N×22.37E, mb1 3.3/3, mb1mx3.1/18, ML3.1/3, Error ellipse: s-maj=23.2km s-min=11.4km az=166.0*

*BER **09** 10:00:13.5±3.0, 59.93N×22.23E, ML2.5(NAO), Suspected explosion*

*NAO **09** 10:00:14.1±2.3, 60.11N×22.07E, ML2.5*

ISC 09 10:00:10.8±0.5, **60.05N**±0.06×**22.22E**±0.06, **n23, σ1$.^{s}$26**/38, **Finland**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAL	Aland	1.12	278	eP	Pb	10 00 33.8	+1.0
AAL				eS	Sb	10 00 49.9	+2.1
NRTU	Norrtaelje	1.85	260	eP	Pn	10 00 44.8	+0.7
GRAU	Graesoe	1.86	280	eS	Sn	10 01 13.2	+4.4
PVF	Pernaja	1.88	73	eP	Pn	10 00 46.1	+1.6
PVF				eS	Sn	10 01 10.4	+1.2
FLYU	Flymyra	2.17	274	eP	Pn	10 00 50.3	+1.6
FIA0	FINESS Array S	2.36	52	eP	Pn	10 00 54.7	+3.4
FIA0				eSG	Sg	10 01 28.1	-1.1
FIA0				MSG		10 01 28.7	
	comp=Z,12nm,0.1s						
FIA0	FINESS Array S	2.36	52	Pn	Pn	10 00 54.8	+3.5
	baz=228,slow=14						
FIA0				Lg		10 01 27.1	
	baz=234,slow=22						
FINES	FINESS Array B	2.36	52	Pn	Pn	10 00 54.7	+3.4
	comp=Z,3.3nm,0.3s,baz=229,slow=14,SNR=144						
FINES				Sn	Sn	10 01 26.5	+5.1
	comp=Z,8.7nm,0.3s,baz=229,slow=26,SNR=32						
FINES				Rg		10 01 39.5	
	comp=Z,7.5nm,0.8s,baz=223,slow=32,SNR=13						
NYNU	Nynaeshamn	2.39	246	eP	Pn	10 00 51.9	+0.2
NYNU				eS	Sn	10 01 21.8	-0.4
KEF	Keuruu	2.49	30	eP	Pn	10 00 57.1	+4.0
KEF				eSB	Sb	10 01 32.4	+5.1
KEF				MSG		10 01 35.0	
	comp=Z,5.3nm,0.1s						
BACU	Backbrunna	2.58	268	eP	Pn	10 00 55.6	+1.1
VJF	Virojoki	2.70	77	eSG	Sg	10 01 35.8	-5.0
VSU	Vasula	2.81	122	eP	Pn	10 00 56.8	-1.0
VSU				eSG	Sg	10 01 34.0	-10
KAF	Kangasniemi	2.87	42	MSG		10 01 44.4	
	comp=Z,4.9nm,0.1s						
NRAU	Nora	3.66	266	eP	Pn	10 01 10.4	+0.6
BYXU	Byxelkrok	3.88	227	eP	Pn	10 01 12.3	-0.7
HFS	Hagfors	4.27	275	eP	Pn	10 01 18.7	+0.2
HFS				ePG	Pg	10 01 28.6	-7.4
HFS				eS	Sn	10 02 08.1	-1.8
HFS				eSG	Sg	10 02 24.3	-8.7
HFS	Hagfors	4.27	275	Pn	Pn	10 01 18.7	+0.2
	baz=99,slow=12						
HFS				Pg	Pg	10 01 28.6	-7.4
	baz=96,slow=18						
HFS				Sn	Sn	10 02 08.1	-1.8
	baz=94,slow=22						
HFS				Lg		10 02 24.3	
	baz=94,slow=37						
OSKU	Oskarshamn	4.29	231	eP	Pn	10 01 16.7	-2.1
NOA	NORSAR Array B	5.52	285	Pn	Pn	10 01 35.2	-1.0
	comp=Z,0.4nm,0.3s,baz=85,slow=4.9,SNR=2.7						
NOA				Sn	Sn	10 02 40.3	-1.1
	comp=Z,0.2nm,0.3s,baz=315,slow=20,SNR=2.4						
NOA				Lg		10 03 01.6	
	comp=Z,0.7nm,0.3s,baz=70,slow=18,SNR=4.5						
ARA0	ARCESS Array S	9.63	7	Pn	P	10 02 32.3	-1.1
	baz=189,slow=16						
ARA0				Sn	Sn	10 04 17.1	-6.5
	baz=191,slow=28						
ARA0	ARCESS Array S	9.63	7	eP	P	10 02 32.3	-1.1
ARA0				eS	Sn	10 04 17.1	-6.5
ARCES	ARCESS Array B	9.63	7	Pn	P	10 02 32.3	-1.2
	comp=Z,0.2nm,0.3s,baz=188,slow=14,SNR=13						
ARCES				Sn	Sn	10 04 16.6	-7.1
	comp=Z,0.2nm,0.3s,baz=195,slow=21,SNR=2.7						
ARCES				Lg		10 05 17.3	
	comp=Z,0.2nm,0.3s,baz=180,slow=31,SNR=3.8						

ISC 09 10:35:33.3±1.4, **36.91N**±0.08×**27.75E**±0.05, **h10^{km}, n7, σ1$.^{s}$20**/13, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDRM	Kayabasi	0.29	302	i P	Pg	10 35 38.6	-0.8
BDRM				i S	Sg	10 35 43.2	-0.2
YER	Yerkesik	0.48	62	PG	Pg	10 35 41.9	-1.1
YER				SG	Sg	10 35 48.8	-0.7
DALT	Dalyan (Mudla)	0.72	101	PG	Pg	10 35 48.0	+0.2
AYDN	Tasoluk	0.75	8	i P	Pb	10 35 47.0	-1.0
AYDN				i S	Sb	10 35 57.0	-1.0
DNZL	Cakiroluk	1.29	53	i P	Pb	10 35 57.5	+0.3
DNZL				i S	Sb	10 36 18.0	+4.4
KDAG	Bornova	1.54	346	i P	Pn	10 36 02.2	+1.3
KDAG				i S	Sb	10 36 26.1	+5.2
MANT	Manisa	1.70	22	i P	Pn	10 36 04.5	+1.2
MANT				i S	Sn	10 36 28.7	+3.5

GUC 09 10:52:04.4±0.6, **35.02S**×**70.47W, h2^{km}, MD3.6, ML1.8, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFDO	San Fernando	0.60	312	i P	Pg	10 52 16.5	0.0
SFDO				i S	Sg	10 52 25.9	+1.4
CICH	Cipreses	0.70	3	i P	Pg	10 52 18.4	0.0
CICH				i S	Sg	10 52 29.5	+1.8
CACH	El Canelo	0.91	353	eP	Pb	10 52 21.7	-0.8
CHCH	Chadas Angostu	1.10	352	i P	Pb	10 52 25.5	-0.3
LMEL	Las Melosas	1.19	11	eP	Pb	10 52 27.1	-0.3
LMEL				i S	Sb	10 52 44.2	+1.1
LMEL				AMP		10 52 46.7	
	comp=E,38nm,0.1s						
LNV	Longovilo	1.32	324	i P	Pb	10 52 28.7	-0.8
LNV				i S	Sb	10 52 46.8	+0.1
TACH	Talagante	1.42	344	i P	Pb	10 52 30.1	-1.2
TACH				i S	Sb	10 52 50.3	+0.6
LCCH	Las Cruces	1.79	329	eP	Pn	10 52 36.2	-0.3
LCCH				i S	Sn	10 53 00.6	+0.4

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*GII **09** 10:55:15.2±0.8, 27.05N×35.12E, h5^{km}±30^{km}, ML2.5/2*

SNSN 09 10:55:11.3, 27.86N×36.96E, h7^{km}, Ml2.6, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TBKS	Tabuk	0.51	315	P	Pg	10 55 21.3	-0.3

TBKS				S	Sg	10 55 28.6	+0.1
JMQS	**Jabal Moqyreh**	**1.40**	**317**	P	Pn	10 55 36.8	-0.6
BDAS	**Al Bad‘**	**1.74**	**289**	P	Pn	10 55 41.9	-0.3
TAYS	**Tayyib Ism**	**1.97**	**291**	P	Pn	10 55 44.9	-0.6
JMOS	**Jabal al Moall**	**2.09**	**309**	P	Pn	10 55 47.3	+0.2
HAQS	**Haql**	**2.15**	**304**	P	Pn	10 55 47.7	-0.3
AQBJ	**Aqaba**	**2.50**	**318**	Pn	Pn	10 55 58.4	+5.2
EIL	**Elat**	**2.52**	**316**	Pn	Pn	10 55 58.2	+4.8
MBH	**Mount Berech**	**2.63**	**317**	Pn	Pn	10 55 59.3	+4.3
PRNI	**Paran**	**3.01**	**326**	Pn	Pn	10 56 07.3	+6.9
PRNI				Sn	Sn	10 56 47.6	+10

*HEL **09** 11:04:27.3±0.1, 59.81N×22.31E, ML2.3, ML2.9(UPP), ML2.6(NAO), Explosion*
*IDC **09** 11:04:28.1±1.6, 59.88N×22.24E, mb1 3.3/4, mb1mx3.1/19, ML3.1/4, Error ellipse: s-maj=20.8km s-min=6.9km az=162.0*
*BER **09** 11:04:28.8±3.7, 59.91N×22.27E, ML2.6(NAO), Suspected explosion*
*NAO **09** 11:04:29.2±2.2, 60.08N×22.10E, ML2.6*
ISC 09 11:04:26.7±0.6**, 60.12N**±0.08×**22.18E**±0.07**, n23,** σ1^{s}**03**/41**, Finland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AAL	**Aland**	**1.09**	**274**	*e*P	**Pb**	**11 04 49.0**	**+0.8**
AAL				*e*S	**Sb**	**11 05 05.2**	**+2.4**
NRTU	**Norrtaelje**	**1.84**	**258**	*e*P	**Pn**	**11 05 00.0**	**+0.2**
PVF	**Pernaja**	**1.88**	**75**	*e*P	**Pn**	**11 05 01.1**	**+0.7**
PVF				*e*S	**Sn**	**11 05 25.7**	**+0.4**
FLYU	**Flymyra**	**2.15**	**272**	*e*P	**Pn**	**11 05 05.4**	**+1.2**
FIA0	**FINESS Array S**	**2.33**	**54**	*e*P	**Pn**	**11 05 09.1**	**+2.3**
FIA0				*e*SG	**Sg**	**11 05 43.5**	**-0.8**
FIA0				MSG		11 05 44.2	
	comp=Z,19nm,0.2s						
FIA0	**FINESS Array S**	**2.33**	**54**	Pn	**Pn**	**11 05 10.0**	**+3.1**
	baz=233,slow=16						
FIA0				Lg		11 05 42.3	
	baz=227,slow=28						
FINES	**FINESS Array B**	**2.33**	**54**	Pn	**Pn**	**11 05 09.9**	**+3.1**
	comp=Z,4.0nm,0.3s,baz=227,slow=13,SNR=152						
FINES				Sn	**Sn**	**11 05 42.1**	**+5.5**
	comp=Z,10nm,0.3s,baz=232,slow=25,SNR=30						
FINES				Rg		11 05 56.8	
	comp=Z,24nm,0.9s,baz=229,slow=30,SNR=11						
NYNU	**Nynaeshamn**	**2.40**	**244**	*e*P	**Pn**	**11 05 07.1**	**-0.7**
KEF	**Keuruu**	**2.44**	**31**	*e*P	**Pn**	**11 05 12.3**	**+4.0**
KEF				*e*SB	**Sb**	**11 05 47.7**	**+5.9**
KEF				MSG		11 05 50.3	
	comp=Z,8.3nm,0.1s						
BACU	**Backbrunna**	**2.56**	**266**	*e*P	**Pn**	**11 05 10.9**	**+0.7**
VJF	**Virojoki**	**2.71**	**79**	*e*P	**Pn**	**11 05 11.8**	**-0.5**
VJF				*e*SG	**Sg**	**11 05 50.7**	**-6.2**
KAF	**Kangasniemi**	**2.83**	**43**	*e*SB	**Sb**	**11 05 57.0**	**+3.7**
KAF				MSG		11 05 59.7	
	comp=Z,6.6nm,0.1s						
NRAU	**Nora**	**3.64**	**264**	*e*P	**Pn**	**11 05 25.7**	**+0.1**
VSTU	**Vaestervik**	**3.83**	**232**	*e*P	**Pn**	**11 05 26.2**	**-2.0**
HFS	**Hagfors**	**4.24**	**274**	*e*P	**Pn**	**11 05 33.7**	**-0.4**
HFS				*e*PG	**Pg**	**11 05 43.9**	**-7.6**
HFS				*e*S	**Sn**	**11 06 25.1**	**0.0**
HFS				*e*SG	**Sg**	**11 06 40.0**	**-8.0**
HFS	**Hagfors**	**4.24**	**274**	Pn	**Pn**	**11 05 33.3**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=88,slow=14,SNR=25						
HFS				Pg	**Pg**	**11 05 43.9**	**-7.5**
	comp=Z,0.4nm,0.3s,baz=94,slow=16,SNR=17						
HFS				Sn	**Sn**	**11 06 23.7**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=96,slow=26,SNR=2.9						
HFS				Lg		11 06 39.9	
	comp=Z,0.3nm,0.3s,baz=90,slow=30,SNR=8.4						
HFS	**Hagfors**	**4.24**	**274**	Pn	**Pn**	**11 05 33.7**	**-0.4**
	baz=88,slow=14						
HFS				Pg	**Pg**	**11 05 43.9**	**-7.6**
	baz=96,slow=16						
HFS				Sn	**Sn**	**11 06 25.1**	**0.0**
	baz=83,slow=28						
HFS				Lg		11 06 40.0	
	baz=89,slow=37						
NOA	**NORSAR Array B**	**5.48**	**284**	Pn	**Pn**	**11 05 51.1**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=116,slow=14,SNR=3.2						
NOA				Sn	**Sn**	**11 06 55.4**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=119,slow=11,SNR=2.4						
NOA				Lg		11 07 19.3	
	comp=Z,0.8nm,0.3s,baz=59,slow=21,SNR=4.7						
APA0	**Apatity Array**	**8.89**	**28**	Pn	**P**	**11 06 39.6**	**+0.3**
	baz=206,slow=16						
APA0	**Apatity Array**	**8.89**	**28**	*e*P	**P**	**11 06 39.6**	**+0.3**
ARA0	**ARCESS Array S**	**9.56**	**7**	Pn	**P**	**11 06 47.7**	**-0.7**
	baz=178,slow=16						
ARA0				Sn	**Sn**	**11 08 32.5**	**-5.3**
	baz=195,slow=28						
ARA0				Lg		11 09 30.6	
	baz=177,slow=37						
ARA0	**ARCESS Array S**	**9.56**	**7**	*e*P	**P**	**11 06 47.7**	**-0.7**
ARA0				*e*S	**Sn**	**11 08 32.5**	**-5.3**
ARA0				*e*SG	**Sg**	**11 09 30.6**	**-14**
ARCES	**ARCESS Array B**	**9.56**	**7**	Pn	**P**	**11 06 47.6**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=194,slow=14,SNR=24						
ARCES				Sn	**Sn**	**11 08 32.1**	**-5.8**
	comp=Z,0.2nm,0.3s,baz=188,slow=20,SNR=2.8						
ARCES				Lg		11 09 37.6	
	comp=Z,0.2nm,0.3s,baz=175,slow=34,SNR=3.8						

*IDC **09** 11:17:52.1±2.1, 59.47N×22.38E, mb1 3.2/4, mb1mx3.1/19, ML2.9/3, Error ellipse: s-maj=26.9km s-min=8.2km az=160.0*
*HEL **09** 11:17:53.3±0.2, 59.66N×22.14E, ML2.2, ML2.3(UPP), ML2.5(NAO), Explosion*
*NAO **09** 11:17:55.4±2.6, 59.92N×22.06E, ML2.5*
*BER **09** 11:17:55.1±3.3, 59.77N×22.16E, ML2.5(NAO), Suspected explosion*
ISC 09 11:17:54.1±0.7**, 60.12N**±0.06×**22.06E**±0.06**, n18,** σ1^{s}**13**/32**, Finland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AAL	**Aland**	**1.03**	**274**	*e*P	**Pb**	**11 18 14.2**	**-0.3**
AAL				*e*S	**Sg**	**11 18 30.4**	**+1.9**
GRAU	**Graesoe**	**1.77**	**278**	*e*P	**Pn**	**11 18 26.9**	**+0.7**
PVF	**Pernaja**	**1.94**	**76**	*e*P	**Pn**	**11 18 29.0**	**+0.4**
PVF				*e*S	**Sn**	**11 18 55.6**	**+1.6**
PVF				*e*SG	**Sg**	**11 18 56.6**	**-2.1**
PVF				MSG		11 19 00.1	
	comp=Z,19nm,0.1s						
FLYU	**Flymyra**	**2.09**	**272**	*e*P	**Pn**	**11 18 30.6**	**-0.2**
FIA0	**FINESS Array S**	**2.38**	**54**	*e*P	**Pn**	**11 18 37.8**	**+2.9**
FIA0				*e*SG	**Sg**	**11 19 14.0**	**+0.8**
FIA0				MSG		11 19 15.1	
	comp=Z,13nm,0.1s						
FIA0	**FINESS Array S**	**2.38**	**54**	Pn	**Pn**	**11 18 37.5**	**+2.6**
	baz=227,slow=12						
FIA0				Lg		11 19 12.7	
	baz=238,slow=28						
FINES	**FINESS Array B**	**2.38**	**54**	Pn	**Pn**	**11 18 37.6**	**+2.7**
	comp=Z,0.8nm,0.3s,baz=228,slow=14,SNR=51						
FINES				Sn	**Sn**	**11 19 12.7**	**+7.5**
	comp=Z,3.8nm,0.3s,baz=239,slow=24,SNR=29						
OSTU	**Oestervaala**	**2.46**	**275**	*e*P	**Pn**	**11 18 36.5**	**+0.4**
KEF	**Keuruu**	**2.46**	**32**	*e*P	**Pn**	**11 18 40.2**	**+4.1**
KEF				*e*SB	**Sb**	**11 19 18.7**	**+8.7**
KEF				MSG		11 19 21.2	
	comp=Z,3.8nm,0.1s						
BACU	**Backbrunna**	**2.50**	**266**	*e*P	**Pn**	**11 18 36.1**	**-0.6**
VJF	**Virojoki**	**2.77**	**79**	*e*P	**Pn**	**11 18 39.5**	**-0.9**
VJF				*e*SG	**Sg**	**11 19 20.9**	**-5.3**
HFS	**Hagfors**	**4.18**	**274**	*e*P	**Pn**	**11 19 00.1**	**-0.5**
HFS				*e*SG	**Sg**	**11 20 06.1**	**-7.3**
HFS	**Hagfors**	**4.18**	**274**	Pn	**Pn**	**11 19 00.1**	**-0.5**
	comp=Z,0.0nm,0.3s,baz=79,slow=15,SNR=7.6						
HFS				Pg	**Pg**	**11 19 08.7**	**-8.9**
	comp=Z,0.1nm,0.3s,baz=92,slow=17,SNR=9.7						
HFS				Sn	**Sn**	**11 19 51.5**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=86,slow=23,SNR=6.3						
HFS				Lg		11 20 03.2	
	comp=Z,0.1nm,0.3s,baz=98,slow=29,SNR=3.7						
HFS	**Hagfors**	**4.18**	**274**	Pn	**Pn**	**11 19 00.1**	**-0.5**
	baz=88,slow=14						
HFS				Lg		11 20 06.1	
	baz=104,slow=28						
NOA	**NORSAR Array B**	**5.42**	**284**	Pn	**Pn**	**11 19 16.4**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=103,slow=8.0,SNR=2.4						
NOA				Sn	**Sn**	**11 20 21.3**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=166,slow=13,SNR=2.7						
NOA				Lg		11 20 46.6	
	comp=Z,0.4nm,0.3s,baz=40,slow=24,SNR=2.4						
ARA0	**ARCESS Array S**	**9.56**	**7**	Pn	**P**	**11 20 15.6**	**-0.3**
	baz=183,slow=14						
ARA0				Sn	**Sn**	**11 22 03.9**	**-1.5**
	baz=180,slow=28						
ARA0	**ARCESS Array S**	**9.56**	**7**	*e*P	**P**	**11 20 15.6**	**-0.3**
ARA0				*e*S	**Sn**	**11 22 03.9**	**-1.5**
ARCES	**ARCESS Array B**	**9.56**	**7**	Pn	**P**	**11 20 15.6**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=184,slow=10,SNR=21						
ARCES				Sn	**Sn**	**11 22 06.1**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=190,slow=22,SNR=4.3						

*NEIC **09** 11:18:52.2, 34.00S×72.25W, h35^{km}, ML3.9(GUC), After GUC.*
NEIC Felt [II] at Pichilemu.
GUC 09 11:18:52.2±0.7**, 34.00S**×**72.25W, h35^{km}**±2^{km}**, MD4.2, ML3.9, 5C-5D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.70**	**87**	⇓*i*P	P	11 19 05.5	-0.2
LCCH	**Las Cruces**	**0.77**	**48**	⇑*i*P	P	11 19 06.5	-0.1
LCCH				*i* S	S	11 19 17.1	-0.1
IHA	**Instituto Hidr**	**1.09**	**28**	⇑*i*P	P	11 19 11.7	+0.5
IHA				*i* S	S	11 19 26.6	+1.2
TACH	**Talagante**	**1.15**	**73**	⇓*i*P	P	11 19 12.3	+0.3
TACH				*i* S	S	11 19 27.5	+0.8
SFDO	**San Fernando**	**1.20**	**121**	*e*P	P	11 19 13.2	+0.5
CHCH	**Chadas Angostu**	**1.33**	**88**	*e*P	P	11 19 15.4	+0.8
CHCH				*i* S	S	11 19 33.2	+1.8
CACH	**El Canelo**	**1.38**	**95**	*e*P	P	11 19 16.7	+1.4
CACH				*i* S	S	11 19 34.4	+1.8
ANTU	**Antumapu**	**1.41**	**73**	⇓*i*P	P	11 19 17.2	+1.4
ANTU				*i* S	S	11 19 35.4	+1.9
ANTU				AMP		11 19 39.8	
	comp=E,3µm,0.5s						
PCH	**Pirque**	**1.50**	**76**	⇓*i*P	P	11 19 17.9	+1.0
PCH				*i* S	S	11 19 38.0	+2.5
DSCH	**Colegio Aleman**	**1.52**	**67**	⇑*i*P	P	11 19 18.5	+1.1
DSCH				*i* S	S	11 19 38.6	+2.3
DSCH				AMP		11 19 42.3	
	comp=N,5µm,0.6s						
CLCH	**Cerro Calan**	**1.55**	**68**	⇑*i*P	P	11 19 19.2	+1.4
CLCH				*i* S	S	11 19 38.8	+1.9
CLCH				AMP		11 19 54.7	
	comp=E,2µm,0.6s						
CLCH				AMP		11 19 56.9	
	comp=E,3µm,0.6s						
CICH	**Cipreses**	**1.55**	**103**	*e*P	P	11 19 18.8	+1.0
CICH				*i* S	S	11 19 40.0	+3.0
SJCH	**San Jose de Ma**	**1.62**	**78**	*i* P	P	11 19 19.6	+0.9
SJCH				*i* S	S	11 19 40.9	+2.3
SJCH				AMP		11 19 45.9	
	comp=N,2µm,0.5s						
LMEL	**Las Melosas**	**1.71**	**86**	⇓*i*P	P	11 19 21.4	+1.4
LMEL				*i* S	S	11 19 43.7	+2.8
LMEL				AMP		11 19 51.0	
	comp=N,2µm,0.4s						
FCH	**Farellones**	**1.77**	**68**	⇑*i*P	P	11 19 22.3	+1.4
FCH				*i* S	S	11 19 45.4	+3.0
FCH				AMP		11 19 47.5	
	comp=N,1µm,0.4s						
JACH	**Jahuel**	**1.91**	**47**	*e*P	P	11 19 24.1	+1.2
CCHI	**Chillan**	**2.60**	**177**	*i* P	P	11 19 34.5	+1.6
MDZ	**Mendoza**	**3.05**	**70**	*e*P	P	11 19 35.4	-3.8
MDZ				*e*S	S	11 20 22.2	+7.2

*NDI **09** 11:20:40.9±4.3, 31.33N×81.53E, h10^{km}, MD4.0, ML3.7, mb4.2(NEIC)*
*NEIC **09** 11:20:46.9±2.1, 31.20N×81.22E, h68^{km}±18^{km}, mb4.2/6, Error ellipse: s-maj=23.0km s-min=10.5km az=50.0*
*IDC **09** 11:20:47.3±6.6, 31.23N×81.25E, h73^{km}±60^{km}, mb3.6/11, mb1 3.8/12, mb1mx3.7/22, ML4.0/1, Error ellipse: s-maj=36.3km s-min=15.2km az=47.0*
ISC 09 11:20:38.9±0.4**, 31.22N**±0.05×**81.52E**±0.05**, h10^{km}, n30,** σ1^{s}**46**/32**, mb4.0**/15**, Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KLP	**Kalpa**	**2.81**	**277**	*e*P	**Pn**	**11 21 25.1**	**+0.4**
KLP				AML	AML	11 21 36.5	
	comp=N,351nm,1.2s						
KLP				AML	AML	11 21 44.2	
	comp=E,498nm,1.2s						
KLP				*e*S	**Sn**	**11 22 00.5**	**+1.4**
ASOR	**Ausora**	**4.08**	**234**	*e*P	**Pn**	**11 21 41.9**	**-0.8**
KKR	**Kurukshetra**	**4.24**	**254**	*e*P	**Pn**	**11 21 48.2**	**+3.1**
KKR				*e*		11 21 57.8	
	comp=Z,334nm,0.7s						
BHK	**Bhakra**	**4.37**	**274**	*e*	**Pg**	**11 22 03.7**	**-2.5**
NDI	**New Delhi**	**4.51**	**237**	*e*PG	**Pg**	**11 22 00.5**	**-8.4**
NDI				*e*		11 22 56.0	
AYAN	**Aya Nagar**	**4.69**	**236**	*e*P	**Pn**	**11 21 53.5**	**+2.1**
SONA	**Sohna**	**4.86**	**234**	*e*P	**Pn**	**11 21 54.8**	**+0.9**
SONA				*e*S	**Sn**	**11 22 50.6**	**-0.4**
KUDL	**Kundal**	**5.34**	**236**	*e*P	**Pn**	**11 22 01.4**	**+0.7**
KHET	**Khetri**	**5.88**	**239**	*e*P	**Pn**	**11 22 06.2**	**-2.0**
SHL	**Shillong**	**10.72**	**119**	*e*P	**P**	**11 23 15.0**	**-0.6**
SHL				*e*		11 25 02.0	
AAK	**Ala-Archa**	**12.70**	**336**	P	**P**	**11 23 43.0**	**+0.8**
	comp=Z,2.5nm,0.9s						
MKAR	**Makanchi Array**	**15.56**	**2**	P	**P**	**11 24 22.9**	**+3.0**
	comp=Z,0.5nm,0.3s,baz=194,slow=12,SNR=62						
KURK	**Kurchatov**	**19.60**	**354**	*e*P	**P**	**11 25 05.9**	**-3.9**
	comp=Z,6.2nm,0.8s						
CMAR	**Chiang Mai Arr**	**20.25**	**125**	P	**P**	**11 25 18.5**	**+1.3**
	comp=Z,3.4nm,0.8s,baz=314,slow=9.8,SNR=11						
BVAR	**Borovoye Array**	**23.25**	**343**	P	**P**	**11 25 47.3**	**+0.3**
	comp=Z,0.9nm,0.6s,mb3.4,baz=157,slow=11,SNR=6.8						
BRVK	**Borovoye**	**23.30**	**343**	*e*P	**P**	**11 25 50.3**	**+2.7**
	comp=Z,2.8nm,0.9s,mb3.7						
SONM	**Songino Array**	**25.20**	**42**	P	**P**	**11 26 07.5**	**+1.5**
	comp=Z,2.6nm,0.7s,mb3.9,baz=238,slow=12,SNR=6.7						
FINES	**FINESS Array B**	**46.70**	**327**	P	**P**	**11 29 09.0**	**-0.3**
	comp=Z,1.6nm,0.9s,mb4.0,baz=90,slow=7.6,SNR=5.3						
ARCES	**ARCESS Array B**	**49.36**	**337**	P	**P**	**11 29 28.0**	**-2.0**
	comp=Z,3.5nm,0.9s,mb4.4,baz=117,slow=5.4,SNR=5.3						
MORC	**Moravsky Berou**	**50.48**	**311**	P	**P**	**11 29 41.1**	**+2.3**
	comp=Z,2.1nm,0.7s,mb4.3						
HFS	**Hagfors**	**52.53**	**324**	P	**P**	**11 29 51.3**	**-2.9**
	comp=Z,1.4nm,0.8s,mb4.0,baz=90,slow=12,SNR=2.7						
NOA	**NORSAR Array B**	**53.77**	**325**	P	**P**	**11 30 00.0**	**-3.2**
	comp=Z,1.0nm,0.8s,mb3.8,baz=90,slow=7.4,SNR=2.7						
SUMG	**Summit**	**68.72**	**344**	P	**P**	**11 31 44.2**	**-0.1**
	comp=Z,7.0nm,1.1s,mb4.5						
WRA	**Warramunga Arr**	**71.81**	**128**	P	**P**	**11 32 03.9**	**0.0**
	comp=Z,1.1nm,0.8s,mb3.9,baz=322,slow=6.2,SNR=14						
WRAB	**Tennant Creek**	**71.81**	**128**	P	**P**	**11 32 05.0**	**+1.1**
	comp=Z,3.9nm,0.8s,mb4.4						
ASAR	**Alice Springs**	**74.12**	**131**	P	**P**	**11 32 17.1**	**-0.4**
	comp=Z,0.6nm,0.7s,mb3.6,baz=314,slow=5.7,SNR=7.0						
ILAR	**Eielson Array**	**77.16**	**19**	P	**P**	**11 32 33.0**	**-0.9**
	comp=Z,0.9nm,0.8s,mb3.8,baz=313,slow=4.3,SNR=12						
PMR	**Palmer**	**78.86**	**22**	P	**P**	**11 32 42.7**	**-0.6**
	comp=Z,1.7nm,0.8s,mb4.0						
DBIC	**Dimbokro**	**83.50**	**274**	P	**P**	**11 33 06.4**	**-2.2**
	comp=Z,3.1nm,0.8s,mb4.4,baz=38,slow=2.6,SNR=4.2						
DLBC	**Dease Lake**	**86.87**	**16**	P	**P**	**11 33 23.2**	**-1.3**

*HEL **09** 11:21:37.4±0.3, 59.67N×22.12E, ML2.1, ML2.3(UPP), ML2.3(NAO), Explosion*
*IDC **09** 11:21:37.2±1.8, 59.61N×22.12E, mb1 3.0/4, mb1mx2.9/19, ML2.8/3, Error ellipse: s-maj=23.0km s-min=7.3km az=164.0*
*NAO **09** 11:21:39.8±3.3, 59.99N×21.93E, ML2.3*
*BER **09** 11:21:41.1±2.0, 60.09N×21.90E, ML2.3(NAO), Suspected explosion*
ISC 09 11:21:36.5±0.8**, 59.75N**±0.08×**22.04E**±0.06**, n22,** σ1^{s}**37**/34**, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AAL	**Aland**	**1.12**	**294**	*e*P	**Pb**	**11 21 58.7**	**+0.2**
AAL				*e*S	**Sb**	**11 22 14.0**	**+0.6**
GRAU	**Graesoe**	**1.85**	**290**	*e*P	**Pn**	**11 22 10.9**	**+1.0**
PVF	**Pernaja**	**2.07**	**66**	*e*P	**Pn**	**11 22 14.0**	**+1.0**
PVF				*e*S	**Sn**	**11 22 38.4**	**-1.6**
FLYU	**Flymyra**	**2.13**	**282**	*e*P	**Pn**	**11 22 14.6**	**+0.8**
BACU	**Backbrunna**	**2.50**	**275**	*e*P	**Pn**	**11 22 20.1**	**+1.1**
OSTU	**Oestervaala**	**2.51**	**283**	*e*P	**Pn**	**11 22 20.4**	**+1.1**
IGGU	**Iggoen**	**2.61**	**298**	*e*P	**Pn**	**11 22 22.1**	**+1.4**
FIA0	**FINESS Array S**	**2.62**	**48**	*e*P	**Pn**	**11 22 21.5**	**+0.6**
FIA0				*e*SB	**Sb**	**11 22 57.0**	**-0.1**
FIA0				MSG		11 22 57.5	
	comp=Z,10nm,0.1s						
FIA0	**FINESS Array S**	**2.62**	**48**	Pn	**Pn**	**11 22 22.1**	**+1.3**
	baz=232,slow=14						
FIA0				Lg		11 22 56.6	
	baz=236,slow=28						
FINES	**FINESS Array B**	**2.62**	**48**	Pn	**Pn**	**11 22 21.8**	**+0.9**
	comp=Z,0.8nm,0.3s,baz=231,slow=13,SNR=12						
FINES				Sn	**Sn**	**11 22 56.0**	**+2.2**
	comp=Z,2.8nm,0.3s,baz=237,slow=24,SNR=22						
KEF	**Keuruu**	**2.79**	**28**	*e*P	**Pn**	**11 22 24.7**	**+1.3**
KEF				*e*SB	**Sb**	**11 23 02.5**	**+0.4**
KEF				MSG		11 23 03.5	
	comp=Z,3.8nm,0.1s						
VJF	**Virojoki**	**2.87**	**72**	*e*P	**Pn**	**11 22 23.9**	**-0.5**
VJF				*e*S	**Sn**	**11 22 57.3**	**-2.9**
KAF	**Kangasniemi**	**3.16**	**39**	*e*P	**Pn**	**11 22 29.5**	**+1.0**
KAF				*e*SB	**Sb**	**11 23 11.6**	**-1.1**
KAF				MSG		11 23 12.0	
	comp=Z,3.8nm,0.1s						
HFS	**Hagfors**	**4.22**	**279**	*e*P	**Pn**	**11 22 42.8**	**-0.7**
HFS				*e*SG	**Sg**	**11 23 47.8**	**-9.1**
HFS	**Hagfors**	**4.22**	**279**	Pn	**Pn**	**11 22 42.5**	**-1.0**
	comp=Z,0.0nm,0.3s,baz=98,slow=14,SNR=3.2						
HFS				Pg	**Pg**	**11 22 52.2**	**-8.5**
	comp=Z,0.1nm,0.3s,baz=95,slow=16,SNR=5.1						
HFS				Sn	**Sn**	**11 23 32.7**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=96,slow=26,SNR=3.0						
HFS				Lg		11 23 47.7	
	comp=Z,0.2nm,0.3s,baz=93,slow=31,SNR=7.4						
HFS	**Hagfors**	**4.22**	**279**	Pn	**Pn**	**11 22 42.8**	**-0.7**
	baz=85,slow=16						
HFS				Lg		11 23 47.8	
	baz=87,slow=37						
NOA	**NORSAR Array B**	**5.52**	**288**	Pn	**Pn**	**11 23 00.1**	**-1.9**
	comp=Z,0.2nm,0.3s,baz=88,slow=21,SNR=2.4						
NOA				Sn	**Sn**	**11 24 04.7**	**-2.5**
	comp=Z,0.2nm,0.3s,baz=222,slow=18,SNR=2.4						
NOA				Lg		11 24 30.8	
	comp=Z,0.5nm,0.3s,baz=127,slow=8.4,SNR=3.7						
APA0	**Apatity Array**	**9.25**	**27**	Pn	**P**	**11 23 49.0**	**-5.3**
	baz=221,slow=12						
APA0	**Apatity Array**	**9.25**	**27**	*e*P	**P**	**11 23 49.0**	**-5.3**
ARA0	**ARCESS Array S**	**9.94**	**7**	Pn	**P**	**11 23 59.6**	**-4.0**
	baz=186,slow=14						
ARA0	**ARCESS Array S**	**9.94**	**7**	*e*P	**P**	**11 23 59.6**	**-4.0**
ARCES	**ARCESS Array B**	**9.94**	**7**	Pn	**P**	**11 24 00.4**	**-3.1**
	comp=Z,0.2nm,0.3s,baz=187,slow=13,SNR=6.5						
ARCES				Sn	**Sn**	**11 25 48.6**	**-8.5**
	comp=Z,0.1nm,0.3s,baz=187,slow=24,SNR=2.9						

IDC 09 11:21:48.0±2.2**, 59.39N**×**22.33E, mb1 3.1**/4**, mb1mx3.0**/19**, ML2.7**/4**, Error ellipse: s-maj=29.9km s-min=10.0km az=154.0, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FINES	**FINESS Array B**	**2.77**	**40**	Pn	Pn	11 22 34.8	+0.3
	0.7nm,0.3s,baz=228,slow=13,SNR=6.9						
FINES				Sn	Sn	11 23 08.6	-0.6
	3.0nm,0.3s,baz=222,slow=24,SNR=12						
HFS	**Hagfors**	**4.43**	**283**	Pn	Pn	11 22 54.9	-3.2
	0.0nm,0.3s,baz=102,slow=16,SNR=4.1						
HFS				Pg	Pg	11 23 04.3	-12
	0.1nm,0.3s,baz=90,slow=16,SNR=4.1						
NOA	**NORSAR Array B**	**5.78**	**291**	Pn	Pn	11 23 13.5	-3.7
	0.2nm,0.3s,baz=136,slow=18,SNR=2.4						
ARCES	**ARCESS Array B**	**10.27**	**6**	Pn	P	11 24 12.9	-6.6
	0.2nm,0.3s,baz=190,slow=15,SNR=4.0						
ARCES				Sn	S	11 26 03.9	-13
	0.1nm,0.3s,baz=196,slow=22,SNR=2.9						

IDC 09 11:22:00.7±2.8**, 59.57N**×**22.32E, mb1 3.0**/4**, mb1mx2.9**/19**, ML2.6**/4**, Error ellipse: s-maj=43.4km s-min=11.1km az=158.0, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FINES	**FINESS Array B**	**2.64**	**43**	Pn	Pn	11 22 45.4	+0.1
	0.6nm,0.3s,baz=231,slow=14,SNR=4.0						
FINES				Sn	Sn	11 23 19.7	+1.2
	1.9nm,0.3s,baz=225,slow=24,SNR=5.9						
HFS	**Hagfors**	**4.39**	**281**	Pn	Pn	11 23 07.9	-2.2
	0.1nm,0.3s,baz=90,slow=16,SNR=3.5						
NOA	**NORSAR Array B**	**5.72**	**290**	Pn	Pn	11 23 24.3	-4.6
	0.1nm,0.3s,baz=125,slow=12,SNR=2.5						
ARCES	**ARCESS Array B**	**10.10**	**6**	Pn	P	11 24 23.1	-6.8
	0.1nm,0.3s,baz=184,slow=12,SNR=3.3						

*MAN **09** 11:27:56.2, 9.19N×126.63E, h4^{km}, mb5.0, ML3.9, MS4.3*
*BJI **09** 11:27:59.4, 8.68N×126.80E, h101^{km}, mB5.1, mb4.9*
*IDC **09** 11:28:01.2±3.2, 9.13N×126.67E, h68^{km}±29^{km}, mb4.2/22, mb1 4.3/22, mb1mx4.2/24, ML5.1/1, MS3.6/4, Ms1 3.6/4, ms1mx3.1/21, Error ellipse: s-maj=22.4km s-min=10.0km az=73.0*
*NEIC **09** 11:28:02.3±1.6, 9.08N×126.57E, h80^{km}±14^{km}, mb4.7/25, Error ellipse: s-maj=12.3km s-min=5.4km az=73.0*
ISC 09 11:27:57.9±0.7**, 9.15N**±0.03×**126.74E**±0.05**, h54^{km}**±6^{km}**, n91,** σ1^{s}**16**/97**, mb4.7**/46**, MS3.7**/4**, 9C-6D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BUTP	**Butuan**	**1.12**	**261**	*e*P	**P**	**11 28 15.3**	**-2.2**
BUTP				*e*S	**S**	**11 28 31.2**	**-0.9**
SCPH	**Surigao**	**1.38**	**297**	⇑*e*P	**P**	**11 28 20.9**	**-0.5**
SCPH				*e*S	**S**	**11 28 38.4**	**-0.5**
BUKP	**Musuan**	**2.08**	**233**	*e*P	**P**	**11 28 31.6**	**+0.5**
CGP	**Cagayan de Oro**	**2.13**	**251**	⇓*e*P	**P**	**11 28 31.7**	**-0.1**
CGP				*e*S	**S**	**11 28 57.7**	**+0.6**
MATI	**Mati**	**2.24**	**192**	*e*P	**P**	**11 28 32.1**	**-1.2**
KCP	**Kidapawan**	**2.68**	**218**	⇑*e*P	**P**	**11 28 40.3**	**+0.7**
KCP				*i* S	**S**	**11 29 13.9**	**+3.0**
BESP	**Borongan**	**2.75**	**332**	*e*P	**P**	**11 28 40.0**	**-0.7**
BESP				*e*S	**S**	**11 29 00.4**	**-13**
OCLP	**Ormoc**	**2.83**	**312**	*e*P	**P**	**11 28 42.4**	**+0.7**
TBP	**Tagbilaran**	**2.89**	**281**	*e*P	**P**	**11 28 41.9**	**-0.7**
TBP				*i* S	**S**	**11 29 17.3**	**+1.0**
CTBH	**Cotabato--PC H**	**3.12**	**232**	⇓*e*P	**P**	**11 28 46.1**	**+0.3**
CTBH				*i* S	**S**	**11 29 23.6**	**+1.4**
DCPH	**Dipolog City**	**3.39**	**261**	⇓*i*P	**P**	**11 28 49.0**	**-0.7**
DCPH				*i* S	**S**	**11 29 29.9**	**+0.9**
SNPH	**Sibulan**	**3.46**	**274**	*e*S	**S**	**11 29 30.5**	**-0.3**
GSPH	**General Santos**	**3.52**	**210**	*e*P	**P**	**11 29 01.0**	**+10**
PAGZ	**Pagadian**	**3.56**	**249**	*e*P	**P**	**11 28 52.0**	**0.0**
CNP	**Catarman**	**3.92**	**329**	*e*P	**P**	**11 28 56.8**	**-0.3**
CNP				*e*S	**S**	**11 29 40.8**	**-1.4**
IPIL	**Ipil**	**4.34**	**252**	*e*P	**P**	**11 29 03.7**	**+0.7**
GUIM	**Jordan**	**4.34**	**290**	*e*P	**P**	**11 29 02.6**	**-0.4**
RCP	**Roxas**	**4.60**	**302**	⇓*e*P	**P**	**11 29 07.1**	**+0.3**
PVCP	**Virac**	**5.10**	**330**	*e*P	**P**	**11 29 13.6**	**-0.1**
CUYO	**Cuyo Island**	**5.88**	**287**	*e*P	**P**	**11 29 23.5**	**-1.0**
SJMP	**San Jose**	**6.43**	**301**	*e*P	**P**	**11 29 33.8**	**+1.6**
LQP	**Lukban**	**7.09**	**315**	⇑*e*P	**P**	**11 29 41.9**	**+0.4**
	142µm,1.0s						
ENPP	**El Nido**	**7.48**	**287**	*e*P	**P**	**11 29 45.9**	**-1.0**
TGY	**Tagaytay City**	**7.52**	**311**	P	**P**	**11 29 49.4**	**+2.0**
	31nm,0.3s,baz=144,slow=11,SNR=5.1						
TGY				LR	LR	11 32 52.0	
	comp=Z,433nm,20.7s,baz=351,slow=39						
LUBP	**Lubang**	**7.83**	**306**	*e*P	**P**	**11 29 53.4**	**+1.7**
BATP	**Bataraza**	**8.84**	**268**	*e*P	**P**	**11 30 07.1**	**+1.6**
QIZ	**Qiongzhong**	**19.09**	**303**	P	**P**	**11 32 17.7**	**-1.2**
	23nm,1.1s						
KAKA	**Kakadu**	**22.42**	**165**	⇓*i*P	**P**	**11 32 53.3**	**+0.1**
	26nm,0.6s,mb4.8						
NJ2	**Nanjing**	**23.94**	**343**	*e*P	**P**	**11 33 11.1**	**+3.1**
NJ2				AMB	AMB		
	comp=Z,30nm,0.7s,mb4.8						
JNU	**Nakatsue**	**24.16**	**9**	P	**P**	**11 33 10.7**	**+0.5**
	comp=Z,3.1nm,0.6s,mb4.0,baz=119,slow=11,SNR=4.3						
IPM	**Ipoh**	**25.92**	**262**	⇑*e*P	**P**	**11 33 28.5**	**+1.4**
FITZ	**Fitzroy Crossi**	**27.09**	**182**	⇑*i*P	**P**	**11 33 37.0**	**-0.8**
	comp=Z,13nm,0.7s,mb4.6						

FITZ	**Fitzroy Crossi**	**27.09**	**182**	P	**P**	**11 33 37.0**	**-0.8**
	comp=Z,19nm,0.8s,mb4.7,baz=7.8,slow=9.3,SNR=48						
CMAR	**Chiang Mai Arr**	**28.50**	**292**	P	**P**	**11 33 50.0**	**-0.5**
	comp=Z,3.7nm,1.1s,mb3.9,baz=107,slow=7.6,SNR=7.4						
WRAB	**Tennant Creek**	**29.85**	**165**	*e*P	**P**	**11 34 01.0**	**-1.5**
	comp=Z,9.2nm,0.5s,mb4.8						
WRA	**Warramunga Arr**	**29.86**	**166**	P	**P**	**11 34 00.9**	**-1.7**
	comp=Z,5.9nm,0.5s,mb4.6,baz=348,slow=9.3,SNR=98						
WRA				PcP	PcP	11 37 05.1	+0.3
	comp=Z,0.7nm,0.5s,baz=336,slow=2.7,SNR=5.2						
WRA	**Warramunga Arr**	**29.86**	**166**	P	**P**	**11 34 00.9**	**-1.7**
WRA				PcP	PcP	11 37 05.0	+0.3
WB2	**Warramunga Arr**	**29.86**	**166**	⇑*i*P	**P**	**11 34 00.8**	**-1.8**
MBWA	**Marble Bar**	**30.89**	**193**	*e*P	**P**	**11 34 10.6**	**-1.1**
	comp=Z,6.4nm,0.6s,mb4.6						
SNY	**Shenyang**	**32.67**	**356**	⇓P	**P**	**11 34 28.2**	**+1.1**
SNY				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.2						
ASAR	**Alice Springs**	**33.35**	**168**	P	**P**	**11 34 32.0**	**-1.2**
	comp=Z,4.4nm,0.4s,mb4.8,baz=354,slow=6.5,SNR=139						
ASAR				PcP	PcP	11 37 14.2	+0.1
	comp=Z,1.5nm,0.5s,baz=345,slow=2.8,SNR=7.6						
ASAR				pScP		11 41 06.8	
	comp=Z,0.4nm,0.7s,baz=348,slow=2.7,SNR=3.9						
ASPA	**Alice Springs**	**33.35**	**168**	⇑*i*P	**P**	**11 34 32.1**	**-1.1**
CTA	**Charters Tower**	**34.83**	**147**	⇑*i*P	**P**	**11 34 46.9**	**+1.0**
	comp=Z,2.6nm,0.5s,mb4.4						
CTA	**Charters Tower**	**34.83**	**147**	P	**P**	**11 34 46.7**	**+0.8**
	comp=Z,3.0nm,0.6s,mb4.4,baz=322,slow=12,SNR=14						
CTAO	**Charters Tower**	**34.83**	**147**	*e*P	**P**	**11 34 46.3**	**+0.4**
	comp=Z,5.3nm,0.7s,mb4.6						
MDJ	**Mudanjiang**	**35.43**	**4**	P	**P**	**11 34 51.4**	**+0.6**
MDJ				AMB	AMB		
	comp=Z,11nm,1.0s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,77nm,4.5s						
MDJ	**Mudanjiang**	**35.43**	**4**	*e*P	**P**	**11 34 50.9**	**+0.1**
	comp=Z,14nm,0.9s,mb4.9						
ASAJ	**Asahikawa**	**37.47**	**19**	P	**P**	**11 35 10.2**	**+2.2**
	comp=Z,8.1nm,0.8s,mb4.6,baz=314,slow=5.9,SNR=4.9						
FORT	**Forrest**	**39.71**	**178**	*e*P	**P**	**11 35 27.0**	**+0.2**
	comp=Z,50nm,0.4s,mb5.6						
HIA	**Hailar**	**40.42**	**353**	P	**P**	**11 35 33.6**	**+1.2**
	comp=Z,7.0nm,0.9s,mb4.4						
KLBR	**Kellerberrin**	**41.41**	**192**	*e*P	**P**	**11 35 41.1**	**+0.4**
	comp=Z,12nm,0.5s,mb4.8						
MUN	**Mundaring**	**42.11**	**193**	*e*P	**P**	**11 35 47.1**	**+0.5**
	comp=Z,16nm,0.5s,mb4.9						
SONM	**Songino Array**	**42.23**	**340**	P	**P**	**11 35 46.9**	**-0.4**
	comp=Z,0.7nm,0.3s,mb3.7,baz=146,slow=8.9,SNR=5.0						
NWAO	**Narrogin (SRO)**	**42.80**	**192**	P	**P**	**11 35 52.6**	**+0.4**
	comp=Z,23nm,0.4s,mb5.2,baz=20,slow=7.8,SNR=32						
NWAO	**Narrogin (SRO)**	**42.80**	**192**	*e*P	**P**	**11 35 52.6**	**+0.3**
	comp=Z,18nm,0.5s,mb5.1						
PKI	**Pulchoki**	**43.03**	**301**	*e*P	**P**	**11 35 51.2**	**-3.0**
	comp=Z,7.0nm,0.5s,mb4.7						
STKA	**Stephens Creek**	**43.19**	**161**	⇑*i*P	**P**	**11 35 55.6**	**+0.2**
	comp=Z,4.2nm,0.4s,mb4.5						
STKA	**Stephens Creek**	**43.19**	**161**	P	**P**	**11 35 55.5**	**0.0**
	comp=Z,5.0nm,0.4s,mb4.6,baz=346,slow=7.4,SNR=39						
KKN	**Kakani**	**43.21**	**301**	*e*P	**P**	**11 35 54.0**	**-1.6**
	comp=Z,10nm,0.5s,mb4.8						
DMN	**Daman**	**43.30**	**301**	*e*P	**P**	**11 35 53.8**	**-2.6**
	comp=Z,11nm,0.4s,mb4.9						
KOLN	**Koldanda**	**44.63**	**300**	*e*P	**P**	**11 36 05.1**	**-2.0**
	comp=Z,26nm,0.8s,mb5.1						
WMQ	**Urumqi**	**48.39**	**322**	*e*P	**P**	**11 36 37.5**	**+1.0**
WMQ				AP	pP	11 36 56.2	+5.4
WMQ				AMB	AMB		
	comp=Z,123nm,1.1s,mb5.8						
WMQ				LR	LR		
	comp=Z,64nm,18.0s,MS3.6						
TOO	**Toolangi**	**49.68**	**160**	*e*P	**P**	**11 36 47.4**	**+0.9**
	comp=Z,6.9nm,1.2s,mb4.6						
MKAR	**Makanchi Array**	**53.20**	**323**	P	**P**	**11 37 11.6**	**-1.3**
	comp=Z,10nm,0.8s,mb4.8,baz=125,slow=8.1,SNR=68						
MKAR				PcP	PcP	11 38 19.8	-0.5
	comp=Z,2.6nm,0.8s,baz=106,slow=8.1,SNR=4.8						
MKAR				LR	LR	12 01 14.5	
	comp=Z,50nm,19.2s,MS3.6,baz=224,slow=38						
MKAR	**Makanchi Array**	**53.20**	**323**	P	**P**	**11 37 11.6**	**-1.3**
MKAR				PcP	PcP	11 38 19.8	-0.5
MKAR				LR	LR	12 01 14.5	
MA2	**Magadan**	**53.49**	**15**	*e*P	**P**	**11 37 15.7**	**+0.8**
	comp=Z,8.3nm,0.7s,mb4.8						
KURK	**Kurchatov**	**57.25**	**326**	P	**P**	**11 37 40.9**	**-1.3**
	comp=Z,78nm,0.5s,mb6.0,SNR=10						
KURK	**Kurchatov**	**57.25**	**326**	*e*P	**P**	**11 37 40.4**	**-1.8**
	comp=Z,13nm,0.9s,mb5.0						
BVAR	**Borovoye Array**	**62.85**	**326**	P	**P**	**11 38 19.6**	**-0.9**
	comp=Z,4.0nm,0.7s,mb4.7,baz=121,slow=8.6,SNR=22						
BRVK	**Borovoye**	**62.92**	**326**	*e*P	**P**	**11 38 19.1**	**-1.8**
	comp=Z,7.8nm,0.8s,mb4.9						
ZRNK	**Zerenda**	**63.60**	**325**	*e*P	**P**	**11 38 23.5**	**-1.9**
	comp=Z,9.3nm,0.7s,mb4.9						
ARU	**Arti**	**70.41**	**327**	*e*P	**P**	**11 39 06.7**	**-1.5**
	comp=Z,11nm,0.4s,mb5.2						
IMA	**Indian Mountai**	**77.47**	**24**	*e*P	**P**	**11 39 51.0**	**+2.1**
	comp=Z,12nm,0.8s,mb4.9						
PMR	**Palmer**	**79.23**	**29**	*e*P	**P**	**11 39 59.9**	**+1.2**
	comp=Z,4.1nm,0.8s,mb4.4						
MCK	**McKinley**	**79.35**	**27**	*e*P	**P**	**11 40 00.1**	**+0.8**
	comp=Z,3.3nm,0.9s,mb4.3						
SML	**Sawmill**	**79.61**	**29**	*e*P	**P**	**11 40 02.3**	**+1.6**
ILAR	**Eielson Array**	**80.25**	**26**	P	**P**	**11 40 05.0**	**+0.9**
	comp=Z,1.1nm,0.5s,mb4.1,baz=240,slow=5.3,SNR=46						
DAWY	**Dawson**	**83.54**	**26**	*e*P	**P**	**11 40 24.0**	**+2.9**
ASF	**Jabal al Asfar**	**85.07**	**302**	P	**P**	**11 40 30.3**	**+0.7**
	comp=Z,1.4nm,0.3s,mb4.5,baz=222,slow=7.6,SNR=2.5						
ARCES	**ARCESS Array B**	**85.40**	**340**	P	**P**	**11 40 30.9**	**+0.6**
	comp=Z,6.1nm,0.7s,mb4.8,baz=83,slow=6.3,SNR=16						
FINES	**FINESS Array B**	**87.09**	**332**	P	**P**	**11 40 38.6**	**-0.1**
	comp=Z,0.9nm,0.5s,mb4.2,baz=74,slow=6.7,SNR=7.2						
AKASG	**Malin Array Be**	**87.72**	**321**	P	**P**	**11 40 42.7**	**+0.7**
	comp=Z,0.4nm,0.4s,mb4.0,baz=62,slow=5.4,SNR=3.7						
MAW	**Mawson**	**88.81**	**200**	*e*P	**P**	**11 40 47.9**	**+1.1**
	comp=Z,1.8nm,1.2s,mb4.3						
MAW	**Mawson**	**88.81**	**200**	P	**P**	**11 40 47.6**	**+0.8**
	comp=Z,1.1nm,0.5s,mb4.4,baz=56,slow=6.4,SNR=7.1						
KMBO	**Kilima Mbogo**	**89.67**	**269**	P	**P**	**11 40 53.4**	**+1.2**
	comp=Z,1.0nm,0.6s,mb4.3,baz=50,slow=22,SNR=2.6						
HFS	**Hagfors**	**93.25**	**333**	P	**P**	**11 41 06.5**	**-1.1**
	comp=Z,1.4nm,0.7s,mb4.5,baz=63,slow=6.6,SNR=4.2						
NOA	**NORSAR Array B**	**93.97**	**334**	P	**P**	**11 41 10.2**	**-0.6**
	comp=Z,0.5nm,0.7s,mb4.1,baz=59,slow=3.2,SNR=2.8						
NOA				LR	LR	12 25 04.4	
	comp=Z,22nm,18.8s,MS3.6,baz=195,slow=36						
YKA	**Yellowknife Ar**	**94.59**	**24**	P	**P**	**11 41 13.3**	**-0.3**
	comp=Z,0.9nm,0.5s,mb4.5,baz=303,slow=4.3,SNR=3.5						
YKA				LR	LR	12 28 11.3	
	comp=Z,30nm,18.2s,MS3.8,baz=270,slow=38						
TXAR	**Lajitas Array**	**118.20**	**50**	PKP	PKPdf	11 46 41.2	+1.6
	comp=Z,0.3nm,0.4s,baz=90,slow=2.5,SNR=4.1						
TXAR	**Lajitas Array**	**118.20**	**50**	PKP	PKPdf	11 46 41.2	+1.6
DBIC	**Dimbokro**	**129.27**	**286**	PKP	PKPdf	11 47 03.0	+1.5
	comp=Z,1.2nm,0.5s,baz=31,slow=3.4,SNR=3.5						

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*HEL **09** 12:07:57.1±0.1,59.79N×22.30E,ML2.3,ML2.9(UPP), ML2.7(NAO),Explosion*
*IDC **09** 12:07:58.0±2.0,59.92N×22.17E,mb1 3.3/3, mb1mx3.1/18,ML3.2/3,Error ellipse: s-maj=23.7km s-min=9.6km az=169.0*
*BER **09** 12:07:58.4±3.2,59.90N×22.27E,ML2.7(NAO), Suspected explosion*
*NAO **09** 12:07:59.1±2.4,60.09N×22.09E,ML2.7*
ISC 09 12:07:53.9±0.5**,59.81N**±0.05×**22.48E**±0.05**,n24,**σ**1^{s}67**/41**,**
Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAL	**Aland**	**1.30**	**287**	*e*P	**Pb**	**12 08 18.9**	**-0.1**
AAL				*e*S	**Sb**	**12 08 34.9**	**-1.2**
PVF	**Pernaja**	**1.84**	**65**	*e*P	**Pn**	**12 08 31.2**	**+4.1**
PVF				*e*S	**Sn**	**12 08 55.6**	**+4.2**
PVF				MSG		12 09 00.6	
	comp=Z,19nm,0.1s						
NRTU	**Norrtaelje**	**1.95**	**268**	*e*P	**Pn**	**12 08 30.0**	**+1.3**
FLYU	**Flymyra**	**2.33**	**280**	*e*P	**Pn**	**12 08 35.3**	**+1.1**
FLYU				*e*S	**Sn**	**12 09 04.7**	**+0.8**
FIA0	**FINESS Array S**	**2.41**	**46**	*e*P	**Pn**	**12 08 39.8**	**+4.6**
FIA0				*e*SG	**Sg**	**12 09 13.3**	**-1.0**
FIA0				MSG		12 09 14.9	
	comp=Z,14nm,0.1s						
FIA0	**FINESS Array S**	**2.41**	**46**	Pn	**Pn**	**12 08 39.9**	**+4.7**
	baz=229,slow=14						
FIA0				Lg		12 09 12.2	
	baz=228,slow=28						
FINES	**FINESS Array B**	**2.41**	**46**	Pn	**Pn**	**12 08 39.9**	**+4.6**
	comp=Z,3.8nm,0.3s,baz=229,slow=13,SNR=122						
FINES				Sn	**Sn**	**12 09 11.8**	**+5.8**
	comp=Z,10nm,0.3s,baz=237,slow=22,SNR=30						
FINES				Rg		12 09 28.7	
	comp=Z,14nm,0.7s,baz=225,slow=32,SNR=10.0						
NYNU	**Nynaeshamn**	**2.43**	**252**	*e*P	**Pn**	**12 08 37.0**	**+1.5**
VSU	**Vasula**	**2.58**	**120**	*e*SG	**Sg**	**12 09 18.3**	**-1.5**
KEF	**Keuruu**	**2.63**	**25**	*e*P	**Pn**	**12 08 42.9**	**+4.4**
KEF				*e*SB	**Sb**	**12 09 17.6**	**+2.8**
KEF				MSG		12 09 20.2	
	comp=Z,8.1nm,0.1s						
VJF	**Virojoki**	**2.64**	**72**	*e*P	**Pn**	**12 08 41.6**	**+3.2**
VJF				*e*SG	**Sg**	**12 09 20.4**	**-1.3**
BACU	**Backbrunna**	**2.71**	**273**	*e*P	**Pn**	**12 08 40.8**	**+1.3**
OSTU	**Oestervaala**	**2.72**	**281**	*e*P	**Pn**	**12 08 40.7**	**+1.1**
ESKU	**Eskilstuna**	**3.16**	**262**	*e*P	**Pn**	**12 08 47.0**	**+1.2**
ASKU	**Askersund**	**4.02**	**260**	*e*P	**Pn**	**12 08 58.4**	**+0.2**
HFS	**Hagfors**	**4.43**	**278**	*e*P	**Pn**	**12 09 03.7**	**-0.3**
HFS				*e*PG	**Pg**	**12 09 13.8**	**-8.5**
HFS				*e*S	**Sn**	**12 09 54.3**	**-2.7**
HFS				*e*SG	**Sg**	**12 10 09.6**	**-12**
HFS	**Hagfors**	**4.43**	**278**	Pn	**Pn**	**12 09 03.7**	**-0.3**
	baz=97,slow=16						
HFS				Pg	**Pg**	**12 09 13.8**	**-8.5**
	baz=89,slow=16						
HFS				Sn	**Sn**	**12 09 54.3**	**-2.7**
	baz=96,slow=37						
HFS				Lg		12 10 09.6	
	baz=93,slow=37						
NOA	**NORSAR Array B**	**5.71**	**287**	Pn	**Pn**	**12 09 20.7**	**-1.4**
	comp=Z,0.6nm,0.3s,baz=98,slow=17,SNR=3.3						
NOA				Sn	**Sn**	**12 10 21.2**	**-8.1**
	comp=Z,0.1nm,0.3s,baz=108,slow=11,SNR=2.3						
NOA				Lg		12 10 49.7	
	comp=Z,0.9nm,0.3s,baz=102,slow=20,SNR=4.7						
BSD	**Bornholm Skovb**	**6.23**	**224**	*i* P	**Pn**	**12 09 27.6**	**-1.8**
BSD				*i* S	**Sn**	**12 10 36.2**	**-6.1**
APA0	**Apatity Array**	**9.09**	**26**	Pn	**P**	**12 10 08.7**	**-0.7**
	baz=215,slow=12						
APA0	**Apatity Array**	**9.09**	**26**	*e*P	**P**	**12 10 08.7**	**-0.7**
ARA0	**ARCESS Array S**	**9.85**	**6**	Pn	**P**	**12 10 17.5**	**-2.1**
	baz=182,slow=16						
ARA0				Sn	**Sn**	**12 12 02.8**	**-9.4**
	baz=195,slow=28						
ARA0	**ARCESS Array S**	**9.85**	**6**	*e*P	**P**	**12 10 17.5**	**-2.1**
ARA0				*e*S	**Sn**	**12 12 02.8**	**-9.4**
ARCES	**ARCESS Array B**	**9.85**	**6**	Pn	**P**	**12 10 17.6**	**-2.0**
	comp=Z,0.3nm,0.3s,baz=184,slow=14,SNR=24						
ARCES				Sn	**Sn**	**12 12 00.4**	**-12**
	comp=Z,0.1nm,0.3s,baz=192,slow=21,SNR=2.9						

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*IDC **09** 12:38:14.9±0.8,22.92S×13.74W,mb4.2/10,mb1 4.3/10, mb1mx4.2/15,MS3.9/4,Ms1 3.9/4,ms1mx3.4/17,Error ellipse: s-maj=32.3km s-min=21.2km az=131.0*
ISC 09 12:38:15.3±0.6**,22.9S**±0.1×**13.7W**±0.2**,h10**^{km}**,n17,**
σ**0^{s}66**/13**,mb4.2**/10**,MS3.9**/4**,1C-2D,Southern**
Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TSUM	**Tsumeb**	**29.42**	**89**	LR	LR	12 53 42.1	
	comp=Z,141nm,18.5s,MS3.6,baz=15,slow=32						
DBIC	**Dimbokro**	**30.63**	**17**	P	**P**	**12 44 31.9**	**-0.2**
	2.9nm,1.0s,mb4.0,baz=186,slow=10,SNR=2.7						
DBIC				LR	LR	12 53 28.8	
	comp=Z,170nm,20.3s,MS3.7,baz=165,slow=30						
BDFB	**Brasilia**	**33.10**	**276**	LR	LR	12 55 52.1	
	comp=Z,284nm,21.4s,MS4.0,baz=111,slow=32						
CPUP	**Villa Florida**	**39.66**	**256**	P	**P**	**12 45 49.3**	**+0.1**
	3.7nm,0.7s,mb4.2,baz=100,slow=7.5,SNR=9.8						
VNA2	**Neumayer--Watz**	**48.20**	**177**	⇑*i*	**P**	**12 46 58.8**	**+1.3**
SNAA	**Sanae**	**49.21**	**175**	⇓*i*	**P**	**12 46 55.8**	**-9.5**
LPAZ	**La Paz**	**51.45**	**267**	P	**P**	**12 47 22.4**	**-0.6**
	1.9nm,0.2s,mb4.7,baz=83,slow=0.2,SNR=2.6						
SYO	**Syowa Base**	**56.00**	**160**	⇓P	**P**	**12 47 55.5**	**-0.5**
ESDC	**Sonseca Array**	**62.90**	**8**	P	**P**	**12 48 44.4**	**+0.4**
	0.5nm,0.7s,mb3.8,baz=194,slow=5.3,SNR=2.6						
MAW	**Mawson**	**63.96**	**155**	P	**P**	**12 48 49.8**	**-0.7**
	1.1nm,0.8s,mb4.0,baz=286,slow=17,SNR=3.5						
GERES	**GERESS Array B**	**75.49**	**18**	P	**P**	**12 50 00.5**	**-0.9**
	0.8nm,0.6s,mb3.8,baz=191,slow=6.8,SNR=6.1						
BRTR	**Keskin Array B**	**76.37**	**36**	P	**P**	**12 50 06.1**	**-0.5**
	2.4nm,0.9s,mb4.1,baz=194,slow=5.1,SNR=7.9						
AKASG	**Malin Array Be**	**82.48**	**26**	P	**P**	**12 50 39.5**	**+0.2**
	6.3nm,1.1s,mb4.5,baz=222,slow=5.8,SNR=13						
NOA	**NORSAR Array B**	**86.03**	**12**	P	**P**	**12 50 57.8**	**+0.9**
	2.2nm,1.1s,mb4.3,baz=204,slow=4.5,SNR=3.3						
SCHQ	**Schefferville**	**89.72**	**332**	LR	LR	13 26 55.8	
	comp=Z,99nm,18.9s,MS4.3,baz=256,slow=32						
FINES	**FINESS Array B**	**89.92**	**18**	P	**P**	**12 51 16.2**	**+0.6**
	3.2nm,1.1s,mb4.6,baz=180,slow=27,SNR=2.7						
ILAR	**Eielson Array**	**128.30**	**337**	PKP	PKPdf	12 57 20.4	-4.4
	0.4nm,0.8s,baz=359,slow=2.0,SNR=6.2						

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*IDC **09** 12:50:08.2±0.6,56.33S×25.64W,mb4.7/8,mb1 4.7/8, mb1mx4.6/10,MS4.0/5,Ms1 4.0/5,ms1mx3.9/11,Error ellipse: s-maj=32.3km s-min=18.0km az=43.0*
*BJI **09** 12:50:09.5,56.30S×25.70W,h10^{km},mB5.0,Msz4.2*
*NEIC **09** 12:50:09.6±0.3,56.32S×25.73W,h10^{km},mb5.0/12,Error ellipse: s-maj=11.4km s-min=7.1km az=51.0*
*HRVD **09** 12:50:09.6±0.6,56.21S×25.75W,h21^{km}±1^{km},MW4.9/33, Centroid moment Tensor Solution. LP body waves: s14,c15;Mantle waves: s33,c44; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M$_{rr}$2.22±.22; M$_{\theta\theta}$-0.75±.19; M$_{\phi\phi}$-1.47±.14; M$_{r\theta}$0.05±.30; M$_{\theta\phi}$1.02±.09; M$_{\phi r}$0.87±.23; Best double couple: M$_0$2.37×10^{16} NP1:φ$_s$133°,δ38°,λ70°. NP2:φ$_s$337°,δ55°,λ104°. Principal axes: T 2.44, Plg75°, Azm291°; N -.14, Plg12°, Azm149°; P -2.3, Plg9°, Azm57°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*SYO **09** 12:50:13.8,56.38S×25.84W,h40^{km},MB4.8*
ISC 09 12:50:08.1±0.5**,56.29S**±0.08×**25.8W**±0.2**,h10**^{km}**,n51,**
σ**1^{s}30**/27**,mb4.8**/18**,MS4.1**/7**,4C-2D,South Sandwich**
Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**16.29**	**159**	⇑*i*	**P**	**12 54 02.2**	**+4.1**
VNA3	**Neumayer Olymp**	**16.51**	**162**	⇑*i*	**P**	**12 54 04.0**	**+3.1**
VNA2	**Neumayer--Watz**	**16.68**	**159**	⇓*i*	**P**	**12 54 06.5**	**+3.4**
SNAA	**Sanae**	**18.21**	**157**	⇑*i*	**P**	**12 54 22.3**	**0.0**
EFI	**East Falkland**	**19.41**	**270**	*e*P	**P**	**12 54 36.0**	**-0.8**
	45nm,0.8s						
PMSA	**Palmer Station**	**20.33**	**230**	*e*P	**P**	**12 54 46.3**	**-0.5**
	40nm,0.7s						
USHA	**Ushuaia**	**23.87**	**255**	P	**P**	**12 55 23.3**	**+1.3**
	13nm,0.7s,mb4.5,baz=101,slow=12,SNR=4.4						
TRQA	**Tornquist**	**30.13**	**292**	*e*P	**P**	**12 56 18.0**	**-2.0**
	9.3nm,0.8s,mb4.6						
SYO	**Syowa Base**	**30.91**	**140**	⇓P	**P**	**12 56 25.3**	**-1.2**
SYO	**Syowa Base**	**30.91**	**140**	⇑sP	sP	12 56 41.2	+10
QSPA	**South Pole Qui**	**33.96**	**180**	*e*P	**P**	**12 56 52.5**	**-0.6**
	47nm,0.6s,mb5.6						
QSPA				LR	LR		
	comp=Z,310nm,19.2s,MS4.0						
CPUP	**Villa Florida**	**37.56**	**310**	P	**P**	**12 57 24.1**	**0.0**
	comp=Z,19nm,0.8s,mb4.9,baz=168,slow=7.1,SNR=40						
CPUP				LR	LR	13 10 25.5	
	comp=Z,145nm,19.5s,MS3.8,baz=178,slow=32						
MAW	**Mawson**	**39.49**	**143**	P	**P**	**12 57 39.7**	**-0.2**
	comp=Z,3.6nm,0.7s,mb4.2,baz=235,slow=8.4,SNR=14						
BDFB	**Brasilia**	**43.97**	**328**	P	**P**	**12 58 19.2**	**+2.2**
	comp=Z,1.6nm,0.5s,mb4.0,baz=106,slow=7.3,SNR=3.2						
BDFB				LR	LR	13 15 09.6	
	comp=Z,205nm,19.0s,MS4.1,baz=340,slow=34						
SBA	**Scott Base**	**45.89**	**184**	*e*P	**P**	**12 58 30.6**	**-1.0**
	comp=Z,5.9nm,0.8s,mb4.6						
LVC	**Limon Verde**	**46.09**	**299**	*e*P	**P**	**12 58 34.4**	**+0.5**
	comp=Z,74nm,0.6s,mb5.8						
TSUM	**Tsumeb**	**49.13**	**59**	P	**P**	**12 59 03.3**	**+5.5**
	comp=Z,4.1nm,1.1s,mb4.4						
LPAZ	**La Paz**	**51.15**	**304**	P	**P**	**12 59 14.4**	**+1.2**
	comp=Z,24nm,0.4s,mb5.5,baz=127,slow=1.6,SNR=54						
ARE	**Arequipa**	**52.59**	**300**	*e*P	**P**	**12 59 23.0**	**-1.1**
CASY	**Casey**	**53.42**	**160**	*e*P	**P**	**12 59 28.5**	**-1.1**
	comp=Z,3.0nm,0.7s,mb4.3						
CASY				*e*		12 59 35.4	
SAML	**Samuel**	**55.53**	**313**	*e*P	**P**	**12 59 44.3**	**-1.4**
	comp=Z,23nm,1.1s,mb5.1						
NNA	**Nana**	**59.04**	**297**	*e*P	**P**	**13 00 09.8**	**-0.8**
	comp=Z,36nm,0.9s,mb5.4						
DBIC	**Dimbokro**	**65.08**	**23**	P	**P**	**13 00 49.9**	**-1.0**
	comp=Z,3.5nm,0.9s,mb4.4,baz=131,slow=12,SNR=5.5						
DBIC				LR	LR	13 22 54.1	
	comp=Z,165nm,19.1s,MS4.2,baz=96,slow=30						
DBIC	**Dimbokro**	**65.08**	**23**	P	**P**	**13 00 49.9**	**-1.0**
DBIC				LR	LR	13 22 54.1	
OTAV	**Otavalo**	**70.43**	**302**	*e*P	**P**	**13 01 27.1**	**+2.6**
	comp=Z,13nm,0.7s,mb5.0						
ROSC	**El Rosal**	**72.65**	**309**	P	**P**	**13 01 39.7**	**+1.9**
	comp=Z,7.4nm,0.4s,mb5.0,baz=183,slow=15,SNR=2.8						
ROSC				LR	LR	13 32 13.5	
	comp=Z,121nm,21.9s,MS4.1,baz=196,slow=35						
KMBO	**Kilima Mbogo**	**74.41**	**68**	LR	LR	13 32 57.3	
	comp=Z,94nm,18.7s,MS4.1,baz=91,slow=35						
SDV	**Santo Domingo**	**74.73**	**314**	*e*P	**P**	**13 01 49.6**	**-0.2**
	comp=Z,14nm,0.7s,mb5.0						
STKA	**Stephens Creek**	**91.53**	**169**	P	**P**	**13 03 16.4**	**+0.7**
	comp=Z,1.7nm,0.5s,mb4.6,baz=66,slow=19,SNR=5.0						
WRA	**Warramunga Arr**	**102.23**	**161**	P	Pdif	13 04 04.3	-0.4
	comp=Z,0.4nm,0.6s,baz=192,slow=4.5,SNR=7.6						
WRA				PP	PP	13 08 13.9	-5.3
	comp=Z,1.8nm,1.0s,baz=225,slow=5.9,SNR=6.4						
PDAR	**Pinedale Array**	**121.13**	**301**	PKP	PKPdf	13 09 01.6	-2.0
	comp=Z,0.4nm,0.4s,baz=146,slow=4.4,SNR=4.8						
FINES	**FINESS Array B**	**124.24**	**27**	PKP	PKPdf	13 09 10.9	+1.8
	comp=Z,0.8nm,0.5s,baz=162,slow=4.4,SNR=6.7						
CMAR	**Chiang Mai Arr**	**124.26**	**109**	PKP	PKPdf	13 09 07.4	-2.8
	comp=Z,1.2nm,0.8s,baz=236,slow=4.3,SNR=6.1						
ARCES	**ARCESS Array B**	**130.88**	**21**	PKP	PKPdf	13 09 19.7	-1.9
	comp=Z,1.6nm,0.5s,baz=180,slow=2.7,SNR=4.0						
BVAR	**Borovoye Array**	**134.26**	**57**	PKP	PKPdf	13 09 27.3	-1.0
	comp=Z,0.2nm,0.3s,baz=270,slow=40,SNR=2.2						
MKAR	**Makanchi Array**	**136.24**	**71**	PKP	PKPdf	13 09 30.0	-2.1
	comp=Z,0.3nm,0.7s,baz=270,slow=5.8,SNR=2.9						
YKA	**Yellowknife Ar**	**136.87**	**317**	PKP	PKPdf	13 09 30.4	-2.3
	comp=Z,0.8nm,0.4s,baz=130,slow=2.1,SNR=5.6						
YKA	**Yellowknife Ar**	**136.87**	**317**	PKP	PKPdf	13 09 30.4	-2.3
WMQ	**Urumqi**	**137.20**	**78**	*e*PKP	PKPdf	13 09 33.1	-0.8
WMQ				LR	LR		
	comp=Z,44nm,20.0s,MS4.2						
JOW	**Kunigami**	**145.16**	**137**	PKPbc	PKPbc	13 09 46.5	+0.7
	comp=Z,20nm,0.8s,baz=182,slow=20,SNR=3.6						
DAWY	**Dawson**	**147.53**	**311**	*e*PKPdf	PKPdf	13 09 51.4	+0.2
EYAK	**Cordova Ski Ar**	**149.23**	**303**	*e*PKPbc	PKPdf	13 09 56.8	+2.7
DIV	**Divide**	**149.43**	**304**	*e*PKPbc	PKPdf	13 09 57.0	+2.6
SONM	**Songino Array**	**149.97**	**86**	PKPbc	PKPdf	13 09 58.6	+3.0
	comp=Z,2.8nm,0.7s,baz=207,slow=2.8,SNR=8.0						
SML	**Sawmill**	**150.80**	**305**	*e*PKPbc	PKPdf	13 10 00.3	+3.8
ILAR	**Eielson Array**	**150.85**	**311**	PKPbc	PKPdf	13 10 00.2	+3.7
	comp=Z,13nm,0.8s,baz=130,slow=1.7,SNR=106						
COLA	**College**	**151.28**	**311**	*e*PKPbc	PKPdf	13 10 00.9	+3.8
MCK	**McKinley**	**151.52**	**309**	*e*PKPbc	PKPdf	13 10 01.9	+4.4
KDAK	**Kodiak Island**	**151.62**	**295**	*e*PKPbc	PKPdf	13 10 02.2	+4.4
JNU	**Nakatsue**	**151.78**	**135**	PKPbc	PKPdf	13 10 03.3	+4.4
	comp=Z,9.8nm,0.8s,baz=336,slow=3.3,SNR=6.0						
IMA	**Indian Mountai**	**153.84**	**313**	*e*PKPbc	PKPdf	13 10 07.5	+6.8

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*BER **09** 12:59:47.5±0.7,59.27N×11.08E,ML2.1(NAO), Suspected explosion*
NAO 09 12:59:47.4±7.9**,59.30N**×**11.10E,h13**^{km}±52^{km}**,ML2.1,**
Southern Norway

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NC6	**NORSAR Subarra**	**1.47**	**7**	Pn	Pn	13 00 13.1	-0.6
NC6				Lg		13 00 33.5	
HFS	**Hagfors**	**1.56**	**56**	Pn	Pn	13 00 14.9	-0.2
	baz=239,slow=18						
HFS				Lg		13 00 36.5	
	baz=236,slow=28						
NB2	**NORSAR Subarra**	**1.75**	**2**	Pn	Pn	13 00 18.0	+0.2
NB2				Lg		13 00 42.2	

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*IDC **09** 13:10:24.5±0.5,16.64S×171.98W,mb4.6/13,mb1 4.8/14, mb1mx4.8/19,ML5.3/1,MS4.1/13,Ms1 4.1/13, ms1mx4.0/21,Error ellipse: s-maj=24.1km s-min=12.5km az=127.0*
*BJI **09** 13:10:30.4,16.54S×171.86W,h59^{km},mB5.3,mb4.9, Ms4.3,Msz4.7*
*NEIC **09** 13:10:31.4±0.2,16.45S×172.14W,h45^{km},mb5.0/44, MS4.4/10,Error ellipse: s-maj=9.8km s-min=4.4km az=138.0*
*SYO **09** 13:10:31.1,16.52S×172.10W,h45^{km},MB5.0,MS4.3*
*HRVD **09** 13:10:31.4±0.5,16.66S×171.80W,h44^{km}±1^{km},MW5.0/44, Centroid moment Tensor Solution. LP body waves: s21,c31;Mantle waves: s44,c58; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M$_{rr}$2.35±.21; M$_{\theta\theta}$0.81±.16; M$_{\phi\phi}$-3.15±.14; M$_{r\theta}$-1.29±.14; M$_{\theta\phi}$-0.85±.15; M$_{\phi r}$0.63±.15; Best double couple: M$_0$3.29×10^{16} NP1:φ$_s$220°,δ50°,λ133°. NP2:φ$_s$344°,δ56°,λ51°. Principal axes: T 3.23, Plg58°, Azm197°; N .13, Plg32°, Azm8°; P -3.35, Plg4°, Azm100°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **09** 13:10:32.6±1.4,15.55S×171.99W,h33^{km},mb5.0/4 Error ellipse: s-maj=61.6km s-min=27.3km az=93.1*
ISC 09 13:10:24.2±5.2**,16.40S**±0.06×**172.14W**±0.07**,**
h15^{km}±36^{km}**,n223,**σ**0^{s}88**/115**,mb4.9**/53**,MS4.2**/22**,**
31C-10D,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**9.48**	**261**	Pn	**P**	**13 12 49.7**	**+6.5**
	668nm,0.9s,SNR=19						
RAR	**Rarotonga**	**12.65**	**114**	Pn	**P**	**13 13 21.5**	**-5.1**
	18nm,0.3s,baz=251,slow=7.6,SNR=12						
RAR				Sn	**S**	**13 15 30.9**	**-17**
	2.3nm,0.3s,baz=184,slow=23,SNR=1.5						
RAR				LR	LR	13 16 59.5	
	comp=Z,1μm,21.1s,baz=256,slow=32						
RAR	**Rarotonga**	**12.65**	**114**	*e*P	**P**	**13 13 20.8**	**-5.7**
PPT	**Papeete**	**21.61**	**96**	*e*L		13 19 19.2	
PPT				*e*R		13 19 59.8	
	1μm,25.5s,baz=257						
TBI	**Tubuai**	**22.41**	**112**	*e*L		13 19 29.8	
TBI				*e*R		13 20 28.6	
	1μm,25.2s,baz=288						
WCZ	**Waipu Caves**	**22.89**	**209**	P	**P**	**13 15 33.4**	**+4.9**
KUZ	**Kuaotunu**	**22.95**	**206**	P	**P**	**13 15 32.4**	**+3.3**
PUZ	**Puketiti**	**23.19**	**200**	*e*P	**P**	**13 15 32.5**	**+1.1**
URZ	**Urewera**	**23.75**	**201**	P	**P**	**13 15 37.0**	**+0.3**
	70nm,0.8s,mb5.1,baz=29,slow=6.7,SNR=5.9						
URZ				S	**S**	**13 19 51.9**	**+3.9**
	8.1nm,0.6s,baz=75,slow=20,SNR=10						
BFZ	**Birch Farm**	**26.21**	**200**	*e*P	**P**	**13 16 06.8**	**+6.6**
NNZ	**Nelson**	**27.72**	**204**	*e*P	**P**	**13 16 22.7**	**+8.7**
QRZ	**Quartz Range**	**27.73**	**206**	P	**P**	**13 16 21.3**	**+7.2**
QRZ				*e*E		13 16 32.4	
THZ	**Tophouse**	**28.37**	**204**	*e*P	**P**	**13 16 27.9**	**+8.0**
RPZ	**Rata Peaks**	**30.75**	**204**	P	**P**	**13 16 49.3**	**+8.2**
	10nm,0.6s,mb4.8,baz=264,slow=4.0,SNR=3.6						
CNB	**Canberra Magne**	**39.12**	**234**	*e*P	**P**	**13 17 54.7**	**+1.8**
	22nm,0.8s,mb4.9						
CTA	**Charters Tower**	**39.61**	**258**	*e*P	**P**	**13 17 57.7**	**+0.6**
	4.1nm,0.9s,mb4.2						
CTA	**Charters Tower**	**39.61**	**258**	P	**P**	**13 17 58.5**	**+1.4**
	5.1nm,0.9s,mb4.2,baz=83,slow=8.9,SNR=7.1						
CTAO	**Charters Tower**	**39.61**	**258**	*e*P	**P**	**13 17 57.6**	**+0.5**
	9.2nm,1.0s,mb4.5						
TOO	**Toolangi**	**42.79**	**232**	*e*P	**P**	**13 18 24.8**	**+1.7**
	11nm,0.9s,mb4.6						
TAU	**Tasmania Unive**	**43.43**	**224**	P	**P**	**13 18 28.7**	**+0.5**
	41nm,1.2s,mb5.0						
STKA	**Stephens Creek**	**44.60**	**241**	*e*P	**P**	**13 18 40.0**	**+2.1**
	14nm,0.9s,mb4.8						
STKA	**Stephens Creek**	**44.60**	**241**	P	**P**	**13 18 40.4**	**+2.5**
	18nm,0.9s,mb4.9,baz=77,slow=9.8,SNR=20						
WB2	**Warramunga Arr**	**50.79**	**257**	*e*P	**P**	**13 19 26.8**	**+0.5**
WRAB	**Tennant Creek**	**50.80**	**257**	*e*P	**P**	**13 19 27.4**	**+1.1**
	20nm,0.8s,mb5.1						
WRA	**Warramunga Arr**	**50.80**	**257**	P	**P**	**13 19 27.0**	**+0.6**
	10nm,0.9s,mb4.8,baz=92,slow=7.0,SNR=63						
WRA				LR	LR	13 40 44.8	
	comp=Z,218nm,18.8s,MS4.2,baz=35,slow=36						
ASPA	**Alice Springs**	**50.97**	**253**	⇑*i*P	**P**	**13 19 28.7**	**+1.1**
ASPA				*e*		13 19 45.9	
ASPA				*e*PCP	PcP	13 20 44.3	+0.2
FITZ	**Fitzroy Crossi**	**59.20**	**258**	*e*P	**P**	**13 20 29.2**	**+1.8**
	3.4nm,0.8s,mb4.4						

FITZ	Fitzroy Crossi	59.20	258	P	P	13 20 28.3	+0.9
	3.4nm,0.9s,mb4.3,baz=106,slow=1.0,SNR=4.7						
CBIJ	Chichi jima	61.91	314	LR	LR	13 42 40.7	
	comp=Z,144nm,21.7s,MS4.1,baz=300,slow=31						
SBA	Scott Base	62.37	185	eP	P	13 20 48.8	+0.5
	18nm,0.7s,mb5.3						
MBWA	Marble Bar	64.25	254	eP	P	13 21 01.4	0.0
	14nm,0.9s,mb5.0						
NWAO	Narrogin (SRO)	65.19	241	eP	P	13 21 01.0	-6.4
	35nm,1.1s,mb5.3						
CASY	Casey	70.02	205	eP	P	13 21 36.6	-0.4
	8.4nm,1.1s,mb4.6						
CASY				e		13 21 45.7	
TGY	Tagaytay City	72.72	291	LR	LR	13 48 01.0	
	comp=Z,111nm,21.2s,MS4.1,baz=166,slow=31						
CMB	Columbia Colle	72.72	41	eP	P	13 21 55.3	+1.5
	17nm,1.1s,mb4.9						
CMB				e		13 22 04.9	
OHCM	Honcut	72.85	39	eP	P	13 21 56.0	+1.4
ASMM	Slate Mountain	73.02	40	eP	P	13 21 55.7	+0.1
ASMM				e		13 22 05.4	
ASAJ	Asahikawa	73.02	328	LR	LR	13 50 45.3	
	comp=Z,82nm,18.7s,MS4.0,baz=346,slow=33						
JNU	Nakatsue	73.36	313	LR	LR	13 49 33.4	
	comp=Z,80nm,21.9s,MS4.0,baz=316,slow=32						
MTUM	Tungsten Hills	73.46	42	eP	P	13 21 59.9	+1.8
MTUM				e		13 22 09.7	
DAC	Darwin (Calif)	73.46	43	⇑eP	P	13 21 59.3	+1.1
	21nm,1.5s,mb4.8						
DAC				e		13 22 08.5	
QSPA	South Pole Qui	73.66	180	eP	P	13 21 58.5	0.0
	33nm,1.1s,mb5.2						
QSPA				e		13 22 08.6	
QSPA				LR	LR		
	comp=Z,90nm,21.5s,MS4.0						
YBH	Yreka Blue Hor	73.67	36	P	P	13 22 01.8	+2.6
	comp=Z,13nm,0.9s,mb4.8,baz=188,slow=3.1,SNR=32						
YBH	Yreka Blue Hor	73.67	36	eP	P	13 22 01.0	+1.7
	comp=Z,14nm,0.9s,mb4.9						
YBH				e	pP	13 22 06.3	+2.3
YBH				e		13 22 11.1	
BEKR	Beckwourth	73.86	39	⇑eP	P	13 22 02.0	+1.6
	comp=Z,9.2nm,0.8s,mb4.8						
WCN	Washoe City	73.88	40	⇑eP	P	13 22 02.2	+1.6
	comp=Z,20nm,1.0s,mb5.0						
WCN				e		13 22 12.1	
HUMO	Hull Mountain	74.10	36	⇑eP	P	13 22 03.2	+1.5
	comp=Z,13nm,1.2s,mb4.7						
HUMO				e		13 22 12.1	
MNV	Mina	74.36	41	⇑eP	P	13 22 04.8	+1.5
	comp=Z,21nm,1.0s,mb5.0						
MNV				e		13 22 14.7	
LDFC	Landfair	74.46	46	⇑iP	P	13 22 05.5	+1.6
LDFC				e		13 22 15.7	
TPNV	Topopah Spring	74.73	43	eP	P	13 22 07.2	+1.7
	comp=Z,14nm,1.0s,mb4.9						
TPNV				e		13 22 16.9	
TPH	Tonopah	74.75	42	eP	P	13 22 07.0	+1.4
	comp=Z,34nm,1.1s,mb5.2						
TPH				e		13 22 16.9	
YSS	Yuzh-Sakhalins	74.94	330	⇑eP	P	13 22 08.8	+2.3
YSS				pmax	pmax		
	comp=Z,40nm,1.1s,mb5.3						
YSS	Yuzh-Sakhalins	74.94	330	eP	P	13 22 08.8	+2.3
	comp=Z,34nm,1.0s,mb5.2						
YSS				e		13 22 19.2	
MOD	Modoc	75.16	37	⇑eP	P	13 22 09.5	+1.6
	comp=Z,15nm,0.9s,mb4.9						
MOD				e		13 22 19.3	
KDAK	Kodiak Island	75.66	11	eP	P	13 22 11.1	+0.7
	comp=Z,26nm,1.3s,mb5.0						
KDAK				e		13 22 20.2	
TUC	Tucson	76.09	50	⇑eP	P	13 22 15.2	+1.8
	comp=Z,23nm,1.3s,mb5.0						
TUC				e		13 22 24.5	
BMN	Battle Mountai	76.12	40	⇑iP	P	13 22 14.8	+1.5
	comp=Z,16nm,1.0s,mb4.9						
BMN				e		13 22 24.9	
WVOR	Wild Horse Val	76.46	38	⇑eP	P	13 22 16.6	+1.4
	comp=Z,21nm,1.2s,mb4.9						
WVOR				e		13 22 26.7	
WUAZ	Wupatki	77.28	47	⇑eP	P	13 22 22.1	+2.1
	comp=Z,30nm,1.2s,mb5.1						
WUAZ				e		13 22 31.5	
ELK	Elko	77.53	41	⇑eP	P	13 22 22.8	+1.6
	comp=Z,17nm,1.2s,mb4.9						
ELK				e		13 22 32.3	
RSO	Redoubt South	78.17	10	eP	P	13 22 26.0	+1.7
MVU	Marysvale	78.26	44	⇑eP	P	13 22 27.4	+2.2
	comp=Z,20nm,1.0s,mb5.0						
MVU				e		13 22 37.5	
MSU	Marysvale	78.29	44	eP	P	13 22 27.9	+2.5
MSU				e		13 22 37.0	
DUG	Dugway	78.77	42	eP	P	13 22 29.4	+1.4
DUG				e		13 22 39.5	
BGU	Big Grassy Mou	79.03	41	eP	P	13 22 30.6	+1.2
BGU				e		13 22 41.0	
SSE	Sheshan	79.52	307	P	P	13 22 34.1	+1.8
SSE				S	S	13 32 32.9	+1.0
SSE				SS	SS	13 37 39.5	-3.3
SSE				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,118nm,3.3s						
SSE				LR	LR		
	comp=N,43nm,31.9s,MS3.7						
SSE				LR	LR		
	comp=E,31nm,31.9s,MS3.7						
SSE				LR	LR		
	comp=Z,55nm,26.8s						
HLID	Hailey	79.63	39	eP	P	13 22 34.2	+1.5
	comp=Z,15nm,0.9s,mb4.9						
HLID				e		13 22 43.5	
HLID				e		13 22 51.3	
SRU	San Rafael	79.70	44	eP	P	13 22 34.7	+1.6
SRU				e		13 22 44.8	
LAZ	Ladron	79.77	50	eP	P	13 22 35.5	+2.0
LAZ				e		13 22 46.0	
LENM	Lemitar	79.78	50	eP	P	13 22 35.5	+1.9
LENM				e		13 22 46.0	
PMR	Palmer	79.86	11	eP	P	13 22 34.3	+0.9
PMR				LR	LR		
	comp=Z,100nm,19.0s,MS4.2						
JLU	Jordanelle	79.87	42	eP	P	13 22 35.4	+1.4
JLU				e		13 22 45.6	
BNM	Barren Site	80.03	50	eP	P	13 22 37.2	+2.3
BNM				e		13 22 47.1	
TTA	Tatalina	80.07	7	eP	P	13 22 36.9	+2.3
LTX	Lajitas	80.17	56	eP	P	13 22 37.2	+1.4
	comp=Z,31nm,1.5s,mb5.0						
LTX				e		13 22 47.5	
LTX				e		13 22 55.3	
LTX				LR	LR		
	comp=Z,207nm,22.0s,MS4.4						
TXAR	Lajitas Array	80.17	56	P	P	13 22 38.1	+2.3
	comp=Z,4.9nm,1.0s,mb4.4,baz=225,slow=7.1,SNR=32						
TXAR				LR	LR	13 51 07.7	
	comp=Z,122nm,19.0s,MS4.3,baz=245,slow=30						
TCUT	Toone Canyon	80.17	42	eP	P	13 22 36.3	+0.8
TCUT				e		13 22 44.6	
HWUT	Hardware Ranch	80.32	42	eP	P	13 22 37.4	+1.0
	comp=Z,13nm,1.3s,mb4.7						
HWUT				e		13 22 47.2	
HWUT				e		13 22 53.3	
PV10	Paradox Valley	80.33	45	eP	P	13 22 37.8	+1.3
PV10				e		13 22 48.1	
ANMO	Albuquerque	80.52	49	⇓eP	P	13 22 40.0	+2.5
ANMO	Albuquerque	80.52	49	eP	P	13 22 39.8	+2.2
	comp=Z,14nm,1.1s,mb4.8						
ANMO				e		13 22 49.6	
ANMO				e		13 22 58.4	
PV01	Paradox Valley	80.54	46	eP	P	13 22 38.9	+1.3
PV01				e		13 22 49.5	
MDJ	Mudanjiang	80.55	322	eP	P	13 22 40.2	+2.7
	comp=Z,19nm,1.3s,mb4.9						
GDL2	Guadalupe Moun	80.85	53	eP	P	13 22 41.0	+1.7
GDL2				e		13 22 51.3	
MCMT	McKenzie Canyo	81.27	38	eP	P	13 22 43.3	+2.0
MCMT				e		13 22 53.0	
CPRX	Cap Rock	81.59	52	eP	P	13 22 45.2	+2.0
CPRX				e		13 22 55.5	
CPRX				e		13 23 03.6	
REDW	Red Top Meadow	81.70	40	eP	P	13 22 46.1	+2.5
REDW				e		13 22 54.9	
TPAW	Teton Pass	81.70	40	eP	P	13 22 45.5	+1.9
TPAW				e		13 22 55.3	
NJ2	Nanjing	81.73	307	eP	P	13 22 46.0	+2.1
NJ2				PP	PP	13 25 55.9	+2.7
NJ2				S	S	13 32 57.0	+2.3
NJ2				SKS	SKS	13 32 59.0	-5.8
NJ2				AMB	AMB		
	comp=Z,50nm,1.1s,mb5.4						
NJ2				LR	LR		
	comp=N,570nm,27.2s,MS4.8						
NJ2				LR	LR		
	comp=E,310nm,30.8s,MS4.8						
NJ2				LR	LR		
	comp=Z,650nm,26.0s,MS4.9						
MCK	McKinley	81.88	10	eP	P	13 22 45.2	+1.1
	comp=Z,17nm,1.2s,mb4.8						
MCK				e		13 22 55.6	
MCK				LR	LR		
	comp=Z,105nm,21.0s,MS4.2						
QLMT	Earthquake Lak	82.12	39	eP	P	13 22 48.0	+2.3
QLMT				e		13 22 58.0	
DLBC	Dease Lake	82.19	21	P	P	13 22 46.6	+0.9
	comp=Z,1.8nm,0.9s,mb4.0,baz=170,slow=3.2,SNR=4.4						
DLBC	Dease Lake	82.19	21	eP	P	13 22 46.6	+0.9
DLBC				e		13 22 56.7	
CHMT	Chamberlain Mo	82.20	36	eP	P	13 22 47.6	+1.5
CHMT				e		13 22 57.5	
PDAR	Pinedale Array	82.20	41	P	P	13 22 47.9	+1.7
	comp=Z,1.8nm,0.9s,mb4.0,baz=225,slow=2.1,SNR=12						
PDAR				LR	LR	13 55 28.7	
	comp=Z,129nm,18.1s,MS4.3,baz=257,slow=33						
BOZ	Bozeman (W)	82.44	38	eP	P	13 22 48.6	+1.3
	comp=Z,14nm,1.1s,mb4.8						
BOZ				e		13 22 57.9	
SDCO	Great Sand Dun	82.49	47	eP	P	13 22 49.5	+1.7
	comp=Z,29nm,1.7s,mb4.9						
SDCO				e		13 22 59.4	
CN2	Changchun	82.62	320	eP	P	13 22 50.9	+2.6
HRY	Holter Researc	82.90	37	eP	P	13 22 50.8	+1.1
HRY				e		13 23 01.5	
COLA	College	83.11	10	eP	P	13 22 51.8	+1.4
COLA				MLR	MLR		
	comp=Z,100nm,21.0s,MS4.2						
ILAR	Eielson Array	83.19	11	P	P	13 22 51.8	+1.0
	comp=Z,1.8nm,0.8s,mb4.1,baz=225,slow=6.0,SNR=22						
ILAR				LR	LR	13 54 17.0	
	comp=Z,64nm,19.2s,MS4.0,baz=18,slow=32						
IMA	Indian Mountai	83.38	7	eP	P	13 22 54.2	+2.5
	comp=Z,11nm,1.0s,mb4.8						
IMA				e		13 23 04.5	
IMA				e		13 23 19.9	
DAWY	Dawson	84.09	14	eP	P	13 22 56.8	+1.4
DAWY				e		13 23 06.9	
WMOK	Wichita Mounta	86.14	52	PFAKE		13 23 20.0	+14
WMOK				LR	LR		
	comp=Z,212nm,22.0s,MS4.5						
MAW	Mawson	87.24	198	eP	P	13 23 11.9	+1.0
	comp=Z,9.7nm,1.0s,mb5.0						
MAW	Mawson	87.24	198	P	P	13 23 12.4	+1.5
	comp=Z,10nm,0.9s,mb5.0,baz=100,slow=4.5,SNR=17						
MAW				LR	LR	14 02 21.9	
	comp=Z,145nm,19.8s,MS4.4,baz=71,slow=36						
HIA	Hailar	88.72	323	P	P	13 23 20.5	+2.1
	comp=Z,20nm,1.5s,mb5.2						
JTS	JuntasAbangare	90.20	79	eP	P	13 23 27.4	+1.3
	comp=Z,70nm,1.2s,mb5.9						
YAK	Yakutsk	90.50	336	⇓eP	P	13 23 27.7	+1.2
YKA	Yellowknife Ar	90.53	23	P	P	13 23 27.8	+1.3
	comp=Z,2.0nm,0.9s,mb4.5,baz=231,slow=4.2,SNR=4.9						
YKA				LR	LR	13 58 46.3	
	comp=Z,73nm,18.0s,MS4.2,baz=65,slow=32						
VNA3	Neumayer Olymp	91.76	174	⇑iP	P	13 23 35.5	+3.5
VNA3	Neumayer Olymp	91.76	174	⇓i	P	13 23 36.3	+4.3
VNA3	Neumayer Olymp	91.76	174	⇓i	pP	13 23 45.8	+8.9
VNA3	Neumayer Olymp	91.76	174	⇑i	sP	13 23 49.6	+11
SNAA	Sanae	91.85	177	⇑iP	P	13 23 32.7	+0.2
SNAA	Sanae	91.85	177	⇑i	P	13 23 33.8	+1.3
SNAA	Sanae	91.85	177	⇑i	pP	13 23 42.2	+4.9
SNAA	Sanae	91.85	177		sP	13 23 45.3	+6.5
SYO	Syowa Base	91.86	191	⇓P	P	13 23 31.9	-0.7
SYO	Syowa Base	91.86	191	⇓pP	pP	13 23 42.9	+5.5
SYO	Syowa Base	91.86	191	⇓sP	sP	13 23 51.8	+13
VNA2	Neumayer--Watz	92.27	175	⇑iP	P	13 23 38.4	+4.0
VNA2	Neumayer--Watz	92.27	175	⇑i	P	13 23 39.9	+5.5
VNA2	Neumayer--Watz	92.27	175	⇑i	pP	13 23 48.9	+10
VNA2	Neumayer--Watz	92.27	175	⇑i	sP	13 23 52.4	+12
VNA1	Neumayer--Stat	92.46	175	⇓iP	P	13 23 38.8	+3.5
VNA1	Neumayer--Stat	92.46	175	⇓i	P	13 23 39.6	+4.3
VNA1	Neumayer--Stat	92.46	175		pP	13 23 49.6	+10
VNA1	Neumayer--Stat	92.46	175		sP	13 23 54.1	+12
KMI	Kunming	92.55	295	eP	P	13 23 40.3	+3.5
KMI				AMB	AMB		
	comp=Z,7.0nm,1.8s,mb4.8						
ULM	Lac du Bonnet	93.94	39	LR	LR	13 58 48.0	
	comp=Z,235nm,20.0s,MS4.7,baz=360,slow=31						
CMAR	Chiang Mai Arr	94.07	288	LR	LR	14 03 05.1	
	comp=Z,56nm,18.5s,MS4.0,baz=100,slow=34						
MKAR	Makanchi Array	112.39	314	PKiKP		13 29 01.5	
	comp=Z,1.2nm,0.8s,baz=90,slow=1.3,SNR=9.8						
KURK	Kurchatov	114.68	319	ePKPdf	PKPdf	13 29 05.3	-2.3
KURK				e		13 29 15.6	
KURK				e		13 29 24.8	
BVAR	Borovoye Array	119.41	322	PKP	PKPdf	13 29 15.4	-1.3
	comp=Z,3.5nm,0.9s,baz=72,slow=4.7,SNR=8.8						
ARCES	ARCESS Array B	125.75	352	PKP	PKPdf	13 29 27.5	-1.1
	comp=Z,5.9nm,1.0s,baz=45,slow=1.7,SNR=5.2						
FINES	FINESS Array B	133.17	348	PKP	PKPdf	13 29 42.5	-0.4
	comp=Z,1.3nm,0.7s,baz=124,slow=6.9,SNR=4.2						
AKASG	Malin Array Be	141.72	338	PKP	PKPdf	13 29 57.2	-1.5
	comp=Z,0.3nm,0.3s,baz=22,slow=1.9,SNR=5.7						
TSUM	Tsumeb	143.36	196	PKhKP		13 29 58.4	
	comp=Z,5.8nm,0.9s,baz=144,slow=4.8,SNR=9.1						
TSUM	Tsumeb	143.36	196	PKP	PKPdf	13 29 58.4	-4.1
TSUM				LR	LR		
	comp=Z,168nm,20.0s,MS4.8						
CLZ	Clausthal	144.58	357	ePKPbc	PKPbc	13 30 02.0	+2.1
OJC	Ojcow	144.91	347	ePKIKP	PKPdf	13 30 03.2	-1.1
OJC				e		13 30 12.6	
CLL	Collm	144.93	354	i PKIKP	PKPdf	13 30 02.8	-1.5
	comp=Z,logA/T=1.1						
CLL				i *PPKP		13 30 12.8	
CLL	Collm	144.93	354	i PKIKP	PKPdf	13 30 02.8	-1.5
CLL				i		13 30 12.8	
CLL				pmax	pmax		
	comp=Z,12nm,0.9s						
KSP	Ksiaz	144.97	351	ePKIKP	PKPdf	13 30 03.3	-1.1
KSP				e		13 30 11.9	
BRG	Berggiesshubel	145.26	353	ePKIKP	PKPdf	13 30 03.8	-1.1
BRG				pmax	pmax		
	comp=Z,13nm,1.2s						
UPC	Upice	145.34	351	ePKP	PKPdf	13 30 04.0	-1.1
UPC				epPKP		13 30 14.8	
MALT	Malatya	145.42	315	ePKPdf	PKPdf	13 30 05.8	+0.2
MALT				e		13 30 16.1	
DPC	Dobruska-Polom	145.45	350	ePKP	PKPdf	13 30 05.0	-0.2
DPC				epPKP		13 30 15.2	
KOLS	Kolonicke sedl	145.48	343	ePKP	PKPdf	13 30 04.8	-0.5
KOLS				e		13 30 15.0	
PVCC	Panska Ves	145.53	352	ePKP	PKPdf	13 30 04.9	-0.5
PVCC				epPKP		13 30 15.2	
OKC	Ostrava-Krasne	145.62	348	ePKP	PKPdf	13 30 05.2	-0.3
OKC				epPKP		13 30 15.4	
HGN	Heimansgroeve	145.68	2	eP	PKPbc	13 30 05.2	+2.4
	comp=Z,15nm,1.5s						
MOX	Moxa	145.70	356	i P	PKPbc	13 30 05.6	+2.7
	comp=Z,logA/T=1.5						
MOX				pPKP		13 30 16.0	
MOX	Moxa	145.70	356	ePKIKP	PKPdf	13 30 05.6	-0.1
MOX				e		13 30 15.7	
MOX				pmax	pmax		
	comp=Z,46nm,1.5s						
CRVS	Cervenica-Dubn	145.73	344	ePKP	PKPdf	13 30 08.6	+2.8
MORC	Moravsky Berou	145.79	349	ePKPdf	PKPdf	13 30 05.7	-0.1
MORC				e		13 30 15.6	
NKC	Novy Kostel	146.04	355	ePKP	PKPdf	13 30 06.3	0.0
NKC				epPKP		13 30 16.5	
PRU	Pruhonice	146.06	352	ePKP	PKPdf	13 30 06.3	0.0
PRU				epPKP		13 30 16.5	
KMBO	Kilima Mbogo	146.17	242	PKPbc	PKPbc	13 30 08.7	+3.6
	comp=Z,11nm,0.9s,baz=68,slow=3.5,SNR=21						
KMBO	Kilima Mbogo	146.17	242	ePKPdf	PKPdf	13 30 07.7	+0.1
KMBO				e		13 30 18.8	
KMBO				LR	LR		
	comp=Z,58nm,19.0s,MS4.4						
GIVF	Givet	146.29	4	ePKP1	PKPbc	13 30 06.5	+2.2
BAIF	Baives	146.29	4	ePKP1	PKPbc	13 30 06.9	+2.6
	comp=Z,92nm,1.3s						
KECS	Kecovo	146.37	345	ePKP	PKPdf	13 30 07.7	+0.8
KECS				e		13 30 18.1	
GRA1	Grafenberg Arr	146.68	356	ePKPbc	PKPbc	13 30 08.6	+3.4
GRF	Grafenberg Arr	146.68	356	ePKP2	PKPab	13 30 08.6	-0.1
VYHS	Vyhne	146.75	347	i PKP	PKPdf	13 30 09.0	+1.5
VYHS				e		13 30 19.4	
KOLL	Kolacno	146.76	347	ePKP	PKPdf	13 30 09.6	+2.1
KOLL				e		13 30 19.8	
FLN	La Foliniere	147.01	10	ePKP1		13 30 08.5	
	comp=Z,52nm,1.1s						
FLN				eR			
	comp=Z,80nm,17.8s						
KHC	Kasperske Hory	147.02	353	ePKP	PKPdf	13 30 09.0	+1.1
KHC				pPKP		13 30 20.0	
KHC	Kasperske Hory	147.02	353	ePKP	PKPdf	13 30 09.0	+1.1
KHC				e		13 30 20.0	
PSZ	Piszkesteto	147.04	345	⇑ePKP/F		13 30 09.2	
PSZ	Piszkesteto	147.04	345	ePKPbc	PKPdf	13 30 09.2	+1.2
WET	Wettzell	147.08	354	ePKP2	PKPab	13 30 10.2	-0.1
SGMF	Saint Gilles	147.10	13	ePKP1	PKPdf	13 30 08.7	+0.6
	comp=Z,41nm,1.0s						
LDF	La Druitiere	147.23	10	ePKP1	PKPdf	13 30 09.1	+0.8
	comp=Z,79nm,1.3s						
MLR	Muntele Rosu	147.27	336	PKPbc	PKPdf	13 30 10.6	+2.1
	comp=Z,18nm,1.1s,baz=212,slow=0.6,SNR=11						
QUIF	Quistinic	147.28	14	ePKP1	PKPdf	13 30 08.5	+0.1
	comp=Z,122nm,1.5s						
GEC2	GERESS Array S	147.29	353	ePKPbc	PKPdf	13 30 10.6	+2.2
GEC2				epPKPbc		13 30 20.7	
GERES	GERESS Array B	147.29	353	PKP	PKPdf	13 30 06.0	-2.3
	comp=Z,7.0nm,1.0s,baz=243,slow=3.0,SNR=26						
GERES				PKPbc	PKPdf	13 30 10.5	+2.1
	comp=Z,5.3nm,0.9s,baz=45,slow=1.9,SNR=26						
GRR	Gorron	147.30	11	ePKP1	PKPdf	13 30 09.5	+1.1
	comp=Z,66nm,1.2s						
ZST	Bratislava	147.39	348	ePKP	PKPdf	13 30 11.4	+2.8
ZST				e		13 35 37.7	
ZST				e		13 50 39.9	
BRTR	Keskin Array B	147.69	321	PKPbc	PKPdf	13 30 12.1	+2.7
	comp=Z,10nm,0.9s,baz=135,slow=1.7,SNR=30						
MEZF	Maizieres J’vi	147.90	4	ePKP1	PKPdf	13 30 11.7	+2.3
CDF	Champ du Feu	148.07	1	ePKP1	PKPdf	13 30 11.9	+2.3
	comp=Z,66nm,1.3s						
BFO	Black Forest	148.15	359	ePKPbc	PKPdf	13 30 12.5	+2.7
BFO				epPKPbc		13 30 23.1	
MOA	Molln	148.19	352	⇑iP	PKPdf	13 30 12.4	+2.5
MOA				i		13 30 26.6	
FUR	Furstenfeldbru	148.19	356	ePKPbc	PKPdf	13 30 13.2	+3.3
FUR				epPKPbc		13 30 23.5	
HAU	Haudompre	148.45	2	ePKP1	PKPdf	13 30 13.1	+2.8
	comp=Z,77nm,1.3s						
HAU				eR			
	comp=Z,75nm,17.0s						
ARSA	Arzberg	148.59	350	⇑iP	PKPdf	13 30 13.4	+2.9
MOTA	Moosalm	149.02	356	⇓iP	PKPdf	13 30 15.2	+4.0
MOTA				i		13 30 25.9	
LOR	Lormes	149.04	5	ePKP1	PKPdf	13 30 14.5	+3.3
	comp=Z,102nm,1.5s						
LOR				eR			
	comp=Z,122nm,19.2s						
WTTA	Wattenberg	149.06	355	⇑iP	PKPdf	13 30 14.8	+3.5
WTTA				i		13 30 25.3	
SQTA	Sankt Quirin	149.14	356	⇑iP	PKPdf	13 30 15.2	+3.8
SQTA				i		13 30 25.3	
DAVA	Damuels	149.15	357	⇑iP	PKPdf	13 30 15.2	+3.8
DAVA				i		13 30 25.2	
MFF	Saint Martin d	149.15	11	ePKP1	PKPdf	13 30 14.4	+2.9
	comp=Z,77nm,1.5s						
SSF	Saint Saulge	149.21	6	ePKP1	PKPdf	13 30 15.0	+3.5
	comp=Z,105nm,1.3s						
ASF	Jabal al Asfar	149.35	306	PKPbc	PKPdf	13 30 17.2	+4.9
	comp=Z,2.9nm,0.6s,baz=54,slow=1.1,SNR=6.0						
AVF	Avril sur Loir	149.46	6	ePKP1	PKPdf	13 30 15.3	+3.4
	comp=Z,50nm,1.2s						
BGF	Bois d’Agland	149.64	7	ePKP1	PKPdf	13 30 15.9	+3.7
	comp=Z,74nm,1.2s						
SMF	Signal de Mont	149.65	5	ePKP1	PKPdf	13 30 15.8	+3.5
	comp=Z,59nm,1.4s						
TCF	Toulx Ste Croi	149.83	8	ePKP1	PKPdf	13 30 16.2	+3.7
	comp=Z,58nm,1.3s						
CABF	La Chapelle	149.84	2	ePKP1	PKPdf	13 30 17.1	+4.6
	comp=Z,89nm,1.2s						
LJU	Ljubljana	149.92	351	ePKPbc	PKPdf	13 30 16.5	+3.8
LJU				ePKPab	PKPab	13 30 27.3	+5.5
JAVS	Javornik	150.14	351	ePKPbc	PKPdf	13 30 16.9	+3.8
JAVS				i PKPab	PKPab	13 30 27.5	+4.7
BOJS	Bojanci	150.32	349	ePKPbc	PKPdf	13 30 18.0	+4.7
BOJS				ePKPab	PKPab	13 30 28.7	+5.2
DIVS	Divcibare	150.53	342	⇑iP	PKPdf	13 30 18.0	+4.3
RJF	Les Rejaudoux	150.69	9	ePKP1	PKPdf	13 30 18.3	+4.4
	comp=Z,50nm,1.4s						
RJF				eR			
	comp=Z,94nm,18.2s						
LPG	La Plagne	150.97	2	ePKP1	PKPdf	13 30 20.3	+6.0
	comp=Z,23nm,1.0s						
CAF	Calviac	151.14	9	ePKP1	PKPdf	13 30 19.5	+4.9
	comp=Z,49nm,1.7s						
BNI	Bardonecchia	151.41	2	ePKPdf	PKPdf	13 30 15.4	+0.4
BNI				e		13 30 21.2	
BNI				e		13 30 28.7	
VIVF	Saint-Julien-l	151.50	5	ePKP1	PKPdf	13 30 20.7	+5.6
	comp=Z,47nm,1.2s						
ORIF	Oris-en-Rattie	151.52	3	ePKP1	PKPdf	13 30 20.9	+5.8
	comp=Z,13nm,0.8s						
ORIF				eR			
	comp=Z,79nm,18.8s						
MBDF	Montbardon	151.74	2	ePKP1	PKPdf	13 30 21.2	+5.7
	comp=Z,7.3nm,0.7s						
MBAR	Mbarara	151.81	235	ePKPbc	PKPdf	13 30 20.6	+4.1
MBAR				e		13 30 31.4	
EIL	Elat	151.87	303	PKPbc	PKPdf	13 30 22.7	+6.5
	comp=Z,9.8nm,0.8s,baz=41,slow=8.3,SNR=6.7						
SKO	Skopje	151.97	338	ePKP	PKPdf	13 30 22.0	+6.1
LASF	Ste Croix	152.20	6	ePKP1	PKPdf	13 30 22.4	+6.2
	comp=Z,47nm,1.4s						
SMRF	Simiane la Rot	152.44	4	ePKP1	PKPdf	13 30 23.3	+6.8
	comp=Z,30nm,1.1s						
SBF	Sospel	152.62	1	ePKP1	PKPdf	13 30 22.5	+5.7
	comp=Z,22nm,0.9s						
LMR	La Mourre	153.13	2	ePKP1	PKPdf	13 30 23.9	+6.4
	comp=Z,15nm,0.9s						
EVO	Evora	153.91	29	ePKIKP	PKPdf	13 30 17.9	-0.8
	comp=Z,3.3nm,0.5s						
DBIC	Dimbokro	164.24	126	PKPab	PKPab	13 31 23.6	-0.4
	comp=Z,1.3nm,0.7s,baz=4.3,slow=10,SNR=3.0						

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*CASC **09** 13:28:47.7±2.6, 11.70N×87.95W, h7km±7km, MD3.8*

ISC 09 13:28:46.5±0.6**, 11.64N**±0.04×**87.98W**±0.03**, h7km, n29,**
σ**1s25**/46**, 10C-2D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LEON	Leon	1.31	54	⇑eP	Pb	13 29 12.6	+1.5
LEON				eS	Sb	13 29 28.8	+0.7
COPN	Copaltepe	1.46	68	⇓eP	Pn	13 29 14.7	+1.2
COPN				eS	Sb	13 29 34.4	+2.1
MIRN	Miramar	1.47	57	⇓iP	Pn	13 29 13.4	-0.2
TELN	Telica	1.48	49	⇑eP	Pn	13 29 12.5	-1.1
CNGN	Cerro Negro	1.52	56	⇑eP	Pn	13 29 12.6	-1.6
MOMJ	Momotombo	1.60	61	⇑iP	Pn	13 29 14.1	-1.4
CNCH	Conchagua	1.63	5	⇑eP	Pn	13 29 13.7	-2.2
CNCH				eS	Sb	13 29 36.7	-0.7
XAVN	Gruta Xavier	1.69	72	⇑eP	Pn	13 29 16.4	-0.3
APYN	Apoyeque	1.70	69	eP	Pn	13 29 16.2	-0.6
TICN	Ticuantepe	1.75	77	⇑eP	Pn	13 29 18.0	+0.4
TICN				eS	Sn	13 29 41.1	+0.7
MGAN	Managua	1.77	73	eP	Pn	13 29 17.0	-0.9
MGAN				eS	Sn	13 29 38.8	-2.0
VSM	San Miguel	1.80	351	eP	Pn	13 29 17.2	-1.0
VSM				eS	Sn	13 29 43.0	+1.4
BLLM	Bellamira	1.81	352	eP	Pn	13 29 17.4	-1.0
APON	Apoyo	1.89	81	⇑eP	Pn	13 29 19.3	-0.3
APON				eS	Sn	13 29 43.8	-0.1
SNVI	San Vicente	2.13	337	eP	Pn	13 29 23.2	+0.1
SNVI				eS	Sn	13 29 50.0	0.0
LCBS	La Ceiba	2.23	334	eP	Pn	13 29 24.2	-0.2
LCBS				eS	Sn	13 29 51.9	-0.5
LFRS	El Faro	2.24	332	⇑eP	Pn	13 29 24.7	+0.2
LFRS				eS	Sn	13 29 54.1	+1.4
CONN	Concepcion	2.31	92	eP	Pn	13 29 24.1	-1.5

LFU	La Fuente	2.37	332	eP	Pn	13 29 25.6	-0.9
BOQS	Boqueron	2.44	329	eP	Pn	13 29 26.9	-0.5
BOQS				eS	Sn	13 29 58.9	+1.1
SBLS	San Blas	2.71	324	eP	Pn	13 29 29.0	-2.3
SBLS				eS	Sn	13 30 06.3	+1.5
RTR	El Retiro	2.77	324	eP	Pn	13 29 31.9	-0.2
RTR				eS	Sn	13 30 07.8	+1.5
JCR	Jicaral	3.33	122	eP	Pn	13 29 45.2	+5.1
JCR				eS	Sn	13 30 17.8	-2.6
CGA2	Cerro Gallo 2	3.81	115	eP	Pn	13 29 49.3	+2.4
CGA2				eS	Sn	13 30 32.7	+0.2
LAJ	Bijagual	4.18	115	eP	Pn	13 29 51.0	-1.1
LCR2	La Lucha 2	4.34	115	eP	Pn	13 29 56.8	+2.3
URSC	Urasca	4.50	113	⇑eP	Pn	13 29 58.8	+2.1
URSC				eS	Sn	13 30 51.6	+1.6
BUS	Buena Vista	4.64	116	eP	Pn	13 30 00.7	+2.0
BUS				eS	Sn	13 30 53.4	0.0
LIO	Limon	5.12	108	eP	Pn	13 30 04.5	-1.0

*JMA **09** 13:31:56.2±0.2, 32.50N×137.61E, h407^{km}, M3.7*

ISC 09 13:31:56.4±1.7**, 32.6N**±0.2×**137.7E**±0.2**, h410**^{km}±22^{km}**,**
n12, σ1^{s}05/20**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JWZ	Kozaga	1.88	301	P	P	13 32 52.1	-0.9
JHJ2	Mitsune	1.90	73	P	P	13 32 53.9	+0.8
JAI	Aioi	2.94	295	P	P	13 32 59.8	-0.4
JHU	Hanno	3.53	22	P	P	13 33 05.9	+0.7
JHU				eS	S	13 33 59.3	-0.1
JRY	Ryogami san	3.58	16	P	P	13 33 07.0	+1.3
JRY				eS	S	13 34 02.3	+2.1
MAT	Matsushiro	3.97	6	P	P	13 33 10.2	+0.9
MAT				S	S	13 34 07.8	+1.2
MAT	Matsushiro	3.97	6	P	P	13 33 10.4	+1.1
MAT				eS	S	13 34 07.8	+1.2
JTO	Tosashimizu	4.10	275	P	P	13 33 09.6	-0.9
JAG	Ashikaga	4.11	21	P	P	13 33 10.7	+0.1
JAG				eS	S	13 34 08.6	-0.3
JYT	Yasato	4.20	29	P	P	13 33 11.5	0.0
JYT				eS	S	13 34 08.3	-2.1
JHO	Hitachi	4.68	30	P	P	13 33 15.8	-0.5
JHO				eS	S	13 34 16.5	-2.4
JFK	Kawauchi	5.45	28	P	P	13 33 24.4	+0.3
JFK				eS	S	13 34 32.6	-0.5

*SYO **09** 13:34:17.7, 4.89N×95.34E, h60^{km}, MB4.7*
*BJI **09** 13:34:18.9, 4.62N×95.44E, h97^{km}, mb4.6*
*NEIC **09** 13:34:19.6±1.1, 4.87N×95.29E, h79^{km}±10^{km}, mb4.5/14, Error ellipse: s-maj=11.2km s-min=5.8km az=219.0*
*IDC **09** 13:34:23.2±5.8, 4.76N×95.25E, h111^{km}±52^{km}, mb4.1/17, mb1 4.2/18, mb1mx4.1/22, MS3.3/2, Ms1 3.4/2, ms1mx3.1/16, Error ellipse: s-maj=24.0km s-min=12.6km az=49.0*

ISC 09 13:34:18.2±1.8**, 4.74N**±0.07×**95.22E**±0.07**, h80**^{km}±16^{km}**,**
n61, σ1^{s}07/58**, mb4.5**/32**, 1C-3D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IPM	Ipoh	5.79	91	⇑eP	P	13 35 43.0	-0.1
	23nm,0.6s						
CMAR	Chiang Mai Arr	14.11	15	P	P	13 37 39.6	+4.0
	1.4nm,0.3s,baz=203,slow=14,SNR=7.3						
CMAR				LR	LR	13 43 12.8	
	comp=Z,61nm,20.1s,baz=180,slow=38						
PALK	Pallekele	14.66	281	eP	P	13 37 42.6	-0.1
	35nm,1.1s						
PALK				eS	S	13 40 06.7	-17
QIZ	Qiongzhong	20.13	44	P	P	13 38 50.9	+2.6
HYB	Hyderabad	20.62	309	i P	P	13 38 53.5	+0.2
HYB	Hyderabad	20.62	309	eP	P	13 38 53.5	+0.2
KMI	Kunming	21.51	19	eP	P	13 39 02.9	+0.7
KMI				AMB	AMB		
	comp=Z,6.0nm,0.5s,mb4.2						
PKI	Pulchoki	24.55	339	eP	P	13 39 31.8	-0.1
	comp=Z,8.5nm,0.6s,mb4.4						
DMN	Daman	24.70	338	eP	P	13 39 33.2	-0.1
KKN	Kakani	24.80	339	eP	P	13 39 33.4	-0.9
	comp=Z,14nm,0.8s,mb4.5						
GKN	Gorkha	25.23	338	eP	P	13 39 36.9	-1.4
	comp=Z,6.1nm,0.3s,mb4.6						
KOLN	Koldanda	25.44	335	eP	P	13 39 37.6	-2.7
	comp=Z,22nm,0.7s,mb4.7						
NJ2	Nanjing	35.05	36	eP	P	13 41 05.2	-0.1
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.1						
FITZ	Fitzroy Crossi	37.62	128	eP	P	13 41 26.1	-1.0
	comp=Z,3.7nm,1.6s,mb4.0						
FITZ	Fitzroy Crossi	37.62	128	P	P	13 41 26.2	-0.9
	comp=Z,3.4nm,0.7s,mb4.3,baz=2.8,slow=4.2,SNR=14						
WMQ	Urumqi	39.48	351	eP	P	13 41 42.0	-0.3
WMQ				AMB	AMB		
	comp=Z,9.0nm,0.8s,mb4.7						
WMQ				LR	LR		
	comp=Z,29nm,22.0s						
UCH	Uchtor	41.64	337	P	P	13 42 01.7	+1.6
	SNR=19						
TKM2	Tokmak 2	41.82	338	P	P	13 42 02.5	+0.9
	SNR=6.9						
KBK	Karagaybulak	41.83	337	P	P	13 42 03.4	+1.7
	SNR=6.7						
AML	Almayashu	41.88	336	P	P	13 42 03.8	+1.7
	SNR=11						
AAK	Ala-Archa	41.99	337	P	P	13 42 05.1	+2.1
	SNR=6.0						
AAK	Ala-Archa	41.99	337	eP	P	13 42 03.1	+0.1
	comp=Z,6.1nm,0.7s,mb4.4						
EKS2	Erkin-Say	42.30	336	P	P	13 42 06.8	+1.3
	SNR=11						
USP	Ospenovka	42.53	338	P	P	13 42 08.1	+0.7
	SNR=14						
MKAR	Makanchi Array	43.36	347	P	P	13 42 13.5	-0.7
	comp=Z,5.0nm,0.6s,mb4.4,baz=169,slow=7.7,SNR=49						
MKAR				PcP	PcP	13 44 01.9	-0.1
	comp=Z,0.7nm,0.5s,baz=174,slow=2.2,SNR=2.3						
SONM	Songino Array	43.99	11	P	P	13 42 20.7	+1.4
	comp=Z,0.6nm,0.4s,mb3.7,baz=191,slow=7.3,SNR=2.6						
WRA	Warramunga Arr	45.60	124	P	P	13 42 32.5	0.0
	comp=Z,12nm,0.7s,mb4.8,baz=302,slow=9.2,SNR=106						
WRAB	Tennant Creek	45.61	124	eP	P	13 42 32.5	0.0
	comp=Z,24nm,0.7s,mb5.0						
WRAB				e		13 42 45.7	
WB2	Warramunga Arr	45.61	124	⇓iP	P	13 42 32.5	-0.1
ASPA	Alice Springs	47.11	129	eP	P	13 42 44.0	-0.3
KURK	Kurchatov	47.89	346	eP	P	13 42 47.1	-3.0
	comp=Z,5.8nm,0.9s,mb4.4						
MAJO	Matsushiro	50.52	45	P	P	13 43 08.2	-2.3
BVAR	Borovoye Array	52.28	341	P	P	13 43 22.8	-0.7
	comp=Z,2.4nm,0.5s,mb4.5,baz=148,slow=9.4,SNR=14						
BRVK	Borovoye	52.34	341	eP	P	13 43 22.9	-1.1
	comp=Z,6.2nm,0.7s,mb4.8						
ZRNK	Zerenda	52.67	340	eP	P	13 43 25.3	-1.1
	comp=Z,3.9nm,0.4s,mb4.8						
ASAJ	Asahikawa	57.11	39	P	P	13 43 58.3	-0.4
	comp=Z,15nm,1.2s,mb4.9,baz=274,slow=32,SNR=4.1						
STKA	Stephens Creek	57.19	133	P	P	13 43 59.7	+0.2
	comp=Z,4.6nm,1.2s,mb4.4,baz=304,slow=7.3,SNR=2.6						
STKA	Stephens Creek	57.19	133	P	P	13 43 59.7	+0.2
KMBO	Kilima Mbogo	58.21	266	P	P	13 44 08.1	+1.3
	comp=Z,2.5nm,0.9s,mb4.2,baz=53,slow=18,SNR=5.8						
KMBO	Kilima Mbogo	58.21	266	eP	P	13 44 07.7	+0.9
	comp=Z,5.0nm,1.1s,mb4.5						
ARU	Arti	59.18	337	P	P	13 44 08.8	-4.1
	comp=Z,6.0nm,0.8s,mb4.7						
ASF	Jabal al Asfar	60.84	304	P	P	13 44 24.1	-0.6
	comp=Z,1.7nm,0.3s,mb4.5,baz=90,slow=5.1,SNR=2.4						
BRTR	Keskin Array B	65.29	312	P	P	13 44 52.6	-1.3
	comp=Z,4.8nm,0.6s,mb4.5,baz=132,slow=7.4,SNR=25						
LSZ	Lusaka	69.28	252	P	P	13 45 19.9	+0.6
	comp=Z,2.8nm,0.8s,mb4.1						
IDI	Anoyia	71.24	306	P	P	13 45 30.7	-0.2
	comp=Z,7.3nm,0.7s,mb4.7,baz=75,slow=12,SNR=6.2						
AKASG	Malin Array Be	71.27	322	P	P	13 45 29.2	-1.5
	comp=Z,2.7nm,0.5s,mb4.4,baz=88,slow=5.2,SNR=16						
MLR	Muntele Rosu	72.16	316	P	P	13 45 37.1	+0.9
	comp=Z,5.4nm,0.8s,mb4.5,baz=204,slow=11,SNR=5.1						
FINES	FINESS Array B	75.97	332	P	P	13 45 57.4	-0.5
	comp=Z,3.1nm,0.4s,mb4.3,baz=98,slow=6.4,SNR=25						
FINES				LR	LR	14 24 32.4	
	comp=Z,41nm,18.4s,baz=344,slow=40						
FINES	FINESS Array B	75.97	332	P	P	13 45 57.4	-0.5
KAF	Kangasniemi	76.05	333	ep	P	13 45 57.2	-1.2
OJC	Ojcow	77.05	320	eP	P	13 46 04.1	-0.1
ARCES	ARCESS Array B	78.56	340	P	P	13 46 12.2	+0.1
	comp=Z,1.7nm,0.5s,mb4.2,baz=98,slow=6.5,SNR=15						
GERES	GERESS Array B	80.87	319	P	P	13 46 25.8	+0.9
	comp=Z,1.2nm,0.4s,mb4.1,baz=90,slow=6.7,SNR=10.0						
SYO	Syowa Base	82.75	197	⇓P	P	13 46 35.2	+0.9
SYO	Syowa Base	82.75	197	⇓PcP	PcP	13 46 40.0	+0.6
NB2	NORSAR Subarra	82.97	331	P	P	13 46 35.4	-0.2
	comp=Z,0.1nm,0.6s,mb2.8,baz=93,slow=5.8						
NOA	NORSAR Array B	82.97	331	P	P	13 46 35.8	+0.2
	comp=Z,0.6nm,0.6s,mb3.6,baz=94,slow=5.0,SNR=3.9						
IMA	Indian Mountai	94.09	22	eP	P	13 47 30.3	+1.8
	comp=Z,9.9nm,0.7s,mb5.2						
PDAR	Pinedale Array	127.65	23	PKP	PKPdf	13 53 15.1	+0.4
	comp=Z,0.3nm,0.7s,baz=315,slow=3.8,SNR=2.6						
TXAR	Lajitas Array	141.57	27	PKP	PKPdf	13 53 42.3	+1.4
	comp=Z,0.2nm,0.3s,baz=306,slow=32,SNR=4.0						
CPUP	Villa Florida	146.09	228	PKPbc	PKPbc	13 53 51.4	+1.5
	comp=Z,4.0nm,0.7s,baz=120,slow=3.3,SNR=9.6						

*NIED **09** 14:13:00, 33.00N×136.80E, h11^{km}, Mw3.5 Best double couple: $M_0$1.97×10^{14} NP1:ϕ_s106°, δ70°, λ109°. NP2: ϕ_s241°, δ27°, λ49°.*
*JMA **09** 14:13:20.8±0.1, 33.05N×136.75E, h38^{km}, M3.7*
JMA Felt I J1.

ISC 09 14:13:21.4±1.2**, 33.09N**±0.08×**136.75E**±0.04**, h38**^{km}**, n14,**
σ0^{s}54/26**, 10D, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JWZ	Kozaga	0.97	297	⇓P	P	14 13 38.5	-0.2
JWZ				S	S	14 13 50.7	-0.8
TK01	Tokai 1	0.98	46	P	P	14 13 38.4	-0.4
TK01				S	S	14 13 51.1	-0.6
TK02	Tokai 2	1.20	44	⇓P	P	14 13 41.8	-0.2
TK02				S	S	14 13 57.3	-0.1
JKN	Kiinagashima	1.23	341	P	P	14 13 42.9	+0.6
JKN				S	S	14 13 57.8	-0.2
JIE	Ise	1.30	359	⇓P	P	14 13 44.2	+0.7
JWM	Minabe	1.39	304	⇓P	P	14 13 44.8	0.0
JWM				S	S	14 14 01.4	-0.7
TK03	Tokai 3	1.48	43	⇓P	P	14 13 45.8	-0.3
TK03				S	S	14 14 04.2	-0.2
JWY	Kouya	1.48	320	⇓P	P	14 13 46.9	+0.8
JWY				S	S	14 14 04.9	+0.5
TK04	Tokai 4	1.60	36	⇓P	P	14 13 47.8	0.0
TK04				S	S	14 14 07.4	0.0
TSUJ	Tsu 2	1.64	351	⇓P	P	14 13 49.0	+0.7
JHE	Heguri	1.79	331	⇓P	P	14 13 51.3	+0.8
JHE				S	S	14 14 12.8	+0.5
JAJ2	Tsuna	2.04	311	⇓P	P	14 13 54.7	+0.7
JAJ2				S	S	14 14 18.4	-0.1
JAI	Aioi	2.04	291	P	P	14 13 54.0	-0.1
JAI				S	S	14 14 17.3	-1.2
MAT	Matsushiro	3.65	19	P	P	14 14 17.4	+0.4
MAT				S	S	14 14 58.7	-0.7

*PGC **09** 14:16:50.6, 49.73N×127.09W, h27^{km}±6^{km}, ML3.6/34*
PGC Near Nootka Island, British Columbia Felt (I-II) at Alert Bay, Zeballos, Tahsis and Kyuquot.
*NEIC **09** 14:16:51.0, 49.73N×127.09W, h27^{km}, ML3.6(PGC), After PGC.*
NEIC Felt at Alert Bay, Kyuquot, Tahsis and Zeballos.

ISC 09 14:16:49.3±0.5**, 49.74N**±0.03×**127.27W**±0.05**, h33**^{km}±4^{km}**,**
n54, σ1^{s}17/73**, 1D, Vancouver Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EDB	Eliza Dome	0.17	36	P	Pn	14 16 55.3	+0.1
EDB				S	Sn	14 16 59.0	-0.1
EDB				Trac		14 16 59.2	
	comp=Z,16µm,0.1s						
BPBC	Brooks Peninsu	0.53	323	⇑P	Pb	14 17 01.8	+1.5
BPBC				S	Sb	14 17 07.8	-0.1
BPBC				Trac		14 17 13.7	
	comp=Z,3µm,0.2s						
ETB	Estevan Point	0.60	127	P	Pb	14 17 00.3	-1.1
ETB				S	Sb	14 17 07.5	-2.2
ETB				Trac		14 17 08.8	
	comp=Z,8µm,0.2s						
MAYB	Maynard	0.67	6	⇓P	Pn	14 17 02.9	+0.5
MAYB				S	Sb	14 17 12.5	+0.8
MAYB				Trac		14 17 13.6	
	comp=Z,3µm,0.2s						
GDR	Gold River	0.81	86	⇑P	Pn	14 17 02.3	-2.1
GDR				S	Sn	14 17 11.6	-3.6
GDR				Trac		14 17 12.2	
	comp=Z,4µm,0.3s						
HOLB	Holberg	1.06	329	⇑P	Pn	14 17 09.4	+1.4
HOLB				S	Sn	14 17 23.4	+1.7
HOLB				Trac		14 17 29.2	
	comp=Z,881nm,0.2s						
BTB	Buttle Lake	1.17	103	⇑P	Pn	14 17 07.7	-1.9
BTB				S	Sn	14 17 23.5	-1.0
BTB				Trac		14 17 33.5	
	comp=Z,3µm,0.6s						
CBB	Campbell River	1.27	76	P	Pn	14 17 09.5	-1.5
CBB				S	Sn	14 17 24.5	-2.5
CBB				Trac		14 17 25.6	
	comp=Z,1µm,0.2s						
OZB	Mount Ozzard	1.40	123	P	Pn	14 17 12.6	-0.2
OZB				S	Sn	14 17 30.3	0.0
OZB				Trac		14 17 34.8	
	comp=Z,700nm,0.2s						
ALB	Alberni	1.66	105	P	Px	14 18 03.4	
ALB				S	Sx	14 18 23.3	
ALB				Trac		14 18 25.1	
	comp=Z,306nm,0.2s						
MGB	Mount Grey	1.84	113	P	Pn	14 17 18.9	-0.3
MGB				S	Sn	14 17 42.3	+0.8
MGB				Trac		14 17 45.3	
	comp=Z,231nm,0.2s						
TXB	Texada	1.84	90	P	Pn	14 17 17.4	-1.8
TXB				Trac		14 17 49.8	
	comp=Z,494nm,0.4s						
PFB	Port Renfrew	2.19	121	P	Pn	14 17 25.8	+1.5
PFB				S	Sn	14 17 51.0	+0.4
PFB				Trac		14 17 58.6	
	comp=Z,325nm,0.5s						
NLLB	Nanaimo Lost L	2.20	102	P	Pn	14 17 25.6	+1.2
NLLB				S	Sn	14 17 43.6	-7.1
NLLB				Trac		14 17 58.9	
	comp=Z,158nm,0.3s						
SHB	Sechelt	2.21	92	P	Pn	14 17 25.1	+0.6
SHB				Trac		14 17 56.3	
	comp=Z,729nm,0.3s						
BBB	Bella Bella	2.51	348	P	Pn	14 17 28.9	+0.2
BBB				S	Sn	14 17 57.6	-0.9
BBB				Trac		14 18 14.3	
	comp=Z,447nm,0.5s						
LZB	Mount Lazard	2.53	115	P	Pn	14 17 30.1	+1.1
LZB				Trac		14 18 05.0	
	comp=Z,110nm,0.6s						
OTR	Olympics--Tyee	2.54	129	P	Pn	14 17 35.0	+5.8
GOBB	Galiano Island	2.58	106	P	Pn	14 17 30.7	+0.9
GOBB				Trac		14 18 15.4	
	comp=Z,182nm,0.5s						
BIB	Bowen Island	2.60	96	P	Pn	14 17 30.8	+0.7
BIB				Trac		14 18 09.7	
	comp=Z,64nm,0.2s						
WPB	Watts Point	2.64	90	P	Pn	14 17 31.4	+0.8
WPB				Trac		14 18 09.3	
	comp=Z,213nm,0.5s						
PGC	Sidney	2.73	112	P	Pn	14 17 32.2	+0.3
PGC				S	Sn	14 18 02.8	-1.4
PGC				Trac		14 18 21.2	
	comp=Z,145nm,0.7s						
PGC	Sidney	2.73	112	eP	Pn	14 17 32.1	+0.2
PGC				eS	Sn	14 18 08.6	+4.4
WSLR	Whistler	2.84	80	P	Pn	14 17 35.5	+2.1
WSLR				S	Sn	14 18 10.2	+3.3
WSLR				Trac		14 18 17.1	
	comp=Z,169nm,0.5s						
OCWA	Octopus Mounta	2.85	133	P	Pn	14 17 33.2	-0.4
SNB	Saturna Island	2.85	108	P	Pn	14 17 34.6	+1.0
SNB				Trac		14 18 29.3	
	comp=Z,179nm,0.6s						
STW	Striped Peak	2.86	122	P	Pn	14 17 38.4	+4.7
OOW	Octopus West	2.86	133	P	Pn	14 17 43.8	+10
VGZ	Gonzales	2.92	116	P	Pn	14 17 28.2	-6.3
VGZ				Trac		14 18 16.2	
	comp=Z,82nm,0.4s						
OSD	Olympics--Snow	3.04	128	P	Pn	14 17 43.0	+6.8
HNB	Haney	3.10	97	P	Pn	14 17 37.0	-0.1
HNB				Trac		14 18 29.7	
	comp=Z,120nm,0.5s						
VDB	Vedder Mountai	3.45	100	P	Pn	14 17 41.9	-0.2
VDB				Trac		14 18 43.2	
	comp=Z,52nm,0.4s						
LLLB	Lillooet	3.58	74	P	Pn	14 17 42.6	-1.2
LLLB				Trac		14 18 37.2	
	comp=Z,111nm,0.5s						
CMW	Cultus Mountai	3.63	109	P	Pn	14 17 45.8	+1.0
MBW	Mount Baker	3.65	103	P	Pn	14 17 44.2	-0.7
GNW	Green Mountain	3.66	125	P	Pn	14 17 45.6	+0.5
HOPB	Hope	3.83	93	Trac		14 18 46.7	
	comp=Z,83nm,0.5s						
JCW	Jim Creek	3.84	112	P	Pn	14 17 48.4	+0.7
RPW	Rockport	4.00	107	P	Pn	14 17 50.4	+0.5
RPW	Rockport	4.00	107	eP	Pn	14 17 50.0	+0.1
BNB	Barry Inlet	4.00	317	P	Pn	14 17 50.4	+0.4
BNB				S	Sn	14 18 35.5	-0.9
BNB				Trac		14 18 38.9	
	comp=Z,15nm,0.2s						
BNAB	Bonilla	4.31	332	P	Pn	14 17 54.3	+0.1
BNAB				S	Sn	14 18 41.8	-2.2
BNAB				Trac		14 18 43.9	
	comp=Z,8.0nm,0.2s						
MOBC	Moresby Island	4.51	322	P	Pn	14 17 56.5	-0.6
MOBC				S	Sn	14 18 47.0	-2.2
MOBC				Trac		14 19 02.8	
	comp=Z,14nm,0.5s						
LON	Longmire	4.72	127	P	Pn	14 17 58.9	-1.2
VIB	Van Inlet	4.82	319	P	Pn	14 18 00.7	-0.8
VIB				S	Sn	14 18 53.3	-3.7
VIB				Trac		14 18 59.9	
	comp=Z,13nm,0.3s						
NLW	Nelson Butte	4.87	107	P	Pn	14 18 01.6	-0.5
RUBB	Prince Rupert	4.95	339	P	Pn	14 18 03.6	+0.2
RUBB				S	Sn	14 18 58.7	-1.6
RUBB				Trac		14 19 30.2	
	comp=Z,43nm,0.6s						
PNT	Penticton	5.00	92	Trac		14 19 31.4	
	comp=Z,53nm,0.6s						
FSB	Fort Saint Jam	5.08	20	P	Pn	14 18 06.4	+1.2
FSB				Trac		14 19 40.3	
	comp=Z,34nm,0.6s						
NDB	Naden	5.49	322	P	Pn	14 18 10.4	-0.6
NDB				S	Sn	14 19 11.3	-2.5
NDB				Trac		14 19 14.9	
	comp=Z,6.0nm,0.2s						
BMBC	Bull Mountain	7.04	24	P	Pn	14 18 33.5	+0.7
BMBC				Trac		14 20 37.5	
	comp=Z,16nm,0.6s						
HUMO	Hull Mountain	7.73	156	P	Pn	14 18 41.8	-0.7
YBH	Yreka Blue Hor	8.62	157	P	P	14 18 53.3	-1.2
DAWY	Dawson	15.77	340	P	P	14 20 31.5	+1.4

*NEIC **09** 14:21:01.3, 36.40N×4.58W, h91^{km}, MG3.0(MDD), After MDD.*
*MDD **09** 14:21:01.8±0.7, 36.41N×4.57W, h88^{km}±4^{km}, mb3.0/16, Error ellipse: s-maj=6.4km s-min=4.0km az=166.0, PRXIMO*
*INMG **09** 14:21:02.8±1.1, 36.47N×4.61W, h86^{km}±4^{km}, ML2.9, Error ellipse: s-maj=4.3km s-min=2.9km az=166.0*
*LDG **09** 14:21:03.8±0.7, 36.76N×4.95W, h10^{km}, Ml3.6/4, Error ellipse: s-maj=17.1km s-min=5.1km az=165.0*

ISC 09 14:21:02.4±0.7**, 36.69N**±0.04×**4.63W**±0.03**, h92**^{km}±4^{km}**,**
n49, σ1^{s}19/90**, 5C-4D, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EMIJ	Mijas	0.17	221	⇑P	P	14 21 14.1	-1.5
	62nm,0.1s,SNR=18						
EMIJ				S	S	14 21 24.0	-1.6
	516nm,0.2s,SNR=7.9						
EMAL	Malaga-Limoner	0.18	67	P	P	14 21 15.3	-0.3
	49nm,0.1s,SNR=7.9						
EMAL				S	S	14 21 25.6	+0.1
	69nm,0.1s,SNR=7.9						
REAL	Reales	0.51	246	⇓P	P	14 21 17.3	-0.3
REAL				S	S	14 21 29.1	+0.1
ELOJ	Sierra Loja	0.60	40	P	P	14 21 19.1	+0.7
	46nm,0.5s,SNR=34						
ELOJ				S	S	14 21 30.5	+0.3
	50nm,0.3s,SNR=8.8						
LIJA	Lijar	0.65	289	⇑P	P	14 21 20.6	+1.7
LIJA				S	S	14 21 29.1	-2.1
ERON	Agron	0.74	64	P	P	14 21 19.9	+0.1
	50nm,0.3s,SNR=39						
ERON				S	S	14 21 31.8	-0.8
	37nm,0.3s,SNR=7.7						
ELUQ	Luque	0.92	19	P	P	14 21 23.4	+1.9
	61nm,0.2s,SNR=21						
ELUQ				S	S	14 21 37.9	+2.0
	250nm,0.2s,SNR=41						
ESPR	Espera	1.00	281	P	P	14 21 22.3	-0.1
	36nm,0.3s,SNR=48						
ESPR				S	S	14 21 37.1	-0.4
	36nm,0.3s,SNR=10						
CNIL	Conil	1.19	255	P	P	14 21 24.6	-0.3
EHOR	Hornachuelos	1.23	337	P	P	14 21 26.8	+1.4
	75nm,0.1s,SNR=7.9						
EADA	Adamuz	1.47	2	⇑P	P	14 21 30.4	+2.0
	12nm,0.3s,SNR=18						
EADA				S	S	14 21 50.1	+2.6
	143nm,0.2s,SNR=5.4						
EADA	Adamuz	1.47	2	⇑Pn	P	14 21 30.4	+2.0
EADA				Sn	S	14 21 50.1	+2.6
EQES	Quesada	1.67	48	P	P	14 21 32.0	+1.2
	SNR=7.9						
EQES				S	S	14 21 52.2	+0.4
	SNR=7.9						
EMEL	Melilla	1.94	135	P	P	14 21 28.3	-6.1
	324nm,0.7s,SNR=11						
EMIN	Mina Concepcio	1.95	304	⇓P	P	14 21 35.1	+0.6
	16nm,0.3s,SNR=18						
EMIN				S	S	14 21 59.3	+1.1
	2.8nm,0.3s,SNR=8.6						
PALC	Alcoutim	2.40	290	eP	P	14 21 40.4	-0.3
PALC				eS	S	14 22 08.6	-0.6
	48nm,0.3s						
PALC	Alcoutim	2.40	290	P	P	14 21 40.4	-0.3
PALC				S	S	14 22 08.6	-0.6
	24nm,0.3s						
EGRO	El Granado	2.43	291	⇓P	P	14 21 40.8	-0.3
	17nm,0.3s,SNR=18						
EGRO				S	S	14 22 09.2	-0.8
	6.4nm,0.3s,SNR=5.7						
EVIA	Vianos	2.58	40	P	P	14 21 43.2	0.0
	4.3nm,0.3s,SNR=12						
EVIA				S	S	14 22 13.1	-0.5
	38nm,0.1s,SNR=37						
EBAD	Badajoz	2.79	318	⇓P	P	14 21 47.2	+1.0
	20nm,0.3s,SNR=18						
EBAD				S	S	14 22 19.9	+0.9
	30nm,0.1s,SNR=7.9						
PBEJ	Beja	2.90	298	eP	P	14 21 47.5	-0.1
PBEJ				eS	S	14 22 20.9	-0.7
	19nm,0.2s						
PBEJ	Beja	2.90	298	P	P	14 21 47.5	-0.1
PBEJ				S	S	14 22 20.9	-0.7
	9.6nm,0.2s						
ESDC	Sonseca Array	3.02	10	P	P	14 21 50.3	+1.0
	0.6nm,0.2s,baz=187,slow=12,SNR=5.0						
ESDC				S	S	14 22 25.9	+1.3
	3.9nm,0.3s,baz=191,slow=16,SNR=12						
ETOB	Tobarra	3.13	51	⇑P	P	14 21 50.0	-0.8
	11nm,0.1s,SNR=18						
ETOB				S	S	14 22 25.6	-1.6
	17nm,0.1s,SNR=7.9						
EVO	Evora	3.25	305	ePn	P	14 21 53.4	+0.9
EVO				eSn	S	14 22 23.5	-6.8
	85nm,0.4s						
PTEO	Sao Teotonio	3.38	286	eP	P	14 21 53.3	-0.9
PTEO				eS	S	14 22 31.5	-1.9
	24nm,0.3s						
PTEO	Sao Teotonio	3.38	286	P	P	14 21 53.3	-0.9
PTEO				S	S	14 22 31.5	-1.9
	12nm,0.3s						
MOE	Montemor	3.47	303	eP	P	14 21 55.0	-0.5
MOE				eS	S	14 22 34.5	-1.2
PCBR	Castelo Branco	3.86	325	eP	P	14 22 01.7	+0.9

PCBR				*e*S	**S**	**14 22 45.4**	**+0.2**
	17nm,0.2s						
PCBR	**Castelo Branco**	**3.86**	**325**	P	**P**	**14 22 01.7**	**+0.9**
PCBR				S	**S**	**14 22 45.4**	**+0.2**
	8.6nm,0.2s						
EBEN	**Beniarda**	**4.03**	**59**	P	**P**	**14 22 02.2**	**-1.0**
	1.6nm,0.1s,SNR=7.9						
EBEN				S	**S**	**14 22 45.6**	**-3.9**
	15nm,0.5s,SNR=7.9						
MTE	**Manteigas**	**4.35**	**329**	*e*P	**P**	**14 22 08.8**	**+1.2**
MTE				*e*S	**S**	**14 22 57.4**	**0.0**
	24nm,0.7s						
MTE	**Manteigas**	**4.35**	**329**	P	**P**	**14 22 08.8**	**+1.2**
MTE				S	**S**	**14 22 57.4**	**0.0**
	12nm,0.7s						
ETOR	**Torete**	**4.59**	**25**	P	**P**	**14 22 11.0**	**+0.2**
	2.1nm,0.2s,SNR=18						
ETOR				S	**S**	**14 23 01.7**	**-1.6**
	18nm,0.3s,SNR=9.6						
ETOR	**Torete**	**4.59**	**25**	Pn	**P**	**14 22 11.0**	**+0.2**
ETOR				Sn	**S**	**14 23 01.7**	**-1.7**
PVIS	**Viseu**	**4.76**	**329**	*e*S	**S**	**14 23 06.7**	**-0.8**
EMOS	**Mosqueruela**	**4.91**	**40**	P	**P**	**14 22 15.6**	**+0.4**
	0.8nm,0.1s,SNR=7.9						
EMOS				S	**S**	**14 23 09.0**	**-2.3**
	7.4nm,0.4s,SNR=21						
PVRL	**Vila Real**	**5.17**	**333**	*e*P	**P**	**14 22 20.1**	**+1.3**
PVRL				*e*S	**S**	**14 23 15.8**	**-1.9**
	23nm,0.1s						
PVRL	**Vila Real**	**5.17**	**333**	P	**P**	**14 22 20.1**	**+1.3**
PVRL				S	**S**	**14 23 15.8**	**-1.9**
	11nm,0.1s						
PBRG	**Braganca**	**5.36**	**343**	*e*P	**P**	**14 22 22.9**	**+1.5**
PBRG				*e*S	**S**	**14 23 21.5**	**-0.9**
	4.4nm,0.1s						
PBRG	**Braganca**	**5.36**	**343**	P	**P**	**14 22 22.9**	**+1.5**
PBRG				S	**S**	**14 23 21.5**	**-0.9**
	2.2nm,0.1s						
ECAL	**Calabor**	**5.49**	**343**	S	**S**	**14 23 26.9**	**+1.3**
	8.4nm,0.3s,SNR=6.8						
ELOB	**Lobios**	**5.81**	**334**	P	**P**	**14 22 28.5**	**+1.0**
	SNR=7.9						
ELOB				S	**S**	**14 23 32.7**	**-0.8**
	SNR=7.9						
EPOB	**Poblet**	**6.44**	**42**	S	**S**	**14 23 44.6**	**-4.2**
	4.8nm,0.3s,SNR=6.9						
SJPF	**Ste Jean**	**6.93**	**21**	*e*Pn	**P**	**14 22 44.6**	**+1.6**
SJPF				*e*Sn	**S**	**14 23 58.2**	**-2.7**
	6.1nm,0.3s						
ETSF	**Etsaut**	**6.95**	**26**	*e*Pn	**P**	**14 22 44.7**	**+1.4**
ETSF				*e*Sn	**S**	**14 23 58.8**	**-2.6**
	4.2nm,0.3s						
EALK	**Alkurruntz**	**6.95**	**19**	S	**S**	**14 24 00.5**	**-0.9**
	7.7nm,0.3s,SNR=9.4						
EPF	**Esparros**	**7.40**	**30**	*e*Pn	**P**	**14 22 50.6**	**+1.2**
EPF				*e*Sn	**S**	**14 24 09.3**	**-3.1**
	6.1nm,0.3s						
MTLF	**Montolieu**	**8.47**	**36**	*e*Pn	**P**	**14 23 04.3**	**+0.3**

*IDC **09** 14:26:10.1±1.1,33.79S×179.09W,mb4.1/3,mb1 4.2/4, mb1mx4.1/11,ML4.3/1,Error ellipse: s-maj=36.0km s-min=32.6km az=82.0*

*NEIC **09** 14:26:11.8±0.8,33.96S×179.22W,h10^{km},mb4.2/3,Error ellipse: s-maj=21.1km s-min=9.6km az=102.0*

ISC 09 14:26:14.7±1.7**,34.16S**±0.05×**180.0W**±0.2**,h9**^{km}±11^{km}**, n52,**σ1^{s}**25**/53**,mb4.1**/6**,2D,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**3.67**	**202**	P	**Pn**	**14 27 15.7**	**+2.9**
MXZ				S	**Sn**	**14 28 02.9**	**+6.2**
MXZ				T		14 30 45.2	
MXZ	**Matakaoa Point**	**3.67**	**202**	*e*P	**Pn**	**14 27 16.0**	**+3.2**
PUZ	**Puketiti**	**4.15**	**200**	*e*P	**Pn**	**14 27 22.0**	**+2.2**
PUZ	**Puketiti**	**4.15**	**200**	*e*P	**Pn**	**14 27 22.4**	**+2.6**
KUZ	**Kuaotunu**	**4.35**	**232**	P	**Pn**	**14 27 30.7**	**+8.1**
KUZ	**Kuaotunu**	**4.35**	**232**	*e*P	**Pn**	**14 27 30.7**	**+8.1**
MWZ	**Matawai**	**4.62**	**205**	*e*P	**Pn**	**14 27 28.7**	**+2.3**
MWZ				S	**Sn**	**14 28 23.8**	**+2.9**
MWZ	**Matawai**	**4.62**	**205**	*e*P	**Pn**	**14 27 29.1**	**+2.7**
URZ	**Urewera**	**4.71**	**209**	Pn	**Pn**	**14 27 32.2**	**+4.5**
	8.6nm,0.3s,baz=286,slow=3.0,SNR=12						
URZ				Sn	**Sn**	**14 28 29.2**	**+6.0**
	7.0nm,0.3s,baz=120,slow=22,SNR=4.6						
KNZ	**Kokohu**	**5.20**	**201**	*e*P	**Pn**	**14 27 36.1**	**+1.5**
KNZ				S	**Sn**	**14 28 34.9**	**-0.6**
OUZ	**Omahuta**	**5.39**	**257**	P	**Pn**	**14 27 44.7**	**+7.4**
OUZ	**Omahuta**	**5.39**	**257**	*e*P	**Pn**	**14 27 44.7**	**+7.4**
BKZ	**Black Stump Fm**	**5.74**	**209**	*e*P	**Pn**	**14 27 44.6**	**+2.4**
BKZ	**Black Stump Fm**	**5.74**	**209**	*e*P	**Pn**	**14 27 45.4**	**+3.2**
PWZ	**Pawanui**	**6.37**	**202**	*e*P	**Pn**	**14 27 51.0**	**-0.1**
PWZ				S	**Sn**	**14 29 05.9**	**+1.1**
TSZ	**Takapari Road**	**6.72**	**208**	*e*P	**Pn**	**14 27 55.5**	**-0.5**
TSZ				S	**Sn**	**14 29 14.2**	**+0.8**
TSZ	**Takapari Road**	**6.72**	**208**	*e*P	**Pn**	**14 27 55.7**	**-0.3**
BFZ	**Birch Farm**	**7.16**	**204**	*e*P	**Pn**	**14 28 00.5**	**-1.7**
BFZ				S	**Sn**	**14 29 25.2**	**+0.6**
BFZ	**Birch Farm**	**7.16**	**204**	*e*P	**Pn**	**14 28 01.3**	**-0.9**
MRZ	**Mangatainoka R**	**7.38**	**207**	*e*P	**Pn**	**14 28 04.8**	**-0.5**
MRZ				S	**Sn**	**14 29 28.4**	**-1.7**
KIW	**Kapiti Island**	**7.82**	**210**	*e*P	**Pn**	**14 28 11.4**	**0.0**
MTW	**Mount Morrison**	**7.85**	**206**	*e*P	**Pn**	**14 28 10.1**	**-1.7**
CAW	**Cannon Point**	**7.96**	**208**	*e*P	**Pn**	**14 28 12.2**	**-1.3**
CAW				S	**Sn**	**14 29 43.2**	**-1.4**
CAW	**Cannon Point**	**7.96**	**208**	P	**Pn**	**14 28 12.4**	**-1.1**
SNZO	**South Karori**	**8.28**	**209**	*e*Pn	**P**	**14 28 13.9**	**-4.0**
NNZ	**Nelson**	**8.79**	**215**	*e*P	**P**	**14 28 24.4**	**-0.5**
QRZ	**Quartz Range**	**8.92**	**220**	*e*P	**P**	**14 28 26.4**	**-0.3**
THZ	**Tophouse**	**9.44**	**214**	*e*P	**P**	**14 28 31.7**	**-2.1**
THZ	**Tophouse**	**9.44**	**214**	*e*P	**P**	**14 28 32.6**	**-1.2**
KHZ	**Kahutara**	**9.68**	**210**	*e*P	**P**	**14 28 36.1**	**-1.1**
KHZ	**Kahutara**	**9.68**	**210**	*e*P	**P**	**14 28 36.8**	**-0.4**
MQZ	**McQueen's Vall**	**11.12**	**209**	S	**S**	**14 30 51.9**	**-10**
CTA	**Charters Tower**	**32.99**	**286**	P	**P**	**14 32 53.7**	**+1.5**
	0.9nm,0.3s,mb4.2,baz=108,slow=14,SNR=2.5						
CTA	**Charters Tower**	**32.99**	**286**	P	**P**	**14 32 53.7**	**+1.5**
ASPA	**Alice Springs**	**41.40**	**272**	*e*P	**P**	**14 34 03.7**	**+0.7**
WB2	**Warramunga Arr**	**42.72**	**277**	*e*P	**P**	**14 34 13.8**	**-0.1**
WRAB	**Tennant Creek**	**42.72**	**277**	*e*P	**P**	**14 34 14.0**	**+0.1**
	4.5nm,0.9s,mb4.2						
WRA	**Warramunga Arr**	**42.73**	**277**	P	**P**	**14 34 13.9**	**-0.1**
	1.3nm,0.5s,mb4.0,baz=117,slow=7.8,SNR=27						
FITZ	**Fitzroy Crossi**	**50.80**	**274**	*e*P	**P**	**14 35 17.1**	**-0.5**
	2.1nm,0.9s,mb4.1						
QSPA	**South Pole Qui**	**55.96**	**180**	*e*P	**P**	**14 35 54.9**	**-0.1**
	3.4nm,0.8s,mb4.4						
MAW	**Mawson**	**68.20**	**202**	P	**P**	**14 37 15.7**	**-1.3**
	0.8nm,0.5s,mb4.0,baz=120,slow=8.1,SNR=6.3						
SNAA	**Sanae**	**74.44**	**179**	⇓*i*	**P**	**14 37 50.6**	**-3.7**
VNA3	**Neumayer Olymp**	**74.67**	**177**	⇓*i*	**P**	**14 37 56.1**	**+0.5**
VNA2	**Neumayer--Watz**	**75.08**	**177**		**P**	**14 37 57.9**	**-0.1**
KAF	**Kangasniemi**	**147.44**	**337**	*e*p	PKPdf	14 45 52.6	-6.0
FINES	**FINESS Array B**	**148.01**	**337**	PKPbc	PKPdf	14 45 56.3	-3.2
	2.4nm,0.6s,baz=63,slow=4.3,SNR=9.8						
NB2	**NORSAR Subarra**	**152.15**	**348**	PKPbc	PKPdf	14 46 06.0	+0.1
	1.5nm,0.7s,baz=24,slow=1.9						
NOA	**NORSAR Array B**	**152.15**	**348**	PKPbc	PKPdf	14 46 06.0	+0.1
	1.0nm,0.6s,baz=12,slow=4.0,SNR=5.2						
NOA	**NORSAR Array B**	**152.15**	**348**	PKPbc	PKPdf	14 46 06.0	+0.1
DBIC	**Dimbokro**	**152.27**	**170**	PKPbc	PKPdf	14 46 09.6	+2.1
	4.4nm,1.0s,baz=210,slow=23,SNR=2.1						
DBIC	**Dimbokro**	**152.27**	**170**	PKPbc	PKPdf	14 46 09.6	+2.1
AKASG	**Malin Array Be**	**153.08**	**317**	PKPbc	PKPdf	14 46 08.8	+1.3
	0.5nm,0.5s,baz=103,slow=2.0,SNR=3.3						

*NEIC **09** 14:28:17.9±0.7,16.15S×72.16W,h102^{km}±7^{km},mb4.4/13, Error ellipse: s-maj=15.4km s-min=7.1km az=52.0*

NEIC Felt [III] at Caraveli and [II] at Arequipa.

*IDC **09** 14:28:21.8±3.9,16.22S×72.11W,h139^{km}±26^{km},mb4.0/9, mb1 4.1/11,mb1mx4.0/16,Error ellipse: s-maj=53.2km s-min=17.7km az=34.0*

ISC 09 14:28:17.0±0.8**,16.27S**±0.07×**72.31W**±0.08**,h114**^{km}±6^{km}**, n40,**σ1^{s}**43**/38**,mb4.4**/21**,3C,Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARE	**Arequipa**	**0.81**	**104**	⇑*i*P	**P**	**14 28 37.5**	**+0.6**
ARE				*e*S	**S**	**14 28 51.0**	**-0.8**
LPAZ	**La Paz**	**4.01**	**91**	P	**P**	**14 29 20.0**	**+2.3**
	25nm,0.3s,baz=290,slow=9.7,SNR=191						
LPAZ				S	**S**	**14 30 06.3**	**+2.2**
	3.1nm,0.3s,baz=183,slow=23,SNR=3.8						
NNA	**Nana**	**6.12**	**313**	*e*Pn	**P**	**14 29 43.9**	**-2.4**
	56nm,0.6s						
NNA				*e*Sn	**S**	**14 30 47.8**	**-7.8**
LVC	**Limon Verde**	**7.08**	**154**	*e*Pn	**P**	**14 29 59.6**	**+0.2**
	70nm,0.4s						
LVC				*e*Sn	**S**	**14 31 16.1**	**-2.6**
SAML	**Samuel**	**11.49**	**52**	*e*P	**P**	**14 30 53.1**	**-5.6**
	7.1nm,0.8s						
CPUP	**Villa Florida**	**17.16**	**128**	P	**P**	**14 32 09.6**	**-1.5**
	0.2nm,0.3s,baz=329,slow=10.0,SNR=7.8						
CPUP	**Villa Florida**	**17.16**	**128**	P	**P**	**14 32 09.6**	**-1.5**
OTAV	**Otavalo**	**17.49**	**339**	*e*P	**P**	**14 32 16.4**	**+1.1**
	40nm,1.5s						
ROSC	**El Rosal**	**21.09**	**354**	P	**P**	**14 32 54.5**	**+0.7**
	33nm,0.8s,mb4.7,baz=135,slow=13,SNR=10						
BDFB	**Brasilia**	**23.36**	**92**	P	**P**	**14 33 16.5**	**+0.4**
	46nm,0.9s,mb4.8,baz=264,slow=12,SNR=42						
BAO	**Brasilia Array**	**23.39**	**92**	*e*P	**P**	**14 33 16.5**	**+0.2**
TRQA	**Tornquist**	**23.53**	**159**	*e*P	**P**	**14 33 19.3**	**+1.8**
	7.1nm,0.8s,mb4.0						
SDV	**Santo Domingo**	**25.05**	**4**	*e*P	**P**	**14 33 30.3**	**-2.1**
	13nm,0.9s,mb4.4						
JTS	**JuntasAbangare**	**29.21**	**334**	P	**P**	**14 34 05.7**	**-4.5**
	60nm,1.6s,mb5.0						
RCBR	**Riachuelo**	**37.14**	**78**	P	**P**	**14 35 17.3**	**-1.2**
TXAR	**Lajitas Array**	**54.52**	**326**	P	**P**	**14 37 35.5**	**0.0**
	0.3nm,0.4s,mb3.7,baz=150,slow=10,SNR=3.5						
SDCO	**Great Sand Dun**	**62.13**	**331**	*e*P	**P**	**14 38 28.3**	**-0.1**
	3.7nm,0.7s,mb4.5						
SDCO				*e*pP	pP	14 38 53.5	-3.0
PV01	**Paradox Valley**	**63.93**	**329**	P	**P**	**14 38 40.7**	**+0.5**
VNA3	**Neumayer Olymp**	**66.03**	**162**	⇑*i*	PcP	14 39 24.7	+2.1
VNA2	**Neumayer--Watz**	**66.62**	**161**		PcP	14 39 28.2	+3.1
PDAR	**Pinedale Array**	**68.00**	**331**	P	**P**	**14 39 06.1**	**+0.1**
	0.4nm,0.7s,mb3.4,baz=143,slow=4.5,SNR=2.8						
HWUT	**Hardware Ranch**	**68.07**	**329**	P	**P**	**14 39 06.8**	**+0.4**
	1.3nm,0.6s,mb3.9						
SNAA	**Sanae**	**68.24**	**161**	⇑*i*	PcP	14 39 34.3	+2.4
SNAA	**Sanae**	**68.24**	**161**	*e*P	**P**	**14 39 07.4**	**+0.4**
	5.5nm,1.0s,mb4.3						
SNAA				*e*	pP	14 39 33.2	-2.3
SNAA				*e*sP	sP	14 39 44.2	-3.8
ULM	**Lac du Bonnet**	**69.41**	**344**	P	**P**	**14 39 13.3**	**-1.2**
	4.0nm,0.6s,mb4.4,baz=127,slow=10,SNR=2.9						
LIC	**Lamto**	**70.19**	**77**	*e*P	**P**	**14 39 17.3**	**-2.6**
	31nm,0.9s,mb5.2						
TIC	**Toumodi**	**70.34**	**77**	*e*P	**P**	**14 39 18.6**	**-2.2**
	18nm,0.2s,mb5.5						
DBIC	**Dimbokro**	**70.50**	**77**	P	**P**	**14 39 19.7**	**-2.0**
	4.8nm,0.5s,mb4.6,baz=229,slow=5.4,SNR=11						
KIC	**Kosan Boka**	**70.51**	**77**	*e*P	**P**	**14 39 19.8**	**-2.0**
	110nm,1.0s						
HLID	**Hailey**	**70.93**	**329**	P	**P**	**14 39 28.0**	**+4.2**
	1.5nm,1.0s,mb3.8						
QSPA	**South Pole Qui**	**73.89**	**180**	*e*P	**P**	**14 39 43.1**	**+2.5**
	5.9nm,1.0s,mb4.3						
ESDC	**Sonseca Array**	**84.46**	**46**	P	**P**	**14 40 38.9**	**+0.6**
	1.1nm,0.5s,mb4.0,baz=261,slow=5.6,SNR=8.3						
TSUM	**Tsumeb**	**84.68**	**108**	*e*P	**P**	**14 40 40.0**	**+0.2**
	5.8nm,0.9s,mb4.5						
YKA	**Yellowknife Ar**	**85.23**	**342**	P	**P**	**14 40 43.7**	**+2.2**
	1.8nm,0.6s,mb4.2,baz=134,slow=4.8,SNR=6.5						
YKA	**Yellowknife Ar**	**85.23**	**342**	P	**P**	**14 40 43.7**	**+2.2**
DLBC	**Dease Lake**	**88.11**	**334**	P	**P**	**14 40 57.5**	**+1.9**
	1.8nm,0.8s,mb4.1,baz=122,slow=20,SNR=2.4						
SUMG	**Summit**	**91.44**	**10**	*e*P	**P**	**14 41 11.9**	**+1.0**
	9.0nm,1.0s,mb4.8						
KAKA	**Kakadu**	**142.25**	**222**	*e*P	PKPdf	14 47 30.4	-6.4
	6.4nm,0.5s						
MKAR	**Makanchi Array**	**142.98**	**29**	PKP	PKPdf	14 47 40.2	+3.1
	0.5nm,0.7s,baz=1.1,slow=1.5,SNR=1.9						
SONM	**Songino Array**	**148.51**	**2**	PKPbc	PKPdf	14 47 52.8	+6.4
	2.4nm,0.9s,baz=315,slow=5.2,SNR=4.9						

*NIED **09** 14:36:00,41.90N×142.30E,h59^{km},Mw4.8 Best double couple: M$_0$2.02×10^{16} NP1:φ$_s$22°,δ65°,λ70°. NP2:φ$_s$243°, δ31°,λ127°.*

*BJI **09** 14:36:54.2,41.87N×142.38E,h79^{km},mB5.0,mb4.8, Ms4.0,Msz3.9*

*NEIC **09** 14:36:54.7±0.9,42.08N×142.22E,h51^{km}±8^{km},mb4.8/41, MS4.2/2,MW4.8(NIED),Error ellipse: s-maj=6.4km s-min=5.1km az=154.0*

NEIC Recorded [2 JMA] in the Chitose and Shizunai-Urakawa areas; [1 JMA] in the Tomakomai area and south-central Hokkaido. Also recorded [1 JMA] in Aomori and Iwate Prefectures, Honshu.

*MOS **09** 14:36:54.9±1.3,41.98N×142.28E,h71^{km},mb4.7/24,Error ellipse: s-maj=12.9km s-min=7.2km az=104.0*

*JMA **09** 14:36:55.0±0.2,41.93N×142.31E,h68^{km}±3^{km},M4.6 Broadband fault plane solution: P waves. NP1:φ$_s$216°, δ16°,λ115°. NP2:φ$_s$10°,δ75°,λ83°. Principal axes: T Plg59°, Azm271°; N Plg7°, Azm12°; P Plg30°, Azm106°;*

JMA Felt II J1.

*SKHL **09** 14:36:56.6±3.1,42.01N×142.53E,h51^{km}±4^{km},mb6.6/1, Ms4.2/1,msh6.1/1*

*IDC **09** 14:36:56.6±0.5,42.01N×142.16E,h68^{km}±3^{km},mb4.1/22, mb1 4.2/27,mb1mx4.2/30,MS3.8/13,Ms1 3.8/13, ms1mx3.6/29,Error ellipse: s-maj=12.8km s-min=8.3km az=111.0*

ISC 09 14:36:54.9±0.2**,41.93N**±0.02×**142.29E**±0.03**,h72**^{km}**, h72**^{km}±2.0^{km}**:pP-P,n212,**σ1^{s}**06**/225**,mb4.5**/70**,14C-16D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JNBK	**Urakawa-nobuka**	**0.49**	**45**	⇑P	**P**	**14 37 06.9**	**-1.0**
JNBK				*e*S	**S**	**14 37 16.1**	**-1.4**
JEM	**Erimo**	**0.65**	**83**	P	**P**	**14 37 09.3**	**-0.3**
JEM				*e*S	**S**	**14 37 19.5**	**-1.0**
JBT2	**Biratori 2**	**0.84**	**4**	⇓P	**P**	**14 37 11.4**	**-0.4**
JKB	**Kayabe**	**0.94**	**268**	⇓P	**P**	**14 37 12.8**	**-0.2**
JKB				*e*S	**S**	**14 37 25.9**	**-0.5**
JCH	**Churui**	**1.05**	**49**	⇑P	**P**	**14 37 14.1**	**-0.3**
JCH				*e*S	**S**	**14 37 28.1**	**-0.7**
JNB	**Noboribetsu**	**1.07**	**300**	⇓P	**P**	**14 37 14.0**	**-0.7**
JNB				*e*S	**S**	**14 37 28.0**	**-1.4**
JOT	**Ohata**	**1.08**	**240**	⇓P	**P**	**14 37 14.9**	**+0.1**
JOT				*e*S	**S**	**14 37 29.1**	**-0.5**
JEW	**Eniwo**	**1.10**	**326**	⇓P	**P**	**14 37 15.2**	**+0.2**
JEW				*e*S	**S**	**14 37 30.1**	**+0.1**
JFR	**Furan**	**1.25**	**10**	⇓P	**P**	**14 37 16.5**	**-0.6**
JYM2	**Yakumo 2**	**1.44**	**278**	P	**P**	**14 37 19.4**	**-0.3**
JSR	**Shiriuchi**	**1.46**	**255**	⇓P	**P**	**14 37 19.8**	**-0.1**
JSR				*e*S	**S**	**14 37 38.2**	**-0.2**
JTM	**Tenmabayashi**	**1.47**	**219**	⇓P	**P**	**14 37 20.4**	**+0.3**
JANG	**Nango**	**1.67**	**201**	P	**P**	**14 37 23.0**	**+0.3**
JANG				*e*S	**S**	**14 37 43.8**	**+0.6**
JAR	**Ashorobuto**	**1.75**	**38**	⇑P	**P**	**14 37 23.3**	**-0.5**
JAR				*e*S	**S**	**14 37 45.0**	**0.0**
JHR	**Hokuryu**	**1.85**	**347**	⇓P	**P**	**14 37 25.9**	**+0.6**
JHR				*e*S	**S**	**14 37 49.3**	**+1.7**
ASAJ	**Asahikawa**	**2.19**	**6**	P	**P**	**14 37 30.1**	**+0.1**
	122nm,0.3s,baz=252,slow=6.6,SNR=374						
ASAJ				S	**S**	**14 37 55.5**	**-0.4**
	66nm,0.3s,baz=73,slow=24,SNR=4.4						
ASAJ	**Asahikawa**	**2.19**	**6**	P	**P**	**14 37 30.1**	**+0.1**
ASAJ				S	**S**	**14 37 55.5**	**-0.4**
ASAJ				pmax	pmax		
	comp=Z,122nm,0.3s						
ASAJ				smax			
	comp=N,66nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**3.36**	**50**	*i* P	**P**	**14 37 44.9**	**-1.4**
YUK				AMB	AMB	14 37 45.5	
	comp=N,2μm,1.0s						
YUK				AMB	AMB	14 37 47.0	
	comp=N,360nm,0.3s						
YUK				AMB	AMB	14 37 47.0	
	comp=N,610nm,0.3s						
YUK				AMB	AMB	14 37 47.0	
	comp=N,3μm,0.3s						
YUK				*i* S	**S**	**14 38 21.2**	**-4.0**
YUK				A		14 38 32.6	
	comp=N,10μm,0.6s						
YUK				A		14 38 32.6	
	comp=N,5μm,0.6s						
YUK				A		14 38 46.1	
	comp=N,8μm,1.0s						
YUK				A		14 38 46.1	
	comp=N,11μm,1.0s						
YUK	**Yuzh-Kuril'sk**	**3.36**	**50**	⇑*i*P	**P**	**14 37 44.9**	**-1.4**
YUK				*i* S	**S**	**14 38 21.2**	**-4.0**
YUK				pmax	pmax		
	comp=N,2μm,1.0s						
YUK				pmax	pmax		
	comp=Z,2μm,1.0s						
YUK				pmax	pmax		
	comp=N,610nm,0.4s						
YUK				pmax	pmax		
	comp=Z,3μm,0.4s						
YUK				pmax	pmax		
	comp=E,360nm,0.3s						
YUK				smax			
	comp=N,10μm,0.6s						
YUK				smax			
	comp=E,5μm,0.6s						
YUK				smax			
	comp=N,8μm,1.0s						
YUK				smax			
	comp=E,11μm,1.0s						
YSS	**Yuzh-Sakhalins**	**5.03**	**4**	⇓*i*P	**P**	**14 38 10.5**	**+0.9**
YSS				AMB	AMB	14 38 11.0	
	comp=E,60nm,1.0s						
YSS				sP		14 38 31.1	
YSS				*e*S	**S**	**14 39 03.5**	**-3.5**
YSS				A		14 39 09.0	
	comp=E,90nm,1.0s						
YSS	**Yuzh-Sakhalins**	**5.03**	**4**	⇓*i*P	**P**	**14 38 10.5**	**+0.9**
YSS				*e*S	**S**	**14 39 03.5**	**-3.5**
YSS				pmax	pmax		
	comp=Z,60nm,1.0s						
YSS				smax			
	comp=E,90nm,1.0s						
YSS				MLR	MLR		
	comp=Z,500nm,20.0s						
YSS	**Yuzh-Sakhalins**	**5.03**	**4**	*e*Pn	**P**	**14 38 10.2**	**+0.7**
TEY	**Ternei**	**5.17**	**309**	*e*P	**P**	**14 38 11.0**	**-0.5**
TEY				AMB	AMB	14 38 12.0	
	comp=Z,60nm,1.0s						
TEY				AMB	AMB	14 38 12.0	
	comp=Z,90nm,1.0s						
TEY				AMB	AMB	14 38 12.0	
	comp=Z,80nm,1.0s						
KUR	**Kuril'sk**	**5.22**	**49**	*i* P	**P**	**14 38 10.4**	**-1.8**
KUR				AMB	AMB	14 38 15.7	
	comp=Z,280nm,0.8s						
KUR				AMB	AMB	14 38 15.7	
	comp=Z,107nm,0.8s						
KUR				AMB	AMB	14 38 15.7	
	comp=Z,484nm,0.8s						
KUR				AMB	AMB	14 38 26.6	
	comp=Z,4μm,2.0s						
KUR				*i* S	**S**	**14 39 08.0**	**-3.8**
KUR				A		14 39 17.6	
	comp=Z,7μm,2.0s						
KUR				A		14 39 17.6	
	comp=Z,5μm,2.0s						
KUR				A		14 39 26.8	
	comp=Z,1μm,0.8s						
KUR				A		14 39 26.8	
	comp=Z,1μm,0.8s						
KUR	**Kuril'sk**	**5.22**	**49**	⇓*i*P	**P**	**14 38 10.4**	**-1.8**
KUR				*i* S	**S**	**14 39 08.0**	**-3.8**
KUR				pmax	pmax		
	comp=N,280nm,0.8s						
KUR				pmax	pmax		
	comp=E,110nm,0.8s						
KUR				pmax	pmax		
	comp=Z,480nm,0.8s						
KUR				pmax	pmax		
	comp=Z,4μm,2.0s						
KUR				smax			
	comp=N,7μm,2.0s						
KUR				smax			
	comp=E,5μm,2.0s						
KUR				smax			
	comp=N,1μm,0.8s						
KUR				smax			
	comp=E,1μm,0.8s						
MAJO	**Matsushiro**	**6.25**	**212**	*e*Pn	**P**	**14 38 26.8**	**+0.4**
MAT	**Matsushiro**	**6.25**	**212**	P	**P**	**14 38 26.1**	**-0.3**
MAT				S	**S**	**14 39 34.0**	**-3.1**
MAT	**Matsushiro**	**6.25**	**212**	*e*P	**P**	**14 38 26.0**	**-0.4**
	comp=E,34nm,0.7s						
MAT				*e*S	**S**	**14 39 35.0**	**-2.1**
VLA	**Vladivostok**	**7.77**	**282**	*e*S	**S**	**14 40 19.0**	**+4.3**
TYV	**Tymovskoe**	**8.94**	**1**	*e*P	**P**	**14 39 01.9**	**-1.5**
JHJ	**Hachijo jima 2**	**9.02**	**194**	P	**P**	**14 39 00.8**	**-3.7**
	comp=E,22nm,0.3s,baz=78,slow=23,SNR=6.7						
JHJ				S	**S**	**14 40 38.1**	**-7.4**
	comp=E,9.8nm,0.3s,baz=88,slow=23,SNR=3.3						
MDJ	**Mudanjiang**	**9.64**	**290**	P	**P**	**14 39 15.0**	**+2.0**
MDJ				AMB	AMB		
	comp=Z,18nm,0.9s						
MDJ				AMB	AMB		
	comp=Z,84nm,4.7s						
MDJ	**Mudanjiang**	**9.64**	**290**	*e*Pn	**P**	**14 39 14.8**	**+1.8**
GRNR	**Gornyy**	**9.72**	**337**	*e*P	**P**	**14 39 14.0**	**0.0**
GRNR				AMB	AMB	14 39 14.8	
	comp=Z,20nm,0.8s						
GRNR				AMB	AMB	14 39 14.8	
	comp=Z,8.0nm,0.8s						
GRNR				AMB	AMB	14 39 14.8	
	comp=Z,16nm,0.8s						
KLR	**Kul'dur**	**10.38**	**318**	*e*P	**P**	**14 39 24.2**	**+1.3**
KLR				AMS	AMS	14 43 52.0	
	comp=Z,600nm,12.0s						
KLR				AMS	AMS	14 43 52.0	
	comp=Z,900nm,12.0s						
CN2	**Changchun**	**12.50**	**284**	*e*P	**P**	**14 39 53.2**	**+1.8**
CN2				*e*S	**S**	**14 42 08.4**	**-1.0**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
JNU	**Nakatsue**	**12.62**	**229**	P	**P**	**14 39 52.6**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=135,slow=38,SNR=1.8						
JNU				LR	LR	14 44 43.6	
	comp=Z,196nm,22.0s,baz=201,slow=37						
EKMR	**Ekimchan**	**12.79**	**334**	*e*P	**P**	**14 39 55.9**	**+0.6**
EKMR				AMB	AMB	14 40 09.1	
	comp=Z,6.0nm,0.8s						
CBIJ	**Chichi jima**	**14.80**	**180**	P	**P**	**14 40 22.6**	**+1.0**
	comp=Z,6.5nm,0.3s,baz=229,slow=24,SNR=2.6						
YASR	**Yasnyy**	**14.87**	**325**	*e*P	**P**	**14 40 22.6**	**+0.4**
YASR				AMB	AMB	14 40 24.8	
	comp=Z,2.0nm,0.8s						
YASR				AMB	AMB	14 40 24.8	
	comp=Z,3.0nm,0.8s						
YASR				AMB	AMB	14 40 24.8	
	comp=Z,6.0nm,0.8s						
ZEA	**Zeya**	**15.50**	**325**	*e*P	**P**	**14 40 31.3**	**+1.1**
ZEA				AMB	AMB	14 40 32.7	
	comp=Z,20nm,0.7s						
ZEA				pP		14 40 45.8	
BMKR	**Bomnak**	**15.56**	**330**	*e*P	**P**	**14 40 32.5**	**+1.4**
BMKR				AMB	AMB	14 40 34.5	
	comp=Z,51nm,1.0s						
KROS	**Kirovskiy**	**16.10**	**326**	*e*P	**P**	**14 40 37.1**	**-0.7**
KROS				AMB	AMB	14 40 39.0	
	comp=Z,2.0nm,0.6s						
KROS				pP		14 40 52.1	
HIA	**Hailar**	**17.36**	**303**	*e*P	**P**	**14 40 51.6**	**-2.0**
	comp=Z,11nm,1.0s						
MA2	**Magadan**	**18.43**	**14**	P	**P**	**14 41 03.3**	**-3.3**
	comp=Z,44nm,1.4s						
CLNS	**Chul'man**	**18.64**	**329**	*e*P	**P**	**14 41 07.2**	**-1.9**
CLNS				pmax	pmax		
	comp=Z,29nm,0.9s						
CLNS				pmax	pmax		
	comp=N,14nm,0.8s						
CLNS				pmax	pmax		
	comp=E,13nm,0.9s						
JOW	**Kunigami**	**18.95**	**222**	P	**P**	**14 41 12.2**	**-0.6**
	comp=E,1.0nm,0.3s,baz=337,slow=24,SNR=3.3						
JOW				LR	LR	14 48 52.1	
	comp=E,199nm,20.5s,baz=172,slow=38						
BJI	**Beijing**	**19.78**	**273**	P	**P**	**14 41 18.5**	**-3.2**
BJI				AP		14 41 39.6	
BJI				XP		14 41 53.5	
BJI				AMB	AMB		
	comp=Z,23nm,1.0s						
BJI				LR	LR		
	comp=N,348nm,15.1s						
BJI				LR	LR		
	comp=E,331nm,15.9s						
BJI				LR	LR		

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      comp=Z,438nm,22.8s
BJT   Baijiatuau         19.79 273  eP     P     14 41 18.4  -3.4
      comp=Z,36nm,1.0s
SSE   Sheshan            20.06 244   P     P     14 41 26.8  +2.0
SSE                                  S     S     14 45 02.2  +1.0
SSE                                  AMB   AMB
      comp=Z,33nm,0.7s
SSE                                  LR    LR
      comp=N,131nm,20.1s
SSE                                  LR    LR
      comp=E,77nm,20.0s
SSE                                  LR    LR
      comp=Z,187nm,31.3s
TIA   Tai'an             20.32 262  eP     P     14 41 24.5  -2.9
NJ2   Nanjing            21.10 250  eP     P     14 41 36.1  +0.7
NJ2                                  PP    PP    14 42 04.4  +4.0
NJ2                                  S     S     14 45 19.0  -1.9
NJ2                                  XS          14 45 53.0
NJ2                                  SS    SS    14 45 59.0  +0.6
NJ2                                  AMB   AMB
      comp=Z,50nm,1.1s,mb4.8
NJ2                                  AMB   AMB
      comp=Z,390nm,8.4s
NJ2                                  LR    LR
      comp=N,840nm,19.5s
NJ2                                  LR    LR
      comp=E,650nm,16.1s
NJ2                                  LR    LR
      comp=Z,800nm,16.4s
YAK   Yakutsk            21.50 344  eP     P     14 41 37.0  -2.1
YAK                                 e*PP         14 41 58.4
YAK                                 eS     S     14 45 30.4  +2.4
YAK                                 e            14 45 36.6
YAK                                 e*SS         14 46 01.0
YAK                                 e            14 52 48.1
YAK                                  pmax  pmax
      comp=Z,11nm,0.8s,mb4.2
YAK                                  pmax  pmax
      comp=N,3.0nm,0.9s
YAK                                  pmax  pmax
      comp=E,2.0nm,1.1s
YAK                                  smax
      comp=E,8.0nm,1.0s
YAK                                  smax
      comp=N,8.0nm,0.9s
YAK   Yakutsk            21.50 344  eP     P     14 41 35.6  -3.5
      comp=N,32nm,0.8s,mb4.7
BOD   Bodaibo            23.93 321  eP     P     14 41 58.2  -4.5
SONM  Songino Array      25.94 295   P     P     14 42 22.5  +0.5
      comp=N,3.3nm,0.5s,mb4.0,baz=77,slow=8.8,SNR=11
SONM                                 pP    pP    14 42 37.4  -1.3
      comp=N,2.7nm,0.6s,baz=90,slow=9.9,SNR=3.4
XAN   Xi'an              27.32 264   P     P     14 42 36.2  +1.3
XAN                                  AMB   AMB
      comp=Z,6.0nm,0.4s,mb4.5
ZAK   Zakamensk          28.04 301⇑iP      P     14 42 40.3  -0.9
ENH   Enshi              28.77 257  eP     P     14 42 43.2  -4.8
      comp=Z,21nm,0.9s,mb4.8
GTA   Gaotai             32.08 280  eP     P     14 43 16.8  -0.2
GTA                                  PP    PP    14 44 26.1  +0.7
GTA                                  PCP   PcP   14 46 05.7  +0.7
GTA                                  S     S     14 48 17.7  -5.1
GTA                                  XS          14 49 00.7
GTA                                  SCP         14 49 37.4
GTA                                  SS    SS    14 50 16.7  -3.2
GTA                                  SCS   ScS   14 53 35.4  -2.8
GTA                                  AMB   AMB
      comp=Z,2.0nm,0.8s,mb3.9
GTA                                  AMB   AMB
      comp=Z,33nm,6.1s
GTA                                  LR    LR
      comp=N,92nm,17.1s
GTA                                  LR    LR
      comp=E,76nm,18.6s
GTA                                  LR    LR
      comp=Z,121nm,17.1s
GYA   Guiyang            32.99 254⇑iP      P     14 43 23.6  -1.5
GYA                                  AP    pP    14 43 48.0  +5.5
GYA                                  PP    PP    14 44 35.2  -2.2
GYA                                  S     S     14 48 29.8  -7.3
GYA                                  SCS   ScS   14 53 37.3  -5.7
GYA                                  AMB   AMB
      comp=Z,10.0nm,0.6s,mb4.8
KMI   Kunming            36.62 255  eP     P     14 43 56.5  +0.5
KMI                                  AMB   AMB
      comp=Z,8.0nm,0.7s,mb4.8
WMQ   Urumqi             39.44 292  eP     P     14 44 18.7  -0.6
WMQ                                  AP    pP    14 44 44.1  +7.0
WMQ                                 eS     S     14 50 10.7  -4.9
WMQ                                  AMB   AMB
      comp=Z,9.0nm,1.2s,mb4.5
WMQ                                  AMB   AMB
      comp=Z,21nm,7.2s
WMQ                                  LR    LR
      comp=N,97nm,20.0s
WMQ                                  LR    LR
      comp=Z,136nm,22.3s
NVS   Novosibirsk        40.09 310  i P    P     14 44 23.8  -0.8
NANT  Nan                42.10 250   P     P     14 44 40.0  -1.5
MKAR  Makanchi Array     42.26 298   P     P     14 44 42.2  -0.2
      comp=Z,14nm,0.9s,mb4.7,baz=82,slow=8.7,SNR=72
MKAR                                 pP    pP    14 44 58.2  -2.1
      comp=Z,5.3nm,0.8s,baz=88,slow=11,SNR=5.7
MKAR                                 LR    LR    15 03 13.8
      comp=Z,82nm,18.1s,baz=97,slow=37
MKAR  Makanchi Array     42.26 298   P     P     14 44 42.2  -0.2
MKAR                                 *PP   pP    14 44 58.2  -2.1
MKAR                                 pmax  pmax
      comp=Z,14nm,0.9s
MKAR                                 pmax  pmax
      comp=N,5.0nm,0.8s
MKAR                                 MLR   MLR
      comp=Z,82nm,18.2s
MKAR  Makanchi Array     42.26 298   P     P     14 44 42.2  -0.2
MKAR                                 pP    pP    14 44 58.2  -2.1
MKAR                                 LR    LR    15 03 13.8
KKTK  Khon Kaen          42.34 245   P     P     14 44 44.5  +1.0
      comp=Z,309nm,1.0s
LSA   Lhasa              42.65 270   P     P     14 44 46.0  +0.1
CMAR  Chiang Mai Arr     43.57 251   P     P     14 44 55.0  +1.5
      comp=Z,1.4nm,0.5s,mb4.0,baz=49,slow=8.3,SNR=9.2
CMAR                                 sP    sP    14 45 16.0  -3.8
      comp=Z,1.9nm,0.7s,baz=45,slow=7.7,SNR=3.2
CMAR                                 LR    LR    15 03 19.1
      comp=Z,111nm,18.5s,baz=55,slow=36
CMAR  Chiang Mai Arr     43.57 251   P     P     14 44 55.0  +1.5
CMAR                                 *SP   sP    14 45 16.0  -3.8
CMAR                                 pmax  pmax
      comp=Z,1.0nm,0.5s
CMAR                                 pmax  pmax
      comp=N,2.0nm,0.7s
CMAR                                 MLR   MLR
      comp=Z,111nm,18.5s
KURK  Kurchatov          43.59 304   P     P     14 44 52.3  -0.9
      comp=Z,133nm,0.8s,SNR=7.6
KURK  Kurchatov          43.59 304  i P    P     14 44 52.8  -0.4
KURK                                 pmax  pmax
      comp=Z,10.0nm,0.9s,mb4.5
KURK  Kurchatov          43.59 304  eP     P     14 44 52.4  -0.8
      comp=Z,24nm,0.8s,mb5.0
KURK                                e      pP    14 45 12.0  +0.9
MCK   McKinley           44.24  36  eP     P     14 44 58.4  +0.1
      comp=Z,4.8nm,1.1s,mb4.1
PMR   Palmer             44.35  40  eP     P     14 44 57.3  -2.0
      comp=Z,6.0nm,0.8s,mb4.4
COLA  College            44.62  35⇓eP      P     14 45 02.0  +0.7
COLA  College            44.62  35  eP     P     14 44 59.8  -1.5
      comp=Z,6.4nm,0.7s,mb4.5
SML   Sawmill            44.71  39  eP     P     14 45 00.4  -1.7
ILAR  Eielson Array      45.04  35   P     P     14 45 04.1  -0.6
      comp=Z,5.1nm,1.0s,mb4.2,baz=273,slow=6.8,SNR=29
ILAR                                 LR    LR    15 06 16.6
      comp=Z,38nm,18.4s,baz=287,slow=39
ILAR  Eielson Array      45.04  35   P     P     14 45 04.1  -0.6
ILAR                                 pmax  pmax
      comp=Z,5.0nm,1.0s
ILAR                                 MLR   MLR
      comp=Z,38nm,18.4s
VOSK  Vostochnaya        47.63 309   P     P     14 45 24.8  -0.5
VOSK                                 pmax  pmax
      comp=Z,12nm,1.1s,mb4.6
BVA0  Borovoye Array     47.89 309  i P    P     14 45 27.0  -0.3
BVAR  Borovoye Array     47.89 309   P     P     14 45 27.1  -0.2
      comp=Z,5.7nm,0.3s,mb4.8,baz=80,slow=9.5,SNR=37
BVAR                                 sP    sP    14 45 48.8  -4.7
      comp=Z,3.5nm,0.5s,baz=72,slow=9.4,SNR=4.4
BVAR                                 LR    LR    15 08 09.1
      comp=Z,2.0nm,21.1s,baz=115,slow=39
BRVK  Borovoye           47.94 309  eP     P     14 45 26.8  -0.9
      comp=Z,7.0nm,0.8s,mb4.5
BRVK                                e      pP    14 45 43.0  -2.7
KKN   Kakani             48.03 272  eP     P     14 45 29.0  +0.3
      comp=Z,44nm,0.7s,mb5.4
TKM2  Tokmak 2           48.04 295   P     P     14 45 29.2  +0.6
      SNR=21
PKI   Pulchoki           48.05 272  eP     P     14 45 28.8  -0.1
      comp=Z,17nm,0.6s,mb5.1
DMN   Daman              48.26 272  eP     P     14 45 30.5   0.0
      comp=Z,23nm,0.6s,mb5.2
GKN   Gorkha             48.40 273  eP     P     14 45 31.4  -0.2
      comp=Z,20nm,0.4s,mb5.3
KBK   Karagaybulak       48.58 295   P     P     14 45 33.1  +0.3
      SNR=19
USP   Ospenovka          48.65 296   P     P     14 45 33.1  -0.1
      SNR=11
ZRNK  Zerenda            48.71 310   P     P     14 45 33.3  -0.3
ZRNK                                 pmax  pmax
      comp=Z,17nm,1.0s,mb4.9
ZRNK  Zerenda            48.71 310  eP     P     14 45 33.2  -0.4
      comp=Z,12nm,0.7s,mb4.9
ZRNK                                e      pP    14 45 55.4  +3.7
AAK   Ala-Archa          48.90 295  eP     P     14 45 33.7  -1.6
      comp=Z,3.8nm,0.5s,mb4.6
KOLN  Koldanda           49.30 273  eP     P     14 45 38.8  +0.3
      comp=Z,21nm,0.4s,mb5.4
EKS2  Erkin-Say          49.37 295   P     P     14 45 38.8  -0.1
      SNR=13
AML   Almayashu          49.64 295   P     P     14 45 41.6  +0.6
      SNR=6.9
KKAR  Karatay Array      51.38 297  i P    P     14 45 53.2  -0.9
KKAR                                 pmax  pmax
      comp=Z,6.0nm,0.7s,mb4.7
ARU   Arti               53.21 316⇑iP      P     14 46 06.8  -0.9
ARU                                 e            14 47 14.0
ARU                                 e            14 48 07.9
ARU                                 ePPP   PPP   14 49 15.8  -2.0
ARU                                 eS     S     14 53 33.7  +2.3
ARU                                 eSS    SS    14 57 17.9  +6.8
ARU                                  pmax  pmax
      comp=Z,15nm,0.9s,mb5.0
ARU   Arti               53.21 316  eP     P     14 46 06.4  -1.3
      comp=Z,11nm,0.8s,mb5.0
DLBC  Dease Lake         54.40  40   P     P     14 46 17.6  +1.2
      comp=Z,1.4nm,0.5s,mb4.2,baz=205,slow=14,SNR=4.8
DLBC  Dease Lake         54.40  40   P     P     14 46 14.6  -1.8
AB31  Akbulak array      55.38 308  eP     P     14 46 22.7  -0.9
AB31                                 pmax  pmax
      comp=Z,3.0nm,0.5s,mb4.6
HYB   Hyderabad          59.12 266  i P    P     14 46 49.5  -0.8
HYB   Hyderabad          59.12 266  eP     P     14 46 49.5  -0.8
KEV   Kevo               59.12 338  ep     P     14 46 47.7  -2.0
YKA   Yellowknife Ar     59.26  32   P     P     14 46 50.5  -0.2
      comp=Z,1.1nm,0.6s,mb4.1,baz=303,slow=6.6,SNR=4.1
YKA                                  LR    LR    15 14 55.5
      comp=Z,38nm,19.1s,baz=265,slow=38
YKA   Yellowknife Ar     59.26  32   P     P     14 46 50.5  -0.2
YKA                                  pmax  pmax
      comp=Z,1.0nm,0.6s
YKA                                  MLR   MLR
      comp=Z,38nm,19.1s
YKA   Yellowknife Ar     59.26  32   P     P     14 46 50.5  -0.2
YKA                                  LR    LR    15 14 55.5
ARCES ARCESS Array B     59.67 339   P     P     14 46 52.0  -1.4
      comp=Z,2.8nm,0.8s,mb4.3,baz=39,slow=7.8,SNR=3.6
ARCES                                LR    LR    15 15 24.9
      comp=Z,112nm,18.0s,baz=201,slow=39
ARCES ARCESS Array B     59.67 339   P     P     14 46 52.0  -1.5
ARCES                                pmax  pmax
      comp=Z,3.0nm,0.8s
ARCES                                MLR   MLR
      comp=Z,112nm,18.0s
FITZ  Fitzroy Crossi     61.69 198   P     P     14 47 07.0  -0.8
      comp=Z,4.5nm,1.2s,mb4.4,baz=358,slow=8.9,SNR=3.1
WRAB  Tennant Creek      61.99 188  eP     P     14 47 07.7  -2.2
      comp=Z,27nm,1.0s,mb5.2
WRAB                                e      pP    14 47 27.2  -1.5
WB2   Warramunga Arr     62.00 188  eP     P     14 47 08.6  -1.3
WRA   Warramunga Arr     62.00 188   P     P     14 47 08.5  -1.4
      comp=Z,1.3nm,0.5s,mb4.2,baz=6.6,slow=6.9,SNR=36
WRA                                  pP    pP    14 47 28.1  -0.6
      comp=Z,8.0nm,0.8s,baz=5.6,slow=6.9,SNR=12
WRA   Warramunga Arr     62.00 188   P     P     14 47 08.5  -1.4
WRA                                  *PP   pP    14 47 28.1  -0.7
WRA                                  pmax  pmax
      comp=Z,1.0nm,0.5s
WRA                                  pmax  pmax
      comp=N,8.0nm,0.8s
KAF   Kangasniemi        64.28 332  ep     P     14 47 22.4  -1.9
      baz=47,slow=6.2
OBN   Obninsk            64.61 322⇓eP      P     14 47 26.8  +0.3
OBN                                  pmax  pmax
      comp=Z,5.0nm,0.5s,mb4.6
OBN                                  MLR   MLR
      comp=Z,300nm,20.0s
FINES FINESS Array B     64.82 332   P     P     14 47 26.7  -1.0
      comp=Z,4.0nm,0.4s,mb4.6,baz=60,slow=6.8,SNR=38
FINES                                pP    pP    14 47 44.0  -2.8
      comp=Z,13nm,1.1s,baz=63,slow=8.5,SNR=2.7
FINES                                sP    sP    14 47 52.7  -2.0
      comp=Z,2.7nm,0.6s,baz=45,slow=8.1,SNR=2.7
FINES                                LR    LR    15 18 12.8
      comp=Z,151nm,19.2s,baz=217,slow=38
FINES FINESS Array B     64.82 332   P     P     14 47 26.7  -1.0
FINES                                *PP   pP    14 47 44.0  -2.7
FINES                                *SP   sP    14 47 52.7  -2.0
FINES                                pmax  pmax
      comp=Z,4.0nm,0.4s
FINES                                pmax  pmax
      comp=N,13nm,1.1s
FINES                                pmax  pmax
      comp=N,3.0nm,0.6s
FINES                                MLR   MLR
      comp=Z,151nm,19.2s
SUMG  Summit             65.79   0   P     P     14 47 27.9  -6.0
NEW   Newport            66.19  46   P     P     14 47 37.8  +1.0
      comp=Z,1.5nm,0.2s,mb4.4,baz=336,slow=12,SNR=2.2
NEW                                  LR    LR    15 16 09.1
      comp=Z,46nm,20.4s,baz=238,slow=36
NEW   Newport            66.19  46   P     P     14 47 37.8  +1.0
NEW                                  pmax  pmax
      comp=Z,2.0nm,0.3s
NEW                                  MLR   MLR
      comp=Z,46nm,20.4s
YBH   Yreka Blue Hor     66.87  54   P     P     14 47 42.1  +0.9
      comp=Z,0.5nm,0.3s,mb3.8,baz=294,slow=10.0,SNR=2.9
YBH   Yreka Blue Hor     66.87  54   P     P     14 47 42.1  +0.9
YBH                                  pmax  pmax
      comp=Z,1.0nm,0.3s
NB2   NORSAR Subarra     69.94 337   P     P     14 47 58.9  -0.9
      comp=Z,5.3nm,0.7s,mb4.5,baz=36,slow=6.2
NOA   NORSAR Array B     69.94 337   P     P     14 47 59.1  -0.7
      comp=Z,3.6nm,0.6s,mb4.4,baz=37,slow=6.1,SNR=16
NOA                                  pP    pP    14 48 17.5  -1.6
      comp=Z,2.0nm,0.6s,baz=37,slow=6.2,SNR=3.0
NOA                                  sP    sP    14 48 25.7  -1.0
      comp=Z,4.4nm,0.9s,baz=36,slow=6.1,SNR=3.8
NOA                                  LR    LR    15 21 30.2
      comp=Z,84nm,19.4s,baz=35,slow=38
NOA   NORSAR Array B     69.94 337   P     P     14 47 59.2  -0.6
NOA                                  *PP   pP    14 48 17.5  -1.6
NOA                                  *SP   sP    14 48 25.7  -1.0
NOA                                  pmax  pmax
      comp=Z,4.0nm,0.6s
NOA                                  pmax  pmax
      comp=N,2.0nm,0.6s
NOA                                  pmax  pmax
      comp=N,4.0nm,0.9s
NOA                                  MLR   MLR
      comp=Z,84nm,19.4s
SOC   Sochi              70.16 311  eP     P     14 48 00.8  -0.7
SOC                                 e      pP    14 48 21.7  +0.9
SOC                                 e            14 50 41.3
SOC                                 eS     S     14 56 59.9  -5.9
SOC                                 e            14 57 55.1
SOC                                 eSS    SS    15 01 33.9  -4.6
SOC                                  pmax  pmax
      comp=Z,27nm,1.0s,mb5.0
SOC                                  pmax  pmax
      comp=N,36nm,1.5s
SOC                                  pmax  pmax
      comp=E,11nm,0.9s
SOC                                  MLR   MLR
      comp=Z,220nm,27.0s
SOC                                  MLR   MLR
      comp=N,64nm,13.0s
SOC                                  MLR   MLR
      comp=E,67nm,15.0s
CMB   Columbia Colle     70.53  56   P     P     14 48 04.5  +0.7
HLID  Hailey             70.58  49  eP     P     14 48 04.2  +0.1
      comp=E,3.3nm,1.1s,mb4.1
AKASG Malin Array Be     70.86 322   P     P     14 48 04.7  -0.8
      comp=E,3.1nm,0.5s,mb4.4,baz=44,slow=5.9,SNR=25
AKASG                                pP    pP    14 48 23.8  -1.1
      comp=E,2.5nm,0.6s,baz=40,slow=6.1,SNR=3.4
AKASG Malin Array Be     70.86 322   P     P     14 48 04.7  -0.8
AKASG                                *PP   pP    14 48 23.8  -1.1
AKASG                                pmax  pmax
      comp=Z,3.0nm,0.5s
AKASG                                pmax  pmax
      comp=N,3.0nm,0.6s
STKA  Stephens Creek     73.45 181   LR    LR    15 16 16.8
      comp=N,144nm,21.3s,baz=26,slow=32
HWUT  Hardware Ranch     73.45  49   P     P     14 48 21.1  +0.1
      comp=N,3.4nm,0.9s,mb4.2
TPNV  Topopah Spring     73.76  55  eP     P     14 48 24.4  +1.5
      comp=N,18nm,1.2s,mb4.7
TPNV                                e      pP    14 48 41.3  -1.0
PDAR  Pinedale Array     73.78  47   P     P     14 48 24.1  +1.2
      comp=N,2.4nm,0.7s,mb4.0,baz=291,slow=2.7,SNR=23
PDAR                                 pP    pP    14 48 43.1  +0.7
      comp=N,2.1nm,0.9s,baz=297,slow=3.3,SNR=6.1
MALT  Malatya            74.31 308   P     P     14 48 25.4  -0.6
      comp=N,12nm,1.1s,mb4.5
MALT                                e      pP    14 48 47.8  +2.2
ULM   Lac du Bonnet      75.06  34   P     P     14 48 30.9  +0.8
      comp=N,2.9nm,0.7s,mb4.1,baz=297,slow=6.8,SNR=2.9
ULM                                  pP    pP    14 48 49.3  -0.3
      comp=N,6.0nm,1.0s,baz=289,slow=7.0,SNR=3.4
ULM   Lac du Bonnet      75.06  34   P     P     14 48 30.9  +0.8
ULM                                  pP    pP    14 48 49.3  -0.3
KOLS  Kolonicke sedl     75.27 324  eP     P     14 48 27.7  -3.6
OJC   Ojcow              75.36 326  eP     P     14 48 32.8  +1.0
LDFC  Landfair           75.68  56   P     P     14 48 33.6  -0.3
RSSD  Black Hills        75.75  43   P     P     14 48 35.1  +0.9
      comp=N,3.0nm,0.9s,mb4.0
BRTR  Keskin Array B     76.13 311   P     P     14 48 37.1  +0.7
      comp=N,3.1nm,0.8s,mb4.1,baz=61,slow=4.5,SNR=7.2
BRTR                                 pP    pP    14 48 56.0  +0.1
      comp=N,2.2nm,0.9s,baz=315,slow=1.7,SNR=2.9
BRTR                                 LR    LR    15 22 39.8
      comp=N,42nm,21.3s,baz=75,slow=36
BRTR  Keskin Array B     76.13 311   P     P     14 48 37.2  +0.8
BRTR                                 *PP   pP    14 48 56.0  +0.1
BRTR                                 pmax  pmax
      comp=Z,3.0nm,0.8s
BRTR                                 pmax  pmax
      comp=N,2.0nm,1.0s
BRTR                                 MLR   MLR
      comp=Z,42nm,21.3s
OKC   Ostrava-Krasne     76.34 327  eP     P     14 48 39.8  +2.4
MORC  Moravsky Berou     76.63 327  eP     P     14 48 39.2  +0.1
      comp=Z,8.3nm,0.9s,mb4.5
DPC   Dobruska-Polom     76.67 328  eP     P     14 48 40.3  +1.0
DPC                                 epP    pP    14 49 01.6  +2.8
UPC   Upice              76.67 328  eP     P     14 48 36.7  -2.6
PV10  Paradox Valley     77.06  50  eP     P     14 48 43.1  +1.3
PV10                                e      pP    14 49 02.8  +1.5
PSZ   Piszkesteto        77.07 324   P     P     14 48 41.4  -0.2
      comp=Z,9.7nm,1.1s,mb4.5
VYHS  Vyhne              77.08 325  eP     P     14 48 43.6  +2.0
CLL   Collm              77.19 330   P     P     14 48 41.8  -0.3
      comp=Z,logA/T=0.8,mb4.3
CLL                                 i *SP  sP    14 49 10.0  +0.4
CLL   Collm              77.19 330  i P    P     14 48 41.8  -0.3
CLL                                 i *PP  pP    14 49 10.0  +8.3
CLL                                  pmax  pmax
      comp=Z,6.0nm,0.9s,mb4.3
CLL   Collm              77.19 330  i P    P     14 48 41.8  -0.3
      comp=Z,6.0nm,0.9s,mb4.3
CLL                                 i pP   pP    14 49 10.0  +8.3
PRU   Pruhonice          77.66 329  eP     P     14 48 46.3  +1.5
NWAO  Narrogin (SRO)     77.98 201   P     P     14 48 47.5  +0.7
      comp=Z,4.4nm,0.8s,mb4.3,baz=323,slow=24,SNR=2.4
NWAO  Narrogin (SRO)     77.98 201   P     P     14 48 47.6  +0.7
NWAO                                 pmax  pmax
      comp=Z,4.0nm,0.8s
MOX   Moxa               78.24 330  eP     P     14 48 50.0  +2.1
KHC   Kasperske Hory     78.73 328  eP     P     14 48 51.0  +0.4
GERES GERESS Array B     78.91 328   P     P     14 48 51.8  +0.1
      comp=Z,1.1nm,0.6s,mb3.9,baz=45,slow=7.5,SNR=10
GERES GERESS Array B     78.91 328   P     P     14 48 51.8  +0.2
GERES                                pmax  pmax
      comp=Z,1.0nm,0.6s
GRA1  Grafenberg Arr     79.17 330  eP     P     14 48 53.6  +0.6
      comp=Z,9.0nm,1.1s,mb4.5
GRA1                                epP    pP    14 49 14.7  +2.1
GRF   Grafenberg Arr     79.17 330  eP     P     14 48 53.6  +0.6
GRF                                 e*PP   pP    14 49 14.7  +2.1
GRF                                  pmax  pmax
      comp=Z,9.0nm,1.1s,mb4.5
SDCO  Great Sand Dun     79.50  48   P     P     14 48 56.5  +1.4
      comp=Z,2.3nm,1.0s,mb4.0
GROS  Grobnik            80.08 326  eP     P     14 48 58.9  +0.9
PERS  Pernice            80.11 326  i P    P     14 48 58.8  +0.6
SCHQ  Schefferville      80.45  17   P     P     14 49 00.1  +0.3
      comp=Z,4.9nm,1.0s,mb4.3,baz=35,slow=19,SNR=2.6
CDF   Champ du Feu       81.67 332  eP     P     14 49 06.5  +0.2
HINF  Hinteralfeld       82.33 331  eP     P     14 49 10.1  +0.4
RAR   Rarotonga          82.53 127   pP    pP    14 49 31.0   0.0
      comp=Z,20nm,0.7s,baz=9.5,slow=3.3,SNR=1.6
RAR                                  LR    LR    15 17 45.4
      comp=Z,140nm,20.6s,baz=261,slow=30
LOR   Lormes             83.84 333  eP     P     14 49 17.5  +0.2
      comp=Z,14nm,0.8s,mb4.6
LOR                                 eR
      comp=Z,134nm,21.2s
FLN   La Foliniere       83.91 336  eP     P     14 49 17.7   0.0
FLN                                 eR
      comp=Z,103nm,23.0s
LDF   La Druitiere       83.95 336  eP     P     14 49 17.8  -0.1
GDL2  Guadalupe Moun     84.12  51  eP     P     14 49 21.0  +1.9
SSF   Saint Saulge       84.14 333  eP     P     14 49 19.1  +0.3
LPL   La Plagne          84.33 330  eP     P     14 49 20.7  +0.9
LPG   La Plagne          84.33 330  eP     P     14 49 20.9  +1.0
      comp=Z,11nm,0.7s,mb4.5
GRR   Gorron             84.36 336  eP     P     14 49 20.2  +0.3
SMF   Signal de Mont     84.38 333  eP     P     14 49 20.5  +0.4
      comp=Z,13nm,0.8s,mb4.5
AVF   Avril sur Loir     84.42 333  eP     P     14 49 20.8  +0.5
      comp=Z,21nm,0.7s,mb4.7
ORIF  Oris-en-Rattie     85.15 331  eP     P     14 49 24.8  +0.9
      comp=Z,8.4nm,0.7s,mb4.5
ORIF                                eR
      comp=Z,59nm,19.5s
TCF   Toulx Ste Croi     85.25 333  eP     P     14 49 25.0  +0.6
WMOK  Wichita Mounta     85.39  46  eP     P     14 49 26.9  +1.5
      comp=Z,3.8nm,1.0s,mb4.3
SBF   Sospel             85.47 329  eP     P     14 49 26.1  +0.6
      comp=Z,23nm,0.8s,mb4.8
VIVF  Saint-Julien-l     85.64 331  eP     P     14 49 26.5  +0.1
MFF   Saint Martin d     85.73 335  eP     P     14 49 27.2  +0.4
      comp=Z,24nm,1.0s,mb4.8
LMR   La Mourre          86.27 329  eP     P     14 49 30.4  +0.9
      comp=Z,31nm,1.1s,mb4.8
RJF   Les Rejaudoux      86.34 333  eP     P     14 49 30.8  +1.0
RJF                                 eR
      comp=Z,96nm,21.2s
CAF   Calviac            86.49 333  eP     P     14 49 32.0  +1.5
TXAR  Lajitas Array      86.62  53   P     P     14 49 34.3  +2.8
      comp=Z,0.7nm,0.5s,mb3.8,baz=298,slow=3.0,SNR=3.6
TXAR                                 pP    pP    14 49 51.8  +0.3
      comp=Z,1.1nm,0.5s,baz=297,slow=2.8,SNR=4.0
LFF   La Frestale        86.92 334  eP     P     14 49 34.0  +1.4
      comp=Z,20nm,0.5s,mb5.0
ETSF  Etsaut             89.17 334  eP     P     14 49 44.1  +0.7
      comp=Z,7.0nm,0.7s,mb4.5
SJPF  Ste Jean           89.19 334  eP     P     14 49 44.3  +0.8
SNAA  Sanae             145.62 199⇑iP      PKPdf 14 56 25.7  +2.2
SNAA  Sanae             145.62 199         PKPdf 14 56 26.6  +3.1
SNAA  Sanae             145.62 199⇑i       PKPdf 14 56 29.2  +5.7
SNAA  Sanae             145.62 199⇓i       PKPdf 14 56 54.3   +31
SNAA  Sanae             145.62 199⇑i       PKPdf 14 57 08.8   +45
VNA2  Neumayer--Watz    147.20 198   P     PKPdf 14 56 33.6  +7.4
VNA2  Neumayer--Watz    147.20 198         PKPdf 14 56 36.4   +10
VNA2  Neumayer--Watz    147.20 198         PKPdf 14 56 38.3   +12
VNA2  Neumayer--Watz    147.20 198         PKPdf 14 56 54.8   +29
VNA3  Neumayer Olymp    147.46 196⇑iP      PKPdf 14 56 33.7  +7.1
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VNA3	**Neumayer Olymp**	**147.46**	**196**	⇑*i*	PKPdf	14 56 36.9	+10
VNA3	**Neumayer Olymp**	**147.46**	**196**		PKPdf	14 56 38.5	+12
VNA3	**Neumayer Olymp**	**147.46**	**196**	⇓*i*	PKPdf	14 56 54.9	+28
VNA1	**Neumayer--Stat**	**147.59**	**198**	⇑*i*P	PKPdf	14 56 34.5	+7.6
VNA1	**Neumayer--Stat**	**147.59**	**198**	⇑*i*	PKPdf	14 56 54.7	+28

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*NEIC **09** 14:52:21.1,38.58N×21.91E,h28^{km},MD3.1(ATH),After ATH.*

*ATH **09** 14:52:21.1,38.57N×21.92E,h26^{km}±2^{km},MD3.1/11*

*THE **09** 14:52:25.8,38.63N×22.02E,h20^{km},ML3.3*

ISC 09 14:52:22.0±0.6,**38.55N**±0.03×**21.93E**±0.05,**h22**^{km}±7^{km},**n20,**σ**0^{s}88**/27,**1C,Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.38**	**346**	*e*PB	**Pb**	**14 52 29.1**	**-0.9**
EVR				*e*SB	**Sb**	**14 52 35.6**	**+0.2**
RLS	**Riolos of Patr**	**0.61**	**217**	⇑*i*PN	**Pn**	**14 52 33.6**	**-1.7**
RLS				*e*SN	**Sn**	**14 52 43.8**	**-0.7**
LKR	**Lokris**	**0.84**	**83**	*e*PB	**Pb**	**14 52 37.2**	**-0.7**
LKR				*e*SN	**Sn**	**14 52 49.8**	**-0.6**
MKIT	**Kithairon Oros**	**1.11**	**109**	*e*PN	**Pn**	**14 52 42.0**	**-0.4**
VLS	**Valsamata**	**1.12**	**251**	*e*PB	**Pb**	**14 52 41.2**	**-1.3**
NEO	**Neokhori**	**1.26**	**53**	*e*PN	**Pn**	**14 52 45.4**	**+0.8**
XOR	**Xorichti**	**1.28**	**50**	*e*Pb	**Pb**	**14 52 45.7**	**+0.5**
MEV	**Metsovon**	**1.35**	**336**	*e*Pb	**Pb**	**14 52 47.6**	**+1.2**
	comp=Z,8.8nm,0.4s						
ITM	**Ithomi**	**1.37**	**180**	*e*PN	**Pn**	**14 52 46.8**	**+0.7**
NSAL	**Nisos Salamina**	**1.37**	**118**	*e*PN	**Pn**	**14 52 47.5**	**+1.4**
JAN	**Janina**	**1.39**	**323**	*e*PN	**Pn**	**14 52 46.0**	**-0.4**
IGT	**Igoumenitsa**	**1.58**	**309**	*e*Pb	**Pb**	**14 52 51.4**	**+0.9**
IGT				*e*Sb	**Sb**	**14 53 11.1**	**+1.0**
PTL	**Penteli**	**1.60**	**108**	*e*PN	**Pn**	**14 52 50.5**	**+1.0**
LIT	**Litokhoron**	**1.61**	**16**	*e*Pb	**Pb**	**14 52 50.7**	**-0.1**
	comp=Z,14nm,0.4s						
LIT				*e*Sb	**Sb**	**14 53 09.2**	**-1.6**
VLI	**Veliai**	**2.00**	**156**	*e*PN	**Pn**	**14 52 55.5**	**+0.4**
FNA	**Florina**	**2.27**	**349**	*e*Pn	**Pn**	**14 53 00.3**	**+1.3**
FNA				*e*Sn	**Sn**	**14 53 26.7**	**0.0**
OUR	**Ouranopolis**	**2.39**	**41**	*e*Pn	**Pn**	**14 53 00.3**	**-0.4**
GRG	**Griva**	**2.43**	**8**	*e*Pn	**Pn**	**14 53 01.0**	**-0.3**
SOH	**Sokhos**	**2.52**	**25**	*e*Pn	**Pn**	**14 53 03.5**	**+0.9**
KNT	**Kendrikon**	**2.71**	**16**	*e*Pn	**Pn**	**14 53 05.0**	**-0.4**
KNT				*e*Sn	**Sn**	**14 53 36.8**	**-1.1**

MAN 09 15:16:07.8,15.99N×119.97E,h17^{km},mb4.1,ML2.9, MS2.6,1C,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCZP	**Santa Cruz**	**0.22**	**195**	*e*P	Pb	15 16 14.7	+1.7
SCZP				*e*S	Sb	15 16 20.0	+3.5
BOLP	**Bolinao**	**0.39**	**352**	*e*P	Pb	15 16 17.2	+1.3
BOLP				*e*S	Sb	15 16 24.8	+3.3
BCPH	**Baguio City Da**	**0.70**	**56**	⇑*i*P	Pb	15 16 21.4	+0.2
BCPH				*i* S	Sb	15 16 32.1	+1.7
BALP	**Baler**	**1.57**	**99**	*e*P	Pn	15 16 34.0	-1.2
BALP				*e*S	Sn	15 16 56.3	+1.2
ABRA	**Dolores**	**1.80**	**23**	*e*P	Pn	15 16 37.8	-0.6
ABRA				*e*S	Sn	15 17 01.9	+0.9
APYP	**Conner**	**2.23**	**33**	*e*P	Pn	15 16 48.6	+4.1
APYP				*e*S	Sn	15 17 12.2	+0.4
LUBP	**Lubang**	**2.26**	**173**	*e*P	Pn	15 16 44.2	-0.8

NEIC 09 15:30:05.7,35.09N×117.52W,h6^{km},ML3.7(PAS),**1D, After PAS.,Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MWC	**Mount Wilson**	**0.97**	**208**	*e*P	Pb	15 30 23.2	-1.4
MWC				*e*S	Sb	15 30 36.6	-0.9
DAC	**Darwin (Calif)**	**1.19**	**357**	⇓*i*P	Pb	15 30 27.1	-1.2
PFO	**Pinyon Flat Ob**	**1.72**	**149**	*e*Pn	Pn	15 30 34.7	-1.7
LDFC	**Landfair**	**1.97**	**90**	*e*Pn	Pn	15 30 36.9	-3.2
TPNV	**Topopah Spring**	**2.12**	**29**	*e*Pn	Pn	15 30 40.9	-1.4
MTUM	**Tungsten Hills**	**2.41**	**340**	*e*Pn	Pn	15 30 46.0	-0.5
BAR	**Barrett**	**2.50**	**163**	*e*Pn	Pn	15 30 45.5	-2.2
OMM	**Old Mammoth Mi**	**2.79**	**335**	*e*Pn	Pn	15 30 50.6	-1.2
TPH	**Tonopah**	**2.99**	**4**	*e*Pn	Pn	15 30 53.5	-1.1
LRV	**Little Rabbit**	**3.14**	**296**	P	Pn	15 30 55.5	-1.4
MNV	**Mina**	**3.38**	**351**	*e*Pn	Pn	15 30 58.9	-1.3
SAO	**San Andreas Ge**	**3.60**	**299**	Pn	Pn	15 31 00.5	-2.9
CMB	**Columbia Colle**	**3.74**	**323**	*e*Pn	Pn	15 31 02.4	-2.9
WUAZ	**Wupatki**	**5.04**	**83**	Pn	Pn	15 31 23.0	-0.7
MVU	**Marysvale**	**5.45**	**50**	Pn	Pn	15 31 27.7	-1.9
MSU	**Marysvale**	**5.48**	**50**	Pn	Pn	15 31 29.2	-0.8
ELK	**Elko**	**5.93**	**17**	*e*Pn	Pn	15 31 34.2	-2.1

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*IDC **09** 16:08:05.9±0.7,53.12N×167.29W,mb4.1/17,mb1 4.3/18, mb1mx4.3/23,ML3.8/1,MS3.4/1,Ms1 3.4/1,ms1mx2.7/30, Error ellipse: s-maj=21.9km s-min=14.3km az=173.0*

*BJI **09** 16:08:10.8,53.04N×166.61W,h66^{km},mB4.4,mb4.5, Ms4.2,Msz4.0*

*NEIC **09** 16:08:12.8±0.4,53.20N×167.08W,h49^{km}±3^{km},mb4.1/7, ML4.2(AEIC),Error ellipse: s-maj=7.7km s-min=3.1km az=164.0*

ISC 09 16:08:11.9±0.6,**53.14N**±0.06×**166.99W**±0.05,**h54**^{km}±4^{km}, **n89,**σ**0^{s}80**/98,**mb4.2**/26,**MS3.3**/1,**1C,Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MGOD	**Makushin Gods**	**0.66**	**6**	P	**P**	**16 08 24.8**	**-0.5**
OKER	**East Rim**	**0.71**	**297**	P	**P**	**16 08 26.0**	**0.0**
OKER				S	**S**	**16 08 36.0**	**-0.4**
OKCD	**Okmok Cone D**	**0.73**	**294**	P	**P**	**16 08 26.1**	**-0.2**
OKCD				S	**S**	**16 08 37.1**	**+0.1**
OKCE	**Okmok Cone E**	**0.76**	**293**	P	**P**	**16 08 26.5**	**-0.1**
OKCE				S	**S**	**16 08 38.3**	**+0.7**
UNV	**Unalaska Valle**	**0.76**	**22**	P	**P**	**16 08 25.9**	**-0.8**
UNV				S	**S**	**16 08 36.6**	**-1.1**
MNAT	**Makushin Natee**	**0.77**	**14**	P	**P**	**16 08 26.2**	**-0.5**
MNAT				S	**S**	**16 08 37.3**	**-0.4**
MSW	**Makushin Switc**	**0.78**	**9**	P	**P**	**16 08 26.7**	**-0.3**
MCIR	**Makushin Cirqu**	**0.81**	**4**	P	**P**	**16 08 27.7**	**+0.3**
MCIR				S	**S**	**16 08 39.0**	**+0.2**
MTBL	**Makushin Table**	**0.85**	**12**	P	**P**	**16 08 27.9**	**+0.1**
NIKO	**Nikolski**	**1.14**	**262**	P	**P**	**16 08 30.8**	**-1.0**
LVA	**Lava Point**	**1.17**	**29**	P	**P**	**16 08 32.4**	**+0.2**
LVA				S	**S**	**16 08 46.9**	**-0.4**
AKLV	**Akutan Long Va**	**1.19**	**31**	P	**P**	**16 08 32.5**	**-0.1**
AKLV				S	**S**	**16 08 47.7**	**-0.3**
AHB	**Akutan Harbor**	**1.20**	**35**	P	**P**	**16 08 32.2**	**-0.5**
AKGG	**Akutan Green G**	**1.21**	**29**	P	**P**	**16 08 33.1**	**+0.2**
AKGG				S	**S**	**16 08 48.7**	**+0.1**
AKA	**Akutan**	**1.23**	**36**	P	**P**	**16 08 32.6**	**-0.5**
AKA				S	**S**	**16 08 48.3**	**-0.7**
WESS	**West Dahl Sout**	**1.90**	**44**	P	**P**	**16 08 42.6**	**+0.1**
WESS				S	**S**	**16 09 05.9**	**+0.7**
WESE	**West Dahl East**	**1.95**	**46**	P	**P**	**16 08 43.3**	**+0.1**
WESE				S	**S**	**16 09 06.7**	**+0.2**
WPOG	**Pogromni**	**1.97**	**41**	P	**P**	**16 08 43.8**	**+0.2**
WPOG				S	**S**	**16 09 07.5**	**+0.5**
WESN	**West Dahl Nort**	**2.02**	**44**	P	**P**	**16 08 44.5**	**+0.4**
WESN				S	**S**	**16 09 08.5**	**+0.3**
WTUG	**Tugumak**	**2.30**	**41**	P	**P**	**16 08 48.0**	**-0.2**
WTUG				S	**S**	**16 09 15.4**	**+0.1**
SSLW	**Shishaldin Wes**	**2.35**	**45**	P	**P**	**16 08 49.0**	**0.0**
SSLS	**Shishaldin Sou**	**2.37**	**47**	P	**P**	**16 08 49.9**	**+0.7**
SSLS				S	**S**	**16 09 17.8**	**+0.7**
SSLN	**Shishaldin Nor**	**2.43**	**45**	P	**P**	**16 08 50.8**	**+0.7**
FALS	**False Pass**	**2.72**	**49**	P	**P**	**16 08 54.4**	**+0.2**
FALS				S	**S**	**16 09 27.7**	**+1.7**
BALA	**Baldy Mountain**	**3.21**	**49**	P	**P**	**16 09 01.6**	**+0.4**
DRIA	**Deer Island**	**3.33**	**55**	P	**P**	**16 09 02.2**	**-0.6**
DTNA	**Dutton South F**	**3.44**	**52**	P	**P**	**16 09 05.2**	**+1.0**
DOL	**Dolgoi Island**	**3.62**	**54**	P	**P**	**16 09 06.7**	**-0.2**
HAG	**Hague Volcano**	**3.69**	**52**	P	**P**	**16 09 08.3**	**+0.4**
PN7A	**Pavlof North-7**	**3.72**	**50**	P	**P**	**16 09 08.0**	**-0.3**
PS1A	**Pavlof South-1**	**3.83**	**51**	P	**P**	**16 09 09.2**	**-0.6**
BLHA	**Black Hill**	**3.85**	**46**	P	**P**	**16 09 10.5**	**+0.3**
SDPT	**Sand Point**	**4.41**	**57**	P	**P**	**16 09 17.7**	**-0.4**
SPIA	**Saint Paul Isl**	**4.46**	**337**	P	**P**	**16 09 19.7**	**+1.0**
ATKA	**Atka Island**	**4.49**	**261**	P	**P**	**16 09 19.4**	**+0.3**
GSMY	**Great Sitkin M**	**5.64**	**262**	P	**P**	**16 09 37.3**	**+2.2**
ANCK	**Angle Creek**	**8.23**	**47**	P	**P**	**16 10 09.4**	**-1.8**
KDAK	**Kodiak Island**	**9.40**	**55**	P	**P**	**16 10 25.4**	**-1.9**
SVW	**Sparrevohn**	**10.08**	**33**	*e*P	**P**	**16 10 37.3**	**+0.9**
RSO	**Redoubt South**	**10.69**	**41**	*e*P	**P**	**16 10 45.8**	**+1.1**
TTA	**Tatalina**	**11.39**	**26**	*e*P	**P**	**16 10 53.3**	**-0.8**
SPU	**Mount Spurr**	**11.40**	**39**	*e*P	**P**	**16 10 55.0**	**+0.6**
SML	**Sawmill**	**13.22**	**42**	*e*P	**P**	**16 11 17.0**	**-1.6**
DIV	**Divide**	**13.97**	**47**	P	**P**	**16 11 22.9**	**-5.2**
IMA	**Indian Mountai**	**14.56**	**22**	*e*P	**P**	**16 11 38.8**	**+2.9**
THY	**Trims Highway**	**15.10**	**39**	*e*P	**P**	**16 11 43.5**	**+0.6**
ILAR	**Eielson Array**	**15.50**	**33**	Pn	**P**	**16 11 47.5**	**-0.5**
	0.1nm,0.3s,baz=230,slow=11,SNR=9.9						
DAWY	**Dawson**	**17.89**	**42**	*e*P	**P**	**16 12 18.2**	**+0.2**
VIB	**Van Inlet**	**20.52**	**76**	T		16 33 56.1	
	SNR=5.6						
DLBC	**Dease Lake**	**21.25**	**61**	P	**P**	**16 12 56.0**	**+0.9**
	6.9nm,0.8s,mb4.0,baz=263,slow=13,SNR=13						
DLBC	**Dease Lake**	**21.25**	**61**	*e*P	**P**	**16 12 55.9**	**+0.9**
YKA	**Yellowknife Ar**	**28.64**	**50**	P	**P**	**16 14 04.8**	**-0.1**
	1.4nm,0.5s,mb3.9,baz=277,slow=7.5,SNR=6.8						
NEW	**Newport**	**31.43**	**78**	P	**P**	**16 14 30.5**	**+0.7**
	2.8nm,0.7s,mb4.2,baz=300,slow=9.1,SNR=2.7						
YBH	**Yreka Blue Hor**	**31.55**	**93**	P	**P**	**16 14 32.7**	**+1.8**
	1.2nm,0.6s,mb3.9,baz=276,slow=5.1,SNR=4.6						
ASAJ	**Asahikawa**	**33.88**	**275**	LR	LR	16 27 59.7	
	comp=Z,54nm,18.2s,MS3.3,baz=358,slow=35						
ELK	**Elko**	**36.65**	**88**	P	**P**	**16 15 13.8**	**-0.8**
	1.4nm,0.8s,mb3.8						
DUG	**Dugway**	**38.45**	**87**	P	**P**	**16 15 29.3**	**-0.4**
TPNV	**Topopah Spring**	**38.45**	**94**	P	**P**	**16 15 29.7**	**-0.1**
	1.6nm,0.8s,mb3.8						
BW06	**Boulder Array**	**38.85**	**82**	*e*P	**P**	**16 15 33.0**	**0.0**
	1.0nm,0.6s,mb3.7						
PDAR	**Pinedale Array**	**38.85**	**82**	P	**P**	**16 15 33.8**	**+0.8**
	1.1nm,0.7s,mb3.7,baz=303,slow=5.1,SNR=11						
FCC	**Fort Churchill**	**39.33**	**52**	*e*P	**P**	**16 15 37.0**	**+0.2**
	12nm,0.5s,mb4.9						
ULM	**Lac du Bonnet**	**42.51**	**64**	P	**P**	**16 16 02.7**	**-0.3**
	4.0nm,0.8s,mb4.2,baz=302,slow=9.1,SNR=4.4						
CN2	**Changchun**	**44.19**	**286**	*e*P	**P**	**16 16 17.1**	**+0.3**
SDCO	**Great Sand Dun**	**44.40**	**85**	P	**P**	**16 16 17.8**	**-0.7**
	0.8nm,0.8s,mb3.5						
SUMG	**Summit**	**49.61**	**18**	*e*P	**P**	**16 16 58.0**	**-0.9**
	8.2nm,0.9s,mb4.8						
WMOK	**Wichita Mounta**	**50.44**	**83**	*e*P	**P**	**16 17 04.8**	**-0.9**
	1.9nm,0.6s,mb4.3						
LTX	**Lajitas**	**51.30**	**91**	P	**P**	**16 17 11.8**	**-0.5**
TXAR	**Lajitas Array**	**51.30**	**91**	P	**P**	**16 17 12.4**	**0.0**
	1.2nm,0.6s,mb4.0,baz=294,slow=5.3,SNR=13						
SCHQ	**Schefferville**	**53.87**	**45**	P	**P**	**16 17 30.0**	**-1.2**
	9.7nm,0.8s,mb4.8,baz=298,slow=7.1,SNR=4.9						
SCHQ	**Schefferville**	**53.87**	**45**	P	**P**	**16 17 30.0**	**-1.2**
SSE	**Sheshan**	**55.15**	**277**	P	**P**	**16 17 41.6**	**+0.8**
SSE				AMB	AMB		
	comp=Z,65nm,5.3s						
NJ2	**Nanjing**	**55.86**	**279**	*e*P	**P**	**16 17 47.1**	**+1.2**
ARCES	**ARCESS Array B**	**57.30**	**355**	PcP	PcP	16 18 48.4	-0.7
	comp=Z,3.0nm,0.6s,baz=11,slow=4.6,SNR=9.3						
BVAR	**Borovoye Array**	**63.90**	**325**	P	**P**	**16 18 39.7**	**-0.9**
	comp=Z,2.1nm,0.7s,mb4.2,baz=53,slow=7.4,SNR=9.0						
BVAR				PcP	PcP	16 19 15.3	-0.3
	comp=Z,1.6nm,0.5s,baz=90,slow=2.9,SNR=6.9						
WMQ	**Urumqi**	**64.18**	**309**	*e*P	**P**	**16 18 44.7**	**+2.1**
WMQ				AMB	AMB		
	comp=Z,7.0nm,1.2s,mb4.6						
MKAR	**Makanchi Array**	**64.31**	**315**	P	**P**	**16 18 41.8**	**-1.6**
	comp=Z,0.4nm,0.6s,mb3.6,baz=31,slow=7.1,SNR=4.5						
MKAR				PcP	PcP	16 19 16.9	-0.6
	comp=Z,0.8nm,0.8s,baz=11,slow=2.8,SNR=4.7						
FINES	**FINESS Array B**	**65.29**	**353**	P	**P**	**16 18 48.2**	**-1.3**
	comp=Z,0.9nm,0.5s,mb4.0,baz=31,slow=7.6,SNR=12						
NOA	**NORSAR Array B**	**66.16**	**1**	P	**P**	**16 18 54.8**	**-0.2**
	comp=Z,1.4nm,0.9s,mb4.0,baz=348,slow=7.5,SNR=2.8						
GYA	**Guiyang**	**67.16**	**284**	P	**P**	**16 19 01.2**	**-0.7**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
AKASG	**Malin Array Be**	**75.63**	**349**	P	**P**	**16 19 50.9**	**-1.1**
	comp=Z,1.0nm,0.5s,mb4.0,baz=13,slow=6.1,SNR=2.2						
CMAR	**Chiang Mai Arr**	**77.84**	**284**	P	**P**	**16 20 04.5**	**-0.6**
	comp=Z,4.6nm,0.9s,mb4.4,baz=21,slow=6.3,SNR=15						
GERES	**GERESS Array B**	**78.39**	**360**	P	**P**	**16 20 08.0**	**+0.5**
	comp=Z,0.2nm,0.3s,mb3.5,slow=5.3,SNR=4.2						
BRTR	**Keskin Array B**	**85.80**	**344**	P	**P**	**16 20 47.3**	**+1.3**
	comp=Z,3.8nm,0.8s,mb4.7,baz=63,slow=2.8,SNR=12						
WRA	**Warramunga Arr**	**88.62**	**233**	P	**P**	**16 20 59.7**	**-0.3**
	comp=Z,2.3nm,0.8s,mb4.5,baz=40,slow=5.7,SNR=20						
TSUM	**Tsumeb**	**145.94**	**352**	PKPbc	PKPbc	16 27 47.3	+1.9
	comp=Z,4.6nm,0.6s,baz=0.7,slow=5.5,SNR=8.1						
TSUM	**Tsumeb**	**145.94**	**352**	*e*PKP	PKPdf	16 27 46.1	+1.7
MAW	**Mawson**	**152.38**	**219**	PKPbc	PKPdf	16 28 01.9	+8.8
	comp=Z,3.4nm,0.9s,baz=28,slow=2.7,SNR=5.3						
MAW				PKPab	PKPab	16 28 12.1	-0.5
	comp=Z,3.9nm,0.9s,baz=79,slow=6.4,SNR=7.0						
VNA3	**Neumayer Olymp**	**159.24**	**159**	⇑*i*P	PKPdf	16 28 04.3	+2.3
VNA2	**Neumayer--Watz**	**159.96**	**160**	P	PKPdf	16 28 05.0	+2.2

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*BJI **09** 16:11:22.3,52.95N×166.74W,h54^{km},mB5.0,mb4.9, Ms4.1,Msz4.0*

*IDC **09** 16:11:24.4±7.6,53.24N×167.14W,h33^{km}±55^{km},mb4.2/19, mb1 4.4/20,mb1mx4.4/24,ML3.8/1,MS3.8/4,Ms1 3.9/4, ms1mx3.4/30,Error ellipse: s-maj=24.1km s-min=15.4km az=21.0*

*NEIC **09** 16:11:26.5±0.4,53.28N×167.10W,h55^{km}±2^{km},mb4.7/28, ML4.4(AEIC),Error ellipse: s-maj=6.5km s-min=3.3km az=166.0*

NEIC Felt at Unalaska.

ISC 09 16:11:25.6±0.4,**53.25N**±0.05×**167.05W**±0.04,**h61**^{km}±3^{km}, **h40**^{km}±2.0^{km}**:pP-P,n134,**σ**0^{s}78**/133,**mb4.6**/50,**9C-1D,Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MGOD	**Makushin Gods**	**0.56**	**11**	P	**P**	**16 11 38.0**	**-0.4**
OKER	**East Rim**	**0.63**	**289**	P	**P**	**16 11 39.2**	**0.0**
OKCD	**Okmok Cone D**	**0.66**	**286**	P	**P**	**16 11 39.4**	**-0.1**
OKCD				S	**S**	**16 11 50.2**	**+0.3**
MNAT	**Makushin Natee**	**0.67**	**19**	P	**P**	**16 11 39.5**	**-0.1**
MNAT				S	**S**	**16 11 49.0**	**-1.0**
UNV	**Unalaska Valle**	**0.68**	**29**	P	**P**	**16 11 39.0**	**-0.7**
UNV				S	**S**	**16 11 49.3**	**-1.0**
MSW	**Makushin Switc**	**0.68**	**13**	P	**P**	**16 11 39.8**	**0.0**
OKCE	**Okmok Cone E**	**0.69**	**285**	P	**P**	**16 11 39.8**	**-0.1**
OKCE				S	**S**	**16 11 51.8**	**+1.3**
MCIR	**Makushin Cirqu**	**0.71**	**8**	P	**P**	**16 11 40.8**	**+0.7**
MTBL	**Makushin Table**	**0.75**	**17**	P	**P**	**16 11 41.0**	**+0.3**
LVA	**Lava Point**	**1.09**	**33**	P	**P**	**16 11 45.6**	**+0.4**
AKLV	**Akutan Long Va**	**1.12**	**35**	P	**P**	**16 11 45.4**	**-0.1**
AKLV				S	**S**	**16 12 00.8**	**+0.4**
NIKO	**Nikolski**	**1.12**	**256**	P	**P**	**16 11 44.5**	**-1.0**
NIKO				S	**S**	**16 11 59.1**	**-1.3**
AHB	**Akutan Harbor**	**1.14**	**40**	P	**P**	**16 11 45.1**	**-0.6**
AKGG	**Akutan Green G**	**1.14**	**33**	P	**P**	**16 11 46.0**	**+0.2**
AKGG				S	**S**	**16 12 00.6**	**-0.2**
AKA	**Akutan**	**1.17**	**40**	P	**P**	**16 11 45.6**	**-0.6**
AKA				S	**S**	**16 12 01.0**	**-0.5**
WESS	**West Dahl Sout**	**1.85**	**47**	P	**P**	**16 11 55.8**	**+0.1**
WFAR	**Faris Peak**	**1.86**	**45**	P	**P**	**16 11 56.2**	**+0.3**
WESE	**West Dahl East**	**1.91**	**49**	P	**P**	**16 11 56.3**	**-0.1**
WESN	**West Dahl Nort**	**1.97**	**47**	P	**P**	**16 11 57.6**	**+0.3**
WTUG	**Tugumak**	**2.24**	**43**	P	**P**	**16 12 01.2**	**0.0**
SSLW	**Shishaldin Wes**	**2.30**	**47**	P	**P**	**16 12 02.1**	**+0.1**
SSLW				S	**S**	**16 12 29.1**	**-0.2**
SSLN	**Shishaldin Nor**	**2.39**	**48**	P	**P**	**16 12 03.6**	**+0.4**
FALS	**False Pass**	**2.68**	**52**	P	**P**	**16 12 08.0**	**+0.6**
FALS				S	**S**	**16 12 39.2**	**+0.5**
BALA	**Baldy Mountain**	**3.17**	**50**	P	**P**	**16 12 15.1**	**+0.7**
DRIA	**Deer Island**	**3.30**	**57**	P	**P**	**16 12 16.2**	**0.0**
DTNA	**Dutton South F**	**3.40**	**54**	P	**P**	**16 12 18.7**	**+1.1**
DOL	**Dolgoi Island**	**3.59**	**56**	P	**P**	**16 12 21.2**	**+1.0**
HAG	**Hague Volcano**	**3.66**	**53**	P	**P**	**16 12 23.7**	**+2.5**
ATKA	**Atka Island**	**4.47**	**259**	P	**P**	**16 12 33.4**	**+0.8**
GSMY	**Great Sitkin M**	**5.62**	**261**	P	**P**	**16 12 48.9**	**+0.5**
KDAK	**Kodiak Island**	**9.37**	**55**	*e*P	**P**	**16 13 35.9**	**-4.5**
RSO	**Redoubt South**	**10.63**	**42**	*e*P	**P**	**16 13 59.1**	**+1.7**
SPU	**Mount Spurr**	**11.34**	**40**	*e*P	**P**	**16 14 06.6**	**-0.4**
PMR	**Palmer**	**12.73**	**42**	P	**P**	**16 14 26.4**	**+0.8**
SML	**Sawmill**	**13.17**	**42**	P	**P**	**16 14 30.4**	**-0.9**
EYAK	**Cordova Ski Ar**	**13.70**	**49**	*e*P	**P**	**16 14 35.3**	**-2.7**
DIV	**Divide**	**13.92**	**47**	*e*P	**P**	**16 14 40.6**	**-0.4**
MCK	**McKinley**	**14.08**	**35**	*e*P	**P**	**16 14 46.4**	**+3.4**
IMA	**Indian Mountai**	**14.47**	**22**	*e*P	**P**	**16 14 53.1**	**+5.0**
THY	**Trims Highway**	**15.04**	**39**	*e*P	**P**	**16 14 54.2**	**-1.4**
ILAR	**Eielson Array**	**15.43**	**34**	Pn	**P**	**16 14 58.7**	**-1.8**
	0.2nm,0.3s,baz=226,slow=12,SNR=8.6						
ILAR				LR	LR	16 21 37.2	
	comp=Z,764nm,18.2s,baz=14,slow=40						
DAWY	**Dawson**	**17.84**	**42**	*e*P	**P**	**16 15 31.2**	**+0.4**
VIB	**Van Inlet**	**20.54**	**76**	T		16 37 03.0	
	SNR=26						
DLBC	**Dease Lake**	**21.23**	**61**	P	**P**	**16 16 07.8**	**-0.3**
	14nm,0.9s,mb4.3,baz=270,slow=16,SNR=5.3						
DLBC				LR	LR	16 25 04.4	
	comp=Z,166nm,18.3s,baz=293,slow=38						
DLBC	**Dease Lake**	**21.23**	**61**	*e*P	**P**	**16 16 08.1**	**0.0**
BBB	**Bella Bella**	**23.42**	**77**	LR	LR	16 23 27.7	
	comp=Z,151nm,21.2s,baz=45,slow=31						
YKA	**Yellowknife Ar**	**28.60**	**50**	P	**P**	**16 17 17.6**	**-0.1**
	2.9nm,0.6s,mb4.2,baz=273,slow=7.9,SNR=11						
YKA				PcP	PcP	16 20 27.5	-0.2
	1.8nm,0.6s,baz=273,slow=2.3,SNR=5.2						
YKA				LR	LR	16 29 56.9	
	comp=Z,203nm,18.7s,baz=250,slow=39						
YKA	**Yellowknife Ar**	**28.60**	**50**	P	**P**	**16 17 17.6**	**-0.1**
YKA				PcP	PcP	16 20 27.5	-0.2
YKA				LR	LR	16 29 56.9	
NEW	**Newport**	**31.45**	**79**	P	**P**	**16 17 43.2**	**+0.2**
	13nm,1.0s,mb4.7,baz=309,slow=7.2,SNR=7.4						
NEW	**Newport**	**31.45**	**79**	*e*P	**P**	**16 17 43.0**	**-0.1**
	7.1nm,0.7s,mb4.6						
NEW				*e*	pP	16 17 53.6	-4.5
YBH	**Yreka Blue Hor**	**31.60**	**93**	P	**P**	**16 17 45.6**	**+1.1**
	4.1nm,0.8s,mb4.3,baz=283,slow=7.8,SNR=10						
YBH	**Yreka Blue Hor**	**31.60**	**93**	*e*P	**P**	**16 17 45.4**	**+1.0**
	3.4nm,0.8s,mb4.2						
HLID	**Hailey**	**35.51**	**84**	*e*P	**P**	**16 18 18.2**	**0.0**
	1.8nm,0.8s,mb4.0						
MCMT	**McKenzie Canyo**	**35.74**	**81**	*e*P	**P**	**16 18 19.9**	**-0.2**
BOZ	**Bozeman (W)**	**36.01**	**79**	*e*P	**P**	**16 18 22.1**	**-0.3**
	9.7nm,1.4s,mb4.5						
MNV	**Mina**	**36.38**	**94**	*e*P	**P**	**16 18 25.4**	**-0.2**
	4.6nm,1.0s,mb4.4						
OMM	**Old Mammoth Mi**	**36.41**	**96**	P	**P**	**16 18 26.3**	**+0.5**
ELK	**Elko**	**36.68**	**89**	*e*P	**P**	**16 18 28.3**	**+0.2**
	2.8nm,1.1s,mb4.0						
MTUM	**Tungsten Hills**	**36.84**	**96**	P	**P**	**16 18 28.8**	**-0.7**
FFC	**Flin Flon**	**37.06**	**61**	P	**P**	**16 18 31.9**	**+0.8**
DUG	**Dugway**	**38.48**	**87**	*e*P	**P**	**16 18 43.5**	**+0.4**
TPNV	**Topopah Spring**	**38.50**	**94**	*e*P	**P**	**16 18 43.0**	**-0.2**
	1.2nm,0.8s,mb3.7						
BW06	**Boulder Array**	**38.87**	**82**	*e*P	**P**	**16 18 46.4**	**+0.1**
	5.2nm,0.9s,mb4.3						
PDAR	**Pinedale Array**	**38.87**	**82**	P	**P**	**16 18 46.6**	**+0.3**
	5.1nm,1.0s,mb4.2,baz=315,slow=6.3,SNR=18						
FCC	**Fort Churchill**	**39.29**	**52**	*e*P	**P**	**16 18 49.9**	**+0.3**
	38nm,0.7s,mb5.2						
ULM	**Lac du Bonnet**	**42.50**	**64**	P	**P**	**16 19 15.4**	**-0.6**
	8.1nm,0.8s,mb4.4,baz=291,slow=6.1,SNR=6.6						
CN2	**Changchun**	**44.13**	**286**	*e*P	**P**	**16 19 28.6**	**-0.7**
SDCO	**Great Sand Dun**	**44.42**	**85**	*e*P	**P**	**16 19 32.0**	**+0.2**
	2.5nm,0.8s,mb4.0						
LAZ	**Ladron**	**45.68**	**89**	*e*P	**P**	**16 19 42.2**	**+0.3**
CPRX	**Cap Rock**	**48.60**	**88**	P	**P**	**16 20 04.7**	**0.0**
SUMG	**Summit**	**49.52**	**18**	*e*P	**P**	**16 20 11.6**	**+0.3**
	16nm,0.9s,mb5.0						
WMOK	**Wichita Mounta**	**50.46**	**83**	*e*P	**P**	**16 20 17.5**	**-1.5**
	3.8nm,0.6s,mb4.6						
LTX	**Lajitas**	**51.34**	**91**	*e*P	**P**	**16 20 25.1**	**-0.7**
	7.4nm,0.9s,mb4.6						
LTX				*e*		16 20 35.1	
TXAR	**Lajitas Array**	**51.34**	**91**	P	**P**	**16 20 25.6**	**-0.2**
	2.7nm,0.7s,mb4.3,baz=300,slow=5.6,SNR=19						
SONM	**Songino Array**	**52.05**	**301**	P	**P**	**16 20 30.5**	**-0.3**
	1.8nm,0.8s,mb4.1,baz=63,slow=6.4,SNR=4.4						
SCHQ	**Schefferville**	**53.82**	**45**	P	**P**	**16 20 43.8**	**-0.1**
	23nm,0.8s,mb5.1,baz=318,slow=7.7,SNR=12						
HHC	**Hu-ho-hao-te**	**53.91**	**292**	*e*P	**P**	**16 20 50.2**	**+5.5**
HHC				AP	pP	16 21 01.1	+0.4
HHC				XP	sP	16 21 06.7	-0.9
HHC				AMB	AMB		
	comp=Z,14nm,0.4s,mb5.2						
HHC				AMB	AMB		
	comp=Z,99nm,4.6s						
HHC				LR	LR		
	comp=N,91nm,20.8s						
HHC				LR	LR		
	comp=Z,64nm,28.5s						
SSE	**Sheshan**	**55.10**	**277**	P	**P**	**16 20 53.3**	**-0.3**
SSE				AP	pP	16 21 04.9	-4.8
SSE				XP	sP	16 21 09.6	-7.0
SSE				S	**S**	**16 28 31.1**	**+1.2**
SSE				XS		16 28 51.0	
SSE				AMB	AMB		
	comp=Z,43nm,0.7s,mb5.6						
SSE				AMB	AMB		
	comp=Z,114nm,4.1s						
SSE				LR	LR		
	comp=N,45nm,26.0s						
SSE				LR	LR		
	comp=E,45nm,26.0s						
SSE				LR	LR		
	comp=Z,92nm,27.4s						
NJ2	**Nanjing**	**55.81**	**279**	*e*P	**P**	**16 20 58.0**	**-0.7**
NJ2				AP	pP	16 21 07.9	-6.9
NJ2				PP	PP	16 23 03.2	-1.9
NJ2				S	**S**	**16 28 39.0**	**-0.3**
NJ2				SS	SS	16 32 24.0	-1.5
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.3						
NJ2				LR	LR		
	comp=N,740nm,25.8s						
NJ2				LR	LR		
	comp=E,640nm,29.8s						
NJ2				LR	LR		
	comp=Z,360nm,22.1s						
ARCES	**ARCESS Array B**	**57.18**	**355**	P	**P**	**16 21 07.6**	**-0.4**
	comp=Z,2.6nm,0.8s,mb4.3,baz=14,slow=10.0,SNR=4.2						
ARCES				PcP	PcP	16 22 01.5	-0.2
	comp=Z,5.8nm,0.7s,baz=34,slow=4.4,SNR=7.5						
ARCES	**ARCESS Array B**	**57.18**	**355**	P	**P**	**16 21 07.6**	**-0.4**
ARCES				PcP	PcP	16 22 01.5	-0.2
BLA	**Blacksburg**	**59.37**	**68**	*e*P	**P**	**16 21 20.0**	**-3.6**
GTA	**Gaotai**	**61.32**	**298**	P	**P**	**16 21 38.3**	**+1.4**
GTA				AP	pP	16 21 50.5	-2.7
GTA				XP	sP	16 21 55.3	-4.8
GTA				PP	PP	16 23 55.4	+0.9
GTA				PPP	PPP	16 25 25.2	+2.0
GTA				S	**S**	**16 29 54.7**	**+3.8**
GTA				XS		16 30 16.0	
GTA				SS	SS	16 33 56.6	+3.0
GTA				AMB	AMB		
	comp=Z,48nm,4.6s						
GTA				LR	LR		
	comp=N,62nm,19.0s						
GTA				LR	LR		
	comp=E,64nm,17.5s						
GTA				LR	LR		
	comp=Z,85nm,18.2s						
BVAR	**Borovoye Array**	**63.79**	**325**	P	**P**	**16 21 53.0**	**+0.1**
	comp=Z,1.5nm,0.5s,mb4.3,baz=53,slow=7.4,SNR=10						
BVAR				PcP	PcP	16 22 28.5	+0.3
	comp=Z,2.9nm,0.7s,baz=63,slow=3.2,SNR=7.3						
WMQ	**Urumqi**	**64.08**	**309**	*e*P	**P**	**16 21 57.5**	**+2.5**
WMQ				AP	pP	16 22 10.3	-1.1
WMQ				XP	sP	16 22 15.7	-2.5
WMQ				AMB	AMB		
	comp=Z,15nm,1.0s,mb5.0						
MKAR	**Makanchi Array**	**64.21**	**314**	P	**P**	**16 21 55.3**	**-0.5**
	comp=Z,1.1nm,0.7s,mb4.0,baz=51,slow=5.2,SNR=7.9						
MKAR				PcP	PcP	16 22 29.8	-0.2
	comp=Z,0.9nm,0.6s,baz=356,slow=3.3,SNR=4.9						
FINES	**FINESS Array B**	**65.18**	**353**	P	**P**	**16 22 01.1**	**-0.7**
	comp=Z,1.3nm,0.8s,mb4.0,baz=45,slow=5.4,SNR=7.5						
GYA	**Guiyang**	**67.10**	**284**	⇑*i*P	**P**	**16 22 14.0**	**-0.6**
GYA				AP	pP	16 22 27.8	-3.4
GYA				XP	sP	16 22 32.4	-5.4
GYA				PP	PP	16 24 45.2	+0.5
GYA				S	S	16 31 02.7	+0.2
GYA				AMB	AMB		
	comp=Z,20nm,1.4s,mb5.0						
GYA				LR	LR		
	comp=N,180nm,16.7s						
GYA				LR	LR		
	comp=E,240nm,16.8s						
GYA				LR	LR		
	comp=Z,140nm,17.0s						
KMI	**Kunming**	**70.40**	**286**	*e*P	**P**	**16 22 34.5**	**-0.5**
KMI				AMB	AMB		
	comp=Z,6.0nm,1.1s,mb4.4						
AKASG	**Malin Array Be**	**75.52**	**349**	P	**P**	**16 23 03.5**	**-1.0**
	comp=Z,1.1nm,0.5s,mb4.0,baz=11,slow=5.3,SNR=6.1						

BRG	Berggiesshubel	76.25	359	eP	P	16 23 19.4	+11
CMAR	Chiang Mai Arr	77.78	284	P	P	16 23 18.1	+0.3
	comp=Z,12nm,1.0s,mb4.8,baz=27,slow=6.1,SNR=27						
LDF	La Druitiere	77.93	9	eP	P	16 23 16.8	-1.2
	comp=Z,11nm,0.8s,mb4.5						
SGMF	Saint Gilles	78.02	11	eP	P	16 23 17.7	-0.8
GERES	GERESS Array B	78.28	359	P	P	16 23 21.0	+1.1
	comp=Z,0.5nm,0.7s,mb3.6,baz=333,slow=3.0,SNR=4.4						
LOR	Lormes	79.56	6	eP	P	16 23 26.3	-0.7
SSF	Saint Saulge	79.74	7	eP	P	16 23 27.5	-0.5
	comp=Z,5.9nm,0.7s,mb4.3						
MFF	Saint Martin d	79.90	9	eP	P	16 23 28.1	-0.7
	comp=Z,46nm,1.3s,mb5.0						
AVF	Avril sur Loir	80.00	7	eP	P	16 23 29.0	-0.3
SMF	Signal de Mont	80.18	6	eP	P	16 23 29.7	-0.6
	comp=Z,28nm,1.3s,mb4.7						
TCF	Toulx Ste Croi	80.42	8	eP	P	16 23 30.7	-0.9
LFF	La Frestale	81.63	9	eP	P	16 23 37.8	-0.2
	comp=Z,35nm,1.0s,mb5.0						
CAF	Calviac	81.76	8	eP	P	16 23 38.4	-0.2
	comp=Z,38nm,1.4s,mb4.8						
BNI	Bardonecchia	81.93	4	eP	P	16 23 41.7	+2.2
	comp=Z,20nm,1.0s,mb5.0						
VIVF	Saint-Julien-l	82.01	6	eP	P	16 23 40.0	0.0
ORIF	Oris-en-Rattie	82.02	5	eP	P	16 23 38.8	-1.2
MBDF	Montbardon	82.26	4	eP	P	16 23 42.1	+0.9
	comp=Z,25nm,0.8s,mb4.9						
LASF	Ste Croix	82.74	7	eP	P	16 23 43.2	-0.5
SMRF	Simiane la Rot	82.94	5	eP	P	16 23 45.6	+0.9
SBF	Sospel	83.15	4	eP	P	16 23 45.8	0.0
MTLF	Montolieu	83.34	8	eP	P	16 23 47.0	+0.2
	comp=Z,21nm,1.2s,mb4.8						
FRF	La Foret Royal	83.41	5	eP	P	16 23 47.4	+0.3
	comp=Z,17nm,1.0s,mb4.7						
ETSF	Etsaut	83.52	10	eP	P	16 23 48.2	+0.6
	comp=Z,22nm,1.1s,mb4.9						
PGF	Pioggiola	84.52	3	eP	P	16 23 53.1	+0.5
	comp=Z,58nm,1.1s,mb5.3						
BRTR	Keskin Array B	85.68	344	P	P	16 24 00.6	+2.1
	comp=Z,9.3nm,0.9s,mb5.0,baz=45,slow=1.7,SNR=24						
ESDC	Sonseca Array	86.30	13	P	P	16 24 02.3	+0.8
	comp=Z,1.7nm,0.6s,mb4.4,baz=343,slow=3.9,SNR=6.1						
WRAB	Tennant Creek	88.64	233	eP	P	16 24 12.7	-0.5
	comp=Z,6.5nm,0.8s,mb5.0						
WB2	Warramunga Arr	88.65	233	eP	P	16 24 13.3	+0.1
WRA	Warramunga Arr	88.66	233	P	P	16 24 12.8	-0.4
	comp=Z,3.9nm,0.8s,mb4.8,baz=39,slow=5.7,SNR=26						
HYB	Hyderabad	89.95	300	i P	P	16 24 19.5	+0.1
HYB	Hyderabad	89.95	300	eP	P	16 24 19.5	+0.1
FITZ	Fitzroy Crossi	91.51	241	eP	P	16 24 27.2	+0.5
	comp=Z,3.2nm,0.9s,mb4.7						
KMBO	Kilima Mbogo	124.27	330	PKP	PKPdf	16 30 21.7	+4.0
	comp=Z,0.7nm,0.5s,baz=215,slow=21,SNR=5.1						
TSUM	Tsumeb	145.83	352	PKPbc	PKPbc	16 31 00.0	+1.9
	comp=Z,15nm,0.9s,baz=356,slow=6.4,SNR=17						
TSUM	Tsumeb	145.83	352	ePKP	PKPdf	16 30 59.8	+2.6
MAW	Mawson	152.44	219	PKPbc	PKPdf	16 31 15.1	+8.9
	comp=Z,4.4nm,0.9s,baz=184,slow=2.2,SNR=6.8						
MAW				PKPab	PKPab	16 31 25.8	-0.1
	comp=Z,6.8nm,0.9s,baz=49,slow=3.3,SNR=9.1						
VNA3	Neumayer Olymp	159.36	159	⇑iP	PKPdf	16 31 17.4	+2.3
VNA3	Neumayer Olymp	159.36	159	⇑i	PKPdf	16 31 56.7	+42
VNA2	Neumayer--Watz	160.07	160	⇑i	PKPdf	16 31 29.1	+13
VNA2	Neumayer--Watz	160.07	160		PKPdf	16 32 00.3	+44
VNA2	Neumayer--Watz	160.07	160	⇑iPKPdf	PKPdf	16 31 19.5	+3.6
VNA2				⇑iP		16 31 29.1	
SNAA	Sanae	160.26	165	⇑i	PKPdf	16 31 28.0	+12
SNAA	Sanae	160.26	165	⇑i	PKPdf	16 31 57.2	+41
SNAA	Sanae	160.26	165	⇓iPKPdf	PKPdf	16 31 16.0	0.0
SNAA				⇑iP		16 31 28.0	

NEIC 09 16:24:46.5,53.13N×166.96W,h25^{km},ML3.7(AEIC),
After AEIC.,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MGOD	Makushin Gods	0.67	4	P	Pb	16 24 58.5	-1.0
MGOD				S	Sb	16 25 08.6	+0.3
OKER	East Rim	0.73	297	P	Pb	16 24 59.7	-0.9
OKCD	Okmok Cone D	0.76	294	P	Pb	16 24 59.7	-1.2
OKCD				S	Sb	16 25 11.0	+0.1
UNV	Unalaska Valle	0.77	21	P	Pb	16 24 59.2	-2.0
UNV				S	Sb	16 25 09.9	-1.3
MNAT	Makushin Natee	0.77	12	P	Pb	16 24 60.0	-1.3
MNAT				S	Sb	16 25 10.6	-0.7
OKCE	Okmok Cone E	0.78	293	P	Pb	16 25 00.3	-1.2
OKCE				S	Sb	16 25 11.7	+0.1
MSW	Makushin Switc	0.79	7	P	Pb	16 25 00.3	-1.3
MSW				S	Sb	16 25 11.3	-0.6
MCIR	Makushin Cirqu	0.82	3	P	Pb	16 25 01.2	-0.9
MTBL	Makushin Table	0.86	11	P	Pb	16 25 01.4	-1.2
MTBL				S	Sb	16 25 12.1	-1.6
NIKO	Nikolski	1.16	263	P	Pn	16 25 04.7	-2.6
NIKO				S	Sb	16 25 18.8	-3.5
LVA	Lava Point	1.17	28	P	Pn	16 25 05.8	-1.7
LVA				S	Sb	16 25 21.5	-1.3
AKLV	Akutan Long Va	1.20	30	P	Pn	16 25 06.0	-1.9
AHB	Akutan Harbor	1.20	34	P	Pn	16 25 05.7	-2.3
AHB				S	Sn	16 25 20.9	-2.6
AKGG	Akutan Green G	1.22	28	P	Pn	16 25 06.5	-1.6
AKA	Akutan	1.23	35	P	Pn	16 25 06.2	-2.2
WESS	West Dahl Sout	1.89	44	P	Pn	16 25 16.2	-1.7
WESS				S	Sn	16 25 39.3	-1.8
WFAR	Faris Peak	1.91	42	P	Pn	16 25 16.7	-1.4
WESE	West Dahl East	1.95	45	P	Pn	16 25 16.9	-1.7
WESE				S	Sn	16 25 40.7	-1.7
WPOG	Pogromni	1.97	41	P	Pn	16 25 17.7	-1.2
WPOG				S	Sn	16 25 40.6	-2.4
WESN	West Dahl Nort	2.01	43	P	Pn	16 25 18.0	-1.6
WESN				S	Sn	16 25 42.4	-1.8
WTUG	Tugumak	2.30	40	P	Pn	16 25 21.4	-2.2
SSLN	Shishaldin Nor	2.43	45	P	Pn	16 25 24.5	-1.0
FALS	False Pass	2.71	49	P	Pn	16 25 28.3	-1.3
DT1	Dutton Round H	3.39	52	P	Pn	16 25 37.3	-1.9
DOL	Dolgoi Island	3.62	54	P	Pn	16 25 40.3	-2.0
DOL				S	Sn	16 26 22.0	-2.8
HAG	Hague Volcano	3.69	52	P	Pn	16 25 41.3	-2.1
SDPT	Sand Point	4.40	57	P	Pn	16 25 53.0	-0.6
SPIA	Saint Paul Isl	4.47	336	P	Pn	16 25 52.9	-1.6
ATKA	Atka Island	4.50	261	P	Pn	16 25 53.7	-1.3

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*NEIC **09** 16:32:02.5,33.99S×72.32W,h34^{km},ML2.9(GUC),After GUC.*
GUC 09 16:32:02.5±0.4**,33.99S×72.32W,h34**^{km}±1^{km}**,MD3.7,**
ML2.9,3C-3D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	Longovilo	0.75	88	⇓iP	P	16 32 16.7	0.0
LNV				i S	S	16 32 27.4	+0.4
LCCH	Las Cruces	0.81	51	eP	P	16 32 17.7	+0.3
LCCH				i S	S	16 32 28.9	+0.5
TACH	Talagante	1.20	74	⇓iP	P	16 32 23.5	+0.5
TACH				i S	S	16 32 39.4	+1.1
SFDO	San Fernando	1.24	120	eP	P	16 32 24.4	+0.7
CHCH	Chadas Angostu	1.38	88	⇓iP	P	16 32 26.6	+0.9
CHCH				i S	S	16 32 44.8	+1.8
CACH	El Canelo	1.43	95	⇑iP	P	16 32 27.9	+1.6
CACH				i S	S	16 32 47.4	+3.3
PCH	Pirque	1.54	77	i P	P	16 32 28.9	+0.9
CLCH	Cerro Calan	1.60	69	eP	P	16 32 30.0	+1.3
CLCH				i S	S	16 32 50.8	+2.4
CLCH				AMP		16 33 08.2	
	comp=E,250nm,0.6s						
CICH	Cipreses	1.61	102	⇑iP	P	16 32 30.0	+1.1
CICH				i S	S	16 32 51.4	+2.8
LMEL	Las Melosas	1.76	86	⇑iP	P	16 32 32.5	+1.4
LMEL				i S	S	16 32 55.2	+2.7
LMEL				AMP		16 33 02.6	
	comp=N,256nm,0.2s						
FCH	Farellones	1.81	69	i P	P	16 32 33.2	+1.4
FCH				i S	S	16 32 56.8	+2.9
FCH				AMP		16 33 02.6	
	comp=N,165nm,0.7s						
JACH	Jahuel	1.95	48	eP	P	16 32 35.0	+1.3

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*BGS **09** 16:33:12.8,17.42N×83.67W,h33^{km},mb5.6*
*IDC **09** 16:33:17.7±0.5,17.83N×81.55W,mb5.1/25,mb1 5.2/28, mb1mx5.2/29,ML4.1/2,MS5.4/21,Ms1 5.4/21, ms1mx5.4/22,Error ellipse: s-maj=15.6km s-min=12.3km az=63.0*
*JSN **09** 16:33:18.6±0.9,18.16N×81.56W,h15^{km}±999^{km},MD5.6*
*BJI **09** 16:33:21.7,17.80N×81.60W,h25^{km},mB5.7,Ms5.8, Msz5.8*
*SYO **09** 16:33:21.8,17.78N×81.55W,h25^{km},MB5.8,MS5.4*
*SSNC **09** 16:33:21.5±6.7,17.33N×81.26W,h25^{km}±999^{km},ML6.7*
*HRVD **09** 16:33:21.7±0.1,17.98N×81.56W,h15^{km},MW6.0/72, Centroid moment Tensor Solution. LP body waves: s64,c149;Mantle waves: s72,c170; Half duration: 2^{s}3 Moment tensor: Scale 10^{18}Nm; M_{rr}0.05±.01; $M_{\theta\theta}$-0.26±.01; $M_{\phi\phi}$0.22±.01; $M_{r\theta}$0.39±.03; $M_{\theta\phi}$0.92±.01; $M_{\phi r}$0.07±.03; Best double couple: $M_0$1.03×10^{18} NP1: ϕ_s352°,δ67°,λ178°. NP2:ϕ_s83°,δ88°,λ23°. Principal axes: T 1.02, Plg17°, Azm310°; N .02, Plg67°, Azm89°; P -1.04, Plg14°, Azm216°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **09** 16:33:21.7±0.1,17.76N×81.55W,mb5.8/184,ME6.2, MS5.4/118,MW6.0 Error ellipse: s-maj=3.1km s-min=1.9km az=198.0 Broadband fault plane solution: P waves. NP1:ϕ_s357°,δ85°,λ-165°. NP2:ϕ_s266°,δ75°,λ-5°. Principal axes: T Plg7°, Azm130°; N Plg0°, Azm0°; P Plg14°, Azm222°; Moment Tensor Solution. s43 Moment tensor: Scale 10^{18} Nm; M_{rr}0.21; $M_{\theta\theta}$-0.17; $M_{\phi\phi}$-0.04; $M_{r\theta}$0.06; $M_{\theta\phi}$1.26; $M_{\phi r}$0.27; Best double couple: $M_0$1.3×10^{18} NP1:ϕ_s89°,δ77°,λ6°. NP2:ϕ_s358°,δ84°, λ167°. Principal axes: T 1.21, Plg13°, Azm313°; N .16, Plg75°, Azm155°; P -1.37, Plg5°, Azm44°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
*MOS **09** 16:33:22.5±1.0,17.93N×81.57W,h33^{km},mb6.0/35, MS5.6/25 Error ellipse: s-maj=9.9km s-min=6.2km az=92.9*
ISC 09 16:33:20.2±0.1**,17.76N**±0.02×**81.53W**±0.02**,h27**^{km}**,**
h27^{km}±.8^{km}**:pP-P,n850,**σ**1**^{s}**00**/746**,mb5.7**/249**,MS5.4**/151**,**
196C-44D,North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEJ	Negril	3.08	80	⇑eP	Pn	16 34 05.3	-3.1
NEJ				i S	Sn	16 34 41.1	-3.7
MCJ	Malvern	3.66	87	⇓eP	Pn	16 34 14.0	-2.6
CVJ	Coleyville	3.83	82	⇓eP	Pn	16 34 16.0	-3.0
PCJ	Portland Cotta	4.16	90	⇓eP	Pn	16 34 20.9	-2.9
BNJ	Bonny Gate	4.39	82	⇓eP	Pn	16 34 23.6	-3.4
STH	Stony Hill	4.50	85	⇓eP	Pn	16 34 25.5	-3.1
STH				eS	Sn	16 35 15.8	-4.9
HOJ	Hope	4.56	86	⇓eP	Pn	16 34 26.7	-2.6
GWJ	Greenwich	4.58	85	⇓eP	Pn	16 34 27.0	-2.6
CMJ	Castle Mountai	4.92	85	⇓eP	Pn	16 34 32.1	-2.4
CCCC	Cccc	4.93	45	⇓iPN	Pn	16 34 35.1	+0.5
	baz=225						
CCCC				i SN	Sn	16 35 31.5	0.0
	comp=N,33µm,0.3s comp=E,36µm,0.3s						
CCCC	Cccc	4.93	45	⇓iPn	Pn	16 34 35.1	+0.5
CCCC				i Sn	Sn	16 35 31.5	0.0
RCC	Rio Carpintero	5.95	67	eP	Pn	16 34 49.9	+0.9
	baz=240						
RCC				eS	Sn	16 35 48.1	-9.0
	comp=N,109µm,3.1s comp=E,76µm,3.1s						
GTMO	Guantanamo	6.47	68	eP	Pn	16 34 51.6	-4.7
	baz=242						
GTMO				eS	Sn	16 35 56.0	-14
	comp=N,56µm,0.5s comp=E,61µm,0.8s						
PYTN	Playitas	6.79	221	⇑eP	Pn	16 35 01.8	+1.0
TEIG	Tepich	6.84	292	Pn	Pn	16 34 57.9	-3.6
	comp=E,0.0nm,0.3s,baz=89,slow=24,SNR=97						
TEIG				Sn	Sn	16 36 13.0	-6.4
	comp=E,0.0nm,0.3s,baz=356,slow=24,SNR=7.2						
TEIG	Tepich	6.84	292	Pn	Pn	16 35 00.2	-1.4
MOAC	Moa	6.84	64	i P	Pn	16 34 57.7	-3.9
	baz=230						
MOAC				i S	Sn	16 36 08.9	-10
	comp=N,76µm,1.9s comp=E,14µm,2.4s						
WILN	Americas 2	7.16	220	⇑eP	Pn	16 35 07.0	+0.9
MOMJ	Momotombo	7.19	223	⇑eP	Pn	16 35 07.4	+0.9
CNGN	Cerro Negro	7.23	224	⇑eP	Pn	16 35 07.3	+0.3
TELN	Telica	7.25	226	⇑eP	Pn	16 35 07.6	+0.4
XAVN	Gruta Xavier	7.25	220	eP	Pn	16 35 05.9	-1.4
MASN	Masaya	7.27	219	eP	Pn	16 35 06.3	-1.3
MASN				i		16 37 39.9	
	comp=E,2µm,0.6s						
APON	Apoyo	7.28	218	⇑eP	Pn	16 35 08.8	+1.0
MIRN	Miramar	7.28	224	⇓eP	Pn	16 35 08.4	+0.6
MASC	Masc	7.31	70	eP	Pn	16 35 04.8	-3.3
	baz=243						
MASC				eS	Sn	16 36 25.1	-6.0
	comp=N,54µm,1.4s comp=E,56µm,1.0s						
CONN	Concepcion	7.33	213	eP	Pn	16 35 10.2	+1.9
CRUN	El Crucero	7.37	219	eP	Pn	16 35 14.8	+5.9
COPN	Copaltepe	7.40	222	⇓eP	Pn	16 35 09.8	+0.4
LEON	Leon	7.42	225	⇑eP	Pn	16 35 10.3	+0.6
TRTC	Tortuguero	7.45	197	⇓eP	Pn	16 35 08.8	-1.3
CRZC	La Cruz	7.83	211	eP	Pn	16 35 17.3	+1.9
LIO	Limon	7.85	191	eP	Pn	16 35 14.1	-1.5
FORC	Fortuna	7.86	203	eP	Pn	16 35 12.7	-3.1
VPS2	Volcan Poas 2	7.97	200	eP	Pn	16 35 21.0	+3.6
ICR	Volcan Irazu	8.05	196	⇑eP	P	16 35 17.8	-0.6
JTS	JuntasAbangare	8.13	205	Pn	P	16 35 18.3	-1.3
	comp=E,15nm,0.3s,baz=34,slow=12,SNR=25						
JTS				Pg	Px	16 35 55.1	
	comp=E,31nm,0.3s,baz=24,slow=13,SNR=7.7						
JTS				Lg		16 37 41.2	
	comp=E,11nm,0.3s,baz=239,slow=19,SNR=2.5						
JTS				LR	LR	16 38 29.8	
	comp=E,67µm,21.7s,baz=198,slow=38						
JTS	JuntasAbangare	8.13	205	ePn	P	16 35 18.9	-0.7
JTS				e		16 35 55.1	
SJS	Escuela Geolog	8.15	198	eP	P	16 35 21.0	+1.1
URSC	Urasca	8.18	196	⇑eP	P	16 35 19.0	-1.2
PRS1	Puriscal	8.19	200	eP	P	16 35 21.8	+1.4
CGA2	Cerro Gallo 2	8.21	201	eP	P	16 35 19.7	-1.0
LAJ	Bijagual	8.24	198	eP	P	16 35 25.2	+4.1
LCBS	La Ceiba	8.25	241	eP	P	16 35 20.7	-0.6
LCR2	La Lucha 2	8.32	197	eP	P	16 35 20.4	-1.9
LFRS	El Faro	8.34	242	eP	P	16 35 20.7	-1.8
BUS	Buena Vista	8.44	195	⇑iP	P	16 35 22.7	-1.2
VCR	Vista de Mar	8.57	208	eP	P	16 35 26.3	+0.6
SNJE	San Jose	8.69	245	eP	P	16 35 27.4	+0.2
SBLS	San Blas	8.71	245	eP	P	16 35 27.6	0.0
UPA	Univ. de Panam	8.94	167	eP	P	16 35 28.3	-2.5
UPA				AMb	AMB	16 35 30.9	
	comp=Z,107nm,0.5s						
DVD	David	9.31	186	i P	P	16 35 35.5	-0.4
PTP1	Petroterminal	9.54	185	eP	P	16 35 37.9	-1.2
AZU	Azuero	9.98	173	eP	P	16 35 40.8	-4.5
DWPF	Disney	10.30	0	ePn	P	16 35 45.2	-4.4
TUIG	Tuzandepetl	12.28	273	i P	P	16 36 11.9	-4.6
EVV	El Vigia	13.16	275	i P	P	16 36 22.5	-5.7
SDV	Santo Domingo	13.78	128	eP	P	16 36 31.6	-5.0
OXX	Oaxaca	14.52	270	eP	P	16 36 43.0	-3.2
ROSC	El Rosal	14.63	150	Pn	P	16 36 46.6	-1.1
	comp=Z,4.1nm,0.3s,baz=288,slow=20,SNR=7.8						
ROSC				Sn	S	16 39 30.5	+0.8
	comp=Z,2.4nm,0.3s,baz=337,slow=22,SNR=2.5						
SJG	San Juan	14.64	86	Pn	P	16 36 45.3	-2.4
	comp=Z,5.1nm,0.3s,baz=278,slow=11,SNR=16						
SJG	San Juan	14.64	86	⇑eP	P	16 36 46.2	-1.4
SJG				e		16 37 00.7	
IISM	Ciudad Serdan	15.10	277	eP	P	16 36 55.0	+1.3
MTP	Monte Pirata	15.20	86	eP	P	16 36 53.8	-1.3
MTP				e		16 37 06.8	
CSU	Charleston Sou	15.22	5	eP	P	16 36 46.3	-8.9
CSU				e		16 37 03.3	
NHSC	New Hope	15.33	4	eP	P	16 36 51.5	-5.1
	comp=Z,4µm,1.4s						
NHSC				e		16 37 05.2	
TWB	Tillmans-White	15.34	5	eP	P	16 36 50.7	-6.1
LRAL	Lakeview Retre	15.99	343	eP	P	16 37 01.6	-3.5
	comp=Z,512nm,1.1s						
PPM	Popocatepetl	16.28	277	eP	P	16 37 05.0	-3.9
UNM	Universidad Na	16.81	278	eP	P	16 37 16.0	+0.4
OTAV	Otavalo	17.67	170	eP	P	16 37 27.8	+1.4
	comp=Z,722nm,1.3s						
OTAV				e		16 37 41.7	
CPCT	Cooper Cave	17.82	352	⇑eP	P	16 37 30.5	+2.4
OXF	Oxford	18.11	339	P	P	16 37 31.1	-0.7
OXF				pmax	pmax		
	comp=Z,2µm,1.2s						
OXF	Oxford	18.11	339	eP	P	16 37 30.5	-1.3
	comp=Z,2µm,1.3s						
NATX	Nacogdoches	18.32	322	⇓eP	P	16 37 32.3	-2.1
	comp=Z,10µm,1.8s						
MOIG	Morelia	18.72	279	i P	P	16 37 39.8	+0.4
CPB	Codrington	18.77	87	eP	P	16 37 38.0	-2.0
BPA	Boggy Peak	18.79	89	eP	P	16 37 37.6	-2.5
ZIIG	Zihuatanejo	19.00	273	i P	P	16 37 42.1	-0.6
WVT	Waverly	19.13	344	P	P	16 37 43.0	-1.1
WVT				pmax	pmax		
	comp=Z,370nm,0.9s						
WVT	Waverly	19.13	344	⇑eP	P	16 37 42.6	-1.5
	comp=Z,531nm,1.0s						
BBL	Barber’s Block	19.34	94	eP	P	16 37 46.4	-0.3
HALT	Halls	19.36	341	⇑iP	P	16 37 45.5	-1.2
BLA	Blacksburg	19.40	3	P	P	16 37 46.1	-1.1
BLA				pmax	pmax		
	comp=Z,690nm,1.3s						
BLA	Blacksburg	19.40	3	⇓eP	P	16 37 45.5	-1.8
	comp=Z,619nm,1.1s						
ELN	Prospectdale	19.41	2	eP	P	16 37 47.0	-0.3
MDN	Morne-Daniel	19.45	94	eP	P	16 37 48.8	+0.9
DPMT	Pointe Michel	19.48	94	eP	P	16 37 47.6	-0.6
DWS	Wesley	19.49	93	eP	P	16 37 42.8	-5.6
HBAR	Harrisburg	19.49	337	⇑iP	P	16 37 47.5	-0.8
UALR	University of	19.50	332	eP	P	16 37 47.1	-1.2
	comp=Z,5µm,1.8s						
DBCT	Belle View Cho	19.51	94	eP	P	16 37 46.9	-1.7
DSTT	Stowe	19.55	94	eP	P	16 37 48.8	-0.2
UTMT	University of	19.61	342	⇑eP	P	16 37 48.4	-1.2
	comp=Z,2µm,1.1s						
GNAR	Gosnell	19.63	339	⇑iP	P	16 37 48.9	-1.0
GLAT	Glass	19.68	341	⇑iP	P	16 37 49.0	-1.3
FWV	Forest Hill	19.76	2	eP	P	16 37 50.2	-0.9
FWV				eS	S	16 41 15.4	-11
MIAR	Mount Ida	19.88	330	⇑iP	P	16 37 51.4	-1.2
MIAR				pmax	pmax		
	comp=Z,3µm,1.6s						
MIAR	Mount Ida	19.88	330	⇑iP	P	16 37 51.4	-1.2
	comp=Z,3µm,1.7s						
GRW	Mount Saint Ca	19.98	103	eP	P	16 37 51.8	-1.9
SLB	Belfond	20.09	98	eP	P	16 38 02.1	+7.2
SLPE	Piton Saint Es	20.13	98	eP	P	16 37 54.4	-0.9
MCLT	Moule a Chique	20.22	99	eP	P	16 37 55.7	-0.5
PAYG	Puerto Ayora	20.25	206	eP	P	16 37 56.9	+0.4
	comp=Z,575nm,1.4s						
PAYG				LR	LR		
	comp=Z,13µm,21.0s,MS5.3						
SFJM	Santa Fe	20.50	281	i P	P	16 37 59.0	-0.1
CBN	Corbin	20.69	9	eP	P	16 38 00.6	-0.4
	comp=Z,769nm,1.2s						
CBN				LR	LR		
	comp=Z,32µm,19.0s,MS5.7						
TRN	Trinidad (W)	20.74	107	eP	P	16 38 00.1	-1.5
WCI	Wyandotte Cave	20.82	349	⇑iP	P	16 38 01.2	-1.1
	comp=Z,553nm,1.0s						
WCI				LR	LR		
	comp=Z,5µm,20.0s,MS4.9						
TPP	Pointe-a-Pierr	20.82	108	eP	P	16 38 01.5	-0.9
USIN	University of	20.84	346	⇑iP	P	16 38 01.1	-1.3
	comp=Z,1µm,1.2s						
JCT	Junction City	20.90	311	P	P	16 38 03.2	0.0
JCT				pmax	pmax		
	comp=Z,6µm,2.1s						
JCT	Junction City	20.90	311	⇓eP	P	16 38 03.0	-0.2
	comp=Z,2µm,1.5s						
JCT				LR	LR		
	comp=Z,6µm,22.0s,MS5.0						
BBSR	BB Station	21.03	43	P	P	16 38 04.0	-0.4
BBSR	BB Station	21.03	43	⇓iP	P	16 38 03.7	-0.8
	comp=Z,1µm,1.3s,mb6.1						
BBSR				eS	S	16 41 59.3	+6.9
BBSR				LR	LR		
	comp=Z,14µm,20.0s,MS5.3						
TBH	Brigand Hill	21.11	107	eP	P	16 38 03.6	-1.7
TPR	Prospect	21.12	105	eP	P	16 38 03.6	-1.9
FVM	French Village	21.61	341	P	P	16 38 09.7	-0.5
FVM				pmax	pmax		
	comp=Z,940nm,1.3s,mb6.1						
FVM	French Village	21.61	341	⇑eP	P	16 38 09.9	-0.3
	comp=Z,428nm,0.9s,mb5.9						
BLO	Bloomington	21.77	349	eP	P	16 38 11.4	-0.5
	comp=Z,363nm,0.9s,mb5.8						
MCWV	Mont Chateau	21.87	3	⇑eP	P	16 38 13.5	+0.7
	comp=Z,1µm,1.3s,mb6.2						
MCWV				LR	LR		
	comp=Z,29µm,19.0s,MS5.7						
CCM	Cathedral Cave	21.94	339	eP	P	16 38 12.7	-0.9
CCM				pmax	pmax		
	comp=Z,2µm,1.6s,mb6.3						
CCM	Cathedral Cave	21.94	339	⇑eP	P	16 38 12.8	-0.8
	comp=Z,727nm,1.1s,mb6.0						
CCM				LR	LR		
	comp=Z,2µm,21.0s,MS4.5						
SLM	Saint Louis	22.15	342	eP	P	16 38 15.3	-0.3
	comp=Z,1µm,1.3s,mb6.1						
ACSO	Alum Creek Sta	22.43	357	⇑eP	P	16 38 18.2	-0.2
	comp=Z,510nm,1.1s,mb5.9						
ACSO				LR	LR		
	comp=Z,31µm,19.0s,MS5.8						
WMOK	Wichita Mounta	22.86	321	⇑iP	P	16 38 22.7	-0.1
	comp=Z,450nm,1.2s,mb5.8						
WMOK				LR	LR		
	comp=Z,6µm,22.0s,MS5.0						
SSPA	Standing Stone	23.01	7	⇑eP	P	16 38 24.9	+0.7
	comp=Z,355nm,1.2s,mb5.7						
SSPA				LR	LR		
	comp=Z,728nm,20.0s						
LTX	Lajitas	23.29	304	P	P	16 38 27.7	+0.7
LTX				pmax	pmax		
	comp=Z,840nm,1.5s,mb6.0						
LTX	Lajitas	23.29	304	⇑eP	P	16 38 27.6	+0.6
	comp=Z,637nm,1.3s,mb5.9						
LTX				LR	LR		
	comp=Z,4µm,20.0s,MS4.9						
TXAR	Lajitas Array	23.29	304	P	P	16 38 27.8	+0.8
	comp=Z,165nm,1.0s,mb5.4,baz=124,slow=9.0,SNR=164						
TXAR				S	S	16 42 48.4	+15
	comp=Z,5.6nm,0.9s,baz=143,slow=12,SNR=2.4						
TXAR				LR	LR	16 50 44.1	
	comp=Z,2µm,18.8s,MS4.7,baz=110,slow=45						
TXAR	Lajitas Array	23.29	304	P	P	16 38 27.8	+0.8
TXAR				S	S	16 42 48.4	+15
TXAR				LR	LR	16 50 44.1	
ALLY	Alegheny Colle	23.84	3	eP	P	16 38 33.0	+0.9
CPNY	Central Park	23.86	14	⇓eP	P	16 38 33.8	+1.4
PAL	Palisades	24.08	14	eP	P	16 38 36.7	+2.2
PAL				pmax	pmax		
	comp=Z,410nm,1.5s,mb5.6						
PAL	Palisades	24.08	14	eP	P	16 38 35.3	+0.8
	comp=Z,334nm,1.4s,mb5.6						
ERPA	Erie	24.31	3	⇑eP	P	16 38 37.4	+0.6
	comp=Z,1µm,1.8s,mb6.1						
ERPA				LR	LR		
	comp=Z,19µm,21.0s,MS5.5						
BINY	Binghamton	24.81	10	eP	P	16 38 42.8	+1.1
	comp=Z,772nm,1.4s,mb6.0						
BINY				LR	LR		
	comp=Z,22µm,22.0s,MS5.6						
GENY	Geneseo	25.12	6	eP	P	16 38 45.1	+0.5
GDL2	Guadalupe Moun	25.13	309	eP	P	16 38 44.2	-0.5
BUF	Buffalo	25.19	5	P	P	16 38 44.9	-0.3
CPRX	Cap Rock	25.19	311	eP	P	16 38 45.0	-0.3
BRYW	Bryant College	25.55	17	⇑eP	P	16 38 50.6	+2.0
	comp=Z,269nm,1.0s,mb5.7						
QUA2	Belchertown	25.66	16	⇑eP	P	16 38 54.9	+5.3
	comp=Z,607nm,1.0s,mb6.1						
HRV	Harvard--Oak R	26.09	17	P	P	16 38 55.7	+2.1
HRV				pmax	pmax		
	comp=Z,120nm,1.2s,mb5.3						
HRV	Harvard--Oak R	26.09	17	⇑eP	P	16 38 53.3	-0.2
	comp=Z,166nm,1.3s,mb5.4						
HRV				LR	LR		
	comp=Z,14µm,19.0s,MS5.5						
JFWS	Jewell Farm	26.15	345	⇑eP	P	16 38 53.2	-0.9
	comp=Z,148nm,0.8s,mb5.6						
JFWS				LR	LR		
	comp=Z,13µm,20.0s,MS5.5						
CBKS	Cedar Bluff	26.31	327	P	P	16 38 56.4	+0.8
CBKS				pmax	pmax		
	comp=Z,1µm,1.5s,mb6.3						

CBKS	**Cedar Bluff**	**26.31**	**327⇑**	*e*P	**P**	**16 38 55.1**	**-0.5**
	comp=Z,2µm,1.6s,mb6.4						
CBKS				LR	LR		
	comp=Z,4µm,21.0s,MS5.0						
ACCN	**Adirondack Com**	**26.40**	**13⇑**	*e*P	**P**	**16 38 58.6**	**+2.2**
NCB	**Newcomb**	**26.85**	**12**	*e*P	**P**	**16 38 59.8**	**-0.7**
	comp=Z,258nm,1.4s,mb5.6						
NCB				LR	LR		
	comp=Z,30µm,20.0s,MS5.8						
FFD	**Franklin Falls**	**26.96**	**16**	*e*P	**P**	**16 39 03.8**	**+2.3**
	comp=Z,289nm,1.2s,mb5.7						
SADO	**Sadowa**	**27.00**	**4**	P	**P**	**16 39 01.7**	**-0.3**
	comp=Z,80nm,1.0s,mb5.2,baz=200,slow=10,SNR=12						
SADO				S	**S**	**16 43 45.5**	**+10**
	comp=Z,9.3nm,1.0s,baz=125,slow=23,SNR=1.6						
SADO				LR	LR	16 48 40.2	
	comp=Z,13µm,21.1s,MS5.5,baz=195,slow=34						
SADO	**Sadowa**	**27.00**	**4**	P	**P**	**16 39 01.7**	**-0.3**
SADO				S	**S**	**16 43 45.5**	**+10**
SADO				LR	LR	16 48 40.2	
HNH	**Hanover**	**27.02**	**15⇑**	*e*P	**P**	**16 39 04.3**	**+2.2**
	comp=Z,31nm,1.2s,mb4.7						
MIV	**Mineville/With**	**27.09**	**13**	*e*P	**P**	**16 39 02.2**	**-0.5**
PTN	**Potsdam (NY)**	**27.29**	**10**	*e*P	**P**	**16 39 04.9**	**+0.3**
LOZ	**Lake Ozonia**	**27.41**	**11**	*e*P	**P**	**16 39 02.6**	**-3.0**
LPIG	**La Paz**	**27.58**	**288**	*i* P	**P**	**16 39 08.1**	**+0.7**
MSNY	**Massena**	**27.73**	**10**	*e*P	**P**	**16 39 07.0**	**-1.6**
BNM	**Barren Site**	**27.74**	**311**	*e*P	**P**	**16 39 08.0**	**-0.7**
BNM				*e*		16 39 21.1	
LENM	**Lemitar**	**28.00**	**311**	*e*P	**P**	**16 39 09.7**	**-1.4**
ANMO	**Albuquerque**	**28.03**	**313***c*	*i*P	**P**	**16 39 10.8**	**-0.5**
ANMO	**Albuquerque**	**28.03**	**313⇑**	*i*P	**P**	**16 39 11.2**	**-0.2**
	comp=Z,98nm,1.4s,mb5.2						
ANMO				LR	LR		
	comp=Z,4µm,19.0s,MS5.0						
LAZ	**Ladron**	**28.23**	**311**	*e*P	**P**	**16 39 12.9**	**-0.3**
WVL	**Waterville**	**28.52**	**18**	*e*P	**P**	**16 39 16.6**	**+0.9**
	comp=Z,752nm,1.1s,mb6.3						
WVL				LR	LR		
	comp=Z,49µm,21.0s,MS6.1						
SDCO	**Great Sand Dun**	**28.95**	**318⇓**	*e*P	**P**	**16 39 20.4**	**+0.8**
	comp=Z,542nm,1.8s,mb6.0						
SDCO				LR	LR		
	comp=Z,8µm,22.0s,MS5.3						
EMMW	**East Machias**	**29.35**	**21**	*e*P	**P**	**16 39 22.8**	**-0.4**
	comp=Z,380nm,1.3s,mb6.0						
EMMW				LR	LR		
	comp=Z,50µm,19.0s,MS6.2						
NNA	**Nana**	**29.92**	**171**	P	**P**	**16 39 27.2**	**-1.4**
	comp=Z,124nm,1.5s,mb5.4						
NNA				LR	LR		
	comp=Z,2µm,20.0s,MS4.6						
TUC	**Tucson**	**30.09**	**304**	P	**P**	**16 39 29.6**	**-0.2**
TUC				S	**S**	**16 44 29.9**	**+4.4**
TUC	**Tucson**	**30.09**	**304⇑**	*e*P	**P**	**16 39 29.3**	**-0.6**
TUC				LR	LR		
	comp=Z,3µm,20.0s,MS5.0						
ISCO	**Idaho Springs**	**30.29**	**321⇑**	*e*P	**P**	**16 39 31.9**	**+0.4**
	comp=Z,62nm,1.1s,mb5.2						
ISCO				LR	LR		
	comp=Z,4µm,22.0s,MS5.0						
PQI	**Presque Isle**	**30.92**	**18**	PFAKE		16 39 50.0	+13
PQI				LR	LR		
	comp=Z,48µm,19.0s,MS6.2						
PV01	**Paradox Valley**	**31.16**	**316**	*e*P	**P**	**16 39 40.0**	**+0.8**
PV10	**Paradox Valley**	**31.60**	**316**	*e*P	**P**	**16 39 43.2**	**+0.1**
WUAZ	**Wupatki**	**31.83**	**310⇑**	*e*P	**P**	**16 39 45.6**	**+0.4**
	comp=Z,220nm,1.1s,mb5.9						
SAML	**Samuel**	**32.13**	**144⇑**	*e*P	**P**	**16 39 47.2**	**-0.8**
	comp=Z,424nm,1.3s,mb6.1						
SAML				LR	LR		
	comp=Z,17µm,20.0s,MS5.7						
RSSD	**Black Hills**	**32.40**	**329⇑**	*e*P	**P**	**16 39 49.6**	**-0.4**
RSSD				LR	LR		
	comp=Z,2µm,19.0s,MS4.7						
SRU	**San Rafael**	**32.97**	**316⇑**	*i*P	**P**	**16 39 55.6**	**+0.5**
MSU	**Marysvale**	**33.78**	**314⇑**	*i*P	**P**	**16 40 02.8**	**+0.6**
MVU	**Marysvale**	**33.80**	**314⇑**	*i*P	**P**	**16 40 03.2**	**+0.9**
	comp=Z,248nm,1.6s,mb5.9						
MVU				LR	LR		
	comp=Z,4µm,19.0s,MS5.2						
DAU	**Daniels Canyon**	**34.15**	**318**	*e*P	**P**	**16 40 06.1**	**+0.8**
MPU	**Maple Canyon**	**34.18**	**317⇑**	*i*P	**P**	**16 40 05.9**	**+0.3**
JLU	**Jordanelle**	**34.37**	**318⇑**	*e*P	**P**	**16 40 07.7**	**+0.5**
ULM	**Lac du Bonnet**	**34.40**	**344**	P	**P**	**16 40 05.5**	**-1.9**
	comp=Z,100nm,1.0s,mb5.7,baz=154,slow=7.8,SNR=67						
ULM				LR	LR	16 53 25.1	
	comp=Z,9µm,19.1s,MS5.5,baz=157,slow=35						
NLU	**North Lily Min**	**34.44**	**316⇑**	*e*P	**P**	**16 40 08.2**	**+0.5**
LDFC	**Landfair**	**34.45**	**307⇑**	*i*P	**P**	**16 40 08.9**	**+1.0**
BW06	**Boulder Array**	**34.46**	**322⇑**	*i*P	**P**	**16 40 07.7**	**-0.2**
	comp=Z,181nm,1.2s,mb5.9						
BW06				LR	LR		
	comp=Z,5µm,21.0s,MS5.2						
PDAR	**Pinedale Array**	**34.46**	**322**	P	**P**	**16 40 07.8**	**-0.1**
	comp=Z,16nm,0.8s,mb5.0,baz=131,slow=9.8,SNR=77						
PDAR				PcP	PcP	16 42 42.7	-0.4
	comp=Z,5.6nm,0.8s,baz=168,slow=3.5,SNR=3.6						
PDAR				LR	LR	16 56 21.0	
	comp=Z,4µm,20.4s,MS5.1,baz=134,slow=40						
TCUT	**Toone Canyon**	**34.63**	**319⇑**	*i*P	**P**	**16 40 08.9**	**-0.5**
BAR	**Barrett**	**34.91**	**302⇑**	*i*P	**P**	**16 40 11.5**	**-0.4**
HWUT	**Hardware Ranch**	**34.99**	**319⇑**	*e*P	**P**	**16 40 12.6**	**+0.1**
	comp=Z,125nm,1.1s,mb5.8						
HWUT				LR	LR		
	comp=Z,6µm,19.0s,MS5.3						
PFO	**Pinyon Flat Ob**	**35.01**	**304⇑**	*e*P	**P**	**16 40 12.8**	**+0.1**
	comp=Z,43nm,1.1s,mb5.3						
PFO				LR	LR		
	comp=Z,938nm,21.0s,MS4.5						
DUG	**Dugway**	**35.05**	**316⇑**	*e*P	**P**	**16 40 13.4**	**+0.4**
	comp=Z,0.1nm,1.6s						
LAO	**LASA Array**	**35.32**	**330⇑**	*e*P	**P**	**16 40 13.8**	**-1.5**
	comp=Z,298nm,1.6s,mb6.0						
LAO				LR	LR		
	comp=Z,5µm,21.0s,MS5.2						
AHID	**Auburn Hatcher**	**35.37**	**321⇑**	*e*P	**P**	**16 40 15.8**	**+0.1**
	comp=Z,94nm,1.1s,mb5.6						
AHID				LR	LR		
	comp=Z,4µm,19.0s,MS5.2						
SPUT	**South Promonto**	**35.39**	**318⇑**	*i*P	**P**	**16 40 16.1**	**+0.2**
ARE	**Arequipa**	**35.41**	**163⇓**	*i*P	**P**	**16 40 18.7**	**+2.4**
BGU	**Big Grassy Mou**	**35.56**	**317⇑**	*e*P	**P**	**16 40 17.1**	**-0.3**
REDW	**Red Top Meadow**	**35.57**	**322⇑**	*i*P	**P**	**16 40 17.8**	**+0.3**
SNOW	**Snow King Moun**	**35.58**	**322⇑**	*i*P	**P**	**16 40 18.0**	**+0.6**
LOHW	**Long Hollow**	**35.58**	**323⇑**	*e*P	**P**	**16 40 17.3**	**-0.2**
TPAW	**Teton Pass**	**35.71**	**322⇑**	*i*P	**P**	**16 40 19.2**	**+0.6**
MOOW	**Moose Ponds**	**35.74**	**323⇑**	*i*P	**P**	**16 40 19.1**	**+0.2**
DGMT	**Dagmar**	**35.76**	**334⇓**	*i*P	**P**	**16 40 17.6**	**-1.3**
	comp=Z,214nm,1.3s,mb5.9						
DGMT				LR	LR		
	comp=Z,6µm,20.0s,MS5.4						
HVU	**Hansel Valley**	**35.85**	**319⇑**	*e*P	**P**	**16 40 19.9**	**+0.1**
TPNV	**Topopah Spring**	**36.01**	**309⇑**	*i*P	**P**	**16 40 22.4**	**+1.2**
	comp=Z,62nm,0.9s,mb5.5						
TPNV				LR	LR		
	comp=Z,3µm,20.0s,MS5.1						
LPAZ	**La Paz**	**36.31**	**158**	P	**P**	**16 40 24.0**	**+0.1**
	comp=Z,16nm,0.9s,mb5.0,baz=356,slow=11,SNR=18						
LPAZ				LR	LR	16 56 35.2	
	comp=Z,5µm,21.5s,MS5.2,baz=174,slow=38						
LPAZ	**La Paz**	**36.31**	**158**	P	**P**	**16 40 24.0**	**+0.1**
LPAZ				LR	LR	16 56 35.2	
YMR	**Madison River**	**36.43**	**324⇑**	*e*P	**P**	**16 40 25.2**	**+0.6**
MWC	**Mount Wilson**	**36.47**	**304**	*e*P	**P**	**16 40 23.7**	**-1.4**
DAC	**Darwin (Calif)**	**36.77**	**307⇑**	*e*P	**P**	**16 40 27.6**	**0.0**
	comp=Z,96nm,1.7s,mb5.3						
DAC				*e*PP	PP	16 41 55.0	+1.9
DAC				LR	LR		
	comp=Z,5µm,20.0s,MS5.3						
QLMT	**Earthquake Lak**	**36.79**	**324**	*e*P	**P**	**16 40 28.6**	**+0.9**
ELK	**Elko**	**36.93**	**315**	P	**P**	**16 40 29.7**	**+0.8**
ELK				pmax	pmax		
	comp=Z,390nm,2.2s						
ELK	**Elko**	**36.93**	**315⇑**	*e*P	**P**	**16 40 29.6**	**+0.8**
	comp=Z,393nm,2.3s,mb5.8						
ELK				*e*PP	PP	16 41 54.2	-1.0
ELK				LR	LR		
	comp=Z,5µm,20.0s,MS5.3						
TPH	**Tonopah**	**37.16**	**310⇑**	*i*P	**P**	**16 40 31.9**	**+1.0**
	comp=Z,144nm,1.2s,mb5.7						
TPH				LR	LR		
	comp=Z,4µm,19.0s,MS5.2						
BOZ	**Bozeman (W)**	**37.40**	**325⇑**	*e*P	**P**	**16 40 32.0**	**-0.8**
	comp=Z,458nm,1.8s,mb6.0						
BOZ				LR	LR		
	comp=Z,4µm,19.0s,MS5.2						
MCMT	**McKenzie Canyo**	**37.60**	**323**	*e*P	**P**	**16 40 36.0**	**+1.5**
HLID	**Hailey**	**37.82**	**320⇑**	*i*P	**P**	**16 40 37.1**	**+0.8**
	comp=Z,144nm,1.3s,mb5.5						
HLID				LR	LR		
	comp=Z,3µm,19.0s,MS5.1						
MNV	**Mina**	**37.97**	**310**	P	**P**	**16 40 38.5**	**+0.8**
MNV				pmax	pmax		
	comp=Z,200nm,1.6s,mb5.6						
MNV	**Mina**	**37.97**	**310⇑**	*e*P	**P**	**16 40 38.1**	**+0.4**
	comp=Z,170nm,1.6s,mb5.5						
MNV				LR	LR		
	comp=Z,4µm,19.0s,MS5.3						
BMN	**Battle Mountai**	**38.13**	**314⇑**	*e*P	**P**	**16 40 39.0**	**0.0**
	comp=Z,236nm,1.8s,mb5.6						
BMN				LR	LR		
	comp=Z,3µm,19.0s,MS5.1						
HRY	**Holter Researc**	**38.18**	**326**	*e*P	**P**	**16 40 39.0**	**-0.2**
OMM	**Old Mammoth Mi**	**38.29**	**309⇑**	*e*P	**P**	**16 40 40.9**	**+0.6**
SCHQ	**Schefferville**	**38.69**	**14**	P	**P**	**16 40 43.3**	**-0.2**
	comp=Z,69nm,0.7s,mb5.5,baz=199,slow=6.3,SNR=17						
SCHQ				PcP	PcP	16 42 54.8	-0.9
	comp=Z,15nm,0.6s,baz=191,slow=5.2,SNR=4.0						
SCHQ				LR	LR	16 56 24.3	
	comp=Z,15µm,21.1s,MS5.8,baz=206,slow=36						
CHMT	**Chamberlain Mo**	**39.07**	**325**	*e*P	**P**	**16 40 46.6**	**-0.1**
MSO	**Missoula**	**39.40**	**325⇑**	*i*P	**P**	**16 40 49.2**	**-0.3**
	comp=Z,26nm,1.2s,mb4.8						
MSO				LR	LR		
	comp=Z,3µm,21.0s,MS5.1						
LRV	**Little Rabbit**	**39.43**	**306⇑**	*e*P	**P**	**16 40 49.5**	**-0.4**
WCN	**Washoe City**	**39.46**	**311⇑**	*e*P	**P**	**16 40 50.8**	**+0.7**
	comp=Z,99nm,1.4s,mb5.3						
CMB	**Columbia Colle**	**39.47**	**309⇑**	*i*P	**P**	**16 40 50.3**	**+0.1**
	comp=Z,103nm,1.7s,mb5.3						
CMB				LR	LR		
	comp=Z,3µm,22.0s,MS5.1						
SAO	**San Andreas Ge**	**39.87**	**306⇑**	*e*P	**P**	**16 40 53.4**	**-0.1**
	comp=Z,108nm,1.4s,mb5.4						
SAO				LR	LR		
	comp=Z,3µm,20.0s,MS5.1						
WVOR	**Wild Horse Val**	**39.97**	**316**	P	**P**	**16 40 55.1**	**+0.8**
WVOR				pmax	pmax		
	comp=Z,460nm,1.5s,mb6.0						
WVOR	**Wild Horse Val**	**39.97**	**316⇑**	*i*P	**P**	**16 40 55.0**	**+0.7**
	comp=Z,377nm,1.4s,mb5.9						
WVOR				LR	LR		
	comp=Z,7µm,21.0s,MS5.5						
BEKR	**Beckwourth**	**40.10**	**311⇑**	*e*P	**P**	**16 40 55.8**	**+0.4**
	comp=Z,24nm,1.0s,mb4.9						
FFC	**Flin Flon**	**40.10**	**342⇑**	*e*P	**P**	**16 40 53.2**	**-2.0**
	comp=Z,114nm,1.3s,mb5.4						
FFC				*e*PP	PP	16 42 24.5	-6.7
FFC				LR	LR		
	comp=Z,2µm,20.0s,MS4.9						
LKC	**Lake Chabot**	**40.63**	**308**	*e*P	**P**	**16 40 58.8**	**-0.9**
OHCM	**Honcut**	**40.72**	**310**	*e*P	**P**	**16 41 00.8**	**+0.3**
MOD	**Modoc**	**40.86**	**314**	P	**P**	**16 41 01.6**	**+0.1**
MOD				LR	LR		
	comp=Z,4µm,20.0s,MS5.3						
NSHM	**Saint Helena R**	**41.28**	**309**	*e*P	**P**	**16 41 05.5**	**+0.4**
LNOR	**Lincton Mounta**	**41.38**	**321**	*e*P	**P**	**16 41 05.5**	**-0.4**
HOPS	**Hopland**	**41.77**	**309**	PFAKE		16 41 20.0	+11
HOPS				LR	LR		
	comp=Z,3µm,22.0s,MS5.1						
WDC	**Whiskeytown Da**	**41.92**	**312⇑**	*i*P	**P**	**16 41 07.7**	**-2.6**
	comp=Z,23nm,1.2s,mb4.7						
WDC				LR	LR		
	comp=Z,2µm,20.0s,MS5.1						
LVC	**Limon Verde**	**41.98**	**162⇓**	*e*P	**P**	**16 41 11.8**	**+0.7**
	comp=Z,265nm,1.2s,mb5.7						
LVC				*e*		16 41 22.0	
LVC				LR	LR		
	comp=Z,5µm,20.0s,MS5.4						
NEW	**Newport**	**41.98**	**324**	LR	LR	17 00 25.4	
	comp=Z,5µm,18.4s,MS5.4,baz=120,slow=39						
NEW	**Newport**	**41.98**	**324⇑**	*e*P	**P**	**16 41 10.1**	**-0.6**
	comp=Z,138nm,1.5s,mb5.4						
NEW				LR	LR		
	comp=Z,5µm,20.0s,MS5.4						
DPW	**Davenport**	**42.38**	**323**	*e*P	**P**	**16 41 13.7**	**-0.3**
HAWA	**Hanford**	**42.39**	**321⇑**	*e*P	**P**	**16 41 13.7**	**-0.4**
	comp=Z,0.1nm,1.4s						
HAWA				*e*PP	PP	16 42 52.9	-2.3
HAWA				LR	LR		
	comp=Z,2.0nm,21.0s						
YBH	**Yreka Blue Hor**	**42.45**	**313**	P	**P**	**16 41 13.3**	**-1.3**
	comp=Z,4.5nm,0.8s,baz=64,slow=5.7,SNR=10						
YBH	**Yreka Blue Hor**	**42.45**	**313⇑**	*e*P	**P**	**16 41 12.7**	**-2.0**
	comp=Z,18nm,1.1s,mb4.6						
YBH				*e*PP	PP	16 42 59.7	+3.8
YBH				LR	LR		
	comp=Z,3µm,19.0s,MS5.3						
VGB	**Gordon Butte**	**42.74**	**319**	*e*P	**P**	**16 41 17.4**	**+0.4**
KHMM	**Horse Mountain**	**42.87**	**312**	*e*P	**P**	**16 41 16.1**	**-2.0**
HUMO	**Hull Mountain**	**42.95**	**314⇑**	*e*P	**P**	**16 41 16.5**	**-2.2**
	comp=Z,9.5nm,0.9s						
HUMO				*e*PP	PP	16 43 06.5	+5.7
HUMO				LR	LR		
	comp=Z,4µm,19.0s						
TDH	**Tom, Dick, Har**	**43.28**	**318**	P	**P**	**16 41 22.6**	**+1.3**
HSO	**Harness Mounta**	**43.39**	**315**	*e*P	**P**	**16 41 21.3**	**-1.0**
LTY	**Liberty**	**43.50**	**321**	P	**P**	**16 41 23.3**	**+0.2**
SSOR	**Sweet Springs**	**43.52**	**317**	*e*P	**P**	**16 41 23.0**	**-0.3**
KBO	**Bosley Butte**	**43.68**	**313**	*e*P	**P**	**16 41 23.2**	**-1.4**
NLW	**Nelson Butte**	**43.71**	**323**	*e*P	**P**	**16 41 25.3**	**+0.5**
LON	**Longmire**	**43.95**	**320⇑**	*i*P	**P**	**16 41 26.9**	**+0.2**
LON				*e*PP	PP	16 43 07.5	-3.2
COR	**Corvallis**	**43.95**	**317**	P	**P**	**16 41 27.4**	**+0.6**
COR				pmax	pmax		
	comp=Z,430nm,1.8s,mb5.9						
COR	**Corvallis**	**43.95**	**317⇑**	*e*P	**P**	**16 41 26.9**	**+0.1**
	comp=Z,353nm,1.6s,mb5.8						
COR				LR	LR		
	comp=Z,780nm,22.0s,MS4.6						
KEBM	**Edson Butte**	**43.99**	**314**	*e*P	**P**	**16 41 27.8**	**+0.7**
RPW	**Rockport**	**44.58**	**322**	P	**P**	**16 41 31.3**	**-0.6**
GNW	**Green Mountain**	**44.94**	**321⇑**	*i*P	**P**	**16 41 33.1**	**-1.6**
GNW				*e*		16 41 50.9	
PGC	**Sidney**	**45.80**	**322**	*e*P	**P**	**16 41 40.8**	**-0.8**
	comp=Z,126nm,1.1s,mb5.8						
OCWA	**Octopus Mounta**	**45.84**	**320**	P	**P**	**16 41 42.9**	**+1.1**
OCWA				LR	LR		
	comp=Z,4µm,19.0s,MS5.4						
FRB	**Frobisher Bay**	**46.80**	**8**	P	**P**	**16 41 48.3**	**-1.0**
	comp=Z,16nm,1.0s,mb4.9,baz=165,slow=12,SNR=2.5						
BDFB	**Brasilia**	**46.82**	**133**	P	**P**	**16 41 50.4**	**+0.3**
	comp=Z,83nm,1.3s,mb5.5,baz=313,slow=7.8,SNR=19						
BDFB				LR	LR	17 03 46.1	
	comp=Z,9µm,18.4s,MS5.7,baz=311,slow=39						
BAO	**Brasilia Array**	**46.84**	**133**	*e*P	**P**	**16 41 51.4**	**+1.2**
BAO				*i*	pP	16 41 59.3	+1.2
CPUP	**Villa Florida**	**49.74**	**151**	P	**P**	**16 42 09.7**	**-2.9**
	comp=Z,11nm,0.9s,mb4.9,baz=354,slow=7.9,SNR=19						
CPUP				LR	LR	17 06 13.0	
	comp=Z,7µm,18.9s,MS5.7,baz=350,slow=40						
YKA	**Yellowknife Ar**	**50.26**	**341**	P	**P**	**16 42 14.2**	**-1.9**
	comp=Z,4.9nm,0.6s,mb4.7,baz=134,slow=8.2,SNR=19						
YKA				PcP	PcP	16 43 34.4	-0.7
	comp=Z,11nm,0.8s,baz=141,slow=3.9,SNR=11						
YKA				LR	LR	17 02 51.2	
	comp=Z,5µm,20.0s,MS5.5,baz=135,slow=35						
YKA	**Yellowknife Ar**	**50.26**	**341**	P	**P**	**16 42 14.2**	**-1.9**
YKA				PcP	PcP	16 43 34.4	-0.7
YKA				LR	LR	17 02 51.2	
YKW3	**Yellowknife Ar**	**50.32**	**341⇑**	*e*P	**P**	**16 42 13.8**	**-2.8**
RCBR	**Riachuelo**	**50.77**	**113**	*e*P	**P**	**16 42 20.3**	**-0.3**
	comp=Z,270nm,1.1s,mb6.1						
RCBR				*e*		16 42 24.7	
RCBR				*e*	pP	16 42 29.7	+1.0
RCBR				LR	LR		
	comp=Z,5µm,22.0s,MS5.5						
ADH	**Angra Heroismo**	**51.39**	**54**	*i* LR	LR	16 57 17.5	
RPN	**Rapa Nui**	**52.14**	**212**	PFAKE		16 42 40.0	+9.2
RPN				LR	LR		
	comp=Z,1µm,20.0s,MS5.0						
PDA	**Ponta Delgada**	**52.50**	**56**	*i* -		16 50 19.0	
PDA				*e*LQ		16 55 36.4	
PDA				*i* LR	LR	16 57 40.0	
DLBC	**Dease Lake**	**53.84**	**331⇑**	*e*P	**P**	**16 42 42.7**	**-0.2**
SIT	**Sitka**	**55.84**	**328**	PFAKE		16 43 10.0	+12
SIT				LR	LR		
	comp=Z,3µm,19.0s,MS5.4						
TRQA	**Tornquist**	**58.48**	**162⇑**	*e*P	**P**	**16 43 14.8**	**-1.8**
	comp=Z,113nm,1.5s,mb5.7						
TRQA				LR	LR		
	comp=Z,4µm,21.0s,MS5.5						
SUMG	**Summit**	**60.08**	**14**	*e*P	**P**	**16 43 25.2**	**-1.9**
	comp=Z,118nm,1.1s,mb5.8						
DAWY	**Dawson**	**60.32**	**335⇑**	*e*P	**P**	**16 43 26.9**	**-2.0**
BORG	**Borgarnes**	**61.51**	**25**	P	**P**	**16 43 34.3**	**-2.6**
	comp=Z,13nm,0.8s,mb5.1,baz=249,slow=4.6,SNR=3.0						
EYAK	**Cordova Ski Ar**	**62.07**	**330⇑**	*e*P	**P**	**16 43 39.9**	**-0.9**
EYAK				*e*PP	PP	16 45 57.1	-2.6
EYAK				*e*		16 47 32.1	
DIV	**Divide**	**62.22**	**330⇑**	*e*P	**P**	**16 43 41.0**	**-0.8**
	comp=Z,93nm,0.9s,mb5.9						
DIV				LR	LR		
	comp=Z,10µm,19.0s,MS6.0						
THY	**Trims Highway**	**62.79**	**333⇑**	*i*P	**P**	**16 43 44.9**	**-0.6**
SML	**Sawmill**	**63.57**	**331**	P	**P**	**16 43 50.3**	**-0.3**
SML	**Sawmill**	**63.57**	**331⇑**	*i*P	**P**	**16 43 49.5**	**-1.1**
ILAR	**Eielson Array**	**63.63**	**334**	P	**P**	**16 43 49.8**	**-1.2**
	comp=Z,6.8nm,0.9s,mb4.7,baz=103,slow=4.3,SNR=56						
ILAR				LR	LR	17 15 03.8	
	comp=Z,3µm,19.8s,MS5.4,baz=119,slow=39						
PMR	**Palmer**	**63.90**	**331**	P	**P**	**16 43 52.4**	**-0.4**
PMR				pmax	pmax		
	comp=Z,33nm,1.1s,mb5.3						
PMR	**Palmer**	**63.90**	**331⇑**	*e*P	**P**	**16 43 51.6**	**-1.2**
	comp=Z,77nm,1.4s,mb5.5						
PMR				LR	LR		
	comp=Z,6µm,20.0s,MS5.8						
COLA	**College**	**64.05**	**334⇑**	*i*P	**P**	**16 43 52.3**	**-1.5**
	comp=Z,64nm,1.2s,mb5.5						
COLA				LR	LR		
	comp=Z,4µm,21.0s,MS5.6						
SLKM	**Skilak Lake**	**64.23**	**329**	P	**P**	**16 43 54.7**	**-0.3**
SLKM	**Skilak Lake**	**64.23**	**329**	*e*P	**P**	**16 43 52.8**	**-2.2**
MCK	**McKinley**	**64.25**	**333**	P	**P**	**16 43 54.5**	**-0.6**
MCK				pmax	pmax		
	comp=Z,69nm,1.5s,mb5.5						
MCK	**McKinley**	**64.25**	**333⇑**	*i*P	**P**	**16 43 54.4**	**-0.7**
	comp=Z,51nm,1.2s,mb5.4						
MCK				LR	LR		
	comp=Z,2µm,19.0s,MS5.3						
FIB	**Fire Island**	**64.32**	**330**	PFAKE		16 44 10.0	+14
FIB				LR	LR		
	comp=Z,2µm,19.0s,MS5.4						
VAL	**Valentia**	**64.70**	**40⇑**	*i*P	**P**	**16 43 53.7**	**-4.5**
KDAK	**Kodiak Island**	**65.06**	**326⇑**	*e*P	**P**	**16 43 59.0**	**-1.3**
	comp=Z,31nm,0.9s,mb5.3						
KDAK				LR	LR		
	comp=Z,1µm,19.0s,MS5.0						
SPU	**Mount Spurr**	**65.22**	**330**	*e*P	**P**	**16 43 59.9**	**-1.4**
RSO	**Redoubt South**	**65.46**	**329**	*e*P	**P**	**16 44 00.4**	**-2.6**
PLOU	**Loures**	**65.50**	**55**	*e*P	**P**	**16 44 03.6**	**+0.1**
	comp=Z,58nm,1.1s,mb5.5						
EZAM	**Zamans**	**65.68**	**51**	P	**P**	**16 44 04.1**	**-0.5**
	comp=Z,22nm,0.9s,mb5.2						
STS	**Santiago**	**65.75**	**50**	P	**P**	**16 44 05.1**	**0.0**
	comp=Z,647nm,2.7s,mb6.2						
PTEO	**Sao Teotonio**	**65.93**	**56**	*e*P	**P**	**16 44 06.0**	**-0.3**
	comp=Z,140nm,1.3s,mb5.8						
PTOM	**Tomar**	**66.03**	**54**	*e*P	**P**	**16 44 06.8**	**-0.1**
	comp=Z,108nm,1.2s,mb5.8						
MOE	**Montemor**	**66.15**	**55**	*e*P	**P**	**16 44 07.1**	**-0.6**
RKT	**Rikitea**	**66.16**	**234**	*e*L		17 01 28.5	
RKT				*e*R		17 04 23.9	
	comp=Z,6µm,27.8s,baz=46						
PVIS	**Viseu**	**66.35**	**53**	*e*P	**P**	**16 44 08.9**	**-0.1**
	comp=Z,80nm,1.1s,mb5.7						
EVO	**Evora**	**66.41**	**55**	*e*P	**P**	**16 44 08.5**	**-0.9**
	comp=Z,148nm,1.1s,mb5.6						
EVO				*e*R			
	comp=Z,3µm,19.0s						
PVRL	**Vila Real**	**66.45**	**52**	*e*P	**P**	**16 44 09.5**	**-0.1**
	comp=Z,78nm,1.2s,mb5.6						
DCN	**Croghan**	**66.56**	**39⇓**	*i*P	**P**	**16 44 09.9**	**-0.2**
PBEJ	**Beja**	**66.56**	**56**	*e*P	**P**	**16 44 10.2**	**-0.2**
	comp=Z,35nm,1.2s,mb5.3						
MTE	**Manteigas**	**66.64**	**53**	*e*P	**P**	**16 44 10.3**	**-0.5**
	comp=Z,79nm,1.2s,mb5.6						
MTE				*e*S	S	16 53 02.9	+3.9
MTE				*e*LQ		17 00 41.1	
MTE				*e*LR	LR	17 04 16.5	
	comp=Z,3µm,19.9s						
MTE	**Manteigas**	**66.64**	**53**	*e*P	**P**	**16 44 10.2**	**-0.6**
	comp=Z,67nm,1.1s,mb5.6						
IMA	**Indian Mountai**	**66.67**	**335**	*e*P	**P**	**16 44 10.0**	**-0.6**
	comp=Z,529nm,1.5s,mb6.3						
IMA				*e*	pP	16 44 17.9	-1.0
IMA				*e*		16 44 33.5	
DAG	**Danmarks Havn**	**66.73**	**13**	*i* P	**P**	**16 44 17.2**	**+6.4**
	comp=Z,4.0nm,1.0s						
DAG				LR	LR		
	comp=Z,10µm,19.0s						
PCBR	**Castelo Branco**	**66.73**	**54**	*e*P	**P**	**16 44 11.3**	**-0.1**
	comp=Z,73nm,1.2s,mb5.6						
EPON	**Pontenova**	**66.76**	**50**	P	**P**	**16 44 10.5**	**-1.1**
	comp=Z,242nm,1.5s,mb6.0						
DMUB	**Kingscourt**	**66.80**	**38⇓**	*i*P	**P**	**16 44 11.5**	**-0.1**
ERUA	**La Rua**	**66.82**	**51**	P	**P**	**16 44 11.0**	**-0.9**
	comp=Z,26nm,1.1s,mb5.2						
EGRO	**El Granado**	**66.91**	**56**	P	**P**	**16 44 12.5**	**-0.1**
	comp=Z,72nm,1.4s,mb5.5						
PALC	**Alcoutim**	**66.92**	**56**	*e*P	**P**	**16 44 13.2**	**+0.5**
	comp=Z,87nm,1.3s,mb5.6						
DLF	**Lyons Farm**	**67.01**	**39⇓**	*i*P	**P**	**16 44 12.6**	**-0.3**
ECAL	**Calabor**	**67.14**	**51**	P	**P**	**16 44 13.0**	**-1.0**
	comp=Z,226nm,2.0s,mb5.8						
PBRG	**Braganca**	**67.15**	**52**	*e*P	**P**	**16 44 14.1**	**+0.1**
	comp=Z,102nm,1.2s,mb5.7						
EBAD	**Badajoz**	**67.17**	**55**	P	**P**	**16 44 13.2**	**-1.0**
	comp=Z,96nm,2.4s,mb5.4						
GCL	**Cushendall**	**67.28**	**37⇑**	*e*P	**P**	**16 44 14.1**	**-0.5**
GMM	**Mts of Mourne**	**67.37**	**38⇑**	*e*P	**P**	**16 44 14.7**	**-0.5**
EMIN	**Mina Concepcio**	**67.53**	**56**	P	**P**	**16 44 15.3**	**-1.2**
	comp=Z,80nm,1.7s,mb5.5						
GMK	**Mull of Kintyr**	**67.59**	**37⇑**	*e*P	**P**	**16 44 15.7**	**-0.9**
JMIC	**Jan Mayen**	**67.81**	**20**	*e*P	**P**	**16 44 15.4**	**-2.3**
JMIC				*e*PP	PP	16 46 44.3	-4.8
JMIC				*e*S	S	16 53 12.1	-0.4
JMIC				*e*SS	SS	16 57 35.5	-0.1
JMIC				AMS	AMS	17 13 27.5	
	comp=Z,3µm,20.5s,MS5.5						
GAL1	**Galloway**	**68.10**	**37⇑**	*e*P	**P**	**16 44 18.4**	**-1.3**
WIM	**Isle of Man**	**68.12**	**38**	*e*P	**P**	**16 44 18.9**	**-1.0**
SBD	**Saint Breward**	**68.17**	**42⇑**	*e*P	**P**	**16 44 24.4**	**+4.1**
YRC	**Rhoscolyn**	**68.19**	**39⇑**	*e*P	**P**	**16 44 18.7**	**-1.7**
WCB1	**Church Bay**	**68.20**	**39**	*e*P	**P**	**16 44 19.4**	**-1.0**
WCB1				AMb	AMB	16 44 30.2	
	comp=Z,128nm,1.6s,mb5.7						
ESPR	**Espera**	**68.27**	**57**	P	**P**	**16 44 20.4**	**-0.8**
	comp=Z,126nm,2.1s,mb5.6						
YRE	**Yr Eifl**	**68.28**	**39**	*e*P	**P**	**16 44 20.3**	**-0.6**
HTL	**Hartland**	**68.28**	**42**	*e*P	**P**	**16 44 20.3**	**-0.6**
WLF1	**Llynfaes**	**68.29**	**39**	*e*P	**P**	**16 44 20.3**	**-0.7**
EAB	**Aberfoyle**	**68.31**	**36⇑**	*e*P	**P**	**16 44 19.5**	**-1.6**
EAB				AMb	AMB	16 44 30.4	
	comp=Z,148nm,1.7s,mb5.8						
MDO	**Dochfour**	**68.31**	**35**	*e*P	**P**	**16 44 19.7**	**-1.3**
WME	**Myndd Eilian**	**68.35**	**39**	*e*P	**P**	**16 44 20.4**	**-0.9**
MVH1	**Achvaich**	**68.42**	**34⇑**	*e*P	**P**	**16 44 20.5**	**-1.2**
WPM1	**Penmaenmawr**	**68.59**	**39**	*e*P	**P**	**16 44 22.2**	**-0.6**
ORE	**Reay**	**68.65**	**33**	*e*P	**P**	**16 44 22.4**	**-0.7**
HEX	**Exmoor**	**68.71**	**41**	*e*P	**P**	**16 44 23.1**	**-0.5**
EBH	**Black Hill**	**68.78**	**36**	*e*P	**P**	**16 44 22.4**	**-1.5**
MLA1	**Latheron**	**68.86**	**34**	*e*P	**P**	**16 44 23.1**	**-1.3**
MCD	**Coleburn Disti**	**68.91**	**34**	*e*P	**P**	**16 44 22.7**	**-2.1**
OHO	**Hoy**	**68.92**	**33**	*e*P	**P**	**16 44 23.2**	**-1.5**
CSF	**Scaffel**	**68.95**	**38⇑**	*e*P	**P**	**16 44 24.6**	**-0.5**
ESK	**Eskdalemuir**	**68.96**	**37⇑**	*e*P	**P**	**16 44 23.8**	**-1.2**
ESK				AMb	AMB	16 44 34.5	
	comp=Z,163nm,1.5s,mb5.7						
ESK	**Eskdalemuir**	**68.96**	**37⇑**	*e*P	**P**	**16 44 23.8**	**-1.3**
	comp=Z,224nm,1.4s,mb5.9						
ESK				LR	LR		
	comp=Z,753nm,22.0s,MS4.9						
EDI	**Edinburgh**	**68.96**	**36⇑**	*e*P	**P**	**16 44 23.4**	**-1.7**
EDI				AMb	AMB	16 44 34.4	
	comp=Z,130nm,1.6s,mb5.6						
CDU1	**Dunnerdale**	**68.98**	**38⇑**	*e*P	**P**	**16 44 24.7**	**-0.5**
EKA	**Eskdalemuir Ar**	**68.99**	**37**	P	**P**	**16 44 24.5**	**-0.7**
	comp=Z,61nm,0.9s,mb5.5,baz=268,slow=6.9,SNR=50						
HTR	**Trewern Hill**	**69.01**	**40⇑**	*e*P	**P**	**16 44 24.9**	**-0.5**
HTR				AMb	AMB	16 44 35.3	
	comp=Z,183nm,1.7s,mb5.7						
EBL	**Broad Law**	**69.04**	**36**	*e*P	**P**	**16 44 24.2**	**-1.4**
MME1	**Meikle Cairn**	**69.07**	**35**	*e*P	**P**	**16 44 24.3**	**-1.4**
SSP1	**Stoney Pound**	**69.09**	**40⇑**	*e*P	**P**	**16 44 25.4**	**-0.5**

EADA	Adamuz	69.13	55	P	P	16 44 25.9	-0.6
	comp=Z,91nm,1.3s,mb5.5						
EMIJ	Mijas	69.17	57	P	P	16 44 27.5	+0.8
	comp=Z,94nm,1.4s,mb5.5						
MCH1	Michaelchurch	69.18	40⇑	*e*P	P	16 44 25.8	-0.6
ROSF	Rostrenen	69.19	44	*e*P	P	16 44 26.7	+0.1
	comp=Z,196nm,1.2s,mb5.6						
HLM1	Long Mynd	69.23	40⇑	*e*P	P	16 44 26.0	-0.8
HLM1				AMb	AMB	16 44 36.6	
	comp=Z,218nm,1.5s,mb5.9						
ESY	Stoneypath	69.28	36	*e*P	P	16 44 25.4	-1.7
ESY				AMb	AMB	16 44 36.6	
	comp=Z,147nm,1.7s,mb5.7						
QUIF	Quistinic	69.29	45	*e*P	P	16 44 27.3	+0.1
	comp=Z,234nm,1.2s,mb5.7						
HGH	Gray Hill	69.31	41⇑	*e*P	P	16 44 27.1	-0.2
HGH				AMb	AMB	16 44 37.3	
	comp=Z,159nm,1.7s,mb5.7						
SDPT	Sand Point	69.32	323	*e*P	P	16 44 26.6	-0.7
ESDC	Sonseca Array	69.44	54	P	P	16 44 28.7	+0.4
	comp=Z,39nm,0.9s,mb5.3,baz=283,slow=6.0,SNR=58						
ESDC				LR	LR	17 12 31.1	
	comp=Z,2µm,18.4s,MS5.3,baz=275,slow=34						
ESDC	Sonseca Array	69.44	54	P	P	16 44 28.8	+0.5
	comp=Z,65nm,1.0s,mb5.5						
HAE	Alders End	69.45	40⇑	*e*P	P	16 44 27.7	-0.5
HAE				AMb	AMB	16 44 38.8	
	comp=Z,205nm,1.5s,mb5.8						
ELAN	Lanestosa	69.47	50	P	P	16 44 27.8	-0.7
	comp=Z,144nm,1.6s,mb5.7						
ELOJ	Sierra Loja	69.59	56	P	P	16 44 29.8	+0.5
	comp=Z,55nm,1.3s,mb5.3						
SGMF	Saint Gilles	69.67	44	*e*P	P	16 44 29.3	-0.3
	comp=Z,248nm,1.2s,mb5.7						
WAL1	Walls	69.75	32	*e*P	P	16 44 27.6	-2.2
LHO	Holmfirth	69.80	39⇑	*e*P	P	16 44 29.9	-0.4
KWE	Weaver Farm	69.84	39⇑	*e*P	P	16 44 29.8	-0.6
ERON	Agron	69.88	56	P	P	16 44 31.9	+0.9
	comp=Z,21nm,1.0s,mb5.0						
HPK	Haverah Park	69.92	38⇑	*e*P	P	16 44 30.2	-0.8
SAN1	Sandwick	69.95	32	*e*P	P	16 44 29.1	-1.9
LCP	Cassop	69.97	37	*e*P	P	16 44 30.4	-0.9
KBI1	Birley Grange	70.01	39⇑	*e*P	P	16 44 30.2	-1.4
EQES	Quesada	70.36	55	P	P	16 44 33.4	-0.6
	comp=Z,140nm,1.3s,mb5.7						
LRYF	La Roche-sur-Y	70.50	46	*e*P	P	16 44 34.5	-0.1
EVIA	Vianos	70.69	55	P	P	16 44 36.4	+0.4
	comp=Z,57nm,0.8s,mb5.5						
OLEF	Ile d’Oleron	70.69	47	*e*P	P	16 44 36.3	+0.5
ETOR	Torete	70.76	52	P	P	16 44 36.6	+0.3
	comp=Z,132nm,1.3s,mb5.7						
GRR	Gorron	70.79	44	*e*P	P	16 44 36.3	-0.1
	comp=Z,288nm,1.2s,mb5.8						
EALK	Alkurruntz	70.88	50	P	P	16 44 36.9	-0.1
	comp=Z,205nm,1.7s,mb5.8						
FLN	La Foliniere	71.01	44	*e*P	P	16 44 37.6	-0.1
	comp=Z,336nm,1.2s,mb5.8						
FLN				*e*R			
	comp=Z,6µm,21.0s						
OSSF	Osses	71.05	50	*e*P	P	16 44 37.7	-0.3
SJPF	Ste Jean	71.09	50	*e*P	P	16 44 38.8	+0.5
	comp=Z,285nm,1.2s,mb5.8						
LDF	La Druitiere	71.26	44	*e*P	P	16 44 39.0	-0.2
	comp=Z,454nm,1.2s,mb6.0						
LARF	Larrau	71.28	50	*e*P	P	16 44 40.2	+0.8
ORDF	Ordiarp	71.29	50	*e*P	P	16 44 38.3	-1.2
ETOB	Tobarra	71.43	54	P	P	16 44 40.3	-0.2
	comp=Z,128nm,2.2s,mb5.5						
MFF	Saint Martin d	71.45	46	*e*P	P	16 44 40.4	0.0
	comp=Z,247nm,1.2s,mb5.7						
KIP	Kipapa	71.48	287	PFAKE		16 44 50.0	+9.0
KIP				LR	LR		
	comp=Z,2µm,21.0s,MS5.3						
ETSF	Etsaut	71.61	50	*e*P	P	16 44 41.8	+0.4
	comp=Z,309nm,1.6s,mb5.7						
FDAF	Les Forges d’A	71.61	50	*e*P	P	16 44 41.9	+0.5
REYF	Montagne du Re	71.70	50	*e*P	P	16 44 42.0	0.0
ESAC	San Caprasio	71.83	51	P	P	16 44 42.4	-0.3
	comp=Z,236nm,1.2s,mb6.0						
EMOS	Mosqueruela	72.01	53	P	P	16 44 44.0	+0.2
	comp=Z,167nm,2.0s,mb5.6						
VIEF	Viey	72.03	50	*e*P	P	16 44 44.5	+0.6
LABF	Labassere	72.05	50	*e*P	P	16 44 42.6	-1.4
LABF	Labassere	72.05	50	*e*P	P	16 44 44.3	+0.3
EFI	East Falkland	72.12	165	PFAKE		16 45 00.0	+16
EFI				LR	LR		
	comp=Z,1µm,21.0s,MS5.1						
EPF	Esparros	72.24	50	*e*P	P	16 44 45.5	+0.3
	comp=Z,367nm,1.3s,mb5.8						
LFF	La Frestale	72.27	48	*e*P	P	16 44 45.4	+0.1
	comp=Z,484nm,1.1s,mb6.0						
RESF	Ens	72.27	50	*e*P	P	16 44 46.2	+0.9
EGRA	Graus	72.34	51	P	P	16 44 45.8	0.0
	comp=Z,80nm,1.0s,mb5.6						
EBEN	Beniarda	72.45	54	P	P	16 44 47.8	+1.4
	comp=Z,264nm,2.3s,mb5.8						
TNA	Tin City	72.51	334	PFAKE		16 45 00.0	+14
TNA				LR	LR		
	comp=Z,3µm,19.0s,MS5.6						
MELF	Melles	72.57	50	*e*P	P	16 44 48.0	+0.9
EBR	Ebro Roquetas	72.67	52	*e*P	P	16 44 48.5	+0.7
RJF	Les Rejaudoux	72.77	47	*e*P	P	16 44 48.1	-0.1
	comp=Z,204nm,1.1s,mb5.7						
RJF				*e*R			
	comp=Z,7µm,22.0s						
MLS	Moulis	72.80	50	*e*P	P	16 44 48.4	-0.1
SALF	Salau	72.90	50	*e*P	P	16 44 49.7	+0.6
UNV	Unalaska Valle	72.92	322⇑	*e*P	P	16 44 47.8	-1.2
	comp=Z,95nm,0.8s,mb5.8						
UNV				LR	LR		
	comp=Z,5µm,19.0s,MS5.8						
FOO	Floro	72.93	30	*e*P	P	16 44 50.5	+1.7
FOO				AMb	AMB	16 44 58.8	
	comp=Z,110nm,1.4s,mb5.6						
FOO	Floro	72.93	30	*e*P	P	16 44 50.5	+1.7
	comp=Z,110nm,1.4s,mb5.6						
EPOB	Poblet	73.03	51	P	P	16 44 50.0	+0.2
	comp=Z,179nm,3.1s						
TCF	Toulx Ste Croi	73.11	46	*e*P	P	16 44 49.7	-0.5
	comp=Z,270nm,1.2s,mb5.8						
USHA	Ushuaia	73.16	172	LR	LR	17 16 47.2	
	comp=Z,3µm,20.4s,MS5.5,baz=338,slow=36						
CAF	Calviac	73.21	48	*e*P	P	16 44 50.8	0.0
	comp=Z,291nm,1.1s,mb5.8						
HYF	Humbligny	73.26	45	*e*P	P	16 44 51.3	+0.2
EMIR	Miracle	73.27	51	P	P	16 44 51.4	+0.2
	comp=Z,434nm,3.5s						
KBS	Kingsbay	73.36	12	*e*P	P	16 44 50.7	-0.4
KBS				*e*PP	PP	16 47 32.6	-4.0
KBS				*e*S	S	16 54 18.2	+1.3
KBS				*e*SS	SS	16 59 01.2	-0.5
KBS				AMS	AMS	17 15 45.7	
	comp=Z,5µm,14.5s,MS5.9						
KBS	Kingsbay	73.36	12	PFAKE		16 45 00.0	+8.9
KBS				LR	LR		
	comp=Z,4µm,19.0s,MS5.8						
VERF	Verneugheol	73.38	47	*e*P	P	16 44 51.7	-0.1
BGF	Bois d’Agland	73.51	46	*e*P	P	16 44 52.3	-0.2
	comp=Z,372nm,1.4s,mb5.8						
HYA	Hoyanger	73.53	30	*e*P	P	16 44 52.4	+0.1
HYA				AMb	AMB	16 45 03.9	
	comp=Z,95nm,1.6s,mb5.5						
HYA	Hoyanger	73.53	30	*e*P	P	16 44 53.4	+1.1
	comp=Z,95nm,1.6s,mb5.5						
MTLF	Montolieu	73.56	49	*e*P	P	16 44 52.9	0.0
	comp=Z,200nm,1.2s,mb5.6						
VALF	Valcebollere	73.56	50	*e*P	P	16 44 53.6	+0.7
PYM	Petit Puy Mans	73.74	47	*e*P	P	16 44 54.0	+0.1
AVF	Avril sur Loir	73.82	45	*e*P	P	16 44 53.9	-0.4
	comp=Z,261nm,1.2s,mb5.7						
SSF	Saint Saulge	73.88	45	*e*P	P	16 44 54.0	-0.7
	comp=Z,237nm,1.2s,mb5.7						
BAIF	Baives	73.89	42	*e*P	P	16 44 54.6	-0.1
LBL	Lubilhac	73.99	47	*e*P	P	16 44 55.9	+0.6
LOR	Lormes	74.08	45	*e*P	P	16 44 55.6	-0.2
	comp=Z,240nm,1.3s,mb5.7						
LOR				*e*R			
	comp=Z,5µm,21.8s						
SMF	Signal de Mont	74.17	46	*e*P	P	16 44 56.0	-0.4
	comp=Z,250nm,1.2s,mb5.7						
EJON	La Jonquera	74.19	50	P	P	16 44 55.9	-0.6
	comp=Z,257nm,3.0s						
COLF	Collangettes	74.25	47	*e*P	P	16 44 57.1	+0.2
GIVF	Givet	74.28	42	*e*P	P	16 44 56.9	0.0
	comp=Z,352nm,1.4s,mb5.8						
LASF	Ste Croix	74.61	48	*e*P	P	16 44 59.5	+0.6
	comp=Z,243nm,1.2s,mb5.7						
MEZF	Maizieres J’vi	74.68	44	*e*P	P	16 44 59.4	+0.1
	comp=Z,633nm,1.4s,mb6.1						
HGN	Heimansgroeve	74.87	41	*e*P	P	16 45 00.1	-0.2
	comp=Z,25nm,1.4s,mb5.0						
HGN				*i* x	x	16 45 03.5	
	comp=Z,58nm,1.5s						
HGN				*i* x	x	16 45 09.1	
	comp=Z,68nm,1.5s						
HGN				*e*S	S	16 54 39.8	+5.5
WIT	Witteveen	74.98	39	*e*P	P	16 45 02.6	+1.7
WIT				*e*x	x	16 45 10.9	
VIVF	Saint-Julien-l	75.05	47	*e*P	P	16 45 02.2	+0.7
	comp=Z,521nm,1.2s,mb6.0						
TIC	Toumodi	75.18	88	*e*P	P	16 45 02.2	-0.7
	comp=Z,280nm,1.4s,mb6.0						
WLF	Walferdange	75.20	42⇑	*e*P	P	16 45 02.3	+0.1
	comp=Z,141nm,1.0s,mb5.8						
WLF				*e*	pP	16 45 11.2	+0.6
WTSB	Winterswijk	75.20	40	*e*P	P	16 45 02.6	+0.4
	comp=Z,75nm,0.7s,mb5.7						
WTSB				*i* x	x	16 45 05.6	
	comp=Z,156nm,1.1s						
WTSB				*i* x	x	16 45 11.0	
	comp=Z,170nm,1.1s						
LIC	Lamto	75.30	88	*e*P	P	16 45 03.1	-0.4
	comp=Z,267nm,1.4s,mb6.0						
LIC	Lamto	75.30	88	*e*P	P	16 45 03.3	-0.2
	comp=Z,151nm,1.4s,mb5.7						
DBIC	Dimbokro	75.33	88	P	P	16 45 03.9	+0.2
	comp=Z,16nm,0.8s,mb5.0,baz=286,slow=8.2,SNR=13						
DBIC				LR	LR	17 16 22.5	
	comp=Z,1µm,18.5s,MS5.3,baz=266,slow=34						
THEF	They Montfort	75.34	44	*e*P	P	16 45 03.3	+0.2
KONO	Kongsberg	75.42	32	*e*P	Px	16 45 39.3	
KONO				*e*		16 55 06.5	
KONO				AMS	AMS	17 15 16.9	
	comp=Z,2µm,21.0s,MS5.4						
KONO	Kongsberg	75.42	32	PFAKE		16 45 20.0	+17
KONO				LR	LR		
	comp=Z,2µm,20.0s,MS5.5						
KIC	Kosan Boka	75.53	88	*e*P	P	16 45 04.3	-0.5
	comp=Z,157nm,0.8s,mb6.0						
OCF	Saint Nazaire	75.54	47	*e*P	P	16 45 05.2	+0.9
OG26	St.-Nazaire-De	75.54	47	*e*P	P	16 45 05.2	+0.9
PRAF	Pradon	75.59	48	*e*P	P	16 45 05.5	+0.9
PPT	Papeete	75.59	246	*e*SS	SS	16 59 41.2	+4.3
PPT				*e*L		17 05 35.4	
PPT				*e*R		17 08 41.3	
	comp=Z,5µm,27.2s,baz=59						
HAU	Haudompre	75.62	44	*e*P	P	16 45 04.6	-0.1
	comp=Z,311nm,1.4s,mb5.7						
HAU				*e*R			
	comp=Z,4µm,21.0s						
NSS	Namsos	75.63	26	*e*S	S	16 54 42.1	-0.3
NSS				*e*SS	SS	16 59 35.0	-1.5
NSS				AMS	AMS	17 18 39.7	
	comp=Z,2µm,17.6s,MS5.5						
CABF	La Chapelle	75.70	45	*e*P	P	16 45 05.1	-0.1
	comp=Z,312nm,1.2s,mb5.8						
RUP	Ruppelstein	75.77	42	*e*P	P	16 45 06.2	+0.7
TREF	Trevaresse	75.78	48	*e*P	P	16 45 06.8	+1.2
MUD	Monsted U’grnd	75.78	35	*i* P	P	16 45 06.2	+0.8
	comp=Z,142nm,1.2s,mb5.8						
MUD				*i* S	S	16 54 51.1	+6.9
	comp=Z,3µm,21.0s						
GIMEL	Gimel	75.84	45⇑	*i*P	P	16 45 06.0	+0.1
	comp=Z,148nm,1.2s,mb5.8						
SMRF	Simiane la Rot	75.84	48	*e*P	P	16 45 06.9	+0.9
	comp=Z,288nm,1.7s,mb5.6						
BJO	Bjornoya	75.85	16	AMS	AMS	17 17 29.7	
	comp=Z,2µm,18.0s,MS5.5						
ORIF	Oris-en-Rattie	75.88	47	*e*P	P	16 45 06.8	+0.6
	comp=Z,320nm,1.3s,mb5.8						
ORIF				*e*R			
	comp=Z,6µm,23.0s						
BRANT	Les Verrieres	75.90	45⇑	*i*P	P	16 45 06.6	+0.3
	comp=Z,219nm,1.8s,mb5.8						
NB2	NORSAR Subarra	75.96	30	P	P	16 45 06.4	+0.1
	comp=Z,55nm,1.0s,mb5.4,baz=283,slow=5.6						
NB2	NORSAR Subarra	75.96	30	P	P	16 45 06.4	+0.1
	baz=283,slow=5.9						
NOA	NORSAR Array B	75.96	30	P	P	16 45 06.2	-0.1
	comp=Z,29nm,0.9s,mb5.2,baz=282,slow=5.6,SNR=38						
NOA				LR	LR	17 13 59.1	
	comp=Z,2µm,20.8s,MS5.5,baz=295,slow=32						
NOA	NORSAR Array B	75.96	30	P	P	16 45 06.2	-0.1
NOA				LR	LR	17 13 59.1	
HINF	Hinteralfeld	75.99	44	*e*P	P	16 45 06.6	-0.2
	comp=Z,179nm,1.3s,mb5.5						
PUYF	Puyloubier	76.02	48	*e*P	P	16 45 07.3	+0.3
ABH	Alteburg	76.05	42	*e*P	P	16 45 07.3	+0.3
BERF	Bertagne	76.06	49	*e*P	P	16 45 08.1	+0.9
LOMF	Lomont	76.06	44	*e*P	P	16 45 07.3	+0.1
ECH	Echery	76.11	44	*e*P	P	16 45 07.6	+0.1
OG25	Le Caire	76.12	48	*e*P	P	16 45 08.4	+0.8
CDF	Champ du Feu	76.15	43	*e*P	P	16 45 07.7	0.0
	comp=Z,375nm,1.5s,mb5.8						
OG01	Vacheresse	76.16	46	*e*P	P	16 45 08.1	+0.3
MOF	Molkenrain	76.17	44	*e*P	P	16 45 07.6	-0.2
WLS	Welschbruch	76.20	43	*e*P	P	16 45 07.8	-0.1
RSL	Roselend	76.25	46	*e*P	P	16 45 08.6	+0.3
TAVF	Tavernes	76.26	48	*e*P	P	16 45 09.1	+0.7
TORNY	Torny	76.26	45⇑	*i*P	P	16 45 08.6	+0.3
	comp=Z,204nm,1.2s,mb5.9						
MOR8	Moi Rana	76.30	25	*e*P	P	16 45 10.0	+1.8
MOR8	Moi Rana	76.30	25	*e*P	P	16 45 12.1	+3.9
BOURR	Bourrignon	76.32	44⇑	*i*P	P	16 45 08.5	-0.1
	comp=Z,307nm,1.9s,mb5.9						
AIGLE	Aigle	76.34	45⇑	*i*P	P	16 45 09.0	+0.2
	comp=Z,144nm,1.2s,mb5.8						
LPL	La Plagne	76.35	46	*e*P	P	16 45 09.8	+0.9
	comp=Z,354nm,1.4s,mb5.8						
LPG	La Plagne	76.37	46	*e*P	P	16 45 10.1	+1.1
	comp=Z,352nm,1.5s,mb5.8						
SALAN	Lac Salanfe	76.39	46⇑	*i*P	P	16 45 09.5	+0.4
	comp=Z,93nm,1.1s,mb5.6						
BNI	Bardonecchia	76.41	47	P	P	16 45 10.0	+0.8
BNI				pmax	pmax		
	comp=Z,180nm,1.8s,mb5.7						
BNI	Bardonecchia	76.41	47	*e*P	P	16 45 09.7	+0.6
	comp=Z,40nm,1.1s,mb5.3						
LIBD	Limburg	76.42	44	*e*P	P	16 45 09.4	+0.2
LIBD	Limburg	76.42	44	*e*P	P	16 45 09.5	+0.3
GRYON	Gryon	76.47	46⇑	*i*P	P	16 45 10.0	+0.5
	comp=Z,112nm,1.2s,mb5.7						
BBS	Basel-Blauen	76.49	44	*e*P	P	16 45 09.4	-0.2
KTD	Kalmit	76.50	42	*e*P	P	16 45 09.3	-0.3
RRL	Cesana Torines	76.51	47	P	P	16 45 10.9	+1.2
MBDF	Montbardon	76.54	47	*e*P	P	16 45 10.5	+0.6
	comp=Z,145nm,1.3s,mb5.5						
SENIN	Lac Senin	76.57	45⇑	*i*P	P	16 45 10.9	+0.8
	comp=Z,368nm,2.1s,mb5.9						
SURF	Saint Ours	76.62	47	*e*P	P	16 45 11.4	+1.0
LMR	La Mourre	76.64	49	*e*P	P	16 45 10.3	-0.2
	comp=Z,199nm,1.3s,mb5.6						
BALST	Balsthal	76.64	44⇑	*i*P	P	16 45 10.3	-0.1
	comp=Z,234nm,1.4s,mb5.9						
LSD	Ceresole Reale	76.66	46	P	P	16 45 11.4	+0.9
KIZ	Kirchzarten	76.66	44	*e*P	P	16 45 10.5	0.0
FENE	Fenestrelle	76.68	47	P	P	16 45 11.4	+0.7
FRF	La Foret Royal	76.69	48	*e*P	P	16 45 10.8	0.0
	comp=Z,220nm,1.3s,mb5.6						
DIX	Grande Dixence	76.70	46⇑	*i*P	P	16 45 11.9	+1.1
	comp=Z,141nm,1.1s,mb5.8						
WIMIS	Wimmis	76.73	45⇑	*i*P	P	16 45 11.2	+0.3
	comp=Z,123nm,1.8s,mb5.5						
FELD	Feldberg	76.74	44	*e*P	P	16 45 11.0	+0.1
LKBD	Leukerbad	76.79	45⇑	*i*P	P	16 45 11.9	+0.6
	comp=Z,135nm,1.7s,mb5.6						
RSP	Reno Superiore	76.79	47	P	P	16 45 12.2	+0.9
PZZ	Prazzo	76.81	47	P	P	16 45 12.7	+1.3
CALN	Calern	76.82	48	*e*P	P	16 45 12.3	+0.8
BFO	Black Forest	76.86	43	*e*P	P	16 45 11.4	-0.2
BFO				pmax	pmax		
	comp=Z,58nm,1.3s,mb5.3						
BFO	Black Forest	76.86	43	*e*P	P	16 45 11.4	-0.2
	comp=Z,58nm,1.3s,mb5.3						
BHB	Bricherasio	76.86	47	P	P	16 45 12.3	+0.6
SWS	Schriesheim	76.86	42	*e*P	P	16 45 11.3	-0.3
SULZ	Sulz-Cheisache	76.88	44⇑	*i*P	P	16 45 11.6	-0.2
	comp=Z,108nm,1.0s,mb5.7						
TOD	Tromm	76.90	42	*e*P	P	16 45 11.7	-0.1
BSEG	Bad Segeberg	76.92	37	*e*P	P	16 45 12.2	+0.4
BSEG				pmax	pmax		
	comp=Z,156nm,1.4s,mb5.8						
MVIF	Mont Vial	76.98	48	*e*P	P	16 45 13.1	+0.7
STV	Sta Anna Valdi	77.03	48	P	P	16 45 12.1	-0.6
STV2	Anna di Valdie	77.03	48	P	P	16 45 13.2	+0.6
TRAV		77.05	46	P	P	16 45 13.8	+1.1
HASLI	Hasliberg	77.07	45⇑	*i*P	P	16 45 13.4	+0.6
	comp=Z,199nm,1.3s,mb5.9						
SLE	Schleitheim	77.08	44⇑	*i*P	P	16 45 12.8	-0.1
	comp=Z,250nm,1.7s,mb5.9						
MMK	Mattmark	77.09	46⇑	*i*P	P	16 45 14.1	+1.2
	comp=Z,174nm,1.9s,mb5.7						
TRO	Tromso	77.09	21	*e*P	P	16 45 16.1	+3.6
TRO				*e*PP	PP	16 48 02.9	-4.7
TRO				*e*S	S	16 54 56.8	-1.4
TRO				*e*SS	SS	16 59 56.3	-2.5
TRO				AMS	AMS	17 18 54.6	
	comp=Z,1µm,22.3s,MS5.2						
LBG	Lerchenberg	77.09	43	*e*P	P	16 45 12.5	-0.4
ENR	Entracque	77.10	48	P	P	16 45 13.0	0.0
AURF	Auriere	77.10	48	*e*P	P	16 45 13.2	+0.1
MCGN	Macugnaga	77.12	46	*e*P	P	16 45 14.7	+1.6
AUTN	L’Aution	77.15	48	*e*P	P	16 45 13.8	+0.5
REVF	Revere	77.16	48	*e*P	P	16 45 13.8	+0.4
SBF	Sospel	77.18	48	*e*P	P	16 45 13.7	+0.2
	comp=Z,315nm,1.2s,mb5.8						
ORO	Oropa	77.19	46	*e*P	P	16 45 14.3	+0.8
SPAK	Spaichingen	77.20	43	*e*P	P	16 45 13.4	-0.1
ZUR	Zurich	77.22	44⇑	*i*P	P	16 45 13.8	+0.1
	comp=Z,221nm,2.1s,mb5.7						
BNALP	Bannalp	77.23	45⇑	*i*P	P	16 45 14.5	+0.8
	comp=Z,172nm,1.3s,mb5.8						
SAOF	Saorge	77.24	48	*e*P	P	16 45 14.3	+0.5
STU	Stuttgart	77.33	43	P	P	16 45 17.5	+3.3
STU				pmax	pmax		
	comp=Z,38nm,0.9s,mb5.3						
STU	Stuttgart	77.33	43	*e*P	P	16 45 14.2	0.0
	comp=Z,99nm,1.1s,mb5.7						
HFS	Hagfors	77.35	31	P	P	16 45 14.1	0.0
	comp=Z,13nm,0.9s,mb4.8,baz=256,slow=6.1,SNR=11						
MUO	Muotathal	77.35	45⇑	*i*P	P	16 45 15.2	+0.8
	comp=Z,286nm,1.5s,mb6.0						
MONE	Monesi	77.36	48	P	P	16 45 14.7	+0.2
NEGI	Negi	77.38	48	P	P	16 45 13.9	-0.7
ROB	Roburent	77.40	47	P	P	16 45 14.7	0.0
CLZ	Clausthal	77.40	39	*e*P	P	16 45 15.2	+0.7
	comp=Z,169nm,1.1s,mb5.9						
GUT	Gutenstein	77.42	43	*e*P	P	16 45 14.7	-0.1
WILA	Wila	77.43	44⇑	*i*P	P	16 45 15.1	+0.3
	comp=Z,174nm,1.8s,mb5.7						
SIND	Sindeldorf	77.47	42	*e*P	P	16 45 15.0	+0.1
FUSIO	Fusio	77.47	45⇑	*i*P	P	16 45 16.3	+1.2
	comp=Z,240nm,1.2s,mb6.0						
IMI	Imperia	77.49	48	*e*P	P	16 45 15.8	+0.6
BUCH	Bad Urach	77.50	43	*e*P	P	16 45 15.3	+0.1
RORO		77.57	48	P	P	16 45 15.3	-0.3
LLS	Linth-Limmern	77.62	45⇑	*i*P	P	16 45 16.7	+0.8
	comp=Z,153nm,1.6s,mb5.7						
FIN	Finale Ligure	77.65	47	*e*P	P	16 45 16.4	+0.3
VAI	Varese	77.67	46	*e*P	P	16 45 16.5	+0.4
COP	Copenhagen	77.72	35⇑	*i*P	P	16 45 19.2	+3.0
	comp=Z,49nm,1.2s,mb5.3						
COP				*i* S	S	16 55 09.1	+3.7
	comp=Z,1µm,18.0s						
PCP	Pian Castagno	77.81	47	P	P	16 45 16.8	-0.2
PLONS	Plons	77.83	44⇑	*i*P	P	16 45 17.5	+0.5
	comp=Z,169nm,1.7s,mb5.7						
KAMOR	Kamor	77.84	44⇑	*i*P	P	16 45 17.6	+0.5
	comp=Z,109nm,1.5s,mb5.5						
MUGIO	Muggio	77.85	46⇑	*i*P	P	16 45 17.1	0.0
	comp=Z,138nm,1.5s,mb5.7						
TBI	Tubuai	77.90	241	*e*SS	SS	17 00 15.1	+3.2
TBI				*e*L		17 06 20.8	
TBI				*e*R		17 09 43.1	
	comp=Z,6µm,28.2s,baz=62						
VDL	Val di Lei	78.01	45⇑	*i*P	P	16 45 18.9	+0.9
	comp=Z,176nm,1.7s,mb5.7						
HDH	Heidenheim	78.02	43	*e*P	P	16 45 18.3	+0.3
DAVA	Damuels	78.10	44⇑	*i*P	P	16 45 19.2	+0.7
	comp=Z,806nm,4.2s						
UBR	Uberruh	78.16	44	*e*P	P	16 45 19.1	+0.3
DAVOX	Davos	78.22	45⇑	*i*P	P	16 45 20.1	+1.0
	comp=Z,150nm,1.6s,mb5.7						
BOB	Bobbio (Coli)	78.39	47	*e*P	P	16 45 21.1	+1.0
BERNI	Berninapass	78.40	45⇑	*i*P	P	16 45 21.3	+1.2
	comp=Z,311nm,1.9s,mb5.9						
GRA1	Grafenberg Arr	78.41	41	*e*P	P	16 45 20.7	+0.6
	comp=Z,105nm,1.2s,mb5.6						
GRA1				*e*S	S	16 55 20.8	+7.9
GRA1				*e*SS	SS	17 00 18.0	-1.0
GRA1				LR	LR		
	comp=Z,5µm,22.0s,MS5.8						
GRF	Grafenberg Arr	78.41	41	*e*P	P	16 45 20.7	+0.6
GRF				*e*S	S	16 55 20.8	+7.9
GRF				*e*SS	SS	17 00 18.0	-1.0
GRF				pmax	pmax		
	comp=Z,105nm,1.2s,mb5.6						
GRF				MLR	MLR		
	comp=Z,5µm,22.0s,MS5.8						
MOX	Moxa	78.43	40	*i* P	P	16 45 20.9	+0.7
	comp=Z,logA/T=1.9,mb5.6						
MOX				S	S	16 55 15.0	+1.9
MOX				PS	PS	16 56 05.0	+6.4
MOX				SS	SS	17 00 10.0	-9.2
MOX				SSS	PKKP	17 04 20.0	+23
MOX				LQ		17 06 30.0	
MOX				LR	LR	17 10 20.0	
MOX				L		17 16 02.0	
MOX	Moxa	78.43	40	*e*P	P	16 45 20.9	+0.7
MOX				pmax	pmax		
	comp=Z,141nm,1.6s,mb5.7						
MOX				MLR	MLR		
	comp=Z,2µm,22.0s,MS5.4						
MOX	Moxa	78.43	40	*e*P	P	16 45 20.9	+0.7
	comp=Z,141nm,1.6s,mb5.7						
MOX				LR	LR		
	comp=Z,2µm,22.0s,MS5.4						
RGN	Rugen	78.49	36	*e*P	P	16 45 19.8	-0.6
	comp=Z,170nm,1.1s,mb5.9						
FUORN	Ofenpass	78.51	45⇑	*i*P	P	16 45 21.9	+1.1
	comp=Z,175nm,1.1s,mb5.9						
PGF	Pioggiola	78.59	49	*e*P	P	16 45 21.4	+0.1
	comp=Z,266nm,1.4s,mb5.7						
BRMO	Bormio	78.62	45	*e*P	P	16 45 22.6	+1.3
KTK1	Kautokeino	78.74	21	*e*P	P	16 45 22.6	+1.0
KTK1				AMb	AMB	16 45 34.5	
	comp=Z,134nm,1.6s,mb5.6						
KTK1	Kautokeino	78.74	21	*e*P	P	16 45 22.6	+1.0
	comp=Z,134nm,1.6s,mb5.6						
CODM		78.76	47	P	P	16 45 21.5	-0.7
FUR	Furstenfeldbru	78.81	43	*e*P	P	16 45 23.5	+1.1
FUR				pmax	pmax		
	comp=Z,139nm,1.3s,mb5.7						
FUR	Furstenfeldbru	78.81	43	*e*P	P	16 45 23.5	+1.1
	comp=Z,139nm,1.3s,mb5.7						
GRAM		78.89	47	P	P	16 45 22.5	-0.4
MOTA	Moosalm	78.90	44⇓	*i*P	P	16 45 23.4	+0.5
	comp=Z,135nm,1.5s,mb5.7						
SAL	Salo	78.93	46	*e*P	P	16 45 18.8	-4.3
BACM		78.94	47	P	P	16 45 22.0	-1.2
SQTA	Sankt Quirin	79.00	44⇑	*i*P	P	16 45 24.0	+0.6
	comp=Z,107nm,1.5s,mb5.5						
VINC	Vinca	79.03	47	P	P	16 45 22.6	-1.1
VALM		79.05	47	P	P	16 45 22.7	-1.0
NKC	Novy Kostel	79.05	41	*e*P	P	16 45 24.1	+0.5
NKC				*e*x	x	16 45 26.9	
NKC				*e*S	S	16 55 27.6	+8.0
NKC				LR		17 14 40.0	
	comp=Z,3.2nm,21.8s						
CLL	Collm	79.12	40	⇓P	P	16 45 24.7	+0.7
	comp=Z,logA/T=1.9,mb5.6						
CLL				*i*		16 45 27.5	
CLL				*i* *PP	pP	16 45 32.7	+0.3
CLL				*e*		16 45 43.0	
CLL				*e*S	S	16 55 20.0	-0.4
CLL				*e*		16 57 08.0	
CLL				*e*SS	SS	17 00 29.0	-0.5
CLL				*e*SSS	SSS	17 04 03.0	+14
CLL	Collm	79.12	40⇓	*i*P	P	16 45 24.7	+0.7
CLL				*i* *PP	pP	16 45 32.7	+0.3
CLL				*e*S	S	16 55 20.0	-0.4
CLL				pmax	pmax		
	comp=Z,104nm,1.2s,mb5.6						
CLL				MLR	MLR		
	comp=Z,3µm,24.5s,MS5.5						
CLL	Collm	79.12	40⇓	*i*P	P	16 45 24.7	+0.7

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       comp=Z,104nm,1.2s,mb5.6
CLL                                i pP   pP     16 45 32.7 +0.3
CLL                                eS     S      16 55 20.0 -0.4
CLL                                 LR    LR
       comp=Z,3µm,24.5s,MS5.5
ERBM   Eremo               79.14  47   eP     P      16 45 27.8 +3.5
VLC    Villacollemand      79.19  47   eP     P      16 45 23.5 -1.0
       comp=Z,78nm,1.0s,mb5.6
WATA   Walderalm           79.21  44⇑iP     P      16 45 25.3 +0.7
       comp=Z,119nm,1.7s,mb5.5
BSD    Bornholm Skovb      79.24  36⇑iP     P      16 45 24.5  0.0
       comp=Z,161nm,1.4s,mb5.8
BSD                                i S    Sx     16 55 57.0
BSD                                i             17 00 39.6
WTTA   Wattenberg          79.27  44⇑iP     P      16 45 25.3 +0.4
       comp=Z,686nm,3.3s
GSCL   Gusciola            79.28  47   eP     P      16 45 25.3 +0.3
RUE    Ruedersdorf         79.28  38   eP     P      16 45 25.4 +0.6
       comp=Z,153nm,1.3s,mb5.8
RUE                                e             16 45 28.7
RUE                                e      pP     16 45 34.2 +1.0
ARCES  ARCESS Array B      79.30  20    P     P      16 45 24.1 -0.6
       comp=Z,9.9nm,0.6s,mb5.0,baz=282,slow=4.4,SNR=31
ARCES                               LR    LR     17 22 07.4
       comp=Z,2µm,18.8s,MS5.5,baz=46,slow=37
MAIM                       79.32  47    P     P      16 45 23.9 -1.3
BDI    Bagni Di Lucca      79.36  47   eP     P      16 45 24.8 -0.7
ZCCA   Zocca               79.55  47   eP     P      16 45 27.5 +1.0
CTI    Castel Tesino       79.58  45   eP     P      16 45 26.7 +0.1
WET    Wettzell            79.60  42   eP     P      16 45 27.3 +0.7
WET                                 pmax  pmax
       comp=Z,139nm,1.2s,mb5.8
WET    Wettzell            79.60  42   eP     P      16 45 27.3 +0.7
       comp=Z,139nm,1.2s,mb5.8
FNVD   Fontana Vidola      79.70  47   eP     P      16 45 27.6 +0.4
KEV    Kevo                79.70  20   ep     P      16 45 25.8 -1.0
BRG    Berggiesshubel      79.81  40⇓iP     P      16 45 28.8 +1.1
BRG                                i      pP     16 45 36.3 +0.2
BRG                                i S    S      16 55 32.0 +4.4
BRG                                i SS   SS     17 00 44.0 +4.2
BRG                                 pmax  pmax
       comp=Z,158nm,1.3s,mb5.8
BRG                                 MLR   MLR
       comp=N,2µm,21.1s,MS5.5
BRG                                 MLR   MLR
       comp=E,1µm,21.1s,MS5.5
BRG                                 MLR   MLR
       comp=Z,3µm,21.1s,MS5.6
BRG    Berggiesshubel      79.81  40⇓iP     P      16 45 28.8 +1.1
       comp=Z,158nm,1.3s,mb5.8
BRG                                i      pP     16 45 36.3 +0.2
BRG                                i S    S      16 55 32.0 +4.4
BRG                                i SS   SS     17 00 44.0 +4.2
BRG                                 LR    LR
       comp=Z,3µm,21.1s,MS5.6
GRFL   Gerfalco            79.86  48   eP     P      16 45 29.0 +0.9
CSNT   Castellina Chi      80.00  48   eP     P      16 45 31.5 +2.6
KHC    Kasperske Hory      80.04  42   eP     P      16 45 30.0 +1.0
PGD    Poggio Sodo         80.19  47   eP     P      16 45 29.7 -0.2
GEC2   GERESS Array S      80.20  42   eP     P      16 45 30.5 +0.7
GEC2                                pmax  pmax
       comp=Z,107nm,1.3s,mb5.6
GEC2   GERESS Array S      80.20  42   eP     P      16 45 30.5 +0.7
       comp=Z,107nm,1.3s,mb5.6
GERES  GERESS Array B      80.20  42    P     P      16 45 30.8 +0.9
       comp=Z,21nm,0.9s,mb5.1,baz=270,slow=4.0,SNR=62
FVI    Forni Avoltri       80.20  44   eP     P      16 45 31.4 +1.6
SFI    Santa Sofia         80.27  47   eP     P      16 45 30.0 -0.3
PVCC   Panska Ves          80.28  40   eP     P      16 45 30.5 +0.3
PVCC                               ex     x      16 45 33.7
PVCC                                LR           17 20 00.0
       comp=Z,2.3nm,18.3s
PVCC   Panska Ves          80.28  40   eP     P      16 45 30.5 +0.3
PVCC                                MLR   MLR
       comp=Z,2µm,18.3s,MS5.6
PRU    Pruhonice           80.41  41   eP     P      16 45 31.1 +0.1
       comp=Z,94nm,1.2s,mb5.6
PRU                                ex     x      16 45 34.2
PRU                                eS     S      16 55 38.0 +4.1
PRU                                 LR           17 15 20.0
       comp=Z,2.5nm,19.0s
PRU    Pruhonice           80.41  41   eP     P      16 45 31.1 +0.1
PRU                                eS     S      16 55 38.0 +4.1
PRU                                 pmax  pmax
       comp=Z,94nm,1.2s,mb5.6
PRU                                 MLR   MLR
       comp=Z,2µm,19.0s,MS5.6
KBA    Koelnbreinsper      80.44  44⇑iP     P      16 45 31.7 +0.5
       comp=Z,776nm,4.1s
GMNA   Gemona              80.59  44   eP     P      16 45 32.0  0.0
PTCC   Patocco-Chiusa      80.63  44   eP     P      16 45 32.3 +0.1
ROBS   Robic               80.78  44   eP     P      16 45 33.0 +0.1
ROBS                               eS     S      16 55 40.7 +2.9
MOA    Molln               80.83  43⇓iP     P      16 45 33.5 +0.3
       comp=Z,471nm,3.0s
TOLF   Tolfa               80.87  49   eP     P      16 45 36.8 +3.3
ASS    Assisi              81.06  48   eP     P      16 45 34.2 -0.4
GKP    Gorka Klasztor      81.07  37   eP     P      16 45 38.7 +4.3
GKP                                eS     S      16 55 47.9 +7.2
GKP                                 MLR   MLR
       comp=Z,3µm,22.4s,MS5.6
VOY    Vojsko              81.10  45   eP     P      16 45 34.7 +0.1
VOY                                e             16 46 17.2
UPC    Upice               81.17  40   eP     P      16 45 35.6 +0.7
UPC                                ex     x      16 45 39.1
KSP    Ksiaz               81.24  39   eP     P      16 45 36.0 +0.7
KSP                                e*PP   pP     16 45 44.3 +0.5
KSP                                eS     S      16 55 44.0 +1.5
KSP                                 MLR   MLR
       comp=Z,6µm,18.3s,MS6.0
KSP    Ksiaz               81.24  39   eP     P      16 45 36.0 +0.7
KSP                                e             16 45 38.9
KSP                                epP    pP     16 45 44.3 +0.5
KSP                                e             16 48 06.0
KSP                                eS     S      16 55 44.0 +1.5
KSP                                eSS    SS     17 00 53.0 -8.4
KSP                                 LR    LR
       comp=Z,6µm,18.3s,MS6.0
MNS    Montasola           81.27  48   eP     P      16 45 36.1 +0.5
OBKA   Obir                81.40  44⇑iP     P      16 45 36.6 +0.4
       comp=Z,689nm,3.9s
DPC    Dobruska-Polom      81.41  40   eP     P      16 45 36.9 +0.7
DPC                                ex     x      16 45 40.0
DPC                                eS     S      16 55 52.7 +8.5
DPC                                 LR           17 20 30.0
       comp=Z,1.7nm,19.7s
DPC    Dobruska-Polom      81.41  40   eP     P      16 45 36.9 +0.7
DPC                                eS     S      16 55 52.7 +8.5
DPC                                 MLR   MLR
       comp=Z,2µm,19.7s,MS5.4
DPC    Dobruska-Polom      81.41  40   eP     P      16 45 36.9 +0.7
DPC                                e             16 45 40.0
DPC                                eS     S      16 55 52.7 +8.5
DPC                                 LR    LR
       comp=Z,2µm,19.7s,MS5.4
LJU    Ljubljana           81.52  44   eP     P      16 45 38.0 +1.1
LJU                                e             16 46 19.4
LJU                                eS     S      16 55 49.5 +4.1
AQU    L'Aquila            81.79  48   eP     P      16 45 39.6 +1.3
       comp=Z,73nm,1.0s,mb5.6
VISS   Visnje              81.79  45   eP     P      16 45 39.0 +0.7
VISS                               e             16 46 21.6
VISS                               eS     S      16 55 53.0 +4.7
ARSA   Arzberg             81.82  43⇑iP     P      16 45 38.7 +0.3
       comp=Z,485nm,3.1s
TERO   Teramo              81.86  48   eP     P      16 45 41.3 +2.6
PTQR   Pietraquaria        81.88  49   eP     P      16 45 40.2 +1.4
VKA    Vienna              82.03  42⇓iP     P      16 45 40.7 +1.3
       comp=Z,914nm,3.5s
BOJS   Bojanci             82.16  45   eP     P      16 45 41.1 +0.9
BOJS                               e             16 48 42.5
NVLJ   Novalja             82.18  46⇑iP     P      16 45 43.5 +3.2
INTR   Introdacqua         82.25  48   eP     P      16 45 41.9 +1.2
MORC   Moravsky Berou      82.33  40⇑eP     P      16 45 42.0 +1.0
MORC                                pmax  pmax
       comp=Z,180nm,1.3s,mb5.8
MORC   Moravsky Berou      82.33  40⇑eP     P      16 45 42.0 +1.1
       comp=Z,178nm,1.3s,mb5.8
KAF    Kangasniemi         82.51  27   ep     P      16 45 40.3 -1.3
ZST    Bratislava          82.55  42   i P    P      16 45 43.8 +1.7
ZST                                e             16 45 46.7
ZST                                esP    sP     16 45 52.4 -1.0
ZST                                ePP    PP     16 48 46.5 -7.1
ZST    Bratislava          82.55  42   i P    P      16 45 43.8 +1.7
ZST                                e      pP     16 45 52.4 +1.8
CII    Carovilli           82.61  49   eP     P      16 45 46.1 +3.5
RAC    Raciborz            82.63  40   eP     P      16 45 42.8 +0.3
RAC                                eS     S      16 56 04.5 +7.7
RAC                                 MLR   MLR
       comp=Z,3µm,22.6s,MS5.5
RAC    Raciborz            82.63  40   eP     P      16 45 42.8 +0.3
RAC                                ePcP   PcP    16 45 47.1 -0.9
RAC                                eS     S      16 56 04.5 +7.7
RAC                                 LR    LR
       comp=Z,3µm,22.6s,MS5.5
SMOL   Smolenice           82.66  41   i P    P      16 45 44.7 +2.0
SMOL                               e             16 45 47.7
SMOL                               epP    pP     16 45 52.9 +1.7
SMOL   Smolenice           82.66  41   i P    P      16 45 44.7 +2.0
SMOL                               e      pP     16 45 52.9 +1.7
FINES  FINESS Array B      82.68  28    P     P      16 45 42.4 -0.2
       comp=Z,13nm,0.7s,mb5.1,baz=270,slow=1.9,SNR=46
FINES                               LR    LR     17 19 11.0
       comp=Z,3µm,20.9s,MS5.6,baz=284,slow=33
FINES  FINESS Array B      82.68  28   eP     P      16 45 42.8 +0.3
OKC    Ostrava-Krasne      82.68  40   eP     P      16 45 42.9 +0.1
OKC                                ex     x      16 45 47.1
OKC                                eS     S      16 56 04.0 +6.7
OKC                                 LR           17 19 00.0
       comp=Z,2.4nm,19.4s
OKC    Ostrava-Krasne      82.68  40   eP     P      16 45 42.9 +0.1
OKC                                eS     S      16 56 04.0 +6.7
OKC                                 MLR   MLR
       comp=Z,2µm,19.4s,MS5.6
SGG    Gregorio Mates      82.77  49   eP     P      16 45 46.1 +2.7
APA    Apatity             82.77  21⇑iP     P      16 45 42.6 -0.3
APA                                i             16 45 55.0
APA                                eS     S      16 55 58.0 +0.2
APA                                eSS    SS     17 01 30.0 +6.0
APA                                 pmax  pmax
       comp=Z,39nm,1.0s,mb5.4
APA                                 MLR   MLR
       comp=Z,3µm,18.0s,MS5.8
LVZ    Lovozero            83.02  20   eP     P      16 45 39.8 -4.4
LVZ                                eS     S      16 55 54.9 -5.4
LVZ                                 pmax  pmax
       comp=Z,39nm,1.5s,mb5.2
LVZ                                 pmax  pmax
       comp=Z,1µm,4.7s
LVZ                                 pmax  pmax
       comp=N,377nm,2.7s
LVZ                                 pmax  pmax
       comp=E,317nm,3.4s
LVZ                                 smax
       comp=N,553nm,3.6s
LVZ                                 smax
       comp=Z,526nm,3.8s
LVZ                                 smax
       comp=E,411nm,5.9s
LVZ    Lovozero            83.02  20⇓eP     P      16 45 44.3 +0.1
KOLL   Kolacno             83.25  41   eP     P      16 45 47.5 +1.8
KOLL                               e             16 45 50.3
PMSA   Palmer Station      83.36 173   eP     P      16 45 46.6 +0.6
       comp=E,51nm,1.3s,mb5.4
VYHS   Vyhne               83.55  41   i P    P      16 45 48.5 +1.2
VYHS                               e             16 45 51.6
VYHS                               e      pP     16 45 57.6 +1.8
VYHS                               e             16 46 12.4
VYHS                               eS     S      16 56 10.9 +4.9
VYHS   Vyhne               83.55  41   i P    P      16 45 48.5 +1.2
VYHS                               e      pP     16 45 57.6 +1.8
VYHS                               eS     S      16 56 10.9 +4.9
OJC    Ojcow               83.56  39   eP     P      16 45 48.6 +1.3
OJC                                e*PP   pP     16 45 56.2 +0.4
OJC                                e             16 49 04.7
OJC                                eS     S      16 56 06.7 +0.6
OJC                                 MLR   MLR
       comp=Z,3µm,19.6s,MS5.7
OJC    Ojcow               83.56  39   eP     P      16 45 48.6 +1.3
OJC                                ePcP   PcP    16 45 51.6 -0.4
OJC                                epP    pP     16 45 56.2 +0.4
OJC                                ePP    PP     16 49 04.7 +3.0
OJC                                eS     S      16 56 06.7 +0.6
OJC                                 LR    LR
       comp=Z,3µm,19.6s,MS5.7
WAR    Warsaw              83.58  37   eP     P      16 45 52.1 +4.7
WAR                                eS     S      16 56 11.7 +5.4
WAR                                 MLR   MLR
       comp=Z,4µm,21.0s,MS5.8
SGO    Sicignano           83.69  50   eP     P      16 45 48.5 +0.3
MRLC   Muro Lucano         83.76  49   eP     P      16 45 43.2 -5.4
VAE    Valguarnera         83.96  53    P     P      16 45 51.1 +1.5
       comp=Z,5.9nm,0.3s,mb5.2,baz=146,slow=8.9,SNR=3.4
MGR    Morigerati          84.00  50   eP     P      16 45 50.4 +0.6
SUW    Suwalki             84.15  35⇓eP     P      16 45 53.7 +3.5
SUW                                eS     S      16 56 14.4 +2.6
SUW                                 MLR   MLR
       comp=Z,3µm,24.3s,MS5.6
SUW    Suwalki             84.15  35   eP     P      16 45 49.4 -0.8
       comp=Z,387nm,1.2s,mb6.4
SUW                                e      pP     16 45 59.2 +0.5
SUW                                eS     S      16 56 14.4 +2.6
VSU    Vasula              84.21  30⇑iP     P      16 45 50.0 -0.4
PSZ    Piszkesteto         84.41  41⇑eP     P      16 45 53.5 +1.9
PSZ    Piszkesteto         84.41  41   eP     P      16 45 53.3 +1.7
       comp=Z,210nm,1.2s,mb6.1
SMY    Shemya              84.45 324    PFAKE        16 46 00.0 +8.3
SMY                                 LR    LR
       comp=Z,3µm,21.0s,MS5.7
SSY    Sortino             84.56  53   eP     P      16 45 55.7 +3.0
KECS   Kecovo              84.58  41   i P    P      16 45 53.3 +0.8
KECS                               e             16 45 57.1
KECS                               epP    pP     16 46 02.9 +1.9
KECS                               e             16 46 18.4
KECS   Kecovo              84.58  41   i P    P      16 45 53.3 +0.8
KECS                               e      pP     16 46 02.9 +1.9
STON   Ston                84.65  47   i P    P      16 45 54.0 +1.0
TRIS   Tristan da Cun      84.92 131    PFAKE        16 46 10.0  +16
TRIS                                LR    LR
       comp=Z,4µm,22.0s,MS5.7
CRVS   Cervenica-Dubn      85.04  40   i P    P      16 46 00.0 +5.3
CRVS                               e             16 46 11.3
CRVS                               eS     S      16 56 20.5 -0.3
GRI    Girifalco           85.05  51   eP     P      16 45 55.4 +0.4
TIP    Timpagrande         85.18  51⇑eP     P      16 45 54.4 -1.3
PUL    Pulkovo             85.29  28   eP     P      16 45 55.7 -0.1
PUL                                eS     S      16 56 14.4 -8.6
PUL                                 pmax  pmax
       comp=Z,94nm,0.6s,mb6.1
PUL                                 pmax  pmax
       comp=Z,76nm,0.6s,mb6.0
PUL                                 pmax  pmax
       comp=N,103nm,0.9s
PUL                                 pmax  pmax
       comp=E,61nm,0.7s
PUL                                 smax
       comp=N,21nm,0.4s
PUL                                 smax
       comp=Z,16nm,0.4s
PUL    Pulkovo             85.29  28⇓eP     P      16 45 56.5 +0.8
HOPOS  Hopovo Monaste      85.34  44   eP     P      16 45 57.3 +1.0
KOLS   Kolonicke sedl      85.53  40   i P    P      16 45 58.8 +1.6
KOLS                               e             16 46 02.4
KOLS                               e      pP     16 46 07.0 +1.3
KOLS   Kolonicke sedl      85.53  40   i P    P      16 45 58.8 +1.6
KOLS                               e      pP     16 46 07.0 +1.3
KWP    Kalwaria            85.53  39⇓eP     P      16 46 02.5 +5.3
KWP                                 MLR   MLR
       comp=Z,2µm,34.1s,MS5.3
KWP    Kalwaria            85.53  39    P     P      16 45 58.7 +1.5
       comp=Z,259nm,1.3s,mb6.3
KWP                                eS     S      16 56 35.2  +10
DIVS   Divcibare           85.81  45⇑iP     P      16 46 00.3 +1.6
NVSS   Nova Varos 2        85.81  46⇑iP     P      16 46 01.4 +2.6
RAR    Rarotonga           85.87 246    LR    LR     17 17 39.7
       comp=Z,1µm,18.6s,MS5.3,baz=264,slow=31
RAR    Rarotonga           85.87 246    PFAKE        16 46 10.0  +10
RAR                                 LR    LR
       comp=Z,3µm,20.0s,MS5.8
GRUS   Gruza               86.37  45⇓iP     P      16 46 03.1 +1.6
SVIS   Svilajnac           86.56  45⇑iP     P      16 46 03.6 +1.2
MIDW   Midway              86.73 298    PFAKE        16 46 20.0  +16
MIDW                                LR    LR
       comp=Z,1µm,22.0s,MS5.3
BOLS   Boljevac            87.23  45⇑iP     P      16 46 06.7 +1.1
OHR    Ohrid               87.43  48   i P    P      16 46 08.9 +2.2
OHR                                i             16 46 11.9
BARS   Barje               87.51  46⇓iP     P      16 46 08.7 +1.6
SKO    Skopje              87.56  47   i P    P      16 46 09.0 +1.7
SKO                                i             16 46 11.8
       comp=Z,0.1nm,1.1s
SKO    Skopje              87.56  47   i P    P      16 46 09.0 +1.7
       comp=Z,102nm,1.1s,mb6.0
SKO                                i             16 46 11.8
KPJ    Monastery St.       88.11  46   i P    P      16 46 11.7 +1.8
KPJ                                i             16 46 14.6
TIXI   Tiksi               88.44 351    PFAKE        16 46 20.0 +9.1
TIXI                                LR    LR
       comp=Z,3µm,19.0s,MS5.7
VTS    Vitosha             88.54  46   eP     P      16 46 14.0 +2.0
KKB    Krupnik             88.74  46   eP     P      16 46 17.0 +4.0
AKASG  Malin Array Be      88.90  36    P     P      16 46 13.0 -0.5
       comp=Z,5.0nm,0.8s,mb4.9,baz=296,slow=3.6,SNR=9.0
AKASG                               LR    LR     17 21 41.3
       comp=Z,2µm,20.6s,MS5.6,baz=280,slow=33
MLR    Muntele Rosu        89.18  42    P     P      16 46 16.2 +1.2
       comp=Z,69nm,1.1s,mb5.9,baz=346,slow=3.4,SNR=17
SEY    Seymchan            89.27 338   eP     P      16 46 17.5 +2.5
SEY                                              16 49 49.2
SEY                                e             16 56 43.6
SEY                                eS     S      16 57 06.8 +6.3
SEY                                eSS    SS     17 03 02.3 +3.8
SEY                                 pmax  pmax
       comp=Z,90nm,1.4s,mb5.9
SEY                                 pmax  pmax
       comp=E,40nm,1.3s
SEY                                 MLR   MLR
       comp=Z,11µm,19.0s,MS6.3
MMB    Musomiste           89.29  46   eP     P      16 46 17.5 +1.9
PVL    Pavlikeni           89.72  44   eP     P      16 46 22.0 +4.4
RZN    Rozhen              89.93  46   eP     P      16 46 20.0 +1.4
KIS    Kishinev            90.33  40   eP     P      16 46 20.0 -0.3
KIS                                e             16 56 48.0
KIS                                eS     S      16 57 14.0 +3.5
KIS                                 MLR   MLR
       comp=N,2µm,20.0s,MS5.7
KIS                                 MLR   MLR
       comp=E,2µm,20.0s,MS5.7
KIS                                 MLR   MLR
       comp=Z,2µm,20.0s,MS5.6
KIS                                 MLR   MLR
       comp=Z,2µm,20.0s
KDZ    Kurdzhali           90.42  46   eP     P      16 46 25.0 +4.1
OBN    Obninsk             90.56  30⇑eP     P      16 46 20.8 -0.3
OBN                                e             16 49 58.0
OBN                                ePS    PS     16 58 18.4 -8.1
OBN                                eSS    SS     17 03 09.2 -8.2
OBN                                 pmax  pmax
       comp=Z,69nm,1.2s,mb5.9
OBN                                 MLR   MLR
       comp=Z,2µm,19.0s,MS5.5
OBN    Obninsk             90.56  30   eP     P      16 46 20.3 -0.8
       comp=Z,166nm,1.4s,mb6.2
OBN                                 LR    LR
       comp=Z,540nm,20.0s,MS5.0
MA2    Magadan             92.04 336   eP     P      16 46 28.8 +0.9
MA2                                e             16 50 05.1
MA2                                 S     S      16 57 28.7 +3.3
MA2                                ePS    PS     16 58 39.9 -4.3
MA2                                ePPS   PPS    16 59 15.1 -1.2
MA2                                eSS    SS     17 03 30.8 -7.4
MA2                                 pmax  pmax
       comp=Z,40nm,2.0s,mb5.4
MA2                                 pmax  pmax
       comp=E,20nm,2.3s
MA2                                 MLR   MLR
       comp=Z,3µm,22.0s,MS5.7
MA2    Magadan             92.04 336⇓eP     P      16 46 28.0 +0.1
MA2                                 LR    LR
       comp=Z,3µm,21.0s,MS5.7
PET    Petropavlovsk       92.56 328   eP     P      16 46 17.3  -13
PET                                e             16 50 12.0
PET                                eS     S      16 57 07.4  -23
PET                                ePPS   PPS    16 58 54.6  -28
PET                                 pmax  pmax
       comp=Z,300nm,11.4s
PET                                 pmax  pmax
       comp=Z,400nm,16.6s
PET                                 smax
       comp=N,500nm,13.9s
PET                                 smax
       comp=E,600nm,15.2s
PET                                 MLR   MLR
       comp=Z,2µm,17.0s,MS5.7
PET                                 MLR   MLR
       comp=Z,1µm,18.0s
PET    Petropavlovsk       92.56 328    PFAKE        16 46 40.0  +10
PET                                 LR    LR
       comp=Z,2µm,22.0s,MS5.6
SANT   Santorini           92.62  51    P     P      16 46 28.8 -2.3
       comp=Z,212nm,1.3s,mb6.4
IDI    Anoyia              92.64  52    P     P      16 46 33.6 +2.4
       comp=Z,60nm,1.3s,mb5.9,baz=323,slow=9.9,SNR=3.8
VOR    Voronezh            93.75  32    P     P      16 46 38.0 +2.1
VOR                                e*PP   pP     16 46 45.0 +0.6
VOR                                 pmax  pmax
       comp=Z,100nm,2.0s,mb5.9
SIM    Simferopol'         94.55  40   eP     P      16 46 48.2 +8.4
SIM                                eS     S      16 57 57.0 +9.5
SIM                                ePS    PS     16 59 14.0 +1.8
SIM                                 pmax  pmax
       comp=Z,90nm,10.6s
SIM                                 MLR   MLR
       comp=Z,4µm,20.4s,MS5.8
YAK    Yakutsk             96.71 346c iP     P      16 46 49.5 +0.3
YAK                                 pmax  pmax
       comp=Z,17nm,1.2s,mb5.3
YAK                                 MLR   MLR
       comp=Z,3µm,19.0s,MS5.8
YAK    Yakutsk             96.71 346   eP     P      16 46 49.2  0.0
       comp=Z,14nm,0.9s,mb5.4
YAK                                 LR    LR
       comp=Z,3µm,21.0s,MS5.8
BRTR   Keskin Array B      96.86  45    P     P      16 46 50.6 +0.1
       comp=Z,4.5nm,1.0s,mb4.8,baz=270,slow=3.7,SNR=12
BRTR                                LR    LR     17 28 47.7
       comp=Z,1µm,22.0s,MS5.3,baz=325,slow=34
SOC    Sochi               98.68  39   eP     P      16 47 01.3 +2.8
SOC                                e             16 47 11.9
SOC                                ePPP   PPP    16 53 04.9 -5.6
SOC                                e             16 57 34.1
SOC                                eS     S      16 58 20.0 -2.4
SOC                                eSS    SS     17 05 18.9 +6.4
SOC                                eSSS   SSS    17 09 01.7 +0.9
SOC                                 pmax  pmax
       comp=Z,41nm,1.6s,mb5.7
SOC                                 pmax  pmax
       comp=N,21nm,1.2s
SOC                                 pmax  pmax
       comp=E,4.0nm,0.6s
SOC                                 pmax  pmax
       comp=Z,182nm,3.5s
SOC                                 pmax  pmax
       comp=N,40nm,1.0s
SOC                                 pmax  pmax
       comp=E,31nm,1.2s
ARU    Arti                98.86  21⇑iP     P      16 46 59.2 +0.2
ARU                                i             16 51 00.9
ARU                                i S           16 57 33.8
ARU                                eSP    SP     16 59 54.9 +0.7
ARU                                ePS    PS     17 00 04.7 +7.0
ARU                                eSS    SS     17 05 18.0 +3.4
ARU                                eSSS   SSS    17 09 04.8 +1.5
ARU                                 pmax  pmax
       comp=Z,17nm,1.3s,mb5.4
ARU                                 MLR   MLR
       comp=N,2µm,20.0s,MS5.8
ARU                                 MLR   MLR
       comp=Z,3µm,20.0s,MS5.8
ARU                                 MLR   MLR
       comp=E,2µm,19.0s,MS5.8
ARU    Arti                98.86  21   eP     P      16 46 58.6 -0.3
       comp=E,11nm,0.8s,mb5.5
ARU                                 LR    LR
       comp=Z,789nm,21.0s,MS5.2
MALT   Malatya            100.78  44   eP     P      16 47 10.0 +1.8
       comp=Z,17nm,1.5s
VNA3   Neumayer Olymp     101.00 162⇑iP     P      16 47 08.3 -0.1
VNA3   Neumayer Olymp     101.00 162⇑i      P      16 47 18.0  +10
VNA3   Neumayer Olymp     101.00 162⇑i      P      16 47 22.5  +14
VNA3   Neumayer Olymp     101.00 162⇑i      PP     16 51 18.5  -1.3
VNA1   Neumayer--Stat     101.21 161⇓iP     P      16 47 11.3 +1.9
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VNA2	Neumayer--Watz	101.58	161	⇑iP	P	16 47 11.4	+0.4
VNA2	Neumayer--Watz	101.58	161	⇑i	P	16 47 21.6	+11
ZEI	Tsey	101.63	38	eP	P	16 47 11.0	-0.9
ZEI				e		16 58 40.0	
ZEI				eS	S	16 58 47.0	-0.2
ZEI				pmax	pmax		
	comp=Z,50nm,5.0s						
ZEI				MLR	MLR		
	comp=Z,2µm,20.0s,MS5.5						
SNAA	Sanae	103.21	161	P	Pdif	16 47 20.9	+2.7
SNAA	Sanae	103.21	161	⇓i	Pdif	16 47 28.7	+11
SNAA	Sanae	103.21	161		Pdif	16 47 31.1	+13
SNAA	Sanae	103.21	161	⇑i	PP	16 51 35.6	-0.6
WAKE	Wake Island	103.59	296	PFAKE		16 47 30.0	+8.9
WAKE				LR	LR		
	comp=Z,90µm,22.0s						
BOD	Bodaibo	103.61	352	eP	Pdif	16 47 14.5	-5.7
TSUM	Tsumeb	103.99	106	PFAKE		16 47 30.0	+7.2
TSUM				LR	LR		
	comp=Z,2µm,22.0s,MS5.6						
YSS	Yuzh-Sakhalins	104.27	330	PFAKE		16 47 40.0	+17
YSS				LR	LR		
	comp=Z,4µm,19.0s,MS5.9						
ZRNK	Zerenda	105.11	18	ePdif	Pdif	16 47 25.7	-1.2
	comp=Z,3.8nm,0.9s						
BRVK	Borovoye	105.38	17	PFAKE		16 51 50.0	
BRVK				LR	LR		
	comp=Z,714nm,20.0s,MS5.2						
BVAR	Borovoye Array	105.44	17	Pdiff	Pdif	16 47 27.9	-0.5
	comp=Z,0.9nm,0.7s,baz=270,slow=3.0,SNR=6.0						
KURK	Kurchatov	109.62	13	PFAKE		16 52 00.0	
KURK				LR	LR		
	comp=Z,1µm,21.0s,MS5.5						
MBAR	Mbarara	111.36	84	PFAKE		16 52 10.0	+13
MBAR				LR	LR		
	comp=Z,465nm,20.0s,MS5.1						
SNZO	South Karori	111.73	232	PFAKE		16 52 10.0	+13
SNZO				LR	LR		
	comp=Z,2µm,20.0s,MS5.7						
MDJ	Mudanjiang	111.74	337	PDIF	Pdif	16 47 57.5	+1.1
MDJ				PKS	PKS	16 55 29.3	+0.9
MDJ				SKS	SKS	16 59 01.3	+21
MDJ				SS	SS	17 08 06.6	-4.0
MDJ				LR	LR		
	comp=Z,3µm,18.8s,MS5.8						
SBA	Scott Base	111.78	192	PFAKE		16 52 10.0	+13
SBA				LR	LR		
	comp=Z,1µm,20.0s,MS5.5						
LSZ	Lusaka	112.93	99	PFAKE		16 52 10.0	+10
LSZ				LR	LR		
	comp=Z,1µm,19.0s,MS5.5						
CN2	Changchun	113.94	339	ePKP	PKPdf	16 51 55.2	-6.6
MKAR	Makanchi Array	114.11	12	PKP	PKPdf	16 51 57.0	-5.0
	comp=Z,1.8nm,1.0s,baz=5.8,slow=1.4,SNR=4.2						
MKAR				PP	PP	16 52 51.2	-5.9
	comp=Z,5.2nm,1.2s,baz=18,slow=3.8,SNR=4.3						
MKAR				PKKPbc		17 02 41.1	
	comp=Z,1.4nm,0.8s,baz=146,slow=4.4,SNR=5.0						
MKAR	Makanchi Array	114.11	12	PKP	PKPdf	16 51 57.0	-5.0
MKAR				PP	PP	16 52 51.2	-5.9
MKAR				PKKPbc		17 02 41.1	
ULN	Ulaanbaatar	114.23	354	PFAKE		16 52 10.0	+7.8
ULN				LR	LR		
	comp=Z,4µm,21.0s,MS6.0						
MAJO	Matsushiro	114.23	326	PFAKE		16 52 10.0	+7.5
MAJO				LR	LR		
	comp=Z,1µm,19.0s,MS5.6						
SONM	Songino Array	114.32	354	PKP	PKPdf	16 51 58.4	-4.0
	comp=Z,1.4nm,0.8s,slow=4.3,SNR=4.1						
SONM				PP	PP	16 52 54.7	-3.9
	comp=Z,1.4nm,0.8s,baz=338,slow=6.7,SNR=2.6						
AAK	Ala-Archa	115.97	19	PFAKE		16 52 10.0	+4.2
AAK				LR	LR		
	comp=Z,647nm,19.0s,MS5.3						
SYO	Syowa Base	117.41	160	⇑pPdiff		16 48 28.8	
SYO	Syowa Base	117.41	160	⇑P	Pdif	16 48 37.0	+16
KMBO	Kilima Mbogo	117.69	82	PFAKE		16 52 20.0	+10
KMBO				LR	LR		
	comp=Z,2µm,19.0s,MS5.6						
WMQ	Urumqi	117.93	9	ePKP	PKPdf	16 52 06.3	-3.1
WMQ				XPKP		16 52 20.7	
WMQ				PP	PP	16 53 25.3	+1.4
WMQ				SS	SS	17 09 32.3	+0.3
WMQ				LR	LR		
	comp=Z,3µm,21.2s,MS5.9						
INCN	Inchon	118.99	335	PFAKE		16 52 20.0	+8.3
INCN				LR	LR		
	comp=Z,4µm,19.0s,MS6.0						
BJI	Beijing	120.18	344	PKP	PKPdf	16 52 09.6	-4.3
BJI				PP	PP	16 53 36.2	-2.5
BJI				PP	PP		
	comp=Z,518nm,8.6s						
HHC	Hu-ho-hao-te	120.44	349	ePKP	PKPdf	16 52 08.8	-5.6
HHC				XPKP		16 52 25.3	
HHC				PKS	PKS	16 55 46.3	+0.9
HHC				PP	PP		
	comp=Z,175nm,9.5s						
HHC				LR	LR		
	comp=N,487nm,26.2s,MS5.4						
HHC				LR	LR		
	comp=E,1µm,26.8s,MS5.4						
HHC				LR	LR		
	comp=Z,783nm,26.8s,MS5.2						
GTA	Gaotai	123.12	359	ePKP	PKPdf	16 52 16.0	-3.6
GTA				XPKP		16 52 29.1	
GTA				PP	PP	16 53 55.9	-3.4
GTA				PKS	PKS	16 55 51.5	+0.8
GTA				PPP	PPP	16 56 32.2	-4.2
GTA				SKS	SKS	16 59 22.9	+1.6
GTA				SKKS		17 00 44.2	
GTA				PP	PP		
	comp=Z,160nm,8.4s						
GTA				LR	LR		
	comp=N,1µm,21.3s,MS5.7						
GTA				LR	LR		
	comp=E,1µm,22.8s,MS5.7						
GTA				LR	LR		
	comp=Z,1µm,20.5s,MS5.6						
GUMO	Guam	124.63	301	PFAKE		16 52 30.0	+6.8
GUMO				LR	LR		
	comp=Z,1µm,21.0s,MS5.6						
MAW	Mawson	125.24	164	ePKP	PKPdf	16 52 19.1	-3.9
	comp=Z,8.1nm,0.9s						
MAW	Mawson	125.24	164	PKP	PKPdf	16 52 19.5	-3.5
	comp=Z,4.1nm,0.8s,baz=244,slow=2.7,SNR=7.8						
LZH	Lanzhou	126.21	355	ePKP	PKPdf	16 52 25.0	-0.7
LZH				XPKP		16 52 38.7	
LZH				PP	PP	16 54 17.0	-2.8
LZH				SKKS		17 01 05.0	
LZH				PP	PP		
	comp=Z,550nm,6.8s						
SSE	Sheshan	126.75	336	PKP	PKPdf	16 52 21.9	-5.0
SSE				PP	PP	16 54 22.0	-1.2
SSE				SS	SS	17 11 21.0	-4.0
SSE				PP	PP		
	comp=Z,434nm,11.4s						
SSE				LR	LR		
	comp=Z,2µm,21.0s,MS5.8						
NJ2	Nanjing	126.76	338	ePKP	PKPdf	16 52 22.1	-4.8
NJ2				XPKP		16 52 36.3	
NJ2				PP	PP	16 54 24.0	+0.7
NJ2				PKS	PKS	16 55 57.0	-0.8
NJ2				PPP	PPP	16 57 07.0	+0.2
NJ2				SKS	SKS	16 59 29.0	-3.5
NJ2				SKKS		17 01 11.0	
NJ2				PP	PP		
	comp=Z,550nm,11.0s						
NJ2				LR	LR		
	comp=Z,1µm,23.2s,MS5.4						
XAN	Xi'an	127.54	349	PKP	PKPdf	16 52 24.5	-3.9
WHN	Wuhan	129.60	342	ePKP	PKPdf	16 52 33.0	+0.6
CASY	Casey	130.86	186	ePKPdf	PKPdf	16 52 30.2	-3.6
CASY				LR	LR		
	comp=Z,3µm,21.0s,MS5.9						
ENH	Enshi	131.08	347	ePKPdf	PKPdf	16 52 31.2	-4.0
CD2	Chengdu	131.34	354	ePKP	PKPdf	16 52 32.0	-3.7
CD2				SKS	SKS	16 59 40.1	-4.6
CD2				SKKS		17 01 44.8	
CD2				SS	SS	17 12 18.5	-3.2
CD2				PP	PP		
	comp=Z,260nm,10.3s						
CNB	Canberra Magne	131.76	238	ePKP	PKPdf	16 52 36.3	-0.1
	comp=Z,30nm,1.0s						
LSA	Lhasa	132.29	9	PKP	PKPdf	16 52 34.0	-3.6
LSA				XPKP		16 52 48.0	
KOLN	Koldanda	132.50	18	eP	PKPdf	16 52 33.0	-5.0
	comp=Z,89nm,1.4s						
GKN	Gorkha	132.58	17	eP	PKPdf	16 52 34.2	-4.0
	comp=Z,48nm,0.9s						
KKN	Kakani	132.95	16	eP	PKPdf	16 52 34.8	-4.1
	comp=Z,23nm,0.8s						
DMN	Daman	133.08	16	eP	PKPdf	16 52 34.0	-5.1
	comp=Z,23nm,1.0s						
PKI	Pulchoki	133.19	16	eP	PKPdf	16 52 34.4	-4.9
	comp=Z,21nm,0.8s						
TOO	Toolangi	134.45	235	ePKP	PKPdf	16 52 30.9	-10
	comp=Z,4.4nm,0.7s						
CTA	Charters Tower	134.86	259	ePKP	PKPdf	16 52 32.4	-10
	comp=Z,9.3nm,1.2s						
CTA	Charters Tower	134.86	259	PKP	PKPdf	16 52 38.8	-3.8
	comp=Z,13nm,1.2s,baz=78,slow=2.4,SNR=7.9						
CTA	Charters Tower	134.86	259	ePKP	PKPdf	16 52 32.4	-10
CTA				PKP	PKPdf	16 52 38.8	-3.8
CTAO	Charters Tower	134.86	259	PFAKE		16 52 50.0	+7.4
CTAO				LR	LR		
	comp=Z,1µm,22.0s,MS5.5						
GYA	Guiyang	135.33	350	PKP	PKPdf	16 52 40.6	-2.7
GYA				XPKP		16 52 55.2	
GYA				PP	PP		
	comp=Z,450nm,7.8s						
GYA				LR	LR		
	comp=Z,2µm,21.6s,MS5.7						
SHL	Shillong	136.46	9	eP	PKPdf	16 52 41.5	-3.8
KMI	Kunming	137.17	354	ePKP	PKPdf	16 52 40.8	-5.8
KMI				XPKP		16 52 49.2	
KMI				PKS	PKS	16 56 17.1	+0.1
KMI				SS	SS	17 13 30.7	-1.3
KMI				SSS	SSS	17 18 39.7	+0.6
STKA	Stephens Creek	138.68	242	ePKP	PKPdf	16 52 46.0	-3.3
	comp=Z,26nm,0.9s						
STKA	Stephens Creek	138.68	242	PKP	PKPdf	16 52 45.7	-3.6
	comp=Z,12nm,1.0s,baz=51,slow=3.8,SNR=6.5						
HYB	Hyderabad	139.92	30	i PKP	PKPdf	16 52 51.0	-0.8
HYB	Hyderabad	139.92	30	eP	PKPdf	16 52 51.0	-0.8
KGD	Kothagudem	140.75	27	ePKiK		16 52 51.7	
KGD				ePP	PP	16 55 49.0	-3.7
KGD				eSS	SS	17 14 14.3	+0.4
QIZ	Qiongzhong	141.77	342	PKP	PKPdf	16 52 54.0	-1.2
QIZ				PP	PP	16 55 55.9	-2.8
QIZ				SS	SS	17 14 29.7	+3.5
QIZ				LR	LR		
	comp=Z,2µm,19.7s,MS5.9						
NANT	Nan	143.60	356	P	PKPbc	16 52 51.0	-1.2
CHG	Chiang Mai	143.65	359	⇑P	PKPbc	16 53 00.0	+7.7
	comp=Z,11nm,1.1s						
CMAR	Chiang Mai Arr	144.01	359	PKhKP		16 52 52.7	
	comp=Z,4.2nm,0.6s,baz=346,slow=3.2,SNR=25						
BDT	Bhumibol Dam	145.21	359	P	PKPbc	16 52 57.0	+0.3
	comp=Z,33nm,1.0s						
KKTK	Khon Kaen	145.85	353	P	PKPbc	16 53 00.0	+1.7
	comp=Z,926nm,1.0s						
WB2	Warramunga Arr	146.02	261	⇑iPKP	PKPdf	16 52 59.1	-3.4
WB2				ePKS	tx	16 56 52.7	
WRAB	Tennant Creek	146.02	261	ePKPdf	PKPdf	16 52 58.9	-3.6
WRAB				LR	LR		
	comp=Z,575nm,20.0s,MS5.3						
WRA	Warramunga Arr	146.03	261	PKPbc	PKPbc	16 53 00.2	+1.5
	comp=Z,38nm,0.9s,baz=85,slow=3.0,SNR=151						
PPR	Puerto Princes	146.10	322	⇑iP	PKPbc	16 53 01.7	+2.6
ASPA	Alice Springs	146.41	254	ePKP	PKPdf	16 52 59.8	-3.2
KAKA	Kakadu	146.91	274	ePKP	PKPdf	16 53 00.9	-3.2
	comp=Z,73nm,0.9s						
PALK	Pallekele	149.56	37	ePKPbc	PKPdf	16 53 09.0	+0.6
PALK				LR	LR		
	comp=Z,361nm,21.0s,MS5.2						
NNT	Nongplab	149.82	358	P	PKPdf	16 53 02.0	-6.8
NNT	Nongplab	149.82	358	P	PKPdf	16 53 09.0	+0.2
FORT	Forrest	150.18	239	ePKP	PKPdf	16 53 10.6	+1.7
	comp=Z,237nm,0.6s						
KKM	Kota Kinabalu	150.57	322	⇓eP	PKPdf	16 53 13.1	+3.1
DGAR	Diego Garcia	152.64	71	PFAKE		16 53 20.0	+7.0
DGAR				LR	LR		
	comp=Z,346nm,19.0s,MS5.2						
FITZ	Fitzroy Crossi	154.16	265	ePKP	PKPdf	16 53 11.6	-3.4
	comp=Z,15nm,1.0s						
SNG	Songkhla	155.13	355	P	PKPdf	16 53 23.0	+6.6
IPM	Ipoh	157.66	353	⇓eP	PKPab	16 53 49.0	-0.7
MBWA	Marble Bar	159.68	257	PFAKE		16 53 30.0	+8.1
MBWA				LR	LR		
	comp=Z,2µm,19.0s,MS6.0						

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*IDC **09** 16:35:56.7±4.2, 6.83S×147.32E, mb3.9/2, mb1 4.2/3, mb1mx3.8/10, ML4.2/1, Error ellipse: s-maj=89.5km s-min=24.9km az=144.0*

*NEIC **09** 16:36:04.7±1.0, 6.63S×147.18E, h84^{km}±9^{km}, mb3.9/5, Error ellipse: s-maj=19.8km s-min=10.8km az=99.0*

ISC 09 16:36:03.5±1.5**, 6.6S**±0.1×**147.2E**±0.2**, h93**^{km}±12^{km}**, n13, σ0^{s}60**/16**, mb3.7**/3**, 1C, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WAU	Wau	0.86	214	eP	P	16 36 22.8	+0.6
PMG	Port Moresby	2.76	181	⇑iP	P	16 36 46.4	-0.5
CTAO	Charters Tower	13.41	184	P	P	16 39 18.1	+6.8
KAKA	Kakadu	15.78	246	eP	P	16 39 41.6	-0.2
	5.7nm,0.6s						
WRAB	Tennant Creek	18.18	222	eP	P	16 40 10.3	-1.0
	4.7nm,0.5s						
WB2	Warramunga Arr	18.19	222	eP	P	16 40 10.9	-0.5
WRA	Warramunga Arr	18.20	222	P	P	16 40 10.9	-0.6
	0.8nm,0.3s,baz=48,slow=11,SNR=46						
WRA				S	S	16 43 34.0	+6.0
	0.1nm,0.3s,baz=47,slow=21,SNR=3.4						
GUMO	Guam	20.22	353	eP	P	16 40 33.1	-0.3
	45nm,1.0s						
ASAR	Alice Springs	21.22	216	P	P	16 40 44.4	+0.8
	2.2nm,0.5s,mb3.7,baz=42,slow=10,SNR=66						
ASAR				S	S	16 44 39.9	+11
	1.0nm,0.8s,baz=30,slow=20,SNR=4.6						
ASPA	Alice Springs	21.23	216	eP	P	16 40 44.2	+0.6
ASPA				eS	S	16 44 39.7	+11
FITZ	Fitzroy Crossi	23.92	240	eP	P	16 41 10.7	+0.8
	2.9nm,0.6s,mb3.8						
STKA	Stephens Creek	25.66	191	eP	P	16 41 26.8	+0.3
	3.3nm,1.1s,mb3.7						
STKA	Stephens Creek	25.66	191	P	P	16 41 26.6	+0.2
	1.1nm,0.3s,mb3.7,baz=18,slow=11,SNR=8.7						

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*NEIC **09** 17:11:38.4, 35.00S×70.59W, h3^{km}, ML3.6(GUC), After GUC.*

GUC 09 17:11:38.4±0.9**, 35.00S**×**70.59W, h3**^{km}±3^{km}**, MD4.0, ML3.6, 8C-8D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFDO	San Fernando	0.52	318	⇓iP	Pg	17 11 48.9	+0.1
CICH	Cipreses	0.69	12	⇓iP	Pg	17 11 51.9	-0.4
CACH	El Canelo	0.88	360	⇑iP	Pb	17 11 55.1	-0.9
CACH				i S	Sg	17 12 08.3	+0.5
CHCH	Chadas Angostu	1.07	357	⇓iP	Pb	17 11 58.5	-0.6
CHCH				i S	Sb	17 12 13.6	+0.3
LMEL	Las Melosas	1.20	16	⇑iP	Pb	17 12 00.7	-0.7
LMEL				i S	Sb	17 12 17.5	+0.4
LMEL				AMP		17 12 17.9	
	comp=N,3µm,0.2s						
LNV	Longovilo	1.24	327	⇑iP	Pb	17 12 01.1	-1.0
LNV				i S	Sb	17 12 18.3	-0.1
SJCH	San Jose de Ma	1.37	8	i P	Pb	17 12 03.2	-1.2
SJCH				i S	Sb	17 12 22.3	+0.1
SJCH				AMP		17 12 25.2	
	comp=E,954nm,0.3s						
TACH	Talagante	1.38	348	⇓iP	Pb	17 12 03.6	-0.8
TACH				i S	Sb	17 12 22.2	0.0
PCH	Pirque	1.38	3	⇓iP	Pb	17 12 03.9	-0.6
PCH				i S	Sb	17 12 23.2	+0.8
ANTU	Antumapu	1.43	359	⇑iP	Pn	17 12 04.8	-0.5
ANTU				i S	Sb	17 12 24.2	+0.4
ANTU				AMP		17 12 26.1	
	comp=E,2µm,0.5s						
FSR	Penalolen	1.52	2	eP	Pn	17 12 06.2	-0.4
FSR				i S	Sb	17 12 26.6	0.0
FSR				AMP		17 12 29.9	
	comp=E,868nm,0.4s						
SAN	Santiago	1.55	358	i P	Pn	17 12 06.1	-0.8
SAN				i S	Sb	17 12 27.5	+0.3
SAN				AMP		17 12 30.7	
	comp=E,1µm,0.2s						
DSCH	Colegio Aleman	1.60	1	⇑iP	Pn	17 12 08.0	+0.3
DSCH				i S	Sb	17 12 29.6	+0.9
DSCH				AMP		17 12 33.7	
	comp=N,2µm,0.4s						
CLCH	Cerro Calan	1.60	2	⇑iP	Pn	17 12 07.7	-0.1
CLCH				i S	Sb	17 12 29.2	+0.3
CLCH				AMP		17 12 32.1	
	comp=E,1µm,0.4s						
CLCH				AMP		17 12 32.5	
	comp=E,2µm,0.5s						
FCH	Farellones	1.69	9	⇑iP	Pn	17 12 09.4	+0.4
FCH				i S	Sb	17 12 32.3	+0.9
FCH				AMP		17 12 33.4	
	comp=E,2µm,0.2s						
LCCH	Las Cruces	1.72	332	⇓iP	Pn	17 12 09.2	-0.4
LCCH				i S	Sn	17 12 32.5	+0.2
CCHI	Chillan	2.00	217	⇓iP	Pn	17 12 13.3	-0.2
CCHI				i S	Sn	17 12 39.7	+0.4
CCHI				AMP		17 12 52.4	
	comp=E,604nm,0.3s						
CCHI				AMP		17 12 52.6	
	comp=E,1µm,0.3s						
COCH	Cobquecura	2.11	237	⇓iP	Pn	17 12 14.9	-0.2
COCH				i S	Sn	17 12 42.5	+0.3
COCH				AMP		17 12 46.6	
	comp=E,398nm,0.5s						
JACH	Jahuel	2.31	0	⇑iP	Pn	17 12 19.6	+1.6
JACH				i S	Sn	17 12 49.6	+2.3

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*IDC **09** 17:11:48.2±4.6, 12.34N×144.26E, h17^{km}±27^{km}, mb4.1/13, mb1 4.2/13, mb1mx4.1/23, Error ellipse: s-maj=28.4km s-min=14.9km az=96.0*

*NEIC **09** 17:11:52.0±1.2, 12.34N×144.04E, h46^{km}±11^{km}, mb4.5/13, Error ellipse: s-maj=16.6km s-min=8.2km az=99.0*

ISC 09 17:11:49.3±1.4**, 12.31N**±0.06×**143.9E**±0.1**, h35**^{km}±12^{km}**, n36, σ1^{s}05**/35**, mb4.3**/23**, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	Guam	1.57	36	ePn	P	17 12 15.2	+0.1
GUMO				eSn	S	17 12 31.6	-2.8
SAPN	Saipan	3.39	31	eP	P	17 12 41.1	+0.1
SAPN				eS	S	17 13 21.7	+1.1
SARN	Sarigan	4.71	22	eP	P	17 13 00.9	+1.0
JNU	Nakatsue	23.91	332	P	P	17 17 02.5	+1.6
	4.4nm,0.4s,mb4.2,baz=326,slow=4.2,SNR=2.3						
MAJO	Matsushiro	24.67	349	P	P	17 17 06.0	-2.3
	7.0nm,0.8s,mb4.2						
CTA	Charters Tower	32.28	176	P	P	17 18 16.9	-0.3
	2.1nm,0.7s,mb4.1,baz=357,slow=14,SNR=4.1						
CTAO	Charters Tower	32.28	176	eP	P	17 18 16.4	-0.8
	4.9nm,1.0s,mb4.3						
WRAB	Tennant Creek	33.40	197	eP	P	17 18 26.4	-0.5
	6.6nm,0.9s,mb4.6						
WB2	Warramunga Arr	33.41	197	eP	P	17 18 26.9	-0.1
WRA	Warramunga Arr	33.41	197	P	P	17 18 26.9	-0.1
	2.9nm,0.7s,mb4.3,baz=21,slow=10.0,SNR=34						
WRA				PcP	PcP	17 21 09.0	+0.8
	0.7nm,0.8s,baz=3.9,slow=2.3,SNR=4.5						
WRA				ScP		17 24 51.8	
	0.6nm,0.7s,baz=88,slow=3.7,SNR=8.9						
MDJ	Mudanjiang	34.46	342	P	P	17 18 34.1	-1.7
FITZ	Fitzroy Crossi	35.20	211	eP	P	17 18 37.4	-5.0
	2.3nm,0.9s,mb4.1						
FITZ	Fitzroy Crossi	35.20	211	P	P	17 18 43.1	+0.6
	3.1nm,0.9s,mb4.2,baz=32,slow=7.1,SNR=3.8						
ASPA	Alice Springs	37.08	195	eP	P	17 18 59.0	+0.8
STKA	Stephens Creek	43.99	183	P	P	17 19 54.9	-0.4
	1.9nm,0.8s,mb3.9,baz=353,slow=16,SNR=2.6						
MKAR	Makanchi Array	61.77	317	P	P	17 22 07.8	+1.0
	1.4nm,0.6s,mb4.3,baz=89,slow=8.0,SNR=12						
KURK	Kurchatov	64.97	320	eP	P	17 22 27.9	+0.2
	4.6nm,0.9s,mb4.5						
ILAR	Eielson Array	70.11	25	P	P	17 22 58.0	-1.8
	1.0nm,0.5s,mb4.0,baz=252,slow=5.8,SNR=14						
BVAR	Borovoye Array	70.36	322	P	P	17 23 02.2	+0.8
	1.5nm,0.3s,mb4.3,baz=106,slow=7.4,SNR=7.4						
BRVK	Borovoye	70.42	322	P	P	17 23 00.3	-1.6
	6.2nm,1.1s,mb4.5						
ZRNK	Zerenda	71.18	322	eP	P	17 23 06.8	+0.4
	2.1nm,0.7s,mb4.2						
INK	Inuvik	75.89	22	P	P	17 23 33.1	-0.6
	1.2nm,0.6s,mb4.0,baz=316,slow=5.3,SNR=4.0						
DLBC	Dease Lake	77.55	33	P	P	17 23 42.5	-0.7
	1.5nm,0.7s,mb4.0,baz=256,slow=8.2,SNR=3.4						
DLBC	Dease Lake	77.55	33	P	P	17 23 42.5	-0.7
	28nm,0.8s,mb5.2						
YBH	Yreka Blue Hor	84.40	49	P	P	17 24 19.7	0.0
	2.3nm,0.8s,mb4.4,baz=287,slow=4.0,SNR=6.6						
YKA	Yellowknife Ar	84.41	27	P	P	17 24 18.9	-0.2
	1.1nm,0.6s,mb4.2,baz=285,slow=5.5,SNR=4.7						
YKA	Yellowknife Ar	84.41	27	P	P	17 24 18.9	-0.2
NEW	Newport	86.79	41	eP	P	17 24 32.8	+1.5
	3.7nm,0.6s,mb4.8						
TPH	Tonopah	89.35	51	P	P	17 24 45.1	+1.4
	4.0nm,0.7s,mb4.9						
HLID	Hailey	89.89	45	P	P	17 24 46.6	+0.4
	1.7nm,0.8s,mb4.4						
ELK	Elko	90.11	48	eP	P	17 24 49.0	+1.7
	3.1nm,1.0s,mb4.6						
FINES	FINESS Array B	91.92	335	P	P	17 24 55.3	+0.1
	1.6nm,0.8s,mb4.4,baz=73,slow=6.9,SNR=9.6						
HWUT	Hardware Ranch	92.49	47	eP	P	17 24 57.3	-1.0
	1.3nm,0.8s,mb4.3						
DBIC	Dimbokro	143.68	300	PKP	PKPdf	17 31 21.2	-0.5
	6.1nm,1.2s,baz=155,slow=2.2,SNR=3.2						
LPAZ	La Paz	148.71	101	PKPbc	PKPdf	17 31 32.7	+2.7
	1.5nm,0.2s,baz=278,slow=0.3,SNR=4.9						
LPAZ	La Paz	148.71	101	PKPbc	PKPdf	17 31 32.7	+2.7

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*MOS **09** 17:14:07.6±2.1, 36.63N×71.13E, h58^{km}, mb4.1/5, Error ellipse: s-maj=22.8km s-min=9.1km az=94.1*

*IDC **09** 17:14:09.7±7.6, 36.57N×71.44E, h71^{km}±68^{km}, mb3.6/8, mb1 3.8/10, mb1mx3.6/19, ML3.8/2, Error ellipse: s-maj=44.3km s-min=20.3km az=18.0*

*NEIC **09** 17:14:10.2±1.9, 36.54N×71.43E, h76^{km}±21^{km}, mb3.8/3, Error ellipse: s-maj=21.9km s-min=7.7km az=62.0*

*BJI **09** 17:14:11.1, 36.71N×71.31E, h71^{km}, mb4.3*

*NNC **09** 17:14:18.3±5.8, 37.20N×70.52E, h94^{km}±47^{km}, mpv3.9, Error ellipse: s-maj=53.6km s-min=31.4km az=177.0*

ISC 09 17:14:11.8±0.6**, 36.71N**±0.03×**71.40E**±0.08**, h108**^{km}±8^{km}**, n57, σ1^{s}42**/64**, mb3.8**/9**, 3C-3D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHCP	Chirah Chowk	3.41	153	P	P	17 15 07.2	+3.0
THW	Thamme Wali	3.92	176	P	P	17 15 12.1	+1.0
SBDP	Sheikh Budin	4.42	186	P	P	17 15 17.8	-0.2
KSH	Kashi	4.57	51	eP	P	17 15 24.0	+4.0
KSH				eS	S	17 16 15.8	+3.4
KSH				Smax			
	comp=N,130nm,0.4s						
KSH				Smax			
	comp=E,120nm,0.5s						
SARP	Sargodha	4.89	167	P	P	17 15 24.0	-0.3
SARP				S	S	17 16 19.0	-1.2
DRP	Derazinda	5.05	192	P	P	17 15 27.6	+1.1
AML	Almayashu	5.70	17	P	P	17 15 35.5	+0.3
	SNR=54						
UCH	Uchtor	6.02	23	P	P	17 15 40.1	+0.5
	SNR=17						
EKS2	Erkin-Say	6.22	16	P	P	17 15 42.8	+0.4
	SNR=36						
AAK	Ala-Archa	6.38	21	P	P	17 15 45.2	+0.6
	SNR=33						
AAK	Ala-Archa	6.38	21	ePn	P	17 15 44.0	-0.7
	comp=E,22nm,0.5s						
AAK				eSn	S	17 16 55.2	-1.4
KK31	Karatay Array	6.42	354	⇓P	P	17 15 43.1	-2.1
	comp=E,3.7nm,0.3s,baz=176,slow=12,SNR=128						
KK31				⇑S	S	17 16 50.1	-7.6
	comp=E,7.3nm,0.4s,baz=183,slow=25,SNR=5.9						
KKAR	Karatay Array	6.42	354	PN	P	17 15 43.1	-2.2
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.2s						
KBK	Karagaybulak	6.54	24	P	P	17 15 48.1	+1.3
	SNR=6.9						
CHMS	Chumysh	6.79	21	P	P	17 15 50.3	0.0
	SNR=34						
USP	Ospenovka	6.97	19	P	P	17 15 52.3	-0.5

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      SNR=24
TKM2  Tokmak 2           7.00  26   P     P      17 15 53.6 +0.5
      SNR=9.7
MKAR  Makanchi Array    12.94  35   P     P      17 17 12.8 +0.4
      comp=Z,0.7nm,0.3s,baz=225,slow=15,SNR=25
MKAR  Makanchi Array    12.94  35   P     P      17 17 12.8 +0.3
MKAR                                pmax  pmax
      comp=Z,1.0nm,0.3s
MKAR  Makanchi Array    12.94  35   P     P      17 17 12.8 +0.4
KOLN  Koldanda          13.63 127  eP     P      17 17 20.1 -1.4
      comp=Z,5.5nm,0.3s
GKN   Gorkha            14.15 124  eP     P      17 17 26.3 -1.9
      comp=Z,27nm,0.5s
KKN   Kakani            14.72 123  eP     P      17 17 33.5 -2.0
      comp=Z,5.5nm,0.3s
DMN   Daman             14.72 124  eP     P      17 17 31.0 -4.5
      comp=Z,9.4nm,0.4s
KURK  Kurchatov         14.93  18   P     P      17 17 41.2 +3.1
      comp=Z,2.6nm,0.8s,baz=195,slow=12,SNR=14
KURK  Kurchatov         14.93  18  eP     P      17 17 40.7 +2.6
      comp=Z,7.0nm,0.9s
PKI   Pulchoki          14.95 124  eP     P      17 17 35.5 -2.9
      comp=Z,7.1nm,0.4s
AB31  Akbulak array     15.06 330 ⇑P      P      17 17 35.9 -3.8
      comp=Z,2.0nm,0.6s,baz=141,slow=14,SNR=32
AB31                                S     S      17 20 12.9  -11
      comp=Z,3.5nm,0.8s,baz=150,slow=22,SNR=4.5
AB31  Akbulak array     15.06 330   P     P      17 17 35.5 -4.2
VOSK  Vostochnaya       16.02 359 ⇓P      P      17 17 49.0 -2.7
      comp=Z,0.7nm,0.5s
VOSK  Vostochnaya       16.02 359   P     P      17 17 48.9 -2.8
VOSK                                pmax  pmax
      comp=Z,3.0nm,1.3s
ZRNK  Zerenda           16.33 355 ⇑P      P      17 17 56.8 +1.2
      comp=Z,1.5nm,0.5s
ZRNK  Zerenda           16.33 355   P     P      17 17 56.8 +1.2
ZRNK                                pmax  pmax
      comp=Z,1.0nm,0.5s
ZRNK  Zerenda           16.33 355  eP     P      17 17 56.9 +1.3
      comp=Z,3.7nm,0.5s
BVA0  Borovoye Array    16.33 358 ⇓P      P      17 17 56.7 +1.1
      comp=Z,0.4nm,1.1s,baz=167,slow=12,SNR=7.2
BVA0  Borovoye Array    16.33 358  eP     P      17 17 56.8 +1.2
BVAR  Borovoye Array    16.33 358   P     P      17 17 54.5 -1.1
      comp=Z,0.3nm,0.3s,baz=184,slow=13,SNR=4.6
BVAR                                S     S      17 20 58.3 +5.5
      comp=Z,0.3nm,0.3s,baz=173,slow=12,SNR=3.2
BRVK  Borovoye          16.37 358   P     P      17 17 54.5 -1.6
BRVK                                S     S      17 20 58.3 +4.7
BRVK  Borovoye          16.37 358  eP     P      17 17 55.7 -0.4
      comp=Z,2.5nm,0.6s
NVS   Novosibirsk       19.88  20  eP     P      17 18 34.5 -1.9
GTA   Gaotai            22.50  74   P     P      17 19 08.0 +5.3
GTA                                 AP           17 19 20.5
GTA                                 AMB   AMB
      comp=Z,6.0nm,0.7s,mb4.0
ZAK   Zakamensk         26.61  49  eP     P      17 19 47.1 +5.5
SONM  Songino Array     27.95  56   P     P      17 19 53.5 -0.4
      comp=Z,1.4nm,0.6s,mb3.7,baz=270,slow=8.6,SNR=3.8
BRTR  Keskin Array B    29.68 287   P     P      17 20 09.8 +0.5
      comp=Z,1.2nm,0.6s,mb3.7,baz=90,slow=8.6,SNR=5.7
BRTR  Keskin Array B    29.68 287   P     P      17 20 09.8 +0.5
BRTR                                pmax  pmax
      comp=Z,1.0nm,0.6s
AKASG Malin Array Be    33.07 309   P     P      17 20 38.2 -0.5
      comp=Z,0.6nm,0.4s,mb3.8,baz=81,slow=7.0,SNR=5.3
AKASG Malin Array Be    33.07 309   P     P      17 20 38.3 -0.5
AKASG                               pmax  pmax
      comp=Z,1.0nm,0.4s
FINES FINESS Array B    37.49 326   P     P      17 21 18.9 +2.7
      comp=Z,2.3nm,1.1s,mb4.0,baz=117,slow=8.5,SNR=4.7
FINES FINESS Array B    37.49 326   P     P      17 21 18.9 +2.7
FINES                               pmax  pmax
      comp=Z,2.0nm,1.1s
ARCES ARCESS Array B    41.08 337   P     P      17 21 46.9 +1.1
      comp=Z,5.4nm,1.1s,mb4.3,baz=113,slow=9.2,SNR=5.3
ARCES ARCESS Array B    41.08 337   P     P      17 21 46.9 +1.2
ARCES                               pmax  pmax
      comp=Z,5.0nm,1.2s
NOA   NORSAR Array B    44.41 323   P     P      17 22 14.2 +1.4
      comp=Z,0.7nm,0.8s,mb3.4,baz=271,slow=4.1,SNR=2.8
NOA   NORSAR Array B    44.41 323   P     P      17 22 14.2 +1.4
NOA                                 pmax  pmax
      comp=Z,1.0nm,0.9s
ENPP  El Nido           50.04 108  eP     P      17 22 57.9 +0.5
SJMP  San Jose          50.58 105  eP     P      17 22 58.1 -3.4
ESDC  Sonseca Array     57.64 298   P     P      17 23 52.8  0.0
      comp=Z,1.1nm,0.7s,mb4.0,baz=65,slow=7.7,SNR=3.1
WRA   Warramunga Arr    81.83 122   P     P      17 26 20.9 +0.5
      comp=Z,0.3nm,0.5s,mb3.4,baz=324,slow=5.1,SNR=8.6
```

WEL 09 17:16:20.7±0.4, 45.14S×167.41E, h120^{km}±2^{km}, ML3.5/5, 1C-1D, Error ellipse: s-maj=3.7km s-min=2.0km az=90.0, South Island

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Code  Station Name        Δ°   AZ°   Phase ID        Time       Res
                                    Op     ISC     h  m  s     ISC
DCZ   Deep Cove          0.39 208    PN     P      17 16 37.5  -0.6
DCZ                                  SN     S      17 16 50.2  -1.1
MLZ   Mavora Lakes       0.58 112  ⇑PN     P      17 16 39.1  -0.2
MLZ                                  SN     S      17 16 52.3  -1.0
MSZ   Milford Sound      0.59  39    PN     P      17 16 39.3   0.0
MSZ                                  SN     S      17 16 53.1  -0.4
WHZ   Wether Hill Ro     0.85 154    PN     P      17 16 41.4  -0.1
WHZ                                  SN     S      17 16 56.5  -0.6
WKZ   Wanaka             1.18  75    PN     P      17 16 44.7  -0.3
WKZ                                  SN     S      17 17 02.0  -1.1
JCZ   Jackson Bay        1.43  43    PN     P      17 16 46.8  -1.0
TUZ   Tuapeka            1.77 118  ⇓PN     P      17 16 51.2  -0.5
TUZ                                  SN     S      17 17 11.7  -3.4
LBZ   Lake Benmore       2.12  70    PN     P      17 16 54.0  -2.1
LBZ                                  SN     S      17 17 18.9  -4.0
ODZ   Otahua Downs       2.29  89    PN     P      17 16 56.6  -1.9
ODZ                                  SN     S      17 17 22.9  -4.1
MQZ   McQueen's Vall     4.02  71    SN     S      17 18 00.1  -8.1
THZ   Tophouse           5.23  52   ePN     P      17 17 33.8  -4.1
QRZ   Quartz Range       5.71  43   ePN     P      17 17 40.9  -3.5
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*MAN **09** 17:22:05.9, 9.24N×122.15E, h20^{km}, mb5.4, ML4.4, MS4.7*
*BJI **09** 17:22:12.1, 9.04N×122.56E, h104^{km}, mB5.0, mb4.7*
*NEIC **09** 17:22:14.1±1.3, 9.31N×122.45E, h86^{km}±12^{km}, mb4.8/17, Error ellipse: s-maj=9.7km s-min=5.6km az=67.0*
*IDC **09** 17:22:14.6±3.2, 9.31N×122.42E, h86^{km}±29^{km}, mb4.1/22, mb1 4.2/24, mb1mx4.1/28, Error ellipse: s-maj=25.0km s-min=10.7km az=66.0*
*MOS **09** 17:22:15.2±1.1, 9.50N×122.30E, h100^{km}, mb4.6/14, Error ellipse: s-maj=24.1km s-min=10.5km az=106.6*
ISC 09 17:22:07.6±0.5, 9.25N±0.03×122.18E±0.03, h33^{km}±4^{km}, n122, σ1§36/139, mb4.6/46, MS4.8/4, 5C-11D, Negros

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Code  Station Name        Δ°   AZ°   Phase ID        Time       Res
                                    Op     ISC     h  m  s     ISC
SNPH  Sibulan            1.04  85⇑iP       P      17 22 24.5  -1.4
AAP   Anini-y            1.18 349  eP       P      17 22 26.0  -1.8
DCPH  Dipolog City       1.33 120⇓iP       P      17 22 28.4  -1.6
DCPH                               i S      S      17 22 46.9  +0.1
GUIM  Jordan             1.42  16  eP       P      17 22 30.4  -0.9
GUIM                               eS       S      17 22 50.2  +1.2
CUYO  Cuyo Island        1.96 324  eP       P      17 22 38.5  -0.5
CUYO                               eS       S      17 23 02.0  -0.5
LLP   Lapu-Lapu          2.05  59⇑iP       P      17 22 39.0  -1.3
LLP                                eS       S      17 22 59.0  -5.9
RCP   Roxas              2.36  14⇓eP       P      17 22 45.9  +1.2
RCP                                eS       S      17 23 18.3  +5.6
KALP  Kalibo             2.41   4  eP       P      17 22 47.8  +2.3
KALP                               i S      S      17 23 12.9  -1.2
CGP   Cagayan de Oro     2.61 108⇓iP       P      17 22 48.5  +0.3
CGP                                i S      S      17 23 21.0  +1.9
MSLP  Maasin             2.78  71  eP       P      17 22 51.4  +0.7
MSLP                               eS       S      17 23 25.2  +1.7
CTBH  Cotabato--PC H     2.87 135  eP       P      17 22 52.1   0.0
CTBH                               i S      S      17 23 34.2  +8.4
OCLP  Ormoc              2.98  53  eP       P      17 22 53.3  -0.3
OCLP                               eS       S      17 23 27.5  -1.1
BUKP  Musuan             3.16 115  eP       P      17 22 58.0  +1.9
SCPH  Surigao            3.30  81⇓eP       P      17 22 57.3  -0.9
PLP   Palo               3.34  55  i P      P      17 22 57.9  -0.8
PLP                                i S      S      17 23 37.3  -0.6
MMPH  Masbate            3.39  25⇓iP       P      17 23 01.3  +1.9
MMPH                               eS       S      17 23 41.5  +2.4
BUTP  Butuan             3.41  95  eP       P      17 23 00.5  +0.9
PPR   Puerto Princes     3.44 279⇓iP       S      17 23 38.8  -1.6
KCP   Kidapawan          3.64 128⇓eP       P      17 23 06.6  +3.6
BESP  Borongan           3.96  54  eP       P      17 23 06.6  -0.9
BESP                               eS       S      17 23 48.4  -5.0
DAV   Davao City (W)     4.00 123  eP       P      17 23 13.6  +5.5
CNP   Catarman           4.05  37  eP       P      17 23 08.9  +0.1
AUQP  San Andres         4.07   7  eP       P      17 23 10.3  +1.2
BOAC  Boac               4.19 355  eP       P      17 23 10.3  -0.5
BATP  Bataraza           4.35 264  eP       P      17 23 11.7  -1.4
BATP                               eS       S      17 23 57.9  -5.5
MATI  Mati               4.64 119  eP       P      17 23 19.1  +1.9
PVCP  Virac              4.73  24  eP       P      17 23 18.5   0.0
LUBP  Lubang             4.84 337  eP       P      17 23 19.4  -0.6
LUBP                               eS       S      17 24 12.0  -3.6
TGY   Tagaytay City      4.97 346   P       P      17 23 26.9  +5.1
      21nm,0.3s,baz=236,slow=14,SNR=4.2
TGY   Tagaytay City      4.97 346   P       P      17 23 26.9  +5.1
TGY                                 pmax    pmax
      comp=Z,21nm,0.3s
POLP  Polilio Island     5.45 358  eP       P      17 23 32.0  +3.6
BALP  Baler              6.47 355  eP       P      17 23 41.4  -1.5
KKM   Kota Kinabalu      6.72 242⇓eP       P      17 23 45.9  -0.5
      comp=Z,40nm,0.3s
JOW   Kunigami          18.41  17   P       P      17 26 22.6  +0.5
      comp=Z,0.5nm,0.3s,baz=149,slow=3.4,SNR=3.1
KGM   Kluang            20.09 250  eP       P      17 26 43.4  +2.1
KKTK  Khon Kaen         20.14 292   P       P      17 26 43.0  +1.3
IPM   Ipoh              21.50 259⇓eP       P      17 27 00.3  +4.5
SSE   Sheshan           21.75 358   P       P      17 26 58.5  +0.4
SSE                                 AMB     AMB
      comp=Z,44nm,0.8s,mb4.9
SSE                                 AMB     AMB
      comp=Z,210nm,10.9s
GYA   Guiyang           22.56 321 ⇑P        P      17 27 12.1  +5.8
GYA                                 XS             17 31 46.4
GYA                                 AMB     AMB
      comp=Z,10.0nm,1.0s,mb4.2
GYA                                 AMB     AMB
      comp=Z,90nm,3.6s
GYA                                 LR      LR
      comp=N,610nm,12.9s,MS4.5
GYA                                 LR      LR
      comp=E,1µm,15.9s,MS4.5
GYA                                 LR      LR
      comp=Z,830nm,17.7s,MS4.2
NJ2   Nanjing           22.89 353  eP       P      17 27 10.3  +0.8
NJ2                                 PP      PP     17 27 42.4  +3.1
NJ2                                 S       S      17 31 12.0  -0.6
NJ2                                 SS      SS     17 32 00.0  +2.8
NJ2                                 AMB     AMB
      comp=Z,130nm,1.0s,mb5.3
NJ2                                 AMB     AMB
      comp=Z,520nm,6.9s
NJ2                                 LR      LR
      comp=N,4µm,24.3s
NJ2                                 LR      LR
      comp=E,4µm,16.9s
NJ2                                 LR      LR
      comp=Z,4µm,19.6s,MS4.9
BDT   Bhumibol Dam      23.90 292   P       P      17 27 22.0  +2.6
ENH   Enshi             24.04 332  eP       P      17 27 21.0  +0.3
      comp=Z,16nm,0.9s,mb4.5
KAKA  Kakadu            24.06 155  eP       P      17 27 20.6  -0.4
      comp=Z,31nm,0.8s,mb4.8
KMI   Kunming           24.32 313  eP       P      17 27 25.2  +1.8
KMI                                 AMB     AMB
      comp=Z,6.0nm,1.1s,mb3.9
CMAR  Chiang Mai Arr    24.32 295   P       P      17 27 25.2  +1.7
      comp=Z,4.5nm,1.0s,mb3.9,baz=117,slow=8.1,SNR=11
CMAR  Chiang Mai Arr    24.32 295   P       P      17 27 25.2  +1.7
CMAR                                pmax    pmax
      comp=Z,5.0nm,1.0s
CHG   Chiang Mai        24.44 295   P       P      17 27 28.4  +3.8
JNU   Nakatsue          25.07  17   P       P      17 27 37.0  +6.3
      comp=Z,8.5nm,0.8s,mb4.3,baz=194,slow=10,SNR=4.8
FITZ  Fitzroy Crossi    27.39 173  eP       P      17 27 53.9  +1.6
      comp=Z,6.5nm,1.1s,mb4.1
FITZ  Fitzroy Crossi    27.39 173   P       P      17 27 53.9  +1.6
      comp=Z,12nm,1.1s,mb4.3,baz=8.2,slow=9.3,SNR=9.4
XAN   Xi'an             27.52 336   P       P      17 27 52.0  -1.2
CD2   Chengdu           27.55 324  eP       P      17 27 52.6  -1.0
CD2                                 AMB     AMB
      comp=Z,30nm,1.0s,mb4.9
WRAB  Tennant Creek     31.38 158  eP       P      17 28 25.5  -2.3
      comp=Z,42nm,1.5s,mb5.0
WRA   Warramunga Arr    31.39 158   P       P      17 28 25.8  -2.0
      comp=Z,5.7nm,1.0s,mb4.4,baz=331,slow=11,SNR=24
WRA   Warramunga Arr    31.39 158   P       P      17 28 25.8  -2.1
WRA                                 pmax    pmax
      comp=Z,6.0nm,1.0s
WB2   Warramunga Arr    31.39 158  eP       P      17 28 25.8  -2.1
LZH   Lanzhou           31.50 331 ⇑P        P      17 28 29.0  +0.3
LZH                                 AMB     AMB
      comp=Z,26nm,1.2s,mb4.9
SHL   Shillong          33.03 303  eP       P      17 28 45.0  +2.8
CN2   Changchun         34.53   4  eP       P      17 28 58.4  +3.5
CN2                                eAP      pP     17 29 13.7  +9.0
CN2                                eS       S      17 34 22.7  +2.1
CN2                                 AMB     AMB
      comp=Z,10.0nm,0.7s,mb4.8
CN2                                 AMB     AMB
      comp=Z,200nm,3.0s
CN2                                 LR      LR
      comp=N,2µm,17.0s,MS5.2
CN2                                 LR      LR
      comp=E,3µm,17.0s,MS5.2
CN2                                 LR      LR
      comp=Z,3µm,21.0s,MS5.0
ASPA  Alice Springs     34.67 161  eP       P      17 28 55.5  -0.8
LSA   Lhasa             35.44 309   P       P      17 29 03.0  +0.2
MDJ   Mudanjiang        35.81   9   P       P      17 29 05.2  -0.6
MDJ                                 AMB     AMB
      comp=Z,9.0nm,0.8s,mb4.8
MDJ                                 AMB     AMB
      comp=Z,147nm,6.8s
MDJ   Mudanjiang        35.81   9  eP       P      17 29 02.9  -2.9
      comp=Z,11nm,0.9s,mb4.8
GTA   Gaotai            36.08 330  eP       P      17 29 09.1  +1.0
GTA                                 AMB     AMB
      comp=Z,2.0nm,1.3s,mb3.9
CTA   Charters Tower    37.57 141   P       P      17 29 23.3  +2.4
      comp=Z,3.1nm,0.8s,mb4.1,baz=5.2,slow=9.6,SNR=3.1
CTA   Charters Tower    37.57 141   P       P      17 29 23.3  +2.4
CTA                                 pmax    pmax
      comp=Z,3.0nm,0.8s
CTAO  Charters Tower    37.57 141   P       P      17 29 17.9  -3.0
ASAJ  Asahikawa         39.00  24   P       P      17 29 35.2  +2.7
      comp=Z,8.3nm,1.0s,mb4.4,baz=245,slow=12,SNR=2.8
ASAJ  Asahikawa         39.00  24   P       P      17 29 35.2  +2.7
ASAJ                                pmax    pmax
      comp=Z,8.0nm,1.0s
PKI   Pulchoki          39.15 303  eP       P      17 29 35.6  +1.7
      comp=Z,37nm,1.2s,mb5.0
KKN   Kakani            39.34 303  eP       P      17 29 37.0  +1.5
      comp=Z,22nm,0.9s,mb4.9
DMN   Daman             39.42 303  eP       P      17 29 37.3  +1.2
      comp=Z,29nm,1.0s,mb5.0
GKN   Gorkha            39.94 303  eP       P      17 29 41.1  +0.6
      comp=Z,35nm,1.2s,mb5.0
FORT  Forrest           40.20 172  eP       P      17 29 42.6   0.0
      comp=Z,73nm,0.9s,mb5.4
KLR   Kul'dur           40.64  10  eP       P      17 29 44.3  -1.8
SONM  Songino Array     40.70 344   P       P      17 29 47.3  +0.6
      comp=Z,2.4nm,0.7s,mb3.9,baz=180,slow=8.6,SNR=7.9
KOLN  Koldanda          40.73 302  eP       P      17 29 48.2  +1.2
      comp=Z,30nm,1.0s,mb4.9
YSS   Yuzh-Sakhalins    41.45  21  eP       P      17 29 52.3  -0.5
NWAO  Narrogin (SRO)    42.21 186   P       P      17 29 59.7  +0.5
      comp=Z,24nm,1.2s,mb4.7,baz=263,slow=19,SNR=3.5
NWAO  Narrogin (SRO)    42.21 186   P       P      17 29 59.7  +0.5
NWAO                                pmax    pmax
      comp=Z,24nm,1.3s
NWAO  Narrogin (SRO)    42.21 186   P       P      17 29 59.7  +0.5
ZAK   Zakamensk         43.89 343  eP       P      17 30 11.4  -1.3
ZAK                                e               17 32 04.1
STKA  Stephens Creek    44.92 156  eP       P      17 30 20.4  -0.8
      comp=Z,7.7nm,0.9s,mb4.5
STKA  Stephens Creek    44.92 156   P       P      17 30 20.1  -1.1
      comp=Z,6.9nm,0.9s,mb4.5,baz=323,slow=11,SNR=5.9
BOD   Bodaibo           48.86 354  eP       P      17 30 48.8  -3.0
MKAR  Makanchi Array    50.47 325   P       P      17 31 04.5  +0.1
      comp=Z,4.5nm,0.6s,mb4.7,baz=124,slow=8.7,SNR=16
MKAR  Makanchi Array    50.47 325   P       P      17 31 04.5  +0.2
MKAR                                pmax    pmax
      comp=Z,5.0nm,0.6s
YAK   Yakutsk           52.96   4⇓eP       P      17 31 20.5  -2.3
YAK                                 pmax    pmax
      comp=Z,14nm,1.2s,mb4.8
YAK   Yakutsk           52.96   4  eP       P      17 31 20.0  -2.8
      comp=Z,8.3nm,0.8s,mb4.7
KURK  Kurchatov         54.69 328   P       P      17 31 35.6  -0.1
      comp=Z,88nm,1.1s,mb5.7,SNR=18
KURK  Kurchatov         54.69 328  eP       P      17 31 34.8  -0.9
      comp=Z,22nm,1.1s,mb5.1
NVS   Novosibirsk       54.94 334  i P      P      17 31 35.5  -2.0
BVAR  Borovoye Array    60.26 327   P       P      17 32 14.5  -0.4
      comp=Z,2.6nm,0.7s,mb4.4,baz=121,slow=8.6,SNR=16
BRVK  Borovoye          60.33 327  eP       P      17 32 14.8  -0.7
      comp=Z,16nm,1.2s,mb4.9
ARU   Arti              67.88 328   P       P      17 33 03.7  -0.9
      comp=Z,84nm,0.6s,mb6.0,SNR=9.6
ARU   Arti              67.88 328⇑iP       P      17 33 04.2  -0.4
ARU                                e               17 33 33.5
ARU                                e               17 35 31.6
ARU                                eS       S      17 41 55.0  -4.3
ARU                                eSS      SS     17 46 09.3   -13
ARU                                 pmax    pmax
      comp=Z,11nm,0.9s,mb4.9
RPZ   Rata Peaks        68.85 144   P       P      17 33 09.5  -1.4
      comp=Z,9.0nm,0.8s,mb4.8,baz=323,slow=5.1,SNR=2.5
URZ   Urewera           69.63 137   P       P      17 33 14.1  -1.7
      comp=Z,2.9nm,0.7s,mb4.3,baz=43,slow=22,SNR=1.9
IMA   Indian Mountai    79.22  24  eP       P      17 34 09.7  -1.0
MALT  Malatya           79.45 307  eP       P      17 34 14.5  +2.0
      comp=Z,5.8nm,1.0s,mb4.5
OBN   Obninsk           79.97 324⇓eP       P      17 34 15.0  +0.1
OBN                                 pmax    pmax
      comp=Z,21nm,1.2s,mb4.9
OBN                                 MLR     MLR
      comp=Z,500nm,20.0s,MS4.9
ASF   Jabal al Asfar    81.17 301   P       P      17 34 20.9  -0.9
      comp=Z,4.4nm,0.9s,mb4.4,baz=217,slow=5.1,SNR=3.3
PMR   Palmer            81.31  29   P       P      17 34 18.6  -3.2
ILAR  Eielson Array     82.10  26   P       P      17 34 24.2  -1.7
      comp=Z,0.8nm,0.8s,mb3.7,baz=262,slow=6.4,SNR=7.3
ILAR  Eielson Array     82.10  26   P       P      17 34 24.2  -1.7
ILAR                                pmax    pmax
      comp=Z,1.0nm,0.8s
BRTR  Keskin Array B    83.05 309   P       P      17 34 31.8  +0.6
      comp=Z,2.1nm,0.6s,mb4.3,baz=101,slow=6.3,SNR=7.7
BRTR  Keskin Array B    83.05 309   P       P      17 34 31.8  +0.5
BRTR                                pmax    pmax
      comp=Z,2.0nm,0.6s
ARCES ARCESS Array B    83.73 339   P       P      17 34 34.1  +0.1
      comp=Z,3.4nm,0.8s,mb4.5,baz=82,slow=8.6,SNR=7.3
ARCES ARCESS Array B    83.73 339   P       P      17 34 34.2  +0.1
ARCES                               pmax    pmax
      comp=Z,3.0nm,0.9s
KAF   Kangasniemi       84.64 332  ep       P      17 34 36.8  -2.0
AKASG Malin Array Be    84.78 320   P       P      17 34 39.1  -0.7
      comp=Z,3.5nm,0.8s,mb4.5,baz=73,slow=4.1,SNR=10.0
AKASG Malin Array Be    84.78 320   P       P      17 34 39.1  -0.7
AKASG                               pmax    pmax
      comp=Z,4.0nm,0.8s
FINES FINESS Array B    84.86 331   P       P      17 34 40.0  +0.1
      comp=Z,1.9nm,0.7s,mb4.4,baz=90,slow=3.8,SNR=11
FINES FINESS Array B    84.86 331   P       P      17 34 40.0  +0.1
KMBO  Kilima Mbogo      85.18 268   P       P      17 34 45.3  +2.7
      comp=Z,2.7nm,0.8s,mb4.4,baz=49,slow=11,SNR=8.0
KMBO  Kilima Mbogo      85.18 268  eP       P      17 34 43.7  +1.1
      comp=Z,6.7nm,1.2s,mb4.7
KMBO                               e        pP     17 34 53.8  +0.5
DAWY  Dawson            85.42  26  eP       P      17 34 41.2  -1.4
INK   Inuvik            86.69  21   P       P      17 34 48.6  -0.2
      comp=Z,4.9nm,1.1s,mb4.7,baz=240,slow=8.9,SNR=5.0
INK   Inuvik            86.69  21   P       P      17 34 48.6  -0.2
INK                                 pmax    pmax
      comp=Z,5.0nm,1.1s
MAW   Mawson            87.39 199   P       P      17 34 55.0  +2.9
      comp=Z,2.0nm,1.1s,mb4.2,baz=330,slow=3.5,SNR=3.3
MAW   Mawson            87.39 199   P       P      17 34 55.0  +2.8
MAW                                 pmax    pmax
      comp=Z,2.0nm,1.2s
CLL   Collm             94.54 324   P       P      17 35 28.0  +2.2
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*MDD **09** 17:32:00.8±0.9, 35.50N×3.86W, h0^{km}±11^{km}, mbLg2.3/13, Error ellipse: s-maj=12.3km s-min=6.1km az=15.0, PRXIMO*
*INMG **09** 17:32:01.8±1.4, 35.50N×3.82W, ML2.3, Error ellipse: s-maj=6.0km s-min=5.0km az=51.0*
ISC 09 17:31:59.3±0.8, 35.46N±0.05×3.96W±0.04, h10^{km}, n23, σ1§38/46, Strait of Gibraltar

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Code  Station Name        Δ°   AZ°   Phase ID        Time       Res
                                    Op     ISC     h  m  s     ISC
EMEL  Melilla            0.84 101   P       Pb     17 32 15.1  -0.3
      63nm,0.1s,SNR=26
EMEL                                S       Sb     17 32 24.1  -2.4
      315nm,0.3s,SNR=8.9
EMIJ  Mijas              1.28 329   P       Pb     17 32 23.6  +0.6
      3.2nm,0.2s,SNR=7.9
EMIJ                                S       Sb     17 32 41.6  +2.2
      13nm,0.4s,SNR=7.9
EMAL  Malaga-Limoner     1.35 344   P       Pb     17 32 25.2  +0.9
      1.6nm,0.2s,SNR=7.9
EMAL                                S       Sb     17 32 42.7  +1.3
      3.3nm,0.1s,SNR=7.9
ERON  Agron              1.56   5   P       Pn     17 32 27.7  +0.4
      7.0nm,0.3s,SNR=7.5
ERON                                S       Sb     17 32 45.3  -2.1
      20nm,0.2s,SNR=13
ELOJ  Sierra Loja        1.69 355   P       Pn     17 32 30.9  +1.8
      16nm,0.5s,SNR=5.8
ELOJ                                S       Sn     17 32 52.3  +1.4
      7.1nm,0.4s,SNR=5.2
ESPR  Espera             2.08 313   P       Pn     17 32 37.9  +3.3
      5.9nm,0.3s,SNR=7.9
ESPR                                S       Sn     17 33 03.5  +2.7
      6.6nm,0.2s,SNR=7.9
ELUQ  Luque              2.11 353   P       Pn     17 32 35.6  +0.5
      3.7nm,0.2s,SNR=7.9
ELUQ                                S       Sn     17 33 02.3  +0.7
      13nm,0.3s,SNR=5.0
EQES  Quesada            2.44  17   P       Pn     17 32 40.7  +0.9
      6.7nm,0.4s,SNR=13
EQES                                S       Sn     17 33 08.9  -1.2
      35nm,0.3s,SNR=7.6
EADA  Adamuz             2.75 350   P       Pn     17 32 44.9  +0.8
      2.6nm,0.3s,SNR=10
EADA                                S       Sn     17 33 17.3  -0.4
      6.4nm,0.2s,SNR=5.0
EMIN  Mina Concepcio     3.17 317   P       Pn     17 32 50.7  +0.4
      1.1nm,0.3s,SNR=15
EMIN                                S       Sn     17 33 27.3  -1.2
      1.4nm,0.1s,SNR=7.1
PALC  Alcoutim           3.47 306  ePn      Pn     17 32 55.3  +0.9
PALC                               eSn      Sn     17 33 34.3  -1.7
      8.7nm,0.2s
PALC  Alcoutim           3.47 306   Pn      Pn     17 32 55.3  +0.9
PALC                                Sn      Sn     17 33 34.3  -1.7
      4.3nm,0.2s
EGRO  El Granado         3.51 307   P       Pn     17 32 55.6  +0.5
      5.8nm,0.4s,SNR=6.2
EGRO                                S       Sn     17 33 35.0  -2.1
      3.9nm,0.2s,SNR=6.3
ETOB  Tobarra            3.72  31   P       Pn     17 32 57.5  -0.6
      3.5nm,0.5s,SNR=9.4
ETOB                                S       Sn     17 33 37.9  -4.5
      1.9nm,0.3s,SNR=5.9
PBEJ  Beja               4.05 310  ePn      Pn     17 33 03.2  +0.5
PBEJ                               eSn      Sn     17 33 48.4  -2.3
      4.3nm,0.3s
PBEJ  Beja               4.05 310   Pn      Pn     17 33 03.2  +0.5
PBEJ                                Sn      Sn     17 33 48.4  -2.3
      2.2nm,0.3s
EBAD  Badajoz            4.09 324   P       Pn     17 33 03.8  +0.4
      0.9nm,0.3s,SNR=4.7
EBAD                                S       Sn     17 33 49.8  -2.0
      8.1nm,0.3s,SNR=7.9
ESDC  Sonseca Array      4.21 360   P       Pn     17 33 05.3  +0.3
      0.6nm,0.2s,baz=172,slow=12,SNR=4.7
ESDC                                S       Sn     17 33 50.8  -3.9
      SNR=7.9
PTEO  Sao Teotonio       4.36 300  ePn      Pn     17 33 08.4  +1.2
PTEO                               eSn      Sn     17 33 56.2  -2.5
      5.8nm,0.3s
PTEO  Sao Teotonio       4.36 300   Pn      Pn     17 33 08.4  +1.2
PTEO                                Sn      Sn     17 33 56.2  -2.5
      2.9nm,0.3s
MOE   Montemor           4.66 312  ePn      Pn     17 33 11.4  +0.1
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Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MOE				*e*Sn	Sn	17 34 02.9	-3.2
PCBR	Castelo Branco	5.18	329	*e*Pn	Pn	17 33 19.0	+0.2
PCBR				*e*Sn	Sn	17 34 14.8	-4.6
	1.5nm,0.2s						
PCBR	Castelo Branco	5.18	329	Pn	Pn	17 33 19.0	+0.2
PCBR				Sn	Sn	17 34 14.8	-4.6
	0.8nm,0.2s						

MAN 09 17:40:05.1, 9.24N×122.18E, h41^{km}, mb4.6, ML3.5, MS3.4, 1C, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNPH	Sibulan	1.05	84	*i* P	P	17 40 23.0	-0.5
DCPH	Dipolog City	1.33	119	⇑*e*P	P	17 40 27.6	0.0
DCPH				*e*S	S	17 40 45.2	+0.8
GUIM	Jordan	1.44	16	*e*P	P	17 40 29.4	+0.2
GUIM				*e*S	S	17 40 47.5	+0.5
IPIL	Ipil	1.49	165	*e*P	P	17 40 30.3	+0.3
IPIL				*e*S	S	17 40 48.0	-0.3
PAGZ	Pagadian	1.82	139	*e*P	P	17 40 35.3	+0.7
PAGZ				*e*S	S	17 40 59.9	+3.3
CUYO	Cuyo Island	1.97	325	*e*P	P	17 40 37.1	+0.4
CUYO				*e*S	S	17 41 00.3	0.0
ENPP	El Nido	3.34	306	*e*P	P	17 40 56.5	+0.2
ENPP				*e*S	S	17 41 33.1	-2.2
BUSP	Coron	3.37	325	*e*P	P	17 40 56.6	-0.1
BUSP				*e*S	S	17 41 33.7	-2.2

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*NEIC **09** 18:30:12.9±0.6, 50.43N×18.82E, h5^{km}, ML3.3(SZGRF), ML3.2(VIE), Error ellipse: s-maj=8.2km s-min=5.9km az=193.0*
*WAR **09** 18:30:13.9, 50.26N×18.89E, ML2.9, Mining Induced*
*PRU **09** 18:30:14.5, 50.35N×18.78E*
*IDC **09** 18:30:16.1±3.5, 50.36N×18.66E, mb1 3.6/4, mb1mx3.4/17, ML3.1/4, Error ellipse: s-maj=71.0km s-min=9.7km az=133.0*
*BGR **09** 18:30:19.7±1.6, 50.19N×18.57E, h1^{km}, ML3.3/7, Error ellipse: s-maj=13.3km s-min=10.0km az=72.0*
ISC 09 18:30:10.6±0.4**, 50.50N**±0.03×**18.78E**±0.03**, n42, σ1^{s}52**/76**, 1C-1D, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAC	Raciborz	0.56	222	*e*PG	Pg	18 30 24.0	+2.2
RAC				*e*SG	Sg	18 30 31.0	+1.7
RAC	Raciborz	0.56	222	*e*Pg	Pg	18 30 24.3	+2.5
RAC				*e*Sg	Sg	18 30 31.2	+1.9
OJC	Ojcow	0.71	113	*e*PG	Pg	18 30 26.0	+1.2
OJC				*i* SG	Sg	18 30 34.4	+0.1
OJC	Ojcow	0.71	113	*e*Pg	Pg	18 30 26.3	+1.5
OJC				*i* Sg	Sg	18 30 34.4	+0.1
OKC	Ostrava-Krasne	0.78	212	*e*PG	Pg	18 30 26.7	+0.6
OKC				*e*SG	Sg	18 30 35.6	-0.9
MORC	Moravsky Berou	1.07	228	*e*Pg	Pg	18 30 32.4	+0.4
MORC				*e*Sg	Sg	18 30 45.9	-0.5
LIKS	Likavka	1.47	171	*e*PN	Pn	18 30 38.0	-0.4
LIKS				*e*SN	Sn	18 30 54.1	-4.5
NIE	Niedzica	1.47	137	*e*PG	Pg	18 30 37.0	-2.9
NIE				*e*SG	Sg	18 30 55.0	-4.5
DPC	Dobruska-Polom	1.58	265	*e*PG	Pg	18 30 43.1	+1.0
DPC				*e*SG	Sg	18 31 04.8	+1.7
	56nm,0.3s						
KSP	Ksiaz	1.62	283	*e*(PN)	Pn	18 30 44.0	+3.5
KSP				*i* PG	Pg	18 30 47.2	+4.3
KSP				*e*SN	Sn	18 31 09.2	+6.9
KSP	Ksiaz	1.62	283	*e*Pn	Pn	18 30 43.8	+3.3
KSP				*i* Pg	Pg	18 30 47.2	+4.3
KSP				*e*Sg	Sg	18 31 08.9	+4.5
UPC	Upice	1.77	271	*e*PG	Pg	18 30 46.1	+0.3
UPC				*e*SG	Sg	18 31 11.3	+2.0
KOLL	Kolacno	1.94	187	*e*PN	Pn	18 30 46.6	+1.5
KOLL				*e*SN	Sn	18 31 11.4	+0.8
VYHS	Vyhne	2.01	179	*i* PN	Pn	18 30 45.3	-0.8
VYHS				*e*SN	Sn	18 31 10.6	-1.7
KECS	Kecovo	2.31	150	*e*PN	Pn	18 30 50.5	+0.1
KECS				*e*SN	Sn	18 31 15.0	-4.9
CRVS	Cervenica-Dubn	2.37	132	*e*PN	Pn	18 30 51.6	+0.3
CRVS				*e*SN	Sn	18 31 23.7	+2.3
KWP	Kalwaria	2.68	107	*e*P	Pg	18 31 03.0	-1.1
KWP	Kalwaria	2.68	107	*e*Pn	Pg	18 31 02.6	-1.5
PVCC	Panska Ves	2.69	272	*e*PG	Pg	18 31 01.7	-2.5
PVCC				*e*SG	Sg	18 31 39.1	-0.9
PSZ	Piszkesteto	2.69	164	⇑*e*PB	Pb	18 31 00.9	+1.6
PSZ				*e*Sn	Sn	18 31 27.8	-1.8
PSZ	Piszkesteto	2.69	164	*e*Pn	Pn	18 30 55.6	-0.2
KOLS	Kolonicke sedl	2.76	123	*e*PN	Pn	18 30 57.9	+1.0
KOLS				*e*PG	Pg	18 31 04.8	-0.9
KOLS				*e*SN	Sn	18 31 28.1	-3.3
PRU	Pruhonice	2.77	261	PG	Pg	18 31 03.9	-1.9
PRU				*i* x	x	18 31 06.6	
PRU				SG	Sg	18 31 40.2	-2.5
	26nm,0.8s						
BRG	Berggiesshubel	3.10	279	*e*Pg	Pg	18 31 14.2	+1.8
BRG				*e*Sg	Sg	18 31 55.2	+1.5
BRG	Berggiesshubel	3.10	279	*i* Pg	Pg	18 31 13.4	+1.0
BRG				*i* Sg	Sg	18 31 55.3	+1.6
KHC	Kasperske Hory	3.63	250	PN	Pn	18 31 10.5	+1.2
KHC				*e*PG	Pg	18 31 17.5	-5.6
KHC				*e*SG	Sg	18 32 06.5	-5.1
GEC2	GERESS Array S	3.69	245	*e*Pg	Pg	18 31 21.2	-3.0
GEC2				*e*Sg	Sg	18 32 09.3	-4.1
GERES	GERESS Array B	3.69	245	Pn	Pn	18 31 12.3	+2.3
	0.3nm,0.3s,baz=63,slow=14,SNR=8.0						
GERES				Pg	Pg	18 31 20.8	-3.5
	1.4nm,0.3s,baz=54,slow=18,SNR=10						
GERES				Lg		18 32 10.0	
	4.6nm,0.3s,baz=75,slow=30,SNR=16						
CLL	Collm	3.74	285	*e*PG	Pg	18 31 28.0	+2.7
CLL				*e*SG	Sg	18 32 18.0	+2.8
MOA	Molln	3.97	230	⇓*i*PN	Pn	18 31 15.1	+1.0
MOA				*i* SG	Sg	18 32 18.1	-4.8
	14nm,0.5s						
TANN	Tannenbergstha	4.04	271	*e*Sg	Sg	18 32 24.3	-0.6
WET	Wettzell	4.05	253	*e*Sg	Sg	18 32 20.7	-4.8
NKC	Novy Kostel	4.06	269	*e*SG	Sg	18 32 23.3	-2.5
GUNZ	Gunzen	4.12	271	*e*Sg	Sg	18 32 26.4	-1.4
WERD	Werda	4.13	272	*e*Sg	Sg	18 32 27.5	-0.7
MOX	Moxa	4.57	275	*e*Sg	Sg	18 32 41.8	-0.8
GRF	Grafenberg Arr	4.93	263	*e*Sg	Sg	18 32 52.6	-2.1
BSD	Bornholm Skovb	5.18	335	*i* P	Pn	18 31 34.8	+3.6
BSD				*e*S	Sn	18 32 32.1	-0.5
FINES	FINESS Array B	11.70	18	Pn	P	18 33 01.4	-0.2
	0.3nm,0.3s,baz=195,slow=11,SNR=13						
FINES				Sn	S	18 35 07.5	-6.6
	0.2nm,0.3s,baz=190,slow=24,SNR=3.7						
FINES	FINESS Array B	11.70	18	Pn	P	18 33 01.4	-0.2
FINES				Sn	S	18 35 07.5	-6.6
KAF	Kangasniemi	12.36	17	*e*p	P	18 33 08.0	-2.5
ARCES	ARCESS Array B	19.37	7	Pn	P	18 34 39.2	-0.8
	0.1nm,0.3s,baz=192,slow=13,SNR=4.4						
ARCES				P		18 34 43.5	
	0.2nm,0.3s,baz=191,slow=12,SNR=5.9						

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*PRU **09** 18:37:51.6, 50.29N×18.82E*
*IDC **09** 18:37:51.2±2.2, 50.06N×19.03E, mb1 3.9/3, mb1mx3.6/15, ML2.8/4, Error ellipse: s-maj=44.8km s-min=10.6km az=138.0*
*NEIC **09** 18:37:52.0±1.0, 50.20N×18.90E, h5^{km}, ML2.5(VIE), Error ellipse: s-maj=13.6km s-min=8.1km az=186.0*
WAR 09 18:37:50.7, 50.23N×18.88E, ML2.7, 2C-2D, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAC	Raciborz	0.47	252	*e*PG	Pg	18 38 01.0	+1.0
RAC				*e*SG	Sg	18 38 08.0	+1.8
RAC	Raciborz	0.47	252	*e*Pg	Pg	18 38 01.2	+1.2
RAC				*e*Sg	Sg	18 38 07.7	+1.5
OJC	Ojcow	0.59	91	⇓*i*PG	Pg	18 38 02.9	+0.4
OJC				⇓*i*SG	Sg	18 38 10.5	+0.2
OKC	Ostrava-Krasne	0.61	231	*e*PG	Pg	18 38 03.4	+0.4
OKC				*e*SG	Sg	18 38 11.9	+0.7
MORC	Moravsky Berou	0.97	243	*e*Pg	Pg	18 38 09.5	-0.6
LIKS	Likavka	1.19	173	*e*PN	Pn	18 38 14.7	+0.2
NIE	Niedzica	1.23	131	*e*PG	Pg	18 38 14.0	-1.3
NIE				*e*SG	Sg	18 38 32.0	+0.2
DPC	Dobruska-Polom	1.65	275	*e*PG	Pg	18 38 20.4	-3.1
DPC				*e*SG	Sg	18 38 42.4	-3.1
	15nm,0.3s						
VYHS	Vyhne	1.74	181	*i* PN	Pn	18 38 22.0	-0.4
VYHS				*e*SN	Sn	18 38 46.7	+1.2
VRAC	Vranov	1.75	239	Pn	Pn	18 38 22.5	0.0
	2.3nm,0.3s,baz=59,slow=16,SNR=16						
VRAC				Lg		18 38 46.8	
	2.6nm,0.3s,baz=152,slow=22,SNR=9.7						
KSP	Ksiaz	1.76	291	*e*PN	Pn	18 38 22.0	-0.7
KSP				*i* PG	Pg	18 38 23.9	-2.0
KSP				*e*SG	Sg	18 38 47.9	-1.4
UPC	Upice	1.86	280	*e*PG	Pg	18 38 24.9	-2.9
UPC				*e*SG	Sg	18 38 49.0	-3.5
CRVS	Cervenica-Dubn	2.14	127	*e*PB	Pb	18 38 31.4	+1.3
PSZ	Piszkesteto	2.41	164	⇑*i*	Pn	18 38 38.3	+6.4
PSZ				*e*		18 39 07.0	
PVCC	Panska Ves	2.78	278	*e*PG	Pg	18 38 41.1	-5.0
PVCC				*e*SG	Sg	18 39 18.1	-5.0
PRU	Pruhonice	2.80	267	PG	Pg	18 38 40.4	-6.3
PRU				*i* x	x	18 38 43.2	
PRU				SG	Sg	18 39 19.7	-4.3
	3.5nm,0.5s						
KHC	Kasperske Hory	3.62	254	*e*PN	Pn	18 38 47.0	-2.1
KHC				*e*PG	Pg	18 38 57.5	-5.4
KHC				*e*SG	Sg	18 39 46.0	-5.0
GERES	GERESS Array B	3.65	250	Pn	Pn	18 38 49.0	-0.6
	0.2nm,0.3s,baz=68,slow=14,SNR=5.2						
GERES				Pg	Pg	18 38 58.1	-5.4
	0.7nm,0.3s,baz=66,slow=17,SNR=18						
GERES				Lg		18 39 45.5	
	1.3nm,0.3s,baz=73,slow=27,SNR=7.3						
MOA	Molln	3.86	234	⇑*i*PN	Pn	18 38 52.5	-0.1
MOA				*i* SG	Sg	18 39 53.7	-5.5
	3.7nm,0.6s						
CLL	Collm	3.88	288	*e*PG	Pg	18 39 05.0	-3.2
CLL				*e*SG	Sg	18 39 57.0	-3.0
DAVOX	Davos	6.90	243	Pn	Pn	18 39 35.5	-0.2
	0.3nm,0.3s,baz=170,slow=18,SNR=3.2						
FINES	FINESS Array B	11.94	17	Pn	P	18 40 38.9	-6.1
	0.1nm,0.3s,baz=198,slow=13,SNR=9.4						
ARCES	ARCESS Array B	19.63	7	Pn	P	18 42 17.3	-5.9
	0.1nm,0.3s,baz=191,slow=14,SNR=3.6						

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*IDC **09** 19:43:47.2±1.3, 38.72N×70.94E, mb3.8/6, mb1 4.0/8, mb1mx3.7/18, ML3.5/2, MS2.7/1, Ms1 2.8/1, ms1mx2.1/26, Error ellipse: s-maj=22.1km s-min=18.7km az=127.0*
*NEIC **09** 19:43:52.7±0.8, 38.98N×70.98E, h45^{km}, mb3.9/8, Error ellipse: s-maj=17.8km s-min=10.6km az=59.0*
*MOS **09** 19:43:52.6±1.9, 39.04N×70.93E, h33^{km}, mb4.1/4, Error ellipse: s-maj=26.2km s-min=18.6km az=99.5*
*NNC **09** 19:43:54.6±3.5, 39.34N×70.38E, h14^{km}±22^{km}, mpv3.8, Error ellipse: s-maj=31.4km s-min=21.6km az=137.0*
ISC 09 19:43:56.4±1.4**, 39.23N**±0.06×**70.9E**±0.1**, h77**^{km}±13^{km}**, n42, σ1^{s}40**/50**, mb3.9**/8**, 14C, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AML	Almayashu	3.61	36	P	P	19 44 52.5	+1.2
	SNR=31						
KK31	Karatay Array	3.88	356	⇑Pn	P	19 44 55.3	+0.3
	13nm,0.5s,baz=181,slow=13,SNR=235						
KK31				⇑Sn	S	19 45 45.4	+5.9
	78nm,0.7s,baz=180,slow=23,SNR=5.8						
EKS2	Erkin-Say	4.08	32	P	P	19 44 59.8	+2.0
	SNR=14						
UCH	Uchtor	4.08	42	P	P	19 44 58.2	+0.4
	SNR=46						
AAK	Ala-Archa	4.37	38	P	P	19 45 03.1	+1.2
	SNR=30						
AAK	Ala-Archa	4.37	38	*e*Pn	P	19 45 01.3	-0.6
AAK				*e*Sn	S	19 45 46.7	-5.3
KBK	Karagaybulak	4.61	41	P	P	19 45 06.3	+1.0
	SNR=31						
CHMS	Chumysh	4.78	37	P	P	19 45 07.6	+0.2
	SNR=12						
USP	Ospenovka	4.88	33	P	P	19 45 08.8	0.0
	SNR=33						
TKM2	Tokmak 2	5.14	43	P	P	19 45 12.4	0.0
	SNR=32						
MKAR	Makanchi Array	11.27	44	Pn	P	19 46 34.4	-1.8
	0.2nm,0.3s,baz=234,slow=10,SNR=8.8						
MKAR				Lg		19 49 57.7	
	0.1nm,0.3s,baz=237,slow=29,SNR=4.6						
MKAR	Makanchi Array	11.27	44	Pn	P	19 46 34.4	-1.8
MKAR				Lg		19 49 57.7	
AB31	Akbulak array	12.70	326	⇑Pn	P	19 46 50.3	-5.0
	2.0nm,0.5s,baz=143,slow=11,SNR=81						
AB31				⇑Sn	S	19 49 10.0	-5.3
	32nm,1.1s,baz=146,slow=21,SNR=15						
KURK	Kurchatov	12.72	23	⇑Lg		19 50 41.9	
	12nm,1.1s,baz=120,slow=14,SNR=3.4						
KURK	Kurchatov	12.72	23	P	P	19 46 52.4	-3.2
VOSK	Vostochnaya	13.49	0	⇑Pn	P	19 47 01.6	-4.1
	4.8nm,1.8s						
VOSK				⇑Sn	S	19 49 32.2	-1.8
	4.2nm,0.9s						
VOSK				⇑Lg		19 51 00.3	
	10nm,1.1s						
ZRNK	Zerenda	13.78	355	⇑Pn	P	19 47 08.8	-0.5
	3.1nm,1.0s						
ZRNK				⇑Sn	S	19 49 41.5	+0.7
	3.6nm,0.9s						
ZRNK				⇑Lg		19 51 07.3	
	10nm,1.3s						
ZRNK	Zerenda	13.78	355	*e*P	P	19 47 08.6	-0.7
	2.7nm,0.7s						
BVA0	Borovoye Array	13.80	359	⇑Pn	P	19 47 08.0	-1.5
	0.4nm,0.8s,baz=168,slow=12,SNR=12						
BVA0				⇑Sn	S	19 49 38.0	-3.2
	0.4nm,0.7s,baz=175,slow=32,SNR=6.6						
BVAR	Borovoye Array	13.80	359	Pn	P	19 47 07.4	-2.1
	0.4nm,0.3s,baz=173,slow=12,SNR=11						
BVAR				Sn	S	19 49 42.8	+1.6
	0.3nm,0.3s,baz=174,slow=26,SNR=8.9						
BVAR				Lg		19 51 21.1	
	0.1nm,0.3s,baz=205,slow=24,SNR=4.1						
BRVK	Borovoye	13.83	359	*e*P	P	19 47 08.1	-1.9
	5.9nm,1.1s						
BRVK				*e*S	S	19 49 41.8	-0.2
KOLN	Koldanda	15.59	133	*e*P	P	19 47 27.7	-5.1
	7.6nm,0.4s						
GKN	Gorkha	16.02	130	*e*P	P	19 47 29.8	-8.3
	15nm,0.4s						
KKN	Kakani	16.56	129	*e*P	P	19 47 37.1	-7.8
	14nm,0.5s						
DMN	Daman	16.59	130	*e*P	P	19 47 33.5	-12
	7.2nm,0.5s						
PKI	Pulchoki	16.79	129	*e*P	P	19 47 38.2	-10
	9.2nm,0.5s						
ARU	Arti	19.03	339	*e*P	P	19 48 16.4	+1.9
ARU				*e*S	S	19 51 49.4	+8.9
ARU	Arti	19.03	339	P	P	19 48 11.7	-2.9
	6.5nm,1.0s						
GOF	Gofitskoye	21.38	295	⇑*i*P	P	19 48 44.0	+5.0
GOF				pmax	pmax		
	comp=Z,40nm,1.4s,mb4.6						
ZAK	Zakamensk	25.36	53	*e*P	P	19 49 18.4	+0.8
BRTR	Keskin Array B	28.60	283	P	P	19 49 47.7	+0.4
	comp=Z,0.3nm,0.4s,mb3.3,baz=72,slow=9.1,SNR=2.3						
FINES	FINESS Array B	35.18	324	P	P	19 50 44.9	+0.4
	comp=Z,1.8nm,0.8s,mb3.9,baz=127,slow=9.5,SNR=3.9						
FINES	FINESS Array B	35.18	324	P	P	19 50 44.9	+0.5
FINES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ARCES	ARCESS Array B	38.59	336	P	P	19 51 16.3	+3.4
	comp=Z,1.7nm,0.8s,mb4.0,baz=117,slow=6.0,SNR=3.3						
ARCES	ARCESS Array B	38.59	336	P	P	19 51 16.3	+3.4
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NB2	NORSAR Subarra	42.16	321	P	P	19 51 42.0	-0.3
	comp=Z,1.9nm,0.9s,mb3.8,baz=93,slow=7.9						
NOA	NORSAR Array B	42.16	321	P	P	19 51 43.8	+1.5
	comp=Z,1.5nm,0.8s,mb3.8,baz=92,slow=8.2,SNR=4.0						
NOA				LR	LR	20 12 44.5	
	comp=Z,8.1nm,18.2s,baz=345,slow=41						
NOA	NORSAR Array B	42.16	321	P	P	19 51 43.8	+1.5
NOA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
NOA				MLR	MLR		
	comp=Z,8.0nm,18.2s						
SUMG	Summit	58.45	341	*e*P	P	19 53 46.3	+0.4
	comp=Z,5.1nm,0.8s,mb4.6						
ILAR	Eielson Array	72.19	16	P	P	19 55 16.3	+2.1
	comp=Z,0.4nm,0.8s,mb3.3,baz=326,slow=6.5,SNR=5.4						
WRA	Warramunga Arr	83.53	122	P	P	19 56 16.2	-1.1
	comp=Z,0.9nm,1.1s,mb3.5,baz=321,slow=5.0,SNR=4.8						
WRA	Warramunga Arr	83.53	122	P	P	19 56 16.2	-1.1
WRA				pmax	pmax		
	comp=Z,1.0nm,1.1s						

MAN 09 19:45:48.5, 8.03N×127.06E, h10^{km}, mb4.7, ML3.6, MS3.6, 2C-2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BUTP	Butuan	1.70	303	*e*P	Pn	19 46 17.6	-0.9
BUKP	Musuan	1.99	266	*e*P	Pn	19 46 23.0	+0.5
BUKP				*e*S	Sn	19 46 49.3	+1.6
KCP	Kidapawan	2.20	243	⇓*i*P	Pn	19 46 26.0	+0.3
KCP				*i* S	Sn	19 46 53.5	+0.3
SCPH	Surigao	2.33	318	⇑*e*P	Pn	19 46 26.4	-1.0
CGP	Cagayan de Oro	2.38	280	⇓*e*P	Pn	19 46 28.5	+0.3
CTBH	Cotabato--PC H	2.90	254	⇑*i*P	Pn	19 46 35.2	-0.5
CTBH				*i* S	Sn	19 47 08.9	-2.1
MSLP	Maasin	3.02	314	*e*P	Pn	19 46 38.9	+1.6
PAGZ	Pagadian	3.65	267	*e*P	Pn	19 46 45.2	-1.0
IPIL	Ipil	4.45	267	*e*P	Pn	19 46 56.8	-0.8
GUIM	Jordan	5.11	301	*e*P	Pn	19 47 07.4	+0.4

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*MAN **09** 19:52:23.2, 11.33N×124.59E, h6^{km}, mb4.5, ML3.4, MS3.3*
ISC 09 19:52:23.5±0.5**, 11.34N**±0.03×**124.56E**±0.03**, h6**^{km}**, n17, σ1^{s}05**/26**, 1C-2D, Leyte**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OCLP	Ormoc	0.29	170	*e*P	Pg	19 52 29.2	-0.3
OCLP				*e*S	Sg	19 52 34.2	+0.8
PLP	Palo	0.45	112	*e*P	Pg	19 52 31.6	-0.9
PLP				*i* S	Sg	19 52 38.5	-0.1
BESP	Borongan	0.90	73	*e*P	Pb	19 52 40.7	-0.5
BESP				*e*S	Sb	19 52 54.0	+0.7
LLP	Lapu-Lapu	1.17	210	*e*P	Pb	19 52 41.0	-4.8
LLP				*e*S	Sb	19 52 57.0	-4.0
CNP	Catarman	1.17	5	*e*P	Pb	19 52 45.5	-0.3
CNP				*e*S	Sb	19 53 02.6	+1.6
MSLP	Maasin	1.23	166	*e*P	Pb	19 52 45.6	-1.2
MSLP				*e*S	Sb	19 53 05.0	+2.1
TBP	Tagbilaran	1.77	203	⇓*e*P	Pn	19 52 52.9	-2.2
TBP				*i* S	Sn	19 53 19.7	+1.6
RCP	Roxas	1.79	277	⇓*e*P	Pn	19 52 55.1	-0.2
RCP				*e*S	Sn	19 53 19.9	+1.4
SCPH	Surigao	1.80	149	⇑*e*P	Pn	19 52 55.8	+0.4
GUIM	Jordan	2.06	250	*e*P	Pn	19 52 59.0	0.0
GUIM				*e*S	Sn	19 53 26.1	+0.8
SNPH	Sibulan	2.37	213	*e*P	Pn	19 53 02.5	-1.1
CUYO	Cuyo Island	3.51	262	*e*P	Pn	19 53 18.8	-0.9
CUYO	Cuyo Island	3.51	262	*e*P	Pn	19 53 18.8	-0.9
PAGZ	Pagadian	3.66	199	*e*P	Pn	19 53 21.9	0.0
IPIL	Ipil	4.03	209	*e*P	Pn	19 53 27.4	+0.2
ENPP	El Nido	5.04	269	*e*P	Pn	19 53 40.1	-1.3
ENPP	El Nido	5.04	269	*e*P	Pn	19 53 40.1	-1.3

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*JMA **09** 19:54:01.0±0.2, 24.91N×122.28E, h68^{km}, M2.4*
TAP 09 19:54:01.5, 24.67N×122.13E, h65^{km}**, ML3.2, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.83	104	P	P	19 54 17.0	-0.7
YOJ				*e*S	S	19 54 28.8	-1.0
IRIF	Iriomote-Funau	1.50	103	P	P	19 54 25.2	-1.6
IRIF				*e*S	S	19 54 43.6	-1.9
HATJ	Hateruma jima	1.65	111	P	P	19 54 28.0	-0.8
JKRS	Kuro-shima	1.77	104	P	P	19 54 29.5	-1.0
JKRS				*e*S	S	19 54 50.7	-1.1
JIJ	Ishigaki jima	1.86	99	P	P	19 54 30.2	-1.5
JIJ				*e*S	S	19 54 52.0	-2.0

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*IDC **09** 19:56:03.3±9.4, 7.23S×146.49E, h118^{km}±80^{km}, mb4.1/6, mb1 4.2/8, mb1mx4.1/10, ML4.2/2, MS2.9/1, Ms1 2.9/1, ms1mx2.6/10, Error ellipse: s-maj=40.7km s-min=22.9km az=76.0*
*BJI **09** 19:56:05.5, 7.27S×146.28E, h146^{km}, mb4.5*
*NEIC **09** 19:56:06.6±0.7, 7.20S×146.35E, h145^{km}±7^{km}, mb4.5/12, Error ellipse: s-maj=14.7km s-min=9.3km az=108.0*
ISC 09 19:56:05.6±0.9**, 7.23S**±0.08×**146.3E**±0.1**, h150**^{km}±9^{km}**, n28, σ0^{s}83**/26**, mb4.4**/11**, 1C-3D, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WAU	Wau	0.42	106	⇑*i*P	P	19 56 27.4	+0.3
PMG	Port Moresby	2.32	159	⇓*i*P	P	19 56 45.2	+0.1
CTA	Charters Tower	12.78	180	*e*P	P	19 59 09.0	+6.1
	3.7nm,0.4s						
CTA	Charters Tower	12.78	180	P	P	19 59 07.9	+5.0
	0.8nm,0.3s,baz=3.3,slow=14,SNR=16						
CTA				LR	LR	20 02 32.8	
	comp=Z,53nm,21.7s,baz=235,slow=30						
CTAO	Charters Tower	12.78	180	*e*P	P	19 59 08.1	+5.2
	6.5nm,0.6s						
KAKA	Kakadu	14.74	247	⇓*i*P	P	19 59 27.6	-0.3
	74nm,0.6s						
WRAB	Tennant Creek	17.15	221	*e*P	P	19 59 56.9	-0.8
	11nm,0.7s						
WB2	Warramunga Arr	17.16	221	⇓*i*P	P	19 59 57.3	-0.5
WRA	Warramunga Arr	17.16	221	P	P	19 59 57.5	-0.4
	0.9nm,0.3s,baz=40,slow=10,SNR=38						
ASPA	Alice Springs	20.23	215	*e*P	P	20 00 32.6	+1.8
FITZ	Fitzroy Crossi	22.86	240	*e*P	P	20 00 57.1	+0.3
	6.6nm,0.5s,mb4.3						
FITZ	Fitzroy Crossi	22.86	240	P	P	20 00 56.9	+0.1
	9.2nm,0.5s,mb4.5,baz=48,slow=4.7,SNR=32						
STKA	Stephens Creek	24.91	190	*e*P	P	20 01 17.3	+1.0
	5.3nm,0.6s,mb4.2						
STKA	Stephens Creek	24.91	190	P	P	20 01 16.2	-0.1
	6.1nm,0.5s,mb4.4,baz=358,slow=11,SNR=18						
MBWA	Marble Bar	29.19	239	*e*P	P	20 01 55.1	-0.2
TAU	Tasmania Unive	35.55	179	P	P	20 02 47.0	-3.0
	22nm,1.0s,mb4.8						
MAJO	Matsushiro	44.20	351	*e*P	P	20 03 59.8	-1.6
	4.0nm,0.6s,mb4.2						
QIZ	Qiongzhong	44.42	307	P	P	20 04 03.6	+0.2
ENH	Enshi	51.37	318	*e*P	P	20 04 57.4	+0.3
	21nm,1.2s,mb4.6						
CMAR	Chiang Mai Arr	53.24	299	P	P	20 05 11.3	+0.1
	4.8nm,0.6s,mb4.4,baz=124,slow=6.0,SNR=46						
LSA	Lhasa	64.44	308	P	P	20 06 29.0	+0.6
MA2	Magadan	66.68	2	P	P	20 06 46.4	+4.1
	54nm,1.5s,mb5.2						
MKAR	Makanchi Array	78.01	321	P	P	20 07 50.0	+1.0
	2.2nm,0.5s,mb4.1,baz=108,slow=9.1,SNR=7.1						
MAW	Mawson	80.86	203	P	P	20 08 03.8	-0.1
	2.4nm,0.6s,mb4.0,baz=126,slow=7.7,SNR=18						
QSPA	South Pole Qui	82.75	180	*e*P	P	20 08 13.9	+0.4
	7.4nm,0.7s,mb4.5						
ILAR	Eielson Array	86.87	23	P	P	20 08 33.3	-0.7
	1.9nm,0.8s,mb4.0,baz=249,slow=5.3,SNR=19						
HLID	Hailey	101.66	47	*e*Pdif	P	20 09 47.8	+5.3
	2.7nm,0.8s						
DBIC	Dimbokro	151.38	271	PKPbc	PKPdf	20 15 44.8	+8.6
	9.4nm,0.5s,baz=102,slow=2.6,SNR=30						

MAN 09 19:57:00.8, 11.33N×124.60E, h6^{km}, mb4.4, ML3.2, MS3.0, 1C, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OCLP	Ormoc	0.28	178	*e*P	Pg	19 57 06.5	0.0
OCLP				*e*S	Sg	19 57 11.6	+1.4
PLP	Palo	0.41	114	*e*P	Pg	19 57 09.5	+0.5
PLP				*i* S	Sg	19 57 16.2	+1.8
BESP	Borongan	0.86	72	*e*P	Pb	19 57 17.8	0.0
BESP				*e*S	Sb	19 57 31.1	+1.8
CNP	Catarman	1.17	3	*e*P	Pb	19 57 22.8	-0.3
CNP				*e*S	Sb	19 57 40.3	+1.9
LLP	Lapu-Lapu	1.19	212	*e*P	Pb	19 57 19.0	-4.3
MSLP	Maasin	1.22	168	*e*P	Pb	19 57 22.9	-0.9
MSLP				*e*S	Sb	19 57 42.6	+3.0
RCP	Roxas	1.83	277	⇑*e*P	Pn	19 57 32.4	-0.7
GUIM	Jordan	2.10	251	*e*P	Pn	19 57 36.5	-0.4
GUIM				*e*S	Sn	19 58 03.3	-0.3

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PVCP  Virac                2.29 349 eP      Pn        19 57 41.3 +1.5
CUYO  Cuyo Island          3.55 263 eP      Pn        19 57 56.3 -1.3
PAGZ  Pagadian             3.66 199 eP      Pn        19 57 59.9 +0.6
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IDC 09 20:01:18.4±7.7, 36.05N×76.41E, mb3.7/3, mb1 3.5/5, mb1mx3.3/17, ML3.1/2, MS3.3/1, Ms1 3.3/1, ms1mx2.4/17, Error ellipse: s-maj=137.0km s-min=38.4km az=136.0, Kashmir-Xinjiang border region

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Code  Station Name          Δ°   AZ°   Phase ID           Time      Res
                                       Op      ISC        h  m  s   ISC
MKAR  Makanchi Array      11.60  20    Pn      P          20 04 08.5 +0.3
      0.1nm,0.3s,baz=204,slow=13,SNR=6.3
MKAR                                   Sn      S          20 06 13.8 -6.0
      0.1nm,0.3s,baz=201,slow=37,SNR=3.2
BVAR  Borovoye Array      17.50 348    P       P          20 05 22.2 -3.0
      0.1nm,0.3s,baz=158,slow=7.8,SNR=3.4
BRTR  Keskin Array B      33.72 289    LR      LR         20 23 21.7
      comp=Z,47nm,21.2s,baz=85,slow=39
FINES FINESS Array B      40.33 325    P       P          20 08 57.1 -1.8
      0.4nm,0.3s,baz=118,slow=9.4,SNR=6.8
HFS   Hagfors             46.12 322    P       P          20 09 44.1 -1.7
      1.2nm,0.8s,baz=100,slow=10.0,SNR=2.8
NOA   NORSAR Array B      47.37 323    P       P          20 09 53.6 -2.0
      0.6nm,0.8s,baz=90,slow=7.2,SNR=2.2
```

NNC 09 20:03:49.3±2.9, 36.86N×69.61E, mpv4.8, Error ellipse: s-maj=45.8km s-min=20.6km az=99.0

BJI 09 20:03:59.4, 37.86N×69.70E, h7km, mB5.0, mb4.6, ML4.8, Ms4.5, Msz4.0

NEIC 09 20:03:59.1±0.3, 37.48N×69.66E, h10km, mb4.7/41, Error ellipse: s-maj=7.0km s-min=4.9km az=207.0

IDC 09 20:03:59.1±0.8, 37.57N×69.53E, mb4.3/20, mb1 4.5/22, mb1mx4.5/23, ML4.1/2, MS3.5/1, Ms1 3.7/1, ms1mx2.7/16, Error ellipse: s-maj=20.4km s-min=13.1km az=169.0

MOS 09 20:04:02.5±1.2, 37.68N×69.52E, h33km, mb4.6/19, Error ellipse: s-maj=11.8km s-min=6.8km az=90.0

ISC 09 20:03:58.7±1.1, 37.52N±0.03×69.47E±0.03, h12km±7km, n160, σ1§13/174, mb4.5/65, MS3.7/11, 16C-7D, Afghanistan-Tajikistan border region

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Code  Station Name          Δ°   AZ°   Phase ID           Time      Res
                                       Op      ISC        h  m  s   ISC
TAS   Tashkent             3.81 358  ePN      Pn         20 05 10.0 +12
TAS                                   pmax    pmax
      comp=Z,520µm,1.6s
CHCP  Chirah Chowk         4.94 140   P       Pn         20 05 17.5 +3.0
THW   Thamme Wali          5.06 158   P       Pn         20 05 18.4 +2.1
SBDP  Sheikh Budin         5.32 168   P       Pn         20 05 22.1 +2.2
KK31  Karatay Array        5.64   8 ⇓Pn       Pn         20 05 25.2 +0.8
      comp=Z,70nm,0.8s,baz=191,slow=13,SNR=64
KK31                                ⇑Pg       Pg         20 05 44.1 -7.2
      comp=Z,30nm,0.5s,baz=182,slow=14,SNR=9.6
KK31                                ⇑Lg                  20 07 01.0
      comp=Z,140nm,0.6s,baz=191,slow=28,SNR=4.3
KKAR  Karatay Array        5.64   8  ePN      Pn         20 05 25.1 +0.7
KKAR                                  pmax    pmax
      comp=Z,6.0nm,0.3s
AML   Almayashu            5.64  34   P       Pn         20 05 27.0 +2.6
      SNR=24
DRP   Derazinda            5.79 174   P       Pn         20 05 30.6 +4.1
UCH   Uchtor               6.10  38   P       Pn         20 05 32.5 +1.6
      SNR=49
EKS2  Erkin-Say            6.11  31   P       Pn         20 05 33.6 +2.6
      SNR=33
SARP  Sargodha             6.17 154   P       Pn         20 05 33.6 +1.7
AAK   Ala-Archa            6.40  35   P       Pn         20 05 37.5 +2.4
      SNR=40
AAK   Ala-Archa            6.40  35  eP       Pn         20 05 34.8 -0.4
      comp=Z,50nm,0.6s
FRU   Bishkek              6.61  35  ePN      Pn         20 05 40.0 +1.9
FRU                                  i                   20 06 03.0
FRU                                  e                   20 07 41.0
FRU                                   pmax    pmax
      comp=Z,120nm,2.0s
KBK   Karagaybulak         6.63  38   P       Pn         20 05 40.8 +2.3
      SNR=40
CHMS  Chumysh              6.80  35   P       Pn         20 05 41.8 +1.0
      SNR=65
USP   Ospenovka            6.91  32   P       Pn         20 05 42.9 +0.6
      SNR=23
TKM2  Tokmak 2             7.15  39   P       Pn         20 05 46.7 +1.0
      SNR=17
BHK   Bhakra               8.36 135  ePG      rx         20 06 27.6
BHK                                  e        Sn         20 07 42.8 +5.0
KLP   Kalpa                9.38 127  eP       P          20 06 15.3 -1.5
KLP                                  e                   20 08 02.8
KLP                                  e                   20 08 06.2
      comp=Z,109nm,1.1s
KLP                                  e                   20 08 13.3
      comp=N,1µm,1.0s
KHET  Khetri              10.81 149  eP       P          20 06 31.7 -4.7
KHET                                 e                   20 08 27.1
KHET                                 e                   20 08 35.2
      comp=Z,60nm,1.0s
KHET                                 e                   20 08 39.3
      comp=E,68nm,0.6s
JOSI  Joshimath           10.87 127  e        P          20 06 39.2 +2.1
NDI   New Delhi           10.94 141  eP       P          20 06 36.0 -2.1
NDI                                  e                   20 08 33.0
AYAN  Aya Nagar           11.06 142  eP       P          20 06 34.8 -5.0
AYAN                                 e                   20 08 39.7
AJM   Ajmer               11.84 157  eP       P          20 06 47.0 -3.4
AJM                                  i                   20 09 00.0
MKAR  Makanchi Array      13.27  42   Pn      P          20 07 07.6 -1.8
      comp=E,0.7nm,0.3s,baz=229,slow=13,SNR=48
MKAR                                  Lg                 20 10 58.7
      comp=E,0.1nm,0.3s,baz=220,slow=24,SNR=2.3
AB31  Akbulak array       13.61 333 ⇑Pn       P          20 07 11.8 -2.1
      comp=E,11nm,0.6s,baz=151,slow=12,SNR=162
AB31                                ⇑Sn       S          20 09 41.3 -4.7
      comp=E,10nm,0.7s,baz=154,slow=22,SNR=5.5
AB31  Akbulak array       13.61 333  eP       P          20 07 10.5 -3.4
AB31                                 eS       S          20 09 39.2 -6.8
AB31                                  pmax    pmax
      comp=Z,7.0nm,0.6s
AB31                                  smax
      comp=Z,2.0nm,0.4s
BHJ   Bhuj                14.22 179  eP       P          20 07 19.9 -2.1
KURK  Kurchatov           14.72  23 ⇑Pn       P          20 07 25.6 -2.9
      comp=Z,4.6nm,0.8s,baz=187,slow=10.0,SNR=11
KURK                                ⇑Lg                  20 11 53.9
      comp=Z,42nm,1.7s,baz=147,slow=8.3,SNR=3.4
KURK  Kurchatov           14.72  23  i P      P          20 07 25.5 -3.0
KURK                                  pmax    pmax
      comp=Z,4.0nm,0.8s
KURK  Kurchatov           14.72  23  eP       P          20 07 25.5 -3.0
      comp=Z,7.9nm,1.0s
WMQ   Urumqi              15.18  60   P       P          20 07 33.0 -1.5
WMQ                                   AP                 20 07 36.4
WMQ                                   XP                 20 07 40.0
WMQ                                   PP      PP         20 07 45.2 -1.5
WMQ                                   S       S          20 10 21.0 -2.3
WMQ                                   SS      SS         20 10 38.0 -3.1
WMQ                                   AMB     AMB
      comp=Z,35nm,0.9s
VOSK  Vostochnaya         15.24   3 ⇑Pn       P          20 07 33.3 -2.0
      comp=Z,13nm,0.9s
VOSK                                ⇑Sn       S          20 10 36.0 +11
      comp=Z,18nm,1.2s
VOSK                                ⇓Lg                  20 12 09.9
      comp=Z,43nm,1.7s
VOSK  Vostochnaya         15.24   3   P       P          20 07 33.5 -1.8
VOSK                                  pmax    pmax
      comp=Z,12nm,0.9s
KOLN  Koldanda            15.35 125  eP       P          20 07 32.9 -3.9
      comp=Z,77nm,0.8s
ZRNK  Zerenda             15.44 359 ⇑Pn       P          20 07 36.9 -0.9
      comp=Z,15nm,0.8s
ZRNK                                ⇓Sn       S          20 10 39.1 +10
      comp=Z,18nm,1.2s
ZRNK                                ⇑Lg                  20 12 18.6
      comp=Z,60nm,1.9s
ZRNK  Zerenda             15.44 359  eP       P          20 07 34.8 -3.0
      comp=Z,8.1nm,0.6s
BVA0  Borovoye Array      15.52   2   Pn      P          20 07 37.7 -1.2
      comp=Z,2.3nm,0.7s,baz=205,slow=41,SNR=136
BVA0                                ⇑Sn       S          20 10 39.4 +8.2
      comp=Z,2.4nm,1.4s
BVA0                                ⇓Lg                  20 12 20.4
      comp=Z,6.1nm,1.7s
BVAR  Borovoye Array      15.52   2   Pn      P          20 07 37.4 -1.5
      comp=Z,1.1nm,0.3s,baz=174,slow=15,SNR=25
BVAR                                  Lg                 20 12 14.5
      baz=177,slow=25,SNR=2.4
BRVK  Borovoye            15.55   2  eP       P          20 07 37.5 -1.8
      comp=Z,12nm,0.6s
BHPL  Bhopal              15.78 152  eP       P          20 07 38.3 -4.2
GKN   Gorkha              15.88 122  eP       P          20 07 39.6 -4.0
      comp=Z,137nm,0.7s
DMN   Daman               16.45 122  eP       P          20 07 45.5 -5.4
      comp=Z,105nm,0.9s
KKN   Kakani              16.45 122  eP       P          20 07 46.1 -4.8
      comp=Z,82nm,0.6s
PKI   Pulchoki            16.68 122  eP       P          20 07 48.6 -5.2
      comp=Z,140nm,1.0s
NVS   Novosibirsk         19.71  24  eP       P          20 08 27.1 -3.6
NVS                                   pmax    pmax
      comp=N,17nm,0.6s
NVS                                   pmax    pmax
      comp=E,5.0nm,0.6s
NVS                                   pmax    pmax
      comp=Z,12nm,0.6s
ARU   Arti                20.29 342   Pn      P          20 08 36.9 +0.1
      comp=Z,223nm,0.7s,SNR=18
ARU   Arti                20.29 342⇑iP        P          20 08 36.5 -0.3
ARU                                  e                   20 08 53.3
ARU                                  eS       S          20 12 19.8 +1.1
ARU                                  i SS     SS         20 12 39.5 -8.7
ARU                                   pmax    pmax
      comp=Z,24nm,0.7s
ARU                                   MLR     MLR
      comp=Z,500nm,17.0s,MS3.9
ARU                                   MLR     MLR
      comp=N,300nm,16.0s,MS3.9
ARU                                   MLR     MLR
      comp=E,300nm,17.0s,MS3.9
GOF   Gofitskoye          21.18 299⇑iP        P          20 08 46.5 +0.4
GOF                                   pmax    pmax
      comp=Z,70nm,1.4s,mb4.8
HYB   Hyderabad           21.56 156  i P      P          20 08 49.5 -0.6
HYB                                  eS       S          20 12 45.5 +1.8
HYB   Hyderabad           21.56 156  eP       P          20 08 49.5 -0.6
SHL   Shillong            22.45 116  eP       P          20 08 58.2 -0.7
SHL                                  e                   20 12 58.0
SOC   Sochi               23.33 294  eP       P          20 09 07.6 +0.2
SOC                                  e                   20 09 37.3
SOC                                  eS       S          20 13 10.4 -5.3
SOC                                   pmax    pmax
      comp=N,18nm,0.8s
SOC                                   pmax    pmax
      comp=E,6.0nm,0.8s
SOC                                   pmax    pmax
      comp=Z,18nm,0.8s,mb4.5
SOC                                   MLR     MLR
      comp=Z,263nm,24.0s,MS3.6
SOC                                   MLR     MLR
      comp=N,114nm,19.0s,MS3.5
SOC                                   MLR     MLR
      comp=E,162nm,23.0s,MS3.5
GTA   Gaotai              23.78  76   P       P          20 09 12.7 +0.9
GTA                                   AP                 20 09 16.6
GTA                                   XP                 20 09 18.9
GTA                                   PP      PP         20 09 43.2 -1.9
GTA                                   PCP     PcP        20 12 57.3 +0.2
GTA                                   XS                 20 13 35.9
GTA                                   AMB     AMB
      comp=Z,11nm,1.3s,mb4.1
GTA                                   AMB     AMB
      comp=Z,59nm,4.0s
GTA                                   LR      LR
      comp=N,123nm,11.8s,MS3.7
GTA                                   LR      LR
      comp=E,87nm,13.3s,MS3.7
GTA                                   LR      LR
      comp=Z,63nm,13.3s,MS3.3
MALT  Malatya             24.45 281  eP       P          20 09 20.2 +1.9
      comp=Z,8.3nm,1.0s,mb4.1
ANN   Anapa               25.08 297  eP       P          20 09 29.9 +5.6
ANN                                   pmax    pmax
      comp=Z,69nm,1.3s,mb5.0
MOY   Mondy               26.29  47  eP       P          20 09 35.3 -0.2
ZAK   Zakamensk           27.27  51⇑eP        P          20 09 44.6  0.0
BRTR  Keskin Array B      27.97 286   P       P          20 09 51.6 +0.6
      comp=Z,5.0nm,1.0s,mb4.1,baz=105,slow=8.4,SNR=11
BRTR  Keskin Array B      27.97 286   P       P          20 09 51.6 +0.6
BRTR                                  pmax    pmax
      comp=Z,5.0nm,1.0s
OBN   Obninsk             28.37 319⇓eP        P          20 09 54.3 -0.2
OBN                                  e                   20 10 43.9
OBN                                   pmax    pmax
      comp=Z,9.0nm,0.7s,mb4.5
OBN                                   MLR     MLR
      comp=Z,400nm,16.0s,MS4.1
OBN   Obninsk             28.37 319  eP       P          20 09 52.3 -2.1
      comp=Z,7.8nm,0.6s,mb4.5
SONM  Songino Array       28.79  57   P       P          20 09 58.3  0.0
      comp=Z,1.4nm,0.7s,mb3.8,baz=252,slow=7.8,SNR=5.3
KMI   Kunming             30.83 104  eP       P          20 10 19.8 +3.1
KMI                                   S       S          20 15 19.6 +0.8
KMI                                   LR      LR
      comp=Z,110nm,32.2s,MS3.3
AKASG Malin Array Be      31.36 308   P       P          20 10 19.9 -1.2
      comp=Z,2.4nm,0.5s,mb4.2,baz=80,slow=7.3,SNR=16
AKASG Malin Array Be      31.36 308   P       P          20 10 19.9 -1.2
AKASG                                 pmax    pmax
      comp=Z,2.0nm,0.5s
CMAR  Chiang Mai Arr      32.01 118   P       P          20 10 24.0 -3.2
      comp=Z,3.4nm,0.9s,mb4.2,baz=315,slow=8.9,SNR=16
CMAR                                  LR      LR         20 26 37.3
      comp=Z,79nm,19.6s,MS3.4,baz=245,slow=42
CMAR  Chiang Mai Arr      32.01 118   P       P          20 10 24.0 -3.2
CMAR                                  pmax    pmax
      comp=Z,3.0nm,0.9s
CMAR                                  MLR     MLR
      comp=Z,79nm,19.6s
CMAR  Chiang Mai Arr      32.01 118   P       P          20 10 24.0 -3.2
HHC   Hu-ho-hao-te        32.57  71  eP       P          20 10 32.7 +0.9
HHC                                   XP      sP         20 10 38.9 +1.9
HHC                                   PP      PP         20 11 42.5 +1.9
HHC                                   S       S          20 15 48.7 +2.8
HHC                                   XS                 20 15 55.2
HHC                                   SS      SS         20 17 40.3 -2.2
HHC                                   AMB     AMB
      comp=Z,16nm,0.6s,mb5.1
HHC                                   AMB     AMB
      comp=Z,95nm,5.3s
GYA   Guiyang             33.22  98 ⇑P        P          20 10 38.5 +0.9
GYA                                   AP      pP         20 10 41.7 +0.4
GYA                                   XP      sP         20 10 43.7 +0.9
GYA                                   S       S          20 15 55.6 -0.5
GYA                                   AMB     AMB
      comp=Z,10.0nm,1.1s,mb4.7
GYA                                   LR      LR
      comp=N,230nm,14.4s,MS4.1
GYA                                   LR      LR
      comp=E,140nm,14.5s,MS4.1
GYA                                   LR      LR
      comp=Z,240nm,14.1s,MS4.1
MLR   Muntele Rosu        33.22 298   P       P          20 10 37.9 +0.5
      comp=Z,7.6nm,1.0s,mb4.6,baz=24,slow=5.1,SNR=6.4
MLR   Muntele Rosu        33.22 298   P       P          20 10 37.9 +0.5
MLR                                   pmax    pmax
      comp=Z,8.0nm,1.0s
BOD   Bodaibo             35.35  40  eP       P          20 10 53.8 -1.9
KWP   Kalwaria            35.43 305  eP       P          20 10 56.6 +0.3
      comp=Z,13nm,0.9s,mb4.9
IDI   Anoyia              35.70 280   P       P          20 11 00.4 +1.5
      comp=Z,22nm,1.1s,mb5.0,baz=39,slow=13,SNR=2.6
FINES FINESS Array B      35.96 326   P       P          20 11 00.1 -0.7
      comp=Z,1.5nm,0.5s,mb4.2,baz=124,slow=8.6,SNR=10
FINES FINESS Array B      35.96 326  i P      P          20 11 00.5 -0.3
FINES                                 pmax    pmax
      comp=Z,2.0nm,0.5s
KAF   Kangasniemi         36.11 327  ep       P          20 11 01.1 -0.9
BJT   Baijiatuau          36.17  71  eP       P          20 11 03.3 +0.4
      comp=Z,16nm,1.0s,mb4.9
BJI   Beijing             36.18  71   P       P          20 11 03.2 +0.4
BJI                                   AMB     AMB
      comp=Z,10.0nm,0.9s,mb4.8
BJI                                   LR      LR
      comp=Z,48nm,16.6s,MS3.4
KEV   Kevo                39.41 338  ep       P          20 11 30.1 +0.5
VRAC  Vranov              39.42 305   P       P          20 11 31.3 +1.4
      comp=Z,1.3nm,0.5s,mb4.0,baz=69,slow=12,SNR=4.0
ARCES ARCESS Array B      39.74 338   P       P          20 11 32.7 +0.3
      comp=Z,5.6nm,0.6s,mb4.5,baz=108,slow=7.7,SNR=23
ARCES ARCESS Array B      39.74 338   P       P          20 11 32.7 +0.3
ARCES                                 pmax    pmax
      comp=Z,6.0nm,0.6s
NJ2   Nanjing             40.55  83  eP       P          20 11 39.2 -0.2
NJ2                                   AP      pP         20 11 43.5 +0.4
NJ2                                   XP      sP         20 11 46.0 +1.4
NJ2                                   S       S          20 17 47.0 -1.1
NJ2                                   SS      SS         20 20 41.0 -1.5
NJ2                                   AMB     AMB
      comp=Z,20nm,0.9s,mb4.8
NJ2                                   LR      LR
      comp=N,410nm,21.9s,MS4.4
NJ2                                   LR      LR
      comp=E,450nm,23.4s,MS4.4
NJ2                                   LR      LR
      comp=Z,310nm,23.5s,MS4.1
BRG   Berggiesshubel      41.04 307  eP       P          20 11 44.1 +0.9
BRG                                   pmax    pmax
      comp=Z,5.0nm,0.9s,mb4.1
BRG   Berggiesshubel      41.04 307  eP       P          20 11 44.1 +0.9
      comp=Z,4.6nm,0.9s,mb4.1
GERES GERESS Array B      41.35 304   P       P          20 11 46.5 +0.7
      comp=Z,1.0nm,0.8s,mb3.5,baz=76,slow=5.5,SNR=7.0
GERES                                 PP      PP         20 13 28.8 +4.3
      comp=Z,1.0nm,0.8s,baz=74,slow=9.7,SNR=5.4
GERES                                 PcP     PcP        20 13 44.9 +0.1
      comp=Z,1.4nm,0.8s,baz=72,slow=3.1,SNR=5.8
GERES GERESS Array B      41.35 304   P       P          20 11 46.5 +0.7
GERES                                                    20 13 28.8
GERES                                                    20 13 44.9
GERES                                 pmax    pmax
      comp=Z,1.0nm,0.8s
GERES                                 pmax    pmax
      comp=Z,1.0nm,0.9s
GERES                                 pmax    pmax
      comp=Z,1.0nm,0.8s
KHC   Kasperske Hory      41.40 305  ePP      PP         20 13 29.0 +3.9
CN2   Changchun           42.23  63  eP       P          20 11 53.8 +0.7
CN2                                  eXP      sP         20 12 00.8 +2.5
SSE   Sheshan             42.76  83   P       P          20 11 57.5  0.0
SSE                                   XP      sP         20 12 02.0 -0.7
SSE                                   S       S          20 18 19.8 -0.9
SSE                                   AMB     AMB
      comp=Z,30nm,0.7s,mb5.1
SSE                                   AMB     AMB
      comp=Z,180nm,4.0s
SSE                                   LR      LR
      comp=N,94nm,26.1s,MS3.6
SSE                                   LR      LR
      comp=E,51nm,26.1s,MS3.6
SSE                                   LR      LR
      comp=Z,28nm,15.7s
NB2   NORSAR Subarra      42.83 322   P       P          20 11 57.1 -0.7
      comp=Z,2.3nm,0.5s,mb4.2,baz=97,slow=7.9
NOA   NORSAR Array B      42.83 322   P       P          20 11 57.3 -0.5
      comp=Z,2.0nm,0.5s,mb4.1,baz=97,slow=8.2,SNR=14
NOA                                   PP      PP         20 13 35.0 -4.8
      comp=Z,1.5nm,0.8s,baz=98,slow=7.9,SNR=3.3
NOA   NORSAR Array B      42.83 322   P       P          20 11 57.3 -0.5
NOA                                                      20 13 35.0
NOA                                   pmax    pmax
      comp=Z,2.0nm,0.5s
NOA                                   pmax    pmax
      comp=Z,2.0nm,0.8s
GRA1  Grafenberg Arr      42.87 306  eP       P          20 12 02.4 +4.2
      comp=Z,10.0nm,1.4s,mb4.3
GRF   Grafenberg Arr      42.87 306  eP       P          20 12 02.4 +4.2
GRF                                   pmax    pmax
      comp=Z,10.0nm,1.4s,mb4.3
IPM   Ipoh                43.65 131⇓eP        P          20 12 04.5 -0.5
YAK   Yakutsk             43.86  36c iP       P          20 12 05.3 -0.8
YAK                                   pmax    pmax
      comp=Z,30nm,0.7s,mb5.1
YAK                                   MLR     MLR
      comp=Z,100nm,12.0s,MS4.0
YAK   Yakutsk             43.86  36  eP       P          20 12 05.0 -1.0
      comp=Z,27nm,0.7s,mb5.1
DAVOX Davos               44.19 302   P       P          20 12 09.5 +0.6
      comp=Z,2.7nm,0.6s,mb4.2,baz=150,slow=6.5,SNR=6.8
DAVOX                                 PcP     PcP        20 13 55.9 +1.6
      comp=Z,3.0nm,0.6s,baz=116,slow=12,SNR=5.0
KLR   Kul'dur             45.54  54  eP       P          20 12 20.2 +0.5
PGF   Pioggiola           45.72 296  eP       P          20 12 21.2 -0.1
      comp=Z,14nm,0.8s,mb4.7
SBF   Sospel              46.49 298  eP       P          20 12 27.5 +0.1
      comp=Z,25nm,0.9s,mb4.8
LPG   La Plagne           46.58 301  eP       P          20 12 28.5 +0.5
      comp=Z,3.9nm,0.5s,mb4.3
LPL   La Plagne           46.59 301  eP       P          20 12 28.5 +0.5
      comp=Z,2.4nm,0.4s,mb4.2
MBDF  Montbardon          46.74 300  eP       P          20 12 29.1 -0.2
      comp=Z,4.3nm,0.6s,mb4.2
CABF  La Chapelle         46.78 302  eP       P          20 12 29.3 -0.2
      comp=Z,9.0nm,0.8s,mb4.5
MEZF  Maizieres J'vi      47.06 305  eP       P          20 12 31.9 +0.1
FRF   La Foret Royal      47.12 298  eP       P          20 12 32.1 -0.3
      comp=Z,15nm,0.8s,mb4.7
LMR   La Mourre           47.28 298  eP       P          20 12 33.4 -0.2
BAIF  Baives              47.31 307  eP       P          20 12 33.3 -0.4
ORIF  Oris-en-Rattie      47.31 300  eP       P          20 12 33.7 -0.1
ORIF                                 eR
      comp=Z,137nm,20.8s
SMRF  Simiane la Rot      47.77 299  eP       P          20 12 37.4  0.0
      comp=Z,9.4nm,1.0s,mb4.5
LOR   Lormes              48.12 304  eP       P          20 12 39.7 -0.4
      comp=Z,3.4nm,0.6s,mb4.2
LOR                                  eR
      comp=Z,71nm,20.2s
VIVF  Saint-Julien-l      48.16 300  eP       P          20 12 40.4  0.0
SMF   Signal de Mont      48.27 303  eP       P          20 12 41.0 -0.3
      comp=Z,17nm,0.9s,mb4.8
SSF   Saint Saulge        48.40 303  eP       P          20 12 41.7 -0.6
      comp=Z,2.4nm,0.6s,mb4.1
AVF   Avril sur Loir      48.57 303  eP       P          20 12 43.2 -0.3
      comp=Z,15nm,0.8s,mb4.8
KMBO  Kilima Mbogo        48.64 225   P       P          20 12 45.9 +1.3
      comp=Z,0.8nm,0.5s,mb4.0,baz=56,slow=21,SNR=3.6
LASF  Ste Croix           48.93 299  eP       P          20 12 46.7 +0.3
      comp=Z,9.4nm,0.8s,mb4.5
TCF   Toulx Ste Croi      49.46 303  eP       P          20 12 50.5 +0.1
      comp=Z,8.2nm,0.8s,mb4.5
JNU   Nakatsue            49.52  76   P       P          20 12 50.8 -0.4
      comp=Z,20nm,0.9s,mb5.1,baz=171,slow=2.5,SNR=7.6
MTLF  Montolieu           50.28 299  eP       P          20 12 56.8  0.0
      comp=Z,18nm,1.0s,mb4.8
LDF   La Druitiere        50.39 306  eP       P          20 12 57.2 -0.3
      comp=Z,24nm,1.1s,mb4.8
FLN   La Foliniere        50.58 306  eP       P          20 12 58.2 -0.8
      comp=Z,16nm,0.9s,mb4.7
FLN                                  eR
      comp=Z,82nm,18.5s
EKA   Eskdalemuir Ar      50.71 315   P       P          20 13 00.8 +1.0
      comp=Z,2.3nm,0.7s,mb4.2,baz=81,slow=7.0,SNR=7.6
EKA                                   PcP     PcP        20 14 18.7 +1.4
      comp=Z,1.7nm,0.6s,baz=92,slow=4.5,SNR=5.5
EKA   Eskdalemuir Ar      50.71 315   P       P          20 13 00.9 +1.1
EKA                                                      20 14 18.7
EKA                                   pmax    pmax
      comp=Z,2.0nm,0.7s
EKA                                   pmax    pmax
      comp=Z,2.0nm,0.6s
LFF   La Frestale         50.82 301  eP       P          20 13 00.8 -0.1
      comp=Z,29nm,1.1s,mb4.8
GRR   Gorron              50.92 306  eP       P          20 13 00.8 -0.7
      comp=Z,9.7nm,0.8s,mb4.5
EPF   Esparros            51.68 299  eP       P          20 13 06.7 -0.7
      comp=Z,6.3nm,0.7s,mb4.3
SGMF  Saint Gilles        52.05 306  eP       P          20 13 09.3 -0.8
      comp=Z,21nm,1.0s,mb4.7
MBAR  Mbarara             52.13 232  eP       P          20 13 09.6 -1.6
ETSF  Etsaut              52.35 299  eP       P          20 13 12.4 -0.1
      comp=Z,24nm,0.8s,mb4.9
ROSF  Rostrenen           52.48 307  eP       P          20 13 12.5 -0.9
QUIF  Quistinic           52.53 306  eP       P          20 13 12.8 -1.0
      comp=Z,15nm,0.8s,mb4.7
ESDC  Sonseca Array       55.91 297   P       P          20 13 38.6  0.0
      comp=Z,2.8nm,0.7s,mb4.4,baz=55,slow=7.8,SNR=6.9
EVO   Evora               59.25 297  eP       P          20 14 02.1 -0.1
      comp=Z,9.8nm,1.0s,mb4.5
EVO                                  eR
      comp=Z,69nm,20.2s
SUMG  Summit              59.70 341  eP       P          20 14 04.0 -0.9
      comp=Z,15nm,1.0s,mb5.0
LSZ   Lusaka              65.30 224  eP       P          20 14 43.2 +0.3
INK   Inuvik              73.10   9   P       P          20 15 31.6 +1.6
      comp=Z,6.4nm,1.0s,mb4.5,baz=329,slow=6.7,SNR=6.3
INK   Inuvik              73.10   9   P       P          20 15 31.6 +1.7
INK                                   pmax    pmax
```

	comp=Z,6.0nm,1.0s						
DBIC	Dimbokro	73.54	266	P	P	20 15 34.3	+0.6
	comp=Z,2.6nm,0.6s,mb4.3,baz=30,slow=10,SNR=6.5						
DBIC	Dimbokro	73.54	266	P	P	20 15 34.3	+0.7
DBIC				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KIC	Kosan Boka	73.64	265	*e*P	P	20 15 34.9	+0.7
	comp=Z,39nm,0.7s,mb5.4						
KIC				*e*PcP	PcP	20 15 44.4	-5.9
TIC	Toumodi	73.69	266	*e*P	P	20 15 35.2	+0.7
	comp=Z,58nm,0.6s						
TIC				*e*PcP	PcP	20 15 45.1	-5.5
COLA	College	73.84	16*d*	*i*P	P	20 15 34.8	+0.5
COLA				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.8						
COLA	College	73.84	16	*e*P	P	20 15 34.8	+0.5
	comp=Z,14nm,1.0s,mb4.8						
LIC	Lamto	73.94	265	*e*P	P	20 15 36.7	+0.7
	comp=Z,78nm,0.8s						
LIC				*e*PcP	PcP	20 15 44.6	-7.1
LIC	Lamto	73.94	265	*e*P	P	20 15 36.4	+0.4
	comp=Z,12nm,1.0s,mb4.8						
ILAR	Eielson Array	74.13	15	P	P	20 15 35.9	-0.1
	comp=Z,4.9nm,1.0s,mb4.4,baz=313,slow=4.9,SNR=25						
ILAR	Eielson Array	74.13	15	P	P	20 15 35.9	-0.1
ILAR				pmax	pmax		
	comp=Z,5.0nm,1.0s						
TSUM	Tsumeb	74.60	230	*e*P	P	20 15 39.7	+0.1
DAWY	Dawson	76.21	13	*e*P	P	20 15 47.8	-0.2
DLBC	Dease Lake	83.02	10	*e*P	P	20 16 24.9	+0.3
WRA	Warramunga Arr	83.56	121	P	P	20 16 28.5	+0.2
	comp=Z,1.1nm,1.1s,mb3.9,baz=323,slow=4.9,SNR=11						
WRA	Warramunga Arr	83.56	121	P	P	20 16 28.5	+0.3
WRA				pmax	pmax		
	comp=Z,1.0nm,1.1s						
FFC	Flin Flon	87.83	355	*e*P	P	20 16 49.3	+0.8
	comp=Z,10nm,0.9s,mb5.0						

WEL 09 20:21:00.2±0.3**, 45.14S×167.37E, h88^{km}±2^{km}, ML3.5**/4**, 2C-1D, Error ellipse: s-maj=3.2km s-min=1.5km az=90.0, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DCZ	Deep Cove	0.37	205	PN	P	20 21 13.4	-0.4
DCZ				SN	S	20 21 23.4	-0.7
MLZ	Mavora Lakes	0.60	110	⇑PN	P	20 21 15.4	-0.4
MLZ				SN	S	20 21 26.5	-0.8
MSZ	Milford Sound	0.61	40	⇑PN	P	20 21 15.8	-0.2
MSZ				SN	S	20 21 26.8	-0.7
WHZ	Wether Hill Ro	0.85	152	PN	P	20 21 18.1	-0.3
WHZ				SN	S	20 21 31.3	-0.5
WKZ	Wanaka	1.21	76	PN	P	20 21 22.4	-0.2
JCZ	Jackson Bay	1.46	43	PN	P	20 21 24.8	-1.0
TUZ	Tuapeka	1.78	118	PN	P	20 21 29.4	-0.7
TUZ				SN	S	20 21 49.0	-3.0
LBZ	Lake Benmore	2.14	70	PN	P	20 21 32.6	-2.3
LBZ				SN	S	20 21 56.7	-3.7
ODZ	Otahua Downs	2.32	89	⇓PN	P	20 21 35.6	-1.8
ODZ				SN	S	20 22 00.5	-4.3
ODZ				SN	S	20 22 00.7	-4.2
MQZ	McQueen's Vall	4.04	71	SN	S	20 22 38.8	-8.9

IDC ***09*** *20:30:34.7±15.0, 6.93S×156.31E, h145^{km}±124^{km}, mb3.7/5, mb1 3.8/6, mb1mx3.7/10, ML3.6/1, Error ellipse: s-maj=87.0km s-min=29.4km az=82.0*

NEIC ***09*** *20:30:39.6±7.2, 6.95S×156.23E, h191^{km}±67^{km}, mb4.3/6, Error ellipse: s-maj=36.2km s-min=29.2km az=109.0*

ISC 09 20:30:31.6±7.2**, 6.9S**±0.2×**156.3E**±0.3**, h134^{km}**±64^{km}**, n16, σ0^{s}53**/16**, mb4.0**/10**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	16.36	216	P	P	20 34 15.1	+0.2
	0.2nm,0.3s,baz=33,slow=14,SNR=3.0						
CTA	Charters Tower	16.36	216	P	P	20 34 15.1	+0.2
CTAO	Charters Tower	16.36	216	*e*P	P	20 34 19.6	+4.6
	7.3nm,0.9s						
KAKA	Kakadu	24.26	254	*e*P	P	20 35 38.3	+0.6
	10nm,0.5s,mb4.6						
WRAB	Tennant Creek	24.95	237	*e*P	P	20 35 44.6	+0.3
	7.2nm,0.6s,mb4.4						
WB2	Warramunga Arr	24.96	237	*e*P	P	20 35 44.8	+0.5
WRA	Warramunga Arr	24.97	237	P	P	20 35 44.6	+0.2
	1.9nm,0.4s,mb3.9,baz=62,slow=9.8,SNR=25						
ASPA	Alice Springs	27.24	230	*e*P	P	20 36 04.7	-0.7
ASPA				*i*		20 36 09.4	
FITZ	Fitzroy Crossi	31.90	247	*e*P	P	20 36 45.7	-1.1
	3.7nm,0.4s,mb4.5						
MBWA	Marble Bar	38.11	244	*e*P	P	20 37 38.7	-0.7
	5.7nm,0.9s,mb4.2						
CMAR	Chiang Mai Arr	61.93	295	P	P	20 40 40.0	+0.1
	0.9nm,1.0s,mb3.5,baz=111,slow=7.7,SNR=3.5						
CMAR	Chiang Mai Arr	61.93	295	P	P	20 40 40.0	+0.1
SONM	Songino Array	69.96	327	P	P	20 41 31.0	+0.5
	1.3nm,0.6s,mb3.8,baz=90,slow=2.9,SNR=3.0						
MCK	McKinley	81.47	22	P	P	20 42 34.6	-0.4
	2.4nm,1.0s,mb3.8						
MKAR	Makanchi Array	84.19	318	P	P	20 42 49.1	-0.1
	1.1nm,0.6s,mb3.8,baz=100,slow=6.9,SNR=9.9						
MAW	Mawson	85.00	203	P	P	20 42 53.4	+0.6
	1.4nm,0.6s,mb3.9,baz=105,slow=7.5,SNR=8.9						

NEIC ***09*** *20:33:20.7, 34.87S×70.44W, h1^{km}, ML2.7(GUC), After GUC.*

GUC ***09*** *20:33:20.7±0.7, 34.87S×70.44W, h1^{km}±2^{km}, MD3.8, ML2.7*

ISC 09 20:33:19.3±1.7**, 34.97S**±0.07×**70.41W**±0.07**, h6^{km}**±7^{km}**, n13, σ0^{s}51**/20**, 6C-3D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFDO	San Fernando	0.61	305	⇓*i*P	Pg	20 33 31.5	-0.1
SFDO				*i* S	Sg	20 33 40.5	+0.8
CICH	Cipreses	0.65	359	⇓*i*P	Pg	20 33 31.9	-0.4
CICH				*i* S	Sg	20 33 41.0	0.0
CACH	El Canelo	0.87	349	⇑*i*P	Pb	20 33 35.7	-0.7
CHCH	Chadas Angostu	1.06	349	⇓*i*P	Pb	20 33 39.3	-0.3
CHCH				*i* S	Sb	20 33 53.4	-0.1
LMEL	Las Melosas	1.14	9	⇑*i*P	Pb	20 33 40.6	-0.3
LMEL				*i* S	Sb	20 33 56.1	+0.2
LMEL				AMP		20 33 57.9	
	comp=N,312nm,0.2s						
LNV	Longovilo	1.31	320	⇑*i*P	Pb	20 33 43.3	-0.6
LNV				*i* S	Sb	20 34 00.5	-0.3
PCH	Pirque	1.35	356	*e*P	Pb	20 33 44.3	-0.3
TACH	Talagante	1.39	341	*e*P	Pb	20 33 44.8	-0.5
RCDM	Rinconada Maip	1.52	347	*i* P	Pn	20 33 46.8	-0.3
RCDM				AMP		20 34 17.4	
	comp=E,225nm,0.7s						
CLCH	Cerro Calan	1.58	356	⇑*i*P	Pn	20 33 48.6	+0.6
CLCH				AMP		20 34 20.0	
	comp=E,274nm,0.5s						
FCH	Farellones	1.64	3	⇑*i*P	Pn	20 33 49.6	+0.6
FCH				*i* S	Sb	20 34 11.0	+0.4
FCH				AMP		20 34 13.8	
	comp=E,151nm,0.2s						
LCCH	Las Cruces	1.78	327	⇑*i*P	Pn	20 33 51.4	+0.6
LCCH				*i* S	Sn	20 34 13.8	-0.2
JACH	Jahuel	2.29	356	*e*P	Pn	20 33 59.4	+1.2

MDD ***09*** *20:42:26.8±0.4, 37.56N×7.99W, mbLg1.1/5, Error ellipse: s-maj=4.1km s-min=2.2km az=14.0, PRXIMO SIN SOLUCIN*

INMG 09 20:42:26.8±0.8**, 37.56N×7.99W, ML0.7, 1D, Error ellipse: s-maj=2.2km s-min=1.7km az=7.0, Portugal**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EGRO	El Granado	0.40	93	⇓Pg	Pg	20 42 34.1	-0.7
	1.9nm,0.6s,SNR=18						
EGRO				Lg		20 42 39.8	
	2.0nm,0.1s,SNR=14						
PALC	Alcoutim	0.42	102	*e*Pg	Pg	20 42 34.4	-0.7
PALC				*e*Sg	Sg	20 42 39.7	-1.0
	5.0nm,0.1s						
PALC	Alcoutim	0.42	102	Pg	Pg	20 42 34.4	-0.7
PALC				Lg		20 42 39.7	
	2.5nm,0.1s						
PBEJ	Beja	0.48	12	*e*Pg	Pg	20 42 35.7	-0.7
PBEJ				*e*Sg	Sg	20 42 41.9	-0.9
	2.3nm,0.1s						
PBEJ	Beja	0.48	12	Pg	Pg	20 42 35.7	-0.7
PBEJ				Lg		20 42 41.9	
	1.1nm,0.1s						
PTEO	Sao Teotonio	0.58	269	*e*Pg	Pg	20 42 37.2	-1.3
PTEO				*e*Sg	Sg	20 42 45.7	-0.6
EMIN	Mina Concepcio	1.07	78	Pg	Pg	20 42 46.1	-1.9
	1.5nm,0.7s,SNR=14						
EMIN				Lg		20 43 01.1	
	1.0nm,0.2s,SNR=6.6						
EBAD	Badajoz	1.42	32	Pg	Pg	20 42 53.6	-1.7
	1.1nm,0.7s,SNR=7.4						
EBAD				Lg		20 43 12.2	
	1.1nm,0.1s,SNR=7.8						

BJI ***09*** *20:52:38.1, 51.60N×16.10E, h5^{km}, mB4.6, mb4.4, Ms4.1, Msz4.0*

LDG ***09*** *20:52:39.6±0.3, 51.51N×16.30E, h1^{km}, Ml4.5/19, Error ellipse: s-maj=8.2km s-min=3.5km az=9.0, Suspected Mining induced.*

BGR ***09*** *20:52:39.8±0.6, 51.53N×16.21E, h1^{km}, ML4.2/9, Error ellipse: s-maj=6.7km s-min=4.4km az=158.0*

MOS ***09*** *20:52:39.0±1.0, 51.61N×16.16E, h10^{km}, mb4.2/3, Error ellipse: s-maj=8.7km s-min=4.5km az=86.0*

NEIC ***09*** *20:52:40.1±0.2, 51.60N×16.05E, h5^{km}, mb4.3/4, ML4.2(SZGRF), ML4.2(VIE), ML3.8(BRG), ML3.7(CLL), Error ellipse: s-maj=3.2km s-min=2.8km az=136.0*

PRU ***09*** *20:52:41.2, 51.49N×16.13E, Felt In Harrachov*

WAR ***09*** *20:52:41.9, 51.49N×16.10E, ML3.9, Mining Induced*

IDC ***09*** *20:52:42.1±1.4, 51.47N×15.97E, h8^{km}±10^{km}, mb3.8/4, mb1 4.1/14, mb1mx4.0/21, ML4.0/10, Error ellipse: s-maj=9.2km s-min=6.1km az=99.0*

STR ***09*** *20:52:55.3±2.5, 51.19N×14.60E, h10^{km}±1^{km}, Ml4.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 09 20:52:37.8±0.2**, 51.52N**±0.01×**16.07E**±0.02**, n182, σ1^{s}49**/307**, mb4.1**/8**, 21C-1D, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	Ksiaz	0.69	168	*i* PG	Pg	20 52 54.0	+2.4
KSP				*e*SG	Sg	20 53 03.0	+2.1
KSP	Ksiaz	0.69	168	*i* P	Pg	20 52 54.0	+2.4
KSP				*e*		20 53 07.5	
KSP	Ksiaz	0.69	168	*i* Pg	Pg	20 52 54.0	+2.4
KSP				*e*Sg	Sg	20 53 02.6	+1.7
KSP				*e*		20 53 07.5	
UPC	Upice	1.01	182	*e*PG	Pg	20 53 00.1	+2.0
UPC				*e*SG	Sg	20 53 13.0	+1.4
DPC	Dobruska-Polom	1.18	172	*e*PG	Pg	20 53 02.8	+1.4
DPC				*e*SG	Sg	20 53 17.2	0.0
	999nm,0.7s						
DPC	Dobruska-Polom	1.18	172	*e*P	Pg	20 53 02.8	+1.4
DPC				*e*		20 53 17.2	
DPC				smax			
	comp=N,999nm,0.7s						
PVCC	Panska Ves	1.37	224	*e*PG	Pg	20 53 06.9	+1.7
PVCC				*e*SG	Sg	20 53 25.7	+2.2
BRG	Berggiesshubel	1.49	245	*e*Pn	Pn	20 53 07.9	+2.1
BRG				*e*Sg	Sg	20 53 29.9	+2.6
BRG	Berggiesshubel	1.49	245	*i* P	Pn	20 53 07.9	+2.0
BRG				*i*		20 53 29.7	
BRG	Berggiesshubel	1.49	245	*i* Pn	Pn	20 53 07.9	+2.0
BRG				*i* Pg	Pg	20 53 09.7	+2.2
BRG				*i* Sg	Sg	20 53 29.7	+2.4
RUE	Ruedersdorf	1.71	305	*e*Pn	Pn	20 53 11.2	+2.1
RUE				*e*Sn	Sn	20 53 33.5	+1.5
PRU	Pruhonice	1.82	213	*i* PN	Pn	20 53 12.5	+1.9
PRU				PG	Pg	20 53 13.9	-0.1
PRU				*i* x	x	20 53 18.6	
PRU				*i* x	x	20 53 31.5	
PRU				SG	Sg	20 53 37.9	-0.4
	comp=N,454nm,0.4s						
PRU				L		20 54 20.0	
PRU	Pruhonice	1.82	213	*i* P	Pn	20 53 12.5	+1.9
PRU						20 53 37.9	
PRU				smax			
	comp=N,455nm,0.4s						
PRU				MLR	MLR		
	comp=Z,1µm,2.2s						
GKP	Gorka Klasztor	1.89	22	*e*PN	Pn	20 53 15.0	+3.3
GKP				*e*S	Sn	20 53 44.0	+7.4
GKP	Gorka Klasztor	1.89	22	*e*Pn	Pn	20 53 15.3	+3.6
GKP				*e*Pg	Pg	20 53 22.9	+7.3
GKP				*e*Sn	Sn	20 53 44.4	+7.8
CLL	Collm	1.93	265	*e*Pn	Pn	20 53 14.2	+1.9
CLL				*e*Sg	Sg	20 53 44.1	+1.9
CLL	Collm	1.93	265	⇓*i*PN	Pn	20 53 14.2	+2.0
	comp=Z,logA/T=2.0						
CLL				*i* PG	Pg	20 53 17.7	+1.3
CLL				*i*		20 53 20.5	
CLL				*i* SG	Sg	20 53 43.3	+1.1
CLL	Collm	1.93	265	*i* P	Pn	20 53 14.2	+2.0
CLL				*i*		20 53 43.3	
CLL	Collm	1.93	265	*i* Pn	Pn	20 53 14.2	+2.0
CLL				*i* Pg	Pg	20 53 17.7	+1.3
CLL				*i* Sg	Sg	20 53 43.3	+1.1
RAC	Raciborz	1.97	136	*e*PN	Pn	20 53 14.0	+1.2
RAC				*e*PN	Pn	20 53 17.0	+4.2
RAC				*e*S	Sn	20 53 42.0	+3.4
RAC	Raciborz	1.97	136	*e*P	Pn	20 53 13.8	+1.0
RAC				*e*		20 53 42.5	
RAC	Raciborz	1.97	136	*e*Pn	Pn	20 53 13.8	+1.0
RAC				*e*Pg	Pg	20 53 17.3	+0.2
RAC				*e*Sg	Sg	20 53 42.5	-0.9
MORC	Moravsky Berou	1.98	151	*e*Pn	Pn	20 53 14.4	+1.5
MORC				*e*Sn	Sn	20 53 37.0	-1.8
MORC				*e*Sg	Sg	20 53 42.8	-1.0
OKC	Ostrava-Krasne	2.14	141	*e*PN	Pn	20 53 16.0	+0.8
OKC				*e*PG	Pg	20 53 20.0	-0.5
OKC				*e*SG	Sg	20 53 47.1	-2.0
OKC	Ostrava-Krasne	2.14	141	*e*P	Pn	20 53 16.0	+0.8
OKC				*e*		20 53 47.1	
VRAC	Vranov	2.24	171	Pn	Pn	20 53 18.5	+1.9
	comp=Z,16nm,0.3s,baz=350,slow=14,SNR=105						
VRAC				Lg		20 53 51.0	
	comp=Z,60nm,0.3s,baz=65,slow=21,SNR=13						
TANN	Tannenbergstha	2.54	246	*e*Pn	Pn	20 53 23.5	+2.6
TANN				*e*Sg	Sg	20 54 01.8	-0.4
WERD	Werda	2.61	247	*e*Pn	Pn	20 53 24.1	+2.2
WERD				*e*Sg	Sg	20 54 04.7	0.0
NKC	Novy Kostel	2.63	242	*e*PN	Pn	20 53 24.5	+2.2
NKC				*e*PG	Pg	20 53 30.2	-0.1
NKC				*e*SG	Sg	20 54 06.5	+1.1
NKC	Novy Kostel	2.63	242	*e*P	Pn	20 53 24.5	+2.2
NKC				*e*		20 54 06.5	
GUNZ	Gunzen	2.63	245	*e*Pn	Pn	20 53 24.7	+2.4
GUNZ				*e*Sg	Sg	20 54 05.6	+0.1
OJC	Ojcow	2.70	117	*e*PN	Pn	20 53 23.0	-0.2
OJC				*i* PG	Pg	20 53 31.5	-0.1
OJC				*i* SN	Sn	20 53 55.1	-1.9
OJC				*e*SG	Sg	20 54 07.1	-0.5
OJC	Ojcow	2.70	117	*e*P	Pn	20 53 22.8	-0.4
OJC				*i*		20 53 55.1	
OJC	Ojcow	2.70	117	*e*Pn	Pn	20 53 22.8	-0.4
OJC				*i* Pg	Pg	20 53 31.5	-0.1
OJC				*i* Sn	Sn	20 53 55.1	-1.9
OJC				*i* Sg	Sg	20 54 07.4	-0.2
KHC	Kasperske Hory	2.88	215	*e*P	Pn	20 53 27.0	+1.3
KHC				*e*		20 53 33.0	
KHC				*e*		21 09 59.0	
MOX	Moxa	2.94	254	*e*Pn	Pn	20 53 28.5	+1.8
MOX				*e*Sg	Sg	20 54 16.5	+0.7
MOX	Moxa	2.94	254	*i* P	Pn	20 53 28.5	+1.8
MOX				Pg	Pg	20 53 37.0	+0.4
MOX				Sg	Sg	20 54 17.0	+1.2
MOX	Moxa	2.94	254	*e*Pn	Pn	20 53 28.5	+1.8
MOX				*e*Pg	Pg	20 53 36.9	+0.3
MOX				*e*Sg	Sg	20 54 16.6	+0.8
GEC2	GERESS Array S	3.08	211	*e*Pn	Pn	20 53 30.1	+1.4
GEC2				*e*Sg	Sg	20 54 18.7	-1.6
GEC2	GERESS Array S	3.08	211	*e*Pn	Pn	20 53 30.1	+1.4
GEC2				*e*Sg	Sg	20 54 18.7	-1.7
GERES	GERESS Array B	3.08	211	Pn	Pn	20 53 30.2	+1.5
	comp=Z,20nm,0.3s,baz=32,slow=11,SNR=417						
GERES				Pg	Pg	20 53 36.8	-2.5
	comp=Z,33nm,0.3s,baz=32,slow=15,SNR=66						
GERES				Sn	Sn	20 54 05.5	-1.2
	comp=Z,22nm,0.3s,baz=40,slow=21,SNR=4.6						
GERES				Lg		20 54 19.0	
	comp=Z,71nm,0.3s,baz=33,slow=26,SNR=13						
GERES	GERESS Array B	3.08	211	P	Pn	20 53 30.2	+1.6
GERES						20 54 05.5	
GERES				pmax	pmax		
	comp=Z,20nm,0.3s						
GERES				pmax	pmax		
	comp=Z,33nm,0.3s						
SMOL	Smolenice	3.13	163	*e*PN	Pn	20 53 32.2	+2.8
SMOL				*e*PB	Pb	20 53 39.5	+5.3
SMOL				*e*SG	Sg	20 54 21.8	-0.4
WET	Wettzell	3.14	222	*e*Pn	Pn	20 53 31.1	+1.6
WET				*e*Sg	Sg	20 54 22.2	-0.1
WET	Wettzell	3.14	222	*e*Pn	Pn	20 53 31.1	+1.6
WET				*e*Sg	Sg	20 54 22.2	-0.1
LIKS	Likavka	3.15	141	*e*PN	Pn	20 53 32.4	+2.8
LIKS				*e*PG	Pg	20 53 40.2	-0.4
LIKS				*e*SG	Sg	20 54 22.1	-0.5
VKA	Vienna	3.26	177	⇑*i*PN	Pn	20 53 33.0	+1.8
VKA				*i* PG	Pg	20 53 41.9	-1.0
VKA				*i* SG	Sg	20 54 22.9	-3.5
KOLL	Kolacno	3.31	152	*e*PN	Pn	20 53 33.2	+1.4
KOLL				*e*PG	Pg	20 53 42.1	-1.7
KOLL				*e*SB	Sb	20 54 24.2	+6.0
ZST	Bratislava	3.39	168	*e*PN	Pn	20 53 35.6	+2.5
ZST				*e*PB	Pb	20 53 43.0	+4.4
ZST				*e*SB	Sb	20 54 27.5	+6.8
NIE	Niedzica	3.43	126	*e*PN	Pn	20 53 33.0	-0.6
NIE				*i* PN	Pg	20 53 46.6	+0.3
NIE				*e*S	Sg	20 54 29.6	-2.4
RGN	Rugen	3.46	332	*e*Pn	Pn	20 53 33.5	-0.5
VYHS	Vyhne	3.52	148	*e*PN	Pn	20 53 35.4	+0.6
VYHS				*e*PB	Pb	20 53 45.5	+4.8
VYHS				*e*SG	Sg	20 54 33.6	-1.2
GRA1	Grafenberg Arr	3.59	241	*e*Pn	Pn	20 53 38.1	+2.2
GRA1				*e*Sg	Sg	20 54 36.3	-1.0
GRF	Grafenberg Arr	3.59	241	*e*Pn	Pn	20 53 38.1	+2.2
GRF				*e*Sg	Sg	20 54 36.3	-1.0
BSD	Bornholm Skovb	3.67	350	*i* P	Pn	20 53 37.3	+0.3
BSD				*i* S	Sn	20 54 18.0	-3.6
MOA	Molln	3.86	198	⇑*i*PN	Pn	20 53 41.3	+1.6
MOA				*i* SG	Sg	20 54 45.2	-1.0
	comp=Z,291nm,0.8s						
KECS	Kecovo	4.17	135	*e*PN	Pn	20 53 43.4	-0.6
KECS				*e*PG	Pg	20 54 01.2	+0.3
ARSA	Arzberg	4.29	185	⇑*i*PN	Pn	20 53 47.7	+1.9
ARSA				*i* SG	Sg	20 54 56.8	-3.8
	comp=Z,230nm,0.7s						
CRVS	Cervenica-Dubn	4.34	125	*i* PN	Pn	20 53 47.6	+1.0
CRVS				*e*PG	Pg	20 54 02.3	-2.2
CRVS				*e*SB	Sb	20 54 57.8	+10
PSZ	Piszkesteto	4.38	144	*e*Pn	Pn	20 53 48.2	+1.1
KWP	Kalwaria	4.63	112	*e*PN	Pn	20 53 52.0	+1.3
KWP				*e*PG	Pg	20 54 06.0	-4.3
KWP	Kalwaria	4.63	112	⇑*e*P	Pn	20 53 51.6	+0.9
COP	Copenhagen	4.70	334	*i* P	Pn	20 53 47.1	-4.6
COP				*i*		20 53 54.8	
COP				*i* S	Sn	20 54 45.8	-2.0
KOLS	Kolonicke sedl	4.75	121	*i* PN	Pn	20 53 52.4	+0.1
KOLS				*e*PG	Pg	20 54 12.7	+0.1
KOLS				*e*SG	Sg	20 55 10.4	-5.5
KBA	Koelnbreinsper	4.79	203	⇑*i*PN	Pn	20 53 54.4	+1.5
KBA				*i* SG	Sg	20 55 15.8	-1.5
	comp=Z,94nm,0.5s						
SUW	Suwalki	4.99	57	*e*PN	Pn	20 53 56.0	+0.3
SUW				*e*SN	Sn	20 54 53.0	-2.0
SUW	Suwalki	4.99	57	*e*Pn	Pn	20 53 56.3	+0.6
SUW				*e*Sn	Sn	20 54 52.8	-2.2
WATA	Walderalm	5.11	217	⇑*i*PN	Pn	20 53 58.7	+1.2
WATA				*i* SG	Sg	20 55 25.9	-2.1
	comp=Z,101nm,0.7s						
WATA	Walderalm	5.11	217	⇑*i*Pn	Pn	20 53 58.7	+1.2
	comp=Z,101nm,0.7s						
WATA				*i* Sg	Sg	20 55 25.9	-2.1
OBKA	Obir	5.12	192	⇑*i*PN	Pn	20 53 59.1	+1.6
OBKA				*i* SG	Sg	20 55 25.3	-2.8
	comp=Z,104nm,0.7s						
OBKA	Obir	5.12	192	⇑*i*Pn	Pn	20 53 59.1	+1.6
	comp=Z,104nm,0.7s						
OBKA				*i* Sg	Sg	20 55 25.3	-2.8
WTTA	Wattenberg	5.15	216	⇑*i*PN	Pn	20 53 59.3	+1.3
WTTA				*i* SG	Sg	20 55 25.8	-3.5
	comp=Z,83nm,0.7s						
WTTA	Wattenberg	5.15	216	⇑*i*Pn	Pn	20 53 59.3	+1.3
	comp=Z,83nm,0.7s						
WTTA				*i* Sg	Sg	20 55 25.8	-3.5
STU	Stuttgart	5.21	241	*e*Pn	Pn	20 53 58.4	-0.4
STU				*e*Pb	Pb	20 54 13.1	+3.5
STU				*e*Pg	Pg	20 54 20.2	-1.6
STU				*e*Sn	Sn	20 55 01.9	+1.5
STU				*e*Sg	Sg	20 55 28.2	-3.0
MOTA	Moosalm	5.29	220	⇑*i*PN	Pn	20 54 01.1	+1.1
MOTA				*i* SG	Sg	20 55 31.5	-2.3
	comp=Z,100nm,0.9s						
MOTA	Moosalm	5.29	220	⇑*i*Pn	Pn	20 54 01.1	+1.1
	comp=Z,100nm,0.9s						
MOTA				*i* Sg	Sg	20 55 31.5	-2.3
SQTA	Sankt Quirin	5.35	218	⇑*i*PN	Pn	20 54 02.4	+1.6
SQTA				*i* SG	Sg	20 55 33.1	-2.7
	comp=Z,66nm,0.7s						
SQTA	Sankt Quirin	5.35	218	⇑*i*Pn	Pn	20 54 02.4	+1.6
	comp=Z,66nm,0.7s						
SQTA				*i* Sg	Sg	20 55 33.1	-2.7
FVI	Forni Avoltri	5.38	205	⇑*i*Pn	Pn	20 54 02.7	+1.4
FVI				*e*Sn	Sg	20 55 31.1	-5.9
PTCC	Patocco-Chiusa	5.42	200	*e*Pn	Pn	20 54 03.1	+1.3
PTCC				*e*Sn	Sg	20 55 34.1	-4.2
LJU	Ljubljana	5.58	191	*e*Pn	Pn	20 54 05.8	+1.8
VOY	Vojsko	5.68	196	*e*Pn	Pn	20 54 06.1	+0.6
VOY				*e*Sn	Sg	20 55 44.2	-2.6
WTSB	Winterswijk	5.78	278	⇑*i*Pn	Pn	20 54 08.3	+1.4
	comp=Z,17nm,0.4s						
WTSB				*e*Sn	Sg	20 55 39.1	-11
DAVA	Damuels	5.85	226	⇑*i*PN	Pn	20 54 08.4	+0.5
DAVA				*i* SG	Sg	20 55 50.0	-2.7
	comp=Z,84nm,0.8s						
DAVA	Damuels	5.85	226	⇑*i*Pn	Pn	20 54 08.4	+0.5
	comp=Z,84nm,0.8s						
DAVA				*i* Sg	Sg	20 55 50.0	-2.7
LANF	Langenberg	5.88	248	P	Pn	20 54 08.4	+0.1
LANF				S	Sn	20 55 10.0	-7.4
CTI	Castel Tesino	6.21	210	*e*Pn	Pn	20 54 14.9	+2.0
DAVOX	Davos	6.24	223	Pn	Pn	20 54 13.6	+0.1
	comp=Z,2.9nm,0.3s,baz=26,slow=13,SNR=36						
DAVOX				Sn	Sn	20 55 26.3	-0.2
	comp=Z,1.6nm,0.3s,baz=316,slow=22,SNR=2.4						
DAVOX				Lg		20 55 60.0	
	comp=Z,2.8nm,0.3s,baz=166,slow=24,SNR=6.2						
BRMO	Bormio	6.29	219	*e*Pn	Pn	20 54 16.5	+2.5
FELD	Feldberg	6.38	238	P	Pn	20 54 14.4	-0.9
MUD	Monsted U'grnd	6.40	323	*i* P	Pn	20 54 14.5	-1.2
MUD				*i*		20 54 20.8	
MUD				*e*S	Sn	20 55 21.7	-8.7
WLS	Welschbruch	6.43	244	P	Pn	20 54 16.6	+0.6
HGN	Heimansgroeve	6.43	267	*e*Pn	Pn	20 54 17.9	+1.8
HGN				*e*Sn	Sg	20 55 58.7	-13
CDF	Champ du Feu	6.47	245	*e*Pn	Pn	20 54 15.1	-1.5
CDF				*e*Sg	Sg	20 56 04.8	-8.4
	comp=Z,274nm,1.1s						
WLF	Walferdange	6.58	257	*e*Pn	Pn	20 54 15.8	-2.4
MABI	Malga Bissina	6.59	216	*e*Pn	Pn	20 54 19.6	+1.3
ECH	Echery	6.64	244	P	Pn	20 54 19.8	+0.7
MOF	Molkenrain	6.86	241	P	Pn	20 54 24.9	+2.7
HINF	Hinteralfeld	7.04	242	*e*Pn	Pn	20 54 23.0	-1.6
HINF				*e*Sg	Sg	20 56 23.5	-8.6
	comp=Z,99nm,0.7s						
HAU	Haudompre	7.21	245	*e*Pn	Pn	20 54 25.2	-1.9
HAU				*e*Sg	Sg	20 56 28.7	-9.2
	comp=Z,78nm,0.6s						
GIVF	Givet	7.27	263	*e*Pn	Pn	20 54 27.0	-0.9
GIVF				*e*Sg	Sg	20 56 31.4	-8.4
	comp=Z,126nm,0.9s						
THEF	They Montfort	7.30	247	P	Pn	20 54 27.8	-0.5
VAI	Varese	7.44	223	*e*Pn	Pn	20 54 30.8	+0.5
BAIF	Baives	7.66	264	*e*Pn	Pn	20 54 31.4	-2.0
BAIF				*e*Sg	Sg	20 56 43.6	-9.3
	comp=Z,240nm,1.4s						
MCGN	Macugnaga	7.71	227	*e*Pn	Pn	20 54 35.1	+1.1
MEZF	Maizieres J'vi	7.71	251	*e*Pn	Pn	20 54 32.8	-1.3
MEZF				*e*Sg	Sg	20 56 45.3	-9.4

	comp=Z,99nm,1.0s						
SFTF	Sexfontaines	7.86	249	ePn	Pn	20 54 34.2	-2.0
SFTF				eSg	Sg	20 56 49.5	-10
	comp=Z,98nm,0.9s						
GRAM		8.10	212	P	P	20 54 40.0	+0.5
TRAV		8.16	226	P	P	20 54 42.1	+1.7
VALM		8.17	211	P	P	20 54 40.2	-0.3
CABF	La Chapelle	8.19	237	eSg	Sg	20 56 59.8	-11
	comp=Z,267nm,1.2s						
CODM		8.26	213	P	P	20 54 42.4	+0.6
BACM		8.29	211	P	P	20 54 42.6	+0.5
AKASG	Malin Array Be	8.32	91	Pn	P	20 54 40.2	-2.3
	comp=Z,8.2nm,0.3s,baz=278,slow=12,SNR=36						
AKASG				Sn	Sn	20 56 10.7	-7.7
	comp=Z,3.9nm,0.3s,baz=279,slow=23,SNR=5.6						
AKASG				Lg		20 57 11.3	
	comp=Z,2.1nm,0.3s,baz=282,slow=27,SNR=5.2						
BDI	Bagni Di Lucca	8.32	208	ePn	P	20 54 43.8	+1.2
VINC	Vinca	8.39	211	P	P	20 54 42.4	-1.1
LSD	Ceresole Reale	8.47	228	P	P	20 54 45.8	+1.1
MAIM		8.49	208	P	P	20 54 43.6	-1.2
PCP	Pian Castagno	8.61	219	P	P	20 54 47.2	+0.6
LPL	La Plagne	8.63	230	ePn	P	20 54 46.7	-0.1
LPL				eSg	Sg	20 57 12.7	-12
	comp=Z,32nm,1.0s						
LPG	La Plagne	8.63	229	ePn	P	20 54 46.9	0.0
LPG				eSg	Sg	20 57 13.5	-12
	comp=Z,108nm,1.3s						
RSP	Reno Superiore	8.66	226	P	P	20 54 47.6	+0.3
HFS	Hagfors	8.74	352	Pn	P	20 54 47.1	-1.3
	comp=Z,0.2nm,0.3s,baz=174,slow=15,SNR=17						
HFS				Sn	Sn	20 56 22.6	-6.1
	comp=Z,0.4nm,0.3s,baz=186,slow=28,SNR=6.6						
HFS				Lg		20 57 18.6	
	baz=147,slow=25,SNR=2.3						
FENE	Fenestrelle	8.84	226	P	P	20 54 49.5	-0.3
BHB	Bricherasio	8.90	225	P	P	20 54 51.8	+1.2
BNI	Bardonecchia	9.00	228	ePn	P	20 54 51.6	-0.4
FIN	Finale Ligure	9.02	219	P	P	20 54 52.5	+0.2
LOR	Lormes	9.03	247	ePn	P	20 54 50.4	-2.0
LOR				eSg	Sg	20 57 26.6	-12
	comp=Z,53nm,0.9s						
RRL	Cesana Torines	9.05	227	P	P	20 54 53.5	+0.7
ROB	Roburent	9.08	220	P	P	20 54 52.9	-0.2
RORO		9.16	219	P	P	20 54 53.5	-0.7
MBDF	Montbardon	9.21	226	ePn	P	20 54 54.0	-0.9
PZZ	Prazzo	9.24	224	P	P	20 54 54.3	-1.0
MONE	Monesi	9.31	220	P	P	20 54 55.7	-0.6
ENR	Entracque	9.32	222	P	P	20 54 56.1	-0.4
SSF	Saint Saulge	9.34	246	ePn	P	20 54 54.3	-2.4
SSF				eSg	Sg	20 57 35.7	-13
	comp=Z,31nm,0.9s						
STV2	Anna di Valdie	9.35	222	P	P	20 54 56.2	-0.6
AQU	L'Aquila	9.35	192	Pn	P	20 54 53.4	-3.5
STV	Sta Anna Valdi	9.35	222	P	P	20 54 56.2	-0.7
SMF	Signal de Mont	9.39	243	eSg	Sg	20 57 37.9	-12
	comp=Z,79nm,0.8s						
IMI	Imperia	9.40	219	P	P	20 54 56.8	-0.7
ORIF	Oris-en-Rattie	9.48	230	ePn	P	20 54 57.3	-1.3
KIS	Kishinev	9.48	114	eP	P	20 55 03.0	+4.4
NEGI	Negi	9.52	220	P	P	20 54 58.2	-0.9
AVF	Avril sur Loir	9.58	245	ePn	P	20 54 57.7	-2.2
AVF				eSg	Sg	20 57 43.5	-13
	comp=Z,84nm,1.2s						
SBF	Sospel	9.62	221	ePn	P	20 54 59.9	-0.5
NOA	NORSAR Array B	9.91	346	Pn	P	20 55 01.0	-3.4
	comp=Z,0.6nm,0.3s,baz=174,slow=13,SNR=5.6						
NOA				Sn	Sn	20 56 50.5	-7.2
	comp=Z,0.7nm,0.3s,baz=150,slow=20,SNR=4.1						
NOA				Lg		20 57 56.2	
	comp=Z,0.7nm,0.3s,baz=130,slow=23,SNR=4.8						
BGF	Bois d'Agland	10.00	245	ePn	P	20 55 03.6	-2.1
BGF				eSg	Sg	20 57 55.9	-15
	comp=Z,37nm,0.6s						
VIVF	Saint-Julien-l	10.11	233	ePn	P	20 55 05.7	-1.5
PGF	Pioggiola	10.19	211	ePn	P	20 55 07.4	-0.9
FRF	La Foret Royal	10.19	222	ePn	P	20 55 07.0	-1.3
LMR	La Mourre	10.43	222	ePn	P	20 55 10.1	-1.6
TCF	Toulx Ste Croi	10.52	246	ePn	P	20 55 10.7	-2.1
TCF				eSg	S	20 58 12.4	+60
	comp=Z,31nm,1.0s						
FLN	La Foliniere	10.98	262	ePn	P	20 55 17.2	-1.9
LASF	Ste Croix	11.08	233	ePn	P	20 55 17.9	-2.6
FINES	FINESS Array B	11.36	25	Pn	P	20 55 21.2	-3.1
	comp=Z,1.0nm,0.3s,baz=203,slow=11,SNR=30						
FINES				Sn	S	20 57 23.6	-10
	comp=Z,2.3nm,0.3s,baz=210,slow=21,SNR=8.7						
FINES				Lg		20 58 48.2	
	comp=Z,1.2nm,0.3s,baz=222,slow=26,SNR=3.5						
MFF	Saint Martin d	11.71	252	ePn	P	20 55 26.7	-2.4
KAF	Kangasniemi	11.99	24	ep	P	20 55 29.6	-3.2
EKA	Eskdalemuir Ar	12.08	296	Pn	P	20 55 30.0	-4.0
	comp=Z,0.6nm,0.3s,baz=101,slow=14,SNR=11						
EKA				Sn	S	20 57 44.5	-6.3
	comp=Z,0.3nm,0.3s,baz=100,slow=24,SNR=4.3						
EKA	Eskdalemuir Ar	12.08	296	P	P	20 55 30.0	-4.0
EKA						20 57 44.5	
EKA				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ESK	Eskdalemuir	12.10	296	eP	P	20 55 29.9	-4.5
OBN	Obninsk	12.76	66⇑	eP	P	20 55 39.9	-3.3
OBN				pmax	pmax		
	comp=Z,22nm,1.2s						
OBN	Obninsk	12.76	66	eP	P	20 55 38.0	-5.2
OBN				eS	S	20 57 54.3	-13
ANN	Anapa	15.73	107	eP	P	20 56 14.0	-8.1
ANN				pmax	pmax		
	comp=Z,43nm,0.9s						
SOC	Sochi	17.77	107	eP	P	20 56 51.7	+3.7
SOC				eS	S	21 00 05.5	+0.8
SOC				pmax	pmax		
	comp=Z,17nm,0.8s						
SOC				pmax	pmax		
	comp=N,8.0nm,0.4s						
SOC				pmax	pmax		
	comp=E,7.0nm,0.6s						
SOC				MLR	MLR		
	comp=Z,29nm,14.0s						
SOC				MLR	MLR		
	comp=N,28nm,18.0s						
SOC				MLR	MLR		
	comp=E,30nm,16.0s						
ARCES	ARCESS Array B	18.62	10	Pn	P	20 56 55.0	-3.3
	comp=E,1.1nm,0.3s,baz=192,slow=13,SNR=35						
ARCES				P		20 56 59.1	
	comp=E,1.2nm,0.3s,baz=195,slow=10,SNR=27						
ARCES				Sn	S	21 00 14.4	-9.3
	comp=E,0.2nm,0.3s,baz=201,slow=20,SNR=4.4						
ARCES	ARCESS Array B	18.62	10	P	P	20 56 55.0	-3.3
ARCES						21 00 14.4	
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ARCES	ARCESS Array B	18.62	10	Pn	P	20 56 55.0	-3.3
ARCES				Sn	S	21 00 14.4	-9.3
KEV	Kevo	19.00	12	ep	P	20 57 00.9	-2.1
ARU	Arti	25.16	62⇑	eP	P	20 58 06.2	+0.5
ARU				i		20 58 38.8	
ARU				eS	S	21 02 27.2	-1.7
ARU				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.4						
ARU	Arti	25.16	62	eP	P	20 58 06.1	+0.5
	comp=Z,5.6nm,0.5s,mb4.5						
ZRNK	Zerenda	31.84	66	eP	P	20 59 06.8	+0.7
	comp=Z,2.2nm,0.6s,mb4.3						
BRVK	Borovoye	32.54	66	eP	P	20 59 13.5	+1.3
	comp=Z,3.7nm,0.8s,mb4.4						
KURK	Kurchatov	38.20	66	eP	P	21 00 01.6	+1.0
	comp=Z,3.6nm,1.0s,mb4.1						
MKAR	Makanchi Array	42.23	69	P	P	21 00 35.4	+1.6
	comp=Z,0.9nm,0.7s,mb3.6,baz=304,slow=6.6,SNR=9.2						
MKAR	Makanchi Array	42.23	69	P	P	21 00 35.4	+1.6
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WMQ	Urumqi	47.05	70	eP	P	21 01 15.5	+2.9
BOD	Bodaibo	52.16	42	eP	P	21 01 51.0	-0.7
CMAR	Chiang Mai Arr	71.38	84	P	P	21 04 03.2	+1.7
	comp=Z,0.7nm,0.5s,mb4.0,baz=315,slow=7.7,SNR=5.3						
CMAR	Chiang Mai Arr	71.38	84	P	P	21 04 03.2	+1.7
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
PDAR	Pinedale Array	74.92	322	P	P	21 04 23.6	+1.8
	comp=Z,0.6nm,0.5s,mb3.9,baz=51,slow=6.1,SNR=3.8						
TXAR	Lajitas Array	83.69	310	P	P	21 05 12.6	+3.2
	comp=Z,0.3nm,0.2s,mb4.1,baz=63,slow=2.0,SNR=3.1						

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*NEIC **09** 21:19:57.4, 33.98S×72.33W, h34^{km}, ML3.2(GUC), After GUC.*

GUC 09 21:19:57.4±0.6**, 33.98S×72.33W, h34**^{km}±2^{km}**, MD4.0, ML3.2, 7C-1D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LNV	Longovilo	0.76	88⇓	iP	P	21 20 11.7	0.0
LNV				i S	S	21 20 22.4	+0.4
LCCH	Las Cruces	0.81	52⇑	iP	P	21 20 12.6	+0.3
LCCH				i S	S	21 20 24.0	+0.8
TACH	Talagante	1.20	75	eP	P	21 20 18.4	+0.5
TACH				i S	S	21 20 34.2	+0.9
SFDO	San Fernando	1.26	121	eP	P	21 20 19.6	+0.9
RCDM	Rinconada Maip	1.36	69	eP	P	21 20 20.7	+0.5
RCDM				i S	S	21 20 38.3	+1.1
RCDM				AMP		21 20 42.3	
	comp=N,639nm,0.6s						
CHCH	Chadas Angostu	1.39	89⇑	iP	P	21 20 21.7	+1.0
CHCH				i S	S	21 20 39.9	+1.8
CACH	El Canelo	1.44	96⇑	iP	P	21 20 22.9	+1.5
CACH				i S	S	21 20 42.5	+3.2
ANTU	Antumapu	1.47	74	i S	S	21 20 42.2	+2.2
ANTU				AMP		21 20 48.4	
	comp=E,716nm,0.7s						
PCH	Pirque	1.55	77⇑	iP	P	21 20 24.3	+1.3
PCH				i S	S	21 20 44.7	+2.6
CLCH	Cerro Calan	1.60	69	eP	P	21 20 25.1	+1.4
CLCH				i S	S	21 20 46.0	+2.6
CLCH				AMP		21 21 03.8	
	comp=E,680nm,0.7s						
CLCH				AMP		21 21 08.8	
	comp=E,556nm,0.7s						
CICH	Cipreses	1.61	103⇑	iP	P	21 20 24.9	+1.1
CICH				i S	S	21 20 47.0	+3.2
LMEL	Las Melosas	1.77	86⇑	iP	P	21 20 27.7	+1.6
LMEL				i S	S	21 20 50.5	+2.9
LMEL				AMP		21 20 53.3	
	comp=N,443nm,0.6s						
FCH	Farellones	1.82	70⇑	iP	P	21 20 28.3	+1.5
FCH				i S	S	21 20 51.8	+2.9
FCH				AMP		21 21 01.3	
	comp=E,343nm,0.3s						
JACH	Jahuel	1.94	49	eP	P	21 20 29.8	+1.2

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*MDD **09** 21:32:14.3±0.3, 38.54N×7.41W, h3^{km}±6^{km}, mbLg1.7/6, Error ellipse: s-maj=4.0km s-min=1.8km az=136.0, PRXIMO*

*INMG **09** 21:32:14.2±1.4, 38.55N×7.42W, h2^{km}±6^{km}, ML1.4, Error ellipse: s-maj=3.2km s-min=2.2km az=94.0*

ISC 09 21:32:12.9±0.7**, 38.55N**±0.03×**7.40W**±0.04**, h2**^{km}±6^{km}**, n18, σ0^{s}51**/27**, Portugal**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EBAD	Badajoz	0.36	56	Pg	Pg	21 32 21.4	+1.2
	16nm,0.2s,SNR=220						
EBAD				Lg		21 32 26.3	
	40nm,0.1s,SNR=97						
PBEJ	Beja	0.64	215	ePg	Pg	21 32 26.1	+0.4
PBEJ				eSg	Sg	21 32 34.4	+0.1
	13nm,0.1s						
PBEJ	Beja	0.64	215	Pg	Pg	21 32 26.1	+0.4
PBEJ				Lg		21 32 34.4	
	6.3nm,0.1s						
MOE	Montemor	0.75	268	ePg	Pg	21 32 27.6	-0.2
MOE				eSg	Sg	21 32 37.5	-0.2
EMIN	Mina Concepcio	0.97	144	Pg	Pg	21 32 31.7	-0.7
	1.5nm,0.4s,SNR=28						
EMIN				Lg		21 32 43.6	
	0.8nm,0.1s,SNR=15						
EGRO	El Granado	1.02	184	Pg	Pg	21 32 33.4	+0.2
	1.6nm,0.4s,SNR=8.6						
EGRO				Lg		21 32 44.7	
	2.3nm,0.1s,SNR=22						
PALC	Alcoutim	1.09	183	eP	Pb	21 32 34.4	+0.3
PALC				eS	Sb	21 32 48.2	-0.4
	7.5nm,0.2s						
PALC	Alcoutim	1.09	183	P	Pb	21 32 34.4	+0.3
PALC				S	Sb	21 32 48.2	-0.4
	3.8nm,0.2s						
PCBR	Castelo Branco	1.28	357	eP	Pb	21 32 37.5	+0.1
PCBR				eS	Sb	21 32 54.4	+0.1
	2.2nm,0.2s						
PCBR	Castelo Branco	1.28	357	P	Pb	21 32 37.5	+0.1
PCBR				S	Sb	21 32 54.4	+0.1
	1.1nm,0.2s						
PTOM	Tomar	1.32	324	eP	Pb	21 32 38.2	+0.1
PTOM				eS	Sb	21 32 55.8	+0.5
	4.6nm,0.1s						
PTOM	Tomar	1.32	324	P	Pb	21 32 38.2	+0.1
PTOM				S	Sb	21 32 55.8	+0.5
	2.3nm,0.1s						
PLOU	Loures	1.41	284	eP	Pb	21 32 39.5	-0.1
PLOU				eS	Sb	21 32 58.3	+0.4
MTE	Manteigas	1.85	357	eSn	Sn	21 33 09.3	-0.7
	3.2nm,0.3s						
MTE	Manteigas	1.85	357	Sn	Sn	21 33 09.3	-0.7
	1.6nm,0.3s						
PVIS	Viseu	2.19	350	ePg	Pg	21 32 55.6	-1.1
EADA	Adamuz	2.25	99	Pn	Pn	21 32 51.2	-0.5
	SNR=7.9						
EADA				Sn	Sn	21 33 20.7	+0.3
	1.7nm,0.3s,SNR=6.9						
ECAL	Calabor	3.42	8	Lg		21 34 01.9	
	0.4nm,0.2s,SNR=7.9						

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*PRU **09** 22:02:06.8, 51.48N×16.14E*

*WAR **09** 22:02:07.1, 51.50N×16.10E, ML3.0, Mining Induced*

*NEIC **09** 22:02:07.7±0.9, 51.39N×16.07E, h3^{km}±8^{km}, ML3.0(SZGRF), ML3.0(VIE), Error ellipse: s-maj=8.7km s-min=7.6km az=212.0*

*BGR **09** 22:02:07.5±0.7, 51.35N×16.18E, h1^{km}, ML3.0/8, Error ellipse: s-maj=7.8km s-min=5.6km az=170.0*

ISC 09 22:02:05.3±0.5**, 51.42N**±0.02×**16.11E**±0.03**, n35, σ1^{s}39**/71**, 2C-2D, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	Ksiaz	0.59	168	ePG	Pg	22 02 19.0	+1.9
KSP				i SG	Sg	22 02 28.1	+3.1
KSP	Ksiaz	0.59	168	ePg	Pg	22 02 19.2	+2.1
KSP				i Sg	Sg	22 02 28.1	+3.1
KSP				e		22 02 34.0	
UPC	Upice	0.92	184	ePG	Pg	22 02 25.1	+1.5
UPC				eSG	Sg	22 02 38.2	+2.4
DPC	Dobruska-Polom	1.08	173	ePG	Pg	22 02 28.0	+1.1
DPC				eSG	Sg	22 02 42.4	+1.1
	36nm,0.3s						
PVCC	Panska Ves	1.32	228	ePG	Pg	22 02 32.7	+1.0
PVCC				eSG	Sg	22 02 50.9	+1.6
BRG	Berggiesshubel	1.47	249	ePn	Pn	22 02 34.9	+1.7
BRG				eSg	Sg	22 02 54.8	+0.6
BRG	Berggiesshubel	1.47	249	ePn	Pn	22 02 33.6	+0.5
BRG				i Pg	Pg	22 02 34.9	+0.3
BRG				i Sg	Sg	22 02 54.8	+0.6
PRU	Pruhonice	1.74	215	ePN	Pn	22 02 37.4	+0.3
PRU				ePG	Pg	22 02 39.5	-0.7
PRU				i x	x	22 02 43.8	
PRU				i x	x	22 02 56.6	
PRU				SG	Sg	22 03 04.0	+0.6
	41nm,0.5s						
MORC	Moravsky Berou	1.88	150	ePn	Pn	22 02 39.5	+0.4
MORC				eSn	Sn	22 03 02.8	-1.1
RAC	Raciborz	1.89	134	eP	Pn	22 02 42.0	+2.9
RAC				eS	Sn	22 03 08.0	+4.1
RAC	Raciborz	1.89	134	ePg	Pg	22 02 42.3	-0.7
RAC				eSg	Sg	22 03 08.3	+0.2
CLL	Collm	1.95	268	ePn	Pn	22 02 42.8	+2.8
CLL				eSg	Sg	22 03 10.7	+0.5
CLL	Collm	1.95	268	i PG	Pg	22 02 42.8	-1.4
CLL				i SG	Sg	22 03 08.9	-1.3
GKP	Gorka Klasztor	1.98	20	ePg	Pg	22 02 47.8	+3.0
GKP				eSg	Sg	22 03 08.9	-2.3
OKC	Ostrava-Krasne	2.05	140	ePN	Pn	22 02 41.5	0.0
OKC				ePG	Pg	22 02 45.4	-0.9
OKC				eSG	Sg	22 03 12.4	-1.2
TANN	Tannenbergstha	2.52	248	ePn	Pn	22 02 49.7	+1.6
TANN				eSg	Sg	22 03 28.2	-1.0
WERD	Werda	2.59	249	ePn	Pn	22 02 49.9	+0.7
WERD				eSg	Sg	22 03 30.1	-1.5
NKC	Novy Kostel	2.61	244	ePN	Pn	22 02 50.5	+1.1
NKC				ePG	Pg	22 02 56.5	-0.9
NKC				eSG	Sg	22 03 31.7	-0.4
GUNZ	Gunzen	2.61	248	ePn	Pn	22 02 50.9	+1.4
GUNZ				eSg	Sg	22 03 30.9	-1.5
OJC	Ojcow	2.63	116	ePG	Pg	22 02 56.0	-1.9
OJC				eSN	Sn	22 03 21.0	-1.9
OJC				eSG	Sg	22 03 32.0	-1.0
OJC	Ojcow	2.63	116	ePg	Pg	22 02 55.9	-2.0
OJC				eSn	Sn	22 03 20.6	-2.3
OJC				eSg	Sg	22 03 31.6	-1.4
KHC	Kasperske Hory	2.81	216	PN	Pn	22 02 52.5	+0.2
KHC				PG	Pg	22 02 58.5	-2.9
KHC				eSN	Sn	22 03 25.5	-1.8
KHC				eSG	Sg	22 03 36.5	-2.3
MOX	Moxa	2.94	256	ePn	Pn	22 02 55.0	+0.8
MOX				eSg	Sg	22 03 42.1	-1.1
GEC2	GERESS Array S	3.01	212	ePn	Pn	22 02 56.9	+1.7
GEC2	GERESS Array S	3.01	212	ePn	Pn	22 02 56.9	+1.8
SMOL	Smolenice	3.03	163	eSG	Sg	22 03 46.4	+0.1
WET	Wettzell	3.08	224	ePn	Pn	22 02 56.7	+0.5
WET	Wettzell	3.08	224	ePn	Pn	22 02 56.7	+0.5
VKA	Vienna	3.16	177⇓	iPG	Pg	22 03 06.8	-1.7
VKA				i SG	Sg	22 03 49.7	-0.9
ZST	Bratislava	3.29	168	eSB	Sb	22 03 50.2	+4.9
GRF	Grafenberg Arr	3.56	243	eSg	Sg	22 04 00.7	-3.3
BSD	Bornholm Skovb	3.77	350	i P	Pn	22 03 02.0	-4.0
BSD				i S	Sn	22 03 42.8	-8.9
MOA	Molln	3.77	199⇓	iPN	Pn	22 03 06.8	+0.8
MOA				i SG	Sg	22 04 10.6	-0.2
	13nm,0.5s						
ARSA	Arzberg	4.19	185⇑	iPN	Pn	22 03 14.3	+2.3
ARSA				i SG	Sg	22 04 23.8	-1.1
	13nm,0.7s						
KBA	Koelnbreinsper	4.71	204⇑	iPN	Pn	22 03 20.2	+0.9
KBA				i SG	Sg	22 04 40.3	-1.7
	5.3nm,0.5s						

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*NEIC **09** 22:31:30.5, 35.04S×70.52W, h2^{km}, ML3.9(GUC), After GUC.*

*GUC **09** 22:31:30.5±0.6, 35.04S×70.52W, h2^{km}, MD3.7, ML3.9*

ISC 09 22:31:29.1±1.7**, 35.12S**±0.07×**70.51W**±0.09**, h4**^{km}±8^{km}**, n10, σ0^{s}31**/18**, 1C-3D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFDO	San Fernando	0.65	321⇑	iP	Pg	22 31 42.4	+0.3
SFDO				i S	Sg	22 31 51.2	+0.4
CICH	Cipreses	0.80	6⇓	iP	Pg	22 31 44.9	-0.2
CICH				i S	Sg	22 31 55.5	-0.3
CACH	El Canelo	1.00	356	i P	Pb	22 31 48.3	-0.4
CACH				i S	Sb	22 32 02.1	0.0
CHCH	Chadas Angostu	1.19	354⇓	iP	Pb	22 31 51.8	-0.1
CHCH				i S	Sb	22 32 07.5	0.0
LMEL	Las Melosas	1.30	12	eP	Pb	22 31 53.5	-0.1
LMEL				i S	Sb	22 32 11.0	+0.5
LMEL				AMP		22 32 13.4	
	comp=N,9µm,0.1s						
LNV	Longovilo	1.38	327	i P	Pb	22 31 54.8	-0.3
LNV				i S	Sb	22 32 12.5	-0.5
PCH	Pirque	1.50	0⇓	iP	Pn	22 31 56.8	-0.1
PCH				i S	Sb	22 32 16.4	0.0
TACH	Talagante	1.51	346	i P	Pn	22 31 56.7	-0.3
RCDM	Rinconada Maip	1.65	351	eP	Pn	22 31 59.5	+0.5
RCDM				i S	Sb	22 32 20.9	+0.2
RCDM				AMP		22 32 21.6	
	comp=E,432nm,0.1s						
FCH	Farellones	1.80	6	eP	Pn	22 32 01.7	+0.5

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*NEIC **09** 22:36:54.9, 33.99S×72.27W, h36^{km}, mb4.0/1, MD4.1(GUC), After GUC.*

*GUC **09** 22:36:54.9±0.8, 33.99S×72.27W, h36^{km}±2^{km}, MD4.1, ML4.1*

ISC 09 22:36:53.8±1.3**, 34.00S**±0.05×**72.32W**±0.07**, h15**^{km}±11^{km}**, n29, σ0^{s}59**/45**, mb4.0**/1**, 13C-6D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LLCH	Llolleo	0.70	56⇑	iP	Pb	22 37 07.0	-0.2
LLCH				i S	Sb	22 37 16.8	+0.4
LLCH				AMP		22 37 20.5	
	comp=N,21µm,0.5s						
LNV	Longovilo	0.76	87⇓	iP	Pb	22 37 08.4	+0.3
LCCH	Las Cruces	0.82	50⇑	iP	Pb	22 37 09.4	+0.2
LCCH				i S	Sb	22 37 20.2	+0.5
IHA	Instituto Hidr	1.13	30⇑	iP	Pb	22 37 14.3	-0.1
IHA				i S	Sb	22 37 29.1	+0.4
TACH	Talagante	1.20	74⇓	iP	Pb	22 37 15.4	-0.4
TACH				i S	Sb	22 37 29.4	-1.6
SFDO	San Fernando	1.24	120	eP	Pb	22 37 16.0	-0.5
RCDM	Rinconada Maip	1.36	68	i P	Pn	22 37 17.7	-0.7
RCDM				i S	Sb	22 37 35.2	-0.4
RCDM				AMP		22 37 39.3	
	comp=E,3µm,0.4s						
CHCH	Chadas Angostu	1.39	88⇑	iP	Pn	22 37 18.4	-0.3
CHCH				i S	Sb	22 37 36.2	-0.1
PUEX	Pudahuel	1.42	67	i P	Pn	22 37 19.0	-0.2
PUEX				AMP		22 37 42.3	
	comp=E,8µm,0.6s						
CACH	El Canelo	1.43	95⇓	iP	Pn	22 37 19.7	+0.2
CACH				i S	Sb	22 37 39.9	+2.3
ANTU	Antumapu	1.47	73	i P	Pn	22 37 20.0	0.0
ANTU				i S	Sb	22 37 38.7	0.0
ANTU				AMP		22 37 43.3	
	comp=E,5µm,0.3s						
SAN	Santiago	1.49	69⇑	iP	Pn	22 37 20.4	+0.2
SAN				i S	Sb	22 37 39.1	-0.1
SAN				AMP		22 37 50.6	
	comp=E,3µm,0.6s						
PCH	Pirque	1.55	76⇓	iP	Pn	22 37 21.0	-0.1
PCH				i S	Sn	22 37 40.7	-0.3
DSCH	Colegio Aleman	1.58	68	eP	Pn	22 37 21.3	-0.2
DSCH				i S	Sn	22 37 41.7	0.0
DSCH				AMP		22 37 56.8	
	comp=N,7µm,0.8s						
FSR	Penalolen	1.58	71	eP	Pn	22 37 21.4	-0.1
FSR				i S	Sn	22 37 41.6	-0.2
FSR				AMP		22 37 49.6	
	comp=E,4µm,0.5s						
CLCH	Cerro Calan	1.60	68⇑	iP	Pn	22 37 21.9	0.0
CLCH				i S	Sn	22 37 41.8	-0.6
CLCH				AMP		22 37 59.8	
	comp=E,3µm,0.5s						
CLCH				AMP		22 38 00.3	
	comp=E,4µm,0.5s						
CICH	Cipreses	1.61	102⇑	iP	Pn	22 37 21.8	-0.1
LMEL	Las Melosas	1.77	86⇑	iP	Pn	22 37 24.4	+0.2
LMEL				i S	Sn	22 37 46.0	-0.5
LMEL				AMP		22 37 53.7	
	comp=N,2µm,0.3s						
FCH	Farellones	1.82	69⇑	iP	Pn	22 37 25.0	0.0
FCH				i S	Sn	22 37 47.9	0.0
FCH				AMP		22 37 53.1	
	comp=E,3µm,0.2s						
JACH	Jahuel	1.96	48	eP	Pn	22 37 26.7	-0.2
MDZ	Mendoza	3.11	70	eP	Pn	22 37 49.0	+5.6
MDZ				i S	Sn	22 38 32.0	+11
VNA3	Neumayer Olymp	49.45	158⇑	i	P	22 45 46.6	+1.8
VNA3	Neumayer Olymp	49.45	158⇓	i	P	22 45 53.6	+8.8
VNA3	Neumayer Olymp	49.45	158⇓	iP	P	22 45 53.6	+8.8
VNA2	Neumayer--Watz	50.10	157⇑	i	P	22 45 51.7	+1.9
VNA2	Neumayer--Watz	50.10	157		P	22 45 58.5	+8.7
SNAA	Sanae	51.67	158⇑	i	P	22 46 00.0	-1.7
SNAA	Sanae	51.67	158⇑	i	P	22 46 06.9	+5.2
QSPA	South Pole Qui	56.23	180	eP	P	22 46 34.8	-0.4
	comp=E,1.4nm,0.8s,mb4.0						

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*NEIC **09** 22:49:41.8, 30.08S×69.04W, h160^{km}, After GUC.*

*GUC **09** 22:49:41.8±0.6, 30.08S×69.04W, h160^{km}, ML4.3*

ISC 09 22:49:41.0±1.0**, 30.03S**±0.05×**69.1W**±0.3**, h177**^{km}±30^{km}**, n17, σ0^{s}67**/25**, 10C-1D, Chile-Argentina border region**

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

TLL	**Tololo Astrono**	**1.46**	**264**	⇑*i*P	**P**	**22 50 13.7**	**+1.1**
TLL				*i* S	**S**	**22 50 37.6**	**+0.5**
TLL				AMP		22 50 40.1	
	comp=N,3µm,0.6s						
LSCH	**La Serena**	**1.84**	**273**	*i* P	**P**	**22 50 16.8**	**+0.3**
LSCH				*i* S	**S**	**22 50 43.3**	**-0.6**
LSCH				AMP		22 50 47.9	
	comp=E,1µm,0.6s						
CMCH	**Combarbala**	**1.98**	**234**	⇓*i*P	**P**	**22 50 18.3**	**+0.4**
CMCH				*i* S	**S**	**22 50 46.1**	**-0.3**
CMCH				AMP		22 50 49.3	
	comp=N,5µm,0.8s						
VACH	**Vallenar**	**2.03**	**315**	*i* P	**P**	**22 50 09.4**	**-9.1**
VACH				*i* S	**S**	**22 50 37.7**	**-10**
ILCH	**Illapel**	**2.38**	**227**	⇑*i*P	**P**	**22 50 22.8**	**+0.2**
ILCH				*i* S	**S**	**22 50 53.7**	**-0.9**
ILCH				AMP		22 50 57.9	
	comp=N,663nm,0.2s						
MDZ	**Mendoza**	**2.86**	**175**	*e*P	**P**	**22 50 27.0**	**-1.3**
MDZ				*i*		22 50 52.0	
JACH	**Jahuel**	**2.93**	**205**	⇑*i*P	**P**	**22 50 29.7**	**+0.6**
FCH	**Farellones**	**3.44**	**196**	⇑*i*P	**P**	**22 50 36.3**	**+0.7**
FCH				*i* S	**S**	**22 51 18.2**	**+0.6**
CLCH	**Cerro Calan**	**3.57**	**199**	⇑*i*P	**P**	**22 50 37.4**	**+0.2**
CLCH				*i* S	**S**	**22 51 19.8**	**-0.7**
RCDM	**Rinconada Maip**	**3.73**	**202**	*e*P	**P**	**22 50 39.2**	**-0.1**
RCDM				*i* S	**S**	**22 51 23.5**	**-0.8**
PCH	**Pirque**	**3.77**	**198**	⇑*i*P	**P**	**22 50 40.1**	**+0.3**
LMEL	**Las Melosas**	**3.92**	**193**	⇑*i*P	**P**	**22 50 42.2**	**+0.6**
TACH	**Talagante**	**3.93**	**203**	*i* P	**P**	**22 50 40.7**	**-1.1**
CHCH	**Chadas Angostu**	**4.10**	**198**	⇑*i*P	**P**	**22 50 44.1**	**+0.1**
CACH	**El Canelo**	**4.26**	**197**	⇑*i*P	**P**	**22 50 46.9**	**+0.8**
CICH	**Cipreses**	**4.42**	**194**	⇑*i*P	**P**	**22 50 48.3**	**+0.2**
LVC	**Limon Verde**	**7.39**	**2**	*e*Pn	**P**	**22 51 26.1**	**-1.0**

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*CASC **09** 23:20:01.3±2.4, 13.53N×90.87W, h55^{km}±40^{km}, MD4.0, ML4.1*

ISC 09 23:20:00.8±1.1**, 13.44N**±0.08×**90.89W**±0.05**, h41**^{km}±40^{km}**, n20,** σ**0**^{s}**66**/34**, 3D, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.84**	**30**	*e*P	**P**	**23 20 15.7**	**-0.6**
IXG				*e*S	**S**	**23 20 30.7**	**+3.1**
IXG				AML	AML	23 20 35.1	
	comp=E,16µm,0.4s						
PCG	**Pacaya**	**0.98**	**16**	*e*P	**P**	**23 20 17.7**	**-0.6**
FUG	**Fuego 3**	**1.00**	**3**	⇓*e*P	**P**	**23 20 18.2**	**-0.3**
JAT	**Jato**	**1.13**	**320**	*e*P	**P**	**23 20 21.3**	**+0.9**
JAT				*e*S	**S**	**23 20 33.7**	**-1.3**
NBG	**Las Nubes**	**1.25**	**25**	*e*P	**P**	**23 20 22.7**	**+0.5**
RTR	**El Retiro**	**1.29**	**69**	*e*P	**P**	**23 20 21.9**	**-0.8**
RTR				*e*S	**S**	**23 20 38.5**	**-0.6**
SBLS	**San Blas**	**1.29**	**72**	*e*P	**P**	**23 20 22.4**	**-0.4**
SBLS				*e*S	**S**	**23 20 39.3**	**+0.1**
SNJE	**San Jose**	**1.32**	**71**	*e*P	**P**	**23 20 22.7**	**-0.5**
SNJE				*e*S	**S**	**23 20 39.2**	**-0.6**
TP2	**Tecpan 2**	**1.34**	**355**	⇓*e*P	**P**	**23 20 23.8**	**+0.3**
TP2				*e*S	**S**	**23 20 40.8**	**+0.5**
TP2				AML	AML	23 20 46.0	
	comp=N,2µm,0.4s						
BOQS	**Boqueron**	**1.59**	**79**	*e*P	**P**	**23 20 27.1**	**0.0**
BOQS				*e*S	**S**	**23 20 47.6**	**+1.0**
SNET	**Serv Nac Est T**	**1.63**	**81**	*e*P	**P**	**23 20 28.2**	**+0.6**
SNET				*e*S	**S**	**23 20 47.9**	**+0.3**
SNET				*i*		23 20 50.7	
	comp=Z,2µm,0.3s						
LFU	**La Fuente**	**1.75**	**80**	*e*P	**P**	**23 20 29.8**	**+0.5**
MTO2	**Montecristo 2**	**1.76**	**57**	*e*P	**P**	**23 20 29.4**	**-0.1**
MTO2				*e*S	**S**	**23 20 49.7**	**-1.1**
LFRS	**El Faro**	**1.79**	**84**	*e*P	**P**	**23 20 29.6**	**-0.2**
LFRS				*e*S	**S**	**23 20 51.1**	**-0.3**
LBRS	**Las Brisas**	**1.82**	**81**	*e*P	**P**	**23 20 30.5**	**+0.2**
LBRS				*e*S	**S**	**23 20 52.1**	**-0.1**
LCBS	**La Ceiba**	**1.87**	**83**	*e*P	**P**	**23 20 31.1**	**+0.1**
LCBS				*e*S	**S**	**23 20 53.3**	**-0.2**
MRL	**Marmol**	**1.99**	**36**	⇓*e*P	**P**	**23 20 33.6**	**+1.0**
SNVI	**San Vicente**	**2.00**	**85**	*e*P	**P**	**23 20 33.3**	**+0.4**
SNVI				*e*S	**S**	**23 20 57.1**	**+0.3**
VSM	**San Miguel**	**2.55**	**90**	*e*P	**P**	**23 20 41.2**	**+0.6**
CNCH	**Conchagua**	**2.98**	**93**	*e*P	**P**	**23 20 46.0**	**-0.8**
CNCH				*e*S	**S**	**23 21 21.6**	**-0.1**

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*STR **09** 23:19:52.3±0.7, 50.96N×7.02E, h10^{km}±1^{km}, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*BGR **09** 23:20:02.8±0.3, 50.65N×7.26E, h10^{km}, ML2.0/3, Error ellipse: s-maj=3.3km s-min=2.2km az=158.0*

*LDG **09** 23:20:04.2±0.1, 50.68N×7.18E, h7^{km}, Md3.0/2, Ml2.7/15, Error ellipse: s-maj=1.0km s-min=0.7km az=91.0*

*BNS **09** 23:20:04.2±1.1, 50.69N×7.19E, h7^{km}±25^{km}, ML1.9*

*NEIC **09** 23:20:04.2, 50.68N×7.18E, h7^{km}, ML2.7(LDG), ML2.1(SZGRF), After LDG.*

ISC 09 23:20:01.0±0.3**, 50.62N**±0.02×**7.28E**±0.03**, h8**^{km}±3^{km}**, n40,** σ**1**^{s}**18**/88**, 3C-2D, Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STB	**Steinbach**	**0.28**	**265**	⇑*i*Pg	**Pg**	**23 20 09.4**	**+2.6**
STB				*i* Sg	**Sg**	**23 20 12.6**	**+2.0**
	136nm,0.1s						
BNS	**Bensberg**	**0.35**	**349**	⇓*e*Pg	**Pg**	**23 20 09.9**	**+1.8**
BNS				*i* Sg	**Sg**	**23 20 13.7**	**+0.7**
	376nm,0.1s						
BGG	**Burgeitz**	**0.42**	**175**	⇓*e*Pg	**Pg**	**23 20 13.8**	**+4.3**
BGG				*e*Sg	**Sg**	**23 20 20.5**	**+5.4**
	56nm,0.3s						
KLL	**Kalltalsperre**	**0.62**	**273**	⇑*e*Pg	**Pg**	**23 20 14.5**	**+1.1**
BUG	**Bochum--Univer**	**0.82**	**360**	*e*Pg	**Pg**	**23 20 18.1**	**+0.6**
	SNR=1.3						
BUG				*e*Sg	**Sg**	**23 20 28.5**	**0.0**
	SNR=7.0						
BUG	**Bochum--Univer**	**0.82**	**360**	*e*Pg	**Pg**	**23 20 18.3**	**+0.8**
BUG				*e*Sg	**Sg**	**23 20 29.2**	**+0.7**
HGN	**Heimansgroeve**	**0.87**	**280**	*e*Pg	**Pg**	**23 20 18.9**	**+0.5**
	SNR=33						
HGN				*e*Sg	**Sg**	**23 20 29.8**	**-0.2**
	SNR=4.7						
HGN	**Heimansgroeve**	**0.87**	**280**	⇑*e*Pg	**Pg**	**23 20 19.1**	**+0.7**
	28nm,0.1s,baz=70						
HGN				*e*Sg	**Sg**	**23 20 29.2**	**-0.8**
WLF	**Walferdange**	**1.20**	**218**	*e*Pg	**Pg**	**23 20 25.6**	**+0.6**
	SNR=3.8						
WLF				*e*Sg	**Sg**	**23 20 41.1**	**+0.1**
	SNR=6.4						
WTSB	**Winterswijk**	**1.38**	**348**	*e*Pn	**Pn**	**23 20 27.6**	**+1.0**
	SNR=4.2						
WTSB				*e*Sg	**Sg**	**23 20 45.3**	**-1.8**
	SNR=6.1						
WTSB	**Winterswijk**	**1.38**	**348**	*e*Pg	**Pg**	**23 20 28.0**	**-0.6**
	19nm,0.5s						
WTSB				*e*Sg	**Sg**	**23 20 45.1**	**-2.0**
GIVF	**Givet**	**1.66**	**253**	*e*Pn	**Pn**	**23 20 31.6**	**+1.1**
GIVF				*e*P		23 20 33.4	
GIVF				*e*Pg	**Pg**	**23 20 34.5**	**+0.4**
GIVF				*e*Sn	**Sn**	**23 20 51.5**	**-0.6**
GIVF				*e*Sg	**Sg**	**23 20 55.4**	**-0.7**
	23nm,0.2s						
GIVF	**Givet**	**1.66**	**253**	*e*Pn	**Pn**	**23 20 31.6**	**+1.1**
GIVF				*e*Pg	**Pg**	**23 20 34.5**	**+0.4**
GIVF				*e*Sn	**Sn**	**23 20 51.5**	**-0.6**
IBBN	**Ibbenburen**	**1.72**	**10**	*e*Sg	**Sg**	**23 20 56.4**	**-1.8**
	SNR=2.0						
UBBA	**Unterbreizbach**	**1.74**	**82**	*e*Sg	**Sg**	**23 20 58.3**	**-0.8**
	SNR=2.5						
BAIF	**Baives**	**2.04**	**255**	*e*Pn	**Pn**	**23 20 36.8**	**+0.7**
BAIF				*e*P		23 20 38.9	
BAIF				*e*Pg	**Pg**	**23 20 41.6**	**-0.3**
BAIF				*e*Sn	**Sn**	**23 21 00.8**	**-1.2**
BAIF				*e*Sg	**Sg**	**23 21 07.5**	**-1.6**
	15nm,0.2s						
CDF	**Champ du Feu**	**2.21**	**180**	*e*Pn	**Pn**	**23 20 40.6**	**+2.1**
CDF				*e*Pg	**Pg**	**23 20 46.3**	**+1.1**
CDF				*e*Sn	**Sn**	**23 21 07.0**	**+0.8**
CDF				*e*Sg	**Sg**	**23 21 15.7**	**+1.1**
	5.5nm,0.3s						
WLS	**Welschbruch**	**2.21**	**179**	Pg	**Pg**	**23 20 41.1**	**-4.0**
CLZ	**Clausthal**	**2.30**	**57**	*e*Pg	**Pg**	**23 20 46.0**	**-0.9**
	SNR=4.5						
CLZ				*e*Sg	**Sg**	**23 21 15.5**	**-2.1**
	SNR=2.9						
CLZ	**Clausthal**	**2.30**	**57**	*e*Pg	**Pg**	**23 20 45.3**	**-1.6**
CLZ				*e*Sg	**Sg**	**23 21 16.3**	**-1.3**
RFYF	**Reffroy**	**2.31**	**211**	*e*Pn	**Pn**	**23 20 41.0**	**+1.1**
RFYF				*e*Pg	**Pg**	**23 20 47.9**	**+0.7**
RFYF				*e*Sg	**Sg**	**23 21 18.0**	**0.0**
	10nm,0.2s						
ECH	**Echery**	**2.41**	**182**	Pg	**Pg**	**23 20 43.6**	**-5.5**
ECH				Sg	**Sg**	**23 21 22.9**	**+1.7**
THEF	**They Montfort**	**2.54**	**200**	Pn	**Pn**	**23 20 36.0**	**-7.2**
THEF				Sg	**Sg**	**23 21 24.4**	**-1.2**
MEZF	**Maizieres J'vi**	**2.57**	**215**	*e*Pn	**Pn**	**23 20 44.7**	**+1.1**
MEZF				*e*Pg	**Pg**	**23 20 52.2**	**-0.1**
MEZF				*e*Sg	**Sg**	**23 21 25.3**	**-1.2**
	3.7nm,0.2s						
HAU	**Haudompre**	**2.69**	**193**	*e*Pn	**Pn**	**23 20 47.2**	**+1.9**
HAU				*e*Pg	**Pg**	**23 20 53.9**	**-0.8**
HAU				*e*Sn	**Sn**	**23 21 17.9**	**-0.4**
HAU				*e*Sg	**Sg**	**23 21 30.3**	**-0.2**
	6.4nm,0.2s						
MOX	**Moxa**	**2.76**	**88**	*e*Pn	**Pn**	**23 20 47.7**	**+1.3**
	SNR=2.5						
MOX				*e*Sg	**Sg**	**23 21 30.7**	**-2.3**
MOF	**Molkenrain**	**2.77**	**182**	Pn	**Pn**	**23 20 39.7**	**-6.8**
MOF				Sg	**Sg**	**23 21 33.5**	**+0.1**
HINF	**Hinteralfeld**	**2.82**	**186**	*e*Pn	**Pn**	**23 20 48.6**	**+1.4**
HINF				*e*Sn	**Sn**	**23 21 21.1**	**-0.6**
HINF				*e*Sg	**Sg**	**23 21 34.7**	**-0.2**
	2.3nm,0.2s						
SFTF	**Sexfontaines**	**2.83**	**212**	*e*Pn	**Pn**	**23 20 48.2**	**+0.9**
SFTF				*e*Pg	**Pg**	**23 20 56.8**	**-0.6**
SFTF				*e*Sn	**Sn**	**23 21 20.8**	**-1.0**
SFTF				*e*Sg	**Sg**	**23 21 33.5**	**-1.6**
	5.0nm,0.2s						
WERD	**Werda**	**3.21**	**91**	*e*Pn	**Pn**	**23 20 53.1**	**+0.3**
	SNR=2.4						
GUNZ	**Gunzen**	**3.24**	**93**	*e*Sg	**Sg**	**23 21 45.6**	**-3.2**
	SNR=1.4						
TANN	**Tannenbergstha**	**3.32**	**92**	*e*Pn	**Pn**	**23 20 55.7**	**+1.5**
	SNR=2.4						
LOR	**Lormes**	**4.04**	**215**	*e*Pn	**Pn**	**23 21 04.9**	**+0.4**
LOR				*e*Pg	**Pg**	**23 21 19.1**	**-2.6**
LOR				*e*Sn	**Sn**	**23 21 49.2**	**-3.4**
LOR				*e*Sg	**Sg**	**23 22 11.7**	**-3.8**
	2.7nm,0.3s						
CABF	**La Chapelle**	**4.09**	**192**	*e*Pn	**Pn**	**23 21 06.0**	**+0.8**
CABF				*e*Sn	**Sn**	**23 21 51.9**	**-1.9**
SSF	**Saint Saulge**	**4.34**	**216**	*e*Pn	**Pn**	**23 21 09.0**	**+0.1**
SSF				*e*Sn	**Sn**	**23 21 56.5**	**-3.8**
SSF				*e*Sg	**Sg**	**23 22 20.5**	**-5.2**
	1.8nm,0.3s						
SMF	**Signal de Mont**	**4.58**	**211**	*e*Pn	**Pn**	**23 21 12.0**	**-0.2**
SMF				*e*Sg	**Sg**	**23 22 28.5**	**-5.1**
	1.4nm,0.2s						
AVF	**Avril sur Loir**	**4.63**	**216**	*e*Pn	**Pn**	**23 21 12.6**	**-0.3**
LDF	**La Druitiere**	**5.22**	**250**	*e*Pg	**Pg**	**23 21 39.6**	**-5.6**
LDF				*e*Sg	**Sg**	**23 22 45.7**	**-9.1**
	1.5nm,0.3s						
FLN	**La Foliniere**	**5.37**	**253**	*e*Pn	**Pn**	**23 21 22.3**	**-1.0**
FLN				*e*Sg	**Sg**	**23 22 50.9**	**-8.8**
	1.5nm,0.3s						
TCF	**Toulx Ste Croi**	**5.49**	**220**	*e*Pn	**Pn**	**23 21 24.3**	**-0.8**

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*IDC **09** 23:20:46.4±0.8, 44.55N×81.56E, mb4.1/13, mb1 4.3/16, mb1mx4.2/21, ML4.4/3, Error ellipse: s-maj=15.6km s-min=12.4km az=78.0*

*LDG **09** 23:20:47.6±0.1, 44.75N×81.26E, h10^{km}, Mb4.4/16, Error ellipse: s-maj=4.8km s-min=3.7km az=23.0*

*BJI **09** 23:20:49.9, 44.68N×81.50E, h29^{km}, ML4.6*

*MOS **09** 23:20:51.5±1.2, 44.78N×81.09E, h27^{km}, mb4.3/7, Error ellipse: s-maj=13.2km s-min=8.2km az=105.6*

*NEIC **09** 23:20:52.2±1.3, 44.70N×81.32E, h28^{km}±10^{km}, mb4.2/24, Error ellipse: s-maj=6.4km s-min=4.3km az=70.0*

*NNC **09** 23:20:53.1±2.3, 44.74N×80.85E, h13^{km}±12^{km}, mpv4.0, Error ellipse: s-maj=20.7km s-min=7.9km az=95.0*

ISC 09 23:20:51.6±0.6**, 44.78N**±0.03×**81.26E**±0.05**, h34**^{km}±6^{km}**, n96,** σ**1**^{s}**00**/106**, mb4.3**/31**, 11C-3D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**2.14**	**19**	Pn	**P**	**23 21 28.1**	**+2.5**
	138nm,0.3s,baz=196,slow=15,SNR=720						
MKAR				Lg		23 21 57.8	
	257nm,0.3s,baz=195,slow=28,SNR=3.8						
AAA	**Alma-Ata**	**3.46**	**246**	*e*PN	**P**	**23 21 45.6**	**+1.2**
AAA				*e*		23 21 57.0	
AAA				*e*		23 22 42.0	
AAA				pmax	pmax		
	comp=Z,500nm,1.0s						
AAA				smax			
	comp=E,1µm,1.0s						
TKM2	**Tokmak 2**	**4.50**	**248**	P	**P**	**23 21 59.5**	**+0.3**
	SNR=19						
WMQ	**Urumqi**	**4.72**	**99**	*e*P	**P**	**23 22 02.0**	**-0.3**
WMQ				SG	**S**	**23 23 13.8**	**+17**
WMQ				Smax			
	comp=N,220nm,0.8s						
WMQ				Smax			
	comp=E,310nm,0.7s						
CHMS	**Chumysh**	**5.03**	**252**	P	**P**	**23 22 06.7**	**0.0**
	SNR=20						
KBK	**Karagaybulak**	**5.04**	**247**	P	**P**	**23 22 07.7**	**+0.8**
	SNR=46						
USP	**Ospenovka**	**5.10**	**255**	P	**P**	**23 22 07.9**	**+0.2**
	SNR=17						
FRU	**Bishkek**	**5.19**	**250**	*e*PN	**P**	**23 22 16.0**	**+7.1**
FRU				*e*		23 22 26.0	
FRU				pmax	pmax		
	comp=Z,40nm,1.2s						
AAK	**Ala-Archa**	**5.35**	**249**	P	**P**	**23 22 11.3**	**+0.1**
	SNR=6.2						
AAK	**Ala-Archa**	**5.35**	**249**	*e*Pn	**P**	**23 22 09.7**	**-1.5**
AAK				*e*Sn	**S**	**23 23 24.9**	**+12**
UCH	**Uchtor**	**5.53**	**245**	P	**P**	**23 22 14.9**	**+1.3**
	SNR=18						
EKS2	**Erkin-Say**	**5.82**	**251**	P	**P**	**23 22 18.2**	**+0.4**
	SNR=12						
AML	**Almayashu**	**6.11**	**247**	P	**P**	**23 22 23.1**	**+1.2**
	SNR=8.7						
KURK	**Kurchatov**	**6.20**	**344**	⇑Pn	**P**	**23 22 23.6**	**+0.5**
	comp=Z,18nm,0.7s,baz=191,slow=10,SNR=172						
KURK				⇑Lg		23 24 08.0	
	comp=Z,81nm,0.5s,baz=80,slow=16,SNR=8.0						
KURK	**Kurchatov**	**6.20**	**344**	Pn	**P**	**23 22 23.5**	**+0.4**
	comp=Z,470nm,0.4s,SNR=73						
KURK	**Kurchatov**	**6.20**	**344**	*i* PN	**P**	**23 22 23.6**	**+0.5**
KURK				pmax	pmax		
	comp=Z,6.0nm,0.5s						
KURK	**Kurchatov**	**6.20**	**344**	*e*Pn	**P**	**23 22 23.1**	**-0.1**
KSH	**Kashi**	**6.56**	**219**	*e*PG	**P**	**23 22 47.9**	**+20**
KSH				S	**S**	**23 23 48.8**	**+6.1**
KSH				Smax			
	comp=N,100nm,0.8s						
KSH				Smax			
	comp=E,210nm,1.0s						
KK31	**Karatay Array**	**7.94**	**262**	Pn	**P**	**23 22 46.5**	**-0.9**
	comp=E,1.7nm,0.3s,baz=72,slow=14,SNR=66						
KK31				⇑Lg		23 25 00.5	
	comp=E,22nm,0.5s,baz=76,slow=27,SNR=3.9						
KKAR	**Karatay Array**	**7.94**	**262**	*e*P	**P**	**23 22 46.5**	**-0.9**
NVS	**Novosibirsk**	**10.15**	**6**	*e*P	**P**	**23 23 17.5**	**-0.5**
NVS				*e*S	**S**	**23 25 14.8**	**+3.0**
VOSK	**Vostochnaya**	**10.45**	**323**	⇑Pn	**P**	**23 23 21.5**	**-0.4**
	comp=E,13nm,0.8s						
VOSK				⇑Sn	**S**	**23 25 15.6**	**-3.4**
	comp=E,20nm,0.7s						
VOSK				⇓Lg		23 26 21.8	
	comp=E,69nm,1.4s						
VOSK	**Vostochnaya**	**10.45**	**323**	P	**P**	**23 23 21.5**	**-0.5**
VOSK						23 25 15.5	
VOSK				pmax	pmax		
	comp=Z,11nm,0.8s						
VOSK				smax			
	comp=Z,13nm,0.7s						
VOSK				smax			
	comp=Z,93nm,1.4s						
BVA0	**Borovoye Array**	**10.91**	**323**	⇑Pn	**P**	**23 23 27.7**	**-0.7**
	comp=Z,0.7nm,0.6s,baz=135,slow=14,SNR=24						
BVA0				⇓Sn	**S**	**23 25 29.9**	**-0.4**
	comp=Z,0.9nm,0.6s,baz=140,slow=19,SNR=5.1						
BVA0				⇑Lg		23 26 33.5	
	comp=Z,7.7nm,0.8s,baz=113,slow=28,SNR=6.0						
BVA0	**Borovoye Array**	**10.91**	**323**	P	**P**	**23 23 27.7**	**-0.7**
BVA0				*e*		23 25 29.9	
BVA0				smax			
	comp=Z,1.0nm,0.6s						
BVA0				smax			
	comp=Z,2.0nm,0.8s						
BVAR	**Borovoye Array**	**10.91**	**323**	Pn	**P**	**23 23 27.8**	**-0.6**
	comp=Z,1.4nm,0.3s,baz=128,slow=13,SNR=23						
BVAR				Sn	**S**	**23 25 29.3**	**-1.0**
	comp=Z,2.3nm,0.3s,baz=126,slow=26,SNR=5.6						
BVAR				Lg		23 26 38.9	
	comp=Z,3.0nm,0.3s,baz=133,slow=28,SNR=4.2						
BRVK	**Borovoye**	**10.98**	**323**	*e*Pn	**P**	**23 23 27.8**	**-1.5**
ZRNK	**Zerenda**	**11.48**	**320**	⇑Pn	**P**	**23 23 34.8**	**-1.2**
	comp=Z,4.5nm,0.5s						
ZRNK				⇓Sn	**S**	**23 25 39.8**	**-4.2**
	comp=Z,3.9nm,0.5s						
ZRNK				⇑Lg		23 26 52.5	
	comp=Z,44nm,0.8s						
ZRNK	**Zerenda**	**11.48**	**320**	P	**P**	**23 23 34.8**	**-1.2**
ZRNK						23 25 39.8	
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ZRNK				smax			
	comp=Z,2.0nm,0.5s						
ZRNK				smax			
	comp=Z,38nm,0.9s						
ZRNK	**Zerenda**	**11.48**	**320**	*e*P	**P**	**23 23 34.7**	**-1.3**
AB31	**Akbulak array**	**15.20**	**295**	P	**P**	**23 24 22.9**	**-2.3**
	comp=Z,1.4nm,0.3s,baz=96,slow=15,SNR=44						
AB31				⇑S	**S**	**23 27 08.9**	**-4.0**
	comp=Z,1.7nm,0.5s						
AB31	**Akbulak array**	**15.20**	**295**	*e*P	**P**	**23 24 22.8**	**-2.4**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZAK	**Zakamensk**	**15.86**	**61**	*e*P	**P**	**23 24 36.3**	**+2.7**
GKN	**Gorkha**	**16.96**	**170**	*e*P	**P**	**23 24 46.6**	**-1.1**
	comp=Z,11nm,0.5s						
KOLN	**Koldanda**	**17.08**	**173**	*e*P	**P**	**23 24 48.6**	**-0.6**
	comp=Z,16nm,0.8s						
KKN	**Kakani**	**17.26**	**168**	*e*P	**P**	**23 24 51.1**	**-0.3**
	comp=Z,11nm,0.5s						
DMN	**Daman**	**17.41**	**169**	*e*P	**P**	**23 24 48.5**	**-4.8**
	comp=Z,9.8nm,0.6s						
PKI	**Pulchoki**	**17.49**	**168**	*e*P	**P**	**23 24 53.1**	**-1.3**
	comp=Z,13nm,0.6s						
SONM	**Songino Array**	**17.61**	**71**	P	**P**	**23 24 54.9**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=270,slow=9.9,SNR=4.5						
ARU	**Arti**	**18.43**	**317**	*i* P	**P**	**23 25 07.7**	**+1.7**
ARU				*e*SS	**S**	**23 28 21.7**	**-5.4**
ARU				pmax	pmax		
	comp=Z,8.0nm,1.0s						
ARU	**Arti**	**18.43**	**317**	*e*P	**P**	**23 25 06.8**	**+0.8**
	comp=Z,7.6nm,0.8s						
SHL	**Shillong**	**21.01**	**152**	*e*P	**P**	**23 25 30.0**	**-4.5**
BOD	**Bodaibo**	**24.00**	**45**	*e*P	**P**	**23 26 06.8**	**+3.2**
CMAR	**Chiang Mai Arr**	**30.12**	**145**	P	**P**	**23 27 01.7**	**+1.4**
	comp=Z,1.5nm,0.7s,mb3.8,baz=318,slow=8.8,SNR=10						
CMAR	**Chiang Mai Arr**	**30.12**	**145**	P	**P**	**23 27 01.7**	**+1.4**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
AKASG	**Malin Array Be**	**34.88**	**299**	P	**P**	**23 27 42.4**	**+0.9**
	comp=Z,3.2nm,0.8s,mb4.3,baz=69,slow=8.7,SNR=4.7						
AKASG	**Malin Array Be**	**34.88**	**299**	P	**P**	**23 27 42.4**	**+0.9**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BRTR	**Keskin Array B**	**35.21**	**279**	P	**P**	**23 27 44.0**	**-0.4**
	comp=Z,1.9nm,1.1s,mb4.0,baz=94,slow=8.8,SNR=3.6						
BRTR	**Keskin Array B**	**35.21**	**279**	P	**P**	**23 27 44.0**	**-0.4**
BRTR				pmax	pmax		
	comp=Z,2.0nm,1.1s						
FINES	**FINESS Array B**	**35.81**	**318**	P	**P**	**23 27 49.2**	**0.0**
	comp=Z,0.7nm,0.7s,mb3.7,baz=111,slow=16,SNR=4.4						
FINES	**FINESS Array B**	**35.81**	**318**	P	**P**	**23 27 49.3**	**0.0**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ARCES	**ARCESS Array B**	**37.05**	**331**	P	**P**	**23 28 00.2**	**+0.5**
	comp=Z,6.6nm,1.2s,mb4.4,baz=90,slow=9.7,SNR=11						
ARCES	**ARCESS Array B**	**37.05**	**331**	P	**P**	**23 28 00.2**	**+0.5**
ARCES				pmax	pmax		
	comp=Z,7.0nm,1.2s						
ARCES	**ARCESS Array B**	**37.05**	**331**	P	**P**	**23 28 00.2**	**+0.5**
MORC	**Moravsky Berou**	**42.36**	**300**	*e*P	**P**	**23 28 45.3**	**+1.4**
	comp=Z,5.1nm,1.1s,mb4.1						
NB2	**NORSAR Subarra**	**42.99**	**318**	P	**P**	**23 28 49.2**	**+0.4**
	comp=Z,1.2nm,0.5s,mb3.9,baz=80,slow=7.9						
NOA	**NORSAR Array B**	**42.99**	**318**	P	**P**	**23 28 49.7**	**+0.9**
	comp=Z,1.5nm,0.5s,mb4.0,baz=80,slow=8.1,SNR=6.0						
NOA	**NORSAR Array B**	**42.99**	**318**	P	**P**	**23 28 49.7**	**+0.9**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
NOA	**NORSAR Array B**	**42.99**	**318**	P	**P**	**23 28 49.7**	**+0.9**
IDI	**Anoyia**	**43.42**	**278**	P	**P**	**23 28 52.3**	**-0.4**
	comp=Z,7.6nm,0.8s,mb4.5,baz=24,slow=14,SNR=3.8						
CLL	**Collm**	**44.60**	**304**	⇑P	**P**	**23 29 03.1**	**+1.2**
	comp=Z,logA/T=0.9,mb4.5						
GERES	**GERESS Array B**	**45.04**	**300**	P	**P**	**23 29 06.2**	**+0.7**
	comp=Z,0.3nm,0.7s,baz=82,slow=9.4,SNR=3.7						
MOX	**Moxa**	**45.65**	**303**	*e*P	**P**	**23 29 11.0**	**+0.6**
LPG	**La Plagne**	**50.74**	**299**	*e*P	**P**	**23 29 51.1**	**+1.1**
	comp=Z,12nm,0.8s,mb4.5						
LPL	**La Plagne**	**50.75**	**299**	*e*P	**P**	**23 29 51.2**	**+1.2**
	comp=Z,8.2nm,0.4s,mb4.7						
SBF	**Sospel**	**51.08**	**297**	*e*P	**P**	**23 29 52.7**	**+0.2**
MBDF	**Montbardon**	**51.09**	**298**	*e*P	**P**	**23 29 53.9**	**+1.3**
	comp=Z,3.7nm,0.7s,mb4.1						
ORIF	**Oris-en-Rattie**	**51.56**	**299**	*e*P	**P**	**23 29 56.4**	**+0.3**
	comp=Z,4.6nm,0.7s,mb4.2						
LOR	**Lormes**	**51.70**	**302**	*e*P	**P**	**23 29 56.5**	**-0.6**
FRF	**La Foret Royal**	**51.73**	**297**	*e*P	**P**	**23 29 57.9**	**+0.5**
	comp=Z,1.0nm,0.4s,mb3.8						
AVF	**Avril sur Loir**	**52.23**	**302**	*e*P	**P**	**23 30 00.4**	**-0.7**
	comp=Z,10.0nm,1.0s,mb4.4						
VIVF	**Saint-Julien-l**	**52.34**	**299**	*e*P	**P**	**23 30 01.8**	**-0.2**
	comp=Z,3.4nm,0.5s,mb4.3						
TCF	**Toulx Ste Croi**	**53.16**	**302**	*e*P	**P**	**23 30 07.9**	**-0.2**
	comp=Z,1.8nm,0.5s,mb4.0						
LASF	**Ste Croix**	**53.23**	**299**	*e*P	**P**	**23 30 09.2**	**+0.5**
LDF	**La Druitiere**	**53.43**	**305**	*e*P	**P**	**23 30 09.8**	**-0.3**
	comp=Z,7.8nm,0.6s,mb4.5						
FLN	**La Foliniere**	**53.56**	**306**	*e*P	**P**	**23 30 11.0**	**0.0**
	comp=Z,4.9nm,0.5s,mb4.4						
GRR	**Gorron**	**53.96**	**305**	*e*P	**P**	**23 30 13.8**	**-0.2**
	comp=Z,5.1nm,0.4s,mb4.5						
LFF	**La Frestale**	**54.73**	**301**	*e*P	**P**	**23 30 19.6**	**0.0**
	comp=Z,4.8nm,0.5s,mb4.5						
SGMF	**Saint Gilles**	**55.01**	**306**	*e*P	**P**	**23 30 22.8**	**+1.2**
ROSF	**Rostrenen**	**55.38**	**306**	*e*P	**P**	**23 30 24.5**	**+0.2**
	comp=Z,6.7nm,0.5s,mb4.6						
QUIF	**Quistinic**	**55.53**	**306**	*e*P	**P**	**23 30 25.6**	**+0.2**
EPF	**Esparros**	**55.97**	**299**	*e*P	**P**	**23 30 28.5**	**-0.1**
ETSF	**Etsaut**	**56.59**	**299**	*e*P	**P**	**23 30 33.3**	**+0.2**
	comp=Z,4.3nm,0.8s,mb4.2						
COLA	**College**	**64.17**	**21**	P	**P**	**23 31 23.1**	**-1.2**
	comp=Z,7.2nm,0.5s,mb5.0						
INK	**Inuvik**	**64.27**	**14**	P	**P**	**23 31 24.1**	**-0.7**
	comp=Z,1.0nm,0.5s,mb4.1,baz=326,slow=3.6,SNR=3.0						
INK	**Inuvik**	**64.27**	**14**	P	**P**	**23 31 24.2**	**-0.7**
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ILAR	**Eielson Array**	**64.50**	**21**	P	**P**	**23 31 25.6**	**-0.9**
	comp=Z,2.5nm,0.6s,mb4.4,baz=327,slow=6.3,SNR=34						
ILAR	**Eielson Array**	**64.50**	**21**	P	**P**	**23 31 25.6**	**-0.8**
ILAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
FITZ	**Fitzroy Crossi**	**74.49**	**136**	P	**P**	**23 32 24.4**	**-4.0**
	comp=Z,1.8nm,0.7s,mb4.1,baz=204,slow=22,SNR=2.8						
WRAB	**Tennant Creek**	**80.53**	**130**	P	**P**	**23 32 58.5**	**-3.4**
	comp=Z,9.2nm,1.1s,mb4.6						
WRAB				*e*		23 33 03.0	
WRA	**Warramunga Arr**	**80.53**	**130**	P	**P**	**23 32 58.9**	**-3.1**
	comp=Z,0.4nm,0.5s,mb3.6,baz=335,slow=5.0,SNR=4.9						
DBIC	**Dimbokro**	**82.59**	**272**	P	**P**	**23 33 12.3**	**-0.5**
	comp=Z,3.8nm,0.4s,mb4.8,baz=30,slow=6.6,SNR=16						
DBIC	**Dimbokro**	**82.59**	**272**	P	**P**	**23 33 12.3**	**-0.5**
DBIC				pmax	pmax		
	comp=Z,4.0nm,0.4s						
KIC	**Kosan Boka**	**82.73**	**272**	*e*P	**P**	**23 33 13.1**	**-0.4**
	comp=Z,29nm,0.6s						
TIC	**Toumodi**	**82.73**	**272**	*e*P	**P**	**23 33 13.0**	**-0.5**
	comp=Z,12nm,0.2s						
LIC	**Lamto**	**83.03**	**272**	*e*P	**P**	**23 33 14.5**	**-0.5**
	comp=Z,33nm,1.4s,mb5.2						

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*NEIC **09** 23:21:12.1, 34.00S×72.35W, h29^{km}, ML3.1(GUC), After GUC.*

GUC 09 23:21:12.1±0.6, 34.00S×72.35W, h29^{km}±3^{km}, MD3.8, ML3.1, 2C-5D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LNV	Longovilo	0.78	87	⇓iP	Pb	23 21 26.6	-0.5
LNV				iS	Sb	23 21 37.0	-0.3
LCCH	Las Cruces	0.83	51	iP	Pn	23 21 27.7	-0.2
LCCH				iS	Sb	23 21 38.8	0.0
TACH	Talagante	1.22	74	eP	Pn	23 21 33.4	-0.1
SFDO	San Fernando	1.26	119	eP	Pn	23 21 34.0	-0.1
RCDM	Rinconada Maip	1.38	69	eP	Pn	23 21 35.5	-0.2
RCDM				AMP		23 21 57.1	
	comp=E,474nm,0.1s						
CHCH	Chadas Angostu	1.41	88	⇓iP	Pn	23 21 36.6	+0.4
CHCH				iS	Sn	23 21 54.7	+0.8
CACH	El Canelo	1.46	95	eP	Pn	23 21 37.9	+1.1
CACH				iS	Sn	23 21 58.0	+3.0
ANTU	Antumapu	1.49	74	eP	Pn	23 21 37.9	+0.6
ANTU				iS	Sn	23 21 57.2	+1.2
ANTU				AMP		23 21 58.2	
	comp=N,506nm,0.4s						
PCH	Pirque	1.57	77	⇓iP	Pn	23 21 39.1	+0.6
PCH				iS	Sn	23 21 59.3	+1.3
CLCH	Cerro Calan	1.62	69	⇑iP	Pn	23 21 40.1	+0.9
CLCH				iS	Sn	23 22 01.1	+1.7
CLCH				AMP		23 22 06.8	
	comp=E,356nm,0.2s						
CLCH				AMP		23 22 18.0	
	comp=N,439nm,0.7s						
CICH	Cipreses	1.63	102	⇓iP	Pn	23 21 39.9	+0.6
CICH				iS	Sn	23 22 01.7	+2.2
SJCH	San Jose de Ma	1.70	78	eP	Pn	23 21 41.0	+0.8
SJCH				iS	Sn	23 22 02.6	+1.5
SJCH				AMP		23 22 09.6	
	comp=N,309nm,0.5s						
LMEL	Las Melosas	1.79	86	⇑iP	Pn	23 21 42.7	+1.1
LMEL				iS	Sn	23 22 06.1	+2.6
LMEL				AMP		23 22 07.7	
	comp=N,430nm,0.1s						
FCH	Farellones	1.84	69	⇓iP	Pn	23 21 43.4	+1.0
FCH				iS	Sn	23 22 06.5	+1.7
FCH				AMP		23 22 12.3	
	comp=N,263nm,0.2s						
JACH	Jahuel	1.97	49	iP	Pn	23 21 45.2	+1.1
JACH				iS	Sn	23 22 12.0	+3.9

MAN 09 23:27:32.2, 11.08N×122.24E, h21^{km}, mb4.0, ML2.8, MS2.5, 1C, Panay

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUIM	Jordan	0.57	143	eP	Pb	23 27 43.6	+0.1
KALP	Kalibo	0.60	9	eP	Pb	23 27 52.1	+8.2
RCP	Roxas	0.68	46	⇑eP	Pb	23 27 45.5	+0.2
RCP				eS	Sb	23 27 56.3	+1.9
CUYO	Cuyo Island	1.22	259	eP	Pn	23 27 53.7	-0.6
CUYO				eS	Sb	23 28 09.7	-0.1
OTRP	Odiongan	1.29	350	eP	Pn	23 27 55.2	0.0
OTRP				eS	Sb	23 28 12.6	+0.8
SJMP	San Jose	1.75	321	eP	Pn	23 28 01.5	-0.4
SNPH	Sibulan	1.99	150	eP	Pn	23 28 06.0	+0.7
ENPP	El Nido	2.77	273	eP	Pn	23 28 14.9	-1.5
ENPP				eS	Sn	23 28 45.6	-3.9

GUC 09 23:30:34.8±0.8, 34.95S×70.37W, h1^{km}±3^{km}, MD3.5, ML2.2, 6C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFDO	San Fernando	0.62	302	⇑iP	Pg	23 30 47.6	+0.3
SFDO				iS	Sg	23 30 57.2	+1.7
CICH	Cipreses	0.63	356	⇓iP	Pg	23 30 47.4	+0.1
CICH				iS	Sg	23 30 57.7	+2.0
CACH	El Canelo	0.85	347	⇑iP	Pg	23 30 51.4	-0.4
CACH				iS	Sg	23 31 04.5	+1.5
CHCH	Chadas Angostu	1.04	347	⇑iP	Pb	23 30 55.5	+0.3
CHCH				iS	Sb	23 31 10.8	+1.7
LMEL	Las Melosas	1.10	7	⇑iP	Pb	23 30 55.8	-0.5
LMEL				iS	Sb	23 31 11.7	+0.6
LMEL				AMP		23 31 14.9	
	comp=N,85nm,0.2s						
LNV	Longovilo	1.31	319	⇑iP	Pb	23 30 59.7	-0.1
LNV				iS	Sb	23 31 17.6	+0.6
PCH	Pirque	1.33	355	eP	Pb	23 30 59.5	-0.7
FCH	Farellones	1.62	2	⇑iP	Pn	23 31 05.0	+0.5
FCH				iS	Sb	23 31 27.3	+1.4
FCH				AMP		23 31 32.0	
	comp=E,64nm,0.2s						
LCCH	Las Cruces	1.77	326	⇓iP	Pn	23 31 07.8	+1.1
LCCH				iS	Sn	23 31 31.6	+1.4

NNC 10 00:12:40.7±12.0, 37.33N×71.16E, h229^{km}±228^{km}, mpv3.4, Error ellipse: s-maj=378.5km s-min=124.7km az=67.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AML	Almayashu	5.17	21	P	P	00 13 59.5	+0.9
	SNR=34						
UCH	Uchtor	5.53	27	P	P	00 14 04.3	+1.2
	SNR=21						
EKS2	Erkin-Say	5.69	20	P	P	00 14 06.1	+1.0
	SNR=15						
KK31	Karatay Array	5.78	355	P	P	00 14 05.5	-0.7
	1.8nm,0.4s,baz=175,slow=13,SNR=21						
KK31				S	S	00 15 13.7	+0.6
	8.2nm,0.5s,baz=190,slow=23,SNR=27						
AAK	Ala-Archa	5.88	25	P	P	00 14 08.7	+1.2
	SNR=8.9						
KBK	Karagaybulak	6.06	28	P	P	00 14 11.3	+1.5
	SNR=6.7						
CHMS	Chumysh	6.29	25	P	P	00 14 14.0	+1.2
	SNR=5.1						
TKM2	Tokmak 2	6.54	30	P	P	00 14 17.3	+1.4
	SNR=7.5						
AB31	Akbulak array	14.42	329	P	P	00 15 54.5	-1.1
	0.3nm,0.4s,baz=152,slow=12,SNR=8.2						

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*BJI **10** 00:31:03.9, 55.69S×28.03W, h10^{km}, mB4.7, Msz5.3*
*IDC **10** 00:31:03.7±0.8, 55.28S×28.15W, mb4.5/7, mb1 4.6/7, mb1mx4.5/10, MS3.9/5, Ms1 3.9/5, ms1mx3.8/10, Error ellipse: s-maj=33.6km s-min=19.8km az=32.0*
*NEIC **10** 00:31:05.5±0.2, 55.13S×28.08W, h10^{km}, mb4.7/9, Error ellipse: s-maj=10.7km s-min=5.9km az=62.0*
*SYO **10** 00:31:07.7, 55.11S×28.17W, h23^{km}, MB4.7*
ISC 10 00:31:10.1±4.1, 55.2S±0.1×28.1W±0.2, h64^{km}±41^{km}, n55, σ0^{s}98/25, mb4.7/17, 2C-3D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	17.77	158	⇓iPn	P	00 35 14.9	+0.7
VNA1				e		00 35 25.5	
VNA1				e		00 35 31.6	
VNA1				e		00 39 47.9	
VNA3	Neumayer Olymp	17.96	161	⇓iPn	P	00 35 17.0	+0.5
VNA3				e		00 35 29.6	
VNA3				e		00 35 33.1	
VNA3				e		00 39 50.0	
VNA2	Neumayer--Watz	18.17	158	⇑iPn	P	00 35 19.6	+0.5
VNA2				e		00 35 31.2	
VNA2				e		00 35 35.1	
VNA2				e		00 39 52.8	
SNAA	Sanae	19.72	156	⇓iPn	P	00 35 34.2	-2.4
SNAA				e		00 35 45.4	
SNAA				e		00 35 50.1	
SNAA				e		00 40 06.6	
PMSA	Palmer Station	20.07	227	eP	P	00 35 40.0	-0.3
	27nm,0.9s						
USHA	Ushuaia	22.89	254	LR	LR	00 42 34.7	
	comp=Z,411nm,21.3s,baz=86,slow=30						
TRQA	Tornquist	28.51	293	eP	P	00 37 00.3	-1.1
	11nm,1.1s,mb4.5						
SYO	Syowa Base	32.57	142	⇑P	P	00 37 34.1	-2.7
QSPA	South Pole Qui	35.04	180	eP	P	00 37 58.0	0.0
	17nm,1.0s,mb4.9						
CPUP	Villa Florida	35.86	312	P	P	00 38 04.9	-0.6
	14nm,0.8s,mb4.9,baz=172,slow=7.5,SNR=30						
CPUP				PcP	PcP	00 40 32.2	+0.3
	9.0nm,1.4s,baz=197,slow=0.8,SNR=3.1						
CPUP				LR	LR	00 50 42.1	
	comp=Z,125nm,18.9s,baz=163,slow=33						
CPUP	Villa Florida	35.86	312	P	P	00 38 04.9	-0.6
CPUP				PcP	PcP	00 40 32.2	+0.3
MAW	Mawson	41.14	144	P	P	00 38 48.6	-0.4
	3.2nm,0.7s,mb4.1,baz=237,slow=7.1,SNR=7.8						
BDFB	Brasilia	42.38	331	P	P	00 39 00.5	+0.9
	4.4nm,0.6s,mb4.3,baz=158,slow=9.0,SNR=7.1						
BDFB				LR	LR	00 53 30.0	
	comp=Z,171nm,18.2s,baz=266,slow=32						
LVC	Limon Verde	44.42	300	eP	P	00 39 16.2	+0.1
	4.9nm,0.6s,mb4.4						
SBA	Scott Base	46.88	184	eP	P	00 39 36.4	+1.4
	9.1nm,1.3s,mb4.5						
LPAZ	La Paz	49.46	306	P	P	00 39 56.9	+1.1
	7.7nm,0.6s,mb4.9,baz=145,slow=6.3,SNR=29						
TSUM	Tsumeb	49.75	62	P	P	00 39 58.5	+0.5
	4.0nm,0.7s,mb4.5,baz=218,slow=6.4,SNR=10						
TSUM	Tsumeb	49.75	62	eP	P	00 39 58.2	+0.3
	19nm,1.5s,mb4.9						
SAML	Samuel	53.84	315	eP	P	00 40 27.2	-1.5
	7.9nm,1.0s,mb4.6						
LIC	Lamto	64.16	26	eP	P	00 41 39.9	-0.3
	58nm,1.0s,mb5.6						
KIC	Kosan Boka	64.36	26	eP	P	00 41 41.1	-0.4
	78nm,1.0s,mb5.7						
TIC	Toumodi	64.57	26	eP	P	00 41 42.6	-0.2
	19nm,0.2s,mb5.7						
DBIC	Dimbokro	64.63	26	P	P	00 41 43.1	-0.1
	6.0nm,0.7s,mb4.7,baz=162,slow=7.3,SNR=11						
DBIC				LR	LR	01 02 33.6	
	comp=Z,72nm,20.4s,baz=105,slow=29						
OTAV	Otavalo	68.75	304	eP	P	00 42 10.8	+1.5
	5.0nm,0.9s,mb4.4						
SDV	Santo Domingo	73.04	316	eP	P	00 42 34.8	-0.2
	12nm,0.9s,mb4.8						
KMBO	Kilima Mbogo	75.24	70	P	P	00 42 48.9	+1.1
	1.1nm,1.0s,mb3.7,baz=202,slow=19,SNR=3.4						
ESDC	Sonseca Array	96.75	19	LR	LR	01 23 06.8	
	comp=Z,76nm,18.9s,baz=305,slow=32						
MSU	Marysvale	117.49	298	ePKPdf	PKPdf	00 49 51.5	+3.4
DUG	Dugway	119.09	299	ePKPdf	PKPdf	00 49 53.9	+2.7
PDAR	Pinedale Array	119.44	303	PKP	PKPdf	00 49 53.7	+1.9
	0.4nm,0.5s,baz=180,slow=0.9,SNR=3.0						
HWUT	Hardware Ranch	119.54	301	ePKPdf	PKPdf	00 49 54.3	+2.3
WVOR	Wild Horse Val	123.69	297	ePKPdf	PKPdf	00 50 03.6	+3.5
FINES	FINESS Array B	123.89	28	PKP	PKPdf	00 50 01.8	+1.8
	2.3nm,0.6s,baz=166,slow=3.3,SNR=17						
CHMT	Chamberlain Mo	124.28	304	ePKPdf	PKPdf	00 50 03.5	+2.5
KAF	Kangasniemi	124.51	28	ep	PKPdf	00 50 02.6	+1.6
	2.6nm,0.7s						
SUMG	Summit	127.70	356	ePKPdf	PKPdf	00 50 09.8	+2.9
ARCES	ARCESS Array B	130.36	22	PKP	PKPdf	00 50 13.7	+1.7
	4.8nm,0.8s,baz=315,slow=1.7,SNR=8.8						
ARU	Arti	131.53	48	ePKPdf	PKPdf	00 50 17.1	+2.6
ZRNK	Zerenda	134.06	57	ePKPdf	PKPdf	00 50 21.8	+2.4
BRVK	Borovoye	134.74	57	ePKPdf	PKPdf	00 50 23.4	+2.7
YKA	Yellowknife Ar	135.19	319	PKP	PKPdf	00 50 23.5	+2.3
	2.9nm,0.7s,baz=124,slow=2.4,SNR=8.7						
MKAR	Makanchi Array	137.12	71	PKP	PKPdf	00 50 27.2	+2.0
	0.9nm,0.8s,baz=245,slow=2.5,SNR=6.2						
MKAR	Makanchi Array	137.12	71	PKP	PKPdf	00 50 27.2	+2.0
WMQ	Urumqi	138.25	78	ePKP	PKPdf	00 50 30.7	+3.3
INK	Inuvik	144.82	322	PKP	PKPdf	00 50 40.0	+2.0
	21nm,0.9s,baz=103,slow=4.8,SNR=23						
INK	Inuvik	144.82	322	ePKPbc	PKPbc	00 50 39.7	+1.6
DAWY	Dawson	145.84	313	ePKPbc	PKPbc	00 50 42.9	+2.1
NJ2	Nanjing	147.23	121	ePKP	PKPdf	00 50 42.5	-0.8
NJ2				APKP		00 50 53.2	
NJ2				PP	PP	00 54 15.0	-0.1
NJ2				LR	LR		
	comp=Z,580nm,24.5s						
DIV	Divide	147.74	306	ePKPbc	PKPdf	00 50 49.2	+6.1
ILAR	Eielson Array	149.16	313	PKPbc	PKPdf	00 50 52.5	+7.2
	comp=Z,33nm,0.8s,baz=131,slow=2.2,SNR=235						
COLA	College	149.59	313	ePKPbc	PKPdf	00 50 53.4	+7.3
MCK	McKinley	149.83	311	ePKPbc	PKPdf	00 50 54.5	+8.1
KDAK	Kodiak Island	149.96	298	ePKPbc	PKPdf	00 50 54.9	+8.1
SONM	Songino Array	151.20	86	PKPbc	PKPdf	00 50 58.2	+9.3
	comp=Z,8.7nm,0.7s,baz=229,slow=2.8,SNR=29						
IMA	Indian Mountai	152.15	315	ePKPbc	PKPdf	00 51 00.3	+10

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*IDC **10** 00:33:01.5±2.7, 36.68S×70.66W, mb3.7/4, mb1 4.0/4, mb1mx3.9/10, Error ellipse: s-maj=74.7km s-min=46.6km az=25.0*
*NEIC **10** 00:33:20.4, 35.31S×71.31W, h86^{km}, MD3.5(GUC), After GUC.*
*GUC **10** 00:33:20.1±0.6, 35.31S×71.30W, h90^{km}±5^{km}, MD3.6, ML3.7*
ISC 10 00:33:20.4±0.6, 35.31S±0.06×71.4W±0.1, h88^{km}±6^{km}, n31, σ0^{s}54/47, mb3.5/3, 7C-6D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFDO	San Fernando	0.75	22	⇓iP	P	00 33 37.1	-0.4
SFDO				iS	S	00 33 50.5	+0.4
SFDO	San Fernando	0.75	22	⇓iP	P	00 33 37.1	-0.4
SFDO				iS	S	00 33 49.8	-0.2
CICH	Cipreses	1.25	38	⇓iP	P	00 33 43.1	-0.2
CICH				iS	S	00 34 00.4	-0.1
CACH	El Canelo	1.34	28	eP	P	00 33 44.2	-0.3
CACH				eS	S	00 34 02.4	0.0
CACH	El Canelo	1.34	28	iP	P	00 33 44.4	-0.1
CACH				iS	S	00 34 02.6	+0.3
LNV	Longovilo	1.35	358	⇑iP	P	00 33 44.6	0.0
LNV	Longovilo	1.35	358	iP	P	00 33 44.6	0.0
LNV				iS	S	00 34 02.6	+0.1
CCHI	Chillan	1.42	204	eP	P	00 33 45.2	-0.2
CCHI				iS	S	00 34 04.5	+0.4
CCHI				AMP		00 34 05.8	
	comp=E,2μm,0.5s						
CCHI				AMP		00 34 06.0	
	comp=E,3μm,0.5s						
CCHI	Chillan	1.42	204	⇑iP	P	00 33 45.4	-0.1
CCHI				iS	S	00 34 04.3	+0.3
COCH	Cobquecura	1.43	234	eP	P	00 33 45.5	-0.1
COCH				iS	S	00 34 04.8	+0.5
COCH				AMP		00 34 13.2	
	comp=E,528nm,0.6s						
COCH	Cobquecura	1.43	234	iP	P	00 33 45.9	+0.4
COCH				iS	S	00 34 04.8	+0.5
CHCH	Chadas Angostu	1.49	23	eP	P	00 33 45.8	-0.6
CHCH	Chadas Angostu	1.49	23	⇑iP	P	00 33 45.8	-0.5
TACH	Talagante	1.69	12	⇓iP	P	00 33 48.4	-0.5
TACH	Talagante	1.69	12	⇓iP	P	00 33 48.4	-0.5
TACH				iS	S	00 34 09.7	-0.2
LMEL	Las Melosas	1.74	33	⇑iP	P	00 33 49.7	+0.1
LMEL				eS	S	00 34 11.2	+0.1
LMEL				AMP		00 34 15.8	
	comp=E,621nm,0.2s						
LMEL	Las Melosas	1.74	33	⇑iP	P	00 33 49.7	+0.1
LMEL				iS	S	00 34 11.9	+0.8
ANTU	Antumapu	1.83	19	iS	S	00 34 13.4	+0.1
ANTU				AMP		00 34 15.3	
	comp=N,867nm,0.2s						
SJCH	San Jose de Ma	1.86	27	eP	P	00 33 50.6	-0.5
SJCH				eS	S	00 34 14.0	+0.2
SJCH				AMP		00 34 16.1	
	comp=E,614nm,0.4s						
RCDM	Rinconada Maip	1.87	14	⇑iP	P	00 33 50.8	-0.5
RCDM				iS	S	00 34 14.1	0.0
RCDM				AMP		00 34 17.2	
	comp=E,756nm,0.1s						
RCDM	Rinconada Maip	1.87	14	iP	P	00 33 50.8	-0.5
RCDM				iS	S	00 34 14.1	0.0
DSCH	Colegio Aleman	2.01	19	AMP		00 34 21.8	
	comp=E,1μm,0.4s						
CLCH	Cerro Calan	2.02	20	⇑iP	P	00 33 53.3	0.0
CLCH				iS	S	00 34 18.2	+0.5
CLCH				AMP		00 34 20.1	
	comp=N,601nm,0.6s						
CLCH				AMP		00 34 20.8	
	comp=N,687nm,0.4s						
FCH	Farellones	2.16	24	⇓iP	P	00 33 55.1	-0.3
FCH				iS	S	00 34 22.1	+0.9
FCH				AMP		00 34 23.3	
	comp=E,686nm,0.3s						
PEL	Peldehue	2.23	15	AMP		00 34 30.2	
	comp=N,834nm,0.4s						
IHA	Instituto Hidr	2.29	354	eP	P	00 33 56.5	-0.6
TRQA	Tornquist	8.02	113	ePn	P	00 35 10.3	-5.6
	comp=N,7.1nm,0.9s						
LPAZ	La Paz	19.16	9	P	P	00 37 41.3	+1.9
	comp=N,0.9nm,0.6s,baz=211,slow=8.2,SNR=4.5						
TXAR	Lajitas Array	71.14	330	P	P	00 44 30.1	-1.3
	comp=N,0.4nm,0.5s,mb3.5,baz=152,slow=8.5,SNR=7.7						
DBIC	Dimbokro	75.07	71	P	P	00 44 45.1	-10
	comp=N,1.8nm,1.0s,mb3.8,baz=219,slow=6.5,SNR=4.5						
PDAR	Pinedale Array	85.18	333	P	P	00 45 48.1	+0.3
	comp=N,0.2nm,0.5s,mb3.3,baz=166,slow=3.7,SNR=3.6						

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*NEIC **10** 00:43:00.8, 36.68N×3.11E, MG3.4(MDD), After MDD.*
MDD 10 00:42:58.4±0.7, 36.45N×3.15E, h5^{km}±9^{km}, mb3.5/3, Error ellipse: s-maj=12.6km s-min=5.1km az=116.0, PRXIMO, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EMHD	Djebel Mahouad	0.30	213	P	Pg	00 43 04.0	-0.5
ECHF	Ech Chlef	1.49	259	P	Pn	00 43 24.0	-2.0
EANR	'Ain N'Sour	1.73	254	P	Pn	00 43 25.0	-4.4
EIBI	Ibiza	2.94	331	Pn	Pn	00 43 44.6	-2.1
	1.5nm,0.2s,SNR=7.0						
EIBI				Sn	Sn	00 44 17.4	-5.4
	37nm,1.0s						
EBEN	Beniarda	3.50	311	Pn	Pn	00 43 53.2	-1.4
	1.3nm,0.3s,SNR=7.9						
EBEN				Sn	Sn	00 44 29.5	-7.4
	SNR=7.9						
ETOB	Tobarra	4.33	302	Pn	Pn	00 44 04.0	-2.4
	0.4nm,0.2s,SNR=6.9						
ETOB				Sn	Sn	00 44 52.6	-5.3
	11nm,1.0s						
EMOS	Mosqueruela	4.83	325	Pn	Pn	00 44 11.4	-2.1
	0.6nm,0.1s,SNR=9.0						
EMOS				Sn	Sn	00 45 02.6	-8.0
	28nm,1.4s						
EQES	Quesada	5.15	287	Pn	Pn	00 44 16.4	-1.7
	0.2nm,0.1s,SNR=7.9						
EQES				Sn	Sn	00 45 14.5	-4.2
	SNR=7.9						

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*JMA **10** 00:47:22.0±0.1, 38.14N×144.52E, h52^{km}, M3.9*
ISC 10 00:47:21.3±1.4, 38.27N±0.07×144.6E±0.1, h90^{km}±53^{km}, n11, σ0^{s}97/20, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OFUJ	Ofunato	2.43	290	P	P	00 48 00.3	+0.2
OFUJ				eS	S	00 48 29.0	+0.1
MIYJ	Miyakonagasawa	2.53	302	P	P	00 48 01.9	+0.5
MIYJ				eS	S	00 48 31.5	+0.2
JIO	Ouri	2.56	275	P	P	00 48 01.5	-0.4
JIO				S	S	00 48 31.0	-1.1
JMK	Ichinoseki	2.74	285	P	P	00 48 04.6	+0.3
JMK				eS	S	00 48 36.5	+0.1
JOT	Ohata	4.14	320	P	P	00 48 25.4	+1.8
JOT				eS	S	00 49 10.8	-0.3
JCH	Churui	4.44	348	P	P	00 48 28.2	+0.4
JCH				eS	S	00 49 17.9	-0.7
JKB	Kayabe	4.53	324	P	P	00 48 31.4	+2.4
JKB				eS	S	00 49 20.4	-0.5
JRY	Ryogami san	5.08	245	P	P	00 48 35.1	-1.4
JRY				eS	S	00 49 29.4	-5.0
NEM2	Nemuro 2	5.16	9	P	P	00 48 35.5	-2.1
NEM2				eS	S	00 49 31.7	-4.8
MAT	Matsushiro	5.38	253	P	P	00 48 41.2	+0.7
JTKR	Abashiri--Toko	5.72	355	P	P	00 48 45.4	+0.2

ROM 10 00:54:24.1±0.4, 34.48N×14.85E, h10^{km}, MD3.4/10, ML3.6/4, Error ellipse: s-maj=3.6km s-min=3.0km az=90.0, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SSY	Sortino	2.68	4	ePN	Pn	00 55 06.6	-1.5
AGST	Augusta-Monte	2.79	6	ePN	Pn	00 55 08.5	-1.2
AGST				SN	Sn	00 55 40.5	-3.3
FAVR	Favara	2.95	341	ePN	Pn	00 55 10.6	-1.3
ECTS	Castiglione	3.41	4	ePN	Pn	00 55 17.0	-1.4
MNO	Monte Soro	3.45	358	ePN	Pn	00 55 18.2	-0.9
MNO				SN	Sn	00 55 57.3	-3.2
	158nm,0.5s						
MMME	Mongiuffi-Meli	3.47	5	ePN	Pn	00 55 17.4	-1.9
CSLB	Castelbuono	3.51	350	ePN	Pn	00 55 19.3	-0.7
CSLB				SN	Sn	00 55 58.3	-3.7
	53nm,0.3s						
PLLN	Pollina	3.56	351	ePN	Pn	00 55 19.4	-1.2
PLLN				SN	Sn	00 55 59.1	-4.0
GIB	Gibilmanna	3.57	350	ePN	Pn	00 55 19.8	-0.9
	33nm,0.4s						
SOI	Samo	3.72	15	ePN	Pn	00 55 21.2	-1.7
SOI				SN	Sn	00 56 03.2	-4.1
	36nm,0.5s						
MSRU	Castanea	3.82	8	ePN	Pn	00 55 22.8	-1.5
ERC	Erice	4.00	333	ePN	Pn	00 55 24.3	-2.5
USI	Ustica	4.43	343	ePN	Pn	00 55 30.7	-2.3

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*MAN **10** 01:14:06.4, 9.22N×122.13E, h5^{km}, mb5.1, ML4.0, MS4.1*
*BJI **10** 01:14:47.5, 9.00N×122.60E, h56^{km}, mB4.7, mb4.8, Ms4.0, Msz3.8*
*NEIC **10** 01:14:50.6±1.6, 9.23N×122.32E, h38^{km}±14^{km}, mb4.9/14, Error ellipse: s-maj=12.2km s-min=5.8km az=69.0*
*HRVD **10** 01:14:50.6±0.7, 9.34N×121.85E, h29^{km}±1^{km}, MW4.8/29, Centroid moment Tensor Solution. LP body waves: s8,c8; Mantle waves: s29,c41; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.65±.23; $M_{\theta\theta}$1.59±.15; $M_{\phi\phi}$0.06±.16; $M_{r\theta}$-0.33±.15; $M_{\theta\phi}$-0.58±.06; $M_{\phi r}$0.69±.21; Best double couple: $M_0$1.88×10^{16} NP1:ϕ_s272°,δ39°,λ-117°. NP2: ϕ_s125°,δ56°,λ-70°. Principal axes: T 1.87, Plg9°, Azm201°; N .03, Plg16°, Azm294°; P -1.9, Plg71°, Azm83°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **10** 01:14:53.0±5.7, 9.27N×122.45E, h63^{km}±52^{km}, mb4.2/14, mb1 4.3/15, mb1mx4.2/20, ML4.0/1, MS3.6/5, Ms1 3.7/5, ms1mx3.4/19 Error ellipse: s-maj=29.3km s-min=13.6km az=66.0*
ISC 10 01:14:48.4±1.3, 9.26N±0.03×122.19E±0.03, h33^{km}±10^{km}, n69, σ1^{s}11/70, mb4.6/31, MS3.6/7, 4C-3D, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNPH	Sibulan	1.03	85	⇑iP	Pn	01 15 06.0	-0.7
SNPH				iS	Sn	01 15 14.5	-5.7
DCPH	Dipolog City	1.33	120	iS	Sn	01 15 28.6	+0.9
GUIM	Jordan	1.41	16	eP	Pn	01 15 12.6	+0.5
IPIL	Ipil	1.51	166	eP	Pn	01 15 12.6	-1.0
IPIL				eS	Sn	01 15 30.7	-1.6
TBP	Tagbilaran	1.70	75	eP	Pn	01 15 16.8	+0.5
TBP				iS	Sn	01 15 37.7	+0.5
PAGZ	Pagadian	1.83	140	eP	Pn	01 15 18.8	+0.7
CUYO	Cuyo Island	1.96	324	eP	Pn	01 15 19.9	0.0
KALP	Kalibo	2.41	3	eP	Pn	01 15 34.0	+7.6
	37μm,1.0s						
CGP	Cagayan de Oro	2.60	108	⇑eP	Pn	01 15 29.7	+0.6
CGP				eS	Sn	01 16 02.2	+2.3
MSLP	Maasin	2.77	72	eP	Pn	01 15 33.0	+1.4
CTBH	Cotabato--PC H	2.87	135	eP	Pn	01 15 33.7	+0.7
CTBH				iS	Sn	01 16 07.2	+0.4
OCLP	Ormoc	2.97	53	eP	Pn	01 15 33.9	-0.6
BUKP	Musuan	3.15	116	eP	Pn	01 15 39.2	+2.2
SCPH	Surigao	3.29	81	⇓eP	Pn	01 15 38.5	-0.5
PLP	Palo	3.33	55	iP	Pn	01 15 39.2	-0.4
PLP				iS	Sn	01 16 17.5	-1.0
ENPP	El Nido	3.34	306	eP	Pn	01 15 38.8	-0.9
SJMP	San Jose	3.35	342	eP	Pn	01 15 38.8	-1.0
BUSP	Coron	3.36	324	eP	Pn	01 15 38.5	-1.3
BUTP	Butuan	3.40	95	eP	Pn	01 15 40.9	+0.4
BESP	Borongan	3.95	54	eP	Pn	01 15 47.1	-1.2
CNP	Catarman	4.04	37	eP	Pn	01 15 49.4	-0.2
BATP	Bataraza	4.36	264	eP	Pn	01 15 55.7	+1.5
LUBP	Lubang	4.84	337	eP	Pn	01 15 60.0	-0.9
KKM	Kota Kinabalu	6.73	242	⇓eP	Pn	01 16 27.5	-0.1
JOW	Kunigami	18.40	17	P	P	01 19 03.9	+0.9
	0.9nm,0.3s,baz=138,slow=17,SNR=4.3						
KKTK	Khon Kaen	20.14	292	P	P	01 19 24.0	+1.2
	247nm,0.5s						
GYA	Guiyang	22.56	321	P	P	01 19 53.4	+6.1
GYA				AMB	AMB		

	comp=Z,10.0nm,0.8s,mb4.3						
BDT	Bhumibol Dam	23.91	292	P	P	01 20 02.0	+1.6
ENH	Enshi	24.04	332	eP	P	01 20 02.6	+0.9
	comp=Z,7.7nm,0.6s,mb4.3						
KAKA	Kakadu	24.06	155	eP	P	01 20 02.4	+0.4
	comp=Z,25nm,0.6s,mb4.8						
CMAR	Chiang Mai Arr	24.33	295	P	P	01 20 06.3	+1.8
	comp=Z,3.3nm,0.9s,mb3.8,baz=117,slow=8.1,SNR=13						
CMAR				LR	LR	01 29 16.9	
	comp=Z,116nm,19.9s,MS3.4,baz=100,slow=35						
JNU	Nakatsue	25.06	17	LR	LR	01 29 55.8	
	comp=Z,133nm,18.2s,MS3.5,baz=54,slow=36						
CBIJ	Chichi jima	25.92	44	LR	LR	01 28 59.6	
	comp=Z,130nm,18.7s,MS3.5,baz=350,slow=33						
FITZ	Fitzroy Crossi	27.40	173	eP	P	01 20 32.1	-1.1
	comp=Z,3.6nm,0.6s,mb4.1						
FITZ	Fitzroy Crossi	27.40	173	P	P	01 20 32.8	-0.3
	comp=Z,4.5nm,1.0s,mb4.0,baz=4.3,slow=8.9,SNR=4.5						
MBWA	Marble Bar	30.33	185	eP	P	01 20 58.0	-1.4
	comp=Z,5.8nm,0.7s,mb4.4						
WRAB	Tennant Creek	31.38	158	eP	P	01 21 06.8	-1.9
	comp=Z,22nm,1.3s,mb4.8						
WRA	Warramunga Arr	31.39	158	P	P	01 21 07.2	-1.6
	comp=Z,5.5nm,0.8s,mb4.4,baz=337,slow=9.9,SNR=20						
WRA				PcP	PcP	01 24 00.6	-1.3
	comp=Z,3.3nm,0.7s,baz=339,slow=3.0,SNR=14						
WB2	Warramunga Arr	31.39	158	⇑iP	P	01 21 07.2	-1.6
SNY	Shenyang	32.46	2	⇓P	P	01 21 16.4	-1.5
SNY				AMB	AMB		
	comp=Z,10.0nm,0.3s,mb5.1						
SNY				LR	LR		
	comp=N,250nm,15.7s						
SNY				LR	LR		
	comp=Z,200nm,15.1s,MS3.9						
HHC	Hu-ho-hao-te	32.84	345	eP	P	01 21 19.2	-2.1
HHC				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
HHC				AMB	AMB		
	comp=Z,63nm,5.4s						
ASPA	Alice Springs	34.67	161	⇑iP	P	01 21 36.9	-0.4
MDJ	Mudanjiang	35.80	9	eP	P	01 21 46.7	+0.1
	comp=Z,22nm,0.9s,mb5.1						
GTA	Gaotai	36.07	330	eP	P	01 21 50.5	+1.5
GTA				AMB	AMB		
	comp=Z,4.0nm,0.7s,mb4.5						
GTA				AMB	AMB		
	comp=Z,30nm,6.1s						
GTA				LR	LR		
	comp=N,82nm,15.2s,MS3.7						
GTA				LR	LR		
	comp=E,65nm,17.5s,MS3.7						
GTA				LR	LR		
	comp=Z,82nm,17.1s,MS3.6						
FORT	Forrest	40.21	172	eP	P	01 22 23.4	-0.2
	comp=Z,72nm,0.9s,mb5.4						
SONM	Songino Array	40.70	344	P	P	01 22 28.0	+0.5
	comp=Z,3.8nm,0.7s,mb4.1,baz=162,slow=9.5,SNR=12						
STKA	Stephens Creek	44.92	156	eP	P	01 23 01.8	-0.3
	comp=Z,6.7nm,0.8s,mb4.5						
STKA	Stephens Creek	44.92	156	P	P	01 23 00.8	-1.3
	comp=Z,6.4nm,0.6s,mb4.6,baz=320,slow=7.4,SNR=11						
MKAR	Makanchi Array	50.47	325	P	P	01 23 46.0	+0.7
	comp=Z,5.0nm,0.7s,mb4.7,baz=129,slow=9.1,SNR=26						
MKAR				LR	LR	01 46 40.8	
	comp=Z,67nm,18.4s,MS3.7,baz=148,slow=38						
KURK	Kurchatov	54.68	328	P	P	01 24 16.4	-0.2
	comp=Z,117nm,0.9s,SNR=21						
KURK	Kurchatov	54.68	328	eP	P	01 24 16.3	-0.3
	comp=Z,17nm,0.9s,mb5.1						
BVAR	Borovoye Array	60.26	327	P	P	01 24 55.7	-0.1
	comp=Z,4.5nm,0.8s,mb4.6,baz=117,slow=9.9,SNR=21						
BRVK	Borovoye	60.33	327	eP	P	01 24 56.0	-0.4
	comp=Z,18nm,1.0s,mb5.0						
ZRNK	Zerenda	60.98	326	eP	P	01 24 60.0	-0.8
	comp=Z,12nm,0.8s,mb5.1						
ARU	Arti	67.88	328	eP	P	01 25 44.7	-1.0
	comp=Z,20nm,1.1s,mb5.1						
MALT	Malatya	79.45	307	eP	P	01 26 55.3	+1.9
ASF	Jabal al Asfar	81.18	301	P	P	01 27 04.7	+2.1
	comp=Z,6.5nm,0.9s,mb4.5,baz=300,slow=5.0,SNR=6.3						
MCK	McKinley	81.27	27	eP	P	01 27 00.8	-1.7
	comp=Z,1.4nm,0.7s,mb4.0						
ILAR	Eielson Array	82.09	26	P	P	01 27 04.7	-2.0
	comp=Z,0.6nm,0.5s,mb3.8,baz=262,slow=4.1,SNR=6.5						
BRTR	Keskin Array B	83.05	309	P	P	01 27 13.4	+1.2
	comp=Z,3.1nm,0.9s,mb4.3,baz=112,slow=5.3,SNR=11						
EIL	Elat	83.10	299	eP	P	01 27 14.0	+1.3
	comp=Z,12nm,1.1s,mb4.8						
ARCES	ARCESS Array B	83.73	339	P	P	01 27 15.4	+0.4
	comp=Z,18nm,1.1s,mb5.1,baz=45,slow=6.9,SNR=8.5						
KAF	Kangasniemi	84.63	332	ep	P	01 27 29.5	+10
	comp=Z,0.3nm,0.3s,mb3.9						
AKASG	Malin Array Be	84.78	320	P	P	01 27 20.4	-0.4
	comp=Z,4.4nm,0.9s,mb4.6,baz=72,slow=4.3,SNR=13						
FINES	FINESS Array B	84.85	331	P	P	01 27 20.9	+0.1
	comp=Z,4.0nm,0.9s,mb4.5,baz=45,slow=8.1,SNR=9.4						
KMBO	Kilima Mbogo	85.19	268	P	P	01 27 24.9	+1.3
	comp=Z,3.5nm,0.8s,mb4.5,baz=51,slow=7.3,SNR=10						
KMBO				LR	LR	02 03 45.6	
	comp=Z,50nm,20.2s,MS3.9,baz=271,slow=34						
TXAR	Lajitas Array	121.49	47	PKP	PKPdf	01 33 40.5	-4.1
	comp=Z,0.5nm,0.8s,baz=180,slow=2.5,SNR=6.1						
TXAR	Lajitas Array	121.49	47	PKP	PKPdf	01 33 40.5	-4.1
TRQA	Tornquist	151.09	173	ePKPbc	PKPdf	01 34 39.3	+1.4

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*THE **10** 01:43:44.1, 39.33N×23.79E, h14^{km}, ML2.8*
*NEIC **10** 01:43:44.5, 39.34N×23.71E, h28^{km}, ML3.0(ATH), After ATH.*
*ATH **10** 01:43:44.5, 39.34N×23.72E, h28^{km}±3^{km}, MD2.8/9, ML3.0*
ISC 10 01:43:43.9±0.5**, 39.37N**±0.02×**23.78E**±0.05**, h13**^{km}±4^{km}**, n17, σ1^{s}02**/25**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AOS	Alonnisos	0.21	158	ePg	Pg	01 43 48.3	-0.5
AOS				eSg	Sg	01 43 51.4	-0.6
NEO	Neokhori	0.43	262	ePB	Pb	01 43 52.6	-0.2
NEO				eSB	Sb	01 44 00.2	+1.3
XOR	Xorichti	0.45	270	ePg	Pg	01 43 53.2	-0.1
XOR				eSg	Sg	01 44 00.2	+0.7
PAIG	Paliouri	0.56	352	ePg	Pg	01 43 55.8	+0.3
PAIG				eSg	Sg	01 44 04.7	+1.5
LKR	Lokris	0.94	220	ePN	Pn	01 44 01.2	-1.4
LKR				eSN	Sn	01 44 14.6	-1.2
OUR	Ouranopolis	0.98	9	ePg	Pg	01 44 02.5	-1.1
	comp=Z,7.8nm,0.2s						
PLG	Polygyros	1.04	346	ePB	Pb	01 44 03.5	+0.3
PLG				eSN	Sn	01 44 19.2	+0.9
LIA	Limnos Island	1.21	64	ePN	Pn	01 44 08.3	+1.8
MPAR	Parnis Oros	1.21	182	ePN	Pn	01 44 06.5	0.0
MPAR				eSN	Sn	01 44 22.5	-0.3
LIT	Litokhoron	1.23	307	ePb	Pb	01 44 06.3	-0.3
	comp=Z,2.5nm,0.3s						
MKIT	Kithairon Oros	1.25	199	ePN	Pn	01 44 06.7	-0.3
PTL	Penteli	1.32	177	ePN	Pn	01 44 09.0	+1.0
ATH	Athens Observa	1.39	182	ePN	Pn	01 44 10.5	+1.4
NSAL	Nisos Salamina	1.48	190	ePN	Pn	01 44 12.0	+1.7
SRS	Serrai	1.75	355	ePb	Pb	01 44 13.8	-1.7
KNT	Kendrikon	1.92	340	ePb	Pb	01 44 16.7	-1.5
KNT				eSb	Sb	01 44 40.7	-1.2
FNA	Florina	2.32	308	ePn	Pn	01 44 22.0	-0.4

CASC 10 01:45:06.6±2.1**, 12.58N**×**87.57W, h144**^{km}±12^{km}**, MD4.0, ML3.2, 2C-2D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CRIN	San Cristobal	0.52	77	eP	P	01 45 28.1	+0.3
LEON	Leon	0.68	104	eP	P	01 45 28.7	0.0
LEON				eS	S	01 45 46.7	+1.0
TELN	Telica	0.72	88	eP	P	01 45 28.6	-0.4
CNCH	Conchagua	0.74	339	⇑eP	P	01 45 27.8	-1.2
MIRN	Miramar	0.85	99	eP	P	01 45 30.0	+0.2
CNGN	Cerro Negro	0.85	95	eP	P	01 45 29.8	-0.1
MOMJ	Momotombo	1.02	100	eP	P	01 45 31.4	+0.3
COPN	Copaltepe	1.03	113	eP	P	01 45 31.9	+0.7
COPN				i		01 45 54.6	
	comp=Z,269nm,0.4s						
BLLM	Bellamira	1.08	323	eP	P	01 45 31.3	-0.4
BLLM				eS	S	01 45 55.8	+4.9
VSM	San Miguel	1.09	321	eP	P	01 45 31.6	-0.2
MGAN	Managua	1.36	108	eP	P	01 45 35.1	+0.5
MGAN				eS	S	01 45 56.6	+0.5
TICN	Ticuantepe	1.42	112	eP	P	01 45 35.8	+0.7
TICN				eS	S	01 45 58.1	+1.0
PYTN	Playitas	1.48	92	eP	P	01 45 35.4	-0.4
PYTN				eS	S	01 45 57.2	-1.0
SNVI	San Vicente	1.61	310	eP	P	01 45 37.4	+0.2
SNVI				eS	S	01 46 00.7	-0.1
LCBS	La Ceiba	1.74	308	eP	P	01 45 38.7	0.0
LCBS				eS	S	01 46 03.2	-0.1
LFRS	El Faro	1.79	306	⇓eP	P	01 45 39.4	+0.2
LFRS				eS	S	01 46 04.0	-0.2
LFU	La Fuente	1.90	308	eP	P	01 45 40.9	+0.3
BOQS	Boqueron	2.02	305	eP	P	01 45 42.9	+0.9
BOQS				eS	S	01 46 10.0	+0.9
CONN	Concepcion	2.15	118	eP	P	01 45 44.1	+0.5
SBLS	San Blas	2.36	302	eP	P	01 45 46.4	+0.1
SBLS				eS	S	01 46 17.7	+1.2
SNJE	San Jose	2.36	303	eP	P	01 45 46.9	+0.6
SNJE				eS	S	01 46 18.4	+1.8
RTR	El Retiro	2.41	303	eP	P	01 45 47.5	+0.6
RTR				eS	S	01 46 19.2	+1.6
VCR	Vista de Mar	3.09	142	⇓eP	P	01 45 58.0	+2.4
VCR				eS	S	01 46 32.8	-0.3
JCR	Jicaral	3.63	138	⇑eP	P	01 46 04.9	+2.2
JCR				eS	S	01 46 44.2	-1.5
CGA2	Cerro Gallo 2	3.97	130	eP	P	01 46 09.3	+2.2
CGA2				eS	S	01 46 55.2	+1.5
PRS1	Puriscal	4.11	129	eP	P	01 46 11.2	+2.2
PRS1				eS	S	01 46 53.2	-3.7
LAJ	Bijagual	4.33	128	eP	P	01 46 11.2	-0.7
LAJ				eS	S	01 46 57.0	-5.2
LCR2	La Lucha 2	4.49	129	eP	P	01 46 16.8	+2.7
LCR2				eS	S	01 47 06.9	+0.8

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*JMA **10** 02:05:54.7±0.2, 32.98N×136.73E, h30^{km}±4^{km}, M5.6*
JMA Felt II J1.
*BJI **10** 02:05:56.8, 33.13N×136.84E, h26^{km}, mB5.5, mb5.3, Ms5.5, Msz5.4*
*NEIC **10** 02:05:57.8±0.1, 33.06N×136.50E, h10^{km}, mb5.3/118, MS5.1/110, MW5.5, MW5.5(NIED), Error ellipse: s-maj=4.8km s-min=3.8km az=159.0, Moment Tensor Solution. s9 Moment tensor: Scale 10^{17}Nm; M$_{rr}$0.46; M$_{\theta\theta}$-0.60; M$_{\phi\phi}$0.14; M$_{r\theta}$-0.35; M$_{\theta\phi}$2.11; M$_{\phi r}$0.72; Best double couple: M$_0$2.3×10^{17} NP1:φ$_s$84°, δ71°, λ0°. NP2: φ$_s$174°, δ90°, λ-161°. Principal axes: T 1.99, Plg13°, Azm308°; N .56, Plg71°, Azm176°; P -2.55, Plg14°, Azm41°;*
NEIC Felt strongly in Nara Prefecture. Recorded [2 JMA] in Mie, Nara and Wakayama Prefectures.
*HRVD **10** 02:05:57.8±0.1, 33.03N×136.63E, h12^{km}, MW5.5/73, Centroid moment Tensor Solution. LP body waves: s57,c106;Mantle waves: s73,c156; Half duration: 1^{s}4 Moment tensor: Scale 10^{17}Nm; M$_{rr}$-0.03±.03; M$_{\theta\theta}$-0.90±.03; M$_{\phi\phi}$0.93±.03; M$_{r\theta}$0.52±.08; M$_{\theta\phi}$2.32±.03; M$_{\phi r}$0.35±.08; Best double couple: M$_0$2.57×10^{17} NP1: φ$_s$349°, δ77°, λ175°. NP2:φ$_s$80°, δ85°, λ13°. Principal axes: T 2.64, Plg12°, Azm305°; N -.14, Plg76°, Azm100°; P -2.5, Plg6°, Azm214°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **10** 02:05:57.9±2.6, 32.98N×136.66E, h14^{km}±16^{km}, mb4.8/18, mb1 4.9/23, mb1mx4.8/25, ML4.5/5, MS5.2/21, Ms1 5.2/21, ms1mx5.2/26 Error ellipse: s-maj=14.0km s-min=10.1km az=78.0*
*SYO **10** 02:05:58.0, 33.08N×136.50E, h10^{km}, MB5.3, MS5.1*
*NIED **10** 02:06:00, 33.10N×136.70E, h5^{km}, Mw5.5 Best double couple: M$_0$2.22×10^{17} NP1:φ$_s$255°, δ64°, λ-42°. NP2:φ$_s$6°, δ52°, λ-147°.*
*MOS **10** 02:06:01.6±1.3, 33.36N×136.40E, h33^{km}, mb5.4/64, MS5.8/29, Error ellipse: s-maj=8.0km s-min=5.1km az=97.9*
ISC 10 02:05:58.9±0.1**, 33.10N**±0.02×**136.53E**±0.02**, h25**^{km}**, h25**^{km}±3.7^{km}**:pP-P, n504, σ1^{s}24**/481**, mb5.2**/147**, MS5.3**/150**, 24C-13D, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JWZ	Kozaga	0.81	303	⇑P	Pb	02 06 13.0	-1.2
JWZ				eS	Sb	02 06 26.5	+1.9
TK01	Tokai 1	1.11	53	P	Pn	02 06 13.4	-5.7
TK01				eS	Sb	02 06 29.1	-4.4
JKN	Kiinagashima	1.17	349	P	Pn	02 06 17.6	-2.3
JKN				eS	Sn	02 06 33.5	-1.6
JWM	Minabe	1.23	308	⇑P	Pn	02 06 19.4	-1.4
JWM				eS	Sn	02 06 37.4	+0.7
JIE	Ise	1.30	7	P	Pn	02 06 19.2	-2.5
JIE				eS	Sn	02 06 36.1	-2.3
TK02	Tokai 2	1.33	50	P	Pn	02 06 16.9	-5.3
TK02				eS	Sn	02 06 34.7	-4.6
JWY	Kouya	1.36	325	P	Pn	02 06 21.6	-1.0
JWY				eS	Sn	02 06 40.1	+0.1
TSUJ	Tsu 2	1.61	357	P	Pn	02 06 24.0	-2.2
TSUJ				eS	Sn	02 06 44.6	-1.7
JHE	Heguri	1.70	336	⇑P	Pn	02 06 26.1	-1.4
JHE				eS	Sn	02 06 48.6	0.0
TK04	Tokai 4	1.71	41	P	Pn	02 06 23.6	-4.0
TK04				eS	Sn	02 06 44.0	-4.8
JAI	Aioi	1.87	292	P	Pn	02 06 28.7	-1.1
JAI				eS	Sn	02 06 53.6	+0.8
JAJ2	Tsuna	1.90	314	⇑P	Pn	02 06 29.6	-0.7
JAJ2				eS	Sn	02 06 54.9	+1.3
JAO	Obara	2.25	15	⇓P	Pn	02 06 32.2	-3.1
JKS	Kasai	2.34	324	P	Pn	02 06 35.7	-1.0
JWT	Wachi	2.37	337	⇑P	Pn	02 06 35.6	-1.5
JJS	Sakaide	2.51	301	⇑P	Pn	02 06 37.7	-1.3
JHJ	Hachijo jima 2	2.73	89	Pn	Pn	02 06 37.5	-4.8
	99nm,0.3s,baz=307,slow=4.7,SNR=13						
JHJ				Sn	Sn	02 07 08.4	-6.4
	154nm,0.3s,baz=76,slow=21,SNR=8.2						
JHJ				LR	LR	02 07 37.5	
	comp=Z,25µm,18.5s,baz=262,slow=38						
JKY	Yasaka	2.79	335	⇑P	Pn	02 06 41.5	-1.5
JKU	Kubokawa	2.91	275	P	Pn	02 06 43.1	-1.7
JHM	Kurahashi	3.49	288	P	Pn	02 06 51.3	-1.7
MAJO	Matsushiro	3.71	21	eP	Pn	02 06 53.7	-2.3
MAT	Matsushiro	3.71	21	P	Pn	02 06 53.4	-2.6
MAT				S	Sn	02 07 35.4	-4.0
MAT	Matsushiro	3.71	21	eP	Pn	02 06 53.0	-3.0
MAT				eS	Sn	02 07 35.0	-4.4
JHIK	Hikimi	4.08	292	P	Pn	02 06 59.3	-2.1
JTY	Toyota	4.70	286	P	Pn	02 07 08.0	-2.1
JNU	Nakatsue	4.74	272	Pn	Pn	02 07 10.1	-0.7
	15nm,0.3s,baz=93,slow=9.6,SNR=30						
JNU				Sn	Sn	02 08 08.4	+2.9
	44nm,0.3s,baz=263,slow=15,SNR=5.7						
JNU				LR	LR	02 09 12.1	
	comp=Z,17µm,21.8s,baz=99,slow=40						
JTA	Tamana	5.04	270	P	Pn	02 07 14.7	-0.2
CBIJ	Chichi jima	7.73	139	Pn	Pn	02 07 46.9	-5.9
	42nm,0.3s,baz=43,slow=6.0,SNR=18						
CBIJ				LR	LR	02 10 12.2	
	comp=Z,31µm,20.2s,baz=323,slow=34						
JOW	Kunigami	9.49	231	Pn	P	02 08 14.5	-2.7
	9.1nm,0.3s,baz=31,slow=6.8,SNR=15						
JOW				LR	LR	02 11 49.8	
	comp=Z,14µm,19.7s,baz=243,slow=37						
VLA	Vladivostok	10.65	341	⇑iP	P	02 08 35.0	+2.0
VLA				i S	S	02 10 37.0	+4.5
VLA				pmax	pmax		
	comp=Z,600nm,10.0s						
VLA				pmax	pmax		
	comp=N,900nm,6.0s						
VLA				pmax	pmax		
	comp=E,500nm,8.0s						
VLA				MLR	MLR		
	comp=Z,20µm,13.0s						
VLA				MLR	MLR		
	comp=N,17µm,14.0s						
VLA				MLR	MLR		
	comp=E,29µm,12.0s						
ASAJ	Asahikawa	11.98	22	Pn	P	02 08 47.2	-3.9
	comp=E,3.2nm,0.3s,baz=264,slow=7.0,SNR=12						
ASAJ				LR	LR	02 13 54.7	
	comp=E,24µm,19.1s,baz=227,slow=40						
ASAJ	Asahikawa	11.98	22	P	P	02 08 47.3	-3.8
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,24µm,19.1s						
MDJ	Mudanjiang	12.70	337	P	P	02 09 01.0	+0.2
MDJ				AP		02 09 07.3	
MDJ				XP		02 09 10.8	
MDJ				S	S	02 11 22.8	+0.4
MDJ				AMB	AMB		
	comp=Z,820nm,9.1s						
MDJ				LR	LR		
	comp=N,13µm,12.1s						
MDJ				LR	LR		
	comp=E,13µm,11.0s						
MDJ				LR	LR		
	comp=Z,12µm,12.2s						
MDJ	Mudanjiang	12.70	337	ePn	P	02 09 01.9	+1.1
	comp=Z,56nm,1.2s						
YUK	Yuzh-Kuril'sk	13.13	31	P	P	02 08 56.0	-10
YUK				pmax	pmax		
	comp=Z,2µm,1.5s						
YUK				pmax	pmax		
	comp=N,2µm,3.0s						
YUK				pmax	pmax		
	comp=E,1µm,2.0s						
SSE	Sheshan	13.16	265	eP	P	02 09 05.6	-1.3
SSE				S	S	02 11 33.3	-0.1
SSE				AMB	AMB		
	comp=Z,230nm,5.2s						
SSE				LR	LR		
	comp=N,25µm,17.2s						
SSE				LR	LR		
	comp=E,7µm,17.1s						
SSE				LR	LR		
	comp=Z,24µm,11.2s						
DL2	Dalian	13.38	300	⇑iP	P	02 09 10.4	+0.7
DL2				XP		02 09 21.7	
DL2				eS	S	02 11 46.4	+7.8
DL2				AMB	AMB		
	comp=Z,70nm,1.1s						
DL2				AMB	AMB		
	comp=Z,800nm,9.0s						
DL2				LR	LR		
	comp=N,21µm,14.4s						
DL2				LR	LR		
	comp=E,16µm,15.7s						
DL2				LR	LR		
	comp=Z,15µm,10.7s						
SNY	Shenyang	13.47	314	⇓P	P	02 09 14.1	+3.2
SNY				LR	LR		
	comp=Z,17µm,13.9s						
CN2	Changchun	13.75	324	eP	P	02 09 15.0	+0.3
CN2				eXP		02 09 22.0	
CN2				eS	S	02 11 49.2	+1.7
CN2				AMB	AMB		
	comp=Z,1µm,8.0s						
CN2				LR	LR		
	comp=Z,31µm,14.0s						
YSS	Yuzh-Sakhalins	14.63	17	eP	P	02 09 23.0	-3.1
YSS				eS	S	02 12 05.0	-3.3
YSS				MLR	MLR		
	comp=N,24µm,14.0s						
YSS				MLR	MLR		
	comp=Z,22µm,14.0s						
YSS	Yuzh-Sakhalins	14.63	17	ePn	P	02 09 21.6	-4.5
	comp=Z,55nm,0.8s						
NJ2	Nanjing	14.94	271	eP	P	02 09 29.5	-0.8
NJ2				PP	PP	02 09 41.6	-0.4
NJ2				S	S	02 12 16.0	+0.3
NJ2				AMB	AMB		
	comp=Z,1µm,8.0s						
NJ2				LR	LR		
	comp=Z,22µm,12.2s						
TIA	Tai'an	16.26	286	P	P	02 09 49.0	+1.7
TIA				AP		02 09 56.0	
TIA				AMB	AMB		
	comp=Z,114nm,1.5s						
TIA				AMB	AMB		
	comp=Z,960nm,10.0s						
TIA				LR	LR		
	comp=N,15µm,13.0s						
TIA				LR	LR		
	comp=E,11µm,13.0s						
KLR	Kul'dur	16.51	349	eP	P	02 09 50.0	-0.3
KLR				pmax	pmax		
	comp=Z,100nm,2.2s						
KLR				pmax	pmax		
	comp=N,900nm,10.0s						
KLR				pmax	pmax		
	comp=Z,1µm,10.0s						
KLR				MLR	MLR		
	comp=E,26µm,13.0s						
KLR				MLR	MLR		
	comp=Z,27µm,13.0s						
BJT	Baijiatuau	17.73	299	eP	P	02 10 06.0	+0.2
BJT				pmax	pmax		
	comp=Z,1µm,1.5s						
BJT	Baijiatuau	17.73	299	eP	P	02 10 06.0	+0.2
	comp=Z,1µm,1.5s						
BJI	Beijing	17.74	299	P	P	02 10 06.8	+1.0
BJI				AMB	AMB		
	comp=Z,286nm,1.4s						
BJI				LR	LR		
	comp=Z,15µm,18.8s						
SARN	Sarigan	18.34	151	eP	P	02 10 09.4	-4.0
WHN	Wuhan	19.01	268	⇑P	P	02 10 22.6	+1.1
WHN				S	S	02 13 59.0	+10
SAPN	Saipan	19.67	153	eP	P	02 10 24.8	-4.4
TIY	Taiyuan	20.15	290	⇑P	P	02 10 31.0	-3.1
TIY				S	S	02 14 21.0	+7.2
TIY				LR	LR		
	comp=E,16µm,16.0s						
TIY				LR	LR		
	comp=Z,16µm,16.0s,MS5.5						
CVP	Callao Caves	20.25	224	⇑eP	P	02 10 35.4	+0.2
	comp=Z,84µm,1.0s						
HIA	Hailar	20.43	327	eP	P	02 10 35.1	-1.8
	comp=Z,58nm,0.9s						
HIA				LR	LR		
	comp=Z,10µm,20.0s,MS5.2						
APYP	Conner	20.47	226	eP	P	02 10 34.1	-3.4
GUMO	Guam	20.86	157	eP	P	02 10 39.9	-1.7
	comp=Z,2µm,1.5s						
GUMO				LR	LR		
	comp=Z,4µm,20.0s,MS4.8						
HHC	Hu-ho-hao-te	21.34	298	eP	P	02 10 46.1	-0.2
HHC				AP		02 10 49.8	
HHC				PP	PP	02 11 13.2	+2.9
HHC				S	S	02 14 46.1	+9.0
HHC				XS		02 14 53.3	
HHC				PCS		02 18 20.7	
HHC				AMB	AMB		
	comp=Z,81nm,1.6s,mb4.8						
HHC				AMB	AMB		
	comp=Z,1µm,7.2s						
HHC				LR	LR		
	comp=N,11µm,12.5s,MS5.5						
HHC				LR	LR		
	comp=E,9µm,17.3s,MS5.5						
HHC				LR	LR		
	comp=Z,9µm,16.7s,MS5.2						
BALP	Baler	21.95	222	eP	P	02 10 52.6	+0.1
BOLP	Bolinao	22.41	226	eP	P	02 11 09.3	+12
BTO	Baotou	22.44	297	eP	P	02 10 57.5	+0.2
BTO				AMB	AMB		
	comp=Z,253nm,0.7s,mb5.8						
HKC	Hong Kong	22.48	247	P	P	02 11 08.0	+10
HKC				eS	S	02 15 08.0	+10
GZH	Guangzhou	22.71	250	P	P	02 10 59.0	-1.1
GZH				S	S	02 15 00.6	-1.7
GZH				LR	LR		
	comp=Z,13µm,12.1s,MS5.6						
SKR	Severo-Kuril's	22.72	34	eP	P	02 10 57.0	-2.9
SKR				pmax	pmax		
	comp=Z,2µm,6.0s						
SKR				pmax	pmax		
	comp=Z,220nm,1.0s,mb5.5						
SKR				MLR	MLR		
	comp=N,5µm,16.0s						
SKR				MLR	MLR		
	comp=Z,9µm,16.0s,MS5.3						
XAN	Xi'an	23.00	280	P	P	02 11 03.5	+0.7
XAN				AP		02 11 13.5	
XAN				S	S	02 15 10.5	+3.1
XAN				XS		02 15 29.1	
XAN				AMB	AMB		
	comp=Z,1µm,10.3s						
XAN				LR	LR		
	comp=N,7µm,12.8s,MS5.4						
XAN				LR	LR		

	comp=E,5µm,12.8s,MS5.4						
XAN				LR	LR		
	comp=Z,6µm,12.8s,MS5.3						
ENH	**Enshi**	23.16	270	*e*P	**P**	**02 11 05.7**	**+1.3**
	comp=Z,379nm,1.4s,mb5.6						
ENH				LR	LR		
	comp=Z,8µm,19.0s,MS5.2						
LQP	**Lukban**	23.31	219	⇓*e*P	**P**	**02 11 06.6**	**+0.6**
TGY	**Tagaytay City**	23.64	221	P	**P**	**02 11 09.5**	**+0.3**
	comp=Z,1µm,0.5s,baz=88,slow=15,SNR=25						
LUBP	**Lubang**	24.32	221	*e*P	**P**	**02 11 14.3**	**-1.6**
CLNS	**Chul'man**	25.05	345	⇓*i*P	**P**	**02 11 24.1**	**+1.6**
CLNS				*e*		02 11 56.3	
CLNS				*e*		02 14 57.5	
CLNS				*i* S	**S**	**02 15 44.4**	**+2.0**
CLNS				*e*SS	SS	02 16 47.7	+5.3
CLNS				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.4						
CLNS				pmax	pmax		
	comp=N,19nm,0.9s						
CLNS				pmax	pmax		
	comp=E,7.0nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,29nm,0.9s,mb4.8						
CLNS				pmax	pmax		
	comp=N,18nm,1.2s						
CLNS				pmax	pmax		
	comp=E,8.0nm,0.8s						
CLNS				smax			
	comp=N,7.0nm,0.8s						
CLNS				smax			
	comp=E,11nm,0.9s						
CLNS				smax			
	comp=Z,7.0nm,0.9s						
CLNS				MLR	MLR		
	comp=N,12µm,14.0s,MS5.6						
CLNS				MLR	MLR		
	comp=Z,13µm,14.0s,MS5.6						
CLNS				MLR	MLR		
	comp=E,2µm,12.0s,MS5.6						
SCPH	**Surigao**	25.34	206	⇓*e*P	**S**	**02 15 49.3**	**+1.7**
SCPH				*e*S	**S**	**02 16 06.8**	**+19**
PET	**Petropavlovsk**	25.47	32	*e*P	**P**	**02 11 29.1**	**+2.7**
PET				pmax	pmax		
	comp=N,97nm,1.1s						
PET				pmax	pmax		
	comp=Z,117nm,1.1s,mb5.3						
PET				pmax	pmax		
	comp=E,37nm,0.5s						
PET				pmax	pmax		
	comp=Z,300nm,11.6s						
PET				pmax	pmax		
	comp=N,100nm,10.4s						
PET				pmax	pmax		
	comp=E,200nm,12.9s						
PET				MLR	MLR		
	comp=N,5µm,19.0s,MS5.1						
PET				MLR	MLR		
	comp=Z,6µm,19.0s,MS5.1						
PET				MLR	MLR		
	comp=E,3µm,12.0s						
PET				MLR	MLR		
	comp=Z,6µm,17.0s						
PET				MLR	MLR		
	comp=N,5µm,16.0s						
PET				MLR	MLR		
	comp=E,2µm,16.0s,MS5.1						
PET	**Petropavlovsk**	25.47	32	*e*P	**P**	**02 11 27.0**	**+0.6**
	comp=E,132nm,1.2s,mb5.3						
PET				LR	LR		
	comp=Z,5µm,19.0s,MS5.1						
ULN	**Ulaanbaatar**	26.63	312	PFAKE		02 11 50.0	+13
ULN				LR	LR		
	comp=Z,8µm,19.0s,MS5.3						
GYA	**Guiyang**	26.69	264	⇑*i*P	**P**	**02 11 38.4**	**+0.4**
GYA				S	**S**	**02 16 12.2**	**+2.3**
GYA				AMB	AMB		
	comp=Z,520nm,5.6s						
LZH	**Lanzhou**	27.00	286	⇑P	**P**	**02 11 41.4**	**+0.7**
LZH				AP	pP	02 11 53.4	+5.3
LZH				XP	sP	02 11 57.3	+5.8
LZH				S	**S**	**02 16 19.0**	**+4.2**
LZH				AMB	AMB		
	comp=Z,320nm,1.5s,mb5.6						
LZH				AMB	AMB		
	comp=Z,1µm,6.2s						
SONM	**Songino Array**	27.03	312	P	**P**	**02 11 40.5**	**-0.4**
	comp=Z,15nm,0.7s,mb4.7,baz=120,slow=9.5,SNR=46						
QIZ	**Qiongzhong**	27.66	246	P	**P**	**02 11 52.3**	**+5.4**
QIZ				PP	PP	02 12 39.2	+3.6
QIZ				S	**S**	**02 16 32.1**	**+6.4**
QIZ				PCS		02 18 45.6	
QIZ				LR	LR		
	comp=N,5µm,15.0s,MS5.4						
QIZ				LR	LR		
	comp=E,7µm,15.3s,MS5.4						
QIZ				LR	LR		
	comp=Z,5µm,14.1s,MS5.3						
QIZ	**Qiongzhong**	27.66	246	PFAKE		02 12 00.0	+13
QIZ				LR	LR		
	comp=Z,3µm,19.0s,MS4.9						
CD2	**Chengdu**	27.81	274	⇓*i*P	**P**	**02 11 47.4**	**-0.8**
CD2				PP	PP	02 12 37.9	+0.4
CD2				S	**S**	**02 16 28.1**	**+0.1**
CD2				AMB	AMB		
	comp=Z,150nm,0.7s,mb5.7						
CD2				AMB	AMB		
	comp=Z,850nm,10.8s						
MA2	**Magadan**	28.13	15	d*e*P	**P**	**02 11 50.4**	**-0.3**
MA2				*e*S	**S**	**02 16 28.8**	**-3.9**
MA2				pmax	pmax		
	comp=Z,40nm,1.1s,mb5.0						
MA2				MLR	MLR		
	comp=Z,29µm,15.0s,MS6.0						
MA2	**Magadan**	28.13	15	*e*P	**P**	**02 11 49.1**	**-1.6**
	comp=Z,58nm,1.0s,mb5.2						
MA2				LR	LR		
	comp=Z,2µm,21.0s,MS4.7						
BOD	**Bodaibo**	29.07	335	*e*P	**P**	**02 11 55.0**	**-4.2**
YAK	**Yakutsk**	29.28	353	*e*P	**P**	**02 12 00.4**	**-0.7**
YAK				*e*		02 12 52.9	
YAK				*e*PPP	PPP	02 13 01.1	-8.4
YAK				*e*		02 15 05.2	
YAK				*e*S	**S**	**02 16 48.5**	**-2.7**
YAK				pmax	pmax		
	comp=Z,20nm,1.1s,mb4.8						
YAK				pmax	pmax		
	comp=N,17nm,1.3s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.0s						
YAK				pmax	pmax		
	comp=N,11nm,1.1s						
YAK				pmax	pmax		
	comp=Z,18nm,1.1s,mb4.7						
YAK				pmax	pmax		
	comp=E,14nm,1.4s						
YAK				smax			
	comp=E,6.0nm,1.2s						
YAK				smax			
	comp=Z,5.0nm,0.7s						
YAK				MLR	MLR		
	comp=N,6µm,13.0s,MS5.4						
YAK				MLR	MLR		
	comp=Z,6µm,13.0s,MS5.4						
YAK				MLR	MLR		
	comp=E,2µm,12.0s,MS5.4						
YAK	**Yakutsk**	29.28	353	*e*P	**P**	**02 11 58.7**	**-2.4**
YAK				LR	LR		
	comp=Z,7µm,19.0s,MS5.3						
ZAK	**Zakamensk**	29.89	315	*e*P	**P**	**02 12 05.7**	**-1.0**
ZAK				*e*		02 15 09.1	
GTA	**Gaotai**	30.12	293	P	**P**	**02 12 07.9**	**-0.9**
GTA				PP	PP	02 13 08.6	+1.2
GTA				PCP	PcP	02 15 08.4	-1.6
GTA				S	**S**	**02 17 07.7**	**+2.9**
GTA				XS		02 17 18.8	
GTA				SS	SS	02 18 49.3	+6.3
GTA				SCS	ScS	02 22 41.2	-2.3
GTA				AMB	AMB		
	comp=Z,208nm,4.2s						
GTA				LR	LR		
	comp=N,4µm,20.5s,MS5.2						
GTA				LR	LR		
	comp=E,4µm,20.9s,MS5.2						
GTA				LR	LR		
	comp=Z,6µm,21.3s,MS5.2						
KMI	**Kunming**	30.47	264	*e*P	**P**	**02 12 11.5**	**-0.5**
KMI				S	**S**	**02 17 12.7**	**+2.3**
KMI				AMB	AMB		
	comp=Z,302nm,5.7s						
SMY	**Shemya**	33.28	43	PFAKE		02 12 50.0	+14
SMY				LR	LR		
	comp=Z,6µm,21.0s,MS5.3						
NANT	**Nan**	35.03	255	⇑P	**P**	**02 12 51.0**	**-0.8**
	comp=Z,75nm,1.0s,mb5.6						
CHG	**Chiang Mai**	36.45	256	P	**P**	**02 13 09.0**	**+5.2**
CMAR	**Chiang Mai Arr**	36.63	256	P	**P**	**02 13 05.3**	**0.0**
	comp=Z,2.4nm,0.7s,mb4.2,baz=47,slow=8.3,SNR=11						
NST	**Nakhon Sawan**	37.17	251	P	**P**	**02 13 00.0**	**-10**
BDT	**Bhumibol Dam**	37.22	254	P	**P**	**02 13 11.0**	**+0.8**
LSA	**Lhasa**	38.65	278	P	**P**	**02 13 23.2**	**+1.0**
LSA				XP	sP	02 13 35.0	+2.0
LSA				PP	PP	02 14 55.0	+0.5
LSA				S	**S**	**02 19 21.0**	**+4.2**
TIXI	**Tiksi**	38.83	356	PFAKE		02 13 30.0	+6.7
TIXI				LR	LR		
	comp=Z,2µm,21.0s,MS5.0						
WMQ	**Urumqi**	39.20	300	P	**P**	**02 13 26.3**	**-0.3**
WMQ				AP	pP	02 13 30.9	-3.3
WMQ				PP	PP	02 15 00.4	-0.1
WMQ				S	**S**	**02 19 26.3**	**+1.4**
WMQ				SS	SS	02 22 10.7	+0.1
WMQ				AMB	AMB		
	comp=Z,62nm,1.2s,mb5.2						
WMQ				LR	LR		
	comp=N,3µm,22.0s,MS5.4						
WMQ				LR	LR		
	comp=E,4µm,20.0s,MS5.4						
WMQ				LR	LR		
	comp=Z,4µm,23.0s,MS5.2						
SHL	**Shillong**	39.40	271	*e*P	**P**	**02 13 28.7**	**+0.2**
SHL				*e*S	**S**	**02 19 30.0**	**+1.8**
MIDW	**Midway**	39.72	84	PFAKE		02 13 40.0	+8.9
MIDW				LR	LR		
	comp=Z,2µm,21.0s,MS4.8						
NVS	**Novosibirsk**	42.81	317	*i* P	**P**	**02 13 55.1**	**-1.0**
NVS				*i*		02 15 35.9	
NVS				*e*S	**S**	**02 20 20.7**	**+2.3**
NVS				pmax	pmax		
	comp=E,38nm,1.5s						
NVS				pmax	pmax		
	comp=Z,46nm,1.5s,mb5.0						
NVS				smax			
	comp=E,94nm,3.3s						
NVS				smax			
	comp=N,301nm,3.8s						
MKAR	**Makanchi Array**	42.95	305	P	**P**	**02 13 57.1**	**-0.2**
	comp=N,31nm,0.6s,mb5.2,baz=92,slow=9.4,SNR=183						
MKAR				S	**S**	**02 20 26.1**	**+5.5**
	comp=N,0.7nm,0.9s,baz=243,slow=14,SNR=1.9						
MKAR				LR	LR	02 32 52.7	
	comp=N,6µm,20.2s,MS5.5,baz=96,slow=38						
MKAR	**Makanchi Array**	42.95	305	P	**P**	**02 13 57.2**	**-0.1**
MKAR				S	**S**	**02 20 26.1**	**+5.6**
MKAR				pmax	pmax		
	comp=Z,31nm,0.6s						
MKAR				MLR	MLR		
	comp=Z,6µm,20.2s						
CAL	**Calcutta**	43.58	269	*e*	**P**	**02 14 09.6**	**+6.8**
CAL				*e*		02 20 35.8	
GUN	**Gumba**	43.60	277	*e*P	**P**	**02 14 03.7**	**+0.8**
	comp=Z,188nm,1.1s,mb5.8						
PKI	**Pulchoki**	44.11	277	*e*P	**P**	**02 14 06.8**	**-0.2**
	comp=Z,148nm,1.4s,mb5.5						
KKN	**Kakani**	44.14	277	*e*P	**P**	**02 14 07.2**	**-0.1**
	comp=Z,98nm,1.0s,mb5.5						
DMN	**Daman**	44.35	277	*e*P	**P**	**02 14 08.8**	**-0.2**
GKN	**Gorkha**	44.61	278	*e*P	**P**	**02 14 10.7**	**-0.3**
	comp=Z,210nm,1.5s,mb5.8						
UNV	**Unalaska Valle**	44.86	45	PFAKE		02 14 20.0	+7.3
UNV				LR	LR		
	comp=Z,7µm,22.0s,MS5.5						
KURK	**Kurchatov**	45.33	311	P	**P**	**02 14 15.0**	**-1.5**
	comp=Z,377nm,1.2s,mb6.1,SNR=42						
KURK	**Kurchatov**	45.33	311	*e*P	**P**	**02 14 16.0**	**-0.5**
	comp=Z,83nm,1.1s,mb5.5						
KURK				LR	LR		
	comp=Z,1µm,21.0s,MS4.8						
KOLN	**Koldanda**	45.55	278	*e*P	**P**	**02 14 18.3**	**-0.2**
	comp=Z,179nm,1.3s,mb5.8						
KAKA	**Kakadu**	45.71	186	*e*P	**P**	**02 14 18.0**	**-1.9**
	comp=Z,17nm,0.6s,mb5.2						
TNA	**Tin City**	46.23	28	PFAKE		02 14 30.0	+6.6
TNA				LR	LR		
	comp=Z,2µm,19.0s,MS5.0						
AAA	**Alma-Ata**	47.03	301	*e*P	**P**	**02 14 30.0**	**0.0**
AAA				*e*S	**S**	**02 21 30.0**	**+11**
AAA				pmax	pmax		
	comp=Z,300nm,6.0s						
AAA				MLR	MLR		
	comp=Z,8µm,16.0s,MS5.8						
AAA	**Alma-Ata**	47.03	301	*i* P	**P**	**02 14 28.0**	**-2.0**
JOSI	**Joshimath**	47.96	283	*e*P	**P**	**02 14 39.1**	**+1.6**
JOSI				*e*		02 14 40.5	
	comp=Z,227nm,1.0s						
TKM2	**Tokmak 2**	48.06	300	P	**P**	**02 14 38.9**	**+0.8**
	SNR=38						
KSH	**Kashi**	48.42	296	P	**P**	**02 14 43.0**	**+2.0**
KSH				AP	pP	02 14 47.5	-1.2
KSH				XP	sP	02 14 50.1	-1.6
KSH				PCP	PcP	02 16 09.1	+1.7
KSH				PP	PP	02 16 35.6	+2.3
KSH				SCP		02 20 01.9	
KSH				PCS		02 20 04.2	
KSH				S	**S**	**02 21 43.2**	**+4.2**
KSH				XS		02 21 51.0	
KSH				SCS	ScS	02 24 32.1	+2.9
KSH				SS	SS	02 25 08.9	+5.0
KSH				AMB	AMB		
	comp=Z,120nm,1.5s,mb5.7						
KSH				AMB	AMB		
	comp=Z,410nm,4.8s						
KBK	**Karagaybulak**	48.57	300	P	**P**	**02 14 44.0**	**+1.9**
	SNR=25						
CHMS	**Chumysh**	48.66	301	P	**P**	**02 14 44.5**	**+1.7**
	SNR=11						
KLP	**Kalpa**	48.72	285	*e*P	**P**	**02 14 44.2**	**+0.9**
KLP				*e*		02 14 45.8	
FRU	**Bishkek**	48.78	300	*e*P	**P**	**02 14 45.2**	**+1.5**
FRU				pmax	pmax		
	comp=Z,130nm,2.0s,mb5.6						
FRU				MLR	MLR		
	comp=N,9µm,15.0s						
FRU				MLR	MLR		
	comp=Z,9µm,15.0s,MS5.9						
USP	**Ospenovka**	48.79	301	P	**P**	**02 14 45.1**	**+1.3**
	SNR=25						
AAK	**Ala-Archa**	48.91	300	P	**P**	**02 14 46.2**	**+1.5**
	SNR=19						
AAK	**Ala-Archa**	48.91	300	P	**P**	**02 14 44.0**	**-0.6**
AAK				pmax	pmax		
	comp=Z,20nm,0.7s,mb5.3						
AAK	**Ala-Archa**	48.91	300	*e*P	**P**	**02 14 43.8**	**-0.9**
	comp=Z,20nm,0.6s,mb5.3						
AAK				LR	LR		
	comp=Z,2µm,19.0s,MS5.2						
UCH	**Uchtor**	48.97	300	P	**P**	**02 14 46.5**	**+1.4**
	SNR=27						
EKS2	**Erkin-Say**	49.42	300	P	**P**	**02 14 50.0**	**+1.3**
	SNR=13						
AML	**Almayashu**	49.58	300	P	**P**	**02 14 52.3**	**+2.4**
	SNR=49						
VOSK	**Vostochnaya**	50.00	314	P	**P**	**02 14 51.4**	**-1.5**
VOSK				pmax	pmax		
	comp=Z,39nm,0.8s,mb5.5						
VOSK	**Vostochnaya**	50.00	314	*i* P	**P**	**02 14 51.5**	**-1.4**
BVA0	**Borovoye Array**	50.34	314	*i* P	**P**	**02 14 54.8**	**-0.7**
BVAR	**Borovoye Array**	50.34	314	P	**P**	**02 14 54.9**	**-0.5**
	comp=Z,29nm,0.7s,mb5.5,baz=100,slow=9.0,SNR=113						
BVAR				PcP	PcP	02 16 13.7	-0.5
	comp=Z,7.4nm,0.6s,baz=104,slow=6.1,SNR=4.2						
KKR	**Kurukshetra**	50.39	283	*e*P	**P**	**02 14 53.9**	**-2.3**
KKR				*e*		02 14 54.3	
	comp=Z,90nm,0.3s						
BRVK	**Borovoye**	50.40	314	P	**P**	**02 14 55.6**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,41nm,0.9s,mb5.5						
BRVK	**Borovoye**	50.40	314	*e*P	**P**	**02 14 55.4**	**-0.6**
	comp=Z,41nm,0.8s,mb5.5						
BRVK				LR	LR		
	comp=Z,1µm,20.0s,MS5.0						
NDI	**New Delhi**	50.51	282	*e*P	**P**	**02 14 56.5**	**-0.6**
AYAN	**Aya Nagar**	50.65	282	*e*P	**P**	**02 14 57.2**	**-1.1**
AYAN				*e*		02 15 01.3	
	comp=Z,32nm,1.9s						
TTA	**Tatalina**	50.92	33	*e*P	**P**	**02 15 01.6**	**+1.9**
ZRNK	**Zerenda**	51.18	314	P	**P**	**02 15 00.6**	**-1.3**
ZRNK				pmax	pmax		
	comp=Z,37nm,0.8s,mb5.4						
ZRNK	**Zerenda**	51.18	314	*e*P	**P**	**02 15 00.3**	**-1.5**
	comp=Z,82nm,1.0s,mb5.6						
KKAR	**Karatay Array**	51.69	301	*i* P	**P**	**02 15 05.4**	**-0.5**
KKAR				pmax	pmax		
	comp=Z,48nm,0.7s,mb5.5						
KHET	**Khetri**	51.89	282	*e*P	**P**	**02 15 07.3**	**-0.3**
KHET				*e*		02 15 10.0	
	comp=Z,40nm,1.6s						
NGP	**Nagpur**	51.96	272	*e*P	**P**	**02 15 07.2**	**-1.0**
NGP				*e*S	**S**	**02 22 30.3**	**+2.1**
FITZ	**Fitzroy Crossi**	51.96	193	⇓*i*P	**P**	**02 15 06.5**	**-1.8**
	comp=Z,14nm,0.8s,mb4.9						
FITZ				*e*S	**S**	**02 22 30.9**	**+2.6**
FITZ	**Fitzroy Crossi**	51.96	193	P	**P**	**02 15 05.7**	**-2.6**
	comp=Z,16nm,0.8s,mb5.0,baz=9.2,slow=8.3,SNR=26						
IMA	**Indian Mountai**	52.09	29	*e*P	**P**	**02 15 10.1**	**+1.5**
	comp=Z,48nm,1.4s,mb5.2						
KGD	**Kothagudem**	52.24	267	*e*P	**P**	**02 15 08.7**	**-1.6**
KGD				*e*PP	PP	02 17 13.8	+4.2
KGD				*e*ScP		02 20 17.3	
KGD				*e*S	**S**	**02 22 34.1**	**+2.0**
KGD				*e*SS	SS	02 26 31.5	+23
BHPL	**Bhopal**	52.43	275	*e*P	**P**	**02 15 09.7**	**-2.0**
BHPL				*e*		02 15 13.1	
	comp=Z,30nm,1.4s						
RSO	**Redoubt South**	52.45	36	*e*P	**P**	**02 15 09.8**	**-1.6**
KDAK	**Kodiak Island**	52.69	40	*e*P	**P**	**02 15 10.7**	**-2.6**
	comp=Z,45nm,0.9s,mb5.4						
KDAK				LR	LR		
	comp=Z,561nm,19.0s,MS4.6						
SPU	**Mount Spurr**	52.77	35	*e*P	**P**	**02 15 12.6**	**-1.2**
WRAB	**Tennant Creek**	52.77	183	*e*P	**P**	**02 15 11.4**	**-2.9**
	comp=Z,92nm,1.1s,mb5.6						
WRAB				LR	LR		
	comp=Z,647nm,22.0s,MS4.6						
WB2	**Warramunga Arr**	52.78	183	*e*P	**P**	**02 15 12.0**	**-2.4**
WB2				*e*S	**S**	**02 22 36.2**	**-3.2**
WRA	**Warramunga Arr**	52.78	183	P	**P**	**02 15 11.9**	**-2.5**
	comp=Z,33nm,0.8s,mb5.3,baz=1.2,slow=7.8,SNR=70						
WRA				S	**S**	**02 22 37.1**	**-2.4**
	comp=Z,3.1nm,1.2s,baz=358,slow=13,SNR=5.5						
WRA	**Warramunga Arr**	52.78	183	P	**P**	**02 15 11.9**	**-2.5**
WRA				S	**S**	**02 22 37.1**	**-2.4**
WRA				pmax	pmax		
	comp=Z,33nm,0.9s						
CTA	**Charters Tower**	53.70	169	*e*P	**P**	**02 15 19.2**	**-1.9**
	comp=Z,23nm,1.1s,mb5.0						
CTA	**Charters Tower**	53.70	169	P	**P**	**02 15 19.2**	**-1.9**
	comp=Z,26nm,1.1s,mb5.1,baz=348,slow=8.9,SNR=9.2						
CTA	**Charters Tower**	53.70	169	P	**P**	**02 15 19.2**	**-1.9**
CTA				pmax	pmax		
	comp=Z,26nm,1.1s						
CTAO	**Charters Tower**	53.70	169	*e*P	**P**	**02 15 19.0**	**-2.1**
	comp=Z,83nm,1.4s,mb5.5						
CTAO				LR	LR		
	comp=Z,1µm,21.0s,MS5.0						
HYB	**Hyderabad**	54.08	268	*i* P	**P**	**02 15 24.0**	**+0.1**
HYB				*e*S	**S**	**02 23 00.0**	**+2.9**
HYB	**Hyderabad**	54.08	268	*e*P	**P**	**02 15 24.0**	**+0.1**
HYB				*e*S	**S**	**02 23 00.0**	**+2.9**
MCK	**McKinley**	54.11	32	*e*P	**P**	**02 15 22.7**	**-0.8**
	comp=Z,21nm,1.6s,mb4.8						
MCK				LR	LR		
	comp=Z,1µm,21.0s,MS4.9						
PMR	**Palmer**	54.15	35	*e*P	**P**	**02 15 21.1**	**-2.8**
	comp=Z,37nm,1.2s,mb5.2						
PMR				LR	LR		
	comp=Z,2µm,21.0s,MS5.0						
SML	**Sawmill**	54.51	34	*e*P	**P**	**02 15 25.6**	**-0.9**
COLA	**College**	54.52	31	⇓*e*P	**P**	**02 15 27.6**	**+1.0**
COLA	**College**	54.52	31	*e*P	**P**	**02 15 26.7**	**+0.2**
	comp=Z,16nm,1.4s,mb4.8						
COLA				LR	LR		
	comp=Z,2µm,21.0s,MS5.2						
ILAR	**Eielson Array**	54.94	31	P	**P**	**02 15 29.5**	**-0.2**
	comp=Z,3.7nm,0.9s,mb4.4,baz=282,slow=6.1,SNR=27						
ILAR				LR	LR	02 39 23.9	
	comp=Z,2µm,21.6s,MS5.1,baz=297,slow=36						
CUD	**Cuddapah**	55.34	265	*e*P	**P**	**02 15 31.6**	**-1.6**
DIV	**Divide**	55.81	35	*e*P	**P**	**02 15 34.5**	**-1.4**
	comp=Z,198nm,1.4s,mb6.0						
DIV				LR	LR		
	comp=Z,4µm,19.0s,MS5.5						
MBWA	**Marble Bar**	56.28	199	*e*P	**P**	**02 15 37.7**	**-2.3**
	comp=Z,18nm,0.8s,mb5.2						
MBWA				LR	LR		
	comp=Z,1µm,19.0s,MS5.0						
JASL	**Jaisalmer**	56.35	282	*e*P	**P**	**02 15 37.4**	**-3.0**
JASL				*e*		02 15 37.6	
ASPA	**Alice Springs**	56.50	183	*e*P	**P**	**02 15 39.7**	**-1.8**
ARU	**Arti**	56.69	319	P	**P**	**02 15 40.3**	**-2.1**
	comp=Z,474nm,0.7s,SNR=25						
ARU	**Arti**	56.69	319	⇑*i*P	**P**	**02 15 40.7**	**-1.7**
ARU				*i*		02 16 39.8	
ARU				*i* PPP	PPP	02 19 02.2	-6.4
ARU				*e*S	**S**	**02 23 30.6**	**-0.8**
ARU				*e*		02 25 22.9	
ARU				pmax	pmax		
	comp=Z,70nm,0.9s,mb5.7						
ARU				MLR	MLR		
	comp=N,2µm,16.0s,MS5.5						
ARU				MLR	MLR		
	comp=E,3µm,20.0s,MS5.5						
ARU				MLR	MLR		
	comp=Z,4µm,20.0s,MS5.5						
ARU	**Arti**	56.69	319	*e*P	**P**	**02 15 40.3**	**-2.1**
	comp=Z,112nm,1.0s,mb5.8						
ARU				LR	LR		
	comp=Z,953nm,20.0s,MS4.9						
AB31	**Akbulak array**	57.44	311	*i* P	**P**	**02 15 46.3**	**-1.5**
AB31				pmax	pmax		
	comp=Z,5.0nm,0.4s,mb4.9						
POO	**Poona**	57.50	272	*e*P	**P**	**02 15 45.4**	**-3.2**
POO				*e*		02 15 49.0	
	comp=Z,13nm,0.5s						
PALK	**Pallekele**	57.58	256	PFAKE		02 16 00.0	+11
PALK				LR	LR		
	comp=Z,572nm,20.0s,MS4.7						
KAD	**Karad**	57.80	270	*e*P	**P**	**02 15 50.7**	**0.0**
KAD				*e*		02 15 54.7	
	comp=Z,29nm,1.0s						
DAWY	**Dawson**	58.25	31	*e*P	**P**	**02 15 53.9**	**+0.6**
KIP	**Kipapa**	58.52	84	PFAKE		02 16 10.0	+14
KIP				LR	LR		
	comp=Z,1µm,19.0s,MS5.0						
INK	**Inuvik**	59.69	26	P	**P**	**02 16 01.5**	**-1.7**
	comp=Z,7.0nm,0.7s,mb4.8,baz=295,slow=6.3,SNR=14						
INK	**Inuvik**	59.69	26	P	**P**	**02 16 01.5**	**-1.7**
INK				pmax	pmax		
	comp=Z,7.0nm,0.7s						
INK	**Inuvik**	59.69	26	*e*P	**P**	**02 16 03.3**	**+0.1**
	comp=Z,12nm,1.0s,mb4.9						
SIT	**Sitka**	61.97	38	*e*P	**P**	**02 16 19.4**	**+0.6**
SIT				LR	LR		
	comp=Z,900nm,19.0s,MS5.0						
KBS	**Kingsbay**	63.83	350	*e*PP	PP	02 18 49.6	-3.3
KBS				*e*S	**S**	**02 25 04.5**	**+1.8**
KBS				AMS	AMS	02 43 12.4	
	comp=Z,2µm,17.3s,MS5.4						
KBS	**Kingsbay**	63.83	350	PFAKE		02 16 40.0	+9.3
KBS				LR	LR		
	comp=Z,3µm,21.0s,MS5.4						
FORT	**Forrest**	64.03	188	*e*P	**P**	**02 16 24.5**	**-8.4**
	comp=Z,115nm,0.8s,mb6.0						
DLBC	**Dease Lake**	64.17	36	*e*P	**P**	**02 16 32.9**	**-0.4**
STKA	**Stephens Creek**	64.80	175	*e*P	**P**	**02 16 35.5**	**-2.3**
	comp=Z,15nm,0.9s,mb5.0						
STKA	**Stephens Creek**	64.80	175	P	**P**	**02 16 35.6**	**-2.2**
	comp=Z,20nm,0.9s,mb5.1,baz=345,slow=5.5,SNR=17						
STKA				LR	LR	02 41 17.5	
	comp=Z,1µm,19.9s,MS5.1,baz=350,slow=33						
BJO	**Bjornoya**	65.18	345	AMS	AMS	02 47 22.8	
	comp=Z,1µm,20.2s,MS5.1						
KEV	**Kevo**	65.68	339	*e*p	**P**	**02 16 42.5**	**-0.3**
	comp=Z,0.7nm,0.4s						
ARCES	**ARCESS Array B**	66.24	339	P	**P**	**02 16 46.2**	**-0.2**
	comp=Z,5.5nm,0.7s,mb4.7,baz=64,slow=8.4,SNR=28						
ARCES				LR	LR	02 48 29.3	

	comp=Z,3µm,21.4s,MS5.5,baz=58,slow=38						
ARCES	**ARCESS Array B**	**66.24**	**339**	P	**P**	**02 16 46.2**	**-0.2**
ARCES				pmax	pmax		
	comp=Z,6.0nm,0.7s						
ARCES				MLR	MLR		
	comp=Z,3µm,21.4s						
KLBR	**Kellerberrin**	**66.74**	**197**	*e*P	**P**	**02 16 49.2**	**-1.0**
	comp=Z,40nm,1.2s,mb5.3						
RES	**Resolute Bay**	**67.37**	**13**	P	**P**	**02 16 55.3**	**+1.8**
RES	**Resolute Bay**	**67.37**	**13**	*e*P	**P**	**02 16 53.5**	**0.0**
TRO	**Tromso**	**68.10**	**340**	*e*S	S	02 25 56.7	+1.8
TRO				*e*SS	SS	02 30 20.6	+1.8
TRO				AMS	AMS	02 51 49.1	
	comp=Z,2µm,20.2s,MS5.2						
NWAO	**Narrogin (SRO)**	**68.14**	**197**	*e*P	**P**	**02 16 57.8**	**-1.3**
	comp=Z,25nm,0.8s,mb5.3						
NWAO				LR	LR		
	comp=Z,692nm,20.0s,MS4.9						
OBN	**Obninsk**	**68.81**	**323⇑**	*i*P	**P**	**02 17 02.4**	**-0.4**
OBN				*e*		02 17 31.0	
OBN				*e*S	S	02 26 01.1	-2.4
OBN				*e*SS	SS	02 30 25.2	-5.2
OBN				pmax	pmax		
	comp=Z,45nm,1.7s,mb5.1						
OBN				MLR	MLR		
	comp=Z,10µm,16.0s,MS6.2						
OBN	**Obninsk**	**68.81**	**323**	*e*P	**P**	**02 17 02.5**	**-0.4**
	comp=Z,54nm,1.3s,mb5.3						
OBN				LR	LR		
	comp=Z,2µm,22.0s,MS5.2						
VOR	**Voronezh**	**68.96**	**319**	P	**P**	**02 17 03.0**	**-0.8**
VOR				pmax	pmax		
	comp=Z,70nm,1.8s,mb5.3						
CNB	**Canberra Magne**	**69.11**	**169**	*e*P	**P**	**02 17 04.4**	**-0.6**
	comp=Z,61nm,1.6s,mb5.3						
YKA	**Yellowknife Ar**	**69.19**	**28**	P	**P**	**02 17 03.9**	**-1.1**
	comp=Z,11nm,1.0s,mb4.7,baz=296,slow=6.2,SNR=6.6						
YKA				LR	LR	02 52 09.1	
	comp=Z,1µm,18.4s,MS5.1,baz=310,slow=40						
YKA	**Yellowknife Ar**	**69.19**	**28**	P	**P**	**02 17 03.9**	**-1.1**
YKA				pmax	pmax		
	comp=Z,11nm,1.0s						
YKA				MLR	MLR		
	comp=Z,1µm,18.4s						
YKA	**Yellowknife Ar**	**69.19**	**28**	P	**P**	**02 17 03.9**	**-1.1**
YKA				LR	LR	02 52 09.1	
DAG	**Danmarks Havn**	**69.31**	**354⇑**	*i*P	**P**	**02 17 06.0**	**+0.5**
	comp=Z,18nm,0.6s,mb5.2						
GOF	**Gofitskoye**	**69.69**	**311**	*e*P	**P**	**02 17 04.0**	**-4.3**
KAF	**Kangasniemi**	**69.93**	**332**	*e*p	**P**	**02 17 08.0**	**-1.5**
	comp=Z,0.9nm,0.4s						
TI2	**Plekhanov**	**70.06**	**307**	*e*P	**P**	**02 17 17.6**	**+6.9**
TI2				*e*		02 26 21.6	
TI2				MLR	MLR		
	comp=N,3µm,15.0s,MS5.9						
TI2				MLR	MLR		
	comp=E,4µm,15.0s,MS5.9						
TI2				MLR	MLR		
	comp=Z,13µm,15.0s,MS6.3						
ZEI	**Tsey**	**70.16**	**309**	*e*P	**P**	**02 17 09.0**	**-2.3**
ZEI				*e*S	S	02 26 13.0	-6.6
ZEI				*e*		02 26 46.0	
ZEI				pmax	pmax		
	comp=Z,100nm,5.0s						
ZEI				MLR	MLR		
	comp=Z,6µm,15.0s,MS6.0						
FINES	**FINESS Array B**	**70.39**	**331**	P	**P**	**02 17 11.2**	**-1.1**
	comp=Z,4.1nm,0.5s,mb4.6,baz=70,slow=4.7,SNR=43						
FINES				LR	LR	02 49 35.3	
	comp=Z,2µm,18.1s,MS5.3,baz=242,slow=37						
FINES	**FINESS Array B**	**70.39**	**331**	*i* P	**P**	**02 17 11.3**	**-1.0**
FINES				pmax	pmax		
	comp=Z,4.0nm,0.5s						
TOO	**Toolangi**	**70.80**	**172**	*e*P	**P**	**02 17 14.7**	**-0.6**
	comp=Z,8.0nm,1.0s,mb4.6						
OCWA	**Octopus Mounta**	**71.97**	**44**	*e*P	**P**	**02 17 21.9**	**-0.2**
	comp=Z,79nm,1.3s,mb5.5						
OCWA				LR	LR		
	comp=Z,900nm,19.0s,MS5.1						
STW	**Striped Peak**	**72.07**	**44**	P	**P**	**02 17 24.7**	**+2.0**
SOC	**Sochi**	**72.48**	**311**	*e*P	**P**	**02 17 25.2**	**0.0**
SOC				*e*		02 17 36.7	
SOC				*e*		02 20 11.3	
SOC				*e*S	S	02 26 44.5	-1.9
SOC				*e*		02 27 26.2	
SOC				*e*SSS	SSS	02 34 29.5	-7.3
SOC				pmax	pmax		
	comp=N,12nm,1.0s						
SOC				pmax	pmax		
	comp=Z,31nm,1.0s,mb5.2						
SOC				pmax	pmax		
	comp=E,29nm,0.8s						
SOC				pmax	pmax		
	comp=Z,65nm,1.9s,mb5.2						
SOC				pmax	pmax		
	comp=N,8.0nm,0.8s						
SOC				pmax	pmax		
	comp=E,12nm,1.2s						
SOC				MLR	MLR		
	comp=N,3µm,16.0s,MS5.8						
SOC				MLR	MLR		
	comp=Z,3µm,16.0s,MS5.7						
SOC				MLR	MLR		
	comp=E,2µm,14.0s,MS5.8						
VDB	**Vedder Mountai**	**72.53**	**43**	P	**P**	**02 17 26.6**	**+1.2**
HDW	**Hoodsport**	**72.68**	**44**	P	**P**	**02 17 28.4**	**+2.1**
MBW	**Mount Baker**	**72.77**	**43**	P	**P**	**02 17 27.3**	**+0.5**
CMW	**Cultus Mountai**	**72.83**	**43**	P	**P**	**02 17 27.0**	**-0.2**
GNW	**Green Mountain**	**72.85**	**44**	*e*P	**P**	**02 17 27.1**	**-0.2**
RPW	**Rockport**	**73.16**	**43**	*e*P	**P**	**02 17 29.6**	**+0.6**
JMIC	**Jan Mayen**	**73.26**	**349**	AMS	AMS	02 49 30.4	
	comp=Z,758nm,21.4s,MS4.9						
ANN	**Anapa**	**73.31**	**313**	*e*P	**P**	**02 17 28.1**	**-1.9**
ANN				*e*S	S	02 26 57.5	+1.8
ANN				MLR	MLR		
	comp=Z,3µm,15.6s,MS5.7						
ANN				MLR	MLR		
	comp=N,2µm,17.2s,MS5.7						
ANN				MLR	MLR		
	comp=E,3µm,19.8s,MS5.7						
MNK	**Minsk**	**73.47**	**325**	*e*P	**P**	**02 17 28.0**	**-2.7**
MNK				MLR	MLR		
	comp=Z,6µm,14.0s,MS6.0						
NSS	**Namsos**	**73.49**	**338**	AMS	AMS	02 55 37.3	
	comp=Z,1µm,16.0s,MS5.3						
RMW	**Rattlesnake Mo**	**73.50**	**44**	P	**P**	**02 17 22.2**	**-8.9**
RMW				*e*	pP	02 17 31.7	-7.3
LON	**Longmire**	**73.87**	**45**	P	**P**	**02 17 33.0**	**-0.2**
NLW	**Nelson Butte**	**74.03**	**43**	*e*P	**P**	**02 17 35.6**	**+1.5**
COR	**Corvallis**	**74.08**	**47**	PFAKE		02 17 50.0	+16
COR				LR	LR		
	comp=Z,721nm,21.0s,MS4.9						
SSOR	**Sweet Springs**	**74.46**	**46**	*e*P	**P**	**02 17 39.2**	**+2.5**
SSOR	**Sweet Springs**	**74.46**	**46**	*e*P	**P**	**02 17 38.5**	**+1.9**
SUMG	**Summit**	**74.56**	**358**	*e*P	**P**	**02 17 36.4**	**-0.3**
	comp=Z,35nm,0.8s,mb5.3						
HSO	**Harness Mounta**	**74.76**	**48**	P	**P**	**02 17 40.6**	**+2.2**
AKASG	**Malin Array Be**	**74.89**	**321**	P	**P**	**02 17 38.0**	**-1.0**
	comp=Z,10nm,0.8s,mb4.8,baz=50,slow=6.2,SNR=38						
AKASG				LR	LR	02 52 59.9	
	comp=Z,4µm,18.3s,MS5.7,baz=45,slow=38						
AKASG	**Malin Array Be**	**74.89**	**321**	P	**P**	**02 17 38.0**	**-1.0**
AKASG				pmax	pmax		
	comp=Z,10.0nm,0.8s						
AKASG				MLR	MLR		
	comp=Z,4µm,18.3s						
SIM	**Simferopol’**	**75.25**	**314**	P	**P**	**02 17 42.7**	**+1.5**
SIM				*e*PPP	PPP	02 22 22.0	+4.6
SIM				*e*S	S	02 27 20.0	+2.6
SIM				*e*PS	PS	02 28 07.0	+10
SIM				pmax	pmax		
	comp=Z,80nm,11.0s						
HUMO	**Hull Mountain**	**75.32**	**49**	*e*P	**P**	**02 17 42.0**	**+0.4**
	comp=Z,19nm,1.5s,mb4.8						
HUMO				LR	LR		
	comp=Z,510nm,21.0s,MS4.8						
GBL	**Gable Mountain**	**75.32**	**44**	P	**P**	**02 17 43.4**	**+1.8**
DPW	**Davenport**	**75.35**	**42**	P	**P**	**02 17 41.2**	**-0.5**
DPW	**Davenport**	**75.35**	**42**	*e*P	**P**	**02 17 40.6**	**-1.1**
HAWA	**Hanford**	**75.39**	**44**	*e*P	**P**	**02 17 42.0**	**0.0**
NEW	**Newport**	**75.74**	**41**	P	**P**	**02 17 45.1**	**+1.2**
NEW				pmax	pmax		
	comp=Z,27nm,1.3s						
NEW	**Newport**	**75.74**	**41**	*e*P	**P**	**02 17 44.8**	**+0.9**
	comp=Z,27nm,1.3s,mb5.0						
NEW				LR	LR		
	comp=Z,741nm,20.0s,MS5.0						
YBH	**Yreka Blue Hor**	**75.93**	**49**	P	**P**	**02 17 47.6**	**+2.4**
YBH				pmax	pmax		
	comp=Z,14nm,1.2s						
YBH	**Yreka Blue Hor**	**75.93**	**49**	*e*P	**P**	**02 17 44.9**	**-0.3**
	comp=Z,14nm,1.2s,mb4.8						
YBH				LR	LR		
	comp=Z,636nm,22.0s,MS4.9						
MALT	**Malatya**	**75.97**	**307**	*e*P	**P**	**02 17 46.7**	**+1.3**
	comp=Z,14nm,1.2s,mb4.8						
SUW	**Suwalki**	**75.97**	**326**	P	**P**	**02 17 45.4**	**+0.3**
SUW				pmax	pmax		
	comp=Z,52nm,1.1s,mb5.4						
SUW	**Suwalki**	**75.97**	**326**	*e*P	**P**	**02 17 44.1**	**-1.0**
NB2	**NORSAR Subarra**	**76.19**	**336**	P	**P**	**02 17 45.1**	**-1.1**
	comp=Z,11nm,0.9s,mb4.8,baz=45,slow=5.8						
NOA	**NORSAR Array B**	**76.19**	**336**	P	**P**	**02 17 46.2**	**0.0**
	comp=Z,4.3nm,0.7s,mb4.5,baz=45,slow=5.7,SNR=11						
NOA				LR	LR	02 53 21.7	
	comp=Z,2µm,19.4s,MS5.3,baz=35,slow=37						
NOA	**NORSAR Array B**	**76.19**	**336**	P	**P**	**02 17 46.3**	**+0.1**
NOA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
NOA				MLR	MLR		
	comp=Z,2µm,19.4s						
LNOR	**Lincton Mounta**	**76.40**	**44**	P	**P**	**02 17 49.3**	**+1.6**
LNOR	**Lincton Mounta**	**76.40**	**44**	*e*P	**P**	**02 17 49.0**	**+1.3**
WDC	**Whiskeytown Da**	**76.65**	**50**	*e*P	**P**	**02 17 48.9**	**-0.3**
	comp=Z,36nm,1.5s,mb5.1						
WDC				LR	LR		
	comp=Z,403nm,20.0s,MS4.7						
HOPS	**Hopland**	**77.15**	**52**	PFAKE		02 18 00.0	+8.0
HOPS				LR	LR		
	comp=Z,920nm,20.0s,MS5.1						
KIS	**Kishinev**	**77.21**	**318**	*e*P	**P**	**02 17 52.0**	**-0.2**
KIS				*e*		02 28 30.0	
KIS				MLR	MLR		
	comp=N,4µm,16.0s,MS6.1						
KIS				MLR	MLR		
	comp=E,7µm,16.0s,MS6.1						
KIS				MLR	MLR		
	comp=Z,3µm,16.0s,MS5.7						
KIS				MLR	MLR		
	comp=Z,8µm,16.0s						
MOD	**Modoc**	**77.36**	**48**	*e*P	**P**	**02 17 54.4**	**+1.3**
	comp=Z,19nm,1.3s,mb4.9						
MOD				LR	LR		
	comp=Z,492nm,20.0s,MS4.8						
KONO	**Kongsberg**	**77.76**	**335**	*e*P	PcP	02 18 26.4	+21
KONO				*e*		02 28 16.8	
KONO				AMS	AMS	03 01 14.0	
	comp=Z,2µm,16.8s,MS5.4						
KONO	**Kongsberg**	**77.76**	**335**	PFAKE		02 18 10.0	+15
KONO				LR	LR		
	comp=Z,2µm,21.0s,MS5.5						
OHCM	**Honcut**	**78.00**	**51**	*e*P	**P**	**02 17 57.4**	**+0.7**
WAR	**Warsaw**	**78.09**	**325**	*e*P	**P**	**02 18 08.0**	**+11**
WAR				MLR	MLR		
	comp=Z,5µm,16.7s,MS5.9						
WVOR	**Wild Horse Val**	**78.10**	**47**	*e*P	**P**	**02 17 56.7**	**-0.5**
	comp=Z,18nm,1.0s,mb4.9						
WVOR				LR	LR		
	comp=Z,705nm,19.0s,MS5.0						
MSO	**Missoula**	**78.32**	**41**	*e*P	**P**	**02 17 56.5**	**-1.8**
	comp=Z,20nm,1.5s,mb4.8						
MSO				LR	LR		
	comp=Z,518nm,20.0s,MS4.9						
BRTR	**Keskin Array B**	**78.37**	**310**	P	**P**	**02 17 59.4**	**+0.6**
	comp=Z,5.6nm,1.0s,mb4.5,baz=109,slow=4.6,SNR=15						
BRTR				LR	LR	02 56 01.1	
	comp=Z,1µm,21.7s,MS5.2,baz=5.0,slow=38						
BRTR	**Keskin Array B**	**78.37**	**310**	P	**P**	**02 17 59.4**	**+0.7**
BRTR				pmax	pmax		
	comp=Z,6.0nm,1.0s						
BRTR				MLR	MLR		
	comp=Z,1µm,21.7s						
BEKR	**Beckwourth**	**78.44**	**50**	*e*P	**P**	**02 17 58.4**	**-0.7**
	comp=Z,70nm,1.5s,mb5.4						
CHMT	**Chamberlain Mo**	**78.65**	**41**	*e*P	**P**	**02 18 01.2**	**+1.0**
ASMM	**Slate Mountain**	**78.81**	**51**	*e*P	**P**	**02 17 59.9**	**-1.2**
KWP	**Kalwaria**	**78.90**	**323**	*e*P	**P**	**02 18 01.9**	**+0.5**
KWP				MLR	MLR		
	comp=Z,14µm,16.5s,MS6.4						
WCN	**Washoe City**	**79.14**	**50**	P	**P**	**02 18 01.0**	**-2.0**
WCN				pmax	pmax		
	comp=Z,71nm,1.5s,mb5.4						
WCN	**Washoe City**	**79.14**	**50**	*e*P	**P**	**02 18 03.6**	**+0.7**
	comp=Z,71nm,1.6s,mb5.3						
FFC	**Flin Flon**	**79.15**	**30**	P	**P**	**02 18 04.4**	**+1.7**
FFC				pmax	pmax		
	comp=Z,49nm,1.4s,mb5.2						
FFC	**Flin Flon**	**79.15**	**30**	*e*P	**P**	**02 18 03.0**	**+0.3**
	comp=Z,49nm,1.4s,mb5.2						
PAHR	**Pah Rah Range**	**79.16**	**50**	*e*P	**P**	**02 18 02.6**	**-0.5**
	comp=Z,49nm,1.2s,mb5.3						
GKP	**Gorka Klasztor**	**79.17**	**328**	*e*P	**P**	**02 18 05.5**	**+2.7**
GKP				MLR	MLR		
	comp=Z,8µm,16.3s,MS6.2						
SAO	**San Andreas Ge**	**79.43**	**53**	PFAKE		02 18 20.0	+15
SAO				LR	LR		
	comp=Z,719nm,21.0s,MS5.0						
CMB	**Columbia Colle**	**79.44**	**51**	P	**P**	**02 18 04.0**	**-0.6**
CMB				pmax	pmax		
	comp=Z,58nm,1.3s,mb5.3						
CMB	**Columbia Colle**	**79.44**	**51**	*e*P	**P**	**02 18 03.7**	**-0.9**
	comp=Z,58nm,1.4s,mb5.3						
CMB				LR	LR		
	comp=Z,838nm,21.0s,MS5.1						
HRY	**Holter Researc**	**79.56**	**41**	*e*P	**P**	**02 18 06.9**	**+1.9**
KOLS	**Kolonicke sedl**	**79.56**	**322**	*e*P	**P**	**02 18 06.6**	**+1.6**
OJC	**Ojcow**	**79.98**	**324**	*e*P	**P**	**02 18 06.2**	**-1.0**
OJC				*e*S	S	02 28 09.3	+1.2
OJC				MLR	MLR		
	comp=Z,9µm,18.0s,MS6.2						
HLID	**Hailey**	**79.98**	**44**	*e*P	**P**	**02 18 07.4**	**0.0**
	comp=Z,31nm,1.5s,mb5.0						
HLID				LR	LR		
	comp=Z,634nm,20.0s,MS5.0						
CRVS	**Cervenica-Dubn**	**80.00**	**323**	*e*P	**P**	**02 18 10.9**	**+3.5**
LCCM	**Lewis and Clar**	**80.06**	**41**	P	**P**	**02 18 08.4**	**+0.7**
BMN	**Battle Mountai**	**80.11**	**48**	P	**P**	**02 18 10.9**	**+2.7**
BMN				pmax	pmax		
	comp=Z,54nm,1.4s,mb5.3						
BMN	**Battle Mountai**	**80.11**	**48**	*e*P	**P**	**02 18 10.7**	**+2.5**
	comp=Z,54nm,1.4s,mb5.3						
BMN				LR	LR		
	comp=Z,669nm,19.0s,MS5.0						
MCMT	**McKenzie Canyo**	**80.13**	**43**	*e*P	**P**	**02 18 08.1**	**0.0**
ASF	**Jabal al Asfar**	**80.28**	**302**	LR	LR	02 59 15.3	
	comp=Z,847nm,18.7s,MS5.1,baz=176,slow=40						
BOZ	**Bozeman (W)**	**80.32**	**41**	P	**P**	**02 18 10.8**	**+1.7**
BOZ				pmax	pmax		
	comp=Z,25nm,1.2s,mb5.0						
BOZ	**Bozeman (W)**	**80.32**	**41**	*e*P	**P**	**02 18 08.8**	**-0.3**
	comp=Z,25nm,1.3s,mb5.0						
BOZ				LR	LR		
	comp=Z,1µm,19.0s,MS5.3						
OMM	**Old Mammoth Mi**	**80.58**	**51**	*e*P	**P**	**02 18 12.6**	**+1.9**
MNV	**Mina**	**80.66**	**50**	*e*P	**P**	**02 18 12.1**	**+0.9**
	comp=Z,39nm,1.3s,mb5.2						
MNV				LR	LR		
	comp=Z,615nm,19.0s,MS5.0						
RAC	**Raciborz**	**80.85**	**325**	*e*P	**P**	**02 18 12.6**	**+0.7**
RAC				*e*S	S	02 28 15.1	-2.1
RAC				MLR	MLR		
	comp=Z,10µm,16.6s,MS6.2						
QLMT	**Earthquake Lak**	**80.93**	**42**	*e*P	**P**	**02 18 12.7**	**+0.3**
MTUM	**Tungsten Hills**	**81.01**	**51**	*e*P	**P**	**02 18 13.1**	**+0.1**
OKC	**Ostrava-Krasne**	**81.03**	**325**	*e*P	**P**	**02 18 21.8**	**+9.0**
OKC				LR		02 57 40.0	
	comp=Z,6.8nm,16.6s						
ELK	**Elko**	**81.16**	**47**	*e*P	**P**	**02 18 13.8**	**+0.2**
	comp=Z,31nm,1.4s,mb5.0						
ELK				LR	LR		
	comp=Z,709nm,20.0s,MS5.0						
KSP	**Ksiaz**	**81.24**	**326**	*e*P	**P**	**02 18 14.4**	**+0.5**
KSP				*e*		02 18 29.9	
KSP				*e*S	S	02 28 15.0	-6.2
KSP				*e*		02 28 25.5	
KSP				*e*SS	SS	02 33 33.0	-7.1
KSP				MLR	MLR		
	comp=Z,14µm,15.9s,MS6.4						
MORC	**Moravsky Berou**	**81.37**	**325**	P	**P**	**02 18 16.1**	**+1.5**
MORC				pmax	pmax		
	comp=Z,15nm,1.5s,mb4.7						
MORC	**Moravsky Berou**	**81.37**	**325**	*e*P	**P**	**02 18 15.4**	**+0.8**
	comp=Z,15nm,1.5s,mb4.7						
PSZ	**Piszkesteto**	**81.43**	**323⇑**	*i*PcP	PcP	02 18 16.3	-5.1
PSZ	**Piszkesteto**	**81.43**	**323**	P	**P**	**02 18 16.1**	**+1.2**
PSZ				pmax	pmax		
	comp=Z,20nm,1.4s,mb4.8						
PSZ	**Piszkesteto**	**81.43**	**323**	*e*P	**P**	**02 18 15.8**	**+0.9**
	comp=Z,20nm,1.4s,mb4.9						
TPH	**Tonopah**	**81.47**	**50**	*e*P	**P**	**02 18 15.0**	**-0.3**
	comp=Z,84nm,1.3s,mb5.5						
TPH				LR	LR		
	comp=Z,645nm,19.0s,MS5.0						
DPC	**Dobruska-Polom**	**81.56**	**326**	*e*P	**P**	**02 18 16.3**	**+0.7**
DPC				LR		02 58 40.0	
	comp=Z,5.5nm,14.0s						
VYHS	**Vyhne**	**81.59**	**323**	*i* P	**P**	**02 18 17.0**	**+1.3**
VYHS				*e*S	S	02 28 29.8	+5.0
UPC	**Upice**	**81.60**	**326**	*e*P	**P**	**02 18 15.5**	**-0.3**
BSEG	**Bad Segeberg**	**81.66**	**331**	*e*P	**P**	**02 18 16.3**	**+0.3**
BSEG				pmax	pmax		
	comp=Z,19nm,1.4s,mb4.8						
SNZO	**South Karori**	**81.97**	**152**	PFAKE		02 18 30.0	+12
SNZO				LR	LR		
	comp=Z,1µm,19.0s,MS5.3						
MOOW	**Moose Ponds**	**81.98**	**42**	*e*P	**P**	**02 18 19.7**	**+1.8**
HVU	**Hansel Valley**	**82.02**	**45**	P	**P**	**02 18 21.2**	**+3.1**
HVU	**Hansel Valley**	**82.02**	**45**	*e*P	**P**	**02 18 20.5**	**+2.3**
TPAW	**Teton Pass**	**82.03**	**43**	*e*P	**P**	**02 18 18.3**	**+0.2**
WUWY	**Wally Ulrich**	**82.12**	**43**	*e*P	**P**	**02 18 21.2**	**+2.6**
VRAC	**Vranov**	**82.14**	**325**	LR	LR	02 58 40.7	
	comp=Z,6µm,18.6s,MS6.0,baz=118,slow=38						
LOHW	**Long Hollow**	**82.15**	**42**	*e*P	**P**	**02 18 19.0**	**+0.3**
SNOW	**Snow King Moun**	**82.16**	**43**	*e*P	**P**	**02 18 18.4**	**-0.4**
REDW	**Red Top Meadow**	**82.17**	**43**	*e*P	**P**	**02 18 19.1**	**+0.2**
PVCC	**Panska Ves**	**82.25**	**327**	*e*P	**P**	**02 18 20.3**	**+1.2**
PVCC				LR		02 59 10.0	
	comp=Z,8.2nm,14.9s						
DAC	**Darwin (Calif)**	**82.27**	**52**	P	**P**	**02 18 19.8**	**+0.3**
DAC				pmax	pmax		
	comp=Z,26nm,1.0s,mb5.1						
DAC	**Darwin (Calif)**	**82.27**	**52**	*e*P	**P**	**02 18 19.4**	**-0.1**
	comp=Z,26nm,1.0s,mb5.1						
DAC				LR	LR		
	comp=Z,516nm,19.0s,MS4.9						
SMOL	**Smolenice**	**82.27**	**324**	*e*P	**P**	**02 18 21.3**	**+2.0**
BRG	**Berggiesshubel**	**82.30**	**327**	*e*P	**P**	**02 18 20.3**	**+0.9**
BRG				*e*		02 21 29.8	
BRG				*i* S	S	02 28 37.0	+5.0
BRG				*i* SS	SS	02 33 51.0	-4.9
BRG				pmax	pmax		
	comp=Z,19nm,1.4s,mb4.8						
BRG				MLR	MLR		
	comp=N,4µm,12.6s,MS6.1						
BRG				MLR	MLR		
	comp=E,4µm,12.6s,MS6.1						
BRG				MLR	MLR		
	comp=Z,5µm,12.6s,MS6.1						
BRG	**Berggiesshubel**	**82.30**	**327**	*e*P	**P**	**02 18 20.3**	**+0.9**
	comp=Z,19nm,1.4s,mb4.8						
BRG				*e*		02 21 29.8	
BRG				*i* S	S	02 28 37.0	+5.0
BRG				*i* SS	SS	02 33 51.0	-4.9
BRG				LR	LR		
	comp=Z,5µm,12.6s,MS6.1						
BGU	**Big Grassy Mou**	**82.39**	**46**	*e*P	**P**	**02 18 21.0**	**+1.0**
DGMT	**Dagmar**	**82.39**	**36**	P	**P**	**02 18 21.4**	**+1.5**
DGMT				LR	LR		
	comp=Z,1µm,22.0s,MS5.2						
AHID	**Auburn Hatcher**	**82.39**	**43**	*e*P	**P**	**02 18 20.9**	**+0.9**
	comp=Z,17nm,1.1s,mb4.9						
AHID				LR	LR		
	comp=Z,648nm,21.0s,MS5.0						
CLL	**Collm**	**82.41**	**328**	P	**P**	**02 18 20.6**	**+0.6**
	comp=Z,logA/T=1.2,mb4.9						
CLL				*e*	pP	02 18 30.0	+1.9
CLL				*i*		02 18 38.5	
CLL				*e*PP	PP	02 21 29.0	-2.1
CLL				*e*		02 21 42.0	
CLL				*e*S	S	02 28 35.0	+1.8
CLL				*e*PS	PS	02 29 18.0	-8.9
CLL				*e*SS	SS	02 33 54.0	-3.6
CLL				*e*		02 39 42.0	
CLL	**Collm**	**82.41**	**328**	*i* P	**P**	**02 18 20.6**	**+0.6**
CLL				*e*S	S	02 28 35.0	+1.8
CLL				pmax	pmax		
	comp=Z,18nm,1.2s,mb4.9						
CLL	**Collm**	**82.41**	**328**	*i* P	**P**	**02 18 20.6**	**+0.6**
	comp=Z,18nm,1.2s,mb4.9						
CLL				*e*S	S	02 28 35.0	+1.8
SPUT	**South Promonto**	**82.50**	**45**	*e*P	**P**	**02 18 20.4**	**-0.2**
LAO	**LASA Array**	**82.56**	**38**	*e*P	**P**	**02 18 20.3**	**-0.5**
	comp=Z,92nm,1.6s,mb5.6						
LAO				LR	LR		
	comp=Z,835nm,20.0s,MS5.1						
PRU	**Pruhonice**	**82.64**	**326**	P	**P**	**02 18 22.0**	**+0.8**
PRU				*i*	pP	02 18 30.3	+1.0
PRU				pmax	pmax		
	comp=Z,29nm,1.5s,mb5.1						
PRU				MLR	MLR		
	comp=Z,6µm,15.0s,MS6.1						
PRU	**Pruhonice**	**82.64**	**326**	P	**P**	**02 18 22.0**	**+0.8**
	comp=Z,29nm,1.5s,mb5.1						
PRU				*i*	pP	02 18 30.3	+1.0
PRU				LR	LR		
	comp=Z,6µm,15.0s,MS6.1						
ZST	**Bratislava**	**82.65**	**324**	*e*P	**P**	**02 18 23.2**	**+2.0**
TPNV	**Topopah Spring**	**82.75**	**50**	P	**P**	**02 18 21.7**	**-0.4**
TPNV				pmax	pmax		
	comp=Z,36nm,0.8s,mb5.5						
TPNV	**Topopah Spring**	**82.75**	**50**	*e*P	**P**	**02 18 21.4**	**-0.6**
	comp=Z,36nm,0.8s,mb5.5						
TPNV				LR	LR		
	comp=Z,697nm,20.0s,MS5.0						
HWUT	**Hardware Ranch**	**82.84**	**45**	*e*P	**P**	**02 18 22.4**	**0.0**
	comp=Z,58nm,1.4s,mb5.4						
HWUT				LR	LR		
	comp=Z,928nm,20.0s,MS5.2						
DUG	**Dugway**	**82.96**	**46**	*e*P	**P**	**02 18 22.9**	**-0.2**
DUG				pmax	pmax		
	comp=Z,64nm,1.4s,mb5.5						
DUG	**Dugway**	**82.96**	**46**	*e*P	**P**	**02 18 22.9**	**-0.2**
EIL	**Elat**	**83.05**	**301**	LR	LR	03 00 10.7	
	comp=Z,1µm,18.8s,MS5.3,baz=189,slow=39						
MWC	**Mount Wilson**	**83.15**	**54**	P	**P**	**02 18 26.3**	**+2.2**
MWC	**Mount Wilson**	**83.15**	**54**	*e*P	**P**	**02 18 25.9**	**+1.7**
CLZ	**Clausthal**	**83.17**	**330**	*e*P	**P**	**02 18 24.5**	**+0.6**
	comp=Z,34nm,1.4s,mb5.2						
TCUT	**Toone Canyon**	**83.24**	**45**	*e*P	**P**	**02 18 25.8**	**+1.3**
BW06	**Boulder Array**	**83.28**	**43**	*e*P	**P**	**02 18 23.5**	**-1.1**
	comp=Z,18nm,1.1s,mb5.0						
BW06				LR	LR		
	comp=Z,725nm,20.0s,MS5.0						
PDAR	**Pinedale Array**	**83.28**	**43**	P	**P**	**02 18 23.9**	**-0.8**
	comp=Z,7.2nm,0.9s,mb4.7,baz=315,slow=4.2,SNR=32						
NKC	**Novy Kostel**	**83.42**	**328**	*e*P	**P**	**02 18 24.9**	**-0.3**
NKC				LR		02 59 10.0	
	comp=Z,4.5nm,15.7s						
MOX	**Moxa**	**83.50**	**328**	*i* P	**P**	**02 18 25.9**	**+0.3**
	comp=Z,logA/T=1.3,mb5.1						
MOX				S	S	02 28 50.0	+5.8
MOX				LQ		02 40 10.0	
MOX				L		02 57 30.0	
MOX	**Moxa**	**83.50**	**328**	*e*P	**P**	**02 18 25.9**	**+0.3**
MOX				pmax	pmax		
	comp=Z,34nm,1.6s,mb5.1						
MOX				MLR	MLR		
	comp=Z,2µm,19.0s,MS5.4						
MOX	**Moxa**	**83.50**	**328**	*e*P	**P**	**02 18 25.9**	**+0.3**
	comp=Z,34nm,1.6s,mb5.1						
MOX				LR	LR		
	comp=Z,2µm,19.0s,MS5.4						
JLU	**Jordanelle**	**83.53**	**45**	*e*P	**P**	**02 18 27.9**	**+1.9**
NLU	**North Lily Min**	**83.56**	**46**	*e*P	**P**	**02 18 26.2**	**+0.1**
KHC	**Kasperske Hory**	**83.69**	**326**	*e*P	**P**	**02 18 26.5**	**0.0**
DAU	**Daniels Canyon**	**83.77**	**45**	P	**P**	**02 18 30.3**	**+3.1**
DAU	**Daniels Canyon**	**83.77**	**45**	*e*P	**P**	**02 18 30.1**	**+2.9**
MPU	**Maple Canyon**	**83.79**	**46**	*e*P	**P**	**02 18 29.5**	**+2.2**
GEC2	**GERESS Array S**	**83.83**	**326**	*e*P	**P**	**02 18 27.8**	**+0.5**
GEC2				pmax	pmax		
	comp=Z,12nm,0.9s,mb5.0						
GEC2	**GERESS Array S**	**83.83**	**326**	*e*P	**P**	**02 18 27.8**	**+0.5**
	comp=Z,12nm,0.9s,mb5.0						
GERES	**GERESS Array B**	**83.83**	**326**	P	**P**	**02 18 26.8**	**-0.5**
	comp=Z,4.0nm,0.6s,mb4.7,baz=44,slow=4.2,SNR=43						
GERES	**GERESS Array B**	**83.83**	**326**	P	**P**	**02 18 26.8**	**-0.5**

GERES				pmax	pmax		
	comp=Z,4.0nm,0.6s						
DIVS	Divcibare	83.88	320	⇑iP	P	02 18 28.7	+1.1
WET	Wettzell	84.00	327	eP	P	02 18 27.7	-0.4
WET				pmax	pmax		
	comp=Z,30nm,1.9s,mb5.1						
WET	Wettzell	84.00	327	eP	P	02 18 27.7	-0.4
	comp=Z,30nm,1.9s,mb5.1						
ARSA	Arzberg	84.07	324	⇓iP	P	02 18 27.8	-0.7
	comp=Z,13nm,1.4s,mb4.9						
MOA	Molln	84.27	325	⇓iP	P	02 18 29.8	+0.3
	comp=Z,18nm,1.3s,mb5.0						
GRA1	Grafenberg Arr	84.36	328	eP	P	02 18 30.2	+0.3
	comp=Z,105nm,1.7s,mb5.7						
GRA1				eS	S	02 28 55.3	+2.5
GRA1				LR	LR		
	comp=Z,5µm,18.3s,MS5.9						
GRF	Grafenberg Arr	84.36	328	eP	P	02 18 30.2	+0.3
GRF				eS	S	02 28 55.3	+2.5
GRF				pmax	pmax		
	comp=Z,105nm,1.7s,mb5.7						
GRF				MLR	MLR		
	comp=Z,5µm,18.3s,MS5.9						
MVU	Marysvale	84.37	47	eP	P	02 18 30.8	+0.5
	comp=Z,35nm,1.0s,mb5.4						
MVU				LR	LR		
	comp=Z,537nm,22.0s,MS4.9						
MSU	Marysvale	84.39	47	P	P	02 18 31.0	+0.7
MSU	Marysvale	84.39	47	eP	P	02 18 30.7	+0.4
SKO	Skopje	84.45	317	i P	P	02 18 31.3	+0.7
LDFC	Landfair	84.61	51	eP	P	02 18 33.3	+1.7
BAR	Barrett	84.99	54	eP	P	02 18 33.1	-0.4
SRU	San Rafael	85.02	46	P	P	02 18 33.8	+0.3
SRU	San Rafael	85.02	46	eP	P	02 18 33.4	-0.1
KBA	Koelnbreinsper	85.25	325	⇑iP	P	02 18 35.2	+0.8
	comp=Z,12nm,1.3s,mb4.9						
OHR	Ohrid	85.37	317	i P	P	02 18 36.0	+0.8
OHR				i		02 18 50.1	
RSSD	Black Hills	85.42	39	P	P	02 18 36.6	+1.3
RSSD				pmax	pmax		
	comp=Z,30nm,1.3s,mb5.3						
RSSD	Black Hills	85.42	39	eP	P	02 18 36.0	+0.7
	comp=Z,30nm,1.4s,mb5.2						
RSSD				LR	LR		
	comp=Z,983nm,21.0s,MS5.2						
ESK	Eskdalemuir	85.42	338	P	P	02 18 35.6	+0.5
ESK				LR	LR		
	comp=Z,345nm,19.0s,MS4.8						
FUR	Furstenfeldbru	85.45	327	eP	P	02 18 36.0	+0.6
FUR				pmax	pmax		
	comp=Z,29nm,1.1s,mb5.3						
FUR	Furstenfeldbru	85.45	327	eP	P	02 18 36.0	+0.6
	comp=Z,29nm,1.1s,mb5.3						
HGN	Heimansgroeve	85.82	331	eP	P	02 18 36.8	-0.4
	comp=Z,8.2nm,0.9s,mb5.0						
PV10	Paradox Valley	86.38	46	eP	P	02 18 40.6	+0.3
WLF	Walferdange	86.57	330	P	P	02 18 41.8	+0.9
WLF	Walferdange	86.57	330	eP	P	02 18 41.4	+0.5
BFO	Black Forest	86.65	328	eP	P	02 18 41.0	-0.3
BFO				pmax	pmax		
	comp=Z,18nm,1.5s,mb5.1						
BFO	Black Forest	86.65	328	eP	P	02 18 41.0	-0.3
	comp=Z,18nm,1.5s,mb5.1						
DAVA	Damuels	86.73	327	⇑iP	P	02 18 42.5	+0.8
	comp=Z,20nm,1.3s,mb5.2						
WUAZ	Wupatki	86.75	49	eP	P	02 18 41.8	-0.3
	comp=Z,36nm,1.1s,mb5.5						
PV01	Paradox Valley	86.82	46	eP	P	02 18 42.6	+0.1
CDF	Champ du Feu	87.05	329	eP	P	02 18 43.5	+0.2
	comp=Z,58nm,1.4s,mb5.3						
BAIF	Baives	87.06	331	eP	P	02 18 42.7	-0.6
ISCO	Idaho Springs	87.46	43	eP	P	02 18 48.4	+2.9
	comp=Z,53nm,1.6s,mb5.5						
ISCO				LR	LR		
	comp=Z,613nm,21.0s,MS5.0						
HAU	Haudompre	87.76	329	eP	P	02 18 47.1	+0.4
	comp=Z,5.7nm,0.6s,mb4.7						
HAU				eR			
	comp=Z,2µm,19.0s						
MEZF	Maizieres J'vi	87.93	330	eP	P	02 18 48.2	+0.7
SDCO	Great Sand Dun	88.90	44	eP	P	02 18 54.7	+2.3
	comp=Z,29nm,1.4s,mb5.4						
SDCO				LR	LR		
	comp=Z,709nm,20.0s,MS5.1						
CABF	La Chapelle	88.95	328	eP	P	02 18 52.5	+0.1
	comp=Z,26nm,1.2s,mb5.1						
TUC	Tucson	89.15	51	eP	P	02 18 54.2	+0.5
	comp=Z,12nm,1.3s,mb5.1						
TUC				LR	LR		
	comp=Z,599nm,22.0s,MS5.0						
LOR	Lormes	89.40	330	eP	P	02 18 54.4	-0.1
	comp=Z,12nm,1.0s,mb4.9						
LOR				eR			
	comp=Z,3µm,22.2s						
LPL	La Plagne	89.50	327	eP	P	02 18 55.5	+0.5
	comp=Z,18nm,0.8s,mb5.2						
LPG	La Plagne	89.51	327	eP	P	02 18 55.6	+0.5
	comp=Z,21nm,0.8s,mb5.2						
SSF	Saint Saulge	89.71	330	eP	P	02 18 56.2	+0.2
	comp=Z,7.1nm,0.8s,mb4.7						
BNI	Bardonecchia	89.88	327	eP	P	02 18 55.8	-1.0
BNI				e		02 22 34.6	
BNI				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.8						
BNI	Bardonecchia	89.88	327	eP	P	02 18 55.8	-1.1
	comp=Z,3.6nm,0.8s,mb4.8						
BNI				ePP	PP	02 22 34.6	+2.7
SMF	Signal de Mont	89.89	330	eP	P	02 18 56.8	-0.1
	comp=Z,29nm,1.2s,mb5.2						
FLN	La Foliniere	89.93	333	eP	P	02 18 56.7	-0.3
FLN				eR			
	comp=Z,3µm,17.1s						
LDF	La Druitiere	89.93	333	eP	P	02 18 56.8	-0.2
AVF	Avril sur Loir	89.99	330	eP	P	02 18 57.4	+0.1
	comp=Z,34nm,1.3s,mb5.2						
MBDF	Montbardon	90.09	327	eP	P	02 18 57.4	-0.4
	comp=Z,16nm,1.0s,mb5.0						
LAZ	Ladron	90.13	48	eP	P	02 19 00.1	+1.8
ANMO	Albuquerque	90.19	47	c iP	P	02 19 01.5	+3.0
ANMO	Albuquerque	90.19	47	eP	P	02 18 58.6	+0.1
	comp=Z,11nm,0.9s,mb5.2						
ANMO				LR	LR		
	comp=Z,700nm,19.0s,MS5.1						
GRR	Gorron	90.38	333	eP	P	02 18 59.4	+0.3
	comp=Z,28nm,1.1s,mb5.2						
SBF	Sospel	90.43	326	eP	P	02 18 58.8	-0.6
	comp=Z,32nm,1.1s,mb5.3						
BNM	Barren Site	90.61	48	eP	P	02 19 02.0	+1.5
TCF	Toulx Ste Croi	90.86	330	eP	P	02 19 01.6	+0.3
	comp=Z,7.2nm,0.9s,mb4.7						
VIVF	Saint-Julien-l	90.94	328	eP	P	02 19 01.5	-0.2
	comp=Z,19nm,1.1s,mb5.0						
FRF	La Foret Royal	91.03	326	eP	P	02 19 01.5	-0.7
	comp=Z,18nm,1.1s,mb5.0						
SGMF	Saint Gilles	91.13	334	eP	P	02 19 01.6	-0.9
	comp=Z,40nm,1.2s,mb5.3						
SMRF	Simiane la Rot	91.21	327	eP	P	02 19 02.9	-0.1
ROSF	Rostrenen	91.32	334	eP	P	02 19 03.7	+0.3
	comp=Z,114nm,1.5s,mb5.7						
CBKS	Cedar Bluff	91.43	41	P	P	02 19 06.4	+2.3
CBKS	Cedar Bluff	91.43	41	eP	P	02 19 05.1	+0.9
CBKS				LR	LR		
	comp=Z,776nm,20.0s,MS5.1						
VAE	Valguarnera	91.47	318	LR	LR	03 07 35.1	
	comp=Z,2µm,18.4s,MS5.5,baz=50,slow=40						
MFF	Saint Martin d	91.57	332	eP	P	02 19 05.0	+0.4
	comp=Z,36nm,1.1s,mb5.3						
QUIF	Quistinic	91.63	334	eP	P	02 19 04.9	+0.1
	comp=Z,42nm,1.3s,mb5.3						
LASF	Ste Croix	91.91	328	eP	P	02 19 06.4	+0.2
RJF	Les Rejaudoux	91.94	330	eP	P	02 19 05.0	-1.3
	comp=Z,45nm,1.3s,mb5.3						
RJF				eR			
	comp=Z,3µm,20.8s						
CAF	Calviac	92.02	330	eP	P	02 19 05.8	-0.9
	comp=Z,57nm,1.6s,mb5.3						
LFF	La Frestale	92.56	330	eP	P	02 19 09.8	+0.6
	comp=Z,30nm,0.9s,mb5.4						
CPRX	Cap Rock	93.07	47	eP	P	02 19 13.7	+1.9
JFWS	Jewell Farm	93.08	32	P	P	02 19 12.3	+0.7
JFWS				LR	LR		
	comp=Z,1µm,22.0s,MS5.3						
MTLF	Montolieu	93.22	328	eP	P	02 19 11.4	-0.8
GDL2	Guadalupe Moun	93.33	48	eP	P	02 19 12.8	-0.2
EPF	Esparros	94.28	329	eP	P	02 19 16.5	-0.6
ETSF	Etsaut	94.77	330	eP	P	02 19 19.5	+0.1
	comp=Z,15nm,1.0s,mb5.1						
WMOK	Wichita Mounta	94.89	43	P	P	02 19 22.3	+2.2
WMOK				pmax	pmax		
	comp=Z,21nm,1.3s,mb5.4						
WMOK	Wichita Mounta	94.89	43	eP	P	02 19 21.1	+1.0
	comp=Z,21nm,1.4s,mb5.4						
LTX	Lajitas	95.71	50	P	P	02 19 23.2	-0.8
LTX				pmax	pmax		
	comp=Z,22nm,1.0s,mb5.5						
LTX	Lajitas	95.71	50	eP	P	02 19 22.8	-1.2
	comp=Z,22nm,1.0s,mb5.5						
LTX				LR	LR		
	comp=Z,656nm,21.0s,MS5.1						
TXAR	Lajitas Array	95.71	50	P	P	02 19 23.4	-0.6
	comp=Z,33nm,1.1s,mb5.7,baz=290,slow=3.5,SNR=72						
TXAR				LR	LR	02 56 24.1	
	comp=Z,430nm,21.1s,MS4.9,baz=270,slow=32						
CCM	Cathedral Cave	96.42	36	P	P	02 19 29.0	+1.9
CCM				pmax	pmax		
	comp=Z,13nm,1.0s,mb5.3						
CCM	Cathedral Cave	96.42	36	eP	P	02 19 26.5	-0.5
	comp=Z,13nm,1.0s,mb5.3						
CCM				LR	LR		
	comp=Z,850nm,20.0s,MS5.2						
JCT	Junction City	97.33	46	eP	P	02 19 31.1	-0.2
	comp=Z,6.3nm,0.7s,mb5.2						
JCT				LR	LR		
	comp=Z,560nm,20.0s,MS5.0						
PQI	Presque Isle	97.57	17	PFAKE		02 19 40.0	+8.0
PQI				LR	LR		
	comp=Z,6µm,20.0s,MS6.1						
MIAR	Mount Ida	97.92	40	eP	P	02 19 34.2	+0.3
	comp=Z,12nm,1.1s,mb5.3						
MIAR				LR	LR		
	comp=Z,1µm,19.0s,MS5.4						
ERPA	Erie	97.98	27	PFAKE		02 19 50.0	+16
ERPA				LR	LR		
	comp=Z,1µm,20.0s,MS5.3						
KMBO	Kilima Mbogo	98.39	274	LR	LR	03 08 12.2	
	comp=Z,476nm,18.7s,MS5.0,baz=278,slow=38						
KMBO	Kilima Mbogo	98.39	274	PFAKE		02 19 50.0	+14
KMBO				LR	LR		
	comp=Z,559nm,19.0s,MS5.1						
ACSO	Alum Creek Sta	98.41	29	PFAKE		02 19 50.0	+14
ACSO				LR	LR		
	comp=Z,1µm,21.0s,MS5.4						
WCI	Wyandotte Cave	98.63	33	PFAKE		02 19 50.0	+13
WCI				LR	LR		
	comp=Z,925nm,20.0s,MS5.3						
ESDC	Sonseca Array	98.87	330	LR	LR	03 09 46.3	
	comp=Z,1µm,18.4s,MS5.5,baz=70,slow=39						
WVL	Waterville	99.11	19	PFAKE		02 19 50.0	+11
WVL				LR	LR		
	comp=Z,6µm,19.0s,MS6.1						
BINY	Binghamton	99.34	24	PFAKE		02 19 50.0	+10
BINY				LR	LR		
	comp=Z,932nm,21.0s,MS5.3						
NATX	Nacogdoches	99.41	42	PFAKE		02 19 50.0	+9.3
NATX				LR	LR		
	comp=Z,627nm,19.0s,MS5.1						
EMMW	East Machias	99.55	17	PFAKE		02 19 50.0	+9.0
EMMW				LR	LR		
	comp=Z,5µm,19.0s,MS6.0						
WVT	Waverly	99.61	35	PFAKE		02 19 50.0	+8.5
WVT				LR	LR		
	comp=Z,1µm,20.0s,MS5.3						
SSPA	Standing Stone	100.05	26	PFAKE		02 19 50.0	+6.6
SSPA				LR	LR		
	comp=Z,1µm,20.0s,MS5.5						
OXF	Oxford	100.11	37	PFAKE		02 20 00.0	+16
OXF				LR	LR		
	comp=Z,811nm,21.0s,MS5.2						
MCWV	Mont Chateau	100.16	28	PFAKE		02 20 00.0	+16
MCWV				LR	LR		
	comp=Z,1µm,20.0s,MS5.4						
HRV	Harvard--Oak R	100.47	21	PFAKE		02 20 00.0	+15
HRV				LR	LR		
	comp=Z,1µm,19.0s,MS5.4						
WES	Weston	100.66	21	PFAKE		02 20 00.0	+14
WES				LR	LR		
	comp=Z,2µm,19.0s,MS5.6						
CASY	Casey	101.06	190	PFAKE		02 20 00.0	+13
CASY				LR	LR		
	comp=Z,863nm,20.0s,MS5.3						
BLA	Blacksburg	102.03	29	PFAKE		02 20 00.0	+7.6
BLA				LR	LR		
	comp=Z,1µm,21.0s,MS5.4						
MYNC	Murphy	102.21	33	PFAKE		02 20 00.0	+6.8
MYNC				LR	LR		
	comp=Z,651nm,21.0s,MS5.1						
CBN	Corbin	102.37	27	PFAKE		02 20 10.0	+16
CBN				LR	LR		
	comp=Z,1µm,20.0s,MS5.4						
LRAL	Lakeview Retre	102.50	36	PFAKE		02 20 10.0	+15
LRAL				LR	LR		
	comp=Z,1µm,21.0s,MS5.4						
MBAR	Mbarara	103.53	278	PFAKE		02 20 10.0	+10
MBAR				LR	LR		
	comp=Z,261nm,19.0s,MS4.8						
NHSC	New Hope	105.63	31	PFAKE		02 24 30.0	
NHSC				LR	LR		
	comp=Z,1µm,21.0s,MS5.5						
DWPF	Disney	109.27	35	PFAKE		02 24 40.0	
DWPF				LR	LR		
	comp=Z,1µm,21.0s,MS5.5						
BBSR	BB Station	111.88	19	PFAKE		02 24 40.0	+3.6
BBSR				LR	LR		
	comp=Z,982nm,19.0s,MS5.4						
SBA	Scott Base	112.18	173	PFAKE		02 24 40.0	+4.0
SBA				LR	LR		
	comp=Z,271nm,19.0s,MS4.9						
LSZ	Lusaka	113.40	267	PFAKE		02 24 50.0	+10
LSZ				LR	LR		
	comp=Z,774nm,19.0s,MS5.3						
JTS	JuntasAbangare	121.50	50	PFAKE		02 25 00.0	+4.4
JTS				LR	LR		
	comp=Z,143nm,19.0s,MS4.6						
QSPA	South Pole Qui	122.85	180	ePKP	PKPdf	02 24 52.5	-4.1
SYO	Syowa Base	122.92	205	⇓pPdiff	Pdif	02 21 30.6	+7.1
TSUM	Tsumeb	124.16	268	PFAKE		02 25 10.0	+9.4
TSUM				LR	LR		
	comp=Z,917nm,22.0s,MS5.4						
SJG	San Juan	124.66	26	PFAKE		02 25 10.0	+8.4
SJG				LR	LR		
	comp=Z,972nm,20.0s,MS5.5						
DBIC	Dimbokro	126.07	310	PKP	PKPdf	02 24 59.5	-5.0
	comp=Z,2.0nm,0.8s,baz=282,slow=21,SNR=3.7						
SDV	Santo Domingo	130.89	37	ePKPdf	PKPdf	02 25 09.7	-4.0
SDV				LR	LR		
	comp=Z,587nm,21.0s,MS5.3						
OTAV	Otavalo	133.28	52	PFAKE		02 25 30.0	+12
OTAV				LR	LR		
	comp=Z,308nm,20.0s,MS5.0						
SNAA	Sanae	135.81	197	⇓iP	Pdif	02 22 26.3	+6.2
SNAA	Sanae	135.81	197	e	PKPdf	02 25 19.0	-2.4
SNAA	Sanae	135.81	197	e	PP	02 28 03.6	+4.5
SNAA	Sanae	135.81	197	ePKIKP	PKPdf	02 25 14.3	-7.1
VNA2	Neumayer--Watz	137.42	197	⇑iP	Pdif	02 22 29.5	+2.3
VNA2	Neumayer--Watz	137.42	197	e	PKPdf	02 25 21.7	-2.6
VNA2	Neumayer--Watz	137.42	197	e	PP	02 28 07.1	-2.0
VNA3	Neumayer Olymp	137.72	196	⇑iP	Pdif	02 22 26.7	-1.8
VNA3	Neumayer Olymp	137.72	196	e	PKPdf	02 25 19.8	-5.1
VNA3	Neumayer Olymp	137.72	196	e	PP	02 28 05.3	-5.9
VNA1	Neumayer--Stat	137.82	197	e	PP	02 28 08.9	-3.0
SAML	Samuel	149.85	42	ePKPdf	PKPdf	02 25 45.7	-1.5
SAML				ePKPbc	PKPdf	02 25 49.9	+2.6
SAML				ePKPab	PKPab	02 25 54.9	-0.2
SAML				LR	LR		
	comp=Z,563nm,21.0s,MS5.3						
RCBR	Riachuelo	151.97	344	PFAKE		02 26 00.0	+10
RCBR				LR	LR		
	comp=Z,604nm,20.0s,MS5.4						
USHA	Ushuaia	152.08	149	PKPbc	PKPdf	02 25 53.0	+3.6
	comp=Z,15nm,0.8s,baz=336,slow=3.9,SNR=5.5						
LPAZ	La Paz	152.15	59	PKP	PKPdf	02 25 48.6	-1.9
	comp=Z,2.9nm,0.8s,baz=34,slow=10,SNR=5.1						
LPAZ				PKPbc	PKPdf	02 25 56.4	+5.8
	comp=Z,4.9nm,0.8s,baz=295,slow=4.1,SNR=12						
LPAZ	La Paz	152.15	59	PKIKP	PKPdf	02 25 48.6	-2.0
LPAZ						02 25 56.4	
LPAZ				pmax	pmax		
	comp=Z,3.0nm,0.8s						
LVC	Limon Verde	155.26	72	PFAKE		02 26 00.0	+5.3
LVC				LR	LR		
	comp=Z,579nm,22.0s,MS5.4						
TRQA	Tornquist	164.16	113	PFAKE		02 26 10.0	+5.7
TRQA				LR	LR		
	comp=Z,722nm,19.0s						

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*JMA **10** 02:10:33.0±0.1, 33.07N×136.66E, h37^{km}±3^{km}, M3.7*
*IDC **10** 02:10:35.0±1.2, 33.80N×136.70E, mb4.0/8, mb1 4.2/8, mb1mx4.0/18, Error ellipse: s-maj=46.6km s-min=24.9km az=64.0*
*NEIC **10** 02:10:36.4±0.7, 33.82N×136.85E, h10^{km}, mb4.4/4, Error ellipse: s-maj=23.8km s-min=14.3km az=45.0*
ISC 10 02:10:33.6±1.4**, 33.15N**±0.06×**136.64E**±0.06**, h21**^{km}±7^{km}**, n21,** σ**0**^{s}**65**/30**, mb4.1**/11**, 1C, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JWZ	Kozaga	0.86	296	P	Pb	02 10 49.6	-0.1
JWZ				eS	Sb	02 11 01.4	+0.7
JKN	Kiinagashima	1.14	344	P	Pb	02 10 54.0	-0.4
JKN				eS	Sb	02 11 08.9	+0.1
JIE	Ise	1.24	3	P	Pn	02 10 55.6	-0.3
JIE				eS	Sb	02 11 11.5	-0.2
JWM	Minabe	1.28	303	P	Pn	02 10 56.1	-0.4
JWM				eS	Sb	02 11 12.9	+0.1
JWY	Kouya	1.38	321	P	Pn	02 10 57.9	0.0
JWY				eS	Sn	02 11 16.0	+0.5
TSUJ	Tsu 2	1.56	353	P	Pn	02 11 00.2	-0.4
TSUJ				eS	Sn	02 11 20.3	-0.1
JHE	Heguri	1.69	332	⇑P	Pn	02 11 02.6	+0.2
JHE				eS	Sn	02 11 24.0	+0.3
JAJ2	Tsuna	1.93	311	P	Pn	02 11 05.9	+0.1
JAJ2				eS	Sn	02 11 30.0	+0.3
JAI	Aioi	1.94	290	P	Pn	02 11 05.3	-0.6
JAI				eS	Sn	02 11 28.5	-1.3
BJT	Baijiatuau	17.79	298	P	P	02 14 43.5	+1.9
	10nm,0.6s						
SONM	Songino Array	27.07	312	P	P	02 16 15.6	-0.8
	3.1nm,1.0s,mb3.8,baz=122,slow=10.0,SNR=3.2						
MKAR	Makanchi Array	42.99	305	P	P	02 18 33.6	+0.7
	2.1nm,0.6s,mb4.0,baz=90,slow=9.0,SNR=4.9						
KURK	Kurchatov	45.36	311	eP	P	02 18 51.8	-0.3
	8.0nm,1.1s,mb4.5						
BVAR	Borovoye Array	50.37	314	P	P	02 19 30.9	-0.1
	2.0nm,0.6s,mb4.3,baz=101,slow=7.6,SNR=4.2						
BRVK	Borovoye	50.43	314	eP	P	02 19 31.1	-0.4
	3.8nm,0.8s,mb4.5						
ZRNK	Zerenda	51.21	314	eP	P	02 19 36.8	-0.6
	3.8nm,0.8s,mb4.4						
WRA	Warramunga Arr	52.84	183	P	P	02 19 57.2	+7.0
	0.6nm,0.6s,mb3.7,baz=360,slow=7.8,SNR=12						
ARCES	ARCESS Array B	66.23	339	P	P	02 21 20.9	-0.8
	2.3nm,0.8s,mb4.3,baz=56,slow=4.4,SNR=4.4						
FINES	FINESS Array B	70.38	331	P	P	02 21 47.0	-0.6
	0.6nm,0.6s,mb3.7,baz=45,slow=8.1,SNR=4.0						
BRTR	Keskin Array B	78.41	310	P	P	02 22 35.1	+0.9
	0.8nm,0.9s,mb3.6,baz=27,slow=6.4,SNR=2.3						
TXAR	Lajitas Array	95.60	50	P	P	02 24 00.5	+1.6
	0.8nm,0.7s,mb4.2,baz=307,slow=4.5,SNR=4.0						

JMA 10 02:11:11.4±0.2**, 33.02N**×**136.67E, h32**^{km}±5^{km}**, M3.7, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JWZ	Kozaga	0.95	303	P	Pn	02 11 28.4	-0.2
JWZ				eS	Sn	02 11 41.3	+0.2
JKN	Kiinagashima	1.27	345	P	Pn	02 11 33.4	+0.2
JKN				eS	Sn	02 11 48.9	-0.4
JIE	Ise	1.37	1	P	Pn	02 11 34.8	+0.2
JIE				eS	Sn	02 11 51.7	-0.1
JWM	Minabe	1.38	307	P	Pn	02 11 35.0	+0.3
JWM				eS	Sn	02 11 52.1	+0.1
JWY	Kouya	1.50	323	P	Pn	02 11 37.2	+0.8
JWY				eS	Sn	02 11 55.9	+0.9
TK04	Tokai 4	1.69	36	eS	Sn	02 11 59.6	-0.4
JHE	Heguri	1.82	334	P	Pn	02 11 42.4	+1.3
JHE				eS	Sn	02 12 03.9	+0.5
JAJ2	Tsuna	2.04	314	P	Pn	02 11 45.3	+1.0
JAJ2				eS	Sn	02 12 09.7	+0.8

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*JMA **10** 02:13:41.5±0.4, 25.08N×122.23E, h21^{km}, M2.9*
*TAP **10** 02:13:42.2, 24.44N×121.92E, h14^{km}, ML3.3*
TAP Felt III J at Nanau.
ISC 10 02:13:40.7±0.6**, 24.40N**±0.03×**122.06E**±0.02**, h6**^{km}±4^{km}**, n28,** σ**0**^{s}**97**/54**, 2C, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TWC	Suao	0.29	318	i P	Pg	02 13 47.3	+0.7
TWC				S	Sg	02 13 50.7	+0.2
ENA	Nanau	0.29	276	⇑iP	Pg	02 13 46.8	+0.1
ENA				S	Sg	02 13 50.2	-0.5
ILA	Ilan	0.47	322	eP	Pg	02 13 50.2	+0.1
ILA				S	Sg	02 13 56.9	+0.6
TWE	Neicheng	0.48	312	⇑iP	Pg	02 13 50.6	+0.2
TWE				S	Sg	02 13 56.3	-0.7
TWD	Chiawan	0.53	234	eP	Pg	02 13 50.8	-0.5
TWD				S	Sg	02 14 00.8	+2.3
TWB1	Santiao Chiao	0.61	354	eP	Pg	02 13 53.9	+0.9
TWB1				S	Sg	02 14 01.6	+0.4
NNS	Nan Shan	0.63	274	P	Pg	02 13 52.5	-0.8
NNS				S	Sg	02 14 00.1	-1.7
NSK	Sanguang	0.70	294	eP	Pg	02 13 54.2	-0.6
NSK				S	Sg	02 14 02.1	-2.0
NWF	Wu-fen Shan	0.72	339	eP	Pg	02 13 55.8	+0.6
NWF				S	Sg	02 14 04.8	+0.1
TWA	Mucha	0.73	323	eP	Pg	02 13 55.7	+0.4
TWA				S	Sg	02 14 04.5	-0.5
ESL	Shilin	0.82	225	eP	Pb	02 13 56.2	-0.7
ESL				S	Sb	02 14 08.8	+0.9
YOJ	Yonaguni jima	0.87	85	P	Pb	02 13 58.7	+0.9
YOJ				S	Sb	02 14 11.1	+1.7
TWS1	Kuangyinshan	0.92	320	eP	Pb	02 13 59.5	+0.9
TWS1				S	Sb	02 14 11.5	+0.7
TWY	Chenhua	0.97	334	eP	Pb	02 14 00.6	+1.0
NSTT	Nanjuang	1.00	284	eP	Pb	02 13 59.6	-0.3
NSTT				S	Sb	02 14 11.4	-1.7
EHY	Hungye	1.11	218	eP	Pb	02 14 00.9	-1.0
EHY				S	Sb	02 14 15.2	-1.4
SMLT	Sun Moon Lake	1.18	245	eP	Pb	02 14 03.1	0.0
SMLT				S	Sb	02 14 19.7	+1.3
TYC	Yuchr	1.21	246	eP	Pb	02 14 03.3	-0.2
TYC				S	Sb	02 14 19.7	+0.5
TWF1	Yuli	1.25	214	eP	Pb	02 14 02.5	-1.9
TWF1				S	Sb	02 14 20.9	+0.3
CHN5	Tsauling	1.50	238	eP	Pn	02 14 08.6	+0.4
CHN5				S	Sb	02 14 29.4	+1.8
IRIF	Iriomote-Funau	1.52	92	P	Pn	02 14 08.2	-0.4
IRIF				S	Sb	02 14 27.4	-1.0
ELDTW	Lidau	1.54	219	eP	Pn	02 14 08.4	-0.4
HATJ	Hateruma jima	1.63	102	P	Pn	02 14 12.0	+1.9
HATJ				eS	Sb	02 14 32.1	+0.7
WTP	Ta-pu	1.75	230	eP	Pn	02 14 12.4	+0.5
WTP				S	Sn	02 14 35.8	+1.1
JKRS	Kuro-shima	1.78	95	P	Pn	02 14 12.4	+0.1
JKRS				S	Sn	02 14 34.8	-0.7
CHN1	Nanshi	1.85	230	eP	Pn	02 14 13.7	+0.3
CHN1				S	Sn	02 14 36.9	-0.4
JIJ	Ishigaki jima	1.90	91	P	Pn	02 14 13.1	-0.9
JIJ				S	Sn	02 14 36.3	-2.1
JTJ	Tarama	2.42	84	P	Pn	02 14 21.6	+0.2
JTJ				S	Sn	02 14 50.1	-1.5

JMA 10 02:18:32.1±0.1**, 33.01N**×**136.68E, h42**^{km}±4^{km}**, M3.5, 6C, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JWZ	Kozaga	0.96	303	⇑P	P	02 18 49.2	-0.1
JWZ				S	S	02 19 01.8	-0.2
JKN	Kiinagashima	1.28	344	P	P	02 18 53.9	0.0
JKN				eS	S	02 19 09.3	-0.9
TK02	Tokai 2	1.30	44	eS	S	02 19 09.6	-1.0
JIE	Ise	1.38	1	⇑P	P	02 18 55.4	+0.1
JIE				eS	S	02 19 11.3	-1.3
JWM	Minabe	1.39	307	P	P	02 18 55.6	+0.1
JWM				eS	S	02 19 12.7	-0.1
JWY	Kouya	1.51	323	⇑P	P	02 18 57.9	+0.8

JWY				eS	S	02 19 16.2	+0.4
TK04	Tokai 4	1.69	36	eS	S	02 19 19.4	-1.0
TSUJ	Tsu 2	1.71	353	P	P	02 19 00.3	+0.3
TSUJ				eS	S	02 19 20.5	-0.3
JHE	Heguri	1.84	333	⇑P	P	02 19 02.3	+0.5
JHE				eS	S	02 19 24.4	+0.5
JAI	Aioi	2.02	293	⇑P	P	02 19 04.5	+0.1
JAI				eS	S	02 19 28.6	0.0
JAJ2	Tsuna	2.05	314	⇑P	P	02 19 05.6	+0.8
JAJ2				eS	S	02 19 29.5	+0.1

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*IDC **10** 02:24:22.1±1.6, 7.36S×144.84E, mb4.0/3, mb1 4.2/5, mb1mx4.0/9, ML4.0/2, Error ellipse: s-maj=51.0km s-min=25.3km az=116.0*

*NEIC **10** 02:24:27.2±0.7, 7.43S×144.77E, h35^{km}, mb3.9/2, Error ellipse: s-maj=15.1km s-min=10.3km az=138.0*

ISC 10 02:24:21.5±8.3**, 7.4S**±0.2×**144.7E**±0.1**, h4**^{km}±56^{km}**, n13, σ0**^{s}**.67**/14**, mb4.0**/3**, 1C, Near south coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WAU	Wau	2.00	89	⇑iP	Pn	02 24 56.8	+0.3
CTA	Charters Tower	12.71	173	Pn	P	02 27 26.1	+0.1
	0.7nm,0.3s,baz=352,slow=15,SNR=5.5						
CTAO	Charters Tower	12.71	173	eP	P	02 27 25.2	-0.8
KAKA	Kakadu	13.20	245	eP	P	02 27 32.2	-0.3
	12nm,0.5s						
WRAB	Tennant Creek	16.00	218	eP	P	02 28 08.5	-0.7
	6.1nm,0.6s						
WB2	Warramunga Arr	16.01	218	eP	P	02 28 09.7	+0.4
WRA	Warramunga Arr	16.02	218	Pn	P	02 28 09.2	-0.3
	0.6nm,0.3s,baz=38,slow=12,SNR=36						
WRA				Sn	S	02 31 01.0	-6.7
	0.3nm,0.3s,baz=40,slow=22,SNR=4.3						
WRA				Lg		02 32 55.5	
	0.2nm,0.3s,baz=41,slow=23,SNR=4.0						
ASPA	Alice Springs	19.22	211	eP	P	02 28 50.5	+1.3
FITZ	Fitzroy Crossi	21.39	238	eP	P	02 29 13.0	+0.4
	4.8nm,1.1s,mb3.7						
FITZ	Fitzroy Crossi	21.39	238	P	P	02 29 12.2	-0.4
	1.6nm,1.0s,mb3.3,baz=31,slow=9.5,SNR=4.4						
MKAR	Makanchi Array	77.13	321	P	P	02 36 18.8	+0.8
	1.6nm,0.7s,mb4.0,baz=106,slow=7.0,SNR=12						
ILAR	Eielson Array	87.66	24	P	P	02 37 11.0	-1.1
	2.0nm,0.8s,mb4.4,baz=245,slow=5.1,SNR=19						
DAWY	Dawson	90.49	25	eP	P	02 37 25.6	+0.1

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*IDC **10** 02:28:32.9±1.0, 56.30S×25.71W, mb4.3/4, mb1 4.3/4, mb1mx4.1/9, Error ellipse: s-maj=50.4km s-min=24.1km az=43.0*

*NEIC **10** 02:28:34.6±0.5, 56.25S×25.85W, h10^{km}, mb4.5/7, MS4.0/1, Error ellipse: s-maj=19.2km s-min=8.3km az=59.0*

ISC 10 02:28:39.9±4.2**, 56.4S**±0.1×**26.0W**±0.3**, h70**^{km}±42^{km}**, n18, σ0**^{s}**.95**/15**, mb4.4**/9**, 4C, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	16.25	159	⇑i	P	02 32 25.1	+0.6
VNA3	Neumayer Olymp	16.47	161	⇑i	P	02 32 28.0	+0.7
VNA2	Neumayer--Watz	16.64	159	⇑i	P	02 32 29.9	+0.4
SNAA	Sanae	18.18	157	⇑i	P	02 32 46.8	-1.7
SNAA	Sanae	18.18	157	eP	P	02 32 46.0	-2.5
	6.7nm,0.9s						
PMSA	Palmer Station	20.21	230	eP	P	02 33 10.2	-0.8
	16nm,0.8s						
TRQA	Tornquist	30.07	292	P	P	02 34 43.4	-1.1
	18nm,1.6s,mb4.5						
QSPA	South Pole Qui	33.88	180	eP	P	02 35 17.7	+0.5
	19nm,0.7s,mb5.0						
QSPA				e		02 36 14.4	
QSPA				LR	LR		
	comp=Z,300nm,22.0s						
CPUP	Villa Florida	37.54	310	P	P	02 35 48.0	-0.7
	comp=Z,3.6nm,1.0s,mb4.2,baz=168,slow=6.9,SNR=6.5						
MAW	Mawson	39.48	143	P	P	02 36 04.4	-0.1
	comp=Z,1.4nm,0.6s,mb4.0,baz=267,slow=8.7,SNR=8.5						
SBA	Scott Base	45.81	184	eP	P	02 36 55.4	-0.2
	comp=Z,2.2nm,0.6s,mb4.1						
LVC	Limon Verde	46.05	299	eP	P	02 36 59.5	+1.3
	comp=Z,7.0nm,0.6s,mb4.6						
LPAZ	La Paz	51.12	304	P	P	02 37 39.5	+2.0
	comp=Z,3.6nm,0.3s,mb4.8,baz=171,slow=5.5,SNR=22						
SAML	Samuel	55.51	314	eP	P	02 38 09.7	-0.3
	comp=Z,3.2nm,1.0s,mb4.3						
DBIC	Dimbokro	65.18	23	P	P	02 39 15.3	-0.5
	comp=Z,1.9nm,0.8s,mb4.0,baz=150,slow=7.0,SNR=5.1						
SONM	Songino Array	150.07	86	PKPbc	PKPdf	02 48 23.0	+6.8
	comp=Z,2.0nm,0.6s,baz=212,slow=3.0,SNR=6.2						
ILAR	Eielson Array	150.84	311	PKPbc	PKPdf	02 48 25.3	+8.4
	comp=Z,4.7nm,1.0s,baz=123,slow=1.4,SNR=28						
MCK	McKinley	151.50	309	ePKPbc	PKPdf	02 48 27.1	+9.2

KRSC 10 02:53:30.6±0.5**, 48.09N**×**152.33E, h578**^{km}±14^{km}**, ML4.4, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RUS	Russkaya	5.88	40	P	P	02 55 09.9	-0.3
RUS				S	S	02 56 21.7	-7.6
RUS	Russkaya	5.88	40	eP	P	02 55 09.9	-0.3
RUS				eS	S	02 56 21.8	-7.5
UGLR	Uglovaya	6.58	36	eP	P	02 55 17.4	+1.0
UGLR				eS	S	02 56 35.2	-5.4
AVH	Avacha	6.59	36	eP	P	02 55 15.2	-1.3
AVH				eS	S	02 56 32.4	-8.3
SMAR	Somma	6.61	36	eP	P	02 55 16.1	-0.6
SMAR				eS	S	02 56 33.0	-8.1
GNL	Ganaly	6.64	30	eP	P	02 55 16.4	-0.6
SDLR	Sedlovina	6.66	36	eP	P	02 55 18.2	+1.1
SDLR				eS	S	02 56 37.1	-4.7
SPN	Mys Shipunski	7.01	41	P	P	02 55 19.8	-0.5
SPN				S	S	02 56 39.8	-7.9
SPN	Mys Shipunski	7.01	41	eP	P	02 55 19.6	-0.7
SPN				eS	S	02 56 39.6	-8.1
TUMR	Tumrok	8.68	31	eP	P	02 55 36.4	0.0
TUMR				eS	S	02 57 08.1	-8.9
MKZ	Mys Kozlova	8.74	39	P	P	02 55 37.6	+0.6
MKZ				S	S	02 57 10.2	-7.9
MKZ	Mys Kozlova	8.74	39	eP	P	02 55 37.4	+0.4
MKZ				eS	S	02 57 10.1	-8.0
KMNR	Kamenistaya	9.09	29	eP	P	02 55 41.5	+1.1
KMNR				eS	S	02 57 16.9	-7.4
ZLN	Zelenaya	9.49	30	eP	P	02 55 44.5	+0.2
ZLN				eS	S	02 57 22.5	-9.0
LGNR	Loginova	9.51	30	eP	P	02 55 44.7	+0.4
LGNR				eS	S	02 57 22.2	-9.4
CIRR	Tsirk	9.55	30	eP	P	02 55 43.4	-1.4
CIRR				eS	S	02 57 20.1	-12
KBTR	Krutoberegovo	10.36	34	eP	P	02 55 52.7	-0.1
KBTR				eS	S	02 57 36.3	-11

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*HEL **10** 03:14:02.5±0.3, 67.83N×20.01E, ML1.9, ML1.7(BER), Explosion*

*BER **10** 03:14:03.9±2.1, 67.82N×20.15E, ML1.7, Suspected explosion*

ISC 10 03:14:01.0±0.6**, 67.82N**±0.03×**20.1E**±0.1**, n12, σ1**^{s}**.22**/22**, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KIF	Kilpisjarvi	1.23	13	eP	Pb	03 14 24.3	-0.4
KIF				eS	Sb	03 14 40.4	-0.5
KTK1	Kautokeino	1.68	43	eP	Pn	03 14 32.5	+0.7
KTK1				eSN	Sn	03 14 55.9	+1.5
KTK1				AML	AML	03 14 59.1	
	comp=Z,9.0nm,0.3s						
TRO	Tromso	1.87	348	eP	Pn	03 14 35.5	+1.0
TRO				eSG	Sg	03 15 01.2	-2.1
TRO				AML	AML	03 15 04.4	
	comp=Z,11nm,0.4s						
LOF	Lofoten	2.48	280	e	Sg	03 15 23.6	+0.1
LOF	Lofoten	2.48	280	eSg	Sg	03 15 23.6	+0.1
SGF	Sodankyl	2.50	96	eP	Pn	03 14 45.2	+1.6
SGF				eS	Sn	03 15 15.2	0.0
MOR8	Moi Rana	2.76	236	eSG	Sg	03 15 25.1	-7.7
MOR8				AML	AML	03 15 27.0	
	comp=Z,16nm,0.4s						
KEV	Kevo	3.19	49	eP	Pn	03 14 53.7	+0.3
KEV				eS	Sn	03 15 32.2	-0.4
OUL	Oulu	3.60	137	eP	Pn	03 15 00.5	+1.2
OUL				eS	Sn	03 15 41.8	-1.4
OUL				MSG		03 15 59.0	
	comp=Z,3.5nm,0.3s						
MSF	Maaselka	4.03	114	eP	Pn	03 15 06.2	+1.0
MSF				eS	Sn	03 15 51.7	-2.2
MSF				eSG	Sg	03 16 06.9	-8.1
NSS	Namsos	4.65	229	eSG	Sg	03 16 29.1	-6.7
KJN	Kajaani	4.88	137	eP	Pn	03 15 16.7	-0.7
KJN				eS	Sn	03 16 11.8	-3.6
KJN				eSB	Sb	03 16 27.9	+0.9
KJN				MSG		03 16 31.8	
	comp=Z,1.1nm,0.2s						

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*IDC **10** 03:23:20.6±0.8, 15.02S×173.49W, mb4.1/7, mb1 4.3/7, mb1mx4.3/10, MS3.9/2, Ms1 3.9/2, ms1mx3.6/10, Error ellipse: s-maj=44.3km s-min=20.7km az=131.0*

*NEIC **10** 03:23:24.6±0.2, 15.03S×173.52W, mb4.4/13, MS4.4/1, Error ellipse: s-maj=15.1km s-min=6.6km az=126.0*

ISC 10 03:23:23.0±0.4**, 15.0S**±0.1×**173.6W**±0.2**, h25**^{km}**, h25**^{km}±.9^{km}**:pP-P, n38, σ0**^{s}**.55**/27**, mb4.2**/20**, MS4.1**/3**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	24.57	198	P	P	03 28 42.8	+0.5
	4.7nm,0.6s,mb4.2,baz=127,slow=5.1,SNR=4.7						
URZ				LR	LR	03 36 58.4	
	comp=Z,290nm,18.4s,MS3.8,baz=182,slow=33						
STKA	Stephens Creek	44.07	240	P	P	03 31 30.8	-0.2
	2.4nm,0.6s,mb4.1,baz=93,slow=11,SNR=6.0						
STKA	Stephens Creek	44.07	240	P	P	03 31 30.8	-0.2
WRA	Warramunga Arr	49.75	256	P	P	03 32 15.2	-0.6
	0.6nm,0.5s,mb3.9,baz=95,slow=6.2,SNR=13						
SBA	Scott Base	63.62	185	P	P	03 33 52.5	-1.2
	2.6nm,0.6s,mb4.4						
QSPA	South Pole Qui	75.02	180	eP	P	03 35 04.1	+0.4
	4.4nm,0.8s,mb4.4						
QSPA				LR	LR		
	comp=Z,190nm,19.9s,MS4.4						
WVOR	Wild Horse Val	76.25	39	eP	P	03 35 11.1	-0.3
	comp=Z,4.1nm,1.1s,mb4.3						
TUC	Tucson	76.29	51	eP	P	03 35 11.2	-0.6
	comp=Z,1.2nm,0.7s,mb3.9						
ELK	Elko	77.42	42	eP	P	03 35 17.5	-0.4
	comp=Z,2.2nm,1.0s,mb4.0						
MVU	Marysvale	78.26	45	eP	P	03 35 22.4	-0.2
	comp=Z,0.8nm,0.4s,mb4.0						
HLID	Hailey	79.45	39	eP	P	03 35 29.3	+0.3
	comp=Z,3.3nm,0.9s,mb4.3						
HLID				e	pP	03 35 37.3	+0.4
PV10	Paradox Valley	80.38	46	eP	P	03 35 33.9	-0.1
PV10				epP	pP	03 35 42.0	0.0
TXAR	Lajitas Array	80.55	56	P	P	03 35 34.6	-0.5
	comp=Z,0.6nm,0.8s,mb3.6,baz=211,slow=7.3,SNR=6.3						
PV01	Paradox Valley	80.59	46	P	P	03 35 35.2	0.0
ANMO	Albuquerque	80.70	50	eP	P	03 35 36.3	+0.5
	comp=Z,1.6nm,0.8s,mb4.0						
MCK	McKinley	80.78	11	eP	P	03 35 35.7	0.0
	comp=Z,5.6nm,0.8s,mb4.5						
MCMT	McKenzie Canyo	81.07	39	eP	P	03 35 37.6	+0.1
MCMT				epP	pP	03 35 46.3	+0.8
GDL2	Guadalupe Moun	81.14	53	eP	P	03 35 38.8	+0.6
TPAW	Teton Pass	81.57	41	eP	P	03 35 40.7	+0.5
TPAW				epP	pP	03 35 48.9	+0.7
COLA	College	82.02	11	eP	P	03 35 41.8	-0.2
	comp=Z,12nm,0.8s,mb4.9						
BW06	Boulder Array	82.11	42	eP	P	03 35 42.2	-0.7
	comp=Z,4.1nm,1.1s,mb4.3						
BW06				epP	pP	03 35 50.6	-0.3
PDAR	Pinedale Array	82.11	42	P	P	03 35 42.5	-0.5
	comp=Z,0.9nm,0.8s,mb3.8,baz=230,slow=2.0,SNR=9.9						
ILAR	Eielson Array	82.11	11	P	P	03 35 42.5	0.0
	comp=Z,1.7nm,0.7s,mb4.1,baz=211,slow=5.3,SNR=24						
IMA	Indian Mountai	82.21	8	eP	P	03 35 44.5	+1.5
BOZ	Bozeman (W)	82.23	39	eP	P	03 35 43.5	-0.1
	comp=Z,4.1nm,1.1s,mb4.3						
BOZ				epP	pP	03 35 51.6	0.0
SDCO	Great Sand Dun	82.59	48	eP	P	03 35 46.0	+0.4
	comp=Z,4.8nm,1.4s,mb4.3						
SDCO				epP	pP	03 35 52.4	-1.3
MAW	Mawson	88.09	199	P	P	03 36 13.1	+0.8
	comp=Z,1.7nm,0.6s,mb4.5,baz=141,slow=7.7,SNR=9.1						
MAW				LR	LR	04 10 33.0	
	comp=Z,64nm,20.6s,MS4.0,baz=245,slow=32						
KHC	Kasperske Hory	145.48	352	ePKP	PKPdf	03 43 02.0	-1.6
GERES	GERESS Array B	145.74	351	PKPbc	PKPbc	03 43 01.9	+1.7
	comp=Z,1.1nm,0.8s,slow=1.3,SNR=7.8						
BRTR	Keskin Array B	145.75	321	PKPbc	PKPbc	03 43 02.6	+2.1
	comp=Z,2.8nm,0.9s,baz=81,slow=2.4,SNR=6.7						
CDF	Champ du Feu	146.69	359	ePKP1	PKPbc	03 43 03.9	+1.5
	comp=Z,9.7nm,0.8s						
HAU	Haudompre	147.11	0	ePKP1	PKPdf	03 43 05.1	-1.3
LOR	Lormes	147.78	3	ePKP1	PKPdf	03 43 05.8	-1.7
SSF	Saint Saulge	147.96	4	ePKP1	PKPdf	03 43 06.9	-0.9
	comp=Z,15nm,1.1s						
AVF	Avril sur Loir	148.22	4	ePKP1	PKPdf	03 43 07.7	-0.5
CABF	La Chapelle	148.50	0	ePKP1	PKPdf	03 43 08.6	0.0
LPL	La Plagne	149.60	360	ePKP1	PKPdf	03 43 12.0	+1.6
	comp=Z,3.3nm,0.7s						
LPG	La Plagne	149.62	360	ePKP1	PKPdf	03 43 12.1	+1.6
	comp=Z,5.0nm,0.9s						

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*LDG **10** 03:27:17.5±0.1, 49.36N×6.92E, h1^{km}, Md2.8/1, Ml2.6/4, Error ellipse: s-maj=3.3km s-min=1.4km az=88.0, Suspected Mining induced.*

*NEIC **10** 03:27:17.7, 49.34N×6.90E, h1^{km}, ML2.6(LDG), ML2.1(STR), After STR.*

*BGR **10** 03:27:17.0±0.3, 49.39N×6.92E, h1^{km}, ML1.5/1, Error ellipse: s-maj=4.4km s-min=2.2km az=59.0*

*BNS **10** 03:27:18.7±0.4, 49.41N×7.19E, h1^{km}, ML1.3*

ISC 10 03:27:15.7±0.4**, 49.36N**±0.02×**6.88E**±0.05**, n24, σ0**^{s}**.71**/47**, Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WLF	Walferdange	0.57	303	ePg	Pg	03 27 28.6	+1.5
	SNR=5.2						
WLF				eSg	Sg	03 27 34.6	0.0
	SNR=2.7						
WLF	Walferdange	0.57	303	ePg	Pg	03 27 27.4	+0.4
LANF	Langenberg	0.71	122	ePg	Pg	03 27 30.1	+0.2
	SNR=4.2						
LANF	Langenberg	0.71	122	Pg	Pg	03 27 30.3	+0.4
BGG	Burgeitz	0.90	19	ePg	Pg	03 27 34.0	+0.3
BGG				eSg	Sg	03 27 45.1	-0.5
	15nm,0.7s						
CDF	Champ du Feu	0.98	165	ePg	Pg	03 27 35.4	+0.1
CDF				ePn	Pn	03 27 36.3	-0.2
CDF				eSg	Sg	03 27 48.3	-0.1
	12nm,0.2s						
WLS	Welschbruch	0.99	162	ePg	Pg	03 27 36.4	+0.8
	SNR=7.1						
WLS				eSg	Sg	03 27 50.3	+1.5
	SNR=2.5						
WLS	Welschbruch	0.99	162	Pg	Pg	03 27 36.7	+1.1
WLS				Sg	Sg	03 27 50.8	+2.0
ECH	Echery	1.16	171	ePg	Pg	03 27 39.5	+0.7
	SNR=7.0						
ECH				eSg	Sg	03 27 54.5	+0.2
	SNR=4.0						
ECH	Echery	1.16	171	Pg	Pg	03 27 39.5	+0.7
ECH				Sg	Sg	03 27 54.6	+0.4
STB	Steinbach	1.24	359	ePg	Pg	03 27 41.1	+0.6
STB				eSg	Sg	03 27 57.8	+0.8
	7.8nm,0.9s						
THEF	They Montfort	1.28	208	ePg	Pg	03 27 41.4	+0.2
	SNR=2.3						
THEF				eSg	Sg	03 27 58.4	+0.1
	SNR=3.4						
THEF	They Montfort	1.28	208	Pg	Pg	03 27 41.3	+0.1
THEF				Sg	Sg	03 27 58.8	+0.5
LIBD	Limburg	1.30	158	ePg	Pg	03 27 42.7	+1.0
	SNR=2.3						
KLL	Kalltalsperre	1.34	344	ePg	Pg	03 27 42.7	+0.2
KLL				eSg	Sg	03 28 00.1	-0.3
	3.6nm,1.0s						
HAU	Haudompre	1.40	195	ePg	Pg	03 27 43.4	-0.2
HAU				eSg	Sg	03 28 01.0	-1.3
	6.3nm,0.2s						
BFO	Black Forest	1.40	137	ePn	Pn	03 27 42.6	0.0
	SNR=7.3						
BFO				ePg	Pg	03 27 43.7	0.0
	SNR=4.0						
BFO				eSg	Sg	03 28 01.0	-1.5
	SNR=2.9						
BFO	Black Forest	1.40	137	ePn	Pn	03 27 42.6	0.0
BFO				ePg	Pg	03 27 43.7	0.0
BFO				eSg	Sg	03 28 01.0	-1.4
MOF	Molkenrain	1.52	174	ePg	Pg	03 27 45.9	-0.1
	SNR=5.6						
MOF				eSg	Sg	03 28 06.0	-0.2
	SNR=2.8						
MOF	Molkenrain	1.52	174	Pg	Pg	03 27 45.8	-0.2
MOF				Sg	Sg	03 28 06.3	+0.1
HGN	Heimansgroeve	1.54	337	ePg	Pg	03 27 45.8	-0.6
	SNR=2.2						
HGN				eSg	Sg	03 28 05.3	-1.6
	SNR=1.6						
HINF	Hinteralfeld	1.54	181	ePg	Pg	03 27 46.2	-0.3
HINF				eSg	Sg	03 28 06.5	-0.6
	14nm,0.3s						
FELD	Feldberg	1.66	153	ePg	Pg	03 27 48.7	-0.1
	SNR=3.7						
FELD				eSg	Sg	03 28 09.8	-1.1
	SNR=5.0						
FELD	Feldberg	1.66	153	Pg	Pg	03 27 48.5	-0.3
FELD				Sg	Sg	03 28 10.2	-0.7

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*MDD **10** 03:42:58.6±0.5, 37.44N×7.44W, h12^{km}±1^{km}, mbLg1.4/5, Error ellipse: s-maj=6.2km s-min=4.1km az=21.0, PRXIMO*

*INMG **10** 03:42:58.7±0.9, 37.46N×7.43W, h10^{km}±2^{km}, ML1.1, Error ellipse: s-maj=2.4km s-min=1.9km az=7.0*

ISC 10 03:42:57.6±0.8**, 37.46N**±0.06×**7.39W**±0.05**, h11**^{km}±4^{km}**, n12, σ0**^{s}**.85**/17**, 1D, Portugal**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PALC	Alcoutim	0.07	275	i Pg	Pg	03 43 00.4	+0.5
PALC				eSg	Sg	03 43 02.1	+0.7
	47nm,0.1s						
PALC	Alcoutim	0.07	275	⇓Pg	Pg	03 43 00.4	+0.5
PALC				Lg		03 43 02.1	
	24nm,0.1s						
EGRO	El Granado	0.10	316	Pg	Pg	03 43 01.2	+0.8
	16nm,0.2s,SNR=73						
EGRO				Lg		03 43 03.3	
	38nm,0.0s,SNR=7.9						
EMIN	Mina Concepcio	0.65	61	Pg	Pg	03 43 11.2	+0.6
	0.7nm,0.4s,SNR=32						
EMIN				Lg		03 43 20.5	
	1.1nm,0.1s						
PBEJ	Beja	0.68	327	ePg	Pg	03 43 10.7	-0.6
PBEJ				eSg	Sg	03 43 19.8	-0.6
	5.0nm,0.1s						
PBEJ	Beja	0.68	327	Pg	Pg	03 43 10.7	-0.6
PBEJ				Lg		03 43 19.8	
	2.5nm,0.1s						
PTEO	Sao Teotonio	1.06	275	eP	Pb	03 43 17.6	+0.1
PTEO				eS	Sb	03 43 30.9	-0.4
	3.7nm,0.2s						
PTEO	Sao Teotonio	1.06	275	P	Pb	03 43 17.6	+0.1
PTEO				S	Sb	03 43 30.9	-0.4
	1.9nm,0.2s						
MOE	Montemor	1.30	325	eP	Pb	03 43 21.6	-0.1
MOE				eS	Sb	03 43 38.9	+0.6
EBAD	Badajoz	1.33	13	Pg	Pg	03 43 22.9	-1.3
	1.0nm,0.6s,SNR=5.6						
EBAD				Lg		03 43 41.1	
	0.9nm,0.1s,SNR=19						
ESPR	Espera	1.36	115	Pg	Pg	03 43 22.9	-1.9
	SNR=7.9						
ESPR				Lg		03 43 42.7	
	0.5nm,0.1s,SNR=7.9						
EADA	Adamuz	2.34	72	Sn	Sn	03 44 06.9	+1.3
	1.0nm,0.5s,SNR=6.6						

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*LDG **10** 04:06:04.9±0.6, 51.75N×16.16E, h1^{km}, Ml3.7/7, Error ellipse: s-maj=23.3km s-min=10.6km az=158.0, Suspected Mining induced.*

*NEIC **10** 04:06:04.7±0.4, 51.58N×16.08E, h5^{km}, ML3.3(VIE), ML3.3(SZGRF), ML2.8(CLL), ML2.8(BRG), Error ellipse: s-maj=5.5km s-min=4.2km az=217.0*

*BGR **10** 04:06:04.7±0.7, 51.55N×16.12E, h1^{km}, ML3.3/8, Error ellipse: s-maj=13.3km s-min=5.6km az=166.0*

*PRU **10** 04:06:06.0, 51.48N×16.06E*

*WAR **10** 04:06:06, 51.49N×16.05E, ML3.2, Mining Induced*

*IDC **10** 04:06:06.1±0.6, 51.50N×15.94E, mb1 3.5/9, mb1mx3.4/21, ML3.4/9, Error ellipse: s-maj=9.9km s-min=6.0km az=109.0*

ISC 10 04:06:03.4±0.3**, 51.46N**±0.02×**16.05E**±0.02**, n68, σ1**^{s}**.33**/124**, 5C-1D, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	Ksiaz	0.64	166	i PG	Pg	04 06 18.4	+2.2
KSP				eSG	Sg	04 06 26.4	+1.7
KSP	Ksiaz	0.64	166	i Pg	Pg	04 06 18.4	+2.2
KSP				eSg	Sg	04 06 26.1	+1.4
KSP				e		04 06 27.4	
KSP				e		04 06 32.3	
UPC	Upice	0.96	181	ePG	Pg	04 06 24.3	+1.8
DPC	Dobruska-Polom	1.13	171	ePG	Pg	04 06 27.2	+1.3
DPC				eSG	Sg	04 06 41.5	+0.6
	60nm,0.3s						
PVCC	Panska Ves	1.32	226	ePG	Pg	04 06 31.0	+1.2
BRG	Berggiesshubel	1.45	247	ePn	Pn	04 06 32.1	+1.2
BRG				eSg	Sg	04 06 53.5	+1.8
BRG	Berggiesshubel	1.45	247	i Pn	Pn	04 06 32.1	+1.2
BRG				i Pg	Pg	04 06 33.5	+1.1
BRG				i Sg	Sg	04 06 53.5	+1.8
RUE	Ruedersdorf	1.73	307	ePg	Pg	04 06 35.5	-2.5
RUE				eSg	Sg	04 07 02.2	+1.1
RUE	Ruedersdorf	1.73	307	ePg	Pg	04 06 35.5	-2.5
RUE				eSg	Sg	04 07 02.2	+1.1
PRU	Pruhonice	1.76	214	PN	Pn	04 06 36.5	+1.2
PRU				PG	Pg	04 06 38.5	0.0
PRU				i x	x	04 06 43.3	
PRU				ex	x	04 06 55.8	
PRU				SN	Sn	04 06 57.7	-1.1
PRU				eSG	Sg	04 06 59.7	-2.3
	59nm,0.4s						
CLL	Collm	1.92	266	ePn	Pn	04 06 38.4	+0.9
CLL				eSg	Sg	04 07 07.0	-0.1
CLL	Collm	1.92	266	ePN	Pn	04 06 38.0	+0.5
CLL				i PG	Pg	04 06 41.1	-0.5
CLL				i		04 06 45.6	
CLL				i SG	Sg	04 07 07.0	-0.1
CLL	Collm	1.92	266	ePn	Pn	04 06 38.0	+0.5
CLL				i Pg	Pg	04 06 41.1	-0.5
CLL				i Sg	Sg	04 07 07.0	-0.1
MORC	Moravsky Berou	1.94	150	ePn	Pn	04 06 38.1	+0.3
MORC				eSn	Sn	04 07 04.0	+0.7
RAC	Raciborz	1.94	135	eP	Pn	04 06 43.0	+5.1
RAC				eS	Sn	04 07 08.0	+4.7
GKP	Gorka Klasztor	1.95	21	ePg	Pg	04 06 48.0	+5.7
GKP				eSg	Sg	04 07 09.3	+1.0
OKC	Ostrava-Krasne	2.11	140	ePG	Pg	04 06 44.8	-0.6
OKC				eSG	Sg	04 07 11.8	-1.7
VRAC	Vranov	2.19	171	Pn	Pn	04 06 43.6	+2.2
	3.8nm,0.3s,baz=330,slow=15,SNR=12						
VRAC				Pg	Pg	04 06 49.7	+2.7
	5.1nm,0.3s,baz=345,slow=17,SNR=12						
VRAC				Lg		04 07 15.0	
	6.9nm,0.3s,baz=61,slow=21,SNR=12						
TANN	Tannenbergstha	2.50	247	ePn	Pn	04 06 47.9	+2.0
TANN				eSg	Sg	04 07 26.6	0.0
WERD	Werda	2.58	248	ePn	Pn	04 06 48.3	+1.3
NKC	Novy Kostel	2.59	243	ePN	Pn	04 06 48.9	+1.6
NKC				ePG	Pg	04 06 55.8	+0.7
NKC				eSG	Sg	04 07 28.9	-0.8
GUNZ	Gunzen	2.60	246	ePn	Pn	04 06 48.8	+1.5
GUNZ				eSg	Sg	04 07 28.7	-1.2
OJC	Ojcow	2.68	116	ePN	Pn	04 06 48.0	-0.5
OJC				ePG	Pg	04 06 56.0	-0.9
OJC				eSN	Sn	04 07 20.0	-2.2
OJC				eSG	Sg	04 07 32.0	-0.7
OJC	Ojcow	2.68	116	ePn	Pn	04 06 47.9	-0.6
OJC				ePg	Pg	04 06 56.3	-0.6
OJC				eSn	Sn	04 07 20.3	-1.9
OJC				eSg	Sg	04 07 31.9	-0.8

KHC	**Kasperske Hory**	**2.82**	**215**	*e*PN	**Pn**	**04 06 51.0**	**+0.5**
KHC				*e*PG	**Pg**	**04 06 58.0**	**-1.7**
KHC				*e*SG	**Sg**	**04 07 37.0**	**-0.3**
MOX	**Moxa**	**2.92**	**255**	*e*Pn	**Pn**	**04 06 53.0**	**+1.2**
MOX				*e*Sg	**Sg**	**04 07 40.3**	**-0.1**
MOX	**Moxa**	**2.92**	**255**	*i* P	**Pn**	**04 06 52.7**	**+0.8**
MOX				Pg	**Pg**	**04 07 01.0**	**-0.6**
MOX				Sg	**Sg**	**04 07 40.0**	**-0.4**
MOX	**Moxa**	**2.92**	**255**	*e*Pn	**Pn**	**04 06 52.7**	**+0.8**
MOX				*e*Pg	**Pg**	**04 07 00.7**	**-0.9**
MOX				*e*Sg	**Sg**	**04 07 40.4**	**0.0**
GEC2	**GERESS Array S**	**3.03**	**211**	*e*Pn	**Pn**	**04 06 55.4**	**+2.0**
GEC2	**GERESS Array S**	**3.03**	**211**	*e*Pn	**Pn**	**04 06 55.4**	**+2.0**
GERES	**GERESS Array B**	**3.03**	**211**	Pn	**Pn**	**04 06 54.9**	**+1.5**
	2.7nm,0.3s,baz=29,slow=12,SNR=77						
GERES				Pg	**Pg**	**04 07 01.7**	**-2.1**
	7.4nm,0.3s,baz=30,slow=17,SNR=36						
GERES				Sn	**Sn**	**04 07 32.5**	**+1.6**
	3.6nm,0.3s,baz=24,slow=26,SNR=7.7						
GERES				Lg		04 07 39.7	
	5.0nm,0.3s,baz=36,slow=27,SNR=7.2						
SMOL	**Smolenice**	**3.08**	**163**	*e*SG	**Sg**	**04 07 46.0**	**-0.1**
WET	**Wettzell**	**3.09**	**222**	*e*Pn	**Pn**	**04 06 55.7**	**+1.4**
WET	**Wettzell**	**3.09**	**222**	*e*Pn	**Pn**	**04 06 55.7**	**+1.4**
VKA	**Vienna**	**3.21**	**177**	⇓*i*PG	**Pg**	**04 07 06.4**	**-1.0**
VKA				*i* SG	**Sg**	**04 07 49.6**	**-0.5**
ZST	**Bratislava**	**3.34**	**168**	*e*SG	**Sg**	**04 07 55.4**	**+0.8**
VYHS	**Vyhne**	**3.48**	**148**	*e*PN	**Pn**	**04 07 00.7**	**+0.9**
VYHS				*e*PG	**Pg**	**04 07 12.0**	**-0.7**
GRA1	**Grafenberg Arr**	**3.55**	**242**	*e*Pn	**Pn**	**04 07 02.2**	**+1.3**
GRA1				*e*Sg	**Sg**	**04 07 59.1**	**-2.5**
GRF	**Grafenberg Arr**	**3.55**	**242**	*e*Pn	**Pn**	**04 07 02.2**	**+1.4**
GRF				*e*Sg	**Sg**	**04 07 59.1**	**-2.5**
MOA	**Molln**	**3.80**	**198**	⇑*i*PN	**Pn**	**04 07 05.8**	**+1.4**
MOA				*i* SG	**Sg**	**04 08 09.4**	**-0.4**
	28nm,0.6s						
ARSA	**Arzberg**	**4.23**	**185**	⇑*i*PN	**Pn**	**04 07 11.8**	**+1.2**
ARSA				*i* SG	**Sg**	**04 08 20.0**	**-4.2**
	30nm,0.8s						
CRVS	**Cervenica-Dubn**	**4.32**	**124**	*e*PN	**Pn**	**04 07 14.0**	**+2.2**
CRVS				*e*PG	**Pg**	**04 07 28.3**	**-1.3**
CRVS				*e*SG	**Sg**	**04 08 25.7**	**-1.5**
KWP	**Kalwaria**	**4.62**	**111**	*e*Pn	**Pn**	**04 07 15.8**	**-0.3**
KBA	**Koelnbreinsper**	**4.73**	**203**	⇑*i*PN	**Pn**	**04 07 19.1**	**+1.4**
KBA				*i* SG	**Sg**	**04 08 39.5**	**-1.4**
	14nm,0.6s						
DAVA	**Damuels**	**5.80**	**226**	⇑*i*PN	**Pn**	**04 07 32.6**	**-0.2**
DAVA				*i* SG	**Sg**	**04 09 15.4**	**-1.2**
	9.8nm,0.6s						
DAVA	**Damuels**	**5.80**	**226**	⇑*i*Pn	**Pn**	**04 07 32.6**	**-0.2**
	9.8nm,0.6s						
DAVA				*i* Sg	**Sg**	**04 09 15.4**	**-1.2**
DAVOX	**Davos**	**6.19**	**223**	Pn	**Pn**	**04 07 39.4**	**+1.1**
	0.4nm,0.3s,baz=14,slow=18,SNR=4.3						
DAVOX				Lg		04 09 20.5	
	0.4nm,0.3s,baz=246,slow=19,SNR=2.5						
CDF	**Champ du Feu**	**6.43**	**245**	*e*Pn	**Pn**	**04 07 41.3**	**-0.4**
CDF				*e*Sg	**Sg**	**04 09 30.7**	**-6.9**
	28nm,0.9s						
HINF	**Hinteralfeld**	**7.00**	**242**	*e*Pn	**Pn**	**04 07 48.3**	**-1.3**
HINF				*e*Sg	**Sg**	**04 09 49.0**	**-7.3**
	9.6nm,0.7s						
HAU	**Haudompre**	**7.18**	**245**	*e*Pn	**Pn**	**04 07 50.1**	**-2.0**
HAU				*e*Sg	**Sg**	**04 09 55.1**	**-7.2**
	12nm,0.8s						
BAIF	**Baives**	**7.64**	**264**	*e*Pn	**Pn**	**04 07 57.3**	**-1.4**
CABF	**La Chapelle**	**8.15**	**237**	*e*Sg	**Sg**	**04 10 25.7**	**-8.9**
	40nm,1.3s						
AKASG	**Malin Array Be**	**8.33**	**90**	Pn	**P**	**04 08 05.2**	**-3.1**
	1.4nm,0.3s,baz=280,slow=12,SNR=6.0						
AKASG				Sn	**Sn**	**04 09 36.3**	**-8.0**
	0.5nm,0.3s,baz=250,slow=20,SNR=3.1						
LPL	**La Plagne**	**8.58**	**230**	*e*Pn	**P**	**04 08 12.1**	**+0.4**
LPG	**La Plagne**	**8.59**	**230**	*e*Pn	**P**	**04 08 12.1**	**+0.3**
HFS	**Hagfors**	**8.79**	**352**	Pn	**P**	**04 08 11.2**	**-3.4**
	0.1nm,0.3s,baz=168,slow=14,SNR=6.0						
LOR	**Lormes**	**8.99**	**247**	*e*Pn	**P**	**04 08 15.4**	**-2.1**
MBDF	**Montbardon**	**9.16**	**226**	*e*Pn	**P**	**04 08 19.8**	**0.0**
SSF	**Saint Saulge**	**9.31**	**247**	*e*Pn	**P**	**04 08 19.2**	**-2.6**
ORIF	**Oris-en-Rattie**	**9.43**	**230**	*e*Pn	**P**	**04 08 22.9**	**-0.6**
AVF	**Avril sur Loir**	**9.54**	**246**	*e*Sg	**Sg**	**04 11 09.4**	**-12**
	12nm,1.0s						
SBF	**Sospel**	**9.56**	**221**	*e*Pn	**P**	**04 08 24.4**	**-0.9**
NOA	**NORSAR Array B**	**9.96**	**346**	Pn	**P**	**04 08 26.5**	**-4.2**
	0.2nm,0.3s,baz=167,slow=14,SNR=2.7						
NOA	**NORSAR Array B**	**9.96**	**346**	Pn	**P**	**04 08 26.5**	**-4.2**
FRF	**La Foret Royal**	**10.14**	**222**	*e*Pn	**P**	**04 08 32.4**	**-0.8**
FINES	**FINESS Array B**	**11.42**	**25**	Pn	**P**	**04 08 46.2**	**-4.4**
	0.3nm,0.3s,baz=204,slow=12,SNR=10						
FINES				Sn	**S**	**04 10 48.5**	**-12**
	0.3nm,0.3s,baz=207,slow=22,SNR=4.2						
EKA	**Eskdalemuir Ar**	**12.09**	**296**	Pn	**P**	**04 08 56.8**	**-3.0**
	0.2nm,0.3s,baz=102,slow=13,SNR=2.9						
ARCES	**ARCESS Array B**	**18.68**	**10**	Pn	**P**	**04 10 19.8**	**-4.8**
	0.4nm,0.3s,baz=189,slow=14,SNR=11						

NIED ***10*** *04:22:00,42.30N×143.10E,h53*^{km}*,Mw4.9 Best double couple:* $M_0 2.77\times10^{16}$ *NP1:*ϕ_s*28°,δ68°,λ69°. NP2:*ϕ_s*254°, δ30°,λ132°.*

BJI ***10*** *04:22:08.1,42.21N×143.01E,h57*^{km}*,mB5.4,mb5.4, Ms4.4,Msz4.2*

BGS ***10*** *04:22:10.2±2.2,42.39N×142.95E,h52*^{km}*,mb5.5*

NEIC ***10*** *04:22:10.1±0.1,42.39N×142.95E,mb5.2/147, MW4.9(NIED),Error ellipse: s-maj=3.7km s-min=2.7km az=160.0*

NEIC Recorded [3 JMA] in south-central Hokkaido; [2 JMA] in central and southwestern Hokkaido; [1 JMA] in eastern Hokkaido. Also recorded [2 JMA] in Aomori and [1 JMA] in Iwate and Miyagi Prefectures, Honshu.

HRVD ***10*** *04:22:10.1±0.5,42.24N×143.20E,h64*^{km}*±2*^{km}*,MW5.0/57, Centroid moment Tensor Solution. LP body waves: s30,c38;Mantle waves: s57,c91; Half duration: 0 Moment tensor: Scale 10*^{16}*Nm;* M_{rr}*3.07±.18;* $M_{\theta\theta}$*-1.13±.18;* $M_{\phi\phi}$*-1.94±.18;* $M_{r\theta}$*0.23±.11;* $M_{\theta\phi}$*-1.90±.12;* $M_{\phi r}$*1.19±.09; Best double couple:* $M_0 3.5\times10^{16}$ *NP1:*ϕ_s*230°,δ37°,λ108°. NP2:*ϕ_s*28°,δ55°,λ77°. Principal axes: T 3.35, Plg76°, Azm258°; N .3, Plg11°, Azm36°; P -3.65, Plg9°, Azm128°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

SYO ***10*** *04:22:10.0,42.39N×142.94E,h52*^{km}*,MB5.0*

IDC ***10*** *04:22:10.2±0.7,42.38N×143.02E,h51*^{km}*±5*^{km}*,mb4.8/20, mb1 5.0/24,mb1mx5.0/25,MS4.0/12,Ms1 4.0/12, ms1mx3.9/18,Error ellipse: s-maj=14.0km s-min=11.0km az=131.0*

SKHL ***10*** *04:22:11.9±0.7,42.50N×143.00E,h90*^{km}*±20*^{km}*,mb5.6/7, mbh6.4/1,mbv6.0/5,ms4.1/2,msh6.2/2,msha6.8/2*

JMA ***10*** *04:22:11.3±0.1,42.36N×143.10E,h51*^{km}*±1*^{km}*,M5.1 Broadband fault plane solution: P waves. NP1:*ϕ_s*254°, δ38°,λ127°. NP2:*ϕ_s*30°,δ60°,λ65°. Principal axes: T Plg65°, Azm255°; N Plg22°, Azm43°; P Plg12°, Azm138°;*

JMA Felt III J1.

MOS ***10*** *04:22:12.8±0.8,42.60N×142.96E,h79*^{km}*,mb5.6/31 Error ellipse: s-maj=11.4km s-min=6.2km az=110.1*

ISC 10 04:22:09.8±0.2**,42.30N**±0.02×**143.04E**±0.02**,h64**^{km}±1^{km}**, h52**^{km}±1.3^{km}**:pP-P,n626,**σ**0**^{s}**86**/635**,mb5.3**/203**,134C-32D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JNBK	**Urakawa-nobuka**	**0.22**	**265**	⇓P	**P**	**04 22 20.2**	**+0.4**
JNBK				*e*S	**S**	**04 22 27.4**	**+0.2**
JEM	**Erimo**	**0.29**	**163**	⇑P	**P**	**04 22 21.1**	**+0.7**
JEM				*e*S	**S**	**04 22 29.2**	**+1.1**
JCH	**Churui**	**0.40**	**37**	⇑P	**P**	**04 22 20.6**	**-0.6**
JCH				*e*S	**S**	**04 22 27.9**	**-1.7**
JBT2	**Biratori 2**	**0.69**	**314**	⇓P	**P**	**04 22 25.3**	**+1.0**
JBT2				*e*S	**S**	**04 22 36.7**	**+1.5**
JOB	**Onbets**	**0.84**	**44**	⇑P	**P**	**04 22 26.7**	**+0.6**
JOB				*e*S	**S**	**04 22 38.4**	**+0.1**
JFR	**Furan**	**0.93**	**339**	⇓P	**P**	**04 22 26.6**	**-0.6**
JFR				*e*S	**S**	**04 22 38.9**	**-1.3**
JAR	**Ashorobuto**	**1.13**	**28**	⇑P	**P**	**04 22 29.8**	**-0.2**
JAR				*e*S	**S**	**04 22 43.8**	**-1.2**
JEW	**Eniwo**	**1.29**	**295**	⇓P	**P**	**04 22 33.8**	**+1.5**
JEW				*e*S	**S**	**04 22 52.2**	**+3.3**
JAB	**Ashibetsu**	**1.35**	**334**	⇓P	**P**	**04 22 34.1**	**+1.0**
JAK	**Akkeshi**	**1.41**	**60**	⇑P	**P**	**04 22 33.3**	**-0.5**
JAK				*e*S	**S**	**04 22 51.3**	**-0.3**
JNB	**Noboribetsu**	**1.50**	**277**	⇓P	**P**	**04 22 35.5**	**+0.5**
JKB	**Kayabe**	**1.55**	**255**	⇑P	**P**	**04 22 36.9**	**+1.1**
JKK2	**Kamakawa 2**	**1.59**	**352**	⇓P	**P**	**04 22 36.7**	**+0.4**
JMP	**Maruseppu**	**1.72**	**8**	⇓P	**P**	**04 22 38.5**	**+0.4**
JHR	**Hokuryu**	**1.74**	**327**	⇓P	**P**	**04 22 40.0**	**+1.7**
JOT	**Ohata**	**1.75**	**239**	⇑P	**P**	**04 22 39.5**	**+1.0**
JNK	**Nakash**	**1.78**	**43**	⇑P	**P**	**04 22 38.4**	**-0.5**
JTKR	**Abashiri--Toko**	**1.79**	**20**	⇓P	**P**	**04 22 39.4**	**+0.4**
ASAJ	**Asahikawa**	**1.85**	**350**	P	**P**	**04 22 39.8**	**0.0**
	483nm,0.3s,baz=226,slow=9.8,SNR=303						
ASAJ				S	**S**	**04 22 56.6**	**-5.4**
	767nm,0.3s,baz=210,slow=15,SNR=12						
ASAJ	**Asahikawa**	**1.85**	**350**	⇓P	**P**	**04 22 40.5**	**+0.7**
ASAJ	**Asahikawa**	**1.85**	**350**	PN	**P**	**04 22 39.8**	**0.0**
ASAJ				S	**S**	**04 22 56.6**	**-5.4**
ASAJ				pmax	pmax		
	comp=Z,483nm,0.3s						
JYM2	**Yakumo 2**	**1.99**	**266**	⇓P	**P**	**04 22 43.1**	**+1.2**
JSR	**Shiriuchi**	**2.10**	**249**	⇑P	**P**	**04 22 44.5**	**+1.1**
JTM	**Tenmabayashi**	**2.12**	**225**	⇑P	**P**	**04 22 44.6**	**+1.0**
JSK	**Shakotan**	**2.16**	**300**	⇓P	**P**	**04 22 45.0**	**+0.8**
JRA	**Rausu**	**2.24**	**42**	⇑P	**P**	**04 22 45.5**	**+0.2**
JSH	**Shimam**	**2.24**	**280**	⇓P	**P**	**04 22 46.5**	**+1.1**
NEM2	**Nemuro 2**	**2.25**	**61**	P	**P**	**04 22 43.7**	**-1.9**
JSS	**Shosan**	**2.27**	**338**	⇓P	**P**	**04 22 47.4**	**+1.6**
JSI2	**Shiura 2**	**2.33**	**239**	⇑P	**P**	**04 22 47.9**	**+1.3**
JYG	**Yagishiri**	**2.43**	**332**	⇓P	**P**	**04 22 48.7**	**+0.6**
JKZ	**Kuzumaki**	**2.65**	**210**	⇑P	**P**	**04 22 51.4**	**+0.3**
JOSM	**Okushiri--Mats**	**2.66**	**267**	P	**P**	**04 22 52.0**	**+0.7**
JSE	**Soyaes**	**2.68**	**353**	⇓P	**P**	**04 22 51.9**	**+0.3**
YUK	**Yuzh-Kuril’sk**	**2.69**	**49**	*e*P	**P**	**04 22 51.5**	**-0.3**
YUK				AMB	AMB	04 22 57.1	
	comp=Z,2µm,0.3s						
YUK				AMB	AMB	04 22 57.1	
	comp=Z,2µm,0.3s						
YUK				AMB	AMB	04 22 57.1	
	comp=Z,4µm,0.3s						
YUK				AMB	AMB	04 22 57.3	
	comp=Z,5µm,1.0s						
YUK				AMB	AMB	04 22 57.3	
	comp=Z,4µm,1.0s						
YUK				AMB	AMB	04 22 57.3	
	comp=Z,6µm,1.0s						
YUK				*i* S	**S**	**04 23 21.5**	**-1.8**
YUK				A		04 23 24.0	
	comp=Z,29µm,2.0s						
YUK				A		04 23 24.0	
	comp=Z,21µm,2.0s						
YUK				A		04 23 30.1	
	comp=Z,11µm,0.3s						
YUK				A		04 23 30.1	
	comp=Z,6µm,0.3s						
YUK	**Yuzh-Kuril’sk**	**2.69**	**49**	*e*PN	**P**	**04 22 51.5**	**-0.3**
YUK				*i* S	**S**	**04 23 21.5**	**-1.8**
YUK				pmax	pmax		
	comp=N,2µm,0.3s						
YUK				pmax	pmax		
	comp=E,2µm,0.3s						
YUK				pmax	pmax		
	comp=Z,4µm,0.3s						
YUK				pmax	pmax		
	comp=N,5µm,2.0s						
YUK				pmax	pmax		
	comp=Z,6µm,2.0s						
YUK				pmax	pmax		
	comp=E,4µm,0.9s						
YUK				smax			
	comp=N,20µm,1.5s						
YUK				smax			
	comp=E,21µm,2.0s						
YUK				smax			
	comp=N,11µm,0.3s						
YUK				smax			
	comp=E,6µm,0.3s						
JAH	**Hinai**	**2.78**	**222**	⇑P	**P**	**04 22 53.6**	**+0.6**
JIW	**Iwasaki**	**2.85**	**234**	⇑P	**P**	**04 22 54.7**	**+0.7**
JOM	**Ohasama**	**3.12**	**206**	P	**P**	**04 22 57.6**	**-0.2**
OFUJ	**Ofunato**	**3.38**	**198**	⇓P	**P**	**04 23 00.5**	**-0.9**
JRG	**Rokugo**	**3.43**	**213**	⇑P	**P**	**04 23 02.4**	**+0.3**
JYW	**Yuwa**	**3.49**	**219**	P	**P**	**04 23 03.8**	**+0.8**
JYK	**Kaneyama**	**3.95**	**212**	⇑P	**P**	**04 23 09.3**	**0.0**
JIO	**Ouri**	**4.05**	**199**	P	**P**	**04 23 09.3**	**-1.5**
KUR	**Kuril’sk**	**4.56**	**48**	*e*P	**P**	**04 23 17.5**	**-0.5**
KUR				AMB	AMB	04 23 19.0	
	comp=E,2µm,1.0s						
KUR				AMB	AMB	04 23 20.0	
	comp=E,377nm,1.0s						
KUR				AMB	AMB	04 23 20.0	
	comp=E,2µm,1.0s						
KUR				*e*S	**S**	**04 24 10.0**	**-0.2**
KUR				A		04 24 12.0	
	comp=E,13µm,2.0s						
KUR				A		04 24 12.0	
	comp=E,6µm,2.0s						
KUR				A		04 24 17.5	
	comp=E,3µm,1.0s						
KUR				A		04 24 17.5	
	comp=E,2µm,1.0s						
KUR	**Kuril’sk**	**4.56**	**48**	*e*PN	**P**	**04 23 17.5**	**-0.5**
KUR				*e*S	**S**	**04 24 10.0**	**-0.2**
KUR				pmax	pmax		
	comp=Z,2µm,1.0s						
KUR				pmax	pmax		
	comp=N,380nm,1.0s						
KUR				pmax	pmax		
	comp=E,380nm,1.0s						
KUR				pmax	pmax		
	comp=Z,2µm,1.0s						
KUR				smax			
	comp=N,13µm,2.0s						
KUR				smax			
	comp=E,6µm,2.0s						
KUR				smax			
	comp=N,3µm,1.0s						
KUR				smax			
	comp=E,2µm,1.0s						
YSS	**Yuzh-Sakhalins**	**4.66**	**358**	⇑*i*P	**P**	**04 23 19.8**	**+0.5**
YSS				⇑*i*P		04 23 19.8	
YSS				AMB	AMB	04 23 21.0	
	comp=E,260nm,0.9s						
YSS				*i* S	**S**	**04 24 10.0**	**-2.6**
YSS				A		04 24 11.0	
	comp=E,370nm,1.0s						
YSS				A		04 24 11.0	
	comp=E,180nm,1.0s						
YSS				*e*LQ		04 24 49.0	
YSS				AMS	AMS	04 25 34.0	
	comp=E,1µm,12.0s						
YSS				AMS	AMS	04 25 34.0	
	comp=E,1µm,10.0s						
YSS	**Yuzh-Sakhalins**	**4.66**	**358**	α *i*PN	**P**	**04 23 19.8**	**+0.5**
YSS				*i* S	**S**	**04 24 10.0**	**-2.6**
YSS				pmax	pmax		
	comp=Z,260nm,0.9s						
YSS				smax			
	comp=N,370nm,1.0s						
YSS				smax			
	comp=E,180nm,1.0s						
YSS				MLR	MLR		
	comp=Z,1µm,12.0s						
YSS				MLR	MLR		
	comp=N,1µm,10.0s						
YSS	**Yuzh-Sakhalins**	**4.66**	**358**	*e*Pn	**P**	**04 23 18.9**	**-0.5**
JAW	**Awa shima**	**4.81**	**218**	P	**P**	**04 23 21.7**	**+0.3**
TEY	**Ternei**	**5.41**	**303**	*e*P	**P**	**04 23 29.0**	**-0.7**
TEY				AMB	AMB	04 23 30.5	
	comp=N,230nm,1.5s						
TEY				AMB	AMB	04 23 30.5	
	comp=N,150nm,1.0s						
TEY				AMS	AMS	04 24 33.0	
	comp=N,3µm,19.0s						
JSD	**Sado**	**5.61**	**222**	P	**P**	**04 23 32.9**	**+0.4**
JHG	**Hegura jima**	**6.46**	**229**	P	**P**	**04 23 45.1**	**+0.7**
JAG	**Ashikaga**	**6.49**	**207**	P	**P**	**04 23 43.2**	**-1.6**
UGL	**Uglegorsk**	**6.81**	**355**	⇑*i*P	**P**	**04 23 48.6**	**-0.7**
UGL				⇑*i*P		04 23 49.0	
UGL				AMB	AMB	04 23 51.5	
	comp=N,200nm,0.7s						
UGL				AMB	AMB	04 23 51.5	
	comp=N,210nm,0.7s						
UGL				AMB	AMB	04 23 51.5	
	comp=N,470nm,0.7s						
UGL				AMB	AMB	04 23 52.0	
	comp=N,700nm,0.8s						
UGL				AMS	AMS	04 27 34.0	
	comp=N,1µm,15.0s						
UGL				AMS	AMS	04 27 34.0	
	comp=N,700nm,16.0s						
UGL				AMS	AMS	04 27 34.0	
	comp=N,500nm,16.0s						
MAJO	**Matsushiro**	**6.86**	**215**	*e*Pn	**P**	**04 23 48.7**	**-1.2**
	comp=N,122nm,0.4s						
MAT	**Matsushiro**	**6.86**	**215**	P	**P**	**04 23 49.2**	**-0.7**
MAT				S	**S**	**04 25 06.4**	**-0.9**
MAT	**Matsushiro**	**6.86**	**215**	*e*P	**P**	**04 23 49.0**	**-0.9**
	comp=N,106nm,0.5s						
MAT				*e*S	**S**	**04 25 06.0**	**-1.3**
JNG	**Nsakai**	**7.02**	**215**	P	**P**	**04 23 51.8**	**-0.4**
VLA	**Vladivostok**	**8.25**	**279**	⇓*i*PN	**P**	**04 24 08.0**	**-1.1**
VLA				*e*S	**S**	**04 25 41.0**	**-0.8**
VLA				pmax	pmax		
	comp=N,500nm,6.0s						
VLA				pmax	pmax		
	comp=Z,500nm,6.0s						
VLA				pmax	pmax		
	comp=E,700nm,5.6s						
VLA				smax			
	comp=Z,500nm,4.4s						
VLA				MLR	MLR		
	comp=Z,2µm,14.0s						
VLA				MLR	MLR		
	comp=N,700nm,9.0s						
VLA				MLR	MLR		
	comp=E,1µm,15.0s						
TYV	**Tymovskoe**	**8.57**	**358**	*e*P	**P**	**04 24 13.0**	**-0.5**
TYV				AMB	AMB	04 24 18.9	
	comp=E,117nm,0.9s						
TYV				AMS	AMS	04 29 14.0	
	comp=E,2µm,18.0s						
JHJ	**Hachijo jima 2**	**9.52**	**197**	P	**P**	**04 24 21.9**	**-4.5**
	comp=E,109nm,0.3s,baz=162,slow=1.4,SNR=15						
JHJ				S	**S**	**04 26 02.3**	**-11**
	comp=E,81nm,0.3s,baz=90,slow=20,SNR=6.6						
JHJ				LR	LR	04 28 58.8	
	comp=E,536nm,18.9s,baz=102,slow=43						
MDJ	**Mudanjiang**	**10.05**	**288**	P	**P**	**04 24 34.7**	**+1.0**
MDJ				AP		04 24 37.5	
MDJ				S	**S**	**04 26 28.4**	**+2.6**
MDJ				AMB	AMB		
	comp=Z,70nm,0.8s						
MDJ				AMB	AMB		
	comp=Z,234nm,4.6s						
MDJ				LR	LR		
	comp=N,434nm,9.2s						
MDJ				LR	LR		
	comp=E,803nm,18.3s						
MDJ				LR	LR		
	comp=Z,2µm,22.9s						
MDJ	**Mudanjiang**	**10.05**	**288**	*e*Pn	**P**	**04 24 34.2**	**+0.6**
	comp=Z,59nm,0.8s						
KLR	**Kul’dur**	**10.49**	**315**	*e*PN	**P**	**04 24 40.0**	**+0.3**
KLR				*e*		04 26 34.5	
KLR				MLR	MLR		
	comp=N,1µm,11.0s						
KLR				MLR	MLR		
	comp=E,700nm,11.0s						
KLR				MLR	MLR		
	comp=Z,2µm,11.0s						
NKL	**Nikolayevsk**	**10.97**	**353**	*e*P	**P**	**04 24 44.0**	**-2.1**
NKL				AMB	AMB	04 24 46.0	
	comp=Z,170nm,1.0s						
NKL				AMB	AMB	04 24 46.0	
	comp=Z,310nm,1.0s						
NKL				AMB	AMB	04 24 47.0	
	comp=Z,700nm,2.0s						
NKL				*e*L		04 28 04.0	
NKL				AMS	AMS	04 29 37.0	
	comp=Z,1µm,18.0s						
NKL				AMS	AMS	04 29 37.0	
	comp=Z,1µm,19.0s						
SKR	**Severo-Kuril’s**	**12.29**	**43**	*e*rx	rx	04 28 49.0	
JTY	**Toyota**	**12.36**	**233**	P	**P**	**04 25 05.2**	**+0.5**
JFA	**Akaike**	**12.90**	**232**	P	**P**	**04 25 11.5**	**-0.5**
CN2	**Changchun**	**12.96**	**283**	*e*P	**P**	**04 25 11.3**	**-1.4**
CN2				*e*XP		04 25 27.0	
CN2				*e*S	**S**	**04 27 33.2**	**-2.6**
CN2				AMB	AMB		
	comp=Z,80nm,0.8s						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,1µm,14.0s						
CN2				LR	LR		
	comp=E,1µm,14.0s						
CN2				LR	LR		
	comp=Z,2µm,15.0s						
JNU	**Nakatsue**	**13.28**	**230**	P	**P**	**04 25 15.8**	**-1.0**
	comp=Z,3.1nm,0.3s,baz=60,slow=7.6,SNR=33						
JNU				LR	LR	04 31 05.1	
	comp=Z,220nm,18.1s,baz=45,slow=40						
JNU	**Nakatsue**	**13.28**	**230**	P	**P**	**04 25 16.1**	**-0.8**
JZO	**Okuchi**	**14.16**	**228**	P	**P**	**04 25 27.5**	**-0.9**
SNY	**Shenyang**	**14.47**	**275**	⇑P	**P**	**04 25 32.6**	**+0.2**
SNY				S	**S**	**04 28 17.7**	**+6.1**
SNY				AMB	AMB		
	comp=Z,60nm,0.8s						
SNY				LR	LR		
	comp=N,380nm,14.7s						
SNY				LR	LR		
	comp=E,780nm,21.6s						
SNY				LR	LR		
	comp=Z,1µm,23.5s						
JFU	**Fukue jima 2**	**14.86**	**234**	P	**P**	**04 25 37.5**	**0.0**
CBIJ	**Chichi jima**	**15.18**	**183**	P	**P**	**04 25 37.2**	**-4.4**
	comp=Z,10nm,0.3s,baz=282,slow=20,SNR=6.3						
CBIJ				S	**S**	**04 28 15.9**	**-12**
	comp=Z,24nm,0.3s,baz=290,slow=23,SNR=7.6						
ZEA	**Zeya**	**15.53**	**323**	*e*P	**P**	**04 25 47.5**	**+1.5**
ZEA				AMB	AMB	04 25 48.7	
	comp=Z,69nm,0.7s						
ZEA				AMB	AMB	04 25 48.7	
	comp=Z,60nm,0.7s						
ZEA				AMB	AMB	04 25 48.7	
	comp=Z,100nm,0.7s						
ZEA				AMB	AMB	04 26 05.0	
	comp=Z,300nm,9.0s						
ZEA				AMB	AMB	04 26 05.0	
	comp=Z,500nm,10.0s						
ZEA				*e*LQ		04 30 34.0	
ZEA				*e*LR	LR	04 31 15.0	
DL2	**Dalian**	**16.61**	**265**	⇑P	**P**	**04 25 59.3**	**-0.3**
DL2				*e*S	**S**	**04 28 58.0**	**-3.1**
DL2				AMB	AMB		
	comp=Z,80nm,0.7s						
DL2				LR	LR		
	comp=N,320nm,18.4s						
DL2				LR	LR		
	comp=Z,340nm,26.4s						
HIA	**Hailar**	**17.64**	**301**	*e*Pn	**P**	**04 26 09.9**	**-2.6**
	comp=Z,34nm,0.5s						
MA2	**Magadan**	**17.95**	**13**	*c* *i*P	**P**	**04 26 13.9**	**-2.3**
MA2	**Magadan**	**17.95**	**13**	*e*P	**P**	**04 26 13.0**	**-3.2**
	comp=Z,41nm,0.7s						
CLNS	**Chul’man**	**18.63**	**328**	*e*P	**P**	**04 26 23.4**	**-0.9**
CLNS				pmax	pmax		
	comp=Z,41nm,0.9s						
CLNS				pmax	pmax		
	comp=N,36nm,1.0s						
CLNS				pmax	pmax		
	comp=E,16nm,0.8s						
CLNS				pmax	pmax		
	comp=Z,42nm,0.7s						
CLNS				pmax	pmax		
	comp=N,58nm,0.9s						
CLNS				pmax	pmax		
	comp=E,35nm,0.9s						
CLNS				MLR	MLR		
	comp=N,200nm,13.0s						
CLNS				MLR	MLR		
	comp=E,100nm,14.0s						
CLNS				MLR	MLR		
	comp=Z,400nm,14.0s						
JOW	**Kunigami**	**19.60**	**223**	P	**P**	**04 26 33.6**	**-1.7**
	comp=Z,13nm,0.3s,baz=162,slow=25,SNR=22						
JOW				LR	LR	04 34 49.6	
	comp=Z,301nm,19.4s,baz=60,slow=39						
BJI	**Beijing**	**20.32**	**273**	P	**P**	**04 26 39.0**	**-3.9**
BJI				AMB	AMB		
	comp=Z,83nm,0.9s						
BJI				AMB	AMB		
	comp=Z,279nm,4.2s						

BJI				LR	LR		
	comp=N,394nm,19.0s						
BJI				LR	LR		
	comp=E,619nm,22.3s						
BJI				LR	LR		
	comp=Z,1µm,23.5s						
BJT	**Baijiatuau**	**20.34**	**273**	*e*P	**P**	**04 26 40.2**	**-2.8**
TIA	**Tai'an**	**20.93**	**262**	⇑P	**P**	**04 26 45.9**	**-3.2**
TIA				AMB	AMB		
	comp=Z,64nm,0.8s						
YAK	**Yakutsk**	**21.31**	**343**	*e*P	**P**	**04 26 48.6**	**-4.2**
YAK				*e*S	**S**	**04 30 33.5**	**-7.1**
YAK				pmax	pmax		
	comp=Z,65nm,0.7s,mb5.1						
YAK				pmax	pmax		
	comp=N,18nm,1.0s						
YAK				pmax	pmax		
	comp=E,9.0nm,1.0s						
YAK				smax			
	comp=N,37nm,1.0s						
YAK				smax			
	comp=E,14nm,0.8s						
YAK				smax			
	comp=Z,13nm,0.8s						
YAK				MLR	MLR		
	comp=N,83nm,11.0s						
YAK				MLR	MLR		
	comp=E,209nm,19.0s						
YAK	**Yakutsk**	**21.31**	**343**	*e*P	**P**	**04 26 48.2**	**-4.6**
	comp=E,166nm,0.8s,mb5.4						
YAK				LR	LR		
	comp=Z,417nm,20.0s						
NJ2	**Nanjing**	**21.75**	**250**	*e*P	**P**	**04 26 54.9**	**-2.5**
NJ2				AP		04 27 06.1	
NJ2				XP		04 27 11.8	
NJ2				PP	PP	04 27 20.9	-3.1
NJ2				S	**S**	**04 30 49.0**	**0.0**
NJ2				XS		04 31 07.0	
NJ2				AMB	AMB		
	comp=Z,200nm,1.0s,mb5.5						
NJ2				LR	LR		
	comp=N,2µm,22.6s						
NJ2				LR	LR		
	comp=E,2µm,21.9s						
NJ2				LR	LR		
	comp=Z,1µm,29.0s						
HHC	**Hu-ho-hao-te**	**23.53**	**277**	*e*P	**P**	**04 27 13.2**	**-1.4**
HHC				AP		04 27 24.4	
HHC				XP		04 27 30.9	
HHC				PP	PP	04 27 47.0	-1.6
HHC				S	**S**	**04 31 18.1**	**-2.4**
HHC				XS		04 31 40.1	
HHC				SS	SS	04 32 09.8	-2.7
HHC				PCS		04 34 39.1	
HHC				AMB	AMB		
	comp=Z,46nm,0.6s,mb5.1						
HHC				AMB	AMB		
	comp=Z,368nm,4.9s						
HHC				LR	LR		
	comp=N,229nm,16.6s						
HHC				LR	LR		
	comp=E,251nm,23.2s						
HHC				LR	LR		
	comp=Z,275nm,21.4s						
BOD	**Bodaibo**	**24.00**	**320**	*e*P	**P**	**04 27 14.6**	**-4.3**
BTO	**Baotou**	**24.73**	**277**	*e*P	**P**	**04 27 26.6**	**+0.4**
BTO				AMB	AMB		
	comp=Z,84nm,0.4s,mb5.6						
TATO	**Taipei**	**24.80**	**233**	P	**P**	**04 27 24.3**	**-2.8**
WHN	**Wuhan**	**25.77**	**252**	⇓P	**P**	**04 27 35.0**	**-1.2**
SONM	**Songino Array**	**26.30**	**295**	P	**P**	**04 27 40.4**	**-0.4**
	comp=Z,76nm,0.8s,mb5.3,baz=84,slow=8.6,SNR=200						
XAN	**Xi'an**	**27.92**	**264**	P	**P**	**04 27 53.7**	**-2.2**
XAN				AMB	AMB		
	comp=Z,13nm,0.8s,mb4.6						
ZAK	**Zakamensk**	**28.33**	**300**	⇓*i*P	**P**	**04 27 58.5**	**-0.9**
ZAK				*e*		04 31 09.9	
ENH	**Enshi**	**29.40**	**257**	*e*P	**P**	**04 28 06.8**	**-2.3**
	comp=Z,97nm,0.8s,mb5.6						
ENH				*e*PcP	PcP	04 31 13.2	-0.7
ENH				*e*S	**S**	**04 32 57.1**	**0.0**
MOY	**Mondy**	**29.81**	**303**	*e*P	**P**	**04 28 12.1**	**-0.4**
LZH	**Lanzhou**	**30.81**	**272**	⇑P	**P**	**04 28 21.4**	**-0.1**
LZH				AP	pP	04 28 33.7	-3.5
LZH				XP	sP	04 28 38.7	-6.3
LZH				S	**S**	**04 33 16.2**	**-2.8**
LZH				AMB	AMB		
	comp=Z,400nm,4.2s						
LZH				LR	LR		
	comp=N,840nm,15.3s						
LZH				LR	LR		
	comp=Z,890nm,16.2s						
GTA	**Gaotai**	**32.57**	**280**	⇑*i*P	**P**	**04 28 37.1**	**+0.2**
GTA				AP	pP	04 28 50.3	-2.4
GTA				XP	sP	04 28 57.8	-2.8
GTA				PP	PP	04 29 46.5	-0.6
GTA				PCP	PcP	04 31 23.0	+0.8
GTA				S	**S**	**04 33 46.0**	**-0.6**
GTA				XS		04 34 11.9	
GTA				SCP		04 35 01.3	
GTA				PCS		04 35 07.8	
GTA				SS	SS	04 35 44.6	-2.1
GTA				SCS	ScS	04 39 00.0	+2.7
GTA				AMB	AMB		
	comp=Z,61nm,0.9s,mb5.5						
GTA				AMB	AMB		
	comp=Z,120nm,4.8s						
GTA				LR	LR		
	comp=N,173nm,19.0s						
GTA				LR	LR		
	comp=E,189nm,20.2s						
GTA				LR	LR		
	comp=Z,230nm,22.4s						
CD2	**Chengdu**	**33.25**	**263**	P	**P**	**04 28 41.4**	**-1.5**
CD2				PP	PP	04 29 53.2	-2.6
CD2				PPP	PPP	04 30 08.8	-3.8
CD2				S	**S**	**04 34 02.4**	**+5.1**
CD2				AMB	AMB		
	comp=Z,50nm,1.1s,mb5.4						
CD2				AMB	AMB		
	comp=Z,310nm,3.4s						
CD2				LR	LR		
	comp=N,510nm,11.4s						
CD2				LR	LR		
	comp=Z,350nm,18.0s						
GYA	**Guiyang**	**33.63**	**254**	⇑*i*P	**P**	**04 28 45.6**	**-0.6**
GYA				AP	pP	04 28 56.8	-5.3
GYA				XP	sP	04 29 04.9	-5.2
GYA				PCP	PcP	04 31 25.5	+0.3
GYA				S	**S**	**04 34 10.8**	**+7.5**
GYA				AMB	AMB		
	comp=Z,40nm,0.9s,mb5.3						
GYA				LR	LR		
	comp=N,310nm,3.8s						
GYA				LR	LR		
	comp=E,140nm,4.6s						
GYA				LR	LR		
	comp=Z,250nm,4.6s						
KMI	**Kunming**	**37.25**	**256**	*e*P	**P**	**04 29 17.5**	**+0.6**
KMI				PP	PP	04 30 38.1	-7.1
KMI				S	**S**	**04 34 56.6**	**-2.3**
KMI				SS	SS	04 37 32.3	-0.8
KMI				AMB	AMB		
	comp=Z,101nm,0.9s,mb5.7						
KMI				LR	LR		
	comp=N,190nm,13.1s						
KMI				LR	LR		
	comp=E,219nm,18.3s						
KMI				LR	LR		
	comp=Z,281nm,18.3s						
WMQ	**Urumqi**	**39.83**	**292**	⇑P	**P**	**04 29 38.4**	**+0.3**
WMQ				PP	PP	04 31 12.5	-1.8
WMQ				*e*S	**S**	**04 35 38.4**	**+0.7**
WMQ				AMB	AMB		
	comp=Z,102nm,0.9s,mb5.5						
WMQ				LR	LR		
	comp=E,389nm,18.0s						
WMQ				LR	LR		
	comp=Z,551nm,19.0s						
NVS	**Novosibirsk**	**40.29**	**309**	*i* P	**P**	**04 29 40.9**	**-1.0**
NVS				*i*		04 31 41.4	
NVS				pmax	pmax		
	comp=E,28nm,0.8s						
NVS				pmax	pmax		
	comp=Z,41nm,0.8s,mb5.2						
TTA	**Tatalina**	**40.44**	**38**	*e*P	**P**	**04 29 43.1**	**+0.1**
IMA	**Indian Mountai**	**41.56**	**33**	*e*P	**P**	**04 29 51.4**	**-0.6**
RSO	**Redoubt South**	**42.06**	**42**	*e*P	**P**	**04 29 56.7**	**+0.5**
SPU	**Mount Spurr**	**42.35**	**41**	*e*P	**P**	**04 29 58.9**	**+0.3**
KDAK	**Kodiak Island**	**42.43**	**46**	*e*P	**P**	**04 29 58.4**	**-1.0**
	comp=Z,9.9nm,0.6s,mb4.6						
MKAR	**Makanchi Array**	**42.59**	**298**	P	**P**	**04 30 00.7**	**-0.1**
	comp=Z,69nm,0.6s,mb5.6,baz=83,slow=10,SNR=567						
MKAR				PcP	PcP	04 31 52.3	-0.4
	comp=Z,14nm,0.7s,baz=56,slow=4.4,SNR=4.7						
MKAR				LR	LR	04 48 21.3	
	comp=Z,220nm,20.1s,baz=68,slow=37						
MKAR	**Makanchi Array**	**42.59**	**298**	P	**P**	**04 30 00.7**	**-0.1**
MKAR						04 31 52.3	
MKAR				pmax	pmax		
	comp=Z,69nm,0.6s						
MKAR				MLR	MLR		
	comp=Z,220nm,20.1s						
NANT	**Nan**	**42.76**	**250**	PG	**P**	**04 30 01.0**	**-1.5**
MCK	**McKinley**	**43.61**	**37**	*e*P	**P**	**04 30 07.9**	**-1.0**
	comp=Z,9.4nm,0.9s,mb4.5						
MCK				LR	LR		
	comp=Z,97nm,20.0s						
PMR	**Palmer**	**43.72**	**40**	*e*P	**P**	**04 30 08.6**	**-1.2**
	comp=Z,10nm,0.6s,mb4.7						
KURK	**Kurchatov**	**43.85**	**304**	P	**P**	**04 30 10.1**	**-0.8**
	comp=Z,2µm,0.9s						
KURK	**Kurchatov**	**43.85**	**304**	*i* P	**P**	**04 30 10.7**	**-0.2**
KURK				pmax	pmax		
	comp=Z,92nm,0.7s,mb5.6						
KURK	**Kurchatov**	**43.85**	**304**	⇑*i*P	**P**	**04 30 10.6**	**-0.4**
	comp=Z,251nm,0.8s,mb6.0						
CHG	**Chiang Mai**	**43.98**	**252**	⇑P	**P**	**04 30 13.3**	**+0.9**
	comp=Z,54nm,0.8s,mb5.3						
COLA	**College**	**44.01**	**35***c*	*i*P	**P**	**04 30 11.7**	**-0.3**
COLA	**College**	**44.01**	**35**	*e*P	**P**	**04 30 12.3**	**+0.3**
SML	**Sawmill**	**44.07**	**39**	*e*P	**P**	**04 30 12.6**	**0.0**
CMAR	**Chiang Mai Arr**	**44.22**	**251**	P	**P**	**04 30 15.1**	**+0.8**
	comp=Z,14nm,0.5s,mb5.0,baz=44,slow=7.5,SNR=59						
CMAR				LR	LR	04 49 27.0	
	comp=Z,224nm,18.3s,baz=55,slow=37						
CMAR	**Chiang Mai Arr**	**44.22**	**251**	P	**P**	**04 30 15.1**	**+0.8**
CMAR				pmax	pmax		
	comp=Z,14nm,0.5s						
CMAR				MLR	MLR		
	comp=Z,224nm,18.3s						
ILAR	**Eielson Array**	**44.42**	**35**	P	**P**	**04 30 14.8**	**-0.5**
	comp=Z,20nm,0.7s,mb5.0,baz=267,slow=6.2,SNR=176						
ILAR				pP	pP	04 30 28.0	-3.6
	comp=Z,38nm,1.0s,baz=274,slow=7.0,SNR=12						
SHL	**Shillong**	**44.92**	**265**	*e*P	**P**	**04 30 19.2**	**-0.7**
BDT	**Bhumibol Dam**	**44.99**	**250**	P	**P**	**04 30 21.0**	**+0.4**
DIV	**Divide**	**45.38**	**40**	*e*P	**P**	**04 30 22.8**	**-0.3**
	comp=Z,46nm,0.8s,mb5.4						
EYAK	**Cordova Ski Ar**	**45.49**	**41**	*e*P	**P**	**04 30 24.0**	**+0.1**
DAWY	**Dawson**	**47.74**	**35**	*e*P	**P**	**04 30 40.9**	**-0.7**
NNT	**Nongplab**	**47.76**	**245**	P	**P**	**04 30 44.0**	**+1.6**
VOSK	**Vostochnaya**	**47.84**	**309**	P	**P**	**04 30 42.0**	**-0.6**
VOSK				pmax	pmax		
	comp=Z,63nm,0.9s,mb5.7						
VOSK	**Vostochnaya**	**47.84**	**309**	*i* P	**P**	**04 30 42.1**	**-0.5**
GUN	**Gumba**	**48.07**	**272**	*e*P	**P**	**04 30 45.1**	**+0.4**
	comp=Z,227nm,0.3s						
BVA0	**Borovoye Array**	**48.09**	**309**	*i* P	**P**	**04 30 44.3**	**-0.2**
BRVK	**Borovoye**	**48.14**	**309**	⇑*i*P	**P**	**04 30 44.6**	**-0.3**
	comp=Z,108nm,0.9s,mb5.9						
TKM2	**Tokmak 2**	**48.40**	**295**	P	**P**	**04 30 47.2**	**+0.2**
	SNR=128						
KKN	**Kakani**	**48.58**	**272**	*e*P	**P**	**04 30 48.5**	**-0.1**
	comp=Z,232nm,0.8s,mb6.3						
PKI	**Pulchoki**	**48.60**	**272**	*e*P	**P**	**04 30 48.9**	**+0.1**
	comp=Z,68nm,0.5s,mb6.0						
DMN	**Daman**	**48.81**	**272**	*e*P	**P**	**04 30 50.6**	**+0.2**
	comp=Z,212nm,0.8s,mb6.2						
ZRNK	**Zerenda**	**48.91**	**309**	P	**P**	**04 30 50.7**	**-0.1**
ZRNK				pmax	pmax		
	comp=Z,67nm,0.7s,mb5.8						
ZRNK	**Zerenda**	**48.91**	**309**	⇑*i*P	**P**	**04 30 50.5**	**-0.3**
	comp=Z,150nm,0.7s,mb6.1						
CHMS	**Chumysh**	**48.93**	**295**	P	**P**	**04 30 50.9**	**-0.2**
	SNR=6.4						
KBK	**Karagaybulak**	**48.94**	**295**	P	**P**	**04 30 51.5**	**+0.3**
	SNR=41						
GKN	**Gorkha**	**48.94**	**273**	*e*P	**P**	**04 30 51.2**	**-0.2**
	comp=Z,126nm,0.4s,mb6.3						
USP	**Ospenovka**	**48.99**	**296**	P	**P**	**04 30 51.4**	**-0.1**
	SNR=37						
INK	**Inuvik**	**49.16**	**29**	*e*P	**P**	**04 30 51.0**	**-1.5**
	comp=Z,8.9nm,0.6s,mb5.0						
AAK	**Ala-Archa**	**49.25**	**295**	P	**P**	**04 30 53.5**	**-0.1**
	SNR=26						
AAK	**Ala-Archa**	**49.25**	**295**	*e*P	**P**	**04 30 52.2**	**-1.4**
	comp=Z,21nm,0.3s,mb5.7						
UCH	**Uchtor**	**49.41**	**294**	P	**P**	**04 30 55.2**	**+0.4**
	SNR=17						
KSH	**Kashi**	**49.57**	**291**	P	**P**	**04 30 56.8**	**+0.7**
KSH				AP	pP	04 31 09.3	-3.3
KSH				XP	sP	04 31 14.3	-5.6
KSH				PCP	PcP	04 32 18.8	+1.6
KSH				PP	PP	04 32 52.0	+0.6
KSH				SCP		04 36 09.6	
KSH				PCS		04 36 14.0	
KSH				S	**S**	**04 38 00.6**	**+2.6**
KSH				XS		04 38 21.0	
KSH				SCS	ScS	04 40 41.9	+3.3
KSH				SS	SS	04 41 28.0	+1.1
KSH				AMB	AMB		
	comp=Z,120nm,2.0s,mb5.6						
KSH				LR	LR		
	comp=N,150nm,6.4s						
KSH				LR	LR		
	comp=E,190nm,7.6s						
EKS2	**Erkin-Say**	**49.72**	**295**	P	**P**	**04 30 57.1**	**-0.1**
	SNR=29						
KOLN	**Koldanda**	**49.84**	**273**	*e*P	**P**	**04 30 58.4**	**+0.1**
	comp=E,250nm,0.8s,mb6.3						
AML	**Almayashu**	**50.00**	**295**	P	**P**	**04 31 00.0**	**+0.6**
	SNR=28						
SNG	**Songkhla**	**51.20**	**239**	P	**P**	**04 31 09.0**	**+0.2**
	comp=E,76nm,0.8s,mb5.7						
JOSI	**Joshimath**	**51.33**	**279**	*e*P	**P**	**04 31 10.1**	**+0.5**
KKAR	**Karatay Array**	**51.71**	**297**	*i* P	**P**	**04 31 11.3**	**-1.0**
KKAR				pmax	pmax		
	comp=Z,21nm,0.5s,mb5.3						
KLP	**Kalpa**	**51.77**	**280**	*e*P	**P**	**04 31 13.1**	**+0.2**
KLP				*e*		04 31 14.2	
	comp=Z,99nm,0.8s						
ARU	**Arti**	**53.33**	**316**	P	**P**	**04 31 23.4**	**-0.8**
	comp=Z,1µm,0.6s,SNR=59						
ARU	**Arti**	**53.33**	**316**	⇑*i*P	**P**	**04 31 23.3**	**-0.9**
ARU				*i*		04 32 35.2	
ARU				*e*		04 33 28.6	
ARU				*e*S	**S**	**04 38 46.8**	**-2.6**
ARU				*e*SS	SS	04 42 33.3	+4.0
ARU				pmax	pmax		
	comp=Z,164nm,0.8s,mb6.0						
ARU	**Arti**	**53.33**	**316**	*e*P	**P**	**04 31 23.1**	**-1.2**
	comp=Z,148nm,0.7s,mb6.0						
ARU				*e*PcP	PcP	04 32 30.1	-0.8
ARU				LR	LR		
	comp=Z,70nm,19.0s						
KKR	**Kurukshetra**	**53.65**	**280**	*e*P	**P**	**04 31 25.6**	**-1.3**
DLBC	**Dease Lake**	**53.76**	**41**	*e*P	**P**	**04 31 27.7**	**+0.3**
AYAN	**Aya Nagar**	**54.23**	**278**	*e*P	**P**	**04 31 29.8**	**-1.4**
AYAN				*e*		04 31 31.3	
	comp=Z,124nm,0.9s						
BHGR	**Bahadurgarh**	**54.25**	**278**	*e*P	**P**	**04 31 30.7**	**-0.6**
NIL	**Nilore**	**54.30**	**285**	P	**P**	**04 31 31.8**	**+0.2**
	comp=Z,186nm,0.6s,mb6.2,SNR=8.0						
KUDL	**Kundal**	**54.88**	**278**	*e*P	**P**	**04 31 34.4**	**-1.5**
KUDL				*e*		04 31 37.0	
	comp=Z,48nm,0.4s						
KHET	**Khetri**	**55.42**	**278**	*e*P	**P**	**04 31 38.5**	**-1.4**
KAKA	**Kakadu**	**55.59**	**193**	⇑*i*P	**P**	**04 31 40.5**	**-0.7**
	comp=Z,22nm,0.9s,mb5.2						
AB31	**Akbulak array**	**55.60**	**308**	*i* P	**P**	**04 31 40.1**	**-0.8**
AB31				pmax	pmax		
	comp=Z,18nm,0.4s,mb5.5						
KBS	**Kingsbay**	**55.70**	**350**	*e*P	**P**	**04 31 39.2**	**-2.0**
	comp=Z,38nm,0.9s,mb5.4						
BHPL	**Bhopal**	**56.99**	**272**	*e*P	**P**	**04 31 48.3**	**-2.8**
BHPL				AMb	AMB	04 31 51.4	
	comp=Z,92nm,0.5s,mb6.0						
AJM	**Ajmer**	**57.17**	**277**	*e*	**P**	**04 31 43.0**	**-9.4**
RES	**Resolute Bay**	**57.20**	**16**	*e*P	**P**	**04 31 49.8**	**-2.1**
	comp=Z,50nm,0.8s,mb5.6						
KGD	**Kothagudem**	**58.04**	**265**	*e*P	**P**	**04 31 57.2**	**-1.4**
KGD				*e*PP	PP	04 34 05.2	-4.1
KGD				*e*S	**S**	**04 39 54.8**	**+2.2**
KGD				*e*SS	SS	04 43 47.9	+1.7
YKA	**Yellowknife Ar**	**58.66**	**32**	P	**P**	**04 32 00.9**	**-1.3**
	comp=Z,15nm,1.0s,mb5.0,baz=308,slow=6.7,SNR=12						
YKA				pP	pP	04 32 14.9	-4.3
	comp=Z,9.4nm,0.8s,baz=310,slow=7.0,SNR=8.0						
YKA				LR	LR	05 01 10.4	
	comp=Z,81nm,18.6s,baz=210,slow=40						
YKA	**Yellowknife Ar**	**58.66**	**32**	P	**P**	**04 32 00.9**	**-1.3**
YKA				pmax	pmax		
	comp=Z,15nm,1.0s						
YKA				pmax	pmax		
	comp=N,9.0nm,0.8s						
YKA				MLR	MLR		
	comp=Z,81nm,18.7s						
YKA	**Yellowknife Ar**	**58.66**	**32**	P	**P**	**04 32 00.9**	**-1.3**
YKA				pP	pP	04 32 14.9	-4.3
YKA				LR	LR	05 01 10.4	
KEV	**Kevo**	**58.99**	**339**	*e*p	**P**	**04 32 02.2**	**-2.2**
	comp=Z,2.2nm,0.3s,mb4.7						
KEV	**Kevo**	**58.99**	**339**	*e*P	**P**	**04 32 02.2**	**-2.2**
KEV				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.6						
ARCES	**ARCESS Array B**	**59.53**	**339**	P	**P**	**04 32 06.8**	**-1.4**
	comp=Z,6.9nm,0.6s,mb4.8,baz=46,slow=6.5,SNR=32						
ARCES				LR	LR	05 02 08.3	
	comp=Z,119nm,20.3s,baz=202,slow=40						
ARCES	**ARCESS Array B**	**59.53**	**339**	P	**P**	**04 32 06.8**	**-1.4**
ARCES				pmax	pmax		
	comp=Z,7.0nm,0.6s						
ARCES				MLR	MLR		
	comp=Z,119nm,20.3s						
HYB	**Hyderabad**	**59.70**	**266**	⇑*i*P	**P**	**04 32 09.0**	**-1.0**
	comp=Z,100nm,1.0s,mb5.8						
HYB				*e*sP	sP	04 32 30.0	-4.5
HYB				*e*PcP	PcP	04 32 55.5	-0.7
HYB	**Hyderabad**	**59.70**	**266**	⇑*e*P	**P**	**04 32 09.0**	**-1.0**
	comp=Z,100nm,1.0s,mb5.8						
KTK1	**Kautokeino**	**60.49**	**339**	⇑*i*P	**P**	**04 32 14.1**	**-0.7**
KTK1				AMb	AMB	04 32 14.9	
	comp=Z,44nm,0.8s,mb5.6						
KTK1				*e*pP	pP	04 32 29.2	-2.6
LATR	**Latur**	**60.55**	**269**	*i* P	**P**	**04 32 15.3**	**-0.6**
DAG	**Danmarks Havn**	**60.64**	**355**	⇓*i*P	**P**	**04 32 13.9**	**-1.9**
	comp=Z,27nm,0.3s,mb5.9						
TRO	**Tromso**	**61.16**	**341**	*e*P	**P**	**04 32 18.4**	**-0.9**
CUD	**Cuddapah**	**61.41**	**264**	*e*P	**P**	**04 32 21.6**	**-0.2**
FITZ	**Fitzroy Crossi**	**62.21**	**199**	⇑*i*P	**P**	**04 32 26.3**	**-0.7**
	comp=Z,6.1nm,0.9s,mb4.7						
WRAB	**Tennant Creek**	**62.44**	**189**	*e*P	**P**	**04 32 26.9**	**-1.6**
	comp=Z,31nm,0.8s,mb5.5						
WRAB				*e*	pP	04 32 42.5	-3.2
WB2	**Warramunga Arr**	**62.44**	**189**	⇑*i*P	**P**	**04 32 27.1**	**-1.5**
WB2				*i*	pP	04 32 42.8	-2.9
WRA	**Warramunga Arr**	**62.45**	**189**	P	**P**	**04 32 27.3**	**-1.3**
	comp=Z,8.9nm,0.8s,mb5.0,baz=6.6,slow=6.9,SNR=84						
WRA				pP	pP	04 32 43.2	-2.5
	comp=Z,21nm,0.8s,baz=6.6,slow=7.1,SNR=22						
WRA	**Warramunga Arr**	**62.45**	**189**	P	**P**	**04 32 27.3**	**-1.3**
WRA				*PP	pP	04 32 43.2	-2.5
WRA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
POO	**Poona**	**62.49**	**271**	*e*P	**P**	**04 32 27.3**	**-1.7**
POO				AMb	AMB	04 32 28.9	
	comp=Z,71nm,0.3s,mb6.2						
MBW	**Mount Baker**	**62.64**	**48**	P	**P**	**04 32 29.3**	**-0.2**
KAD	**Karad**	**63.01**	**269**	*e*P	**P**	**04 32 30.0**	**-2.4**
RPW	**Rockport**	**63.04**	**48**	P	**P**	**04 32 31.8**	**-0.4**
BMW	**Boistfort Moun**	**63.18**	**51**	*e*P	**P**	**04 32 32.8**	**-0.3**
RVC	**Mount Rainier-**	**63.63**	**50**	P	**P**	**04 32 36.8**	**+0.8**
LON	**Longmire**	**63.83**	**50**	*e*P	**P**	**04 32 37.1**	**-0.2**
NLW	**Nelson Butte**	**63.89**	**48**	*e*P	**P**	**04 32 37.5**	**-0.2**
NLW				*e*pP	pP	04 32 51.6	-3.3
ETW	**Entiat**	**64.17**	**48**	P	**P**	**04 32 39.4**	**0.0**
KAF	**Kangasniemi**	**64.23**	**332**	*e*p	**P**	**04 32 36.3**	**-3.3**
	comp=Z,6.8nm,0.4s,mb5.0,baz=46,slow=6.2						
KAF	**Kangasniemi**	**64.23**	**332**	*e*P	**P**	**04 32 36.3**	**-3.3**
KAF				pmax	pmax		
	comp=Z,7.0nm,0.4s,mb5.0						
PUL	**Pulkovo**	**64.33**	**329**	⇓*e*P	**P**	**04 32 39.3**	**-1.0**
OBN	**Obninsk**	**64.67**	**322**	*de*P	**P**	**04 32 41.0**	**-1.6**
OBN				*e**PP	pP	04 33 04.1	+4.3
OBN				*e*		04 33 14.4	
OBN				*e*		04 35 03.5	
OBN				*e*		04 41 12.4	
OBN				pmax	pmax		
	comp=Z,90nm,1.1s,mb5.7						
OBN				MLR	MLR		
	comp=Z,200nm,18.0s						
OBN	**Obninsk**	**64.67**	**322**	*e*P	**P**	**04 32 41.0**	**-1.6**
	comp=Z,83nm,1.1s,mb5.7						
FINES	**FINESS Array B**	**64.76**	**332**	P	**P**	**04 32 41.6**	**-1.5**
	comp=Z,35nm,0.5s,mb5.7,baz=57,slow=7.1,SNR=378						
FINES				LR	LR	05 03 05.1	
	comp=Z,219nm,21.6s,baz=229,slow=38						
FINES	**FINESS Array B**	**64.76**	**332**	P	**P**	**04 32 41.6**	**-1.5**
FINES				pmax	pmax		
	comp=Z,35nm,0.5s						
FINES				MLR	MLR		
	comp=Z,219nm,21.6s						
PALK	**Pallekele**	**64.79**	**256**	*e*P	**P**	**04 32 43.2**	**-0.8**
MOR8	**Moi Rana**	**64.87**	**339**	⇑*i*P	**P**	**04 32 40.9**	**-2.9**
MOR8				AMb	AMB	04 32 42.8	
	comp=Z,87nm,1.1s,mb5.7						
MOR8				*e*sP	sP	04 33 03.2	-4.9
DPW	**Davenport**	**65.18**	**47**	*e*P	**P**	**04 32 45.6**	**-0.5**
HAWA	**Hanford**	**65.32**	**49**	*e*P	**P**	**04 32 47.0**	**0.0**
SUMG	**Summit**	**65.42**	**0**	⇑*i*P	**P**	**04 32 47.0**	**-0.2**
	comp=Z,83nm,0.8s,mb5.8						
NEW	**Newport**	**65.53**	**46**	P	**P**	**04 32 47.8**	**-0.5**
	comp=Z,12nm,0.9s,mb4.9,baz=324,slow=5.1,SNR=19						
NEW	**Newport**	**65.53**	**46**	P	**P**	**04 32 47.8**	**-0.5**
NEW				pmax	pmax		
	comp=Z,12nm,0.9s						
NEW	**Newport**	**65.53**	**46**	*e*P	**P**	**04 32 47.9**	**-0.4**
	comp=Z,14nm,0.9s,mb5.0						
KHMM	**Horse Mountain**	**66.08**	**56**	*e*P	**P**	**04 32 51.2**	**-0.7**
YBH	**Yreka Blue Hor**	**66.20**	**55**	P	**P**	**04 32 53.7**	**+1.0**
	comp=Z,4.9nm,0.7s,mb4.6,baz=356,slow=3.1,SNR=12						
YBH	**Yreka Blue Hor**	**66.20**	**55**	P	**P**	**04 32 53.7**	**+1.0**
YBH				pmax	pmax		
	comp=Z,5.0nm,0.7s						
YBH	**Yreka Blue Hor**	**66.20**	**55**	*e*P	**P**	**04 32 52.8**	**+0.1**
	comp=Z,3.8nm,0.7s,mb4.5						
LNOR	**Lincton Mounta**	**66.33**	**49**	*e*P	**P**	**04 32 53.6**	**+0.3**
MBWA	**Marble Bar**	**66.71**	**204**	*e*P	**P**	**04 32 55.4**	**-0.8**
	comp=Z,13nm,0.8s,mb5.0						
WDC	**Whiskeytown Da**	**66.99**	**56**	*e*P	**P**	**04 32 57.6**	**0.0**
	comp=Z,6.3nm,0.8s,mb4.7						
MOD	**Modoc**	**67.55**	**53**	*e*P	**P**	**04 33 01.3**	**+0.2**
	comp=Z,3.1nm,0.6s,mb4.5						
WVOR	**Wild Horse Val**	**68.21**	**52**	*e*P	**P**	**04 33 05.3**	**+0.1**
	comp=Z,4.9nm,0.9s,mb4.5						
OHCM	**Honcut**	**68.38**	**56**	*e*P	**P**	**04 33 06.1**	**-0.2**
CHMT	**Chamberlain Mo**	**68.43**	**46**	*e*P	**P**	**04 33 05.6**	**-0.9**
FFC	**Flin Flon**	**68.63**	**34**	*e*P	**P**	**04 33 06.4**	**-1.2**
	comp=Z,18nm,0.9s,mb5.0						
BEKR	**Beckwourth**	**68.75**	**55**	*e*P	**P**	**04 33 08.8**	**+0.2**
	comp=Z,10nm,0.8s,mb4.8						
FCC	**Fort Churchill**	**68.75**	**28**	*e*P	**P**	**04 33 07.0**	**-1.3**
	comp=Z,22nm,0.9s,mb5.1						
MNK	**Minsk**	**68.88**	**326**	*e*P	**P**	**04 33 04.0**	**-5.2**
ASMM	**Slate Mountain**	**69.19**	**56**	*e*P	**P**	**04 33 09.7**	**-1.6**
HRY	**Holter Researc**	**69.31**	**45**	*e*P	**P**	**04 33 12.0**	**+0.1**
WCN	**Washoe City**	**69.46**	**55**	*e*P	**P**	**04 33 13.6**	**+0.6**
	comp=Z,6.5nm,0.8s,mb4.6						
MOL	**Molde**	**69.56**	**340**	*e*P	**P**	**04 33 15.9**	**+2.7**
MOL				AMb	AMB	04 33 24.2	
	comp=Z,60nm,1.4s,mb5.3						
DOMB	**Dombas**	**69.60**	**339**	⇑*i*P	**P**	**04 33 12.4**	**-1.0**
DOMB				*e*pP	pP	04 33 27.9	-3.1
NB2	**NORSAR Subarra**	**69.82**	**337**	P	**P**	**04 33 13.8**	**-1.0**
	comp=Z,82nm,1.2s,mb5.5,baz=35,slow=6.2						
NB2	**NORSAR Subarra**	**69.82**	**337**	P	**P**	**04 33 13.8**	**-1.0**
	baz=35,slow=6.5						
NOA	**NORSAR Array B**	**69.82**	**337**	P	**P**	**04 33 13.8**	**-1.1**
	comp=Z,18nm,0.6s,mb5.2,baz=35,slow=6.1,SNR=77						
NOA				LR	LR	05 07 14.9	
	comp=Z,127nm,18.1s,baz=25,slow=39						
NOA	**NORSAR Array B**	**69.82**	**337**	P	**P**	**04 33 13.8**	**-1.0**
NOA				pmax	pmax		
	comp=Z,18nm,0.6s						
NOA				MLR	MLR		

	comp=Z,127nm,18.1s						
CMB	Columbia Colle	69.86	57	eP	P	04 33 15.6	+0.1
	comp=Z,9.8nm,0.8s,mb4.8						
HLID	Hailey	69.92	49	eP	P	04 33 15.9	+0.2
	comp=Z,3.5nm,0.9s,mb4.3						
MCMT	McKenzie Canyo	69.98	47	eP	P	04 33 16.0	-0.1
BOZ	Bozeman (W)	70.11	46	eP	P	04 33 17.0	+0.2
	comp=Z,11nm,0.7s,mb4.9						
SOC	Sochi	70.35	311	i P	P	04 33 17.9	-0.4
SOC				e	pP	04 33 38.0	+2.2
SOC				e		04 35 53.7	
SOC				ePPP	PPP	04 37 29.8	-7.2
SOC				eS	S	04 42 19.8	-4.5
SOC				ePS	PS	04 42 46.1	-14
SOC				e		04 43 07.2	
SOC				eSS	SS	04 46 53.0	-4.6
SOC				eSSS	SSS	04 49 55.5	-7.9
SOC				pmax	pmax		
	comp=Z,34nm,0.6s,mb5.5						
SOC				pmax	pmax		
	comp=N,26nm,0.7s						
SOC				pmax	pmax		
	comp=E,26nm,0.7s						
SOC				MLR	MLR		
	comp=Z,240nm,21.0s						
SOC				MLR	MLR		
	comp=N,143nm,17.0s						
SOC				MLR	MLR		
	comp=E,47nm,16.0s						
QLMT	Earthquake Lak	70.74	47	eP	P	04 33 20.9	+0.2
AKASG	Malin Array Be	70.92	322	P	P	04 33 20.6	-1.0
	comp=E,27nm,0.6s,mb5.3,baz=43,slow=6.0,SNR=116						
AKASG				LR	LR	05 07 07.3	
	comp=E,148nm,18.5s,baz=40,slow=38						
AKASG	Malin Array Be	70.92	322	P	P	04 33 20.6	-1.0
AKASG				pmax	pmax		
	comp=Z,27nm,0.6s						
AKASG				MLR	MLR		
	comp=Z,148nm,18.5s						
MNV	Mina	70.98	55	eP	P	04 33 22.4	+0.2
	comp=Z,4.2nm,0.8s,mb4.4						
HYA	Hoyanger	71.09	339	eP	P	04 33 22.5	+0.1
HYA				AMb	AMB	04 33 26.9	
	comp=Z,43nm,1.4s,mb5.2						
YMR	Madison River	71.10	46	eP	P	04 33 23.3	+0.5
SUW	Suwalki	71.14	327	eP	P	04 33 21.7	-1.2
ELK	Elko	71.25	52	eP	P	04 33 24.1	+0.3
	comp=Z,2.2nm,0.8s						
MTUM	Tungsten Hills	71.41	56	eP	P	04 33 25.5	+0.6
MTUM				epP	pP	04 33 40.6	-1.8
ERZM	Erzurum	71.76	308	i P	P	04 33 28.1	+1.3
TPH	Tonopah	71.78	55	eP	P	04 33 27.3	+0.4
	comp=Z,13nm,1.0s,mb4.8						
MOOW	Moose Ponds	71.83	47	eP	P	04 33 27.7	+0.5
TPAW	Teton Pass	71.89	47	eP	P	04 33 28.7	+1.2
ASK	Askoy	71.93	340	eP	P	04 33 27.4	-0.1
DGMT	Dagmar	71.98	40	eP	P	04 33 27.5	-0.4
	comp=Z,32nm,0.9s,mb5.2						
DGMT				epP	pP	04 33 42.0	-3.5
BER	Bergen	71.98	339	eP	P	04 33 27.9	+0.2
BER				epP	pP	04 33 42.0	-3.4
LOHW	Long Hollow	71.99	47	eP	P	04 33 28.2	0.0
SNOW	Snow King Moun	72.01	47	eP	P	04 33 28.6	+0.3
REDW	Red Top Meadow	72.02	47	eP	P	04 33 28.9	+0.5
ODD1	Odda	72.04	339	eP	P	04 33 27.1	-1.0
ODD1				AMb	AMB	04 33 28.8	
	comp=Z,46nm,2.0s,mb5.1						
EGD	Espegrend	72.11	339	eP	P	04 33 28.6	+0.1
BGU	Big Grassy Mou	72.41	50	eP	P	04 33 31.1	+0.4
SIM	Simferopol’	72.47	315	P	P	04 33 30.8	-0.2
SIM				pmax	pmax		
	comp=Z,52nm,0.7s,mb5.6						
SIM				MLR	MLR		
	comp=Z,80nm,13.0s						
DAC	Darwin (Calif)	72.70	57	eP	P	04 33 32.7	+0.3
	comp=Z,10.0nm,0.9s,mb4.8						
HWUT	Hardware Ranch	72.79	49	eP	P	04 33 33.2	+0.3
	comp=Z,8.4nm,1.0s,mb4.6						
DUG	Dugway	73.01	51	eP	P	04 33 34.9	+0.7
TPNV	Topopah Spring	73.09	55	eP	P	04 33 35.2	+0.6
	comp=Z,16nm,0.9s,mb5.0						
BEST	Besiri	73.12	306	i P	P	04 33 35.6	+0.8
PDAR	Pinedale Array	73.13	47	P	P	04 33 35.0	+0.2
	comp=Z,4.6nm,0.6s,mb4.6,baz=251,slow=0.7,SNR=46						
BSD	Bornholm Skovb	73.41	332	⇑iP	P	04 33 35.2	-0.9
	comp=Z,37nm,0.7s,mb5.4						
JLU	Jordanelle	73.52	50	eP	P	04 33 37.5	+0.4
NLU	North Lily Min	73.60	51	eP	P	04 33 38.4	+0.8
NLU				e	pP	04 33 53.5	-1.8
MPU	Maple Canyon	73.81	50	eP	P	04 33 39.4	+0.5
STKA	Stephens Creek	73.82	181	eP	P	04 33 39.6	+0.5
	comp=Z,6.1nm,0.9s,mb4.5						
STKA	Stephens Creek	73.82	181	P	P	04 33 39.6	+0.6
	comp=Z,5.9nm,0.9s,mb4.5,baz=352,slow=10,SNR=5.4						
FORT	Forrest	74.01	193	eP	P	04 33 43.2	+3.0
	comp=Z,45nm,0.6s,mb5.6						
GKP	Gorka Klasztor	74.02	330	eP	P	04 33 39.7	-0.1
MUD	Monsted U’grnd	74.20	335	i P	P	04 33 40.6	-0.2
	comp=Z,11nm,0.6s,mb5.0						
MUD	Monsted U’grnd	74.20	335	eP	P	04 33 40.6	-0.2
	comp=Z,11nm,0.6s,mb5.0						
BOYT	Boyabat	74.44	312	i P	P	04 33 43.4	+0.9
ULM	Lac du Bonnet	74.44	35	P	P	04 33 41.3	-1.0
	comp=Z,11nm,0.6s,mb5.0,baz=270,slow=6.8						
MVU	Marysvale	74.48	52	eP	P	04 33 43.6	+0.9
	comp=Z,3.5nm,0.8s,mb4.3						
MVU				pP	pP	04 33 58.3	-2.1
MSU	Marysvale	74.50	52	eP	P	04 33 44.0	+1.2
MSU				epP	pP	04 33 57.6	-2.9
MALT	Malatya	74.53	308	eP	P	04 33 44.2	+1.1
	comp=Z,34nm,1.1s,mb5.2						
KWP	Kalwaria	74.59	324	eP	P	04 33 43.7	+0.6
LDFC	Landfair	75.01	56	P	P	04 33 46.3	+0.5
CTKT	Corum	75.05	312	i P	P	04 33 46.8	+0.8
SRU	San Rafael	75.05	51	eP	P	04 33 46.5	+0.5
SRU				epP	pP	04 34 01.1	-2.5
RSSD	Black Hills	75.11	43	eP	P	04 33 45.9	-0.4
	comp=Z,6.1nm,0.8s,mb4.6						
BALT	Daday	75.19	313	i P	P	04 33 47.5	+0.7
KOLS	Kolonicke sedl	75.30	324	i P	P	04 33 47.2	0.0
OJC	Ojcow	75.37	326	⇑iP	P	04 33 47.8	+0.2
BAR	Barrett	75.61	59	eP	P	04 33 49.3	0.0
BAR				epP	pP	04 34 04.8	-2.3
CRVS	Cervenica-Dubn	75.67	325	i P	P	04 33 50.0	+0.6
GZT	Gaziantep	75.68	308	i P	P	04 33 51.0	+1.4
ELDT	Eldivan	75.89	312	i P	P	04 33 51.4	+0.6
KAHT	Ahir Dag	75.90	308	i P	P	04 33 52.1	+1.2
BSEG	Bad Segeberg	75.93	333	eP	P	04 33 50.7	0.0
BSEG				pmax	pmax		
	comp=Z,41nm,0.8s,mb5.4						
RAC	Raciborz	76.13	327	eP	P	04 33 52.6	+0.7
AVNT	Avonos	76.28	310	i P	P	04 33 53.4	+0.4
KSP	Ksiaz	76.29	328	⇑eP	P	04 33 53.0	+0.2
KSP				e	pP	04 34 07.2	-3.3
KSP				e*PP	pP	04 34 15.7	+5.2
BRTR	Keskin Array B	76.31	312	P	P	04 33 53.4	+0.2
	comp=Z,20nm,0.7s,mb5.2,baz=76,slow=3.7,SNR=70						
BRTR				PP	PP	04 36 37.1	-10
	comp=Z,2.0nm,0.7s,baz=75,slow=7.0,SNR=3.8						
BRTR				LR	LR	05 14 08.9	
	comp=Z,83nm,18.2s,baz=10.0,slow=41						
OKC	Ostrava-Krasne	76.34	327	⇑eP	P	04 33 53.2	+0.1
OKC				ex	x	04 34 15.5	
PV10	Paradox Valley	76.40	50	eP	P	04 33 54.5	+0.8
PV10				epP	pP	04 34 09.1	-2.3
SGKT	Sivrigoynuk	76.58	313	i P	P	04 33 54.9	+0.2
MORC	Moravsky Berou	76.63	327	eP	P	04 33 55.0	+0.3
	comp=Z,29nm,0.7s,mb5.3						
UPC	Upice	76.66	328	⇑eP	P	04 33 55.1	+0.2
UPC				ex	x	04 34 13.9	
DPC	Dobruska-Polom	76.67	328	⇑iP	P	04 33 55.3	+0.4
DPC				ex	x	04 34 18.6	
PV01	Paradox Valley	76.83	50	eP	P	04 33 56.6	+0.4
WUAZ	Wupatki	76.99	54	eP	P	04 33 58.3	+1.2
	comp=Z,8.4nm,1.0s,mb4.6						
COBT	Iskenderun	77.02	308	i P	P	04 33 58.3	+1.1
PSZ	Piszkesteto	77.10	325	⇑iP	P	04 33 57.7	+0.3
PSZ	Piszkesteto	77.10	325	eP	P	04 33 57.7	+0.3
	comp=Z,11nm,1.0s,mb4.7						
VYHS	Vyhne	77.10	326	i P	P	04 33 57.9	+0.5
CLL	Collm	77.15	330	⇑P	P	04 33 57.2	-0.5
	comp=Z,logA/T=1.9,mb5.6						
CLL				i *SP	sP	04 34 20.2	-2.2
CLL	Collm	77.15	330	⇑iP	P	04 33 57.2	-0.5
CLL				i *PP	pP	04 34 20.2	+4.8
CLL				pmax	pmax		
	comp=Z,57nm,0.8s,mb5.5						
CLL	Collm	77.15	330	⇑iP	P	04 33 57.2	-0.5
	comp=Z,57nm,0.8s,mb5.5						
CLL				i pP	pP	04 34 20.2	+4.8
BRG	Berggiesshubel	77.16	330	eP	P	04 33 57.7	0.0
BRG				pmax	pmax		
	comp=Z,12nm,0.7s,mb4.9						
BRG				MLR	MLR		
	comp=E,190nm,21.6s						
BRG				MLR	MLR		
	comp=Z,200nm,21.6s						
BRG	Berggiesshubel	77.16	330	eP	P	04 33 57.7	0.0
	comp=Z,12nm,0.7s,mb4.9						
BRG				LR	LR		
	comp=Z,200nm,21.6s						
PVCC	Panska Ves	77.20	329	⇑eP	P	04 33 58.1	+0.2
ISCO	Idaho Springs	77.32	47	eP	P	04 34 00.0	+1.2
	comp=Z,4.6nm,0.8s,mb4.5						
PRU	Pruhonice	77.64	329	⇑eP	P	04 34 00.5	+0.1
	comp=Z,29nm,0.8s,mb5.3						
PRU				ex	x	04 34 23.5	
PRU	Pruhonice	77.64	329	eP	P	04 34 00.5	+0.1
PRU				e		04 34 23.5	
PRU				pmax	pmax		
	comp=Z,29nm,0.8s,mb5.3						
CLZ	Clausthal	77.65	332	eP	P	04 34 00.7	+0.3
	comp=Z,50nm,0.8s,mb5.5						
SMOL	Smolenice	77.67	326	i P	P	04 34 01.6	+1.0
ESKT	Eskisehir	77.98	313	i P	P	04 34 02.5	+0.1
WIT	Witteveen	78.06	335	eP	P	04 34 03.5	+0.9
	comp=Z,158nm,0.6s,mb6.1						
MEST	Erdemli	78.20	309	i P	P	04 34 02.4	-1.3
MOX	Moxa	78.20	331	i P	P	04 34 03.2	-0.2
	comp=Z,logA/T=1.5,mb5.2						
MOX	Moxa	78.20	331	eP	P	04 34 03.2	-0.2
MOX				pmax	pmax		
	comp=Z,26nm,0.8s,mb5.2						
MOX	Moxa	78.20	331	eP	P	04 34 03.2	-0.2
	comp=Z,26nm,0.8s,mb5.2						
PCOU	Corrie	78.21	342	⇑eP	P	04 34 03.4	+0.1
PCOU				AMb	AMB	04 34 04.6	
	comp=Z,70nm,0.8s,mb5.6						
NKC	Novy Kostel	78.23	330	⇑iP	P	04 34 03.5	-0.1
ULDT	Uludag	78.46	314	i P	P	04 34 05.5	+0.5
PMSU	Muirshiel	78.48	342	⇑eP	P	04 34 04.6	-0.3
PCA1	Carrot	78.50	342	⇑eP	P	04 34 04.9	-0.1
PCA1				AMb	AMB	04 34 05.8	
	comp=Z,38nm,0.8s,mb5.4						
NWAO	Narrogin (SRO)	78.52	202	eP	P	04 34 05.3	-0.3
	comp=Z,56nm,1.3s,mb5.3						
ESK	Eskdalemuir	78.61	341	eP	P	04 34 05.0	-0.6
	comp=Z,9.3nm,0.6s,mb4.9						
KHC	Kasperske Hory	78.71	329	⇑P	P	04 34 06.5	+0.2
WTSB	Winterswijk	78.74	334	⇑iP	P	04 34 06.1	-0.3
	comp=Z,31nm,1.0s,mb5.2						
SDCO	Great Sand Dun	78.84	49	eP	P	04 34 07.6	+0.3
	comp=Z,5.9nm,0.9s,mb4.5						
GEC2	GERESS Array S	78.89	329	eP	P	04 34 07.2	-0.1
GEC2				pmax	pmax		
	comp=Z,12nm,0.6s,mb5.0						
GEC2	GERESS Array S	78.89	329	eP	P	04 34 07.2	-0.1
	comp=Z,12nm,0.6s,mb5.0						
GERES	GERESS Array B	78.89	329	P	P	04 34 07.2	0.0
	comp=Z,7.6nm,0.5s,mb4.9,baz=37,slow=6.0,SNR=74						
GERES	GERESS Array B	78.89	329	P	P	04 34 07.2	-0.1
GERES				pmax	pmax		
	comp=Z,8.0nm,0.5s						
WET	Wettzell	78.96	329	eP	P	04 34 08.0	+0.3
WET				e*PP	pP	04 34 30.6	+5.2
WET				pmax	pmax		
	comp=Z,24nm,0.8s,mb5.2						
WET	Wettzell	78.96	329	eP	P	04 34 08.0	+0.3
	comp=Z,24nm,0.8s,mb5.2						
WET				epP	pP	04 34 30.6	+5.2
GRA1	Grafenberg Arr	79.13	330	eP	P	04 34 09.0	+0.4
	comp=Z,63nm,0.7s,mb5.7						
GRA1				epP	pP	04 34 31.8	+5.5
GRA1				LR	LR		
	comp=Z,200nm,20.9s						
GRF	Grafenberg Arr	79.13	330	eP	P	04 34 09.0	+0.4
GRF				e*PP	pP	04 34 31.8	+5.5
GRF				pmax	pmax		
	comp=Z,63nm,0.7s,mb5.7						
GRF				MLR	MLR		
	comp=Z,200nm,20.9s						
GMK	Mull of Kintyr	79.14	342	eP	P	04 34 08.4	-0.1
ISP	Isparta	79.37	312	⇓eP	P	04 34 11.3	+1.2
GAL1	Galloway	79.38	342	⇑eP	P	04 34 08.6	-1.2
ARSA	Arzberg	79.45	327	⇑iP	P	04 34 10.8	+0.4
	comp=Z,10.0nm,1.0s,mb4.7						
MOA	Molln	79.48	328	⇑iP	P	04 34 10.7	+0.2
	comp=Z,11nm,0.8s,mb4.8						
GCL	Cushendall	79.50	343	⇑eP	P	04 34 10.3	-0.2
TUC	Tucson	79.53	56	eP	P	04 34 12.0	+0.9
	comp=Z,2.7nm,0.9s,mb4.2						
ASF	Jabal al Asfar	79.61	304	P	P	04 34 12.4	+0.9
	comp=Z,18nm,0.8s,mb5.1,baz=264,slow=2.9,SNR=21						
VTS	Vitosha	79.66	319	i P	P	04 33 59.0	-13
MZLS	Mizel	79.69	293	P	P	04 34 12.3	+0.2
HILS	Ha’il	79.74	298	P	P	04 34 12.9	+0.5
CSS	Prodhromos	79.81	308	eP	P	04 34 12.6	+0.1
	comp=Z,30nm,0.7s,mb5.3						
GRUS	Gruza	79.84	322	⇓iP	P	04 34 11.7	-0.9
SIND	Sindeldorf	80.00	331	eP	P	04 34 13.0	-0.3
DIVS	Divcibare	80.01	322	⇑iP	P	04 34 12.5	-1.0
HGN	Heimansgroeve	80.05	334	⇑iP	P	04 34 13.0	-0.5
	comp=Z,20nm,0.8s,mb5.1						
TOD	Tromm	80.07	332	eP	P	04 34 13.6	0.0
PERS	Pernice	80.11	327	⇑iP	P	04 34 14.1	+0.1
SWS	Schriesheim	80.21	332	⇑eP	P	04 34 14.1	-0.3
GMM	Mts of Mourne	80.24	342	⇑eP	P	04 34 13.9	-0.5
LAZ	Ladron	80.26	52	eP	P	04 34 16.4	+1.4
ABH	Alteburg	80.27	333	eP	P	04 34 14.7	0.0
ANMO	Albuquerque	80.27	51	d iP	P	04 34 16.7	+1.7
ANMO	Albuquerque	80.27	51	eP	P	04 34 15.9	+0.9
	comp=Z,5.4nm,0.9s,mb4.5						
MMLI	Mount Malkishu	80.33	305	P	P	04 34 16.5	+1.1
FUR	Furstenfeldbru	80.37	330	eP	P	04 34 15.5	+0.2
FUR				pmax	pmax		
	comp=Z,62nm,0.8s,mb5.6						
FUR	Furstenfeldbru	80.37	330	eP	P	04 34 15.5	+0.2
	comp=Z,62nm,0.8s,mb5.6						
HMDT	Nahal Hemdat	80.39	305	P	P	04 34 16.6	+0.9
HMDT	Nahal Hemdat	80.39	305	⇑P	P	04 34 16.6	+0.9
HDH	Heidenheim	80.42	330	eP	P	04 34 15.2	-0.3
OBKA	Obir	80.45	327	⇓iP	P	04 34 15.7	0.0
	comp=Z,16nm,1.0s,mb4.9						
KBA	Koelnbreinsper	80.47	328	⇑iP	P	04 34 16.0	+0.2
	comp=Z,44nm,1.3s,mb5.2						
RUP	Ruppelstein	80.59	333	eP	P	04 34 16.4	0.0
NVSS	Nova Varos 2	80.60	322	⇓iP	P	04 34 17.0	+0.4
SLTI	Sal’it	80.70	305	P	P	04 34 18.1	+0.8
BNM	Barren Site	80.74	52	eP	P	04 34 18.3	+0.8
DMUB	Kingscourt	80.77	343	eP	P	04 34 17.3	+0.1
LJU	Ljubljana	80.83	326	⇑eP	P	04 34 17.3	-0.5
BUCH	Bad Urach	80.84	331	⇑eP	P	04 34 18.1	+0.3
LBG	Lerchenberg	80.86	331	eP	P	04 34 17.8	-0.1
WLF	Walferdange	80.93	333	eP	P	04 34 14.2	-3.9
DRGI	Dragot	80.93	305	P	P	04 34 19.2	+0.6
WATA	Walderalm	80.95	329	⇑iP	P	04 34 18.6	+0.3
	comp=Z,26nm,1.1s,mb5.1						
LANF	Langenberg	80.95	332	eP	P	04 34 18.3	0.0
BOJS	Bojanci	80.97	326	⇑eP	P	04 34 18.1	-0.4
BOJS				i PcP	PcP	04 34 19.8	-5.3
SKO	Skopje	80.98	320	⇑iP	P	04 34 19.5	+0.9
	comp=Z,0.1nm,0.8s						
WTTA	Wattenberg	80.98	329	⇑iP	P	04 34 19.0	+0.5
	comp=Z,33nm,0.6s,mb5.4						
GIVF	Givet	80.98	334	⇑iP	P	04 34 18.0	-0.5
PTCC	Patocco-Chiusa	81.02	327	eP	P	04 34 17.5	-1.2
FVI	Forni Avoltri	81.09	328	eP	P	04 34 18.3	-0.8
MOTA	Moosalm	81.12	329	⇑iP	P	04 34 19.6	+0.4
	comp=Z,25nm,0.9s,mb5.1						
CEY	Cerknica	81.12	326	⇑iP	P	04 34 18.8	-0.5
SQTA	Sankt Quirin	81.18	329	⇑iP	P	04 34 20.0	+0.4
	comp=Z,17nm,0.9s,mb5.0						
UBR	Uberruh	81.21	330	eP	P	04 34 19.6	-0.1
BAIF	Baives	81.22	335	⇑iP	P	04 34 19.3	-0.4
DLF	Lyons Farm	81.24	342	eP	P	04 34 17.9	-1.8
DLF	Lyons Farm	81.24	342	⇑iP	P	04 34 19.9	+0.2
DLF	Lyons Farm	81.24	342	⇑iP	P	04 34 19.9	+0.2
GUT	Gutenstein	81.25	331	⇑eP	P	04 34 19.9	0.0
AFFS	‘Afif	81.26	294	P	P	04 34 20.8	+0.4
BFO	Black Forest	81.31	331	eP	P	04 34 20.1	-0.1
BFO				pmax	pmax		
	comp=Z,15nm,0.8s,mb5.0						
BFO	Black Forest	81.31	331	eP	P	04 34 20.1	-0.1
	comp=Z,15nm,0.8s,mb5.0						
SPAK	Spaichingen	81.34	331	eP	P	04 34 20.5	+0.1
DCN	Croghan	81.37	343	eP	P	04 34 18.8	-1.6
DCN	Croghan	81.37	343	⇑iP	P	04 34 20.6	+0.2
DCN	Croghan	81.37	343	⇑iP	P	04 34 20.6	+0.2
WLS	Welschbruch	81.59	332	eP	P	04 34 21.6	0.0
CDF	Champ du Feu	81.61	332	⇑iP	P	04 34 21.8	0.0
	comp=Z,45nm,0.8s,mb5.1						
DAVA	Damuels	81.63	330	⇑iP	P	04 34 22.2	+0.3
	comp=Z,28nm,0.9s,mb5.2						
KIZ	Kirchzarten	81.78	331	⇑eP	P	04 34 22.4	-0.2
ZFRI	Zfri	81.79	304	P	P	04 34 23.8	+0.7
FELD	Feldberg	81.81	331	eP	P	04 34 22.8	0.0
ECH	Echery	81.82	332	eP	P	04 34 22.6	-0.3
KZIT	Kziot	82.02	305	P	P	04 34 24.9	+0.6
PRNI	Paran	82.04	304	P	P	04 34 25.3	+0.9
PRNI	Paran	82.04	304	⇑P	P	04 34 25.3	+0.9
BRMO	Bormio	82.12	329	eP	P	04 34 24.9	+0.4
MOF	Molkenrain	82.14	332	eP	P	04 34 24.3	-0.2
THEF	They Montfort	82.22	333	eP	P	04 34 24.7	-0.2
HINF	Hinteralfeld	82.27	332	⇑iP	P	04 34 24.8	-0.4
	comp=Z,23nm,0.7s,mb4.9						
HAU	Haudompre	82.28	332	⇑iP	P	04 34 24.9	-0.4
	comp=Z,30nm,0.8s,mb5.0						
HAU				eR			
	comp=Z,176nm,23.0s						
MEZF	Maizieres J’vi	82.30	333	⇑iP	P	04 34 25.4	+0.1
	comp=Z,37nm,0.8s,mb5.1						
BBS	Basel-Blauen	82.34	331	eP	P	04 34 25.7	+0.1
KMTI	Karmit	82.38	304	P	P	04 34 26.7	+0.6
KBRS	Khaybar	82.48	298	P	P	04 34 27.8	+1.1
MBH	Mount Berech	82.48	304	P	P	04 34 27.5	+0.8
MBH	Mount Berech	82.48	304	⇑P	P	04 34 27.5	+0.8
JMQS	Jabal Moqyreh	82.52	302	P	P	04 34 27.9	+1.0
EIL	Elat	82.55	303	P	P	04 34 27.7	+0.7
EIL	Elat	82.55	303	P	P	04 34 27.9	+0.9
	comp=Z,15nm,0.7s,mb5.1,baz=0.2,slow=9.9,SNR=15						
TBKS	Tabuk	82.56	301	P	P	04 34 28.3	+1.2
KAMS	Al Khamasin	82.60	291	P	P	04 34 28.0	+0.6
LOMF	Lomont	82.68	332	eP	P	04 34 27.4	+0.1
ALWS	Ilw as Safayha	82.73	303	P	P	04 34 29.1	+1.1
VAI	Varese	83.24	330	eP	P	04 34 29.8	-0.3
BDAS	Al Bad‘	83.32	302	P	P	04 34 32.0	+1.1
AYUS	‘Aynunah	83.39	302	P	P	04 34 32.1	+0.8
MCGN	Macugnaga	83.45	330	eP	P	04 34 31.4	+0.2
GDL2	Guadalupe Moun	83.46	52	eP	P	04 34 32.3	+0.8
CABF	La Chapelle	83.57	332	⇑iP	P	04 34 32.0	+0.2
	comp=Z,14nm,0.7s,mb4.9						
SFI	Santa Sofia	83.68	327	eP	P	04 34 33.5	+1.1
ORO	Oropa	83.73	330	eP	P	04 34 32.6	0.0
SEI	Scarperia	83.75	327	eP	P	04 34 34.3	+1.6
PGD	Poggio Sodo	83.75	327	eP	P	04 34 34.1	+1.4
LOR	Lormes	83.77	333	⇑iP	P	04 34 32.7	0.0
	comp=Z,79nm,0.8s,mb5.6						
LOR				eR			
	comp=Z,180nm,23.0s						
FLN	La Foliniere	83.80	337	⇑iP	P	04 34 32.7	-0.1
	comp=Z,34nm,0.7s,mb5.3						
FLN				eR			
	comp=Z,88nm,22.0s						
GSCL	Gusciola	83.81	328	eP	P	04 34 34.0	+1.0
ERBM	Eremo	83.82	328	eP	P	04 34 34.4	+1.4
JLP	Les Platons	83.83	338	⇑eP	P	04 34 33.0	0.0
JLP				AMb	AMB	04 34 34.9	
	comp=Z,84nm,1.6s,mb5.6						
LDF	La Druitiere	83.85	336	⇑iP	P	04 34 32.8	-0.3
	comp=Z,17nm,0.5s,mb5.1						
JQE	Queens East	83.85	338	⇑eP	P	04 34 33.0	-0.1
JQE				AMb	AMB	04 34 34.6	
	comp=Z,94nm,0.6s,mb6.1						
JRS	Jersey	83.88	338	⇑eP	P	04 34 33.0	-0.2
JRS				AMb	AMB	04 34 34.7	
	comp=Z,49nm,0.6s,mb5.8						
TATS	Tathlith	83.88	291	P	P	04 34 34.9	+1.0
GRAM		83.90	328	P	P	04 34 33.6	+0.2
BOB	Bobbio (Coli)	83.91	329	eP	P	04 34 33.7	+0.2
TRAV		83.92	330	P	P	04 34 32.7	-0.8
VALM		83.95	328	P	P	04 34 33.5	-0.2
NRCA	Norcia	84.03	325	eP	P	04 34 34.3	+0.2
ASS	Assisi	84.04	326	eP	P	04 34 34.5	+0.3
BDI	Bagni Di Lucca	84.05	328	eP	P	04 34 33.6	-0.6
SSF	Saint Saulge	84.06	334	⇑iP	P	04 34 34.4	+0.2
	comp=Z,48nm,0.8s,mb5.4						
CODM		84.07	328	P	P	04 34 34.2	-0.1
BACM		84.07	328	P	P	04 34 34.0	-0.3
UMJS	Umm Lajj	84.14	299	P	P	04 34 36.4	+1.3
VINC	Vinca	84.16	328	P	P	04 34 33.8	-0.9
HYF	Humbligny	84.17	334	eP	P	04 34 35.2	+0.5
LSD	Ceresole Reale	84.18	330	P	P	04 34 35.6	+0.7
MAIM		84.21	328	P	P	04 34 33.9	-1.1
GRR	Gorron	84.25	337	⇑iP	P	04 34 35.3	+0.2
	comp=Z,96nm,0.8s,mb5.7						
LPL	La Plagne	84.28	331	⇑iP	P	04 34 36.2	+0.8
	comp=Z,24nm,0.5s,mb5.2						
LPG	La Plagne	84.29	331	⇑iP	P	04 34 36.4	+1.0
	comp=Z,39nm,0.5s,mb5.5						
AQU	L’Aquila	84.31	325	eP	P	04 34 35.6	0.0
	comp=Z,38nm,1.0s,mb5.5						
YNBS	Yanbu‘ al Bahr	84.31	298	P	P	04 34 37.0	+1.0
SMF	Signal de Mont	84.32	333	⇑iP	P	04 34 35.6	+0.1
	comp=Z,72nm,0.8s,mb5.6						
AVF	Avril sur Loir	84.35	333	⇑iP	P	04 34 36.0	+0.3
	comp=Z,109nm,0.7s,mb5.8						
RSP	Reno Superiore	84.41	330	P	P	04 34 35.4	-0.6
CII	Carovilli	84.43	324	eP	P	04 34 36.3	+0.1
	comp=Z,27nm,0.9s,mb5.4						
PCP	Pian Castagno	84.44	329	P	P	04 34 35.0	-1.2
PTQR	Pietraquaria	84.58	325	eP	P	04 34 36.6	-0.3
FENE	Fenestrelle	84.58	330	P	P	04 34 36.3	-0.5
MNS	Montasola	84.59	325	eP	P	04 34 36.4	-0.6
GRFL	Gerfalco	84.66	327	eP	P	04 34 36.8	-0.4
BHB	Bricherasio	84.67	330	P	P	04 34 35.8	-1.5
BNI	Bardonecchia	84.70	331	eP	P	04 34 37.8	+0.4
	comp=Z,8.5nm,0.6s,mb5.0						
BGF	Bois d’Agland	84.72	334	⇑iP	P	04 34 37.8	+0.3
	comp=Z,26nm,0.7s,mb5.2						
WMOK	Wichita Mounta	84.73	47	eP	P	04 34 37.9	+0.1
	comp=Z,11nm,1.0s,mb5.0						
RRL	Cesana Torines	84.78	330	P	P	04 34 38.2	+0.4
FIN	Finale Ligure	84.85	329	eP	P	04 34 37.2	-1.0
SGMF	Saint Gilles	84.86	338	⇑iP	P	04 34 38.6	+0.5
	comp=Z,41nm,0.6s,mb5.4						
ROB	Roburent	84.91	329	P	P	04 34 38.0	-0.4
SGO	Sicignano	84.93	323	eP	P	04 34 38.6	-0.1
BLJS	Baljurashi	84.94	292	P	P	04 34 40.8	+1.6
MBDF	Montbardon	84.95	330	⇑iP	P	04 34 38.9	+0.2
	comp=Z,30nm,0.5s,mb5.4						
ROSF	Rostrenen	84.98	338	⇑iP	P	04 34 39.4	+0.6
	comp=Z,90nm,1.0s,mb5.6						
RORO		84.99	329	P	P	04 34 37.9	-1.0
PZZ	Prazzo	85.02	330	P	P	04 34 37.5	-1.5
DJNS	Zahran al Janu	85.07	289	P	P	04 34 41.6	+1.7
AGO	Saint Agoulin	85.07	333	eP	P	04 34 39.8	+0.5
GVD	Gavdhos	85.08	314	eP	P	04 34 39.4	-0.1
	comp=Z,65nm,0.7s,mb5.9						
ORIF	Oris-en-Rattie	85.11	331	⇑iP	P	04 34 40.2	+0.7
	comp=Z,34nm,0.7s,mb5.3						
ORIF				eR			
	comp=Z,100nm,22.2s						
ENR	Entracque	85.13	330	P	P	04 34 37.8	-1.9
MONE	Monesi	85.13	329	P	P	04 34 38.7	-0.9
STV2	Anna di Valdie	85.15	330	P	P	04 34 38.0	-1.8
STV	Sta Anna Valdi	85.16	330	P	P	04 34 37.9	-1.9
TCF	Toulx Ste Croi	85.17	334	⇑iP	P	04 34 40.3	+0.6
	comp=Z,27nm,0.7s,mb5.2						
TDS	Terranova Siba	85.19	322	eP	P	04 34 40.4	+0.4
IMI	Imperia	85.23	329	eP	P	04 34 39.7	-0.4
SAOF	Saorge	85.29	329	eP	P	04 34 40.1	-0.3
AUTN	L’Aution	85.33	330	eP	P	04 34 40.6	0.0
QUIF	Quistinic	85.33	338	⇑iP	P	04 34 40.9	+0.4
	comp=Z,48nm,0.8s,mb5.4						
NEGI	Negi	85.35	329	P	P	04 34 39.6	-1.1
TIP	Timpagrande	85.38	321	eP	P	04 34 41.1	+0.1
PYM	Petit Puy Mans	85.38	333	eP	P	04 34 41.5	+0.7
SBF	Sospel	85.44	329	⇑iP	P	04 34 40.7	-0.4
	comp=Z,66nm,0.5s,mb5.7						
AURF	Auriere	85.46	330	eP	P	04 34 41.1	-0.1
LTHS	Al Lith	85.49	293	P	P	04 34 42.9	+1.0

MVIF	Mont Vial	85.52	330	eP	P	04 34 41.5	0.0
REVF	Revere	85.57	329	eP	P	04 34 41.6	-0.2
VIVF	Saint-Julien-l	85.59	332	⇑iP	P	04 34 42.6	+0.8
	comp=Z,64nm,0.8s,mb5.6						
MFF	Saint Martin d	85.64	336	⇑iP	P	04 34 42.8	+0.8
	comp=Z,60nm,0.7s,mb5.6						
CALN	Calern	85.74	330	eP	P	04 34 42.8	+0.2
LBL	Lubilhac	85.75	333	eP	P	04 34 43.8	+1.2
LTX	Lajitas	85.95	54	eP	P	04 34 45.0	+1.1
	comp=Z,14nm,0.8s,mb5.2						
TXAR	Lajitas Array	85.95	54	P	P	04 34 45.1	+1.1
	comp=Z,9.8nm,0.6s,mb5.2,baz=293,slow=3.5,SNR=177						
PGF	Pioggiola	85.95	328	⇑iP	P	04 34 43.4	-0.3
	comp=Z,16nm,0.7s,mb5.0						
FRF	La Foret Royal	85.99	330	⇑iP	P	04 34 43.7	-0.1
CCM	Cathedral Cave	86.00	40	eP	P	04 34 44.1	0.0
	comp=Z,22nm,0.8s,mb5.4						
SMRF	Simiane la Rot	86.03	331	⇑iP	P	04 34 44.8	+0.8
	comp=Z,22nm,0.7s,mb5.2						
TAVF	Tavernes	86.16	330	eP	P	04 34 45.3	+0.6
LMR	La Mourre	86.24	330	⇑iP	P	04 34 45.3	+0.2
	comp=Z,76nm,0.6s,mb5.8						
RJF	Les Rejaudoux	86.27	334	⇑iP	P	04 34 46.0	+0.9
	comp=Z,34nm,0.8s,mb5.3						
RJF				eR			
	comp=Z,122nm,19.2s						
PRAF	Pradon	86.33	331	eP	P	04 34 46.4	+0.9
PUYF	Puyloubier	86.37	330	eP	P	04 34 46.2	+0.5
TREF	Trevaresse	86.40	331	eP	P	04 34 46.9	+1.0
CAF	Calviac	86.42	333	⇑iP	P	04 34 47.2	+1.3
	comp=Z,91nm,0.7s,mb5.8						
FVM	French Village	86.45	40	eP	P	04 34 46.4	+0.2
	comp=Z,9.7nm,0.9s,mb5.0						
LASF	Ste Croix	86.56	332	⇑iP	P	04 34 47.3	+0.7
	comp=Z,49nm,0.9s,mb5.4						
BERF	Bertagne	86.56	330	eP	P	04 34 47.2	+0.6
SOI	Samo	86.59	321	eP	P	04 34 46.6	-0.3
GELF	Grande-Etoile	86.60	331	eP	P	04 34 47.3	+0.5
LFF	La Frestale	86.84	334	⇑iP	P	04 34 49.3	+1.3
	comp=Z,90nm,0.8s,mb5.8						
JCT	Junction City	87.36	50	P	P	04 34 51.3	+0.5
MTLF	Montolieu	87.77	333	⇑iP	P	04 34 53.5	+1.0
	comp=Z,36nm,0.8s,mb5.3						
WCI	Wyandotte Cave	88.14	37	eP	P	04 34 54.7	+0.3
	comp=Z,14nm,0.8s,mb5.3						
EJON	La Jonquera	88.32	332	P	P	04 34 55.8	+0.6
	comp=Z,28nm,0.9s,mb5.5						
MLS	Moulis	88.49	333	eP	P	04 34 56.7	+0.8
VALF	Valcebollere	88.67	332	eP	P	04 34 57.5	+0.7
EPF	Esparros	88.67	334	⇑iP	P	04 34 56.5	-0.3
	comp=Z,15nm,0.6s,mb5.2						
RESF	Ens	88.88	334	eP	P	04 34 59.4	+1.6
VIEF	Viey	88.91	334	eP	P	04 34 59.3	+1.4
ETSF	Etsaut	89.09	334	⇑iP	P	04 35 00.1	+1.3
	comp=Z,69nm,0.6s,mb5.9						
EALK	Alkurruntz	89.10	335	P	P	04 34 59.4	+0.6
	comp=Z,6.4nm,0.5s,mb5.2						
EMIR	Miracle	89.27	332	P	P	04 34 59.9	+0.3
	comp=Z,15nm,0.7s,mb5.4						
SSPA	Standing Stone	89.52	30	eP	P	04 35 01.4	+0.5
	comp=Z,19nm,0.8s,mb5.5						
MCWV	Mont Chateau	89.62	32	eP	P	04 35 02.1	+0.7
	comp=Z,22nm,0.8s,mb5.5						
EPOB	Poblet	89.92	332	P	P	04 35 03.3	+0.5
	comp=Z,11nm,0.5s,mb5.5						
ESAC	San Caprasio	90.11	334	P	P	04 35 04.8	+1.2
	comp=Z,27nm,0.5s,mb5.8						
EPON	Pontenova	90.65	339	P	P	04 35 06.2	+0.1
	comp=Z,30nm,0.8s,mb5.7						
CPCT	Cooper Cave	91.24	37	eP	P	04 35 12.5	+3.4
EMOS	Mosqueruela	91.33	333	P	P	04 35 10.1	+0.8
	comp=Z,18nm,0.8s,mb5.5						
ETOR	Torete	91.44	334	P	P	04 35 10.4	+0.6
	comp=Z,16nm,0.6s,mb5.5						
ERUA	La Rua	91.52	338	P	P	04 35 10.2	0.0
	comp=Z,5.2nm,0.3s,mb5.3						
ECAL	Calabor	91.82	338	P	P	04 35 11.5	-0.1
	comp=Z,4.9nm,0.6s,mb5.0						
EIBI	Ibiza	91.89	331	P	P	04 35 11.1	-0.8
PBRG	Braganca	91.95	338	eP	P	04 35 11.7	-0.5
	comp=Z,14nm,0.8s,mb5.3						
ELOB	Lobios	92.25	339	P	P	04 35 13.7	+0.1
	comp=Z,9.5nm,0.7s,mb5.2						
PVRL	Vila Real	92.71	338	eP	P	04 35 15.5	-0.2
	comp=Z,19nm,1.1s,mb5.4						
ESDC	Sonseca Array	93.09	335	P	P	04 35 17.6	+0.2
	comp=Z,2.4nm,0.5s,mb4.9,baz=14,slow=4.4,SNR=18						
ESDC				LR	LR	05 19 31.8	
	comp=Z,147nm,21.5s,baz=10.0,slow=37						
ESDC	Sonseca Array	93.09	335	P	P	04 35 17.6	+0.1
	comp=Z,2.4nm,0.6s,mb4.8						
ETOB	Tobarra	93.24	333	P	P	04 35 19.4	+1.3
	comp=Z,13nm,0.8s,mb5.4						
PVIS	Viseu	93.28	338	eP	P	04 35 17.9	-0.4
	comp=Z,20nm,1.5s,mb5.3						
MTE	Manteigas	93.48	338	eP	P	04 35 19.1	-0.1
	comp=Z,18nm,1.0s,mb5.5						
EVIA	Vianos	93.56	334	P	P	04 35 20.6	+1.0
	comp=Z,26nm,0.6s,mb5.8						
PCBR	Castelo Branco	93.98	338	eP	P	04 35 21.2	-0.2
	comp=Z,7.2nm,0.8s,mb5.2						
PTOM	Tomar	94.45	338	eP	P	04 35 23.4	-0.2
	comp=Z,13nm,1.0s,mb5.3						
EQES	Quesada	94.51	334	P	P	04 35 24.6	+0.7
	comp=Z,5.7nm,0.7s,mb5.1						
EADA	Adamuz	94.66	335	P	P	04 35 24.4	-0.2
	comp=Z,4.0nm,0.8s,mb4.9						
EMIN	Mina Concepcio	95.67	336	P	P	04 35 29.2	0.0
PBEJ	Beja	95.78	337	eP	P	04 35 29.6	-0.1
	comp=Z,9.7nm,0.9s,mb5.2						
PTEO	Sao Teotonio	96.47	338	eP	P	04 35 32.6	-0.2
	comp=Z,31nm,1.4s,mb5.5						
KMBO	Kilima Mbogo	102.41	280	P	Pdif	04 36 01.8	+1.5
	comp=Z,0.9nm,0.6s,baz=60,slow=21,SNR=4.1						
LSZ	Lusaka	118.46	275	ePKPdf	PKPdf	04 40 52.1	+1.8
SDV	Santo Domingo	120.48	39	ePKPdf	PKPdf	04 40 55.6	+1.2
SBA	Scott Base	120.76	174	ePKPdf	PKPdf	04 40 55.5	+2.0
DBIC	Dimbokro	123.16	321	PKP	PKPdf	04 41 00.9	+1.3
	comp=Z,6.7nm,0.6s,baz=32,slow=1.9,SNR=17						
DBIC	Dimbokro	123.16	321	PKIKP	PKPdf	04 41 00.9	+1.3
DBIC				pmax	pmax		
	comp=Z,7.0nm,0.6s						
TIC	Toumodi	123.25	321	ePKIKP	PKPdf	04 41 00.7	+0.9
	comp=Z,23nm,0.6s						
KIC	Kosan Boka	123.37	321	ePKIKP	PKPdf	04 41 00.8	+0.8
	comp=Z,56nm,0.9s						
LIC	Lamto	123.63	321	ePKIKP	PKPdf	04 41 00.3	-0.2
LIC	Lamto	123.63	321	ePKIKP	PKPdf	04 41 01.3	+0.8
	comp=Z,39nm,1.1s						
MAW	Mawson	124.81	207	eP	PKPdf	04 41 03.7	+2.3
	comp=Z,8.8nm,0.8s						
MAW	Mawson	124.81	207	PKP	PKPdf	04 41 03.8	+2.4
	comp=Z,9.2nm,0.7s,baz=94,slow=1.0,SNR=31						
MAW	Mawson	124.81	207	PKIKP	PKPdf	04 41 03.8	+2.4
MAW				pmax	pmax		
	comp=Z,9.0nm,0.7s						
QSPA	South Pole Qui	132.03	180	ePKP	PKPdf	04 41 17.0	+2.1
SYO	Syowa Base	133.44	209	⇓Pdiff	Pdif	04 38 18.2	+2.9
SAML	Samuel	139.57	42	PKPdf	PKPdf	04 41 31.4	+0.9
SNAA	Sanae	146.14	199	e	PKPdf	04 41 42.9	+2.7
SNAA	Sanae	146.14	199	⇑iPKPdf	PKPdf	04 41 40.0	-0.2
SNAA				e		04 41 42.9	
SNAA				e		04 45 09.4	
LVC	Limon Verde	146.93	64	ePKPdf	PKPdf	04 41 45.7	+2.7
LVC				ePKPbc	PKPbc	04 41 48.1	+3.4
VNA2	Neumayer--Watz	147.71	198	e	PKPdf	04 41 50.0	+7.1
VNA2	Neumayer--Watz	147.71	198	⇓iPKPdf	PKPdf	04 41 46.5	+3.6
VNA2				e		04 41 50.0	
VNA2				e		04 45 15.5	
VNA3	Neumayer Olymp	147.97	196	e	PKPdf	04 41 50.4	+7.1
VNA3	Neumayer Olymp	147.97	196	⇑iPKPdf	PKPdf	04 41 47.2	+3.9
VNA3				e		04 41 50.4	
VNA3				e		04 45 15.8	
VNA1	Neumayer--Stat	148.11	198	e	PKPdf	04 41 51.2	+7.7
VNA1	Neumayer--Stat	148.11	198	⇓iPKPdf	PKPdf	04 41 48.4	+4.9
VNA1				e		04 41 51.2	
VNA1				e		04 45 17.8	
BAO	Brasilia Array	151.78	23	P	PKPdf	04 41 53.9	+3.1
BAO				i		04 41 59.7	
BAO				i		04 42 08.6	
BAO				i		04 42 24.1	
BDFB	Brasilia	151.78	23	PKP	PKPdf	04 41 53.1	+2.3
	comp=Z,3.5nm,0.8s,baz=337,slow=7.7,SNR=3.9						
BDFB				PKPbc	PKPdf	04 41 59.5	+8.8
	comp=Z,22nm,0.8s,baz=266,slow=3.1,SNR=29						
CPUP	Villa Florida	156.92	53	PKP	PKPdf	04 41 58.5	+1.1
	comp=Z,1.1nm,0.7s,baz=276,slow=5.6,SNR=3.9						
CPUP				PKPab	PKPab	04 42 29.9	-0.3
	comp=Z,1.5nm,0.6s,baz=345,slow=5.7,SNR=6.5						
CPUP	Villa Florida	156.92	53	PKIKP	PKPdf	04 41 58.6	+1.1
CPUP						04 42 30.0	
CPUP				pmax	pmax		
	comp=Z,1.0nm,0.7s						

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*NEIC **10** 04:46:36.1, 44.28N×10.74E, h14^{km}, MD2.5(ROM), ML2.3(GEN), ML2.2(LDG), After ROM.*
*ROM **10** 04:46:36.1±0.2, 44.28N×10.74E, h14^{km}±3^{km}, MD2.5/5, ML1.5/3, Error ellipse: s-maj=1.0km s-min=0.7km az=0.0*
*LDG **10** 04:46:38.6±0.4, 44.09N×10.78E, h10^{km}, Ml2.2/7, Error ellipse: s-maj=7.7km s-min=4.5km az=83.0*
ISC 10 04:46:36.6±0.3, **44.26N**±0.03×**10.71E**±0.03, **h18**^{km}±3^{km}, **n32**, σ0^{s}**91**/60, **4C, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GSCL	Gusciola	0.13	317	ePG	Pb	04 46 39.6	-1.1
GSCL				SG	Sb	04 46 43.3	-0.1
	155nm,0.3s						
GSCL	Gusciola	0.13	317	ePg	Pb	04 46 39.6	-1.1
GSCL				eSg	Sb	04 46 43.3	-0.1
BDI	Bagni Di Lucca	0.21	203	⇑iPG	Pb	04 46 41.7	-0.1
BDI				SG	Sb	04 46 46.0	+0.8
	232nm,0.3s						
BDI	Bagni Di Lucca	0.21	203	⇑iPg	Pb	04 46 41.7	0.0
BDI				eSg	Sb	04 46 46.0	+0.8
ZCCA	Zocca	0.21	63	⇑iPG	Pb	04 46 41.0	-0.8
ZCCA				SG	Sb	04 46 44.4	-1.0
ZCCA	Zocca	0.21	63	⇑iPg	Pb	04 46 41.0	-0.9
ZCCA				eSg	Sb	04 46 44.4	-1.0
VLC	Villacollemand	0.25	248	ePg	Pb	04 46 42.5	0.0
VLC				eSg	Sb	04 46 47.3	+0.9
ERBM	Eremo	0.27	308	ePG	Pb	04 46 42.5	-0.2
ERBM				SG	Sb	04 46 46.7	-0.1
	35nm,0.3s						
ERBM	Eremo	0.27	308	ePg	Pb	04 46 42.5	-0.3
ERBM				eSg	Sb	04 46 46.7	-0.1
FNVD	Fontana Vidola	0.31	106	ePG	Pb	04 46 42.3	-1.0
FNVD				SG	Sb	04 46 47.1	-0.8
FNVD	Fontana Vidola	0.31	106	ePg	Pb	04 46 42.3	-1.1
FNVD				eSg	Sb	04 46 47.1	-0.8
VALM		0.35	286	P	Pb	04 46 43.8	-0.1
VALM				S	Sb	04 46 48.7	-0.2
MAIM		0.38	205	P	Pb	04 46 44.5	0.0
MAIM				S	Sb	04 46 49.7	-0.1
VINC	Vinca	0.42	254	P	Pb	04 46 45.3	+0.1
VINC				S	Sb	04 46 51.1	+0.2
BACM		0.46	273	P	Pb	04 46 46.0	+0.1
BACM				S	Sb	04 46 52.3	+0.1
SEI	Scarperia	0.51	113	ePG	Pb	04 46 45.8	-0.9
SEI				SG	Sb	04 46 54.1	+0.6
SEI	Scarperia	0.51	113	ePg	Pb	04 46 45.8	-0.9
SEI				eSg	Sb	04 46 54.1	+0.6
GRAM		0.52	297	P	Pb	04 46 47.0	+0.1
GRAM				S	Sb	04 46 53.9	0.0
CODM		0.63	283	P	Pb	04 46 49.1	+0.3
CODM				S	Sb	04 46 57.4	+0.3
VMG	Vicchio	0.67	116	ePG	Pb	04 46 50.5	+1.1
VMG				SG	Sb	04 46 59.4	+1.2
VMG	Vicchio	0.67	116	ePg	Pb	04 46 50.5	+1.0
VMG				eSg	Sb	04 46 59.4	+1.2
CSNT	Castellina Chi	0.89	152	ePG	Pb	04 46 53.9	+0.8
CSNT	Castellina Chi	0.89	152	ePg	Pb	04 46 53.9	+0.7
SFI	Santa Sofia	0.89	113	ePG	Pb	04 46 54.0	+0.8
PGF	Pioggiola	2.11	217	ePn	Pn	04 47 10.8	-0.9
PGF				eSn	Sn	04 47 34.9	-2.8
	2.5nm,0.3s						
SBF	Sospel	2.39	262	ePn	Pn	04 47 14.2	-1.5
SBF				eSn	Sn	04 47 44.6	-0.2
	4.6nm,0.3s						
MBDF	Montbardon	2.86	281	ePn	Pn	04 47 24.1	+1.8
MBDF				eSn	Sn	04 47 58.0	+1.4
	0.9nm,0.3s						
FRF	La Foret Royal	3.02	258	ePn	Pn	04 47 24.9	+0.3
FRF				eSn	Sn	04 47 59.1	-1.5
	1.7nm,0.3s						
LPL	La Plagne	3.10	295	ePn	Pn	04 47 27.5	+1.8
LPL				eSn	Sn	04 48 03.2	+0.6
	1.1nm,0.3s						
LMR	La Mourre	3.18	255	ePn	Pn	04 47 27.0	+0.2
LMR				eSn	Sn	04 48 02.2	-2.5
	1.1nm,0.2s						
SMRF	Simiane la Rot	3.71	267	ePn	Pn	04 47 34.3	-0.1
CABF	La Chapelle	4.02	308	ePn	Pn	04 47 40.4	+1.6
CABF				eSn	Sn	04 48 24.9	-1.0
	0.8nm,0.2s						

WEL 10 05:18:47.2±0.4, **38.89S**×**175.32E, h260**^{km}±3^{km}, **ML3.5**/6, **Error ellipse: s-maj=7.6km s-min=4.0km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FWVZ	Far West T-bar	0.41	154	PN	P	05 19 21.0	-0.3
WNVZ	Wahianoa	0.49	154	PN	P	05 19 21.2	-0.2
MOVZ	Moawhango	0.62	148	PN	P	05 19 21.2	-0.7
MOVZ				eSN	S	05 19 47.6	-1.3
MOVZ				eSN	S	05 19 48.0	-0.9
WAZ	Wanganui	0.91	197	PN	P	05 19 22.6	-0.4
WAZ				SN	S	05 19 50.4	-0.6
BKZ	Black Stump Fm	0.95	108	PN	P	05 19 23.0	-0.2
TSZ	Takapari Road	1.27	157	PN	P	05 19 25.1	-0.1
TSZ				SN	S	05 19 54.1	-0.7
MRZ	Mangatainoka R	1.79	174	PN	P	05 19 28.1	-0.8
MRZ				SN	S	05 20 00.5	-0.9
BFZ	Birch Farm	1.93	159	PN	P	05 19 29.7	-0.4
BFZ				SN	S	05 20 01.7	-1.8
KIW	Kapiti Island	2.00	189	PN	P	05 19 29.5	-1.3
KIW				SN	S	05 20 03.3	-1.2
CAW	Cannon Point	2.23	185	PN	P	05 19 31.6	-1.3
CAW				SN	S	05 20 06.9	-1.5
MTW	Mount Morrison	2.28	177	PN	P	05 19 32.1	-1.3
MRW	Makara Radio	2.39	191	PN	P	05 19 32.9	-1.6
MRW				SN	S	05 20 08.9	-2.3
PUZ	Puketiti	2.44	72	PN	P	05 19 34.6	-0.3
SNZO	South Karori	2.47	191	PN	P	05 19 33.5	-1.7
SNZO				SN	S	05 20 10.9	-1.6
MSWZ	Moikau Station	2.53	181	PN	P	05 19 34.4	-1.4
MSWZ				SN	S	05 20 12.7	-0.9
MXZ	Matakaoa Point	2.69	62	ePN	P	05 19 36.2	-1.3
TUWZ	Tuamarina	2.75	202	PN	P	05 19 36.2	-1.9
TUWZ				SN	S	05 20 15.2	-2.5
NNZ	Nelson	2.77	212	PN	P	05 19 35.7	-2.6
NNZ				SN	S	05 20 14.7	-3.3
BSWZ	Blackbirch Sta	3.04	201	PN	P	05 19 39.5	-1.6
BSWZ				SN	S	05 20 21.9	-1.1
THZ	Tophouse	3.42	212	PN	P	05 19 42.4	-2.9
THZ				SN	S	05 20 26.9	-3.6
KHZ	Kahutara	3.78	200	PN	P	05 19 47.0	-2.5
KHZ				SN	S	05 20 34.9	-3.0
DSZ	Denniston Nort	3.92	222	ePN	P	05 19 47.5	-3.6
LTZ	Lake Taylor	4.53	210	PN	P	05 19 54.8	-3.4
MQZ	McQueen's Vall	5.22	202	PN	P	05 20 02.3	-4.2
MQZ				SN	S	05 21 03.3	-5.2
ODZ	Otahua Downs	7.07	208	PN	P	05 20 25.7	-3.9

WEL 10 05:18:57.1±0.4, **37.13S**×**176.93E, h197**^{km}±5^{km}, **ML4.0**/9, **Error ellipse: s-maj=8.0km s-min=6.3km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	1.14	173	PN	P	05 19 26.8	-1.0
URZ				SN	S	05 19 51.5	-0.1
MXZ	Matakaoa Point	1.18	112	PN	P	05 19 27.8	-0.4
MXZ				SN	S	05 19 52.3	+0.1
MWZ	Matawai	1.30	159	PN	P	05 19 28.4	-0.8
MWZ				SN	S	05 19 53.7	-0.3
PUZ	Puketiti	1.42	132	PN	P	05 19 30.1	-0.1
PUZ				SN	S	05 19 54.3	-1.5
KNZ	Kokohu	1.98	163	PN	P	05 19 35.4	-0.2
KNZ				SN	S	05 20 04.5	-0.7
BKZ	Black Stump Fm	2.07	189	PN	P	05 19 35.8	-0.7
MGZ	Maungaku	2.17	210	PN	P	05 19 37.9	+0.3
NGZ	Ngauruhoe	2.30	207	PN	P	05 19 39.4	+0.4
TUVZ	Tukino	2.36	205	PN	P	05 19 39.5	-0.3
FWVZ	Far West T-bar	2.39	207	PN	P	05 19 40.1	+0.1
FWVZ				eSN	S	05 20 14.1	+1.0
WNVZ	Wahianoa	2.44	205	PN	P	05 19 40.2	-0.4
WNVZ				SN	S	05 20 14.2	+0.1
MOVZ	Moawhango	2.46	202	PN	P	05 19 39.6	-1.3
MOVZ				SN	S	05 20 13.7	-0.9
PWZ	Pawanui	2.90	181	PN	P	05 19 44.6	-1.4
PWZ				SN	S	05 20 22.5	-1.1
TSZ	Takapari Road	3.03	194	PN	P	05 19 45.9	-1.6
TSZ				SN	S	05 20 25.4	-0.9
WAZ	Wanganui	3.04	210	PN	P	05 19 46.5	-1.0
WAZ				SN	S	05 20 25.2	-1.3
BFZ	Birch Farm	3.59	188	PN	P	05 19 52.0	-2.4
BFZ				SN	S	05 20 35.5	-3.0
MRZ	Mangatainoka R	3.69	196	PN	P	05 19 52.8	-2.7
MRZ				SN	S	05 20 37.3	-3.3
KIW	Kapiti Island	4.05	202	PN	P	05 19 56.7	-3.4
KIW				SN	S	05 20 43.8	-4.9
MTW	Mount Morrison	4.18	195	PN	P	05 19 58.3	-3.3
MTW				SN	S	05 20 47.3	-4.3
CAW	Cannon Point	4.23	199	PN	P	05 19 58.9	-3.5
CAW				SN	S	05 20 48.3	-4.5
MRW	Makara Radio	4.45	202	PN	P	05 20 01.2	-3.9
MRW				SN	S	05 20 52.9	-4.8
MSWZ	Moikau Station	4.48	196	PN	P	05 20 01.6	-3.9
SNZO	South Karori	4.52	202	PN	P	05 20 02.4	-3.7
SNZO				SN	S	05 20 54.5	-4.9
BHW	Baring Head	4.56	200	PN	P	05 20 02.5	-4.1
TUWZ	Tuamarina	4.88	207	PN	P	05 20 06.7	-3.9
TUWZ				SN	S	05 21 01.9	-5.8
NNZ	Nelson	4.93	213	PN	P	05 20 08.9	-2.4
NNZ				SN	S	05 21 04.4	-4.3
BSWZ	Blackbirch Sta	5.16	206	ePN	P	05 20 10.6	-3.5
THZ	Tophouse	5.58	213	ePN	P	05 20 16.4	-3.2
KHZ	Kahutara	5.89	205	PN	P	05 20 19.2	-4.5
MQZ	McQueen's Vall	7.34	205	PN	P	05 20 37.2	-5.4
MQZ				SN	S	05 21 56.1	-8.8

IDC 10 05:39:16.7±3.3, **10.00S**×**160.79E, mb3.8**/3, **mb1 4.1**/3, **mb1mx3.9**/10, **Error ellipse: s-maj=130.0km s-min=36.8km az=137.0, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	27.36	246	P	P	05 45 04.0	-1.8
	1.2nm,0.6s,baz=75,slow=9.8,SNR=11						
ILAR	Eielson Array	84.14	20	P	P	05 51 49.4	-1.3
	0.4nm,0.7s,baz=236,slow=6.2,SNR=5.2						
MKAR	Makanchi Array	89.45	318	P	P	05 52 15.6	-1.4
	0.3nm,0.5s,baz=108,slow=4.6,SNR=5.8						

CASC 10 05:49:36.2±1.6, **13.41N**×**90.20W, h31**^{km}±4^{km}, **MD3.6, ML3.7, 5C-6D, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CUSS	Cusmapa	0.55	27	⇓eP	Pb	05 49 47.9	+0.4
CUSS				eS	Sb	05 49 56.9	+1.7
SBLS	San Blas	0.70	53	⇓eP	Pb	05 49 50.0	0.0
SBLS				eS	Sb	05 50 00.6	+1.2
RTR	El Retiro	0.72	48	⇓eP	Pn	05 49 50.5	+0.3
RTR				eS	Sb	05 50 01.4	+1.4
SNJE	San Jose	0.73	52	⇓eP	Pn	05 49 50.5	+0.1
SNJE				eS	Sb	05 50 01.3	+1.0
IXG	Ixpaco	0.80	342	⇓eP	Pn	05 49 50.9	-0.4
IXG				eS	Sb	05 50 02.1	+0.2
IXG				AML	AML	05 50 04.1	
	comp=E,6µm,0.2s						
BOQS	Boqueron	0.95	70	⇑eP	Pn	05 49 53.2	-0.3
BOQS				eS	Sn	05 50 08.4	+2.3
SNET	Serv Nac Est T	0.98	74	eP	Pn	05 49 53.9	-0.1
SNET				eS	Sn	05 50 07.3	+0.4
SNET				i		05 50 08.5	
	comp=Z,647nm,0.4s						
LFU	La Fuente	1.11	72	eP	Pn	05 49 55.8	0.0
LFRS	El Faro	1.13	79	⇑eP	Pn	05 49 55.6	-0.4
LFRS				eS	Sn	05 50 11.2	+0.7
LBRS	Las Brisas	1.17	74	eP	Pn	05 49 55.6	-1.1
LBRS				eS	Sn	05 50 12.4	+0.8
NBG	Las Nubes	1.18	353	⇓eP	Pn	05 49 57.4	+0.7
NBG				eS	Sn	05 50 14.1	+2.3
NBG				AML	AML	05 50 15.8	
	comp=E,3µm,0.4s						
LCBS	La Ceiba	1.21	78	eP	Pn	05 49 57.0	-0.3
LCBS				eS	Sn	05 50 12.8	+0.1
MTO2	Montecristo 2	1.27	40	eP	Pn	05 49 57.7	-0.4
MTO2				eS	Sn	05 50 13.9	-0.4
SNVI	San Vicente	1.34	81	eP	Pn	05 49 59.2	+0.1
SNVI				eS	Sn	05 50 16.4	+0.4
TP2	Tecpan 2	1.58	330	⇑eP	Pn	05 50 03.1	+0.6
TP2				eS	Sn	05 50 23.7	+1.7
TP2				AML	AML	05 50 25.9	
	comp=E,637nm,0.3s						
JAT	Jato	1.66	303	⇑eP	Pn	05 50 02.9	-0.8
JAT				eS	Sn	05 50 23.7	-0.4
JAT				AML	AML	05 50 26.6	
	comp=E,592nm,0.3s						
MRL	Marmol	1.71	17	⇑eP	Pn	05 50 06.7	+2.2
VSM	San Miguel	1.88	89	eP	Pn	05 50 06.9	+0.1
VSM				eS	Sn	05 50 30.1	+0.5
CNCH	Conchagua	2.31	93	eP	Pn	05 50 12.6	-0.4
CNCH				eS	Sn	05 50 41.2	+0.7

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*NIED **10** 06:10:00, 33.10N×137.00E, h14^{km}, Mw3.8 Best double couple: M$_0$4.8×10^{14} NP1:φ$_s$242°, δ54°, λ66°. NP2:φ$_s$99°, δ43°, λ119°.*
*JMA **10** 06:10:32.1±0.1, 33.13N×137.04E, h39^{km}±3^{km}, M3.9*
ISC 10 06:10:32.3±0.8, **33.15N**±0.05×**137.05E**±0.03, **h48**^{km}±18^{km}, **n18**, σ0^{s}**68**/36, **7D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	Tokai 1	0.76	36	P	P	06 10 46.7	-0.1
TK01				eS	S	06 10 56.9	-0.6
TK02	Tokai 2	0.99	36	⇓P	P	06 10 50.1	+0.1
TK02				S	S	06 11 03.3	+0.2
JWZ	Kozaga	1.18	289	P	P	06 10 52.4	-0.2
JWZ				eS	S	06 11 06.6	-1.2
TK03	Tokai 3	1.27	37	⇓P	P	06 10 54.0	+0.1
TK03				eS	S	06 11 10.4	+0.3
JIE	Ise	1.27	347	⇓P	P	06 10 54.6	+0.6
JIE				eS	S	06 11 10.4	+0.3
JKN	Kiinagashima	1.28	329	P	P	06 10 54.3	+0.3
JKN				eS	S	06 11 09.3	-1.0
TK04	Tokai 4	1.41	29	⇓P	P	06 10 56.4	+0.4
TK04				eS	S	06 11 13.9	+0.3
JWM	Minabe	1.58	297	P	P	06 10 58.5	+0.1
JWM				eS	S	06 11 17.0	-0.7
JWY	Kouya	1.61	312	⇓P	P	06 10 59.6	+0.7
JWY				eS	S	06 11 18.7	+0.1
TSUJ	Tsu 2	1.64	342	⇓P	P	06 10 59.8	+0.6
TSUJ				eS	S	06 11 19.4	+0.1
JHE	Heguri	1.88	323	⇓P	P	06 11 03.3	+0.7
JHE				eS	S	06 11 25.5	+0.4
SHZ3	Shizuoka 3	2.14	26	P	P	06 11 06.2	-0.1
SHZ3				eS	S	06 11 31.2	-0.5
JIZS	Izushimoda	2.18	44	P	P	06 11 08.1	+1.3
JIZS				eS	S	06 11 30.9	-1.8
JAJ2	Tsuna	2.20	306	P	P	06 11 08.0	+0.8
JAJ2				eS	S	06 11 33.8	+0.5
JMY	Miyakejima3	2.25	65	P	P	06 11 08.2	+0.3
JMY				eS	S	06 11 34.9	+0.4
JAI	Aioi	2.26	287	P	P	06 11 08.1	+0.1
JAI				eS	S	06 11 33.4	-1.4
JHJ2	Mitsune	2.32	90	P	P	06 11 08.7	-0.2
JHJ2				eS	S	06 11 35.0	-1.3
MAT	Matsushiro	3.52	15	P	P	06 11 26.6	+0.8
MAT				S	S	06 12 05.7	-0.9

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*LDG **10** 06:38:17.7±0.1, 42.61N×0.83E, h17^{km}, Md2.8/2, Ml2.6/9, Error ellipse: s-maj=1.1km s-min=0.8km az=24.0*
*NEIC **10** 06:38:18.0, 42.61N×0.82E, h5^{km}, ML2.6(STR), ML2.6(LDG), MN2.5(MDD), After STR.*

*MDD **10** 06:38:18.7±0.2, 42.61N×0.83E, mbLg2.2/14, Error ellipse: s-maj=2.4km s-min=1.7km az=25.0, PRXIMO*

*STR **10** 06:38:18.0±0.1, 42.61N×0.82E, h5^{km}±1^{km}, Ml2.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 10 06:38:17.0±0.3, 42.67N±0.02×0.87E±0.02, h14^{km}±2^{km}, n48, σ1^{s}.45/84, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MELF	**Melles**	0.22	338	Pg	Pg	06 38 24.1	+2.1
MELF				Sg	Sg	06 38 27.7	+2.3
MELF	**Melles**	0.22	338	P	Pg	06 38 24.0	+2.0
MELF				S	Sg	06 38 27.8	+2.4
SALF	**Salau**	0.25	69	Pg	Pg	06 38 24.4	+1.8
SALF				Sg	Sg	06 38 28.5	+2.1
SALF	**Salau**	0.25	69	P	Pg	06 38 24.4	+1.8
SALF				S	Sg	06 38 28.4	+2.0
MLS	**Moulis**	0.33	30	Pg	Pg	06 38 26.1	+2.0
MLS				Sg	Sg	06 38 31.3	+2.5
MLS	**Moulis**	0.33	30	P	Pg	06 38 26.2	+2.1
MLS				S	Sg	06 38 30.9	+2.1
CSOR	**Sort**	0.35	146	Pg	Pg	06 38 24.5	0.0
RESF	**Ens**	0.41	290	Pg	Pg	06 38 26.3	+0.6
RESF				Sg	Sg	06 38 32.1	+0.7
RESF	**Ens**	0.41	290	P	Pg	06 38 26.4	+0.7
RESF				S	Sg	06 38 31.8	+0.4
GRBF	**Gourbit**	0.52	71	P	Pb	06 38 29.3	+1.9
GRBF				S	Sb	06 38 36.5	+2.0
EPF	**Esparros**	0.53	313	*e*Pg	Pg	06 38 28.7	+0.8
EPF				*e*Sg	Sg	06 38 36.0	+0.8
	46nm,0.2s						
CORG	**Organya**	0.55	143	Pg	Pg	06 38 28.1	-0.2
VIEF	**Viey**	0.66	289	Pg	Pg	06 38 30.2	-0.2
VIEF				Sg	Sg	06 38 39.0	-0.3
VIEF	**Viey**	0.66	289	P	Pb	06 38 30.5	+0.7
VIEF				S	Sb	06 38 38.9	+0.4
LABF	**Labassere**	0.70	303	Pg	Pg	06 38 31.9	+0.8
LABF				Sg	Sg	06 38 41.1	+0.5
LABF	**Labassere**	0.70	303	P	Pb	06 38 31.6	+1.2
LABF				S	Sb	06 38 41.2	+1.6
CAVN	**Les Avellanes**	0.79	186	Pg	Pg	06 38 32.4	-0.6
CLLI	**Llivia**	0.84	103	Pg	Pg	06 38 33.7	-0.2
VALF	**Valcebollere**	0.89	107	Pg	Pg	06 38 34.6	-0.4
VALF	**Valcebollere**	0.89	107	P	Pb	06 38 34.8	+1.1
VALF				S	Sb	06 38 46.6	+1.4
EMIR	**Miracle**	0.90	147	Pg	Pg	06 38 34.7	-0.4
	4.3nm,0.2s,SNR=8.2						
EMIR				Lg		06 38 47.0	
	SNR=7.9						
EMIR	**Miracle**	0.90	147	Pg	Pg	06 38 34.7	-0.4
EMIR				Lg		06 38 47.0	
CARF	**Carcanieres**	0.91	87	P	Pb	06 38 36.1	+2.0
CARF				S	Sb	06 38 48.5	+2.6
REYF	**Montagne du Re**	1.01	294	Pg	Pg	06 38 37.0	-0.3
REYF				Sg	Sg	06 38 50.4	-0.5
REYF	**Montagne du Re**	1.01	294	P	Pb	06 38 37.1	+1.3
REYF				S	Sb	06 38 50.2	+1.6
CBRU	**Bruguera**	1.04	111	Pg	Pg	06 38 37.7	-0.3
ETSF	**Etsaut**	1.08	283	*e*Pg	Pg	06 38 37.5	-1.1
ETSF				*e*Sg	Sg	06 38 51.8	-1.3
	42nm,0.2s						
MTLF	**Montolieu**	1.20	55	*e*Pn	Pn	06 38 38.7	-0.6
MTLF				*e*Pg	Pg	06 38 41.2	+0.2
MTLF				*e*Sg	Sg	06 38 57.9	+0.9
	21nm,0.3s						
FILF	**Fillols**	1.25	94	Pg	Pg	06 38 40.7	-1.5
FILF				Sg	Sg	06 38 56.3	-2.6
FILF	**Fillols**	1.25	94	P	Pb	06 38 40.5	+0.6
FILF				S	Sb	06 38 56.0	+0.3
EPOB	**Poblet**	1.32	173	Pg	Pg	06 38 41.7	-1.9
	2.4nm,0.3s,SNR=12						
EPOB				Lg		06 38 59.1	
	9.8nm,0.1s,SNR=9.6						
ESAC	**San Caprasio**	1.37	227	Pg	Pg	06 38 42.9	-1.6
	27nm,0.3s,SNR=13						
ESAC				Lg		06 39 01.6	
	157nm,0.2s,SNR=37						
LARF	**Larrau**	1.41	286	Pg	Pg	06 38 44.1	-1.2
LARF	**Larrau**	1.41	286	P	Pn	06 38 44.1	+1.6
LARF				S	Sb	06 39 02.5	+2.1
SJAF	**Saint Jean de**	1.50	96	Pg	Pg	06 38 47.0	0.0
SJAF	**Saint Jean de**	1.50	96	P	Pn	06 38 46.6	+3.0
SJAF				S	Sb	06 39 05.8	+2.9
EJON	**La Jonquera**	1.51	98	Pg	Pg	06 38 46.8	-0.4
	7.8nm,0.3s,SNR=22						
EJON				Lg		06 39 08.1	
	7.0nm,0.1s,SNR=9.3						
OSSF	**Osses**	1.67	291	S	Sn	06 39 10.9	+3.5
EALK	**Alkurruntz**	1.83	288	Pg	Pg	06 38 51.8	-1.8
	2.9nm,0.3s,SNR=9.4						
EALK				Lg		06 39 18.2	
	57nm,0.4s,SNR=12						
LFF	**La Frestale**	2.27	358	*e*Pn	Pn	06 38 53.7	-1.0
LFF				*e*Sn	Sn	06 39 20.3	-2.4
LFF				*e*Sg	Sg	06 39 30.9	-1.8
	12nm,0.3s						
CAF	**Calviac**	2.42	21	*e*Pn	Pn	06 38 55.8	-1.0
CAF				*e*Pg	Pg	06 39 04.0	-1.3
CAF				*e*Sn	Sn	06 39 24.0	-2.4
CAF				*e*Sg	Sg	06 39 35.9	-1.6
	5.4nm,0.2s						
EMOS	**Mosqueruela**	2.51	204	Sn	Sn	06 39 27.7	-1.1
	2.4nm,0.3s,SNR=7.1						
EMOS				Lg		06 39 38.3	
	5.6nm,0.3s,SNR=7.9						
LASF	**Ste Croix**	2.59	56	*e*Pn	Pn	06 38 57.7	-1.6
LASF				*e*Pg	Pg	06 39 06.5	-2.3
LASF				*e*Sg	Sg	06 39 41.3	-2.1
	3.6nm,0.2s						
RJF	**Les Rejaudoux**	2.67	10	*e*Pn	Pn	06 38 59.0	-1.5
RJF				*e*Sn	Sn	06 39 30.6	-2.3
RJF				*e*Sg	Sg	06 39 43.9	-2.3
	4.0nm,0.2s						
ETOR	**Torete**	2.86	231	Pg	Pg	06 39 09.1	-5.1
	SNR=4.0						
ETOR				Sn	Sn	06 39 37.1	-0.6
	SNR=7.9						
ETOR				Lg		06 39 50.6	
	3.7nm,0.2s,SNR=7.9						
VIVF	**Saint-Julien-l**	3.52	50	*e*Pn	Pn	06 39 10.3	-2.2
VIVF				*e*Sg	Sg	06 40 10.2	-4.0
	2.5nm,0.3s						
TCF	**Toulx Ste Croi**	3.74	14	*e*Sg	Sg	06 40 17.7	-4.0
	1.3nm,0.2s						
MFF	**Saint Martin d**	4.00	350	*e*Pn	Pn	06 39 17.2	-2.1

*IDC **10** 06:46:05.7±14.0, 51.19N×177.83W, mb3.5/4, mb1 3.9/4, mb1mx3.6/20, Error ellipse: s-maj=277.0km s-min=57.3km az=78.0*

*NEIC **10** 06:46:21.3, 51.39N×175.79W, h33^{km}, ML2.9(AEIC), After AEIC.*

ISC 10 06:46:20.9±1.5, 51.5N±0.2×175.8W±0.1, h61^{km}±12^{km}, n14, σ0^{s}.41/17, mb3.5/3, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSIG	**Igitkin Island**	0.47	354	P	P	06 46 32.5	-0.2
GSCK	**Great Sitkin C**	0.53	338	P	P	06 46 33.5	+0.2
GSCK				S	S	06 46 42.8	+0.4
GSMY	**Great Sitkin M**	0.54	346	P	P	06 46 33.5	+0.1
GSTD	**Great Sitkin T**	0.56	341	P	P	06 46 34.0	+0.2
GSTR	**Great Sitkin T**	0.59	347	P	P	06 46 34.4	+0.4
KIWB	**Kanaga Island**	0.88	292	P	P	06 46 37.6	0.0
KINC	**Kanaga Island**	0.90	297	P	P	06 46 37.9	+0.1
KIKV	**Kanaga Island**	0.90	294	P	P	06 46 37.9	+0.1
KIMD	**Kanaga Island**	0.90	286	P	P	06 46 37.6	-0.2
KIMD				S	S	06 46 49.9	-0.6
ATKA	**Atka Island**	1.23	56	P	P	06 46 42.0	-0.3
ATKA				S	S	06 46 57.7	-0.5
ILAR	**Eielson Array**	19.99	37	P	P	06 50 50.9	+0.4
	0.4nm,0.3s,baz=219,slow=10,SNR=25						
INK	**Inuvik**	26.29	34	P	P	06 51 51.0	-0.9
	1.1nm,1.0s,mb3.4,baz=216,slow=8.7,SNR=3.4						
PDAR	**Pinedale Array**	44.50	74	P	P	06 54 28.4	+0.8
	0.8nm,0.7s,mb3.6,baz=308,slow=4.7,SNR=6.7						
TXAR	**Lajitas Array**	56.80	83	P	P	06 56 01.1	+0.1
	0.2nm,0.5s,mb3.4,baz=284,slow=3.7,SNR=5.2						

KRSC 10 06:53:38.6±1.0, 49.67N×156.35E, h118^{km}±14^{km}, ML3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PAU	**Pauzhetka**	1.82	9	*i* P	P	06 54 10.6	+0.4
PAU				*e*S	S	06 54 35.9	+1.8
PAU				Smax			
	180nm,0.2s						
GRL	**Gorelyy**	3.08	20	*e*P	P	06 54 28.8	+1.9
GRL				*e*S	S	06 55 05.1	+1.6
RUS	**Russkaya**	3.08	25	*e*P	P	06 54 27.9	+1.0
RUS				*e*S	S	06 55 03.7	+0.2
UGLR	**Uglovaya**	3.87	23	*e*P	P	06 54 39.5	+2.1
UGLR				*e*S	S	06 55 24.2	+1.9
AVH	**Avacha**	3.90	22	*e*P	P	06 54 39.5	+1.7
AVH				*e*S	S	06 55 23.6	+0.5
KOK	**Koryaka**	3.90	21	*e*P	P	06 54 38.6	+0.8
KOK				*e*S	S	06 55 21.7	-1.4
SMAR	**Somma**	3.91	22	*e*P	P	06 54 40.3	+2.3
SMAR				*e*S	S	06 55 25.2	+1.8
SDLR	**Sedlovina**	3.94	23	*e*P	P	06 54 39.6	+1.1
SDLR				*e*S	S	06 55 24.3	+0.1
SPN	**Mys Shipunski**	4.13	32	*e*P	P	06 54 41.4	+0.4
SPN				*e*S	S	06 55 27.3	-1.4
GNL	**Ganaly**	4.15	13	*e*P	P	06 54 42.1	+0.9
GNL				*e*S	S	06 55 27.9	-1.3

IDC 10 07:02:33.2±58.0, 16.61S×175.83E, mb4.1/3, mb1 4.3/3, mb1mx3.9/11, Error ellipse: s-maj=1012.0km s-min=138.0km az=74.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	10.39	237	*e*P	P	07 05 03.6	-3.0
STKA	**Stephens Creek**	34.54	238	P	P	07 09 23.6	-2.0
	5.5nm,1.0s,baz=41,slow=9.3,SNR=4.9						
WB2	**Warramunga Arr**	39.45	259	*e*P	P	07 10 05.5	-1.6
WRA	**Warramunga Arr**	39.47	259	P	P	07 10 05.7	-1.5
	0.3nm,0.3s,baz=91,slow=8.1,SNR=13						
ASAR	**Alice Springs**	39.87	253	P	P	07 10 08.8	-1.8
	2.9nm,0.5s,baz=82,slow=9.2,SNR=42						
ASPA	**Alice Springs**	39.88	253	*e*P	P	07 10 08.8	-1.8

IDC 10 07:12:25.3±1.1, 12.06N×143.49E, mb3.9/4, mb1 4.2/4, mb1mx3.8/16, Error ellipse: s-maj=104.0km s-min=23.1km az=105.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	33.05	196	P	P	07 19 02.0	-2.8
	0.7nm,0.7s,baz=19,slow=9.8,SNR=7.7						
ASAR	**Alice Springs**	36.72	195	P	P	07 19 35.0	-1.3
	0.3nm,0.4s,baz=23,slow=12,SNR=3.0						
ILAR	**Eielson Array**	70.52	25	P	P	07 23 41.8	-1.9
	1.1nm,0.4s,baz=251,slow=5.7,SNR=24						
ARCES	**ARCESS Array B**	88.11	342	P	P	07 25 17.5	-1.2
	2.5nm,0.8s,baz=80,slow=7.4,SNR=6.5						

*NEIC **10** 07:31:05.6±0.6, 21.48S×66.70W, h208^{km}±6^{km}, mb3.9/3, Error ellipse: s-maj=11.2km s-min=8.6km az=62.0*

*IDC **10** 07:31:06.7±3.3, 21.41S×66.63W, h217^{km}±26^{km}, mb3.2/3, mb1 3.4/6, mb1mx3.3/12, Error ellipse: s-maj=57.7km s-min=20.8km az=38.0*

ISC 10 07:31:04.4±0.8, 21.56S±0.09×66.74W±0.10, h213^{km}±9^{km}, n16, σ0^{s}.90/14, mb3.4/5, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	2.27	242	*e*Pn	P	07 31 47.9	+0.9
LVC				*e*Sn	S	07 32 18.8	-1.2
LPAZ	**La Paz**	5.41	346	P	P	07 32 26.2	+1.3
	8.5nm,0.3s,baz=341,slow=0.2,SNR=78						
CPUP	**Villa Florida**	9.83	121	P	P	07 33 23.2	+1.1
	0.1nm,0.3s,baz=315,slow=16,SNR=2.6						
CPUP	**Villa Florida**	9.83	121	P	P	07 33 23.2	+1.1
SAML	**Samuel**	13.00	16	*e*Pn	P	07 34 01.1	-1.2
TRQA	**Tornquist**	16.95	167	*e*P	P	07 34 50.3	-0.1
	2.7nm,0.6s						
BDFB	**Brasilia**	18.69	75	P	P	07 35 07.5	-1.4
	0.4nm,0.3s,baz=281,slow=6.9,SNR=4.4						
TXAR	**Lajitas Array**	61.85	323	P	P	07 41 02.5	-0.8
	0.4nm,1.0s,mb3.0,baz=157,slow=6.9,SNR=2.9						
SDCO	**Great Sand Dun**	69.34	328	*e*P	P	07 41 51.1	+0.3
	1.9nm,0.8s,mb3.8						
PV01	**Paradox Valley**	71.19	326	P	P	07 42 01.5	-0.4
TPNV	**Topopah Spring**	74.60	321	*e*P	P	07 42 23.1	+1.1
	0.8nm,0.5s,mb3.6						
PDAR	**Pinedale Array**	75.19	329	P	P	07 42 25.2	+0.1
	0.3nm,0.5s,mb3.2,baz=131,slow=7.1,SNR=4.6						
YKA	**Yellowknife Ar**	91.92	340	P	P	07 43 49.6	+0.3
	0.4nm,0.4s,mb3.7,baz=129,slow=4.8,SNR=4.1						
WRA	**Warramunga Arr**	133.89	208	PKP	PKPdf	07 49 58.8	+2.0
	0.2nm,0.4s,baz=159,slow=1.6,SNR=5.8						
MKAR	**Makanchi Array**	144.47	37	PKP	PKPdf	07 50 16.6	+1.6
	1.6nm,0.5s,baz=319,slow=4.2,SNR=25						
LUBP	**Lubang**	169.76	222	*e*P	PKPdf	07 51 02.3	+16

MAN 10 07:37:16.3, 15.77N×120.97E, mb4.4, ML3.2, MS3.0, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BALP	**Baler**	0.58	92	*e*P	Pg	07 37 27.7	-0.3
BALP				*e*S	Sg	07 37 34.9	-0.8
BCPH	**Baguio City Da**	0.72	329	⇑*i*P	Pg	07 37 31.0	+0.4
BCPH				*i* S	Sg	07 37 40.9	+0.7
SCZP	**Santa Cruz**	1.02	271	*e*P	Pb	07 37 35.6	-0.9
BOLP	**Bolinao**	1.19	301	*e*P	Pb	07 37 39.8	+0.3
POLP	**Polilio Island**	1.39	138	*e*P	Pb	07 37 42.5	-0.4
CAUP	**Cauayan**	1.43	35	*e*P	Pb	07 37 41.9	-1.6
ABRA	**Dolores**	1.89	352	*e*P	Pn	07 37 47.9	-2.2
APYP	**Conner**	2.10	7	*e*P	Pn	07 37 53.1	-0.1
LUBP	**Lubang**	2.14	199	*e*P	Pn	07 37 53.7	0.0

WEL 10 07:46:44.9±0.3, 39.44S×174.48E, h238^{km}±2^{km}, ML3.5/8, 12C-13D, Error ellipse: s-maj=4.3km s-min=1.7km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VRZ	**Vera Road**	0.38	34	⇓PN	P	07 47 15.7	-0.7
VRZ				SN	S	07 47 40.3	-0.6
WAZ	**Wanganui**	0.50	129	⇓PN	P	07 47 17.2	+0.5
WAZ				SN	S	07 47 42.1	+0.6
FWVZ	**Far West T-bar**	0.85	78	⇓PN	P	07 47 17.9	-0.2
FWVZ				SN	S	07 47 43.0	-0.9
WPVZ	**Whakapapa**	0.86	74	PN	P	07 47 17.9	-0.2
CNZ	**Chateau**	0.86	74	⇑PN	P	07 47 17.9	-0.2
WNVZ	**Wahianoa**	0.87	83	⇓PN	P	07 47 18.2	-0.1
WNVZ				SN	S	07 47 43.2	-0.9
NGZ	**Ngauruhoe**	0.91	73	⇑PN	P	07 47 18.2	-0.2
WTVZ	**West Tongariro**	0.92	70	⇓PN	P	07 47 18.2	-0.2
TUVZ	**Tukino**	0.92	80	PN	P	07 47 18.4	-0.1
MGZ	**Maungaku**	0.93	62	⇓PN	P	07 47 18.3	-0.2
KAVZ	**Karewarewa**	0.96	70	PN	P	07 47 18.5	-0.2
HIZ	**Hauiti**	0.97	17	⇓PN	P	07 47 17.8	-0.9
MOVZ	**Moawhango**	0.98	89	⇓PN	P	07 47 18.3	-0.5
MOVZ				SN	S	07 47 43.3	-1.9
TSZ	**Takapari Road**	1.30	119	PN	P	07 47 20.8	-0.1
TSZ				SN	S	07 47 48.3	-0.5
KIW	**Kapiti Island**	1.46	167	PN	P	07 47 21.7	-0.4
KIW				SN	S	07 47 49.9	-1.1
MRZ	**Mangatainoka R**	1.48	146	⇓PN	P	07 47 21.8	-0.5
MRZ				SN	S	07 47 49.8	-1.5
BKZ	**Black Stump Fm**	1.58	81	⇓PN	P	07 47 22.2	-0.9
BKZ				SN	S	07 47 50.7	-2.0
CAW	**Cannon Point**	1.73	165	⇑PN	P	07 47 23.8	-0.6
CAW				SN	S	07 47 54.1	-0.7
MRW	**Makara Radio**	1.80	175	⇑PN	P	07 47 24.3	-0.6
MRW				SN	S	07 47 55.0	-0.9
BFZ	**Birch Farm**	1.83	133	⇑PN	P	07 47 24.8	-0.5
BFZ				SN	S	07 47 55.0	-1.4
SNZO	**South Karori**	1.88	175	⇑PN	P	07 47 24.9	-0.7
SNZO				SN	S	07 47 56.1	-1.0
MTW	**Mount Morrison**	1.89	156	⇑PN	P	07 47 25.1	-0.6
MTW				SN	S	07 47 56.2	-1.0
PWZ	**Pawanui**	1.93	109	⇑PN	P	07 47 25.5	-0.5
NNZ	**Nelson**	1.97	205	⇑PN	P	07 47 25.6	-0.8
NNZ				SN	S	07 47 57.4	-1.1
BHW	**Baring Head**	1.99	172	PN	P	07 47 25.8	-0.8
TUWZ	**Tuamarina**	2.03	192	PN	P	07 47 26.3	-0.7
TUWZ				SN	S	07 47 58.4	-1.2
QRZ	**Quartz Range**	2.04	227	⇑PN	P	07 47 25.8	-1.4
QRZ				SN	S	07 47 57.5	-2.3
MSWZ	**Moikau Station**	2.06	164	⇑PN	P	07 47 26.5	-0.8
MSWZ				SN	S	07 47 59.0	-1.1
BSWZ	**Blackbirch Sta**	2.32	191	PN	P	07 47 28.9	-1.0
BSWZ				SN	S	07 48 04.5	-0.3
KNZ	**Kokohu**	2.51	81	⇓PN	P	07 47 30.6	-1.3
THZ	**Tophouse**	2.62	207	⇑PN	P	07 47 31.8	-1.2
THZ				SN	S	07 48 08.0	-2.2
MWZ	**Matawai**	2.62	66	PN	P	07 47 30.7	-2.3
MWZ				SN	S	07 48 05.4	-4.9
KHZ	**Kahutara**	3.06	193	⇓PN	P	07 47 36.3	-1.5
DSZ	**Denniston Nort**	3.08	221	⇓PN	P	07 47 36.3	-1.7
PUZ	**Puketiti**	3.25	66	PN	P	07 47 37.4	-2.6
PUZ				SN	S	07 48 17.4	-5.2
MXZ	**Matakaoa Point**	3.54	59	PN	P	07 47 40.3	-3.0
LTZ	**Lake Taylor**	3.74	206	PN	P	07 47 43.4	-2.2
MQZ	**McQueen’s Vall**	4.48	197	PN	P	07 47 51.2	-3.3
MQZ				SN	S	07 48 43.4	-5.3
WVZ	**Waitaha Valley**	4.60	217	PN	P	07 47 52.9	-3.1
WVZ				SN	S	07 48 44.8	-6.6
LBZ	**Lake Benmore**	5.89	212	PN	P	07 48 08.4	-3.7
ODZ	**Otahua Downs**	6.28	206	PN	P	07 48 14.4	-2.6

IDC 10 08:14:21.4±1.4, 7.58S×124.40E, mb4.3/2, mb1 4.2/3, mb1mx3.8/10, ML3.8/1, Error ellipse: s-maj=158.0km s-min=24.8km az=57.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	9.38	124	*e*P	P	08 16 33.1	-7.7
	4.5nm,0.1s						
FITZ	**Fitzroy Crossi**	10.53	174	*e*P	P	08 16 52.1	-4.7
	3.6nm,0.6s						
FITZ				*e*S	S	08 18 35.2	-22
WRA	**Warramunga Arr**	15.62	143	Pn	P	08 18 03.8	-0.9
	0.4nm,0.3s,baz=321,slow=14,SNR=35						
WRA				Sn	S	08 20 55.4	-3.7
	0.6nm,0.3s,baz=318,slow=26,SNR=3.9						
WB2	**Warramunga Arr**	15.63	143	*e*P	P	08 18 03.7	-1.1
WB2				*e*S	S	08 20 29.1	-30
ASPA	**Alice Springs**	18.41	151	*e*P	P	08 18 41.2	+1.2
STKA	**Stephens Creek**	29.00	149	P	P	08 20 23.2	-2.0
	1.8nm,0.5s,baz=324,slow=8.7,SNR=5.6						
MKAR	**Makanchi Array**	65.78	330	P	P	08 25 08.3	-2.2
	1.7nm,0.5s,baz=137,slow=7.1,SNR=22						

*IDC **10** 08:23:47.3±2.0, 35.22S×70.43W, mb3.5/2, mb1 4.1/4, mb1mx3.9/10, ML3.9/1, MS3.5/3, Ms1 3.5/3, ms1mx3.3/9, Error ellipse: s-maj=63.3km s-min=45.1km az=113.0*

*NEIC **10** 08:23:58.7±2.4, 35.10S×69.84W, h92^{km}±21^{km}, Error ellipse: s-maj=33.9km s-min=14.1km az=68.0*

ISC 10 08:23:47.6±1.1, 35.09S±0.07×70.4W±0.1, h10^{km}, n11, σ0^{s}.93/10, mb3.5/2, MS3.6/1, 1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CICH	**Cipreses**	0.77	357	⇓*i*P	Pb	08 24 02.0	-0.7
MDZ	**Mendoza**	2.54	30	*i* P	Pg	08 24 36.1	-2.3
MDZ				*i* S	Sg	08 25 13.1	+0.8
TRQA	**Tornquist**	7.37	116	*e*Pn	Pn	08 25 37.9	-0.1
	5.4nm,0.3s						
TRQA				*e*Sg	Sg	08 27 40.1	-13
CPUP	**Villa Florida**	14.21	56	Pn	P	08 27 11.3	+0.2
	0.1nm,0.3s,baz=271,slow=15,SNR=4.1						
CPUP				LR	LR	08 33 09.9	
	comp=Z,118nm,21.4s,baz=256,slow=39						
CPUP	**Villa Florida**	14.21	56	Pn	P	08 27 11.3	+0.2
CPUP				LR	LR	08 33 09.9	
LPAZ	**La Paz**	18.84	7	P	P	08 28 10.9	+1.0
	baz=178,slow=4.9,SNR=6.2						
USHA	**Ushuaia**	19.78	177	LR	LR	08 35 46.3	
	comp=Z,189nm,20.1s,baz=230,slow=37						
BDFB	**Brasilia**	27.87	52	LR	LR	08 42 04.6	
	comp=Z,146nm,19.1s,MS3.6,baz=30,slow=39						
TXAR	**Lajitas Array**	71.36	330	P	P	08 35 09.7	-0.1
	0.3nm,0.5s,mb3.5,baz=151,slow=9.3,SNR=6.3						
PDAR	**Pinedale Array**	85.36	332	P	P	08 36 26.8	+0.7
	0.4nm,0.9s,mb3.6,baz=180,slow=4.5,SNR=3.3						
WRA	**Warramunga Arr**	120.45	207	PKP	PKPdf	08 42 40.8	-2.0
	0.3nm,0.5s,baz=160,slow=1.7,SNR=5.2						

*INMG **10** 08:31:26.0±0.8, 39.28N×10.17W, h23^{km}±10^{km}, ML1.8, Error ellipse: s-maj=8.8km s-min=3.5km az=87.0*

MDD 10 08:31:25.7±1.6, 39.32N×10.21W, h28^{km}±27^{km}, mbLg2.4/3, Error ellipse: s-maj=21.8km s-min=6.5km az=82.0, PRXIMO, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PTOM	**Tomar**	1.43	77	*e*Sn	Sn	08 32 05.5	-2.6
	7.8nm,0.3s						
PTOM	**Tomar**	1.43	77	Sn	Sn	08 32 05.5	-2.6
	3.9nm,0.3s						
MOE	**Montemor**	1.65	118	*e*Pn	Pn	08 31 51.3	-2.1
MOE				*e*Sn	Sn	08 32 10.3	-3.6
PTEO	**Sao Teotonio**	2.12	146	*e*Pn	Pn	08 31 57.9	-2.1
PTEO				*e*Sn	Sn	08 32 21.3	-4.4
	4.9nm,0.6s						
PTEO	**Sao Teotonio**	2.12	146	Pn	Pn	08 31 57.9	-2.1
PTEO				Sn	Sn	08 32 21.3	-4.4
	2.5nm,0.6s						
PCBR	**Castelo Branco**	2.18	75	*e*Pn	Pn	08 31 58.6	-2.3
PCBR				*e*Sn	Sn	08 32 23.6	-3.6
	2.3nm,0.1s						
PCBR	**Castelo Branco**	2.18	75	Pn	Pn	08 31 58.6	-2.3
PCBR				Sn	Sn	08 32 23.6	-3.6
	1.1nm,0.1s						
PVIS	**Viseu**	2.26	51	*e*Sn	Sn	08 32 26.3	-3.1
	8.4nm,0.1s						
PVIS	**Viseu**	2.26	51	Sn	Sn	08 32 26.3	-3.1
	4.2nm,0.1s						
MTE	**Manteigas**	2.32	61	*e*Pn	Pn	08 32 01.3	-1.6
MTE				*e*Sn	Sn	08 32 27.8	-3.0
	2.6nm,0.3s						
MTE	**Manteigas**	2.32	61	Pn	Pn	08 32 01.3	-1.6
MTE				Sn	Sn	08 32 27.8	-3.0
	1.3nm,0.3s						
EBAD	**Badajoz**	2.55	102	P	Pn	08 32 04.7	-1.6
	SNR=7.9						
EBAD				S	Sn	08 32 32.8	-3.9
	2.5nm,0.1s,SNR=7.3						
EGRO	**El Granado**	2.79	129	P	Pn	08 32 08.1	-1.5
	SNR=7.9						
EGRO				S	Sn	08 32 39.2	-3.4
	0.8nm,0.1s,SNR=7.9						
PALC	**Alcoutim**	2.83	130	*e*Pn	Pn	08 32 08.7	-1.6
PALC				*e*Sn	Sn	08 32 39.9	-3.9
	2.8nm,0.7s						
PALC	**Alcoutim**	2.83	130	Pn	Pn	08 32 08.7	-1.6
PALC				Sn	Sn	08 32 39.9	-3.9
	1.4nm,0.7s						
ELOB	**Lobios**	3.03	32	P	Pn	08 32 11.1	-1.9
	SNR=7.9						
ELOB				S	Sn	08 32 44.7	-4.1
	3.6nm,0.1s,SNR=7.6						
EZAM	**Zamans**	3.06	22	P	Pn	08 32 11.7	-1.7
	SNR=7.9						
EZAM				S	Sn	08 32 44.4	-5.0
	0.5nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	3.18	118	P	Pn	08 32 13.6	-1.5
	SNR=7.9						
EMIN				S	Sn	08 32 48.8	-3.7
	0.3nm,0.1s,SNR=8.2						
ECAL	**Calabor**	3.73	44	P	Pn	08 32 20.6	-2.3
	SNR=7.9						
ECAL				S	Sn	08 33 02.3	-4.1
	3.8nm,0.4s,SNR=4.0						
ERUA	**La Rua**	3.86	36	P	Pn	08 32 21.8	-2.9
	SNR=7.9						
EADA	**Adamuz**	4.55	103	P	Pn	08 32 32.0	-2.6
	SNR=4.0						
EADA				S	Sn	08 33 21.2	-6.2
	SNR=7.9						
EPON	**Pontenova**	4.62	29	P	Pn	08 32 32.5	-3.2
	4.9nm,0.3s,SNR=6.0						
EPON				S	Sn	08 33 22.6	-6.5
	SNR=7.9						

*FUNV **10** 08:34:28.3, 10.66N×62.48W, h75^{km}, MW2.8*
*TRN **10** 08:34:32.9, 10.90N×62.14W, h95^{km}, MD3.0*
ISC 10 08:34:26.4±0.8, **10.61N**±0.05×**62.55W**±0.03, **h88**^{km}±8^{km}, **n15**, σ**1^{s}17**/26, **2C-1D, Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUIV	Guiria	0.33	84	⇑iP	P	08 34 40.0	+0.3
GUIV				eS	S	08 34 47.8	-2.1
GUNV	Guanoco	0.59	221	i P	P	08 34 44.0	+2.1
GUNV				eS	S	08 34 54.0	+0.7
CRUV	Carupano	0.68	275	⇑iP	P	08 34 43.8	+1.1
CRUV				eS	S	08 34 54.5	-0.3
ITEV	Isla Los Testi	0.93	322	⇓iP	P	08 34 46.1	+0.7
ITEV				eS	S	08 34 59.2	-0.4
TPP	Pointe-a-Pierr	1.12	105	eP	P	08 34 52.5	+4.8
TPP				eS	S	08 35 06.9	+3.3
TRN	Trinidad (W)	1.13	88	eP	P	08 34 47.0	-0.8
TRN	Trinidad (W)	1.13	88	eP	P	08 34 49.0	+1.2
TRN				eS	S	08 35 02.7	-1.1
GRW	Mount Saint Ca	1.77	30	eP	P	08 34 56.8	+0.8
GRW				eS	S	08 35 15.4	-2.4
TPR	Prospect	1.83	72	eP	P	08 34 57.8	+0.9
PCRV	Puerto La Cruz	2.10	258	eP	P	08 35 00.8	+0.4
PCRV				eS	S	08 35 26.0	+0.5
RIOV	Rio Grande	2.63	164	eP	P	08 35 08.4	+0.6
RIOV				eS	S	08 35 37.5	-1.2
PARV	Pariaguan	2.75	234	eS	S	08 35 41.9	+0.1
CUPV	Cœpira	3.23	260	eP	P	08 35 16.8	+0.6
CUPV				eS	S	08 35 53.2	-0.5
MERV	Las Mercedes	3.93	250	eS	S	08 36 09.3	-1.6
CAOV	Caicara del Or	4.95	229	eP	P	08 35 39.5	-0.4
CAOV				eS	S	08 36 33.1	-3.2

DJA 10 08:39:49.8±0.9, **8.54S×113.42E, h149**^{km}±8^{km}, **MD4.7**/4, **ML4.2**/4, **5C-6D, Error ellipse: s-maj=31.8km s-min=20.1km az=17.0, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KELI	Kelakatan	1.11	73	⇑iPn	P	08 40 15.5	-0.2
	288nm,0.3s						
KELI	Kelakatan	1.11	73	⇓iP	P	08 40 16.1	+0.4
KELI				⇓iSn	S	08 40 33.7	-1.9
INGI	Ingas	1.73	99	⇓iPn	P	08 40 21.8	-0.3
	429nm,0.2s						
INGI	Ingas	1.73	99	⇓iP	P	08 40 22.0	-0.1
RATI	Rata	2.10	95	⇑iPn	P	08 40 26.6	+0.2
	168nm,0.2s						
RATI	Rata	2.10	95	⇓iP	P	08 40 26.8	+0.4
RATI				⇓iSn	S	08 40 53.0	-1.5
KEDI	Kedomdong	2.66	89	⇑iPn	P	08 40 32.8	-0.7
	36nm,0.2s						
KEDI	Kedomdong	2.66	89	⇑iP	P	08 40 33.1	-0.4
KEDI				⇑iSn	S	08 41 04.6	-2.4

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*HEL **10** 09:00:12.9±0.3, 64.73N×30.80E, ML2.0, ML2.1(NAO), Explosion*
*NAO **10** 09:00:13.5±1.9, 64.78N×30.27E, ML2.1*
*IDC **10** 09:00:14.9±2.2, 64.72N×30.62E, mb1 3.1/4, mb1mx3.0/19, ML2.6/4, Error ellipse: s-maj=28.6km s-min=8.3km az=101.0*
*BER **10** 09:00:14.5±2.9, 64.71N×30.49E, ML2.1(NAO), Suspected explosion*
ISC 10 09:00:10.9±0.8, **64.71N**±0.03×**30.7E**±0.1, **n24**, σ**1^{s}52**/47, **Finland-Karelia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSF	Maaselka	1.38	331	eP	Pb	09 00 38.0	+0.6
MSF				eS	Sb	09 00 56.2	+0.7
KJN	Kajaani	1.43	245	eP	Pn	09 00 38.6	+0.4
KJN				eS	Sb	09 00 57.7	+0.8
OUL	Oulu	2.07	283	eP	Pn	09 00 49.7	+2.3
OUL				eS	Sn	09 01 15.5	+1.3
SUF	Sumiainen	2.84	227	eP	Pn	09 01 00.1	+1.8
SUF				eS	Sn	09 01 35.1	+1.4
SUF				eSG	Sg	09 01 42.7	-2.7
SUF				MSG		09 01 44.4	
	comp=Z,2.6nm,0.2s						
APA0	Apatity Array	3.05	17	Pn	Pn	09 01 02.5	+1.1
	baz=194,slow=14						
APA0	Apatity Array	3.05	17	eP	Pn	09 01 02.5	+1.1
SGF	Sodankyl	3.22	330	eP	Pn	09 01 04.8	+1.1
SGF				eS	Sn	09 01 43.2	-0.1
KAF	Kangasniemi	3.27	219	eP	Pn	09 01 06.4	+2.0
KAF				eS	Sn	09 01 43.8	-0.8
KAF				e		09 01 59.6	
KAF				MSG		09 02 01.5	
	comp=Z,2.2nm,0.2s						
KEF	Keuruu	3.65	228	eP	Pn	09 01 11.8	+1.9
KEF				eS	Sn	09 01 55.0	+0.7
FIA0	FINESS Array S	3.89	215	eP	Pn	09 01 12.9	-0.4
FIA0				eS	Sn	09 02 01.6	+1.2
FIA0				eSG	Sg	09 02 15.1	-5.3
FIA0	FINESS Array S	3.89	215	Pn	Pn	09 01 14.0	+0.7
	baz=24,slow=16						
FIA0				Pg	Pg	09 01 22.4	-6.2
	baz=32,slow=16						
FIA0				Lg		09 02 12.8	
	baz=39,slow=28						
FINES	FINESS Array B	3.89	215	Pn	Pn	09 01 14.1	+0.8
	comp=Z,0.1nm,0.3s,baz=34,slow=14,SNR=3.5						
FINES				Pg	Pg	09 01 22.6	-6.0
	comp=Z,0.4nm,0.3s,baz=34,slow=15,SNR=6.8						
FINES				Sn	Sn	09 01 57.7	-2.7
	comp=Z,0.3nm,0.3s,baz=32,slow=18,SNR=3.2						
FINES				Lg		09 02 15.0	
	comp=Z,1.2nm,0.3s,baz=36,slow=26,SNR=9.9						
VJF	Virojoki	4.43	200	eP	Pn	09 01 20.8	-0.2
VJF				eS	Sn	09 02 11.8	-2.3
VJF				eSG	Sg	09 02 30.0	-8.4
PVF	Pernaja	4.74	210	eS	Sn	09 02 21.3	-0.4
PVF				eSG	Sg	09 02 39.6	-9.0
PVF				MSG		09 02 41.5	
	comp=Z,3.3nm,0.2s						
KTK1	Kautokeino	5.21	329	eP	Pn	09 01 33.5	+1.4
ARA0	ARCESS Array S	5.24	340	Pn	Pn	09 01 31.1	-1.4
	baz=145,slow=12						
ARA0				Sn	Sn	09 02 30.2	-4.3
	baz=157,slow=22						
ARA0				Lg		09 02 53.4	
	baz=154,slow=37						
ARA0	ARCESS Array S	5.24	340	eP	Pn	09 01 31.1	-1.4
ARA0				eS	Sn	09 02 30.2	-4.3
ARA0				eSG	Sg	09 02 53.4	-12
ARCES	ARCESS Array B	5.24	340	Pn	Pn	09 01 32.4	-0.1
	comp=Z,0.5nm,0.3s,baz=153,slow=13,SNR=8.6						
ARCES				Sn	Sn	09 02 30.1	-4.5
	comp=Z,0.3nm,0.3s,baz=157,slow=28,SNR=3.1						
ARCES				Lg		09 02 55.6	
	comp=Z,0.7nm,0.3s,baz=157,slow=28,SNR=4.9						
KEV	Kevo	5.26	346	eP	Pn	09 01 32.1	-0.6
KEV				eS	Sn	09 02 31.8	-3.1
KEV				eSG	Sg	09 02 55.2	-11
KIF	Kilpisjarvi	5.80	322	eS	Sn	09 02 46.1	-2.4
KIF				e		09 03 21.9	
HFS	Hagfors	9.10	248	Pn	P	09 02 24.0	-2.5
	baz=57,slow=14						
HFS	Hagfors	9.10	248	eP	P	09 02 24.0	-2.5
HFS	Hagfors	9.10	248	Pn	P	09 02 25.1	-1.4
	comp=Z,0.0nm,0.3s,baz=69,slow=12,SNR=2.7						
HFS				Sn	Sn	09 04 01.7	-9.2
	comp=Z,0.0nm,0.3s,baz=63,slow=19,SNR=3.0						
NOA	NORSAR Array B	9.60	256	Pn	P	09 02 31.1	-2.1
	comp=Z,0.1nm,0.3s,baz=77,slow=7.4,SNR=2.8						

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*IDC **10** 09:00:34.8±1.0, 33.74S×72.00W, mb3.8/3, mb1 4.2/5, mb1mx4.1/11, ML4.0/2, MS3.0/2, Ms1 2.9/2, ms1mx2.8/10, Error ellipse: s-maj=36.3km s-min=27.1km az=85.0*
*NEIC **10** 09:00:40.9, 33.63S×71.65W, h35^{km}, ML4.2(GUC), After GUC.*
*GUC **10** 09:00:40.9±0.9, 33.63S×71.65W, h35^{km}±3^{km}, ML4.2*
ISC 10 09:00:40.0±0.6, **33.65S**±0.04×**71.75W**±0.05, **h41**^{km}±5^{km}, **n31**, σ**0^{s}71**/46, **mb3.8**/3, **MS3.2**/1, **10C-9D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LLCH	Llolleo	0.12	71	⇑iP	P	09 00 46.1	-0.7
LLCH				i S	S	09 00 50.7	-0.9
LLCH				AMP		09 00 57.1	
	comp=N,19µm,0.5s						
LCCH	Las Cruces	0.23	41	⇓iP	P	09 00 47.9	+0.2
LNV	Longovilo	0.42	137	⇑iP	P	09 00 49.9	+0.2
LNV				i S	S	09 00 56.4	-0.2
IHA	Instituto Hidr	0.63	9	⇓iP	P	09 00 52.8	+0.2
IHA				i S	S	09 01 01.6	0.0
TACH	Talagante	0.68	90	⇓iP	P	09 00 53.0	-0.3
RCDM	Rinconada Maip	0.81	79	eP	P	09 00 54.5	-0.5
RCDM				i S	S	09 01 04.8	-1.2
RCDM				AMP		09 01 05.8	
	comp=N,19µm,0.1s						
PUEX	Pudahuel	0.86	76	⇑iP	P	09 00 55.9	+0.2
PUEX				i S	S	09 01 06.2	-1.1
PUEX				AMP		09 01 08.9	
	comp=E,21µm,0.4s						
SAN	Santiago	0.93	78	⇑iP	P	09 00 57.1	+0.3
SAN				i S	S	09 01 08.8	-0.4
SAN				AMP		09 01 13.0	
	comp=E,11µm,0.4s						
ANTU	Antumapu	0.94	85	⇓iP	P	09 00 57.0	+0.1
ANTU				i S	S	09 01 09.2	-0.1
ANTU				AMP		09 01 09.8	
	comp=E,21µm,0.5s						
CHCH	Chadas Angostu	0.96	107	⇑iP	P	09 00 57.2	0.0
CHCH				i S	S	09 01 09.5	-0.4
DSCH	Colegio Aleman	1.02	76	eP	P	09 00 58.4	+0.3
DSCH				i S	S	09 01 11.1	-0.3
DSCH				AMP		09 01 13.6	
	comp=E,18µm,0.7s						
PEL	Peldehue	1.03	61	⇑iP	P	09 00 59.1	+1.0
PEL				i S	S	09 01 12.0	+0.5
PCH	Pirque	1.03	89	⇑iP	P	09 00 58.3	+0.1
CLCH	Cerro Calan	1.05	76	⇓iP	P	09 00 59.0	+0.6
CLCH				i S	S	09 01 11.7	-0.4
CLCH				AMP		09 01 14.4	
	comp=E,11µm,0.6s						
CLCH				AMP		09 01 15.0	
	comp=E,13µm,0.6s						
CACH	El Canelo	1.07	116	⇓iP	P	09 00 59.7	+1.0
SFDO	San Fernando	1.14	148	⇑iP	P	09 01 00.7	+1.0
SJCH	San Jose de Ma	1.17	90	⇓iP	P	09 00 59.4	-0.7
SJCH				i S	S	09 01 14.0	-1.1
SJCH				AMP		09 01 15.9	
	comp=E,13µm,0.4s						
FCH	Farellones	1.26	76	⇓iP	P	09 01 02.1	+0.6
FCH				i S	S	09 01 18.6	+1.0
FCH				AMP		09 01 20.4	
	comp=E,9µm,0.6s						
CICH	Cipreses	1.29	121	⇑iP	P	09 01 02.7	+0.8
CICH				i S	S	09 01 19.2	+0.9
LMEL	Las Melosas	1.31	99	⇓iP	P	09 01 02.4	+0.2
LMEL				i S	S	09 01 19.1	+0.4
LMEL				AMP		09 01 21.0	
	comp=N,8µm,0.2s						
JACH	Jahuel	1.37	46	⇑iP	P	09 01 03.3	+0.2
JACH				i S	S	09 01 20.7	+0.4
MDZ	Mendoza	2.55	73	eP	P	09 01 23.1	+3.2
MDZ				eS	S	09 02 01.2	+11
TRQA	Tornquist	9.07	122	ePn	P	09 02 49.3	-2.0
	comp=N,6.3nm,0.6s						
CPUP	Villa Florida	14.46	64	Pn	P	09 04 04.3	+0.4
	comp=N,0.1nm,0.3s,baz=285,slow=13,SNR=4.3						
CPUP				Lg		09 08 19.9	
	comp=N,0.1nm,0.3s,baz=354,slow=15,SNR=3.0						
CPUP				LR	LR	09 10 33.1	
	comp=N,26nm,20.9s,baz=88,slow=41						
LPAZ	La Paz	17.59	12	P	P	09 04 44.1	+0.3
	comp=N,0.3nm,0.3s,baz=193,slow=5.3,SNR=6.5						
BDFB	Brasilia	27.94	56	LR	LR	09 18 41.7	
	comp=N,58nm,18.9s,MS3.2,baz=118,slow=39						
TXAR	Lajitas Array	69.55	330	P	P	09 11 45.9	-0.7
	comp=N,0.7nm,0.5s,mb3.8,baz=153,slow=8.4,SNR=15						
TXAR	Lajitas Array	69.55	330	P	P	09 11 45.9	-0.7
MAW	Mawson	73.45	163	P	P	09 12 08.8	-0.4
	comp=N,0.9nm,0.9s,mb3.7,baz=252,slow=6.4,SNR=5.0						
PDAR	Pinedale Array	83.56	333	P	P	09 13 04.0	-0.9
	comp=N,0.7nm,0.8s,mb3.8,baz=135,slow=4.2,SNR=7.4						
WRA	Warramunga Arr	121.18	209	PKP	PKPdf	09 19 28.9	-0.1
	comp=N,0.5nm,0.6s,baz=153,slow=1.7,SNR=13						

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*PRU **10** 09:04:56.5, 51.40N×16.06E*
*WAR **10** 09:04:56.4, 51.47N×16.03E, ML2.8, Mining Induced*
*NEIC **10** 09:04:56.0±2.2, 51.43N×15.99E, h5^{km}, ML2.7(VIE), ML2.7(CLL), ML2.2(BRG), Error ellipse: s-maj=25.1km s-min=5.9km az=210.0*
ISC 10 09:04:55.9±1.1, **51.36N**±0.05×**15.90E**±0.05, **n14**, σ**1^{s}25**/27, **1C, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	Ksiaz	0.58	155	ePG	Pg	09 05 08.0	+0.5
KSP				i SG	Sg	09 05 17.2	+2.0
KSP	Ksiaz	0.58	155	ePg	Pg	09 05 08.3	+0.8
KSP				i Sg	Sg	09 05 17.2	+2.0
UPC	Upice	0.86	175	ePG	Pg	09 05 14.1	+1.0
DPC	Dobruska-Polom	1.05	165	ePG	Pg	09 05 16.8	-0.1
DPC				eSG	Sg	09 05 31.6	+0.7
	14nm,0.2s						
PVCC	Panska Ves	1.19	226	ePG	Pg	09 05 20.9	+1.2
BRG	Berggiesshubel	1.33	249	i Pg	Pg	09 05 23.3	+0.8
BRG				i Sg	Sg	09 05 42.9	+2.7
PRU	Pruhonice	1.63	213	PG	Pg	09 05 26.8	-1.6
PRU				i x	x	09 05 28.9	
PRU				eSG	Sg	09 05 49.2	-0.9
	12nm,0.3s						
PRU				ex	x	09 05 53.0	
CLL	Collm	1.82	269	ePG	Pg	09 05 32.0	-0.3
CLL				eSG	Sg	09 05 57.0	+0.4
MORC	Moravsky Berou	1.90	146	ePn	Pn	09 05 29.5	-0.5
OKC	Ostrava-Krasne	2.09	136	eSG	Sg	09 06 02.4	-3.2
NKC	Novy Kostel	2.47	244	ePN	Pn	09 05 38.7	+0.6
NKC				ePG	Pg	09 05 45.9	+0.7
NKC				eSG	Sg	09 06 17.0	-1.1
KHC	Kasperske Hory	2.69	215	ePN	Pn	09 05 41.4	+0.2
KHC				ePG	Pg	09 05 47.5	-2.1
KHC				eSN	Sn	09 06 16.0	+1.1
KHC				eSG	Sg	09 06 25.8	+0.3
MOX	Moxa	2.80	257	ePg	Pg	09 05 50.2	-1.7
MOX				eSg	Sg	09 06 29.8	+0.5
MOA	Molln	3.68	197	⇑iPN	Pn	09 05 53.4	-1.8
MOA				i SG	Sg	09 06 55.3	-3.0
	2.8nm,0.4s						

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*NIED **10** 09:14:00, 33.20N×137.10E, h20^{km}, Mw4.1 Best double couple: $M_0$1.5×10^{15} NP1:ϕ_s224°, δ65°, λ60°. NP2:ϕ_s98°, δ38°, λ138°.*
*NEIC **10** 09:14:00.2±0.5, 33.09N×137.15E, h10^{km}, mb4.1/1, Error ellipse: s-maj=12.3km s-min=9.3km az=106.0*
*JMA **10** 09:14:01.0±0.1, 33.17N×137.13E, h42^{km}±3^{km}, M4.4*
JMA Felt I J1.
*IDC **10** 09:14:04.3±0.7, 33.09N×137.21E, h37^{km}±5^{km}, mb3.6/7, mb1 3.8/8, mb1mx3.7/22, ML3.7/1, MS3.2/3, Ms1 3.3/3, ms1mx2.9/21, Error ellipse: s-maj=21.5km s-min=16.0km az=83.0*
ISC 10 09:14:01.4±0.5, **33.19N**±0.03×**137.13E**±0.03, **h39**^{km}, **h39**^{km}±1.9^{km}**:pP-P, n38**, σ**0^{s}77**/51, **mb3.8**/8, **MS3.3**/1, **1C-11D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	Tokai 1	0.69	34	P	P	09 14 14.5	-0.2
TK01				S	S	09 14 24.2	-0.2
TK02	Tokai 2	0.92	34	⇑P	P	09 14 17.9	0.0
TK02				S	S	09 14 30.3	+0.2
TK03	Tokai 3	1.20	35	P	P	09 14 21.3	-0.5
TK03				eS	S	09 14 37.1	-0.1
JWZ	Kozaga	1.23	286	⇓P	P	09 14 22.0	-0.4
JWZ				eS	S	09 14 36.9	-1.2
JIE	Ise	1.25	344	P	P	09 14 23.2	+0.6
JKN	Kiinagashima	1.28	326	⇓P	P	09 14 23.2	+0.1
JKN				eS	S	09 14 38.2	-1.1
TK04	Tokai 4	1.34	27	⇓P	P	09 14 24.3	+0.2
TK04				eS	S	09 14 40.9	-0.1
JWM	Minabe	1.62	294	⇓P	P	09 14 28.0	0.0
JWM				eS	S	09 14 47.0	-0.9
TSUJ	Tsu 2	1.63	339	⇓P	P	09 14 28.5	+0.4
TSUJ				eS	S	09 14 47.9	-0.1
JWY	Kouya	1.64	309	⇓P	P	09 14 28.9	+0.6
JWY				eS	S	09 14 48.1	-0.3
JHE	Heguri	1.89	321	⇓P	P	09 14 32.3	+0.5
JHE				eS	S	09 14 54.4	-0.2
SHZ3	Shizuoka 3	2.08	25	⇓P	P	09 14 34.1	-0.3
JHJ	Hachijo jima 2	2.23	91	Pn	P	09 14 36.5	0.0
	50nm,0.3s,baz=13,slow=23,SNR=36						
JHJ				Sn	S	09 15 01.1	-2.0
	178nm,0.3s,baz=28,slow=20,SNR=25						
JHJ				LR	LR	09 15 33.7	
	comp=Z,448nm,19.9s,baz=290,slow=41						
JHJ2	Mitsune	2.25	91	⇓P	P	09 14 36.7	-0.3
JAI	Aioi	2.32	286	P	P	09 14 38.0	+0.1
JIM2	Oshima 3	2.45	51	P	P	09 14 39.6	-0.1
JGM	Miyama	2.53	352	⇓P	P	09 14 41.1	+0.2
JGM				eS	S	09 15 10.9	+0.1
JWT	Wachi	2.53	326	⇓P	P	09 14 41.5	+0.5
JWT				eS	S	09 15 10.7	-0.2
JYN	Shimob	2.58	27	P	P	09 14 41.8	+0.1
JOD2	Odawara 2	2.63	38	P	P	09 14 42.7	+0.3
MAJO	Matsushiro	3.46	15	ePn	P	09 14 54.6	+0.4
MAJO				eSn	S	09 15 34.1	-0.3
MAT	Matsushiro	3.46	15	P	P	09 14 54.6	+0.4
MAT				S	S	09 15 33.5	-1.0
MAT	Matsushiro	3.46	15	eP	P	09 14 55.0	+0.8
MAT				eS	S	09 15 34.0	-0.5
JNU	Nakatsue	5.25	271	Pn	P	09 15 18.3	-1.1
	baz=108,slow=0.8						
JNU				Sn	S	09 16 15.2	-4.3
	2.3nm,0.3s,baz=242,slow=26,SNR=3.6						
JNU				LR	LR	09 17 34.6	
	comp=Z,174nm,20.3s,baz=228,slow=40						
SONM	Songino Array	27.35	311	P	P	09 19 46.1	+1.5
	0.8nm,0.4s,mb3.6,baz=100,slow=7.5,SNR=3.8						
CMAR	Chiang Mai Arr	37.15	256	LR	LR	09 38 30.4	
	comp=Z,45nm,18.8s,MS3.3,baz=211,slow=39						
MKAR	Makanchi Array	43.31	305	P	P	09 22 03.5	+2.5
	1.2nm,0.8s,mb3.7,baz=97,slow=9.8,SNR=6.1						
MKAR				pP	pP	09 22 13.6	+1.4
	1.4nm,0.8s,baz=96,slow=11,SNR=7.9						
MKAR	Makanchi Array	43.31	305	P	P	09 22 03.5	+2.5
MKAR				pP	pP	09 22 13.6	+1.4
KURK	Kurchatov	45.65	311	eP	P	09 22 21.1	+1.3
	2.0nm,0.8s,mb4.1						
FITZ	Fitzroy Crossi	52.17	194	pP	pP	09 23 21.4	-0.3
	1.1nm,0.5s,baz=321,slow=9.3,SNR=1.9						
WRA	Warramunga Arr	52.90	183	P	P	09 23 15.3	-0.6
	1.0nm,0.9s,mb3.8,baz=0.6,slow=7.8,SNR=9.3						
WRA				pP	pP	09 23 26.7	-0.5
	1.4nm,0.9s,baz=0.8,slow=7.8,SNR=6.8						
ILAR	Eielson Array	54.60	31	P	P	09 23 28.9	+1.1
	0.4nm,0.8s,mb3.5,baz=277,slow=7.6,SNR=5.4						
ILAR				pP	pP	09 23 39.9	+0.7
	0.3nm,0.7s,baz=290,slow=6.6,SNR=3.6						
ASAR	Alice Springs	56.62	184	P	P	09 23 43.1	+0.2
	0.8nm,0.8s,mb3.8,baz=11,slow=9.2,SNR=5.2						
ASAR				pP	pP	09 23 55.5	+1.1
	0.6nm,0.5s,baz=15,slow=13,SNR=3.6						
STKA	Stephens Creek	64.85	176	P	P	09 24 37.7	-1.0
	1.4nm,0.7s,mb4.1,baz=295,slow=14,SNR=3.3						
STKA				pP	pP	09 24 49.9	-0.5
	1.9nm,0.8s,baz=287,slow=9.6,SNR=2.5						
STKA	Stephens Creek	64.85	176	P	P	09 24 37.7	-1.0
STKA				pP	pP	09 24 49.9	-0.5
TXAR	Lajitas Array	95.26	50	P	P	09 27 25.4	+3.0
	0.8nm,0.9s,mb4.2,baz=268,slow=1.6,SNR=9.0						
LPAZ	La Paz	151.66	60	PKPbc	PKPdf	09 33 57.2	+12
	1.9nm,0.2s,baz=221,slow=0.4,SNR=4.3						
LPAZ				pPKPbc		09 34 07.8	
	1.8nm,0.2s,baz=336,slow=0.9,SNR=1.9						
LPAZ	La Paz	151.66	60	PKPbc	PKPdf	09 33 57.2	+12
LPAZ				pPKPbc		09 34 07.8	

DJA 10 10:15:32.2±0.4, **8.55S×116.11E, h80**^{km}, **MD4.8**/4, **ML4.3**/1, **4C-6D, Error ellipse: s-maj=14.4km s-min=9.8km az=127.0, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEDI	Kedomdong	0.06	2	⇑iPn	P	10 15 43.5	-0.2
	440nm,0.2s						
KEDI	Kedomdong	0.06	2	⇑iP	P	10 15 43.7	0.0
RATI	Rata	0.60	253	⇑iPn	P	10 15 47.2	+0.1
	241nm,0.2s						
RATI	Rata	0.60	253	⇓iP	P	10 15 47.3	+0.2
RATI				⇓iSn	S	10 16 01.9	+3.9
INGI	Ingas	0.99	254	⇓iPn	P	10 15 51.4	0.0
	433nm,0.2s						
INGI	Ingas	0.99	254	⇓iP	P	10 15 51.8	+0.4
INGI				⇓iSn	S	10 16 09.7	+3.9
KELI	Kelakatan	1.64	281	⇑iPn	P	10 15 59.9	+0.1
KELI				⇓iSn	S	10 16 19.0	-1.1

IDC 10 10:19:50.8±19.0, **56.11S×27.66W, h144**^{km}±169^{km}, **mb3.5**/2, **mb1 3.6**/2, **mb1mx3.4**/9, **2C-2D, Error ellipse: s-maj=220.0km s-min=25.5km az=42.0, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	16.84	158	⇓i	P	10 23 40.2	+1.4
VNA3	Neumayer Olymp	17.02	160	⇓i	P	10 23 42.0	+1.0
VNA2	Neumayer--Watz	17.23	157	⇑i	P	10 23 44.9	+1.3
SNAA	Sanae	18.79	156	⇑i	P	10 23 58.8	-2.2
MAW	Mawson	40.25	144	P	P	10 27 12.7	-1.6
	0.7nm,0.7s,baz=246,slow=7.9,SNR=6.2						
LPAZ	La Paz	50.20	306	P	P	10 28 32.4	-1.3
	1.1nm,0.4s,baz=139,slow=5.1,SNR=6.1						
ILAR	Eielson Array	149.96	312	PKPbc	PKPdf	10 39 22.1	+5.0
	3.3nm,0.6s,baz=128,slow=3.9,SNR=46						
ILAR				pPKPbc		10 39 55.0	
	0.8nm,0.9s,baz=110,slow=1.6,SNR=3.2						
SONM	Songino Array	150.99	87	PKPbc	PKPdf	10 39 25.3	+6.1
	2.0nm,0.4s,baz=220,slow=3.9,SNR=4.4						

DJA 10 10:30:19.2±0.9, **9.86S×116.21E, h33**^{km}, **MD5.1**/4, **ML3.9**/4, **3C-6D, Error ellipse: s-maj=19.7km s-min=14.0km az=159.0, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RATI	Rata	1.31	329	⇑iPn	Pn	10 30 40.1	-1.4
	128nm,0.2s						
RATI	Rata	1.31	329	⇑iP	P	10 30 40.5	-0.8
RATI				⇓iSn	Sn	10 30 55.6	-2.3
KEDI	Kedomdong	1.36	356	⇓iPn	Pn	10 30 41.7	-0.6
	178nm,0.2s						
KEDI	Kedomdong	1.36	356	⇓iP	P	10 30 41.9	-0.2
KEDI				⇓iSn	Sn	10 30 58.0	-1.4
INGI	Ingas	1.47	315	⇓iPn	Pn	10 30 42.3	-1.5
	170nm,0.2s						
INGI				⇑iSn	Sn	10 30 58.6	-3.5
KELI	Kelakatan	2.35	314	⇓iPn	Pn	10 30 56.2	-0.2
	44nm,0.2s						

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*GUC **10** 10:44:12.9±0.8, 38.22S×73.01W, h67^{km}±19^{km}, ML5.5*
*CSEM **10** 10:44:14.1, 37.82S×72.44W, h33^{km}, mb5.5*
*MOS **10** 10:44:14.5±1.2, 38.21S×73.51W, h33^{km}, mb5.9/8, MS5.0/6, Error ellipse: s-maj=54.8km s-min=25.9km az=95.2*
*BJI **10** 10:44:17.1, 37.90S×73.00W, h44^{km}, mB5.5, Ms5.0, Msz5.0*
*NEIC **10** 10:44:17.1±0.8, 37.93S×72.96W, h44^{km}±6^{km}, mb5.4/62, MS4.9/17, Error ellipse: s-maj=7.9km s-min=3.9km az=75.0*
NEIC Felt [IV] at Angol, Concepcion, Talcahuano and Temuco; [III] at Los Angeles, Nueva Imperial and Puerto Saavedra; [II] at Villarrica.
*HRVD **10** 10:44:17.1±0.2, 38.06S×73.24W, h12^{km}, MW5.2/61, Centroid moment Tensor Solution. LP body waves: s40,c66;Mantle waves: s61,c108; Half duration: 1^{s}0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.82±.02; $M_{\theta\theta}$-0.48±.02; $M_{\phi\phi}$-0.34±.02; $M_{r\theta}$-0.21±.05; $M_{\theta\phi}$-0.52±.02; $M_{\phi r}$0.22±.05; Best double couple: M_0.93×10^{17} NP1:ϕ_s30°, δ48°, λ62°. NP2:ϕ_s248°, δ49°, λ118°. Principal axes: T .93,*

Plg70°, Azm228°; N 0, Plg20°, Azm49°; P -.93, Plg1°, Azm319°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

*SYO **10** 10:44:18.3, 37.86S×72.94W, h53^{km}, MB5.4, MS5.0*

*IDC **10** 10:44:19.9±2.4, 37.85S×72.82W, h68^{km}±20^{km}, mb4.9/14, mb1 5.0/16, mb1mx5.0/16, MS5.0/6, Ms1 5.0/6, ms1mx4.7/10, Error ellipse: s-maj=16.4km s-min=10.1km az=109.0*

ISC 10 10:44:14.7±0.7**, 37.96S**±0.03×**72.91W**±0.06**, h37**^{km}±6^{km}**, h31**^{km}±2.8^{km}**:pP-P, n277,** σ**0**^{s}**97**/183**, mb5.4**/78**, MS4.9**/28**, 67C-11D, Central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TMCH	Temuco	0.82	164⇑	iP	P	10 44 26.3	-3.5
TMCH				i S	S	10 44 36.8	-4.0
TMCH				AMP		10 44 42.2	
	comp=N,183µm,0.8s						
CCHI	Chillan	1.51	26⇑	iP	P	10 44 41.9	+2.2
CCHI				i S	S	10 45 04.1	+5.6
CCHI				AMP		10 45 19.3	
	comp=N,51µm,0.6s						
OSCH	Osorno	2.61	184	eP	P	10 44 52.8	-2.6
OSCH				i S	S	10 45 21.1	-5.2
OSCH				AMP		10 45 35.8	
	comp=E,68µm,0.6s						
CTCH	Constitucion	2.66	9	eP	P	10 44 58.2	+2.1
CTCH				i S	S	10 45 32.1	+4.6
SFDO	San Fernando	3.68	25⇓	iP	P	10 45 10.7	+0.1
CACH	El Canelo	4.27	27	eP	P	10 45 19.0	0.0
LMEL	Las Melosas	4.66	29⇑	iP	P	10 45 25.1	+0.6
LMEL				i S	S	10 46 24.5	+6.4
ANTU	Antumapu	4.76	24	eP	P	10 45 25.0	-1.0
ANTU				i S	S	10 46 22.1	+1.4
CLCH	Cerro Calan	4.95	24⇑	iP	P	10 45 27.6	-1.1
CLCH				i S	S	10 46 25.2	-0.2
FCH	Farellones	5.09	26⇑	iP	P	10 45 30.1	-0.5
TRQA	Tornquist	8.63	94	ePn	P	10 46 21.2	+1.2
	comp=E,236nm,1.0s						
LPA	La Plata	12.44	80	ceP	P	10 47 14.0	+1.9
LPA				eS	S	10 49 29.0	-1.4
LVC	Limon Verde	15.68	14	eP	P	10 47 50.4	-4.1
	comp=E,40nm,1.3s						
USHA	Ushuaia	17.15	171	P	P	10 48 12.8	0.0
	comp=E,2.0nm,0.3s,baz=323,slow=9.5,SNR=11						
USHA				LR	LR	10 55 15.2	
	comp=E,7µm,18.0s,baz=328,slow=38						
EFI	East Falkland	17.24	147	P	P	10 48 16.7	+2.7
	comp=E,2µm,0.8s,SNR=12						
EFI	East Falkland	17.24	147	eP	P	10 48 14.8	+0.8
	comp=E,234nm,0.9s						
CPUP	Villa Florida	17.54	53	P	P	10 48 17.1	-0.9
	comp=E,1.7nm,0.3s,baz=254,slow=10.0,SNR=22						
CPUP				S	S	10 51 30.1	+0.2
	comp=E,0.2nm,0.3s,baz=328,slow=19,SNR=2.3						
ARE	Arequipa	21.46	4⇑	iP	P	10 49 03.1	+1.2
LPAZ	La Paz	22.00	12	P	P	10 49 08.5	+1.2
	comp=E,31nm,0.8s,mb4.8,baz=182,slow=8.6,SNR=42						
LPAZ				S	S	10 53 04.4	+1.6
	comp=E,2.4nm,0.6s,baz=40,slow=0.6,SNR=3.0						
NNA	Nana	26.11	351	eP	P	10 49 45.4	-1.6
	comp=E,71nm,0.9s,mb5.2						
PMSA	Palmer Station	27.36	172	eP	P	10 49 58.1	+0.1
	comp=E,52nm,1.3s,mb4.9						
SAML	Samuel	30.19	19	eP	P	10 50 22.6	-1.3
	comp=E,36nm,1.0s,mb5.0						
CAM4	Nova Friburgo	30.33	68	eP	P	10 50 25.7	+0.7
CAM4				i		10 50 30.5	
CAM4				i	pP	10 50 35.9	+0.5
CAM4				i		10 50 44.4	
CAM4				i		10 51 03.5	
CAM4	Nova Friburgo	30.33	68	eP	P	10 50 25.7	+0.7
CAM4				i		10 50 30.5	
CAM4				i	pP	10 50 35.9	+0.5
CAM4				i		10 50 44.4	
CAM4				i		10 51 03.5	
BDFB	Brasilia	31.26	51	P	P	10 50 32.1	-1.2
	comp=E,11nm,0.7s,mb4.8,baz=220,slow=6.4,SNR=10						
BDFB				S	S	10 55 33.2	-2.8
	comp=E,11nm,1.2s,baz=150,slow=11,SNR=1.6						
BDFB				LR	LR	11 05 04.9	
	comp=E,1µm,20.7s,MS4.6,baz=230,slow=40						
BAO	Brasilia Array	31.27	51	P	P	10 50 32.4	-1.0
BAO				i		10 50 37.3	
BAO				i	pP	10 50 41.4	-2.5
OTAV	Otavalo	38.35	351	eP	P	10 51 34.8	+0.8
	comp=E,64nm,0.9s,mb5.3						
OTAV				ePcP	PcP	10 53 47.1	-0.6
ROSC	El Rosal	42.62	358	P	P	10 52 10.8	+1.5
	comp=E,73nm,0.7s,mb5.5,baz=143,slow=7.5,SNR=25						
ROSC				S	S	10 58 28.4	-0.9
	comp=E,5.9nm,0.4s,baz=211,slow=23,SNR=2.1						
ROSC				LR	LR	11 09 48.6	
	comp=E,2µm,18.5s,MS5.1,baz=1.2,slow=36						
VNA3	Neumayer Olymp	45.99	156⇑	iP	P	10 52 38.4	+2.7
VNA3				e		10 54 14.0	
VNA1	Neumayer--Stat	46.34	155⇑	iP	P	10 52 41.5	+3.1
VNA1				e		10 54 15.7	
SDV	Santo Domingo	46.65	3⇑	iP	P	10 52 40.3	-1.2
	comp=E,54nm,0.8s,mb5.5						
VNA2	Neumayer--Watz	46.67	156⇑	iP	P	10 52 43.9	+3.0
VNA2				e		10 54 16.4	
SNAA	Sanae	48.21	156⇑	iP	P	10 52 53.5	+0.4
SNAA				e		10 54 19.5	
BUS	Buena Vista	48.35	346	eP	P	10 52 55.4	+0.6
LCR2	La Lucha 2	48.58	345	eP	P	10 52 56.7	+0.1
LAJ	Bijagual	48.72	345	eP	P	10 52 57.4	-0.3
JCR	Jicaral	48.91	344	eP	P	10 52 59.2	0.0
CGA2	Cerro Gallo 2	48.94	345	eP	P	10 52 60.0	+0.6
JTS	JuntasAbangare	49.31	344	P	P	10 53 02.3	+0.1
	comp=E,40nm,0.9s,mb5.4,baz=133,slow=3.2,SNR=19						
JTS				PcP	PcP	10 54 23.9	-1.0
	comp=E,20nm,1.1s,baz=103,slow=7.0,SNR=4.7						
JTS	JuntasAbangare	49.31	344⇑	iP	P	10 53 02.0	-0.3
	comp=E,58nm,1.0s,mb5.6						
JTS				ePcP	PcP	10 54 23.9	-1.0
TRTC	Tortuguero	49.33	346⇓	eP	P	10 53 02.4	0.0
QSPA	South Pole Qui	52.28	180	eP	P	10 53 23.7	-0.2
	comp=E,110nm,0.8s,mb5.8						
QSPA				LR	LR		
	comp=Z,250nm,20.9s,MS4.2						
MAIT	Maitri	52.96	156⇑	iP	P	10 53 29.6	+0.5
NVL	N'lazarevskaya	52.99	156⇑	eP	P	10 53 29.0	-0.4
NVL				eS	S	11 01 01.0	+6.3
NVL				pmax	pmax		
	comp=Z,381nm,1.8s,mb6.0						
RKT	Rikitea	54.54	267	eS	S	11 01 19.4	+3.0
RKT				eL		11 07 10.9	
RKT				eR		11 09 30.8	
	comp=Z,2µm,25.0s						
MGP	Maguayo	55.94	7	eP	P	10 53 49.3	-2.3
SJG	San Juan	56.14	8	P	P	10 53 49.9	-3.0
	comp=Z,35nm,0.6s,mb5.5,baz=264,slow=3.3,SNR=11						
SJG	San Juan	56.14	8	eP	P	10 53 50.2	-2.8
	comp=Z,33nm,0.8s,mb5.4						
SBA	Scott Base	59.06	192	eP	P	10 54 12.7	-0.2
	comp=Z,119nm,2.0s,mb5.6						
SYO	Syowa Base	62.46	158	⇓P	P	10 54 34.9	-1.1
SYO	Syowa Base	62.46	158	⇑pP	pP	10 54 44.4	-2.7
SYO	Syowa Base	62.46	158	⇓sP	sP	10 54 53.2	+1.9
SYO	Syowa Base	62.46	158	⇑PP	PP	10 56 52.2	-3.2
TBI	Tubuai	65.77	259	eS	S	11 03 43.6	+3.2
TBI				eL		11 11 43.0	
TBI				eR		11 14 06.9	
	comp=Z,1µm,25.0s,baz=127						
PPT	Papeete	69.04	264	eS	S	11 04 23.0	+3.2
PPT				eR		11 15 59.8	
	comp=Z,1µm,25.8s,baz=121						
MAW	Mawson	69.59	163⇑	iP	P	10 55 21.3	0.0
	comp=Z,38nm,0.8s,mb5.4						
MAW	Mawson	69.59	163	P	P	10 55 21.4	+0.1
	comp=Z,52nm,0.8s,mb5.5,baz=210,slow=6.8,SNR=123						
MAW				PP	PP	10 57 51.8	-5.6
	comp=Z,4.2nm,0.8s,baz=203,slow=7.7,SNR=2.8						
MAW				LR	LR	11 24 41.6	
	comp=Z,2µm,21.4s,MS5.2,baz=226,slow=35						
NHSC	New Hope	71.03	354	eP	P	10 55 29.6	-1.1
	comp=Z,149nm,1.1s,mb5.8						
LRAL	Lakeview Retre	71.84	348⇑	iP	P	10 55 34.5	-1.0
	comp=Z,56nm,0.9s,mb5.5						
LRAL				LR	LR		
	comp=Z,260nm,20.0s,MS4.5						
NATX	Nacogdoches	72.27	341	eP	P	10 55 37.7	-0.3
	comp=Z,105nm,0.9s,mb5.8						
JCT	Junction City	72.58	336⇓	iP	P	10 55 39.1	-0.8
	comp=Z,116nm,1.1s,mb5.7						
LTX	Lajitas	72.87	332⇑	iP	P	10 55 41.3	-0.4
	comp=Z,32nm,0.8s,mb5.3						
LTX				LR	LR		
	comp=Z,1µm,20.0s,MS5.2						
TXAR	Lajitas Array	72.87	332	P	P	10 55 41.3	-0.4
	comp=Z,23nm,0.8s,mb5.2,baz=152,slow=8.7,SNR=316						
TXAR				LR	LR	11 22 27.9	
	comp=Z,1µm,19.4s,MS5.2,baz=180,slow=31						
OXF	Oxford	73.72	346⇑	iP	P	10 55 44.9	-1.7
	comp=Z,120nm,1.0s,mb5.8						
CPCT	Cooper Cave	73.83	350⇑	iP	P	10 55 49.2	+2.0
UALR	University of	74.59	343	eP	P	10 55 49.4	-2.2
	comp=Z,26nm,1.0s,mb5.1						
HBAR	Harrisburg	74.98	345	eP	P	10 55 52.9	-0.9
WVT	Waverly	75.01	348⇑	iP	P	10 55 52.6	-1.3
	comp=Z,106nm,1.0s,mb5.7						
WVT				LR	LR		
	comp=Z,274nm,21.0s,MS4.5						
HALT	Halls	75.06	346	eP	P	10 55 53.3	-1.0
BLA	Blacksburg	75.12	354	eP	P	10 55 53.6	-1.0
	comp=Z,15nm,0.7s,mb5.0						
GNAR	Gosnell	75.25	346	eP	P	10 55 54.5	-0.8
MIR	Mirnyy	75.25	174⇑	eP	P	10 55 54.0	-0.7
MIR				pmax	pmax		
	comp=Z,60nm,1.5s,mb5.3						
MIR				MLR	MLR		
	comp=Z,1µm,16.0s,MS5.2						
PWV	Princeton	75.30	353	eP	P	10 55 54.4	-1.2
UTMT	University of	75.39	347	eP	P	10 55 55.1	-1.1
	comp=Z,305nm,1.1s,mb6.1						
GLAT	Glass	75.40	346	eP	P	10 55 54.5	-1.7
GDL2	Guadalupe Moun	75.71	333	eP	P	10 55 57.6	-0.5
CASY	Casey	76.05	181⇑	iP	P	10 55 59.4	+0.1
WMOK	Wichita Mounta	76.22	338⇑	iP	P	10 55 59.6	-1.3
	comp=Z,44nm,1.1s,mb5.3						
CPRX	Cap Rock	76.29	334	eP	P	10 56 01.1	-0.2
LIC	Lamto	76.71	71	eP	P	10 56 04.6	+0.5
	comp=Z,292nm,1.2s,mb6.1						
USIN	University of	76.77	348	eP	P	10 56 01.9	-2.1
	comp=Z,119nm,1.0s,mb5.8						
WCI	Wyandotte Cave	76.81	349⇑	iP	P	10 56 02.3	-1.9
	comp=Z,18nm,0.8s,mb5.0						
TIC	Toumodi	76.99	71	eP	P	10 56 06.0	+0.3
	comp=Z,61nm,0.2s,mb6.1						
KIC	Kosan Boka	77.02	71	eP	P	10 56 06.3	+0.5
	comp=Z,480nm,1.0s,mb6.4						
DBIC	Dimbokro	77.13	71	P	P	10 56 07.5	+1.1
	comp=Z,50nm,0.8s,mb5.5,baz=204,slow=5.8,SNR=50						
FVM	French Village	77.28	346⇑	iP	P	10 56 05.6	-1.2
	comp=Z,81nm,1.1s,mb5.6						
MCWV	Mont Chateau	77.51	355	eP	P	10 56 07.0	-1.0
	comp=Z,94nm,1.5s,mb5.5						
CCM	Cathedral Cave	77.51	345⇑	iP	P	10 56 07.2	-0.9
	comp=Z,116nm,0.8s,mb5.9						
BLO	Bloomington	77.77	349⇑	iP	P	10 56 07.7	-1.9
	comp=Z,69nm,1.0s,mb5.5						
SLM	Saint Louis	77.88	346	eP	P	10 56 08.8	-1.3
	comp=Z,82nm,0.8s,mb5.7						
BNM	Barren Site	78.29	332	eP	P	10 56 13.0	+0.6
TUC	Tucson	78.32	328⇑	iP	P	10 56 12.7	0.0
	comp=Z,18nm,1.0s,mb5.0						
TUC				LR	LR		
	comp=Z,502nm,21.0s,MS4.8						
SSPA	Standing Stone	78.36	356	eP	P	10 56 12.0	-0.7
	comp=Z,25nm,1.1s,mb5.1						
ACSO	Alum Creek Sta	78.36	352	eP	P	10 56 11.0	-1.7
	comp=Z,72nm,0.8s,mb5.7						
LENM	Lemitar	78.43	332	eP	P	10 56 13.1	-0.2
LAZ	Ladron	78.71	332⇑	eP	P	10 56 15.3	+0.6
TSUM	Tsumeb	78.83	106⇑	iP	P	10 56 16.7	+1.0
	comp=Z,47nm,1.3s,mb5.3						
ANMO	Albuquerque	78.94	332	c iP	P	10 56 16.4	+0.4
ANMO				pmax	pmax		
	comp=Z,6.0nm,1.1s						
ANMO	Albuquerque	78.94	332⇑	iP	P	10 56 16.3	+0.3
	comp=Z,53nm,1.1s,mb5.4						
ANMO				LR	LR		
	comp=Z,877nm,21.0s,MS5.1						
BRYW	Bryant College	79.51	1	eP	P	10 56 19.5	+0.5
	comp=Z,70nm,0.8s,mb5.6						
WES	Weston	79.98	1	eP	P	10 56 22.1	+0.6
	comp=Z,67nm,1.1s,mb5.5						
HRV	Harvard--Oak R	80.10	1⇑	eP	P	10 56 22.7	+0.5
	comp=Z,49nm,0.8s,mb5.5						
RPZ	Rata Peaks	80.19	221	P	P	10 56 22.2	-0.4
	comp=Z,29nm,0.9s,mb5.2,baz=178,slow=5.0,SNR=5.1						
CBKS	Cedar Bluff	80.29	339⇑	iP	P	10 56 23.1	-0.2
	comp=Z,79nm,1.0s,mb5.6						
CBKS				LR	LR		
	comp=Z,286nm,20.0s,MS4.6						
GENY	Geneseo	80.47	356	eP	P	10 56 23.8	-0.3
URZ	Urewera	80.49	229	P	P	10 56 24.1	-0.3
	comp=Z,9.8nm,0.8s,mb4.8,baz=67,slow=4.4,SNR=5.3						
ACCN	Adirondack Com	80.97	359⇑	eP	P	10 56 26.8	+0.1
FFD	Franklin Falls	81.06	1	eP	P	10 56 27.6	+0.4
	comp=Z,76nm,0.8s,mb5.7						
SDCO	Great Sand Dun	81.11	334⇓	eP	P	10 56 27.6	+0.1
	comp=Z,33nm,1.0s,mb5.2						
SDCO				LR	LR		
	comp=Z,640nm,20.0s,MS5.0						
BAR	Barrett	81.24	324⇑	eP	P	10 56 28.8	+0.4
WUAZ	Wupatki	81.34	329⇑	iP	P	10 56 29.5	+0.6
	comp=Z,35nm,1.1s,mb5.2						
NCB	Newcomb	81.56	359⇑	eP	P	10 56 29.6	-0.2
	comp=Z,36nm,0.9s,mb5.3						
JFWS	Jewell Farm	82.03	347	eP	P	10 56 31.3	-1.0
	comp=Z,21nm,0.7s,mb5.2						
PTN	Potsdam (NY)	82.17	359	eP	P	10 56 32.9	-0.1
LOZ	Lake Ozonia	82.22	359⇑	iP	P	10 56 32.8	-0.3
LDFC	Landfair	82.54	326	eP	P	10 56 36.2	+1.2
PV01	Paradox Valley	82.55	332	eP	P	10 56 35.6	+0.6
MSNY	Massena	82.60	359	eP	P	10 56 34.9	-0.2
PV10	Paradox Valley	82.93	332	eP	P	10 56 36.9	0.0
ISCO	Idaho Springs	83.00	335	eP	P	10 56 37.7	+0.4
	comp=Z,18nm,1.1s,mb5.0						
MWC	Mount Wilson	83.17	324	eP	P	10 56 39.0	+0.8
SRU	San Rafael	84.13	331⇑	iP	P	10 56 43.2	+0.2
MSU	Marysvale	84.25	330⇑	eP	P	10 56 44.6	+1.0
MVU	Marysvale	84.25	330⇑	iP	P	10 56 44.5	+0.9
	comp=Z,15nm,1.1s,mb5.0						
TPNV	Topopah Spring	84.61	326⇑	eP	P	10 56 46.5	+1.1
	comp=Z,16nm,0.9s,mb5.1						
DAC	Darwin (Calif)	84.65	325⇑	iP	P	10 56 46.7	+1.0
	comp=Z,20nm,1.1s,mb5.2						
MPU	Maple Canyon	85.34	331⇑	iP	P	10 56 49.7	+0.7
NLU	North Lily Min	85.45	331⇑	iP	P	10 56 50.5	+0.9
DAU	Daniels Canyon	85.54	332	eP	P	10 56 50.8	+0.9
JLU	Jordanelle	85.78	332⇑	iP	P	10 56 51.6	+0.5
DUG	Dugway	85.95	330⇑	iP	P	10 56 52.5	+0.6
	comp=Z,2.3nm,1.2s,mb4.3						
DUG				LR	LR		
	comp=Z,34nm,19.0s,MS3.8						
MTUM	Tungsten Hills	85.97	325	eP	P	10 56 52.5	+0.3
TPH	Tonopah	85.98	326⇑	iP	P	10 56 53.1	+0.9
	comp=Z,35nm,1.0s,mb5.5						
TCUT	Toone Canyon	86.21	332⇑	eP	P	10 56 52.9	-0.3
OMM	Old Mammoth Mi	86.39	325⇑	iP	P	10 56 55.2	+1.0
RSSD	Black Hills	86.43	338⇑	iP	P	10 56 54.0	-0.2
	comp=Z,24nm,0.9s,mb5.4						
BGU	Big Grassy Mou	86.66	331	eP	P	10 56 55.6	+0.2
MNV	Mina	86.68	326	eP	P	10 56 56.3	+0.7
	comp=Z,8.1nm,1.1s,mb4.9						
HWUT	Hardware Ranch	86.69	332⇑	iP	P	10 56 55.8	+0.2
	comp=Z,47nm,1.0s,mb5.7						
HWUT				LR	LR		
	comp=Z,711nm,20.0s,MS5.1						
SPUT	South Promonto	86.77	331⇑	iP	P	10 56 56.2	+0.3
PDAR	Pinedale Array	86.99	334	P	P	10 56 56.9	-0.1
	comp=Z,18nm,1.1s,mb5.2,baz=146,slow=5.3,SNR=47						
PDAR				LR	LR	11 31 44.5	
	comp=Z,871nm,18.3s,MS5.2,baz=142,slow=33						
HVU	Hansel Valley	87.30	331⇑	iP	P	10 56 58.6	+0.1
CMB	Columbia Colle	87.36	324	eP	P	10 56 59.5	+0.6
	comp=Z,9.4nm,1.0s,mb5.0						
ELK	Elko	87.38	329⇑	eP	P	10 56 59.5	+0.6
	comp=Z,22nm,1.0s,mb5.3						
ELK				LR	LR		
	comp=Z,548nm,20.0s,MS5.0						
AHID	Auburn Hatcher	87.53	333	eP	P	10 56 59.6	0.0
	comp=Z,11nm,0.8s,mb5.2						
REDW	Red Top Meadow	87.96	333⇑	iP	P	10 57 01.8	+0.1
SNOW	Snow King Moun	88.02	333	eP	P	10 57 02.0	+0.1
WUWY	Wally Ulrich	88.08	333	eP	P	10 57 02.2	0.0
LOHW	Long Hollow	88.09	334	eP	P	10 57 02.4	+0.1
TPAW	Teton Pass	88.11	333⇑	iP	P	10 57 02.7	+0.3
ASMM	Slate Mountain	88.14	325	eP	P	10 57 04.5	+1.9
MOOW	Moose Ponds	88.26	334	eP	P	10 57 03.1	0.0
PAHR	Pah Rah Range	88.27	326	P	P	10 57 04.5	+1.3
BEKR	Beckwourth	88.84	325	eP	P	10 57 06.6	+0.7
BEKR				e	pP	10 57 15.9	-1.5
OHCM	Honcut	88.92	324	eP	P	10 57 06.9	+0.5
YMR	Madison River	89.14	334	eP	P	10 57 08.1	+0.8
LSZ	Lusaka	89.22	109	eP	P	10 57 10.0	+1.8
	comp=Z,16nm,0.8s,mb5.4						
LSZ				LR	LR		
	comp=Z,648nm,22.0s,MS5.0						
HLID	Hailey	89.45	331	eP	P	10 57 09.4	+0.6
	comp=Z,21nm,1.1s,mb5.4						
HLID				LR	LR		
	comp=Z,468nm,20.0s,MS4.9						
QLMT	Earthquake Lak	89.45	334	eP	P	10 57 09.6	+0.9
MCMT	McKenzie Canyo	89.95	333	eP	P	10 57 11.6	+0.6
ULM	Lac du Bonnet	90.14	345	P	P	10 57 11.1	-0.7
	comp=Z,32nm,1.0s,mb5.6,baz=188,slow=2.7,SNR=24						
WVOR	Wild Horse Val	90.19	328	eP	P	10 57 12.7	+0.5
	comp=Z,14nm,1.3s,mb5.1						
WVOR				e		10 57 29.6	
WVOR				LR	LR		
	comp=Z,741nm,19.0s,MS5.1						
BOZ	Bozeman (W)	90.23	334	eP	P	10 57 11.7	-0.6
	comp=Z,54nm,2.1s,mb5.5						
BOZ				LR	LR		
	comp=Z,1µm,20.0s,MS5.3						
DGMT	Dagmar	90.44	340	eP	P	10 57 12.7	-0.5
	comp=Z,31nm,1.1s,mb5.5						
MOD	Modoc	90.47	327⇑	iP	P	10 57 14.1	+0.5
	comp=Z,11nm,1.0s,mb5.1						
HRY	Holter Researc	91.22	334	eP	P	10 57 17.5	+0.5
CHMT	Chamberlain Mo	91.89	334	eP	P	10 57 20.5	+0.5
SCHQ	Schefferville	92.57	4	P	P	10 57 21.9	-1.1
	comp=Z,3.8nm,0.6s,mb5.0,baz=279,slow=0.6,SNR=7.5						
VGB	Gordon Butte	93.60	329	eP	P	10 57 28.4	+0.5
HAWA	Hanford	93.81	330	eP	P	10 57 29.0	+0.2
	comp=Z,1.2nm,1.2s,mb4.2						
NEW	Newport	94.42	332	eP	P	10 57 30.6	-0.9
	comp=Z,8.9nm,0.9s,mb5.2						
NEW				LR	LR		
	comp=Z,350nm,22.0s,MS4.8						
DPW	Davenport	94.50	331	eP	P	10 57 31.9	-0.1
LON	Longmire	95.02	329	eP	P	10 57 33.9	-0.4
BMW	Boistfort Moun	95.39	328	eP	P	10 57 36.5	+0.5
ESDC	Sonseca Array	99.81	47	P	P	10 57 56.2	-0.1
	comp=Z,0.6nm,0.5s,mb4.3,baz=235,slow=4.5,SNR=4.4						
ASAR	Alice Springs	113.72	207	PKiKP		11 02 49.6	
	comp=Z,1.5nm,0.8s,baz=132,slow=1.6,SNR=12						
GRA1	Grafenberg Arr	114.42	45	ePKP	PKPdf	11 02 52.4	+2.1
GRF	Grafenberg Arr	114.42	45	ePKIKP	PKPdf	11 02 52.4	+2.1
MOX	Moxa	115.11	44	ePKP	PKPdf	11 02 52.0	+0.4
MOX				LR	LR		
	comp=Z,300nm,20.0s,MS4.9						
NKC	Novy Kostel	115.37	45	ePKP	PKPdf	11 02 59.1	+7.0
GERES	GERESS Array B	115.41	47	PKP	PKPdf	11 02 53.0	+0.8
	comp=Z,5.6nm,1.0s,baz=180,slow=1.3,SNR=20						
KHC	Kasperske Hory	115.48	47	ePKP	PKPdf	11 02 53.2	+0.9
CLL	Collm	116.20	44	i PKIKP	PKPdf	11 02 55.6	+1.9
	comp=Z,logA/T=1.0						
CLL	Collm	116.20	44	i PKIKP	PKPdf	11 02 55.6	+1.9
CLL				pmax	pmax		
	comp=Z,12nm,1.1s						
BRG	Berggiesshubel	116.52	45	ePKIKP	PKPdf	11 02 56.3	+2.0
BRG				e		11 03 00.8	
BRG				pmax	pmax		
	comp=Z,9.0nm,1.3s						
BRG				MLR	MLR		
	comp=N,330nm,18.1s,MS5.1						
BRG				MLR	MLR		
	comp=E,210nm,18.1s,MS5.1						
BRG				MLR	MLR		
	comp=Z,360nm,18.1s,MS5.0						
PVCC	Panska Ves	116.71	46	ePKP	PKPdf	11 02 56.6	+2.0
WB2	Warramunga Arr	116.95	209	eP	PKPdf	11 02 55.7	-0.1
WRA	Warramunga Arr	116.96	209	PKP	PKPdf	11 02 56.0	+0.2
	comp=Z,3.0nm,0.7s,baz=160,slow=1.5,SNR=42						
WRA				PKKPbc		11 13 22.8	
	comp=Z,2.1nm,0.9s,baz=339,slow=3.9,SNR=7.7						
WRAB	Tennant Creek	116.96	209	ePKPdf	PKPdf	11 02 56.2	+0.4
ILAR	Eielson Array	117.38	332	PKP	PKPdf	11 02 56.0	+0.4
	comp=Z,4.1nm,0.7s,baz=156,slow=2.9,SNR=50						
ILAR				PP	PP	11 04 09.1	-3.1
	comp=Z,1.3nm,0.9s,baz=127,slow=4.5,SNR=5.3						
ILAR				PKKPbc		11 13 19.1	
	comp=Z,0.7nm,0.6s,baz=319,slow=4.5,SNR=22						
DPC	Dobruska-Polom	117.62	46	ePKP	PKPdf	11 02 58.3	+1.9
MCK	McKinley	117.62	331	ePKPdf	PKPdf	11 02 56.6	+0.6
COLA	College	117.79	332	ePKIKP	PKPdf	11 02 56.6	+0.2
COLA				MLR	MLR		
	comp=Z,200nm,17.0s,MS4.8						
MORC	Moravsky Berou	118.07	47	ePKPdf	PKPdf	11 02 58.4	+1.2
VYHS	Vyhne	118.26	49	i PKP	PKPdf	11 02 59.6	+1.9
NB2	NORSAR Subarra	119.72	34	PKPdf	PKPdf	11 03 01.3	+1.0
	comp=Z,1.4nm,0.6s,baz=232,slow=1.9						
NOA	NORSAR Array B	119.72	34	PKP	PKPdf	11 03 01.1	+0.9
	comp=Z,2.8nm,0.7s,baz=250,slow=2.2,SNR=7.1						
MBWA	Marble Bar	120.00	194	PKPdf	PKPdf	11 03 03.5	+1.7
TTA	Tatalina	120.08	328	eP	PKPdf	11 03 01.8	+0.8
HFS	Hagfors	120.46	35	PKKPbc		11 13 08.7	
	comp=Z,2.8nm,0.7s,baz=90,slow=7.2,SNR=4.5						
IMA	Indian Mountai	120.50	332	eP	PKPdf	11 03 02.7	+1.0
KOLS	Kolonicke sedl	120.51	50	ePKP	PKPdf	11 03 01.1	-1.0
FITZ	Fitzroy Crossi	121.57	201	eP	PKPdf	11 03 03.6	-1.2
	comp=Z,2.6nm,0.6s						
SUW	Suwalki	122.96	44	ePKPdf	PKPdf	11 03 07.8	+1.0
KAKA	Kakadu	124.29	210	eP	PKPdf	11 03 10.4	+0.2
	comp=Z,6.9nm,0.6s						
BRTR	Keskin Array B	124.31	64	PKP	PKPdf	11 03 11.2	+1.5
	comp=Z,4.8nm,0.7s,baz=193,slow=3.3,SNR=14						
AKASG	Malin Array Be	125.34	50	PKP	PKPdf	11 03 11.8	+0.5
	comp=Z,6.1nm,0.8s,baz=265,slow=2.8,SNR=16						
AKASG				PP	PP	11 05 02.1	-4.0
	comp=Z,0.3nm,0.3s,baz=255,slow=5.9,SNR=4.2						
FINES	FINESS Array B	126.62	36	PKP	PKPdf	11 03 14.4	+0.9
	comp=Z,5.6nm,0.9s,baz=333,slow=4.3,SNR=7.8						
MALT	Malatya	127.19	67	ePKPdf	PKPdf	11 03 17.4	+2.1
ARCES	ARCESS Array B	127.89	26	PKP	PKPdf	11 03 16.3	+0.5
	comp=Z,23nm,1.2s,baz=252,slow=3.8,SNR=7.5						
SOC	Sochi	129.93	61	ePKIKP	PKPdf	11 03 20.9	+0.6
SOC				e		11 05 35.1	
SOC				e		11 10 29.6	
SOC				pmax	pmax		
	comp=Z,55nm,1.1s						
SOC				pmax	pmax		
	comp=N,22nm,0.7s						
SOC				pmax	pmax		
	comp=E,32nm,0.7s						
SOC				MLR	MLR		
	comp=Z,479nm,28.0s,MS5.0						
SOC				MLR	MLR		
	comp=N,436nm,23.0s						
SOC				MLR	MLR		
	comp=E,316nm,31.0s						
APA	Apatity	130.61	29⇓	iPKIKP	PKPdf	11 03 24.0	+3.0
APA				pmax	pmax		
	comp=Z,29nm,1.0s						
OBN	Obninsk	130.76	46⇑	iPKIKP	PKPdf	11 03 20.2	-1.3
OBN				e		11 10 25.4	
OBN				pmax	pmax		
	comp=Z,33nm,1.2s						
OBN				MLR	MLR		
	comp=Z,400nm,13.0s,MS5.3						
LVZ	Lovozero	131.09	29	d iPKIKP	PKPdf	11 03 20.8	-1.1
SEY	Seymchan	143.04	327	ePKIKP	PKPdf	11 03 43.7	+0.1
SEY				pmax	pmax		
	comp=N,30nm,1.0s						
SEY				pmax	pmax		
	comp=Z,110nm,1.0s						
ARU	Arti	143.15	44	i PKIKP	PKPdf	11 03 42.9	-1.0
ARU				MLR	MLR		
	comp=Z,300nm,23.0s,MS5.0						
ARU				MLR	MLR		
	comp=E,200nm,22.5s						
ARU	Arti	143.15	44	ePKPdf	PKPdf	11 03 42.3	-1.6
KGM	Kluang	144.06	174⇑	eP	PKPbc	11 03 46.2	+0.1
AB31	Akbulak array	144.59	56	i PKP2	PKPab	11 03 47.7	+0.4
AB31				pmax	pmax		
	comp=Z,51nm,0.8s						
KAD	Karad	144.59	116	ePKP	PKPdf	11 03 48.0	+0.3
KAD				e		11 03 50.0	
	comp=Z,180nm,1.0s						
MA2	Magadan	144.91	322	c iPKIKP	PKPdf	11 03 46.9	0.0

MA2	**Magadan**	**144.91**	**322**	*e*PKPdf	PKPdf	11 03 46.7	-0.2
POO	**Poona**	**145.16**	**114**	*e*PKP	PKPdf	11 03 50.0	+1.4
POO				*e*		11 03 53.9	
	comp=Z,208nm,1.3s						
MDRS	**Chennai**	**145.57**	**129**	*e*PKP	PKPdf	11 03 50.0	+0.6
CUD	**Cuddapah**	**145.71**	**125**	⇑*e*P	PKPdf	11 03 52.1	+2.5
IPM	**Ipoh**	**146.31**	**169**	⇓*e*P	PKPdf	11 03 52.8	+2.0
HYB	**Hyderabad**	**147.69**	**121**	*i* PKP	PKPdf	11 03 57.5	+4.6
	comp=Z,160nm,1.0s						
HYB	**Hyderabad**	**147.69**	**121**	*e*P	PKPdf	11 03 57.5	+4.6
SNG	**Songkhla**	**148.79**	**168**	P	PKPdf	11 04 02.0	+7.2
	comp=Z,144nm,1.0s						
KGD	**Kothagudem**	**149.21**	**124**	*e*PKiK		11 04 01.6	
KGD				*e*PP	PP	11 07 32.1	-2.7
ZRNK	**Zerenda**	**149.79**	**48**	PKIKP	PKPdf	11 03 57.4	+2.2
ZRNK				pmax	pmax		
	comp=Z,33nm,0.7s						
ZRNK	**Zerenda**	**149.79**	**48**	*e*PKPdf	PKPdf	11 03 57.4	+2.2
ZRNK				*e*PKPbc	PKPdf	11 04 02.6	+7.4
BRVK	**Borovoye**	**150.51**	**47**	*e*PKPdf	PKPdf	11 03 58.5	+2.3
BRVK				*e*PKPbc	PKPdf	11 04 04.1	+7.8
BVA0	**Borovoye Array**	**150.58**	**47**	PKIKP	PKPdf	11 03 58.7	+2.3
BHPL	**Bhopal**	**150.70**	**112**	*e*PKP	PKPdf	11 04 04.9	+7.4
BHPL				*e*		11 04 08.5	
	comp=Z,86nm,1.2s						
VOSK	**Vostochnaya**	**151.00**	**48**	PKIKP	PKPdf	11 03 59.2	+2.2
VOSK				pmax	pmax		
	comp=Z,37nm,0.8s						
VIS	**Vishakhapatnam**	**151.03**	**128**	*e*PKP	PKPdf	11 04 05.0	+6.9
KKAR	**Karatay Array**	**151.88**	**68**	*i* PKIKP	PKPdf	11 04 07.1	+8.4
KKAR				pmax	pmax		
	comp=Z,11nm,0.6s						
YAK	**Yakutsk**	**152.16**	**337**	*e*PKIKP	PKPdf	11 03 58.3	-0.2
YAK				*e*		11 04 05.1	
YAK				pmax	pmax		
	comp=Z,12nm,0.8s						
YAK				pmax	pmax		
	comp=Z,96nm,0.8s						
YAK				pmax	pmax		
	comp=N,7.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,6.0nm,0.8s						
YAK	**Yakutsk**	**152.16**	**337**	*e*PKPdf	PKPdf	11 04 00.0	+1.6
YAK				*e*PKPbc	PKPdf	11 04 06.3	+7.8
YSS	**Yuzh-Sakhalins**	**152.40**	**300**	*e*PKIKP	PKPdf	11 03 59.9	+0.6
YSS	**Yuzh-Sakhalins**	**152.40**	**300**	*e*PKPbc	PKPdf	11 04 07.0	+7.8
YSS				*e*PKPab	PKPab	11 04 18.1	-0.5
NDI	**New Delhi**	**153.47**	**102**	*e*PKP	PKPdf	11 04 09.5	+8.2
AAK	**Ala-Archa**	**154.80**	**69**	*e*PKPdf	PKPdf	11 04 04.2	+1.5
AAK				*e*PKPbc	PKPdf	11 04 13.2	+10
AAK				*e*PKPab	PKPab	11 04 28.7	-0.3
FRU	**Bishkek**	**154.89**	**69**	*e*PKIKP	PKPdf	11 04 05.6	+2.8
FRU				*e*		11 04 30.6	
FRU				pmax	pmax		
	comp=Z,60nm,2.0s						
MAJO	**Matsushiro**	**155.24**	**276**	*e*PKPdf	PKPdf	11 04 04.4	+0.9
MAJO				*e*PKPbc	PKPdf	11 04 13.4	+10
MAT	**Matsushiro**	**155.24**	**276**	PKP	PKPdf	11 04 03.1	-0.4
MAT	**Matsushiro**	**155.24**	**276**	*e*PKP	PKPdf	11 04 03.0	-0.5
KURK	**Kurchatov**	**156.15**	**49**	*i* PKIKP	PKPdf	11 04 06.4	+2.2
KURK				pmax	pmax		
	comp=Z,14nm,1.1s						
KURK	**Kurchatov**	**156.15**	**49**	*e*PKPdf	PKPdf	11 04 06.5	+2.3
KURK				*e*PKPab	PKPab	11 04 34.6	+0.2
KURK				*e*PP	PP	11 08 12.6	-0.7
NVS	**Novosibirsk**	**156.62**	**36**	*i* PKIKP	PKPdf	11 04 05.3	+0.6
NVS				*e*		11 08 13.4	
NVS				pmax	pmax		
	comp=Z,32nm,1.4s						
KOLN	**Koldanda**	**157.86**	**110**	*e*P	PKPab	11 04 40.5	-2.0
BDT	**Bhumibol Dam**	**158.17**	**159**	P	PKPab	11 04 43.0	-1.1
GKN	**Gorkha**	**158.75**	**111**	*e*P	PKPab	11 04 46.1	-0.3
	comp=Z,111nm,1.1s						
DMN	**Daman**	**158.88**	**113**	*e*P	PKPab	11 04 46.8	-0.1
	comp=Z,99nm,1.0s						
PKI	**Pulchoki**	**159.08**	**113**	*e*P	PKPab	11 04 47.3	-0.5
	comp=Z,52nm,0.7s						
KKN	**Kakani**	**159.11**	**113**	*e*P	PKPab	11 04 47.8	-0.1
	comp=Z,111nm,1.0s						
CMAR	**Chiang Mai Arr**	**159.30**	**158**	PKP	PKPdf	11 04 11.2	+2.0
	comp=Z,2.1nm,1.0s,baz=249,slow=2.7,SNR=7.8						
CMAR				PKPab	PKPab	11 04 48.2	-0.7
	comp=Z,7.7nm,1.0s,baz=217,slow=5.1,SNR=13						
BOD	**Bodaibo**	**159.62**	**349**	*e*PKIKP	PKPdf	11 04 08.2	-0.1
BOD				*e*		11 04 47.4	
CHG	**Chiang Mai**	**159.64**	**157**	⇓P	PKPab	11 04 49.3	-1.1
	comp=Z,16nm,1.0s						
MKAR	**Makanchi Array**	**159.73**	**56**	PKP	PKPdf	11 04 10.7	+1.9
	comp=Z,12nm,1.0s,baz=315,slow=1.7,SNR=43						
MKAR				PKPab	PKPab	11 04 50.2	+0.2
	comp=Z,16nm,0.7s,baz=288,slow=3.9,SNR=23						
MKAR				PP	PP	11 08 26.0	-6.3
	comp=Z,1.1nm,0.8s,baz=270,slow=1.4,SNR=2.4						
MKAR	**Makanchi Array**	**159.73**	**56**	PKP	PKPdf	11 04 10.7	+1.9
MKAR				PKPab	PKPab	11 04 50.2	+0.2
MKAR				PP	PP	11 08 26.0	-6.4
NANT	**Nan**	**160.11**	**162**	⇓P	PKPab	11 04 50.0	-2.4
SHL	**Shillong**	**162.15**	**129**	*e*PKP	PKPdf	11 04 14.5	+2.6
WMQ	**Urumqi**	**164.22**	**62**	*e*PKP	PKPdf	11 04 17.5	+4.1
WMQ				LR	LR		
	comp=E,209nm,28.0s						
WMQ				LR	LR		
	comp=Z,266nm,30.0s						
CN2	**Changchun**	**164.95**	**299**	*e*PKP	PKPdf	11 04 18.4	+4.3
SSE	**Sheshan**	**166.51**	**244**	*e*PKP	PKPdf	11 04 19.2	+3.3
SSE				SS	SS	11 29 49.4	+4.3
SSE				LR	LR		
	comp=N,72nm,30.3s						
SSE				LR	LR		
	comp=E,97nm,30.5s						
SSE				LR	LR		
	comp=Z,122nm,22.1s						
KMI	**Kunming**	**166.68**	**163**	*e*PKP	PKPdf	11 04 17.0	+0.8
KMI				SS	SS	11 29 46.0	-0.8
KMI				LR	LR		
	comp=Z,215nm,28.9s						
ZAK	**Zakamensk**	**167.29**	**11**	⇑*e*PKIKP	PKPdf	11 04 16.1	+0.3
ZAK				*i*		11 05 23.0	
GYA	**Guiyang**	**168.52**	**178**	PKP	PKPdf	11 04 17.2	0.0
GYA				PKP2	PKPab	11 05 28.7	-0.2
GYA				PP	PP	11 09 23.7	+4.7
GYA				PP	PP		
	comp=Z,160nm,3.6s						
NJ2	**Nanjing**	**168.70**	**242**	*e*PKP	PKPdf	11 04 21.1	+3.9
NJ2				APKP		11 04 31.9	
NJ2				XPKP		11 04 35.5	
NJ2				PP	PP	11 09 24.0	+4.3
NJ2				SKS	SKS	11 11 20.0	+4.6
NJ2				SKKS		11 16 06.0	
NJ2				PP	PP		
	comp=Z,440nm,4.5s						
NJ2				LR	LR		
	comp=N,1μm,25.2s						
NJ2				LR	LR		
	comp=E,790nm,23.2s						
NJ2				LR	LR		
	comp=Z,1μm,24.5s						
SONM	**Songino Array**	**170.12**	**3**	PKP	PKPdf	11 04 18.3	+0.7
	comp=Z,5.3nm,1.1s,SNR=9.7						
SONM				PKPab	PKPab	11 05 35.4	+0.1
	comp=Z,10.0nm,0.7s,baz=341,slow=4.0,SNR=20						
SONM				PP	PP	11 09 20.2	-6.1
	comp=Z,0.5nm,0.5s,baz=45,slow=4.1,SNR=2.7						
BJI	**Beijing**	**172.63**	**289**	PKP	PKPdf	11 04 19.6	+0.4
BJI				LR	LR		
	comp=N,123nm,16.9s						
BJI				LR	LR		
	comp=E,162nm,16.5s						
BJI				LR	LR		
	comp=Z,164nm,16.3s						
GTA	**Gaotai**	**174.13**	**74**	PKP	PKPdf	11 04 22.0	+2.2
GTA				APKP		11 04 33.2	
GTA				XPKP		11 04 37.1	
GTA				PKP2	PKPab	11 05 54.8	+1.5
GTA				PKS	PKS	11 07 53.0	+2.0
GTA				PP	PP	11 09 47.4	+0.8
GTA				SKS	SKS	11 11 19.8	+2.5
GTA				PPP	PPP	11 14 00.3	+0.4
GTA				SKKS		11 16 29.0	
GTA				SS	SS	11 30 58.9	0.0
GTA				PP	PP		
	comp=Z,112nm,6.8s						
GTA				LR	LR		
	comp=N,90nm,22.1s						
GTA				LR	LR		
	comp=E,95nm,21.3s						
GTA				LR	LR		
	comp=Z,204nm,25.5s						
HHC	**Hu-ho-hao-te**	**175.49**	**311**	*e*PKP	PKPdf	11 04 22.1	+2.0
HHC				APKP		11 04 40.8	
HHC				PKS	PKS	11 07 53.6	+2.3
HHC				SKS	SKS	11 11 21.2	+3.7
HHC				PP	PP		
	comp=Z,113nm,5.8s						
HHC				LR	LR		
	comp=N,114nm,32.7s						
HHC				LR	LR		
	comp=E,98nm,24.4s						
HHC				LR	LR		
	comp=Z,122nm,23.2s						
XAN	**Xi'an**	**175.81**	**201**	PKP	PKPdf	11 04 22.2	+1.7
LZH	**Lanzhou**	**176.80**	**125**	PKP	PKPdf	11 04 22.9	+2.3
LZH				PKP2	PKPab	11 06 05.4	+0.1
LZH				PP	PP	11 10 02.0	+2.7
LZH				SKKS		11 16 43.0	
LZH				SS	SS	11 31 28.0	+4.1
LZH				PP	PP		
	comp=Z,420nm,6.2s						
LZH				LR	LR		
	comp=Z,3μm,21.0s						

*IDC **10** 10:45:44.5±1.2, 3.71N×64.16E, mb3.7/5, mb1 3.9/5, mb1mx3.7/15, MS3.8/7, Ms1 3.8/7, ms1mx3.6/16, Error ellipse: s-maj=36.1km s-min=24.5km az=0.0*

*NEIC **10** 10:45:46.1±0.9, 3.62N×64.19E, h10^{km}, mb4.3/1, Error ellipse: s-maj=26.1km s-min=16.1km az=174.0*

ISC 10 10:45:44.4±0.9, **3.8N**±0.1×**64.2E**±0.1, **h10**^{km}**, n16,** σ**1^{s}15**/11, **mb3.6**/5, **MS3.8**/7, **Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**16.78**	**77**	P	**P**	**10 49 41.9**	**+0.6**
	36nm,1.4s						
POO	**Poona**	**17.45**	**32**	*e*P	**P**	**10 49 48.0**	**-1.7**
MDRS	**Chennai**	**18.35**	**59**	*e*P	**P**	**10 50 01.0**	**0.0**
HYB	**Hyderabad**	**19.55**	**45**	*i* P	**P**	**10 50 16.0**	**+0.8**
HYB	**Hyderabad**	**19.55**	**45**	*e*P	**P**	**10 50 16.0**	**+0.8**
KMBO	**Kilima Mbogo**	**27.38**	**260**	P	**P**	**10 51 32.2**	**0.0**
	0.8nm,0.6s,mb3.5,baz=50,slow=23,SNR=2.5						
KMBO				LR	LR	11 01 01.2	
	comp=Z,177nm,18.8s,MS3.7,baz=272,slow=34						
CMAR	**Chiang Mai Arr**	**36.98**	**64**	P	**P**	**10 52 58.5**	**+2.4**
	0.5nm,0.6s,mb3.5,baz=259,slow=9.2,SNR=3.3						
CMAR				LR	LR	11 05 58.1	
	comp=Z,150nm,18.9s,MS3.8,baz=245,slow=33						
BRTR	**Keskin Array B**	**45.25**	**326**	P	**P**	**10 54 05.2**	**+1.2**
	0.7nm,0.5s,mb3.8,baz=135,slow=8.2,SNR=2.8						
BRTR				LR	LR	11 13 20.1	
	comp=Z,154nm,19.7s,MS3.9,baz=125,slow=37						
MKAR	**Makanchi Array**	**45.65**	**17**	P	**P**	**10 54 05.7**	**-1.3**
	0.3nm,0.6s,mb3.4,baz=191,slow=7.3,SNR=3.2						
MKAR				LR	LR	11 13 34.4	
	comp=Z,103nm,20.3s,MS3.8,baz=218,slow=36						
VAE	**Valguarnera**	**56.51**	**313**	LR	LR	11 19 28.9	
	comp=Z,57nm,18.1s,MS3.7,baz=130,slow=36						
FINES	**FINESS Array B**	**64.27**	**341**	LR	LR	11 26 54.7	
	comp=Z,46nm,18.7s,MS3.7,baz=183,slow=38						
NOA	**NORSAR Array B**	**69.57**	**335**	LR	LR	11 28 51.3	
	comp=Z,76nm,18.8s,MS4.0,baz=265,slow=37						
WRA	**Warramunga Arr**	**72.72**	**112**	P	**P**	**10 57 14.8**	**-0.4**
	1.4nm,0.8s,mb3.9,baz=288,slow=5.2,SNR=7.4						
WRAB	**Tennant Creek**	**72.72**	**112**	P	**P**	**10 57 14.0**	**-1.2**
TXAR	**Lajitas Array**	**145.11**	**341**	PKPbc	PKPbc	11 05 22.0	-1.1
	0.7nm,0.7s,baz=64,slow=2.5,SNR=7.8						
TXAR	**Lajitas Array**	**145.11**	**341**	PKPbc	PKPbc	11 05 22.0	-1.1

*IDC **10** 10:54:06.8±1.5, 17.83S×167.56E, mb4.0/5, mb1 4.2/5, mb1mx4.0/11, Error ellipse: s-maj=35.7km s-min=31.9km az=161.0*

*NEIC **10** 10:54:11.8±0.8, 17.98S×167.54E, h30^{km}, mb4.4/2, Error ellipse: s-maj=17.6km s-min=13.7km az=69.0*

ISC 10 10:54:11.3±0.7, **18.11S**±0.07×**167.5E**±0.1, **h33**^{km}**, n16,** σ**1^{s}07**/19, **mb4.0**/7, **1C-3D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BKM	**Butte a Klehm**	**0.88**	**60**	⇓*i*P	**P**	**10 54 26.8**	**-0.4**
DZM	**Mont Dzumac**	**4.05**	**193**	*e*P	**P**	**10 55 13.2**	**+0.5**
DZM				*e*S	**S**	**10 55 55.5**	**-4.1**
DZM	**Mont Dzumac**	**4.05**	**193**	*e*P	**P**	**10 55 13.2**	**+0.5**
DZM				*e*S	**S**	**10 55 55.5**	**-4.2**
NOUC	**Port Laguerre**	**4.12**	**195**	*e*P	**P**	**10 55 14.4**	**+0.9**
NOUC				*e*S	**S**	**10 55 59.4**	**-1.8**
NOUC	**Port Laguerre**	**4.12**	**195**	*e*P	**P**	**10 55 14.4**	**+0.9**
NOUC				*e*S	**S**	**10 55 59.4**	**-1.8**
URZ	**Urewera**	**21.78**	**159**	P	**P**	**10 59 02.6**	**+0.5**
	13nm,0.9s,mb4.4,baz=126,slow=11,SNR=3.6						
STKA	**Stephens Creek**	**27.06**	**235**	P	**P**	**10 59 53.4**	**+0.5**
	3.1nm,0.9s,mb3.9,baz=81,slow=7.3,SNR=3.6						
STKA	**Stephens Creek**	**27.06**	**235**	P	**P**	**10 59 53.4**	**+0.5**
WRA	**Warramunga Arr**	**31.33**	**261**	P	**P**	**11 00 30.0**	**-1.1**
	0.2nm,0.7s,mb3.1,baz=91,slow=8.5,SNR=5.3						
ASAR	**Alice Springs**	**31.77**	**254**	P	**P**	**11 00 35.0**	**0.0**
	1.7nm,0.6s,mb4.0,baz=82,slow=8.4,SNR=30						
FITZ	**Fitzroy Crossi**	**39.67**	**263**	*e*P	**P**	**11 01 42.9**	**+0.8**
	5.6nm,0.8s,mb4.3						
QSPA	**South Pole Qui**	**71.94**	**180**	*e*P	**P**	**11 05 32.1**	**-0.6**
	3.9nm,1.0s,mb4.3						
ILAR	**Eielson Array**	**89.67**	**18**	P	**P**	**11 07 04.9**	**-1.9**
	1.0nm,1.0s,mb4.1,baz=234,slow=5.0,SNR=8.9						
SNAA	**Sanae**	**90.20**	**183**	⇓*i*	pP	11 07 17.1	-2.7
VNA3	**Neumayer Olymp**	**90.86**	**181**	⇑*i*P	**P**	**11 07 13.0**	**+0.7**
VNA3				*e*		11 07 30.1	
VNA2	**Neumayer--Watz**	**91.13**	**182**	⇓*i*P	**P**	**11 07 15.5**	**+1.9**
VNA2				*e*		11 07 35.4	

*NEIC **10** 10:56:48.5, 15.02N×94.81W, h25^{km}, MD4.0(MEX), After MEX.*

MEX 10 10:56:48.5±0.4, **15.02N**×**94.80W, h20**^{km}±30^{km}**, MD4.1, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**1.46**	**301**	*i* P	Pn	10 57 10.6	-3.5
HUIG				*i* S	Sn	10 57 27.9	-4.9
CMIG	**Matias Romero**	**2.06**	**358**	*i* P	Pn	10 57 19.4	-3.2
CMIG				*i* S	Sn	10 57 43.4	-4.7
SCX	**San Cristobal**	**2.70**	**50**	*e*P	Pn	10 57 28.5	-3.3
SCX				*i* S	Sn	10 57 59.0	-5.2
OXX	**Oaxaca**	**2.76**	**318**	*e*P	Pn	10 57 30.0	-2.7
OXX				*i* S	Sn	10 58 04.0	-1.8
PPM	**Popocatepetl**	**5.44**	**318**	*e*P	Pn	10 58 10.0	-0.6

*NAO **10** 11:27:21.3±9.7, 67.66N×33.26E, ML2.0*

HEL 10 11:27:21.1±0.3, **67.62N**×**33.68E, ML2.0, ML2.0**(NAO), **Explosion, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSF	**Maaselka**	**2.52**	**229**	*e*P	Pn	11 28 03.5	-0.4
MSF				*e*SG	Sg	11 28 38.3	-6.5
SGF	**Sodankyl**	**2.75**	**270**	*e*P	Pn	11 28 06.5	-0.8
SGF				*e*S	Sn	11 28 39.0	-2.8
KEV	**Kevo**	**3.25**	**314**	*e*P	Pn	11 28 12.7	-1.6
KEV				*e*S	Sn	11 28 51.5	-2.8
KEV				*e*SG	Sg	11 29 01.2	-8.0
KEV				MSG		11 29 03.6	
	comp=Z,3.3nm,0.2s						
ARA0	**ARCESS Array S**	**3.56**	**306**	Pn	Pn	11 28 15.2	-3.6
	baz=121,slow=16						
ARA0				Sn	Sn	11 28 57.5	-4.8
	baz=120,slow=28						
ARA0				Lg		11 29 07.9	
	baz=115,slow=37						
ARA0	**ARCESS Array S**	**3.56**	**306**	*e*P	Pn	11 28 15.2	-3.6
ARA0				*e*S	Sn	11 28 57.5	-4.8
ARA0				*e*SB	Sb	11 29 07.9	-1.0
OUL	**Oulu**	**4.04**	**235**	*e*SG	Sg	11 29 25.2	-10
OUL				MSG		11 29 29.9	
	comp=Z,2.4nm,0.3s						
KJN	**Kajaani**	**4.31**	**217**	*e*P	Pn	11 28 28.2	-1.3
KJN				*e*S	Sn	11 29 17.0	-4.2
KJN				*e*SG	Sg	11 29 33.5	-11
KJN				MSG		11 29 38.1	
	comp=Z,2.9nm,0.3s						
FIA0	**FINESS Array S**	**7.01**	**211**	Lg		11 30 60.0	
	baz=41,slow=37						
FIA0	**FINESS Array S**	**7.01**	**211**	*e*SG	Sg	11 30 60.0	-14
FIA0	**FINESS Array S**	**7.01**	**211**	Lg		11 30 60.0	
	baz=41,slow=37						

*NAO **10** 11:39:23.8±3.5, 67.72N×34.31E, ML2.0*

HEL 10 11:39:27.0±0.6, **67.66N**×**33.84E, ML1.9, ML2.0**(NAO), **Explosion, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
APA0	**Apatity Array**	**0.33**	**260**	*i* P	Pg	11 39 32.2	-1.3
APA0				*i* S	Sg	11 39 40.8	+2.9
APA0	**Apatity Array**	**0.33**	**260**	Pg	Pg	11 39 32.2	-1.3
	baz=102,slow=16						
APA0				Lg		11 39 40.8	
	baz=90,slow=37						
MSF	**Maaselka**	**2.59**	**229**	*e*P	Pn	11 40 10.1	-0.7
MSF				*e*SB	Sb	11 40 44.3	-2.3
SGF	**Sodankyl**	**2.81**	**269**	*e*P	Pn	11 40 13.4	-0.7
SGF				*e*S	Sn	11 40 46.9	-2.3
KEV	**Kevo**	**3.26**	**313**	*e*P	Pn	11 40 19.6	-0.8
KEV				*e*S	Sn	11 40 58.5	-1.9
KEV				*e*SG	Sg	11 41 07.1	-8.4
KEV				MSG		11 41 09.6	
	comp=Z,2.1nm,0.2s						
ARA0	**ARCESS Array S**	**3.59**	**305**	*e*P	Pn	11 40 23.1	-1.9
ARA0				*e*PG	Pg	11 40 32.3	-6.3
ARA0				*e*S	Sn	11 41 05.3	-3.4
ARA0				*e*SG	Sg	11 41 17.3	-9.1
ARA0	**ARCESS Array S**	**3.59**	**305**	Pn	Pn	11 40 23.1	-1.9
	baz=122,slow=16						
ARA0				Pg	Pg	11 40 32.3	-6.3
	baz=114,slow=16						
ARA0				Sn	Sn	11 41 05.3	-3.4
	baz=124,slow=28						
ARA0				Lg		11 41 17.3	
	baz=124,slow=28						
OUL	**Oulu**	**4.11**	**235**	*e*P	Pn	11 40 31.9	-0.6
OUL				*e*SG	Sg	11 41 34.8	-9.0
KJN	**Kajaani**	**4.38**	**218**	*e*P	Pn	11 40 34.4	-1.9
KJN				*e*S	Sn	11 41 25.6	-3.3
KJN				*e*SG	Sg	11 41 42.6	-10
KJN				MSG		11 41 46.1	
	comp=Z,2.4nm,0.3s						

*THE **10** 11:49:56.5, 39.14N×24.18E, h13^{km}, ML3.0*

*NEIC **10** 11:49:57.3, 39.09N×24.08E, h39^{km}, MD3.1(ATH), After ATH.*

*ATH **10** 11:49:57.3, 39.09N×24.08E, h39^{km}±4^{km}, MD3.1/8*

ISC 10 11:49:55.6±0.6, **39.14N**±0.03×**24.20E**±0.04, **h13**^{km}±4^{km}**, n20,** σ**0^{s}74**/30, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AOS	**Alonnisos**	**0.25**	**276**	*e*Pg	**Pg**	**11 50 00.9**	**-0.3**
AOS				*e*Sg	**Sg**	**11 50 05.4**	**+0.6**
NEO	**Neokhori**	**0.78**	**282**	*e*PN	**Pn**	**11 50 11.5**	**-0.6**
NEO				*e*SB	**Sb**	**11 50 22.7**	**+2.1**
XOR	**Xorichti**	**0.81**	**286**	*e*Pg	**Pg**	**11 50 11.8**	**-0.2**
PAIG	**Paliouri**	**0.88**	**333**	*e*Pg	**Pg**	**11 50 13.3**	**-0.1**
PAIG				*e*Sg	**Sg**	**11 50 26.0**	**+0.8**
LOS	**Limnos**	**1.04**	**41**	*e*Pg	**Pg**	**11 50 15.6**	**-1.0**
LOS				*e*Sg	**Sg**	**11 50 31.1**	**+0.5**
MPAR	**Parnis Oros**	**1.05**	**200**	*e*PN	**Pn**	**11 50 16.0**	**-0.1**
LKR	**Lokris**	**1.06**	**243**	*e*PB	**Pb**	**11 50 14.8**	**-0.5**
PTL	**Penteli**	**1.12**	**194**	*e*PB	**Pb**	**11 50 16.0**	**-0.5**
OUR	**Ouranopolis**	**1.20**	**352**	*e*Pb	**Pb**	**11 50 18.4**	**+0.6**
ATH	**Athens Observa**	**1.23**	**198**	*e*PN	**Pn**	**11 50 18.9**	**+0.3**
PLG	**Polygyros**	**1.36**	**335**	*e*PN	**Pn**	**11 50 20.3**	**-0.1**
PLG				*e*SN	**Sn**	**11 50 38.8**	**+0.4**
NSAL	**Nisos Salamina**	**1.36**	**205**	*e*PN	**Pn**	**11 50 20.0**	**-0.5**
AGG	**Agios Georgios**	**1.46**	**266**	*e*Pb	**Pb**	**11 50 21.5**	**-0.7**
AGG				*e*Sb	**Sb**	**11 50 41.0**	**+0.5**
NAIG	**Nisos Aigina**	**1.49**	**202**	*e*PN	**Pn**	**11 50 23.0**	**+0.7**
PRK	**Paraskevi**	**1.61**	**86**	*e*PN	**Pn**	**11 50 26.4**	**+2.3**
LIT	**Litokhoron**	**1.63**	**306**	*e*Pb	**Pb**	**11 50 24.1**	**-1.0**
	comp=Z,3.2nm,0.2s						
LIT				*e*Sb	**Sb**	**11 50 44.7**	**-0.7**
SOH	**Sokhos**	**1.80**	**339**	*e*Pb	**Pb**	**11 50 26.9**	**-1.1**
SOH				*e*Sb	**Sb**	**11 50 49.8**	**-0.6**
KNT	**Kendrikon**	**2.25**	**334**	*e*Pn	**Pn**	**11 50 33.0**	**-0.2**
KNT				*e*Sn	**Sn**	**11 51 01.1**	**+0.1**
ALN	**Alexandroupoli**	**2.25**	**38**	*e*Pn	**Pn**	**11 50 33.0**	**-0.3**
GRG	**Griva**	**2.28**	**323**	*e*Pn	**Pn**	**11 50 33.9**	**+0.3**
GRG				*e*Sn	**Sn**	**11 51 01.6**	**-0.1**

*JMA **10** 12:37:29.4±0.1, 33.01N×136.92E, h38^{km}, M3.5*

ISC 10 12:37:30.1±1.2, **33.05N**±0.07×**136.91E**±0.04, **h38**^{km}±35^{km}**, n15,** σ**0^{s}56**/28, **7D, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TK01	**Tokai 1**	**0.92**	**38**	P	**P**	**12 37 46.2**	**-0.4**
TK01				S	**S**	**12 37 58.1**	**-0.6**
JWZ	**Kozaga**	**1.11**	**296**	⇓P	**P**	**12 37 49.1**	**-0.2**
JWZ				S	**S**	**12 38 02.8**	**-0.9**
TK02	**Tokai 2**	**1.14**	**38**	⇓P	**P**	**12 37 49.6**	**-0.2**
TK02				S	**S**	**12 38 04.2**	**-0.3**
JKN	**Kiinagashima**	**1.31**	**336**	P	**P**	**12 37 52.6**	**+0.3**
JKN				S	**S**	**12 38 08.1**	**-0.8**
JIE	**Ise**	**1.35**	**353**	⇓P	**P**	**12 37 53.4**	**+0.5**
JIE				S	**S**	**12 38 10.4**	**+0.6**
JWM	**Minabe**	**1.52**	**302**	⇓P	**P**	**12 37 55.3**	**0.0**
JWM				S	**S**	**12 38 13.6**	**-0.6**
TK04	**Tokai 4**	**1.56**	**31**	P	**P**	**12 37 55.9**	**+0.1**
TK04				S	**S**	**12 38 15.0**	**0.0**
JWY	**Kouya**	**1.60**	**317**	⇓P	**P**	**12 37 57.1**	**+0.7**
JWY				S	**S**	**12 38 16.4**	**+0.3**
TSUJ	**Tsu 2**	**1.71**	**346**	⇓P	**P**	**12 37 58.4**	**+0.5**
TSUJ				S	**S**	**12 38 19.4**	**+0.7**
JHE	**Heguri**	**1.90**	**328**	⇓P	**P**	**12 38 01.3**	**+0.7**
JHE				S	**S**	**12 38 23.9**	**+0.4**
JAJ2	**Tsuna**	**2.17**	**310**	P	**P**	**12 38 05.1**	**+0.6**
JAJ2				*e*S	**S**	**12 38 31.0**	**+0.6**
JAI	**Aioi**	**2.18**	**291**	P	**P**	**12 38 04.7**	**0.0**
JAI				S	**S**	**12 38 29.5**	**-1.3**
SHZ3	**Shizuoka 3**	**2.29**	**28**	P	**P**	**12 38 05.8**	**-0.4**
JIZS	**Izushimoda**	**2.34**	**44**	P	**P**	**12 38 07.5**	**+0.6**
MAT	**Matsushiro**	**3.65**	**17**	P	**P**	**12 38 25.9**	**+0.3**
MAT				S	**S**	**12 39 06.9**	**-1.0**

*IDC **10** 13:46:58.3±1.0, 55.36S×29.03W, mb4.3/4, mb1 4.4/4, mb1mx4.1/9, MS3.9/5, Ms1 3.9/5, ms1mx3.8/10, Error ellipse: s-maj=94.7km s-min=24.3km az=46.0*

*NEIC **10** 13:46:60.0±0.4, 54.96S×28.50W, h10^{km}, mb4.5/9, MS3.9/1, Error ellipse: s-maj=16.9km s-min=8.4km az=59.0*

ISC 10 13:47:02.0±5.7, **55.0S**±0.1×**28.5W**±0.2, **h40**^{km}±55^{km}**, n31,** σ**1^{s}26**/19, **mb4.5**/12, **MS3.9**/6, **2C-1D, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**18.08**	**158**	⇓*i*	**P**	**13 51 18.1**	**+6.8**
VNA3	**Neumayer Olymp**	**18.26**	**161**	⇑*i*	**P**	**13 51 14.6**	**+1.0**
VNA2	**Neumayer--Watz**	**18.48**	**158**	⇑*i*	**P**	**13 51 17.0**	**+0.7**
SNAA	**Sanae**	**20.03**	**156**		**P**	**13 51 31.1**	**-2.7**
SNAA	**Sanae**	**20.03**	**156**	*e*P	**P**	**13 51 30.8**	**-3.0**
	10nm,0.6s						
PMSA	**Palmer Station**	**20.09**	**227**	*e*P	**P**	**13 51 32.5**	**-1.9**
	21nm,1.1s						
TRQA	**Tornquist**	**28.22**	**293**	*e*P	**P**	**13 52 51.5**	**-1.4**
	5.8nm,1.0s,mb4.2						
QSPA	**South Pole Qui**	**35.29**	**180**	*e*P	**P**	**13 53 55.5**	**+1.2**
	2.8nm,0.5s,mb4.5						
QSPA				LR	LR		
	comp=Z,260nm,22.0s,MS3.9						
CPUP	**Villa Florida**	**35.54**	**312**	P	**P**	**13 53 55.7**	**-1.3**
	comp=Z,2.4nm,0.7s,mb4.2,baz=168,slow=6.5,SNR=5.7						
CPUP				LR	LR	14 07 07.6	
	comp=Z,121nm,19.2s,MS3.7,baz=175,slow=34						
CPUP	**Villa Florida**	**35.54**	**312**	P	**P**	**13 53 55.7**	**-1.3**
CPUP				LR	LR	14 07 07.6	

MAW	Mawson	41.46	145	P	P	13 54 44.1	-1.8
	comp=Z,1.4nm,0.7s,mb3.7,baz=246,slow=11,SNR=4.2						
MAW				LR	LR	14 08 19.0	
	comp=Z,120nm,20.2s,MS3.8,baz=85,slow=31						
BDFB	Brasilia	42.05	331	P	P	13 54 52.6	+1.3
	comp=Z,1.9nm,0.4s,mb4.1,baz=152,slow=3.1,SNR=3.1						
LVC	Limon Verde	44.12	301	eP	P	13 55 09.4	+1.4
	comp=Z,7.4nm,0.9s,mb4.4						
SBA	Scott Base	47.11	184	eP	P	13 55 32.4	+1.4
	comp=Z,21nm,1.9s,mb4.7						
LPAZ	La Paz	49.15	306	P	P	13 55 49.1	+1.5
	comp=Z,2.9nm,0.3s,mb4.7,baz=157,slow=6.1,SNR=6.4						
LPAZ				LR	LR	14 13 40.3	
	comp=Z,68nm,21.6s,MS3.6,baz=183,slow=33						
SAML	Samuel	53.51	316	eP	P	13 56 20.3	-0.4
	comp=Z,2.5nm,0.7s,mb4.2						
NNA	Nana	57.08	299	P	P	13 56 46.5	0.0
	comp=Z,103nm,1.6s,mb5.6						
LSZ	Lusaka	58.69	71	eP	P	13 56 57.0	-0.6
	comp=Z,6.8nm,1.3s,mb4.5						
SDV	Santo Domingo	72.72	316	eP	P	13 58 27.5	-0.1
	comp=Z,10nm,1.0s,mb4.7						
KMBO	Kilima Mbogo	75.35	70	LR	LR	14 29 25.9	
	comp=Z,172nm,18.2s,MS4.4,baz=104,slow=34						
VAE	Valguarnera	99.14	33	LR	LR	14 40 26.1	
	comp=Z,80nm,19.5s,MS4.2,baz=292,slow=32						
FINES	FINESS Array B	123.77	28	PKP	PKPdf	14 05 57.5	+3.0
	comp=Z,1.2nm,0.6s,baz=146,slow=5.0,SNR=6.0						
ZRNK	Zerenda	134.10	57	ePKPdf	PKPdf	14 06 16.8	+2.5
YKA	Yellowknife Ar	134.87	319	PKP	PKPdf	14 06 18.5	+3.1
	comp=Z,0.6nm,0.5s,baz=132,slow=2.0,SNR=5.1						
INK	Inuvik	144.49	322	ePKPdf	PKPdf	14 06 33.8	+1.5
DIV	Divide	147.42	307	ePKPbc	PKPdf	14 06 42.0	+4.6
SML	Sawmill	148.79	307	ePKPbc	PKPdf	14 06 43.3	+3.7
ILAR	Eielson Array	148.84	313	PKPbc	PKPdf	14 06 46.1	+6.5
	comp=Z,7.9nm,0.7s,baz=124,slow=2.0,SNR=106						
COLA	College	149.26	313	ePKPbc	PKPdf	14 06 46.8	+6.5
SONM	Songino Array	151.38	85	PKPbc	PKPdf	14 06 53.8	+10
	comp=Z,3.6nm,0.7s,baz=207,slow=2.8,SNR=16						
IMA	Indian Mountai	151.82	315	ePKPbc	PKPdf	14 06 54.2	+10

IDC 10 14:34:10.8±3.8**,50.61N**×**28.26E,mb1 3.6**/4**, mb1mx3.4**/18**,ML3.2**/4**,Error ellipse: s-maj=50.6km s-min=8.3km az=15.0,Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AKASG	Malin Array Be	0.62	81	Pg	Pg	14 34 22.8	-0.5
	55nm,0.3s,baz=284,slow=18,SNR=125						
AKASG				Lg		14 34 31.9	
	57nm,0.3s,baz=283,slow=36,SNR=178						
AKASG				Rg		14 34 36.1	
	655nm,0.7s,baz=285,slow=36,SNR=94						
FINES	FINESS Array B	10.93	354	Pn	P	14 36 42.5	-8.8
	0.3nm,0.3s,baz=168,slow=13,SNR=6.8						
HFS	Hagfors	12.60	325	Pn	P	14 37 04.5	-10
	0.0nm,0.3s,baz=130,slow=13,SNR=5.8						
HFS				Sn	S	14 39 17.6	-19
	0.0nm,0.3s,baz=137,slow=28,SNR=2.5						
NOA	NORSAR Array B	14.12	324	Pn	P	14 37 24.7	-9.3
	0.1nm,0.3s,baz=38,slow=19,SNR=2.3						
ARCES	ARCESS Array B	19.03	357	Pn	P	14 38 28.0	-8.3
	0.1nm,0.3s,baz=180,slow=11,SNR=3.3						

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*IDC **10** 15:30:21.4±0.7,26.67N×66.87E,mb4.0/14,mb1 4.2/14, mb1mx4.1/21,Error ellipse: s-maj=24.5km s-min=15.6km az=39.0*

*NEIC **10** 15:30:26.1±0.5,26.70N×66.90E,h30^{km},mb4.0/5,Error ellipse: s-maj=13.0km s-min=9.0km az=46.0*

ISC 10 15:30:20.9±4.2**,26.8N**±0.1×**67.10E**±0.08**,h6**^{km}±26^{km}**,n32, σ1$\overset{s}{.}$17**/32**,mb4.0**/18**,1D,Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JASL	Jaisalmer	3.40	87	eP	Pn	15 31 20.1	+4.5
AJM	Ajmer	6.76	91	⇓iP	Pn	15 32 04.0	+0.9
KHET	Khetri	7.84	79	eP	Pn	15 32 18.3	0.0
KUDL	Kundal	8.45	79	eP	P	15 32 26.9	+0.1
KUDL				eS	Sn	15 33 59.8	-3.8
KUDL				e		15 34 06.3	
	comp=Z,16nm,0.4s						
RTK	Rohtak	8.54	73	eP	P	15 32 26.9	-1.1
AYAN	Aya Nagar	9.05	77	eP	P	15 32 33.8	-1.4
AYAN				AML	AML	15 35 20.1	
	comp=Z,9.5nm,0.5s						
NDI	New Delhi	9.16	76	eP	P	15 32 36.0	-0.7
NDI				eS	Sn	15 34 16.0	-5.3
JOSI	Joshimath	11.57	68	AML	AML	15 35 25.0	
	comp=E,108nm,0.3s						
JOSI				AML	AML	15 35 29.5	
	comp=N,103nm,0.7s						
AAK	Ala-Archa	16.93	19	eP	P	15 34 16.5	-3.5
	comp=N,6.1nm,0.9s						
SHL	Shillong	22.27	88	eP	P	15 35 21.0	+0.6
MKAR	Makanchi Array	23.31	27	P	P	15 35 31.9	+1.5
	comp=N,3.5nm,0.6s,mb4.0,baz=207,slow=10,SNR=32						
MKAR	Makanchi Array	23.31	27	P	P	15 35 31.9	+1.5
KURK	Kurchatov	25.47	17	P	P	15 35 53.1	+1.9
	comp=N,2.4nm,0.6s,mb3.9						
ZRNK	Zerenda	26.18	3	eP	P	15 35 59.1	+1.3
	comp=N,4.9nm,1.0s,mb4.0						
BVAR	Borovoye Array	26.33	4	P	P	15 36 00.3	+1.1
	comp=N,2.4nm,0.8s,mb3.8,baz=180,slow=10,SNR=12						
BVAR				PcP	PcP	15 39 25.8	0.0
	comp=N,0.6nm,0.7s,baz=124,slow=5.2,SNR=3.9						
BRVK	Borovoye	26.36	4	eP	P	15 35 59.2	-0.2
	comp=N,3.2nm,0.9s,mb3.9						
CMAR	Chiang Mai Arr	30.47	99	P	P	15 36 38.0	+1.0
	comp=N,0.9nm,0.6s,mb3.7,baz=288,slow=10,SNR=8.2						
SONM	Songino Array	37.13	45	P	P	15 37 36.8	+2.7
	comp=N,1.4nm,0.7s,mb3.9,baz=246,slow=7.9,SNR=7.7						
AKASG	Malin Array Be	37.38	320	P	P	15 37 35.3	-0.9
	comp=N,1.6nm,0.6s,mb4.0,baz=109,slow=6.6,SNR=8.0						
TIP	Timpagrande	43.50	300	P	P	15 38 26.5	-0.3
FINES	FINESS Array B	44.19	333	P	P	15 38 31.3	-0.8
	comp=N,5.0nm,1.1s,mb4.2,baz=127,slow=14,SNR=3.7						
GERES	GERESS Array B	46.48	313	P	P	15 38 50.1	-0.4
	comp=N,0.9nm,0.7s,mb3.8,baz=100,slow=8.1,SNR=7.2						
GERES				PcP	PcP	15 40 24.9	-0.7
	comp=N,2.9nm,1.2s,baz=104,slow=5.5,SNR=4.5						
ARCES	ARCESS Array B	49.11	342	P	P	15 39 10.4	-0.4
	comp=N,2.4nm,0.6s,mb4.4,baz=121,slow=7.1,SNR=7.5						
ARCES				PcP	PcP	15 40 32.4	-2.3
	comp=N,7.8nm,1.0s,baz=31,slow=7.1,SNR=2.4						
NB2	NORSAR Subarra	50.54	329	P	P	15 39 20.1	-1.8
	comp=N,1.3nm,0.7s,mb4.0,baz=108,slow=7.4						
NOA	NORSAR Array B	50.54	329	P	P	15 39 20.4	-1.4
	comp=N,1.5nm,0.7s,mb4.0,baz=108,slow=7.4,SNR=6.3						
DBIC	Dimbokro	70.93	268	P	P	15 41 39.9	-1.6
	comp=N,1.7nm,0.7s,mb4.1,baz=51,slow=13,SNR=3.2						
FITZ	Fitzroy Crossi	72.22	122	P	P	15 41 49.0	-0.1
	comp=N,3.7nm,1.2s,mb4.2,baz=345,slow=2.2,SNR=3.7						
WRA	Warramunga Arr	80.01	118	P	P	15 42 33.4	+0.2
	comp=N,1.1nm,0.7s,mb3.9,baz=318,slow=4.5,SNR=12						
WRAB	Tennant Creek	80.02	118	eP	P	15 42 33.2	+0.1
	comp=N,16nm,1.4s,mb4.8						
ASAR	Alice Springs	81.72	122	P	P	15 42 42.9	+0.8
	comp=N,1.0nm,0.7s,mb3.9,baz=307,slow=5.4,SNR=13						
ILAR	Eielson Array	85.00	14	P	P	15 42 59.1	+1.2
	comp=N,0.4nm,0.6s,mb3.7,baz=325,slow=5.0,SNR=4.6						
TXAR	Lajitas Array	123.51	350	PKP	PKPdf	15 49 22.4	+0.2
	comp=N,0.5nm,0.8s,baz=219,slow=1.8,SNR=3.4						

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*TAP **10** 15:33:41.0,22.95N×121.34E,h25^{km}±1^{km},ML3.0*

JMA 10 15:33:43.4±0.1**,22.83N**×**121.61E,h66**^{km}**,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	2.07	38	P	P	15 34 16.6	0.0
YOJ				eS	S	15 34 41.7	+0.5
HATJ	Hateruma jima	2.36	58	P	P	15 34 20.7	0.0
HATJ				eS	S	15 34 48.3	-0.1
IRIF	Iriomote-Funau	2.46	52	P	P	15 34 22.0	-0.1
IRIF				eS	S	15 34 51.5	+0.6
JKRS	Kuro-shima	2.61	57	P	P	15 34 24.2	0.0
JKRS				eS	S	15 34 55.3	+0.5
JIJ	Ishigaki jima	2.78	56	P	P	15 34 26.6	0.0
JIJ				eS	S	15 34 58.4	-0.7
JTJ	Tarama	3.36	57	P	P	15 34 34.6	-0.2
JTJ				eS	S	15 35 13.6	0.0

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*NEIC **10** 15:58:47.2±0.7,12.97N×143.33E,h217^{km}±9^{km},mb4.3/15, Error ellipse: s-maj=15.0km s-min=5.5km az=81.0*

*IDC **10** 15:58:48.3±4.3,12.94N×143.36E,h227^{km}±42^{km}, mb3.8/12,mb1 3.9/13,mb1mx3.8/20,Error ellipse: s-maj=25.4km s-min=9.7km az=82.0*

ISC 10 15:58:45.5±0.8**,12.95N**±0.06×**143.3E**±0.1**,h215**^{km}±11^{km}**, n33,σ0$\overset{s}{.}$75**/34**,mb4.2**/23**,South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	Guam	1.65	67	ePn	P	15 59 22.5	+0.3
GUMO				eS	S	15 59 48.9	-1.6
SAPN	Saipan	3.28	46	eP	P	15 59 41.7	+2.1
JOW	Kunigami	19.73	317	P	P	16 03 01.1	+0.5
	2.9nm,0.3s,baz=158,slow=15,SNR=7.2						
WAU	Wau	20.44	170	eP	P	16 03 08.6	+0.9
JNU	Nakatsue	23.07	333	P	P	16 03 33.5	+0.2
	13nm,0.8s,mb4.5,baz=170,slow=19,SNR=5.3						
ASAJ	Asahikawa	31.07	359	P	P	16 04 46.5	+0.9
	36nm,1.4s,mb4.8,baz=131,slow=17,SNR=2.3						
CTA	Charters Tower	32.95	175	eP	P	16 05 02.6	+0.5
	6.7nm,1.4s,mb4.0						
CTA	Charters Tower	32.95	175	P	P	16 05 02.1	0.0
	6.6nm,1.1s,mb4.1,baz=45,slow=8.5,SNR=4.2						
CTAO	Charters Tower	32.95	175	P	P	16 05 01.6	-0.5
	12nm,1.1s,mb4.3						
WRAB	Tennant Creek	33.84	195	eP	P	16 05 09.2	-0.4
	14nm,0.6s,mb4.7						
WB2	Warramunga Arr	33.85	195	eP	P	16 05 09.6	-0.1
WRA	Warramunga Arr	33.85	195	P	P	16 05 09.5	-0.2
	8.3nm,0.6s,mb4.5,baz=14,slow=9.3,SNR=116						
WRA				PcP	PcP	16 07 43.2	-0.4
	0.6nm,0.5s,baz=9.4,slow=3.3,SNR=6.7						
FITZ	Fitzroy Crossi	35.43	210	eP	P	16 05 23.0	-0.1
	1.9nm,0.8s,mb3.7						
FITZ	Fitzroy Crossi	35.43	210	P	P	16 05 22.7	-0.4
	2.5nm,0.6s,mb3.9,baz=27,slow=7.5,SNR=15						
FITZ				PcP	PcP	16 07 48.2	0.0
	1.1nm,0.7s,baz=26,slow=3.1,SNR=5.4						
ENH	Enshi	35.67	304	eP	P	16 05 25.0	-0.1
	3.9nm,0.6s,mb4.1						
BJT	Baijiatuau	36.02	323	eP	P	16 05 27.2	-0.6
	8.8nm,0.5s,mb4.5						
ASPA	Alice Springs	37.53	194	eP	P	16 05 41.0	+0.3
MBWA	Marble Bar	41.05	215	eP	P	16 06 09.2	-0.5
	2.2nm,0.3s,mb4.1						
CMAR	Chiang Mai Arr	42.98	283	P	P	16 06 26.2	+0.8
	2.2nm,0.8s,mb3.6,baz=79,slow=7.1,SNR=15						
STKA	Stephens Creek	44.59	182	eP	P	16 06 37.8	-0.4
	2.4nm,0.4s,mb3.9						
STKA	Stephens Creek	44.59	182	P	P	16 06 37.9	-0.3
	2.7nm,0.4s,mb3.9,baz=357,slow=8.5,SNR=14						
FORT	Forrest	45.88	198	eP	P	16 06 48.8	+0.4
	68nm,0.7s,mb5.1						
SONM	Songino Array	46.39	326	P	P	16 06 52.8	+0.7
	1.9nm,0.7s,mb3.5,baz=147,slow=8.4,SNR=11						
TOO	Toolangi	50.29	178	eP	P	16 07 23.9	+1.8
	5.0nm,0.6s,mb4.0						
KLBR	Kellerberrin	50.61	208	eP	P	16 07 23.7	-0.9
	28nm,1.2s,mb4.6						
MUN	Mundaring	51.66	210	eP	P	16 07 32.2	-0.3
	5.4nm,0.5s,mb4.2						
MKAR	Makanchi Array	60.90	317	P	P	16 08 37.8	+0.1
	1.1nm,0.6s,mb3.7,baz=96,slow=8.7,SNR=14						
KURK	Kurchatov	64.10	320	eP	P	16 08 58.2	-0.4
	2.2nm,0.3s,mb4.3						
BRVK	Borovoye	69.56	322	eP	P	16 09 32.3	-0.5
	2.2nm,0.5s,mb4.0						
ILAR	Eielson Array	69.80	25	P	P	16 09 33.1	-1.0
	0.5nm,0.5s,mb3.4,baz=249,slow=5.7,SNR=5.5						
ZRNK	Zerenda	70.31	322	eP	P	16 09 36.7	-0.7
	1.3nm,0.4s,mb3.9						
ARCES	ARCESS Array B	87.22	342	P	P	16 11 08.2	0.0
	6.5nm,1.0s,mb4.3,baz=74,slow=6.6,SNR=4.1						
FINES	FINESS Array B	91.10	335	P	P	16 11 25.7	-0.8
	1.7nm,0.9s,mb4.0,baz=45,slow=2.7,SNR=9.5						

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*NEIC **10** 16:13:05.2,62.19N×151.83W,h121^{km},mb3.6/1,After AEIC.*

*IDC **10** 16:13:08.5±5.8,62.60N×151.72W,h146^{km}±52^{km},mb3.5/3, mb1 3.5/5,mb1mx3.2/18,Error ellipse: s-maj=61.4km s-min=51.9km az=33.0*

ISC 10 16:13:03.0±0.3**,62.18N**±0.02×**151.77W**±0.05**, h134**^{km}±3^{km}**,n85,σ0$\overset{s}{.}$75**/99**,mb3.7**/4**,1C,Central Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKT	Skwentna	0.23	151	P	P	16 13 21.7	-0.2
SKT				S	S	16 13 34.3	-2.1
STLK	Strandline Lak	0.69	183	P	P	16 13 24.0	-0.2
CUT	Chulitna	0.73	72	P	P	16 13 25.1	+0.6
SUA	Susitna One	0.87	146	P	P	16 13 26.5	+1.0
CRP	Crater Peak	0.94	192	P	P	16 13 26.4	+0.4
CRP				S	S	16 13 42.3	-1.3
SPU	Mount Spurr	1.02	188	P	P	16 13 26.6	0.0
CKL	Chakachamna La	1.03	196	P	P	16 13 27.1	+0.4
BKG	Blockade Glaci	1.14	192	P	P	16 13 28.0	+0.1
FIB	Fire Island	1.27	143	P	P	16 13 31.0	+1.7
PMR	Palmer	1.38	114	P	P	16 13 30.4	-0.1
PMR				S	S	16 13 51.2	-0.3
GHO	Glory Hole Cre	1.41	106	P	P	16 13 31.3	+0.6
KTH	Kantishna Hill	1.43	15	P	P	16 13 31.1	+0.1
KTH				S	S	16 13 50.8	-1.6
TRF	Thorofare Moun	1.44	27	P	P	16 13 31.6	+0.5
TRF				S	S	16 13 52.6	0.0
RC01	Rabbit Creek A	1.47	138	P	P	16 13 31.6	+0.2
RC01				S	S	16 13 52.3	-0.9
RDT	Redoubt	1.65	191	P	P	16 13 33.8	+0.4
SML	Sawmill	1.66	102	P	P	16 13 34.1	+0.5
SML				S	S	16 13 57.6	+0.6
KNK	Knik Glacier	1.75	115	P	P	16 13 35.1	+0.5
REF	Redoubt East F	1.76	195	P	P	16 13 35.3	+0.6
REF				S	S	16 13 58.6	-0.4
RSO	Redoubt South	1.79	196	P	P	16 13 35.9	+0.8
RND	Reindeer	1.82	46	P	P	16 13 36.1	+0.8
SLKM	Skilak Lake	1.84	155	P	P	16 13 36.6	+1.0
MCK	McKinley	2.02	39	P	P	16 13 38.6	+0.7
MCK				S	S	16 14 04.1	-0.3
MPA	Moose Pass	2.06	145	P	P	16 13 38.9	+0.6
TT01	Tatalina	2.10	292	P	P	16 13 38.0	-0.9
TTA	Tatalina	2.10	293	eP	P	16 13 37.6	-1.3
PWL	Port Wells	2.12	127	P	P	16 13 39.1	+0.1
SCM	Sheep Creek Mo	2.12	98	P	P	16 13 39.5	+0.3
SVW	Sparrevohn	2.13	241	P	P	16 13 39.0	-0.3
CFI	College Fiord	2.16	116	P	P	16 13 39.7	+0.2
ILIM	Iliamna	2.19	196	P	P	16 13 40.4	+0.4
DHY	Denali Highway	2.22	64	P	P	16 13 41.5	+1.2
ILS	Iliamna Low So	2.32	196	P	P	16 13 42.5	+0.7
SEW	Seward	2.37	151	P	P	16 13 42.8	+0.4
SEW				S	S	16 14 09.6	-2.7
BRLK	Bradley Lake	2.47	170	P	P	16 13 43.3	-0.2
GLI	Glacier Island	2.59	118	P	P	16 13 44.9	-0.4
OPT	Oil Point	2.64	196	P	P	16 13 46.6	+0.8
CNPM	China Poot	2.68	174	P	P	16 13 45.9	-0.4
NEA	Nenana	2.69	26	P	P	16 13 46.1	-0.4
JPK	Jack Peak	2.72	112	P	P	16 13 46.8	0.0
XLV	Seldovia	2.74	180	P	P	16 13 46.7	-0.4
VLZ	Valdez	2.80	110	P	P	16 13 47.8	-0.2
VLZ				S	S	16 14 21.6	-0.5
KLU	Klutina	2.86	101	P	P	16 13 48.7	0.0
LTI	Latouche	2.87	137	P	P	16 13 47.9	-0.9
MLY	Manley	2.90	9	P	P	16 13 49.2	0.0
FID	Port Fidalgo	2.92	117	P	P	16 13 48.7	-0.7
AUE	Augustine Isla	2.94	196	P	P	16 13 49.9	+0.1
AGU	Augustine-Summ	2.95	197	P	P	16 13 50.2	+0.3
TZL	Tazlina	2.98	90	P	P	16 13 51.2	+0.8
PAX	Paxson	3.02	72	P	P	16 13 51.9	+1.1
PAX				S	S	16 14 28.0	+0.8
THY	Trims Highway	3.03	63	P	P	16 13 52.5	+1.6
CCB	Clear Creek Bu	3.05	34	P	P	16 13 51.2	+0.1
DIV	Divide	3.05	108	P	P	16 13 51.0	-0.2
DIV				S	S	16 14 27.7	-0.3
HIN	Hinchinbrook I	3.11	123	P	P	16 13 51.6	-0.4
HDA	Harding Lake	3.11	42	P	P	16 13 52.3	+0.3
COLA	College	3.22	31	P	P	16 13 53.7	+0.2
EYAK	Cordova Ski Ar	3.33	117	P	P	16 13 54.4	-0.5
ILAR	Eielson Array	3.40	38	P	P	16 13 55.9	+0.1
	11nm,0.3s,baz=228,slow=13,SNR=389						
ILAR				S	S	16 14 34.0	-2.1
	7.6nm,0.3s,baz=228,slow=22,SNR=14						
IL1	Eielson Array	3.40	38	P	P	16 13 55.8	0.0
BMRM	Bremner River	3.64	106	P	P	16 13 58.4	-0.5
DOT	Dot Lake	3.82	64	P	P	16 14 01.8	+0.4
DOT				S	S	16 14 45.2	-0.9
KAPH	Katmai Pasha	3.82	201	P	P	16 14 01.1	-0.3
MID	Middleton Isla	3.84	134	P	P	16 14 02.4	+0.8
GLB	Gilahina Butte	3.85	98	P	P	16 14 01.9	+0.1
RAGM	Ragged Mountai	3.87	115	P	P	16 14 01.7	-0.3
IM3	Indian Mountai	3.91	348	P	P	16 14 02.4	-0.3
KAHG	Katmai Hook Gl	3.95	202	P	P	16 14 03.2	0.0
IMA	Indian Mountai	3.99	349	eP	P	16 14 03.5	-0.1
HMT	Hamilton	4.07	114	P	P	16 14 04.1	-0.6
KABR	Katmai Barrier	4.37	203	P	P	16 14 07.5	-1.2
ANCK	Angle Creek	4.41	207	P	P	16 14 09.7	+0.4
KDAK	Kodiak Island	4.43	186	P	P	16 14 08.1	-1.5
CAHL	Cahill	4.51	205	P	P	16 14 10.9	+0.4
KJL	Kejulik	4.56	206	P	P	16 14 12.0	+0.7
BCA3	Beaver Creek A	4.69	75	P	P	16 14 12.8	-0.3
COLD	Coldfoot	5.11	7	P	P	16 14 18.6	0.0
DAWY	Dawson	5.92	66	P	P	16 14 29.7	+0.2
BM3	Burnt Mountain	6.08	27	P	P	16 14 31.6	0.0
INK	Inuvik	9.78	43	P	P	16 15 21.6	+0.6
	0.6nm,0.3s,baz=232,slow=17,SNR=14						
INK	Inuvik	9.78	43	eP	P	16 15 21.3	+0.3
ELK	Elko	30.62	117	eP	P	16 19 03.8	-2.3
BW06	Boulder Array	31.42	108	P	P	16 19 11.6	-1.5
	0.7nm,0.5s,mb3.6						
SONM	Songino Array	54.00	305	P	P	16 22 16.1	+1.4
	1.3nm,0.8s,mb3.7,baz=39,slow=7.9,SNR=7.1						
BVAR	Borovoye Array	60.41	332	P	P	16 22 59.5	-0.2
	0.8nm,0.5s,mb3.8,baz=31,slow=8.4,SNR=5.9						
MKAR	Makanchi Array	63.10	321	P	P	16 23 17.1	-0.7
	1.0nm,0.9s,mb3.6,baz=32,slow=7.6,SNR=6.7						
VNA2	Neumayer--Watz	163.62	137	⇑i	PKPdf	16 32 46.5	-0.7

GUC 10 16:23:41.7±0.6**,40.78S**×**72.43W,h23**^{km}±7^{km}**,ML4.2,1C, Central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OSCH	Osorno	0.57	291	i P	Pb	16 23 52.5	-0.6
OSCH				i S	Sb	16 24 01.0	+0.3
OSCH				AMP		16 24 03.1	
	comp=E,22µm,0.5s						
VLCH	Valdivia	1.16	327	⇑iP	Pn	16 24 02.1	-0.6
VLCH				i S	Sb	16 24 17.2	-0.5
VLCH				AMP		16 24 20.8	
	comp=N,24µm,0.1s						
TMCH	Temuco	2.04	356	i P	Pn	16 24 15.9	+0.7
TMCH				i S	Sn	16 24 41.5	+1.3
TMCH				AMP		16 24 50.3	
	comp=N,792nm,0.7s						
CCHI	Chillan	4.18	4	eP	Pn	16 24 44.9	-0.9
CCHI				i S	Sn	16 25 33.4	-1.3
CCHI				AMP		16 25 36.2	
	comp=N,202nm,0.4s						

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*TAP **10** 16:28:53.1,24.90N×122.07E,h104^{km},ML3.0*

JMA 10 16:28:50.4±0.3**,25.00N**×**122.00E,h121**^{km}**,Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	1.06	120	P	P	16 29 13.3	-0.2
IRIF	Iriomote-Funau	1.71	112	P	P	16 29 20.5	-0.3
IRIF				eS	S	16 29 43.9	+0.1
JKRS	Kuro-shima	1.98	112	P	P	16 29 24.0	-0.1
JKRS				eS	S	16 29 49.2	-0.3
JIJ	Ishigaki jima	2.05	108	P	P	16 29 24.9	-0.1
JIJ				eS	S	16 29 50.8	-0.3

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*IDC **10** 16:42:34.5±0.6,55.39S×28.98W,mb4.6/9,mb1 4.7/9, mb1mx4.6/12,MS3.9/3,Ms1 3.8/3,ms1mx3.3/15,Error ellipse: s-maj=25.4km s-min=18.7km az=34.0*

*NEIC **10** 16:42:35.8±0.2,55.39S×29.04W,h10^{km},mb4.6/10, MS4.0/1,Error ellipse: s-maj=10.3km s-min=7.3km az=58.0*

ISC 10 16:42:47.1±3.3**,55.34S**±0.08×**29.1W**±0.2**,h124**^{km}±32^{km}**, n57,σ0$\overset{s}{.}$92**/28**,mb4.6**/20**,3C,South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	17.85	157		P	16 46 49.0	+0.5
VNA3	Neumayer Olymp	18.02	160	⇑i	P	16 46 50.7	+0.3
VNA2	Neumayer--Watz	18.25	157	⇑i	P	16 46 53.2	+0.2
PMSA	Palmer Station	19.59	227	eP	P	16 47 02.3	-5.0
	23nm,0.8s						
SNAA	Sanae	19.82	156	⇑i	P	16 47 07.0	-2.7
SNAA	Sanae	19.82	156	eP	P	16 47 05.5	-4.2
	27nm,0.6s						
USHA	Ushuaia	22.34	255	P	P	16 47 35.0	+0.1
	22nm,0.8s,mb4.6,baz=96,slow=15,SNR=7.8						
TRQA	Tornquist	28.07	294	eP	P	16 48 27.2	-1.4
	3.4nm,0.6s,mb4.0						
QSPA	South Pole Qui	34.91	180	eP	P	16 49 29.0	+1.1
	4.4nm,0.6s,mb4.5						
QSPA				LR	LR		
	comp=Z,320nm,21.7s						
CPUP	Villa Florida	35.55	313	P	P	16 49 32.8	-1.1
	comp=Z,7.3nm,0.8s,mb4.7,baz=169,slow=7.3,SNR=21						
MAW	Mawson	41.35	145	P	P	16 50 21.5	-0.1
	comp=Z,2.9nm,0.8s,mb4.2,baz=228,slow=4.6,SNR=6.6						
MAW				LR	LR	17 05 55.5	
	comp=Z,106nm,18.7s,baz=66,slow=34						
BAO	Brasilia Array	42.23	332	P	P	16 50 29.8	+0.5
BDFB	Brasilia	42.23	332	P	P	16 50 30.1	+0.8
	comp=Z,8.9nm,0.7s,mb4.6,baz=168,slow=5.1,SNR=11						
BDFB				LR	LR	17 06 27.3	
	comp=Z,133nm,18.0s,baz=326,slow=34						
LVC	Limon Verde	44.03	302	eP	P	16 50 45.2	+1.4
	comp=Z,7.9nm,0.6s,mb4.6						
SBA	Scott Base	46.71	185	eP	P	16 51 03.2	-1.1
	comp=Z,1.7nm,0.6s,mb4.0						
LPAZ	La Paz	49.10	307	P	P	16 51 25.2	+1.5
	comp=Z,9.6nm,0.6s,mb4.9,baz=141,slow=4.1,SNR=18						
LPAZ	La Paz	49.10	307	P	P	16 51 25.2	+1.5
TSUM	Tsumeb	50.28	63	P	P	16 51 32.8	+0.1
	comp=Z,2.7nm,0.7s,mb4.3,baz=203,slow=7.6,SNR=13						
SAML	Samuel	53.55	316	eP	P	16 51 55.6	-1.6
	comp=Z,2.2nm,0.7s,mb4.3						
CASY	Casey	54.93	161	eP	P	16 52 05.1	-1.5
	comp=Z,7.8nm,1.1s,mb4.7						
LIC	Lamto	64.51	27	eP	P	16 53 12.5	-0.3
	comp=Z,36nm,0.9s,mb5.2						
KIC	Kosan Boka	64.72	27	eP	P	16 53 13.8	-0.4
	comp=Z,36nm,0.9s,mb5.2						
TIC	Toumodi	64.92	27	eP	P	16 53 15.2	-0.3
	comp=Z,60nm,0.8s,mb5.5						
DBIC	Dimbokro	64.98	27	P	P	16 53 16.2	+0.3
	comp=Z,4.9nm,0.7s,mb4.4,baz=147,slow=6.0,SNR=8.2						
OTAV	Otavalo	68.38	305	eP	P	16 53 36.7	-0.6
	comp=Z,3.5nm,0.7s,mb4.3						
SDV	Santo Domingo	72.76	317	eP	P	16 54 04.2	+0.7
	comp=Z,15nm,0.8s,mb4.9						
NWAO	Narrogin (SRO)	87.46	152	LR	LR	17 27 47.0	
	comp=Z,65nm,21.1s,baz=76,slow=31						
STKA	Stephens Creek	92.76	172	P	P	16 55 47.0	+0.9
	comp=Z,3.3nm,0.9s,mb4.7,baz=159,slow=4.2,SNR=3.8						
ASAR	Alice Springs	99.97	164	P	P	16 56 19.8	+0.9
	comp=Z,1.2nm,0.8s,mb4.6,baz=186,slow=4.2,SNR=11						
MVU	Marysvale	117.09	299	ePKPdf	PKPdf	17 01 21.7	+4.9
TPNV	Topopah Spring	117.96	295	ePKPdf	PKPdf	17 01 22.6	+4.1
DUG	Dugway	118.69	300	ePKPdf	PKPdf	17 01 23.2	+3.4
PDAR	Pinedale Array	119.07	304	PKP	PKPdf	17 01 23.6	+3.0
	comp=Z,0.5nm,0.5s,baz=137,slow=5.2,SNR=5.8						
HWUT	Hardware Ranch	119.15	302	ePKPdf	PKPdf	17 01 24.1	+3.4
ELK	Elko	120.31	299	ePKPdf	PKPdf	17 01 26.6	+3.7
NOA	NORSAR Array B	120.32	21	PKP	PKPdf	17 01 25.2	+2.7
	comp=Z,0.8nm,0.8s,baz=265,slow=2.0,SNR=3.4						
WVOR	Wild Horse Val	123.27	298	ePKPdf	PKPdf	17 01 31.4	+2.8
FINES	FINESS Array B	124.26	28	PKP	PKPdf	17 01 33.4	+3.3
	comp=Z,2.8nm,0.6s,baz=180,slow=1.9,SNR=14						
KAF	Kangasniemi	124.87	28	ep	PKPdf	17 01 34.1	+3.0
	comp=Z,3.3nm,0.7s						
HUMO	Hull Mountain	125.61	295	ePKPdf	PKPdf	17 01 35.8	+2.8
CMAR	Chiang Mai Arr	126.31	112	PKP	PKPdf	17 01 39.0	+4.0
	comp=Z,1.0nm,0.7s,baz=232,slow=4.1,SNR=6.2						
ARCES	ARCESS Array B	130.68	22	PKP	PKPdf	17 01 45.2	+3.1
	comp=Z,6.7nm,0.8s,baz=326,slow=4.4,SNR=5.7						
ZRNK	Zerenda	134.58	57	ePKPdf	PKPdf	17 01 53.5	+3.7
YKA	Yellowknife Ar	134.94	319	PKP	PKPdf	17 01 54.0	+3.8
	comp=Z,6.0nm,1.0s,baz=125,slow=2.6,SNR=6.8						
YKA	Yellowknife Ar	134.94	319	PKP	PKPdf	17 01 54.0	+3.8
BRVK	Borovoye	135.26	58	ePKPdf	PKPdf	17 01 53.9	+2.8

MKAR	**Makanchi Array**	137.67	72	PKhKP		17 01 50.0	
	comp=Z,0.6nm,0.9s,baz=251,slow=3.8,SNR=4.9						
MKAR				PKP	PKPdf	17 02 00.8	+5.2
	comp=Z,1.0nm,0.6s,baz=222,slow=2.4,SNR=6.5						
MKAR	**Makanchi Array**	137.67	72	PKP	PKPdf	17 02 00.8	+5.2
KURK	**Kurchatov**	138.06	65	*e*PKPdf	PKPdf	17 01 59.5	+3.2
INK	**Inuvik**	144.58	322	PKP	PKPdf	17 02 10.0	+2.9
	comp=Z,21nm,1.0s,baz=104,slow=3.3,SNR=26						
INK	**Inuvik**	144.58	322	*e*PKPdf	PKPdf	17 02 09.6	+2.6
DAWY	**Dawson**	145.53	313	*e*PKPdf	PKPdf	17 02 12.8	+3.9
ILAR	**Eielson Array**	148.85	313	PKPbc	PKPdf	17 02 22.4	+8.2
	comp=Z,27nm,0.7s,baz=130,slow=1.9,SNR=168						
COLA	**College**	149.28	313	*e*PKPdf	PKPdf	17 02 18.6	+3.7
COLA				*e*PKPbc	PKPdf	17 02 23.4	+8.5
MCK	**McKinley**	149.50	311	*e*PKPdf	PKPdf	17 02 19.1	+3.8
MCK				*e*PKPbc	PKPdf	17 02 24.3	+9.0
SONM	**Songino Array**	151.74	87	PKP	PKPdf	17 02 22.4	+3.2
	comp=Z,0.6nm,0.8s,baz=180,slow=1.2,SNR=4.0						
SONM				PKPbc	PKPdf	17 02 29.9	+11
	comp=Z,7.4nm,0.6s,baz=229,slow=3.0,SNR=46						
IMA	**Indian Mountai**	151.86	315	*e*PKPbc	PKPdf	17 02 30.4	+12

*IDC **10** 16:56:07.3±1.5, 35.30S×70.32W, mb4.0/3, mb1 4.3/5, mb1mx4.1/11, ML4.1/2, MS3.7/1, Ms1 3.7/1, ms1mx3.2/16, Error ellipse: s-maj=42.5km s-min=41.4km az=176.0*

*NEIC **10** 16:56:08.9±0.7, 34.96S×70.37W, h10^{km}, Error ellipse: s-maj=13.5km s-min=8.1km az=47.0*

*GUC **10** 16:56:08.1±0.8, 34.96S×70.30W, h1^{km}, MD4.1, ML3.7*

ISC 10 16:56:07.6±0.5, 34.98S±0.03×70.26W±0.06, h1^{km}, n35, σ1^{s}02/45, mb4.1/3, 6C-8D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CICH	**Cipreses**	0.67	349	⇓*i*P	Pg	16 56 20.7	-0.3
SFDO	**San Fernando**	0.72	301	⇑*i*P	Pg	16 56 20.8	-1.1
CACH	**El Canelo**	0.91	342	⇑*i*P	Pg	16 56 24.7	-1.0
CACH				*i* S	Sg	16 56 38.5	+0.7
CHCH	**Chadas Angostu**	1.09	343	⇓*i*P	Pb	16 56 28.3	-0.7
CHCH				*i* S	Sb	16 56 44.1	+0.6
LMEL	**Las Melosas**	1.13	3	⇑*i*P	Pb	16 56 29.1	-0.6
LMEL				*i* S	Sb	16 56 45.1	+0.4
LMEL				AMP		16 56 47.2	
	comp=N,890nm,0.4s						
LMEL	**Las Melosas**	1.13	3	⇑*i*P	Pb	16 56 29.0	-0.6
LMEL				*i* S	Sb	16 56 44.5	-0.2
SJCH	**San Jose de Ma**	1.34	357	*i* S	Sb	16 56 50.8	+0.1
SJCH				AMP		16 56 55.5	
	comp=N,735nm,0.5s						
PCH	**Pirque**	1.37	351	⇓*i*P	Pb	16 56 33.2	-0.5
PCH				*i* S	Sb	16 56 53.0	+1.4
LNV	**Longovilo**	1.40	317	⇓*i*P	Pb	16 56 32.8	-1.3
LNV				*i* S	Sb	16 56 51.3	-1.0
LNV	**Longovilo**	1.40	317	⇓*i*P	Pb	16 56 32.7	-1.4
LNV				S	Sb	16 56 50.7	-1.6
TACH	**Talagante**	1.44	337	*e*P	Pn	16 56 34.1	-0.7
TACH	**Talagante**	1.44	337	⇓*i*P	Pn	16 56 34.4	-0.4
ANTU	**Antumapu**	1.44	348	*e*P	Pn	16 56 34.1	-0.8
ANTU				*i* S	Sb	16 56 54.1	+0.4
ANTU				AMP		16 56 57.1	
	comp=N,1µm,0.7s						
RCDM	**Rinconada Maip**	1.56	343	*e*P	Pn	16 56 36.1	-0.4
RCDM				*i* S	Sb	16 56 56.9	0.0
RCDM				AMP		16 57 07.2	
	comp=E,1µm,0.7s						
CLCH	**Cerro Calan**	1.60	352	*e*P	Pn	16 56 37.0	-0.1
CLCH				*i* S	Sb	16 56 58.5	+0.3
CLCH				AMP		16 57 12.3	
	comp=E,2µm,0.7s						
CLCH				AMP		16 57 12.9	
	comp=E,3µm,0.6s						
DSCH	**Colegio Aleman**	1.60	351	*e*P	Pn	16 56 37.4	+0.3
DSCH				AMP		16 57 11.4	
	comp=E,3µm,0.8s						
FCH	**Farellones**	1.65	359	⇑*i*P	Pn	16 56 38.3	+0.4
FCH				*i* S	Sb	16 57 00.9	+1.2
FCH				AMP		16 57 30.7	
	comp=E,578nm,0.6s						
LCCH	**Las Cruces**	1.85	324	*e*P	Pn	16 56 40.4	-0.3
LCCH				*i* S	Sn	16 57 04.7	-0.4
LCCH	**Las Cruces**	1.85	324	P	Pn	16 56 40.6	-0.1
LCCH				*i* S	Sn	16 57 04.9	-0.2
CCHI	**Chillan**	2.19	222	*i* P	Pn	16 56 46.2	+0.6
CCHI				*i* S	Sn	16 57 15.1	+1.4
CCHI				AMP		16 57 25.1	
	comp=E,3µm,0.5s						
CCHI				AMP		16 57 25.4	
	comp=E,4µm,0.6s						
JACH	**Jahuel**	2.31	353	P	Pn	16 56 49.5	+2.2
TRQA	**Tornquist**	7.34	117	*e*Pn	Pn	16 57 57.4	-1.2
	comp=E,4.3nm,0.5s						
TRQA				*e*Sg	Sg	16 59 53.4	-19
CPUP	**Villa Florida**	14.07	56	Pn	P	16 59 28.7	-1.6
	comp=E,0.1nm,0.3s,baz=252,slow=12,SNR=3.2						
CPUP				Lg		17 03 33.3	
	comp=E,0.1nm,0.3s,baz=151,slow=17,SNR=2.8						
LPAZ	**La Paz**	18.71	6	P	P	17 00 32.3	+2.7
	comp=E,0.4nm,0.3s,baz=178,slow=11,SNR=3.7						
USHA	**Ushuaia**	19.89	177	LR	LR	17 08 59.7	
	comp=E,251nm,20.9s,baz=20,slow=39						
VNA3	**Neumayer Olymp**	47.90	158	⇓*i*	P	17 04 51.9	+3.2
VNA2	**Neumayer--Watz**	48.54	157	⇓*i*	P	17 04 56.5	+2.8
SNAA	**Sanae**	50.12	158	⇑*i*	P	17 04 57.5	-8.4
TXAR	**Lajitas Array**	71.31	330	P	P	17 07 29.6	-1.2
	comp=E,0.6nm,0.6s,mb3.9,baz=152,slow=8.6,SNR=6.8						
DBIC	**Dimbokro**	74.12	70	P	P	17 07 47.1	-0.6
	comp=E,3.6nm,0.8s,mb4.5,baz=220,slow=9.2,SNR=4.1						
PDAR	**Pinedale Array**	85.31	332	P	P	17 08 48.3	+1.0
	comp=E,0.5nm,0.6s,mb3.9,baz=143,slow=4.5,SNR=4.1						
WRA	**Warramunga Arr**	120.59	207	PKP	PKPdf	17 15 00.7	-2.8
	comp=E,0.4nm,0.5s,baz=169,slow=1.7,SNR=14						
WRAB	**Tennant Creek**	120.59	207	*e*PKPdf	PKPdf	17 15 00.3	-3.1
ZRNK	**Zerenda**	146.19	45	*e*PKPbc	PKPbc	17 15 49.9	+0.9
AAK	**Ala-Archa**	151.65	64	*e*PKPbc	PKPdf	17 16 03.5	+4.6

IDC 10 17:17:05.1±1.6, 7.95S×128.11E, mb3.8/2, mb1 3.9/4, mb1mx3.8/10, ML3.9/2, Error ellipse: s-maj=179.0km s-min=29.2km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	10.37	193	Sn	S	17 21 36.5	0.0
	3.9nm,0.3s,baz=161,slow=9.5,SNR=8.2						
WRA	**Warramunga Arr**	13.36	154	Pn	P	17 20 16.5	-2.2
	1.6nm,0.3s,baz=332,slow=13,SNR=128						
WRA				Sn	S	17 22 36.1	-13
	1.9nm,0.3s,baz=332,slow=20,SNR=11						
ASAR	**Alice Springs**	16.58	161	Pn	P	17 20 58.9	-1.8
	0.2nm,0.3s,baz=341,slow=8.8,SNR=26						
ASAR				Sn	S	17 23 53.6	-12
	0.2nm,0.3s,baz=341,slow=25,SNR=3.6						
SONM	**Songino Array**	58.77	343	P	P	17 27 05.1	-2.3
	0.5nm,0.6s,baz=165,slow=5.9,SNR=3.2						
MKAR	**Makanchi Array**	68.01	328	P	P	17 28 06.3	-2.1
	0.7nm,0.4s,baz=125,slow=7.9,SNR=18						

*IDC **10** 17:19:55.5±1.2, 14.73N×146.23E, mb4.2/8, mb1 4.4/9, mb1mx4.2/17, ML4.1/1, MS3.7/2, Ms1 3.7/2, ms1mx3.0/23, Error ellipse: s-maj=38.3km s-min=20.3km az=101.0*

*NEIC **10** 17:20:05.1±1.2, 14.63N×146.13E, h76^{km}±7^{km}, mb4.5/3, Error ellipse: s-maj=26.8km s-min=8.7km az=104.0*

ISC 10 17:20:04.5±1.5, 14.60N±0.09×146.0E±0.2, h85^{km}±7^{km}, n23, σ0^{s}85/22, mb4.2/10, 1C-2D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SAPN	**Saipan**	0.65	338	⇑*e*P	P	17 20 19.7	-0.6
SAPN				*e*S	S	17 20 53.8	+22
GUMO	**Guam**	1.49	228	*e*Pn	P	17 20 31.2	+0.7
GUMO				*e*Sn	S	17 20 47.0	-2.6
ANA2	**Anatahan**	1.75	351	⇓*e*P	P	17 20 34.1	+0.4
ANAT	**Anatahan**	1.77	349	*e*P	P	17 20 34.0	0.0
SARN	**Sarigan**	2.10	354	⇓*i*P	P	17 20 38.9	+0.4
CBIJ	**Chichi jima**	12.93	345	Pn	P	17 22 59.9	-6.4
	3.8nm,0.3s,baz=265,slow=21,SNR=5.7						
JNU	**Nakatsue**	22.99	326	LR	LR	17 31 43.6	
	comp=Z,149nm,20.0s,baz=86,slow=31						
WRA	**Warramunga Arr**	36.20	199	P	P	17 27 01.5	+0.5
	0.7nm,0.5s,mb3.9,baz=22,slow=8.6,SNR=5.1						
FITZ	**Fitzroy Crossi**	38.20	212	*e*P	P	17 27 19.2	+1.4
	2.1nm,0.3s,mb4.5						
FITZ	**Fitzroy Crossi**	38.20	212	*e*P	S	17 33 03.1	-1.6
	2.0nm,2.0s						
FITZ	**Fitzroy Crossi**	38.20	212	P	P	17 27 19.2	+1.4
	2.3nm,0.3s,mb4.5,baz=23,slow=11,SNR=8.2						
CMAR	**Chiang Mai Arr**	45.18	282	P	P	17 28 16.2	+1.2
	1.3nm,0.8s,mb3.7,baz=80,slow=6.9,SNR=5.7						
SONM	**Songino Array**	46.55	324	P	P	17 28 26.0	+0.5
	1.2nm,0.7s,mb3.7,baz=139,slow=9.1,SNR=6.1						
MKAR	**Makanchi Array**	61.53	316	P	P	17 30 14.9	-0.1
	1.0nm,0.3s,mb4.3,baz=94,slow=8.4,SNR=28						
MKAR	**Makanchi Array**	61.53	316	P	P	17 30 14.9	-0.1
KURK	**Kurchatov**	64.53	319	P	P	17 30 33.8	-0.9
	44nm,0.4s,mb5.6,SNR=8.1						
KURK	**Kurchatov**	64.53	319	*e*P	P	17 30 33.5	-1.2
	7.5nm,0.9s,mb4.5						
ILAR	**Eielson Array**	67.19	25	P	P	17 30 50.5	-0.9
	2.1nm,0.6s,mb4.1,baz=262,slow=5.6,SNR=14						
BRVK	**Borovoye**	69.88	321	*e*P	P	17 31 08.3	+0.1
	3.4nm,0.8s,mb4.2						
DLBC	**Dease Lake**	74.54	33	LR	LR	18 01 58.7	
	comp=Z,55nm,18.0s,baz=131,slow=34						
ARCES	**ARCESS Array B**	86.46	342	P	P	17 32 38.4	0.0
	3.6nm,1.0s,mb4.2,baz=63,slow=8.1,SNR=3.9						
ARCES	**ARCESS Array B**	86.46	342	P	P	17 32 38.4	0.0
FINES	**FINESS Array B**	90.71	335	P	P	17 32 58.0	-0.8
	1.3nm,0.8s,mb4.1,baz=53,slow=6.9,SNR=3.7						

ISC 10 17:24:26.0±2.0, 34.3S±0.2×178.9W±0.5, h340^{km}±19^{km}, n12, σ0^{s}92/16, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PUZ	**Puketiti**	4.37	211	P	P	17 25 39.2	+0.4
PUZ				S	S	17 26 35.9	0.0
MWZ	**Matawai**	4.91	215	P	P	17 25 44.5	-0.2
MWZ				S	S	17 26 46.5	0.0
URZ	**Urewera**	5.06	218	P	P	17 25 46.3	0.0
KNZ	**Kokohu**	5.42	209	S	S	17 26 58.6	+2.0
MRZ	**Mangatainoka R**	7.68	213	P	P	17 26 16.0	-0.9
MTW	**Mount Morrison**	8.11	211	S	S	17 27 55.0	+1.4
KIW	**Kapiti Island**	8.14	215	P	P	17 26 21.0	-1.5
KIW				S	S	17 27 54.3	0.0
NNZ	**Nelson**	9.18	219	S	S	17 28 14.9	-1.8
THZ	**Tophouse**	9.82	219	P	P	17 26 42.1	-0.5
THZ				S	S	17 28 30.3	-0.3
MQZ	**McQueen's Vall**	11.41	212	S	S	17 29 05.5	+0.2
ASPA	**Alice Springs**	42.28	272	*e*P	P	17 31 49.9	+1.2
WB2	**Warramunga Arr**	43.61	277	*e*P	P	17 31 59.6	+0.2

*MOS **10** 17:46:05.0±0.8, 42.24N×24.86E, h10^{km}, mb3.7/2, Error ellipse: s-maj=7.1km s-min=5.4km az=85.3*

*IDC **10** 17:46:05.3±1.4, 42.33N×24.66E, mb3.5/4, mb1 3.8/11, mb1mx3.6/25, ML3.4/7, MS3.1/2, Ms1 3.2/2, ms1mx2.5/18, Error ellipse: s-maj=18.5km s-min=13.6km az=132.0*

*THE **10** 17:46:06.9, 42.07N×24.84E, h10^{km}, ML4.1*

*PDG **10** 17:46:06.0±0.4, 42.21N×24.90E, h11^{km}±1^{km}*

*NEIC **10** 17:46:06.9, 42.07N×24.84E, mb3.6/2, MD3.9(ATH), MD3.7(PDG), After THE.*

NEIC Felt at Khaskovo, Kurdzhali and Plovdiv.

*ATH **10** 17:46:10.9, 41.80N×24.76E, h26^{km}±1^{km}, MD3.9/5*

ISC 10 17:46:04.0±0.7, 42.25N±0.02×24.85E±0.02, h1^{km}±5^{km}, n127, σ1^{s}15/174, mb3.5/3, MS3.2/1, 19C-14D, Bulgaria

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NVR	**Nevrokopi**	1.16	220	*e*PN	Pn	17 46 26.8	-0.5
RDO	**Rodhopi**	1.22	155	*e*PN	Pn	17 46 27.9	-0.2
SRS	**Serrai**	1.47	220	*e*Pb	Pb	17 46 32.1	+0.3
SRS				*e*Sb	Sb	17 46 51.5	+0.5
EDRB	**Edirne**	1.47	105	*i* P	Pn	17 46 32.3	+0.6
EDRB				*i* S	Sb	17 46 52.2	+1.3
EDRB	**Edirne**	1.47	105	Pn	Pn	17 46 32.4	+0.7
EDRB				Sg	Sg	17 46 53.4	+0.5
ALN	**Alexandroupoli**	1.62	146	*e*Pb	Pb	17 46 34.6	+0.2
ALN				*e*Sb	Sb	17 46 55.8	+0.4
ALN	**Alexandroupoli**	1.62	146	P	Pb	17 46 34.6	+0.2
ALN				S	Sb	17 46 55.7	+0.3
SOH	**Sokhos**	1.81	219	*e*Pb	Pb	17 46 37.0	-0.7
SOH				*e*Sb	Sb	17 47 00.3	-0.6
SOH	**Sokhos**	1.81	219	P	Pn	17 46 37.0	+0.4
SOH				S	Sn	17 47 00.2	-0.4
KNT	**Kendrikon**	1.82	234	*e*Pb	Pb	17 46 37.3	-0.5
KNT				*e*Sb	Sb	17 47 00.8	-0.2
KNT	**Kendrikon**	1.82	234	P	Pn	17 46 37.2	+0.5
KNT				S	Sn	17 47 00.7	0.0
VAY	**Valandovo**	1.94	242	⇓*i*Pn	Pn	17 46 39.0	+0.6
VAY				*i*		17 46 43.1	
VAY				*i* Sn	Sn	17 47 04.1	+0.4
VAY				*i*		17 47 07.7	
OUR	**Ouranopolis**	2.02	199	*e*Pb	Pb	17 46 39.3	-1.9
THE	**Thessaloniki**	2.15	222	*e*Pn	Pn	17 46 41.9	+0.5
	comp=Z,53nm,0.2s						
THE				*e*Sn	Sn	17 47 09.0	-0.1
THE	**Thessaloniki**	2.15	222	P	Pn	17 46 41.9	+0.5
THE				S	Sn	17 47 08.9	-0.1
PLG	**Polygyros**	2.15	210	*e*PN	Pn	17 46 41.5	+0.1
GRG	**Griva**	2.24	236	*e*Pn	Pn	17 46 43.5	+0.8
GRG	**Griva**	2.24	236	P	Pn	17 46 43.5	+0.7
BUC1	**Bucharest**	2.27	22	⇓*i*P	Pn	17 46 47.9	+4.7
BUC1				S	Sn	17 47 21.6	+9.4
BUC1	**Bucharest**	2.27	22	⇓*i*P	Pn	17 46 47.9	+4.7
BUC1				*i* S	Sn	17 47 21.6	+9.4
BARS	**Barje**	2.30	285	⇑*i*Pn	Pn	17 46 45.0	+1.3
BARS				Sn	Sn	17 47 13.2	+0.1
LOS	**Limnos**	2.32	176	*e*Pn	Pn	17 46 43.2	-0.6
LOS				*e*Sn	Sn	17 47 11.6	-1.9
MFT	**Murefte**	2.34	128	P	Pn	17 46 44.4	+0.2
LIA	**Limnos Island**	2.36	174	*e*PN	Pn	17 46 44.2	-0.3
LPK	**Lapseki**	2.36	142	P	Pn	17 46 45.1	+0.6
LPK	**Lapseki**	2.36	142	Pn	Pn	17 46 45.2	+0.7
SKO	**Skopje**	2.55	265	*i* Pn	Pn	17 46 48.5	+1.3
SKO				*i*		17 46 53.0	
SKO				*i*		17 46 57.6	
SKO				*i* Sn	Sn	17 47 20.6	+1.3
SKO				*i*		17 47 23.1	
SKO				*i* Sg	Sg	17 47 27.3	-1.5
BOLS	**Boljevac**	2.64	308	⇓*i*Pn	Pn	17 46 47.8	-0.7
BOLS				Sn	Sn	17 47 16.5	-5.1
EZN	**Ezine**	2.67	155	*e*P	Pn	17 46 49.9	+1.1
EZN	**Ezine**	2.67	155	P	Pn	17 46 49.6	+0.8
LIT	**Litokhoron**	2.79	220	*e*Pn	Pn	17 46 50.3	-0.3
	comp=Z,15nm,0.6s						
LIT				*e*Sn	Sn	17 47 24.7	-0.6
LIT	**Litokhoron**	2.79	220	P	Pn	17 46 50.2	-0.3
LIT				S	Sn	17 47 24.7	-0.6
CTT	**Catalca**	2.90	111	P	Pn	17 46 51.4	-0.8
CTT	**Catalca**	2.90	111	P	Pn	17 46 51.9	-0.3
BIA	**Bitola**	2.91	246	*i* Pn	Pn	17 46 53.3	+1.0
BIA				*i*		17 47 01.7	
BIA				*i* Sn	Sn	17 47 27.7	-0.8
BIA				*i*		17 47 38.7	
DJES	**Djerdap**	2.92	325	⇑*i*Pn	Pn	17 46 50.9	-1.6
DJES				Sn	Sn	17 47 24.7	-4.1
EDC	**Edincik**	2.96	129	P	Pn	17 46 53.4	+0.3
MTUR	**Matau**	2.98	3	⇑*i*P	Pn	17 46 53.9	+0.6
MTUR	**Matau**	2.98	3	⇑*i*P	Pn	17 46 53.9	+0.6
FNA	**Florina**	2.99	242	*e*Pn	Pn	17 46 53.8	+0.4
	comp=Z,6.0nm,0.6s						
FNA				*e*Sn	Sn	17 47 30.5	+0.1
BNT	**Bandirma**	2.99	128	*e*P	Pn	17 46 54.0	+0.5
KZN	**Kozani**	3.02	231	*e*PN	Pn	17 46 55.3	+1.4
ISR	**Istrita**	3.12	23	⇑*i*P	Pn	17 46 56.9	+1.5
ISR	**Istrita**	3.12	23	⇑*i*P	Pn	17 46 56.9	+1.6
XOR	**Xorichti**	3.14	204	*e*Pn	Pn	17 46 54.7	-0.9
XOR				*e*Sn	Sn	17 47 32.4	-1.8
AOS	**Alonnisos**	3.16	194	*e*Pn	Pn	17 46 54.7	-1.2
NEO	**Neokhori**	3.19	203	*e*PN	Pn	17 46 55.2	-1.0
PRK	**Paraskevi**	3.19	160	*e*PN	Pn	17 46 56.4	+0.1
OHR	**Ohrid**	3.24	251	*i* Pn	Pn	17 46 57.3	+0.3
OHR				*i*		17 47 01.8	
OHR				*i*		17 47 09.5	
OHR				*i* Sn	Sn	17 47 35.9	-0.8
OHR				*i*		17 47 48.0	
KCT	**Karacabey**	3.31	126	P	Pn	17 46 57.9	0.0
HARR	**Harsova**	3.32	42	⇓*i*P	Pn	17 46 58.9	+0.8
HARR	**Harsova**	3.32	42	⇓*i*P	Pn	17 46 58.9	+0.8
MLR	**Muntele Rosu**	3.34	13	Pn	Pn	17 46 59.4	+1.0
	7.7nm,0.3s,baz=235,slow=4.0,SNR=61						
MLR				Lg		17 47 52.6	
	18nm,0.3s,baz=103,slow=22,SNR=3.2						
MLR	**Muntele Rosu**	3.34	13	⇓*i*P	Pn	17 46 59.7	+1.3
MLR	**Muntele Rosu**	3.34	13	⇓*i*P	Pn	17 46 59.7	+1.3
SVIS	**Svilajnac**	3.35	309	⇓*i*Pn	Pn	17 46 58.2	-0.3
SVIS				Sn	Sn	17 47 36.1	-3.4
ISK	**Istanbul-Kandi**	3.37	109	*e*P	Pn	17 46 59.9	+1.0
GRUS	**Gruza**	3.44	300	⇓*i*P	Pn	17 46 58.9	-1.0
GRUS				Sn	Sn	17 47 40.0	-1.9
BALB	**Balikesir**	3.47	138	*e*P	Pn	17 47 00.5	+0.2
PVY	**Plav**	3.62	277	⇑*i*Pn	Pn	17 47 03.9	+1.4
PVY				*e*Sn	Sn	17 47 48.5	+2.0
BRD	**Bordesti**	3.66	25	P	Pn	17 47 05.2	+2.2
BRD	**Bordesti**	3.66	25	⇑*i*P	Pn	17 47 04.2	+1.2
MEV	**Metsovon**	3.68	229	*e*Pn	Pn	17 47 03.4	+0.1
	comp=Z,4.0nm,0.4s						
IVA	**Berane**	3.71	281	⇑*i*Pn	Pn	17 47 04.7	+1.1
IVA				*e*Sn	Sn	17 47 50.2	+1.6
AGG	**Agios Georgios**	3.75	212	*e*Pn	Pn	17 47 03.5	-0.7
	comp=Z,4.1nm,0.6s						
AGG	**Agios Georgios**	3.75	212	P	Pn	17 47 03.4	-0.8
ORLT	**Orhaneli**	3.77	124	*e*P	Pn	17 47 05.4	+0.9
YLV	**Yalova**	3.80	115	*e*P	Pn	17 47 04.3	-0.6
VRI	**Vrincioaia**	3.86	20	⇑*i*P	Pn	17 47 06.9	+1.0
VRI	**Vrincioaia**	3.86	20	P	Pn	17 47 06.8	+0.9
VRI	**Vrincioaia**	3.86	20	⇑*i*P	Pn	17 47 06.9	+1.0
DST	**Dursunbey**	3.90	131	*e*P	Pn	17 47 07.1	+0.8
NVSS	**Nova Varos 2**	3.98	290	⇓*i*Pn	Pn	17 47 17.0	+9.4
NVSS				Sn	Sn	17 48 03.4	+7.7
DIVS	**Divcibare**	4.00	299	⇑*i*Pn	Pn	17 47 06.6	-1.2
DIVS				Sn	Sn	17 47 53.2	-2.9
AKS	**Akhisar**	4.05	145	*e*P	Pn	17 47 08.2	-0.4
AKS	**Akhisar**	4.05	145	Pn	Pn	17 47 08.3	-0.3
BEO	**Belgrade**	4.10	310	⇓*i*Pn	Pn	17 47 08.6	-0.6
BEO				Sn	Sn	17 48 02.5	+3.9
TTG	**Podgorica**	4.14	274	*e*Pn	Pn	17 47 11.5	+1.6
TTG				*e*Sn	Sn	17 48 00.9	+1.2
TTG	**Podgorica**	4.14	274	P	Pn	17 47 11.5	+1.6
TTG				S	Sn	17 48 01.0	+1.3
PLE	**Pljevlja**	4.16	287	⇑*i*Pn	Pn	17 47 11.5	+1.5
PLE				*e*Sn	Sn	17 48 01.1	+1.1
PLE	**Pljevlja**	4.16	287	P	Pn	17 47 11.7	+1.7
ULC	**Ulcinj**	4.17	268	⇑*i*Pn	Pn	17 47 11.6	+1.3
ULC				*e*Sn	Sn	17 48 01.4	+1.0
ULC	**Ulcinj**	4.17	268	P	Pn	17 47 11.9	+1.6
ULC				S	Sn	17 48 01.0	+0.6
IZM	**Izmir**	4.27	154	*e*P	Pn	17 47 11.0	-0.6
IZM	**Izmir**	4.27	154	P	Pn	17 47 10.8	-0.8
NKY	**Niksic**	4.36	279	*e*Pn	Pn	17 47 14.2	+1.3
NKY				*e*Sn	Sn	17 48 06.1	+1.0
NKY	**Niksic**	4.36	279	P	Pn	17 47 14.2	+1.3
NKY				S	Sn	17 48 06.0	+0.9
IGT	**Igoumenitsa**	4.37	233	*e*Pn	Pn	17 47 13.1	+0.1
IGT	**Igoumenitsa**	4.37	233	P	Pn	17 47 13.0	0.0
BUM	**Brajici-Budva**	4.41	273	⇑*i*Pn	Pn	17 47 15.0	+1.4
BUM				*e*Sn	Sn	17 48 07.2	+0.7
UPM	**Unac-Piva**	4.48	284	⇑*i*Pn	Pn	17 47 16.1	+1.6
UPM				*e*Sn	Sn	17 48 09.0	+0.9
BRY	**Bratogost**	4.70	280	⇑*i*Pn	Pn	17 47 19.1	+1.4
BRY				*e*Sn	Sn	17 48 14.3	+0.6
BRY	**Bratogost**	4.70	280	P	Pn	17 47 19.3	+1.6
BRY				S	Sn	17 48 14.0	+0.3
HCY	**Herceg Novi**	4.71	275	⇓*i*Pn	Pn	17 47 18.9	+1.0
HCY				*e*Sn	Sn	17 48 14.4	+0.5
LKD	**Levkas**	4.77	224	*e*Pn	Pn	17 47 18.7	0.0
ALT	**Altintas**	5.12	127	*e*P	Pn	17 47 23.1	-0.6
ESKT	**Eskisehir**	5.30	119	*e*P	Pn	17 47 25.7	-0.6
ESKT	**Eskisehir**	5.30	119	Pn	Pn	17 47 26.0	-0.3
KIZT	**Kizilcal**	6.32	120	*e*P	Pn	17 47 40.6	-0.1
KMPD	**K-Podol'skiy**	6.42	10	P	Pn	17 47 45.0	+3.0
PSZ	**Piszkesteto**	6.66	330	⇑*e*Pn	Pn	17 47 42.2	-3.3
PSZ	**Piszkesteto**	6.66	330	*e*Pn	Pn	17 47 41.3	-4.2
KOLS	**Kolonicke sedl**	6.92	346	*e*	Pn	17 48 07.6	+18
IDI	**Anoyia**	6.95	180	Pn	Pn	17 47 50.0	+0.5
	0.7nm,0.3s,baz=324,slow=14,SNR=3.5						
BRTR	**Keskin Array B**	7.11	108	Pn	Pn	17 47 51.1	-0.8
	0.4nm,0.3s,baz=283,slow=13,SNR=5.6						
KWP	**Kalwaria**	7.53	349	Pn	Pn	17 47 55.5	-2.2
VYHS	**Vyhne**	7.54	328	*e*	Pn	17 47 54.0	-3.8
ARSA	**Arzberg**	8.31	310	⇓*i*PN	P	17 48 06.0	-2.5
ARSA				*i* SN	Sn	17 49 39.8	-4.3
AQU	**L'Aquila**	8.48	275	P	P	17 48 08.7	-2.3
AKASG	**Malin Array Be**	8.98	18	Pn	P	17 48 15.8	-2.0
	0.8nm,0.3s,baz=209,slow=12,SNR=4.1						
AKASG				Sn	Sn	17 49 53.2	-7.6
	1.4nm,0.3s,baz=205,slow=21,SNR=2.9						
AKASG				Lg		17 50 49.7	
	0.9nm,0.3s,baz=187,slow=28,SNR=3.2						
MOA	**Molln**	9.35	310	⇑*i*PN	P	17 48 19.5	-3.4
MOA				*i* SN	Sn	17 50 05.7	-4.2
GERES	**GERESS Array B**	10.22	314	Pn	P	17 48 32.0	-2.9
	0.2nm,0.3s,baz=119,slow=14,SNR=9.4						
KHC	**Kasperske Hory**	10.46	315	*e*P	P	17 48 32.0	-6.1
KHC				x	x	17 48 43.5	
KHC	**Kasperske Hory**	10.46	315	*e*P	P	17 48 32.0	-6.1
KHC				*e*		17 48 43.5	
DAVOX	**Davos**	11.60	298	Pn	P	17 48 51.4	-2.3
	0.1nm,0.3s,baz=150,slow=20,SNR=2.6						
DAVOX	**Davos**	11.60	298	Pn	P	17 48 51.4	-2.3
FINES	**FINESS Array B**	19.24	2	P	P	17 50 30.6	-1.4
	0.2nm,0.3s,baz=170,slow=12,SNR=7.6						
FINES				LR	LR	17 58 21.9	
	comp=Z,47nm,20.7s,baz=171,slow=38						
KAF	**Kangasniemi**	19.92	2	*e*p	P	17 50 37.6	-2.1
	2.7nm,0.7s						
KAF	**Kangasniemi**	19.92	2	*e*P	P	17 50 37.6	-2.1
KAF				pmax	pmax		
	comp=Z,3.0nm,0.7s						
NB2	**NORSAR Subarra**	20.55	341	P	P	17 50 43.6	-2.8
	comp=Z,2.2nm,0.9s,baz=156,slow=11						
NOA	**NORSAR Array B**	20.55	341	P	P	17 50 43.5	-3.0
	comp=Z,1.6nm,0.6s,baz=147,slow=12,SNR=6.3						
NOA	**NORSAR Array B**	20.55	341	P	P	17 50 43.5	-2.9
NOA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ESDC	**Sonseca Array**	21.86	273	P	P	17 50 58.5	-1.4
	comp=Z,1.9nm,0.8s,mb3.6,baz=67,slow=9.6,SNR=5.9						
EKA	**Eskdalemuir Ar**	22.43	315	P	P	17 51 04.7	-0.8
	comp=Z,1.1nm,0.6s,mb3.5,baz=111,slow=12,SNR=3.7						
EKA	**Eskdalemuir Ar**	22.43	315	P	P	17 51 04.7	-0.8
EKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ARCES	**ARCESS Array B**	27.36	1	LR	LR	18 02 36.4	
	comp=Z,60nm,19.1s,MS3.2,baz=179,slow=36						
BVAR	**Borovoye Array**	32.01	54	P	P	17 52 34.6	+0.8
	comp=Z,0.7nm,0.9s,mb3.6,baz=284,slow=5.9,SNR=3.1						

*BJI **10** 18:00:41.7, 24.11N×93.26E, h10^{km}, mb4.4, ML3.9*

*NEIC **10** 18:00:46.8±0.8, 23.89N×93.35E, h59^{km}±9^{km}, mb4.3/5, Error ellipse: s-maj=16.8km s-min=5.6km az=48.0*

*IDC **10** 18:00:47.2±4.9, 23.92N×93.41E, h64^{km}±41^{km}, mb3.9/4, mb1 3.9/5, mb1mx3.5/18, ML3.6/1, MS3.0/2, Ms1 3.1/2, ms1mx2.8/18, Error ellipse: s-maj=67.4km s-min=19.3km az=70.0*

ISC 10 18:00:45.1±0.9, 23.81N±0.07×93.15E±0.06, h68^{km}±10^{km}, n28, σ1^{s}30/38, mb4.2/8, 1C-1D, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IMP	**Imphal**	1.20	36	*i* P	P	18 01 03.0	-3.4
AGT	**Agartala**	1.74	273	⇓*i*S	S	18 01 35.0	+0.1
AGT				*i*		18 02 35.0	
SHL	**Shillong**	2.09	327	*e*P	P	18 01 20.5	+1.9
SHL				*e*S	S	18 01 44.0	+0.6
CMAR	**Chiang Mai Arr**	7.59	133	P	P	18 02 34.0	-1.3
	0.2nm,0.3s,baz=310,slow=13,SNR=10						
CMAR				LR	LR	18 06 04.7	
	comp=Z,73nm,18.4s,baz=90,slow=42						
PKI	**Pulchoki**	7.92	300	*e*Pn	P	18 02 41.3	+1.5
PKI				*e*Sn	S	18 04 06.9	-1.8
	50nm,0.4s						
PKI	**Pulchoki**	7.92	300	*e*Pn	P	18 02 41.3	+1.5
	25nm,0.4s						
PKI				*e*Sn	S	18 04 06.9	-1.8
KKN	**Kakani**	8.12	301	*e*Pn	P	18 02 44.2	+1.7
KKN				*e*Sn	S	18 04 12.0	-1.7
	72nm,0.3s						
KKN	**Kakani**	8.12	301	*e*Pn	P	18 02 44.2	+1.7
	36nm,0.3s						
KKN				*e*Sn	S	18 04 12.0	-1.7
DMN	**Daman**	8.18	299	*e*Pn	P	18 02 44.9	+1.6

DMN				*e*Sn	S	18 04 13.9	-1.2
	58nm,0.4s						
DMN	Daman	8.18	299	*e*Pn	P	18 02 44.9	+1.6
	29nm,0.4s						
DMN				*e*Sn	S	18 04 13.9	-1.2
GKN	Gorkha	8.72	300	*e*Pn	P	18 02 52.1	+1.3
GKN				*e*Sn	S	18 04 26.1	-2.5
	137nm,0.3s						
GKN	Gorkha	8.72	300	*e*Pn	P	18 02 52.1	+1.3
	68nm,0.3s						
GKN				*e*Sn	S	18 04 26.1	-2.5
KOLN	Koldanda	9.46	297	*e*Pn	P	18 03 02.1	+1.2
KOLN				*e*Sn	S	18 04 44.4	-2.2
	90nm,0.4s						
KOLN	Koldanda	9.46	297	*e*Pn	P	18 03 02.1	+1.2
	45nm,0.4s						
KOLN				*e*Sn	S	18 04 44.4	-2.2
WMQ	Urumqi	20.45	349	*e*P	P	18 05 19.5	+0.2
WMQ				AP		18 05 24.5	
WMQ				AMB	AMB		
	comp=Z,14nm,0.8s						
MKAR	Makanchi Array	24.53	342	P	P	18 06 00.8	+1.4
	comp=Z,0.9nm,0.5s,mb3.5,baz=159,slow=9.2,SNR=8.1						
MKAR	Makanchi Array	24.53	342	P	P	18 06 00.8	+1.4
SONM	Songino Array	26.19	20	P	P	18 06 13.9	-1.1
	comp=Z,1.8nm,0.7s,mb3.6,baz=199,slow=9.0,SNR=11						
ZRNK	Zerenda	34.38	334	*e*P	P	18 07 28.5	+1.1
	comp=Z,1.8nm,0.5s,mb4.2						
MBWA	Marble Bar	51.65	148	P	P	18 09 47.8	+0.5
	comp=Z,3.8nm,0.7s,mb4.5						
FITZ	Fitzroy Crossi	52.35	140	*e*P	P	18 09 52.4	-0.2
	comp=Z,2.0nm,1.2s,mb4.0						
FINES	FINESS Array B	58.43	329	LR	LR	18 36 21.7	
	comp=Z,21nm,18.4s,baz=3.9,slow=36						
WRA	Warramunga Arr	59.19	134	P	P	18 10 41.2	-0.4
	comp=Z,3.2nm,0.4s,mb4.7,baz=318,slow=7.7,SNR=220						
WRA				PcP	PcP	18 11 29.2	0.0
	comp=Z,0.2nm,0.4s,baz=333,slow=3.6,SNR=4.6						
WRAB	Tennant Creek	59.19	134	*e*P	P	18 10 41.0	-0.6
	comp=Z,6.0nm,0.6s,mb4.8						
WB2	Warramunga Arr	59.19	134	*e*P	P	18 10 41.4	-0.3
ASPA	Alice Springs	61.58	137	⇑*i*P	P	18 10 58.2	+0.3
STKA	Stephens Creek	72.19	138	*e*P	P	18 12 05.0	+0.3
	comp=Z,1.3nm,0.4s,mb4.1						
STKA	Stephens Creek	72.19	138	P	P	18 12 04.9	+0.1
	comp=Z,1.7nm,0.5s,mb4.2,baz=339,slow=6.9,SNR=8.2						

PRE 10 18:42:05.0±1.0**, 24.48S×27.20E, h5^{km}, ML3.8, South Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSR	Koster	1.40	191	*e*P	Pn	18 42 29.6	-1.7
KSR				*e*S	Sb	18 42 48.2	-1.2
SLR	Silverton	1.59	142	*e*P	Pn	18 42 33.7	-0.3
SLR				*e*S	Sb	18 43 02.6	+7.8
SLR				*e*		18 43 04.6	
	comp=Z,768nm,0.5s						
MSNA	Messina	3.36	51	*e*P	Pn	18 42 57.1	-2.1
MSNA				*e*S	Sn	18 43 35.3	-4.7
MSNA				*e*		18 43 43.4	
	comp=Z,184nm,0.3s						
NWL	Newcastle	4.07	143	*e*P	Pn	18 43 06.8	-2.5
NWL				*e*S	Sn	18 43 25.9	-32
NWL				*e*		18 43 33.1	
	comp=Z,282nm,0.4s						
BOSA	Boshof	4.47	202	*e*P	Pn	18 43 11.9	-3.1
BOSA				*e*S	Sn	18 44 02.3	-5.8
PKA	Prieska	6.51	216	*e*S	Sn	18 45 16.1	+17
PKA				*e*		18 45 36.3	

ISC 10 18:50:54.3±2.5**, 36.7N**±0.1×**28.34E**±0.09**, h53^{km}**±18^{km}**, n5, $\sigma 0\overset{s}{.}27$**/9**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DALT	Dalyan (Mudla)	0.24	82	PG	P	18 51 03.2	-0.1
DALT				SG	S	18 51 09.8	0.0
YER	Yerkesik	0.40	354	*i* PG	P	18 51 05.2	+0.4
BDRM	Kayabasi	0.79	295	*i* P	P	18 51 09.1	-0.3
BDRM				*i* S	S	18 51 20.5	0.0
AYDN	Tasoluk	0.99	339	*i* P	P	18 51 12.2	0.0
AYDN				*i* S	S	18 51 25.6	+0.1
DNZL	Cakiroluk	1.11	31	*i* P	P	18 51 14.3	+0.4
DNZL				*i* S	S	18 51 27.9	-0.4

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*IDC **10** 18:54:14.5±0.9, 52.85S×18.58E, mb4.4/7, mb1 4.5/7, mb1mx4.3/13, MS4.0/8, Ms1 3.9/8, ms1mx3.8/13, Error ellipse: s-maj=27.3km s-min=25.3km az=81.0*

*NEIC **10** 18:54:15.6±0.4, 52.57S×18.86E, h10^{km}, mb4.7/7, MS4.2/1, Error ellipse: s-maj=14.0km s-min=9.8km az=88.0*

ISC 10 18:54:14.5±0.6**, 52.64S**±0.08×**18.7E**±0.2**, h10^{km}, n44, $\sigma 0\overset{s}{.}96$**/22**, mb4.5**/14**, MS4.0**/9**, 4C-2D, Southwest of Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNAA	Sanae	21.34	199	⇑*i*	P	18 59 02.8	-0.7
SNAA	Sanae	21.34	199	⇓*i*	P	18 59 07.0	+3.5
VNA2	Neumayer--Watz	21.77	203		P	18 59 10.0	+2.1
VNA2	Neumayer--Watz	21.77	203	⇑*i*	P	18 59 14.4	+6.5
VNA2	Neumayer--Watz	21.77	203	⇑*i*P	P	18 59 14.4	+6.5
VNA1	Neumayer--Stat	21.79	204	⇓*i*	P	18 59 10.7	+2.6
VNA1	Neumayer--Stat	21.79	204	⇑*i*	P	18 59 14.3	+6.2
MAW	Mawson	25.85	142	P	P	18 59 46.7	-0.6
	5.9nm,1.0s,mb4.1,baz=280,slow=9.0,SNR=7.9						
MAW				LR	LR	19 08 02.3	
	comp=Z,243nm,19.6s,MS3.7,baz=298,slow=32						
TSUM	Tsumeb	33.38	358	P	P	19 00 57.2	+2.1
	2.0nm,1.0s,mb4.0,baz=158,slow=8.7,SNR=5.2						
QSPA	South Pole Qui	37.59	180	*e*P	P	19 01 30.3	0.0
	21nm,0.9s,mb4.9						
QSPA				LR	LR		
	comp=Z,400nm,19.5s,MS4.2						
LSZ	Lusaka	38.03	15	*e*P	P	19 01 34.5	-0.1
	comp=Z,8.7nm,1.4s,mb4.3						
PMSA	Palmer Station	41.48	220	*e*P	P	19 02 02.5	-0.1
	comp=Z,28nm,1.3s,mb4.7						
CASY	Casey	44.16	145	*e*P	P	19 02 24.3	-0.1
	comp=Z,13nm,1.1s,mb4.6						
SBA	Scott Base	48.29	171	*e*P	P	19 02 56.9	-0.1
	comp=Z,5.6nm,0.9s,mb4.6						
KMBO	Kilima Mbogo	53.62	23	P	P	19 03 39.3	+1.1
	comp=Z,0.6nm,0.3s,mb4.0,baz=66,slow=12,SNR=4.1						
KMBO				LR	LR	19 25 05.2	
	comp=Z,143nm,18.1s,MS4.1,baz=100,slow=34						
KMBO	Kilima Mbogo	53.62	23	P	P	19 03 37.1	-1.1
TRQA	Tornquist	55.64	251	*e*P	P	19 03 53.6	+0.9
	comp=Z,10nm,1.3s,mb4.7						
CPUP	Villa Florida	61.22	264	P	P	19 04 30.6	-1.1
	comp=Z,5.3nm,1.0s,mb4.6,baz=144,slow=6.4,SNR=7.8						
CPUP				LR	LR	19 24 52.9	
	comp=Z,82nm,20.9s,MS3.9,baz=161,slow=30						
DBIC	Dimbokro	62.40	333	P	P	19 04 38.9	-1.1
	comp=Z,17nm,1.3s,mb5.0,baz=126,slow=7.6,SNR=5.4						
DBIC				LR	LR	19 25 18.6	
	comp=Z,106nm,20.5s,MS4.0,baz=117,slow=30						
BDFB	Brasilia	63.63	279	P	P	19 04 47.5	-0.3
	comp=Z,3.6nm,0.8s,mb4.4,baz=129,slow=5.5,SNR=3.8						
BDFB				LR	LR	19 26 26.8	
	comp=Z,74nm,20.5s,MS3.9,baz=113,slow=30						
LPAZ	La Paz	75.34	262	P	P	19 05 59.6	-0.2
	comp=Z,1.9nm,0.2s,mb4.7,baz=188,slow=19,SNR=5.0						
LPAZ				LR	LR	19 36 02.0	
	comp=Z,71nm,18.4s,MS4.0,baz=268,slow=33						
SAML	Samuel	78.04	271	*e*P	P	19 06 14.5	-0.4
	comp=Z,10.0nm,1.1s,mb4.7						
BRTR	Keskin Array B	92.90	11	LR	LR	19 54 33.0	
	comp=Z,57nm,19.9s,MS4.0,baz=190,slow=39						
ROSC	El Rosal	95.69	271	LR	LR	19 47 56.1	
	comp=Z,128nm,18.7s,MS4.4,baz=207,slow=34						
SONM	Songino Array	124.69	55	PKP	PKPdf	19 13 14.5	-2.2
	comp=Z,0.5nm,0.6s,baz=207,slow=2.8,SNR=5.7						
PDAR	Pinedale Array	144.53	275	PKP	PKPdf	19 13 49.5	-3.9
	comp=Z,3.4nm,0.8s,baz=127,slow=4.5,SNR=24						
BW06	Boulder Array	144.54	275	*e*PKPdf	PKPdf	19 13 49.5	-3.8
DUG	Dugway	145.01	269	*e*PKPdf	PKPdf	19 13 51.8	-2.5
TPNV	Topopah Spring	145.05	262	*e*PKPdf	PKPdf	19 13 52.2	-2.3
HWUT	Hardware Ranch	145.09	272	*e*PKPdf	PKPdf	19 13 51.9	-2.6
SPUT	South Promonto	145.45	271	*e*PKPbc	PKPbc	19 13 53.3	+0.8
BGU	Big Grassy Mou	145.58	270	*e*PKPbc	PKPbc	19 13 53.9	+1.0
LOHW	Long Hollow	145.64	275	*e*PKPdf	PKPdf	19 13 53.5	-1.7
FFC	Flin Flon	145.73	298	*e*PKPbc	PKPbc	19 13 53.9	+1.1
MTUM	Tungsten Hills	146.71	260	*e*PKPbc	PKPbc	19 13 57.9	+2.2
ELK	Elko	146.82	268	*e*PKPbc	PKPbc	19 13 58.1	+2.2
MCMT	McKenzie Canyo	147.66	276	*e*PKPab	PKPab	19 14 03.2	+0.5
HLID	Hailey	147.93	273	*e*PKPbc	PKPdf	19 14 01.1	+2.0
HRY	Holter Researc	147.99	279	*e*PKPbc	PKPdf	19 14 00.7	+1.6
CHMT	Chamberlain Mo	148.95	279	*e*PKPbc	PKPdf	19 14 03.4	+2.8
BEKR	Beckwourth	149.39	262	*e*PKPbc	PKPdf	19 14 05.3	+3.8
WVOR	Wild Horse Val	149.87	267	*e*PKPbc	PKPdf	19 14 06.5	+4.2
INK	Inuvik	159.48	330	PKPab	PKPab	19 14 52.4	+0.6
	comp=Z,4.2nm,1.1s,baz=30,slow=1.6,SNR=4.7						
ILAR	Eielson Array	165.78	334	PKPab	PKPab	19 15 20.4	+1.2
	comp=Z,2.6nm,0.9s,baz=14,slow=2.9,SNR=20						

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*NEIC **10** 18:56:17.8, 61.34N×151.26W, h65^{km}, ML3.4(AEIC), ML3.4(PMR), After AEIC.*

ISC 10 18:56:15.7±0.3**, 61.34N**±0.02×**151.19W**±0.04**, h83^{km}**±4^{km}**, n79, $\sigma 0\overset{s}{.}83$**/91**, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SUA	Susitna One	0.25	60	P	P	18 56 28.4	+0.3
SUA				S	S	18 56 36.9	-0.6
STLK	Strandline Lak	0.35	298	P	P	18 56 28.4	-0.3
SPU	Mount Spurr	0.45	249	P	P	18 56 28.9	-0.4
CRP	Crater Peak	0.47	261	P	P	18 56 29.5	-0.1
CRP				S	S	18 56 38.7	-1.3
FIB	Fire Island	0.52	109	P	P	18 56 31.2	+1.2
CKL	Chakachamna La	0.57	256	P	P	18 56 30.1	-0.4
BKG	Blockade Glaci	0.58	243	P	P	18 56 30.3	-0.3
BKG				S	S	18 56 40.5	-1.3
SKT	Skwentna	0.66	346	P	P	18 56 31.1	-0.3
SKT				S	S	18 56 41.7	-1.4
RC01	Rabbit Creek A	0.75	109	P	P	18 56 32.8	+0.4
RC01				S	S	18 56 45.7	+1.0
SLKM	Skilak Lake	0.96	150	P	P	18 56 35.1	+0.4
RDT	Redoubt	0.97	218	P	P	18 56 34.9	+0.1
PMR	Palmer	1.02	75	P	P	18 56 36.2	+0.8
PMR				S	S	18 56 50.8	+0.5
REF	Redoubt East F	1.13	221	P	P	18 56 37.1	+0.4
REF				S	S	18 56 51.5	-1.0
CUT	Chulitna	1.16	22	P	P	18 56 37.7	+0.6
RSO	Redoubt South	1.17	222	P	P	18 56 37.7	+0.5
GHO	Glory Hole Cre	1.17	67	P	P	18 56 38.3	+1.1
MPA	Moose Pass	1.24	133	P	P	18 56 39.2	+1.1
SML	Sawmill	1.45	70	P	P	18 56 41.5	+0.6
SML				S	S	18 57 00.4	+0.9
PWL	Port Wells	1.47	108	P	P	18 56 41.5	+0.3
SEW	Seward	1.51	145	P	P	18 56 42.0	+0.3
SEW				S	S	18 57 00.9	-0.1
ILIM	Iliamna	1.53	215	P	P	18 56 42.4	+0.4
BRLK	Bradley Lake	1.59	174	P	P	18 56 43.3	+0.5
IVS	Iliamna South	1.63	216	P	P	18 56 44.0	+0.8
CFI	College Fiord	1.66	94	P	P	18 56 44.1	+0.3
ILS	Iliamna Low So	1.67	214	P	P	18 56 44.4	+0.6
CNPM	China Poot	1.82	181	P	P	18 56 46.4	+0.5
XLV	Seldovia	1.91	188	P	P	18 56 47.6	+0.6
SCM	Sheep Creek Mo	1.91	73	P	P	18 56 47.7	+0.6
OPT	Oil Point	1.97	212	P	P	18 56 48.9	+1.1
GLI	Glacier Island	2.04	101	P	P	18 56 48.3	-0.5
LTI	Latouche	2.10	127	P	P	18 56 48.9	-0.7
SVW	Sparrevohn	2.16	266	P	P	18 56 50.3	-0.1
TRF	Thorofare Moun	2.16	11	P	P	18 56 50.9	+0.5
KTH	Kantishna Hill	2.23	3	P	P	18 56 52.0	+0.6
KTH				S	S	18 57 18.1	+0.3
JPK	Jack Peak	2.24	95	P	P	18 56 51.5	-0.1
AUW	Augustine West	2.28	211	P	P	18 56 53.2	+1.1
RND	Reindeer	2.34	27	P	P	18 56 54.5	+1.5
VLZ	Valdez	2.36	93	P	P	18 56 53.0	-0.2
VLZ				S	S	18 57 21.5	+0.4
FID	Port Fidalgo	2.37	102	P	P	18 56 52.5	-0.9
DHY	Denali Highway	2.50	44	P	P	18 56 56.0	+0.8
KLU	Klutina	2.54	84	P	P	18 56 55.5	-0.2
MCK	McKinley	2.62	23	P	P	18 56 58.5	+1.6
DIV	Divide	2.63	92	P	P	18 56 56.6	-0.5
DIV				S	S	18 57 27.5	-0.4
TT01	Tatalina	2.76	307	P	P	18 56 58.2	-0.6
TTA	Tatalina	2.77	307	*e*P	P	18 56 58.0	-1.0
EYAK	Cordova Ski Ar	2.77	104	*e*P	P	18 56 57.7	-1.3
TZL	Tazlina	2.84	73	P	P	18 57 00.7	+0.7
SDG	Sourdough	2.92	63	P	P	18 57 02.1	+1.0
SGAM	Sherman Glacie	3.04	103	P	P	18 57 01.4	-1.4
PAX	Paxson	3.15	56	P	P	18 57 05.5	+1.3
KAPH	Katmai Pasha	3.18	211	P	P	18 57 04.7	+0.1
BMRM	Bremner River	3.22	94	P	P	18 57 04.1	-1.1
THY	Trims Highway	3.28	48	*e*P	P	18 57 07.9	+1.8
KAHG	Katmai Hook Gl	3.32	212	P	P	18 57 07.0	+0.5
RAGM	Ragged Mountai	3.33	104	P	P	18 57 05.3	-1.4
NEA	Nenana	3.39	16	P	P	18 57 07.4	-0.2
HMT	Hamilton	3.54	103	P	P	18 57 08.0	-1.6
GLB	Gilahina Butte	3.55	85	P	P	18 57 09.2	-0.6
HDA	Harding Lake	3.64	30	P	P	18 57 11.6	+0.6
KDAK	Kodiak Island	3.64	192	P	P	18 57 10.5	-0.5
CCB	Clear Creek Bu	3.66	23	P	P	18 57 11.1	-0.2
MLY	Manley	3.71	3	P	P	18 57 11.9	-0.1
ANCK	Angle Creek	3.83	217	P	P	18 57 13.9	+0.2
COLA	College	3.86	22	P	P	18 57 14.0	0.0
CAHL	Cahill	3.90	214	P	P	18 57 16.0	+1.4
IL1	Eielson Array	3.96	28	P	P	18 57 15.7	+0.2
TGL	Tana Glacier	4.11	95	P	P	18 57 16.5	-1.0
WAX	Waxell Ridge	4.17	99	P	P	18 57 17.0	-1.4
BALM	Baldy	4.29	90	P	P	18 57 19.1	-1.0
BCA3	Beaver Creek A	4.73	64	P	P	18 57 26.4	+0.3
CTGM	Chitina Glacie	4.79	90	P	P	18 57 26.7	-0.3
IM3	Indian Mountai	4.80	347	P	P	18 57 26.2	-0.8
IMA	Indian Mountai	4.87	348	*e*P	P	18 57 27.3	-0.8
PCA	Pinnacle	5.51	98	P	P	18 57 36.1	-0.7
COLD	Coldfoot	5.93	4	P	P	18 57 43.0	+0.5
PNL	Peninsula	6.06	101	P	P	18 57 42.6	-1.8
DAWY	Dawson	6.08	58	P	P	18 57 42.3	-2.3
BM3	Burnt Mountain	6.73	22	P	P	18 57 53.5	-0.3
INK	Inuvik	10.23	39	*e*P	P	18 58 40.6	-0.7

DJA 10 19:05:29.7±1.0**, 9.12S×114.36E, h80^{km}, MD5.0**/4**, ML3.6**/2**, 4C-2D, Error ellipse: s-maj=31.1km s-min=13.5km az=34.0, South of Bali**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
INGI	Ingas	0.83	69	⇓*i*Pn	P	19 05 46.5	-0.5
	159nm,0.2s						
INGI				⇑*i*Sn	S	19 05 58.7	-1.2
KELI	Kelakatan	0.90	8	⇓*i*Pn	P	19 05 47.2	-0.6
	82nm,0.2s						
KELI				⇑*i*Sn	S	19 06 00.3	-1.1
RATI	Rata	1.22	71	⇑*i*Pn	P	19 05 51.1	-0.7
	73nm,0.2s						
RATI				⇑*i*Sn	S	19 06 06.7	-1.7

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*ISK **10** 19:37:15.0, 40.72N×33.02E, h8^{km}, MD3.5*

ISC 10 19:37:15.2±0.6**, 40.72N**±0.03×**33.02E**±0.03**, h3^{km}**±5^{km}**, n27, $\sigma 0\overset{s}{.}67$**/37**, 1C, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ELDT	Eldivan	0.39	126	⇑*i*P	Pg	19 37 22.9	-0.1
ELDT				*i* S	Sg	19 37 28.5	+0.4
CANT	Cankiri	0.47	104	*i* PG	Pg	19 37 24.5	-0.1
CANT				*i* SG	Sg	19 37 31.9	+0.9
SAFT	Safranbolu	0.57	335	PG	Pg	19 37 26.6	0.0
SGKT	Sivrigoynuk	0.74	259	*i* P	Pg	19 37 30.2	+0.2
SGKT				*i* S	Sg	19 37 46.2	+6.2
TOS	Tosya	0.83	67	PG	Pg	19 37 30.2	-1.5
LOD	Lodumlu	0.85	193	PG	Pg	19 37 32.2	0.0
BALT	Daday	0.86	19	*i* P	Pg	19 37 32.0	-0.3
BALT				*i* S	Sg	19 37 44.6	+0.8
ANTO	Ankara	0.87	191	PG	Pg	19 37 31.9	-0.6
ANTO				SG	Sg	19 37 44.5	+0.4
CTKT	Corum	1.35	94	*i* P	Pb	19 37 40.2	-0.5
CTKT				*i* S	Sb	19 37 58.8	+0.4
MDU	Mudurnu	1.39	260	*e*PN	Pn	19 37 41.3	-0.2
BZK	Bozkurt	1.44	31	PN	Pn	19 37 42.5	+0.3
KAMT	Kaman	1.45	158	PN	Pn	19 37 42.0	-0.4
BYBT	Boyabat	1.52	60	PN	Pn	19 37 43.4	+0.1
BOYT	Boyabat	1.59	63	*i* P	Pn	19 37 44.4	+0.1
BOYT				*i* S	Sb	19 38 09.2	+4.0
HENT	Hendek	1.61	274	*i* P	Pn	19 37 46.3	+1.7
HENT				*i* S	Sb	19 38 12.3	+6.5
KIZT	Kizilcal	2.04	206	PN	Pn	19 37 50.6	-0.1
ESKT	Eskisehir	2.05	235	*e*P	Pn	19 37 52.0	+1.2
ESKT				*i* S	Sn	19 38 25.0	+7.8
ESKT	Eskisehir	2.05	235	PN	Pn	19 37 50.7	-0.2
YOZ	Yozgat	2.07	121	*e*PN	Pn	19 37 50.9	-0.3
GPA	Golpazari	2.11	259	*e*PN	Pn	19 37 51.8	+0.1
KVT	Kavak	2.33	80	PN	Pn	19 37 53.9	-1.0
AVNT	Avonos	2.40	143	*i* P	Pn	19 37 59.6	+3.6
AVNT				*i* S	Sn	19 38 32.4	+6.1
YLV	Yalova	2.77	268	*e*PN	Pn	19 38 00.4	-0.9
ALT	Altintas	2.79	234	*e*PN	Pn	19 38 01.7	+0.3
BNN	Bunyan	2.87	130	*e*PN	Pn	19 38 02.0	-0.6
NIG	Nigde	2.89	154	*e*PN	Pn	19 38 03.1	+0.2
ULDT	Uludag	3.02	260	*i* P	Pn	19 38 04.3	-0.4

SKHL 10 20:16:01.6±0.2**, 52.55N×142.74E, h10^{km}, mb3.9**/3**, Sakhalin Island**

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*BJI **10** 20:22:03.8, 5.25S×140.25E, h40^{km}, mB5.3, mb5.2, Ms4.7, Msz4.7*

*IDC **10** 20:22:04.8±0.6, 4.73S×139.75E, mb4.8/9, mb1 4.9/12, mb1mx4.9/12, ML4.9/3, MS4.0/10, Ms1 4.0/10, ms1mx3.9/12, Error ellipse: s-maj=26.9km s-min=15.7km az=77.0*

*MOS **10** 20:22:08.2±1.2, 4.73S×139.51E, h33^{km}, mb5.5/4, Error ellipse: s-maj=29.1km s-min=14.1km az=100.8*

*NEIC **10** 20:22:10.4±0.2, 4.79S×139.67E, mb5.1/19, MS4.3/1, Error ellipse: s-maj=8.2km s-min=4.7km az=96.0*

*HRVD **10** 20:22:10.4±0.6, 4.72S×139.68E, h40^{km}±2^{km}, MW4.8/23, Centroid moment Tensor Solution. LP body waves: s20,c20;Mantle waves: s23,c27; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.08±.21; $M_{\theta\theta}$-1.86±.13; $M_{\phi\phi}$-0.22±.17; $M_{r\theta}$-0.50±.13; $M_{\theta\phi}$1.02±.16; $M_{\phi r}$0.49±.17; Best double couple: $M_0 2.32\times10^{16}$ NP1:ϕ_s109°,δ37°,λ79°. NP2:ϕ_s302°,δ54°,λ98°. Principal axes: T 2.2, Plg79°, Azm245°; N .24, Plg6°, Azm117°; P -2.45, Plg8°, Azm26°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 10 20:22:09.3±1.3**, 4.91S**±0.04×**139.65E**±0.08**, h46^{km}**±11^{km}**, h42^{km}**±.9^{km}**:pP-P, n102, $\sigma 0\overset{s}{.}98$**/81**, mb5.1**/35**, MS4.1**/12**, 3C-2D, Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	Kakadu	10.54	222	*e*P	P	20 24 40.9	+0.2
	244nm,0.4s						
KAKA				*e*S	S	20 26 30.9	-7.5
WRAB	Tennant Creek	15.80	199	*e*P	P	20 25 49.8	-0.5
	9.8nm,0.3s						
WRAB				*e*S	S	20 28 39.7	-4.1
WB2	Warramunga Arr	15.80	199	*e*P	P	20 25 50.3	-0.1
WB2				*e*		20 25 57.1	
WB2				*e*S	S	20 28 39.6	-4.5
WRA	Warramunga Arr	15.81	199	Pn	P	20 25 50.2	-0.2
	2.8nm,0.3s,baz=17,slow=13,SNR=144						
WRA				Sn	S	20 28 39.5	-4.6
	8.4nm,0.3s,baz=16,slow=21,SNR=7.3						
WRA				LR	LR	20 32 25.4	
	comp=Z,1μm,18.3s,baz=20,slow=39						
WRA	Warramunga Arr	15.81	199	P	P	20 25 50.2	-0.2
WRA				S	S	20 28 39.5	-4.6
CTA	Charters Tower	16.40	157	*e*P	P	20 26 04.0	+6.1
	24nm,0.8s						
CTA				*e*S	PcP	20 30 45.6	-3.9
CTA	Charters Tower	16.40	157	Pn	P	20 26 01.2	+3.3
	1.0nm,0.3s,baz=338,slow=12,SNR=23						
CTA				LR	LR	20 32 43.5	
	comp=Z,877nm,18.3s,baz=348,slow=39						
CTAO	Charters Tower	16.40	157	*e*P	P	20 26 00.7	+2.9
	24nm,0.8s						
FITZ	Fitzroy Crossi	18.96	225	*e*P	P	20 26 30.5	+1.0
	32nm,0.4s						
FITZ				*e*S	S	20 29 50.4	-5.3
FITZ	Fitzroy Crossi	18.96	225	P	P	20 26 30.5	+1.0
	13nm,0.3s,baz=29,slow=8.6,SNR=130						
FITZ				S	S	20 29 53.0	-2.7
	8.0nm,0.3s,baz=155,slow=6.9,SNR=8.2						
FITZ				LR	LR	20 34 39.7	
	comp=Z,338nm,20.2s,baz=65,slow=39						
ASAR	Alice Springs	19.45	196	S	S	20 30 04.8	-1.9
	2.2nm,0.3s,baz=15,slow=28,SNR=3.8						
ASAR				LR	LR	20 34 40.5	
	comp=Z,476nm,20.1s,baz=17,slow=38						
ASPA	Alice Springs	19.45	196	*e*P	P	20 26 37.2	+2.2
ASPA				*e*S	S	20 30 06.1	-0.6
MBWA	Marble Bar	25.19	228	*e*P	P	20 27 33.4	+1.0
	93nm,0.4s,mb5.7						
STKA	Stephens Creek	26.89	176	*e*P	P	20 27 48.1	+0.1
	4.9nm,0.6s,mb4.2						
STKA	Stephens Creek	26.89	176	P	P	20 27 48.4	+0.3
	2.1nm,0.7s,baz=323,slow=9.3,SNR=7.7						
STKA				LR	LR	20 39 31.1	
	comp=Z,818nm,20.6s,baz=9.9,slow=39						
KLBR	Kellerberrin	33.56	215	*e*P	P	20 28 47.8	+0.6
	173nm,1.9s,mb5.7						
NWAO	Narrogin (SRO)	34.85	214	P	P	20 28 59.2	+1.0
	3.7nm,0.4s,mb4.7,baz=45,slow=9.2,SNR=13						
SSE	Sheshan	39.91	335	*e*P	P	20 29 41.5	+0.8
SSE				S	S	20 35 43.8	+1.6
SSE				XS		20 36 06.1	
SSE				AMB	AMB		
	comp=Z,41nm,0.8s,mb5.2						
NJ2	Nanjing	41.75	333	*e*P	P	20 29 56.5	+0.6
NJ2				AP	pP	20 30 08.8	+0.4
NJ2				XP	sP	20 30 14.2	+0.2
NJ2				PP	PP	20 31 37.1	+1.2
NJ2				S	S	20 36 11.0	+1.4
NJ2				XS		20 36 31.0	
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.0						
NJ2				LR	LR		
	comp=Z,840nm,14.5s,MS4.8						
WHN	Wuhan	42.76	327	⇓P	P	20 30 05.5	+1.2
CMAR	Chiang Mai Arr	46.36	301	P	P	20 30 33.1	0.0
	comp=Z,6.0nm,0.8s,mb4.6,baz=122,slow=6.6,SNR=44						
CMAR				LR	LR	20 49 34.1	
	comp=Z,40nm,18.4s,MS3.4,baz=302,slow=36						
KMI	Kunming	46.66	312	*e*P	P	20 30 36.5	+1.0
KMI				AP	pP	20 30 47.2	-0.9
KMI				XP	sP	20 30 53.4	-0.2
KMI				S	S	20 37 22.8	+2.1
KMI				AMB	AMB		
	comp=Z,156nm,4.9s						
KMI				LR	LR		
	comp=Z,106nm,21.4s,MS3.8						
URZ	Urewera	47.54	140	P	P	20 30 43.4	+1.1
	comp=Z,5.9nm,0.3s,mb5.0,baz=24,slow=7.6,SNR=18						
CD2	Chengdu	49.44	318	*e*P	P	20 30 59.0	+2.0
BJT	Baijiatuau	49.66	336	*e*P	P	20 30 57.7	-0.9
	comp=Z,6.1nm,0.8s,mb4.7						
BJI	Beijing	49.67	336	P	P	20 30 57.7	-1.0
BJI				AMB	AMB		
	comp=Z,22nm,0.8s,mb5.2						
BJI				LR	LR		
	comp=Z,96nm,19.6s,MS3.8						
MDJ	Mudanjiang	50.12	351	P	P	20 31 00.8	-1.3
MDJ				AMB	AMB		
	comp=Z,12nm,1.1s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,73nm,5.0s						
CN2	Changchun	50.15	347	*e*P	P	20 31 01.4	-1.0
CN2				*e*AP	pP	20 31 13.0	-2.0
CN2				*e*S	S	20 38 08.8	-0.6
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=Z,700nm,15.0s,MS4.8						
HHC	Hu-ho-hao-te	52.31	333	*e*P	P	20 31 18.9	+0.3
HHC				AP	pP	20 31 31.8	+0.4
HHC				XP	sP	20 31 36.0	-0.7
HHC				PP	PP	20 33 20.1	+1.8
HHC				PCS		20 36 25.6	
HHC				S	S	20 38 39.5	+0.4
HHC				PS	PS	20 38 54.1	-1.6
HHC				XS		20 39 00.2	
HHC				SCS	ScS	20 41 03.4	+2.2
HHC				AMB	AMB		

	comp=Z,22nm,0.9s,mb5.1						
HHC				AMB	AMB		
	comp=Z,129nm,4.4s						
LZH	Lanzhou	52.80	323	eP	P	20 31 23.0	+0.6
LZH				AP	pP	20 31 36.0	+0.9
LZH				XP	sP	20 31 40.0	-0.5
LZH				AMB	AMB		
	comp=Z,83nm,1.5s,mb5.4						
SHL	Shillong	55.36	306	eP	P	20 31 41.0	-0.3
GTA	Gaotai	57.39	324	P	P	20 31 55.9	+0.3
GTA				AP	pP	20 32 08.6	0.0
GTA				XP	sP	20 32 13.5	-0.4
GTA				PCP	PcP	20 32 49.0	+0.1
GTA				PP	PP	20 34 05.2	+0.4
GTA				SCP		20 36 43.6	
GTA				S	S	20 39 47.8	+0.6
GTA				XS		20 40 11.4	
GTA				SCS	ScS	20 41 37.8	+0.5
GTA				AMB	AMB		
	comp=Z,14nm,1.0s,mb5.0						
GTA				LR	LR		
	comp=N,41nm,15.2s,MS3.9						
GTA				LR	LR		
	comp=E,55nm,14.4s,MS3.9						
GTA				LR	LR		
	comp=Z,55nm,15.6s,MS3.8						
SONM	Songino Array	60.10	335	P	P	20 32 14.0	-0.3
	comp=Z,4.1nm,0.5s,mb4.7,baz=154,slow=7.6,SNR=42						
PKI	Pulchoki	61.46	305	eP	P	20 32 22.9	-1.0
KKN	Kakani	61.65	305	eP	P	20 32 24.7	-0.4
DMN	Daman	61.73	305	eP	P	20 32 25.2	-0.4
GKN	Gorkha	62.26	305	eP	P	20 32 28.6	-0.6
	comp=Z,20nm,0.6s,mb5.4						
KOLN	Koldanda	63.02	304	eP	P	20 32 33.8	-0.5
	comp=Z,18nm,0.9s,mb5.2						
ZAK	Zakamensk	63.37	335	⇑eP	P	20 32 35.8	-0.4
HYB	Hyderabad	64.25	292	iP	P	20 32 41.5	-1.0
HYB	Hyderabad	64.25	292	eP	P	20 32 41.5	-1.0
CASY	Casey	64.53	193	eP	P	20 32 43.8	+0.3
	comp=Z,23nm,1.0s,mb5.2						
MOY	Mondy	65.29	335	eP	P	20 32 49.4	+0.7
BOD	Bodaibo	65.87	345	eP	P	20 32 48.9	-3.4
YAK	Yakutsk	67.19	355	ceP	P	20 32 59.4	-1.1
YAK				pmax	pmax		
	comp=Z,26nm,0.9s,mb5.3						
YAK	Yakutsk	67.19	355	eP	P	20 32 59.7	-0.9
YAK				LR	LR		
	comp=Z,118nm,20.0s,MS4.1						
WMQ	Urumqi	67.31	322	P	P	20 33 01.6	0.0
WMQ				AP	pP	20 33 14.7	-0.2
WMQ				XP	sP	20 33 20.0	+0.1
WMQ				AMB	AMB		
	comp=Z,23nm,0.9s,mb5.2						
WMQ				LR	LR		
	comp=E,38nm,21.0s						
MIR	Mirnyy	69.41	198	⇓eP	pP	20 33 25.5	-2.0
MIR				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.0						
MKAR	Makanchi Array	72.09	323	P	P	20 33 31.1	+0.3
	comp=Z,12nm,0.4s,mb5.1,baz=98,slow=8.5,SNR=142						
AAK	Ala-Archa	75.43	316	eP	P	20 33 49.5	-0.9
	comp=Z,8.9nm,1.2s,mb4.6						
NVS	Novosibirsk	75.56	330	iP	P	20 33 49.2	-1.6
NVS				pmax	pmax		
	comp=Z,27nm,1.4s,mb5.0						
NVS				pmax	pmax		
	comp=N,17nm,1.6s						
NVS				pmax	pmax		
	comp=E,15nm,1.3s						
KURK	Kurchatov	76.05	325	P	P	20 33 53.6	0.0
	comp=E,184nm,1.2s,mb5.9,SNR=39						
KURK	Kurchatov	76.05	325	eP	P	20 33 53.2	-0.5
	comp=E,37nm,1.0s,mb5.3						
MAW	Mawson	80.45	202	P	P	20 34 19.4	+1.9
	comp=E,3.6nm,0.7s,mb4.4,baz=67,slow=7.0,SNR=7.9						
MAW				LR	LR	21 08 22.6	
	comp=E,90nm,20.3s,MS4.1,baz=241,slow=34						
BVAR	Borovoye Array	81.64	325	P	P	20 34 24.6	+0.5
	comp=E,24nm,0.6s,mb5.3,baz=113,slow=7.1,SNR=190						
BRVK	Borovoye	81.71	325	eP	P	20 34 24.8	+0.4
	comp=E,31nm,0.8s,mb5.3						
ZRNK	Zerenda	82.41	325	eP	P	20 34 28.1	+0.1
	comp=E,9.3nm,0.4s,mb5.1						
QSPA	South Pole Qui	85.05	180	eP	P	20 34 42.2	+1.4
	comp=E,8.0nm,0.9s,mb4.8						
QSPA				LR	LR		
	comp=Z,110nm,19.7s,MS4.2						
IMA	Indian Mountai	85.22	22	eP	P	20 34 42.6	+0.8
	comp=Z,43nm,0.9s,mb5.6						
IMA				epP	pP	20 34 54.9	-0.6
PMR	Palmer	85.49	27	P	P	20 34 42.9	-0.4
PMR				epP	pP	20 34 55.1	-1.8
SML	Sawmill	85.92	27	eP	P	20 34 44.8	-0.6
DIV	Divide	86.89	28	eP	P	20 34 50.5	+0.3
	comp=Z,26nm,1.0s,mb5.4						
COLA	College	87.08	24	eP	pP	20 35 02.2	-2.5
COLA	College	87.08	24	P	P	20 34 50.2	-0.8
COLA				epP	pP	20 35 02.0	-2.6
ILAR	Eielson Array	87.44	24	P	P	20 34 51.3	-1.4
	comp=Z,6.2nm,0.9s,mb4.9,baz=262,slow=4.9,SNR=55						
ILAR				LR	LR	21 16 15.7	
	comp=Z,38nm,18.0s,MS3.8,baz=72,slow=37						
ARU	Arti	89.14	327	P	P	20 35 00.2	-0.8
	comp=Z,193nm,0.4s,SNR=11						
ARU	Arti	89.14	327	c iP	P	20 35 00.1	-0.9
ARU				pmax	pmax		
	comp=Z,9.0nm,0.5s,mb5.4						
ARU	Arti	89.14	327	eP	P	20 34 59.8	-1.2
	comp=Z,11nm,0.4s,mb5.5						
ARU				epP	pP	20 35 12.4	-2.3
DAWY	Dawson	90.43	26	P	P	20 35 06.3	-0.6
DAWY				epP	pP	20 35 19.3	-1.4
INK	Inuvik	93.35	22	LR	LR	21 15 44.7	
	comp=Z,76nm,18.0s,MS4.2,baz=243,slow=35						
BBB	Bella Bella	95.22	38	LR	LR	21 10 02.6	
	comp=Z,36nm,20.3s,MS3.8,baz=224,slow=30						
OBN	Obninsk	101.49	325	eP	P	20 35 56.0	-1.5
OBN				pmax	pmax		
	comp=Z,16nm,1.7s						
ARCES	ARCESS Array B	102.88	341	P	Pdif	20 36 02.6	-0.8
	comp=Z,5.6nm,1.0s,baz=9.5,slow=7.4,SNR=5.3						
FINES	FINESS Array B	105.43	333	PKiKP		20 40 28.6	
	comp=Z,2.7nm,0.9s,slow=2.8,SNR=4.3						
GERES	GERESS Array B	116.76	323	PKP	PKPdf	20 40 50.3	+1.4
	comp=Z,0.5nm,0.4s,baz=96,slow=0.8,SNR=8.5						
PGF	Pioggiola	122.48	318	ePKIKP	PKPdf	20 41 01.5	+1.4
	comp=Z,3.1nm,0.5s						
LPG	La Plagne	122.51	322	ePKIKP	PKPdf	20 41 02.0	+1.9
	comp=Z,4.8nm,0.8s						
LPL	La Plagne	122.52	322	ePKIKP	PKPdf	20 41 02.0	+1.9
	comp=Z,2.0nm,0.4s						
MBDF	Montbardon	122.88	322	ePKIKP	PKPdf	20 41 02.1	+1.2
	comp=Z,4.8nm,0.8s						
SBF	Sospel	122.89	320	ePKIKP	PKPdf	20 41 02.6	+1.7
	comp=Z,17nm,1.0s						
LOR	Lormes	123.28	325	ePKIKP	PKPdf	20 41 02.8	+1.3
	comp=Z,3.1nm,0.6s						
ORIF	Oris-en-Rattie	123.34	322	ePKIKP	PKPdf	20 41 03.2	+1.5
	comp=Z,8.2nm,0.9s						
FRF	La Foret Royal	123.53	320	ePKIKP	PKPdf	20 41 03.4	+1.3
SMRF	Simiane la Rot	124.00	321	ePKIKP	PKPdf	20 41 04.8	+1.8
	comp=Z,13nm,1.0s						
TCF	Toulx Ste Croi	124.77	325	ePKIKP	PKPdf	20 41 06.0	+1.6
	comp=Z,15nm,1.1s						
LASF	Ste Croix	125.01	322	ePKIKP	PKPdf	20 41 06.6	+1.6
GRR	Gorron	125.17	329	ePKIKP	PKPdf	20 41 06.6	+1.5
MFF	Saint Martin d	125.89	327	ePKIKP	PKPdf	20 41 08.2	+1.6
	comp=Z,8.8nm,0.9s						
SGMF	Saint Gilles	126.12	330	ePKIKP	PKPdf	20 41 08.3	+1.3
	comp=Z,5.8nm,0.6s						
EVO	Evora	135.48	323	ePKIKP	PKPdf	20 41 25.6	+0.6
	comp=Z,4.9nm,0.8s						
KIC	Kosan Boka	144.54	274	ePKP1	PKPbc	20 41 42.1	+0.5
	comp=Z,127nm,0.8s						
DBIC	Dimbokro	144.65	275	PKP	PKPdf	20 41 42.7	+0.6
	comp=Z,39nm,0.8s,baz=84,slow=3.7,SNR=52						
TIC	Toumodi	144.81	275	ePKP1	PKPbc	20 41 43.1	+0.7
	comp=Z,192nm,0.9s						
LIC	Lamto	144.82	274	ePKIKP	PKPdf	20 41 43.4	+1.0
	comp=Z,104nm,1.0s						
LIC	Lamto	144.82	274	ePKP1	PKPbc	20 41 43.1	+0.7
	comp=Z,132nm,1.0s						
CPUP	Villa Florida	144.85	153	PKP	PKPdf	20 41 44.1	+2.1
	comp=Z,10nm,0.9s,baz=248,slow=3.3,SNR=20						
LPAZ	La Paz	145.38	128	PKPbc	PKPbc	20 41 47.4	+3.6
	comp=Z,19nm,0.6s,baz=240,slow=1.2,SNR=38						
SDV	Santo Domingo	149.69	81	ePKPbc	PKPdf	20 41 56.8	+6.4
SJG	San Juan	151.58	60	ePKPbc	PKPdf	20 42 00.5	+7.4
CPD	Cerro la Pandu	151.81	60	ePKPbc	PKPdf	20 42 01.3	+7.9
SAML	Samuel	153.40	121	ePKPbc	PKPdf	20 42 05.3	+9.5
BDFB	Brasilia	158.22	160	PKPab	PKPab	20 42 39.5	+0.9
	comp=Z,1.1nm,0.3s,baz=214,slow=3.6,SNR=3.8						

*ISK **10** 20:34:21.9,38.48N×25.53E,h5^{km},MD4.0,ML4.0*
*THE **10** 20:34:24.6,38.50N×25.72E,h10^{km},ML3.9*
*NEIC **10** 20:34:24.8,38.46N×25.58E,h29^{km},ML3.7(ATH),After ATH.*
*ATH **10** 20:34:24.8,38.46N×25.58E,h29^{km}±1^{km},MD3.8/15,ML3.7*
ISC 10 20:34:26.5±0.2,38.47N±0.02×25.66E±0.02,h29^{km},n79,σ1^{s}10/96,1C,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PRK	Paraskevi	0.91	32	ePN	Pn	20 34 43.3	-0.2
PRK				eSN	Sn	20 34 57.2	+1.5
AYVA	Ayvalik	1.17	44	iP	Pn	20 34 47.5	+0.5
SMG	Samos	1.20	129	ePN	Pn	20 34 48.1	+0.5
IZM	Izmir	1.27	93	PN	Pn	20 34 49.3	+0.8
IZM	Izmir	1.27	93	Pn	Pn	20 34 49.5	+1.0
KDAG	Bornova	1.27	92	iP	Pn	20 34 49.4	+0.9
APE	Apeiranthos	1.40	184	PN	Pn	20 34 49.5	-0.9
APE				SN	Sn	20 35 10.3	+2.2
APE	Apeiranthos	1.40	184	ePB	Pb	20 34 49.4	-2.5
BOZC	Bozcaada	1.41	13	iP	Pn	20 34 49.8	-0.7
EZN	Ezine	1.45	21	PN	Pn	20 34 51.1	-0.1
EZN	Ezine	1.45	21	Pn	Pn	20 34 50.8	-0.4
PTL	Penteli	1.47	254	ePN	Pn	20 34 50.0	-1.4
LIA	Limnos Island	1.47	346	ePN	Pn	20 34 51.1	-0.4
LOS	Limnos	1.53	343	ePb	Pb	20 34 52.4	-1.7
LOS				eSb	Sb	20 35 13.1	0.0
MPAR	Parnis Oros	1.54	259	ePN	Pn	20 34 52.0	-0.5
AOS	Alonnisos	1.55	297	ePb	Pb	20 34 53.1	-1.3
AOS				eSb	Sb	20 35 15.4	+1.6
ATH	Athens Observa	1.60	253	ePN	Pn	20 34 52.3	-1.0
ATH				eSN	Sn	20 35 13.0	-0.3
AKS	Akhisar	1.74	76	PN	Pn	20 34 56.2	+0.9
NSAL	Nisos Salamina	1.81	253	ePB	Pb	20 34 55.0	-3.9
NAIG	Nisos Aigina	1.85	248	ePN	Pn	20 34 56.0	-0.8
AYDN	Tasoluk	1.93	114	iP	Pn	20 35 03.3	+5.3
BDRM	Kayabasi	1.99	134	iP	Pn	20 35 00.3	+1.4
THR4	Thira Island,	2.02	186	ePn	Pn	20 34 59.2	-0.1
THR4				eSn	Sn	20 35 26.8	+3.1
MLSB	Milas	2.05	124	ePN	Pn	20 34 59.3	-0.4
THR5	Thira Island,	2.06	187	ePn	Pn	20 34 59.8	-0.2
THR5				eSn	Sn	20 35 28.8	+3.9
THR3	Thira Island,	2.06	186	ePn	Pn	20 35 00.1	+0.1
NEO	Neokhori	2.07	295	ePN	Pn	20 34 59.0	-1.1
LPK	Lapseki	2.09	24	PN	Pn	20 34 59.6	-0.6
LKR	Lokris	2.09	276	ePN	Pn	20 34 59.1	-1.2
BALB	Balikesir	2.09	55	ePN	Pn	20 35 00.8	+0.5
BALB	Balikesir	2.09	55	Pn	Pn	20 35 00.2	-0.1
SANT	Santorini	2.10	184	ePn	Pn	20 34 58.8	-1.7
THR1	Thera Island	2.10	184	ePn	Pn	20 35 00.4	0.0
PAIG	Paliouri	2.12	314	ePn	Pn	20 35 00.7	0.0
PAIG				eSn	Sn	20 35 28.3	+2.1
THR6	Thira Island,	2.12	186	ePn	Pn	20 35 01.0	+0.3
THR6				eSn	Sn	20 35 28.9	+2.6
XOR	Xorichti	2.12	296	ePn	Pn	20 35 01.2	+0.5
XOR				eSn	Sn	20 35 29.0	+2.6
BTOK	Tokmak	2.25	54	iP	Pn	20 35 11.3	+8.6
OUR	Ouranopolis	2.27	326	ePn	Pn	20 35 02.3	-0.5
	comp=Z,21nm,0.4s						
MANT	Manisa	2.28	89	iP	Pn	20 35 09.6	+6.6
KGT	Karabiga	2.36	32	ePN	Pn	20 35 03.8	-0.3
ALN	Alexandroupoli	2.44	7	ePn	Pn	20 35 04.5	-0.9
	comp=Z,11nm,0.6s						
ALN				eSn	Sn	20 35 35.6	+1.0
YER	Yerkesik	2.47	122	ePN	Pn	20 35 06.4	+0.7
YER	Yerkesik	2.47	122	Pn	Pn	20 35 06.6	+0.9
EDC	Edincik	2.54	42	ePN	Pn	20 35 06.2	-0.5
BNT	Bandirma	2.58	42	ePN	Pn	20 35 06.5	-0.7
BNT	Bandirma	2.58	42	Pn	Pn	20 35 06.8	-0.4
DST	Dursunbey	2.58	63	ePN	Pn	20 35 07.4	+0.1
DST	Dursunbey	2.58	63	Pn	Pn	20 35 06.9	-0.4
MFT	Murefte	2.63	28	ePN	Pn	20 35 08.0	-0.1
AGG	Agios Georgios	2.66	283	ePn	Pn	20 35 08.9	+0.5
	comp=Z,4.2nm,0.4s						
AGG				eSn	Sn	20 35 42.9	+2.9
RDO	Rodhopi	2.68	358	ePN	Pn	20 35 07.8	-0.9
KCT	Karacabey	2.76	49	ePN	Pn	20 35 09.0	-0.8
DENT	Denizli	2.76	104	ePN	Pn	20 35 10.4	+0.6
VLI	Veliai	2.78	232	ePN	Pn	20 35 08.6	-1.5
DNZL	Cakiroluk	2.79	105	iP	Pn	20 35 11.4	+1.2
DALT	Dalyan (Mudla)	2.91	125	ePN	Pn	20 35 12.2	+0.2
SOH	Sokhos	2.95	324	ePn	Pn	20 35 12.4	-0.1
SOH				eSn	Sn	20 35 49.6	+2.3
LIT	Litokhoron	2.95	305	ePn	Pn	20 35 11.8	-0.7
	comp=Z,2.6nm,0.4s						
THE	Thessaloniki	3.00	317	ePn	Pn	20 35 12.7	-0.5
KYTH	Kithira	3.02	224	ePN	Pn	20 35 12.5	-1.0
EVR	Evrytania	3.04	280	ePN	Pn	20 35 13.0	-0.9
SRS	Serrai	3.09	330	ePn	Pn	20 35 13.4	-1.1
SRS				eSn	Sn	20 35 52.5	+1.6
ULDT	Uludag	3.18	57	iP	Pn	20 35 26.0	+10
NVR	Nevrokopi	3.19	335	ePN	Pn	20 35 15.0	-1.0
ITM	Ithomi	3.22	248	ePN	Pn	20 35 15.8	-0.6
CTT	Catalca	3.42	38	ePN	Pn	20 35 18.5	-0.8
KNT	Kendrikon	3.43	323	ePn	Pn	20 35 19.0	-0.3
	comp=Z,3.5nm,0.4s						
KNT				eSn	Sn	20 36 01.5	+2.0
EDRB	Edirne	3.48	14	ePN	Pn	20 35 19.5	-0.5
GRG	Griva	3.53	316	ePn	Pn	20 35 20.5	-0.3
MEV	Metsovon	3.68	292	ePn	Pn	20 35 22.8	-0.2
	comp=Z,2.1nm,0.6s						
ELL	Elmali	3.79	116	ePN	Pn	20 35 24.8	+0.3
ELL	Elmali	3.79	116	Pn	Pn	20 35 25.8	+1.3
LKD	Levkas	3.93	275	ePn	Pn	20 35 27.6	+1.1
FNA	Florina	4.03	306	ePn	Pn	20 35 27.6	-0.3
FNA				eSn	Sn	20 36 16.5	+1.7
ESKT	Eskisehir	4.18	74	iP	Pn	20 35 40.3	+10
ESKT	Eskisehir	4.18	74	ePN	Pn	20 35 30.2	+0.1
IGT	Igoumenitsa	4.28	286	ePn	Pn	20 35 31.2	-0.3
IGT				eSn	Sn	20 36 23.0	+1.9
SKO	Skopje	4.76	319	eP	Pn	20 35 49.5	+11
BOLS	Boljevac	6.04	334	⇑iP	Pn	20 35 54.3	-2.0

MEX 10 20:41:38.8±0.7,17.80N×98.30W,h63^{km}±12^{km},MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PPM	Popocatepetl	1.30	346	eP	P	20 42 00.0	-1.3
PPM				iS	S	20 42 17.0	-0.9
IISM	Ciudad Serdan	1.47	37	iP	P	20 42 01.0	-2.8
IISM				iS	S	20 42 20.0	-2.2
OXX	Oaxaca	1.67	115	iP	P	20 42 05.0	-1.4
OXX				iS	S	20 42 30.0	+3.2

*JMA **10** 20:47:46.2±0.1,33.30N×137.10E,h40^{km}±2^{km},M3.5*
ISC 10 20:47:46.4±0.7,33.32N±0.05×137.08E±0.03,h40^{km},n20,σ0^{s}44/36,6C-4D,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	Tokai 1	0.62	43	P	P	20 47 58.3	-0.5
TK01				eS	S	20 48 07.2	-0.5
TK02	Tokai 2	0.85	42	⇓P	P	20 48 01.7	-0.3
TK02				eS	S	20 48 13.1	-0.3
JIE	Ise	1.12	344	⇓P	P	20 48 06.5	+0.7
JIE				S	S	20 48 20.6	+0.3
TK03	Tokai 3	1.12	41	P	P	20 48 05.7	-0.2
TK03				S	S	20 48 20.4	0.0
JKN	Kiinagashima	1.15	324	⇑P	P	20 48 06.6	+0.3
JKN				S	S	20 48 20.2	-0.9
JWZ	Kozaga	1.16	281	⇑P	P	20 48 06.5	+0.1
JWZ				S	S	20 48 21.1	-0.3
TK04	Tokai 4	1.26	32	⇓P	P	20 48 07.8	0.0
TK04				S	S	20 48 23.6	-0.2
JAA	Atsumi	1.31	2	⇓P	P	20 48 08.9	+0.2
JAA				S	S	20 48 24.9	-0.4
TSUJ	Tsu 2	1.50	339	⇑P	P	20 48 11.9	+0.6
TSUJ				S	S	20 48 29.6	-0.2
JWY	Kouya	1.53	306	⇑P	P	20 48 12.5	+0.7
JWY				S	S	20 48 31.0	+0.3
JWM	Minabe	1.54	291	⇑P	P	20 48 12.1	+0.2
JWM				S	S	20 48 30.3	-0.5
JHE	Heguri	1.77	319	⇑P	P	20 48 15.7	+0.6
JHE				S	S	20 48 36.5	-0.1
SHZ3	Shizuoka 3	1.98	28	P	P	20 48 17.7	-0.5
JAI	Aioi	2.25	283	P	P	20 48 22.2	+0.2
JAI				S	S	20 48 47.5	-1.1
JHJ2	Mitsune	2.30	94	P	P	20 48 22.5	-0.3
JGM	Miyama	2.40	353	P	P	20 48 24.7	+0.6
JGM				S	S	20 48 52.8	+0.3
JIM2	Oshima 3	2.40	54	P	P	20 48 24.7	+0.5
JYN	Shimob	2.49	29	P	P	20 48 25.2	-0.3
JYN				S	S	20 48 55.3	+0.4
JOD2	Odawara 2	2.56	40	P	P	20 48 26.4	0.0
MAT	Matsushiro	3.35	16	P	P	20 48 38.2	+0.5
MAT				S	S	20 49 16.7	0.0

DHMR 10 20:51:25.3±1.0,11.96N×44.05E,h29^{km}±5^{km},MD3.7, ML3.8,1C-4D,Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TRBA	At Turbah	1.25	4	⇑iP	Pn	20 51 48.3	+1.2
TRBA				iS	Sn	20 52 05.2	+2.2
TRBA				AML	AML	20 52 07.2	
	comp=N,2μm,0.4s						
UDYN	Al ‘Udayn	2.00	359	⇓iP	Pn	20 51 59.3	+1.5
UDYN				iS	Sn	20 52 25.4	+3.3
UDYN				AML	AML	20 52 32.5	
	comp=Z,1μm,0.5s						
LBOS		2.24	32	⇓eP	Pn	20 52 02.8	+1.6
LBOS				iS	Sn	20 52 32.4	+4.2
BDHA	Al Bayda’	2.49	36	⇓iP	Pn	20 52 06.7	+1.8
BDHA				iS	Sn	20 52 40.1	+5.4
BDHA				AML	AML	20 52 53.7	
	comp=N,559nm,0.4s						
DHBB	Dhamar BB	2.61	7	iS	Sn	20 52 42.9	+5.3
HAJJ	Hajjah	3.75	353	⇓iP	Pn	20 52 23.7	+1.1
HAJJ				iS	Sn	20 53 09.3	+2.9
HAJJ				AML	AML	20 53 29.0	
	comp=E,284nm,0.5s						

KRSC 10 21:11:17.8±0.7,50.35N×159.16E,h20^{km}±6^{km},ML4.2, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PAU	Pauzhetka	1.86	308	iP	Pn	21 11 48.4	-0.7
PAU				iS	Sn	21 12 10.8	-1.4
PAU				Smax			
	2μm,0.6s						
SKR	Severo-Kuril’s	1.97	281	eP	Pn	21 11 53.5	+2.8
RUS	Russkaya	2.12	349	P	Pn	21 11 52.8	-0.1
RUS				S	Sn	21 12 18.4	-0.5
RUS	Russkaya	2.12	349	iP	Pn	21 11 52.8	-0.1
RUS				iS	Sn	21 12 18.3	-0.6
GRL	Gorelyy	2.31	343	eP	Pn	21 11 56.2	+0.7
GRL				iS	Sn	21 12 24.3	+0.7
PET	Petropavlovsk	2.70	353	P	Pn	21 12 01.4	+0.3
PET				S	Sn	21 12 33.0	-0.5
PET	Petropavlovsk	2.70	353	eP	Pn	21 12 01.2	+0.1
PET				eS	Sn	21 12 32.9	-0.6
SPN	Mys Shipunski	2.80	11	P	Pn	21 12 02.7	+0.1
SPN				S	Sn	21 12 35.8	-0.4
SPN	Mys Shipunski	2.80	11	eP	Pn	21 12 02.6	0.0
SPN				eS	Sn	21 12 35.6	-0.6
NLC	Nalytchevo	2.83	2	P	Pn	21 12 02.2	-0.7
NLC				S	Sn	21 12 34.7	-2.1
NLC	Nalytchevo	2.83	2	eP	Pn	21 12 02.2	-0.7
NLC				eS	Sn	21 12 34.9	-1.9
APC	Apacha	2.87	335	eP	Pn	21 12 04.1	+0.7
APC				iS	Sn	21 12 37.7	0.0
APC				Smax			
	130nm,1.1s						
UGLR	Uglovaya	2.87	356	eP	Pn	21 12 03.9	+0.4
UGLR				eS	Sn	21 12 36.9	-1.0
SMAR	Somma	2.93	356	eP	Pn	21 12 05.2	+0.9
SMAR				eS	Sn	21 12 39.4	+0.1
AVH	Avacha	2.93	355	eP	Pn	21 12 04.6	+0.2
AVH				eS	Sn	21 12 38.6	-0.8
SDLR	Sedlovina	2.94	357	eP	Pn	21 12 04.2	-0.3
SDLR				eS	Sn	21 12 37.7	-1.9
KOK	Koryaka	2.96	354	eP	Pn	21 12 06.1	+1.2
KOK				eS	Sn	21 12 41.3	+1.1
GNL	Ganaly	3.43	348	iP	Pn	21 12 11.9	+0.4
GNL				eS	Sn	21 12 51.9	-0.2
KII	Karymskiy	3.70	3	P	Pn	21 12 15.7	+0.5
KII				S	Sn	21 12 57.1	-1.6
KII	Karymskiy	3.70	3	eP	Pn	21 12 15.8	+0.6
KII				eS	Sn	21 12 57.0	-1.7
MKZ	Mys Kozlova	4.50	19	P	Pn	21 12 24.9	-1.7
MKZ				S	Sn	21 13 14.4	-4.6
MKZ	Mys Kozlova	4.50	19	eP	Pn	21 12 25.0	-1.6
MKZ				eS	Sn	21 13 14.8	-4.2
TUMR	Tumrok	4.98	7	eP	Pn	21 12 34.2	+0.8
TUMR				eS	Sn	21 13 29.5	-1.6
KMNR	Kamenistaya	5.46	6	eP	Pn	21 12 41.3	+1.1
ESO	Esso	5.59	357	eS	Sn	21 13 42.2	-4.4
KPT	Kopyto	5.66	6	eP	Pn	21 12 43.1	0.0
KPT				eS	Sn	21 13 45.6	-2.7
KOZ	Kozyrevsk	5.74	4	eP	Pn	21 12 44.2	+0.1
ZLN	Zelenaya	5.76	9	eP	Pn	21 12 43.0	-1.5
ZLN				eS	Sn	21 13 45.5	-5.3
LGNR	Loginova	5.82	8	eP	Pn	21 12 46.3	+1.0
LGNR				eS	Sn	21 13 51.3	-0.9
CIRR	Tsirk	5.85	9	eP	Pn	21 12 46.5	+0.7
CIRR				eS	Sn	21 13 51.2	-1.9
KLY	Klyuchi	6.04	8	P	Pn	21 12 48.8	+0.4
KLY	Klyuchi	6.04	8	eP	Pn	21 12 48.4	0.0
KLY				eS	Sn	21 13 53.6	-4.2
KBTR	Krutoberegovo	6.26	19	eP	Pn	21 12 50.4	-1.2
KBTR				eS	Sn	21 13 57.8	-5.6
SVLR	Shiveluch	6.36	10	eP	Pn	21 12 52.9	0.0
BKI	Bering	6.38	38	eS	Sn	21 13 57.5	-8.7

*NEIC **10** 21:21:05.2,47.31S×165.65E,h12^{km},ML3.7(WEL),After WEL.*
WEL 10 21:21:04.5±0.5,47.32S×165.58E,h12^{km},ML3.7/4,Error ellipse: s-maj=5.6km s-min=5.4km az=90.0,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WHZ	Wether Hill Ro	2.17	50	PN	Pn	21 21 39.4	-1.6
WHZ				SN	Sn	21 22 05.0	-2.9
WHZ	Wether Hill Ro	2.17	50	P	Pn	21 21 39.4	-1.5
WHZ				S	Sn	21 22 05.0	-2.9
MLZ	Mavora Lakes	2.67	43	PN	Pn	21 21 46.5	-1.6
MLZ				SN	Sn	21 22 18.7	-1.9
MLZ	Mavora Lakes	2.67	43	eP	Pn	21 21 46.7	-1.4
MLZ				S	Sn	21 22 18.7	-1.9
TUZ	Tuapeka	3.11	65	PN	Pn	21 21 52.5	-1.8
TUZ				SN	Sn	21 22 28.5	-3.2
TUZ	Tuapeka	3.11	65	eP	Pn	21 21 52.5	-1.8
TUZ				S	Sn	21 22 28.5	-3.2
MSZ	Milford Sound	3.11	33	PN	Pn	21 21 53.2	-1.2
WKZ	Wanaka	3.45	45	PN	Pn	21 21 58.1	-1.2
WKZ				SN	Sn	21 22 38.1	-2.4
WKZ	Wanaka	3.45	45	eP	Pn	21 21 58.5	-0.8
WKZ				S	Sn	21 22 39.8	-0.7
ODZ	Otahua Downs	4.19	59	PN	Pn	21 22 05.4	-4.3
ODZ	Otahua Downs	4.19	59	eP	Pn	21 22 05.6	-4.1
LBZ	Lake Benmore	4.35	49	PN	Pn	21 22 08.0	-4.1
LBZ	Lake Benmore	4.35	49	eP	Pn	21 22 08.0	-4.0
WVZ	Waitaha Valley	5.59	42	PN	Pn	21 22 25.8	-3.7
LTZ	Lake Taylor	6.56	49	eP	Pn	21 22 38.7	-4.5
DSZ	Denniston Nort	7.13	41	PN	Pn	21 22 46.1	-5.1
THZ	Tophouse	7.63	46	PN	Pn	21 22 53.0	-5.3

*MOS **10** 21:26:21.8±2.5,51.69N×16.06E,h10^{km},mb4.0/1,Error ellipse: s-maj=10.2km s-min=5.3km az=88.8*
*NEIC **10** 21:26:22.4±0.3,51.55N×16.19E,h5^{km},ML3.3(VIE),ML3.2(SZGRF),ML2.6(CLL),ML2.4(BRG),Error ellipse: s-maj=5.2km s-min=3.8km az=77.0*
*BGR **10** 21:26:23.1±0.6,51.47N×16.23E,h1^{km},ML3.2/10,Error*

ellipse: s-maj=7.8km s-min=7.8km az=105.0

*IDC **10** 21:26:23.7±0.7, 51.48N×15.96E, mb1 3.5/9, mb1mx3.4/23, ML3.3/9, Error ellipse: s-maj=12.1km s-min=6.3km az=108.0*

*PRU **10** 21:26:24.4, 51.42N×16.17E*

*WAR **10** 21:26:24.7, 51.45N×16.16E, ML3.2, Mining Induced*

ISC 10 21:26:22.6±0.4**, 51.38N**±0.02×**16.12E**±0.02**, n61,** $\sigma 1\overset{s}{.}23$/115**, 4C, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	Ksiaz	0.55	168	i PG	Pg	21 26 35.9	+2.5
KSP				eSG	Sg	21 26 44.9	+4.2
KSP	Ksiaz	0.55	168	i P	Pg	21 26 35.9	+2.5
KSP				e		21 26 48.0	
KSP	Ksiaz	0.55	168	i Pg	Pg	21 26 35.9	+2.5
KSP				eSg	Sg	21 26 43.7	+3.0
KSP				e		21 26 48.0	
UPC	Upice	0.87	185	ePG	Pg	21 26 41.9	+1.9
DPC	Dobruska-Polom	1.03	173	ePG	Pg	21 26 44.6	+1.4
DPC				eSG	Sg	21 26 58.1	+1.1
	63nm,0.4s						
DPC	Dobruska-Polom	1.03	173	eP	Pg	21 26 44.6	+1.4
DPC				e		21 26 58.1	
DPC				smax			
	comp=N,63nm,0.4s						
PVCC	Panska Ves	1.30	230	ePG	Pg	21 26 49.6	+1.1
BRG	Berggiesshubel	1.46	251	ePn	Pn	21 26 50.8	+0.6
BRG				eSg	Sg	21 27 12.9	+1.7
BRG	Berggiesshubel	1.46	251	eP	Pn	21 26 50.8	+0.5
BRG				i		21 27 13.0	
BRG	Berggiesshubel	1.46	251	ePn	Pn	21 26 50.8	+0.5
BRG				i Pg	Pg	21 26 52.3	+0.6
BRG				i Sg	Sg	21 27 13.0	+1.8
PRU	Pruhonice	1.71	216	PN	Pn	21 26 55.5	+1.6
PRU				PG	Pg	21 26 56.8	0.0
PRU				i x	x	21 27 14.0	
PRU				SG	Sg	21 27 20.4	+0.8
	comp=N,74nm,0.6s						
PRU	Pruhonice	1.71	216	P	Pn	21 26 55.5	+1.6
PRU						21 27 20.4	
PRU				smax			
	comp=N,74nm,0.6s						
RUE	Ruedersdorf	1.82	308	ePg	Pg	21 26 54.7	-4.2
RUE				eSg	Sg	21 27 22.5	-0.7
MORC	Moravsky Berou	1.84	150	ePn	Pn	21 26 56.4	+0.7
MORC				eSn	Sn	21 27 20.5	+0.5
MORC				eSg	Sg	21 27 24.0	+0.2
RAC	Raciborz	1.85	134	eP	Pn	21 26 59.0	+3.2
RAC				eS	Sn	21 27 23.0	+2.8
RAC	Raciborz	1.85	134	eP	Pn	21 26 58.7	+2.9
RAC				e		21 27 23.4	
CLL	Collm	1.96	269	ePn	Pn	21 26 57.4	+0.1
CLL				eSg	Sg	21 27 28.2	+0.6
CLL	Collm	1.96	269	ePN	Pn	21 26 57.0	-0.3
CLL				i PG	Pg	21 27 00.5	-1.1
CLL				e		21 27 05.0	
CLL				i SG	Sg	21 27 28.3	+0.6
CLL	Collm	1.96	269	eP	Pn	21 26 57.0	-0.3
CLL				i		21 27 28.3	
CLL	Collm	1.96	269	ePn	Pn	21 26 57.0	-0.3
CLL				i Pg	Pg	21 27 00.5	-1.1
CLL				i Sg	Sg	21 27 28.3	+0.6
OKC	Ostrava-Krasne	2.01	139	ePN	Pn	21 26 58.6	+0.5
OKC				ePG	Pg	21 27 01.9	-0.8
OKC				eSG	Sg	21 27 27.9	-1.6
OKC	Ostrava-Krasne	2.01	139	eP	Pn	21 26 58.6	+0.5
OKC				e		21 27 27.9	
VRAC	Vranov	2.09	171	Pn	Pn	21 26 59.8	+0.5
	comp=N,5.0nm,0.3s,baz=348,slow=14,SNR=22						
VRAC				Lg		21 27 32.5	
	comp=N,6.6nm,0.3s,baz=90,slow=20,SNR=9.4						
TANN	Tannenbergstha	2.51	249	ePn	Pn	21 27 06.8	+1.5
TANN				eSg	Sg	21 27 43.9	-2.1
WERD	Werda	2.59	250	ePn	Pn	21 27 07.1	+0.7
WERD				eSg	Sg	21 27 46.9	-1.8
NKC	Novy Kostel	2.60	245	ePN	Pn	21 27 07.1	+0.6
NKC				ePG	Pg	21 27 14.6	+0.2
NKC				eSG	Sg	21 27 50.2	+1.2
OJC	Ojcow	2.60	115	ePG	Pg	21 27 14.0	-0.6
OJC				eSG	Sg	21 27 49.0	-0.3
OJC	Ojcow	2.60	115	ePg	Pg	21 27 13.7	-0.9
OJC				eSg	Sg	21 27 48.7	-0.6
GUNZ	Gunzen	2.61	249	ePn	Pn	21 27 08.0	+1.3
GUNZ				eSg	Sg	21 27 46.9	-2.4
KHC	Kasperske Hory	2.78	217	ePN	Pn	21 27 10.0	+0.9
KHC				ePG	Pg	21 27 16.3	-1.7
KHC				eSN	Sn	21 27 43.1	-0.7
KHC				eSG	Sg	21 27 53.3	-1.7
KHC	Kasperske Hory	2.78	217	eP	Pn	21 27 10.0	+0.9
KHC				e		21 27 43.1	
MOX	Moxa	2.94	257	i P	Pn	21 27 11.9	+0.5
MOX				Pg	Pg	21 27 20.0	-1.2
MOX				Sg	Sg	21 28 00.0	-0.4
MOX	Moxa	2.94	257	ePn	Pn	21 27 11.9	+0.5
MOX				ePg	Pg	21 27 20.1	-1.1
MOX				eSg	Sg	21 27 59.9	-0.5
GEC2	GERESS Array S	2.97	213	ePn	Pn	21 27 13.4	+1.5
GEC2				eSg	Sg	21 28 01.8	+0.2
GEC2	GERESS Array S	2.97	213	ePn	Pn	21 27 13.4	+1.5
GEC2				eSg	Sg	21 28 01.8	+0.3
GERES	GERESS Array B	2.97	213	Pn	Pn	21 27 12.8	+0.9
	comp=N,1.1nm,0.3s,baz=27,slow=13,SNR=41						
GERES				Pg	Pg	21 27 19.7	-2.2
	comp=N,6.0nm,0.3s,baz=34,slow=17,SNR=70						
GERES				Sn	Sn	21 27 48.7	-0.1
	comp=N,3.0nm,0.3s,baz=25,slow=25,SNR=6.0						
GERES				Lg		21 27 58.5	
	comp=N,5.5nm,0.3s,baz=32,slow=25,SNR=8.6						
GERES	GERESS Array B	2.97	213	P	Pn	21 27 12.8	+0.9
GERES						21 27 48.7	
GERES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
GERES				pmax	pmax		
	comp=Z,6.0nm,0.3s						
GERES	GERESS Array B	2.97	213	Pn	Pn	21 27 12.8	+0.9
GERES				Pg	Pg	21 27 19.7	-2.2
GERES				Sn	Sn	21 27 48.7	-0.1
GERES				Lg		21 27 58.5	
SMOL	Smolenice	2.99	163	ePG	Pg	21 27 21.9	-0.3
SMOL				eSG	Sg	21 28 01.3	-0.7
WET	Wettzell	3.05	224	ePn	Pn	21 27 13.9	+0.9
VKA	Vienna	3.12	178	⇑iPG	Pg	21 27 23.8	-1.0
VKA				i SG	Sg	21 28 06.3	0.0
ZST	Bratislava	3.25	168	ePG	Pg	21 27 25.3	-2.1
ZST				eSG	Sg	21 28 09.0	-1.6
VYHS	Vyhne	3.38	148	ePN	Pn	21 27 17.6	0.0
VYHS				ePG	Pg	21 27 26.9	-3.1
VYHS				eSG	Sg	21 28 15.0	0.0
GRF	Grafenberg Arr	3.55	244	eSg	Sg	21 28 20.4	-0.4
MOA	Molln	3.73	200	⇑iPN	Pn	21 27 23.6	+1.0
MOA				i SG	Sg	21 28 26.3	-0.4
	comp=Z,18nm,0.5s						
BSD	Bornholm Skovb	3.81	350	i P	Pn	21 27 20.5	-3.3
BSD				eS	Sn	21 28 02.1	-8.0
BSD				i		21 28 04.1	
ARSA	Arzberg	4.15	186	⇑iPN	Pn	21 27 29.8	+1.2
ARSA				i SG	Sg	21 28 39.1	-1.5
	comp=Z,19nm,0.6s						
CRVS	Cervenica-Dubn	4.23	124	i PN	Pn	21 27 29.7	-0.1
CRVS				e		21 27 48.4	
KWP	Kalwaria	4.55	110	ePN	Pn	21 27 34.0	-0.3
KWP				ePG	Pg	21 27 54.0	+0.6
KWP				eSG	Sg	21 28 50.0	-4.1
KWP	Kalwaria	4.55	110	ePn	Pn	21 27 34.0	-0.3
KWP				ePg	Pg	21 27 54.4	+1.0
KWP				eSg	Sg	21 28 50.2	-3.9
KOLS	Kolonicke sedl	4.65	119	ePN	Pn	21 27 35.3	-0.4
KOLS				ePG	Pg	21 27 55.2	-0.2
KBA	Koelnbreinsper	4.67	204	⇑iPN	Pn	21 27 37.0	+1.0
KBA				i SG	Sg	21 28 57.1	-0.9
	comp=Z,14nm,0.5s						
DAVOX	Davos	6.16	224	Pn	Pn	21 27 58.1	+1.1
	comp=Z,0.3nm,0.3s,baz=78,slow=19,SNR=3.6						
DAVOX				Lg		21 29 40.8	
	comp=Z,0.5nm,0.3s,baz=198,slow=22,SNR=3.4						
AKASG	Malin Array Be	8.29	90	Pn	P	21 28 24.1	-2.8
	comp=Z,0.9nm,0.3s,baz=279,slow=12,SNR=6.1						
AKASG				Lg		21 30 57.5	
	comp=Z,0.3nm,0.3s,baz=267,slow=28,SNR=4.1						
HFS	Hagfors	8.88	352	Pn	P	21 28 28.8	-6.3
	comp=Z,0.1nm,0.3s,baz=169,slow=15,SNR=6.0						
NOA	NORSAR Array B	10.06	346	Pn	P	21 28 44.5	-6.7
	comp=Z,0.2nm,0.3s,baz=103,slow=3.2,SNR=2.7						
FINES	FINESS Array B	11.48	25	Pn	P	21 29 03.7	-7.0
	comp=Z,0.3nm,0.3s,baz=211,slow=12,SNR=11						
FINES				Sn	S	21 31 05.9	-15
	comp=Z,0.3nm,0.3s,baz=201,slow=20,SNR=6.5						
KAF	Kangasniemi	12.11	23	ep	P	21 29 13.7	-5.5
	comp=Z,0.4nm,0.4s						
EKA	Eskdalemuir Ar	12.17	297	Pn	P	21 29 14.4	-5.6
	comp=Z,0.1nm,0.3s,baz=102,slow=13,SNR=2.7						
ARCES	ARCESS Array B	18.75	10	Pn	P	21 30 38.7	-6.1
	comp=Z,0.4nm,0.3s,baz=198,slow=12,SNR=10						
ARCES	ARCESS Array B	18.75	10	Pn	P	21 30 38.7	-6.1

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*IDC **10** 21:46:32.8±2.2, 6.05S×147.80E, mb4.1/4, mb1 4.3/5, mb1mx4.1/9, ML4.3/1, Error ellipse: s-maj=64.8km s-min=24.1km az=96.0*

*NEIC **10** 21:46:40.5±1.8, 6.18S×147.71E, h56^{km}±13^{km}, mb4.2/5, Error ellipse: s-maj=22.1km s-min=15.0km az=91.0*

ISC 10 21:46:39.9±2.5**, 6.2S**±0.1×**147.6E**±0.2**, h66**^{km}±18^{km}**, n14,** $\sigma 0\overset{s}{.}76$/14**, mb3.9**/6**, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WAU	Wau	1.47	218	eP	P	21 47 05.4	+0.6
PMG	Port Moresby	3.23	188	eP	P	21 47 29.3	-0.2
WRAB	Tennant Creek	18.79	222	eP	P	21 50 55.4	-1.3
	7.1nm,0.6s						
WB2	Warramunga Arr	18.80	222	eP	P	21 50 56.0	-0.8
WRA	Warramunga Arr	18.81	222	P	P	21 50 56.2	-0.7
	1.0nm,0.3s,baz=45,slow=11,SNR=57						
ASPA	Alice Springs	21.83	216	eP	P	21 51 29.2	+0.8
FITZ	Fitzroy Crossi	24.51	239	eP	P	21 51 56.2	+1.6
	13nm,0.4s,mb4.7						
FITZ	Fitzroy Crossi	24.51	239	P	P	21 51 56.5	+1.9
	18nm,0.5s,mb4.7,baz=50,slow=5.1,SNR=112						
STKA	Stephens Creek	26.17	192	eP	P	21 52 10.6	+0.4
	4.8nm,1.2s,mb3.8						
STKA	Stephens Creek	26.17	192	P	P	21 52 10.1	-0.1
	3.8nm,0.6s,mb4.0,baz=13,slow=9.8,SNR=15						
MBWA	Marble Bar	30.84	238	P	P	21 52 52.4	+0.1
	4.1nm,0.4s,mb4.5						
SONM	Songino Array	64.87	331	P	P	21 57 14.1	-0.4
	0.2nm,0.5s,mb3.2,baz=143,slow=7.2,SNR=3.5						
MKAR	Makanchi Array	78.04	320	P	P	21 58 33.0	-0.1
	0.3nm,0.5s,mb3.3,baz=104,slow=8.3,SNR=5.5						
QSPA	South Pole Qui	83.78	180	P	P	21 59 03.1	+0.4
	0.8nm,0.5s,mb3.8						

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*WEL **10** 21:50:48.9±0.1, 44.52S×168.45E, h5^{km}, ML3.9/7, Error ellipse: s-maj=1.1km s-min=1.1km az=90.0*

WEL Felt in the Otago region, maximum reported intensity MM 4.

*NEIC **10** 21:50:49.5, 44.51S×168.42E, h12^{km}, ML4.0(WEL), After WEL.*

ISC 10 21:50:48.7±0.6**, 44.52S**±0.03×**168.46E**±0.04**, h13**^{km}±5^{km}**, n29,** $\sigma 0\overset{s}{.}64$/41**, 1D, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSZ	Milford Sound	0.41	247	PG	Pg	21 50 57.3	+0.1
MSZ				SG	Sg	21 51 02.9	0.0
JCZ	Jackson Bay	0.49	26	PG	Pg	21 50 58.9	+0.1
JCZ				SG	Sg	21 51 05.3	-0.2
JCZ	Jackson Bay	0.49	26	P	Pb	21 50 58.9	+0.2
JCZ				S	Sg	21 51 06.0	+0.5
WKZ	Wanaka	0.51	128	⇓PG	Pg	21 50 58.9	-0.1
WKZ				SG	Sg	21 51 05.5	-0.5
WKZ	Wanaka	0.51	128	P	Pb	21 50 58.9	-0.1
WKZ				S	Sb	21 51 05.5	-0.5
MLZ	Mavora Lakes	0.86	194	P*	Pb	21 51 05.3	+0.3
MLZ				S*	Sb	21 51 16.1	0.0
MLZ	Mavora Lakes	0.86	194	P	Pb	21 51 05.3	+0.4
MLZ				S	Sb	21 51 14.5	-1.6
LBZ	Lake Benmore	1.24	85	P*	Pb	21 51 12.7	+1.2
LBZ				S*	Sb	21 51 28.4	+1.1
LBZ	Lake Benmore	1.24	85	P	Pb	21 51 12.8	+1.2
LBZ				S	Sb	21 51 26.5	-0.8
DCZ	Deep Cove	1.33	223	P*	Pb	21 51 12.6	-0.5
DCZ				S*	Sb	21 51 30.3	+0.3
WHZ	Wether Hill Ro	1.43	195	PN	Pn	21 51 14.4	-0.1
WHZ				SN	Sn	21 51 33.2	+0.1
WHZ	Wether Hill Ro	1.43	195	P	Pn	21 51 14.5	+0.1
ODZ	Otahua Downs	1.64	110	PN	Pn	21 51 18.6	+1.0
ODZ	Otahua Downs	1.64	110	P	Pn	21 51 18.9	+1.3
TUZ	Tuapeka	1.66	150	PN	Pn	21 51 18.7	+0.9
TUZ				SN	Sn	21 51 39.3	+0.1
TUZ	Tuapeka	1.66	150	eP	Pn	21 51 18.7	+0.9
RPZ	Rata Peaks	2.03	68	ePN	Pn	21 51 23.8	+0.6
RPZ	Rata Peaks	2.03	68	eP	Pn	21 51 23.9	+0.7
WVZ	Waitaha Valley	2.19	50	ePN	Pn	21 51 25.5	+0.1
WVZ	Waitaha Valley	2.19	50	eP	Pn	21 51 26.4	+1.0
LTZ	Lake Taylor	3.26	59	ePN	Pn	21 51 39.6	-1.1
LTZ	Lake Taylor	3.26	59	eP	Pn	21 51 39.9	-0.8
DSZ	Denniston Nort	3.69	43	ePN	Pn	21 51 46.0	-0.8
DSZ	Denniston Nort	3.69	43	P	Pn	21 51 46.7	-0.1
THZ	Tophouse	4.26	51	PN	Pn	21 51 53.6	-1.3
THZ	Tophouse	4.26	51	eP	Pn	21 51 53.6	-1.3
QRZ	Quartz Range	4.75	41	ePN	Pn	21 52 01.3	-0.6
QRZ	Quartz Range	4.75	41	eP	Pn	21 52 01.3	-0.6
NNZ	Nelson	4.89	49	ePN	Pn	21 52 03.5	-0.4

DJA 10 21:59:22.0±1.1**, 6.75S**×**115.14E, h80**^{km}**, MD4.9**/4**, ML4.2**/3**, 1C-5D, Error ellipse: s-maj=28.6km s-min=17.5km az=14.0, Bali Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KELI	Kelakatan	1.59	204	⇓iPn	P	21 59 48.0	-1.0
	150nm,0.2s						
KEDI	Kedomdong	1.98	151	⇓iPn	P	21 59 53.3	-0.8
KEDI				⇓iSn	S	22 00 16.3	-1.5
RATI	Rata	2.00	169	⇑iPn	P	21 59 52.5	-1.9
	136nm,0.2s						
INGI	Ingas	2.05	180	⇓iPn	P	21 59 56.0	+0.8
	174nm,0.2s						
INGI				⇓iSn	S	22 00 17.7	-2.0

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*NIED **10** 22:00:00, 33.00N×136.80E, h20^{km}, Mw3.4 Best double couple: $M_0$1.31×10^{14} NP1:ϕ_s205°, δ82°, λ17°. NP2:ϕ_s113°, δ73°, λ171°.*

*JMA **10** 22:00:44.7±0.1, 33.05N×136.82E, h41^{km}±4^{km}, M3.5*

ISC 10 22:00:45.2±1.2**, 33.09N**±0.07×**136.83E**±0.04**, h41**^{km}**, n13,** $\sigma 0\overset{s}{.}63$/25**, 6D, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	Tokai 1	0.92	43	S	S	22 01 13.8	-0.3
JWZ	Kozaga	1.03	295	⇓P	P	22 01 03.0	-0.4
JWZ				S	S	22 01 16.2	-0.7
TK02	Tokai 2	1.15	42	P	P	22 01 04.7	-0.3
TK02				S	S	22 01 19.8	0.0
JKN	Kiinagashima	1.25	338	⇓P	P	22 01 06.8	+0.4
JKN				S	S	22 01 21.9	-0.4
JIE	Ise	1.30	355	⇓P	P	22 01 07.9	+0.6
JIE				eS	S	22 01 24.0	+0.3
JWM	Minabe	1.45	302	⇓P	P	22 01 09.2	-0.2
JWM				S	S	22 01 26.8	-0.6
JWY	Kouya	1.53	318	P	P	22 01 11.1	+0.6
JWY				S	S	22 01 29.9	+0.6
TK04	Tokai 4	1.56	34	P	P	22 01 10.8	-0.1
TK04				S	S	22 01 30.1	+0.1
TSUJ	Tsu 2	1.65	348	⇓P	P	22 01 12.8	+0.6
TSUJ				eS	S	22 01 32.6	+0.2
JHE	Heguri	1.83	329	⇓P	P	22 01 15.3	+0.6
JHE				S	S	22 01 37.3	+0.5
JAJ2	Tsuna	2.09	310	P	P	22 01 19.1	+0.6
JAJ2				eS	S	22 01 44.1	+0.6
JAI	Aioi	2.11	290	P	P	22 01 18.5	-0.2
JAI				S	S	22 01 42.7	-1.2
MAT	Matsushiro	3.62	18	P	P	22 01 40.8	+0.5
MAT				S	S	22 02 20.2	-2.2

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*NNC **10** 22:09:38.2±0.9, 37.41N×70.23E, h112^{km}±58^{km}, mpv4.1, Error ellipse: s-maj=56.6km s-min=10.1km az=85.0*

ISC 10 22:09:31.6±3.0**, 37.1N**±0.2×**71.4E**±0.4**, h245**^{km}±53^{km}**, n14,** $\sigma 0\overset{s}{.}62$/16**, 3C, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AML	Almayashu	5.37	19	P	P	22 10 51.7	-0.5
	SNR=98						
UCH	Uchtor	5.70	24	P	P	22 10 56.0	-0.4
	SNR=7.9						
EKS2	Erkin-Say	5.88	18	P	P	22 10 58.8	+0.1
	SNR=8.7						
AAK	Ala-Archa	6.06	23	P	P	22 11 01.4	+0.5
	SNR=14						
KK31	Karatay Array	6.06	354	⇑P	P	22 11 00.3	-0.6
	8.3nm,0.4s,baz=180,slow=12,SNR=186						
KK31				⇑S	S	22 12 04.9	-5.9
	1.4nm,0.3s,baz=17,slow=71,SNR=5.0						
CHMS	Chumysh	6.47	23	P	P	22 11 06.4	+0.3
	SNR=9.8						
USP	Ospenovka	6.64	20	P	P	22 11 08.2	0.0
	SNR=6.6						
TKM2	Tokmak 2	6.69	28	P	P	22 11 09.4	+0.6
	SNR=7.5						
KOLN	Koldanda	13.88	128	eP	P	22 12 38.9	-0.5
	4.4nm,0.3s						
GKN	Gorkha	14.38	125	eP	P	22 12 45.3	-0.4
	5.6nm,0.3s						
AB31	Akbulak array	14.73	329	⇑P	P	22 12 51.4	+1.6
	0.4nm,0.4s,baz=209,slow=40,SNR=18						
AB31				S	S	22 15 26.0	-0.9
	1.6nm,0.7s,baz=150,slow=22,SNR=8.5						
KKN	Kakani	14.95	124	eP	P	22 12 52.2	-0.4
DMN	Daman	14.96	125	eP	P	22 12 52.9	+0.2
PKI	Pulchoki	15.18	125	eP	P	22 12 56.1	+0.7
	1.7nm,0.2s						

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*IDC **10** 22:33:05.2±1.5, 6.54S×150.36E, mb4.1/6, mb1 4.4/6, mb1mx4.2/9, MS3.2/1, Ms1 3.2/1, ms1mx2.4/9, Error ellipse: s-maj=52.8km s-min=23.3km az=112.0*

*NEIC **10** 22:33:12.9±1.0, 6.57S×150.24E, h51^{km}±10^{km}, mb4.4/4, Error ellipse: s-maj=19.4km s-min=8.1km az=124.0*

ISC 10 22:33:11.5±1.4**, 6.5S**±0.1×**150.1E**±0.1**, h53**^{km}±15^{km}**, n18,** $\sigma 0\overset{s}{.}96$/16**, mb3.9**/6**, 2D, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAB	Rabaul	3.06	42	eP	P	22 33 58.5	-0.2
PMG	Port Moresby	4.12	225	⇓iP	P	22 34 14.2	+0.7
CTA	Charters Tower	14.02	195	LR	LR	22 41 19.3	
	comp=Z,99nm,21.1s,baz=41,slow=35						
WRAB	Tennant Creek	20.32	227	eP	P	22 37 44.7	-1.1
	48nm,1.0s						
WB2	Warramunga Arr	20.32	227	⇓iP	P	22 37 45.0	-0.9
WB2				i		22 37 56.5	
WRA	Warramunga Arr	20.33	227	P	P	22 37 45.3	-0.7
	20nm,0.8s,baz=52,slow=11,SNR=54						
ASPA	Alice Springs	23.12	221	eP	P	22 38 15.6	+1.7
ARMA	Armidale	23.84	177	eP	P	22 38 21.3	+0.5
STKA	Stephens Creek	26.48	196	eP	P	22 38 43.5	-2.3
	5.2nm,1.3s,mb3.9						
STKA	Stephens Creek	26.48	196	P	P	22 38 43.5	-2.3
	5.7nm,0.8s,mb4.2,baz=3.3,slow=12,SNR=6.8						
FITZ	Fitzroy Crossi	26.51	242	eP	P	22 38 47.3	+1.1
	9.7nm,0.8s,mb4.4						
FITZ	Fitzroy Crossi	26.51	242	P	P	22 38 47.0	+0.8
	17nm,1.1s,mb4.5,baz=75,slow=3.7,SNR=28						
SONM	Songino Array	66.37	329	P	P	22 43 56.7	-0.3
	0.6nm,0.6s,mb3.8,baz=153,slow=8.3,SNR=5.4						
MKAR	Makanchi Array	79.86	320	P	P	22 45 16.3	+0.1
	0.2nm,0.4s,mb3.4,baz=98,slow=8.7,SNR=2.8						
MKAR	Makanchi Array	79.86	320	P	P	22 45 16.3	+0.1
QSPA	South Pole Qui	83.48	180	eP	P	22 45 35.1	+0.8
	2.6nm,0.8s,mb4.3						
ILAR	Eielson Array	84.73	23	P	P	22 45 41.0	+0.3
	0.3nm,0.5s,mb3.7,baz=256,slow=5.0,SNR=4.8						
GERES	GERESS Array B	124.05	327	PKP	PKPdf	22 52 07.4	+3.1
	0.2nm,0.6s,baz=135,slow=3.8,SNR=3.6						

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*NEIC **10** 22:39:58.0, 35.98N×21.72E, h45^{km}, MD3.6(ATH), After ATH.*

*ATH **10** 22:39:58.0, 35.98N×21.72E, h45^{km}, MD3.6/3*

*THE **10** 22:40:02.1, 36.24N×21.59E, h24^{km}, ML3.5*

ISC 10 22:40:00.7±1.3**, 36.17N**±0.07×**21.6E**±0.1**, h67**^{km}±19^{km}**, n19,** $\sigma 0\overset{s}{.}75$/27**, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ITM	Ithomi	1.04	14	eP	P	22 40 19.9	0.0
ITM				eS	S	22 40 35.2	+1.1
KYTH	Kithira	1.16	84	eP	P	22 40 18.0	-3.5
VLI	Veliai	1.21	62	eP	P	22 40 20.1	-2.0
LKD	Levkas	2.65	344	ePn	P	22 40 41.8	-0.3
	comp=Z,3.1nm,0.2s						
LKD				eSn	S	22 41 12.8	-0.2
LKR	Lokris	2.72	24	eP	P	22 40 41.7	-1.4
AGG	Agios Georgios	2.91	11	ePn	P	22 40 46.3	+0.5
	comp=Z,2.0nm,0.4s						
AGG				eSn	S	22 41 19.6	-0.1
THR5	Thira Island,	3.03	84	ePn	P	22 40 48.5	+0.9
THR6	Thira Island,	3.07	85	ePn	P	22 40 49.4	+1.3
XOR	Xorichti	3.43	21	ePn	P	22 40 53.4	+0.2
IGT	Igoumenitsa	3.51	344	ePn	P	22 40 54.8	+0.6
IGT				eSn	S	22 41 34.0	-0.7
MEV	Metsovon	3.62	355	ePn	P	22 40 56.4	+0.6
	comp=Z,2.8nm,0.5s						
MEV				eSn	S	22 41 37.9	+0.3
KEK	Kerkira	3.82	339	eP	P	22 40 59.0	+0.5
LIT	Litokhoron	3.99	10	ePn	P	22 41 01.2	+0.4
LIT				eSn	S	22 41 47.2	+0.5
THE	Thessaloniki	4.58	13	ePn	P	22 41 09.2	0.0
FNA	Florina	4.61	358	ePn	P	22 41 09.5	-0.1
FNA				eSn	S	22 42 02.1	-0.3
GRG	Griva	4.82	7	ePn	P	22 41 12.3	-0.3
SOH	Sokhos	4.85	16	ePn	P	22 41 12.5	-0.3
KNT	Kendrikon	5.09	11	ePn	P	22 41 16.0	-0.2
KNT				eSn	S	22 42 14.5	+0.2
SRS	Serrai	5.18	17	ePn	P	22 41 16.9	-0.6

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*BNS **10** 22:40:57.8±1.0, 49.32N×7.17E, h1^{km}, ML1.4*

*LDG **10** 22:40:58.7±0.1, 49.37N×6.96E, h1^{km}, Md2.6/1, Ml2.4/5, Error ellipse: s-maj=3.9km s-min=2.1km az=84.0, Suspected Mining induced.*

*BGR **10** 22:40:58.6±0.4, 49.37N×6.92E, h1^{km}, ML1.6/1, Error ellipse: s-maj=5.6km s-min=2.2km az=50.0*

ISC 10 22:40:57.0±0.4**, 49.35N**±0.02×**6.91E**±0.05**, n16,** $\sigma 0\overset{s}{.}75$/28**, Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WLF	Walferdange	0.59	303	ePg	Pg	22 41 10.0	+1.2
WLF				eSg	Sg	22 41 16.9	+0.3
	SNR=1.3						
LANF	Langenberg	0.69	122	ePg	Pg	22 41 11.8	+0.9
BGG	Burgeitz	0.90	18	ePg	Pg	22 41 14.5	-0.5
BGG				eSg	Sg	22 41 27.2	+0.2
	14nm,0.5s						
CDF	Champ du Feu	0.97	166	ePn	Pn	22 41 17.4	-0.3
CDF				eSg	Sg	22 41 29.5	+0.2
	7.0nm,0.2s						
WLS	Welschbruch	0.98	163	ePg	Pg	22 41 17.7	+1.0
	SNR=2.3						
WLS				eSg	Sg	22 41 30.5	+0.8
	SNR=0.7						
ECH	Echery	1.15	172	ePg	Pg	22 41 20.8	+0.9
	SNR=3.5						
ECH				eSg	Sg	22 41 35.9	+0.7
	SNR=3.5						
RFYF	Reffroy	1.19	233	ePg	Pg	22 41 21.4	+0.6
RFYF				eSg	Sg	22 41 36.6	-0.1
	9.7nm,0.2s						
STB	Steinbach	1.25	358	ePg	Pg	22 41 19.2	-2.8
STB				eSg	Sg	22 41 38.5	0.0
	5.4nm,0.7s						
THEF	They Montfort	1.28	209	ePg	Pg	22 41 22.7	+0.1
	SNR=3.5						
THEF				eSg	Sg	22 41 39.6	-0.1
	SNR=3.5						
KLL	Kalltalsperre	1.35	344	ePg	Pg	22 41 23.5	-0.6
KLL				eSg	Sg	22 41 42.0	-0.1
BFO	Black Forest	1.39	137	ePg	Pg	22 41 24.9	+0.2
BFO				eSg	Sg	22 41 43.0	-0.2

	SNR=3.2						
HAU	Haudompre	1.40	196	eSg	Sg	22 41 42.2	-1.4
	3.5nm,0.2s						
HINF	Hinteralfeld	1.54	182	ePg	Pg	22 41 27.4	-0.3
HINF				eSg	Sg	22 41 47.1	-1.1
	10nm,0.3s						
HGN	Heimansgroeve	1.55	336	ePn	Pn	22 41 25.8	-0.2
	SNR=1.4						
FELD	Feldberg	1.64	153	ePg	Pg	22 41 30.0	+0.2
	SNR=4.2						
FELD				eSg	Sg	22 41 50.5	-1.2
	SNR=4.2						
BAIF	Baives	1.90	293	ePn	Pn	22 41 31.3	+0.4

TIR ***11*** *00:01:13.1,42.39N×19.54E,h21*^{km}

PDG ***11*** *00:01:14.6±0.1,42.40N×19.51E,h15*^{km}

ISC 11 00:01:14.2±0.6,**42.38N**±0.03×**19.55E**±0.03,**h11**^{km}±7^{km}, **n12,**σ**0**^{s}**90**/24,**4C-4D,Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TTG	Podgorica	0.22	283	⇓iPg	Pg	00 01 18.8	-0.2
TTG				eSg	Sg	00 01 22.6	+0.5
PVY	Plav	0.38	55	⇓iPg	Pg	00 01 22.3	+0.3
PVY				eSg	Sg	00 01 28.7	+1.4
BCI	Bajram Curri	0.39	92	i Pg	Pg	00 01 21.0	-1.1
BCI				i Sg	Sg	00 01 27.5	+0.1
ULC	Ulcinj	0.47	208	⇑iPg	Pg	00 01 23.7	-0.1
ULC				eSg	Sg	00 01 31.4	+1.2
BUM	Brajici-Budva	0.49	261	⇓iPg	Pg	00 01 23.8	-0.3
BUM				eSg	Sg	00 01 31.7	+1.0
IVA	Berane	0.56	28	⇑iPg	Pg	00 01 25.2	-0.2
IVA				eSg	Sg	00 01 33.8	+0.8
NKY	Niksic	0.59	317	⇑iPg	Pg	00 01 25.3	-0.9
NKY				eSg	Sg	00 01 34.2	0.0
HCY	Herceg Novi	0.78	275	⇓iPg	Pg	00 01 28.6	-1.3
HCY				eSg	Sg	00 01 40.4	+0.1
BRY	Bratogost	0.91	305	⇑iPg	Pg	00 01 30.7	-1.6
BRY				eSg	Sg	00 01 44.8	+0.3
UPM	Unac-Piva	0.95	330	ePg	Pg	00 01 31.8	-1.4
UPM				eSg	Sg	00 01 46.4	+0.5
PLE	Pljevlja	0.96	353	ePg	Pg	00 01 32.2	-1.1
PLE				eSg	Sg	00 01 46.9	+0.7
STON	Ston	1.45	290	i Pn	Pn	00 01 40.0	-0.5
STON				i Sn	Sn	00 02 01.7	+2.2

BGR ***11*** *00:38:19.9±0.6,51.56N×16.27E,h1*^{km}*,ML3.6/10,Error ellipse: s-maj=6.7km s-min=6.7km az=16.0*

NEIC ***11*** *00:38:20.8±0.3,51.61N×16.07E,h5*^{km}*,ML3.6(SZGRF), ML3.6(VIE),ML3.2(BRG),ML3.2(CLL),Error ellipse: s-maj=3.7km s-min=3.4km az=89.0*

LDG ***11*** *00:38:21.0±0.2,51.57N×16.24E,h1*^{km}*,Ml4.0/4,Error ellipse: s-maj=6.3km s-min=3.9km az=175.0,Suspected Mining induced.*

PRU ***11*** *00:38:22.4,51.51N×16.09E,Felt In Harrachov*

WAR ***11*** *00:38:22.4,51.56N×16.10E,ML3.5,Mining Induced*

IDC ***11*** *00:38:22.4±0.7,51.53N×15.86E,mb3.6/1,mb1 3.7/10, mb1mx3.6/23,ML3.4/9,Error ellipse: s-maj=10.5km s-min=6.3km az=98.0*

ISC 11 00:38:18.6±0.3,**51.59N**±0.02×**16.09E**±0.02,**n77,** σ**1**^{s}**43**/155,**mb3.6**/1,**8C-4D,Poland**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	Ksiaz	0.76	170	i Pg	Pg	00 38 35.6	+1.9
KSP				i Sg	Sg	00 38 45.3	+1.5
KSP				e		00 38 51.5	
UPC	Upice	1.08	182	ePG	Pg	00 38 41.5	+1.3
UPC				eSG	Sg	00 38 55.5	+0.8
DPC	Dobruska-Polom	1.25	173	ePG	Pg	00 38 44.5	+1.0
DPC				eSG	Sg	00 39 00.0	-0.2
	247nm,0.6s						
PVCC	Panska Ves	1.43	223	ePG	Pg	00 38 48.0	+0.9
PVCC				eSG	Sg	00 39 07.2	+1.0
BRG	Berggiesshubel	1.53	243	ePn	Pn	00 38 48.7	+1.5
BRG				eSg	Sg	00 39 10.7	+1.3
BRG	Berggiesshubel	1.53	243	i Pn	Pn	00 38 48.8	+1.6
BRG				i Pg	Pg	00 38 50.5	+1.5
BRG				i Sg	Sg	00 39 10.8	+1.4
RUE	Ruedersdorf	1.68	303	ePn	Pn	00 38 51.3	+1.8
RUE				eSg	Sg	00 39 16.9	+2.3
RUE	Ruedersdorf	1.68	303	ePn	Pn	00 38 51.3	+1.9
RUE				eSg	Sg	00 39 16.9	+2.4
PRU	Pruhonice	1.88	212	PN	Pn	00 38 53.6	+1.4
PRU				PG	Pg	00 38 55.8	-0.3
PRU				i x	x	00 39 12.6	
PRU				SG	Sg	00 39 19.9	-1.2
	140nm,0.5s						
PRU	Pruhonice	1.88	212	ePg	Pg	00 38 56.5	+0.4
PRU				eSg	Sg	00 39 19.8	-1.3
CLL	Collm	1.95	263	ePn	Pn	00 38 54.7	+1.5
CLL				eSg	Sg	00 39 24.2	+0.7
CLL	Collm	1.95	263	i PN	Pn	00 38 54.8	+1.5
	logA/T=2.0						
CLL				i PG	Pg	00 38 57.7	+0.2
CLL				i		00 39 01.9	
CLL				i SG	Sg	00 39 24.0	+0.5
CLL	Collm	1.95	263	i Pn	Pn	00 38 54.8	+1.5
CLL				i Pg	Pg	00 38 57.7	+0.2
CLL				i Sg	Sg	00 39 24.0	+0.5
RAC	Raciborz	2.02	138	eP	Pn	00 38 58.0	+3.8
RAC				eS	Sn	00 39 24.0	+3.5
MORC	Moravsky Berou	2.04	152	eP	Pn	00 38 55.5	+1.0
OKC	Ostrava-Krasne	2.19	142	ePG	Pg	00 39 01.6	-0.7
OKC				eSG	Sg	00 39 30.0	-1.5
VRAC	Vranov	2.31	172	Pn	Pn	00 39 00.7	+2.3
	7.7nm,0.3s,baz=341,slow=13,SNR=49						
VRAC				Sn	Sn	00 39 31.5	+3.6
	20nm,0.3s,baz=89,slow=23,SNR=11						
VRAC				Lg		00 39 33.7	
	18nm,0.3s,baz=269,slow=23,SNR=9.0						
TANN	Tannenbergstha	2.57	244	ePn	Pn	00 39 04.3	+2.1
TANN				eSg	Sg	00 39 44.5	+0.3
WERD	Werda	2.65	246	ePn	Pn	00 39 04.7	+1.4
WERD				eSg	Sg	00 39 45.4	-1.3
GUNZ	Gunzen	2.67	244	ePn	Pn	00 39 05.1	+1.5
GUNZ				eSg	Sg	00 39 47.1	-0.4
NKC	Novy Kostel	2.67	241	ePG	Pg	00 39 11.5	-0.4
NKC				eSG	Sg	00 39 46.5	-1.1
OJC	Ojcow	2.72	119	ePN	Pn	00 39 05.0	+0.7
OJC				ePG	Pg	00 39 13.0	+0.1
OJC				eSG	Sg	00 39 48.0	-1.2
OJC	Ojcow	2.72	119	ePn	Pn	00 39 05.2	+0.9
OJC				ePg	Pg	00 39 13.1	+0.2
OJC				eSg	Sg	00 39 48.0	-1.2
KHC	Kasperske Hory	2.94	214	ePN	Pn	00 39 08.5	+1.1
KHC				ePG	Pg	00 39 14.6	-2.6
KHC				ex	x	00 39 48.5	
KHC				eSG	Sg	00 39 54.3	-2.1
MOX	Moxa	2.97	253	ePn	Pn	00 39 09.1	+1.2
MOX				eSg	Sg	00 39 57.8	+0.3
MOX	Moxa	2.97	253	i P	Pn	00 39 09.0	+1.1
MOX				Pg	Pg	00 39 18.0	+0.1
MOX				Sg	Sg	00 39 58.0	+0.5
MOX	Moxa	2.97	253	ePn	Pn	00 39 09.0	+1.1
MOX				ePg	Pg	00 39 18.2	+0.3
MOX				eSg	Sg	00 39 57.5	0.0
GEC2	GERESS Array S	3.15	210	ePn	Pn	00 39 11.5	+1.2
GEC2				eSg	Sg	00 39 59.4	-3.9
GERES	GERESS Array B	3.15	210	Pn	Pn	00 39 11.6	+1.3
	5.4nm,0.3s,baz=30,slow=12,SNR=195						
GERES				Pg	Pg	00 39 20.3	-1.1
	10.0nm,0.3s,baz=33,slow=16,SNR=42						
GERES				Sn	Sn	00 39 47.0	-2.1
	5.6nm,0.3s,baz=31,slow=21,SNR=7.3						
GERES				Lg		00 39 58.1	
	14nm,0.3s,baz=33,slow=27,SNR=15						
WET	Wettzell	3.19	221	ePn	Pn	00 39 12.3	+1.3
WET				eSg	Sg	00 40 03.2	-1.8
WET	Wettzell	3.19	221	ePn	Pn	00 39 12.3	+1.2
WET				eSg	Sg	00 40 03.2	-1.7
SMOL	Smolenice	3.20	164	ePN	Pn	00 39 12.9	+1.8
SMOL				ePG	Pg	00 39 21.6	-0.8
SMOL				eSG	Sg	00 40 01.7	-3.3
VKA	Vienna	3.33	177	⇓iPN	Pn	00 39 14.9	+1.9
VKA				i PG	Pg	00 39 23.8	-1.3
VKA				i SG	Sg	00 40 07.2	-2.3
KOLL	Kolacno	3.36	153	ePN	Pn	00 39 14.4	+1.0
KOLL				ePG	Pg	00 39 25.1	-0.6
KOLL				eSG	Sg	00 40 08.3	-2.2
ZST	Bratislava	3.46	169	ePN	Pn	00 39 15.2	+0.4
ZST				ePB	Pb	00 39 24.5	+4.0
ZST				eSB	Sb	00 40 07.8	+4.4
NIE	Niedzica	3.46	127	ePN	Pn	00 39 17.0	+2.1
NIE				ePN	Pg	00 39 27.0	-0.7
NIE				eS	Sg	00 40 09.0	-4.9
VYHS	Vyhne	3.57	149	i PN	Pn	00 39 16.9	+0.5
VYHS				ePG	Pg	00 39 29.0	-0.8
VYHS				eSB	Sb	00 40 11.0	+4.4
BSD	Bornholm Skovb	3.60	349	i P	Pn	00 39 17.1	+0.3
BSD				i S	Sn	00 39 58.6	-2.1
GRA1	Grafenberg Arr	3.63	240	ePn	Pn	00 39 18.9	+1.6
GRA1				eSg	Sg	00 40 18.4	-1.1
GRF	Grafenberg Arr	3.63	240	ePn	Pn	00 39 18.9	+1.6
GRF				eSg	Sg	00 40 18.4	-1.1
SOP	Sopron	3.92	175	⇑iPn	Pn	00 39 22.5	+1.1
SOP				eSB	Sb	00 40 21.4	+4.6
MOA	Molln	3.92	198	⇑iPN	Pn	00 39 22.7	+1.3
MOA				i SG	Sg	00 40 25.2	-4.1
	33nm,0.5s						
ARSA	Arzberg	4.36	185	⇑iPN	Pn	00 39 29.7	+2.1
ARSA				i SG	Sg	00 40 37.1	-6.6
	55nm,0.7s						
CRVS	Cervenica-Dubn	4.37	126	i PN	Pn	00 39 28.8	+1.0
CRVS				ePG	Pg	00 39 45.7	-0.2
PSZ	Piszkesteto	4.43	145	⇓iPn	Pn	00 39 29.6	+1.0
PSZ	Piszkesteto	4.43	145	eP	Pn	00 39 28.5	0.0
KWP	Kalwaria	4.65	112	ePN	Pn	00 39 32.0	+0.3
KWP				ePG	Pg	00 39 51.0	-0.4
KWP				eSG	Sg	00 40 59.0	+5.6
KWP	Kalwaria	4.65	112	ePn	Pn	00 39 31.7	0.0
KWP				ePg	Pg	00 39 51.1	-0.3
KWP				eSg	Sg	00 40 58.7	+5.3
KOLS	Kolonicke sedl	4.78	121	ePN	Pn	00 39 33.5	0.0
KOLS				e		00 39 56.6	
KBA	Koelnbreinsper	4.86	203	⇑iPN	Pn	00 39 36.0	+1.3
KBA				i SG	Sg	00 40 56.4	-3.9
	17nm,0.4s						
WATA	Walderalm	5.17	216	⇑iPN	Pn	00 39 39.9	+0.8
WATA				i SG	Sg	00 41 05.2	-5.6
	18nm,0.6s						
WATA	Walderalm	5.17	216	⇑iPn	Pn	00 39 39.9	+0.8
	18nm,0.6s						
WATA				i Sg	Sg	00 41 05.2	-5.6
WTTA	Wattenberg	5.21	216	⇑iPN	Pn	00 39 39.7	0.0
WTTA				i SG	Sg	00 41 06.0	-6.1
	22nm,0.7s						
WTTA	Wattenberg	5.21	216	⇑iPn	Pn	00 39 39.7	0.0
	22nm,0.7s						
WTTA				i Sg	Sg	00 41 06.0	-6.1
SQTA	Sankt Quirin	5.41	218	⇓iPN	Pn	00 39 43.4	+1.0
SQTA				i SG	Sg	00 41 12.6	-6.0
	8.9nm,0.4s						
SQTA	Sankt Quirin	5.41	218	⇓iPn	Pn	00 39 43.4	+1.0
	8.9nm,0.4s						
SQTA				i Sg	Sg	00 41 12.6	-6.0
VOY	Vojsko	5.75	195	ePn	Pn	00 39 47.6	+0.4
VOY				eSn	Sg	00 41 25.7	-4.2
DAVOX	Davos	6.30	223	Pn	Pn	00 39 55.5	+0.5
	0.7nm,0.3s,baz=36,slow=15,SNR=7.4						
CDF	Champ du Feu	6.51	244	ePn	Pn	00 39 56.5	-1.5
CDF				eSg	Sg	00 41 48.1	-7.1
	53nm,0.9s						
HINF	Hinteralfeld	7.08	241	ePn	Pn	00 40 04.3	-1.7
HINF				eSg	Sg	00 42 05.0	-9.2
	38nm,1.1s						
HAU	Haudompre	7.25	244	ePn	Pn	00 40 06.5	-1.9
HAU				eSg	Sg	00 42 10.6	-9.4
	58nm,1.2s						
AKASG	Malin Array Be	8.31	91	Pn	P	00 40 22.9	-0.4
	1.7nm,0.3s,baz=279,slow=12,SNR=7.3						
AKASG				Sn	Sn	00 41 52.8	-6.2
	1.1nm,0.3s,baz=274,slow=22,SNR=4.6						
HFS	Hagfors	8.67	352	Pn	P	00 40 26.9	-1.3
	0.0nm,0.3s,baz=174,slow=13,SNR=4.4						
HFS				Sn	Sn	00 42 02.7	-5.2
	0.0nm,0.3s,baz=157,slow=30,SNR=2.6						
LPL	La Plagne	8.68	229	ePn	P	00 40 25.9	-2.4
LOR	Lormes	9.06	246	ePn	P	00 40 31.5	-2.2
SSF	Saint Saulge	9.38	246	ePn	P	00 40 36.0	-2.0
SBF	Sospel	9.67	220	ePn	P	00 40 39.6	-2.4
NOA	NORSAR Array B	9.85	346	Pn	P	00 40 42.5	-1.9
	0.2nm,0.3s,baz=100,slow=10,SNR=1.4						
VIVF	Saint-Julien-I	10.16	233	ePn	P	00 40 45.8	-2.9
FRF	La Foret Royal	10.25	222	ePn	P	00 40 47.8	-2.1
LMR	La Mourre	10.49	222	ePn	P	00 40 51.3	-1.9
FINES	FINESS Array B	11.30	25	Pn	P	00 41 02.2	-2.0
	0.3nm,0.3s,baz=209,slow=11,SNR=12						
FINES				Sn	S	00 43 03.7	-8.7
	0.6nm,0.3s,baz=215,slow=21,SNR=7.0						
FINES	FINESS Array B	11.30	25	Pn	P	00 41 02.2	-2.0
FINES				Sn	S	00 43 03.7	-8.7
KAF	Kangasniemi	11.92	24	ep	P	00 41 10.0	-2.7
EKA	Eskdalemuir Ar	12.06	296	Pn	P	00 41 10.0	-4.5
	0.2nm,0.3s,baz=103,slow=14,SNR=3.8						
ARCES	ARCESS Array B	18.55	10	P	P	00 42 36.4	-1.9
	0.2nm,0.3s,baz=192,slow=13,SNR=4.3						
PDAR	Pinedale Array	74.87	322	P	P	00 50 04.3	+2.0
	0.3nm,0.5s,mb3.6,baz=45,slow=5.1,SNR=4.1						

IDC ***11*** *00:53:08.7±1.0,39.57S×15.88W,mb4.4/7,mb1 4.5/7, mb1mx4.3/12,MS4.5/12,Ms1 4.5/12,ms1mx4.4/16,Error ellipse: s-maj=37.2km s-min=21.9km az=3.0*

NEIC ***11*** *00:53:09.2±0.3,39.48S×15.83W,h10*^{km}*,mb4.8/19, MS4.2/1,Error ellipse: s-maj=11.8km s-min=7.8km az=92.0*

BJI ***11*** *00:53:14.2,39.50S×15.80W,h10*^{km}

ISC 11 00:53:07.6±0.4,**39.52S**±0.07×**15.8W**±0.1,**h10**^{km}**,n53,** σ**0**^{s}**80**/41,**mb4.7**/28,**MS4.5**/13,**2C-2D,Tristan da Cunha region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA1	Neumayer--Stat	31.45	175	e	P	00 59 37.8	+6.9
VNA1	Neumayer--Stat	31.45	175	⇑iP	P	00 59 32.4	+1.5
VNA1				e		00 59 37.8	
VNA2	Neumayer--Watz	31.78	175	e	P	00 59 40.7	+6.9
VNA2	Neumayer--Watz	31.78	175	⇓iP	P	00 59 33.9	+0.1
VNA2				e		00 59 40.7	
VNA3	Neumayer Olymp	31.95	176	e	P	00 59 41.6	+6.3
VNA3	Neumayer Olymp	31.95	176	⇓iP	P	00 59 35.3	0.0
VNA3				e		00 59 41.6	
SNAA	Sanae	32.89	172	e	P	00 59 48.0	+4.5
SNAA	Sanae	32.89	172	⇑iP	P	00 59 42.3	-1.2
SNAA				e		00 59 48.0	
SNAA				e		01 03 23.4	
TSUM	Tsumeb	35.17	65	P	P	01 00 03.9	+0.2
	3.2nm,0.8s,mb4.3,baz=219,slow=12,SNR=8.6						
BDFB	Brasilia	36.82	301	P	P	01 00 18.0	+0.4
	2.6nm,0.7s,mb4.2,baz=150,slow=8.1,SNR=3.4						
BDFB				LR	LR	01 12 26.2	
	comp=Z,435nm,21.1s,MS4.2,baz=136,slow=31						
CPUP	Villa Florida	36.92	278	P	P	01 00 19.1	+0.7
	3.2nm,1.1s,mb4.1,baz=87,slow=8.5,SNR=3.2						
CPUP				LR	LR	01 13 08.1	
	comp=Z,1µm,20.1s,MS4.7,baz=150,slow=32						
USHA	Ushuaia	37.94	228	LR	LR	01 14 22.9	
	comp=Z,612nm,21.2s,MS4.4,baz=62,slow=34						
LSZ	Lusaka	45.34	71	eP	P	01 01 28.4	+0.5
	5.9nm,1.0s,mb4.4						
LIC	Lamto	46.59	15	eP	P	01 01 38.1	+0.4
	23nm,1.1s,mb4.8						
DBIC	Dimbokro	47.06	15	LR	LR	01 17 03.3	
	comp=Z,199nm,18.6s,MS4.1,baz=162,slow=30						
MAW	Mawson	49.95	151	P	P	01 02 03.7	+0.6
	3.6nm,0.9s,mb4.4,baz=281,slow=4.5,SNR=4.0						
MAW				LR	LR	01 18 35.0	
	comp=Z,299nm,21.4s,MS4.3,baz=257,slow=31						
QSPA	South Pole Qui	50.74	180	eP	P	01 02 09.3	+0.3
	53nm,1.4s,mb5.3						
QSPA				e		01 03 26.2	
QSPA				e		01 07 53.4	
QSPA				e		01 14 22.1	
QSPA				LR	LR		
	comp=Z,240nm,21.0s,MS4.2						
LPAZ	La Paz	50.88	282	P	P	01 02 11.5	+0.6
	comp=Z,2.8nm,0.2s,mb4.8,baz=89,slow=1.5,SNR=3.3						
LPAZ				LR	LR	01 23 52.0	
	comp=Z,341nm,19.1s,MS4.4,baz=127,slow=36						
LPAZ	La Paz	50.88	282	P	P	01 02 11.5	+0.6
LPAZ				LR	LR	01 23 52.0	
SAML	Samuel	52.00	293	eP	P	01 02 18.9	-0.5
	comp=Z,24nm,1.5s,mb4.9						
KMBO	Kilima Mbogo	61.51	65	LR	LR	01 28 05.2	
	comp=Z,1µm,18.5s,MS5.1,baz=278,slow=34						
SBA	Scott Base	62.89	181	eP	P	01 03 33.5	-2.1
ROSC	El Rosal	69.55	295	LR	LR	01 33 22.4	
	comp=Z,1µm,19.4s,MS5.2,baz=176,slow=35						
EVO	Evora	78.00	6	eP	P	01 05 07.2	-0.4
	comp=Z,3.5nm,0.7s,mb4.1						
EVO				eR			
	comp=Z,504nm,23.0s						
ESDC	Sonseca Array	79.56	9	P	P	01 05 18.4	+2.3
	comp=Z,7.1nm,1.2s,mb4.5,baz=184,slow=5.6,SNR=5.3						
ESDC				LR	LR	01 38 29.2	
	comp=Z,73nm,18.6s,MS4.0,baz=280,slow=34						
ETSF	Etsaut	83.19	11	eP	P	01 05 34.4	-0.6
	comp=Z,17nm,1.2s,mb4.7						
SJPF	Ste Jean	83.30	11	eP	P	01 05 34.9	-0.7
	comp=Z,44nm,1.6s,mb4.9						
EPF	Esparros	83.46	12	eP	P	01 05 36.2	-0.2
	comp=Z,18nm,1.3s,mb4.6						
EIL	Elat	83.48	43	LR	LR	01 42 27.7	
	comp=Z,395nm,18.0s,MS4.8,baz=35,slow=35						
MTLF	Montolieu	84.08	13	eP	P	01 05 38.9	-0.6
	comp=Z,20nm,1.3s,mb4.8						
LMR	La Mourre	84.91	16	eP	P	01 05 43.4	-0.3
	comp=Z,14nm,1.2s,mb4.7						
LASF	Ste Croix	85.09	14	eP	P	01 05 44.3	-0.2
	comp=Z,38nm,1.4s,mb5.0						
SBF	Sospel	85.62	17	eP	P	01 05 46.8	-0.4
ORIF	Oris-en-Rattie	86.29	15	eP	P	01 05 50.4	-0.1
	comp=Z,4.2nm,0.8s,mb4.4						
ORIF				eR			
	comp=Z,440nm,21.0s						
ASF	Jabal al Asfar	86.47	43	LR	LR	01 41 37.9	
	comp=Z,406nm,20.5s,MS4.8,baz=258,slow=34						
TCF	Toulx Ste Croi	86.94	12	eP	P	01 05 53.9	+0.3
	comp=Z,17nm,1.2s,mb4.8						
LPG	La Plagne	87.03	16	eP	P	01 05 54.4	+0.3
	comp=Z,9.5nm,1.0s,mb4.7						
LPL	La Plagne	87.04	16	eP	P	01 05 54.4	+0.3
SMF	Signal de Mont	87.56	13	eP	P	01 05 56.1	-0.5
	comp=Z,9.9nm,0.8s,mb4.8						
AVF	Avril sur Loir	87.62	13	eP	P	01 05 56.3	-0.6
	comp=Z,11nm,0.9s,mb4.8						
SSF	Saint Saulge	87.91	13	eP	P	01 05 57.8	-0.5
	comp=Z,7.5nm,1.0s,mb4.6						
CABF	La Chapelle	87.96	15	eP	P	01 05 58.3	-0.2
	comp=Z,5.1nm,0.7s,mb4.5						
MEZF	Maizieres J’vi	89.57	14	eP	P	01 06 05.6	-0.6
	comp=Z,59nm,1.3s,mb5.5						
CDF	Champ du Feu	89.92	15	eP	P	01 06 07.4	-0.4
	comp=Z,44nm,1.6s,mb5.2						
BRTR	Keskin Array B	90.90	36	P	P	01 06 15.1	+2.5
	comp=Z,1.7nm,0.8s,mb4.4,baz=153,slow=2.8,SNR=5.5						
BRTR				LR	LR	01 47 41.6	
	comp=Z,63nm,18.6s,MS4.1,baz=350,slow=36						
BAIF	Baives	90.92	13	eP	P	01 06 05.6	-6.8
	comp=Z,31nm,1.2s,mb5.2						
GRA1	Grafenberg Arr	91.98	17	eP	P	01 06 21.3	+4.1
SONM	Songino Array	138.26	59	PKP	PKPdf	01 12 35.3	-0.5
	comp=Z,0.8nm,0.8s,baz=207,slow=5.5,SNR=3.5						
ILAR	Eielson Array	142.22	328	PKhKP		01 12 37.4	
	comp=Z,0.6nm,0.7s,baz=93,slow=0.4,SNR=4.6						
ILAR				PKP	PKPdf	01 12 41.9	-0.3
	comp=Z,1.2nm,0.8s,baz=136,slow=0.7,SNR=5.8						
IMA	Indian Mountai	144.35	332	ePKP	PKPdf	01 12 42.9	-2.9
SPU	Mount Spurr	145.59	324	ePKP	PKPdf	01 12 47.1	-1.0
HIA	Hailar	147.21	58	ePKPbc	PKPdf	01 12 52.5	+1.3
CN2	Changchun	150.94	69	ePKP	PKPdf	01 13 04.1	+6.8

WAR ***11*** *01:02:23.8,50.26N×18.91E,ML2.5,Mining Induced*

PRU ***11*** *01:02:24.8,50.29N×18.83E*

ISC 11 01:02:23.0±0.6,**50.25N**±0.06×**18.79E**±0.04,**n11,**σ**1**^{s}**38**/21, **Poland**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OKC	Ostrava-Krasne	0.58	225	ePG	Pg	01 02 36.7	+2.0
OKC				eSG	Sg	01 02 46.7	+4.2
OJC	Ojcow	0.65	92	ePG	Pg	01 02 36.0	0.0
OJC				eSG	Sg	01 02 44.0	-0.7
NIE	Niedzica	1.29	130	ePG	Pg	01 02 47.0	-1.8
NIE				eSG	Sg	01 03 05.0	-1.1
DPC	Dobruska-Polom	1.58	275	ePG	Pg	01 02 53.9	-0.7
DPC				eSG	Sg	01 03 15.7	0.0
KSP	Ksiaz	1.70	291	ePG	Pg	01 02 57.0	+0.1
KSP				eSG	Sg	01 03 21.0	+1.5
VYHS	Vyhne	1.76	179	ePN	Pn	01 02 56.1	+1.1
VYHS				eSN	Sn	01 03 19.0	+0.6
CRVS	Cervenica-Dubn	2.20	127	ePN	Pn	01 03 03.7	+2.4
PVCC	Panska Ves	2.71	277	ePG	Pg	01 03 13.1	-4.1
PVCC				eSG	Sg	01 03 51.4	-2.0
PRU	Pruhonice	2.75	266	ePG	Pg	01 03 14.1	-3.7
PRU				eSG	Sg	01 03 53.4	-1.0
KHC	Kasperske Hory	3.56	254	ePN	Pn	01 03 22.2	+1.5
KHC				ePG	Pg	01 03 29.7	-4.5
KHC				eSG	Sg	01 04 19.0	-2.6
CLL	Collm	3.82	288	eSG	Sg	01 04 31.0	+0.8

IDC 11 01:04:33.0±7.1,**23.34S**×**179.65E,h633**^{km}±95^{km},**mb3.4**/5, **mb1 3.6**/6,**mb1mx3.3**/13,**Error ellipse: s-maj=67.5km s-min=31.1km az=14.0,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	Urewera	15.03	188	P	P	01 07 41.5	+0.7
	0.8nm,0.3s,baz=23,slow=20,SNR=4.1						
URZ				S	S	01 10 06.8	-4.8
	0.4nm,0.3s,baz=10,slow=18,SNR=2.6						
CTA	Charters Tower	31.15	269	P	P	01 10 03.5	-0.9
	11nm,0.4s,baz=100,slow=13,SNR=33						
STKA	Stephens Creek	34.63	247	P	P	01 10 31.1	-2.2
	1.7nm,0.4s,baz=82,slow=11,SNR=6.7						
ASAR	Alice Springs	41.81	260	P	P	01 11 29.9	-1.5
	2.6nm,0.5s,baz=97,slow=7.9,SNR=36						
WB2	Warramunga Arr	42.11	266	eP	P	01 11 32.0	-1.8
WRA	Warramunga Arr	42.12	266	P	P	01 11 32.3	-1.6
	5.1nm,0.6s,baz=103,slow=8.3,SNR=22						
TXAR	Lajitas Array	90.41	58	P	P	01 16 28.3	-1.7
	0.9nm,1.0s,baz=211,slow=7.3,SNR=6.0						
AKASG	Malin Array Be	144.33	327	PKP	PKPdf	01 22 59.0	+0.9
	0.2nm,0.3s,baz=48,slow=3.4,SNR=5.6						

NIED ***11*** *01:31:00,33.70N×142.20E,h8*^{km}*,Mw3.7 Best double couple:* $M_0 3.55\times10^{14}$ *NP1:*ϕ_s*184°,δ56°,λ-107°. NP2:* ϕ_s*33°,δ38°,λ-67°.*

JMA ***11*** *01:31:10.6±0.4,33.73N×142.17E,h22*^{km}*,M3.8*

IDC ***11*** *01:31:19.9±1.2,32.08N×138.82E,mb3.9/3,mb1 4.0/4, mb1mx3.7/19,ML3.8/1,MS3.7/2,Ms1 3.8/2,ms1mx3.2/20, Error ellipse: s-maj=24.8km s-min=19.7km az=101.0*

ISC 11 01:31:10.0±1.2,**33.67N**±0.06×**142.3E**±0.1,**h33**^{km}±14^{km}, **n19,**σ**1**^{s}**00**/25,**mb3.8**/3,**MS3.8**/2,**Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	Boso 1	1.48	312	P	P	01 31 34.5	-0.1
BSO1				S	S	01 31 51.8	-1.2
BSO2	Boso 2	1.69	310	S	S	01 31 59.0	+0.8
BSO3	Boso 3	1.88	308	P	P	01 31 40.4	+0.2
BSO3				S	S	01 32 04.5	+1.5
BSO4	Boso 4	2.10	309	P	P	01 31 44.9	+1.4
BSO4				S	S	01 32 08.3	-0.4
JHJ2	Mitsune	2.16	256	P	P	01 31 45.5	+1.2
JHJ2				S	S	01 32 10.0	-0.2
JHJ	Hachijo jima 2	2.19	256	Pn	P	01 31 45.4	+0.7
	62nm,0.3s,baz=223,slow=16,SNR=24						
JHJ				Sn	S	01 32 06.5	-4.3
	106nm,0.3s,baz=271,slow=23,SNR=5.2						
JIM2	Oshima 3	2.61	294	P	P	01 31 50.9	+0.2
JIZS	Izushimoda	3.04	291	P	P	01 31 56.7	-0.1
JOD2	Odawara 2	3.10	302	P	P	01 31 57.1	-0.7
JOD2				S	S	01 32 32.6	-1.6
JYN	Shimob	3.61	301	P	P	01 32 05.0	+0.1
JAG	Ashikaga	3.62	320	P	P	01 32 03.9	-1.2
JRY	Ryogami san	3.66	311	P	P	01 32 05.1	-0.5
MAT	Matsushiro	4.42	312	P	P	01 32 16.9	+0.3
MAT				eS	S	01 33 03.5	-4.1
CBIJ	Chichi jima	6.55	181	Pn	P	01 32 46.5	0.0

	6.2nm,0.3s,baz=279,slow=19,SNR=2.1						
CBIJ				Sn	S	01 33 55.2	-5.7
	2.6nm,0.3s,baz=265,slow=22,SNR=1.7						
SONM	**Songino Array**	30.37	309	P	P	01 37 23.2	+2.3
	1.7nm,0.8s,mb3.8,baz=106,slow=10.0,SNR=8.0						
CMAR	**Chiang Mai Arr**	41.49	260	LR	LR	01 54 18.9	
	comp=Z,105nm,20.3s,MS3.7,baz=220,slow=36						
MKAR	**Makanchi Array**	46.59	305	P	P	01 39 37.1	+0.7
	0.6nm,0.7s,mb3.7,baz=90,slow=7.3,SNR=4.6						
WRA	**Warramunga Arr**	53.85	189	P	P	01 40 30.5	-1.7
	0.8nm,0.4s,mb4.0,baz=7.8,slow=7.6,SNR=5.7						
TXAR	**Lajitas Array**	91.58	53	LR	LR	02 22 38.0	
	comp=Z,37nm,19.1s,MS3.9,baz=150,slow=32						

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*IDC **11** 02:01:27.9±6.5, 15.91N×97.62W, mb3.7/2, mb1 4.1/3, mb1mx3.7/18, ML3.6/1, Error ellipse: s-maj=420.0km s-min=62.1km az=63.0*

*MEX **11** 02:01:41.8±0.8, 16.71N×99.20W, h29^{km}±19^{km}, MD4.3*

*NEIC **11** 02:01:41.9, 16.70N×99.20W, h29^{km}, MD4.2(MEX), After MEX.*

ISC 11 02:01:39.3±0.7, 16.65N±0.05×99.19W±0.03, h35^{km}±14^{km}, n18, σ1^{s}20/30, mb3.5/2, 1D, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ACX	**Acapulco**	0.73	287	iP	P	02 01 53.4	+0.4
ACX				iS	S	02 02 02.4	-0.7
PNIG	**Pinotepa**	1.05	104	⇓iP	P	02 01 58.9	+1.2
PNIG				iS	S	02 02 11.5	+0.1
PLIG	**Platanillo**	1.75	350	iP	P	02 02 07.6	-0.2
PLIG				iS	S	02 02 28.2	-0.9
ZIIG	**Zihuatanejo**	2.37	294	iP	P	02 02 15.8	-0.8
ZIIG				iS	S	02 02 43.9	-0.9
VHO	**Vista Hermosa**	2.39	80	eP	P	02 02 18.1	+1.2
VHO				iS	S	02 02 45.2	0.0
OXX	**Oaxaca**	2.40	79	eP	P	02 02 17.5	+0.5
OXX				iS	S	02 02 44.8	-0.8
PPM	**Popocatepetl**	2.46	13	eP	P	02 02 17.9	0.0
PPM				iS	S	02 02 49.0	+2.0
IIZ	**Mezontepec**	2.52	359	eP	P	02 02 20.0	+1.3
UNM	**Universidad Na**	2.66	0	eP	P	02 02 23.0	+2.3
UNM				iS	S	02 02 54.0	+1.9
IISM	**Ciudad Serdan**	2.90	36	iP	P	02 02 22.1	-1.9
IISM				iS	S	02 02 56.1	-2.0
HUIG	**Huatulco**	3.09	106	eP	P	02 02 28.9	+2.1
HUIG				iS	S	02 03 01.9	-1.2
MOIG	**Morelia**	3.56	328	eP	P	02 02 33.6	+0.2
MOIG				iS	S	02 03 13.3	-1.6
CMIG	**Matias Romero**	4.15	83	iP	P	02 02 41.3	-0.6
CMIG				iS	S	02 03 27.9	-1.9
CGX	**Ciudad Guzman**	5.10	307	eP	P	02 03 03.0	+7.7
SFJM	**Santa Fe**	5.28	317	eP	P	02 03 01.9	+4.1
TXAR	**Lajitas Array**	13.28	343	Pn	P	02 04 58.1	+10
	0.1nm,0.3s,baz=155,slow=13,SNR=8.3						
TXAR				Lg		02 09 05.9	
	0.0nm,0.3s,baz=180,slow=29,SNR=3.7						
PDAR	**Pinedale Array**	27.49	343	P	P	02 07 24.6	+0.2
	0.9nm,0.8s,mb3.4,baz=135,slow=8.4,SNR=7.8						
YKA	**Yellowknife Ar**	47.05	350	P	P	02 10 09.9	+0.8
	0.5nm,0.7s,mb3.5,baz=160,slow=10.0,SNR=2.5						

KRSC 11 02:28:45.2±0.8, 53.69N×160.84E, h33^{km}±5^{km}, ML3.8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	0.77	220	iP	P	02 28 59.8	+0.2
SPN				iS	S	02 29 10.3	+0.2
KII	**Karymskiy**	0.89	293	iP	P	02 29 01.5	+0.2
KII				iS	S	02 29 13.4	+0.2
MKZ	**Mys Kozlova**	1.01	31	iP	P	02 29 02.4	-0.7
MKZ				eS	S	02 29 14.0	-2.3
NLC	**Nalytchevo**	1.03	240	iP	P	02 29 03.6	+0.2
NLC				iS	S	02 29 17.2	+0.3
SDLR	**Sedlovina**	1.24	251	iP	P	02 29 07.0	+0.8
SDLR				eS	S	02 29 22.9	+0.8
SMAR	**Somma**	1.29	251	eP	P	02 29 07.8	+0.8
SMAR				eS	S	02 29 24.0	+0.6
UGLR	**Uglovaya**	1.30	249	iP	P	02 29 08.0	+0.9
UGLR				eS	S	02 29 24.3	+0.7
AVH	**Avacha**	1.33	252	iP	P	02 29 08.5	+0.9
AVH				eS	S	02 29 24.7	+0.4
KOK	**Koryaka**	1.38	254	iP	P	02 29 09.0	+0.7
KOK				eS	S	02 29 26.0	+0.5
PET	**Petropavlovsk**	1.47	244	eP	P	02 29 10.0	+0.4
PET				eS	S	02 29 28.2	+0.3
TUMR	**Tumrok**	1.65	346	iP	P	02 29 12.6	+0.4
TUMR				eS	S	02 29 33.0	+0.6
GNL	**Ganaly**	1.72	271	eP	P	02 29 13.9	+0.7
GNL				eS	S	02 29 36.2	+1.9
RUS	**Russkaya**	1.89	229	eP	P	02 29 15.5	-0.1
RUS				eS	S	02 29 37.3	-1.1
GRL	**Gorelyy**	2.02	237	eP	P	02 29 18.7	+1.2
GRL				eS	S	02 29 43.4	+1.6
KMNR	**Kamenistaya**	2.10	351	eP	P	02 29 19.7	+1.1
KMNR				eS	S	02 29 44.7	+0.9
KPT	**Kopyto**	2.31	351	eP	P	02 29 22.2	+0.6
KPT				eS	S	02 29 49.1	-0.1
ZLN	**Zelenaya**	2.33	360	iP	P	02 29 23.1	+1.1
ZLN				eS	S	02 29 51.1	+1.4
APC	**Apacha**	2.34	252	eP	P	02 29 23.6	+1.6
APC				eS	S	02 29 51.3	+1.4
APC				Smax			
	40nm,0.5s						
LGNR	**Loginova**	2.40	358	eP	P	02 29 24.2	+1.3
LGNR				eS	S	02 29 53.5	+2.0
CIRR	**Tsirk**	2.43	359	eP	P	02 29 24.4	+1.0
CIRR				eS	S	02 29 54.4	+2.1
KOZ	**Kozyrevsk**	2.44	347	eP	P	02 29 23.4	-0.1
KOZ				eS	S	02 29 52.3	-0.1
KRSR	**Krestovskiy**	2.54	357	eP	P	02 29 26.1	+1.2
KRSR				eS	S	02 29 56.5	+1.5
ESO	**Esso**	2.56	332	eP	P	02 29 24.8	-0.4
ESO				eS	S	02 29 54.5	-1.0
ESO				Smax			
	50nm,0.7s						
KLY	**Klyuchi**	2.63	358	eP	P	02 29 27.6	+1.4
KLY				eS	S	02 29 57.5	+0.2
SRDR	**Sredinnyy**	2.71	347	iP	P	02 29 28.0	+0.6
KBTR	**Krutoberegovo**	2.77	24	eP	P	02 29 28.2	0.0
KBTR				eS	S	02 30 00.1	-0.8
SVLR	**Shiveluch**	2.90	4	eP	P	02 29 30.9	+0.8
SVLR				eS	S	02 30 03.8	-0.4
BKI	**Bering**	3.36	61	iP	P	02 29 35.5	-1.1
BKI				eS	S	02 30 11.0	-4.8
BKI				Smax			
	60nm,0.3s						

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*NIED **11** 02:29:00, 32.90N×136.70E, h5^{km}, Mw3.8 Best double couple: M$_0$6.52×10^{14} NP1:φ$_s$138°, δ80°, λ-167°. NP2: φ$_s$45°, δ77°, λ-10°.*

*JMA **11** 02:29:30.9±0.2, 32.93N×136.69E, h38^{km}±5^{km}, M4.0*

*IDC **11** 02:29:37.3±1.4, 33.16N×135.63E, mb3.6/4, mb1 3.8/4, mb1mx3.7/20, Error ellipse: s-maj=41.5km s-min=28.8km az=71.0*

ISC 11 02:29:31.0±1.2, 33.02N±0.06×136.69E±0.04, h19^{km}±7^{km}, n17, σ0^{s}76/30, mb3.5/4, 5C-6D, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JWZ	**Kozaga**	0.96	302	⇑P	Pb	02 29 49.0	+0.1
JWZ				S	Sb	02 30 01.4	+0.2
TK01	**Tokai 1**	1.06	45	P	Pb	02 29 50.1	-0.4
TK01				S	Sb	02 30 04.6	+0.7
JKN	**Kiinagashima**	1.28	344	⇓P	Pn	02 29 54.4	+0.4
JKN				S	Sb	02 30 10.5	+0.2
TK02	**Tokai 2**	1.28	44	⇓P	Pn	02 29 53.4	-0.7
TK02				S	Sb	02 30 10.0	-0.5
JIE	**Ise**	1.37	0	⇓P	Pn	02 29 56.0	+0.6
JIE				S	Sb	02 30 13.5	+0.6
JWM	**Minabe**	1.39	307	⇑P	Pn	02 29 55.3	-0.4
JWM				S	Sb	02 30 12.3	-1.3
JWY	**Kouya**	1.51	323	⇑P	Pn	02 29 58.1	+0.8
JWY				S	Sn	02 30 16.9	+0.3
TK04	**Tokai 4**	1.68	36	⇓P	Pn	02 29 59.5	-0.3
TK04				S	Sn	02 30 20.2	-0.8
TSUJ	**Tsu 2**	1.70	352	⇓P	Pn	02 30 00.6	+0.5
TSUJ				S	Sn	02 30 22.3	+0.8
JHE	**Heguri**	1.83	333	⇓P	Pn	02 30 02.7	+0.7
JHE				S	Sn	02 30 25.5	+0.7
JAI	**Aioi**	2.03	293	⇑P	Pn	02 30 04.1	-0.7
JAI				S	Sn	02 30 28.2	-1.6
JAJ2	**Tsuna**	2.06	313	⇑P	Pn	02 30 05.6	+0.4
JAJ2				S	Sn	02 30 30.0	-0.5
MAT	**Matsushiro**	3.73	19	P	Pn	02 30 29.2	+0.2
MAT				S	Sn	02 31 10.7	-2.2
SONM	**Songino Array**	27.19	312	P	P	02 35 15.9	+0.6
	0.4nm,0.6s,mb3.1,baz=124,slow=9.8,SNR=4.0						
MKAR	**Makanchi Array**	43.11	305	P	P	02 37 32.5	+1.0
	1.4nm,0.8s,mb3.8,baz=90,slow=9.7,SNR=12						
WRA	**Warramunga Arr**	52.71	183	P	P	02 38 54.5	+7.7
	1.1nm,0.7s,mb3.9,baz=0.4,slow=8.1,SNR=7.3						
ILAR	**Eielson Array**	54.93	31	P	P	02 39 11.9	+9.3
	0.3nm,0.7s,mb3.4,baz=279,slow=7.5,SNR=5.2						

GUC 11 02:57:14.4±0.7, 35.03S×70.55W, h3^{km}, MD3.7, ML2.8, 6C-3D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFDO	**San Fernando**	0.57	317	⇓iP	Pg	02 57 25.6	-0.1
SFDO				iS	Sg	02 57 34.6	+1.4
CICH	**Cipreses**	0.71	8	⇓iP	Pg	02 57 28.0	-0.7
CICH				iS	Sg	02 57 38.8	+0.5
CACH	**El Canelo**	0.91	357	⇑iP	Pb	02 57 31.4	-1.1
CACH				eS	Sg	02 57 45.1	+0.4
CHCH	**Chadas Angostu**	1.10	355	eP	Pb	02 57 35.0	-0.7
LMEL	**Las Melosas**	1.21	14	⇑iP	Pb	02 57 36.7	-0.9
LMEL				iS	Sb	02 57 54.3	+0.8
LMEL				AMP		02 57 56.5	
	comp=N,156nm,0.5s						
LNV	**Longovilo**	1.29	326	⇑iP	Pb	02 57 37.8	-1.1
LNV				iS	Sb	02 57 56.0	+0.3
PCH	**Pirque**	1.41	1	eP	Pb	02 57 39.6	-1.4
PCH				iS	Sb	02 58 00.5	+1.4
TACH	**Talagante**	1.41	347	⇓iP	Pb	02 57 40.1	-0.9
TACH				iS	Sb	02 57 59.8	+0.5
RCDM	**Rinconada Maip**	1.55	352	eP	Pn	02 57 42.3	-0.7
RCDM				eS	Sb	02 58 03.2	-0.2
RCDM				AMP		02 58 10.3	
	comp=E,287nm,0.2s						
CLCH	**Cerro Calan**	1.63	0	⇑iP	Pn	02 57 44.2	0.0
CLCH				AMP		02 58 20.3	
	comp=E,285nm,0.5s						
FCH	**Farellones**	1.71	7	⇑iP	Pn	02 57 45.6	+0.3
FCH				iS	Sn	02 58 09.3	+1.3
FCH				AMP		02 58 11.2	
	comp=E,160nm,0.2s						
LCCH	**Las Cruces**	1.77	331	⇑iP	Pn	02 57 46.0	-0.2
LCCH				iS	Sn	02 58 10.1	+0.6

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*IDC **11** 03:45:52.0±4.0, 9.71S×119.36E, mb3.6/2, mb1 3.7/3, mb1mx3.6/10, ML3.7/1, Error ellipse: s-maj=205.0km s-min=38.4km az=48.0*

*DJA **11** 03:46:05.6±1.0, 8.02S×119.78E, h28^{km}±3^{km}, MD4.9/4, ML4.9/2, Error ellipse: s-maj=66.5km s-min=19.0km az=172.0*

ISC 11 03:45:58.0±1.0, 8.9S±0.2×120.27E±0.08, h33^{km}, n10, σ1^{s}27/14, mb3.7/2, 4C-4D, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	4.13	276	⇑iPn	Pn	03 47 01.3	+0.8
	137nm,0.2s						
KEDI	**Kedomdong**	4.13	276	⇓iP	P	03 47 02.0	+1.6
KEDI				⇑iSn	Sn	03 47 46.1	-2.2
RATI	**Rata**	4.68	272	⇑iPn	Pn	03 47 08.0	-0.4
RATI	**Rata**	4.68	272	eP	P	03 47 11.0	+2.7
RATI				⇓iSn	Sn	03 47 55.5	-6.8
INGI	**Ingas**	5.06	271	⇓iPn	Pn	03 47 14.0	+0.3
	509nm,0.2s						
INGI				eSn	Sn	03 48 03.0	-8.8
KELI	**Kelakatan**	5.76	277	⇑iPn	Pn	03 47 22.2	-1.3
KELI	**Kelakatan**	5.76	277	eP	P	03 47 24.2	+0.9
KELI				⇓iSn	Sn	03 48 19.3	-10
WRA	**Warramunga Arr**	17.47	130	P	P	03 50 00.2	-0.6
	0.3nm,0.3s,baz=301,slow=14,SNR=5.7						
SONM	**Songino Array**	57.83	349	P	P	03 55 49.4	+0.7
	0.5nm,0.7s,mb3.6,baz=169,slow=7.8,SNR=3.7						
MKAR	**Makanchi Array**	64.97	332	P	P	03 56 35.5	-1.4
	0.3nm,0.4s,mb3.7,baz=144,slow=7.3,SNR=6.5						

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*NEIC **11** 04:10:58.9±0.4, 51.52N×16.21E, h5^{km}, ML2.9(SZGRF), ML2.9(VIE), ML2.5(BRG), Error ellipse: s-maj=6.2km s-min=4.0km az=84.0*

*MOS **11** 04:10:58.7±2.0, 51.59N×16.01E, h10^{km}, mb4.0/1, Error ellipse: s-maj=12.9km s-min=6.3km az=77.8*

*PRU **11** 04:11:00.1, 51.47N×16.10E*

*IDC **11** 04:11:00.8±0.7, 51.45N×15.95E, mb1 3.3/6, mb1mx3.2/20, ML2.8/6, Error ellipse: s-maj=12.0km s-min=7.0km az=101.0*

*WAR **11** 04:11:00.6, 51.48N×16.08E, ML2.9, Mining Induced*

ISC 11 04:10:57.1±0.4, 51.52N±0.02×16.11E±0.03, n40, σ1^{s}24/74, 3C, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	**Ksiaz**	0.68	170	iPG	Pg	04 11 12.5	+1.8
KSP				eSG	Sg	04 11 21.5	+1.6
KSP	**Ksiaz**	0.68	170	iPg	Pg	04 11 12.5	+1.8
KSP				eSg	Sg	04 11 21.0	+1.1
UPC	**Upice**	1.01	184	ePG	Pg	04 11 18.2	+0.9
UPC				eSG	Sg	04 11 31.0	+0.2
DPC	**Dobruska-Polom**	1.18	173	ePG	Pg	04 11 21.1	+0.6
DPC				eSG	Sg	04 11 36.0	-0.2
	29nm,0.3s						
DPC	**Dobruska-Polom**	1.18	173	eP	Pg	04 11 21.1	+0.6
DPC				e		04 11 36.0	
DPC				smax			
	comp=N,29nm,0.3s						
PVCC	**Panska Ves**	1.39	225	ePG	Pg	04 11 25.4	+0.6
PVCC				eSG	Sg	04 11 43.5	+0.2
BRG	**Berggiesshubel**	1.51	246	iP	Pn	04 11 26.3	+0.8
BRG				i		04 11 48.1	
BRG	**Berggiesshubel**	1.51	246	iPn	Pn	04 11 26.3	+0.8
BRG				iPg	Pg	04 11 27.7	+0.5
BRG				iSg	Sg	04 11 48.1	+0.8
RUE	**Ruedersdorf**	1.73	305	ePn	Pn	04 11 29.9	+1.2
RUE				eSg	Sg	04 11 57.1	+2.3
PRU	**Pruhonice**	1.83	214	ePN	Pn	04 11 30.8	+0.8
PRU				PG	Pg	04 11 32.7	-0.8
PRU				ix	x	04 11 36.8	
PRU				ix	x	04 11 50.1	
PRU				SG	Sg	04 11 56.1	-1.8
	comp=N,17nm,0.4s						
PRU	**Pruhonice**	1.83	214	eP	Pn	04 11 30.6	+0.6
PRU				e		04 11 56.4	
PRU	**Pruhonice**	1.83	214	ePn	Pn	04 11 30.6	+0.6
PRU				ePg	Pg	04 11 32.6	-0.9
PRU				e		04 11 47.8	
PRU				eSg	Sg	04 11 56.4	-1.5
CLL	**Collm**	1.96	265	iPN	Pn	04 11 32.7	+0.8
CLL				ePG	Pg	04 11 35.0	-1.2
CLL				i		04 11 39.8	
CLL				iSG	Sg	04 12 01.8	-0.5
CLL	**Collm**	1.96	265	iP	Pn	04 11 32.7	+0.8
CLL				i		04 12 01.8	
CLL	**Collm**	1.96	265	iPn	Pn	04 11 32.7	+0.8
CLL				ePg	Pg	04 11 35.0	-1.2
CLL				iSg	Sg	04 12 01.8	-0.5
MORC	**Moravsky Berou**	1.97	152	eP	Pn	04 11 32.4	+0.5
OKC	**Ostrava-Krasne**	2.12	142	ePG	Pg	04 11 37.3	-2.1
OKC				eSG	Sg	04 12 05.7	-2.0
VRAC	**Vranov**	2.23	172	Pn	Pn	04 11 37.4	+1.6
	comp=N,1.2nm,0.3s,baz=327,slow=13,SNR=12						
VRAC				Lg		04 12 09.9	
	comp=N,2.3nm,0.3s,baz=74,slow=21,SNR=7.5						
NKC	**Novy Kostel**	2.65	242	ePN	Pn	04 11 43.4	+1.6
NKC				ePG	Pg	04 11 49.5	-0.5
NKC				eSG	Sg	04 12 24.8	-0.6
OJC	**Ojcow**	2.67	118	ePG	Pg	04 11 51.0	+0.6
OJC				eSG	Sg	04 12 26.0	0.0
OJC	**Ojcow**	2.67	118	ePg	Pg	04 11 51.3	+0.9
OJC				eSg	Sg	04 12 26.3	+0.3
KHC	**Kasperske Hory**	2.89	215	ePN	Pn	04 11 45.9	+0.7
KHC				ePG	Pg	04 11 51.7	-3.0
KHC				eSN	Sn	04 12 19.9	-1.2
KHC				eSG	Sg	04 12 31.4	-1.8
KHC	**Kasperske Hory**	2.89	215	eP	Pn	04 11 45.9	+0.7
KHC				e		04 12 19.9	
MOX	**Moxa**	2.97	255	iP	Pn	04 11 47.3	+1.0
MOX				Pg	Pg	04 11 55.0	-1.3
MOX				Sg	Sg	04 12 35.0	-0.9
MOX	**Moxa**	2.97	255	ePn	Pn	04 11 47.3	+1.0
MOX				ePg	Pg	04 11 55.0	-1.3
MOX				eSg	Sg	04 12 34.8	-1.1
GEC2	**GERESS Array S**	3.09	211	eP	Pn	04 11 49.9	+1.8
GERES	**GERESS Array B**	3.09	211	Pn	Pn	04 11 49.3	+1.2
	comp=N,0.8nm,0.3s,baz=29,slow=12,SNR=33						
GERES				Pg	Pg	04 11 55.4	-3.4
	comp=N,1.9nm,0.3s,baz=28,slow=17,SNR=32						
GERES				Lg		04 12 35.2	
	comp=N,2.6nm,0.3s,baz=29,slow=28,SNR=13						
GERES	**GERESS Array B**	3.09	211	P	Pn	04 11 49.3	+1.2
GERES				S	Sn	04 12 35.2	+8.9
WET	**Wettzell**	3.15	222	eP	Pn	04 11 49.6	+0.7
GRA1	**Grafenberg Arr**	3.61	242	ePn	Pn	04 11 56.4	+0.9
GRF	**Grafenberg Arr**	3.61	242	eP	Pn	04 11 56.4	+0.9
BSD	**Bornholm Skovb**	3.67	349	iP	Pn	04 11 56.3	0.0
BSD				iS	Sn	04 12 39.0	-2.0
MOA	**Molln**	3.86	199	⇑iPN	Pn	04 12 00.0	+1.0
MOA				iSG	Sg	04 13 02.5	-3.1
	comp=N,6.5nm,0.5s						
ARSA	**Arzberg**	4.29	185	⇑iPN	Pn	04 12 05.8	+0.7
ARSA				iSG	Sg	04 13 14.3	-5.5
	comp=N,5.8nm,0.5s						
KBA	**Koelnbreinsper**	4.80	203	⇑iPN	Pn	04 12 13.2	+0.9
KBA				iSG	Sg	04 13 33.0	-3.8
	comp=N,3.6nm,0.5s						
AKASG	**Malin Array Be**	8.29	91	Pn	P	04 13 00.4	-1.1
	comp=N,0.7nm,0.3s,baz=304,slow=9.4,SNR=6.5						
AKASG				Lg		04 15 29.0	
	comp=N,0.3nm,0.3s,baz=315,slow=9.5,SNR=5.0						
HFS	**Hagfors**	8.74	352	Pn	P	04 13 07.0	-0.7
	comp=N,0.0nm,0.3s,baz=180,slow=14,SNR=2.8						
HFS				Lg		04 15 38.4	
	comp=N,0.0nm,0.3s,baz=183,slow=29,SNR=3.7						
HFS	**Hagfors**	8.74	352	P	P	04 13 06.9	-0.8
NOA	**NORSAR Array B**	9.92	346	Pn	P	04 13 22.4	-1.4
	comp=N,0.1nm,0.3s,baz=56,slow=20,SNR=2.4						
FINES	**FINESS Array B**	11.36	25	Pn	P	04 13 40.5	-3.0
	comp=N,0.1nm,0.3s,baz=212,slow=12,SNR=5.5						

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*IDC **11** 04:23:19.0±0.8, 2.51S×128.75E, mb4.0/6, mb1 4.4/8, mb1mx4.2/16, ML4.5/2, MS3.7/3, Ms1 3.7/3, ms1mx3.2/19, Error ellipse: s-maj=56.2km s-min=18.4km az=66.0*

*NEIC **11** 04:23:24.0±0.5, 2.65S×128.73E, h35^{km}, mb4.5/3, Error ellipse: s-maj=24.7km s-min=9.6km az=76.0*

ISC 11 04:23:21.9±3.9, 2.7S±0.1×128.7E±0.2, h35^{km}±36^{km}, n16, σ1^{s}04/13, mb4.0/7, MS3.7/3, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	15.61	191	Pn	P	04 27 03.3	+2.1
	0.6nm,0.3s,baz=15,slow=9.7,SNR=15						
WRAB	**Tennant Creek**	18.02	162	eP	P	04 27 29.8	-1.7
	82nm,1.1s						
WRA	**Warramunga Arr**	18.03	163	P	P	04 27 30.9	-0.7
	3.3nm,0.3s,baz=338,slow=12,SNR=53						
WRA				S	S	04 30 47.6	-1.0
	0.3nm,0.3s,baz=342,slow=24,SNR=4.5						
MBWA	**Marble Bar**	20.33	205	eP	P	04 27 57.7	-0.2
	21nm,0.9s						
CTA	**Charters Tower**	24.37	137	P	P	04 28 39.5	+1.3
	6.5nm,0.8s,mb4.1,baz=316,slow=11,SNR=7.1						
JOW	**Kunigami**	29.34	359	LR	LR	04 39 14.5	
	comp=Z,499nm,20.0s,MS4.1,baz=134,slow=33						
STKA	**Stephens Creek**	31.49	159	P	P	04 29 44.6	+1.7
	8.9nm,1.1s,mb4.5,baz=333,slow=5.7,SNR=2.9						
JHJ	**Hachijo jima 2**	37.12	16	LR	LR	04 43 08.9	
	comp=Z,100nm,19.5s,MS3.6,baz=5.7,slow=32						
SONM	**Songino Array**	53.95	342	P	P	04 32 43.5	-1.0
	0.3nm,0.4s,mb3.5,baz=153,slow=5.5,SNR=5.6						
MKAR	**Makanchi Array**	63.91	326	P	P	04 33 53.1	-0.6
	0.8nm,0.6s,mb4.0,baz=126,slow=8.0,SNR=9.4						
MKAR				LR	LR	05 00 26.8	
	comp=Z,22nm,19.5s,MS3.4,baz=288,slow=35						
KURK	**Kurchatov**	68.17	328	eP	P	04 34 20.9	+0.3
KURK				e	pP	04 34 29.6	-1.8
BVAR	**Borovoye Array**	73.73	328	P	P	04 34 54.2	+0.1
	1.0nm,0.6s,mb3.9,baz=117,slow=6.6,SNR=6.3						
ZRNK	**Zerenda**	74.44	327	eP	P	04 34 58.0	-0.2
	1.6nm,0.7s,mb4.1						
ILAR	**Eielson Array**	90.03	25	P	P	04 36 19.4	+0.4
	0.5nm,0.7s,mb4.0,baz=240,slow=5.4,SNR=9.7						
TXAR	**Lajitas Array**	123.75	56	PKP	PKPdf	04 42 19.4	+2.5
	0.3nm,0.8s,baz=225,slow=1.8,SNR=3.8						
CPUP	**Villa Florida**	150.58	169	PKPbc	PKPdf	04 43 14.0	+8.5
	2.0nm,0.8s,baz=100,slow=4.2,SNR=7.1						

MAN 11 04:27:56.9, 12.27N×125.43E, h22^{km}, mb3.7, ML2.4, MS1.9, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BESP	**Borongan**	0.67	179	eP	Pb	04 28 10.4	+0.7
BESP				eS	Sb	04 28 20.9	+2.4
CNP	**Catarman**	0.78	288	eP	Pb	04 28 11.8	+0.1
OCLP	**Ormoc**	1.45	214	eP	Pn	04 28 19.4	-2.8
PVCP	**Virac**	1.81	317	eP	Pn	04 28 26.5	-0.7
PVCP				eS	Sn	04 28 56.5	+6.8
MSLP	**Maasin**	2.20	195	eP	Pn	04 28 33.7	+0.9

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*INMG **11** 04:41:37.6±0.7, 37.56N×7.97W, ML1.0, Error ellipse: s-maj=1.9km s-min=1.5km az=31.0*

MDD 11 04:41:37.6±0.4, 37.56N×7.97W, mbLg1.4/5, Error ellipse: s-maj=3.9km s-min=2.3km az=22.0, PRXIMO SIN SOLUCIN, Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EGRO	**El Granado**	0.39	94	Pg	Pg	04 41 44.6	-0.7
	SNR=17						
EGRO				Lg		04 41 50.3	
	8.3nm,0.1s,SNR=7.9						
PALC	**Alcoutim**	0.41	104	ePg	Pg	04 41 44.9	-0.8
PALC				eSg	Sg	04 41 50.4	-0.7
	12nm,0.1s						
PALC	**Alcoutim**	0.41	104	Pg	Pg	04 41 44.9	-0.8
PALC				Lg		04 41 50.4	
	5.8nm,0.1s						
PBEJ	**Beja**	0.47	10	ePg	Pg	04 41 46.3	-0.6
PBEJ				eSg	Sg	04 41 52.4	-0.8
	3.7nm,0.1s						
PBEJ	**Beja**	0.47	10	Pg	Pg	04 41 46.3	-0.6
PBEJ				Lg		04 41 52.4	
	1.9nm,0.1s						
PTEO	**Sao Teotonio**	0.60	268	ePg	Pg	04 41 48.7	-0.8
PTEO				eSg	Sg	04 41 56.5	-1.0
MOE	**Montemor**	1.00	343	eP	Pb	04 41 56.5	-1.0
MOE				eS	Sg	04 42 10.3	-0.7
EMIN	**Mina Concepcio**	1.05	78	Pg	Pg	04 41 56.7	-1.9
	1.3nm,0.1s,SNR=21						
EMIN				Lg		04 42 11.0	
	1.6nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	1.41	32	Pg	Pg	04 42 03.2	-2.4
	2.5nm,0.1s,SNR=11						
EBAD				Lg		04 42 22.0	
	6.7nm,0.2s,SNR=7.9						

DJA 11 04:58:44.1±0.7, 8.45S×116.06E, h96^{km}±5^{km}, MD4.8/4, ML4.1/1, 1C-9D, Error ellipse: s-maj=18.4km s-min=8.4km az=16.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	0.07	123	⇓iPn	P	04 58 57.3	-0.3
	112nm,0.2s						
KEDI	**Kedomdong**	0.07	123	⇓iP	P	04 58 57.4	-0.2
KEDI				⇓iSn	S	04 59 08.0	+0.3
RATI	**Rata**	0.59	242	⇓iPn	P	04 58 59.2	-1.1
RATI				⇓iSn	S	04 59 11.4	-1.0
INGI	**Ingas**	0.97	248	⇑iPn	P	04 59 04.6	+0.5
	288nm,0.2s						
INGI	**Ingas**	0.97	248	⇓iP	P	04 59 04.7	+0.6
INGI				⇓iSn	S	04 59 17.3	-1.9

KELI	Kelakatan	1.57	278	⇓iPn	P	04 59 10.5	-0.9
KELI				⇓iSn	S	04 59 30.3	-1.3

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*IDC **11** 05:01:20.7±2.4,24.95N×123.08E,mb3.7/3,mb1 3.9/3, mb1mx3.6/18,MS3.3/3,Ms1 3.4/3,ms1mx3.0/23,Error ellipse: s-maj=171.0km s-min=27.8km az=65.0*
*TAP **11** 05:01:23.7,24.76N×122.64E,h17^{km}±1^{km},ML3.1*
*JMA **11** 05:01:23.4±0.2,24.54N×122.56E,h27^{km}±1^{km},M2.9*
*NEIC **11** 05:01:24.5±9.9,24.73N×122.55E,h21^{km}±64^{km},mb4.1/3, ML4.4(TAP),Error ellipse: s-maj=112.0km s-min=19.6km az=65.0*
NEIC Recorded [2 TAP] in Hua-lien County.
ISC 11 05:01:23.2±1.1**,24.7N**±0.2×**122.65E**±0.09**,h27**^{km}±9^{km}**, n15,**σ**0^{s}59**/16**,mb3.8**/6**,MS3.2**/3**,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	Yonaguni jima	0.43	130	P	Pb	05 01 32.1	-0.2
YOJ				S	Sb	05 01 38.3	-0.3
IRIF	Iriomote-Funau	1.06	112	P	Pn	05 01 42.8	+0.3
TATO	Taipei	1.08	283	eP	Pn	05 01 43.0	+0.2
HATJ	Hateruma jima	1.25	123	P	Pn	05 01 45.0	-0.2
HATJ				eS	Sn	05 02 00.9	-0.4
JKRS	Kuro-shima	1.33	112	P	Pn	05 01 47.4	+1.0
JKRS				eS	Sn	05 02 03.1	-0.3
JIJ	Ishigaki jima	1.41	105	P	Pn	05 01 48.7	+1.2
JIJ				eS	Sn	05 02 05.0	-0.3
CMAR	Chiang Mai Arr	22.89	259	LR	LR	05 16 36.1	
	comp=Z,83nm,19.2s,MS3.2,baz=80,slow=39						
ASAJ	Asahikawa	25.27	35	LR	LR	05 17 09.8	
	comp=Z,53nm,20.5s,MS3.0,baz=352,slow=38						
SONM	Songino Array	26.41	335	P	P	05 06 59.1	-0.2
	0.6nm,0.8s,mb3.2,baz=149,slow=7.8,SNR=4.7						
MKAR	Makanchi Array	38.88	315	P	P	05 08 48.6	+0.4
	0.6nm,0.7s,mb3.5,baz=110,slow=9.2,SNR=6.1						
KURK	Kurchatov	42.54	319	P	P	05 09 16.7	-1.4
	3.4nm,1.2s,mb4.0						
WRAB	Tennant Creek	45.84	165	P	P	05 09 50.8	+5.6
	5.4nm,1.0s,mb4.4						
WRA	Warramunga Arr	45.84	165	P	P	05 09 45.4	+0.2
	1.7nm,1.0s,mb3.9,baz=349,slow=8.5,SNR=4.7						
BRVK	Borovoye	48.17	320	P	P	05 10 03.1	0.0
	0.8nm,0.5s,mb4.0						
NOA	NORSAR Array B	78.36	332	LR	LR	05 50 32.4	
	comp=Z,16nm,19.4s,MS3.4,baz=335,slow=38						

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*IDC **11** 05:04:41.5±1.9,33.67N×142.16E,mb4.0/4,mb1 4.1/6, mb1mx3.8/21,ML4.0/2,Error ellipse: s-maj=38.7km s-min=22.6km az=62.0*
*JMA **11** 05:04:42.4±0.3,33.75N×142.22E,h23^{km},M3.9*
*NEIC **11** 05:04:47.0±2.7,33.72N×142.07E,h40^{km},mb4.5/1,Error ellipse: s-maj=96.1km s-min=12.9km az=65.0*
ISC 11 05:04:43.2±1.6**,33.73N**±0.04×**142.22E**±0.06**,h32**^{km}±13^{km}**, n29,**σ**1^{s}03**/41**,mb4.0**/5**,Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	Boso 1	1.38	312	P	Pn	05 05 06.4	-0.2
BSO1				eS	Sn	05 05 23.9	0.0
BSO2	Boso 2	1.59	310	eS	Sn	05 05 30.5	+1.4
BSO3	Boso 3	1.78	308	P	Pn	05 05 13.0	+0.8
BSO3				eS	Sn	05 05 34.6	+0.7
BSO4	Boso 4	2.00	309	P	Pn	05 05 16.1	+0.6
BSO4				eS	Sn	05 05 41.3	+1.6
JHJ2	Mitsune	2.10	254	P	Pn	05 05 17.6	+0.7
JHJ2				eS	Sn	05 05 42.5	+0.3
JHJ	Hachijo jima 2	2.13	254	Pn	Pn	05 05 17.8	+0.5
	159nm,0.3s,baz=69,slow=16,SNR=19						
JHJ				Sn	Sn	05 05 42.5	-0.3
	167nm,0.3s,baz=60,slow=23,SNR=13						
CHOJ	Chosi	2.27	331	P	Pn	05 05 19.1	-0.2
JIM2	Oshima 3	2.51	294	P	Pn	05 05 22.3	-0.5
JIZS	Izushimoda	2.94	291	P	Pn	05 05 28.9	0.0
JIZS				eS	Sn	05 06 01.8	-1.6
JYT	Yasato	3.00	327	P	Pn	05 05 30.6	+0.9
JOD2	Odawara 2	3.01	302	P	Pn	05 05 29.3	-0.5
JHO	Hitachi	3.18	335	P	Pn	05 05 30.8	-1.4
JHU	Hanno	3.22	312	P	Pn	05 05 33.3	+0.6
JHU				eS	Sn	05 06 08.7	-1.7
JYN	Shimob	3.51	301	P	Pn	05 05 37.9	+1.0
JYN				eS	Sn	05 06 16.7	-1.1
JAG	Ashikaga	3.52	321	P	Pn	05 05 34.5	-2.6
JRY	Ryogami san	3.56	311	P	Pn	05 05 37.1	-0.5
JRY				eS	Sn	05 06 19.2	+0.2
JNY	Yasuok	3.95	296	P	Pn	05 05 44.4	+1.3
MAJO	Matsushiro	4.33	312	eP	Pn	05 05 48.2	-0.3
MAT	Matsushiro	4.33	312	P	Pn	05 05 49.1	+0.6
MAT				eS	Sn	05 06 35.5	-3.0
MAT	Matsushiro	4.33	312	P	Pn	05 05 49.0	+0.5
MAT				S	Sn	05 06 36.0	-2.5
CBIJ	Chichi jima	6.61	180	Pn	Pn	05 06 18.9	-1.9
	6.7nm,0.3s,baz=305,slow=22,SNR=6.4						
CBIJ				Sn	Sn	05 07 30.4	-5.3
	10.0nm,0.3s,baz=218,slow=22,SNR=3.6						
SONM	Songino Array	30.27	309	P	P	05 10 54.7	+1.3
	1.8nm,0.8s,mb3.9,baz=108,slow=8.4,SNR=13						
MKAR	Makanchi Array	46.49	305	P	P	05 13 09.7	+0.7
	0.4nm,0.5s,mb3.6,baz=83,slow=12,SNR=3.5						
KURK	Kurchatov	48.53	311	eP	P	05 13 23.0	-2.0
	3.4nm,0.7s,mb4.5						
BRVK	Borovoye	53.37	314	eP	P	05 14 01.6	0.0
WB2	Warramunga Arr	53.89	189	eP	P	05 14 05.8	0.0
WRA	Warramunga Arr	53.90	189	P	P	05 14 05.6	-0.2
	1.1nm,0.4s,mb4.2,baz=6.0,slow=7.4,SNR=22						
FITZ	Fitzroy Crossi	53.91	200	P	P	05 14 06.7	+0.8
	1.3nm,0.5s,mb4.1,baz=22,slow=8.0,SNR=4.9						
ZRNK	Zerenda	54.15	314	P	P	05 14 08.4	+1.1

DHMR 11 05:07:08.1±0.8**,12.00N**×**44.04E,h15**^{km}±4^{km}**,MD4.0, ML4.2,4D,Western Gulf of Aden**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TRBA	At Turbah	1.21	4	⇓iP	Pb	05 07 30.8	+0.6
TRBA				i S	Sb	05 07 48.4	+3.0
TRBA				AML	AML	05 07 49.7	
	comp=E,5μm,0.4s						
UDYN	Al ‘Udayn	1.96	359	⇓iP	Pn	05 07 42.6	+1.3
UDYN				i S	Sn	05 08 08.9	+3.2
UDYN				AML	AML	05 08 15.3	
	comp=N,2μm,0.6s						
LBOS		2.21	32	⇓iP	Pn	05 07 45.9	+1.1
LBOS				i S	Sn	05 08 16.3	+4.3
BDHA	Al Bayda’	2.47	37	i P	Pn	05 07 50.4	+1.9
BDHA				i S	Sn	05 08 23.9	+5.3
BDHA				AML	AML	05 08 38.3	
	comp=E,2μm,0.6s						
DHBB	Dhamar BB	2.57	8	⇓iP	Pn	05 07 52.6	+2.6
DHBB				i S	Sn	05 08 27.2	+6.0
HAJJ	Hajjah	3.70	353	i P	Pn	05 08 07.8	+1.7
HAJJ				i S	Sn	05 08 53.6	+3.7
HAJJ				AML	AML	05 09 11.7	
	comp=N,1μm,0.6s						

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*NEIC **11** 05:16:48.6,38.82N×23.26E,h5^{km},ML3.5(ATH),After ATH.*
*ATH **11** 05:16:48.6,38.82N×23.26E,h5^{km}±4^{km},MD3.3/15,ML3.5*
*THE **11** 05:16:50.0,38.87N×23.27E,h4^{km},ML3.3*
ISC 11 05:16:48.2±0.5**,38.82N**±0.02×**23.30E**±0.03**,h5**^{km}±4^{km}**, n31,**σ**0^{s}93**/45**,1C-3D,Greece**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LKR	Lokris	0.29	234	⇓iPG	Pg	05 16 54.5	+0.5
LKR				eSG	Sg	05 16 58.0	+0.1
NEO	Neokhori	0.49	353	⇑iPB	Pb	05 16 58.7	-0.1
NEO				eSB	Sb	05 17 06.0	+0.1
XOR	Xorichti	0.55	352	ePg	Pg	05 16 59.7	+0.6
XOR				eSg	Sg	05 17 07.2	+0.8
AOS	Alonnisos	0.57	52	ePg	Pg	05 17 00.2	+0.6
AOS				eSg	Sg	05 17 09.3	+2.0
MKIT	Kithairon Oros	0.64	183	⇓iPG	Pg	05 17 00.5	-0.4
MKIT				eSB	Sb	05 17 10.9	+0.6
MPAR	Parnis Oros	0.75	153	ePG	Pg	05 17 03.0	-0.2
AGG	Agios Georgios	0.78	285	ePg	Pg	05 17 03.2	-0.5
	comp=Z,16nm,0.6s						
AGG				eSg	Sg	05 17 14.5	+0.4
PTL	Penteli	0.89	150	ePB	Pb	05 17 05.0	-0.7
ATH	Athens Observa	0.91	159	ePB	Pb	05 17 06.5	+0.5
ATH				eSB	Sb	05 17 19.5	+1.2
NSAL	Nisos Salamina	0.92	172	ePG	Pg	05 17 05.5	-1.1
NAIG	Nisos Aigina	1.07	172	⇓iPN	Pn	05 17 09.0	-0.7
PAIG	Paliouri	1.14	15	ePg	Pg	05 17 10.3	-0.7
PAIG				eSg	Sg	05 17 26.9	+0.7
EVR	Evrytania	1.17	275	ePN	Pn	05 17 10.0	-1.0
LIT	Litokhoron	1.42	334	ePb	Pb	05 17 14.4	-0.4
	comp=Z,8.8nm,0.4s						
LIT				eSb	Sb	05 17 34.4	+1.3
PLG	Polygyros	1.55	4	ePN	Pn	05 17 16.0	-0.6
OUR	Ouranopolis	1.60	19	ePb	Pb	05 17 17.1	-0.8
	comp=Z,10nm,0.4s						
RLS	Riolos of Patr	1.63	243	ePB	Pb	05 17 19.8	+1.5
LOS	Limnos	1.77	51	ePb	Pb	05 17 20.4	-0.4
THE	Thessaloniki	1.82	352	ePb	Pb	05 17 20.4	-1.3
MEV	Metsovon	1.87	302	ePb	Pb	05 17 22.9	+0.4
	comp=Z,3.5nm,0.4s						
MEV				eSb	Sb	05 17 46.0	-0.1
ITM	Ithomi	1.96	214	ePG	Pg	05 17 23.9	-3.5
SOH	Sokhos	2.00	1	ePb	Pb	05 17 23.3	-1.3
LKD	Levkas	2.07	268	ePn	Pn	05 17 25.5	+1.5
VLI	Veliai	2.12	188	ePN	Pn	05 17 27.0	+2.3
VLS	Valsamata	2.22	254	ePG	Pg	05 17 29.0	-3.5
GRG	Griva	2.24	342	ePn	Pn	05 17 25.8	-0.7
GRG				eSn	Sn	05 17 55.2	+0.4
SRS	Serrai	2.30	6	ePn	Pn	05 17 27.4	0.0
SRS				eSn	Sn	05 17 56.6	+0.2
KNT	Kendrikon	2.36	353	ePn	Pn	05 17 28.2	+0.1
KNT				eSn	Sn	05 17 57.5	-0.3
FNA	Florina	2.45	324	ePn	Pn	05 17 29.7	+0.2
FNA				eSn	Sn	05 17 59.2	-1.0
APE	Apeiranthos	2.49	134	ePG	Pg	05 17 34.5	-3.3
ALN	Alexandroupoli	2.96	45	ePn	Pn	05 17 36.4	-0.4

IDC 11 05:34:29.0±2.1**,21.28S**×**176.74W,mb4.0**/4**,mb1 4.3**/4**, mb1mx4.0**/11**,Error ellipse: s-maj=184.0km s-min=31.9km az=157.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	Stephens Creek	38.52	245	P	P	05 41 53.3	-1.6
	3.5nm,0.8s,baz=90,slow=11,SNR=6.4						
ASAR	Alice Springs	45.49	257	P	P	05 42 50.4	-1.7
	3.2nm,0.8s,baz=98,slow=7.2,SNR=32						
WRA	Warramunga Arr	45.66	263	P	P	05 42 51.8	-1.7
	2.1nm,1.0s,baz=100,slow=8.8,SNR=5.1						
TXAR	Lajitas Array	86.49	57	P	P	05 47 14.5	-0.8
	0.2nm,0.7s,baz=211,slow=5.3,SNR=3.6						
AKASG	Malin Array Be	144.26	332	PKP	PKPdf	05 54 04.7	-3.8
	0.4nm,0.4s,baz=45,slow=4.1,SNR=5.1						

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*CASC **11** 05:45:33.9±2.9,11.62N×87.63W,h26^{km}±12^{km},MD4.4, mb4.0(NEIC)*
*NEIC **11** 05:45:34.8±2.6,11.65N×87.55W,h36^{km}±25^{km},mb4.0/5, Error ellipse: s-maj=37.8km s-min=14.8km az=50.0*
*IDC **11** 05:45:37.1±3.0,12.02N×87.17W,h44^{km}±31^{km},mb3.7/6, mb1 3.9/7,mb1mx3.7/18,ML2.8/1,MS3.1/1,Ms1 3.1/1, ms1mx2.6/18,Error ellipse: s-maj=60.8km s-min=18.3km az=47.0*
ISC 11 05:45:33.7±0.5**,11.55N**±0.04×**87.64W**±0.03**,h45**^{km}±6^{km}**, n54,**σ**1^{s}15**/69**,mb3.9**/11**,12C-4D,Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LEON	Leon	1.13	40	⇑iP	P	05 45 52.9	-0.4
LEON				eS	S	05 46 10.1	+2.2
COPN	Copaltepe	1.20	58	⇓eP	P	05 45 53.8	-0.5
MIRN	Miramar	1.27	45	⇓eP	P	05 45 54.7	-0.6
MIRN				eS	S	05 46 13.7	+2.2
CRIN	San Cristobal	1.28	27	eP	P	05 45 55.2	-0.3
TELN	Telica	1.31	37	⇓eP	P	05 45 55.5	-0.6
CNGN	Cerro Negro	1.32	44	⇑eP	P	05 45 55.1	-1.0
CNGN				eS	S	05 46 18.8	+6.0
MOMJ	Momotombo	1.37	51	⇑eP	P	05 45 55.8	-1.1
MOMJ				eS	S	05 46 15.5	+1.4
CRUN	El Crucero	1.38	72	eP	P	05 45 56.0	-0.9
XAVN	Gruta Xavier	1.42	65	⇑eP	P	05 45 56.2	-1.2
APYN	Apoyeque	1.43	61	eP	P	05 45 56.3	-1.4
TICN	Ticuantepe	1.46	71	eP	P	05 45 57.2	-0.8
TICN				eS	S	05 46 16.4	+0.2
MGAN	Managua	1.49	66	⇑eP	P	05 45 57.5	-0.9
MGAN				eS	S	05 46 17.2	+0.4
WILN	Americas 2	1.54	67	⇓eP	P	05 45 58.2	-1.1
WILN				eS	S	05 46 19.2	+0.9
APON	Apoyo	1.58	76	eP	P	05 45 58.6	-1.1
CNCH	Conchagua	1.73	354	⇑eP	P	05 46 01.7	-0.1
CNCH				eS	S	05 46 22.9	+0.1
PYTN	Playitas	1.83	57	⇑eP	P	05 46 02.1	-1.2
QUIN	Quiabu	1.97	37	⇑eP	P	05 46 04.4	-0.8
CONN	Concepcion	1.97	89	⇑eP	P	05 46 03.8	-1.4
BLLM	Bellamira	1.97	343	eP	P	05 46 05.8	+0.5
SOMN	Somoto	2.11	28	eP	P	05 46 08.9	+1.6
CAHU	Cacacuatique	2.28	346	eP	P	05 46 10.1	+0.4
SNVI	San Vicente	2.36	330	eP	P	05 46 14.2	+3.3
VCR	Vista de Mar	2.42	125	eP	P	05 46 12.4	+0.7
LCBS	La Ceiba	2.47	328	⇑eP	P	05 46 12.4	0.0
LCBS				eS	S	05 46 40.2	-1.3
LFRS	El Faro	2.49	326	eP	P	05 46 12.7	+0.1
LFRS				eS	S	05 46 41.9	-0.1
LBRS	Las Brisas	2.57	328	eP	P	05 46 14.5	+0.6
BOQS	Boqueron	2.70	324	⇑eP	P	05 46 16.4	+0.7
BOQS				eS	S	05 46 47.8	+0.4
JTS	JuntasAbangare	2.92	115	P	P	05 46 18.9	+0.1
	1.5nm,0.3s,baz=321,slow=18,SNR=10.0						
JTS				S	S	05 46 51.9	-0.9
	8.0nm,0.3s,baz=54,slow=18,SNR=7.4						
JTS				LR	LR	05 47 53.2	
	comp=Z,302nm,18.0s,baz=260,slow=49						
JTS	JuntasAbangare	2.92	115	eP	P	05 46 18.2	-0.6
JTS				S	S	05 46 51.9	-0.9
JTS				LR	LR	05 47 53.2	
SBLS	San Blas	2.99	320	eP	P	05 46 20.4	+0.6
SBLS				eS	S	05 46 54.9	+0.2
JCR	Jicaral	3.00	124	eP	P	05 46 19.7	-0.2
SNJE	San Jose	3.00	320	⇑eP	P	05 46 20.6	+0.6
SNJE				eS	S	05 46 54.2	-0.8
RTR	El Retiro	3.05	320	eP	P	05 46 21.7	+1.1
RTR				eS	S	05 46 55.0	-1.2
PRS1	Puriscal	3.62	115	eP	P	05 46 30.2	+1.5
LAJ	Bijagual	3.84	115	eP	P	05 46 29.1	-2.6
TRTC	Tortuguero	3.97	104	eP	P	05 46 36.3	+2.6
LCR2	La Lucha 2	4.00	116	eP	P	05 46 35.4	+1.4
URSC	Urasca	4.16	114	eP	P	05 46 39.3	+3.0
BUS	Buena Vista	4.30	117	eP	P	05 46 40.2	+1.9
LRAL	Lakeview Retre	21.39	1	eP	P	05 50 20.0	+0.5
	5.9nm,0.7s,mb4.0						
OXF	Oxford	22.92	356	eP	P	05 50 34.8	+0.1
	10nm,0.8s,mb4.3						
LTX	Lajitas	23.16	322	eP	P	05 50 35.8	-1.3
	3.0nm,0.6s,mb3.9						
TXAR	Lajitas Array	23.16	322	P	P	05 50 39.6	+2.5
	1.6nm,0.5s,mb3.7,baz=138,slow=9.4,SNR=51						
MIAR	Mount Ida	23.52	348	eP	P	05 50 41.2	+0.7
	5.8nm,0.9s,mb4.0						
SWET	Sewanee	23.61	3	eP	P	05 50 42.4	+1.0
WMOK	Wichita Mounta	25.22	338	eP	P	05 50 55.7	-1.2
	3.7nm,1.1s,mb3.8						
PDAR	Pinedale Array	36.48	332	P	P	05 52 36.8	+0.4
	0.5nm,0.5s,mb3.7,baz=119,slow=7.2,SNR=4.5						
SNOW	Snow King Moun	37.57	332	eP	P	05 52 47.2	+1.8
ULM	Lac du Bonnet	39.18	352	P	P	05 52 56.7	-2.1
	2.8nm,0.7s,mb4.1,baz=139,slow=7.0,SNR=3.3						
ULM	Lac du Bonnet	39.18	352	P	P	05 52 56.7	-2.1
SCHQ	Schefferville	46.19	17	P	P	05 53 53.3	-2.5
	2.6nm,0.5s,mb4.5,baz=108,slow=1.3,SNR=8.0						
BDFB	Brasilia	47.62	124	P	P	05 54 08.0	+0.4
	1.4nm,0.5s,mb4.3,baz=288,slow=9.6,SNR=4.4						
ILAR	Eielson Array	66.77	336	P	P	05 56 21.5	-0.7
	0.1nm,0.6s,mb3.0,baz=149,slow=5.3,SNR=4.0						
CMAR	Chiang Mai Arr	149.49	348	PKPbc	PKPdf	06 05 21.9	+7.6
	3.4nm,0.9s,baz=348,slow=3.7,SNR=12						

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*TAP **11** 05:50:46.3,23.77N×121.63E,h33^{km},ML4.0*
TAP Felt II J at Shilin, I J at Hualien, I J at Nanau.
*JMA **11** 05:50:48.4±0.5,23.89N×121.73E,h83^{km},M3.3*
ISC 11 05:50:46.7±0.3**,23.77N**±0.02×**121.67E**±0.02**,h29**^{km}±2^{km}**, n49,**σ**0^{s}88**/88**,8C-3D,Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HWA	Hwalien	0.22	345	i P	Pb	05 50 53.6	+0.6
HWA				S	Sb	05 51 00.3	+3.0
ESL	Shilin	0.22	283	⇑iP	Pb	05 50 53.2	+0.2
ESL				S	Sb	05 50 57.8	+0.5
TWD	Chiawan	0.32	348	i P	Pb	05 50 54.5	+0.2
TWD				S	Sb	05 51 00.5	+1.0
EHY	Hungye	0.41	231	⇑iP	Pb	05 50 55.4	-0.2
TWF1	Yuli	0.53	220	⇓iP	Pb	05 50 57.2	-0.4
TWF1				S	Sb	05 51 04.7	-0.4
ENA	Nanau	0.66	6	⇑iP	Pb	05 50 59.3	-0.4
ENA				S	Sb	05 51 09.1	+0.4
SMLT	Sun Moon Lake	0.71	280	⇑iP	Pb	05 51 00.1	-0.4
SMLT				S	Sb	05 51 09.3	-0.7
CHKT	Chengkung	0.72	203	eP	Pb	05 51 00.3	-0.3
CHKT				S	Sb	05 51 11.6	+1.4
NNS	Nan Shan	0.72	338	⇑iP	Pb	05 50 59.9	-0.9
NNS				S	Sb	05 51 09.3	-1.1
TYC	Yuchr	0.76	281	⇑iP	Pb	05 51 00.6	-0.6
TYC				S	Sb	05 51 10.2	-1.0
ELDTW	Lidau	0.83	226	⇓iP	Pb	05 51 01.3	-1.2
TWC	Suao	0.86	11	P	Pn	05 51 02.4	-0.5
TWC				S	Sb	05 51 14.5	+0.4
WNT	Mingjian	0.91	277	eP	Pn	05 51 03.7	+0.1
WNT				S	Sb	05 51 15.9	+0.4
CHN5	Tsauling	0.92	260	P	Pn	05 51 03.8	0.0
CHN5				S	Sb	05 51 16.3	+0.3
NSK	Sanguang	0.95	343	⇑iP	Pn	05 51 03.6	-0.7
NSK				S	Sb	05 51 15.0	-1.7
TWE	Neicheng	0.95	360	P	Pn	05 51 03.4	-0.8
TCU	Taichung	0.98	293	eP	Pn	05 51 05.2	+0.5
TCU				S	Sb	05 51 18.9	+1.2
WGK	Gukeng	1.02	266	eP	Pn	05 51 05.2	0.0
WGK				S	Sn	05 51 18.9	+0.3
STYT	Tauyuan	1.03	235	⇓iP	Pn	05 51 05.3	-0.1
STYT				S	Sn	05 51 18.2	-0.6
NSY	Sanyi	1.05	308	eP	Pn	05 51 06.3	+0.6
NSY				S	Sn	05 51 20.2	+0.7
NSTT	Nanjuang	1.06	325	⇑iP	Pn	05 51 05.9	+0.1
NSTT				S	Sn	05 51 18.4	-1.2
TWG	Pinlang	1.09	210	eP	Pn	05 51 04.3	-1.9
WTP	Ta-pu	1.10	242	eP	Pn	05 51 06.7	+0.4
WTP				S	Sn	05 51 21.6	+1.0
CHY	Chiayi	1.17	257	eP	Pn	05 51 07.8	+0.4
CHY				S	Sn	05 51 23.1	+0.6
CHN1	Nanshi	1.20	241	eP	Pn	05 51 08.0	+0.2
CHN1				S	Sn	05 51 23.8	+0.7
TWA	Mucha	1.21	356	eP	Pn	05 51 07.8	-0.2
TWA				S	Sn	05 51 22.3	-1.2
HSN	Hsinchu	1.21	328	eP	Pn	05 51 08.6	+0.6
HSN				S	Sn	05 51 24.8	+1.2
TWB1	Santiao Chiao	1.27	13	P	Pn	05 51 09.0	+0.2
TWB1				S	Sn	05 51 25.4	+0.3
WTCT	Ta-ch’eng	1.27	275	eP	Pn	05 51 08.9	0.0
WTCT				S	Sn	05 51 26.1	+1.0
NCU	National Centr	1.28	340	eP	Pn	05 51 09.3	+0.3
NCU				S	Sn	05 51 25.6	+0.4
NWF	Wu-fen Shan	1.30	5	eP	Pn	05 51 09.0	-0.3
NWF				S	Sn	05 51 28.5	+2.6
WSF	Szhu	1.33	265	eP	Pn	05 51 09.5	-0.2
WSF				S	Sn	05 51 27.0	+0.4
ECL	Taimali	1.33	210	eP	Pn	05 51 08.2	-1.6
TWS1	Kuangyinshan	1.35	350	eP	Pn	05 51 09.6	-0.3
TWS1				S	Sn	05 51 27.0	0.0
SSD	Sandimen	1.39	223	eP	Pn	05 51 10.2	-0.4
SSD				S	Sn	05 51 29.6	+1.6
CHN8	Yiju	1.40	253	eP	Pn	05 51 10.3	-0.3
CHN8				S	Sn	05 51 28.6	+0.3
YOJ	Yonaguni jima	1.41	60	P	Pn	05 51 11.7	+0.9
YOJ				S	Sn	05 51 28.9	+0.3
TWM1	Shoushan	1.48	231	eP	Pn	05 51 12.9	+1.1
EAST	Anshuo	1.57	209	eP	Pn	05 51 10.9	-2.1
SCZT	Fangliau	1.69	215	eP	Pn	05 51 15.2	+0.4
SCZT				S	Sn	05 51 37.1	+1.5
WDGT	Dungji	1.91	255	eP	Pn	05 51 15.9	-2.0
PNG	Penghu	1.95	265	eP	Pn	05 51 17.5	-1.0
PNG				S	Sn	05 51 40.5	-1.7
IRIF	Iriomote-Funau	1.97	73	P	Pn	05 51 19.3	+0.5
IRIF				S	Sn	05 51 43.2	+0.4
HATJ	Hateruma jima	1.98	81	P	Pn	05 51 19.6	+0.7
HATJ				S	Sn	05 51 42.6	-0.4
JKRS	Kuro-shima	2.19	77	P	Pn	05 51 23.0	+1.0
JKRS				S	Sn	05 51 49.1	+0.6
JIJ	Ishigaki jima	2.34	75	P	Pn	05 51 24.1	0.0
JIJ				S	Sn	05 51 51.0	-1.2
JTJ	Tarama	2.91	72	P	Pn	05 51 33.4	+1.2
JTJ				eS	Sn	05 52 05.3	-1.2
KNM	Kinmen	3.03	283	eP	Pn	05 51 32.3	-1.6
JMJ	Miyako jima 2	3.47	72	eS	Sn	05 52 20.5	-0.3

JMA 11 06:08:53.5±0.2**,42.98N**×**146.83E,h61**^{km}±3^{km}**,M3.5,Off southeast coast of Hokkaido**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NEM2	Nemuro 2	0.88	296	P	P	06 09 10.3	+0.1
NEM2				eS	S	06 09 22.7	0.0
JAK	Akkeshi	1.57	271	P	P	06 09 19.4	-0.3
JAK				eS	S	06 09 38.8	-0.2
JRA	Rausu	1.57	308	P	P	06 09 19.7	0.0
JRA				eS	S	06 09 39.4	+0.3
JNK	Nakash	1.66	292	P	P	06 09 20.5	-0.4
JNK				eS	S	06 09 40.4	-0.7
JOB	Onbets	2.20	269	P	P	06 09 28.3	-0.2
JOB				eS	S	06 09 54.4	-0.1
JAR	Ashorobuto	2.26	279	P	P	06 09 29.6	+0.2
JAR				eS	S	06 09 56.0	-0.1
JTKR	Abashiri--Toko	2.35	296	P	P	06 09 31.1	+0.5
JCH	Churui	2.58	263	eS	S	06 10 02.9	-1.2
JMP	Maruseppu	2.73	293	P	P	06 09 36.4	+0.5
JNBK	Urakawa-nobuka	3.09	258	eS	S	06 10 14.6	-2.4
JFR	Furan	3.11	275	P	P	06 09 41.7	+0.3

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*IDC **11** 06:39:23.4±3.8,8.39S×111.35E,mb3.6/3,mb1 3.8/3, mb1mx3.6/12,Error ellipse: s-maj=170.0km s-min=28.6km az=49.0*
*DJA **11** 06:39:23.7±0.9,9.60S×110.94E,h160^{km},MD4.7/3, ML5.0/3,Error ellipse: s-maj=51.9km s-min=19.8km az=166.0*
ISC 11 06:39:30.0±3.2**,8.6S**±0.3×**111.2E**±0.2**,h76**^{km}±27^{km}**,n9,** σ**0^{s}80**/12**,mb3.6**/3**,3C-6D,Jawa**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KELI	Kelakatan	3.27	84	⇓iPn	P	06 40 21.7	+1.5
	432nm,0.2s						
KELI	Kelakatan	3.27	84	⇑iP	P	06 40 22.0	+1.8
KELI				⇓iSn	S	06 41 06.4	+8.3
RATI	Rata	4.29	93	⇓iPn	P	06 40 33.7	-0.6
	390nm,0.2s						
RATI	Rata	4.29	93	⇑iP	P	06 40 33.9	-0.4
RATI				⇓iSn	S	06 41 23.5	+0.1
KEDI	Kedomdong	4.86	90	⇓iPn	P	06 40 40.8	-1.4
	81nm,0.2s						
KEDI	Kedomdong	4.86	90	⇑iP	P	06 40 40.9	-1.3
KEDI				⇓iSn	S	06 41 37.8	+0.1
WRA	Warramunga Arr	25.09	119	P	P	06 44 49.5	+0.3
	0.8nm,0.9s,mb3.2,baz=293,slow=11,SNR=4.4						
SONM	Songino Array	56.30	356	P	P	06 49 04.7	-0.5
	0.3nm,0.6s,mb3.5,baz=180,slow=6.2,SNR=4.0						
MKAR	Makanchi Array	60.82	338	P	P	06 49 37.0	+0.4
	0.8nm,0.4s,mb4.1,baz=153,slow=8.2,SNR=15						

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*INMG **11** 06:55:48.2±1.1,39.50N×7.97W,h10^{km}±7^{km},ML0.9,Error ellipse: s-maj=4.0km s-min=3.0km az=119.0*
MDD 11 06:55:48.3±0.4**,39.49N**×**7.96W,mbLg1.5**/4**,Error ellipse: s-maj=4.1km s-min=3.0km az=167.0,PRXIMO, Portugal**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PTOM	Tomar	0.37	290	ePg	Pg	06 55 55.2	-0.6
PTOM				eSg	Sg	06 56 00.1	-0.6
	15nm,0.1s						
PTOM	Tomar	0.37	290	Pg	Pg	06 55 55.2	-0.6

PTOM				Lg		06 56 00.1	
	7.3nm,0.1s						
PCBR	Castelo Branco	0.51	47	ePg	Pg	06 55 57.9	-0.6
PCBR				eSg	Sg	06 56 04.5	-0.7
MTE	Manteigas	0.96	19	eP	Pg	06 56 05.9	-1.6
MTE				eS	Sg	06 56 18.4	-1.9
	2.7nm,0.3s						
MTE	Manteigas	0.96	19	P	Pg	06 56 05.9	-1.6
MTE				S	Sg	06 56 18.4	-1.9
	1.4nm,0.3s						
MOE	Montemor	1.02	198	eS	Sg	06 56 19.8	-2.4
EBAD	Badajoz	1.04	135	Pg	Pg	06 56 07.7	-1.4
	1.1nm,0.3s,SNR=12						
EBAD				Lg		06 56 21.5	
	3.8nm,0.1s,SNR=15						
PLOU	Loures	1.11	237	eP	Pb	06 56 09.4	-0.7
PBEJ	Beja	1.47	177	eSg	Sg	06 56 34.0	-3.2
EGRO	El Granado	1.99	169	Pg	Pg	06 56 23.9	-4.2
	SNR=4.0						
EGRO				Lg		06 56 49.7	
	1.8nm,0.2s,SNR=7.9						
PALC	Alcoutim	2.06	169	eSg	Sg	06 56 51.6	-5.3

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*WAR **11** 07:04:29.2, 51.56N×16.10E, ML2.6, Mining Induced*
*PRU **11** 07:04:30.1, 51.48N×16.09E*
ISC 11 07:04:28.3±1.8, **51.49N**±0.07×**15.97E**±0.07, **n9**, σ**1^{s}08**/16, **Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	Ksiaz	0.68	162	ePG	Pg	07 04 42.0	+0.1
KSP				eSG	Sg	07 04 52.0	+1.0
UPC	Upice	0.99	178	ePG	Pg	07 04 48.9	+0.9
UPC				eSG	Sg	07 05 01.3	+0.1
DPC	Dobruska-Polom	1.17	169	ePG	Pg	07 04 52.1	+0.5
DPC				eSG	Sg	07 05 06.9	-0.2
PVCC	Panska Ves	1.31	223	ePG	Pg	07 04 55.1	+0.7
PVCC				eSG	Sg	07 05 14.0	+2.1
PRU	Pruhonice	1.76	212	ePG	Pg	07 05 01.8	-1.6
PRU				eSG	Sg	07 05 26.2	-0.6
	5.2nm,0.4s						
CLL	Collm	1.87	265	e	Pn	07 05 08.0	+6.2
CLL				i SG	Sg	07 05 30.9	+0.5
OKC	Ostrava-Krasne	2.16	139	eSG	Sg	07 05 36.5	-3.8
NKC	Novy Kostel	2.56	242	eSG	Sg	07 05 53.8	+0.2
KHC	Kasperske Hory	2.82	214	ePG	Pg	07 05 22.3	-2.2
KHC				eSG	Sg	07 06 00.9	-1.2

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*LDG **11** 07:22:12.6±0.1, 43.07N×0.35W, h4^{km}, Md1.9/2, Ml1.9/2, Error ellipse: s-maj=1.9km s-min=0.9km az=179.0*
*MDD **11** 07:22:12.9±0.3, 43.08N×0.34W, h6^{km}±4^{km}, mbLg1.0/5, Error ellipse: s-maj=4.5km s-min=1.7km az=6.0, PRXIMO*
*STR **11** 07:22:12.4±0.1, 43.08N×0.34W, h5^{km}±1^{km}, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 11 07:22:11.8±0.5, **43.13N**±0.04×**0.32W**±0.03, **h5**^{km}±7^{km}, **n21**, σ**0^{s}76**/35, **Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
REYF	Montagne du Re	0.08	220	Pg	Pg	07 22 13.7	0.0
REYF				Sg	Sg	07 22 14.9	-0.1
REYF	Montagne du Re	0.08	220	P	Pg	07 22 14.1	+0.3
REYF				S	Sg	07 22 15.1	+0.1
ATE	Arette	0.28	261	P	Pg	07 22 17.6	+0.1
ATE				S	Sg	07 22 21.2	-0.1
ETSF	Etsaut	0.29	217	ePg	Pg	07 22 17.4	-0.3
ETSF				eSg	Sg	07 22 20.8	-0.9
	7.6nm,0.2s						
LABF	Labassere	0.30	106	Pg	Pg	07 22 18.4	+0.5
LABF				Sg	Sg	07 22 23.5	+1.5
LABF	Labassere	0.30	106	P	Pg	07 22 18.4	+0.5
LABF				S	Sg	07 22 23.1	+1.1
VIEF	Viey	0.35	134	Pg	Pg	07 22 18.9	-0.1
VIEF				Sg	Sg	07 22 23.9	+0.2
VIEF	Viey	0.35	134	P	Pg	07 22 19.1	+0.1
VIEF				S	Sg	07 22 23.5	-0.2
ORDF	Ordiarp	0.46	280	Pg	Pg	07 22 21.0	0.0
ORDF				Sg	Sg	07 22 27.6	+0.5
ORDF	Ordiarp	0.46	280	P	Pg	07 22 21.3	+0.3
ORDF				S	Sg	07 22 27.8	+0.6
EPF	Esparros	0.49	102	ePg	Pg	07 22 22.5	+0.8
EPF				eSg	Sg	07 22 29.2	+0.8
	10nm,0.2s						
LARF	Larrau	0.50	259	Pg	Pg	07 22 21.5	-0.3
LARF				Sg	Sg	07 22 28.6	+0.1
LARF	Larrau	0.50	259	P	Pg	07 22 21.7	-0.2
LARF				S	Sg	07 22 28.7	+0.2
RESF	Ens	0.58	124	P	Pg	07 22 22.6	-0.9
RESF				S	Sg	07 22 30.6	-0.7
SJPF	Ste Jean	0.66	269	ePg	Pg	07 22 24.8	-0.3
SJPF				eSg	Sg	07 22 33.2	-0.8
	1.9nm,0.2s						
MELF	Melles	0.83	108	S	Sb	07 22 39.3	-0.4
EALK	Alkurruntz	0.87	276	Pg	Pg	07 22 31.4	+2.1
	SNR=4.0						
EALK				Lg		07 22 41.0	
	1.3nm,0.2s,SNR=7.9						
EGRA	Graus	1.05	153	Lg		07 22 51.0	
	1.0nm,0.2s,SNR=4.0						
SALF	Salau	1.17	108	S	Sb	07 22 50.0	+0.6
MTLF	Montolieu	1.87	83	eSg	Sg	07 23 12.2	-1.8
	1.0nm,0.2s						
LFF	La Frestale	1.96	23	eSg	Sg	07 23 16.4	-0.8
	2.5nm,0.3s						

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*NEIC **11** 07:27:17.1, 59.84N×153.10W, h104^{km}, After AEIC.*
*IDC **11** 07:27:18.8±6.3, 60.20N×153.10W, h108^{km}±62^{km}, mb3.5/1, mb1 4.0/4, mb1mx3.4/20, Error ellipse: s-maj=50.7km s-min=29.8km az=41.0*
ISC 11 07:27:14.7±0.3, **59.85N**±0.03×**153.09W**±0.06, **h118**^{km}±3^{km}, **n89**, σ**0^{s}62**/102, **mb4.0**/1, **Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ILS	Iliamna Low So	0.11	6	P	P	07 27 31.1	0.0
ILS				S	S	07 27 42.5	-0.7
IVS	Iliamna South	0.16	2	P	P	07 27 31.3	+0.2
IVE	Iliamna Volcan	0.17	13	P	P	07 27 31.2	+0.1
IVE				S	S	07 27 42.9	-0.5
OPT	Oil Point	0.21	200	P	P	07 27 31.4	+0.2
OPT				S	S	07 27 42.7	-0.9
ILW	Iliamna West	0.21	354	P	P	07 27 31.3	+0.1
ILIM	Iliamna	0.24	16	P	P	07 27 31.3	0.0
ILIM				S	S	07 27 43.6	-0.2
AUL	Augustine Lava	0.50	201	P	P	07 27 32.8	+0.3
AUL				S	S	07 27 45.5	-0.6
AUE	Augustine Isla	0.51	196	P	P	07 27 32.7	+0.1
AUP	Augustine Pinn	0.52	199	P	P	07 27 33.0	+0.3
AUW	Augustine West	0.52	202	P	P	07 27 33.0	+0.3
AGU	Augustine-Summ	0.52	200	P	P	07 27 33.1	+0.4
RSO	Redoubt South	0.64	15	P	P	07 27 34.1	+0.7
REF	Redoubt East F	0.67	17	P	P	07 27 34.3	+0.6
REF				S	S	07 27 48.0	-0.2
RDN	Redoubt North	0.69	14	P	P	07 27 34.5	+0.7
HOM	Homer	0.76	104	P	P	07 27 35.2	+0.8
XLV	Seldovia	0.80	119	P	P	07 27 35.2	+0.3
RDT	Redoubt	0.81	25	P	P	07 27 35.4	+0.4
RDT				S	S	07 27 49.6	-0.6
MCNL	McNeil River	0.92	224	P	P	07 27 35.9	-0.2
MCNL				S	S	07 27 50.6	-1.4
NNL	Ninilchik	0.92	77	P	P	07 27 37.6	+1.5
CNPM	China Poot	0.99	108	P	P	07 27 37.2	+0.4
CNPM				S	S	07 27 52.9	-0.4
BRLK	Bradley Lake	1.12	93	P	P	07 27 38.5	+0.4
BKG	Blockade Glaci	1.29	18	P	P	07 27 40.8	+0.7
BKG				S	S	07 27 59.1	0.0
SYI	Shuyak Island	1.29	164	P	P	07 27 40.5	+0.5
CKL	Chakachamna La	1.40	15	P	P	07 27 42.1	+0.8
KAPH	Katmai Pasha	1.41	208	P	P	07 27 41.8	+0.3
SPU	Mount Spurr	1.43	21	P	P	07 27 42.2	+0.5
BGL	Barrier Glacie	1.46	13	P	P	07 27 43.0	+1.0
KAHG	Katmai Hook Gl	1.55	210	P	P	07 27 43.4	+0.4
KAHC	Katmai Hardscr	1.55	220	P	P	07 27 43.1	0.0
KAHC				S	S	07 28 03.7	-0.8
SLKM	Skilak Lake	1.58	64	P	P	07 27 44.2	+0.8
KARR	Katmai Rainbow	1.59	212	P	P	07 27 44.0	+0.5
STLK	Strandline Lak	1.77	20	P	P	07 27 46.8	+1.1
SEW	Seward	1.85	80	P	P	07 27 46.8	+0.2
SEW				S	S	07 28 10.3	-0.4
MPA	Moose Pass	1.97	69	P	P	07 27 48.7	+0.6
KABR	Katmai Barrier	1.98	210	P	P	07 27 48.5	+0.3
SUA	Susitna One	1.99	34	P	P	07 27 49.6	+1.2
ANCK	Angle Creek	2.07	218	P	P	07 27 50.0	+0.6
RC01	Rabbit Creek A	2.08	52	P	P	07 27 50.3	+0.8
KDAK	Kodiak Island	2.09	173	P	P	07 27 49.0	-0.6
CAHL	Cahill	2.13	213	P	P	07 27 51.0	+0.7
SKT	Skwentna	2.27	19	P	P	07 27 52.8	+0.6
PMR	Palmer	2.62	46	P	P	07 27 56.2	-0.5
GHO	Glory Hole Cre	2.81	45	P	P	07 27 59.0	-0.3
CUT	Chulitna	2.91	27	P	P	07 28 01.4	+0.8
CFI	College Fiord	2.95	61	P	P	07 28 00.9	-0.4
SML	Sawmill	3.05	48	P	P	07 28 02.0	-0.5
TT01	Tatalina	3.38	337	P	P	07 28 06.6	-0.4
TTA	Tatalina	3.40	337	eP	P	07 28 06.5	-0.7
SCM	Sheep Creek Mo	3.45	52	P	P	07 28 07.5	-0.4
MID	Middleton Isla	3.45	94	P	P	07 28 07.5	-0.4
VLZ	Valdez	3.58	66	P	P	07 28 08.7	-1.0
EYAK	Cordova Ski Ar	3.73	76	P	P	07 28 10.6	-1.1
DIV	Divide	3.84	67	P	P	07 28 13.6	+0.4
TRF	Thorofare Moun	3.85	19	P	P	07 28 13.7	+0.3
KTH	Kantishna Hill	3.86	15	P	P	07 28 13.5	0.0
ANPK	Aniakchak Peak	4.02	224	P	P	07 28 15.8	+0.3
DHY	Denali Highway	4.24	38	P	P	07 28 18.6	0.0
BMRM	Bremner River	4.36	71	P	P	07 28 20.1	-0.1
MCK	McKinley	4.37	25	P	P	07 28 20.5	+0.2
PAX	Paxson	4.82	46	P	P	07 28 26.2	-0.2
GLB	Gilahina Butte	4.84	67	P	P	07 28 27.0	+0.4
THY	Trims Highway	5.01	41	P	P	07 28 27.6	-1.4
TGL	Tana Glacier	5.18	75	P	P	07 28 31.4	+0.1
GCSA	Galena City Sc	5.22	342	P	P	07 28 31.6	-0.2
MLY	Manley	5.32	11	P	P	07 28 33.2	+0.1
HDA	Harding Lake	5.40	30	P	P	07 28 33.9	-0.4
CCB	Clear Creek Bu	5.41	25	P	P	07 28 33.4	-1.0
BALM	Baldy	5.45	73	P	P	07 28 34.6	-0.3
COLA	College	5.60	24	P	P	07 28 36.5	-0.4
ILAR	Eielson Array	5.72	28	P	P	07 28 37.6	-0.9
	8.6nm,0.3s,baz=218,slow=14,SNR=628						
ILAR				S	S	07 29 37.7	-5.8
	3.5nm,0.3s,baz=12,slow=16,SNR=5.4						
IL1	Eielson Array	5.72	28	P	P	07 28 37.6	-0.9
DOT	Dot Lake	5.74	44	P	P	07 28 38.7	-0.1
CTGM	Chitina Glacie	5.93	74	P	P	07 28 42.2	+0.8
SDPT	Sand Point	6.01	225	P	P	07 28 41.4	-1.0
IM3	Indian Mountai	6.17	357	P	P	07 28 44.6	0.0
IMA	Indian Mountai	6.25	358	eP	P	07 28 46.3	+0.5
BCA3	Beaver Creek A	6.30	54	P	P	07 28 46.0	-0.5
PCA	Pinnacle	6.45	82	P	P	07 28 48.2	-0.3
PRP	Porcupine Dome	6.67	28	P	P	07 28 51.4	-0.1
PNL	Peninsula	6.92	86	P	P	07 28 54.5	-0.4
COLD	Coldfoot	7.52	9	P	P	07 29 02.1	-1.0
DAWY	Dawson	7.71	51	P	P	07 29 04.9	-0.8
BM3	Burnt Mountain	8.48	23	P	P	07 29 14.5	-1.4
WHY	Whitehorse	9.09	77	P	P	07 29 24.1	0.0
UNV	Unalaska Valle	9.48	237	P	P	07 29 28.5	-1.0
DLBC	Dease Lake	11.91	87	P	P	07 30 06.2	+4.7
	2.1nm,0.3s,baz=252,slow=16,SNR=19						
YKA	Yellowknife Ar	18.56	65	P	P	07 31 24.9	+0.5
	0.5nm,0.3s,baz=278,slow=9.8,SNR=10						
YKA	Yellowknife Ar	18.56	65	P	P	07 31 24.9	+0.5
SONM	Songino Array	54.84	306	P	P	07 36 35.8	+1.5
	1.3nm,0.8s,mb4.0,baz=37,slow=8.0,SNR=7.9						

BJI 11 07:30:59.5, 37.73N×78.14E, h30^{km}, ML3.5, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSH	Kashi	2.46	317	ePG	Pn	07 31 43.9	+5.3
KSH				SG	Sn	07 32 13.6	+5.7
KSH				Smax			
	comp=N,70nm,0.6s						
KSH				Smax			
	comp=E,120nm,0.6s						

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*IDC **11** 08:14:45.7±12.0, 36.50N×79.96E, mb3.8/2, mb1 3.9/4, mb1mx3.4/19, ML3.8/2, Error ellipse: s-maj=218.0km s-min=62.5km az=129.0*
BJI 11 08:15:01.0, 37.83N×77.79E, h19^{km}, ML3.5, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSH	Kashi	2.20	320	eP	Pn	08 15 38.8	+1.5
KSH				S	Sn	08 16 12.4	+8.1
KSH				Smax			
	comp=N,320nm,0.4s						
KSH				Smax			
	comp=E,430nm,0.5s						
MKAR	Makanchi Array	9.55	19	Pn	P	08 17 17.8	-2.9
	comp=E,0.6nm,0.3s,baz=200,slow=12,SNR=14						
BVAR	Borovoye Array	16.04	344	P	P	08 18 55.1	+8.0
	comp=E,0.4nm,0.3s,baz=140,slow=11,SNR=8.8						
FINES	FINESS Array B	39.52	324	P	P	08 22 34.9	+2.9
	comp=E,1.0nm,0.6s,baz=104,slow=7.9,SNR=6.7						
NB2	NORSAR Subarra	46.63	322	P	P	08 23 25.9	-3.6
	comp=E,0.9nm,0.6s,baz=90,slow=7.9						
NOA	NORSAR Array B	46.63	322	P	P	08 23 32.1	+2.6
	comp=E,0.7nm,0.5s,baz=95,slow=7.2,SNR=4.0						

TIF 11 08:32:12.8, 42.58N×43.98E, h10^{km}, Mpv4.0, 3C, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DUS	Dusheti	0.72	132	⇑iP	Pb	08 32 27.7	+0.6
DUS				i S	Sb	08 32 38.8	+2.0
MTA	Mtatsminda	1.07	145	⇑iP	Pb	08 32 34.0	+1.0
MTA				i S	Sb	08 32 49.5	+2.6
AKH	Akhalkalaki	1.22	197	⇑iP	Pb	08 32 38.7	+3.1
AKH				i S	Sb	08 32 57.8	+6.5
STE	Stepanavan	1.61	169	eP	Pn	08 32 45.0	+3.5
STE				eS	Sn	08 33 07.0	+4.5

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*HEL **11** 08:38:03.3±0.5, 55.76N×20.67E, ML2.5, ML3.2(UPP), ML2.9(NAO), Explosion*
*IDC **11** 08:38:06.0±3.1, 55.97N×20.81E, mb1 3.6/4, mb1mx3.4/18, ML3.3/4, Error ellipse: s-maj=31.7km s-min=14.5km az=164.0*
*BER **11** 08:38:05.8±4.4, 55.89N×20.60E, ML2.9(NAO), Suspected explosion*
*NAO **11** 08:38:07.1±4.1, 56.08N×20.58E, ML2.9*
ISC 11 08:38:04.5±1.3, **56.13N**±0.09×**20.7E**±0.1, **n21**, σ**1^{s}20**/37, **Baltic Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BYXU	Byxelkrok	2.32	301	eP	Pn	08 38 45.5	+1.0
BYXU				eS	Sn	08 39 18.4	+4.2
OSKU	Oskarshamn	2.73	295	eP	Pn	08 38 50.6	+0.2
EKSU	Eksjoe	3.27	298	eP	Pn	08 38 58.5	+0.4
BSD	Bornholm Skovb	3.41	255	i P	Pn	08 38 56.3	-3.8
BSD				i		08 39 03.8	
BSD				eS	Sn	08 39 36.1	-5.7
BSD				eLG		08 39 45.9	
LNKU	Linkoeping	3.50	309	eP	Pn	08 39 02.3	+1.0
PVF	Pernaja	5.20	30	eP	Pn	08 39 27.0	+1.4
PVF				eS	Sn	08 40 27.8	+0.6
PVF				eSG	Sg	08 40 52.8	-5.0
PVF				MSG		08 40 53.4	
	comp=Z,5.0nm,0.3s						
HFS	Hagfors	5.45	320	Pn	Pn	08 39 29.1	+0.2
	baz=139,slow=11						
HFS				Sn	Sn	08 40 32.9	-0.3
	baz=117,slow=22						
HFS				Lg		08 40 57.1	
	baz=144,slow=37						
HFS	Hagfors	5.45	320	eP	Pn	08 39 29.1	+0.2
HFS				eS	Sn	08 40 32.9	-0.3
HFS				eSG	Sg	08 40 57.1	-8.7
HFS	Hagfors	5.45	320	Pn	Pn	08 39 29.0	+0.1
	comp=Z,0.6nm,0.3s,baz=135,slow=13,SNR=116						
HFS				Sn	Sn	08 40 32.9	-0.3
	comp=Z,0.2nm,0.3s,baz=132,slow=24,SNR=3.8						
HFS				Lg		08 40 57.0	
	comp=Z,0.4nm,0.3s,baz=122,slow=28,SNR=6.5						
VJF	Virojoki	5.72	37	eP	Pn	08 39 32.7	-0.1
VJF				eS	Sn	08 40 39.2	-0.9
FIA0	FINESS Array S	6.02	26	Pn	Pn	08 39 37.1	0.0
	baz=215,slow=12						
FIA0				Sn	Sn	08 40 48.3	+0.6
	baz=206,slow=22						
FIA0				Lg		08 41 18.3	
	baz=206,slow=28						
FIA0	FINESS Array S	6.02	26	eP	Pn	08 39 37.4	+0.3
FIA0				eS	Sn	08 40 47.1	-0.6
FINES	FINESS Array B	6.02	26	Pn	Pn	08 39 37.4	+0.3
	comp=Z,0.7nm,0.3s,baz=201,slow=12,SNR=28						
FINES				Sn	Sn	08 40 47.6	-0.1
	comp=Z,0.9nm,0.3s,baz=200,slow=21,SNR=6.5						
FINES				Lg		08 41 17.2	
	comp=Z,0.7nm,0.3s,baz=211,slow=24,SNR=3.7						
KEF	Keuruu	6.43	18	eP	Pn	08 39 44.5	+1.7
KEF				eS	Sn	08 41 00.0	+2.2
KAF	Kangasniemi	6.66	24	eP	Pn	08 39 45.8	-0.3
KAF				eS	Sn	08 41 01.9	-1.8
NOA	NORSAR Array B	6.96	319	Pn	Pn	08 39 48.4	-1.9
	comp=Z,0.5nm,0.3s,baz=146,slow=11,SNR=3.9						
NOA				Lg		08 41 41.5	
	comp=Z,0.7nm,0.3s,baz=136,slow=24,SNR=4.1						
SUF	Sumiainen	7.17	21	eP	Pn	08 39 53.8	+0.5
SUF				eS	Sn	08 41 16.8	+0.3
KJN	Kajaani	8.71	21	eP	P	08 40 14.3	-0.5
KJN				eS	Sn	08 41 53.8	-1.2
ARA0	ARCESS Array S	13.63	7	Pn	P	08 41 17.1	-4.0
	baz=186,slow=14						
ARA0	ARCESS Array S	13.63	7	eP	P	08 41 17.1	-4.0
ARCES	ARCESS Array B	13.63	7	Pn	P	08 41 18.0	-3.1
	comp=Z,0.1nm,0.3s,baz=194,slow=15,SNR=3.3						

KRSC 11 08:38:06.6±1.2, **53.00N**×**160.34E**, **h31**^{km}±2^{km}, **ML3.8**, **Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.21	297	i P	Pb	08 38 13.9	+0.8
SPN				i S	Sb	08 38 19.0	+1.5
NLC	Nalytchevo	0.62	286	i P	Pb	08 38 19.1	0.0
NLC				eS	Sb	08 38 28.0	+0.4
SDLR	Sedlovina	0.92	288	i P	Pn	08 38 23.7	+0.2
SDLR				eS	Sn	08 38 36.3	+0.6
UGLR	Uglovaya	0.94	283	i P	Pn	08 38 24.2	+0.4
UGLR				i S	Sn	08 38 37.5	+1.3
SMAR	Somma	0.96	286	i P	Pn	08 38 24.3	+0.2
SMAR				eS	Sn	08 38 37.3	+0.5
AVH	Avacha	1.00	286	i P	Pn	08 38 25.1	+0.4
AVH				eS	Sn	08 38 38.2	+0.4
PET	Petropavlovsk	1.02	272	eP	Pn	08 38 24.9	0.0
PET				eS	Sn	08 38 38.1	-0.2
KOK	Koryaka	1.07	287	i P	Pn	08 38 25.8	+0.2
KOK				eS	Sn	08 38 40.3	+0.8
KII	Karymskiy	1.17	333	eP	Pn	08 38 26.5	-0.5
KII				eS	Sn	08 38 40.9	-1.1
RUS	Russkaya	1.25	244	i P	Pn	08 38 28.2	0.0
RUS				eS	Sn	08 38 43.7	-0.4
GRL	Gorelyy	1.45	253	i P	Pn	08 38 31.8	+0.7
GRL				eS	Sn	08 38 50.5	+1.4
GNL	Ganaly	1.60	297	eP	Pn	08 38 33.8	+0.6
GNL				eS	Sn	08 38 53.2	+0.3
MKZ	Mys Kozlova	1.76	27	eP	Pn	08 38 33.3	-2.3
APC	Apacha	1.93	269	i P	Pn	08 38 39.6	+1.7
APC				i S	Sn	08 39 04.2	+2.9
APC				Smax			
	200nm,0.9s						
TUMR	Tumrok	2.29	357	i P	Pn	08 38 43.1	0.0
TUMR				eS	Sn	08 39 09.8	-0.8
MIPR	Malaya Ipel’ka	2.30	253	eP	Pn	08 38 44.9	+1.6
PAU	Pauzhetka	2.66	236	eP	Pn	08 38 48.8	+0.4
PAU				eS	Sn	08 39 19.3	-0.6
KMNR	Kamenistaya	2.76	359	eP	Pn	08 38 47.8	-2.1
KPT	Kopyto	2.97	359	eP	Pn	08 38 54.7	+1.8
ZLN	Zelenaya	3.04	5	eP	Pn	08 38 54.3	+0.6
ZLN				eS	Sn	08 39 28.3	-1.1
LGNR	Loginova	3.10	4	i P	Pn	08 38 55.9	+1.3
LGNR				eS	Sn	08 39 32.6	+1.6
CIRR	Tsirk	3.13	4	eP	Pn	08 38 55.7	+0.6
CIRR				eS	Sn	08 39 32.6	+0.8
KLY	Klyuchi	3.33	3	P	Pn	08 39 00.1	+2.3
KLY				eS	Sn	08 39 38.8	+2.1
SKR	Severo-Kuril’s	3.50	230	eS	Sn	08 39 39.5	-1.6
KBTR	Krutoberegovo	3.52	23	eP	Pn	08 39 00.4	-0.2
KBTR				eS	Sn	08 39 39.2	-2.6
ALID	Alaid	3.65	236	P	Pn	08 39 03.9	+1.4
BKI	Bering	3.98	54	eP	Pn	08 39 07.0	-0.2
BKI				eS	Sn	08 39 47.0	-6.4

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*NEIC **11** 09:00:44.5, 44.93N×11.23E, h5^{km}, MD2.6(ROM), ML2.6(LDG), ML2.5(GEN), After ROM.*
*ROM **11** 09:00:44.4±0.4, 44.93N×11.23E, h5^{km}±2^{km}, MD2.6/8, ML1.9/5, Error ellipse: s-maj=1.5km s-min=0.8km az=90.0*
*LDG **11** 09:00:46.5±0.3, 44.91N×10.93E, h10^{km}, Ml2.6/7, Error ellipse: s-maj=6.9km s-min=3.1km az=95.0*
ISC 11 09:00:44.1±0.3, **44.97N**±0.02×**11.22E**±0.03, **h14**^{km}±3^{km}, **n47**, σ**1^{s}30**/83, **4C-3D**, **Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TEOL	Teolo	0.50	39	⇓iPg	Pg	09 00 54.5	+0.1
TEOL				i Sg	Sg	09 01 02.9	+1.6
ZCCA	Zocca	0.65	196	ePG	Pg	09 00 57.5	+0.3
ZCCA				SG	Sg	09 01 07.4	+1.4
	40nm,0.4s						
ZCCA	Zocca	0.65	196	ePg	Pg	09 00 57.5	+0.3
ZCCA				eSg	Sg	09 01 07.4	+1.4
GSCL	Gusciola	0.77	216	ePG	Pg	09 00 58.9	-0.7
GSCL				SG	Sg	09 01 11.4	+1.4
GSCL	Gusciola	0.77	216	ePg	Pg	09 00 58.9	-0.7
GSCL				eSg	Sg	09 01 11.3	+1.4
ERBM	Eremo	0.80	226	ePG	Pg	09 01 00.1	-0.1
ERBM				SG	Sg	09 01 12.0	+1.0
ERBM	Eremo	0.80	226	ePg	Pg	09 01 00.1	-0.1
ERBM				eSg	Sg	09 01 12.0	+1.0
SAL	Salo	0.80	323	ePG	Pg	09 01 01.5	+1.3
SAL				SG	Sg	09 01 14.7	+3.7
SAL	Salo	0.80	323	ePg	Pg	09 01 01.6	+1.3
SAL				eSg	Sg	09 01 14.7	+3.7
VALM		0.93	228	P	Pb	09 01 01.6	0.0
VALM				S	Sb	09 01 16.7	+3.2
GRAM		0.95	240	P	Pb	09 01 01.2	-0.7
GRAM				S	Sb	09 01 16.1	+2.0
CGRP	Cima Grappa	0.99	24	⇓ePg	Pg	09 01 03.3	-0.8
CGRP				eSg	Sg	09 01 18.0	+0.6
BDI	Bagni Di Lucca	1.01	206	ePG	Pg	09 01 04.3	-0.2
BDI				SG	Sg	09 01 18.6	+0.5
BDI	Bagni Di Lucca	1.01	206	ePg	Pg	09 01 04.3	-0.1
BDI				eSg	Sg	09 01 18.6	+0.6
VMG	Vicchio	1.04	167	ePG	Pg	09 01 05.0	0.0
VMG				SG	Sg	09 01 18.8	-0.1
	56nm,0.5s						
VMG	Vicchio	1.04	167	ePg	Pg	09 01 05.0	+0.1
VMG				eSg	Sg	09 01 18.8	-0.1
BACM		1.07	230	P	Pb	09 01 03.6	-0.4
BACM				S	Sb	09 01 20.3	+2.7
CTI	Castel Tesino	1.12	16	ePN	Pn	09 01 07.1	+1.8
CTI				SN	Sn	09 01 23.0	+2.5
	58nm,0.2s						
CTI	Castel Tesino	1.12	16	ePg	Pg	09 01 07.1	+0.6
CTI				eSg	Sg	09 01 23.0	+1.5
VINC	Vinca	1.13	223	P	Pb	09 01 04.6	-0.3
CODM		1.14	240	P	Pb	09 01 04.0	-1.0
PGD	Poggio Sodo	1.16	162	ePN	Pn	09 01 06.3	+0.4
PGD				SN	Sn	09 01 22.5	+1.0
	18nm,0.4s						
PGD	Poggio Sodo	1.16	162	ePg	Pg	09 01 06.3	-1.0
PGD				eSg	Sg	09 01 22.4	-0.3
SFI	Santa Sofia	1.16	157	ePN	Pn	09 01 05.8	-0.1
SFI				SN	Sn	09 01 23.1	+1.5
	19nm,0.4s						
SFI	Santa Sofia	1.16	157	ePg	Pg	09 01 05.8	-1.6
SFI				eSg	Sg	09 01 23.1	+0.2
MAIM		1.18	206	P	Pb	09 01 05.8	0.0
CAE	Caneva	1.34	39	ePg	Pg	09 01 08.8	-2.2
CAE				eSg	Sg	09 01 29.1	+0.1
CRE	Caprese Michel	1.45	158	ePN	Pn	09 01 11.7	+1.6
	15nm,0.4s						
CRE	Caprese Michel	1.45	158	ePg	Pg	09 01 11.7	-1.5

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MLNI  Malnisio          1.53  39⇓ePg     Pg     09 01 13.4 -1.3
MLNI                              eSg     Sg     09 01 35.7 +0.5
BRMO  Bormio            1.61 339  ePN     Pn     09 01 15.2 +2.8
BRMO  Bormio            1.61 339  ePg     Pg     09 01 15.2 -1.2
VAI   Varese            1.94 298  ePN     Pn     09 01 17.7 +0.6
VAI   Varese            1.94 298  ePn     Pn     09 01 17.7 +0.6
VOY   Vojsko            2.16  60  ePn     Pn     09 01 19.8 -0.4
VOY                               eSn     Sn     09 01 45.8 -1.2
SQTA  Sankt Quirin      2.25 360⇑iPN     Pn     09 01 26.5 +5.0
SQTA                              i SN    Sn     09 01 56.1 +6.9
WTTA  Wattenberg        2.31   7⇑iPN     Pn     09 01 27.7 +5.3
WTTA                              i SN    Sn     09 01 58.2 +7.4
MOTA  Moosalm           2.37 358⇑iPN     Pn     09 01 28.2 +4.9
MOTA                              i SN    Sn     09 01 58.8 +6.4
KBA   Koelnbreinsper    2.58  34⇑iPN     Pn     09 01 32.6 +6.4
KBA                               i SN    Sn     09 02 06.7 +9.2
PGF   Pioggiola         2.91 214  ePn     Pn     09 01 29.0 -1.9
PGF                               eSn     Sn     09 01 59.7 -6.3
      3.0nm,0.3s
SBF   Sospel            2.93 249  ePn     Pn     09 01 28.9 -2.3
SBF                               eSn     Sn     09 01 59.1 -7.4
      12nm,0.4s
MBDF  Montbardon        3.17 267  ePn     Pn     09 01 31.5 -3.2
LPG   La Plagne         3.20 281  eSn     Sn     09 02 07.8 -5.5
      1.8nm,0.3s
FRF   La Foret Royal    3.57 248  ePn     Pn     09 01 37.4 -3.0
FRF                               eSn     Sn     09 02 14.0 -8.8
      1.7nm,0.2s
LMR   La Mourre         3.76 246  ePn     Pn     09 01 39.8 -3.3
LMR                               eSn     Sn     09 02 19.4 -8.3
      2.9nm,0.3s
HINF  Hinteralfeld      4.15 315  ePn     Pn     09 01 46.6 -1.9
HINF                              eSn     Sn     09 02 31.5 -5.9
      3.8nm,0.3s
CDF   Champ du Feu      4.38 323  ePn     Pn     09 01 50.2 -1.6
CDF                               eSn     Sn     09 02 37.8 -5.5
      1.0nm,0.2s
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*LDG **11** 09:04:03.3±0.1, 44.89N×11.07E, h10^{km}, Ml2.9/14, Error ellipse: s-maj=2.8km s-min=2.4km az=32.0*
*NEIC **11** 09:04:03.1, 44.93N×11.09E, h5^{km}, MD3.2(ROM), ML2.9(LDG), ML2.8(GEN), After ROM.*
*ROM **11** 09:04:03.0±0.4, 44.93N×11.09E, h5^{km}±2^{km}, MD3.2/2, ML2.4/6, Error ellipse: s-maj=1.4km s-min=0.8km az=90.0*
ISC 11 09:04:01.6±0.4**, 45.00N**±0.02×**10.91E**±0.02**, h8**^{km}±3^{km}**, n85, σ1**^{s}**48**/140**, 7C-4D, Northern Italy**

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Code  Station Name       Δ°   AZ°    Phase ID          Time     Res
                                    Op      ISC      h  m  s   ISC
TEOL  Teolo             0.65  56⇑iPg     Pg     09 04 12.7 -1.8
TEOL                              i Sg    Sg     09 04 21.1 -2.1
ZCCA  Zocca             0.65 176  ePG     Pg     09 04 15.6 +1.0
ZCCA                               SG     Sg     09 04 25.0 +1.7
      120nm,0.4s
ZCCA  Zocca             0.65 176  ePg     Pg     09 04 15.6 +1.0
ZCCA                              eSg     Sg     09 04 25.0 +1.7
SAL   Salo              0.67 336  ePG     Pg     09 04 18.3 +3.4
SAL                                SG     Sg     09 04 31.0 +7.2
      283nm,0.3s
SAL   Salo              0.67 336  ePg     Pg     09 04 18.3 +3.3
SAL                               eSg     Sg     09 04 31.0 +7.2
ERBM  Eremo             0.68 212  ePG     Pg     09 04 18.1 +2.9
ERBM  Eremo             0.68 212  ePg     Pg     09 04 18.1 +2.9
GSCL  Gusciola          0.69 200  ePG     Pg     09 04 17.0 +1.6
GSCL                               SG     Sg     09 04 27.9 +3.3
GSCL  Gusciola          0.69 200  ePg     Pg     09 04 17.0 +1.6
GSCL                              eSg     Sg     09 04 27.9 +3.2
GRAM                    0.79 230   P      Pb     09 04 18.4 +1.3
GRAM                               S      Sb     09 04 32.7 +5.0
VALM                    0.81 216   P      Pb     09 04 19.0 +1.6
VALM                               S      Sb     09 04 33.9 +5.7
VLC   Villacollemand    0.92 204  eP      Pb     09 04 20.9 +1.5
BACM                    0.94 220   P      Pb     09 04 21.1 +1.4
BACM                               S      Sb     09 04 37.6 +5.5
BDI   Bagni Di Lucca    0.96 194  ePG     Pg     09 04 21.5 +0.6
BDI                                SG     Sg     09 04 36.1 +2.4
BDI   Bagni Di Lucca    0.96 194  ePg     Pg     09 04 21.5 +0.7
BDI                               eSg     Sg     09 04 36.1 +2.3
CODM                    0.97 232   P      Pb     09 04 21.5 +1.2
CODM                               S      Sb     09 04 38.1 +5.0
SEI   Scarperia         1.00 161  ePG     Pg     09 04 21.6 +0.1
SEI                                SG     Sg     09 04 35.2 +0.4
      214nm,0.4s
SEI   Scarperia         1.00 161  ePg     Pg     09 04 21.6 +0.1
SEI                               eSg     Sg     09 04 35.2 +0.4
VINC  Vinca             1.02 213   P      Pb     09 04 22.7 +1.7
VINC                               S      Sb     09 04 39.8 +5.4
BOB   Bobbio (Coli)     1.07 258  ePN     Pn     09 04 26.9 +4.1
BOB   Bobbio (Coli)     1.07 258  ePn     Pn     09 04 26.9 +4.2
CGRP  Cima Grappa       1.08  35⇑ePg     Pg     09 04 21.4 -1.8
CGRP                              eSg     Sg     09 04 36.2 -1.3
MAIM                    1.13 196   P      Pb     09 04 24.0 +1.1
VMG   Vicchio           1.13 156  ePG     Pg     09 04 23.1 -1.1
VMG                                SG     Sg     09 04 39.0 -0.3
VMG   Vicchio           1.13 156  ePg     Pg     09 04 23.1 -1.1
VMG                               eSg     Sg     09 04 39.0 -0.3
CTI   Castel Tesino     1.17  26  ePN     Pn     09 04 25.5 +1.3
CTI   Castel Tesino     1.17  26  ePg     Pg     09 04 25.6 +0.6
PGD   Poggio Sodo       1.27 152  ePN     Pn     09 04 24.5 -1.1
PGD                                SN     Sn     09 04 41.3 -1.6
      49nm,0.4s
PGD   Poggio Sodo       1.27 152  ePg     Pg     09 04 24.5 -2.3
PGD                               eSg     Sg     09 04 41.3 -2.4
IESO  Jesolo            1.27  65  ePg     Pg     09 04 24.4 -2.5
SFI   Santa Sofia       1.28 148  ePN     Pn     09 04 25.8 -0.1
SFI                                SN     Sn     09 04 41.7 -1.7
      51nm,0.5s
SFI   Santa Sofia       1.28 148  ePg     Pg     09 04 25.8 -1.4
SFI                               eSg     Sn     09 04 41.7 -1.7
BRMO  Bormio            1.52 346  ePN     Pn     09 04 32.6 +3.3
BRMO                               SN     Sg     09 04 52.9 +0.6
      41nm,0.3s
BRMO  Bormio            1.52 346  ePg     Pg     09 04 32.6 +0.6
BRMO                              eSg     Sg     09 04 52.9 +0.6
RSM   Repubblica di     1.54 134  ePN     Pn     09 04 29.0 -0.5
RSM   Repubblica di     1.54 134  ePn     Pn     09 04 29.0 -0.5
CSNT  Castellina Chi    1.55 170  ePN     Pn     09 04 28.8 -0.9
CSNT  Castellina Chi    1.55 170  ePn     Pn     09 04 28.8 -0.9
CRE   Caprese Michel    1.57 151  ePN     Pn     09 04 29.8 -0.1
CRE   Caprese Michel    1.57 151  ePg     Pg     09 04 29.8 -3.1
MLNI  Malnisio          1.66  45  ePg     Pg     09 04 30.1 -4.6
MLNI                              eSg     Sg     09 04 52.7 -4.0
VAI   Varese            1.74 301  ePN     Pn     09 04 36.3 +3.9
VAI   Varese            1.74 301  ePn     Pn     09 04 36.3 +3.9
FSSB  Fossombrone       1.87 134  ePN     Pn     09 04 34.2 -0.1
      25nm,0.3s
FSSB  Fossombrone       1.87 134  ePn     Pn     09 04 34.1 -0.1
MPRI  Monte Prat        1.91  49  ePn     Pn     09 04 34.3 -0.6
MPRI                              eSn     Sn     09 05 01.7 +2.3
CSMI  Casera Mimoias    1.94  38⇓ePn     Pn     09 04 36.0 +0.8
CSMI                              eSn     Sn     09 05 03.3 +3.2
BUA   Buia              1.97  51  ePn     Pn     09 04 36.6 +0.9
BOO   Bordano           2.02  49  ePn     Pn     09 04 34.3 -2.1
BAD   Bernadia          2.05  52⇑ePn     Pn     09 04 34.0 -2.8
BAD                               eSn     Sn     09 05 03.8 +0.9
GMNA  Gemona            2.07  51  ePN     Pn     09 04 37.1  0.0
GMNA  Gemona            2.07  51  ePn     Pn     09 04 37.1  0.0
ARV   Arcevia           2.09 135  ePN     Pn     09 04 37.7 +0.3
      15nm,0.5s
ARV   Arcevia           2.09 135  ePg     Pg     09 04 37.7 -5.7
ZOU   Zoufplan          2.12  42  ePn     Pn     09 04 38.4 +0.5
ZOU                               eSn     Sn     09 05 06.9 +2.2
PLRO  Paularo           2.20  44  ePn     Pn     09 04 39.6 +0.6
PLRO                              eSn     Sn     09 05 10.7 +4.0
PTCC  Patocco-Chiusa    2.21  50  ePN     Pn     09 04 40.2 +1.0
PTCC  Patocco-Chiusa    2.21  50  ePn     Pn     09 04 40.2 +1.1
SQTA  Sankt Quirin      2.23   5⇓iPN     Pn     09 04 42.1 +2.7
SQTA                              i SN    Sn     09 05 13.6 +6.2
DRE   Drenchia          2.25  58⇑ePn     Pn     09 04 37.1 -2.5
WTTA  Wattenberg        2.32  12⇑iPN     Pn     09 04 42.3 +1.6
WTTA                              i SN    Sn     09 05 15.6 +5.9
VOY   Vojsko            2.34  63  ePn     Pn     09 04 37.7 -3.2
VOY                               e              09 04 43.3
VOY                               eSn     Sn     09 05 04.3 -5.8
VOY                               e              09 05 10.8
MOTA  Moosalm           2.35   3⇑iPN     Pn     09 04 44.1 +3.0
MOTA                              i SN    Sn     09 05 16.8 +6.3
LSR   Lussari           2.35  50⇓ePn     Pn     09 04 43.6 +2.5
LSR                               eSn     Sn     09 05 12.6 +2.1
KBA   Koelnbreinsper    2.68  38⇑iPN     Pn     09 04 46.9 +1.0
KBA                               i SN    Sn     09 05 23.4 +4.5
SBF   Sospel            2.74 247  ePn     Pn     09 04 46.5 -0.2
SBF                               eSn     Sn     09 05 17.3 -3.0
      45nm,0.5s
PGF   Pioggiola         2.81 210  ePn     Pn     09 04 47.0 -0.8
PGF                               eSn     Sn     09 05 17.7 -4.6
      18nm,0.7s
NVLJ  Novalja           2.85  97  i Pn    Pn     09 04 43.8 -4.5
NVLJ                              i Sn    Sn     09 05 14.1 -9.2
MBDF  Montbardon        2.96 266  ePn     Pn     09 04 49.8  0.0
MBDF                              eSn     Sn     09 05 23.6 -2.3
OBKA  Obir              2.96  58⇓iPN     Pn     09 04 47.6 -2.2
OBKA                              i SN    Sn     09 05 27.4 +1.4
LPG   La Plagne         2.98 281  ePn     Pn     09 04 51.2 +1.1
LPG                               eSn     Sn     09 05 25.7 -0.8
LPL   La Plagne         3.00 281  ePn     Pn     09 04 51.2 +0.9
LPL                               eSn     Sn     09 05 25.5 -1.4
      5.0nm,0.3s
FRF   La Foret Royal    3.38 246  ePn     Pn     09 04 55.3 -0.6
FRF                               eSn     Sn     09 05 32.2 -4.5
      5.7nm,0.2s
ORIF  Oris-en-Rattie    3.57 270  ePn     Pn     09 04 58.2 -0.3
ORIF                              eSn     Sn     09 05 39.6 -1.9
      3.9nm,0.4s
LMR   La Mourre         3.58 244  ePn     Pn     09 04 57.9 -0.7
LMR                               eSn     Sn     09 05 37.2 -4.4
      8.1nm,0.2s
CABF  La Chapelle       3.74 297  ePn     Pn     09 05 00.6 -0.3
CABF                              eSn     Sn     09 05 45.2 -0.5
      4.0nm,0.4s
HINF  Hinteralfeld      3.98 317  ePn     Pn     09 05 04.7 +0.4
HINF                              eSn     Sn     09 05 49.6 -2.1
      13nm,0.6s
CDF   Champ du Feu      4.23 325  ePn     Pn     09 05 08.2 +0.3
CDF                               eSn     Sn     09 05 55.8 -2.3
      3.2nm,0.3s
HAU   Haudompre         4.36 315  ePn     Pn     09 05 10.2 +0.6
VIVF  Saint-Julien-l    4.43 270  ePn     Pn     09 05 10.6 -0.2
VIVF                              eSn     Sn     09 05 59.1 -4.2
      4.1nm,0.5s
SMF   Signal de Mont    5.21 291  ePn     Pn     09 05 20.8 -0.9
SMF                               eSn     Sn     09 06 18.8 -4.0
      2.8nm,0.3s
LOR   Lormes            5.40 297  ePn     Pn     09 05 23.9 -0.5
LOR                               eSn     Sn     09 06 24.4 -3.2
      4.2nm,0.4s
SSF   Saint Saulge      5.55 294  ePn     Pn     09 05 25.8 -0.8
AVF   Avril sur Loir    5.57 291  ePn     Pn     09 05 26.1 -0.8
AVF                               ePg     Pg     09 05 48.1 -4.7
AVF                               eSn     Sn     09 06 27.0 -4.9
      1.4nm,0.3s
CLL   Collm             6.46  12  eSG     Sg     09 07 34.0 -2.8
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*NIED **11** 09:05:00, 32.90N×136.70E, h5^{km}, Mw4.3 Best double couple: $M_0$2.98×10^{15} NP1:ϕ_s346°, δ69°, λ130°. NP2: ϕ_s100°, δ44°, λ31°.*
*IDC **11** 09:05:56.5±1.2, 32.86N×136.81E, mb3.8/4, mb1 3.8/6, mb1mx3.6/23, ML3.1/2, MS3.5/3, Ms1 3.6/3, ms1mx3.1/22, Error ellipse: s-maj=33.0km s-min=20.7km az=21.0*
*JMA **11** 09:05:57.5±0.1, 32.93N×136.71E, h40^{km}±3^{km}, M3.6*
*NEIC **11** 09:05:58.6±1.0, 32.91N×136.83E, h15^{km}, mb4.0/1, Error ellipse: s-maj=19.3km s-min=11.9km az=129.0*
ISC 11 09:05:57.7±0.9**, 33.00N**±0.04×**136.71E**±0.03**, h21**^{km}±6^{km}**, n25, σ0**^{s}**65**/38**, mb3.7**/5**, MS3.5**/2**, 4C-1D, Southeast of Shikoku**

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Code  Station Name       Δ°   AZ°    Phase ID          Time     Res
                                    Op      ISC      h  m  s   ISC
JWZ   Kozaga            0.99 303 ⇑P      Pb     09 06 15.7 -0.3
JWZ                               S       Sb     09 06 29.1 +0.5
TK01  Tokai 1           1.06  44  P       Pb     09 06 17.3 +0.1
TK01                             eS       Sb     09 06 31.0 +0.4
TK02  Tokai 2           1.29  42  P       Pn     09 06 19.6 -1.1
TK02                             eS       Sb     09 06 37.3 +0.1
JKN   Kiinagashima      1.30 343  P       Pn     09 06 20.6 -0.3
JKN                              eS       Sb     09 06 37.2 -0.4
JIE   Ise               1.39 360 ⇓P      Pn     09 06 22.1 -0.1
JIE                               S       Sn     09 06 40.0  0.0
JWM   Minabe            1.42 307 ⇑P      Pn     09 06 22.1 -0.4
JWM                               S       Sn     09 06 40.1 -0.6
JWY   Kouya             1.53 323 ⇑P      Pn     09 06 24.5 +0.3
JWY                               S       Sn     09 06 43.9 +0.2
TK04  Tokai 4           1.69  35  P       Pn     09 06 25.9 -0.5
TK04                             eS       Sn     09 06 47.8 +0.2
TSUJ  Tsu 2             1.72 352  P       Pn     09 06 26.9  0.0
TSUJ                             eS       Sn     09 06 48.3 -0.2
JHE   Heguri            1.86 333  P       Pn     09 06 29.2 +0.3
JHE                              eS       Sn     09 06 51.9  0.0
JAI   Aioi              2.05 293 ⇑P      Pn     09 06 31.1 -0.5
JAJ2  Tsuna             2.08 313  P       Pn     09 06 32.3 +0.3
JWT   Wachi             2.52 335  P       Pn     09 06 38.1 -0.3
JWT                               S       Sn     09 07 08.7 -0.1
JHJ   Hachijo jima 2    2.58  86  Pn      Pn     09 06 39.4 +0.2
      15nm,0.3s,baz=260,slow=17,SNR=3.0
JHJ                               Sn      Sn     09 07 09.9 -0.4
      26nm,0.3s,baz=252,slow=19,SNR=4.5
MAJO  Matsushiro        3.74  19 eP       Pn     09 06 56.5 +0.8
MAT   Matsushiro        3.74  19  P       Pn     09 06 56.1 +0.4
MAT                              eS       Sn     09 07 38.8 -0.9
MAT   Matsushiro        3.74  19  P       Pn     09 06 56.0 +0.3
MAT                               S       Sn     09 07 39.0 -0.7
JNU   Nakatsue          4.90 273  Pn      Pn     09 07 12.2  0.0
      0.7nm,0.3s,baz=98,slow=5.4,SNR=3.5
JNU                               Sn      Sn     09 08 07.8 -1.1
      0.8nm,0.3s,baz=80,slow=17,SNR=2.8
ASAJ  Asahikawa        12.01  21  LR      LR     09 13 57.4
      comp=Z,274nm,19.0s,baz=166,slow=40
SONM  Songino Array    27.21 312  P       P      09 11 43.6 +1.7
      0.9nm,0.9s,mb3.3,baz=124,slow=7.6,SNR=6.5
MKAR  Makanchi Array   43.13 305  P       P      09 14 00.0 +1.8
      1.2nm,0.7s,mb3.7,baz=90,slow=9.8,SNR=12
MKAR                              LR      LR     09 32 08.4
      comp=Z,52nm,18.7s,MS3.5,baz=206,slow=36
BVAR  Borovoye Array   50.52 314  P       P      09 14 56.9 +0.7
      1.9nm,0.9s,mb4.0,baz=97,slow=12,SNR=4.1
BRVK  Borovoye         50.58 314  P       P      09 14 57.7 +1.0
      1.4nm,0.8s,mb3.9
WRA   Warramunga Arr   52.69 183  P       P      09 15 11.8 -1.3
      0.7nm,0.6s,mb3.7,baz=0.8,slow=7.8,SNR=7.8
ILAR  Eielson Array    54.94  31  LR      LR     09 43 32.1
      comp=Z,44nm,18.3s,MS3.6,baz=46,slow=41
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*NAO **11** 09:27:03.0±2.0, 67.82N×20.54E, ML2.3*
*HEL **11** 09:27:03.7±0.3, 67.83N×20.33E, ML1.9, ML1.8(BER), ML2.3(NAO), Explosion*
*BER **11** 09:27:05.3±4.5, 67.84N×20.09E, ML1.8, ML2.3(NAO), Suspected explosion*
ISC 11 09:26:59.5±0.5**, 67.68N**±0.03×**20.00E**±0.07**, n16, σ1**^{s}**20**/26**, Sweden**

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Code  Station Name       Δ°   AZ°    Phase ID          Time     Res
                                    Op      ISC      h  m  s   ISC
KIF   Kilpisjarvi       1.36  12 eP       Pb     09 27 25.0 -0.6
KIF                              eS       Sb     09 27 41.2 -2.4
KTK1  Kautokeino        1.80  40 eP       Pn     09 27 34.4 +2.3
KTK1                             eSN      Sn     09 27 56.9 +1.0
KTK1                              AML     AML    09 27 58.0
      comp=Z,9.2nm,0.1s
TRO   Tromso            2.00 349 eP       Pn     09 27 35.5 +0.5
TRO                              eSN      Sn     09 28 01.5 +0.4
TRO                               AML     AML    09 28 03.6
      comp=Z,13nm,0.4s
LOF   Lofoten           2.49 284 eSG      Sg     09 28 23.4 +1.1
SGF   Sodankyl          2.51  92 eP       Pn     09 27 43.3 +1.0
SGF                              ePG      Pg     09 27 46.2 -3.5
SGF                              eS       Sn     09 28 13.4 -0.7
MOR8  Moi Rana          2.66 238 eSG      Sg     09 28 26.0 -2.2
MOR8                              AML     AML    09 28 27.7
      comp=Z,17nm,0.2s
ARA0  ARCESS Array S    2.75  45 eP       Pn     09 27 46.0 +0.4
ARA0                             eS       Sn     09 28 20.0  0.0
ARA0  ARCESS Array S    2.75  45  Pn      Pn     09 27 46.0 +0.4
      baz=229,slow=14
ARA0                              S       Sn     09 28 20.0  0.0
      baz=226,slow=28
KEV   Kevo              3.30  48 eS       Sn     09 28 32.2 -1.8
OUL   Oulu              3.52 135 eS       Sn     09 28 39.9 +0.3
MSF   Maaselka          3.99 112 eP       Pn     09 28 04.4 +1.1
MSF                              eSG      Sg     09 29 04.6 -7.8
MSF                               MSG            09 29 08.2
      comp=Z,2.3nm,0.3s
NSS   Namsos            4.54 230 eSG      Sg     09 29 30.4 -0.4
FIA0  FINESS Array S    6.78 154 eS       Sn     09 30 01.2 -0.5
FIA0                             eSG      Sg     09 30 35.5  -10
FIA0  FINESS Array S    6.78 154  Sn      Sn     09 30 01.2 -0.5
FIA0                              Lg             09 30 35.5
      baz=342,slow=28
HFS   Hagfors           8.06 203 eS       Sn     09 30 34.6 +0.9
HFS                              eSG      Sg     09 31 19.8 -8.2
HFS   Hagfors           8.06 203  Sn      Sn     09 30 34.6 +0.9
      baz=14,slow=28
HFS                               Lg             09 31 19.8
      baz=352,slow=37
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*THE **11** 10:02:26.4, 39.32N×23.64E, h15^{km}, ML2.9*
*NEIC **11** 10:02:26.6, 39.37N×23.60E, h12^{km}, MD3.1(ATH), After ATH.*
*ATH **11** 10:02:26.6, 39.37N×23.60E, h12^{km}±12^{km}, MD3.1/8*
ISC 11 10:02:25.8±0.5**, 39.37N**±0.02×**23.64E**±0.04**, h11**^{km}±4^{km}**, n21, σ1**^{s}**09**/30**, Aegean Sea**

```
Code  Station Name       Δ°   AZ°    Phase ID          Time     Res
                                    Op      ISC      h  m  s   ISC
AOS   Alonnisos         0.27 136 ePg      Pg     10 02 31.7 +0.2
AOS                              eSg      Sg     10 02 35.6 +0.2
NEO   Neokhori          0.33 260 ePG      Pg     10 02 32.6  0.0
NEO                              eSB      Sb     10 02 37.4 -0.6
XOR   Xorichti          0.35 270 ePg      Pg     10 02 33.2 +0.3
XOR                              eSg      Sg     10 02 38.8 +1.1
PAIG  Paliouri          0.56   3 ePg      Pg     10 02 38.2 +1.0
PAIG                             eSg      Sg     10 02 47.2 +2.4
LKR   Lokris            0.87 215 ePG      Pg     10 02 42.5 -0.7
LKR                              eSB      Sb     10 02 55.5 +1.7
OUR   Ouranopolis       1.00  15 ePg      Pg     10 02 45.4 -0.5
PLG   Polygyros         1.02 352 ePB      Pb     10 02 45.3 +0.4
AGG   Agios Georgios    1.07 252 ePg      Pg     10 02 46.2 -1.1
AGG                              eSg      Sg     10 03 00.9 -0.7
LIT   Litokhoron        1.15 310 ePb      Pb     10 02 47.4 +0.2
      comp=Z,5.0nm,0.4s
LIT                              eSb      Sb     10 03 04.1 +2.2
MPAR  Parnis Oros       1.21 176 ePG      Pg     10 02 49.5 -0.6
MKIT  Kithairon Oros    1.22 194 ePN      Pn     10 02 48.5 -0.2
LOS   Limnos            1.25  62 ePb      Pb     10 02 48.4 -0.5
PTL   Penteli           1.33 172 ePB      Pb     10 02 51.5 +1.3
THE   Thessaloniki      1.37 338 ePb      Pb     10 02 50.5 -0.4
NSAL  Nisos Salamina    1.46 185 ePB      Pb     10 02 54.5 +2.0
SOH   Sokhos            1.47 352 ePb      Pb     10 02 52.1 -0.6
SOH                              eSb      Sb     10 03 12.6 +1.3
NAIG  Nisos Aigina      1.61 184 ePG      Pg     10 02 56.5 -1.4
SRS   Serrai            1.75 359 ePb      Pb     10 02 56.0 -1.4
GRG   Griva             1.85 330 ePb      Pb     10 02 57.2 -2.0
GRG                              eSb      Sb     10 03 21.3 -1.0
KNT   Kendrikon         1.88 343 ePb      Pb     10 02 58.1 -1.6
FNA   Florina           2.24 310 ePn      Pn     10 03 03.4  0.0
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*JMA **11** 10:04:30.2±0.3, 24.80N×121.98E, h50^{km}, M3.0*
TAP 11 10:04:29.8, 24.38N×122.00E, h11^{km}**, ML3.9, Taiwan**

```
Code  Station Name       Δ°   AZ°    Phase ID          Time     Res
                                    Op      ISC      h  m  s   ISC
YOJ   Yonaguni jima     0.93  85  P       Pb     10 04 48.0 +0.6
YOJ                               S       Sb     10 05 01.2 +1.7
IRIF  Iriomote-Funau    1.58  91  P       Pn     10 04 57.1 -0.9
IRIF                              S       Sb     10 05 17.2 -1.2
JKRS  Kuro-shima        1.84  94  P       Pn     10 05 01.6 -0.1
JKRS                              S       Sn     10 05 24.5 -0.6
JIJ   Ishigaki jima     1.95  90  P       Pn     10 05 03.1 -0.2
JIJ                               S       Sn     10 05 25.5 -2.5
JTJ   Tarama            2.48  83  P       Pn     10 05 08.7 -2.1
JTJ                              eS       Sn     10 05 38.6 -2.7
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*NIED **11** 10:17:00, 33.20N×137.20E, h8^{km}, Mw3.6 Best double couple: $M_0$3.13×10^{14} NP1:ϕ_s130°, δ89°, λ-87°. NP2: ϕ_s242°, δ4°, λ-158°.*
*JMA **11** 10:17:27.8±0.1, 33.16N×137.18E, h40^{km}±3^{km}, M3.5*
ISC 11 10:17:28.2±1.1**, 33.18N**±0.06×**137.17E**±0.04**, h40**^{km}±26^{km}**, n17, σ0**^{s}**53**/29**, 7D, Near south coast of eastern Honshu**

```
Code  Station Name       Δ°   AZ°    Phase ID          Time     Res
                                    Op      ISC      h  m  s   ISC
TK01  Tokai 1           0.68  31  S       S      10 17 50.5 -0.5
TK02  Tokai 2           0.91  33  S       S      10 17 56.8 +0.2
TK03  Tokai 3           1.18  34  S       S      10 18 03.6 -0.1
JIE   Ise               1.27 342 ⇓P      P      10 17 50.3 +0.6
JIE                              eS       S      10 18 06.4 +0.6
JWZ   Kozaga            1.27 286  P       P      10 17 49.6 -0.1
JWZ                               S       S      10 18 04.8 -1.0
JKN   Kiinagashima      1.30 325 ⇓P      P      10 17 50.5 +0.1
JKN                               S       S      10 18 06.1 -0.7
TK04  Tokai 4           1.33  26  P       P      10 17 50.6 -0.2
TK04                              S       S      10 18 07.4 -0.2
TSUJ  Tsu 2             1.65 338 ⇓P      P      10 17 55.5 +0.3
TSUJ                             eS       S      10 18 15.9 +0.6
JWM   Minabe            1.66 294 ⇓P      P      10 17 55.3  0.0
JWM                              eS       S      10 18 15.1 -0.4
JWY   Kouya             1.67 309 ⇓P      P      10 17 56.2 +0.7
JWY                               S       S      10 18 16.2 +0.3
JHE   Heguri            1.92 320 ⇓P      P      10 17 59.5 +0.5
JHE                              eS       S      10 18 22.5 +0.4
JIZS  Izushimoda        2.09  42  P       P      10 18 01.1 -0.4
JAI   Aioi              2.35 286  P       P      10 18 05.4 +0.2
JAI                              eS       S      10 18 32.2 -0.9
JIM2  Oshima 3          2.42  50  P       P      10 18 06.3  0.0
JGM   Miyama            2.54 352  P       P      10 18 08.2 +0.3
JGM                              eS       S      10 18 37.6 -0.2
JWT   Wachi             2.56 326 ⇓P      P      10 18 08.7 +0.5
JWT                              eS       S      10 18 38.6 +0.3
MAT   Matsushiro        3.46  14  P       P      10 18 21.5 +0.5
MAT                               S       S      10 18 59.7 -1.5
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*IDC **11** 10:31:53.8±4.0, 38.85N×141.64E, h49^{km}±38^{km}, mb3.5/4, mb1 3.7/5, mb1mx3.4/20, ML3.5/1, Error ellipse: s-maj=35.4km s-min=24.4km az=119.0*
*JMA **11** 10:31:56.0, 38.94N×141.68E, h68^{km}±1^{km}, M3.5 Broadband fault plane solution: P waves. NP1:ϕ_s74°, δ26°, λ123°. NP2:ϕ_s219°, δ68°, λ75°. Principal axes: T Plg64°, Azm104°; N Plg14°, Azm224°; P Plg22°, Azm320°;*
JMA Felt I J1.
ISC 11 10:31:54.8±0.7**, 38.94N**±0.04×**141.77E**±0.09**, h71**^{km}±5^{km}**, n17, σ0**^{s}**81**/28**, mb3.6**/4**, 7C-1D, Near east coast of eastern Honshu**

```
Code  Station Name       Δ°   AZ°    Phase ID          Time     Res
                                    Op      ISC      h  m  s   ISC
OFUJ  Ofunato           0.16 332 ⇑P      P      10 32 06.2 +0.9
OFUJ                              S       S      10 32 13.3 +0.1
JMK   Ichinoseki        0.43 272 ⇑P      P      10 32 07.2 +0.1
JMK                               S       S      10 32 15.5 -0.8
JIO   Ouri              0.58 215 ⇑P      P      10 32 09.0 +0.3
JIO                               S       S      10 32 18.3 -0.5
JOM   Ohasama           0.65 326 ⇑P      P      10 32 09.8 +0.4
JOM                               S       S      10 32 20.8 +0.6
JOU   Okura             1.04 237 ⇑P      P      10 32 14.1  0.0
JOU                               S       S      10 32 27.9 -0.4
JYK   Kaneyama          1.10 270 ⇑P      P      10 32 15.0 +0.1
JYK                               S       S      10 32 29.6 -0.2
JMM   Marumori          1.31 216  P       P      10 32 17.6 -0.3
JMM                               S       S      10 32 34.0 -1.0
JANG  Nango             1.45 352  P       P      10 32 19.8 +0.1
JANG                              S       S      10 32 38.2 +0.2
JYS   Shirataka         1.51 242 ⇑P      P      10 32 20.8 +0.3
JYS                               S       S      10 32 39.0 -0.5
JAH   Hinai             1.53 325 ⇓P      P      10 32 21.3 +0.6
JAH                               S       S      10 32 39.6 -0.2
MAT   Matsushiro        3.70 231  P       P      10 32 51.9 +1.0
MAT                              eS       S      10 33 35.5 +2.0
ASAJ  Asahikawa         5.21   7  P       P      10 33 10.7 -1.3
      1.5nm,0.3s,baz=308,slow=29,SNR=10
ASAJ                              S       S      10 34 10.4 -1.0
      0.2nm,0.3s,baz=31,slow=19,SNR=2.5
MKAR  Makanchi Array   43.37 300  P       P      10 39 50.8 -0.8
      0.8nm,0.4s,mb3.8,baz=86,slow=10.0,SNR=13
ILAR  Eielson Array    47.75  33  P       P      10 40 26.6 +0.5
      0.4nm,0.5s,mb3.5,baz=272,slow=5.9,SNR=7.8
WRA   Warramunga Arr   58.98 188  P       P      10 41 47.6 -1.8
      0.8nm,0.5s,mb4.0,baz=5.9,slow=7.0,SNR=9.6
PDAR  Pinedale Array   76.14  46  P       P      10 43 38.3 +1.8
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	0.3nm,0.7s,mb3.1,baz=304,slow=3.3,SNR=3.6						
LPAZ	**La Paz**	145.46	58	PKPbc	PKPbc	10 51 25.9	+0.3
	2.1nm,0.2s,baz=204,slow=0.1,SNR=2.7						

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*BJI **11** 10:40:57.4, 65.90N×166.20W, h25^{km}, mB4.2, mb4.6, Ms3.8, Msz3.6*

*NEIC **11** 10:41:01.4, 65.89N×166.21W, h26^{km}, ML4.1(AEIC), After AEIC.*

*IDC **11** 10:41:06.2±2.7, 66.50N×165.88W, mb3.5/2, mb1 3.7/4, mb1mx3.5/20, ML3.6/2, Error ellipse: s-maj=126.0km s-min=17.6km az=10.0*

ISC 11 10:40:59.5±1.3**, 65.90N**±0.09×**166.0W**±0.1**, h21**^{km}±14^{km}**, n29, σ0^{s}78**/31**, mb3.9**/3**, Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNA	**Tin City**	0.87	248	P	Pb	10 41 15.7	-0.1
TNA				S	Sb	10 41 26.5	-0.4
ANM	**Nome**	1.36	169	P	Pn	10 41 24.6	+1.0
GAMB	**Gambell**	3.24	232	P	Pn	10 41 49.9	-0.5
GCSA	**Galena City Sc**	3.99	103	P	Pn	10 42 02.5	+1.4
IM3	**Indian Mountai**	5.01	83	P	Pn	10 42 16.3	+0.7
IMA	**Indian Mountai**	5.03	82	eP	Pn	10 42 17.2	+1.4
TT01	**Tatalina**	5.26	120	P	Pn	10 42 19.9	+0.8
MLY	**Manley**	6.41	91	P	Pn	10 42 35.4	+0.1
COLD	**Coldfoot**	6.44	71	P	Pn	10 42 36.1	+0.5
KTH	**Kantishna Hill**	6.86	103	P	Pn	10 42 42.1	+0.4
TRF	**Thorofare Moun**	7.16	103	P	Pn	10 42 46.2	+0.3
MCK	**McKinley**	7.59	99	eP	Pn	10 42 51.8	0.0
COLA	**College**	7.64	89	P	Pn	10 42 52.0	-0.5
CCB	**Clear Creek Bu**	7.72	91	P	Pn	10 42 53.4	-0.3
SPU	**Mount Spurr**	7.81	121	P	Pn	10 42 54.5	-0.4
IL1	**Eielson Array**	8.06	89	P	P	10 42 57.8	-0.7
ILAR	**Eielson Array**	8.06	89	Pn	P	10 42 58.5	0.0
	0.8nm,0.3s,baz=282,slow=13,SNR=85						
ILAR				Sn	Sn	10 44 28.3	-1.7
	0.8nm,0.3s,baz=286,slow=23,SNR=7.0						
ILAR				Lg		10 45 15.2	
	baz=285,slow=27,SNR=3.7						
RSO	**Redoubt South**	8.08	126	eP	P	10 42 58.8	0.0
BM3	**Burnt Mountain**	8.61	70	P	P	10 43 05.2	-0.8
PMR	**Palmer**	8.62	112	eP	P	10 43 05.8	-0.3
SML	**Sawmill**	8.79	110	eP	P	10 43 08.9	+0.3
THY	**Trims Highway**	9.01	97	P	P	10 43 10.9	-0.7
BCA3	**Beaver Creek A**	10.79	94	P	P	10 43 34.1	-1.7
INK	**Inuvik**	12.78	64	Pn	P	10 44 03.4	+0.8
	0.1nm,0.3s,baz=291,slow=9.0,SNR=3.0						
CN2	**Changchun**	42.48	274	eP	P	10 48 53.5	-0.8
SONM	**Songino Array**	46.74	292	P	P	10 49 35.4	+6.9
	0.6nm,0.7s,mb3.6,baz=39,slow=8.8,SNR=5.3						
MKAR	**Makanchi Array**	56.08	310	P	P	10 50 43.9	+5.0
	0.2nm,0.6s,mb3.4,baz=45,slow=8.2,SNR=3.8						
MKAR	**Makanchi Array**	56.08	310	P	P	10 50 43.9	+5.0
WMQ	**Urumqi**	56.93	304	eP	P	10 50 46.3	+1.2
WMQ				AP	pP	10 50 52.4	+0.9
WMQ				XP	sP	10 50 55.2	+1.3
WMQ				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.8						

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*NIED **11** 11:04:00, 32.90N×136.80E, h5^{km}, Mw3.8 Best double couple: M$_0$6.24×10^{14} NP1:φ$_s$343°, δ83°, λ135°. NP2:φ$_s$80°, δ46°, λ10°.*

*JMA **11** 11:04:48.4±0.2, 32.89N×136.77E, h35^{km}±5^{km}, M3.6*

ISC 11 11:04:48.7±1.0**, 32.89N**±0.06×**136.78E**±0.04**, h35**^{km}**, n14, σ0^{s}62**/27**, 2C-5D, Southeast of Shikoku**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JWZ	**Kozaga**	1.10	306	⇓P	P	11 05 07.6	-0.2
JWZ				S	S	11 05 21.6	-0.4
TK01	**Tokai 1**	1.10	38	P	P	11 05 07.6	-0.3
TK01				S	S	11 05 20.9	-1.3
TK02	**Tokai 2**	1.33	38	P	P	11 05 11.4	+0.2
TK02				S	S	11 05 28.4	+0.4
JKN	**Kiinagashima**	1.42	343	⇓P	P	11 05 12.9	+0.4
JKN				S	S	11 05 29.6	-0.6
JIE	**Ise**	1.50	358	⇓P	P	11 05 14.3	+0.7
JIE				S	S	11 05 32.6	+0.5
JWM	**Minabe**	1.53	309	⇑P	P	11 05 14.2	+0.2
JWM				S	S	11 05 31.9	-1.0
JWY	**Kouya**	1.65	324	⇓P	P	11 05 16.6	+0.8
JWY				S	S	11 05 35.8	-0.2
TK04	**Tokai 4**	1.75	31	P	P	11 05 17.6	+0.4
TK04				S	S	11 05 38.2	-0.3
TSUJ	**Tsu 2**	1.84	351	P	P	11 05 19.1	+0.7
TSUJ				S	S	11 05 41.4	+0.7
JHE	**Heguri**	1.98	333	⇓P	P	11 05 21.3	+0.8
JHE				S	S	11 05 44.2	-0.1
JAI	**Aioi**	2.15	295	⇑P	P	11 05 22.8	0.0
JAI				S	S	11 05 47.2	-1.3
JAJ2	**Tsuna**	2.19	315	P	P	11 05 24.3	+0.8
JAJ2				S	S	11 05 50.0	+0.2
JHJ2	**Mitsune**	2.56	84	eS	S	11 05 58.5	-0.6
MAT	**Matsushiro**	3.83	18	P	P	11 05 46.2	-0.6
MAT				eS	S	11 06 26.3	-5.0

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*NAO **11** 11:09:54.9±3.1, 60.16N×25.28E, ML2.3*

*HEL **11** 11:09:55.6±0.2, 60.13N×25.27E, ML1.9, ML2.1(UPP), ML2.3(NAO), Explosion*

*BER **11** 11:09:56.0±3.5, 60.16N×25.36E, ML2.3(NAO), Suspected explosion*

ISC 11 11:09:54.2±0.8**, 60.12N**±0.05×**25.30E**±0.08**, n18, σ0^{s}86**/30**, Finland**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PVF	**Pernaja**	0.51	33	eP	Pg	11 10 04.5	+0.1
PVF				eS	Sg	11 10 10.7	-0.6
VJF	**Virojoki**	1.20	68	eP	Pb	11 10 17.5	0.0
VJF				eSB	Sb	11 10 33.3	-0.2
FIA0	**FINESS Array S**	1.39	16	eP	Pb	11 10 20.1	-0.6
FIA0				eSN	Sn	11 10 41.4	+1.3
FIA0	**FINESS Array S**	1.39	16	Pn	Pn	11 10 20.1	-0.7
	baz=201,slow=18						
FIA0				Lg		11 10 37.3	
	baz=193,slow=37						
KAF	**Kangasniemi**	2.06	13	eP	Pn	11 10 31.7	+1.2
KAF				eS	Sn	11 10 57.8	+0.5
KEF	**Keuruu**	2.07	354	eP	Pn	11 10 32.0	+1.4
KEF				eS	Sn	11 10 57.5	0.0
SUF	**Sumiainen**	2.65	9	eP	Pn	11 10 40.2	+1.3
SUF				eS	Sn	11 11 11.4	-0.7
SUF				eSB	Sb	11 11 14.4	-0.9
SUF				MSG		11 11 15.7	
	comp=Z,4.2nm,0.2s						
AAL	**Aland**	2.65	274	eP	Pn	11 10 39.4	+0.4
AAL				eS	Sn	11 11 12.8	+0.5
GRAU	**Graesoe**	3.38	277	eP	Pn	11 10 48.7	-0.6
NRTU	**Norrtaelje**	3.39	265	eP	Pn	11 10 49.9	+0.5
FLYU	**Flymyra**	3.71	273	eP	Pn	11 10 53.6	-0.4
OSTU	**Oestervaala**	4.08	275	eP	Pn	11 10 58.9	-0.3
BACU	**Backbrunna**	4.12	270	eP	Pn	11 11 00.1	+0.2
KJN	**Kajaani**	4.14	15	eP	Pn	11 11 00.2	+0.1
KJN				eS	Sn	11 11 46.3	-3.7
HFS	**Hagfors**	5.80	275	Pn	Pn	11 11 21.7	-1.9
	baz=98,slow=12						
HFS				Sn	Sn	11 12 26.7	-5.1
	baz=101,slow=28						
HFS				Lg		11 12 54.9	
	baz=72,slow=28						
HFS	**Hagfors**	5.80	275	eP	Pn	11 11 21.7	-1.9
HFS				eS	Sn	11 12 26.7	-5.1
HFS				eSG	Sg	11 12 54.9	-12
ARA0	**ARCESS Array S**	9.46	0	Pn	P	11 12 10.9	-3.8
	baz=178,slow=12						
ARA0	**ARCESS Array S**	9.46	0	eP	P	11 12 10.9	-3.8

MAN 11 11:21:02.5, 10.37N×125.21E, h7^{km}, mb4.6, ML3.5, MS3.4, 1C-2D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSLP	**Maasin**	0.41	236	eP	Pg	11 21 11.1	+0.3
SCPH	**Surigao**	0.64	155	⇓eP	Pg	11 21 15.4	0.0
PLP	**Palo**	0.83	344	i P	Pb	11 21 18.4	-0.3
PLP				i S	Sb	11 21 31.4	+1.6
OCLP	**Ormoc**	0.90	319	eP	Pb	11 21 19.7	-0.3
LLP	**Lapu-Lapu**	1.23	268	⇓iP	Pb	11 21 23.0	-2.5
LLP				i S	Sb	11 21 40.0	-1.4
BESP	**Borongan**	1.25	10	eP	Pb	11 21 25.0	-1.0
BESP				eS	Sb	11 21 43.2	+1.1
BUTP	**Butuan**	1.45	164	eP	Pn	11 21 30.5	+1.4
TBP	**Tagbilaran**	1.49	243	eP	Pn	11 21 28.8	-0.9
TBP				eS	Sb	11 21 49.7	+0.7
CNP	**Catarman**	2.20	346	eP	Pn	11 21 40.5	+0.5
CNP						11 22 09.1	
BUKP	**Musuan**	2.47	183	eP	Pn	11 21 43.2	-0.7
GUIM	**Jordan**	2.59	276	eP	Pn	11 21 45.5	0.0
RCP	**Roxas**	2.70	296	⇑eP	Pn	11 21 47.6	+0.6
PAGZ	**Pagadian**	3.08	216	eP	Pn	11 21 53.5	+0.9
PVCP	**Virac**	3.37	342	eP	Pn	11 21 59.0	+2.3
MATI	**Mati**	3.55	163	eP	Pn	11 22 02.3	+3.1
IPIL	**Ipil**	3.65	226	eP	Pn	11 22 00.3	-0.4
OTRP	**Odiongan**	3.70	303	eP	Pn	11 22 00.8	-0.6
SJMP	**San Jose**	4.52	298	eP	Pn	11 22 12.5	-0.4
BUSP	**Coron**	5.18	289	eP	Pn	11 22 21.7	-0.6

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*BER **11** 11:31:41.4±3.5, 67.85N×20.11E, ML1.7, Suspected explosion*

HEL 11 11:31:40.7±0.5**, 67.85N×20.27E, ML1.7**(BER)**, Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KTK1	**Kautokeino**	1.60	42	eP	Pn	11 32 10.2	-0.1
KTK1				eSN	Sn	11 32 33.4	+1.4
KTK1				AML	AML	11 32 34.5	
	comp=Z,7.9nm,0.3s						
TRO	**Tromso**	1.85	345	eP	Pn	11 32 11.3	-2.7
TRO				eS	Sn	11 32 37.0	-1.5
SGF	**Sodankyl**	2.43	97	eP	Pn	11 32 20.9	-1.3
SGF				eS	Sn	11 32 51.7	-1.4
LOF	**Lofoten**	2.55	279	eSG	Sg	11 33 01.4	-4.2
LOF				AML	AML	11 33 04.5	
	comp=Z,6.1nm,1.1s						
MOR8	**Moi Rana**	2.84	236	eSG	Sg	11 33 03.0	-12
MOR8				AML	AML	11 33 04.2	
	comp=Z,14nm,0.3s						
MSF	**Maaselka**	3.97	115	eP	Pn	11 32 42.1	-2.0
NSS	**Namsos**	4.74	229	eSG	Sg	11 34 06.5	-12

DJA 11 12:13:16.0±0.9**, 9.66S×114.97E, h2**^{km}**, MD5.6**/4**, ML4.7**/3**, 2C-5D, Error ellipse: s-maj=18.8km s-min=11.3km az=8.0, South of Bali**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
INGI	**Ingas**	0.85	12	ePn	Pn	12 13 31.7	-3.0
	3μm,0.2s						
INGI				⇓eSn	Sn	12 13 43.0	-4.9
RATI	**Rata**	1.08	31	⇑ePn	Pn	12 13 34.7	-3.3
	1μm,0.2s						
RATI				⇓iSn	Sn	12 13 48.3	-5.5
KELI	**Kelakatan**	1.51	342	⇓ePn	Pn	12 13 41.0	-3.1
	390nm,0.2s						
KELI				⇓iSn	Sn	12 14 00.5	-4.1
KEDI	**Kedomdong**	1.62	44	⇑ePn	Pn	12 13 42.9	-2.8
	535nm,0.2s						
KEDI				⇓iSn	Sn	12 14 02.0	-5.4

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*LDG **11** 13:20:02.7±0.3, 44.83N×11.05E, h10^{km}, Ml2.5/7, Error ellipse: s-maj=7.9km s-min=3.5km az=95.0*

*NEIC **11** 13:20:03.9, 44.91N×10.70E, h5^{km}, MD2.6(ROM), ML2.5(LDG), ML2.4(GEN), After ROM.*

*ROM **11** 13:20:03.8±0.1, 44.91N×10.70E, h5^{km}, MD2.6/3, ML1.8/5, Error ellipse: s-maj=2.3km s-min=1.1km az=90.0*

ISC 11 13:20:03.9±0.3**, 44.90N**±0.02×**10.60E**±0.03**, h10**^{km}**, n40, σ1^{s}46**/72**, 4C, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ERBM	**Eremo**	0.50	196	ePG	Pg	13 20 15.4	+1.4
ERBM				SG	Sg	13 20 24.3	+3.6
	27nm,0.4s						
ERBM	**Eremo**	0.50	196	ePg	Pg	13 20 15.4	+1.5
ERBM				eSg	Sg	13 20 24.3	+3.6
GSCL	**Gusciola**	0.55	181	ePG	Pg	13 20 15.2	+0.3
GSCL	**Gusciola**	0.55	181	ePg	Pg	13 20 15.2	+0.3
GRAM		0.56	223	P	Pg	13 20 13.3	-1.8
GRAM				S	Sg	13 20 26.5	+3.9
VALM		0.60	205	P	Pb	13 20 12.8	-3.2
VALM				S	Sg	13 20 25.9	+1.7
ZCCA	**Zocca**	0.61	154	ePG	Pg	13 20 16.7	+0.5
ZCCA				SG	Sg	13 20 25.3	+0.9
	37nm,0.4s						
ZCCA	**Zocca**	0.61	154	ePg	Pg	13 20 16.7	+0.5
ZCCA				eSg	Sg	13 20 25.3	+1.0
SAL	**Salo**	0.71	356	ePG	Pg	13 20 19.1	+0.9
SAL				SG	Sg	13 20 29.2	+1.4
	121nm,0.2s						
SAL	**Salo**	0.71	356	ePg	Pg	13 20 19.1	+0.9
SAL				eSg	Sg	13 20 29.2	+1.5
BACM		0.72	212	P	Pb	13 20 15.4	-2.7
BACM				S	Sb	13 20 30.2	+2.3
CODM		0.74	227	P	Pb	13 20 16.5	-1.8
VLC	**Villacollemand**	0.75	192	eP	Pb	13 20 18.4	-0.2
VINC	**Vinca**	0.82	203	P	Pb	13 20 16.4	-3.4
BDI	**Bagni Di Lucca**	0.83	180	ePG	Pg	13 20 20.0	-0.6
BDI				SG	Sg	13 20 35.5	+3.7
	28nm,0.3s						
BDI	**Bagni Di Lucca**	0.83	180	ePg	Pg	13 20 20.0	-0.6
BDI				eSg	Sg	13 20 35.5	+3.7
MAIM		0.99	185	P	Pb	13 20 17.0	-5.6
PGD	**Poggio Sodo**	1.30	141	ePN	Pn	13 20 28.4	+0.3
PGD				SN	Sn	13 20 46.9	+1.2
PGD	**Poggio Sodo**	1.30	141	ePg	Pg	13 20 28.4	-1.5
PGD				eSg	Sg	13 20 46.9	-0.4
SFI	**Santa Sofia**	1.33	138	ePN	Pn	13 20 28.4	-0.3
SFI				SN	Sn	13 20 47.4	+0.8
	8.0nm,0.5s						
SFI	**Santa Sofia**	1.33	138	ePg	Pg	13 20 28.4	-2.2
SFI				eSg	Sg	13 20 47.4	-1.0
CTI	**Castel Tesino**	1.37	32	ePN	Pn	13 20 27.4	-1.7
CTI				SN	Sn	13 20 47.2	-0.2
CTI	**Castel Tesino**	1.37	32	ePg	Pg	13 20 27.4	-3.8
CTI				eSg	Sg	13 20 47.2	-2.3
BRMO	**Bormio**	1.59	354	ePN	Pn	13 20 32.5	+0.2
BRMO				SN	Sn	13 20 54.5	+1.5
	11nm,0.4s						
BRMO	**Bormio**	1.59	354	ePg	Pg	13 20 32.5	-3.1
BRMO				eSg	Sg	13 20 54.5	-2.3
IMI	**Imperia**	2.18	244	ePN	Pn	13 20 41.2	+0.5
IMI				SN	Sn	13 21 09.9	+1.9
	7.0nm,0.5s						
IMI	**Imperia**	2.18	244	ePg	Pg	13 20 41.2	-6.2
IMI				eSg	Sg	13 21 09.9	-6.5
SQTA	**Sankt Quirin**	2.36	10	⇑iPN	Pn	13 20 43.9	+0.6
SQTA				i SN	Sn	13 21 14.5	+1.8
WTTA	**Wattenberg**	2.48	17	⇑iPN	Pn	13 20 45.8	+0.8
WTTA				i SN	Sn	13 21 18.0	+2.5
SBF	**Sospel**	2.49	247	ePn	Pn	13 20 45.7	+0.5
SBF				eSn	Sn	13 21 17.2	+1.2
	4.4nm,0.2s						
WATA	**Walderalm**	2.53	15	⇑iPN	Pn	13 20 46.1	+0.3
WATA				i SN	Sn	13 21 19.2	+2.2
PGF	**Pioggiola**	2.62	207	ePn	Pn	13 20 44.5	-2.5
PGF				eSn	Sn	13 21 15.2	-4.0
	3.2nm,0.3s						
MBDF	**Montbardon**	2.73	268	ePn	Pn	13 20 49.8	+1.2
MBDF				eSn	Sn	13 21 23.2	+1.2
	0.8nm,0.2s						
KBA	**Koelnbreinsper**	2.90	40	⇑iPN	Pn	13 20 51.7	+0.6
KBA				i SN	Sn	13 21 28.3	+2.0
FRF	**La Foret Royal**	3.14	246	ePn	Pn	13 20 53.8	-0.6
FRF				eSn	Sn	13 21 32.6	+0.2
	2.6nm,0.2s						
LMR	**La Mourre**	3.33	243	ePn	Pn	13 20 57.0	-0.2
LMR				eSn	Sn	13 21 36.1	-1.2
	2.0nm,0.2s						
CABF	**La Chapelle**	3.59	300	ePn	Pn	13 21 01.0	+0.1
HINF	**Hinteralfeld**	3.91	320	ePn	Pn	13 21 04.7	-0.6
HINF				eSn	Sn	13 21 49.8	-2.0
	2.0nm,0.2s						
CDF	**Champ du Feu**	4.20	328	ePn	Pn	13 21 07.1	-2.3
CDF				eSn	Sn	13 21 55.7	-3.4
	1.5nm,0.2s						
HAU	**Haudompre**	4.28	318	ePn	Pn	13 21 09.5	-1.1

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*JMA **11** 13:56:10.5±0.2, 43.88N×148.10E, h48^{km}, M3.8*

*IDC **11** 13:56:38.7±12.0, 44.40N×147.49E, h345^{km}±118^{km}, mb2.9/5, mb1 3.3/5, mb1mx3.0/19, Error ellipse: s-maj=92.7km s-min=24.0km az=175.0*

ISC 11 13:56:11.5±1.5**, 43.7N**±0.1×**147.9E**±0.2**, h115**^{km}±11^{km}**, n15, σ0^{s}80**/19**, mb3.5**/5**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	1.60	258	P	P	13 56 39.7	-0.6
NEM2				eS	S	13 57 01.3	-0.7
JRA	**Rausu**	2.02	277	P	P	13 56 44.6	-0.8
JRA				eS	S	13 57 10.3	-0.7
JNK	**Nakash**	2.31	268	P	P	13 56 49.3	0.0
JNK				eS	S	13 57 18.0	+0.2
JAK	**Akkeshi**	2.44	254	P	P	13 56 51.5	+0.4
JAK				eS	S	13 57 21.7	+0.8
JAR	**Ashorobuto**	3.03	264	eS	S	13 57 35.9	+1.0
JCH	**Churui**	3.49	253	eS	S	13 57 47.4	+1.3
JNBK	**Urakawa-nobuka**	4.03	251	eS	S	13 58 00.1	+0.9
JKB	**Kayabe**	5.37	253	eS	S	13 58 31.4	-0.2
JOT	**Ohata**	5.57	248	eS	S	13 58 35.8	-0.7
JANG	**Nango**	5.80	237	eS	S	13 58 41.3	-0.9
ILAR	**Eielson Array**	41.20	36	P	P	14 03 47.5	+1.7
	0.2nm,0.4s,mb3.3,baz=255,slow=6.3,SNR=7.9						
MKAR	**Makanchi Array**	45.08	298	P	P	14 04 16.9	-0.5
	0.3nm,0.6s,mb3.2,baz=80,slow=8.8,SNR=3.1						
FINES	**FINESS Array B**	65.16	333	P	P	14 06 37.2	-4.5
	3.5nm,1.1s,mb4.1,baz=56,slow=6.9,SNR=8.7						
GERES	**GERESS Array B**	79.45	331	P	P	14 08 05.2	-0.8
	0.4nm,0.4s,mb3.6,baz=22,slow=7.2,SNR=3.6						
TXAR	**Lajitas Array**	82.22	57	P	P	14 08 21.0	0.0
	0.3nm,0.5s,mb3.4,baz=281,slow=3.6,SNR=5.5						

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*NEIC **11** 14:16:43.6±2.0, 21.17S×179.21W, h623^{km}±25^{km}, mb4.3/15, Error ellipse: s-maj=16.9km s-min=10.0km az=177.0*

*IDC **11** 14:16:47.4±2.4, 21.35S×179.29W, h673^{km}±32^{km}, mb3.9/11, mb1 4.1/12, mb1mx3.9/16, Error ellipse: s-maj=24.0km s-min=12.9km az=170.0*

ISC 11 14:16:42.9±0.8**, 21.27S**±0.07×**179.25W**±0.08**, h630**^{km}±11^{km}**, n57, σ0^{s}87**/48**, mb4.4**/23**, 5D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	4.34	324	P	P	14 18 12.6	-0.7
	2μm,0.4s						
DZM	**Mont Dzumac**	13.32	264	eP	P	14 19 36.1	+1.6
PUZ	**Puketiti**	16.88	187	P	P	14 20 08.6	+0.4
URZ	**Urewera**	17.22	190	P	P	14 20 10.7	-0.6
	3.7nm,0.3s,baz=346,slow=3.8,SNR=36						
URZ				S	S	14 22 58.3	-0.5
	0.4nm,0.3s,baz=116,slow=22,SNR=4.7						
URZ	**Urewera**	17.22	190	P	P	14 20 09.9	-1.4
BKZ	**Black Stump Fm**	18.21	191	P	P	14 20 20.2	-0.3
MRZ	**Mangatainoka R**	19.82	192	P	P	14 20 34.6	-0.7
SNZO	**South Karori**	20.62	193	P	P	14 20 42.3	-0.2
NNZ	**Nelson**	20.84	196	P	P	14 20 44.9	+0.4
THZ	**Tophouse**	21.48	196	P	P	14 20 50.6	+0.3
KHZ	**Kahutara**	21.94	194	P	P	14 20 54.2	-0.2
RPZ	**Rata Peaks**	23.79	198	P	P	14 21 11.2	+0.3
	10nm,0.6s,mb4.7,baz=0.1,slow=18,SNR=7.9						
CTA	**Charters Tower**	32.26	266	⇓iP	P	14 22 24.4	+0.7
	29nm,0.3s,mb5.4						
CTA	**Charters Tower**	32.26	266	P	P	14 22 24.5	+0.7
	38nm,0.3s,mb5.4,baz=91,slow=11,SNR=188						
CTAO	**Charters Tower**	32.26	266	eP	P	14 22 24.3	+0.6
	37nm,0.4s,mb5.4						
STKA	**Stephens Creek**	36.40	245	eP	P	14 22 59.7	+1.8
	7.1nm,0.5s,mb4.5						
STKA	**Stephens Creek**	36.40	245	P	P	14 22 59.8	+1.9
	12nm,0.6s,mb4.6,baz=90,slow=9.7,SNR=44						
ASAR	**Alice Springs**	43.21	258	P	P	14 23 52.8	+0.3
	23nm,0.4s,mb5.0,baz=91,slow=8.4,SNR=374						
ASPA	**Alice Springs**	43.21	258	⇓iP	P	14 23 52.7	+0.2
ASPA				eS	S	14 29 35.2	-0.9
WB2	**Warramunga Arr**	43.33	263	⇓iP	P	14 23 53.0	-0.4
WRAB	**Tennant Creek**	43.33	263	eP	P	14 23 52.8	-0.7
	24nm,0.4s,mb5.1						
WRA	**Warramunga Arr**	43.34	263	P	P	14 23 53.2	-0.4
	18nm,0.3s,mb5.1,baz=97,slow=7.2,SNR=173						
WRA				S	S	14 29 35.1	-2.9
	1.1nm,0.9s,baz=98,slow=12,SNR=3.2						
KAKA	**Kakadu**	46.87	272	⇓iP	P	14 24 19.5	-1.0
	15nm,0.3s,mb5.0						
FORT	**Forrest**	47.92	247	⇓iP	P	14 24 28.5	+0.3
	74nm,0.5s,mb5.5						
FITZ	**Fitzroy Crossi**	51.77	263	eP	P	14 24 56.3	-0.1
	6.8nm,0.3s,mb4.5						
FITZ	**Fitzroy Crossi**	51.77	263	P	P	14 24 56.4	-0.1
	8.6nm,0.3s,mb4.5,baz=71,slow=2.2,SNR=106						
MBWA	**Marble Bar**	56.55	258	eP	P	14 25 29.0	-0.7
	15nm,0.4s,mb4.6						
KLBR	**Kellerberrin**	56.67	246	eP	P	14 25 30.3	-0.1
	7.3nm,0.4s,mb4.3						
NWAO	**Narrogin (SRO)**	56.98	244	eP	P	14 25 33.4	+0.9
	4.9nm,0.7s,mb3.9						
MUN	**Mundaring**	57.94	245	eP	P	14 25 40.0	+1.0
	4.9nm,0.5s,mb3.9						
TGY	**Tagaytay City**	68.42	296	P	P	14 26 43.7	-2.0
	249nm,0.8s,baz=92,slow=15,SNR=7.0						
YBH	**Yreka Blue Hor**	81.62	39	P	P	14 27 58.9	+0.9
	6.2nm,0.6s,mb4.3,baz=188,slow=1.1,SNR=23						
YBH	**Yreka Blue Hor**	81.62	39	eP	P	14 27 58.7	+0.8
	9.2nm,0.9s,mb4.3						
MNV	**Mina**	82.48	44	eP	P	14 28 02.4	0.0
	3.8nm,0.8s,mb4.0						
TPNV	**Topopah Spring**	82.92	46	eP	P	14 28 04.4	-0.1
	4.4nm,0.8s,mb4.0						
MOD	**Modoc**	83.16	40	eP	P	14 28 06.3	+0.7
	6.8nm,0.8s,mb4.2						
TUC	**Tucson**	84.37	52	eP	P	14 28 12.5	+0.6
	5.0nm,1.0s,mb4.0						
ENH	**Enshi**	85.51	305	eP	P	14 28 18.0	+0.6
ELK	**Elko**	85.64	43	eP	P	14 28 18.0	+0.3
	0.8nm,0.6s,mb3.5						
DPW	**Davenport**	87.86	36	eP	P	14 28 27.5	-0.5
SRU	**San Rafael**	87.90	47	eP	P	14 28 26.7	-1.7
TXAR	**Lajitas Array**	88.45	58	P	P	14 28 32.4	+1.1
	2.9nm,0.7s,mb4.1,baz=220,slow=5.9,SNR=30						
CMAR	**Chiang Mai Arr**	89.27	290	P	P	14 28 36.6	+1.4
	2.6nm,0.9s,mb4.1,baz=120,slow=2.6,SNR=14						
ILAR	**Eielson Array**	89.32	13	P	P	14 28 32.6	-1.8
	1.5nm,0.4s,mb4.1,baz=214,slow=5.1,SNR=42						
PDAR	**Pinedale Array**	90.32	44	P	P	14 28 39.5	0.0
	1.9nm,0.8s,mb4.0,baz=205,slow=2.9,SNR=13						
MKAR	**Makanchi Array**	110.87	313	PKiKP		14 34 05.9	
	0.6nm,1.0s,baz=51,slow=1.3,SNR=3.1						
ARCES	**ARCESS Array B**	129.46	349	PKP	PKPdf	14 34 41.4	+0.4
	1.9nm,0.6s,slow=1.2,SNR=9.8						
FINES	**FINESS Array B**	136.17	343	PKP	PKPdf	14 34 55.4	+1.8
	2.9nm,1.0s,baz=234,slow=0.4,SNR=7.2						
NOA	**NORSAR Array B**	139.59	352	PKP	PKPdf	14 35 01.6	+1.8
	0.2nm,0.6s,baz=51,slow=2.0,SNR=3.7						
AKASG	**Malin Array Be**	143.10	330	PKP	PKPdf	14 35 04.3	-1.8
	5.2nm,0.4s,baz=41,slow=4.2,SNR=21						
BRTR	**Keskin Array B**	146.47	311	PKPbc	PKPbc	14 35 15.7	+1.4
	1.0nm,0.5s,baz=108,slow=2.7,SNR=4.6						
KSP	**Ksiaz**	148.06	341	eP	PKPdf	14 35 20.4	+5.9
CLL	**Collm**	148.53	345	i PKP1	PKPdf	14 35 21.0	+5.8
BRG	**Berggiesshubel**	148.69	344	i P	PKPdf	14 35 21.7	+6.3
PRU	**Pruhonice**	149.33	342	ePKPbc	PKPdf	14 35 23.6	+7.1
KHC	**Kasperske Hory**	150.38	343	ePKPbc	PKPdf	14 35 25.0	+6.9
GERES	**GERESS Array B**	150.60	342	PKPbc	PKPdf	14 35 25.7	+7.2
	2.6nm,0.8s,baz=29,slow=2.5,SNR=16						

DJA 11 14:38:09.0±1.0**, 7.89S×114.04E, h80**^{km}**, MD5.1**/4**, ML4.2**/3**, 5C-2D, Error ellipse: s-maj=33.1km s-min=22.7km az=23.0, Bali Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KELI	**Kelakatan**	0.56	126	⇑iPn	P	14 38 17.8	-5.6
	383nm,0.2s						
INGI	**Ingas**	1.43	130	⇓iPn	P	14 38 33.4	-0.6
	193nm,0.2s						
INGI				⇓iSn	S	14 38 51.7	-0.7
RATI	**Rata**	1.70	119	⇑ePn	P	14 38 36.2	-1.2
	269nm,0.3s						

RATI				⇑*i*Sn	S	14 38 55.9	-2.4
KEDI	**Kedomdong**	**2.14**	**106**	⇑*i*Pn	P	14 38 42.5	-0.9
	99nm,0.3s						
KEDI				⇑*i*Sn	S	14 39 07.1	-1.8

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*NEIC **11** 15:19:17.0, 35.07S×70.53W, h3^{km}, ML2.7(GUC), After GUC.*

GUC 11 15:19:17.0±0.8**, 35.07S×70.53W, h3^{km}, MD3.5, ML2.7, 3C-2D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFDO	**San Fernando**	**0.61**	**319**	⇓*i*P	Pg	15 19 29.3	+0.2
SFDO				*i* S	Sg	15 19 38.6	+1.4
CICH	**Cipreses**	**0.76**	**7**	⇓*i*P	Pg	15 19 31.1	-1.0
CICH				*i* S	Sg	15 19 42.1	0.0
CACH	**El Canelo**	**0.95**	**356**	⇑*i*P	Pb	15 19 34.7	-1.1
CHCH	**Chadas Angostu**	**1.14**	**355**	*e*P	Pb	15 19 38.2	-0.8
LMEL	**Las Melosas**	**1.25**	**12**	⇑*i*P	Pb	15 19 39.9	-1.0
LMEL				*i* S	Sb	15 19 57.8	+0.6
LMEL				AMP		15 19 58.8	
	comp=N,203nm,0.2s						
LNV	**Longovilo**	**1.33**	**326**	*i* P	Pb	15 19 41.5	-0.8
LNV				*i* S	Sb	15 19 59.9	+0.3
PCH	**Pirque**	**1.45**	**0**	*e*P	Pn	15 19 43.2	-0.9
TACH	**Talagante**	**1.46**	**346**	*e*P	Pn	15 19 43.4	-0.9
TACH				*i* S	Sb	15 20 03.7	+0.5
FCH	**Farellones**	**1.75**	**6**	⇑*i*P	Pn	15 19 49.2	+0.7
FCH				*i* S	Sn	15 20 13.1	+1.5
FCH				AMP		15 20 13.9	
	comp=E,154nm,0.2s						
LCCH	**Las Cruces**	**1.81**	**331**	*e*P	Pn	15 19 49.0	-0.4
LCCH				*i* S	Sn	15 20 14.1	+0.9

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*IDC **11** 15:20:07.0±0.9, 14.49N×146.88E, mb4.1/10, mb1 4.2/10, mb1mx4.1/20, Error ellipse: s-maj=32.9km s-min=17.3km az=95.0*

*NEIC **11** 15:20:13.8±1.5, 14.48N×146.75E, h48^{km}±11^{km}, mb4.5/11, Error ellipse: s-maj=18.8km s-min=8.3km az=98.0*

ISC 11 15:20:12.5±1.9**, 14.48N**±0.07×**146.8E**±0.2**, h57**^{km}±13^{km}**, n35, σ1^{s}03**/27**, mb4.3**/21**, 1C, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SAPN	**Saipan**	**1.26**	**306**	⇑*i*P	**P**	**15 20 35.0**	**+0.6**
GUMO	**Guam**	**2.08**	**245**	*e*Pn	**P**	**15 20 45.6**	**-0.1**
ANAT	**Anatahan**	**2.18**	**329**	P	**P**	**15 20 47.0**	**-0.1**
SARN	**Sarigan**	**2.43**	**336**	*e*P	**P**	**15 20 50.0**	**-0.8**
ASAJ	**Asahikawa**	**29.76**	**354**	P	**P**	**15 26 16.3**	**+0.5**
	2.6nm,0.8s,mb4.0,baz=273,slow=30,SNR=3.2						
WRAB	**Tennant Creek**	**36.32**	**200**	*e*P	**P**	**15 27 12.9**	**0.0**
	6.0nm,0.9s,mb4.5						
WRA	**Warramunga Arr**	**36.34**	**200**	P	**P**	**15 27 11.8**	**-1.1**
	1.5nm,0.7s,mb4.0,baz=24,slow=9.1,SNR=4.8						
BJT	**Baijiatuau**	**36.96**	**319**	P	**P**	**15 27 17.4**	**-0.6**
	15nm,1.3s,mb4.7						
FITZ	**Fitzroy Crossi**	**38.52**	**213**	P	**P**	**15 27 32.1**	**+0.9**
	2.0nm,0.8s,mb3.9,baz=160,slow=4.9,SNR=5.0						
ASAR	**Alice Springs**	**39.95**	**199**	P	**P**	**15 27 43.6**	**+0.5**
	0.4nm,0.6s,mb3.4,baz=22,slow=8.6,SNR=6.5						
MBWA	**Marble Bar**	**44.28**	**217**	*e*P	**P**	**15 28 19.8**	**+1.2**
	9.7nm,1.0s,mb4.5						
MA2	**Magadan**	**45.12**	**3**	P	**P**	**15 28 26.6**	**+1.8**
	5.5nm,0.8s,mb4.4						
CMAR	**Chiang Mai Arr**	**45.98**	**282**	P	**P**	**15 28 33.8**	**+1.6**
	1.9nm,1.0s,mb4.0,baz=80,slow=4.5,SNR=7.0						
SONM	**Songino Array**	**47.12**	**323**	P	**P**	**15 28 40.8**	**0.0**
	1.9nm,0.8s,mb4.1,baz=137,slow=5.8,SNR=14						
NWAO	**Narrogin (SRO)**	**54.96**	**210**	P	**P**	**15 29 37.9**	**-2.4**
	6.3nm,1.0s,mb4.6						
MKAR	**Makanchi Array**	**62.18**	**315**	P	**P**	**15 30 30.5**	**+0.3**
	3.8nm,0.5s,mb4.8,baz=91,slow=8.0,SNR=80						
MKAR	**Makanchi Array**	**62.18**	**315**	P	**P**	**15 30 30.5**	**+0.3**
KURK	**Kurchatov**	**65.14**	**319**	P	**P**	**15 30 49.9**	**+0.3**
	68nm,0.7s,mb5.8,SNR=13						
KURK	**Kurchatov**	**65.14**	**319**	*e*P	**P**	**15 30 48.9**	**-0.7**
	13nm,1.1s,mb4.9						
ILAR	**Eielson Array**	**66.97**	**25**	P	**P**	**15 30 59.9**	**-1.1**
	1.1nm,0.9s,mb3.9,baz=260,slow=4.5,SNR=6.8						
AAK	**Ala-Archa**	**67.37**	**310**	P	**P**	**15 30 57.5**	**-6.4**
	3.6nm,1.3s,mb4.2						
BVAR	**Borovoye Array**	**70.41**	**321**	P	**P**	**15 31 22.5**	**+0.1**
	2.3nm,0.5s,mb4.4,baz=101,slow=7.6,SNR=19						
BRVK	**Borovoye**	**70.48**	**321**	*e*P	**P**	**15 31 22.6**	**-0.2**
	4.1nm,0.8s,mb4.4						
ZRNK	**Zerenda**	**71.25**	**321**	*e*P	**P**	**15 31 26.8**	**-0.7**
	8.4nm,1.3s,mb4.5						
ARU	**Arti**	**77.12**	**325**	P	**P**	**15 32 00.9**	**-0.5**
	3.3nm,0.7s,mb4.4						
HWUT	**Hardware Ranch**	**88.97**	**47**	P	**P**	**15 33 04.3**	**+1.9**
	1.3nm,0.8s,mb4.3						
FINES	**FINESS Array B**	**91.15**	**336**	P	**P**	**15 33 09.7**	**-2.4**
	2.6nm,0.9s,mb4.5,baz=27,slow=3.1,SNR=4.4						
TSUM	**Tsumeb**	**131.31**	**257**	*e*PKPpre		15 39 18.1	
DBIC	**Dimbokro**	**144.91**	**305**	PKP	PKPdf	15 39 46.2	+2.0
	5.8nm,0.5s,baz=43,slow=3.5,SNR=15						
DBIC	**Dimbokro**	**144.91**	**305**	PKP	PKPdf	15 39 46.2	+2.0
KIC	**Kosan Boka**	**145.01**	**304**	*e*PKP1	PKPbc	15 39 46.4	+1.8
	27nm,0.6s						
TIC	**Toumodi**	**145.06**	**305**	*e*PKP1	PKPbc	15 39 46.3	+1.5
	18nm,0.2s						
LIC	**Lamto**	**145.32**	**304**	*e*PKP1	PKPbc	15 39 47.4	+2.0
	66nm,1.0s						
LPAZ	**La Paz**	**146.28**	**98**	PKPbc	PKPbc	15 39 52.4	+4.8
	1.8nm,0.2s,baz=266,slow=0.9,SNR=5.1						
SAML	**Samuel**	**150.14**	**83**	*e*PKPbc	PKPdf	15 40 01.6	+8.8

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*IDC **11** 15:30:44.4±1.2, 35.76N×70.72E, mb3.9/6, mb1 4.1/8, mb1mx3.8/20, ML4.2/2, Error ellipse: s-maj=35.4km s-min=21.6km az=50.0*

*MOS **11** 15:30:47.3±1.7, 35.74N×70.74E, h33^{km}, mb4.2/5, Error ellipse: s-maj=32.8km s-min=10.0km az=93.8*

*NEIC **11** 15:30:58.2±1.8, 36.24N×70.99E, h102^{km}±17^{km}, mb4.0/8, Error ellipse: s-maj=22.7km s-min=5.9km az=60.0*

*NNC **11** 15:31:07.0±1.8, 36.82N×70.25E, h138^{km}±18^{km}, mpv4.6, Error ellipse: s-maj=19.6km s-min=13.4km az=67.0*

ISC 11 15:31:00.6±0.5**, 36.37N**±0.03×**71.13E**±0.09**, h141**^{km}±7^{km}**, n51, σ1^{s}02**/56**, mb3.7**/7**, 5C-2D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**2.62**	**166**	⇓P	**P**	**15 31 44.1**	**+0.7**
CEP				S	**S**	**15 32 17.0**	**+0.9**
CHCP	**Chirah Chowk**	**3.22**	**146**	P	**P**	**15 31 52.4**	**+1.2**
THW	**Thamme Wali**	**3.60**	**172**	P	**P**	**15 31 56.2**	**0.0**
SBDP	**Sheikh Budin**	**4.07**	**184**	P	**P**	**15 32 02.2**	**-0.2**
SARP	**Sargodha**	**4.61**	**163**	P	**P**	**15 32 09.0**	**-0.7**
DRP	**Derazinda**	**4.67**	**190**	P	**P**	**15 32 10.3**	**-0.2**
AML	**Almayashu**	**6.09**	**18**	P	**P**	**15 32 29.2**	**-0.1**
	SNR=45						
UCH	**Uchtor**	**6.41**	**23**	P	**P**	**15 32 36.0**	**+2.3**
	SNR=25						
EKS2	**Erkin-Say**	**6.61**	**17**	P	**P**	**15 32 36.6**	**+0.1**
	SNR=33						
KK31	**Karatay Array**	**6.75**	**356**	P	**P**	**15 32 37.2**	**-1.0**
	23nm,0.5s,baz=184,slow=13,SNR=323						
KK31				⇑S	**S**	**15 33 48.6**	**-5.5**
	17nm,0.3s						
KKAR	**Karatay Array**	**6.75**	**356**	*e*P	**P**	**15 32 37.2**	**-1.1**
KKAR				S	**S**	**15 33 48.6**	**-5.5**
KKAR				pmax	pmax		
	comp=Z,23nm,0.5s						
KKAR				smax			
	comp=Z,11nm,0.3s						
AAK	**Ala-Archa**	**6.78**	**22**	P	**P**	**15 32 39.0**	**+0.3**
	SNR=36						
AAK	**Ala-Archa**	**6.78**	**22**	*e*Pn	**P**	**15 32 37.5**	**-1.2**
KBK	**Karagaybulak**	**6.94**	**24**	P	**P**	**15 32 44.9**	**+4.0**
	SNR=24						
CHMS	**Chumysh**	**7.19**	**22**	P	**P**	**15 32 45.3**	**+1.1**
	SNR=16						
USP	**Ospenovka**	**7.36**	**20**	P	**P**	**15 32 45.6**	**-1.0**
	SNR=16						
TKM2	**Tokmak 2**	**7.40**	**26**	P	**P**	**15 32 50.2**	**+3.2**
	SNR=68						
MKAR	**Makanchi Array**	**13.34**	**35**	Pn	**P**	**15 34 05.9**	**+0.7**
	comp=Z,0.5nm,0.3s,baz=220,slow=13,SNR=20						
MKAR	**Makanchi Array**	**13.34**	**35**	P	**P**	**15 34 05.9**	**+0.7**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KOLN	**Koldanda**	**13.60**	**126**	*e*P	**P**	**15 34 07.1**	**-1.5**
	comp=Z,6.4nm,0.5s						
GKN	**Gorkha**	**14.14**	**122**	*e*P	**P**	**15 34 14.8**	**-0.7**
	comp=Z,38nm,0.8s						
DMN	**Daman**	**14.71**	**122**	*e*P	**P**	**15 34 22.1**	**-0.7**
	comp=Z,35nm,1.0s						
DMN				*e*S	**S**	**15 36 52.6**	**-10**
KKN	**Kakani**	**14.72**	**122**	*e*P	**P**	**15 34 21.9**	**-0.9**
PKI	**Pulchoki**	**14.94**	**122**	*e*P	**P**	**15 34 25.2**	**-0.5**
	comp=Z,6.0nm,0.4s						
AB31	**Akbulak array**	**15.25**	**331**	⇑P	**P**	**15 34 26.4**	**-3.0**
	comp=Z,4.8nm,0.5s						
AB31				⇓S	**S**	**15 37 06.6**	**-7.8**
	comp=Z,2.8nm,0.5s,baz=148,slow=23,SNR=11						
AB31	**Akbulak array**	**15.25**	**331**	P	**P**	**15 34 28.3**	**-1.1**
AB31				pmax	pmax		
	comp=Z,2.0nm,0.4s						
KURK	**Kurchatov**	**15.32**	**18**	*e*P	**P**	**15 34 29.0**	**-1.2**
	comp=Z,6.1nm,1.0s						
VOSK	**Vostochnaya**	**16.36**	**360**	⇑P	**P**	**15 34 42.7**	**-0.3**
	comp=Z,7.7nm,0.8s						
VOSK	**Vostochnaya**	**16.36**	**360**	P	**P**	**15 34 42.7**	**-0.4**
VOSK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
ZRNK	**Zerenda**	**16.65**	**356**	⇑P	**P**	**15 34 46.1**	**-0.6**
	comp=Z,2.8nm,0.5s						
ZRNK	**Zerenda**	**16.65**	**356**	P	**P**	**15 34 46.1**	**-0.6**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZRNK	**Zerenda**	**16.65**	**356**	*e*P	**P**	**15 34 45.9**	**-0.8**
	comp=Z,4.5nm,0.5s						
BVA0	**Borovoye Array**	**16.67**	**358**	⇑P	**P**	**15 34 46.7**	**-0.2**
	comp=Z,0.6nm,0.6s						
BVA0	**Borovoye Array**	**16.67**	**358**	P	**P**	**15 34 46.6**	**-0.3**
BVAR	**Borovoye Array**	**16.67**	**358**	P	**P**	**15 34 46.9**	**0.0**
	comp=Z,1.5nm,0.3s,baz=180,slow=13,SNR=27						
BRVK	**Borovoye**	**16.70**	**358**	*e*P	**P**	**15 34 46.9**	**-0.5**
	comp=Z,7.0nm,0.6s						
NVS	**Novosibirsk**	**20.27**	**20**	*i* P	**P**	**15 35 26.3**	**-0.3**
NVS				pmax	pmax		
	comp=Z,9.0nm,1.3s						
NVS				pmax	pmax		
	comp=N,15nm,1.7s						
ARU	**Arti**	**21.79**	**341**	*e*P	**P**	**15 35 43.8**	**+2.1**
ARU	**Arti**	**21.79**	**341**	*e*P	**P**	**15 35 43.4**	**+1.7**
	comp=N,8.0nm,0.8s,mb4.2						
SONM	**Songino Array**	**28.32**	**55**	P	**P**	**15 36 44.8**	**+1.9**
	comp=N,0.2nm,0.5s,mb3.1,baz=255,slow=7.6,SNR=3.2						
FINES	**FINESS Array B**	**37.65**	**326**	P	**P**	**15 38 02.9**	**-0.3**
	comp=N,1.4nm,0.8s,mb3.7,baz=127,slow=6.9,SNR=7.0						
FINES	**FINESS Array B**	**37.65**	**326**	P	**P**	**15 38 02.9**	**-0.3**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ARCES	**ARCESS Array B**	**41.31**	**338**	P	**P**	**15 38 35.2**	**+2.0**
	comp=Z,5.5nm,0.9s,mb4.2,baz=106,slow=8.8,SNR=4.3						
ARCES	**ARCESS Array B**	**41.31**	**338**	P	**P**	**15 38 35.3**	**+2.0**
ARCES				pmax	pmax		
	comp=Z,6.0nm,0.9s						
NB2	**NORSAR Subarra**	**44.55**	**323**	P	**P**	**15 38 59.7**	**+0.2**
	comp=Z,0.7nm,0.5s,mb3.5,baz=97,slow=7.9						
NOA	**NORSAR Array B**	**44.55**	**323**	P	**P**	**15 38 60.0**	**+0.5**
	comp=Z,1.0nm,0.6s,mb3.6,baz=96,slow=7.8,SNR=6.9						
NOA	**NORSAR Array B**	**44.55**	**323**	P	**P**	**15 39 00.0**	**+0.5**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA	**NORSAR Array B**	**44.55**	**323**	P	**P**	**15 38 60.0**	**+0.5**
WRA	**Warramunga Arr**	**81.83**	**122**	P	**P**	**15 43 05.4**	**-0.1**
	comp=Z,0.5nm,0.5s,mb3.4,baz=322,slow=4.9,SNR=5.4						
WRA	**Warramunga Arr**	**81.83**	**122**	P	**P**	**15 43 05.4**	**-0.1**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ASAR	**Alice Springs**	**84.09**	**125**	P	**P**	**15 43 17.2**	**+0.4**
	comp=Z,0.8nm,0.6s,mb3.6,baz=311,slow=4.8,SNR=14						

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*NEIC **11** 16:02:06.6, 35.35S×70.97W, h105^{km}, MD3.4(GUC), After GUC.*

GUC 11 16:02:06.6±0.7**, 35.35S×70.97W, h105**^{km}±6^{km}**, MD3.4, ML3.5, 2C-4D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFDO	**San Fernando**	**0.74**	**357**	⇓*i*P	P	16 02 25.2	+0.2
SFDO				*i* S	S	16 02 39.1	+0.4
CICH	**Cipreses**	**1.13**	**24**	*e*P	P	16 02 29.0	-0.1
CICH				*e*S	S	16 02 46.5	+0.5
CACH	**El Canelo**	**1.27**	**14**	⇓*i*P	P	16 02 30.9	+0.1
CACH				*i* S	S	16 02 49.4	+0.4
LNV	**Longovilo**	**1.44**	**345**	*i* P	P	16 02 32.9	+0.1
LNV				*i* S	S	16 02 51.9	-0.5
CHCH	**Chadas Angostu**	**1.44**	**11**	*e*P	P	16 02 33.0	+0.1
CHCH				*i* S	S	16 02 52.4	-0.1
LMEL	**Las Melosas**	**1.63**	**23**	⇓*i*P	P	16 02 35.5	+0.3
LMEL				AMP		16 03 03.3	
	comp=N,583nm,0.2s						
TACH	**Talagante**	**1.69**	**1**	⇑*i*P	P	16 02 36.0	0.0
TACH				*i* S	S	16 02 58.2	+0.4
PCH	**Pirque**	**1.77**	**13**	*e*P	P	16 02 37.1	+0.3
PCH				*i* S	S	16 03 01.2	+1.8
ANTU	**Antumapu**	**1.80**	**9**	*e*P	P	16 02 37.3	0.0
ANTU				*i* S	S	16 03 00.7	+0.6
ANTU				AMP		16 03 05.2	
	comp=N,308nm,0.6s						
LCCH	**Las Cruces**	**1.94**	**345**	⇓*i*P	P	16 02 38.9	-0.1
CLCH	**Cerro Calan**	**1.98**	**11**	*e*P	P	16 02 39.9	+0.2
CLCH				*i* S	S	16 03 05.5	+1.3
CLCH				AMP		16 03 10.1	
	comp=E,442nm,0.3s						
CLCH				AMP		16 03 11.2	
	comp=E,341nm,0.3s						
FCH	**Farellones**	**2.10**	**16**	⇑*i*P	P	16 02 41.2	+0.1
FCH				*e*		16 03 06.0	
FCH				*i* S	S	16 03 08.4	+1.5
FCH				AMP		16 03 12.8	
	comp=N,361nm,0.4s						
PEL	**Peldehue**	**2.22**	**6**	*e*P	P	16 02 42.5	-0.3
PEL				*i* S	S	16 03 09.8	0.0
PEL				*i* S	S	16 03 10.1	+0.3
PEL				AMP		16 03 14.0	
	comp=N,402nm,0.3s						

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*IDC **11** 16:12:23.2±0.7, 16.59S×173.70W, mb4.4/10, mb1 4.6/10, mb1mx4.4/16, MS3.5/1, Ms1 3.5/1, ms1mx3.1/18, Error ellipse: s-maj=38.0km s-min=16.7km az=132.0*

*NEIC **11** 16:12:27.7±9.7, 16.59S×173.71W, h30^{km}±68^{km}, mb4.4/9, Error ellipse: s-maj=16.8km s-min=10.0km az=155.0*

ISC 11 16:12:26.6±0.4**, 16.6S**±0.1×**173.8W**±0.1**, h33**^{km}**, n26, σ0^{s}67**/22**, mb4.3**/19**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**7.92**	**261**	Pn	**Pn**	**16 14 35.2**	**+13**
	480nm,0.8s,SNR=9.8						
RAR	**Rarotonga**	**14.00**	**111**	LR	LR	16 19 56.7	
	comp=Z,204nm,19.8s,baz=321,slow=32						
URZ	**Urewera**	**23.03**	**199**	P	**P**	**16 17 31.2**	**+1.4**
	12nm,0.3s,mb4.7,baz=108,slow=1.6,SNR=16						
RPZ	**Rata Peaks**	**29.96**	**202**	P	**P**	**16 18 32.3**	**-1.6**
	12nm,0.9s,mb4.6,baz=27,slow=4.5,SNR=3.1						
STKA	**Stephens Creek**	**43.16**	**241**	P	**P**	**16 20 26.1**	**+0.1**
	6.1nm,0.8s,mb4.4,baz=60,slow=5.1,SNR=5.8						
WB2	**Warramunga Arr**	**49.24**	**258**	*e*P	**P**	**16 21 14.3**	**+0.1**
WRAB	**Tennant Creek**	**49.24**	**258**	*e*P	**P**	**16 21 14.2**	**-0.1**
	2.7nm,0.7s,mb4.4						
WRA	**Warramunga Arr**	**49.25**	**258**	P	**P**	**16 21 14.1**	**-0.3**
	0.8nm,0.4s,mb4.1,baz=96,slow=7.0,SNR=10						
ASAR	**Alice Springs**	**49.43**	**253**	P	**P**	**16 21 15.8**	**+0.1**
	18nm,0.6s,mb5.3,baz=88,slow=8.3,SNR=22						
ASPA	**Alice Springs**	**49.43**	**253**	*e*P	**P**	**16 21 15.4**	**-0.3**
SBA	**Scott Base**	**62.04**	**185**	P	**P**	**16 22 45.3**	**-0.4**
	1.7nm,0.9s,mb4.2						
MBWA	**Marble Bar**	**62.71**	**254**	*e*P	**P**	**16 22 50.9**	**0.0**
	1.6nm,0.4s,mb4.5						
CMB	**Columbia Colle**	**73.88**	**41**	*e*P	**P**	**16 23 59.6**	**-0.5**
	3.6nm,0.9s,mb4.3						
YBH	**Yreka Blue Hor**	**74.75**	**37**	P	**P**	**16 24 05.5**	**+0.5**
	0.7nm,0.5s,mb3.8,baz=202,slow=1.0,SNR=5.9						
MNV	**Mina**	**75.53**	**42**	*e*P	**P**	**16 24 09.8**	**+0.1**
	7.6nm,1.1s,mb4.5						
TPH	**Tonopah**	**75.93**	**43**	*e*P	**P**	**16 24 11.7**	**-0.2**
	7.0nm,1.0s,mb4.5						
HLID	**Hailey**	**80.76**	**39**	*e*P	**P**	**16 24 38.9**	**+0.6**
	4.7nm,1.0s,mb4.4						
TXAR	**Lajitas Array**	**81.55**	**56**	P	**P**	**16 24 42.9**	**+0.1**
	0.6nm,0.8s,mb3.6,baz=225,slow=8.8,SNR=8.3						
ANMO	**Albuquerque**	**81.82**	**50**	P	**P**	**16 24 42.5**	**-1.6**
	1.5nm,0.8s,mb4.0						
PDAR	**Pinedale Array**	**83.37**	**42**	P	**P**	**16 24 52.0**	**+0.1**
	3.0nm,0.8s,mb4.4,baz=261,slow=3.1,SNR=13						
ILAR	**Eielson Array**	**83.67**	**11**	P	**P**	**16 24 53.3**	**+0.5**
	0.7nm,0.6s,mb4.0,baz=213,slow=5.7,SNR=7.3						
SDCO	**Great Sand Dun**	**83.76**	**48**	*e*P	**P**	**16 24 54.1**	**+0.2**
	3.8nm,1.1s,mb4.4						
MAW	**Mawson**	**86.56**	**199**	P	**P**	**16 25 08.2**	**+1.1**
	0.8nm,0.6s,mb4.2,baz=108,slow=3.2,SNR=3.3						
CLL	**Collm**	**144.95**	**353**	*e*PKIKP	PKPdf	16 32 02.0	+1.8
MOX	**Moxa**	**145.76**	**354**	*e*P	PKPdf	16 32 04.0	+2.4
MOX				pPKP		16 32 30.0	
GERES	**GERESS Array B**	**147.26**	**351**	PKPbc	PKPdf	16 32 08.1	+3.9
	0.4nm,0.7s,slow=1.3,SNR=3.7						

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*DJA **11** 16:22:47.3±0.9, 7.56S×113.06E, h80^{km}, MD4.9/4, ML4.9/4, Error ellipse: s-maj=51.4km s-min=18.4km az=24.0*

*IDC **11** 16:22:54.5±2.6, 8.08S×113.53E, mb3.5/3, mb1 3.8/4, mb1mx3.6/14, ML3.4/1, Error ellipse: s-maj=159.0km s-min=24.5km az=49.0*

ISC 11 16:22:50.9±1.9**, 7.4S**±0.2×**113.4E**±0.2**, h33**^{km}**, n8, σ1^{s}35**/11**, mb3.5**/2**, 3C-5D, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KELI	**Kelakatan**	**1.34**	**129**	⇓*i*Pn	**Pn**	**16 23 11.4**	**-2.2**
	2μm,0.3s						
KELI				⇓*i*Sn	**Sn**	**16 23 32.2**	**+1.8**
INGI	**Ingas**	**2.22**	**130**	⇑*i*Pn	**Pn**	**16 23 25.1**	**-1.1**
	700nm,0.4s						
INGI				⇑*i*Sn	**Sn**	**16 23 52.6**	**-0.1**
RATI	**Rata**	**2.47**	**123**	⇓*e*Pn	**Pn**	**16 23 30.1**	**+0.3**
	439nm,0.3s						
RATI				⇑*i*Sn	**Sn**	**16 23 58.9**	**-0.2**
KEDI	**Kedomdong**	**2.87**	**113**	⇓*i*Pn	**Pn**	**16 23 35.2**	**-0.3**
	244nm,0.3s						
KEDI				⇓*i*Sn	**Sn**	**16 24 09.1**	**-0.2**
FITZ	**Fitzroy Crossi**	**15.97**	**133**	Pn	**P**	**16 26 33.0**	**-1.8**
	0.1nm,0.3s,baz=324,slow=14,SNR=4.0						
WRA	**Warramunga Arr**	**23.81**	**124**	P	**P**	**16 28 03.5**	**+1.7**
	0.8nm,0.5s,mb3.4,baz=297,slow=12,SNR=3.5						
ASAR	**Alice Springs**	**25.46**	**132**	P	**P**	**16 28 20.4**	**+2.7**
	1.5nm,0.6s,mb3.7,baz=307,slow=9.2,SNR=14						
MKAR	**Makanchi Array**	**60.62**	**336**	P	pP	16 33 11.8	+0.8
	0.2nm,0.5s,baz=151,slow=7.7,SNR=4.1						

DJA 11 16:41:51.8±0.2**, 8.51S×115.83E, h2**^{km}**, MD5.9**/3**, ML3.5**/1**, 3C-5D, Error ellipse: s-maj=11.3km s-min=3.5km az=164.0, Bali region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KEDI	**Kedomdong**	**0.28**	**86**	⇓*i*Pn	Pn	16 41 58.3	-4.0
	565nm,0.2s						
KEDI				⇓*i*Sn	Sn	16 42 03.1	-6.1
RATI	**Rata**	**0.37**	**234**	⇑*e*Pn	Pn	16 42 01.2	-2.4
	2μm,0.2s						
RATI				⇓*i*Sn	Sn	16 42 09.0	-2.5
INGI	**Ingas**	**0.75**	**245**	⇑*i*Pn	Pn	16 42 06.3	-2.8
	278nm,0.3s						
INGI				⇑*i*Sn	Sn	16 42 18.8	-2.3
KELI	**Kelakatan**	**1.36**	**282**	⇓*i*Pn	Pn	16 42 14.6	-3.2
	46nm,0.3s						
KELI				⇓*i*Sn	Sn	16 42 32.6	-4.0

NEIC 11 16:46:40.5, 50.75N×177.69E, h10^{km}**, ML3.5**(AEIC)**, After AEIC., Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SMY	**Shemya**	**2.98**	**313**	P	Pn	16 47 25.4	-3.4
SMY				S	Sn	16 48 02.1	-2.8
KIMD	**Kanaga Island**	**3.35**	**70**	P	Pn	16 47 31.3	-2.7
KIKV	**Kanaga Island**	**3.42**	**69**	P	Pn	16 47 32.5	-2.5
KIKV				S	Sn	16 48 12.9	-3.0
KINC	**Kanaga Island**	**3.46**	**68**	P	Pn	16 47 33.0	-2.6
KIRH	**Kanaga Island**	**3.47**	**69**	P	Pn	16 47 33.0	-2.6
FX1	**Attu Island--F**	**3.52**	**309**	P	Pn	16 47 34.3	-2.2
FX1				S	Sn	16 48 15.7	-2.9
GSMY	**Great Sitkin M**	**4.13**	**69**	P	Pn	16 47 41.8	-3.2
GSIG	**Igitkin Island**	**4.19**	**70**	P	Pn	16 47 43.2	-2.7

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*IDC **11** 16:47:46.6±0.8, 2.89N×127.00E, mb4.0/11, mb1 4.2/11, mb1mx4.1/18, MS3.7/1, Ms1 3.7/1, ms1mx2.8/16, Error ellipse: s-maj=41.0km s-min=14.3km az=70.0*

*NEIC **11** 16:47:56.0±5.7, 2.86N×127.11E, h78^{km}±55^{km}, mb4.5/6, Error ellipse: s-maj=23.7km s-min=10.5km az=71.0*

ISC 11 16:47:49.7±0.6**, 2.90N**±0.08×**127.0E**±0.2**, h33**^{km}**, n18, σ0^{s}80**/18**, mb4.2**/14**, MS3.7**/1**, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**20.92**	**184**	*e*P	**P**	**16 52 32.6**	**+0.6**
	1.2nm,0.4s						
FITZ	**Fitzroy Crossi**	**20.92**	**184**	P	**P**	**16 52 31.7**	**-0.3**
	2.8nm,0.7s,baz=14,slow=6.6,SNR=9.5						
WRAB	**Tennant Creek**	**23.80**	**163**	*e*P	**P**	**16 53 00.6**	**-0.1**
	11nm,0.9s,mb4.3						
WRA	**Warramunga Arr**	**23.81**	**163**	P	**P**	**16 53 00.9**	**+0.2**
	5.2nm,0.8s,mb4.0,baz=341,slow=10,SNR=17						
WB2	**Warramunga Arr**	**23.81**	**163**	*e*P	**P**	**16 53 00.9**	**+0.1**
WB2				*i*		16 53 12.2	
MBWA	**Marble Bar**	**24.96**	**196**	*e*P	**P**	**16 53 12.5**	**+0.6**
	18nm,1.1s,mb4.5						
ASAR	**Alice Springs**	**27.24**	**166**	P	**P**	**16 53 32.2**	**-0.8**
	1.1nm,0.7s,mb3.5,baz=347,slow=7.3,SNR=19						
ASAR				PcP	PcP	16 56 52.9	+0.1
	0.4nm,0.6s,baz=358,slow=2.3,SNR=7.6						
CMAR	**Chiang Mai Arr**	**31.55**	**301**	P	**P**	**16 54 11.7**	**+0.1**
	0.8nm,0.8s,mb3.6,baz=122,slow=8.0,SNR=5.3						
NWAO	**Narrogin (SRO)**	**36.82**	**194**	P	**P**	**16 54 57.0**	**+0.3**
	14nm,1.2s,mb4.7,baz=42,slow=10.0,SNR=3.7						
STKA	**Stephens Creek**	**37.25**	**159**	*e*P	**P**	**16 54 59.8**	**-0.5**
	4.5nm,0.9s,mb4.3						
STKA	**Stephens Creek**	**37.25**	**159**	P	**P**	**16 54 59.9**	**-0.4**
	6.2nm,0.8s,mb4.5,baz=335,slow=9.4,SNR=13						
STKA				PcP	PcP	16 57 20.2	+0.2
	2.2nm,0.8s,baz=338,slow=5.4,SNR=4.2						
STKA				LR	LR	17 11 15.0	
	comp=Z,113nm,18.5s,MS3.7,baz=28,slow=38						
BJT	**Baijiatuau**	**38.24**	**346**	P	**P**	**16 55 09.3**	**+0.9**
	16nm,1.0s,mb4.7						
SONM	**Songino Array**	**48.17**	**341**	P	**P**	**16 56 29.1**	**+0.3**
	0.8nm,0.9s,mb3.8,baz=160,slow=10.0,SNR=5.8						
MKAR	**Makanchi Array**	**58.40**	**325**	P	**P**	**16 57 43.6**	**-0.9**
	1.0nm,0.5s,mb4.1,baz=124,slow=8.4,SNR=17						
YAK	**Yakutsk**	**59.02**	**1**	P	**P**	**16 57 45.8**	**-2.8**
	6.7nm,0.7s,mb4.8						
BVAR	**Borovoye Array**	**68.17**	**327**	P	**P**	**16 58 48.7**	**0.0**
	1.0nm,0.9s,mb3.9,baz=135,slow=4.2,SNR=5.4						
ILAR	**Eielson Array**	**85.72**	**25**	P	**P**	**17 00 27.9**	**+1.6**
	1.0nm,1.2s,mb3.9,baz=241,slow=6.6,SNR=4.2						
KMBO	**Kilima Mbogo**	**89.83**	**269**	P	**P**	**17 00 47.0**	**-0.4**
	1.1nm,0.8s,mb4.2,baz=59,slow=23,SNR=2.7						

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*IDC **11** 16:54:39.0±1.4, 13.55S×165.37E, mb4.2/7, mb1 4.3/8, mb1mx4.2/15, ML3.5/1, MS3.5/4, Ms1 3.5/4, ms1mx3.3/14, Error ellipse: s-maj=65.0km s-min=20.5km az=142.0*

*NEIC **11** 16:54:43.8±5.5, 13.59S×165.38E, h30^{km}±38^{km}, mb4.7/3, Error ellipse: s-maj=19.9km s-min=12.1km az=190.0*

ISC 11 16:54:49.7±2.3**, 14.1S**±0.1×**165.4E**±0.1**, h107**^{km}±24^{km}**, n25, σ0^{s}96**/24**, mb4.1**/10**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BKM	**Butte a Klehm**	**4.45**	**143**	*i* P	**P**	**16 55 55.1**	**-1.3**
BKM				S	**S**	**16 56 48.7**	**+1.3**
DZM	**Mont Dzumac**	**7.98**	**173**	*e*P	**P**	**16 56 44.3**	**-0.1**
DZM				*e*S	**S**	**16 58 12.1**	**-1.5**
DZM	**Mont Dzumac**	**7.98**	**173**	*e*P	**P**	**16 56 44.3**	**-0.1**
DZM				*e*S	**S**	**16 58 12.1**	**-1.5**
NOUC	**Port Laguerre**	**7.99**	**174**	*e*P	**P**	**16 56 45.4**	**+0.8**
NOUC	**Port Laguerre**	**7.99**	**174**	*e*S	**S**	**16 58 14.0**	**0.0**
NOUC	**Port Laguerre**	**7.99**	**174**	*e*P	**P**	**16 56 45.4**	**+0.8**
NOUC				*e*S	**S**	**16 58 14.0**	**0.0**
CTA	**Charters Tower**	**19.27**	**249**	P	**P**	**16 59 08.3**	**-0.2**

	0.1nm,0.3s,baz=76,slow=12,SNR=2.6						
CTA				LR	LR	17 04 15.3	
	comp=Z,58nm,21.2s,baz=280,slow=30						
CTA	Charters Tower	19.27	249	P	P	16 59 08.3	-0.2
CTA				LR	LR	17 04 15.3	
CTAO	Charters Tower	19.27	249	eP	P	16 59 09.1	+0.6
URZ	Urewera	26.19	159	LR	LR	17 09 28.4	
	comp=Z,90nm,21.6s,baz=312,slow=33						
STKA	Stephens Creek	28.08	227	P	P	17 00 34.7	+1.3
	6.5nm,0.9s,mb4.2,baz=19,slow=10,SNR=6.6						
STKA	Stephens Creek	28.08	227	P	P	17 00 34.7	+1.3
RPZ	Rata Peaks	29.90	172	LR	LR	17 11 15.5	
	comp=Z,177nm,19.6s,baz=259,slow=33						
WRA	Warramunga Arr	30.27	255	P	P	17 00 52.0	-1.0
	2.0nm,0.8s,mb3.8,baz=85,slow=9.1,SNR=5.8						
ASAR	Alice Springs	31.25	248	P	P	17 01 01.9	+0.2
	7.1nm,1.1s,mb4.3,baz=77,slow=9.5,SNR=26						
ASAR				LR	LR	17 13 17.1	
	comp=Z,126nm,20.4s,baz=54,slow=36						
FITZ	Fitzroy Crossi	38.39	259	P	P	17 02 03.7	+1.3
	2.0nm,1.0s,mb3.9,baz=145,slow=5.4,SNR=2.6						
SBA	Scott Base	63.76	180	eP	P	17 05 16.6	+4.6
	4.2nm,1.1s,mb4.2						
QSPA	South Pole Qui	75.92	180	eP	P	17 06 30.6	+4.9
	8.6nm,1.2s,mb4.4						
SONM	Songino Array	80.95	324	P	P	17 06 52.4	-1.4
	0.9nm,1.0s,mb3.6,baz=121,slow=8.4,SNR=3.7						
YBH	Yreka Blue Hor	86.24	45	P	P	17 07 21.5	+0.9
	4.1nm,1.0s,mb4.3,baz=225,slow=2.9,SNR=6.7						
ILAR	Eielson Array	86.49	19	P	P	17 07 20.8	-0.5
	0.9nm,0.6s,mb3.9,baz=250,slow=5.7,SNR=4.3						
SNAA	Sanae	94.06	184	P	P	17 07 56.2	-0.3
	6.5nm,1.4s,mb4.8						
ARCES	ARCESS Array B	119.20	345	PKP	PKPdf	17 13 28.4	+2.6
	19nm,1.2s,baz=22,slow=6.5,SNR=4.6						
FINES	FINESS Array B	124.48	338	PKP	PKPdf	17 13 38.6	+2.4
	1.1nm,0.8s,baz=270,slow=3.8,SNR=3.8						
GERES	GERESS Array B	138.28	332	PKP	PKPdf	17 14 05.9	+3.4
	0.4nm,0.7s,baz=27,slow=2.2,SNR=3.5						

*IDC **11** 16:55:35.3±0.9, 14.58N×147.03E, mb4.2/9, mb1 4.4/9, mb1mx4.2/19, Error ellipse: s-maj=31.7km s-min=18.7km az=94.0*
*BJI **11** 16:55:38.0, 14.58N×147.81E, h73^{km}, mB5.1, mb4.9*
*NEIC **11** 16:55:41.4±1.1, 14.53N×146.97E, h45^{km}±8^{km}, mb4.8/11, Error ellipse: s-maj=15.1km s-min=7.9km az=87.0*
ISC 11 16:55:39.5±2.0**, 14.55N**±0.08×**147.1E**±0.2**, h51**^{km}±12^{km}**, n37, σ0^{s}68**/31**, mb4.6**/20**, 4C, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SAPN	Saipan	1.47	297	⇑eP	P	16 56 03.7	-0.5
ANA2	Anatahan	2.23	323	⇑eP	P	16 56 15.7	+0.8
ANAT	Anatahan	2.27	322	⇑eP	P	16 56 15.5	0.0
SARN	Sarigan	2.50	329	⇑eP	P	16 56 18.6	-0.1
MAJO	Matsushiro	23.30	342	eP	P	17 00 41.4	-2.3
	6.8nm,0.8s,mb4.1						
WRAB	Tennant Creek	36.49	200	eP	P	17 02 41.3	-0.6
	9.2nm,0.9s,mb4.7						
WRA	Warramunga Arr	36.51	200	P	P	17 02 41.9	-0.2
	1.8nm,0.6s,mb4.1,baz=22,slow=9.7,SNR=7.9						
BJT	Baijiatuau	37.09	319	P	P	17 02 45.5	-1.3
FITZ	Fitzroy Crossi	38.74	214	P	P	17 03 00.6	-0.1
	2.7nm,0.8s,mb4.0,baz=6.3,slow=9.2,SNR=4.7						
ASAR	Alice Springs	40.12	199	P	P	17 03 12.8	+0.6
	0.6nm,0.6s,mb3.5,baz=26,slow=9.2,SNR=5.5						
LZH	Lanzhou	44.15	307	eP	P	17 03 46.1	+1.1
LZH				AMB	AMB		
	comp=Z,56nm,1.5s,mb5.1						
LZH	Lanzhou	44.15	307	eP	P	17 03 46.1	+1.1
	comp=Z,56nm,1.5s,mb5.1						
LZH				pP	pP	17 03 57.2	-1.4
LZH				sP	sP	17 04 03.1	-1.6
LZH				PP	PP	17 06 04.0	+34
CMAR	Chiang Mai Arr	46.24	282	P	P	17 04 02.4	+0.5
	comp=Z,1.8nm,0.7s,mb4.1,baz=86,slow=5.5,SNR=11						
CMAR				PcP	PcP	17 05 39.3	+2.0
	comp=Z,0.4nm,0.5s,baz=89,slow=1.7,SNR=4.9						
SONM	Songino Array	47.23	323	P	P	17 04 09.5	+0.1
	comp=Z,3.0nm,0.8s,mb4.3,baz=137,slow=7.2,SNR=15						
GTA	Gaotai	48.19	310	eP	P	17 04 17.6	+0.7
LSA	Lhasa	53.51	296	P	P	17 04 58.5	+1.1
WMQ	Urumqi	58.07	313	eP	P	17 05 30.5	+0.6
PKI	Pulchoki	58.50	294	eP	P	17 05 32.9	-0.3
	comp=Z,36nm,1.3s,mb5.2						
KKN	Kakani	58.61	294	eP	P	17 05 33.8	-0.2
	comp=Z,6.6nm,0.6s,mb4.9						
DMN	Daman	58.77	294	eP	P	17 05 34.9	-0.2
	comp=Z,16nm,0.9s,mb5.1						
GKN	Gorkha	59.18	294	eP	P	17 05 37.6	-0.3
	comp=Z,47nm,1.2s,mb5.4						
KOLN	Koldanda	60.10	294	eP	P	17 05 43.0	-1.3
MKAR	Makanchi Array	62.32	315	P	P	17 05 59.2	+0.2
	comp=Z,6.1nm,0.4s,mb5.0,baz=92,slow=8.1,SNR=94						
MKAR	Makanchi Array	62.32	315	P	P	17 05 59.2	+0.2
PALK	Pallekele	65.42	271	P	P	17 06 12.6	-7.2
	comp=Z,34nm,1.4s,mb5.2						
ILAR	Eielson Array	66.77	25	P	P	17 06 27.9	+0.5
	comp=Z,1.3nm,0.7s,mb4.1,baz=249,slow=5.5,SNR=10.0						
BVAR	Borovoye Array	70.53	321	P	P	17 06 51.3	+0.4
	comp=Z,5.5nm,0.7s,mb4.6,baz=97,slow=7.9,SNR=32						
BRVK	Borovoye	70.59	321	eP	P	17 06 51.2	-0.1
	comp=Z,6.6nm,0.8s,mb4.6						
ZRNK	Zerenda	71.36	321	eP	P	17 06 55.8	-0.2
	comp=Z,15nm,1.3s,mb4.8						
ARU	Arti	77.22	325	eP	P	17 07 29.8	+0.1
	comp=Z,3.8nm,0.8s,mb4.4						
FINES	FINESS Array B	91.20	336	P	P	17 08 40.4	+0.3
	comp=Z,1.7nm,0.8s,mb4.4,baz=63,slow=4.3,SNR=6.1						
DBIC	Dimbokro	145.10	305	PKPbc	PKPbc	17 15 15.0	+2.3
	comp=Z,7.8nm,0.6s,baz=32,slow=4.5,SNR=20						
DBIC	Dimbokro	145.10	305	PKPbc	PKPbc	17 15 15.0	+2.3
KIC	Kosan Boka	145.20	305	ePKP1	PKPbc	17 15 15.2	+2.3
	comp=Z,39nm,0.6s						
TIC	Toumodi	145.25	305	ePKP1	PKPbc	17 15 15.1	+2.0
	comp=Z,37nm,0.5s						
LIC	Lamto	145.51	305	ePKP1	PKPbc	17 15 16.0	+2.3
	comp=Z,60nm,0.6s						
LPAZ	La Paz	146.01	98	PKPbc	PKPbc	17 15 19.4	+4.6
	comp=Z,2.0nm,0.2s,baz=302,slow=0.4,SNR=5.6						

*NIED **11** 17:23:00, 33.10N×137.20E, h20^{km}, Mw4.1 Best double couple: M$_0$1.35×10^{15} NP1:φ$_s$302°, δ86°, λ159°. NP2:φ$_s$33°, δ69°, λ4°.*
*JMA **11** 17:23:15.1±0.1, 33.11N×137.23E, h42^{km}±2^{km}, M4.3*
JMA Felt I J1.
*IDC **11** 17:23:18.9±0.9, 32.24N×136.89E, mb3.6/8, mb1 3.9/8, mb1mx3.8/21, Error ellipse: s-maj=32.3km s-min=22.7km az=91.0*
ISC 11 17:23:15.7±0.8**, 33.16N**±0.05×**137.22E**±0.03**, h39**^{km}±12^{km}**, n28, σ0^{s}62**/38**, mb3.5**/3**, 2C-8D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	Tokai 1	0.68	27	P	P	17 23 28.8	-0.1
TK01				eS	S	17 23 38.6	+0.1
TK02	Tokai 2	0.91	30	⇓P	P	17 23 32.1	0.0
TK02				S	S	17 23 44.8	+0.7
TK03	Tokai 3	1.18	32	P	P	17 23 36.2	+0.2
TK03				S	S	17 23 51.4	+0.3
JIE	Ise	1.30	341	⇓P	P	17 23 38.5	+0.8
JIE				S	S	17 23 54.6	+0.4
JWZ	Kozaga	1.31	287	⇑P	P	17 23 37.6	-0.3
JWZ				S	S	17 23 53.5	-0.9
TK04	Tokai 4	1.34	24	⇓P	P	17 23 38.5	+0.2
TK04				S	S	17 23 55.6	+0.4
JKN	Kiinagashima	1.34	324	⇓P	P	17 23 38.7	+0.3
JKN				S	S	17 23 54.6	-0.7
TSUJ	Tsu 2	1.68	337	⇓P	P	17 23 43.7	+0.5
TSUJ				S	S	17 24 03.9	+0.2
JWM	Minabe	1.70	294	⇑P	P	17 23 43.5	+0.1
JWM				S	S	17 24 03.7	-0.4
JWY	Kouya	1.72	308	⇓P	P	17 23 44.5	+0.8
JWY				S	S	17 24 04.9	+0.4
JHE	Heguri	1.96	320	⇓P	P	17 23 47.7	+0.6
JHE				S	S	17 24 10.8	+0.1
SHZ3	Shizuoka 3	2.07	23	⇓P	P	17 23 48.5	-0.2
SHZ3				S	S	17 24 12.6	-0.9
JIZS	Izushimoda	2.08	41	P	P	17 23 48.8	0.0
JHJ2	Mitsune	2.18	91	P	P	17 23 49.4	-0.9
JAI	Aioi	2.39	286	P	P	17 23 53.4	+0.1
JAI				eS	S	17 24 20.2	-1.5
JIM2	Oshima 3	2.41	49	P	P	17 23 53.7	+0.1
JIM2				eS	S	17 24 21.0	-1.1
JGM	Miyama	2.57	351	P	P	17 23 56.2	+0.4
JYN	Shimob	2.58	25	P	P	17 23 56.1	+0.1
JOD2	Odawara 2	2.61	36	P	P	17 23 56.7	+0.3
MAT	Matsushiro	3.47	13	P	P	17 24 08.6	-0.1
MAT				S	S	17 24 47.8	-1.3
CMAR	Chiang Mai Arr	37.21	256	P	P	17 30 26.9	+1.6
	0.8nm,0.8s,mb3.6,baz=40,slow=7.2,SNR=5.1						
MKAR	Makanchi Array	43.39	305	P	pP	17 31 25.9	-1.2
	0.5nm,0.5s,baz=96,slow=10,SNR=6.5						
WRA	Warramunga Arr	52.87	183	P	P	17 32 29.5	-0.5
	0.4nm,0.7s,mb3.4,baz=360,slow=7.9,SNR=3.0						
ILAR	Eielson Array	54.59	31	P	pP	17 32 53.8	+0.3
	0.3nm,0.5s,baz=257,slow=5.9,SNR=4.8						
ASAR	Alice Springs	56.60	184	P	P	17 32 57.2	+0.1
	0.3nm,0.9s,mb3.3,baz=23,slow=6.9,SNR=3.4						
NOA	NORSAR Array B	76.37	336	P	pP	17 35 15.8	+1.9
	0.6nm,0.6s,baz=46,slow=4.7,SNR=3.3						
GERES	GERESS Array B	84.10	326	P	pP	17 35 54.5	-1.0
	0.9nm,0.9s,baz=37,slow=6.7,SNR=5.8						
TXAR	Lajitas Array	95.23	50	P	pP	17 36 49.3	+0.6
	0.2nm,0.8s,baz=323,slow=4.5,SNR=3.6						

ROM 11 17:25:54.9±0.9**, 35.04N**×**11.65E, h10**^{km}**, MD3.2**/4**, ML3.7**/3**, Error ellipse: s-maj=7.2km s-min=6.3km az=90.0, Tunisia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FAVR	Favara	2.75	36	ePN	Pn	17 26 40.2	+0.2
FAVR				SN	Sn	17 27 10.8	-2.8
	92nm,0.7s						
MFNL	Monte Finestre	2.93	20	ePN	Pn	17 26 42.0	-0.4
MFNL				SN	Sn	17 27 15.5	-2.5
ERC	Erice	3.08	14	ePN	Pn	17 26 43.9	-0.7
ERC				SN	Sn	17 27 17.5	-4.4
	273nm,0.7s						
SSY	Sortino	3.48	52	ePN	Pn	17 26 48.7	-1.6
SSY				SN	Sn	17 27 29.0	-3.0
GIB	Gibilmanna	3.51	32	ePN	Pn	17 26 47.9	-2.8
GIB				SN	Sn	17 27 29.0	-3.7
PLLN	Pollina	3.56	34	ePN	Pn	17 26 49.0	-2.4
MNO	Monte Soro	3.78	39	ePN	Pn	17 26 52.2	-2.4
	97nm,0.4s						

*IDC **11** 17:29:34.6±1.3, 4.64N×126.80E, mb3.8/5, mb1 4.0/5, mb1mx3.8/16, Error ellipse: s-maj=73.8km s-min=19.0km az=65.0*
ISC 11 17:29:46.9±1.4**, 4.4N**±0.1×**126.3E**±0.2**, h118**^{km}±16^{km}**, n10, σ0^{s}93**/12**, mb3.6**/5**, 1D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MATI	Mati	2.56	360	eP	P	17 30 28.5	+0.5
KCP	Kidapawan	2.87	336	⇓eP	P	17 30 30.8	-1.5
KCP				i S	S	17 31 14.0	+7.4
BUKP	Musuan	3.69	341	eP	P	17 30 43.8	+0.6
PAGZ	Pagadian	4.49	320	eP	P	17 30 55.1	+1.0
IPIL	Ipil	5.01	313	eP	P	17 31 01.5	+0.4
IPIL				eS	S	17 31 57.2	-1.0
WRA	Warramunga Arr	25.43	162	P	P	17 35 05.1	-0.3
	1.6nm,0.5s,mb3.7,baz=344,slow=10,SNR=14						
ASAR	Alice Springs	28.84	165	P	P	17 35 36.2	-0.3
	0.6nm,0.5s,mb3.5,baz=341,slow=6.9,SNR=21						
CMAR	Chiang Mai Arr	30.16	300	P	P	17 35 50.4	+2.1
	0.8nm,0.9s,mb3.3,baz=113,slow=6.9,SNR=5.4						
SONM	Songino Array	46.55	342	P	P	17 38 04.1	-0.3
	0.3nm,0.4s,mb3.4,baz=168,slow=7.2,SNR=5.5						
MKAR	Makanchi Array	56.77	325	P	P	17 39 20.2	-0.7
	1.0nm,0.4s,mb4.2,baz=118,slow=8.7,SNR=15						

*BER **11** 17:31:46.4±4.2, 56.05N×20.44E, ML2.7(NAO)*
*NAO **11** 17:31:47.2±5.3, 56.26N×20.49E, ML2.7*
ISC 11 17:31:42.3±1.8**, 56.1N**±0.1×**20.6E**±0.2**, h10**^{km}**, n3, σ1^{s}06**/6**, Baltic Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BSD	Bornholm Skovb	3.37	255	i P	Pn	17 32 35.2	-0.9
BSD				i		17 32 44.3	
BSD				i S	Sn	17 33 16.6	+0.1
BSD				i LG		17 33 29.9	
HFS	Hagfors	5.46	321	Pn	Pn	17 33 06.8	+1.1
	baz=138,slow=11						
HFS				Sn	Sn	17 34 09.1	-0.3
	baz=144,slow=14						
HFS				Lg		17 34 32.3	
	baz=133,slow=37						
FIA0	FINESS Array S	6.08	26	Pn	Pn	17 33 15.3	+0.8
	baz=225,slow=12						
FIA0				Sn	Sn	17 34 24.0	-0.9
	baz=218,slow=22						

IDC 11 17:40:41.7±1.9**, 29.42N**×**95.44E, mb3.5**/4**, mb1 3.8**/4**, mb1mx3.5**/18**, Error ellipse: s-maj=79.6km s-min=25.8km az=71.0, Eastern Xizang-India border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SHL	Shillong	4.97	220	eP	Pn	17 42 06.5	+7.1
SHL				eS	Sn	17 42 54.5	-4.0
MKAR	Makanchi Array	20.15	333	P	P	17 45 17.3	-2.9
	0.4nm,0.5s,baz=144,slow=11,SNR=4.8						
SONM	Songino Array	20.24	22	P	P	17 45 18.7	-2.5
	0.7nm,0.7s,baz=210,slow=9.7,SNR=7.7						
WRA	Warramunga Arr	61.77	138	P	P	17 51 01.6	-3.1
	0.8nm,0.5s,baz=328,slow=7.4,SNR=7.1						
ASAR	Alice Springs	64.45	141	P	P	17 51 20.8	-1.7
	1.0nm,0.6s,baz=324,slow=6.4,SNR=19						

*NEIC **11** 18:11:02.7, 37.25S×179.34E, h12^{km}, ML4.0(WEL), After WEL.*
*IDC **11** 18:11:04.6±5.2, 35.18S×178.63E, mb3.5/2, mb1 3.8/2, mb1mx3.7/9, Error ellipse: s-maj=245.0km s-min=54.3km az=167.0*
WEL 11 18:11:02.2±0.3**, 37.35S**×**179.37E, h5**^{km}**, ML3.8**/19**, Error ellipse: s-maj=3.2km s-min=2.3km az=0.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.87	255	P*	Pb	18 11 18.8	-0.6
MXZ				S*	Sb	18 11 30.8	-0.4
MXZ	Matakaoa Point	0.87	255	P	Pb	18 11 18.8	-0.6
MXZ				S	Sb	18 11 30.7	-0.5
PUZ	Puketiti	1.14	230	P*	Pb	18 11 24.2	+0.2
PUZ				S*	Sb	18 11 40.9	+1.9
PUZ	Puketiti	1.14	230	P	Pb	18 11 24.2	+0.2
PUZ				S	Sb	18 11 40.5	+1.5
WIZ	White Island	1.74	263	ePN	Pn	18 11 32.3	-1.1
MWZ	Matawai	1.76	235	PN	Pn	18 11 32.7	-0.9
MWZ				SN	Sn	18 11 55.8	-0.8
MWZ	Matawai	1.76	235	P	Pn	18 11 32.7	-0.9
MWZ				S	Sn	18 11 54.7	-1.9
URZ	Urewera	2.01	242	PN	Pn	18 11 36.3	-0.8
URZ				SN	Sn	18 12 01.2	-1.7
URZ	Urewera	2.01	242	P	Pn	18 11 36.3	-0.8
KNZ	Kokohu	2.14	218	PN	Pn	18 11 37.3	-1.7
KNZ	Kokohu	2.14	218	P	Pn	18 11 37.3	-1.7
EDRZ	Edgecumbe	2.22	249	ePN	Pn	18 11 38.9	-1.3
TAZ	Tarawera	2.43	248	ePN	Pn	18 11 42.1	-1.2
TAZ	Tarawera	2.43	248	P	Pn	18 11 42.1	-1.1
LIRZ	Lichensteins R	2.46	254	ePN	Pn	18 11 42.2	-1.4
MYRZ	Mayor Island	2.49	271	ePN	Pn	18 11 42.2	-1.9
PATZ	Paeroa	2.67	246	PN	Pn	18 11 45.7	-0.9
BKZ	Black Stump Fm	2.90	230	PN	Pn	18 11 48.0	-1.9
BKZ				SN	Sn	18 12 22.3	-3.4
KUZ	Kuaotunu	2.98	281	PN	Pn	18 11 47.8	-3.3
KUZ				eSN	Sn	18 12 22.1	-5.5
KUZ	Kuaotunu	2.98	281	P	Pn	18 11 48.0	-3.0
KUZ				S	Sn	18 12 20.5	-7.1
PWZ	Pawanui	3.32	215	ePN	Pn	18 11 52.5	-3.3
PWZ				SN	Sn	18 12 31.1	-5.0
PWZ	Pawanui	3.32	215	P	Pn	18 11 52.6	-3.2
PWZ				S	Sn	18 12 31.1	-5.1
MKAZ	Moumakai	3.36	273	PN	Pn	18 11 54.4	-2.0
MKAZ	Moumakai	3.36	273	P	Pn	18 11 54.4	-2.1
NGZ	Ngauruhoe	3.48	237	PN	Pn	18 11 56.1	-2.1
NGZ	Ngauruhoe	3.48	237	P	Pn	18 11 56.1	-2.1
MOVZ	Moawhango	3.51	233	ePN	Pn	18 11 56.1	-2.4
CNZ	Chateau	3.53	237	PN	Pn	18 11 56.9	-1.9
CNZ	Chateau	3.53	237	P	Pn	18 11 56.9	-1.9
WPVZ	Whakapapa	3.53	237	PN	Pn	18 11 56.8	-2.1
WPVZ	Whakapapa	3.53	237	P	Pn	18 11 56.6	-2.3
WNVZ	Wahianoa	3.56	235	PN	Pn	18 11 57.2	-2.1
WNVZ	Wahianoa	3.56	235	P	Pn	18 11 57.2	-2.1
OTAZ	Otara	3.57	275	PN	Pn	18 11 57.6	-1.8
OTAZ	Otara	3.57	275	P	Pn	18 11 57.9	-1.5
MTAZ	Motutapu	3.61	278	ePN	Pn	18 11 58.1	-1.9
KAAZ	Kauri Point	3.77	277	PN	Pn	18 12 00.9	-1.3
KAAZ	Kauri Point	3.77	277	P	Pn	18 12 00.9	-1.3
TSZ	Takapari Road	3.80	223	PN	Pn	18 11 58.5	-4.2
TSZ				SN	Sn	18 12 43.2	-5.1
BFZ	Birch Farm	4.12	215	PN	Pn	18 12 02.6	-4.6
BFZ				SN	Sn	18 12 49.7	-6.8
BFZ	Birch Farm	4.12	215	eP	Pn	18 12 02.8	-4.5
WCZ	Waipu Caves	4.28	288	PN	Pn	18 12 06.9	-2.6
MRZ	Mangatainoka R	4.43	221	PN	Pn	18 12 06.8	-4.9
MRZ				SN	Sn	18 12 56.5	-8.0
MRZ	Mangatainoka R	4.43	221	P	Pn	18 12 06.8	-4.9
MTW	Mount Morrison	4.85	217	ePN	Pn	18 12 11.5	-6.0
MTW				eSN	Sn	18 13 06.3	-8.6
TUWZ	Tuamarina	5.85	224	ePN	Pn	18 12 26.1	-5.7
NNZ	Nelson	6.04	228	ePN	Pn	18 12 28.6	-5.9
NNZ				SN	Sn	18 13 35.9	-9.0
QRZ	Quartz Range	6.35	235	ePN	Pn	18 12 32.9	-5.9
THZ	Tophouse	6.66	227	ePN	Pn	18 12 36.2	-6.9
THZ	Tophouse	6.66	227	eP	Pn	18 12 36.3	-6.8
KHZ	Kahutara	6.76	220	ePN	Pn	18 12 38.4	-6.1
LTZ	Lake Taylor	7.69	223	ePN	Pn	18 12 51.8	-5.7
MQZ	McQueen's Vall	8.15	217	eSN	Sn	18 14 20.6	-17
ODZ	Otahua Downs	10.11	218	ePN	P	18 13 22.3	-8.8
ASAR	Alice Springs	41.10	276	P	P	18 18 43.8	-4.9
	0.3nm,0.6s,baz=119,slow=7.2,SNR=10						
WRA	Warramunga Arr	42.72	281	P	P	18 18 55.6	-6.4
	0.7nm,0.5s,baz=121,slow=7.9,SNR=4.4						
FINES	FINESS Array B	150.67	334	PKPbc	PKPdf	18 30 51.6	+0.3
	1.0nm,0.6s,baz=36,slow=4.6,SNR=14						

*IDC **11** 18:25:31.4±3.4, 22.23S×179.79W, h616^{km}±43^{km}, mb3.7/4, mb1 3.9/4, mb1mx3.4/11, Error ellipse: s-maj=93.9km s-min=22.8km az=158.0*
ISC 11 18:25:30.2±3.9**, 22.1S**±0.7×**179.9E**±0.6**, h586**^{km}±54^{km}**, n14, σ0^{s}59**/10**, mb4.4**/7**, 3D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	31.38	267	eP	P	18 31 07.0	+1.1
	4.7nm,0.3s,mb4.6						
STKA	Stephens Creek	35.30	246	⇓iP	P	18 31 38.9	+0.3
	3.9nm,0.4s,mb4.4						
STKA	Stephens Creek	35.30	246	P	P	18 31 39.0	+0.4
	4.6nm,0.4s,mb4.5,baz=91,slow=11,SNR=29						
ASAR	Alice Springs	42.23	259	P	P	18 32 34.7	0.0
	8.9nm,0.6s,mb4.5,baz=92,slow=7.5,SNR=457						
ASAR				PcP	PcP	18 34 13.0	-2.2
	1.3nm,0.9s,baz=109,slow=3.6,SNR=4.4						
ASAR				S	S	18 38 14.4	+0.2
	1.2nm,0.8s,baz=96,slow=16,SNR=7.6						
WB2	Warramunga Arr	42.41	264	⇓iP	P	18 32 35.8	-0.4
WRA	Warramunga Arr	42.42	264	P	P	18 32 35.7	-0.5
	8.1nm,0.5s,mb4.5,baz=101,slow=8.6,SNR=95						
KAKA	Kakadu	46.08	274	⇓iP	P	18 33 04.3	-0.3
	8.1nm,0.3s,mb4.7						
FITZ	Fitzroy Crossi	50.86	264	eP	P	18 33 39.2	-0.9
	4.6nm,0.8s,mb4.0						
CMAR	Chiang Mai Arr	88.78	290	P	P	18 37 24.5	+0.5
	2.2nm,0.8s,mb4.1,baz=125,slow=3.1,SNR=13						
FINES	FINESS Array B	136.70	342	PKP	PKPdf	18 43 46.0	0.0
	1.2nm,0.9s,baz=45,slow=2.0,SNR=4.7						
AKASG	Malin Array Be	143.38	328	PKP	PKPdf	18 43 55.4	-2.8
	1.2nm,0.3s,baz=44,slow=4.2,SNR=15						
BRTR	Keskin Array B	146.36	309	PKPbc	PKPbc	18 44 05.3	-0.2
	1.0nm,0.5s,baz=90,slow=2.9,SNR=4.7						
CLL	Collm	149.09	344	i PKP1	PKPdf	18 44 11.6	+4.1
CLL				i PKP2	PKPab	18 44 19.1	-2.7
GERES	GERESS Array B	151.12	341	PKPbc	PKPdf	18 44 15.4	+4.7
	0.4nm,0.6s,slow=1.3,SNR=5.9						

*NEIC **11** 18:32:57.7, 36.46N×8.02W, h9^{km}, MG3.2(MDD), After MDD.*
*INMG **11** 18:32:59.2±1.1, 36.38N×8.12W, h31^{km}, ML1.7, Error ellipse: s-maj=5.4km s-min=3.3km az=51.0*
MDD 11 18:32:58.4±1.5**, 36.42N**×**8.10W, h24**^{km}±24^{km}**, mbLg1.7**/4**, 2C-1D, Error ellipse: s-maj=23.8km s-min=6.9km az=33.0, PRXIMO, West of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PALC	Alcoutim	1.16	25	eP	Pn	18 33 18.5	-0.8
PALC				eS	Sb	18 33 32.7	-1.6
	7.0nm,0.1s						
PALC	Alcoutim	1.16	25	P	Pn	18 33 18.5	-0.8
PALC				S	Sb	18 33 32.7	-1.6
	3.5nm,0.1s						
EGRO	El Granado	1.22	24	⇑P	Pn	18 33 19.2	-1.0
	0.4nm,0.1s,SNR=18						
EGRO				S	Sb	18 33 34.0	-2.0
	3.4nm,0.2s,SNR=7.9						
EGRO	El Granado	1.22	24	P	Pn	18 33 18.5	-1.7
EGRO				S	Sb	18 33 34.0	-2.0
PTEO	Sao Teotonio	1.23	336	i P	Pn	18 33 19.1	-1.3
PTEO				eS	Sb	18 33 34.4	-1.9
PTEO	Sao Teotonio	1.23	336	⇑P	Pn	18 33 19.1	-1.3
PTEO				S	Sb	18 33 34.4	-1.9
PBEJ	Beja	1.62	7	ePn	Pn	18 33 24.5	-1.4
PBEJ				eSn	Sn	18 33 43.9	-2.3
	4.9nm,0.1s						
PBEJ	Beja	1.62	7	Pn	Pn	18 33 24.5	-1.4
PBEJ				Sn	Sn	18 33 43.9	-2.3
	2.5nm,0.1s						
EMIN	Mina Concepcio	1.77	40	P	Pn	18 33 26.2	-1.8
	0.3nm,0.1s,SNR=9.8						
EMIN				S	Sn	18 33 46.9	-3.1
	1.3nm,0.2s,SNR=7.9						
EMIN	Mina Concepcio	1.77	40	P	Pn	18 33 26.2	-1.8
EMIN				S	Sn	18 33 46.9	-3.1
ESPR	Espera	1.86	75	P	Pn	18 33 27.6	-1.8
	4.3nm,0.2s,SNR=15						
ESPR				S	Sn	18 33 49.7	-2.7
	1.4nm,0.2s,SNR=7.9						
MOE	Montemor	2.11	355	ePn	Pn	18 33 30.8	-2.2
MOE				eSn	Sn	18 33 55.2	-3.5
EBAD	Badajoz	2.49	20	P	Pn	18 33 36.7	-1.7
	0.3nm,0.1s,SNR=7.9						
EBAD				S	Sn	18 34 04.9	-3.4
	0.4nm,0.3s,SNR=7.9						
EMIJ	Mijas	2.69	86	P	Pn	18 33 38.8	-2.3
	0.2nm,0.1s,SNR=7.9						
EMIJ				S	Sn	18 34 10.3	-3.0
	0.4nm,0.3s,SNR=7.9						
PTOM	Tomar	3.21	356	ePn	Pn	18 33 46.7	-1.8
PTOM				eSn	Sn	18 34 21.7	-4.7
	4.2nm,0.1s						
PTOM	Tomar	3.21	356	Pn	Pn	18 33 46.7	-1.8
PTOM				Sn	Sn	18 34 21.7	-4.7
	2.1nm,0.1s						
EADA	Adamuz	3.31	57	⇓P	Pn	18 33 47.6	-2.4
	1.1nm,0.2s,SNR=18						
EADA				S	Sn	18 34 24.1	-5.0
	0.3nm,0.3s,SNR=7.9						
EADA	Adamuz	3.31	57	P	Pn	18 33 47.6	-2.4
EADA				S	Sn	18 34 24.1	-5.0
PCBR	Castelo Branco	3.45	8	ePn	Pn	18 33 50.3	-1.8
PCBR				eSn	Sn	18 34 27.9	-4.8
	2.5nm,0.2s						
PCBR	Castelo Branco	3.45	8	Pn	Pn	18 33 50.3	-1.8
PCBR				Sn	Sn	18 34 27.9	-4.8
	1.2nm,0.2s						
EQES	Quesada	4.25	70	P	Pn	18 34 00.3	-3.1
	0.0nm,0.3s,SNR=7.9						
EQES				S	Sn	18 34 46.8	-6.2
	0.1nm,0.3s,SNR=7.9						
ESDC	Sonseca Array	4.61	44	P	Pn	18 34 05.6	-2.9
	3.2nm,0.1s,baz=227,slow=13,SNR=4.9						
ESDC				S	Sn	18 34 52.8	-9.2
	SNR=7.9						

ELOB	**Lobios**	**5.44**	**0**	P	Pn	18 34 16.9	-3.4
	SNR=7.9						
ELOB				S	Sn	18 35 15.9	-7.1
	SNR=7.9						
ECAL	**Calabor**	**5.62**	**10**	P	Pn	18 34 19.1	-3.6
	SNR=7.9						
ECAL				S	Sn	18 35 20.9	-6.4
	SNR=7.9						
ETOB	**Tobarra**	**5.66**	**65**	P	Pn	18 34 18.1	-5.2
	0.2nm,0.1s,SNR=7.9						
ETOB				S	Sn	18 35 21.3	-7.1
	SNR=7.9						
ETOR	**Torete**	**6.46**	**45**	P	Pn	18 34 31.0	-3.6
	0.2nm,0.1s,SNR=7.9						
ETOR				S	Sn	18 35 37.5	-11
	SNR=7.9						
ETOR	**Torete**	**6.46**	**45**	P	Pn	18 34 31.0	-3.6
ETOR				S	Sn	18 35 37.5	-11

*NEIC **11** 18:34:10.1,36.44N×8.01W,MG3.3(MDD),After MDD.*
*INMG **11** 18:34:12.4±1.0,36.37N×8.11W,h31^{km},ML1.4,Error ellipse: s-maj=6.0km s-min=3.6km az=49.0*
MDD 11 18:34:11.1±1.7**,36.39N×8.12W,h22**^{km}±29^{km}**,mbLg1.9**/3**, Error ellipse: s-maj=30.3km s-min=8.3km az=27.0, PRXIMO,West of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PALC	**Alcoutim**	**1.19**	**26**	*e*P	Pn	18 34 32.0	-0.7
PALC				*e*S	Sb	18 34 46.5	-1.4
	3.5nm,0.2s						
PALC	**Alcoutim**	**1.19**	**26**	P	Pn	18 34 32.0	-0.7
PALC				S	Sb	18 34 46.5	-1.4
	1.8nm,0.2s						
EGRO	**El Granado**	**1.25**	**24**	P	Pn	18 34 32.5	-1.1
	1.2nm,0.1s,SNR=7.9						
EGRO				S	Sb	18 34 47.6	-2.0
	6.7nm,0.1s,SNR=7.9						
PTEO	**Sao Teotonio**	**1.25**	**337**	*e*P	Pn	18 34 32.4	-1.1
PTEO				*e*S	Sb	18 34 47.7	-1.9
	1.4nm,0.1s						
PTEO	**Sao Teotonio**	**1.25**	**337**	P	Pn	18 34 32.4	-1.1
PTEO				S	Sb	18 34 47.7	-1.9
	0.7nm,0.1s						
PBEJ	**Beja**	**1.65**	**7**	*e*Sn	Sn	18 34 57.1	-2.8
EMIN	**Mina Concepcio**	**1.80**	**40**	P	Pn	18 34 39.5	-1.9
	0.2nm,0.0s,SNR=7.9						
EMIN				S	Sn	18 35 00.3	-3.4
	3.8nm,0.1s,SNR=7.9						
ESPR	**Espera**	**1.88**	**75**	P	Pn	18 34 40.8	-1.8
	3.4nm,0.1s,SNR=7.9						
ESPR				S	Sn	18 35 02.7	-3.2
	SNR=7.9						
MOE	**Montemor**	**2.14**	**355**	*e*Pn	Pn	18 34 44.0	-2.2
MOE				*e*Sn	Sn	18 35 09.1	-3.2
EBAD	**Badajoz**	**2.52**	**20**	P	Pn	18 34 49.7	-2.0
	SNR=7.9						
EBAD				S	Sn	18 35 18.5	-3.5
	SNR=7.9						
PTOM	**Tomar**	**3.23**	**356**	*e*Pn	Pn	18 35 00.0	-1.8
PTOM				*e*Sn	Sn	18 35 35.3	-4.8
	1.9nm,0.1s						
PTOM	**Tomar**	**3.23**	**356**	Pn	Pn	18 35 00.0	-1.8
PTOM				Sn	Sn	18 35 35.3	-4.8
	0.9nm,0.1s						
EADA	**Adamuz**	**3.34**	**57**	P	Pn	18 35 00.9	-2.4
	0.4nm,0.1s,SNR=5.6						
EADA				S	Sn	18 35 38.0	-4.8
	SNR=7.9						
PCBR	**Castelo Branco**	**3.48**	**8**	*e*Pn	Pn	18 35 03.5	-1.9
PCBR				*e*Sn	Sn	18 35 41.9	-4.5
	1.0nm,0.1s						
PCBR	**Castelo Branco**	**3.48**	**8**	Pn	Pn	18 35 03.5	-1.9
PCBR				Sn	Sn	18 35 41.9	-4.5
	0.5nm,0.1s						
EQES	**Quesada**	**4.28**	**69**	P	Pn	18 35 14.6	-2.1
	0.5nm,0.1s,SNR=7.9						
EQES				S	Sn	18 36 02.2	-4.4
	SNR=7.9						
EQES	**Quesada**	**4.28**	**69**	P	Pn	18 35 14.6	-2.1
EQES				S	Sn	18 36 02.1	-4.4
ESDC	**Sonseca Array**	**4.64**	**44**	P	Pn	18 35 18.6	-3.2
	605µm,0.1s,SNR=7.9						
ELOB	**Lobios**	**5.47**	**0**	P	Pn	18 35 30.4	-3.2
	0.2nm,0.1s,SNR=7.9						
ELOB				S	Sn	18 36 29.4	-7.2
	SNR=7.9						
ECAL	**Calabor**	**5.65**	**11**	P	Pn	18 35 32.5	-3.5
	SNR=7.9						
ECAL				S	Sn	18 36 34.3	-6.7
	SNR=7.9						
ETOB	**Tobarra**	**5.69**	**65**	P	Pn	18 35 32.4	-4.3
	SNR=7.9						
ETOB				S	Sn	18 36 35.6	-6.5
	SNR=7.9						
ETOR	**Torete**	**6.49**	**45**	S	Sn	18 36 54.6	-7.4
	SNR=7.9						

*NIED **11** 18:34:00,44.70N×150.10E,h35^{km},Mw3.9 Best double couple: $M_0$7.72×10^{14} NP1:ϕ_s242°,δ77°,λ-155°. NP2: ϕ_s145°,δ66°,λ-15°.*
*NEIC **11** 18:34:16.6±1.9,44.82N×150.04E,h46^{km}±15^{km},mb4.3/5, Error ellipse: s-maj=16.3km s-min=11.3km az=168.0*
*MOS **11** 18:34:16.4±1.0,45.29N×149.71E,h33^{km},mb4.3/8,Error ellipse: s-maj=23.2km s-min=15.9km az=63.4*
*IDC **11** 18:34:18.8±4.1,44.78N×149.97E,h66^{km}±37^{km},mb3.7/12, mb1 3.8/13,mb1mx3.7/22,ML3.5/1,MS3.2/2,Ms1 3.2/2, ms1mx2.9/19,Error ellipse: s-maj=24.4km s-min=20.2km az=150.0*
ISC 11 18:34:14.3±1.6**,44.8N**±0.1×**150.0E**±0.1**,h41**^{km}±12^{km}**,n37, σ0^{s}86**/38**,mb4.0**/15**,MS3.4**/1**,1D,East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YUK	**Yuzh-Kuril'sk**	**3.08**	**257**	*e*PN	**P**	**18 35 02.0**	**+0.3**
YUK				*i* S	**S**	**18 35 36.2**	**-1.4**
YUK				pmax	pmax		
	comp=Z,210nm,0.3s						
YUK				smax			
	comp=E,250nm,0.3s						
YUK				smax			
	comp=N,550nm,0.5s						
ASAJ	**Asahikawa**	**5.36**	**265**	P	**P**	**18 35 35.8**	**+2.0**
	comp=N,1.4nm,0.3s,baz=103,slow=9.4,SNR=14						
ASAJ				LR	LR	18 38 00.3	
	comp=N,134nm,18.4s,baz=154,slow=42						
ASAJ	**Asahikawa**	**5.36**	**265**	PN	**P**	**18 35 35.8**	**+2.0**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,135nm,18.4s						
YSS	**Yuzh-Sakhalins**	**5.50**	**295**	P	**P**	**18 35 36.4**	**+0.6**
SKR	**Severo-Kuril's**	**7.16**	**33**	*e*PN	**P**	**18 35 58.3**	**-0.9**
MAJO	**Matsushiro**	**12.18**	**231**	P	**P**	**18 36 58.2**	**-10**
YAK	**Yakutsk**	**20.91**	**333**	*d i*P	**P**	**18 38 55.0**	**-0.3**
YAK	**Yakutsk**	**20.91**	**333**	*e*P	**P**	**18 38 53.9**	**-1.4**
	comp=Z,13nm,0.7s						
YAK				*e*		18 39 06.2	
SONM	**Songino Array**	**29.97**	**292**	P	**P**	**18 40 20.6**	**-0.2**
	comp=Z,0.9nm,0.9s,mb3.5,baz=86,slow=8.7,SNR=5.4						
ILAR	**Eielson Array**	**39.40**	**37**	P	**P**	**18 41 41.6**	**+0.3**
	comp=Z,0.4nm,0.4s,mb3.5,baz=268,slow=6.7,SNR=8.4						
INK	**Inuvik**	**44.43**	**31**	P	**P**	**18 42 23.4**	**+1.1**
	comp=Z,2.5nm,0.8s,mb4.0,baz=285,slow=5.0,SNR=9.3						
INK	**Inuvik**	**44.43**	**31**	P	**P**	**18 42 23.4**	**+1.0**
INK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
INK	**Inuvik**	**44.43**	**31**	P	**P**	**18 42 23.4**	**+1.1**
MKAR	**Makanchi Array**	**45.91**	**298**	P	**P**	**18 42 34.3**	**-0.1**
	comp=Z,1.7nm,0.8s,mb4.1,baz=77,slow=8.0,SNR=15						
MKAR				LR	LR	19 02 40.4	
	comp=Z,36nm,18.1s,MS3.4,baz=233,slow=37						
MKAR	**Makanchi Array**	**45.91**	**298**	P	**P**	**18 42 34.3**	**-0.1**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MKAR				MLR	MLR		
	comp=Z,36nm,18.2s						
KURK	**Kurchatov**	**46.64**	**304**	P	**P**	**18 42 39.5**	**-0.6**
ZRNK	**Zerenda**	**51.20**	**310**	P	**P**	**18 43 15.1**	**-0.2**
	comp=Z,2.2nm,0.8s,mb4.1						
AAK	**Ala-Archa**	**52.74**	**296**	*e*P	**P**	**18 43 27.6**	**+0.6**
	comp=Z,3.1nm,1.1s,mb4.2						
ARU	**Arti**	**54.96**	**317**	*e*P	**P**	**18 43 42.5**	**-0.6**
	comp=Z,2.8nm,0.6s,mb4.5						
ARCES	**ARCESS Array B**	**58.95**	**340**	P	**P**	**18 44 10.4**	**-0.9**
	comp=Z,3.4nm,0.7s,mb4.5,baz=37,slow=6.1,SNR=6.0						
ARCES	**ARCESS Array B**	**58.95**	**340**	P	**P**	**18 44 10.4**	**-0.9**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
FINES	**FINESS Array B**	**64.84**	**334**	P	**P**	**18 44 50.0**	**-0.6**
	comp=Z,1.3nm,0.5s,mb4.2,baz=44,slow=7.0,SNR=15						
FINES	**FINESS Array B**	**64.84**	**334**	P	**P**	**18 44 50.0**	**-0.7**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
YMR	**Madison River**	**65.64**	**51**	*e*P	**P**	**18 44 54.7**	**-1.4**
NB2	**NORSAR Subarra**	**69.33**	**340**	P	**P**	**18 45 19.2**	**+0.3**
	comp=Z,1.3nm,0.4s,mb4.2,baz=30,slow=6.2						
NOA	**NORSAR Array B**	**69.33**	**340**	P	**P**	**18 45 19.4**	**+0.6**
	comp=Z,1.0nm,0.4s,mb4.1,baz=30,slow=6.5,SNR=5.3						
NOA	**NORSAR Array B**	**69.33**	**340**	P	**P**	**18 45 19.5**	**+0.6**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ASAR	**Alice Springs**	**69.73**	**196**	P	**P**	**18 45 21.4**	**-0.6**
	comp=Z,0.5nm,0.6s,mb3.7,baz=13,slow=6.7,SNR=9.1						
AKASG	**Malin Array Be**	**71.91**	**325**	P	**P**	**18 45 34.3**	**-0.4**
	comp=Z,1.6nm,0.7s,mb4.1,baz=32,slow=6.0,SNR=5.9						
AKASG	**Malin Array Be**	**71.91**	**325**	P	**P**	**18 45 34.3**	**-0.4**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.7s						
CLL	**Collm**	**77.29**	**334**	P	**P**	**18 46 07.0**	**+1.4**
BRTR	**Keskin Array B**	**78.27**	**315**	P	**P**	**18 46 12.2**	**+0.9**
	comp=Z,0.5nm,0.5s,mb3.7,baz=102,slow=3.2,SNR=3.8						
BRTR	**Keskin Array B**	**78.27**	**315**	P	**P**	**18 46 12.2**	**+0.9**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
GERES	**GERESS Array B**	**79.20**	**332**	P	**P**	**18 46 17.2**	**+1.0**
	comp=Z,0.5nm,0.4s,mb3.8,baz=39,slow=5.9,SNR=12						
GERES	**GERESS Array B**	**79.20**	**332**	P	**P**	**18 46 17.2**	**+1.0**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
TXAR	**Lajitas Array**	**80.34**	**58**	P	**P**	**18 46 23.1**	**+0.4**
	comp=Z,0.3nm,0.4s,mb3.5,baz=300,slow=4.0,SNR=9.8						
TXAR				pP	pP	18 46 39.9	+4.9
	comp=Z,0.5nm,0.5s,baz=308,slow=4.1,SNR=8.7						
TXAR	**Lajitas Array**	**80.34**	**58**	P	**P**	**18 46 23.1**	**+0.4**
TXAR				pP	pP	18 46 39.9	+4.9

*THE **11** 18:43:28.8,38.08N×22.30E,h10^{km},ML3.1*
*NEIC **11** 18:43:29.9,38.15N×22.07E,h25^{km},ML3.1(ATH),After ATH.*
*ATH **11** 18:43:29.9,38.15N×22.07E,h25^{km}±2^{km},MD3.2/12, ML3.1*
ISC 11 18:43:29.7±1.0**,38.16N**±0.03×**22.11E**±0.04**,h10**^{km}±7^{km}**, n23,σ1^{s}03**/33**,Greece**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RLS	**Riolos of Patr**	**0.52**	**259**	*e*PB	**Pb**	**18 43 39.2**	**-1.2**
RLS				*e*SB	**Sb**	**18 43 47.6**	**-0.1**
EVR	**Evrytania**	**0.80**	**343**	*e*PN	**Pn**	**18 43 44.9**	**-1.8**
EVR				*e*SN	**Sn**	**18 43 57.2**	**-1.4**
LKR	**Lokris**	**0.85**	**54**	*e*PN	**Pn**	**18 43 46.8**	**-0.7**
LKR				*e*SN	**Sn**	**18 43 59.9**	**-0.2**
AGG	**Agios Georgios**	**0.88**	**11**	*e*Pg	**Pg**	**18 43 46.9**	**-0.4**
	comp=Z,9.0nm,0.5s						
AGG				*e*Sg	**Sg**	**18 44 00.3**	**+1.2**
ITM	**Ithomi**	**0.99**	**189**	*e*PB	**Pb**	**18 43 48.0**	**-0.4**
ITM				*e*SN	**Sn**	**18 44 03.2**	**-0.3**
NSAL	**Nisos Salamina**	**1.10**	**103**	*e*PN	**Pn**	**18 43 51.9**	**+0.9**
NAIG	**Nisos Aigina**	**1.16**	**110**	*e*PN	**Pn**	**18 43 52.2**	**+0.3**
VLS	**Valsamata**	**1.20**	**271**	*e*PN	**Pn**	**18 43 51.7**	**-0.8**
VLS				*e*SN	**Sn**	**18 44 09.6**	**+0.7**
LKD	**Levkas**	**1.27**	**296**	*e*Pb	**Pb**	**18 43 54.3**	**+1.1**
	comp=Z,7.8nm,0.4s						
LKD				*e*Sb	**Sb**	**18 44 16.3**	**+6.7**
ATH	**Athens Observa**	**1.28**	**98**	*e*PB	**Pb**	**18 43 53.1**	**-0.3**
MPAR	**Parnis Oros**	**1.28**	**90**	*e*PN	**Pn**	**18 43 54.5**	**+0.9**
PTL	**Penteli**	**1.39**	**94**	*e*PN	**Pn**	**18 43 56.8**	**+1.6**
NEO	**Neokhori**	**1.44**	**37**	*e*PB	**Pb**	**18 43 55.6**	**-0.5**
XOR	**Xorichti**	**1.47**	**35**	*e*Pb	**Pb**	**18 43 56.2**	**-0.5**
XOR				*e*Sb	**Sb**	**18 44 16.8**	**+1.4**
VLI	**Veliai**	**1.58**	**155**	*e*PN	**Pn**	**18 43 59.1**	**+1.2**
AOS	**Alonnisos**	**1.71**	**53**	*e*Pb	**Pb**	**18 43 58.0**	**-2.8**
AOS				*e*Sb	**Sb**	**18 44 21.0**	**-1.4**
MEV	**Metsovon**	**1.77**	**337**	*e*Pb	**Pb**	**18 44 02.1**	**+0.4**
	comp=Z,4.2nm,0.4s						
IGT	**Igoumenitsa**	**1.95**	**315**	*e*Pn	**Pn**	**18 44 04.8**	**+1.5**
LIT	**Litokhoron**	**1.96**	**8**	*e*Pn	**Pn**	**18 44 03.8**	**+0.4**
LIT				*e*Sn	**Sn**	**18 44 30.3**	**+2.0**
OUR	**Ouranopolis**	**2.61**	**33**	*e*Pn	**Pn**	**18 44 11.6**	**-1.1**
FNA	**Florina**	**2.68**	**348**	*e*Pn	**Pn**	**18 44 14.1**	**+0.3**
SOH	**Sokhos**	**2.83**	**19**	*e*Pn	**Pn**	**18 44 14.8**	**-1.0**
KNT	**Kendrikon**	**3.06**	**11**	*e*Pn	**Pn**	**18 44 19.0**	**-0.1**

IDC 11 19:22:02.6±3.3**,4.42S×107.15E,mb3.5**/4**,mb1 3.7**/4**, mb1mx3.4**/14**,Error ellipse: s-maj=204.0km s-min=27.5km az=53.0,Java Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**30.64**	**123**	P	P	19 28 19.9	-1.3
	0.2nm,0.3s,baz=298,slow=11,SNR=4.5						
ASAR	**Alice Springs**	**32.12**	**129**	P	P	19 28 30.7	-3.4
	0.2nm,0.3s,baz=301,slow=7.8,SNR=12						
STKA	**Stephens Creek**	**42.28**	**134**	P	P	19 29 58.9	-0.9
	1.3nm,0.7s,baz=305,slow=10,SNR=4.5						
MKAR	**Makanchi Array**	**55.53**	**339**	P	P	19 31 39.6	-2.4
	0.2nm,0.3s,baz=143,slow=7.2,SNR=4.1						

*CASC **11** 19:24:22.7±1.9,11.36N×87.36W,h22^{km}±9^{km},MD3.9*
ISC 11 19:24:21.5±1.1**,11.33N**±0.04×**87.41W**±0.08**,h22**^{km}**,n24, σ0^{s}85**/30**,4C-3D,Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
COPN	**Copaltepe**	**1.17**	**43**	⇓*e*P	**Pn**	**19 24 42.0**	**-0.8**
COPN				*e*S	**Sb**	**19 24 58.3**	**+0.7**
LEON	**Leon**	**1.20**	**25**	⇑*e*P	**Pn**	**19 24 43.0**	**-0.2**
LEON				*e*S	**Sb**	**19 25 00.3**	**+1.9**
CRUN	**El Crucero**	**1.27**	**59**	⇓*e*P	**Pn**	**19 24 43.0**	**-1.2**
MIRN	**Miramar**	**1.30**	**32**	⇓*e*P	**Pn**	**19 24 45.1**	**+0.4**
XAVN	**Gruta Xavier**	**1.34**	**52**	*e*P	**Pn**	**19 24 45.1**	**-0.2**
TICN	**Ticuantepe**	**1.35**	**58**	*e*P	**Pn**	**19 24 45.1**	**-0.3**
CNGN	**Cerro Negro**	**1.36**	**31**	*e*P	**Pn**	**19 24 45.7**	**+0.2**
MOMJ	**Momotombo**	**1.37**	**38**	⇑*e*P	**Pn**	**19 24 45.6**	**-0.1**
APYN	**Apoyeque**	**1.38**	**49**	*e*P	**Pn**	**19 24 45.1**	**-0.6**
TELN	**Telica**	**1.39**	**24**	*e*P	**Pn**	**19 24 46.3**	**+0.3**
MGAN	**Managua**	**1.40**	**54**	*e*P	**Pn**	**19 24 45.7**	**-0.5**
MGAN				*e*S	**Sn**	**19 25 03.4**	**-0.7**
CRIN	**San Cristobal**	**1.41**	**14**	*e*P	**Pn**	**19 24 46.4**	**+0.1**
APON	**Apoyo**	**1.44**	**66**	⇑*e*P	**Pn**	**19 24 45.7**	**-1.0**
WILN	**Americas 2**	**1.46**	**55**	*e*S	**Sn**	**19 25 05.6**	**+0.1**
CONN	**Concepcion**	**1.76**	**82**	*e*P	**Pn**	**19 24 50.1**	**-1.2**
PYTN	**Playitas**	**1.79**	**48**	*e*P	**Pn**	**19 24 51.1**	**-0.6**
PYTN				*e*S	**Sn**	**19 25 14.2**	**+0.3**
CRZC	**La Cruz**	**1.82**	**102**	*e*P	**Pn**	**19 24 52.3**	**+0.2**
VCR	**Vista de Mar**	**2.11**	**124**	*e*P	**Pn**	**19 24 56.9**	**+0.5**
CGA2	**Cerro Gallo 2**	**3.17**	**114**	*e*P	**Pn**	**19 25 12.1**	**+0.7**
CGA2				*e*S	**Sn**	**19 25 47.3**	**-1.7**
PRS1	**Puriscal**	**3.32**	**113**	*e*P	**Pn**	**19 25 13.7**	**+0.1**
LAJ	**Bijagual**	**3.54**	**114**	*e*P	**Pn**	**19 25 12.3**	**-4.4**
LCR2	**La Lucha 2**	**3.70**	**115**	*e*P	**Pn**	**19 25 19.7**	**+0.8**
URSC	**Urasca**	**3.86**	**112**	⇑*e*P	**Pn**	**19 25 22.6**	**+1.4**
BUS	**Buena Vista**	**4.00**	**116**	*e*P	**Pn**	**19 25 23.0**	**-0.1**
BUS				*e*S	**Sn**	**19 26 12.8**	**+2.8**

*IDC **11** 19:28:38.6±5.0,12.13N×86.36W,mb3.5/2,mb1 4.0/2, mb1mx3.7/17,Error ellipse: s-maj=325.0km s-min=61.3km az=43.0*
*CASC **11** 19:28:39.6±2.4,11.30N×87.57W,h20^{km}±18^{km},MD4.3, ML3.7*
ISC 11 19:28:38.7±0.9**,11.26N**±0.04×**87.59W**±0.06**,h20**^{km}**,n28, σ1^{s}17**/34**,mb3.4**/2**,7C-4D,Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LEON	**Leon**	**1.34**	**31**	⇑*i*P	**Pn**	**19 29 03.2**	**+0.6**
LEON				*e*S	**Sb**	**19 29 21.7**	**+1.8**
COPN	**Copaltepe**	**1.34**	**47**	⇓*e*P	**Pn**	**19 29 02.2**	**-0.4**
COPN				*e*S	**Sb**	**19 29 21.4**	**+1.5**
CRUN	**El Crucero**	**1.46**	**60**	⇓*e*P	**Pn**	**19 29 03.3**	**-1.0**
CRUN				*e*S	**Sn**	**19 29 22.3**	**-0.7**
MIRN	**Miramar**	**1.46**	**36**	⇓*e*P	**Pn**	**19 29 04.3**	**0.0**
CNGN	**Cerro Negro**	**1.52**	**35**	⇑*e*P	**Pn**	**19 29 05.0**	**-0.1**
XAVN	**Gruta Xavier**	**1.53**	**54**	⇓*e*P	**Pn**	**19 29 04.4**	**-0.9**
TELN	**Telica**	**1.53**	**29**	⇑*e*P	**Pn**	**19 29 05.5**	**+0.2**
MOMJ	**Momotombo**	**1.54**	**42**	⇑*e*P	**Pn**	**19 29 05.0**	**-0.5**
TICN	**Ticuantepe**	**1.54**	**60**	*e*P	**Pn**	**19 29 04.4**	**-1.0**
TICN				*e*S	**Sn**	**19 29 26.0**	**+0.9**
MGAN	**Managua**	**1.59**	**56**	⇑*e*P	**Pn**	**19 29 05.0**	**-1.2**
MGAN				*e*S	**Sn**	**19 29 23.1**	**-3.1**
MGAN				*e*		19 29 29.1	
	comp=E,1µm,0.5s						
WILN	**Americas 2**	**1.65**	**57**	⇑*e*P	**Pn**	**19 29 05.7**	**-1.3**
WILN				*e*S	**Sn**	**19 29 28.1**	**+0.5**
CONN	**Concepcion**	**1.95**	**81**	*e*P	**Pn**	**19 29 09.2**	**-2.2**
PYTN	**Playitas**	**1.97**	**50**	*e*P	**Pn**	**19 29 10.5**	**-1.1**
PYTN				*e*S	**Sn**	**19 29 36.5**	**+0.6**
CRZC	**La Cruz**	**1.98**	**99**	*e*P	**Pn**	**19 29 08.1**	**-3.7**
VCR	**Vista de Mar**	**2.23**	**120**	*e*P	**Pn**	**19 29 17.7**	**+2.4**
JCR	**Jicaral**	**2.81**	**120**	⇑*e*P	**Pn**	**19 29 23.1**	**-0.5**
CGA2	**Cerro Gallo 2**	**3.31**	**112**	*e*P	**Pn**	**19 29 30.8**	**+0.1**
PRS1	**Puriscal**	**3.47**	**111**	*e*P	**Pn**	**19 29 34.1**	**+1.2**
LAJ	**Bijagual**	**3.68**	**112**	*e*P	**Pn**	**19 29 30.9**	**-5.1**
LCR2	**La Lucha 2**	**3.84**	**113**	*e*P	**Pn**	**19 29 37.5**	**-0.7**
TRTC	**Tortuguero**	**3.87**	**100**	*e*P	**Pn**	**19 29 34.4**	**-4.3**
ICR	**Volcan Irazu**	**3.91**	**109**	*e*P	**Pn**	**19 29 41.5**	**+2.3**
URSC	**Urasca**	**4.01**	**110**	*e*P	**Pn**	**19 29 41.0**	**+0.4**
BUS	**Buena Vista**	**4.13**	**114**	*e*P	**Pn**	**19 29 43.2**	**+0.8**
ACR	**Cerro Adams**	**5.07**	**120**	*e*P	**Pn**	**19 29 55.8**	**+0.2**
TXAR	**Lajitas Array**	**23.42**	**323**	P	**P**	**19 33 50.4**	**+2.9**
	comp=E,1.3nm,0.8s,mb3.4,baz=144,slow=11,SNR=9.7						
PDAR	**Pinedale Array**	**36.76**	**333**	P	**P**	**19 35 46.4**	**-0.4**
	comp=E,0.6nm,0.9s,mb3.4,baz=121,slow=10,SNR=4.9						
CMAR	**Chiang Mai Arr**	**149.78**	**348**	PKPbc	PKPdf	19 48 29.6	+2.0
	comp=E,1.0nm,0.8s,baz=332,slow=3.5,SNR=7.2						

*BJI **11** 19:35:37.3,13.02N×121.20E,h115^{km},mB5.1,mb4.9*
*MOS **11** 19:35:44.4±0.9,13.85N×120.63E,h112^{km},mb4.7/5,Error ellipse: s-maj=26.2km s-min=10.9km az=115.6*
*MAN **11** 19:35:46.0,13.85N×120.45E,h82^{km},mb5.2,ML4.2, MS4.3*
*IDC **11** 19:35:45.8±0.5,13.91N×120.81E,h109^{km}±4^{km},mb3.9/14, mb1 4.0/14,mb1mx3.9/18,MS2.9/2,Ms1 3.0/2, ms1mx2.8/22,Error ellipse: s-maj=23.1km s-min=10.7km az=79.0*
*NEIC **11** 19:35:46.5±0.7,13.92N×120.82E,h116^{km}±6^{km},mb4.9/17, Error ellipse: s-maj=13.2km s-min=8.3km az=52.0*
*HRVD **11** 19:35:46.5±1.3,14.01N×120.88E,h84^{km}±10^{km}, MW4.7/29,Centroid moment Tensor Solution. LP body waves: s4,c4;Mantle waves: s29,c42; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.70±.12; $M_{\theta\theta}$0.36±.13; $M_{\phi\phi}$-1.06±.12; $M_{r\theta}$0.46±.06; $M_{\theta\phi}$0.57±.09; $M_{\phi r}$-0.10±.09; Best double couple: $M_0$1.17×10^{16} NP1:ϕ_s14°,δ50°,λ144°. NP2:ϕ_s129°,δ63°,λ46°. Principal axes: T 1.05, Plg51°, Azm348°; N .24, Plg38°, Azm153°; P -1.29, Plg8°, Azm249°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 11 19:35:45.4±0.2**,13.85N**±0.03×**120.49E**±0.04**,h108**^{km}±3^{km}**, h93**^{km}±5.3^{km}**:pP-P,n97,σ1^{s}21**/104**,mb4.6**/40**,4C-3D, Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.26**	**244**	*i* P	**P**	**19 36 00.6**	**-0.3**
LUBP				*e*S	**S**	**19 36 10.3**	**-2.2**
LUBP	**Lubang**	**0.26**	**244**	*e*P	**P**	**19 36 00.6**	**-0.3**
TGY	**Tagaytay City**	**0.50**	**60**	P	**P**	**19 36 02.2**	**+0.1**
	510nm,0.3s,baz=260,slow=3.8,SNR=119						
TGY				S	**S**	**19 36 14.2**	**-0.6**
	2µm,0.3s,baz=301,slow=23,SNR=89						
TGY	**Tagaytay City**	**0.50**	**60**	⇑*i*P	**P**	**19 36 02.1**	**0.0**
TGY				*i* S	**S**	**19 36 14.6**	**-0.1**
LQP	**Lukban**	**1.05**	**76**	⇓*i*P	**P**	**19 36 07.4**	**+0.2**
LQP				*i* S	**S**	**19 36 21.6**	**-2.0**
BOAC	**Boac**	**1.37**	**106**	*e*P	**P**	**19 36 11.0**	**0.0**
SJMP	**San Jose**	**1.51**	**156**	*e*P	**P**	**19 36 12.9**	**+0.3**
SJMP				*e*S	**S**	**19 36 31.8**	**-1.3**
POLP	**Polilio Island**	**1.65**	**58**	*e*P	**P**	**19 36 14.5**	**+0.2**
BUSP	**Coron**	**1.86**	**189**	*e*P	**P**	**19 36 16.6**	**-0.3**
BUSP				*e*S	**S**	**19 36 39.0**	**-1.4**
GQP	**Guinayangan**	**1.90**	**88**	⇓*e*P	**P**	**19 36 18.2**	**+0.8**
GQP				*e*S	**S**	**19 36 43.0**	**+1.6**
SCZP	**Santa Cruz**	**2.00**	**344**	*e*P	**P**	**19 36 18.2**	**-0.5**
OTRP	**Odiongan**	**2.10**	**135**	*e*P	**P**	**19 36 20.2**	**+0.2**
BALP	**Baler**	**2.15**	**29**	*e*P	**P**	**19 36 21.1**	**+0.3**
AUQP	**San Andres**	**2.19**	**104**	*e*P	**P**	**19 36 23.4**	**+2.1**
BCPH	**Baguio City Da**	**2.52**	**2**	⇓*i*P	**P**	**19 36 25.5**	**-0.2**
BCPH				*e*S	**S**	**19 36 55.5**	**-0.6**
BOLP	**Bolinao**	**2.58**	**348**	*e*P	**P**	**19 36 26.7**	**+0.2**
KALP	**Kalibo**	**2.81**	**140**	⇑*e*P	**P**	**19 36 30.7**	**+0.9**
ENPP	**El Nido**	**2.83**	**202**	*e*P	**P**	**19 36 29.7**	**-0.2**
CUYO	**Cuyo Island**	**3.03**	**170**	*e*P	**P**	**19 36 32.0**	**-0.6**
RCP	**Roxas**	**3.17**	**136**	⇑*e*P	**P**	**19 36 35.0**	**+0.5**
CAUP	**Cauayan**	**3.33**	**22**	*e*P	**P**	**19 36 37.0**	**+0.2**
PVCP	**Virac**	**3.57**	**94**	*e*P	**P**	**19 36 40.4**	**+0.4**
ABRA	**Dolores**	**3.78**	**3**	*e*P	**P**	**19 36 42.6**	**-0.3**
GUIM	**Jordan**	**3.80**	**147**	*e*P	**P**	**19 36 44.6**	**+1.4**
APYP	**Conner**	**4.05**	**10**	*e*P	**P**	**19 36 47.8**	**+1.2**
CNP	**Catarman**	**4.28**	**108**	*e*P	**P**	**19 36 51.2**	**+1.6**
BATP	**Bataraza**	**5.67**	**208**	*e*P	**P**	**19 37 07.6**	**-0.9**
IPIL	**Ipil**	**6.36**	**161**	*e*P	**P**	**19 37 19.7**	**+1.7**
PAGZ	**Pagadian**	**6.61**	**154**	*e*P	**P**	**19 37 24.4**	**+3.1**
JOW	**Kunigami**	**14.83**	**28**	LR	LR	19 44 16.1	
	comp=Z,40nm,21.5s,baz=30,slow=35						
SSE	**Sheshan**	**17.18**	**2**	*e*P	**P**	**19 39 44.3**	**+4.3**
SSE				AMB	AMB		
	comp=Z,51nm,0.8s						
SSE				AMB	AMB		
	comp=Z,637nm,3.9s						
SSE				LR	LR		
	comp=N,40nm,29.5s						
SSE				LR	LR		
	comp=E,56nm,29.9s						
SSE				LR	LR		
	comp=Z,66nm,35.4s						
SSE	**Sheshan**	**17.18**	**2**	*e*P	**P**	**19 39 44.3**	**+4.3**
	comp=Z,51nm,0.8s						
SSE				S	**S**	**19 42 35.5**	**-10**
NJ2	**Nanjing**	**18.18**	**356**	*e*P	**P**	**19 39 54.6**	**+2.6**
NJ2				AMB	AMB		
	comp=Z,30nm,0.7s						
ENH	**Enshi**	**19.24**	**330**	*e*P	**P**	**19 40 03.5**	**-0.2**
	comp=Z,10nm,0.7s						
KMI	**Kunming**	**20.12**	**307**	*e*P	**P**	**19 40 15.9**	**+3.0**
CMAR	**Chiang Mai Arr**	**21.19**	**285**	P	**P**	**19 40 26.3**	**+2.5**
	comp=Z,9.5nm,0.8s,mb4.2,baz=97,slow=8.1,SNR=40						
CMAR				LR	LR	19 49 10.5	
	comp=Z,40nm,20.6s,baz=120,slow=38						
CD2	**Chengdu**	**22.92**	**321**	⇑*i*P	**P**	**19 40 42.8**	**+2.1**
CD2				AMB	AMB		
	comp=Z,90nm,0.8s,mb5.2						
BJT	**Baijiatuau**	**26.34**	**353**	*e*P	**P**	**19 41 12.6**	**-0.4**
	comp=Z,9.8nm,0.5s,mb4.5						
HHC	**Hu-ho-hao-te**	**28.01**	**345**	*e*P	**P**	**19 41 25.9**	**-2.4**
HHC				AMB	AMB		
	comp=Z,17nm,0.5s,mb4.8						
HHC				AMB	AMB		
	comp=Z,112nm,4.5s						
GTA	**Gaotai**	**31.30**	**328**	*e*P	**P**	**19 41 57.3**	**-0.2**
LSA	**Lhasa**	**31.36**	**305**	P	**P**	**19 42 00.0**	**+2.0**
PKI	**Pulchoki**	**35.40**	**298**	*e*P	**P**	**19 42 33.2**	**+0.4**
	comp=Z,62nm,1.0s,mb5.4						
KKN	**Kakani**	**35.57**	**299**	*e*P	**P**	**19 42 34.9**	**+0.7**
	comp=Z,77nm,1.0s,mb5.6						
DMN	**Daman**	**35.67**	**298**	*e*P	**P**	**19 42 35.1**	**0.0**
	comp=Z,91nm,1.1s,mb5.6						
SONM	**Songino Array**	**35.86**	**344**	P	**P**	**19 42 36.3**	**-0.2**
	comp=Z,6.7nm,0.5s,mb4.8,baz=164,slow=9.7,SNR=74						
SONM				pP	pP	19 42 54.3	-6.8
	comp=Z,2.2nm,0.9s,baz=180,slow=15,SNR=3.6						
GKN	**Gorkha**	**36.18**	**299**	*e*P	**P**	**19 42 39.6**	**+0.2**
	comp=Z,80nm,1.1s,mb5.6						
WRAB	**Tennant Creek**	**36.23**	**158**	*e*P	**P**	**19 42 38.4**	**-1.5**
	comp=Z,13nm,0.8s,mb4.9						
WRAB				*e*pP	pP	19 43 00.9	-3.7
WRAB				*e*sP	sP	19 43 14.7	-2.8
WRA	**Warramunga Arr**	**36.24**	**158**	P	**P**	**19 42 38.3**	**-1.7**
	comp=Z,0.6nm,0.4s,mb3.9,baz=330,slow=10,SNR=7.1						
WRA				pP	pP	19 43 01.4	-3.3
	comp=Z,6.3nm,0.8s,baz=336,slow=9.7,SNR=21						
WRA				sP	sP	19 43 14.9	-2.6

	comp=Z,3.3nm,0.9s,baz=336,slow=9.6,SNR=4.9						
WB2	Warramunga Arr	36.24	158	eP	pP	19 43 01.6	-3.1
KOLN	Koldanda	37.00	298	eP	P	19 42 46.8	+0.5
	comp=Z,41nm,1.1s,mb5.3						
ZAK	Zakamensk	39.04	342	i P	P	19 43 02.4	-0.6
ASAR	Alice Springs	39.53	160	P	P	19 43 07.0	-0.4
	comp=Z,0.6nm,0.3s,mb3.9,baz=335,slow=7.8,SNR=8.0						
ASAR				pP	pP	19 43 29.9	-2.4
	comp=Z,2.6nm,0.8s,baz=331,slow=6.8,SNR=15						
HYB	Hyderabad	40.49	281	i P	P	19 43 17.0	+1.8
HYB	Hyderabad	40.49	281	eP	P	19 43 17.0	+1.8
WMQ	Urumqi	40.97	323	eP	P	19 43 21.2	+2.3
WMQ				AMB	AMB		
	comp=Z,12nm,1.1s,mb4.6						
MKAR	Makanchi Array	45.79	324	P	P	19 43 58.2	+0.3
	comp=Z,2.2nm,0.4s,mb4.2,baz=114,slow=8.3,SNR=52						
TKM2	Tokmak 2	48.18	316	P	P	19 44 17.9	+1.2
	SNR=8.0						
KBK	Karagaybulak	48.52	315	P	P	19 44 20.9	+1.7
	SNR=15						
YAK	Yakutsk	48.56	6	eP	P	19 44 17.3	-2.1
YAK				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
UCH	Uchtor	48.65	315	P	P	19 44 22.4	+2.0
	SNR=24						
CHMS	Chumysh	48.78	316	P	P	19 44 22.1	+0.7
	SNR=9.1						
AAK	Ala-Archa	48.82	315	eP	P	19 44 21.5	-0.1
	comp=Z,6.5nm,0.8s,mb4.6						
USP	Ospenovka	49.05	316	P	P	19 44 24.2	+0.8
	SNR=16						
AML	Almayashu	49.19	314	P	P	19 44 26.2	+1.7
	SNR=20						
EKS2	Erkin-Say	49.32	315	P	P	19 44 26.5	+1.0
	SNR=16						
PET	Petropavlovsk	49.39	29	i P	P	19 44 25.1	-0.8
PET				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
KURK	Kurchatov	49.95	326	P	P	19 44 30.7	+0.5
	comp=Z,274nm,1.1s,SNR=34						
KURK	Kurchatov	49.95	326	i P	P	19 44 30.3	+0.1
KURK				pmax	pmax		
	comp=Z,22nm,1.0s,mb5.0						
KURK	Kurchatov	49.95	326	eP	P	19 44 30.2	0.0
	comp=Z,41nm,0.9s,mb5.4						
NVS	Novosibirsk	50.12	333	eP	P	19 44 29.0	-2.4
KKAR	Karatay Array	51.73	314	i P	P	19 44 43.8	+0.1
KKAR				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.8						
VOSK	Vostochnaya	55.08	326	P	P	19 45 07.5	-0.8
VOSK				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.8						
BVA0	Borovoye Array	55.54	326	i P	P	19 45 11.2	-0.4
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
BVAR	Borovoye Array	55.54	326	P	P	19 45 11.2	-0.4
	comp=Z,9.5nm,0.7s,mb5.0,baz=114,slow=9.1,SNR=66						
BRVK	Borovoye	55.61	326	eP	P	19 45 11.6	-0.5
	comp=Z,39nm,1.0s,mb5.4						
ZRNK	Zerenda	56.27	325	P	P	19 45 16.3	-0.5
ZRNK				pmax	pmax		
	comp=Z,14nm,0.9s,mb5.0						
ZRNK	Zerenda	56.27	325	eP	P	19 45 16.1	-0.8
	comp=Z,23nm,0.7s,mb5.3						
AB31	Akbulak array	60.49	319	i P	P	19 45 45.6	-0.6
AB31				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
ARU	Arti	63.15	327	eP	P	19 46 02.3	-1.6
ARU	Arti	63.15	327	eP	P	19 46 02.3	-1.7
	comp=Z,7.1nm,0.7s,mb4.7						
ZEI	Tsey	70.93	311	eP	P	19 46 52.0	-0.9
ZEI				pmax	pmax		
	comp=Z,100nm,4.0s						
OBN	Obninsk	75.30	324	eP	P	19 47 16.9	-1.3
OBN				pmax	pmax		
	comp=Z,17nm,1.2s,mb4.7						
MALT	Malatya	75.38	306	eP	P	19 47 19.4	+0.3
	comp=Z,4.9nm,0.8s,mb4.3						
ANN	Anapa	75.49	313	eP	P	19 47 21.4	+1.9
ANN				pmax	pmax		
	comp=Z,28nm,1.2s,mb4.9						
LVZ	Lovozero	75.71	337	P	P	19 47 09.2	-11
	comp=Z,389nm,0.8s,SNR=46						
PMR	Palmer	78.12	29	P	P	19 47 30.4	-3.4
	comp=Z,8.6nm,1.0s,mb4.4						
COLA	College	78.28	26	i P	P	19 47 32.8	-1.8
ILAR	Eielson Array	78.70	26	P	P	19 47 34.5	-2.4
	comp=Z,0.8nm,0.8s,mb3.6,baz=287,slow=7.4,SNR=7.4						
ARCES	ARCESS Array B	78.87	339	P	P	19 47 36.5	-1.3
	comp=Z,2.1nm,0.6s,mb4.2,baz=88,slow=6.0,SNR=8.5						
BRTR	Keskin Array B	78.90	308	P	P	19 47 38.2	-0.3
	comp=Z,1.6nm,0.8s,mb3.9,baz=110,slow=4.7,SNR=7.3						
FINES	FINESS Array B	80.06	331	P	P	19 47 43.2	-1.1
	comp=Z,1.3nm,0.6s,mb3.9,baz=108,slow=6.0,SNR=10						
AKASG	Malin Array Be	80.22	320	P	P	19 47 44.2	-1.2
	comp=Z,0.4nm,0.4s,mb3.6,baz=65,slow=5.6,SNR=7.4						
INK	Inuvik	83.03	21	P	P	19 47 58.2	-1.5
	comp=Z,7.7nm,0.9s,mb4.5,baz=324,slow=5.2						
KMBO	Kilima Mbogo	83.70	267	P	P	19 48 06.2	+2.0
	comp=Z,1.9nm,0.9s,mb3.9,baz=33,slow=7.0,SNR=4.3						
NB2	NORSAR Subarra	87.03	333	P	P	19 48 18.2	-1.3
	comp=Z,5.0nm,1.0s,mb4.4,baz=66,slow=4.8						
NOA	NORSAR Array B	87.03	333	P	P	19 48 18.1	-1.4
	comp=Z,2.6nm,0.8s,mb4.2,baz=67,slow=4.7,SNR=7.5						
GERES	GERESS Array B	90.39	321	P	P	19 48 34.1	-1.6
	comp=Z,0.6nm,0.7s,mb3.8,baz=72,slow=4.2,SNR=6.0						

IDC ***11*** *19:59:00.6±0.7, 16.44N×46.59W, mb4.1/13, mb1 4.3/14, mb1mx4.1/22, ML6.0/1, MS3.8/17, Ms1 3.8/17, ms1mx3.6/26, Error ellipse: s-maj=20.2km s-min=17.5km az=156.0*

NEIC ***11*** *19:59:02.7±0.3, 16.41N×46.57W, h10^{km}, mb4.4/11, Error ellipse: s-maj=10.3km s-min=7.2km az=169.0*

ISC 11 19:59:00.8±0.4**, 16.44N**±0.09×**46.56W**±0.07**, h10^{km}, n38, σ0^{s}79**/31**, mb4.2**/22**, MS3.8**/17**, Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJG	San Juan	18.78	278	P	P	20 03 22.7	+0.1
	1.0nm,0.3s,baz=217,slow=20,SNR=2.5						
SJG	San Juan	18.78	278	eP	P	20 03 22.6	0.0
	11nm,0.8s						
SACV	Santiago Islan	22.14	91	P	P	20 03 58.9	+0.4
	44nm,1.0s,mb4.8						
SDV	Santo Domingo	24.64	255	P	P	20 04 23.8	+0.8
	7.8nm,0.9s,mb4.2						
SAML	Samuel	30.12	214	eP	P	20 05 12.9	-0.3
	4.5nm,1.0s,mb4.2						
BDFB	Brasilia	31.91	183	LR	LR	20 18 14.5	
	comp=Z,114nm,18.4s,MS3.6,baz=199,slow=36						
LPAZ	La Paz	38.86	214	P	P	20 06 28.6	+0.4
	1.9nm,0.2s,mb4.4,baz=22,slow=6.4,SNR=6.1						
LPAZ				LR	LR	20 21 32.3	
	comp=Z,106nm,19.1s,MS3.7,baz=301,slow=35						
SCHQ	Schefferville	41.39	342	LR	LR	20 21 07.0	
	comp=Z,74nm,18.9s,MS3.6,baz=317,slow=32						
DBIC	Dimbokro	41.91	98	P	P	20 06 53.4	-0.2
	6.9nm,1.2s,mb4.2,baz=274,slow=15,SNR=2.3						
DBIC				LR	LR	20 20 52.4	
	comp=Z,251nm,21.9s,MS4.0,baz=259,slow=31						
ESDC	Sonseca Array	43.61	49	LR	LR	20 22 12.3	
	comp=Z,123nm,19.0s,MS3.8,baz=240,slow=32						
CPUP	Villa Florida	43.78	194	P	P	20 07 07.6	-1.1
	6.6nm,0.7s,mb4.5,baz=38,slow=9.1,SNR=13						
CPUP				LR	LR	20 26 45.3	
	comp=Z,64nm,19.4s,MS3.5,baz=21,slow=38						
WMOK	Wichita Mounta	49.93	302	eP	P	20 07 57.0	0.0
	4.9nm,1.1s,mb4.5						
ULM	Lac du Bonnet	51.88	322	P	P	20 08 10.6	-1.0
	1.7nm,0.6s,mb4.1,baz=119,slow=13,SNR=3.8						
ULM				LR	LR	20 26 01.0	
	comp=Z,145nm,18.9s,MS4.0,baz=91,slow=31						
TXAR	Lajitas Array	53.69	295	P	P	20 08 23.8	-1.5
	0.4nm,0.8s,mb3.4,baz=108,slow=7.9,SNR=5.1						
TXAR				PcP	PcP	20 09 31.2	-0.3
	0.4nm,0.8s,baz=117,slow=6.0,SNR=2.8						
TXAR				LR	LR	20 29 42.4	
	comp=Z,131nm,21.1s,MS4.0,baz=85,slow=34						
DAVOX	Davos	55.33	44	P	P	20 08 37.0	-0.1
	1.3nm,0.6s,mb4.2,baz=334,slow=23,SNR=3.0						
DAVOX	Davos	55.33	44	P	P	20 08 37.0	-0.1
SDCO	Great Sand Dun	55.67	305	eP	P	20 08 40.9	+1.1
	3.1nm,1.1s,mb4.2						
ISCO	Idaho Springs	55.98	307	eP	P	20 08 43.6	+1.8
	4.9nm,1.0s,mb4.5						
SUMG	Summit	56.33	3	P	P	20 08 50.5	+6.6
	12nm,1.0s,mb4.9						
KHC	Kasperske Hory	58.27	42	eP	P	20 08 58.0	+0.1
GERES	GERESS Array B	58.29	42	P	P	20 08 56.9	-1.2
	0.5nm,0.8s,mb3.6,baz=248,slow=7.2,SNR=4.9						
CLL	Collm	58.39	39	P	P	20 08 59.0	+0.2
CLL	Collm	58.39	39	eP	P	20 08 59.0	+0.2
PV10	Paradox Valley	58.51	305	eP	P	20 08 53.7	-6.1
PDAR	Pinedale Array	59.26	310	P	P	20 09 04.1	-0.9
	0.7nm,0.9s,mb3.7,baz=117,slow=6.6,SNR=4.4						
PDAR				LR	LR	20 31 23.5	
	comp=Z,186nm,20.4s,MS4.2,baz=112,slow=33						
NOA	NORSAR Array B	60.34	28	LR	LR	20 30 01.0	
	comp=Z,26nm,18.9s,MS3.4,baz=245,slow=31						
MORC	Moravsky Berou	60.93	42	eP	P	20 09 16.6	+0.3
	3.0nm,1.0s,mb4.4						
BGU	Big Grassy Mou	61.72	308	eP	P	20 09 22.2	+0.5
YKA	Yellowknife Ar	65.44	332	LR	LR	20 36 31.3	
	comp=Z,92nm,18.2s,MS4.0,baz=100,slow=34						
FINES	FINESS Array B	67.40	30	P	P	20 09 57.6	-0.8
	2.0nm,0.8s,mb4.2,baz=270,slow=5.7,SNR=4.0						
FINES				LR	LR	20 35 58.3	
	comp=Z,46nm,18.1s,MS3.7,baz=37,slow=33						
AKASG	Malin Array Be	68.47	42	P	P	20 10 04.6	-0.7
	1.2nm,0.7s,mb4.0,baz=277,slow=5.2,SNR=5.5						
BRTR	Keskin Array B	72.24	53	P	P	20 10 28.9	+0.6
	1.6nm,0.7s,mb4.1,baz=249,slow=4.4,SNR=7.1						
BRTR				LR	LR	20 39 41.3	
	comp=Z,30nm,18.9s,MS3.6,baz=325,slow=34						
TSUM	Tsumeb	72.33	117	P	P	20 10 29.2	0.0
	2.0nm,0.8s,mb4.1,baz=151,slow=7.3,SNR=3.4						
TSUM				LR	LR	20 34 59.6	
	comp=Z,85nm,18.3s,MS4.0,baz=225,slow=30						
TSUM	Tsumeb	72.33	117	eP	P	20 10 29.7	+0.6
	2.5nm,0.7s,mb4.2						
ASF	Jabal al Asfar	76.01	60	LR	LR	20 42 55.5	
	comp=Z,32nm,22.0s,MS3.6,baz=348,slow=35						
MALT	Malatya	76.14	54	eP	P	20 10 52.4	+1.5
	4.4nm,0.9s,mb4.4						
ILAR	Eielson Array	79.61	335	P	P	20 11 09.3	-0.2
	1.8nm,0.9s,mb4.0,baz=75,slow=4.6,SNR=19						
ILAR				LR	LR	20 43 04.7	
	comp=Z,42nm,18.2s,MS3.8,baz=206,slow=33						
SUR	Sutherland	80.65	128	LR	LR	20 38 58.9	
	comp=Z,107nm,19.6s,MS4.2,baz=47,slow=30						

IDC 11 20:33:49.7±2.2**, 7.47S×127.46E, mb3.4**/1**, mb1 3.8**/3**, mb1mx3.5**/11**, ML3.5**/2**, Error ellipse: s-maj=275.0km s-min=31.8km az=64.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.08	152	Pn	P	20 37 10.0	-2.9
	0.2nm,0.3s,baz=330,slow=14,SNR=6.7						
WRA				Sn	S	20 39 29.0	-22
	0.5nm,0.3s,baz=335,slow=22,SNR=7.9						
ASAR	Alice Springs	17.25	160	P	P	20 37 52.8	-1.0
	0.4nm,0.3s,baz=340,slow=10,SNR=42						
ASAR				S	S	20 40 47.4	-18
	0.1nm,0.3s,baz=350,slow=26,SNR=3.9						
MKAR	Makanchi Array	67.26	328	P	P	20 44 46.1	-2.1
	0.2nm,0.5s,baz=119,slow=7.8,SNR=5.6						

FUNV ***11*** *21:28:44.8, 6.82N×73.08W, h171^{km}, MW3.7*

NEIC ***11*** *21:28:45.0±0.6, 6.81N×72.98W, h165^{km}±7^{km}, mb4.1/12, Error ellipse: s-maj=10.4km s-min=7.0km az=107.0*

IDC ***11*** *21:28:45.4±1.9, 6.84N×73.06W, h166^{km}±17^{km}, mb3.7/8, mb1 4.0/11, mb1mx3.7/22, Error ellipse: s-maj=29.3km s-min=15.2km az=83.0*

ISC 11 21:28:43.8±0.5**, 6.78N**±0.06×**72.94W**±0.07**, h171**^{km}±6^{km}**, n39, σ0^{s}93**/42**, mb4.0**/17**, 1C, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CAPV	Capacho	1.24	30	eP	P	21 29 13.4	+0.5
CAPV				eS	S	21 29 34.7	-0.6
VIGV	El Vigia	2.12	33	eP	P	21 29 28.3	+6.3
VIGV				eS	S	21 29 59.1	+7.6
ROSC	El Rosal	2.36	216	P	P	21 29 25.7	+0.8
	412nm,0.3s,baz=314,slow=22,SNR=460						
ROSC				S	S	21 29 51.7	-4.7
	224nm,0.3s,baz=128,slow=14,SNR=11						
SOCV	Socops	2.55	54	eP	P	21 29 28.6	+1.6
SOCV				eS	S	21 29 59.8	-0.6
SDV	Santo Domingo	3.10	47	ePn	P	21 29 35.3	+1.5
SDV				eSn	S	21 30 12.6	+0.3
VIRV	Villa del Rosa	3.73	8	⇑eP	P	21 29 40.6	-1.3
VIRV				eS	S	21 30 22.5	-4.2
BAUV	El Baul	5.30	66	eP	P	21 30 01.7	-0.6
BAUV				eS	S	21 30 59.8	-3.4
OTAV	Otavalo	8.52	220	ePn	P	21 30 45.0	+0.2
	11nm,0.8s						
OTAV				eSn	S	21 32 18.1	-1.2
JTS	JuntasAbangare	12.38	287	P	P	21 31 39.3	+4.1
	2.6nm,0.3s,baz=306,slow=22,SNR=7.7						
JTS	JuntasAbangare	12.38	287	P	P	21 31 39.3	+4.1
JTS				eP		21 31 41.3	
SJG	San Juan	13.06	30	P	P	21 31 43.4	-0.4
	4.6nm,0.3s,baz=39,slow=24,SNR=13						
SJG	San Juan	13.06	30	eP	P	21 31 43.1	-0.8
	11nm,0.4s						
CBYP	Canovanas	13.34	31	eP	P	21 31 48.0	+0.5
SAML	Samuel	18.41	148	eP	P	21 32 48.0	-0.6
	2.5nm,0.5s						
SAML				e		21 33 14.4	
LPAZ	La Paz	23.41	168	P	P	21 33 42.0	+3.5
	1.4nm,0.2s,mb4.0,baz=349,slow=1.5,SNR=2.3						
LPAZ				pP		21 34 13.2	
	2.2nm,0.2s,baz=1.8,slow=1.2,SNR=2.4						
WVT	Waverly	32.24	337	eP	P	21 34 58.1	0.0
	4.9nm,0.5s,mb4.5						
MIAR	Mount Ida	33.55	328	eP	P	21 35 08.6	-0.7
	2.1nm,0.7s,mb4.0						
CCM	Cathedral Cave	35.28	335	eP	P	21 35 24.0	0.0
	11nm,0.7s,mb4.6						
WMOK	Wichita Mounta	36.62	323	eP	P	21 35 34.0	-1.3
	2.6nm,0.6s,mb4.0						
TXAR	Lajitas Array	36.62	312	P	P	21 35 35.5	+0.2
	1.5nm,0.5s,mb3.9,baz=127,slow=9.2,SNR=27						
TXAR				PcP	PcP	21 37 56.2	+1.1
	0.2nm,0.5s,baz=143,slow=6.3,SNR=4.3						
TXAR	Lajitas Array	36.62	312	P	P	21 35 35.5	+0.2
TXAR				PcP	PcP	21 37 56.2	+1.1
ANMO	Albuquerque	41.67	317	eP	P	21 36 17.7	+0.6
	0.9nm,0.5s,mb3.7						
SDCO	Great Sand Dun	42.69	321	eP	P	21 36 26.0	+0.6
	2.9nm,0.6s,mb4.1						
WUAZ	Wupatki	45.37	315	eP	P	21 36 48.0	+1.1
	5.9nm,0.8s,mb4.3						
RSSD	Black Hills	46.06	329	eP	P	21 36 53.0	+0.9
ULM	Lac du Bonnet	47.38	340	P	P	21 37 01.7	-0.7
	3.2nm,0.4s,mb4.3,baz=142,slow=6.9,SNR=7.8						
ULM	Lac du Bonnet	47.38	340	P	P	21 37 01.7	-0.7
SCHQ	Schefferville	48.16	5	P	P	21 37 09.4	+1.1
	5.1nm,0.7s,mb4.2,baz=78,slow=19,SNR=7.6						
PDAR	Pinedale Array	48.21	324	P	P	21 37 08.7	-0.2
	1.1nm,0.5s,mb3.7,baz=128,slow=9.4,SNR=10						
TPNV	Topopah Spring	49.52	314	eP	P	21 37 19.5	+0.5
	2.2nm,1.0s,mb3.7						
HLID	Hailey	51.58	322	eP	P	21 37 34.9	+0.5
	2.0nm,1.0s,mb3.7						
YBH	Yreka Blue Hor	56.09	316	P	P	21 38 05.7	-1.7
	1.2nm,0.6s,mb3.9,baz=95,slow=3.5,SNR=5.1						
YKA	Yellowknife Ar	63.36	340	P	P	21 38 55.8	-0.9
	2.7nm,0.5s,mb4.3,baz=135,slow=6.6,SNR=9.2						
ILAR	Eielson Array	77.07	335	P	P	21 40 19.5	+0.2
	0.3nm,0.5s,mb3.2,baz=108,slow=4.6,SNR=4.6						
MKAR	Makanchi Array	122.30	20	PKP	PKPdf	21 47 19.9	+1.4
	0.2nm,0.3s,baz=311,slow=2.5,SNR=7.4						
MKAR	Makanchi Array	122.30	20	PKP	PKPdf	21 47 19.9	+1.4
ASAR	Alice Springs	149.24	234	PKPbc	PKPdf	21 48 14.1	+5.8
	1.3nm,0.5s,baz=121,slow=3.5,SNR=23						
WRA	Warramunga Arr	150.48	241	PKPbc	PKPdf	21 48 17.3	+7.1
	1.5nm,0.4s,baz=107,slow=2.6,SNR=20						
WRA	Warramunga Arr	150.48	241	PKPbc	PKPdf	21 48 17.3	+7.1

NEIC ***11*** *21:52:02.6, 35.04S×70.48W, h3^{km}, ML2.7(GUC), After GUC.*

GUC 11 21:52:02.6±0.8**, 35.04S×70.48W, h3^{km}, MD3.8, ML2.7, 3C-4D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFDO	San Fernando	0.61	313	⇓iP	Pg	21 52 14.8	0.0
SFDO				i S	Sg	21 52 24.1	+1.2
CICH	Cipreses	0.71	4	⇓iP	Pg	21 52 16.1	-0.7
CICH				i S	Sg	21 52 27.4	+1.0
CACH	El Canelo	0.92	354	⇑iP	Pb	21 52 19.9	-1.0
CACH				eS	Sg	21 52 33.5	+0.2
CHCH	Chadas Angostu	1.11	352	i P	Pb	21 52 23.2	-0.9
LMEL	Las Melosas	1.21	11	⇑iP	Pb	21 52 24.8	-0.9
LMEL				i S	Sb	21 52 41.9	+0.3
LMEL				AMP		21 52 50.6	
	comp=N,201nm,0.3s						
LNV	Longovilo	1.32	324	⇑iP	Pb	21 52 26.9	-0.9
LNV				i S	Sb	21 52 45.4	+0.4
PCH	Pirque	1.41	359	eP	Pb	21 52 28.5	-0.8
TACH	Talagante	1.43	344	⇓iP	Pn	21 52 28.8	-0.7
ANTU	Antumapu	1.47	355	eP	Pn	21 52 29.7	-0.3
ANTU				eS	Sb	21 52 49.8	+0.6
ANTU				AMP		21 52 52.8	
	comp=E,246nm,0.4s						
FCH	Farellones	1.71	5	eP	Pn	21 52 33.7	+0.2
FCH				i S	Sn	21 52 57.8	+1.6
FCH				AMP		21 53 09.5	
	comp=N,181nm,0.1s						
LCCH	Las Cruces	1.80	330	⇓iP	Pn	21 52 34.8	0.0

MOS ***11*** *21:52:30.2±1.3, 57.92S×25.06W, h10^{km}, mb6.3/25, MS5.8/27, Error ellipse: s-maj=32.8km s-min=11.0km az=104.5*

IDC ***11*** *21:52:34.4±1.2, 57.97S×25.41W, h30^{km}±7^{km}, mb5.7/14, mb1 5.7/14, mb1mx5.7/15, MS5.9/13, Ms1 5.9/13, ms1mx5.9/13, Error ellipse: s-maj=17.9km s-min=12.3km az=38.0*

SYO ***11*** *21:52:37.4, 57.93S×25.33W, h56^{km}, MB6.1, MS5.8*

BJI ***11*** *21:52:38.3, 58.00S×25.30W, h63^{km}, mB5.9, Ms6.2, Msz6.0*

HRVD ***11*** *21:52:38.3±0.1, 58.13S×24.93W, h29^{km}, MW6.1/73, Centroid moment Tensor Solution. LP body waves: s73,c185;Mantle waves: s66,c106; Half duration: 2^{s}8 Moment tensor: Scale 10^{18}Nm; M_{rr}1.51±.02; $M_{\theta\theta}$0.03±.02; $M_{\phi\phi}$-1.55±.02; $M_{r\theta}$-0.15±.04; $M_{\theta\phi}$0.31±.02; $M_{\phi r}$0.79±.05; Best double couple: $M_0$1.76×10^{18} NP1:ϕ_s169°,δ31°,λ90°. NP2:ϕ_s349°,δ59°,λ90°. Principal axes: T 1.71, Plg76°, Azm259°; N .09, Plg0°, Azm349°; P -1.8, Plg14°, Azm79°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to mantle waves, cutoff=125s.*

NEIC ***11*** *21:52:38.3±1.1, 57.98S×25.34W, h64^{km}±9^{km}, mb5.8/74, MW6.1 Error ellipse: s-maj=5.8km s-min=4.4km az=80.0, Moment Tensor Solution. s17 Moment tensor: Scale 10^{18} Nm; M_{rr}1.30; $M_{\theta\theta}$0.11; $M_{\phi\phi}$-1.42; $M_{r\theta}$-0.21; $M_{\theta\phi}$0.56; $M_{\phi r}$0.69; Best double couple: $M_0$1.6×10^{18} NP1:ϕ_s161°, δ32°,λ89°. NP2:ϕ_s342°,δ58°,λ91°. Principal axes: T 1.47, Plg77°, Azm254°; N .3, Plg0°, Azm162°; P -1.77, Plg13°, Azm72°;*

ISC 11 21:52:34.3±1.6**, 58.02S**±0.03×**25.52W**±0.07**, h36**^{km}±13^{km}**, n631, σ1^{s}29**/202**, mb5.9**/59**, MS5.8**/157**, 61C-18D, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	14.62	157	⇑iP	P	21 56 01.7	+1.7
VNA1	Neumayer--Stat	14.62	157	⇑i	P	21 56 02.6	+2.6
VNA1	Neumayer--Stat	14.62	157	⇑i	P	21 56 05.9	+5.9
VNA1	Neumayer--Stat	14.62	157	⇑i		21 56 09.8	
VNA1	Neumayer--Stat	14.62	157	⇑i		21 56 16.7	
VNA1	Neumayer--Stat	14.62	157	⇑i	PcP	22 01 11.6	-0.9
VNA3	Neumayer Olymp	14.82	160	P	P	21 56 03.5	+0.9
VNA3	Neumayer Olymp	14.82	160		P	21 56 04.2	+1.6
VNA3	Neumayer Olymp	14.82	160	⇑i	P	21 56 08.1	+5.5
VNA3	Neumayer Olymp	14.82	160	⇑i		21 56 12.6	
VNA3	Neumayer Olymp	14.82	160			21 56 19.2	
VNA3	Neumayer Olymp	14.82	160	⇑i	PcP	22 01 14.4	+1.6
VNA2	Neumayer--Watz	15.02	157	⇑iP	P	21 56 06.5	+1.3
VNA2	Neumayer--Watz	15.02	157	⇑i	P	21 56 10.2	+5.0
VNA2	Neumayer--Watz	15.02	157	⇓i		21 56 14.6	
VNA2	Neumayer--Watz	15.02	157			21 56 21.3	
VNA2	Neumayer--Watz	15.02	157	⇓i	PcP	22 01 14.8	+1.7
SNAA	Sanae	16.57	155	⇑iP	P	21 56 24.8	-0.2
SNAA	Sanae	16.57	155	⇑i	P	21 56 26.6	+1.6
SNAA	Sanae	16.57	155	⇑i	P	21 56 33.6	+8.6
SNAA	Sanae	16.57	155	⇓i		21 56 37.7	
SNAA	Sanae	16.57	155	⇑i		21 56 41.7	
SNAA	Sanae	16.57	155	⇑iS	S	21 59 37.0	+10
SNAA	Sanae	16.57	155	⇑eP	P	21 56 24.4	-0.6
SNAA				eS	S	21 59 30.7	+3.7
SNAA				pmax	pmax		
	comp=Z,160nm,0.5s						
PMSA	Palmer Station	19.38	234	⇑iP	P	21 57 01.1	+1.7
	comp=Z,564nm,0.8s						
PMSA				eS	S	22 00 34.3	+3.5
EFI	East Falkland	19.64	275	Pn	P	21 57 03.5	+1.1
	comp=Z,9μm,0.7s,SNR=46						
EFI	East Falkland	19.64	275	⇑iP	P	21 57 03.5	+1.1
	comp=Z,2μm,0.8s						
EFI				eS	S	22 00 37.5	+0.9
MAIT	Maitri	20.09	144	eP	P	21 57 06.4	-0.7
MAIT				eS	S	22 00 52.6	+6.7
NVL	N'lazarevskaya	20.12	144	⇑eP	P	21 57 04.0	-3.4
NVL				eS	S	22 00 46.0	-0.5
NVL				pmax	pmax		
	comp=Z,3μm,2.8s						
NVL				MLR	MLR		
	comp=Z,14μm,14.0s,MS5.5						
TRIS	Tristan da Cun	22.70	28	eP	P	21 57 34.0	+0.4
	comp=Z,1μm,1.2s,mb6.3						
TRIS				LR	LR		
	comp=Z,41μm,21.0s,MS5.8						
USHA	Ushuaia	23.65	259	P	P	21 57 44.3	+1.6
	comp=Z,302nm,0.8s,mb5.8,baz=87,slow=11,SNR=57						
USHA				PcP	PcP	22 01 27.3	-1.0
	comp=Z,64nm,0.6s,baz=81,slow=2.3,SNR=14						
USHA				LR	LR	22 04 49.8	
	comp=Z,80μm,21.4s,MS6.2,baz=65,slow=31						
USHA				ScP		22 05 00.7	
	comp=Z,31nm,1.1s,baz=107,slow=9.4,SNR=4.1						
SYO	Syowa Base	29.49	138	⇓P	P	21 58 33.9	-2.7
SYO	Syowa Base	29.49	138	⇑pP	pP	21 58 43.5	-3.2
SYO	Syowa Base	29.49	138	⇓sP	sP	21 58 51.9	+0.6
SYO	Syowa Base	29.49	138	⇓PnPn		21 59 31.1	
SYO	Syowa Base	29.49	138	⇑PcP	PcP	22 01 40.0	-1.7
TRQA	Tornquist	30.95	294	eP	P	21 58 47.9	-2.0
	comp=Z,78nm,1.0s,mb5.5						
TRQA				ePcP	PcP	22 01 44.4	-1.4
TRQA				LR	LR		
	comp=Z,30μm,22.0s,MS5.9						
LPA	La Plata	31.62	303	deP	P	21 58 53.0	-2.8
LPA				epP	pP	21 59 13.0	+7.0
	comp=Z,13μm,22.0s						
QSPA	South Pole Qui	32.23	180	eP	P	21 59 00.9	+0.2
	comp=Z,830nm,1.2s,mb6.4						
QSPA				e		22 05 33.8	
QSPA				e		22 30 28.1	
QSPA				e		22 31 32.9	
QSPA				LR	LR		
	comp=Z,22μm,21.7s,MS5.8						
PLCA	Paso Flores	33.27	281	P	P	21 59 09.4	-0.8
PLCA				ScP		22 05 31.0	
CAM4	Nova Friburgo	37.70	334	eP	P	21 59 48.9	+0.9
CAM4				i		21 59 50.4	
CAM4				i		21 59 54.0	
CAM4				i	pP	22 00 02.1	+3.8
CAM4	Nova Friburgo	37.70	334	eP	P	21 59 48.9	+0.9
CAM4				i		21 59 50.4	
CAM4				i		21 59 54.0	
CAM4				i	pP	22 00 02.1	+3.8
MAW	Mawson	38.03	142	⇑iP	P	21 59 49.3	-1.0
	comp=Z,80nm,1.2s,mb5.3						
MAW				ePCP	PcP	22 02 04.2	-1.6
MAW				eSCP		22 05 48.6	
MAW				eSCS	ScS	22 09 56.7	-0.5
MAW	Mawson	38.03	142	P	P	21 59 49.0	-1.3
	comp=Z,78nm,0.9s,mb5.5,baz=234,slow=8.6,SNR=260						
MAW				PcP	PcP	22 02 04.1	-1.7
	comp=Z,57nm,0.9s,baz=245,slow=7.2,SNR=4.1						
MAW				ScP		22 05 48.5	
	comp=Z,15nm,1.1s,baz=224,slow=4.0,SNR=3.7						
MAW				LR	LR	22 13 02.2	

	comp=Z,15µm,21.5s,MS5.8,baz=247,slow=32						
MAW	**Mawson**	**38.03**	**142**	P	**P**	**21 59 49.0**	**-1.3**
MAW						22 02 04.1	
MAW						22 05 48.5	
MAW				pmax	pmax		
	comp=Z,78nm,0.9s						
MAW				pmax	pmax		
	comp=Z,57nm,0.9s						
MAW				pmax	pmax		
	comp=N,15nm,1.1s						
MAW				MLR	MLR		
	comp=Z,15µm,21.5s						
MDZ	**Mendoza**	**38.44**	**292**	*e*P	**P**	**21 59 54.7**	**+0.6**
MDZ				PcP	PP	22 01 14.0	-12
MDZ				S	Sx	22 07 21.2	
MDZ				SS	SS	22 08 28.4	+0.9
MDZ				LR	LR	22 13 30.8	
CPUP	**Villa Florida**	**38.80**	**311**	P	**P**	**21 59 55.7**	**-1.4**
	comp=Z,96nm,0.7s,mb5.6,baz=175,slow=8.0,SNR=101						
CPUP				PcP	PcP	22 02 07.0	-1.6
	comp=Z,63nm,0.7s,baz=169,slow=2.0,SNR=6.7						
CPUP				ScP		22 05 51.0	
	comp=Z,40nm,0.9s,baz=133,slow=3.0,SNR=9.0						
CPUP				LR	LR	22 15 26.6	
	comp=Z,9µm,19.6s,MS5.6,baz=179,slow=35						
CPUP	**Villa Florida**	**38.80**	**311**	P	**P**	**21 59 55.6**	**-1.5**
CPUP				PcP	PcP	22 02 07.3	-1.3
CPUP				ScP		22 05 50.6	
CPUP	**Villa Florida**	**38.80**	**311**	P	**P**	**21 59 55.7**	**-1.4**
CPUP						22 02 07.0	
CPUP						22 05 51.0	
CPUP				pmax	pmax		
	comp=Z,96nm,0.7s						
CPUP				pmax	pmax		
	comp=Z,63nm,0.7s						
CPUP				pmax	pmax		
	comp=N,40nm,0.9s						
CPUP				MLR	MLR		
	comp=Z,9µm,19.6s						
CPUP	**Villa Florida**	**38.80**	**311**	P	**P**	**21 59 55.7**	**-1.4**
CPUP				PcP	PcP	22 02 07.0	-1.6
CPUP				ScP		22 05 51.0	
CPUP				LR	LR	22 15 26.6	
FCH	**Farellones**	**38.80**	**290**⇑	*i*P	**P**	**21 59 55.9**	**-1.1**
CAM3	**Guarapari**	**38.83**	**337**	*e*P	**P**	**21 59 57.2**	**-0.1**
CAM3				*i*		21 59 58.3	
CAM3				*i*		22 00 02.4	
CAM3				*i*		22 00 12.4	
CAM3	**Guarapari**	**38.83**	**337**	*e*P	**P**	**21 59 57.2**	**-0.1**
CAM3				*i*		21 59 58.3	
CAM3				*i*		22 00 02.4	
CAM3				*i*		22 00 12.4	
CLCH	**Cerro Calan**	**38.87**	**289**⇑	*i*P	**P**	**21 59 56.4**	**-1.2**
SUR	**Sutherland**	**40.35**	**71**	P	**P**	**22 00 09.6**	**-0.3**
	comp=Z,32nm,0.9s,mb5.1,baz=201,slow=11,SNR=12						
SUR				PcP	PcP	22 02 11.5	-2.0
	comp=Z,81nm,1.0s,baz=229,slow=1.2,SNR=5.6						
SUR				ScP		22 05 56.0	
	comp=Z,18nm,1.3s,baz=213,slow=3.7,SNR=5.8						
SUR				LR	LR	22 12 37.2	
	comp=Z,28µm,21.4s,MS6.1,baz=213,slow=30						
SUR	**Sutherland**	**40.35**	**71**	*e*P	**P**	**22 00 09.2**	**-0.7**
	comp=Z,149nm,1.2s,mb5.6						
SUR				*e*PcP	PcP	22 02 11.4	-2.0
SUR				*e*ScP		22 05 56.2	
SUR				LR	LR		
	comp=Z,7µm,21.0s,MS5.5						
SBA	**Scott Base**	**44.17**	**184**⇑	*e*P	**P**	**22 00 42.2**	**+1.7**
SBA				pmax	pmax		
	comp=Z,2.0nm,0.4s						
SBA				MLR	MLR		
	comp=Z,9µm,20.0s,MS5.7						
SBA	**Scott Base**	**44.17**	**184**⇑	*e*P	**P**	**22 00 42.2**	**+1.6**
	comp=Z,455nm,1.0s,mb6.2						
SBA				*e*ScP		22 06 14.5	
SBA				LR	LR		
	comp=Z,9µm,20.0s,MS5.7						
BAO	**Brasilia Array**	**45.53**	**329**	*e*P	**P**	**22 00 52.5**	**+0.4**
BAO				*i*		22 00 54.0	
BDFB	**Brasilia**	**45.53**	**329**	P	**P**	**22 00 52.5**	**+0.3**
	comp=Z,545nm,1.0s,mb6.4,baz=156,slow=5.0,SNR=194						
BDFB				LR	LR	22 17 27.2	
	comp=Z,13µm,21.5s,MS5.8,baz=159,slow=33						
BDFB				PKPPKP		22 32 24.4	
	comp=Z,1.4nm,0.6s,baz=71,slow=3.3,SNR=3.3						
BDFB	**Brasilia**	**45.53**	**329**	P	**P**	**22 00 52.5**	**+0.3**
BDFB				pmax	pmax		
	comp=Z,545nm,1.0s						
BDFB				MLR	MLR		
	comp=Z,13µm,21.5s						
BDFB				pmax	pmax		
	comp=Z,1.0nm,0.6s						
LVC	**Limon Verde**	**47.08**	**300**⇑	*e*P	**P**	**22 01 03.3**	**-1.0**
	comp=Z,255nm,1.1s,mb6.1						
LVC				*e*PcP	PcP	22 02 36.3	0.0
LVC				*e*ScP		22 06 24.4	
LVC				LR	LR		
	comp=Z,13µm,19.0s,MS5.9						
MIR	**Mirnyy**	**47.61**	**152**α	*e*P	**P**	**22 01 06.8**	**-1.1**
MIR				*i*		22 01 07.0	
MIR				*e*		22 02 33.0	
MIR				*e*		22 03 05.0	
MIR				*e*PPP	PPP	22 03 50.0	+1.7
MIR				*e*S	**S**	**22 07 58.0**	**-1.9**
MIR				pmax	pmax		
	comp=Z,180nm,1.1s,mb6.0						
MIR				pmax	pmax		
	comp=Z,2µm,9.5s						
MIR				smax			
	comp=N,2µm,11.0s						
MIR				smax			
	comp=E,4µm,16.0s						
MIR				MLR	MLR		
	comp=N,8µm,16.0s,MS5.8						
MIR				MLR	MLR		
	comp=E,3µm,16.0s,MS5.8						
MIR				MLR	MLR		
	comp=Z,8µm,16.0s,MS5.8						
TSUM	**Tsumeb**	**49.91**	**58**	P	**P**	**22 01 24.8**	**-1.5**
	comp=Z,37nm,1.0s,mb5.4,baz=203,slow=7.0,SNR=35						
TSUM				LR	LR	22 17 40.8	
	comp=Z,13µm,21.3s,MS5.9,baz=204,slow=30						
TSUM	**Tsumeb**	**49.91**	**58**	*e*P	**P**	**22 01 24.6**	**-1.7**
	comp=Z,509nm,1.8s,mb6.2						
TSUM				*e*		22 01 31.3	
TSUM				LR	LR		
	comp=Z,12µm,21.0s,MS5.9						
CASY	**Casey**	**51.74**	**159**⇑	*i*P	**P**	**22 01 39.0**	**-0.5**
	comp=Z,172nm,0.9s,mb6.0						
CASY				*e*	pP	22 01 48.7	-1.4
CASY				LR	LR		
	comp=Z,15µm,21.0s,MS6.0						
LPAZ	**La Paz**	**52.26**	**305**	P	**P**	**22 01 43.5**	**-0.5**
	comp=Z,152nm,0.9s,mb5.9,baz=94,slow=1.3,SNR=214						
LPAZ				LR	LR	22 23 02.5	
	comp=Z,5µm,20.1s,MS5.5,baz=28,slow=35						
LPAZ	**La Paz**	**52.26**	**305**	P	**P**	**22 01 43.5**	**-0.5**
LPAZ				pmax	pmax		
	comp=Z,152nm,1.0s						
LPAZ				MLR	MLR		
	comp=Z,5µm,20.1s						
RCBR	**Riachuelo**	**52.69**	**347**⇑	*e*P	**P**	**22 01 45.8**	**-1.5**
	comp=Z,155nm,1.3s,mb5.8						
RCBR				*e*ScP		22 06 51.3	
RCBR				LR	LR		
	comp=Z,7µm,20.0s,MS5.7						
ARE	**Arequipa**	**53.60**	**301**⇑	*i*P	**P**	**22 01 53.0**	**-1.1**
DRV	**Dumont d'Urvil**	**55.16**	**173**	P	**P**	**22 02 03.0**	**-1.8**
SAML	**Samuel**	**56.83**	**314**⇑	*i*P	**P**	**22 02 15.3**	**-2.2**
	comp=Z,669nm,0.8s,mb6.7						
SAML				LR	LR		
	comp=Z,6µm,19.0s,MS5.7						
LSZ	**Lusaka**	**58.29**	**66**	*e*P	**P**	**22 02 24.8**	**-2.9**
LSZ				*e*S	**S**	**22 10 15.2**	**-10**
LSZ				pmax	pmax		
	comp=Z,240nm,1.3s,mb6.1						
LSZ				MLR	MLR		
	comp=Z,18µm,19.0s,MS6.2						
LSZ	**Lusaka**	**58.29**	**66**	*e*P	**P**	**22 02 24.8**	**-2.9**
	comp=Z,223nm,1.0s,mb6.2						
LSZ				*e*S	**S**	**22 10 15.2**	**-10**
LSZ				LR	LR		
	comp=Z,18µm,19.0s,MS6.2						
NNA	**Nana**	**59.99**	**298**	*e*P	**P**	**22 02 37.3**	**-2.2**
	comp=Z,261nm,1.4s,mb6.1						
NNA				*e*		22 02 57.1	
NNA				LR	LR		
	comp=Z,2µm,22.0s,MS5.3						
RPN	**Rapa Nui**	**64.21**	**260**	*e*P	**P**	**22 03 07.4**	**0.0**
	comp=Z,1µm,1.3s,mb6.8						
RPN				LR	LR		
	comp=Z,2µm,22.0s,MS5.3						
LIC	**Lamto**	**66.14**	**22**	*e*P	**P**	**22 03 18.3**	**-1.9**
	comp=Z,1µm,1.1s,mb6.8						
LIC	**Lamto**	**66.14**	**22**⇑	*i*P	**P**	**22 03 18.3**	**-1.9**
	comp=Z,482nm,1.1s						
KIC	**Kosan Boka**	**66.34**	**23**	*e*P	**P**	**22 03 19.5**	**-1.9**
	comp=Z,2µm,1.0s						
TIC	**Toumodi**	**66.56**	**22**	*e*P	**P**	**22 03 21.0**	**-1.7**
	comp=Z,2µm,1.0s						
DBIC	**Dimbokro**	**66.61**	**22**	P	**P**	**22 03 21.1**	**-2.0**
	comp=Z,278nm,0.9s,mb6.3,baz=172,slow=7.0,SNR=131						
DBIC				LR	LR	22 25 17.8	
	comp=Z,6µm,20.5s,MS5.8,baz=163,slow=30						
DBIC				PKPPKP		22 31 51.3	
	comp=Z,8.1nm,0.9s,baz=51,slow=2.7,SNR=6.2						
DBIC	**Dimbokro**	**66.61**	**22**	P	**P**	**22 03 21.2**	**-1.9**
DBIC				pmax	pmax		
	comp=Z,278nm,0.9s						
DBIC				MLR	MLR		
	comp=Z,6µm,20.5s						
DBIC				pmax	pmax		
	comp=Z,8.0nm,0.9s						
OTAV	**Otavalo**	**71.50**	**303**	*e*P	**P**	**22 03 50.2**	**-3.0**
	comp=Z,239nm,1.0s,mb6.1						
OTAV				*e*S	S	22 13 09.4	+1.3
OTAV				LR	LR		
	comp=Z,6µm,20.0s,MS5.9						
MBAR	**Mbarara**	**72.28**	**61**	*e*P	**P**	**22 03 57.2**	**-0.6**
	comp=Z,256nm,1.4s,mb6.0						
MBAR				LR	LR		
	comp=Z,2µm,20.0s,MS5.5						
SACV	**Santiago Islan**	**72.74**	**2**	*e*P	**P**	**22 03 59.6**	**-0.8**
	comp=Z,196nm,1.1s,mb6.0						
SACV				*e*		22 04 18.4	
ROSC	**El Rosal**	**73.86**	**309**	P	**P**	**22 04 06.4**	**-0.7**
	comp=Z,149nm,0.9s,mb5.9,baz=166,slow=5.5,SNR=47						
ROSC				LR	LR	22 38 17.5	
	comp=Z,5µm,19.1s,MS5.8,baz=302,slow=37						
SIPA	**Siparia**	**73.99**	**323**	*e*P	**P**	**22 04 09.9**	**+2.1**
BUAY	**Buenos Aires**	**74.01**	**323**	*e*P	**P**	**22 04 09.6**	**+1.6**
ALNG	**Atlantic LNG**	**74.08**	**323**	*e*P	**P**	**22 04 09.8**	**+1.5**
TPP	**Pointe-a-Pierr**	**74.13**	**323**	*e*P	**P**	**22 04 10.6**	**+1.9**
TRN	**Trinidad (W)**	**74.43**	**323**	*e*P	**P**	**22 04 11.6**	**+1.2**
KMBO	**Kilima Mbogo**	**74.93**	**67**	P	**P**	**22 04 15.3**	**+2.0**
	comp=Z,8.3nm,1.0s,baz=211,slow=6.6,SNR=18						
KMBO				PKPPKP		22 31 38.0	
	comp=Z,5.7nm,1.1s,baz=341,slow=4.0,SNR=3.6						
KMBO				LR	LR	22 35 00.6	
	comp=Z,13µm,18.1s,MS6.3,baz=212,slow=34						
KMBO	**Kilima Mbogo**	**74.93**	**67**⇑	*e*P	**P**	**22 04 15.0**	**+1.7**
	comp=Z,100nm,1.6s,mb5.5						
KMBO				LR	LR		
	comp=Z,13µm,19.0s,MS6.2						
GRW	**Mount Saint Ca**	**75.93**	**324**	*e*P	**P**	**22 04 19.6**	**+0.7**
SDV	**Santo Domingo**	**76.04**	**314**⇑	*i*P	**P**	**22 04 18.6**	**-1.1**
	comp=Z,315nm,0.9s,mb6.2						
SDV				*e*S	S	22 13 58.1	-1.0
SDV				LR	LR		
	comp=Z,10µm,22.0s,MS6.1						
PAYG	**Puerto Ayora**	**76.30**	**291**	*e*P	**P**	**22 04 20.3**	**-0.9**
	comp=Z,225nm,1.3s,mb5.9						
PAYG				LR	LR		
	comp=Z,6µm,22.0s,MS5.8						
MLZ	**Mavora Lakes**	**76.37**	**190**	P	**P**	**22 04 21.1**	**+0.2**
MLZ	**Mavora Lakes**	**76.37**	**190**	*e*P	**P**	**22 04 21.1**	**+0.2**
ODZ	**Otahua Downs**	**76.42**	**192**	P	**P**	**22 04 21.5**	**+0.3**
ODZ	**Otahua Downs**	**76.42**	**192**	*e*P	**P**	**22 04 21.5**	**+0.3**
SVB	**Belmont**	**76.85**	**324**	*e*P	**P**	**22 04 26.0**	**+1.8**
SVV	**Soufriere Volc**	**76.88**	**324**	*e*P	**P**	**22 04 26.3**	**+1.9**
MSZ	**Milford Sound**	**77.06**	**190**	P	**P**	**22 04 24.5**	**-0.3**
LBZ	**Lake Benmore**	**77.12**	**191**	P	**P**	**22 04 25.4**	**+0.2**
LBZ	**Lake Benmore**	**77.12**	**191**	*e*P	**P**	**22 04 25.4**	**+0.2**
MCLT	**Moule a Chique**	**77.17**	**325**	*e*P	**P**	**22 04 25.2**	**-0.8**
SLB	**Belfond**	**77.31**	**325**	*e*P	**P**	**22 04 27.1**	**+0.3**
SLPE	**Piton Saint Es**	**77.31**	**325**	*e*P	**P**	**22 04 26.4**	**-0.4**
JCZ	**Jackson Bay**	**77.58**	**190**	P	**P**	**22 04 27.3**	**-0.4**
JCZ	**Jackson Bay**	**77.58**	**190**	*e*P	**P**	**22 04 27.3**	**-0.4**
WVZ	**Waitaha Valley**	**78.36**	**192**	P	**P**	**22 04 32.2**	**+0.2**
WVZ	**Waitaha Valley**	**78.36**	**192**	*e*P	**P**	**22 04 32.2**	**+0.2**
LTZ	**Lake Taylor**	**78.47**	**193**	P	**P**	**22 04 33.1**	**+0.5**
LTZ	**Lake Taylor**	**78.47**	**193**	*e*P	**P**	**22 04 33.1**	**+0.5**
DSTT	**Stowe**	**78.73**	**325**	*e*P	**P**	**22 04 35.3**	**+0.8**
DBCT	**Belle View Cho**	**78.76**	**325**	*e*P	**P**	**22 04 36.2**	**+1.5**
MDN	**Morne-Daniel**	**78.82**	**325**	*e*P	**P**	**22 04 35.8**	**+0.8**
DWS	**Wesley**	**79.03**	**325**	*e*P	**P**	**22 04 38.3**	**+2.1**
BBL	**Barber's Block**	**79.04**	**325**	*e*P	**P**	**22 04 36.2**	**0.0**
TAU	**Tasmania Unive**	**79.26**	**175**⇑	*e*P	**P**	**22 04 36.1**	**-0.8**
	comp=Z,299nm,0.9s,mb6.2						
TAU				LR	LR		
	comp=Z,3µm,20.0s,MS5.5						
THZ	**Tophouse**	**79.39**	**194**	P	**P**	**22 04 36.5**	**-1.2**
THZ	**Tophouse**	**79.39**	**194**	*e*P	**P**	**22 04 37.5**	**-0.2**
DSZ	**Denniston Nort**	**79.55**	**193**	P	**P**	**22 04 37.6**	**-0.9**
SNZO	**South Karori**	**79.60**	**195**⇑	*e*P	**P**	**22 04 39.1**	**+0.3**
	comp=Z,407nm,0.8s,mb6.4						
SNZO				LR	LR		
	comp=Z,5µm,21.0s,MS5.8						
NNZ	**Nelson**	**79.87**	**194**	P	**P**	**22 04 40.1**	**-0.2**
NNZ	**Nelson**	**79.87**	**194**	*e*P	**P**	**22 04 40.4**	**+0.1**
RKT	**Rikitea**	**80.36**	**242**	*e*P	**P**	**22 04 43.9**	**+0.6**
	comp=Z,291nm,1.1s,mb6.1						
RKT	**Rikitea**	**80.36**	**242**	*e*L		22 26 41.1	
RKT				*e*R		22 29 59.6	
	comp=Z,18µm,28.2s,baz=150						
BPA	**Boggy Peak**	**80.59**	**325**	*e*P	**P**	**22 04 45.4**	**+0.8**
CPB	**Codrington**	**81.14**	**325**	*e*P	**P**	**22 04 46.5**	**-1.0**
KNZ	**Kokohu**	**81.38**	**198**	P	**P**	**22 04 49.0**	**+0.7**
WNVZ	**Wahianoa**	**81.41**	**196**	*e*P	**P**	**22 04 49.1**	**+0.7**
TUVZ	**Tukino**	**81.46**	**196**	P	**P**	**22 04 49.5**	**+0.8**
CNZ	**Chateau**	**81.54**	**196**	P	**P**	**22 04 49.7**	**+0.6**
CNZ	**Chateau**	**81.54**	**196**	*e*P	**P**	**22 04 49.9**	**+0.8**
NGZ	**Ngauruhoe**	**81.56**	**196**	P	**P**	**22 04 49.6**	**+0.4**
NGZ	**Ngauruhoe**	**81.56**	**196**	*e*P	**P**	**22 04 48.4**	**-0.8**
MGZ	**Maungaku**	**81.74**	**196**	P	**P**	**22 04 50.4**	**+0.2**
MGZ	**Maungaku**	**81.74**	**196**	P	**P**	**22 04 50.9**	**+0.7**
MWZ	**Matawai**	**82.08**	**198**	P	**P**	**22 04 52.8**	**+0.9**
MWZ	**Matawai**	**82.08**	**198**	*e*P	**P**	**22 04 52.8**	**+0.9**
MTP	**Monte Pirata**	**82.75**	**322**⇑	*i*P	**P**	**22 04 54.5**	**-1.2**
CPD	**Cerro la Pandu**	**82.82**	**322**⇑	*e*P	**P**	**22 04 54.4**	**-1.7**
CPD				*e*		22 05 08.6	
HUMP	**Col San Antoni**	**82.89**	**322**⇑	*e*P	**P**	**22 04 55.0**	**-1.5**
SJG	**San Juan**	**82.96**	**321**	P	**P**	**22 04 55.4**	**-1.3**
	comp=Z,408nm,1.1s,mb6.3,baz=8.7,slow=22,SNR=34						
SJG	**San Juan**	**82.96**	**321**	P	**P**	**22 04 55.4**	**-1.4**
SJG				pmax	pmax		
	comp=Z,408nm,1.1s						
SJG	**San Juan**	**82.96**	**321**	*e*P	**P**	**22 04 51.2**	**-5.6**
	comp=Z,805nm,1.3s,mb6.6						
SJG				LR	LR		
	comp=Z,3µm,22.0s,MS5.7						
CBYP	**Canovanas**	**83.01**	**322**⇑	*i*P	**P**	**22 04 55.7**	**-1.3**
MGP	**Maguayo**	**83.18**	**321**	P	**P**	**22 04 56.4**	**-1.5**
MGP	**Maguayo**	**83.18**	**321**	*e*P	**P**	**22 04 56.0**	**-1.9**
JTS	**JuntasAbangare**	**83.33**	**301**	P	**P**	**22 04 57.8**	**-1.0**
	comp=Z,136nm,1.0s,mb5.9,baz=150,slow=1.2,SNR=29						
JTS	**JuntasAbangare**	**83.33**	**301**	*e*P	**P**	**22 04 58.3**	**-0.5**
	comp=Z,465nm,1.2s,mb6.4						
JTS				LR	LR		
	comp=Z,705nm,19.0s,MS5.1						
NWAO	**Narrogin (SRO)**	**84.16**	**149**	PKKP	PKKP	22 22 55.5	-4.1
	comp=Z,3.5nm,0.8s,baz=228,slow=7.7,SNR=3.1						
NWAO	**Narrogin (SRO)**	**84.16**	**149**	*e*P	**P**	**22 05 01.2**	**-1.4**
	comp=Z,109nm,1.4s,mb5.8						
NWAO				LR	LR		
	comp=Z,4µm,20.0s,MS5.8						
TOO	**Toolangi**	**84.47**	**173**	*e*P	**P**	**22 05 03.7**	**-0.3**
	comp=Z,59nm,0.9s,mb5.7						
MUN	**Mundaring**	**84.77**	**148**	*e*S	S	22 15 30.8	+1.3
MUN				*e*PKKP	PKKP	22 23 13.2	+15
	comp=Z,11nm,1.1s						
MUN	**Mundaring**	**84.77**	**148**⇑	*i*P	**P**	**22 05 04.9**	**-0.7**
	comp=Z,124nm,1.0s,mb6.0						
MUN				*e*S	S	22 15 30.8	+1.3
MUN				*e*PKKP	PKKP	22 23 13.2	+15
WCZ	**Waipu Caves**	**84.92**	**196**	P	**P**	**22 05 05.5**	**-0.8**
WCZ	**Waipu Caves**	**84.92**	**196**	*e*P	**P**	**22 05 05.3**	**-1.0**
KLBR	**Kellerberrin**	**85.56**	**149**⇑	*i*P	**P**	**22 05 08.6**	**-1.0**
	comp=Z,124nm,1.1s,mb6.0						
KLBR				*e*PKKP	PKKP	22 23 11.2	+14
EGOM	**La Gomera**	**86.13**	**7**	P	**P**	**22 05 10.8**	**-1.6**
	comp=Z,120nm,1.3s,mb6.0						
CCAN	**Las Canadas**	**86.23**	**8**	P	**P**	**22 05 10.0**	**-2.9**
	comp=Z,425nm,3.8s						
ADE	**Adelaide**	**86.42**	**167**⇑	*i*P	**P**	**22 05 14.2**	**+0.5**
TBI	**Tubuai**	**86.53**	**230**	*e*P	**P**	**22 05 14.3**	**-0.2**
	comp=Z,349nm,1.2s,mb6.5						
TBI				*e*PP	PP	22 08 23.6	-15
TBI				*e*L		22 28 48.0	
TBI				*e*R		22 32 40.6	
	comp=Z,5µm,26.0s						
HOJ	**Hope**	**86.73**	**312**⇓	*e*P	**P**	**22 05 16.5**	**+0.9**
STH	**Stony Hill**	**86.82**	**312**⇑	*e*P	**P**	**22 05 16.7**	**+0.8**
DGAR	**Diego Garcia**	**87.98**	**101**	PFAKE		22 05 30.0	+8.3
DGAR				LR	LR		
	comp=Z,2µm,20.0s,MS5.5						
RIV	**Riverview**	**88.46**	**177**	*e*P	**P**	**22 05 24.2**	**+0.7**
FORT	**Forrest**	**88.80**	**157**⇑	*i*P	**P**	**22 05 25.2**	**-0.1**
	comp=Z,694nm,0.7s						
FORT				*e*PKKP	PKKP	22 23 03.7	+12
STKA	**Stephens Creek**	**89.80**	**169**⇑	*i*P	**P**	**22 05 29.7**	**-0.2**
	comp=Z,78nm,0.9s,mb6.0						
STKA				*e*PP	PP	22 09 01.1	-3.8
STKA				*e*SKS	SKS	22 16 00.3	+4.6
STKA	**Stephens Creek**	**89.80**	**169**	P	**P**	**22 05 29.8**	**-0.1**
	comp=Z,89nm,0.8s,mb6.2,baz=166,slow=5.4,SNR=82						
STKA				PP	PP	22 09 02.3	-2.6
	comp=Z,21nm,1.1s,baz=178,slow=6.0,SNR=3.7						
STKA				PKKPbc		22 23 00.8	
	comp=Z,6.6nm,1.1s,baz=301,slow=5.7,SNR=3.5						
STKA				LR	LR	22 45 53.5	
	comp=Z,9µm,18.2s,MS6.2,baz=185,slow=36						
TVO	**Taravao**	**91.41**	**232**	*e*P	**P**	**22 05 36.9**	**-0.8**
	comp=Z,284nm,1.1s,mb6.5						
PPT	**Papeete**	**91.74**	**232**	*e*PP	PP	22 09 14.4	-6.3
PPT				*e*PS	PS	22 17 56.4	+2.7
PPT				*e*L		22 31 16.2	
PPT				*e*R		22 35 13.8	
	comp=Z,21µm,24.5s,baz=157						
RAR	**Rarotonga**	**92.41**	**222**	PFAKE		22 05 50.0	+7.7
RAR				LR	LR		
	comp=Z,5µm,19.0s,MS6.0						
FRSS	**Farasan al Kab**	**92.77**	**63**	P	**P**	**22 05 46.8**	**+2.8**
CMIG	**Matias Romero**	**93.89**	**296**	*e*P	**P**	**22 05 47.1**	**-2.0**
DJNS	**Zahran al Janu**	**94.28**	**63**	P	**P**	**22 05 53.6**	**+2.7**
OXX	**Oaxaca**	**94.77**	**295**	*e*P	**P**	**22 05 52.5**	**-0.6**
LTHS	**Al Lith**	**95.04**	**59**	P	**P**	**22 05 55.8**	**+1.5**
BLJS	**Baljurashi**	**95.25**	**61**	P	**P**	**22 05 58.0**	**+2.8**
EMIJ	**Mijas**	**95.83**	**17**	P	**P**	**22 05 57.0**	**-0.5**
	comp=Z,23nm,1.1s,mb5.5						
TATS	**Tathlith**	**95.83**	**62**	P	**P**	**22 06 00.0**	**+2.2**
BBSR	**BB Station**	**95.85**	**327**	*e*P	**P**	**22 05 56.9**	**-0.9**
	comp=Z,36nm,1.0s,mb5.8						
BBSR				LR	LR		
	comp=Z,3µm,22.0s,MS5.8						
ESPR	**Espera**	**95.96**	**16**	P	**P**	**22 05 59.0**	**+1.0**
	comp=Z,39nm,1.0s,mb5.8						
MBWA	**Marble Bar**	**95.99**	**148**	*e*P	**P**	**22 05 57.1**	**-1.5**
	comp=Z,43nm,1.2s,mb5.8						
MBWA				LR	LR		
	comp=Z,6µm,20.0s,MS6.1						
PTEO	**Sao Teotonio**	**96.25**	**13**	*e*P	**P**	**22 06 00.8**	**+1.4**
PALC	**Alcoutim**	**96.32**	**14**	*e*P	**P**	**22 06 00.3**	**+0.6**
EGRO	**El Granado**	**96.39**	**14**	P	**P**	**22 05 59.3**	**-0.7**
	comp=Z,113nm,2.4s,mb5.9						
ERON	**Agron**	**96.42**	**17**	P	**P**	**22 06 02.0**	**+1.8**
	comp=Z,2.8nm,0.5s,mb5.0						
ELOJ	**Sierra Loja**	**96.49**	**17**	P	**P**	**22 06 03.4**	**+2.9**
	comp=Z,4.9nm,0.7s,mb5.0						
EMIN	**Mina Concepcio**	**96.73**	**15**	P	**P**	**22 06 00.8**	**-0.8**
	comp=Z,17nm,1.5s,mb5.2						
PBEJ	**Beja**	**96.83**	**14**	*e*P	**P**	**22 06 02.4**	**+0.4**
ASPA	**Alice Springs**	**96.83**	**161**	*e*P	**P**	**22 06 01.2**	**-1.2**
ASPA				*e*PP	PP	22 09 58.9	-1.4
ASPA				*e*SKS	SKS	22 16 31.7	-3.5
ASPA				*e*PKKP	PKKP	22 22 41.1	+3.0
ASAR	**Alice Springs**	**96.83**	**161**	P	**P**	**22 06 01.1**	**-1.2**
	comp=Z,54nm,0.8s,mb6.0,baz=192,slow=4.1,SNR=174						
ASAR				PP	PP	22 09 58.5	-1.8
	comp=Z,8.5nm,1.0s,baz=181,slow=7.5,SNR=5.3						
ASAR				S	SKS	22 16 39.1	+3.9
	comp=Z,5.4nm,1.0s,baz=169,slow=8.2,SNR=8.5						
ASAR				PKKPbc		22 22 42.1	
	comp=Z,3.6nm,0.7s,baz=7.1,slow=2.3,SNR=14						
ASAR				PKPPKP		22 30 51.1	
	comp=Z,3.2nm,1.0s,baz=26,slow=1.8,SNR=10						
ASAR				LR	LR	22 48 27.1	
	comp=Z,5µm,18.5s,MS6.0,baz=193,slow=35						
ELUQ	**Luque**	**96.88**	**17**	P	**P**	**22 06 03.1**	**+0.9**
	comp=Z,5.0nm,0.8s,mb5.0						
KAMS	**Al Khamasin**	**97.01**	**63**	P	**P**	**22 06 05.5**	**+2.2**
EQES	**Quesada**	**97.31**	**18**	P	**P**	**22 06 06.7**	**+2.5**
	comp=Z,5.2nm,0.9s,mb5.0						
EVO	**Evora**	**97.31**	**14**	*e*P	**P**	**22 06 03.7**	**-0.5**
	comp=Z,34nm,1.0s,mb5.5						
EVO				*e*R			
	comp=Z,10µm,22.5s						
EADA	**Adamuz**	**97.42**	**17**	P	**P**	**22 06 05.4**	**+0.7**
	comp=Z,2.8nm,0.7s,mb4.8						
PLOU	**Loures**	**97.52**	**13**	*e*P	**P**	**22 06 07.5**	**+2.4**
EMUR	**La Murta**	**97.65**	**19**	P	**P**	**22 06 09.1**	**+3.4**
	comp=Z,15nm,1.2s,mb5.4						
EBAD	**Badajoz**	**97.66**	**15**	P	**P**	**22 06 05.1**	**-0.7**
	comp=Z,30nm,1.9s,mb5.5						
DWPF	**Disney**	**97.66**	**312**	PFAKE		22 06 20.0	+14
DWPF				LR	LR		
	comp=Z,1µm,22.0s,MS5.4						
EVIA	**Vianos**	**98.21**	**18**	P	**P**	**22 06 09.4**	**+1.1**
	comp=Z,13nm,0.8s,mb5.5						
PTOM	**Tomar**	**98.33**	**13**	*e*P	**P**	**22 06 10.6**	**+1.8**
ETOB	**Tobarra**	**98.38**	**19**	P	**P**	**22 06 11.1**	**+2.0**
	comp=Z,174nm,3.1s						
PCBR	**Castelo Branco**	**98.66**	**14**	*e*P	**P**	**22 06 11.9**	**+1.6**
ESDC	**Sonseca Array**	**98.99**	**17**	P	**P**	**22 06 12.2**	**+0.4**
	comp=Z,3.3nm,0.8s,mb4.9,baz=179,slow=4.5,SNR=21						
ESDC				PKKPbc		22 22 38.0	
	comp=Z,1.5nm,0.9s,baz=349,slow=2.9,SNR=4.7						
ESDC				tx	tx	22 23 05.1	
	comp=Z,2.5nm,0.8s,baz=2.2,slow=3.9,SNR=5.6						
ESDC				LR	LR	22 48 09.0	
	comp=Z,2µm,18.4s,MS5.6,baz=180,slow=34						
ESDC	**Sonseca Array**	**98.99**	**17**	P	**P**	**22 06 11.8**	**0.0**
	comp=Z,3.2nm,0.8s,mb4.9						
MTE	**Manteigas**	**99.21**	**14**	*e*P	**P**	**22 06 12.9**	**+0.2**
MTE				*e*PP	PP	22 10 15.3	-2.6
MTE				*e*SKSac		22 16 47.0	
MTE				*e*S	S	22 17 48.5	+11
MTE				*e*LQ		22 34 00.3	
MTE				*e*LR	LR	22 38 39.4	
	comp=Z,5µm,10.3s						
MTE	**Manteigas**	**99.21**	**14**	P	**P**	**22 06 13.6**	**+0.9**
	comp=Z,15nm,0.9s,mb5.5						
KBRS	**Khaybar**	**99.32**	**56**	P	**P**	**22 06 16.3**	**+2.7**
AFFS	**'Afif**	**99.39**	**60**	P	**P**	**22 06 17.4**	**+3.5**
PVIS	**Viseu**	**99.47**	**13**	*e*P	**P**	**22 06 12.6**	**-1.3**
NOUC	**Port Laguerre**	**99.58**	**191**	*e*P	**P**	**22 06 15.9**	**+1.1**
NOUC	**Port Laguerre**	**99.58**	**191**	*e*P	**P**	**22 06 15.9**	**+1.1**
ETOR	**Torete**	**100.42**	**18**	P	P	22 06 20.0	+1.8
	comp=Z,22nm,1.3s						
FITZ	**Fitzroy Crossi**	**100.48**	**152**	*e*P	P	22 06 19.2	+0.2
	comp=Z,4.2nm,0.8s						
FITZ				*e*PP	PP	22 10 35.4	+6.8
FITZ				*e*SKS	SKS	22 16 55.4	+1.6
FITZ				*e*PKKP	PKKP	22 22 32.6	+1.0
FITZ	**Fitzroy Crossi**	**100.48**	**152**	P	P	22 06 19.2	+0.2
	baz=211,slow=5.9						
FITZ				PKKPbc		22 22 32.6	
	comp=Z,4.2nm,0.6s,baz=54,slow=3.0,SNR=5.2						
FITZ				tx	tx	22 22 57.8	
	comp=Z,9.8nm,0.8s,baz=0.2,slow=0.2,SNR=6.9						
WRA	**Warramunga Arr**	**100.54**	**161**	P	P	22 06 17.9	-1.4
	comp=Z,11nm,0.8s,baz=196,slow=4.1,SNR=43						
WRA				PP	PP	22 10 25.1	-4.0
	comp=Z,6.5nm,1.0s,baz=188,slow=6.3,SNR=5.3						
WRA				PKPPKP		22 30 47.8	
	comp=Z,1.7nm,0.9s,baz=24,slow=2.1,SNR=5.7						
WRA	**Warramunga Arr**	**100.54**	**161**	P	P	22 06 17.9	-1.4
WRA						22 10 25.1	
WRA				pmax	pmax		
	comp=Z,11nm,0.8s						
WRA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
WRA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
WRA	**Warramunga Arr**	**100.54**	**161**	P	P	22 06 17.9	-1.4
WRA				PP	PP	22 10 25.1	-4.0

WRA				P'P'		22 30 47.8	
WB2	**Warramunga Arr**	**100.55**	**161**	*e*P	P	22 06 18.1	-1.2
WB2				*e*PP	PP	22 10 24.7	-4.4
WB2				*e*SKS	SKS	22 16 48.0	-6.0
WB2				*e*PKKP	PKKP	22 22 33.3	+1.8
WRAB	**Tennant Creek**	**100.56**	**161**	*e*P	P	22 06 15.7	-3.6
	comp=Z,75nm,1.3s						
WRAB				LR	LR		
	comp=Z,4μm,20.0s,MS5.9						
JMQS	**Jabal Moqyreh**	**100.57**	**52**	P	P	22 06 20.5	+1.3
ELOB	**Lobios**	**100.59**	**13**	P	P	22 06 17.1	-1.9
	comp=Z,31nm,1.8s						
PBRG	**Braganca**	**100.69**	**14**	*e*P	P	22 06 18.2	-1.3
VAE	**Valguarnera**	**100.85**	**31**	P	P	22 06 20.7	+0.5
	comp=Z,3.5nm,0.6s,baz=115,slow=16,SNR=3.8						
EIL	**Elat**	**100.88**	**50**	P	P	22 06 28.6	+8.0
	comp=Z,11nm,1.1s,baz=30,slow=26,SNR=3.3						
EIL	**Elat**	**100.88**	**50**	*e*Pdif	P	22 06 21.7	+1.2
	comp=Z,23nm,1.0s						
STS	**Santiago**	**101.53**	**13**	P	P	22 06 22.3	-0.9
	comp=Z,45nm,1.7s						
NHSC	**New Hope**	**101.64**	**316**	PFAKE		22 06 30.0	+6.1
NHSC				LR	LR		
	comp=Z,2μm,19.0s,MS5.7						
MTTG	**Motta San Giov**	**101.70**	**32**	*e*P	P	22 06 25.5	+1.4
SOI	**Samo**	**101.87**	**32**	*e*P	P	22 06 25.7	+0.9
CTA	**Charters Tower**	**101.89**	**172**	*e*P	P	22 06 24.5	-0.8
	comp=Z,7.7nm,1.2s						
CTA				*e*PP	PP	22 10 20.7	-18
CTA				*e*SKS	SKS	22 17 04.0	+3.5
CTAO	**Charters Tower**	**101.89**	**172**	PFAKE		22 06 40.0	+15
CTAO				LR	LR		
	comp=Z,9μm,20.0s,MS6.3						
IDI	**Anoyia**	**102.09**	**40**	P	Pdif	22 06 22.8	-3.1
	comp=Z,56nm,1.2s,baz=181,slow=3.5,SNR=3.8						
IDI				PKiKP		22 10 48.9	
	comp=Z,33nm,1.0s,baz=239,slow=5.9,SNR=3.3						
ELAN	**Lanestosa**	**102.56**	**16**	P	Pdif	22 06 27.2	-0.5
	comp=Z,17nm,1.2s						
GRI	**Girifalco**	**102.67**	**32**	*e*P	Pdif	22 06 28.4	+0.1
ETSF	**Etsaut**	**102.69**	**19**	*e*P	Pdif	22 06 27.8	-0.5
	comp=Z,25nm,0.9s						
SJPF	**Ste Jean**	**102.79**	**18**	*e*P	Pdif	22 06 28.4	-0.4
	comp=Z,54nm,1.4s						
EPF	**Esparros**	**102.97**	**19**	*e*P	Pdif	22 06 28.6	-1.0
	comp=Z,16nm,1.0s						
TIP	**Timpagrande**	**103.10**	**32**	*e*Pdif	Pdif	22 06 30.1	-0.2
TIP				*e*		22 06 41.0	
TDS	**Terranova Siba**	**103.43**	**32**	*e*P	Pdif	22 06 33.3	+1.7
MTLF	**Montolieu**	**103.61**	**20**	*e*P	Pdif	22 06 31.9	-0.5
CSSN	**Cassano Irpino**	**104.18**	**31**	*e*P	Pdif	22 06 40.2	+5.2
LRAL	**Lakeview Retre**	**104.23**	**310**	PFAKE		22 06 50.0	+15
LRAL				LR	LR		
	comp=Z,5μm,21.0s,MS6.0						
PGF	**Pioggiola**	**104.26**	**26**	*e*P	Pdif	22 06 34.6	-0.7
	comp=Z,27nm,1.3s						
LMR	**La Mourre**	**104.46**	**24**	*e*P	Pdif	22 06 35.6	-0.5
	comp=Z,26nm,1.2s						
LASF	**Ste Croix**	**104.63**	**21**	*e*P	Pdif	22 06 36.1	-0.8
FRF	**La Foret Royal**	**104.71**	**24**	*e*P	Pdif	22 06 36.4	-0.8
	comp=Z,74nm,1.6s						
PALK	**Pallekele**	**104.71**	**100**	PFAKE		22 06 50.0	+12
PALK				LR	LR		
	comp=Z,623nm,20.0s,MS5.2						
LFF	**La Frestale**	**104.89**	**19**	*e*P	Pdif	22 06 37.3	-0.7
	comp=Z,55nm,1.2s						
CAF	**Calviac**	**105.12**	**20**	*e*P	Pdif	22 06 38.5	-0.5
	comp=Z,24nm,1.1s						
SBF	**Sospel**	**105.17**	**24**	*e*P	Pdif	22 06 38.6	-0.6
CBN	**Corbin**	**105.22**	**320**	PFAKE		22 11 00.0	
CBN				LR	LR		
	comp=Z,5μm,22.0s,MS6.0						
RJF	**Les Rejaudoux**	**105.38**	**19**	*e*P	Pdif	22 06 38.8	-1.3
	comp=Z,47nm,1.4s						
RJF				*e*R			
	comp=Z,11μm,22.2s						
BLA	**Blacksburg**	**105.40**	**317**	*e*PKPdf		22 10 50.8	
BLA				LR	LR		
	comp=Z,3μm,21.0s,MS5.8						
VIVF	**Saint-Julien-l**	**105.54**	**22**	*e*P	Pdif	22 06 39.8	-1.0
	comp=Z,22nm,1.2s						
SWET	**Sewanee**	**105.72**	**312**	*e*Pdif	Pdif	22 06 40.5	-1.3
SWET				*e*PKPdf		22 10 51.5	
ORIF	**Oris-en-Rattie**	**105.84**	**23**	*e*P	Pdif	22 06 41.8	-0.4
	comp=Z,14nm,1.0s						
ORIF				*e*R			
	comp=Z,12μm,22.0s						
MBDF	**Montbardon**	**105.85**	**23**	*e*P	Pdif	22 06 41.5	-0.7
	comp=Z,12nm,1.0s						
NATX	**Nacogdoches**	**106.38**	**304**	PFAKE		22 11 10.0	
NATX				LR	LR		
	comp=Z,2μm,21.0s,MS5.6						
OXF	**Oxford**	**106.50**	**309**	PFAKE		22 11 10.0	
OXF				LR	LR		
	comp=Z,3μm,22.0s,MS5.8						
LPG	**La Plagne**	**106.58**	**23**	*e*P	Pdif	22 06 45.2	-0.2
	comp=Z,26nm,1.0s						
LPL	**La Plagne**	**106.59**	**23**	*e*P	Pdif	22 06 45.2	-0.2
	comp=Z,21nm,1.0s						
SKO	**Skopje**	**107.05**	**35**	*i* PKP		22 11 12.0	
AVF	**Avril sur Loir**	**107.15**	**20**	*e*P	Pdif	22 06 46.9	-1.0
	comp=Z,30nm,1.4s						
HRV	**Harvard--Oak R**	**107.26**	**326**	*e*PP	PP	22 11 15.2	-3.9
HRV				LR	LR		
	comp=Z,4μm,21.0s,MS6.0						
WVT	**Waverly**	**107.26**	**311**	*e*PKPdf		22 10 53.9	
WVT				LR	LR		
	comp=Z,6μm,22.0s,MS6.1						
SSF	**Saint Saulge**	**107.44**	**20**	*e*P	Pdif	22 06 49.0	-0.1
CABF	**La Chapelle**	**107.51**	**22**	*e*P	Pdif	22 06 49.3	-0.1
	comp=Z,15nm,1.0s						
SSPA	**Standing Stone**	**107.57**	**321**	PKPdf		22 10 59.5	
SSPA				LR	LR		
	comp=Z,923nm,22.0s,MS5.3						
NVLJ	**Novalja**	**107.60**	**29**	*i* P		22 11 29.0	
JCT	**Junction City**	**107.63**	**299**	*e*PKPdf		22 10 56.5	
JCT				LR	LR		
	comp=Z,2μm,22.0s,MS5.5						
LOR	**Lormes**	**107.71**	**21**	*e*P	Pdif	22 06 50.2	-0.1
	comp=Z,15nm,1.1s						
LOR				*e*R			
	comp=Z,9μm,22.5s						
EMMW	**East Machias**	**108.14**	**330**	*e*PKPdf		22 10 58.3	
EMMW				*e*PP	PP	22 11 23.0	-2.3
EMMW				LR	LR		
	comp=Z,15μm,20.0s,MS6.5						
MIAR	**Mount Ida**	**108.28**	**306**	PFAKE		22 11 10.0	
MIAR				LR	LR		
	comp=Z,2μm,20.0s,MS5.6						
BINY	**Binghamton**	**108.35**	**323**	*e*PKPdf		22 10 56.1	
BINY				*e*PP	PP	22 11 22.4	-4.7
DAVOX	**Davos**	**108.47**	**25**	Pdiff	Pdif	22 06 56.2	+2.5
	comp=Z,3.7nm,0.7s,baz=104,slow=5.6,SNR=6.4						
DAVOX				PKiKP		22 10 58.5	
	comp=Z,3.6nm,0.6s,baz=230,slow=7.9,SNR=3.9						
WCI	**Wyandotte Cave**	**108.49**	**314**	*e*PKPdf		22 10 58.7	
WCI				LR	LR		
	comp=Z,803nm,20.0s,MS5.3						
LTX	**Lajitas**	**108.49**	**296**	PKiKP		22 10 59.8	
LTX				LR	LR		
	comp=Z,5μm,20.0s,MS6.0						
TXAR	**Lajitas Array**	**108.49**	**296**	Pdiff	Pdif	22 06 53.6	-0.6
	comp=Z,0.6nm,0.8s,baz=135,slow=7.1,SNR=6.4						
TXAR				PKiKP		22 10 59.7	
	comp=Z,8.9nm,1.0s,baz=126,slow=1.9,SNR=17						
TXAR				PKKPbc		22 22 08.1	
	comp=Z,1.4nm,0.9s,baz=259,slow=0.4,SNR=5.2						
TXAR				PKKPab		22 22 22.6	
	comp=Z,3.9nm,1.0s,baz=234,slow=2.0,SNR=4.4						
TXAR				PKPPKP		22 30 36.8	
	comp=Z,0.8nm,0.9s,baz=225,slow=1.8,SNR=4.6						
TXAR	**Lajitas Array**	**108.49**	**296**	Pdif	Pdif	22 06 53.6	-0.6
TXAR				PKPdf		22 10 59.7	
TXAR				PKKPbc		22 22 08.1	
TXAR				PKKPab		22 22 22.6	
TXAR				P'P'		22 30 36.8	
DIVS	**Divcibare**	**108.57**	**33⇑**	*i*P	PKKP	22 21 57.4	-19
BOJS	**Bojanci**	**108.57**	**29**	*e*PP	PP	22 11 24.2	-4.5
BOJS				*e*		22 20 55.4	
WVL	**Waterville**	**108.61**	**328**	*e*PP	PP	22 11 24.4	-4.7
WVL				LR	LR		
	comp=Z,14μm,21.0s,MS6.5						
LJU	**Ljubljana**	**108.89**	**28**	*e*Pdiff	Pdif	22 06 56.8	+1.2
LJU				*e*PP	PP	22 11 25.2	-6.0
LJU				*e*SKSac		22 17 28.0	
LJU				*e*pSKSbc		22 17 48.0	
LJU				*e*		22 18 36.0	
LJU				*e*Sdiff		22 18 56.0	
LJU				*e*sSdiff		22 19 25.0	
LJU				*e*SP	SP	22 20 48.2	+1.4
LJU				*e*PS	PS	22 20 52.0	+0.8
LJU				*e*		22 22 09.0	
LJU				*i*		22 22 22.5	
LJU				*e*SS	SS	22 26 48.0	+4.5
LJU	**Ljubljana**	**108.89**	**28**	*e*Pdif	Pdif	22 06 56.8	+1.2
LJU				*e*PP	PP	22 11 25.2	-6.0
LJU				*e*SKSac		22 17 28.0	
LJU				*e*		22 18 36.0	
LJU				*e*Sdif		22 18 56.0	
LJU				*e*		22 22 09.0	
LJU				*i*		22 22 22.5	
LJU				*e*SS	SS	22 26 48.0	+4.5
ACSO	**Alum Creek Sta**	**109.00**	**317**	*e*PKPdf		22 11 01.5	
ACSO				*e*PP	PP	22 11 26.2	-6.1
ACSO				LR	LR		
	comp=Z,3μm,22.0s,MS5.8						
PDKS	**Podkum**	**109.04**	**29**	*e*PP	PP	22 11 26.7	-5.8
PDKS				*e*		22 18 30.0	
PDKS				*e*		22 20 53.3	
PDKS				*e*		22 21 19.6	
PDKS				*e*PKKPbc		22 22 07.1	
PDKS				*e*PKKPdf		22 22 20.4	
PDKS				*e*		22 29 55.9	
PDKS				*e*		22 30 24.2	
MEZF	**Maizieres J'vi**	**109.11**	**21**	*e*P	Pdif	22 06 57.2	+0.7
	comp=Z,25nm,1.1s						
BRTR	**Keskin Array B**	**109.18**	**45**	Pdiff	Pdif	22 07 01.6	+4.6
	comp=Z,1.8nm,0.9s,baz=180,slow=7.4,SNR=6.9						
BRTR				PKiKP		22 11 00.4	
	comp=Z,2.1nm,0.8s,baz=144,slow=3.9,SNR=5.8						
BRTR				PKKPbc		22 22 07.2	
	comp=Z,7.0nm,0.7s,baz=92,slow=2.2,SNR=20						
BRTR				PKKP	PKKP	22 22 20.2	+4.8
	comp=Z,4.1nm,0.8s,baz=84,slow=1.9,SNR=5.8						
BRTR	**Keskin Array B**	**109.18**	**45**	P	Pdif	22 07 01.6	+4.6
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BRTR				pmax	pmax		
	comp=Z,7.0nm,0.7s						
BRTR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MDRS	**Chennai**	**109.34**	**96**	*i*		22 11 42.0	
MDRS				*e*		22 20 53.0	
BLO	**Bloomington**	**109.39**	**314**	*e*PKPdf		22 11 00.4	
BLO				*e*PP	PP	22 11 28.0	-7.1
NCB	**Newcomb**	**109.40**	**325**	*e*PKPdf		22 10 54.1	
NCB				*e*PP	PP	22 11 30.6	-4.5
NCB				LR	LR		
	comp=Z,4μm,21.0s,MS6.0						
BFO	**Black Forest**	**109.61**	**23**	*e*P	Pdif	22 07 00.6	+2.0
BFO				*e*		22 11 31.9	
BFO				*e*SP	SP	22 20 55.7	+1.8
ERPA	**Erie**	**109.61**	**320**	PFAKE		22 11 10.0	
ERPA				LR	LR		
	comp=Z,2μm,21.0s,MS5.6						
FUR	**Furstenfeldbru**	**110.10**	**25**	*e*Pdif	Pdif	22 07 03.1	+2.3
FUR				*e*PP	PP	22 11 35.5	-4.3
FUR				*e*SP	Px	22 21 15.7	
PQI	**Presque Isle**	**110.10**	**330**	PFAKE		22 11 10.0	+8.9
PQI				LR	LR		
	comp=Z,16μm,21.0s,MS6.6						
BOM	**Bombay**	**110.22**	**87⇓**	*i*PKP	PKPdf	22 10 58.1	-3.8
BOM				*e*		22 10 58.8	
BOM				*e*		22 20 13.6	
CCM	**Cathedral Cave**	**110.30**	**310**	PFAKE		22 11 10.0	+8.3
CCM				LR	LR		
	comp=Z,1μm,22.0s,MS5.5						
POO	**Poona**	**110.47**	**88**	*e*	PP	22 11 37.0	-6.0
WMOK	**Wichita Mounta**	**110.73**	**303**	P	Pdif	22 07 04.2	+0.3
WMOK	**Wichita Mounta**	**110.73**	**303**	*e*Pdif	Pdif	22 07 03.0	-1.0
WMOK				*e*PKPdf	PKPdf	22 11 03.0	+0.3
WMOK				LR	LR		
	comp=Z,2μm,21.0s,MS5.6						
GEC2	**GERESS Array S**	**111.30**	**27**	*e*Pdif	Pdif	22 07 13.2	+7.1
GEC2				*e*PP	PP	22 11 44.2	-4.0
GEC2				*e*SP	Px	22 21 38.4	
GERES	**GERESS Array B**	**111.30**	**27**	Pdiff	Pdif	22 07 11.4	+5.4
	comp=Z,1.2nm,0.9s,baz=225,slow=1.9,SNR=7.8						
GERES				PKKPbc		22 22 01.8	
	comp=Z,1.8nm,0.9s,baz=27,slow=3.0,SNR=6.7						
GERES	**GERESS Array B**	**111.30**	**27**	P	Pdif	22 07 11.4	+5.3
GERES				pmax	pmax		
	comp=Z,1.0nm,0.9s						
GERES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
WET	**Wettzell**	**111.38**	**26**	*e*Pdif	Pdif	22 07 08.4	+2.0
WET				*e*PP	PP	22 11 44.8	-4.0
WET				*e*SP	Px	22 21 38.3	
SRO	**Srobarova**	**111.51**	**30**	*e*	PKKP	22 22 00.8	-10
SRO				*e*		22 22 09.8	
GRA1	**Grafenberg Arr**	**111.52**	**25**	*e*Pdif	Pdif	22 07 07.8	+0.8
GRA1				*e*PP	PP	22 11 45.7	-4.0
GRA1				*e*SKSac		22 17 51.8	
GRA1				*e*SP	Px	22 21 42.2	
GRA1				*e*SS	SS	22 27 36.5	+18
GRA1				LR	LR		
	comp=Z,4μm,21.9s,MS6.0						
GRF	**Grafenberg Arr**	**111.52**	**25**	*e*P	Pdif	22 07 07.8	+0.8
GRF				*e*		22 11 45.7	
GRF				*e*		22 17 51.8	
GRF				*e*SS	SS	22 27 36.5	+18
KHC	**Kasperske Hory**	**111.54**	**26**	*e*PDIF	Pdif	22 07 12.6	+5.5
KHC				pP		22 07 24.5	
KHC				sP		22 07 29.5	
KHC				x	x	22 10 29.5	
KHC				x	x	22 10 36.0	
KHC				*e*PP	PP	22 11 58.5	+8.7
KHC				*e*SKS	SKS	22 17 49.6	+7.5
KHC				*e*SP	SP	22 21 14.5	+1.9
KHC				PKKP	PKKP	22 22 00.0	-11
KHC				x	x	22 22 09.0	
KHC				*e*SS	SS	22 27 26.6	+7.8
KHC				LR		22 50 00.0	
	comp=Z,3.9nm,25.8s						
KHC	**Kasperske Hory**	**111.54**	**26**	*e*P	Pdif	22 07 12.6	+5.5
KHC				*e*		22 17 49.6	
KHC				*e*SP	SP	22 21 14.5	+1.9
KHC				*e*SS	SS	22 27 26.6	+7.8
KHC				MLR	MLR		
	comp=Z,4μm,25.8s,MS5.9						
KHC	**Kasperske Hory**	**111.54**	**26**	*e*Pdif	Pdif	22 07 12.6	+5.5
KHC				*e*		22 07 24.5	
KHC				*e*		22 07 29.5	
KHC				*e*		22 10 29.5	
KHC				*e*		22 10 36.0	
KHC				*e*PP	PP	22 11 58.5	+8.7
KHC				*e*SKS	SKS	22 17 49.6	+7.5
KHC				*e*SP	SP	22 21 14.5	+1.9
KHC				*e*		22 22 00.0	
KHC				*e*		22 22 09.0	
KHC				*e*SS	SS	22 27 26.6	+7.8
KHC				LR	LR		
	comp=Z,4μm,25.8s,MS5.9						
ZST	**Bratislava**	**111.54**	**29**	*e*P	PKKP	22 22 00.8	-10
SMOL	**Smolenice**	**111.92**	**29**	*e*	PKKP	22 21 55.8	-14
SMOL				*e*		22 22 05.9	
PSZ	**Piszkesteto**	**112.03**	**31⇑**	*e*P	PKKP	22 22 07.0	-2.7
HYB	**Hyderabad**	**112.05**	**92**	*i* Pdiff	Pdif	22 07 08.0	-2.1
HYB				*e*PKP	PKPdf	22 11 05.0	-0.6
HYB				*e*PP	PP	22 11 56.0	+1.8
HYB				*e*SKS	SKS	22 17 44.0	-0.9
HYB				*e*SKKS		22 18 44.0	
HYB				*e*SP	SP	22 21 20.0	+2.0
HYB				*e*PKKP	PKKP	22 22 09.0	-1.4
HYB				*e*SS	SS	22 27 20.0	-6.3
HYB				LR	LR	22 49 40.0	
	comp=Z,7.8nm,20.0s						
HYB	**Hyderabad**	**112.05**	**92**	*e*Pdif	Pdif	22 07 08.0	-2.1
HYB				*e*		22 11 05.0	
HYB				*e*SKS	SKS	22 17 44.0	-0.9
HYB				*e*SP	SP	22 21 20.0	+2.0
HYB				*e*PKKP	PKKP	22 22 09.0	-1.4
VRI	**Vrincioaia**	**112.21**	**37⇓**	*i*P	PP	22 11 46.0	-8.8
VYHS	**Vyhne**	**112.27**	**30**	*e*PKP	PKPdf	22 11 05.4	+0.1
VYHS	**Vyhne**	**112.27**	**30**	*e*P	PKKP	22 22 05.5	-3.7
NKC	**Novy Kostel**	**112.30**	**25**	*e*PDIF	Pdif	22 07 18.4	+8.0
NKC				*e*PP	PP	22 11 58.6	+3.1
NKC				*e*SKS	SKS	22 17 54.8	+10
NKC				*e*SP	SP	22 21 24.3	+4.5
NKC				*e*SS	SS	22 27 26.7	-2.4
NKC				LR		22 53 10.0	
	comp=Z,3.7nm,20.7s						
MOX	**Moxa**	**112.50**	**25**	*i* P	PKPdf	22 11 05.4	-0.3
MOX				PP	PP	22 11 48.0	-9.1
MOX				PS	PS	22 21 22.0	-4.1
MOX				PKKP	PKKP	22 21 51.0	-18
MOX				SS	SS	22 27 35.0	+3.1
MOX				L		22 55 17.0	
MOX	**Moxa**	**112.50**	**25**	*e*PKIKP	PKPdf	22 11 05.4	-0.3
MOX				MLR	MLR		
	comp=Z,2μm,20.0s,MS5.7						
MOX	**Moxa**	**112.50**	**25**	*e*P	PKPdf	22 11 05.4	-0.3
MOX				*e*		22 21 50.7	
MOX				LR	LR		
	comp=Z,2μm,20.0s,MS5.7						
IPM	**Ipoh**	**112.52**	**120⇓**	*e*P	PKPdf	22 11 07.0	+0.4
PRU	**Pruhonice**	**112.56**	**27**	*e*PDIF	Pdif	22 07 16.6	+5.0
PRU				*e*PP	PP	22 12 04.5	+6.9
PRU				*e*SKS	SKS	22 17 52.3	+6.1
PRU				*e*SP	SP	22 21 38.7	+16
PRU				*e*SS	SS	22 27 34.3	+1.6
PRU				LR		22 53 30.0	
	comp=Z,3.7nm,21.0s						
PRU	**Pruhonice**	**112.56**	**27**	*e*P	Pdif	22 07 16.6	+5.0
PRU				*e*		22 17 52.3	
PRU				*e*SS	SS	22 27 34.3	+1.6
KECS	**Kecovo**	**112.71**	**31**	*e*P	PKKP	22 22 03.5	-4.9
KECS				*e*		22 22 08.9	
PVCC	**Panska Ves**	**113.07**	**27**	*e*PDIF	Pdif	22 07 17.6	+3.8
PVCC				*e*PP	PP	22 12 15.2	+14
PVCC				*e*SKS	SKS	22 18 02.2	+14
PVCC				*e*SP	SP	22 21 33.0	+5.6
PVCC				*e*SS	SS	22 27 39.4	-0.4
PVCC				LR		22 52 50.0	
	comp=Z,4.8nm,22.1s						
PVCC	**Panska Ves**	**113.07**	**27**	*e*P	Pdif	22 07 17.6	+3.8
PVCC				*e*SP	SP	22 21 33.0	+5.6
PVCC				*e*SS	SS	22 27 39.4	-0.4
PVCC				MLR	MLR		
	comp=Z,5μm,22.1s,MS6.0						
BRG	**Berggiesshubel**	**113.25**	**26**	*e*PKIKP	PKPdf	22 11 07.9	+0.7
BRG				*e*		22 12 00.0	
BRG				*i*		22 17 58.0	
BRG				pmax	pmax		
	comp=Z,22nm,1.5s						
BRG				MLR	MLR		
	comp=N,3μm,22.2s,MS5.9						
BRG				MLR	MLR		
	comp=E,2μm,22.2s,MS5.9						
BRG				MLR	MLR		
	comp=Z,3μm,20.2s,MS5.9						
BRG	**Berggiesshubel**	**113.25**	**26**	*e*Pdif	Pdif	22 07 17.0	+2.4
BRG				*e*PKP	PKPdf	22 11 07.9	+0.7
BRG				*e*PP	PP	22 12 00.0	-2.7
BRG				*i* SKS	SKS	22 17 58.0	+9.1
BRG				*i* S		22 19 44.0	
BRG				*e*PKKP	PKKP	22 21 55.3	-12
BRG				LR	LR		
	comp=Z,3μm,20.2s,MS5.9						
KGD	**Kothagudem**	**113.30**	**94**	*e*PKiK		22 11 08.9	
KGD				*e*SP	SP	22 21 27.0	-3.2
KGD				*e*SS	SS	22 27 40.4	-3.0
OKC	**Ostrava-Krasne**	**113.32**	**29**	*e*PDIF	Pdif	22 07 17.2	+2.3
OKC				*e*PP	PP	22 12 15.3	+12
OKC				*e*SKS	SKS	22 18 07.1	+18
OKC				*e*SP	SP	22 21 40.7	+11
OKC				LR		22 55 00.0	
	comp=Z,1.9nm,21.3s						
OKC	**Ostrava-Krasne**	**113.32**	**29**	*e*P	Pdif	22 07 17.2	+2.3
OKC				MLR	MLR		
	comp=Z,2μm,21.3s,MS5.7						
DPC	**Dobruska-Polom**	**113.33**	**28**	*e*PDIF	Pdif	22 07 22.0	+7.0
DPC				*e*PP	PP	22 11 57.9	-5.5
DPC				*e*SKS	SKS	22 17 52.9	+3.7
DPC				*e*SP	SP	22 21 37.4	+7.6
DPC				*e*SS	SS	22 27 35.0	-8.1
DPC				LR		22 54 00.0	
	comp=Z,5.4nm,20.3s						
DPC	**Dobruska-Polom**	**113.33**	**28**	*e*P	Pdif	22 07 22.0	+7.0
DPC				*e*		22 11 57.9	
DPC				*e*		22 17 52.9	
DPC				*e*SP	SP	22 21 37.4	+7.6
DPC				MLR	MLR		
	comp=Z,5μm,20.3s,MS6.1						
CLZ	**Clausthal**	**113.36**	**23**	*e*Pdif	Pdif	22 07 19.0	+3.9
CLZ				*e*PP	PP	22 11 58.9	-4.6
CLZ				*e*SP	SP	22 21 38.8	+8.8
CRVS	**Cervenica-Dubn**	**113.36**	**32**	*e*	PKPdf	22 11 05.8	-1.7
CRVS	**Cervenica-Dubn**	**113.36**	**32**	*e*P	PKKP	22 22 00.1	-7.0
UPC	**Upice**	**113.40**	**27**	*e*PDIF	Pdif	22 07 21.3	+6.0
CLL	**Collm**	**113.44**	**25**	*e*PDIF	Pdif	22 07 22.0	+6.6
CLL				*e*		22 07 39.0	
CLL				*e*		22 07 50.0	
CLL				*i* PKIKP	PKPdf	22 11 07.7	+0.2
CLL				*i*		22 11 28.1	
CLL				*i* PP	PP	22 11 52.1	-12
CLL				*e*		22 19 52.0	
CLL				*e*PS	PS	22 21 36.0	+1.0
CLL				*i* PKKP	PKKP	22 21 54.1	-13
CLL				*i* PKKP	PKKP	22 21 58.6	-8.2
CLL				*e*SKKP		22 25 38.0	
CLL				*e*SS	SS	22 27 42.0	-2.4
CLL				*e*		22 27 56.0	
CLL				*e*		22 29 38.0	
CLL				*e*SSS	SSS	22 32 08.0	+8.7
CLL				*e*		22 35 48.0	
CLL	**Collm**	**113.44**	**25**	*i* PKIKP	PKPdf	22 11 07.7	+0.2
CLL				pmax	pmax		
	comp=Z,12nm,1.2s						
CLL				MLR	MLR		
	comp=Z,4μm,22.1s,MS6.0						
CLL	**Collm**	**113.44**	**25**	*e*Pdif	Pdif	22 07 22.0	+6.6
CLL				*e*		22 07 39.0	
CLL				*i* PKP	PKPdf	22 11 07.7	+0.2
CLL				*i* PP	PP	22 11 52.1	-12
CLL				*i* PKKP	PKKP	22 21 54.1	-13
CLL				*i* PKKP	PKKP	22 21 58.6	-8.2
CLL				LR	LR		
	comp=Z,4μm,22.1s,MS6.0						
RAC	**Raciborz**	**113.56**	**29**	*e*P	Pdif	22 07 20.2	+4.2
RAC				*e*		22 12 09.5	
RAC				MLR	MLR		
	comp=Z,3μm,21.9s,MS5.8						
KOLS	**Kolonicke sedl**	**113.62**	**32**	*e*PKP	PKPdf	22 11 09.1	+1.1
KOLS	**Kolonicke sedl**	**113.62**	**32**	*e*P	PKKP	22 21 58.4	-8.1
KSP	**Ksiaz**	**113.78**	**28**	*e*P	Pdif	22 07 22.0	+5.1
KSP				*e*		22 12 02.0	
KSP				*e*		22 17 50.0	
KSP				*e*SS	SS	22 27 53.0	+4.0
KSP	**Ksiaz**	**113.78**	**28**	*e*Pdif	Pdif	22 07 22.0	+5.1
KSP				*e*PP	PP	22 12 02.0	-4.5
KSP				*e*SKS	SKS	22 17 50.0	-1.0
KSP				*e*SP	SP	22 21 27.0	-6.8
KSP				*e*SS	SS	22 27 53.0	+4.0
KIS	**Kishinev**	**113.88**	**37**	*e*P	Pdif	22 07 20.0	+2.5
KIS				*e*		22 11 09.0	
KIS				*e*		22 12 10.0	
KIS				*e*		22 17 48.0	
KIS				*e*PS	PS	22 21 44.0	+4.9
KIS				*e*PPS	PPS	22 22 54.0	-0.9
KIS				*e*SS	SS	22 27 48.0	-2.4
KIS				MLR	MLR		
	comp=Z,2μm,17.0s,MS5.7						
KIS				MLR	MLR		
	comp=N,1μm,18.0s,MS5.6						
KIS				MLR	MLR		
	comp=E,900nm,18.0s,MS5.6						
KIS				MLR	MLR		
	comp=Z,1μm,18.0s						
SIM	**Simferopol'**	**113.90**	**42**	*i* PKIKP	PKPdf	22 11 09.5	+0.9
SIM						22 12 05.9	
SIM				*e*PS	PS	22 21 41.7	+2.4
SIM				SSS	SSS	22 31 59.3	-7.1
JFWS	**Jewell Farm**	**114.05**	**313**	PKIKP	PKPdf	22 11 09.2	+0.2
JFWS	**Jewell Farm**	**114.05**	**313**	*e*PKPdf	PKPdf	22 11 08.9	-0.1
JFWS				*e*PP	PP	22 12 02.4	-6.2
JFWS				LR	LR		

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      comp=Z,3µm,19.0s,MS5.9
OJC   Ojcow            114.11  30 i PKIKP  PKPdf   22 11 10.2 +1.3
OJC                               e                22 12 05.6
OJC                               e                22 17 53.1
OJC                               eSS      SS      22 27 58.1 +4.9
OJC                                MLR     MLR
      comp=Z,2µm,22.6s,MS5.8
OJC   Ojcow            114.11  30 ePdif    Pdif    22 07 17.4 -1.0
OJC                               ePKPdf   PKPdf   22 11 10.2 +1.3
OJC                               ePP      PP      22 12 05.6 -3.2
OJC                               eSKSac           22 17 53.1
OJC                               ePS      PS      22 21 49.1 +7.9
OJC                               eSS      SS      22 27 58.1 +4.9
OJC                                LR      LR
      comp=Z,2µm,22.6s,MS5.8
KWP   Kalwaria         114.37  32 ePKIKP   PKPdf   22 11 10.3 +0.8
TUC   Tucson           114.40 292 ePKiKP           22 11 06.0
TUC                               eSKP             22 14 44.0
TUC                                LR      LR
      comp=Z,2µm,19.0s,MS5.7
ESK   Eskdalemuir      114.41  14  PFAKE           22 11 20.0  +11
ESK                                LR      LR
      comp=Z,826nm,20.0s,MS5.3
ANMO  Albuquerque      114.45 297d iPKIKP  PKPdf   22 11 10.4 +0.4
ANMO  Albuquerque      114.45 297 ePKiKP           22 11 09.9
ANMO                               LR      LR
      comp=Z,4µm,21.0s,MS6.0
CBKS  Cedar Bluff      114.54 304 ePKiKP           22 11 09.7
CBKS                               LR      LR
      comp=Z,2µm,22.0s,MS5.7
SOC   Sochi            114.81  47 i PKIKP  PKPdf   22 11 12.5 +2.0
SOC                               e                22 12 13.4
SOC                               ePPP     PPP     22 14 35.0 -4.5
SOC                                MLR     MLR
      comp=Z,2µm,20.0s,MS5.7
SOC                                MLR     MLR
      comp=N,2µm,21.0s,MS5.7
SOC                                MLR     MLR
      comp=E,657nm,20.0s,MS5.7
ANN   Anapa            114.98  44 eP       Pdif    22 07 27.0 +4.7
ANN                               e                22 12 09.7
ANN                               ePS      PS      22 21 55.7 +5.7
BSEG  Bad Segeberg     115.32  23 eP       Pdif    22 07 27.7 +4.1
BSEG                              e                22 12 12.7
BSEG                              eSP      SP      22 21 54.0 +5.4
ZEI   Tsey             115.79  50 i PKIKP  PKPdf   22 11 13.0 +0.6
ZEI                               e                22 12 18.0
ZEI                               i SS     SS      22 28 17.0 +1.7
ZEI                                MLR     MLR
      comp=Z,4µm,18.0s,MS6.0
BHPL  Bhopal           116.22  88 ePKP     PKPdf   22 11 12.9 -0.8
SDCO  Great Sand Dun   116.28 299 ePKPdf   PKPdf   22 11 14.0 +0.6
SDCO                              eSKP             22 14 45.6
SDCO                               LR      LR
      comp=Z,4µm,20.0s,MS6.0
AKASG Malin Array Be   117.26  36  Pdiff   Pdif    22 07 41.7 +9.5
      comp=Z,0.2nm,0.3s,baz=218,slow=4.9,SNR=4.0
AKASG                              PKP     PKPdf   22 11 13.9 -1.0
      comp=Z,12nm,0.8s,baz=245,slow=2.0,SNR=24
AKASG                              PP      PP      22 12 21.8 -9.0
      comp=Z,5.2nm,0.9s,baz=215,slow=7.2,SNR=4.3
AKASG                              SKP             22 14 50.6
      comp=Z,2.3nm,0.6s,baz=234,slow=1.9,SNR=4.3
AKASG                              PKKPbc          22 21 38.6
      comp=Z,0.2nm,0.2s,baz=9.5,slow=5.8,SNR=5.4
AKASG                              PKKS            22 25 34.0
      comp=Z,0.5nm,0.3s,baz=27,slow=4.5,SNR=4.4
SCHQ  Schefferville    117.34 335  PKP     PKPdf   22 11 14.5 -0.5
      comp=Z,24nm,0.7s,baz=146,slow=0.7,SNR=36
SCHQ                               PP      PP      22 12 24.9 -6.4
      comp=Z,28nm,0.8s,baz=153,slow=7.0,SNR=6.0
SCHQ                               SKP             22 14 49.5
      comp=Z,17nm,0.9s,baz=184,slow=4.2,SNR=5.9
SCHQ  Schefferville    117.34 335  PKP     PKPdf   22 11 14.5 -0.5
SCHQ                               PP      PP      22 12 24.9 -6.4
SCHQ                               SKP             22 14 49.5
ISCO  Idaho Springs    117.98 301 ePKPdf   PKPdf   22 11 17.4 +0.8
ISCO                               LR      LR
      comp=Z,2µm,19.0s,MS5.7
PFO   Pinyon Flat Ob   118.27 289 ePKPdf   PKPdf   22 11 18.2 +0.9
PFO                                LR      LR
      comp=Z,677nm,21.0s,MS5.2
SUW   Suwalki          118.43  30  PKIKP   PKPdf   22 11 16.7 -0.5
SUW   Suwalki          118.43  30 ePKP     PKPdf   22 11 16.5 -0.7
KHET  Khetri           119.26  83 ePKP     PKPdf   22 11 15.1 -4.4
KHET                              e                22 11 21.4
      comp=Z,42nm,1.4s
SRU   San Rafael       119.72 297 ePKPdf   PKPdf   22 11 19.9 -0.2
SRU                               eSKP             22 14 53.1
MSU   Marysvale        120.04 295 ePKIKP   PKPdf   22 11 21.9 +1.1
MVU   Marysvale        120.05 295 ePKPdf   PKPdf   22 11 21.9 +1.1
MVU                               eSKP             22 14 52.9
MVU                                LR      LR
      comp=Z,3µm,21.0s,MS5.9
ARUT  Antelope Range   120.08 294 ePKIKP   PKPdf   22 11 22.5 +1.6
MNK   Minsk            120.16  33 ePKIKP   PKPdf   22 11 07.0  -14
AYAN  Aya Nagar        120.28  84 ePKP     PKPdf   22 11 20.3 -1.2
AYAN                              e                22 11 23.4
      comp=Z,32nm,1.0s
RTK   Rohtak           120.34  83 ePKP     PKPdf   22 11 21.0 -0.6
RTK                               e                22 11 23.6
      comp=Z,83nm,1.2s
BHGR  Bahadurgarh      120.34  84 ePKP     PKPdf   22 11 20.2 -1.3
KONO  Kongsberg        120.55  20 e        Px      22 23 08.2
KONO                              eSS      SS      22 29 26.0 +9.3
KONO                               AMS     AMS     22 58 24.0
      comp=Z,2µm,23.0s,MS5.7
KONO  Kongsberg        120.55  20  PFAKE           22 11 30.0 +8.8
KONO                               LR      LR
      comp=Z,3µm,22.0s,MS5.8
RSSD  Black Hills      120.73 305 ePKIKP   PKPdf   22 11 21.6 -0.3
RSSD  Black Hills      120.73 305 ePdif    Pdif    22 07 33.7  -14
RSSD                              ePKPdf   PKPdf   22 11 21.6 -0.4
RSSD                               LR      LR
      comp=Z,1µm,20.0s,MS5.6
TPNV  Topopah Spring   120.81 291 eP       PKPdf   22 11 23.2 +1.0
TPNV                              eSKP             22 14 55.8
TPNV                               LR      LR
      comp=Z,2µm,21.0s,MS5.7
ASOR  Ausora           120.84  84 ePKP     PKPdf   22 11 21.4 -1.1
DAC   Darwin (Calif)   120.95 290  PKIKP   PKPdf   22 11 24.2 +1.6
DAC   Darwin (Calif)   120.95 290 ePKPdf   PKPdf   22 11 23.3 +0.7
DAC                               ePP      PP      22 13 02.4 +6.4
DAC                                LR      LR
      comp=Z,3µm,22.0s,MS5.8
MPU   Maple Canyon     120.97 297 ePKPdf   PKPdf   22 11 23.1 +0.6
MPU                               eSKP             22 14 53.9
DAU   Daniels Canyon   121.10 297 ePKPdf   PKPdf   22 11 23.6 +0.9
DAU                               eSKP             22 14 54.5
NLU   North Lily Min   121.13 296 ePKPdf   PKPdf   22 11 23.6 +0.8
NLU                               eSKP             22 14 55.9
KKR   Kurukshetra      121.29  83 ePKP     PKPdf   22 11 21.4 -1.9
JLU   Jordanelle       121.34 297 ePKPdf   PKPdf   22 11 24.0 +0.9
JLU                               eSKP             22 14 56.3
DUG   Dugway           121.67 296 ePKPdf   PKPdf   22 11 24.4 +0.5
DUG                               eSKP             22 14 57.1
DUG                                LR      LR
      comp=Z,1.0nm,19.0s
TCUT  Toone Canyon     121.72 298 ePKPdf   PKPdf   22 11 23.4 -0.5
NST   Nakhon Sawan     121.74 113  P       PKPdf   22 11 24.0 -0.5
      comp=Z,58nm,1.0s
NB2   NORSAR Subarra122.14 20      PKPdf   PKPdf   22 11 23.4 -0.8
      comp=Z,33nm,1.1s,baz=202,slow=1.9
NB2   NORSAR Subarra122.14 20      PKPd            22 11 23.4
      baz=202,slow=1.9
NB2   NORSAR Subarra122.14 20     ⇓PKP     PKPdf   22 11 23.4 -0.8
NOA   NORSAR Array B 122.14  20    PKP     PKPdf   22 11 22.3 -1.9
      comp=Z,36nm,1.1s,baz=194,slow=1.7,SNR=6.7
NOA                                PP      PP      22 12 53.9  -10
      comp=Z,2.9nm,0.8s,baz=194,slow=6.9,SNR=3.7
NOA                                PKKPbc          22 21 20.3
      comp=Z,11nm,0.8s,baz=19,slow=5.2,SNR=34
NOA   NORSAR Array B 122.14  20    PKIKP   PKPdf   22 11 22.3 -1.9
NOA                                pmax    pmax
      comp=Z,36nm,1.1s
NOA                                pmax    pmax
      comp=Z,3.0nm,0.8s
NOA                                pmax    pmax
      comp=Z,11nm,0.8s
PDAR  Pinedale Array   122.14 300  PKhKP           22 11 09.2
      comp=Z,0.6nm,0.5s,baz=77,slow=2.5,SNR=4.8
PDAR                               PKP     PKPdf   22 11 24.2 -0.5
      comp=Z,35nm,1.0s,baz=129,slow=4.9,SNR=46
PDAR                               SKP             22 14 57.3
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      comp=Z,3.9nm,0.8s,baz=153,slow=3.3,SNR=4.0
PDAR                               PKKPbc          22 21 21.0
      comp=Z,2.7nm,0.7s,baz=359,slow=1.8,SNR=11
PDAR                               tx      tx      22 25 17.2
      comp=Z,2.3nm,1.1s,baz=326,slow=5.3,SNR=4.5
BW06  Boulder Array    122.15 300 ePKPdf   PKPdf   22 11 24.0 -0.6
BW06                              eSKP             22 14 55.4
BW06                               LR      LR
      comp=Z,4µm,21.0s,MS6.0
TPH   Tonopah          122.17 291  PKIKP   PKPdf   22 11 26.2 +1.4
TPH   Tonopah          122.17 291 ePKPdf   PKPdf   22 11 25.9 +1.1
TPH                               eSKP             22 14 56.7
TPH                                LR      LR
      comp=Z,2µm,19.0s,MS5.8
HWUT  Hardware Ranch   122.18 298 ePKPdf   PKPdf   22 11 25.0 +0.3
HWUT                              eSKP             22 14 57.9
HWUT                               LR      LR
      comp=Z,4µm,22.0s,MS6.0
MTUM  Tungsten Hills   122.28 290 ePKPdf   PKPdf   22 11 26.2 +1.1
MTUM                              ePP      PP      22 12 59.3 -6.0
MTUM                              eSKP             22 14 58.6
ULM   Lac du Bonnet    122.29 314  PKP     PKPdf   22 11 24.3 -0.5
      comp=Z,59nm,0.6s,baz=142,slow=1.0,SNR=90
ULM                                PP      PP      22 12 56.3 -8.8
      comp=Z,29nm,0.9s,baz=143,slow=5.2,SNR=6.4
ULM                                SKP             22 14 56.6
      comp=Z,25nm,0.9s,baz=317,slow=2.2,SNR=4.9
ULM                                PKKPbc          22 21 20.7
      comp=Z,10nm,0.8s,baz=238,slow=1.3,SNR=9.4
ULM   Lac du Bonnet    122.29 314  PKP     PKPdf   22 11 24.3 -0.5
ULM                                PP      PP      22 12 56.3 -8.8
ULM                                SKP             22 14 56.6
ULM                                PKKPbc          22 21 20.7
BGU   Big Grassy Mou   122.34 296 ePKPdf   PKPdf   22 11 25.5 +0.4
BGU                               eSKP             22 14 58.1
SPUT  South Promonto   122.36 297 ePKPdf   PKPdf   22 11 25.7 +0.5
SPUT                              eSKP             22 14 58.3
BORG  Borgarnes        122.49   2  PKP     PKPdf   22 11 26.4 +1.6
      comp=Z,38nm,1.0s,baz=266,slow=3.4,SNR=4.1
BORG  Borgarnes        122.49   2 ePKPdf   PKPdf   22 11 24.8 -0.1
BORG                               LR      LR
      comp=Z,767nm,21.0s,MS5.3
BDT   Bhumibol Dam     122.53 111  P       PKPdf   22 11 25.5 -0.5
      comp=Z,31nm,0.9s
LRV   Little Rabbit    122.79 287 ePKPdf   PKPdf   22 11 29.0 +2.9
AHID  Auburn Hatcher   122.86 299 ePKPdf   PKPdf   22 11 26.7 +0.6
AHID                              eSKP             22 14 56.7
AHID                               LR      LR
      comp=Z,3µm,19.0s,MS6.0
HVU   Hansel Valley    122.88 297 ePKPdf   PKPdf   22 11 26.4 +0.3
HVU                               eSKP             22 14 59.4
MNV   Mina             122.91 291  PKIKP   PKPdf   22 11 27.2 +0.9
MNV   Mina             122.91 291 ePKPdf   PKPdf   22 11 27.0 +0.7
MNV                               eSKP             22 14 59.9
MNV                                LR      LR
      comp=Z,2µm,21.0s,MS5.7
KOLN  Koldanda         123.15  90 eP       PKPdf   22 11 25.8 -1.2
      comp=Z,250nm,0.9s
JOSI  Joshimath        123.21  85 ePKP     PKPdf   22 11 27.4 +0.4
JOSI                              e                22 11 31.1
      comp=Z,925nm,1.2s
ELK   Elko             123.26 295  PKIKP   PKPdf   22 11 28.3 +1.4
ELK   Elko             123.26 295 ePKPdf   PKPdf   22 11 28.1 +1.1
ELK                               ePP      PP      22 13 07.1 -5.0
ELK                               eSKP             22 15 00.8
ELK                                LR      LR
      comp=Z,2µm,21.0s,MS5.8
SAO   San Andreas Ge   123.28 287  PKIKP   PKPdf   22 11 28.9 +1.8
SAO   San Andreas Ge   123.28 287 ePKPdf   PKPdf   22 11 27.8 +0.7
SAO                                LR      LR
      comp=Z,1µm,19.0s,MS5.6
KLP   Kalpa            123.28  83 ePKP     PKPdf   22 11 27.4 +0.2
KLP                               e                22 11 32.8
      comp=Z,88nm,1.4s
VSU   Vasula           123.30  30 ePKPr            22 11 26.1
OBN   Obninsk          123.35  37c iPKIKP  PKPdf   22 11 26.4 -0.3
OBN                               e                22 13 09.2
OBN                               e                22 18 32.8
OBN                               eSS      SS      22 29 52.5 -0.4
OBN                                pmax    pmax
      comp=Z,81nm,0.9s
OBN   Obninsk          123.35  37 ePKPdf   PKPdf   22 11 25.8 -0.9
OBN                                LR      LR
      comp=Z,581nm,22.0s,MS5.2
CMAR  Chiang Mai Arr   123.52 110  PKP     PKPdf   22 11 27.6 -0.3
      comp=Z,88nm,0.8s,baz=232,slow=3.5,SNR=198
CMAR                               PKKPbc          22 21 17.1
      comp=Z,4.2nm,0.9s,baz=9.0,slow=3.7,SNR=12
CMAR                               PKKP    PKKP    22 21 57.1 +8.0
      comp=Z,3.3nm,0.8s,baz=331,slow=3.2,SNR=5.8
CMAR  Chiang Mai Arr   123.52 110  PKIKP   PKPdf   22 11 27.7 -0.2
CMAR                               pmax    pmax
      comp=Z,88nm,0.8s
CMAR                               pmax    pmax
      comp=Z,4.0nm,0.9s
CMAR                               pmax    pmax
      comp=Z,3.0nm,0.8s
KKTK  Khon Kaen        123.62 115 ⇓P       PKPdf   22 11 28.3 +0.2
      comp=Z,926nm,0.6s
LAO   LASA Array       123.70 305 ePKPdf   PKPdf   22 11 27.6  0.0
LAO                               ePKPdf           22 14 58.3
LAO                                LR      LR
      comp=Z,6µm,21.0s,MS6.2
CMB   Columbia Colle   123.72 289  PKIKP   PKPdf   22 11 28.9 +1.0
CMB   Columbia Colle   123.72 289 ePKPdf   PKPdf   22 11 28.7 +0.8
CMB                               eSKP             22 15 01.5
CMB                                LR      LR
      comp=Z,3µm,19.0s,MS6.0
DMN   Daman            123.82  91 eP       PKPdf   22 11 27.0 -1.3
      comp=Z,213nm,0.9s
CHG   Chiang Mai       123.83 110 ⇑P       PKPdf   22 11 28.4 -0.1
      comp=Z,59nm,1.1s
GKN   Gorkha           123.89  91 eP       PKPdf   22 11 26.9 -1.5
      comp=Z,234nm,0.9s
PKI   Pulchoki         123.95  92 eP       PKPdf   22 11 27.0 -1.6
      comp=Z,208nm,0.9s
BMN   Battle Mountai   123.98 293  PKIKP   PKPdf   22 11 29.2 +0.9
BMN   Battle Mountai   123.98 293 ePKPdf   PKPdf   22 11 28.8 +0.5
BMN                                LR      LR
      comp=Z,2µm,22.0s,MS5.7
KKN   Kakani           124.06  91 eP       PKPdf   22 11 27.4 -1.4
      comp=Z,114nm,0.7s
DGMT  Dagmar           124.22 308 ePKPdf   PKPdf   22 11 28.9 +0.3
DGMT                               LR      LR
      comp=Z,4µm,22.0s,MS6.0
YMR   Madison River    124.26 301 ePKPdf   PKPdf   22 11 29.6 +0.9
LKC   Lake Chabot      124.34 287 ePKPdf   PKPdf   22 11 30.5 +1.5
SAC   San Andreas      124.40 287  PKIKP   PKPdf   22 11 31.7 +2.5
SAC   San Andreas      124.40 287 ePKPdf   PKPdf   22 11 30.5 +1.3
ASMM  Slate Mountain   124.47 289 ePKPdf   PKPdf   22 11 31.5 +2.2
NANT  Nan              124.69 112 ⇓P       PKPdf   22 11 28.0 -2.1
      comp=Z,88nm,1.0s
HLID  Hailey           125.02 297 ePKPdf   PKPdf   22 11 31.2 +1.1
HLID                               LR      LR
      comp=Z,2µm,20.0s,MS5.8
CHRT  Chiangrai        125.14 110 ⇑P       PKPdf   22 11 30.5 -0.4
      comp=Z,500nm,1.2s
NSHM  Saint Helena R   125.21 288 ePKPdf   PKPdf   22 11 32.0 +1.4
MCMT  McKenzie Canyo   125.25 299  P       PKPdf   22 11 31.9 +1.4
OHCM  Honcut           125.27 289 ePKPdf   PKPdf   22 11 31.3 +0.6
OHCM                              eSKP             22 15 02.1
BOZ   Bozeman (W)      125.31 301  PKIKP   PKPdf   22 11 31.5 +0.9
BOZ   Bozeman (W)      125.31 301 ePKPdf   PKPdf   22 11 31.1 +0.5
BOZ                               eSKP             22 15 03.4
BOZ                                LR      LR
      comp=Z,3µm,19.0s,MS6.0
PUL   Pulkovo          125.38  31 i PKHKP          22 11 12.0
PUL                                MLR     MLR
      comp=Z,3µm,21.0s,MS6.0
NSS   Namsos           125.51  19  AMS     AMS     23 00 24.2
      comp=Z,2µm,18.8s,MS5.8
FINES FINESS Array B   125.71  28  PKP     PKPdf   22 11 30.7 -0.2
      comp=Z,41nm,0.6s,baz=154,slow=1.1,SNR=195
FINES                              PKKPbc          22 21 05.8
      comp=Z,2.3nm,0.8s,baz=146,slow=6.9,SNR=3.9
FINES                              tx      tx      22 24 54.8
      comp=Z,4.3nm,1.0s,baz=45,slow=2.7,SNR=4.1
FINES FINESS Array B   125.71  28  PKIKP   PKPdf   22 11 30.7 -0.2
FINES                             e                22 24 54.8
FINES                              pmax    pmax
      comp=Z,41nm,0.6s
FINES                              pmax    pmax
      comp=Z,2.0nm,0.8s
FINES                              pmax    pmax
      comp=N,4.0nm,1.0s
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FINES FINESS Array B   125.71  28  PKP     PKPdf   22 11 30.7 -0.2
FINES                              PKKPbc          22 21 05.8
SHL   Shillong         125.78  99 ePKP     PKPdf   22 11 33.0 +1.0
SHL                               e                22 20 16.0
SHL                               e                22 23 24.0
HOPS  Hopland          125.81 288 ePKPdf   PKPdf   22 11 28.9 -2.8
HOPS                               LR      LR
      comp=Z,2µm,21.0s,MS5.7
WVOR  Wild Horse Val   126.20 294  PKIKP   PKPdf   22 11 33.3 +0.9
WVOR  Wild Horse Val   126.20 294 ePKPdf   PKPdf   22 11 33.5 +1.1
WVOR                              eSKP             22 15 02.8
WVOR                               LR      LR
      comp=Z,3µm,19.0s,MS5.9
KAF   Kangasniemi      126.34  27 ep       PKPdf   22 11 31.1 -1.0
      comp=Z,64nm,1.1s,baz=213,slow=2.2
KAF   Kangasniemi      126.34  27 ePKIKP   PKPdf   22 11 31.1 -1.0
KAF                                pmax    pmax
      comp=Z,64nm,1.1s
MOD   Modoc            126.61 292 ePKPdf   PKPdf   22 11 34.4 +1.1
MOD                                LR      LR
      comp=Z,2µm,20.0s,MS5.8
WDC   Whiskeytown Da   126.74 289  PKIKP   PKPdf   22 11 34.0 +0.5
WDC   Whiskeytown Da   126.74 289 ePKPdf   PKPdf   22 11 33.6 +0.1
WDC                                LR      LR
      comp=Z,2µm,20.0s,MS5.9
MSO   Missoula         127.26 300  PFAKE           22 11 50.0  +16
MSO                                LR      LR
      comp=Z,3µm,20.0s,MS5.9
KHMM  Horse Mountain   127.56 289 ePKPdf   PKPdf   22 11 36.5 +1.5
KHMM                              eSKP             22 14 53.7
YBH   Yreka Blue Hor   127.68 290  PKIKP   PKPdf   22 11 35.9 +0.6
YBH   Yreka Blue Hor   127.68 290 ePKPdf   PKPdf   22 11 35.5 +0.2
YBH                                LR      LR
      comp=Z,1µm,20.0s,MS5.6
AB31  Akbulak array    127.73  56 i PKIKP  PKPdf   22 11 25.2  -10
AB31                               pmax    pmax
      comp=Z,219nm,1.2s
FFC   Flin Flon        128.12 314  PKIKP   PKPdf   22 11 36.3 +0.5
FFC   Flin Flon        128.12 314 ePKPdf   PKPdf   22 11 35.5 -0.3
FFC                                LR      LR
      comp=Z,806nm,22.0s,MS5.4
KKAR  Karatay Array    128.13  68 i PKIKP  PKPdf   22 11 28.3 -7.8
KKAR                               pmax    pmax
      comp=Z,168nm,1.1s
KRMB  Red Mountain     128.13 289 ePKPdf   PKPdf   22 11 37.6 +1.4
KSH   Kashi            128.21  75 ePKP     PKPdf   22 11 37.4 +1.0
KSH                               ePP      PP      22 13 43.0 -1.7
KSH                               eSKS     SKS     22 18 44.3 +5.4
KSH                               eSKKS            22 20 31.1
KSH                               eSS      SS      22 30 49.3 -4.4
KSH                                LR      LR
      comp=N,890nm,14.1s
KSH                                LR      LR
      comp=E,2µm,20.0s
HUMO  Hull Mountain    128.45 291 ePKPdf   PKPdf   22 11 37.2 +0.5
HUMO                              eSKP             22 14 54.1
HUMO                               LR      LR
      comp=Z,2µm,22.0s,MS5.8
HKL   Haleakala        128.52 245  PKIKP   PKPdf   22 11 41.0 +3.6
HKL   Haleakala        128.52 245 ePKPdf   PKPdf   22 11 39.1 +1.7
LSA   Lhasa            128.69  95  PKP     PKPdf   22 11 36.0 -1.6
LSA                                SKKS            22 20 34.0
VIPM  Ingram Point     128.70 294  P       PKPdf   22 11 38.6 +1.5
KBO   Bosley Butte     128.80 290 ePKPdf   PKPdf   22 11 39.1 +1.7
AML   Almayashu        128.99  71  P       PKPdf   22 11 38.6 +0.8
      SNR=51
HSO   Harness Mounta   129.20 292 ePKIKP   PKPdf   22 11 39.9 +1.8
QIZ   Qiongzhong       129.25 121  PKP     PKPdf   22 11 41.1 +2.2
QIZ                                PP      PP      22 13 55.2 +3.0
QIZ                                PKS     PKS     22 15 17.0 +2.7
QIZ                                SKKS            22 20 41.6
QIZ                                SS      SS      22 31 09.7 +2.3
QIZ                                LR      LR
      comp=N,3µm,20.2s
QIZ                                LR      LR
      comp=Z,4µm,20.0s,MS6.1
QIZ   Qiongzhong       129.25 121 ePKPdf   PKPdf   22 11 40.0 +1.1
QIZ                               eSKP             22 14 58.0
JMIC  Jan Mayen        129.28   7 eP       PKPdf   22 11 40.7 +3.2
JMIC                              ePP      PP      22 13 48.8 -2.3
JMIC                               AMS     AMS     23 07 45.2
      comp=Z,2µm,17.2s,MS5.8
KEBM  Edson Butte      129.34 290 ePKPdf   PKPdf   22 11 39.3 +0.9
EKS2  Erkin-Say        129.42  70  P       PKPdf   22 11 38.5 -0.1
      SNR=51
TGY   Tagaytay City    129.44 136  PKP     PKPdf   22 11 40.9 +1.6
      comp=Z,293nm,0.5s,baz=259,slow=10,SNR=3.1
TGY   Tagaytay City    129.44 136  PKIKP   PKPdf   22 11 40.9 +1.6
TGY                                pmax    pmax
      comp=Z,293nm,0.5s
UCH   Uchtor           129.48  71  P       PKPdf   22 11 39.8 +1.1
      SNR=29
HAWA  Hanford          129.56 296 ePKPdf   PKPdf   22 11 39.9 +1.2
HAWA                              eSKP             22 14 58.7
HAWA                               LR      LR
      comp=Z,1.0nm,21.0s
AAK   Ala-Archa        129.76  71  P       PKPdf   22 11 39.9 +0.6
      SNR=39
AAK   Ala-Archa        129.76  71 ePKPdf   PKPdf   22 11 37.7 -1.5
AAK                               eSKP             22 14 56.6
AAK                                LR      LR
      comp=Z,1µm,20.0s,MS5.7
NEW   Newport          129.78 300  SKPbc           22 14 58.3
      comp=Z,37nm,0.8s,baz=218,slow=1.2,SNR=9.7
NEW   Newport          129.78 300  PKIKP   PKPdf   22 11 39.1  0.0
NEW   Newport          129.78 300 ePKPdf   PKPdf   22 11 38.6 -0.5
NEW                               eSKP             22 14 56.8
NEW                                LR      LR
      comp=Z,4µm,20.0s,MS6.1
SSOR  Sweet Springs    129.86 293  PKIKP   PKPdf   22 11 40.4 +1.1
SSOR  Sweet Springs    129.86 293 ePKPdf   PKPdf   22 11 39.6 +0.2
KIP   Kipapa           129.97 244  PKIKP   PKPdf   22 11 42.3 +2.1
KIP   Kipapa           129.97 244 ePKPdf   PKPdf   22 11 41.7 +1.5
KIP                               eSKP             22 14 58.9
KIP                                LR      LR
      comp=Z,3µm,20.0s,MS6.0
FRU   Bishkek          129.97  71⇑ePKIKP   PKPdf   22 11 39.5 -0.1
FRU                                pmax    pmax
      comp=Z,360nm,2.2s
FRU                                MLR     MLR
      comp=E,3µm,20.0s
FRU                                MLR     MLR
      comp=Z,5µm,20.0s,MS6.2
DPW   Davenport        130.00 299 ePKPdf   PKPdf   22 11 40.9 +1.3
KBK   Karagaybulak     130.01  71  P       PKPdf   22 11 39.8 +0.1
      SNR=30
COR   Corvallis        130.07 292  PKIKP   PKPdf   22 11 42.1 +2.3
COR   Corvallis        130.07 292 ePKPdf   PKPdf   22 11 41.7 +2.0
COR                               eSKP             22 14 59.2
COR                                LR      LR
      comp=Z,571nm,20.0s,MS5.3
CHMS  Chumysh          130.16  71  P       PKPdf   22 11 40.0  0.0
      SNR=24
USP   Ospenovka        130.23  70  P       PKPdf   22 11 40.1  0.0
      SNR=47
TKM2  Tokmak 2         130.53  72  P       PKPdf   22 11 40.6 -0.1
      SNR=13
SUMG  Summit           130.62 355 ePKPdf   PKPdf   22 11 39.1 -1.0
SUMG                              eSKP             22 14 59.2
LON   Longmire         130.90 295  PKIKP   PKPdf   22 11 41.6 +0.3
LON   Longmire         130.90 295 ePKPdf   PKPdf   22 11 41.2 -0.1
LON                               eSKP             22 15 01.3
KMI   Kunming          131.01 109 ePKP     PKPdf   22 11 41.7 -0.4
KMI                                PP      PP      22 14 00.0 -3.7
KMI                                PKS     PKS     22 15 12.0 -5.5
KMI                                SKS     SKS     22 18 44.3 -2.2
KMI                                SKKS            22 20 51.5
KMI                                SS      SS      22 31 28.7 +0.3
KMI                                PP      PP
      comp=Z,339nm,7.5s
KMI                                LR      LR
      comp=N,2µm,19.7s,MS6.0
KMI                                LR      LR
      comp=E,3µm,22.0s,MS6.0
KMI                                LR      LR
      comp=Z,3µm,19.6s,MS6.0
KMI   Kunming          131.01 109 ePKP     PKPdf   22 11 41.7 -0.4
KMI                                sPKP            22 12 01.7
KMI                                PP      PP      22 14 00.0 -3.7
KMI                                PKS     PKS     22 15 12.0 -5.5
KMI                                SKS     SKS     22 18 44.3 -2.2
KMI                                SKKS            22 20 51.5
KMI                                SS      SS      22 31 28.7 +0.3
KMI                                LR      LR
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       comp=Z,3µm,19.6s,MS6.0
TRO    Tromso             131.30  19 eP       PKPdf    22 11 41.7 +0.2
TRO                                  ePP      PP       22 14 02.5 -1.8
TRO                                   AMS     AMS      23 07 26.1
       comp=Z,3µm,20.6s,MS6.0
BMW    Boistfort Moun     131.39 294  P       PKPdf    22 11 43.6 +1.4
GNW    Green Mountain     131.97 295 ePKPdf   PKPdf    22 11 44.8 +1.6
GNW                                  eSKP              22 15 05.5
JCW    Jim Creek          131.99 297  P       PKPdf    22 11 43.8 +0.5
ARU    Arti               132.34  48⇑iPKIKP   PKPdf    22 11 43.3 -0.4
ARU                                  i                 22 14 06.6
ARU                                  eSSS     SSS      22 36 45.4 +5.8
ARU                                   pmax    pmax
       comp=Z,55nm,1.2s
ARU                                   MLR     MLR
       comp=N,2µm,20.0s,MS5.9
ARU                                   MLR     MLR
       comp=Z,3µm,20.0s,MS6.0
ARU                                   MLR     MLR
       comp=E,2µm,19.0s,MS5.9
ARU    Arti               132.34  48 ePKPpre           22 11 27.3
ARU                                  ePKPdf   PKPdf    22 11 43.8  0.0
ARU                                   LR      LR
       comp=Z,863nm,20.0s,MS5.5
ARCES  ARCESS Array B     132.44  22  PKhKP            22 11 27.1
       comp=Z,5.2nm,0.9s,SNR=5.2
ARCES                                 PKP     PKPdf    22 11 43.0 -0.6
       comp=Z,34nm,0.7s,baz=219,slow=1.5,SNR=24
ARCES                                 PP      PP       22 14 04.0 -7.0
       comp=Z,29nm,0.9s,baz=207,slow=5.4,SNR=6.9
ARCES                                 SKPbc            22 15 05.5
       comp=Z,13nm,0.8s,baz=270,slow=2.7,SNR=4.1
ARCES  ARCESS Array B     132.44  22  PKHKP            22 11 27.1
ARCES                                                  22 11 43.0
ARCES                                                  22 14 04.0
ARCES                                 pmax    pmax
       comp=Z,5.0nm,0.9s
ARCES                                 pmax    pmax
       comp=Z,34nm,0.7s
ARCES                                 pmax    pmax
       comp=Z,29nm,0.9s
ARCES                                 pmax    pmax
       comp=N,13nm,0.8s
APA    Apatity            132.56  27⇓iPKIKP   PKPdf    22 11 44.7 +0.8
APA                                  i                 22 11 50.8
APA                                  e                 22 14 07.0
APA                                   pmax    pmax
       comp=Z,780nm,3.0s
APA                                   MLR     MLR
       comp=Z,3µm,20.0s,MS6.0
OCWA   Octopus Mounta     132.75 295 ePKPdf   PKPdf    22 11 47.2 +2.4
OCWA                                 eSKP              22 15 08.9
OCWA                                  LR      LR
       comp=Z,4µm,19.0s,MS6.2
KEV    Kevo               132.92  22 ep       PKPdf    22 11 35.7 -8.8
LVZ    Lovozero           133.12  27 i PKIKP  PKPdf    22 11 44.4 -0.5
LVZ                                   MLR     MLR
       comp=Z,4µm,20.0s,MS6.1
GYA    Guiyang            134.07 112  PKP     PKPdf    22 11 48.6 +0.8
GYA                                   PKP2    PKPdf    22 11 50.9 +3.0
GYA                                   XPKP             22 12 09.1
GYA                                   PKS     PKS      22 15 19.5 -3.6
GYA                                   PP      PP
       comp=Z,550nm,5.7s
GYA                                   LR      LR
       comp=N,2µm,20.6s,MS5.9
GYA                                   LR      LR
       comp=E,830nm,20.6s,MS5.9
GYA                                   LR      LR
       comp=Z,3µm,20.7s,MS6.0
GZH    Guangzhou          134.36 122  PKP     PKPdf    22 11 51.6 +3.1
GZH                                   LR      LR
       comp=N,2µm,20.5s,MS6.0
GZH                                   LR      LR
       comp=E,2µm,19.3s,MS6.0
GZH                                   LR      LR
       comp=Z,5µm,25.0s
ZRNK   Zerenda            134.38  58  PKHKP            22 11 34.1
ZRNK                                  pmax    pmax
       comp=Z,63nm,1.3s
DAG    Danmarks Havn      134.60   2c iP      PKPdf    22 11 46.0 -1.5
       comp=Z,31nm,0.6s
DAG                                  e                 22 15 13.0
DAG    Danmarks Havn      134.60   2⇑eP       PKPdf    22 11 46.0 -1.5
DAG                                  e                 22 15 13.0
BRVK   Borovoye           135.03  58 ePKPpre           22 11 34.7
BRVK                                 ePKPdf   PKPdf    22 11 49.1 +0.3
BRVK                                 ePKP     PKPdf    22 11 50.0 +1.2
BRVK                                 eSKP              22 15 15.2
BRVK                                  LR      LR
       comp=Z,1µm,21.0s,MS5.6
BVA0   Borovoye Array     135.06  58 i PKHKP           22 11 34.5
BVA0                                  pmax    pmax
       comp=Z,1.0nm,0.9s
BVAR   Borovoye Array     135.06  58  PKKP    PKKP     22 21 21.8 -3.7
       comp=Z,1.8nm,0.7s,slow=1.5,SNR=3.8
GUMO   Guam               135.06 167  PKIKP   PKPdf    22 11 50.2 +0.3
GUMO   Guam               135.06 167 ePKPdf   PKPdf    22 11 48.5 -1.4
GUMO                                 eSKP              22 15 17.6
GUMO                                  LR      LR
       comp=Z,1µm,20.0s,MS5.7
VOSK   Vostochnaya        135.12  59  PKHKP            22 11 34.0
VOSK                                  pmax    pmax
       comp=Z,104nm,1.6s
BJO    Bjornoya           135.54  16  AMS     AMS      23 10 52.1
       comp=Z,1µm,20.0s,MS5.6
CD2    Chengdu            136.25 106 ePKP     PKPdf    22 11 52.6 +0.9
CD2                                   PP      PP       22 14 32.0 -3.9
CD2                                   PKS     PKS      22 15 22.9 -4.0
CD2                                   SKS     SKS      22 18 59.0 +2.1
CD2                                   SKKS             22 21 20.5
CD2                                   SS      SS       22 32 32.0 +0.4
CD2                                   PP      PP
       comp=Z,800nm,9.0s
CD2                                   LR      LR
       comp=N,2µm,22.2s
CD2                                   LR      LR
       comp=Z,2µm,19.8s,MS5.9
MKAR   Makanchi Array     136.63  72  PKhKP            22 11 38.5
       comp=Z,6.9nm,1.0s,baz=236,slow=4.4,SNR=11
MKAR                                  PKP     PKPdf    22 11 51.5 -0.5
       comp=Z,38nm,0.8s,baz=251,slow=3.2,SNR=25
MKAR                                  SKPbc            22 15 20.4
       comp=Z,8.5nm,0.9s,baz=270,slow=1.2,SNR=3.8
MKAR                                  PKKP    PKKP     22 21 29.7 +7.3
       comp=Z,7.4nm,0.8s,baz=38,slow=2.0,SNR=14
MKAR   Makanchi Array     136.63  72  PKHKP            22 11 38.5
MKAR                                                   22 11 51.5
MKAR                                  pmax    pmax
       comp=Z,7.0nm,1.0s
MKAR                                  pmax    pmax
       comp=Z,38nm,0.8s
MKAR                                  pmax    pmax
       comp=N,9.0nm,0.9s
MKAR                                  pmax    pmax
       comp=Z,7.0nm,0.8s
WMQ    Urumqi             137.39  79 ePKP     PKPdf    22 11 54.3 +0.9
WMQ                                   PP      PP       22 14 43.1 +0.3
WMQ                                   SKKS             22 21 30.0
WMQ                                   SS      SS       22 32 45.3 +0.5
WMQ                                   PP      PP
       comp=Z,1µm,11.6s
WMQ                                   LR      LR
       comp=N,2µm,24.0s,MS5.9
WMQ                                   LR      LR
       comp=E,2µm,23.0s,MS5.9
WMQ                                   LR      LR
       comp=Z,2µm,22.2s,MS5.8
KURK   Kurchatov          137.41  66 ePKPpre           22 11 41.5
KURK                                 ePKPdf   PKPdf    22 11 52.9 -0.4
KURK                                  LR      LR
       comp=Z,754nm,21.0s,MS5.4
YKA    Yellowknife Ar     138.24 316  PKhKP            22 11 44.7
       comp=Z,10nm,0.6s,baz=123,slow=3.0,SNR=16
YKA                                   PKP     PKPdf    22 11 55.3 +0.9
       comp=Z,136nm,0.7s,baz=129,slow=2.3,SNR=64
YKA                                   PP      PP       22 14 43.4 -4.5
       comp=Z,7.8nm,0.7s,baz=117,slow=6.3,SNR=7.3
YKA                                   SKPbc            22 15 24.7
       comp=Z,41nm,0.8s,baz=126,slow=2.2,SNR=14
YKA                                   tx      tx       22 23 52.8
       comp=Z,3.5nm,0.9s,baz=322,slow=5.7,SNR=3.5
YKA    Yellowknife Ar     138.24 316  PKHKP            22 11 44.7
YKA                                                    22 11 55.3
YKA                                                    22 14 43.4
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YKA                                   pmax    pmax
       comp=Z,11nm,0.6s
YKA                                   pmax    pmax
       comp=Z,136nm,0.7s
YKA                                   pmax    pmax
       comp=Z,8.0nm,0.7s
YKA                                   pmax    pmax
       comp=N,41nm,0.8s
YKA                                   pmax    pmax
       comp=N,4.0nm,0.9s
YKA    Yellowknife Ar     138.24 316  PKP     PKPdf    22 11 44.7  -10
YKA                                   PKP     PKPdf    22 11 55.3 +0.8
YKA                                   PP      PP       22 14 43.4 -4.5
YKA                                   SKPbc            22 15 24.8
QZH    Quanzhou           138.29 127 ePKP     PKPdf    22 11 56.1 +0.5
QZH                                   SS      SS       22 32 51.0 -4.7
QZH                                   LR      LR
       comp=Z,5µm,32.2s,MS6.1
KBS    Kingsbay           138.50  10 eP       PKPdf    22 11 45.9 -8.7
KBS                                  ePP      PP       22 14 47.5 -1.7
KBS                                  eSS      SS       22 33 05.4 +8.7
KBS                                   AMS     AMS      23 09 01.2
       comp=Z,2µm,19.9s,MS5.8
KBS    Kingsbay           138.50  10  PKIKP   PKPdf    22 11 56.4 +1.8
KBS    Kingsbay           138.50  10 eP       PKPdf    22 11 45.9 -8.7
KBS                                  ePKPdf   PKPdf    22 11 52.7 -1.9
KBS                                  ePP      PP       22 14 47.5 -1.7
KBS                                  eSKP              22 15 26.0
KBS                                  eSS      SS       22 33 05.4 +8.7
ENH    Enshi              138.61 112 ePKPdf   PKPdf    22 11 47.8 -8.3
ENH                                  eSKP              22 15 23.7
LZH    Lanzhou            140.34 101 ⇑PKP     PKPdf    22 11 50.0 -9.0
LZH                                   pPKP             22 12 02.6
LZH                                   sPKP             22 12 10.0
LZH                                   PP      PP       22 14 56.1 -5.2
LZH                                   SKS     SKS      22 18 57.0 -6.5
LZH                                   SKKS             22 21 41.3
LZH                                   SS      SS       22 33 15.2 -4.0
LZH                                   LR      LR
       comp=Z,3µm,21.0s,MS6.0
VIB    Van Inlet          140.38 296  PKP     PKPdf    22 11 58.9 +0.4
VIB                                   SKP              22 15 32.1
WHN    Wuhan              141.18 117  PKP     PKPdf    22 11 57.2 -3.4
NVS    Novosibirsk        142.15  63 i PKHKP           22 11 56.0
NVS                                  i                 22 15 10.8
NVS                                   pmax    pmax
       comp=Z,377nm,2.6s
NVS                                   pmax    pmax
       comp=N,107nm,2.3s
NVS                                   pmax    pmax
       comp=E,126nm,2.4s
DLBC   Dease Lake         142.20 304  PKhKP            22 11 57.6
       baz=135,slow=4.3
DLBC                                  SKPbc            22 15 37.1
       comp=E,26nm,0.8s,baz=150,slow=2.8,SNR=8.2
SIT    Sitka              143.86 299  PKIKP   PKPdf    22 12 03.2 -1.1
SIT    Sitka              143.86 299 ePKPdf   PKPdf    22 12 02.4 -1.8
SIT                                   LR      LR
       comp=Z,3µm,20.0s,MS6.1
MIDW   Midway             144.32 226 ePKPdf   PKPdf    22 12 04.5 -1.5
MIDW                                  LR      LR
       comp=Z,3µm,19.0s,MS6.0
NJ2    Nanjing            144.53 122 ePKP     PKPdf    22 12 06.1 -0.2
NJ2                                   PKP2    PKPab    22 12 07.1 +0.3
NJ2                                   PP      PP       22 15 27.5 +1.0
NJ2                                   PKS     PKS      22 15 40.0 -0.9
NJ2                                   SKS     SKS      22 19 11.0 +0.9
NJ2                                   SKKS             22 22 13.0
NJ2                                   LR      LR
       comp=Z,3µm,22.5s,MS6.0
SSE    Sheshan            144.76 125 ⇑PKP     PKPdf    22 12 04.9 -1.8
SSE                                   PP      PP       22 15 29.5 +1.6
SSE                                   SS      SS       22 34 11.9 +1.4
SSE                                   PP      PP
       comp=Z,397nm,12.0s
SSE                                   LR      LR
       comp=Z,4µm,19.7s,MS6.2
TIY    Taiyuan            146.01 108 ⇑PKP     PKPdf    22 12 05.0 -3.7
TIY                                   LR      LR
       comp=N,3µm,19.0s
TIY                                   LR      LR
       comp=Z,2µm,17.0s,MS6.0
BTO    Baotou             146.94 102 ePKP     PKPdf    22 12 10.6 +0.5
TIA    Tai’an             147.15 115 ePKP     PKPdf    22 12 12.0 +1.4
INK    Inuvik             147.90 318  PKP     PKPdf    22 12 07.8 -3.0
       comp=Z,12nm,0.8s,baz=96,slow=2.5
INK                                   PKPbc   PKPdf    22 12 14.1 +3.3
       comp=Z,443nm,0.8s,baz=108,slow=2.4,SNR=6.7
INK    Inuvik             147.90 318  PKHKP            22 12 07.8
INK                                                    22 12 14.1
INK                                   pmax    pmax
       comp=Z,12nm,0.8s
INK                                   pmax    pmax
       comp=Z,443nm,0.8s
CBIJ   Chichi jima        147.90 159  PKPbc   PKPdf    22 12 14.9 +2.8
       comp=Z,346nm,0.7s,baz=298,slow=2.9,SNR=13
HHC    Hu-ho-hao-te       147.92 103 ePKP     PKPdf    22 12 10.1 -1.6
HHC                                   PKS     PKS      22 15 43.7 -2.1
HHC                                   SKS     SKS      22 19 16.1 +1.5
HHC                                   LR      LR
       comp=N,471nm,40.4s,MS5.1
HHC                                   LR      LR
       comp=E,512nm,41.6s,MS5.1
MOY    Mondy              149.27  78 ePKIKP   PKPdf    22 12 13.7 +0.2
MOY                                  e                 22 12 18.4
BJT    Baijiatuau         149.65 110  PKPdf   PKPdf    22 12 14.5  0.0
BJT                                   PKPdf   PKPdf    22 12 19.6 +5.1
BJT    Baijiatuau         149.65 110 ePKPdf   PKPdf    22 12 15.3 +0.7
BJT                                  ePKPbc   PKPdf    22 12 19.6 +5.1
BJI    Beijing            149.67 110  PKP     PKPdf    22 12 17.4 +2.9
BJI                                   PP      PP       22 15 52.4 -3.7
BJI                                   PP      PP
       comp=Z,1µm,9.4s
BJI                                   LR      LR
       comp=N,2µm,19.2s,MS5.9
BJI                                   LR      LR
       comp=E,1µm,23.0s,MS5.9
BJI                                   LR      LR
       comp=Z,2µm,22.9s,MS6.0
ZAK    Zakamensk          149.75  82 ePKHKP            22 12 14.4
SONM   Songino Array      149.90  89  PKP     PKPdf    22 12 14.4 -0.3
       comp=Z,17nm,0.9s,baz=213,slow=1.2,SNR=80
SONM                                  PKPbc   PKPdf    22 12 20.2 +5.5
       comp=Z,246nm,0.7s,baz=226,slow=2.5,SNR=246
SONM                                  PKKP    PKKP     22 21 12.7  +16
       comp=Z,1.7nm,0.9s,baz=27,slow=5.5,SNR=3.6
MID    Middleton Isla     150.12 298 eP       PKPdf    22 12 20.9 +6.3
ULN    Ulaanbaatar        150.27  89  pPKiKP           22 12 40.8
ULN                                   sPKPab           22 12 46.4
ULN                                   SKKSac           22 23 07.3
ULN                                   SKKPdf           22 26 34.6
ULN    Ulaanbaatar        150.27  89  PFAKE            22 12 30.0  +15
ULN                                   LR      LR
       comp=Z,3µm,20.0s,MS6.0
JNU    Nakatsue           150.42 137  PKPbc   PKPdf    22 12 21.8 +5.9
       comp=Z,179nm,0.8s,baz=89,slow=2.0,SNR=13
IRK    Irkutsk            151.29  80 ePKIKP   PKPdf    22 12 16.2 -0.4
IRK                                  e                 22 12 22.7
DL2    Dalian             151.45 118  PKP     PKPdf    22 12 16.9 -0.4
DL2                                   PP      PP
       comp=Z,440nm,11.2s
DL2                                   LR      LR
       comp=N,880nm,20.0s,MS5.7
DL2                                   LR      LR
       comp=E,510nm,16.7s,MS5.7
DL2                                   LR      LR
       comp=Z,940nm,18.7s,MS5.6
ILAR   Eielson Array      152.09 309  PKP     PKPdf    22 12 13.9 -3.5
       comp=Z,7.6nm,0.8s,baz=313,slow=0.8,SNR=39
ILAR                                  PKPbc   PKPdf    22 12 25.1 +7.6
       comp=Z,523nm,0.9s,baz=135,slow=1.2,SNR=263
ILAR   Eielson Array      152.09 309  PKIKP   PKPdf    22 12 14.0 -3.4
ILAR                                  pmax    pmax
       comp=Z,8.0nm,0.8s
ILAR                                  pmax    pmax
       comp=Z,523nm,0.9s
PMR    Palmer             152.18 301  PKIKP   PKPdf    22 12 15.1 -2.5
PMR    Palmer             152.18 301 ePKPdf   PKPdf    22 12 14.9 -2.7
PMR                                  ePKPbc   PKPdf    22 12 25.3 +7.7
PMR                                   LR      LR
       comp=Z,2µm,20.0s,MS6.0
SLKM   Skilak Lake        152.33 299  PKIKP   PKPdf    22 12 15.9 -2.0
SLKM   Skilak Lake        152.33 299 ePKPdf   PKPdf    22 12 14.1 -3.8
SLKM                                 ePKPbc   PKPdf    22 12 26.0 +8.1
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KDAK   Kodiak Island      152.46 292 ePKPdf   PKPdf    22 12 15.4 -2.7
KDAK                                 ePKPbc   PKPdf    22 12 26.3 +8.1
KDAK                                  LR      LR
       comp=Z,700nm,21.0s,MS5.5
COLA   College            152.51 309  PKIKP   PKPdf    22 12 16.1 -1.9
COLA   College            152.51 309 ePKPdf   PKPdf    22 12 15.9 -2.1
COLA                                 ePKPbc   PKPdf    22 12 25.9 +7.8
COLA                                 ePKPab   PKPab    22 12 36.0 -1.7
COLA                                  LR      LR
       comp=Z,3µm,21.0s,MS6.0
INCN   Inchon             152.54 126 ePKPbc   PKPdf    22 12 25.8 +6.9
INCN                                  LR      LR
       comp=Z,5µm,20.0s,MS6.3
JHJ    Hachijo jima 2     153.18 152  PKPbc   PKPdf    22 12 27.6 +7.7
       comp=Z,388nm,0.8s,baz=232,slow=14,SNR=3.8
SPU    Mount Spurr        153.39 300 ePKPdf   PKPdf    22 12 16.1 -3.2
SPU                                  ePKPbc   PKPdf    22 12 27.7 +8.3
SPU                                  ePKPab   PKPab    22 12 41.2 -0.4
SNY    Shenyang           154.66 116 ⇑PKP     PKPdf    22 12 21.7  0.0
SNY                                   SKKS             22 23 04.6
SNY                                   LR      LR
       comp=N,1µm,21.6s,MS6.0
SNY                                   LR      LR
       comp=E,2µm,20.1s,MS6.0
SNY                                   LR      LR
       comp=Z,3µm,21.5s,MS6.0
IMA    Indian Mountai     155.11 310 ePKPdf   PKPdf    22 12 18.8 -2.7
IMA                                  ePKPbc   PKPdf    22 12 32.2  +11
IMA                                  ePKPab   PKPab    22 12 47.8 -0.9
MAJO   Matsushiro         155.97 146 ePKPdf   PKPdf    22 12 24.8 +1.2
MAJO                                  LR      LR
       comp=Z,2µm,22.0s,MS5.8
MAT    Matsushiro         155.97 146  PKP     PKPdf    22 12 23.0 -0.5
MAT    Matsushiro         155.97 146 ePKP     PKPdf    22 12 23.0 -0.5
MAT                                   LR      LR
       comp=Z,710nm,20.0s,MS5.5
CN2    Changchun          157.05 116 ePKP     PKPdf    22 12 24.9 +0.1
CN2                                   PKP2    PKPab    22 12 56.8 -0.9
CN2                                  ePP      PP       22 16 37.1 -0.2
CN2                                  eSS      SS       22 36 25.6 +0.3
CN2                                   LR      LR
       comp=N,2µm,21.0s,MS5.9
CN2                                   LR      LR
       comp=E,1µm,21.0s,MS5.9
CN2                                   LR      LR
       comp=Z,2µm,23.0s,MS6.0
HIA    Hailar             157.85  98 ePKPdf   PKPdf    22 12 26.1 +0.5
HIA                                  ePKPbc   PKPdf    22 12 35.2  +10
BOD    Bodaibo            158.72  73 ePKIKP   PKPdf    22 12 23.9 -2.5
BOD                                  e                 22 13 01.6
MDJ    Mudanjiang         159.62 120  PKP     PKPdf    22 12 27.3 -0.6
MDJ                                   PKS     PKS      22 15 55.6 -4.7
MDJ                                   PP      PP       22 16 47.1 -3.9
MDJ                                   SS      SS       22 36 51.5 -1.4
MDJ                                   PP      PP
       comp=Z,925nm,11.8s
MDJ                                   LR      LR
       comp=N,1µm,30.1s,MS5.7
MDJ                                   LR      LR
       comp=E,1µm,28.2s,MS5.7
MDJ                                   LR      LR
       comp=Z,3µm,19.1s
MDJ    Mudanjiang         159.62 120 ePKPdf   PKPdf    22 12 27.2 -0.7
MDJ                                  ePKPab   PKPab    22 13 06.9 -1.7
TIXI   Tiksi              162.75  28  PFAKE            22 12 40.0  +10
TIXI                                  LR      LR
       comp=Z,2µm,21.0s
KLR    Kul’dur            163.97 113⇓iPKIKP   PKPdf    22 12 31.5 -0.6
KLR                                  e                 22 12 31.8
KLR                                  e                 22 13 24.6
KLR                                  e                 22 17 07.0
KLR                                  e                 22 30 44.5
KLR                                   pmax    pmax
       comp=N,80nm,2.2s
KLR                                   pmax    pmax
       comp=Z,140nm,2.2s
KLR                                   pmax    pmax
       comp=Z,2µm,14.5s
CLNS   Chul’man           164.08  82 ePKIKP   PKPdf    22 12 31.7 -0.3
CLNS                                 e                 22 12 40.2
CLNS                                 eS       PKPab    22 13 24.2 -3.5
CLNS                                  pmax    pmax
       comp=Z,66nm,1.1s
CLNS                                  pmax    pmax
       comp=N,10.0nm,0.9s
CLNS                                  pmax    pmax
       comp=E,6.0nm,1.0s
CLNS                                  pmax    pmax
       comp=N,25nm,1.1s
CLNS                                  pmax    pmax
       comp=Z,48nm,1.1s
CLNS                                  pmax    pmax
       comp=E,5.0nm,1.0s
ASAJ   Asahikawa          164.24 147  PKP     PKPdf    22 12 33.5 +1.0
       comp=E,22nm,1.1s,baz=241,slow=19,SNR=5.7
ASAJ   Asahikawa          164.24 147  PKIKP   PKPdf    22 12 33.6 +1.0
ASAJ                                  pmax    pmax
       comp=Z,23nm,1.1s
YUK    Yuzh-Kuril’sk      165.00 155 ePKIKP   PKPdf    22 12 32.0 -1.3
YUK                                   pmax    pmax
       comp=Z,2µm,2.7s
YSS    Yuzh-Sakhalins     166.84 142j iPKIKP  PKPdf    22 12 34.6 -0.1
YSS                                  e                 22 13 38.7
YSS                                  e                 22 17 25.0
YSS                                   pmax    pmax
       comp=Z,60nm,1.3s
YSS                                   pmax    pmax
       comp=E,40nm,1.1s
YSS                                   pmax    pmax
       comp=Z,70nm,1.0s
YSS    Yuzh-Sakhalins     166.84 142 ePKPdf   PKPdf    22 12 36.5 +1.8
YSS                                  ePKPab   PKPab    22 13 38.5 -1.5
YSS                                   LR      LR
       comp=Z,4µm,21.0s
YAK    Yakutsk            167.01  62 ePKIKP   PKPdf    22 12 32.9 -1.5
YAK                                  i                 22 17 29.1
YAK                                  ePPP     PPP      22 21 30.1 +1.7
YAK                                  i                 22 31 12.6
YAK                                  eSS      SS       22 38 17.2 +9.0
YAK                                   pmax    pmax
       comp=Z,17nm,0.9s
YAK                                   pmax    pmax
       comp=N,3.0nm,1.0s
YAK                                   pmax    pmax
       comp=E,5.0nm,1.2s
YAK                                   pmax    pmax
       comp=Z,508nm,10.2s
YAK                                   pmax    pmax
       comp=N,31nm,8.3s
YAK                                   pmax    pmax
       comp=E,164nm,13.1s
YAK    Yakutsk            167.01  62  PFAKE            22 12 50.0  +16
YAK                                   LR      LR
       comp=Z,3µm,20.0s
SMY    Shemya             167.67 253  PFAKE            22 12 50.0  +15
SMY                                   LR      LR
       comp=Z,8µm,22.0s
SKR    Severo-Kuril’s     172.59 188 ePKIKP   PKPdf    22 12 36.0 -2.0
SKR                                   pmax    pmax
       comp=Z,3µm,5.0s
SKR                                   pmax    pmax
       comp=E,2µm,4.0s
PET    Petropavlovsk      174.46 207 i PKIKP  PKPdf    22 12 38.1 -0.5
PET                                  i                 22 14 11.5
PET                                  i                 22 18 04.1
PET                                  ePPP     PPP      22 22 16.7 -4.2
PET                                   pmax    pmax
       comp=Z,54nm,1.2s
PET                                   pmax    pmax
       comp=Z,2µm,6.8s
PET                                   pmax    pmax
       comp=Z,2µm,15.3s
PET                                   pmax    pmax
       comp=Z,1µm,3.7s
PET                                   pmax    pmax
       comp=Z,81nm,0.9s
PET                                   pmax    pmax
       comp=Z,1µm,13.6s
PET                                   pmax    pmax
       comp=Z,2µm,22.1s
PET    Petropavlovsk      174.46 207 ePKPdf   PKPdf    22 12 37.0 -1.6
PET                                  ePKPab   PKPab    22 14 12.2 -1.2
PET                                  ePP      PP       22 18 03.7 -3.2
PET                                   LR      LR
       comp=Z,5µm,22.0s
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Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SEY	**Seymchan**	174.96	11	*e*PKIKP	PKPdf	22 12 36.2	-2.2
SEY				*e*		22 14 14.7	
SEY				*e*		22 18 09.8	
SEY				pmax	pmax		
	comp=E,20nm,1.1s						
SEY				pmax	pmax		
	comp=Z,90nm,1.1s						
MA2	**Magadan**	177.52	50	*i* PKIKP	PKPdf	22 12 36.4	-2.7
MA2				*e*		22 18 20.5	
MA2				pmax	pmax		
	comp=E,40nm,2.3s						
MA2	**Magadan**	177.52	50	PFAKE		22 12 50.0	+11
MA2				LR	LR		
	comp=Z,2µm,21.0s						

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*NIED **11** 22:09:00, 33.20N×137.10E, h17^{km}, Mw3.9 Best double couple: M$_0$7.05×10^{14} NP1:φ$_s$126°, δ83°, λ-160°. NP2: φ$_s$34°, δ70°, λ-7°.*

*JMA **11** 22:09:47.7±0.1, 33.16N×137.14E, h41^{km}±2^{km}, M3.9*

ISC 11 22:09:47.6±0.8**, 33.17N**±0.05×**137.15E**±0.03**, h50**^{km}±16^{km}**, n19,** σ0^{s}**66**/38**, 2C-8D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	**Tokai 1**	0.70	32	P	P	22 10 01.4	0.0
TK01				S	S	22 10 11.1	-0.5
TK02	**Tokai 2**	0.93	33	⇓P	P	22 10 04.8	+0.3
TK02				S	S	22 10 17.2	+0.1
TK03	**Tokai 3**	1.21	34	P	P	22 10 08.8	+0.4
TK03				S	S	22 10 24.3	+0.4
JWZ	**Kozaga**	1.25	287	⇑P	P	22 10 08.9	-0.2
JWZ				S	S	22 10 23.8	-1.3
JIE	**Ise**	1.28	343	⇓P	P	22 10 10.2	+0.8
JIE				S	S	22 10 25.6	-0.1
JKN	**Kiinagashima**	1.31	326	⇓P	P	22 10 10.2	+0.2
JKN				S	S	22 10 25.4	-1.2
TK04	**Tokai 4**	1.36	26	⇓P	P	22 10 11.1	+0.4
TK04				S	S	22 10 27.9	+0.1
JWM	**Minabe**	1.65	295	⇑P	P	22 10 14.8	+0.1
JWM				S	S	22 10 34.0	-0.7
TSUJ	**Tsu 2**	1.66	339	⇓P	P	22 10 15.5	+0.7
TSUJ				S	S	22 10 34.9	-0.1
JWY	**Kouya**	1.67	309	⇓P	P	22 10 15.9	+0.9
JWY				S	S	22 10 35.3	0.0
JHE	**Heguri**	1.92	321	⇓P	P	22 10 19.3	+0.8
JHE				S	S	22 10 41.6	+0.2
SHZ3	**Shizuoka 3**	2.09	25	P	P	22 10 21.1	+0.2
SHZ3				S	S	22 10 45.2	-0.5
JIZS	**Izushimoda**	2.11	42	P	P	22 10 21.8	+0.6
JIZS				S	S	22 10 45.5	-0.8
JHJ2	**Mitsune**	2.24	91	P	P	22 10 22.9	-0.1
JHJ2				S	S	22 10 48.3	-1.2
JAI	**Aioi**	2.34	286	P	P	22 10 24.7	+0.3
JAI				S	S	22 10 50.6	-1.4
JIM2	**Oshima 3**	2.45	50	P	P	22 10 26.6	+0.6
JIM2				S	S	22 10 53.7	-1.2
JGM	**Miyama**	2.55	352	⇓P	P	22 10 28.3	+0.8
JGM				S	S	22 10 57.9	+0.4
JWT	**Wachi**	2.56	326	P	P	22 10 28.5	+0.9
JWT				S	S	22 10 57.7	0.0
MAT	**Matsushiro**	3.48	14	P	P	22 10 41.3	+0.7
MAT				S	S	22 11 20.2	-0.8

GUC 11 22:16:23.9±0.5**, 31.25S**×**68.62W, h145**^{km}**, ML3.8, 1D, San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMCH	**Combarbala**	2.04	272	⇓*i*P	P	22 16 59.8	+0.2
CMCH				*i* S	S	22 17 27.0	0.0
CMCH				AMP		22 17 29.4	
	comp=E,3µm,0.6s						
TLL	**Tololo Astrono**	2.17	299	*e*P	P	22 17 01.6	+0.3
TLL				*i* S	S	22 17 30.6	+0.8
TLL				AMP		22 17 33.2	
	comp=E,476nm,0.7s						
FCH	**Farellones**	2.51	214	*e*P	P	22 17 06.5	+1.0
FCH				*i* S	S	22 17 38.1	+0.9
FCH				AMP		22 17 43.0	
	comp=E,67nm,0.3s						
TACH	**Talagante**	3.09	219	*i* P	P	22 17 12.5	-0.5

WEL 11 22:16:56.3±0.3**, 39.27S**×**174.94E, h189**^{km}±2^{km}**, ML3.7**/8**, 3C-2D, Error ellipse: s-maj=3.4km s-min=1.6km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TWVZ	**Taurewa**	0.44	63	PN	P	22 17 21.3	-1.0
FWVZ	**Far West T-bar**	0.48	88	PN	P	22 17 22.1	-0.3
FWVZ				SN	S	22 17 41.5	-1.0
CNZ	**Chateau**	0.48	81	PN	P	22 17 21.9	-0.5
WAZ	**Wanganui**	0.48	175	PN	P	22 17 22.3	-0.1
WAZ				SN	S	22 17 42.0	-0.6
WNVZ	**Wahianoa**	0.52	96	PN	P	22 17 22.5	-0.1
WNVZ				SN	S	22 17 41.9	-0.9
NGZ	**Ngauruhoe**	0.53	80	PN	P	22 17 22.1	-0.5
WTVZ	**West Tongariro**	0.53	73	⇓PN	P	22 17 22.1	-0.5
WTVZ				SN	S	22 17 41.6	-1.3
MGZ	**Maungaku**	0.54	60	⇓PN	P	22 17 21.9	-0.7
MOVZ	**Moawhango**	0.65	102	*e*PN	P	22 17 22.7	-0.5
MOVZ				SN	S	22 17 41.9	-1.9
TSZ	**Takapari Road**	1.11	135	*e*PN	P	22 17 25.9	-0.2
BKZ	**Black Stump Fm**	1.21	86	PN	P	22 17 26.3	-0.6
BKZ				SN	S	22 17 48.7	-1.8
MRZ	**Mangatainoka R**	1.47	161	PN	P	22 17 28.9	-0.3
MRZ				SN	S	22 17 53.0	-1.6
KIW	**Kapiti Island**	1.59	181	PN	P	22 17 29.5	-0.7
KIW				SN	S	22 17 54.1	-2.3
PWZ	**Pawanui**	1.67	118	PN	P	22 17 31.3	+0.3
PWZ				SN	S	22 17 57.9	+0.2
BFZ	**Birch Farm**	1.73	145	PN	P	22 17 31.4	-0.2
BFZ				SN	S	22 17 57.9	-1.0
CAW	**Cannon Point**	1.84	177	⇑PN	P	22 17 32.1	-0.6
CAW				SN	S	22 17 59.4	-1.3
MTW	**Mount Morrison**	1.93	167	PN	P	22 17 32.8	-0.8
MRW	**Makara Radio**	1.96	185	⇑PN	P	22 17 33.1	-0.9
MRW				*e*SN	S	22 18 01.0	-2.0
URZ	**Urewera**	1.98	60	PN	P	22 17 32.0	-2.1
URZ				SN	S	22 17 58.8	-4.5
SNZO	**South Karori**	2.04	185	PN	P	22 17 33.7	-1.1
SNZO				SN	S	22 18 01.9	-2.6
KNZ	**Kokohu**	2.14	84	PN	P	22 17 35.2	-0.8
KNZ				SN	S	22 18 03.3	-3.2
MSWZ	**Moikau Station**	2.15	174	PN	P	22 17 35.0	-1.1
MSWZ				SN	S	22 18 04.8	-2.0
NNZ	**Nelson**	2.28	211	⇑PN	P	22 17 35.3	-2.2
NNZ				SN	S	22 18 06.0	-3.3
TUWZ	**Tuamarina**	2.29	199	PN	P	22 17 35.9	-1.7
TUWZ				SN	S	22 18 06.1	-3.3
QRZ	**Quartz Range**	2.41	229	PN	P	22 17 35.7	-3.3
QRZ				*e*SN	S	22 18 06.6	-5.3
BSWZ	**Blackbirch Sta**	2.57	198	PN	P	22 17 39.4	-1.4
THZ	**Tophouse**	2.93	211	PN	P	22 17 42.3	-2.8
THZ				*e*SN	S	22 18 18.9	-3.9
KHZ	**Kahutara**	3.32	198	PN	P	22 17 47.7	-2.2
KHZ				SN	S	22 18 26.7	-4.4
DSZ	**Denniston Nort**	3.44	223	PN	P	22 17 47.6	-3.7
DSZ				SN	S	22 18 27.5	-6.3
LTZ	**Lake Taylor**	4.04	209	PN	P	22 17 55.8	-3.2
LTZ				SN	S	22 18 41.2	-6.1
MQZ	**McQueen's Vall**	4.75	200	PN	P	22 18 03.4	-4.6
MQZ				SN	S	22 18 55.8	-7.7
ODZ	**Otahua Downs**	6.59	208	*e*PN	P	22 18 25.3	-6.7

KRSC 11 22:21:34.7±0.7**, 54.71N**×**160.58E, h152**^{km}±2^{km}**, ML3.9, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TUMR	**Tumrok**	0.63	337	*i* P	P	22 21 58.0	+0.6
TUMR				*i* S	S	22 22 14.6	-0.2
MKZ	**Mys Kozlova**	0.69	103	*i* P	P	22 21 57.5	-0.2
MKZ				*i* S	S	22 22 14.1	-1.3
KII	**Karymskiy**	0.95	225	*e*P	P	22 22 00.4	+1.0
KII				*e*S	S	22 22 19.7	+1.3
KMNR	**Kamenistaya**	1.07	350	*i* P	P	22 22 01.3	+0.9
KMNR				*i* S	S	22 22 20.5	+0.3
KPT	**Kopyto**	1.28	351	*i* P	P	22 22 02.7	+0.2
KPT				*i* S	S	22 22 23.3	-0.5
ZLN	**Zelenaya**	1.32	5	*i* P	P	22 22 04.3	+1.4
ZLN				*e*S	S	22 22 25.2	+0.6
LGNR	**Loginova**	1.38	3	*e*P	P	22 22 04.5	+1.0
LGNR				*e*S	S	22 22 26.7	+1.0
KOZ	**Kozyrevsk**	1.41	344	*e*P	P	22 22 03.7	-0.1
KOZ				*e*S	S	22 22 24.3	-2.0
CIRR	**Tsirk**	1.41	4	*e*P	P	22 22 05.0	+1.2
CIRR				*e*S	S	22 22 27.9	+1.6
KRSR	**Krestovskiy**	1.51	360	*e*P	P	22 22 05.6	+0.7
KRSR				*e*S	S	22 22 28.2	+0.1
KLY	**Klyuchi**	1.61	1	*i* P	P	22 22 06.6	+0.7
KLY				*e*S	S	22 22 30.1	+0.2
ESO	**Esso**	1.62	319	*i* P	P	22 22 06.0	-0.1
ESO				*e*S	S	22 22 29.0	-1.2
ESO				Smax			
	90nm,0.6s						
SPN	**Mys Shipunski**	1.65	192	*i* P	P	22 22 06.1	-0.2
SPN				*e*S	S	22 22 28.6	-2.1
SRDR	**Sredinnyy**	1.68	343	*i* P	P	22 22 07.0	+0.3
SRDR				*e*S	S	22 22 30.9	-0.5
NLC	**Nalytchevo**	1.71	206	*i* P	P	22 22 07.4	+0.5
NLC				*e*S	S	22 22 31.1	-0.7
SDLR	**Sedlovina**	1.75	216	*i* P	P	22 22 08.5	+1.1
SDLR				*e*S	S	22 22 33.8	+1.2
SMAR	**Somma**	1.79	217	*i* P	P	22 22 08.9	+1.0
SMAR				*e*S	S	22 22 33.7	+0.3
AVH	**Avacha**	1.81	218	*i* P	P	22 22 09.5	+1.4
AVH				*e*S	S	22 22 35.1	+1.3
KOK	**Koryaka**	1.83	220	*i* P	P	22 22 09.8	+1.5
KOK				*e*S	S	22 22 35.6	+1.5
UGLR	**Uglovaya**	1.83	215	*i* P	P	22 22 09.3	+1.0
UGLR				*i* S	S	22 22 35.4	+1.2
GNL	**Ganaly**	1.85	238	*i* P	P	22 22 09.7	+1.1
GNL				*e*S	S	22 22 35.6	+0.9
SVLR	**Shiveluch**	1.91	11	*e*P	P	22 22 09.9	+0.7
SVLR				*e*S	S	22 22 37.4	+1.7
KBG	**Krutoberegovo**	1.96	37	*e*P	P	22 22 10.0	+0.2
KBG				*i* S	S	22 22 35.4	-1.5
KBG				Smax			
	640nm,0.7s						
KBTR	**Krutoberegovo**	1.97	39	*i* P	P	22 22 10.3	+0.4
KBTR				*i* S	S	22 22 35.7	-1.3
PET	**Petropavlovsk**	2.04	215	*i* P	P	22 22 11.6	+0.9
PET				*e*S	S	22 22 39.1	+0.7
RUS	**Russkaya**	2.59	209	*e*P	P	22 22 17.4	-0.3
RUS				*e*S	S	22 22 48.9	-1.6
GRL	**Gorelyy**	2.63	216	*e*P	P	22 22 19.2	+1.1
APC	**Apacha**	2.70	230	*i* P	P	22 22 20.1	+1.0
BKI	**Bering**	3.15	79	*i* P	P	22 22 24.9	+0.2
BKI				*e*S	S	22 23 00.8	-2.3
BKI				Smax			
	160nm,0.4s						

IDC 11 22:40:45.5±2.2**, 7.67S**×**127.21E, mb3.4**/1**, mb1 3.9**/3**, mb1mx3.6**/11**, ML3.7**/2**, Error ellipse: s-maj=273.0km s-min=32.3km az=63.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	14.02	151	Pn	P	22 44 04.1	-3.9
	0.5nm,0.3s,baz=327,slow=13,SNR=7.4						
WRA				Sn	S	22 46 29.5	-16
	0.9nm,0.3s,baz=331,slow=22,SNR=6.7						
ASAR	**Alice Springs**	17.16	159	P	P	22 44 48.1	-0.3
	0.3nm,0.3s,baz=336,slow=11,SNR=17						
ASAR				S	S	22 47 43.5	-15
	0.1nm,0.3s,baz=347,slow=20,SNR=3.7						
MKAR	**Makanchi Array**	67.30	328	P	P	22 51 42.2	-2.1
	0.2nm,0.5s,baz=123,slow=7.6,SNR=4.6						

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*HEL **11** 23:23:29.9±0.1, 67.78N×20.28E, ML1.6, ML1.5(BER), Explosion*

*BER **11** 23:23:29.3±4.4, 67.81N×20.20E, ML1.6, Suspected explosion*

ISC 11 23:23:24.7±0.7**, 67.65N**±0.05×**19.9E**±0.1**, n9,** σ1^{s}**39**/12**, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KIF	**Kilpisjarvi**	1.40	13	*e*PB	Pb	23 23 53.1	+1.7
KIF				*e*S	Sb	23 24 08.3	-1.4
KTK1	**Kautokeino**	1.84	41	*e*P	Pn	23 23 59.2	+1.3
KTK1				*e*SG	Sg	23 24 20.6	-5.3
KTK1				AML	AML	23 24 25.3	
	comp=Z,5.1nm,0.3s						
TRO	**Tromso**	2.02	350	*e*S	Sn	23 24 26.2	-0.5
LOF	**Lofoten**	2.46	284	*e*Sg	Sg	23 24 50.4	+3.9
LOF				AML	AML	23 24 55.1	
	comp=Z,4.8nm,0.8s						
SGF	**Sodankyl**	2.55	92	*e*PB	Pb	23 24 11.6	+0.5
SGF				*e*S	Sn	23 24 40.6	+0.5
MOR8	**Moi Rana**	2.62	238	*e*SG	Sg	23 24 51.6	-0.3
MOR8				AML	AML	23 24 52.4	
	comp=Z,8.5nm,0.3s						
KEV	**Kevo**	3.34	48	*e*S	Sn	23 24 58.3	-1.9
MSF	**Maaselka**	4.02	112	*e*SG	Sg	23 25 30.5	-7.9
MSF				MSG		23 25 31.0	
	comp=Z,0.8nm,0.3s						
NSS	**Namsos**	4.50	230	*e*Sg	Sg	23 25 53.4	-1.2
NSS				AML	AML	23 25 57.8	
	comp=Z,3.1nm,0.7s						

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*HEL **11** 23:31:17.0±0.1, 67.85N×20.20E, ML2.0, ML2.5(UPP), ML1.8(BER), Explosion*

*BER **11** 23:31:18.1±2.3, 67.87N×20.02E, ML1.8, Suspected explosion*

ISC 11 23:31:15.2±0.6**, 67.83N**±0.03×**20.11E**±0.09**, n13,** σ0^{s}**87**/20**, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUA	**Kurravaara**	0.15	34	*i* P	Pg	23 31 18.8	+0.5
KUA				*i* S	Sg	23 31 20.5	+0.2
NIKU	**Nikkaluokta**	0.41	276	*i* P	Pg	23 31 24.7	+1.4
DUNU	**Dundret**	0.73	166	*i* P	Pg	23 31 30.0	+0.2
DUNU				*i* S	Sg	23 31 40.5	+0.9
KIF	**Kilpisjarvi**	1.21	12	*e*P	Pb	23 31 39.2	+0.5
KIF				*e*S	Sb	23 31 54.8	+0.2
PAJU	**Pajala**	1.41	123	*e*P	Pb	23 31 41.7	-0.4
ERTU	**Ertsjaerv**	1.52	147	*e*P	Pn	23 31 43.8	+0.2
KTK1	**Kautokeino**	1.66	43	*e*P	Pn	23 31 46.8	+1.1
KTK1				*e*Sg	Sg	23 32 09.6	-0.8
KTK1				AML	AML	23 32 12.0	
	comp=Z,12nm,0.3s						
TRO	**Tromso**	1.86	347	*e*P	Pn	23 31 48.8	+0.1
TRO				*e*S	Sn	23 32 13.3	+0.1
TRO				AML	AML	23 32 16.2	
	comp=Z,13nm,0.4s						
SGF	**Sodankyl**	2.49	96	*e*PB	Pb	23 31 59.6	-0.9
SGF				*e*S	Sn	23 32 29.1	0.0
LOF	**Lofoten**	2.49	280	*e*Sg	Sg	23 32 35.9	-2.3
LOF				AML	AML	23 32 40.0	
	comp=Z,11nm,0.4s						
MOR8	**Moi Rana**	2.78	236	*e*SG	Sg	23 32 39.1	-8.6
MOR8				AML	AML	23 32 42.5	
	comp=Z,14nm,0.4s						
MSF	**Maaselka**	4.01	114	*e*S	Sn	23 33 06.3	-1.4
MSF				*e*SG	Sg	23 33 19.6	-9.3
MSF				MSG		23 33 20.8	
	comp=Z,2.5nm,0.4s						
NSS	**Namsos**	4.67	229	*e*Sg	Sg	23 33 43.2	-7.6
NSS				AML	AML	23 33 44.2	
	comp=Z,4.3nm,0.4s						

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*IDC **11** 23:43:29.4±0.8, 30.52S×177.68W, mb4.9/7, mb1 5.0/9, mb1mx4.8/14, ML4.3/2, Error ellipse: s-maj=30.6km s-min=19.2km az=149.0*

*NEIC **11** 23:43:30.9±0.4, 30.64S×177.79W, h10^{km}, mb5.2/15, Error ellipse: s-maj=13.5km s-min=8.2km az=117.0*

*SYO **11** 23:43:30.9, 30.64S×177.85W, h10^{km}, MB5.1*

ISC 11 23:43:36.7±1.6**, 31.08S**±0.07×**177.8W**±0.1**, h73**^{km}±15^{km}**, n87,** σ1^{s}**18**/75**, mb5.0**/18**, 9C-4D, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PUZ	**Puketiti**	7.69	204	P	P	23 45 28.8	+0.6
PUZ				S	S	23 47 00.6	+6.0
PUZ	**Puketiti**	7.69	204	*e*P	P	23 45 28.8	+0.6
PUZ				S	S	23 47 00.6	+6.0
MWZ	**Matawai**	8.19	207	P	P	23 45 35.0	0.0
MWZ				S	S	23 47 09.7	+2.8
MWZ	**Matawai**	8.19	207	*e*P	P	23 45 35.0	0.0
MWZ				*e*S	S	23 47 09.7	+2.8
URZ	**Urewera**	8.29	209	Pn	P	23 45 36.9	+0.4
	2.0nm,0.3s,baz=114,slow=4.9,SNR=14						
URZ				Sn	S	23 47 15.6	+6.2
	11nm,0.3s,baz=159,slow=19,SNR=12						
URZ	**Urewera**	8.29	209	P	P	23 45 36.3	-0.1
URZ	**Urewera**	8.29	209	*e*P	P	23 45 36.3	-0.1
OUZ	**Omahuta**	8.31	238	P	P	23 45 44.6	+8.0
OUZ	**Omahuta**	8.31	238	*e*P	P	23 45 44.6	+8.0
KNZ	**Kokohu**	8.74	204	P	P	23 45 43.0	+0.4
KNZ				S	S	23 47 24.1	+3.6
KNZ	**Kokohu**	8.74	204	*e*P	P	23 45 41.9	-0.7
KNZ				S	S	23 47 24.1	+3.6
BFZ	**Birch Farm**	10.72	205	S	S	23 48 10.1	+1.6
MRZ	**Mangatainoka R**	10.96	207	S	S	23 48 14.0	-0.2
KIW	**Kapiti Island**	11.40	209	S	S	23 48 24.8	-0.1
MTW	**Mount Morrison**	11.41	206	S	S	23 48 25.2	0.0
MRW	**Makara Radio**	11.79	209	S	S	23 48 34.9	+0.6
SNZO	**South Karori**	11.86	209	P	P	23 46 24.9	+0.2
SNZO				*e*S	S	23 48 35.0	-0.8
NNZ	**Nelson**	12.36	213	*e*P	P	23 46 28.9	-2.5
NNZ				S	S	23 48 47.0	-1.0
QRZ	**Quartz Range**	12.48	216	*e*P	P	23 46 32.4	-0.5
QRZ				S	S	23 48 52.2	+1.5
THZ	**Tophouse**	13.01	212	P	P	23 46 36.9	-3.1
THZ				S	S	23 49 01.8	-1.6
THZ	**Tophouse**	13.01	212	*e*P	P	23 46 36.9	-3.1
THZ				S	S	23 49 01.8	-1.6
KHZ	**Kahutara**	13.26	209	P	P	23 46 39.7	-3.5
KHZ				S	S	23 49 06.8	-2.5
LTZ	**Lake Taylor**	14.11	211	P	P	23 46 50.6	-3.6
LTZ	**Lake Taylor**	14.11	211	*e*P	P	23 46 50.6	-3.6
MQZ	**McQueen's Vall**	14.69	208	S	S	23 49 37.5	-5.7
RPZ	**Rata Peaks**	15.39	212	Pn	P	23 47 15.9	+5.2
	1.7nm,0.3s,baz=31,slow=5.9,SNR=4.5						
RPZ				Sn	S	23 49 54.1	-5.2
	1.9nm,0.3s,baz=7.0,slow=23,SNR=7.4						
RPZ	**Rata Peaks**	15.39	212	Pn	P	23 47 15.9	+5.2
RPZ				Sn	S	23 49 54.1	-5.2
ODZ	**Otahua Downs**	16.62	210	P	P	23 47 26.8	+0.6
ODZ	**Otahua Downs**	16.62	210	*e*P	P	23 47 26.8	+0.6
ODZ				*e*S	S	23 50 23.3	-4.2
DZM	**Mont Dzumac**	16.69	299	*e*P	P	23 47 33.6	+6.3
DZM	**Mont Dzumac**	16.69	299	*e*P	P	23 47 33.6	+6.3
NOUC	**Port Laguerre**	16.78	298	*e*P		23 47 37.7	
NOUC	**Port Laguerre**	16.78	298	*e*P		23 47 37.7	
CTA	**Charters Tower**	34.08	280	*e*P	P	23 50 16.8	+0.5
	48nm,0.5s,mb5.6						
CTA	**Charters Tower**	34.08	280	P	P	23 50 17.3	+1.0
	57nm,0.5s,mb5.7,baz=103,slow=10,SNR=136						
CTAO	**Charters Tower**	34.08	280	*e*P	P	23 50 17.2	+0.9
	76nm,0.6s,mb5.7						
STKA	**Stephens Creek**	34.49	258	*e*P	P	23 50 22.9	+3.2
	46nm,0.5s,mb5.6						
STKA	**Stephens Creek**	34.49	258	P	P	23 50 22.8	+3.1
	97nm,0.8s,mb5.7,baz=100,slow=9.8,SNR=111						
ASAR	**Alice Springs**	43.24	268	P	P	23 51 33.0	+0.4
	16nm,0.4s,mb5.1,baz=104,slow=7.4,SNR=255						
ASAR				ScP		23 57 17.6	
	1.8nm,1.0s,baz=124,slow=4.0,SNR=4.9						
ASPA	**Alice Springs**	43.25	268	*e*P	P	23 51 33.5	+0.8
WB2	**Warramunga Arr**	44.28	273	*e*P	P	23 51 40.9	-0.2
WRAB	**Tennant Creek**	44.29	273	*e*P	P	23 51 40.8	-0.3
	65nm,0.6s,mb5.5						
WRA	**Warramunga Arr**	44.30	273	P	P	23 51 41.1	0.0
	34nm,0.3s,mb5.5,baz=111,slow=8.0,SNR=143						
SBA	**Scott Base**	47.37	184	*e*P	P	23 52 14.0	+9.2
	9.4nm,0.7s,mb4.6						
FITZ	**Fitzroy Crossi**	52.53	270	*e*P	P	23 52 44.4	-0.5
	11nm,0.9s,mb4.9						
FITZ	**Fitzroy Crossi**	52.53	270	P	P	23 52 44.1	-0.8
	14nm,0.8s,mb5.0,baz=176,slow=7.6,SNR=20						
CASY	**Casey**	54.62	208	*e*P	P	23 53 03.6	+3.9
	27nm,0.7s,mb5.4						
MBWA	**Marble Bar**	56.32	264	*e*P	P	23 53 11.8	-0.7
	5.3nm,0.6s,mb4.8						
GUMO	**Guam**	57.08	315	P	P	23 53 13.4	-4.6
	42nm,0.9s,mb5.5						
QSPA	**South Pole Qui**	59.03	180	*e*P	P	23 53 38.0	+7.2
	53nm,0.8s,mb5.6						
MAW	**Mawson**	71.73	201	P	P	23 54 56.6	+4.2
	5.7nm,0.9s,mb4.4,baz=145,slow=8.0,SNR=12						
SYO	**Syowa Base**	76.49	193	⇓P	P	23 55 24.9	+5.1
SYO	**Syowa Base**	76.49	193	⇓pP	Px	23 55 27.8	
SYO	**Syowa Base**	76.49	193	⇓sP	PcP	23 55 28.7	-2.8
SYO	**Syowa Base**	76.49	193	⇓PcP	PcP	23 55 30.5	-1.0
SNAA	**Sanae**	77.47	178	⇑*i*	P	23 55 30.6	+5.4
SNAA	**Sanae**	77.47	178	⇑*i*	pP	23 55 37.0	-8.0
VNA3	**Neumayer Olymp**	77.61	176	⇑*i*	PcP	23 55 34.3	-2.0
VNA3	**Neumayer Olymp**	77.61	176	⇑*i*	pP	23 55 41.1	-4.7
VNA2	**Neumayer--Watz**	78.05	177	⇑*i*	PcP	23 55 37.2	-1.0
VNA2	**Neumayer--Watz**	78.05	177	⇑*i*	pP	23 55 43.6	-4.6
VNA1	**Neumayer--Stat**	78.28	176	⇑*i*	PcP	23 55 38.3	-0.8
VNA1	**Neumayer--Stat**	78.28	176	⇑*i*	pP	23 55 45.3	-4.2
QIZ	**Qiongzhong**	85.44	295	*e*P	P	23 56 07.9	0.0
	7.9nm,0.8s,mb4.7						
CMB	**Columbia Colle**	87.16	42	*e*P	P	23 56 15.1	-0.7
	5.5nm,1.1s,mb4.4						
YBH	**Yreka Blue Hor**	88.46	38	P	P	23 56 22.5	+0.5
	0.9nm,0.6s,mb4.0,baz=268,slow=3.9,SNR=2.5						
TPH	**Tonopah**	89.02	43	P	P	23 56 24.4	-0.3
	5.3nm,1.1s,mb4.5						
TUC	**Tucson**	89.41	51	*e*P	P	23 56 26.1	-0.6
	3.3nm,1.2s,mb4.2						
WUAZ	**Wupatki**	90.99	48	P	P	23 56 35.7	+1.7
	5.8nm,1.0s,mb4.7						
TXAR	**Lajitas Array**	92.61	57	P	P	23 56 42.8	+1.1
	0.1nm,0.7s,baz=270,slow=7.5,SNR=3.6						
PDAR	**Pinedale Array**	96.51	44	P	P	23 56 57.3	-1.8
	0.3nm,0.8s,baz=297,slow=4.0,SNR=3.2						
MKAR	**Makanchi Array**	118.34	310	PKP	PKPdf	00 02 16.5	+0.9
	1.6nm,0.6s,baz=129,slow=0.7,SNR=23						
LSZ	**Lusaka**	127.57	212	*e*PKPdf	PKPdf	00 02 38.9	+4.7
LSZ				*e*		00 02 44.9	
TSUM	**Tsumeb**	127.86	199	*e*PKPdf	PKPdf	00 02 37.3	+2.6
KMBO	**Kilima Mbogo**	133.80	233	PKP	PKPdf	00 02 51.5	+5.4
	1.2nm,1.1s,baz=233,slow=4.7,SNR=3.5						
KEV	**Kevo**	138.82	347	*e*pkp	PKPdf	00 02 59.4	+5.6
ARCES	**ARCESS Array B**	139.29	348	PKhKP		00 02 47.9	
	5.0nm,0.9s,baz=42,slow=2.8,SNR=6.9						
KAF	**Kangasniemi**	145.25	340	*e*pkp	PKPdf	00 03 03.0	-2.1
	baz=59,slow=3.4						
FINES	**FINESS Array B**	145.84	340	PKPbc	PKPbc	00 03 07.0	-0.1
	26nm,0.8s,baz=70,slow=3.8,SNR=166						
NB2	**NORSAR Subarra**	149.45	351	PKP	PKPdf	00 03 17.7	+5.6
	7.4nm,0.7s,baz=15,slow=2.7						
NB2	**NORSAR Subarra**	149.45	351	⇑PKPab	PKPdf	00 03 17.7	+5.6
NOA	**NORSAR Array B**	149.45	351	PKPbc	PKPdf	00 03 17.7	+5.6
	8.2nm,0.8s,baz=16,slow=4.3,SNR=20						
AKASG	**Malin Array Be**	151.94	322	PKPbc	PKPdf	00 03 23.9	+7.7
	12nm,0.6s,baz=45,slow=2.4,SNR=34						
BRTR	**Keskin Array B**	153.07	297	PKPbc	PKPdf	00 03 27.5	+9.3
	2.3nm,0.5s,baz=144,slow=4.0,SNR=14						
DBIC	**Dimbokro**	154.83	163	PKP	PKPdf	00 03 29.4	+8.1
	4.1nm,1.0s,baz=156,slow=5.5,SNR=2.6						
KHC	**Kasperske Hory**	160.02	338	*e*P	PKPab	00 04 05.5	-3.6
GERES	**GERESS Array B**	160.23	337	PKPab	PKPab	00 04 10.1	+0.1
	0.5nm,0.5s,baz=52,slow=4.5,SNR=5.8						

MAN 11 23:53:28.1, 18.15N×**120.67E, h31**^{km}**, mb4.0, ML2.7, MS2.4, 1C, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PIP	**Pasuquin**	0.18	345	⇑*i*P	Pb	23 53 36.5	+2.3
PIP				*e*S	Sb	23 53 41.5	+3.1
ABRA	**Dolores**	0.50	175	*e*P	Pb	23 53 39.7	+1.3
ABRA				*e*S	Sb	23 53 48.5	+2.8
APYP	**Conner**	0.61	117	*e*P	Pb	23 53 41.1	+0.8
SGCP	**Mt. Cagua**	1.31	86	*e*P	Pn	23 53 51.3	+0.7

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*IDC **12** 00:00:57.2±0.6, 53.23N×167.24W, mb4.5/21, mb1 4.6/22, mb1mx4.6/25, ML4.2/1, MS4.1/4, Ms1 4.2/4, ms1mx3.8/20,* *Error ellipse: s-maj=17.8km s-min=11.6km az=158.0*

*BJI **12** 00:01:00.0,53.00N×167.38W,h31^{km},mB4.8,mb4.6,Ms4.8,Msz4.5*

*NEIC **12** 00:01:01.8±0.3,53.11N×167.23W,mb4.7/36,MS4.5/1,ML4.6(AEIC),Error ellipse: s-maj=6.9km s-min=4.4km az=156.0*

NEIC Felt at Dutch Harbor.

ISC 12 00:01:03.6±0.5**,53.25N**±0.05×**167.06W**±0.05**,h61**^{km}±3^{km}**,h36**^{km}±1.4^{km}**:pP-P,n146,**σ**0**^{s}**88**/146**,mb4.6**/58**,3C-2D,Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MGOD	**Makushin Gods**	**0.56**	**11**	P	**P**	**00 01 16.1**	**-0.2**
OKCD	**Okmok Cone D**	**0.66**	**286**	P	**P**	**00 01 17.4**	**0.0**
OKCD				S	**S**	**00 01 28.4**	**+0.6**
UNV	**Unalaska Valle**	**0.68**	**29**	P	**P**	**00 01 16.8**	**-0.9**
UNV				S	**S**	**00 01 27.6**	**-0.7**
MSW	**Makushin Switc**	**0.69**	**14**	P	**P**	**00 01 17.8**	**0.0**
MCIR	**Makushin Cirqu**	**0.71**	**8**	P	**P**	**00 01 18.9**	**+0.8**
MTBL	**Makushin Table**	**0.76**	**17**	P	**P**	**00 01 19.1**	**+0.4**
AKLV	**Akutan Long Va**	**1.13**	**35**	P	**P**	**00 01 23.2**	**-0.4**
AKLV				S	**S**	**00 01 39.0**	**+0.6**
AKGG	**Akutan Green G**	**1.14**	**33**	P	**P**	**00 01 23.9**	**+0.1**
AKGG				S	**S**	**00 01 39.6**	**+0.8**
WESS	**West Dahl Sout**	**1.85**	**47**	P	**P**	**00 01 33.6**	**0.0**
WESS				S	**S**	**00 01 56.8**	**+0.9**
WESE	**West Dahl East**	**1.91**	**49**	P	**P**	**00 01 34.5**	**0.0**
WESN	**West Dahl Nort**	**1.97**	**47**	P	**P**	**00 01 35.7**	**+0.4**
WTUG	**Tugumak**	**2.25**	**43**	P	**P**	**00 01 39.2**	**0.0**
SSLW	**Shishaldin Wes**	**2.31**	**47**	P	**P**	**00 01 39.9**	**-0.2**
FALS	**False Pass**	**2.68**	**52**	P	**P**	**00 01 45.2**	**-0.2**
DRIA	**Deer Island**	**3.31**	**57**	P	**P**	**00 01 53.5**	**-0.7**
DTNA	**Dutton South F**	**3.40**	**54**	P	**P**	**00 01 55.5**	**-0.1**
DOL	**Dolgoi Island**	**3.59**	**56**	P	**P**	**00 01 57.8**	**-0.4**
HAG	**Hague Volcano**	**3.66**	**53**	P	**P**	**00 01 59.5**	**+0.4**
PN7A	**Pavlof North-7**	**3.68**	**52**	P	**P**	**00 01 59.9**	**+0.4**
PVV	**Pavlof Volcano**	**3.75**	**53**	P	**P**	**00 02 00.7**	**+0.3**
BLHA	**Black Hill**	**3.81**	**48**	P	**P**	**00 02 00.9**	**-0.4**
SDPT	**Sand Point**	**4.39**	**59**	*e*P	**P**	**00 02 09.4**	**0.0**
ATKA	**Atka Island**	**4.46**	**259**	P	**P**	**00 02 10.9**	**+0.5**
ATKA				S	**S**	**00 03 01.8**	**+0.2**
GSIG	**Igitkin Island**	**5.55**	**260**	P	**P**	**00 02 25.8**	**+0.3**
KIMD	**Kanaga Island**	**6.39**	**261**	P	**P**	**00 02 35.6**	**-1.6**
KDAK	**Kodiak Island**	**9.38**	**55**	P	**P**	**00 03 13.3**	**-5.1**
ILS	**Iliamna Low So**	**10.21**	**43**	P	**P**	**00 03 27.7**	**-2.0**
ILIM	**Iliamna**	**10.33**	**43**	P	**P**	**00 03 30.1**	**-1.1**
RSO	**Redoubt South**	**10.64**	**42**	P	**P**	**00 03 35.1**	**-0.3**
TTA	**Tatalina**	**11.31**	**27**	*e*P	**P**	**00 03 44.5**	**0.0**
SPU	**Mount Spurr**	**11.35**	**40**	*e*P	**P**	**00 03 45.3**	**+0.2**
SLKM	**Skilak Lake**	**11.71**	**45**	*e*P	**P**	**00 03 48.9**	**-0.9**
SUA	**Susitna One**	**12.02**	**40**	P	**P**	**00 03 54.0**	**-0.1**
PMR	**Palmer**	**12.73**	**42**	*e*P	**P**	**00 04 04.5**	**+0.9**
IMA	**Indian Mountai**	**14.47**	**22**	*e*P	**P**	**00 04 29.8**	**+3.7**
COLA	**College**	**15.19**	**32**	*e*P	**P**	**00 04 37.3**	**+2.0**
ILAR	**Eielson Array**	**15.44**	**34**	Pn	**P**	**00 04 37.5**	**-1.1**
	0.4nm,0.3s,baz=227,slow=11,SNR=18						
ILAR				Sn	**S**	**00 07 23.6**	**-4.3**
	baz=225,slow=14,SNR=2.4						
ILAR				PcP	PcP	00 09 38.8	-1.1
	0.1nm,0.3s,baz=266,slow=2.7,SNR=4.3						
ILAR				LR	LR	00 11 15.7	
	comp=Z,639nm,18.4s,baz=263,slow=40						
DLBC	**Dease Lake**	**21.23**	**61**	P	**P**	**00 05 47.2**	**+1.2**
	17nm,0.8s,mb4.4,baz=270,slow=11,SNR=28						
DLBC	**Dease Lake**	**21.23**	**61**	P	**P**	**00 05 47.2**	**+1.2**
INK	**Inuvik**	**21.84**	**34**	P	**P**	**00 05 50.1**	**-1.8**
	9.9nm,0.6s,mb4.4,baz=239,slow=9.9,SNR=19						
INK				PcP	PcP	00 09 49.9	-0.9
	2.6nm,0.7s,baz=293,slow=4.3,SNR=3.8						
INK				LR	LR	00 15 10.1	
	comp=Z,376nm,19.4s,baz=330,slow=39						
YKA	**Yellowknife Ar**	**28.60**	**50**	P	**P**	**00 06 55.9**	**+0.3**
	2.9nm,0.6s,mb4.2,baz=275,slow=8.1,SNR=8.1						
YKA				PcP	PcP	00 10 05.4	-0.2
	2.9nm,0.7s,baz=291,slow=2.5,SNR=4.7						
YKA	**Yellowknife Ar**	**28.60**	**50**	P	**P**	**00 06 55.9**	**+0.3**
YKA				PcP	PcP	00 10 05.5	-0.2
YBH	**Yreka Blue Hor**	**31.60**	**93**	P	**P**	**00 07 23.9**	**+1.5**
	3.4nm,0.7s,mb4.3,baz=261,slow=7.6,SNR=11						
ASAJ	**Asahikawa**	**33.83**	**275**	P	**P**	**00 07 41.4**	**-0.3**
	4.8nm,0.7s,mb4.5,baz=241,slow=11,SNR=4.0						
HLID	**Hailey**	**35.52**	**84**	*e*P	**P**	**00 07 56.6**	**+0.5**
	0.9nm,0.8s,mb3.8						
BOZ	**Bozeman (W)**	**36.02**	**79**	*e*P	**P**	**00 08 00.0**	**-0.4**
	4.9nm,1.1s,mb4.3						
MNV	**Mina**	**36.39**	**94**	*e*P	**P**	**00 08 03.7**	**+0.1**
	3.2nm,0.9s,mb4.2						
ELK	**Elko**	**36.69**	**89**	*e*P	**P**	**00 08 06.8**	**+0.8**
	1.5nm,0.7s,mb3.9						
MTUM	**Tungsten Hills**	**36.85**	**96**	*e*P	**P**	**00 08 08.5**	**+1.1**
FFC	**Flin Flon**	**37.06**	**61**	P	**P**	**00 08 10.1**	**+1.0**
DUG	**Dugway**	**38.48**	**87**	*e*P	**P**	**00 08 21.5**	**+0.5**
TPNV	**Topopah Spring**	**38.50**	**94**	P	**P**	**00 08 22.8**	**+1.6**
	4.9nm,0.8s,mb4.3						
BW06	**Boulder Array**	**38.87**	**82**	*e*P	**P**	**00 08 25.0**	**+0.7**
PDAR	**Pinedale Array**	**38.87**	**82**	P	**P**	**00 08 24.8**	**+0.6**
	6.6nm,1.1s,mb4.3,baz=308,slow=4.9,SNR=23						
DAU	**Daniels Canyon**	**39.28**	**86**	*e*P	**P**	**00 08 28.8**	**+1.2**
ULM	**Lac du Bonnet**	**42.50**	**64**	P	**P**	**00 08 54.1**	**+0.2**
	8.8nm,0.9s,mb4.4,baz=293,slow=6.3,SNR=12						
CN2	**Changchun**	**44.12**	**286**	*e*P	**P**	**00 09 06.2**	**-1.1**
SDCO	**Great Sand Dun**	**44.43**	**85**	*e*P	**P**	**00 09 10.1**	**+0.3**
SUMG	**Summit**	**49.52**	**18**	*e*P	**P**	**00 09 49.4**	**+0.2**
	29nm,1.1s,mb5.2						
SUMG				*e*pP	pP	00 10 00.1	-4.9
WMOK	**Wichita Mounta**	**50.46**	**83**	*e*P	**P**	**00 09 55.9**	**-1.1**
	4.8nm,0.7s,mb4.6						
LTX	**Lajitas**	**51.35**	**91**	*e*P	**P**	**00 10 03.0**	**-0.7**
LTX				*e*pP	pP	00 10 13.0	-6.6
TXAR	**Lajitas Array**	**51.35**	**91**	P	**P**	**00 10 03.3**	**-0.5**
	3.5nm,0.7s,mb4.4,baz=300,slow=5.6,SNR=50						
SONM	**Songino Array**	**52.05**	**301**	P	**P**	**00 10 08.6**	**-0.2**
	2.7nm,0.8s,mb4.2,baz=50,slow=6.6,SNR=15						
SONM				PcP	PcP	00 11 20.7	+0.4
	4.7nm,0.8s,baz=59,slow=2.3,SNR=13						
SONM				ScP		00 15 19.6	
	1.0nm,0.8s,baz=53,slow=2.6,SNR=5.4						
CCM	**Cathedral Cave**	**52.63**	**74**	P	**P**	**00 10 11.5**	**-1.8**
JCT	**Junction City**	**52.84**	**87**	*e*P	**P**	**00 10 13.4**	**-1.6**
MIAR	**Mount Ida**	**53.69**	**79**	*e*P	**P**	**00 10 19.4**	**-1.7**
	2.3nm,0.7s,mb4.2						
SCHQ	**Schefferville**	**53.83**	**45**	P	**P**	**00 10 21.9**	**0.0**
	24nm,0.8s,mb5.2,baz=312,slow=7.6,SNR=17						
SSE	**Sheshan**	**55.10**	**277**	*e*P	**P**	**00 10 31.0**	**-0.5**
	37nm,0.6s,mb5.6						
NJ2	**Nanjing**	**55.80**	**279**	*e*P	**P**	**00 10 35.4**	**-1.2**
NJ2				AP	pP	00 10 45.5	-7.2
NJ2				XP	sP	00 10 49.6	-10
NJ2				PP	PP	00 12 41.9	-1.1
NJ2				S	**S**	**00 18 17.0**	**-0.2**
NJ2				XS		00 18 37.0	
OXF	**Oxford**	**56.16**	**76**	*e*P	**P**	**00 10 37.0**	**-2.0**
	31nm,0.9s,mb5.3						
OXF				*e*pP	pP	00 10 47.8	-7.4
KEV	**Kevo**	**56.88**	**354**	*e*p	PcP	00 11 37.3	-1.1
	0.7nm,0.5s						
ARCES	**ARCESS Array B**	**57.19**	**355**	P	**P**	**00 10 44.7**	**-1.2**
	3.0nm,0.8s,mb4.4,baz=18,slow=3.8,SNR=6.5						
ARCES				PcP	PcP	00 11 39.3	-0.3
	9.5nm,0.7s,baz=34,slow=4.4,SNR=16						
NCB	**Newcomb**	**57.89**	**58**	*e*P	**P**	**00 10 49.7**	**-1.5**
	6.7nm,0.5s,mb4.9						
SSPA	**Standing Stone**	**58.32**	**63**	*e*P	**P**	**00 10 52.8**	**-1.5**
	15nm,0.8s,mb5.1						
LZH	**Lanzhou**	**61.55**	**293**	*e*P	**P**	**00 11 15.0**	**-1.4**
LZH				AP	pP	00 11 26.1	-6.7
LZH				XP	sP	00 11 32.0	-7.8
LZH				PP	PP	00 13 32.4	-2.2
LZH				AMB	AMB		
	comp=Z,17nm,1.6s,mb4.9						
LZH				AMB	AMB		
	comp=Z,68nm,5.6s						
LZH				LR	LR		
	comp=E,290nm,16.0s						
LZH				LR	LR		
	comp=Z,336nm,18.2s						
LZH	**Lanzhou**	**61.55**	**293**	*e*P	**P**	**00 11 15.0**	**-1.4**
	comp=Z,17nm,1.6s,mb4.9						
LZH				pP	pP	00 11 26.1	-6.7
LZH				sP	sP	00 11 32.0	-7.8
LZH				PP	PP	00 13 32.4	-2.2
LZH				LR	LR		
	comp=Z,340nm,18.2s						
WMQ	**Urumqi**	**64.08**	**309**	*e*P	**P**	**00 11 34.7**	**+1.8**
WMQ				AP	pP	00 11 44.7	-4.7
WMQ				XP	sP	00 11 48.7	-7.5
WMQ				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.7						
MKAR	**Makanchi Array**	**64.21**	**314**	P	**P**	**00 11 32.8**	**-0.9**
	comp=Z,2.1nm,0.8s,mb4.2,baz=54,slow=6.0,SNR=14						
MKAR				PcP	PcP	00 12 06.8	-1.2
	comp=Z,1.4nm,0.6s,baz=40,slow=3.6,SNR=6.3						
ZRNK	**Zerenda**	**64.32**	**326**	*e*P	**P**	**00 11 33.6**	**-0.7**
	comp=Z,8.6nm,0.6s,mb5.0						
KAF	**Kangasniemi**	**64.50**	**353**	*e*p	**P**	**00 11 34.3**	**-1.0**
	comp=Z,1.1nm,0.4s,mb4.2,baz=4.6,slow=6.8						
FINES	**FINESS Array B**	**65.18**	**353**	P	**P**	**00 11 38.9**	**-0.9**
	comp=Z,1.7nm,0.6s,mb4.3,baz=26,slow=8.5,SNR=29						
NOA	**NORSAR Array B**	**66.05**	**1**	P	**P**	**00 11 44.8**	**-0.6**
	comp=Z,0.8nm,0.6s,mb4.0,baz=33,slow=7.4,SNR=3.0						
GYA	**Guiyang**	**67.10**	**284**	⇑*i*P	**P**	**00 11 53.2**	**+0.7**
GYA				AP	pP	00 12 05.7	-3.4
GYA				XP	sP	00 12 10.9	-4.9
GYA				S	S	00 20 40.9	+0.5
GYA				AMB	AMB		
	comp=Z,20nm,1.1s,mb5.1						
GYA				LR	LR		
	comp=N,240nm,16.5s						
GYA				LR	LR		
	comp=E,290nm,15.1s						
GYA				LR	LR		
	comp=Z,530nm,16.6s						
KMI	**Kunming**	**70.39**	**286**	*e*P	**P**	**00 12 13.6**	**+0.7**
KMI				AMB	AMB		
	comp=Z,10.0nm,1.4s,mb4.5						
KMI	**Kunming**	**70.39**	**286**	*e*P	**P**	**00 12 13.6**	**+0.7**
	comp=Z,10.0nm,1.4s,mb4.5						
AKASG	**Malin Array Be**	**75.52**	**349**	P	**P**	**00 12 42.0**	**-0.4**
	comp=Z,1.6nm,0.4s,mb4.3,baz=12,slow=5.6,SNR=10						
BAIF	**Baives**	**76.80**	**6**	*e*P	**P**	**00 12 49.1**	**-0.6**
	comp=Z,5.1nm,0.6s,mb4.3						
CMAR	**Chiang Mai Arr**	**77.78**	**284**	P	**P**	**00 12 56.5**	**+0.8**
	comp=Z,12nm,0.9s,mb4.8,baz=24,slow=6.1,SNR=44						
CMAR				LR	LR	00 44 26.2	
	comp=Z,89nm,21.5s,baz=65,slow=34						
LDF	**La Druitiere**	**77.93**	**9**	*e*P	**P**	**00 12 55.7**	**-0.2**
KHC	**Kasperske Hory**	**78.00**	**360**	*e*P	**P**	**00 12 57.5**	**+1.2**
GERES	**GERESS Array B**	**78.28**	**359**	P	**P**	**00 12 58.8**	**+1.0**
	comp=Z,0.9nm,0.6s,mb3.9,slow=4.0,SNR=11						
LOR	**Lormes**	**79.56**	**6**	*e*P	**P**	**00 13 04.5**	**-0.4**
	comp=Z,5.7nm,0.7s,mb4.3						
SSF	**Saint Saulge**	**79.75**	**7**	*e*P	**P**	**00 13 05.1**	**-0.8**
	comp=Z,13nm,0.8s,mb4.6						
MFF	**Saint Martin d**	**79.90**	**9**	*e*P	**P**	**00 13 06.2**	**-0.5**
	comp=Z,9.4nm,0.7s,mb4.5						
AVF	**Avril sur Loir**	**80.00**	**7**	*e*P	**P**	**00 13 06.5**	**-0.8**
	comp=Z,5.0nm,0.7s,mb4.3						
SMF	**Signal de Mont**	**80.18**	**6**	*e*P	**P**	**00 13 07.7**	**-0.5**
	comp=Z,23nm,1.1s,mb4.7						
BGF	**Bois d'Agland**	**80.20**	**7**	*e*P	**P**	**00 13 07.9**	**-0.4**
CABF	**La Chapelle**	**80.35**	**5**	*e*P	**P**	**00 13 08.9**	**-0.2**
	comp=Z,46nm,1.1s,mb5.0						
TCF	**Toulx Ste Croi**	**80.42**	**8**	*e*P	**P**	**00 13 09.2**	**-0.3**
RJF	**Les Rejaudoux**	**81.34**	**8**	*e*P	**P**	**00 13 14.3**	**-0.1**
LPL	**La Plagne**	**81.47**	**4**	*e*P	**P**	**00 13 14.8**	**-0.3**
LPG	**La Plagne**	**81.49**	**4**	*e*P	**P**	**00 13 15.2**	**0.0**
TRAV		**81.52**	**4**	P	**P**	**00 13 16.7**	**+1.4**
LSD	**Ceresole Reale**	**81.55**	**4**	P	**P**	**00 13 18.6**	**+3.1**
LFF	**La Frestale**	**81.63**	**9**	*e*P	**P**	**00 13 15.4**	**-0.5**
	comp=Z,11nm,0.6s,mb4.7						
CAF	**Calviac**	**81.76**	**8**	*e*P	**P**	**00 13 16.3**	**-0.3**
	comp=Z,21nm,1.1s,mb4.7						
RSP	**Reno Superiore**	**81.86**	**4**	P	**P**	**00 13 18.8**	**+1.7**
FENE	**Fenestrelle**	**81.97**	**4**	P	**P**	**00 13 19.2**	**+1.6**
VIVF	**Saint-Julien-l**	**82.02**	**6**	*e*P	**P**	**00 13 18.1**	**+0.2**
	comp=Z,21nm,1.1s,mb4.7						
ORIF	**Oris-en-Rattie**	**82.02**	**5**	*e*P	**P**	**00 13 17.1**	**-0.8**
	comp=Z,23nm,1.1s,mb4.7						
RRL	**Cesana Torines**	**82.07**	**4**	P	**P**	**00 13 20.7**	**+2.5**
MBDF	**Montbardon**	**82.26**	**4**	*e*P	**P**	**00 13 18.2**	**-0.9**
	comp=Z,26nm,0.7s,mb5.0						
PZZ	**Prazzo**	**82.50**	**4**	P	**P**	**00 13 21.6**	**+1.3**
PCP	**Pian Castagno**	**82.52**	**3**	P	**P**	**00 13 21.2**	**+0.8**
GRAM		**82.61**	**2**	P	**P**	**00 13 22.8**	**+1.8**
CODM		**82.70**	**2**	P	**P**	**00 13 21.7**	**+0.3**
ROB	**Roburent**	**82.74**	**4**	P	**P**	**00 13 21.9**	**+0.3**
BACM		**82.82**	**2**	P	**P**	**00 13 23.3**	**+1.3**
FIN	**Finale Ligure**	**82.84**	**3**	P	**P**	**00 13 22.1**	**0.0**
RORO		**82.93**	**4**	P	**P**	**00 13 23.6**	**+1.0**
SMRF	**Simiane la Rot**	**82.95**	**5**	*e*P	**P**	**00 13 22.5**	**-0.2**
IMI	**Imperia**	**83.12**	**4**	P	**P**	**00 13 24.0**	**+0.4**
SBF	**Sospel**	**83.15**	**4**	*e*P	**P**	**00 13 23.2**	**-0.5**
	comp=Z,28nm,0.7s,mb5.1						
NEGI	**Negi**	**83.18**	**4**	P	**P**	**00 13 23.3**	**-0.6**
MAIM		**83.19**	**2**	P	**P**	**00 13 23.5**	**-0.4**
SJPF	**Ste Jean**	**83.25**	**10**	*e*P	**P**	**00 13 23.5**	**-0.7**
	comp=Z,22nm,1.1s,mb4.8						
MTLF	**Montolieu**	**83.35**	**8**	*e*P	**P**	**00 13 24.4**	**-0.3**
	comp=Z,10.0nm,0.9s,mb4.5						
FRF	**La Foret Royal**	**83.42**	**5**	*e*P	**P**	**00 13 24.4**	**-0.6**
	comp=Z,59nm,1.3s,mb5.2						
ETSF	**Etsaut**	**83.53**	**10**	*e*P	**P**	**00 13 25.3**	**-0.2**
PGF	**Pioggiola**	**84.52**	**3**	*e*P	**P**	**00 13 30.7**	**+0.2**
	comp=Z,57nm,1.0s,mb5.3						
BRTR	**Keskin Array B**	**85.69**	**344**	P	**P**	**00 13 38.1**	**+1.8**
	comp=Z,9.1nm,0.8s,mb5.1,baz=53,slow=2.4,SNR=42						
ESDC	**Sonseca Array**	**86.30**	**13**	P	**P**	**00 13 40.7**	**+1.3**
	comp=Z,2.3nm,0.6s,mb4.6,baz=345,slow=4.6,SNR=26						
WRAB	**Tennant Creek**	**88.64**	**233**	*e*P	**P**	**00 13 50.6**	**-0.5**
	comp=Z,9.0nm,0.8s,mb5.2						
WB2	**Warramunga Arr**	**88.65**	**233**	*e*P	**P**	**00 13 51.1**	**0.0**
WRA	**Warramunga Arr**	**88.65**	**233**	P	**P**	**00 13 51.2**	**+0.1**
	comp=Z,5.9nm,0.8s,mb5.0,baz=38,slow=5.6,SNR=24						
HYB	**Hyderabad**	**89.95**	**300**	*i* P	**P**	**00 13 58.0**	**+0.7**
HYB	**Hyderabad**	**89.95**	**300**	*e*P	**P**	**00 13 58.0**	**+0.7**
FITZ	**Fitzroy Crossi**	**91.51**	**241**	*e*P	**P**	**00 14 05.2**	**+0.6**
	comp=Z,4.2nm,0.9s,mb4.8						
ASAR	**Alice Springs**	**92.04**	**232**	P	**P**	**00 14 07.3**	**+0.5**
	comp=Z,3.8nm,0.8s,mb4.8,baz=38,slow=4.5,SNR=24						
ASAR				LR	LR	00 55 04.1	
	comp=Z,140nm,19.0s,baz=35,slow=35						
KMBO	**Kilima Mbogo**	**124.28**	**330**	PKP	PKPdf	00 19 58.9	+3.2
	comp=Z,2.0nm,0.8s,baz=312,slow=2.8,SNR=6.0						
TSUM	**Tsumeb**	**145.83**	**352**	*e*PKPbc	PKPbc	00 20 37.9	+1.9
MAW	**Mawson**	**152.44**	**219**	PKPbc	PKPdf	00 20 53.1	+9.0
	comp=Z,3.0nm,0.7s,baz=104,slow=2.2,SNR=11						
MAW				PKPab	PKPab	00 21 03.0	-0.8
	comp=Z,6.0nm,0.8s,baz=119,slow=2.3,SNR=10						
VNA3	**Neumayer Olymp**	**159.35**	**159**	⇑*i*PKPdf	PKPdf	00 20 53.7	+0.7
VNA3				*e*		00 21 30.7	
VNA2	**Neumayer--Watz**	**160.07**	**160**	⇑*i*PKPdf	PKPdf	00 20 55.2	+1.4
VNA2				*e*		00 21 33.5	
VNA1	**Neumayer--Stat**	**160.11**	**159**	⇓*i*PKPdf	PKPdf	00 20 50.7	-3.1
VNA1				*e*		00 21 27.1	
SNAA	**Sanae**	**160.25**	**165**	⇓*i*PKPdf	PKPdf	00 20 48.6	-5.4
SNAA				*e*		00 21 27.5	

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*NIED **12** 00:52:00,33.40N×136.80E,h5^{km},Mw3.9 Best double couple: $M_0$7.62×10^{14} NP1:ϕ_s197°,δ53°,λ-100°. NP2: ϕ_s33°,δ38°,λ-77°.*

*IDC **12** 00:52:52.0±0.9,33.49N×136.98E,mb3.8/7,mb1 3.9/8,mb1mx3.8/23,ML3.0/1,Error ellipse: s-maj=31.4km s-min=17.9km az=48.0*

*NEIC **12** 00:52:53.8±0.5,33.42N×136.85E,h10^{km},mb4.3/2,Error ellipse: s-maj=15.7km s-min=8.2km az=93.0*

*JMA **12** 00:52:54.3,33.43N×136.81E,h41^{km}±2^{km},M3.5*

ISC 12 00:52:53.8±0.7**,33.43N**±0.04×**136.83E**±0.03**,h25**^{km}±5^{km}**,n26,**σ**0**^{s}**56**/35**,mb3.9**/9**,3D,Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	**Tokai 1**	**0.72**	**62**	P	**Pb**	**00 53 08.3**	**+0.7**
TK01				S	**Sb**	**00 53 17.7**	**+0.5**
TK02	**Tokai 2**	**0.93**	**56**	P	**Pb**	**00 53 11.6**	**+0.4**
TK02				S	**Sb**	**00 53 23.3**	**+0.1**
JWZ	**Kozaga**	**0.94**	**277**	⇓P	**Pb**	**00 53 10.9**	**-0.4**
JWZ				S	**Sb**	**00 53 22.8**	**-0.5**
JKN	**Kiinagashima**	**0.95**	**330**	⇓P	**Pb**	**00 53 11.1**	**-0.3**
JKN				S	**Sb**	**00 53 22.8**	**-0.8**
JIE	**Ise**	**0.97**	**354**	⇓P	**Pb**	**00 53 11.9**	**+0.1**
JIE				*e*S	**Sb**	**00 53 24.7**	**+0.5**
TK03	**Tokai 3**	**1.20**	**52**	S	**Sn**	**00 53 30.2**	**-0.6**
JAA	**Atsumi**	**1.23**	**12**	P	**Pn**	**00 53 15.5**	**-0.2**
JAA				S	**Sn**	**00 53 30.9**	**-0.7**
TK04	**Tokai 4**	**1.29**	**42**	S	**Sn**	**00 53 33.2**	**0.0**
JWY	**Kouya**	**1.30**	**308**	P	**Pn**	**00 53 16.7**	**+0.1**
JWM	**Minabe**	**1.30**	**289**	P	**Pn**	**00 53 16.4**	**-0.2**
TSUJ	**Tsu 2**	**1.32**	**345**	P	**Pn**	**00 53 17.0**	**0.0**
JHE	**Heguri**	**1.55**	**323**	P	**Pn**	**00 53 20.2**	**0.0**
JHJ	**Hachijo jima 2**	**2.50**	**96**	Pn	**Pn**	**00 53 33.2**	**-0.5**
	8.4nm,0.3s,baz=248,slow=19,SNR=2.5						
JHJ				Sn	**Sn**	**00 54 02.8**	**-0.9**
	22nm,0.3s,baz=78,slow=20,SNR=4.8						
MAJO	**Matsushiro**	**3.31**	**20**	*e*Pn	**Pn**	**00 53 45.5**	**+0.2**
MAT	**Matsushiro**	**3.31**	**20**	P	**Pn**	**00 53 45.6**	**+0.3**
MAT				S	**Sn**	**00 54 23.9**	**-0.4**
MAT	**Matsushiro**	**3.31**	**20**	*e*P	**Pn**	**00 53 46.0**	**+0.7**
MAT				*e*S	**Sn**	**00 54 24.0**	**-0.3**
SONM	**Songino Array**	**27.00**	**311**	P	**P**	**00 58 35.4**	**-0.1**
	0.4nm,0.7s,mb3.1,baz=111,slow=11,SNR=4.3						
MKAR	**Makanchi Array**	**42.97**	**305**	P	**P**	**01 00 53.7**	**+1.3**
	1.9nm,0.9s,mb3.8,baz=76,slow=10.0,SNR=8.4						
KURK	**Kurchatov**	**45.31**	**311**	*e*P	**P**	**01 01 11.2**	**0.0**
	1.4nm,0.6s,mb4.0						
BVAR	**Borovoye Array**	**50.29**	**314**	P	**P**	**01 01 50.9**	**+0.8**
	0.3nm,0.4s,mb3.7,baz=108,slow=9.4,SNR=4.1						
WRAB	**Tennant Creek**	**53.11**	**183**	*e*P	**P**	**01 02 10.6**	**-1.2**
	8.1nm,1.0s,mb4.6						
WRA	**Warramunga Arr**	**53.12**	**183**	P	**P**	**01 02 11.6**	**-0.3**
	3.3nm,0.8s,mb4.3,baz=0.7,slow=7.8,SNR=14						
ASAR	**Alice Springs**	**56.84**	**183**	P	**P**	**01 02 39.1**	**+0.3**
	1.2nm,0.8s,mb4.0,baz=12,slow=8.3,SNR=15						
ASPA	**Alice Springs**	**56.84**	**183**	*e*P	**P**	**01 02 39.1**	**+0.3**
FINES	**FINESS Array B**	**70.22**	**331**	P	**P**	**01 04 06.2**	**0.0**
	0.9nm,0.8s,mb3.8,baz=27,slow=8.5,SNR=4.4						
BRTR	**Keskin Array B**	**78.36**	**310**	P	**P**	**01 04 55.0**	**+1.4**
	0.9nm,0.9s,mb3.7,baz=112,slow=6.7,SNR=4.3						

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*DJA **12** 01:29:46.3±0.8,8.68S×125.74E,h300^{km},MD4.8/6,ML6.0/7,Error ellipse: s-maj=18.7km s-min=12.6km az=104.0*

*BJI **12** 01:29:51.3,7.52S×125.89E,h495^{km},mB4.9,mb4.8*

*MOS **12** 01:29:55.0±0.9,7.06S×125.40E,h489^{km},mb4.9/6,Error ellipse: s-maj=27.3km s-min=12.1km az=98.8*

*NEIC **12** 01:29:57.1±0.4,7.05S×125.48E,h496^{km}±4^{km},mb4.9/37,MD4.8(DJA),Error ellipse: s-maj=6.6km s-min=3.7km az=62.0*

*IDC **12** 01:29:57.3±1.0,7.07S×125.49E,h495^{km}±10^{km},mb4.2/13,mb1 4.4/15,mb1mx4.4/16,Error ellipse: s-maj=15.2km s-min=6.7km az=66.0*

ISC 12 01:29:56.1±0.5**,7.07S**±0.03×**125.42E**±0.05**,h497**^{km}±7^{km}**,h491**^{km}±7.5^{km}**:pP-P,n182,**σ**1**^{s}**02**/152**,mb4.8**/62**,40C-14D,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NINI	**Niniconang**	**6.22**	**295**	⇑*e*Pn	**P**	**01 31 37.5**	**+2.2**
	3.3nm,0.0s						
NINI				⇑*i*Sn	**S**	**01 32 54.8**	**+0.9**
NINI	**Niniconang**	**6.22**	**295**	⇑*i*Pn	**P**	**01 31 38.3**	**+3.0**
TANI	**Tanete Lipujan**	**7.01**	**301**	⇑*e*Pn	**P**	**01 31 44.7**	**+1.4**
	90nm,0.3s						
TANI				⇑*i*Sn	**S**	**01 33 15.0**	**+6.7**
KAKA	**Kakadu**	**8.86**	**130**	⇑*i*P	**P**	**01 32 02.4**	**-0.2**
	1µm,0.8s						
KEDI	**Kedomdong**	**9.33**	**261**	⇑*e*Pn	**P**	**01 32 06.1**	**-1.5**
	783nm,0.3s						
KEDI				⇑*e*Sn	**S**	**01 33 54.3**	**+2.1**
KEDI	**Kedomdong**	**9.33**	**261**	⇑*e*Pn	**P**	**01 32 06.3**	**-1.3**
KEDI				*e*Sn	**S**	**01 33 49.4**	**-2.8**
RATI	**Rata**	**9.94**	**260**	⇑*e*Pn	**P**	**01 32 12.0**	**-2.1**
	2µm,0.2s						
RATI				⇑*i*Sn	**S**	**01 33 57.8**	**-6.2**
RATI	**Rata**	**9.94**	**260**	⇑*e*Pn	**P**	**01 32 12.0**	**-2.1**
RATI				*i* Sn	**S**	**01 34 02.0**	**-2.0**
INGI	**Ingas**	**10.33**	**260**	⇓*e*Pn	**P**	**01 32 16.8**	**-1.4**
	3µm,0.2s						
INGI				⇓*e*Sn	**S**	**01 34 06.8**	**-4.8**
INGI	**Ingas**	**10.33**	**260**	⇓*e*Pn	**P**	**01 32 16.8**	**-1.4**
INGI				*e*Sn	**S**	**01 34 09.5**	**-2.1**
KELI	**Kelakatan**	**10.90**	**263**	⇑*e*Pn	**P**	**01 32 23.5**	**-0.7**
	352nm,0.3s						
KELI				⇑*e*Sn	**S**	**01 34 13.2**	**-9.4**
KELI	**Kelakatan**	**10.90**	**263**	⇑*e*Pn	**P**	**01 32 24.9**	**+0.7**
KELI				*e*Sn	**S**	**01 34 26.6**	**+4.0**
FITZ	**Fitzroy Crossi**	**10.97**	**179**	⇑*i*P	**P**	**01 32 24.8**	**-0.2**
	443nm,0.3s						
FITZ				*i* S	**S**	**01 34 23.9**	**-0.1**
FITZ	**Fitzroy Crossi**	**10.97**	**179**	P	**P**	**01 32 24.7**	**-0.3**
	160nm,0.3s,baz=10,slow=8.5,SNR=3669						
FITZ				S	**S**	**01 34 23.0**	**-1.0**
	17nm,0.3s,baz=183,slow=19,SNR=34						
MBWA	**Marble Bar**	**15.05**	**201**	⇑*e*P	**P**	**01 33 07.0**	**-0.3**
	30nm,0.5s						
WRAB	**Tennant Creek**	**15.45**	**147**	⇑*e*P	**P**	**01 33 10.7**	**-0.5**
	140nm,0.7s						
WRA	**Warramunga Arr**	**15.45**	**147**	P	**P**	**01 33 11.0**	**-0.2**
	49nm,0.3s,baz=336,slow=9.2,SNR=459						
WRA				S	**S**	**01 35 53.4**	**+4.6**
	baz=330,slow=16,SNR=12						
WRA	**Warramunga Arr**	**15.45**	**147**	P	**P**	**01 33 10.9**	**-0.3**
WRA				S	**S**	**01 35 53.4**	**+4.5**
WB2	**Warramunga Arr**	**15.46**	**147**	⇑*i*P	**P**	**01 33 10.9**	**-0.4**
WB2				*e*S	**S**	**01 35 54.0**	**+5.0**
WB2				*e*SCS	ScS	01 44 04.3	-2.1
KKM	**Kota Kinabalu**	**15.94**	**325**	⇑*e*P	**P**	**01 33 16.3**	**+0.2**
TBP	**Tagbilaran**	**16.72**	**355**	*e*P	**P**	**01 33 25.4**	**+1.5**
ASPA	**Alice Springs**	**18.41**	**155**	⇑*i*P	**P**	**01 33 41.5**	**+1.1**
ASPA				*e*S	**S**	**01 36 43.3**	**+2.1**
ASPA				*e*SCS	ScS	01 44 12.0	-3.0
ASAR	**Alice Springs**	**18.41**	**155**	P	**P**	**01 33 41.9**	**+1.5**
	55nm,0.3s,baz=328,slow=7.4,SNR=1881						
ASAR				S	**S**	**01 36 44.0**	**+2.8**
	1.3nm,0.3s,baz=342,slow=20,SNR=13						
ASAR				ScP		01 40 34.5	
	baz=349,slow=1.9,SNR=6.1						
WAU	**Wau**	**21.13**	**92**	*e*P	**P**	**01 34 06.2**	**+0.1**
LUBP	**Lubang**	**21.29**	**346**	*e*P	**P**	**01 34 08.5**	**+0.8**
FORT	**Forrest**	**23.72**	**174**	⇑*i*P	**P**	**01 34 29.2**	**-0.6**
	471nm,0.5s						
CTA	**Charters Tower**	**23.99**	**125**	⇑*i*P	**P**	**01 34 32.2**	**-0.1**
	17nm,1.0s,mb4.4						
CTA	**Charters Tower**	**23.99**	**125**	P	**P**	**01 34 32.2**	**-0.1**
	13nm,0.7s,mb4.5,baz=302,slow=9.5,SNR=19						
CTAO	**Charters Tower**	**23.99**	**125**	*e*P	**P**	**01 34 32.1**	**-0.2**
	31nm,1.1s,mb4.7						
KLBR	**Kellerberrin**	**25.43**	**195**	⇑*i*P	**P**	**01 34 44.1**	**-1.0**
	18nm,0.4s,mb4.8						
MUN	**Mundaring**	**26.23**	**198**	⇑*i*P	**P**	**01 34 51.4**	**-0.8**
	14nm,0.5s,mb4.6						
NWAO	**Narrogin (SRO)**	**26.83**	**195**	P	**P**	**01 34 57.1**	**-0.4**
	35nm,0.3s,mb5.2,baz=26,slow=7.6,SNR=102						
NWAO				ScP		01 40 56.2	
	13nm,0.7s,baz=2.7,slow=5.8,SNR=3.6						
NWAO	**Narrogin (SRO)**	**26.83**	**195**	P	**P**	**01 34 57.0**	**-0.5**
NWAO	**Narrogin (SRO)**	**26.83**	**195**	⇑*e*P	**P**	**01 34 56.6**	**-0.8**
	11nm,0.4s,mb4.6						
NWAO				*e*		01 36 01.7	
GUMO	**Guam**	**28.18**	**43**	*e*P	**P**	**01 35 07.2**	**-2.2**
	167nm,1.2s,mb5.3						
STKA	**Stephens Creek**	**28.93**	**151**	⇑*i*P	**P**	**01 35 15.6**	**-0.2**
	101nm,0.9s,mb5.2						
STKA				*i* PCP		01 36 36.4	
STKA				*e*S	**S**	**01 39 30.0**	**-1.4**
STKA	**Stephens Creek**	**28.93**	**151**	P	**P**	**01 35 15.8**	**0.0**
	104nm,0.7s,mb5.4,baz=321,slow=8.8,SNR=152						
STKA				S	**S**	**01 39 30.0**	**-1.4**
	13nm,1.0s,baz=287,slow=19,SNR=3.3						
STKA				ScP		01 41 01.9	
	23nm,1.2s,baz=294,slow=6.3,SNR=2.8						
QIZ	**Qiongzhong**	**30.14**	**330**	P	**P**	**01 35 26.0**	**-0.3**
ADE	**Adelaide**	**30.34**	**158**	⇑*i*P	**P**	**01 35 28.6**	**+0.7**
KKTK	**Khon Kaen**	**32.26**	**316**	⇑P	**P**	**01 35 44.5**	**0.0**
	432nm,0.8s,mb5.9						
TOO	**Toolangi**	**35.42**	**152**	⇑*i*P	**P**	**01 36 12.4**	**+1.7**
	15nm,0.4s,mb4.8						
TOO				*e*	pP	01 37 43.6	+3.7
NANT	**Nan**	**35.42**	**317**	⇑P	**P**	**01 36 12.0**	**+1.1**
	138nm,1.0s,mb5.3						
BDT	**Bhumibol Dam**	**35.57**	**313**	P	**P**	**01 36 13.0**	**+0.8**
	24nm,0.8s,mb4.7						
CNB	**Canberra Magne**	**35.69**	**145**	⇑*i*P	**P**	**01 36 14.1**	**+1.1**
	12nm,0.4s,mb4.7						
CMAR	**Chiang Mai Arr**	**36.41**	**315**	P	**P**	**01 36 20.3**	**+1.2**
	28nm,0.8s,mb4.7,baz=144,slow=6.7,SNR=94						
CMAR				PcP	PcP	01 38 31.9	+1.1
	4.2nm,0.5s,baz=176,slow=2.4,SNR=8.3						

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CMAR                              ScP             01 41 30.4
      4.4nm,1.0s,baz=154,slow=2.8,SNR=8.0
CHG   Chiang Mai        36.65 315 ⇑P      P       01 36 21.8 +0.7
      39nm,0.9s,mb4.8
CHRT  Chiangrai         36.79 317 ⇑P      P       01 36 23.0 +0.8
      421nm,1.0s,mb5.8
CBIJ  Chichi jima       37.64  25  P      P       01 36 28.8 -0.3
      150nm,0.3s,mb5.9,baz=160,slow=4.5,SNR=27
GYA   Guiyang           37.97 332⇑iP      P       01 36 32.5 +0.7
GYA                                PCP    PcP     01 38 36.4 +0.8
GYA                                XP     sP      01 38 52.6 -5.0
GYA                                S      S       01 41 51.0 +1.9
GYA                                SCS    ScS     01 45 47.8 +2.5
GYA                                AMB    AMB
      comp=Z,30nm,0.7s,mb4.8
WHN   Wuhan             38.87 345⇓iP      P       01 36 40.5 +1.4
WHN                                AMB    AMB
      comp=Z,26nm,0.8s,mb4.7
KMI   Kunming           38.88 326 eP      P       01 36 41.3 +2.1
KMI                                AMB    AMB
      comp=Z,22nm,0.8s,mb4.6
KMI   Kunming           38.88 326 eP      P       01 36 41.3 +2.1
      comp=Z,22nm,0.8s,mb4.6
ENH   Enshi             40.15 338 eP      P       01 36 48.9 -0.6
      comp=Z,28nm,0.7s,mb4.8
JNU   Nakatsue          40.30   7  P      P       01 36 50.7  0.0
      comp=Z,31nm,1.0s,mb4.7,baz=95,slow=4.8,SNR=7.4
CD2   Chengdu           43.09 332⇑iP      P       01 37 13.0  0.0
CD2                                AMB    AMB
      comp=Z,30nm,1.0s,mb4.7
MAJO  Matsushiro        45.01  15⇓iP      P       01 37 26.9 -1.0
      comp=Z,43nm,0.7s,mb5.0
MAT   Matsushiro        45.01  15  P      P       01 37 27.1 -0.9
MAT   Matsushiro        45.01  15 eP      P       01 37 27.0 -1.0
      comp=Z,37nm,0.8s,mb4.9
LZH   Lanzhou           47.47 336 eP      P       01 37 48.2 +1.3
LZH                                AP     pP      01 39 18.0 -3.6
LZH                                PP     PP      01 39 47.6 +4.1
LZH                               eS      S       01 44 03.2 -1.1
LZH                                SS     SS      01 47 42.5 +3.5
LZH                                AMB    AMB
      comp=Z,64nm,1.3s,mb4.9
LZH                                AMB    AMB
      comp=Z,193nm,4.0s
LZH   Lanzhou           47.47 336 eP      P       01 37 48.2 +1.3
      comp=Z,64nm,1.3s,mb4.9
LZH                                pP     pP      01 39 18.0 -3.6
LZH                                PP     PP      01 39 47.6 +4.1
LZH                                sP     sP      01 40 09.1 -6.7
LZH                               eS      S       01 44 03.2 -1.1
LZH                                sS             01 46 50.1
LZH                                SS     SS      01 47 42.5 +3.5
BJT   Baijiatuau        47.62 350 eP      P       01 37 45.6 -2.4
      comp=Z,15nm,0.6s,mb4.5
BJT                               e               01 39 08.4
BJI   Beijing           47.64 350 eP      P       01 37 46.5 -1.7
BJI                                AMB    AMB
      comp=Z,21nm,0.6s,mb4.6
BJI   Beijing           47.64 350 eP      P       01 37 46.5 -1.7
      comp=Z,21nm,0.6s,mb4.6
HHC   Hu-ho-hao-te      49.35 346 eP      P       01 38 01.0  0.0
HHC                                AMB    AMB
      comp=Z,16nm,0.6s,mb4.5
HHC                                AMB    AMB
      comp=Z,48nm,3.8s
CN2   Changchun         50.63   0 eP      P       01 38 09.2 -1.2
CN2                               eAP     pP      01 39 42.4 -4.3
CN2                               eS      S       01 44 48.8 +1.6
CN2                                AMB    AMB
      comp=Z,10.0nm,0.6s,mb4.3
MDJ   Mudanjiang        51.58   4  P      P       01 38 17.1 -0.3
MDJ                                AMB    AMB
      comp=Z,57nm,1.0s,mb4.9
MDJ                                AMB    AMB
      comp=Z,101nm,4.4s
MDJ   Mudanjiang        51.58   4 eP      P       01 38 17.2 -0.2
      comp=Z,46nm,0.9s,mb4.8
GUN   Gumba             51.65 314 eP      P       01 38 18.2 +0.1
      comp=Z,123nm,0.4s,mb5.5
PKI   Pulchoki          51.79 313 eP      P       01 38 18.8 -0.4
      comp=Z,84nm,0.4s,mb5.4
GTA   Gaotai            51.97 335 eP      P       01 38 20.5 +0.2
GTA                                PCP    PcP     01 39 25.2 +0.7
GTA                                AMB    AMB
      comp=Z,5.0nm,1.0s,mb3.8
KKN   Kakani            52.01 314 eP      P       01 38 20.5 -0.3
      comp=Z,49nm,0.4s,mb5.2
DMN   Daman             52.03 313 eP      P       01 38 19.8 -1.1
      comp=Z,41nm,0.5s,mb5.0
GKN   Gorkha            52.60 313 eP      P       01 38 24.6 -0.4
      comp=Z,186nm,0.3s,mb5.9
KOLN  Koldanda          53.22 312 eP      P       01 38 29.4  0.0
      comp=Z,67nm,0.5s,mb5.3
RPZ   Rata Peaks        54.03 140  P      P       01 38 34.8 -0.1
      comp=Z,19nm,0.6s,mb4.6,baz=250,slow=1.9,SNR=15
YSS   Yuzh-Sakhalins    55.94  14 eP      P       01 38 48.2 -0.1
YSS                                pmax   pmax
      comp=Z,20nm,1.2s,mb4.3
YSS   Yuzh-Sakhalins    55.94  14 eP      P       01 38 47.5 -0.8
      comp=Z,12nm,0.5s,mb4.5
URZ   Urewera           55.96 132  P      P       01 38 46.8 -1.8
      comp=Z,5.5nm,0.4s,mb4.2,baz=152,slow=13,SNR=8.0
HIA   Hailar            56.31 356 eP      P       01 38 50.6 -0.2
      comp=Z,7.9nm,0.8s,mb4.1
KLR   Kul'dur           56.33   5 eP      P       01 38 49.8 -1.1
SONM  Songino Array     57.19 345  P      P       01 38 57.0 +0.2
      comp=Z,11nm,0.8s,mb4.2,baz=161,slow=8.2,SNR=60
SONM                               PcP    PcP     01 39 44.2 -0.4
      comp=Z,2.8nm,0.7s,baz=157,slow=5.4,SNR=5.0
ZAK   Zakamensk         60.35 344⇓eP      P       01 39 17.9 -0.1
ZAK                               i               01 39 56.8
ZAK                               e       pP      01 41 00.6 +1.0
WMQ   Urumqi            61.06 330 eP      P       01 39 23.4 +0.6
WMQ                                AMB    AMB
      comp=Z,7.0nm,1.0s,mb4.0
MOY   Mondy             62.15 343 eP      P       01 39 30.3 +0.5
BOD   Bodaibo           65.33 353 eP      P       01 39 48.8 -1.1
MKAR  Makanchi Array    65.87 329  P      P       01 39 53.7 +0.2
      comp=Z,14nm,0.5s,mb4.9,baz=126,slow=7.3,SNR=204
MKAR                               S      S       01 48 00.8 -0.1
      comp=Z,1.9nm,0.9s,baz=122,slow=14,SNR=6.2
PET   Petropavlovsk     66.16  21⇑iP      P       01 39 55.7 +0.5
PET                               e               01 40 22.5
PET                                pmax   pmax
      comp=Z,31nm,0.6s,mb5.1
PET                                pmax   pmax
      comp=E,12nm,1.0s
PET                                pmax   pmax
      comp=N,17nm,0.7s
PET   Petropavlovsk     66.16  21 eP      P       01 39 55.3 +0.2
      comp=N,86nm,1.2s,mb5.2
UCH   Uchtor            67.48 321  P      P       01 40 04.5 +1.0
      SNR=10
AAK   Ala-Archa         67.72 322  P      P       01 40 05.8 +0.8
      SNR=7.8
AAK   Ala-Archa         67.72 322 eP      P       01 40 04.6 -0.3
      comp=N,10nm,0.7s,mb4.6
AML   Almayashu         67.94 321  P      P       01 40 08.8 +2.5
      SNR=19
USP   Ospenovka         68.06 322  P      P       01 40 07.4 +0.3
      SNR=13
EKS2  Erkin-Say         68.17 321  P      P       01 40 08.6 +0.8
      SNR=9.8
YAK   Yakutsk           68.97   2d iP     P       01 40 11.9 -0.2
YAK                               e               01 40 31.5
YAK                               eS      S       01 48 34.7 -2.1
YAK                               e               01 49 21.8
YAK                                pmax   pmax
      comp=Z,47nm,0.9s,mb5.0
YAK                                pmax   pmax
      comp=N,15nm,1.0s
YAK                                pmax   pmax
      comp=N,6.0nm,0.8s
YAK                                smax
      comp=N,9.0nm,1.3s
YAK                                smax
      comp=E,14nm,1.3s
YAK   Yakutsk           68.97   2 eP      P       01 40 11.3 -0.8
      comp=E,90nm,0.8s,mb5.3
MA2   Magadan           69.43  13d iP     P       01 40 15.3 +0.4
MA2                                pmax   pmax
      comp=Z,47nm,0.9s,mb5.0
MA2   Magadan           69.43  13 eP      P       01 40 15.4 +0.4
      comp=Z,58nm,0.9s,mb5.1
KURK  Kurchatov         70.27 331  P      P       01 40 20.0 -0.1
      comp=Z,88nm,0.9s,mb5.3,SNR=21
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KURK  Kurchatov         70.27 331⇓eP      P       01 40 20.0 -0.1
      comp=Z,14nm,0.9s,mb4.5
NVS   Novosibirsk       70.99 336 i P     P       01 40 22.4 -1.9
NVS                               i S     S       01 48 54.7 -5.3
NVS                               e               01 49 55.1
NVS                                pmax   pmax
      comp=Z,17nm,1.0s,mb4.5
NVS                                pmax   pmax
      comp=N,13nm,1.1s
NVS                                pmax   pmax
      comp=E,8.0nm,1.0s
NVS                                smax
      comp=N,59nm,2.2s
NVS                                smax
      comp=E,63nm,2.2s
SEY   Seymchan          72.78  13 eP      P       01 40 34.9 +0.5
SEY                               e               01 43 28.5
SEY                                pmax   pmax
      comp=E,30nm,0.6s
SEY                                pmax   pmax
      comp=Z,140nm,0.6s,mb5.7
SEY                                pmax   pmax
      comp=N,40nm,0.7s
MAW   Mawson            73.25 201  P      P       01 40 37.4 +0.3
      comp=N,0.7nm,0.5s,baz=29,slow=5.0,SNR=5.7
MAW   Mawson            73.25 201  P      P       01 40 37.3 +0.2
BVAR  Borovoye Array    75.75 329  P      P       01 40 51.5 +0.2
      comp=N,11nm,0.7s,mb4.5,baz=127,slow=7.4,SNR=59
BRVK  Borovoye          75.82 329 eP      P       01 40 51.7  0.0
      comp=N,26nm,1.1s,mb4.7
ZRNK  Zerenda           76.42 329⇓eP      P       01 40 54.9  0.0
      comp=N,19nm,0.8s,mb4.7
SYO   Syowa Base        81.95 201 ⇓P      P       01 41 24.5 +0.7
SYO   Syowa Base        81.95 201 ⇓PcP    PcP     01 41 27.8 -0.6
QSPA  South Pole Qui    82.91 180 eP      P       01 41 29.3 +0.9
      comp=N,5.5nm,0.6s,mb4.3
QSPA                              e       pP      01 43 14.5 -3.9
ARU   Arti              83.39 329⇑iP      P       01 41 31.5 +0.3
ARU                               e               01 44 51.3
ARU                                pmax   pmax
      comp=Z,12nm,0.9s,mb4.4
KMBO  Kilima Mbogo      88.05 269  P      P       01 41 56.2 +1.6
      comp=Z,0.7nm,0.5s,baz=121,slow=3.4,SNR=6.9
KMBO  Kilima Mbogo      88.05 269 eP      P       01 41 55.4 +0.7
      comp=Z,0.7nm,0.5s
ZEI   Tsey              88.57 313 eP      P       01 41 50.0 -6.4
ZEI                                MLR    MLR
      comp=Z,200nm,20.0s
KDAK  Kodiak Island     91.67  32 eP      P       01 42 10.3 -0.1
      comp=Z,6.1nm,0.6s,mb4.7
SOC   Sochi             91.72 314 eP      P       01 42 09.5 -1.4
SOC                               e               01 45 56.8
SOC                               ePPP    PPP     01 47 57.3 -7.0
SOC                               e*SS            01 54 53.6
SOC                                pmax   pmax
      comp=Z,28nm,0.8s,mb5.2
SOC                                pmax   pmax
      comp=N,15nm,0.7s
SOC                                pmax   pmax
      comp=E,20nm,0.9s
SPU   Mount Spurr       92.54  29 eP      P       01 42 13.5 -0.8
IMA   Indian Mountai    92.72  24 eP      P       01 42 15.4 +0.4
      comp=E,53nm,0.9s,mb5.6
SLKM  Skilak Lake       93.32  30 eP      P       01 42 17.0 -0.8
SNAA  Sanae             94.50 194⇑iP      P       01 42 24.2 +1.1
SNAA                              e       pP      01 44 16.8 +1.6
SNAA                              e               01 47 04.9
COLA  College           94.95  25 eP      P       01 42 25.3 +0.1
OBN   Obninsk           95.08 325 eP      P       01 42 25.6 -0.4
OBN                                pmax   pmax
      comp=Z,6.0nm,0.8s,mb4.7
ILAR  Eielson Array     95.35  25  P      P       01 42 25.4 -1.6
      comp=Z,3.4nm,0.7s,mb4.5,baz=240,slow=5.1,SNR=44
ILAR                               PP     PP      01 46 22.4 -4.3
      comp=Z,1.0nm,0.9s,baz=260,slow=6.4,SNR=5.7
ILAR  Eielson Array     95.35  25  P      P       01 42 25.4 -1.6
ILAR                               PP     PP      01 46 22.3 -4.4
BRTR  Keskin Array B    95.83 309  P      P       01 42 28.8 -1.0
      comp=Z,2.2nm,1.0s,mb4.2,baz=136,slow=5.8,SNR=8.4
VNA2  Neumayer--Watz    96.11 194⇓iP      P       01 42 21.4 -8.9
VNA2                              e       pP      01 44 13.9 -8.5
VNA2                              e               01 47 02.1
VNA3  Neumayer Olymp    96.42 193⇓iP      P       01 42 19.1  -13
VNA3                              e               01 47 00.8
VNA1  Neumayer--Stat    96.50 194⇑iP      P       01 42 22.4  -10
VNA1                              e               01 47 03.1
AKASG Malin Array Be    99.35 320  P      P       01 42 44.4 -1.1
      comp=Z,0.3nm,0.3s,mb4.0,baz=75,slow=4.3,SNR=6.0
AKASG Malin Array Be    99.35 320  P      P       01 42 44.3 -1.1
ARCES ARCESS Array B   100.05 339  P      P       01 42 46.6 -1.5
      comp=Z,2.9nm,0.9s,baz=89,slow=3.5,SNR=6.1
ARCES                              PKiKP          01 47 12.2
      comp=Z,1.8nm,0.7s,baz=135,slow=1.3,SNR=5.8
FINES FINESS Array B   100.64 331  P      P       01 42 52.8 +1.8
      comp=Z,0.8nm,0.8s,baz=214,slow=21,SNR=2.7
FINES                              PKiKP          01 47 13.4
      comp=Z,1.0nm,0.6s,baz=135,slow=2.7,SNR=7.6
FINES FINESS Array B   100.64 331 i P     P       01 43 00.5  +10
FINES                              pmax   pmax
      comp=Z,1.0nm,0.9s
NOA   NORSAR Array B   107.75 332  PKiKP          01 47 26.8
      comp=Z,0.8nm,0.8s,baz=260,slow=3.4,SNR=3.7
NOA   NORSAR Array B   107.75 332  PKPdf          01 47 26.8
GERES GERESS Array B   109.54 319  PKiKP          01 47 30.9
      comp=Z,1.5nm,0.9s,baz=90,slow=1.3,SNR=9.6
YKA   Yellowknife Ar   109.78  25  PKiKP          01 47 30.6
      comp=Z,1.3nm,0.5s,baz=289,slow=2.1,SNR=7.5
YKA   Yellowknife Ar   109.78  25  PKPdf          01 47 30.6
HINF  Hinteralfeld     114.22 320 ePKIKP  PKPdf   01 47 39.2 +0.8
      comp=Z,5.9nm,0.6s
LPG   La Plagne        114.95 317 ePKIKP  PKPdf   01 47 41.6 +1.7
LPL   La Plagne        114.96 317 ePKIKP  PKPdf   01 47 41.5 +1.6
      comp=Z,5.3nm,0.7s
CABF  La Chapelle      115.07 318 ePKIKP  PKPdf   01 47 41.5 +1.4
      comp=Z,11nm,0.7s
MBDF  Montbardon       115.15 316 ePKIKP  PKPdf   01 47 42.0 +1.7
      comp=Z,4.9nm,0.8s
ORIF  Oris-en-Rattie   115.70 317 ePKIKP  PKPdf   01 47 42.7 +1.4
      comp=Z,7.4nm,0.7s
LOR   Lormes           116.31 320 ePKIKP  PKPdf   01 47 44.1 +1.7
      comp=Z,4.1nm,0.7s
HLID  Hailey           116.52  45 ePKPdf  PKPdf   01 47 45.5 +2.6
SSF   Saint Saulge     116.61 320 ePKIKP  PKPdf   01 47 44.3 +1.3
      comp=Z,5.4nm,0.6s
AVF   Avril sur Loir   116.80 319 ePKIKP  PKPdf   01 47 44.3 +0.9
BGF   Bois d'Agland    117.21 319 ePKIKP  PKPdf   01 47 45.6 +1.4
      comp=Z,21nm,0.7s
TCF   Toulx Ste Croi   117.71 319 ePKIKP  PKPdf   01 47 46.5 +1.3
HVU   Hansel Valley    118.18  46 ePKPdf  PKPdf   01 47 48.5 +2.3
DUG   Dugway           118.61  48 ePKPdf  PKPdf   01 47 49.3 +2.2
MTLF  Montolieu        118.69 316 ePKIKP  PKPdf   01 47 48.3 +1.1
      comp=Z,11nm,0.9s
HWUT  Hardware Ranch   119.10  46 ePKPdf  PKPdf   01 47 49.7 +1.7
MFF   Saint Martin d   119.12 320 ePKIKP  PKPdf   01 47 49.0 +1.1
      comp=Z,5.2nm,0.6s
MSU   Marysvale        119.54  50 ePKPdf  PKPdf   01 47 52.0 +3.0
EPF   Esparros         120.09 316 ePKIKP  PKPdf   01 47 50.4 +0.5
      comp=Z,3.8nm,0.6s
PDAR  Pinedale Array   120.14  44  PKP    PKPdf   01 47 51.9 +1.8
      comp=Z,2.2nm,0.6s,baz=63,slow=0.3,SNR=26
PDAR                               PKKPbc         01 58 04.0
      comp=Z,0.9nm,0.9s,baz=90,slow=4.4,SNR=5.7
SRU   San Rafael       120.61  48 ePKPdf  PKPdf   01 47 52.8 +1.8
ETSF  Etsaut           120.76 316 ePKIKP  PKPdf   01 47 53.9 +2.7
      comp=Z,4.9nm,0.7s
LAO   LASA Array       120.84  39 ePKPdf  PKPdf   01 47 53.2 +2.0
WUAZ  Wupatki          120.94  53 ePKPdf  PKPdf   01 47 54.5 +2.8
RSSD  Black Hills      123.33  41 ePKPdf  PKPdf   01 47 57.2 +1.1
ESDC  Sonseca Array    124.32 314  PKP    PKPdf   01 48 00.1 +2.0
      comp=Z,0.5nm,0.7s,baz=13,slow=3.0,SNR=4.9
SDCO  Great Sand Dun   124.78  49 ePKPdf  PKPdf   01 48 01.5 +2.4
ULM   Lac du Bonnet    124.92  31  PKP    PKPdf   01 47 59.9 +0.9
      comp=Z,8.2nm,0.8s,baz=297,slow=1.9,SNR=10
ULM   Lac du Bonnet    124.92  31  PKP    PKPdf   01 47 59.9 +0.9
ANMO  Albuquerque      124.96  52 ePKPdf  PKPdf   01 48 01.8 +2.3
TXAR  Lajitas Array    128.84  58  PKP    PKPdf   01 48 09.7 +2.5
      comp=Z,2.6nm,0.7s,baz=249,slow=1.6,SNR=26
TXAR                               SKPbc          01 50 43.6
      comp=Z,7.6nm,0.9s,baz=270,slow=3.8,SNR=35
DBIC  Dimbokro         130.65 273  PKP    PKPdf   01 48 13.2 +2.2
      comp=Z,4.9nm,0.6s,baz=123,slow=1.1,SNR=12
DBIC                               SKPbc          01 50 50.0
      comp=Z,6.3nm,0.7s,baz=119,slow=4.0,SNR=12
DBIC  Dimbokro         130.65 273  PKP    PKPdf   01 48 13.2 +2.2
DBIC                               SKPbc          01 50 50.0
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LIC   Lamto            130.79 272 ePKIKP  PKPdf   01 48 13.3 +2.0
      comp=Z,15nm,0.6s
SCHQ  Schefferville    131.36   9  PKP    PKPdf   01 48 12.3 +1.0
      comp=Z,5.6nm,0.6s,baz=332,slow=3.9,SNR=14
SCHQ                               SKPbc          01 50 51.1
      comp=Z,7.8nm,0.8s,baz=8.1,slow=3.2,SNR=5.9
SCHQ  Schefferville    131.36   9  PKP    PKPdf   01 48 12.3 +1.0
SCHQ                               SKPbc          01 50 51.1
CCM   Cathedral Cave   134.71  42 ePKPdf  PKPdf   01 48 19.9 +2.0
CPUP  Villa Florida    146.70 175  PKPbc  PKPbc   01 48 44.2 +2.7
      comp=Z,18nm,0.8s,baz=189,slow=2.0,SNR=33
LVC   Limon Verde      147.34 155 ePKPbc  PKPdf   01 48 46.9 +6.3
JTS   JuntasAbangare   149.81  82 ePKPdf  PKPdf   01 48 46.4 +1.6
JTS                               ePKPbc  PKPdf   01 48 52.2 +7.4
LPAZ  La Paz           153.20 150  PKPbc  PKPdf   01 49 00.5  +11
      comp=Z,4.1nm,0.4s,baz=48,slow=1.7,SNR=5.6
LPAZ                               PKPab  PKPab   01 49 14.2 +0.1
      comp=Z,4.3nm,0.3s,baz=238,slow=1.1,SNR=6.3
LPAZ  La Paz           153.20 150  PKPbc  PKPdf   01 49 00.5  +11
LPAZ                               PKPab  PKPab   01 49 14.2 +0.1
ROSC  El Rosal         160.23  95  PKP    PKPdf   01 49 00.9 +2.4
      comp=Z,4.6nm,0.7s,baz=94,slow=19,SNR=3.8
ROSC                               PKPab  PKPab   01 49 45.8 +1.5
      comp=Z,6.6nm,0.7s,baz=177,slow=22,SNR=6.0
SAML  Samuel           161.93 152 ePKPdf  PKPdf   01 49 02.5 +2.4
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*IDC **12** 01:44:49.7±1.4, 30.62S×177.36W, mb4.7/4, mb1 4.8/5, mb1mx4.4/13, ML4.2/1, MS3.8/2, Ms1 3.7/2, ms1mx3.2/12, Error ellipse: s-maj=61.6km s-min=25.9km az=155.0*

*NEIC **12** 01:44:51.6±0.6, 30.14S×177.51W, $h10^{km}$, mb4.9/8, Error ellipse: s-maj=19.8km s-min=15.3km az=182.0*

ISC 12 01:45:19.8±4.6, **31.4S**±0.1×**178.9W**±0.2, **$h204^{km}$**$\pm36^{km}$, **n40, $\sigma1^{s}05$**/27, **mb4.3**/9, **1C-3D, Kermadec Islands region**

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Code  Station Name         Δ°  AZ°   Phase ID            Time     Res
                                   Op     ISC        h  m  s    ISC
URZ   Urewera            7.58 205  Sn     S       01 48 36.5 +3.3
      6.1nm,0.3s,baz=125,slow=19,SNR=7.2
KNZ   Kokohu             8.09 199  S      S       01 48 45.5 +0.4
BFZ   Birch Farm        10.05 202  S      S       01 49 30.3 -0.2
MRZ   Mangatainoka R    10.25 204  S      S       01 49 35.1 -0.2
THZ   Tophouse          12.25 210  S      S       01 50 22.2 +0.9
MQZ   McQueen's Vall    13.97 206 eP      Px      01 49 12.0
MQZ                               eS      S       01 50 58.7 -1.8
RPZ   Rata Peaks        14.63 210  Pn     P       01 48 35.6 -2.6
      0.8nm,0.3s,baz=245,slow=19,SNR=4.1
CTA   Charters Tower    33.22 281 eP      P       01 51 38.8 -0.7
      12nm,0.9s,mb4.4
CTA   Charters Tower    33.22 281  P      P       01 51 39.0 -0.6
      12nm,0.5s,mb4.7,baz=98,slow=10,SNR=22
CTAO  Charters Tower    33.22 281 eP      P       01 51 38.8 -0.7
      15nm,0.8s,mb4.6
STKA  Stephens Creek    33.52 259 eP      P       01 51 44.5 +2.6
      13nm,0.9s,mb4.5
STKA  Stephens Creek    33.52 259  P      P       01 51 44.6 +2.7
      20nm,0.9s,mb4.7,baz=99,slow=9.6,SNR=33
STKA                               LR     LR      02 03 06.4
      comp=Z,147nm,21.0s,baz=24,slow=31
ASAR  Alice Springs     42.30 268  P      P       01 52 55.6 +0.6
      1.8nm,0.5s,mb3.8,baz=106,slow=7.3,SNR=40
ASPA  Alice Springs     42.30 268 eP      P       01 52 55.5 +0.4
WB2   Warramunga Arr    43.37 274 eP      P       01 53 03.4 -0.3
WRAB  Tennant Creek     43.38 274 eP      P       01 53 03.3 -0.4
      11nm,0.7s,mb4.4
WRA   Warramunga Arr    43.38 274  P      P       01 53 03.4 -0.4
      5.2nm,0.6s,mb4.2,baz=112,slow=8.0,SNR=21
FORT  Forrest           45.05 256 eP      P       01 53 17.4 +0.4
      20nm,0.7s,mb4.6
FITZ  Fitzroy Crossi    51.60 271 eP      P       01 54 06.7 -0.6
      2.8nm,0.6s,mb3.9
CASY  Casey             53.89 208 eP      P       01 54 23.9 +0.4
      12nm,0.7s,mb4.5
QSPA  South Pole Qui    58.70 180 eP      P       01 54 58.1 +0.6
      16nm,0.8s,mb4.7
QSPA                              e               01 55 04.8
SNAA  Sanae             77.17 179⇓i       P       01 56 57.0 +5.3
VNA3  Neumayer Olymp    77.35 176⇓iP      P       01 56 52.7  0.0
VNA3                              e               01 57 02.0
VNA2  Neumayer--Watz    77.77 177 e       P       01 57 05.0  +10
VNA2  Neumayer--Watz    77.77 177⇓iP      P       01 56 56.4 +1.3
VNA2                              e               01 57 05.0
VNA1  Neumayer--Stat    78.01 177 e       P       01 56 54.5 -1.9
VNA1  Neumayer--Stat    78.01 177 e       P       01 57 06.2  +10
PDAR  Pinedale Array    97.39  44  LR     LR      02 31 18.6
      comp=Z,39nm,20.0s,baz=335,slow=29
MKAR  Makanchi Array   117.83 310  PKP    PKPdf   02 03 37.8 -3.7
      0.6nm,0.5s,baz=45,slow=2.0,SNR=5.5
BVAR  Borovoye Array   126.59 315  PKP    PKPdf   02 03 54.8 -3.4
      1.6nm,0.5s,baz=90,slow=1.5,SNR=12
KAF   Kangasniemi      145.24 339 epkp    PKPdf   02 04 25.8 -6.2
      baz=55,slow=3.4
FINES FINESS Array B   145.82 339  PKPbc  PKPbc   02 04 28.7 -5.4
      8.6nm,0.5s,baz=61,slow=4.0,SNR=116
NB2   NORSAR Subarra   149.63 350  PKP    PKPdf   02 04 39.1 -0.2
      1.2nm,0.7s,baz=14,slow=2.9
NB2   NORSAR Subarra   149.63 350 ⇑PKPab  PKPdf   02 04 39.1 -0.2
NOA   NORSAR Array B   149.63 350  PKPbc  PKPdf   02 04 39.0 -0.2
      2.5nm,0.9s,baz=15,slow=4.3,SNR=6.0
HFS   Hagfors          150.07 347  PKPbc  PKPdf   02 04 39.9  0.0
      2.3nm,0.7s,baz=45,slow=2.0,SNR=3.9
EIL   Elat             150.86 275  PKPbc  PKPdf   02 04 47.5 +5.3
      2.7nm,0.7s,baz=135,slow=6.2,SNR=4.6
AKASG Malin Array Be   151.62 321  PKPbc  PKPdf   02 04 45.7 +3.1
      4.4nm,0.5s,baz=46,slow=2.7,SNR=34
BRTR  Keskin Array B   152.38 297  PKPbc  PKPdf   02 04 49.0 +4.9
      0.7nm,0.6s,baz=158,slow=5.6,SNR=5.7
GERES GERESS Array B   160.15 335  PKPab  PKPab   02 05 29.5 -7.8
      0.5nm,0.8s,slow=1.3,SNR=3.5
```

MAN 12 02:01:11.1, 11.07N×122.41E, $h27^{km}$, mb4.0, ML2.8, MS2.5, 1D, Panay

```
Code  Station Name         Δ°  AZ°   Phase ID            Time     Res
                                   Op     ISC        h  m  s    ISC
GUIM  Jordan             0.48 159 eP      Pb      02 01 22.1 +1.1
RCP   Roxas              0.58  34⇓eP      Pb      02 01 23.4 +0.6
RCP                               eS      Sb      02 01 33.5 +2.8
OTRP  Odiongan           1.34 343 eP      Pn      02 01 34.3  0.0
OTRP                              eS      Sn      02 01 49.4 -2.0
CUYO  Cuyo Island        1.39 261 eP      Pn      02 01 34.4 -0.7
SJMP  San Jose           1.87 318 eP      Pn      02 01 41.6 -0.4
```

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*NEIC **12** 02:13:26.1±0.7, 29.74S×177.11W, $h10^{km}$, mb4.7/6, Error ellipse: s-maj=18.5km s-min=15.7km az=78.0*

*IDC **12** 02:13:38.5±8.4, 30.46S×177.39W, $h107^{km}\pm77^{km}$, mb4.2/3, mb1 4.2/5, mb1mx4.0/13, ML3.9/2, MS3.8/4, Ms1 3.7/4, ms1mx3.5/12, Error ellipse: s-maj=65.0km s-min=37.5km az=174.0*

ISC 12 02:13:47.4±3.1, **30.8S**±0.1×**178.2W**±0.2, **$h162^{km}$**$\pm24^{km}$, **n27, $\sigma1^{s}27$**/16, **mb4.4**/7, **1C-2D, Kermadec Islands**

```
Code  Station Name         Δ°  AZ°   Phase ID            Time     Res
                                   Op     ISC        h  m  s    ISC
URZ   Urewera            8.44 206  P      P       02 15 47.4 -0.1
      0.8nm,0.3s,baz=12,slow=19,SNR=3.2
URZ                                S      S       02 17 22.5 +1.1
      2.5nm,0.3s,baz=174,slow=20,SNR=10
RPZ   Rata Peaks        15.51 211  P      P       02 17 17.4 -1.2
      0.8nm,0.3s,baz=66,slow=19,SNR=4.4
RPZ                                S      S       02 20 04.6 -1.0
      0.6nm,0.3s,baz=331,slow=18,SNR=2.7
CTA   Charters Tower    33.73 280 eP      P       02 20 15.2 -0.2
      9.2nm,1.0s,mb4.5
CTAO  Charters Tower    33.73 280 eP      P       02 20 15.0 -0.4
      13nm,0.9s,mb4.7
STKA  Stephens Creek    34.27 257 eP      P       02 20 22.1 +2.2
      4.4nm,0.6s,mb4.4
STKA  Stephens Creek    34.27 257  P      P       02 20 22.1 +2.2
      5.1nm,0.5s,mb4.5,baz=106,slow=8.7,SNR=12
STKA                               LR     LR      02 31 58.8
      comp=Z,188nm,21.6s,baz=194,slow=32
ASAR  Alice Springs     42.96 267  P      P       02 21 31.8 -0.4
      2.1nm,0.7s,mb3.9,baz=99,slow=7.1,SNR=4.5
ASAR                               LR     LR      02 39 50.9
      comp=Z,79nm,19.1s,baz=290,slow=36
WRAB  Tennant Creek     43.97 273  P      P       02 21 40.4 +0.1
      5.8nm,0.3s,mb4.7
WRA   Warramunga Arr    43.98 273  P      P       02 21 40.0 -0.4
      7.9nm,0.6s,mb4.6,baz=109,slow=8.0,SNR=9.2
SBA   Scott Base        47.67 184 eP      P       02 22 11.5 +2.8
      3.2nm,0.8s,mb4.0
QSPA  South Pole Qui    59.36 180 eP      P       02 23 36.3 +2.0
```

	7.7nm,1.0s,mb4.5						
MAW	**Mawson**	**71.93**	**201**	LR	LR	02 53 15.2	
	comp=Z,67nm,21.4s,baz=62,slow=33						
SNAA	**Sanae**	**77.81**	**178**	⇓iP	**P**	**02 25 26.8**	**-0.8**
SNAA				e		02 25 40.3	
VNA3	**Neumayer Olymp**	**77.96**	**176**	⇑iP	**P**	**02 25 28.2**	**-0.3**
VNA3				e		02 25 40.2	
VNA2	**Neumayer--Watz**	**78.39**	**177**	⇓iP	**P**	**02 25 28.0**	**-2.8**
VNA2				e		02 25 40.7	
LPAZ	**La Paz**	**98.12**	**114**	LR	LR	03 00 29.9	
	comp=Z,33nm,19.8s,baz=282,slow=29						
ARCES	**ARCESS Array B**	**138.91**	**348**	PKP	PKPdf	02 32 49.6	-4.1
	4.5nm,0.9s,baz=90,slow=0.9,SNR=3.7						
KAF	**Kangasniemi**	**144.84**	**340**	epkp	PKPdf	02 32 59.9	-4.3
	baz=69,slow=2.7						
FINES	**FINESS Array B**	**145.43**	**340**	PKPbc	PKPbc	02 33 02.6	-3.3
	16nm,0.8s,baz=57,slow=3.7,SNR=84						
NB2	**NORSAR Subarra**	**149.08**	**351**	PKP		02 33 12.9	
	1.6nm,0.7s,baz=12,slow=2.8						
NOA	**NORSAR Array B**	**149.08**	**351**	PKPbc	PKPdf	02 33 13.2	+2.0
	2.3nm,0.8s,baz=12,slow=4.1,SNR=7.9						
MALT	**Malatya**	**149.09**	**294**	ePKPbc	PKPdf	02 33 16.6	+4.6
AKASG	**Malin Array Be**	**151.50**	**322**	PKPbc	PKPdf	02 33 20.0	+4.8
	0.8nm,0.4s,baz=47,slow=2.7,SNR=8.5						
AKASG				PKPab	PKPab	02 33 26.4	-6.5
	1.9nm,0.5s,baz=47,slow=2.9,SNR=9.9						
BRTR	**Keskin Array B**	**152.65**	**298**	PKPbc	PKPdf	02 33 24.0	+6.8
	1.2nm,0.6s,baz=126,slow=4.7,SNR=7.8						
CLL	**Collm**	**157.86**	**341**	ePKP2	PKPab	02 33 55.0	-4.9
KHC	**Kasperske Hory**	**159.61**	**337**	ePKP	PKPab	02 34 02.5	-5.0
GERES	**GERESS Array B**	**159.81**	**337**	PKPab	PKPab	02 34 03.1	-5.3
	0.6nm,0.5s,baz=45,slow=3.8,SNR=8.3						

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*IDC **12** 02:14:11.4±1.9, 9.38S×124.90E, mb3.7/2, mb1 4.1/4, mb1mx3.9/11, ML3.8/2, MS2.9/2, Ms1 2.9/2, ms1mx2.8/10, Error ellipse: s-maj=143.0km s-min=30.1km az=60.0*
*NEIC **12** 02:14:17.0±2.5, 9.89S×124.09E, h44^{km}±28^{km}, mb3.8/2, Error ellipse: s-maj=22.6km s-min=18.6km az=119.0*
ISC 12 02:14:19.5±1.7**, 10.14S**±0.07×**124.14E**±0.09**, h106**^{km}±19^{km}**, n16, σ1^{s}07**/24**, mb3.6**/4**, 1C, Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**8.04**	**170**	eP	**P**	**02 16 14.2**	**-0.9**
	13nm,0.3s						
FITZ				eS	**S**	**02 17 45.9**	**+0.9**
FITZ	**Fitzroy Crossi**	**8.04**	**170**	Sn	**S**	**02 17 45.3**	**+0.3**
	7.6nm,0.3s,baz=158,slow=16,SNR=12						
FITZ				LR	LR	02 20 36.0	
	comp=Z,48nm,19.6s,baz=220,slow=44						
KAKA	**Kakadu**	**8.49**	**108**	eP	**P**	**02 16 21.2**	**+0.1**
	5.8nm,0.2s						
KAKA				eS	**S**	**02 17 57.7**	**+1.9**
MBWA	**Marble Bar**	**11.74**	**201**	eP	**P**	**02 17 05.4**	**+0.6**
	2.2nm,0.3s						
WRA	**Warramunga Arr**	**13.85**	**136**	Pn	**P**	**02 17 30.5**	**-1.9**
	0.6nm,0.3s,baz=317,slow=13,SNR=10						
WRA				Sn	**S**	**02 19 57.1**	**-6.6**
	1.8nm,0.3s,baz=313,slow=24,SNR=13						
WRA	**Warramunga Arr**	**13.85**	**136**	Pn	**P**	**02 17 30.5**	**-1.9**
WRA				Sn	**S**	**02 19 57.1**	**-6.6**
WRAB	**Tennant Creek**	**13.85**	**136**	eP	**P**	**02 17 30.3**	**-2.0**
WB2	**Warramunga Arr**	**13.85**	**136**	eP	**P**	**02 17 32.8**	**+0.4**
WB2				eS	**S**	**02 19 58.9**	**-5.0**
ASPA	**Alice Springs**	**16.36**	**147**	eP	**P**	**02 18 05.4**	**+1.2**
ASPA				eS	**S**	**02 21 02.2**	**+0.5**
ASAR	**Alice Springs**	**16.36**	**146**	Pn	**P**	**02 18 05.3**	**+1.1**
	0.6nm,0.3s,baz=322,slow=12,SNR=40						
ASAR				Sn	**S**	**02 21 00.7**	**-1.0**
	0.4nm,0.3s,baz=318,slow=22,SNR=9.3						
ASAR				LR	LR	02 25 58.0	
	comp=Z,67nm,18.1s,baz=321,slow=42						
ASAR	**Alice Springs**	**16.36**	**146**	Pn	**P**	**02 18 05.3**	**+1.1**
ASAR				Sn	**S**	**02 21 00.7**	**-1.0**
ASAR				LR	LR	02 25 58.0	
FORT	**Forrest**	**20.85**	**170**	⇑iP	**P**	**02 19 00.0**	**+5.3**
	89nm,0.5s						
NWAO	**Narrogin (SRO)**	**23.55**	**195**	P	**P**	**02 19 26.4**	**+5.3**
	1.0nm,0.5s,mb3.4						
SONM	**Songino Array**	**59.84**	**346**	P	**P**	**02 24 15.8**	**-0.4**
	0.3nm,0.4s,mb3.7,baz=153,slow=6.4,SNR=3.8						
MKAR	**Makanchi Array**	**67.87**	**330**	P	**P**	**02 25 09.1**	**+0.6**
	0.6nm,0.8s,mb3.5,baz=117,slow=6.8,SNR=5.9						
KURK	**Kurchatov**	**72.33**	**332**	eP	**P**	**02 25 35.5**	**0.0**
	0.8nm,0.5s,mb3.8						

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*IDC **12** 02:17:52.8±3.3, 53.99N×159.09E, mb3.7/5, mb1 4.0/5, mb1mx3.6/21, Error ellipse: s-maj=116.0km s-min=26.1km az=7.0*
*MOS **12** 02:18:04.9±0.8, 53.62N×159.22E, h140^{km}, mb4.0/2, Error ellipse: s-maj=46.3km s-min=13.7km az=77.7*
*KRSC **12** 02:18:06.0±0.6, 53.65N×159.42E, h131^{km}±2^{km}, ML3.8*
ISC 12 02:18:06.4±0.4**, 53.65N**±0.03×**159.39E**±0.08**, h132**^{km}±3^{km}**, n47, σ0^{s}91**/76**, mb3.5**/5**, 1C, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KII	**Karymskiy**	**0.39**	**5**	P	**P**	**02 18 25.0**	**-0.3**
KII				S	**S**	**02 18 39.4**	**-0.3**
KII	**Karymskiy**	**0.39**	**5**	eP	**P**	**02 18 25.0**	**-0.3**
KII				eS	**S**	**02 18 39.6**	**-0.1**
NLC	**Nalytchevo**	**0.48**	**183**	P	**P**	**02 18 25.7**	**-0.1**
NLC				S	**S**	**02 18 40.1**	**-0.4**
NLC	**Nalytchevo**	**0.48**	**183**	i P	**P**	**02 18 25.7**	**-0.1**
NLC				i S	**S**	**02 18 40.2**	**-0.3**
SDLR	**Sedlovina**	**0.48**	**219**	i P	**P**	**02 18 25.9**	**+0.1**
SDLR				i S	**S**	**02 18 40.5**	**0.0**
SMAR	**Somma**	**0.52**	**223**	eP	**P**	**02 18 26.2**	**+0.2**
SMAR				eS	**S**	**02 18 41.3**	**+0.4**
AVH	**Avacha**	**0.55**	**226**	i P	**P**	**02 18 26.7**	**+0.5**
AVH				eS	**S**	**02 18 41.4**	**+0.2**
UGLR	**Uglovaya**	**0.56**	**218**	i P	**P**	**02 18 26.5**	**+0.3**
UGLR				eS	**S**	**02 18 41.2**	**-0.1**
KOK	**Koryaka**	**0.58**	**232**	i P	**P**	**02 18 26.8**	**+0.5**
KOK				eS	**S**	**02 18 41.6**	**+0.1**
SPN	**Mys Shipunski**	**0.67**	**145**	P	**P**	**02 18 26.8**	**-0.2**
SPN				S	**S**	**02 18 42.2**	**-0.4**
SPN	**Mys Shipunski**	**0.67**	**145**	i P	**P**	**02 18 26.9**	**-0.1**
SPN				i S	**S**	**02 18 41.9**	**-0.7**
PET	**Petropavlovsk**	**0.77**	**215**	i P	**P**	**02 18 27.8**	**+0.1**
PET				eS	**S**	**02 18 43.2**	**-0.7**
PET	**Petropavlovsk**	**0.77**	**215**	⇑iPN	**P**	**02 18 27.7**	**0.0**
PET				eS	**S**	**02 18 42.5**	**-1.4**
PET				pmax	pmax		
	comp=Z,138nm,0.4s						
PET				smax			
	comp=E,390nm,0.5s						
PET				smax			
	comp=N,657nm,0.7s						
GNL	**Ganaly**	**0.86**	**274**	i P	**P**	**02 18 27.9**	**-0.5**
GNL				eS	**S**	**02 18 44.0**	**-1.3**
RUS	**Russkaya**	**1.33**	**204**	P	**P**	**02 18 33.0**	**-0.2**
RUS				S	**S**	**02 18 53.2**	**-0.5**
RUS	**Russkaya**	**1.33**	**204**	eP	**P**	**02 18 32.9**	**-0.3**
RUS				eS	**S**	**02 18 53.1**	**-0.6**
GRL	**Gorelyy**	**1.36**	**216**	eP	**P**	**02 18 34.3**	**+0.8**
GRL				eS	**S**	**02 18 55.4**	**+1.2**
APC	**Apacha**	**1.52**	**242**	i P	**P**	**02 18 35.5**	**+0.2**
APC				i S	**S**	**02 18 57.1**	**-0.3**
APC				Smax			
	comp=N,140nm,1.0s						
MKZ	**Mys Kozlova**	**1.65**	**56**	P	**P**	**02 18 36.8**	**0.0**
MKZ				S	**S**	**02 18 58.4**	**-1.5**
MKZ	**Mys Kozlova**	**1.65**	**56**	eP	**P**	**02 18 36.5**	**-0.3**
MKZ				eS	**S**	**02 18 58.4**	**-1.5**
TUMR	**Tumrok**	**1.69**	**15**	i P	**P**	**02 18 38.0**	**+0.7**
TUMR				eS	**S**	**02 19 02.0**	**+1.1**
MIPR	**Malaya Ipel'ka**	**2.10**	**230**	eP	**P**	**02 18 42.8**	**+0.6**
KMNR	**Kamenistaya**	**2.17**	**13**	eP	**P**	**02 18 43.1**	**+0.1**
ESO	**Esso**	**2.31**	**350**	i P	**P**	**02 18 44.7**	**-0.3**
ESO				eS	**S**	**02 19 12.4**	**-1.9**
KPT	**Kopyto**	**2.37**	**11**	eP	**P**	**02 18 46.0**	**+0.3**
KOZ	**Kozyrevsk**	**2.43**	**6**	P	**P**	**02 18 46.2**	**-0.3**
KOZ	**Kozyrevsk**	**2.43**	**6**	eP	**P**	**02 18 46.3**	**-0.2**
KOZR	**Kozyr**	**2.44**	**7**	PN	**P**	**02 18 46.2**	**-0.4**
ZLN	**Zelenaya**	**2.51**	**18**	eP	**P**	**02 18 49.0**	**+1.5**
ZLN				eS	**S**	**02 19 20.6**	**+1.9**
LGNR	**Loginova**	**2.55**	**17**	eP	**P**	**02 18 49.0**	**+1.0**
LGNR				eS	**S**	**02 19 20.4**	**+0.7**
CIRR	**Tsirk**	**2.59**	**17**	eP	**P**	**02 18 49.6**	**+1.0**
SRDR	**Sredinnyy**	**2.68**	**4**	P	**P**	**02 18 49.2**	**-0.5**
PAU	**Pauzhetka**	**2.69**	**217**	eP	**P**	**02 18 50.6**	**+0.7**
PAU				eS	**S**	**02 19 23.1**	**+0.1**
KLY	**Klyuchi**	**2.77**	**15**	P	**P**	**02 18 52.0**	**+1.1**
SVLR	**Shiveluch**	**3.12**	**19**	P	**P**	**02 18 56.6**	**+1.1**
KBG	**Krutoberegovo**	**3.24**	**35**	P	**P**	**02 18 57.5**	**+0.5**
KBG				eS	**S**	**02 19 34.3**	**-1.3**
KBG				Smax			
	comp=N,140nm,0.5s						
KBTR	**Krutoberegovo**	**3.24**	**36**	P	**P**	**02 18 57.0**	**-0.1**
KBTR				S	**S**	**02 19 35.5**	**-0.2**
KBTR	**Krutoberegovo**	**3.24**	**36**	eP	**P**	**02 18 57.0**	**-0.1**
KBTR				eS	**S**	**02 19 33.3**	**-2.4**
ALID	**Alaid**	**3.65**	**222**	P	**P**	**02 19 02.7**	**+0.2**
BKI	**Bering**	**4.15**	**65**	eP	**P**	**02 19 06.7**	**-2.5**
BKI				eS	**S**	**02 19 52.7**	**-4.6**
BKI				Smax			
	comp=N,80nm,0.2s						
MKAR	**Makanchi Array**	**47.54**	**295**	P	**P**	**02 26 27.0**	**-2.6**
	comp=N,0.8nm,0.4s,mb3.7,baz=60,slow=6.2,SNR=11						
MKAR	**Makanchi Array**	**47.54**	**295**	P	**P**	**02 26 27.0**	**-2.6**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BVAR	**Borovoye Array**	**49.71**	**308**	P	**P**	**02 26 43.9**	**-2.4**
	comp=Z,0.5nm,0.3s,mb3.5,baz=45,slow=10,SNR=3.9						
PDAR	**Pinedale Array**	**57.62**	**61**	P	**P**	**02 27 45.3**	**+0.9**
	comp=Z,0.1nm,0.4s,mb3.0,slow=3.0,SNR=3.7						
FINES	**FINESS Array B**	**59.44**	**336**	P	**P**	**02 27 53.6**	**-3.2**
	comp=Z,2.9nm,1.0s,mb4.1,baz=31,slow=8.1,SNR=7.3						
FINES	**FINESS Array B**	**59.44**	**336**	P	**P**	**02 27 53.6**	**-3.2**
FINES				pmax	pmax		
	comp=Z,3.0nm,1.0s						
TXAR	**Lajitas Array**	**70.81**	**67**	P	**P**	**02 29 10.8**	**+0.7**
	comp=Z,0.2nm,0.4s,mb3.2,baz=303,slow=4.3,SNR=5.8						

KRSC 12 02:30:29.1±0.9**, 50.29N**×**157.21E, h58**^{km}±24^{km}**, ML3.8, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.80**	**300**	i P	P	02 30 45.2	+0.6
SKR				eS	S	02 30 56.5	+0.4
PAU	**Pauzhetka**	**1.21**	**348**	eP	P	02 30 51.2	+1.1
PAU				i S	S	02 31 06.7	+1.0
PAU				Smax			
	1µm,0.2s						
ALID	**Alaid**	**1.21**	**299**	i P	P	02 30 50.1	0.0
ALID				eS	S	02 31 05.2	-0.5
MIPR	**Malaya Ipel'ka**	**2.01**	**352**	i P	P	02 31 02.2	+0.9
RUS	**Russkaya**	**2.30**	**20**	i P	P	02 31 05.9	+0.5
RUS				eS	S	02 31 32.4	-0.1
GRL	**Gorelyy**	**2.33**	**13**	i P	P	02 31 07.5	+1.6
GRL				eS	S	02 31 35.3	+2.0
APC	**Apacha**	**2.64**	**359**	i P	P	02 31 10.6	+0.3
PET	**Petropavlovsk**	**2.88**	**18**	eP	P	02 31 14.6	+0.9
PET				eS	S	02 31 48.3	+1.0
UGLR	**Uglovaya**	**3.09**	**18**	eP	P	02 31 17.2	+0.5
AVH	**Avacha**	**3.13**	**17**	i P	P	02 31 19.0	+1.8
KOK	**Koryaka**	**3.13**	**16**	eP	P	02 31 19.4	+2.1
SMAR	**Somma**	**3.14**	**18**	eP	P	02 31 19.1	+1.8
SDLR	**Sedlovina**	**3.17**	**19**	eP	P	02 31 18.4	+0.6
NLC	**Nalytchevo**	**3.18**	**24**	eP	P	02 31 17.1	-0.8
NLC				eS	S	02 31 52.0	-2.8
SPN	**Mys Shipunski**	**3.31**	**31**	eP	P	02 31 20.4	+0.6
SPN				eS	S	02 31 57.7	-0.5
GNL	**Ganaly**	**3.44**	**7**	eP	P	02 31 22.2	+0.6
KII	**Karymskiy**	**4.00**	**19**	eP	P	02 31 28.5	-0.9
MKZ	**Mys Kozlova**	**5.09**	**31**	eP	P	02 31 43.4	-1.3
MKZ				eS	S	02 32 38.0	-4.8
ZLN	**Zelenaya**	**6.13**	**19**	eP	P	02 31 59.9	+0.8
ZLN				eS	S	02 33 08.0	-0.8
KBTR	**Krutoberegovo**	**6.81**	**27**	eP	P	02 32 07.2	-1.6

GUC 12 02:43:25.9±0.6**, 35.01S**×**70.46W, h3**^{km}**, MD3.8, 1C-2D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFDO	**San Fernando**	**0.61**	**311**	⇓iP	Pg	02 43 38.1	+0.1
SFDO				i S	Sg	02 43 47.3	+1.2
CICH	**Cipreses**	**0.69**	**2**	⇓iP	Pg	02 43 39.8	+0.1
CICH				i S	Sg	02 43 50.7	+1.8
CACH	**El Canelo**	**0.90**	**352**	i P	Pb	02 43 43.3	-0.5
CACH				i S	Sg	02 43 56.3	+0.5
CHCH	**Chadas Angostu**	**1.09**	**351**	⇑iP	Pb	02 43 46.4	-0.6
CHCH				i S	Sb	02 44 02.4	+0.9
LNV	**Longovilo**	**1.31**	**323**	eP	Pb	02 43 50.1	-0.8
LNV				i S	Sb	02 44 08.4	+0.3
TACH	**Talagante**	**1.41**	**343**	eP	Pb	02 43 51.7	-0.9
TACH				i S	Sb	02 44 11.5	+0.6
LCCH	**Las Cruces**	**1.79**	**329**	eP	Pn	02 43 57.8	-0.1
LCCH				i S	Sn	02 44 21.8	+0.4

IDC 12 02:44:41.2±13.0**, 49.03N**×**28.54W, mb3.6**/3**, mb1 3.8**/3**, mb1mx3.4**/21**, MS3.1**/3**, Ms1 3.1**/3**, ms1mx2.7**/21**, Error ellipse: s-maj=585.0km s-min=32.3km az=162.0, Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**19.83**	**109**	LR	LR	02 55 39.2	
	comp=Z,33nm,21.7s,baz=240,slow=33						
NOA	**NORSAR Array B**	**25.32**	**47**	LR	LR	02 58 26.8	
	comp=Z,30nm,18.1s,baz=270,slow=33						
FINES	**FINESS Array B**	**32.50**	**47**	P	P	02 51 13.1	-2.2
	0.8nm,0.6s,baz=259,slow=7.1,SNR=6.0						
ULM	**Lac du Bonnet**	**42.27**	**298**	LR	LR	03 08 12.2	
	comp=Z,49nm,18.3s,baz=55,slow=33						
TXAR	**Lajitas Array**	**59.04**	**280**	P	P	02 54 43.0	-2.2
	0.2nm,0.5s,baz=57,slow=6.9,SNR=4.8						
MKAR	**Makanchi Array**	**67.28**	**44**	P	P	02 55 37.5	-1.9
	0.3nm,0.6s,baz=303,slow=5.1,SNR=3.1						

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*BJI **12** 03:15:11.1, 45.72N×100.14E, h54^{km}, ML4.2, Ms3.8, Msz3.5*
*MOS **12** 03:15:12.2±1.7, 44.96N×99.80E, h10^{km}, mb4.1/4, Error ellipse: s-maj=31.0km s-min=12.7km az=89.1*
*IDC **12** 03:15:12.3±0.7, 45.00N×100.05E, mb4.0/9, mb1 4.1/10, mb1mx4.0/20, ML4.6/1, MS3.3/1, Ms1 3.3/1, ms1mx2.7/22, Error ellipse: s-maj=19.5km s-min=16.2km az=49.0*
*NEIC **12** 03:15:18.6±1.7, 45.03N×100.09E, h47^{km}±18^{km}, mb3.9/3, Error ellipse: s-maj=16.2km s-min=9.6km az=212.0*
ISC 12 03:15:15.2±0.6**, 45.05N**±0.06×**99.89E**±0.08**, h33**^{km}**, n27, σ1^{s}02**/27**, mb3.9**/9**, MS3.2**/1**, Mongolia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SONM	**Songino Array**	**5.29**	**56**	Pn	**Pn**	**03 16 33.0**	**-1.0**
	4.9nm,0.3s,baz=236,slow=15,SNR=124						
SONM				Lg		03 17 57.0	
	93nm,0.3s,baz=236,slow=33,SNR=25						
ZAK	**Zakamensk**	**5.81**	**22**	eP	**P**	**03 16 41.8**	**+0.7**
ZAK				pmax	pmax		
	comp=Z,57nm,0.7s						
MOY	**Mondy**	**6.66**	**6**	eP	**P**	**03 16 52.3**	**-0.9**
MOY				eS	**S**	**03 18 07.3**	**-1.6**
MOY				pmax	pmax		
	comp=Z,27nm,0.8s						
MOY				smax			
	comp=E,397nm,1.0s						
WMQ	**Urumqi**	**8.81**	**266**	eP	**P**	**03 17 21.7**	**-1.5**
WMQ				S	**S**	**03 19 00.5**	**-1.9**
MKAR	**Makanchi Array**	**12.38**	**284**	Lg		03 21 47.5	
	comp=E,0.1nm,0.3s,baz=129,slow=28,SNR=3.1						
KURK	**Kurchatov**	**15.33**	**299**	eP	**P**	**03 18 55.2**	**+4.7**
	comp=E,4.7nm,0.8s						
BOD	**Bodaibo**	**15.48**	**29**	eP	**P**	**03 18 56.7**	**+4.4**
BVAR	**Borovoye Array**	**20.81**	**303**	P	**P**	**03 19 56.7**	**+0.9**
	comp=E,5.6nm,0.5s,baz=108,slow=10,SNR=18						
BRVK	**Borovoye**	**20.88**	**303**	eP	**P**	**03 19 57.1**	**+0.5**
	comp=E,7.2nm,0.6s						
ZRNK	**Zerenda**	**21.62**	**303**	eP	**P**	**03 20 04.5**	**+0.4**
	comp=E,4.0nm,0.7s,mb4.0						
CMAR	**Chiang Mai Arr**	**26.52**	**182**	P	**P**	**03 20 51.1**	**-0.5**
	comp=E,1.2nm,0.6s,mb3.6,baz=2.7,slow=8.7,SNR=6.6						
CMAR	**Chiang Mai Arr**	**26.52**	**182**	P	**P**	**03 20 51.1**	**-0.5**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAJ	**Asahikawa**	**30.18**	**76**	LR	LR	03 34 29.4	
	comp=Z,51nm,20.3s,MS3.2,baz=3.6,slow=38						
TGY	**Tagaytay City**	**35.64**	**143**	P	**P**	**03 22 11.5**	**-0.5**
	comp=Z,109nm,0.4s,baz=252,slow=9.1,SNR=3.8						
TGY	**Tagaytay City**	**35.64**	**143**	P	**P**	**03 22 11.5**	**-0.5**
TGY				pmax	pmax		
	comp=Z,109nm,0.4s						
ARCES	**ARCESS Array B**	**43.33**	**330**	P	**P**	**03 23 16.0**	**+0.8**
	comp=Z,13nm,1.1s,mb4.6,baz=66,slow=11,SNR=3.7						
ARCES				PcP	PcP	03 25 03.5	-0.6
	comp=Z,8.1nm,1.1s,baz=72,slow=3.8,SNR=4.8						
ARCES	**ARCESS Array B**	**43.33**	**330**	P	**P**	**03 23 16.0**	**+0.8**
ARCES						03 25 03.5	
ARCES				pmax	pmax		
	comp=Z,13nm,1.1s						
ARCES				pmax	pmax		
	comp=Z,8.0nm,1.1s						
FINES	**FINESS Array B**	**44.48**	**319**	P	**P**	**03 23 25.8**	**+1.4**
	comp=Z,0.8nm,0.5s,mb3.7,baz=72,slow=6.0,SNR=8.3						
FINES				PcP	PcP	03 25 07.9	-0.2
	comp=Z,0.6nm,0.6s,baz=124,slow=6.9,SNR=4.3						
FINES	**FINESS Array B**	**44.48**	**319**	P	**P**	**03 23 25.8**	**+1.3**
FINES						03 25 07.9	
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	**Malin Array Be**	**46.09**	**304**	P	**P**	**03 23 38.6**	**+1.1**
	comp=Z,0.8nm,0.5s,mb3.9,baz=56,slow=9.1,SNR=5.8						
AKASG	**Malin Array Be**	**46.09**	**304**	P	**P**	**03 23 38.6**	**+1.1**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BRTR	**Keskin Array B**	**48.00**	**288**	P	**P**	**03 23 54.3**	**+1.7**
	comp=Z,1.6nm,0.9s,mb4.0,baz=84,slow=4.9,SNR=5.5						
BRTR	**Keskin Array B**	**48.00**	**288**	P	**P**	**03 23 54.3**	**+1.7**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
NOA	**NORSAR Array B**	**51.38**	**321**	P	**P**	**03 24 18.6**	**+0.4**
	comp=Z,0.2nm,0.5s,mb3.3,baz=2.6,slow=13,SNR=2.6						
ILAR	**Eielson Array**	**58.84**	**27**	P	**P**	**03 25 12.3**	**0.0**
	comp=Z,1.3nm,0.6s,mb4.2,baz=299,slow=5.9,SNR=28						
ILAR	**Eielson Array**	**58.84**	**27**	P	**P**	**03 25 12.3**	**0.0**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR	**Alice Springs**	**75.09**	**148**	P	**P**	**03 26 55.3**	**-0.2**
	comp=Z,1.1nm,0.6s,mb4.0,baz=344,slow=6.2,SNR=19						

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*HLW **12** 03:19:22.2, 26.73N×35.02E, h8^{km}, Mb3.1*
*SNSN **12** 03:19:23.5, 26.79N×34.98E, h30^{km}, Ml2.8*
ISC 12 03:19:20.5±0.5**, 26.76N**±0.03×**35.03E**±0.05**, h8**^{km}**, n20, σ0^{s}84**/25**, 5C-5D, Red Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HSFG		**1.00**	**259**	⇑P	**Pb**	**03 19 41.0**	**+1.3**
HQSR		**1.15**	**210**	⇓P	**Pb**	**03 19 43.0**	**+0.7**
AYUS	**'Aynunah**	**1.44**	**8**	P	**Pn**	**03 19 46.5**	**-0.5**
AYUS				S	**Sb**	**03 20 03.6**	**-1.9**
BDAS	**Al Bad'**	**1.67**	**2**	P	**Pn**	**03 19 49.6**	**-0.6**
HKAT	**Jabal Katrina**	**1.99**	**333**	⇓P	**Pn**	**03 19 55.3**	**+0.5**
TBKS	**Tabuk**	**1.99**	**42**	P	**Pn**	**03 19 55.5**	**+0.7**
QEN		**2.03**	**255**	⇑P	**Pn**	**03 19 55.8**	**+0.4**
QEN				S	**Sn**	**03 20 20.4**	**-0.7**
JMQS	**Jabal Moqyreh**	**2.25**	**19**	P	**Pn**	**03 19 58.6**	**0.0**
HAQS	**Haql**	**2.29**	**358**	P	**Pn**	**03 19 59.0**	**-0.2**
HAGS	**Hagol**	**2.37**	**181**	⇑P	**Pn**	**03 20 00.7**	**+0.4**
HAGS				S	**Sn**	**03 20 27.4**	**-2.4**
JMOS	**Jabal al Moall**	**2.40**	**2**	P	**Pn**	**03 20 00.8**	**+0.1**
HRDS	**Abu Rudays**	**2.48**	**322**	P	**Pn**	**03 20 02.4**	**+0.5**
GRB	**Gharib**	**2.50**	**308**	⇓P	**Pn**	**03 20 02.5**	**+0.3**
GRB				S	**Sn**	**03 20 32.1**	**-1.0**
ALWS	**Ilw as Safayha**	**2.54**	**1**	P	**Pn**	**03 20 03.3**	**+0.5**
UMJS	**Umm Lajj**	**2.55**	**126**	P	**Pn**	**03 20 02.7**	**-0.2**
ASUT		**3.16**	**282**	⇑P	**Pn**	**03 20 11.2**	**-0.3**
HNKL	**Nakhl**	**3.29**	**344**	⇓P	**Pn**	**03 20 14.4**	**+0.9**
SUZ		**3.63**	**328**	⇓P	**Pn**	**03 20 18.5**	**+0.3**
HSHL	**Bi'r Shalatayn**	**3.65**	**175**	⇑P	**Pn**	**03 20 18.4**	**-0.2**
HSHL				S	**Sn**	**03 20 58.4**	**-3.9**
KBRS	**Khaybar**	**3.92**	**103**	P	**Pn**	**03 20 23.2**	**+0.8**

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*NIED **12** 03:26:00, 33.40N×136.80E, h5^{km}, Mw3.9 Best double couple: M$_0$7.47×10^{14} NP1:ϕ_s176°, δ60°, λ-113°. NP2: ϕ_s36°, δ37°, λ-56°.*
*IDC **12** 03:26:48.3±0.7, 33.46N×136.91E, mb4.0/11, mb1 4.1/12, mb1mx4.0/23, ML3.1/1, MS3.3/1, Ms1 3.3/1, ms1mx2.8/21, Error ellipse: s-maj=22.6km s-min=16.3km az=64.0*
*NEIC **12** 03:26:49.9±0.4, 33.46N×136.92E, h10^{km}, mb4.3/4, Error ellipse: s-maj=10.2km s-min=6.6km az=98.0*
*JMA **12** 03:26:50.0, 33.41N×136.84E, h39^{km}±2^{km}, M3.7*
ISC 12 03:26:49.5±0.8**, 33.42N**±0.04×**136.83E**±0.03**, h20**^{km}±6^{km}**, n31, σ0^{s}63**/39**, mb4.0**/14**, MS3.3**/1**, 3D, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	**Tokai 1**	**0.72**	**62**	P	**Pb**	**03 27 03.6**	**+0.3**
TK01				eS	**Sb**	**03 27 13.8**	**+1.2**
TK02	**Tokai 2**	**0.93**	**56**	P	**Pb**	**03 27 06.7**	**-0.2**
TK02				S	**Sb**	**03 27 19.2**	**+0.4**
JWZ	**Kozaga**	**0.94**	**277**	⇓P	**Pb**	**03 27 07.2**	**+0.2**
JWZ				eS	**Sb**	**03 27 19.0**	**+0.1**
JKN	**Kiinagashima**	**0.95**	**330**	⇓P	**Pb**	**03 27 07.2**	**+0.1**
JKN				S	**Sb**	**03 27 18.9**	**-0.4**
JIE	**Ise**	**0.97**	**354**	⇓P	**Pb**	**03 27 08.0**	**+0.5**
TK03	**Tokai 3**	**1.20**	**52**	S	**Sb**	**03 27 26.2**	**-0.3**
JAA	**Atsumi**	**1.23**	**12**	P	**Pn**	**03 27 11.5**	**-0.3**
JAA				S	**Sb**	**03 27 26.7**	**-0.8**
TK04	**Tokai 4**	**1.29**	**42**	eS	**Sb**	**03 27 29.1**	**-0.2**
JWY	**Kouya**	**1.30**	**308**	P	**Pn**	**03 27 12.8**	**0.0**
JWM	**Minabe**	**1.30**	**289**	P	**Pn**	**03 27 12.7**	**-0.1**
TSUJ	**Tsu 2**	**1.33**	**345**	P	**Pn**	**03 27 13.0**	**-0.2**
JHE	**Heguri**	**1.55**	**323**	P	**Pn**	**03 27 16.2**	**-0.2**
JHJ	**Hachijo jima 2**	**2.49**	**96**	Pn	**Pn**	**03 27 29.3**	**-0.6**
	9.5nm,0.3s,baz=55,slow=18,SNR=4.5						
JHJ				Sn	**Sn**	**03 27 59.7**	**-0.3**
	25nm,0.3s,baz=73,slow=19,SNR=4.6						
MAJO	**Matsushiro**	**3.31**	**20**	ePn	**Pn**	**03 27 40.6**	**-0.9**
MAJO				e		03 27 55.1	
MAT	**Matsushiro**	**3.31**	**20**	P	**Pn**	**03 27 41.4**	**-0.1**
MAT				S	**Sn**	**03 28 21.9**	**+1.2**
MAT	**Matsushiro**	**3.31**	**20**	eP	**Pn**	**03 27 41.0**	**-0.5**
MAT				eS	**Sn**	**03 28 22.0**	**+1.3**
HIA	**Hailar**	**20.30**	**326**	P	**P**	**03 31 26.0**	**-0.9**
	3.6nm,0.7s						
ENH	**Enshi**	**23.41**	**270**	eP	**P**	**03 32 00.4**	**+2.3**
	13nm,0.9s,mb4.4						
SONM	**Songino Array**	**27.01**	**311**	P	**P**	**03 32 31.8**	**-0.2**
	0.5nm,0.5s,mb3.3,baz=106,slow=9.0,SNR=5.3						
MKAR	**Makanchi Array**	**42.97**	**305**	P	**P**	**03 34 49.9**	**+1.1**
	1.9nm,0.8s,mb3.9,baz=90,slow=11,SNR=8.4						
MKAR				LR	LR	03 53 50.0	
	comp=Z,34nm,18.4s,MS3.3,baz=194,slow=38						
KURK	**Kurchatov**	**45.31**	**311**	eP	**P**	**03 35 07.5**	**-0.1**
	2.5nm,0.9s,mb4.0						
FITZ	**Fitzroy Crossi**	**52.34**	**193**	P	**P**	**03 36 02.4**	**0.0**
	3.0nm,0.7s,mb4.3,baz=1.3,slow=6.0,SNR=5.4						
WRAB	**Tennant Creek**	**53.11**	**183**	eP	**P**	**03 36 07.5**	**-0.7**
	8.0nm,0.9s,mb4.7						
WRA	**Warramunga Arr**	**53.12**	**183**	P	**P**	**03 36 07.7**	**-0.6**
	3.8nm,0.8s,mb4.4,baz=0.7,slow=7.7,SNR=17						
ILAR	**Eielson Array**	**54.53**	**31**	P	**P**	**03 36 17.9**	**-0.1**
	0.4nm,0.7s,mb3.6,baz=276,slow=4.7,SNR=5.6						
ASAR	**Alice Springs**	**56.84**	**183**	P	**P**	**03 36 35.2**	**-0.1**
	1.1nm,0.6s,mb4.1,baz=9.7,slow=14,SNR=20						
ARCES	**ARCESS Array B**	**66.03**	**339**	P	**P**	**03 37 36.3**	**-0.1**
	1.5nm,0.6s,mb4.2,baz=67,slow=9.2,SNR=4.6						
FINES	**FINESS Array B**	**70.22**	**331**	P	**P**	**03 38 02.4**	**-0.3**
	0.8nm,0.7s,mb3.8,baz=45,slow=2.7,SNR=7.8						
AKASG	**Malin Array Be**	**74.80**	**321**	P	**P**	**03 38 29.5**	**-0.4**
	1.1nm,0.6s,mb4.0,baz=51,slow=5.9,SNR=4.9						
BRTR	**Keskin Array B**	**78.36**	**310**	P	**P**	**03 38 50.9**	**+0.8**
	1.1nm,0.9s,mb3.8,baz=79,slow=6.3,SNR=4.4						
TXAR	**Lajitas Array**	**95.30**	**50**	P	**P**	**03 40 14.5**	**+0.9**
	0.3nm,0.9s,mb3.7,baz=304,slow=4.5,SNR=3.4						

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*PRU **12** 03:36:46.3, 51.73N×16.15E*
*WAR **12** 03:36:50.2, 51.51N×16.08E, ML2.7, Mining Induced*
NEIC 12 03:36:48.3±4.5**, 51.58N**×**16.18E, h5**^{km}**, ML2.9**(VIE)**, 1C, Error ellipse: s-maj=43.0km s-min=12.0km az=197.0,**

Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.74**	**174**	*e*PG	Pg	03 37 03.0	-0.2
KSP				*e*SG	Sg	03 37 12.0	-1.0
UPC	**Upice**	**1.08**	**186**	*e*PG	Pg	03 37 08.8	-1.1
UPC				*e*SG	Sg	03 37 24.6	+0.3
DPC	**Dobruska-Polom**	**1.23**	**176**	*e*PG	Pg	03 37 12.4	-0.6
DPC				*e*SG	Sg	03 37 30.8	+1.4
PVCC	**Panska Ves**	**1.46**	**225**	*e*PG	Pg	03 37 15.9	-1.6
PVCC				*e*SG	Sg	03 37 36.9	-0.1
BRG	**Berggiesshubel**	**1.57**	**244**	*e*Pg	Pg	03 37 17.6	-2.2
BRG				*e*Pg	Pg	03 37 21.6	+1.8
PRU	**Pruhonice**	**1.90**	**214**	*e*PG	Pg	03 37 23.3	-3.0
PRU				*e*SG	Sg	03 37 51.5	-0.2
MORC	**Moravsky Berou**	**2.00**	**154**	*e*Pn	Pn	03 37 26.7	+3.5
MORC				*e*Sn	Sn	03 37 50.7	+1.8
OKC	**Ostrava-Krasne**	**2.15**	**144**	*e*PG	Pg	03 37 28.8	-2.4
OKC				*e*SG	Sg	03 37 59.6	-0.2
OJC	**Ojcow**	**2.67**	**119**	*e*PG	Pg	03 37 45.0	+3.4
OJC				*e*SG	Sg	03 38 19.0	+1.9
OJC	**Ojcow**	**2.67**	**119**	*e*Pg	Pg	03 37 44.7	+3.1
OJC				*e*Sg	Sg	03 38 19.5	+2.4
NKC	**Novy Kostel**	**2.72**	**242**	*e*Pg	Pg	03 37 37.3	-5.3
NKC				*e*Sg	Sg	03 38 15.6	-3.3
KHC	**Kasperske Hory**	**2.96**	**215**	*e*PG	Pg	03 37 42.8	-4.7
KHC				*e*x	x	03 38 19.5	
KHC				*e*SG	Sg	03 38 24.3	-2.7
MOX	**Moxa**	**3.02**	**254**	*e*Pg	Pg	03 37 49.1	+0.4
MOX				*e*Sg	Sg	03 38 29.0	0.0
MOA	**Molln**	**3.93**	**199**	⇑*i*PN	Pn	03 37 53.5	+2.8
MOA				*i* SG	Sg	03 38 57.2	-2.1
	2.5nm,0.3s						

PRU 12 03:36:54.2, 51.58N×16.17E, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UPC	**Upice**	**1.08**	**185**	*e*PG	Pg	03 37 13.4	-2.3
UPC				*e*SG	Sg	03 37 30.5	+0.4
DPC	**Dobruska-Polom**	**1.23**	**175**	*e*PG	Pg	03 37 16.6	-2.3
DPC				*e*SG	Sg	03 37 35.4	+0.1
PVCC	**Panska Ves**	**1.46**	**224**	*e*PG	Pg	03 37 19.9	-3.4
PVCC				*e*SG	Sg	03 37 40.9	-1.9
PRU	**Pruhonice**	**1.90**	**214**	*e*PG	Pg	03 37 30.8	-1.3
PRU				*e*SG	Sg	03 37 55.0	-2.4
	17nm,0.4s						
CLL	**Collm**	**2.00**	**263**	*e*PN	Pn	03 37 30.0	+0.4
CLL				*e*PG	Pg	03 37 33.0	-1.1
CLL				*e*		03 37 38.0	
CLL				*i* SG	Sg	03 37 59.9	-0.9
OKC	**Ostrava-Krasne**	**2.15**	**143**	*e*PG	Pg	03 37 33.8	-3.3
OKC				*e*SG	Sg	03 38 03.4	-2.4
NKC	**Novy Kostel**	**2.71**	**242**	*e*Sg	Sg	03 38 20.7	-3.9
KHC	**Kasperske Hory**	**2.96**	**215**	*e*PG	Pg	03 37 46.8	-6.5
KHC				*e*SG	Sg	03 38 29.5	-3.3

LDG ***12*** *03:39:51.5±0.1, 44.35N×7.28E, h2^{km}, Md2.1/2, Ml2.0/7, Error ellipse: s-maj=2.2km s-min=0.9km az=60.0*
NEIC ***12*** *03:39:51.4, 44.34N×7.28E, h15^{km}, ML2.5(GEN), ML2.2(STR), ML2.0(LDG), After GEN.*
STR ***12*** *03:39:51.6±0.2, 44.35N×7.29E, h5^{km}±1^{km}, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 12 03:39:51.4±0.3, 44.35N±0.02×7.30E±0.03, h16^{km}±5^{km}, n32, σ0^{s}43/60, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STV2	**Anna di Valdie**	**0.11**	**171**	P	**Pb**	**03 39 54.7**	**-0.1**
STV2				S	**Sb**	**03 39 57.0**	**-0.2**
STV	**Sta Anna Valdi**	**0.11**	**172**	P	**Pb**	**03 39 54.7**	**-0.1**
STV				S	**Sb**	**03 39 56.9**	**-0.3**
ENR	**Entracque**	**0.15**	**146**	P	**Pb**	**03 39 55.4**	**0.0**
ENR				S	**Sb**	**03 39 57.9**	**-0.2**
PZZ	**Prazzo**	**0.21**	**317**	P	**Pb**	**03 39 56.1**	**-0.3**
PZZ				S	**Sb**	**03 39 59.4**	**-0.4**
AUTN	**L'Aution**	**0.37**	**166**	Pg	**Pb**	**03 39 59.0**	**0.0**
AUTN				Sg	**Sb**	**03 40 03.9**	**-0.3**
SURF	**Saint Ours**	**0.37**	**291**	Pg	**Pb**	**03 39 58.9**	**-0.2**
SURF				Sg	**Sb**	**03 40 04.1**	**-0.3**
SAOF	**Saorge**	**0.41**	**153**	Pg	**Pb**	**03 39 59.6**	**-0.1**
SAOF				Sg	**Sb**	**03 40 05.2**	**-0.2**
ROB	**Roburent**	**0.41**	**98**	P	**Pb**	**03 40 00.1**	**+0.3**
ROB				S	**Sb**	**03 40 05.9**	**+0.4**
MONE	**Monesi**	**0.42**	**130**	P	**Pb**	**03 39 59.8**	**-0.2**
MONE				S	**Sb**	**03 40 05.6**	**-0.2**
AURF	**Auriere**	**0.46**	**178**	Pg	**Pb**	**03 40 00.6**	**-0.1**
AURF				Sg	**Sb**	**03 40 07.2**	**+0.2**
MVIF	**Mont Vial**	**0.47**	**193**	Pg	**Pb**	**03 40 00.7**	**0.0**
MVIF				Sg	**Sb**	**03 40 07.0**	**-0.1**
BHB	**Bricherasio**	**0.49**	**357**	P	**Pb**	**03 40 00.5**	**-0.6**
BHB				S	**Sb**	**03 40 06.9**	**-0.9**
SBF	**Sospel**	**0.50**	**169**	*e*Pg	**Pb**	**03 40 01.3**	**+0.1**
SBF				*e*Sg	**Sb**	**03 40 07.4**	**-0.5**
	20nm,0.2s						
MBDF	**Montbardon**	**0.54**	**315**	*e*Pg	**Pb**	**03 40 01.7**	**-0.2**
MBDF				*e*Sg	**Sb**	**03 40 09.1**	**0.0**
	10nm,0.2s						
NEGI	**Negi**	**0.58**	**150**	P	**Pb**	**03 40 02.6**	**-0.1**
NEGI				S	**Sb**	**03 40 10.2**	**-0.2**
RORO		**0.60**	**113**	P	**Pb**	**03 40 03.0**	**0.0**
RORO				S	**Sb**	**03 40 10.9**	**0.0**
IMI	**Imperia**	**0.61**	**136**	P	**Pb**	**03 40 03.2**	**0.0**
IMI				S	**Sb**	**03 40 11.3**	**+0.1**
REVF	**Revere**	**0.61**	**176**	Pg	**Pb**	**03 40 04.0**	**+0.8**
REVF				Sg	**Sb**	**03 40 12.0**	**+0.7**
FIN	**Finale Ligure**	**0.67**	**102**	P	**Pb**	**03 40 04.3**	**+0.2**
FIN				S	**Sb**	**03 40 12.9**	**0.0**
RRL	**Cesana Torines**	**0.68**	**327**	P	**Pb**	**03 40 04.3**	**0.0**
RRL				S	**Sb**	**03 40 13.1**	**-0.1**
FENE	**Fenestrelle**	**0.70**	**346**	P	**Pb**	**03 40 04.5**	**-0.2**
FENE				S	**Sb**	**03 40 13.5**	**-0.3**
RSP	**Reno Superiore**	**0.80**	**358**	P	**Pb**	**03 40 06.3**	**-0.1**
RSP				S	**Sb**	**03 40 16.4**	**-0.4**
PCP	**Pian Castagno**	**0.91**	**77**	P	**Pb**	**03 40 08.6**	**+0.3**
PCP				S	**Sb**	**03 40 20.2**	**+0.2**
FRF	**La Foret Royal**	**0.92**	**211**	*e*Pg	**Pb**	**03 40 08.9**	**+0.4**
FRF				*e*Sg	**Sb**	**03 40 20.1**	**-0.1**
	8.0nm,0.2s						
LSD	**Ceresole Reale**	**1.11**	**355**	P	**Pb**	**03 40 12.1**	**+0.4**
LSD				S	**Sb**	**03 40 26.4**	**+0.6**
ORIF	**Oris-en-Rattie**	**1.16**	**300**	*e*Pg	**Pb**	**03 40 13.1**	**+0.5**
ORIF				*e*Sg	**Sb**	**03 40 27.6**	**+0.3**
	1.9nm,0.2s						
LMR	**La Mourre**	**1.17**	**210**	*e*Pg	**Pb**	**03 40 12.9**	**+0.2**
LMR				*e*Sg	**Sb**	**03 40 27.5**	**+0.1**
	15nm,0.3s						
LPG	**La Plagne**	**1.21**	**341**	*e*Sg	**Sb**	**03 40 29.6**	**+0.9**
	1.5nm,0.3s						
LPL	**La Plagne**	**1.23**	**341**	*e*Sg	**Sb**	**03 40 30.3**	**+1.0**
	1.5nm,0.3s						
SMRF	**Simiane la Rot**	**1.30**	**254**	*e*Sg	**Sb**	**03 40 32.5**	**+1.3**
	3.4nm,0.3s						
VIVF	**Saint-Julien-l**	**1.94**	**286**	*e*Pn	**Pn**	**03 40 24.0**	**-0.2**
VIVF				*e*Sn	**Sn**	**03 40 47.1**	**-1.4**
	0.6nm,0.2s						
PGF	**Pioggiola**	**2.19**	**145**	*e*Pn	**Pn**	**03 40 27.2**	**-0.5**

CASC 12 03:46:30.0±1.4, 14.10N×89.72W, h6^{km}±5^{km}, MD3.5, ML3.4, 5C-9D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RTR	**El Retiro**	**0.22**	**160**	⇓*i*P	Pg	03 46 35.1	+0.6
RTR				*e*S	Sg	03 46 38.4	+0.9
SNJE	**San Jose**	**0.26**	**154**	⇓*e*P	Pg	03 46 35.7	+0.4
SBLS	**San Blas**	**0.28**	**160**	⇓*e*P	Pg	03 46 35.8	+0.1
SBLS				*e*S	Sg	03 46 41.0	+1.6
CUSS	**Cusmapa**	**0.29**	**229**	*e*P	Pg	03 46 35.9	0.0
CUSS				*e*S	Sg	03 46 40.1	+0.3
MTO2	**Montecristo 2**	**0.46**	**50**	⇑*e*P	Pg	03 46 39.0	-0.2
MTO2				*e*S	Sg	03 46 45.8	+0.5
BOQS	**Boqueron**	**0.56**	**130**	⇑*e*P	Pg	03 46 41.2	-0.1
BOQS				*e*S	Sg	03 46 50.2	+1.3
LFU	**La Fuente**	**0.69**	**121**	⇓*e*P	Pg	03 46 43.3	-0.5
LFU				*e*S	Sg	03 46 53.0	+0.1
IXG	**Ixpaco**	**0.71**	**276**	⇑*e*P	Pg	03 46 43.0	-1.3
LBRS	**Las Brisas**	**0.75**	**119**	*e*P	Pg	03 46 44.5	-0.6
LBRS				*e*S	Sg	03 46 55.8	+0.7
NBG	**Las Nubes**	**0.77**	**309**	⇓*e*P	Pb	03 46 44.9	-0.6
NBG				*e*S	Sg	03 46 56.2	+0.4
NBG				AML	AML	03 46 57.8	
	comp=N,5μm,0.6s						
LFRS	**El Faro**	**0.80**	**126**	*e*P	Pb	03 46 44.9	-1.0
LFRS				*e*S	Sg	03 46 56.6	-0.1
LCBS	**La Ceiba**	**0.85**	**121**	⇑*e*P	Pb	03 46 45.8	-1.0
LCBS				*e*S	Sb	03 46 57.8	-0.4
MRL	**Marmol**	**0.96**	**2**	⇓*e*P	Pb	03 46 48.3	-0.3
MRL				*e*S	Sb	03 47 01.6	+0.2
MRL				AML	AML	03 47 06.4	
	comp=E,354nm,0.6s						
SNVI	**San Vicente**	**0.99**	**119**	⇓*e*P	Pb	03 46 48.6	-0.5
SNVI				*e*S	Sb	03 47 03.0	+0.9
TP2	**Tecpan 2**	**1.43**	**298**	⇑*e*P	Pn	03 46 56.5	-0.1
TP2				*e*S	Sb	03 47 16.4	+1.4
TP2				AML	AML	03 47 19.9	
	comp=E,174nm,0.6s						
CAHU	**Cacacuatique**	**1.50**	**102**	*e*P	Pn	03 46 57.4	-0.3
VSM	**San Miguel**	**1.56**	**115**	⇓*e*P	Pn	03 46 58.8	+0.4
JAT	**Jato**	**1.87**	**277**	⇓*e*P	Pn	03 47 03.8	+1.0
JAT				*e*S	Sn	03 47 31.6	+4.7
JAT				AML	AML	03 47 32.2	
	comp=E,636nm,0.7s						

MOS ***12*** *04:26:07.2±0.5, 45.55N×26.35E, h150^{km}, mb4.0/1, Error ellipse: s-maj=27.3km s-min=8.0km az=76.3*
BUC ***12*** *04:26:08.3±1.1, 45.49N×26.37E, h148^{km}±10^{km}, MD3.3/9, Error ellipse: s-maj=8.2km s-min=6.5km az=54.0*
SOF ***12*** *04:26:09.5, 45.44N×26.27E, h125^{km}, MD2.8*
NEIC ***12*** *04:26:09.1, 45.47N×26.37E, h139^{km}, MD3.9(BUC), After BUC.*

ISC 12 04:26:07.9±0.7, 45.51N±0.04×26.41E±0.06, h145^{km}±5^{km}, n36, σ0^{s}89/55, 17C-7D, Romania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MLR	**Muntele Rosu**	**0.33**	**266**	⇑*i*P	**P**	**04 26 28.6**	**+0.2**
MLR				S	**S**	**04 26 43.1**	**-1.0**
MLR	**Muntele Rosu**	**0.33**	**266**	⇑*i*P	**P**	**04 26 28.8**	**+0.3**
MLR				*i* S	**S**	**04 26 43.1**	**-1.0**
ISR	**Istrita**	**0.41**	**167**	⇑*i*P	**P**	**04 26 29.1**	**+0.4**
ISR				*i* S	**S**	**04 26 45.7**	**+1.0**
ISR	**Istrita**	**0.41**	**167**	⇑*i*P	**P**	**04 26 29.2**	**+0.4**
VRI	**Vrincioaia**	**0.41**	**32**	⇑*i*P	**P**	**04 26 29.1**	**+0.3**
VRI				S	**S**	**04 26 44.4**	**-0.4**
VRI	**Vrincioaia**	**0.41**	**32**	⇑*i*P	**P**	**04 26 29.2**	**+0.4**
VRI				*i* S	**S**	**04 26 42.7**	**-2.1**
BRD	**Bordesti**	**0.43**	**85**	⇑*i*P	**P**	**04 26 30.4**	**+1.5**
BRD				*e*S	**S**	**04 26 47.0**	**+2.1**
BRD	**Bordesti**	**0.43**	**85**	⇑*i*P	**P**	**04 26 30.5**	**+1.6**
SNX	**Sinaia**	**0.65**	**256**	⇑*i*P	**P**	**04 26 30.2**	**+0.2**
SNX				*i* S	**S**	**04 26 46.1**	**-0.8**
SNX	**Sinaia**	**0.65**	**256**	⇑*i*P	**P**	**04 26 30.2**	**+0.3**
SNX				*i* S	**S**	**04 26 46.3**	**-0.6**
MTUR	**Matau**	**0.99**	**254**	⇓*i*P	**P**	**04 26 32.4**	**+0.1**
MTUR				*i* S	**S**	**04 26 51.9**	**+0.8**
MTUR	**Matau**	**0.99**	**254**	⇓*i*P	**P**	**04 26 32.5**	**+0.2**
MTUR				*i* S	**S**	**04 26 51.8**	**+0.7**
BUC	**Bucharest**	**1.12**	**192**	⇑*i*P	**P**	**04 26 34.5**	**+0.9**
BUC				*i* S	**S**	**04 26 53.7**	**+0.4**
BUC1	**Bucharest**	**1.20**	**193**	⇑*i*P	**P**	**04 26 34.7**	**+0.4**
BUC1				S	**S**	**04 26 53.7**	**-0.9**
HARR	**Harsova**	**1.35**	**127**	⇑*i*P	**P**	**04 26 36.6**	**+0.7**
HARR				*i* S	**S**	**04 26 56.5**	**-0.9**
HARR	**Harsova**	**1.35**	**127**	⇑*i*P	**P**	**04 26 36.6**	**+0.8**
HARR				*i* S	**S**	**04 26 56.6**	**-0.8**
TIRR	**Tirgusor**	**1.77**	**126**	⇑*i*P	**P**	**04 26 41.1**	**+0.7**
TIRR				*i* S	**S**	**04 27 04.0**	**-1.3**
IAS	**Iasi**	**1.86**	**25**	⇑*i*P	**P**	**04 26 37.1**	**-4.3**
IAS				S	**S**	**04 27 05.7**	**-1.4**
CRAR	**CRAIOVA**	**2.21**	**238**	⇑*i*P	**P**	**04 26 44.9**	**-0.7**
CRAR				*i* S	**S**	**04 27 13.2**	**-1.3**
PSN	**Preselentsi**	**2.23**	**145**	*i* P	**P**	**04 26 47.0**	**+1.1**
KIS	**Kishinev**	**2.23**	**47**	*e*P	**P**	**04 26 45.5**	**-0.5**
KIS				*i* S	**S**	**04 27 13.5**	**-1.6**
KIS				pmax	pmax		
	comp=Z,230nm,0.5s						
KIS				smax			
	comp=N,2μm,0.5s						
KIS				smax			
	comp=E,2μm,0.4s						
KIS				smax			
	comp=N,2μm,0.5s						
KIS				smax			
	comp=E,2μm,0.5s						
BURAR	**Bucovina Array**	**2.26**	**339**	⇓*i*P	**P**	**04 26 47.5**	**+1.2**
BURAR				S	**S**	**04 27 16.4**	**+0.7**
SZH	**Strazhica**	**2.27**	**189**	*i* P	**P**	**04 26 46.2**	**-0.3**
SZH	**Strazhica**	**2.27**	**189**	⇓*i*P	**P**	**04 26 46.2**	**-0.3**
PRD	**Provadia**	**2.42**	**163**	*i* P	**P**	**04 26 49.0**	**+0.7**
PVL	**Pavlikeni**	**2.42**	**199**	*i* P	**P**	**04 26 49.5**	**+1.1**
JMB	**Yambol**	**3.05**	**178**	*i* P	**P**	**04 26 56.0**	**-0.4**
JMB	**Yambol**	**3.05**	**178**	⇓*i*P	**P**	**04 26 56.0**	**-0.4**
PGB	**Panagyurishte**	**3.38**	**209**	*i* P	**P**	**04 27 00.5**	**-0.2**
PLD	**Plovdiv**	**3.63**	**201**	*i* P	**P**	**04 27 03.5**	**-0.5**
VTS	**Vitosha**	**3.73**	**219**	⇓*i*P	**P**	**04 27 04.5**	**-0.7**
KDZ	**Kurdzhali**	**3.93**	**191**	*i* P	**P**	**04 27 07.5**	**-0.5**
RZN	**Rozhen**	**4.02**	**198**	*i* P	**P**	**04 27 08.7**	**-0.4**
RZN	**Rozhen**	**4.02**	**198**	⇓*i*P	**P**	**04 27 08.7**	**-0.4**
KKB	**Krupnik**	**4.37**	**215**	*i* P	**P**	**04 27 13.5**	**-0.3**
MMB	**Musomiste**	**4.38**	**207**	*i* P	**P**	**04 27 13.8**	**-0.1**

IDC 12 04:39:46.0±2.1, 6.73S×129.39E, mb4.0/1, mb1 3.8/3, mb1mx3.6/11, ML3.3/2, Error ellipse: s-maj=144.0km s-min=31.1km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.98**	**160**	Pn	P	04 43 05.3	-2.6
	0.3nm,0.3s,baz=343,slow=13,SNR=4.2						
WRA				Sn	S	04 45 26.6	-18
	0.7nm,0.3s,baz=332,slow=23,SNR=9.1						
ASAR	**Alice Springs**	**17.39**	**166**	P	P	04 43 50.5	-1.3
	0.1nm,0.3s,baz=337,slow=9.4,SNR=3.7						
ASAR				S	S	04 46 51.1	-13
	0.3nm,0.3s,baz=314,slow=16,SNR=4.5						
MKAR	**Makanchi Array**	**67.67**	**327**	P	P	04 50 45.1	-2.1
	0.7nm,0.4s,baz=117,slow=8.1,SNR=9.8						

IDC ***12*** *05:10:55.5±3.5, 12.47N×87.81W, mb3.3/1, mb1 4.0/2, mb1mx3.6/18, MS3.4/7, Ms1 3.4/7, ms1mx3.3/11, Error ellipse: s-maj=221.0km s-min=39.2km az=41.0*
NEIC ***12*** *05:10:56.6±1.1, 12.62N×87.60W, h10^{km}, mb4.2/9, Error ellipse: s-maj=35.3km s-min=10.4km az=46.0*
CASC ***12*** *05:10:56.1±2.4, 12.86N×87.20W, h5^{km}±4^{km}, MD4.4, ML4.0, mb4.2(NEIC)*

ISC 12 05:10:55.6±0.5, 12.81N±0.04×87.23W±0.03, h3^{km}±4^{km}, n66, σ1^{s}15/90, mb4.0/6, MS3.4/6, 17C-12D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CRIN	**San Cristobal**	**0.21**	**123**	⇓*e*P	**Pg**	**05 11 01.7**	**+2.0**
TELN	**Telica**	**0.44**	**118**	⇓*e*P	**Pg**	**05 11 05.0**	**+0.7**
TELN				*e*S	**Sg**	**05 11 12.1**	**+1.9**
LEON	**Leon**	**0.51**	**140**	⇓*i*P	**Pg**	**05 11 05.6**	**-0.2**
CNGN	**Cerro Negro**	**0.60**	**121**	⇓*e*P	**Pg**	**05 11 07.6**	**0.0**
MIRN	**Miramar**	**0.63**	**126**	⇑*e*P	**Pg**	**05 11 08.1**	**+0.1**
CNCH	**Conchagua**	**0.75**	**308**	*e*P	**Pg**	**05 11 10.0**	**-0.5**
CNCH				*e*S	**Sg**	**05 11 22.5**	**+2.0**
MOMJ	**Momotombo**	**0.78**	**121**	⇓*e*P	**Pg**	**05 11 10.7**	**-0.5**
MOMJ				*e*S	**Sg**	**05 11 22.1**	**+0.5**
QUIN	**Quiabu**	**0.85**	**69**	⇑*i*P	**Pg**	**05 11 11.9**	**-0.6**
QUIN				*e*S	**Sg**	**05 11 23.6**	**-0.2**
SOMN	**Somoto**	**0.85**	**45**	⇓*i*P	**Pg**	**05 11 14.2**	**+1.7**
COPN	**Copaltepe**	**0.89**	**135**	⇑*i*P	**Pg**	**05 11 12.4**	**-0.8**
APYN	**Apoyeque**	**1.03**	**124**	*e*P	**Pb**	**05 11 15.9**	**+0.1**
APYN				*e*S	**Sb**	**05 11 28.9**	**-0.7**
XAVN	**Gruta Xavier**	**1.10**	**127**	⇓*e*P	**Pb**	**05 11 16.2**	**-0.7**
XAVN				*e*S	**Sb**	**05 11 31.8**	**+0.3**
MGAN	**Managua**	**1.17**	**125**	⇓*e*P	**Pb**	**05 11 16.9**	**-1.1**
MGAN				*e*S	**Sb**	**05 11 31.3**	**-2.1**
	comp=N,2μm,0.5s						
MGAN				*e*S	**Sb**	**05 11 34.4**	**+1.0**
BLLM	**Bellamira**	**1.17**	**303**	⇓*e*P	**Pb**	**05 11 17.8**	**-0.2**
BLLM				*e*S	**Sb**	**05 11 33.6**	**+0.2**
PYTN	**Playitas**	**1.18**	**103**	⇑*e*P	**Pb**	**05 11 17.4**	**-0.8**
PYTN				*e*S	**Sb**	**05 11 34.3**	**+0.6**
VSM	**San Miguel**	**1.19**	**301**	⇑*e*P	**Pb**	**05 11 17.6**	**-0.8**
VSM				*e*S	**Sb**	**05 11 35.8**	**+1.7**
WILN	**Americas 2**	**1.21**	**122**	⇓*e*P	**Pb**	**05 11 17.8**	**-0.9**
WILN				*e*S	**Sb**	**05 11 35.3**	**+0.7**
CRUN	**El Crucero**	**1.23**	**132**	⇑*e*P	**Pb**	**05 11 18.1**	**-1.0**
TICN	**Ticuantepe**	**1.24**	**128**	⇓*e*P	**Pb**	**05 11 18.8**	**-0.6**
MASN	**Masaya**	**1.33**	**128**	⇑*e*P	**Pb**	**05 11 19.9**	**-1.1**
MASN				*e*S	**Sb**	**05 11 41.5**	**+3.2**
CAHU	**Cacacuatique**	**1.35**	**315**	*e*P	**Pb**	**05 11 20.1**	**-1.1**
CAHU				*e*S	**Sb**	**05 11 39.3**	**+0.5**
APON	**Apoyo**	**1.44**	**128**	⇓*e*P	**Pn**	**05 11 21.1**	**-1.6**
APON				*e*S	**Sb**	**05 11 42.4**	**+0.9**
SNVI	**San Vicente**	**1.76**	**297**	*e*P	**Pn**	**05 11 26.8**	**-0.4**
SNVI				⇑*e*P		05 11 26.9	
SNVI				*e*S	**Sn**	**05 11 50.9**	**+0.5**
LCBS	**La Ceiba**	**1.90**	**296**	⇑*e*P	**Pn**	**05 11 28.2**	**-1.0**
LFRS	**El Faro**	**1.96**	**294**	*e*P	**Pn**	**05 11 28.8**	**-1.3**
LFRS				*e*S	**Sn**	**05 11 55.2**	**-0.3**
LBRS	**Las Brisas**	**1.99**	**298**	⇑*e*P	**Pn**	**05 11 29.9**	**-0.6**
LBRS				*e*S	**Sn**	**05 11 58.6**	**+2.2**
SNET	**Serv Nac Est T**	**2.13**	**294**	*i*	**Sn**	**05 12 03.7**	**+3.7**
	comp=Z,3μm,0.9s						
BOQS	**Boqueron**	**2.20**	**295**	⇑*e*P	**Pn**	**05 11 34.1**	**+0.6**
BOQS				*e*S	**Sn**	**05 12 02.0**	**+0.4**
SNJE	**San Jose**	**2.54**	**295**	*e*P	**Pn**	**05 11 38.3**	**-0.1**
SNJE				*e*S	**Sn**	**05 12 13.6**	**+3.3**
SBLS	**San Blas**	**2.54**	**294**	⇑*e*P	**Pn**	**05 11 38.4**	**0.0**
SBLS				*e*S	**Sn**	**05 12 11.6**	**+1.2**
RTR	**El Retiro**	**2.59**	**295**	⇑*e*P	**Pn**	**05 11 38.5**	**-0.6**
RTR				*e*S	**Sn**	**05 12 13.9**	**+2.4**
MTO2	**Montecristo 2**	**2.61**	**307**	*e*P	**Pn**	**05 11 40.6**	**+1.3**
CUSS	**Cusmapa**	**2.86**	**293**	*e*P	**Pn**	**05 11 41.8**	**-1.2**
VCR	**Vista de Mar**	**3.10**	**149**	*e*P	**Pn**	**05 11 46.1**	**-0.2**
VCR				*e*S	**Sn**	**05 12 24.8**	**+0.4**
JTS	**JuntasAbangare**	**3.35**	**138**	⇑*e*Pn	**Pn**	**05 11 48.8**	**-1.2**
JTS				*e*Sn	**Sn**	**05 12 26.7**	**-4.2**
IXG	**Ixpaco**	**3.42**	**294**	*e*P	**Pn**	**05 11 50.9**	**+0.1**
IXG				*e*S	**Sn**	**05 12 31.5**	**-1.0**
FORC	**Fortuna**	**3.42**	**133**	*e*P	**Pn**	**05 11 50.1**	**-0.8**
NBG	**Las Nubes**	**3.51**	**301**	*e*P	**Pn**	**05 11 53.5**	**+1.3**
NBG				*e*S	**Sn**	**05 12 40.9**	**+6.1**
CGA2	**Cerro Gallo 2**	**3.88**	**135**	⇑*e*P	**Pn**	**05 11 58.2**	**+0.7**
CGA2				*e*S	**Sn**	**05 12 44.0**	**-0.2**
PRS1	**Puriscal**	**4.01**	**134**	*e*P	**Pn**	**05 12 00.6**	**+1.3**
TRTC	**Tortuguero**	**4.10**	**122**	*e*P	**Pn**	**05 11 59.6**	**-1.0**
SJS	**Escuela Geolog**	**4.22**	**132**	*e*P	**Pn**	**05 12 04.1**	**+1.7**
LAJ	**Bijagual**	**4.23**	**134**	*e*P	**Pn**	**05 12 00.6**	**-1.8**
ICR	**Volcan Irazu**	**4.36**	**130**	*e*P	**Pn**	**05 12 05.5**	**+1.2**
LCR2	**La Lucha 2**	**4.40**	**134**	⇑*e*P	**Pn**	**05 12 04.7**	**-0.1**
LCR2				*e*S	**Sn**	**05 12 58.3**	**+1.0**
URSC	**Urasca**	**4.50**	**131**	*e*P	**Pn**	**05 12 07.5**	**+1.3**
URSC				*e*S	**Sn**	**05 13 07.7**	**+7.9**
JAT	**Jato**	**4.54**	**290**	*e*P	**Pn**	**05 12 04.0**	**-2.9**
JAT				*e*S	**Sn**	**05 12 57.9**	**-3.0**
BUS	**Buena Vista**	**4.70**	**133**	⇑*e*P	**Pn**	**05 12 09.8**	**+0.7**
ROSC	**El Rosal**	**14.99**	**121**	Pn	**P**	**05 14 33.8**	**+3.4**
	baz=331,slow=19,SNR=3.1						
ROSC				LR	LR	05 20 21.8	
	comp=Z,75nm,18.7s,baz=115,slow=37						
OTAV	**Otavalo**	**15.23**	**144**	*e*P	**P**	**05 14 27.8**	**-5.7**
	comp=Z,2.1nm,0.5s						
SDV	**Santo Domingo**	**16.76**	**102**	P	**P**	**05 14 56.8**	**+3.7**
	comp=Z,16nm,1.7s						
NATX	**Nacogdoches**	**20.06**	**341**	*e*P	**P**	**05 15 32.5**	**-0.5**
	comp=Z,77nm,2.1s						
LRAL	**Lakeview Retre**	**20.13**	**1**	P	**P**	**05 15 35.4**	**+1.7**
	comp=Z,10.0nm,1.0s						
MIAR	**Mount Ida**	**22.39**	**346**	*e*P	**P**	**05 15 55.2**	**-1.5**
	comp=Z,5.4nm,0.9s,mb4.0						
LTX	**Lajitas**	**22.44**	**320**	P	**P**	**05 15 55.7**	**-1.5**
	comp=Z,13nm,1.4s,mb4.2						
TXAR	**Lajitas Array**	**22.44**	**320**	P	**P**	**05 15 55.2**	**-2.0**
	comp=Z,0.9nm,0.7s,mb3.3,baz=135,slow=10,SNR=10						
TXAR				LR	LR	05 27 32.2	
	comp=Z,47nm,18.7s,MS2.9,baz=180,slow=45						
TXAR	**Lajitas Array**	**22.44**	**320**	P	**P**	**05 15 55.2**	**-2.0**
TXAR				LR	LR	05 27 32.2	
WVT	**Waverly**	**23.22**	**359**	P	**P**	**05 16 04.4**	**-0.5**
	comp=Z,12nm,1.5s,mb4.1						
WMOK	**Wichita Mounta**	**24.21**	**336**	*e*P	**P**	**05 16 14.3**	**-0.2**
	comp=Z,10nm,1.3s,mb4.1						
CCM	**Cathedral Cave**	**25.39**	**353**	*e*P	**P**	**05 16 24.2**	**-1.6**
	comp=Z,6.9nm,1.1s,mb4.1						
LPAZ	**La Paz**	**34.53**	**146**	LR	LR	05 32 53.1	
	comp=Z,86nm,19.5s,MS3.5,baz=308,slow=38						
ULM	**Lac du Bonnet**	**38.00**	**351**	LR	LR	05 36 15.4	
	comp=Z,31nm,18.3s,MS3.1,baz=251,slow=40						
BDFB	**Brasilia**	**48.00**	**125**	LR	LR	05 40 17.7	
	comp=Z,91nm,20.7s,MS3.7,baz=298,slow=36						
CPUP	**Villa Florida**	**48.57**	**143**	LR	LR	05 40 45.3	
	comp=Z,57nm,21.2s,MS3.5,baz=247,slow=37						
YKA	**Yellowknife Ar**	**53.32**	**345**	LR	LR	05 48 49.8	
	comp=Z,46nm,18.2s,MS3.6,baz=130,slow=42						
ASAR	**Alice Springs**	**139.60**	**249**	PKP	PKPdf	05 30 24.3	-3.5
	comp=Z,0.4nm,0.7s,baz=107,slow=1.6,SNR=4.3						

NEIC ***12*** *05:25:14.3±0.9, 18.70N×145.63E, h203^{km}±9^{km}, mb3.9/6, Error ellipse: s-maj=21.5km s-min=9.4km az=94.0*
IDC ***12*** *05:25:16.9±7.1, 18.69N×145.65E, h229^{km}±68^{km}, mb3.6/11, mb1 3.8/11, mb1mx3.7/19, Error ellipse: s-maj=26.1km s-min=11.8km az=90.0*

ISC 12 05:25:13.4±1.2, 18.70N±0.08×145.6E±0.2, h208^{km}±12^{km}, n21, σ0^{s}69/22, mb3.8/16, 1C, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SARN	**Sarigan**	**2.00**	**174**	⇑*i*P	**P**	**05 25 53.1**	**+0.2**
GUMO	**Guam**	**5.13**	**188**	*e*Pn	**P**	**05 26 30.0**	**-0.3**
GUMO				S	**S**	**05 27 29.9**	**-0.1**
WRAB	**Tennant Creek**	**39.94**	**197**	*e*P	**P**	**05 32 29.6**	**+0.5**
	6.6nm,0.5s,mb4.3						
WB2	**Warramunga Arr**	**39.95**	**197**	*e*P	**P**	**05 32 29.6**	**+0.4**
WRA	**Warramunga Arr**	**39.95**	**197**	P	**P**	**05 32 29.6**	**+0.4**
	2.9nm,0.3s,mb4.1,baz=14,slow=8.2,SNR=22						
WRA				PcP	PcP	05 34 30.2	-0.6
	1.0nm,0.4s,baz=15,slow=3.2,SNR=8.0						
FITZ	**Fitzroy Crossi**	**41.49**	**209**	*e*P	**P**	**05 32 42.1**	**+0.3**
	2.8nm,0.7s,mb3.8						
FITZ	**Fitzroy Crossi**	**41.49**	**209**	P	**P**	**05 32 42.6**	**+0.8**
	2.0nm,0.3s,mb4.0,baz=15,slow=13,SNR=13						
SONM	**Songino Array**	**43.06**	**321**	P	**P**	**05 32 54.1**	**-0.1**
	1.9nm,0.7s,mb3.6,baz=140,slow=9.8,SNR=10						
ASAR	**Alice Springs**	**43.62**	**196**	P	**P**	**05 32 59.1**	**0.0**
	0.9nm,0.8s,mb3.1,baz=21,slow=6.9,SNR=13						
ASAR				PcP	PcP	05 34 42.5	-0.5
	0.5nm,0.5s,baz=29,slow=2.0,SNR=7.7						
STKA	**Stephens Creek**	**50.43**	**184**	P	**P**	**05 33 50.0**	**-1.8**
	4.5nm,1.2s,mb3.7,baz=354,slow=9.2,SNR=3.1						
MKAR	**Makanchi Array**	**58.37**	**314**	P	**P**	**05 34 49.6**	**+0.6**
	1.7nm,0.6s,mb3.9,baz=100,slow=7.4,SNR=16						
KURK	**Kurchatov**	**61.19**	**318**	*e*P	**P**	**05 35 07.7**	**-0.4**
	1.2nm,0.4s,mb3.9						
ILAR	**Eielson Array**	**63.70**	**26**	P	**P**	**05 35 23.6**	**-0.8**
	5.6nm,1.3s,mb4.0,baz=252,slow=6.1,SNR=16						
ILAR				PcP	PcP	05 35 57.1	-1.5
	0.2nm,0.8s,baz=296,slow=4.0,SNR=4.7						
BRVK	**Borovoye**	**66.46**	**320**	*e*P	**P**	**05 35 42.2**	**-0.1**
	3.4nm,0.7s,mb4.1						
INK	**Inuvik**	**69.42**	**23**	P	**P**	**05 36 00.6**	**+0.3**
	1.6nm,0.8s,mb3.7,baz=226,slow=4.7,SNR=5.0						
KEV	**Kevo**	**81.89**	**342**	*e*p	**P**	**05 37 11.7**	**+1.4**
	0.6nm,0.4s,mb3.6						
ARCES	**ARCESS Array B**	**82.45**	**342**	P	**P**	**05 37 13.0**	**-0.2**
	2.7nm,0.9s,mb3.9,baz=88,slow=8.9,SNR=7.7						
ARCES	**ARCESS Array B**	**82.45**	**342**	P	**P**	**05 37 13.0**	**-0.2**
KAF	**Kangasniemi**	**86.36**	**336**	*e*p	**P**	**05 37 32.0**	**-0.8**
	0.2nm,0.3s,mb3.3						
FINES	**FINESS Array B**	**86.83**	**335**	P	**P**	**05 37 34.1**	**-0.9**
	0.8nm,0.3s,mb3.9,baz=63,slow=4.9,SNR=24						
PDAR	**Pinedale Array**	**87.91**	**45**	P	**P**	**05 37 41.6**	**+1.0**
	0.2nm,0.3s,mb3.4,baz=195,slow=1.8,SNR=5.8						

MOS ***12*** *05:44:26.4±2.1, 49.93N×88.14E, h15^{km}, mb4.2/2, Error ellipse: s-maj=29.8km s-min=15.3km az=107.2*
IDC ***12*** *05:44:26.9±2.1, 50.20N×87.94E, mb3.7/3, mb1 3.9/4, mb1mx3.6/19, ML4.1/1, MS3.2/1, Ms1 3.4/1, ms1mx2.8/22, Error ellipse: s-maj=53.5km s-min=14.1km az=127.0*
NEIC ***12*** *05:44:27.8±0.8, 50.21N×88.01E, h10^{km}, mb4.3/1, Error ellipse: s-maj=17.4km s-min=10.9km az=164.0*

*NNC **12** 05:44:34.1±2.9, 50.97N×87.51E, h12^{km}±21^{km}, mpv3.8, Error ellipse: s-maj=43.4km s-min=23.3km az=176.0*

ISC 12 05:44:26.3±1.8**, 50.0N**±0.1×**87.9E**±0.1**, h24^{km}**±13^{km}**, n24, σ1^{s}15**/32**, mb3.7**/3**, MS3.1**/1**, 8C-3D, Kazakhstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AKAR	Aktash	0.39	333	ePG	Pb	05 44 34.6	+0.1
UKR	Ust'-Kan	2.21	297	ePN	Pn	05 45 07.8	+5.5
UKR				i S	Sn	05 45 36.3	+7.1
TASR	Tashtagol	2.79	360	ePN	Pn	05 45 15.3	+4.8
TASR				e		05 45 17.9	
TASR				eS	Sn	05 45 52.1	+8.4
MKAR	Makanchi Array	4.91	232	Pn	Pn	05 45 45.9	+5.3
	6.9nm,0.3s,baz=56,slow=13,SNR=209						
MKAR				Sn	Sn	05 46 44.1	+6.7
	12nm,0.3s,baz=56,slow=26,SNR=17						
MKAR				Lg		05 47 04.5	
	9.2nm,0.3s,baz=50,slow=28,SNR=7.9						
NVS	Novosibirsk	5.64	331	ePN	Pn	05 45 55.0	+4.0
NVS				i		05 46 08.2	
NVS				i S	Sn	05 47 22.4	+27
KURK	Kurchatov	5.98	281	Pn	Pn	05 45 57.0	+1.3
	7.3nm,0.6s,baz=100,slow=9.1,SNR=37						
KURK				⇑Sn	Sn	05 47 03.6	-0.7
	6.6nm,0.7s,baz=100,slow=16,SNR=5.5						
KURK				⇑Lg		05 47 32.8	
	28nm,0.7s,baz=217,slow=4.0,SNR=11						
KURK	Kurchatov	5.98	281	Pn	Pn	05 45 57.3	+1.6
	195nm,0.5s,SNR=12						
KURK	Kurchatov	5.98	281	⇑ePn	Pn	05 45 57.6	+1.9
	19nm,0.8s						
KURK				eSn	Sn	05 47 05.7	+1.4
VOSK	Vostochnaya	10.93	291	⇓Pn	P	05 47 02.2	-2.1
	4.8nm,1.6s						
VOSK				⇓Sn	S	05 48 59.6	-7.2
	2.0nm,0.7s						
BVA0	Borovoye Array	11.33	292	⇑Pn	P	05 47 08.8	-0.9
	0.3nm,0.6s,baz=106,slow=16,SNR=7.0						
BVA0				⇑Sn	S	05 49 09.7	-6.8
	0.6nm,0.7s,baz=95,slow=22,SNR=11						
BRVK	Borovoye	11.39	292	Pn	P	05 47 10.1	-0.6
AAK	Ala-Archa	11.81	237	Pn	P	05 47 17.3	+1.0
ZRNK	Zerenda	12.15	291	⇑Pn	P	05 47 20.4	-0.4
	2.6nm,1.0s						
ZRNK				⇑Sn	S	05 49 28.6	-7.9
	4.8nm,1.6s						
ZRNK	Zerenda	12.15	291	ePn	P	05 47 19.8	-1.0
ZRNK				eSn	S	05 49 30.9	-5.5
SONM	Songino Array	12.36	93	Lg		05 50 57.3	
	0.1nm,0.3s,baz=309,slow=30,SNR=5.2						
KK31	Karatay Array	13.78	247	⇓Pn	P	05 47 42.2	-0.2
	0.5nm,0.4s,baz=50,slow=12,SNR=7.1						
KK31				Sn	S	05 50 14.4	-1.2
	1.4nm,0.6s,baz=56,slow=22,SNR=7.6						
AB31	Akbulak array	18.09	278	⇑P	P	05 48 38.6	+1.0
	1.8nm,0.8s,baz=78,slow=11,SNR=17						
HIA	Hailar	20.57	80	P	P	05 49 05.0	-0.8
	5.2nm,0.4s						
CMAR	Chiang Mai Arr	32.67	160	LR	LR	06 05 54.3	
	comp=Z,35nm,18.2s,MS3.1,baz=79,slow=39						
FINES	FINESS Array B	35.29	313	P	P	05 51 21.5	+0.5
	1.3nm,0.8s,mb3.9,baz=74,slow=10,SNR=6.0						
FINES	FINESS Array B	35.29	313	P	P	05 51 21.5	+0.6
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BRTR	Keskin Array B	39.01	276	P	P	05 51 55.3	+2.8
	comp=Z,1.2nm,0.5s,mb3.9,baz=62,slow=4.4,SNR=6.6						
BRTR	Keskin Array B	39.01	276	P	P	05 51 55.3	+2.8
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ILAR	Eielson Array	57.97	24	P	P	05 54 18.6	0.0
	comp=Z,0.3nm,0.9s,mb3.3,baz=324,slow=4.8,SNR=4.5						

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*NAO **12** 06:06:00.2±5.0, 76.76N×18.24E, ML2.9*

*BER **12** 06:06:01.1±2.8, 76.67N×17.56E, ML2.9(NAO)*

ISC 12 06:06:00.9±3.6**, 76.7N**±0.2×**14.7E**±0.7**, n3, σ0^{s}65**/6**, Svalbard region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HSP	Hornsund	0.34	35	ePg	Pg	06 06 08.0	+0.4
HSP				eSg	Sg	06 06 12.3	+0.2
SPA0	Spitsbergen Ar	1.50	13	Pn	Pn	06 06 28.2	-0.8
	baz=164,slow=18						
SPA0				Sn	Sn	06 06 49.2	-0.4
	baz=162,slow=28						
KBS	Kingsbay	2.28	346	Pn	Pn	06 06 40.6	+0.4
KBS				Pg	Pg	06 06 46.7	+0.3
KBS				Lg		06 07 19.1	

DHMR 12 06:16:58.4±1.5**, 12.08N×44.16E, h12^{km}**±12^{km}**, MD3.6, ML3.2, 1C, Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TRBA	At Turbah	1.12	358	i P	Pb	06 17 19.7	+0.4
TRBA				i S	Sb	06 17 35.1	+1.5
TRBA				AML	AML	06 17 45.8	
	comp=E,836nm,0.6s						
UDYN	Al 'Udayn	1.88	355	i P	Pn	06 17 31.1	+0.4
UDYN				i S	Sn	06 17 57.8	+3.3
UDYN				AML	AML	06 18 11.5	
	comp=E,399nm,0.6s						
LBOS		2.08	31	⇑iP	Pn	06 17 34.1	+0.6
LBOS				i S	Sn	06 18 03.0	+3.5
BDHA	Al Bayda'	2.33	36	i P	Pn	06 17 39.6	+2.4
BDHA				i S	Sn	06 18 10.7	+4.7
BDHA				AML	AML	06 18 21.3	
	comp=E,576nm,0.5s						

BJI 12 06:27:41.1, 34.13N×102.51E, h22^{km}, ML3.5, 1D, Gansu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LZH	Lanzhou	2.24	29	ePG	Pn	06 28 18.9	+1.3
LZH				SG	Sn	06 28 50.2	+5.3
CD2	Chengdu	3.38	161	⇓iPG	Pn	06 28 42.2	+8.3
XAN	Xi'an	5.32	89	PG	Pn	06 29 15.9	+15
XAN				Smax			
	comp=N,42nm,1.1s						
XAN				Smax			
	comp=E,40nm,1.1s						
GTA	Gaotai	5.70	338	ePG	Pn	06 29 23.6	+17

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*NEIC **12** 06:36:43.3, 35.01S×70.53W, h3^{km}, MD3.8(GUC), After GUC.*

GUC 12 06:36:43.3±0.8**, 35.01S×70.53W, h3^{km}, MD3.8, 6C-2D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFDO	San Fernando	0.56	314	⇑iP	Pg	06 36 54.5	-0.1
SFDO				i S	Sg	06 37 03.4	+1.3
CICH	Cipreses	0.69	7	⇑iP	Pg	06 36 56.4	-0.8
CICH				i S	Sg	06 37 06.8	+0.4
CACH	El Canelo	0.89	356	⇑iP	Pb	06 37 00.0	-1.0
CACH				i S	Sg	06 37 13.7	+0.6
CHCH	Chadas Angostu	1.08	354	eP	Pb	06 37 03.6	-0.6
CHCH				i S	Sb	06 37 19.4	+0.8
LMEL	Las Melosas	1.19	13	eP	Pb	06 37 05.2	-1.0
LMEL				i S	Sb	06 37 22.3	+0.5
LNV	Longovilo	1.28	325	⇑iP	Pb	06 37 06.8	-0.9
LNV				eS	Sb	06 37 24.6	+0.2
PCH	Pirque	1.39	0	⇑iP	Pb	06 37 09.0	-0.5
TACH	Talagante	1.40	346	⇑iP	Pb	06 37 09.0	-0.7
ANTU	Antumapu	1.44	356	⇓iP	Pn	06 37 10.1	-0.3
LCCH	Las Cruces	1.76	330	⇓iP	Pn	06 37 14.5	-0.4
LCCH				eS	Sn	06 37 38.4	+0.3
PEL	Peldehue	1.87	356	eS	Sn	06 37 41.8	+0.9

MEX 12 06:54:16.1±0.8**, 17.95N×97.68W, h54^{km}**±12^{km}**, MD3.5, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OXX	Oaxaca	1.26	133	eP	P	06 54 35.0	-2.7
OXX				i S	S	06 54 52.5	-1.3
VHO	Vista Hermosa	1.26	134	i P	P	06 54 36.0	-1.8
VHO				i S	S	06 54 52.0	-1.8

DJA 12 06:54:23.1±1.0**, 8.50S×113.41E, h135^{km}**±14^{km}**, MD5.0**/4**, ML3.7**/3**, 4C-1D, Error ellipse: s-maj=89.0km s-min=23.7km az=15.0, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KELI	Kelakatan	1.11	75	⇑iPn	P	06 54 47.7	-0.1
	86nm,0.2s						
KELI				⇓iSn	S	06 55 04.6	-2.1
RATI	Rata	2.11	96	⇑iPn	P	06 54 58.9	-0.3
	73nm,0.2s						
RATI				⇑iSn	S	06 55 24.6	-2.1
KEDI	Kedomdong	2.68	90	⇑iPn	P	06 55 05.3	-1.2
	24nm,0.2s						
KEDI				eSn	S	06 55 37.6	-1.9

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*IDC **12** 07:14:27.2±1.6, 6.96S×129.22E, mb4.1/2, mb1 4.1/4, mb1mx3.8/11, ML3.7/2, Error ellipse: s-maj=111.0km s-min=24.8km az=65.0*

*NEIC **12** 07:14:33.1±3.8, 7.12S×128.99E, h43^{km}±38^{km}, mb3.8/2, Error ellipse: s-maj=32.5km s-min=22.7km az=223.0*

ISC 12 07:14:43.3±4.1**, 7.6S**±0.2×**129.0E**±0.3**, h176^{km}**±43^{km}**, n6, σ1^{s}09**/8**, mb3.8**/3**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	13.32	158	Pn	P	07 17 45.7	-0.9
	0.5nm,0.3s,baz=338,slow=13,SNR=8.7						
WRA				Sn	S	07 20 04.7	-6.3
	1.2nm,0.3s,baz=335,slow=22,SNR=12						
MBWA	Marble Bar	16.20	213	eP	P	07 18 22.6	-0.1
	0.9nm,0.3s						
ASAR	Alice Springs	16.66	164	Pn	P	07 18 29.6	+1.3
	0.5nm,0.3s,baz=340,slow=9.9,SNR=18						
ASAR				Sn	S	07 21 26.4	-0.3
	0.5nm,0.3s,baz=189,slow=16,SNR=6.7						
STKA	Stephens Creek	26.86	156	P	P	07 20 13.7	+4.0
	1.4nm,0.8s,mb3.7,baz=293,slow=7.7,SNR=3.6						
MKAR	Makanchi Array	68.18	327	P	P	07 25 27.0	+0.3
	1.1nm,0.4s,mb3.9,baz=113,slow=8.3,SNR=22						
KURK	Kurchatov	72.51	329	eP	P	07 25 52.2	-0.5
	2.4nm,1.0s,mb3.9						

GUC 12 07:36:38.0±1.1**, 30.44S×69.08W, h166^{km}**±35^{km}**, MD3.2, ML3.5, 1C-3D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TLL	Tololo Astrono	1.52	280	⇑iP	P	07 37 10.3	+1.0
TLL				i S	S	07 37 34.0	+0.4
TLL				AMP		07 37 36.3	
	comp=N,470nm,0.6s						
CMCH	Combarbala	1.81	246	⇓iP	P	07 37 12.4	0.0
CMCH				i S	S	07 37 39.0	0.0
CMCH				AMP		07 37 42.7	
	comp=E,454nm,0.7s						
LSCH	La Serena	1.95	285	⇓iP	P	07 37 14.2	+0.3
LSCH				i S	S	07 37 41.2	-0.4
LSCH				AMP		07 37 43.5	
	comp=N,274nm,0.2s						
FCH	Farellones	3.06	199	⇓iP	P	07 37 27.8	+0.3
FCH				i S	S	07 38 07.0	+1.6
FCH				AMP		07 38 08.9	
	comp=N,43nm,0.1s						
ANTU	Antumapu	3.39	203	i S	S	07 38 12.5	-0.4
ANTU				AMP		07 38 17.6	
	comp=N,50nm,0.5s						

IDC 12 07:56:40.3±6.7**, 16.15S×179.72W, mb3.8**/2**, mb1 4.1**/2**, mb1mx3.7**/12**, Error ellipse: s-maj=302.0km s-min=52.5km az=143.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	43.75	258	P	P	08 04 48.0	-1.5
	0.4nm,0.6s,baz=91,slow=8.0,SNR=3.7						
ASAR	Alice Springs	44.09	253	P	P	08 04 50.2	-1.9
	2.4nm,0.6s,baz=87,slow=8.3,SNR=28						
GERES	GERESS Array B	145.60	344	PKPbc	PKPbc	08 16 20.0	-1.1
	0.3nm,0.4s,baz=34,slow=4.8,SNR=4.3						

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*BJI **12** 08:47:58.5, 29.20N×80.93E, h11^{km}, mB5.0, mb4.7*

*IDC **12** 08:48:03.3±0.7, 29.46N×81.65E, mb4.2/12, mb1 4.3/14, mb1mx4.2/20, ML4.2/2, MS3.5/2, Ms1 3.6/2, ms1mx2.8/21, Error ellipse: s-maj=26.2km s-min=15.2km az=42.0*

*NEIC **12** 08:48:04.9±3.9, 29.50N×81.58E, h12^{km}±24^{km}, mb4.5/17, Error ellipse: s-maj=11.2km s-min=7.3km az=56.0*

*NDI **12** 08:48:05.2±4.5, 29.69N×81.63E, h10^{km}, ML4.2, mb4.5(NEIC)*

*LDG **12** 08:48:10.1, 29.11N×81.79E, h100^{km}*

*NNC **12** 08:48:12.3±36.0, 30.26N×81.02E, h1^{km}±259^{km}, Error ellipse: s-maj=170.6km s-min=146.2km az=129.0*

ISC 12 08:48:09.2±0.7**, 29.34N**±0.04×**81.52E**±0.05**, h66^{km}**±7^{km}**, n80, σ1^{s}14**/90**, mb4.3**/31**, 4C-3D, Nepal**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PTH	Pithoragarh	1.16	281	eP	P	08 48 30.0	+0.2
PTH				e		08 48 50.0	
JOSI	Joshimath	2.09	306	ePG	P	08 48 43.1	+0.4
JOSI				AML	AML	08 49 16.3	
	comp=N,10µm,0.5s						
JOSI				AML	AML	08 49 17.8	
	comp=E,5µm,0.7s						
VLK	Valmikinagar	2.89	134	i	P	08 49 00.0	+6.0
VLK				i SG	S	08 49 48.0	+20
KLP	Kalpa	3.57	309	ePB	P	08 49 03.7	+0.2
KLP				AML	AML	08 50 13.3	
	comp=E,993nm,0.6s						
KLP				AML	AML	08 50 23.6	
	comp=N,561nm,0.8s						
NDI	New Delhi	3.83	261	ePN	P	08 49 07.0	-0.1
NDI				ePG	P	08 49 21.0	+14
NDI				eSN	S	08 49 50.0	-1.2
NDI				e		08 50 12.0	
AYAN	Aya Nagar	3.95	258	eP	P	08 49 09.9	+1.1
AYAN				eS	S	08 49 55.5	+1.3
SONA	Sohna	4.04	255	eP	P	08 49 11.8	+1.7
SONA				eS	S	08 49 58.7	+2.1
SONA				AML	AML	08 50 30.2	
	comp=N,357nm,0.5s						
SONA				AML	AML	08 50 34.0	
	comp=E,386nm,0.2s						
SMLA	Simla	4.17	296	i PG	P	08 49 22.2	+10
SMLA				e		08 50 10.6	
KUDL	Kundal	4.58	256	eP	P	08 49 18.1	+0.6
KHET	Khetri	5.17	257	eP	P	08 49 26.7	+0.8
KHET				e		08 50 26.2	
AJM	Ajmer	6.72	247	⇓iP	P	08 49 48.0	+0.6
AJM				i S	S	08 51 02.0	-1.2
BHPL	Bhopal	7.10	212	eP	P	08 49 52.2	-0.5
BHPL				eS	S	08 51 11.1	-1.6
BLSP	Bilaspur	7.21	175	eS	S	08 51 15.0	-0.3
LSA	Lhasa	8.40	85	P	P	08 50 11.0	+0.5
THW	Thamme Wali	9.06	295	⇓P	P	08 50 16.5	-3.1
CEP	Cherat	9.33	301	P	P	08 50 20.3	-3.0
CEP				S	S	08 52 00.0	-7.7
AKL	Akola	9.52	206	⇓iP	P	08 50 28.2	+2.3
AKL				i		08 51 49.6	
SBDP	Sheikh Budin	9.67	290	P	P	08 50 24.9	-3.0
SHL	Shillong	9.94	110	eP	P	08 50 27.5	-4.2
SHL				eS	S	08 52 12.0	-11
DRP	Derazinda	10.05	287	P	P	08 50 30.5	-2.5
VIS	Vishakhapatnam	11.69	171	eS	S	08 53 00.0	-4.8
VIS				e		08 53 54.0	
LATR	Latur	11.78	204	eP	P	08 50 54.2	-2.3
LATR				eS	S	08 53 00.7	-6.4
HYB	Hyderabad	12.18	194	i P	P	08 51 01.0	-0.8
HYB				eS	S	08 53 09.0	-7.6
HYB	Hyderabad	12.18	194	eP	P	08 51 01.0	-0.8
HYB				eS	S	08 53 09.0	-7.6
POO	Poona	12.84	215	e	P	08 51 02.0	-8.6
POO				eS	S	08 53 26.0	-6.4
KAD	Karad	13.74	211	e	S	08 53 47.4	-6.4
AAK	Ala-Archa	14.42	339	ePn	P	08 51 26.5	-4.6
	comp=E,6.7nm,0.8s						
KK31	Karatay Array	16.33	330	⇑P	P	08 51 50.4	-5.1
	comp=E,2.6nm,0.5s,baz=142,slow=13,SNR=44						
KK31				⇑S	S	08 54 41.4	-13
	comp=E,5.1nm,0.8s,baz=149,slow=23,SNR=11						
MKAR	Makanchi Array	17.43	2	P	P	08 52 04.5	-4.8
	comp=E,0.6nm,0.3s,baz=182,slow=12,SNR=16						
CMAR	Chiang Mai Arr	19.24	120	P	P	08 52 30.9	0.0
	comp=E,0.3nm,0.3s,baz=312,slow=11,SNR=29						
KURK	Kurchatov	21.46	355	P	P	08 52 51.5	-2.2
	comp=E,6.4nm,0.9s,mb4.0,baz=192,slow=10,SNR=24						
KURK	Kurchatov	21.46	355	P	P	08 52 50.8	-2.9
	comp=E,78nm,0.7s,mb5.2,SNR=11						
KURK	Kurchatov	21.46	355	eP	P	08 52 49.6	-4.0
	comp=E,4.4nm,0.6s,mb4.0						
ENH	Enshi	24.27	81	eP	P	08 53 21.5	+0.3
BVA0	Borovoye Array	25.04	344	⇑P	P	08 53 28.7	+0.2
	comp=E,0.5nm,1.1s,baz=140,slow=7.0,SNR=14						
BVAR	Borovoye Array	25.04	344	P	P	08 53 28.2	-0.2
	comp=E,2.4nm,0.8s,mb3.7,baz=150,slow=12,SNR=8.7						
BRVK	Borovoye	25.09	344	eP	P	08 53 27.5	-1.5
ZRNK	Zerenda	25.32	342	⇑P	P	08 53 30.8	-0.4
	comp=E,7.8nm,1.2s,mb4.0						
ZRNK	Zerenda	25.32	342	eP	P	08 53 30.6	-0.5
	comp=E,2.8nm,0.5s,mb4.0						
AB31	Akbulak array	25.80	326	P	P	08 53 36.8	+1.1
	comp=E,16nm,1.0s,mb4.4,baz=121,slow=9.9,SNR=94						
SONM	Songino Array	26.63	39	P	P	08 53 43.9	+0.6
	comp=E,2.7nm,0.8s,mb3.9,baz=229,slow=9.1,SNR=24						
SONM				PcP	PcP	08 57 06.8	+0.6
	comp=E,0.6nm,0.6s,baz=236,slow=3.4,SNR=3.8						
ARU	Arti	31.57	336	P	P	08 54 26.8	-0.6
	comp=E,2.7nm,0.4s,mb4.3						
BRTR	Keskin Array B	40.36	298	P	P	08 55 44.1	+2.1
	comp=E,2.1nm,0.6s,mb4.2,baz=108,slow=8.9,SNR=11						
FINES	FINESS Array B	48.27	328	P	P	08 56 45.6	+0.4
	comp=E,4.0nm,0.6s,mb4.5,baz=110,slow=7.6,SNR=24						
KAF	Kangasniemi	48.35	329	ep	P	08 56 46.9	+1.1
	comp=E,0.3nm,0.3s,mb3.6						
KEV	Kevo	50.69	339	ep	P	08 56 59.3	-4.4
	comp=E,0.3nm,0.4s,mb3.7						
ARCES	ARCESS Array B	51.09	338	P	P	08 57 06.5	-0.2
	comp=E,1.2nm,0.7s,mb4.0,baz=100,slow=6.8,SNR=6.0						
ARCES				LR	LR	09 22 35.9	
	comp=E,43nm,18.3s,baz=37,slow=41						
BRG	Berggiesshubel	53.97	314	P	P	08 57 29.7	+1.3
	comp=E,2.2nm,0.7s,mb4.3						
GERES	GERESS Array B	54.28	311	P	P	08 57 31.5	+0.8
	comp=E,0.3nm,0.6s,mb3.5,baz=90,slow=5.3,SNR=4.9						
NB2	NORSAR Subarra	55.31	326	P	P	08 57 37.2	-0.8
	comp=E,3.3nm,0.8s,mb4.4,baz=89,slow=7.4						
NOA	NORSAR Array B	55.31	326	P	P	08 57 37.6	-0.4
	comp=E,2.4nm,0.7s,mb4.3,baz=93,slow=7.0,SNR=9.8						
NOA				LR	LR	09 22 34.7	
	comp=E,52nm,20.1s,baz=300,slow=38						
PGF	Pioggiola	58.52	304	eP	P	08 57 59.8	-1.1
	comp=E,64nm,1.3s,mb5.2						
CDF	Champ du Feu	58.56	311	eP	P	08 58 01.2	0.0
HINF	Hinteralfeld	58.95	311	eP	P	08 58 03.7	-0.2
LPG	La Plagne	59.48	308	eP	P	08 58 07.7	+0.2
	comp=E,13nm,0.9s,mb4.6						
LPL	La Plagne	59.48	308	eP	P	08 58 08.0	+0.4
	comp=E,6.7nm,0.7s,mb4.5						
MBDF	Montbardon	59.62	307	eP	P	08 58 08.6	0.0
	comp=E,4.7nm,0.7s,mb4.3						
ORIF	Oris-en-Rattie	60.20	308	eP	P	08 58 12.3	-0.2
SMRF	Simiane la Rot	60.63	307	eP	P	08 58 14.1	-1.4
VIVF	Saint-Julien-l	61.05	308	eP	P	08 58 17.6	-0.7
SMF	Signal de Mont	61.20	310	eP	P	08 58 19.1	-0.2
SSF	Saint Saulge	61.33	310	eP	P	08 58 19.8	-0.3
	comp=E,27nm,1.4s,mb4.8						
AVF	Avril sur Loir	61.49	310	eP	P	08 58 20.7	-0.6
	comp=E,25nm,1.4s,mb4.8						
LASF	Ste Croix	61.81	307	eP	P	08 58 22.4	-1.0
	comp=E,37nm,1.4s,mb4.9						
TCF	Toulx Ste Croi	62.38	310	eP	P	08 58 27.3	+0.1
RJF	Les Rejaudoux	63.10	309	eP	P	08 58 30.9	-1.1
	comp=E,19nm,1.1s,mb4.6						
FLN	La Foliniere	63.52	313	eP	P	08 58 34.1	-0.6
	comp=E,56nm,1.3s,mb4.9						
ETSF	Etsaut	65.22	307	eP	P	08 58 45.4	-0.4
	comp=E,4.6nm,0.7s,mb4.1						
ESDC	Sonseca Array	68.71	304	P	P	08 59 08.5	+0.7
	comp=E,3.7nm,1.0s,mb4.2,baz=59,slow=6.9,SNR=6.7						
NWAO	Narrogin (SRO)	70.58	149	P	P	08 59 18.7	-0.6
	comp=E,1.1nm,0.6s,mb3.9						
WRA	Warramunga Arr	70.67	127	P	P	08 59 20.4	+0.4
	comp=E,2.7nm,0.9s,mb4.1,baz=324,slow=6.2,SNR=9.7						
ASAR	Alice Springs	72.90	131	P	P	08 59 33.9	+0.6
	comp=E,2.7nm,1.0s,mb4.0,baz=314,slow=6.1,SNR=18						
ILAR	Eielson Array	78.92	19	P	P	09 00 06.5	-0.1
	comp=E,0.9nm,0.8s,mb3.7,baz=299,slow=4.6,SNR=10.0						
DBIC	Dimbokro	83.62	274	P	P	09 00 35.1	+2.8
	comp=E,4.5nm,0.6s,mb4.5,baz=64,slow=4.0,SNR=11						
KIC	Kosan Boka	83.67	274	eP	P	09 00 34.7	+2.2
	comp=E,169nm,1.6s						
TIC	Toumodi	83.78	274	eP	P	09 00 35.9	+2.8
	comp=E,39nm,0.9s,mb5.2						
LIC	Lamto	83.98	274	eP	P	09 00 36.5	+2.4
	comp=E,94nm,2.1s						
TXAR	Lajitas Array	121.44	5	PKP	PKPdf	09 06 58.8	+3.4
	comp=E,0.3nm,0.8s,baz=297,slow=2.8,SNR=4.7						
CPUP	Villa Florida	143.62	265	PKP	PKPdf	09 07 38.2	+1.5
	comp=E,1.8nm,0.7s,baz=65,slow=6.2,SNR=5.5						
LPAZ	La Paz	149.26	288	PKPbc	PKPdf	09 07 57.0	+11
	comp=E,1.6nm,0.3s,baz=53,slow=1.3,SNR=3.5						

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*IDC **12** 09:16:21.4±1.7, 38.11N×22.24E, mb3.6/3, mb1 3.6/7, mb1mx3.5/22, ML3.3/4, MS3.5/2, Ms1 3.5/2, ms1mx2.8/22, Error ellipse: s-maj=28.2km s-min=22.8km az=68.0*

*ATH **12** 09:16:21.8, 38.14N×22.04E, h26^{km}±1^{km}, MD3.6/15, ML3.4*

*NEIC **12** 09:16:22.4, 38.14N×22.10E, h15^{km}, ML3.8(THE), ML3.4(ATH), After ATH.*

*THE **12** 09:16:25.1, 38.13N×22.16E, h20^{km}, ML3.7*

ISC 12 09:16:23.1±0.6**, 38.16N**±0.02×**22.13E**±0.02**, h19^{km}**±5^{km}**, n52, σ1^{s}20**/76**, mb3.8**/2**, MS4.1**/1**, 1C, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EVR	Evrytania	0.80	342	⇑iPN	Pn	09 16 37.2	-2.1
EVR				eSN	Sn	09 16 49.0	-1.6
AGG	Agios Georgios	0.88	11	ePg	Pb	09 16 38.8	-0.7
AGG				eSg	Sb	09 16 53.1	+2.3
MKIT	Kithairon Oros	0.90	88	ePN	Pn	09 16 40.2	-0.5
ITM	Ithomi	0.99	189	ePN	Pn	09 16 40.0	-2.1
ITM				eSN	Sn	09 16 54.5	-1.1
NSAL	Nisos Salamina	1.09	103	ePN	Pn	09 16 43.5	0.0
NSAL				eSN	Sn	09 16 59.0	+1.0
NAIG	Nisos Aigina	1.15	110	ePN	Pn	09 16 45.0	+0.6
VLS	Valsamata	1.21	271	ePb	Pb	09 16 43.8	-1.4
VLS				eSn	Sn	09 17 03.0	+1.8
MPAR	Parnis Oros	1.27	90	ePN	Pn	09 16 47.0	+0.9
MPAR				eSN	Sn	09 17 04.5	+1.8
ATH	Athens Observa	1.27	98	ePN	Pn	09 16 46.5	+0.4
ATH				eSN	Sn	09 17 05.0	+2.3
LKD	Levkas	1.28	296	ePb	Pb	09 16 46.1	-0.3
LKD				eSb	Sb	09 17 04.2	+1.7
PTL	Penteli	1.38	94	ePn	Pn	09 16 47.8	+0.2
PTL				eSn	Sn	09 17 08.5	+3.1
NEO	Neokhori	1.43	37	ePN	Pn	09 16 49.0	+0.6
XOR	Xorichti	1.47	34	ePb	Pb	09 16 49.3	-0.3
XOR				eSb	Sb	09 17 08.2	+0.4
VLI	Veliai	1.58	156	ePN	Pn	09 16 50.5	0.0
AOS	Alonnisos	1.71	53	ePb	Pb	09 16 52.8	-0.9
MEV	Metsovon	1.77	337	ePb	Pb	09 16 53.8	-0.9
	comp=Z,32nm,0.2s						
MEV				eSb	Sb	09 17 16.1	-0.4
JAN	Janina	1.79	327	ePn	Pn	09 16 57.9	+4.3
IGT	Igoumenitsa	1.96	315	ePn	Pn	09 16 56.7	+0.8
IGT				eSn	Sn	09 17 20.5	+0.3
LIT	Litokhoron	1.96	8	ePn	Pn	09 16 56.3	+0.3
	comp=Z,15nm,0.6s						
LIT				eSn	Sn	09 17 21.0	+0.8
KYTH	Kithira	2.01	159	ePB	Pb	09 16 58.8	-0.1
KYTH	Kithira	2.01	159	ePn	Pn	09 16 59.0	+2.3
PAIG	Paliouri	2.14	34	ePn	Pn	09 16 58.2	-0.4
PAIG				eSn	Sn	09 17 24.3	-0.5
KZN	Kozani	2.16	353	ePn	Pn	09 16 57.0	-1.8
KEK	Kerkira	2.39	311	ePn	Pn	09 17 04.5	+2.4
PLG	Polygyros	2.44	24	ePN	Pn	09 17 03.0	+0.2
THE	Thessaloniki	2.55	15	ePn	Pn	09 17 04.2	-0.2
OUR	Ouranopolis	2.61	33	ePn	Pn	09 17 04.8	-0.4
	comp=Z,3.4nm,0.4s						
FNA	Florina	2.68	348	ePn	Pn	09 17 06.6	+0.3
	comp=Z,2.2nm,0.7s						

FNA				*e*Sn	Sn	09 17 38.2	-0.4
GRG	Griva	2.80	4	*e*Pn	Pn	09 17 08.2	+0.2
GRG				*e*Sn	Sn	09 17 41.7	+0.1
SOH	Sokhos	2.82	19	*e*Pn	Pn	09 17 07.8	-0.5
APE	Apeiranthos	2.92	111	*e*PN	Pn	09 17 09.5	-0.1
KNT	Kendrikon	3.06	11	*e*Pn	Pn	09 17 11.7	+0.1
	comp=Z,2.2nm,0.4s						
KNT				*e*Sn	Sn	09 17 46.8	-1.3
SRS	Serrai	3.16	21	*e*Pn	Pn	09 17 12.7	-0.5
VAM	Vamos	3.21	148	*e*PN	Pn	09 17 14.0	+0.2
IDI	Anoyia	3.63	141	Pn	Pn	09 17 18.8	-0.9
	2.2nm,0.3s,baz=333,slow=14,SNR=11						
IDI				Sn	Sn	09 17 59.6	-2.9
	4.5nm,0.3s,baz=300,slow=19,SNR=4.3						
TIR	Tirane	3.63	332	*e*Pn	Pn	09 17 22.5	+2.8
TIR				*i* Sn	Sn	09 18 17.5	+15
QSH	Qafa e Shtames	3.77	334	*i* Pn	Pn	09 17 30.0	+8.3
QSH				*i* Sn	Sn	09 18 28.0	+22
SKO	Skopje	3.84	352	*i* Pn	Pn	09 17 32.6	+10
TIP	Timpagrande	4.32	285	*e*Pn	Pn	09 17 29.9	+0.3
TIP				*e*Sn	Sn	09 18 18.0	-2.1
MGR	Morigerati	5.48	293	*e*Pn	Pn	09 17 46.7	+0.8
MGR				*e*Sn	Sn	09 18 46.5	-2.7
SLCN	Sala Consilina	5.51	296	*e*Pn	Pn	09 17 47.3	+1.0
SLCN				*e*Sn	Sn	09 18 51.5	+1.6
MRLC	Muro Lucano	5.75	299	*e*Pn	Pn	09 17 49.9	+0.1
MRLC				*e*Sn	Sn	09 18 55.7	-0.4
SGO	Sicignano	5.80	297	*e*Pn	Pn	09 17 51.2	+0.8
SGO				*e*Sn	Sn	09 19 00.1	+2.9
CSSN	Cassano Irpino	6.12	298	*e*Pn	Pn	09 17 55.4	+0.5
CSSN				*e*Sn	Sn	09 19 09.2	+4.0
MLR	Muntele Rosu	7.86	20	Pn	Pn	09 18 17.8	-1.6
	0.1nm,0.3s,baz=174,slow=6.1,SNR=3.8						
MLR				LR	LR	09 21 27.9	
	comp=Z,95nm,19.1s,baz=284,slow=39						
BRTR	Keskin Array B	9.11	77	Pn	P	09 18 33.6	-3.1
	0.1nm,0.3s,baz=270,slow=14,SNR=1.9						
AKASG	Malin Array Be	13.52	20	Pn	P	09 19 35.8	-0.5
	0.9nm,0.3s,baz=262,slow=27,SNR=3.3						
ESDC	Sonseca Array	20.34	282	P	P	09 21 00.2	-0.8
	0.7nm,0.5s,baz=68,slow=11,SNR=5.1						
MKAR	Makanchi Array	44.23	59	P	P	09 24 31.8	-1.0
	2.5nm,0.5s,mb4.2,baz=293,slow=6.5,SNR=10.0						
MKAR	Makanchi Array	44.23	59	P	P	09 24 31.8	-1.0
SONM	Songino Array	59.49	51	P	P	09 26 25.2	-1.9
	0.3nm,0.8s,mb3.4,baz=292,slow=7.8,SNR=2.6						
ROSC	El Rosal	92.09	278	LR	LR	10 07 04.7	
	comp=Z,68nm,18.1s,MS4.1,baz=267,slow=33						

MAN 12 09:20:06.7,10.36N×125.85E,h9^{km},mb4.4,ML3.2,MS3.0,1C,Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCPH	Surigao	0.67	212	*i* P	Pb	09 20 19.8	-0.4
SCPH				*i* S	Sg	09 20 29.6	+0.3
MSLP	Maasin	1.00	257	*e*P	Pb	09 20 25.9	+0.2
MSLP				*e*S	Sb	09 20 41.6	+2.8
PLP	Palo	1.17	313	*e*P	Pb	09 20 28.2	-0.5
PLP				*e*S	Sb	09 20 45.3	+1.5
BESP	Borongan	1.30	342	*e*P	Pb	09 20 30.7	-0.1
BESP				*e*S	Sb	09 20 48.7	+1.2
OCLP	Ormoc	1.40	300	*e*P	Pn	09 20 33.1	+0.6
BUTP	Butuan	1.40	189	*e*P	Pn	09 20 31.4	-1.2
LLP	Lapu-Lapu	1.85	269	*e*P	Pn	09 20 37.0	-2.0
TBP	Tagbilaran	2.06	251	*e*P	Pn	09 20 41.9	-0.1
TBP				*e*S	Sn	09 21 41.9	+34
CNP	Catarman	2.43	332	*e*P	Pn	09 20 46.4	-0.9
RCP	Roxas	3.27	292	⇑*i*P	Pn	09 20 59.1	-0.1

MEX 12 09:28:33.3±0.9,15.19N×95.81W,h18^{km}±345^{km},MD3.9, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HUIG	Huatulco	0.64	333	*e*P	Pb	09 28 43.6	-2.1
HUIG				*e*S	Sb	09 28 51.6	-2.5
VHO	Vista Hermosa	2.07	335	*e*P	Pn	09 29 04.7	-3.1
VHO				*i* S	Sn	09 29 30.1	-3.2
OXX	Oaxaca	2.08	335	*e*P	Pn	09 29 05.5	-2.3
OXX				*i* S	Sn	09 29 33.0	-0.4
CMIG	Matias Romero	2.08	25	*e*P	Pn	09 29 04.4	-3.6
CMIG				*e*S	Sn	09 29 29.0	-4.6
IISM	Ciudad Serdan	4.06	339	*i* P	Pn	09 29 40.0	+3.9
IISM				*i* S	Sn	09 30 21.0	-2.8

*NIED **12** 09:32:00,33.00N×136.90E,h23^{km},Mw3.4 Best double couple: M$_0$1.22×10^{14} NP1:ϕ_s42°,δ80°,λ62°. NP2:ϕ_s293°, δ30°,λ159°.*

*JMA **12** 09:32:04.1±0.1,33.02N×136.92E,h39^{km}±4^{km},M3.5*

ISC 12 09:32:04.8±1.1,33.05N±0.07×136.91E±0.04,h38^{km}±29^{km}, n16,σ0^{s}63/31,8D,Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	Tokai 1	0.91	39	P	P	09 32 20.8	-0.4
TK01				S	S	09 32 32.8	-0.5
JWZ	Kozaga	1.11	296	⇓P	P	09 32 23.8	-0.2
JWZ				S	S	09 32 37.5	-0.8
TK02	Tokai 2	1.14	38	⇓P	P	09 32 24.2	-0.2
TK02				S	S	09 32 39.0	-0.1
JKN	Kiinagashima	1.31	336	⇓P	P	09 32 27.3	+0.3
JKN				S	S	09 32 42.9	-0.5
JIE	Ise	1.34	353	⇓P	P	09 32 28.0	+0.5
JIE				S	S	09 32 44.8	+0.4
TK03	Tokai 3	1.41	38	P	P	09 32 28.2	-0.3
TK03				S	S	09 32 46.2	+0.1
JWM	Minabe	1.52	302	⇓P	P	09 32 30.1	+0.1
JWM				S	S	09 32 47.7	-1.1
TK04	Tokai 4	1.55	31	P	P	09 32 30.4	0.0
TK04				S	S	09 32 49.5	0.0
JWY	Kouya	1.60	317	⇓P	P	09 32 31.8	+0.7
JWY				S	S	09 32 51.2	+0.5
TSUJ	Tsu 2	1.70	346	⇓P	P	09 32 33.1	+0.6
TSUJ				S	S	09 32 53.7	+0.4
JHE	Heguri	1.89	328	⇓P	P	09 32 35.9	+0.6
JHE				S	S	09 32 58.9	+0.8
JAJ2	Tsuna	2.17	309	P	P	09 32 39.9	+0.7
JAJ2				S	S	09 33 05.7	+0.6
JAI	Aioi	2.19	290	P	P	09 32 39.3	-0.1
JAI				S	S	09 33 03.9	-1.6
SHZ3	Shizuoka 3	2.28	28	P	P	09 32 40.2	-0.6
SHZ3				S	S	09 33 06.6	-1.2
JIZS	Izushimoda	2.33	44	P	P	09 32 42.4	+0.9
MAT	Matsushiro	3.64	17	P	P	09 33 00.7	+0.6
MAT				S	S	09 33 41.8	-0.6

*ATH **12** 09:57:40.7,38.13N×22.09E,h5^{km},MD3.4/13,ML3.1*

*NEIC **12** 09:57:41.1,38.16N×22.10E,h6^{km},ML3.1(ATH),After ATH.*

*THE **12** 09:57:44.1,38.24N×22.38E,h11^{km},ML3.5*

ISC 12 09:57:40.7±0.8,38.19N±0.02×22.18E±0.03,h3^{km}±6^{km}, n31,σ1^{s}34/46,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EVR	Evrytania	0.79	338	*e*PG	Pg	09 57 56.0	-0.4
EVR				*e*SB	Sb	09 58 07.9	+0.4
EVR	Evrytania	0.79	338	*e*Pg	Pg	09 57 56.0	-0.4
EVR				*e*Sb	Sb	09 58 08.0	+0.5
AGG	Agios Georgios	0.84	8	*e*Pg	Pg	09 57 59.4	+1.9
AGG				*e*Sg	Sg	09 58 10.7	+2.0
MKIT	Kithairon Oros	0.85	90	*e*PN	Pn	09 57 59.0	-0.3
MKIT				*e*SB	Sb	09 58 11.5	+2.2
ITM	Ithomi	1.03	191	*e*Pb	Pb	09 57 58.5	-2.3
ITM				*e*Sb	Sb	09 58 14.5	0.0
NSAL	Nisos Salamina	1.05	105	*e*PB	Pb	09 58 02.4	+1.2
NAIG	Nisos Aigina	1.12	112	*e*PB	Pb	09 58 04.0	+1.7
MPAR	Parnis Oros	1.23	91	*e*PB	Pb	09 58 06.0	+1.8
ATH	Athens Observa	1.23	100	*e*PB	Pb	09 58 05.5	+1.2
VLS	Valsamata	1.25	270	*e*PN	Pn	09 58 02.6	-2.5
VLS				*e*SB	Sb	09 58 21.0	-0.1
LKD	Levkas	1.31	294	*e*Pb	Pb	09 58 04.9	-0.7
LKD				*e*Sb	Sb	09 58 29.1	+6.4
PTL	Penteli	1.33	95	*e*PG	Pg	09 58 06.5	-0.8
NEO	Neokhori	1.38	36	*e*PG	Pg	09 58 07.5	-0.8
XOR	Xorichti	1.42	34	*e*Pb	Pb	09 58 07.6	+0.1
XOR				*e*Sb	Sb	09 58 25.4	-0.4
VLI	Veliai	1.58	157	*e*PG	Pg	09 58 09.5	-2.8
AOS	Alonnisos	1.65	53	*e*Pb	Pb	09 58 10.8	-0.7
AOS				*e*Sb	Sb	09 58 30.6	-2.0
MEV	Metsovon	1.76	335	*e*Pb	Pb	09 58 14.4	+1.1
	comp=Z,14nm,0.3s						
MEV				*e*Sb	Sb	09 58 36.9	+1.1
JAN	Janina	1.80	325	*e*PN	Pn	09 58 15.5	+2.6
LIT	Litokhoron	1.93	7	*e*Pb	Pb	09 58 14.6	-1.5
	comp=Z,6.6nm,0.2s						
LIT				*e*Sb	Sb	09 58 39.8	-0.8
IGT	Igoumenitsa	1.97	314	*e*Pn	Pn	09 58 17.6	+2.2
IGT				*e*Sn	Sn	09 58 45.6	+4.7
KYTH	Kithira	2.02	160	*e*PN	Pn	09 58 19.0	+2.9
PAIG	Paliouri	2.09	33	*e*Pb	Pb	09 58 16.8	-2.2
KZN	Kozani	2.14	352	*e*Pb	Pb	09 58 18.0	-1.8
PLG	Polygyros	2.39	24	*e*Pn	Pn	09 58 21.0	-0.4
KEK	Kerkira	2.40	310	*e*PN	Pn	09 58 23.2	+1.6
OUR	Ouranopolis	2.56	33	*e*Pn	Pn	09 58 22.8	-1.0
	comp=Z,3.2nm,0.5s						
FNA	Florina	2.67	347	*e*Pn	Pn	09 58 25.6	+0.3
FNA				*e*Sn	Sn	09 58 59.5	+0.9
GRG	Griva	2.77	3	*e*Pn	Pn	09 58 26.8	0.0
GRG				*e*Sn	Sn	09 59 00.2	-1.1
SOH	Sokhos	2.78	19	*e*Pn	Pn	09 58 27.1	+0.1
KNT	Kendrikon	3.02	10	*e*Pn	Pn	09 58 29.7	-0.7
KNT				*e*Sn	Sn	09 59 07.0	-0.7
SRS	Serrai	3.12	20	*e*Pn	Pn	09 58 31.8	-0.1

*NEIC **12** 10:04:58.8±0.5,0.39N×121.75E,h150^{km},mb4.2/5,Error ellipse: s-maj=38.5km s-min=9.1km az=67.0*

*IDC **12** 10:04:59.8±8.0,0.47N×121.99E,h155^{km}±80^{km},mb3.8/5, mb1 4.0/6,mb1mx3.6/16,Error ellipse: s-maj=94.8km s-min=17.1km az=65.0*

ISC 12 10:04:56.9±0.7,0.4N±0.2×121.7E±0.3,h150^{km},n14, σ0^{s}74/14,mb4.1/9,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	18.82	168	*e*P	P	10 09 06.9	-0.7
	2.5nm,0.2s						
FITZ	Fitzroy Crossi	18.82	168	P	P	10 09 07.3	-0.2
	1.4nm,0.3s,baz=9.1,slow=7.1,SNR=27						
MBWA	Marble Bar	21.55	185	P	P	10 09 35.8	+0.6
	1.4nm,0.5s,mb3.6						
WRAB	Tennant Creek	23.72	149	*e*P	P	10 09 56.6	+0.2
	13nm,0.6s,mb4.7						
WRA	Warramunga Arr	23.72	149	P	P	10 09 56.5	0.0
	15nm,0.5s,mb4.8,baz=326,slow=10,SNR=122						
WB2	Warramunga Arr	23.73	149	*e*P	P	10 09 56.6	+0.1
ASPA	Alice Springs	26.71	155	*e*P	P	10 10 23.4	-0.9
ASAR	Alice Springs	26.71	155	P	P	10 10 24.3	0.0
	1.8nm,0.5s,mb3.9,baz=341,slow=10,SNR=38						
ASAR				PcP	PcP	10 13 43.8	-0.4
	0.4nm,0.7s,baz=350,slow=2.2,SNR=5.5						
STKA	Stephens Creek	37.23	151	P	P	10 11 56.2	+0.5
	1.7nm,0.4s,mb4.1,baz=314,slow=7.5,SNR=4.1						
STKA	Stephens Creek	37.23	151	P	P	10 11 56.2	+0.5
SONM	Songino Array	49.06	346	P	P	10 13 31.3	+0.6
	0.4nm,0.6s,mb3.2,baz=166,slow=8.9,SNR=3.0						
MKAR	Makanchi Array	57.59	329	P	P	10 14 34.0	+0.7
	1.0nm,0.3s,mb4.1,baz=122,slow=8.7,SNR=10.0						
KURK	Kurchatov	61.98	331	*e*P	P	10 15 01.1	-2.2
	3.4nm,0.6s,mb4.3						
ZRNK	Zerenda	68.14	329	*e*P	P	10 15 43.0	+0.3
	1.6nm,0.6s,mb3.9						

*IDC **12** 10:38:31.8±0.6,57.93S×25.10W,mb4.4/7,mb1 4.4/7, mb1mx4.3/12,MS3.8/2,Ms1 3.7/2,ms1mx3.3/11,Error ellipse: s-maj=31.2km s-min=18.9km az=43.0*

*NEIC **12** 10:38:37.2±3.5,57.85S×25.00W,h35^{km}±25^{km},mb4.6/5, Error ellipse: s-maj=16.5km s-min=7.8km az=218.0*

ISC 12 10:38:31.8±0.6,57.79S±0.09×25.0W±0.2,h10^{km},n32, σ0^{s}79/23,mb4.3/10,MS3.7/2,5C-4D,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	14.73	158	⇑*i*	P	10 42 02.5	+0.9
VNA1	Neumayer--Stat	14.73	158	⇑*i*P	P	10 42 02.5	+0.9
VNA1				*e*S	S	10 44 33.4	-12
VNA3	Neumayer Olymp	14.95	161	⇑*i*	P	10 42 04.0	-0.5
VNA3	Neumayer Olymp	14.95	161	⇑*i*P	P	10 42 04.0	-0.5
VNA3				*e*S	S	10 44 34.5	-16
VNA2	Neumayer--Watz	15.12	158	⇓*i*	P	10 42 07.2	+0.4
VNA2	Neumayer--Watz	15.12	158	⇓*i*P	P	10 42 07.2	+0.4
VNA2				*e*S	S	10 44 37.8	-17
SNAA	Sanae	16.66	155	⇓*i*	P	10 42 26.2	-0.3
SNAA	Sanae	16.66	155	⇓*i*P	P	10 42 26.2	-0.3
SNAA				*e*S	S	10 44 56.8	-34
PMSA	Palmer Station	19.74	233	*e*P	P	10 43 04.0	-0.2
	12nm,0.6s						
EFI	East Falkland	19.91	274	*e*P	P	10 43 05.8	-0.2
	111nm,1.3s						
USHA	Ushuaia	23.97	258	P	P	10 43 48.2	+1.5
	7.6nm,0.7s,mb4.2,baz=152,slow=3.9,SNR=8.7						
USHA				LR	LR	10 50 55.1	
	comp=Z,321nm,20.2s,MS3.8,baz=100,slow=31						
MAW	Mawson	38.03	142	P	P	10 45 51.0	-0.4
	2.5nm,0.5s,mb4.2,baz=227,slow=8.9,SNR=26						
CPUP	Villa Florida	38.86	310	P	P	10 45 58.2	-0.5
	0.9nm,0.3s,mb3.9,baz=230,slow=7.1,SNR=6.5						
SBA	Scott Base	44.42	184	*e*P	P	10 46 44.0	+0.4
	3.8nm,0.9s,mb4.1						
BDFB	Brasilia	45.48	328	P	P	10 46 53.6	+0.8
	1.6nm,0.4s,mb4.2,baz=146,slow=3.6,SNR=4.4						
BDFB				LR	LR	11 02 43.1	
	comp=Z,69nm,19.7s,MS3.6,baz=295,slow=32						
LVC	Limon Verde	47.21	299	*e*P	P	10 47 06.2	-0.2
	2.6nm,0.4s,mb4.5						
LPAZ	La Paz	52.36	304	P	P	10 47 46.1	+0.1
	2.8nm,0.3s,mb4.7,baz=43,slow=0.3,SNR=8.3						
SAML	Samuel	56.88	313	⇑*e*P	P	10 48 17.7	-1.4
	7.4nm,0.7s,mb4.8						
DBIC	Dimbokro	66.29	22	P	P	10 49 23.5	+1.1
	3.2nm,0.6s,mb4.5,baz=185,slow=4.0,SNR=7.4						
ASAR	Alice Springs	96.96	161	P	P	10 52 03.0	-1.4
	0.7nm,0.7s,mb4.2,baz=179,slow=4.3,SNR=8.1						
WRA	Warramunga Arr	100.67	160	P	P	10 52 21.1	-0.3
	0.3nm,0.3s,baz=191,slow=5.1,SNR=5.6						
PDAR	Pinedale Array	122.27	300	PKP	PKPdf	10 57 26.9	-2.5
	0.3nm,0.4s,baz=98,slow=4.7,SNR=6.0						
CMAR	Chiang Mai Arr	123.34	110	PKP	PKPdf	10 57 30.2	-1.8
	1.7nm,0.7s,baz=234,slow=3.2,SNR=5.8						
FINES	FINESS Array B	125.37	27	PKP	PKPdf	10 57 32.7	-2.1
	2.1nm,0.7s,baz=135,slow=2.7,SNR=16						
FINES	FINESS Array B	125.37	27	PKP	PKPdf	10 57 32.7	-2.1
ARCES	ARCESS Array B	132.12	21	PKP	PKPdf	10 57 45.3	-2.3
	6.5nm,1.2s,baz=233,slow=2.7,SNR=8.8						
MKAR	Makanchi Array	136.29	72	PKP	PKPdf	10 57 55.2	-0.6
	0.2nm,0.6s,baz=220,slow=3.7,SNR=4.1						
MKAR	Makanchi Array	136.29	72	PKP	PKPdf	10 57 55.2	-0.6
YKA	Yellowknife Ar	138.26	316	PKP	PKPdf	10 57 58.1	-0.9
	0.8nm,0.4s,baz=135,slow=2.1,SNR=7.8						
INK	Inuvik	147.91	318	PKPbc	PKPdf	10 58 16.9	+1.5
	5.5nm,0.6s,baz=77,slow=2.4,SNR=12						
SONM	Songino Array	149.61	88	PKPbc	PKPdf	10 58 22.1	+3.4
	3.3nm,0.8s,baz=226,slow=2.8,SNR=25						
ILAR	Eielson Array	152.16	309	PKPbc	PKPdf	10 58 27.1	+5.0
	2.1nm,0.4s,baz=150,slow=1.6,SNR=87						

*THE **12** 10:42:43.9,39.15N×20.82E,h10^{km},ML3.5*

*ATH **12** 10:42:43.2,39.14N×20.84E,h10^{km}±3^{km},MD3.5/11*

*NEIC **12** 10:42:44.2,39.16N×20.89E,h13^{km},MD3.6(ATH),After ATH.*

ISC 12 10:42:43.2±0.5,39.14N±0.02×20.80E±0.03,h7^{km}±4^{km}, n44,σ1^{s}00/63,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LKD	Levkas	0.45	195	*e*Pg	Pg	10 42 52.9	+0.6
LKD				*e*Sg	Sg	10 42 59.2	+0.9
JAN	Janina	0.52	4	*e*Pb	Pb	10 42 53.0	-1.2
JAN				*e*Sb	Sb	10 43 02.0	+0.4
IGT	Igoumenitsa	0.54	317	*e*Pg	Pg	10 42 53.7	-0.3
IGT				*e*Sg	Sg	10 43 02.1	+0.9
MEV	Metsovon	0.72	27	*e*Pg	Pg	10 42 56.9	-0.8
MEV				*e*Sg	Sg	10 43 07.5	+0.1
EVR	Evrytania	0.81	106	*e*Pg	Pg	10 42 58.5	-1.1
EVR				*e*Sb	Sb	10 43 10.5	+0.3
SRN	Sarande	0.96	320	*e*Pg	Pg	10 43 07.6	+5.1
SRN				*i* Sg	Sg	10 43 22.3	+6.9
KEK	Kerkira	0.97	307	*e*Pb	Pb	10 43 02.0	+0.1
KEK				*e*Sb	Sb	10 43 18.5	+3.9
VLS	Valsamata	0.97	190	*e*Pb	Pb	10 43 02.0	0.0
VLS				*e*Sb	Sb	10 43 19.0	+4.1
LSK	Leskovik	1.02	351	*e*Pg	Pg	10 43 03.8	+0.1
LSK				*i* Sg	Sg	10 43 18.6	+1.3
AGG	Agios Georgios	1.20	95	*e*Pb	Pb	10 43 05.3	-0.4
AGG				*e*Sb	Sb	10 43 22.8	+1.5
KZN	Kozani	1.39	32	*e*PB	Pb	10 43 09.0	0.0
LIT	Litokhoron	1.62	53	*e*Pb	Pb	10 43 12.8	-0.2
	comp=Z,15nm,0.4s						
LIT				*e*Sb	Sb	10 43 34.1	+0.5
FNA	Florina	1.70	15	*e*Pb	Pb	10 43 13.8	-0.6
	comp=Z,6.8nm,0.6s						
FNA				*e*Sb	Sb	10 43 36.0	+0.1
XOR	Xorichti	1.87	82	*e*Pb	Pb	10 43 16.5	-0.9
NEO	Neokhori	1.89	84	*e*PN	Pn	10 43 17.0	+0.8
BIA	Bitola	1.92	12	*i* Sn	Sn	10 43 46.9	+5.6
OHR	Ohrid	1.97	360	*i* Sn	Sn	10 43 49.1	+6.5
MKIT	Kithairon Oros	2.15	116	*e*PG	Pg	10 43 22.5	-3.6
GRG	Griva	2.19	34	*e*Pn	Pn	10 43 20.9	+0.3
GRG				*e*Sn	Sn	10 43 47.9	-0.3
THE	Thessaloniki	2.23	47	*e*Pn	Pn	10 43 21.4	+0.2
THE				*e*Sn	Sn	10 43 49.5	+0.2
PLG	Polygyros	2.38	58	*e*PN	Pn	10 43 23.5	+0.2
AOS	Alonnisos	2.39	88	*e*Pn	Pn	10 43 23.7	+0.2
LCI	Lecce	2.39	301	*e*Pn	Pn	10 43 22.7	-0.8
LCI				*e*Sn	Sn	10 44 00.4	+7.1
NSAL	Nisos Salamina	2.42	120	*e*PG	Pg	10 43 27.0	-4.6
MPAR	Parnis Oros	2.50	112	*e*PN	Pn	10 43 27.0	+2.0
KNT	Kendrikon	2.58	38	*e*Pn	Pn	10 43 26.4	+0.3
	comp=Z,2.6nm,0.4s						
KNT				*e*Sn	Sn	10 43 58.0	-0.1
SOH	Sokhos	2.58	49	*e*Pn	Pn	10 43 26.5	+0.4
SOH				*e*Sn	Sn	10 43 57.6	-0.5
PTL	Penteli	2.63	113	*e*PB	Pb	10 43 26.5	-3.9
OUR	Ouranopolis	2.73	63	*e*Pn	Pn	10 43 28.2	0.0
	comp=Z,3.2nm,0.4s						
SKO	Skopje	2.87	10	*i* Pn	Pn	10 43 33.0	+2.7
SRS	Serrai	2.91	46	*e*Pn	Pn	10 43 31.0	+0.1
VLI	Veliai	2.95	144	*e*Pg	Pg	10 43 38.0	-4.1
TDS	Terranova Siba	3.50	280	*e*Pn	Pn	10 43 40.6	+1.5
TDS				*e*Sn	Sn	10 44 27.3	+6.0
SCLL	Scilla	4.08	259	*e*Pn	Pn	10 43 46.3	-1.1
SCLL				*e*Sn	Sn	10 44 32.8	-3.2
MGR	Morigerati	4.17	285	*e*Pn	Pn	10 43 48.4	-0.4
SLCN	Sala Consilina	4.17	289	*e*Pn	Pn	10 43 49.4	+0.6
MRLC	Muro Lucano	4.39	293	*e*Pn	Pn	10 43 51.9	0.0
ALN	Alexandroupoli	4.39	65	*e*Pn	Pn	10 43 50.8	-1.1
SGO	Sicignano	4.46	290	*e*Pn	Pn	10 43 52.6	-0.3
FG5	Orsara di Pugl	4.75	299	*e*Pn	Pn	10 43 56.8	-0.2
CSSN	Cassano Irpino	4.76	293	*e*Pn	Pn	10 43 57.0	-0.1
BOJS	Bojanci	7.57	329	*i* Pn	Pn	10 44 34.0	-2.7
CRES	Cresnjevec ost	7.76	331	*e*Pn	Pn	10 44 36.2	-3.1
VISS	Visnje	7.98	328	*e*Pn	Pn	10 44 39.8	-2.7

*BER **12** 10:48:42.5±1.0,77.08N×21.31E,h31^{km}±17^{km}, ML2.1(NAO)*

NAO 12 10:48:42.7±37.0,77.18N×20.92E,h44^{km}±137^{km},ML2.1, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SPA0	Spitsbergen Ar	1.40	318	Pn	P	10 49 06.0	-0.3
	baz=133,slow=18						
SPA0				Pg	P	10 49 08.9	+2.6
	baz=134,slow=18						
KBS	Kingsbay	2.56	318	Pn	P	10 49 22.1	-0.7
KBS				Lg		10 50 05.4	

DHMR 12 11:00:48.4±0.6,13.78N×42.68E,h49^{km}±2^{km},MD3.9, ML4.1,3C-2D,Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
UDYN	Al ‘Udayn	1.29	82	*i* P	P	11 01 11.4	+0.9
UDYN				*i* S	S	11 01 29.2	+2.4
UDYN				AML	AML	11 01 31.7	
	comp=E,4μm,0.5s						
TRBA	At Turbah	1.52	112	⇓*i*P	P	11 01 14.5	+0.8
TRBA				*i* S	S	11 01 35.5	+3.0
TRBA				AML	AML	11 01 36.5	
	comp=N,3μm,0.6s						
DHBB	Dhamar BB	1.83	65	⇓*i*P	P	11 01 19.9	+1.9
DHBB				*i* S	S	11 01 44.1	+4.1
HAJJ	Hajjah	2.10	25	⇑*i*P	P	11 01 23.0	+1.1
HAJJ				*i* S	S	11 01 50.5	+3.6
HAJJ				AML	AML	11 02 00.5	
	comp=E,1μm,0.3s						
LBOS		2.50	88	⇑*i*P	P	11 01 28.9	+1.4
LBOS				*i* S	S	11 02 00.3	+3.3
BDHA	Al Bayda’	2.81	86	⇑*i*P	P	11 01 33.2	+1.1
BDHA				*i* S	S	11 02 07.6	+2.7
BDHA				AML	AML	11 02 26.9	
	comp=N,1μm,0.5s						

MEX 12 11:24:45.5±1.4,18.28N×104.17W,h18^{km}±142^{km},MD3.9, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CJM	Chamela	1.47	326	*e*P	Pn	11 25 08.3	-3.1
CJM				*i* S	Sn	11 25 24.7	-5.5
CGX	Ciudad Guzman	1.54	24	*e*P	Pn	11 25 07.5	-4.9
CGX				*i* S	Sn	11 25 28.0	-4.1
SFJM	Santa Fe	2.44	26	*i* P	Pn	11 25 23.3	-2.0
SFJM				*i* S	Sn	11 25 50.5	-4.5
MOIG	Morelia	3.15	63	*e*P	Pn	11 25 31.1	-4.2
MOIG				*i* S	Sn	11 26 07.7	-5.1

GUC 12 11:39:47.3±0.8,34.02S×70.11W,h4^{km}±2^{km},MD3.6, ML2.4,5C-3D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LMEL	Las Melosas	0.18	334	*e*P	Pg	11 39 51.9	+0.8
LMEL				*i* S	Sg	11 39 54.7	+1.1
LMEL				AMP		11 39 56.0	
	comp=N,2μm,0.1s						
CICH	Cipreses	0.40	220	⇑*i*P	Pg	11 39 55.5	+0.2
CICH				*i* S	Sg	11 40 01.4	+0.8
CACH	El Canelo	0.42	256	⇓*i*P	Pg	11 39 56.2	+0.5
CACH				*i* S	Sg	11 40 02.4	+0.9
SJCH	San Jose de Ma	0.43	331	⇓*i*P	Pg	11 39 55.6	-0.2
SJCH				*i* S	Sg	11 40 02.4	+0.9
SJCH				AMP		11 40 02.9	
	comp=E,604nm,0.3s						
CHCH	Chadas Angostu	0.46	280	⇓*i*P	Pg	11 39 57.1	+0.6
CHCH				*i* S	Sg	11 40 04.0	+1.3
PCH	Pirque	0.52	319	⇑*i*P	Pg	11 39 58.3	+0.6
PCH				*i* S	Sg	11 40 06.1	+1.5
FCH	Farellones	0.70	347	⇑*i*P	Pg	11 40 01.4	+0.1
FCH				*i* S	Sg	11 40 11.8	+1.1
FCH				AMP		11 40 13.1	
	comp=E,148nm,0.2s						
DSCH	Colegio Aleman	0.72	328	*e*P	Pg	11 40 02.0	+0.2
DSCH				*i* S	Sg	11 40 13.0	+1.5
DSCH				AMP		11 40 13.5	
	comp=N,353nm,0.4s						
TACH	Talagante	0.78	297	⇑*i*P	Pg	11 40 02.9	0.0
TACH				*i* S	Sg	11 40 14.2	+0.9
SFDO	San Fernando	0.96	231	⇑*i*P	Pb	11 40 05.6	-0.5
SFDO				*i* S	Sb	11 40 19.4	+0.5
LNV	Longovilo	1.08	273	*i* P	Pb	11 40 07.9	-0.3
LNV				*i* S	Sb	11 40 22.6	+0.1
LCCH	Las Cruces	1.33	293	*i* P	Pb	11 40 12.1	-0.3
LCCH				*i* S	Sb	11 40 30.0	+0.3

*JMA **12** 11:40:42.7±0.2,24.34N×123.03E,h59^{km}±2^{km},M2.2*

*TAP **12** 11:40:52.1,24.91N×122.15E,h8^{km},ML2.6*

ISC 12 11:40:42.8±2.5,24.3N±0.2×123.0E±0.1,h58^{km}±13^{km},n6, σ0^{s}36/11,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.14	356	P	P	11 40 51.7	+0.1
YOJ				S	S	11 40 58.1	0.0

IRIF	Iriomote-Funau	0.65	89	P	P	11 40 56.0	-0.3
IRIF				S	S	11 41 06.5	+0.2
HATJ	Hateruma jima	0.76	110	eS	S	11 41 08.8	0.0
JKRS	Kuro-shima	0.91	95	P	P	11 40 59.6	0.0
JKRS				eS	S	11 41 12.9	+0.7
JIJ	Ishigaki jima	1.02	87	P	P	11 41 01.0	-0.3
JIJ				S	S	11 41 14.2	-0.8
JTJ	Tarama	1.56	78	P	P	11 41 09.2	+0.4
JTJ				eS	S	11 41 28.3	+0.2

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*PRU **12** 11:41:43.0, 51.43N×16.15E*

*WAR **12** 11:41:43, 51.46N×16.13E, ML2.8, Mining Induced*

ISC 12 11:41:40.1±0.8**, 51.47N**±0.04×**16.14E**±0.04**, n12,** σ1^{s}**07**/29**, 1C, Poland**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	Ksiaz	0.63	171	i PG	Pg	11 41 54.5	+1.8
KSP				eSG	Sg	11 42 02.5	+1.3
UPC	Upice	0.96	185	ePG	Pg	11 42 01.3	+1.9
UPC				eSG	Sg	11 42 12.4	+0.2
DPC	Dobruska-Polom	1.12	174	ePG	Pg	11 42 03.3	+0.7
DPC				eSG	Sg	11 42 18.2	+0.7
	30nm,0.4s						
PVCC	Panska Ves	1.37	227	ePG	Pg	11 42 07.8	+0.3
PVCC				eSG	Sg	11 42 27.6	+1.9
PRU	Pruhonice	1.80	215	ePN	Pn	11 42 13.4	+0.8
PRU				ePG	Pg	11 42 15.1	-0.9
PRU				ex	x	11 42 32.3	
PRU				eSG	Sg	11 42 39.7	-0.2
CLL	Collm	1.98	267	ePN	Pn	11 42 15.0	-0.2
CLL				ePG	Pg	11 42 19.0	-0.6
CLL				i		11 42 23.0	
CLL				i SG	Sg	11 42 45.8	-0.1
OKC	Ostrava-Krasne	2.07	141	ePN	Pn	11 42 17.0	+0.5
OKC				ePG	Pg	11 42 20.7	-0.8
OKC				eSG	Sg	11 42 47.2	-1.9
OJC	Ojcow	2.63	117	ePG	Pg	11 42 33.0	+0.3
OJC				eSG	Sg	11 43 07.0	-0.7
NKC	Novy Kostel	2.65	244	ePN	Pn	11 42 25.4	+0.6
NKC				ePG	Pg	11 42 32.0	-1.0
NKC				eSG	Sg	11 43 08.2	-0.1
KHC	Kasperske Hory	2.86	216	ePN	Pn	11 42 28.9	+1.1
KHC				ePG	Pg	11 42 34.3	-2.9
KHC				eSN	Sn	11 43 02.1	-1.4
KHC				eSG	Sg	11 43 13.6	-1.7
VYHS	Vyhne	3.44	149	ePG	Pg	11 42 48.1	-0.8
MOA	Molln	3.82	199	⇑iPN	Pn	11 42 42.4	+0.9
MOA				i SG	Sg	11 43 46.2	-1.1
	4.8nm,0.4s						

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*NEIC **12** 12:18:34.7±3.5, 17.80S×178.18W, h539^{km}±40^{km}, mb4.2/18, Error ellipse: s-maj=16.7km s-min=16.4km az=175.0*

*IDC **12** 12:18:41.3±1.9, 18.14S×178.19W, h622^{km}±24^{km}, mb3.5/12, mb1 3.7/12, mb1mx3.6/17, Error ellipse: s-maj=22.0km s-min=12.1km az=155.0*

ISC 12 12:18:36.0±3.3**, 18.0S**±0.1×**178.2W**±0.1**, h570**^{km}±42^{km}**, n39,** σ1^{s}**06**/37**, mb4.1**/25**, 5C-6D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	Urewera	20.64	190	P	P	12 22 36.4	-1.6
	4.3nm,0.4s,baz=304,slow=3.6,SNR=3.2						
SNZO	South Karori	24.05	193	eP	P	12 23 07.7	-1.2
	8.6nm,0.6s,mb4.6						
RPZ	Rata Peaks	27.23	197	P	P	12 23 36.8	0.0
	4.7nm,0.4s,mb4.5,baz=314,slow=17,SNR=8.1						
CTA	Charters Tower	33.61	261	⇓iP	P	12 24 32.7	+1.4
	7.4nm,0.7s,mb4.3						
CTA	Charters Tower	33.61	261	P	P	12 24 32.8	+1.5
	6.9nm,0.5s,mb4.4,baz=88,slow=9.7,SNR=15						
CTAO	Charters Tower	33.61	261	eP	P	12 24 32.6	+1.3
	7.7nm,0.7s,mb4.3						
TOO	Toolangi	37.27	231	eP	P	12 25 02.9	+1.5
	7.9nm,0.9s,mb4.2						
STKA	Stephens Creek	38.76	241	⇓iP	P	12 25 15.2	+1.7
	10nm,0.9s,mb4.3						
STKA	Stephens Creek	38.76	241	P	P	12 25 15.2	+1.7
	8.9nm,0.6s,mb4.5,baz=80,slow=8.5,SNR=33						
WB2	Warramunga Arr	44.78	260	eP	P	12 26 01.2	-0.2
WRAB	Tennant Creek	44.78	260	eP	P	12 26 01.4	0.0
	5.6nm,0.4s,mb4.5						
WRA	Warramunga Arr	44.79	260	P	P	12 26 01.6	+0.1
	4.9nm,0.4s,mb4.4,baz=95,slow=7.1,SNR=53						
ASAR	Alice Springs	44.95	254	P	P	12 26 03.0	+0.4
	26nm,0.9s,mb4.8,baz=91,slow=8.1,SNR=321						
ASAR				PcP	PcP	12 27 30.4	-1.5
	1.0nm,0.5s,baz=103,slow=3.2,SNR=4.8						
ASAR				ScP		12 30 25.8	
	0.3nm,0.6s,baz=86,slow=4.3,SNR=4.5						
ASAR				S	S	12 31 56.2	-3.9
	0.5nm,0.6s,baz=92,slow=14,SNR=7.6						
ASPA	Alice Springs	44.95	254	⇓iP	P	12 26 03.0	+0.4
KAKA	Kakadu	47.80	269	⇓iP	P	12 26 24.5	+0.1
	10nm,0.4s,mb4.7						
FORT	Forrest	50.14	245	⇓iP	P	12 26 40.7	-1.0
	42nm,0.6s,mb5.0						
FITZ	Fitzroy Crossi	53.19	261	⇓iP	P	12 27 03.5	-0.2
	1.5nm,0.3s,mb3.8						
FITZ	Fitzroy Crossi	53.19	261	P	P	12 27 03.7	0.0
	1.6nm,0.3s,mb3.8,baz=153,slow=7.4,SNR=19						
MBWA	Marble Bar	58.23	256	eP	P	12 27 37.3	-1.2
	5.0nm,0.5s,mb4.0						
KLBR	Kellerberrin	58.96	244	eP	P	12 27 42.1	-1.2
	8.2nm,0.6s,mb4.1						
MUN	Mundaring	60.26	243	⇑iP	P	12 27 51.4	-0.4
	4.1nm,0.6s,mb3.9						
SBA	Scott Base	60.38	184	eP	P	12 27 53.1	+1.0
	2.3nm,0.6s,mb3.7						
YBH	Yreka Blue Hor	78.45	39	P	P	12 29 40.4	+0.8
	3.7nm,0.8s,mb3.8,baz=10,slow=1.2,SNR=7.1						
TPNV	Topopah Spring	79.93	46	P	P	12 29 46.2	-1.3
	1.4nm,0.8s,mb3.3						
ELK	Elko	82.57	43	eP	P	12 30 01.1	+0.2
	2.7nm,1.0s,mb3.7						
MAW	Mawson	83.87	200	P	P	12 30 06.7	0.0
	1.2nm,0.6s,mb3.6,baz=137,slow=6.7,SNR=5.3						
HLID	Hailey	84.55	41	eP	P	12 30 10.9	+0.3
	1.6nm,0.7s,mb3.7						
COLA	College	85.78	13	eP	P	12 30 14.2	-1.9
	1.7nm,0.5s,mb3.9						
LTX	Lajitas	85.87	58	eP	P	12 30 18.3	+0.9
	4.0nm,1.0s,mb4.0						
TXAR	Lajitas Array	85.87	58	P	P	12 30 18.4	+1.0
	1.5nm,0.6s,mb3.8,baz=219,slow=6.3,SNR=27						
ILAR	Eielson Array	85.89	13	P	P	12 30 15.7	-0.9
	1.2nm,0.5s,mb3.8,baz=221,slow=4.8,SNR=49						
PDAR	Pinedale Array	87.27	43	P	P	12 30 23.8	+0.2
	1.4nm,0.6s,mb3.8,baz=224,slow=2.3,SNR=14						
SNAA	Sanae	90.55	179	⇑i	P	12 30 37.0	-1.2
VNA3	Neumayer Olymp	90.68	176	⇑i	P	12 30 41.8	+3.0
VNA2	Neumayer--Watz	91.12	177	⇑i	P	12 30 44.6	+3.8
VNA1	Neumayer--Stat	91.35	177	⇑i	P	12 30 46.0	+4.1
CLL	Collm	145.55	348	i PKP1	PKPbc	12 37 11.2	+0.7
GERES	GERESS Array B	147.70	345	PKPbc	PKPdf	12 37 17.2	+4.3
	1.2nm,0.7s,baz=27,slow=3.0,SNR=7.3						
DAVOX	Davos	150.49	349	PKPbc	PKPdf	12 37 24.6	+7.3
	1.8nm,0.5s,baz=327,slow=23,SNR=3.7						

DHMR 12 12:32:33.0±0.6**, 13.76N**×**42.64E, h46**^{km}±3^{km}**, MD3.8, ML3.8, 2C-1D, Ethiopia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UDYN	Al ‘Udayn	1.33	81	⇑iP	P	12 32 56.9	+1.3
UDYN				i S	S	12 33 14.9	+2.5
UDYN				AML	AML	12 33 19.2	
	comp=Z,975nm,0.3s						
TRBA	At Turbah	1.55	111	i P	P	12 32 59.6	+0.9
TRBA				i S	S	12 33 20.5	+2.8
TRBA				AML	AML	12 33 21.7	
	comp=Z,2µm,0.4s						
DHBB	Dhamar BB	1.88	65	i P	P	12 33 05.1	+1.9
DHBB				i S	S	12 33 30.2	+4.4
HAJJ	Hajjah	2.14	26	⇑iP	P	12 33 08.3	+1.3
HAJJ				i S	S	12 33 36.2	+3.8
HAJJ				AML	AML	12 33 49.3	
	comp=E,1µm,0.4s						
BDHA	Al Bayda’	2.85	85	⇓iP	P	12 33 18.7	+1.5
BDHA				i S	S	12 33 53.6	+3.1
BDHA				AML	AML	12 34 07.7	
	comp=N,993nm,0.8s						

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*NAO **12** 12:36:56.7±3.5, 60.13N×25.32E, ML2.0*

*BER **12** 12:36:56.9±3.0, 60.07N×25.51E, ML2.0(NAO), Suspected explosion*

*HEL **12** 12:36:57.7±0.3, 60.10N×25.24E, ML1.6, ML1.9(UPP), ML2.0(NAO), Explosion*

ISC 12 12:36:56.6±0.8**, 60.17N**±0.05×**25.18E**±0.07**, n18,** σ1^{s}**10**/24**, Finland**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PVF	Pernaja	0.50	42	eP	Pg	12 37 07.0	+0.4
PVF				eS	Sg	12 37 13.3	-0.1
VJF	Virojoki	1.24	72	eP	Pb	12 37 19.9	-0.6
VJF				eS	Sb	12 37 36.2	-0.6
FIA0	FINESS Array S	1.35	19	eP	Pb	12 37 22.6	+0.2
FIA0				eSN	Sn	12 37 44.6	+3.1
FIA0	FINESS Array S	1.35	19	Pn	Pn	12 37 22.5	-0.2
	baz=196,slow=18						
FIA0				Lg		12 37 39.6	
	baz=192,slow=28						
KEF	Keuruu	2.01	356	eSG	Sg	12 38 01.6	-1.7
KEF				MSG		12 38 02.4	
	comp=Z,4.0nm,0.1s						
KAF	Kangasniemi	2.02	15	eP	Pn	12 37 34.2	+1.9
KAF				MSG		12 38 03.6	
	comp=Z,1.9nm,0.1s						
SUF	Sumiainen	2.60	10	eSB	Sb	12 38 16.9	+0.5
NRTU	Norrtaelje	3.33	264	eS	Sn	12 38 32.7	+0.7
IGGU	Iggoen	3.95	284	eP	Pn	12 37 59.9	+0.2
ARNU	Arnoeviken	4.10	295	eP	Pn	12 38 03.0	+1.1
HEMU	Hemsoen	4.25	309	eP	Pn	12 38 05.2	+1.1
HEMU				eS	Sn	12 38 54.8	-0.4
HASU	Hassela	4.60	299	eP	Pn	12 38 09.5	+0.5
FALU	Falun	4.66	278	eP	Pn	12 38 09.6	-0.2
ROTU	Roteberg	4.76	289	eP	Pn	12 38 10.6	-0.6
HFS	Hagfors	5.74	275	Pn	Pn	12 38 23.3	-1.8
	baz=103,slow=11						
HFS				Sn	Sn	12 39 29.0	-3.6
	baz=95,slow=28						
HFS	Hagfors	5.74	275	eP	Pn	12 38 23.3	-1.8
HFS				eS	Sn	12 39 29.0	-3.6
ARA0	ARCESS Array S	9.40	1	Pn	P	12 39 13.2	-3.2
	baz=183,slow=12						
ARA0	ARCESS Array S	9.40	1	eP	P	12 39 13.2	-3.2

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*NEIC **12** 12:48:27.0±2.4, 8.14S×114.13E, h19^{km}±11^{km}, mb4.3/3, Error ellipse: s-maj=27.9km s-min=11.2km az=54.0*

NEIC Felt [III] at Banyuwangi, Java.

*DJA **12** 12:48:29.2±1.2, 8.19S×114.26E, h30^{km}±6^{km}, ML5.5/3, Error ellipse: s-maj=38.0km s-min=22.4km az=1.0*

*IDC **12** 12:49:09.2±8.1, 7.62S×115.61E, h433^{km}±113^{km}, mb3.2/6, mb1 3.4/6, mb1mx3.2/13, Error ellipse: s-maj=101.0km s-min=18.0km az=53.0*

ISC 12 12:48:31.1±1.0**, 8.67S**±0.08×**114.23E**±0.07**, h33**^{km}**, n21,** σ1^{s}**27**/27**, mb4.0**/8**, 11C, Bali region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KELI	Kelakatan	0.52	30	⇑ePg	P	12 48 35.1	-6.7
KELI				⇑iSn	Sn	12 48 50.8	+1.1
KELI	Kelakatan	0.52	30	⇑iPn	P	12 48 35.1	-6.7
INGI	Ingas	0.91	100	⇑ePn	Pn	12 48 49.3	+1.5
	5µm,0.2s						
RATI	Rata	1.29	93	⇑ePn	Pn	12 48 53.0	-0.1
	4µm,0.2s						
RATI				⇑iSn	Sn	12 49 10.1	+0.8
RATI	Rata	1.29	93	⇑ePn	Pn	12 48 53.0	-0.1
RATI				i Sn	Sn	12 49 11.2	+1.9
KEDI	Kedomdong	1.87	85	⇑ePn	Pn	12 48 58.9	-2.5
	4µm,0.3s						
KEDI	Kedomdong	1.87	85	⇑iPg	P	12 48 59.3	-1.9
KEDI				⇑iSn	Sn	12 49 20.8	-3.3
KEDI	Kedomdong	1.87	85	⇑ePn	Pn	12 48 58.9	-2.5
KEDI				i Sn	Sn	12 49 25.2	+1.1
FITZ	Fitzroy Crossi	14.52	131	eP	P	12 51 56.1	-0.2
	2.5nm,0.6s						
FITZ				eS	S	12 54 36.5	-0.5
WRA	Warramunga Arr	22.45	122	P	P	12 53 27.8	-0.9
	2.7nm,0.5s,mb4.0,baz=295,slow=12,SNR=13						
WRAB	Tennant Creek	22.45	122	eP	P	12 53 29.2	+0.4
	5.9nm,0.6s,mb4.2						
WB2	Warramunga Arr	22.46	122	eP	P	12 53 28.4	-0.4
LUBP	Lubang	23.04	15	eP	P	12 53 40.4	+5.6
ASPA	Alice Springs	24.02	131	eP	P	12 53 45.4	+1.3
ASAR	Alice Springs	24.02	131	P	P	12 53 45.1	+1.0
	6.7nm,1.0s,mb4.0,baz=310,slow=9.2,SNR=66						
CMAR	Chiang Mai Arr	30.89	331	P	P	12 54 47.2	+0.2
	1.6nm,1.1s,mb3.8,baz=157,slow=9.0,SNR=6.0						
CTAO	Charters Tower	32.96	114	eP	P	12 55 04.6	-0.7
	1.0nm,0.5s,mb4.0						
STKA	Stephens Creek	34.34	136	eP	P	12 55 17.7	+0.7
	1.8nm,0.4s,mb4.3						
STKA	Stephens Creek	34.34	136	P	P	12 55 17.9	+0.9
	2.7nm,0.6s,mb4.3,baz=306,slow=10,SNR=13						
SONM	Songino Array	56.68	354	P	P	12 58 05.3	-8.4
	0.5nm,0.8s,mb3.6,baz=158,slow=7.8,SNR=5.3						
MKAR	Makanchi Array	62.11	336	P	P	12 58 42.2	-9.0
	0.9nm,0.6s,mb4.0,baz=139,slow=6.6,SNR=5.3						

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*OTT **12** 13:05:17.6±0.2, 39.42N×85.99W, h18^{km}, MN3.9/25, Near Shelbyville, Indiana, Us 386km southwest from Amherstburg, On*

NEIC 12 13:05:19.1±1.4**, 39.59N**×**85.80W, h6**^{km}±12^{km}**, mb3.5**/1**, MN3.6, MW3.8**(SLM)**, 1C-1D, Error ellipse: s-maj=8.5km s-min=4.7km az=150.0, Indiana**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BLO	Bloomington	0.70	233	⇓ePg	Pg	13 05 32.6	-0.6
BLO				eSg	Sg	13 05 42.3	-0.3
WCI	Wyandotte Cave	1.42	196	⇑ePn	Pn	13 05 45.2	-0.3
WCI				eSg	Sg	13 06 04.5	-1.8
ACSO	Alum Creek Sta	2.26	73	ePn	Pn	13 05 55.8	-1.7
ACSO				ePg	Pg	13 05 57.2	-7.0
ACSO				eSn	Sn	13 06 26.9	+1.0
PLIO	Pelee Island,	3.23	47	PN	Pn	13 06 10.7	-0.7
PLIO				SN	Sn	13 06 48.8	-1.9
PLIO				Trac		13 07 10.7	
	comp=Z,143nm,0.2s						
SLM	Saint Louis	3.58	256	ePn	Pn	13 06 15.2	-1.2
SLM				eS	Sn	13 06 58.4	-1.1
WVT	Waverly	3.81	206	ePn	Pn	13 06 18.6	-1.1
WVT				ePg	Pg	13 06 27.1	-8.1
WVT				eS	Sn	13 07 04.0	-1.4
UTMT	University of	4.05	218	ePn	Pn	13 06 21.2	-1.8
SWET	Sewanee	4.37	181	ePn	Pn	13 06 26.2	-1.4
CCM	Cathedral Cave	4.52	252	ePn	Pn	13 06 28.4	-1.3
CCM				eSg	Sn	13 07 36.4	+13
MCWV	Mont Chateau	4.59	87	ePn	Pn	13 06 30.0	-0.8
MCWV				eSg	Sg	13 07 38.9	-13
JFWS	Jewell Farm	4.72	316	PN	Pn	13 06 29.5	-3.0
JFWS				SN	Sn	13 07 19.7	-8.6
JFWS				Trac		13 07 56.1	
	comp=Z,335nm,0.3s						
JFWS	Jewell Farm	4.72	316	ePn	Pn	13 06 30.1	-2.4
ALLY	Alegheny Colle	4.76	63	ePn	Pn	13 06 32.5	-0.6
ALLY				eS	Sg	13 07 38.6	-19
BLA	Blacksburg	4.85	118	ePn	Pn	13 06 31.9	-2.5
BLA				eSg	Sn	13 07 40.5	+8.9
GNAR	Gosnell	4.93	224	ePn	Pn	13 06 34.6	-0.9
ERPA	Erie	5.07	58	ePn	Pn	13 06 36.0	-1.5
ERPA				eS	Sg	13 07 46.7	-21
HGVO	Hagersville	5.44	50	PN	Pn	13 06 39.4	-3.3
HGVO				SN	Sn	13 07 40.4	-6.0
HGVO				Trac		13 08 16.4	
	comp=Z,290nm,0.4s						
TYNO	Tyneside	5.67	50	PN	Pn	13 06 42.6	-3.3
TYNO				SN	Sn	13 07 44.5	-7.7
TYNO				LG		13 08 13.7	
TYNO				Trac		13 08 14.6	
	comp=Z,93nm,0.3s						
BRCO	Bruce Peninsul	5.67	34	PN	Pn	13 06 43.6	-2.3
BRCO				SN	Sn	13 07 46.1	-6.1
BRCO				Trac		13 08 24.8	
	comp=Z,489nm,0.5s						
ELGO	Elora Gorge	5.72	43	PN	Pn	13 06 43.3	-3.3
ELGO				SN	Sn	13 07 48.9	-4.6
ELGO				Trac		13 08 20.1	
	comp=Z,41nm,0.2s						
OXF	Oxford	5.84	211	ePn	Pn	13 06 45.7	-2.6
ACTO	Acton	5.88	45	PN	Pn	13 06 45.8	-3.1
ACTO				SN	Sn	13 07 51.5	-6.0
ACTO				Trac		13 08 24.7	
	comp=Z,126nm,0.3s						
PTCO	Port Colborne	5.89	54	PN	Pn	13 06 45.5	-3.5
PTCO				SN	Sn	13 07 52.2	-5.5
PTCO				Trac		13 08 29.0	
	comp=Z,36nm,0.3s						
SSPA	Standing Stone	6.15	78	ePn	Pn	13 06 50.1	-2.6
STCO	Saint Catharin	6.15	52	PN	Pn	13 06 49.0	-3.8
STCO				SN	Sn	13 07 58.0	-6.4
STCO				Trac		13 08 38.7	
	comp=Z,91nm,0.3s						
TORO	Toronto--Lesli	6.29	48	PN	Pn	13 06 50.7	-3.9
TORO				SN	Sn	13 08 01.1	-6.5
TORO				Trac		13 08 37.0	
	comp=Z,524nm,0.4s						
CLWO	Collingwood	6.34	38	PN	Pn	13 06 52.2	-3.3
CLWO				SN	Sn	13 08 02.4	-6.8
CLWO				Trac		13 08 45.9	
	comp=Z,292nm,0.5s						
TOBO	Tobermory, Bru	6.45	28	PN	Pn	13 06 53.0	-4.0
TOBO				SN	Sn	13 08 03.5	-8.4
TOBO				Trac		13 08 45.7	
	comp=Z,45nm,0.4s						
MEDO	Medina	6.57	55	PN	Pn	13 06 54.8	-3.9
MEDO				SN	Sn	13 08 07.4	-7.4
MEDO				Trac		13 08 53.3	
	comp=Z,49nm,0.3s						
LRAL	Lakeview Retre	6.62	189	ePn	Pn	13 06 53.3	-6.0
PKRO	Pickering	6.66	47	PN	Pn	13 06 56.6	-3.3
PKRO				SN	Sn	13 08 10.5	-6.4
PKRO				Trac		13 08 50.6	
	comp=Z,349nm,0.4s						
CBN	Corbin	6.71	99	Pn	Pn	13 07 06.5	+5.8
WLVO	Wesleyville	7.02	50	PN	Pn	13 07 01.4	-3.6
WLVO				SN	Sn	13 08 17.5	-8.5
WLVO				Trac		13 08 57.4	
	comp=Z,217nm,0.6s						
LINO	Lindsay	7.07	45	PN	Pn	13 07 01.5	-4.1
KLBO	Killbear Provi	7.08	34	PN	Pn	13 07 01.6	-4.2
KLBO				Trac		13 08 59.3	
	comp=Z,35nm,0.3s						
UALR	University of	7.10	229	Pn	Pn	13 07 06.3	+0.2
UALR				eSg	Sn	13 09 00.0	+32
SADO	Sadowa	7.15	42	PN	Pn	13 07 03.0	-3.8
SADO				SN	Sn	13 08 21.9	-7.4
SADO				Trac		13 09 00.5	
	comp=Z,162nm,0.6s						
BUKO	Buck Lake	7.51	37	PN	Pn	13 07 09.6	-2.3
BUKO				Trac		13 09 11.4	
	comp=Z,177nm,0.8s						
SUNO	Sudbury Onapin	7.76	23	PN	Pn	13 07 12.2	-3.2
SUNO				Trac		13 09 28.6	
	comp=Z,21nm,0.3s						
DELO	Deloro Mine	7.82	48	PN	Pn	13 07 12.2	-4.0
DELO				Trac		13 09 25.6	
	comp=Z,186nm,0.7s						
RSPO	Restoule Provi	7.85	32	PN	Pn	13 07 12.6	-4.0
RSPO				SN	Sn	13 08 38.0	-8.6
BINY	Binghamton	7.87	68	PN	Pn	13 07 12.0	-4.9
BINY				SN	Sn	13 08 37.0	-10
BINY				Trac		13 09 24.8	
	comp=Z,16nm,0.3s						
BINY	Binghamton	7.87	68	ePn	Pn	13 07 12.6	-4.3
MIAR	Mount Ida	8.00	233	ePn	Pn	13 07 14.8	-3.9
KGNO	Kingston	8.34	53	PN	P	13 07 18.9	-4.5
KGNO				SN	Sn	13 08 49.4	-9.5
KGNO				Trac		13 09 37.8	
	comp=Z,113nm,0.6s						
PLVO	Plevna	8.44	47	PN	P	13 07 20.1	-4.8
PLVO				SN	Sn	13 08 52.9	-8.7
PLVO				Trac		13 09 44.4	
	comp=Z,176nm,0.5s						
ALGO	Algonquin Park	8.53	39	PN	P	13 07 20.7	-5.4
EEO	Eldee	8.59	33	PN	P	13 07 22.1	-4.7
EEO				SN	Sn	13 08 56.2	-9.0
EEO				Trac		13 09 48.1	
	comp=Z,85nm,0.4s						
MPPO	Murphy’s Point	8.76	51	PN	P	13 07 24.4	-4.9
MPPO				SN	Sn	13 08 59.4	-10
MPPO				Trac		13 09 52.3	
	comp=Z,152nm,0.6s						
CRLO	Chalk River	8.93	41	PN	P	13 07 24.7	-6.8
CRLO				SN	Sn	13 09 04.3	-9.2
CRLO				Trac		13 10 01.9	
	comp=Z,70nm,0.4s						
PNPO	Pukaskwa Natio	9.01	358	PN	P	13 07 28.5	-4.2
PNPO				Trac		13 09 09.2	
	comp=N,8.5nm,0.2s						
TBO	Thunder Bay	9.41	345	PN	P	13 07 32.5	-5.8
TBO				SN	Sn	13 09 14.3	-11
TBO				Trac		13 10 37.9	
	comp=Z,33nm,0.6s						
WBO	Williamsburg	9.48	52	PN	P	13 07 32.1	-7.2
WBO				SN	Sn	13 09 15.2	-12
WBO				Trac		13 10 16.8	
	comp=Z,109nm,0.6s						
NCB	Newcomb	9.69	59	Pn	P	13 07 37.5	-4.5
GAC	Glen Almond	9.74	48	PN	P	13 07 38.1	-4.7
GAC				SN	Sn	13 09 21.1	-13
GAC				Trac		13 10 28.8	
	comp=Z,67nm,0.4s						
KILO	Kirkland Lake	9.91	24	PN	P	13 07 40.8	-4.3
KILO				SN	Sn	13 09 28.1	-10
KILO				Trac		13 10 27.1	
	comp=Z,87nm,0.5s						
ALFO	Alfred	10.05	50	PN	P	13 07 42.2	-4.8
ALFO				SN	S	13 09 29.9	-11
ALFO				Trac		13 10 35.1	
	comp=Z,11nm,0.3s						
GRQ	Grand Remous	10.09	43	PN	P	13 07 42.9	-4.7
GRQ				SN	S	13 09 31.4	-11
GRQ				Trac		13 10 36.9	
	comp=Z,88nm,0.5s						
KAPO	Kapuskasing	10.13	12	PN	P	13 07 42.4	-5.7
KAPO				Trac		13 10 48.5	
	comp=Z,5.6nm,0.2s						
VLDQ	Val d’Or	10.42	33	PN	P	13 07 44.3	-7.8
VLDQ				SN	S	13 09 38.4	-12
VLDQ				Trac		13 10 44.4	
	comp=Z,89nm,0.6s						
TRQ	Mont Tremblant	10.57	48	PN	P	13 07 48.7	-5.5
TRQ				SN	S	13 09 42.2	-12
TRQ				Trac		13 11 00.1	
	comp=Z,80nm,0.5s						
MRHQ	Morin Heights	10.58	50	PN	P	13 07 49.6	-4.8
MRHQ				SN	S	13 09 42.5	-12
MRHQ				Trac		13 10 51.7	
	comp=Z,14nm,0.3s						
CBKS	Cedar Bluff	10.85	270	ePn	P	13 07 53.5	-4.5
MALO	McAlpine Lake	11.27	20	PN	P	13 07 56.5	-7.2
MALO				Trac		13 11 19.1	
	comp=Z,10nm,0.4s						
SOLO	Sioux Lookout	11.34	339	PN	P	13 07 58.0	-6.6
SOLO				SN	S	13 09 57.2	-15
SOLO				Trac		13 10 19.2	
	comp=Z,3.7nm,0.2s						
WMOK	Wichita Mounta	11.44	249	ePn	P	13 08 00.4	-5.6
MOQ	Mont Orford	11.52	56	PN	P	13 08 02.0	-5.0
MOQ				SN	S	13 10 04.6	-12
EPLO	Experimental L	11.54	333	PN	P	13 08 01.8	-5.6
EPLO				Trac		13 10 26.5	
	comp=Z,4.0nm,0.3s						
DPQ	Saint Jean	11.85	49	PN	P	13 08 06.7	-4.8
DPQ				SN	S	13 10 12.9	-12
DPQ				Trac		13 11 29.4	
	comp=Z,45nm,0.5s						
VIMO	Victor Mine	13.30	5	PN	P	13 08 22.6	-8.4
VIMO				SN	S	13 10 45.5	-15
DAQ	Lac Daran	13.42	47	PN	P	13 08 27.4	-5.2
SILO	Sutton Inlier	14.90	2	PN	P	13 08 43.0	-8.9
ISCO	Idaho Springs	15.26	277	ePn	P	13 08 50.6	-6.1
SDCO	Great Sand Dun	15.50	269	Pn	P	13 08 55.3	-4.6
	3.3nm,1.2s						

MEX 12 13:18:05.1±0.6**, 16.38N**×**96.26W, h78**^{km}±15^{km}**, MD3.5, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.63**	**167**	*e*P	P	13 18 18.5	-1.5
HUIG				*e*S	S	13 18 29.1	-2.0
VHO	**Vista Hermosa**	**0.82**	**326**	*i* P	P	13 18 20.9	-1.3
OXX	**Oaxaca**	**0.83**	**327**	*e*P	P	13 18 20.0	-2.2
OXX				*e*S	S	13 18 34.0	-1.0

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*TIR **12** 13:25:28.5,41.72N×20.46E,h1^{km},Ml2.6*

*PDG **12** 13:25:31.2±0.3,41.69N×20.32E,h10^{km}±1^{km}*

ISC 12 13:25:30.9±0.6,**41.72N**±0.03×**20.39E**±0.04,**h10**^{km}**,n15,** σ**1**^{s}**57**/28**,1C-2D,Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
QSH	**Qafa e Shtames**	**0.42**	**242**	*i* Pg	**Pg**	**13 25 38.4**	**-1.1**
QSH				*i* Sg	**Sg**	**13 25 46.4**	**+1.3**
PUK	**Puka**	**0.49**	**311**	*i* Pg	**Pg**	**13 25 39.1**	**-1.9**
TIR	**Tirane**	**0.54**	**227**	*e*Pg	**Pg**	**13 25 39.0**	**-3.0**
TIR				*i* Sg	**Sg**	**13 25 51.5**	**+2.2**
OHR	**Ohrid**	**0.68**	**153**	*i* Pg	**Pg**	**13 25 43.8**	**-0.8**
OHR				*i*		13 25 44.3	
OHR				*i* Sg	**Sg**	**13 25 55.0**	**+1.2**
SKO	**Skopje**	**0.82**	**72**	*i* Pg	**Pg**	**13 25 48.5**	**+1.1**
ULC	**Ulcinj**	**0.89**	**286**	⇑*i*Pg	**Pg**	**13 25 47.3**	**-1.5**
ULC				*e*Sg	**Sg**	**13 26 01.0**	**+0.3**
PVY	**Plav**	**0.93**	**340**	*e*Pg	**Pg**	**13 25 47.5**	**-2.1**
PVY				*e*Sg	**Sg**	**13 26 02.9**	**+0.8**
TTG	**Podgorica**	**1.10**	**310**	*e*Pg	**Pg**	**13 25 51.1**	**-1.9**
TTG				*e*Sg	**Sg**	**13 26 08.2**	**+0.4**
IVA	**Berane**	**1.21**	**342**	*e*Pg	**Pg**	**13 25 53.3**	**-1.9**
IVA				*e*Sg	**Sg**	**13 26 12.9**	**+1.6**
BUM	**Brajici-Budva**	**1.26**	**298**	⇓*i*Pg	**Pg**	**13 25 53.7**	**-2.4**
BUM				*e*Sg	**Sg**	**13 26 13.8**	**+0.9**
NKY	**Niksic**	**1.51**	**317**	*e*Pg	**Pg**	**13 25 59.5**	**-1.6**
NKY				*e*Sg	**Sg**	**13 26 21.9**	**+0.8**
HCY	**Herceg Novi**	**1.59**	**298**	⇓*i*Pg	**Pg**	**13 25 59.2**	**-3.5**
HCY				*e*Sg	**Sg**	**13 26 24.1**	**+0.2**
PLE	**Pljevlja**	**1.77**	**336**	*e*Pn	**Pn**	**13 26 04.2**	**+2.3**
PLE				*e*Sn	**Sn**	**13 26 30.6**	**+6.0**
BRY	**Bratogost**	**1.81**	**311**	*e*Pn	**Pn**	**13 26 04.4**	**+1.9**
BRY				*e*Sn	**Sn**	**13 26 31.1**	**+5.5**
UPM	**Unac-Piva**	**1.84**	**324**	*e*Pn	**Pn**	**13 26 05.0**	**+2.1**
UPM				*e*Sn	**Sn**	**13 26 31.9**	**+5.4**

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*IDC **12** 13:27:10.1±13.0,46.83N×149.88E,h284^{km}±123^{km}, mb3.0/5,mb1 3.2/5,mb1mx2.9/21,Error ellipse: s-maj=83.3km s-min=23.4km az=176.0*

ISC 12 13:27:00.5±1.1,**45.8N**±0.1×**149.8E**±0.2,**h248**^{km}±11^{km}, **n23,** σ**1**^{s}**26**/33**,mb3.3**/5**,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**3.78**	**231**	P	**P**	**13 28 00.5**	**-1.7**
NEM2				*e*S	**S**	**13 28 47.4**	**-2.8**
JRA	**Rausu**	**3.80**	**242**	P	**P**	**13 28 02.4**	**0.0**
JNK	**Nakash**	**4.24**	**240**	P	**P**	**13 28 07.6**	**0.0**
JTKR	**Abashiri--Toko**	**4.55**	**248**	P	**P**	**13 28 12.0**	**+0.6**
JAK	**Akkeshi**	**4.60**	**234**	P	**P**	**13 28 11.3**	**-0.7**
JAK				*e*S	**S**	**13 29 06.6**	**-1.1**
JMP	**Maruseppu**	**4.89**	**250**	P	**P**	**13 28 16.1**	**+0.6**
JAR	**Ashorobuto**	**4.97**	**241**	P	**P**	**13 28 17.7**	**+1.2**
JOB	**Onbets**	**5.16**	**237**	P	**P**	**13 28 19.1**	**+0.4**
JOB				*e*S	**S**	**13 29 20.6**	**+0.8**
JKK2	**Kamakawa 2**	**5.35**	**251**	P	**P**	**13 28 22.7**	**+1.5**
ASAJ	**Asahikawa**	**5.36**	**254**	P	**P**	**13 28 23.2**	**+2.0**
JCH	**Churui**	**5.61**	**237**	P	**P**	**13 28 24.4**	**+0.1**
JCH				*e*S	**S**	**13 29 29.8**	**0.0**
JEM	**Erimo**	**6.11**	**234**	P	**P**	**13 28 31.9**	**+1.4**
JEM				*e*S	**S**	**13 29 43.4**	**+2.5**
JNBK	**Urakawa-nobuka**	**6.17**	**237**	P	**P**	**13 28 31.1**	**-0.3**
JNBK				*e*S	**S**	**13 29 41.2**	**-1.2**
JKB	**Kayabe**	**7.43**	**241**	P	**P**	**13 28 47.2**	**-0.2**
JKB				*e*S	**S**	**13 30 10.0**	**-1.1**
JTM	**Tenmabayashi**	**8.10**	**234**	P	**P**	**13 28 55.6**	**-0.2**
JTM				*e*S	**S**	**13 30 24.3**	**-1.8**
JANG	**Nango**	**8.13**	**231**	P	**P**	**13 28 55.4**	**-0.8**
JANG				*e*S	**S**	**13 30 24.6**	**-2.3**
OFUJ	**Ofunato**	**9.01**	**224**	*e*S	**S**	**13 30 48.2**	**+1.3**
JIO	**Ouri**	**9.66**	**223**	P	**P**	**13 29 15.9**	**+0.4**
JIO				*e*S	**S**	**13 31 03.1**	**+1.5**
ILAR	**Eielson Array**	**38.70**	**38**	P	**P**	**13 33 59.5**	**-2.1**
	0.3nm,0.5s,mb3.0,baz=267,slow=8.2,SNR=9.2						
MKAR	**Makanchi Array**	**45.28**	**297**	P	**P**	**13 34 56.7**	**+1.8**
	0.2nm,0.3s,mb2.9,baz=73,slow=6.9,SNR=7.9						
FINES	**FINESS Array B**	**63.84**	**334**	P	**P**	**13 37 06.7**	**-1.1**
	1.2nm,0.5s,mb3.8,baz=50,slow=8.4,SNR=11						
HFS	**Hagfors**	**68.46**	**338**	P	**P**	**13 37 35.4**	**-1.5**
	2.8nm,0.9s,mb3.9,baz=45,slow=4.1,SNR=4.2						
TXAR	**Lajitas Array**	**79.96**	**58**	P	**P**	**13 38 44.9**	**+1.6**
	0.1nm,0.4s,mb2.8,baz=297,slow=4.0,SNR=3.9						

DJA 12 13:35:16.5±0.9**,9.33S×116.73E,h80**^{km}**,MD4.8**/4**, ML4.6**/4**,6C-2D,Error ellipse: s-maj=24.2km s-min=18.1km az=2.0,Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**1.04**	**324**	⇑*e*Pn	P	13 35 36.1	-0.1
	612nm,0.1s						
KEDI				⇑*i*Sn	S	13 35 50.3	-0.7
RATI	**Rata**	**1.33**	**297**	⇓*e*Pn	P	13 35 39.0	-1.1
	503nm,0.1s						
RATI				⇑*i*Sn	S	13 35 56.0	-1.6
INGI	**Ingas**	**1.65**	**288**	⇓*e*Pn	P	13 35 43.7	-0.5
	820nm,0.2s						
INGI				⇑*i*Sn	S	13 36 03.4	-1.3
KELI	**Kelakatan**	**2.47**	**296**	⇑*e*Pn	P	13 35 54.8	-0.8
	309nm,0.2s						
KELI				⇑*i*Sn	S	13 36 22.7	-2.1

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*MOS **12** 13:35:39.9±2.0,51.46N×16.09E,h10^{km},mb4.0/1,Error ellipse: s-maj=14.8km s-min=7.1km az=81.7*

*NEIC **12** 13:35:40.1±0.5,51.55N×16.16E,h5^{km},ML2.8(VIE),Error ellipse: s-maj=6.1km s-min=5.4km az=82.0*

*IDC **12** 13:35:42.0±0.8,51.43N×16.08E,mb1 3.5/5, mb1mx3.3/19,ML2.6/5,Error ellipse: s-maj=17.9km s-min=7.8km az=103.0*

*PRU **12** 13:35:42.2,51.41N×16.12E*

*WAR **12** 13:35:42.0,51.46N×16.13E,ML2.8,Mining Induced*

ISC 12 13:35:39.8±0.6,**51.43N**±0.03×**16.09E**±0.03,**n32,** σ**1**^{s}**14**/62**, 2C,Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.60**	**168**	*i* PG	**Pg**	**13 35 53.4**	**+1.6**
KSP				*e*SG	**Sg**	**13 36 01.4**	**+1.6**
KSP	**Ksiaz**	**0.60**	**168**	*i* P	**Pg**	**13 35 53.4**	**+1.6**
KSP				*e*		13 36 06.5	
KSP	**Ksiaz**	**0.60**	**168**	*i* Pg	**Pg**	**13 35 53.4**	**+1.6**
KSP				*e*		13 35 54.5	
KSP				*e*Sg	**Sg**	**13 36 00.8**	**+1.0**
KSP				*e*		13 36 06.5	
UPC	**Upice**	**0.93**	**183**	*e*PG	**Pg**	**13 35 59.4**	**+1.1**
UPC				*e*SG	**Sg**	**13 36 10.6**	**0.0**
DPC	**Dobruska-Polom**	**1.09**	**172**	*e*PG	**Pg**	**13 36 02.2**	**+0.6**
DPC				*e*SG	**Sg**	**13 36 16.7**	**+0.6**
	13nm,0.2s						
DPC	**Dobruska-Polom**	**1.09**	**172**	*e*P	**Pg**	**13 36 02.2**	**+0.6**
DPC				*e*		13 36 16.7	
DPC				smax			
	comp=N,13nm,0.2s						
PVCC	**Panska Ves**	**1.32**	**227**	*e*PG	**Pg**	**13 36 07.0**	**+0.9**
PVCC				*e*SG	**Sg**	**13 36 24.1**	**+0.4**
BRG	**Berggiesshubel**	**1.46**	**248**	*e*P	**Pn**	**13 36 08.0**	**+0.5**
BRG				*i*		13 36 29.8	
BRG	**Berggiesshubel**	**1.46**	**248**	*e*Pn	**Pn**	**13 36 08.0**	**+0.5**
BRG				*i* Pg	**Pg**	**13 36 09.4**	**+0.4**
BRG				*i* Sg	**Sg**	**13 36 29.8**	**+1.3**
PRU	**Pruhonice**	**1.75**	**215**	*e*PN	**Pn**	**13 36 12.2**	**+0.6**
PRU				PG	**Pg**	**13 36 14.2**	**-0.5**
PRU				*i* x	x	13 36 31.4	
PRU				*e*SG	**Sg**	**13 36 36.5**	**-1.5**
	comp=N,24nm,0.5s						
PRU	**Pruhonice**	**1.75**	**215**	*e*P	**Pn**	**13 36 12.7**	**+1.1**
PRU				*e*		13 36 36.7	
PRU	**Pruhonice**	**1.75**	**215**	*e*Pn	**Pn**	**13 36 12.7**	**+1.1**
PRU				*e*Pg	**Pg**	**13 36 14.1**	**-0.6**
PRU				*e*		13 36 31.0	
PRU				*e*Sg	**Sg**	**13 36 36.7**	**-1.3**
MORC	**Moravsky Berou**	**1.90**	**150**	*e*Pn	**Pn**	**13 36 14.0**	**+0.3**
MORC				*e*Sn	**Sn**	**13 36 39.4**	**+0.7**
CLL	**Collm**	**1.94**	**268**	*e*PN	**Pn**	**13 36 15.0**	**+0.7**
CLL				*i* PG	**Pg**	**13 36 18.7**	**+0.2**
CLL				*e*		13 36 22.0	
CLL				*i* SG	**Sg**	**13 36 44.7**	**+0.3**
CLL	**Collm**	**1.94**	**268**	*e*P	**Pn**	**13 36 15.0**	**+0.7**
CLL				*i*		13 36 44.7	
CLL	**Collm**	**1.94**	**268**	*e*Pn	**Pn**	**13 36 15.0**	**+0.7**
CLL				*i* Pg	**Pg**	**13 36 18.7**	**+0.2**
CLL				*i* Sg	**Sg**	**13 36 44.7**	**+0.3**
OKC	**Ostrava-Krasne**	**2.06**	**140**	*e*PN	**Pn**	**13 36 15.9**	**-0.2**
OKC				*e*PG	**Pg**	**13 36 19.8**	**-1.2**
OKC				*e*SG	**Sg**	**13 36 46.2**	**-2.3**
OKC	**Ostrava-Krasne**	**2.06**	**140**	*e*P	**Pn**	**13 36 15.9**	**-0.2**
OKC				*e*		13 36 46.2	
VRAC	**Vranov**	**2.15**	**171**	Pn	**Pn**	**13 36 19.3**	**+2.0**
	comp=N,1.2nm,0.3s,baz=335,slow=15,SNR=11						
VRAC				Lg		13 36 49.5	
	comp=N,3.2nm,0.3s,baz=97,slow=22,SNR=6.2						
NKC	**Novy Kostel**	**2.60**	**244**	*e*PN	**Pn**	**13 36 24.7**	**+0.9**
NKC				*e*PG	**Pg**	**13 36 30.8**	**-0.9**
NKC				*e*SG	**Sg**	**13 37 06.1**	**-0.3**
OJC	**Ojcow**	**2.65**	**116**	*e*PG	**Pg**	**13 36 32.0**	**-0.6**
OJC				*e*SG	**Sg**	**13 37 07.0**	**-0.8**
OJC	**Ojcow**	**2.65**	**116**	*e*Pg	**Pg**	**13 36 32.2**	**-0.4**
OJC				*e*Sg	**Sg**	**13 37 06.7**	**-1.1**
KHC	**Kasperske Hory**	**2.81**	**216**	*e*PN	**Pn**	**13 36 27.8**	**+1.0**
KHC				*e*PG	**Pg**	**13 36 33.2**	**-2.7**
KHC				*e*SN	**Sn**	**13 37 01.2**	**-0.7**
KHC				*e*SG	**Sg**	**13 37 12.2**	**-1.1**
KHC	**Kasperske Hory**	**2.81**	**216**	*e*P	**Pn**	**13 36 27.8**	**+1.0**
KHC				*e*		13 37 01.2	
MOX	**Moxa**	**2.93**	**256**	*e*Pg	**Pg**	**13 36 37.0**	**-1.3**
MOX				*e*Sg	**Sg**	**13 37 16.2**	**-1.2**
GERES	**GERESS Array B**	**3.01**	**212**	Pn	**Pn**	**13 36 31.0**	**+1.3**
	comp=N,0.4nm,0.3s,baz=31,slow=13,SNR=14						
GERES				Pg	**Pg**	**13 36 36.8**	**-3.1**
	comp=N,1.9nm,0.3s,baz=32,slow=17,SNR=32						
GERES				Lg		13 37 16.0	
	comp=N,2.0nm,0.3s,baz=34,slow=26,SNR=7.9						
SMOL	**Smolenice**	**3.04**	**163**	*e*PG	**Pg**	**13 36 40.4**	**-0.2**
SMOL				*e*SG	**Sg**	**13 37 21.4**	**+0.3**
MOA	**Molln**	**3.77**	**199**	⇑*i*PN	**Pn**	**13 36 40.6**	**+0.1**
MOA				*i* SG	**Sg**	**13 37 43.0**	**-2.5**
	comp=N,4.3nm,0.4s						
ARSA	**Arzberg**	**4.20**	**185**	⇑*i*PN	**Pn**	**13 36 47.5**	**+1.0**
ARSA				*i* SG	**Sg**	**13 37 55.7**	**-3.9**
	comp=N,4.6nm,0.5s						
HFS	**Hagfors**	**8.83**	**352**	Pn	**P**	**13 37 48.1**	**-3.5**
	comp=N,0.0nm,0.3s,baz=180,slow=14,SNR=3.1						
FINES	**FINESS Array B**	**11.44**	**25**	Pn	**P**	**13 38 22.1**	**-5.3**
	comp=N,0.1nm,0.3s,baz=218,slow=11,SNR=3.7						
ARCES	**ARCESS Array B**	**18.70**	**10**	Pn	**P**	**13 39 55.4**	**-6.0**
	comp=N,0.1nm,0.3s,baz=184,slow=14,SNR=3.6						

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*IDC **12** 13:49:44.1±0.6,55.85N×161.64E,mb4.2/19,mb1 4.4/21, mb1mx4.4/25,ML4.0/2,MS3.2/3,Ms1 3.2/3,ms1mx3.0/23, Error ellipse: s-maj=18.0km s-min=10.3km az=18.0*

*NEIC **12** 13:49:47.2±4.2,55.90N×161.56E,h18^{km}±26^{km},mb4.5/14, Error ellipse: s-maj=9.6km s-min=5.8km az=173.0*

*MOS **12** 13:49:49.7±1.3,55.90N×162.01E,h53^{km},mb4.4/11,Error ellipse: s-maj=19.2km s-min=8.0km az=74.7*

*KRSC **12** 13:49:50.1±0.8,55.84N×162.01E,h57^{km}±4^{km},ML4.6*

ISC 12 13:49:50.4±0.2,**55.82N**±0.02×**162.01E**±0.04,**h61**^{km}±2^{km}, **n101,** σ**1**^{s}**16**/140**,mb4.3**/33**,1D,Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KBG	**Krutoberegovo**	**0.58**	**42**	*i* P	**P**	**13 50 03.2**	**-0.2**
KBG				*e*S	**S**	**13 50 12.7**	**-0.3**
KBG				Smax			
	12µm,0.5s						
KBTR	**Krutoberegovo**	**0.60**	**49**	P	**P**	**13 50 03.4**	**-0.2**
KBTR				S	**S**	**13 50 12.9**	**-0.4**
KBTR	**Krutoberegovo**	**0.60**	**49**	*i* P	**P**	**13 50 03.4**	**-0.2**
KBTR				*i* S	**S**	**13 50 13.2**	**-0.1**
ZLN	**Zelenaya**	**0.71**	**286**	*i* P	**P**	**13 50 05.0**	**+0.2**
ZLN				*e*S	**S**	**13 50 15.5**	**-0.1**
CIRR	**Tsirk**	**0.77**	**293**	*i* P	**P**	**13 50 05.6**	**0.0**
LGNR	**Loginova**	**0.79**	**290**	*i* P	**P**	**13 50 06.2**	**+0.3**
LGNR				*e*S	**S**	**13 50 17.8**	**+0.4**
SVLR	**Shiveluch**	**0.88**	**330**	*i* P	**P**	**13 50 07.4**	**+0.4**
KRSR	**Krestovskiy**	**0.90**	**297**	*i* P	**P**	**13 50 07.0**	**-0.4**
KRSR				*e*S	**S**	**13 50 18.6**	**-1.4**
KLY	**Klyuchi**	**0.91**	**303**	P	**P**	**13 50 05.9**	**-1.5**
KLY				S	**S**	**13 50 17.4**	**-2.7**
KLY	**Klyuchi**	**0.91**	**303**	*i* P	**P**	**13 50 05.9**	**-1.5**
KLY				*i* S	**S**	**13 50 17.6**	**-2.5**
KMNR	**Kamenistaya**	**1.00**	**267**	*i* P	**P**	**13 50 09.0**	**+0.2**
KMNR				*i* S	**S**	**13 50 24.0**	**+1.6**
KPT	**Kopyto**	**1.02**	**279**	*i* P	**P**	**13 50 09.3**	**+0.3**
KPT				*i* S	**S**	**13 50 23.5**	**+0.8**
TUMR	**Tumrok**	**1.19**	**244**	*i* P	**P**	**13 50 12.0**	**+0.8**
TUMR				*e*S	**S**	**13 50 27.2**	**+0.4**
KOZR	**Kozyr**	**1.22**	**282**	PN	**P**	**13 50 12.5**	**+0.9**
KOZR				S	**S**	**13 50 29.2**	**+1.8**
KOZ	**Kozyrevsk**	**1.23**	**282**	P	**P**	**13 50 12.5**	**+0.7**
KOZ				S	**S**	**13 50 29.2**	**+1.5**
KOZ	**Kozyrevsk**	**1.23**	**282**	*i* P	**P**	**13 50 12.6**	**+0.8**
KOZ				*e*S	**S**	**13 50 29.5**	**+1.8**
MKZ	**Mys Kozlova**	**1.28**	**187**	*i* P	**P**	**13 50 12.1**	**-0.5**
MKZ				*e*S	**S**	**13 50 28.2**	**-0.8**
SRDR	**Sredinnyy**	**1.38**	**292**	*e*P	**P**	**13 50 13.7**	**-0.3**
SRDR				*e*S	**S**	**13 50 31.7**	**+0.2**
ESO	**Esso**	**1.87**	**275**	*i* P	**P**	**13 50 20.0**	**-0.7**
ESO				*e*S	**S**	**13 50 41.5**	**-1.6**
ESO				Smax			
	950nm,0.7s						
KII	**Karymskiy**	**2.32**	**221**	P	**P**	**13 50 27.7**	**+0.6**
KII				S	**S**	**13 50 54.5**	**0.0**
KII	**Karymskiy**	**2.32**	**221**	*i* P	**P**	**13 50 27.7**	**+0.6**
KII				*e*S	**S**	**13 50 54.9**	**+0.4**
BKI	**Bering**	**2.34**	**104**	*i* P	**P**	**13 50 27.3**	**0.0**
BKI				*e*S	**S**	**13 50 54.2**	**-0.6**
BKI				Smax			
	340nm,1.4s						
SPN	**Mys Shipunski**	**2.97**	**204**	P	**P**	**13 50 35.2**	**-1.0**
SPN				S	**S**	**13 51 07.5**	**-3.3**
SPN	**Mys Shipunski**	**2.97**	**204**	*e*P	**P**	**13 50 35.2**	**-1.0**
SPN				*i* S	**S**	**13 51 08.4**	**-2.4**
NLC	**Nalytchevo**	**3.08**	**211**	P	**P**	**13 50 37.9**	**+0.1**
NLC				S	**S**	**13 51 12.5**	**-1.1**
NLC	**Nalytchevo**	**3.08**	**211**	*e*P	**P**	**13 50 37.7**	**-0.1**
NLC				*i* S	**S**	**13 51 12.7**	**-0.9**
SDLR	**Sedlovina**	**3.13**	**217**	*e*P	**P**	**13 50 39.2**	**+0.6**
SDLR				*e*S	**S**	**13 51 14.6**	**-0.4**
SMAR	**Somma**	**3.17**	**217**	*e*P	**P**	**13 50 40.0**	**+0.9**
SMAR				*e*S	**S**	**13 51 14.8**	**-1.2**
GNL	**Ganaly**	**3.18**	**230**	*i* P	**P**	**13 50 39.4**	**+0.2**
AVH	**Avacha**	**3.19**	**218**	*e*P	**P**	**13 50 40.4**	**+1.0**
AVH				*e*S	**S**	**13 51 16.3**	**-0.2**
KOK	**Koryaka**	**3.21**	**219**	*e*P	**P**	**13 50 40.9**	**+1.3**
KOK				*e*S	**S**	**13 51 18.0**	**+1.2**
UGLR	**Uglovaya**	**3.21**	**217**	*e*P	**P**	**13 50 40.5**	**+0.8**
UGLR				*e*S	**S**	**13 51 17.0**	**+0.1**
PET	**Petropavlovsk**	**3.42**	**216**	P	**P**	**13 50 43.2**	**+0.6**
PET				S	**S**	**13 51 21.3**	**-0.9**
PET	**Petropavlovsk**	**3.42**	**216**	*e*P	**P**	**13 50 43.2**	**+0.6**
PET				*i* S	**S**	**13 51 21.9**	**-0.3**
PET	**Petropavlovsk**	**3.42**	**216**	⇓*i*PN	**P**	**13 50 43.2**	**+0.6**
PET				*i* S	**S**	**13 51 21.7**	**-0.5**
PET				pmax	pmax		
	comp=Z,122nm,0.6s						
PET				smax			
	comp=E,464nm,0.4s						
PET				smax			
	comp=N,314nm,0.8s						
PET				MLR	MLR		
	comp=Z,500nm,19.0s						
PET				MLR	MLR		
	comp=N,200nm,20.0s						
PET				MLR	MLR		
	comp=Z,200nm,21.0s						
OSSR	**Ossora**	**3.48**	**9**	*e*P	**P**	**13 50 42.7**	**-0.8**
OSSR				*e*S	**S**	**13 51 21.2**	**-2.5**
OSSR				Smax			
	comp=Z,170nm,0.5s						
RUS	**Russkaya**	**3.97**	**213**	P	**P**	**13 50 49.8**	**-0.5**
RUS				S	**S**	**13 51 33.4**	**-2.6**
RUS	**Russkaya**	**3.97**	**213**	*e*P	**P**	**13 50 49.8**	**-0.5**
RUS				*e*S	**S**	**13 51 33.7**	**-2.3**
GRL	**Gorelyy**	**4.01**	**217**	*e*P	**P**	**13 50 53.0**	**+2.1**
GRL				*e*S	**S**	**13 51 38.2**	**+1.2**
APC	**Apacha**	**4.06**	**226**	*i* P	**P**	**13 50 52.1**	**+0.5**
APC				*e*S	**S**	**13 51 39.1**	**+0.9**
APC				Smax			
	comp=Z,100nm,1.0s						
PAU	**Pauzhetka**	**5.35**	**217**	*e*P	**P**	**13 51 13.0**	**+3.5**
PAU				*e*S	**S**	**13 52 08.0**	**-2.5**
SKR	**Severo-Kuril's**	**6.25**	**217**	*e*P	**P**	**13 51 25.3**	**+3.3**
SKR				*e*S	**S**	**13 52 32.1**	**-0.7**
KAMR	**Kamenskoye**	**6.99**	**16**	*e*P	**P**	**13 51 33.4**	**+0.9**
MA2	**Magadan**	**7.10**	**307**	P	**P**	**13 51 26.6**	**-7.3**
FX1	**Attu Island--F**	**7.15**	**110**	Pn	**P**	**13 51 33.1**	**-1.5**
	comp=Z,18nm,0.3s,baz=9.8,slow=2.8,SNR=58						
FX1				Sn	**S**	**13 52 52.3**	**-2.9**
	comp=Z,8.0nm,0.3s,baz=143,slow=15,SNR=5.7						
ASAJ	**Asahikawa**	**17.05**	**235**	Pn	**P**	**13 53 46.0**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=37,slow=12,SNR=6.5						
ASAJ				LR	LR	13 59 46.1	
	comp=Z,81nm,20.6s,baz=350,slow=36						
ASAJ	**Asahikawa**	**17.05**	**235**	P	**P**	**13 53 46.1**	**+0.3**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,81nm,20.6s						
IMA	**Indian Mountai**	**23.30**	**46**	*e*P	**P**	**13 54 55.1**	**+2.3**
	comp=Z,38nm,0.8s,mb4.9						
MAJO	**Matsushiro**	**25.15**	**230**	P	**P**	**13 55 09.1**	**-1.9**
	comp=Z,4.8nm,0.6s,mb4.2						
BOD	**Bodaibo**	**25.92**	**294**	*e*P	**P**	**13 55 12.6**	**-5.4**
ILAR	**Eielson Array**	**26.14**	**49**	P	**P**	**13 55 20.2**	**+0.3**
	comp=Z,1.6nm,0.7s,mb3.7,baz=262,slow=8.2,SNR=46						
ILAR				LR	LR	14 04 49.2	
	comp=Z,37nm,19.4s,baz=40,slow=34						
ILAR	**Eielson Array**	**26.14**	**49**	P	**P**	**13 55 20.3**	**+0.3**
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ILAR				MLR	MLR		
	comp=Z,37nm,19.4s						
INK	**Inuvik**	**31.04**	**41**	P	**P**	**13 56 04.5**	**+0.5**
	comp=Z,1.2nm,0.5s,mb4.0,baz=280,slow=8.5,SNR=5.4						
INK	**Inuvik**	**31.04**	**41**	P	**P**	**13 56 04.5**	**+0.5**
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
SONM	**Songino Array**	**34.44**	**280**	P	**P**	**13 56 32.6**	**-1.0**
	comp=Z,0.7nm,0.9s,mb3.6,baz=56,slow=5.2,SNR=5.8						
SONM				PcP	PcP	13 59 06.7	-1.5
	comp=Z,0.5nm,0.5s,baz=92,slow=1.8,SNR=4.9						
DLBC	**Dease Lake**	**35.56**	**57**	P	**P**	**13 56 45.9**	**+2.7**
	comp=Z,1.1nm,0.8s,mb3.9,baz=190,slow=17,SNR=3.2						
YKA	**Yellowknife Ar**	**40.42**	**45**	P	**P**	**13 57 25.1**	**+1.5**
	comp=Z,1.8nm,0.5s,mb4.1,baz=300,slow=8.4,SNR=5.8						
YKA	**Yellowknife Ar**	**40.42**	**45**	P	**P**	**13 57 25.1**	**+1.5**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
YKA	**Yellowknife Ar**	**40.42**	**45**	P	**P**	**13 57 25.1**	**+1.5**
KURK	**Kurchatov**	**47.27**	**301**	*e*P	**P**	**13 58 16.9**	**-2.0**
	comp=Z,5.8nm,0.9s,mb4.5						
MKAR	**Makanchi Array**	**48.01**	**295**	P	**P**	**13 58 21.9**	**-2.8**
	comp=Z,1.0nm,0.5s,mb4.2,baz=39,slow=7.8,SNR=15						
MKAR				LR	LR	14 19 19.6	
	comp=Z,43nm,21.3s,baz=195,slow=37						
MKAR	**Makanchi Array**	**48.01**	**295**	P	**P**	**13 58 22.0**	**-2.7**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR				MLR	MLR		
	comp=Z,43nm,21.3s						
YBH	**Yreka Blue Hor**	**49.10**	**73**	P	**P**	**13 58 35.9**	**+2.7**
	comp=Z,1.2nm,0.7s,mb4.0,baz=22,slow=11,SNR=2.7						
YBH	**Yreka Blue Hor**	**49.10**	**73**	P	**P**	**13 58 35.9**	**+2.7**
YBH				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BVAR	**Borovoye Array**	**49.59**	**308**	P	**P**	**13 58 34.7**	**-2.1**
	comp=Z,0.6nm,0.4s,mb4.0,baz=71,slow=6.6,SNR=4.7						
ARCES	**ARCESS Array B**	**51.04**	**342**	P	**P**	**13 58 46.2**	**-1.4**
	comp=Z,5.5nm,0.9s,mb4.5,baz=20,slow=9.3,SNR=13						
ARCES	**ARCESS Array B**	**51.04**	**342**	P	**P**	**13 58 46.2**	**-1.4**
ARCES				pmax	pmax		
	comp=Z,6.0nm,0.9s						
TPH	**Tonopah**	**54.66**	**73**	*e*P	**P**	**13 59 16.6**	**+1.7**
	comp=Z,4.1nm,0.8s,mb4.5						
AAK	**Ala-Archa**	**54.89**	**296**	*e*P	**P**	**13 59 13.8**	**-2.7**
	comp=Z,2.6nm,0.8s,mb4.3						
BW06	**Boulder Array**	**55.26**	**64**	*e*P	**P**	**13 59 19.5**	**+0.3**
PDAR	**Pinedale Array**	**55.26**	**64**	P	**P**	**13 59 20.6**	**+1.4**
	comp=Z,1.7nm,0.5s,mb4.3,baz=332,slow=3.4,SNR=20						
ULM	**Lac du Bonnet**	**56.16**	**49**	P	**P**	**13 59 25.9**	**+0.4**
	comp=Z,2.3nm,0.4s,mb4.5,baz=317,slow=6.9,SNR=3.9						
KAF	**Kangasniemi**	**57.41**	**337**	*e*p	**P**	**13 59 32.0**	**-2.3**
	comp=Z,0.5nm,0.3s,mb4.0						
KAF	**Kangasniemi**	**57.41**	**337**	*e*P	**P**	**13 59 32.0**	**-2.3**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.3						
SRU	**San Rafael**	**57.45**	**67**	*e*P	**P**	**13 59 36.0**	**+1.1**
FINES	**FINESS Array B**	**58.05**	**337**	P	**P**	**13 59 37.2**	**-1.6**
	comp=Z,4.8nm,0.7s,mb4.6,baz=35,slow=7.6,SNR=31						
FINES	**FINESS Array B**	**58.05**	**337**	P	**P**	**13 59 37.3**	**-1.5**
FINES				pmax	pmax		
	comp=Z,5.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**59.84**	**258**	PcP	PcP	14 00 36.6	-0.9
	comp=Z,0.8nm,0.6s,baz=7.5,slow=3.3,SNR=5.9						
NB2	**NORSAR Subarra**	**61.22**	**344**	P	**P**	**13 59 59.1**	**-1.5**
	comp=Z,2.1nm,0.6s,mb4.4,baz=19,slow=7.0						
NOA	**NORSAR Array B**	**61.22**	**344**	P	**P**	**13 59 59.2**	**-1.4**
	comp=Z,2.3nm,0.5s,mb4.6,baz=18,slow=6.8,SNR=12						
NOA	**NORSAR Array B**	**61.22**	**344**	P	**P**	**13 59 59.2**	**-1.4**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
NOA	**NORSAR Array B**	**61.22**	**344**	P	**P**	**13 59 59.2**	**-1.4**
SCHQ	**Schefferville**	**62.71**	**29**	P	**P**	**14 00 09.9**	**-0.7**
	comp=Z,4.6nm,0.6s,mb4.8,baz=1.0,slow=7.7,SNR=7.9						
TXAR	**Lajitas Array**	**68.58**	**69**	P	**P**	**14 00 50.1**	**+1.7**
	comp=Z,1.0nm,0.4s,mb4.1,baz=306,slow=3.9,SNR=14						
CLL	**Collm**	**70.19**	**340**	P	**P**	**14 00 57.0**	**-0.9**
GERES	**GERESS Array B**	**72.39**	**339**	P	**P**	**14 01 11.2**	**0.0**
	comp=Z,1.7nm,0.6s,mb4.2,baz=32,slow=5.9,SNR=12						
GERES	**GERESS Array B**	**72.39**	**339**	P	**P**	**14 01 11.2**	**+0.1**
GERES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
CDF	**Champ du Feu**	**74.00**	**343**	*e*P	**P**	**14 01 19.8**	**-0.7**
	comp=Z,4.6nm,0.6s,mb4.3						
LOR	**Lormes**	**75.65**	**345**	*e*P	**P**	**14 01 29.5**	**-0.5**
	comp=Z,5.0nm,0.6s,mb4.3						
CABF	**La Chapelle**	**75.95**	**343**	*e*P	**P**	**14 01 31.1**	**-0.6**
	comp=Z,12nm,0.9s,mb4.5						
AVF	**Avril sur Loir**	**76.19**	**345**	*e*P	**P**	**14 01 34.1**	**+1.0**
SMF	**Signal de Mont**	**76.27**	**345**	*e*P	**P**	**14 01 34.4**	**+0.9**
LPL	**La Plagne**	**76.90**	**342**	*e*P	**P**	**14 01 37.7**	**+0.6**
	comp=Z,4.6nm,0.7s,mb4.2						
LPG	**La Plagne**	**76.92**	**342**	*e*P	**P**	**14 01 37.9**	**+0.7**
	comp=Z,10nm,0.9s,mb4.5						
ORIF	**Oris-en-Rattie**	**77.63**	**343**	*e*P	**P**	**14 01 41.5**	**+0.4**
	comp=Z,6.3nm,0.7s,mb4.4						
MBDF	**Montbardon**	**77.66**	**342**	*e*P	**P**	**14 01 42.3**	**+1.0**
	comp=Z,8.4nm,0.9s,mb4.4						
WRA	**Warramunga Arr**	**79.03**	**206**	P	**P**	**14 01 49.4**	**+0.1**
	comp=Z,1.1nm,0.6s,mb4.0,baz=18,slow=6.0,SNR=5.9						
WRA	**Warramunga Arr**	**79.03**	**206**	P	**P**	**14 01 49.4**	**+0.1**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR	**Alice Springs**	**82.71**	**206**	P	**P**	**14 02 09.3**	**+0.7**
	comp=Z,3.1nm,0.9s,mb4.3,baz=15,slow=4.6,SNR=8.9						
ESDC	**Sonseca Array**	**84.12**	**349**	P	**P**	**14 02 15.9**	**+0.5**
	comp=Z,5.8nm,1.2s,mb4.6,baz=3.1,slow=4.8,SNR=7.2						
EVO	**Evora**	**85.63**	**352**	*e*P	**P**	**14 02 23.2**	**+0.4**
	comp=Z,13nm,1.0s,mb4.8						

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*IDC **12** 13:51:28.1±2.0,7.20S×128.93E,mb3.7/2,mb1 4.2/4, mb1mx3.9/11,ML4.0/2,Error ellipse: s-maj=104.0km s-min=28.7km az=62.0*

*NEIC **12** 13:51:41.7±2.7,7.43S×129.13E,h133^{km}±30^{km},mb4.5/3, Error ellipse: s-maj=26.5km s-min=21.0km az=58.0*

ISC 12 13:51:39.7±1.8,**7.46S**±0.09×**129.2E**±0.1,**h136**^{km}±20^{km}, **n10,** σ**1**^{s}**37**/16**,mb3.4**/2**,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.08**	**149**	*e*P	**P**	**13 53 10.7**	**+2.4**
	20nm,0.4s						

KAKA				eS	S	13 54 16.5	-0.6
FITZ	Fitzroy Crossi	11.14	198	eP	P	13 54 15.7	-0.4
	6.3nm,0.6s						
FITZ				eS	S	13 56 14.8	-3.7
WRAB	Tennant Creek	13.36	159	ePn	P	13 54 43.1	-1.9
	9.1nm,0.6s						
WRA	Warramunga Arr	13.37	159	Pn	P	13 54 43.8	-1.2
	1.1nm,0.3s,baz=340,slow=13,SNR=26						
WRA				Sn	S	13 57 05.4	-5.3
	1.5nm,0.3s,baz=10,slow=20,SNR=10						
WB2	Warramunga Arr	13.37	159	eP	P	13 54 43.7	-1.4
WB2				eS	S	13 57 05.0	-5.8
MBWA	Marble Bar	16.42	213	eP	P	13 55 25.5	+1.8
ASAR	Alice Springs	16.73	165	P	P	13 55 28.9	+1.4
	0.7nm,0.3s,baz=331,slow=10,SNR=77						
ASAR				S	S	13 58 27.8	+0.1
	0.2nm,0.3s,baz=314,slow=16,SNR=5.6						
ASPA	Alice Springs	16.73	165	eP	P	13 55 28.8	+1.3
ASPA				eS	S	13 58 28.7	+1.0
CMAR	Chiang Mai Arr	39.44	311	P	P	13 58 58.5	+0.2
	1.0nm,0.8s,mb3.5,baz=139,slow=6.6,SNR=7.9						
MKAR	Makanchi Array	68.19	327	P	P	14 02 26.6	-0.9
	0.5nm,0.8s,mb3.3,baz=114,slow=8.1,SNR=7.0						

*THE **12** 13:56:02.4,38.14N×22.12E,h2^{km},ML3.1*
*NEIC **12** 13:56:02.1,38.13N×22.08E,h24^{km},ML3.1(ATH),After ATH.*
*ATH **12** 13:56:02.1,38.13N×22.08E,h24^{km}±4^{km},MD3.3/12, ML3.1*
ISC 12 13:56:02.1±1.0,**38.16N**±0.03×**22.13E**±0.04,**h9**^{km}±7^{km}, **n23**,σ**0**^{s}**98**/32,**Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EVR	Evrytania	0.80	342	ePN	Pn	13 56 17.0	-2.3
EVR				eSN	Sn	13 56 30.5	-0.8
AGG	Agios Georgios	0.87	10	ePg	Pg	13 56 18.5	-1.1
	comp=Z,15nm,0.4s						
AGG				eSg	Sg	13 56 32.0	+0.7
MKIT	Kithairon Oros	0.89	88	ePN	Pn	13 56 20.0	-0.7
ITM	Ithomi	0.99	189	ePN	Pn	13 56 21.0	-1.1
NSAL	Nisos Salamina	1.08	103	ePN	Pn	13 56 23.2	-0.2
NSAL				eSN	Sn	13 56 39.5	+0.9
NAIG	Nisos Aigina	1.15	110	ePN	Pn	13 56 25.0	+0.7
VLS	Valsamata	1.21	271	ePB	Pb	13 56 23.0	-1.9
VLS				eSN	Sn	13 56 42.0	0.0
ATH	Athens Observa	1.27	98	ePN	Pn	13 56 26.0	0.0
MPAR	Parnis Oros	1.27	90	ePN	Pn	13 56 27.0	+1.0
LKD	Levkas	1.28	296	ePb	Pb	13 56 26.2	+0.1
LKD				eSb	Sb	13 56 44.4	+1.9
PTL	Penteli	1.37	94	ePN	Pn	13 56 27.5	-0.1
NEO	Neokhori	1.43	36	ePN	Pn	13 56 28.8	+0.4
XOR	Xorichti	1.46	34	ePb	Pb	13 56 29.2	+0.1
VLI	Veliai	1.58	156	ePN	Pn	13 56 30.5	0.0
AOS	Alonnisos	1.70	53	ePb	Pb	13 56 32.5	-0.7
MEV	Metsovon	1.77	337	ePb	Pb	13 56 35.9	+1.6
	comp=Z,7.0nm,0.4s						
JAN	Janina	1.80	327	ePN	Pn	13 56 35.2	+1.6
LIT	Litokhoron	1.96	8	ePb	Pb	13 56 36.5	-1.1
	comp=Z,2.5nm,0.4s						
LIT				eSb	Sb	13 57 01.7	-0.3
IGT	Igoumenitsa	1.96	315	ePb	Pb	13 56 39.7	+2.1
IGT				eSb	Sb	13 57 00.7	-1.4
OUR	Ouranopolis	2.60	33	ePn	Pn	13 56 44.9	-0.3
FNA	Florina	2.68	348	ePn	Pn	13 56 47.0	+0.7
FNA				eSn	Sn	13 57 19.4	+0.1
GRG	Griva	2.80	4	ePn	Pn	13 56 48.4	+0.5
KNT	Kendrikon	3.05	11	ePn	Pn	13 56 51.9	+0.3
KNT				eSn	Sn	13 57 28.1	-0.6

*NEIC **12** 14:19:49.5,37.03N×20.43E,h5^{km},MD3.6(ATH),After ATH.*
ATH 12 14:19:49.5,37.03N×20.43E,h5^{km},MD3.6/5,**Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VLS	Valsamata	1.15	6	ePB	Pb	14 20 11.5	0.0
VLS				eSB	Sb	14 20 28.0	+1.4
ITM	Ithomi	1.21	82	ePB	Pb	14 20 12.5	+0.1
VLI	Veliai	2.03	98	ePG	Pg	14 20 27.5	-2.6
EVR	Evrytania	2.18	30	ePG	Pg	14 20 30.5	-2.4
KEK	Kerkira	2.72	350	ePN	Pn	14 20 37.0	+2.3

*BJI **12** 14:24:35.4,33.91S×70.84W,h5^{km},mB5.5,Ms4.8,Msz5.1*
*GUC **12** 14:24:35.2±0.8,34.14S×70.00W,h3^{km}±2^{km},MD4.9, ML4.8*
*IDC **12** 14:24:36.6±0.5,34.10S×69.91W,mb5.2/12,mb1 5.2/14, mb1mx5.1/15,ML4.5/2,MS5.0/8,Ms1 5.0/8,ms1mx4.8/13, Error ellipse: s-maj=19.2km s-min=16.4km az=94.0*
*NEIC **12** 14:24:37.0±0.2,34.14S×70.02W,h5^{km},mb5.4/60, MS4.7/12,MD5.3(SJA),ML4.8(GUC),Error ellipse: s-maj=4.8km s-min=3.6km az=47.0*
NEIC Felt [III] at Rancagua; [II] at Santiago and Valparaiso. Also felt [III] at Mendoza and San Rafael, Argentina.
*HRVD **12** 14:24:37.0±0.2,34.31S×70.15W,h12^{km},MW5.3/65, Centroid moment Tensor Solution. LP body waves: s44,c64;Mantle waves: s65,c120; Half duration: 1^{s}1 Moment tensor: Scale 10^{17}Nm; M$_{rr}$1.09±.02; M$_{\theta\theta}$-0.31±.02; M$_{\phi\phi}$-0.78±.03; M$_{r\theta}$-0.34±.06; M$_{\theta\phi}$0.59±.02; M$_{\phi r}$-0.08±.07; Best double couple: M$_{0}$1.19×10^{17} NP1: ϕ_s162°,δ44°,λ114°. NP2:ϕ_s310°,δ50°,λ68°. Principal axes: T 1.2, Plg73°, Azm156°; N -.01, Plg17°, Azm324°; P -1.19, Plg3°, Azm55°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **12** 14:24:40.8±1.2,34.08S×69.67W,h33^{km},mb5.2/3 Error ellipse: s-maj=29.8km s-min=15.7km az=66.1*
*SYO **12** 14:24:40.2,34.05S×69.63W,h25^{km},MB5.4,MS4.7*
ISC 12 14:24:35.4±0.2,**34.14S**±0.03×**69.92W**±0.03,**h5**^{km},**n227**, σ**1**^{s}**07**/153,**mb5.3**/71,**MS4.9**/24,**15C-15D,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CICH	Cipreses	0.45	246	⇑iP	Pg	14 24 43.2	-1.3
CACH	El Canelo	0.57	272	⇓iP	Pg	14 24 45.2	-1.5
SJCH	San Jose de Ma	0.61	324	⇑iP	Pg	14 24 46.9	-0.8
SJCH				i S	Sg	14 24 55.8	-0.1
SJCH				AMP		14 24 56.8	
	comp=E,89μm,0.4s						
CHCH	Chadas Angostu	0.64	288	⇑iP	Pg	14 24 47.1	-1.1
PCH	Pirque	0.72	316	⇑iP	Pg	14 24 49.1	-0.7
ANTU	Antumapu	0.82	314	eP	Pb	14 24 51.0	-0.8
ANTU				i S	Sg	14 25 02.5	-0.4
ANTU				AMP		14 25 03.4	
	comp=E,92μm,0.3s						
FCH	Farellones	0.87	339	⇓iP	Pb	14 24 52.4	-0.2
FCH				i S	Sb	14 25 05.5	+1.3
FCH				AMP		14 25 06.4	
	comp=N,60μm,0.3s						
CLCH	Cerro Calan	0.90	325	⇓iP	Pb	14 24 53.4	+0.2
CLCH				i S	Sb	14 25 06.5	+1.2
CLCH				AMP		14 25 08.8	
	comp=E,156μm,0.7s						
SAN	Santiago	0.92	318	eP	Pb	14 24 52.9	-0.6
SAN				i S	Sb	14 25 05.3	-0.5
SAN				AMP		14 25 10.4	
	comp=E,21μm,0.5s						
TACH	Talagante	0.98	299	⇑iP	Pb	14 24 53.1	-1.3
SFDO	San Fernando	1.02	242	⇑iP	Pb	14 24 53.5	-1.7
LNV	Longovilo	1.25	278	⇓iP	Pb	14 24 57.3	-1.9
LCCH	Las Cruces	1.53	295	⇑iP	Pn	14 25 02.3	-1.2
MDZ	Mendoza	1.54	36	i P	Pn	14 25 05.5	+1.8
MDZ				i S	Sb	14 25 31.7	+8.0
JACH	Jahuel	1.56	339	⇓iP	Pn	14 25 04.7	+0.7
IHA	Instituto Hidr	1.82	307	eP	Pn	14 25 07.3	-0.4
CCHI	Chillan	3.02	215	⇓iP	Pn	14 25 27.0	+2.1
CCHI				i S	Sn	14 26 04.5	+2.5
CCHI				AMP		14 26 21.8	
	comp=N,6μm,0.6s						
CMCH	Combarbala	3.10	343	eP	Pn	14 25 29.2	+3.3
TRQA	Tornquist	7.52	124	eP	Pn	14 26 27.3	-1.1
	comp=N,188nm,1.0s						
LPA	La Plata	9.92	98	deP	P	14 27 01.0	-0.8
LPA				ePP	Px	14 27 37.0	
LVC	Limon Verde	11.52	5	eP	P	14 27 21.4	-2.3
	comp=N,7.0nm,0.8s						
CPUP	Villa Florida	13.37	58	Pn	P	14 27 47.3	-1.2
	comp=N,0.5nm,0.3s,baz=264,slow=12,SNR=18						
CPUP				Lg		14 31 41.9	
	comp=N,1.3nm,0.3s,baz=35,slow=14,SNR=4.9						
CPUP	Villa Florida	13.37	58	Pn	P	14 27 47.3	-1.2
CPUP				Lg		14 31 41.9	
ARE	Arequipa	17.66	355	eP	P	14 28 46.0	+2.1
LPAZ	La Paz	17.85	6	P	P	14 28 48.4	+2.2
	comp=N,0.7nm,0.3s,baz=177,slow=7.9,SNR=59						
EFI	East Falkland	19.51	157	P	P	14 29 05.0	-1.2
	comp=N,573nm,0.8s,SNR=17						
EFI	East Falkland	19.51	157	eP	P	14 29 04.7	-1.5
	comp=N,207nm,1.3s						
USHA	Ushuaia	20.72	178	P	P	14 29 19.2	+0.2
	comp=N,260nm,0.9s,baz=347,slow=6.8,SNR=23						
USHA				LR	LR	14 38 35.1	
	comp=N,7μm,18.7s,MS5.1,baz=342,slow=40						
NNA	Nana	22.94	342	eP	P	14 29 43.2	+1.6
	comp=N,62nm,1.0s,mb5.0						
SAML	Samuel	25.82	15	eP	P	14 30 08.4	-1.1
	comp=N,30nm,1.3s,mb4.7						
CAM4	Nova Friburgo	26.72	71	eP	P	14 30 18.5	+0.8
CAM4				i	pP	14 30 21.9	+2.8
CAM4				i		14 30 24.1	
CAM4				i		14 30 30.1	
CAM4				i		14 30 40.2	
CAM4	Nova Friburgo	26.72	71	eP	P	14 30 18.5	+0.8
CAM4				i	pP	14 30 21.9	+2.8
CAM4				i		14 30 24.1	
CAM4				i		14 30 30.1	
CAM4				i		14 30 40.2	
BDFB	Brasilia	26.99	52	P	P	14 30 19.6	-0.6
	comp=N,29nm,1.1s,mb4.7,baz=229,slow=7.2,SNR=22						
BDFB				LR	LR	14 42 15.0	
	comp=N,12μm,18.4s,MS5.5,baz=50,slow=39						
BAO	Brasilia Array	27.01	52	eP	P	14 30 19.0	-1.3
BAO				e		14 37 11.2	
CAM3	Guarapari	29.19	70	(P)	Px	14 29 31.6	
CAM3				i		14 29 48.8	
CAM3				i		14 29 57.8	
CAM3				i		14 30 15.2	
OTAV	Otavalo	35.12	345	eP	P	14 31 32.8	+0.8
	comp=N,50nm,1.5s,mb5.2						
ROSC	El Rosal	39.01	353	P	P	14 32 08.0	+3.3
	comp=N,16nm,0.6s,mb4.9,baz=357,slow=21,SNR=9.4						
SDV	Santo Domingo	42.79	359	eP	P	14 32 35.1	-0.9
	comp=N,34nm,1.1s,mb5.0						
JTS	JuntasAbangare	46.44	339	eP	P	14 33 05.3	+0.1
	comp=N,47nm,1.2s,mb5.3						
VNA3	Neumayer Olymp	48.57	158	⇑iP	P	14 33 20.0	-1.2
VNA3	Neumayer Olymp	48.57	158	⇓i	P	14 33 26.5	+5.3
VNA2	Neumayer--Watz	49.20	157	⇓iP	P	14 33 24.0	-2.1
VNA2	Neumayer--Watz	49.20	157	⇓i	P	14 33 29.7	+3.6
SNAA	Sanae	50.79	158	⇑iP	P	14 33 37.6	-0.6
SNAA	Sanae	50.79	158	⇑i	P	14 33 44.2	+6.0
SNAA	Sanae	50.79	158	⇑i	P	14 33 47.7	+9.5
MGP	Maguayo	51.92	3	eP	P	14 33 46.2	-1.3
CPD	Cerro la Pandu	52.03	5	eP	P	14 33 46.2	-2.1
SJG	San Juan	52.08	5	P	P	14 33 47.1	-1.6
	comp=N,20nm,0.8s,mb5.1,baz=348,slow=23,SNR=11						
SJG	San Juan	52.08	5	eP	P	14 33 45.6	-3.1
	comp=N,84nm,1.4s,mb5.5						
MTP	Monte Pirata	52.11	5	eP	P	14 33 46.9	-2.0
HUMP	Col San Antoni	52.13	5	eP	P	14 33 46.6	-2.4
CBYP	Canovanas	52.26	5	eP	P	14 33 48.1	-2.0
MAIT	Maitri	55.46	157	eP	P	14 34 12.0	-0.9
SBA	Scott Base	63.29	191	eP	P	14 35 07.6	+0.6
	comp=N,109nm,2.0s,mb5.6						
SYO	Syowa Base	65.08	158	⇓P	P	14 35 16.7	-1.9
SYO	Syowa Base	65.08	158	⇑pP	pP	14 35 21.0	+0.8
SYO	Syowa Base	65.08	158	⇓sP	sP	14 35 25.9	+5.2
NHSC	New Hope	67.58	351	eP	P	14 35 34.6	-0.5
	comp=N,178nm,1.1s,mb6.0						
LRAL	Lakeview Retre	68.72	345	eP	P	14 35 41.1	-1.1
	comp=N,34nm,1.1s,mb5.2						
NATX	Nacogdoches	69.57	338	eP	P	14 35 47.6	+0.2
	comp=N,152nm,1.1s,mb5.8						
JCT	Junction City	70.19	333	eP	P	14 35 51.1	-0.2
	comp=N,143nm,1.1s,mb5.8						
SWET	Sewanee	70.60	346	eP	P	14 35 52.9	-0.8
OXF	Oxford	70.69	343	eP	P	14 35 53.2	-1.1
	comp=N,213nm,1.0s,mb6.0						
LTX	Lajitas	70.73	329	eP	P	14 35 54.2	-0.4
	comp=N,53nm,1.2s,mb5.3						
TXAR	Lajitas Array	70.73	329	P	P	14 35 54.9	+0.2
	comp=N,17nm,0.8s,mb5.0,baz=150,slow=8.2,SNR=144						
BLA	Blacksburg	71.66	351	eP	P	14 35 59.4	-0.7
	comp=N,20nm,0.9s,mb5.0						
UALR	University of	71.70	341	eP	P	14 35 59.6	-0.7
	comp=N,40nm,1.1s,mb5.3						
TIAR	Tiarei	71.78	261	eP	P	14 36 01.4	+0.3
	comp=N,307nm,1.2s,mb6.1						
MIAR	Mount Ida	71.83	340	eP	P	14 36 00.2	-0.9
	comp=N,59nm,1.1s,mb5.4						
MIAR				LR	LR		
	comp=Z,570nm,19.0s,MS4.9						
WVT	Waverly	71.88	345	eP	P	14 36 00.1	-1.3
	comp=Z,196nm,1.1s,mb6.0						
PAE	Paea	71.92	261	eP	P	14 36 02.1	+0.2
	comp=Z,159nm,1.3s,mb5.8						
PPT	Papeete	71.96	261	P	P	14 36 03.7	+1.5
	comp=Z,45nm,0.8s,mb5.4,baz=198,slow=3.2,SNR=2.8						
PPT	Papeete	71.96	261	eP	P	14 36 02.9	+0.7
	comp=Z,144nm,1.8s,mb5.6						
GNAR	Gosnell	72.22	343	eP	P	14 36 03.4	-0.1
UTMT	University of	72.31	344	eP	P	14 36 03.6	-0.4
	comp=Z,281nm,0.9s,mb6.2						
MAW	Mawson	72.54	163	eP	P	14 36 04.2	-0.5
	comp=Z,21nm,0.9s,mb5.1						
MAW	Mawson	72.54	163	P	P	14 36 05.1	+0.4
	comp=Z,33nm,1.0s,mb5.2,baz=221,slow=7.3,SNR=38						
MAW				LR	LR	15 10 13.1	
	comp=Z,1μm,18.9s,MS5.1,baz=217,slow=38						
LIC	Lamto	73.16	70	eP	P	14 36 08.8	-0.6
	comp=Z,95nm,1.3s,mb5.6						
SUR	Sutherland	73.22	118	P	P	14 36 11.3	+2.0
	comp=Z,7.8nm,0.7s,mb4.8,baz=216,slow=2.7,SNR=7.5						
SUR				LR	LR	15 06 22.5	
	comp=Z,457nm,18.7s,MS4.8,baz=218,slow=34						
TIC	Toumodi	73.42	70	eP	P	14 36 10.7	-0.2
	comp=Z,223nm,1.4s,mb5.9						
KIC	Kosan Boka	73.46	70	eP	P	14 36 10.8	-0.4
	comp=Z,321nm,1.3s,mb6.1						
DBIC	Dimbokro	73.56	70	P	P	14 36 11.9	+0.2
	comp=Z,17nm,0.7s,mb5.1,baz=207,slow=6.0,SNR=23						
DBIC				LR	LR	15 07 37.4	
	comp=Z,916nm,18.4s,MS5.1,baz=206,slow=35						
WCI	Wyandotte Cave	73.59	347	eP	P	14 36 10.0	-1.4
	comp=Z,27nm,1.0s,mb5.1						
WMOK	Wichita Mounta	73.66	336	eP	P	14 36 10.8	-1.1
	comp=Z,43nm,1.2s,mb5.3						
WMOK				LR	LR		
	comp=Z,430nm,20.0s,MS4.7						
MCWV	Mont Chateau	74.00	352	eP	P	14 36 13.3	-0.4
	comp=Z,31nm,1.1s,mb5.2						
CCM	Cathedral Cave	74.51	343	eP	P	14 36 16.1	-0.6
	comp=Z,88nm,1.0s,mb5.6						
BLO	Bloomington	74.55	347	eP	P	14 36 15.8	-1.2
	comp=Z,28nm,0.8s,mb5.2						
SSPA	Standing Stone	74.77	354	eP	P	14 36 17.4	-0.8
	comp=Z,25nm,1.4s,mb5.0						
SSPA				LR	LR		
	comp=Z,646nm,20.0s,MS4.9						
SLM	Saint Louis	74.82	344	eP	P	14 36 17.9	-0.6
	comp=Z,46nm,0.8s,mb5.5						
ACSO	Alum Creek Sta	74.98	350	eP	P	14 36 18.2	-1.2
	comp=Z,67nm,1.0s,mb5.5						
ACSO				LR	LR		
	comp=Z,483nm,20.0s,MS4.8						
ALLY	Alegheny Colle	76.00	352	eP	P	14 36 24.4	-0.8
BINY	Binghamton	76.17	355	eP	P	14 36 25.6	-0.5
	comp=Z,21nm,1.1s,mb5.0						
TUC	Tucson	76.47	325	eP	P	14 36 28.7	+0.7
	comp=Z,33nm,1.4s,mb5.1						
ANMO	Albuquerque	76.77	330	eP	P	14 36 30.9	+1.2
ANMO				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ANMO	Albuquerque	76.77	330	eP	P	14 36 30.4	+0.8
	comp=Z,47nm,1.1s,mb5.3						
ANMO				LR	LR		
	comp=Z,226nm,19.0s,MS4.5						
TSUM	Tsumeb	77.48	105	eP	P	14 36 33.8	0.0
	comp=Z,18nm,0.5s,mb5.2						
TSUM				LR	LR		
	comp=Z,906nm,20.0s,MS5.1						
NCB	Newcomb	77.84	357	eP	P	14 36 34.8	-0.6
	comp=Z,18nm,1.2s,mb4.9						
SDCO	Great Sand Dun	78.80	332	eP	P	14 36 41.2	+0.4
	comp=Z,30nm,1.0s,mb5.2						
SDCO				LR	LR		
	comp=Z,255nm,21.0s,MS4.5						
JFWS	Jewell Farm	78.91	345	eP	P	14 36 40.7	-0.5
	comp=Z,62nm,1.2s,mb5.4						
SADO	Sadowa	78.98	353	LR	LR	15 16 28.1	
	comp=Z,531nm,20.6s,MS4.9,baz=170,slow=39						
WUAZ	Wupatki	79.39	327	eP	P	14 36 45.1	+1.0
	comp=Z,59nm,1.2s,mb5.4						
PFO	Pinyon Flat Ob	80.31	322	eP	P	14 36 50.4	+1.4
	comp=Z,65nm,1.1s,mb5.5						
ISCO	Idaho Springs	80.63	333	eP	P	14 36 51.3	+0.7
	comp=Z,34nm,1.2s,mb5.2						
ISCO				LR	LR		
	comp=Z,266nm,19.0s,MS4.6						
SRU	San Rafael	82.01	329	eP	P	14 36 58.6	+0.8
ARUT	Antelope Range	82.20	327	eP	P	14 37 00.1	+1.3
MSU	Marysvale	82.23	328	eP	P	14 37 00.1	+1.1
MVU	Marysvale	82.24	328	eP	P	14 37 00.4	+1.4
	comp=Z,40nm,1.2s,mb5.2						
TPNV	Topopah Spring	82.85	324	eP	P	14 37 03.5	+1.2
	comp=Z,38nm,1.1s,mb5.3						
DAC	Darwin (Calif)	82.98	323	eP	P	14 37 04.0	+1.1
	comp=Z,43nm,1.1s,mb5.4						
MPU	Maple Canyon	83.24	329	eP	P	14 37 04.9	+0.8
NLU	North Lily Min	83.38	329	eP	P	14 37 05.8	+1.0
DAU	Daniels Canyon	83.41	329	eP	P	14 37 06.2	+1.2
JLU	Jordanelle	83.65	329	eP	P	14 37 07.2	+1.0
RSSD	Black Hills	83.86	336	eP	P	14 37 07.3	+0.1
	comp=Z,26nm,1.1s,mb5.3						
DUG	Dugway	83.89	328	eP	P	14 37 08.0	+0.5
TCUT	Toone Canyon	84.06	330	eP	P	14 37 08.6	+0.3
TPH	Tonopah	84.21	324	eP	P	14 37 10.0	+0.8
	comp=Z,48nm,1.1s,mb5.5						
MTUM	Tungsten Hills	84.31	323	eP	P	14 37 10.4	+0.8
HWUT	Hardware Ranch	84.53	330	eP	P	14 37 11.1	+0.4
	comp=Z,47nm,1.1s,mb5.5						
SPUT	South Promonto	84.66	329	eP	P	14 37 12.0	+0.7
BW06	Boulder Array	84.70	332	eP	P	14 37 11.6	+0.1
	comp=Z,21nm,1.1s,mb5.2						
PDAR	Pinedale Array	84.70	332	P	P	14 37 11.7	+0.2
	comp=Z,11nm,0.9s,mb5.0,baz=146,slow=5.3,SNR=60						
LRV	Little Rabbit	84.84	321	P	P	14 37 14.8	+2.5
MNV	Mina	84.95	324	eP	P	14 37 13.6	+0.8
	comp=Z,13nm,1.1s,mb5.0						
HVU	Hansel Valley	85.18	329	eP	P	14 37 14.1	+0.2
AHID	Auburn Hatcher	85.31	331	eP	P	14 37 14.8	+0.3
	comp=Z,22nm,1.0s,mb5.2						
ELK	Elko	85.42	327	eP	P	14 37 15.8	+0.7
	comp=Z,32nm,1.1s,mb5.4						
CMB	Columbia Colle	85.75	322	eP	P	14 37 16.7	-0.1
	comp=Z,18nm,1.3s,mb5.1						
CMB				LR	LR		
	comp=Z,191nm,21.0s,MS4.5						
SNOW	Snow King Moun	85.75	331	eP	P	14 37 17.2	+0.5
TPAW	Teton Pass	85.86	331	eP	P	14 37 17.9	+0.7
ASMM	Slate Mountain	86.50	323	eP	P	14 37 23.3	+2.8
YMR	Madison River	86.85	332	eP	P	14 37 23.6	+1.5
LAO	LASA Array	86.85	336	eP	P	14 37 22.1	+0.1
	comp=Z,49nm,1.1s,mb5.7						
ULM	Lac du Bonnet	87.11	344	P	P	14 37 23.2	0.0
	comp=Z,14nm,1.1s,mb5.1,baz=144,slow=3.0,SNR=9.2						
NSHM	Saint Helena R	87.25	321	eP	P	14 37 25.7	+1.5
OHCM	Honcut	87.29	323	eP	P	14 37 25.3	+0.9
HLID	Hailey	87.34	329	eP	P	14 37 25.6	+1.1
	comp=Z,35nm,1.2s,mb5.5						
HLID				e		14 37 36.6	
HLID				LR	LR		
	comp=Z,289nm,19.0s,MS4.7						
DGMT	Dagmar	87.75	338	eP	P	14 37 26.8	+0.5
	comp=Z,108nm,1.1s,mb6.0						
BOZ	Bozeman (W)	87.92	332	eP	P	14 37 27.2	0.0
	comp=Z,15nm,1.3s,mb5.1						
LSZ	Lusaka	88.09	107	eP	P	14 37 30.2	+1.6
	comp=Z,7.2nm,1.0s,mb4.9						
WVOR	Wild Horse Val	88.31	326	eP	P	14 37 29.6	+0.5
	comp=Z,26nm,1.3s,mb5.3						
WVOR				LR	LR		
	comp=Z,292nm,20.0s,MS4.7						
SCHQ	Schefferville	88.65	2	P	P	14 37 30.9	+0.5
	comp=Z,12nm,1.1s,mb5.1,baz=150,slow=3.5,SNR=4.2						
SCHQ				LR	LR	15 18 09.5	
	comp=Z,437nm,21.0s,MS4.8,baz=294,slow=36						
MOD	Modoc	88.67	325	eP	P	14 37 32.0	+1.1
	comp=Z,23nm,1.3s,mb5.3						
WDC	Whiskeytown Da	88.77	323	eP	P	14 37 30.7	-0.7
	comp=Z,23nm,1.2s,mb5.4						
VGB	Gordon Butte	91.67	327	P	P	14 37 45.1	+0.4
HAWA	Hanford	91.79	328	eP	P	14 37 45.9	+0.6
NEW	Newport	92.24	331	eP	P	14 37 46.7	-0.6
	comp=Z,9.8nm,1.3s,mb5.0						
NEW				LR	LR		
	comp=Z,231nm,19.0s,MS4.7						
DPW	Davenport	92.37	330	eP	P	14 37 48.1	+0.2
ESDC	Sonseca Array	95.42	45	LR	LR	15 19 39.0	
	comp=Z,547nm,21.4s,MS5.0,baz=230,slow=35						
MBAR	Mbarara	98.48	96	P	P	14 38 15.9	-0.7
MOX	Moxa	110.67	42	eP	PKPdf	14 43 20.0	+8.8
MOX				L		15 29 03.0	
GERES	GERESS Array B	111.01	45	PKiKP		14 43 12.1	
	comp=Z,0.9nm,0.8s,baz=225,slow=3.8,SNR=4.9						
ILAR	Eielson Array	115.12	333	PKP	PKPdf	14 43 18.3	-1.2
	comp=Z,1.7nm,1.0s,baz=198,slow=2.2,SNR=11						
ILAR				PP	PP	14 44 13.1	-8.7
	comp=Z,1.7nm,1.1s,baz=120,slow=4.9,SNR=4.5						
MLR	Muntele Rosu	117.17	52	PKP	PKPdf	14 43 23.3	-0.7
	comp=Z,2.3nm,0.8s,baz=186,slow=4.3,SNR=4.0						
ASAR	Alice Springs	118.21	205	PKP	PKPdf	14 43 25.0	-1.5
	comp=Z,3.1nm,1.0s,baz=132,slow=1.7,SNR=12						
SUW	Suwalki	118.52	42	ePKP	PKPdf	14 43 25.1	-1.3
BRTR	Keskin Array B	120.37	60	PKP	PKPdf	14 43 30.1	-0.2
	comp=Z,3.5nm,1.1s,baz=180,slow=2.5,SNR=6.4						
AKASG	Malin Array Be	120.99	47	PKP	PKPdf	14 43 29.3	-2.0
	comp=Z,3.2nm,0.7s,baz=260,slow=3.0,SNR=12						
WB2	Warramunga Arr	121.46	207	eP	PKPdf	14 43 31.1	-1.8
WRA	Warramunga Arr	121.47	207	PKP	PKPdf	14 43 30.9	-2.0
	comp=Z,7.6nm,1.0s,baz=169,slow=1.5,SNR=22						
FINES	FINESS Array B	122.11	34	PKP	PKPdf	14 43 31.7	-1.5
	comp=Z,3.5nm,1.0s,baz=225,slow=2.0,SNR=3.8						
FINES	FINESS Array B	122.11	34	PKP	PKPdf	14 43 31.7	-1.5
SOC	Sochi	125.89	58	ePKIKP	PKPdf	14 43 37.8	-3.1
SOC				e		14 45 33.8	
SOC				e		14 50 36.3	
SOC				eSS	SS	15 02 31.2	-2.5
SOC				eSSS	SSS	15 07 11.0	-4.4
SOC				pmax	pmax		
	comp=Z,15nm,0.6s						
SOC				pmax	pmax		
	comp=N,10.0nm,0.9s						
SOC				pmax	pmax		
	comp=E,10.0nm,0.7s						
SOC				MLR	MLR		
	comp=N,325nm,22.0s,MS5.0						
SOC				MLR	MLR		
	comp=E,212nm,22.0s,MS5.0						
SOC				MLR	MLR		
	comp=Z,338nm,22.0s,MS5.0						
OBN	Obninsk	126.33	43α	iPKIKP	PKPdf	14 43 40.9	-0.4
OBN				e		14 43 49.3	
OBN				SS	SS	15 02 54.0	+15
OBN				pmax	pmax		
	comp=Z,53nm,1.5s						
OBN				MLR	MLR		
	comp=Z,900nm,22.0s,MS5.4						
ZEI	Tsey	128.65	60	i PKIKP	PKPdf	14 43 42.0	-4.2
ZEI				MLR	MLR		
	comp=Z,600nm,22.0s,MS5.2						
ARU	Arti	138.69	41	i PKIKP	PKPdf	14 44 02.2	-2.4
ARU				e		14 46 52.6	
ARU				eSS	SS	15 05 02.3	-6.8
ARU				MLR	MLR		
	comp=Z,1μm,21.0s,MS5.5						
ARU				MLR	MLR		
	comp=N,100nm,18.0s,MS5.4						
ARU				MLR	MLR		
	comp=E,700nm,21.0s,MS5.4						
ARU	Arti	138.69	41	ePKP	PKPdf	14 44 03.4	-1.1
AB31	Akbulak array	140.38	52	i PKHKP		14 43 57.6	
AB31				pmax	pmax		
	comp=Z,7.0nm,1.0s						
ZRNK	Zerenda	145.39	44	PKIKP	PKPdf	14 44 15.4	-0.9
ZRNK				pmax	pmax		
	comp=Z,110nm,1.4s						
ZRNK	Zerenda	145.39	44	ePKP	PKPdf	14 44 15.3	-1.0

CUD	**Cuddapah**	**145.60**	**117**	⇑*e*P	PKPbc	14 44 17.1	+1.1
CUD				*e*		14 47 09.9	
CUD				*e*		14 51 01.0	
BRVK	**Borovoye**	**146.10**	**44**	PKP2	PKPab	14 44 17.2	-1.5
BRVK				pmax	pmax		
	comp=Z,62nm,1.7s						
BRVK	**Borovoye**	**146.10**	**44**	*e*PKP	PKPdf	14 44 17.1	-0.5
BVAR	**Borovoye Array**	**146.17**	**44**	PKPbc	PKPbc	14 44 17.7	+1.5
	comp=Z,12nm,0.7s,baz=270,slow=3.0,SNR=75						
VOSK	**Vostochnaya**	**146.61**	**44**	PKP2	PKPab	14 44 18.0	-2.6
VOSK				pmax	pmax		
	comp=Z,239nm,2.0s						
HYB	**Hyderabad**	**147.26**	**113**	*i* P	PKPdf	14 44 21.5	+1.0
HYB	**Hyderabad**	**147.26**	**113**	*e*P	PKPdf	14 44 21.5	+1.0
KGM	**Kluang**	**147.42**	**167**	⇓*e*P	PKPdf	14 44 22.2	+1.3
	comp=Z,134nm,1.1s						
KKAR	**Karatay Array**	**148.06**	**62**	*i* PKIKP	PKPdf	14 44 20.8	-0.3
KKAR				pmax	pmax		
	comp=Z,20nm,0.9s						
KGD	**Kothagudem**	**148.96**	**115**	*e*PKiK		14 44 26.8	
KGD				*e*PP	PP	14 47 55.5	-3.4
IPM	**Ipoh**	**149.41**	**162**	⇓*e*P	PKPdf	14 44 28.0	+3.9
YAK	**Yakutsk**	**149.43**	**342**	*e*PKP2	PKPab	14 44 25.9	-5.8
YAK				pmax	pmax		
	comp=N,7.0nm,1.3s						
YAK				pmax	pmax		
	comp=Z,48nm,1.3s						
YAK				pmax	pmax		
	comp=E,7.0nm,1.2s						
YAK	**Yakutsk**	**149.43**	**342**	*e*PKPdf	PKPdf	14 44 21.4	-1.2
YAK				*e*PKPbc	PKPdf	14 44 25.7	+3.1
AML	**Almayashu**	**150.46**	**64**	P	PKPdf	14 44 31.8	+6.9
	SNR=5.1						
EKS2	**Erkin-Say**	**150.49**	**62**	P	PKPdf	14 44 25.8	+0.9
	SNR=8.6						
USP	**Ospenovka**	**150.96**	**61**	P	PKPdf	14 44 31.7	+6.1
	SNR=11						
AAK	**Ala-Archa**	**151.01**	**62**	P	PKPdf	14 44 32.5	+6.8
	SNR=13						
AAK	**Ala-Archa**	**151.01**	**62**	*e*PKPdf	PKPdf	14 44 25.0	-0.7
AAK				*e*PKPbc	PKPdf	14 44 30.8	+5.1
UCH	**Uchtor**	**151.06**	**63**	P	PKPdf	14 44 27.2	+1.4
	SNR=12						
FRU	**Bishkek**	**151.09**	**62**	*i* PKIKP	PKPdf	14 44 33.0	+7.2
FRU				*e*		14 44 48.0	
FRU				pmax	pmax		
	comp=Z,120nm,1.4s						
CHMS	**Chumysh**	**151.17**	**62**	P	PKPdf	14 44 32.3	+6.4
	SNR=10						
KBK	**Karagaybulak**	**151.35**	**62**	P	PKPdf	14 44 33.1	+6.9
	SNR=9.3						
KURK	**Kurchatov**	**151.76**	**45**	*i* PKIKP	PKPdf	14 44 26.0	-0.6
KURK				pmax	pmax		
	comp=Z,17nm,1.1s						
KURK	**Kurchatov**	**151.76**	**45**	*e*PKPdf	PKPdf	14 44 25.7	-0.9
KURK				*e*PKPbc	PKPdf	14 44 32.0	+5.4
TKM2	**Tokmak 2**	**151.79**	**62**	P	PKPdf	14 44 28.0	+1.1
	SNR=6.0						
NVS	**Novosibirsk**	**152.10**	**34**	*i* PKIKP	PKPdf	14 44 25.4	-1.5
NVS				pmax	pmax		
	comp=E,14nm,1.2s						
NVS				pmax	pmax		
	comp=Z,65nm,1.2s						
YSS	**Yuzh-Sakhalins**	**152.28**	**307**	*e*PKIKP	PKPdf	14 44 33.0	+5.6
YSS				*e*		14 44 39.0	
ASAJ	**Asahikawa**	**153.03**	**301**	PKPbc	PKPdf	14 44 35.8	+7.2
	comp=Z,9.7nm,0.9s,baz=220,slow=5.9,SNR=5.4						
ASAJ				PKPab	PKPab	14 44 48.0	+0.6
	comp=Z,22nm,0.9s,baz=206,slow=2.4,SNR=8.3						
MKAR	**Makanchi Array**	**155.51**	**51**	PKP	PKPdf	14 44 30.8	-1.0
	comp=Z,3.7nm,1.0s,baz=297,slow=2.7,SNR=7.5						
MKAR				PKPab	PKPab	14 44 57.9	+0.2
	comp=Z,8.2nm,1.1s,baz=284,slow=3.0,SNR=6.1						
BOD	**Bodaibo**	**156.17**	**355**	*e*PKIKP	PKPdf	14 44 29.3	-3.0
BOD				*e*		14 44 55.2	
KOLN	**Koldanda**	**156.46**	**98**	*e*P	PKPdf	14 44 33.4	-0.3
	comp=Z,32nm,1.3s						
GKN	**Gorkha**	**157.39**	**99**	*e*P	PKPdf	14 44 34.7	-0.2
	comp=Z,29nm,1.1s						
DMN	**Daman**	**157.63**	**100**	*e*P	PKPdf	14 44 31.8	-3.4
KKN	**Kakani**	**157.84**	**100**	*e*P	PKPdf	14 44 35.6	+0.1
PKI	**Pulchoki**	**157.86**	**101**	*e*P	PKPdf	14 44 35.0	-0.5
WMQ	**Urumqi**	**160.14**	**54**	*e*PKP	PKPdf	14 44 34.3	-3.4
BDT	**Bhumibol Dam**	**160.46**	**147**	P	PKPab	14 45 19.0	-0.8
CMAR	**Chiang Mai Arr**	**161.49**	**145**	PKP	PKPdf	14 44 39.8	0.0
	comp=Z,4.2nm,1.1s,baz=248,slow=2.5,SNR=7.9						
CMAR				PKPab	PKPab	14 45 23.4	-0.9
	comp=Z,6.0nm,1.0s,baz=224,slow=5.5,SNR=10						
CMAR				PP	PP	14 49 03.7	-4.9
	comp=Z,0.8nm,1.0s,baz=236,slow=3.3,SNR=3.4						
CHG	**Chiang Mai**	**161.79**	**144**	⇓P	PKPab	14 45 24.3	-1.3
	comp=Z,12nm,1.1s						
SHL	**Shillong**	**162.07**	**114**	*e*P	PKPdf	14 44 41.5	+1.4
NANT	**Nan**	**162.58**	**149**	P	PKPab	14 45 27.0	-2.0
ZAK	**Zakamensk**	**163.02**	**15**	*e*PKIKP	PKPdf	14 44 34.4	-5.9
ZAK				*e*		14 45 29.8	
LSA	**Lhasa**	**163.33**	**100**	PKP	PKPdf	14 44 41.5	+0.2
CN2	**Changchun**	**164.66**	**313**	*e*PKP	PKPdf	14 44 39.2	-3.0
SONM	**Songino Array**	**166.04**	**10**	PKP	PKPdf	14 44 42.7	-0.6
	comp=Z,2.1nm,1.1s,baz=180,slow=1.2,SNR=10						
SONM				PKPab	PKPab	14 45 43.8	+0.6
	comp=Z,3.5nm,1.0s,baz=330,slow=3.6,SNR=8.6						
SONM				PP	PP	14 49 33.9	+2.4
	comp=Z,0.9nm,1.1s,baz=315,slow=8.2,SNR=3.2						
KMI	**Kunming**	**168.98**	**143**	*e*PKP	PKPdf	14 44 44.6	-1.3
KMI				SKS	SKS	14 51 45.4	-3.8
KMI				SKKS		14 56 35.8	
KMI	**Kunming**	**168.98**	**143**	*e*PKP	PKPdf	14 44 44.6	-1.3
KMI				sPKP		14 44 57.9	
KMI				SKS	SKS	14 51 45.4	-3.8
KMI				SKKS		14 56 35.8	
KMI				SS	SS	15 10 37.5	-1.7
KMI				LR	LR		
	comp=Z,580nm,23.2s						
SSE	**Sheshan**	**170.16**	**255**	*e*PKP	PKPdf	14 44 43.9	-2.5
SSE				PP	PP	14 49 51.2	-1.4
SSE				PP	PP		
	comp=Z,172nm,4.8s						
SSE				LR	LR		
	comp=N,111nm,28.0s						
SSE				LR	LR		
	comp=E,119nm,28.2s						
SSE				LR	LR		
	comp=Z,172nm,28.2s						
GTA	**Gaotai**	**170.23**	**54**	*e*PKP	PKPdf	14 44 46.4	+0.2
GYA	**Guiyang**	**171.80**	**158**	PKP	PKPdf	14 44 47.9	+0.4
GYA				PKS	PKS	14 48 19.2	+2.9
GYA				PP	PP		
	comp=Z,160nm,8.6s						
GYA				LR	LR		
	comp=N,170nm,20.8s						
GYA				LR	LR		
	comp=E,210nm,21.4s						
GYA				LR	LR		
	comp=Z,310nm,20.6s						
NJ2	**Nanjing**	**172.35**	**257**	*e*PKP	PKPdf	14 44 44.0	-3.7
NJ2				PKS	PKS	14 48 16.0	-0.3
NJ2				PP	PP	14 50 03.6	0.0
BJI	**Beijing**	**172.36**	**322**	PKP	PKPdf	14 44 47.1	-0.3
BJI				LR	LR		
	comp=Z,630nm,25.1s						
HHC	**Hu-ho-hao-te**	**173.20**	**350**	*e*PKP	PKPdf	14 44 48.0	+0.2
HHC				PKS	PKS	14 48 19.6	+3.3
HHC				SKS	SKS	14 51 49.5	-0.9
HHC				LR	LR		
	comp=N,84nm,20.2s						
HHC				LR	LR		
	comp=E,134nm,27.4s						
HHC				LR	LR		
	comp=Z,165nm,30.9s						
LZH	**Lanzhou**	**174.53**	**67**	PKP	PKPdf	14 44 47.2	-1.1
LZH				*e*SKS	SKS	14 51 47.0	-3.9
LZH				SKKS		14 56 56.2	
LZH				PP	PP		
	comp=Z,203nm,4.6s						
LZH	**Lanzhou**	**174.53**	**67**	PKP	PKPdf	14 44 47.2	-1.1
LZH				pPKP		14 44 56.6	
LZH				sPKP		14 45 01.4	
XAN	**Xi’an**	**179.03**	**96**	PKP	PKPdf	14 44 49.2	0.0

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*IDC **12** 15:01:00.9±2.0, 55.53S×29.35W, h36^{km}±6^{km}, mb4.3/2, mb1 4.5/2, mb1mx3.8/11, Error ellipse: s-maj=204.0km s-min=29.4km az=29.0*

NEIC 12 15:01:02.8±0.6**, 55.30S**×**29.25W, h50**^{km}**, 4C, Error ellipse: s-maj=52.0km s-min=13.8km az=60.0, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**17.93**	**157**	⇑*i*	P	15 05 12.6	+2.8
VNA3	**Neumayer Olymp**	**18.09**	**160**	⇑*i*	P	15 05 10.9	-0.9
VNA2	**Neumayer--Watz**	**18.33**	**157**	⇑*i*	P	15 05 14.1	-0.6
SNAA	**Sanae**	**19.91**	**156**	⇑*i*	P	15 05 27.4	-5.1
CPUP	**Villa Florida**	**35.44**	**313**	P	P	15 07 54.5	-1.6
	5.4nm,0.7s,baz=169,slow=7.2,SNR=19						
CPUP	**Villa Florida**	**35.44**	**313**	P	P	15 07 54.5	-1.6
LPAZ	**La Paz**	**48.99**	**307**	P	P	15 09 44.8	-1.5
	2.4nm,0.4s,baz=138,slow=1.6,SNR=4.2						
FINES	**FINESS Array B**	**124.27**	**29**	PKP	PKPdf	15 19 53.5	-1.6
	2.2nm,0.8s,baz=243,slow=4.3,SNR=4.3						
FINES				pPKP		15 20 06.1	
	7.5nm,1.2s,baz=270,slow=1.9,SNR=2.2						
FINES	**FINESS Array B**	**124.27**	**29**	PKP	PKPdf	15 19 53.5	-1.6
FINES				pPKP		15 20 06.1	
ARCES	**ARCESS Array B**	**130.68**	**22**	PKP	PKPdf	15 20 06.1	-0.9
	3.6nm,1.1s,baz=180,slow=3.6,SNR=3.9						
BVAR	**Borovoye Array**	**135.36**	**58**	PKP	PKPdf	15 20 17.7	+1.5
	0.5nm,0.7s,baz=180,slow=2.9,SNR=2.8						
BVAR				pPKP		15 20 28.0	
	1.0nm,0.9s,slow=1.5,SNR=3.3						
BVAR	**Borovoye Array**	**135.36**	**58**	PKP	PKPdf	15 20 17.7	+1.5
BVAR				pPKP		15 20 28.0	
ILAR	**Eielson Array**	**148.75**	**313**	PKPbc	PKPdf	15 20 42.8	+3.7
	4.5nm,0.5s,baz=113,slow=1.5,SNR=10.0						
ILAR				pPKPbc		15 20 54.0	
	4.3nm,0.8s,baz=140,slow=2.0,SNR=8.6						
COLA	**College**	**149.17**	**313**	*e*PKPbc	PKPdf	15 20 43.9	+4.1
SONM	**Songino Array**	**151.85**	**87**	PKPbc	PKPdf	15 20 50.6	+6.2
	1.3nm,0.6s,baz=229,slow=3.2,SNR=16						
SONM				pPKPbc		15 21 02.4	
	2.6nm,1.0s,baz=231,slow=3.3,SNR=8.4						

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*MEX **12** 15:04:19.3±0.9, 16.74N×94.76W, h108^{km}±11^{km}, MD3.8*

ISC 12 15:04:18.3±1.7**, 16.7N**±0.1×**94.74W**±0.06**, h99**^{km}±17^{km}**, n4, σ1^{s}.15**/8**, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.42**	**341**	*i* P	**P**	**15 04 34.0**	**+0.4**
CMIG				*i* S	**S**	**15 04 45.3**	**+0.2**
HUIG	**Huatulco**	**1.60**	**235**	*i* P	**P**	**15 04 45.6**	**-0.6**
HUIG				*i* S	**S**	**15 05 07.5**	**+0.6**
OXX	**Oaxaca**	**1.93**	**282**	*i* P	**P**	**15 04 51.0**	**+0.6**
OXX				*i* S	**S**	**15 05 13.0**	**-1.2**
CCIG	**Comitan**	**2.54**	**99**	*e*P	**P**	**15 04 59.7**	**+1.1**
CCIG				*i* S	**S**	**15 05 27.7**	**-1.1**

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*MAN **12** 15:08:20.4, 5.77N×126.41E, h1^{km}, mb4.7, ML3.6, MS3.6*

*IDC **12** 15:08:20.5±1.4, 6.20N×126.94E, mb3.7/6, mb1 3.8/6, mb1mx3.6/18, Error ellipse: s-maj=100.0km s-min=18.6km az=68.0*

*NEIC **12** 15:08:27.8±1.2, 6.14N×126.69E, h50^{km}, mb4.1/3, Error ellipse: s-maj=102.0km s-min=12.8km az=68.0*

ISC 12 15:08:26.4±1.2**, 6.07N**±0.07×**126.5E**±0.1**, h53**^{km}±14^{km}**, n20, σ1^{s}.25**/23**, mb3.7**/8**, 1C-1D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.92**	**342**	*e*P	**P**	**15 08 42.3**	**-0.9**
KCP	**Kidapawan**	**1.72**	**303**	⇓*e*P	**P**	**15 08 51.5**	**-3.1**
KCP				*i* S	**S**	**15 09 16.8**	**+1.4**
BIPH	**Bislig**	**2.11**	**355**	⇑*i*P	**P**	**15 08 59.1**	**-0.9**
BIPH				*i* S	**S**	**15 09 24.1**	**-1.0**
BUKP	**Musuan**	**2.32**	**321**	*e*P	**P**	**15 09 01.9**	**-1.2**
BUTP	**Butuan**	**3.02**	**342**	*e*P	**P**	**15 09 14.9**	**+1.9**
BUTP				*e*S	**S**	**15 09 54.0**	**+5.7**
PAGZ	**Pagadian**	**3.60**	**300**	*e*P	**P**	**15 09 19.5**	**-1.6**
MSLP	**Maasin**	**4.37**	**338**	*e*P	**P**	**15 09 33.6**	**+1.6**
OCLP	**Ormoc**	**5.31**	**339**	*e*P	**P**	**15 09 47.5**	**+2.4**
BESP	**Borongan**	**5.61**	**349**	*e*P	**P**	**15 09 49.9**	**+0.7**
CNP	**Catarman**	**6.67**	**344**	*e*P	**P**	**15 10 04.5**	**+0.4**
FITZ	**Fitzroy Crossi**	**24.03**	**182**	*e*P	**P**	**15 13 38.7**	**+1.1**
	6.0nm,2.0s,mb3.7						
FITZ	**Fitzroy Crossi**	**24.03**	**182**	P	**P**	**15 13 38.3**	**+0.6**
	1.4nm,0.6s,mb3.5,baz=11,slow=9.4,SNR=9.1						
WRAB	**Tennant Creek**	**26.95**	**164**	*e*P	**P**	**15 14 05.6**	**+0.4**
	3.8nm,0.6s,mb4.1						
WRA	**Warramunga Arr**	**26.96**	**164**	P	**P**	**15 14 05.6**	**+0.3**
	0.6nm,0.5s,mb3.4,baz=345,slow=10,SNR=2.8						
WB2	**Warramunga Arr**	**26.96**	**164**	*e*P	**P**	**15 14 06.9**	**+1.6**
ASAR	**Alice Springs**	**30.41**	**167**	P	**P**	**15 14 34.9**	**-1.3**
	0.3nm,0.6s,mb3.2,baz=347,slow=7.4,SNR=7.3						
ASAR				PcP	PcP	15 17 34.0	-0.9
	0.2nm,0.4s,baz=355,slow=2.2,SNR=5.2						
STKA	**Stephens Creek**	**40.37**	**160**	P	**P**	**15 15 59.5**	**-1.3**
	1.2nm,0.7s,mb3.7,baz=346,slow=12,SNR=1.9						
MKAR	**Makanchi Array**	**55.55**	**324**	P	**P**	**15 17 58.9**	**+0.2**
	0.6nm,0.6s,mb3.8,baz=127,slow=6.4,SNR=6.4						
KURK	**Kurchatov**	**59.69**	**327**	*e*P	**P**	**15 18 26.6**	**-1.2**
	1.2nm,0.6s,mb4.1						
BVAR	**Borovoye Array**	**65.28**	**326**	P	**P**	**15 19 04.7**	**-0.2**
	0.3nm,0.4s,mb3.7,baz=112,slow=7.8,SNR=3.5						

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*NEIC **12** 15:12:05.7, 16.31N×99.32W, h7^{km}, MD4.1(MEX), After MEX.*

MEX 12 15:12:06.7±1.0**, 16.30N**×**99.32W, h21**^{km}±19^{km}**, MD4.1, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ACX	**Acapulco**	**0.81**	**315**	*i* P	Pb	15 12 19.2	-2.8
ACX				*i* S	Sb	15 12 29.5	-2.9
PNIG	**Pinotepa**	**1.15**	**85**	*i* P	Pn	15 12 24.2	-3.5
PNIG				*i* S	Sb	15 12 39.0	-3.2
PLIG	**Platanillo**	**2.09**	**355**	*i* P	Pn	15 12 37.9	-3.3
PLIG				*i* S	Sn	15 13 03.1	-3.7
ZIIG	**Zihuatanejo**	**2.44**	**303**	*i* P	Pn	15 12 44.1	-2.0
ZIIG				*i* S	Sn	15 13 11.8	-3.8
YAIG	**Yautepec**	**2.56**	**5**	*i* P	Pn	15 12 44.8	-3.1
YAIG				*i* S	Sn	15 13 15.2	-3.7
VHO	**Vista Hermosa**	**2.59**	**72**	*i* P	Pn	15 12 45.2	-3.2
VHO				*i* S	Sn	15 13 16.4	-3.1
OXX	**Oaxaca**	**2.60**	**72**	*i* P	Pn	15 12 45.0	-3.5
OXX				*i* S	Sn	15 13 17.0	-2.9
OXX	**Oaxaca**	**2.60**	**72**	*i* P	Pn	15 12 49.4	+0.9
OXX				*i* S	Sn	15 13 22.3	+2.4
PPM	**Popocatepetl**	**2.83**	**13**	*i* P	Pn	15 12 49.8	-2.0
PPM				*i* S	Sn	15 13 25.0	-0.7
IIZ	**Mezontepec**	**2.88**	**1**	*i* P	Pn	15 12 50.5	-1.9
UNM	**Universidad Na**	**3.02**	**2**	*i* P	Pn	15 12 50.2	-4.2
UNM				*e*P		15 12 51.4	
UNM				*i* S	Sn	15 13 25.3	-5.1
UNM				*i* S	Sn	15 13 26.2	-4.1
UNM	**Universidad Na**	**3.02**	**2**	*e*P	Pn	15 12 51.8	-2.7
UNM				*i* S	Sn	15 13 26.2	-4.1
HUIG	**Huatulco**	**3.13**	**99**	*e*P	Pn	15 12 53.8	-2.2
HUIG				*i* S	Sn	15 13 30.9	-2.2
HUIG	**Huatulco**	**3.13**	**99**	*e*P	Pn	15 12 53.8	-2.2
HUIG				*i* S	Sn	15 13 25.2	-7.9
PBVM	**Pinon**	**3.14**	**4**	*i* P	Pn	15 12 53.5	-2.5
PBVM				*i* S	Sn	15 13 27.0	-6.3
PBVM	**Pinon**	**3.14**	**4**	*i* P	Pn	15 12 53.5	-2.5
PBVM				*i* S	Sn	15 13 24.1	-9.2
IISM	**Ciudad Serdan**	**3.25**	**34**	*i* P	Pn	15 12 55.7	-2.1
IISM				*i* S	Sn	15 13 30.0	-6.3
MOIG	**Morelia**	**3.81**	**332**	*i* P	Pn	15 13 06.0	+0.4
MOIG				*e*S	Sn	15 13 43.4	-6.9

OTT 12 15:58:51.7±0.2**, 52.73N**×**67.09W, MN2.9**/8**, Blast, Mount Wright, Qc Mining explosion., Northern Quebec**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCHQ	**Schefferville**	**2.11**	**4**	PN	Pn	15 59 27.9	-0.8
SCHQ				SN	Sn	15 59 54.5	-1.4
SCHQ				Trac		16 00 08.1	
	comp=Z,56nm,0.3s						
MNQ	**Manicouagan**	**2.44**	**206**	PN	Pn	15 59 32.8	-0.7
MNQ				SN	Sn	16 00 03.8	-0.6
MNQ				Trac		16 00 20.6	
	comp=Z,29nm,0.2s						
SMQ	**Clarke City**	**2.53**	**174**	PN	Pn	15 59 33.9	-0.7
SMQ				SG	Sg	16 00 10.3	-5.5
SMQ				Trac		16 00 23.5	
	comp=Z,29nm,0.2s						
ICQ	**Pointe Anglais**	**3.22**	**182**	PN	Pn	15 59 42.1	-2.4
ICQ				SN	Sn	16 00 22.8	-1.4
ICQ				Trac		16 00 48.3	
	comp=Z,10.0nm,0.2s						
CNQ	**Baie Comeau**	**3.49**	**191**	PN	Pn	15 59 47.6	-0.8
CNQ				Trac		16 00 54.4	
	comp=Z,9.2nm,0.2s						
GSQ	**Grosses Roches**	**3.83**	**180**	PN	Pn	15 59 52.5	-0.7
GSQ				Trac		16 00 50.8	
	comp=Z,6.7nm,0.2s						
LG4Q	**La Grande 4**	**4.31**	**285**	PN	Pn	15 59 57.8	-2.2
LG4Q				Trac		16 01 13.2	
	comp=Z,8.1nm,0.2s						
DAQ	**Lac Daran**	**5.46**	**211**	PN	Pn	16 00 12.2	-4.2
DAQ				Trac		16 01 51.5	
	comp=Z,4.6nm,0.2s						
DRLN	**Deer Lake**	**6.98**	**116**	PN	Pn	16 00 34.6	-3.1
VLDQ	**Val d’Or**	**8.07**	**239**	PN	P	16 00 48.2	-4.8
MALO	**McAlpine Lake**	**8.38**	**256**	PN	P	16 00 50.8	-6.5
VIMO	**Victor Mine**	**10.10**	**277**	PN	P	16 01 13.6	-7.4
SILO	**Sutton Inlier**	**10.73**	**286**	PN	P	16 01 21.0	-8.6

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*TAP **12** 16:13:32.1, 24.70N×122.33E, h7^{km}±1^{km}, ML3.0*

JMA 12 16:13:32.5±0.3**, 24.74N**×**122.44E, h27**^{km}**, M2.7, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.59**	**118**	P	Pb	16 13 43.9	-0.3
YOJ				*e*S	Sb	16 13 51.8	-0.4
IRIF	**Iriomote-Funau**	**1.24**	**109**	P	Pn	16 13 54.0	-0.4
IRIF				*e*S	Sn	16 14 11.0	+0.7
HATJ	**Hateruma jima**	**1.42**	**118**	*e*S	Sn	16 14 14.6	-0.2
JKRS	**Kuro-shima**	**1.52**	**109**	P	Pn	16 13 58.1	-0.1
JKRS				*e*S	Sn	16 14 19.0	+1.8
JIJ	**Ishigaki jima**	**1.59**	**103**	P	Pn	16 13 59.5	+0.1
JIJ				*e*S	Sn	16 14 20.0	+0.7

JMA 12 16:24:58.9, 35.09N×134.91E, h10^{km}, M3.5, 5C-3D Broadband fault plane solution: P waves. NP1:φ$_s$330°,** δ74°,λ-4°. **NP2:φ$_s$61°,δ87°,λ-164°. Principal axes: T Plg9°, Azm195°; N Plg73°, Azm73°; P Plg14°, Azm287°; **Western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JKS	**Kasai**	**0.12**	**207**	⇑P	Pg	16 25 01.9	0.0
JKS				S	Sg	16 25 03.9	0.0
JMIK	**Miki**	**0.31**	**157**	⇑P	Pg	16 25 05.2	-0.1
JMIK				S	Sg	16 25 09.5	0.0
JWT	**Wachi**	**0.45**	**64**	⇓P	Pg	16 25 07.7	-0.3
JWT				*e*S	Sg	16 25 13.3	-0.7
JKSM	**Kasumi**	**0.54**	**338**	⇑P	Pg	16 25 09.4	-0.3
JKSM				S	Sg	16 25 16.7	-0.3
JKY	**Yasaka**	**0.56**	**16**	⇑P	Pg	16 25 09.9	-0.3
JKY				S	Sg	16 25 17.6	-0.2
JAD	**Aida**	**0.63**	**256**	⇓P	Pb	16 25 10.9	-0.6
JAD				S	Sg	16 25 19.2	-0.8
JAJ2	**Tsuna**	**0.67**	**182**	⇑P	Pb	16 25 11.6	-0.6
JAJ2				S	Sb	16 25 20.6	-0.7
JHE	**Heguri**	**0.77**	**124**	⇓P	Pb	16 25 13.4	-0.6
JHE				*e*S	Sb	16 25 23.8	-0.4

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*LDG **12** 16:41:17.0±0.3, 39.38N×20.27E, h10^{km}, Mb4.5/11, Ms2.8/5 Error ellipse: s-maj=16.3km s-min=8.7km az=28.0*

*MOS **12** 16:41:18.1±0.9, 39.15N×20.29E, h15^{km}, mb4.2/7, Error ellipse: s-maj=13.1km s-min=6.2km az=77.3*

*ATH **12** 16:41:18.9, 39.12N×20.59E, h4^{km}±1^{km}, MD4.0/19, ML4.1*

*NEIC **12** 16:41:19.6±0.6, 39.19N×20.56E, h3^{km}±5^{km}, mb3.8/3, MD3.9(PDG), ML4.2(THE), ML4.1(ATH), Error ellipse: s-maj=3.7km s-min=2.5km az=207.0*

*THE **12** 16:41:20.7, 39.16N×20.62E, h2^{km}, ML4.1*

*PDG **12** 16:41:20.1±0.5, 39.20N×20.58E, h11^{km}±1^{km}*

*IDC **12** 16:41:24.8±1.1, 39.30N×20.51E, h50^{km}±15^{km}, mb3.7/9, mb1 3.9/17, mb1mx3.7/29, ML4.0/9, MS2.5/2, Ms1 2.5/2, ms1mx2.4/27, Error ellipse: s-maj=14.1km s-min=10.6km az=32.0*

*SOF **12** 16:41:31.5, 39.78N×21.40E, h8^{km}, MD3.5*

ISC 12 16:41:20.0±0.4**, 39.18N**±0.02×**20.47E**±0.02**, h18**^{km}±4^{km}**, n194, σ1^{s}.40**/264**, mb3.9**/11**, 16C-20D, Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IGT	**Igoumenitsa**	**0.37**	**343**	*e*Pg	**Pb**	**16 41 28.0**	**+0.2**
IGT				*e*Sg	**Sb**	**16 41 35.2**	**+2.1**
IGT	**Igoumenitsa**	**0.37**	**343**	P	**Pb**	**16 41 28.0**	**+0.2**
IGT				S	**Sb**	**16 41 35.2**	**+2.1**
IGT				S	**Sb**	**16 41 35.3**	**+2.3**
LKD	**Levkas**	**0.49**	**163**	*e*Pg	**Pb**	**16 41 28.6**	**-1.1**
JAN	**Janina**	**0.56**	**31**	⇓*i*PG	**Pb**	**16 41 29.5**	**-1.5**
KEK	**Kerkira**	**0.75**	**316**	*e*PG	**Pb**	**16 41 35.0**	**+0.8**
SRN	**Sarande**	**0.79**	**333**	*e*Pn	**Pn**	**16 41 40.0**	**+3.8**
MEV	**Metsovon**	**0.84**	**44**	*e*Pg	**Pb**	**16 41 35.0**	**-0.9**
MEV	**Metsovon**	**0.84**	**44**	P	**Pb**	**16 41 35.0**	**-0.8**
LSK	**Leskovik**	**0.98**	**6**	*e*Pn	**Pn**	**16 41 39.3**	**+0.5**
VLS	**Valsamata**	**1.00**	**175**	*e*PG	**Pb**	**16 41 37.0**	**-1.5**
EVR	**Evrytania**	**1.07**	**104**	*e*PG	**Pb**	**16 41 37.5**	**-2.2**
RLS	**Riolos of Patr**	**1.36**	**145**	*e*PB	**Pb**	**16 41 42.9**	**-1.8**
AGG	**Agios Georgios**	**1.46**	**95**	*e*Pb	**Pn**	**16 41 45.3**	**-0.4**
AGG				*e*Sb	**Sb**	**16 42 04.9**	**+0.5**
AGG	**Agios Georgios**	**1.46**	**95**	P	**Pn**	**16 41 45.3**	**-0.4**
AGG				S	**Sn**	**16 42 04.5**	**+0.1**
AGG				S	**Sb**	**16 42 04.9**	**+0.5**
KBN	**Korca**	**1.47**	**9**	*i* Pn	**Pn**	**16 41 50.0**	**+4.2**
KBN				*i* Sn	**Sn**	**16 42 12.7**	**+8.1**
KZN	**Kozani**	**1.51**	**41**	*e*PB	**Pb**	**16 41 47.0**	**-0.2**
FNA	**Florina**	**1.75**	**23**	*e*Pb	**Pb**	**16 41 51.3**	**0.0**
	comp=Z,40nm,0.5s						
FNA				*e*Sb	**Sb**	**16 42 14.1**	**+1.2**
FNA	**Florina**	**1.75**	**23**	P	**Pn**	**16 41 51.0**	**+1.1**
FNA				P		16 41 51.3	
FNA				S	**Sb**	**16 42 14.1**	**+1.2**
FNA				S	**Sn**	**16 42 16.9**	**+5.0**
LIT	**Litokhoron**	**1.81**	**59**	*e*Pb	**Pn**	**16 41 51.2**	**+0.5**
LIT				*e*Sb	**Sb**	**16 42 14.3**	**-0.4**
LIT	**Litokhoron**	**1.81**	**59**	P	**Pn**	**16 41 51.2**	**+0.5**
LIT				S	**Sb**	**16 42 14.3**	**-0.4**
LIT				S	**Sn**	**16 42 16.3**	**+2.8**
OHR	**Ohrid**	**1.95**	**7**	*i* Pn	**Pn**	**16 41 55.6**	**+2.9**
OHR				*i*		16 41 57.6	
OHR				*i* Sn	**Sn**	**16 42 21.8**	**+4.9**
OHR				*i*		16 42 26.5	
BIA	**Bitola**	**1.95**	**19**	⇓*i*Pn	**Pn**	**16 41 56.4**	**+3.6**
BIA				*i*		16 42 00.1	
BIA				*i* Sn	**Sn**	**16 42 22.3**	**+5.3**
LKR	**Lokris**	**2.04**	**104**	*e*PN	**Pn**	**16 41 54.5**	**+0.4**
XOR	**Xorichti**	**2.12**	**84**	*e*Pn	**Pn**	**16 41 55.5**	**+0.4**
XOR	**Xorichti**	**2.12**	**84**	P	**Pn**	**16 41 55.5**	**+0.4**
XOR				P		16 41 55.8	
NEO	**Neokhori**	**2.14**	**86**	*e*PN	**Pn**	**16 41 56.0**	**+0.5**
LCI	**Lecce**	**2.15**	**303**	*e*Pn	**Pn**	**16 41 57.0**	**+1.3**
LCI				*e*Sn	**Sn**	**16 42 40.6**	**+18**
TIR	**Tirane**	**2.22**	**348**	*e*Pn	**Pn**	**16 41 59.5**	**+2.9**
TIR				*i* Sn	**Sn**	**16 42 31.5**	**+7.7**
ITM	**Ithomi**	**2.30**	**150**	*e*PG	**Pn**	**16 42 00.0**	**+2.2**
GRG	**Griva**	**2.31**	**39**	*e*Pn	**Pn**	**16 41 58.8**	**+0.8**
GRG				*e*Sn	**Sn**	**16 42 27.6**	**+1.4**
GRG	**Griva**	**2.31**	**39**	P	**Pn**	**16 41 58.8**	**+0.8**
GRG				S	**Sn**	**16 42 27.5**	**+1.3**
GRG				S	**Sn**	**16 42 27.6**	**+1.4**
QSH	**Qafa e Shtames**	**2.38**	**350**	*i* Pn	**Pn**	**16 42 00.0**	**+1.1**
QSH				*i* Sn	**Sn**	**16 42 32.0**	**+4.1**
MKIT	**Kithairon Oros**	**2.40**	**114**	*e*PN	**Pn**	**16 41 59.4**	**+0.3**
THE	**Thessaloniki**	**2.41**	**52**	*e*Pn	**Pn**	**16 41 60.0**	**+0.7**
	comp=Z,4.8nm,0.5s						
LACI	**Lac**	**2.52**	**347**	*e*Pn	**Pn**	**16 42 02.3**	**+1.3**
PAIG	**Paliouri**	**2.59**	**72**	*e*Pn	**Pn**	**16 42 01.6**	**-0.4**
PAIG	**Paliouri**	**2.59**	**72**	P	**Pn**	**16 42 01.4**	**-0.5**
PAIG				P		16 42 01.6	
AOS	**Alonnisos**	**2.65**	**89**	*e*Pn	**Pn**	**16 42 02.4**	**-0.4**
AOS				*e*Sn	**Sn**	**16 42 34.0**	**-0.7**
AOS	**Alonnisos**	**2.65**	**89**	P	**Pn**	**16 42 02.4**	**-0.4**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
AOS				P		16 42 02.7	
AOS				S	Sn	16 42 34.0	-0.7
AOS				S	Sn	16 42 35.5	+0.7
NSAL	Nisos Salamina	2.67	117	*e*PN	Pn	16 42 03.5	+0.5
VAY	Valandovo	2.68	36	⇓*i*Pn	Pn	16 42 04.7	+1.5
VAY				*i*		16 42 09.4	
VAY				*i* Sn	Sn	16 42 35.3	-0.1
VAY				*i*		16 42 38.8	
KNT	Kendrikon	2.72	42	*e*Pn	Pn	16 42 04.2	+0.5
	comp=Z,10nm,0.6s						
KNT				*e*Sn	Sn	16 42 37.1	+0.6
KNT	Kendrikon	2.72	42	P	Pn	16 42 04.2	+0.5
KNT				S	Sn	16 42 36.3	-0.2
KNT				S	Sn	16 42 37.1	+0.6
MPAR	Parnis Oros	2.75	111	*e*PN	Pn	16 42 04.5	+0.3
SOH	Sokhos	2.76	53	*e*Pn	Pn	16 42 05.0	+0.7
SOH				*e*Sn	Sn	16 42 38.1	+0.7
SOH	Sokhos	2.76	53	P	Pn	16 42 05.0	+0.7
SOH				S	Sn	16 42 38.1	+0.7
SOH				S	Sn	16 42 40.4	+2.9
NAIG	Nisos Aigina	2.76	120	*e*PN	Pn	16 42 04.5	+0.2
ATH	Athens Observa	2.81	114	*e*PB	Pb	16 42 05.5	-3.9
TIP	Timpagrande	2.89	271	*e*Pn	Pn	16 42 06.8	+0.7
PTL	Penteli	2.89	112	*e*PN	Pn	16 42 06.0	-0.1
SKO	Skopje	2.89	14	*i* Pn	Pn	16 42 07.8	+1.6
SKO				*i*		16 42 12.3	
SKO				*i*		16 42 21.6	
SKO				*i* Sn	Sn	16 42 38.0	-2.8
SKO				*i*		16 42 47.1	
SKO				Lg		16 42 59.0	
	comp=Z,0.4nm,0.9s						
PUK	Puka	2.90	351	*i* Pn	Pn	16 42 08.4	+2.1
ULC	Ulcinj	2.94	342	⇓*i*Pn	Pn	16 42 07.2	+0.3
ULC				*e*Sn	Sn	16 42 44.4	+2.4
OUR	Ouranopolis	2.94	66	*e*Pn	Pn	16 42 07.1	+0.2
	comp=Z,16nm,0.4s						
VLI	Veliai	3.13	141	*e*PB	Pb	16 42 12.0	-2.9
GRI	Girifalco	3.18	265	*e*Pn	Pn	16 42 11.6	+1.3
ORI	Oriolo Calabro	3.23	287	*e*Pn	Pn	16 42 12.2	+1.2
TDS	Terranova Siba	3.24	280	*e*Pn	Pn	16 42 13.9	+2.8
TDS				*e*Sn	Sn	16 43 01.7	+12
BUM	Brajici-Budva	3.34	340	⇓*i*Pn	Pn	16 42 12.9	+0.3
BUM				*e*Sn	Sn	16 42 54.3	+2.0
KKB	Krupnik	3.34	36	*i* P	Pn	16 42 12.0	-0.6
KKB	Krupnik	3.34	36	⇑*i*P	Pn	16 42 12.0	-0.6
TTG	Podgorica	3.38	345	⇓*i*Pn	Pn	16 42 13.6	+0.5
TTG				*e*Sn	Sn	16 42 54.9	+1.7
PVY	Plav	3.44	354	⇓*i*Pn	Pn	16 42 14.9	+0.9
PVY				*e*Sn	Sn	16 42 56.9	+2.2
MMB	Musomiste	3.46	45	*i* P	Pn	16 42 14.5	+0.2
KYTH	Kithira	3.53	144	*e*PN	Pn	16 42 16.5	+1.2
HCY	Herceg Novi	3.59	336	⇓*i*Pn	Pn	16 42 15.7	-0.4
HCY				*e*Sn	Sn	16 43 00.4	+1.8
SOI	Samo	3.63	254	*e*Pn	Pn	16 42 17.0	+0.3
LOS	Limnos	3.64	77	*e*Pn	Pn	16 42 16.4	-0.4
LOS	Limnos	3.64	77	P	Pn	16 42 16.4	-0.4
LOS				P		16 42 16.6	
IVA	Berane	3.72	353	⇓*i*Pn	Pn	16 42 18.9	+1.0
IVA				*e*Sn	Sn	16 43 02.9	+1.1
BARS	Barje	3.78	15	⇓*i*Pn	Pn	16 42 19.1	+0.3
BARS				Sn	Sn	16 43 01.4	-2.0
NKY	Niksic	3.80	343	⇓*i*Pn	Pn	16 42 19.3	+0.2
NKY				*e*Sn	Sn	16 43 05.1	+1.2
SCLL	Scilla	3.83	258	*e*Pn	Pn	16 42 20.6	+1.1
MGR	Morigerati	3.92	286	*e*Pn	Pn	16 42 22.2	+1.5
SLCN	Sala Consilina	3.92	290	*e*Pn	Pn	16 42 24.1	+3.3
MTTG	Motta San Giov	3.92	254	*e*Pn	Pn	16 42 23.2	+2.4
VTS	Vitosha	3.99	30	*i* P	Pn	16 42 23.0	+1.2
VTS	Vitosha	3.99	30	⇑*i*P	Pn	16 42 23.0	+1.2
BRY	Bratogost	4.00	339	⇓*i*Pn	Pn	16 42 21.9	+0.1
BRY				*e*Sn	Sn	16 43 09.9	+1.1
RZN	Rozhen	4.10	51	*i* P	Pn	16 42 23.5	+0.2
MRLC	Muro Lucano	4.14	294	*e*Pn	Pn	16 42 25.6	+1.7
UPM	Unac-Piva	4.19	344	⇓*i*Pn	Pn	16 42 25.0	+0.4
UPM				*e*Sn	Sn	16 43 14.3	+0.5
SGO	Sicignano	4.21	291	*e*Pn	Pn	16 42 27.0	+2.1
PLE	Pljevlja	4.23	349	⇓*i*Pn	Pn	16 42 26.3	+1.1
PLE				*e*Sn	Sn	16 43 15.7	+1.0
STON	Ston	4.25	331	*i* Pn	Pn	16 42 24.8	-0.7
STON				*i* Sn	Sn	16 43 13.5	-1.7
FG4	Candela	4.27	299	*e*Pn	Pn	16 42 28.2	+2.4
FGMS	Monte Sant'Ang	4.28	308	*e*Pn	Pn	16 42 26.8	+1.0
NVSS	Nova Varos 2	4.37	353	⇑*i*Pn	Pn	16 42 28.7	+1.5
NVSS				Sn	Sn	16 43 16.3	-1.9
PGB	Panagyurishte	4.38	39	*i* P	Pn	16 42 27.5	+0.1
SLNA	Salina	4.44	264	*e*Pn	Pn	16 42 29.8	+1.6
RGNG	Rignano Grg	4.49	305	*e*Pn	Pn	16 42 28.9	0.0
FG5	Orsara di Pugl	4.50	299	*e*Pn	Pn	16 42 30.6	+1.5
CSSN	Cassano Irpino	4.51	294	*e*Pn	Pn	16 42 31.2	+2.0
APE	Apeiranthos	4.51	116	*e*PN	Pn	16 42 28.5	-0.7
KDZ	Kurdzhali	4.51	55	P	Pn	16 42 28.5	-0.7
ALN	Alexandroupoli	4.61	66	*e*Pn	Pn	16 42 30.4	-0.3
ALN				*e*Sn	Sn	16 43 23.1	-1.3
ALN	Alexandroupoli	4.61	66	P	Pn	16 42 30.2	-0.4
ALN				P		16 42 30.4	
ALN				S	Sn	16 43 20.4	-4.0
ALN				S	Sn	16 43 23.1	-1.3
GRUS	Gruza	4.71	2	⇑*i*Pn	Pn	16 42 31.5	-0.5
GRUS				Sn	Sn	16 43 24.5	-2.4
BOLS	Boljevac	4.78	13	⇑*i*P	Pn	16 42 33.2	+0.1
BOLS				Sn	Sn	16 43 27.8	-0.9
VAM	Vamos	4.79	141	*e*PN	Pn	16 42 34.0	+0.8
DIM	Dimitrovgrad	4.80	52	*i* P	Pn	16 42 41.5	+8.1
DIVS	Divcibare	4.93	356	⇑*i*P	Pn	16 42 34.3	-0.8
DIVS				Sn	Sn	16 43 29.2	-3.2
VAE	Valguarnera	5.06	252	P	Pn	16 42 39.4	+2.5
	comp=Z,0.9nm,0.3s,baz=91,slow=11,SNR=2.5						
VAE				S	Sn	16 43 39.2	+3.6
	comp=Z,5.3nm,0.3s,baz=276,slow=17,SNR=4.1						
VAE				LR	LR	16 44 48.2	
	comp=Z,95nm,20.4s,baz=161,slow=39						
SVIS	Svilajnac	5.15	6	*e*Pn	Pn	16 42 37.6	-0.6
SGG	Gregorio Mates	5.16	297	*e*Pn	Pn	16 42 40.9	+2.6
IDI	Anoyia	5.24	136	P	Pn	16 42 40.4	+0.8
	comp=Z,4.4nm,0.3s,baz=322,slow=10,SNR=14						
IDI				S	Sn	16 43 42.2	+1.9
	comp=Z,5.0nm,0.3s,baz=110,slow=22,SNR=3.4						
CII	Carovilli	5.35	300	*e*Pn	Pn	16 42 42.6	+1.6
SZH	Strazhica	5.80	43	*i* P	Pn	16 42 47.5	+0.1
AQU	L'Aquila	6.24	303	*e*Pn	Pn	16 42 51.4	-2.1
	comp=Z,44nm,1.1s						
TERO	Teramo	6.24	306	*e*Pn	Pn	16 42 53.6	0.0
NVLJ	Novalja	6.81	324	*i* Pn	Pn	16 43 00.7	-1.0
NVLJ				*i* Sn	Sn	16 44 15.8	-3.8
ARV	Arcevia	7.12	310	*e*Pn	Pn	16 43 04.8	-1.3
FSSB	Fossombrone	7.33	310	*e*Pn	Pn	16 43 07.8	-1.2
BOJS	Bojanci	7.41	330	*i* Pn	Pn	16 43 08.3	-1.7
BOJS				*e*Sn	Sn	16 44 29.1	-5.4
ISR	Istrita	7.46	35	⇓*i*P	Pn	16 43 12.5	+1.8
ISR	Istrita	7.46	35	⇓P	Pn	16 43 12.5	+1.8
MLR	Muntele Rosu	7.50	31	P	Pn	16 43 11.9	+0.6
	comp=Z,2.9nm,0.3s,baz=215,slow=4.8,SNR=32						
MLR	Muntele Rosu	7.50	31	⇑*i*P	Pn	16 43 13.8	+2.5
MLR	Muntele Rosu	7.50	31	P	Pn	16 43 11.9	+0.6
MLR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
MLR	Muntele Rosu	7.50	31	⇑*i*P	Pn	16 43 13.8	+2.5
CEY	Cerknica	7.93	328	*e*Pn	Pn	16 43 15.8	-1.6
VRI	Vrincioaia	8.12	33	⇓*i*P	P	16 43 22.1	+2.1
VRI	Vrincioaia	8.12	33	⇓P	P	16 43 22.1	+2.1
LJU	Ljubljana	8.14	329	*e*Pn	P	16 43 18.4	-1.9
JAVS	Javornik	8.21	327	*i* Pn	P	16 43 19.1	-2.1
VOY	Vojsko	8.39	327	*e*Pn	P	16 43 21.9	-1.8
VOY				*e*Sn	Sn	16 44 53.0	-6.0
PERS	Pernice	8.43	334	*i* Pn	P	16 43 21.6	-2.6
OBKA	Obir	8.52	331	⇑*i*PN	P	16 43 23.7	-1.8
OBKA				*i* SN	Sn	16 44 54.4	-7.8
ROBS	Robic	8.72	326	*i* Pn	P	16 43 26.1	-2.3
PSZ	Piszkesteto	8.75	357	⇑*e*	P	16 43 29.0	+0.3
PSZ	Piszkesteto	8.75	357	*e*Pn	P	16 43 26.9	-1.8
	comp=Z,6.4nm,0.8s						
ARSA	Arzberg	8.84	338	⇑*i*PN	P	16 43 27.3	-2.7
ARSA				*i* SN	Sn	16 44 59.9	-10
PGF	Pioggiola	9.32	295	*e*P	P	16 43 31.7	-4.9
	comp=Z,38nm,0.9s						
VYHS	Vyhne	9.39	353	*e*PN	P	16 43 40.8	+3.2
KBA	Koelnbreinsper	9.46	329	⇓*i*PN	P	16 43 37.0	-1.5
KBA				*i* SN	Sn	16 45 17.0	-8.4
CRVS	Cervenica-Dubn	9.75	4	*e*PN	P	16 43 41.9	-0.6
MOA	Molln	9.77	335	⇑*i*PN	P	16 43 40.9	-1.8
MOA				*i* SN	Sn	16 45 23.6	-9.4
KOLS	Kolonicke sedl	9.84	7	*e*PN	P	16 43 44.1	+0.4
BRTR	Keskin Array B	10.20	83	P	P	16 43 49.0	+0.3
	comp=Z,0.4nm,0.3s,baz=260,slow=11,SNR=6.5						
WTTA	Wattenberg	10.33	324	⇓*i*PN	P	16 43 49.1	-1.4
WTTA				*i* SN	S	16 45 39.0	-7.8
WATA	Walderalm	10.41	324	⇑*i*PN	P	16 43 50.3	-1.3
WATA				*i* SN	S	16 45 41.2	-7.6
SQTA	Sankt Quirin	10.50	323	⇑*i*PN	P	16 43 51.5	-1.2
SQTA				*i* SN	S	16 45 43.6	-7.3
VRAC	Vranov	10.50	346	P	P	16 43 50.6	-2.1
	comp=Z,0.2nm,0.3s,baz=163,slow=11,SNR=3.3						
MOTA	Moosalm	10.64	323	⇑*i*PN	P	16 43 53.2	-1.4
MOTA				*i* SN	S	16 45 46.3	-8.0
GEC2	GERESS Array S	10.82	335	*e*P	P	16 43 54.2	-2.9
GERES	GERESS Array B	10.82	335	P	P	16 43 54.3	-2.8
	comp=Z,0.5nm,0.3s,baz=156,slow=14,SNR=18						
GERES				S	S	16 45 53.3	-5.4
	comp=Z,0.6nm,0.3s,baz=152,slow=22,SNR=6.1						
GERES	GERESS Array B	10.82	335	P	P	16 43 54.3	-2.8
GERES				S	S	16 45 53.3	-5.5
GERES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
SBF	Sospel	10.84	300	*e*P	P	16 43 52.7	-4.6
DAVOX	Davos	10.85	318	P	P	16 43 56.8	-0.7
	comp=Z,0.9nm,0.3s,baz=138,slow=18,SNR=11						
DAVOX				S	S	16 45 55.7	-3.8
	comp=Z,0.7nm,0.3s,baz=310,slow=22,SNR=4.0						
KHC	Kasperske Hory	11.11	336	*e*PN	P	16 43 54.5	-6.6
KHC				x	x	16 44 10.0	
KHC				*e*SN	S	16 45 58.1	-7.7
KHC	Kasperske Hory	11.11	336	*e*P	P	16 43 54.5	-6.6
KHC				*e*		16 45 58.1	
KHC	Kasperske Hory	11.11	336	*e*Pn	P	16 43 54.5	-6.6
KHC				*e*		16 44 10.0	
KHC				*e*Sn	S	16 45 58.1	-7.7
DAVA	Damuels	11.19	320	⇑*i*PN	P	16 44 00.6	-1.6
DAVA				*i* SN	S	16 46 00.4	-7.4
WET	Wettzell	11.35	334	*e*P	P	16 44 01.2	-3.2
PRU	Pruhonice	11.60	341	*e*SN	S	16 46 11.7	-6.2
MBDF	Montbardon	11.61	303	*e*P	P	16 44 03.3	-4.5
	comp=Z,16nm,1.0s						
LPG	La Plagne	11.95	306	*e*P	P	16 44 07.7	-4.8
	comp=Z,7.3nm,0.6s						
LPL	La Plagne	11.97	306	*e*P	P	16 44 08.3	-4.5
	comp=Z,4.2nm,0.4s						
ORIF	Oris-en-Rattie	12.26	303	*e*P	P	16 44 10.4	-6.3
ORIF				*e*R			
	comp=Z,139nm,20.2s						
CABF	La Chapelle	12.89	310	*e*P	P	16 44 20.1	-5.0
	comp=Z,20nm,1.0s						
MOX	Moxa	13.06	334	*i* P	P	16 44 24.6	-2.7
MOX				QM		16 49 06.0	
MOX				RM		16 50 43.0	
MOX	Moxa	13.06	334	*e*P	P	16 44 24.6	-2.7
MOX				MLR	MLR		
	comp=Z,100nm,18.0s						
AKASG	Malin Array Be	13.07	25	P	P	16 44 27.6	+0.2
	comp=Z,0.2nm,0.3s,baz=212,slow=13,SNR=5.5						
HINF	Hinteralfeld	13.11	316	*e*P	P	16 44 18.3	-10
	comp=Z,2.5nm,0.4s						
CLL	Collm	13.21	339	*e*	P	16 44 39.0	+10
CDF	Champ du Feu	13.25	318	*e*P	P	16 44 21.7	-8.1
	comp=Z,4.0nm,0.5s						
HAU	Haudompre	13.50	315	*e*P	P	16 44 27.9	-5.2
HAU				*e*R			
	comp=Z,108nm,19.5s						
SMF	Signal de Mont	14.28	307	*e*P	P	16 44 37.9	-5.3
MTLF	Montolieu	14.34	293	*e*P	P	16 44 37.7	-6.5
LOR	Lormes	14.54	309	*e*P	P	16 44 42.9	-3.9
LOR				*e*R			
	comp=Z,86nm,18.2s						
SSF	Saint Saulge	14.66	308	*e*P	P	16 44 46.6	-1.7
MFF	Saint Martin d	16.80	303	*e*P	P	16 45 11.1	-4.8
	comp=Z,15nm,0.9s						
ESDC	Sonseca Array	18.87	279	P	P	16 45 42.3	+0.7
	comp=Z,0.2nm,0.3s,baz=76,slow=11,SNR=7.3						
HFS	Hagfors	21.41	351	P	P	16 46 06.1	-2.7
	comp=Z,6.6nm,0.8s,mb4.0,baz=146,slow=11,SNR=13						
HFS	Hagfors	21.41	351	P	P	16 46 06.1	-2.7
HFS				pmax	pmax		
	comp=Z,7.0nm,0.8s						
EVO	Evora	22.16	277	*e*P	P	16 46 13.5	-3.0
	comp=Z,10nm,0.9s,mb3.9						
FINES	FINESS Array B	22.56	7	P	P	16 46 18.8	-1.4
	comp=Z,1.7nm,0.5s,mb3.7,baz=172,slow=11,SNR=9.4						
FINES	FINESS Array B	22.56	7	P	P	16 46 18.8	-1.4
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
FINES	FINESS Array B	22.56	7	P	P	16 46 18.8	-1.4
EKA	Eskdalemuir Ar	22.60	323	P	P	16 46 19.8	-0.9
	comp=Z,6.4nm,0.7s,mb4.2,baz=121,slow=9.9,SNR=13						
EKA	Eskdalemuir Ar	22.60	323	P	P	16 46 19.8	-0.8
EKA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
NB2	NORSAR Subarra	22.63	348	P	P	16 46 19.8	-1.1
	comp=Z,4.5nm,0.6s,mb4.1,baz=163,slow=10						
NOA	NORSAR Array B	22.63	348	P	P	16 46 20.2	-0.7
	comp=Z,5.2nm,0.7s,mb4.1,baz=163,slow=10,SNR=8.1						
NOA				LR	LR	16 54 17.9	
	comp=Z,6.3nm,21.5s,baz=150,slow=34						
NOA	NORSAR Array B	22.63	348	P	P	16 46 20.2	-0.7
NOA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
NOA				MLR	MLR		
	comp=Z,6.0nm,21.5s						
KAF	Kangasniemi	23.24	7	*e*p	P	16 46 26.7	-0.1
	comp=Z,0.6nm,0.3s,mb3.5						
KAF	Kangasniemi	23.24	7	*e*P	P	16 46 26.7	-0.1
KAF				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb3.7						
ARCES	ARCESS Array B	30.54	3	P	P	16 47 31.6	-2.6
	comp=Z,1.4nm,0.6s,mb4.0,baz=194,slow=10.0,SNR=10						
ARCES	ARCESS Array B	30.54	3	P	P	16 47 31.6	-2.6
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BVAR	Borovoye Array	36.51	51	P	P	16 48 24.3	-1.6
	comp=Z,0.9nm,0.7s,mb3.7,baz=246,slow=44,SNR=3.9						
MKAR	Makanchi Array	44.82	59	P	P	16 49 31.9	-2.6
	comp=Z,1.7nm,0.4s,mb4.2,baz=280,slow=7.4,SNR=23						
MKAR	Makanchi Array	44.82	59	P	P	16 49 31.9	-2.6
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
SONM	Songino Array	59.86	51	P	P	16 51 25.8	-0.9
	comp=Z,2.5nm,1.3s,mb4.1,baz=284,slow=7.5,SNR=5.4						
ILAR	Eielson Array	75.91	354	P	P	16 53 06.3	-0.3
	comp=Z,0.2nm,0.6s,mb3.2,baz=348,slow=3.8,SNR=5.4						
ASAR	Alice Springs	122.31	95	PKP	PKPdf	17 00 13.2	-5.1
	comp=Z,0.3nm,0.5s,baz=298,slow=1.7,SNR=6.4						

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*IDC **12** 17:03:18.6±0.7, 57.99S×25.23W, mb4.3/5, mb1 4.3/5, mb1mx4.2/11, Error ellipse: s-maj=49.6km s-min=21.9km az=53.0*

*NEIC **12** 17:03:27.2±2.4, 57.84S×24.87W, h62^{km}±23^{km}, mb4.3/5, Error ellipse: s-maj=20.6km s-min=10.7km az=213.0*

ISC 12 17:03:25.3±3.8, **57.8S**±0.1×**25.0W**±0.2, **h61**^{km}±38^{km}**, n33, σ1^{s}00**/21**, mb4.3**/8**, 6C-4D, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	14.68	158	⇑*i*	P	17 06 50.5	0.0
VNA1	Neumayer--Stat	14.68	158		P	17 06 51.7	+1.2
VNA3	Neumayer Olymp	14.90	161	⇑*i*	P	17 06 52.6	-0.7
VNA3	Neumayer Olymp	14.90	161	⇓*i*	P	17 06 53.5	+0.2
VNA3	Neumayer Olymp	14.90	161	⇓*i*P	P	17 06 53.5	+0.2
VNA2	Neumayer--Watz	15.08	158	⇑*i*	P	17 06 55.5	-0.1
VNA2	Neumayer--Watz	15.08	158	⇓*i*	P	17 06 56.1	+0.5
VNA2	Neumayer--Watz	15.08	158	⇓*i*P	P	17 06 56.1	+0.5
SNAA	Sanae	16.61	155	⇑*i*	P	17 07 13.4	-1.6
SNAA	Sanae	16.61	155	⇑*i*	P	17 07 14.1	-0.9
SNAA	Sanae	16.61	155	⇑*i*P	P	17 07 14.1	-0.9
PMSA	Palmer Station	19.73	233	*e*P	P	17 07 54.5	+2.3
	4.3nm,0.6s						
EFI	East Falkland	19.93	274	P	P	17 07 53.4	-0.9
	4.7nm,0.4s						
MAW	Mawson	37.99	142	P	P	17 10 37.9	-0.5
	2.3nm,0.4s,mb4.2,baz=229,slow=8.6,SNR=9.2						
CPUP	Villa Florida	38.90	310	P	P	17 10 45.8	-0.5
	1.2nm,0.5s,mb3.9,baz=167,slow=8.7,SNR=4.0						
BDFB	Brasilia	45.52	328	P	P	17 11 41.3	+0.9
	3.5nm,0.9s,mb4.3,baz=73,slow=13,SNR=3.5						
SAML	Samuel	56.92	313	*e*P	P	17 13 04.3	-2.1
	5.9nm,0.6s,mb4.8						
LSZ	Lusaka	57.93	66	P	P	17 13 13.8	+0.3
	5.7nm,1.2s,mb4.5						
DBIC	Dimbokro	66.32	22	P	P	17 14 10.3	+0.8
	2.5nm,0.6s,mb4.4,baz=192,slow=6.8,SNR=3.8						
OTAV	Otavalo	71.65	302	P	P	17 14 43.0	+0.8
	3.6nm,0.9s,mb4.3						
ASPA	Alice Springs	96.91	161	*e*P	pP	17 17 08.8	+0.7
ASAR	Alice Springs	96.91	161	P	P	17 16 50.4	-0.3
	0.9nm,0.9s,mb4.2,baz=185,slow=4.3,SNR=9.1						
WRA	Warramunga Arr	100.62	160	P	P	17 17 09.3	+1.7
	0.5nm,0.3s,baz=96,slow=8.2,SNR=7.2						
WB2	Warramunga Arr	100.63	160	*e*P	P	17 17 09.5	+1.9
CMAR	Chiang Mai Arr	123.31	109	PKP	PKPdf	17 22 16.9	+1.6
	1.5nm,0.7s,baz=232,slow=3.2,SNR=9.5						
FINES	FINESS Array B	125.40	27	PKP	PKPdf	17 22 19.7	+1.6
	3.4nm,0.8s,baz=180,slow=3.8,SNR=13						
FINES	FINESS Array B	125.40	27	PKP	PKPdf	17 22 19.7	+1.6
ARCES	ARCESS Array B	132.15	21	PKP	PKPdf	17 22 32.4	+1.6
	3.1nm,0.9s,baz=297,slow=2.7,SNR=5.6						
ARCES	ARCESS Array B	132.15	21	PKP	PKPdf	17 22 32.4	+1.5
INK	Inuvik	147.95	318	PKPbc	PKPdf	17 23 03.5	+4.8
	4.7nm,0.7s,baz=77,slow=6.7,SNR=10						
SONM	Songino Array	149.59	88	PKPbc	PKPdf	17 23 08.4	+6.4
	4.9nm,0.9s,baz=224,slow=3.4,SNR=32						
SONM				PKPab	PKPab	17 23 14.8	+0.8
	1.5nm,0.7s,baz=207,slow=2.8,SNR=8.0						
ILAR	Eielson Array	152.20	309	PKPbc	PKPdf	17 23 13.8	+8.4
	2.7nm,0.7s,baz=138,slow=3.7,SNR=26						
COLA	College	152.62	309	*e*PKPab	PKPab	17 23 25.4	-0.8

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*IDC **12** 17:04:58.8±0.8, 57.93S×24.83W, mb4.4/4, mb1 4.4/4, mb1mx4.2/11, Error ellipse: s-maj=88.2km s-min=22.0km az=49.0*

*NEIC **12** 17:05:04.3±2.9, 57.80S×24.85W, h41^{km}±27^{km}, mb4.5/3, Error ellipse: s-maj=32.2km s-min=12.4km az=219.0*

ISC 12 17:05:02.4±4.5, **57.7S**±0.2×**24.8W**±0.3, **h46**^{km}±43^{km}**, n19, σ1^{s}16**/12**, mb4.3**/6**, 3C, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	14.75	158	⇑*i*	P	17 08 30.0	+0.7
VNA3	Neumayer Olymp	14.97	161	⇑*i*	P	17 08 32.6	+0.4
VNA2	Neumayer--Watz	15.14	158	⇑*i*	P	17 08 35.0	+0.6
SNAA	Sanae	16.68	156		P	17 08 52.5	-1.4
EFI	East Falkland	19.98	273	P	P	17 09 32.0	-1.4
	20nm,0.3s,SNR=7.5						
EFI	East Falkland	19.98	273	P	P	17 09 31.4	-2.0
	5.3nm,0.6s						
MAW	Mawson	38.03	142	P	P	17 12 17.4	+0.1
	4.5nm,0.8s,mb4.2,baz=223,slow=6.8,SNR=11						
CPUP	Villa Florida	38.89	310	P	P	17 12 26.4	+1.4
	0.9nm,0.4s,mb3.9,baz=169,slow=8.9,SNR=4.0						
BDFB	Brasilia	45.47	328	P	P	17 13 21.6	+2.8
	7.9nm,1.1s,mb4.5,baz=141,slow=6.5,SNR=2.8						
SAML	Samuel	56.90	313	*e*P	P	17 14 44.3	-0.8
	4.8nm,0.6s,mb4.7						
LSZ	Lusaka	57.84	66	P	P	17 14 50.3	-1.4
	6.9nm,1.2s,mb4.6						
ASAR	Alice Springs	96.98	160	P	P	17 18 30.5	+0.5
	1.0nm,0.8s,mb4.3,baz=190,slow=4.8,SNR=5.6						
CMAR	Chiang Mai Arr	123.28	109	PKP	PKPdf	17 23 56.8	+2.4
	1.0nm,0.8s,baz=226,slow=3.7,SNR=6.0						
FINES	FINESS Array B	125.28	27	PKP	PKPdf	17 23 59.5	+2.5
	1.5nm,0.6s,baz=135,slow=2.7,SNR=8.9						
ARCES	ARCESS Array B	132.04	21	PKP	PKPdf	17 24 11.2	+1.4
	2.6nm,1.0s,baz=270,slow=2.4,SNR=4.1						
INK	Inuvik	147.92	318	PKPbc	PKPdf	17 24 45.9	+8.1
	1.9nm,0.4s,baz=60,slow=5.8,SNR=6.3						
SONM	Songino Array	149.53	88	PKPbc	PKPdf	17 24 48.5	+7.5
	2.9nm,0.7s,baz=223,slow=3.1,SNR=11						
ILAR	Eielson Array	152.19	309	PKPbc	PKPdf	17 24 54.0	+9.5
	2.0nm,0.6s,baz=136,slow=3.2,SNR=8.0						
COLA	College	152.61	309	*e*PKPab	PKPab	17 25 05.4	+0.3

IDC 12 17:14:27.2±7.7**, 30.96N**×**84.68E, mb3.2**/1**, mb1 3.4**/3**, mb1mx3.2**/20**, ML3.2**/2**, Error ellipse: s-maj=151.0km s-min=40.4km az=69.0, Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PTH	Pithoragarh	4.11	251	*e*P	Pn	17 15 24.0	-8.6
PTH				*e*S	Sn	17 16 01.0	-21
MKAR	Makanchi Array	15.91	354	Pn	P	17 18 11.2	-2.9
	0.1nm,0.3s,baz=178,slow=12,SNR=5.9						
CMAR	Chiang Mai Arr	17.95	131	P	P	17 18 38.4	-1.5
	0.0nm,0.3s,baz=312,slow=11,SNR=4.2						
SONM	Songino Array	23.66	38	P	P	17 19 40.3	-0.6
	0.7nm,0.8s,baz=230,slow=9.6,SNR=6.9						

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*IDC **12** 17:15:34.1±17.0, 18.14S×175.40W, mb4.2/5, mb1 4.4/5, mb1mx3.9/14, Error ellipse: s-maj=321.0km s-min=136.2km az=80.0*

ISC 12 17:16:38.4±4.4, **18.7S**±0.9×**177.9W**±0.4, **h500**^{km}**, n9, σ0^{s}56**/9**, mb3.8**/5**, 2C, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	33.82	262	P	P	17 22 39.8	+0.2
	1.8nm,0.5s,mb3.8,baz=84,slow=14,SNR=5.5						
STKA	Stephens Creek	38.70	242	P	P	17 23 19.9	+0.1
	2.6nm,0.6s,mb3.8,baz=82,slow=11,SNR=12						
WB2	Warramunga Arr	44.98	260	*e*P	P	17 24 09.3	-0.7
WRA	Warramunga Arr	44.99	260	P	P	17 24 09.1	-1.0
	0.5nm,0.3s,mb3.4,baz=97,slow=7.3,SNR=6.6						
ASAR	Alice Springs	45.07	255	P	P	17 24 10.8	+0.1
	4.0nm,0.4s,mb4.2,baz=92,slow=8.6,SNR=171						
ASPA	Alice Springs	45.07	255	*e*P	P	17 24 10.9	+0.2
FITZ	Fitzroy Crossi	53.40	261	P	P	17 25 13.9	+1.1
	1.0nm,0.3s,mb3.6,baz=52,slow=7.3,SNR=7.8						
VNA3	Neumayer Olymp	89.92	176	⇑*i*	P	17 28 43.6	-0.3
VNA2	Neumayer--Watz	90.37	177	⇑*i*	P	17 28 46.2	+0.2

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*NIED **12** 17:21:00, 33.20N×137.80E, h8^{km}, Mw3.4 Best double couple: M$_0$1.27×10^{14} NP1:φ$_s$54°, δ65°, λ56°. NP2:φ$_s$292°, δ41°, λ141°.*

*JMA **12** 17:21:55.0±0.1, 33.18N×137.78E, h49^{km}±1^{km}, M3.6*

ISC 12 17:21:55.3±1.0, **33.19N**±0.06×**137.74E**±0.04, **h50**^{km}±18^{km}**, n19, σ0^{s}56**/34**, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	Tokai 1	0.59	348	P	P	17 22 07.4	-0.2
TK02	Tokai 2	0.75	1	P	P	17 22 09.9	+0.1
TK02				S	S	17 22 20.9	+0.4
TK03	Tokai 3	0.99	11	P	P	17 22 12.9	-0.2
TK03				S	S	17 22 26.6	+0.3
TK04	Tokai 4	1.20	5	P	P	17 22 16.0	+0.1
TK04				S	S	17 22 31.6	+0.3
OMA	Omae zaki	1.46	16	S	S	17 22 38.6	+0.6
JIE	Ise	1.47	325	P	P	17 22 20.4	+0.4
JIE				S	S	17 22 37.6	-0.7
JKO	Kozu shima	1.53	49	P	P	17 22 20.3	-0.5
JKO				S	S	17 22 38.8	-0.9
JKN	Kiinagashima	1.62	311	P	P	17 22 22.3	+0.3
JKN				S	S	17 22 40.8	-1.1
JWZ	Kozaga	1.73	282	P	P	17 22 23.8	+0.3
JWZ				S	S	17 22 44.0	-0.5
JIZS	Izushimoda	1.79	32	P	P	17 22 24.0	-0.4
JIZS				S	S	17 22 44.7	-1.4
TSUJ	Tsu 2	1.87	324	P	P	17 22 26.1	+0.6
TSUJ				S	S	17 22 47.5	-0.5
SHZ3	Shizuoka 3	1.91	12	P	P	17 22 25.8	-0.3
JWY	Kouya	2.06	300	P	P	17 22 29.1	+0.9
JWY				S	S	17 22 52.5	-0.3
JIM2	Oshima 3	2.07	42	P	P	17 22 28.0	-0.4
JWM	Minabe	2.10	289	P	P	17 22 29.4	+0.6
JWM				S	S	17 22 53.3	-0.4
JHE	Heguri	2.25	311	P	P	17 22 31.5	+0.6
JHE				S	S	17 22 57.3	-0.1
JOD2	Odawara 2	2.35	28	P	P	17 22 32.6	+0.3
JOD2				S	S	17 23 01.0	+0.9
JYN	Shimob	2.40	16	P	P	17 22 32.9	-0.1
JYN				S	S	17 23 00.9	-0.3
MAT	Matsushiro	3.37	6	P	P	17 22 47.5	+0.7
MAT				S	S	17 23 26.7	+0.9

GUC 12 17:32:39.4±0.8**, 34.13S**×**70.07W, h6**^{km}±2^{km}**, MD3.5, ML2.3, 7C-1D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LMEL	**Las Melosas**	**0.30**	**338**	⇑*i*P	Pg	17 32 46.2	+0.7
LMEL				*i* S	Sg	17 32 51.3	+1.7
LMEL				AMP		17 32 52.3	
	comp=E,1μm,0.2s						
CICH	**Cipreses**	**0.35**	**237**	⇑*i*P	Pg	17 32 46.7	+0.2
CICH				*i* S	Sg	17 32 52.2	+1.0
CACH	**El Canelo**	**0.44**	**271**	⇓*i*P	Pg	17 32 48.5	+0.2
CACH				*i* S	Sg	17 32 55.1	+0.8
CHCH	**Chadas Angostu**	**0.52**	**292**	⇑*i*P	Pg	17 32 50.3	+0.4
CHCH				*i* S	Sg	17 32 58.1	+1.2
SJCH	**San Jose de Ma**	**0.54**	**334**	⇑*i*P	Pg	17 32 50.0	-0.3
SJCH				*i* S	Sg	17 32 58.6	+1.1
SJCH				AMP		17 33 00.0	
	comp=N,210nm,0.2s						
PCH	**Pirque**	**0.63**	**324**	⇑*i*P	Pg	17 32 52.1	+0.2
PCH				*i* S	Sg	17 33 01.9	+1.5
FCH	**Farellones**	**0.82**	**347**	⇑*i*P	Pb	17 32 55.5	0.0
FCH				*i* S	Sb	17 33 08.0	+1.4
FCH				AMP		17 33 08.7	
	comp=E,286nm,0.3s						
TACH	**Talagante**	**0.86**	**303**	⇑*i*P	Pb	17 32 56.4	0.0
TACH				*i* S	Sb	17 33 08.8	+0.9
SFDO	**San Fernando**	**0.92**	**238**	*i* P	Pb	17 32 57.0	-0.3
SFDO				*i* S	Sb	17 33 09.7	+0.1
LNV	**Longovilo**	**1.13**	**278**	*i* P	Pb	17 33 00.3	-0.5
LNV				*i* S	Sb	17 33 15.9	+0.3
LCCH	**Las Cruces**	**1.41**	**297**	*e*P	Pn	17 33 05.1	-0.6

IDC 12 17:32:48.7±2.1, 6.50S×129.41E, mb3.5/1, mb1 3.8/4, mb1mx3.6/12, ML3.5/3, Error ellipse: s-maj=82.8km s-min=28.5km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.10**	**197**	Pn	P	17 35 43.1	-2.4
	0.2nm,0.3s,baz=20,slow=12,SNR=6.5						
FITZ				Sn	S	17 37 43.5	-19
	0.2nm,0.3s,baz=169,slow=15,SNR=3.4						
WRA	**Warramunga Arr**	**14.20**	**161**	Pn	P	17 36 10.5	-2.9
	0.4nm,0.3s,baz=339,slow=13,SNR=5.8						
WRA				Sn	S	17 38 35.1	-18
	0.4nm,0.3s,baz=330,slow=22,SNR=4.5						
ASAR	**Alice Springs**	**17.61**	**166**	P	P	17 36 55.5	-1.7
	0.2nm,0.3s,baz=346,slow=11,SNR=9.0						
ASAR				S	S	17 40 03.1	-9.1
	0.1nm,0.3s,baz=336,slow=31,SNR=6.2						
MKAR	**Makanchi Array**	**67.49**	**327**	P	P	17 43 46.6	-2.1
	0.2nm,0.4s,baz=116,slow=8.5,SNR=5.4						

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*IDC **12** 17:36:27.2±0.6, 26.67N×44.62W, mb4.4/19, mb1 4.6/19, mb1mx4.5/22, MS4.1/21, Ms1 4.1/21, ms1mx4.1/23, Error ellipse: s-maj=17.2km s-min=14.0km az=146.0*

*BJI **12** 17:36:28.6, 26.60N×44.60W, h10^{km}, mB5.3, Ms4.8, Msz4.6*

*NEIC **12** 17:36:28.7±0.2, 26.57N×44.62W, h10^{km}, mb4.9/45, MS4.5/18, Error ellipse: s-maj=5.9km s-min=3.0km az=169.0*

*HRVD **12** 17:36:28.7±0.4, 26.64N×44.58W, h12^{km}, MW4.9/35, Centroid moment Tensor Solution. LP body waves: s16,c19;Mantle waves: s35,c53; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.16±.11; $M_{\theta\theta}$-0.01±.14; $M_{\phi\phi}$2.17±.10; $M_{r\theta}$-0.63±.40; $M_{\theta\phi}$0.91±.09; $M_{\phi r}$0.83±.32; Best double couple: $M_0$2.57×10^{16} NP1:ϕ_s40°,δ42°,λ-58°. NP2:ϕ_s180°,δ56°,λ-116°. Principal axes: T 2.57, Plg7°, Azm288°; N 0, Plg21°, Azm195°; P -2.57, Plg68°, Azm36°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*MOS **12** 17:36:29.0±0.9, 26.99N×44.59W, h10^{km}, mb5.2/8 Error ellipse: s-maj=32.5km s-min=9.6km az=48.8*

ISC 12 17:36:27.4±4.2, 26.61N±0.06×44.64W±0.04, h12^{km}±27^{km}, h19^{km}±.9^{km}:pP-P, n136, σ0^{s}.87/127, mb4.7/66, MS4.3/40, 3D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MTP	**Monte Pirata**	**21.10**	**251**	*e*P	**P**	**17 41 14.2**	**0.0**
CBYP	**Canovanas**	**21.27**	**251**	*e*P	**P**	**17 41 14.2**	**-1.8**
HUMP	**Col San Antoni**	**21.33**	**251**	P	**P**	**17 41 14.7**	**-1.8**
CPD	**Cerro la Pandu**	**21.43**	**251**	*e*P	**P**	**17 41 15.5**	**-2.1**
SJG	**San Juan**	**21.60**	**251**	P	**P**	**17 41 21.1**	**+1.9**
	9.4nm,0.7s,mb4.3,baz=329,slow=19,SNR=5.1						
SJG				LR	LR	17 48 01.1	
	comp=Z,489nm,20.1s,MS3.9,baz=90,slow=32						
SJG	**San Juan**	**21.60**	**251**	*e*P	**P**	**17 41 18.7**	**-0.5**
	22nm,1.0s,mb4.5						
SJG				LR	LR		
	comp=Z,639nm,19.0s,MS4.0						
HRV	**Harvard--Oak R**	**27.11**	**313**	P	**P**	**17 42 12.1**	**+0.1**
HRV				LR	LR		
	comp=Z,755nm,21.0s,MS4.2						
NCB	**Newcomb**	**29.50**	**314**	*e*P	**P**	**17 42 32.7**	**-0.9**
	comp=Z,30nm,1.1s,mb4.9						
NCB				*e*		17 42 40.2	
BINY	**Binghamton**	**29.98**	**309**	*e*P	**P**	**17 42 36.1**	**-1.8**
	comp=Z,29nm,1.1s,mb4.9						
BLA	**Blacksburg**	**32.00**	**298**	*e*P	**P**	**17 42 56.1**	**+0.4**
SCHQ	**Schefferville**	**32.55**	**336**	LR	LR	17 55 02.9	
	comp=Z,196nm,19.7s,MS3.8,baz=105,slow=34						
MTE	**Manteigas**	**33.59**	**56**	*e*P	**P**	**17 43 08.7**	**-0.9**
MYNC	**Murphy**	**34.76**	**294**	*e*P	**P**	**17 43 20.2**	**+0.5**
	comp=Z,28nm,1.2s,mb5.1						
MYNC				*e*		17 43 26.1	
ROSC	**El Rosal**	**35.66**	**238**	LR	LR	17 57 51.0	
	comp=Z,255nm,18.1s,MS4.0,baz=48,slow=36						
ESDC	**Sonseca Array**	**36.16**	**58**	P	**P**	**17 43 30.1**	**-1.4**
	comp=Z,1.6nm,0.9s,mb3.9,baz=259,slow=7.6,SNR=5.0						
ESDC				LR	LR	17 54 27.5	
	comp=Z,177nm,21.0s,MS3.8,baz=255,slow=30						
WCI	**Wyandotte Cave**	**36.75**	**299**	*e*P	**P**	**17 43 37.6**	**+1.2**
	comp=Z,24nm,1.1s,mb5.0						
WCI				*e*		17 43 44.2	
WCI				LR	LR		
	comp=Z,451nm,19.0s,MS4.3						
BLO	**Bloomington**	**37.03**	**300**	*e*P	**P**	**17 43 40.0**	**+1.2**
	comp=Z,6.3nm,0.6s,mb4.6						
BLO				*e*		17 43 46.4	
WVT	**Waverly**	**37.83**	**295**	*e*P	**P**	**17 43 46.6**	**+1.0**
	comp=Z,24nm,1.1s,mb4.8						
WVT				*e*		17 43 52.8	
SJPF	**Ste Jean**	**38.77**	**53**	*e*P	**P**	**17 43 53.9**	**+0.5**
	comp=Z,40nm,1.4s,mb4.7						
OXF	**Oxford**	**39.10**	**293**	*e*P	**P**	**17 43 55.9**	**-0.4**
	comp=Z,30nm,1.0s,mb5.0						
OXF				*e*		17 44 02.8	
ETSF	**Etsaut**	**39.22**	**54**	*e*P	**P**	**17 43 58.6**	**+1.5**
SAML	**Samuel**	**39.67**	**209**	*e*P	**P**	**17 44 00.1**	**-1.0**
	comp=Z,12nm,0.9s,mb4.6						
SAML				*e*		17 44 06.6	
SAML				LR	LR		
	comp=Z,326nm,20.0s,MS4.2						
EPF	**Esparros**	**39.89**	**54**	*e*P	**P**	**17 44 03.8**	**+1.1**
	comp=Z,83nm,1.6s,mb4.9						
LFF	**La Frestale**	**40.51**	**51**	*e*P	**P**	**17 44 08.3**	**+0.5**
CCM	**Cathedral Cave**	**40.63**	**298**	*e*P	**P**	**17 44 09.9**	**+1.1**
	comp=Z,15nm,0.9s,mb4.6						
CCM				*e*		17 44 15.8	
CCM				LR	LR		
	comp=Z,624nm,21.0s,MS4.4						
MTLF	**Montolieu**	**41.29**	**54**	*e*P	**P**	**17 44 14.6**	**+0.4**
	comp=Z,30nm,1.3s,mb4.5						
CAF	**Calviac**	**41.44**	**51**	*e*P	**P**	**17 44 15.9**	**+0.5**
UALR	**University of**	**41.51**	**293**	*e*P	**P**	**17 44 16.1**	**0.0**
	comp=Z,18nm,1.0s,mb4.7						
UALR				*e*		17 44 22.5	
OTAV	**Otavalo**	**41.78**	**237**	*e*P	**P**	**17 44 20.3**	**+1.7**
	comp=Z,7.7nm,1.0s,mb4.3						
BDFB	**Brasilia**	**42.12**	**185**	P	**P**	**17 44 22.1**	**+0.8**
	comp=Z,4.3nm,0.8s,mb4.1,baz=25,slow=11,SNR=5.4						
BDFB				LR	LR	17 59 51.1	
	comp=Z,258nm,19.6s,MS4.1,baz=204,slow=33						
AVF	**Avril sur Loir**	**42.66**	**49**	*e*P	**P**	**17 44 25.4**	**0.0**
	comp=Z,16nm,1.0s,mb4.4						
DBIC	**Dimbokro**	**42.70**	**110**	P	**P**	**17 44 26.9**	**+0.8**
	comp=Z,2.8nm,0.9s,mb4.0,baz=285,slow=12,SNR=2.1						
DBIC				LR	LR	17 59 26.0	
	comp=Z,550nm,19.4s,MS4.5,baz=270,slow=32						
DBIC	**Dimbokro**	**42.70**	**110**	P	**P**	**17 44 26.9**	**+0.8**
DBIC				LR	LR	17 59 26.0	
LIC	**Lamto**	**42.80**	**111**	*e*P	**P**	**17 44 26.2**	**-0.7**
SMF	**Signal de Mont**	**42.97**	**49**	*e*P	**P**	**17 44 28.3**	**+0.4**
VIVF	**Saint-Julien-l**	**43.26**	**52**	*e*P	**P**	**17 44 30.1**	**-0.1**
NATX	**Nacogdoches**	**43.67**	**289**	P	**P**	**17 44 33.5**	**-0.3**
	comp=Z,100nm,1.6s,mb5.3						
BAIF	**Baives**	**43.92**	**44**	*e*P	**P**	**17 44 35.2**	**-0.3**
	comp=Z,29nm,1.2s,mb4.6						
MEZF	**Maizieres J'vi**	**44.12**	**47**	*e*P	**P**	**17 44 37.3**	**+0.1**
LPL	**La Plagne**	**44.78**	**51**	*e*P	**P**	**17 44 42.8**	**+0.2**
	comp=Z,21nm,1.3s,mb4.5						
LPG	**La Plagne**	**44.80**	**51**	*e*P	**P**	**17 44 43.2**	**+0.5**
	comp=Z,12nm,0.9s,mb4.4						
ULM	**Lac du Bonnet**	**45.46**	**315**	P	**P**	**17 44 46.2**	**-1.7**
	comp=Z,6.0nm,1.0s,mb4.4,baz=96,slow=10,SNR=3.9						
ULM				LR	LR	18 01 12.9	
	comp=Z,325nm,20.9s,MS4.2,baz=54,slow=33						
ULM	**Lac du Bonnet**	**45.46**	**315**	P	**P**	**17 44 46.2**	**-1.7**
ULM				LR	LR	18 01 12.9	
CDF	**Champ du Feu**	**45.56**	**47**	*e*P	**P**	**17 44 48.0**	**-0.7**
	comp=Z,8.9nm,0.8s,mb4.5						
SUMG	**Summit**	**46.14**	**3**	*e*P	**P**	**17 44 53.3**	**+0.3**
WMOK	**Wichita Mounta**	**46.80**	**294**	*e*P	**P**	**17 44 59.3**	**+0.6**
	comp=Z,27nm,1.2s,mb5.0						
WMOK				*e*	pP	17 45 05.0	+2.6
JCT	**Junction City**	**48.22**	**288**	*e*P	**P**	**17 45 10.0**	**+0.1**
	comp=Z,15nm,1.1s,mb4.9						
JCT				*e*		17 45 16.0	
JCT				LR	LR		
	comp=Z,333nm,19.0s,MS4.3						
GRA1	**Grafenberg Arr**	**48.31**	**46**	*e*P	**P**	**17 45 10.3**	**-0.1**
	comp=Z,27nm,1.6s,mb5.0						
GRF	**Grafenberg Arr**	**48.31**	**46**	*e*P	**P**	**17 45 10.3**	**-0.1**
GRF				pmax	pmax		
	comp=Z,27nm,1.6s,mb5.0						
LPAZ	**La Paz**	**48.36**	**211**	P	**P**	**17 45 11.6**	**+0.4**
	comp=Z,10nm,0.8s,mb4.9,baz=205,slow=0.6,SNR=16						
LPAZ				LR	LR	18 05 23.0	
	comp=Z,124nm,19.0s,MS3.9,baz=129,slow=36						
MOX	**Moxa**	**48.69**	**45**	*i* P	**P**	**17 45 13.1**	**-0.2**
	comp=Z,logA/T=1.1,mb4.9						
MOX	**Moxa**	**48.69**	**45**	*e*P	**P**	**17 45 13.1**	**-0.2**
MOX				pmax	pmax		
	comp=Z,24nm,1.8s,mb4.9						
MOX	**Moxa**	**48.69**	**45**	*e*P	**P**	**17 45 13.1**	**-0.2**
	comp=Z,24nm,1.8s,mb4.9						
NKC	**Novy Kostel**	**49.16**	**45**	*e*P	**P**	**17 45 17.6**	**+0.7**
NKC				*e*pP	pP	17 45 23.0	+2.4
NKC				LR		18 01 00.0	
	comp=Z,0.2nm,16.4s						
CLL	**Collm**	**49.64**	**44**	P	**P**	**17 45 20.0**	**-0.6**
CLL				*e**PP	pP	17 45 26.0	+1.7
CLL	**Collm**	**49.64**	**44**	*e*P	**P**	**17 45 20.0**	**-0.6**
CLL				*e*		17 45 26.0	
KHC	**Kasperske Hory**	**49.79**	**47**	*e*P	**P**	**17 45 21.7**	**0.0**
KHC				*e*pP	pP	17 45 27.4	+2.0
KHC				L		18 01 00.0	
GERES	**GERESS Array B**	**49.84**	**47**	P	**P**	**17 45 21.5**	**-0.7**
	comp=Z,1.9nm,0.8s,mb4.2,baz=270,slow=6.7,SNR=14						
FFC	**Flin Flon**	**49.98**	**320**	*e*P	**P**	**17 45 21.5**	**-1.7**
	comp=Z,25nm,1.1s,mb5.2						
FFC				*e*		17 45 28.9	
BRG	**Berggiesshubel**	**50.18**	**45**	*e*P	**P**	**17 45 25.8**	**+1.1**
BRG				pmax	pmax		
	comp=Z,37nm,2.0s,mb5.1						
BRG	**Berggiesshubel**	**50.18**	**45**	P	**P**	**17 45 25.8**	**+1.1**
	comp=Z,37nm,2.0s,mb5.1						
PRU	**Pruhonice**	**50.48**	**46**	*e*P	**P**	**17 45 27.5**	**+0.5**
PRU				*e*pP	pP	17 45 35.6	+4.9
PRU				L		18 01 20.0	
PVCC	**Panska Ves**	**50.55**	**45**	*e*P	**P**	**17 45 28.0**	**+0.5**
PVCC				*e*pP	pP	17 45 33.7	+2.5
PVCC				LR		18 01 40.0	
	comp=Z,0.2nm,14.5s						
NOA	**NORSAR Array B**	**50.67**	**31**	P	**P**	**17 45 28.3**	**-0.1**
	comp=Z,3.8nm,1.0s,mb4.3,baz=252,slow=7.7,SNR=4.1						
NOA				LR	LR	18 03 22.0	
	comp=Z,192nm,19.0s,MS4.1,baz=265,slow=32						
NOA	**NORSAR Array B**	**50.67**	**31**	P	**P**	**17 45 28.3**	**-0.1**
NOA				LR	LR	18 03 22.0	
UPC	**Upice**	**51.46**	**45**	*e*P	**P**	**17 45 34.3**	**-0.2**
UPC				*e*pP	pP	17 45 40.5	+2.3
DPC	**Dobruska-Polom**	**51.65**	**46**	*e*P	**P**	**17 45 35.2**	**-0.7**
DPC				*e*pP	pP	17 45 41.3	+1.7
DPC				L		18 02 30.0	
KSP	**Ksiaz**	**51.66**	**45**	*e*P	**P**	**17 45 32.0**	**-4.0**
KSP				*e**PP	pP	17 45 36.1	-3.6
TXAR	**Lajitas Array**	**51.73**	**288**	P	**P**	**17 45 36.5**	**-0.3**
	comp=Z,1.9nm,1.1s,mb4.0,baz=94,slow=7.6,SNR=9.0						
TXAR				LR	LR	18 08 13.0	
	comp=Z,120nm,19.5s,MS3.9,baz=90,slow=37						
ISCO	**Idaho Springs**	**51.78**	**301**	*e*P	**P**	**17 45 38.0**	**+0.9**
	comp=Z,3.3nm,1.0s,mb4.2						
ISCO				LR	LR		
	comp=Z,498nm,20.0s,MS4.5						
ZST	**Bratislava**	**52.07**	**48**	*e*P	**P**	**17 45 37.6**	**-1.5**
OKC	**Ostrava-Krasne**	**52.80**	**46**	*e*P	**P**	**17 45 44.5**	**-0.1**
OKC				*e*pP	pP	17 45 50.1	+1.8
ANMO	**Albuquerque**	**53.04**	**295**	*e*P	**P**	**17 45 47.7**	**+1.1**
ANMO	**Albuquerque**	**53.04**	**295**	*e*P	**P**	**17 45 47.6**	**+1.0**
	comp=Z,15nm,1.2s,mb4.8						
ANMO				LR	LR		
	comp=Z,523nm,20.0s,MS4.6						
VYHS	**Vyhne**	**53.23**	**48**	*e*P	**P**	**17 45 47.3**	**-0.5**
OJC	**Ojcow**	**53.87**	**46**	*e*P	**P**	**17 45 52.6**	**+0.2**
CPUP	**Villa Florida**	**54.03**	**194**	P	**P**	**17 45 52.4**	**-1.5**
	comp=Z,7.6nm,1.2s,mb4.5,baz=7.7,slow=8.0,SNR=3.5						
CPUP				LR	LR	18 05 53.7	
	comp=Z,58nm,18.7s,MS3.7,baz=238,slow=33						
BW06	**Boulder Array**	**54.49**	**305**	*e*P	**P**	**17 45 56.6**	**-0.5**
	comp=Z,13nm,1.0s,mb4.8						
BW06				LR	LR		
	comp=Z,385nm,20.0s,MS4.5						
PDAR	**Pinedale Array**	**54.49**	**305**	P	**P**	**17 45 56.5**	**-0.7**
	comp=Z,4.0nm,0.9s,mb4.3,baz=90,slow=7.4,SNR=23						
PDAR				LR	LR	18 06 50.3	
	comp=Z,332nm,19.5s,MS4.4,baz=93,slow=34						
KOLS	**Kolonicke sedl**	**55.50**	**47**	*e*P	**P**	**17 46 04.7**	**+0.3**
AHID	**Auburn Hatcher**	**55.62**	**305**	*e*P	**P**	**17 46 05.3**	**-0.1**
	comp=Z,16nm,1.3s,mb4.9						
SRU	**San Rafael**	**55.64**	**301**	*e*P	**P**	**17 46 06.1**	**+0.6**
BOZ	**Bozeman (W)**	**55.74**	**309**	*e*P	**P**	**17 46 06.3**	**+0.1**
	comp=Z,11nm,1.3s,mb4.7						
BOZ				LR	LR		
	comp=Z,434nm,21.0s,MS4.5						
MPU	**Maple Canyon**	**56.36**	**302**	*e*P	**P**	**17 46 10.9**	**+0.2**
NLU	**North Lily Min**	**56.70**	**302**	*e*P	**P**	**17 46 13.6**	**+0.5**
WUAZ	**Wupatki**	**56.90**	**297**	*e*P	**P**	**17 46 13.2**	**-1.5**
	comp=Z,25nm,1.2s,mb5.1						
MSU	**Marysvale**	**57.01**	**300**	*e*P	**P**	**17 46 15.4**	**+0.1**
MVU	**Marysvale**	**57.04**	**300**	*e*P	**P**	**17 46 16.6**	**+1.0**
	comp=Z,22nm,1.6s,mb4.9						
TUC	**Tucson**	**57.08**	**293**	*e*P	**P**	**17 46 17.0**	**+1.1**
	comp=Z,7.4nm,1.2s,mb4.6						
DUG	**Dugway**	**57.23**	**302**	*e*P	**P**	**17 46 17.3**	**+0.4**
YKA	**Yellowknife Ar**	**57.53**	**329**	P	**P**	**17 46 17.8**	**-0.8**
	comp=Z,4.5nm,0.8s,mb4.5,baz=94,slow=7.8,SNR=14						
YKA				LR	LR	18 10 04.4	
	comp=Z,609nm,19.8s,MS4.7,baz=90,slow=35						
YKA	**Yellowknife Ar**	**57.53**	**329**	P	**P**	**17 46 17.8**	**-0.9**
YKA				LR	LR	18 10 04.4	
FINES	**FINESS Array B**	**57.81**	**32**	P	**P**	**17 46 19.2**	**-1.5**
	comp=Z,9.6nm,0.8s,mb4.9,baz=270,slow=5.7,SNR=17						
FINES				LR	LR	18 08 07.8	
	comp=Z,108nm,20.1s,MS4.0,baz=204,slow=33						
HLID	**Hailey**	**57.94**	**306**	*e*P	**P**	**17 46 22.1**	**+0.3**
	comp=Z,12nm,1.4s,mb4.7						
HLID				LR	LR		
	comp=Z,516nm,20.0s,MS4.6						
ARCES	**ARCESS Array B**	**58.40**	**23**	P	**P**	**17 46 23.9**	**-0.9**
	comp=Z,10nm,0.7s,mb5.0,baz=270,slow=4.9,SNR=20						
ARCES				LR	LR	18 05 14.1	
	comp=Z,112nm,21.3s,MS4.0,baz=31,slow=30						
ELK	**Elko**	**58.97**	**303**	*e*P	**P**	**17 46 29.2**	**+0.1**
	comp=Z,6.1nm,1.0s,mb4.6						
ELK				LR	LR		
	comp=Z,471nm,20.0s,MS4.6						
NEW	**Newport**	**59.24**	**312**	LR	LR	18 10 37.2	
	comp=Z,438nm,19.2s,MS4.6,baz=114,slow=35						
NEW	**Newport**	**59.24**	**312**	*e*P	**P**	**17 46 30.8**	**0.0**
	comp=Z,23nm,1.1s,mb5.1						
NEW				LR	LR		
	comp=Z,491nm,19.0s,MS4.7						
AKASG	**Malin Array Be**	**59.87**	**45**	P	**P**	**17 46 33.9**	**-1.2**
	comp=Z,4.7nm,0.8s,mb4.6,baz=274,slow=6.3,SNR=28						
DPW	**Davenport**	**60.01**	**312**	*e*P	**P**	**17 46 35.8**	**-0.3**
KIS	**Kishinev**	**60.05**	**49**	*e*P	**P**	**17 46 35.0**	**-1.4**
KIS				*e*		17 48 50.0	
KIS				*e*S	**S**	**17 54 44.0**	**-3.2**
KIS				MLR	MLR		
	comp=Z,300nm,15.0s,MS4.5						
LNOR	**Lincton Mounta**	**60.35**	**310**	*e*P	**P**	**17 46 38.3**	**-0.2**
TPNV	**Topopah Spring**	**60.47**	**299**	*e*P	**P**	**17 46 39.9**	**+0.5**
TPNV				*e*		17 46 46.4	
HAWA	**Hanford**	**61.12**	**310**	*e*P	**P**	**17 46 43.1**	**-0.6**
HAWA				*e*		17 46 49.7	
NLW	**Nelson Butte**	**61.40**	**312**	P	**P**	**17 46 45.5**	**-0.1**
NLW				*e*		17 46 51.5	
MOD	**Modoc**	**62.49**	**305**	*e*P	**P**	**17 46 53.0**	**0.0**
	comp=Z,3.0nm,0.4s,mb4.8						
OBN	**Obninsk**	**63.69**	**39**	κ *i*P	**P**	**17 47 00.3**	**-0.4**
OBN				*e*		17 56 01.2	
OBN				pmax	pmax		
	comp=Z,55nm,1.6s,mb5.3						
OBN				MLR	MLR		
	comp=Z,100nm,15.0s,MS4.1						
BRTR	**Keskin Array B**	**64.92**	**56**	P	**P**	**17 47 08.2**	**-0.8**
	comp=Z,2.4nm,0.7s,mb4.3,baz=259,slow=6.3,SNR=12						
BRTR				LR	LR	18 11 26.1	
	comp=Z,57nm,18.2s,MS3.8,baz=340,slow=32						
VOR	**Voronezh**	**65.88**	**43**	*e*P	**P**	**17 47 14.0**	**-0.9**
VOR				pmax	pmax		
	comp=Z,80nm,1.6s,mb5.5						
ANN	**Anapa**	**66.37**	**50**	*e*P	**P**	**17 47 18.0**	**-0.2**
ANN				*e*S	S	17 56 04.1	-2.2
ANN				pmax	pmax		
	comp=Z,27nm,0.9s,mb5.3						
SOC	**Sochi**	**68.28**	**51**	*e*P	**P**	**17 47 33.1**	**+2.8**
SOC				*e*		17 48 00.2	
SOC				*e*PPP	PPP	17 51 44.9	+4.5
SOC				*e*S	S	17 56 25.8	-3.4
SOC				*e*		17 57 20.2	
SOC				*e*SS	SS	18 00 50.2	-3.8
SOC				*e*SSS	SSS	18 03 47.6	-6.9
SOC				pmax	pmax		
	comp=Z,34nm,1.2s,mb5.2						
SOC				pmax	pmax		
	comp=N,6.0nm,0.7s						
SOC				pmax	pmax		
	comp=E,15nm,0.7s						
SOC				MLR	MLR		
	comp=Z,75nm,20.0s,MS3.9						
SOC				MLR	MLR		
	comp=N,54nm,15.0s,MS3.9						
SOC				MLR	MLR		
	comp=E,29nm,20.0s,MS3.9						
MALT	**Malatya**	**68.89**	**57**	*e*P	**P**	**17 47 34.5**	**+0.3**
	comp=E,29nm,1.4s,mb5.0						
ILAR	**Eielson Array**	**71.28**	**334**	P	**P**	**17 47 48.5**	**+0.4**
	comp=E,6.1nm,0.8s,mb4.6,baz=70,slow=4.7,SNR=66						
ILAR				LR	LR	18 18 36.5	
	comp=E,130nm,19.9s,MS4.2,baz=85,slow=36						
COLA	**College**	**71.62**	**334**	*e*P	**P**	**17 47 50.6**	**+0.4**
COLA				MLR	MLR		
	comp=Z,200nm,21.0s,MS4.4						
IMA	**Indian Mountai**	**73.29**	**336**	*e*P	**P**	**17 48 01.5**	**+1.5**
PMR	**Palmer**	**73.50**	**331**	*e*P	**P**	**17 48 01.4**	**+0.1**
PMR				LR	LR		
	comp=Z,400nm,19.0s,MS4.7						
ARU	**Arti**	**75.12**	**34**	⇓*i*P	**P**	**17 48 10.3**	**-0.5**
ARU				*e*		17 48 22.1	
ARU				*e*		17 50 55.6	
ARU				*e*PPP	PPP	17 52 42.8	-3.6
ARU				*e*S	S	17 57 45.2	-2.4
ARU				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.6						
ARU				MLR	MLR		
	comp=Z,90nm,18.0s,MS4.1						
ARU				MLR	MLR		
	comp=N,200nm,22.0s,MS4.7						
ARU				MLR	MLR		
	comp=E,400nm,20.5s,MS4.7						
MBAR	**Mbarara**	**77.21**	**97**	*e*P	**P**	**17 48 23.4**	**-0.1**
MBAR				*e*	pP	17 48 29.2	+1.9
LSZ	**Lusaka**	**82.04**	**111**	*e*P	**P**	**17 48 50.2**	**+1.0**
ZRNK	**Zerenda**	**82.10**	**34**	*e*P	**P**	**17 48 49.8**	**+0.9**
	comp=E,24nm,1.7s,mb4.8						
BRVK	**Borovoye**	**82.68**	**33**	*e*P	**P**	**17 48 52.7**	**+0.8**
	comp=E,29nm,1.7s,mb5.0						
BVAR	**Borovoye Array**	**82.75**	**33**	P	**P**	**17 48 52.9**	**+0.7**
	comp=E,3.9nm,0.8s,mb4.5,baz=297,slow=3.2,SNR=5.8						
BVAR	**Borovoye Array**	**82.75**	**33**	P	**P**	**17 48 52.9**	**+0.7**
KMBO	**Kilima Mbogo**	**83.25**	**95**	P	**P**	**17 48 57.1**	**+1.5**
	comp=E,2.1nm,0.9s,mb4.2,baz=331,slow=8.6,SNR=5.3						
KMBO				LR	LR	18 26 14.3	
	comp=E,409nm,18.2s,MS4.8,baz=88,slow=36						
USHA	**Ushuaia**	**83.65**	**194**	LR	LR	18 25 29.0	
	comp=E,202nm,18.2s,MS4.5,baz=124,slow=35						
KURK	**Kurchatov**	**88.18**	**32**	*e*P	**P**	**17 49 19.1**	**-0.2**
	comp=E,26nm,1.9s,mb5.1						
AAK	**Ala-Archa**	**91.21**	**40**	P	**P**	**17 49 33.8**	**+0.2**
MKAR	**Makanchi Array**	**92.63**	**33**	LR	LR	18 32 24.4	
	comp=E,64nm,18.5s,MS4.1,baz=139,slow=36						
MA2	**Magadan**	**93.20**	**352**	*i* P	**P**	**17 49 43.9**	**+1.5**
BOD	**Bodaibo**	**94.01**	**11**	*e*P	**P**	**17 49 44.7**	**-1.4**
WMQ	**Urumqi**	**97.42**	**33**	*e*P	**P**	**17 50 02.6**	**+0.6**
WMQ				AP	pP	17 50 07.4	+1.5
WMQ				XP	sP	17 50 09.6	+2.5
LZH	**Lanzhou**	**110.92**	**27**	*e*PKP	PKPdf	17 54 59.3	-4.5
LZH				PP	PP	17 55 41.3	-1.8
LZH				*e*SKS	SKS	18 02 07.0	+22
LZH				*e*SKKS		18 02 31.7	
LZH				PP	PP		
	comp=Z,52nm,5.6s						
LZH				LR	LR		
	comp=E,209nm,17.8s						
LZH				LR	LR		
	comp=Z,247nm,20.0s,MS4.8						
LZH	**Lanzhou**	**110.92**	**27**	*e*PKP	PKPdf	17 54 59.3	-4.5
LZH				sPKP		17 55 08.7	
LZH				PP	PP	17 55 41.3	-1.8
LZH				*e*SKS	SKS	18 02 07.0	+22
LZH				*e*SKKS		18 02 31.7	
LZH				SS	SS	18 11 06.3	-4.2
LZH				LR	LR		
	comp=Z,250nm,20.0s,MS4.8						
NJ2	**Nanjing**	**119.58**	**16**	*e*PKP	PKPdf	17 55 18.0	-2.7
KMI	**Kunming**	**119.70**	**34**	*e*PKP	PKPdf	17 55 18.1	-3.0
KMI				XPKP		17 55 22.6	
KMI				PP	PP	17 56 44.6	-0.6
KMI				SS	SS	18 13 03.9	-2.1
KMI				LR	LR		
	comp=Z,148nm,20.1s,MS4.6						
CMAR	**Chiang Mai Arr**	**122.93**	**42**	PKP	PKPdf	17 55 25.5	-1.9
	comp=Z,0.7nm,0.7s,baz=315,slow=3.8,SNR=6.6						

MAN 12 17:55:35.5, 9.33N×122.54E, h32^{km}, mb4.3, ML3.2, MS2.9, 2D, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DCPH	**Dipolog City**	**1.09**	**133**	⇓*i*P	Pn	17 55 53.6	-1.2
DCPH				*i* S	Sn	17 56 07.7	-1.2
GUIM	**Jordan**	**1.29**	**2**	*e*P	Pn	17 55 56.7	-0.8
TBP	**Tagbilaran**	**1.35**	**75**	*e*P	Pn	17 55 58.1	-0.3
TBP				*e*S	Sn	17 56 14.0	-1.4
IPIL	**Ipil**	**1.54**	**179**	*e*P	Pn	17 56 01.2	+0.1
IPIL				*e*S	Sn	17 56 19.4	-0.7
PAGZ	**Pagadian**	**1.69**	**151**	*e*P	Pn	17 56 04.3	+1.0
RCP	**Roxas**	**2.22**	**5**	⇓*i*P	Pn	17 56 11.2	+0.3
MSLP	**Maasin**	**2.42**	**71**	*e*P	Pn	17 56 14.2	+0.4
OCLP	**Ormoc**	**2.66**	**50**	*e*P	Pn	17 56 16.3	-0.8
BUKP	**Musuan**	**2.88**	**120**	*e*P	Pn	17 56 22.1	+1.8

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*IDC **12** 18:02:15.4±1.0, 26.60N×44.61W, mb4.2/11, mb1 4.4/11, mb1mx4.2/21, MS4.0/16, Ms1 4.0/16, ms1mx3.8/25, Error ellipse: s-maj=30.2km s-min=19.2km az=159.0*

*NEIC **12** 18:02:17.0±0.5, 26.57N×44.59W, h10^{km}, mb4.4/7, Error ellipse: s-maj=13.0km s-min=8.0km az=149.0*

ISC 12 18:02:15.1±0.6, 26.6N±0.1×44.61W±0.09, h10^{km}, n37, σ0^{s}.74/28, mb4.2/16, MS4.0/16, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MTP	**Monte Pirata**	**21.12**	**251**	*e*P	**P**	**18 07 03.6**	**+1.1**
CPD	**Cerro la Pandu**	**21.45**	**251**	P	**P**	**18 07 05.2**	**-0.6**
NCB	**Newcomb**	**29.52**	**314**	P	**P**	**18 08 22.4**	**+0.5**

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
SCHQ	Schefferville	32.56	336	LR	LR	18 20 09.2	
	comp=Z,266nm,20.3s,MS3.9,baz=89,slow=33						
ROSC	El Rosal	35.69	238	LR	LR	18 21 28.8	
	comp=Z,142nm,18.2s,MS3.8,baz=40,slow=32						
ESDC	Sonseca Array	36.14	58	LR	LR	18 20 16.6	
	comp=Z,125nm,20.0s,MS3.7,baz=265,slow=30						
SAML	Samuel	39.68	210	*e*P	P	18 09 48.5	-0.8
	5.7nm,0.9s,mb4.3						
CCM	Cathedral Cave	40.65	298	*e*P	P	18 09 57.7	+0.7
	5.4nm,0.9s,mb4.2						
BDFB	Brasilia	42.12	185	LR	LR	18 25 09.0	
	comp=Z,123nm,20.1s,MS3.8,baz=296,slow=33						
DBIC	Dimbokro	42.68	110	LR	LR	18 25 29.1	
	comp=Z,246nm,19.3s,MS4.1,baz=321,slow=33						
ULM	Lac du Bonnet	45.48	315	LR	LR	18 27 00.4	
	comp=Z,202nm,19.1s,MS4.1,baz=46,slow=33						
WMOK	Wichita Mounta	46.83	294	*e*P	P	18 10 47.0	0.0
	4.4nm,1.1s,mb4.3						
LPAZ	La Paz	48.38	211	P	P	18 10 59.8	+0.4
	5.5nm,0.8s,mb4.6,baz=21,slow=8.4,SNR=12						
CLL	Collm	49.62	44	P	P	18 11 09.0	+0.4
KHC	Kasperske Hory	49.77	47	*e*P	P	18 11 10.0	+0.3
KHC				x	x	18 11 35.0	
KHC	Kasperske Hory	49.77	47	*e*P	P	18 11 10.0	+0.3
KHC				*e*		18 11 35.0	
GERES	GERESS Array B	49.83	47	P	P	18 11 10.1	0.0
	1.1nm,0.8s,mb3.9,baz=270,slow=8.0,SNR=7.8						
TXAR	Lajitas Array	51.76	288	P	P	18 11 24.8	-0.3
	0.4nm,0.8s,mb3.4,baz=109,slow=7.2,SNR=4.7						
TXAR				LR	LR	18 33 20.4	
	comp=Z,84nm,18.5s,MS3.8,baz=75,slow=36						
PDAR	Pinedale Array	54.52	305	P	P	18 11 45.6	+0.2
	1.3nm,0.7s,mb4.1,baz=76,slow=6.1,SNR=7.7						
PDAR				LR	LR	18 32 52.6	
	comp=Z,201nm,20.4s,MS4.2,baz=76,slow=34						
YKA	Yellowknife Ar	57.54	329	P	P	18 12 06.2	-0.7
	2.1nm,0.8s,mb4.2,baz=94,slow=7.8,SNR=6.5						
YKA				LR	LR	18 35 56.5	
	comp=Z,341nm,21.4s,MS4.4,baz=85,slow=35						
FINES	FINESS Array B	57.80	32	P	P	18 12 08.3	-0.3
	6.0nm,0.9s,mb4.6,baz=243,slow=8.5,SNR=6.3						
FINES	FINESS Array B	57.80	32	P	P	18 12 08.3	-0.4
HLID	Hailey	57.96	306	P	P	18 12 10.9	+0.8
	2.5nm,1.1s,mb4.2						
ARCES	ARCESS Array B	58.40	23	P	P	18 12 12.3	-0.4
	4.9nm,0.8s,mb4.6,baz=264,slow=11,SNR=5.7						
ARCES				LR	LR	18 30 59.7	
	comp=Z,37nm,19.9s,MS3.5,baz=214,slow=30						
ARCES	ARCESS Array B	58.40	23	P	P	18 12 12.3	-0.4
ARCES				LR	LR	18 30 59.7	
NEW	Newport	59.26	312	P	P	18 12 18.1	-1.0
	3.7nm,0.8s,mb4.4,baz=123,slow=2.4,SNR=6.0						
NEW				LR	LR	18 36 39.0	
	comp=Z,224nm,18.4s,MS4.3,baz=90,slow=35						
NEW	Newport	59.26	312	*e*P	P	18 12 19.4	+0.3
	10nm,1.2s,mb4.7						
NEW				LR	LR	18 36 39.0	
AKASG	Malin Array Be	59.85	45	P	P	18 12 22.1	-1.0
	4.7nm,1.0s,mb4.5,baz=271,slow=6.1,SNR=9.4						
LNOR	Lincton Mounta	60.37	310	*e*P	P	18 12 26.5	-0.2
HAWA	Hanford	61.14	310	P	P	18 12 29.8	-2.2
BRTR	Keskin Array B	64.90	56	P	P	18 12 57.2	+0.3
	3.3nm,1.0s,mb4.3,baz=284,slow=5.1,SNR=12						
BRTR				LR	LR	18 37 15.8	
	comp=Z,40nm,18.2s,MS3.6,baz=185,slow=32						
DLBC	Dease Lake	65.39	325	LR	LR	18 39 10.0	
	comp=Z,106nm,18.1s,MS4.1,baz=117,slow=34						
BBB	Bella Bella	65.59	318	LR	LR	18 39 38.0	
	comp=Z,98nm,18.2s,MS4.0,baz=203,slow=34						
ILAR	Eielson Array	71.29	334	P	P	18 13 36.9	+0.5
	2.6nm,0.8s,mb4.2,baz=68,slow=4.3,SNR=25						
ILAR				LR	LR	18 43 45.1	
	comp=Z,84nm,19.1s,MS4.0,baz=89,slow=35						
ILAR	Eielson Array	71.29	334	P	P	18 13 36.9	+0.5
ILAR				LR	LR	18 43 45.1	
ZRNK	Zerenda	82.09	34	*e*P	P	18 14 38.3	+1.3
	2.7nm,1.0s,mb4.1						
KMBO	Kilima Mbogo	83.22	95	LR	LR	18 52 54.4	
	comp=Z,170nm,18.8s,MS4.5,baz=94,slow=36						

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*IDC **12** 18:08:16.3±4.4, 17.81S×178.58W, h590^{km}±50^{km}, mb3.3/10, mb1 3.5/10, mb1mx3.5/14, Error ellipse: s-maj=41.6km s-min=20.1km az=144.0*

*NEIC **12** 18:08:17.9±2.9, 17.84S×178.64W, h610^{km}±34^{km}, mb4.3/12, Error ellipse: s-maj=18.5km s-min=15.5km az=130.0*

ISC 12 18:08:17.7±5.0**, 17.9S**±0.2×**178.7W**±0.2**, h623**^{km}±64^{km}**, n30, σ0ˢ76**/27**, mb4.1**/19**, 1C, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	33.17	260	*e*P	P	18 14 06.7	+0.2
	5.7nm,0.8s,mb4.2						
CTA	Charters Tower	33.17	260	P	P	18 14 06.7	+0.2
	9.7nm,0.9s,mb4.5,baz=88,slow=9.7,SNR=12						
CTAO	Charters Tower	33.17	260	*e*P	P	18 14 06.4	-0.1
	7.1nm,0.7s,mb4.4						
CNB	Canberra Magne	33.22	232	*e*P	P	18 14 07.3	+0.5
	8.2nm,0.5s,mb4.6						
PMG	Port Moresby	34.17	280	*e*P	P	18 14 16.3	+1.5
	35nm,1.0s,mb5.0						
TOO	Toolangi	36.97	231	*e*P	P	18 14 38.0	+0.4
	5.4nm,1.1s,mb4.0						
STKA	Stephens Creek	38.40	241	*e*P	P	18 14 50.0	+0.7
	4.2nm,0.5s,mb4.2						
STKA	Stephens Creek	38.40	241	P	P	18 14 50.0	+0.7
	6.3nm,0.6s,mb4.3,baz=82,slow=9.4,SNR=25						
WB2	Warramunga Arr	44.35	260	*e*P	P	18 15 35.8	-0.7
WRAB	Tennant Creek	44.35	260	*e*P	P	18 15 35.3	-1.2
	10.0nm,0.6s,mb4.5						
WRA	Warramunga Arr	44.36	260	P	P	18 15 35.9	-0.7
	5.5nm,0.6s,mb4.3,baz=95,slow=7.0,SNR=69						
WRA				PcP	PcP	18 17 07.0	+0.2
	0.4nm,0.4s,baz=96,slow=3.6,SNR=3.3						
ASAR	Alice Springs	44.53	254	P	P	18 15 37.8	-0.1
	32nm,0.5s,mb5.1,baz=87,slow=8.8,SNR=809						
ASAR				PcP	PcP	18 17 07.2	-0.1
	1.3nm,0.8s,baz=96,slow=3.7,SNR=4.8						
ASPA	Alice Springs	44.53	254	*e*P	P	18 15 37.7	-0.2
KAKA	Kakadu	47.34	269	⇑*i*P	P	18 15 59.5	+0.2
	12nm,0.4s,mb4.8						
FORT	Forrest	49.76	245	*e*P	P	18 16 15.9	-1.1
	27nm,0.5s,mb4.9						
FITZ	Fitzroy Crossi	52.75	261	*e*P	P	18 16 38.6	0.0
	1.7nm,0.5s,mb3.6						
FITZ	Fitzroy Crossi	52.75	261	P	P	18 16 38.7	+0.1
	3.4nm,0.7s,mb3.8,baz=174,slow=5.9,SNR=9.9						
MBWA	Marble Bar	57.81	256	*e*P	P	18 17 12.8	-0.6
	4.3nm,0.5s,mb3.8						
MUN	Mundaring	59.88	243	*e*P	P	18 17 27.1	0.0
	7.1nm,1.2s,mb3.8						
SBA	Scott Base	60.43	184	*e*P	P	18 17 30.1	-0.1
	0.3nm,0.5s						
YBH	Yreka Blue Hor	78.68	39	P	P	18 19 17.7	-0.5
	2.1nm,0.9s,mb3.5,baz=173,slow=15,SNR=4.3						
MAW	Mawson	83.79	200	P	P	18 19 43.9	+0.4
	1.0nm,0.6s,mb3.5,baz=95,slow=11,SNR=3.1						
ILAR	Eielson Array	85.92	13	P	P	18 19 53.0	-0.9
	0.4nm,0.5s,mb3.3,baz=226,slow=4.9,SNR=10.0						
TXAR	Lajitas Array	86.22	58	P	P	18 19 56.7	+0.6
	0.6nm,0.6s,mb3.4,baz=220,slow=6.7,SNR=7.1						
TXAR	Lajitas Array	86.22	58	P	P	18 19 56.7	+0.6
PDAR	Pinedale Array	87.53	44	P	P	18 20 02.1	+0.1
	0.8nm,0.7s,mb3.6,baz=245,slow=3.5,SNR=7.2						
CMAR	Chiang Mai Arr	88.61	290	P	P	18 20 09.8	+2.3
	0.6nm,0.8s,mb3.5,baz=120,slow=2.2,SNR=4.7						
MKAR	Makanchi Array	108.91	314	PKiKP		18 25 38.2	
	0.4nm,0.6s,baz=51,slow=0.8,SNR=3.1						
BRTR	Keskin Array B	144.56	315	PKP	PKPdf	18 26 47.4	+2.8
	0.7nm,0.5s,SNR=3.6						
GERES	GERESS Array B	147.51	345	PKPbc	PKPdf	18 26 53.9	+4.8
	0.3nm,0.5s,slow=2.7,SNR=5.8						

IDC 12 18:18:34.6±7.8**, 26.15N**×**44.47W, mb3.8**/4**, mb1 4.1**/4**, mb1mx3.6**/21**, MS3.6**/1**, Ms1 3.6**/1**, ms1mx2.7**/25**, Error ellipse: s-maj=214.0km s-min=48.0km az=174.0, Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PDAR	Pinedale Array	54.88	305	P	P	18 28 06.8	-2.3
	0.3nm,0.6s,baz=117,slow=8.1,SNR=3.5						
YKA	Yellowknife Ar	58.00	329	LR	LR	18 52 46.2	
	comp=Z,51nm,18.3s,baz=100,slow=35						
ARCES	ARCESS Array B	58.77	23	P	P	18 28 33.7	-2.7
	4.4nm,0.9s,baz=278,slow=6.4,SNR=4.7						
ILAR	Eielson Array	71.75	334	P	P	18 29 58.8	-1.4
	0.5nm,0.7s,baz=71,slow=5.1,SNR=8.0						
BVAR	Borovoye Array	83.05	34	P	P	18 31 02.0	-1.0
	0.5nm,0.7s,slow=7.4,SNR=3.7						

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*NEIC **12** 18:19:43.4±0.7, 19.47S×69.27W, h92^{km}±7^{km}, mb4.4/3, Error ellipse: s-maj=11.3km s-min=7.0km az=52.0*

*IDC **12** 18:19:45.0±1.0, 19.66S×69.30W, h109^{km}±7^{km}, mb4.5/5, mb1 4.4/7, mb1mx4.1/13, Error ellipse: s-maj=20.4km s-min=14.7km az=95.0*

ISC 12 18:19:42.8±1.1**, 19.66S**±0.07×**69.46W**±0.08**, h117**^{km}±10^{km}**, n26, σ1ˢ25**/27**, mb4.7**/11**, 1D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	Limon Verde	2.98	170	*e*Pn	P	18 20 32.3	+2.6
LVC				*e*Sn	S	18 20 59.5	-5.7
LPAZ	La Paz	3.59	21	P	P	18 20 39.4	+1.6
	11nm,0.3s,baz=189,slow=0.6,SNR=98						
LPAZ				S	S	18 21 21.1	+1.4
	5.2nm,0.3s,baz=160,slow=19,SNR=2.6						
LPAZ	La Paz	3.59	21	P	P	18 20 39.4	+1.6
LPAZ				S	S	18 21 21.1	+1.4
ARE	Arequipa	3.72	328	⇓*i*P	P	18 20 39.0	-0.6
ARE				*e*S	S	18 21 22.0	-0.9
NNA	Nana	10.42	316	*e*Pn	P	18 22 07.8	-2.3
NNA				Sn	S	18 23 57.0	-8.2
SAML	Samuel	12.26	31	*e*Pn	P	18 22 31.3	-3.1
	3.9nm,0.6s						
CPUP	Villa Florida	12.99	123	P	P	18 22 43.7	-0.3
	0.4nm,0.3s,baz=323,slow=11,SNR=7.3						
TRQA	Tornquist	19.45	162	*e*P	P	18 24 03.1	+0.5
BDFB	Brasilia	20.82	82	P	P	18 24 15.5	-1.2
	19nm,0.4s,baz=258,slow=11,SNR=31						
BAO	Brasilia Array	20.85	82	P	P	18 24 16.0	-1.0
BAO				*e*		18 24 19.1	
OTAV	Otavalo	21.65	335	P	P	18 24 27.7	+2.7
	6.6nm,0.8s,mb4.0						
RCBR	Riachuelo	35.41	72	*e*P	P	18 26 28.6	-0.9
	9.1nm,0.6s,mb4.8						
TXAR	Lajitas Array	58.83	325	P	P	18 29 32.6	+1.1
	0.2nm,0.3s,mb3.6,baz=135,slow=8.8,SNR=5.7						
CCM	Cathedral Cave	60.95	340	*e*P	P	18 29 45.0	-0.9
	2.7nm,0.7s,mb4.4						
SADO	Sadowa	64.72	352	P	P	18 30 10.6	-0.1
	5.3nm,0.5s,mb4.6,baz=184,slow=5.1,SNR=7.4						
LIC	Lamto	68.39	75	*e*P	P	18 30 33.7	-0.7
	72nm,1.6s,mb5.3						
TIC	Toumodi	68.57	74	*e*P	P	18 30 35.9	+0.4
	20nm,0.2s,mb5.7						
KIC	Kosan Boka	68.70	75	*e*P	P	18 30 36.2	-0.1
	18nm,0.4s,mb5.2						
DBIC	Dimbokro	68.72	74	P	P	18 30 36.5	0.0
	5.9nm,0.6s,mb4.6,baz=184,slow=5.9,SNR=17						
DBIC				pP	pP	18 31 03.7	-1.8
	2.8nm,0.6s,baz=224,slow=9.1,SNR=2.0						
DBIC	Dimbokro	68.72	74	P	P	18 30 36.5	0.0
DBIC				pP	pP	18 31 03.7	-1.8
ULM	Lac du Bonnet	73.41	343	P	P	18 31 04.5	+0.6
	4.5nm,0.5s,mb4.6,baz=163,slow=4.1,SNR=7.6						
YKA	Yellowknife Ar	89.29	341	P	P	18 32 28.5	+2.0
	7.7nm,0.8s,mb4.8,baz=133,slow=4.7,SNR=22						
ASAR	Alice Springs	131.28	209	PKP	PKPdf	18 38 45.9	+3.9
	0.3nm,0.5s,baz=127,slow=1.7,SNR=10						
ASAR				pPKP		18 39 14.7	
	1.8nm,1.3s,baz=107,slow=1.5,SNR=2.3						
WRA	Warramunga Arr	134.25	212	PKP	PKPdf	18 38 51.6	+4.0
	0.5nm,0.5s,baz=148,slow=1.6,SNR=3.7						
MKAR	Makanchi Array	144.43	34	PKP	PKPdf	18 39 08.8	+3.7
	1.0nm,1.0s,baz=344,slow=2.2,SNR=3.4						
SONM	Songino Array	151.69	6	PKPbc	PKPdf	18 39 27.7	+11
	2.1nm,0.4s,baz=300,slow=0.9,SNR=22						
SONM				pPKPbc		18 39 55.8	
	0.8nm,0.6s,baz=268,slow=0.6,SNR=3.4						

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*IDC **12** 18:20:55.7±1.0, 0.97S×129.94E, mb4.3/7, mb1 4.5/9, mb1mx4.2/17, ML4.4/2, MS3.5/2, Ms1 3.6/2, ms1mx2.9/18, Error ellipse: s-maj=67.9km s-min=16.3km az=62.0*

*BJI **12** 18:20:58.3, 1.30S×129.40E, h20^{km}, mB5.0, mb4.9*

*NEIC **12** 18:20:58.4±0.6, 1.27S×129.39E, h20^{km}, mb4.5/11, Error ellipse: s-maj=30.0km s-min=9.1km az=73.0*

ISC 12 18:20:55.8±4.9**, 1.28S**±0.06×**129.8E**±0.2**, h22**^{km}±38^{km}**, n25, σ1ˢ47**/32**, mb4.5**/13**, MS3.5**/2**, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	Kakadu	11.64	167	*e*P	P	18 23 43.5	-0.4
	20nm,0.6s						
KAKA				*e*S	S	18 25 49.5	-4.7
FITZ	Fitzroy Crossi	17.21	193	*e*P	P	18 24 55.0	-1.8
	4.8nm,0.5s						
FITZ				*e*S	S	18 28 04.8	-1.3
FITZ	Fitzroy Crossi	17.21	193	P	P	18 24 55.3	-1.5
	0.9nm,0.3s,baz=20,slow=9.3,SNR=19						
FITZ				S	S	18 28 05.0	-1.1
	0.2nm,0.3s,baz=2.7,slow=23,SNR=2.6						
WRAB	Tennant Creek	19.07	167	*e*P	P	18 25 16.7	-2.9
	8.1nm,0.5s						
WRA	Warramunga Arr	19.08	167	P	P	18 25 19.4	-0.3
	1.3nm,0.3s,baz=352,slow=11,SNR=17						
WRA				S	S	18 28 41.7	-6.6
	1.3nm,0.3s,baz=349,slow=24,SNR=7.9						
WB2	Warramunga Arr	19.08	167	*e*P	P	18 25 19.4	-0.3
WB2				*e*S	S	18 28 41.0	-7.4
ASAR	Alice Springs	22.61	170	P	P	18 26 00.0	+3.4
	12nm,0.6s,mb4.5,baz=351,slow=11,SNR=150						
ASAR				S	S	18 30 05.0	+6.6
	3.9nm,0.9s,baz=354,slow=23,SNR=6.2						
ASPA	Alice Springs	22.61	170	*e*P	P	18 25 59.1	+2.5
ASPA				*e*S	S	18 30 05.9	+7.6
CTA	Charters Tower	24.67	140	*e*P	P	18 26 21.2	+4.5
	10nm,1.0s,mb4.3						
CTA	Charters Tower	24.67	140	P	P	18 26 21.1	+4.4
	10nm,0.8s,mb4.4,baz=322,slow=12,SNR=9.9						
CTAO	Charters Tower	24.67	140	*e*P	P	18 26 21.2	+4.6
	14nm,0.9s,mb4.5						
FORT	Forrest	29.39	183	*e*P	P	18 27 02.7	+2.8
	26nm,0.8s,mb5.0						
KLBR	Kellerberrin	32.23	200	*e*P	P	18 27 26.2	+1.2
	6.2nm,0.5s,mb4.7						
STKA	Stephens Creek	32.41	161	*e*P	P	18 27 29.6	+3.1
	4.2nm,0.8s,mb4.3						
STKA	Stephens Creek	32.41	161	P	P	18 27 29.6	+3.0
	4.8nm,0.7s,mb4.4,baz=346,slow=8.8,SNR=11						
STKA				LR	LR	18 40 40.5	
	comp=Z,137nm,21.0s,MS3.6,baz=24,slow=36						
CMAR	Chiang Mai Arr	36.13	304	P	P	18 28 01.1	+2.5
	1.4nm,0.8s,mb3.9,baz=142,slow=6.4,SNR=8.0						
CMAR				LR	LR	18 42 12.5	
	comp=Z,49nm,19.3s,MS3.3,baz=300,slow=35						
SHL	Shillong	45.34	309	*e*P	P	18 29 15.2	+0.7
LSA	Lhasa	48.05	313	*e*P	P	18 29 37.5	+1.6
SONM	Songino Array	53.00	340	P	P	18 30 13.0	-0.3
	0.6nm,0.6s,mb3.7,baz=143,slow=8.4,SNR=6.4						
YAK	Yakutsk	63.14	360	*e*P	P	18 31 23.4	-0.7
	9.5nm,0.7s,mb5.0						
MKAR	Makanchi Array	63.39	325	P	P	18 31 25.0	-1.0
	6.0nm,1.1s,mb4.6,baz=121,slow=7.1,SNR=12						
KURK	Kurchatov	67.58	328	*e*P	P	18 31 52.1	-0.9
	3.0nm,0.8s,mb4.4						
BVAR	Borovoye Array	73.16	327	P	P	18 32 26.3	-0.4
	8.5nm,1.2s,mb4.6,baz=135,slow=6.3,SNR=15						
BRVK	Borovoye	73.23	327	*e*P	P	18 32 25.7	-1.4
	4.1nm,0.8s,mb4.4						
ZRNK	Zerenda	73.89	327	*e*P	P	18 32 29.8	-1.1
	6.0nm,1.0s,mb4.5						

BJI 12 18:31:30.3, 24.92N×**98.92E, h15**^{km}**, ML3.3, Ms3.5, 1D, Myanmar-China border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KMI	Kunming	3.47	86	*e*PG	Pg	18 32 30.9	-8.8
KMI				SG	Sg	18 33 13.8	-12
KMI				Smax			
	comp=N,102nm,1.0s						
KMI				Smax			
	comp=E,62nm,0.9s						
KMI				LR	LR		
	comp=N,452nm,7.0s						
KMI				LR	LR		
	comp=E,186nm,3.9s						
CHRT	Chiangrai	5.09	171	⇓PN	Pn	18 33 02.5	+15
CHRT				PG	Pg	18 33 04.0	-7.9
CHRT				SG	Sg	18 34 07.0	-13
CHG	Chiang Mai	6.08	180	PG	Pg	18 33 19.6	-12
CHG				SG	Sg	18 34 38.2	-14

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*NEIC **12** 18:35:32.1±3.4, 32.44S×69.07W, h16^{km}±14^{km}, Error ellipse: s-maj=33.5km s-min=12.3km az=192.0*

*GUC **12** 18:35:35.8±0.8, 32.68S×69.27W, h12^{km}±17^{km}, MD3.6, ML3.4*

ISC 12 18:35:34.8±1.0**, 32.64S**±0.07×**69.21W**±0.04**, h16**^{km}**, n23, σ0ˢ84**/43**, 8C-5D, Mendoza Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MDZ	Mendoza	0.38	129	*e*P	Pb	18 35 41.8	-0.9
MDZ				*i*		18 35 44.7	
MDZ				*i*		18 35 47.6	
MDZ				*i* S	Sb	18 35 48.7	+0.6
FCH	Farellones	1.14	233	⇓*i*P	Pb	18 35 54.3	-1.3
FCH				*i* S	Sb	18 36 08.8	-1.2
FCH				AMP		18 36 09.6	
	comp=N,963nm,0.2s						
JACH	Jahuel	1.17	268	⇑*i*P	Pb	18 35 55.7	-0.4
JACH				*i* S	Sb	18 36 11.3	+0.4
JACH	Jahuel	1.17	268	⇑*i*P	Pb	18 35 55.7	-0.5
JACH				*i* S	Sb	18 36 11.3	+0.4
PEL	Peldehue	1.34	248	*e*P	Pn	18 35 58.0	-1.0
PEL				*i* S	Sb	18 36 15.2	-0.7
PEL	Peldehue	1.34	248	*i* P	Pn	18 35 57.8	-1.2
PEL				*i* S	Sb	18 36 15.2	-0.7
CLCH	Cerro Calan	1.35	236	*i* P	Pn	18 35 58.9	-0.2
CLCH				*i* S	Sb	18 36 15.9	-0.2
CLCH				AMP		18 36 19.1	
	comp=E,1µm,0.7s						
CLCH	Cerro Calan	1.35	236	*i* P	Pn	18 35 58.9	-0.2
CLCH				*i* S	Sb	18 36 16.3	+0.3
DSCH	Colegio Aleman	1.37	236	⇑*i*P	Pn	18 35 58.7	-0.7
DSCH				*i* S	Sb	18 36 16.3	-0.4
DSCH				AMP		18 36 17.4	
	comp=N,2µm,0.4s						
LMEL	Las Melosas	1.46	215	⇑*i*P	Pn	18 36 00.3	-0.5
LMEL				*i* S	Sb	18 36 18.9	-0.5
LMEL				AMP		18 36 21.2	
	comp=N,257nm,0.2s						
LMEL	Las Melosas	1.46	215	⇑*i*P	Pn	18 36 00.2	-0.5
LMEL				*i* S	Sb	18 36 18.9	-0.5
PCH	Pirque	1.47	228	⇓*i*P	Pn	18 36 00.4	-0.4
PCH				*i* S	Sb	18 36 19.2	-0.3
PCH	Pirque	1.47	228	⇓*i*P	Pn	18 36 00.4	-0.4
PCH				*i* S	Sb	18 36 19.0	-0.5
CHCH	Chadas Angostu	1.77	223	⇑*i*P	Pn	18 36 05.3	+0.2
CHCH				*i* S	Sn	18 36 27.6	+0.3
TACH	Talagante	1.77	235	⇓*i*P	Pn	18 36 05.3	+0.2
TACH				*i* S	Sn	18 36 27.3	0.0
CACH	El Canelo	1.88	218	*i* P	Pn	18 36 07.4	+0.8
CMCH	Combarbala	2.12	313	AMP		18 36 45.9	
	comp=E,2µm,0.5s						
LCCH	Las Cruces	2.15	247	⇑*i*P	Pn	18 36 11.7	+1.1
LCCH				*i* S	Sn	18 36 39.1	+2.0
LCCH	Las Cruces	2.15	247	⇑*i*P	Pn	18 36 11.7	+1.1
LCCH				S	Sn	18 36 39.1	+2.0
LNV	Longovilo	2.26	234	*e*P	Pn	18 36 12.6	+0.4
LNV				*i* S	Sn	18 36 41.1	+1.2
LNV	Longovilo	2.26	234	*i* P	Pn	18 36 12.6	+0.4
LNV				*i* S	Sn	18 36 41.1	+1.2
SFDO	San Fernando	2.48	217	⇓*i*P	Pn	18 36 16.4	+1.1
SFDO				S	Sn	18 36 48.9	+3.5
TRQA	Tornquist	8.00	134	*e*Pn	Pn	18 37 28.6	-4.7
TRQA				*e*Sn	Sn	18 38 53.0	-11

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*NEIC **12** 19:01:28.3, 34.93S×70.40W, h2^{km}, ML2.6(GUC), After GUC.*

GUC 12 19:01:28.3±0.7**, 34.93S**×**70.40W, h2**^{km}±2^{km}**, MD3.6, ML2.6, 2C-2D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFDO	San Fernando	0.59	302	⇑*i*P	Pg	19 01 40.3	+0.1
SFDO				*i* S	Sg	19 01 49.5	+1.5
CICH	Cipreses	0.61	359	⇑*i*P	Pg	19 01 40.6	+0.2
CICH				*i* S	Sg	19 01 50.8	+2.2
CACH	El Canelo	0.83	349	⇓*i*P	Pg	19 01 44.6	-0.2
CACH				*i* S	Sg	19 01 56.9	+1.1
CHCH	Chadas Angostu	1.01	348	*i* P	Pb	19 01 48.6	+0.4
CHCH				*i* S	Sb	19 02 03.6	+1.8
LMEL	Las Melosas	1.09	9	⇓*i*P	Pb	19 01 49.0	-0.5
LMEL				*i* S	Sb	19 02 04.8	+0.8
LMEL				AMP		19 02 07.0	
	comp=N,282nm,0.3s						
LNV	Longovilo	1.28	319	*e*P	Pb	19 01 51.9	-0.8
LNV				*i* S	Sb	19 02 09.5	0.0
PCH	Pirque	1.31	356	*e*P	Pb	19 01 52.3	-1.0
TACH	Talagante	1.35	341	*e*P	Pb	19 01 53.4	-0.5
TACH				*i* S	Sb	19 02 11.9	+0.4
FCH	Farellones	1.60	3	*i* P	Pn	19 01 58.4	+0.6
FCH				*i* S	Sb	19 02 19.5	+0.7
LCCH	Las Cruces	1.74	326	*e*P	Pn	19 01 59.6	-0.2
JACH	Jahuel	2.25	356	*i* P	Pn	19 02 08.6	+1.6

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*IDC **12** 19:05:46.2±1.6, 3.87N×126.57E, mb3.9/4, mb1 4.0/4, mb1mx3.7/16, Error ellipse: s-maj=135.0km s-min=24.3km az=65.0*

ISC 12 19:05:48.3±1.6**, 4.1N**±0.3×**127.1E**±0.6**, h33**^{km}**, n6, σ0ˢ75**/6**, mb3.7**/5**, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	22.14	184	*e*P	P	19 10 43.1	+0.3
	3.2nm,1.1s,mb3.7						
WRA	Warramunga Arr	24.96	164	P	P	19 11 10.2	-0.3
	5.7nm,0.6s,mb4.2,baz=343,slow=11,SNR=18						
WB2	Warramunga Arr	24.97	164	*e*P	P	19 11 10.5	0.0
ASAR	Alice Springs	28.42	167	P	P	19 11 41.4	-0.8
	0.5nm,0.9s,mb3.1,baz=343,slow=7.6,SNR=8.5						
ASAR				PcP	PcP	19 14 54.7	+0.5
	1.0nm,1.1s,baz=340,slow=2.5,SNR=3.7						
STKA	Stephens Creek	38.38	160	P	P	19 13 09.2	+0.9
	1.0nm,0.4s,mb3.9,baz=344,slow=9.2,SNR=12						
MKAR	Makanchi Array	57.43	325	P	P	19 15 36.2	0.0
	0.5nm,0.7s,mb3.6,baz=127,slow=8.6,SNR=6.4						

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*NEIC **12** 19:16:41.1, 19.39N×102.58W, h100^{km}, MD3.7(MEX), After MEX.*

MEX 12 19:16:41.3±1.0**, 19.38N**×**102.59W, h92**^{km}±29^{km}**, MD3.7, Michoacan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFJM	Santa Fe	1.18	339	*i* P	P	19 17 01.7	-1.9
SFJM				*i* S	S	19 17 18.2	-2.0
MOIG	Morelia	1.36	77	*i* P	P	19 17 04.8	-0.9
MOIG				*i* S	S	19 17 23.2	-0.7
MOIG	Morelia	1.36	77	*i* P	P	19 17 04.8	-0.9
MOIG				*i* S	S	19 17 24.1	+0.1
ZIIG	Zihuatanejo	2.06	149	*i* P	P	19 17 12.6	-2.4
ZIIG				*i* S	S	19 17 37.8	-2.0
CJM	Chamela	2.31	273	*i* P	P	19 17 17.2	-1.2
CJM				*i* S	S	19 17 45.2	-0.8
CJM	Chamela	2.31	273	*i* P	P	19 17 17.2	-1.2
CJM				*i* S	S	19 17 46.5	+0.5

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*NEIC **12** 19:36:31.9, 34.13S×70.06W, h7^{km}, ML2.6(GUC), After GUC.*

GUC 12 19:36:31.9±0.6**, 34.13S**×**70.06W, h7**^{km}±1^{km}**, MD3.5, ML2.6, 6C-3D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LMEL	Las Melosas	0.31	337	⇓*i*P	Pg	19 36 38.7	+0.5
LMEL				*i* S	Sg	19 36 44.0	+1.6
LMEL				AMP		19 36 44.5	
	comp=E,3µm,0.2s						
CICH	Cipreses	0.35	238	⇑*i*P	Pg	19 36 39.2	+0.1
CICH				*i* S	Sg	19 36 43.9	0.0
CACH	El Canelo	0.45	272	⇑*i*P	Pg	19 36 41.1	+0.1

CACH				*i* S	Sg	19 36 47.7	+0.6
CHCH	**Chadas Angostu**	**0.53**	**292**	⇓*i*P	Pg	19 36 42.9	+0.2
CHCH				*i* S	Sg	19 36 51.0	+1.2
SJCH	**San Jose de Ma**	**0.55**	**333**	⇑*i*P	Pg	19 36 42.4	-0.5
SJCH				*i* S	Sg	19 36 51.0	+0.7
SJCH				AMP		19 36 53.0	
	comp=N,440nm,0.3s						
PCH	**Pirque**	**0.64**	**323**	⇑*i*P	Pg	19 36 44.9	+0.2
PCH				*i* S	Sg	19 36 54.8	+1.6
ANTU	**Antumapu**	**0.74**	**319**	*e*P	Pb	19 36 45.9	-0.8
ANTU				*i* S	Sg	19 36 57.3	+0.7
ANTU				AMP		19 36 58.9	
	comp=E,402nm,0.3s						
FCH	**Farellones**	**0.83**	**346**	⇑*i*P	Pb	19 36 48.2	0.0
FCH				*i* S	Sb	19 37 00.8	+1.5
FCH				AMP		19 37 02.0	
	comp=N,356nm,0.2s						
CLCH	**Cerro Calan**	**0.84**	**331**	AMP		19 37 03.8	
	comp=E,640nm,0.8s						
TACH	**Talagante**	**0.88**	**303**	⇓*i*P	Pb	19 36 48.9	-0.2
TACH				*i* S	Sb	19 37 01.4	+0.7
SFDO	**San Fernando**	**0.93**	**239**	⇑*i*P	Pb	19 36 49.6	-0.2
SFDO				*i* S	Sb	19 37 02.5	+0.4
LNV	**Longovilo**	**1.14**	**279**	*e*P	Pb	19 36 53.0	-0.5
LNV				*i* S	Sb	19 37 08.7	+0.4
MDZ	**Mendoza**	**1.60**	**39**	*e*P	Pn	19 37 01.5	+0.7

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*NIED **12** 19:45:00, 33.20N×137.20E, h23^{km}, Mw3.7 Best double couple: M$_0$4.34×10^{14} NP1:φ$_s$265°, δ58°, λ76°. NP2:φ$_s$110°, δ35°, λ111°.*

*JMA **12** 19:45:55.0±0.1, 33.17N×137.16E, h41^{km}±2^{km}, M4.0*

ISC 12 19:45:55.0±0.7, **33.18N**±0.05×**137.15E**±0.03, **h49**^{km}±16^{km}, **n21**, σ**0**^{s}**64**/40, **1C-10D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	**Tokai 1**	**0.69**	**32**	P	**P**	**19 46 08.2**	**-0.4**
TK01				S	**S**	**19 46 18.4**	**-0.2**
TK02	**Tokai 2**	**0.92**	**33**	⇓P	**P**	**19 46 11.7**	**0.0**
TK02				S	**S**	**19 46 24.4**	**+0.3**
TK03	**Tokai 3**	**1.19**	**34**	P	**P**	**19 46 15.7**	**+0.1**
TK03				S	**S**	**19 46 31.0**	**+0.1**
JWZ	**Kozaga**	**1.25**	**287**	⇑P	**P**	**19 46 16.5**	**0.0**
JWZ				S	**S**	**19 46 31.4**	**-1.1**
JIE	**Ise**	**1.27**	**343**	⇓P	**P**	**19 46 17.2**	**+0.5**
JIE				S	**S**	**19 46 33.2**	**+0.4**
JKN	**Kiinagashima**	**1.30**	**325**	⇓P	**P**	**19 46 17.4**	**+0.2**
JKN				S	**S**	**19 46 32.3**	**-1.3**
TK04	**Tokai 4**	**1.34**	**26**	⇓P	**P**	**19 46 18.0**	**+0.1**
TK04				S	**S**	**19 46 34.6**	**-0.2**
TSUJ	**Tsu 2**	**1.64**	**338**	⇓P	**P**	**19 46 22.4**	**+0.4**
TSUJ				S	**S**	**19 46 42.2**	**+0.1**
JWM	**Minabe**	**1.65**	**294**	⇓P	**P**	**19 46 22.3**	**+0.3**
JWM				S	**S**	**19 46 41.4**	**-0.7**
JWY	**Kouya**	**1.66**	**309**	⇓P	**P**	**19 46 23.2**	**+0.9**
JWY				S	**S**	**19 46 42.6**	**0.0**
JHE	**Heguri**	**1.91**	**321**	⇓P	**P**	**19 46 26.4**	**+0.6**
JHE				S	**S**	**19 46 48.8**	**+0.1**
SHZ3	**Shizuoka 3**	**2.08**	**25**	⇓P	**P**	**19 46 27.7**	**-0.4**
JIZS	**Izushimoda**	**2.10**	**43**	P	**P**	**19 46 28.4**	**0.0**
JIZS				S	**S**	**19 46 52.8**	**-0.6**
JHJ2	**Mitsune**	**2.23**	**91**	P	**P**	**19 46 30.7**	**+0.3**
JHJ2				*e*S	**S**	**19 46 56.1**	**-0.7**
JAI	**Aioi**	**2.34**	**286**	P	**P**	**19 46 32.5**	**+0.6**
JAI				*e*S	**S**	**19 46 57.9**	**-1.6**
JIM2	**Oshima 3**	**2.44**	**50**	P	**P**	**19 46 33.9**	**+0.6**
JIM2				*e*S	**S**	**19 47 01.1**	**-0.9**
JGM	**Miyama**	**2.54**	**352**	⇓P	**P**	**19 46 35.3**	**+0.6**
JGM				S	**S**	**19 47 04.6**	**0.0**
JWT	**Wachi**	**2.55**	**326**	P	**P**	**19 46 35.4**	**+0.5**
JWT				S	**S**	**19 47 05.1**	**+0.2**
JYN	**Shimob**	**2.58**	**26**	P	**P**	**19 46 35.6**	**+0.3**
JOD2	**Odawara 2**	**2.62**	**37**	P	**P**	**19 46 36.2**	**+0.3**
JOD2				S	**S**	**19 47 04.9**	**-1.8**
MAT	**Matsushiro**	**3.46**	**14**	P	**P**	**19 46 48.8**	**+1.0**
MAT				S	**S**	**19 47 28.9**	**+0.9**

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*NIED **12** 19:50:00, 39.30N×144.30E, h5^{km}, Mw3.4 Best double couple: M$_0$1.65×10^{14} NP1:φ$_s$211°, δ51°, λ-109°. NP2: φ$_s$59°, δ43°, λ-69°.*

*JMA **12** 19:50:04.3±0.2, 39.30N×144.26E, h57^{km}, M3.7*

ISC 12 19:50:02.3±1.1, **39.41N**±0.05×**144.43E**±0.08, **h57**^{km}, **n13**, σ**0**^{s}**97**/23, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**2.03**	**275**	P	**P**	**19 50 35.4**	**+0.6**
MIYJ				*e*S	**S**	**19 50 58.3**	**-0.6**
JTH	**Tanohata**	**2.05**	**286**	P	**P**	**19 50 36.3**	**+1.1**
JTH				*e*S	**S**	**19 50 59.6**	**+0.1**
OFUJ	**Ofunato**	**2.17**	**262**	P	**P**	**19 50 37.0**	**+0.2**
OFUJ				*e*S	**S**	**19 51 01.0**	**-1.5**
JOM	**Ohasama**	**2.43**	**273**	P	**P**	**19 50 41.3**	**+0.7**
JOM				*e*S	**S**	**19 51 08.8**	**-0.4**
JANG	**Nango**	**2.44**	**294**	P	**P**	**19 50 41.2**	**+0.5**
JMK	**Ichinoseki**	**2.54**	**261**	P	**P**	**19 50 42.2**	**+0.1**
JMM	**Marumori**	**3.24**	**243**	P	**P**	**19 50 50.7**	**-1.3**
JOT	**Ohata**	**3.25**	**308**	P	**P**	**19 50 53.4**	**+1.3**
JOT				*e*S	**S**	**19 51 30.1**	**+0.2**
JCH	**Churui**	**3.30**	**346**	P	**P**	**19 50 54.1**	**+1.2**
JCH				*e*S	**S**	**19 51 30.8**	**-0.4**
JKB	**Kayabe**	**3.58**	**315**	P	**P**	**19 50 58.3**	**+1.5**
JKB				*e*S	**S**	**19 51 38.3**	**+0.1**
NEM2	**Nemuro 2**	**4.07**	**14**	P	**P**	**19 51 03.0**	**-0.7**
NEM2				*e*S	**S**	**19 51 48.1**	**-2.5**
JTKR	**Abashiri--Toko**	**4.58**	**355**	P	**P**	**19 51 11.5**	**+0.7**
JTKR				*e*S	**S**	**19 52 01.9**	**-1.3**
MAT	**Matsushiro**	**5.69**	**242**	P	**P**	**19 51 25.9**	**-0.3**
MAT				S	**S**	**19 52 27.2**	**-3.8**

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*NEIC **12** 20:28:24.9, 32.25N×115.33W, h7^{km}, ML3.4(PAS), After PAS.*

ECX 12 20:28:26.2±0.7, **32.33N×115.33W, h3**^{km}**, MD3.4, ML3.5, 4C-9D, California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.09**	**12**	⇓*e*P	Pg	20 28 27.8	-0.4
CPBX				*e*S	Sg	20 28 29.7	+0.3
CPBX				⇓*e*		20 28 39.3	
	comp=E,54µm,0.3s						
CPBX				*e*		20 28 40.7	
	comp=N,69µm,0.3s						
EMX	**El Mayor**	**0.34**	**168**	⇑*e*P	Pg	20 28 32.3	-0.8
EMX				*e*S	Sg	20 28 37.5	-0.2
EMX				⇓*e*		20 28 37.8	
	comp=N,5µm,0.4s						
SGL	**Mount Signal**	**0.47**	**314**	⇓*e*P	Pg	20 28 34.5	-1.0
COA	**Coachella**	**0.56**	**18**	⇓*e*P	Pg	20 28 36.6	-0.8
YUH	**Yuha Desert**	**0.60**	**303**	*e*P	Pg	20 28 36.7	-1.4
COK	**Cook Ranch**	**0.62**	**327**	⇓*e*P	Pg	20 28 37.4	-1.2
PLT	**Pilot Knob**	**0.65**	**51**	⇓*e*P	Pg	20 28 37.5	-1.6
RDX	**Rancho Dowling**	**0.66**	**233**	⇑*e*P	Pg	20 28 37.9	-1.4
RDX				*e*S	Sg	20 28 47.0	-1.1
RMX	**La Rumorosa**	**0.69**	**294**	*e*P	Pg	20 28 38.5	-1.6
RMX				*i* S	Sg	20 28 47.8	-1.5
YMD	**Yuma Desert**	**0.70**	**71**	⇑*e*P	Pg	20 28 38.6	-1.5
ECBX	**El Chinero**	**0.88**	**165**	*e*P	Pb	20 28 42.0	-1.8
ECBX				*e*S	Sg	20 28 54.0	-1.6
PGX	**Piedras Gordas**	**1.01**	**249**	⇓*e*P	Pb	20 28 44.5	-1.5
PGX				*e*S	Sb	20 28 58.3	-1.3
CBX	**Cerro Bola**	**1.13**	**270**	*e*P	Pb	20 28 46.3	-1.8
CBX				*e*S	Sb	20 29 01.2	-1.8
BAR	**Barrett**	**1.19**	**288**	⇓*e*P	Pb	20 28 47.2	-1.9
ENX	**Ensenada**	**1.22**	**249**	⇑*e*P	Pb	20 28 47.8	-1.8
ENX				*e*S	Sb	20 29 04.2	-1.4
ECNX	**Esteban Cantu**	**1.27**	**239**	*e*P	Pb	20 28 48.6	-1.8
ECNX				*e*S	Sb	20 29 05.7	-1.3
SPX	**San Pedro Mart**	**1.28**	**185**	*e*P	Pb	20 28 48.4	-2.2
PBX	**Punta Banda**	**1.32**	**244**	*e*P	Pb	20 28 49.4	-2.0
PBX				*e*S	Sb	20 29 07.3	-1.3
PFO	**Pinyon Flat Ob**	**1.59**	**324**	*e*P	Pn	20 28 51.4	-4.1
TUC	**Tucson**	**3.85**	**89**	*e*Pn	Pn	20 29 22.4	-5.2
WUAZ	**Wupatki**	**4.58**	**45**	*e*Pn	Pn	20 29 35.4	-2.6
TPNV	**Topopah Spring**	**4.67**	**351**	Pn	Pn	20 29 36.5	-2.9
MSU	**Marysvale**	**6.69**	**22**	Pn	Pn	20 30 04.4	-3.4

MAN 12 21:23:25.9, 5.67N×124.59E, h1^{km}**, mb4.1, ML2.9, MS2.6, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GSPH	**General Santos**	**0.55**	**41**	*i* P	Pg	21 23 37.0	+0.1
KCP	**Kidapawan**	**1.42**	**21**	*e*P	Pb	21 23 51.9	-1.0
KCP				*i* S	Sb	21 24 12.6	+1.2
MATI	**Mati**	**2.09**	**52**	*e*P	Pn	21 24 02.8	+0.3
BUKP	**Musuan**	**2.25**	**12**	*e*P	Pn	21 24 05.4	+0.7
PAGZ	**Pagadian**	**2.48**	**331**	*e*P	Pn	21 24 11.4	+3.5
IPIL	**Ipil**	**2.91**	**317**	*e*P	Pn	21 24 14.2	0.0
IPIL				*e*S	Sn	21 24 51.1	+0.9

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*IDC **12** 21:29:15.3±1.0, 22.54S×175.33W, mb4.4/9, mb1 4.6/10, mb1mx4.5/15, ML5.0/1, MS3.8/2, Ms1 3.7/2, ms1mx3.3/15, Error ellipse: s-maj=39.9km s-min=22.1km az=143.0*

*BJI **12** 21:29:16.8, 22.60S×175.40W, h10^{km}, mb5.0*

*NEIC **12** 21:29:16.8±0.6, 22.55S×175.36W, h10^{km}, mb4.7/10, Error ellipse: s-maj=16.2km s-min=13.5km az=185.0*

ISC 12 21:29:15.0±0.5, **22.7S**±0.1×**175.31W**±0.06, **h10**^{km}, **n39**, σ**1**^{s}**01**/32, **mb4.6**/16, **MS3.8**/1, **3C, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**7.92**	**307**	Pn	**Pn**	**21 31 20.7**	**+7.7**
	485nm,0.8s,SNR=13						
RAR	**Rarotonga**	**14.49**	**87**	Pn	**P**	**21 32 29.6**	**-13**
	6.3nm,0.3s,baz=259,slow=11,SNR=9.2						
RAR				Sn	**S**	**21 35 23.1**	**-0.9**
	0.6nm,0.3s,baz=356,slow=18,SNR=2.0						
RAR				LR	LR	21 37 00.3	
	comp=Z,298nm,19.3s,baz=259,slow=32						
RAR	**Rarotonga**	**14.49**	**87**	*e*P	**P**	**21 32 29.0**	**-13**
RAR				Sn	**S**	**21 35 23.1**	**-0.9**
RAR				LR	LR	21 37 00.3	
RPZ	**Rata Peaks**	**23.85**	**205**	P	**P**	**21 34 32.8**	**+3.7**
	8.3nm,0.9s,mb4.2,baz=41,slow=9.3,SNR=1.9						
CTA	**Charters Tower**	**35.82**	**267**	*e*P	**P**	**21 36 17.2**	**+0.5**
	6.6nm,0.9s,mb4.6						
CTA	**Charters Tower**	**35.82**	**267**	P	**P**	**21 36 17.2**	**+0.5**
	10nm,0.9s,mb4.7,baz=87,slow=12,SNR=7.4						
CTAO	**Charters Tower**	**35.82**	**267**	*e*P	**P**	**21 36 16.9**	**+0.2**
	8.8nm,0.8s,mb4.7						
PMG	**Port Moresby**	**38.27**	**284**	*e*P	**P**	**21 36 38.0**	**+0.6**
	14nm,0.7s,mb4.8						
STKA	**Stephens Creek**	**39.18**	**247**	*e*P	**P**	**21 36 45.3**	**+0.4**
	1.8nm,0.4s,mb4.2						
STKA	**Stephens Creek**	**39.18**	**247**	P	**P**	**21 36 44.9**	**0.0**
	1.8nm,0.4s,mb4.2,baz=98,slow=12,SNR=16						
STKA				LR	LR	21 52 19.5	
	comp=Z,139nm,19.0s,MS3.8,baz=25,slow=35						
ASAR	**Alice Springs**	**46.50**	**258**	P	**P**	**21 37 44.0**	**-0.4**
	17nm,0.8s,mb5.0,baz=95,slow=7.9,SNR=110						
ASPA	**Alice Springs**	**46.50**	**258**	*e*P	**P**	**21 37 44.0**	**-0.5**
WB2	**Warramunga Arr**	**46.80**	**263**	*e*P	**P**	**21 37 46.1**	**-0.8**
WRAB	**Tennant Creek**	**46.80**	**263**	*e*P	**P**	**21 37 45.8**	**-1.1**
	13nm,0.9s,mb4.8						
WRA	**Warramunga Arr**	**46.81**	**263**	P	**P**	**21 37 46.0**	**-0.9**
	8.1nm,0.8s,mb4.7,baz=103,slow=7.9,SNR=26						
FORT	**Forrest**	**50.78**	**248**	*e*P	**P**	**21 38 17.2**	**-0.3**
	43nm,0.6s,mb5.5						
FITZ	**Fitzroy Crossi**	**55.24**	**263**	*e*P	**P**	**21 38 50.6**	**-0.3**
	5.4nm,0.8s,mb4.6						
KLBR	**Kellerberrin**	**59.44**	**246**	*e*P	**P**	**21 39 19.2**	**-1.2**
	7.5nm,0.8s,mb4.8						
CASY	**Casey**	**63.12**	**206**	P	**P**	**21 39 43.6**	**-1.1**
	1.4nm,0.5s,mb4.3						
MAW	**Mawson**	**80.39**	**199**	P	**P**	**21 41 28.0**	**+0.4**
	1.9nm,1.0s,mb4.0,baz=156,slow=11,SNR=2.0						
SNAA	**Sanae**	**85.79**	**178**		**P**	**21 41 54.8**	**-0.4**
VNA3	**Neumayer Olymp**	**85.83**	**175**	⇑*i*	**P**	**21 41 58.1**	**+2.7**
TXAR	**Lajitas Array**	**86.14**	**56**	P	**P**	**21 41 57.9**	**0.0**
	0.5nm,0.9s,mb3.8,baz=191,slow=6.4,SNR=4.6						
VNA2	**Neumayer--Watz**	**86.30**	**176**	⇑*i*	**P**	**21 42 00.7**	**+3.0**
VNA1	**Neumayer--Stat**	**86.51**	**176**	⇑*i*	**P**	**21 41 59.5**	**+0.7**
ILAR	**Eielson Array**	**89.87**	**12**	P	**P**	**21 42 14.6**	**-0.3**
	1.3nm,1.1s,mb4.2,baz=207,slow=4.0,SNR=6.5						
KMI	**Kunming**	**92.54**	**296**	*e*P	**P**	**21 42 30.7**	**+2.5**
KMI				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb5.2						
KMI	**Kunming**	**92.54**	**296**	*e*P	**P**	**21 42 30.7**	**+2.5**
	comp=Z,8.0nm,0.9s,mb5.2						
HHC	**Hu-ho-hao-te**	**92.63**	**313**	*e*P	**P**	**21 42 28.6**	**+0.3**
CMAR	**Chiang Mai Arr**	**93.17**	**289**	P	**P**	**21 42 32.3**	**+1.1**
	comp=Z,4.2nm,0.9s,mb4.9,baz=128,slow=3.1,SNR=25						
AKASG	**Malin Array Be**	**146.09**	**332**	PKPbc	PKPbc	21 48 55.9	+0.7
	comp=Z,1.2nm,0.4s,baz=38,slow=4.1,SNR=12						
BRTR	**Keskin Array B**	**150.13**	**311**	PKPbc	PKPdf	21 49 07.9	+3.8
	comp=Z,2.0nm,0.9s,baz=153,slow=2.8,SNR=9.5						
BRTR				PKPab	PKPab	21 49 15.5	+1.2
	comp=Z,1.8nm,0.9s,baz=9.5,slow=7.5,SNR=6.3						
CLL	**Collm**	**150.67**	**349**	*i* PKP1	PKPdf	21 49 08.2	+3.7
CLL				*e*PKP2	PKPab	21 49 15.0	-1.2
CLL				*i* *PPKP2		21 49 20.4	
CLL	**Collm**	**150.67**	**349**	*i* P	PKPdf	21 49 08.2	+3.7
CLL				*i*		21 49 20.4	
BRG	**Berggiesshubel**	**150.91**	**348**	*i* P	PKPab	21 49 21.3	+4.1
MORC	**Moravsky Berou**	**151.09**	**343**	*e*PKPab	PKPab	21 49 21.2	+3.2
PRU	**Pruhonice**	**151.63**	**347**	*e*PKPab	PKPab	21 49 22.5	+2.2
KHC	**Kasperske Hory**	**152.65**	**347**	*e*PKPab	PKPab	21 49 25.0	+0.4
GERES	**GERESS Array B**	**152.89**	**347**	PKPbc	PKPdf	21 49 14.3	+6.5
	comp=Z,0.4nm,0.8s,baz=354,slow=24,SNR=2.3						

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*IDC **12** 21:42:50.1±2.1, 3.12S×130.35E, mb3.9/2, mb1 4.0/4, mb1mx3.8/15, ML3.5/2, Error ellipse: s-maj=137.0km s-min=27.0km az=79.0*

ISC 12 21:42:53.0±1.4, **3.2S**±0.1×**130.3E**±0.4, **h33**^{km}, **n7**, σ**1**^{s}**22**/7, **mb3.9**/1, **Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**9.68**	**167**	*e*P	**S**	**21 46 57.8**	**-4.0**
	7.8nm,0.6s						
FITZ	**Fitzroy Crossi**	**15.49**	**197**	Pn	**P**	**21 46 31.0**	**+0.2**
	0.1nm,0.3s,baz=3.3,slow=14,SNR=2.4						
WRA	**Warramunga Arr**	**17.11**	**167**	P	**P**	**21 46 52.6**	**+1.2**
	0.3nm,0.3s,baz=349,slow=11,SNR=5.8						
WB2	**Warramunga Arr**	**17.12**	**167**	*e*P	**P**	**21 46 53.0**	**+1.6**
ASAR	**Alice Springs**	**20.65**	**170**	P	**P**	**21 47 31.7**	**-0.8**
	8.8nm,1.0s,baz=351,slow=11,SNR=39						
ASPA	**Alice Springs**	**20.65**	**170**	*e*P	**P**	**21 47 31.8**	**-0.7**
SONM	**Songino Array**	**54.95**	**341**	P	**P**	**21 52 22.8**	**-0.4**
	1.6nm,1.2s,mb3.9,baz=153,slow=7.7,SNR=4.3						

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*THE **12** 22:01:52.3, 39.97N×24.36E, h7^{km}, ML2.9*

*SOF **12** 22:01:52.6, 40.19N×24.40E, h8^{km}, MD2.7*

*ATH **12** 22:01:52.7, 40.15N×24.41E, h10^{km}, MD3.2/3*

ISC 12 22:01:51.1±0.6, **39.96N**±0.03×**24.38E**±0.03, **h12**^{km}±4^{km}, **n24**, σ**0**^{s}**63**/35, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OUR	**Ouranopolis**	**0.48**	**321**	*e*Pg	**Pg**	**22 02 01.2**	**+0.2**
OUR				*e*Sg	**Sg**	**22 02 07.5**	**-0.1**
PAIG	**Paliouri**	**0.54**	**267**	*e*Pg	**Pg**	**22 02 02.2**	**+0.2**
PAIG				*e*Sg	**Sg**	**22 02 09.6**	**+0.2**
LOS	**Limnos**	**0.54**	**92**	*e*Pg	**Pg**	**22 02 03.6**	**+1.4**
PLG	**Polygyros**	**0.83**	**301**	*e*PB	**Pb**	**22 02 07.0**	**0.0**
AOS	**Alonnisos**	**0.88**	**206**	*e*Pg	**Pg**	**22 02 08.7**	**0.0**
AOS				*e*Sg	**Sg**	**22 02 21.1**	**+0.6**
XOR	**Xorichti**	**1.09**	**238**	*e*Pg	**Pg**	**22 02 12.1**	**-0.8**
XOR				*e*Sg	**Sg**	**22 02 27.1**	**-0.5**
SOH	**Sokhos**	**1.17**	**318**	*e*Pg	**Pg**	**22 02 13.4**	**-1.0**
SOH				*e*Sg	**Sg**	**22 02 30.0**	**0.0**
THE	**Thessaloniki**	**1.27**	**302**	*e*Pb	**Pb**	**22 02 15.4**	**+0.8**
THE				*e*Sb	**Sb**	**22 02 32.4**	**+1.6**
SRS	**Serrai**	**1.30**	**333**	*e*Pb	**Pb**	**22 02 15.0**	**-0.2**
LIT	**Litokhoron**	**1.46**	**276**	*e*Pb	**Pb**	**22 02 18.1**	**+0.4**
	comp=Z,2.5nm,0.4s						
LIT				*e*Sb	**Sb**	**22 02 36.7**	**+0.6**
RDO	**Rodhopi**	**1.48**	**36**	*e*PB	**Pb**	**22 02 17.5**	**-0.7**
ALN	**Alexandroupoli**	**1.58**	**53**	*e*Pb	**Pb**	**22 02 19.3**	**-0.6**
	comp=Z,3.1nm,0.4s						
ALN				*e*Sb	**Sb**	**22 02 40.0**	**+0.2**
PRK	**Paraskevi**	**1.63**	**115**	*e*PN	**Pn**	**22 02 24.5**	**+4.6**
KNT	**Kendrikon**	**1.65**	**317**	*e*Pb	**Pb**	**22 02 20.8**	**-0.3**
	comp=Z,4.9nm,0.4s						
KNT				*e*Sb	**Sb**	**22 02 42.2**	**+0.5**
MMB	**Musomiste**	**1.70**	**343**	*i* P	**Pn**	**22 02 20.2**	**-0.8**
RZN	**Rozhen**	**1.75**	**8**	*i* P	**Pn**	**22 02 22.0**	**+0.4**
GRG	**Griva**	**1.81**	**304**	*e*Pb	**Pb**	**22 02 23.3**	**-0.5**
GRG				*e*Sb	**Sb**	**22 02 45.9**	**-0.4**
AGG	**Agios Georgios**	**1.84**	**240**	*e*Pb	**Pb**	**22 02 23.6**	**-0.7**
KDZ	**Kurdzhali**	**1.87**	**25**	*i* P	**Pn**	**22 02 23.0**	**-0.3**
KKB	**Krupnik**	**2.15**	**333**	*i* P	**Pn**	**22 02 27.0**	**-0.3**
PLD	**Plovdiv**	**2.16**	**6**	P	**Pn**	**22 02 33.5**	**+6.0**
PGB	**Panagyurishte**	**2.59**	**357**	*i* P	**Pn**	**22 02 39.5**	**+5.7**
VTS	**Vitosha**	**2.78**	**342**	*i* P	**Pn**	**22 02 37.0**	**+0.7**
IGT	**Igoumenitsa**	**3.15**	**264**	*e*Pn	**Pn**	**22 02 42.1**	**+0.5**
IGT				*e*Sn	**Sn**	**22 03 18.6**	**-0.9**

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*IDC **12** 22:08:25.6±1.4, 22.82S×169.91E, mb4.1/6, mb1 4.2/6, mb1mx4.0/12, MS3.6/2, Ms1 3.6/2, ms1mx3.2/15, Error ellipse: s-maj=38.4km s-min=34.6km az=132.0*

*NEIC **12** 22:08:27.5±1.0, 22.81S×169.69E, h10^{km}, mb4.5/2, Error ellipse: s-maj=24.2km s-min=15.9km az=214.0*

ISC 12 22:08:33.6±3.1, **22.6S**±0.3×**169.2E**±0.2, **h41**^{km}±23^{km}, **n19**, σ**0**^{s}**94**/16, **mb4.1**/7, **MS3.5**/2, **4C-1D, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.65**	**282**	*e*P	**P**	**22 09 15.2**	**+0.3**
DZM				*e*S	**S**	**22 09 44.7**	**-1.3**
NOUC	**Port Laguerre**	**2.77**	**281**	*e*P	**P**	**22 09 16.8**	**+0.2**
NOUC				*e*S	**S**	**22 09 49.4**	**+0.3**
RPZ	**Rata Peaks**	**21.08**	**176**	P	**P**	**22 13 08.9**	**-7.7**
	12nm,1.1s,mb4.2,baz=95,slow=18,SNR=3.5						
CTA	**Charters Tower**	**21.55**	**272**	P	**P**	**22 13 22.6**	**+1.1**
	6.3nm,0.9s,mb4.0,baz=117,slow=7.9,SNR=4.1						
CTA				LR	LR	22 20 54.9	
	comp=Z,76nm,18.8s,MS3.1,baz=54,slow=34						
CTAO	**Charters Tower**	**21.55**	**272**	*e*P	**P**	**22 13 22.8**	**+1.3**
	14nm,1.1s,mb4.3						
ASAR	**Alice Springs**	**32.45**	**261**	P	**P**	**22 15 02.9**	**+0.5**
	1.7nm,0.6s,mb4.0,baz=84,slow=9.1,SNR=19						
CASY	**Casey**	**57.03**	**204**	P	**P**	**22 18 11.9**	**-5.6**
	8.7nm,1.0s,mb4.7						
CMAR	**Chiang Mai Arr**	**79.90**	**295**	P	**P**	**22 20 40.9**	**+0.5**
	0.7nm,0.6s,mb3.8,baz=148,slow=5.6,SNR=5.0						
SNAA	**Sanae**	**85.78**	**183**	⇓*i*	**P**	**22 21 09.3**	**0.0**
VNA3	**Neumayer Olymp**	**86.37**	**180**	⇑*i*	**P**	**22 21 15.7**	**+3.6**
VNA2	**Neumayer--Watz**	**86.66**	**181**	⇑*i*	**P**	**22 21 17.4**	**+3.8**
VNA1	**Neumayer--Stat**	**86.95**	**181**	⇑*i*	**P**	**22 21 13.3**	**-1.7**
SONM	**Songino Array**	**89.92**	**323**	P	**P**	**22 21 29.1**	**-0.6**
	1.0nm,0.9s,mb4.2,baz=135,slow=3.5,SNR=5.6						
ILAR	**Eielson Array**	**93.46**	**17**	P	**P**	**22 21 41.1**	**-4.5**
	0.6nm,1.1s,mb4.0,baz=238,slow=5.7,SNR=5.2						
TXAR	**Lajitas Array**	**98.38**	**62**	LR	LR	23 00 52.5	
	comp=Z,46nm,19.9s,MS4.0,baz=345,slow=32						
CLL	**Collm**	**145.96**	**333**	*e*PKP1	PKPbc	22 28 07.0	-1.9
CLL				*e*		22 28 22.0	
KHC	**Kasperske Hory**	**147.29**	**330**	⇑*e*PKPB	PKPdf	22 28 12.0	+1.8
KHC				x	x	22 28 25.0	
KHC	**Kasperske Hory**	**147.29**	**330**	*e*P	PKPdf	22 28 12.0	+1.8
KHC				*e*		22 28 25.0	
GERES	**GERESS Array B**	**147.44**	**329**	PKPbc	PKPdf	22 28 13.1	+2.7
	0.6nm,0.5s,baz=45,slow=3.8,SNR=7.7						

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*NAO **12** 23:23:15.7±5.5, 67.82N×20.41E, ML2.0*

BER 12 23:23:17.3±4.1, **67.88N×20.12E, ML1.5, ML2.0**(NAO), **Suspected explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KTK1	**Kautokeino**	**1.62**	**44**	*e*P	Pn	23 23 45.7	-1.6
KTK1				*e*Sg	Sg	23 24 07.7	-3.5
KTK1				AML	AML	23 24 10.6	
	comp=Z,7.7nm,0.4s						
TRO	**Tromso**	**1.81**	**347**	*e*Sg	Sg	23 24 11.8	-6.0
TRO				AML	AML	23 24 14.6	
	comp=Z,7.3nm,0.4s						
LOF	**Lofoten**	**2.49**	**279**	*e*Sg	Sg	23 24 37.5	-2.7
ARA0	**ARCESS Array S**	**2.58**	**47**	Pn	Pn	23 23 58.0	-2.9
	baz=234,slow=14						
ARA0				Sn	Sn	23 24 29.6	-3.9
	baz=224,slow=28						
MOR8	**Moi Rana**	**2.81**	**235**	*e*Sg	Sg	23 24 38.1	-13
MOR8				AML	AML	23 24 40.8	
	comp=Z,7.8nm,0.4s						
FIA0	**FINESS Array S**	**6.95**	**156**	Sn	Sn	23 26 13.5	-10
	baz=326,slow=37						

NDI 12 23:25:30.7±1.8, **32.35N×77.72E, h14**^{km}±7^{km}, **ML3.5, Kashmir-India border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KLP	**Kalpa**	**0.93**	**151**	*e*P	Pb	23 25 48.3	+0.2
KLP				*e*S	Sb	23 26 02.1	+2.0
KLP				*e*		23 26 10.0	
	comp=E,3µm,1.3s						
KLP				*e*		23 26 10.6	
	comp=N,1µm,1.1s						
SMLA	**Simla**	**1.30**	**201**	*i* S	Sb	23 26 12.3	+1.3
SMLA				*i*		23 26 40.4	
JOSI	**Joshimath**	**2.38**	**138**	*e*P	Pn	23 26 10.6	+0.6
JOSI				*e*S	Sn	23 26 37.7	-1.5
JOSI				*e*		23 26 49.7	
	comp=E,313nm,0.9s						
JOSI				*e*		23 26 50.3	
	comp=N,286nm,0.9s						
AYAN	**Aya Nagar**	**3.89**	**188**	*e*S	Sn	23 27 13.9	-3.5
KHET	**Khetri**	**4.57**	**202**	*e*P	Pn	23 27 00.6	+19
KHET				*e*S	Sn	23 27 51.2	+16

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*IDC **12** 23:47:26.1±1.1, 22.68S×175.26W, mb4.4/9, mb1 4.6/10, mb1mx4.5/15, ML4.5/1, MS3.9/2, Ms1 3.9/2, ms1mx3.5/12, Error ellipse: s-maj=46.7km s-min=22.5km az=150.0*

*NEIC **12** 23:47:28.0±0.6, 22.57S×175.31W, h10^{km}, mb4.8/6, Error ellipse: s-maj=19.3km s-min=13.1km az=155.0*

*BJI **12** 23:47:30.3, 22.29S×174.66W, h35^{km}, mb4.9*

ISC 12 23:47:28.9±0.9, **23.2S**±0.2×**175.1W**±0.1, **h33**^{km}, **n36**, σ**0**^{s}**93**/24, **mb4.6**/14, **MS4.1**/1, **Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**8.41**	**309**	Pn	**P**	**23 49 32.6**	**+1.2**
	559nm,0.8s,SNR=17						
RAR	**Rarotonga**	**14.33**	**85**	Pn	**P**	**23 50 42.2**	**-9.4**
	2.3nm,0.3s,baz=52,slow=11,SNR=7.7						
RAR				LR	LR	23 55 25.0	
	comp=Z,364nm,19.9s,baz=99,slow=33						
RAR	**Rarotonga**	**14.33**	**85**	*e*P	**P**	**23 50 40.2**	**-11**
RAR				LR	LR	23 55 25.0	
TBI	**Tubuai**	**23.55**	**95**	*e*L		23 56 25.1	
TBI				*e*R		23 57 56.2	
	222nm,30.4s						
PPT	**Papeete**	**24.55**	**82**	*e*L		23 57 22.7	
PPT				*e*R		23 58 02.5	
	143nm,21.8s						
CTA	**Charters Tower**	**35.99**	**267**	*e*P	**P**	**23 54 28.5**	**-0.4**
	9.1nm,0.9s,mb4.7						
CTA	**Charters Tower**	**35.99**	**267**	P	**P**	**23 54 28.2**	**-0.6**
	5.2nm,0.5s,mb4.7,baz=112,slow=9.7,SNR=8.8						
CTAO	**Charters Tower**	**35.99**	**267**	*e*P	**P**	**23 54 28.5**	**-0.4**
PMG	**Port Moresby**	**38.60**	**285**	*e*P	**P**	**23 54 50.0**	**-0.8**
	21nm,0.9s,mb4.9						
STKA	**Stephens Creek**	**39.15**	**248**	P	**P**	**23 54 55.6**	**+0.3**
	1.8nm,0.5s,mb4.1,baz=99,slow=10,SNR=4.5						
ASAR	**Alice Springs**	**46.58**	**259**	P	**P**	**23 55 55.5**	**-0.2**
	19nm,0.8s,mb5.0,baz=92,slow=8.2,SNR=97						
ASAR				LR	LR	00 15 29.8	
	comp=Z,183nm,18.4s,MS4.1,baz=157,slow=36						
ASAR	**Alice Springs**	**46.58**	**259**	P	**P**	**23 55 55.5**	**-0.2**
ASAR				LR	LR	00 15 29.8	
ASPA	**Alice Springs**	**46.59**	**259**	*e*P	**P**	**23 55 55.6**	**-0.2**
WB2	**Warramunga Arr**	**46.94**	**264**	*e*P	**P**	**23 55 57.7**	**-0.9**
WRA	**Warramunga Arr**	**46.95**	**264**	P	**P**	**23 55 57.7**	**-1.0**
	7.4nm,0.8s,mb4.7,baz=100,slow=7.0,SNR=23						
FORT	**Forrest**	**50.76**	**248**	*e*P	**P**	**23 56 28.9**	**+0.9**
	29nm,0.5s,mb5.5						
FITZ	**Fitzroy Crossi**	**55.37**	**263**	*e*P	**P**	**23 57 01.6**	**-0.8**
	5.8nm,0.8s,mb4.7						
FITZ	**Fitzroy Crossi**	**55.37**	**263**	P	**P**	**23 57 01.7**	**-0.7**
	7.1nm,0.8s,mb4.7,baz=313,slow=2.2,SNR=6.9						
SBA	**Scott Base**	**55.39**	**185**	*e*P	**P**	**23 57 07.6**	**+5.8**
	3.9nm,0.9s,mb4.4						
KLBR	**Kellerberrin**	**59.39**	**246**	*e*P	**P**	**23 57 30.7**	**0.0**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	12nm,0.9s,mb4.9						
MAW	**Mawson**	**79.94**	**199**	P	**P**	**23 59 39.6**	**+3.8**
	2.1nm,0.9s,mb4.1,baz=129,slow=4.3,SNR=6.2						
TXAR	**Lajitas Array**	**86.28**	**56**	P	**P**	**00 00 08.6**	**-0.3**
	0.4nm,0.8s,mb3.7,baz=233,slow=6.3,SNR=4.7						
ILAR	**Eielson Array**	**90.36**	**12**	P	**P**	**00 00 26.4**	**-1.2**
	0.4nm,0.6s,mb3.9,baz=225,slow=4.5,SNR=6.7						
XAN	**Xi’an**	**91.90**	**306**	P	**P**	**00 00 36.2**	**+0.7**
XAN				AMB	AMB		
	comp=Z,9.0nm,1.4s,mb4.9						
HHC	**Hu-ho-hao-te**	**93.15**	**313**	*e*P	**P**	**00 00 41.7**	**+0.6**
CMAR	**Chiang Mai Arr**	**93.54**	**288**	P	**P**	**00 00 44.3**	**+1.0**
	comp=Z,4.9nm,0.9s,mb5.0,baz=124,slow=3.1,SNR=24						
AKASG	**Malin Array Be**	**146.66**	**332**	PKPbc	PKPbc	00 07 07.6	+0.8
	comp=Z,3.9nm,0.7s,baz=39,slow=4.1,SNR=18						
ELZG	**Elazig**	**147.22**	**306**	*i* P	PKPdf	00 07 11.7	+5.0
GZT	**Gaziantep**	**148.63**	**304**	*i* P	PKPdf	00 07 15.4	+6.3
AVNT	**Avonos**	**150.16**	**308**	*i* P	PKPdf	00 07 18.4	+7.0
BRTR	**Keskin Array B**	**150.64**	**311**	PKPbc	PKPdf	00 07 18.9	+6.8
	comp=Z,1.6nm,0.8s,baz=135,slow=1.7,SNR=9.7						
CLL	**Collm**	**151.25**	**349**	*i* *PPKP2		00 07 32.2	
BRG	**Berggiesshubel**	**151.49**	**348**	*i* P	PKPdf	00 07 32.5	+19
KHC	**Kasperske Hory**	**153.22**	**347**	*e*PKP	PKPdf	00 07 30.5	+15
KHC				x	x	00 07 35.0	
KHC	**Kasperske Hory**	**153.22**	**347**	*e*P	PKPdf	00 07 30.5	+15
KHC				*e*		00 07 35.0	
GERES	**GERESS Array B**	**153.47**	**347**	PKPab	PKPab	00 07 36.1	-2.3
	comp=Z,1.5nm,0.9s,slow=2.7,SNR=4.1						

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*IDC **13** 00:42:47.0±25.0, 20.08S×177.11W, h482^{km}±242^{km}, mb3.7/5, mb1 3.8/5, mb1mx3.4/14, Error ellipse: s-maj=159.0km s-min=98.4km az=75.0*

ISC 13 00:42:52.0±3.6**, 20.2S**±0.7×**177.8W**±0.4**, h500^{km}, n14, σ0^{s}35**/13**, mb4.1**/6**, 2D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.70**	**264**	*e*P	**P**	**00 48 53.2**	**+1.0**
	2.5nm,0.3s,mb4.1						
CTA	**Charters Tower**	**33.70**	**264**	P	**P**	**00 48 52.7**	**+0.5**
	3.0nm,0.3s,mb4.2,baz=98,slow=10,SNR=9.4						
STKA	**Stephens Creek**	**38.10**	**244**	*e*P	**P**	**00 49 28.8**	**+0.3**
	2.9nm,1.4s,mb3.5						
STKA	**Stephens Creek**	**38.10**	**244**	P	**P**	**00 49 28.5**	**+0.1**
	2.1nm,0.7s,mb3.7,baz=91,slow=13,SNR=7.7						
ASAR	**Alice Springs**	**44.77**	**256**	P	**P**	**00 50 21.8**	**-0.1**
	12nm,0.5s,mb4.6,baz=94,slow=7.5,SNR=121						
ASPA	**Alice Springs**	**44.78**	**256**	*e*P	**P**	**00 50 21.8**	**-0.2**
WB2	**Warramunga Arr**	**44.82**	**262**	*e*P	**P**	**00 50 21.9**	**-0.4**
WRA	**Warramunga Arr**	**44.83**	**262**	P	**P**	**00 50 22.0**	**-0.4**
	5.2nm,0.6s,mb4.1,baz=98,slow=8.0,SNR=23						
KAKA	**Kakadu**	**48.19**	**271**	*e*P	**P**	**00 50 48.5**	**+0.3**
	18nm,1.0s,mb4.3						
FITZ	**Fitzroy Crossi**	**53.25**	**262**	*e*P	**P**	**00 51 25.0**	**-0.3**
	2.3nm,0.4s,mb3.9						
FITZ	**Fitzroy Crossi**	**53.25**	**262**	P	**P**	**00 51 25.0**	**-0.3**
	2.6nm,0.4s,mb3.9,baz=86,slow=3.5,SNR=16						
VNA3	**Neumayer Olymp**	**88.48**	**176**	⇓*i*	**P**	**00 54 50.8**	**0.0**
VNA2	**Neumayer--Watz**	**88.92**	**177**	⇓*i*	**P**	**00 54 52.9**	**0.0**
AKASG	**Malin Array Be**	**142.79**	**331**	PKP	PKPdf	01 01 24.1	-3.3
	0.2nm,0.3s,baz=35,slow=2.9,SNR=4.0						

IDC 13 00:44:54.0±26.0**, 20.51S**×**178.29W, h600^{km}**±247^{km}**, mb3.3**/4**, mb1 3.4**/4**, mb1mx3.1**/13**, Error ellipse: s-maj=242.0km s-min=131.7km az=121.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.22**	**264**	P	P	00 50 43.5	-0.8
	2.6nm,0.4s,baz=81,slow=11,SNR=4.8						
ASAR	**Alice Springs**	**44.25**	**257**	P	P	00 52 11.3	-2.1
	2.4nm,0.6s,baz=90,slow=8.4,SNR=11						
WRA	**Warramunga Arr**	**44.33**	**262**	P	P	00 52 12.0	-2.1
	1.1nm,0.3s,baz=96,slow=7.6,SNR=10.0						
FITZ	**Fitzroy Crossi**	**52.76**	**262**	P	P	00 53 15.3	-1.2
	3.8nm,0.9s,baz=104,slow=4.1,SNR=3.7						
AKASG	**Malin Array Be**	**142.89**	**331**	PKP	PKPdf	01 03 17.9	-1.9
	0.4nm,0.3s,baz=42,slow=4.1,SNR=4.6						
BRTR	**Keskin Array B**	**146.65**	**312**	PKPbc	PKPbc	01 03 30.1	+1.5
	0.4nm,0.4s,baz=120,slow=3.6,SNR=4.1						

DHMR 13 00:46:19.3±0.6**, 12.14N**×**44.24E, h9^{km}**±4^{km}**, ML3.7, 5D, Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.07**	**354**	⇓*i*P	Pb	00 46 39.8	+0.2
TRBA				*i* S	Sb	00 46 55.5	+2.0
TRBA				AML	AML	00 47 03.8	
	comp=E,1μm,0.7s						
LBOS		**1.99**	**30**	⇓*i*P	Pn	00 46 54.7	+1.2
LBOS				*i* S	Sn	00 47 22.2	+3.4
BDHA	**Al Bayda’**	**2.24**	**35**	⇓*i*P	Pn	00 46 58.3	+1.1
BDHA				*i* S	Sn	00 47 29.4	+4.2
BDHA				AML	AML	00 47 44.3	
	comp=E,1μm,0.6s						
DHBB	**Dhamar BB**	**2.42**	**3**	⇓*i*P	Pn	00 47 02.0	+2.4
DHBB				*i* S	Sn	00 47 34.6	+5.0
HAJJ	**Hajjah**	**3.60**	**350**	⇓*i*P	Pn	00 47 17.9	+1.5
HAJJ				*i* S	Sn	00 48 03.8	+4.2
HAJJ				AML	AML	00 48 25.6	
	comp=N,317nm,1.1s						

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*NEIC **13** 01:05:53.5, 36.90N×10.19W, MG3.3(MDD), After MDD.*
*MDD **13** 01:05:54.1±2.5, 36.90N×10.19W, h4^{km}±45^{km}, mbLg2.1/2, Error ellipse: s-maj=58.0km s-min=22.9km az=62.0, PRXIMO*
*INMG **13** 01:05:55.2±0.7, 36.90N×10.12W, ML1.4, Error ellipse: s-maj=5.5km s-min=4.3km az=87.0*

ISC 13 01:05:53.0±1.8**, 37.02N**±0.09×**10.2W**±0.1**, h10^{km}, n11, σ1^{s}14**/19**, Azores-Cape St. Vincent Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PTEO	**Sao Teotonio**	**1.27**	**65**	*e*P	**Pb**	**01 06 18.3**	**+1.8**
PTEO				*e*S	**Sb**	**01 06 36.1**	**+3.3**
PBEJ	**Beja**	**2.09**	**61**	*e*Sn	**Sn**	**01 06 56.3**	**+1.4**
PALC	**Alcoutim**	**2.20**	**78**	*e*Pn	**Pn**	**01 06 31.2**	**+1.1**
PALC				*e*Sn	**Sn**	**01 06 57.5**	**-0.1**
	1.2nm,0.3s						
PALC	**Alcoutim**	**2.20**	**78**	Pn	**Pn**	**01 06 31.2**	**+1.1**
PALC				Sn	**Sn**	**01 06 57.5**	**-0.1**
	0.6nm,0.3s						
EGRO	**El Granado**	**2.21**	**76**	P	**Pn**	**01 06 31.1**	**+0.9**
	0.4nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**01 06 58.1**	**+0.3**
	0.6nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**2.89**	**74**	P	**Pn**	**01 06 40.2**	**+0.3**
	0.4nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**01 07 15.1**	**+0.1**
	0.4nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**3.04**	**54**	P	**Pn**	**01 06 42.8**	**+0.7**
	0.4nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**01 07 18.7**	**-0.2**
	1.0nm,0.1s,SNR=7.9						
ESPR	**Espera**	**3.46**	**91**	P	**Pn**	**01 06 47.5**	**-0.6**
	0.7nm,0.1s,SNR=7.9						
ESPR				S	**Sn**	**01 07 27.6**	**-2.0**
	2.5nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**4.59**	**74**	P	**Pn**	**01 07 03.4**	**-0.7**
	0.6nm,0.2s,SNR=7.9						
EADA				S	**Sn**	**01 07 56.5**	**-1.7**
	SNR=7.9						
ELOB	**Lobios**	**5.11**	**18**	S	**Sn**	**01 08 09.8**	**-1.5**
	SNR=7.9						
ESDC	**Sonseca Array**	**5.55**	**60**	P	**Pn**	**01 07 16.8**	**-0.9**
	0.8nm,0.1s,baz=242,slow=13,SNR=3.7						

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*IDC **13** 01:08:18.3±6.0, 19.85N×94.28E, h44^{km}±51^{km}, mb3.5/5, mb1 3.8/5, mb1mx3.4/18, Error ellipse: s-maj=56.1km s-min=21.5km az=60.0*
*NEIC **13** 01:08:22.9±1.0, 20.11N×94.66E, h80^{km}, mb3.9/1, Error ellipse: s-maj=40.1km s-min=11.5km az=53.0*

ISC 13 01:08:23.5±1.3**, 20.1N**±0.2×**94.7E**±0.1**, h104^{km}**±13^{km}**, n15, σ1^{s}16**/18**, mb3.7**/6**, Myanmar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHG	**Chiang Mai**	**4.20**	**106**	PG	**P**	**01 09 26.2**	**-0.5**
CHG				SG	**S**	**01 10 16.1**	**+1.1**
CMAR	**Chiang Mai Arr**	**4.32**	**111**	P	**P**	**01 09 27.0**	**-1.3**
	98nm,0.3s,baz=287,slow=14,SNR=6.5						
CMAR				S	**S**	**01 10 17.7**	**-0.2**
	59nm,0.3s,baz=276,slow=25,SNR=4.8						
NANT	**Nan**	**5.81**	**101**	P	**P**	**01 09 44.0**	**-4.5**
SHL	**Shillong**	**6.07**	**335**	*e*P	**P**	**01 09 54.5**	**+2.5**
SHL				*e*S	**S**	**01 10 53.0**	**-7.7**
PKI	**Pulchoki**	**11.32**	**313**	*e*P	**P**	**01 11 04.5**	**+1.4**
	7.4nm,0.4s						
KKN	**Kakani**	**11.54**	**314**	*e*P	**P**	**01 11 07.4**	**+1.3**
	4.4nm,0.2s						
DMN	**Daman**	**11.55**	**312**	*e*P	**P**	**01 11 06.6**	**+0.4**
	8.8nm,0.3s						
GKN	**Gorkha**	**12.12**	**313**	*e*P	**P**	**01 11 11.9**	**-1.8**
	9.8nm,0.3s						
KOLN	**Koldanda**	**12.72**	**309**	*e*P	**P**	**01 11 17.2**	**-4.4**
	4.7nm,0.3s						
MKAR	**Makanchi Array**	**28.54**	**342**	P	**P**	**01 14 10.7**	**-0.6**
	0.6nm,0.7s,mb3.3,baz=148,slow=8.7,SNR=5.8						
KURK	**Kurchatov**	**33.13**	**341**	*e*P	**P**	**01 14 50.4**	**-1.2**
	1.2nm,0.6s,mb3.9						
FITZ	**Fitzroy Crossi**	**48.58**	**139**	P	**P**	**01 16 58.4**	**-0.1**
	6.0nm,1.0s,mb4.5,baz=326,slow=7.3,SNR=3.4						
WRA	**Warramunga Arr**	**55.57**	**133**	P	**P**	**01 17 51.0**	**+0.2**
	0.5nm,0.4s,mb3.9,baz=319,slow=7.6,SNR=4.0						
ASAR	**Alice Springs**	**57.87**	**137**	P	**P**	**01 18 07.8**	**+0.8**
	0.4nm,0.6s,mb3.6,baz=320,slow=6.8,SNR=6.7						
ILAR	**Eielson Array**	**83.33**	**22**	P	**P**	**01 20 40.3**	**+0.6**
	0.2nm,0.5s,mb3.2,baz=309,slow=4.0,SNR=4.1						

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*IDC **13** 01:15:16.4±0.8, 9.17N×126.51E, mb4.0/11, mb1 4.1/11, mb1mx4.0/20, MS2.9/1, Ms1 3.1/1, ms1mx2.2/23, Error ellipse: s-maj=55.5km s-min=14.9km az=75.0*
*NEIC **13** 01:15:17.8±0.5, 9.15N×126.47E, h10^{km}, mb4.3/3, Error ellipse: s-maj=34.1km s-min=8.2km az=74.0*

ISC 13 01:15:20.4±1.0**, 9.19N**±0.04×**126.84E**±0.07**, h46^{km}**±10^{km}**, n30, σ1^{s}13**/37**, mb4.0**/14**, 3D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BIPH	**Bislig**	**1.10**	**205**	⇓*e*P	**P**	**01 15 38.9**	**-0.8**
BIPH				*i* S	**S**	**01 15 51.2**	**-2.9**
BUTP	**Butuan**	**1.22**	**260**	*e*P	**P**	**01 15 38.6**	**-2.7**
MSLP	**Maasin**	**2.16**	**296**	*e*P	**P**	**01 15 55.8**	**+1.1**
BUKP	**Musuan**	**2.19**	**234**	*e*P	**P**	**01 15 55.4**	**+0.3**
BUKP				*e*S	**S**	**01 16 22.6**	**+1.6**
CGP	**Cagayan de Oro**	**2.24**	**251**	*e*P	**P**	**01 15 55.0**	**-0.9**
CGP				*e*S	**S**	**01 16 21.9**	**-0.4**
PLP	**Palo**	**2.68**	**317**	*e*P	**P**	**01 16 03.0**	**+0.9**
PLP				*i* S	**S**	**01 16 38.6**	**+5.0**
BESP	**Borongan**	**2.76**	**330**	*e*P	**P**	**01 16 03.8**	**+0.5**
KCP	**Kidapawan**	**2.77**	**219**	⇓*e*P	**P**	**01 16 05.7**	**+2.3**
KCP				*i* S	**S**	**01 16 37.7**	**+1.7**
TBP	**Tagbilaran**	**2.98**	**280**	*e*P	**P**	**01 16 05.9**	**-0.5**
TBP				*e*S	**S**	**01 16 40.1**	**-0.9**
LLP	**Lapu-Lapu**	**3.04**	**292**	*e*P	**P**	**01 16 06.0**	**-1.3**
LLP				*e*S	**S**	**01 16 44.0**	**+1.2**
DCPH	**Dipolog City**	**3.49**	**260**	⇓*i*P	**P**	**01 16 13.0**	**-0.7**
SNPH	**Sibulan**	**3.56**	**273**	*e*P	**P**	**01 16 14.5**	**0.0**
PAGZ	**Pagadian**	**3.67**	**249**	*e*P	**P**	**01 16 16.9**	**+0.8**
CNP	**Catarman**	**3.93**	**327**	*e*P	**P**	**01 16 20.3**	**+0.5**
GUIM	**Jordan**	**4.42**	**289**	*e*P	**P**	**01 16 26.8**	**+0.1**
FITZ	**Fitzroy Crossi**	**27.14**	**182**	P	**P**	**01 21 01.0**	**-0.6**
	2.4nm,0.5s,mb4.0,baz=18,slow=6.4,SNR=5.1						
WRAB	**Tennant Creek**	**29.87**	**166**	P	**P**	**01 21 25.4**	**-0.6**
	1.3nm,0.5s,mb3.9						
WRA	**Warramunga Arr**	**29.88**	**166**	P	**P**	**01 21 25.9**	**-0.2**
	0.7nm,0.5s,mb3.7,baz=348,slow=9.5,SNR=3.5						
ASAR	**Alice Springs**	**33.38**	**168**	P	**P**	**01 21 56.9**	**+0.1**
	0.4nm,0.4s,mb3.7,baz=354,slow=7.1,SNR=8.8						
SONM	**Songino Array**	**42.22**	**340**	P	**P**	**01 23 10.8**	**+0.2**
	0.4nm,0.6s,mb3.2,baz=158,slow=7.8,SNR=3.0						
NWAO	**Narrogin (SRO)**	**42.87**	**192**	P	**P**	**01 23 16.5**	**+0.3**
	2.1nm,0.3s,mb4.3,baz=27,slow=9.0,SNR=4.1						
STKA	**Stephens Creek**	**43.21**	**162**	P	**P**	**01 23 20.0**	**+1.1**
	3.2nm,1.1s,mb4.0,baz=353,slow=9.5,SNR=6.3						
STKA	**Stephens Creek**	**43.21**	**162**	P	**P**	**01 23 20.0**	**+1.1**
MKAR	**Makanchi Array**	**53.22**	**323**	P	**P**	**01 24 35.6**	**-0.9**
	2.1nm,0.7s,mb4.2,baz=123,slow=7.9,SNR=13						
KURK	**Kurchatov**	**57.27**	**326**	*e*P	**P**	**01 25 02.7**	**-3.1**
	2.0nm,0.6s,mb4.3						
BVAR	**Borovoye Array**	**62.86**	**326**	P	**P**	**01 25 42.9**	**-1.0**
	1.4nm,0.8s,mb4.2,baz=124,slow=11,SNR=7.3						
BRVK	**Borovoye**	**62.94**	**326**	*e*P	**P**	**01 25 43.1**	**-1.4**
	1.4nm,0.6s,mb4.3						
ILAR	**Eielson Array**	**80.16**	**26**	P	**P**	**01 27 29.6**	**+2.5**
	0.3nm,0.6s,mb3.4,baz=248,slow=4.7,SNR=4.6						
ARCES	**ARCESS Array B**	**85.39**	**340**	P	**P**	**01 27 54.6**	**+0.8**
	2.6nm,0.8s,mb4.4,baz=82,slow=5.0,SNR=6.6						
FINES	**FINESS Array B**	**87.10**	**332**	P	**P**	**01 28 02.4**	**+0.1**
	1.0nm,0.6s,mb4.2,baz=190,slow=33,SNR=3.9						

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*NEIC **13** 01:24:09.9, 42.77N×0.45E, h5^{km}, ML2.6(LDG), ML2.4(STR), MN2.2(MDD), After STR.*
*STR **13** 01:24:09.9±0.2, 42.77N×0.45E, h5^{km}±1^{km}, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **13** 01:24:10.0±0.1, 42.73N×0.44E, h4^{km}, Md2.5/2, Ml2.6/9, Error ellipse: s-maj=1.3km s-min=0.8km az=20.0*
*MDD **13** 01:24:10.5±0.2, 42.76N×0.45E, h4^{km}±4^{km}, mbLg1.9/12, Error ellipse: s-maj=2.6km s-min=1.6km az=15.0, PRXIMO*

ISC 13 01:24:09.2±0.3**, 42.82N**±0.02×**0.48E**±0.02**, h10^{km}**±2^{km}**, n47, σ1^{s}09**/82**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RESF	**Ens**	**0.10**	**262**	Pg	**Pg**	**01 24 12.2**	**+0.3**
RESF				Sg	**Sg**	**01 24 13.6**	**-0.1**
RESF	**Ens**	**0.10**	**262**	P	**Pg**	**01 24 12.3**	**+0.3**
RESF				S	**Sg**	**01 24 13.6**	**-0.1**
MELF	**Melles**	**0.21**	**76**	Pg	**Pg**	**01 24 15.3**	**+1.5**
MELF				Sg	**Sg**	**01 24 18.9**	**+2.0**
MELF	**Melles**	**0.21**	**76**	P	**Pg**	**01 24 15.3**	**+1.4**
MELF				S	**Sg**	**01 24 18.9**	**+1.9**
EPF	**Esparros**	**0.23**	**335**	*e*Pg	**Pg**	**01 24 16.2**	**+2.0**
EPF				*e*Sg	**Sg**	**01 24 19.3**	**+1.8**
	45nm,0.3s						
VIEF	**Viey**	**0.34**	**281**	Pg	**Pg**	**01 24 16.4**	**+0.2**
VIEF				Sg	**Sg**	**01 24 21.1**	**+0.2**
VIEF	**Viey**	**0.34**	**281**	P	**Pg**	**01 24 16.4**	**+0.2**
VIEF				S	**Sg**	**01 24 21.2**	**+0.4**
LABF	**Labassere**	**0.37**	**308**	Pg	**Pg**	**01 24 18.0**	**+1.2**
LABF				Sg	**Sg**	**01 24 23.4**	**+1.5**
LABF	**Labassere**	**0.37**	**308**	P	**Pg**	**01 24 18.1**	**+1.2**
LABF				S	**Sg**	**01 24 23.9**	**+1.9**
MLS	**Moulis**	**0.47**	**73**	Pg	**Pg**	**01 24 20.0**	**+1.1**
MLS				Sg	**Sg**	**01 24 26.7**	**+1.4**
MLS	**Moulis**	**0.47**	**73**	P	**Pg**	**01 24 20.2**	**+1.4**
MLS				S	**Sg**	**01 24 27.2**	**+1.9**
SALF	**Salau**	**0.53**	**96**	Pg	**Pg**	**01 24 21.1**	**+1.2**
SALF				Sg	**Sg**	**01 24 27.5**	**+0.4**
SALF	**Salau**	**0.53**	**96**	P	**Pg**	**01 24 20.0**	**+0.1**
SALF				S	**Sg**	**01 24 27.7**	**+0.6**
CSOR	**Sort**	**0.66**	**132**	Pg	**Pg**	**01 24 21.6**	**-0.9**
REYF	**Montagne du Re**	**0.68**	**292**	Pg	**Pg**	**01 24 23.7**	**+0.7**
REYF				Sg	**Sg**	**01 24 32.7**	**+0.5**
REYF	**Montagne du Re**	**0.68**	**292**	P	**Pb**	**01 24 23.3**	**+0.5**
REYF				S	**Sb**	**01 24 32.6**	**+0.6**
ETSF	**Etsaut**	**0.77**	**276**	*e*Pg	**Pg**	**01 24 23.8**	**-0.8**
ETSF				*e*Sg	**Sg**	**01 24 33.9**	**-0.9**
	24nm,0.2s						
FDAF	**Les Forges d’A**	**0.77**	**270**	Pg	**Pg**	**01 24 24.3**	**-0.3**
FDAF				Sg	**Sg**	**01 24 34.1**	**-0.8**
FDAF	**Les Forges d’A**	**0.77**	**270**	P	**Pb**	**01 24 23.9**	**-0.3**
FDAF				S	**Sb**	**01 24 34.5**	**+0.1**
GRBF	**Gourbit**	**0.78**	**88**	P	**Pb**	**01 24 25.0**	**+0.6**
GRBF				Pg	**Pg**	**01 24 25.1**	**+0.2**
CORG	**Organya**	**0.86**	**133**	Pg	**Pg**	**01 24 25.4**	**-1.0**
ATE	**Arette**	**0.90**	**287**	S	**Sb**	**01 24 38.9**	**+0.5**
CAVN	**Les Avellanes**	**0.96**	**168**	Pg	**Pg**	**01 24 27.1**	**-1.4**
LARF	**Larrau**	**1.10**	**282**	S	**Sb**	**01 24 44.5**	**+0.5**
CLLI	**Llivia**	**1.16**	**107**	Pg	**Pg**	**01 24 31.4**	**-1.0**
EMIR	**Miracle**	**1.20**	**139**	Pg	**Pg**	**01 24 31.0**	**-2.1**
	1.2nm,0.2s,SNR=17						
EMIR				Lg		01 24 47.4	
	6.0nm,0.2s,SNR=7.9						
CARF	**Carcanieres**	**1.21**	**94**	P	**Pb**	**01 24 32.8**	**+1.1**
CARF				S	**Sb**	**01 24 49.1**	**+2.0**
VALF	**Valcebollere**	**1.21**	**110**	Pn	**Pn**	**01 24 32.1**	**-0.1**
VALF	**Valcebollere**	**1.21**	**110**	P	**Pb**	**01 24 32.2**	**+0.4**
VALF				S	**Sb**	**01 24 49.7**	**+2.3**
SJPF	**Ste Jean**	**1.28**	**284**	*e*Pg	**Pg**	**01 24 33.9**	**-1.0**
SJPF				*e*Sg	**Sg**	**01 24 50.2**	**-1.8**
	36nm,0.2s						
ESAC	**San Caprasio**	**1.30**	**213**	Pn	**Pn**	**01 24 34.8**	**+1.3**
	18nm,0.3s,SNR=10.0						
ESAC				Lg		01 24 52.1	
	32nm,0.2s,SNR=7.9						
CBRU	**Bruguera**	**1.37**	**112**	Pg	**Pg**	**01 24 35.2**	**-1.4**
MTLF	**Montolieu**	**1.38**	**67**	*e*Pn	**Pn**	**01 24 35.5**	**+0.9**
MTLF				*e*Pg	**Pg**	**01 24 37.2**	**+0.4**
MTLF				*e*Sg	**Sg**	**01 24 55.8**	**+0.6**
	12nm,0.2s						
EALK	**Alkurruntz**	**1.51**	**286**	Pg	**Pg**	**01 24 40.4**	**+1.1**
	17nm,0.5s,SNR=41						
EALK				Lg		01 25 02.0	
	28nm,0.3s,SNR=7.9						
EPOB	**Poblet**	**1.54**	**163**	Pg	**Pg**	**01 24 37.9**	**-2.0**
	4.2nm,0.5s,SNR=9.1						
EPOB				Lg		01 24 57.0	
	3.2nm,0.2s,SNR=7.9						
EJON	**La Jonquera**	**1.82**	**101**	Pg	**Pg**	**01 24 45.0**	**-0.6**
	1.0nm,0.3s,SNR=9.8						
EJON				Lg		01 25 08.6	
	3.1nm,0.3s,SNR=7.9						
LFF	**La Frestale**	**2.13**	**5**	*e*Pg	**Pg**	**01 24 51.5**	**-0.2**
LFF				*e*Sg	**Sg**	**01 25 19.7**	**-0.3**
	9.3nm,0.3s						
CAF	**Calviac**	**2.40**	**28**	*e*Pn	**Pn**	**01 24 49.6**	**+0.4**
CAF				*e*Pg	**Pg**	**01 24 56.1**	**-1.0**
CAF				*e*Sn	**Sn**	**01 25 18.5**	**-0.4**
CAF				*e*Sg	**Sg**	**01 25 28.6**	**-0.5**
	3.2nm,0.3s						
EMOS	**Mosqueruela**	**2.56**	**196**	Pn	**Pn**	**01 24 52.2**	**+0.7**
	SNR=7.9						
EMOS				Lg		01 25 29.6	
	0.8nm,0.3s,SNR=7.9						
RJF	**Les Rejaudoux**	**2.59**	**16**	*e*Pn	**Pn**	**01 24 52.1**	**+0.1**
RJF				*e*Pg	**Pg**	**01 25 00.0**	**-1.0**
RJF				*e*Sn	**Sn**	**01 25 23.1**	**-0.8**
RJF				*e*Sg	**Sg**	**01 25 35.0**	**-0.6**
	6.5nm,0.4s						
ETOR	**Torete**	**2.75**	**224**	Pn	**Pn**	**01 24 54.9**	**+0.7**
	SNR=7.9						
LASF	**Ste Croix**	**2.76**	**62**	*e*Pn	**Pn**	**01 24 54.1**	**-0.3**
LASF				*e*Pg	**Pg**	**01 25 02.8**	**-1.6**
LASF				*e*Sn	**Sn**	**01 25 26.7**	**-1.5**
LASF				*e*Sg	**Sg**	**01 25 39.3**	**-1.9**
	5.1nm,0.6s						
VIVF	**Saint-Julien-l**	**3.65**	**55**	*e*Pn	**Pn**	**01 25 06.2**	**-0.9**
TCF	**Toulx Ste Croi**	**3.68**	**19**	*e*Sg	**Sg**	**01 26 08.5**	**-3.3**
	1.2nm,0.2s						
MFF	**Saint Martin d**	**3.81**	**354**	*e*Pn	**Pn**	**01 25 08.5**	**-0.7**
MFF				*e*Sg	**Sg**	**01 26 12.4**	**-3.6**
	1.5nm,0.3s						
BGF	**Bois d’Agland**	**4.10**	**24**	*e*Sg	**Sg**	**01 26 22.1**	**-3.6**
	4.2nm,0.3s						
ESDC	**Sonseca Array**	**4.59**	**228**	Pn	**Pn**	**01 25 20.0**	**-0.4**
	0.2nm,0.3s,baz=48,slow=14,SNR=6.0						

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*ATH **13** 01:45:56.7, 35.94N×21.99E, h5^{km}, MD3.7/15, ML3.6*
*NEIC **13** 01:45:59.4±0.7, 36.22N×22.11E, h10^{km}, ML3.6(ATH), Error ellipse: s-maj=12.6km s-min=5.8km az=207.0*
*THE **13** 01:46:01.5, 36.01N×22.08E, h20^{km}, ML3.6*
*IDC **13** 01:46:01.6±3.6, 36.23N×22.21E, h34^{km}±34^{km}, mb3.9/6, mb1 3.7/13, mb1mx3.6/28, ML3.5/6, Error ellipse: s-maj=38.3km s-min=19.6km az=25.0*

ISC 13 01:45:56.1±0.6**, 35.98N**±0.05×**21.95E**±0.04**, h5^{km}, n53, σ1^{s}57**/62**, mb3.9**/6**, 2D, Central Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KYTH	**Kithira**	**0.93**	**71**	⇓*i*PG	**Pg**	**01 46 13.8**	**-0.9**
VLI	**Veliai**	**1.09**	**47**	⇓*i*PN	**Pn**	**01 46 17.4**	**-0.5**
ITM	**Ithomi**	**1.20**	**359**	*e*PG	**Pg**	**01 46 20.0**	**0.0**
ITM				*e*SN	**Sn**	**01 46 39.0**	**+2.7**
VAM	**Vamos**	**1.92**	**107**	*e*PN	**Pn**	**01 46 33.0**	**+3.2**
GVD	**Gavdhos**	**2.08**	**122**	*e*Pn	**Pn**	**01 46 35.3**	**+3.1**
NAIG	**Nisos Aigina**	**2.17**	**34**	*e*PN	**Pn**	**01 46 36.7**	**+3.4**
NSAL	**Nisos Salamina**	**2.28**	**32**	*e*PN	**Pn**	**01 46 38.5**	**+3.6**
ATH	**Athens Observa**	**2.44**	**35**	*e*PG	**Pg**	**01 46 41.5**	**-3.4**
VLS	**Valsamata**	**2.45**	**334**	*e*PB	**Pb**	**01 46 39.5**	**-0.8**
IDI	**Anoyia**	**2.49**	**105**	Pn	**Pn**	**01 46 39.1**	**+1.1**
	1.3nm,0.3s,baz=276,slow=16,SNR=15						
IDI				Lg		01 47 18.0	
	16nm,0.3s,baz=286,slow=21,SNR=8.4						
PTL	**Penteli**	**2.58**	**36**	*e*PN	**Pn**	**01 46 42.5**	**+3.4**
MPAR	**Parnis Oros**	**2.60**	**33**	*e*PN	**Pn**	**01 46 43.5**	**+4.0**
THR5	**Thira Island,**	**2.79**	**80**	*e*Pn	**Pn**	**01 46 43.0**	**+0.8**
THR6	**Thira Island,**	**2.82**	**81**	*e*Pn	**Pn**	**01 46 42.6**	**0.0**
THR3	**Thira Island,**	**2.83**	**80**	*e*Pn	**Pn**	**01 46 42.4**	**-0.3**
THR4	**Thira Island,**	**2.83**	**79**	*e*Pn	**Pn**	**01 46 42.5**	**-0.3**
THR4				*e*Sn	**Sn**	**01 47 15.2**	**-2.6**
SANT	**Santorini**	**2.87**	**81**	Pn	**Pn**	**01 46 44.5**	**+1.2**
EVR	**Evrytania**	**2.94**	**358**	*e*PN	**Pn**	**01 46 48.5**	**+4.2**
AGG	**Agios Georgios**	**3.05**	**6**	*e*Pn	**Pn**	**01 46 49.2**	**+3.2**
AGG				*e*Sn	**Sn**	**01 47 22.7**	**-0.6**
APE	**Apeiranthos**	**3.08**	**68**	*e*PB	**Pb**	**01 46 48.0**	**-3.2**
NEO	**Neokhori**	**3.47**	**17**	*e*PN	**Pn**	**01 46 54.5**	**+2.6**
IGT	**Igoumenitsa**	**3.77**	**341**	*e*Pn	**Pn**	**01 46 56.9**	**+0.8**
IGT				*e*Sn	**Sn**	**01 47 41.9**	**+0.3**
JAN	**Janina**	**3.77**	**347**	*e*PN	**Pn**	**01 46 58.0**	**+1.8**
MEV	**Metsovon**	**3.84**	**352**	*e*Pn	**Pn**	**01 46 59.7**	**+2.6**
KEK	**Kerkira**	**4.10**	**336**	*e*PN	**Pn**	**01 47 00.8**	**0.0**
LIT	**Litokhoron**	**4.14**	**6**	*e*Pn	**Pn**	**01 47 02.9**	**+1.5**
OUR	**Ouranopolis**	**4.64**	**20**	*e*Pn	**Pn**	**01 47 08.7**	**+0.3**
FNA	**Florina**	**4.82**	**355**	*e*Pn	**Pn**	**01 47 11.4**	**+0.3**
FNA				*e*Sn	**Sn**	**01 48 06.4**	**-1.7**
GRG	**Griva**	**4.98**	**4**	*e*Pn	**Pn**	**01 47 13.8**	**+0.5**
SOI	**Samo**	**5.16**	**296**	*e*Pn	**Pn**	**01 47 16.7**	**+0.9**
SOI				*e*Sn	**Sn**	**01 48 11.9**	**-4.7**
TIP	**Timpagrande**	**5.21**	**309**	*e*Pn	**Pn**	**01 47 17.4**	**+0.8**
KNT	**Kendrikon**	**5.23**	**8**	*e*Pn	**Pn**	**01 47 17.3**	**+0.4**
GRI	**Girifalco**	**5.24**	**304**	*e*Pn	**Pn**	**01 47 22.6**	**+5.6**
GRI				*e*Sn	**Sn**	**01 48 17.4**	**-1.2**
SRS	**Serrai**	**5.29**	**14**	*e*Pn	**Pn**	**01 47 17.4**	**-0.3**
SLNA	**Salina**	**6.23**	**297**	*e*Pn	**Pn**	**01 47 35.3**	**+4.3**
SLNA				*e*Sn	**Sn**	**01 48 41.8**	**-1.7**
VAE	**Valguarnera**	**6.24**	**286**	Pn	**Pn**	**01 47 33.7**	**+2.7**
	0.4nm,0.3s,baz=115,slow=18,SNR=4.0						
VAE				Sn	**Sn**	**01 48 39.3**	**-4.3**
	0.8nm,0.3s,baz=261,slow=15,SNR=2.5						
SLCN	**Sala Consilina**	**6.64**	**313**	*e*Pn	**Pn**	**01 47 38.3**	**+1.5**
SGO	**Sicignano**	**6.94**	**313**	*e*Pn	**Pn**	**01 47 41.8**	**+0.8**
MRLC	**Muro Lucano**	**6.96**	**315**	*e*Pn	**Pn**	**01 47 41.7**	**+0.4**
CII	**Carovilli**	**8.27**	**316**	*e*Pn	**P**	**01 47 57.4**	**-2.1**
AQU	**L’Aquila**	**9.19**	**316**	P	**P**	**01 48 10.2**	**-2.2**
BRTR	**Keskin Array B**	**9.97**	**64**	Pn	**P**	**01 48 17.2**	**-5.9**
	0.0nm,0.3s,baz=247,slow=15,SNR=3.1						
MLR	**Muntele Rosu**	**9.97**	**16**	Pn	**P**	**01 48 27.7**	**+4.6**
	0.1nm,0.3s,baz=120,slow=12,SNR=2.7						
EIL	**Elat**	**12.61**	**116**	Pn	**P**	**01 48 56.0**	**-3.0**
	0.2nm,0.3s,baz=36,slow=35,SNR=2.2						
EIL	**Elat**	**12.61**	**116**	Pn	**P**	**01 48 56.0**	**-3.0**
GERES	**GERESS Array B**	**14.21**	**337**	Pn	**P**	**01 49 28.4**	**+8.4**
	0.1nm,0.3s,baz=152,slow=12,SNR=5.8						
AKASG	**Malin Array Be**	**15.63**	**17**	Pn	**P**	**01 49 37.9**	**-0.7**
	0.7nm,0.3s,baz=216,slow=11,SNR=5.1						
HFS	**Hagfors**	**24.75**	**350**	P	**P**	**01 51 17.7**	**-1.8**
	6.2nm,0.9s,mb4.2,baz=159,slow=11,SNR=14						
FINES	**FINESS Array B**	**25.62**	**5**	P	**P**	**01 51 25.5**	**-2.2**
	7.1nm,1.1s,mb4.1,baz=170,slow=12,SNR=5.1						
EKA	**Eskdalemuir Ar**	**25.88**	**326**	P	**P**	**01 51 28.9**	**-1.3**
	1.5nm,0.6s,mb3.7,baz=123,slow=8.5,SNR=6.7						
EKA				PcP	PcP	01 54 57.8	-2.2
	1.5nm,0.4s,baz=291,slow=1.9,SNR=9.5						
NOA	**NORSAR Array B**	**26.00**	**348**	P	**P**	**01 51 28.7**	**-2.6**
	1.8nm,0.9s,mb3.6,baz=135,slow=24,SNR=3.0						
ARCES	**ARCESS Array B**	**33.67**	**2**	P	**P**	**01 52 37.0**	**-2.7**
	1.0nm,0.4s,mb4.1,baz=190,slow=9.7,SNR=17						
MKAR	**Makanchi Array**	**45.52**	**57**	P	**P**	**01 54 15.1**	**-3.0**
	0.7nm,0.4s,mb3.9,baz=267,slow=8.0,SNR=11						

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*ISK **13** 01:48:36.9, 40.79N×30.99E, h6^{km}, MD3.7, ML3.9*
*IDC **13** 01:48:38.5±1.8, 40.86N×31.04E, mb3.5/1, mb1 3.3/3, mb1mx3.2/19, ML3.2/2, Error ellipse: s-maj=33.5km s-min=9.9km az=44.0*

ISC 13 01:48:37.4±0.3**, 40.77N**±0.02×**30.95E**±0.02**, h6^{km}, n64, σ0^{s}93**/80**, mb3.5**/1**, 2C-4D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HENT	Hendek	0.07	327	iP	Pg	01 48 39.7	+0.6
MDU	Mudurnu	0.36	146	iPG	Pg	01 48 44.6	-0.2
MDU				iSG	Sg	01 48 49.9	+0.2
EYL	Eskiyayla	0.63	252	iPG	Pg	01 48 50.6	+0.5
EYL				iSG	Sg	01 49 01.2	+2.6
GPA	Golpazari	0.68	226	iPG	Pg	01 48 51.1	0.0
SGKT	Sivrigoynuk	0.87	103	iP	Pb	01 48 53.7	-0.7
YLV	Yalova	1.21	261	PN	Pn	01 49 00.2	-0.7
ESKT	Eskisehir	1.25	183	iP	Pb	01 49 02.0	+1.1
ESKT				iS	Sb	01 49 18.1	+0.9
ESKT	Eskisehir	1.25	183	PN	Pn	01 49 02.0	+0.6
BADT	Buyukada	1.39	274	PN	Pn	01 49 03.6	+0.2
SAFT	Safranbolu	1.40	70	PN	Pn	01 49 02.2	-1.3
ISK	Istanbul-Kandi	1.46	282	PN	Pn	01 49 04.9	+0.5
ULDT	Uludag	1.52	246	iP	Pn	01 49 05.9	+0.7
ULDT				iS	Sb	01 49 28.6	+3.6
LOD	Lodumlu	1.64	122	PN	Pn	01 49 07.4	+0.4
ANTO	Ankara	1.67	122	ePN	Pn	01 49 07.8	+0.3
ORLT	Orhaneli	1.72	246	PN	Pn	01 49 09.0	+0.8
ALT	Altintas	1.83	201	ePN	Pn	01 49 10.6	+0.9
ELDT	Eldivan	1.91	98	iP	Pg	01 49 25.3	+10
ELDT				iS	Sn	01 49 35.4	0.0
CTT	Catalca	1.94	282	PN	Pn	01 49 11.8	+0.5
BALT	Daday	2.00	67	iP	Pn	01 49 11.9	-0.2
BALT				iS	Sn	01 49 39.0	+1.4
KIZT	Kizilcal	2.02	159	PN	Pn	01 49 12.1	-0.3
KCT	Karacabey	2.04	257	PN	Pn	01 49 13.1	+0.4
CANT	Cankiri	2.04	94	PN	Pn	01 49 12.7	0.0
DST	Dursunbey	2.12	238	PN	Pn	01 49 14.5	+0.6
BRTR	Keskin Array B	2.31	116	Pn	Pn	01 49 16.4	-0.1
	1.5nm,0.3s,baz=300,slow=12,SNR=66						
BRTR				Pg	Pg	01 49 20.1	-3.4
	6.8nm,0.3s,baz=300,slow=15,SNR=78						
BRTR				Lg		01 49 53.4	
	5.1nm,0.3s,baz=216,slow=11,SNR=4.6						
BNT	Bandirma	2.34	261	ePN	Pn	01 49 17.0	0.0
TOS	Tosya	2.35	82	ePN	Pn	01 49 17.1	0.0
EDC	Edincik	2.39	261	ePN	Pn	01 49 18.0	+0.3
BTOK	Tokmak	2.45	247	iP	Pn	01 49 24.4	+5.8
BTOK				iS	Sn	01 49 59.0	+10
KAMT	Kaman	2.54	122	ePN	Pn	01 49 19.4	-0.5
BZK	Bozkurt	2.59	62	ePN	Pn	01 49 20.6	0.0
BALB	Balikesir	2.60	245	ePN	Pn	01 49 20.4	-0.4
MFT	Murefte	2.78	272	ePN	Pn	01 49 24.4	+1.1
CTKT	Corum	2.93	92	iP	Pn	01 49 25.3	0.0
MANT	Manisa	2.93	220	iP	Pn	01 49 32.4	+7.0
MANT				iS	Sn	01 50 12.3	+11
BYBT	Boyabat	2.97	75	ePN	Pn	01 49 25.5	-0.5
BOYT	Boyabat	3.06	76	⇑iP	Pn	01 49 32.2	+4.9
BOYT				iS	Sn	01 50 08.0	+3.3
AKS	Akhisar	3.06	233	ePN	Pn	01 49 27.9	+0.6
LPK	Lapseki	3.21	264	ePN	Pn	01 49 29.5	0.0
BCK	Bucak	3.31	185	ePN	Pn	01 49 31.8	+0.9
DNZL	Cakiroluk	3.41	206	iP	Pg	01 49 40.2	-5.3
DNZL				iS	Sg	01 50 26.5	-4.4
AVNT	Avonos	3.61	122	iP	Pn	01 49 35.3	+0.2
EZN	Ezine	3.66	257	ePN	Pn	01 49 35.4	-0.4
KDAG	Bornova	3.70	231	iP	Pg	01 49 48.2	-3.0
KDAG				iS	Sg	01 50 38.5	-1.9
IZM	Izmir	3.70	231	PN	Pn	01 49 36.5	+0.1
ALN	Alexandroupoli	3.72	274	eP	Pn	01 49 37.0	+0.3
ALN	Alexandroupoli	3.72	274	eP	Pn	01 49 37.0	+0.3
ALN				eS	Sn	01 50 33.4	+12
NIG	Nigde	3.88	132	ePN	Pn	01 49 38.6	-0.4
AYDN	Tasoluk	3.91	218	iP	Pg	01 49 52.8	-2.7
AYDN				iS	Sg	01 50 46.3	-1.4
TIRR	Tirgusor	4.13	334	⇓iP	Pn	01 49 42.0	-0.6
HARR	Harsova	4.50	331	⇓iP	Pn	01 49 47.5	-0.3
OUR	Ouranopolis	5.32	268	eP	Pn	01 49 58.2	-1.2
SRS	Serrai	5.58	276	eP	Pn	01 50 03.0	0.0
SRS	Serrai	5.58	276	eP	Pn	01 50 02.2	-0.8
AOS	Alonnisos	5.66	256	eP	Pn	01 50 03.2	-0.9
VRI	Vrincioaia	5.95	330	⇓iP	Pn	01 50 09.3	+1.0
MLR	Muntele Rosu	5.97	324	Pn	Pn	01 50 08.6	+0.1
MLR				Sn	Sn	01 51 16.8	-1.4
	0.1nm,0.3s,baz=120,slow=8.1,SNR=1.6						
MLR	Muntele Rosu	5.97	324	⇓iP	Pn	01 50 08.8	+0.3
KNT	Kendrikon	6.11	276	eP	Pn	01 50 10.1	-0.3
KNT	Kendrikon	6.11	276	eP	Pn	01 50 10.1	-0.3
AGG	Agios Georgios	6.85	258	eP	Pn	01 50 19.6	-1.4
FNA	Florina	7.26	273	eP	Pn	01 50 25.8	-1.0
BURAR	Bucovina Array	7.99	331	⇑iP	Pn	01 50 39.2	+2.4
AKASG	Malin Array Be	10.01	354	Pn	P	01 51 00.2	-4.5
	0.7nm,0.3s,baz=169,slow=12,SNR=3.8						
AKASG				Sn	S	01 52 49.7	-8.8
	0.6nm,0.3s,baz=175,slow=22,SNR=3.3						
MKAR	Makanchi Array	37.00	63	P	P	01 55 48.3	-1.1
	0.4nm,0.6s,mb3.5,baz=276,slow=7.2,SNR=2.5						

*MOS **13** 01:54:11.7±1.4, 51.35N×178.68E, h13^{km}, mb4.3/11, Error ellipse: s-maj=24.4km s-min=16.9km az=87.0*

*IDC **13** 01:54:11.1±0.8, 51.17N×178.83E, mb4.0/16, mb1 4.3/17, mb1mx4.2/26, ML4.0/1, MS3.4/3, Ms1 3.4/3, ms1mx2.8/26, Error ellipse: s-maj=22.5km s-min=13.1km az=176.0*

*BJI **13** 01:54:12.5, 50.49N×178.49E, h48^{km}, mB4.8, mb4.9, Ms4.6, Msz4.1*

*NEIC **13** 01:54:16.8±0.8, 51.01N×178.68E, h45^{km}±6^{km}, mb4.5/16, ML4.4(AEIC), Error ellipse: s-maj=13.9km s-min=5.0km az=182.0*

ISC 13 01:54:13.9±1.0**, 50.71N**±0.10×**178.67E**±0.04**, h47**^{km}±7^{km}**, n83, σ1^{s}22**/92**, mb4.3**/34**, MS3.6**/6**, Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KIMD	Kanaga Island	2.78	66	P	P	01 54 57.3	+0.3
KIMD				S	S	01 55 32.4	+2.7
KIKV	Kanaga Island	2.86	64	P	P	01 54 57.6	-0.5
KIWB	Kanaga Island	2.86	65	P	P	01 54 57.7	-0.5
KIWB				S	S	01 55 32.8	+1.1
KINC	Kanaga Island	2.91	63	P	P	01 54 59.4	+0.6
KIRH	Kanaga Island	2.92	64	P	P	01 54 59.4	+0.5
ADAG	Mount Adagdak	3.23	65	P	P	01 55 02.9	-0.5
SMY	Shemya	3.49	307	P	P	01 55 06.7	-0.4
SMY				S	S	01 55 49.5	+1.9
GSTD	Great Sitkin T	3.52	65	P	P	01 55 07.5	+0.1
GSTD				S	S	01 55 49.1	+0.8
GSMY	Great Sitkin M	3.56	66	P	P	01 55 07.7	-0.4
GSMY				S	S	01 55 50.4	+0.9
GSTR	Great Sitkin T	3.58	65	P	P	01 55 08.3	-0.1
GSTR				S	S	01 55 53.0	+3.2
GSIG	Igitkin Island	3.62	67	P	P	01 55 09.0	+0.1
FX1	Attu Island--F	4.05	305	Pn	P	01 55 11.4	-3.6
	36nm,0.3s,baz=135,slow=3.8,SNR=91						
FX1				Sn	S	01 56 02.7	+0.9
	72nm,0.3s,baz=239,slow=20,SNR=5.7						
FX1	Attu Island--F	4.05	305	P	P	01 55 13.3	-1.7
ATKA	Atka Island	4.71	69	P	P	01 55 23.4	-0.9
ATKA				S	S	01 56 16.7	-1.5
NIKO	Nikolski	8.05	69	P	P	01 56 09.2	-1.7
PET	Petropavlovsk	12.59	288	eP	P	01 57 19.5	+6.9
PET				eS	S	01 59 39.9	+7.7
PET				smax			
	comp=N,40nm,13.2s						
PET				MLR	MLR		
	comp=Z,100nm,22.0s						
RSO	Redoubt South	18.72	48	eP	P	01 58 31.2	+0.4
SPU	Mount Spurr	19.28	46	eP	P	01 58 36.6	-0.6
SLKM	Skilak Lake	19.93	49	P	P	01 58 45.5	+1.3
IMA	Indian Mountai	20.86	32	eP	P	01 58 53.8	0.0
	comp=Z,20nm,0.8s						
ILAR	Eielson Array	22.77	39	P	P	01 59 10.4	-2.2
	comp=Z,0.9nm,0.5s,mb3.5,baz=246,slow=9.4,SNR=24						
ILAR	Eielson Array	22.77	39	P	P	01 59 10.4	-2.2
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ASAJ	Asahikawa	25.10	269	P	P	01 59 39.5	+4.1
	comp=Z,20nm,1.1s,mb4.5,baz=75,slow=12,SNR=4.2						
ASAJ				LR	LR	02 09 59.1	
	comp=Z,58nm,19.3s,MS3.1,baz=12,slow=38						
ASAJ	Asahikawa	25.10	269	P	P	01 59 39.6	+4.2
ASAJ				pmax	pmax		
	comp=Z,20nm,1.1s						
ASAJ				MLR	MLR		
	comp=Z,59nm,19.3s						
INK	Inuvik	28.93	35	P	P	02 00 07.0	-3.1
	comp=Z,1.4nm,0.5s,mb4.0,baz=227,slow=16,SNR=7.7						
INK	Inuvik	28.93	35	P	P	02 00 07.0	-3.2
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KLR	Kul'dur	29.83	286	eP	P	02 00 18.8	+0.4
CN2	Changchun	36.10	280	eP	P	02 01 11.4	-1.5
YKA	Yellowknife Ar	36.85	45	P	P	02 01 17.3	-1.6
	comp=Z,1.9nm,0.6s,mb4.1,baz=281,slow=7.9,SNR=14						
YKA				LR	LR	02 17 58.8	
	comp=Z,87nm,19.0s,MS3.6,baz=25,slow=39						
YKA	Yellowknife Ar	36.85	45	P	P	02 01 17.3	-1.6
YKA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
YKA				MLR	MLR		
	comp=Z,87nm,19.0s						
YKA	Yellowknife Ar	36.85	45	P	P	02 01 17.3	-1.6
YKA				LR	LR	02 17 58.8	
BOD	Bodaibo	37.10	307	eP	P	02 01 19.4	-1.7
JNU	Nakatsue	38.90	262	LR	LR	02 16 15.1	
	comp=Z,50nm,20.2s,MS3.3,baz=61,slow=34						
NEW	Newport	40.62	68	P	P	02 01 50.8	+0.3
	comp=Z,0.6nm,0.3s,mb3.7,baz=313,slow=9.5,SNR=3.9						
NEW	Newport	40.62	68	P	P	02 01 50.8	+0.4
NEW				pmax	pmax		
	comp=Z,1.0nm,0.3s						
NEW	Newport	40.62	68	P	P	02 01 50.2	-0.2
WVOR	Wild Horse Val	42.71	76	eP	P	02 02 08.0	+0.4
HLID	Hailey	44.66	72	eP	P	02 02 23.7	+0.3
	comp=Z,1.2nm,0.8s,mb3.8						
BOZ	Bozeman (W)	45.19	68	eP	P	02 02 28.2	+0.7
	comp=Z,1.8nm,0.6s,mb4.1						
SONM	Songino Array	45.51	296	P	P	02 02 31.5	+1.4
	comp=Z,2.3nm,0.7s,mb4.2,baz=63,slow=9.0,SNR=7.3						
ELK	Elko	45.76	76	P	P	02 02 31.9	-0.3
	comp=Z,1.3nm,0.6s,mb4.0						
ZAK	Zakamensk	45.93	300	eP	P	02 02 33.8	+0.4
TPH	Tonopah	46.12	80	P	P	02 02 33.7	-1.4
	comp=Z,1.7nm,0.3s,mb4.5						
SSE	Sheshan	46.38	268	eP	P	02 02 34.5	-2.7
	comp=Z,61nm,0.7s,mb5.6						
TPNV	Topopah Spring	47.42	81	eP	P	02 02 46.0	+0.6
	comp=Z,2.9nm,0.8s,mb4.3						
BW06	Boulder Array	48.04	70	eP	P	02 02 50.6	+0.6
	comp=Z,1.6nm,0.5s,mb4.3						
PDAR	Pinedale Array	48.04	70	P	P	02 02 50.2	+0.2
	comp=Z,2.1nm,0.6s,mb4.3,baz=304,slow=3.3,SNR=8.5						
MSU	Marysvale	48.99	76	P	P	02 02 58.5	+1.0
LZH	Lanzhou	54.03	285	eP	P	02 03 34.9	-0.6
LZH				PP	PP	02 05 38.0	-0.6
LZH				eS	S	02 11 07.0	+0.6
LZH				SS	SS	02 14 48.3	+0.6
LZH				AMB	AMB		
	comp=Z,20nm,1.4s,mb4.8						
LZH				AMB	AMB		
	comp=Z,45nm,4.0s						
LZH				LR	LR		
	comp=N,231nm,14.1s						
LZH				LR	LR		
	comp=Z,332nm,16.4s,MS4.5						
LZH	Lanzhou	54.03	285	eP	P	02 03 34.9	-0.6
	comp=Z,20nm,1.4s,mb4.8						
LZH				pP	pP	02 03 38.4	-10
LZH				sP	sP	02 03 40.0	-14
LZH				PP	PP	02 05 38.0	-0.6
LZH				eS	S	02 11 07.0	+0.6
LZH				sS		02 11 13.0	
LZH				SS	SS	02 14 48.3	+0.6
LZH				LR	LR		
	comp=Z,330nm,16.4s,MS4.5						
ENH	Enshi	54.37	276	P	P	02 03 38.2	+0.2
KURK	Kurchatov	58.32	313	eP	P	02 04 04.5	-1.4
	comp=Z,3.1nm,0.6s,mb4.5						
KURK				e		02 04 11.7	
WMQ	Urumqi	58.35	302	eP	P	02 04 07.0	+0.7
WMQ				AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.7						
WMQ				LR	LR		
	comp=Z,72nm,22.0s,MS3.8						
MKAR	Makanchi Array	59.19	307	P	P	02 04 10.8	-1.2
	comp=Z,2.0nm,0.6s,mb4.3,baz=53,slow=6.2,SNR=23						
MKAR	Makanchi Array	59.19	307	P	P	02 04 10.8	-1.2
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
WMOK	Wichita Mounta	59.62	71	P	P	02 04 14.6	-0.6
TXAR	Lajitas Array	60.34	79	P	P	02 04 21.2	+1.0
	comp=Z,0.8nm,0.7s,mb3.9,baz=309,slow=5.5,SNR=14						
BRVK	Borovoye	60.38	319	eP	P	02 04 18.8	-1.4
	comp=Z,4.2nm,0.6s,mb4.7						
ZRNK	Zerenda	60.99	319	eP	P	02 04 22.9	-1.4
	comp=Z,3.5nm,0.7s,mb4.6						
KMI	Kunming	62.23	276	eP	P	02 04 31.4	-1.6
	comp=Z,6.0nm,0.6s,mb4.9						
KMI				pP	pP	02 04 34.5	-12
KMI				S	S	02 12 55.9	+2.3
KMI				SS	SS	02 16 59.0	0.0
KMI				LR	LR		
	comp=Z,30nm,17.0s,MS3.5						
ARU	Arti	62.32	327	eP	P	02 04 31.7	-1.4
	comp=Z,5.4nm,0.8s,mb4.7						
FINES	FINESS Array B	66.07	346	P	P	02 04 55.7	-1.6
	comp=Z,1.4nm,0.7s,mb4.1,baz=34,slow=6.9,SNR=5.8						
FINES	FINESS Array B	66.07	346	P	P	02 04 55.7	-1.6
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FINES	FINESS Array B	66.07	346	P	P	02 04 55.7	-1.6
NOA	NORSAR Array B	68.15	353	P	P	02 05 09.1	-1.4
	comp=Z,1.2nm,0.8s,mb4.0,baz=9.9,slow=6.6,SNR=3.3						
NOA	NORSAR Array B	68.15	353	P	P	02 05 09.1	-1.3
NOA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
NOA	NORSAR Array B	68.15	353	P	P	02 05 09.1	-1.4
KKN	Kakani	71.06	291	eP	P	02 05 30.6	+1.8
	comp=Z,4.7nm,0.2s,mb5.0						
PKI	Pulchoki	71.14	291	eP	P	02 05 31.1	+1.8
	comp=Z,9.7nm,0.9s,mb4.8						
GKN	Gorkha	71.28	291	eP	P	02 05 31.6	+1.5
	comp=Z,17nm,0.8s,mb5.0						
DMN	Daman	71.30	291	eP	P	02 05 31.3	+1.1
KOLN	Koldanda	72.07	292	eP	P	02 05 36.4	+1.6
	comp=Z,6.8nm,0.8s,mb4.6						
AKASG	Malin Array Be	75.67	341	P	P	02 05 53.7	-1.5
	comp=Z,0.7nm,0.3s,mb4.0,baz=19,slow=6.1,SNR=7.5						
AKASG	Malin Array Be	75.67	341	P	P	02 05 53.7	-1.6
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
WRA	Warramunga Arr	80.43	222	P	P	02 06 25.5	+3.4
	comp=Z,0.8nm,0.5s,mb3.9,baz=30,slow=5.7,SNR=5.2						
WRA	Warramunga Arr	80.43	222	P	P	02 06 25.5	+3.4
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MLR	Muntele Rosu	81.31	341	P	P	02 06 28.4	+2.2
	comp=Z,1.3nm,0.7s,mb3.9,baz=44,slow=15,SNR=3.6						
MLR	Muntele Rosu	81.31	341	P	P	02 06 28.4	+2.2
MLR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ASAR	Alice Springs	83.92	220	P	P	02 06 44.8	+4.7
	comp=Z,0.3nm,0.5s,mb3.7,baz=26,slow=6.2,SNR=4.0						
BRTR	Keskin Array B	84.87	334	P	P	02 06 45.6	+1.2
	comp=Z,0.8nm,0.8s,mb3.9,baz=91,slow=2.5,SNR=5.0						
BRTR	Keskin Array B	84.87	334	P	P	02 06 45.6	+1.2
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MAW	Mawson	144.98	217	PKPbc	PKPbc	02 13 49.0	+4.4
	comp=Z,0.7nm,0.5s,baz=98,slow=2.4,SNR=6.3						
MAW	Mawson	144.98	217	PKIKP	PKPdf	02 13 49.0	+4.6
MAW				pmax	pmax		
	comp=Z,1.0nm,0.5s						

*BER **13** 01:54:42.8±2.9, 73.16N×7.12E, MD2.8, ML2.1*

*IDC **13** 01:54:43.2±5.5, 72.58N×6.78E, mb3.2/1, mb1 3.9/5, mb1mx3.5/21, ML3.3/4, MS3.4/1, Ms1 3.4/1, ms1mx2.3/18, Error ellipse: s-maj=66.0km s-min=26.3km az=155.0*

ISC 13 01:54:41.9±2.8**, 72.7N**±0.2×**7.2E**±0.6**, h5**^{km}±37^{km}**, n9, σ0^{s}97**/12**, mb3.1**/1**, MS3.3**/1**, Norwegian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TRO	Tromso	4.88	123	eP	Pn	01 55 58.0	+0.3
TRO				eS	Sn	01 56 56.1	+0.8
TRO				AML	AML	01 56 59.4	
	comp=Z,4.8nm,0.4s						
LOF	Lofoten	5.05	152	eP	Pn	01 56 04.2	+4.1
LOF				eS	Sn	01 57 01.2	+1.5
ARCES	ARCESS Array B	6.71	109	Pn	Pn	01 56 23.8	+0.2
	comp=Z,0.8nm,0.3s,baz=318,slow=11,SNR=50						
ARCES				Sn	Sn	01 57 40.1	-1.2
	baz=304,slow=23,SNR=2.8						
MOR8	Moi Rana	7.03	155	eP	Pn	01 56 28.6	+0.6
MOR8				eS	Sn	01 57 47.8	-1.3
MOR8				AML	AML	01 57 50.4	
	comp=Z,3.5nm,0.5s						
NOA	NORSAR Array B	11.81	170	Pn	P	01 57 32.4	-1.4
	comp=Z,0.2nm,0.3s,baz=350,slow=14,SNR=3.0						
HFS	Hagfors	12.87	165	Pn	P	01 57 47.3	-0.7
	comp=Z,0.1nm,0.3s,baz=350,slow=16,SNR=6.3						
FINES	FINESS Array B	13.38	138	Pn	P	01 57 54.5	-0.2
	comp=Z,0.2nm,0.3s,baz=338,slow=10,SNR=6.3						
GERES	GERESS Array B	24.11	169	P	P	01 59 59.8	+1.0
	comp=Z,0.8nm,1.0s,mb3.1,baz=326,slow=14,SNR=3.8						
INK	Inuvik	36.91	337	LR	LR	02 17 27.8	
	comp=Z,48nm,18.4s,MS3.3,baz=218,slow=37						

GUC 13 02:24:01.2±0.8**, 34.13S×70.05W, h8**^{km}±2^{km}**, MD3.7, ML2.0, 2C, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LMEL	Las Melosas	0.31	336	⇑iP	Pg	02 24 08.1	+0.5
LMEL				iS	Sg	02 24 13.2	+1.4
LMEL				AMP		02 24 14.6	
	comp=N,407nm,0.3s						
CICH	Cipreses	0.36	239	⇑iP	Pg	02 24 08.8	+0.4
CICH				iS	Sg	02 24 14.0	+0.7
CACH	El Canelo	0.46	272	iP	Pg	02 24 10.6	+0.2
CACH				iS	Sg	02 24 17.4	+0.9
CHCH	Chadas Angostu	0.54	292	iP	Pg	02 24 11.7	-0.3
PCH	Pirque	0.64	323	iS	Sg	02 24 23.9	+1.2
FCH	Farellones	0.83	346	eP	Pb	02 24 17.8	+0.3
FCH				iS	Sb	02 24 29.7	+1.2
FCH				AMP		02 24 30.7	
	comp=N,111nm,0.3s						
SFDO	San Fernando	0.93	239	eP	Pb	02 24 18.8	-0.3
SFDO				iS	Sb	02 24 31.7	+0.3
LNV	Longovilo	1.14	279	iP	Pb	02 24 21.9	-0.9
LNV				iS	Sb	02 24 38.2	+0.6

*BJI **13** 02:39:01.0, 16.62S×66.97E, h26^{km}, mB5.3, mb5.1, Ms5.1, Msz4.9*

*IDC **13** 02:39:01.4±0.5, 16.29S×67.07E, mb4.6/21, mb1 4.6/21, mb1mx4.6/22, MS4.8/6, Ms1 4.8/6, ms1mx4.4/26, Error ellipse: s-maj=17.9km s-min=14.3km az=25.0*

*MOS **13** 02:39:02.2±2.0, 16.20S×67.20E, h10^{km}, mb5.2/14, Error ellipse: s-maj=22.0km s-min=11.9km az=95.3*

*SYO **13** 02:39:02.2, 16.30S×67.09E, h7^{km}, MB5.1, MS4.9*

*NEIC **13** 02:39:03.5±0.2, 16.30S×67.10E, mb5.1/69, MS4.9/5, MW5.6, Error ellipse: s-maj=6.8km s-min=6.0km az=197.0, Moment Tensor Solution. s7 Moment tensor: Scale 10^{17} Nm; M_{rr}0.01; $M_{\theta\theta}$-2.64; $M_{\phi\phi}$2.63; $M_{r\theta}$-0.28; $M_{\theta\phi}$1.06; $M_{\phi r}$0.57; Best double couple: $M_0$2.9×10^{17} NP1:ϕ_s56°,δ78°, λ2°. NP2:ϕ_s326°,δ88°,λ167°. Principal axes: T 2.92, Plg10°, Azm280°; N -.03, Plg77°, Azm138°; P -2.9, Plg8°, Azm12°;*

*HRVD **13** 02:39:03.5±0.2, 16.09S×67.08E, h12^{km}, MW5.6/67, Centroid moment Tensor Solution. LP body waves: s43,c71;Mantle waves: s67,c118; Half duration: 1^{s}5 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.28±.05; $M_{\theta\theta}$-2.30±.05; $M_{\phi\phi}$2.58±.05; $M_{r\theta}$-0.81±.13; $M_{\theta\phi}$0.99±.04; $M_{\phi r}$-0.34±.13; Best double couple: $M_0$2.78×10^{17} NP1: ϕ_s147°,δ71°,λ-174°. NP2:ϕ_s55°,δ85°,λ-19°. Principal axes: T 2.85, Plg9°, Azm102°; N -.14, Plg71°, Azm219°; P -2.71, Plg17°, Azm9°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 13 02:39:01.8±0.2**, 16.32S**±0.05×**67.15E**±0.04**, h12**^{km}**, (h12**^{km}±1.7^{km}**:pP-P), n208, σ1^{s}11**/180**, mb5.0**/96**, MS4.8**/19**, 13C-3D, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PALK	Pallekele	27.00	31	P	P	02 44 43.6	-2.3
KMBO	Kilima Mbogo	33.09	294	P	P	02 45 38.0	-2.1
	2.6nm,0.8s,mb4.2,baz=128,slow=4.5,SNR=6.1						
KMBO				LR	LR	02 56 02.5	
	comp=Z,2μm,21.6s,MS4.8,baz=106,slow=31						
KMBO	Kilima Mbogo	33.09	294	eP	P	02 45 38.0	-2.0
	30nm,1.7s,mb4.9						
KMBO				LR	LR		
	comp=Z,2μm,20.0s,MS4.8						
HYB	Hyderabad	35.35	19	iP	P	02 46 01.5	+2.0
HYB	Hyderabad	35.35	19	eP	P	02 46 01.5	+2.0
LSZ	Lusaka	37.46	266	eP	P	02 46 16.4	-0.8
	comp=Z,71nm,1.8s,mb5.2						
LSZ				LR	LR		
	comp=Z,2μm,21.0s,MS4.9						
SUR	Sutherland	44.78	240	P	P	02 47 15.8	-1.7
	comp=Z,5.5nm,0.9s,mb4.4,baz=186,slow=6.2,SNR=1.8						
SUR	Sutherland	44.78	240	P	P	02 47 15.9	-1.5
	comp=Z,21nm,1.1s,mb4.9						
SUR				LR	LR		
	comp=Z,215nm,21.0s,MS4.0						
CMAR	Chiang Mai Arr	46.62	43	P	P	02 47 32.3	+0.1
	comp=Z,6.2nm,0.9s,mb4.5,baz=233,slow=8.1,SNR=27						
CMAR				LR	LR	03 03 39.1	
	comp=Z,662nm,20.7s,MS4.6,baz=255,slow=32						
KOLN	Koldanda	46.63	20	eP	P	02 47 32.9	+0.7
	comp=Z,49nm,0.9s,mb5.4						
DMN	Daman	47.01	22	eP	P	02 47 36.0	+0.9
	comp=Z,115nm,1.2s,mb5.7						
PKI	Pulchoki	47.08	22	eP	P	02 47 35.8	+0.1
	comp=Z,53nm,1.1s,mb5.4						
TSUM	Tsumeb	47.17	259	P	P	02 47 35.7	-0.7
	comp=Z,4.3nm,0.9s,mb4.4,baz=188,slow=5.7,SNR=4.8						
TSUM	Tsumeb	47.17	259	eP	P	02 47 36.0	-0.4
	comp=Z,5.0nm,0.9s,mb4.4						
TSUM				LR	LR		
	comp=Z,1μm,21.0s,MS4.9						
GKN	Gorkha	47.20	21	eP	P	02 47 37.0	+0.3
	comp=Z,99nm,1.0s,mb5.7						
KKN	Kakani	47.23	22	eP	P	02 47 37.4	+0.5
	comp=Z,59nm,0.9s,mb5.5						
GUN	Gumba	47.56	23	eP	P	02 47 40.3	+0.8
	comp=Z,127nm,1.2s,mb5.8						
SHL	Shillong	48.09	31	eP	P	02 47 44.0	+0.3
SHL				eS	S	02 54 44.0	+3.0
MBWA	Marble Bar	49.85	104	eP	P	02 47 57.4	+0.1
	comp=Z,18nm,0.8s,mb5.2						
MBWA				LR	LR		
	comp=Z,1μm,20.0s,MS4.9						
LSA	Lhasa	51.27	27	eP	P	02 48 10.0	+2.0
MAW	Mawson	51.33	182	eP	P	02 48 08.0	+0.1
	comp=Z,8.0nm,1.2s,mb4.5						
MAW	Mawson	51.33	182	P	P	02 48 08.0	+0.1
	comp=Z,11nm,1.2s,mb4.7,baz=16,slow=8.9,SNR=12						
MAW				LR	LR	03 04 40.6	
	comp=Z,442nm,20.9s,MS4.5,baz=1.2,slow=30						
KMI	Kunming	53.85	41	eP	P	02 48 26.8	-0.4
KMI				AP	pP	02 48 36.6	+5.8
KMI				XP	sP	02 48 41.0	+8.8
KMI				PP	PP	02 50 31.7	+1.6
KMI				S	S	02 56 04.7	+4.4
KMI				XS		02 56 22.1	
KMI				SS	SS	02 59 42.6	+1.7
KMI				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.7						
KMI				AMB	AMB		
	comp=Z,193nm,4.3s						
KMI				LR	LR		
	comp=N,789nm,27.5s,MS4.7						
KMI				LR	LR		
	comp=E,583nm,28.8s,MS4.7						
KMI				LR	LR		
	comp=Z,684nm,24.7s,MS4.6						
KMI	Kunming	53.85	41	eP	P	02 48 26.8	-0.4
	comp=Z,8.0nm,0.8s,mb4.7						
KMI				pP	pP	02 48 36.6	+5.8
KMI				sP	sP	02 48 41.0	+8.8
KMI				PP	PP	02 50 31.7	+1.6
KMI				S	S	02 56 04.7	+4.4
KMI				sS		02 56 22.1	
KMI				SS	SS	02 59 42.6	+1.7
KMI				LR	LR		
	comp=Z,680nm,24.7s,MS4.6						
QIZ	Qiongzhong	54.75	52	P	P	02 48 34.3	+0.3
QIZ				S	S	02 56 12.6	+0.1
QIZ				LR	LR		
	comp=N,1μm,19.8s						
QIZ				LR	LR		
	comp=Z,628nm,19.8s,MS4.7						

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EIL   Elat               55.27 326  P       P        02 48 37.0 -0.6
      comp=Z,10nm,1.1s,mb4.8
SYO   Syowa Base         55.45 192 ⇑P       P        02 48 37.9 -0.5
SYO   Syowa Base         55.45 192 ⇑pP      pP       02 48 41.1 -0.9
SYO   Syowa Base         55.45 192 ⇓PcP     PcP      02 49 35.1 -3.4
FITZ  Fitzroy Crossi     55.70 101 eP       P        02 48 41.2 +0.3
      comp=Z,18nm,0.9s,mb5.1
FITZ  Fitzroy Crossi     55.70 101  P       P        02 48 40.9  0.0
      comp=Z,20nm,0.9s,mb5.2,baz=222,slow=4.7,SNR=11
FITZ                                LR      LR       03 09 17.6
      comp=Z,1µm,20.2s,MS5.0,baz=237,slow=33
KSH   Kashi              56.15   8 eP       P        02 48 45.0 +1.2
KSH                                eAP      pP       02 48 49.6 +2.2
KSH                                eXP      sP       02 48 52.1 +3.3
KSH                                ePCP     PcP      02 49 41.5 -0.1
KSH                                ePP      PP       02 50 52.0 +1.4
KSH                                eSCP              02 53 39.0
KSH                                ePCS              02 53 41.0
KSH                                eS       S        02 56 33.5 +2.6
KSH                                eSCS     ScS      02 58 30.3 +0.8
KSH                                eSS      SS       03 00 21.0 +3.3
ASF   Jabal al Asfar     56.25 329  P       P        02 48 46.7 +2.1
      comp=Z,5.1nm,0.8s,mb4.6,baz=14,slow=6.1,SNR=6.2
ASF                                 LR      LR       03 10 24.2
      comp=Z,658nm,19.4s,MS4.7,baz=185,slow=34
FORT  Forrest            57.05 116 eP       P        02 48 50.4  0.0
      comp=Z,70nm,0.8s,mb5.7
GYA   Guiyang            57.29  43⇑iP       P        02 48 50.8 -1.4
GYA                                 PP      PP       02 51 01.4 +0.3
GYA                                 S       S        02 56 49.1 +2.9
GYA                                 PS      PS       02 57 04.6 +4.4
GYA                                 AMB     AMB
      comp=Z,50nm,1.4s,mb5.3
GYA                                 AMB     AMB
      comp=Z,260nm,3.6s
GYA                                 LR      LR
      comp=N,620nm,18.6s,MS5.0
GYA                                 LR      LR
      comp=E,790nm,17.7s,MS5.0
GYA                                 LR      LR
      comp=Z,750nm,18.0s,MS4.8
CD2   Chengdu            58.68  37  P       P        02 49 00.2 -1.6
CD2                                 S       S        02 57 03.9 -0.5
AAK   Ala-Archa          59.04   6 eP       P        02 49 02.0 -2.2
AAK                                 pmax    pmax
      comp=Z,25nm,1.2s,mb5.1
AAK   Ala-Archa          59.04   6 eP       P        02 49 02.0 -2.2
      comp=Z,25nm,1.3s,mb5.1
GZT   Gaziantep          60.21 333 i P      P        02 49 09.5 -2.8
ELZG  Elazig             60.58 335 i P      P        02 49 15.1 +0.3
MALT  Malatya            60.65 334 eP       P        02 49 14.7 -0.7
      comp=Z,3.6nm,0.9s,mb4.5
ENH   Enshi              61.70  41 eP       P        02 49 21.2 -1.4
      comp=Z,14nm,0.8s,mb5.2
AVNT  Avonos             62.59 332 i P      P        02 49 24.8 -3.6
LZH   Lanzhou            62.62  33 eP       P        02 49 29.5 +0.9
LZH                                 AP      pP       02 49 32.6 +0.4
LZH                                 PP      PP       02 51 52.0 +3.8
LZH                                 S       S        02 57 56.0 +1.3
LZH                                 SS      SS       03 02 03.8 +2.7
LZH                                 AMB     AMB
      comp=Z,45nm,1.5s,mb5.4
LZH                                 AMB     AMB
      comp=Z,222nm,4.0s
LZH                                 LR      LR
      comp=Z,2µm,17.1s,MS5.3
LZH   Lanzhou            62.62  33 eP       P        02 49 29.5 +0.9
      comp=Z,45nm,1.5s,mb5.4
LZH                                 pP      pP       02 49 32.6 +0.4
LZH                                 sP      sP       02 49 34.2 +0.7
LZH                                 PP      PP       02 51 52.0 +3.8
LZH                                 S       S        02 57 56.0 +1.3
LZH                                 sS               02 58 01.5
LZH                                 SS      SS       03 02 03.8 +2.7
LZH                                 LR      LR
      comp=Z,2µm,17.1s,MS5.3
ASPA  Alice Springs      62.68 109 eP       P        02 49 28.5 -0.7
ASAR  Alice Springs      62.69 109  P       P        02 49 28.4 -0.7
      comp=Z,11nm,0.7s,mb5.1,baz=265,slow=6.4,SNR=58
WMQ   Urumqi             62.73  17  P       P        02 49 27.0 -2.2
WMQ                                 PP      PP       02 51 46.7 -2.3
WMQ                                 S       S        02 57 53.4 -2.6
WMQ                                 SS      SS       03 01 59.4 -3.4
WMQ                                 AMB     AMB
      comp=Z,31nm,1.0s,mb5.4
WMQ                                 LR      LR
      comp=N,2µm,25.0s,MS5.1
WMQ                                 LR      LR
      comp=E,642nm,30.0s,MS5.1
WMQ                                 LR      LR
      comp=Z,875nm,22.0s
KAKA  Kakadu             63.05  96 eP       P        02 49 32.3 +0.6
      comp=Z,51nm,0.9s,mb5.7
GTA   Gaotai             63.27  28 eP       P        02 49 32.1 -0.7
GTA                                 S       S        02 58 00.1 -2.8
GTA                                 AMB     AMB
      comp=Z,135nm,6.1s
GTA                                 LR      LR
      comp=N,157nm,22.4s,MS4.3
GTA                                 LR      LR
      comp=E,190nm,23.6s,MS4.3
WRA   Warramunga Arr     63.59 104  P       P        02 49 34.7 -0.6
      comp=E,25nm,1.0s,mb5.2,baz=268,slow=6.2,SNR=56
WB2   Warramunga Arr     63.60 104⇑iP       P        02 49 35.0 -0.3
WRAB  Tennant Creek      63.60 104 eP       P        02 49 35.1 -0.2
      comp=E,41nm,0.8s,mb5.5
MAIT  Maitri             63.64 198 eP       P        02 49 35.9 +1.1
BRTR  Keskin Array B     63.91 332  P       P        02 49 36.6 -0.5
      comp=E,1.8nm,0.7s,mb4.2,baz=157,slow=9.4,SNR=10.0
MKAR  Makanchi Array     64.28  11  P       P        02 49 38.0 -1.3
      comp=E,4.6nm,0.8s,mb4.5,baz=213,slow=9.3,SNR=9.8
MKAR  Makanchi Array     64.28  11 i P      P        02 49 39.1 -0.2
MKAR                                pmax    pmax
      comp=Z,5.0nm,0.8s
ELDT  Eldivan            64.62 332 i P      P        02 49 41.4 -0.4
ESKT  Eskisehir          65.06 330 i P      P        02 49 42.1 -2.4
WHN   Wuhan              65.06  44  P       P        02 49 44.5 -0.2
SGKT  Sivrigoynuk        65.31 331 i P      P        02 49 46.5 +0.3
ULDT  Uludag             66.38 329 i P      P        02 49 54.4 +1.4
KURK  Kurchatov          67.50   8 eP       P        02 49 58.1 -1.8
KURK                                pmax    pmax
      comp=Z,48nm,1.3s,mb5.4
KURK  Kurchatov          67.50   8 eP       P        02 49 58.1 -1.8
      comp=Z,48nm,1.4s,mb5.3
SNAA  Sanae              68.36 199 e        P        02 50 05.0 +0.1
SNAA  Sanae              68.36 199 e        P        02 50 07.0 +2.1
SNAA  Sanae              68.36 199 e        PcP      02 50 24.9 -5.6
SNAA  Sanae              68.36 199 eP       P        02 50 04.7 -0.2
SNAA                                pmax    pmax
      comp=Z,21nm,1.1s
SNAA  Sanae              68.36 199⇓iP       P        02 50 02.1 -2.8
SNAA                               e        pP       02 50 05.0 -3.6
SNAA                               e        pP       02 50 07.0 -1.6
SNAA                               e                 02 50 24.9
STKA  Stephens Creek     68.55 118 eP       P        02 50 06.9 +0.1
      comp=Z,5.3nm,0.9s,mb4.5
STKA  Stephens Creek     68.55 118  P       P        02 50 06.3 -0.5
      comp=Z,3.5nm,0.7s,mb4.4,baz=297,slow=5.0,SNR=5.4
ZRNK  Zerenda            68.99   1 eP       P        02 50 06.7 -2.5
ZRNK                                pmax    pmax
      comp=Z,18nm,1.0s,mb5.0
ZRNK  Zerenda            68.99   1 eP       P        02 50 06.7 -2.5
      comp=Z,18nm,1.0s,mb5.0
NJ2   Nanjing            69.03  46 eP       P        02 50 10.1 +0.3
NJ2                                 AP      pP       02 50 14.7 +1.3
NJ2                                 XP      sP       02 50 17.4 +2.7
NJ2                                 S       S        02 59 14.0 +0.9
NJ2                                 XS               02 59 24.0
NJ2                                 SS      SS       03 03 44.0 +3.2
BVAR  Borovoye Array     69.11   2  P       P        02 50 08.6 -1.3
      comp=Z,5.4nm,0.8s,mb4.5,baz=158,slow=8.0,SNR=15
BRVK  Borovoye           69.14   2 eP       P        02 50 07.8 -2.2
BRVK                                pmax    pmax
      comp=Z,20nm,1.0s,mb5.0
BRVK  Borovoye           69.14   2 eP       P        02 50 07.8 -2.3
      comp=Z,20nm,1.0s,mb5.0
BTO   Baotou             69.22  34 eP       P        02 50 10.9 +0.1
BTO                                 AMB     AMB
      comp=Z,50nm,0.7s,mb5.5
VNA2  Neumayer--Watz     69.65 200 e        P        02 50 15.9 +3.0
VNA2  Neumayer--Watz     69.65 200 e        P        02 50 17.7 +4.8
VNA2  Neumayer--Watz     69.65 200 e        PcP      02 50 36.1 +0.1
VNA2  Neumayer--Watz     69.65 200⇓iP       P        02 50 13.8 +0.9
VNA2                               e        pP       02 50 15.9 -0.6
VNA2                               e        pP       02 50 17.7 +1.2
VNA2                               e                 02 50 36.1
VNA1  Neumayer--Stat     69.89 200 e        P        02 50 19.0 +4.6
VNA1  Neumayer--Stat     69.89 200 e        P        02 50 21.6 +7.2
VNA1  Neumayer--Stat     69.89 200 e        PcP      02 50 39.2 +2.2
VNA1  Neumayer--Stat     69.89 200⇑iP       P        02 50 16.7 +2.3
VNA1                               e        pP       02 50 19.0 +1.0
VNA1                               e        pP       02 50 21.6 +3.6
VNA1                               e                 02 50 39.2
SSE   Sheshan            70.11  48 eP       P        02 50 17.4 +1.0
SSE                                 PCP     PcP      02 50 37.9 -0.7
SSE                                 S       S        02 59 28.9 +3.1
SSE                                 SS      SS       03 04 00.2 +3.1
SSE                                 AMB     AMB
      comp=Z,30nm,0.6s,mb5.4
SSE                                 LR      LR
      comp=N,219nm,13.2s,MS4.9
SSE                                 LR      LR
      comp=E,391nm,13.2s,MS4.9
SSE                                 LR      LR
      comp=Z,872nm,16.8s,MS5.1
SSE   Sheshan            70.11  48 eP       P        02 50 17.4 +1.0
      comp=Z,30nm,0.6s,mb5.4
SSE                                 PcP     PcP      02 50 37.9 -0.7
SSE                                 S       S        02 59 28.9 +3.1
SSE                                 sS               02 59 34.6
SSE                                 SS      SS       03 04 00.2 +3.1
SSE                                 LR      LR
      comp=Z,870nm,16.8s,MS5.1
HHC   Hu-ho-hao-te       70.22  34 eP       P        02 50 17.4 +0.5
HHC                                 AP      pP       02 50 21.4 +0.9
HHC                                 XP      sP       02 50 24.3 +2.5
HHC                                 PP      PP       02 52 55.8 +1.6
HHC                                 S       S        02 59 30.8 +3.9
HHC                                 SKS     SKS      03 00 15.7 -3.3
HHC                                 AMB     AMB
      comp=Z,32nm,0.4s,mb5.6
HHC                                 AMB     AMB
      comp=Z,85nm,5.2s
HHC                                 LR      LR
      comp=N,314nm,17.8s,MS4.8
HHC                                 LR      LR
      comp=E,416nm,22.6s,MS4.8
HHC                                 LR      LR
      comp=Z,221nm,17.2s
VNA3  Neumayer Olymp     70.43 200 e        P        02 50 20.6 +3.0
VNA3  Neumayer Olymp     70.43 200 e        P        02 50 22.4 +4.8
VNA3  Neumayer Olymp     70.43 200 e        PcP      02 50 43.6 +4.4
VNA3  Neumayer Olymp     70.43 200⇑iP       P        02 50 18.5 +0.9
VNA3                               e        pP       02 50 20.6 -0.7
VNA3                               e        pP       02 50 22.4 +1.1
VNA3                               e                 02 50 43.6
VRI   Vrincioaia         71.87 332⇑iP       P        02 50 27.6 +0.8
NVS   Novosibirsk        72.18  10 eP       P        02 50 28.0 -0.5
NVS                                 pmax    pmax
      comp=Z,34nm,1.3s,mb5.1
NVS                                 pmax    pmax
      comp=N,43nm,1.6s
NVS                                 pmax    pmax
      comp=E,8.0nm,1.4s
ARU   Arti               72.82 355 eP       P        02 50 31.2 -1.0
ARU                                 pmax    pmax
      comp=Z,15nm,1.0s,mb4.9
ARU   Arti               72.82 355 eP       P        02 50 31.2 -1.0
      comp=Z,15nm,1.0s,mb4.9
SONM  Songino Array      72.86  26  P       P        02 50 32.6  0.0
      comp=Z,4.6nm,0.9s,mb4.4,baz=212,slow=4.8,SNR=20
ZAK   Zakamensk          73.62  23 eP       P        02 50 36.0 -0.9
DIVS  Divcibare          73.93 327⇑iP       P        02 50 38.6 -0.2
AKASG Malin Array Be     74.56 336  P       P        02 50 40.9 -1.4
      comp=Z,6.4nm,0.8s,mb4.6,baz=137,slow=4.9,SNR=29
KIC   Kosan Boka         74.57 281 eP       P        02 50 42.8 -0.4
      comp=Z,73nm,1.0s,mb5.6
DBIC  Dimbokro           74.78 282  P       P        02 50 43.5 -1.0
      comp=Z,10.0nm,0.8s,mb4.8,baz=95,slow=8.8,SNR=10
DBIC                                LR      LR       03 21 43.4
      comp=Z,874nm,18.1s,MS5.1,baz=95,slow=34
LIC   Lamto              74.80 281 eP       P        02 50 43.7 -0.8
      comp=Z,41nm,0.9s,mb5.1
LIC   Lamto              74.80 281 eP       P        02 50 44.0 -0.5
      comp=Z,59nm,0.9s,mb5.5
TIC   Toumodi            74.93 282 eP       P        02 50 44.8 -0.5
      comp=Z,125nm,1.2s,mb5.7
OBN   Obninsk            75.73 342⇑iP       P        02 50 52.1 +3.1
OBN                                e                 02 51 05.4
OBN                                e                 02 53 43.8
OBN                                eS       S        03 00 31.4 +2.3
OBN                                 pmax    pmax
      comp=Z,42nm,2.1s,mb5.0
OBN                                 MLR     MLR
      comp=Z,600nm,22.0s,MS4.9
JNU   Nakatsue           78.18  50  P       P        02 51 03.0 -0.1
      comp=Z,9.0nm,0.9s,mb4.7,baz=251,slow=10,SNR=3.6
ARSA  Arzberg            78.36 327⇑iP       P        02 51 04.2 +0.4
      comp=Z,6.7nm,0.9s,mb4.6
ARSA                               i                 02 51 10.2
      comp=Z,16nm,1.1s
MORC  Moravsky Berou     79.00 330 eP       P        02 51 06.4 -0.8
MORC                                pmax    pmax
      comp=Z,5.0nm,0.9s,mb4.4
MORC  Moravsky Berou     79.00 330 eP       P        02 51 06.4 -0.8
      comp=Z,5.2nm,0.9s,mb4.5
MOA   Molln              79.40 327⇑iP       P        02 51 10.0 +0.6
      comp=Z,18nm,1.0s,mb5.0
CN2   Changchun          80.05  39 eP       P        02 51 15.4 +2.4
CN2                                eXP      sP       02 51 21.4 +3.4
CN2                                eS       S        03 01 16.1 +0.4
CN2                                 AMB     AMB
      comp=Z,10.0nm,0.8s,mb4.8
KSP   Ksiaz              80.30 330 eP       P        02 51 15.6 +1.4
KSP                                e*PP     pP       02 51 19.8 +1.9
KSP                                e                 03 01 23.0
GERES GERESS Array B     80.31 327  P       P        02 51 13.1 -1.3
      comp=Z,0.6nm,0.7s,mb3.6,baz=205,slow=38,SNR=3.7
WATA  Walderalm          80.52 325⇑iP       P        02 51 16.3 +0.8
      comp=Z,1.9nm,0.7s,mb4.1
KHC   Kasperske Hory     80.56 328 eP       P        02 51 10.5 -5.1
KHC                                 x       x        02 51 25.5
KHC   Kasperske Hory     80.56 328 eP       P        02 51 10.5 -5.1
KHC                                e                 02 51 25.5
PRU   Pruhonice          80.61 329 eP       P        02 51 17.5 +1.6
MOTA  Moosalm            80.79 325⇑iP       P        02 51 16.8 -0.1
      comp=Z,4.4nm,1.2s,mb4.3
MOTA                               i                 02 51 23.8
      comp=Z,9.8nm,1.2s
SBF   Sospel             80.94 321 eP       P        02 51 18.4 +0.7
      comp=Z,35nm,0.7s,mb5.1
LMR   La Mourre          81.22 320 eP       P        02 51 19.3 +0.1
      comp=Z,53nm,1.3s,mb5.0
FRF   La Foret Royal     81.25 320 eP       P        02 51 18.4 -1.0
      comp=Z,13nm,1.0s,mb4.5
BRG   Berggiesshubel     81.46 329 eP       P        02 51 24.6 +4.3
BRG                                 pmax    pmax
      comp=Z,4.0nm,0.9s,mb4.3
BRG   Berggiesshubel     81.46 329 eP       P        02 51 24.6 +4.3
      comp=Z,3.9nm,0.9s,mb4.3
MBDF  Montbardon         81.80 321 eP       P        02 51 22.7 +0.5
      comp=Z,19nm,0.9s,mb4.7
GRA1  Grafenberg Arr     82.12 327 eP       P        02 51 22.6 -1.2
      comp=Z,14nm,1.4s,mb4.7
GRF   Grafenberg Arr     82.12 327 eP       P        02 51 22.6 -1.2
GRF                                 pmax    pmax
      comp=Z,14nm,1.4s,mb4.7
SMRF  Simiane la Rot     82.13 320 eP       P        02 51 24.6 +0.6
      comp=Z,14nm,0.9s,mb4.6
CLL   Collm              82.20 329  P       P        02 51 24.0 -0.1
CLL                                e                 02 51 44.0
CLL   Collm              82.20 329 eP       P        02 51 24.0 -0.1
LPG   La Plagne          82.23 322 eP       P        02 51 24.9 +0.5
      comp=Z,12nm,0.8s,mb4.6
LPL   La Plagne          82.25 322 eP       P        02 51 24.9 +0.4
ORIF  Oris-en-Rattie     82.44 321 eP       P        02 51 24.9 -0.6
      comp=Z,30nm,1.1s,mb4.8
MOX   Moxa               82.49 328 i P      P        02 51 33.8 +8.1
      comp=Z,logA/T=1.2,mb4.9
MOX   Moxa               82.49 328 eP       P        02 51 33.8 +8.1
MOX                                 pmax    pmax
      comp=Z,31nm,1.8s,mb4.9
MOX   Moxa               82.49 328 eP       P        02 51 33.8 +8.1
      comp=Z,31nm,1.8s,mb4.9
MDJ   Mudanjiang         83.00  40  P       P        02 51 27.2 -1.3
MDJ                                 PP      PP       02 54 37.2 -4.0
MDJ                                 S       S        03 01 47.3 +1.2
MDJ                                 AMB     AMB
      comp=Z,16nm,1.4s,mb4.9
MDJ                                 AMB     AMB
      comp=Z,121nm,7.3s
VIVF  Saint-Julien-l     83.14 321 eP       P        02 51 29.2  0.0
      comp=Z,17nm,0.9s,mb4.8
CABF  La Chapelle        83.22 323 eP       P        02 51 29.8 +0.3
      comp=Z,69nm,1.4s,mb5.2
LASF  Ste Croix          83.25 320 eP       P        02 51 29.0 -0.7
      comp=Z,53nm,1.3s,mb5.1
BOD   Bodaibo            83.36  23 eP       P        02 51 24.8 -5.2
HINF  Hinteralfeld       83.43 324 eP       P        02 51 29.9 -0.7
CART  Cartagena          83.43 312 eP       P        02 51 30.3 -0.5
      comp=Z,30nm,0.8s,mb5.4
CDF   Champ du Feu       83.51 325 eP       P        02 51 30.6 -0.4
      comp=Z,20nm,1.0s,mb4.9
EMUR  La Murta           83.72 312  P       P        02 51 33.4 +1.1
      comp=Z,6.8nm,0.8s,mb4.8
EBR   Ebro Roquetas      83.86 316 eTs               02 51 41.0
EBR                                eTs               03 13 21.5
FINES FINESS Array B     84.09 341  P       P        02 51 33.5 -0.1
      comp=Z,2.2nm,1.0s,mb4.3,baz=252,slow=18,SNR=2.3
KAF   Kangasniemi        84.54 342 ep       P        02 51 36.8 +1.0
SMF   Signal de Mont     84.56 322 eP       P        02 51 36.0 -0.3
      comp=Z,58nm,1.5s,mb5.2
CAF   Calviac            84.78 320 eP       P        02 51 36.9 -0.6
      comp=Z,26nm,1.2s,mb5.0
LOR   Lormes             84.86 322 eP       P        02 51 37.7 -0.1
      comp=Z,48nm,1.4s,mb5.1
ESAC  San Caprasio       84.91 316  P       P        02 51 45.5 +7.3
      comp=Z,31nm,0.8s,mb5.5
AVF   Avril sur Loir     84.92 322 eP       P        02 51 37.8 -0.3
      comp=Z,11nm,0.9s,mb4.7
EVIA  Vianos             84.95 313  P       P        02 51 40.7 +2.2
      comp=Z,17nm,0.7s,mb5.3
SSF   Saint Saulge       84.97 322 eP       P        02 51 38.4 +0.1
      comp=Z,33nm,1.1s,mb5.1
EPF   Esparros           84.98 317 eP       P        02 51 38.9 +0.4
      comp=Z,31nm,1.4s,mb4.9
EQES  Quesada            85.01 312  P       P        02 51 40.4 +1.6
      comp=Z,18nm,1.1s,mb5.1
MAT   Matsushiro         85.10  50  P       P        02 51 39.6 +0.3
MAT                                 S       S        03 02 13.0 +5.9
MAT   Matsushiro         85.10  50 eP       P        02 51 40.0 +0.7
MAT                                eS       S        03 02 14.0 +6.9
BGF   Bois d’Agland      85.11 321 eP       P        02 51 39.0  0.0
      comp=Z,14nm,0.8s,mb4.9
ERON  Agron              85.21 311  P       P        02 51 43.9 +4.1
      comp=Z,7.5nm,0.9s,mb4.8
RJF   Les Rejaudoux      85.31 320 eP       P        02 51 40.4 +0.3
      comp=Z,50nm,1.1s,mb5.2
ETSF  Etsaut             85.51 317 eP       P        02 51 41.6 +0.5
      comp=Z,21nm,0.9s,mb5.1
LFF   La Frestale        85.62 319 eP       P        02 51 42.0 +0.4
      comp=Z,40nm,1.1s,mb5.3
EMIJ  Mijas              85.74 310  P       P        02 51 45.1 +2.6
ELUQ  Luque              85.77 311  P       P        02 51 45.8 +3.2
      comp=Z,7.1nm,0.9s,mb4.9
SJPF  Ste Jean           86.04 317 eP       P        02 51 44.4 +0.6
      comp=Z,42nm,1.2s,mb5.2
EADA  Adamuz             86.24 311  P       P        02 51 47.7 +2.8
      comp=Z,12nm,1.0s,mb5.1
ESDC  Sonseca Array      86.42 313  P       P        02 51 46.0 +0.2
      comp=Z,2.0nm,0.7s,mb4.5,baz=99,slow=4.3,SNR=5.1
ESDC  Sonseca Array      86.42 313  P       P        02 51 45.5 -0.3
ESPR  Espera             86.66 310  P       P        02 51 48.4 +1.4
      comp=Z,14nm,0.9s,mb5.2
MFF   Saint Martin d     86.94 320 eP       P        02 51 48.2 +0.1
      comp=Z,25nm,1.0s,mb5.1
EBAD  Badajoz            88.23 311  P       P        02 51 59.3 +4.8
      comp=Z,8.5nm,0.8s,mb5.0
EVO   Evora              88.87 311 eP       P        02 51 57.9 +0.3
      comp=Z,22nm,0.9s,mb5.2
ARCES ARCESS Array B     90.51 346  P       P        02 52 06.5 +1.9
      comp=Z,4.3nm,0.8s,mb4.8,baz=16,slow=22,SNR=2.9
IMA   Indian Mountai    123.46  19  PKIKP   PKPdf    02 58 00.4 -1.7
LPAZ  La Paz            125.27 236  PKP     PKPdf    02 58 05.6 -1.3
      comp=Z,1.2nm,0.3s,baz=116,slow=3.2,SNR=3.6
ILAR  Eielson Array     126.39  17  PKP     PKPdf    02 58 05.8 -1.9
      comp=Z,1.7nm,1.0s,baz=300,slow=2.3,SNR=12
YKA   Yellowknife Ar    133.86   1  PKP     PKPdf    02 58 19.9 -2.1
      comp=Z,0.6nm,0.9s,baz=176,slow=19,SNR=3.7
ULM   Lac du Bonnet     143.48 342  PKP     PKPdf    02 58 38.4 -1.2
      comp=Z,3.1nm,0.6s,baz=58,slow=15,SNR=2.7
ACSO  Alum Creek Sta    144.79 319 ePKPdf   PKPdf    02 58 39.3 -3.0
DGMT  Dagmar            147.16 349 ePKPbc   PKPdf    02 58 47.4 +1.5
RPW   Rockport          147.18  11 ePKPbc   PKPdf    02 58 46.2 +0.2
NLW   Nelson Butte      147.73   9 ePKPdf   PKPdf    02 58 45.0 -2.0
GNW   Green Mountain    147.77  13 ePKPbc   PKPdf    02 58 47.7 +0.7
NEW   Newport           147.95   5 ePKP2    PKPab    02 58 48.5 -3.3
WCI   Wyandotte Cave    148.05 318  PKP2    PKPab    02 58 48.4 -4.2
DPW   Davenport         148.22   7 ePKPbc   PKPdf    02 58 49.1 +1.4
DPW                                ePKPab   PKPab    02 58 52.0 -1.0
LON   Longmire          148.75  12 ePKIKP   PKPdf    02 58 45.9 -2.7
SHW   Mount Saint He    149.20  13  PKP2    PKPab    02 58 51.8 -5.2
LAO   LASA Array        149.22 351 ePKPbc   PKPdf    02 58 51.6 +2.3
LAO                                ePKPab   PKPab    02 58 56.6 -0.5
SWET  Sewanee           149.46 313 ePKPbc   PKPdf    02 58 53.1 +3.0
HAWA  Hanford           149.50   9 ePKPbc   PKPdf    02 58 52.7 +2.9
HAWA                               e                 02 58 59.4
LNOR  Lincton Mounta    150.18   8 ePKPab   PKPab    02 59 01.3 +0.2
WVT   Waverly           150.26 316 ePKPbc   PKPdf    02 58 55.1 +3.7
BOZ   Bozeman (W)       150.74 358 ePKPbc   PKPdf    02 58 55.4 +3.6
CCM   Cathedral Cave    151.18 323  PKIKP   PKPdf    02 58 50.4 -2.3
CCM                                e                 02 58 59.3
RSSD  Black Hills       151.29 347 ePKPbc   PKPdf    02 58 58.7 +6.0
LRAL  Lakeview Retre    151.32 310 ePKPbc   PKPdf    02 58 57.5 +4.5
LRAL                               ePKPab   PKPab    02 59 04.1 -2.2
HUMO  Hull Mountain     152.40  16 ePKPbc   PKPdf    02 58 58.9 +4.5
HUMO                               ePKPab   PKPab    02 59 07.0 -3.6
HLID  Hailey            152.81   2 ePKPbc   PKPdf    02 58 57.9 +3.1
TPAW  Teton Pass        152.87 357  PKPdf   PKPdf    02 58 54.0 -1.0
SNOW  Snow King Moun    152.88 357 ePKPbc   PKPdf    02 59 00.2 +5.2
PDAR  Pinedale Array    153.49 355  PKP     PKPdf    02 58 56.5 +0.7
      comp=Z,0.8nm,0.6s,baz=45,slow=4.2,SNR=4.7
PDAR                                PKPbc   PKPdf    02 59 02.6 +6.8
      comp=Z,3.5nm,0.6s,baz=73,slow=3.1,SNR=13
WVOR  Wild Horse Val    153.50  10  PKPbc   PKPdf    02 59 02.3 +6.5
HWUT  Hardware Ranch    154.77 358  PKPdf   PKPdf    02 58 56.4 -1.2
TXAR  Lajitas Array     164.53 328  PKP     PKPdf    02 59 09.2 +0.2
      comp=Z,0.9nm,0.9s,baz=211,slow=5.3,SNR=4.9
TXAR                                PKPab   PKPab    03 00 02.8 -0.2
      comp=Z,0.6nm,0.7s,baz=135,slow=1.8,SNR=3.6
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*NEIC **13** 02:41:16.1, 34.12S×70.07W, h7km, ML2.9(GUC), After GUC.*

GUC 13 02:41:16.1±0.7**, 34.12S**×**70.07W, h7km**±1km**, MD4.0, ML2.9, 5C-3D, Chile-Argentina border region**

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Code  Station Name          Δ°  AZ°    Phase ID              Time     Res
                                    Op      ISC           h  m  s    ISC
LMEL  Las Melosas          0.29 337⇑iP      Pg           02 41 22.4 +0.3
LMEL                                i S     Sg           02 41 27.5 +1.3
LMEL                                 AMP                 02 41 28.3
      comp=N,4µm,0.4s
CICH  Cipreses             0.36 236⇑iP      Pg           02 41 23.6 +0.3
CICH                                i S     Sg           02 41 29.1 +1.0
CACH  El Canelo            0.44 270⇓iP      Pg           02 41 25.3 +0.2
CACH                                i S     Sg           02 41 32.1 +1.1
CHCH  Chadas Angostu       0.52 291⇑iP      Pg           02 41 26.9 +0.3
CHCH                                i S     Sg           02 41 35.0 +1.4
PCH   Pirque               0.62 323⇓iP      Pg           02 41 28.6  0.0
ANTU  Antumapu             0.72 319 eP      Pb           02 41 30.3 -0.3
ANTU                                i S     Sg           02 41 41.1 +0.8
ANTU                                 AMP                 02 41 41.7
      comp=N,999nm,0.2s
FCH   Farellones           0.81 347⇑iP      Pb           02 41 31.6 -0.5
FCH                                 i S     Sb           02 41 43.6 +0.6
FCH                                  AMP                 02 41 44.8
      comp=E,1µm,0.5s
TACH  Talagante            0.86 302⇓iP      Pb           02 41 32.8 -0.2
TACH                                i S     Sb           02 41 45.0 +0.5
SFDO  San Fernando         0.93 238⇑iP      Pb           02 41 33.9 -0.2
SFDO                                i S     Sb           02 41 46.5 +0.1
LNV   Longovilo            1.13 278 i P     Pb           02 41 37.2 -0.3
LNV                                 i S     Sb           02 41 52.4 +0.2
MDZ   Mendoza              1.60  40 eP      Pn           02 41 44.9  0.0
MDZ                                 e                    02 41 48.7
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*IDC **13** 02:46:13.9±0.9, 5.21S×146.44E, h30km±5km, mb4.2/9, mb1 4.4/11, mb1mx4.4/14, ML4.8/2, Error ellipse: s-maj=31.4km s-min=16.6km az=94.0*

*NEIC **13** 02:46:14.2±0.8, 5.09S×146.23E, mb4.6/7, Error ellipse:*

s-maj=15.6km s-min=11.2km az=81.0

ISC 13 02:46:11.9±0.7**, 5.18S**±0.06×**146.41E**±0.06**, h29^{km}, h29^{km}**±1.0^{km}**:pP-P, n28,** σ**0^{s}96**/29**, mb4.5**/13**, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MDG	Madang	0.63	263	*e*P	Pb	02 46 24.4	+0.1
MDG				*e*S	Sb	02 46 33.2	+0.4
WAU	Wau	2.18	172	*e*P	Pn	02 46 51.4	+4.4
PMG	Port Moresby	4.27	170	*e*P	Pn	02 47 18.2	+1.5
CTA	Charters Tower	14.82	181	*e*P	P	02 49 45.2	+3.6
	22nm,0.5s						
CTA	Charters Tower	14.82	181	Pn	P	02 49 45.1	+3.5
	5.6nm,0.3s,baz=359,slow=14,SNR=41						
CTA				Sn	S	02 52 25.9	+0.4
	0.3nm,0.3s,baz=116,slow=20,SNR=2.1						
CTAO	Charters Tower	14.82	181	*e*P	P	02 49 45.0	+3.5
	29nm,0.6s						
KAKA	Kakadu	15.72	241	*e*P	P	02 49 56.0	+2.8
	31nm,0.6s						
WRAB	Tennant Creek	18.78	218	*e*P	P	02 50 32.1	+0.6
	19nm,0.5s						
WB2	Warramunga Arr	18.79	218	*e*P	P	02 50 31.4	-0.2
WRA	Warramunga Arr	18.80	218	P	P	02 50 31.4	-0.2
	1.9nm,0.3s,baz=39,slow=12,SNR=14						
ASAR	Alice Springs	21.98	212	P	P	02 51 05.4	-0.1
	4.5nm,0.7s,mb4.0,baz=44,slow=8.0,SNR=19						
ASPA	Alice Springs	21.98	212	*e*P	P	02 51 04.9	-0.6
FITZ	Fitzroy Crossi	24.02	236	*e*P	P	02 51 25.6	+0.1
	22nm,0.5s,mb4.8						
FITZ	Fitzroy Crossi	24.02	236	P	P	02 51 26.2	+0.6
	30nm,0.5s,mb5.0,baz=64,slow=3.8,SNR=60						
STKA	Stephens Creek	26.94	189	*e*P	P	02 51 52.2	-0.7
	4.7nm,0.6s,mb4.2						
STKA	Stephens Creek	26.94	189	P	P	02 51 52.5	-0.4
	4.6nm,0.5s,mb4.3,baz=2.0,slow=9.5,SNR=12						
MBWA	Marble Bar	30.36	236	*e*P	P	02 52 22.2	-1.6
	5.9nm,0.5s,mb4.6						
FORT	Forrest	30.77	212	*e*P	P	02 52 26.3	-1.0
	25nm,0.4s,mb5.4						
KLBR	Kellerberrin	37.57	222	*e*P	P	02 53 24.8	-1.0
	10nm,0.5s,mb4.8						
NWAO	Narrogin (SRO)	38.75	221	*e*P	P	02 53 33.9	-1.7
	5.7nm,0.7s,mb4.4						
RPZ	Rata Peaks	44.10	154	P	P	02 54 19.8	+0.3
	20nm,0.7s,mb5.0,baz=291,slow=8.6,SNR=12						
SONM	Songino Array	63.40	331	P	P	02 56 42.1	+1.0
	1.0nm,0.6s,mb4.1,baz=151,slow=7.1,SNR=7.6						
SONM				pP	pP	02 56 50.5	+0.3
	2.5nm,0.8s,baz=153,slow=2.8,SNR=8.7						
MKAR	Makanchi Array	76.49	321	P	P	02 58 01.5	+0.5
	0.9nm,0.6s,mb3.9,baz=117,slow=8.1,SNR=6.5						
MKAR				pP	pP	02 58 11.1	+0.9
	3.7nm,0.8s,baz=117,slow=5.4,SNR=14						
MKAR	Makanchi Array	76.49	321	P	P	02 58 01.5	+0.5
MKAR				pP	pP	02 58 11.1	+0.9
MAW	Mawson	82.78	203	P	P	02 58 33.3	-1.0
	2.4nm,0.8s,mb4.3,baz=86,slow=8.4,SNR=4.0						
ILAR	Eielson Array	84.96	23	P	P	02 58 45.2	-0.2
	1.8nm,0.6s,mb4.4,baz=254,slow=4.9,SNR=30						
BVAR	Borovoye Array	85.76	324	P	P	02 58 50.2	+0.5
	0.7nm,0.6s,mb4.1,baz=104,slow=6.1,SNR=4.6						
BVAR				pP	pP	02 58 59.9	+0.8
	1.7nm,0.6s,baz=104,slow=6.1,SNR=7.5						
DBIC	Dimbokro	151.38	274	PKPbc	PKPdf	03 06 05.2	+2.3
	4.3nm,1.0s,baz=13,slow=6.6,SNR=2.4						

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*IDC **13** 02:59:36.6±0.6, 9.15N×69.94W, mb4.4/11, mb1 4.6/14, mb1mx4.6/22, ML4.0/1, MS4.0/4, Ms1 4.0/4, ms1mx3.8/24, Error ellipse: s-maj=19.2km s-min=14.4km az=73.0*
*BJI **13** 02:59:38.0, 9.20N×70.10W, h1^{km}, mB5.0, Msz4.9*
*NEIC **13** 02:59:38.0, 9.19N×70.09W, h1^{km}, mb4.7/34, MD4.9(CAR), After CAR.*
*FUNV **13** 02:59:38.0, 9.17N×70.13W, h0^{km}, MW4.1*
ISC 13 02:59:36.4±1.0**, 9.18N**±0.02×**70.06W**±0.02**, h6^{km}**±6^{km}**, n127,** σ**1^{s}17**/135**, mb4.6**/43**, MS5.0**/2**, 9C-8D, Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SDV	Santo Domingo	0.64	243	*e*P	Pg	02 59 48.3	-0.9
EAV	Pico El Aguila	0.82	247	P	Pb	02 59 52.9	+0.2
CURV	Curarigua	0.83	7⇑	*e*P	Pb	02 59 53.7	+0.8
CURV				*e*S	Sb	03 00 05.6	+1.4
SOCV	Socops	1.19	221⇑	*e*P	Pb	02 59 59.4	+0.4
SOCV				*e*S	Sb	03 00 15.5	+0.9
UAV	Universidad de	1.21	242	P	Pb	03 00 00.1	+0.6
SIQV	Siquisique	1.48	10⇑	*e*P	Pn	03 00 06.1	+2.4
SIQV				*e*S	Sb	03 00 26.7	+3.8
OSV	Paramo de la O	1.51	249	P	Pn	03 00 05.4	+1.2
FIPE	Fila de Piedra	1.69	224	P	Pn	03 00 09.0	+2.3
VIGV	El Vigia	1.79	250⇑	*i*P	Pn	03 00 02.4	-5.8
DABV	Dabajuro	1.82	342	*e*P	Pn	03 00 10.9	+2.3
DABV				*e*S	Sn	03 00 34.0	+1.8
BAUV	El Baul	2.01	97⇑	*e*P	Pn	03 00 12.5	+1.2
BAUV				*e*S	Sn	03 00 40.2	+3.2
LAPE	La Pedrera	2.20	223	P	Pn	03 00 15.6	+1.5
ELOV	Elorza	2.24	165⇑	*i*P	Pn	03 00 15.7	+1.1
ELOV				*e*S	Sn	03 00 43.9	+1.0
CEDI	Cerro Diablo	2.36	230	P	Pn	03 00 17.0	+0.7
CAPV	Capacho	2.58	240	*e*S	Sn	03 00 50.3	-1.4
VIRV	Villa del Rosa	2.66	300⇓	*i*P	Pn	03 00 21.1	+0.5
VIRV				*e*S	Sn	03 00 52.3	-1.3
MONV	Montecano	2.76	2	*e*P	Pn	03 00 23.0	+0.9
MONV				*e*S	Sn	03 00 56.2	+0.2
FUNV	FUNVISIS	3.45	68⇓	*e*P	Pn	03 00 33.0	+1.2
FUNV				*e*S	Sn	03 01 14.1	+0.6
MERV	Las Mercedes	3.71	89⇓	*e*P	Pn	03 00 36.3	+0.7
MERV				*e*S	Sn	03 01 20.2	-0.1
CAOV	Caicara del Or	4.13	116⇓	*e*P	Pn	03 00 41.0	-0.6
CUPV	Cœpira	4.30	78⇓	*e*P	Pn	03 00 44.7	+0.7
PAYV	Puerto Ayacuch	4.43	147	*e*P	Pn	03 00 44.9	-1.0
ORCV	Isla La Orchil	4.61	55⇑	*e*P	Pn	03 00 48.4	0.0
IBAV	Isla La Blanqu	6.00	64⇓	*e*P	Pn	03 01 06.5	-1.5
IBAV				*e*S	Sn	03 02 13.2	-4.6
ROSC	El Rosal	6.04	225	Pn	Pn	03 01 08.9	+0.4
	29nm,0.3s,baz=92,slow=11,SNR=69						
ROSC				Sn	Sn	03 02 25.1	+6.3
	46nm,0.3s,baz=223,slow=18,SNR=2.7						
ROSC				LR	LR	03 03 43.7	
	comp=Z,1µm,19.5s,baz=24,slow=40						
GUNV	Guanoco	7.08	82	*e*P	Pn	03 01 21.9	-1.4
GUNV				*e*S	Sn	03 02 38.9	-6.2
TPP	Pointe-a-Pierr	8.56	82	*e*P	P	03 01 44.6	+0.7
TRN	Trinidad (W)	8.65	80	*e*P	P	03 01 43.0	-2.1
TRN				*e*S	Sn	03 03 23.0	-1.2
MGP	Maguayo	9.23	18	*e*Pn	P	03 01 50.8	-2.4
SJG	San Juan	9.65	23	Pn	P	03 01 56.8	-2.3
	17nm,0.3s,baz=206,slow=11,SNR=41						
SJG				Sn	Sn	03 03 37.6	-11
	7.3nm,0.3s,baz=5.5,slow=20,SNR=3.6						
SJG				LR	LR	03 05 50.8	
	comp=Z,581nm,20.1s,baz=26,slow=39						
SJG	San Juan	9.65	23	*e*Pn	P	03 01 56.3	-2.9
SJG				*e*S	Sn	03 03 34.6	-14
CPD	Cerro la Pandu	9.68	24	*e*Pn	P	03 01 56.4	-3.1
CPD				*e*S	Sn	03 03 35.2	-15
HUMP	Col San Antoni	9.80	24	*e*Pn	P	03 01 57.5	-3.7
HUMP				*e*S	Sn	03 03 38.1	-15
MTP	Monte Pirata	9.88	26	*e*Pn	P	03 01 59.3	-2.9
CBYP	Canovanas	9.91	24	*e*Pn	P	03 01 58.9	-3.8
OTAV	Otavalo	12.20	224	*e*P	P	03 02 35.0	+1.2
	9.2nm,0.9s						
BUS	Buena Vista	13.52	273	*e*P	P	03 02 50.6	-1.0
TRTC	Tortuguero	13.52	277	*e*P	P	03 02 50.6	-1.0
URSC	Urasca	13.55	274	*e*P	P	03 02 52.3	+0.3
ICR	Volcan Irazu	13.60	274	*e*P	P	03 02 51.5	-1.2
LCR2	La Lucha 2	13.77	273	*e*P	P	03 02 54.4	-0.4
FORC	Fortuna	14.45	276	*e*P	P	03 03 02.5	-1.3
JTS	JuntasAbangare	14.72	276	Pn	P	03 03 07.0	-0.3
	0.7nm,0.3s,baz=55,slow=9.5,SNR=7.0						
JTS				LR	LR	03 09 44.2	
	comp=Z,281nm,18.7s,baz=318,slow=41						
JTS	JuntasAbangare	14.72	276	*e*P	P	03 03 07.2	-0.2
	39nm,1.1s						
SAML	Samuel	19.27	159	*e*P	P	03 03 59.6	-5.1
	51nm,1.2s						
TEIG	Tepich	20.74	304	P	P	03 04 20.8	+0.3
	0.0nm,0.4s,baz=292,slow=24,SNR=3.9						
NNA	Nana	22.09	198	*e*P	P	03 04 33.1	-1.1
	29nm,0.8s,mb4.8						
BBSR	BB Station	23.60	11	P	P	03 04 47.3	-1.8
LPAZ	La Paz	25.38	176	P	P	03 05 06.9	+0.6
	9.2nm,0.8s,mb4.3,baz=349,slow=13,SNR=29						
NHSC	New Hope	25.58	340	P	P	03 05 08.8	+0.7
WVT	Waverly	31.32	332	*e*P	P	03 05 59.5	-0.5
	16nm,1.0s,mb4.8						
LVC	Limon Verde	31.62	178	*e*P	P	03 06 00.2	-2.4
	8.8nm,0.6s,mb4.8						
LUPA	Lehigh Univers	31.64	352	P	P	03 06 04.2	+1.5
WCI	Wyandotte Cave	32.40	336	*e*P	P	03 06 09.6	+0.3
	17nm,0.8s,mb4.9						
BDFB	Brasilia	32.94	138	P	P	03 06 12.7	-1.5
	4.1nm,0.9s,mb4.3,baz=70,slow=19,SNR=2.2						
BDFB				LR	LR	03 20 39.9	
	comp=Z,1µm,20.1s,MS4.5,baz=210,slow=38						
ACSO	Alum Creek Sta	32.99	342	*e*P	P	03 06 15.1	+0.7
	36nm,0.9s,mb5.3						
CCM	Cathedral Cave	34.51	330	*e*P	P	03 06 27.0	-0.6
	24nm,1.0s,mb5.1						
WMOK	Wichita Mounta	36.58	318	*e*P	P	03 06 44.1	-1.2
	4.0nm,0.8s,mb4.3						
LTX	Lajitas	37.32	307	*e*P	P	03 06 51.5	0.0
	4.7nm,0.7s,mb4.4						
TXAR	Lajitas Array	37.32	307	P	P	03 06 51.6	+0.2
	2.7nm,0.6s,mb4.2,baz=134,slow=8.1,SNR=30						
TXAR				PcP	PcP	03 09 12.2	+1.0
	2.9nm,0.7s,baz=132,slow=5.6,SNR=12						
CPUP	Villa Florida	37.40	161	P	P	03 06 50.2	-2.0
	2.9nm,1.1s,mb4.0,baz=26,slow=12,SNR=3.2						
JFWS	Jewell Farm	37.97	336	*e*P	P	03 06 56.6	-0.2
	36nm,0.7s,mb5.2						
ANMO	Albuquerque	41.99	313	*e*P	P	03 07 30.8	+0.5
	5.6nm,1.1s,mb4.1						
SDCO	Great Sand Dun	42.75	317	*e*P	P	03 07 36.7	+0.3
	7.5nm,0.8s,mb4.5						
ISCO	Idaho Springs	43.95	320	*e*P	P	03 07 46.6	+0.4
	2.0nm,0.8s,mb3.9						
SCHQ	Schefferville	45.60	3	P	P	03 08 00.5	+1.3
	4.6nm,0.6s,mb4.6,baz=208,slow=9.1,SNR=8.0						
WUAZ	Wupatki	45.84	311	*e*P	P	03 08 02.1	+0.8
	13nm,0.9s,mb4.9						
ULM	Lac du Bonnet	46.20	337	P	P	03 08 03.2	-0.7
	8.5nm,0.6s,mb4.8,baz=130,slow=7.7,SNR=12						
SRU	San Rafael	46.84	316	*e*P	P	03 08 09.5	+0.3
TRQA	Tornquist	47.59	171	P	P	03 08 15.6	+0.4
MSU	Marysvale	47.71	315	*e*P	P	03 08 16.7	+0.6
MVU	Marysvale	47.73	315	*e*P	P	03 08 17.4	+1.1
	8.1nm,0.9s,mb4.8						
BW06	Boulder Array	48.06	321	*e*P	P	03 08 18.4	-0.4
	6.9nm,1.0s,mb4.6						
PDAR	Pinedale Array	48.06	321	P	P	03 08 18.8	0.0
	2.4nm,0.6s,mb4.4,baz=124,slow=10,SNR=26						
NLU	North Lily Min	48.30	316	*e*P	P	03 08 20.8	+0.2
TCUT	Toone Canyon	48.40	318	P	P	03 08 21.4	0.0
LAO	LASA Array	48.41	327	*e*P	P	03 08 20.4	-1.0
	16nm,1.4s,mb4.8						
DGMT	Dagmar	48.53	330	*e*P	P	03 08 22.1	-0.2
	16nm,1.0s,mb5.0						
DUG	Dugway	48.91	316	*e*P	P	03 08 25.5	+0.2
SNOW	Snow King Moun	49.18	321	*e*P	P	03 08 27.8	+0.4
TPAW	Teton Pass	49.31	321	*e*P	P	03 08 28.2	-0.2
TPNV	Topopah Spring	50.02	311	*e*P	P	03 08 34.2	+0.2
	5.5nm,0.9s,mb4.6						
ELK	Elko	50.81	316	*e*P	P	03 08 39.8	-0.1
	2.3nm,0.9s,mb4.1						
BOZ	Bozeman (W)	50.87	323	*e*P	P	03 08 39.8	-0.5
	8.5nm,1.4s,mb4.5						
HLID	Hailey	51.53	320	*e*P	P	03 08 45.0	-0.3
	5.9nm,1.1s,mb4.4						
MNV	Mina	51.97	312	*e*P	P	03 08 48.3	-0.4
	2.7nm,0.9s,mb4.2						
FFC	Flin Flon	52.03	337	*e*P	P	03 08 47.2	-1.7
	15nm,1.3s,mb4.8						
WVOR	Wild Horse Val	53.83	317	*e*P	P	03 09 02.2	-0.3
	5.6nm,1.0s,mb4.5						
LNOR	Lincton Mounta	55.04	321	*e*P	P	03 09 10.8	-0.5
NEW	Newport	55.43	324	*e*P	P	03 09 12.4	-1.7
	4.8nm,1.0s,mb4.5						
DPW	Davenport	55.89	323	*e*P	P	03 09 16.7	-0.7
RPW	Rockport	58.13	322	P	P	03 09 31.9	-1.4
USHA	Ushuaia	63.79	179	P	P	03 10 11.1	-0.4
	7.1nm,0.7s,mb4.8,baz=1.9,slow=2.8,SNR=6.3						
DBIC	Dimbokro	64.56	87	P	P	03 10 14.3	-3.0
	4.6nm,0.9s,mb4.5,baz=42,slow=8.0,SNR=2.7						
DBIC	Dimbokro	64.56	87	P	P	03 10 14.3	-3.0
ESDC	Sonseca Array	65.82	51	P	P	03 10 24.2	-0.8
	1.0nm,0.6s,mb4.0,baz=267,slow=6.4,SNR=8.9						
SJPF	Ste Jean	68.34	47	*e*P	P	03 10 40.8	-0.2
	14nm,0.8s,mb4.7						
EPF	Esparros	69.47	48	*e*P	P	03 10 48.2	+0.3
	23nm,1.1s,mb4.7						
MFF	Saint Martin d	69.60	44	*e*P	P	03 10 48.7	+0.1
	23nm,0.8s,mb4.8						
LDF	La Druitiere	69.92	42	*e*P	P	03 10 54.4	+3.9
	20nm,0.9s,mb4.7						
LOR	Lormes	72.40	43	*e*P	P	03 11 06.4	+0.9
MEZF	Maizieres J'vi	73.31	42	*e*P	P	03 11 13.5	+2.6
	13nm,0.6s,mb4.7						
ORIF	Oris-en-Rattie	73.62	46	*e*P	P	03 11 19.0	+6.3
LPL	La Plagne	74.26	45	*e*P	P	03 11 20.2	+3.8
	10nm,0.7s,mb4.5						
LPG	La Plagne	74.27	45	*e*P	P	03 11 19.1	+2.7
CLL	Collm	78.56	39	P	P	03 11 46.0	+5.5
KHC	Kasperske Hory	78.97	42	*e*P	P	03 11 45.9	+3.2
GERES	GERESS Array B	79.05	42	P	P	03 11 42.6	-0.6
	2.7nm,0.7s,mb4.3,baz=268,slow=3.3,SNR=18						
BRG	Berggiesshubel	79.16	40	*e*P	P	03 11 47.0	+3.3
	7.0nm,1.2s,mb4.5						
PRU	Pruhonice	79.57	41	*e*P	P	03 11 50.4	+4.4
DPC	Dobruska-Polom	80.70	40	*e*P	P	03 11 55.6	+3.6
BARS	Barje	85.21	48⇑	*i*P	P	03 12 19.0	+3.6
ALN	Alexandroupoli	88.64	49	*e*P	P	03 12 34.6	+2.5
VNA3	Neumayer Olymp	89.55	164⇓	*i*P	P	03 12 40.2	+4.5
VNA1	Neumayer--Stat	89.65	163⇑	*i*P	P	03 12 40.4	+4.2
VNA2	Neumayer--Watz	90.04	163⇓	*i*P	P	03 12 42.6	+4.6
ARG	Arkhangelos	91.17	53	P	P	03 12 49.3	+5.3
EIL	Elat	98.31	58	LR	LR	03 56 49.9	
	comp=Z,2µm,19.1s,MS5.6,baz=133,slow=35						
MKAR	Makanchi Array	119.06	21	PKP	PKPdf	03 18 26.4	-2.6
	1.2nm,0.9s,baz=313,slow=3.3,SNR=3.2						
WMQ	Urumqi	123.51	19	*e*PKP	PKPdf	03 18 37.5	-0.2
CN2	Changchun	125.42	346	*e*PKP	PKPdf	03 18 40.8	-0.7
LZH	Lanzhou	134.61	7	*e*PKP	PKPdf	03 18 53.0	-6.1
LZH				XPKP		03 18 54.8	
KMI	Kunming	145.19	11	*e*PKP	PKPdf	03 19 16.0	-2.4
CMAR	Chiang Mai Arr	150.47	22	PKPbc	PKPdf	03 19 29.9	+2.8
	1.6nm,0.9s,baz=296,slow=3.4,SNR=4.6						
ASAR	Alice Springs	152.94	235	PKPbc	PKPdf	03 19 35.4	+4.8
	3.3nm,0.8s,baz=110,slow=2.4,SNR=10.0						
WB2	Warramunga Arr	154.10	243	*e*P	PKPdf	03 19 39.0	+6.7
WRA	Warramunga Arr	154.11	243	PKPbc	PKPdf	03 19 38.8	+6.5
	3.1nm,1.0s,baz=105,slow=2.2,SNR=4.5						

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*NIED **13** 03:00:00, 44.30N×151.40E, h35^{km}, Mw5.9 Best double couple: M$_0$6.72×10^{17} NP1:ϕ_s263°, δ65°, λ-66°. NP2:ϕ_s37°, δ34°, λ-131°.*
*NIC **13** 03:00:12.2±0.5, 44.14N×151.50E, h10^{km}, Earthquake East of Kuril Islands, Russia 233 km SE Podgornyy.*
*NEIC **13** 03:00:12.8±0.1, 44.00N×151.41E, h8^{km}, mb6.0/185, ME5.9, MS5.4/112, MW6.1, Error ellipse: s-maj=3.5km s-min=2.4km az=167.0 Broadband fault plane solution: P waves. NP1:ϕ_s270°, δ55°, λ-90°. NP2:ϕ_s90°, δ35°, λ-90°. Principal axes: T Plg10°, Azm0°; N Plg0°, Azm0°; P Plg80°, Azm180°; Moment Tensor Solution. s56 Moment tensor: Scale 10^{18} Nm; M$_{rr}$0.00; M$_{\theta\theta}$0.00; M$_{\phi\phi}$0.00; M$_{r\theta}$0.00; M$_{\theta\phi}$0.00; M$_{\phi r}$0.00; Best double couple: M$_0$1.4×10^{18} NP1: ϕ_s268°, δ40°, λ-45°. NP2:ϕ_s35°, δ63°, λ-121°. Principal axes: T 1.52, Plg12°, Azm147°; N -.17, Plg27°, Azm51°; P -1.34, Plg59°, Azm259°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Recorded [1 JMA] in eastern Hokkaido.
*HRVD **13** 03:00:12.9±0.1, 44.04N×151.62E, h12^{km}, MW5.9/73, Centroid moment Tensor Solution. LP body waves: s59,c127;Mantle waves: s73,c167; Half duration: 2^{s}1 Moment tensor: Scale 10^{18}Nm; M$_{rr}$-0.61±.01; M$_{\theta\theta}$0.79±.01; M$_{\phi\phi}$-0.18±.01; M$_{r\theta}$0.22±.03; M$_{\theta\phi}$0.39±.01; M$_{\phi r}$-0.06±.03; Best double couple: M$_0$.82×10^{18} NP1:ϕ_s50°, δ42°, λ-121°. NP2:ϕ_s268°, δ55°, λ-66°. Principal axes: T .95, Plg7°, Azm341°; N -.27, Plg20°, Azm74°; P -.68, Plg69°, Azm233°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BGS **13** 03:00:13.4, 43.86N×151.34E, h10^{km}, mb5.9*
*BJI **13** 03:00:14.6, 44.12N×150.78E, h8^{km}, mB6.2, mb5.8, Ms5.8, Msz5.6*
*SKHL **13** 03:00:14.4±0.1, 44.20N×151.50E, h35^{km}±13^{km}, mb6.6/9, mbh6.5/6, Ms6.1/4, msh6.2/9*
*MOS **13** 03:00:16.2±0.9, 44.22N×151.39E, h33^{km}, mb6.1/88, MS5.8/33, Error ellipse: s-maj=6.8km s-min=4.8km az=99.0*
*IDC **13** 03:00:16.6±0.5, 43.93N×151.41E, h31^{km}±3^{km}, mb5.4/26, mb1 5.5/30, mb1mx5.5/31, ML4.7/5, MS5.4/20, Ms1 5.5/20, ms1mx5.3/31, Error ellipse: s-maj=9.8km s-min=6.5km az=137.0*
*IGIL **13** 03:00:17.1, 43.95N×151.36E, h0^{km}, MS6.0*
ISC 13 03:00:10.2±0.7**, 43.98N**±0.02×**151.41E**±0.02**, h0^{km}**±4^{km}**, h15^{km}**±2.4^{km}**:pP-P, n1032,** σ**0^{s}90**/1016**, mb6.0**/294**, MS5.5**/163**, 48C-261D, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	Kuril'sk	2.82	298⇑	*i*P	Pn	03 00 56.5	-0.9
KUR			⇓	*i*P		03 00 56.5	
KUR				AMB	AMB	03 00 58.8	
	2µm,0.4s						
KUR				AMB	AMB	03 00 58.8	
	850nm,0.4s						
KUR				AMB	AMB	03 00 58.8	
	5µm,0.4s						
KUR				AMB	AMB	03 01 04.0	
	125µm,6.0s						
KUR				AMB	AMB	03 01 04.0	
	32µm,6.0s						
KUR				AMB	AMB	03 01 04.0	
	57µm,6.0s						
KUR				AMB	AMB	03 01 04.0	
	50µm,6.0s						
KUR				sP		03 01 09.0	
KUR				*i* S	Sn	03 01 28.0	-4.6
KUR				A		03 02 02.0	
	459µm,8.0s						
KUR				A		03 02 02.0	
	416µm,8.0s						
KUR	Kuril'sk	2.82	298*b*	*i*PN	Pn	03 00 56.5	-0.9
KUR				*i* S	Sn	03 01 28.0	-4.6
KUR				pmax	pmax		
	comp=N,2µm,0.4s						
KUR				pmax	pmax		
	comp=E,850nm,0.4s						
KUR				pmax	pmax		
	comp=Z,5µm,0.4s						
KUR				pmax	pmax		
	comp=N,32µm,6.0s						
KUR				pmax	pmax		
	comp=E,58µm,6.0s						
KUR				pmax	pmax		
	comp=Z,50µm,6.0s						
KUR				smax			
	comp=N,107µm,8.0s						
KUR				smax			
	comp=E,78µm,8.0s						
YUK	Yuzh-Kuril'sk	4.00	273⇓	*i*P	Pn	03 01 12.5	-1.7
YUK				AMB	AMB	03 01 15.5	
	comp=E,3µm,0.4s						
YUK				AMB	AMB	03 01 15.5	
	comp=E,2µm,0.6s						
YUK				AMB	AMB	03 01 15.5	
	comp=E,2µm,0.6s						
YUK				AMB	AMB	03 01 20.0	
	comp=E,31µm,8.0s						
YUK				AMB	AMB	03 01 20.0	
	comp=E,16µm,3.0s						
YUK				AMB	AMB	03 01 20.0	
	comp=E,23µm,7.0s						
YUK				*i* S	Sn	03 01 56.1	-6.4
YUK				A		03 02 03.5	
	comp=E,12µm,0.5s						
YUK				A		03 02 03.5	
	comp=E,7µm,0.5s						
YUK				A		03 02 10.3	
	comp=E,78µm,12.0s						
YUK				A		03 02 10.3	
	comp=E,45µm,5.0s						
YUK				AMS	AMS	03 04 47.0	
	comp=E,129µm,15.0s						
YUK				AMS	AMS	03 04 47.0	
	comp=E,210µm,15.0s						
YUK				AMS	AMS	03 04 47.0	
	comp=E,126µm,15.0s						
YUK	Yuzh-Kuril'sk	4.00	273⇓	*i*PN	Pn	03 01 12.5	-1.7
YUK				pmax	pmax		
	comp=Z,3µm,0.4s						
YUK				pmax	pmax		
	comp=N,2µm,0.6s						
YUK				pmax	pmax		
	comp=E,2µm,0.6s						
YUK				pmax	pmax		
	comp=Z,23µm,7.0s						
YUK				pmax	pmax		
	comp=N,16µm,3.0s						
YUK				pmax	pmax		
	comp=E,31µm,8.0s						
YUK				MLR	MLR		
	comp=Z,126µm,17.0s						
YUK				MLR	MLR		
	comp=N,129µm,13.0s						
YUK				MLR	MLR		
	comp=E,210µm,15.0s						
ASAJ	Asahikawa	6.36	274	Pn	Pn	03 01 47.5	0.0
	comp=E,87nm,0.3s,baz=89,slow=16,SNR=181						
ASAJ	Asahikawa	6.36	274	PN	Pn	03 01 47.5	+0.1
ASAJ				pmax	pmax		
	comp=Z,87nm,0.3s						
YSS	Yuzh-Sakhalins	6.77	299⇓	*i*P	Pn	03 01 52.9	-0.4
YSS			⇓	*i*P		03 01 52.9	
YSS				AMB	AMB	03 01 53.9	
	comp=Z,190nm,1.0s						
YSS				AMB	AMB	03 01 53.9	
	comp=Z,400nm,1.0s						
YSS				AMB	AMB	03 01 53.9	
	comp=Z,120nm,0.7s						
YSS				AMB	AMB	03 02 00.0	
	comp=Z,2µm,8.0s						
YSS				AMB	AMB	03 02 00.0	
	comp=Z,8µm,8.0s						
YSS				AMB	AMB	03 02 00.0	
	comp=Z,9µm,8.0s						
YSS				AMB	AMB	03 02 00.0	
	comp=Z,3µm,8.0s						
YSS				AMB	AMB	03 02 00.0	
	comp=Z,8µm,8.0s						
YSS				AMB	AMB	03 02 00.0	
	comp=Z,7µm,8.0s						
YSS				*i* pP		03 02 01.4	
YSS				*i* sP		03 02 06.0	
YSS				*i* S	Sn	03 03 00.0	-12
YSS				A		03 03 09.0	
	comp=Z,11µm,12.0s						
YSS				A		03 03 09.0	
	comp=Z,6µm,12.0s						
YSS				A		03 03 11.9	
	comp=Z,390nm,0.5s						
YSS				A		03 03 11.9	
	comp=Z,670nm,0.8s						
YSS				*e*LQ		03 03 42.0	
YSS				*e*LR	LR	03 04 40.0	
YSS				AMS	AMS	03 06 30.0	
	comp=Z,85µm,13.0s						
YSS				AMS	AMS	03 06 30.0	
	comp=Z,80µm,14.0s						
YSS				AMS	AMS	03 06 30.0	
	comp=Z,124µm,14.0s						
YSS				AMS	AMS	03 06 31.0	
	comp=Z,97µm,14.0s						
YSS				AMS	AMS	03 06 31.0	
	comp=Z,110µm,14.0s						
YSS				AMS	AMS	03 06 31.0	
	comp=Z,62µm,12.0s						
YSS	Yuzh-Sakhalins	6.77	299κ	*i*PN	Pn	03 01 52.9	-0.4
YSS				*i*		03 03 14.0	
YSS				pmax	pmax		
	comp=E,190nm,1.0s						
YSS				pmax	pmax		
	comp=Z,400nm,1.0s						
YSS				pmax	pmax		
	comp=N,120nm,0.7s						
YSS				pmax	pmax		

	comp=N,2µm,8.0s						
YSS				pmax	pmax		
	comp=E,8µm,8.0s						
YSS				pmax	pmax		
	comp=Z,7µm,8.0s						
YSS				MLR	MLR		
	comp=N,85µm,13.0s						
YSS				MLR	MLR		
	comp=E,80µm,14.0s						
YSS				MLR	MLR		
	comp=Z,124µm,14.0s						
YSS	**Yuzh-Sakhalins**	**6.77**	**299**	⇓*e*P	**Pn**	**03 01 53.3**	**0.0**
	comp=Z,227nm,0.4s						
SKR	**Severo-Kuril's**	**7.42**	**24**	*e*P	**Pn**	**03 01 56.4**	**-6.1**
SKR				AMB	AMB	03 01 59.0	
	comp=Z,3µm,2.0s						
SKR				AMB	AMB	03 01 59.0	
	comp=Z,4µm,2.0s						
SKR				AMB	AMB	03 01 59.0	
	comp=Z,3µm,2.0s						
SKR				AMB	AMB	03 01 59.0	
	comp=Z,2µm,2.0s						
SKR				AMB	AMB	03 01 59.0	
	comp=Z,4µm,2.0s						
SKR				AMB	AMB	03 01 59.1	
	comp=Z,560nm,1.0s						
SKR				AMB	AMB	03 01 59.1	
	comp=Z,720nm,1.0s						
SKR				AMB	AMB	03 01 59.1	
	comp=Z,2µm,1.0s						
SKR				sP		03 02 09.7	
SKR				A		03 03 18.0	
	comp=Z,620nm,0.5s						
SKR				A		03 03 18.0	
	comp=Z,2µm,0.5s						
SKR				A		03 03 18.0	
	comp=Z,1µm,0.9s						
SKR				A		03 03 30.0	
	comp=Z,55µm,10.0s						
SKR				A		03 03 30.0	
	comp=Z,37µm,10.0s						
SKR				A		03 03 30.0	
	comp=Z,18µm,14.0s						
SKR				A		03 03 30.0	
	comp=Z,36µm,10.0s						
SKR				A		03 03 30.0	
	comp=Z,19µm,14.0s						
SKR				AMS	AMS	03 05 05.0	
	comp=Z,127µm,12.0s						
SKR				AMS	AMS	03 05 05.0	
	comp=Z,107µm,12.0s						
SKR				AMS	AMS	03 05 05.0	
	comp=Z,127µm,12.0s						
SKR				AMS	AMS	03 05 05.0	
	comp=Z,101µm,12.0s						
SKR				AMS	AMS	03 05 05.0	
	comp=Z,38µm,14.0s						
SKR				AMS	AMS	03 05 05.0	
	comp=Z,38µm,14.0s						
SKR	**Severo-Kuril's**	**7.42**	**24**	*e*PN	**Pn**	**03 01 56.4**	**-6.1**
SKR				pmax	pmax		
	comp=N,3µm,2.0s						
SKR				pmax	pmax		
	comp=E,2µm,2.0s						
SKR				pmax	pmax		
	comp=Z,4µm,2.0s						
SKR				pmax	pmax		
	comp=N,560nm,1.0s						
SKR				pmax	pmax		
	comp=E,720nm,1.0s						
SKR				pmax	pmax		
	comp=Z,2µm,1.0s						
SKR				MLR	MLR		
	comp=E,127µm,12.0s						
SKR				MLR	MLR		
	comp=Z,107µm,12.0s						
SKR				MLR	MLR		
	comp=N,38µm,14.0s						
UGL	**Uglegorsk**	**8.21**	**312**	⇑*i*P	**P**	**03 02 11.4**	**-2.1**
UGL				*e*P		03 02 12.0	
UGL				AMB	AMB	03 02 20.0	
	comp=N,17µm,8.0s						
UGL				AMB	AMB	03 02 20.0	
	comp=N,10µm,8.0s						
UGL				AMB	AMB	03 02 20.0	
	comp=N,8µm,8.0s						
UGL				AMB	AMB	03 02 21.0	
	comp=N,120nm,0.5s						
UGL				AMB	AMB	03 02 21.0	
	comp=N,130nm,0.5s						
UGL				AMB	AMB	03 02 21.0	
	comp=N,200nm,0.7s						
UGL				pP		03 02 22.0	
UGL				*e*S	**Sn**	**03 03 43.5**	**-4.6**
UGL				A		03 03 48.0	
	comp=N,150nm,0.5s						
UGL				A		03 03 48.0	
	comp=N,310nm,0.5s						
UGL				A		03 03 48.0	
	comp=N,190nm,0.5s						
UGL				A		03 03 50.0	
	comp=N,10µm,8.0s						
UGL				A		03 03 50.0	
	comp=N,11µm,8.0s						
UGL				*e*L		03 04 28.0	
UGL				AMS	AMS	03 07 30.0	
	comp=N,108µm,14.0s						
UGL				AMS	AMS	03 07 30.0	
	comp=N,76µm,14.0s						
UGL				AMS	AMS	03 07 30.0	
	comp=N,51µm,14.0s						
TYV	**Tymovskoe**	**9.08**	**322**	*e*P	**P**	**03 02 25.0**	**-0.6**
TYV				AMB	AMB	03 02 31.9	
	comp=N,130nm,0.9s						
TYV				AMB	AMB	03 02 35.0	
	comp=N,8µm,8.0s						
TYV				AMB	AMB	03 02 35.0	
	comp=N,16µm,8.0s						
TYV				A		03 04 56.0	
	comp=N,24µm,25.0s						
TYV				A		03 04 56.0	
	comp=N,22µm,30.0s						
TYV				AMS	AMS	03 08 20.0	
	comp=N,44µm,13.0s						
TYV				AMS	AMS	03 08 20.0	
	comp=N,3µm,14.0s						
TYV				AMS	AMS	03 08 20.0	
	comp=N,88µm,14.0s						
PET	**Petropavlovsk**	**10.24**	**25**	*e*PN	**P**	**03 02 39.1**	**-2.3**
PET				pmax	pmax		
	comp=Z,2µm,14.3s						
PET				pmax	pmax		
	comp=Z,190nm,1.3s						
PET				MLR	MLR		
	comp=Z,30µm,15.0s						
PET				MLR	MLR		
	comp=Z,28µm,14.0s						
PET	**Petropavlovsk**	**10.24**	**25**	*e*P	**P**	**03 02 38.4**	**-3.0**
	comp=Z,70nm,0.8s						
TEY	**Ternei**	**10.63**	**281**	*i* P	**P**	**03 02 47.0**	**+0.2**
TEY				AMB	AMB	03 02 48.5	
	comp=Z,110nm,0.9s						
TEY				AMB	AMB	03 02 48.5	
	comp=Z,2µm,0.9s						
TEY				AMB	AMB	03 02 48.5	
	comp=Z,320nm,0.5s						
TEY				AMB	AMB	03 02 51.0	
	comp=Z,10µm,7.0s						
TEY				AMB	AMB	03 02 51.0	
	comp=Z,1µm,4.0s						
TEY				AMB	AMB	03 02 51.0	
	comp=Z,10µm,6.0s						
TEY				A		03 06 35.0	
	comp=Z,59µm,18.0s						
TEY				A		03 06 35.0	
	comp=Z,12µm,15.0s						
OKH	**Okha**	**11.08**	**333**	*e*P	**P**	**03 02 52.1**	**-0.8**
OKH				⇑*i*P		03 02 52.2	
OKH				AMB	AMB	03 02 58.0	
	comp=Z,20µm,10.0s						
OKH				AMB	AMB	03 02 58.0	
	comp=Z,14µm,8.0s						
OKH				AMB	AMB	03 02 58.0	
	comp=Z,10µm,8.0s						
OKH				A		03 05 10.0	
	comp=Z,14µm,10.0s						
OKH				A		03 05 10.0	
	comp=Z,8µm,10.0s						
OKH				*e*LQ		03 05 46.6	
OKH	**Okha**	**11.08**	**333**	*i* PN	**P**	**03 02 52.2**	**-0.7**
OKH				*e*S	**S**	**03 04 58.0**	**-0.8**
MAJO	**Matsushiro**	**12.52**	**238**	⇓*i*PN	**P**	**03 03 08.9**	**-3.5**
MAJO				pmax	pmax		
	comp=Z,300nm,0.7s						
MAJO	**Matsushiro**	**12.52**	**238**	⇓*i*P	**P**	**03 03 08.9**	**-3.5**
	comp=Z,299nm,0.7s						
MAT	**Matsushiro**	**12.52**	**238**	P	**P**	**03 03 09.0**	**-3.4**
MAT				S	**S**	**03 05 29.0**	**-4.8**
MAT	**Matsushiro**	**12.52**	**238**	*e*P	**P**	**03 03 09.0**	**-3.4**
	comp=Z,160nm,0.7s						
MAT				*e*S	**S**	**03 05 35.0**	**+1.2**
JHJ	**Hachijo jima 2**	**14.14**	**224**	Pn	**P**	**03 03 32.3**	**-1.6**
	comp=Z,26nm,0.3s,baz=246,slow=20,SNR=6.3						
JHJ				Sn	**S**	**03 05 54.9**	**-18**
	comp=Z,58nm,0.3s,baz=115,slow=23,SNR=5.7						
JHJ				LR	LR	03 07 59.8	
	comp=Z,128nm,20.6s,baz=329,slow=33						
VLA	**Vladivostok**	**14.19**	**273**	⇑*i*P	**P**	**03 03 30.0**	**-4.4**
VLA				pmax	pmax		
	comp=E,5µm,3.2s						
VLA				pmax	pmax		
	comp=Z,4µm,3.2s						
VLA				pmax	pmax		
	comp=N,500nm,5.0s						
VLA				pmax	pmax		
	comp=N,2µm,8.0s						
VLA				pmax	pmax		
	comp=Z,4µm,8.0s						
VLA				pmax	pmax		
	comp=E,5µm,10.0s						
VLA				MLR	MLR		
	comp=N,12µm,17.0s						
VLA				MLR	MLR		
	comp=E,31µm,16.0s						
VLA				MLR	MLR		
	comp=Z,37µm,16.0s						
KLR	**Kul'dur**	**14.48**	**298**	⇑*i*P	**P**	**03 03 37.9**	**-0.4**
KLR				*e*S	**S**	**03 06 20.5**	**-0.3**
KLR				pmax	pmax		
	comp=Z,2µm,3.8s						
KLR				pmax	pmax		
	comp=N,2µm,9.0s						
KLR				pmax	pmax		
	comp=E,7µm,9.0s						
KLR				pmax	pmax		
	comp=Z,18µm,9.0s						
KLR				smax			
	comp=N,14µm,11.5s						
KLR				smax			
	comp=E,6µm,11.5s						
MA2	**Magadan**	**15.62**	**359**	⇑*e*P	**P**	**03 03 49.2**	**-3.9**
MA2				pmax	pmax		
	comp=Z,90nm,0.6s						
MA2	**Magadan**	**15.62**	**359**	⇑*e*P	**P**	**03 03 49.2**	**-3.9**
	comp=Z,90nm,0.6s						
MDJ	**Mudanjiang**	**15.63**	**280**	P	**P**	**03 03 51.5**	**-1.9**
MDJ				XP		03 03 58.3	
MDJ				PP	PP	03 04 01.5	-4.5
MDJ				S	**S**	**03 06 35.8**	**-12**
MDJ				SS	SS	03 06 58.7	-7.2
MDJ				AMB	AMB		
	comp=Z,417nm,0.8s						
MDJ				AMB	AMB		
	comp=Z,3µm,8.1s						
MDJ				LR	LR		
	comp=N,25µm,13.3s						
MDJ				LR	LR		
	comp=E,28µm,14.9s						
MDJ				LR	LR		
	comp=Z,41µm,15.6s						
MDJ	**Mudanjiang**	**15.63**	**280**	⇓*e*P	**P**	**03 03 51.6**	**-1.8**
	comp=Z,290nm,0.7s						
FX1	**Attu Island--F**	**16.91**	**51**	Pn	**P**	**03 04 07.8**	**-1.7**
	comp=Z,3.3nm,0.3s,baz=286,slow=11,SNR=28						
FX1				Sn	**S**	**03 07 00.2**	**-17**
	comp=Z,9.3nm,0.3s,baz=80,slow=18,SNR=6.0						
FX1				LR	LR	03 09 48.6	
	comp=Z,336nm,18.4s,baz=262,slow=34						
SMY	**Shemya**	**17.37**	**52**	⇓*e*P	**P**	**03 04 16.1**	**+0.7**
SMY				pmax	pmax		
	comp=Z,1µm,1.1s						
SMY	**Shemya**	**17.37**	**52**	*e*P	**P**	**03 04 16.9**	**+1.5**
	comp=Z,3µm,1.9s						
CBIJ	**Chichi jima**	**18.43**	**207**	P	**P**	**03 04 27.1**	**-1.6**
	comp=Z,5.3nm,0.3s,baz=299,slow=20,SNR=3.9						
CBIJ				S	**S**	**03 07 33.5**	**-19**
	comp=Z,11nm,0.3s,baz=103,slow=22,SNR=7.5						
CBIJ				LR	LR	03 10 26.1	
	comp=Z,5µm,19.6s,baz=9.8,slow=33						
ZEA	**Zeya**	**18.57**	**310**	⇓*e*P	**P**	**03 04 27.8**	**-2.5**
ZEA				AMB	AMB	03 04 32.0	
	comp=Z,280nm,1.6s						
ZEA				AMB	AMB	03 04 32.0	
	comp=Z,290nm,1.6s						
ZEA				AMB	AMB	03 04 32.0	
	comp=Z,580nm,1.8s						
ZEA				AMB	AMB	03 04 34.0	
	comp=Z,8µm,6.0s						
ZEA				AMB	AMB	03 04 34.0	
	comp=Z,4µm,7.0s						
ZEA				AMB	AMB	03 04 34.0	
	comp=Z,7µm,7.0s						
ZEA				*e*S	**S**	**03 07 52.0**	**-3.2**
ZEA				A		03 08 00.0	
	comp=Z,8µm,11.0s						
ZEA				A		03 08 00.0	
	comp=Z,7µm,11.0s						
ZEA				A		03 08 00.0	
	comp=Z,8µm,11.0s						
CN2	**Changchun**	**18.70**	**279**	*e*P	**P**	**03 04 30.5**	**-1.4**
CN2				*e*XP		03 04 37.5	
CN2				*e*S	**S**	**03 07 53.7**	**-4.4**
CN2				LR	LR		
	comp=Z,33µm,14.0s						
SEY	**Seymchan**	**19.00**	**1**	*i* P	**P**	**03 04 32.7**	**-2.7**
SEY				*e*S	**S**	**03 07 55.1**	**-10**
SEY				pmax	pmax		
	comp=E,400nm,1.6s						
SEY				pmax	pmax		
	comp=Z,1µm,1.6s						
SEY				pmax	pmax		
	comp=N,700nm,1.5s						
SEY				MLR	MLR		
	comp=Z,69µm,18.0s						
JNU	**Nakatsue**	**19.33**	**243**	P	**P**	**03 04 38.4**	**-1.1**
	comp=Z,1.9nm,0.3s,baz=66,slow=14,SNR=30						
JNU				S	**S**	**03 08 16.9**	**+4.4**
	comp=Z,1.0nm,0.3s,baz=158,slow=41,SNR=1.7						
JNU				LR	LR	03 12 06.9	
	comp=Z,12µm,19.5s,baz=60,slow=37						
INCN	**Inchon**	**19.83**	**259**	⇓*e*P	**P**	**03 04 43.9**	**-1.4**
	comp=Z,158nm,1.0s						
SNY	**Shenyang**	**20.47**	**274**	⇓*i*P	**P**	**03 04 51.0**	**-1.0**
SNY				S	**S**	**03 08 34.0**	**-2.9**
SNY				AMB	AMB		
	comp=Z,8µm,4.8s						
SNY				LR	LR		
	comp=N,28µm,14.0s						
SNY				LR	LR		
	comp=Z,25µm,15.5s,MS5.7						
CLNS	**Chul'man**	**21.07**	**317**	*e*P	**P**	**03 04 56.0**	**-2.1**
CLNS				*e*		03 05 14.9	
CLNS				*e*S	**S**	**03 08 44.9**	**-3.8**
CLNS				*e*		03 08 59.9	
CLNS				*e*SS	SS	03 09 19.9	-0.9
CLNS				*e*SSS	SSS	03 09 29.0	-5.8
CLNS				pmax	pmax		
	comp=Z,604nm,1.6s,mb5.7						
CLNS				pmax	pmax		
	comp=N,535nm,1.4s						
CLNS				pmax	pmax		
	comp=E,417nm,1.7s						
CLNS				pmax	pmax		
	comp=Z,143nm,1.0s,mb5.3						
CLNS				pmax	pmax		
	comp=N,149nm,0.8s						
CLNS				pmax	pmax		
	comp=E,202nm,0.9s						
CLNS				smax			
	comp=N,442nm,1.5s						
CLNS				smax			
	comp=E,313nm,1.4s						
CLNS				smax			
	comp=Z,111nm,1.4s						
CLNS				MLR	MLR		
	comp=Z,21µm,16.0s,MS5.6						
CLNS				MLR	MLR		
	comp=N,31µm,14.0s,MS5.9						
CLNS				MLR	MLR		
	comp=E,2µm,13.0s,MS5.9						
YAK	**Yakutsk**	**22.11**	**332**	*e*P	**P**	**03 05 05.2**	**-3.4**
	comp=E,199nm,0.4s,mb5.9						
YAK				*e*PcP	PcP	03 09 05.0	-2.0
YAK				LR	LR		
	comp=Z,18µm,22.0s,MS5.5						
HIA	**Hailar**	**22.28**	**295**	⇓*e*P	**P**	**03 05 06.5**	**-3.9**
	comp=Z,132nm,0.6s,mb5.5						
DL2	**Dalian**	**22.83**	**267**	*i* PR		03 05 16.4	
DL2				S	**S**	**03 09 25.2**	**+3.8**
DL2				LR	LR		
	comp=N,5µm,14.2s,MS5.4						
DL2				LR	LR		
	comp=E,8µm,15.4s,MS5.4						
DL2				LR	LR		
	comp=Z,8µm,15.2s,MS5.3						
JOW	**Kunigami**	**25.33**	**235**	P	**P**	**03 05 40.1**	**0.0**
	comp=Z,204nm,0.9s,mb5.9,baz=61,slow=7.9,SNR=26						
JOW				S	**S**	**03 10 02.6**	**-2.0**
	comp=Z,41nm,1.4s,baz=73,slow=24,SNR=1.4						
BJI	**Beijing**	**26.35**	**274**	P	**P**	**03 05 49.3**	**-0.2**
BJI				S	**S**	**03 10 19.8**	**-1.7**
BJI				AMB	AMB		
	comp=Z,316nm,1.6s,mb5.7						
BJI				LR	LR		
	comp=Z,14µm,17.6s,MS5.5						
BJI	**Beijing**	**26.35**	**274**	P	**P**	**03 05 49.3**	**-0.2**
	comp=Z,316nm,1.6s,mb5.7						
BJI				S	**S**	**03 10 19.8**	**-1.7**
BJI				LR	LR		
	comp=Z,14µm,17.6s,MS5.5						
BJT	**Baijiatuau**	**26.36**	**274**	*e*P	**P**	**03 05 49.1**	**-0.5**
	comp=Z,542nm,1.3s,mb6.0						
BOD	**Bodaibo**	**26.95**	**314**	*e*P	**P**	**03 05 51.1**	**-3.7**
SSE	**Sheshan**	**27.04**	**252**	P	**P**	**03 05 57.2**	**+1.3**
SSE				XP	sP	03 06 03.3	+7.4
SSE				S	**S**	**03 10 31.2**	**-1.6**
SSE				XS		03 10 36.3	
SSE				AMB	AMB		
	comp=Z,196nm,0.8s,mb5.9						
SSE				AMB	AMB		
	comp=Z,2µm,3.9s						
SSE				LR	LR		
	comp=N,8µm,14.2s,MS5.5						
SSE				LR	LR		
	comp=E,7µm,14.2s,MS5.5						
SSE				LR	LR		
	comp=Z,12µm,13.3s,MS5.6						
SSE	**Sheshan**	**27.04**	**252**	P	**P**	**03 05 57.2**	**+1.3**
	comp=Z,196nm,0.8s,mb5.9						
SSE				sP	sP	03 06 03.3	+7.4
SSE				S	**S**	**03 10 31.2**	**-1.6**
SSE				sS		03 10 36.3	
SSE				LR	LR		
	comp=Z,12µm,13.3s,MS5.6						
TIA	**Tai'an**	**27.20**	**265**	P	**P**	**03 05 57.2**	**-0.2**
TIA				AMB	AMB		
	comp=Z,343nm,1.9s,mb5.8						
TIA				AMB	AMB		
	comp=Z,3µm,8.0s						
NJ2	**Nanjing**	**28.10**	**256**	*e*P	**P**	**03 06 05.9**	**+0.4**
NJ2				AP	pP	03 06 11.1	+5.5
NJ2				XP	sP	03 06 14.7	+9.1
NJ2				PP	PP	03 06 56.2	+0.8
NJ2				S	**S**	**03 10 48.0**	**-1.9**
NJ2				AMB	AMB		
	comp=Z,320nm,1.0s,mb6.1						
NJ2				AMB	AMB		
	comp=Z,5µm,9.7s						
HHC	**Hu-ho-hao-te**	**29.39**	**278**	*e*P	**P**	**03 06 17.4**	**+0.3**
HHC				AP	pP	03 06 20.8	+3.7
HHC				XP	sP	03 06 23.6	+6.5
HHC				PP	PP	03 07 12.9	+0.8
HHC				S	**S**	**03 11 11.4**	**+0.9**
HHC				XS		03 11 16.1	
HHC				PCS		03 13 02.2	
HHC				AMB	AMB		
	comp=Z,221nm,1.9s,mb5.7						
HHC				LR	LR		
	comp=N,8µm,22.6s						
HHC				LR	LR		
	comp=E,12µm,15.5s						
HHC				LR	LR		
	comp=Z,14µm,15.5s						
MIDW	**Midway**	**29.51**	**112**	PFAKE		03 06 30.0	+12
MIDW				LR	LR		
	comp=Z,7µm,19.0s,MS5.3						
TIXI	**Tiksi**	**29.82**	**346**	PFAKE		03 06 30.0	+9.3
TIXI				LR	LR		
	comp=Z,5µm,21.0s,MS5.2						
BTO	**Baotou**	**30.57**	**278**	*e*P	**P**	**03 06 27.6**	**0.0**
BTO				AMB	AMB		
	comp=Z,688nm,1.7s,mb6.3						
ULN	**Ulaanbaatar**	**30.78**	**293**	PFAKE		03 06 40.0	+11
ULN				LR	LR		
	comp=Z,11µm,19.0s,MS5.5						
GUMO	**Guam**	**30.80**	**192**	P	**P**	**03 06 27.1**	**-2.8**
GUMO				pmax	pmax		
	comp=Z,120nm,1.1s,mb5.7						
GUMO	**Guam**	**30.80**	**192**	*e*P	**P**	**03 06 25.7**	**-4.2**
	comp=Z,121nm,1.2s,mb5.7						
GUMO				LR	LR		
	comp=Z,10µm,21.0s,MS5.4						
TATO	**Taipei**	**30.86**	**242**	PFAKE		03 06 40.0	+10
TATO				LR	LR		
	comp=Z,6µm,19.0s,MS5.3						
SONM	**Songino Array**	**31.22**	**293**	P	**P**	**03 06 32.9**	**-0.4**
	comp=Z,60nm,0.7s,mb5.6,baz=78,slow=8.0,SNR=338						
SONM				PcP	PcP	03 09 27.3	-0.8
	comp=Z,7.3nm,0.6s,baz=128,slow=1.7,SNR=4.9						
SONM				S	**S**	**03 11 35.5**	**-3.9**
	comp=Z,1.5nm,0.8s,baz=63,slow=2.8,SNR=1.7						
IRK	**Irkutsk**	**32.04**	**302**	*e*P	**P**	**03 06 27.8**	**-13**
WHN	**Wuhan**	**32.12**	**258**	⇓P	**P**	**03 06 40.8**	**-0.5**
WHN				*e*S	**S**	**03 11 58.0**	**+4.3**
WHN				LR	LR		
	comp=N,3µm,10.0s,MS5.5						
WHN				LR	LR		
	comp=E,6µm,14.0s,MS5.5						
QZH	**Quanzhou**	**32.76**	**245**	⇑*i*P	**P**	**03 06 47.3**	**+0.4**
QZH				S	**S**	**03 12 06.0**	**+2.3**
QZH				AMB	AMB		
	comp=Z,240nm,0.7s,mb6.2						
QZH				LR	LR		
	comp=N,4µm,11.0s,MS5.7						
QZH				LR	LR		
	comp=E,8µm,12.2s,MS5.7						
QZH				LR	LR		
	comp=Z,11µm,16.3s,MS5.6						
ZAK	**Zakamensk**	**32.85**	**298**	*e*P	**P**	**03 06 46.9**	**-0.6**
MOY	**Mondy**	**34.12**	**301**	*e*P	**P**	**03 06 58.2**	**-0.3**
XAN	**Xi'an**	**34.15**	**268**	P	**P**	**03 06 58.0**	**-0.9**
XAN				AMB	AMB		
	comp=Z,2µm,8.3s						
XAN				LR	LR		
	comp=N,6µm,14.3s,MS5.6						
XAN				LR	LR		
	comp=E,7µm,16.0s,MS5.6						
XAN				LR	LR		
	comp=Z,9µm,15.1s,MS5.6						
TTA	**Tatalina**	**35.31**	**39**	*e*P	**P**	**03 07 08.5**	**0.0**
	comp=Z,61nm,0.8s,mb5.6						
ENH	**Enshi**	**35.73**	**262**	⇓*e*P	**P**	**03 07 11.8**	**-0.8**
	comp=Z,364nm,1.7s,mb5.9						
CVP	**Callao Caves**	**36.15**	**233**	⇑*e*P	**P**	**03 07 15.6**	**-0.4**
RSO	**Redoubt South**	**36.68**	**43**	*e*P	**P**	**03 07 20.2**	**+0.1**
IMA	**Indian Mountai**	**36.76**	**34**	*e*P	**P**	**03 07 21.5**	**+0.7**
	comp=Z,230nm,1.1s,mb5.8						
KDAK	**Kodiak Island**	**36.82**	**48**	⇓*e*P	**P**	**03 07 19.8**	**-1.5**
	comp=Z,267nm,0.9s,mb6.0						
KDAK				*e*PcP	PcP	03 09 44.0	+0.1
KDAK				LR	LR		
	comp=Z,2µm,20.0s,MS4.8						
LZH	**Lanzhou**	**36.84**	**274**	⇓*i*P	**P**	**03 07 22.9**	**+1.2**
LZH				AP	pP	03 07 26.0	+4.2
LZH				XP	sP	03 07 27.5	+5.7
LZH				PP	PP	03 08 48.0	+1.0
LZH				S	**S**	**03 13 05.5**	**-1.1**
LZH				XS		03 13 10.2	
LZH				AMB	AMB		
	comp=Z,695nm,1.5s,mb6.2						
LZH				AMB	AMB		

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      comp=Z,3µm,4.0s
LZH                             LR     LR
      comp=Z,15µm,16.5s,MS5.9
LZH   Lanzhou        36.84 274⇓iP     P      03 07 22.9 +1.2
      comp=Z,695nm,1.5s,mb6.2
LZH                             pP     pP     03 07 26.0 +4.2
LZH                             sP     sP     03 07 27.5 +5.7
LZH                             PP     PP     03 08 48.0 +1.0
LZH                             S      S      03 13 05.5 -1.1
LZH                             sS            03 13 10.2
LZH                             SS     SS     03 15 34.0 +0.5
LZH                             LR     LR
      comp=Z,15µm,16.5s,MS5.9
SPU   Mount Spurr    37.04  42 eP     P      03 07 23.5 +0.4
HKC   Hong Kong      37.50 247⇓iP     P      03 07 30.0 +2.6
GZH   Guangzhou      37.52 249  P     P      03 07 23.3 -4.3
GZH                             AMB    AMB
      comp=Z,210nm,2.4s,mb5.4
GZH                             LR     LR
      comp=N,7µm,16.2s,MS5.7
GZH                             LR     LR
      comp=E,6µm,14.1s,MS5.7
GZH                             LR     LR
      comp=Z,14µm,15.9s,MS5.8
BALP  Baler          37.85 231 eP     P      03 07 29.9 -0.6
BALP  Baler          37.85 231 eP     P      03 07 30.8 +0.4
BCPH  Baguio City Da 37.91 233⇑iP     P      03 07 30.7 -0.2
SLKM  Skilak Lake    37.94  43  P     P      03 07 31.1 +0.4
SLKM  Skilak Lake    37.94  43 eP     P      03 07 30.2 -0.5
PVCP  Virac          38.22 226 eP     P      03 07 34.5 +0.9
PVCP  Virac          38.22 226 eP     P      03 07 34.5 +0.9
GTA   Gaotai         38.28 281⇓iP     P      03 07 35.0 +1.2
GTA                             AP     pP     03 07 40.7 +6.8
GTA                             XP     sP     03 07 43.6  +10
GTA                             PP     PP     03 09 01.1 -3.4
GTA                             PPP    PPP    03 09 27.7 +1.0
GTA                             PCP    PcP    03 09 48.0 -0.5
GTA                             S      S      03 13 26.5 -2.1
GTA                             XS            03 13 36.3
GTA                             PCS           03 13 37.6
GTA                             SCS    ScS    03 17 45.8 +1.1
GTA                             AMB    AMB
      comp=Z,2µm,7.6s
GTA                             LR     LR
      comp=N,8µm,17.5s,MS5.7
GTA                             LR     LR
      comp=E,5µm,17.1s,MS5.7
GTA                             LR     LR
      comp=Z,3µm,17.1s,MS5.2
PMR   Palmer         38.45  41  P     P      03 07 34.6 -0.4
PMR                             pmax   pmax
      comp=Z,180nm,1.1s,mb5.7
PMR   Palmer         38.45  41 eP     P      03 07 34.5 -0.5
      comp=Z,280nm,1.2s,mb5.9
PMR                             LR     LR
      comp=Z,6µm,19.0s,MS5.4
SCZP  Santa Cruz     38.78 233 eP     P      03 07 37.8 -0.4
SCZP  Santa Cruz     38.78 233 eP     P      03 07 37.8 -0.4
CNP   Catarman       38.88 224 eP     P      03 07 40.2 +1.1
CNP   Catarman       38.88 224 eP     P      03 07 40.8 +1.7
COLA  College        39.06  36 i P    P      03 07 40.3 +0.2
COLA  College        39.06  36 eP     P      03 07 40.2 +0.1
      comp=Z,375nm,1.2s,mb5.9
COLA                            LR     LR
      comp=Z,5µm,17.0s,MS5.4
ILAR  Eielson Array  39.48  36  P     P      03 07 42.8 -0.7
      comp=Z,84nm,1.0s,mb5.3,baz=259,slow=6.4,SNR=191
ILAR                            pP     pP     03 07 54.5  +11
      comp=Z,101nm,1.1s,baz=262,slow=3.5,SNR=13
ILAR                            PcP    PcP    03 09 51.0 -1.0
      comp=Z,26nm,1.0s,baz=265,slow=6.0,SNR=4.2
ILAR                            S      S      03 13 44.8 -1.6
      comp=Z,0.7nm,1.0s,baz=23,slow=44,SNR=2.6
ILAR                            PKiKP         03 17 00.1
      comp=Z,0.8nm,1.0s,baz=299,slow=2.6,SNR=6.1
ILAR  Eielson Array  39.48  36  P     P      03 07 42.8 -0.7
ILAR                            *PP    pP     03 07 54.5  +11
ILAR                                          03 09 51.0
ILAR                            S      S      03 13 44.8 -1.6
ILAR                           i              03 17 00.1
ILAR                            pmax   pmax
      comp=Z,84nm,1.0s
CD2   Chengdu        39.50 267⇓iP     P      03 07 44.3 +0.2
CD2                             PP     PP     03 09 17.9 -0.7
CD2                             S      S      03 13 43.4 -3.7
CD2                             AMB    AMB
      comp=Z,210nm,0.9s,mb5.8
CD2                             AMB    AMB
      comp=Z,5µm,6.5s
CD2                             LR     LR
      comp=N,10µm,14.2s
CD2                             LR     LR
      comp=Z,12µm,15.6s,MS5.8
TGY   Tagaytay City  39.54 231  P     P      03 07 45.0 +0.4
      comp=Z,404nm,0.8s,mb6.1,baz=246,slow=6.6,SNR=12
TGY   Tagaytay City  39.54 231  P     P      03 07 45.0 +0.4
TGY                             pmax   pmax
      comp=Z,404nm,0.8s
PLP   Palo           39.87 223 eP     P      03 07 47.8 +0.5
GYA   Guiyang        39.98 259⇑iP     P      03 07 48.4 +0.3
GYA                             AMB    AMB
      comp=Z,180nm,0.8s,mb5.8
GYA                             AMB    AMB
      comp=Z,3µm,5.4s
GYA                             LR     LR
      comp=N,4µm,13.8s,MS5.6
GYA                             LR     LR
      comp=E,5µm,15.0s,MS5.6
GYA                             LR     LR
      comp=Z,7µm,14.4s,MS5.7
SNPH  Sibulan        42.30 224⇑eP     P      03 08 08.0 +0.7
DAV   Davao City (W) 43.16 219 eP     P      03 08 14.0 -0.3
KMI   Kunming        43.59 261 eP     P      03 08 18.4 +0.7
KMI                             AP     pP     03 08 25.9 +8.2
KMI                             XP     sP     03 08 30.0  +12
KMI                             PP     PP     03 10 00.8 -0.3
KMI                             S      S      03 14 49.0 +1.4
KMI                             AMB    AMB
      comp=Z,4µm,5.4s
KMI                             LR     LR
      comp=N,6µm,14.3s,MS5.8
KMI                             LR     LR
      comp=E,5µm,16.2s,MS5.8
KMI                             LR     LR
      comp=Z,6µm,16.2s,MS5.6
KMI   Kunming        43.59 261 eP     P      03 08 18.4 +0.7
      comp=Z,126nm,1.8s,mb5.3
KMI                             pP     pP     03 08 25.9 +8.2
KMI                             sP     sP     03 08 30.0  +12
KMI                             PP     PP     03 10 00.8 -0.3
KMI                             PPP    PPP    03 10 38.6 +1.7
KMI                             S      S      03 14 49.0 +1.4
KMI                             sS            03 15 03.1
KMI                             SS     SS     03 18 00.2 +5.4
KMI                             LR     LR
      comp=Z,6µm,16.2s,MS5.6
NVS   Novosibirsk    43.97 309 i P    P      03 08 19.7 -0.6
NVS                            i              03 10 05.6
NVS                            i S    S      03 14 44.0 -8.7
NVS                             pmax   pmax
      comp=Z,464nm,2.0s,mb5.9
NVS                             pmax   pmax
      comp=N,147nm,1.4s
NVS                             pmax   pmax
      comp=E,161nm,1.4s
NVS                             smax
      comp=N,3µm,3.8s
NVS                             smax
      comp=E,2µm,3.2s
PPR   Puerto Princes 44.30 230⇓eP     P      03 08 25.1 +1.4
INK   Inuvik         44.64  31  P     P      03 08 26.1 +0.4
      comp=E,166nm,1.1s,mb5.9,baz=280,slow=7.0,SNR=111
INK                             PcP    PcP    03 10 07.8 -1.1
      comp=E,28nm,1.1s,baz=202,slow=5.6,SNR=1.9
INK                             S      S      03 15 02.0 -0.2
      comp=E,1.7nm,0.7s,baz=124,slow=25,SNR=2.1
INK   Inuvik         44.64  31  P     P      03 08 26.1 +0.5
INK                                           03 10 07.8
INK                             S      S      03 15 02.1 -0.2
INK                             pmax   pmax
      comp=Z,166nm,1.1s
WMQ   Urumqi         44.86 293 ⇓P     P      03 08 28.6 +0.9
WMQ                             AP     pP     03 08 33.6 +5.8
WMQ                             XP     sP     03 08 35.6 +7.8
WMQ                             PP     PP     03 10 14.3 +0.8
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WMQ                             S      S      03 15 05.4 -0.4
WMQ                             SS     SS     03 18 17.1 -1.2
WMQ                             AMB    AMB
      comp=Z,145nm,0.8s,mb6.0
WMQ                             AMB    AMB
      comp=Z,591nm,6.2s
WMQ                             LR     LR
      comp=N,4µm,18.0s,MS5.7
WMQ                             LR     LR
      comp=E,6µm,17.5s,MS5.7
WMQ                             LR     LR
      comp=Z,5µm,19.0s,MS5.5
SIT   Sitka          46.12  47 eP     P      03 08 39.2 +1.7
      comp=Z,462nm,1.4s,mb6.3
SIT                             LR     LR
      comp=Z,7µm,20.0s,MS5.6
MKAR  Makanchi Array 47.19 299  P     P      03 08 46.4 +0.3
      comp=Z,66nm,0.6s,mb5.9,baz=74,slow=7.9,SNR=314
MKAR                            S      S      03 15 36.4 -2.7
      comp=Z,5.0nm,1.2s,baz=180,slow=1.2,SNR=2.4
MKAR                            LR     LR     03 29 16.3
      comp=Z,6µm,19.1s,MS5.6,baz=68,slow=37
MKAR  Makanchi Array 47.19 299  P     P      03 08 46.4 +0.3
MKAR                            S      S      03 15 36.4 -2.7
MKAR                            pmax   pmax
      comp=Z,67nm,0.6s
MKAR                            MLR    MLR
      comp=Z,6µm,19.1s
MKAR  Makanchi Array 47.19 299  P     P      03 08 46.4 +0.3
MKAR                            S      S      03 15 36.4 -2.7
MKAR                            LR     LR     03 29 16.3
KIP   Kipapa         47.28 102 eP     P      03 08 48.0 +0.8
      comp=Z,135nm,1.0s,mb6.0
KIP                             LR     LR
      comp=Z,5µm,19.0s,MS5.5
KURK  Kurchatov      47.94 305  P     P      03 08 51.8 -0.2
      comp=Z,2µm,0.6s
KURK  Kurchatov      47.94 305 i P    P      03 08 51.9 -0.1
KURK                            pmax   pmax
      comp=Z,502nm,1.9s,mb6.3
KURK  Kurchatov      47.94 305 eP     P      03 08 51.8 -0.2
      comp=Z,1µm,1.3s,mb6.8
KURK                            LR     LR
      comp=Z,2µm,21.0s,MS5.0
NANT  Nan            49.10 256  P     P      03 09 01.5 +0.1
LSA   Lhasa          49.26 274  P     P      03 09 04.0 +1.6
LSA                             AP     pP     03 09 12.5  +10
LSA                             PCP    PcP    03 10 23.3 -2.5
LSA                             PP     PP     03 10 58.7 +2.0
LSA                             S      S      03 16 10.8 +2.4
LSA                             XS            03 16 20.5
LSA                             SS     SS     03 19 30.5 -5.0
LSA                             AMB    AMB
      comp=Z,60nm,0.8s,mb5.7
LSA                             LR     LR
      comp=N,2µm,16.5s,MS5.6
LSA                             LR     LR
      comp=E,5µm,17.3s,MS5.6
LSA                             LR     LR
      comp=Z,6µm,19.1s,MS5.6
KKTK  Khon Kaen      49.31 252  P     P      03 09 03.5 +0.5
      comp=Z,3µm,0.7s
CHG   Chiang Mai     50.33 257 ⇓P     P      03 09 11.5 +0.7
      comp=Z,106nm,0.7s,mb5.9
CHG                             S      S      03 16 26.3 +2.9
CMAR  Chiang Mai Arr 50.57 257  P     P      03 09 12.9 +0.4
      comp=Z,24nm,0.8s,mb5.2,baz=45,slow=7.5,SNR=90
CMAR                            PcP    PcP    03 10 31.3 +0.6
      comp=Z,31nm,1.1s,baz=12,slow=2.9,SNR=9.2
CMAR                            S      S      03 16 25.5 -1.2
      comp=Z,0.6nm,0.3s,baz=56,slow=5.2,SNR=2.8
CMAR                            LR     LR     03 34 33.1
      comp=Z,5µm,18.0s,MS5.5,baz=50,slow=41
CMAR  Chiang Mai Arr 50.57 257  P     P      03 09 13.0 +0.4
CMAR                                          03 10 31.3
CMAR                            S      S      03 16 25.5 -1.2
CMAR                            pmax   pmax
      comp=Z,24nm,0.8s
CMAR                            MLR    MLR
      comp=Z,5µm,18.0s
SHL   Shillong       51.12 269 eP     P      03 09 15.9 -0.9
SHL                             AMb    AMB    03 09 19.1
      comp=Z,118nm,1.1s,mb5.7
SHL                            i S    S      03 16 34.0 -0.3
VOSK  Vostochnaya    51.52 310  P     P      03 09 19.0 -0.4
VOSK                            pmax   pmax
      comp=Z,1µm,2.0s,mb6.5
VOSK  Vostochnaya    51.52 310 i P    P      03 09 19.0 -0.4
NST   Nakhon Sawan   51.63 253 ⇑P     P      03 09 21.0 +0.3
      comp=Z,108nm,0.9s,mb5.8
BVA0  Borovoye Array 51.72 311  P     P      03 09 20.3 -0.6
BVAR  Borovoye Array 51.72 311  LR    LR     03 31 19.9
      comp=Z,73nm,18.2s,baz=155,slow=36
BRVK  Borovoye       51.76 311⇓eP     P      03 09 20.6 -0.6
      comp=Z,1µm,1.6s,mb6.6
BRVK                            LR     LR
      comp=Z,2µm,20.0s,MS5.1
AAA   Alma-Ata       52.13 297d iP    P      03 09 25.0 +0.9
AAA                            i S    S      03 16 51.0 +3.1
AAA                             pmax   pmax
      comp=Z,4µm,7.0s
AAA                             smax
      comp=N,4µm,7.0s
AAA                             smax
      comp=E,4µm,7.0s
AAA                             MLR    MLR
      comp=N,7µm,13.0s,MS6.0
AAA                             MLR    MLR
      comp=E,7µm,13.0s,MS6.0
AAA                             MLR    MLR
      comp=Z,8µm,13.0s,MS5.9
ZRNK  Zerenda        52.51 311  P     P      03 09 26.3 -0.5
ZRNK                            pmax   pmax
      comp=Z,850nm,1.6s,mb6.4
ZRNK  Zerenda        52.51 311⇓eP     P      03 09 26.4 -0.4
      comp=Z,1µm,1.6s,mb6.5
TKM2  Tokmak 2       53.17 297  P     P      03 09 32.4 +0.5
      SNR=86
PMG   Port Moresby   53.27 185⇓eP     P      03 09 32.6 -0.5
PMG                             pmax   pmax
      comp=Z,64nm,1.0s
PMG   Port Moresby   53.27 185⇓eP     P      03 09 32.3 -0.7
      comp=Z,64nm,1.0s,mb5.5
PMG                             LR     LR
      comp=Z,3µm,21.0s,MS5.3
CHMS  Chumysh        53.67 298  P     P      03 09 35.6  0.0
      SNR=22
USP   Ospenovka      53.70 298  P     P      03 09 36.1 +0.3
      SNR=69
KBK   Karagaybulak   53.71 297  P     P      03 09 36.3 +0.4
      SNR=50
FRU   Bishkek        53.84 297⇓iP     P      03 09 37.0 +0.2
FRU                            i              03 09 45.0
FRU                            i S    S      03 17 15.0 +3.8
FRU                             pmax   pmax
      comp=Z,520nm,2.2s,mb6.2
FRU                             smax
      comp=N,6µm,6.0s
FRU                             MLR    MLR
      comp=Z,16µm,15.0s,MS6.2
YKA   Yellowknife Ar 53.87  35  P     P      03 09 36.0 -0.8
      comp=Z,55nm,0.8s,mb5.6,baz=294,slow=6.7,SNR=138
YKA                             pP     pP     03 09 46.8  +10
      comp=Z,42nm,0.8s,baz=297,slow=6.9,SNR=14
YKA                             PcP    PcP    03 10 42.3  0.0
      comp=Z,34nm,0.9s,baz=298,slow=3.7,SNR=9.7
YKA                             S      S      03 17 11.5 +0.2
      comp=Z,0.7nm,0.9s,baz=284,slow=27,SNR=2.8
YKA                             LR     LR     03 33 38.8
      comp=Z,4µm,21.8s,MS5.4,baz=320,slow=37
YKA   Yellowknife Ar 53.87  35  P     P      03 09 36.0 -0.8
YKA                             *PP    pP     03 09 46.8  +10
YKA                                           03 10 42.3
YKA                             S      S      03 17 11.5 +0.2
YKA                             pmax   pmax
      comp=Z,55nm,0.9s
YKA                             MLR    MLR
      comp=Z,4µm,21.8s
YKA   Yellowknife Ar 53.87  35  P     P      03 09 36.0 -0.8
YKA                             pP     pP     03 09 46.8  +10
YKA                             PcP    PcP    03 10 42.4  0.0
YKA                             S      S      03 17 11.5 +0.2
YKA                             LR     LR     03 33 38.8
AAK   Ala-Archa      54.02 297  P     P      03 09 38.3 +0.2
      SNR=53
AAK   Ala-Archa      54.02 297⇓iP     P      03 09 37.2 -0.9
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      comp=Z,74nm,0.8s,mb5.8
AAK                            eS     S      03 17 14.8 +1.2
AAK                             LR     LR
      comp=Z,2µm,19.0s,MS5.1
GUN   Gumba          54.07 276 eP     P      03 09 38.7  0.0
      comp=Z,234nm,0.8s,mb6.3
UCH   Uchtor         54.20 297  P     P      03 09 40.0 +0.5
      SNR=38
EKS2  Erkin-Say      54.46 298  P     P      03 09 41.6 +0.2
      SNR=82
KKN   Kakani         54.57 276 eP     P      03 09 42.1 -0.3
      comp=Z,571nm,1.1s,mb6.5
PKI   Pulchoki       54.60 276 eP     P      03 09 42.1 -0.5
      comp=Z,419nm,1.4s,mb6.3
KSH   Kashi          54.62 293 i PR          03 09 44.1
KSH                             AP     pP     03 09 48.6 +5.9
KSH                             XP     sP     03 09 51.1 +8.4
KSH                             PCP    PcP    03 10 46.0 +0.4
KSH                             PP     PP     03 11 48.0 +1.4
KSH                             SCP           03 14 43.0
KSH                             PCS           03 14 44.4
KSH                             S      S      03 17 23.3 +1.5
KSH                             XS            03 17 30.0
KSH                             SCS    ScS    03 19 29.0 -0.8
AML   Almayashu      54.78 297  P     P      03 09 44.7 +0.9
      SNR=89
DMN   Daman          54.80 276 eP     P      03 09 44.0 -0.1
      comp=Z,460nm,1.0s,mb6.5
GKN   Gorkha         54.91 277 eP     P      03 09 44.6 -0.3
      comp=Z,682nm,1.2s,mb6.5
KBS   Kingsbay       55.05 351 eP     P      03 09 44.3 -1.0
KBS                            epP    pP     03 09 47.5 +2.2
KBS                             AMb    AMB    03 09 49.8
      comp=Z,261nm,1.7s,mb6.0
KBS                            eS     S      03 17 27.0  0.0
KBS                            eSS    SS     03 21 12.5 +2.2
KBS                             AMS    AMS    03 37 06.6
      comp=Z,4µm,20.7s,MS5.5
KBS   Kingsbay       55.05 351 eP     P      03 09 44.0 -1.3
KBS                             pmax   pmax
      comp=Z,200nm,1.1s,mb6.1
KBS   Kingsbay       55.05 351 eP     P      03 09 44.3 -1.0
      comp=Z,261nm,1.7s,mb6.0
KBS                             LR     LR
      comp=Z,4461µm,20.7s
KOLN  Koldanda       55.79 277 eP     P      03 09 51.1 -0.1
      comp=Z,496nm,1.1s,mb6.5
OCWA  Octopus Mounta 56.07  54 eP     P      03 09 52.5 -0.5
      comp=Z,227nm,1.4s,mb6.0
OCWA                            LR     LR
      comp=Z,2µm,20.0s,MS5.3
HSP   Hornsund       56.16 349 eP     P      03 09 52.8 -0.5
ARU   Arti           56.26 318  P     P      03 09 53.2 -1.0
      comp=Z,2µm,1.0s,mb7.0
ARU   Arti           56.26 318⇓iP     P      03 09 53.6 -0.6
ARU                            e              03 10 49.4
ARU                            i              03 11 59.3
ARU                            ePPP   PPP    03 13 12.3 -4.8
ARU                            i S    S      03 17 39.9 -3.5
ARU                            e              03 19 38.0
ARU                            i SS   SS     03 21 22.7 -7.4
ARU                            eSSS   SSS    03 23 34.9 -2.8
ARU                             pmax   pmax
      comp=Z,315nm,1.2s,mb6.2
ARU                             MLR    MLR
      comp=Z,8µm,20.0s,MS5.8
ARU                             MLR    MLR
      comp=N,8µm,16.0s,MS5.9
ARU                             MLR    MLR
      comp=E,4µm,18.0s,MS5.9
ARU   Arti           56.26 318 eP     P      03 09 53.2 -1.0
      comp=E,2µm,1.8s,mb6.8
ARU                             LR     LR
      comp=Z,2µm,20.0s,MS5.2
KKAR  Karatay Array  56.30 300 i P    P      03 09 54.1 -0.7
KKAR                            pmax   pmax
      comp=Z,64nm,0.7s,mb5.8
VDB   Vedder Mountai 56.63  52  P     P      03 09 56.0 -1.0
MBW   Mount Baker    56.87  52  P     P      03 09 57.9 -0.8
GNW   Green Mountain 56.96  54⇓eP     P      03 09 58.7 -0.7
JOSI  Joshimath      57.05 282 eP     P      03 09 60.0 -0.3
JOSI                            AMb    AMB    03 10 04.0
      comp=Z,1µm,0.9s,mb6.9
JOSI                           eS     S      03 17 58.0 +3.9
JCW   Jim Creek      57.15  53  P     P      03 09 60.0 -0.8
PTH   Pithoragarh    57.16 281 eP     P      03 10 01.0 -0.1
PTH                            eS     S      03 17 57.0 +1.4
RPW   Rockport       57.26  52  P     P      03 10 00.2 -1.3
BMW   Boistfort Moun 57.28  55  P     P      03 10 02.1 +0.4
BMW   Boistfort Moun 57.28  55 eP     P      03 10 01.1 -0.6
KLP   Kalpa          57.41 284 eP     P      03 10 02.3 -0.5
KLP                             AMb    AMB    03 10 03.8
      comp=Z,111nm,0.7s,mb6.0
SNG   Songkhla       57.41 246  P     P      03 10 03.0  0.0
      comp=Z,446nm,1.0s,mb6.5
PNT   Penticton      57.88  51  P     P      03 10 04.7 -1.1
LON   Longmire       57.97  54  P     P      03 10 06.3 -0.2
LON   Longmire       57.97  54  P     P      03 10 05.7 -0.8
SHW   Mount Saint He 58.02  55  P     P      03 10 07.8 +1.0
SHW   Mount Saint He 58.02  55 eP     P      03 10 07.4 +0.6
NLW   Nelson Butte   58.12  52 eP     P      03 10 06.9 -0.7
NLW                            e              03 10 17.7
COR   Corvallis      58.23  57  P     P      03 10 09.5 +1.2
COR                             pmax   pmax
      comp=Z,460nm,1.3s,mb6.3
COR   Corvallis      58.23  57⇓eP     P      03 10 08.9 +0.5
      comp=Z,464nm,1.3s,mb6.3
COR                            e              03 10 20.7
COR                             LR     LR
      comp=Z,547nm,19.0s,MS4.7
LTY   Liberty        58.37  53  P     P      03 10 08.3 -0.9
KEBM  Edson Butte    58.52  59 eP     P      03 10 11.4 +1.0
KEBM                           e              03 10 22.5
BHK   Bhakra         58.75 285 e      P      03 10 18.6 +6.4
BHK                            e              03 18 26.4
LVZ   Lovozero       58.83 337⇑eP     P      03 10 11.1 -1.2
LVZ                            eS     S      03 18 14.9 -2.2
LVZ                            e              03 19 56.6
LVZ                             pmax   pmax
      comp=Z,110nm,1.1s,mb5.8
LVZ                             smax
      comp=E,2µm,4.9s
LVZ                             MLR    MLR
      comp=N,4µm,14.0s,MS6.0
LVZ                             MLR    MLR
      comp=E,7µm,17.0s,MS6.0
LVZ                             MLR    MLR
      comp=Z,8µm,17.0s,MS5.9
LVZ   Lovozero       58.83 337 eP     P      03 10 11.4 -0.9
HSO   Harness Mounta 58.93  58  P     P      03 10 14.4 +1.1
HSO   Harness Mounta 58.93  58 eP     P      03 10 14.2 +1.0
KBO   Bosley Butte   58.94  60 eP     P      03 10 13.6 +0.3
KBO                            e              03 10 24.1
KAKA  Kakadu         59.01 202 eP     P      03 10 13.4 -0.8
      comp=Z,107nm,0.6s,mb6.0
IPM   Ipoh           59.09 244⇑eP     P      03 10 15.0 +0.2
      comp=Z,21nm,0.5s,mb5.4
VGB   Gordon Butte   59.24  55  P     P      03 10 15.8 +0.4
VGB   Gordon Butte   59.24  55 eP     P      03 10 15.4  0.0
AB31  Akbulak array  59.29 310  P     P      03 10 15.4 -0.3
AB31                            pmax   pmax
      comp=Z,11nm,0.4s,mb5.2
DAG   Danmarks Havn  59.36 357⇑iP     P      03 10 14.7 -1.1
      comp=Z,113nm,1.0s,mb5.8
APA   Apatity        59.41 337⇓iP     P      03 10 15.8 -0.5
APA                            i              03 10 25.8
APA                            i              03 10 32.0
APA                            e              03 12 29.0
APA                            i S    S      03 18 22.0 -2.6
APA                            eSS    SS     03 22 17.0 -3.7
APA                             pmax   pmax
      comp=Z,390nm,1.8s,mb6.1
APA                             pmax   pmax
      comp=Z,4µm,8.0s
APA                             smax
      comp=N,3µm,8.0s
APA                             smax
      comp=E,3µm,8.0s
APA                             MLR    MLR
      comp=Z,8µm,16.0s,MS5.9
DPW   Davenport      59.44  51 eP     P      03 10 15.9 -0.9
DPW   Davenport      59.44  51 eP     P      03 10 15.4 -1.4
HAWA  Hanford        59.49  53 eP     P      03 10 16.3 -0.8
      comp=Z,0.1nm,1.1s
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HAWA				LR	LR		
	comp=Z,1.0nm,22.0s						
HUMO	Hull Mountain	59.51	59⇓	*e*P	P	03 10 17.4	+0.1
	comp=Z,127nm,1.3s,mb5.8						
HUMO				LR	LR		
	comp=Z,2µm,21.0s,MS5.2						
KEV	Kevo	59.55	341	*e*p	P	03 10 16.4	-0.8
KGM	Kluang	59.60	240⇓	*e*P	P	03 10 19.0	+0.7
	comp=Z,121nm,0.8s,mb6.0						
NDI	New Delhi	59.79	282	*e*P	P	03 10 17.8	-1.6
NDI				AMb	AMB	03 10 22.4	
	comp=Z,408nm,1.5s,mb6.2						
NDI				*i*		03 18 37.0	
NEW	Newport	59.84	51	*e*P	P	03 10 19.1	-0.4
NEW				pmax	pmax		
	comp=Z,140nm,1.2s						
NEW	Newport	59.84	51⇓	*e*P	P	03 10 18.3	-1.2
	comp=Z,140nm,1.2s,mb5.9						
NEW				*e*		03 10 30.1	
NEW				LR	LR		
	comp=Z,3µm,19.0s,MS5.5						
AYAN	Aya Nagar	59.97	282	*e*P	P	03 10 19.2	-1.5
AYAN				*e*		03 10 24.2	
	comp=Z,234nm,1.4s						
KHMM	Horse Mountain	59.99	61	*e*P	P	03 10 19.8	-0.9
ARCES	ARCESS Array B	60.07	341	P	P	03 10 19.9	-0.9
	comp=Z,31nm,0.8s,mb5.4,baz=71,slow=5.4,SNR=50						
ARCES				PcP	PcP	03 11 07.2	+0.7
	comp=Z,40nm,1.0s,baz=45,slow=3.4,SNR=4.8						
ARCES				S	S	03 18 30.4	-2.8
	comp=Z,3.2nm,0.8s,baz=40,slow=19,SNR=3.2						
ARCES				LR	LR	03 39 12.1	
	comp=Z,5µm,19.4s,MS5.6,baz=30,slow=39						
ARCES				PKPPKP		03 39 44.2	
	comp=Z,3.1nm,0.8s,baz=72,slow=12,SNR=4.1						
ARE0	ARCESS Array S	60.07	341	P	P	03 10 20.2	-0.6
SONA	Sohna	60.14	282	*e*P	P	03 10 20.6	-1.2
SONA				*e*		03 10 25.2	
	comp=Z,258nm,1.2s						
SONA				*e*S	S	03 18 34.1	-0.4
YBH	Yreka Blue Hor	60.15	59⇓	*e*P	P	03 10 22.0	+0.3
	comp=Z,111nm,1.0s,mb5.8						
YBH				LR	LR		
	comp=Z,2µm,19.0s,MS5.2						
BLSP	Bilaspur	60.27	273	*e*P	P	03 10 21.3	-1.5
LNOR	Lincton Mounta	60.50	53	*e*P	P	03 10 24.3	+0.3
LNOR	Lincton Mounta	60.50	53	*e*P	P	03 10 23.6	-0.4
KUDL	Kundal	60.62	282	*e*P	P	03 10 23.5	-1.6
KUDL				*e*		03 10 28.6	
	comp=Z,286nm,1.6s						
KUDL				*e*S	S	03 18 39.6	-1.2
WDC	Whiskeytown Da	60.90	60	P	P	03 10 26.5	-0.3
WDC				pmax	pmax		
	comp=Z,110nm,1.0s,mb5.9						
WDC	Whiskeytown Da	60.90	60	*e*P	P	03 10 26.2	-0.7
	comp=Z,113nm,1.1s,mb5.9						
WDC				LR	LR		
	comp=Z,2µm,21.0s,MS5.2						
KTK1	Kautokeino	61.00	341⇓	*i*P	P	03 10 27.0	-0.1
KTK1				*e*pP	pP	03 10 28.9	+1.7
KTK1				AMb	AMB	03 10 32.4	
	comp=Z,354nm,1.6s,mb6.2						
KTK1	Kautokeino	61.00	341	*e*P	P	03 10 27.1	0.0
	comp=Z,354nm,1.6s,mb6.2						
KHET	Khetri	61.15	282	*e*P	P	03 10 27.2	-1.5
KHET				*e*		03 10 31.1	
	comp=Z,144nm,1.0s						
KHET				*e*S	S	03 18 46.5	-1.0
HOPS	Hopland	61.47	62	*e*P	P	03 10 30.3	-0.4
	comp=Z,186nm,1.3s,mb6.1						
HOPS				LR	LR		
	comp=Z,3µm,22.0s,MS5.3						
TRO	Tromso	61.48	343	*e*P	P	03 10 29.3	-1.1
TRO				*e*S	S	03 18 48.3	-2.7
TRO				*e*SS	SS	03 22 52.6	-0.7
TRO				AMS	AMS	03 46 29.1	
	comp=Z,4µm,18.5s,MS5.6						
MOD	Modoc	61.54	58⇓	*i*P	P	03 10 30.9	-0.3
	comp=Z,154nm,1.0s,mb6.2						
MOD				LR	LR		
	comp=Z,2µm,20.0s,MS5.3						
NSHM	Saint Helena R	62.04	62	*e*P	P	03 10 34.9	+0.3
VIS	Vishakhapatnam	62.21	268	*e*P	P	03 10 35.5	-0.5
WVOR	Wild Horse Val	62.25	57	*e*P	P	03 10 35.8	-0.1
WVOR				pmax	pmax		
	comp=Z,150nm,1.1s,mb6.1						
WVOR	Wild Horse Val	62.25	57⇓	*e*P	P	03 10 35.5	-0.5
	comp=Z,153nm,1.1s,mb6.1						
WVOR				LR	LR		
	comp=Z,3µm,20.0s,MS5.5						
OHCM	Honcut	62.28	61	*e*P	P	03 10 35.0	-1.2
MSO	Missoula	62.42	51⇓	*i*P	P	03 10 36.1	-0.9
	comp=Z,155nm,1.1s,mb6.2						
MSO				LR	LR		
	comp=Z,1µm,21.0s,MS5.1						
LKC	Lake Chabot	62.84	63	*e*P	P	03 10 37.7	-2.2
AJM	Ajmer	62.94	282⇓	*i*P	P	03 10 37.0	-3.7
PECR	Pechory	62.95	323	*e*P	P	03 10 41.4	+1.1
PECR				*i* S	S	03 19 08.6	-1.2
PECR				pmax	pmax		
	comp=N,2µm,9.0s						
PECR				pmax	pmax		
	comp=E,2µm,8.4s						
PECR				smax			
	comp=N,3µm,12.0s						
PECR				smax			
	comp=E,2µm,10.0s						
PECR				MLR	MLR		
	comp=N,12µm,15.0s,MS6.3						
PECR				MLR	MLR		
	comp=E,10µm,15.0s,MS6.3						
BHPL	Bhopal	62.96	277	*e*P	P	03 10 39.1	-1.7
BHPL				*e*		03 10 42.8	
	comp=Z,209nm,1.2s						
ASMM	Slate Mountain	63.09	61	*e*P	P	03 10 39.4	-2.1
ASMM				*e*		03 10 48.1	
NGP	Nagpur	63.10	274	*e*P	P	03 10 40.6	-1.2
NGP				*e*		03 19 11.9	
SUMG	Summit	63.54	3⇓	*e*P	P	03 10 44.3	+0.4
	comp=Z,530nm,1.0s,mb6.7						
FFC	Flin Flon	63.64	38	P	P	03 10 44.2	-0.6
	comp=Z,1µm,1.0s						
FFC	Flin Flon	63.64	38⇓	*e*P	P	03 10 44.0	-0.8
	comp=Z,277nm,1.0s,mb6.4						
FFC				LR	LR		
	comp=Z,1µm,19.0s,MS5.0						
CMB	Columbia Colle	63.74	62	P	P	03 10 45.2	-0.6
CMB				S	S	03 19 22.9	+2.9
CMB	Columbia Colle	63.74	62	P	P	03 10 45.1	-0.7
CMB				pmax	pmax		
	comp=Z,160nm,1.2s,mb6.1						
CMB	Columbia Colle	63.74	62⇓	*e*P	P	03 10 45.2	-0.6
	comp=Z,158nm,1.3s,mb6.1						
CMB				LR	LR		
	comp=Z,3µm,20.0s,MS5.5						
SAO	San Andreas Ge	63.81	63	P	P	03 10 46.3	0.0
SAO				pmax	pmax		
	comp=Z,120nm,1.4s,mb5.9						
SAO	San Andreas Ge	63.81	63	*e*P	P	03 10 44.8	-1.5
	comp=Z,122nm,1.5s,mb5.9						
SAO				LR	LR		
	comp=Z,2µm,19.0s,MS5.3						
LOF	Lofoten	63.83	344⇓	*i*P	P	03 10 47.3	+1.5
LOF				*e*pP	pP	03 10 48.9	+3.0
LOF				AMb	AMB	03 10 52.4	
	comp=Z,293nm,1.7s,mb6.2						
LOF	Lofoten	63.83	344	*e*P	P	03 10 47.3	+1.5
	comp=Z,293nm,1.7s,mb6.2						
CTA	Charters Tower	63.93	185	*e*P	P	03 10 45.9	-1.4
	comp=Z,14nm,0.6s,mb5.4						
CTA	Charters Tower	63.93	185	LR	LR	03 35 35.1	
	comp=Z,2µm,18.6s,MS5.4,baz=0.2,slow=33						
CTAO	Charters Tower	63.93	185	*e*P	P	03 10 45.5	-1.9
	comp=Z,19nm,0.6s,mb5.5						
CTAO				LR	LR		
	comp=Z,3µm,19.0s,MS5.4						
HLID	Hailey	64.09	54⇓	*e*P	P	03 10 47.5	-0.4
	comp=Z,92nm,1.1s,mb5.9						
HLID				LR	LR		
	comp=Z,2µm,20.0s,MS5.3						
KGD	Kothagudem	64.24	270	*e*P	P	03 10 47.8	-1.5
KGD				*e*PcP	PcP	03 11 22.0	-2.1
KGD				*e*PP	PP	03 13 08.2	-4.2
KGD				*e*S	S	03 19 25.9	-0.6
KGD				*e*ScS	ScS	03 20 41.0	+0.2
BMN	Battle Mountai	64.28	58	P	P	03 10 49.5	+0.2
BMN				pmax	pmax		
	comp=Z,130nm,1.0s,mb6.1						
BMN	Battle Mountai	64.28	58⇓	*i*P	P	03 10 49.3	0.0
	comp=Z,126nm,1.0s,mb6.1						
BMN				LR	LR		
	comp=Z,2µm,19.0s,MS5.3						
LRV	Little Rabbit	64.29	63	*e*P	P	03 10 49.6	+0.2
BOZ	Bozeman (W)	64.42	51	*e*P	P	03 10 49.9	-0.2
BOZ				pmax	pmax		
	comp=Z,170nm,1.0s,mb6.2						
BOZ	Bozeman (W)	64.42	51⇓	*i*P	P	03 10 49.8	-0.3
	comp=Z,175nm,1.0s,mb6.2						
BOZ				LR	LR		
	comp=Z,3µm,19.0s,MS5.5						
JMIC	Jan Mayen	64.43	353	LR	LR	03 35 28.4	
	comp=Z,1µm,21.3s,MS5.1,baz=29,slow=33						
JMIC	Jan Mayen	64.43	353	*e*P	P	03 10 52.1	+2.3
JMIC				*e*PP	PP	03 13 09.4	-4.0
JMIC				*e*S	S	03 19 26.9	-1.0
JMIC				AMS	AMS	03 45 04.8	
	comp=Z,2µm,13.2s,MS5.4						
AKL	Akola	64.85	275	*e*P	P	03 10 56.8	+3.5
AKL				AMb	AMB	03 11 01.6	
	comp=Z,164nm,1.6s,mb6.0						
MNV	Mina	64.91	60	*e*P	P	03 10 52.8	-0.6
	comp=Z,86nm,1.0s,mb5.9						
MNV				LR	LR		
	comp=Z,2µm,19.0s,MS5.3						
JASL	Jaisalmer	65.30	284	*e*P	P	03 10 54.9	-1.2
JASL				*e*	pP	03 10 56.0	-0.1
	comp=Z,239nm,1.2s						
MOR8	Moi Rana	65.30	342⇓	*i*P	P	03 10 53.4	-2.0
MOR8				AMb	AMB	03 10 56.6	
	comp=Z,347nm,0.9s,mb6.6						
MOR8	Moi Rana	65.30	342	*e*P	P	03 10 53.4	-2.0
	comp=Z,347nm,0.9s,mb6.6						
ELK	Elko	65.30	57	P	P	03 10 55.9	0.0
ELK				pmax	pmax		
	comp=Z,210nm,1.5s						
ELK	Elko	65.30	57⇓	*e*P	P	03 10 55.6	-0.3
	comp=Z,213nm,1.6s,mb6.1						
ELK				LR	LR		
	comp=Z,3µm,21.0s,MS5.4						
MTUM	Tungsten Hills	65.30	61	*e*P	P	03 10 55.7	-0.3
YMR	Madison River	65.39	51⇓	*e*P	P	03 10 56.0	-0.4
KAF	Kangasniemi	65.45	335	*e*p	P	03 10 54.4	-2.0
	comp=Z,40nm,0.7s,mb5.8,baz=39,slow=6.1						
KAF	Kangasniemi	65.45	335	*e*P	P	03 10 54.4	-2.0
KAF				pmax	pmax		
	comp=Z,40nm,0.7s,mb5.8						
WRAB	Tennant Creek	65.50	198⇓	*i*P	P	03 10 55.4	-2.1
	comp=Z,126nm,0.7s,mb6.2						
WRAB				LR	LR		
	comp=Z,1µm,20.0s,MS5.1						
WB2	Warramunga Arr	65.50	198⇓	*i*P	P	03 10 55.7	-1.8
WB2				*e*PKPPKP		03 39 39.9	
WRA	Warramunga Arr	65.51	198	P	P	03 10 55.8	-1.7
	comp=Z,65nm,0.7s,mb6.0,baz=17,slow=6.9,SNR=158						
WRA				PcP	PcP	03 11 29.4	+0.2
	comp=Z,10nm,0.8s,baz=16,slow=5.6,SNR=6.2						
WRA				PKPPKP		03 39 36.5	
	comp=Z,6.6nm,0.9s,baz=176,slow=2.0,SNR=12						
WRA				LR	LR	03 39 40.8	
	comp=Z,3µm,19.5s,MS5.4,baz=25,slow=36						
TPH	Tonopah	65.71	60⇓	*e*P	P	03 10 58.1	-0.4
	comp=Z,156nm,1.0s,mb6.2						
TPH				LR	LR		
	comp=Z,2µm,19.0s,MS5.3						
SCO	Scoresbysund	65.75	358	*i* P	P	03 10 57.8	-0.4
	comp=Z,23nm,0.9s,mb5.4						
SCO				*i* S	S	03 19 47.8	+3.7
SCO	Scoresbysund	65.75	358	*e*P	P	03 10 57.8	-0.4
	comp=Z,23nm,0.9s,mb5.4						
HYB	Hyderabad	65.86	271⇓	*i*P	P	03 10 59.0	-0.8
	comp=Z,90nm,1.0s,mb6.0						
HYB	Hyderabad	65.86	271⇓	*e*P	P	03 10 59.0	-0.8
	comp=Z,90nm,1.0s,mb6.0						
PUL	Pulkovo	65.91	332⇑	*e*P	P	03 10 57.3	-2.1
PUL				*e*S	S	03 19 42.4	-3.9
PUL				*e*SS	SS	03 24 01.6	-0.6
PUL				pmax	pmax		
	comp=Z,156nm,0.9s,mb6.2						
PUL				smax			
	comp=N,4µm,4.8s						
PUL				MLR	MLR		
	comp=N,3µm,14.0s,MS5.8						
PUL				MLR	MLR		
	comp=E,4µm,15.0s,MS5.8						
PUL				MLR	MLR		
	comp=Z,5µm,15.0s,MS5.9						
PUL	Pulkovo	65.91	332	*e*P	P	03 10 58.1	-1.3
FINES	FINESS Array B	66.03	335	P	P	03 10 59.2	-0.9
	comp=Z,53nm,0.6s,mb5.9,baz=41,slow=5.5,SNR=93						
FINES				S	S	03 19 46.0	-1.8
	comp=Z,3.8nm,0.7s,baz=180,slow=36,SNR=4.3						
FINES				LR	LR	03 42 16.2	
	comp=Z,6µm,18.7s,MS5.8,baz=34,slow=38						
FINES	FINESS Array B	66.03	335	P	P	03 10 59.3	-0.9
FINES				S	S	03 19 46.0	-1.7
FINES				pmax	pmax		
	comp=Z,53nm,0.6s						
FINES				MLR	MLR		
	comp=Z,6µm,18.7s						
TPAW	Teton Pass	66.12	52⇓	*i*P	P	03 11 01.6	+0.5
HVU	Hansel Valley	66.13	54	*e*P	P	03 11 01.9	+0.7
HVU	Hansel Valley	66.13	54⇓	*e*P	P	03 11 01.0	-0.1
FITZ	Fitzroy Crossi	66.13	207⇓	*i*P	P	03 11 01.1	-0.5
	comp=Z,85nm,0.7s,mb6.1						
FITZ				*e*PKPPKP		03 39 39.6	
FITZ	Fitzroy Crossi	66.13	207	P	P	03 11 00.7	-0.9
	comp=Z,87nm,0.7s,mb6.1,baz=12,slow=5.5,SNR=102						
SNOW	Snow King Moun	66.25	52⇓	*e*P	P	03 11 02.4	+0.5
AHID	Auburn Hatcher	66.49	53⇓	*e*P	P	03 11 03.3	-0.2
	comp=Z,110nm,1.1s,mb6.0						
AHID				LR	LR		
	comp=Z,2µm,21.0s,MS5.3						
DAC	Darwin (Calif)	66.58	62	P	P	03 11 04.1	0.0
DAC				pmax	pmax		
	comp=Z,54nm,1.0s,mb5.7						
DAC	Darwin (Calif)	66.58	62⇓	*e*P	P	03 11 03.4	-0.7
	comp=Z,54nm,1.0s,mb5.7						
DAC				LR	LR		
	comp=Z,2µm,20.0s,MS5.4						
DGMT	Dagmar	66.60	45	*e*P	P	03 11 03.0	-1.1
	comp=Z,210nm,0.9s,mb6.4						
DGMT				LR	LR		
	comp=Z,6µm,21.0s,MS5.8						
SPUT	South Promonto	66.61	55	*e*P	P	03 11 03.8	-0.5
LATR	Latur	66.65	273	*e*P	P	03 11 03.7	-1.1
LAO	LASA Array	66.70	47⇓	*e*P	P	03 11 04.3	-0.4
	comp=Z,255nm,1.1s,mb6.4						
LAO				LR	LR		
	comp=Z,3µm,20.0s,MS5.5						
OBN	Obninsk	66.91	325	P	P	03 11 05.7	-0.2
	comp=Z,854nm,1.4s,mb6.8,SNR=11						
OBN	Obninsk	66.91	325*d*	*i*P	P	03 11 05.1	-0.8
OBN				*i*		03 11 35.5	
OBN				*e*		03 13 30.4	
OBN				*e*S	S	03 19 52.0	-6.5
OBN				*e*SS	SS	03 24 07.1	-11
OBN				pmax	pmax		
	comp=Z,422nm,2.2s,mb6.3						
OBN				MLR	MLR		
	comp=Z,5µm,15.0s,MS5.8						
OBN	Obninsk	66.91	325⇓	*i*P	P	03 11 05.0	-0.9
	comp=Z,110nm,0.8s,mb6.1						
OBN				*e*		03 11 25.6	
OBN				LR	LR		
	comp=Z,2µm,21.0s,MS5.2						
HWUT	Hardware Ranch	66.95	54⇓	*e*P	P	03 11 06.1	-0.3
	comp=Z,148nm,1.1s,mb6.1						
HWUT				LR	LR		
	comp=Z,3µm,19.0s,MS5.5						
TPNV	Topopah Spring	67.01	60	*e*P	P	03 11 06.5	-0.4
TPNV				pmax	pmax		
	comp=Z,180nm,1.1s,mb6.2						
TPNV	Topopah Spring	67.01	60⇓	*e*P	P	03 11 06.3	-0.5
	comp=Z,184nm,1.1s,mb6.2						
TPNV				LR	LR		
	comp=Z,3µm,21.0s,MS5.5						
DUG	Dugway	67.09	56	*e*P	P	03 11 07.2	-0.2
DUG				pmax	pmax		
	comp=Z,240nm,1.1s,mb6.3						
DUG	Dugway	67.09	56⇓	*e*P	P	03 11 07.1	-0.2
	comp=Z,0.1nm,1.1s						
DUG				LR	LR		
	comp=Z,1.0nm,21.0s						
DZM	Mont Dzumac	67.16	165	*e*P	P	03 11 09.2	+1.1
NOUC	Port Laguerre	67.16	165	*e*P	P	03 11 09.1	+1.0
NSS	Namsos	67.25	342	*e*P	P	03 11 06.0	-1.9
NSS				*e*P	pP	03 11 07.0	-0.9
NSS				*e*PP	PP	03 13 34.3	-3.4
NSS				*e*S	S	03 20 01.9	-0.5
NSS				*e*SS	SS	03 24 22.3	-0.9
NSS				AMS	AMS	03 41 21.3	
	comp=Z,5µm,25.3s,MS5.6						
TCUT	Toone Canyon	67.35	54⇓	*e*P	P	03 11 07.6	-1.3
BW06	Boulder Array	67.37	52⇓	*e*P	P	03 11 08.3	-0.8
	comp=Z,119nm,1.1s,mb6.0						
BW06				LR	LR		
	comp=Z,2µm,20.0s,MS5.3						
PDAR	Pinedale Array	67.37	52	P	P	03 11 08.4	-0.7
	comp=Z,40nm,0.8s,mb5.7,baz=278,slow=1.2,SNR=100						
PDAR				S	S	03 20 04.5	+0.2
	comp=Z,0.4nm,0.9s,baz=180,slow=10,SNR=2.1						
PDAR				PKPPKP		03 39 33.3	
	comp=Z,1.0nm,1.1s,baz=146,slow=3.3,SNR=5.4						
CTU	Camp Tracy	67.41	55	*e*P	P	03 11 08.7	-0.7
MDRS	Chennai	67.51	267	*e*	P	03 11 09.0	-1.4
CUD	Cuddapah	67.64	269⇓	*e*P	P	03 11 10.8	-0.4
CUD				*e*		03 11 44.0	
JLU	Jordanelle	67.65	55⇓	*e*P	P	03 11 10.8	-0.1
NLU	North Lily Min	67.69	56⇓	*e*P	P	03 11 10.8	-0.3
DAU	Daniels Canyon	67.88	55	P	P	03 11 13.0	+0.7
DAU	Daniels Canyon	67.88	55	*e*P	P	03 11 12.6	+0.3
MPU	Maple Canyon	67.91	55⇓	*i*P	P	03 11 12.3	-0.2
VSU	Vasula	68.11	332	*e*P	P	03 11 12.8	-0.6
VOR	Voronezh	68.15	322	*e*P	P	03 11 12.0	-1.8
VOR				*e**PP	pP	03 11 18.5	+4.7
VOR				S	S	03 20 10.0	-3.4
VOR				pmax	pmax		
	comp=N,140nm,1.7s						
VOR				pmax	pmax		
	comp=E,100nm,1.7s						
VOR				pmax	pmax		
	comp=Z,250nm,1.7s,mb6.2						
VOR				smax			
	comp=N,150nm,1.7s						
VOR				smax			
	comp=E,190nm,1.7s						
VOR				smax			
	comp=Z,150nm,2.0s						
ARUT	Antelope Range	68.23	58	P	P	03 11 14.5	0.0
ARUT	Antelope Range	68.23	58	*e*P	P	03 11 14.3	-0.3
TRON	Trondheim	68.52	342⇓	*i*P	P	03 11 17.5	+1.6
MVU	Marysvale	68.52	57⇓	*e*P	P	03 11 16.2	-0.1
	comp=Z,93nm,1.1s,mb5.9						
MVU				LR	LR		
	comp=Z,2µm,21.0s,MS5.3						
POO	Poona	68.53	275	*e*P	P	03 11 15.0	-1.6
POO				AMb	AMB	03 11 20.2	
	comp=Z,176nm,1.5s,mb6.1						
MSU	Marysvale	68.54	57	*e*P	P	03 11 16.3	-0.1
MSU	Marysvale	68.54	57	*e*P	P	03 11 16.4	0.0
MSU				*e*		03 11 27.6	
PFO	Pinyon Flat Ob	68.97	63	P	P	03 11 18.6	-0.6
PFO				pmax	pmax		
	comp=Z,100nm,1.2s,mb5.9						
PFO	Pinyon Flat Ob	68.97	63⇓	*e*P	P	03 11 18.1	-1.1
	comp=Z,104nm,1.2s,mb5.9						
PFO				*e*		03 11 27.9	
PFO				LR	LR		
	comp=Z,849nm,20.0s,MS5.0						
KAD	Karad	69.08	274⇓	*i*P	P	03 11 19.0	-1.1
SRU	San Rafael	69.15	56	*e*P	P	03 11 19.9	-0.3
SRU	San Rafael	69.15	56⇓	*e*P	P	03 11 19.8	-0.4
ASAR	Alice Springs	69.20	197	P	P	03 11 20.1	-0.7
	comp=Z,34nm,0.8s,mb5.6,baz=13,slow=4.9,SNR=130						
ASAR				PKPPKP		03 39 30.6	
	comp=Z,15nm,1.1s,baz=188,slow=3.0,SNR=16						
ASAR				LR	LR	03 40 17.7	
	comp=Z,1µm,21.6s,MS5.0,baz=12,slow=35						
ASPA	Alice Springs	69.21	197	*e*P	P	03 11 21.0	+0.2
ASPA				*e*PKPPKP		03 39 30.4	
ULM	Lac du Bonnet	69.41	39	P	P	03 11 20.3	-1.3
	comp=Z,76nm,1.1s,mb5.8,baz=317,slow=7.0,SNR=37						
ULM				pP	pP	03 11 30.5	+8.9
	comp=Z,47nm,1.0s,baz=320,slow=7.0,SNR=9.4						
ULM				S	S	03 20 25.7	-2.8
	comp=Z,1.2nm,0.6s,baz=50,slow=16,SNR=1.5						
ULM				LR	LR	03 41 23.1	
	comp=Z,3µm,19.7s,MS5.5,baz=327,slow=36						
ULM	Lac du Bonnet	69.41	39	P	P	03 11 20.3	-1.3
ULM				pP	pP	03 11 30.5	+8.9
ULM				S	S	03 20 25.7	-2.8
ULM				LR	LR	03 41 23.1	
RSSD	Black Hills	69.55	48⇓	*i*P	P	03 11 21.5	-1.1
	comp=Z,123nm,0.9s,mb6.0						
RSSD				LR	LR		
	comp=Z,779nm,20.0s,MS5.0						
MOL	Molde	69.92	343⇓	*i*P	P	03 11 27.7	+3.2
MOL				AMb	AMB	03 11 32.5	
	comp=Z,185nm,1.4s,mb6.0						
MAK	Makhachkala	69.97	311*c*	*i*P	P	03 11 25.0	-0.1
MAK				*i*		03 11 50.0	
MAK				*e*		03 14 03.0	
MAK				*e*PPP	PPP	03 15 46.0	+4.4
MAK				*e*S	S	03 20 34.0	-1.1
MAK				*e*PS	PS	03 21 03.0	+1.5
MAK				pmax	pmax		
	comp=N,2µm,8.0s						
MAK				pmax	pmax		
	comp=E,1µm,8.0s						
MAK				pmax	pmax		
	comp=Z,4µm,8.0s						
MAK				pmax	pmax		
	comp=Z,400nm,2.0s,mb6.2						
MAK				smax			
	comp=N,9µm,10.0s						
MAK				smax			
	comp=E,4µm,10.0s						
DOMB	Dombas	70.06	342	*e*P	P	03 11 25.0	-0.4
DOMB				AMb	AMB	03 11 29.7	
	comp=Z,190nm,1.2s,mb6.1						
DOMB	Dombas	70.06	342	*e*P	P	03 11 25.0	-0.4
	comp=Z,190nm,1.2s,mb6.1						
IZAR	Zarasai	70.39	331	*e*P	P	03 11 26.7	-0.7
IZAR				AMPb	AMB	03 11 30.1	
	comp=Z,25nm,1.2s,mb5.2						
NB2	NORSAR Subarra	70.45	341	P	P	03 11 27.3	-0.4
	comp=Z,111nm,0.8s,mb6.0,baz=28,slow=6.2						
NB2	NORSAR Subarra	70.45	341	P	P	03 11 27.3	-0.4
	baz=28,slow=6.5						
NOA	NORSAR Array B	70.45	341	P	P	03 11 26.8	-1.0
	comp=Z,123nm,0.7s,mb6.2,baz=29,slow=6.2,SNR=148						
NOA				pP	pP	03 11 37.8	+10
	comp=Z,44nm,0.7s,baz=29,slow=6.3,SNR=7.7						
NOA				LR	LR	03 49 07.2	
	comp=Z,3µm,18.5s,MS5.5,baz=20,slow=42						
GOA	Goa	70.53	273	*e*P	P	03 11 27.0	-2.0
GOA				AMb	AMB	03 11 31.0	
	comp=Z,160nm,1.0s,mb6.1						
IDID	Didziasalis	70.55	330	*i* P	P	03 11 27.9	-0.5
IDID				AMPb	AMB	03 11 33.0	
	comp=Z,36nm,1.4s,mb5.3						
ISAL	Salakas	70.57	331	*i* P	P	03 11 28.1	-0.5
ISAL				AMPb	AMB	03 11 31.5	
	comp=Z,50nm,1.8s,mb5.3						
HFS	Hagfors	70.62	339	S	S	03 20 41.0	-1.4
	comp=Z,10nm,1.3s,baz=117,slow=9.9,SNR=1.8						
IIGN	Ignalina	70.71	330	*i* P	P	03 11 29.0	-0.4
IIGN				AMPb	AMB	03 11 34.0	
	comp=Z,66nm,1.3s,mb5.6						
NAO	NORSAR Subarra	70.73	341	P	P	03 11 28.9	-0.6
GOF	Gofitskoye	70.92	315⇑	*i*P	P	03 11 32.0	+1.1
GOF				*i* S	S	03 20 49.0	+2.8
GOF				pmax	pmax		
	comp=Z,440nm,1.2s,mb6.5						
GOF				smax			
	comp=N,1µm,2.0s						
WUAZ	Wupatki	70.96	59⇓	*e*P	P	03 11 31.5	+0.2
	comp=N,167nm,1.0s,mb6.1						
MBWA	Marble Bar	71.03	211⇓	*e*P	P	03 11 31.0	-1.0
	comp=N,54nm,1.0s,mb5.6						
MBWA				LR	LR		
	comp=Z,960nm,19.0s,MS5.1						
PALK	Pallekele	71.12	262⇓	*e*P	P	03 11 32.4	-0.2
	comp=Z,63nm,0.9s,mb5.8						
PALK				LR	LR		
	comp=Z,327nm,20.0s,MS4.6						
BORG	Borgarnes	71.46	357	P	P	03 11 34.8	+1.0

	comp=Z,94nm,0.7s,mb6.0,baz=5.0,slow=4.4,SNR=29						
BORG	**Borgarnes**	**71.46**	**357**	*e*P	**P**	**03 11 34.8**	**+1.0**
	comp=Z,84nm,0.5s,mb6.1						
OSL	**Oslo**	**71.54**	**340**	*e*P	**P**	**03 11 35.3**	**+0.9**
OSL				AMb	AMB	03 11 38.8	
	comp=Z,227nm,1.3s,mb6.1						
ISCO	**Idaho Springs**	**71.56**	**52**	*e*P	**P**	**03 11 35.0**	**+0.2**
ISCO				pmax	pmax		
	comp=Z,96nm,1.0s,mb5.9						
ISCO	**Idaho Springs**	**71.56**	**52**	⇓*e*P	**P**	**03 11 34.8**	**-0.1**
	comp=Z,96nm,1.0s,mb5.9						
ISCO				LR	LR		
	comp=Z,3µm,21.0s,MS5.5						
ZEI	**Tsey**	**72.05**	**312**	⇓*i*P	**P**	**03 11 38.0**	**+0.3**
ZEI				*e*		03 14 18.0	
ZEI				*e*PPP	PPP	03 16 03.0	+1.6
ZEI				*e*S	S	03 21 00.0	+0.8
ZEI				*i* PS	PS	03 21 20.0	-10
ZEI				*i* SS	SS	03 25 27.0	-11
ZEI				pmax	pmax		
	comp=Z,2µm,8.0s						
ZEI				smax			
	comp=E,2µm,14.0s						
ZEI				smax			
	comp=N,2µm,12.0s						
ZEI				MLR	MLR		
	comp=Z,9µm,20.0s,MS6.0						
KONO	**Kongsberg**	**72.06**	**341**	*e*P	PcP	03 12 07.0	+11
KONO	**Kongsberg**	**72.06**	**341**	PFAKE		03 11 50.0	+13
KONO				LR	LR		
	comp=Z,5µm,21.0s,MS5.8						
ASK	**Askoy**	**72.30**	**343**	*e*P	**P**	**03 11 39.0**	**+0.2**
ASK				*e*pP	pP	03 11 41.5	+2.6
TI2	**Plekhanov**	**72.30**	**311**	*d* *i*P	**P**	**03 11 40.8**	**+1.6**
TI2				*i*		03 14 23.2	
TI2				*i* S	S	03 21 05.2	+3.0
TI2				smax			
	comp=N,7µm,4.0s						
TI2				MLR	MLR		
	comp=N,6µm,20.0s,MS6.0						
TI2				MLR	MLR		
	comp=E,5µm,20.0s,MS6.0						
TI2				MLR	MLR		
	comp=Z,2µm,20.0s,MS5.5						
RUND	**Rundenannen**	**72.33**	**343**	*e*P	**P**	**03 11 39.2**	**+0.2**
RUND				*e*pP	pP	03 11 41.0	+1.9
RUND				AMb	AMB	03 11 44.2	
	comp=Z,571nm,1.5s,mb6.5						
BER	**Bergen**	**72.36**	**343**	*e*P	**P**	**03 11 39.8**	**+0.6**
EGD	**Espegrend**	**72.48**	**343**	*e*P	**P**	**03 11 40.1**	**+0.1**
SUW	**Suwalki**	**72.84**	**331**	*e*P	**P**	**03 11 41.3**	**-0.8**
SUW				*e**PP	pP	03 11 49.6	+7.5
SUW				*e*		03 11 53.1	
SUW				*e*S	S	03 21 06.8	-1.2
SUW				*e*		03 21 43.1	
SUW				MLR	MLR		
	comp=Z,7µm,16.5s,MS6.0						
BLS5	**Blasjo**	**72.99**	**342**	⇓*i*P	**P**	**03 11 43.9**	**+1.1**
BLS5				AMb	AMB	03 11 47.7	
	comp=Z,92nm,1.7s,mb5.6						
BLS5	**Blasjo**	**72.99**	**342**	*e*P	**P**	**03 11 44.7**	**+1.9**
	comp=Z,92nm,1.7s,mb5.6						
SDCO	**Great Sand Dun**	**73.01**	**54**	⇑*e*P	**P**	**03 11 43.1**	**-0.3**
	comp=Z,79nm,1.0s,mb5.8						
SDCO				LR	LR		
	comp=Z,3µm,19.0s,MS5.5						
AKASG	**Malin Array Be**	**73.17**	**326**	P	**P**	**03 11 42.7**	**-1.3**
	comp=Z,24nm,0.5s,mb5.6,baz=36,slow=6.2,SNR=100						
AKASG				pP	pP	03 11 54.3	+10
	comp=Z,23nm,0.5s,baz=38,slow=6.2,SNR=5.7						
AKASG				S	S	03 21 09.7	-2.1
	comp=Z,0.1nm,0.3s,baz=31,slow=11,SNR=4.0						
AKASG				LR	LR	03 45 57.2	
	comp=Z,5µm,19.8s,MS5.8,baz=25,slow=37						
AKASG	**Malin Array Be**	**73.17**	**326**	P	**P**	**03 11 42.7**	**-1.4**
AKASG				*PP	pP	03 11 54.3	+10
AKASG				S	S	03 21 09.7	-2.1
AKASG				pmax	pmax		
	comp=Z,25nm,0.5s						
AKASG				MLR	MLR		
	comp=Z,5µm,19.8s						
YEL1	**Yell**	**73.43**	**346**	*e*P	**P**	**03 11 46.2**	**+0.9**
TUC	**Tucson**	**73.44**	**61**	P	**P**	**03 11 45.6**	**-0.5**
TUC				S	S	03 21 16.6	+1.4
TUC	**Tucson**	**73.44**	**61**	P	**P**	**03 11 45.7**	**-0.3**
TUC				pmax	pmax		
	comp=Z,72nm,1.1s,mb5.7						
TUC	**Tucson**	**73.44**	**61**	⇓*e*P	**P**	**03 11 45.5**	**-0.5**
	comp=Z,72nm,1.1s,mb5.7						
TUC				LR	LR		
	comp=Z,2µm,19.0s,MS5.5						
SOC	**Sochi**	**73.65**	**315**	*i* P	**P**	**03 11 47.0**	**0.0**
SOC				*e*		03 12 03.0	
SOC				*e*PPP	PPP	03 16 13.7	-3.7
SOC				*e*S	S	03 21 17.9	+0.5
SOC				*e*		03 21 46.3	
SOC				*e*SS	SS	03 26 01.0	-1.6
SOC				pmax	pmax		
	comp=Z,822nm,2.3s,mb6.3						
SOC				pmax	pmax		
	comp=N,146nm,1.8s						
SOC				pmax	pmax		
	comp=E,129nm,1.9s						
SOC				pmax	pmax		
	comp=Z,822nm,2.3s,mb6.3						
SOC				pmax	pmax		
	comp=N,146nm,1.8s						
SOC				pmax	pmax		
	comp=E,332nm,1.9s						
SOC				smax			
	comp=N,2µm,5.1s						
SOC				smax			
	comp=E,1µm,4.6s						
LRW	**Lerwick**	**73.84**	**346**	*e*P	**P**	**03 11 47.8**	**+0.1**
ANN	**Anapa**	**73.91**	**317**	*d* *i*P	**P**	**03 11 48.2**	**-0.3**
ANN				*e**PP	pP	03 11 57.2	+8.7
ANN				*e*		03 12 08.8	
ANN				*e*S	S	03 21 20.4	+0.2
ANN				*e*PS	PS	03 21 46.4	-7.3
ANN				pmax	pmax		
	comp=Z,288nm,1.7s,mb6.0						
SAN1	**Sandwick**	**73.96**	**346**	*e*P	**P**	**03 11 48.4**	**-0.1**
NRS	**Narsarsuaq**	**74.33**	**8**	*e*P	**P**	**03 11 50.6**	**+0.1**
ANMO	**Albuquerque**	**74.33**	**57**	⇓*i*P	**P**	**03 11 51.2**	**0.0**
	comp=Z,93nm,0.9s,mb5.8						
ANMO				LR	LR		
	comp=Z,2µm,19.0s,MS5.3						
BSD	**Bornholm Skovb**	**74.60**	**336**	*i* P	**P**	**03 11 53.9**	**+1.6**
	comp=Z,108nm,1.0s,mb5.8						
BSD				*i* S	S	03 21 26.7	-1.0
	comp=Z,5µm,18.0s						
COP	**Copenhagen**	**74.82**	**337**	⇑*i*P	**P**	**03 11 54.9**	**+1.4**
	comp=Z,70nm,0.8s,mb5.7						
COP				*i* S	S	03 21 30.8	+0.7
	comp=Z,2µm,16.0s						
MUD	**Monsted U’grnd**	**75.01**	**339**	*i* P	**P**	**03 11 55.9**	**+1.3**
	comp=Z,48nm,1.0s,mb5.5						
MUD				*i* S	S	03 21 36.2	+4.0
	comp=Z,6µm,18.0s						
WAR	**Warsaw**	**75.04**	**331**	*e*P	**P**	**03 11 55.5**	**+0.6**
WAR				*e**PP	pP	03 12 02.1	+7.2
WAR				*e*		03 12 06.8	
WAR				*e*S	S	03 21 33.6	+0.9
WAR				*e*		03 22 00.3	
WAR				MLR	MLR		
	comp=Z,6µm,16.1s,MS6.0						
TVAN	**Van**	**75.27**	**310**	*i* P	**P**	**03 11 56.7**	**+0.2**
SIM	**Simferopol’**	**75.40**	**319**	*d* *i*P	**P**	**03 11 57.8**	**+0.7**
SIM				*e*		03 14 48.0	
SIM				*e*PPP	PPP	03 16 36.0	+2.2
SIM				*e*S	S	03 21 39.0	+2.2
SIM				*e*SS	SS	03 26 21.0	-8.1
SIM				pmax	pmax		
	comp=Z,800nm,10.4s						
ERZM	**Erzurum**	**75.42**	**312**	*i* P	**P**	**03 11 58.2**	**+1.0**
OHO	**Hoy**	**75.42**	**347**	*e*P	**P**	**03 11 57.0**	**+0.1**
OBR	**Brabster**	**75.61**	**347**	*e*P	**P**	**03 11 58.1**	**0.0**
ORE	**Reay**	**75.78**	**347**	*e*P	**P**	**03 11 59.2**	**+0.3**
LVV	**L’vov**	**75.92**	**328**	*i* P	**P**	**03 11 57.3**	**-2.6**
LVV				*e*S	S	03 21 39.0	-3.4
STKA	**Stephens Creek**	**76.03**	**189**	*e*P	**P**	**03 12 00.7**	**-0.2**
	comp=Z,17nm,0.8s,mb5.2						
STKA	**Stephens Creek**	**76.03**	**189**	P	**P**	**03 12 00.5**	**-0.5**
	comp=Z,13nm,0.7s,mb5.2,baz=348,slow=5.5,SNR=22						
STKA				LR	LR	03 42 17.1	
	comp=Z,4µm,22.0s,MS5.6,baz=2.6,slow=33						
KIS	**Kishinev**	**76.21**	**324**	P	**P**	**03 12 00.0**	**-1.7**
KIS				S	S	03 21 40.0	-5.7
SCHQ	**Schefferville**	**76.33**	**22**	P	**P**	**03 12 01.5**	**-0.6**
	comp=Z,57nm,0.6s,mb5.9,baz=348,slow=5.5,SNR=47						
SCHQ				LR	LR	03 45 26.9	
	comp=Z,3µm,21.8s,MS5.6,baz=340,slow=36						
SCHQ	**Schefferville**	**76.33**	**22**	P	**P**	**03 12 01.5**	**-0.6**
SCHQ				LR	LR	03 45 26.9	
KWP	**Kalwaria**	**76.57**	**329**	*e*P	**P**	**03 12 04.1**	**+0.5**
KWP				*e**PP	pP	03 12 10.4	+6.8
KWP				*e*		03 12 16.2	
KWP				*e*S	S	03 21 50.9	+1.4
KWP				*e*		03 22 00.3	
KWP				*e*		03 22 12.3	
BEST	**Besiri**	**76.91**	**310**	*i* P	**P**	**03 12 06.7**	**+1.0**
BSEG	**Bad Segeberg**	**76.94**	**338**	*e*P	**P**	**03 12 05.3**	**-0.3**
BSEG				pmax	pmax		
	comp=Z,123nm,1.0s,mb6.0						
OJC	**Ojcow**	**77.15**	**330**	⇓*i*P	**P**	**03 12 07.1**	**+0.3**
OJC				*e*		03 12 18.7	
OJC				*e*		03 15 02.8	
OJC				*e*S	S	03 21 52.6	-3.2
OJC				MLR	MLR		
	comp=Z,8µm,16.3s,MS6.1						
OJC	**Ojcow**	**77.15**	**330**	⇓*i*P	**P**	**03 12 07.1**	**+0.3**
OJC				*e*PcP	PcP	03 12 18.7	+0.7
OJC				*e*PP	PP	03 15 02.8	+0.7
OJC				*e*S	S	03 21 52.6	-3.2
OJC				*e*SS	SS	03 27 03.8	+7.8
OJC				LR	LR		
	comp=Z,8µm,16.3s,MS6.1						
RUE	**Ruedersdorf**	**77.22**	**335**	*e*P	**P**	**03 12 07.2**	**+0.1**
	comp=Z,286nm,1.5s,mb6.2						
KOLS	**Kolonicke sedl**	**77.31**	**328**	*i* P	**P**	**03 12 07.7**	**0.0**
KOLS				*e*PP	PP	03 14 54.4	-9.1
FORT	**Forrest**	**77.41**	**200**	*e*P	**P**	**03 12 08.7**	**+0.1**
	comp=Z,268nm,0.8s,mb6.4						
JFWS	**Jewell Farm**	**77.42**	**41**	P	**P**	**03 12 06.9**	**-1.6**
JFWS				pmax	pmax		
	comp=Z,85nm,1.1s,mb5.8						
JFWS	**Jewell Farm**	**77.42**	**41**	⇓*e*P	**P**	**03 12 06.7**	**-1.8**
	comp=Z,85nm,1.1s,mb5.8						
JFWS				LR	LR		
	comp=Z,3µm,20.0s,MS5.7						
UZH	**Uzhgorod**	**77.55**	**328**	*e*P	**P**	**03 12 10.0**	**+1.0**
UZH				*e*S	S	03 21 56.0	-4.1
CRVS	**Cervenica-Dubn**	**77.64**	**329**	*e*P	**P**	**03 12 10.3**	**+0.8**
CRVS				*e*S	S	03 21 55.2	-5.9
CRVS				*e*SCS	ScS	03 22 27.4	+1.4
BOYT	**Boyabat**	**77.66**	**316**	*i* P	**P**	**03 12 10.8**	**+1.0**
ELZG	**Elazig**	**77.71**	**312**	*i* P	**P**	**03 12 10.6**	**+0.4**
KSP	**Ksiaz**	**77.83**	**333**	⇓*e*P	**P**	**03 12 10.7**	**+0.2**
KSP				*e**PP	pP	03 12 20.7	+10
KSP				*e*		03 15 08.0	
KSP				*e*S	S	03 22 00.0	-3.1
KSP				*e*SS	SS	03 26 56.0	-10
KSP	**Ksiaz**	**77.83**	**333**	⇓*e*P	**P**	**03 12 10.7**	**+0.2**
KSP				*e*pP	pP	03 12 20.7	+10
KSP				*e*		03 12 31.8	
KSP				*e*PP	PP	03 15 08.0	-0.1
KSP				*e*S	S	03 22 00.0	-3.1
KSP				*e*SS	SS	03 26 56.0	-10
KSP				LR	LR		
	comp=Z,17µm,16.4s,MS6.4						
RAC	**Raciborz**	**77.83**	**331**	*e*P	**P**	**03 12 11.4**	**+0.8**
RAC				*e*		03 12 22.1	
RAC				*e*S	S	03 22 03.6	+0.5
SVST	**Sivas**	**77.84**	**314**	*i* P	**P**	**03 12 12.1**	**+1.3**
VRI	**Vrincioaia**	**78.00**	**324**	⇑*i*P	**P**	**03 12 12.2**	**+0.6**
OKC	**Ostrava-Krasne**	**78.05**	**331**	⇓*i*P	**P**	**03 12 12.2**	**+0.4**
OKC				*e*x	x	03 12 24.4	
OKC				*e*PP	PP	03 15 15.8	+5.7
OKC				*e*S	S	03 22 06.5	+0.9
OKC				*e*SS	SS	03 27 23.4	+14
OKC				*e*x	x	03 31 38.7	
OKC				LR		03 55 10.0	
	comp=Z,9.5nm,16.5s						
OKC	**Ostrava-Krasne**	**78.05**	**331**	⇓*i*P	**P**	**03 12 12.2**	**+0.4**
OKC				*e*		03 12 24.4	
OKC				*e*		03 15 15.8	
OKC				*e*S	S	03 22 06.5	+0.9
OKC				MLR	MLR		
	comp=Z,10µm,16.5s,MS6.2						
ESY	**Stoneypath**	**78.08**	**345**	*e*P	**P**	**03 12 13.0**	**+1.2**
ESY				AMb	AMB	03 12 36.1	
	comp=Z,134nm,1.6s,mb5.8						
BRD	**Bordesti**	**78.12**	**324**	⇓*i*P	**P**	**03 12 12.7**	**+0.5**
EAB	**Aberfoyle**	**78.12**	**346**	*e*P	**P**	**03 12 13.3**	**+1.3**
EAB				AMb	AMB	03 12 36.5	
	comp=Z,247nm,1.6s,mb6.1						
MALT	**Malatya**	**78.14**	**312**	⇓*e*P	**P**	**03 12 14.1**	**+1.5**
	comp=Z,239nm,1.4s,mb6.1						
EDI	**Edinburgh**	**78.18**	**346**	*e*P	**P**	**03 12 12.4**	**+0.1**
UPC	**Upice**	**78.21**	**333**	⇓*i*P	**P**	**03 12 13.0**	**+0.4**
DPC	**Dobruska-Polom**	**78.24**	**332**	⇓*i*P	**P**	**03 12 13.4**	**+0.6**
DPC				*e*PP	PP	03 15 17.6	+6.0
DPC				*e*S	S	03 22 08.4	+0.9
DPC				*e*SS	SS	03 27 20.2	+7.9
DPC				*e*x	x	03 31 07.5	
DPC				LR		03 51 40.0	
	comp=Z,6.0nm,16.4s						
DPC	**Dobruska-Polom**	**78.24**	**332**	⇓*i*P	**P**	**03 12 13.4**	**+0.6**
DPC				*e*		03 15 17.6	
DPC				*e*S	S	03 22 08.4	+0.9
DPC				MLR	MLR		
	comp=Z,6µm,16.4s,MS6.0						
EAU	**Auchinoon**	**78.30**	**346**	*e*P	**P**	**03 12 14.5**	**+1.5**
EAU				AMb	AMB	03 12 37.6	
	comp=Z,300nm,1.9s,mb6.1						
MORC	**Moravsky Berou**	**78.31**	**331**	⇓*e*P	**P**	**03 12 13.6**	**+0.4**
MORC				pmax	pmax		
	comp=Z,120nm,1.0s,mb6.0						
MORC	**Moravsky Berou**	**78.31**	**331**	⇓*e*P	**P**	**03 12 13.6**	**+0.4**
	comp=Z,122nm,1.0s,mb6.0						
BALT	**Daday**	**78.32**	**317**	*i* P	**P**	**03 12 12.6**	**-0.8**
KECS	**Kecovo**	**78.35**	**329**	*e*P	**P**	**03 12 13.4**	**0.0**
KECS				*e*		03 12 25.6	
LIKS	**Likavka**	**78.38**	**330**	*e*P	**P**	**03 12 14.5**	**+0.9**
LIKS				*e*		03 12 25.6	
TIRR	**Tirgusor**	**78.38**	**322**	P	**P**	**03 12 13.8**	**+0.1**
HARR	**Harsova**	**78.41**	**323**	⇓*i*P	**P**	**03 12 14.2**	**+0.3**
CLL	**Collm**	**78.47**	**335**	⇓P	**P**	**03 12 13.8**	**-0.3**
	comp=Z,logA/T=2.2,mb6.1						
CLL				*i*	pP	03 12 15.3	+1.2
CLL				*i* *PP	pP	03 12 23.9	+10
CLL				*e*		03 12 35.0	
CLL				*e*		03 12 55.0	
CLL				*e*PP	PP	03 15 12.0	-1.5
CLL				*e*S	S	03 22 06.0	-4.0
CLL				*e*SCS	ScS	03 22 35.0	+2.3
CLL				*e*PPS	PPS	03 23 09.0	-0.8
CLL				*e*SS	SS	03 26 54.0	-22
CLL				*e*SSS	SSS	03 30 48.0	+14
CLL	**Collm**	**78.47**	**335**	⇓*i*P	**P**	**03 12 13.8**	**-0.3**
CLL				*i*		03 12 23.9	
CLL				*e*S	S	03 22 06.0	-4.0
CLL				*e*SS	ScS	03 22 35.0	+2.3
CLL				pmax	pmax		
	comp=Z,163nm,1.0s,mb6.1						
CLL				MLR	MLR		
	comp=Z,7µm,16.2s,MS6.1						
CLL	**Collm**	**78.47**	**335**	⇓*i*P	**P**	**03 12 13.8**	**-0.3**
	comp=Z,163nm,1.0s,mb6.1						
CLL				*i*		03 12 23.9	
CLL				*e*S	S	03 22 06.0	-4.0
CLL				*e*ScS	ScS	03 22 35.0	+2.3
CLL				LR	LR		
	comp=Z,7µm,16.2s,MS6.1						
BRG	**Berggiesshubel**	**78.56**	**334**	*i* P	**P**	**03 12 14.6**	**0.0**
BRG				*i*		03 12 24.6	
BRG				*e*		03 15 12.0	
BRG				*i* S	S	03 22 09.0	-2.0
BRG				*e*		03 22 44.3	
BRG				*i* SS	SS	03 27 17.0	-0.1
BRG				pmax	pmax		
	comp=Z,68nm,1.1s,mb5.6						
BRG				MLR	MLR		
	comp=N,7µm,17.5s,MS6.1						
BRG				MLR	MLR		
	comp=E,4µm,17.5s,MS6.1						
BRG				MLR	MLR		
	comp=Z,6µm,19.5s,MS5.9						
BRG	**Berggiesshubel**	**78.56**	**334**	*i* P	**P**	**03 12 14.6**	**0.0**
	comp=Z,68nm,1.1s,mb5.6						
BRG				*i*		03 12 24.6	
BRG				*e*PP	PP	03 15 12.0	-2.2
BRG				*i* S	S	03 22 09.0	-2.0
BRG				*e*		03 22 44.3	
BRG				*i* SS	SS	03 27 17.0	-0.1
BRG				LR	LR		
	comp=Z,6µm,19.5s,MS5.9						
MLR	**Muntele Rosu**	**78.63**	**324**	P	**P**	**03 12 15.3**	**+0.3**
	comp=Z,43nm,0.7s,mb5.6,baz=179,slow=4.6,SNR=56						
MLR				S	S	03 22 13.1	+1.3
	comp=Z,1.1nm,0.5s,baz=222,slow=18,SNR=4.3						
MLR	**Muntele Rosu**	**78.63**	**324**	P	**P**	**03 12 15.4**	**+0.4**
MLR				S	S	03 22 13.1	+1.3
MLR				pmax	pmax		
	comp=Z,43nm,0.7s						
PVCC	**Panska Ves**	**78.66**	**334**	⇓*i*P	**P**	**03 12 15.5**	**+0.4**
PVCC				*e*PP	PP	03 15 18.0	+3.0
PVCC				*e*S	S	03 22 08.8	-3.2
PVCC				*e*SS	SS	03 26 55.1	-23
PVCC				*e*x	x	03 31 19.5	
PVCC				LR		03 50 10.0	
	comp=Z,5.9nm,17.2s						
PVCC	**Panska Ves**	**78.66**	**334**	⇓*i*P	**P**	**03 12 15.5**	**+0.4**
PVCC				*e*		03 15 18.0	
PVCC				*e*S	S	03 22 08.8	-3.2
PVCC				MLR	MLR		
	comp=Z,6µm,17.2s,MS6.0						
ISR	**Istrita**	**78.67**	**324**	⇓*i*P	**P**	**03 12 16.2**	**+0.9**
ESK	**Eskdalemuir**	**78.76**	**346**	*e*P	**P**	**03 12 16.3**	**+0.7**
ESK	**Eskdalemuir**	**78.76**	**346**	P	**P**	**03 12 17.4**	**+1.9**
ESK				pmax	pmax		
	comp=Z,120nm,1.4s,mb5.7						
ESK	**Eskdalemuir**	**78.76**	**346**	*e*P	**P**	**03 12 15.9**	**+0.3**
	comp=Z,122nm,1.4s,mb5.7						
ESK				LR	LR		
	comp=Z,1µm,19.0s,MS5.2						
RAR	**Rarotonga**	**78.78**	**134**	PFAKE		03 12 30.0	+14
RAR				LR	LR		
	comp=Z,4µm,19.0s,MS5.8						
CLZ	**Clausthal**	**78.79**	**337**	*e*P	**P**	**03 12 16.3**	**+0.5**
	comp=Z,447nm,1.7s,mb6.2						
WIT	**Witteveen**	**78.92**	**339**	*e*P	**P**	**03 12 17.9**	**+1.4**
	comp=Z,205nm,0.6s,mb6.3						
WIT				*e*x	x	03 12 19.3	
	comp=Z,364nm,1.1s						
VYHS	**Vyhne**	**78.94**	**330**	*i* P	**P**	**03 12 17.1**	**+0.4**
VYHS				*e*		03 12 38.9	
VYHS				*e*PP	PP	03 15 17.7	+0.4
VYHS				*e*S	S	03 22 13.7	-1.4
VYHS	**Vyhne**	**78.94**	**330**	*i* P	**P**	**03 12 17.1**	**+0.4**
VYHS				*e*		03 15 17.7	
VYHS				*e*S	S	03 22 13.7	-1.4
CNB	**Canberra Magne**	**78.94**	**182**	*e*P	**P**	**03 12 18.7**	**+1.7**
	comp=Z,51nm,1.2s,mb5.4						
BHH	**Howats Hill**	**78.97**	**345**	*e*P	**P**	**03 12 17.2**	**+0.5**
BWH	**Wardlaw**	**78.97**	**346**	*e*P	**P**	**03 12 17.0**	**+0.3**
LCP	**Cassop**	**78.98**	**344**	*e*P	**P**	**03 12 17.8**	**+1.0**
WMOK	**Wichita Mounta**	**78.98**	**52**	⇓*e*P	**P**	**03 12 16.3**	**-0.9**
	comp=Z,129nm,0.9s,mb6.0						
WMOK				LR	LR		
	comp=Z,3µm,19.0s,MS5.6						
KOLL	**Kolacno**	**79.03**	**330**	*i* P	**P**	**03 12 17.6**	**+0.4**
PSZ	**Piszkesteto**	**79.04**	**329**	⇓*e*P	**P**	**03 12 17.9**	**+0.7**
PSZ	**Piszkesteto**	**79.04**	**329**	P	**P**	**03 12 17.9**	**+0.7**
PSZ				pmax	pmax		
	comp=Z,150nm,1.2s,mb5.9						
PSZ	**Piszkesteto**	**79.04**	**329**	⇓*e*P	**P**	**03 12 17.4**	**+0.2**
	comp=Z,155nm,1.3s,mb5.9						
VRAC	**Vranov**	**79.04**	**332**	S	S	03 22 15.0	-1.1
	comp=Z,2.7nm,0.8s,baz=153,slow=22,SNR=3.6						
VRAC	**Vranov**	**79.04**	**332**	P	**P**	**03 12 17.9**	**+0.7**
JAVC	**Velka Javorina**	**79.05**	**331**	P	**P**	**03 12 18.7**	**+1.4**
BTA	**Talkin**	**79.05**	**345**	*e*P	**P**	**03 12 17.5**	**+0.3**
PSN	**Preselentsi**	**79.09**	**322**	*i* P	**P**	**03 12 18.0**	**+0.4**
ELDT	**Eldivan**	**79.09**	**317**	*i* P	**P**	**03 12 14.2**	**-3.5**
PRU	**Pruhonice**	**79.14**	**333**	⇓*i*P	**P**	**03 12 17.9**	**+0.2**
	comp=Z,138nm,1.2s,mb5.9						
PRU				*i* x	x	03 12 29.7	
PRU				*e*x	x	03 15 20.7	
PRU				*e*S	S	03 22 20.7	+3.6
PRU				*e*SS	SS	03 27 01.2	-25
PRU				*e*x	x	03 31 32.2	
PRU				LR		03 51 10.0	
	comp=Z,5.4nm,16.0s						
PRU	**Pruhonice**	**79.14**	**333**	⇓*i*P	**P**	**03 12 18.0**	**+0.3**
PRU				*e*		03 12 30.2	
PRU				*e*PP	PP	03 15 20.7	+1.9
PRU				*e*S	S	03 22 20.7	+3.6
PRU				*e*SS	SS	03 27 01.2	-25
PRU				*e*		03 31 32.2	
GMK	**Mull of Kintyr**	**79.14**	**347**	⇑*e*P	**P**	**03 12 18.9**	**+1.2**
BDL	**Dobcross Hall**	**79.20**	**345**	*e*P	**P**	**03 12 18.6**	**+0.6**
GZT	**Gaziantep**	**79.31**	**312**	*i* P	**P**	**03 12 18.3**	**-0.6**
BBO1	**Bothel**	**79.32**	**345**	*e*P	**P**	**03 12 20.0**	**+1.4**
KRUC	**Moravsky**	**79.32**	**332**	P	**P**	**03 12 19.2**	**+0.5**
ADE	**Adelaide**	**79.42**	**191**	P	**P**	**03 12 21.1**	**+1.5**
SMOL	**Smolenice**	**79.43**	**331**	*i* P	**P**	**03 12 20.0**	**+0.7**
GAL1	**Galloway**	**79.45**	**346**	*e*P	**P**	**03 12 20.4**	**+1.0**
KAHT	**Ahir Dag**	**79.47**	**313**	*i* P	**P**	**03 12 20.4**	**+0.5**
MOX	**Moxa**	**79.48**	**335**	*i* P	**P**	**03 12 19.6**	**0.0**
	comp=Z,logA/T=2.0,mb5.8						
MOX				S	S	03 22 20.0	-0.7
MOX				SS	SS	03 27 42.0	+11
MOX				L		03 47 08.0	
MOX	**Moxa**	**79.48**	**335**	*e*P	**P**	**03 12 19.6**	**0.0**
MOX				pmax	pmax		
	comp=Z,147nm,1.5s,mb5.8						
MOX				MLR	MLR		
	comp=Z,2µm,22.0s,MS5.5						
MOX	**Moxa**	**79.48**	**335**	*e*P	**P**	**03 12 19.6**	**0.0**
	comp=Z,147nm,1.5s,mb5.8						
MOX				LR	LR		
	comp=Z,2µm,22.0s,MS5.5						
GCL	**Cushendall**	**79.49**	**347**	*e*P	**P**	**03 12 20.0**	**+0.5**
BUC1	**Bucharest**	**79.51**	**323**	⇑*i*P	**P**	**03 12 20.8**	**+0.9**
BRTR	**Keskin Array B**	**79.57**	**316**	P	**P**	**03 12 20.6**	**+0.3**
	comp=Z,26nm,0.7s,mb5.2,baz=92,slow=4.6,SNR=85						
BRTR				PP	PP	03 15 21.1	-1.3
	comp=Z,29nm,1.3s,baz=53,slow=7.2,SNR=5.1						
BRTR				S	S	03 22 22.5	+0.6
	comp=Z,0.3nm,0.5s,baz=290,slow=32,SNR=3.1						
BRTR				PKKPbc		03 31 06.5	
	comp=Z,0.9nm,1.0s,baz=172,slow=4.0,SNR=5.1						
BRTR	**Keskin Array B**	**79.57**	**316**	P	**P**	**03 12 20.6**	**+0.3**
BRTR						03 15 21.2	
BRTR				S	S	03 22 22.5	+0.6
BRTR				pmax	pmax		
	comp=Z,26nm,0.7s						
BRTR				pmax	pmax		
	comp=Z,29nm,1.3s						
NKC	**Novy Kostel**	**79.59**	**335**	⇓*i*P	**P**	**03 12 20.2**	**0.0**
NKC				*e*PP	PP	03 15 27.1	+4.7
NKC				*e*S	S	03 22 24.8	+2.9
NKC				*e*SS	SS	03 27 09.8	-23
NKC				*e*x	x	03 31 06.3	
NKC				LR		03 53 10.0	
	comp=Z,5.5nm,14.8s						
NKC	**Novy Kostel**	**79.59**	**335**	⇓*i*P	**P**	**03 12 20.2**	**0.0**
NKC				*e*		03 15 27.1	
NKC				*e*S	S	03 22 24.8	+2.9
NKC				MLR	MLR		
	comp=Z,6µm,14.8s,MS6.0						
WTSB	**Winterswijk**	**79.66**	**339**	⇓*e*P	**P**	**03 12 20.5**	**0.0**
	comp=Z,17nm,0.8s,mb5.0						
WTSB				*i* x	x	03 12 22.3	
	comp=Z,107nm,0.8s						
WTSB				*e*x	x	03 12 30.8	
WTSB	**Winterswijk**	**79.66**	**339**	P	**P**	**03 12 21.3**	**+0.8**
AVNT	**Avonos**	**79.67**	**315**	*i* P	**P**	**03 12 21.0**	**+0.1**
SGKT	**Sivrigoynuk**	**79.70**	**318**	*i* P	**P**	**03 12 19.6**	**-1.5**
SRO	**Srobarova**	**79.70**	**330**	*i* P	**P**	**03 12 21.6**	**+0.8**
SRO				*e*		03 12 33.2	
BUD	**Budapest**	**79.72**	**329**	*e*P	**P**	**03 12 21.2**	**+0.2**
HPK	**Haverah Park**	**79.75**	**344**	*e*P	**P**	**03 12 21.2**	**+0.3**
ZST	**Bratislava**	**79.81**	**331**	*i* P	**P**	**03 12 22.2**	**+0.8**
ZST				*e*PP	PP	03 15 20.9	-3.3
ZST				*e*S	S	03 22 22.6	-1.6
ZST				*e*		03 22 54.0	
ZST				*e*SPN		03 23 06.9	
ZST	**Bratislava**	**79.81**	**331**	*i* P	**P**	**03 12 22.2**	**+0.8**
ZST				*e*		03 15 20.9	

ZST				*e*S	S	03 22 22.6	-1.6
ZST				*e*		03 23 06.9	
PRD	**Provadia**	**79.82**	**322**	*i* P	**P**	**03 12 22.3**	**+0.7**
ANTO	**Ankara**	**79.88**	**317**	P	**P**	**03 12 23.0**	**+1.0**
LTX	**Lajitas**	**79.92**	**59**	P	**P**	**03 12 22.3**	**-0.1**
LTX				pmax	pmax		
	comp=Z,150nm,0.9s,mb5.9						
LTX	**Lajitas**	**79.92**	**59**	⇓*e*P	**P**	**03 12 22.0**	**-0.4**
	comp=Z,148nm,0.9s,mb5.9						
LTX				LR	LR		
	comp=Z,2µm,21.0s,MS5.5						
TXAR	**Lajitas Array**	**79.92**	**59**	P	**P**	**03 12 21.8**	**-0.6**
	comp=Z,111nm,0.8s,mb5.8,baz=299,slow=3.6,SNR=386						
TXAR				pP	pP	03 12 32.9	+10
	comp=Z,25nm,0.6s,baz=297,slow=3.1,SNR=9.2						
TXAR				PP	PP	03 15 25.3	-0.2
	comp=Z,6.7nm,1.0s,baz=304,slow=6.5,SNR=3.6						
TXAR				S	S	03 22 25.0	-0.8
	comp=Z,0.0nm,0.3s,baz=227,slow=51,SNR=2.0						
TXAR				PKKPbc		03 31 07.1	
	comp=Z,1.4nm,1.1s,baz=180,slow=1.3,SNR=7.5						
VKA	**Vienna**	**80.03**	**331**	⇓*i*P	**P**	**03 12 23.2**	**+0.6**
	comp=Z,1µm,4.0s						
VKA				LR	LR		
	comp=Z,4µm,14.0s,MS5.9						
HENT	**Hendek**	**80.07**	**318**	*i* P	**P**	**03 12 18.6**	**-4.3**
WIM	**Isle of Man**	**80.13**	**346**	*e*P	**P**	**03 12 23.3**	**+0.3**
WIM				AMb	AMB	03 12 27.1	
	comp=Z,187nm,1.8s,mb5.7						
LHO	**Holmfirth**	**80.18**	**344**	*e*P	**P**	**03 12 24.5**	**+1.2**
KHC	**Kasperske Hory**	**80.19**	**333**	⇓*i*P	**P**	**03 12 24.0**	**+0.6**
KHC				*e*x	x	03 12 34.4	
KHC				*e*PP	PP	03 15 34.9	+7.5
KHC				*e*S	S	03 22 31.5	+3.3
KHC				*e*SS	SS	03 27 41.4	-0.2
KHC				*e*x	x	03 31 49.5	
KHC				LR		03 51 50.0	
	comp=Z,5.4nm,17.5s						
KHC	**Kasperske Hory**	**80.19**	**333**	⇓*i*P	**P**	**03 12 24.0**	**+0.6**
KHC				*e*		03 12 34.4	
KHC				*e*S	S	03 22 31.5	+3.3
KHC				*e*SS	SS	03 27 41.4	-0.2
KHC				MLR	MLR		
	comp=Z,5µm,17.5s,MS6.0						
GMM	**Mts of Mourne**	**80.26**	**347**	*e*P	**P**	**03 12 23.7**	**0.0**
KBI1	**Birley Grange**	**80.39**	**344**	*e*P	**P**	**03 12 24.4**	**-0.1**
GEC2	**GERESS Array S**	**80.40**	**333**	*e*P	**P**	**03 12 24.7**	**+0.1**
GEC2				pmax	pmax		
	comp=Z,94nm,1.4s,mb5.5						
GEC2	**GERESS Array S**	**80.40**	**333**	*e*P	**P**	**03 12 24.7**	**+0.1**
	comp=Z,94nm,1.4s,mb5.5						
GERES	**GERESS Array B**	**80.40**	**333**	P	**P**	**03 12 24.3**	**-0.2**
	comp=Z,16nm,0.7s,mb5.1,baz=37,slow=4.4,SNR=42						
GERES				S	S	03 22 31.0	+0.6
	comp=Z,0.2nm,0.5s,baz=12,slow=25,SNR=3.0						
GERES				PKKPbc		03 31 04.1	
	comp=Z,1.1nm,0.7s,baz=180,slow=1.0,SNR=11						
GERES	**GERESS Array B**	**80.40**	**333**	P	**P**	**03 12 24.3**	**-0.3**
GERES				S	S	03 22 31.0	+0.6
GERES						03 31 04.1	
GERES				pmax	pmax		
	comp=Z,16nm,0.7s						
WET	**Wettzell**	**80.41**	**334**	*e*P	**P**	**03 12 24.4**	**-0.2**
WET				pmax	pmax		
	comp=Z,186nm,1.3s,mb5.9						
WET	**Wettzell**	**80.41**	**334**	*e*P	**P**	**03 12 24.4**	**-0.2**
	comp=Z,186nm,1.3s,mb5.9						
SZH	**Strazhica**	**80.41**	**323**	P	**P**	**03 12 24.5**	**-0.2**
GRA1	**Grafenberg Arr**	**80.44**	**335**	*e*P	**P**	**03 12 25.4**	**+0.7**
	comp=Z,154nm,0.9s,mb5.9						
GRA1				*e*PP	PP	03 15 31.3	+1.6
GRA1				*e*S	S	03 22 40.8	+10
GRA1				LR	LR		
	comp=Z,4µm,18.4s,MS5.8						
GRF	**Grafenberg Arr**	**80.44**	**335**	*e*P	**P**	**03 12 25.4**	**+0.7**
GRF				*e*		03 15 31.3	
GRF				*e*S	S	03 22 40.8	+10
GRF				pmax	pmax		
	comp=Z,154nm,0.9s,mb5.9						
SOP	**Sopron**	**80.44**	**331**	⇓*i*P	**P**	**03 12 25.6**	**+0.8**
KSY	**Syston**	**80.47**	**343**	*e*P	**P**	**03 12 26.1**	**+1.2**
PMOR	**Pomariorio Ree**	**80.59**	**121**	*e*P	**P**	**03 12 27.2**	**+1.0**
	comp=Z,171nm,1.1s,mb6.0						
CCM	**Cathedral Cave**	**80.62**	**45**	P	**P**	**03 12 24.9**	**-1.0**
CCM				pmax	pmax		
	comp=Z,170nm,1.0s,mb6.0						
CCM	**Cathedral Cave**	**80.62**	**45**	⇓*e*P	**P**	**03 12 24.5**	**-1.4**
	comp=Z,169nm,0.9s,mb6.1						
CCM				LR	LR		
	comp=Z,633nm,20.0s,MS5.0						
COBT	**Iskenderun**	**80.63**	**312**	*i* P	**P**	**03 12 26.7**	**+0.7**
KWE	**Weaver Farm**	**80.68**	**344**	⇓*e*P	**P**	**03 12 27.3**	**+1.3**
SLM	**Saint Louis**	**80.69**	**44**	P	**P**	**03 12 25.5**	**-0.8**
SLM				pmax	pmax		
	comp=Z,180nm,0.9s,mb6.1						
SLM	**Saint Louis**	**80.69**	**44**	*e*P	**P**	**03 12 25.0**	**-1.3**
	comp=Z,185nm,0.9s,mb6.1						
DJES	**Djerdap**	**80.74**	**326**	⇑*i*P	**P**	**03 12 26.0**	**-0.4**
DMUB	**Kingscourt**	**80.75**	**347**	*e*P	**P**	**03 12 26.3**	**0.0**
JMB	**Yambol**	**80.77**	**322**	P	**P**	**03 12 27.0**	**+0.4**
WME	**Myndd Eilian**	**80.79**	**346**	*e*P	**P**	**03 12 27.1**	**+0.6**
WME				AMb	AMB	03 12 39.6	
	comp=Z,64nm,1.6s,mb5.4						
HASS	**Wahat al Ahsa’**	**80.79**	**296**	P	**P**	**03 12 26.9**	**-0.2**
WPM1	**Penmaenmawr**	**80.84**	**345**	⇑*e*P	**P**	**03 12 28.2**	**+1.4**
WPM1				AMb	AMB	03 12 36.7	
	comp=Z,128nm,1.4s,mb5.8						
WLF1	**Llynfaes**	**80.91**	**346**	*e*P	**P**	**03 12 28.2**	**+1.1**
WLF1				AMb	AMB	03 12 42.5	
	comp=Z,172nm,1.5s,mb5.8						
PKSM	**Moragy**	**80.94**	**329**	P	**P**	**03 12 27.6**	**+0.2**
HGN	**Heimansgroeve**	**80.98**	**339**	⇓*i*P	**P**	**03 12 27.8**	**+0.2**
	comp=Z,16nm,0.7s,mb5.2						
HGN				*e*x	x	03 12 29.4	
	comp=Z,88nm,1.1s						
HGN				*e*PP	PP	03 15 38.4	+3.9
HGN				*e*x	x	03 17 43.5	
HGN				*i* S	S	03 22 40.4	+4.1
HGN				*e*x	x	03 27 38.1	
HGN	**Heimansgroeve**	**80.98**	**339**	P	**P**	**03 12 28.4**	**+0.8**
MOA	**Molln**	**81.08**	**332**	⇑*i*P	**P**	**03 12 28.5**	**+0.3**
	comp=Z,1µm,4.9s						
ESKT	**Eskisehir**	**81.10**	**318**	*i* P	**P**	**03 12 28.2**	**-0.2**
ARSA	**Arzberg**	**81.17**	**331**	⇑*i*P	**P**	**03 12 29.2**	**+0.6**
	comp=Z,2µm,5.0s						
SIND	**Sindeldorf**	**81.23**	**336**	*e*P	**P**	**03 12 29.0**	**+0.1**
SIND	**Sindeldorf**	**81.23**	**336**	P	**P**	**03 12 29.1**	**+0.2**
TOD	**Tromm**	**81.23**	**336**	*e*P	**P**	**03 12 29.3**	**+0.4**
TOD	**Tromm**	**81.23**	**336**	P	**P**	**03 12 29.7**	**+0.8**
KLBR	**Kellerberrin**	**81.25**	**209**	*e*P	**P**	**03 12 28.8**	**-0.6**
	comp=Z,172nm,2.0s,mb5.7						
DLF	**Lyons Farm**	**81.27**	**347**	*e*P	**P**	**03 12 29.0**	**0.0**
DCN	**Croghan**	**81.34**	**347**	*e*P	**P**	**03 12 29.3**	**-0.1**
ABH	**Alteburg**	**81.34**	**337**	*e*P	**P**	**03 12 29.7**	**+0.2**
ABH	**Alteburg**	**81.34**	**337**	P	**P**	**03 12 30.3**	**+0.8**
TOO	**Toolangi**	**81.35**	**185**	*e*P	**P**	**03 12 30.9**	**+1.1**
	comp=Z,28nm,1.5s,mb5.1						
HLM1	**Long Mynd**	**81.36**	**344**	*e*P	**P**	**03 12 29.9**	**+0.4**
HLM1				AMb	AMB	03 12 34.3	
	comp=Z,237nm,1.6s,mb6.0						
SWS	**Schriesheim**	**81.37**	**336**	*e*P	**P**	**03 12 29.8**	**+0.2**
SWS	**Schriesheim**	**81.37**	**336**	P	**P**	**03 12 31.8**	**+2.2**
HOPOS	**Hopovo Monaste**	**81.39**	**328**	*e*P	**P**	**03 12 30.5**	**+0.6**
ULDT	**Uludag**	**81.44**	**319**	*i* P	**P**	**03 12 30.2**	**0.0**
JCT	**Junction City**	**81.46**	**56**	P	**P**	**03 12 30.0**	**-0.5**
JCT				pmax	pmax		
	comp=Z,180nm,1.0s,mb6.1						
JCT	**Junction City**	**81.46**	**56**	⇑*i*P	**P**	**03 12 29.8**	**-0.7**
	comp=Z,181nm,1.0s,mb6.1						
JCT				LR	LR		
	comp=Z,2µm,21.0s,MS5.4						
SSP1	**Stoney Pound**	**81.50**	**345**	*e*P	**P**	**03 12 30.4**	**+0.2**
SVIS	**Svilajnac**	**81.54**	**326**	⇓*i*P	**P**	**03 12 30.4**	**-0.3**
PPT	**Papeete**	**81.55**	**124**	*e*P	**P**	**03 12 32.2**	**+1.0**
	comp=Z,96nm,1.3s,mb5.8						
PPT	**Papeete**	**81.55**	**124**	*e*S	S	03 22 36.6	-6.3
PPT				*e*SS	SS	03 27 50.8	-12
PPT				*e*L		03 34 08.8	
PPT				*e*R		03 37 05.0	
	comp=Z,5µm,22.0s,baz=323						
DIM	**Dimitrovgrad**	**81.57**	**322**	P	**P**	**03 12 32.0**	**+1.2**
PAE	**Paea**	**81.62**	**124**	*e*P	**P**	**03 12 31.9**	**+0.3**
	comp=Z,258nm,1.5s,mb6.1						
BOLS	**Boljevac**	**81.63**	**326**	⇓*i*P	**P**	**03 12 30.4**	**-0.7**
RUP	**Ruppelstein**	**81.64**	**338**	*e*P	**P**	**03 12 31.4**	**+0.4**
RUP	**Ruppelstein**	**81.64**	**338**	P	**P**	**03 12 32.6**	**+1.6**
TIAR	**Tiarei**	**81.68**	**124**	*e*P	**P**	**03 12 32.7**	**+0.8**
	comp=Z,181nm,0.9s,mb6.2						
MEST	**Erdemli**	**81.69**	**314**	*i* P	**P**	**03 12 29.7**	**-1.9**
KTD	**Kalmit**	**81.70**	**337**	*e*P	**P**	**03 12 31.5**	**+0.2**
KTD	**Kalmit**	**81.70**	**337**	P	**P**	**03 12 35.4**	**+4.1**
HDH	**Heidenheim**	**81.73**	**335**	⇓*e*P	**P**	**03 12 31.5**	**0.0**
HDH	**Heidenheim**	**81.73**	**335**	P	**P**	**03 12 32.1**	**+0.6**
HAE	**Alders End**	**81.75**	**344**	⇑*e*P	**P**	**03 12 32.4**	**+0.8**
HAE				AMb	AMB	03 12 34.7	
	comp=Z,340nm,1.8s,mb6.2						
PGB	**Panagyurishte**	**81.76**	**324**	*i* P	**P**	**03 12 32.7**	**+0.9**
FUR	**Furstenfeldbru**	**81.77**	**334**	*e*P	**P**	**03 12 32.4**	**+0.6**
FUR				pmax	pmax		
	comp=Z,301nm,1.2s,mb6.3						
FUR	**Furstenfeldbru**	**81.77**	**334**	*e*P	**P**	**03 12 32.4**	**+0.6**
	comp=Z,301nm,1.2s,mb6.3						
HTR	**Trewern Hill**	**81.85**	**345**	*e*P	**P**	**03 12 32.9**	**+0.8**
HTR				AMb	AMB	03 12 37.0	
	comp=Z,409nm,1.7s,mb6.3						
GROS	**Grobnik**	**81.86**	**331**	*e*P	**P**	**03 12 32.4**	**+0.2**
GROS				*e*		03 23 28.8	
STU	**Stuttgart**	**81.87**	**336**	P	**P**	**03 12 32.8**	**+0.6**
STU				pmax	pmax		
	comp=Z,330nm,1.4s,mb6.3						
STU	**Stuttgart**	**81.87**	**336**	*e*P	**P**	**03 12 32.6**	**+0.4**
	comp=Z,335nm,1.4s,mb6.3						
GIVF	**Givet**	**81.87**	**339**	⇓*i*P	**P**	**03 12 32.1**	**-0.1**
	comp=Z,230nm,1.3s,mb5.9						
MCH1	**Michaelchurch**	**81.88**	**344**	*e*P	**P**	**03 12 32.0**	**-0.2**
PLD	**Plovdiv**	**81.89**	**323**	P	**P**	**03 12 33.3**	**+0.8**
TVO	**Taravao**	**81.91**	**124**	*e*P	**P**	**03 12 34.4**	**+1.3**
	comp=Z,65nm,0.9s,mb5.8						
WLF	**Walferdange**	**81.92**	**338**	P	**P**	**03 12 34.4**	**+1.9**
WLF				pmax	pmax		
	comp=Z,40nm,1.0s,mb5.5						
WLF	**Walferdange**	**81.92**	**338**	*e*P	**P**	**03 12 32.7**	**+0.2**
	comp=Z,40nm,1.0s,mb5.5						
KDZ	**Kurdzhali**	**81.94**	**322**	P	**P**	**03 12 33.5**	**+0.7**
MIAR	**Mount Ida**	**82.03**	**49**	PFAKE		03 12 40.0	+6.6
MIAR				LR	LR		
	comp=Z,4µm,20.0s,MS5.8						
KBA	**Koelnbreinsper**	**82.06**	**333**	⇑*i*P	**P**	**03 12 34.0**	**+0.7**
	comp=Z,809nm,2.4s,mb6.4						
BAIF	**Baives**	**82.07**	**339**	⇓*i*P	**P**	**03 12 33.2**	**-0.1**
	comp=Z,125nm,1.1s,mb5.7						
LBG	**Lerchenberg**	**82.08**	**336**	*e*P	**P**	**03 12 33.6**	**+0.3**
LBG	**Lerchenberg**	**82.08**	**336**	P	**P**	**03 12 34.1**	**+0.8**
LANF	**Langenberg**	**82.08**	**337**	*e*P	**P**	**03 12 33.7**	**+0.4**
GRUS	**Gruza**	**82.08**	**326**	⇑*i*P	**P**	**03 12 33.3**	**-0.1**
BLO	**Bloomington**	**82.10**	**42**	P	**P**	**03 12 33.0**	**-0.7**
BLO				pmax	pmax		
	comp=Z,100nm,1.1s,mb5.9						
BLO	**Bloomington**	**82.10**	**42**	⇓*e*P	**P**	**03 12 32.7**	**-0.9**
	comp=Z,102nm,1.1s,mb5.9						
BUCH	**Bad Urach**	**82.11**	**336**	*e*P	**P**	**03 12 33.8**	**+0.3**
BUCH	**Bad Urach**	**82.11**	**336**	P	**P**	**03 12 34.6**	**+1.1**
VTS	**Vitosha**	**82.13**	**324**	*i* P	**P**	**03 12 34.3**	**+0.6**
VTS	**Vitosha**	**82.13**	**324**	P	**P**	**03 12 34.2**	**+0.5**
DOBS	**Dobrina**	**82.14**	**331**	P	**P**	**03 12 33.6**	**-0.1**
OBKA	**Obir**	**82.15**	**332**	⇑*i*P	**P**	**03 12 34.0**	**+0.3**
	comp=Z,1µm,4.4s						
MUN	**Mundaring**	**82.15**	**210**	*e*P	**P**	**03 12 34.8**	**+0.7**
	comp=Z,18nm,0.9s,mb5.2						
HGH	**Gray Hill**	**82.18**	**344**	*e*P	**P**	**03 12 33.7**	**-0.1**
HGH				AMb	AMB	03 12 36.8	
	comp=Z,478nm,1.2s,mb6.5						
DIVS	**Divcibare**	**82.20**	**327**	⇑*i*P	**P**	**03 12 33.6**	**-0.4**
HPE	**Pembroke**	**82.27**	**345**	*e*P	**P**	**03 12 34.7**	**+0.4**
SISC	**Sisak**	**82.40**	**330**	*i* P	**P**	**03 12 35.1**	**0.0**
WATA	**Walderalm**	**82.41**	**334**	⇑*i*P	**P**	**03 12 35.8**	**+0.7**
	comp=Z,260nm,1.5s,mb6.1						
CRES	**Cresnjevec ost**	**82.42**	**331**	P	**P**	**03 12 35.1**	**-0.1**
STR	**Strasbourg**	**82.45**	**337**	*e*P	**P**	**03 12 35.5**	**+0.2**
WTTA	**Wattenberg**	**82.46**	**334**	⇑*i*P	**P**	**03 12 36.2**	**+0.9**
	comp=Z,660nm,1.8s,mb6.5						
BFO	**Black Forest**	**82.52**	**336**	*e*P	**P**	**03 12 35.9**	**+0.3**
BFO				pmax	pmax		
	comp=Z,198nm,1.5s,mb6.1						
BFO	**Black Forest**	**82.52**	**336**	*e*P	**P**	**03 12 35.9**	**+0.3**
	comp=Z,198nm,1.5s,mb6.1						
GUT	**Gutenstein**	**82.52**	**336**	⇓*e*P	**P**	**03 12 36.1**	**+0.5**
GUT	**Gutenstein**	**82.52**	**336**	P	**P**	**03 12 36.4**	**+0.8**
UALR	**University of**	**82.52**	**48**	*e*P	**P**	**03 12 34.4**	**-1.6**
	comp=Z,54nm,1.1s,mb5.7						
MOTA	**Moosalm**	**82.55**	**334**	⇑*i*P	**P**	**03 12 36.5**	**+0.7**
	comp=Z,171nm,1.3s,mb6.1						
LJU	**Ljubljana**	**82.56**	**331**	*e*P	**P**	**03 12 35.3**	**-0.6**
LJU				*e*		03 12 59.2	
LJU				*e*PP	PP	03 15 50.9	+3.6
LJU				*e*S	S	03 22 56.5	+3.8
LJU				*e*		03 23 37.9	
UBR	**Uberruh**	**82.57**	**335**	⇓*e*P	**P**	**03 12 36.0**	**+0.1**
UBR	**Uberruh**	**82.57**	**335**	P	**P**	**03 12 38.2**	**+2.3**
ISP	**Isparta**	**82.57**	**317**	Pn	**P**	**03 12 37.5**	**+1.4**
SPAK	**Spaichingen**	**82.59**	**336**	*e*P	**P**	**03 12 36.6**	**+0.6**
SPAK	**Spaichingen**	**82.59**	**336**	P	**P**	**03 12 37.5**	**+1.5**
SQTA	**Sankt Quirin**	**82.63**	**334**	⇑*i*P	**P**	**03 12 37.1**	**+0.9**
	comp=Z,246nm,1.4s,mb6.2						
PTCC	**Patocco-Chiusa**	**82.65**	**332**	*e*P	**P**	**03 12 35.4**	**-0.9**
NWAO	**Narrogin (SRO)**	**82.65**	**208**	P	**P**	**03 12 37.2**	**+0.6**
NWAO				pmax	pmax		
	comp=Z,97nm,1.3s						
NWAO	**Narrogin (SRO)**	**82.65**	**208**	*e*P	**P**	**03 12 37.0**	**+0.4**
	comp=Z,98nm,1.4s,mb5.8						
NWAO				LR	LR		
	comp=Z,1µm,19.0s,MS5.3						
FVI	**Forni Avoltri**	**82.67**	**333**	*e*P	**P**	**03 12 36.1**	**-0.3**
ERPA	**Erie**	**82.69**	**36**	⇓*e*P	**P**	**03 12 36.1**	**-0.6**
	comp=Z,259nm,1.2s,mb6.3						
ERPA				LR	LR		
	comp=Z,3µm,20.0s,MS5.7						
WLS	**Welschbruch**	**82.72**	**337**	*e*P	**P**	**03 12 36.5**	**-0.2**
MMB	**Musomiste**	**82.73**	**323**	*i* P	**P**	**03 12 37.3**	**+0.4**
CDF	**Champ du Feu**	**82.75**	**337**	⇓*i*P	**P**	**03 12 36.7**	**-0.1**
	comp=Z,147nm,1.0s,mb5.8						
BOJS	**Bojanci**	**82.77**	**331**	*e*P	**P**	**03 12 36.9**	**-0.1**
BOJS				*e*PP	PP	03 15 53.7	+4.7
BOJS				*e*		03 23 40.7	
VOY	**Vojsko**	**82.79**	**332**	*e*P	**P**	**03 12 35.0**	**-2.1**
VOY				*e*	pP	03 12 36.4	-0.7
GMNA	**Gemona**	**82.80**	**332**	*e*P	**P**	**03 12 36.1**	**-1.1**
NVSS	**Nova Varos 2**	**82.81**	**327**	⇑*i*P	**P**	**03 12 37.6**	**+0.4**
GNAR	**Gosnell**	**82.84**	**46**	*e*P	**P**	**03 12 37.2**	**-0.4**
JAVS	**Javornik**	**82.85**	**332**	*e*P	**P**	**03 12 36.7**	**-0.7**
JAVS				*e*S	S	03 22 53.9	-1.8
CEY	**Cerknica**	**82.86**	**331**	P	**P**	**03 12 37.2**	**-0.3**
LIBD	**Limburg**	**82.89**	**337**	P	**P**	**03 12 40.2**	**+2.6**
SISB	**Singen-Sch Ber**	**82.91**	**335**	P	**P**	**03 12 38.4**	**+0.7**
ACSO	**Alum Creek Sta**	**82.91**	**39**	⇓*e*P	**P**	**03 12 37.0**	**-0.8**
	comp=Z,218nm,1.2s,mb6.3						
ACSO				LR	LR		
	comp=Z,3µm,20.0s,MS5.7						
HEX	**Exmoor**	**82.92**	**345**	*e*P	**P**	**03 12 38.2**	**+0.6**
STEIN	**Stein am Rhein**	**82.95**	**336**	⇓*i*P	**P**	**03 12 37.9**	**0.0**
	comp=Z,342nm,1.7s,mb6.3						
WCI	**Wyandotte Cave**	**82.95**	**42**	P	**P**	**03 12 37.8**	**-0.3**
WCI				pmax	pmax		
	comp=Z,180nm,1.2s,mb6.2						
WCI	**Wyandotte Cave**	**82.95**	**42**	*e*P	**P**	**03 12 37.5**	**-0.6**
	comp=Z,181nm,1.2s,mb6.2						
WCI				LR	LR		
	comp=Z,638nm,19.0s,MS5.0						
ECH	**Echery**	**82.96**	**337**	*e*P	**P**	**03 12 37.7**	**-0.2**
KIZ	**Kirchzarten**	**82.97**	**336**	⇓*e*P	**P**	**03 12 38.0**	**0.0**
KIZ	**Kirchzarten**	**82.97**	**336**	P	**P**	**03 12 38.4**	**+0.4**
SLE	**Schleitheim**	**82.98**	**336**	⇓*i*P	**P**	**03 12 38.1**	**+0.1**
	comp=Z,375nm,3.6s						
SLE	**Schleitheim**	**82.98**	**336**	⇓P	**P**	**03 12 38.2**	**+0.2**
DAVA	**Damuels**	**82.99**	**335**	⇑*i*P	**P**	**03 12 38.7**	**+0.6**
	comp=Z,2µm,4.5s						
ALLY	**Alegheny Colle**	**83.00**	**36**	*e*P	**P**	**03 12 37.8**	**-0.5**
MANT	**Manisa**	**83.02**	**318**	*i* P	**P**	**03 12 38.1**	**-0.3**
FELD	**Feldberg**	**83.02**	**336**	*e*P	**P**	**03 12 38.6**	**+0.4**
WEIN	**Weingarten**	**83.04**	**335**	⇓*i*P	**P**	**03 12 38.5**	**+0.1**
	comp=Z,413nm,3.2s						
PLE	**Pljevlja**	**83.08**	**327**	⇓*i*P	**P**	**03 12 39.0**	**+0.4**
KAMOR	**Kamor**	**83.11**	**335**	⇓*i*P	**P**	**03 12 39.2**	**+0.5**
	comp=Z,287nm,1.9s,mb6.2						
HTL	**Hartland**	**83.11**	**345**	*e*P	**P**	**03 12 40.2**	**+1.6**
TRI	**Trieste**	**83.11**	**332**	*e*P	**P**	**03 12 37.2**	**-1.5**
FLACH	**Flaach**	**83.13**	**336**	⇓*i*P	**P**	**03 12 38.7**	**-0.1**
	comp=Z,158nm,1.1s,mb6.2						
UTMT	**University of**	**83.15**	**45**	*e*P	**P**	**03 12 38.9**	**-0.2**
	comp=Z,329nm,1.0s,mb6.5						
VAL	**Valentia**	**83.15**	**349**	⇑*i*P	**P**	**03 12 39.2**	**+0.4**
WILA	**Wila**	**83.17**	**335**	⇓*i*P	**P**	**03 12 39.3**	**+0.3**
	comp=Z,230nm,1.8s,mb6.1						
WILA	**Wila**	**83.17**	**335**	⇓P	**P**	**03 12 39.4**	**+0.4**
SRS	**Serrai**	**83.17**	**323**	*e*P	**P**	**03 12 38.9**	**-0.2**
SALA	**Sala**	**83.22**	**310**	⇓P	**P**	**03 12 47.4**	**+7.8**
PQI	**Presque Isle**	**83.23**	**26**	PFAKE		03 12 50.0	+11
PQI				LR	LR		
	comp=Z,12µm,20.0s,MS6.3						
IVA	**Berane**	**83.26**	**326**	⇓*i*P	**P**	**03 12 39.6**	**+0.1**
THEF	**They Montfort**	**83.28**	**338**	*e*P	**P**	**03 12 39.5**	**0.0**
MEZF	**Maizieres J’vi**	**83.28**	**338**	⇓*i*P	**P**	**03 12 39.9**	**+0.3**
	comp=Z,649nm,1.4s,mb6.3						
MOF	**Molkenrain**	**83.30**	**337**	*e*P	**P**	**03 12 39.5**	**-0.2**
SULZ	**Sulz-Cheisache**	**83.30**	**336**	⇓*i*P	**P**	**03 12 39.7**	**0.0**
	comp=Z,169nm,0.9s,mb6.3						
SULZ	**Sulz-Cheisache**	**83.30**	**336**	⇓P	**P**	**03 12 40.1**	**+0.4**
ZUR	**Zurich**	**83.31**	**336**	⇓*i*P	**P**	**03 12 40.0**	**+0.3**
	comp=Z,259nm,1.9s,mb6.1						
ZUR	**Zurich**	**83.31**	**336**	⇓P	**P**	**03 12 40.3**	**+0.6**
PLONS	**Plons**	**83.35**	**335**	⇓*i*P	**P**	**03 12 40.2**	**+0.2**
	comp=Z,314nm,1.9s,mb6.2						
HRI	**Mount Hermon**	**83.36**	**311**	P	**P**	**03 12 41.0**	**+0.7**
CSS	**Prodhromos**	**83.36**	**313**	P	**P**	**03 12 39.3**	**-1.0**
	comp=Z,1.3nm,1.0s						
UPM	**Unac-Piva**	**83.37**	**327**	⇓*i*P	**P**	**03 12 39.9**	**-0.2**
HAU	**Haudompre**	**83.38**	**337**	⇓*i*P	**P**	**03 12 39.9**	**-0.2**
	comp=Z,93nm,1.0s,mb5.7						
HAU				*e*R			
	comp=Z,4µm,21.5s						
SKO	**Skopje**	**83.38**	**325**	⇓*i*P	**P**	**03 12 40.8**	**+0.6**
	comp=Z,0.2nm,1.1s						
HINF	**Hinteralfeld**	**83.41**	**337**	⇓*i*P	**P**	**03 12 39.9**	**-0.3**
	comp=Z,121nm,1.2s,mb5.7						
DNZL	**Cakiroluk**	**83.41**	**318**	*i* P	**P**	**03 12 40.4**	**-0.1**
NCB	**Newcomb**	**83.44**	**31**	*e*P	**P**	**03 12 39.1**	**-1.3**
	comp=Z,84nm,1.0s,mb5.9						
KNT	**Kendrikon**	**83.44**	**324**	*e*P	**P**	**03 12 40.7**	**+0.1**
DAVOX	**Davos**	**83.44**	**335**	S	S	03 23 05.9	+4.4
	comp=Z,0.9nm,0.7s,baz=344,slow=22,SNR=2.0						
DAVOX	**Davos**	**83.44**	**335**	⇓*i*P	**P**	**03 12 41.3**	**+0.9**
	comp=Z,252nm,2.9s,mb5.9						
VAY	**Valandovo**	**83.44**	**324**	⇓*i*P	**P**	**03 12 40.9**	**+0.3**
FUORN	**Ofenpass**	**83.46**	**334**	⇓*i*P	**P**	**03 12 41.5**	**+1.0**
	comp=Z,287nm,1.9s,mb6.2						
PVY	**Plav**	**83.46**	**326**	⇓*i*P	**P**	**03 12 40.0**	**-0.6**
LOS	**Limnos**	**83.48**	**321**	*e*P	**P**	**03 12 41.1**	**+0.3**
NATX	**Nacogdoches**	**83.51**	**52**	⇑*e*P	**P**	**03 12 40.8**	**-0.3**
	comp=Z,212nm,0.9s,mb6.4						
NATX				LR	LR		
	comp=Z,2µm,20.0s,MS5.6						
CTI	**Castel Tesino**	**83.53**	**333**	*e*P	**P**	**03 12 40.4**	**-0.4**
KSHT	**Keshet**	**83.53**	**310**	P	**P**	**03 12 41.9**	**+0.8**
KSHT	**Keshet**	**83.53**	**310**	⇓P	**P**	**03 12 41.9**	**+0.8**
ASF	**Jabal al Asfar**	**83.53**	**309**	P	**P**	**03 12 42.5**	**+1.3**
	comp=Z,58nm,1.1s,mb5.8,baz=268,slow=4.4,SNR=41						
ASF				S	S	03 23 04.9	+2.1
	comp=Z,3.3nm,1.1s,baz=116,slow=23,SNR=1.7						
ASF				LR	LR	03 56 23.9	
	comp=Z,2µm,18.6s,MS5.6,baz=262,slow=40						
MET	**Memphis--Engin**	**83.54**	**46**	*e*P	**P**	**03 12 41.0**	**-0.2**
BRMO	**Bormio**	**83.56**	**334**	*e*P	**P**	**03 12 41.7**	**+0.8**
ALFC	**Alevga**	**83.59**	**314**	⇑P	**P**	**03 12 39.8**	**-1.6**
	comp=Z,1.8nm,0.7s						
ALFC	**Alevga**	**83.59**	**314**	⇑*e*P	**P**	**03 12 39.8**	**-1.6**
BALST	**Balsthal**	**83.60**	**336**	⇓*i*P	**P**	**03 12 41.2**	**+0.1**
	comp=Z,470nm,1.6s,mb6.5						
OUR	**Ouranopolis**	**83.64**	**322**	*e*P	**P**	**03 12 41.6**	**0.0**
LLS	**Linth-Limmern**	**83.65**	**335**	⇓*i*P	**P**	**03 12 42.0**	**+0.6**
	comp=Z,113nm,1.1s,mb6.0						
LLS	**Linth-Limmern**	**83.65**	**335**	⇓P	**P**	**03 12 42.1**	**+0.7**
MUO	**Muotathal**	**83.65**	**335**	⇓*i*P	**P**	**03 12 42.0**	**+0.6**
	comp=Z,262nm,1.7s,mb6.2						
MUO	**Muotathal**	**83.65**	**335**	⇓P	**P**	**03 12 42.1**	**+0.7**
NKY	**Niksic**	**83.67**	**327**	*e*P	**P**	**03 12 40.3**	**-1.3**
BOURR	**Bourrignon**	**83.68**	**336**	⇓*i*P	**P**	**03 12 42.0**	**+0.4**
	comp=Z,481nm,1.8s,mb6.4						
KDAG	**Bornova**	**83.70**	**319**	*i* P	**P**	**03 12 40.6**	**-1.3**
BERNI	**Berninapass**	**83.72**	**334**	⇓*i*P	**P**	**03 12 42.7**	**+0.9**
	comp=Z,195nm,1.6s,mb6.1						
NVLJ	**Novalja**	**83.72**	**330**	⇓*i*P	**P**	**03 12 40.7**	**-1.1**
SZAC	**Souni-Zanaja**	**83.75**	**313**	P	**P**	**03 12 41.8**	**-0.4**
BRY	**Bratogost**	**83.77**	**327**	⇓*i*P	**P**	**03 12 40.5**	**-1.6**
HNTI	**Hanita**	**83.80**	**311**	P	**P**	**03 12 43.1**	**+0.6**
BNALP	**Bannalp**	**83.80**	**335**	⇓*i*P	**P**	**03 12 42.9**	**+0.7**
	comp=Z,282nm,2.0s,mb6.2						
GLH	**Golan-Tel Qazi**	**83.82**	**310**	P	**P**	**03 12 43.7**	**+1.1**
GRG	**Griva**	**83.82**	**324**	*e*P	**P**	**03 12 42.6**	**+0.2**
VDL	**Val di Lei**	**83.83**	**335**	⇓*i*P	**P**	**03 12 43.2**	**+0.9**
	comp=Z,127nm,1.0s,mb6.1						
VDL	**Val di Lei**	**83.83**	**335**	⇓P	**P**	**03 12 43.4**	**+1.1**
LOMF	**Lomont**	**83.84**	**337**	*e*P	**P**	**03 12 42.6**	**+0.3**
WVT	**Waverly**	**83.84**	**44**	P	**P**	**03 12 41.8**	**-0.8**
WVT				pmax	pmax		
	comp=Z,73nm,1.0s,mb5.9						
WVT	**Waverly**	**83.84**	**44**	⇓*e*P	**P**	**03 12 42.0**	**-0.7**
	comp=Z,73nm,0.9s,mb5.9						
WVT				LR	LR		
	comp=Z,4µm,21.0s,MS5.7						
THE	**Thessaloniki**	**83.84**	**323**	*e*P	**P**	**03 12 42.2**	**-0.3**
TTG	**Podgorica**	**83.89**	**326**	⇓*i*P	**P**	**03 12 40.5**	**-2.2**
PPCY	**Paphos**	**83.94**	**314**	P	**P**	**03 12 42.5**	**-0.7**
HASLI	**Hasliberg**	**83.99**	**336**	⇓*i*P	**P**	**03 12 43.5**	**+0.4**
	comp=Z,352nm,2.1s,mb6.2						
FUSIO	**Fusio**	**84.11**	**335**	⇓*i*P	**P**	**03 12 44.5**	**+0.8**
	comp=Z,310nm,1.6s,mb6.3						
PAIG	**Paliouri**	**84.11**	**322**	*e*P	**P**	**03 12 43.7**	**-0.2**
STON	**Ston**	**84.12**	**328**	*i* P	**P**	**03 12 42.5**	**-1.5**
BUM	**Brajici-Budva**	**84.14**	**327**	*e*P	**P**	**03 12 42.7**	**-1.3**
MMLI	**Mount Malkishu**	**84.15**	**310**	P	**P**	**03 12 45.2**	**+0.9**
MMLI	**Mount Malkishu**	**84.15**	**310**	⇓P	**P**	**03 12 45.2**	**+0.9**
HCY	**Herceg Novi**	**84.17**	**327**	⇓*i*P	**P**	**03 12 43.7**	**-0.5**
HILS	**Ha’il**	**84.20**	**303**	P	**P**	**03 12 45.7**	**+1.0**
HMDT	**Nahal Hemdat**	**84.23**	**310**	P	**P**	**03 12 45.6**	**+0.9**
HMDT	**Nahal Hemdat**	**84.23**	**310**	⇓P	**P**	**03 12 45.6**	**+0.9**
OFRI	**‘Ofer**	**84.25**	**311**	P	**P**	**03 12 45.1**	**+0.3**
BINY	**Binghamton**	**84.26**	**33**	*e*P	**P**	**03 12 43.8**	**-0.8**
	comp=Z,67nm,1.1s,mb5.8						
BINY				LR	LR		
	comp=Z,2µm,21.0s,MS5.4						
SAL	**Salo**	**84.28**	**334**	*e*P	**P**	**03 12 44.7**	**+0.1**
OXF	**Oxford**	**84.28**	**46**	P	**P**	**03 12 44.7**	**-0.2**
OXF				pmax	pmax		
	comp=Z,250nm,1.0s,mb6.4						
OXF	**Oxford**	**84.28**	**46**	*e*P	**P**	**03 12 44.0**	**-0.9**
	comp=Z,250nm,1.0s,mb6.4						
OXF				LR	LR		
	comp=Z,3µm,21.0s,MS5.6						
ULC	**Ulcinj**	**84.28**	**326**	⇓*i*P	**P**	**03 12 43.7**	**-1.0**
OHR	**Ohrid**	**84.36**	**325**	⇓*i*P	**P**	**03 12 45.0**	**-0.2**
OHR				*i*		03 13 09.0	
QSH	**Qafa e Shtames**	**84.39**	**326**	*i* p	**P**	**03 12 45.0**	**-0.3**
FNA	**Florina**	**84.40**	**324**	*e*P	**P**	**03 12 45.3**	**0.0**
ARSS	**Ar Rass**	**84.40**	**301**	P	**P**	**03 12 46.1**	**+0.4**
FLN	**La Foliniere**	**84.41**	**342**	⇓*i*P	**P**	**03 12 45.0**	**-0.2**
	comp=Z,146nm,0.9s,mb5.9						
FLN				*e*R			
	comp=Z,5µm,17.2s						
MUGIO	**Muggio**	**84.47**	**335**	⇓*i*P	**P**	**03 12 45.5**	**-0.1**
	comp=Z,280nm,1.2s,mb6.4						
LKBD	**Leukerbad**	**84.48**	**336**	⇓P	**P**	**03 12 46.5**	**+0.9**
LDF	**La Druitiere**	**84.48**	**341**	⇓*i*P	**P**	**03 12 45.3**	**-0.3**
	comp=Z,106nm,1.0s,mb5.7						
LIT	**Litokhoron**	**84.49**	**323**	*e*P	**P**	**03 12 44.7**	**-1.1**
MZLS	**Mizel**	**84.49**	**298**	P	**P**	**03 12 47.0**	**+0.8**
SLTI	**Sal’it**	**84.51**	**310**	P	**P**	**03 12 46.7**	**+0.6**
TIR	**Tirane**	**84.55**	**326**	*e*p	**P**	**03 12 45.0**	**-1.1**
WVL	**Waterville**	**84.56**	**28**	*e*P	**P**	**03 12 44.8**	**-1.3**
	comp=Z,568nm,1.0s,mb6.8						
WVL				*e*		03 12 56.0	
WVL				LR	LR		
	comp=Z,12µm,20.0s,MS6.3						
SENIN	**Lac Senin**	**84.59**	**336**	⇓*i*P	**P**	**03 12 47.0**	**+0.8**
	comp=Z,354nm,2.3s,mb6.2						
VAI	**Varese**	**84.60**	**335**	*e*P	**P**	**03 12 46.3**	**0.0**
AOS	**Alonnisos**	**84.64**	**322**	*e*P	**P**	**03 12 46.5**	**0.0**
MMK	**Mattmark**	**84.68**	**335**	⇓*i*P	**P**	**03 12 47.7**	**+1.1**
	comp=Z,387nm,2.9s,mb6.1						
MMK	**Mattmark**	**84.68**	**335**	⇓P	**P**	**03 12 47.9**	**+1.3**
AIGLE	**Aigle**	**84.72**	**336**	⇓*i*P	**P**	**03 12 47.3**	**+0.5**
	comp=Z,312nm,1.6s,mb6.3						
CABF	**La Chapelle**	**84.72**	**337**	⇓*i*P	**P**	**03 12 47.2**	**+0.4**
	comp=Z,506nm,1.5s,mb6.2						

LOR	Lormes	84.73	338	⇓iP	P	03 12 47.1	+0.3
	comp=Z,699nm,1.4s,mb6.4						
LOR				eR			
	comp=Z,7μm,20.5s						
GIMEL	Gimel	84.74	337	⇓iP	P	03 12 47.7	+0.8
	comp=Z,265nm,2.2s,mb6.1						
MCGN	Macugnaga	84.76	335	eP	P	03 12 47.8	+0.8
XOR	Xorichti	84.78	322	eP	P	03 12 46.8	-0.5
SSPA	Standing Stone	84.80	35	eP	P	03 12 45.8	-1.5
	comp=Z,255nm,1.4s,mb6.3						
SSPA				LR	LR		
	comp=Z,371nm,20.0s,MS4.8						
DRGI	Dragot	84.81	310	P	P	03 12 48.1	+0.5
DIX	Grande Dixence	84.82	336	⇓iP	P	03 12 48.5	+1.2
	comp=Z,391nm,1.8s,mb6.3						
DIX	Grande Dixence	84.82	336	⇓P	P	03 12 48.6	+1.3
GRR	Gorron	84.84	342	⇓iP	P	03 12 47.5	+0.1
	comp=Z,139nm,0.8s,mb5.9						
RAVA	Ravarino	84.84	333	P	P	03 12 49.5	+2.0
EMV	Vieux Emosson	84.98	336	⇓P	P	03 12 49.2	+1.1
SSF	Saint Saulge	85.02	339	⇓iP	P	03 12 48.5	+0.2
	comp=Z,203nm,0.9s,mb6.0						
MZDA	Masada	85.04	309	P	P	03 12 49.2	+0.4
HYF	Humbligny	85.05	339	⇓iP	P	03 12 49.1	+0.7
ORO	Oropa	85.06	335	eP	P	03 12 48.4	-0.1
URZ	Urewera	85.10	160	LR	LR	03 45 19.0	
	comp=Z,2μm,21.8s,MS5.6,baz=166,slow=32						
RSM	Repubblica di	85.12	332	eP	P	03 12 50.2	+1.3
EMMW	East Machias	85.16	27	eP	P	03 12 48.8	-0.3
	comp=Z,500nm,0.9s,mb6.8						
EMMW				LR	LR		
	comp=Z,11μm,20.0s,MS6.2						
FSSB	Fossombrone	85.22	331	eP	P	03 12 50.0	+0.6
TRAV		85.23	335	P	P	03 12 49.0	-0.3
ZCCA	Zocca	85.25	333	eP	P	03 12 51.3	+1.8
RENF	Rennes	85.27	342	P	P	03 12 51.1	+1.6
MEV	Metsovon	85.29	324	eP	P	03 12 50.6	+0.8
AVF	Avril sur Loir	85.31	339	⇓iP	P	03 12 50.1	+0.4
	comp=Z,947nm,1.3s,mb6.5						
SMF	Signal de Mont	85.31	338	⇓iP	P	03 12 50.3	+0.6
	comp=Z,1μm,1.0s,mb6.7						
ARV	Arcevia	85.33	331	eP	P	03 12 50.3	+0.3
SGMF	Saint Gilles	85.34	343	⇓iP	P	03 12 49.1	-0.7
	comp=Z,80nm,0.8s,mb5.7						
SFI	Santa Sofia	85.35	332	⇓iP	P	03 12 51.2	+1.1
ERBM	Eremo	85.37	333	⇓iP	P	03 12 51.6	+1.4
BOB	Bobbio (Coli)	85.38	334	eP	P	03 12 51.0	+0.9
GSCL	Gusciola	85.38	333	⇓iP	P	03 12 51.4	+1.2
SEI	Scarperia	85.39	332	eP	P	03 12 51.5	+1.3
VMG	Vicchio	85.41	332	eP	P	03 12 52.0	+1.7
ROSF	Rostrenen	85.41	343	⇓iP	P	03 12 50.4	+0.2
	comp=Z,134nm,0.9s,mb5.9						
PGD	Poggio Sodo	85.42	332	⇓iP	P	03 12 52.0	+1.6
GRAM		85.42	333	P	P	03 12 50.7	+0.3
AGG	Agios Georgios	85.44	323	eP	P	03 12 49.5	-1.1
LSD	Ceresole Reale	85.46	336	P	P	03 12 51.4	+0.9
VALM		85.49	333	P	P	03 12 50.8	+0.1
SWET	Sewanee	85.51	44	eP	P	03 12 50.0	-1.0
LPL	La Plagne	85.53	336	⇓iP	P	03 12 51.8	+0.9
	comp=Z,589nm,1.4s,mb6.2						
LPG	La Plagne	85.54	336	⇓iP	P	03 12 52.1	+1.2
	comp=Z,594nm,1.3s,mb6.3						
CRE	Caprese Michel	85.57	332	eP	P	03 12 51.8	+0.7
CODM		85.58	333	P	P	03 12 51.0	-0.2
BACM		85.61	333	P	P	03 12 51.0	-0.3
VLC	Villacollemand	85.61	333	eP	P	03 12 51.5	+0.2
	comp=Z,350nm,1.5s,mb6.3						
BDI	Bagni Di Lucca	85.63	333	eP	P	03 12 51.8	+0.4
BGF	Bois d'Agland	85.65	339	⇓iP	P	03 12 51.8	+0.3
	comp=Z,110nm,0.7s,mb5.8						
HRV	Harvard--Oak R	85.68	30	P	P	03 12 51.5	-0.2
HRV				pmax	pmax		
	comp=Z,100nm,1.0s,mb5.9						
HRV	Harvard--Oak R	85.68	30	eP	P	03 12 51.4	-0.3
	comp=Z,103nm,1.0s,mb5.9						
HRV				LR	LR		
	comp=Z,3μm,21.0s,MS5.6						
RSP	Reno Superiore	85.70	335	P	P	03 12 51.9	+0.1
VINC	Vinca	85.71	333	P	P	03 12 51.3	-0.5
ZFRI	Zfri	85.71	309	P	P	03 12 52.6	+0.4
SVTA	Shivta	85.74	310	P	P	03 12 52.6	+0.3
QUIF	Quistinic	85.79	343	⇓iP	P	03 12 51.8	-0.3
	comp=Z,93nm,1.1s,mb5.5						
FGMS	Monte Sant'Ang	85.79	328	eP	P	03 12 51.7	-0.5
MAIM		85.80	333	P	P	03 12 51.1	-1.1
ASS	Assisi	85.82	331	⇓iP	P	03 12 52.6	+0.2
GENL	Genova Univers	85.85	334	P	P	03 12 52.2	-0.3
NRCA	Norcia	85.86	331	⇓iP	P	03 12 53.2	+0.6
LUPA	Lehigh Univers	85.86	34	⇓eP	P	03 12 52.0	-0.7
PCP	Pian Castagno	85.86	334	P	P	03 12 52.2	-0.4
FENE	Fenestrelle	85.87	336	P	P	03 12 52.3	-0.3
IGT	Igoumenitsa	85.88	324	eP	P	03 12 52.5	-0.2
KZIT	Kziot	85.88	310	P	P	03 12 53.2	+0.2
CSNT	Castellina Chi	85.92	332	⇓iP	P	03 12 52.2	-0.7
RGNG	Rignano Grg	85.96	328	eP	P	03 12 52.6	-0.5
AFFS	'Afif	85.96	299	P	P	03 12 54.2	+0.6
PRNI	Paran	85.96	309	P	P	03 12 54.0	+0.6
PRNI	Paran	85.96	309	⇓P	P	03 12 54.0	+0.6
BNI	Bardonecchia	85.97	336	P	P	03 12 54.3	+1.2
BNI				pmax	pmax		
	comp=Z,140nm,1.1s,mb6.0						
BNI	Bardonecchia	85.97	336	eP	P	03 12 53.7	+0.7
	comp=Z,142nm,1.1s,mb6.0						
BHB	Bricherasio	85.98	335	P	P	03 12 52.5	-0.7
GDM	Grand'Maison	86.00	336	eP	P	03 12 54.3	+1.1
RRL	Cesana Torines	86.06	336	P	P	03 12 54.6	+1.1
GRN	Grenoble	86.07	336	eP	P	03 12 55.4	+1.8
TCF	Toulx Ste Croi	86.07	339	⇓iP	P	03 12 54.0	+0.5
	comp=Z,187nm,1.0s,mb5.9						
TBI	Tubuai	86.11	128	eSS	SS	03 28 58.3	-12
TBI				eL		03 35 51.1	
TBI				eR		03 39 16.7	
	comp=Z,7μm,33.5s,baz=321						
LCI	Lecce	86.12	326	eP	P	03 12 53.7	-0.3
AQU	L'Aquila	86.17	330	P	P	03 12 54.2	0.0
AQU				pmax	pmax		
	comp=Z,140nm,1.0s,mb6.0						
AQU	L'Aquila	86.17	330	eP	P	03 12 54.2	0.0
SANT	Santorini	86.19	319	eP	P	03 12 52.0	-2.4
CIGN	Sant'Elia a Pi	86.23	329	P	P	03 12 56.2	+1.7
MBDF	Montbardon	86.24	336	⇓iP	P	03 12 54.8	+0.4
	comp=Z,169nm,1.0s,mb5.8						
FIN	Finale Ligure	86.27	334	eP	P	03 12 53.6	-0.9
ROB	Roburent	86.29	335	P	P	03 12 54.0	-0.7
KMTI	Karmit	86.31	309	P	P	03 12 55.3	+0.2
GRFL	Gerfalco	86.32	332	⇓iP	P	03 12 54.7	-0.2
ORIF	Oris-en-Rattie	86.32	336	⇓iP	P	03 12 55.6	+0.8
	comp=Z,445nm,1.3s,mb6.1						
ORIF				eR			
	comp=Z,4μm,20.0s						
PZZ	Prazzo	86.34	335	P	P	03 12 54.1	-0.8
MFF	Saint Martin d	86.36	341	⇓iP	P	03 12 54.3	-0.7
	comp=Z,159nm,1.1s,mb5.8						
PYM	Petit Puy Mans	86.36	338	eP	P	03 12 55.6	+0.6
CII	Carovilli	86.39	329	⇓iP	P	03 12 55.8	+0.5
RORO		86.40	334	P	P	03 12 54.0	-1.2
MNS	Montasola	86.40	331	eP	P	03 12 54.8	-0.5
FG5	Orsara di Pugl	86.42	328	eP	P	03 12 55.8	+0.4
LKD	Levkas	86.44	324	eP	P	03 12 56.4	+0.8
MBH	Mount Berech	86.44	309	P	P	03 12 55.9	+0.1
SURF	Saint Ours	86.45	335	eP	P	03 12 56.4	+1.0
FG4	Candela	86.45	328	P	P	03 12 55.8	+0.2
PTQR	Pietraquaria	86.46	330	⇓iP	P	03 12 55.6	0.0
ENR	Entracque	86.49	335	P	P	03 12 54.1	-1.6
STV2	Anna di Valdie	86.50	335	P	P	03 12 54.9	-0.9
STV	Sta Anna Valdi	86.51	335	P	P	03 12 54.1	-1.6
CPI2	Carpinone	86.51	329	eP	P	03 12 55.9	0.0
EIL	Elat	86.51	309	P	P	03 12 56.6	+0.5
VVLD	Villa Vallelon	86.52	330	P	P	03 12 55.7	-0.1
MONE	Monesi	86.52	335	P	P	03 12 55.2	-0.7
BLA	Blacksburg	86.53	39	P	P	03 12 56.2	+0.2
BLA				pmax	pmax		
	comp=Z,260nm,1.3s,mb6.3						
BLA	Blacksburg	86.53	39	eP	P	03 12 55.4	-0.6
	comp=Z,257nm,1.3s,mb6.3						
BLA				LR	LR		
	comp=Z,2μm,20.0s,MS5.6						
JMQS	Jabal Moqyreh	86.58	308	P	P	03 12 57.1	+0.6
TAU	Tasmania Unive	86.58	183	PFAKE		03 13 10.0	+14
TAU				LR	LR		
	comp=Z,1μm,22.0s,MS5.2						
SDI	San Donato	86.59	330	P	P	03 12 56.0	-0.2
RLS	Riolos of Patr	86.62	323	Pn	P	03 12 54.3	-2.2
IMI	Imperia	86.64	335	eP	P	03 12 56.5	+0.1
SGG	Gregorio Mates	86.66	329	⇓iP	P	03 12 55.8	-0.8
SAOF	Saorge	86.67	335	eP	P	03 12 57.1	+0.6
LRAL	Lakeview Retre	86.69	46	eP	P	03 12 55.5	-1.4
	comp=Z,16nm,0.8s,mb5.3						
LRAL				LR	LR		
	comp=Z,3μm,19.0s,MS5.7						
TBKS	Tabuk	86.69	307	P	P	03 12 57.6	+0.5
AUTN	L'Aution	86.70	335	eP	P	03 12 57.1	+0.4
ALWS	Ilw as Safayha	86.72	308	P	P	03 12 57.8	+0.6
VIVF	Saint-Julien-l	86.73	337	⇓iP	P	03 12 57.7	+0.9
	comp=Z,358nm,1.1s,mb6.2						
NEGI	Negi	86.75	335	P	P	03 12 55.8	-1.2
LBL	Lubilhac	86.77	338	⇑eP	P	03 12 58.9	+1.9
MRLC	Muro Lucano	86.79	328	eP	P	03 12 56.7	-0.5
JMOS	Jabal al Moall	86.80	308	P	P	03 12 58.2	+0.7
SBF	Sospel	86.82	335	⇓iP	P	03 12 56.9	-0.4
	comp=Z,425nm,1.1s,mb6.3						
AURF	Auriere	86.83	335	eP	P	03 12 58.0	+0.7
CSSN	Cassano Irpino	86.87	328	eP	P	03 12 57.4	-0.3
MVIF	Mont Vial	86.87	335	eP	P	03 12 58.5	+0.9
KBRS	Khaybar	86.90	303	P	P	03 12 58.8	+0.7
REVF	Revere	86.95	335	eP	P	03 12 58.6	+0.7
MSC	Monte Massico	86.98	329	eP	P	03 12 57.7	-0.5
HAQS	Haql	86.99	308	P	P	03 12 58.8	+0.3
ORI	Oriolo Calabro	87.01	327	⇓iP	P	03 12 58.6	+0.3
SGO	Sicignano	87.03	328	⇓iP	P	03 12 57.8	-0.6
SLCN	Sala Consilina	87.05	328	eP	P	03 12 58.2	-0.3
CBN	Corbin	87.05	36	eP	P	03 12 57.9	-0.7
	comp=Z,226nm,1.1s,mb6.3						
CBN				LR	LR		
	comp=Z,5μm,22.0s,MS5.8						
CALF	Calern	87.08	335	P	P	03 12 59.6	+1.1
CALN	Calern	87.08	335	eP	P	03 12 59.7	+1.1
ITM	Ithomi	87.15	322	Pn	P	03 12 59.6	+0.6
RJF	Les Rejaudoux	87.16	339	⇓iP	P	03 12 58.3	-0.6
	comp=Z,355nm,1.5s,mb6.1						
RJF				eR			
	comp=Z,6μm,18.8s						
DGAR	Diego Garcia	87.22	257	PFAKE		03 13 10.0	+10
DGAR				LR	LR		
	comp=Z,289nm,20.0s,MS4.7						
SMRF	Simiane la Rot	87.27	336	⇓iP	P	03 13 00.3	+0.8
	comp=Z,333nm,1.5s,mb6.0						
MGR	Morigerati	87.30	328	⇓iP	P	03 12 58.3	-1.4
CUC	Castrocucco	87.32	327	P	P	03 13 00.7	+0.9
FRF	La Foret Royal	87.33	335	⇓iP	P	03 12 59.6	-0.2
	comp=Z,454nm,1.5s,mb6.2						
VILF	Villemus	87.34	336	eP	P	03 13 01.4	+1.6
BDAS	Al Bad'	87.37	308	P	P	03 13 00.5	+0.2
CAF	Calviac	87.37	339	⇓iP	P	03 13 00.3	+0.4
	comp=Z,195nm,1.0s,mb6.0						
TDS	Terranova Siba	87.40	327	eP	P	03 13 00.2	0.0
TAYS	Tayyib Ism	87.41	308	P	P	03 13 00.8	+0.3
SNZO	South Karori	87.45	163	PFAKE		03 13 10.0	+10
SNZO				LR	LR		
	comp=Z,4μm,21.0s,MS5.8						
AYUS	'Aynunah	87.45	308	P	P	03 13 01.1	+0.4
TAVF	Tavernes	87.46	336	eP	P	03 13 01.9	+1.5
PGF	Pioggiola	87.51	333	⇓iP	P	03 13 00.4	-0.2
	comp=Z,184nm,1.1s,mb6.0						
PRAF	Pradon	87.55	336	eP	P	03 13 02.8	+2.0
KAMS	Al Khamasin	87.56	296	P	P	03 13 01.6	+0.2
LMR	La Mourre	87.58	335	⇓iP	P	03 13 01.1	+0.1
	comp=Z,528nm,1.5s,mb6.4						
PUYF	Puyloubier	87.64	336	eP	P	03 13 03.0	+1.7
TIP	Timpagrande	87.65	326	⇓eP	P	03 13 00.7	-0.7
TREF	Trevaresse	87.65	336	eP	P	03 13 03.0	+1.7
LASF	Ste Croix	87.67	337	⇓iP	P	03 13 02.0	+0.6
	comp=Z,134nm,1.2s,mb5.8						
LFF	La Frestale	87.70	340	⇓iP	P	03 13 01.0	-0.5
	comp=Z,293nm,1.2s,mb6.2						
BERF	Bertagne	87.84	336	eP	P	03 13 03.9	+1.7
GELF	Grande-Etoile	87.86	336	eP	P	03 13 04.2	+1.9
GVD	Gavdhos	88.08	319	eP	P	03 13 02.4	-1.2
	comp=Z,55nm,1.0s,mb5.8						
GRI	Girifalco	88.09	326	eP	P	03 13 03.2	-0.3
UMJS	Umm Lajj	88.49	304	P	P	03 13 06.3	+0.5
YNBS	Yanbu' al Bahr	88.75	303	P	P	03 13 07.1	+0.1
TATS	Tathlith	88.83	296	P	P	03 13 08.2	+0.7
SCLL	Scilla	88.86	327	P	P	03 13 06.9	-0.3
SOI	Samo	88.88	326	eP	P	03 13 06.2	-1.2
SLNA	Salina	88.94	327	eP	P	03 13 06.1	-1.5
LRDF	Laroque-de-Fa	89.09	338	eP	P	03 13 09.4	+1.2
LPEF	Le Peyrat	89.25	338	eP	P	03 13 10.3	+1.3
DGI	Dorgali Grotta	89.30	332	P	P	03 13 10.6	+1.3
SJAF	Saint Jean de	89.42	337	eP	P	03 13 09.6	-0.2
MLS	Moulis	89.46	339	eP	P	03 13 09.9	-0.1
EPF	Esparros	89.59	339	⇓iP	P	03 13 09.4	-1.2
	comp=Z,21nm,0.7s,mb5.2						
VALF	Valcebollere	89.73	338	eP	P	03 13 12.3	+1.1
GIB	Gibilmanna	89.75	328	P	P	03 13 12.8	+1.4
BLJS	Baljurashi	89.79	298	P	P	03 13 12.7	+0.7
RESF	Ens	89.80	339	eP	P	03 13 11.6	+0.1
SJPF	Ste Jean	89.90	340	⇓iP	P	03 13 11.4	-0.6
	comp=Z,101nm,1.4s,mb5.5						
AGST	Augusta-Monte	89.91	326	P	P	03 13 11.1	-1.1
ETSF	Etsaut	89.94	340	⇓iP	P	03 13 10.4	-1.8
	comp=Z,24nm,0.8s,mb5.2						
NHSC	New Hope	90.02	41	eP	P	03 13 13.0	+0.2
NHSC				e		03 13 24.8	
NHSC				LR	LR		
	comp=Z,4μm,22.0s,MS5.8						
VAE	Valguarnera	90.04	327	LR	LR	03 59 51.3	
	comp=Z,4μm,18.0s,MS5.8,baz=73,slow=40						
SSY	Sortino	90.06	327	eP	P	03 13 12.1	-0.9
DJNS	Zahran al Janu	90.11	295	P	P	03 13 14.6	+1.1
ERC	Erice	90.25	329	eP	P	03 13 14.8	+1.0
MTGR	Montagna Grand	90.32	328	eP	P	03 13 13.1	-0.9
LVI	Isola Levanzo	90.39	329	eP	P	03 13 14.3	-0.1
PBRG	Braganca	92.37	344	eP	P	03 13 23.5	+0.1
	comp=Z,42nm,1.4s,mb5.6						
DWPF	Disney	93.49	45	PFAKE		03 13 40.0	+11
DWPF				LR	LR		
	comp=Z,784nm,22.0s,MS5.1						
PVIS	Viseu	93.65	344	eP	P	03 13 29.5	+0.2
	comp=Z,26nm,1.1s,mb5.5						
ESDC	Sonseca Array	93.81	341	P	P	03 13 29.4	-0.7
	comp=Z,8.0nm,1.0s,mb5.0,baz=15,slow=3.6,SNR=20						
ESDC				PP	PP	03 17 11.4	-6.9
	comp=Z,3.1nm,1.0s,baz=8.1,slow=9.1,SNR=3.5						
ESDC				LR	LR	04 02 40.1	
	comp=Z,2μm,18.3s,MS5.7,baz=10.0,slow=40						
MTE	Manteigas	93.89	344	eP	P	03 13 29.5	-0.9
	comp=Z,38nm,1.2s,mb5.6						
MTE				eSKSac		03 24 04.1	
MTE				eLR	LR	03 46 04.8	
	comp=Z,4μm,19.2s						
PCBR	Castelo Branco	94.41	344	eP	P	03 13 31.8	-1.1
	comp=Z,34nm,1.9s,mb5.3						
RKT	Rikitea	94.74	118	ePS	PS	03 26 07.7	+0.3
RKT				eSS	SS	03 31 09.7	-3.9
RKT				eL		03 39 37.2	
RKT				eR		03 43 06.0	
	comp=Z,3μm,31.0s,baz=312						
EVO	Evora	95.78	344	eP	P	03 13 38.5	-0.7
	comp=Z,80nm,1.6s,mb5.7						
EVO				eR			
	comp=Z,5μm,17.8s						
LIS	Lisbon	95.83	345	eP	P	03 13 44.0	+4.6
LIS				eS	S	03 24 23.6	-31
LIS				eSS	SS	03 31 35.8	+7.4
LIS				AMS	AMS	04 05 11.3	
	comp=N,4μm,15.1s						
PBEJ	Beja	96.24	344	eP	P	03 13 41.5	+0.2
	comp=N,31nm,1.5s,mb5.6						
BBSR	BB Station	97.17	30	PFAKE		03 14 00.0	+14
BBSR				LR	LR		
	comp=Z,3μm,22.0s,MS5.7						
ADH	Angra Heroismo	97.73	359	i LR	LR	03 47 42.5	
PDA	Ponta Delgada	98.61	358	i LR	LR	03 47 50.0	
JTS	JuntasAbangare	105.70	58	PFAKE		03 18 50.0	
JTS				LR	LR		
	comp=Z,372nm,20.0s,MS4.9						
KMBO	Kilima Mbogo	107.99	286	PFAKE		03 18 50.0	
KMBO				LR	LR		
	comp=Z,2μm,20.0s,MS5.6						
SJG	San Juan	109.29	38	PFAKE		03 19 00.0	
SJG				LR	LR		
	comp=Z,2μm,21.0s,MS5.6						
PAYG	Puerto Ayora	110.51	70	PFAKE		03 19 00.0	+13
PAYG				LR	LR		
	comp=Z,1μm,20.0s,MS5.5						
MBAR	Mbarara	112.05	292	PFAKE		03 19 00.0	+11
MBAR				LR	LR		
	comp=Z,343nm,20.0s,MS4.9						
CASY	Casey	114.33	197	PFAKE		03 19 00.0	+7.3
CASY				LR	LR		
	comp=Z,1μm,21.0s,MS5.6						
SDV	Santo Domingo	115.06	47	PFAKE		03 19 10.0	+15
SDV				LR	LR		
	comp=Z,2μm,22.0s,MS5.7						
OTAV	Otavalo	117.55	60	PFAKE		03 19 10.0	+10
OTAV				LR	LR		
	comp=Z,718nm,20.0s,MS5.3						
MIR	Mirnyy	118.87	203	⇓ePKIKP	PKPdf	03 19 02.0	+0.4
MIR				pmax	pmax		
	comp=Z,25nm,1.2s						
SACV	Santiago Islan	121.16	354	PFAKE		03 19 20.0	+13
SACV				LR	LR		
	comp=Z,336nm,20.0s,MS5.0						
SBA	Scott Base	121.93	176	PKIKP	PKPdf	03 19 06.9	-0.4
SBA	Scott Base	121.93	176	ePKPdf	PKPdf	03 19 06.7	-0.6
SBA				LR	LR		
	comp=Z,1μm,21.0s,MS5.5						
LSZ	Lusaka	124.26	282	PKIKP	PKPdf	03 19 12.0	-1.2
LSZ	Lusaka	124.26	282	ePKPdf	PKPdf	03 19 12.6	-0.6
LSZ				LR	LR		
	comp=Z,2μm,19.0s,MS5.8						
DBIC	Dimbokro	125.21	331	PKP	PKPdf	03 19 13.3	-1.8
	comp=Z,25nm,1.0s,baz=9.7,slow=2.6,SNR=14						
DBIC				PP	PP	03 20 58.7	-8.3
	comp=Z,16nm,0.9s,baz=357,slow=8.9,SNR=4.7						
DBIC	Dimbokro	125.21	331	PKIKP	PKPdf	03 19 13.4	-1.7
DBIC						03 20 58.7	
DBIC				pmax	pmax		
	comp=Z,25nm,1.0s						
DBIC				pmax	pmax		
	comp=Z,16nm,1.0s						
DBIC	Dimbokro	125.21	331	PKP	PKPdf	03 19 13.3	-1.8
DBIC				PP	PP	03 20 58.7	-8.3
TIC	Toumodi	125.29	331	ePKIKP	PKPdf	03 19 13.1	-2.2
	comp=Z,232nm,1.2s						
KIC	Kosan Boka	125.46	330	ePKIKP	PKPdf	03 19 13.0	-2.6
	comp=Z,194nm,1.1s						
LIC	Lamto	125.69	331	ePKIKP	PKPdf	03 19 12.0	-4.0
	comp=Z,141nm,1.3s						
LIC	Lamto	125.69	331	ePKIKP	PKPdf	03 19 13.6	-2.4
	comp=Z,143nm,1.3s						
NNA	Nana	127.81	68	ePKPdf	PKPdf	03 19 18.5	-1.6
NNA				LR	LR		
	comp=Z,310nm,20.0s,MS5.0						
MAW	Mawson	129.21	210	ePKP	PKPdf	03 19 20.1	-1.2
	comp=Z,14nm,1.5s						
MAW				ePP	PP	03 21 27.7	-4.6
MAW				eSKP		03 22 41.2	
MAW				eSKKP		03 32 08.8	
MAW	Mawson	129.21	210	PKP	PKPdf	03 19 19.7	-1.7
	comp=Z,24nm,1.3s,baz=78,slow=3.0,SNR=17						
MAW	Mawson	129.21	210	PKIKP	PKPdf	03 19 19.7	-1.6
MAW				pmax	pmax		
	comp=Z,24nm,1.3s						
SAML	Samuel	133.95	51	PKPdf	PKPdf	03 19 31.3	-0.2
SAML				LR	LR		
	comp=Z,1μm,22.0s,MS5.5						
TSUM	Tsumeb	134.32	288	ePKPpre		03 19 27.4	
TSUM				LR	LR		
	comp=Z,2μm,21.0s,MS5.7						
LPAZ	La Paz	136.68	63	PKP	PKPdf	03 19 36.5	+0.1
	comp=Z,15nm,0.7s,baz=33,slow=9.4,SNR=15						
LPAZ	La Paz	136.68	63	PKIKP	PKPdf	03 19 36.5	0.0
LPAZ				pmax	pmax		
	comp=Z,15nm,0.7s						
SYO	Syowa Base	137.92	210	⇓P	Pdif	03 17 10.1	+26
SUR	Sutherland	140.03	270	PFAKE		03 19 50.0	+7.6
SUR				LR	LR		
	comp=Z,396nm,19.0s,MS5.2						
LVC	Limon Verde	140.63	71	ePKPpre		03 19 35.9	
LVC				ePKPdf	PKPdf	03 19 45.2	+1.4
LVC				LR	LR		
	comp=Z,3μm,20.0s,MS6.0						
RCBR	Riachuelo	141.46	12	ePKPdf	PKPdf	03 19 45.4	0.0
RCBR				LR	LR		
	comp=Z,894nm,21.0s,MS5.5						
TLL	Tololo Astrono	144.00	82	⇓eP	PKPbc	03 19 45.7	-0.8
FCH	Farellones	146.06	86	⇓eP	PKPbc	03 19 52.3	+0.4
LMEL	Las Melosas	146.39	87	⇓eP	PKPbc	03 19 53.1	+0.5
MAIT	Maitri	146.64	203	eP	PKPbc	03 19 54.0	+1.9
MDZ	Mendoza	146.87	84	eP	PKPbc	03 19 55.8	+2.0
MDZ				e		03 21 05.1	
BDFB	Brasilia	147.28	36	PKPbc	PKPdf	03 19 56.8	+1.5
	comp=Z,123nm,0.7s,baz=324,slow=1.9,SNR=49						
BDFB	Brasilia	147.28	36	PKP2	PKPab	03 19 56.8	-2.8
BDFB				pmax	pmax		
	comp=Z,123nm,0.7s						
BAO	Brasilia Array	147.28	36	P	PKPdf	03 19 56.8	+1.5
PLCA	Paso Flores	149.06	99	PKPdf	PKPdf	03 19 56.4	-1.0
PLCA				PKPdf	PKPdf	03 19 57.7	+0.2
SNAA	Sanae	149.56	196	e	PKPdf	03 20 01.5	+4.2
SNAA	Sanae	149.56	196	ePKIKP	PKPdf	03 19 56.1	-1.2
SNAA				e		03 20 01.4	
SNAA	Sanae	149.56	196	⇑iPKPdf	PKPdf	03 19 54.8	-2.5
SNAA				e		03 20 01.5	
SNAA				e		03 23 35.2	
CPUP	Villa Florida	150.85	62	PKP	PKPdf	03 20 01.0	+0.3
	comp=Z,10nm,0.7s,baz=333,slow=10,SNR=5.5						
CPUP				PKPbc	PKPdf	03 20 05.5	+4.8
	comp=Z,60nm,0.8s,baz=355,slow=2.0,SNR=43						
CPUP	Villa Florida	150.85	62	PKIKP	PKPdf	03 20 01.0	+0.3
CPUP						03 20 05.5	
CPUP				pmax	pmax		
	comp=Z,10.0nm,0.7s						
VNA2	Neumayer--Watz	151.02	194	e	PKPdf	03 20 07.1	+7.5
VNA2	Neumayer--Watz	151.02	194	⇑iPKPdf	PKPdf	03 19 59.3	-0.3
VNA2				e		03 20 07.1	
VNA2				e		03 23 44.4	
VNA3	Neumayer Olymp	151.13	193	e	PKPdf	03 20 06.9	+7.2
VNA3	Neumayer Olymp	151.13	193	⇓iPKPdf	PKPdf	03 20 00.7	+1.0
VNA3				e		03 20 06.9	
VNA3				e		03 23 45.8	
PMSA	Palmer Station	151.31	149	ePKPbc	PKPdf	03 20 05.3	+5.1
PMSA				LR	LR		
	comp=Z,2μm,21.0s,MS5.8						
VNA1	Neumayer--Stat	151.41	194	e	PKPdf	03 20 08.1	+7.9
VNA1	Neumayer--Stat	151.41	194	⇑iPKPdf	PKPdf	03 20 00.8	+0.6
VNA1				e		03 20 08.1	
VNA1				e		03 23 46.3	
USHA	Ushuaia	152.26	127	PKPbc	PKPdf	03 20 07.3	+5.4
	comp=Z,39nm,0.9s,baz=276,slow=2.5,SNR=17						
TRQA	Tornquist	154.24	88	ePKPdf	PKPdf	03 20 04.0	-1.1
TRQA				ePKPbc	PKPdf	03 20 12.9	+7.8
TRQA				LR	LR		
	comp=Z,2μm,21.0s,MS5.8						
LPA	La Plata	155.70	78	dePKP	PKPdf	03 20 05.0	-2.1
LPA				esPKP		03 20 13.0	
LPA	La Plata	155.70	78	ePKP	PKPdf	03 20 33.0	+26
LPA				ePP	PP	03 24 11.0	-1.1
EFI	East Falkland	158.88	122	PFAKE		03 20 20.0	+9.3
EFI				LR	LR		
	comp=Z,1μm,21.0s,MS5.7						

STR ***13*** *03:08:42.7±0.2, 42.75N×0.44E, h5^{km}±1^{km}, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG ***13*** *03:08:43.1±0.1, 42.75N×0.44E, h3^{km}, Md2.0/2, Ml2.1/2, Error ellipse: s-maj=1.9km s-min=1.0km az=24.0*

MDD ***13*** *03:08:43.7±0.3, 42.78N×0.45E, h3^{km}±10^{km}, mbLg1.4/5, Error ellipse: s-maj=3.5km s-min=2.1km az=15.0, PRXIMO*

ISC 13 03:08:42.3±0.4, **42.76N**±0.04×**0.44E**±0.03, **h12**^{km}±6^{km}, **n22,** σ**0**^{s}**75**/35, **Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RESF	Ens	0.09	300	Pg	Pg	03 08 45.2	0.0
RESF				Sg	Sg	03 08 46.9	-0.2
RESF	Ens	0.09	300	P	Pg	03 08 45.2	+0.1
RESF				S	Sg	03 08 46.9	-0.2
MELF	Melles	0.26	65	Pg	Pg	03 08 48.2	+0.3
MELF				Sg	Sg	03 08 51.9	+0.2
MELF	Melles	0.26	65	P	Pg	03 08 48.0	+0.1
MELF				S	Sg	03 08 52.2	+0.5
EPF	Esparros	0.28	344	ePg	Pg	03 08 49.0	+0.7
EPF				eSg	Sg	03 08 52.4	+0.1
	7.3nm,0.2s						
VIEF	Viey	0.33	291	Pg	Pg	03 08 49.6	+0.3
VIEF				Sg	Sg	03 08 54.2	+0.2
VIEF	Viey	0.33	291	P	Pg	03 08 49.4	+0.1

VIEF				S	Sg	03 08 54.1	+0.1
LABF	Labassere	0.39	316	Pg	Pg	03 08 50.8	+0.3
LABF				Sg	Sg	03 08 57.0	+1.1
LABF	Labassere	0.39	316	P	Pg	03 08 51.1	+0.6
LABF				S	Sg	03 08 56.9	+1.0
SALF	Salau	0.55	90	Pg	Pg	03 08 53.4	-0.1
SALF				Sg	Sg	03 09 01.0	0.0
SALF	Salau	0.55	90	P	Pb	03 08 53.4	0.0
SALF				S	Sb	03 09 00.7	-0.2
CSOR	Sort	0.64	127	Pg	Pg	03 08 54.8	-0.5
ETSF	Etsaut	0.75	281	*e*Pg	Pg	03 08 56.8	-0.7
ETSF				*e*Sg	Sg	03 09 07.0	-0.6
	5.0nm,0.2s						
CAVN	Les Avellanes	0.91	165	Pg	Pg	03 09 00.4	-0.2
CLLI	Llivia	1.17	104	Pg	Pg	03 09 04.5	-1.2
EMIR	Miracle	1.17	136	Pg	Pg	03 09 06.8	+1.0
	SNR=7.9						
EMIR				Lg		03 09 24.8	
	SNR=7.9						
ESAC	San Caprasio	1.24	213	Pg	Pg	03 09 08.5	+1.3
	5.5nm,0.3s,SNR=7.9						
ESAC				Lg		03 09 25.1	
	9.9nm,0.3s,SNR=4.6						
SJPF	Ste Jean	1.27	287	*e*Pg	Pg	03 09 06.9	-1.0
SJPF				*e*Sg	Sg	03 09 23.2	-1.7
	7.3nm,0.2s						
CBRU	Bruguera	1.37	110	Pg	Pg	03 09 08.9	-0.9
EPOB	Poblet	1.49	161	Pn	Pn	03 09 10.1	+1.1
	SNR=7.9						
EPOB				Lg		03 09 31.1	
	SNR=7.9						
EALK	Alkurruntz	1.50	288	Pg	Pg	03 09 13.4	+1.0
	1.3nm,0.1s,SNR=10						
EALK				Lg		03 09 33.4	
	7.0nm,0.5s,SNR=7.9						
LASF	Ste Croix	2.81	61	*e*Sg	Sg	03 10 12.2	-3.8
	0.5nm,0.2s						

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*BJI **13** 03:14:10.4,30.52N×110.45E,h12^{km},ML3.9*

*IDC **13** 03:14:10.4±5.5,30.84N×110.65E,mb3.8/3,mb1 4.0/4, mb1mx3.6/18,ML4.2/1,Error ellipse: s-maj=136.0km s-min=49.6km az=110.0*

ISC 13 03:14:07.9±0.7**,30.77N**±0.07×**110.89E**±0.06**,h12^{km},n7, σ1^{s}41**/11**,mb3.8**/3**,Southeastern China**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WHN	Wuhan	2.99	93	PG	Pg	03 15 06.5	-1.1
WHN				SG	Sg	03 15 47.8	+0.3
WHN				Smax			
	comp=N,131nm,0.5s						
WHN				Smax			
	comp=E,137nm,0.7s						
XAN	Xi'an	3.66	334	P	Pn	03 15 09.1	+3.5
XAN				PG	Pg	03 15 17.8	-3.2
XAN				S	Sn	03 15 48.3	-0.9
XAN				Smax			
	comp=N,269nm,1.2s						
XAN				Smax			
	comp=E,336nm,0.9s						
GYA	Guiyang	5.67	222	P	Pn	03 15 32.0	-2.1
GYA				S	Sn	03 16 29.6	-10
GYA				Smax			
	comp=N,100nm,0.8s						
GYA				Smax			
	comp=E,110nm,0.8s						
CMAR	Chiang Mai Arr	16.36	224	Pn	P	03 18 00.1	+1.0
	comp=E,0.3nm,0.3s,baz=28,slow=9.4,SNR=7.6						
MKAR	Makanchi Array	27.24	314	P	P	03 19 54.1	+0.5
	comp=E,0.5nm,0.7s,mb3.2,baz=117,slow=8.5,SNR=3.1						
ARCES	ARCESS Array B	59.94	336	P	P	03 24 16.7	+0.8
	comp=E,2.6nm,0.8s,mb4.3,baz=76,slow=7.4,SNR=5.5						
NOA	NORSAR Array B	68.02	329	P	P	03 25 10.7	+1.9
	comp=E,0.9nm,0.8s,mb3.8,baz=51,slow=7.8,SNR=2.9						

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*MDD **13** 04:38:02.8±0.6,37.27N×7.25W,h20^{km}±4^{km},mbLg2.1/7, Error ellipse: s-maj=7.2km s-min=3.6km az=7.0,PRXIMO*

*INMG **13** 04:38:02.7±1.0,37.26N×7.24W,h18^{km}±3^{km},ML1.7,Error ellipse: s-maj=3.0km s-min=2.4km az=29.0*

ISC 13 04:38:01.2±1.1**,37.22N**±0.08×**7.20W**±0.05**,h18^{km},n14, σ0^{s}95**/22**,1D,Portugal**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PALC	Alcoutim	0.33	318	*i* Pg	Pb	04 38 08.5	+0.2
PALC				*e*Sg	Sb	04 38 12.9	-0.1
	62nm,0.1s						
PALC	Alcoutim	0.33	318	⇓Pg	Pb	04 38 08.5	+0.2
PALC				Lg		04 38 12.9	
	31nm,0.1s						
EGRO	El Granado	0.39	324	Pg	Pb	04 38 09.4	+0.1
	22nm,0.1s,SNR=18						
EGRO				Lg		04 38 14.3	
	104nm,0.1s,SNR=7.9						
EMIN	Mina Concepcio	0.69	37	Pg	Pb	04 38 15.6	+1.2
	7.6nm,0.1s,SNR=139						
EMIN				Lg		04 38 24.6	
	11nm,0.1s,SNR=7.9						
PBEJ	Beja	0.96	327	*e*P	Pb	04 38 18.8	-0.3
PBEJ				*e*S	Sb	04 38 31.6	+0.3
	6.1nm,0.1s						
PBEJ	Beja	0.96	327	P	Pb	04 38 18.8	-0.3
PBEJ				S	Sb	04 38 31.6	+0.3
	3.0nm,0.1s						
ESPR	Espera	1.13	108	Pg	Pb	04 38 23.5	+1.5
	0.8nm,0.1s,SNR=4.9						
ESPR				Lg		04 38 40.0	
	8.6nm,0.1s,SNR=7.9						
PTEO	Sao Teotonio	1.26	285	*e*P	Pb	04 38 23.8	-0.3
PTEO				*e*S	Sb	04 38 39.4	-0.4
	16nm,0.3s						
PTEO	Sao Teotonio	1.26	285	P	Pb	04 38 23.8	-0.3
PTEO				S	Sb	04 38 39.4	-0.4
	8.2nm,0.3s						
EBAD	Badajoz	1.54	5	Pn	Pn	04 38 27.1	-1.1
	0.3nm,0.1s,SNR=6.4						
EBAD				Lg		04 38 48.7	
	20nm,0.1s,SNR=7.9						
MOE	Montemor	1.59	325	*e*Pn	Pn	04 38 27.6	-1.2
MOE				*e*Sg	Sn	04 38 51.0	+2.0
PLOU	Loures	2.27	318	*e*Sg	Sn	04 39 12.9	+6.6
EADA	Adamuz	2.29	65	Pn	Pn	04 38 37.8	-1.0
	SNR=7.9						
EADA				Pg	Pn	04 38 44.2	+5.4
	SNR=7.9						
EADA				Sn	Sn	04 39 05.6	-1.2
	SNR=7.9						
EADA				Lg		04 39 15.2	
	SNR=7.9						
PCBR	Castelo Branco	2.62	355	*e*Sg	Sn	04 39 22.4	+7.0

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*BER **13** 04:46:49.6±4.7,78.39N×6.97E,ML3.0(NAO)*

NAO 13 04:46:50.0±4.7**,78.30N×7.66E,ML3.0,Svalbard region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KBS	Kingsbay	1.06	52	Pg	Pg	04 47 09.5	-1.6
KBS				Lg		04 47 22.4	
SPA0	Spitsbergen Ar	1.79	90	Pn	Pn	04 47 22.2	-0.2
	baz=262,slow=10						
SPA0				Sn	Sn	04 47 45.7	-0.5
	baz=266,slow=22						
SPA0				Sn	Sn	04 47 46.4	+0.2
	baz=278,slow=28						

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*SYO **13** 04:47:54.9,57.56S×24.36W,h10^{km},MB4.7*

*BJI **13** 04:47:57.9,57.73S×24.16W,h54^{km},mB4.6,Ms4.8, Msz4.7*

*NEIC **13** 04:48:02.6±2.1,57.91S×25.04W,h61^{km}±19^{km},mb4.8/4, Error ellipse: s-maj=16.5km s-min=9.6km az=215.0*

*IDC **13** 04:48:03.0±5.7,57.98S×25.33W,h63^{km}±49^{km},mb4.1/8, mb1 4.2/8,mb1mx4.0/13,Error ellipse: s-maj=24.9km s-min=17.4km az=37.0*

ISC 13 04:48:00.7±3.2**,57.9S**±0.1×**25.1W**±0.2**,h57^{km}**±32^{km}**,n41, σ0^{s}81**/27**,mb4.7**/14**,MS4.2**/1**,3C-1D,South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	14.64	158	⇑*i*P	P	04 51 26.0	+0.4
VNA1				*e*S	S	04 53 54.6	-12
VNA3	Neumayer Olymp	14.86	160	⇑*i*P	P	04 51 28.1	-0.3
VNA3				*e*S	S	04 53 56.7	-15
VNA2	Neumayer--Watz	15.04	157	*e*	P	04 51 30.8	+0.1
VNA2	Neumayer--Watz	15.04	157	*e*S	S	04 53 59.4	-17
SNAA	Sanae	16.58	155	⇑*i*P	P	04 51 49.1	-1.1
SNAA				*e*S	S	04 54 18.1	-34
PMSA	Palmer Station	19.64	233	*e*P	P	04 52 28.5	+1.7
	14nm,0.7s						
EFI	East Falkland	19.86	274	Pn	P	04 52 29.7	+0.3
	171nm,1.2s,SNR=11						
EFI	East Falkland	19.86	274	*e*P	P	04 52 29.0	-0.3
USHA	Ushuaia	23.90	259	P	P	04 53 10.5	+1.1
	6.9nm,0.9s,mb4.1,baz=91,slow=14,SNR=5.6						
SYO	Syowa Base	29.43	138	⇓pP	P	04 53 59.6	-0.7
QSPA	South Pole Qui	32.35	180	*e*P	P	04 54 25.9	-0.1
	6.3nm,0.5s,mb4.7						
MAW	Mawson	37.98	142	P	P	04 55 14.0	0.0
	2.1nm,0.5s,mb4.1,baz=256,slow=8.4,SNR=14						
CPUP	Villa Florida	38.89	310	P	P	04 55 20.9	-1.1
	1.2nm,0.3s,mb4.1,baz=162,slow=6.7,SNR=17						
CPUP				PcP	PcP	04 57 32.1	-0.5
	2.4nm,0.7s,baz=128,slow=3.5,SNR=7.0						
BDFB	Brasilia	45.54	328	P	P	04 56 16.8	+0.5
	2.6nm,0.4s,mb4.5,baz=181,slow=6.0,SNR=15						
TSUM	Tsumeb	49.65	57	P	P	04 56 49.4	+1.1
	1.9nm,0.9s,mb4.1,baz=267,slow=11,SNR=2.6						
LPAZ	La Paz	52.38	304	P	P	04 57 08.0	-1.1
	3.5nm,0.3s,mb4.8,baz=135,slow=4.1,SNR=8.7						
RCBR	Riachuelo	52.62	346	P	P	04 57 03.9	-7.0
	23nm,1.1s,mb5.0						
SAML	Samuel	56.92	313	*e*P	P	04 57 40.3	-1.9
	7.7nm,0.6s,mb4.9						
LIC	Lamto	65.94	22	*e*P	P	04 58 43.1	+0.2
	87nm,1.8s,mb5.5						
KIC	Kosan Boka	66.13	22	*e*P	P	04 58 44.5	+0.4
	179nm,1.8s,mb5.8						
TIC	Toumodi	66.35	22	*e*P	P	04 58 45.8	+0.3
	118nm,1.4s,mb5.7						
DBIC	Dimbokro	66.41	22	P	P	04 58 46.4	+0.6
	5.2nm,0.6s,mb4.7,baz=173,slow=6.4,SNR=20						
DBIC	Dimbokro	66.41	22	P	P	04 58 46.4	+0.6
CBYP	Canovanas	83.06	321	*e*P	P	05 00 20.9	-0.2
ASAR	Alice Springs	96.87	161	P	P	05 01 26.4	0.0
	0.8nm,0.8s,mb4.2,baz=188,slow=4.6,SNR=4.8						
PDAR	Pinedale Array	122.28	300	PKP	PKPdf	05 06 49.2	+0.7
	0.3nm,0.4s,baz=124,slow=6.2,SNR=7.3						
CMAR	Chiang Mai Arr	123.35	110	PKP	PKPdf	05 06 52.3	+1.1
	2.3nm,1.0s,baz=223,slow=4.0,SNR=6.3						
FINES	FINESS Array B	125.49	27	PKP	PKPdf	05 06 54.9	+0.8
	1.3nm,0.5s,baz=135,slow=2.7,SNR=12						
FINES	FINESS Array B	125.49	27	PKP	PKPdf	05 06 54.9	+0.8
KSH	Kashi	127.95	74	*e*PKP	PKPdf	05 06 56.3	-3.2
KMI	Kunming	130.83	109	*e*PKP	PKPdf	05 07 05.6	+0.2
KMI				PP	PP	05 09 24.6	-1.8
KMI				LR	LR		
	comp=Z,76nm,27.6s,MS4.2						
ARCES	ARCESS Array B	132.24	22	PKP	PKPdf	05 07 06.7	-0.2
	comp=Z,0.8nm,0.5s,baz=221,slow=2.3,SNR=8.8						
MKAR	Makanchi Array	136.38	72	PKP	PKPdf	05 07 17.9	+2.8
	comp=Z,0.4nm,0.5s,baz=147,slow=0.5,SNR=3.8						
MKAR	Makanchi Array	136.38	72	PKP	PKPdf	05 07 17.9	+2.8
WMQ	Urumqi	137.14	79	*e*PKP	PKPdf	05 07 16.8	+0.2
YKA	Yellowknife Ar	138.31	316	PKP	PKPdf	05 07 19.5	+1.3
	comp=Z,0.7nm,0.3s,baz=133,slow=1.8,SNR=11						
NJ2	Nanjing	144.40	121	*e*PKP	PKPdf	05 07 26.5	-3.2
INK	Inuvik	147.96	318	PKPbc	PKPdf	05 07 39.5	+5.0
	comp=Z,5.9nm,0.5s,baz=97,slow=6.6,SNR=9.7						
SONM	Songino Array	149.66	88	PKPbc	PKPdf	05 07 44.6	+6.7
	comp=Z,3.2nm,0.6s,baz=232,slow=3.1,SNR=26						
ILAR	Eielson Array	152.19	309	PKPbc	PKPdf	05 07 49.5	+8.3
	comp=Z,3.1nm,0.5s,baz=136,slow=3.6,SNR=60						
COLA	College	152.62	309	*e*PKPbc	PKPdf	05 07 50.5	+8.7

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*NIED **13** 04:50:00,33.10N×137.20E,h5^{km},Mw4.0 Best double couple: $M_0$1.18×10^{15} NP1:ϕ_s177°,δ88°,λ-143°. NP2: ϕ_s86°,δ53°,λ-2°.*

*JMA **13** 04:50:16.4±0.1,33.10N×137.18E,h40^{km}±2^{km},M3.5*

ISC 13 04:50:17.3±1.0**,33.15N**±0.06×**137.16E**±0.04**,h40^{km},n17, σ0^{s}49**/31**,5C-2D,Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	Tokai 1	0.72	30	P	P	04 50 30.4	-0.6
TK01				S	S	04 50 41.0	0.0
TK02	Tokai 2	0.94	32	⇓P	P	04 50 33.7	-0.5
TK02				S	S	04 50 47.4	+0.7
TK03	Tokai 3	1.22	33	P	P	04 50 37.8	-0.3
TK03				S	S	04 50 53.8	+0.1
JWZ	Kozaga	1.27	288	⇑P	P	04 50 38.5	-0.3
JWZ				S	S	04 50 54.4	-0.6
JIE	Ise	1.30	343	⇑P	P	04 50 39.8	+0.5
JIE				S	S	04 50 55.6	-0.2
JKN	Kiinagashima	1.33	326	⇑P	P	04 50 39.8	0.0
JKN				S	S	04 50 55.6	-0.9
TK04	Tokai 4	1.37	26	⇓P	P	04 50 40.1	-0.3
TK04				S	S	04 50 57.4	-0.2
JWM	Minabe	1.66	295	⇑P	P	04 50 44.4	-0.1
JWM				S	S	04 51 04.8	0.0
TSUJ	Tsu 2	1.68	339	P	P	04 50 45.1	+0.4
TSUJ				S	S	04 51 05.2	0.0
JHE	Heguri	1.94	321	P	P	04 50 48.8	+0.4
JHE				S	S	04 51 12.2	+0.4
JIZS	Izushimoda	2.12	42	P	P	04 50 51.1	0.0
JAI	Aioi	2.35	287	P	P	04 50 54.7	+0.4
JGM	Miyama	2.57	352	P	P	04 50 57.9	+0.4
JGM				S	S	04 51 28.4	+0.5
JWT	Wachi	2.58	326	⇑P	P	04 50 58.2	+0.6
JWT				S	S	04 51 28.1	+0.1
JYN	Shimob	2.61	26	P	P	04 50 58.4	+0.3
JYN				S	S	04 51 29.5	+0.7
JOD2	Odawara 2	2.65	37	P	P	04 50 58.3	-0.3
MAT	Matsushiro	3.50	14	P	P	04 51 11.2	+0.6
MAT				S	S	04 51 49.8	-1.5

DHMR 13 04:51:32.4±0.7**,13.63N×42.69E,h43^{km}**±3^{km}**,ML3.7, 1C-1D,Ethiopia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
UDYN	Al 'Udayn	1.31	75	⇑*i*P	P	04 51 55.2	+0.6
UDYN				*i* S	S	04 52 13.6	+2.5
UDYN				AML	AML	04 52 18.9	
	comp=E,987nm,0.7s						
TRBA	At Turbah	1.46	106	⇓*i*P	P	04 51 57.9	+1.2
TRBA				*i* S	S	04 52 17.3	+2.5
TRBA				AML	AML	04 52 21.0	
	comp=N,1μm,0.3s						
HAJJ	Hajjah	2.24	23	*i* S	S	04 52 38.5	+4.1
HAJJ				AML	AML	04 52 50.8	
	comp=E,644nm,0.5s						
LBOS		2.50	84	*i* P	P	04 52 13.0	+1.5
LBOS				*i* S	S	04 52 45.3	+4.3
BDHA	Al Bayda'	2.81	83	*i* P	P	04 52 17.8	+1.8
BDHA				*i* S	S	04 52 52.5	+3.4
BDHA				AML	AML	04 53 05.9	
	comp=N,795nm,0.5s						

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*IDC **13** 05:34:02.3±6.9,6.49S×125.79E,h434^{km}±89^{km},mb3.1/2, mb1 3.4/5,mb1mx3.2/14,Error ellipse: s-maj=110.0km s-min=29.9km az=53.0*

ISC 13 05:34:06.6±2.9**,7.1S**±0.2×**124.9E**±0.3**,h506^{km}**±39^{km}**,n9, σ0^{s}70**/9**,mb3.5**/2**,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	Kakadu	9.25	128	*e*P	P	05 36 17.4	+0.1
	10nm,0.6s						
FITZ	Fitzroy Crossi	10.97	176	*e*P	P	05 36 35.1	-0.4
	4.9nm,0.2s						
FITZ	Fitzroy Crossi	10.97	176	P	P	05 36 35.2	-0.2
	2.5nm,0.3s,baz=12,slow=8.1,SNR=127						
WRA	Warramunga Arr	15.72	145	P	P	05 37 23.7	-0.5
	1.2nm,0.3s,baz=337,slow=8.9,SNR=14						
WB2	Warramunga Arr	15.73	145	*e*P	P	05 37 23.9	-0.3
ASPA	Alice Springs	18.61	153	*e*P	P	05 37 53.7	+1.2
ASAR	Alice Springs	18.62	153	P	P	05 37 53.4	+0.9
	0.9nm,0.3s,baz=343,slow=15,SNR=40						
STKA	Stephens Creek	29.17	150	P	P	05 39 26.7	-1.2
	1.4nm,0.4s,mb3.7,baz=338,slow=12,SNR=5.0						
MKAR	Makanchi Array	65.62	329	P	P	05 44 01.7	+0.1
	0.4nm,0.5s,mb3.3,baz=118,slow=5.8,SNR=6.0						

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*NEIC **13** 05:36:50.4±1.4,12.28N×144.48E,h55^{km}±13^{km},mb4.2/3, Error ellipse: s-maj=21.1km s-min=8.6km az=98.0*

*IDC **13** 05:36:52.7±15.0,12.29N×144.53E,h77^{km}±141^{km}, mb3.6/11,mb1 3.8/11,mb1mx3.7/18,MS3.5/1,Ms1 3.7/1, ms1mx2.6/24,Error ellipse: s-maj=40.0km s-min=21.4km az=70.0*

ISC 13 05:36:49.0±1.4**,12.25N**±0.07×**144.4E**±0.2**,h56^{km}**±15^{km}**, n22,σ0^{s}84**/19**,mb4.0**/14**,MS3.5**/1**,South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	Guam	1.42	20	*e*Pn	P	05 37 12.9	-0.2
GUMO				*e*Sn	S	05 37 31.1	+0.2
WRAB	Tennant Creek	33.47	197	P	P	05 43 24.0	-1.2
	1.1nm,0.5s,mb4.0						
WB2	Warramunga Arr	33.47	197	*e*P	P	05 43 24.9	-0.4
WRA	Warramunga Arr	33.48	197	P	P	05 43 24.3	-1.0
	0.6nm,0.5s,mb3.8,baz=21,slow=9.8,SNR=8.2						
FITZ	Fitzroy Crossi	35.38	212	P	P	05 43 43.5	+1.9
	4.2nm,0.8s,mb4.4,baz=1.1,slow=12,SNR=2.8						
ASAR	Alice Springs	37.13	196	P	P	05 43 56.5	+0.2
	1.2nm,0.5s,mb4.0,baz=18,slow=10,SNR=16						
ASPA	Alice Springs	37.13	196	*e*P	P	05 43 56.7	+0.4
STKA	Stephens Creek	43.95	183	P	P	05 44 52.8	+0.3
	0.7nm,0.6s,mb3.6,baz=284,slow=23,SNR=2.2						
CMAR	Chiang Mai Arr	44.16	284	P	P	05 44 54.7	+0.3
	0.7nm,0.4s,mb3.7,baz=93,slow=6.5,SNR=3.9						
CMAR				LR	LR	06 02 33.0	
	comp=Z,62nm,19.5s,MS3.5,baz=225,slow=35						
SONM	Songino Array	47.56	326	P	P	05 45 21.3	+0.4
	0.6nm,0.7s,mb3.7,baz=149,slow=8.4,SNR=3.4						
MKAR	Makanchi Array	62.13	317	P	P	05 47 06.3	-0.3
	0.6nm,0.6s,mb3.9,baz=89,slow=8.7,SNR=11						
ILAR	Eielson Array	69.98	25	P	P	05 47 54.6	-1.7
	0.3nm,0.5s,mb3.5,baz=258,slow=5.6,SNR=5.6						
BRVK	Borovoye	70.75	322	*e*P	P	05 48 00.4	-0.8
	1.9nm,0.6s,mb4.2						
YKA	Yellowknife Ar	84.27	27	P	P	05 49 16.2	+0.5
	0.2nm,0.4s,mb3.6,baz=286,slow=5.2,SNR=3.3						
YKA	Yellowknife Ar	84.27	27	P	P	05 49 16.2	+0.5
NEW	Newport	86.55	41	P	P	05 49 28.7	+1.4
	1.4nm,0.7s,mb4.3						
ARCES	ARCESS Array B	88.21	342	P	P	05 49 35.5	+0.6
	2.9nm,0.9s,mb4.5,baz=59,slow=7.1,SNR=5.6						
FINES	FINESS Array B	92.17	335	P	P	05 49 52.9	-0.6
	0.9nm,0.4s,mb4.4,baz=56,slow=5.0,SNR=9.1						
DBIC	Dimbokro	144.10	300	PKP	PKPdf	05 56 19.9	+0.4
	3.0nm,1.0s,baz=43,slow=3.7,SNR=16						
KIC	Kosan Boka	144.16	299	*e*PKIKP	PKPdf	05 56 20.4	+0.8
	251nm,2.1s						
TIC	Toumodi	144.25	300	*e*PKIKP	PKPdf	05 56 20.6	+0.8
	10nm,0.3s						
LIC	Lamto	144.48	299	*e*PKIKP	PKPdf	05 56 20.5	+0.3
	64nm,1.5s						

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*NEIC **13** 06:13:25.1,35.01S×70.48W,h2^{km},ML3.5(GUC),After GUC.*

GUC 13 06:13:25.1±0.8**,35.01S×70.48W,h2^{km},MD4.1,ML3.5, 2C-4D,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFDO	San Fernando	0.59	312	⇓*i*P	Pg	06 13 36.9	0.0
CICH	Cipreses	0.69	4	⇓*i*P	Pg	06 13 38.8	-0.1
CACH	El Canelo	0.90	354	⇑*i*P	Pg	06 13 42.4	-0.6
CACH				*i* S	Sg	06 13 56.4	+1.4
CHCH	Chadas Angostu	1.08	352	⇓*i*P	Pb	06 13 45.9	-0.4
LNV	Longovilo	1.30	324	⇑*i*P	Pb	06 13 49.1	-0.9
LNV				*i* S	Sb	06 14 07.3	+0.3
PCH	Pirque	1.39	359	*e*P	Pb	06 13 51.0	-0.4
PCH				*i* S	Sb	06 14 10.3	+0.8
TACH	Talagante	1.41	344	⇓*i*P	Pb	06 13 51.2	-0.6
ANTU	Antumapu	1.44	355	*e*P	Pn	06 13 52.3	0.0
ANTU				*i* S	Sb	06 14 12.0	+0.9
ANTU				AMP		06 14 22.8	
	comp=N,853nm,0.6s						
DSCH	Colegio Aleman	1.61	357	*e*P	Pn	06 13 54.8	+0.2
DSCH				AMP		06 14 34.4	
	comp=N,2μm,0.5s						
FCH	Farellones	1.69	5	*e*P	Pn	06 13 55.9	+0.1
FCH				AMP		06 14 31.6	
	comp=E,650nm,0.6s						
CCHI	Chillan	2.05	219	*e*P	Pn	06 14 00.7	-0.3
CCHI				*i* S	Sn	06 14 28.2	+0.7
CCHI				AMP		06 14 37.5	
	comp=E,805nm,0.7s						
IHA	Instituto Hidr	2.20	334	*e*P	Pn	06 14 02.6	-0.6

GUC 13 06:17:01.8±0.6**,34.97S×70.52W,h0^{km}**±2^{km}**,MD3.7, ML2.4,1C-3D,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFDO	San Fernando	0.54	311	⇓*i*P	Pg	06 17 13.2	+0.6
SFDO				*i* S	Sg	06 17 21.3	+1.4
CICH	Cipreses	0.65	7	⇓*i*P	Pg	06 17 15.1	+0.2
CICH				*i* S	Sg	06 17 25.2	+1.6
CACH	El Canelo	0.85	355	⇑*i*P	Pg	06 17 18.6	-0.2
CACH				*i* S	Sg	06 17 30.5	+0.3
CHCH	Chadas Angostu	1.04	354	*e*P	Pb	06 17 21.9	-0.5
CHCH				*i* S	Sb	06 17 37.2	+0.7
LMEL	Las Melosas	1.15	13	⇓*i*P	Pb	06 17 23.9	-0.3
LMEL				*i* S	Sb	06 17 40.8	+1.2
LMEL				AMP		06 18 04.4	
	comp=N,98nm,0.1s						
LNV	Longovilo	1.25	324	*e*P	Pb	06 17 25.0	-1.0
LNV				*i* S	Sb	06 17 42.8	+0.2
FCH	Farellones	1.65	7	*e*P	Pn	06 17 32.4	+0.2
FCH				*i* S	Sb	06 17 55.7	+1.6
FCH				AMP		06 18 07.1	
	comp=N,147nm,0.4s						

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*NEIC **13** 06:19:03.4,34.98S×70.51W,h2^{km},ML2.8(GUC),After GUC.*

GUC 13 06:19:03.4±0.7**,34.98S×70.51W,h2^{km},MD4.1,ML2.8, 2C-3D,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFDO	San Fernando	0.55	311	⇓*i*P	Pg	06 19 14.5	0.0
SFDO				*i* S	Sg	06 19 23.4	+1.6
CICH	Cipreses	0.66	6	⇓*i*P	Pg	06 19 16.5	-0.1
CICH				*i* S	Sg	06 19 27.0	+1.6
CACH	El Canelo	0.86	355	⇑*i*P	Pg	06 19 20.1	-0.6
CACH				*i* S	Sg	06 19 33.8	+1.6
CHCH	Chadas Angostu	1.05	353	⇓*i*P	Pb	06 19 23.6	-0.4
CHCH				*i* S	Sb	06 19 38.2	+0.2
LNV	Longovilo	1.27	324	*e*P	Pb	06 19 26.5	-1.1
LNV				*i* S	Sb	06 19 44.3	+0.1
PCH	Pirque	1.36	360	*e*P	Pb	06 19 28.7	-0.5
PCH				*i* S	Sb	06 19 47.7	+0.9
TACH	Talagante	1.37	345	*e*P	Pb	06 19 28.7	-0.7
ANTU	Antumapu	1.41	356	⇑*i*P	Pb	06 19 30.0	-0.2
ANTU				*i* S	Sb	06 19 49.7	+1.2
ANTU				AMP		06 19 52.2	
	comp=E,310nm,0.6s						
DSCH	Colegio Aleman	1.58	358	*e*P	Pn	06 19 32.5	0.0
DSCH				*i* S	Sb	06 19 55.7	+2.4
JACH	Jahuel	2.29	358	*e*P	Pn	06 19 44.3	+1.5
JACH				*i* S	Sn	06 20 14.6	+2.6

IDC 13 06:28:38.6±10.0**,1.96S×140.22E,mb3.8**/2**,mb1 3.8**/3**, mb1mx3.6**/10**,ML3.5**/1**,Error ellipse: s-maj=190.0km s-min=109.2km az=140.0,Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.77	197	P	P	06 32 58.6	-3.0
	0.2nm,0.3s,baz=17,slow=12,SNR=5.2						
ASAR	Alice Springs	22.43	195	P	P	06 33 40.9	+0.3
	0.8nm,0.6s,baz=12,slow=11,SNR=8.3						
STKA	Stephens Creek	29.79	178	P	P	06 34 46.1	-3.4
	2.7nm,0.8s,baz=324,slow=8.7,SNR=3.2						

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*NEIC **13** 06:33:46.1±0.6,44.16N×151.53E,h10^{km},mb4.1/1,Error*

ellipse: s-maj=14.6km s-min=14.1km az=84.0

*IDC **13** 06:33:51.9±4.7, 44.16N×151.58E, h54^{km}±42^{km}, mb3.6/9, mb1 3.8/10, mb1mx3.6/21, ML3.7/1, Error ellipse: s-maj=25.2km s-min=20.6km az=117.0*

ISC 13 06:33:48.8±3.8**, 44.1N**±0.1×**151.6E**±0.2**, h46**^{km}±32^{km}**, n14, σ0^{s}.74**/15**, mb3.9**/11**, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**6.48**	**273**	P	**P**	**06 35 23.1**	**-1.0**
	1.6nm,0.3s,baz=97,slow=20,SNR=5.0						
ASAJ				S	**S**	**06 36 39.1**	**+1.5**
	baz=129,slow=31,SNR=2.6						
SONM	**Songino Array**	**31.29**	**293**	P	**P**	**06 40 05.6**	**-0.8**
	1.3nm,0.6s,mb4.0,baz=100,slow=7.5,SNR=6.1						
ILAR	**Eielson Array**	**39.27**	**37**	P	**P**	**06 41 14.7**	**+0.4**
	0.5nm,0.9s,mb3.2,baz=283,slow=9.7,SNR=8.6						
PAGZ	**Pagadian**	**43.72**	**223**	*e*P	**P**	**06 41 57.9**	**+6.5**
PAGZ	**Pagadian**	**43.72**	**223**	*e*P	**P**	**06 41 58.7**	**+7.3**
MKAR	**Makanchi Array**	**47.23**	**299**	P	**P**	**06 42 19.0**	**+0.1**
	1.5nm,0.9s,mb3.9,baz=74,slow=7.4,SNR=7.2						
KURK	**Kurchatov**	**47.96**	**305**	*e*P	**P**	**06 42 23.9**	**-0.6**
	4.1nm,0.5s,mb4.7						
BRVK	**Borovoye**	**51.76**	**311**	*e*P	**P**	**06 42 52.5**	**-1.0**
	1.6nm,0.6s,mb4.1						
WRA	**Warramunga Arr**	**65.70**	**198**	P	**P**	**06 44 30.7**	**-0.2**
	0.8nm,0.7s,mb3.9,baz=17,slow=6.9,SNR=4.2						
FINES	**FINESS Array B**	**65.95**	**335**	P	**P**	**06 44 31.7**	**-0.1**
	2.2nm,0.8s,mb4.2,baz=37,slow=6.9,SNR=6.9						
ASAR	**Alice Springs**	**69.40**	**197**	P	**P**	**06 44 54.1**	**+0.2**
	0.4nm,0.7s,mb3.5,baz=13,slow=5.1,SNR=4.5						
NOA	**NORSAR Array B**	**70.35**	**341**	P	**P**	**06 44 59.7**	**+0.6**
	0.8nm,0.7s,mb3.8,baz=35,slow=6.8,SNR=3.1						
AKASG	**Malin Array Be**	**73.12**	**326**	P	**P**	**06 45 15.8**	**0.0**
	0.6nm,0.5s,mb3.8,baz=38,slow=6.0,SNR=2.7						
TXAR	**Lajitas Array**	**79.72**	**59**	P	**P**	**06 45 54.5**	**+1.0**
	0.7nm,0.6s,mb3.8,baz=294,slow=4.0,SNR=11						
TXAR				pP	pP	06 46 04.4	-2.4
	1.7nm,1.1s,baz=309,slow=2.7,SNR=5.8						

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*IDC **13** 06:39:54.5±0.7, 21.41S×11.69W, mb4.3/13, mb1 4.3/13, mb1mx4.3/18, MS3.9/9, Ms1 3.9/9, ms1mx3.7/17, Error ellipse: s-maj=25.5km s-min=18.3km az=153.0*

*NEIC **13** 06:39:56.4±0.3, 21.37S×11.72W, h10^{km}, mb4.9/8, Error ellipse: s-maj=10.7km s-min=9.7km az=147.0*

*HRVD **13** 06:39:56.4±0.8, 21.78S×11.62W, h12^{km}, MW4.9/40, Centroid moment Tensor Solution. LP body waves: s3,c4; Mantle waves: s40,c47; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.05±.13; $M_{\theta\theta}$0.33±.14; $M_{\phi\phi}$0.72±.09; $M_{r\theta}$-2.74±.43; $M_{\theta\phi}$-0.15±.09; $M_{\phi r}$-0.33±.44; Best double couple: $M_0$2.84×10^{16} NP1:ϕ_s283°,δ7°,λ-72°. NP2:ϕ_s84°, δ83°,λ-92°. Principal axes: T 2.47, Plg38°, Azm176°; N .75, Plg2°, Azm85°; P -3.22, Plg52°, Azm352°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 13 06:39:54.7±0.4**, 21.36S**±0.08×**11.72W**±0.09**, h10**^{km}**, n32, σ0^{s}.85**/27**, mb4.4**/19**, MS3.9**/9**, 4D, Southern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TRIS	**Tristan da Cun**	**15.66**	**182**	P	**P**	**06 43 32.2**	**-5.0**
	1μm,2.0s						
TSUM	**Tsumeb**	**27.55**	**91**	P	**P**	**06 45 42.9**	**-1.1**
	4.4nm,0.9s,mb4.1,baz=279,slow=7.1,SNR=4.8						
TSUM				LR	LR	06 54 51.4	
	comp=Z,372nm,19.7s,MS4.0,baz=318,slow=33						
TSUM	**Tsumeb**	**27.55**	**91**	*e*P	**P**	**06 45 42.5**	**-1.4**
	27nm,1.6s,mb4.6						
TSUM				LR	LR	06 54 51.4	
SUR	**Sutherland**	**30.91**	**118**	LR	LR	06 55 49.5	
	comp=Z,175nm,18.4s,MS3.8,baz=79,slow=31						
BDFB	**Brasilia**	**34.83**	**273**	P	**P**	**06 46 48.3**	**+0.2**
	6.3nm,1.1s,mb4.5,baz=82,slow=6.9,SNR=3.9						
BDFB				LR	LR	06 58 45.4	
	comp=Z,184nm,19.5s,MS3.8,baz=311,slow=32						
BDFB	**Brasilia**	**34.83**	**273**	P	**P**	**06 46 48.3**	**+0.2**
BDFB				LR	LR	06 58 45.4	
LSZ	**Lusaka**	**38.29**	**88**	*e*P	**P**	**06 47 17.5**	**+0.2**
	3.4nm,0.9s,mb4.1						
CPUP	**Villa Florida**	**41.84**	**254**	P	**P**	**06 47 47.1**	**+0.4**
	4.4nm,1.1s,mb4.0,baz=118,slow=10,SNR=3.7						
CPUP				LR	LR	07 02 17.0	
	comp=Z,205nm,18.3s,MS4.0,baz=126,slow=32						
MBAR	**Mbarara**	**46.26**	**69**	P	**P**	**06 48 23.5**	**+1.1**
	7.5nm,1.1s,mb4.5						
VNA1	**Neumayer--Stat**	**49.34**	**178**	⇓*i*	**P**	**06 48 46.8**	**+1.0**
VNA2	**Neumayer--Watz**	**49.64**	**178**	⇓*i*	**P**	**06 48 48.8**	**+0.7**
VNA3	**Neumayer Olymp**	**49.91**	**179**	⇓*i*	**P**	**06 48 50.5**	**+0.4**
SNAA	**Sanae**	**50.59**	**176**	⇓*i*	**P**	**06 48 53.0**	**-2.3**
SAML	**Samuel**	**50.97**	**276**	*e*P	**P**	**06 48 58.9**	**-0.1**
	20nm,1.3s,mb4.9						
LPAZ	**La Paz**	**53.40**	**265**	P	**P**	**06 49 16.4**	**-0.7**
	1.7nm,0.3s,mb4.5,baz=138,slow=2.2,SNR=4.4						
LPAZ				LR	LR	07 10 53.2	
	comp=Z,176nm,18.2s,MS4.2,baz=43,slow=35						
LPAZ	**La Paz**	**53.40**	**265**	P	**P**	**06 49 16.4**	**-0.7**
LPAZ				LR	LR	07 10 53.2	
PMSA	**Palmer Station**	**55.16**	**204**	*e*P	**P**	**06 49 24.2**	**-5.2**
	14nm,1.3s,mb4.8						
ESDC	**Sonseca Array**	**61.15**	**7**	P	**P**	**06 50 11.2**	**-0.5**
	0.3nm,0.3s,mb3.9,baz=180,slow=5.1,SNR=2.7						
MAW	**Mawson**	**64.57**	**156**	P	**P**	**06 50 33.4**	**-0.6**
	2.8nm,1.0s,mb4.2,baz=255,slow=9.7,SNR=5.7						
SDV	**Santo Domingo**	**65.16**	**291**	*e*P	**P**	**06 50 38.3**	**-0.4**
	19nm,1.4s,mb4.9						
SDV				*e*		06 50 44.5	
IDI	**Anoyia**	**66.18**	**32**	P	**P**	**06 50 44.2**	**-0.6**
	6.8nm,0.8s,mb4.7,baz=188,slow=7.1,SNR=3.2						
ROSC	**El Rosal**	**66.62**	**285**	P	**P**	**06 50 48.0**	**0.0**
	2.8nm,0.4s,mb4.7,baz=127,slow=17,SNR=4.2						
ROSC				LR	LR	07 17 41.9	
	comp=Z,187nm,18.5s,MS4.3,baz=183,slow=34						
QSPA	**South Pole Qui**	**68.84**	**180**	*e*P	**P**	**06 51 01.4**	**+0.5**
	10.0nm,1.0s,mb4.7						
DAVOX	**Davos**	**70.57**	**16**	P	**P**	**06 51 13.1**	**+1.1**
	4.3nm,1.0s,mb4.3,baz=216,slow=8.7,SNR=3.1						
ASF	**Jabal al Asfar**	**70.69**	**42**	LR	LR	07 19 23.2	
	comp=Z,60nm,21.1s,MS3.8,baz=271,slow=34						
GERES	**GERESS Array B**	**73.48**	**17**	P	**P**	**06 51 28.3**	**-1.0**
	0.9nm,0.7s,mb3.8,baz=198,slow=4.2,SNR=7.3						
BRTR	**Keskin Array B**	**74.06**	**35**	P	**P**	**06 51 33.9**	**+1.1**
	3.2nm,1.1s,mb4.2,baz=191,slow=6.3,SNR=10.0						
BRTR				LR	LR	07 25 51.4	
	comp=Z,25nm,18.6s,MS3.5,baz=120,slow=37						
AKASG	**Malin Array Be**	**80.31**	**25**	P	**P**	**06 52 06.5**	**-0.9**
	0.9nm,0.6s,mb3.9,baz=221,slow=5.3,SNR=6.1						
NOA	**NORSAR Array B**	**84.17**	**11**	P	**P**	**06 52 28.0**	**+0.9**
	1.8nm,1.1s,mb4.1,baz=137,slow=13,SNR=2.6						
NOA				LR	LR	07 28 23.2	
	comp=Z,35nm,20.4s,MS3.7,baz=230,slow=34						
ASAR	**Alice Springs**	**124.12**	**141**	PKP	PKPdf	06 58 55.2	-2.1
	0.8nm,0.9s,baz=180,slow=1.4,SNR=5.2						
SONM	**Songino Array**	**124.30**	**46**	PKP	PKPdf	06 58 54.1	-3.0
	1.4nm,1.0s,baz=270,slow=2.5,SNR=6.0						
ILAR	**Eielson Array**	**127.62**	**338**	PKP	PKPdf	06 59 00.8	-2.2
	0.9nm,1.1s,baz=45,slow=5.1,SNR=3.9						

GUC 13 06:46:14.8±0.8**, 35.03S**×**70.56W, h2**^{km}**, MD3.7, ML2.4, 1C-3D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFDO	**San Fernando**	**0.56**	**318**	⇓*i*P	Pg	06 46 25.9	0.0
SFDO				*i* S	Sg	06 46 34.9	+1.6
CICH	**Cipreses**	**0.71**	**9**	⇓*i*P	Pg	06 46 28.9	-0.2
CICH				*i* S	Sg	06 46 40.1	+1.6
CACH	**El Canelo**	**0.91**	**358**	*e*P	Pb	06 46 32.1	-0.8
CACH				*i* S	Sg	06 46 46.2	+1.2
CHCH	**Chadas Angostu**	**1.09**	**356**	⇑*i*P	Pb	06 46 35.6	-0.5
CHCH				*i* S	Sb	06 46 51.3	+0.7
LMEL	**Las Melosas**	**1.21**	**14**	*e*P	Pb	06 46 37.6	-0.5
LMEL				*i* S	Sb	06 46 55.4	+1.3
LMEL				AMP		06 46 56.5	
	comp=N,151nm,0.4s						
LNV	**Longovilo**	**1.28**	**326**	*e*P	Pb	06 46 38.1	-1.1
LNV				*i* S	Sb	06 46 56.6	+0.6
PCH	**Pirque**	**1.40**	**2**	*i* P	Pb	06 46 40.9	-0.5
TACH	**Talagante**	**1.41**	**347**	⇓*i*P	Pb	06 46 40.7	-0.7
TACH				*i* S	Sb	06 47 00.9	+1.2
ANTU	**Antumapu**	**1.46**	**358**	*e*P	Pn	06 46 41.7	-0.5
ANTU				*i* S	Sb	06 47 02.7	+1.5
FCH	**Farellones**	**1.71**	**8**	*e*P	Pn	06 46 46.2	+0.4
FCH				AMP		06 47 20.2	
	comp=E,62nm,0.2s						

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*MOS **13** 07:01:41.8±1.9, 50.87N×103.93E, h11^{km}, mb4.6/1, Error ellipse: s-maj=13.0km s-min=7.3km az=70.3*

MOS Felt (III) at Zakamensk; (II) at Irkutsk.

BYKL 13 07:01:41.4±0.2**, 50.82N**×**103.93E, h11**^{km}±17^{km}**, 12C-10D, #FAULT_PLANE Typ Strike Dip Rake NP NS Plane Author # FM 128.00 84.00 -52.00 18 0 IEC + 226.00 38.00 -170.00 IEC #PRINAX sc T_val T_azim T_pl B_val B_azim B_pl P_val P_azim P_pl Author + eTv eTa eTp eBv eBa eBp ePv ePa ePp fCLVD # 189.00 29.00 304.00 37.00 72.00 39.00 IEC + 6.35 1.53 5.77 1.73 6.11 0.58 FELT I=III at Zakamensk and II at Irkutsk, Tuva-Buryatia-Mongolia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZAK	**Zakamensk**	**0.60**	**224**	⇑*i*Pg	Pg	07 01 53.0	-0.6
ZAK				Pmax		07 01 53.6	
	592nm,0.1s						
ZAK				*e*Pb	Pb	07 01 55.1	+1.6
ZAK				*i* Sg	Sg	07 02 01.6	-0.1
ZAK				Smax		07 02 01.8	
	22μm,0.4s						
ZAK	**Zakamensk**	**0.60**	**224**	*e*PG	Pg	07 01 53.0	-0.6
ZAK				*e*S	Sb	07 02 01.2	-0.5
ZAK				pmax	pmax		
	comp=Z,549nm,0.2s						
ZAK				smax			
	comp=N,14μm,0.4s						
TLY	**Talaya**	**0.88**	**348**	⇓*i*Pg	Pg	07 01 57.2	-1.9
TLY				Pmax		07 01 57.9	
	comp=N,2μm,0.1s						
TLY				*e*Sg	Sg	07 02 08.2	-2.7
TLY				Smax		07 02 10.8	
	comp=N,7μm,0.3s						
TLY	**Talaya**	**0.88**	**348**	⇑*i*PG	Pg	07 01 57.5	-1.6
TLY				*e*		07 02 08.2	
TLY				pmax	pmax		
	comp=Z,3μm,0.3s						
TLY				smax			
	comp=N,8μm,0.3s						
LSTR	**Listvyanka**	**1.19**	**28**	⇓*i*Pg	Pg	07 02 03.3	-2.0
LSTR				*e*Pb	Pb	07 02 04.9	+1.3
LSTR				max		07 02 05.0	
	comp=N,252nm,0.1s						
LSTR				*e*Sg	Sg	07 02 18.9	-2.3
LSTR				Smax		07 02 22.5	
	comp=N,2μm,0.2s						
LSTR	**Listvyanka**	**1.19**	**28**	⇑*i*PG	Pg	07 02 03.2	-2.1
LSTR				*e*		07 02 18.5	
LSTR				pmax	pmax		
	comp=Z,483nm,0.7s						
LSTR				smax			
	comp=N,5μm,1.0s						
IRK	**Irkutsk**	**1.44**	**8**	⇓*i*Pg	Pg	07 02 07.8	-2.4
IRK				Pmax		07 02 08.9	
	comp=N,4μm,0.2s						
IRK				*e*Sg	Sg	07 02 26.3	-3.2
IRK				Smax		07 02 28.2	
	comp=N,8μm,0.2s						
IRK	**Irkutsk**	**1.44**	**8**	*e*PG	Pg	07 02 06.3	-3.9
IRK				*e*		07 02 25.0	
IRK				pmax	pmax		
	comp=Z,4μm,0.2s						
IRK				smax			
	comp=N,9μm,1.0s						
ARS	**Arshan**	**1.45**	**320**	*e*Pg	Pg	07 02 07.5	-2.9
ARS				⇑*i*		07 02 12.6	
ARS				Pmax		07 02 13.0	
	comp=N,1μm,0.5s						
ARS				*i* Sg	Sg	07 02 26.9	-2.9
ARS				Smax		07 02 35.7	
	comp=N,17μm,0.8s						
ARS	**Arshan**	**1.45**	**320**	*e*PG	Pg	07 02 07.5	-2.9
ARS				*e*		07 02 27.1	
ARS				pmax	pmax		
	comp=Z,1μm,0.5s						
BTMB	**Babushkin**	**1.48**	**53**	⇓*i*Pg	Pg	07 02 07.4	-3.7
BTMB				Pmax		07 02 08.5	
	comp=Z,973nm,0.2s						
BTMB				*e*Sg	Sg	07 02 26.8	-4.1
BTMB				*e*		07 02 33.9	
BTMB				max		07 02 34.1	
	comp=Z,19μm,0.7s						
MOY	**Mondy**	**2.03**	**296**	⇓*i*Pg	Pg	07 02 17.9	-4.1
	comp=Z,234nm,1.1s						
MOY				⇑*i*Pg	Pg	07 02 17.9	-4.1
	comp=Z,321nm,1.1s						
MOY				⇓*i*Pg	Pg	07 02 17.9	-4.1
	comp=Z,432nm,1.1s						
MOY				Pmax		07 02 18.5	
	comp=Z,734nm,0.9s						
MOY				*e*Sg	Sg	07 02 44.6	-4.5
MOY				Smax		07 02 52.0	
	comp=Z,4μm,1.0s						
MOY	**Mondy**	**2.03**	**296**	*e*PN	Pn	07 02 17.9	+1.9
MOY				*e*S	Sn	07 02 44.1	+2.5
MOY				pmax	pmax		
	comp=Z,724nm,0.5s						
MOY				smax			
	comp=E,4μm,1.1s						
BLGM	**Bulgan**	**2.05**	**187**	*e*Pn	Pn	07 02 15.7	-0.6
BLGM				*e*Pg	Pg	07 02 17.1	-5.2
BLGM				*e*Sg	Sg	07 02 46.5	-3.2
BLGM				Smax			
	comp=E,1μm,0.3s						
HRMR	**Khuramsha**	**2.07**	**66**	*e*Pn	Pn	07 02 16.7	+0.2
HRMR				⇓*i*Pg	Pg	07 02 18.3	-4.4
HRMR				Pmax		07 02 18.9	
	comp=E,5μm,0.4s						
HRMR				*e*Sg	Sg	07 02 46.0	-4.3
HRMR				Smax		07 02 47.5	
	comp=E,15μm,0.3s						
KAB	**Kabansk**	**2.10**	**53**	*e*Pg	Pg	07 02 19.2	-4.2
KAB				Pmax		07 02 21.0	
	comp=E,696nm,1.0s						
KAB				*e*Sg	Sg	07 02 47.3	-4.2
KAB				Smax		07 02 51.1	
	comp=E,15μm,0.8s						
KAB	**Kabansk**	**2.10**	**53**	*e*PN	Pn	07 02 20.7	+3.7
KAB				*e*		07 02 47.4	
KAB				pmax	pmax		
	comp=Z,767nm,1.0s						
FFNB	**Fofonovo**	**2.16**	**54**	*e*Pn	Pn	07 02 18.0	+0.2
FFNB				⇑*i*Pg	Pg	07 02 20.3	-4.2
FFNB				Pmax		07 02 22.8	
	comp=Z,1μm,0.1s						
FFNB				*e*Sn	Sn	07 02 45.9	+1.1
FFNB				*e*Sg	Sg	07 02 48.6	-4.7
FFNB				Smax		07 02 50.8	
	comp=Z,8μm,0.2s						
TRG	**Tyrgan**	**2.46**	**37**	*e*Pn	Pn	07 02 22.7	+0.6
TRG				⇑*i*Pg	Pg	07 02 25.9	-4.6
TRG				Pmax		07 02 27.3	
	comp=Z,256nm,0.3s						
TRG				*e*Sn	Sn	07 02 51.7	-0.6
TRG				*e*Sg	Sg	07 02 56.5	-6.7
TRG				Smax		07 03 00.7	
	comp=Z,5μm,0.8s						
TRG	**Tyrgan**	**2.46**	**37**	*e*PN	Pn	07 02 22.6	+0.5
TRG				*e*		07 02 25.7	
TRG				*e*S	Sn	07 02 51.8	-0.5
TRG				*e*		07 02 56.4	
TRG				pmax	pmax		
	comp=Z,251nm,0.3s						
TRG				smax			
	comp=E,5μm,0.4s						
TRTB	**Turuntaevo**	**2.71**	**57**	*e*Pn	Pn	07 02 25.9	+0.2
TRTB				*e*Pg	Pg	07 02 29.3	-6.2
TRTB				Pmax		07 02 30.4	
	comp=E,738nm,0.7s						
TRTB				*e*Sg	Sg	07 03 04.6	-7.0
TRTB				Smax		07 03 09.3	
	comp=E,4μm,1.0s						
ORL	**Orlik**	**3.09**	**305**	*e*Pn	Pn	07 02 31.8	+0.7
ORL				*e*Pg	Pg	07 02 35.7	-7.4
ORL				Pmax		07 02 44.8	
	comp=E,229nm,0.7s						
ORL				*e*Sg	Sg	07 03 16.1	-8.2
ORL				Smax		07 03 20.1	
	comp=E,2μm,0.8s						
ORL	**Orlik**	**3.09**	**305**	*e*PN	Pn	07 02 35.7	+4.6
ORL				*e*		07 03 16.1	
ORL				pmax	pmax		
	comp=Z,231nm,0.7s						
ORL				smax			
	comp=N,2μm,0.8s						
ULN	**Ulaanbaatar**	**3.59**	**144**	*e*Pn	Pn	07 02 36.0	-2.3
ULN				*e*Pg	Pg	07 02 43.2	-10
ULN				*e*Sg	Sg	07 03 32.0	-9.1
OGRR	**Ongureny**	**3.62**	**37**	⇑*i*Pn	Pn	07 02 38.4	-0.2
OGRR				*e*		07 02 41.5	
OGRR				⇑*e*Pg	Pg	07 02 45.7	-7.9
OGRR				Pmax		07 02 55.9	
	comp=N,113nm,0.4s						
OGRR				*e*Sn	Sn	07 03 19.3	-2.4
OGRR				*e*Sg	Sg	07 03 31.4	-10
OGRR				Smax		07 03 39.2	
	comp=N,1μm,1.5s						
OGRR	**Ongureny**	**3.62**	**37**	*e*PN	Pn	07 02 38.4	-0.2
OGRR				*e*		07 02 46.2	
OGRR				*e*		07 03 30.7	
OGRR				pmax	pmax		
	comp=Z,115nm,0.4s						
OGRR				smax			
	comp=E,1μm,0.5s						
TTS	**Tsetserleg**	**3.72**	**207**	*i* Pn	Pn	07 02 39.3	-0.8
TTS				*i* Pg	Pg	07 02 45.2	-11
TTS				*i* Sg	Sg	07 03 37.8	-7.5
MXMB	**Maximikha**	**3.85**	**49**	*e*Pn	Pn	07 02 42.0	+0.1
MXMB				*e*Pg	Pg	07 02 51.3	-7.0
MXMB				Pmax		07 02 54.9	
	comp=E,114nm,0.5s						
MXMB				*e*Sg	Sg	07 03 41.6	-8.0
MXMB				Smax		07 03 52.5	
	comp=E,2μm,0.8s						
SYVR	**Suvo**	**4.69**	**50**	⇑*i*Pn	Pn	07 02 53.1	-0.7
SYVR				*e*Pg	Pg	07 03 05.8	-9.2
SYVR				Pmax		07 03 08.2	
	comp=E,81nm,0.7s						
SYVR				*e*Sg	Sg	07 04 06.4	-11
SYVR				Smax		07 04 14.0	
	comp=E,777nm,1.5s						
SYVR	**Suvo**	**4.69**	**50**	*e*PN	Pn	07 02 53.1	-0.7
SYVR				*e*		07 03 05.8	
SYVR				*e*		07 04 06.0	
SYVR				pmax	pmax		
	comp=Z,58nm,0.3s						
SYVR				smax			
	comp=E,275nm,0.6s						
TDJR	**Todzha**	**5.13**	**291**	*e*Pg	Pg	07 03 13.9	-10
TDJR				*e*Sg	Sg	07 04 20.3	-12
KPC	**Khapcheranga**	**5.53**	**98**	⇓*i*Pn	Pn	07 03 02.7	-3.1
KPC				*e*Pg	Pg	07 03 20.8	-11
KPC				Pmax		07 03 29.9	
	comp=E,79nm,0.9s						
KPC				*e*Sg	Sg	07 04 34.9	-11
KPC				Smax		07 04 49.3	
	comp=E,582nm,1.5s						
KPC	**Khapcheranga**	**5.53**	**98**	*e*PN	Pn	07 03 20.3	+15
YLYR	**Ulyunkhan**	**5.97**	**44**	⇓*i*Pn	Pn	07 03 10.9	-1.1
YLYR				*e*Pg	Pg	07 03 29.8	-11
YLYR				Pmax		07 03 36.6	
	comp=E,23nm,0.8s						
YLYR				*e*Sn	Sn	07 04 17.0	-4.2
YLYR				*e*Sg	Sg	07 04 46.3	-14
YLYR				Smax		07 04 53.2	
	comp=E,293nm,2.0s						
YLYR	**Ulyunkhan**	**5.97**	**44**	*e*PN	Pn	07 03 11.0	-1.0
YLYR				*e*		07 03 27.6	
YLYR				*e*S	Sn	07 04 14.6	-6.6
NIZ	**Nizh Angarsk**	**6.00**	**32**	⇓*i*Pn	Pn	07 03 10.4	-1.9
NIZ				*e*Pg	Pg	07 03 28.4	-13
NIZ				Pmax		07 03 34.7	
	comp=E,35nm,0.5s						
NIZ				*e*Sn	Sn	07 04 16.6	-5.1
NIZ				*e*Sg	Sg	07 04 44.3	-17
NIZ				Smax		07 04 56.1	
	comp=E,715nm,1.4s						
NIZ	**Nizh Angarsk**	**6.00**	**32**	*e*PN	Pn	07 03 10.4	-1.9
NIZ				*e*		07 03 28.1	
NIZ				*e*S	Sn	07 04 15.6	-6.1
NIZ				*e*		07 04 44.3	
NIZ				pmax	pmax		
	comp=Z,35nm,0.6s						
NIZ				smax			
	comp=N,406nm,1.2s						
CIT	**Chita**	**6.14**	**75**	*e*Pn	Pn	07 03 11.4	-2.9
CIT				*e*Pg	Pg	07 03 32.6	-11
CIT				Pmax		07 03 37.8	
	comp=N,80nm,1.3s						
CIT				*e*Sn	Sn	07 04 21.4	-3.9
CIT				*e*Sg	Sg	07 04 52.1	-14
CIT				Smax		07 04 58.8	
	comp=N,775nm,1.3s						
CIT	**Chita**	**6.14**	**75**	*e*PN	Pn	07 03 12.9	-1.4
CIT				*e*		07 03 32.6	
CIT				*e*		07 04 51.8	
CIT				pmax	pmax		
	comp=Z,80nm,0.8s						
CIT				smax			
	comp=N,776nm,1.0s						
KMO	**Kumora**	**6.68**	**38**	*e*Pn	Pn	07 03 20.2	-1.8
KMO				*e*Pg	Pg	07 03 43.2	-12
KMO				Pmax		07 03 50.1	
	comp=N,36nm,0.4s						
KMO				*e*Sn	Sn	07 04 34.5	-4.4
KMO				*e*Sg	Sg	07 05 08.8	-15
KMO				Smax		07 05 24.0	
	comp=N,560nm,1.2s						
ARDR	**Aradan**	**6.76**	**289**	*e*Pg	Pg	07 03 41.8	-15
ARDR				*e*Sg	Sg	07 05 09.8	-17
YOA	**Uoyan**	**7.07**	**38**	*e*Sg	Sg	07 05 19.9	-17
YOA				Smax		07 06 06.5	
	comp=N,2μm,2.3s						
UKT	**Uakit**	**7.47**	**48**	*e*Pn	Pn	07 03 30.5	-2.5
UKT				*e*Pg	Pg	07 03 54.4	-16
UKT				Pmax		07 03 59.5	
	comp=N,12nm,0.7s						
UKT				*e*Sn	Sn	07 04 51.5	-7.1
UKT				*e*Sg	Sg	07 05 32.0	-18
UKT				Smax		07 05 47.5	
	comp=N,176nm,1.4s						
UKT	**Uakit**	**7.47**	**48**	*e*PG	Pg	07 03 58.0	-13
SVKR	**Severomuysk**	**7.82**	**44**	*e*Sg	Sg	07 05 45.0	-17
SVKR				Smax		07 06 02.7	
	comp=N,563nm,1.0s						
NLYR	**Nelyaty**	**9.00**	**46**	*e*Pn	P	07 03 53.5	-0.8
NLYR				*e*Pg	P	07 04 24.6	+30
NLYR				Pmax		07 04 37.1	
	comp=N,9.0nm,1.3s						
NLYR				*e*Sg	Sg	07 06 21.6	-19
NLYR				Smax		07 06 35.6	
	comp=N,308nm,1.1s						
BOD	**Bodaibo**	**9.15**	**36**	*e*Pn	P	07 03 53.5	-2.8
BOD				*e*Pg	P	07 04 25.9	+30
BOD				Pmax		07 04 40.3	
	comp=N,7.0nm,0.6s						
BOD				*e*Sg	Sg	07 06 23.1	-23
BOD				Smax		07 06 45.6	
	comp=N,205nm,1.8s						
TUP	**Tupik**	**10.39**	**63**	⇑*i*Pn	P	07 04 10.0	-3.3
TUP				⇑*i*Pg	P	07 04 47.8	+35
TUP				Pmax		07 04 55.4	
	comp=N,4.0nm,0.6s						
TUP				*e*		07 05 57.9	
TUP				*e*Sg	S	07 07 02.6	+52
TUP				Smax		07 07 13.6	
	comp=N,401nm,1.6s						
TUP	**Tupik**	**10.39**	**63**	*e*P	P	07 04 10.1	-3.2
TUP				*e*S	S	07 06 02.5	-8.2
TUP				pmax	pmax		
	comp=Z,3.0nm,0.5s						
TUP				smax			
	comp=N,400nm,1.6s						
CRS	**Chara**	**10.42**	**49**	*e*Pn	P	07 04 13.6	-0.1
CRS				*e*Pg	P	07 04 50.8	+37
CRS				Pmax		07 04 52.4	
	comp=N,9.0nm,2.0s						
CRS				*e*Sn	S	07 06 04.9	-6.6
CRS				*e*Sg	S	07 07 05.4	+54
CRS				Smax		07 07 11.6	
	comp=N,415nm,2.2s						

MKAR	**Makanchi Array**	**14.80**	**263**	*i*P	P	07 05 19.2	+6.9
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
SOC	**Sochi**	**42.98**	**286**	*e*P	P	07 09 41.6	-0.3
SOC				*e*		07 11 20.8	
SOC				*e*S	S	07 16 03.7	-3.0
SOC				*e*SS	SS	07 19 14.3	+2.0
SOC				*e*SSS	SSS	07 20 03.5	+2.9

OTT 13 07:44:06.8±2.3, 81.28N×111.00W, h18^{km}, ML3.5/3, 315km northwest from Isachsen, Nu, Arctic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RES	**Resolute Bay**	**7.38**	**145**	PN	Pn	07 45 52.5	-3.9
RES				SN	Sn	07 47 10.1	-10
RES				Trac		07 47 21.0	
	comp=Z,2.2nm,0.2s						
IGLN	**Igloolik**	**13.74**	**133**	PN	P	07 47 16.2	-6.4
IGLN				SN	S	07 49 39.4	-16
IGLN				Trac		07 49 46.0	
	comp=Z,1.2nm,0.5s						
INK	**Inuvik**	**14.10**	**216**	PN	P	07 47 23.0	-4.3
INK				SN	S	07 49 47.4	-17
INK				Trac		07 49 54.6	
	comp=Z,0.9nm,0.5s						
QILN	**Qililugaq Expl**	**15.91**	**143**	PN	P	07 47 45.6	-5.3
QILN				SN	S	07 50 28.2	-19
COWN	**Contwyoto Lake**	**16.10**	**180**	PN	P	07 47 49.7	-3.6
ACKN	**Achilles Lake**	**16.37**	**180**	PN	P	07 47 51.2	-5.6
ACKN				SN	S	07 50 44.8	-13
DAWY	**Dawson**	**18.80**	**220**	PN	P	07 48 25.6	-1.4
YKW3	**Yellowknife Ar**	**18.84**	**185**	PN	P	07 48 26.2	-1.4
YKW3				SN	S	07 51 42.1	-12

IDC ***13*** *07:51:56.0±1.0, 6.23S×103.99E, mb4.1/8, mb1 4.2/8, mb1mx4.0/15, MS3.1/2, Ms1 3.1/2, ms1mx2.7/19, Error ellipse: s-maj=38.3km s-min=17.1km az=61.0*

NEIC ***13*** *07:51:57.6±0.7, 6.21S×104.04E, h10^{km}, mb4.3/2, Error ellipse: s-maj=25.2km s-min=9.2km az=57.0*

DJA ***13*** *07:54:26.2±2.1, 7.88S×114.56E, h26^{km}±4^{km}, ML4.8/2, Error ellipse: s-maj=68.9km s-min=16.6km az=154.0*

ISC 13 07:51:55.6±0.7, 6.2S±0.1×104.00E±0.08, h10^{km}, n21, σ0^{s}87/20, mb4.1/10, MS3.0/2, 3C, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KELI	**Kelakatan**	**10.60**	**101**	*e*Sn	**S**	**07 56 39.0**	**+8.5**
KELI	**Kelakatan**	**10.60**	**101**	⇑*e*Pn	**P**	**07 54 33.6**	**+2.9**
RATI	**Rata**	**11.70**	**103**	*e*Sn	**S**	**07 56 56.6**	**-0.9**
RATI	**Rata**	**11.70**	**103**	⇑*e*Pn	**P**	**07 54 46.5**	**+0.7**
	2μm,0.3s						
RATI	**Rata**	**11.70**	**103**	*e*P	**P**	**07 54 48.6**	**+2.8**
KEDI	**Kedomdong**	**12.22**	**101**	*e*Sn	**S**	**07 57 10.0**	**-0.2**
KEDI	**Kedomdong**	**12.22**	**101**	⇑*e*Pn	**P**	**07 54 51.5**	**-1.3**
	301nm,0.3s						
KEDI	**Kedomdong**	**12.22**	**101**	*e*P	**P**	**07 54 53.4**	**+0.6**
MBWA	**Marble Bar**	**21.28**	**136**	*e*P	**P**	**07 56 45.0**	**+0.4**
	2.7nm,0.6s,mb3.8						
FITZ	**Fitzroy Crossi**	**24.19**	**121**	P	**P**	**07 57 13.1**	**-0.4**
	5.0nm,1.0s,mb3.9,baz=294,slow=12,SNR=3.6						
FITZ				LR	LR	08 05 01.0	
	comp=Z,31nm,21.1s,MS2.8,baz=228,slow=32						
CMAR	**Chiang Mai Arr**	**25.02**	**349**	P	**P**	**07 57 21.9**	**+0.5**
	0.9nm,0.5s,mb3.6,baz=186,slow=8.2,SNR=3.7						
WRA	**Warramunga Arr**	**32.47**	**118**	P	**P**	**07 58 28.1**	**-0.5**
	2.2nm,0.6s,mb4.2,baz=287,slow=10,SNR=15						
WRAB	**Tennant Creek**	**32.48**	**118**	*e*P	**P**	**07 58 28.1**	**-0.5**
	5.1nm,0.5s,mb4.6						
WB2	**Warramunga Arr**	**32.48**	**118**	*e*P	**P**	**07 58 28.2**	**-0.5**
ASAR	**Alice Springs**	**33.58**	**124**	P	**P**	**07 58 38.4**	**+0.1**
	2.2nm,0.7s,mb4.2,baz=307,slow=7.9,SNR=20						
ASAR				LR	LR	08 13 11.1	
	comp=Z,45nm,20.7s,MS3.2,baz=25,slow=38						
STKA	**Stephens Creek**	**43.39**	**131**	P	**P**	**08 00 00.9**	**+0.7**
	1.9nm,0.4s,mb4.2,baz=305,slow=8.6,SNR=4.9						
SONM	**Songino Array**	**53.86**	**2**	P	**P**	**08 01 21.3**	**+0.2**
	1.5nm,0.6s,mb4.1,baz=173,slow=8.6,SNR=13						
MKAR	**Makanchi Array**	**56.19**	**342**	P	**P**	**08 01 37.0**	**-1.0**
	1.5nm,0.6s,mb4.2,baz=158,slow=9.2,SNR=14						
MKAR	**Makanchi Array**	**56.19**	**342**	P	**P**	**08 01 37.0**	**-1.1**
MAW	**Mawson**	**67.28**	**196**	P	**P**	**08 02 52.0**	**-0.3**
	1.1nm,0.8s,mb3.9,baz=34,slow=10,SNR=3.3						
TXAR	**Lajitas Array**	**145.21**	**45**	PKPbc	PKPbc	08 11 36.1	+1.5
	2.5nm,0.6s,baz=287,slow=1.3,SNR=44						

PRU ***13*** *08:02:57.9, 50.35N×19.07E*

WAR ***13*** *08:02:58.7, 50.20N×19.13E, ML2.4, Mining Induced*

ISC 13 08:02:56.9±0.7, 50.22N±0.08×19.01E±0.05, n7, σ1^{s}28/12, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.50**	**90**	*e*PG	**Pg**	**08 03 07.0**	**0.0**
OJC				*e*SG	**Sg**	**08 03 13.0**	**-0.7**
OKC	**Ostrava-Krasne**	**0.68**	**236**	*e*PG	**Pg**	**08 03 12.9**	**+2.4**
OKC				*e*SG	**Sg**	**08 03 24.2**	**+4.7**
NIE	**Niedzica**	**1.17**	**133**	*e*PG	**Pg**	**08 03 20.0**	**-0.2**
NIE				*e*SG	**Sg**	**08 03 36.0**	**+0.3**
DPC	**Dobruska-Polom**	**1.73**	**275**	*e*PG	**Pg**	**08 03 29.5**	**-2.0**
DPC				*e*SG	**Sg**	**08 03 55.1**	**+0.5**
KSP	**Ksiaz**	**1.84**	**291**	*e*PG	**Pg**	**08 03 35.0**	**+1.3**
KSP				*e*SG	**Sg**	**08 03 59.0**	**+0.7**
PRU	**Pruhonice**	**2.89**	**267**	*e*SG	**Sg**	**08 04 31.9**	**-1.2**
KHC	**Kasperske Hory**	**3.70**	**255**	*e*SG	**Sg**	**08 04 57.8**	**-2.2**

KRSC ***13*** *08:19:56.4±1.0, 51.35N×153.65E, h591^{km}±9^{km}, ML4.2*

MOS ***13*** *08:19:59.7±1.2, 52.23N×152.48E, h501^{km}, mb3.6/3, Error ellipse: s-maj=31.1km s-min=19.1km az=45.2*

IDC ***13*** *08:20:01.6±3.5, 52.33N×152.35E, h491^{km}±48^{km}, mb3.0/9, mb1 3.2/10, mb1mx3.0/23, Error ellipse: s-maj=26.2km s-min=14.4km az=166.0*

ISC 13 08:20:00.5±0.7, 52.2N±0.1×152.4E±0.2, h496^{km}±8^{km}, n39, σ1^{s}16/48, mb3.3/9, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**2.82**	**104**	*i* P	**P**	**08 21 11.0**	**+0.4**
APC	**Apacha**	**2.97**	**75**	*e*P	**P**	**08 21 11.3**	**-0.2**
GRL	**Gorelyy**	**3.47**	**82**	*e*P	**P**	**08 21 15.9**	**+0.8**
GNL	**Ganaly**	**3.64**	**64**	*e*P	**P**	**08 21 16.9**	**+0.5**
RUS	**Russkaya**	**3.74**	**85**	P	**P**	**08 21 16.4**	**-0.8**
RUS				S	**S**	**08 22 14.8**	**-3.1**
RUS	**Russkaya**	**3.74**	**85**	*e*P	**P**	**08 21 16.3**	**-0.9**
RUS				*e*S	**S**	**08 22 14.6**	**-3.3**
PET	**Petropavlovsk**	**3.87**	**76**	P	**P**	**08 21 17.9**	**-0.3**
PET	**Petropavlovsk**	**3.87**	**76**	*e*P	**P**	**08 21 18.3**	**+0.1**
KOK	**Koryaka**	**3.92**	**72**	*e*P	**P**	**08 21 19.7**	**+1.1**
AVH	**Avacha**	**3.97**	**72**	*e*P	**P**	**08 21 19.7**	**+0.7**
SMAR	**Somma**	**4.01**	**73**	*e*P	**P**	**08 21 19.9**	**+0.6**
UGLR	**Uglovaya**	**4.01**	**73**	*e*P	**P**	**08 21 19.9**	**+0.6**
SDLR	**Sedlovina**	**4.06**	**73**	*e*P	**P**	**08 21 19.7**	**0.0**
NLC	**Nalytchevo**	**4.31**	**75**	P	**P**	**08 21 21.1**	**-0.8**
NLC				S	**S**	**08 22 22.4**	**-3.9**
NLC	**Nalytchevo**	**4.31**	**75**	*e*P	**P**	**08 21 21.0**	**-0.9**
NLC				*e*S	**S**	**08 22 23.3**	**-3.0**
SPN	**Mys Shipunski**	**4.70**	**76**	*e*P	**P**	**08 21 23.3**	**-2.0**
SPN				*e*S	**S**	**08 22 26.4**	**-6.1**
TUMR	**Tumrok**	**5.50**	**53**	*e*P	**P**	**08 21 34.7**	**+1.9**
KMNR	**Kamenistaya**	**5.80**	**49**	*e*P	**P**	**08 21 36.7**	**+1.1**
KPT	**Kopyto**	**5.92**	**48**	*e*P	**P**	**08 21 37.5**	**+0.8**
MKZ	**Mys Kozlova**	**6.03**	**64**	P	**P**	**08 21 36.0**	**-1.9**
MKZ				S	**S**	**08 22 48.4**	**-6.5**
MKZ	**Mys Kozlova**	**6.03**	**64**	*e*P	**P**	**08 21 36.1**	**-1.8**
MKZ				*i* S	**S**	**08 22 48.6**	**-6.3**
LGNR	**Loginova**	**6.20**	**48**	*e*P	**P**	**08 21 40.7**	**+1.2**
ZLN	**Zelenaya**	**6.21**	**49**	*i* P	**P**	**08 21 42.4**	**+2.8**
KBTR	**Krutoberegovo**	**7.28**	**53**	P	**P**	**08 21 47.5**	**-2.9**
KBTR				S	**S**	**08 23 08.5**	**-9.1**
KBTR	**Krutoberegovo**	**7.28**	**53**	*e*P	**P**	**08 21 47.4**	**-3.0**
KBTR				*e*S	**S**	**08 23 10.1**	**-7.5**
FX1	**Attu Island--F**	**12.63**	**79**	P	**P**	**08 22 47.2**	**+0.7**
	2.5nm,0.3s,baz=270,slow=4.6,SNR=15						
FX1	**Attu Island--F**	**12.63**	**79**	P	**P**	**08 22 47.2**	**+0.6**
FX1				pmax	pmax		
	comp=Z,3.0nm,0.3s						
JOW	**Kunigami**	**31.19**	**225**	P	**P**	**08 25 39.7**	**+0.3**
	comp=Z,5.5nm,0.5s,mb4.2,baz=106,slow=29,SNR=5.1						
ILAR	**Eielson Array**	**32.70**	**44**	P	**P**	**08 25 51.9**	**+0.1**
	comp=Z,0.3nm,0.6s,mb2.9,baz=255,slow=6.0,SNR=15						
MKAR	**Makanchi Array**	**44.24**	**292**	P	**P**	**08 27 25.7**	**-0.2**
	comp=Z,0.6nm,0.3s,mb3.4,baz=46,slow=7.1,SNR=9.6						
MKAR	**Makanchi Array**	**44.24**	**292**	P	**P**	**08 27 25.7**	**-0.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
YKA	**Yellowknife Ar**	**46.88**	**39**	P	**P**	**08 27 45.7**	**-0.3**
	comp=Z,0.3nm,0.4s,mb3.0,baz=304,slow=6.9,SNR=5.2						
BVAR	**Borovoye Array**	**47.17**	**305**	P	**P**	**08 27 48.1**	**-0.3**
	comp=Z,0.4nm,0.4s,mb3.2,baz=79,slow=7.6,SNR=4.3						
ARCES	**ARCESS Array B**	**52.54**	**339**	P	**P**	**08 28 27.0**	**-1.0**
	comp=Z,7.8nm,1.2s,mb3.9,baz=34,slow=9.8,SNR=2.7						
ARCES	**ARCESS Array B**	**52.54**	**339**	P	**P**	**08 28 27.0**	**-1.0**
ARCES				pmax	pmax		
	comp=Z,8.0nm,1.2s						
FINES	**FINESS Array B**	**58.91**	**333**	P	**P**	**08 29 11.2**	**-1.1**
	comp=Z,0.5nm,0.4s,mb3.2,baz=34,slow=6.9,SNR=6.9						
FINES	**FINESS Array B**	**58.91**	**333**	P	**P**	**08 29 11.2**	**-1.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
PDAR	**Pinedale Array**	**61.95**	**56**	P	**P**	**08 29 32.3**	**-0.3**
	comp=Z,0.3nm,0.4s,mb3.1,slow=1.5,SNR=4.0						
TXAR	**Lajitas Array**	**75.21**	**61**	P	**P**	**08 30 54.0**	**+1.4**
	comp=Z,0.2nm,0.4s,mb3.0,baz=301,slow=5.5,SNR=7.6						

NEIC ***13*** *08:28:28.5, 34.99S×70.47W, h1^{km}, ML2.6(GUC), After GUC.*

GUC 13 08:28:28.5±0.6, 34.99S×70.47W, h1^{km}±2^{km}, MD3.8, ML2.6, 1C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFDO	**San Fernando**	**0.58**	**310**	⇑*i*P	Pg	08 28 40.2	+0.2
SFDO				*i* S	Sg	08 28 49.2	+1.5
CICH	**Cipreses**	**0.67**	**4**	⇓*i*P	Pg	08 28 42.3	+0.5
CICH				*i* S	Sg	08 28 52.7	+2.0
CACH	**El Canelo**	**0.87**	**353**	*e*P	Pg	08 28 45.5	-0.4
CACH				*i* S	Sg	08 28 58.7	+1.1
CHCH	**Chadas Angostu**	**1.06**	**352**	*i* P	Pb	08 28 48.9	-0.4
CHCH				*i* S	Sb	08 29 03.8	+0.3
LMEL	**Las Melosas**	**1.16**	**11**	*e*P	Pb	08 28 50.6	-0.3
LMEL				*i* S	Sb	08 29 07.1	+0.8
LMEL				AMP		08 29 12.0	
	comp=N,168nm,0.1s						
LNV	**Longovilo**	**1.29**	**323**	*i* P	Pb	08 28 52.5	-0.7
LNV				*i* S	Sb	08 29 10.3	+0.2
TACH	**Talagante**	**1.38**	**344**	*e*P	Pb	08 28 54.2	-0.7
TACH				*i* S	Sb	08 29 13.3	+0.3
DSCH	**Colegio Aleman**	**1.59**	**357**	*e*P	Pn	08 28 58.6	+0.7
DSCH				*i* S	Sb	08 29 20.7	+2.0
DSCH				AMP		08 29 25.4	
	comp=N,245nm,0.3s						
FCH	**Farellones**	**1.66**	**5**	*e*P	Pn	08 29 00.2	+1.3
FCH				*i* S	Sb	08 29 23.5	+2.6

CASC 13 09:14:57.5±2.1, 12.77N×88.93W, h44^{km}±71^{km}, MD3.6, ML3.3, 5C-9D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNVI	**San Vicente**	**0.84**	**6**	⇑*e*P	P	09 15 13.3	+0.3
SNVI				*e*S	S	09 15 25.4	+1.0
LFRS	**El Faro**	**0.86**	**351**	⇓*e*P	P	09 15 13.2	-0.1
LFRS				*e*S	S	09 15 25.0	+0.1
LCBS	**La Ceiba**	**0.88**	**357**	⇓*e*P	P	09 15 13.2	-0.4
LCBS				*e*S	S	09 15 26.0	+0.5
VSM	**San Miguel**	**0.91**	**44**	⇓*e*P	P	09 15 14.9	+0.8
VSM				*e*S	S	09 15 28.5	+2.3
BLLM	**Bellamira**	**0.95**	**45**	*e*P	P	09 15 13.5	-1.1
BLLM				*e*S	S	09 15 28.2	+1.1
SNET	**Serv Nac Est T**	**0.96**	**342**	⇑*e*P	P	09 15 14.6	-0.1
SNET				*e*S	S	09 15 27.1	-0.3
LBRS	**Las Brisas**	**0.97**	**353**	⇓*e*P	P	09 15 15.3	+0.5
LBRS				*e*S	S	09 15 28.7	+1.0
LFU	**La Fuente**	**0.99**	**349**	⇑*e*P	P	09 15 15.3	+0.2
BOQS	**Boqueron**	**1.02**	**340**	⇓*e*P	P	09 15 15.9	+0.3
BOQS				*e*S	S	09 15 29.4	+0.5
CNCH	**Conchagua**	**1.18**	**65**	*e*P	P	09 15 18.2	+0.4
CNCH				*e*S	S	09 15 34.2	+1.3
CAHU	**Cacacuatique**	**1.21**	**35**	⇑*e*P	P	09 15 19.3	+1.0
CAHU				*e*S	S	09 15 34.9	+1.0
SBLS	**San Blas**	**1.26**	**328**	⇓*e*P	P	09 15 19.2	+0.2
SBLS				*e*S	S	09 15 35.6	+0.5
SNJE	**San Jose**	**1.28**	**329**	⇓*e*P	P	09 15 19.3	0.0
SNJE				*e*S	S	09 15 35.6	+0.1
RTR	**El Retiro**	**1.32**	**328**	⇓*e*P	P	09 15 20.0	+0.1
RTR				*e*S	S	09 15 36.9	+0.2
CUSS	**Cusmapa**	**1.51**	**319**	*e*P	P	09 15 22.2	-0.3
CUSS				*e*S	S	09 15 41.3	+0.1
MTO2	**Montecristo 2**	**1.68**	**345**	*e*P	P	09 15 25.3	+0.4
MTO2				⇑*i*P		09 15 25.4	
TELN	**Telica**	**2.05**	**94**	*e*S	S	09 15 54.9	+0.2
COPN	**Copaltepe**	**2.35**	**104**	*e*P	P	09 15 33.8	-0.8
COPN				*e*S	S	09 16 00.8	-1.6
MOMJ	**Momotombo**	**2.36**	**99**	*e*P	P	09 15 34.9	+0.3
MOMJ				*e*S	S	09 16 02.0	-0.5
XAVN	**Gruta Xavier**	**2.61**	**103**	*e*P	P	09 15 37.8	-0.5
XAVN				*e*S	S	09 16 07.5	-1.5
MGAN	**Managua**	**2.69**	**103**	*e*P	P	09 15 38.6	-0.8
MGAN				*e*S	S	09 16 09.1	-1.8
MGAN				*i*		09 16 11.8	
	comp=N,174nm,0.3s						
TICN	**Ticuantepe**	**2.73**	**105**	*e*P	P	09 15 39.8	-0.2
TICN				*e*S	S	09 16 10.4	-1.6
JCR	**Jicaral**	**4.73**	**127**	*e*P	P	09 16 09.0	+0.7
JCR				*e*S	S	09 16 59.9	-2.7
LAJ	**Bijagual**	**5.53**	**121**	*e*P	P	09 16 16.9	-2.4
LAJ				*e*S	S	09 17 07.4	-15
LCR2	**La Lucha 2**	**5.69**	**121**	*e*P	P	09 16 23.5	+1.9
BUS	**Buena Vista**	**5.99**	**122**	⇓*e*P	P	09 16 28.2	+2.3

DJA 13 09:15:03.7±1.1, 7.93S×115.72E, h155^{km}±12^{km}, MD4.8/3, 4C-3D, Error ellipse: s-maj=40.9km s-min=17.5km az=177.0, Bali Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**0.68**	**145**	⇑*e*Pn	P	09 15 26.4	-0.5
	60nm,0.2s						
KEDI				⇓*e*Sn	S	09 15 42.3	-2.5
RATI	**Rata**	**0.82**	**193**	⇓*e*Pn	P	09 15 27.6	-0.2
RATI				⇓*e*Sn	S	09 15 45.7	-0.6
INGI	**Ingas**	**1.06**	**213**	⇑*e*Pn	P	09 15 29.1	-0.5
INGI				⇑*e*Sn	S	09 15 47.8	-1.7
KELI	**Kelakatan**	**1.25**	**257**	⇑*e*Pn	P	09 15 31.3	-0.2

IDC ***13*** *09:16:50.1±0.7, 52.66N×160.37E, mb3.8/10, mb1 4.1/12, mb1mx3.9/24, ML3.9/2, MS2.7/1, Ms1 2.7/1, ms1mx2.1/26, Error ellipse: s-maj=21.4km s-min=15.3km az=175.0*

MOS ***13*** *09:16:52.3±1.3, 52.45N×160.69E, h35^{km}, mb4.2/5, Error ellipse: s-maj=16.1km s-min=8.5km az=91.9*

KRSC ***13*** *09:16:53.1±0.9, 52.60N×160.48E, h8^{km}±2^{km}, ML4.4*

NEIC ***13*** *09:16:54.6±3.8, 52.67N×160.54E, h30^{km}±29^{km}, mb4.2/3, Error ellipse: s-maj=16.3km s-min=11.1km az=164.0*

ISC 13 09:16:50.7±0.4, 52.49N±0.03×160.73E±0.04, h10^{km}, n65, σ1^{s}34/97, mb3.9/13, 2D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.74**	**325**	P	**Pb**	**09 17 05.7**	**+0.4**
SPN				S	**Sb**	**09 17 13.3**	**-1.9**
SPN	**Mys Shipunski**	**0.74**	**325**	*i* P	**Pb**	**09 17 05.7**	**+0.4**
SPN				*e*S	**Sb**	**09 17 14.7**	**-0.5**
NLC	**Nalytchevo**	**1.08**	**310**	P	**Pb**	**09 17 10.9**	**-0.1**
NLC				S	**Sb**	**09 17 22.1**	**-2.9**
NLC	**Nalytchevo**	**1.08**	**310**	*i* P	**Pb**	**09 17 11.0**	**0.0**
NLC				*e*S	**Sb**	**09 17 24.5**	**-0.5**
RUS	**Russkaya**	**1.36**	**269**	P	**Pb**	**09 17 16.2**	**+0.5**
RUS				S	**Sb**	**09 17 32.0**	**-0.9**
RUS	**Russkaya**	**1.36**	**269**	*e*P	**Pb**	**09 17 16.2**	**+0.5**
RUS				*e*S	**Sb**	**09 17 32.9**	**0.0**
UGLR	**Uglovaya**	**1.36**	**303**	*e*P	**Pn**	**09 17 15.9**	**+0.1**
SDLR	**Sedlovina**	**1.37**	**306**	*i* P	**Pn**	**09 17 15.7**	**-0.2**
PET	**Petropavlovsk**	**1.37**	**294**	P	**Pn**	**09 17 16.2**	**+0.3**
PET				S	**Sb**	**09 17 32.6**	**-0.8**
PET	**Petropavlovsk**	**1.37**	**294**	*i* P	**Pn**	**09 17 16.1**	**+0.2**
PET				*e*S	**Sb**	**09 17 33.1**	**-0.3**
PET	**Petropavlovsk**	**1.37**	**294**	⇓*i*PN	**Pn**	**09 17 16.1**	**+0.2**
PET				*e*S	**Sb**	**09 17 33.1**	**-0.3**
PET				pmax	pmax		
	comp=Z,675nm,0.5s						
PET				smax			
	comp=E,200nm,11.3s						
PET				smax			
	comp=E,2μm,0.6s						
PET				smax			
	comp=N,2μm,0.5s						
PET	**Petropavlovsk**	**1.37**	**294**	⇓*i*Pg	**Pg**	**09 17 16.0**	**-2.1**
PET				*e*Sn	**Sn**	**09 17 28.1**	**-6.1**
SMAR	**Somma**	**1.40**	**304**	*e*P	**Pn**	**09 17 16.2**	**-0.2**
AVH	**Avacha**	**1.44**	**304**	*e*P	**Pn**	**09 17 17.0**	**+0.2**
AVH				*e*S	**Sb**	**09 17 34.3**	**-0.9**
KOK	**Koryaka**	**1.50**	**303**	*e*P	**Pn**	**09 17 18.0**	**+0.2**
KOK				*e*S	**Sb**	**09 17 37.1**	**-0.1**
GRL	**Gorelyy**	**1.62**	**273**	*e*P	**Pn**	**09 17 21.4**	**+1.9**
GRL				*e*S	**Sn**	**09 17 41.9**	**+1.3**
KII	**Karymskiy**	**1.73**	**334**	P	**Pn**	**09 17 21.2**	**+0.1**
KII				S	**Sn**	**09 17 41.0**	**-2.4**
KII	**Karymskiy**	**1.73**	**334**	*e*P	**Pn**	**09 17 21.2**	**+0.1**
KII				*e*S	**Sn**	**09 17 40.9**	**-2.5**
GNL	**Ganaly**	**2.07**	**307**	*e*P	**Pn**	**09 17 26.9**	**+1.0**
GNL				*e*S	**Sn**	**09 17 52.2**	**+0.2**
MKZ	**Mys Kozlova**	**2.16**	**16**	P	**Pn**	**09 17 26.8**	**-0.4**
MKZ				S	**Sn**	**09 17 50.5**	**-3.7**
MKZ	**Mys Kozlova**	**2.16**	**16**	*i* P	**Pn**	**09 17 26.9**	**-0.3**
APC	**Apacha**	**2.21**	**283**	*e*P	**Pn**	**09 17 30.0**	**+2.0**
APC				*e*S	**Sn**	**09 17 56.0**	**+0.3**
APC				Smax			
	comp=N,290nm,0.9s						
PAU	**Pauzhetka**	**2.63**	**249**	*e*P	**Pn**	**09 17 35.7**	**+1.8**
PAU				*e*S	**Sn**	**09 18 05.7**	**-0.5**
PAU				Smax			
	comp=N,440nm,0.5s						
TUMR	**Tumrok**	**2.82**	**353**	*e*P	**Pn**	**09 17 37.8**	**+1.1**
TUMR				*e*S	**Sn**	**09 18 11.7**	**+0.6**
KMNR	**Kamenistaya**	**3.29**	**355**	*e*P	**Pn**	**09 17 44.9**	**+1.6**
KMNR				*e*S	**Sn**	**09 18 22.8**	**-0.1**
SKR	**Severo-Kuril's**	**3.40**	**240**	*i* S	**Sn**	**09 18 27.5**	**+1.9**
SKR	**Severo-Kuril's**	**3.40**	**240**	*e*PN	**Pn**	**09 17 42.0**	**-2.8**
SKR				pmax	pmax		
	comp=Z,160nm,0.9s						
KPT	**Kopyto**	**3.50**	**355**	*e*P	**Pn**	**09 17 49.0**	**+2.7**
ZLN	**Zelenaya**	**3.54**	**1**	*e*P	**Pn**	**09 17 48.7**	**+1.9**
ZLN				*e*S	**Sn**	**09 18 28.6**	**-0.6**
LGNR	**Loginova**	**3.60**	**360**	*e*P	**Pn**	**09 17 50.3**	**+2.5**
LGNR				*e*S	**Sn**	**09 18 31.7**	**+0.9**
KOZ	**Kozyrevsk**	**3.61**	**352**	P	**Pn**	**09 17 49.2**	**+1.3**
KOZ				S	**Sn**	**09 18 28.4**	**-2.7**
KOZ	**Kozyrevsk**	**3.61**	**352**	*e*P	**Pn**	**09 17 49.7**	**+1.8**
KOZ				*e*S	**Sn**	**09 18 31.3**	**+0.2**
KOZR	**Kozyr**	**3.62**	**353**	PN	**Pn**	**09 17 49.2**	**+1.2**
CIRR	**Tsirk**	**3.63**	**0**	*e*P	**Pn**	**09 17 50.3**	**+2.1**
CIRR				*e*S	**Sn**	**09 18 33.2**	**+1.5**
ESO	**Esso**	**3.64**	**342**	*i* P	**Pn**	**09 17 49.0**	**+0.6**
ESO				*e*S	**Sn**	**09 18 28.5**	**-3.4**
ESO				Smax			
	comp=Z,60nm,0.7s						
KRSR	**Krestovskiy**	**3.74**	**359**	*e*S	**Sn**	**09 18 34.2**	**-0.1**
KLY	**Klyuchi**	**3.83**	**359**	P	**Pn**	**09 17 52.5**	**+1.5**
KLY				S	**Sn**	**09 18 34.7**	**-2.0**
KLY	**Klyuchi**	**3.83**	**359**	*e*P	**Pn**	**09 17 52.5**	**+1.5**
KLY				*e*S	**Sn**	**09 18 35.8**	**-0.9**
KBTR	**Krutoberegovo**	**3.92**	**17**	P	**Pn**	**09 17 52.1**	**-0.2**
KBTR				S	**Sn**	**09 18 35.6**	**-3.4**
KBTR	**Krutoberegovo**	**3.92**	**17**	*e*P	**Pn**	**09 17 52.2**	**-0.1**
KBTR				*e*S	**Sn**	**09 18 36.0**	**-3.0**
SVLR	**Shiveluch**	**4.11**	**4**	*e*P	**Pn**	**09 17 58.2**	**+3.2**
BKI	**Bering**	**4.13**	**47**	P	**Pn**	**09 17 54.7**	**-0.6**
FX1	**Attu Island--F**	**7.57**	**82**	Pn	**Pn**	**09 18 43.2**	**-0.6**
	comp=Z,6.8nm,0.3s,baz=29,slow=3.2,SNR=66						
FX1				Sn	**Sn**	**09 20 02.4**	**-8.1**
	comp=Z,9.7nm,0.3s,baz=89,slow=20,SNR=6.7						
SMY	**Shemya**	**8.15**	**83**	*e*Pn	**P**	**09 18 51.1**	**-0.7**
ASAJ	**Asahikawa**	**14.66**	**242**	Pn	**P**	**09 20 18.9**	**-0.8**
	comp=Z,0.9nm,0.3s,baz=91,slow=15,SNR=3.9						
ASAJ				LR	LR	09 25 42.0	
	comp=Z,26nm,18.0s,baz=245,slow=37						
ASAJ	**Asahikawa**	**14.66**	**242**	P	**P**	**09 20 19.0**	**-0.7**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,26nm,18.0s						
MAJO	**Matsushiro**	**22.48**	**234**	*e*P	**P**	**09 21 49.7**	**-1.7**
	comp=Z,9.7nm,0.8s,mb4.3						
MAT	**Matsushiro**	**22.48**	**234**	P	**P**	**09 21 54.3**	**+2.9**
MAT	**Matsushiro**	**22.48**	**234**	P	**P**	**09 21 54.0**	**+2.6**
	comp=Z,9.0nm,1.0s,mb4.2						
HIA	**Hailar**	**25.81**	**279**	P	**P**	**09 22 21.2**	**-2.1**
	comp=Z,4.3nm,0.6s,mb4.2						
INK	**Inuvik**	**34.12**	**37**	P	**P**	**09 23 36.6**	**-0.5**
	comp=Z,1.8nm,1.0s,mb4.0,baz=286,slow=7.4,SNR=3.1						
INK	**Inuvik**	**34.12**	**37**	P	**P**	**09 23 36.6**	**-0.5**
INK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
SONM	**Songino Array**	**34.42**	**284**	P	**P**	**09 23 36.7**	**-3.2**
	comp=Z,0.5nm,0.6s,mb3.6,baz=72,slow=9.1,SNR=2.7						
BVAR	**Borovoye Array**	**51.07**	**309**	P	**P**	**09 25 50.7**	**-4.0**
	comp=Z,1.0nm,0.5s,mb4.0,baz=68,slow=8.0,SNR=5.8						
ARCES	**ARCESS Array B**	**53.98**	**342**	P	**P**	**09 26 13.1**	**-3.2**
	comp=Z,1.8nm,0.7s,mb4.1,baz=44,slow=8.4,SNR=8.8						
ARCES	**ARCESS Array B**	**53.98**	**342**	P	**P**	**09 26 13.1**	**-3.1**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
FINES	**FINESS Array B**	**60.83**	**337**	P	**P**	**09 27 02.1**	**-2.7**
	comp=Z,1.9nm,0.5s,mb4.5,baz=27,slow=8.5,SNR=9.4						
FINES	**FINESS Array B**	**60.83**	**337**	P	**P**	**09 27 02.1**	**-2.7**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
NOA	**NORSAR Array B**	**64.23**	**344**	P	**P**	**09 27 25.4**	**-1.9**
	comp=Z,1.4nm,0.8s,mb4.0,baz=24,slow=6.7,SNR=2.5						
NOA	**NORSAR Array B**	**64.23**	**344**	P	**P**	**09 27 25.4**	**-1.9**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
TXAR	**Lajitas Array**	**70.52**	**67**	P	**P**	**09 28 07.3**	**-0.1**
	comp=Z,0.1nm,0.5s,mb3.0,baz=303,slow=5.1,SNR=4.3						
WRA	**Warramunga Arr**	**75.70**	**206**	P	**P**	**09 28 37.2**	**-0.7**
	comp=Z,0.5nm,0.6s,mb3.6,baz=18,slow=6.0,SNR=4.7						
WRA	**Warramunga Arr**	**75.70**	**206**	P	**P**	**09 28 37.2**	**-0.7**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRTR	**Keskin Array B**	**77.33**	**321**	P	**P**	**09 28 45.5**	**-1.1**
	comp=Z,0.4nm,0.5s,mb3.6,baz=50,slow=2.4,SNR=3.9						
ASAR	**Alice Springs**	**79.37**	**205**	P	**P**	**09 28 58.3**	**+0.1**
	comp=Z,0.7nm,0.6s,mb3.8,baz=14,slow=5.6,SNR=11						

IDC ***13*** *09:18:54.2±1.7, 16.82S×178.11W, mb3.8/5, mb1 4.0/5, mb1mx3.9/12, Error ellipse: s-maj=103.0km s-min=24.7km az=149.0*

ISC 13 09:18:58.3±1.7, 16.7S±0.6×178.3W±0.4, h33^{km}, n5, σ0^{s}20/5, mb3.7/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.33**	**240**	P	**P**	**09 26 26.1**	**0.0**
	1.0nm,0.7s,mb3.7,baz=101,slow=8.1,SNR=4.0						
WRA	**Warramunga Arr**	**44.97**	**258**	P	**P**	**09 27 12.7**	**+0.2**
	0.4nm,0.3s,mb3.7,baz=96,slow=7.2,SNR=16						
ASAR	**Alice Springs**	**45.24**	**253**	P	**P**	**09 27 14.3**	**-0.2**
	3.9nm,0.6s,mb4.4,baz=87,slow=8.6,SNR=49						
ILAR	**Eielson Array**	**84.65**	**13**	P	**P**	**09 31 29.4**	**-0.1**
	0.1nm,0.5s,mb3.2,baz=219,slow=5.0,SNR=6.4						
TXAR	**Lajitas Array**	**85.24**	**58**	P	**P**	**09 31 33.3**	**0.0**
	0.2nm,0.6s,mb3.4,baz=207,slow=4.0,SNR=3.4						

LDG ***13*** *09:33:16.9±0.1, 42.75N×0.44E, h4^{km}, Md2.6/2, Ml2.9/9, Error ellipse: s-maj=1.3km s-min=0.8km az=11.0*

NEIC ***13*** *09:33:16.9, 42.75N×0.44E, h4^{km}, ML2.9(LDG), ML2.6(STR), MN2.4(MDD), After LDG.*

STR ***13*** *09:33:16.6±0.1, 42.75N×0.44E, h5^{km}±1^{km}, Ml2.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

MDD ***13*** *09:33:17.4±0.2, 42.77N×0.45E, h4^{km}±4^{km}, mbLg2.3/19, Error ellipse: s-maj=2.1km s-min=1.6km az=20.0, PRXIMO*

ISC 13 09:33:15.7±0.3, 42.80N±0.02×0.48E±0.02, h9^{km}±2^{km}, n54, σ1^{s}27/93, 1C, Pyrenees

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

RESF	**Ens**	0.10	275	Pg	Pg	09 33 19.0	+0.6
RESF				Sg	Sg	09 33 20.4	+0.3
RESF	**Ens**	0.10	275	P	Pg	09 33 19.0	+0.7
RESF				S	Sg	09 33 20.4	+0.3
MELF	**Melles**	0.22	70	Pg	Pg	09 33 21.9	+1.5
MELF				Sg	Sg	09 33 25.8	+2.3
MELF	**Melles**	0.22	70	P	Pg	09 33 22.0	+1.6
MELF				S	Sg	09 33 25.8	+2.4
EPF	**Esparros**	0.25	336	*e*Pg	Pg	09 33 22.8	+1.8
EPF				*e*Sg	Sg	09 33 26.0	+1.4
	119nm,0.4s						
VIEF	**Viey**	0.35	284	Pg	Pg	09 33 23.1	+0.3
VIEF				Sg	Sg	09 33 27.8	+0.2
VIEF	**Viey**	0.35	284	P	Pg	09 33 23.2	+0.4
VIEF				S	Sg	09 33 27.7	+0.2
LABF	**Labassere**	0.39	310	Pg	Pg	09 33 24.7	+1.1
LABF				Sg	Sg	09 33 30.4	+1.5
LABF	**Labassere**	0.39	310	P	Pg	09 33 24.8	+1.2
LABF				S	Sg	09 33 30.6	+1.7
MLS	**Moulis**	0.48	70	Pg	Pg	09 33 26.9	+1.5
MLS				Sg	Sg	09 33 34.2	+2.3
MLS	**Moulis**	0.48	70	P	Pg	09 33 26.8	+1.3
MLS				S	Sg	09 33 34.2	+2.3
SALF	**Salau**	0.52	94	Pg	Pg	09 33 26.7	+0.4
SALF				Sg	Sg	09 33 34.5	+1.1
SALF	**Salau**	0.52	94	P	Pg	09 33 26.8	+0.5
SALF				S	Sg	09 33 34.5	+1.1
SALF	**Salau**	0.52	94	Pg	Pg	09 33 26.7	+0.4
SALF				Sg	Sg	09 33 34.6	+1.2
EGRA	**Graus**	0.61	191	⇑Pg	Pg	09 33 27.8	-0.3
	10nm,0.2s,SNR=18						
EGRA				Lg		09 33 36.0	
	21nm,0.2s,SNR=7.9						
CSOR	**Sort**	0.64	131	Pg	Pg	09 33 28.3	-0.3
REYF	**Montagne du Re**	0.69	293	Pg	Pg	09 33 30.1	+0.4
REYF				Sg	Sg	09 33 40.0	+1.0
REYF	**Montagne du Re**	0.69	293	P	Pb	09 33 30.4	+0.8
REYF				S	Sg	09 33 39.4	+0.3
ETSF	**Etsaut**	0.77	278	*e*Pg	Pg	09 33 30.5	-0.7
ETSF				*e*Sg	Sg	09 33 40.5	-1.0
	48nm,0.2s						
FDAF	**Les Forges d’A**	0.77	272	Pg	Pg	09 33 31.1	-0.1
FDAF				Sg	Sg	09 33 40.8	-0.7
FDAF	**Les Forges d’A**	0.77	272	S	Sb	09 33 41.4	+0.3
GRBF	**Gourbit**	0.78	87	Pg	Pg	09 33 31.9	+0.5
GRBF				P		09 33 31.9	
CORG	**Organya**	0.84	132	Pg	Pg	09 33 32.2	-0.4
ATE	**Arette**	0.91	289	P	Pb	09 33 34.7	+1.4
ATE				S	Sb	09 33 46.1	+0.8
CAVN	**Les Avellanes**	0.94	167	Pg	Pg	09 33 34.5	0.0
LPEF	**Le Peyrat**	1.06	81	S	Sb	09 33 52.6	+3.0
LARF	**Larrau**	1.10	283	Pg	Pg	09 33 37.1	-0.7
LARF	**Larrau**	1.10	283	P	Pb	09 33 37.2	+0.7
LARF				S	Sb	09 33 52.4	+1.6
CLLI	**Llivia**	1.15	106	Pg	Pg	09 33 38.2	-0.5
EMIR	**Miracle**	1.18	138	Pg	Pg	09 33 38.8	-0.4
	6.0nm,0.1s,SNR=7.2						
EMIR				Lg		09 33 56.7	
	24nm,0.2s						
EMIR	**Miracle**	1.18	138	Pg	Pg	09 33 38.8	-0.4
EMIR				Lg		09 33 56.7	
CARF	**Carcanieres**	1.20	93	P	Pb	09 33 39.7	+1.5
CARF				S	Sb	09 33 56.4	+2.7
VALF	**Valcebollere**	1.20	109	P	Pb	09 33 38.9	+0.7
VALF				S	Sb	09 33 56.9	+3.2
ESAC	**San Caprasio**	1.29	214	Pg	Pg	09 33 40.9	-0.6
	68nm,0.4s,SNR=10						
ESAC				Lg		09 33 58.5	
	220nm,0.4s						
SJPF	**Ste Jean**	1.29	285	*e*Pg	Pg	09 33 40.8	-0.7
SJPF				*e*Sg	Sg	09 33 57.0	-1.8
	98nm,0.3s						
CBRU	**Bruguera**	1.36	112	Pg	Pg	09 33 42.4	-0.5
EPOB	**Poblet**	1.51	163	Pg	Pg	09 33 44.5	-1.5
	2.6nm,0.1s,SNR=11						
EPOB				Lg		09 34 03.8	
	19nm,0.2s,SNR=5.0						
EALK	**Alkurruntz**	1.52	287	Pg	Pg	09 33 47.1	+1.1
	35nm,0.3s,SNR=32						
EALK				Sn	Sn	09 34 04.9	+1.7
	94nm,0.4s,SNR=4.0						
EALK				Lg		09 34 08.9	
	129nm,0.3s,SNR=5.0						
FILF	**Fillols**	1.55	98	Pg	Pg	09 33 44.4	-2.4
FILF	**Fillols**	1.55	98	P	Pn	09 33 44.6	+0.8
FILF				S	Sb	09 34 03.9	0.0
SJAF	**Saint Jean de**	1.80	99	Pg	Pg	09 33 51.4	-0.3
SJAF				Sg	Sg	09 34 16.2	+0.5
SJAF	**Saint Jean de**	1.80	99	P	Pn	09 33 51.0	+3.7
SJAF				S	Sn	09 34 14.8	+4.4
EJON	**La Jonquera**	1.81	100	Pg	Pg	09 33 51.6	-0.3
	4.2nm,0.2s,SNR=8.2						
EJON				Lg		09 34 15.5	
	22nm,0.4s,SNR=5.0						
EBR	**Ebro Roquetas**	1.98	180	*e*Rs		09 34 18.0	
LFF	**La Frestale**	2.15	5	*e*Pg	Pg	09 33 58.0	-0.6
LFF				*e*Sg	Sg	09 34 26.2	-1.1
	24nm,0.4s						
CAF	**Calviac**	2.42	28	*e*Pg	Pg	09 34 02.2	-1.8
CAF				*e*Sn	Sn	09 34 25.0	-1.0
CAF				*e*Sg	Sg	09 34 34.8	-1.4
	8.9nm,0.3s						
EMOS	**Mosqueruela**	2.54	197	Pn	Pn	09 33 55.1	-2.7
	0.6nm,0.2s,SNR=7.9						
EMOS				Pg	Pg	09 34 02.9	-3.5
	1.3nm,0.2s,SNR=7.9						
EMOS				Lg		09 34 35.1	
	10nm,0.5s,SNR=7.9						
RJF	**Les Rejaudoux**	2.61	16	*e*Pn	Pn	09 33 58.9	0.0
RJF				*e*Sn	Sn	09 34 29.4	-1.7
RJF				*e*Sg	Sg	09 34 41.4	-1.4
	7.0nm,0.2s						
ETOR	**Torete**	2.74	225	Pn	Pn	09 34 01.1	+0.4
	0.6nm,0.2s,SNR=7.9						
ETOR				Pg	Pg	09 34 07.8	-2.6
	0.7nm,0.2s,SNR=4.0						
ETOR				Sn	Sn	09 34 31.4	-2.8
	1.2nm,0.3s,SNR=7.9						
ETOR				Lg		09 34 43.7	
	8.8nm,0.4s,SNR=7.9						
LASF	**Ste Croix**	2.77	61	*e*Pn	Pn	09 34 01.0	-0.1
LASF				*e*Pg	Pg	09 34 09.1	-2.0
LASF				*e*Sn	Sn	09 34 33.4	-1.7
LASF				*e*Sg	Sg	09 34 45.7	-2.3
	13nm,0.4s						
ELAN	**Lanestosa**	2.90	280	Sn	Sn	09 34 38.0	-0.4
	3.3nm,0.3s,SNR=4.0						
ELAN				Lg		09 34 49.5	
	4.0nm,0.3s,SNR=4.0						
VIVF	**Saint-Julien-l**	3.67	54	*e*Pn	Pn	09 34 13.2	-0.6
VIVF				*e*Pg	Pg	09 34 25.8	-3.1
VIVF				*e*Sg	Sg	09 35 13.5	-4.3
	5.5nm,0.4s						
TCF	**Toulx Ste Croi**	3.70	19	*e*Sg	Sg	09 35 14.7	-4.3
	3.5nm,0.3s						
BGF	**Bois d’Agland**	4.12	23	*e*Sg	Sg	09 35 27.6	-5.3
	11nm,0.4s						

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*LDG **13** 09:52:48.8±0.1,42.74N×0.43E,h3^{km},Md2.2/2,Ml2.5/4, Error ellipse: s-maj=2.1km s-min=1.1km az=28.0*

*NEIC **13** 09:52:48.2,42.68N×0.42E,h5^{km},ML2.5(LDG), ML2.4(STR),MN1.7(MDD),After STR.*

*STR **13** 09:52:48.6±0.3,42.76N×0.45E,h5^{km}±1^{km},Ml2.4,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*MDD **13** 09:52:49.4±0.2,42.76N×0.45E,mbLg1.7/10,Error ellipse: s-maj=2.5km s-min=1.8km az=30.0,PRXIMO*

ISC 13 09:52:48.2±0.4,42.76N±0.03×0.46E±0.02,h0^{km}±7^{km},n29, σ0^{s}98/44,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RESF	**Ens**	0.10	296	Pg	Pg	09 52 50.9	+0.7
RESF				Sg	Sg	09 52 52.8	+1.2
RESF	**Ens**	0.10	296	P	Pg	09 52 51.1	+0.9
RESF				S	Sg	09 52 52.7	+1.2
MELF	**Melles**	0.24	63	Pg	Pg	09 52 54.0	+0.9
MELF				Sg	Sg	09 52 56.9	+0.6
MELF	**Melles**	0.24	63	P	Pg	09 52 54.1	+1.0
MELF				S	Sg	09 52 57.6	+1.3
EPF	**Esparros**	0.28	341	*e*Pg	Pg	09 52 54.9	+1.1
EPF				*e*Sg	Sg	09 52 58.2	+0.6
	24nm,0.3s						
VIEF	**Viey**	0.34	291	Pg	Pg	09 52 55.3	+0.2
VIEF				Sg	Sg	09 53 00.0	+0.3
VIEF	**Viey**	0.34	291	P	Pg	09 52 55.3	+0.3
VIEF				S	Sg	09 52 60.0	+0.3
LABF	**Labassere**	0.40	315	Pg	Pg	09 52 56.8	+0.6
LABF				Sg	Sg	09 53 03.0	+1.4
LABF	**Labassere**	0.40	315	P	Pg	09 52 56.8	+0.5
LABF				S	Sg	09 53 02.8	+1.2
SALF	**Salau**	0.54	90	Pg	Pg	09 52 59.4	+0.5
SALF				Sg	Sg	09 53 06.6	+0.6
SALF	**Salau**	0.54	90	P	Pg	09 52 59.0	+0.1
SALF				S	Sg	09 53 06.6	+0.6
EGRA	**Graus**	0.58	191	Pg	Pg	09 52 59.9	+0.2
	1.0nm,0.1s,SNR=7.9						
EGRA				Lg		09 53 07.7	
	3.4nm,0.2s,SNR=7.9						
CSOR	**Sort**	0.63	128	Pg	Pg	09 53 00.6	-0.2
ETSF	**Etsaut**	0.76	281	*e*Pg	Pg	09 53 02.6	-0.8
ETSF				*e*Sg	Sg	09 53 12.7	-0.9
	14nm,0.2s						
GRBF	**Gourbit**	0.80	84	Pg	Pg	09 53 03.9	-0.2
GRBF				P		09 53 04.1	
CORG	**Organya**	0.83	130	Pg	Pg	09 53 04.2	-0.5
CAVN	**Les Avellanes**	0.91	166	Pg	Pg	09 53 06.5	+0.2
LARF	**Larrau**	1.10	285	S	Sb	09 53 24.3	-0.2
CLLI	**Llivia**	1.15	104	Pg	Pg	09 53 10.8	-0.4
EMIR	**Miracle**	1.16	137	Pg	Pg	09 53 11.2	-0.1
	0.9nm,0.1s,SNR=4.0						
EMIR				Lg		09 53 26.4	
	1.9nm,0.2s,SNR=4.0						
CARF	**Carcanieres**	1.21	92	S	Sb	09 53 28.4	+0.6
ESAC	**San Caprasio**	1.25	214	Pg	Pg	09 53 13.4	+0.3
	4.4nm,0.1s,SNR=8.0						
ESAC				Lg		09 53 29.3	
	29nm,0.3s,SNR=4.8						
SJPF	**Ste Jean**	1.29	286	*e*Pg	Pg	09 53 12.8	-1.1
SJPF				*e*Sg	Sg	09 53 29.0	-2.1
	17nm,0.2s						
EPOB	**Poblet**	1.48	162	Pg	Pg	09 53 17.0	-0.8
	0.5nm,0.1s,SNR=7.9						
EPOB				Lg		09 53 35.4	
	2.1nm,0.1s,SNR=7.9						
EALK	**Alkurruntz**	1.52	288	Pg	Pg	09 53 19.7	+1.3
	3.8nm,0.2s,SNR=8.2						
EALK				Sn	Sn	09 53 37.3	0.0
	SNR=7.9						
EALK				Lg		09 53 41.2	
	15nm,0.3s,SNR=12						
EJON	**La Jonquera**	1.82	99	Pg	Pg	09 53 24.7	+0.2
	0.4nm,0.1s,SNR=7.9						
EJON				Lg		09 53 49.0	
	1.4nm,0.1s,SNR=7.9						
LFF	**La Frestale**	2.19	5	*e*Sg	Sg	09 53 58.5	-2.4
	13nm,0.3s						
CAF	**Calviac**	2.45	28	*e*Sg	Sg	09 54 07.3	-2.6
	1.8nm,0.2s						
LASF	**Ste Croix**	2.80	61	*e*Pg	Pg	09 53 41.3	-2.8
LASF				*e*Sg	Sg	09 54 17.7	-3.7
	1.8nm,0.2s						

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*TAP **13** 10:02:29.6,23.97N×121.71E,h45^{km},ML4.0*

TAP Felt I J at Hualien, II J at Shilin, II J at Nanau, I J at Hungye.

*NEIC **13** 10:02:30.1±1.7,23.99N×121.84E,h46^{km}±16^{km},Error ellipse: s-maj=22.5km s-min=12.5km az=49.0*

NEIC Recorded [3 TAP] in Hua-lien and [2 TAP] in I-lan Counties.

*JMA **13** 10:02:30.3±0.3,24.13N×121.75E,h78^{km},M3.3*

*IDC **13** 10:02:30.4±5.6,24.03N×121.89E,h51^{km}±55^{km},mb3.2/5, mb1 3.4/6,mb1mx3.3/20,ML3.0/1,Error ellipse: s-maj=35.7km s-min=20.4km az=68.0*

ISC 13 10:02:30.2±0.2,23.97N±0.02×121.78E±0.02,h47^{km}±4^{km}, n60,σ1^{s}05/102,mb3.4/5,5C-4D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HWA	**Hwalien**	0.16	274	⇓*i*P	P	10 02 37.5	-0.4
HWA				S	S	10 02 43.0	-0.3
TWD	**Chiawan**	0.20	304	⇓*i*P	P	10 02 37.5	-0.7
TWD				S	S	10 02 42.9	-0.9
ESL	**Shilin**	0.35	244	⇓*i*P	P	10 02 38.7	-0.9
ESL				S	S	10 02 44.5	-1.7
ENA	**Nanau**	0.46	356	⇓*i*P	P	10 02 40.2	-0.6
ENA				S	S	10 02 47.9	-0.4
NNS	**Nan Shan**	0.60	322	⇑*i*P	P	10 02 41.9	-0.6
NNS				S	S	10 02 49.7	-1.8
EHY	**Hungye**	0.62	222	⇑*i*P	P	10 02 41.9	-0.9
TWC	**Suao**	0.64	6	*i* P	P	10 02 43.2	+0.1
TWC				S	S	10 02 52.9	+0.4
TWF1	**Yuli**	0.75	216	P	P	10 02 43.6	-0.9
TWE	**Neicheng**	0.76	352	⇑*i*P	P	10 02 44.4	-0.2
TWE				S	S	10 02 54.6	-0.7
SMLT	**Sun Moon Lake**	0.81	264	⇑*i*P	P	10 02 44.9	-0.4
SMLT				S	S	10 02 55.3	-1.1
TYC	**Yuchr**	0.84	266	⇑P	P	10 02 45.3	-0.6
TYC				S	S	10 02 55.0	-2.4
CHKT	**Chengkung**	0.94	204	*e*P	P	10 02 46.6	-0.5
CHKT				S	S	10 02 58.3	-1.5
NSTT	**Nanjuang**	0.97	313	*e*P	P	10 02 47.8	+0.2
NSTT				S	S	10 02 59.7	-0.8
ALS	**Alishan**	1.00	243	*e*P	P	10 02 48.4	+0.4
ALS				S	S	10 03 01.0	-0.2
WNT	**Mingjian**	1.00	265	*e*P	P	10 02 48.8	+0.8
WNT				S	S	10 03 02.0	+0.6
TCU	**Taichung**	1.02	280	*e*P	P	10 02 48.8	+0.5
TCU				S	S	10 03 02.5	+0.7
TWA	**Mucha**	1.02	350	*e*P	P	10 02 48.4	0.0
TWA				S	S	10 03 01.6	-0.3
NSY	**Sanyi**	1.03	296	*e*P	P	10 02 48.7	+0.3
NSY				S	S	10 03 02.4	+0.4
TATO	**Taipei**	1.04	345	*e*Pn	P	10 02 47.9	-0.7
TATO				*e*Sn	S	10 03 01.9	-0.4
ELDTW	**Lidau**	1.04	222	*e*P	P	10 02 47.8	-0.8
ELDTW				S	S	10 03 01.3	-1.0
TWB1	**Santiao Chiao**	1.05	10	*e*P	P	10 02 49.5	+0.7
TWB1				S	S	10 03 04.5	+1.8
CHN5	**Tsauling**	1.07	250	*e*P	P	10 02 49.4	+0.4
CHN5				S	S	10 03 04.0	+1.0
TAP1	**Taipei**	1.09	348	*e*P	P	10 02 49.5	+0.2
TAP1				S	S	10 03 03.5	0.0
TAP	**Taipei**	1.10	347	*e*P	P	10 02 49.4	0.0
NWF	**Wu-fen Shan**	1.10	0	*e*P	P	10 02 49.7	+0.3
NWF				S	S	10 03 05.4	+1.6
HSN	**Hsinchu**	1.11	319	*e*P	P	10 02 49.9	+0.4
NCU	**National Centr**	1.14	332	*e*P	P	10 02 50.1	+0.2
NCU				S	S	10 03 05.6	+1.0
WGK	**Gukeng**	1.15	256	*e*P	P	10 02 50.7	+0.6
WGK				S	S	10 03 05.9	+1.0
TWS1	**Kuangyinshan**	1.18	344	*e*P	P	10 02 50.3	-0.2
TWS1				S	S	10 03 05.9	+0.3
YOJ	**Yonaguni jima**	1.23	66	P	P	10 02 51.8	+0.5
YOJ				S	S	10 03 08.2	+1.2
STYT	**Tauyuan**	1.23	230	*e*P	P	10 02 51.6	+0.3
STYT				S	S	10 03 08.2	+1.2
CHN2	**Minshiung**	1.27	250	*e*P	P	10 02 53.2	+1.3
CHN2				S	S	10 03 10.0	+2.0
WTP	**Ta-pu**	1.29	236	*e*P	P	10 02 52.6	+0.6
WTP				S	S	10 03 09.5	+1.1
TWG	**Pinlang**	1.31	210	*e*P	P	10 02 50.8	-1.7
TWG				S	S	10 03 06.6	-2.6
TWY	**Chenhua**	1.31	353	*e*P	P	10 02 52.3	-0.3
CHY	**Chiayi**	1.32	250	*e*P	P	10 02 53.5	+0.7
CHY				S	S	10 03 10.9	+1.5
CHN1	**Nanshi**	1.39	236	*e*P	P	10 02 54.0	+0.5
CHN1				S	S	10 03 12.3	+1.4
WSF	**Szhu**	1.46	257	*e*P	P	10 02 55.2	+0.6
WSF				S	S	10 03 14.5	+1.7
ECL	**Taimali**	1.56	209	*e*P	P	10 02 55.7	-0.3
SSD	**Sandimen**	1.61	221	*e*P	P	10 02 57.3	+0.7
SSD				S	S	10 03 18.2	+1.9
PCYT	**Pengchaiyu**	1.68	9	*e*P	P	10 02 58.1	+0.5
TWM1	**Shoushan**	1.69	228	*e*P	P	10 03 00.4	+2.6
EAST	**Anshuo**	1.79	209	*e*P	P	10 02 57.4	-1.8
IRIF	**Iriomote-Funau**	1.82	78	P	P	10 03 00.1	+0.4
IRIF				S	S	10 03 22.5	+0.9
HATJ	**Hateruma jima**	1.86	87	P	P	10 03 00.9	+0.7
HATJ				S	S	10 03 23.7	+1.2
SCZT	**Fangliau**	1.91	214	*e*P	P	10 03 02.3	+1.4
SCZT				S	S	10 03 26.3	+2.5
JKRS	**Kuro-shima**	2.06	82	P	P	10 03 04.0	+1.0
JKRS				S	S	10 03 28.8	+1.3
WDGT	**Dungji**	2.06	251	*e*P	P	10 03 02.5	-0.6
PNG	**Penghu**	2.08	259	*e*P	P	10 03 02.3	-1.0
PNG				S	S	10 03 26.2	-1.7
JIJ	**Ishigaki jima**	2.20	79	P	P	10 03 05.2	+0.2
JIJ				S	S	10 03 30.2	-0.8
JTJ	**Tarama**	2.75	75	P	P	10 03 13.1	+0.2
JTJ				S	S	10 03 44.6	-0.5
JMJ	**Miyako jima 2**	3.31	75	*e*S	S	10 03 59.3	-0.1
JKE	**Kume jima 2**	5.11	62	P	P	10 03 45.7	-0.5
JOW	**Kunigami**	6.53	63	P	P	10 04 02.9	-3.2
	0.8nm,0.3s,baz=295,slow=17,SNR=6.2						
JOW				S	S	10 05 15.0	-5.1
	0.4nm,0.3s,baz=322,slow=29,SNR=2.4						
JOW	**Kunigami**	6.53	63	P	P	10 04 03.7	-2.4
SONM	**Songino Array**	26.78	337	P	P	10 08 05.0	-2.5
	0.8nm,1.0s,mb3.2,baz=135,slow=10,SNR=2.7						
MKAR	**Makanchi Array**	38.87	316	P	P	10 09 51.3	-1.2
	0.8nm,0.8s,mb3.5,baz=104,slow=10.0,SNR=3.8						
WRA	**Warramunga Arr**	45.33	163	P	P	10 10 43.5	-2.1
	0.5nm,0.9s,mb3.4,baz=344,slow=8.6,SNR=4.8						
ASAR	**Alice Springs**	48.79	165	P	P	10 11 10.9	-1.8
	0.1nm,0.5s,mb3.1,baz=340,slow=6.7,SNR=2.8						
YKA	**Yellowknife Ar**	82.96	23	P	P	10 14 49.3	-1.8
	0.6nm,0.8s,mb3.7,baz=317,slow=4.9,SNR=5.5						

DHMR 13 10:08:47.3±0.6,12.17N×44.25E,h11^{km}±4^{km},MD3.6, ML3.7,4D,Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TRBA	**At Turbah**	1.04	353	*i* P	Pb	10 09 06.7	-0.2
TRBA				*i* S	Sb	10 09 22.6	+2.3
TRBA				AML	AML	10 09 28.1	
	comp=N,819nm,0.3s						
LBOS		1.95	30	⇓*i*P	Pn	10 09 21.8	+1.0
LBOS				*i* S	Sn	10 09 48.7	+3.3
BDHA	**Al Bayda’**	2.21	35	⇓*i*P	Pn	10 09 25.8	+1.4
BDHA				*i* S	Sn	10 09 55.8	+4.0
BDHA				AML	AML	10 10 03.1	
	comp=E,1µm,0.5s						
DHBB	**Dhamar BB**	2.38	3	⇓*i*P	Pn	10 09 29.2	+2.2
DHBB				*i* S	Sn	10 10 01.3	+4.9
HAJJ	**Hajjah**	3.57	350	⇓*i*P	Pn	10 09 45.4	+1.6
HAJJ				*i* S	Sn	10 10 30.4	+4.1
HAJJ				AML	AML	10 10 51.0	
	comp=E,311nm,0.6s						

GUC 13 10:26:22.6±0.6,34.13S×70.08W,h8^{km}±1^{km},MD3.6, ML2.3,4C-3D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LMEL	**Las Melosas**	0.30	339	⇓*i*P	Pg	10 26 29.1	+0.4
LMEL				*i* S	Sg	10 26 34.3	+1.5
LMEL				AMP		10 26 35.0	
	comp=E,1µm,0.3s						
CICH	**Cipreses**	0.34	236	⇑*i*P	Pg	10 26 29.7	+0.1
CICH				*i* S	Sg	10 26 34.9	+0.7
CACH	**El Canelo**	0.43	271	⇓*i*P	Pg	10 26 31.5	+0.1
CACH				*i* S	Sg	10 26 38.1	+0.9
CHCH	**Chadas Angostu**	0.52	292	⇑*i*P	Pg	10 26 33.3	+0.3
CHCH				*i* S	Sg	10 26 41.0	+1.0
PCH	**Pirque**	0.62	324	⇓*i*P	Pg	10 26 35.0	-0.1
PCH				*i* S	Sg	10 26 44.7	+1.2
FCH	**Farellones**	0.82	347	*e*P	Pb	10 26 38.8	+0.1
FCH				*i* S	Sb	10 26 51.1	+1.4
FCH				AMP		10 26 52.9	
	comp=E,117nm,0.2s						
TACH	**Talagante**	0.86	303	⇑*i*P	Pb	10 26 38.9	-0.4
TACH				*i* S	Sb	10 26 51.2	+0.4
SFDO	**San Fernando**	0.91	238	⇑*i*P	Pb	10 26 39.9	-0.4
SFDO				*i* S	Sb	10 26 53.0	+0.6
LNV	**Longovilo**	1.12	278	*e*P	Pb	10 26 43.4	-0.5
LNV				*i* S	Sb	10 26 58.6	+0.2
LCCH	**Las Cruces**	1.40	297	*i* P	Pn	10 26 48.3	-0.3
LCCH				*i* S	Sb	10 27 07.2	+0.6

IGQ 13 10:29:11.4,0.86S×80.35W,h12^{km}±7^{km},mb4.1,2C-3D, Error ellipse: s-maj=6.3km s-min=4.1km az=16.3,Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	0.28	225	⇑P	Pg	10 29 16.9	-0.4
QIL1	**Quilotoa**	1.42	90	P	Pn	10 29 37.2	0.0
CUPA	**Cupa**	1.48	35	P	Pn	10 29 40.7	+2.7
CUPA				S	Sb	10 30 06.7	+10
IGUA	**Igualata**	1.82	110	⇓P	Pn	10 29 44.9	+1.9
IGUA				S	Sn	10 30 14.5	+8.4
JUA2	**San Juan 2**	1.86	70	P	Pn	10 29 45.0	+1.6
MARY	**Rancho Maria**	1.87	86	P	Pn	10 29 47.4	+3.8
CGGP	**Crater GGP**	1.87	69	P	Pn	10 29 45.3	+1.7
CGGP				S	Sn	10 30 12.8	+5.5
PINO	**Pino**	1.88	68	⇓P	Pn	10 29 45.0	+1.3
GGP	**Refugio Guagua**	1.88	69	P	Pn	10 29 45.1	+1.3
NAS1	**Nasa**	1.89	83	P	Pn	10 29 46.4	+2.5
JOR1	**San Jorge 1**	1.91	64	P	Pn	10 29 43.4	-0.8
YANA	**Yana**	1.92	68	P	Pn	10 29 45.5	+1.1
VC1	**Cotopaxi 1**	1.96	84	P	Pn	10 29 47.6	+2.7
VC1				S	Sn	10 30 20.2	+11
PISA	**Pisayambo**	1.98	96	P	Pn	10 29 48.5	+3.4
TAMB	**Tambo**	1.99	85	P	Pn	10 29 48.7	+3.4
RETU	**Refugio**	1.99	107	P	Pn	10 29 50.0	+4.7
ARRY	**Arrayan**	2.00	109	⇓P	Pn	10 29 47.5	+2.0
ARRY				S	Sn	10 30 16.8	+6.2
PATA	**Patacocha**	2.02	109	P	Pn	10 29 48.3	+2.5
ANTI	**Antisana**	2.23	80	⇑P	Pn	10 29 51.6	+2.9
COTA	**Cotacachi**	2.33	60	P	Pn	10 29 51.8	+1.6
COTA				S	Sn	10 30 27.3	+8.2
CAYR	**Refugio Cayamb**	2.50	70	P	Pn	10 29 56.2	+3.6
CAYR				S	Sn	10 30 31.6	+8.3
CAYA	**Cayambe**	2.53	69	P	Pn	10 29 56.3	+3.2
CONE	**Cono NE Rev Vo**	2.82	74	P	Pn	10 30 04.1	+6.9

WEL 13 10:52:26.1±0.2,39.02S×175.21E,h228^{km}±1^{km},ML3.9/6, 8C,Error ellipse: s-maj=4.2km s-min=2.3km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MGZ	**Maungaku**	0.26	86	PN	P	10 52 55.5	-0.6
MGZ				SN	S	10 53 18.6	-0.7
CNZ	**Chateau**	0.32	125	PN	P	10 52 55.9	-0.4
WPVZ	**Whakapapa**	0.32	126	PN	P	10 52 56.0	-0.3
NGZ	**Ngauruhoe**	0.34	118	PN	P	10 52 56.1	-0.2
TUVZ	**Tukino**	0.42	126	PN	P	10 52 56.2	-0.4
TUVZ				SN	S	10 53 19.0	-1.1
TUVZ				SN	S	10 53 19.0	-1.1
WNVZ	**Wahianoa**	0.43	136	SN	S	10 53 19.5	-0.6
MOVZ	**Moawhango**	0.57	133	PN	P	10 52 56.4	-0.6
MOVZ				SN	S	10 53 18.8	-2.1
MOVZ				SN	S	10 53 18.8	-2.1
WAZ	**Wanganui**	0.76	193	PN	P	10 52 57.3	-0.4
WAZ				SN	S	10 53 21.2	-1.1
BKZ	**Black Stump Fm**	1.01	99	PN	P	10 52 58.7	-0.3
BKZ				SN	S	10 53 23.5	-1.1
TSZ	**Takapari Road**	1.19	151	PN	P	10 53 00.4	+0.1
TSZ				SN	S	10 53 26.2	-0.5
MRZ	**Mangatainoka R**	1.66	170	⇑PN	P	10 53 03.4	-0.7
MRZ				SN	S	10 53 31.8	-1.6
BFZ	**Birch Farm**	1.84	155	PN	P	10 53 05.3	-0.4
BFZ				SN	S	10 53 36.4	+0.3
KIW	**Kapiti Island**	1.85	187	PN	P	10 53 04.6	-1.1
KNZ	**Kokohu**	1.92	91	⇑PN	P	10 53 06.4	0.0
MWZ	**Matawai**	1.94	70	PN	P	10 53 05.5	-1.0
MWZ				SN	S	10 53 35.7	-1.9
CAW	**Cannon Point**	2.09	183	⇑PN	P	10 53 06.9	-1.1
MTW	**Mount Morrison**	2.15	174	PN	P	10 53 07.4	-1.2
MRW	**Makara Radio**	2.24	190	⇑PN	P	10 53 08.1	-1.5
SNZO	**South Karori**	2.32	189	PN	P	10 53 08.7	-1.7
SNZO				SN	S	10 53 42.5	-2.1
PAWZ	**Paruwai Farm**	2.37	176	⇑PN	P	10 53 09.6	-1.2
MSWZ	**Moikau Station**	2.39	179	⇑PN	P	10 53 09.8	-1.4
TUWZ	**Tuamarina**	2.60	202	PN	P	10 53 11.3	-2.0
NNZ	**Nelson**	2.61	212	⇑PN	P	10 53 10.8	-2.6
NNZ				SN	S	10 53 45.8	-4.2

QRZ	**Quartz Range**	**2.74**	**228**	PN	P	10 53 11.0	-3.8
BSWZ	**Blackbirch Sta**	**2.88**	**200**	PN	P	10 53 14.2	-2.1
THZ	**Tophouse**	**3.26**	**212**	⇑PN	P	10 53 17.8	-3.0
THZ				SN	S	10 53 59.1	-4.0
KHZ	**Kahutara**	**3.62**	**200**	PN	P	10 53 22.5	-2.5
DSZ	**Denniston Nort**	**3.77**	**223**	PN	P	10 53 22.5	-4.3
DSZ				SN	S	10 54 06.3	-7.4
LTZ	**Lake Taylor**	**4.37**	**210**	PN	P	10 53 30.4	-3.7
LTZ				SN	S	10 54 20.3	-6.5
MQZ	**McQueen's Vall**	**5.06**	**202**	PN	P	10 53 38.2	-4.5
MQZ				SN	S	10 54 34.8	-7.4
ODZ	**Otahua Downs**	**6.91**	**208**	PN	P	10 54 01.6	-4.5

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*NEIC **13** 10:54:02.7,34.12S×70.07W,h5^{km},ML3.0(GUC),After GUC.*

GUC 13 10:54:02.7±0.7**,34.12S×70.07W,h5^{km}**±1^{km}**,MD3.9, ML3.0,3C-4D,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LMEL	**Las Melosas**	**0.29**	**337**	⇓*i*P	Pg	10 54 09.0	+0.3
LMEL				*i* S	Sg	10 54 13.7	+1.1
LMEL				AMP		10 54 14.6	
	comp=E,4µm,0.2s						
CICH	**Cipreses**	**0.36**	**236**	⇑*i*P	Pg	10 54 10.1	+0.2
CICH				*i* S	Sg	10 54 15.5	+0.8
CACH	**El Canelo**	**0.44**	**270**	⇓*i*P	Pg	10 54 11.8	+0.1
CACH				*i* S	Sg	10 54 18.7	+1.1
CHCH	**Chadas Angostu**	**0.52**	**291**	*i* P	Pg	10 54 13.5	+0.4
CHCH				*i* S	Sg	10 54 21.8	+1.7
PCH	**Pirque**	**0.62**	**323**	⇓*i*P	Pg	10 54 15.2	+0.1
PCH				*i* S	Sg	10 54 25.1	+1.7
ANTU	**Antumapu**	**0.72**	**319**	*i* P	Pg	10 54 17.0	-0.2
ANTU				*i* S	Sg	10 54 27.8	+0.9
ANTU				AMP		10 54 29.9	
	comp=E,874nm,0.2s						
FCH	**Farellones**	**0.81**	**347**	⇑*i*P	Pb	10 54 18.3	-0.6
FCH				*i* S	Sg	10 54 30.5	+0.7
FCH				AMP		10 54 31.3	
	comp=E,2µm,0.2s						
DSCH	**Colegio Aleman**	**0.83**	**330**	*e*P	Pb	10 54 18.6	-0.6
DSCH				*i* S	Sg	10 54 31.4	+1.0
DSCH				AMP		10 54 32.1	
	comp=N,1µm,0.4s						
TACH	**Talagante**	**0.86**	**302**	⇓*i*P	Pb	10 54 19.5	-0.3
TACH				*i* S	Sb	10 54 32.0	+0.6
SFDO	**San Fernando**	**0.93**	**238**	⇑*i*P	Pb	10 54 20.5	-0.4
SFDO				*i* S	Sb	10 54 33.5	+0.2
PEL	**Peldehue**	**1.10**	**332**	*e*P	Pb	10 54 23.3	-0.5
PEL				*i* S	Sb	10 54 38.8	+0.4
PEL				AMP		10 54 43.0	
	comp=N,484nm,0.3s						
LNV	**Longovilo**	**1.13**	**278**	*i* P	Pb	10 54 23.7	-0.6
LNV				*i* S	Sb	10 54 39.3	+0.2
LCCH	**Las Cruces**	**1.41**	**297**	*e*P	Pn	10 54 28.4	-0.6
LCCH				*i* S	Sb	10 54 47.3	+0.1
JACH	**Jahuel**	**1.50**	**343**	*i* P	Pn	10 54 30.0	-0.3
MDZ	**Mendoza**	**1.60**	**40**	*e*P	Pn	10 54 31.8	+0.1

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*NEIC **13** 11:01:51.2±0.2,2.75N×128.67E,mb4.5/18,Error ellipse: s-maj=14.2km s-min=5.2km az=79.0*

*IDC **13** 11:01:51.4±0.8,2.68N×128.65E,h240^{km}±7^{km},mb3.9/16, mb1 4.0/16,mb1mx3.9/21,Error ellipse: s-maj=19.8km s-min=7.2km az=74.0*

ISC 13 11:01:49.0±1.8**,2.78N**±0.05×**128.7E**±0.1**,h235^{km}**±17^{km}**, h237^{km}**±5.3^{km}**:pP-P,n47,**σ**0^{s}87**/46**,mb4.3**/31**,1C-2D, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**15.81**	**167**	*e*P	**P**	**11 05 21.0**	**+0.1**
	9.5nm,0.6s						
KAKA				*e*S	**S**	**11 08 10.4**	**+1.1**
FITZ	**Fitzroy Crossi**	**20.97**	**188**	*e*P	**P**	**11 06 14.9**	**+0.1**
	6.6nm,1.0s						
FITZ	**Fitzroy Crossi**	**20.97**	**188**	P	**P**	**11 06 14.9**	**+0.1**
	2.3nm,0.4s,baz=168,slow=11,SNR=16						
WRAB	**Tennant Creek**	**23.24**	**166**	*e*P	**P**	**11 06 36.6**	**-0.3**
	10nm,0.4s,mb4.7						
WRA	**Warramunga Arr**	**23.25**	**166**	P	**P**	**11 06 36.5**	**-0.4**
	4.7nm,0.3s,mb4.5,baz=340,slow=10,SNR=93						
WRA				S	**S**	**11 10 30.7**	**+2.1**
	1.1nm,0.8s,baz=343,slow=14,SNR=3.4						
WRA				ScP		11 13 33.7	
	0.8nm,0.5s,baz=342,slow=2.8,SNR=10						
WB2	**Warramunga Arr**	**23.25**	**166**	*e*P	**P**	**11 06 36.6**	**-0.3**
WB2				*e*S	**S**	**11 10 26.2**	**-2.4**
MBWA	**Marble Bar**	**25.37**	**200**	P	**P**	**11 06 52.2**	**-4.3**
	21nm,1.3s,mb4.6						
ASAR	**Alice Springs**	**26.77**	**169**	P	**P**	**11 07 08.3**	**-1.0**
	3.6nm,0.4s,mb4.3,baz=354,slow=8.1,SNR=93						
ASAR				pP	pP	11 07 55.1	-0.1
	1.2nm,0.7s,baz=347,slow=9.0,SNR=1.8						
ASAR				PcP	PcP	11 10 26.3	+0.1
	3.1nm,0.5s,baz=349,slow=2.2,SNR=19						
ASAR				pPcP		11 11 21.3	
	0.9nm,0.6s,baz=1.5,slow=2.3,SNR=4.3						
ASAR				S	**S**	**11 11 26.6**	**+0.4**
	0.9nm,0.7s,baz=349,slow=18,SNR=2.9						
ASAR				ScP		11 13 44.1	
	0.9nm,0.5s,baz=345,slow=2.9,SNR=9.9						
ASPA	**Alice Springs**	**26.77**	**169**	*e*P	**P**	**11 07 08.5**	**-0.9**
NANT	**Nan**	**31.70**	**302**	P	**P**	**11 07 53.8**	**+0.8**
CMAR	**Chiang Mai Arr**	**33.06**	**300**	P	**P**	**11 08 05.3**	**+0.7**
	5.0nm,0.6s,mb4.2,baz=116,slow=7.3,SNR=32						
CHG	**Chiang Mai**	**33.20**	**301**	⇓P	**P**	**11 08 06.6**	**+0.7**
	13nm,0.7s,mb4.6						
FORT	**Forrest**	**33.38**	**181**	⇓*i*P	**P**	**11 08 06.5**	**-0.8**
	48nm,0.6s,mb5.2						
MAJO	**Matsushiro**	**34.72**	**13**	*e*P	**P**	**11 08 16.6**	**-2.0**
	14nm,0.8s,mb4.5						
MAT	**Matsushiro**	**34.72**	**13**	P	**P**	**11 08 18.0**	**-0.6**
MAT	**Matsushiro**	**34.72**	**13**	*e*P	**P**	**11 08 18.0**	**-0.6**
	10nm,0.8s,mb4.4						
KLBR	**Kellerberrin**	**35.74**	**196**	*e*P	**P**	**11 08 26.6**	**-0.6**
	41nm,1.4s,mb4.8						
STKA	**Stephens Creek**	**36.58**	**161**	⇑*i*P	**P**	**11 08 34.0**	**-0.3**
	6.2nm,0.3s,mb4.6						
STKA	**Stephens Creek**	**36.58**	**161**	P	**P**	**11 08 33.9**	**-0.4**
	7.5nm,0.3s,mb4.6,baz=347,slow=7.6,SNR=79						
STKA				PcP	PcP	11 10 52.7	+0.1
	3.2nm,0.6s,baz=343,slow=5.8,SNR=4.8						
NWAO	**Narrogin (SRO)**	**37.14**	**196**	P	**P**	**11 08 39.0**	**0.0**
	1.9nm,0.5s,mb3.9,baz=252,slow=9.8,SNR=4.4						
BJT	**Baijiatuau**	**38.77**	**345**	*e*P	**P**	**11 08 53.0**	**+0.5**
	7.6nm,0.6s,mb4.4						
ARMA	**Armidale**	**39.61**	**148**	*e*P	**P**	**11 08 59.8**	**+0.4**
ASAJ	**Asahikawa**	**42.96**	**15**	P	**P**	**11 09 28.4**	**+1.8**
	3.4nm,0.4s,mb4.1,baz=297,slow=3.9,SNR=10						
ASAJ				ScP		11 14 39.5	
	5.0nm,0.7s,baz=60,slow=21,SNR=4.9						
SONM	**Songino Array**	**48.84**	**340**	P	**P**	**11 10 12.9**	**+0.4**
	1.0nm,0.6s,mb3.3,baz=152,slow=8.1,SNR=8.7						
SONM				pP	pP	11 11 00.7	-2.8
	1.0nm,0.9s,baz=166,slow=5.1,SNR=2.8						
SONM				PcP	PcP	11 11 34.1	+0.3
	1.1nm,0.9s,baz=153,slow=6.4,SNR=2.5						
YAK	**Yakutsk**	**59.11**	**1**	*e*P	**P**	**11 11 26.6**	**-0.1**
MKAR	**Makanchi Array**	**59.46**	**325**	P	**P**	**11 11 29.3**	**0.0**
	2.1nm,0.5s,mb4.0,baz=116,slow=8.3,SNR=27						
MKAR				PcP	PcP	11 12 14.5	+0.2
	1.8nm,0.6s,baz=114,slow=4.6,SNR=5.2						
MKAR				pP	pP	11 12 24.3	+1.7
	1.4nm,0.5s,baz=120,slow=7.9,SNR=3.5						
MKAR				ScP		11 15 52.5	
	0.8nm,0.7s,baz=108,slow=5.8,SNR=4.7						
MKAR	**Makanchi Array**	**59.46**	**325**	P	**P**	**11 11 29.3**	**0.0**
MKAR				PcP	PcP	11 12 14.5	+0.2
MKAR				pP	pP	11 12 24.3	+1.7
MKAR				ScP		11 15 52.5	
RPZ	**Rata Peaks**	**59.86**	**146**	P	**P**	**11 11 32.5**	**+0.5**
	7.5nm,0.6s,mb4.5,baz=137,slow=2.5,SNR=5.2						
URZ	**Urewera**	**60.50**	**137**	P	**P**	**11 11 36.4**	**-0.1**
	21nm,1.1s,mb4.7,baz=238,slow=7.9,SNR=4.1						
KURK	**Kurchatov**	**63.60**	**327**	*e*P	**P**	**11 11 56.4**	**-0.4**
	4.7nm,0.6s,mb4.3						
BVAR	**Borovoye Array**	**69.19**	**327**	P	**P**	**11 12 31.6**	**-0.2**
	1.9nm,0.5s,mb4.0,baz=117,slow=6.6,SNR=10						
BVAR				pP	pP	11 13 27.8	+0.9
	0.9nm,0.7s,baz=124,slow=5.3,SNR=2.3						
BRVK	**Borovoye**	**69.26**	**327**	*e*P	**P**	**11 12 32.0**	**-0.3**
	3.2nm,0.6s,mb4.1						
ZRNK	**Zerenda**	**69.93**	**326**	*e*P	**P**	**11 12 35.7**	**-0.6**
	3.1nm,0.7s,mb4.0						
CASY	**Casey**	**70.13**	**188**	*e*P	**P**	**11 12 37.3**	**-0.1**
	3.9nm,0.9s,mb4.0						
ARU	**Arti**	**76.79**	**328**	*e*P	**P**	**11 13 14.0**	**-2.1**
	8.2nm,0.6s,mb4.5						
IMA	**Indian Mountai**	**82.45**	**24**	*e*P	**P**	**11 13 48.7**	**+2.8**
	43nm,0.9s,mb5.1						
SBA	**Scott Base**	**83.14**	**172**	*e*P	**P**	**11 13 49.3**	**0.0**
	3.6nm,1.1s,mb4.0						
MAW	**Mawson**	**83.56**	**201**	P	**P**	**11 13 52.1**	**+0.5**
	0.9nm,0.5s,mb3.8,baz=75,slow=3.7,SNR=6.7						
ILAR	**Eielson Array**	**85.11**	**25**	P	**P**	**11 13 59.7**	**+0.4**
	0.7nm,0.5s,mb3.7,baz=257,slow=4.4,SNR=29						
ARCES	**ARCESS Array B**	**92.01**	**340**	P	**P**	**11 14 31.8**	**-0.1**
	4.3nm,0.7s,mb4.5,baz=81,slow=5.8,SNR=17						
QSPA	**South Pole Qui**	**92.69**	**180**	*e*P	**P**	**11 14 36.3**	**+1.5**
	4.3nm,0.6s,mb4.7						
FINES	**FINESS Array B**	**93.60**	**332**	P	**P**	**11 14 39.1**	**-0.2**
	6.6nm,1.2s,mb4.5,baz=90,slow=5.6,SNR=3.3						
RSSD	**Black Hills**	**113.70**	**39**	*e*PKPdf	PKPdf	11 20 01.6	+2.0
TXAR	**Lajitas Array**	**120.59**	**53**	PKP	PKPdf	11 20 16.1	+2.8
	0.4nm,0.6s,baz=332,slow=0.3,SNR=8.9						
WMOK	**Wichita Mounta**	**121.90**	**46**	*e*PKPdf	PKPdf	11 20 17.6	+1.9
JCT	**Junction City**	**123.15**	**51**	*e*PKPdf	PKPdf	11 20 20.5	+2.3
JTS	**JuntasAbangare**	**144.05**	**68**	PKP	PKPdf	11 20 59.6	+2.1
	6.7nm,0.5s,baz=284,slow=4.2,SNR=10						

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*NIED **13** 11:38:00,33.00N×136.90E,h11^{km},Mw3.8 Best double couple: M$_0$5.82×10^{14} NP1:φ$_s$91°,δ71°,λ128°. NP2:φ$_s$204°, δ42°,λ29°.*

*IDC **13** 11:38:02.8±1.1,32.68N×138.46E,mb3.7/6,mb1 3.9/6, mb1mx3.7/19,Error ellipse: s-maj=31.0km s-min=25.0km az=126.0*

*JMA **13** 11:38:03.0±0.1,33.03N×136.94E,h36^{km},M4.2*

*NEIC **13** 11:38:09.9±1.7,33.18N×138.16E,h35^{km},Error ellipse: s-maj=37.5km s-min=19.2km az=126.0*

ISC 13 11:38:03.6±0.9**,33.06N**±0.05×**136.94E**±0.04**,h34^{km}**±11^{km}**, n23,**σ**0^{s}53**/36**,mb3.5**/3**,9D,Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	**Tokai 1**	**0.89**	**38**	P	**P**	**11 38 19.5**	**-0.2**
TK01				S	**S**	**11 38 31.0**	**-0.6**
TK02	**Tokai 2**	**1.12**	**37**	P	**P**	**11 38 22.9**	**-0.1**
TK02				S	**S**	**11 38 37.6**	**+0.2**
JWZ	**Kozaga**	**1.13**	**295**	⇓P	**P**	**11 38 22.9**	**-0.2**
JWZ				S	**S**	**11 38 36.9**	**-0.7**
JKN	**Kiinagashima**	**1.31**	**335**	⇓P	**P**	**11 38 26.2**	**+0.4**
JKN				S	**S**	**11 38 41.8**	**-0.6**
JIE	**Ise**	**1.34**	**352**	⇓P	**P**	**11 38 26.9**	**+0.7**
JIE				S	**S**	**11 38 43.3**	**+0.2**
TK04	**Tokai 4**	**1.54**	**30**	P	**P**	**11 38 29.2**	**+0.2**
TK04				S	**S**	**11 38 48.2**	**+0.2**
JWM	**Minabe**	**1.54**	**301**	⇓P	**P**	**11 38 29.0**	**0.0**
JWM				S	**S**	**11 38 47.5**	**-0.5**
JWY	**Kouya**	**1.61**	**316**	⇓P	**P**	**11 38 30.7**	**+0.7**
JWY				S	**S**	**11 38 50.5**	**+0.7**
TSUJ	**Tsu 2**	**1.70**	**346**	⇓P	**P**	**11 38 32.0**	**+0.6**
TSUJ				*e*S	**S**	**11 38 52.0**	**-0.2**
JHE	**Heguri**	**1.90**	**327**	⇓P	**P**	**11 38 34.9**	**+0.7**
JHE				S	**S**	**11 38 57.7**	**+0.5**
JAJ2	**Tsuna**	**2.18**	**309**	⇓P	**P**	**11 38 38.8**	**+0.6**
JAJ2				*e*S	**S**	**11 39 04.3**	**0.0**
JAI	**Aioi**	**2.20**	**290**	⇓P	**P**	**11 38 38.5**	**0.0**
JAI				S	**S**	**11 39 03.5**	**-1.3**
SHZ3	**Shizuoka 3**	**2.27**	**27**	P	**P**	**11 38 39.1**	**-0.3**
JHJ2	**Mitsune**	**2.42**	**88**	P	**P**	**11 38 40.6**	**-1.0**
MAJO	**Matsushiro**	**3.63**	**16**	*e*Pn	**P**	**11 38 59.8**	**+0.9**
MAJO				*e*Pg	**P**	**11 39 17.4**	**+19**
MAJO				*e*Sn	**S**	**11 39 40.8**	**-0.3**
MAT	**Matsushiro**	**3.63**	**16**	P	**P**	**11 38 59.4**	**+0.6**
MAT				S	**S**	**11 39 40.3**	**-0.8**
MAT	**Matsushiro**	**3.63**	**16**	*e*P	**P**	**11 38 59.0**	**+0.2**
MAT				*e*S	**S**	**11 39 40.0**	**-1.1**
SONM	**Songino Array**	**27.32**	**312**	P	pP	11 44 00.9	+4.1
	0.6nm,0.7s,baz=122,slow=8.9,SNR=4.2						
CMAR	**Chiang Mai Arr**	**36.96**	**256**	P	pP	11 45 23.4	+1.8
	1.2nm,0.9s,baz=47,slow=8.0,SNR=5.0						
MKAR	**Makanchi Array**	**43.25**	**305**	P	pP	11 46 15.6	+2.2
	3.0nm,1.1s,baz=92,slow=8.3,SNR=8.4						
ILAR	**Eielson Array**	**54.80**	**31**	P	**P**	**11 47 31.9**	**-0.1**
	0.5nm,0.8s,mb3.6,baz=282,slow=5.7,SNR=7.7						
ASAR	**Alice Springs**	**56.48**	**183**	P	**P**	**11 47 44.7**	**0.0**
	0.3nm,0.8s,mb3.4,slow=5.4,SNR=2.7						
YKA	**Yellowknife Ar**	**69.06**	**28**	P	**P**	**11 49 07.9**	**+0.5**
	0.4nm,0.5s,mb3.6,baz=301,slow=5.8,SNR=3.5						

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*MEX **13** 11:45:13.8±1.1,15.46N×93.62W,h21^{km}±32^{km},MD4.4*

*NEIC **13** 11:45:13.2±0.7,15.52N×93.37W,mb3.9/14,MD4.4(MEX), Error ellipse: s-maj=14.7km s-min=7.8km az=30.0*

*CASC **13** 11:45:13.7±2.1,15.69N×93.24W,h20^{km}±418^{km},MD4.4, mb3.9(NEIC)*

*IDC **13** 11:45:16.6±4.3,15.77N×93.23W,h113^{km}±39^{km},mb3.6/4, mb1 4.0/6,mb1mx3.7/18,MS3.5/2,Ms1 3.5/2,ms1mx2.9/23, Error ellipse: s-maj=39.2km s-min=20.4km az=60.0*

ISC 13 11:45:11.9±0.5**,15.57N**±0.04×**93.51W**±0.04**,h91^{km}**±5^{km}**, h97^{km}**±2.0^{km}**:pP-P,n54,**σ**1^{s}35**/71**,mb3.9**/13**,2C-2D,Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCX	**San Cristobal**	**1.44**	**36**	*i* P	**P**	**11 45 37.8**	**+0.5**
SCX				*i* S	**S**	**11 45 57.5**	**+1.4**
CCIG	**Comitan**	**1.50**	**62**	*e*P	**P**	**11 45 38.7**	**+0.6**
CCIG				*i* S	**S**	**11 45 58.1**	**+0.6**
CCIG	**Comitan**	**1.50**	**62**	*e*P	**P**	**11 45 38.7**	**+0.6**
CCIG				*i* S	**S**	**11 45 57.0**	**-0.6**
CMIG	**Matias Romero**	**2.01**	**319**	*e*P	**P**	**11 45 45.0**	**+0.3**
CMIG				*i* S	**S**	**11 46 07.0**	**-2.0**
CMIG	**Matias Romero**	**2.01**	**319**	*e*P	**P**	**11 45 45.5**	**+0.8**
CMIG				*i* S	**S**	**11 46 07.0**	**-2.0**
JAT	**Jato**	**2.20**	**124**	⇓*e*P	**P**	**11 45 46.9**	**-0.5**
JAT				*e*S	**S**	**11 46 13.0**	**-0.6**
HUIG	**Huatulco**	**2.51**	**275**	*i* P	**P**	**11 45 49.7**	**-2.0**
HUIG				*i* S	**S**	**11 46 16.8**	**-4.6**
TUIG	**Tuzandepetl**	**2.60**	**341**	*e*P	**P**	**11 45 53.2**	**+0.2**
TUIG				*i* S	**S**	**11 46 24.4**	**+0.7**
FUG	**Fuego 3**	**2.81**	**113**	*e*P	**P**	**11 45 56.1**	**+0.3**
NBG	**Las Nubes**	**3.21**	**107**	⇓*e*P	**P**	**11 46 01.4**	**+0.1**
IXG	**Ixpaco**	**3.26**	**115**	⇑*e*P	**P**	**11 46 02.5**	**+0.4**
IXG				*e*S	**S**	**11 46 41.9**	**+1.9**
EVV	**El Vigia**	**3.37**	**329**	*i* P	**P**	**11 46 05.0**	**+1.4**
EVV				*i* S	**S**	**11 46 41.0**	**-1.6**
EVV	**El Vigia**	**3.37**	**329**	*i* P	**P**	**11 46 02.3**	**-1.3**
OXX	**Oaxaca**	**3.43**	**296**	*i* P	**P**	**11 46 04.0**	**-0.4**
OXX				*i* S	**S**	**11 46 42.5**	**-1.7**
OXX	**Oaxaca**	**3.43**	**296**	*i* P	**P**	**11 46 06.8**	**+2.4**
OXX				*i* S	**S**	**11 46 40.5**	**-3.7**
MRL	**Marmol**	**3.72**	**97**	⇑*e*P	**P**	**11 46 06.5**	**-1.8**
MRL				*e*S	**S**	**11 46 48.3**	**-2.9**
SCIG		**4.04**	**33**	*e*P	**P**	**11 46 12.4**	**-0.4**
SCIG				*i* S	**S**	**11 46 59.9**	**+0.5**
IISM	**Ciudad Serdan**	**5.02**	**313**	*e*P	**P**	**11 46 27.0**	**+0.7**
IISM				*i* S	**S**	**11 47 20.0**	**-3.5**
PPM	**Popocatepetl**	**6.00**	**306**	*i* P	**P**	**11 46 44.3**	**+4.7**
PPM				*i* S	**S**	**11 47 52.0**	**+4.4**
TEIG	**Tepich**	**6.80**	**46**	P	**P**	**11 46 48.8**	**-2.0**
	0.0nm,0.3s,baz=236,slow=24,SNR=56						
TEIG				S	**S**	**11 48 02.8**	**-4.6**
	0.0nm,0.3s,baz=310,slow=24,SNR=9.1						
JTS	**JuntasAbangare**	**9.85**	**121**	P	**P**	**11 47 33.2**	**+0.9**
	2.7nm,0.3s,baz=320,slow=20,SNR=12						
JTS	**JuntasAbangare**	**9.85**	**121**	*e*P	**P**	**11 47 31.7**	**-0.7**
JCR	**Jicaral**	**9.97**	**124**	*e*P	**P**	**11 47 34.4**	**+0.5**
PRS1	**Puriscal**	**10.55**	**121**	*e*P	**P**	**11 47 43.1**	**+1.4**
LCR2	**La Lucha 2**	**10.93**	**121**	*e*P	**P**	**11 47 46.1**	**-0.7**
URSC	**Urasca**	**11.07**	**120**	*e*P	**P**	**11 47 49.8**	**+1.1**
BUS	**Buena Vista**	**11.24**	**121**	*e*P	**P**	**11 47 51.0**	**0.0**
JCT	**Junction City**	**15.93**	**340**	*e*Pn	**P**	**11 48 53.7**	**+1.9**
	8.9nm,0.8s						
JCT				*e*Sn	**S**	**11 51 43.0**	**-2.3**
LTX	**Lajitas**	**16.59**	**327**	*e*P	**P**	**11 49 03.0**	**+2.8**
	7.7nm,1.0s						
TXAR	**Lajitas Array**	**16.59**	**327**	P	**P**	**11 49 03.0**	**+2.8**
	0.1nm,0.3s,baz=148,slow=14,SNR=37						
LRAL	**Lakeview Retre**	**18.37**	**18**	*e*P	**P**	**11 49 22.5**	**+0.7**
	4.1nm,0.5s						
OXF	**Oxford**	**19.22**	**10**	*e*P	**P**	**11 49 28.3**	**-3.0**
	12nm,0.5s						
WMOK	**Wichita Mounta**	**19.67**	**347**	*e*P	**P**	**11 49 34.3**	**-1.8**
	2.6nm,0.7s						
WMOK				*e*S	**S**	**11 53 03.7**	**-4.1**
WVT	**Waverly**	**21.10**	**13**	*e*P	**P**	**11 49 51.0**	**+0.2**
	12nm,1.0s,mb4.2						
ANMO	**Albuquerque**	**22.53**	**331**	*e*P	**P**	**11 50 06.9**	**+2.0**
	3.9nm,1.0s,mb3.7						
ANMO				*e*pP		11 50 24.5	
TUC	**Tucson**	**22.90**	**320**	*e*P	**P**	**11 50 12.0**	**+3.5**
SDV	**Santo Domingo**	**23.31**	**104**	P	**P**	**11 50 11.1**	**-1.5**
	5.5nm,0.8s,mb3.9						
SDCO	**Great Sand Dun**	**24.51**	**337**	*e*P	**P**	**11 50 26.2**	**+2.3**
	7.1nm,1.3s,mb3.9						
SDCO				*e*pP		11 50 45.4	
WUAZ	**Wupatki**	**25.50**	**324**	P	**P**	**11 50 35.3**	**+1.9**
	1.8nm,0.6s,mb3.7						
WUAZ				*e*pP	pP	11 50 56.5	+2.9
PV01	**Paradox Valley**	**26.11**	**332**	P	**P**	**11 50 38.0**	**-1.1**
RSSD	**Black Hills**	**29.83**	**345**	*e*P	**P**	**11 51 12.6**	**0.0**
	1.8nm,0.6s,mb3.9						
PDAR	**Pinedale Array**	**30.40**	**336**	P	**P**	**11 51 18.1**	**+0.4**
	0.7nm,0.8s,mb3.3,baz=135,slow=8.4,SNR=6.6						
ELK	**Elko**	**31.39**	**327**	P	**P**	**11 51 25.4**	**-0.9**
ELK				*e*pP	pP	11 51 48.6	+1.4
SADO	**Sadowa**	**31.55**	**20**	LR	LR	12 04 46.9	
	comp=Z,64nm,19.4s,baz=262,slow=37						
HLID	**Hailey**	**33.11**	**332**	*e*P	**P**	**11 51 42.1**	**+0.9**
	0.9nm,0.6s,mb3.8						
BOZ	**Bozeman (W)**	**33.63**	**337**	*e*P	**P**	**11 51 45.7**	**0.0**
	1.6nm,0.7s,mb4.0						
CHMT	**Chamberlain Mo**	**35.31**	**336**	*e*P	**P**	**11 52 01.1**	**+1.1**
SAML	**Samuel**	**38.68**	**127**	*e*P	**P**	**11 52 25.4**	**-3.1**
	2.3nm,0.8s,mb4.1						
FFC	**Flin Flon**	**39.63**	**352**	P	**P**	**11 52 35.3**	**-0.7**
SCHQ	**Schefferville**	**44.29**	**22**	LR	LR	12 12 24.6	
	comp=Z,64nm,18.1s,baz=117,slow=37						
YKA	**Yellowknife Ar**	**49.18**	**347**	P	**P**	**11 53 51.4**	**-0.9**
	1.7nm,0.5s,mb4.3,baz=152,slow=7.3,SNR=23						
YKA				pP	pP	11 54 14.4	0.0
	0.6nm,0.6s,baz=147,slow=6.9,SNR=3.1						
YKA	**Yellowknife Ar**	**49.18**	**347**	P	**P**	**11 53 51.4**	**-0.9**
YKA				pP	pP	11 54 14.4	0.0
BDFB	**Brasilia**	**54.59**	**123**	P	**P**	**11 54 33.2**	**-0.3**
	2.4nm,0.5s,mb4.5,baz=292,slow=2.3,SNR=3.2						
ILAR	**Eielson Array**	**60.83**	**337**	P	**P**	**11 55 15.9**	**-0.7**
	0.9nm,1.0s,mb3.8,baz=146,slow=4.3,SNR=12						
ILAR				pP	pP	11 55 39.4	-0.3
	0.5nm,0.5s,baz=146,slow=5.1,SNR=4.4						

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*IDC **13** 12:08:34.6±1.9,5.79S×151.70E,mb3.8/6,mb1 4.0/6, mb1mx3.8/12,MS3.0/1,Ms1 3.0/1,ms1mx2.6/18,Error ellipse: s-maj=69.2km s-min=23.6km az=120.0*

*NEIC **13** 12:08:41.9±2.0,6.00S×151.68E,h55^{km}±12^{km},mb4.2/1, Error ellipse: s-maj=58.8km s-min=9.9km az=122.0*

ISC 13 12:08:41.9±1.6**,5.8S**±0.3×**151.2E**±0.3**,h52^{km}**±15^{km}**,n11,** σ**0^{s}87**/11**,mb3.8**/7**,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAB	**Rabaul**	**1.84**	**32**	*e*P	**P**	**12 09 11.9**	**+0.2**
PMG	**Port Moresby**	**5.39**	**228**	*e*Pn	**P**	**12 10 02.0**	**+0.2**
	19nm,0.5s						
PMG				*e*Sn	**S**	**12 11 02.4**	**-1.0**
CTA	**Charters Tower**	**15.02**	**198**	LR	LR	12 17 06.5	
	comp=Z,56nm,19.8s,baz=46,slow=34						
WRAB	**Tennant Creek**	**21.60**	**228**	P	**P**	**12 13 28.8**	**-0.6**
	5.0nm,0.5s,mb4.2						
WRA	**Warramunga Arr**	**21.61**	**228**	P	**P**	**12 13 30.0**	**+0.5**
	1.1nm,0.7s,mb3.4,baz=53,slow=11,SNR=8.6						
ASAR	**Alice Springs**	**24.37**	**221**	P	**P**	**12 13 57.8**	**+1.3**
	0.5nm,0.4s,mb3.3,baz=56,slow=9.1,SNR=10.0						
FITZ	**Fitzroy Crossi**	**27.80**	**242**	P	**P**	**12 14 29.0**	**+0.5**
	3.8nm,0.8s,mb4.1,baz=40,slow=4.3,SNR=3.7						
MBWA	**Marble Bar**	**34.10**	**240**	P	**P**	**12 15 24.2**	**+0.2**
SONM	**Songino Array**	**66.30**	**329**	P	**P**	**12 19 27.8**	**+0.6**
	0.3nm,0.4s,mb3.7,baz=132,slow=4.8,SNR=3.0						
ILAR	**Eielson Array**	**83.65**	**22**	P	**P**	**12 21 03.5**	**-2.5**
	0.4nm,0.8s,mb3.6,baz=257,slow=5.3,SNR=8.4						
BVAR	**Borovoye Array**	**89.06**	**323**	P	**P**	**12 21 32.5**	**-0.2**
	0.7nm,0.5s,mb4.2,baz=117,slow=6.4,SNR=3.0						

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*IDC **13** 12:11:19.3±5.6,23.10N×144.00E,h128^{km}±80^{km},mb3.7/5, mb1 3.8/7,mb1mx3.4/23,Error ellipse: s-maj=89.1km s-min=50.4km az=68.0*

ISC 13 12:11:19.0±2.8**,23.1N**±0.2×**143.8E**±0.7**,h139^{km}**±31^{km}**,n7,** σ**0^{s}38**/9**,mb3.9**/5**,Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**4.28**	**340**	P	**P**	**12 12 23.4**	**-0.2**
	14nm,0.3s,baz=107,slow=19,SNR=17						
CBIJ				S	**S**	**12 13 13.1**	**-0.2**
	108nm,0.3s,baz=131,slow=22,SNR=28						
JHJ	**Hachijo jima 2**	**10.63**	**341**	P	**P**	**12 13 49.3**	**+0.9**
	3.6nm,0.3s,baz=259,slow=22,SNR=3.6						
JHJ				S	**S**	**12 15 45.2**	**-0.2**
	2.3nm,0.3s,baz=246,slow=23,SNR=2.6						
CTA	**Charters Tower**	**42.95**	**177**	P	**P**	**12 19 06.0**	**0.0**
	2.4nm,0.5s,mb4.1,baz=347,slow=14,SNR=3.0						
WRA	**Warramunga Arr**	**43.73**	**193**	P	**P**	**12 19 12.3**	**0.0**
	0.8nm,0.3s,mb3.8,baz=17,slow=8.9,SNR=18						
FITZ	**Fitzroy Crossi**	**44.61**	**205**	P	**P**	**12 19 19.6**	**+0.3**
	3.7nm,0.9s,mb4.0,baz=46,slow=7.4,SNR=5.4						
ASAR	**Alice Springs**	**47.44**	**192**	P	**P**	**12 19 41.4**	**-0.1**
	0.6nm,0.6s,mb3.4,baz=12,slow=6.6,SNR=10						
STKA	**Stephens Creek**	**54.67**	**182**	P	**P**	**12 20 35.4**	**-0.5**
	2.5nm,0.5s,mb4.2,baz=358,slow=7.3,SNR=7.5						

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*NEIC **13** 12:16:50.6,19.45N×102.64W,h99^{km},MD3.9(MEX),After MEX.*

MEX 13 12:16:51.0±1.4**,19.43N×102.65W,h91^{km}**±37^{km}**,MD3.9, Michoacan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFJM	**Santa Fe**	**1.11**	**341**	*i* P	P	12 17 10.3	-2.0
SFJM				*i* S	S	12 17 26.5	-1.8
MOIG	**Morelia**	**1.40**	**80**	*i* P	P	12 17 15.3	-0.6
MOIG				*i* S	S	12 17 32.8	-1.7
MOIG	**Morelia**	**1.40**	**80**	*i* P	P	12 17 15.3	-0.6
MOIG				*i* S	S	12 17 34.2	-0.3
ZIIG	**Zihuatanejo**	**2.14**	**148**	*i* P	P	12 17 22.7	-2.9
ZIIG				*i* S	S	12 17 49.7	-1.6
CJM	**Chamela**	**2.26**	**272**	*i* P	P	12 17 25.8	-1.5
CJM				*i* S	S	12 17 54.0	-0.3

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*IDC **13** 12:22:46.9±9.7,18.28S×178.03W,h536^{km}±91^{km},mb3.4/6, mb1 3.5/6,mb1mx3.3/14,Error ellipse: s-maj=104.0km s-min=42.6km az=133.0*

*NEIC **13** 12:22:49.6±5.2,18.27S×178.17W,h568^{km}±55^{km},mb4.0/4, Error ellipse: s-maj=31.5km s-min=22.9km az=62.0*

ISC 13 12:22:49.5±1.8**,18.3S**±0.2×**178.2W**±0.2**,h587^{km}**±15^{km}**, n17,**σ**0^{s}43**/14**,mb3.9**/8**,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.63**	**279**	P	**P**	**12 24 12.0**	**-0.1**
	326nm,1.1s,SNR=22						
CTA	**Charters Tower**	**33.59**	**261**	P	**P**	**12 28 44.5**	**+0.8**
	10.0nm,1.1s,mb4.4,baz=92,slow=16,SNR=4.5						
CTAO	**Charters Tower**	**33.59**	**261**	*e*P	**P**	**12 28 44.1**	**+0.4**
	7.3nm,0.9s,mb4.3						
STKA	**Stephens Creek**	**38.62**	**242**	*e*P	**P**	**12 29 25.6**	**+0.6**
	3.0nm,1.1s,mb3.7						
STKA	**Stephens Creek**	**38.62**	**242**	P	**P**	**12 29 25.7**	**+0.7**
	2.0nm,0.5s,mb3.9,baz=91,slow=11,SNR=7.1						
WB2	**Warramunga Arr**	**44.76**	**260**	*e*P	**P**	**12 30 13.6**	**0.0**
WRAB	**Tennant Creek**	**44.76**	**260**	*e*P	**P**	**12 30 13.1**	**-0.6**
	3.5nm,0.5s,mb4.2						
WRA	**Warramunga Arr**	**44.77**	**260**	P	**P**	**12 30 13.6**	**-0.1**
	3.5nm,0.8s,mb3.9,baz=98,slow=6.9,SNR=52						
ASAR	**Alice Springs**	**44.88**	**255**	P	**P**	**12 30 14.8**	**+0.2**
	10nm,0.8s,mb4.4,baz=88,slow=8.8,SNR=135						
ASAR				PcP	PcP	12 31 43.8	+0.1
	0.3nm,0.4s,baz=99,slow=3.9,SNR=5.2						
ASPA	**Alice Springs**	**44.89**	**255**	*e*P	**P**	**12 30 14.2**	**-0.4**
FITZ	**Fitzroy Crossi**	**53.17**	**261**	P	**P**	**12 31 16.2**	**+0.4**
	2.7nm,0.7s,mb3.7,baz=145,slow=6.7,SNR=7.5						
MBWA	**Marble Bar**	**58.18**	**256**	*e*P	**P**	**12 31 49.6**	**-0.7**

	2.5nm,0.6s,mb3.5						
SBA	Scott Base	60.02	184	P	P	12 32 01.9	-0.1
ILAR	Eielson Array	86.24	13	P	P	12 34 30.4	+0.2
	0.3nm,0.5s,mb3.2,baz=218,slow=4.8,SNR=7.0						
BRTR	Keskin Array B	145.22	315	PKPbc	PKPbc	12 41 24.6	+2.7
	0.6nm,0.6s,baz=90,slow=3.7,SNR=3.5						
ASF	Jabal al Asfar	145.57	300	PKPbc	PKPbc	12 41 25.7	+2.7
	1.1nm,0.3s,baz=188,slow=5.0,SNR=2.3						
GERES	GERESS Array B	148.06	345	PKPbc	PKPdf	12 41 31.8	+6.5
	0.4nm,0.4s,slow=3.9,SNR=3.2						

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*NEIC **13** 13:05:36.8±0.8, 22.40S×68.41W, h113^{km}±8^{km}, Error ellipse: s-maj=16.4km s-min=12.6km az=56.0*

*IDC **13** 13:05:39.3±3.8, 22.28S×68.26W, h135^{km}±31^{km}, mb3.7/7, mb1 3.8/8, mb1mx3.7/14, Error ellipse: s-maj=41.9km s-min=19.4km az=42.0*

ISC 13 13:05:35.6±0.7**, 22.3S**±0.1×**68.4W**±0.1**, h114**^{km}±7^{km}**, n19, σ1^{s}14**/19**, mb4.0**/6**, 3C-4D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	Limon Verde	0.54	240	ePn	P	13 05 53.5	+0.2
LVC				eSn	S	13 06 05.9	-0.8
LPAZ	La Paz	6.03	3	P	P	13 07 06.5	+2.9
	1.5nm,0.3s,baz=143,slow=1.0,SNR=19						
LPAZ	La Paz	6.03	3	P	P	13 07 06.5	+2.9
CPUP	Villa Florida	10.85	114	P	P	13 08 09.4	+0.8
	baz=306,slow=15						
BDFB	Brasilia	20.39	74	P	P	13 10 03.4	-1.9
	3.6nm,0.5s,baz=236,slow=11,SNR=4.2						
VNA3	Neumayer Olymp	59.13	161	⇓i	P	13 15 27.5	+1.4
VNA1	Neumayer--Stat	59.34	160	⇑i	P	13 15 27.5	0.0
VNA2	Neumayer--Watz	59.70	161	⇓i	P	13 15 32.1	+2.1
SNAA	Sanae	61.33	161	⇓i	P	13 15 39.4	-1.7
TXAR	Lajitas Array	61.58	325	P	P	13 15 42.9	-0.4
	0.3nm,0.3s,mb3.7,baz=143,slow=6.3,SNR=3.5						
DBIC	Dimbokro	68.53	73	P	P	13 16 27.0	-1.3
	1.4nm,0.5s,mb4.1,baz=192,slow=8.8,SNR=5.0						
SYO	Syowa Base	75.55	159	⇑P	P	13 17 08.2	-0.5
SYO	Syowa Base	75.55	159	⇑P	P	13 17 13.9	+5.2
SYO	Syowa Base	75.55	159	⇓P	Px	13 17 29.5	
TSUM	Tsumeb	79.35	106	P	P	13 17 30.8	+0.1
	2.3nm,0.9s,mb4.0,baz=286,slow=13,SNR=3.1						
YBH	Yreka Blue Hor	81.16	322	P	P	13 17 39.6	-0.3
	1.8nm,0.6s,mb4.1,baz=100,slow=19,SNR=4.0						
MAW	Mawson	83.39	163	P	P	13 17 51.1	+0.3
	0.6nm,0.6s,mb3.6,baz=220,slow=7.4,SNR=6.2						
YKA	Yellowknife Ar	92.13	340	P	P	13 18 33.0	+0.2
	2.2nm,0.9s,mb4.4,baz=139,slow=4.9,SNR=6.9						
YKA	Yellowknife Ar	92.13	340	P	P	13 18 33.0	+0.2

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*BJI **13** 13:13:38.9, 10.18S×123.82E, h40^{km}, mB4.9, mb4.7*

*IDC **13** 13:13:39.8±0.9, 9.53S×123.47E, mb4.2/7, mb1 4.3/10, mb1mx4.2/15, ML3.9/3, MS3.2/3, Ms1 3.2/3, ms1mx2.6/19, Error ellipse: s-maj=40.6km s-min=14.2km az=80.0*

*NEIC **13** 13:13:41.1±0.5, 9.57S×123.62E, h10^{km}, mb4.4/6, Error ellipse: s-maj=18.8km s-min=7.1km az=61.0*

*DJA **13** 13:13:44.4±0.9, 9.16S×123.46E, h200^{km}, MD4.7/4, ML5.7/4, Error ellipse: s-maj=159.1km s-min=22.3km az=3.0*

ISC 13 13:13:41.3±2.3**, 9.65S**±0.07×**123.60E**±0.06**, h27**^{km}±18^{km}**, n35, σ1^{s}06**/49**, mb4.4**/17**, MS3.3**/2**, 3C-4D, Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEDI	Kedomdong	7.48	278	Pn	Pn	13 15 32.2	+0.6
	272nm,0.2s						
KEDI				⇓eSn	Sn	13 16 50.6	-5.9
RATI	Rata	8.02	276	⇓ePn	P	13 15 38.8	-0.2
	338nm,0.2s						
RATI	Rata	8.02	276	ePg	P	13 15 43.3	+4.3
RATI				⇓eSn	Sn	13 17 02.0	-7.8
INGI	Ingas	8.39	275	⇑ePn	P	13 15 43.1	-1.1
	613nm,0.3s						
INGI	Ingas	8.39	275	ePg	P	13 15 45.6	+1.4
INGI				⇑eSn	Sn	13 17 10.7	-8.3
FITZ	Fitzroy Crossi	8.63	167	eP	P	13 15 48.2	+0.7
	8.8nm,0.3s						
FITZ				eS	Sn	13 17 17.2	-7.8
FITZ	Fitzroy Crossi	8.63	167	Pn	P	13 15 47.7	+0.1
	3.0nm,0.3s,baz=2.0,slow=9.2,SNR=65						
FITZ				Sn	Sn	13 17 17.4	-7.6
	20nm,0.3s,baz=339,slow=18,SNR=14						
FITZ				LR	LR	13 20 05.7	
	comp=Z,64nm,19.4s,baz=300,slow=44						
KELI	Kelakatan	9.11	278	⇑ePn	P	13 15 52.6	-1.6
	64nm,0.2s						
KELI				⇓eSn	Sn	13 17 29.3	-7.6
KAKA	Kakadu	9.15	110	eP	P	13 15 59.3	+4.6
	19nm,0.3s						
KAKA				eS	Sn	13 17 37.0	-0.9
MBWA	Marble Bar	12.03	198	ePn	P	13 16 32.8	-1.4
MBWA				eSn	S	13 18 34.8	-14
WRA	Warramunga Arr	14.57	136	Pn	P	13 17 06.7	-1.2
	0.6nm,0.3s,baz=314,slow=14,SNR=27						
WRA				Sn	S	13 19 39.3	-10
	3.6nm,0.3s,baz=309,slow=24,SNR=8.9						
WRAB	Tennant Creek	14.57	136	ePn	P	13 17 07.4	-0.5
	5.8nm,0.6s						
WB2	Warramunga Arr	14.58	136	eP	P	13 17 07.8	-0.1
WB2				eS	S	13 19 37.9	-12
ASPA	Alice Springs	17.06	146	eP	P	13 17 41.2	+1.4
ASPA				eS	S	13 20 36.6	-11
ASAR	Alice Springs	17.06	146	P	P	13 17 40.6	+0.8
	0.3nm,0.3s,baz=323,slow=12,SNR=52						
ASAR				S	S	13 20 40.9	-6.4
	1.0nm,0.3s,baz=315,slow=21,SNR=14						
ASAR				LR	LR	13 25 14.2	
	comp=Z,61nm,20.7s,baz=326,slow=40						
ASAR	Alice Springs	17.06	146	P	P	13 17 40.6	+0.8
ASAR				S	S	13 20 40.9	-6.4
ASAR				LR	LR	13 25 14.2	
FORT	Forrest	21.43	169	eP	P	13 18 40.8	+11
	36nm,0.6s,mb4.9						
FORT				eS	S	13 22 19.7	-1.2
NWAO	Narrogin (SRO)	23.90	193	P	P	13 18 55.3	+1.4
	9.1nm,1.2s,mb4.1,baz=349,slow=10,SNR=4.0						
NWAO				S	S	13 23 16.1	+11
	3.7nm,0.6s,baz=40,slow=17,SNR=1.9						
NWAO				LR	LR	13 28 35.8	
	comp=Z,128nm,19.6s,MS3.4,baz=346,slow=37						
STKA	Stephens Creek	27.70	146	P	P	13 19 32.4	+2.9
	1.6nm,0.8s,mb3.7,baz=315,slow=16,SNR=2.2						
CMAR	Chiang Mai Arr	37.04	319	P	P	13 20 50.6	-0.4
	1.1nm,0.8s,mb3.7,baz=140,slow=6.8,SNR=7.1						
KMI	Kunming	40.10	330	eP	P	13 21 18.3	+1.7
	7.0nm,1.3s,mb4.2						
KMI				LR	LR		
	comp=Z,30nm,19.8s,MS3.1						
HHC	Hu-ho-hao-te	51.46	348	eP	P	13 22 48.3	+1.7
HHC				AMB	AMB		
	comp=Z,15nm,0.4s,mb5.3						
HHC				AMB	AMB		
	comp=Z,93nm,6.8s						
GTA	Gaotai	53.58	337	eP	P	13 23 02.3	-0.1
GTA				XP	sP	13 23 15.1	+1.3
GTA				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.4						
MDJ	Mudanjiang	54.28	5	P	P	13 23 07.5	0.0
MDJ				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.9						
MDJ				AMB	AMB		
	comp=Z,68nm,4.8s						
SONM	Songino Array	59.23	347	P	P	13 23 41.6	-1.1
	comp=Z,3.9nm,0.7s,mb4.6,baz=164,slow=8.2,SNR=32						
MKAR	Makanchi Array	67.18	331	P	P	13 24 34.3	-0.9
	comp=Z,8.3nm,0.6s,mb4.9,baz=135,slow=7.3,SNR=56						
AAK	Ala-Archa	68.66	323	eP	P	13 24 44.4	-0.1
	comp=Z,4.1nm,0.7s,mb4.5						
MAW	Mawson	70.21	201	P	P	13 24 53.9	+0.3
	comp=Z,1.1nm,0.7s,mb3.9,baz=30,slow=8.1,SNR=3.8						
KURK	Kurchatov	71.65	332	P	P	13 25 00.4	-2.2
	comp=Z,74nm,0.9s,SNR=10						
KURK	Kurchatov	71.65	332	eP	P	13 25 01.5	-1.1
	comp=Z,8.8nm,0.8s,mb4.7						
BVAR	Borovoye Array	77.06	330	P	P	13 25 34.4	+0.7
	comp=Z,1.0nm,0.7s,mb3.9,baz=124,slow=5.3,SNR=6.0						
BRVK	Borovoye	77.13	330	P	P	13 25 33.9	-0.2
	comp=Z,2.7nm,0.9s,mb4.2						
ZRNK	Zerenda	77.70	330	eP	P	13 25 37.4	+0.1
	comp=Z,3.2nm,0.8s,mb4.3						
QSPA	South Pole Qui	80.34	180	eP	P	13 25 55.7	+4.6
	comp=Z,1.7nm,0.8s,mb4.0						
PDAR	Pinedale Array	123.23	45	PKP	PKPdf	13 32 39.8	-1.2
	comp=Z,0.3nm,0.5s,baz=270,slow=3.0,SNR=4.4						

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*NEIC **13** 13:33:56.2, 36.67N×2.36E, MG4.0(MDD), After MDD.*

MDD 13 13:33:53.4±0.8**, 36.44N**×**2.44E, h8**^{km}±11^{km}**, mb4.1**/10**, 1D, Error ellipse: s-maj=8.8km s-min=5.5km az=140.0, PRXIMO, Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EMHD	Djebel Mahouad	0.47	120	P	Pg	13 34 01.5	-1.4
ADJB	Djebel Djouab	0.85	109	P	Pb	13 34 10.0	+0.1
ECHF	Ech Chlef	0.94	253	P	Pb	13 34 11.0	-0.4
EANR	’Ain N’Sour	1.19	246	P	Pb	13 34 14.0	-1.8
ETRT	Tiaret	1.40	222	P	Pn	13 34 18.5	-0.7
OJBR	Djebel Berber	1.90	244	P	Pn	13 34 25.0	-1.5
EIBI	Ibiza	2.73	342	⇓P	Pn	13 34 36.5	-1.8
	30nm,0.3s,SNR=18						
EIBI				S	Sn	13 35 05.8	-6.0
	55nm,0.3s						
CMER	Merouana	2.92	105	P	Pn	13 34 51.0	+10
EBEN	Beniarda	3.10	318	P	Pn	13 34 41.4	-2.2
	1.3nm,0.1s,SNR=12						
EBEN				S	Sn	13 35 15.7	-5.6
	4.9nm,0.2s						
EMUR	La Murta	3.26	297	S	Sn	13 35 20.0	-5.2
	15nm,0.4s,SNR=7.9						
CASM	Ain Smara	3.27	92	P	Pn	13 34 49.0	+3.0
ETOB	Tobarra	3.86	306	P	Pn	13 34 52.9	-1.4
	6.9nm,0.1s,SNR=4.9						
ETOB				S	Sn	13 35 36.6	-3.9
	16nm,0.3s						
EVIA	Vianos	4.50	301	S	Sn	13 35 52.6	-4.1
	4.9nm,0.2s,SNR=7.9						
EMOS	Mosqueruela	4.54	331	P	Pn	13 35 01.9	-2.1
	8.3nm,0.2s,SNR=46						
EMOS				S	Sn	13 35 50.4	-7.3
	3.0nm,0.2s						
EQES	Quesada	4.61	289	P	Pn	13 35 04.9	-0.2
	1.7nm,0.1s,SNR=7.9						
EQES				S	Sn	13 35 55.8	-3.7
	5.7nm,0.2s,SNR=4.0						
EPOB	Poblet	5.02	348	P	Pn	13 35 07.9	-2.9
	0.8nm,0.2s,SNR=5.0						
EPOB				S	Sn	13 36 02.7	-7.1
	1.0nm,0.2s,SNR=7.9						
EMIR	Miracle	5.51	353	P	Pn	13 35 15.5	-2.3
	3.9nm,0.1s,SNR=6.6						
EMIR				S	Sn	13 36 13.0	-9.2
	5.5nm,0.3s						
ETOR	Torete	5.62	323	P	Pn	13 35 19.0	-0.2
	1.4nm,0.2s,SNR=4.0						
EADA	Adamuz	5.86	289	P	Pn	13 35 19.6	-3.1
	0.5nm,0.1s,SNR=4.0						
ESDC	Sonseca Array	6.00	305	P	Pn	13 35 22.4	-2.2
	2.8nm,0.1s,baz=108,slow=14,SNR=5.0						
EJON	La Jonquera	6.01	3	P	Pn	13 35 22.8	-2.0
	0.4nm,0.1s,SNR=7.9						
EJON				S	Sn	13 36 24.4	-10
	0.5nm,0.1s,SNR=7.9						

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*MEX **13** 13:40:27.4±0.8, 13.62N×91.86W, h59^{km}±82^{km}, MD4.7*

*IDC **13** 13:40:31.6±0.7, 14.35N×91.47W, h61^{km}±5^{km}, mb4.2/14, mb1 4.4/17, mb1mx4.3/22, MS3.9/17, Ms1 3.8/17, ms1mx3.8/24, Error ellipse: s-maj=29.1km s-min=13.9km az=63.0*

*BJI **13** 13:40:32.2, 14.20N×91.80W, h61^{km}, mB5.0, Ms4.7, Msz4.5*

*NEIC **13** 13:40:32.2±0.3, 14.24N×91.77W, mb4.6/36, MD5.1(SNET), Error ellipse: s-maj=9.9km s-min=3.9km az=213.0*

NEIC Felt [II] at San Salvador, El Salvador.

*CASC **13** 13:40:34.6±2.6, 14.07N×91.64W, h18^{km}±12^{km}, MD4.6, ML5.0, mb4.6(NEIC)*

ISC 13 13:40:30.9±0.2**, 14.23N**±0.04×**91.90W**±0.02**, h57**^{km}**, h57**^{km}±3.2^{km}**:pP-P, n197, σ1^{s}17**/200**, mb4.6**/44**, MS4.0**/18**, 10C-8D, Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAT	Jato	0.27	70	⇓eP	P	13 40 41.8	+1.2
JAT				eS	S	13 40 50.9	+3.3
JAT				AML	AML	13 40 51.4	
	comp=N,692μm,0.3s						
TP2	Tecpan 2	1.01	57	⇑eP	P	13 40 50.6	+1.3
TP2				eS	S	13 41 05.5	+2.6
TP2				AML	AML	13 41 06.5	
	comp=E,29μm,0.5s						
FUG	Fuego 3	1.05	78	⇑iP	P	13 40 49.6	-0.1
PCG	Pacaya	1.26	82	⇑eP	P	13 40 53.0	+0.3
PCG				i S	S	13 41 08.7	-0.2
PCG				AML	AML	13 41 09.7	
	comp=Z,5μm,0.8s						
IXG	Ixpaco	1.40	92	⇓eP	P	13 40 54.4	-0.4
IXG				eS	S	13 41 13.1	+0.7
IXG				AML	AML	13 41 19.8	
	comp=N,306μm,0.6s						
NBG	Las Nubes	1.54	76	⇑eP	P	13 40 58.1	+1.4
NBG				eS	S	13 41 19.6	+3.8
NBG				AML	AML	13 41 20.7	
	comp=N,172μm,0.5s						
CUSS	Cusmapa	1.92	99	eP	P	13 41 01.1	-0.8
CUSS				eS	S	13 41 25.1	+0.3
CUSS	Cusmapa	1.92	99	eP	P	13 41 01.2	-0.7
CUSS				eS	S	13 41 25.1	+0.3
RTR	El Retiro	2.21	98	⇑eP	P	13 41 06.0	0.0
RTR	El Retiro	2.21	98	eP	P	13 41 06.2	+0.2
SBLS	San Blas	2.24	100	eP	P	13 41 06.4	0.0
SBLS				eS	S	13 41 33.7	+0.8
SNJE	San Jose	2.25	99	⇑eP	P	13 41 06.6	0.0
SNJE	San Jose	2.25	99	eP	P	13 41 06.7	+0.1
MTO2	Montecristo 2	2.46	86	eP	P	13 41 09.3	-0.3
MTO2	Montecristo 2	2.46	86	eP	P	13 41 09.6	0.0
BOQS	Boqueron	2.59	101	⇑eP	P	13 41 11.3	-0.1
BOQS				eS	S	13 41 41.2	-0.5
BOQS	Boqueron	2.59	101	eP	P	13 41 11.6	+0.2
SCX	San Cristobal	2.60	344	i P	P	13 41 14.8	+3.3
SCX				i S	S	13 41 51.0	+9.1
SNET	Serv Nac Est T	2.64	101	⇑eP	P	13 41 11.9	-0.2
SNET				eS	S	13 41 41.6	-1.5
SNET				i		13 41 52.6	
	comp=Z,8μm,0.4s						
SNET	Serv Nac Est T	2.64	101	eP	P	13 41 11.9	-0.2
SNET				i		13 41 52.6	
LFU	La Fuente	2.74	100	eP	P	13 41 13.7	+0.1
LFU				eS	S	13 41 43.9	-1.8
LFU	La Fuente	2.74	100	eP	P	13 41 13.7	+0.1
LFU				eS	S	13 41 46.4	+0.8
LBRS	Las Brisas	2.81	100	⇑eP	P	13 41 13.5	-1.1
LBRS				eS	S	13 41 51.1	+3.7
LBRS	Las Brisas	2.81	100	eP	P	13 41 14.4	-0.2
LBRS				eS	S	13 41 47.4	0.0
LFRS	El Faro	2.82	102	⇓eP	P	13 41 14.2	-0.5
LFRS	El Faro	2.82	102	eP	P	13 41 14.7	+0.1
LCBS	La Ceiba	2.89	101	⇓eP	P	13 41 15.1	-0.6
LCBS				eS	S	13 41 47.8	-1.6
SNVI	San Vicente	3.03	101	eP	P	13 41 18.1	+0.5
SNVI				eS	S	13 41 52.9	0.0
SNVI	San Vicente	3.03	101	eP	P	13 41 17.4	-0.3
SNVI				eS	S	13 41 52.8	-0.1
SNVI				eS	S	13 41 53.1	+0.2
CAHU	Cacacuatique	3.61	97	eP	P	13 41 25.2	-0.6
VSM	San Miguel	3.61	102	⇓eP	P	13 41 25.5	-0.2
VSM	San Miguel	3.61	102	eP	P	13 41 25.9	+0.1
CMIG	Matias Romero	4.05	315	eP	P	13 41 32.2	+0.2
CMIG				i S	S	13 42 22.7	+4.1
CMIG	Matias Romero	4.05	315	eP	P	13 41 32.2	+0.2
CMIG				i S	S	13 42 18.6	0.0
CNCH	Conchagua	4.06	103	⇑eP	P	13 41 31.2	-0.9
CNCH				eS	S	13 42 22.5	+3.7
CNCH	Conchagua	4.06	103	eP	P	13 41 31.6	-0.5
CNCH				eS	S	13 42 18.5	-0.3
HUIG	Huatulco	4.35	291	eP	P	13 41 35.0	-1.1
HUIG				i S	S	13 42 25.3	-0.8
HUIG	Huatulco	4.35	291	eP	P	13 41 35.6	-0.6
HUIG				i S	S	13 42 20.9	-5.2
TUIG	Tuzandepetl	4.50	328	i P	P	13 41 56.1	+18
TUIG				i S	S	13 42 52.5	+23
SCIG		4.76	8	⇓iP	P	13 41 42.2	+0.2
SCIG				i S	S	13 42 44.6	+8.0
CRIN	San Cristobal	4.95	107	eP	P	13 41 45.7	+1.1
TELN	Telica	5.18	108	eP	P	13 41 48.1	+0.3
LEON	Leon	5.19	110	eP	P	13 41 48.3	+0.4
CNGN	Cerro Negro	5.34	108	eP	P	13 41 50.9	+0.8
MIRN	Miramar	5.35	109	eP	P	13 41 50.4	+0.2
EVV	El Vigia	5.36	322	eP	P	13 41 51.0	+0.8
EVV				i S	S	13 42 57.0	+5.7
OXX	Oaxaca	5.45	302	i P	P	13 41 52.0	+0.5
OXX				i S	S	13 42 57.0	+3.4
OXX	Oaxaca	5.45	302	i P	P	13 41 53.1	+1.6
MOMJ	Momotombo	5.52	108	eP	P	13 41 53.2	+0.8
COPN	Copaltepe	5.55	111	eP	P	13 41 53.1	+0.2
XAVN	Gruta Xavier	5.80	110	eP	P	13 41 57.1	+0.7
MGAN	Managua	5.88	110	eP	P	13 41 57.3	-0.2
MGAN				eS	S	13 43 04.0	-0.3
MGAN				i		13 43 14.0	
	comp=E,1μm,0.7s						
CRUN	El Crucero	5.89	112	eP	P	13 41 57.9	+0.3
PYTN	Playitas	5.92	106	eP	P	13 41 57.9	-0.2
WILN	Americas 2	5.93	110	eP	P	13 41 58.6	+0.5
TICN	Ticuantepe	5.93	111	eP	P	13 41 59.3	+1.1
MASN	Masaya	6.02	111	eP	P	13 42 01.6	+2.1
APON	Apoyo	6.13	111	eP	P	13 42 01.7	+0.7
TEIG	Tepich	6.90	30	P	P	13 42 11.6	-0.2
	comp=E,0.0nm,0.3s,baz=211,slow=24,SNR=29						
TEIG				S	S	13 43 24.4	-5.2
	comp=E,0.0nm,0.3s,baz=270,slow=20,SNR=3.0						
CRZC	La Cruz	6.96	117	⇓eP	P	13 42 14.1	+1.5
CRZC				eS	S	13 43 34.7	+3.6
IISM	Ciudad Serdan	7.07	313	eP	P	13 42 15.0	+0.8
IISM				i S	S	13 43 39.0	+5.1
VCR	Vista de Mar	7.36	123	eP	P	13 42 17.7	-0.4
JTS	JuntasAbangare	7.83	119	P	P	13 42 24.3	-0.4
	comp=E,4.0nm,0.3s,baz=307,slow=21,SNR=19						
JTS				S	S	13 43 50.5	-2.3
	comp=E,3.5nm,0.3s,baz=161,slow=18,SNR=2.4						
JTS	JuntasAbangare	7.83	119	ePn	P	13 42 24.5	-0.2
	comp=E,58nm,0.8s						
JTS				Sn	S	13 43 58.9	+6.2
JCR	Jicaral	7.93	122	eP	P	13 42 25.7	-0.4
FORC	Fortuna	7.99	117	eP	P	13 42 27.6	+0.8
PPM	Popocatepetl	8.05	308	eP	P	13 42 28.0	+0.4
PPM				i S	S	13 44 02.0	+3.9
CGA2	Cerro Gallo 2	8.38	119	eP	P	13 42 33.7	+1.5
PRS1	Puriscal	8.53	119	eP	P	13 42 34.9	+0.6
LAJ	Bijagual	8.75	119	eP	P	13 42 33.8	-3.5
SJS	Escuela Geolog	8.77	118	eP	P	13 42 39.2	+1.6
TRTC	Tortuguero	8.78	113	eP	P	13 42 36.4	-1.3
LCR2	La Lucha 2	8.91	119	eP	P	13 42 40.4	+0.8
ICR	Volcan Irazu	8.94	117	eP	P	13 42 42.1	+2.2
URSC	Urasca	9.06	118	eP	P	13 42 41.8	+0.2
BUS	Buena Vista	9.22	119	eP	P	13 42 44.8	+1.1
ZIIG	Zihuatanejo	9.80	291	i P	P	13 42 52.0	+0.3
ACR	Cerro Adams	10.19	122	eP	P	13 42 58.6	+1.4
MOIG	Morelia	10.41	303	i P	P	13 43 03.0	+2.8
SFJM	Santa Fe	12.32	302	eP	P	13 43 27.0	+1.1
JCT	Junction City	17.74	337	eP	P	13 44 36.7	+1.2
	comp=E,25nm,1.0s						
JCT				eS	S	13 47 51.0	+2.3
LTX	Lajitas	18.57	326	eP	P	13 44 46.1	+0.5
	comp=E,30nm,0.9s						
TXAR	Lajitas Array	18.57	326	P	P	13 44 46.6	+1.0
	comp=E,0.7nm,0.3s,baz=156,slow=12,SNR=154						
TXAR				PcP	PcP	13 49 12.1	-1.0
	comp=E,0.2nm,0.3s,baz=149,slow=3.8,SNR=4.4						
TXAR				ScP		13 52 47.3	
	comp=E,0.3nm,0.3s,baz=135,slow=5.3,SNR=10						
TXAR				pScP		13 53 19.4	
	comp=E,0.4nm,0.3s,baz=135,slow=5.3,SNR=4.9						
TXAR				LR	LR	13 53 33.2	
	comp=E,81nm,18.2s,baz=155,slow=42						
LRAL	Lakeview Retre	19.25	13	eP	P	13 44 51.7	-1.7
	comp=E,67nm,1.4s						
ROSC	El Rosal	19.65	117	P	P	13 44 57.8	-0.1
	comp=E,1.9nm,0.3s,baz=133,slow=19,SNR=4.1						
OXF	Oxford	20.32	6	eP	P	13 45 00.5	-4.4
	comp=E,24nm,0.6s						
UALR	University of	20.47	359	eP	P	13 45 03.6	-2.7
	comp=E,22nm,0.7s						
WMOK	Wichita Mounta	21.35	344	eP	P	13 45 12.9	-2.3
	comp=E,8.8nm,0.8s,mb4.1						
WMOK				eS	S	13 49 06.7	+2.8
SDV	Santo Domingo	21.49	102	eP	P	13 45 13.3	-3.5
	comp=E,24nm,0.7s,mb4.6						
SWET	Sewanee	21.58	13	eP	P	13 45 15.9	-1.7
WVT	Waverly	22.12	9	eP	P	13 45 20.8	-2.1
	comp=E,8.6nm,0.5s,mb4.4						
WVT				e		13 49 16.9	
CCM	Cathedral Cave	23.74	1	eP	P	13 45 36.9	-1.8
	comp=E,43nm,1.0s,mb4.8						
WCI	Wyandotte Cave	24.42	11	eP	P	13 45 42.9	-2.5
	comp=E,23nm,0.8s,mb4.7						
WCI				e		13 46 00.2	
ANMO	Albuquerque	24.46	330	eP	P	13 45 46.6	+0.8
	comp=E,13nm,0.6s,mb4.5						
TUC	Tucson	24.93	319	eP	P	13 45 51.4	+1.1
	comp=E,13nm,0.8s,mb4.5						
SJG	San Juan	25.02	78	LR	LR	13 55 08.6	
	comp=E,277nm,21.3s,MS3.7,baz=266,slow=36						
SDCO	Great Sand Dun	26.36	335	eP	P	13 46 04.6	+0.9
	comp=E,4.1nm,0.9s,mb4.0						
WUAZ	Wupatki	27.50	324	eP	P	13 46 14.0	-0.1
	comp=E,22nm,1.2s,mb4.6						
SSPA	Standing Stone	29.02	22	eP	P	13 46 24.4	-3.3
	comp=E,5.6nm,0.6s,mb4.5						
SRU	San Rafael	29.73	330	eP	P	13 46 34.5	+0.5
MSU	Marysvale	30.11	327	eP	P	13 46 38.1	+0.7
MSU				ePcP	PcP	13 49 37.4	-0.5
MSU				e		13 49 55.0	
MSU				eScP		13 53 17.9	
MVU	Marysvale	30.13	327	eP	P	13 46 37.5	-0.1
	comp=E,7.2nm,0.8s,mb4.5						
MVU				ePcP	PcP	13 49 37.5	-0.4
MVU				e		13 49 55.1	
MVU				eScP		13 53 17.4	
ARUT	Antelope Range	30.28	325	eP	P	13 46 40.2	+1.3
BINY	Binghamton	31.09	23	eP	P	13 46 42.6	-3.3
	comp=E,7.9nm,0.7s,mb4.7						
DAU	Daniels Canyon	31.10	331	eP	P	13 46 46.6	+0.4
TPNV	Topopah Spring	31.36	321	eP	P	13 46 49.6	+1.1
	comp=E,28nm,1.5s,mb4.9						
TPNV				ePcP	PcP	13 49 40.4	-0.8
RSSD	Black Hills	31.55	343	P	P	13 46 47.6	-2.4
DUG	Dugway	31.70	329	eP	P	13 46 51.9	+0.5
TCUT	Toone Canyon	31.73	331	eP	P	13 46 51.1	-0.5
DAC	Darwin (Calif)	31.79	318	eP	P	13 46 52.8	+0.5
HWUT	Hardware Ranch	32.19	332	eP	P	13 46 55.5	-0.1
	comp=E,11nm,0.8s,mb4.7						
HWUT				ePcP	PcP	13 49 42.2	-1.2
HWUT				e		13 49 59.5	
HWUT				eScP		13 53 23.7	
PDAR	Pinedale Array	32.26	335	P	P	13 46 54.9	-1.3
	comp=E,4.0nm,1.1s,mb4.2,baz=130,slow=10,SNR=15						
PDAR				PcP	PcP	13 49 42.0	-1.6
	comp=E,1.8nm,0.6s,baz=148,slow=4.1,SNR=8.9						
PDAR				pPcP		13 49 59.2	
	comp=E,1.3nm,0.7s,baz=153,slow=3.3,SNR=4.7						
PDAR				ScP		13 53 23.4	
	comp=E,1.3nm,0.9s,baz=135,slow=4.2,SNR=7.5						
PDAR				LR	LR	14 04 11.8	
	comp=E,64nm,18.3s,MS3.4,baz=156,slow=44						
BW06	Boulder Array	32.26	335	eP	P	13 46 55.6	-0.7
	comp=E,3.8nm,0.9s,mb4.2						
SADO	Sadowa	32.32	17	P	P	13 46 53.3	-3.4
	comp=E,2.3nm,0.5s,mb4.3,baz=221,slow=7.1,SNR=2.5						
TPH	Tonopah	32.68	321	eP	P	13 47 00.7	+0.8
	comp=E,37nm,1.5s,mb5.1						
HVU	Hansel Valley	32.89	331	eP	P	13 47 01.8	+0.1
HVU				ePcP	PcP	13 49 43.8	-1.5
MTUM	Tungsten Hills	33.06	319	eP	P	13 47 04.4	+1.1
SNOW	Snow King Moun	33.33	335	eP	P	13 47 05.0	-0.5
ELK	Elko	33.36	327	eP	P	13 47 06.7	+0.9
	comp=E,8.5nm,0.8s,mb4.7						
ELK				ePcP	PcP	13 49 46.0	-0.6
ELK				e		13 50 03.1	
ELK				eScP		13 53 28.1	
TPAW	Teton Pass	33.43	334	eP	P	13 47 05.8	-0.6
TPAW				ePcP	PcP	13 49 46.2	-0.6
MNV	Mina	33.47	321	eP	P	13 47 08.1	+1.3
	comp=E,28nm,0.9s,mb5.2						
MNV				ePcP	PcP	13 49 46.0	-1.0
BMN	Battle Mountai	34.23	325	eP	P	13 47 14.0	+0.7
	comp=E,9.0nm,0.8s,mb4.8						

CMB	**Columbia Colle**	**34.63**	**318**	*e*P	**P**	**13 47 17.2**	**+0.4**
	comp=E,7.7nm,1.0s,mb4.6						
HLID	**Hailey**	**35.03**	**331**	*e*P	**P**	**13 47 20.3**	**+0.3**
	comp=E,20nm,1.1s,mb5.0						
HLID				*e*PcP	PcP	13 49 50.6	-0.7
BOZ	**Bozeman (W)**	**35.48**	**336**	*e*P	**P**	**13 47 23.0**	**-0.9**
	comp=E,2.5nm,0.6s,mb4.3						
BOZ				*e*PcP	PcP	13 49 51.3	-1.4
ULM	**Lac du Bonnet**	**36.07**	**356**	P	**P**	**13 47 25.6**	**-3.2**
	comp=E,2.8nm,0.7s,mb4.3,baz=170,slow=6.1,SNR=2.7						
ULM				PcP	PcP	13 49 51.6	-2.7
	comp=E,5.0nm,0.6s,baz=194,slow=1.0,SNR=5.3						
ULM				LR	LR	14 03 04.5	
	comp=E,158nm,20.1s,MS3.8,baz=190,slow=38						
WVOR	**Wild Horse Val**	**36.36**	**326**	*e*P	**P**	**13 47 31.5**	**+0.1**
	comp=E,34nm,1.2s,mb5.2						
SAML	**Samuel**	**36.63**	**127**	*e*P	**P**	**13 47 30.1**	**-3.8**
	comp=E,13nm,1.1s,mb4.7						
SAML				*e*	pP	13 47 45.2	-3.4
SAML				*e*		13 50 11.7	
MOD	**Modoc**	**36.94**	**324**	*e*P	**P**	**13 47 36.9**	**+0.6**
	comp=E,12nm,1.2s,mb4.6						
MOD				*e*PcP	PcP	13 49 56.5	-0.6
YBH	**Yreka Blue Hor**	**38.25**	**322**	P	**P**	**13 47 46.4**	**-0.8**
	comp=E,2.4nm,0.8s,mb4.0,baz=117,slow=4.5,SNR=2.8						
YBH				PcP	PcP	13 49 59.4	-1.7
	comp=E,1.8nm,0.8s,baz=196,slow=7.4,SNR=3.1						
LPAZ	**La Paz**	**38.35**	**141**	P	**P**	**13 47 47.0**	**-1.2**
	comp=E,2.2nm,0.3s,mb4.4,baz=14,slow=0.5,SNR=9.4						
LNOR	**Lincton Mounta**	**38.59**	**330**	*e*P	**P**	**13 47 49.2**	**-0.7**
NEW	**Newport**	**39.84**	**334**	*e*P	**P**	**13 47 59.3**	**-1.0**
	comp=E,2.7nm,0.6s,mb4.2						
NEW				*e*PcP	PcP	13 50 03.9	-2.1
NEW				*e*		13 50 20.5	
OD2	**Odessa Site #2**	**39.90**	**331**	P	**P**	**13 48 01.0**	**+0.2**
DPW	**Davenport**	**40.02**	**332**	*e*P	**P**	**13 48 01.7**	**-0.1**
EPH	**Ephrata**	**40.28**	**331**	P	**P**	**13 48 04.2**	**+0.2**
EBG	**Ellensburg**	**40.44**	**330**	P	**P**	**13 48 06.5**	**+1.2**
WPW	**White Pass**	**40.78**	**329**	P	**P**	**13 48 09.3**	**+1.1**
LON	**Longmire**	**40.95**	**328**	*e*P	**P**	**13 48 09.7**	**+0.2**
NLW	**Nelson Butte**	**41.15**	**331**	*e*P	**P**	**13 48 11.1**	**-0.1**
BMW	**Boistfort Moun**	**41.50**	**327**	*e*P	**P**	**13 48 14.8**	**+0.8**
PNT	**Penticton**	**41.72**	**333**	P	**P**	**13 48 16.3**	**+0.5**
RPW	**Rockport**	**41.97**	**331**	P	**P**	**13 48 17.6**	**-0.2**
JCW	**Jim Creek**	**41.99**	**330**	P	**P**	**13 48 17.6**	**-0.5**
GNW	**Green Mountain**	**42.01**	**329**	*e*P	**P**	**13 48 17.5**	**-0.7**
LVC	**Limon Verde**	**42.98**	**148**	*e*P	**P**	**13 48 25.1**	**-1.4**
	comp=E,3.4nm,0.6s,mb4.2						
SCHQ	**Schefferville**	**44.98**	**20**	P	**P**	**13 48 38.3**	**-3.9**
	comp=E,9.4nm,0.8s,mb4.7,baz=213,slow=6.7,SNR=9.2						
SCHQ				PcP	PcP	13 50 19.5	-3.5
	comp=E,4.2nm,0.9s,baz=145,slow=12,SNR=3.1						
SCHQ				LR	LR	14 08 17.4	
	comp=E,341nm,21.6s,MS4.2,baz=131,slow=37						
BBB	**Bella Bella**	**47.62**	**330**	LR	LR	14 11 28.4	
	comp=E,103nm,19.1s,MS3.8,baz=244,slow=39						
YKA	**Yellowknife Ar**	**50.83**	**347**	P	**P**	**13 49 25.2**	**-2.4**
	comp=E,4.2nm,0.5s,mb4.6,baz=149,slow=7.5,SNR=33						
YKA				pP	pP	13 49 41.2	-1.6
	comp=E,4.8nm,0.9s,baz=150,slow=7.3,SNR=5.5						
YKA				PcP	PcP	13 50 41.8	-2.1
	comp=E,7.5nm,1.0s,baz=148,slow=4.1,SNR=12						
YKA				LR	LR	14 12 15.8	
	comp=E,94nm,21.8s,MS3.8,baz=140,slow=38						
YKA	**Yellowknife Ar**	**50.83**	**347**	P	**P**	**13 49 25.2**	**-2.4**
YKA				pP	pP	13 49 41.2	-1.6
YKA				PcP	PcP	13 50 41.8	-2.1
YKA				LR	LR	14 12 15.8	
CPUP	**Villa Florida**	**52.49**	**140**	P	**P**	**13 49 36.6**	**-3.9**
	comp=E,5.1nm,1.0s,mb4.4,baz=345,slow=4.8,SNR=6.4						
CPUP				LR	LR	14 11 09.4	
	comp=E,98nm,19.4s,MS3.9,baz=139,slow=35						
BDFB	**Brasilia**	**52.56**	**123**	LR	LR	14 11 13.7	
	comp=E,114nm,21.1s,MS3.9,baz=173,slow=35						
TRQA	**Tornquist**	**59.09**	**153**	*e*P	**P**	**13 50 25.0**	**-2.9**
	comp=E,19nm,1.2s,mb5.0						
INK	**Inuvik**	**60.25**	**343**	P	**P**	**13 50 33.1**	**-2.3**
	comp=E,6.7nm,0.6s,mb4.8,baz=127,slow=7.3,SNR=22						
INK				LR	LR	14 20 12.4	
	comp=E,104nm,18.1s,MS4.0,baz=110,slow=40						
PMR	**Palmer**	**62.26**	**333**	*e*P	**P**	**13 50 47.8**	**-1.3**
	comp=E,5.6nm,0.6s,mb4.9						
ILAR	**Eielson Array**	**62.67**	**337**	P	**P**	**13 50 50.3**	**-1.5**
	comp=E,14nm,0.8s,mb5.2,baz=129,slow=4.5,SNR=139						
ILAR				pP	pP	13 51 06.8	-0.6
	comp=E,4.2nm,0.8s,baz=165,slow=1.2,SNR=5.2						
ILAR				PcP	PcP	13 51 28.3	-1.5
	comp=E,2.7nm,0.6s,baz=150,slow=2.1,SNR=9.9						
ILAR				LR	LR	14 20 25.0	
	comp=E,86nm,19.6s,MS3.9,baz=331,slow=38						
COLA	**College**	**63.09**	**337**	*e*P	**P**	**13 50 53.0**	**-1.5**
COLA				LR	LR		
	comp=Z,100nm,21.0s,MS4.0						
SPU	**Mount Spurr**	**63.42**	**332**	*e*P	**P**	**13 50 55.5**	**-1.3**
SPU				*e*	pP	13 51 11.8	-0.7
RSO	**Redoubt South**	**63.51**	**331**	P	**P**	**13 50 53.9**	**-3.4**
RSO				*e*	pP	13 51 06.5	-6.4
TTA	**Tatalina**	**65.74**	**333**	*e*P	**P**	**13 51 09.7**	**-2.0**
IMA	**Indian Mountai**	**65.80**	**337**	*e*P	**P**	**13 51 10.1**	**-1.9**
	comp=Z,10nm,0.6s,mb5.0						
BORG	**Borgarnes**	**68.97**	**26**	LR	LR	14 23 32.4	
	comp=Z,43nm,18.5s,MS3.7,baz=215,slow=38						
JMIC	**Jan Mayen**	**74.50**	**20**	LR	LR	14 22 42.3	
	comp=Z,284nm,21.3s,MS4.5,baz=301,slow=34						
NOA	**NORSAR Array B**	**83.90**	**28**	P	**P**	**13 52 52.6**	**-3.0**
	comp=Z,0.5nm,0.6s,mb3.8,baz=304,slow=4.0,SNR=3.0						
NOA				LR	LR	14 27 18.5	
	comp=Z,72nm,20.6s,MS4.0,baz=275,slow=34						
NOA	**NORSAR Array B**	**83.90**	**28**	P	**P**	**13 52 52.6**	**-3.0**
NOA				LR	LR	14 27 18.5	
DBIC	**Dimbokro**	**85.53**	**84**	P	**P**	**13 53 02.2**	**-2.6**
	comp=Z,6.4nm,1.2s,mb4.7,baz=52,slow=5.5,SNR=5.5						
DBIC				LR	LR	14 25 36.1	
	comp=Z,44nm,18.3s,MS3.9,baz=337,slow=32						
ARCES	**ARCESS Array B**	**85.89**	**18**	P	**P**	**13 53 04.0**	**-1.3**
	comp=Z,9.3nm,1.1s,mb4.9,baz=315,slow=3.4,SNR=4.3						
ARCES				LR	LR	14 30 37.2	
	comp=Z,104nm,21.9s,MS4.2,baz=216,slow=35						
GERES	**GERESS Array B**	**89.37**	**40**	P	**P**	**13 53 19.6**	**-2.9**
	comp=Z,0.8nm,0.7s,mb4.2,baz=315,slow=3.8,SNR=4.0						
FINES	**FINESS Array B**	**90.25**	**25**	LR	LR	14 34 07.9	
	comp=Z,60nm,20.0s,MS4.0,baz=328,slow=36						
BVAR	**Borovoye Array**	**111.31**	**11**	PKiKP		13 58 58.5	
	comp=Z,1.1nm,0.5s,SNR=6.6						
CN2	**Changchun**	**112.94**	**332**	*e*PKP	PKPdf	13 59 02.3	+0.7
SONM	**Songino Array**	**116.10**	**346**	PKP	PKPdf	13 59 07.4	-0.3
	comp=Z,0.6nm,0.7s,baz=27,slow=2.8,SNR=3.9						
SONM				pPKP		13 59 25.4	
	comp=Z,1.0nm,0.9s,baz=324,slow=0.9,SNR=5.6						
MKAR	**Makanchi Array**	**119.04**	**5**	PKP	PKPdf	13 59 12.8	-0.7
	comp=Z,1.5nm,0.6s,baz=10.0,slow=2.5,SNR=17						
MKAR				pPKP		13 59 29.9	
	comp=Z,1.0nm,0.5s,baz=356,slow=1.5,SNR=5.6						
MKAR	**Makanchi Array**	**119.04**	**5**	PKP	PKPdf	13 59 12.8	-0.7
MKAR				pPKP		13 59 29.9	
AAK	**Ala-Archa**	**122.06**	**12**	*e*PKPdf	PKPdf	13 59 18.8	-0.5
WMQ	**Urumqi**	**122.24**	**0**	*e*PKP	PKPdf	13 59 19.6	-0.1
MAW	**Mawson**	**124.17**	**169**	PKP	PKPdf	13 59 21.7	-1.2
	comp=Z,1.2nm,0.5s,baz=121,slow=6.0,SNR=7.1						
KSH	**Kashi**	**125.36**	**11**	*e*PKP	PKPdf	13 59 27.4	+1.5
NJ2	**Nanjing**	**125.36**	**328**	*e*PKP	PKPdf	13 59 26.1	0.0
GTA	**Gaotai**	**125.54**	**349**	*e*PKP	PKPdf	13 59 26.5	+0.3
LZH	**Lanzhou**	**127.80**	**344**	*e*PKP	PKPdf	13 59 31.0	+0.3
STKA	**Stephens Creek**	**128.25**	**241**	PKP	PKPdf	13 59 32.1	+0.4
	comp=Z,3.4nm,0.7s,baz=93,slow=5.6,SNR=5.3						
WRA	**Warramunga Arr**	**135.55**	**256**	PKhKP		13 59 40.2	
	comp=Z,0.3nm,0.5s,baz=106,slow=2.7,SNR=6.4						
WRA				PKP	PKPdf	13 59 46.0	+0.4
	comp=Z,1.6nm,0.6s,baz=84,slow=2.2,SNR=14						
ASAR	**Alice Springs**	**135.83**	**251**	PKhKP		13 59 35.8	
	comp=Z,0.4nm,0.8s,baz=106,slow=4.0,SNR=6.7						
ASAR				PKP	PKPdf	13 59 46.5	+0.4
	comp=Z,1.0nm,0.7s,baz=100,slow=3.2,SNR=5.2						
GKN	**Gorkha**	**137.89**	**5**	*e*P	PKPdf	13 59 49.9	+0.1
	comp=Z,39nm,1.0s						
KOLN	**Koldanda**	**138.03**	**6**	*e*P	PKPdf	13 59 50.0	-0.1
	comp=Z,32nm,1.2s						
KKN	**Kakani**	**138.15**	**4**	*e*P	PKPdf	13 59 50.5	+0.2
	comp=Z,16nm,0.8s						
DMN	**Daman**	**138.31**	**4**	*e*P	PKPdf	13 59 51.0	+0.4
	comp=Z,20nm,0.9s						
KMI	**Kunming**	**138.37**	**340**	*e*PKP	PKPdf	13 59 47.5	-3.2
KMI				PP	PP	14 02 42.1	-2.8
KMI				PP	PP		
	comp=Z,72nm,8.0s						
KMI				LR	LR		
	comp=N,108nm,23.0s						
KMI				LR	LR		
	comp=E,94nm,17.7s						
KMI				LR	LR		
	comp=Z,90nm,20.4s,MS4.5						
PKI	**Pulchoki**	**138.37**	**4**	*e*P	PKPdf	13 59 50.9	+0.2
	comp=Z,16nm,0.6s						
NANT	**Nan**	**144.92**	**339**	P	PKPdf	14 00 01.7	-0.8
CHG	**Chiang Mai**	**145.48**	**342**	⇓P	PKPdf	14 00 03.2	-0.2
	comp=Z,30nm,0.9s						
CMAR	**Chiang Mai Arr**	**145.81**	**341**	PKPbc	PKPbc	14 00 04.5	-0.5
	comp=Z,38nm,0.8s,baz=338,slow=3.6,SNR=176						
CMAR				pPKPbc		14 00 22.2	
	comp=Z,22nm,1.0s,baz=342,slow=3.0,SNR=7.9						
BDT	**Bhumibol Dam**	**146.93**	**341**	P	PKPdf	14 00 07.0	+1.1
HYB	**Hyderabad**	**147.18**	**17**	*i* PKP	PKPdf	14 00 07.5	+1.2
MUN	**Mundaring**	**148.83**	**231**	*e*P	PKPdf	14 00 12.8	+4.2
	comp=Z,6.6nm,0.5s						
MBWA	**Marble Bar**	**149.13**	**253**	*e*PKPbc	PKPdf	14 00 13.3	+3.9

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*NEIC **13** 14:04:23.2±0.5, 52.11N×169.62W, mb3.7/1, Error ellipse: s-maj=13.6km s-min=7.4km az=145.0*

*IDC **13** 14:04:23.0±0.8, 52.11N×169.69W, h43^{km}±7^{km}, mb3.7/12, mb1 3.9/14, mb1mx3.8/25, ML3.7/2, Error ellipse: s-maj=24.7km s-min=14.5km az=159.0*

ISC 13 14:04:21.2±0.7**, 52.0N**±0.1×**169.7W**±0.1**, h45^{km}, h45^{km}**±3.2^{km}**:pP-P, n28,** σ**0^{s}87**/29**, mb3.8**/13**, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OKCE	**Okmok Cone E**	**1.67**	**33**	P	**P**	**14 04 49.3**	**+0.9**
OKCE				S	**S**	**14 05 23.4**	**+15**
OKCD	**Okmok Cone D**	**1.69**	**34**	P	**P**	**14 04 49.4**	**+0.7**
OKCD				S	**S**	**14 05 22.4**	**+13**
OKER	**East Rim**	**1.73**	**34**	P	**P**	**14 04 50.0**	**+0.7**
OKER				S	**S**	**14 05 24.6**	**+14**
MGOD	**Makushin Gods**	**2.44**	**43**	P	**P**	**14 04 59.6**	**+0.2**
MCIR	**Makushin Cirqu**	**2.55**	**40**	P	**P**	**14 05 01.2**	**+0.2**
UNV	**Unalaska Valle**	**2.64**	**45**	P	**P**	**14 05 02.0**	**-0.3**
MTBL	**Makushin Table**	**2.65**	**42**	P	**P**	**14 05 03.1**	**+0.7**
FX1	**Attu Island--F**	**10.51**	**281**	P	**P**	**14 06 52.3**	**+0.3**
	1.6nm,0.3s,baz=300,slow=17,SNR=8.5						
ILAR	**Eielson Array**	**17.33**	**34**	P	**P**	**14 08 18.9**	**-2.0**
	0.2nm,0.3s,baz=233,slow=11,SNR=14						
ILAR				pP		14 08 29.9	
	0.2nm,0.3s,baz=230,slow=8.2,SNR=9.1						
DLBC	**Dease Lake**	**23.22**	**58**	P	**P**	**14 09 24.4**	**-0.1**
	0.9nm,0.3s,mb3.7,baz=198,slow=20,SNR=3.0						
DLBC				pP		14 09 36.8	
	2.4nm,0.7s,baz=313,slow=15,SNR=2.9						
INK	**Inuvik**	**23.73**	**33**	P	**P**	**14 09 28.8**	**-0.6**
	1.8nm,0.5s,mb3.8,baz=244,slow=8.4,SNR=15						
INK	**Inuvik**	**23.73**	**33**	P	**P**	**14 09 28.8**	**-0.6**
YKA	**Yellowknife Ar**	**30.60**	**48**	P	**P**	**14 10 31.4**	**-1.1**
	0.4nm,0.5s,mb3.5,baz=274,slow=8.1,SNR=3.3						
YKA	**Yellowknife Ar**	**30.60**	**48**	P	**P**	**14 10 31.4**	**-1.1**
NEW	**Newport**	**33.28**	**75**	P	**P**	**14 10 55.5**	**-0.7**
BW06	**Boulder Array**	**40.65**	**79**	P	**P**	**14 11 58.3**	**0.0**
	1.2nm,0.8s,mb3.6						
PDAR	**Pinedale Array**	**40.65**	**79**	P	**P**	**14 11 59.3**	**+1.0**
	0.5nm,0.7s,mb3.2,baz=333,slow=6.6,SNR=4.3						
PDAR				pP	pP	14 12 11.9	+1.4
	1.9nm,1.0s,baz=315,slow=4.2,SNR=5.3						
SONM	**Songino Array**	**51.31**	**301**	P	**P**	**14 13 22.3**	**-0.2**
	0.6nm,0.5s,mb3.8,baz=58,slow=5.4,SNR=6.0						
TXAR	**Lajitas Array**	**52.94**	**88**	P	**P**	**14 13 34.4**	**-0.7**
	0.7nm,0.7s,mb3.7,baz=307,slow=6.3,SNR=5.4						
TXAR				pP	pP	14 13 48.0	+0.4
	0.8nm,0.6s,baz=293,slow=5.2,SNR=3.4						
TXAR	**Lajitas Array**	**52.94**	**88**	P	**P**	**14 13 34.4**	**-0.7**
TXAR				pP	pP	14 13 48.0	+0.4
MKAR	**Makanchi Array**	**63.90**	**313**	P	**P**	**14 14 49.5**	**-1.6**
	0.3nm,0.5s,mb3.6,baz=53,slow=6.1,SNR=5.0						
FINES	**FINESS Array B**	**66.17**	**352**	P	**P**	**14 15 05.0**	**-0.5**
	3.1nm,0.9s,mb4.4,baz=63,slow=4.3,SNR=4.4						
NOA	**NORSAR Array B**	**67.27**	**360**	P	**P**	**14 15 12.0**	**-0.4**
	0.4nm,0.7s,mb3.6,baz=0.3,slow=7.1,SNR=2.5						
CMAR	**Chiang Mai Arr**	**76.51**	**283**	pP	pP	14 16 21.2	0.0
	2.0nm,0.8s,baz=29,slow=6.7,SNR=5.9						
DAVOX	**Davos**	**81.56**	**0**	P	**P**	**14 16 37.3**	**+2.3**
	2.5nm,0.5s,mb4.4,baz=355,slow=18,SNR=2.8						
WRA	**Warramunga Arr**	**86.65**	**231**	P	**P**	**14 17 01.8**	**+0.8**
	2.2nm,1.4s,mb4.2,baz=34,slow=5.5,SNR=2.8						
ASAR	**Alice Springs**	**90.04**	**230**	P	**P**	**14 17 17.6**	**+0.4**
	1.2nm,0.6s,mb4.4,baz=24,slow=5.1,SNR=17						
ASAR				pP	pP	14 17 29.8	-0.9
	1.8nm,0.6s,baz=32,slow=4.6,SNR=9.4						
TSUM	**Tsumeb**	**146.74**	**347**	PKPbc	PKPbc	14 24 01.1	+3.3
	1.0nm,0.5s,baz=120,slow=16,SNR=4.3						

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*IDC **13** 14:27:46.1±3.5, 11.67S×166.75E, h192^{km}±31^{km}, mb3.7/11, mb1 3.8/11, mb1mx3.8/15, Error ellipse: s-maj=19.8km s-min=17.8km az=80.0*

*NEIC **13** 14:27:53.9±3.0, 11.79S×166.65E, h266^{km}±28^{km}, Error ellipse: s-maj=20.4km s-min=16.3km az=197.0*

ISC 13 14:27:45.6±0.7**, 11.62S**±0.08×**166.7E**±0.1**, h200^{km}, n16,** σ**0^{s}96**/16**, mb3.8**/11**, 1D, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**10.39**	**181**	*e*P	**P**	**14 30 16.0**	**+5.1**
DZM				*e*S	**S**	**14 32 06.2**	**+1.6**
DZM	**Mont Dzumac**	**10.39**	**181**	*e*P	**P**	**14 30 16.0**	**+5.1**
DZM				*e*S	**S**	**14 32 06.2**	**+1.6**
URZ	**Urewera**	**28.12**	**162**	P	**P**	**14 33 19.4**	**-1.7**
	6.6nm,0.7s,mb4.4,baz=4.7,slow=16,SNR=3.4						
STKA	**Stephens Creek**	**30.66**	**225**	P	**P**	**14 33 43.1**	**-0.5**
	2.1nm,1.1s,mb3.7,baz=61,slow=10,SNR=3.7						
WRA	**Warramunga Arr**	**32.14**	**251**	P	**P**	**14 33 55.6**	**-1.0**
	0.7nm,0.9s,mb3.2,baz=85,slow=9.4,SNR=4.2						
RPZ	**Rata Peaks**	**32.20**	**174**	P	**P**	**14 33 56.1**	**-0.8**
	5.8nm,0.5s,mb4.4,baz=8.1,slow=7.1,SNR=11						
ASAR	**Alice Springs**	**33.35**	**244**	P	**P**	**14 34 05.7**	**-1.2**
	0.6nm,0.6s,mb3.3,baz=67,slow=10,SNR=5.8						
ASAR				pP	pP	14 34 45.4	-3.2
	0.7nm,0.7s,baz=73,slow=9.4,SNR=4.3						
ASAR				PcP	PcP	14 36 42.5	-1.6
	1.0nm,1.1s,baz=82,slow=3.0,SNR=4.7						
ASAR				ScP		14 40 10.0	
	1.0nm,1.0s,baz=102,slow=4.6,SNR=4.6						
FITZ	**Fitzroy Crossi**	**40.11**	**256**	P	**P**	**14 35 04.0**	**+0.4**
	5.3nm,1.2s,mb3.9,baz=81,slow=19,SNR=2.4						
CMAR	**Chiang Mai Arr**	**73.17**	**293**	P	**P**	**14 38 57.9**	**+1.1**
	1.3nm,0.6s,mb3.7,baz=120,slow=4.2,SNR=8.2						
SONM	**Songino Array**	**79.66**	**324**	P	**P**	**14 39 33.3**	**+1.0**
	1.3nm,0.8s,mb3.6,baz=145,slow=6.0,SNR=7.6						
ILAR	**Eielson Array**	**83.77**	**18**	P	**P**	**14 39 53.4**	**+0.2**
	3.1nm,0.7s,mb4.2,baz=238,slow=5.1,SNR=38						
PDAR	**Pinedale Array**	**93.28**	**47**	P	**P**	**14 40 38.5**	**-0.4**
	0.1nm,0.3s,mb3.3,baz=243,slow=4.0,SNR=3.0						
MKAR	**Makanchi Array**	**94.56**	**317**	P	**P**	**14 40 45.0**	**+0.5**
	2.3nm,0.6s,mb4.5,baz=87,slow=6.3,SNR=24						
SNAA	**Sanae**	**96.60**	**183**	⇓*i*	**P**	**14 40 54.1**	**+0.8**
ARCES	**ARCESS Array B**	**117.11**	**346**	PKP	PKPdf	14 46 07.4	+1.0
	3.3nm,0.8s,SNR=4.9						
FINES	**FINESS Array B**	**122.63**	**339**	PKP	PKPdf	14 46 18.0	+0.8
	9.6nm,1.2s,baz=45,slow=2.0,SNR=5.6						

IGQ 13 14:28:28.7, 3.54S×81.19W, h60^{km}±23^{km}**, mb4.6, 2D, Error ellipse: s-maj=13.7km s-min=5.4km az=147.1, Near coast of northern Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**2.56**	**14**	⇓P	P	14 29 08.3	-0.4
HOJA				S	S	14 29 36.5	-2.2
IGUA	**Igualata**	**3.26**	**51**	P	P	14 29 17.1	-1.5
ARRY	**Arrayan**	**3.40**	**53**	P	P	14 29 20.0	-0.5
PATA	**Patacocha**	**3.42**	**54**	P	P	14 29 20.2	-0.6
RETU	**Refugio**	**3.44**	**53**	P	P	14 29 20.7	-0.4
ULBA	**Ulba**	**3.47**	**53**	P	P	14 29 22.7	+1.2
QIL1	**Quilotoa**	**3.50**	**40**	P	P	14 29 00.0	-22
QIL1				S	S	14 29 59.7	-2.8
PISA	**Pisayambo**	**3.73**	**49**	P	P	14 29 25.5	+0.3
NAS1	**Nasa**	**3.96**	**43**	P	P	14 29 29.3	+0.9
TAMB	**Tambo**	**3.99**	**45**	P	P	14 29 29.4	+0.5
VC1	**Cotopaxi 1**	**4.00**	**44**	P	P	14 29 29.5	+0.4
JUA2	**San Juan 2**	**4.19**	**38**	P	P	14 29 32.2	+0.5
CGGP	**Crater GGP**	**4.22**	**38**	P	P	14 29 32.3	+0.2
GGP	**Refugio Guagua**	**4.23**	**38**	P	P	14 29 32.0	-0.3
PINO	**Pino**	**4.24**	**38**	P	P	14 29 32.2	-0.1
YANA	**Yana**	**4.29**	**38**	P	P	14 29 32.6	-0.4
ANTI	**Antisana**	**4.31**	**45**	⇓P	P	14 29 34.6	+1.2
JOR1	**San Jorge 1**	**4.34**	**36**	P	P	14 29 30.6	-3.2
CAYR	**Refugio Cayamb**	**4.75**	**42**	P	P	14 29 41.7	+2.2
COTA	**Cotacachi**	**4.79**	**37**	P	P	14 29 40.3	+0.2
CAYA	**Cayambe**	**4.80**	**42**	P	P	14 29 41.9	+1.6

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*IDC **13** 14:38:22.8±11.0, 21.80S×177.99W, h379^{km}±106^{km}, mb3.4/8, mb1 3.6/8, mb1mx3.5/12, Error ellipse: s-maj=47.5km s-min=32.7km az=112.0*

*NEIC **13** 14:38:38.0±0.6, 21.73S×178.53W, h540^{km}, mb4.0/4, Error ellipse: s-maj=22.0km s-min=14.0km az=158.0*

ISC 13 14:38:25.8±2.1**, 21.8S**±0.2×**178.2W**±0.2**, h417^{km}**±20^{km}**, n18,** σ**0^{s}76**/16**, mb3.6**/11**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.34**	**318**	P	**P**	**14 39 52.8**	**+0.1**
	142nm,1.2s,SNR=22						
CTA	**Charters Tower**	**33.19**	**266**	P	**P**	**14 44 28.2**	**+0.9**
	9.2nm,1.0s,mb4.1,baz=47,slow=15,SNR=7.6						
CTA	**Charters Tower**	**33.19**	**266**	P	**P**	**14 44 28.2**	**+0.9**
CTAO	**Charters Tower**	**33.19**	**266**	*e*P	**P**	**14 44 27.6**	**+0.4**
	5.3nm,0.7s,mb4.0						
STKA	**Stephens Creek**	**37.07**	**246**	P	**P**	**14 45 00.0**	**+0.3**
	1.8nm,0.5s,mb3.7,baz=83,slow=14,SNR=5.1						
ASAR	**Alice Springs**	**44.05**	**258**	P	**P**	**14 45 56.3**	**+0.1**
	3.8nm,0.7s,mb3.9,baz=91,slow=8.5,SNR=49						
ASPA	**Alice Springs**	**44.05**	**258**	*e*P	**P**	**14 45 56.4**	**+0.1**
WB2	**Warramunga Arr**	**44.23**	**263**	*e*P	**P**	**14 45 57.3**	**-0.4**
WRAB	**Tennant Creek**	**44.24**	**263**	*e*P	**P**	**14 45 57.4**	**-0.3**
	4.3nm,0.7s,mb3.9						
WRA	**Warramunga Arr**	**44.24**	**263**	P	**P**	**14 45 57.3**	**-0.5**
	1.2nm,0.5s,mb3.5,baz=96,slow=7.8,SNR=22						
SBA	**Scott Base**	**56.59**	**184**	P	**P**	**14 47 28.8**	**+0.1**
	0.7nm,0.7s,mb3.1						
MBWA	**Marble Bar**	**57.39**	**258**	*e*P	**P**	**14 47 33.4**	**-1.5**
	4.2nm,0.7s,mb3.9						
MAW	**Mawson**	**80.31**	**200**	P	**P**	**14 49 52.6**	**+0.2**
	0.7nm,0.6s,mb3.5,baz=135,slow=10.0,SNR=3.3						
ILAR	**Eielson Array**	**89.59**	**13**	P	**P**	**14 50 37.2**	**-0.6**
	0.3nm,0.6s,mb3.3,baz=206,slow=6.8,SNR=5.5						
PDAR	**Pinedale Array**	**90.02**	**43**	P	**P**	**14 50 40.3**	**-0.1**
	0.4nm,0.7s,mb3.4,baz=225,slow=3.8,SNR=3.3						
CMAR	**Chiang Mai Arr**	**90.36**	**290**	P	**P**	**14 50 44.8**	**+2.3**
	0.2nm,0.4s,mb3.3,baz=117,slow=2.0,SNR=5.1						
AKASG	**Malin Array Be**	**144.02**	**330**	PKP	PKPdf	14 57 11.7	-0.4
	0.5nm,0.3s,baz=39,slow=4.2,SNR=7.3						
GERES	**GERESS Array B**	**151.36**	**343**	PKPbc	PKPdf	14 57 32.4	+8.5
	0.3nm,0.4s,baz=333,slow=6.0,SNR=4.9						

MEX 13 15:14:32.9±1.2**, 17.00N×95.22W, h117^{km}**±17^{km}**, MD3.8, 1D, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.34**	**74**	⇓*i*P	P	15 14 49.2	-0.5
CMIG				*i* S	S	15 14 60.0	-2.5
TUIG	**Tuzandepetl**	**1.28**	**36**	*i* P	P	15 14 54.8	-3.3
TUIG				*i* S	S	15 15 14.9	-2.1
OXX	**Oaxaca**	**1.44**	**274**	*e*P	P	15 14 59.0	-0.9
OXX				*i* S	S	15 15 19.0	-1.3
HUIG	**Huatulco**	**1.49**	**215**	*i* P	P	15 14 58.5	-2.0
HUIG				*i* S	S	15 15 18.3	-2.9

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*NEIC **13** 15:24:13.7±2.2, 2.93S×139.10E, h64^{km}±20^{km}, mb4.4/5, Error ellipse: s-maj=17.6km s-min=15.9km az=118.0*

*IDC **13** 15:24:13.2±4.3, 2.93S×139.00E, h51^{km}±42^{km}, mb3.8/7, mb1 4.0/10, mb1mx4.0/12, ML4.2/3, MS3.4/4, Ms1 3.4/4, ms1mx3.1/13, Error ellipse: s-maj=33.8km s-min=12.8km az=94.0*

ISC 13 15:24:11.3±2.1**, 2.98S**±0.07×**139.06E**±0.10**, h52^{km}**±21^{km}**, n21,** σ**0^{s}96**/26**, mb4.1**/9**, MS3.4**/2**, Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**10.28**	**129**	P	**P**	**15 26 39.2**	**+0.4**
KAKA	**Kakadu**	**11.69**	**214**	*e*P	**P**	**15 26 58.7**	**+0.7**
	37nm,0.4s						
KAKA				*e*S	**S**	**15 29 07.1**	**-0.8**
WRAB	**Tennant Creek**	**17.47**	**195**	*e*P	**P**	**15 28 12.9**	**-0.1**
	34nm,0.7s						
WB2	**Warramunga Arr**	**17.48**	**195**	*e*P	**P**	**15 28 12.5**	**-0.5**
WB2				*e*S	**S**	**15 31 24.5**	**+0.9**
WRA	**Warramunga Arr**	**17.48**	**195**	P	**P**	**15 28 12.3**	**-0.8**
	1.2nm,0.3s,baz=17,slow=13,SNR=37						
WRA				S	**S**	**15 31 22.0**	**-1.7**
	0.4nm,0.3s,baz=8.6,slow=23,SNR=4.7						
CTA	**Charters Tower**	**18.40**	**158**	P	**P**	**15 28 25.4**	**+1.0**
	0.2nm,0.3s,baz=8.1,slow=14,SNR=3.1						
CTA				LR	LR	15 35 48.4	
	comp=Z,200nm,20.4s,baz=233,slow=38						
FITZ	**Fitzroy Crossi**	**19.97**	**220**	*e*P	**P**	**15 28 42.7**	**+0.6**
	9.2nm,0.6s						
FITZ				*e*S	**S**	**15 32 23.4**	**+4.6**
FITZ	**Fitzroy Crossi**	**19.97**	**220**	P	**P**	**15 28 42.8**	**+0.7**
	0.9nm,0.3s,baz=34,slow=8.2,SNR=32						
FITZ				S	**S**	**15 32 22.6**	**+3.8**
	0.3nm,0.3s,baz=190,slow=12,SNR=2.5						
FITZ				LR	LR	15 35 56.6	
	comp=Z,52nm,19.7s,baz=49,slow=35						
ASAR	**Alice Springs**	**21.16**	**193**	P	**P**	**15 28 54.1**	**-0.1**
	3.5nm,0.5s,mb4.0,baz=15,slow=10,SNR=71						
ASAR				S	**S**	**15 32 49.7**	**+8.1**
	1.4nm,0.8s,baz=14,slow=27,SNR=3.2						
ASAR				LR	LR	15 37 41.5	
	comp=Z,101nm,21.1s,MS3.2,baz=21,slow=38						
ASPA	**Alice Springs**	**21.16**	**193**	*e*P	**P**	**15 28 54.2**	**-0.1**
ASPA				*e*S	**S**	**15 32 50.5**	**+8.9**
MBWA	**Marble Bar**	**26.09**	**225**	P	**P**	**15 29 42.6**	**+0.5**
	5.5nm,0.5s,mb4.3						
STKA	**Stephens Creek**	**28.84**	**176**	*e*P	**P**	**15 30 07.0**	**-0.1**
	2.0nm,0.9s,mb3.9						
STKA	**Stephens Creek**	**28.84**	**176**	P	**P**	**15 30 06.5**	**-0.6**
	3.2nm,1.0s,mb4.0,baz=352,slow=11,SNR=5.6						
NWAO	**Narrogin (SRO)**	**36.13**	**212**	LR	LR	15 47 20.3	
	comp=Z,113nm,20.6s,MS3.6,baz=314,slow=38						
CMAR	**Chiang Mai Arr**	**44.87**	**300**	P	**P**	**15 32 23.1**	**+0.4**
	0.6nm,0.7s,mb3.6,baz=105,slow=6.2,SNR=4.7						
CASY	**Casey**	**66.28**	**192**	*e*P	**P**	**15 34 55.2**	**-0.9**
	8.0nm,0.8s,mb4.8						
CASY				*e*	pP	15 35 10.2	-0.6
MKAR	**Makanchi Array**	**70.21**	**322**	P	**P**	**15 35 20.4**	**-0.3**
	1.7nm,0.5s,mb4.2,baz=94,slow=9.1,SNR=34						
BVAR	**Borovoye Array**	**79.73**	**325**	P	**P**	**15 36 14.9**	**-0.3**
	1.7nm,0.4s,mb4.3,baz=114,slow=7.9,SNR=15						
MAW	**Mawson**	**82.01**	**202**	P	**P**	**15 36 28.7**	**+1.8**
	0.6nm,0.3s,mb3.9,baz=94,slow=5.7,SNR=3.5						
ILAR	**Eielson Array**	**85.93**	**24**	P	**P**	**15 36 43.6**	**-3.0**
	0.5nm,0.7s,mb3.9,baz=273,slow=4.6,SNR=6.2						
DBIC	**Dimbokro**	**143.87**	**277**	PKP	PKPdf	15 43 41.3	-0.5
	2.9nm,0.5s,baz=195,slow=2.7,SNR=7.8						

MEX 13 15:26:19.1±0.8**, 16.73N×94.75W, h108^{km}**±8^{km}**, MD3.8, 1C-1D, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.39**	**340**	⇓*i*P	P	15 26 34.1	-1.1
CMIG				*i* S	S	15 26 44.9	-2.3
TUIG	**Tuzandepetl**	**1.34**	**13**	*e*P	P	15 26 42.3	-2.0
TUIG				*i* S	S	15 27 00.6	-2.6
HUIG	**Huatulco**	**1.62**	**234**	⇑*i*P	P	15 26 45.4	-2.2
HUIG				*i* S	S	15 27 07.2	-1.9
OXX	**Oaxaca**	**1.93**	**281**	*i* P	P	15 26 50.0	-1.5
OXX				*i* S	S	15 27 13.0	-2.7

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*IDC **13** 15:33:21.9±3.2, 6.01S×127.91E, h409^{km}±37^{km}, mb3.0/3, mb1 3.3/6, mb1mx3.1/13, Error ellipse: s-maj=66.2km s-min=13.1km az=69.0*

*NEIC **13** 15:33:24.4±1.9, 6.24S×127.60E, h440^{km}±28^{km}, mb4.2/3, Error ellipse: s-maj=35.2km s-min=18.7km az=67.0*

ISC 13 15:33:22.4±1.8**, 6.2S**±0.2×**127.5E**±0.3**, h436^{km}**±23^{km}**, n11,** σ**0^{s}77**/15**, mb3.3**/3**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**8.07**	**144**	*e*P	**P**	**15 35 20.2**	**+0.5**
	8.0nm,0.6s						

FITZ	Fitzroy Crossi	11.98	189	*e*P	P	15 36 03.0	-0.4
	6.2nm,1.0s						
FITZ	Fitzroy Crossi	11.98	189	P	P	15 36 03.0	-0.3
	0.5nm,0.3s,baz=8.8,slow=14,SNR=19						
WRAB	Tennant Creek	15.20	155	*e*P	P	15 36 36.1	-1.4
	5.5nm,0.4s						
WRA	Warramunga Arr	15.20	155	P	P	15 36 36.7	-0.9
	1.5nm,0.3s,baz=336,slow=13,SNR=60						
WRA				S	S	15 39 15.0	+0.1
	0.2nm,0.3s,baz=327,slow=20,SNR=7.7						
WB2	Warramunga Arr	15.21	155	*e*P	P	15 36 36.7	-0.9
WB2				*e*S	S	15 39 15.1	+0.1
ASAR	Alice Springs	18.44	161	P	P	15 37 11.2	+1.2
	1.0nm,0.3s,baz=347,slow=11,SNR=33						
ASAR				S	S	15 40 20.9	+7.0
	0.1nm,0.3s,baz=349,slow=23,SNR=5.0						
ASPA	Alice Springs	18.44	161	*e*P	P	15 37 11.2	+1.2
ASPA				*e*S	S	15 40 20.1	+6.2
STKA	Stephens Creek	28.75	154	P	P	15 38 44.7	+0.2
	1.5nm,0.6s,mb3.5,baz=333,slow=14,SNR=2.8						
SONM	Songino Array	56.92	343	P	P	15 42 26.1	-0.4
	0.8nm,1.0s,mb3.0,baz=157,slow=11,SNR=3.5						
MKAR	Makanchi Array	66.21	328	P	P	15 43 27.8	+0.5
	0.3nm,0.4s,mb3.3,baz=116,slow=8.3,SNR=9.7						

BEO ***13*** *15:39:34.2±0.4, 43.47N×19.78E, h5^{km}±2^{km}*
PDG ***13*** *15:39:35.6±0.3, 43.32N×19.64E, h10^{km}±1^{km}*
ISC 13 15:39:32.5±0.4**, 43.42N**±0.02×**19.72E**±0.04**, h10^{km}, n14, σ0^{s}84**/28**, 6C-6D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NVSS	Nova Varos 2	0.09	351	⇓*i*Pg	Pg	15 39 34.1	-0.9
NVSS				Sg	Sg	15 39 35.2	-1.4
PLE	Pljevlja	0.25	249	⇓*i*Pg	Pg	15 39 38.7	+0.9
PLE				*e*Sg	Sg	15 39 42.2	+0.8
IVA	Berane	0.57	166	⇑*i*Pg	Pg	15 39 43.0	-0.9
IVA				*e*Sg	Sg	15 39 51.6	+0.1
UPM	Unac-Piva	0.63	250	⇓*i*Pg	Pg	15 39 45.8	+0.6
UPM				*e*Sg	Sg	15 39 54.5	+0.9
DIVS	Divcibare	0.70	16	⇑*i*Pg	Pg	15 39 46.2	-0.4
DIVS				Sg	Sg	15 39 55.7	-0.4
NKY	Niksic	0.81	221	⇓*i*Pg	Pg	15 39 48.3	-0.3
NKY				*e*Sg	Sg	15 39 58.7	-0.7
PVY	Plav	0.85	167	*e*Pg	Pg	15 39 49.8	+0.4
PVY				*e*Sg	Sg	15 40 00.0	-0.8
GRUS	Gruza	0.86	57	⇑*i*Pg	Pg	15 39 50.2	+0.5
GRUS				Sg	Sg	15 40 01.1	-0.1
BRY	Bratogost	1.00	239	⇓*i*Pg	Pg	15 39 52.1	-0.5
BRY				*e*Sg	Sg	15 40 06.7	+0.7
TTG	Podgorica	1.05	199	⇑*i*Pg	Pg	15 39 52.6	-0.8
TTG				*e*Sg	Sg	15 40 07.0	-0.5
BUM	Brajici-Budva	1.27	209	⇓*i*Pg	Pg	15 39 57.5	-0.5
BUM				*e*Sg	Sg	15 40 15.4	+0.5
HCY	Herceg Novi	1.32	223	⇑*i*Pg	Pg	15 39 58.0	-0.9
HCY				*e*Sg	Sg	15 40 17.3	+0.7
ULC	Ulcinj	1.50	193	*e*Pg	Pg	15 40 01.7	-0.7
ULC				*e*Sg	Sg	15 40 22.6	+0.2
BOLS	Boljevac	1.68	75	⇑*i*Pn	Pn	15 40 04.2	+2.1
BOLS				Sn	Sn	15 40 26.1	+2.3

KRSC ***13*** *16:17:28.9±0.8, 54.40N×162.17E, h30^{km}±2^{km}, ML4.1*
MOS ***13*** *16:17:30.1±0.8, 54.41N×161.97E, h30^{km}, mb4.2/1, Error ellipse: s-maj=24.3km s-min=12.4km az=77.8*
ISC 13 16:17:28.6±0.5**, 54.38N**±0.02×**162.23E**±0.05**, h30^{km}, n39, σ0^{s}91**/78**, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	Mys Kozlova	0.34	301	P	Pb	16 17 36.9	+0.3
MKZ				S	Sb	16 17 41.4	-0.7
MKZ	Mys Kozlova	0.34	301	*i* P	Pb	16 17 36.9	+0.3
MKZ				*i* S	Sb	16 17 42.5	+0.4
TUMR	Tumrok	1.51	308	*e*P	Pn	16 17 53.6	-0.4
TUMR				*e*S	Sn	16 18 11.4	-1.4
KII	Karymskiy	1.67	259	P	Pn	16 17 56.5	+0.2
KII				S	Sn	16 18 15.9	-1.0
KII	Karymskiy	1.67	259	*e*P	Pn	16 17 56.5	+0.2
KII				*e*S	Sn	16 18 16.3	-0.6
KMNR	Kamenistaya	1.79	321	*e*P	Pn	16 17 58.3	+0.2
KMNR				*e*S	Sn	16 18 20.2	+0.2
ZLN	Zelenaya	1.83	334	*e*P	Pn	16 17 59.2	+0.6
ZLN				*e*S	Sn	16 18 22.2	+1.2
SPN	Mys Shipunski	1.84	227	P	Pn	16 17 58.3	-0.3
SPN				S	Sn	16 18 18.9	-2.2
SPN	Mys Shipunski	1.84	227	*e*P	Pn	16 17 58.2	-0.4
SPN				*e*S	Sn	16 18 19.3	-1.8
KBTR	Krutoberegovo	1.86	10	P	Pn	16 17 59.1	+0.1
KBTR				S	Sn	16 18 20.9	-0.9
KBTR	Krutoberegovo	1.86	10	*e*P	Pn	16 17 58.9	-0.1
KBTR				*e*S	Sn	16 18 21.8	0.0
KBG	Krutoberegovo	1.90	8	P	Pn	16 17 59.0	-0.5
KBG				*e*S	Sn	16 18 20.5	-2.2
KBG				Smax			
	1µm,1.0s						
LGNR	Loginova	1.92	333	*e*P	Pn	16 18 00.8	+0.9
LGNR				*e*S	Sn	16 18 24.2	+0.9
CIRR	Tsirk	1.94	335	*e*P	Pn	16 18 00.6	+0.5
CIRR				*e*S	Sn	16 18 24.2	+0.6
KPT	Kopyto	1.96	325	*e*P	Pn	16 18 01.0	+0.5
KPT				*e*S	Sn	16 18 23.8	-0.5
KRSR	Krestovskiy	2.07	333	*e*P	Pn	16 18 02.4	+0.3
KRSR				*e*S	Sn	16 18 26.8	-0.3
NLC	Nalytchevo	2.10	236	P	Pn	16 18 02.1	-0.3
NLC				S	Sn	16 18 25.5	-2.3
NLC	Nalytchevo	2.10	236	*i* P	Pn	16 18 02.3	-0.1
NLC				*e*S	Sn	16 18 27.0	-0.8
KLY	Klyuchi	2.14	336	P	Pn	16 18 02.6	-0.4
KLY				S	Sn	16 18 26.9	-1.9
KLY	Klyuchi	2.14	336	*e*P	Pn	16 18 02.4	-0.6
KLY				*e*S	Sn	16 18 27.2	-1.6
KOZR	Kozyr	2.16	323	PN	Pn	16 18 04.2	+1.0
KOZR				S	Sn	16 18 28.9	-0.3
KOZ	Kozyrevsk	2.16	322	P	Pn	16 18 04.2	+0.9
KOZ				S	Sn	16 18 28.9	-0.4
KOZ	Kozyrevsk	2.16	322	*e*P	Pn	16 18 04.2	+0.9
KOZ				*e*S	Sn	16 18 30.2	+0.9
SDLR	Sedlovina	2.27	242	*i* P	Pn	16 18 05.6	+0.7
SDLR				*e*S	Sn	16 18 32.4	+0.2
SVLR	Shiveluch	2.28	346	*e*P	Pn	16 18 05.6	+0.6
SVLR				*e*S	Sn	16 18 32.9	+0.6
BKI	Bering	2.32	68	*e*P	Pn	16 18 05.5	0.0
BKI				*e*S	Sn	16 18 31.8	-1.5
SMAR	Somma	2.32	243	*e*P	Pn	16 18 06.3	+0.7
SMAR				*e*S	Sn	16 18 32.9	-0.5
UGLR	Uglovaya	2.34	241	*i* P	Pn	16 18 06.6	+0.8
UGLR				*e*S	Sn	16 18 34.3	+0.5
AVH	Avacha	2.35	243	*i* P	Pn	16 18 07.1	+1.0
AVH				*e*S	Sn	16 18 34.6	+0.4
KOK	Koryaka	2.39	244	*e*P	Pn	16 18 07.7	+1.1
KOK				*e*S	Sn	16 18 36.6	+1.3
SRDR	Sredinnyy	2.42	325	*e*P	Pn	16 18 07.1	+0.2
SRDR				*e*S	Sn	16 18 36.4	+0.6
PET	Petropavlovsk	2.52	239	P	Pn	16 18 08.9	+0.4
PET				S	Sn	16 18 36.7	-1.9
PET	Petropavlovsk	2.52	239	*e*P	Pn	16 18 08.9	+0.4
PET				*e*S	Sn	16 18 37.4	-1.2
ESO	Esso	2.55	309	*e*P	Pn	16 18 08.0	-0.9
ESO				*e*S	Sn	16 18 36.5	-2.8
ESO				Smax			
	110nm,0.8s						
GNL	Ganaly	2.62	257	*i* P	Pn	16 18 10.8	+0.9
GNL				*e*S	Sn	16 18 40.0	-1.0
RUS	Russkaya	2.96	230	P	Pn	16 18 14.7	0.0
RUS				S	Sn	16 18 46.4	-3.2
RUS	Russkaya	2.96	230	*e*P	Pn	16 18 14.5	-0.2
RUS				*e*S	Sn	16 18 47.4	-2.2
GRL	Gorelyy	3.09	235	*e*P	Pn	16 18 17.5	+1.0
GRL				*e*S	Sn	16 18 53.3	+0.5
APC	Apacha	3.35	246	*e*P	Pn	16 18 21.2	+0.9
APC				*e*S	Sn	16 18 59.2	-0.3

ISC 13 16:33:05.0±2.0**, 43.6N**±0.2×**15.9E**±0.3**, h10^{km}**±14^{km}**, n7, σ1^{s}35**/11**, Adriatic Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NVLJ	Novalja	1.25	324	*i* Pn	Pn	16 33 27.1	-1.4
NVLJ				*i* Sg	Sg	16 33 46.6	0.0
STON	Ston	1.49	117	*i* Pn	Pn	16 33 29.9	-2.1
STON				*i* Sn	Sn	16 33 52.5	+1.0
BOJS	Bojanci	2.00	347	*i* Pn	Pn	16 33 38.8	-0.5
BOJS				*i* Sg	Sn	16 34 02.9	-1.7
KNDS	Knezji Dol	2.25	332	*i* Pn	Pn	16 33 43.0	+0.1
CRES	Cresnjevec ost	2.29	352	*e*Pn	Pn	16 33 45.9	+2.4
CEY	Cerknica	2.42	335	*i* Pn	Pn	16 33 46.8	+1.5
VOY	Vojsko	2.85	331	*e*Pn	Pn	16 33 55.3	+3.8
VOY				*e*Sn	Sn	16 34 26.9	+0.6

DHMR 13 17:04:22.7±0.8**, 12.09N×44.20E, h10^{km}±6^{km}, ML3.8, 4D, Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	At Turbah	1.12	356	⇓*i*P	Pb	17 04 43.5	-0.2
TRBA				*i* S	Sb	17 05 00.5	+2.4
TRBA				AML	AML	17 05 05.8	
	comp=E,2µm,0.8s						
UDYN	Al ‘Udayn	1.88	354	*i* P	Pn	17 04 56.0	+0.7
UDYN				*i* S	Sn	17 05 22.2	+3.0
UDYN				AML	AML	17 05 35.4	
	comp=E,1µm,0.7s						
LBOS		2.05	30	⇓*i*P	Pn	17 04 58.5	+0.8
LBOS				*i* S	Sn	17 05 27.2	+3.7
BDHA	Al Bayda’	2.30	35	*i* P	Pn	17 05 03.1	+1.7
BDHA				*i* S	Sn	17 05 34.3	+4.3
BDHA				AML	AML	17 05 52.8	
	comp=E,1µm,0.6s						
DHBB	Dhamar BB	2.47	4	⇓*i*P	Pn	17 05 06.2	+2.6
DHBB				*i* S	Sn	17 05 39.4	+5.2
HAJJ	Hajjah	3.64	351	⇓*i*P	Pn	17 05 22.2	+1.9
HAJJ				*i* S	Sn	17 06 07.7	+3.8
HAJJ				AML	AML	17 06 31.2	
	comp=N,410nm,0.6s						

MOS ***13*** *17:14:59.8±0.8, 17.27N×46.91W, h10^{km}, mb5.5/12, MS4.8/9, Error ellipse: s-maj=99.9km s-min=8.5km az=49.8*
IDC ***13*** *17:15:03.9±0.5, 17.75N×46.61W, mb4.5/19, mb1 4.7/20, mb1mx4.7/21, MS4.7/20, Ms1 4.7/20, ms1mx4.7/20, Error ellipse: s-maj=15.9km s-min=13.0km az=136.0*
BJI ***13*** *17:15:05.2, 17.60N×46.70W, h10^{km}, mB5.1, Ms5.2, Msz4.9*
SYO ***13*** *17:15:05.4, 17.61N×46.71W, h10^{km}, MB5.0, MS4.9*
HRVD ***13*** *17:15:05.2±0.2, 17.75N×46.56W, h12^{km}, MW5.3/66, Centroid moment Tensor Solution. LP body waves: s61,c94;Mantle waves: s66,c134; Half duration: 1^{s}1 Moment tensor: Scale 10^{17}Nm; M$_{rr}$-1.02±.02; M$_{\theta\theta}$0.02±.02; M$_{\phi\phi}$1.00±.02; M$_{r\theta}$-0.53±.05; M$_{\theta\phi}$-0.02±.02; M$_{\phi r}$-0.10±.05; Best double couple: M$_0$1.13×10^{17} NP1: φ$_s$158°,δ47°,λ-122°. NP2:φ$_s$21°,δ52°,λ-61°. Principal axes: T 1, Plg3°, Azm90°; N .24, Plg23°, Azm181°; P -1.25, Plg67°, Azm354°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***13*** *17:15:05.2±0.2, 17.65N×46.66W, h10^{km}, mb5.1/68, MS4.8/26 Error ellipse: s-maj=6.4km s-min=3.4km az=162.0*
ISC 13 17:15:03.7±0.2**, 17.73N**±0.05×**46.65W**±0.03**, h10^{km}, n227, σ0^{s}89**/217**, mb5.0**/90**, MS4.8**/44**, 17C-8D, Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTP	Monte Pirata	18.00	274	*e*P	P	17 19 12.8	-2.9
HUMP	Col San Antoni	18.27	274	*e*P	P	17 19 18.4	-0.8
CPD	Cerro la Pandu	18.34	274	*e*P	P	17 19 18.8	-1.2
SJG	San Juan	18.56	274	P	P	17 19 22.3	-0.4
	2.7nm,0.3s,baz=78,slow=8.4,SNR=14						
SJG	San Juan	18.56	274	*e*P	P	17 19 21.1	-1.7
	73nm,1.1s						
MGP	Maguayo	19.46	274	*e*P	P	17 19 30.9	-2.5
SACV	Santiago Islan	22.28	94	P	P	17 20 03.9	+1.3
	39nm,1.1s,mb4.8						
SDV	Santo Domingo	24.91	252	*e*P	P	17 20 29.3	+0.8
	69nm,1.3s,mb5.0						
SDV				LR	LR		
	comp=Z,1µm,21.0s,MS4.3						
PDA	Ponta Delgada	27.14	38	*i* LR	LR	17 27 28.0	
ROSC	El Rosal	29.95	248	P	P	17 21 15.4	+0.8
	comp=Z,7.0nm,0.4s,mb4.8,baz=106,slow=19,SNR=3.3						
ROSC				LR	LR	17 33 11.0	
	comp=Z,1µm,20.4s,MS4.5,baz=43,slow=36						
SAML	Samuel	31.13	213	*e*P	P	17 21 24.1	-0.9
	comp=Z,13nm,1.2s,mb4.6						
SAML				LR	LR		
	comp=Z,2µm,21.0s,MS4.7						
BDFB	Brasilia	33.18	182	P	P	17 21 42.5	-0.4
	comp=Z,2.1nm,0.5s,mb4.4,baz=12,slow=13,SNR=3.1						
BDFB				LR	LR	17 34 45.8	
	comp=Z,842nm,19.4s,MS4.5,baz=186,slow=36						
OTAV	Otavalo	35.78	244	*e*P	P	17 22 03.8	-1.4
	comp=Z,18nm,1.3s,mb4.8						
SWET	Sewanee	38.94	304	*e*P	P	17 22 30.6	-1.0
EVO	Evora	39.50	50	*e*P	P	17 22 34.5	-1.7
	comp=Z,27nm,1.1s,mb4.6						
EVO				*e*R			
	comp=Z,3µm,23.0s						
LPAZ	La Paz	39.88	213	P	P	17 22 42.4	+2.9
	comp=Z,5.2nm,0.6s,mb4.5,baz=30,slow=4.7,SNR=9.6						
LPAZ				LR	LR	17 38 38.0	
	comp=Z,780nm,19.7s,MS4.5,baz=34,slow=35						
SCHQ	Schefferville	40.15	342	LR	LR	17 36 48.6	
	comp=Z,674nm,21.0s,MS4.5,baz=278,slow=32						
MTE	Manteigas	40.52	48	*e*S	S	17 28 54.5	+1.2
DBIC	Dimbokro	42.20	100	P	P	17 22 57.7	-1.1
	comp=Z,6.9nm,1.0s,mb4.2,baz=280,slow=15,SNR=2.7						
DBIC				LR	LR	17 36 50.5	
	comp=Z,2µm,21.7s,MS4.9,baz=269,slow=31						
DBIC	Dimbokro	42.20	100	P	P	17 22 57.7	-1.1
DBIC				LR	LR	17 36 50.5	
ESDC	Sonseca Array	42.85	50	P	P	17 23 03.7	-0.1
	comp=Z,0.4nm,0.4s,baz=259,slow=7.6,SNR=4.3						
ESDC				LR	LR	17 37 19.8	
	comp=Z,1µm,19.8s,baz=260,slow=31						
CPUP	Villa Florida	45.01	194	P	P	17 23 20.4	-1.0
	comp=Z,5.2nm,0.7s,mb4.5,baz=42,slow=8.7,SNR=9.0						
CPUP				LR	LR	17 42 27.2	
	comp=Z,680nm,18.0s,MS4.6,baz=30,slow=36						
LVC	Limon Verde	45.62	209	*e*P	P	17 23 26.2	-0.1
	comp=Z,19nm,1.0s,mb5.0						
LVC				LR	LR		
	comp=Z,1µm,22.0s,MS4.8						
SJPF	Ste Jean	45.90	47	*e*P	P	17 23 29.6	+1.4
	comp=Z,99nm,1.3s,mb5.3						
ETSF	Etsaut	46.29	47	*e*P	P	17 23 33.1	+1.8
	comp=Z,150nm,1.7s,mb5.3						
EPF	Esparros	46.96	47	*e*P	P	17 23 37.0	+0.4
MFF	Saint Martin d	47.82	42	*e*P	P	17 23 42.9	-0.4
	comp=Z,124nm,1.3s,mb5.5						
LFF	La Frestale	47.83	45	*e*P	P	17 23 44.2	+0.8
MTLF	Montolieu	48.37	47	*e*P	P	17 23 48.3	+0.7
	comp=Z,109nm,1.7s,mb5.3						
RJF	Les Rejaudoux	48.47	45	*e*P	P	17 23 48.0	-0.4
	comp=Z,50nm,1.3s,mb5.1						
RJF				*e*R			
	comp=Z,830nm,21.5s						
LDF	La Druitiere	48.57	40	*e*P	P	17 23 49.7	+0.6
	comp=Z,91nm,1.5s,mb5.3						
CAF	Calviac	48.72	45	*e*P	P	17 23 50.6	+0.3
	comp=Z,25nm,1.0s,mb4.9						
WMOK	Wichita Mounta	49.19	301	*e*P	P	17 23 53.6	-0.5
	comp=Z,21nm,1.5s,mb5.0						
WMOK				LR	LR		
	comp=Z,1µm,22.0s,MS4.9						
TCF	Toulx Ste Croi	49.24	44	*e*P	P	17 23 53.8	-0.5
	comp=Z,84nm,1.3s,mb5.3						
LASF	Ste Croix	49.71	47	*e*P	P	17 23 57.9	0.0
	comp=Z,44nm,1.1s,mb5.1						
BGF	Bois d’Agland	49.74	43	*e*P	P	17 23 57.6	-0.6
JCT	Junction City	49.75	295	P	P	17 23 59.1	+0.6
	comp=Z,6.9nm,0.6s,mb4.9						
AVF	Avril sur Loir	50.15	43	*e*P	P	17 24 00.5	-0.8
	comp=Z,32nm,1.0s,mb5.0						
SSF	Saint Saulge	50.33	43	*e*P	P	17 24 01.9	-0.8
	comp=Z,25nm,1.0s,mb4.9						
SMF	Signal de Mont	50.42	44	*e*P	P	17 24 04.1	+0.7
	comp=Z,37nm,1.1s,mb5.0						
VIVF	Saint-Julien-l	50.48	46	*e*P	P	17 24 05.3	+1.5
	comp=Z,38nm,1.1s,mb5.0						
LOR	Lormes	50.62	43	*e*P	P	17 24 04.0	-0.9
	comp=Z,22nm,1.0s,mb4.8						
LOR				*e*R			
	comp=Z,771nm,22.8s						
ULM	Lac du Bonnet	50.83	321	P	P	17 24 05.5	-0.8
	comp=Z,4.6nm,0.7s,mb4.5,baz=89,slow=6.6,SNR=4.9						
ULM				LR	LR	17 43 22.2	
	comp=Z,812nm,18.3s,MS4.8,baz=301,slow=33						
SMRF	Simiane la Rot	50.88	47	*e*P	P	17 24 07.4	+0.5
	comp=Z,21nm,0.9s,mb4.8						
ORIF	Oris-en-Rattie	51.32	46	*e*P	P	17 24 12.1	+1.9
	comp=Z,18nm,1.1s,mb4.6						
ORIF				*e*R			
	comp=Z,1µm,19.2s						
LMR	La Mourre	51.40	48	*e*P	P	17 24 10.1	-0.7
FRF	La Foret Royal	51.54	48	*e*P	P	17 24 12.6	+0.7
BAIF	Baives	51.74	40	*e*P	P	17 24 12.3	-1.0
MEZF	Maizieres J’vi	51.77	42	*e*P	P	17 24 12.6	-0.9
	comp=Z,129nm,1.1s,mb5.5						
MBDF	Montbardon	51.89	47	*e*P	P	17 24 15.4	+0.8
	comp=Z,34nm,1.0s,mb4.9						
CABF	La Chapelle	51.90	44	*e*P	P	17 24 14.1	-0.5
	comp=Z,39nm,1.0s,mb5.0						
BNI	Bardonecchia	51.91	46	*e*P	P	17 24 15.9	+1.2
	comp=Z,54nm,1.6s,mb5.2						
LPL	La Plagne	52.05	46	*e*P	P	17 24 16.0	+0.2
	comp=Z,12nm,0.9s,mb4.5						
LPG	La Plagne	52.06	46	*e*P	P	17 24 16.2	+0.4
	comp=Z,17nm,1.0s,mb4.6						
GIVF	Givet	52.13	40	*e*P	P	17 24 15.1	-1.2
SBF	Sospel	52.17	48	*e*P	P	17 24 16.7	+0.1
	comp=Z,42nm,0.8s,mb5.1						
HAU	Haudompre	52.45	43	*e*P	P	17 24 17.3	-1.4
	comp=Z,20nm,0.9s,mb4.8						
HAU				*e*R			
	comp=Z,692nm,22.0s						
HINF	Hinteralfeld	52.73	43	*e*P	P	17 24 19.2	-1.6
PGF	Pioggiola	53.04	50	*e*P	P	17 24 22.2	-1.0
	comp=Z,55nm,1.2s,mb5.1						
TXAR	Lajitas Array	53.09	294	P	P	17 24 24.5	+0.8
	comp=Z,1.5nm,0.9s,mb3.9,baz=104,slow=5.2,SNR=12						
TXAR				PcP	PcP	17 25 32.4	+0.3
	comp=Z,1.3nm,0.7s,baz=115,slow=6.1,SNR=5.6						
TXAR				LR	LR	17 46 56.1	
	comp=Z,490nm,18.9s,MS4.6,baz=85,slow=36						
TXAR	Lajitas Array	53.09	294	P	P	17 24 24.5	+0.8
TXAR				PcP	PcP	17 25 32.4	+0.3
TXAR				LR	LR	17 46 56.1	
CDF	Champ du Feu	53.16	42	*e*P	P	17 24 22.6	-1.4
VAI	Varese	53.52	46	*e*P	P	17 24 26.4	-0.3
BFO	Black Forest	53.82	43	*e*P	P	17 24 28.8	0.0
BFO				pmax	pmax		
	comp=Z,94nm,1.8s,mb5.4						
BFO	Black Forest	53.82	43	*e*P	P	17 24 28.8	0.0
	comp=Z,94nm,1.8s,mb5.4						
ERBM	Eremo	54.38	48	*e*P	P	17 24 33.7	+0.7
DAVA	Damuels	54.58	44	⇑*i*P	P	17 24 34.6	+0.2
	comp=Z,16nm,1.1s,mb5.0						
BRMO	Bormio	54.74	45	*e*P	P	17 24 36.3	+0.7
CSNT	Castellina Chi	54.85	49	*e*P	P	17 24 36.5	+0.1
SUMG	Summit	55.05	3	*e*P	P	17 24 37.0	-0.6
	comp=Z,18nm,1.1s,mb5.0						
ISCO	Idaho Springs	55.14	306	*e*P	P	17 24 40.9	+2.2
	comp=Z,10nm,1.3s,mb4.7						
MOTA	Moosalm	55.41	44	⇑*i*P	P	17 24 40.2	-0.3
	comp=Z,15nm,0.9s,mb5.0						
SQTA	Sankt Quirin	55.45	44	⇓*i*P	P	17 24 40.8	0.0
	comp=Z,31nm,0.9s,mb5.3						
ANMO	Albuquerque	55.51	301	*e*P	P	17 24 43.0	+1.6
ANMO				pmax	pmax		
	comp=Z,9.0nm,2.7s						
ANMO	Albuquerque	55.51	301	*e*P	P	17 24 42.2	+0.9
	comp=Z,4.5nm,1.0s,mb4.5						
ANMO				LR	LR		
	comp=Z,1µm,20.0s,MS5.0						
CTI	Castel Tesino	55.53	46	*e*P	P	17 24 41.3	-0.1
FUR	Furstenfeldbru	55.69	43	*e*P	P	17 24 42.9	+0.4
FUR				pmax	pmax		
	comp=Z,59nm,1.2s,mb5.5						
FUR	Furstenfeldbru	55.69	43	*e*P	P	17 24 42.9	+0.4
	comp=Z,59nm,1.2s,mb5.5						
MNS	Montasola	55.71	50	*e*P	P	17 24 42.8	+0.1
WATA	Walderalm	55.72	44	⇑*i*P	P	17 24 42.7	0.0
	comp=Z,23nm,1.0s,mb5.2						
WTTA	Wattenberg	55.75	45	⇑*i*P	P	17 24 42.6	-0.3
	comp=Z,37nm,1.4s,mb5.2						
FFC	Flin Flon	55.87	325	*e*P	P	17 24 44.0	+0.3
FFC				*e*		17 24 52.0	
FFC				LR	LR		
	comp=Z,256nm,21.0s,MS4.3						
GRA1	Grafenberg Arr	55.99	42	*e*P	P	17 24 44.0	-0.6
	comp=Z,49nm,1.5s,mb5.3						
GRA1				*e*S	S	17 32 39.9	+8.9
GRA1				LR	LR		
	comp=Z,500nm,18.6s,MS4.6						
GRF	Grafenberg Arr	55.99	42	*e*P	P	17 24 44.0	-0.6
GRF				*e*S	S	17 32 39.9	+8.9
GRF				pmax	pmax		
	comp=Z,49nm,1.5s,mb5.3						
CLZ	Clausthal	56.00	39	*e*P	P	17 24 44.6	0.0
	comp=Z,65nm,1.9s,mb5.3						
PTQR	Pietraquaria	56.20	51	*e*P	P	17 24 46.7	+0.5
AQU	L’Aquila	56.23	51	*e*P	P	17 24 47.2	+0.7
FVI	Forni Avoltri	56.40	45	*e*P	P	17 24 47.0	-0.6
MOX	Moxa	56.46	41	*i* P	P	17 24 48.0	0.0
MOX				*e*		17 25 12.0	
MOX				L		17 44 33.0	
MOX	Moxa	56.46	41	*e*P	P	17 24 48.0	0.0
MOX				MLR	MLR		
	comp=Z,400nm,22.0s,MS4.5						
BSEG	Bad Segeberg	56.55	36	*e*P	P	17 24 48.4	-0.1
BSEG				pmax	pmax		
	comp=Z,103nm,1.8s,mb5.6						
VAE	Valguarnera	56.62	56	LR	LR	17 45 20.2	
	comp=Z,654nm,20.3s,MS4.7,baz=288,slow=32						
PTCC	Patocco-Chiusa	56.76	46	*e*P	P	17 24 49.4	-0.8
CII	Carovilli	56.84	51	*e*P	P	17 24 52.0	+1.2
	comp=Z,56nm,1.2s,mb5.5						
ROBS	Robic	56.84	46	*e*P	P	17 24 50.3	-0.4
KBA	Koelnbreinsper	56.86	45	⇑*i*P	P	17 24 50.7	-0.2
	comp=Z,18nm,1.2s,mb5.0						
NKC	Novy Kostel	56.88	41	*e*P	P	17 24 51.5	+0.5
NKC				*e*S	S	17 32 47.9	+5.1
NKC				LR		17 46 20.0	
	comp=Z,0.8nm,18.7s						
WET	Wettzell	56.93	42	*e*P	P	17 24 51.3	-0.1
WET				pmax	pmax		
	comp=Z,75nm,2.0s,mb5.4						
WET	Wettzell	56.93	42	*e*P	P	17 24 51.3	-0.1
	comp=Z,75nm,2.0s,mb5.4						
VOY	Vojsko	57.07	46	*e*P	P	17 24 51.7	-0.7
CSSN	Cassano Irpino	57.30	53	*e*P	P	17 24 54.2	+0.1
KHC	Kasperske Hory	57.38	43	*e*P	P	17 24 54.1	-0.5
KHC				*e*S	S	17 32 56.3	+7.0
KHC				LR		17 48 00.0	
	comp=Z,0.9nm,18.7s						
GEC2	GERESS Array S	57.41	43	*e*P	P	17 24 54.1	-0.7
GEC2				pmax	pmax		
	comp=Z,40nm,1.6s,mb5.2						
GEC2	GERESS Array S	57.41	43	*e*P	P	17 24 54.1	-0.7
	comp=Z,40nm,1.6s,mb5.2						
GERES	GERESS Array B	57.41	43	P	P	17 24 53.8	-0.9
	comp=Z,4.0nm,0.8s,mb4.5,baz=239,slow=7.8,SNR=24						
CLL	Collm	57.46	40	P	P	17 24 53.8	-1.3
	comp=Z,logA/T=1.4,mb5.2						
CLL	Collm	57.46	40	*i* P	P	17 24 53.8	-1.3
CLL				pmax	pmax		
	comp=Z,33nm,1.3s,mb5.2						
CLL	Collm	57.46	40	*i* P	P	17 24 53.8	-1.3
	comp=Z,33nm,1.3s,mb5.2						
SGO	Sicignano	57.49	53	*e*P	P	17 24 55.3	-0.2
LJU	Ljubljana	57.51	46	*e*P	P	17 24 55.6	+0.1
OBKA	Obir	57.59	46	⇑*i*P	P	17 24 55.6	-0.5
	comp=Z,22nm,0.9s,mb5.2						
MOA	Molln	57.61	44	⇑*i*P	P	17 24 55.8	-0.4
	comp=Z,17nm,1.1s,mb5.0						
MRLC	Muro Lucano	57.65	53	*e*P	P	17 24 56.5	0.0
MGR	Morigerati	57.65	53	*e*P	P	17 24 56.1	-0.5
VISS	Visnje	57.69	47	*e*P	P	17 24 56.8	0.0
SLCN	Sala Consilina	57.73	53	*e*P	P	17 24 57.2	+0.1
BOJS	Bojanci	57.94	47	*e*P	P	17 24 58.8	+0.3
BRG	Berggiesshubel	57.95	41	*e*P	P	17 24 58.6	+0.1
BRG				pmax	pmax		
	comp=Z,17nm,0.7s,mb5.2						
BRG	Berggiesshubel	57.95	41	*e*P	P	17 24 58.6	+0.1
	comp=Z,16nm,0.7s,mb5.2						
PRU	Pruhonice	58.16	42	*e*P	P	17 25 00.1	+0.1

	comp=Z,132nm,2.2s,mb5.6						
PRU				eS	S	17 33 15.1	+16
PRU				L		17 48 20.0	
PVCC	Panska Ves	58.27	41	eP	P	17 25 01.2	+0.4
PVCC				eS	S	17 33 16.4	+15
PVCC				LR		17 47 30.0	
	comp=Z,0.6nm,16.1s						
ARSA	Arzberg	58.36	45⇑	iP	P	17 25 00.3	-1.1
	comp=Z,26nm,1.3s,mb5.1						
PDAR	Pinedale Array	58.37	310	P	P	17 25 02.0	+0.5
	comp=Z,7.2nm,1.2s,mb4.6,baz=108,slow=4.7,SNR=24						
PDAR				LR	LR	17 47 48.3	
	comp=Z,764nm,19.5s,MS4.8,baz=106,slow=34						
BW06	Boulder Array	58.37	310	eP	P	17 25 01.8	+0.2
	comp=Z,13nm,1.3s,mb4.8						
BW06				LR	LR		
	comp=Z,1µm,22.0s,MS5.0						
UPC	Upice	59.18	41	eP	P	17 25 07.1	0.0
NB2	NORSAR Subarra	59.26	29	P	P	17 25 06.7	-0.8
	comp=Z,113nm,2.0s,mb5.5,baz=250,slow=7.0						
NB2	NORSAR Subarra	59.26	29	P	P	17 25 06.7	-0.8
	baz=250,slow=7.4						
NOA	NORSAR Array B	59.26	29	P	P	17 25 07.8	+0.3
	comp=Z,2.7nm,1.0s,mb4.2,baz=252,slow=8.5,SNR=7.8						
NOA				LR	LR	17 46 16.8	
	comp=Z,552nm,18.0s,MS4.7,baz=250,slow=32						
NOA	NORSAR Array B	59.26	29	P	P	17 25 07.8	+0.3
NOA				LR	LR	17 46 16.8	
DPC	Dobruska-Polom	59.35	42	eP	P	17 25 08.5	+0.2
DPC				eS	S	17 33 30.0	+15
DPC				LR		17 49 00.0	
	comp=Z,1.1nm,17.1s						
KSP	Ksiaz	59.41	41	eP	P	17 25 06.0	-2.7
KSP				eS	S	17 33 25.0	+9.1
KSP				MLR	MLR		
	comp=Z,1µm,18.3s,MS5.1						
DAU	Daniels Canyon	59.50	307	eP	P	17 25 10.8	+1.3
ZST	Bratislava	59.54	44	eP	P	17 25 09.6	0.0
JLU	Jordanelle	59.66	307	P	P	17 25 12.1	+1.6
HWUT	Hardware Ranch	59.79	308	eP	P	17 25 11.8	+0.4
	comp=Z,9.3nm,0.9s,mb4.8						
HWUT				LR	LR		
	comp=Z,1µm,20.0s,MS5.0						
MORC	Moravsky Berou	60.04	42	eP	P	17 25 12.4	-0.6
	comp=Z,66nm,1.7s,mb5.4						
NLU	North Lily Min	60.11	306	eP	P	17 25 14.4	+0.8
MVU	Marysvale	60.20	305	eP	P	17 25 15.9	+1.6
	comp=Z,4.2nm,0.9s,mb4.5						
OKC	Ostrava-Krasne	60.44	42	eP	P	17 25 16.2	+0.5
OKC				eS	S	17 33 43.2	+14
OKC				LR		17 49 40.0	
	comp=Z,0.5nm,15.9s						
SPUT	South Promonto	60.44	308	eP	P	17 25 16.4	+0.5
RAC	Raciborz	60.50	42	eP	P	17 25 16.9	+0.8
RAC				eS	S	17 33 35.2	+5.3
RAC				MLR	MLR		
	comp=Z,800nm,19.2s,MS4.9						
DUG	Dugway	60.69	307	eP	P	17 25 18.4	+0.8
VYHS	Vyhne	60.72	44	eP	P	17 25 17.0	-0.7
VYHS				e		17 25 24.1	
VYHS				e		17 25 40.8	
VYHS				e		17 26 03.7	
VYHS	Vyhne	60.72	44	eP	P	17 25 17.0	-0.7
VYHS				e		17 25 24.1	
VYHS				e		17 26 03.7	
DIVS	Divcibare	61.18	49⇑	iP	P	17 25 20.5	-0.3
PSZ	Piszkesteto	61.37	45	eP	P	17 25 21.2	-0.9
	comp=Z,3.6nm,0.5s,mb4.8						
OJC	Ojcow	61.54	42⇑	iP	P	17 25 23.7	+0.5
OJC				i S	S	17 33 51.8	+8.7
OJC				MLR	MLR		
	comp=Z,600nm,19.7s,MS4.8						
OHR	Ohrid	61.68	52⇑	iP	P	17 25 25.8	+1.5
GRUS	Gruza	61.69	49⇓	iP	P	17 25 24.6	+0.3
KECS	Kecovo	61.81	44	eP	P	17 25 25.2	+0.1
HLID	Hailey	61.97	310	eP	P	17 25 26.5	+0.3
	comp=Z,2.4nm,1.0s,mb4.3						
HLID				LR	LR		
	comp=Z,1µm,22.0s,MS5.0						
SKO	Skopje	62.17	51	i P	P	17 25 28.2	+0.6
BARS	Barje	62.47	51⇑	iP	P	17 25 29.8	+0.2
CRVS	Cervenica-Dubn	62.49	44	eP	P	17 25 29.0	-0.6
CRVS				e		17 25 37.2	
ELK	Elko	62.54	307	eP	P	17 25 30.7	+0.6
	comp=Z,23nm,1.5s,mb5.1						
ELK				LR	LR		
	comp=Z,1µm,19.0s,MS5.0						
KOLS	Kolonicke sedl	63.03	44	eP	P	17 25 31.9	-1.3
KOLS	Kolonicke sedl	63.03	44	eP	P	17 25 27.7	-5.5
KOLS				e	pP	17 25 31.9	-4.4
KWP	Kalwaria	63.36	43	eP	P	17 25 36.0	+0.7
NEW	Newport	64.02	316	eP	P	17 25 40.3	+0.6
	comp=Z,12nm,1.0s,mb4.9						
NEW				LR	LR		
	comp=Z,963nm,20.0s,MS5.0						
YKA	Yellowknife Ar	64.27	331	P	P	17 25 39.1	-1.9
	comp=Z,3.8nm,0.7s,mb4.5,baz=100,slow=8.1,SNR=13						
YKA				LR	LR	17 51 35.2	
	comp=Z,628nm,18.9s,MS4.8,baz=95,slow=34						
GVD	Gavdhos	64.49	59	eP	P	17 25 42.6	-0.4
MNV	Mina	64.86	305	eP	P	17 25 44.5	-0.9
FINES	FINESS Array B	66.33	30	P	P	17 25 54.4	0.0
	comp=Z,5.1nm,0.7s,mb4.7,baz=288,slow=3.6,SNR=13						
FINES				LR	LR	17 52 05.6	
	comp=Z,493nm,18.2s,MS4.8,baz=258,slow=34						
KAF	Kangasniemi	66.52	29	ep	P	17 25 54.5	-1.0
	comp=Z,6.5nm,0.8s,mb4.7,baz=262,slow=6.1						
KAF	Kangasniemi	66.52	29	eP	P	17 25 54.5	-1.0
KAF				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.7						
ARCES	ARCESS Array B	67.29	21	P	P	17 25 60.0	-0.4
	comp=Z,13nm,0.8s,mb5.0,baz=270,slow=6.1,SNR=15						
ARCES				LR	LR	17 50 05.3	
	comp=Z,483nm,18.6s,MS4.8,baz=182,slow=31						
ARCES	ARCESS Array B	67.29	21	P	P	17 25 60.0	-0.4
ARCES				LR	LR	17 50 05.3	
OHCM	Honcut	67.39	306	eP	P	17 26 02.0	+0.5
KIS	Kishinev	67.40	46	eP	P	17 26 00.0	-1.4
AKASG	Malin Array Be	67.58	42	P	P	17 26 01.1	-1.4
	comp=Z,5.4nm,0.8s,mb4.6,baz=270,slow=6.0,SNR=25						
AKASG				LR	LR	17 52 11.4	
	comp=Z,311nm,20.1s,MS4.5,baz=300,slow=33						
ULDT	Uludag	68.05	53	P	P	17 26 05.9	+0.3
ESKT	Eskisehir	69.43	54	P	P	17 26 14.5	+0.4
SGKT	Sivrigoynuk	70.23	53	P	P	17 26 20.0	+1.0
BALT	Daday	71.11	51	P	P	17 26 25.0	+0.6
ELDT	Eldivan	71.28	52	P	P	17 26 26.3	+0.9
BRTR	Keskin Array B	71.54	53	P	P	17 26 26.9	-0.1
	comp=Z,16nm,1.2s,mb4.8,baz=270,slow=4.9,SNR=25						
BRTR				LR	LR	17 55 10.5	
	comp=Z,207nm,19.5s,MS4.4,baz=320,slow=34						
OBN	Obninsk	71.80	37	eP	P	17 26 27.1	-1.1
OBN				i		17 26 35.8	
OBN				e		17 26 46.1	
OBN				eS	S	17 35 46.0	-1.2
OBN				eSS	SS	17 40 23.4	-1.7
OBN				pmax	pmax		
	comp=Z,100nm,2.7s,mb5.3						
BOYT	Boyabat	72.26	51	P	P	17 26 32.1	+0.9
CTKT	Corum	72.29	52	P	P	17 26 31.7	+0.3
MOS	Moscow	72.34	36	eP	P	17 26 31.1	-0.3
MOS				pmax	pmax		
	comp=Z,44nm,0.7s,mb5.5						
AVNT	Avonos	72.61	54	P	P	17 26 34.0	+0.6
TSUM	Tsumeb	72.99	117	P	P	17 26 36.2	+0.3
	comp=Z,4.1nm,0.9s,mb4.3,baz=298,slow=9.9,SNR=4.7						
TSUM				LR	LR	17 51 23.4	
	comp=Z,641nm,21.0s,MS4.9,baz=292,slow=30						
TSUM	Tsumeb	72.99	117	eP	P	17 26 35.8	-0.2
	comp=Z,27nm,1.6s,mb4.9						
TSUM				LR	LR		
	comp=Z,614nm,20.0s,MS4.9						
ANN	Anapa	73.59	48	eP	P	17 26 37.2	-1.8
ANN				eS	S	17 36 00.3	-7.5
EIL	Elat	74.32	63	eP	P	17 26 43.8	+0.3
SOC	Sochi	75.42	49	eP	P	17 26 47.8	-1.7
SOC				e		17 27 03.1	
SOC				e		17 29 43.8	
SOC				eS	S	17 36 26.0	-2.2
SOC				e		17 36 53.0	
SOC				pmax	pmax		
	comp=Z,27nm,0.9s,mb5.2						
SOC				pmax	pmax		
	comp=N,15nm,0.8s						
SOC				pmax	pmax		
	comp=E,6.0nm,1.0s						
MALT	Malatya	75.45	54	eP	P	17 26 50.0	+0.1
	comp=E,43nm,1.5s,mb5.2						
ELZG	Elazig	75.85	54	P	P	17 26 53.5	+1.4
GOF	Gofitskoye	77.45	47	eP	P	17 27 00.0	-0.9
GOF				pmax	pmax		
	comp=Z,50nm,1.8s,mb5.1						
MBAR	Mbarara	78.17	94	eP	P	17 27 05.1	-0.4
MBAR				LR	LR		
	comp=Z,389nm,19.0s,MS4.8						
ILAR	Eielson Array	78.41	334	P	P	17 27 05.9	+0.1
	comp=Z,22nm,0.8s,mb5.2,baz=75,slow=4.6,SNR=139						
ILAR				LR	LR	18 01 52.6	
	comp=Z,200nm,18.1s,MS4.5,baz=92,slow=36						
COLA	College	78.78	335	eP	P	17 27 08.9	+1.1
COLA	College	78.78	335	eP	P	17 27 08.4	+0.7
	comp=Z,29nm,0.8s,mb5.3						
COLA				LR	LR		
	comp=Z,300nm,19.0s,MS4.7						
IMA	Indian Mountai	80.65	337	eP	P	17 27 18.9	+1.1
	comp=Z,335nm,1.6s,mb6.0						
LSZ	Lusaka	80.72	109	eP	P	17 27 19.9	+0.7
	comp=Z,94nm,1.8s,mb5.4						
SPU	Mount Spurr	81.83	332	eP	P	17 27 25.1	+1.0
KMBO	Kilima Mbogo	84.53	93	P	P	17 27 41.3	+2.3
	comp=Z,5.1nm,1.1s,mb4.6,baz=251,slow=6.6,SNR=8.3						
KMBO				LR	LR	18 04 14.0	
	comp=Z,910nm,19.1s,MS5.2,baz=96,slow=35						
KMBO	Kilima Mbogo	84.53	93	P	P	17 27 41.9	+2.8
KMBO				LR	LR		
	comp=Z,950nm,19.0s,MS5.2						
BRVK	Borovoye	91.11	33	eP	P	17 28 10.4	+0.7
BRVK				LR	LR		
	comp=Z,155nm,21.0s,MS4.4						
VNA1	Neumayer--Stat	92.08	168⇑	iP	P	17 28 11.0	-2.8
VNA1	Neumayer--Stat	92.08	168		P	17 28 15.4	+1.6
VNA3	Neumayer Olymp	92.30	169	P	P	17 28 15.3	+0.5
VNA3	Neumayer Olymp	92.30	169⇑	i	P	17 28 18.5	+3.7
VNA3	Neumayer Olymp	92.30	169⇑	i	P	17 28 19.2	+4.4
VNA3	Neumayer Olymp	92.30	169⇑	iP	P	17 28 18.5	+3.7
VNA2	Neumayer--Watz	92.47	168⇓	iP	P	17 28 15.4	-0.2
VNA2	Neumayer--Watz	92.47	168⇑	i	P	17 28 19.2	+3.6
SNAA	Sanae	93.98	167⇓	iP	P	17 28 21.3	-1.2
SNAA	Sanae	93.98	167⇓	i	P	17 28 25.8	+3.3
SYO	Syowa Base	105.06	158	⇓pPdiff	Pdif	17 29 17.6	+5.1
SYO	Syowa Base	105.06	158	⇓PKiKP		17 33 26.1	
SYO	Syowa Base	105.06	158	⇓PP	PP	17 33 33.9	-2.2
MDJ	Mudanjiang	117.87	3	PKP	PKPdf	17 33 50.5	-3.1
CN2	Changchun	118.35	6	ePKP	PKPdf	17 33 53.8	-0.8
CN2				PP	PP	17 35 13.0	+0.3
CN2				LR	LR		
	comp=Z,300nm,17.0s,MS5.0						
LZH	Lanzhou	119.63	27	ePKP	PKPdf	17 33 50.5	-6.7
LZH				XPKP		17 33 55.4	
LZH				PP	PP	17 35 17.6	-3.7
LZH				LR	LR		
	comp=E,364nm,17.9s						
LZH				LR	LR		
	comp=Z,522nm,19.6s,MS5.2						
LZH	Lanzhou	119.63	27	ePKP	PKPdf	17 33 50.5	-6.7
LZH				sPKP		17 33 55.4	
LZH				PP	PP	17 35 17.6	-3.7
LZH				eSKS	SKS	17 40 57.9	+3.1
LZH				SKKS		17 42 06.0	
LZH				SS	SS	17 51 36.3	-5.5
LZH				LR	LR		
	comp=Z,520nm,19.6s,MS5.2						
BJI	Beijing	120.34	15	PKP	PKPdf	17 33 52.4	-6.2
BJI				LR	LR		
	comp=N,300nm,20.6s,MS5.0						
BJI				LR	LR		
	comp=E,163nm,17.9s,MS5.0						
BJI				LR	LR		
	comp=Z,246nm,20.8s,MS4.8						
KMI	Kunming	128.01	36	ePKP	PKPdf	17 34 11.4	-2.5
KMI				XPKP		17 34 15.9	
KMI				PP	PP	17 36 15.8	-2.1
KMI				LR	LR		
	comp=N,178nm,22.0s,MS4.8						
KMI				LR	LR		
	comp=E,140nm,20.9s,MS4.8						
KMI				LR	LR		
	comp=Z,266nm,23.1s,MS4.9						
KMI	Kunming	128.01	36	ePKP	PKPdf	17 34 11.4	-2.5
KMI				sPKP		17 34 15.9	
KMI				PP	PP	17 36 15.7	-2.2
KMI				SS	SS	17 53 22.3	-5.8
KMI				SSS	SSS	17 58 18.7	+4.6
KMI				LR	LR		
	comp=Z,270nm,23.1s,MS4.9						
NJ2	Nanjing	128.59	16	ePKP	PKPdf	17 34 08.6	-6.2
NJ2				XPKP		17 34 23.0	
NJ2				PKS	PKS	17 37 45.0	-2.1
NJ2				SKKS		17 43 16.0	
NJ2				PP	PP		
	comp=Z,20nm,5.8s						
NJ2				LR	LR		
	comp=Z,390nm,26.5s,MS5.0						
SSE	Sheshan	130.07	14	ePKP	PKPdf	17 34 12.6	-5.0
SSE				PP	PP	17 36 31.1	-0.1
SSE				LR	LR		
	comp=N,89nm,25.5s,MS4.4						
SSE				LR	LR		
	comp=E,44nm,25.5s,MS4.4						
SSE				LR	LR		
	comp=Z,125nm,22.2s,MS4.6						
CMAR	Chiang Mai Arr	130.63	45	PKP	PKPdf	17 34 16.9	-2.0
	comp=Z,0.9nm,0.9s,baz=317,slow=3.8,SNR=5.0						
TGY	Tagaytay City	146.09	22	PKPbc	PKPbc	17 34 46.3	+1.3
STKA	Stephens Creek	164.06	206	PKP	PKPdf	17 35 08.0	-2.4
	comp=Z,1.2nm,0.6s,baz=87,slow=4.5,SNR=3.8						
STKA				PKPab	PKPab	17 36 01.6	-1.4
	comp=Z,2.2nm,1.0s,baz=18,slow=2.8,SNR=2.7						
CTA	Charters Tower	167.56	257	PKPab	PKPab	17 36 19.3	+0.8
	comp=Z,7.6nm,1.1s,baz=126,slow=14,SNR=2.4						
ASAR	Alice Springs	174.07	185	PKP	PKPdf	17 35 15.2	-1.8
	comp=Z,1.0nm,0.9s,baz=114,slow=1.0,SNR=6.1						
ASAR				PKPab	PKPab	17 36 45.8	-1.5
	comp=Z,0.3nm,0.7s,baz=180,slow=4.4,SNR=5.7						
WRA	Warramunga Arr	177.60	203	PKP	PKPdf	17 35 15.2	-2.7
	comp=Z,3.2nm,1.3s,baz=273,slow=1.0,SNR=8.2						

KRSC 13 17:20:13.6±0.8, 55.47N×162.79E, h30km±18km, ML3.9, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KBTR	Krutoberegovo	0.74	1	eP	Pb	17 20 28.1	+0.2
KBTR				eS	Sb	17 20 38.9	+1.2
KBG	Krutoberegovo	0.79	357	i P	Pn	17 20 28.8	+0.1
KBG				eS	Sb	17 20 39.8	+0.7
KBG				Smax			
	3µm,0.8s						
MKZ	Mys Kozlova	1.10	214	eP	Pn	17 20 32.5	-0.7
MKZ				eS	Sn	17 20 46.4	-1.0
ZLN	Zelenaya	1.25	297	eP	Pn	17 20 35.4	+0.1
ZLN				eS	Sn	17 20 51.3	+0.1
CIRR	Tsirk	1.32	300	eP	Pn	17 20 36.5	+0.2
CIRR				eS	Sn	17 20 53.2	+0.1
LGNR	Loginova	1.34	298	eP	Pn	17 20 36.9	+0.4
LGNR				eS	Sn	17 20 54.7	+1.3
SVLR	Shiveluch	1.42	322	eP	Pn	17 20 38.3	+0.6
SVLR				eS	Sn	17 20 56.6	+1.1
KRSR	Krestovskiy	1.46	302	eP	Pn	17 20 38.2	-0.1
KRSR				eS	Sn	17 20 55.8	-0.8
KLY	Klyuchi	1.47	306	i P	Pn	17 20 37.3	-1.2
KLY				eS	Sn	17 20 54.3	-2.6
KMNR	Kamenistaya	1.48	282	i P	Pn	17 20 39.3	+0.8
KMNR				i S	Sn	17 20 58.3	+1.3
TUMR	Tumrok	1.52	264	eP	Pn	17 20 40.1	+0.9
TUMR				eS	Sn	17 20 58.6	+0.5
KPT	Kopyto	1.54	290	eP	Pn	17 20 39.9	+0.5
KPT				eS	Sn	17 20 59.3	+0.8
KOZ	Kozyrevsk	1.75	291	i P	Pn	17 20 43.9	+1.4
KOZ				eS	Sn	17 21 05.5	+1.6
SRDR	Sredinnyy	1.93	297	eP	Pn	17 20 46.0	+1.0
SRDR				eS	Sn	17 21 10.5	+2.0
ESO	Esso	2.36	283	eP	Pn	17 20 51.3	+0.1
ESO				eS	Sn	17 21 18.8	-0.6
ESO				Smax			
	80nm,0.6s						
KII	Karymskiy	2.41	235	eP	Pn	17 20 52.6	+0.7
SPN	Mys Shipunski	2.88	215	eP	Pn	17 20 59.3	+0.7
SPN				eS	Sn	17 21 31.3	-1.3
NLC	Nalytchevo	3.06	223	eP	Pn	17 21 01.5	+0.3
NLC				eS	Sn	17 21 35.4	-1.8
SDLR	Sedlovina	3.17	228	eP	Pn	17 21 03.3	+0.6
SDLR				eS	Sn	17 21 39.7	-0.2
SMAR	Somma	3.21	228	eP	Pn	17 21 03.9	+0.6
SMAR				eS	Sn	17 21 40.6	-0.5
AVH	Avacha	3.24	229	eP	Pn	17 21 04.4	+0.7
AVH				eS	Sn	17 21 42.3	+0.6
UGLR	Uglovaya	3.24	227	eP	Pn	17 21 04.4	+0.6
KOK	Koryaka	3.27	230	eP	Pn	17 21 04.6	+0.5
GNL	Ganaly	3.33	240	eP	Pn	17 21 05.7	+0.6
PET	Petropavlovsk	3.45	226	eP	Pn	17 21 07.0	+0.3
PET				eS	Sn	17 21 46.6	-0.4
RUS	Russkaya	3.96	221	eP	Pn	17 21 14.5	+0.6
RUS				eS	Sn	17 21 58.8	-1.0
GRL	Gorelyy	4.04	226	P	Pn	17 21 16.8	+1.8

CASC 13 17:21:04.2±2.8, 10.81N×86.63W, h13km±23km, MD3.6, 1C-3D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CRZC	La Cruz	1.03	82	eP	Pb	17 21 23.5	+0.2
VCR	Vista de Mar	1.19	124⇓	eP	Pb	17 21 24.0	-2.2
CRUN	El Crucero	1.21	15	eP	Pb	17 21 24.8	-1.7
CONN	Concepcion	1.24	53⇓	eP	Pb	17 21 26.8	-0.2
TICN	Ticuantepe	1.28	18	eP	Pb	17 21 24.4	-3.2
COPN	Copaltepe	1.36	2⇓	eP	Pn	17 21 28.0	-1.1
WILN	Americas 2	1.41	18	eP	Pn	17 21 35.2	+5.5
MOMJ	Momotombo	1.59	3	eP	Pn	17 21 30.3	-2.1
CNGN	Cerro Negro	1.68	358	eP	Pn	17 21 31.8	-1.8
PYTN	Playitas	1.81	18	eP	Pn	17 21 36.9	+1.5
CGA2	Cerro Gallo 2	2.27	110	eS	Sn	17 22 09.3	-0.8
PRS1	Puriscal	2.42	110	eP	Pn	17 21 45.0	+0.8
LCR2	La Lucha 2	2.79	112	eP	Pn	17 21 48.5	-1.0
TRTC	Tortuguero	2.88	94	eP	Pn	17 21 50.5	-0.2
URSC	Urasca	2.97	109⇑	eP	Pn	17 21 52.8	+0.8
BUS	Buena Vista	3.09	114	eP	Pn	17 21 53.1	-0.6

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*DJA **13** 17:35:32.1±0.8, 7.26S×119.73E, h160km, ML5.0/2, Error ellipse: s-maj=67.8km s-min=17.2km az=164.0*

*NEIC **13** 17:35:34.9±3.9, 7.90S×120.04E, h176km±42km, mb4.0/1, Error ellipse: s-maj=74.3km s-min=19.4km az=47.0*

*IDC **13** 17:35:37.5±2.8, 8.35S×119.64E, h210km±31km, mb3.1/3, mb1 3.3/5, mb1mx3.1/15, Error ellipse: s-maj=87.6km s-min=13.8km az=51.0*

ISC 13 17:35:32.8±1.9, 7.9S±0.2×119.8E±0.1, h182km±21km, n15, σ1§35/24, mb3.5/2, 6C-2D, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEDI	Kedomdong	3.65	261⇑	ePn	P	17 36 30.9	+0.6
	156nm,0.2s						
KEDI	Kedomdong	3.65	261	eP	P	17 36 32.5	+2.2
KEDI			⇓	eSn	S	17 37 16.8	+2.2
RATI	Rata	4.25	259⇓	ePn	P	17 36 38.7	+0.7
RATI			⇑	eSn	S	17 37 28.2	-0.1
INGI	Ingas	4.65	259⇑	ePn	P	17 36 42.9	-0.1
	495nm,0.3s						
INGI	Ingas	4.65	259	eP	P	17 36 44.2	+1.2
INGI			⇑	eSn	S	17 37 35.5	-1.8
KELI	Kelakatan	5.22	267⇑	ePn	P	17 36 51.0	+0.5
KELI			⇑	eSn	S	17 37 48.0	-2.7
FITZ	Fitzroy Crossi	11.61	151	eP	P	17 38 14.2	+0.1
	8.1nm,1.5s						
FITZ				eS	S	17 40 15.0	-5.7
FITZ	Fitzroy Crossi	11.61	151	P	P	17 38 13.9	-0.2
	0.6nm,0.3s,baz=348,slow=13,SNR=14						
FITZ				S	S	17 40 14.8	-6.0
	0.4nm,0.3s,baz=189,slow=23,SNR=7.5						
WRA	Warramunga Arr	18.49	132	P	P	17 39 35.6	-2.0
	0.4nm,0.3s,baz=302,slow=13,SNR=24						
WRA				S	S	17 42 55.4	+1.2
	0.1nm,0.3s,baz=298,slow=20,SNR=4.8						
WRAB	Tennant Creek	18.50	132	eP	P	17 39 35.8	-1.8
	4.1nm,0.6s						
WB2	Warramunga Arr	18.50	132	eP	P	17 39 36.3	-1.4
WB2				eS	S	17 42 56.7	+2.3
ASPA	Alice Springs	20.70	141	eP	P	17 40 00.4	+0.3
ASAR	Alice Springs	20.70	141	P	P	17 39 59.8	-0.4
	0.6nm,0.4s,baz=318,slow=11,SNR=65						
ASAR				S	S	17 43 37.0	+1.3
	0.5nm,0.9s,baz=326,slow=23,SNR=4.4						
STKA	Stephens Creek	31.31	142	P	P	17 41 37.4	-0.8
	1.2nm,0.6s,mb3.8,baz=308,slow=10,SNR=3.3						
MKAR	Makanchi Array	63.86	332	P	P	17 45 49.1	+1.0
	0.2nm,0.4s,mb3.3,baz=154,slow=8.4,SNR=4.3						

GUC 13 17:50:31.0±0.9, 33.19S×70.30W, h7km±2km, MD3.6, ML2.2, 1C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FCH	Farellones	0.14	178⇑	iP	Pg	17 50 35.0	+0.9
FCH				i S	Sg	17 50 37.7	+1.6
FCH				AMP		17 50 38.6	
	comp=N,2µm,0.1s						
PEL	Peldehue	0.33	278	eP	Pg	17 50 38.0	+0.3
PEL				i S	Sg	17 50 42.9	+0.7
PEL				AMP		17 50 47.7	
	comp=N,181nm,1.1s						
PCH	Pirque	0.47	203	eP	Pg	17 50 41.4	+0.9
PCH				i S	Sg	17 50 48.8	+2.0
JACH	Jahuel	0.56	334	eP	Pg	17 50 41.2	-1.1
LMEL	Las Melosas	0.66	173	eP	Pg	17 50 44.4	+0.1
LMEL				i S	Sg	17 50 54.4	+1.2
LMEL				AMP		17 50 54.9	
	comp=N,241nm,0.2s						
TACH	Talagante	0.71	229	i P	Pg	17 50 45.4	+0.2
TACH				i S	Sg	17 50 55.8	+1.1
CHCH	Chadas Angostu	0.80	202	eP	Pb	17 50 47.0	+0.1
CICH	Cipreses	1.13	185	eP	Pb	17 50 53.0	+0.5
CICH				i S	Sb	17 51 09.3	+2.0
LNV	Longovilo	1.21	230	eP	Pb	17 50 52.4	-1.4

IDC 13 17:59:53.4±19.0, 1.74S×135.33E, h218km±190km, mb3.1/3, mb1 3.2/4, mb1mx3.0/11, ML3.3/1, MS3.1/1, Ms1 3.1/1, ms1mx2.7/10, Error ellipse: s-maj=142.0km s-min=42.9km az=66.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.12	183	P	P	18 03 48.9	-2.9
	0.1nm,0.3s,baz=1.1,slow=12,SNR=6.3						
WRA				LR	LR	18 10 21.3	
	comp=Z,52nm,18.4s,baz=250,slow=35						
ASAR	Alice Springs	21.84	184	P	P	18 04 29.6	+0.5
	0.8nm,0.5s,baz=7.1,slow=12,SNR=19						
STKA	Stephens Creek	30.56	169	P	P	18 05 46.0	-2.9
	1.9nm,0.9s,slow=9.1,SNR=2.9						
MKAR	Makanchi Array	66.98	323	P	P	18 10 22.8	-2.0
	0.2nm,0.5s,baz=118,slow=8.3,SNR=5.4						

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*IDC **13** 18:08:29.2±1.2, 8.41S×120.76E, mb3.9/4, mb1 4.1/7, mb1mx3.9/16, ML3.2/3, MS3.4/2, Ms1 3.5/2, ms1mx3.0/17, Error ellipse: s-maj=66.8km s-min=19.4km az=61.0*

*NEIC **13** 18:08:32.7±0.9, 8.51S×120.59E, h20km, mb3.9/1, Error ellipse: s-maj=40.4km s-min=13.0km az=53.0*

ISC 13 18:08:32.1±0.9, 8.5S±0.2×120.7E±0.2, h33km, n10, σ1§58/11, mb3.9/4, MS3.4/1, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	10.71	154	Pn	P	18 11 03.2	-3.2
	0.1nm,0.3s,baz=342,slow=16,SNR=3.5						
FITZ				Sn	S	18 12 56.2	-10
	0.2nm,0.3s,baz=188,slow=18,SNR=3.0						
WRA	Warramunga Arr	17.45	132	P	P	18 12 31.3	-3.4
	0.1nm,0.3s,baz=303,slow=14,SNR=3.7						
WRAB	Tennant Creek	17.46	132	eP	P	18 12 36.4	+1.6
	8.4nm,0.9s						
WB2	Warramunga Arr	17.46	132	eP	P	18 12 35.6	+0.8
ASPA	Alice Springs	19.71	142	eP	P	18 13 03.6	+1.9
ASAR	Alice Springs	19.71	142	P	P	18 13 00.4	-1.3
	0.2nm,0.3s,baz=314,slow=12,SNR=18						
ASAR				LR	LR	18 22 09.8	

	comp=Z,80nm,18.4s,baz=36,slow=42						
NWAO	Narrogin (SRO)	24.54	187	P	P	18 13 51.6	+1.6
	3.2nm,0.8s,mb3.9,baz=39,slow=23,SNR=3.6						
STKA	Stephens Creek	30.33	143	P	P	18 14 43.0	+0.1
	2.0nm,0.6s,mb4.0,baz=311,slow=11,SNR=7.3						
CMAR	Chiang Mai Arr	34.30	321	P	P	18 15 17.7	0.0
	0.9nm,0.8s,mb3.8,baz=146,slow=8.1,SNR=6.4						
CMAR				LR	LR	18 29 39.1	
	comp=Z,80nm,20.5s,MS3.4,baz=330,slow=37						
MKAR	Makanchi Array	64.77	332	P	P	18 19 09.2	-0.4
	0.5nm,0.6s,mb3.7,baz=142,slow=7.6,SNR=4.6						

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*MOS **13** 18:45:53.8±1.2, 52.65N×160.46E, h11^{km}, mb4.2/1, Error ellipse: s-maj=23.8km s-min=10.8km az=98.7*

*KRSC **13** 18:45:53.2±1.0, 52.67N×160.38E, h1^{km}±2^{km}, ML4.0*

ISC 13 18:45:53.6±1.0, 52.65N±0.03×160.52E±0.05, h3^{km}±5^{km}, n37, σ0^{s}87/69, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPN	Mys Shipunski	0.54	326	P	Pg	18 46 05.2	+0.9
SPN				S	Sg	18 46 12.5	+1.0
SPN	Mys Shipunski	0.54	326	*i* P	Pg	18 46 05.3	+1.0
SPN				*e*S	Sg	18 46 12.6	+1.1
NLC	Nalytchevo	0.88	307	P	Pb	18 46 10.5	-0.7
NLC				S	Sg	18 46 22.2	-0.7
NLC	Nalytchevo	0.88	307	*e*P	Pb	18 46 10.5	-0.7
NLC				*e*S	Sg	18 46 22.3	-0.6
UGLR	Uglovaya	1.17	299	*e*P	Pb	18 46 15.8	-0.3
UGLR				*e*S	Sb	18 46 31.7	+0.2
SDLR	Sedlovina	1.17	303	*e*P	Pb	18 46 15.4	-0.8
SDLR				*e*S	Sb	18 46 31.9	+0.3
PET	Petropavlovsk	1.19	289	*e*P	Pb	18 46 15.8	-0.7
PET				*e*S	Sb	18 46 32.5	+0.3
SMAR	Somma	1.21	301	*e*P	Pb	18 46 16.3	-0.5
SMAR				*e*S	Sb	18 46 33.9	+1.3
AVH	Avacha	1.24	300	*e*P	Pb	18 46 16.5	-0.8
AVH				*e*S	Sb	18 46 33.6	0.0
RUS	Russkaya	1.24	261	P	Pb	18 46 16.4	-1.0
RUS				S	Sb	18 46 33.1	-0.6
RUS	Russkaya	1.24	261	*e*P	Pb	18 46 16.4	-1.0
RUS				*e*S	Sb	18 46 33.3	-0.4
KOK	Koryaka	1.31	300	*e*P	Pb	18 46 17.8	-0.7
KOK				*e*S	Sb	18 46 35.4	-0.1
GRL	Gorelyy	1.50	267	*e*P	Pn	18 46 20.9	-0.6
GRL				*e*S	Sb	18 46 40.8	-0.2
KII	Karymskiy	1.53	336	P	Pn	18 46 21.0	-0.9
KII				S	Sb	18 46 41.5	-0.5
KII	Karymskiy	1.53	336	*e*P	Pn	18 46 20.9	-1.0
KII				*e*S	Sb	18 46 41.4	-0.6
GNL	Ganaly	1.87	305	*e*P	Pn	18 46 26.6	-0.2
GNL				*e*S	Sn	18 46 50.3	-1.0
MKZ	Mys Kozlova	2.04	20	P	Pn	18 46 26.4	-2.9
MKZ				S	Sn	18 46 50.3	-5.3
MKZ	Mys Kozlova	2.04	20	*e*P	Pn	18 46 26.4	-2.9
APC	Apacha	2.06	279	*e*P	Pn	18 46 30.1	+0.6
APC				*e*S	Sn	18 46 57.6	+1.5
APC				Smax			
	170nm,0.7s						
PAU	Pauzhetka	2.58	244	*e*P	Pn	18 46 37.8	+0.8
PAU				*e*S	Sn	18 47 10.3	+1.0
PAU				Smax			
	200nm,0.9s						
TUMR	Tumrok	2.65	355	*e*P	Pn	18 46 37.6	-0.3
TUMR				*e*S	Sn	18 47 09.4	-1.6
KMNR	Kamenistaya	3.12	357	*e*P	Pn	18 46 44.8	+0.2
KMNR				*e*S	Sn	18 47 24.1	+1.2
KPT	Kopyto	3.33	357	*e*P	Pn	18 46 49.0	+1.4
ZLN	Zelenaya	3.38	3	*e*P	Pn	18 46 49.0	+0.7
ZLN				*e*S	Sn	18 47 30.3	+0.8
KOZ	Kozyrevsk	3.43	354	P	Pn	18 46 49.8	+0.6
KOZ				S	Sn	18 47 31.5	+0.5
KOZ	Kozyrevsk	3.43	354	*e*P	Pn	18 46 49.6	+0.4
LGNR	Loginova	3.44	2	*e*P	Pn	18 46 50.1	+0.9
LGNR				*e*S	Sn	18 47 31.4	+0.3
KOZR	Kozyr	3.44	354	PN	Pn	18 46 49.8	+0.5
KOZR				S	Sn	18 47 31.5	+0.4
ESO	Esso	3.45	343	*i* P	Pn	18 46 49.4	0.0
ESO				*e*S	Sn	18 47 29.8	-1.5
ESO				Smax			
	40nm,0.8s						
CIRR	Tsirk	3.47	2	*e*P	Pn	18 46 50.0	+0.3
CIRR				*e*S	Sn	18 47 32.4	+0.4
KRSR	Krestovskiy	3.57	0	*e*P	Pn	18 46 52.1	+1.0
KRSR				*e*S	Sn	18 47 33.7	-0.8
KLY	Klyuchi	3.67	1	P	Pn	18 46 53.1	+0.6
KLY				S	Sn	18 47 36.5	-0.4
KLY	Klyuchi	3.67	1	*e*P	Pn	18 46 53.0	+0.5
KLY				*e*S	Sn	18 47 37.2	+0.3
SRDR	Sredinnyy	3.70	353	*e*P	Pn	18 46 54.1	+1.1
KBTR	Krutoberegovo	3.81	20	P	Pn	18 46 52.7	-1.8
KBTR				S	Sn	18 47 37.2	-3.2
KBTR	Krutoberegovo	3.81	20	*e*P	Pn	18 46 52.4	-2.1
KBTR				*e*S	Sn	18 47 36.9	-3.5
SVLR	Shiveluch	3.96	6	*e*P	Pn	18 46 56.6	0.0

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*IDC **13** 18:46:25.4±19.0, 20.07S×178.29W, h569^{km}±188^{km}, mb3.3/4, mb1 3.4/4, mb1mx3.2/13, Error ellipse: s-maj=150.0km s-min=84.0km az=108.0*

NEIC 13 18:46:26.3±1.9, 20.04S×178.45W, h570^{km}, mb4.2/3, Error ellipse: s-maj=85.5km s-min=27.9km az=150.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	Charters Tower	33.12	264	P	P	18 52 16.8	-0.7
	6.9nm,0.9s,baz=95,slow=12,SNR=4.0						
CTAO	Charters Tower	33.12	264	P	P	18 52 15.6	-1.9
	7.5nm,0.8s						
STKA	Stephens Creek	37.61	244	P	P	18 52 53.2	-1.3
	0.9nm,0.6s,baz=92,slow=12,SNR=4.3						
ASAR	Alice Springs	44.22	256	P	P	18 53 46.0	-1.3
	5.3nm,0.6s,baz=92,slow=7.6,SNR=144						
ASAR				PcP	PcP	18 55 18.0	-1.6
	0.9nm,0.7s,baz=105,slow=3.5,SNR=6.0						
ASPA	Alice Springs	44.22	256	*e*P	P	18 53 46.2	-1.1
WB2	Warramunga Arr	44.24	262	*e*P	P	18 53 46.4	-1.1
WRAB	Tennant Creek	44.24	262	*e*P	P	18 53 45.6	-1.9
	8.2nm,0.9s						
WRA	Warramunga Arr	44.25	262	P	P	18 53 46.0	-1.5
	2.8nm,0.6s,baz=96,slow=8.2,SNR=17						
FITZ	Fitzroy Crossi	52.67	262	*e*P	P	18 54 49.6	-0.7
	4.2nm,1.4s						
AKASG	Malin Array Be	142.41	331	PKP	PKPdf	19 04 51.1	-3.0
	1.4nm,0.6s,baz=42,slow=4.1,SNR=9.8						
CLL	Collm	147.53	347	*e*PKP1	PKPdf	19 05 08.0	+5.2
GERES	GERESS Array B	149.65	344	PKPbc	PKPdf	19 05 12.1	+5.9
	0.2nm,0.6s,baz=45,slow=4.2,SNR=4.2						

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*NEIC **13** 18:54:23.1, 9.07N×81.32W, h28^{km}, mb4.3/1, After UPA.*
NEIC Felt in Cocle, Colon and Veraguas.

*CASC **13** 18:54:23.3±2.1, 9.06N×81.33W, h39^{km}±999^{km}, MD4.4, MW4.3, mb4.3(NEIC)*

*IDC **13** 18:54:23.4±2.9, 8.72N×81.39W, h61^{km}±27^{km}, mb3.6/7, mb1 4.0/9, mb1mx3.8/21, MS3.3/3, Ms1 3.3/3, ms1mx3.0/17, Error ellipse: s-maj=35.2km s-min=15.2km az=42.0*

ISC 13 18:54:22.4±0.5, 9.08N±0.07×81.29W±0.03, h55^{km}±8^{km}, n46, σ0^{s}98/53, mb3.8/7, MS3.6/1, 4C-9D, Panama

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CNI	Changuinola	1.26	285	*e*P	P	18 54 43.4	-0.7
CNI	Changuinola	1.26	285	*e*P	P	18 54 43.5	-0.7
BRU	Baru	1.29	258	*e*P	P	18 54 44.4	-0.1
DVD	David	1.32	241	⇑*e*P	P	18 54 44.7	-0.4
DVD				*e*S	S	18 55 04.1	+2.3
DVD	David	1.32	241	*e*P	P	18 54 44.9	-0.2
ACH	Altos	1.41	107	⇓*e*P	P	18 54 49.9	+3.7
BRU2	Volcan	1.42	258	⇑*e*P	P	18 54 45.5	-0.9
BRU2				*i* S	S	18 55 03.4	-0.8
BRU2	Volcan	1.42	258	*e*P	P	18 54 45.3	-1.1
BRU2				*e*S	S	18 55 03.2	-1.0
PTP1	Petroterminal	1.43	232	*e*P	P	18 54 52.0	+5.5
PTP1				*e*S	S	18 55 12.4	+8.0
AZU	Azuero	1.63	142	⇑*e*P	P	18 54 49.2	-0.1
AZU				*e*S	S	18 55 10.1	+0.9
AZU	Azuero	1.63	142	*e*P	P	18 54 49.1	-0.2
UPA	Univ. de Panam	1.73	93	⇓*e*P	P	18 54 51.1	+0.3
UPA				*e*S	S	18 55 12.1	+0.3
UPA	Univ. de Panam	1.73	93	*e*P	P	18 54 51.0	+0.2
UPA				*e*S	S	18 55 11.7	-0.1
ACR	Cerro Adams	1.91	257	⇓*e*P	P	18 54 52.9	-0.3
ACR				*e*S	S	18 55 15.9	-0.1
ACR	Cerro Adams	1.91	257	⇓*i*P	P	18 54 52.9	-0.3
LIO	Limon	1.95	298	⇓*e*P	P	18 54 54.2	+0.4
LIO	Limon	1.95	298	⇓*i*P	P	18 54 54.3	+0.4
BUS	Buena Vista	2.48	281	*e*P	P	18 55 01.9	+0.5
URSC	Urasca	2.57	287	⇓*i*P	P	18 55 02.4	-0.2
ICR	Volcan Irazu	2.66	290	*e*P	P	18 55 03.7	-0.2
LCR2	La Lucha 2	2.76	284	*e*P	P	18 55 05.8	+0.5
TRTC	Tortuguero	2.81	302	⇓*e*P	P	18 55 04.5	-1.5
SJS	Escuela Geolog	2.86	288	*e*P	P	18 55 06.2	-0.5
SJS				*e*S	S	18 55 38.3	-1.7
LAJ	Bijagual	2.90	286	*e*P	P	18 55 14.8	+7.5
PRS1	Puriscal	3.12	287	⇓*e*P	P	18 55 11.4	+1.1
CGA2	Cerro Gallo 2	3.27	287	⇑*e*P	P	18 55 13.2	+0.7
CGA2				*e*S	S	18 55 50.8	+0.4
JTS	JuntasAbangare	3.81	289	P	P	18 55 19.6	-0.5
	9.1nm,0.3s,baz=81,slow=21,SNR=16						
JTS				S	S	18 56 05.1	+1.0
	13nm,0.3s,baz=318,slow=22,SNR=12						
JTS				LR	LR	18 57 09.5	
	comp=Z,355nm,18.2s,baz=153,slow=43						
JTS	JuntasAbangare	3.81	289	*e*Pn	P	18 55 19.4	-0.7
JCR	Jicaral	3.85	282	*e*P	P	18 55 21.4	+0.7
CRZC	La Cruz	4.63	294	*e*P	P	18 55 31.6	-0.1
ROSC	El Rosal	8.08	121	LR	LR	18 59 28.9	
	comp=Z,93nm,20.9s,baz=107,slow=38						
SDV	Santo Domingo	10.53	90	Pn	P	18 56 51.2	-2.0
SDV				*e*Sn	S	18 58 44.4	-6.3
SJG	San Juan	17.22	57	P	P	18 58 23.2	+2.4
	4.6nm,0.3s,baz=352,slow=22,SNR=9.2						
SJG	San Juan	17.22	57	*e*P	P	18 58 24.0	+3.2
	26nm,0.9s						
TXAR	Lajitas Array	29.09	317	P	P	19 00 20.2	+0.1
	0.2nm,0.3s,mb3.3,baz=131,slow=9.6,SNR=2.9						
BDFB	Brasilia	41.10	126	P	P	19 02 00.9	-1.8
	1.1nm,0.3s,mb3.9,baz=179,slow=9.2,SNR=2.4						
PDAR	Pinedale Array	41.70	328	P	P	19 02 08.2	+0.7
	0.7nm,0.8s,mb3.3,baz=117,slow=6.6,SNR=7.0						
CPUP	Villa Florida	42.20	147	P	P	19 02 08.3	-3.5
	1.5nm,0.8s,mb3.7,baz=332,slow=1.5,SNR=2.3						
CPUP	Villa Florida	42.20	147	P	P	19 02 08.3	-3.5
ULM	Lac du Bonnet	42.79	346	LR	LR	19 20 56.1	
	comp=Z,70nm,18.1s,MS3.6,baz=106,slow=37						
YKA	Yellowknife Ar	58.53	343	P	P	19 04 15.1	-0.2
	1.1nm,0.7s,mb4.0,baz=119,slow=8.5,SNR=4.5						
DLBC	Dease Lake	61.58	333	P	P	19 04 36.8	+0.5
	0.8nm,0.5s,mb4.1,baz=180,slow=16,SNR=3.8						
ILAR	Eielson Array	71.55	336	P	P	19 05 40.2	+1.0
	1.0nm,0.6s,mb3.9,baz=108,slow=3.7,SNR=9.2						
ASAR	Alice Springs	143.38	242	PKP	PKPdf	19 13 50.8	-0.7
	3.4nm,0.6s,baz=120,slow=3.8,SNR=40						
WRA	Warramunga Arr	143.94	249	PKP	PKPdf	19 13 53.0	+0.5
	3.6nm,0.7s,baz=99,slow=3.4,SNR=18						
TGY	Tagaytay City	148.11	316	PKPbc	PKPdf	19 14 02.1	+2.4
	138nm,0.4s,baz=92,slow=15,SNR=12						

ISC 13 19:11:52.1±0.3, 46.37N±0.02×12.71E±0.02, h10^{km}, n22, σ0^{s}69/44, 12C-7D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CSMI	Casera Mimoias	0.15	345	⇓*e*Pg	Pg	19 11 56.0	+0.3
CSMI				*e*Sg	Sg	19 11 58.8	+0.8
MLNI	Malnisio	0.23	198	⇓*i*Pg	Pg	19 11 56.5	-0.4
MLNI				*e*Sg	Sg	19 12 00.3	+0.1
MPRI	Monte Prat	0.23	123	⇓*i*Pg	Pg	19 11 56.7	-0.3
MPRI				*e*Sg	Sg	19 12 00.6	+0.3
ZOU	Zoufplan	0.26	44	⇑*i*Pg	Pg	19 11 58.1	+0.4
ZOU				*e*Sg	Sg	19 12 02.5	+1.1
BOO	Bordano	0.28	99	⇓*i*Pg	Pg	19 11 57.5	-0.4
BOO				*e*Sg	Sg	19 12 01.9	+0.2
BUA	Buia	0.32	117	⇓*i*Pg	Pg	19 11 58.6	-0.2
BUA				*e*Sg	Sg	19 12 04.3	+1.0
PLRO	Paularo	0.35	59	⇑*e*Pg	Pg	19 11 59.6	+0.2
PLRO				*e*Sg	Sg	19 12 05.6	+1.2
BAD	Bernadia	0.39	109	⇑*e*Pg	Pg	19 11 59.8	-0.4
BAD				*e*Sg	Sg	19 12 06.0	+0.4
AFL	Alpe Faloria	0.40	294	*e*Pg	Pg	19 12 00.7	+0.4
AFL				*e*Sg	Sg	19 12 07.5	+1.7
CAE	Caneva	0.41	208	*e*Pg	Pg	19 11 59.9	-0.5
CAE				*e*Sg	Sg	19 12 06.5	+0.5
COLI	Coloredo	0.52	116	⇑*i*Pg	Pg	19 12 02.2	-0.4
COLI				*e*Sg	Sg	19 12 10.4	+0.8
TLI	Talmassons	0.52	148	⇑*i*Pg	Pg	19 12 02.2	-0.4
TLI				*e*Sg	Sg	19 12 10.5	+0.8
DRE	Drenchia	0.68	106	*e*Pg	Pg	19 12 04.9	-0.8
DRE				*e*Sg	Sg	19 12 15.4	+0.6
KBA	Koelnbreinsper	0.84	31	⇓*i*PG	Pg	19 12 08.6	-0.3
KBA				*i* SG	Sg	19 12 20.0	-0.1
	11nm,0.3s						
SCE	Schlegeis	0.96	315	⇑*i*Pg	Pg	19 12 11.4	0.0
SCE				*i* Sg	Sg	19 12 24.5	+0.2
WTTA	Wattenberg	1.16	321	⇑*i*PG	Pg	19 12 14.9	-0.5
WTTA				*i* SG	Sg	19 12 30.4	-0.5
	2.3nm,0.2s						
WATA	Walderalm	1.24	322	⇑*i*PG	Pg	19 12 16.4	-0.6
WATA				*i* SG	Sg	19 12 33.6	0.0
	4.8nm,0.2s						
OBKA	Obir	1.28	83	⇑*i*PG	Pg	19 12 16.4	-1.4
OBKA				*i* SG	Sg	19 12 33.9	-1.0
	2.4nm,0.2s						
SQTA	Sankt Quirin	1.34	310	⇑*i*PG	Pg	19 12 18.6	-0.3
SQTA				*i* SG	Sg	19 12 37.3	+0.5
	3.1nm,0.3s						
MOTA	Moosalm	1.47	312	⇓*i*PG	Pg	19 12 21.4	-0.2
MOTA				*i* SG	Sg	19 12 41.8	+0.5
	3.2nm,0.3s						
MOA	Molln	1.83	35	⇑*i*PG	Pg	19 12 27.0	-1.6
MOA				*i* SG	Sg	19 12 52.8	-0.2
	2.9nm,0.4s						
DAVA	Damuels	2.15	296	⇑*i*PG	Pg	19 12 33.4	-1.7
DAVA				*i* SG	Sg	19 13 04.2	+0.4
	4.0nm,0.3s						

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*NEIC **13** 19:15:25.2±2.5, 10.69N×126.01E, h106^{km}±20^{km}, mb4.2/3, Error ellipse: s-maj=42.9km s-min=9.1km az=65.0*

*IDC **13** 19:15:26.2±4.7, 10.68N×125.93E, h112^{km}±41^{km}, mb3.7/8, mb1 3.9/9, mb1mx3.6/20, Error ellipse: s-maj=57.5km s-min=13.6km az=63.0*

ISC 13 19:15:23.7±0.6, 10.56N±0.04×125.65E±0.08, h99^{km}±5^{km}, n31, σ0^{s}98/36, mb4.0/11, 2C-1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCPH	Surigao	0.79	191	*i* P	P	19 15 40.7	-1.5
SCPH				*e*S	S	19 15 51.8	-4.0
MSLP	Maasin	0.88	241	*e*P	P	19 15 42.2	-0.8
MSLP				*e*S	S	19 15 52.3	-5.3
PLP	Palo	0.89	313	*e*P	P	19 15 43.0	-0.2
PLP				*e*S	S	19 15 56.6	-1.1
BESP	Borongan	1.05	349	*e*P	P	19 15 45.8	+0.8
OCLP	Ormoc	1.13	296	*e*P	P	19 15 46.1	+0.2
BUTP	Butuan	1.58	181	*e*P	P	19 15 52.9	+1.5
LLP	Lapu-Lapu	1.67	262	⇑*i*P	P	19 15 51.0	-1.5
TBP	Tagbilaran	1.96	244	*e*P	P	19 15 56.6	+0.4
TBP				*i* S	S	19 16 20.1	-0.1
CNP	Catarman	2.16	334	*e*P	P	19 15 60.0	+1.0
CGP	Cagayan de Oro	2.29	204	⇓*e*P	P	19 16 00.8	+0.1
CGP				*e*S	S	19 16 27.9	-0.5
BUKP	Musuan	2.73	192	*e*P	P	19 16 07.8	+1.1
GUIM	Jordan	3.00	272	*e*P	P	19 16 10.4	-0.1
RCP	Roxas	3.02	290	⇑*e*P	P	19 16 11.3	+0.6
PVCP	Virac	3.35	334	*e*P	P	19 16 15.3	+0.1
PAGZ	Pagadian	3.50	220	*e*P	P	19 16 18.2	+0.9
MATI	Mati	3.64	170	*e*P	P	19 16 20.6	+1.4
TGY	Tagaytay City	5.79	308	P	P	19 16 51.8	+3.2
	15nm,0.3s,baz=222,slow=6.0,SNR=3.9						
CAUP	Cauayan	7.35	330	*e*P	P	19 17 09.8	-0.3
CMAR	Chiang Mai Arr	26.99	290	P	P	19 20 60.0	+1.6
	0.3nm,0.7s,mb2.9,baz=100,slow=5.5,SNR=3.6						
FITZ	Fitzroy Crossi	28.48	180	P	P	19 21 11.7	-0.1
	7.4nm,1.2s,mb4.1,baz=183,slow=17,SNR=4.0						
WRAB	Tennant Creek	31.49	164	P	P	19 21 36.0	-2.4
	12nm,1.1s,mb4.5						
WRA	Warramunga Arr	31.50	164	P	P	19 21 36.9	-1.5
	0.4nm,0.5s,mb3.5,baz=347,slow=9.5,SNR=9.6						
ASAR	Alice Springs	34.96	167	P	P	19 22 08.2	-0.1
	0.7nm,0.4s,mb3.8,baz=347,slow=6.3,SNR=13						
NWAO	Narrogin (SRO)	43.98	190	P	P	19 23 23.7	+0.7
	6.0nm,1.2s,mb4.2,baz=27,slow=6.8,SNR=2.3						
NWAO	Narrogin (SRO)	43.98	190	P	P	19 23 23.7	+0.7
STKA	Stephens Creek	44.87	161	P	P	19 23 30.7	+0.6
	3.4nm,0.4s,mb4.4,baz=345,slow=7.3,SNR=13						
STKA	Stephens Creek	44.87	161	P	P	19 23 30.7	+0.6
MKAR	Makanchi Array	51.42	323	P	P	19 24 20.6	-0.1
	0.9nm,0.4s,mb4.2,baz=128,slow=8.0,SNR=18						
MKAR				pP	pP	19 24 41.8	-3.0
	1.8nm,0.9s,baz=115,slow=8.1,SNR=7.2						
KURK	Kurchatov	55.48	326	P	P	19 24 49.9	-0.6
	1.2nm,0.6s,mb4.1						
ZRNK	Zerenda	61.83	325	P	P	19 25 33.6	-0.8
	0.8nm,0.4s,mb4.1						
FINES	FINESS Array B	85.34	332	P	P	19 27 50.1	-0.6
	2.5nm,0.9s,mb4.2,baz=90,slow=5.6,SNR=6.7						

TRN 13 19:35:32.7, 17.46N×62.05W, h22^{km}, MD3.7, 1C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CPB	Codrington	0.28	50	⇑*i*P	Pb	19 35 41.4	+2.2
CPB				*e*S	Sb	19 35 45.6	+2.0
BPA	Boggy Peak	0.45	156	*e*P	Pb	19 35 44.3	+2.4
BPA				*e*S	Sb	19 35 50.9	+2.7
SABT	Saba	1.15	278	*e*P	Pn	19 35 55.5	+1.8
SABT				*e*S	Sb	19 36 10.6	+2.3
STMA	St. Maarten, A	1.16	300	*e*S	Sb	19 36 08.6	-0.1
SEG	Port Louis	1.17	154	*e*P	Pn	19 35 55.4	+1.4
DEG	La Desirade	1.48	140	*e*P	Pn	19 35 59.5	+1.0
DEG				*e*S	Sn	19 36 19.4	+2.1
MGG	Marie-Galante	1.69	155	*e*P	Pn	19 36 03.2	+1.9
BBL	Barber's Block	2.00	164	*e*P	Pn	19 36 08.2	+2.3
DWS	Wesley	2.01	159	*e*S	Sn	19 36 35.2	+4.5

IDC 13 19:42:22.6±18.0, 17.97S×179.10W, h686^{km}±201^{km}, mb3.1/5, mb1 3.2/5, mb1mx3.0/14, Error ellipse: s-maj=140.0km s-min=104.0km az=98.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	Charters Tower	32.79	261	P	P	19 48 03.9	-1.4
	2.4nm,0.7s,baz=182,slow=19,SNR=2.2						
STKA	Stephens Creek	38.03	241	P	P	19 48 46.5	-1.5
	1.4nm,0.7s,baz=98,slow=14,SNR=3.3						
WB2	Warramunga Arr	43.97	260	*e*P	P	19 49 33.0	-2.0
WRA	Warramunga Arr	43.98	260	P	P	19 49 33.2	-1.8
	1.3nm,0.6s,baz=96,slow=7.3,SNR=24						
ASAR	Alice Springs	44.14	254	P	P	19 49 34.8	-1.5
	5.7nm,0.6s,baz=87,slow=8.5,SNR=124						
ASPA	Alice Springs	44.15	254	*e*P	P	19 49 34.8	-1.5
KAKA	Kakadu	46.97	269	*e*P	P	19 49 57.0	-0.7
	24nm,1.4s						
FITZ	Fitzroy Crossi	52.37	261	P	P	19 50 35.0	-1.9
	5.6nm,0.9s,baz=17,slow=9.3,SNR=3.6						
GERES	GERESS Array B	147.49	344	PKPbc	PKPdf	20 00 51.7	+3.5
	0.4nm,0.6s,baz=22,slow=5.3,SNR=3.4						

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*NEIC **13** 19:43:37.2±0.7, 17.82S×178.22W, h545^{km}, mb4.2/8, Error ellipse: s-maj=24.3km s-min=16.5km az=165.0*

*IDC **13** 19:43:47.6±3.2, 17.71S×178.86W, h636^{km}±35^{km}, mb3.4/7, mb1 3.5/7, mb1mx3.3/15, Error ellipse: s-maj=69.4km s-min=22.7km az=152.0*

ISC 13 19:43:44.0±2.7, 18.0S±0.3×178.8W±0.2, h602^{km}±35^{km}, n27, σ1^{s}09/23, mb4.1/12, 3C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	Charters Tower	33.05	261	*e*P	P	19 49 33.6	+0.7
	4.6nm,0.8s,mb4.2						
CTA	Charters Tower	33.05	261	P	P	19 49 33.5	+0.6
	4.3nm,0.5s,mb4.3,baz=97,slow=12,SNR=8.3						
STKA	Stephens Creek	38.24	241	*e*P	P	19 50 16.6	+1.1
	1.8nm,0.6s,mb3.8						
STKA	Stephens Creek	38.24	241	P	P	19 50 16.6	+1.1
	2.7nm,0.6s,mb4.0,baz=82,slow=10,SNR=8.5						
WB2	Warramunga Arr	44.22	260	*e*P	P	19 51 02.6	-0.5
WRAB	Tennant Creek	44.22	260	*e*P	P	19 51 02.5	-0.6
	6.8nm,0.4s,mb4.5						
WRA	Warramunga Arr	44.23	260	P	P	19 51 02.9	-0.3
	3.2nm,0.4s,mb4.2,baz=96,slow=7.3,SNR=63						
ASAR	Alice Springs	44.39	254	P	P	19 51 04.5	+0.1
	20nm,0.6s,mb4.8,baz=87,slow=8.5,SNR=174						
ASAR				PcP	PcP	19 52 32.8	-2.3
	1.1nm,0.5s,baz=104,slow=3.8,SNR=5.4						
ASAR				S	S	19 56 55.8	-0.9
	0.9nm,1.0s,baz=94,slow=15,SNR=6.3						
ASPA	Alice Springs	44.39	254	*e*P	P	19 51 04.2	-0.2
ASPA				*e*S	S	19 56 57.8	+1.0
KAKA	Kakadu	47.23	269	*e*P	P	19 51 26.6	+0.5
	8.3nm,0.4s,mb4.6						
FORT	Forrest	49.61	245	*e*P	P	19 51 42.6	-1.0
	29nm,0.6s,mb4.9						
FITZ	Fitzroy Crossi	52.63	261	*e*P	P	19 52 05.3	-0.2
	4.7nm,1.2s,mb3.7						
FITZ	Fitzroy Crossi	52.63	261	P	P	19 52 05.0	-0.4
	3.3nm,0.9s,mb3.7,baz=164,slow=19,SNR=13						
MBWA	Marble Bar	57.67	256	*e*P	P	19 52 39.2	-1.2
	4.9nm,0.5s,mb3.9						
NWAO	Narrogin (SRO)	58.82	242	P	P	19 52 49.7	+1.7
	5.3nm,0.9s,mb3.7,baz=209,slow=9.5,SNR=3.3						
NWAO	Narrogin (SRO)	58.82	242	P	P	19 52 49.7	+1.7
QSPA	South Pole Qui	72.04	180	*e*P	P	19 54 07.7	-1.4
	1.4nm,0.6s,mb3.7						
CMAR	Chiang Mai Arr	88.55	290	P	P	19 55 35.6	+0.2
	0.8nm,0.9s,mb3.6,baz=149,slow=3.4,SNR=5.1						
SNAA	Sanae	90.50	179	⇑*i*	P	19 55 40.8	-2.5
VNA3	Neumayer Olymp	90.66	177	⇑*i*	P	19 55 45.2	+1.2
VNA2	Neumayer--Watz	91.09	177	⇑*i*	P	19 55 48.3	+2.3
MKAR	Makanchi Array	108.93	314	PKiKP		20 01 04.1	
	0.3nm,0.6s,baz=114,slow=0.9,SNR=6.5						
MKAR	Makanchi Array	108.93	314	PKPdf		20 01 04.1	
FINES	FINESS Array B	133.18	344	PKP	PKPdf	20 01 50.8	-1.1
	1.0nm,0.7s,baz=104,slow=7.9,SNR=3.9						
BRTR	Keskin Array B	144.58	314	PKP	PKPdf	20 02 13.3	+0.5
	1.0nm,0.6s,baz=124,slow=4.5,SNR=6.0						
CLL	Collm	145.48	347	*e*PKP1	PKPbc	20 02 15.0	-0.3
GERES	GERESS Array B	147.61	344	PKPbc	PKPdf	20 02 20.9	+3.2
	0.9nm,0.4s,baz=15,slow=3.1,SNR=12						

GUC 13 19:48:59.4±0.5, 30.33S×72.16W, h16^{km}±5^{km}, MD3.9, ML3.3, 1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LSCH	La Serena	0.90	62	*i* P	Pb	19 49 15.2	-0.9
LSCH				*i* S	Sb	19 49 27.6	+0.1
LSCH				AMP		19 49 30.5	
	comp=E,1µm,0.8s						
TLL	Tololo Astrono	1.18	83	⇓*i*P	Pb	19 49 20.2	-0.7
TLL				*i* S	Sb	19 49 36.5	+0.7
TLL				AMP		19 49 46.2	
	comp=E,862nm,0.4s						
CMCH	Combarbala	1.30	131	*i* P	Pb	19 49 22.2	-0.8
CMCH				*i* S	Sb	19 49 39.3	-0.1
CMCH				AMP		19 49 49.5	
	comp=N,2µm,0.6s						
FCH	Farellones	3.39	153	*e*P	Pn	19 49 53.5	+0.7
FCH				*i* S	Sn	19 50 34.2	+1.2
FCH				AMP		19 50 49.1	
	comp=E,49nm,0.6s						

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*BJI **13** 20:00:00.3, 5.95N×124.31E, h97^{km}, mB5.1, mb5.0*

*NEIC **13** 20:00:01.9±0.2, 6.16N×124.27E, mb4.9/21, Error ellipse: s-maj=9.5km s-min=4.4km az=71.0*

*MOS **13** 20:00:01.9±1.0, 6.18N×124.24E, h100^{km}, mb4.7/7, Error ellipse: s-maj=30.1km s-min=10.1km az=113.3*

*SYO **13** 20:00:01.4, 6.12N×124.30E, h83^{km}, MB4.9*

*HRVD **13** 20:00:01.9±1.1, 6.18N×124.30E, h82^{km}, MW4.8/32, Centroid moment Tensor Solution. LP body waves: s4,c4; Mantle waves: s32,c41; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M$_{rr}$0.17±.18; M$_{\theta\theta}$0.76±.19; M$_{\phi\phi}$-0.92±.26; M$_{r\theta}$-0.74±.06; M$_{\theta\phi}$1.17±.10; M$_{\phi r}$0.13±.11; Best double couple: M$_0$1.63×10^{16} NP1:ϕ_s196°, δ62°, λ174°. NP2: ϕ_s289°, δ84°, λ28°. Principal axes: T 1.62, Plg23°,* *Azm156°; N .02, Plg62°, Azm300°; P -1.64, Plg15°, Azm60°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*IDC **13** 20:00:04.3±2.9, 6.15N×124.21E, h103^{km}±27^{km}, mb4.3/19, mb1 4.3/20, mb1mx4.3/24, MS3.7/10, Ms1 3.7/10, ms1mx3.4/27 Error ellipse: s-maj=19.8km s-min=9.7km az=77.0*

ISC 13 20:00:00.1±0.3, 6.19N±0.03×124.19E±0.04, h80^{km}, h80^{km}±2.4^{km}:pP-P, n110, σ1^{s}20/118, mb4.7/48, 6C-4D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**0.76**	**97**	⇑*i*P	**P**	**20 00 21.0**	**+4.3**
GSPH				*i* S	**S**	**20 00 33.0**	**+4.0**
KCP	**Kidapawan**	**1.21**	**48**	⇑*i*P	**P**	**20 00 21.9**	**-0.2**
KCP				*i* S	**S**	**20 00 39.2**	**+0.7**
PAGZ	**Pagadian**	**1.83**	**334**	*e*P	**P**	**20 00 27.2**	**-3.1**
PAGZ				*e*S	**S**	**20 00 50.1**	**-2.5**
BUKP	**Musuan**	**1.89**	**27**	*e*P	**P**	**20 00 31.0**	**-0.1**
MATI	**Mati**	**2.19**	**70**	*e*P	**P**	**20 00 34.6**	**-0.7**
IPIL	**Ipil**	**2.26**	**315**	*e*P	**P**	**20 00 33.9**	**-2.3**
IPIL				*e*S	**S**	**20 00 59.5**	**-3.6**
CGP	**Cagayan de Oro**	**2.31**	**13**	*e*P	**P**	**20 00 29.8**	**-7.2**
CGP				*e*S	**S**	**20 01 08.9**	**+4.6**
SNPH	**Sibulan**	**3.27**	**343**	⇑*e*P	**P**	**20 00 50.3**	**-0.1**
TBP	**Tagbilaran**	**3.50**	**355**	*e*P	**P**	**20 00 53.7**	**+0.2**
TBP				*i* S	**S**	**20 01 26.4**	**-7.4**
LLP	**Lapu-Lapu**	**4.11**	**357**	*e*P	**P**	**20 01 01.0**	**-1.0**
GUIM	**Jordan**	**4.69**	**340**	*e*P	**P**	**20 01 08.0**	**-2.0**
CUYO	**Cuyo Island**	**5.59**	**326**	*e*P	**P**	**20 01 20.1**	**-2.3**
PPR	**Puerto Princes**	**6.47**	**304**	*i* P	**P**	**20 01 27.6**	**-7.1**
PPR				*e*S	**S**	**20 02 41.7**	**-6.1**
ENPP	**El Nido**	**6.86**	**317**	*e*P	**P**	**20 01 36.8**	**-3.2**
SJMP	**San Jose**	**6.93**	**334**	*e*P	**P**	**20 01 39.0**	**-2.0**
BUSP	**Coron**	**6.99**	**326**	*e*P	**P**	**20 01 39.1**	**-2.8**
TGY	**Tagaytay City**	**8.49**	**338**	P	**P**	**20 02 03.9**	**+1.5**
	21nm,0.3s,baz=248,slow=12,SNR=5.1						
KAKA	**Kakadu**	**20.46**	**157**	*e*P	**P**	**20 04 34.2**	**+0.5**
	36nm,0.8s						
JOW	**Kunigami**	**20.90**	**10**	P	**P**	**20 04 39.5**	**+1.5**
	16nm,1.0s,baz=165,slow=13,SNR=4.3						
JOW				LR	LR	20 12 01.5	
	comp=Z,186nm,20.0s,baz=85,slow=34						
FITZ	**Fitzroy Crossi**	**24.18**	**177**	*e*P	**P**	**20 05 10.7**	**+0.4**
	19nm,0.6s,mb4.6						
FITZ	**Fitzroy Crossi**	**24.18**	**177**	P	**P**	**20 05 10.8**	**+0.5**
	19nm,0.6s,mb4.6,baz=8.3,slow=7.9,SNR=67						
NJ2	**Nanjing**	**26.21**	**350**	*e*P	**P**	**20 05 32.0**	**+2.6**
NJ2				AP	pP	20 05 49.3	+1.7
NJ2				PP	PP	20 06 18.3	+4.2
NJ2				S	**S**	**20 09 49.0**	**-4.5**
NJ2				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.5						
NJ2				LR	LR		
	comp=N,690nm,20.0s						
NJ2				LR	LR		
	comp=E,460nm,16.0s						
NJ2				LR	LR		
	comp=Z,10µm,18.0s						
CBIJ	**Chichi jima**	**26.94**	**37**	P	**P**	**20 05 36.5**	**+0.4**
	comp=Z,90nm,0.9s,mb5.3,baz=306,slow=24,SNR=3.2						
CBIJ				LR	LR	20 13 58.7	
	comp=Z,93nm,21.6s,baz=307,slow=31						
CMAR	**Chiang Mai Arr**	**27.46**	**299**	P	**P**	**20 05 41.5**	**+0.5**
	comp=Z,2.1nm,0.7s,mb3.8,baz=116,slow=7.7,SNR=16						
CMAR				PcP	PcP	20 08 58.1	+0.2
	comp=Z,0.8nm,0.7s,baz=122,slow=2.0,SNR=5.5						
CMAR				LR	LR	20 16 21.4	
	comp=Z,70nm,19.2s,baz=110,slow=36						
JNU	**Nakatsue**	**27.51**	**12**	P	**P**	**20 05 40.9**	**-0.5**
	comp=Z,7.5nm,1.1s,mb4.1,baz=6.2,slow=39,SNR=2.6						
JNU				LR	LR	20 17 47.8	
	comp=Z,110nm,18.2s,baz=81,slow=39						
MBWA	**Marble Bar**	**27.52**	**189**	P	**P**	**20 05 39.9**	**-1.7**
ENH	**Enshi**	**27.66**	**332**	*e*P	**P**	**20 05 43.0**	**+0.2**
WRAB	**Tennant Creek**	**27.82**	**159**	*e*P	**P**	**20 05 42.4**	**-1.8**
	comp=Z,80nm,1.8s,mb5.0						
WRA	**Warramunga Arr**	**27.82**	**159**	P	**P**	**20 05 42.8**	**-1.5**
	comp=Z,5.0nm,0.8s,mb4.1,baz=333,slow=11,SNR=31						
WB2	**Warramunga Arr**	**27.82**	**159**	*e*P	**P**	**20 05 42.7**	**-1.6**
KMI	**Kunming**	**27.86**	**315**	*e*P	**P**	**20 05 45.5**	**+0.9**
KMI				AP	pP	20 06 04.1	+1.1
KMI				S	**S**	**20 10 23.5**	**+3.1**
KMI				SS	SS	20 11 55.0	+8.2
KMI				LR	LR		
	comp=N,102nm,19.2s						
KMI				LR	LR		
	comp=E,121nm,23.6s						
KMI				LR	LR		
	comp=Z,196nm,20.3s						
KMI	**Kunming**	**27.86**	**315**	*e*P	**P**	**20 05 45.5**	**+0.9**
	comp=Z,8.0nm,1.1s,mb4.2						
KMI				pP	pP	20 06 04.1	+1.1
KMI				S	**S**	**20 10 23.5**	**+3.1**
KMI				SS	SS	20 11 55.0	+8.2
KMI				LR	LR		
	comp=Z,200nm,20.3s						
XAN	**Xi'an**	**31.11**	**335**	P	**P**	**20 06 13.0**	**-0.3**
XAN				AMB	AMB		
	comp=Z,10.0nm,1.4s,mb4.3						
ASPA	**Alice Springs**	**31.15**	**163**	*e*P	**P**	**20 06 12.5**	**-1.3**
ASAR	**Alice Springs**	**31.15**	**163**	P	**P**	**20 06 12.9**	**-0.8**
	comp=Z,3.7nm,0.6s,mb4.3,baz=335,slow=6.4,SNR=37						
CD2	**Chengdu**	**31.18**	**325**	*e*P	**P**	**20 06 14.0**	**0.0**
MAJO	**Matsushiro**	**32.83**	**21**	P	**P**	**20 06 26.5**	**-1.7**
CTA	**Charters Tower**	**33.95**	**141**	P	**P**	**20 06 37.7**	**-0.4**
	comp=Z,2.4nm,0.6s,mb4.2,baz=96,slow=6.1,SNR=3.1						
BJT	**Baijiatuau**	**34.45**	**349**	*e*P	**P**	**20 06 42.6**	**+0.5**
	comp=Z,42nm,1.0s,mb5.2						
BJI	**Beijing**	**34.47**	**349**	P	**P**	**20 06 42.8**	**+0.5**
BJI				AMB	AMB		
	comp=Z,41nm,0.7s,mb5.4						
BJI				LR	LR		
	comp=N,131nm,14.1s						
BJI				LR	LR		
	comp=E,126nm,11.0s						
BJI				LR	LR		
	comp=Z,181nm,27.6s						
BJI	**Beijing**	**34.47**	**349**	P	**P**	**20 06 42.8**	**+0.5**
	comp=Z,41nm,0.7s,mb5.4						
BJI				S	**S**	**20 12 16.5**	**+13**
BJI				LR	LR		
	comp=Z,180nm,27.6s						
LZH	**Lanzhou**	**35.12**	**331**	⇑P	**P**	**20 06 50.6**	**+2.7**
LZH				AMB	AMB		
	comp=Z,69nm,1.5s,mb5.3						
LZH				AMB	AMB		
	comp=Z,207nm,6.4s						
LZH	**Lanzhou**	**35.12**	**331**	⇑P	**P**	**20 06 50.6**	**+2.7**
	comp=Z,69nm,1.5s,mb5.3						
LZH				pP	pP	20 07 01.5	-5.6
LZH				sP	sP	20 07 08.6	-8.2
HHC	**Hu-ho-hao-te**	**36.31**	**344**	*e*P	**P**	**20 06 59.9**	**+1.9**
HHC				AP	pP	20 07 17.3	+0.1
HHC				PP	PP	20 08 26.8	+3.6
HHC				S	**S**	**20 12 34.8**	**+2.5**
HHC				SS	SS	20 15 01.1	+0.1
HHC				AMB	AMB		
	comp=Z,22nm,0.9s,mb5.1						
HHC				AMB	AMB		
	comp=Z,206nm,6.3s						
HHC				LR	LR		
	comp=N,142nm,13.7s						
HHC				LR	LR		
	comp=E,111nm,13.1s						
HHC				LR	LR		
	comp=Z,98nm,13.7s						
FORT	**Forrest**	**36.94**	**174**	*e*P	**P**	**20 07 03.3**	**-0.1**
	comp=Z,71nm,0.6s,mb5.8						
MDJ	**Mudanjiang**	**38.57**	**6**	P	**P**	**20 07 17.1**	**+0.4**
NWAO	**Narrogin (SRO)**	**39.45**	**189**	P	**P**	**20 07 24.7**	**+0.5**
	comp=Z,5.3nm,0.9s,mb4.3,baz=8.4,slow=9.8,SNR=5.4						
GTA	**Gaotai**	**39.71**	**330**	*e*P	**P**	**20 07 28.8**	**+2.5**
GTA				AP	pP	20 07 48.1	+2.5
GTA				PCP	PcP	20 09 32.5	+0.4
GTA				AMB	AMB		
	comp=Z,13nm,0.8s,mb4.8						
GTA				LR	LR		
	comp=N,76nm,17.1s						
GTA				LR	LR		
	comp=E,65nm,20.5s						
GTA				LR	LR		
	comp=Z,71nm,19.8s						
ASAJ	**Asahikawa**	**41.08**	**20**	P	**P**	**20 07 38.8**	**+1.3**
	comp=Z,20nm,1.1s,mb4.9,baz=244,slow=15,SNR=4.4						
STKA	**Stephens Creek**	**41.33**	**157**	P	**P**	**20 07 40.5**	**+0.8**
	comp=Z,14nm,0.7s,mb4.9,baz=333,slow=8.3,SNR=34						
STKA				PP	PP	20 09 22.1	+2.8
	comp=Z,3.3nm,0.7s,baz=330,slow=7.0,SNR=3.9						
STKA				LR	LR	20 23 20.0	
	comp=Z,119nm,21.4s,baz=27,slow=34						
STKA	**Stephens Creek**	**41.33**	**157**	P	**P**	**20 07 40.5**	**+0.8**
STKA				PP	PP	20 09 22.1	+2.8
STKA				LR	LR	20 23 20.1	
PKI	**Pulchoki**	**42.49**	**305**	*e*P	**P**	**20 07 50.1**	**+0.7**
	comp=Z,54nm,1.2s,mb5.2						
KKN	**Kakani**	**42.68**	**305**	*e*P	**P**	**20 07 51.7**	**+0.8**
	comp=Z,51nm,1.0s,mb5.2						
DMN	**Daman**	**42.76**	**305**	*e*P	**P**	**20 07 52.2**	**+0.7**
	comp=Z,45nm,1.0s,mb5.2						
HIA	**Hailar**	**43.09**	**356**	*e*P	**P**	**20 07 54.4**	**+0.4**
	comp=Z,3.4nm,0.6s,mb4.2						
GKN	**Gorkha**	**43.29**	**305**	*e*P	**P**	**20 07 56.5**	**+0.6**
	comp=Z,52nm,1.1s,mb5.2						
KOLN	**Koldanda**	**44.05**	**304**	*e*P	**P**	**20 08 03.2**	**+1.1**
	comp=Z,43nm,0.8s,mb5.2						
SONM	**Songino Array**	**44.20**	**343**	P	**P**	**20 08 04.0**	**+1.1**
	comp=Z,12nm,0.9s,mb4.7,baz=157,slow=9.1,SNR=75						
SONM				PcP	PcP	20 09 45.9	-0.9
	comp=Z,3.3nm,0.9s,baz=153,slow=4.6,SNR=6.7						
HYB	**Hyderabad**	**45.93**	**288**	*i* P	**P**	**20 08 18.0**	**+0.9**
HYB	**Hyderabad**	**45.93**	**288**	*e*P	**P**	**20 08 18.0**	**+0.9**
ZAK	**Zakamensk**	**47.40**	**342**	⇓*i*P	**P**	**20 08 28.7**	**+0.5**
MOY	**Mondy**	**49.24**	**341**	*e*P	**P**	**20 08 44.0**	**+1.6**
WMQ	**Urumqi**	**49.27**	**325**	*e*P	**P**	**20 08 44.3**	**+1.5**
WMQ				AP	pP	20 09 05.5	+2.8
WMQ				XP	sP	20 09 14.8	+3.2
WMQ				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
WMQ				LR	LR		
	comp=N,88nm,22.0s						
WMQ				LR	LR		
	comp=E,74nm,22.0s						
WMQ				LR	LR		
	comp=Z,109nm,22.0s						
BOD	**Bodaibo**	**52.11**	**353**	*e*P	**P**	**20 09 01.5**	**-2.6**
MKAR	**Makanchi Array**	**54.11**	**326**	P	**P**	**20 09 19.5**	**+0.4**
	comp=Z,9.6nm,0.7s,mb5.0,baz=122,slow=7.4,SNR=81						
MKAR				PcP	PcP	20 10 22.3	-0.5
	comp=Z,3.8nm,0.6s,baz=130,slow=3.7,SNR=9.2						
MKAR				LR	LR	20 32 39.9	
	comp=Z,108nm,20.4s,baz=149,slow=36						
MKAR	**Makanchi Array**	**54.11**	**326**	P	**P**	**20 09 19.5**	**+0.4**
MKAR				PcP	PcP	20 10 22.3	-0.5
MKAR				LR	LR	20 32 39.9	
YAK	**Yakutsk**	**55.87**	**3**	*e*P	**P**	**20 09 30.4**	**-1.3**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
YAK				pmax	pmax		
	comp=N,4.0nm,1.1s						
YAK	**Yakutsk**	**55.87**	**3**	*e*P	**P**	**20 09 30.6**	**-1.0**
TKM2	**Tokmak 2**	**56.24**	**318**	P	**P**	**20 09 35.4**	**+0.8**
	SNR=5.3						
KBK	**Karagaybulak**	**56.55**	**318**	P	**P**	**20 09 38.0**	**+1.2**
	SNR=5.1						
UCH	**Uchtor**	**56.66**	**317**	P	**P**	**20 09 39.3**	**+1.7**
	SNR=12						
MA2	**Magadan**	**57.00**	**16**	*e*P	**P**	**20 09 38.6**	**-1.1**
USP	**Ospenovka**	**57.11**	**318**	P	**P**	**20 09 41.2**	**+0.4**
	SNR=7.4						
AML	**Almayashu**	**57.18**	**317**	P	**P**	**20 09 43.0**	**+1.7**
	SNR=5.5						
EKS2	**Erkin-Say**	**57.34**	**318**	P	**P**	**20 09 43.7**	**+1.4**
	SNR=6.7						
KURK	**Kurchatov**	**58.32**	**328**	P	**P**	**20 09 49.5**	**+0.4**
	comp=N,231nm,0.7s,mb6.3,SNR=44						
KURK	**Kurchatov**	**58.32**	**328**	*i* P	**P**	**20 09 48.9**	**-0.2**
KURK				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.7						
KURK	**Kurchatov**	**58.32**	**328**	*e*P	**P**	**20 09 48.7**	**-0.4**
	comp=Z,23nm,0.6s,mb5.4						
NVS	**Novosibirsk**	**58.55**	**334**	*e*P	**P**	**20 09 42.5**	**-8.2**
KKAR	**Karatay Array**	**59.72**	**317**	*i* P	**P**	**20 09 58.8**	**-0.1**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
VOSK	**Vostochnaya**	**63.44**	**327**	P	**P**	**20 10 22.4**	**-1.3**
VOSK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
BVA0	**Borovoye Array**	**63.89**	**327**	*i* P	**P**	**20 10 26.4**	**-0.3**
BVA0				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.6						
BRVK	**Borovoye**	**63.97**	**327**	*e*P	**P**	**20 10 26.2**	**-1.0**
	comp=Z,12nm,1.0s,mb4.7						
BRVK				*e*pP	pP	20 10 49.0	+1.1
ZRNK	**Zerenda**	**64.61**	**327**	P	**P**	**20 10 30.8**	**-0.6**
ZRNK				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.6						
ZRNK	**Zerenda**	**64.61**	**327**	*e*P	**P**	**20 10 30.3**	**-1.1**
	comp=Z,11nm,1.0s,mb4.7						
AB31	**Akbulak array**	**68.66**	**321**	*i* P	**P**	**20 10 56.7**	**-0.2**
AB31				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.4						
ARU	**Arti**	**71.52**	**328**	*e*P	**P**	**20 11 14.1**	**-0.1**
ARU	**Arti**	**71.52**	**328**	*e*P	**P**	**20 11 13.2**	**-1.0**
	comp=Z,9.9nm,0.8s,mb4.7						
IMA	**Indian Mountai**	**81.18**	**24**	*e*P	**P**	**20 12 08.9**	**+0.7**
	comp=Z,58nm,1.4s,mb5.2						
IMA				*e*pP	pP	20 12 29.6	-0.2
PMR	**Palmer**	**83.02**	**29**	*e*P	**P**	**20 12 17.4**	**-0.4**
MCK	**McKinley**	**83.11**	**27**	*e*P	**P**	**20 12 18.0**	**-0.2**
	comp=Z,19nm,1.2s,mb4.8						
COLA	**College**	**83.57**	**25**	*e*P	**P**	**20 12 20.4**	**-0.1**
ILAR	**Eielson Array**	**83.99**	**26**	P	**P**	**20 12 21.8**	**-0.8**
	comp=Z,3.2nm,0.6s,mb4.3,baz=244,slow=4.8,SNR=39						
BRTR	**Keskin Array B**	**86.51**	**309**	P	**P**	**20 12 36.4**	**+0.7**
	comp=Z,0.8nm,0.8s,mb3.7,baz=121,slow=7.2,SNR=4.4						
BRTR				LR	LR	20 53 51.4	
	comp=Z,28nm,18.6s,baz=140,slow=37						
KMBO	**Kilima Mbogo**	**87.07**	**269**	P	**P**	**20 12 39.0**	**0.0**
	comp=Z,1.8nm,0.8s,mb4.0,baz=57,slow=22,SNR=3.7						
KMBO	**Kilima Mbogo**	**87.07**	**269**	P	**P**	**20 12 39.6**	**+0.6**
ARCES	**ARCESS Array B**	**87.28**	**340**	P	**P**	**20 12 37.9**	**-0.8**
	comp=Z,7.1nm,0.8s,mb4.6,baz=76,slow=5.0,SNR=6.5						
ARCES				LR	LR	20 52 14.0	
	comp=Z,27nm,21.7s,baz=211,slow=36						
ARCES	**ARCESS Array B**	**87.28**	**340**	P	**P**	**20 12 37.9**	**-0.8**
ARCES				LR	LR	20 52 14.0	
KAF	**Kangasniemi**	**88.26**	**332**	*e*p	**P**	**20 12 43.2**	**-0.3**
	comp=Z,3.1nm,0.5s,mb4.6,baz=76,slow=4.3						
KAF	**Kangasniemi**	**88.26**	**332**	*e*P	**P**	**20 12 43.2**	**-0.3**
KAF				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.6						
AKASG	**Malin Array Be**	**88.40**	**321**	P	**P**	**20 12 44.2**	**-0.3**
	comp=Z,1.5nm,0.4s,mb4.3,baz=204,slow=12,SNR=6.8						
FINES	**FINESS Array B**	**88.48**	**332**	P	**P**	**20 12 44.9**	**+0.3**
	comp=Z,3.8nm,0.5s,mb4.7,baz=61,slow=5.0,SNR=51						
FINES				LR	LR	20 56 21.2	
	comp=Z,62nm,19.8s,baz=308,slow=38						
DLBC	**Dease Lake**	**92.94**	**30**	LR	LR	20 51 12.6	
	comp=Z,52nm,19.3s,baz=180,slow=33						
SYO	**Syowa Base**	**93.79**	**201**	⇓P	**P**	**20 13 10.5**	**+1.5**
SYO	**Syowa Base**	**93.79**	**201**	⇑P	**P**	**20 13 21.9**	**+13**
SYO	**Syowa Base**	**93.79**	**201**	⇓pP	pP	20 13 30.6	-0.5
SYO	**Syowa Base**	**93.79**	**201**	⇓sP	sP	20 13 42.7	+3.4
NB2	**NORSAR Subarra**	**95.47**	**333**	P	**P**	**20 13 16.3**	**-0.6**
	comp=Z,0.2nm,0.6s,mb3.7,baz=68,slow=5.0						
NOA	**NORSAR Array B**	**95.47**	**333**	P	**P**	**20 13 17.0**	**+0.1**
	comp=Z,3.8nm,1.0s,mb4.8,baz=65,slow=4.5,SNR=4.4						
JTS	**JuntasAbangare**	**146.68**	**61**	PKPbc	PKPbc	20 19 35.9	+2.3
	comp=Z,3.9nm,0.6s,baz=251,slow=11,SNR=3.9						

IDC 13 20:13:32.5±8.8, 8.11S×128.94E, h71^{km}±62^{km}, mb3.4/1, mb1 3.4/4, mb1mx3.2/12, ML2.9/3, Error ellipse: s-maj=73.7km s-min=52.4km az=158.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.44**	**198**	P	P	20 15 58.9	-2.7
	0.1nm,0.3s,baz=22,slow=5.4,SNR=4.9						
FITZ				S	S	20 17 53.4	-4.4
	0.2nm,0.3s,baz=98,slow=15,SNR=4.1						
WRA	**Warramunga Arr**	**12.88**	**157**	P	P	20 16 33.7	-0.5
	0.1nm,0.3s,baz=339,slow=12,SNR=5.4						
WRA				S	S	20 18 55.7	-0.5
	0.1nm,0.3s,baz=334,slow=22,SNR=3.4						
ASAR	**Alice Springs**	**16.19**	**163**	P	P	20 17 16.6	-0.3
	0.1nm,0.3s,baz=338,slow=10,SNR=6.1						
STKA	**Stephens Creek**	**26.42**	**155**	P	P	20 19 02.5	-2.0
	0.7nm,0.7s,baz=308,slow=19,SNR=2.4						

GUC 13 20:37:42.1±0.7, 34.93S×70.51W, h2^{km}±2^{km}, MD3.8, ML2.3, 1C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFDO	**San Fernando**	**0.53**	**307**	⇓*i*P	Pg	20 37 52.6	0.0
SFDO				*i* S	Sg	20 38 01.0	+1.4
CICH	**Cipreses**	**0.62**	**7**	⇓*i*P	Pg	20 37 54.7	+0.3
CICH				*i* S	Sg	20 38 04.5	+1.9
CACH	**El Canelo**	**0.82**	**355**	*i* P	Pg	20 37 58.1	-0.4
CHCH	**Chadas Angostu**	**1.00**	**353**	*i* P	Pb	20 38 01.7	-0.2
CHCH				*i* S	Sb	20 38 15.5	+0.1
LMEL	**Las Melosas**	**1.11**	**13**	*e*P	Pb	20 38 03.4	-0.3
LMEL				*i* S	Sb	20 38 19.3	+0.8
LMEL				AMP		20 38 21.4	
	comp=N,104nm,0.2s						
LNV	**Longovilo**	**1.23**	**322**	⇑*i*P	Pb	20 38 04.8	-1.0
LNV				*i* S	Sb	20 38 22.2	+0.3
PCH	**Pirque**	**1.31**	**360**	*e*P	Pb	20 38 06.5	-0.6
TACH	**Talagante**	**1.32**	**344**	*i* P	Pb	20 38 06.6	-0.8
TACH				*i* S	Sb	20 38 25.5	+0.8
FCH	**Farellones**	**1.61**	**6**	*e*P	Pn	20 38 12.3	+0.6
FCH				*i* S	Sb	20 38 34.8	+1.7
FCH				AMP		20 38 37.8	
	comp=E,70nm,0.2s						

OTT 13 20:40:20.9±0.9, 38.17N×81.64W, MN3.4/15, Probable blast, West Virginia, U.S. Mining explosion., West Virginia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLIO	**Pelee Island,**	**3.66**	**348**	PN	Pn	20 41 18.2	-1.7
PLIO				SN	Sn	20 42 03.3	-1.1
PLIO				SG	Sg	20 42 15.2	-7.4
PLIO				Trac		20 42 25.8	
	comp=Z,41nm,0.4s						
HGVO	**Hagersville**	**4.92**	**13**	PN	Pn	20 41 35.8	-2.2
HGVO				SG	Sg	20 42 53.3	-12
HGVO				Trac		20 43 04.4	
	comp=Z,85nm,0.6s						
PTCO	**Port Colborne**	**5.03**	**20**	PN	Pn	20 41 37.4	-2.0
PTCO				PG	Pg	20 41 48.7	-13
PTCO				SG	Sg	20 42 55.4	-13
PTCO				Trac		20 43 04.8	
	comp=Z,134nm,0.5s						
TYNO	**Tyneside**	**5.10**	**15**	SN	Sn	20 42 36.2	-4.8
TYNO				SG	Sg	20 42 57.7	-13
TYNO				Trac		20 43 12.7	
	comp=Z,68nm,0.5s						
STCO	**Saint Catharin**	**5.37**	**20**	SN	Sn	20 42 45.5	-2.3
STCO				SG	Sg	20 43 05.8	-14
STCO				Trac		20 43 19.5	
	comp=Z,76nm,0.4s						
MEDO	**Medina**	**5.55**	**25**	PN	Pn	20 41 43.5	-3.2
MEDO				SN	Sn	20 42 45.3	-6.9
MEDO				SG	Sg	20 43 12.4	-13
ACTO	**Acton**	**5.56**	**12**	PN	Pn	20 41 45.6	-1.4
ACTO				SG	Sg	20 43 10.5	-16
ACTO				Trac		20 43 14.8	
	comp=Z,97nm,0.4s						
ELGO	**Elora Gorge**	**5.58**	**9**	SN	Sn	20 42 47.1	-5.8
ELGO				SG	Sg	20 43 14.9	-12
ELGO				Trac		20 43 23.9	
	comp=Z,76nm,0.5s						
BINY	**Binghamton**	**5.91**	**45**	PN	Pn	20 41 50.0	-1.8
BINY				SN	Sn	20 42 56.3	-5.0
BINY				SG	Sg	20 43 20.6	-17
BINY				Trac		20 43 31.9	
	comp=Z,37nm,0.5s						
BRCO	**Bruce Peninsul**	**6.07**	**1**	SG	Sg	20 43 32.5	-11
PKRO	**Pickering**	**6.11**	**18**	SN	Sn	20 42 57.1	-9.1
PKRO				SG	Sg	20 43 27.7	-16
PKRO				Trac		20 43 50.9	
	comp=Z,46nm,0.2s						
WLVO	**Wesleyville**	**6.25**	**22**	PN	Pn	20 41 54.4	-2.3
WLVO				SN	Sn	20 43 03.2	-6.6
WLVO				SG	Sg	20 43 35.2	-14
WLVO				Trac		20 43 47.0	
	comp=Z,26nm,0.4s						
CLWO	**Collingwood**	**6.36**	**9**	PN	Pn	20 41 56.6	-1.6
CLWO				PG	Pg	20 42 11.9	-16
CLWO				SN	Sn	20 43 05.4	-7.0
CLWO				SG	Sg	20 43 36.9	-16
PECO	**Prince Edward**	**6.75**	**30**	PN	Pn	20 41 59.6	-4.0
PECO				SN	Sn	20 43 14.6	-7.6
PECO				SG	Sg	20 43 47.1	-18
PECO				Trac		20 43 59.6	
	comp=Z,5.8nm,0.3s						
SADO	**Sadowa**	**6.86**	**15**	PN	Pn	20 42 00.0	-5.2
SADO				PG	Pg	20 42 22.1	-16
SADO				SG	Sg	20 43 51.0	-18
SADO				Trac		20 44 06.4	
	comp=Z,18nm,0.5s						
DELO	**Deloro Mine**	**7.03**	**24**	SN	Sn	20 43 19.6	-10
DELO				SG	Sg	20 43 55.6	-19
DELO				Trac		20 44 19.1	
	comp=Z,103nm,0.9s						
TOBO	**Tobermory, Bru**	**7.05**	**1**	PN	Pn	20 42 03.8	-4.1
TOBO				PG	Pg	20 42 26.7	-15
TOBO				SN	Sn	20 43 24.3	-5.5
TOBO				SG	Sg	20 44 00.1	-16
TOBO				Trac		20 44 03.8	
	comp=Z,88nm,0.5s						
KGNO	**Kingston**	**7.19**	**31**	LG		20 44 01.7	
KGNO				Trac		20 44 13.1	
	comp=Z,21nm,0.5s						
KLBO	**Killbear Provi**	**7.26**	**8**	LG		20 44 03.5	
KLBO				Trac		20 44 18.4	
	comp=Z,38nm,0.5s						
BANO	**Bancroft**	**7.39**	**21**	PN	Pn	20 42 09.9	-2.8
BANO				SN	Sn	20 43 35.6	-2.6
BANO				SG	Sg	20 44 08.9	-18
BANO				Trac		20 44 14.5	
	comp=Z,16nm,0.3s						
BUKO	**Buck Lake**	**7.46**	**12**	LG		20 44 08.1	
BUKO				Trac		20 44 24.9	
	comp=Z,55nm,0.6s						
PLVO	**Plevna**	**7.67**	**25**	PN	Pn	20 42 11.7	-4.9
PLVO				SN	Sn	20 43 36.0	-9.3
PLVO				Trac		20 44 24.3	
	comp=Z,7.1nm,0.4s						
MPPO	**Murphy's Point**	**7.73**	**30**	PN	Pn	20 42 10.9	-6.5
MPPO				SN	Sn	20 43 37.0	-10
MPPO				SN	Sn	20 43 37.2	-10
MPPO				LG		20 44 16.2	
MPPO				Trac		20 44 32.1	
	comp=Z,4.1nm,0.3s						
RSPO	**Restoule Provi**	**8.02**	**9**	PN	P	20 42 17.2	-4.3
RSPO				SN	Sn	20 43 47.7	-6.4
RSPO				SG	Sg	20 44 26.8	-21
JFWS	**Jewell Farm**	**8.09**	**309**	SN	Sn	20 43 51.4	-4.3
JFWS				Trac		20 44 48.2	
	comp=Z,93nm,0.7s						
PEMO	**Pembroke**	**8.19**	**22**	SN	Sn	20 43 52.3	-5.8
PEMO				LG		20 44 33.1	
ALGO	**Algonquin Park**	**8.22**	**18**	PN	P	20 42 20.3	-4.1
ALGO				Trac		20 44 46.0	
	comp=Z,28nm,0.3s						
WBO	**Williamsburg**	**8.32**	**33**	SG	Sg	20 44 35.2	-23
SUNO	**Sudbury Onapin**	**8.47**	**1**	LG		20 44 42.5	
SUNO				Trac		20 44 55.9	
	comp=Z,12nm,0.2s						
CRLO	**Chalk River**	**8.47**	**21**	PN	P	20 42 20.7	-7.2
CRLO				SN	Sn	20 43 54.7	-11
CRLO				SG	Sg	20 44 40.3	-23
CRLO				Trac		20 45 07.8	
	comp=Z,29nm,0.6s						
EEO	**Eldee**	**8.68**	**12**	PN	P	20 42 26.4	-4.2
EEO				SN	Sn	20 44 01.6	-8.7
EEO				SG	Sg	20 44 49.0	-21
EEO				Trac		20 44 54.7	
	comp=Z,16nm,0.5s						
GAC	**Glen Almond**	**8.81**	**29**	PN	P	20 42 25.8	-6.8
GAC				SN	Sn	20 43 59.4	-14
GAC				LG		20 44 57.7	
GAC				Trac		20 45 14.0	
	comp=Z,26nm,0.6s						
GRQ	**Grand Remous**	**9.45**	**25**	PN	P	20 42 35.5	-5.8

GRQ				SN	Sn	20 44 17.7	-12
GRQ				Trac		20 45 31.1	
	comp=Z,23nm,0.6s						
MRHQ	**Morin Heights**	**9.48**	**33**	LG		20 45 11.6	
MRHQ				Trac		20 45 33.8	
	comp=Z,35nm,0.5s						
CBRQ	**Cabonga Reserv**	**9.89**	**21**	SN	Sn	20 44 30.0	-10
MOQ	**Mont Orford**	**10.00**	**42**	SN	S	20 44 29.7	-13
MOQ				LG		20 45 26.8	
MOQ				Trac		20 45 50.6	
	comp=Z,0.7nm,0.0s						
VLDQ	**Val d'Or**	**10.40**	**16**	PN	P	20 42 49.0	-5.3
VLDQ				LG		20 45 42.6	
VLDQ				LG		20 45 43.3	
VLDQ				Trac		20 45 51.8	
	comp=Z,4.4nm,0.3s						
KILO	**Kirkland Lake**	**10.42**	**7**	SN	S	20 44 57.6	+4.3
KILO				LG		20 45 41.2	
KILO				Trac		20 45 59.6	
	comp=Z,29nm,0.4s						
MALO	**McAlpine Lake**	**11.93**	**6**	SN	S	20 45 17.7	-13
MALO				LG		20 46 25.6	
PKLO	**Pickle Lake**	**14.68**	**338**	PN	P	20 43 43.6	-7.9
LG4Q	**La Grande 4**	**16.31**	**16**	PN	P	20 44 08.4	-4.4
LG4Q				SN	S	20 46 59.2	-15
LG4Q				LG		20 48 45.8	

*NEIC **13** 20:51:20.5, 34.94S×70.55W, h2^{km}, ML2.6(GUC), After GUC.*

GUC 13 20:51:20.5±0.7**, 34.94S×70.55W, h2^{km}, MD3.8, ML2.6, 1C-2D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFDO	**San Fernando**	**0.50**	**310**	⇓*i*P	Pg	20 51 30.6	+0.1
SFDO				*i* S	Sg	20 51 38.5	+1.4
CICH	**Cipreses**	**0.62**	**10**	⇓*i*P	Pg	20 51 33.0	0.0
CICH				*i* S	Sg	20 51 42.8	+1.5
CACH	**El Canelo**	**0.82**	**357**	⇑*i*P	Pg	20 51 36.3	-0.5
CHCH	**Chadas Angostu**	**1.00**	**355**	*e*P	Pb	20 51 39.8	-0.5
LNV	**Longovilo**	**1.21**	**324**	*i* P	Pb	20 51 42.9	-0.9
LNV				*i* S	Sb	20 51 59.8	+0.1
PCH	**Pirque**	**1.31**	**1**	*e*P	Pb	20 51 45.1	-0.5
PCH				*i* S	Sb	20 52 03.8	+1.1
TACH	**Talagante**	**1.32**	**346**	*i* P	Pb	20 51 44.9	-0.7
TACH				*i* S	Sb	20 52 04.7	+1.8
RCDM	**Rinconada Maip**	**1.46**	**352**	*e*P	Pn	20 51 47.1	-0.9
RCDM				*i* S	Sb	20 52 07.8	+0.9
RCDM				AMP		20 52 15.0	
	comp=E,293nm,0.1s						
FCH	**Farellones**	**1.62**	**8**	*e*P	Pn	20 51 50.4	+0.1
FCH				*i* S	Sb	20 52 12.8	+1.2
FCH				AMP		20 52 24.8	
	comp=N,65nm,0.2s						

*IDC **13** 20:52:36.4±1.1, 4.16N×94.72E, mb4.0/8, mb1 4.2/9, mb1mx3.9/18, ML3.9/1, MS2.7/1, Ms1 2.9/1, ms1mx2.4/21, Error ellipse: s-maj=58.3km s-min=19.0km az=49.0*

ISC 13 20:52:39.6±0.9**, 4.1N**±0.2×**94.7E**±0.2**, h33^{km}, n9, σ0^{s}70**/9**, mb4.0**/8**, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.82**	**16**	Pn	**P**	**20 56 09.3**	**+0.5**
	0.2nm,0.3s,baz=208,slow=11,SNR=8.2						
CMAR				LR	LR	21 02 24.0	
	comp=Z,28nm,18.9s,baz=184,slow=40						
MKAR	**Makanchi Array**	**43.84**	**348**	P	**P**	**21 00 44.0**	**-0.5**
	1.7nm,0.4s,mb4.1,baz=157,slow=7.5,SNR=42						
WRA	**Warramunga Arr**	**45.69**	**123**	P	**P**	**21 00 59.6**	**0.0**
	1.0nm,0.5s,mb4.0,baz=300,slow=9.2,SNR=10						
ASAR	**Alice Springs**	**47.13**	**128**	P	**P**	**21 01 10.8**	**-0.1**
	0.6nm,0.5s,mb3.8,baz=298,slow=8.1,SNR=9.5						
BVAR	**Borovoye Array**	**52.70**	**342**	P	**P**	**21 01 51.9**	**-1.2**
	0.7nm,0.4s,mb3.9,baz=146,slow=11,SNR=6.9						
BRTR	**Keskin Array B**	**65.32**	**312**	P	**P**	**21 03 21.3**	**+0.4**
	0.5nm,0.6s,mb3.7,baz=121,slow=8.4,SNR=2.8						
FINES	**FINESS Array B**	**76.27**	**333**	P	**P**	**21 04 25.7**	**-0.9**
	2.6nm,0.8s,mb4.2,baz=108,slow=6.0,SNR=9.2						
ARCES	**ARCESS Array B**	**78.96**	**340**	P	**P**	**21 04 41.9**	**+0.6**
	4.6nm,1.0s,mb4.4,baz=104,slow=7.4,SNR=3.4						
GERES	**GERESS Array B**	**80.99**	**319**	P	**P**	**21 04 53.7**	**+1.1**
	0.5nm,0.6s,mb3.6,baz=101,slow=6.8,SNR=5.7						

*IDC **13** 21:06:33.3±4.8, 5.85S×130.48E, h205^{km}±46^{km}, mb3.4/3, mb1 3.5/6, mb1mx3.4/12, Error ellipse: s-maj=62.3km s-min=12.2km az=68.0*

ISC 13 21:06:16.3±4.3**, 5.4S**±0.1×**131.2E**±0.3**, h68^{km}**±39^{km}**, n6, σ1^{s}60**/8**, mb3.8**/3**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**13.74**	**203**	P	**P**	**21 09 29.9**	**+0.3**
	1.1nm,0.3s,baz=20,slow=12,SNR=76						
WRA	**Warramunga Arr**	**14.76**	**168**	P	**P**	**21 09 40.9**	**-1.9**
	0.8nm,0.3s,baz=354,slow=13,SNR=23						
WRA				S	**S**	**21 12 19.4**	**-5.5**
	0.8nm,0.3s,baz=355,slow=23,SNR=7.1						
ASAR	**Alice Springs**	**18.33**	**172**	P	**P**	**21 10 29.4**	**+1.9**
	0.4nm,0.3s,baz=349,slow=9.2,SNR=15						
ASAR				S	**S**	**21 13 45.7**	**-0.7**
	0.2nm,0.3s,baz=355,slow=23,SNR=4.4						
STKA	**Stephens Creek**	**28.06**	**161**	P	**P**	**21 12 04.7**	**+1.1**
	2.5nm,1.1s,mb3.7,baz=219,slow=12,SNR=2.8						
CMAR	**Chiang Mai Arr**	**39.70**	**307**	P	**P**	**21 13 43.8**	**+0.1**
	0.7nm,0.5s,mb3.8,baz=135,slow=7.0,SNR=8.1						
MKAR	**Makanchi Array**	**67.59**	**326**	P	**P**	**21 17 07.1**	**-0.8**
	0.9nm,0.5s,mb3.9,baz=127,slow=7.2,SNR=12						

*IDC **13** 21:13:38.7±4.9, 4.39S×142.65E, h53^{km}±44^{km}, mb3.9/8, mb1 4.1/9, mb1mx3.9/13, ML4.4/1, Error ellipse: s-maj=43.4km s-min=14.5km az=104.0*

*NEIC **13** 21:13:45.4±2.2, 4.48S×142.28E, h108^{km}±21^{km}, mb4.2/2, Error ellipse: s-maj=21.3km s-min=14.6km az=138.0*

ISC 13 21:13:43.2±2.2**, 4.46S**±0.10×**142.2E**±0.1**, h98^{km}**±21^{km}**, n15, σ1^{s}00**/19**, mb4.0**/7**, New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.96**	**135**	*e*P	**P**	**21 15 24.5**	**+0.2**
KAKA	**Kakadu**	**12.67**	**229**	*e*P	**P**	**21 16 42.3**	**+1.2**
	29nm,0.4s						
KAKA				*e*S	**S**	**21 18 58.4**	**-1.9**
WRAB	**Tennant Creek**	**17.17**	**206**	*e*P	**P**	**21 17 38.1**	**-0.4**
	13nm,0.8s						
WB2	**Warramunga Arr**	**17.18**	**206**	*e*P	**P**	**21 17 38.4**	**-0.2**
WB2				*e*S	**S**	**21 20 44.2**	**-0.4**
WRA	**Warramunga Arr**	**17.18**	**206**	P	**P**	**21 17 38.5**	**-0.1**
	1.2nm,0.3s,baz=24,slow=13,SNR=31						
WRA				S	**S**	**21 20 46.1**	**+1.4**
	0.4nm,0.3s,baz=37,slow=24,SNR=4.7						
ASAR	**Alice Springs**	**20.70**	**202**	P	**P**	**21 18 17.5**	**-0.1**
	2.9nm,0.6s,baz=36,slow=11,SNR=17						
ASAR				S	**S**	**21 22 08.2**	**+10**
	1.4nm,0.9s,baz=20,slow=29,SNR=3.8						
FITZ	**Fitzroy Crossi**	**21.12**	**229**	*e*P	**P**	**21 18 22.3**	**+0.5**
	3.7nm,0.4s,mb4.1						
FITZ	**Fitzroy Crossi**	**21.12**	**229**	P	**P**	**21 18 22.3**	**+0.4**
	4.1nm,0.4s,mb4.1,baz=15,slow=7.2,SNR=18						
STKA	**Stephens Creek**	**27.28**	**181**	P	**P**	**21 19 19.1**	**-1.5**
	0.8nm,0.8s,mb3.3,baz=16,slow=18,SNR=2.0						
NWAO	**Narrogin (SRO)**	**36.68**	**216**	P	**P**	**21 20 43.5**	**+1.1**
	3.8nm,0.7s,mb4.4,baz=61,slow=7.9,SNR=5.9						
MKAR	**Makanchi Array**	**73.30**	**322**	P	**P**	**21 25 06.5**	**+0.6**
	0.5nm,0.3s,mb3.8,baz=101,slow=7.7,SNR=9.9						
MKAR	**Makanchi Array**	**73.30**	**322**	P	**P**	**21 25 06.5**	**+0.6**
MAW	**Mawson**	**81.83**	**202**	P	**P**	**21 25 53.5**	**+0.9**
	3.1nm,1.2s,mb4.0,baz=139,slow=5.1,SNR=3.0						
BVAR	**Borovoye Array**	**82.73**	**325**	P	**P**	**21 25 57.9**	**+0.3**
	1.5nm,0.5s,mb4.1,baz=107,slow=6.5,SNR=9.2						
ILAR	**Eielson Array**	**86.00**	**24**	P	**P**	**21 26 11.2**	**-2.3**
	2.5nm,0.6s,mb4.3,baz=256,slow=5.1,SNR=18						

CASC 13 21:24:46.1±1.4**, 12.77N×88.32W, h57^{km}**±34^{km}**, MD3.7, 4C-3D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VSM	**San Miguel**	**0.66**	**4**	⇑*e*P	P	21 25 00.3	+0.6
VSM				*e*S	S	21 25 11.1	+1.3
BLLM	**Bellamira**	**0.68**	**7**	*e*P	P	21 25 00.4	+0.5
BLLM				*e*S	S	21 25 10.8	+0.6
CNCH	**Conchagua**	**0.69**	**43**	⇑*e*P	P	21 25 00.4	+0.3
CNCH				*e*S	S	21 25 11.6	+1.0
SNVI	**San Vicente**	**0.98**	**329**	*e*P	P	21 25 04.2	+0.2
SNVI				*e*S	S	21 25 17.3	0.0
CAHU	**Cacacuatique**	**1.00**	**6**	*e*P	P	21 25 04.4	+0.2
LCBS	**La Ceiba**	**1.09**	**324**	⇓*e*P	P	21 25 05.5	0.0
LCBS				*e*S	S	21 25 17.2	-2.7
LFRS	**El Faro**	**1.12**	**320**	*e*P	P	21 25 05.6	-0.3
LFRS				*e*S	S	21 25 21.1	+0.5
LBRS	**Las Brisas**	**1.20**	**324**	⇑*e*P	P	21 25 07.2	+0.3
LBRS				*e*S	S	21 25 21.7	-0.7
CRIN	**San Cristobal**	**1.24**	**93**	*e*P	P	21 25 07.8	+0.3
CRIN				*e*S	S	21 25 24.1	+0.7
LFU	**La Fuente**	**1.25**	**322**	⇓*e*P	P	21 25 07.8	+0.1
LFU				*e*S	S	21 25 24.7	+1.0
BOQS	**Boqueron**	**1.34**	**316**	*e*P	P	21 25 09.1	-0.1
BOQS				*e*S	S	21 25 26.3	+0.1
LEON	**Leon**	**1.43**	**104**	*e*P	P	21 25 08.8	-1.5
MIRN	**Miramar**	**1.60**	**102**	*e*P	P	21 25 11.9	-0.7
CNGN	**Cerro Negro**	**1.60**	**99**	*e*P	P	21 25 12.0	-0.7
SBLS	**San Blas**	**1.66**	**310**	⇑*e*P	P	21 25 13.6	+0.2
SBLS				*e*S	S	21 25 35.4	+1.7
SNJE	**San Jose**	**1.67**	**311**	*e*P	P	21 25 13.9	+0.4
SNJE				*e*S	S	21 25 35.1	+1.2
RTR	**El Retiro**	**1.71**	**311**	*e*P	P	21 25 14.2	0.0
RTR				*e*S	S	21 25 35.8	+0.8
MOMJ	**Momotombo**	**1.77**	**101**	*e*P	P	21 25 14.2	-0.8
COPN	**Copaltepe**	**1.78**	**109**	*e*P	P	21 25 14.3	-0.9
MTO2	**Montecristo 2**	**1.92**	**328**	*e*P	P	21 25 16.3	-0.7
CUSS	**Cusmapa**	**1.95**	**306**	⇓*i*P	P	21 25 17.4	-0.1
APYN	**Apoyeque**	**1.99**	**105**	*e*P	P	21 25 17.4	-0.6
TICN	**Ticuantepe**	**2.16**	**109**	*e*P	P	21 25 19.8	-0.7

IDC 13 21:26:11.3±8.1**, 7.89S×129.71E, h82^{km}**±63^{km}**, mb3.4**/1**, mb1 3.4**/4**, mb1mx3.2**/12**, ML3.1**/3**, Error ellipse: s-maj=61.5km s-min=52.5km az=179.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.90**	**201**	P	P	21 28 44.3	-1.9
	0.1nm,0.3s,baz=12,slow=13,SNR=7.7						
FITZ				S	S	21 30 45.5	-1.4
	0.2nm,0.3s,baz=2.4,slow=15,SNR=4.6						
WRA	**Warramunga Arr**	**12.80**	**160**	P	P	21 29 09.1	-2.4
	0.1nm,0.3s,baz=339,slow=13,SNR=5.2						
WRA				S	S	21 31 31.1	-1.3
	0.2nm,0.3s,baz=340,slow=21,SNR=4.1						
ASAR	**Alice Springs**	**16.20**	**166**	P	P	21 29 55.9	+0.6
	0.1nm,0.3s,baz=341,slow=9.7,SNR=4.0						
ASAR				S	S	21 32 54.5	+2.5
	0.1nm,0.3s,baz=340,slow=24,SNR=2.8						
STKA	**Stephens Creek**	**26.31**	**157**	P	P	21 31 39.3	-2.0
	1.0nm,0.8s,baz=344,slow=19,SNR=2.5						

TRN 13 21:27:22.8, 11.17N×60.07W, h97^{km}, MD3.6, Md4.6(FDF)**, 3C-1D, Windward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BOT	**Bacolet**	**0.63**	**269**	*e*P	P	21 27 41.2	+1.6
BOT				*e*S	S	21 27 52.4	+0.4
TPR	**Prospect**	**0.69**	**271**	*e*P	P	21 27 42.4	+2.3
TPR				*e*S	S	21 27 53.9	+0.9
TRN	**Trinidad (W)**	**1.41**	**248**	*e*P	P	21 27 49.8	+1.6
TRN				*e*S	S	21 28 07.1	+0.1
TPP	**Pointe-a-Pierr**	**1.60**	**238**	*e*P	P	21 27 51.1	+0.5
GRW	**Mount Saint Ca**	**1.84**	**302**	*e*P	P	21 27 58.2	+4.5
GRW				*e*S	S	21 28 18.1	+1.7
SVB	**Belmont**	**2.38**	**331**	*e*P	P	21 28 15.9	+15
SVB				*e*S	S	21 28 52.4	+23
SVV	**Soufriere Volc**	**2.41**	**332**	⇓*i*P	P	21 28 16.3	+15
SVV				*e*S	S	21 28 51.4	+21
MCLT	**Moule a Chique**	**2.66**	**342**	*e*S	S	21 28 43.3	+7.0
SLPE	**Piton Saint Es**	**2.80**	**341**	*e*S	S	21 28 45.2	+5.4
MVM	**Montagne Vaucl**	**3.46**	**347**	*e*P	P	21 28 15.3	-0.5
BIM	**Bigot**	**3.46**	**344**	⇑*e*P	P	21 28 15.9	+0.1
CRM	**Caravelle**	**3.65**	**347**	⇑*e*P	P	21 28 18.1	-0.4
FDF	**Fort de France**	**3.69**	**344**	⇑*e*P	P	21 28 19.6	+0.6
FDF				*e*S	S	21 29 06.3	+4.7
MGG	**Marie-Galante**	**4.87**	**346**	*e*P	P	21 28 34.9	-0.3
DEG	**La Desirade**	**5.20**	**349**	*e*P	P	21 28 38.2	-1.4
DEG				*e*S	S	21 29 36.2	-2.6
SEG	**Port Louis**	**5.38**	**345**	*e*P	P	21 28 42.4	+0.3

DJA 13 21:54:23.9±0.9**, 9.63S×115.63E, h74^{km}**±14^{km}**, ML4.2**/2**, 3C-5D, Error ellipse: s-maj=34.9km s-min=12.3km az=178.0, South of Bali**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RATI	**Rata**	**0.91**	**354**	⇓*e*Pg	P	21 54 41.0	-0.7
	485nm,0.2s						
RATI				⇓*e*Sg	S	21 54 53.3	-1.7
INGI	**Ingas**	**0.94**	**329**	⇑*e*Pg	P	21 54 41.7	-0.4
	301nm,0.2s						
INGI				⇓*e*Sg	S	21 54 54.1	-1.6
KEDI	**Kedomdong**	**1.23**	**23**	⇑*e*Pg	P	21 54 45.4	-0.5
KEDI				⇑*e*Sg	S	21 55 00.5	-1.8
KELI	**Kelakatan**	**1.80**	**321**	⇓*e*Pg	P	21 54 52.4	-1.1
KELI				⇓*e*Sg	S	21 55 14.7	-0.6

*NEIC **13** 22:29:30.6±0.2, 22.67S×175.20W, h10^{km}, mb5.2/51, MS5.4/125, Error ellipse: s-maj=9.3km s-min=4.8km az=148.0*

*HRVD **13** 22:29:30.6±0.2, 22.90S×174.54W, h12^{km}, MW5.5/72, Centroid moment Tensor Solution. LP body waves: s58,c106;Mantle waves: s72,c139; Half duration: 1^{s}5 Moment tensor: Scale 10^{17}Nm; M_{rr}1.55±.03; $M_{\theta\theta}$-0.11±.03; $M_{\phi\phi}$-1.44±.03; $M_{r\theta}$0.90±.10; $M_{\theta\phi}$-0.88±.03; $M_{\phi r}$1.67±.09; Best double couple: $M_0$2.55×10^{17} NP1: ϕ_s204°, δ21°, λ87°. NP2: ϕ_s28°, δ69°, λ91°. Principal axes: T 2.39, Plg66°, Azm300°; N .33, Plg1°, Azm207°; P -2.72, Plg24°, Azm117°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*SYO **13** 22:29:30.3, 22.72S×175.22W, h10^{km}, MB5.2, MS5.4*

*BJI **13** 22:29:32.6, 22.53S×175.10W, h28^{km}, mB5.5, mb5.4, Ms5.4, Msz5.2*

*MOS **13** 22:29:32.7±1.4, 22.74S×175.18W, h33^{km}, mb5.4/23, MS5.4/39, Error ellipse: s-maj=16.0km s-min=10.4km az=67.6*

*IDC **13** 22:29:34.9±3.3, 22.72S×175.32W, h40^{km}±28^{km}, mb4.8/17, mb1 4.9/19, mb1mx4.9/19, ML4.7/2, MS5.2/12, Ms1 5.2/12, ms1mx5.1/17, Error ellipse: s-maj=28.4km s-min=13.0km az=146.0*

ISC 13 22:29:32.6±0.2**, 22.82S**±0.06×**175.15W**±0.05**, h34^{km}, h34^{km}**±1.8^{km}**:pP-P, n395, σ1^{s}09**/191**, mb5.2**/79**, MS5.3**/150**, 34C-18D, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**8.15**	**307**	Pn	**P**	**22 31 35.8**	**+4.4**
	2μm,0.8s,SNR=94						
RAR	**Rarotonga**	**14.35**	**87**	Pn	**P**	**22 32 44.2**	**-11**
	13nm,0.3s,baz=251,slow=5.8,SNR=55						
RAR				Sn	S	22 35 05.8	-29
	2.4nm,0.3s,baz=194,slow=22,SNR=3.5						
RAR				LR	LR	22 37 28.4	
	comp=Z,10μm,19.6s,baz=277,slow=33						
RAR				T		22 47 47.6	
	9.4nm,0.3s,baz=225,slow=21,SNR=5.9						
RAR	**Rarotonga**	**14.35**	**87**	*e*P	**P**	**22 32 44.4**	**-11**
BKM	**Butte a Klehm**	**16.40**	**285**	⇑*i*P	**P**	**22 33 28.9**	**+7.0**
URZ	**Urewera**	**16.76**	**202**	Pn	**P**	**22 33 21.2**	**-5.1**
	0.8nm,0.3s,baz=202,slow=11,SNR=4.8						
URZ				Sn	**S**	**22 36 18.2**	**-12**
	4.0nm,0.3s,baz=109,slow=23,SNR=8.4						
DZM	**Mont Dzumac**	**17.04**	**269**	*e*P	**P**	**22 33 34.8**	**+4.9**
DZM	**Mont Dzumac**	**17.04**	**269**	*e*P	**P**	**22 33 34.8**	**+4.9**
NOUC	**Port Laguerre**	**17.16**	**269**	*e*P	**P**	**22 33 37.1**	**+5.6**
SNZO	**South Karori**	**20.31**	**202**	PFAKE		22 34 20.0	+12
SNZO				LR	LR		
	comp=Z,13μm,20.0s,MS5.3						
RPZ	**Rata Peaks**	**23.76**	**205**	P	**P**	**22 34 42.1**	**-0.6**
	comp=Z,16nm,0.6s,mb4.6,baz=161,slow=0.3,SNR=14						
PPT	**Papeete**	**24.55**	**82**	P	**P**	**22 34 49.3**	**-1.4**
	comp=Z,31nm,0.6s,mb5.0,baz=232,slow=17,SNR=2.8						
PPT	**Papeete**	**24.55**	**82**	*e*P	**P**	**22 34 48.6**	**-2.1**
	comp=Z,64nm,1.1s,mb5.1						
TIAR	**Tiarei**	**24.76**	**83**	*e*P	**P**	**22 34 50.7**	**-2.0**
	comp=Z,157nm,1.0s,mb5.5						
TVO	**Taravao**	**24.78**	**83**	*e*P	**P**	**22 34 50.6**	**-2.4**
	comp=Z,280nm,1.2s,mb5.7						
ARMA	**Armidale**	**30.57**	**249**	*e*P	**P**	**22 35 45.9**	**+0.4**
CNB	**Canberra Magne**	**33.25**	**240**	*e*P	**P**	**22 36 10.5**	**+1.6**
	comp=Z,36nm,1.6s,mb5.0						
CTA	**Charters Tower**	**35.96**	**267**	*e*P	**P**	**22 36 31.6**	**-0.7**
	comp=Z,20nm,0.4s,mb5.4						
CTA	**Charters Tower**	**35.96**	**267**	LR	LR	22 47 31.8	
	comp=Z,1μm,21.4s,MS4.7,baz=100,slow=30						
CTAO	**Charters Tower**	**35.96**	**267**	*e*P	**P**	**22 36 31.3**	**-1.0**
CTAO				pmax	pmax		
	comp=Z,38nm,0.7s,mb5.4						
CTAO				MLR	MLR		
	comp=Z,2μm,19.0s,MS5.0						
CTAO	**Charters Tower**	**35.96**	**267**	*e*P	**P**	**22 36 31.3**	**-1.0**
	comp=Z,38nm,0.7s,mb5.4						
CTAO				LR	LR		
	comp=Z,2μm,19.0s,MS5.0						
TOO	**Toolangi**	**36.78**	**237**	*e*P	**P**	**22 36 39.1**	**+0.1**
	comp=Z,6.0nm,0.7s,mb4.5						
TAU	**Tasmania Unive**	**36.95**	**228**	PFAKE		22 36 50.0	+10
TAU				LR	LR		
	comp=Z,770nm,19.0s,MS4.5						
PMG	**Port Moresby**	**38.46**	**284**	*e*P	**P**	**22 36 50.9**	**-2.4**
PMG				pmax	pmax		
	comp=Z,160nm,1.4s						
PMG				MLR	MLR		
	comp=Z,5μm,19.0s						
PMG	**Port Moresby**	**38.46**	**284**	*e*P	**P**	**22 36 50.9**	**-2.4**
	comp=Z,156nm,1.4s,mb5.5						
PMG				LR	LR		
	comp=Z,5μm,19.0s,MS5.4						
STKA	**Stephens Creek**	**39.26**	**247**	*e*P	**P**	**22 36 59.1**	**-0.6**
	comp=Z,7.1nm,0.4s,mb4.8						
STKA	**Stephens Creek**	**39.26**	**247**	P	**P**	**22 36 59.0**	**-0.7**
	comp=Z,8.2nm,0.5s,mb4.8,baz=87,slow=8.6,SNR=32						
STKA				LR	LR	22 52 35.9	
	comp=Z,5μm,18.2s,MS5.4,baz=344,slow=35						
ASAR	**Alice Springs**	**46.62**	**258**	P	**P**	**22 37 58.4**	**-1.3**
	comp=Z,34nm,0.7s,mb5.4,baz=103,slow=6.8,SNR=257						
ASAR				S	**S**	**22 44 45.8**	**+0.2**
	comp=Z,1.3nm,1.0s,baz=93,slow=15,SNR=4.3						
ASAR				LR	LR	22 57 42.9	
	comp=Z,5μm,18.1s,MS5.5,baz=100,slow=36						
ASPA	**Alice Springs**	**46.62**	**258**	*e*P	**P**	**22 37 58.4**	**-1.3**
ASPA				*e*S	**S**	**22 44 44.3**	**-1.3**
WB2	**Warramunga Arr**	**46.93**	**264**	*e*P	**P**	**22 38 00.2**	**-2.0**
WB2				*e*S	**S**	**22 44 46.9**	**-3.2**
WRAB	**Tennant Creek**	**46.94**	**264**	*e*P	**P**	**22 37 59.9**	**-2.4**
	comp=Z,92nm,1.1s,mb5.6						
WRAB				LR	LR		
	comp=Z,1μm,19.0s,MS4.9						
WRA	**Warramunga Arr**	**46.95**	**264**	P	**P**	**22 38 00.4**	**-1.9**
	comp=Z,24nm,0.6s,mb5.3,baz=102,slow=7.8,SNR=87						
WRA				S	**S**	**22 44 47.3**	**-3.0**
	comp=Z,4.1nm,1.2s,baz=102,slow=15,SNR=4.6						
KAKA	**Kakadu**	**50.73**	**272**	*e*P	**P**	**22 38 30.6**	**-1.1**
	comp=Z,15nm,0.6s,mb5.1						
MIDW	**Midway**	**50.78**	**357**	PFAKE		22 38 40.0	+8.1
MIDW				LR	LR		
	comp=Z,3μm,20.0s,MS5.2						
FORT	**Forrest**	**50.86**	**248**	⇓*i*P	**P**	**22 38 30.5**	**-1.9**
	comp=Z,246nm,0.6s						
DRV	**Dumont d'Urvil**	**52.10**	**201**	S	**S**	**22 46 10.0**	**+8.5**
DRV				L		22 51 00.0	
DRV				R		22 54 00.0	
GUMO	**Guam**	**53.32**	**309**	PFAKE		22 39 00.0	+9.0
GUMO				LR	LR		
	comp=Z,1μm,22.0s,MS5.0						
FITZ	**Fitzroy Crossi**	**55.37**	**263**	*e*P	**P**	**22 39 04.6**	**-1.4**
	comp=Z,22nm,0.6s,mb5.3						
FITZ	**Fitzroy Crossi**	**55.37**	**263**	LR	LR	23 03 10.5	
	comp=Z,2μm,18.8s,MS5.2,baz=91,slow=36						
SBA	**Scott Base**	**55.76**	**185**	*e*P	**P**	**22 39 08.9**	**+0.8**
SBA				pmax	pmax		
	comp=Z,21nm,0.9s,mb5.2						
SBA				MLR	MLR		
	comp=Z,2μm,20.0s,MS5.3						
SBA	**Scott Base**	**55.76**	**185**	*e*P	**P**	**22 39 08.9**	**+0.9**
	comp=Z,21nm,0.9s,mb5.2						
SBA				LR	LR		
	comp=Z,2μm,20.0s,MS5.3						
NWAO	**Narrogin (SRO)**	**59.73**	**244**	LR	LR	23 05 19.5	
	comp=Z,3μm,18.3s,MS5.4,baz=216,slow=36						
NWAO	**Narrogin (SRO)**	**59.73**	**244**	PFAKE		22 39 50.0	+13
NWAO				LR	LR		
	comp=Z,2μm,19.0s,MS5.3						
MBWA	**Marble Bar**	**59.95**	**258**	*e*P	**P**	**22 39 35.9**	**-2.3**
	comp=Z,18nm,0.8s,mb5.2						
MBWA				LR	LR		
	comp=Z,3μm,20.0s,MS5.4						
MUN	**Mundaring**	**60.74**	**245**	*e*P	**P**	**22 39 42.5**	**-1.0**
	comp=Z,15nm,0.7s,mb5.2						
CASY	**Casey**	**63.03**	**206**	*e*P	**P**	**22 39 58.7**	**+0.3**
CBIJ	**Chichi jima**	**64.53**	**318**	P	**P**	**22 40 06.7**	**-2.0**
	comp=Z,34nm,0.5s,mb5.6,baz=112,slow=18,SNR=3.3						
QSPA	**South Pole Qui**	**67.26**	**180**	*e*P	**P**	**22 40 26.4**	**+1.1**
	comp=Z,33nm,1.0s,mb5.3						
QSPA				LR	LR		
	comp=Z,2μm,19.3s,MS5.2						
MIR	**Mirnyy**	**70.03**	**205**	⇑*e*P	**P**	**22 40 43.5**	**+0.9**
MIR				*e*S	S	22 49 56.0	+6.5
MIR				pmax	pmax		
	comp=Z,60nm,1.8s,mb5.2						
MIR				MLR	MLR		
	comp=Z,2μm,16.0s,MS5.5						
MAJO	**Matsushiro**	**73.65**	**322**	*e*P	**P**	**22 41 02.2**	**-2.6**
MAJO				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.9						
MAJO				MLR	MLR		
	comp=Z,940nm,19.0s,MS5.1						
MAJO	**Matsushiro**	**73.65**	**322**	*e*P	**P**	**22 41 02.1**	**-2.6**
	comp=Z,15nm,0.8s,mb5.0						
MAJO				LR	LR		
	comp=Z,941nm,19.0s,MS5.1						
MAT	**Matsushiro**	**73.65**	**322**	P	**P**	**22 41 03.8**	**-1.0**
MAT				S	S	22 50 35.0	+3.4
MAT	**Matsushiro**	**73.65**	**322**	P	**P**	**22 41 04.0**	**-0.8**
	comp=Z,14nm,0.9s,mb4.9						
MAT				*e*S	S	22 50 35.0	+3.4
MAT				LR	LR		
	comp=Z,1μm,19.0s,MS5.1						
SMY	**Shemya**	**75.81**	**353**	PFAKE		22 41 30.0	+13
SMY				LR	LR		
	comp=Z,4μm,20.0s,MS5.7						
UNV	**Unalaska Valle**	**76.71**	**5**	*e*P	**P**	**22 41 20.8**	**-1.2**
	comp=Z,235nm,1.7s,mb5.8						
UNV				LR	LR		
	comp=Z,4μm,22.0s,MS5.6						
TATO	**Taipei**	**77.67**	**304**	PFAKE		22 41 40.0	+12
TATO				LR	LR		
	comp=Z,2μm,20.0s,MS5.5						
SAO	**San Andreas Ge**	**77.95**	**41**	PFAKE		22 41 40.0	+11
SAO				LR	LR		
	comp=Z,2μm,19.0s,MS5.5						
HOPS	**Hopland**	**78.45**	**39**	PFAKE		22 41 40.0	+8.1
HOPS				LR	LR		
	comp=Z,3μm,19.0s,MS5.6						
PET	**Petropavlovsk**	**78.89**	**344**	*c i*P	**P**	**22 41 33.5**	**-0.5**
PET				*e*S	S	22 51 33.0	+4.5
PET				*e*		22 52 05.6	
PET				*e*SPP	SPP	22 52 33.0	+3.1
PET				pmax	pmax		
	comp=Z,400nm,12.3s						
PET				pmax	pmax		
	comp=E,100nm,12.0s						
PET				pmax	pmax		
	comp=N,100nm,12.1s						
PET				pmax	pmax		
	comp=Z,200nm,12.8s						
PET				smax			
	comp=E,600nm,14.8s						
PET				smax			
	comp=N,800nm,14.4s						
PET				MLR	MLR		
	comp=Z,2μm,20.0s,MS5.3						
PET				MLR	MLR		
	comp=N,600nm,18.0s,MS5.3						
PET				MLR	MLR		
	comp=E,1μm,18.0s,MS5.3						
PET				MLR	MLR		

	comp=Z,2µm,18.0s						
PET	**Petropavlovsk**	**78.89**	**344**	PFAKE		22 41 40.0	+6.0
PET				LR	LR		
	comp=Z,2µm,19.0s,MS5.4						
YSS	**Yuzh-Sakhalins**	**79.16**	**332**	α*i*P	**P**	**22 41 36.0**	**+0.4**
YSS				*e*		22 44 32.0	
YSS				*e*S	S	22 51 37.0	+5.5
YSS				*e*PS	PS	22 52 08.0	-12
YSS				pmax	pmax		
	comp=Z,1µm,8.0s						
YSS				pmax	pmax		
	comp=Z,70nm,1.0s,mb5.5						
YSS				smax			
	comp=N,1µm,12.0s						
YSS				smax			
	comp=E,500nm,12.0s						
YSS				MLR	MLR		
	comp=E,1µm,16.0s						
YSS				MLR	MLR		
	comp=Z,1µm,16.0s,MS5.2						
YSS	**Yuzh-Sakhalins**	**79.16**	**332**	*e*P	**P**	**22 41 35.3**	**-0.4**
	comp=Z,82nm,1.0s,mb5.6						
YSS				LR	LR		
	comp=Z,783nm,20.0s,MS5.0						
PFO	**Pinyon Flat Ob**	**79.18**	**47**	PFAKE		22 41 50.0	+14
PFO				LR	LR		
	comp=Z,461nm,20.0s,MS4.8						
CMB	**Columbia Colle**	**79.41**	**41**	*e*P	**P**	**22 41 36.8**	**-0.4**
CMB				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.7						
CMB				MLR	MLR		
	comp=Z,2µm,19.0s,MS5.5						
CMB	**Columbia Colle**	**79.41**	**41**	*e*P	**P**	**22 41 36.8**	**-0.4**
	comp=Z,11nm,0.9s,mb4.8						
CMB				LR	LR		
	comp=Z,2µm,19.0s,MS5.5						
OHCM	**Honcut**	**79.60**	**39**	*e*P	**P**	**22 41 39.0**	**+0.8**
WDC	**Whiskeytown Da**	**79.81**	**38**	*e*P	**P**	**22 41 38.2**	**-1.1**
WDC				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.8						
WDC				MLR	MLR		
	comp=Z,2µm,20.0s,MS5.5						
WDC	**Whiskeytown Da**	**79.81**	**38**	*e*P	**P**	**22 41 38.2**	**-1.1**
	comp=Z,15nm,1.1s,mb4.8						
WDC				LR	LR		
	comp=Z,2µm,20.0s,MS5.5						
OMM	**Old Mammoth Mi**	**80.00**	**42**	*e*P	**P**	**22 41 40.5**	**+0.1**
DAC	**Darwin (Calif)**	**80.05**	**44**	PFAKE		22 41 50.0	+9.4
DAC				LR	LR		
	comp=Z,2µm,21.0s,MS5.4						
MTUM	**Tungsten Hills**	**80.10**	**42**	*e*P	**P**	**22 41 40.8**	**-0.1**
MAW	**Mawson**	**80.27**	**199**	*e*S	S	22 51 46.2	+3.5
MAW	**Mawson**	**80.27**	**199**	P	**P**	**22 41 42.2**	**+1.0**
	comp=Z,23nm,1.0s,mb5.0,baz=135,slow=6.8,SNR=32						
MAW				LR	LR	23 19 04.3	
	comp=Z,2µm,18.2s,MS5.5,baz=116,slow=37						
MAW	**Mawson**	**80.27**	**199**	*e*P	**P**	**22 41 42.7**	**+1.5**
	comp=Z,12nm,0.8s,mb4.9						
MAW				*e*S	S	22 51 46.2	+3.5
YBH	**Yreka Blue Hor**	**80.49**	**37**	P	**P**	**22 41 43.6**	**+0.7**
	comp=Z,5.7nm,0.9s,mb4.5,baz=48,slow=7.7,SNR=6.2						
YBH	**Yreka Blue Hor**	**80.49**	**37**	*e*P	**P**	**22 41 42.5**	**-0.3**
YBH				pmax	pmax		
	comp=Z,11nm,1.0s						
YBH				MLR	MLR		
	comp=Z,2µm,19.0s						
YBH	**Yreka Blue Hor**	**80.49**	**37**	*e*P	**P**	**22 41 42.5**	**-0.4**
	comp=Z,11nm,1.0s,mb4.8						
YBH				LR	LR		
	comp=Z,2µm,19.0s,MS5.4						
BEKR	**Beckwourth**	**80.61**	**40**	*e*P	**P**	**22 41 43.4**	**-0.1**
	comp=Z,28nm,1.6s,mb4.9						
HUMO	**Hull Mountain**	**80.94**	**36**	*e*P	**P**	**22 41 44.8**	**-0.5**
	comp=Z,30nm,1.4s,mb5.0						
HUMO				LR	LR		
	comp=Z,2µm,20.0s,MS5.4						
MNV	**Mina**	**81.02**	**42**	*e*P	**P**	**22 41 45.2**	**-0.6**
MNV				pmax	pmax		
	comp=Z,34nm,1.3s,mb5.1						
MNV				MLR	MLR		
	comp=Z,2µm,20.0s,MS5.4						
MNV	**Mina**	**81.02**	**42**	*e*P	**P**	**22 41 45.2**	**-0.6**
	comp=Z,34nm,1.4s,mb5.1						
MNV				LR	LR		
	comp=Z,2µm,20.0s,MS5.4						
SSE	**Sheshan**	**81.20**	**309**	*e*P	**P**	**22 41 47.0**	**+0.1**
SSE				AP	pP	22 41 56.5	-0.9
SSE				PP	PP	22 44 55.5	+1.0
SSE				S	S	22 52 02.4	+9.3
SSE				AMB	AMB		
	comp=Z,38nm,0.6s,mb5.5						
SSE				AMB	AMB		
	comp=Z,360nm,5.0s						
SSE				LR	LR		
	comp=N,420nm,20.3s,MS5.0						
SSE				LR	LR		
	comp=E,558nm,20.5s,MS5.0						
SSE				LR	LR		
	comp=Z,817nm,18.7s,MS5.1						
SSE	**Sheshan**	**81.20**	**309**	*e*P	**P**	**22 41 47.0**	**+0.1**
	comp=Z,38nm,0.6s,mb5.5						
SSE				pP	pP	22 41 56.5	-0.9
SSE				PP	PP	22 44 55.5	+1.0
SSE				S	S	22 52 02.4	+9.3
SSE				sS		22 52 17.5	
SSE				LR	LR		
	comp=Z,820nm,18.7s,MS5.1						
INCN	**Inchon**	**81.21**	**317**	PFAKE		22 42 00.0	+13
INCN				LR	LR		
	comp=Z,859nm,19.0s,MS5.1						
TPNV	**Topopah Spring**	**81.31**	**44**	*e*P	**P**	**22 41 47.5**	**+0.2**
TPNV				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.8						
TPNV				MLR	MLR		
	comp=Z,2µm,20.0s,MS5.5						
TPNV	**Topopah Spring**	**81.31**	**44**	*e*P	**P**	**22 41 47.5**	**+0.1**
	comp=Z,14nm,1.0s,mb4.9						
TPNV				LR	LR		
	comp=Z,2µm,20.0s,MS5.5						
TPH	**Tonopah**	**81.38**	**43**	*e*P	**P**	**22 41 47.7**	**+0.1**
TPH				pmax	pmax		
	comp=Z,20nm,1.2s,mb4.9						
TPH				MLR	MLR		
	comp=Z,2µm,19.0s,MS5.4						
TPH	**Tonopah**	**81.38**	**43**	*e*P	**P**	**22 41 47.7**	**+0.1**
	comp=Z,20nm,1.3s,mb4.9						
TPH				LR	LR		
	comp=Z,2µm,19.0s,MS5.4						
NEN	**Nelson**	**81.46**	**46**	*e*P	**P**	**22 41 47.8**	**-0.3**
VLA	**Vladivostok**	**81.70**	**324**	⇓*i*P	**P**	**22 41 48.0**	**-1.2**
VLA				*e*	pP	22 42 00.0	+0.2
VLA				*i* S	S	22 52 07.0	+9.0
VLA				*e*PS	PS	22 53 07.0	+16
VLA				pmax	pmax		
	comp=N,500nm,9.0s						
VLA				pmax	pmax		
	comp=Z,1µm,9.0s						
VLA				pmax	pmax		
	comp=E,500nm,10.0s						
VLA				pmax	pmax		
	comp=Z,400nm,10.0s						
VLA				smax			
	comp=N,1µm,9.0s						
VLA				smax			
	comp=E,500nm,10.0s						
MOD	**Modoc**	**81.95**	**38**	PFAKE		22 42 00.0	+9.5
MOD				LR	LR		
	comp=Z,2µm,20.0s,MS5.5						
COR	**Corvallis**	**82.09**	**35**	PFAKE		22 42 00.0	+8.8
COR				LR	LR		
	comp=Z,3µm,19.0s,MS5.7						
TUC	**Tucson**	**82.36**	**50**	*e*P	**P**	**22 41 52.7**	**-0.1**
TUC				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
TUC				MLR	MLR		
	comp=Z,3µm,19.0s,MS5.6						
TUC	**Tucson**	**82.36**	**50**	*e*P	**P**	**22 41 52.7**	**-0.1**
	comp=Z,9.6nm,1.0s,mb4.7						
TUC				LR	LR		
	comp=Z,3µm,19.0s,MS5.6						
KDAK	**Kodiak Island**	**82.48**	**12**	PFAKE		22 42 00.0	+7.1
KDAK				LR	LR		
	comp=Z,466nm,20.0s,MS4.8						
BMN	**Battle Mountai**	**82.83**	**41**	*e*P	**P**	**22 41 55.5**	**+0.5**
BMN				MLR	MLR		
	comp=Z,2µm,19.0s,MS5.5						
GZH	**Guangzhou**	**83.16**	**298**	P	**P**	**22 41 53.3**	**-3.7**
GZH				LR	LR		
	comp=N,455nm,21.1s,MS5.0						
GZH				LR	LR		
	comp=E,505nm,19.0s,MS5.0						
GZH				LR	LR		
	comp=Z,1µm,18.0s,MS5.3						
WVOR	**Wild Horse Val**	**83.24**	**38**	*e*P	**P**	**22 41 56.8**	**-0.3**
WVOR				pmax	pmax		
	comp=Z,16nm,1.0s,mb5.0						
WVOR				MLR	MLR		
	comp=Z,3µm,19.0s,MS5.7						
WVOR	**Wild Horse Val**	**83.24**	**38**	*e*P	**P**	**22 41 56.8**	**-0.3**
	comp=Z,16nm,1.1s,mb5.0						
WVOR				LR	LR		
	comp=Z,3µm,19.0s,MS5.7						
NJ2	**Nanjing**	**83.39**	**309**	*e*P	**P**	**22 41 59.8**	**+1.7**
NJ2				AP	pP	22 42 10.0	+1.3
NJ2				XP	sP	22 42 14.3	+2.0
NJ2				PP	PP	22 45 14.1	+2.1
NJ2				S	S	22 52 22.0	+6.6
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.2						
NJ2				LR	LR		
	comp=N,2µm,21.6s,MS5.5						
NJ2				LR	LR		
	comp=E,1µm,22.5s,MS5.5						
NJ2				LR	LR		
	comp=Z,2µm,15.3s						
ARUT	**Antelope Range**	**83.62**	**45**	*e*P	**P**	**22 41 59.5**	**+0.4**
WUAZ	**Wupatki**	**83.71**	**47**	P	**P**	**22 42 01.9**	**+2.2**
	comp=Z,11nm,0.4s,mb5.3						
OCWA	**Octopus Mounta**	**83.83**	**32**	PFAKE		22 42 10.0	+10
OCWA				LR	LR		
	comp=Z,2µm,19.0s,MS5.5						
MDJ	**Mudanjiang**	**83.94**	**324**	P	**P**	**22 42 01.4**	**+0.8**
MDJ				PP	PP	22 45 15.8	-0.3
MDJ				S	S	22 52 26.8	+6.2
MDJ				XS		22 52 32.8	
MDJ				AMB	AMB		
	comp=Z,39nm,1.7s,mb5.3						
MDJ				AMB	AMB		
	comp=Z,716nm,9.1s						
MDJ				LR	LR		
	comp=N,716nm,19.2s,MS5.2						
MDJ				LR	LR		
	comp=E,741nm,19.2s,MS5.2						
MDJ				LR	LR		
	comp=Z,2µm,20.3s,MS5.4						
MDJ	**Mudanjiang**	**83.94**	**324**	*e*P	**P**	**22 42 01.4**	**+0.8**
	comp=Z,49nm,1.1s,mb5.5						
MDJ				*e*	pP	22 42 12.4	+1.2
MDJ				LR	LR		
	comp=Z,2µm,20.0s,MS5.4						
QIZ	**Qiongzhong**	**84.22**	**293**	P	**P**	**22 42 00.6**	**-2.0**
QIZ				PP	PP	22 45 16.8	-2.1
QIZ				S	S	22 52 23.3	-0.6
QIZ				SS	SS	22 57 52.9	-3.5
QIZ				AMB	AMB		
	comp=Z,431nm,9.7s						
QIZ				LR	LR		
	comp=E,863nm,19.1s						
QIZ				LR	LR		
	comp=Z,1µm,19.7s,MS5.3						
QIZ	**Qiongzhong**	**84.22**	**293**	PFAKE		22 42 10.0	+7.4
QIZ				LR	LR		
	comp=Z,1µm,20.0s,MS5.3						
ELK	**Elko**	**84.22**	**41**	*e*P	**P**	**22 42 01.7**	**-0.4**
ELK				pmax	pmax		
	comp=Z,40nm,1.5s						
ELK				MLR	MLR		
	comp=Z,2µm,19.0s						
ELK	**Elko**	**84.22**	**41**	*e*P	**P**	**22 42 01.7**	**-0.4**
	comp=Z,40nm,1.6s,mb5.3						
ELK				LR	LR		
	comp=Z,2µm,19.0s,MS5.6						
LON	**Longmire**	**84.33**	**34**	*e*P	**P**	**22 42 02.1**	**-0.4**
RMW	**Rattlesnake Mo**	**84.81**	**33**	P	**P**	**22 42 05.3**	**+0.4**
MVU	**Marysvale**	**84.82**	**45**	*e*P	**P**	**22 42 06.1**	**+1.0**
	comp=Z,24nm,1.3s,mb5.2						
MVU				LR	LR		
	comp=Z,1µm,20.0s,MS5.3						
MSU	**Marysvale**	**84.85**	**45**	*e*P	**P**	**22 42 06.0**	**+0.7**
PAYG	**Puerto Ayora**	**85.00**	**89**	PFAKE		22 42 20.0	+13
PAYG				LR	LR		
	comp=Z,894nm,19.0s,MS5.2						
SYO	**Syowa Base**	**85.04**	**192**	⇓P	**P**	**22 42 05.9**	**+0.4**
SYO	**Syowa Base**	**85.04**	**192**	⇓PcP	PcP	22 42 07.6	-1.6
SYO	**Syowa Base**	**85.04**	**192**	⇓pP	pP	22 42 09.3	-6.9
SYO	**Syowa Base**	**85.04**	**192**	⇓sP	sP	22 42 12.9	-6.8
DL2	**Dalian**	**85.23**	**316**	P	**P**	**22 42 08.1**	**+0.9**
DL2				S	S	22 52 32.3	-1.2
DL2				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.2						
DL2				AMB	AMB		
	comp=Z,310nm,8.7s						
DL2				LR	LR		
	comp=N,130nm,13.5s,MS4.8						
DL2				LR	LR		
	comp=E,300nm,16.3s,MS4.8						
HAWA	**Hanford**	**85.28**	**35**	PFAKE		22 42 20.0	+13
HAWA				LR	LR		
	comp=Z,207nm,19.0s,MS4.5						
DUG	**Dugway**	**85.40**	**43**	*e*P	**P**	**22 42 09.0**	**+1.0**
DUG				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.7						
DUG				MLR	MLR		
	comp=Z,1µm,19.0s,MS5.3						
DUG	**Dugway**	**85.40**	**43**	*e*P	**P**	**22 42 09.0**	**+1.0**
	comp=Z,0.6nm,1.3s						
DUG				LR	LR		
	comp=Z,81nm,19.0s						
SLKM	**Skilak Lake**	**85.47**	**12**	*e*P	**P**	**22 42 08.4**	**+0.6**
SNAA	**Sanae**	**85.61**	**178**		**P**	**22 42 11.2**	**+2.9**
SNAA	**Sanae**	**85.61**	**178**	⇑*i*	pP	22 42 18.8	-0.2
SNAA	**Sanae**	**85.61**	**178**	⇑*i*	sP	22 42 22.2	-0.3
SNAA	**Sanae**	**85.61**	**178**	*e*P	**P**	**22 42 08.2**	**-0.1**
SNAA				pmax	pmax		
	comp=Z,29nm,1.0s						
SNAA	**Sanae**	**85.61**	**178**	⇑*i*P	**P**	**22 42 08.8**	**+0.5**
SNAA				P		22 42 11.2	
SNAA				⇑*i*P	pP	22 42 18.8	-0.2
SNAA				⇑*i*P	pP	22 42 22.2	+3.2
RPW	**Rockport**	**85.61**	**33**	*e*P	**P**	**22 42 07.0**	**-1.8**
VNA3	**Neumayer Olymp**	**85.64**	**175**	⇑*i*	**P**	**22 42 12.6**	**+4.1**
VNA3	**Neumayer Olymp**	**85.64**	**175**	⇑*i*	**P**	**22 42 14.8**	**+6.3**
VNA3	**Neumayer Olymp**	**85.64**	**175**	⇑*i*	sP	22 42 22.1	-0.6
VNA3	**Neumayer Olymp**	**85.64**	**175**	⇑*i*P	**P**	**22 42 11.1**	**+2.6**
VNA3				⇑*i*P		22 42 12.6	
VNA3				⇑*i*P		22 42 14.8	
VNA3				⇑*i*P	pP	22 42 22.1	+3.0
NLU	**North Lily Min**	**85.73**	**43**	*e*P	**P**	**22 42 09.9**	**+0.3**
CN2	**Changchun**	**85.75**	**321**	*e*P	**P**	**22 42 10.6**	**+1.0**
CN2				*e*S	S	22 52 39.1	+0.7
CN2				AMB	AMB		
	comp=Z,50nm,1.2s,mb5.6						
CN2				AMB	AMB		
	comp=Z,500nm,10.0s						
CN2				LR	LR		
	comp=N,600nm,18.0s,MS5.2						
CN2				LR	LR		
	comp=E,500nm,18.0s,MS5.2						
CN2				LR	LR		
	comp=Z,700nm,19.0s,MS5.1						
SPU	**Mount Spurr**	**85.76**	**11**	*e*P	**P**	**22 42 08.3**	**-0.9**
KLR	**Kul'dur**	**85.88**	**328**	*e*P	**P**	**22 42 11.2**	**+1.1**
KLR				*e*S	S	22 52 40.5	+1.1
KLR				*e*		23 01 53.0	
KLR				pmax	pmax		
	comp=Z,240nm,3.0s						
KLR				pmax	pmax		
	comp=Z,1µm,11.0s						
KLR				smax			
	comp=N,2µm,12.0s						
KLR				smax			
	comp=E,700nm,12.0s						
WHN	**Wuhan**	**85.95**	**305**	⇓P	**P**	**22 42 12.0**	**+1.1**
WHN				S	S	22 52 41.0	+0.4
WHN				PS	PS	22 53 48.0	+3.7
WHN				LR	LR		
	comp=N,2µm,17.8s,MS5.7						
WHN				LR	LR		
	comp=E,2µm,16.5s,MS5.7						
WHN				LR	LR		
	comp=Z,3µm,18.6s,MS5.7						
NLW	**Nelson Butte**	**85.96**	**33**	*e*P	**P**	**22 42 10.5**	**0.0**
LENM	**Lemitar**	**86.05**	**50**	*e*P	**P**	**22 42 12.1**	**+0.8**
LAZ	**Ladron**	**86.06**	**50**	*e*P	**P**	**22 42 12.1**	**+0.7**
IPM	**Ipoh**	**86.08**	**277**	⇓*e*P	**P**	**22 42 13.0**	**+1.1**
FIB	**Fire Island**	**86.09**	**12**	PFAKE		22 42 20.0	+9.2
FIB				LR	LR		
	comp=Z,1µm,21.0s,MS5.3						
NOQ	**North Oquirrh**	**86.09**	**43**	P	**P**	**22 42 13.2**	**+1.8**
LTX	**Lajitas**	**86.10**	**56**	*e*P	**P**	**22 42 11.5**	**-0.2**
LTX				pmax	pmax		
	comp=Z,28nm,1.2s,mb5.4						
LTX				MLR	MLR		
	comp=Z,2µm,19.0s,MS5.5						
LTX	**Lajitas**	**86.10**	**56**	*e*P	**P**	**22 42 11.5**	**-0.1**
	comp=Z,28nm,1.2s,mb5.4						
LTX				LR	LR		
	comp=Z,2µm,19.0s,MS5.5						
TXAR	**Lajitas Array**	**86.10**	**56**	P	**P**	**22 42 11.3**	**-0.3**
	comp=Z,12nm,1.1s,mb5.0,baz=211,slow=7.3,SNR=30						
TXAR				LR	LR	23 16 41.3	
	comp=Z,1µm,18.1s,MS5.4,baz=260,slow=33						
VNA2	**Neumayer--Watz**	**86.11**	**176**	⇑*i*	**P**	**22 42 15.9**	**+5.1**
VNA2	**Neumayer--Watz**	**86.11**	**176**	⇑*i*	**P**	**22 42 24.6**	**+14**
VNA2	**Neumayer--Watz**	**86.11**	**176**	⇑*i*P	**P**	**22 42 14.8**	**+4.0**
VNA2				⇑*i*P		22 42 15.9	
VNA2				⇑*i*P	pP	22 42 24.6	+3.2
SRU	**San Rafael**	**86.25**	**45**	*e*P	**P**	**22 42 12.1**	**-0.1**
SPUT	**South Promonto**	**86.26**	**42**	*e*P	**P**	**22 42 11.5**	**-0.6**
SIT	**Sitka**	**86.32**	**21**	PFAKE		22 42 20.0	+8.0
SIT				LR	LR		
	comp=Z,1µm,19.0s,MS5.4						
VNA1	**Neumayer--Stat**	**86.33**	**176**	⇑*i*	**P**	**22 42 17.2**	**+5.4**
VNA1	**Neumayer--Stat**	**86.33**	**176**	⇓*i*	pP	22 42 21.7	-0.8
VNA1	**Neumayer--Stat**	**86.33**	**176**		sP	22 42 24.5	-1.5
VNA1	**Neumayer--Stat**	**86.33**	**176**	⇓*i*	Px	22 42 29.4	
VNA1	**Neumayer--Stat**	**86.33**	**176**	⇑*i*P	**P**	**22 42 15.3**	**+3.5**
VNA1				⇑*i*P		22 42 17.2	
VNA1				⇓*i*P		22 42 21.7	
VNA1				P	pP	22 42 24.5	+2.0
VNA1				⇓*i*P		22 42 29.4	
HVU	**Hansel Valley**	**86.33**	**42**	*e*P	**P**	**22 42 11.8**	**-0.7**
HLID	**Hailey**	**86.38**	**39**	*e*P	**P**	**22 42 13.0**	**+0.3**
	comp=Z,3.6nm,0.9s,mb4.6						
HLID				LR	LR		
	comp=Z,1µm,19.0s,MS5.3						
JLU	**Jordanelle**	**86.49**	**43**	*e*P	**P**	**22 42 14.9**	**+1.6**
PMR	**Palmer**	**86.68**	**12**	PFAKE		22 42 20.0	+6.3
PMR				LR	LR		
	comp=Z,1µm,19.0s,MS5.3						
MA2	**Magadan**	**86.73**	**343**	*e*P	**P**	**22 42 15.0**	**+1.0**
MA2				*e*S	S	22 52 47.9	+0.5
MA2				*e*PS	PS	22 53 56.9	+3.8
MA2				pmax	pmax		
	comp=Z,50nm,2.7s,mb5.3						
MA2				MLR	MLR		
	comp=Z,3µm,18.0s,MS5.7						
MA2	**Magadan**	**86.73**	**343**	*i* P	**P**	**22 42 15.1**	**+1.1**
MA2				LR	LR		
	comp=Z,648nm,22.0s,MS5.0						
TIA	**Tai'an**	**86.79**	**311**	*e*P	**P**	**22 42 15.6**	**+0.7**
TIA				AMB	AMB		
	comp=Z,19nm,1.2s,mb5.2						
TTA	**Tatalina**	**86.80**	**9**	*e*P	**P**	**22 42 15.0**	**+0.8**
	comp=Z,6.3nm,0.6s,mb5.0						
TCUT	**Toone Canyon**	**86.80**	**43**	*e*P	**P**	**22 42 14.4**	**-0.4**
ANMO	**Albuquerque**	**86.81**	**50**	*e*P	**P**	**22 42 15.1**	**+0.1**
ANMO				pmax	pmax		
	comp=Z,15nm,1.1s						
ANMO				MLR	MLR		
	comp=Z,3µm,19.0s						
ANMO	**Albuquerque**	**86.81**	**50**	*e*P	**P**	**22 42 15.1**	**0.0**
	comp=Z,15nm,1.1s,mb5.1						
ANMO				LR	LR		
	comp=Z,3µm,19.0s,MS5.7						
PV10	**Paradox Valley**	**86.83**	**46**	P	**P**	**22 42 15.8**	**+0.7**
DPW	**Davenport**	**86.92**	**34**	*e*P	**P**	**22 42 15.3**	**+0.1**
DIV	**Divide**	**86.96**	**14**	*e*P	**P**	**22 42 14.5**	**-0.6**
	comp=Z,54nm,1.0s,mb5.7						
DIV				LR	LR		
	comp=Z,3µm,19.0s,MS5.8						
GDL2	**Guadalupe Moun**	**86.96**	**53**	*e*P	**P**	**22 42 16.1**	**+0.3**
HWUT	**Hardware Ranch**	**86.98**	**42**	*e*P	**P**	**22 42 14.7**	**-0.9**
	comp=Z,2.9nm,1.0s,mb4.5						
HWUT				LR	LR		
	comp=Z,2µm,19.0s,MS5.6						
EFI	**East Falkland**	**87.70**	**146**	PFAKE		22 42 30.0	+11
EFI				LR	LR		
	comp=Z,406nm,19.0s,MS4.9						
NEW	**Newport**	**87.73**	**35**	PFAKE		22 42 30.0	+11
NEW				LR	LR		
	comp=Z,4µm,19.0s,MS5.8						
CPRX	**Cap Rock**	**87.73**	**53**	*e*P	**P**	**22 42 19.1**	**-0.4**
AHID	**Auburn Hatcher**	**87.91**	**41**	PFAKE		22 42 30.0	+10
AHID				LR	LR		
	comp=Z,2µm,19.0s,MS5.6						
MCMT	**McKenzie Canyo**	**88.04**	**39**	*e*P	**P**	**22 42 20.4**	**-0.2**
TNA	**Tin City**	**88.27**	**3**	PFAKE		22 42 30.0	+8.7
TNA				LR	LR		
	comp=Z,788nm,19.0s,MS5.2						
MSO	**Missoula**	**88.58**	**37**	PFAKE		22 42 30.0	+6.8
MSO				LR	LR		
	comp=Z,1µm,20.0s,MS5.4						
MCK	**McKinley**	**88.68**	**11**	*e*P	**P**	**22 42 22.8**	**-0.5**
MCK				pmax	pmax		
	comp=Z,17nm,1.0s,mb5.3						
MCK				MLR	MLR		
	comp=Z,990nm,19.0s,MS5.2						
MCK	**McKinley**	**88.68**	**11**	*e*P	**P**	**22 42 22.8**	**-0.5**
	comp=Z,17nm,1.0s,mb5.3						
MCK				LR	LR		
	comp=Z,991nm,19.0s,MS5.2						
BW06	**Boulder Array**	**88.86**	**42**	*e*P	**P**	**22 42 23.8**	**-0.9**
	comp=Z,4.3nm,1.0s,mb4.7						
BW06				LR	LR		
	comp=Z,1µm,19.0s,MS5.3						
PDAR	**Pinedale Array**	**88.86**	**42**	P	**P**	**22 42 24.1**	**-0.6**
	comp=Z,2.4nm,0.8s,mb4.6,baz=235,slow=2.5,SNR=12						
PDAR				LR	LR	23 19 57.2	
	comp=Z,1µm,18.3s,MS5.4,baz=240,slow=34						
QLMT	**Earthquake Lak**	**88.87**	**40**	*e*P	**P**	**22 42 25.6**	**+0.9**
SDCO	**Great Sand Dun**	**88.89**	**48**	PFAKE		22 42 40.0	+15
SDCO				LR	LR		
	comp=Z,2µm,19.0s,MS5.5						
THY	**Trims Highway**	**89.01**	**13**	*e*P	**P**	**22 42 24.4**	**-0.5**
CHMT	**Chamberlain Mo**	**89.01**	**37**	*e*P	**P**	**22 42 24.7**	**-0.6**
DLBC	**Dease Lake**	**89.17**	**22**	P	**P**	**22 42 25.8**	**+0.1**
	comp=Z,3.8nm,0.9s,mb4.7,baz=230,slow=5.0,SNR=5.1						
DLBC	**Dease Lake**	**89.17**	**22**	*e*P	**P**	**22 42 25.8**	**+0.1**
BOZ	**Bozeman (W)**	**89.21**	**39**	*e*P	**P**	**22 42 25.7**	**-0.6**
BOZ				pmax	pmax		
	comp=Z,37nm,1.9s,mb5.4						
BOZ				MLR	MLR		
	comp=Z,2µm,19.0s,MS5.6						
BOZ	**Bozeman (W)**	**89.21**	**39**	*e*P	**P**	**22 42 25.7**	**-0.6**
	comp=Z,37nm,1.9s,mb5.4						
BOZ				LR	LR		
	comp=Z,2µm,19.0s,MS5.5						
SEY	**Seymchan**	**89.25**	**346**	*e*P	**P**	**22 42 28.6**	**+2.6**
SEY						22 46 03.5	
SEY						22 52 57.6	
SEY				*e*S	S	22 53 14.5	+3.6
SEY				PS	PS	22 54 24.6	+1.7
SEY				*e*SSS	SSS	23 02 38.8	-4.2
SEY				pmax	pmax		
	comp=Z,60nm,0.9s,mb5.9						
SEY				smax			
	comp=N,2µm,13.3s						
SEY				smax			
	comp=E,2µm,10.9s						
BJT	**Baijiatuau**	**89.39**	**314**	*e*P	**P**	**22 42 28.3**	**+1.0**
BJT				MLR	MLR		
	comp=Z,820nm,20.0s						
BJI	**Beijing**	**89.40**	**314**	P	**P**	**22 42 27.9**	**+0.6**
BJI				AMB	AMB		
	comp=Z,40nm,1.6s,mb5.5						
BJI				LR	LR		
	comp=N,221nm,20.6s,MS4.8						
BJI				LR	LR		
	comp=E,359nm,21.2s,MS4.8						
BJI				LR	LR		
	comp=Z,623nm,24.7s,MS4.9						
BJI	**Beijing**	**89.40**	**314**	P	**P**	**22 42 27.9**	**+0.6**
	comp=Z,40nm,1.6s,mb5.5						
BJI				S	SKS	22 52 55.8	+3.1
BJI				SS	SS	22 59 23.8	+12

BJI				LR	LR		
	comp=Z,620nm,24.7s,MS4.9						
ENH	**Enshi**	**89.53**	**303**	*e*P	**P**	**22 42 28.8**	**+0.7**
	comp=Z,5.1nm,0.4s,mb5.2						
ENH				LR	LR		
	comp=Z,880nm,20.0s,MS5.2						
JCT	**Junction City**	**89.61**	**57**	PFAKE		22 42 40.0	+11
JCT				LR	LR		
	comp=Z,2µm,19.0s,MS5.6						
ISCO	**Idaho Springs**	**89.85**	**46**	PFAKE		22 42 40.0	+11
ISCO				LR	LR		
	comp=Z,1µm,19.0s,MS5.4						
COLA	**College**	**89.92**	**11**	*e*P	**P**	**22 42 29.3**	**+0.2**
COLA	**College**	**89.92**	**11**	*e*P	**P**	**22 42 28.9**	**-0.2**
	comp=Z,28nm,0.9s,mb5.6						
ILAR	**Eielson Array**	**90.01**	**12**	P	**P**	**22 42 29.2**	**-0.3**
	comp=Z,4.3nm,0.8s,mb4.8,baz=220,slow=4.9,SNR=30						
ILAR				LR	LR	23 22 05.2	
	comp=Z,724nm,18.7s,MS5.1,baz=227,slow=35						
GYA	**Guiyang**	**90.09**	**299**	⇑*i*P	**P**	**22 42 32.3**	**+1.4**
GYA				AP	pP	22 42 43.6	+2.0
GYA				XP	sP	22 42 47.0	+1.9
GYA				AMB	AMB		
	comp=Z,20nm,1.6s,mb5.2						
GYA				LR	LR		
	comp=N,440nm,19.8s,MS5.1						
GYA				LR	LR		
	comp=E,520nm,18.6s,MS5.1						
GYA				LR	LR		
	comp=Z,820nm,18.3s,MS5.2						
IMA	**Indian Mountai**	**90.11**	**9**	*e*P	**P**	**22 42 30.2**	**+0.2**
	comp=Z,7.3nm,0.9s,mb5.0						
GCMT	**Greycliff**	**90.44**	**40**	*e*P	**P**	**22 42 30.9**	**-1.1**
DAWY	**Dawson**	**90.98**	**15**	*e*P	**P**	**22 42 33.8**	**-0.3**
XAN	**Xi’an**	**91.64**	**306**	P	**P**	**22 42 39.0**	**+1.1**
XAN				AP	pP	22 42 51.0	+2.3
XAN				AMB	AMB		
	comp=Z,44nm,1.0s,mb5.7						
NANT	**Nan**	**91.98**	**289**	P	**P**	**22 42 41.2**	**+1.4**
HIA	**Hailar**	**92.12**	**324**	PFAKE		22 42 50.0	+10
HIA				LR	LR		
	comp=Z,2µm,20.0s,MS5.5						
WMOK	**Wichita Mounta**	**92.27**	**53**	P	**P**	**22 42 38.9**	**-1.9**
WMOK				MLR	MLR		
	comp=Z,1µm,20.0s,MS5.3						
KMI	**Kunming**	**92.75**	**296**	*e*P	**P**	**22 42 45.4**	**+2.2**
KMI				AP	pP	22 42 55.9	+1.9
KMI				XP	sP	22 43 00.3	+2.8
KMI				PP	PP	22 46 30.0	+1.9
KMI				SKS	SKS	22 53 18.4	+5.8
KMI				S	S	22 53 46.8	+3.8
KMI				XS		22 53 56.8	
KMI				AMB	AMB		
	comp=Z,34nm,1.4s,mb5.6						
KMI				LR	LR		
	comp=N,360nm,20.9s,MS5.0						
KMI				LR	LR		
	comp=E,472nm,20.9s,MS5.0						
KMI				LR	LR		
	comp=Z,718nm,18.6s,MS5.2						
KMI	**Kunming**	**92.75**	**296**	*e*P	**P**	**22 42 45.4**	**+2.2**
	comp=Z,34nm,1.4s,mb5.6						
KMI				pP	pP	22 42 55.9	+1.9
KMI				sP	sP	22 43 00.3	+2.8
KMI				PP	PP	22 46 30.0	+1.9
KMI				SKS	SKS	22 53 18.4	+5.8
KMI				S	S	22 53 46.8	+3.8
KMI				sS		22 53 56.8	
KMI				PS	PS	22 55 09.1	+4.7
KMI				SS	SS	23 00 14.0	+14
KMI				LR	LR		
	comp=Z,720nm,18.6s,MS5.2						
TRQA	**Tornquist**	**92.86**	**133**	PFAKE		22 43 00.0	+17
TRQA				LR	LR		
	comp=Z,2µm,19.0s,MS5.6						
BDT	**Bhumibol Dam**	**92.86**	**287**	P	**P**	**22 42 46.0**	**+2.2**
HHC	**Hu-ho-hao-te**	**92.87**	**313**	*e*P	**P**	**22 42 44.9**	**+1.5**
HHC				AP	pP	22 42 49.5	-4.6
HHC				PP	PP	22 46 30.1	+1.5
HHC				SKS	SKS	22 53 17.5	+4.6
HHC				S	S	22 53 47.9	+4.2
HHC				PS	PS	22 55 06.9	+1.6
HHC				SS	SS	23 00 03.4	+1.8
HHC				AMB	AMB		
	comp=Z,26nm,1.3s,mb5.5						
HHC				AMB	AMB		
	comp=Z,60nm,4.0s						
HHC				LR	LR		
	comp=N,611nm,21.4s,MS5.2						
HHC				LR	LR		
	comp=E,540nm,20.2s,MS5.2						
HHC				LR	LR		
	comp=Z,690nm,26.8s						
NNA	**Nana**	**92.91**	**104**	PFAKE		22 43 00.0	+16
NNA				LR	LR		
	comp=Z,507nm,19.0s,MS5.0						
LAO	**LASA Array**	**92.94**	**40**	*e*P	**P**	**22 42 43.2**	**-0.3**
	comp=Z,37nm,1.3s,mb5.7						
LAO				LR	LR		
	comp=Z,835nm,22.0s,MS5.2						
RSSD	**Black Hills**	**93.00**	**43**	*e*P	**P**	**22 42 42.9**	**-1.0**
RSSD				pmax	pmax		
	comp=Z,17nm,1.4s,mb5.3						
RSSD				MLR	MLR		
	comp=Z,2µm,19.0s,MS5.5						
RSSD	**Black Hills**	**93.00**	**43**	*e*P	**P**	**22 42 42.9**	**-1.1**
	comp=Z,17nm,1.4s,mb5.3						
RSSD				LR	LR		
	comp=Z,2µm,19.0s,MS5.5						
CMAR	**Chiang Mai Arr**	**93.38**	**288**	P	**P**	**22 42 47.9**	**+1.7**
	comp=Z,11nm,0.9s,mb5.3,baz=126,slow=3.4,SNR=44						
CMAR				LR	LR	23 23 30.4	
	comp=Z,744nm,20.0s,MS5.1,baz=115,slow=35						
CHG	**Chiang Mai**	**93.51**	**289**	⇑P	**P**	**22 42 47.8**	**+1.0**
	comp=Z,27nm,1.1s,mb5.6						
CHG				S	Px	22 52 21.3	
JTS	**JuntasAbangare**	**94.10**	**81**	PFAKE		22 43 00.0	+10
JTS				LR	LR		
	comp=Z,212nm,19.0s,MS4.6						
NATX	**Nacogdoches**	**94.13**	**57**	PFAKE		22 43 00.0	+11
NATX				LR	LR		
	comp=Z,2µm,19.0s,MS5.7						
CD2	**Chengdu**	**94.27**	**302**	*e*P	**P**	**22 42 52.0**	**+2.1**
DGMT	**Dagmar**	**95.02**	**39**	*e*P	**P**	**22 42 53.0**	**+0.1**
	comp=Z,24nm,0.9s,mb5.6						
DGMT				LR	LR		
	comp=Z,2µm,19.0s,MS5.5						
LVC	**Limon Verde**	**95.22**	**117**	PFAKE		22 43 10.0	+15
LVC				LR	LR		
	comp=Z,2µm,20.0s,MS5.5						
YAK	**Yakutsk**	**95.26**	**337**	*e*P	**P**	**22 42 53.2**	**-0.5**
YAK				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb5.0						
YAK				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb5.0						
YAK				pmax	pmax		
	comp=N,2.0nm,0.9s						
YAK				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb5.0						
YAK	**Yakutsk**	**95.26**	**337**	*e*P	**P**	**22 42 54.9**	**+1.2**
YAK				LR	LR		
	comp=Z,726nm,19.0s,MS5.2						
INK	**Inuvik**	**95.83**	**14**	P	**P**	**22 42 55.5**	**-0.7**
	comp=Z,3.1nm,0.8s,mb4.8,baz=184,slow=12,SNR=5.6						
MIAR	**Mount Ida**	**96.09**	**55**	PFAKE		22 43 10.0	+12
MIAR				LR	LR		
	comp=Z,1µm,19.0s,MS5.5						
OTAV	**Otavalo**	**96.27**	**92**	PFAKE		22 43 10.0	+11
OTAV				LR	LR		
	comp=Z,555nm,19.0s,MS5.1						
LZH	**Lanzhou**	**96.28**	**306**	⇑P	**P**	**22 43 00.0**	**+1.0**
LZH				PP	PP	22 46 55.3	+0.3
LZH				SKS	SKS	22 53 35.8	+4.2
LZH				S	S	22 54 18.1	+5.2
LZH				AMB	AMB		
	comp=Z,31nm,1.5s,mb5.5						
LZH				LR	LR		
	comp=E,1µm,18.1s						
LZH				LR	LR		
	comp=Z,2µm,20.0s,MS5.5						
LZH	**Lanzhou**	**96.28**	**306**	⇑P	**P**	**22 43 00.0**	**+1.0**
	comp=Z,31nm,1.5s,mb5.5						
LZH				pP	pP	22 43 03.6	-6.1
LZH				sP	sP	22 43 05.0	-8.2
LZH				PP	PP	22 46 55.3	+0.3
LZH				SKS	SKS	22 53 35.7	+4.1
LZH				S	S	22 54 18.1	+5.2
LZH				sS		22 54 23.0	
LZH				SS	SS	23 01 02.1	+12
LZH				LR	LR		
	comp=Z,2µm,20.0s,MS5.5						
YKA	**Yellowknife Ar**	**97.52**	**24**	P	**P**	**22 43 03.7**	**-0.3**
	comp=Z,2.2nm,0.8s,mb4.7,baz=238,slow=4.3,SNR=7.1						
YKA				LR	LR	23 24 43.3	
	comp=Z,906nm,18.3s,MS5.3,baz=235,slow=34						
YKA	**Yellowknife Ar**	**97.52**	**24**	P	**P**	**22 43 03.7**	**-0.3**
YKA				LR	LR	23 24 43.3	
LPAZ	**La Paz**	**98.73**	**112**	P	**P**	**22 43 13.5**	**+3.0**
	comp=Z,2.2nm,0.2s,mb5.3,baz=315,slow=0.2,SNR=5.0						
ULN	**Ulaanbaatar**	**98.85**	**318**	PFAKE		22 43 20.0	+10
ULN				LR	LR		
	comp=Z,539nm,20.0s,MS5.0						
FFC	**Flin Flon**	**99.16**	**34**	P	**P**	**22 43 12.1**	**+0.5**
FFC				MLR	MLR		
	comp=Z,370nm,20.0s,MS4.9						
CCM	**Cathedral Cave**	**99.17**	**53**	PFAKE		22 43 20.0	+8.0
CCM				LR	LR		
	comp=Z,2µm,19.0s,MS5.7						
SONM	**Songino Array**	**99.24**	**318**	P	**P**	**22 43 12.0**	**-0.1**
	comp=Z,1.0nm,0.7s,mb4.5,baz=149,slow=7.2,SNR=5.5						
OXF	**Oxford**	**99.26**	**57**	PFAKE		22 43 20.0	+7.5
OXF				LR	LR		
	comp=Z,3µm,19.0s,MS5.8						
GTA	**Gaotai**	**100.49**	**308**	*e*P	P	22 43 19.1	+1.1
GTA				AP		22 43 30.3	
GTA				XP		22 43 34.6	
GTA				AMB	AMB		
	comp=Z,3.0nm,1.2s						
GTA				AMB	AMB		
	comp=Z,61nm,6.1s						
LRAL	**Lakeview Retre**	**100.61**	**59**	PFAKE		22 43 30.0	+11
LRAL				LR	LR		
	comp=Z,2µm,19.0s,MS5.5						
WVT	**Waverly**	**101.03**	**55**	PFAKE		22 43 30.0	+9.4
WVT				LR	LR		
	comp=Z,1µm,19.0s,MS5.5						
JFWS	**Jewell Farm**	**101.62**	**48**	PFAKE		22 43 30.0	+7.0
JFWS				LR	LR		
	comp=Z,1µm,19.0s,MS5.5						
TIXI	**Tiksi**	**101.67**	**344**	PFAKE		22 43 30.0	+7.4
TIXI				LR	LR		
	comp=Z,584nm,20.0s,MS5.1						
ZAK	**Zakamensk**	**102.10**	**320**	*e*P	Pdif	22 43 26.7	+1.7
ZAK				*e*		22 47 43.7	
WCI	**Wyandotte Cave**	**102.89**	**54**	PFAKE		22 43 40.0	+11
WCI				LR	LR		
	comp=Z,2µm,21.0s,MS5.6						
MYNC	**Murphy**	**103.54**	**58**	PFAKE		22 43 40.0	+8.3
MYNC				LR	LR		
	comp=Z,2µm,19.0s,MS5.6						
LSA	**Lhasa**	**104.00**	**297**	PFAKE		22 43 50.0	+16
LSA				LR	LR		
	comp=Z,567nm,20.0s,MS5.1						
PALK	**Pallekele**	**105.80**	**271**	PFAKE		22 48 10.0	
PALK				LR	LR		
	comp=Z,263nm,20.0s,MS4.8						
ACSO	**Alum Creek Sta**	**105.95**	**53**	PFAKE		22 48 10.0	
ACSO				LR	LR		
	comp=Z,3µm,20.0s,MS5.8						
NHSC	**New Hope**	**106.06**	**60**	PFAKE		22 48 10.0	
NHSC				LR	LR		
	comp=Z,2µm,20.0s,MS5.6						
SAML	**Samuel**	**106.34**	**107**	PFAKE		22 48 10.0	
SAML				LR	LR		
	comp=Z,1µm,19.0s,MS5.4						
SDV	**Santo Domingo**	**106.72**	**87**	PFAKE		22 48 10.0	
SDV				LR	LR		
	comp=Z,521nm,20.0s,MS5.1						
BLA	**Blacksburg**	**107.03**	**56**	PFAKE		22 48 10.0	
BLA				LR	LR		
	comp=Z,1µm,19.0s,MS5.4						
DGAR	**Diego Garcia**	**107.42**	**254**	PFAKE		22 48 10.0	
DGAR				LR	LR		
	comp=Z,405nm,20.0s,MS5.0						
MCWV	**Mont Chateau**	**108.12**	**54**	PFAKE		22 48 10.0	
MCWV				LR	LR		
	comp=Z,2µm,19.0s,MS5.8						
ERPA	**Erie**	**108.63**	**51**	PFAKE		22 48 10.0	
ERPA				LR	LR		
	comp=Z,2µm,19.0s,MS5.8						
CBN	**Corbin**	**109.62**	**56**	PFAKE		22 48 10.0	
CBN				LR	LR		
	comp=Z,1µm,19.0s,MS5.5						
SSPA	**Standing Stone**	**109.81**	**53**	PFAKE		22 48 10.0	
SSPA				LR	LR		
	comp=Z,2µm,20.0s,MS5.7						
WMQ	**Urumqi**	**110.44**	**310**	*e*PDIF	Pdif	22 44 02.4	+0.5
WMQ				PP	PP	22 48 41.4	-0.3
WMQ				*e*PPP	PPP	22 51 02.0	-0.2
WMQ				SKS		22 55 13.4	
WMQ				PP	PP		
	comp=Z,84nm,11.0s						
WMQ				LR	LR		
	comp=N,362nm,20.4s,MS5.1						
WMQ				LR	LR		
	comp=E,426nm,20.4s,MS5.1						
WMQ				LR	LR		
	comp=Z,518nm,21.0s,MS5.1						
BINY	**Binghamton**	**111.55**	**52**	PFAKE		22 48 20.0	+16
BINY				LR	LR		
	comp=Z,1µm,19.0s,MS5.5						
SJG	**San Juan**	**113.88**	**80**	PFAKE		22 48 20.0	+11
SJG				LR	LR		
	comp=Z,465nm,19.0s,MS5.1						
MKAR	**Makanchi Array**	**114.71**	**312**	PKP	PKPdf	22 48 09.8	+0.2
	comp=Z,1.9nm,0.8s,baz=164,slow=0.5,SNR=13						
MKAR	**Makanchi Array**	**114.71**	**312**	PKP	PKPdf	22 48 09.8	+0.1
BRYW	**Bryant College**	**114.75**	**53**	PKP	Pdif	22 44 19.8	-1.1
HRV	**Harvard--Oak R**	**114.83**	**52**	PFAKE		22 48 20.0	+10
HRV				LR	LR		
	comp=Z,2µm,19.0s,MS5.8						
WES	**Weston**	**114.98**	**53**	PFAKE		22 48 20.0	+10
WES				LR	LR		
	comp=Z,4µm,22.0s,MS6.0						
KURK	**Kurchatov**	**117.49**	**317**	*i* PKIKP	PKPdf	22 48 16.1	+1.2
KURK	**Kurchatov**	**117.49**	**317**	*e*PKP	PKPdf	22 48 14.6	-0.2
KURK				LR	LR		
	comp=Z,172nm,20.0s,MS4.7						
BBSR	**BB Station**	**118.57**	**65**	PFAKE		22 48 30.0	+13
BBSR				LR	LR		
	comp=Z,424nm,19.0s,MS5.1						
AAK	**Ala-Archa**	**119.81**	**307**	PFAKE		22 48 30.0	+10
AAK				LR	LR		
	comp=Z,142nm,21.0s,MS4.6						
BRVK	**Borovoye**	**122.62**	**319**	*e*PKIKP	PKPdf	22 48 24.6	-0.2
BRVK				MLR	MLR		
	comp=Z,220nm,20.0s,MS4.8						
SUR	**Sutherland**	**123.03**	**196**	PFAKE		22 48 40.0	+14
SUR				LR	LR		
	comp=Z,388nm,20.0s,MS5.1						
ZRNK	**Zerenda**	**123.40**	**319**	*e*PKIKP	PKPdf	22 48 26.3	0.0
ARU	**Arti**	**128.61**	**325**	*i* PKIKP	PKPdf	22 48 36.9	+0.7
ARU				*e*		22 50 41.9	
ARU				*e*PS	PS	23 00 50.6	+0.8
ARU				MLR	MLR		
	comp=Z,1µm,20.0s,MS5.5						
ARU				MLR	MLR		
	comp=N,600nm,19.0s,MS5.4						
ARU				MLR	MLR		
	comp=E,500nm,20.0s,MS5.4						
ARU	**Arti**	**128.61**	**325**	*e*PKP	PKPdf	22 48 36.8	+0.6
ARU				LR	LR		
	comp=Z,284nm,20.0s,MS5.0						
RCBR	**Riachuelo**	**131.03**	**121**	PFAKE		22 49 00.0	+18
RCBR				LR	LR		
	comp=Z,1µm,19.0s,MS5.7						
ARCES	**ARCESS Array B**	**131.66**	**350**	PKP	PKPdf	22 48 41.6	-0.1
	comp=Z,6.9nm,0.9s,baz=45,slow=1.7,SNR=7.0						
LSZ	**Lusaka**	**135.78**	**213**	PFAKE		22 49 00.0	+9.3
LSZ				LR	LR		
	comp=Z,1µm,19.0s,MS5.6						
TSUM	**Tsumeb**	**136.42**	**198**	PFAKE		22 49 10.0	+18
TSUM				LR	LR		
	comp=Z,1µm,19.0s,MS5.6						
FINES	**FINESS Array B**	**138.72**	**345**	PKP	PKPdf	22 48 54.5	-0.4
	comp=Z,9.3nm,1.1s,SNR=6.8						
FINES	**FINESS Array B**	**138.72**	**345**	PKP	PKPdf	22 48 54.5	-0.4
OBN	**Obninsk**	**140.05**	**332**	*i* PKIKP	PKPdf	22 48 58.9	+1.4
OBN				*i*		22 49 14.6	
OBN				*e*		22 51 56.1	
OBN				pmax	pmax		
	comp=Z,28nm,1.5s						
OBN	**Obninsk**	**140.05**	**332**	*e*PKP	PKPdf	22 48 58.9	+1.4
OBN				LR	LR		
	comp=Z,600nm,19.0s,MS5.4						
KMBO	**Kilima Mbogo**	**140.47**	**237**	PKhKP		22 48 55.7	
	comp=Z,0.9nm,0.6s,baz=118,slow=6.0,SNR=4.6						
KMBO	**Kilima Mbogo**	**140.47**	**237**	PKP	PKPdf	22 48 55.7	-3.7
KMBO				LR	LR		
	comp=Z,878nm,19.0s,MS5.5						
NOA	**NORSAR Array B**	**141.55**	**355**	PKhKP		22 48 56.8	
	comp=Z,1.0nm,0.7s,baz=4.8,slow=3.7,SNR=3.3						
ZEI	**Tsey**	**142.05**	**311**	⇓*i*PKIKP	PKPdf	22 49 00.0	-1.4
ZEI				*i*		22 52 06.0	
ZEI				pmax	pmax		
	comp=Z,150nm,6.0s						
ZEI				pmax	pmax		
	comp=Z,200nm,10.0s						
ZEI				MLR	MLR		
	comp=Z,1µm,20.0s,MS5.6						
BCA	**Borcka**	**144.09**	**310**	P	PKPbc	22 49 03.5	-0.7
SOC	**Sochi**	**144.59**	**314**	*i* PKHKP		22 49 02.5	
SOC				*e*		22 52 28.0	
SOC				*e*PPP	PPP	22 55 35.8	-4.6
SOC				pmax	pmax		
	comp=Z,13nm,0.8s						
SOC				pmax	pmax		
	comp=N,16nm,1.0s						
SOC				pmax	pmax		
	comp=E,14nm,0.8s						
SOC				pmax	pmax		
	comp=Z,17nm,0.8s						
SOC				pmax	pmax		
	comp=N,16nm,0.9s						
SOC				pmax	pmax		
	comp=E,5.0nm,0.7s						
SOC				MLR	MLR		
	comp=Z,535nm,18.0s,MS5.4						
SOC				MLR	MLR		
	comp=N,197nm,16.0s,MS5.2						
SOC				MLR	MLR		
	comp=E,240nm,18.0s,MS5.2						
ERZM	**Erzurum**	**144.77**	**307**	*i* P	PKPbc	22 49 07.2	+1.1
EZM	**Erzurum**	**144.77**	**307**	P	PKPbc	22 49 07.8	+1.7
VRT	**Varto**	**144.88**	**306**	P	PKPdf	22 49 08.6	+2.2
BTMT	**Batman**	**145.17**	**305**	P	PKPdf	22 49 08.4	+1.5
BEST	**Besiri**	**145.41**	**304**	*i* P	PKPdf	22 49 09.2	+1.9
ANN	**Anapa**	**145.52**	**317**	*c i*PKIKP	PKPdf	22 49 08.9	+1.6
ANN				pmax	pmax		
	comp=Z,103nm,0.9s						
ANN				pmax	pmax		
	comp=Z,580nm,10.5s						
MBAR	**Mbarara**	**145.69**	**231**	*e*PKP	PKPdf	22 49 10.2	+1.7
MBAR				LR	LR		
	comp=Z,237nm,19.0s,MS5.0						
BLJS	**Baljurashi**	**145.71**	**272**	P	PKPdf	22 49 12.3	+4.0
BINT	**Bingol**	**145.73**	**306**	P	PKPdf	22 49 09.6	+1.8
SUW	**Suwalki**	**145.92**	**341**	*e*PKP2	PKPab	22 49 09.7	-1.2
EZC	**Erzincan**	**145.95**	**308**	*e*P	PKPdf	22 49 11.6	+3.4
GUMT	**Gumushane**	**145.95**	**309**	P	PKPdf	22 49 11.1	+2.9
MUD	**Monsted U’grnd**	**146.26**	**356**	*i* P	PKPdf	22 49 10.9	+2.7
	comp=Z,34nm,1.1s						
AKASG	**Malin Array Be**	**146.31**	**332**	PKPbc	PKPbc	22 49 10.5	+0.9
	comp=Z,16nm,0.6s,baz=38,slow=4.2,SNR=50						
PTK	**Pertek**	**146.54**	**307**	*e*P	PKPdf	22 49 13.4	+4.2
LTHS	**Al Lith**	**146.88**	**272**	P	PKPdf	22 49 15.2	+4.9
ELZG	**Elazig**	**146.97**	**306**	*i* P	PKPdf	22 49 14.1	+4.2
MYA	**Malataya**	**147.44**	**306**	*e*P	PKPdf	22 49 15.2	+4.5
MALT	**Malatya**	**147.44**	**306**	*e*P	PKPdf	22 49 14.7	+4.0
MALT	**Malatya**	**147.44**	**306**	*e*PKPdf	PKPdf	22 49 12.5	+1.8
MALT				*e*PKPbc	PKPdf	22 49 14.6	+3.9
MALT				*e*PKPab	PKPab	22 49 16.2	-1.1
SIM	**Simferopol’**	**147.47**	**320**	*e*PKP2	PKPab	22 49 14.8	-2.4
SIM				pmax	pmax		
	comp=Z,46nm,0.9s						
SVSK	**Karacayir**	**147.92**	**310**	*e*P	PKPdf	22 49 13.9	+2.5
SVST	**Sivas**	**148.01**	**309**	*i* P	PKPdf	22 49 16.6	+5.1
GZT	**Gaziantep**	**148.39**	**305**	*i* P	PKPdf	22 49 17.1	+4.8
KBRS	**Khaybar**	**148.55**	**282**	P	PKPdf	22 49 19.2	+6.3
GAZ	**Gaziantep**	**148.71**	**305**	*e*P	PKPdf	22 49 18.9	+6.1
BOYT	**Boyabat**	**148.74**	**313**	*i* P	PKPdf	22 49 18.2	+5.5
KIS	**Kishinev**	**149.12**	**327**	*i* PKP2	PKPab	22 49 18.0	-5.8
KIS				*e*		22 52 48.0	
KIS				MLR	MLR		
	comp=Z,400nm,20.0s,MS5.2						
KIS				MLR	MLR		
	comp=Z,400nm,20.0s						
CTKT	**Corum**	**149.17**	**312**	*i* P	PKPdf	22 49 17.8	+4.3
COBT	**Iskenderun**	**149.64**	**304**	*i* P	PKPdf	22 49 19.0	+4.7
BALT	**Daday**	**149.69**	**315**	*i* P	PKPdf	22 49 18.3	+4.1
KWP	**Kalwaria**	**149.77**	**337**	*e*PKP2	PKPab	22 49 20.5	-5.9
AVNT	**Avonos**	**149.89**	**309**	*i* P	PKPdf	22 49 20.6	+5.9
ELDT	**Eldivan**	**150.16**	**313**	*i* P	PKPdf	22 49 21.8	+6.8
OJC	**Ojcow**	**150.25**	**340**	*e*PKIKP	PKPdf	22 49 21.6	+6.8
OJC				*e*		22 52 55.4	
OJC				*e*SS	SS	23 12 08.8	-2.3
OJC				MLR	MLR		
	comp=Z,700nm,21.4s,MS5.4						
OJC	**Ojcow**	**150.25**	**340**	*e*PKP	PKPdf	22 49 21.6	+6.8
OJC				*e*PP	PP	22 52 55.4	-3.5
OJC				*e*SKKSac		22 59 44.4	
OJC				*e*SS	SS	23 12 08.8	-2.3
OJC				LR	LR		
	comp=Z,700nm,21.4s,MS5.4						
UMJS	**Umm Lajj**	**150.29**	**281**	P	PKPdf	22 49 23.4	+7.8
BRTR	**Keskin Array B**	**150.36**	**311**	PKPbc	PKPdf	22 49 22.3	+7.0
	comp=Z,12nm,0.9s,baz=132,slow=3.8,SNR=33						
KOLS	**Kolonicke sedl**	**150.51**	**336**	*e*PKP	PKPdf	22 49 23.4	+8.2
KOLS				*e*		22 49 26.4	
KOLS				*e*		22 49 33.0	
KSP	**Ksiaz**	**150.64**	**345**	*i* PKIKP	PKPdf	22 49 22.9	+7.5
KSP				*e*		22 49 31.2	
KSP				*e*		22 52 58.0	
KSP				*e*SS	SS	23 12 17.0	+1.6
KSP				MLR	MLR		
	comp=Z,2µm,20.8s,MS5.8						
KSP	**Ksiaz**	**150.64**	**345**	*e*PKPdf	PKPdf	22 49 22.9	+7.5
KSP				*e*		22 49 31.2	
KSP				*e*		22 49 42.8	
KSP				*e*PP	PP	22 52 58.0	-3.2
KSP				*e*SS	SS	23 12 17.0	+1.6
KSP				LR	LR		
	comp=Z,2µm,20.8s,MS5.8						
CRVS	**Cervenica-Dubn**	**150.83**	**337**	*e*PKP	PKPdf	22 49 23.7	+8.0
CRVS				*e*		22 49 26.3	
CRVS				*e*		22 49 33.4	
CLL	**Collm**	**150.87**	**349**	*i* PKP1	PKPdf	22 49 23.0	+7.3
CLL				*e*PKP2	PKPab	22 49 32.0	+1.1
CLL				*e*		22 49 39.0	
CLL				*e*		22 50 46.0	
CLL	**Collm**	**150.87**	**349**	*i* PKIKP	PKPdf	22 49 23.0	+7.3
CLL				*e*		22 49 32.0	
CLL				pmax	pmax		
	comp=Z,39nm,1.1s						
CLL				MLR	MLR		
	comp=Z,1µm,18.8s,MS5.7						
HRI	**Mount Hermon**	**150.92**	**298**	P	PKPdf	22 49 24.7	+8.3
KSHT	**Keshet**	**150.92**	**297**	P	PKPdf	22 49 24.5	+8.1
TBKS	**Tabuk**	**150.95**	**287**	P	PKPdf	22 49 25.3	+8.7
VRI	**Vrincioaia**	**150.95**	**328**	⇓*i*P	PKPdf	22 49 23.6	+7.6
VRI	**Vrincioaia**	**150.95**	**328**	⇓*i*P	PKPdf	22 49 23.7	+7.7
VRI	**Vrincioaia**	**150.95**	**328**	⇓*i*P	PKPdf	22 49 23.7	+7.7
BRD	**Bordesti**	**151.01**	**327**	⇓*i*P	PKPdf	22 49 25.3	+9.2
UPC	**Upice**	**151.02**	**345**	*e*PKPbc	PKPdf	22 49 23.6	+7.7
UPC				*e*PKPab	PKPab	22 49 34.4	+2.8
UPC				*e*x	x	22 49 44.4	
SGKT	**Sivrigoynuk**	**151.04**	**314**	*i* P	PKPdf	22 49 22.6	+6.3
OKC	**Ostrava-Krasne**	**151.08**	**342**	*e*PKPbc	PKPdf	22 49 23.6	+7.6
OKC				*e*PKPab	PKPab	22 49 34.1	+2.2
OKC				*e*SS	SS	23 12 28.6	+8.3
OKC				LR		00 09 10.0	
	comp=Z,0.7nm,18.1s						
OKC	**Ostrava-Krasne**	**151.08**	**342**	*e*PKIKP	PKPdf	22 49 23.6	+7.6
OKC				*e*		22 49 34.1	
OKC				MLR	MLR		
	comp=Z,700nm,18.1s,MS5.5						
DPC	**Dobruska-Polom**	**151.09**	**345**	*e*PKPbc	PKPdf	22 49 24.2	+8.2
DPC				*e*PKPab	PKPab	22 49 33.2	+1.3
DPC				*e*x	x	22 49 43.7	
DPC				*e*SS	SS	23 12 24.4	+4.0
DPC				LR		00 03 30.0	
	comp=Z,1.2nm,17.1s						
DPC	**Dobruska-Polom**	**151.09**	**345**	*e*PKIKP	PKPdf	22 49 24.2	+8.2

DPC				*e*		22 49 33.2	
DPC				*e*SS	SS	23 12 24.4	+4.0
DPC				MLR	MLR		
	comp=Z,1µm,17.1s,MS5.8						
BRG	**Berggiesshubel**	**151.12**	**348**	*e*PKIKP	PKPdf	22 49 24.9	+8.8
MORC	**Moravsky Berou**	**151.30**	**343**	*e*PKIKP	PKPdf	22 49 24.0	+7.6
HMDT	**Nahal Hemdat**	**151.31**	**296**	P	PKPdf	22 49 25.4	+8.4
PVCC	**Panska Ves**	**151.32**	**347**	*e*PKPbc	PKPdf	22 49 25.5	+9.1
PVCC				*e*PKPab	PKPab	22 49 35.0	+2.1
PVCC				*e*SS	SS	23 12 27.0	+4.1
PVCC				LR		00 08 30.0	
	comp=Z,1.0nm,17.2s						
MMLI	**Mount Malkishu**	**151.36**	**296**	P	PKPdf	22 49 25.4	+8.4
ISR	**Istrita**	**151.56**	**327**	⇑*i*P	PKPdf	22 49 26.2	+9.3
ISR	**Istrita**	**151.56**	**327**	⇑*i*P	PKPdf	22 49 26.5	+10
ISR	**Istrita**	**151.56**	**327**	⇓*i*P	PKPdf	22 49 25.2	+8.3
SLTI	**Sal'it**	**151.71**	**296**	P	PKPdf	22 49 26.2	+8.6
MOX	**Moxa**	**151.73**	**351**	*e*PKIKP	PKPdf	22 49 25.3	+8.3
MOX				pmax	pmax		
	comp=Z,66nm,2.0s						
MOX				MLR	MLR		
	comp=Z,800nm,20.0s,MS5.5						
PRU	**Pruhonice**	**151.84**	**347**	*e*PKPbc	PKPdf	22 49 25.3	+8.1
PRU				*e*PKPab	PKPab	22 49 36.4	+1.4
PRU				*e*x	x	22 49 45.0	
PRU				*e*SS	SS	23 12 36.5	+7.9
PRU				L		00 02 10.0	
ZFRI	**Zfri**	**151.89**	**292**	P	PKPdf	22 49 26.6	+8.7
NKC	**Novy Kostel**	**152.00**	**350**	*e*PKPbc	PKPdf	22 49 26.8	+9.4
NKC				*e*PKPab	PKPab	22 49 35.2	-0.5
NKC				*e*x	x	22 49 43.5	
NKC				*e*SS	SS	23 12 44.6	+14
NKC				LR		00 06 50.0	
	comp=Z,1.0nm,18.1s						
NKC	**Novy Kostel**	**152.00**	**350**	*e*PKIKP	PKPdf	22 49 26.8	+9.4
NKC				*e*		22 49 35.2	
NKC				*e*		22 49 43.5	
NKC				MLR	MLR		
	comp=Z,1µm,18.1s,MS5.7						
SACV	**Santiago Islan**	**152.00**	**101**	PFAKE		22 49 30.0	+12
SACV				LR	LR		
	comp=Z,226nm,19.0s,MS5.0						
VYHS	**Vyhne**	**152.07**	**340**	*e*PKP	PKPdf	22 49 26.2	+8.6
VYHS				*e*		22 49 29.0	
VYHS				*e*		22 49 36.1	
VYHS	**Vyhne**	**152.07**	**340**	*e*PKIKP	PKPdf	22 49 26.2	+8.6
VYHS				*e*		22 49 36.1	
PRNI	**Paran**	**152.07**	**292**	P	PKPdf	22 49 27.1	+8.9
PRNI	**Paran**	**152.07**	**292**	⇑P	PKPdf	22 49 27.1	+8.9
AYUS	**'Aynunah**	**152.08**	**287**	P	PKPdf	22 49 28.5	+10
JMOS	**Jabal al Moall**	**152.13**	**289**	P	PKPdf	22 49 28.7	+10
BDAS	**Al Bad'**	**152.20**	**288**	P	PKPdf	22 49 27.5	+9.1
EIL	**Elat**	**152.21**	**291**	*e*PKPbc	PKPdf	22 49 26.8	+8.4
PSZ	**Piszkesteto**	**152.22**	**338**	*e*pPKP/F		22 49 27.3	
PSZ	**Piszkesteto**	**152.22**	**338**	*e*PKIKP	PKPdf	22 49 27.0	+9.2
PSZ				*e*		22 49 36.7	
MBH	**Mount Berech**	**152.22**	**291**	P	PKPdf	22 49 27.5	+9.1
HAQS	**Haql**	**152.30**	**289**	P	PKPdf	22 49 27.8	+9.3
CSS	**Prodhromos**	**152.39**	**302**	*e*PKPbc	PKPdf	22 49 27.3	+8.8
SMOL	**Smolenice**	**152.48**	**342**	*e*PKP	PKPdf	22 49 27.7	+10
SMOL				*e*		22 49 29.5	
SMOL				*e*		22 49 38.4	
SMOL	**Smolenice**	**152.48**	**342**	*e*PKIKP	PKPdf	22 49 27.7	+10
SMOL				*e*		22 49 38.4	
GRA1	**Grafenberg Arr**	**152.72**	**351**	*e*PKP	PKPdf	22 49 28.5	+10
GRF	**Grafenberg Arr**	**152.72**	**351**	*e*PKIKP	PKPdf	22 49 28.5	+10
GIVF	**Givet**	**152.77**	**0**	*e*PKIKP	PKPdf	22 49 25.6	+7.1
BAIF	**Baives**	**152.81**	**1**	*e*PKIKP	PKPdf	22 49 26.5	+7.9
KHC	**Kasperske Hory**	**152.85**	**347**	*e*PKPbc	PKPdf	22 49 27.7	+9.1
KHC				PKPab	PKPab	22 49 36.5	-2.8
KHC				*e*x	x	22 49 52.5	
KHC				*e*SS	SS	23 12 46.0	+6.2
KHC				LR		00 03 00.0	
	comp=Z,1.1nm,20.4s						
KHC	**Kasperske Hory**	**152.85**	**347**	*e*PKIKP	PKPdf	22 49 27.7	+9.1
KHC				*e*		22 49 36.5	
KHC				*e*		22 49 38.8	
KHC				*e*SS	SS	23 12 46.0	+6.2
KHC				MLR	MLR		
	comp=Z,1µm,20.4s,MS5.7						
KHC	**Kasperske Hory**	**152.85**	**347**	*e*PKP	PKPdf	22 49 27.7	+9.1
KHC				*e*		22 49 36.5	
KHC				*e*		22 49 38.8	
KHC				*e*		22 49 52.5	
KHC				*e*SS	SS	23 12 46.0	+6.2
KHC				LR	LR		
	comp=Z,1µm,20.4s,MS5.7						
ZST	**Bratislava**	**152.86**	**342**	*e*PKP	PKPdf	22 49 30.9	+12
ZST				*e*		22 49 34.0	
ZST				*e*		22 49 41.4	
GERES	**GERESS Array B**	**153.10**	**347**	PKPbc	PKPdf	22 49 27.6	+8.6
	comp=Z,1.5nm,0.8s,baz=270,slow=2.7,SNR=4.3						
CDF	**Champ du Feu**	**154.39**	**356**	*e*PKIKP	PKPdf	22 49 28.1	+7.3
KBA	**Koelnbreinsper**	**154.85**	**346**	⇑*i*P	PKPdf	22 49 32.8	+11
KBA				*i*		22 49 49.4	
LJU	**Ljubljana**	**155.54**	**344**	*e*PKPdf	PKPdf	22 49 27.0	+4.6
LJU				*e*PKPbc	PKPdf	22 49 34.1	+12
LOR	**Lormes**	**155.59**	**2**	*e*PKIKP	PKPdf	22 49 29.9	+7.5
	comp=Z,16nm,1.1s						
VISS	**Visnje**	**155.68**	**343**	*e*PKPdf	PKPdf	22 49 25.1	+2.5
VISS				*e*PKPbc	PKPdf	22 49 34.1	+12
VISS				*e*PKPab	PKPab	22 49 50.6	-0.8
SKO	**Skopje**	**156.40**	**328**	*e*PKP	PKPdf	22 49 23.0	-0.6
ESDC	**Sonseca Array**	**161.60**	**22**	PKPab	PKPab	22 50 16.2	-0.9
	comp=Z,1.6nm,0.8s,baz=315,slow=3.6,SNR=5.2						

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*BEO **13** 22:39:51.4±0.3,43.43N×19.72E,h5km±1km*
*PDG **13** 22:39:52.7±0.2,43.36N×19.76E,h10km±1km*

ISC 13 22:39:50.5±0.4,43.42N±0.02×19.80E±0.03,h10km,n16, σ0ˢ88/32,4C-5D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NVSS	**Nova Varos 2**	**0.11**	**321**	⇓*i*Pg	**Pg**	**22 39 52.9**	**-0.5**
NVSS				Sg	**Sg**	**22 39 53.7**	**-1.6**
PLE	**Pljevlja**	**0.31**	**253**	⇓*i*Pg	**Pg**	**22 39 57.5**	**+0.5**
PLE				*e*Sg	**Sg**	**22 40 01.5**	**+0.3**
IVA	**Berane**	**0.56**	**172**	⇑*i*Pg	**Pg**	**22 40 01.8**	**0.0**
IVA				*e*Sg	**Sg**	**22 40 09.9**	**+0.7**
UPM	**Unac-Piva**	**0.68**	**252**	⇓*i*Pg	**Pg**	**22 40 04.5**	**+0.2**
UPM				*e*Sg	**Sg**	**22 40 13.9**	**+0.4**
DIVS	**Divcibare**	**0.69**	**12**	⇑*i*Pg	**Pg**	**22 40 05.1**	**+0.6**
DIVS				Sg	**Sg**	**22 40 14.5**	**+0.8**
GRUS	**Gruza**	**0.81**	**55**	⇓*i*Pg	**Pg**	**22 40 07.3**	**+0.4**
GRUS				Sg	**Sg**	**22 40 20.1**	**+2.3**
PVY	**Plav**	**0.84**	**171**	*e*Pg	**Pg**	**22 40 07.1**	**-0.2**
PVY				*e*Sg	**Sg**	**22 40 18.9**	**+0.4**
NKY	**Niksic**	**0.84**	**224**	⇓*i*Pg	**Pg**	**22 40 07.1**	**-0.4**
NKY				*e*Sg	**Sg**	**22 40 18.9**	**+0.2**
BRY	**Bratogost**	**1.05**	**241**	*e*Pg	**Pg**	**22 40 11.3**	**-0.3**
BRY				*e*Sg	**Sg**	**22 40 26.8**	**+1.1**
TTG	**Podgorica**	**1.07**	**202**	*e*Pg	**Pg**	**22 40 11.0**	**-0.9**
TTG				*e*Sg	**Sg**	**22 40 26.2**	**0.0**
BCI	**Bajram Curri**	**1.07**	**169**	*i* Pg	**Pg**	**22 40 10.2**	**-1.8**
BCI				*i* Sg	**Sg**	**22 40 25.2**	**-1.2**
BUM	**Brajici-Budva**	**1.30**	**211**	*e*Pg	**Pg**	**22 40 15.8**	**-0.8**
BUM				*e*Sg	**Sg**	**22 40 34.4**	**+0.5**
SVIS	**Svilajnac**	**1.35**	**49**	⇑*i*Pg	**Pg**	**22 40 16.8**	**-0.8**
SVIS				Sg	**Sg**	**22 40 35.4**	**-0.2**
HCY	**Herceg Novi**	**1.36**	**225**	⇑*i*Pg	**Pg**	**22 40 16.8**	**-1.0**
HCY				*e*Sg	**Sg**	**22 40 37.2**	**+1.2**
PUK	**Puka**	**1.38**	**177**	*i* Pg	**Pg**	**22 40 17.3**	**-0.8**
PUK				*i* Sg	**Sg**	**22 40 38.3**	**+1.7**
ULC	**Ulcinj**	**1.51**	**196**	*e*Pg	**Pg**	**22 40 19.7**	**-1.1**
ULC				*e*Sg	**Sg**	**22 40 41.7**	**+0.7**

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*THE **13** 22:40:54.1,39.16N×20.50E,h10km,ML3.0*
*NEIC **13** 22:40:54.0,39.15N×20.56E,h2km,MD3.0(ATH),After ATH.*
*ATH **13** 22:40:54.0,39.15N×20.56E,h2km,MD3.0/4*

ISC 13 22:40:54.1±0.7,39.15N±0.03×20.57E±0.08,h8km±10km, n11,σ1ˢ15/16,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.42**	**334**	*e*Pg	**Pg**	**22 41 02.1**	**-0.6**
IGT				*e*Sg	**Sg**	**22 41 07.8**	**-0.6**
LKD	**Levkas**	**0.45**	**172**	*e*Pg	**Pg**	**22 41 03.1**	**-0.1**
LKD				*e*Sg	**Sg**	**22 41 09.9**	**+0.7**
JAN	**Janina**	**0.55**	**23**	*e*PG	**Pg**	**22 41 04.0**	**-1.2**
MEV	**Metsovon**	**0.81**	**39**	*e*Pg	**Pg**	**22 41 09.4**	**-1.0**
KEK	**Kerkira**	**0.82**	**313**	*e*PB	**Pb**	**22 41 10.0**	**-0.1**
SRN	**Sarande**	**0.85**	**329**	*i* Pg	**Pg**	**22 41 15.3**	**+4.2**
SRN				*i* Sg	**Sg**	**22 41 28.3**	**+5.8**
VLS	**Valsamata**	**0.97**	**179**	*e*PB	**Pb**	**22 41 12.5**	**-0.3**
EVR	**Evrytania**	**0.99**	**103**	*e*PG	**Pg**	**22 41 13.6**	**-0.4**
LSK	**Leskovik**	**1.00**	**1**	*i* Pg	**Pg**	**22 41 17.1**	**+3.0**
LSK				*i* Sg	**Sg**	**22 41 30.4**	**+3.0**
AGG	**Agios Georgios**	**1.38**	**95**	*e*Pb	**Pb**	**22 41 20.4**	**+0.7**
AGG				*e*Sb	**Sb**	**22 41 41.6**	**+4.3**
LIT	**Litokhoron**	**1.76**	**57**	*e*Pb	**Pb**	**22 41 25.6**	**-0.7**

IDC 13 23:01:00.2±5.7,21.93S×175.98W,mb4.0/4,mb1 4.2/4, mb1mx4.0/13,Error ellipse: s-maj=217.0km s-min=55.2km az=141.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.90**	**246**	P	P	23 08 26.8	-2.5
	1.0nm,0.6s,baz=96,slow=10,SNR=3.0						
ASAR	**Alice Springs**	**46.04**	**258**	P	P	23 09 24.4	-3.2
	3.3nm,1.2s,baz=96,slow=6.8,SNR=6.4						
WRA	**Warramunga Arr**	**46.28**	**263**	P	P	23 09 27.9	-1.6
	0.4nm,0.4s,baz=96,slow=8.4,SNR=5.3						
FITZ	**Fitzroy Crossi**	**54.71**	**263**	P	P	23 10 33.3	-0.5
	5.7nm,1.1s,baz=27,slow=8.8,SNR=2.7						
AKASG	**Malin Array Be**	**145.16**	**332**	PKPbc	PKPbc	23 20 38.0	-1.8
	0.2nm,0.3s,baz=41,slow=4.2,SNR=4.8						

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*ISK **13** 23:06:18.0,36.90N×27.63E,h8km,MD3.5*
*NEIC **13** 23:06:19.3,36.94N×27.75E,h28km,MD3.4(ATH),After ATH.*
*ATH **13** 23:06:19.3,36.94N×27.75E,h28km,MD3.4/5*

ISC 13 23:06:19.9±0.6,36.92N±0.04×27.65E±0.04,h19km±6km, n26,σ0ˢ78/32,1C,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.22**	**311**	*i* P	**Pb**	**23 06 25.5**	**+0.3**
BDRM				*i* S	**Sb**	**23 06 30.0**	**+1.2**
MLSB	**Milas**	**0.38**	**15**	*i* PG	**Pb**	**23 06 27.1**	**-0.8**
MLSB				*i* SG	**Sb**	**23 06 32.7**	**-0.6**
NISR	**Nisiros**	**0.52**	**234**	*e*PN	**Pn**	**23 06 31.5**	**-0.6**
YER	**Yerkesik**	**0.55**	**67**	*i* PG	**Pb**	**23 06 29.3**	**-1.3**
AYDN	**Tasoluk**	**0.76**	**14**	⇑*i*P	**Pb**	**23 06 33.7**	**-0.5**
AYDN				*i* S	**Sb**	**23 06 44.1**	**0.0**
ARG	**Arkhangelos**	**0.80**	**151**	*e*PN	**Pn**	**23 06 34.7**	**-1.4**
DALT	**Dalyan (Mudla)**	**0.81**	**101**	*i* PG	**Pb**	**23 06 34.1**	**-0.9**
DALT				*i* SG	**Sb**	**23 06 46.0**	**+0.5**
DNZL	**Cakiroluk**	**1.35**	**55**	*i* P	**Pn**	**23 06 44.1**	**+0.2**
DNZL				*i* S	**Sb**	**23 07 02.3**	**+1.1**
DENT	**Denizli**	**1.38**	**53**	PN	**Pn**	**23 06 45.1**	**+0.7**
KARP	**Karpathos**	**1.43**	**196**	*e*PN	**Pn**	**23 06 45.8**	**+0.7**
IZM	**Izmir**	**1.50**	**348**	PN	**Pn**	**23 06 46.5**	**+0.3**
KDAG	**Bornova**	**1.51**	**348**	*i* P	**Pn**	**23 06 45.7**	**-0.5**
KDAG				S	**Sn**	**23 07 09.6**	**+4.1**
APE	**Apeiranthos**	**1.70**	**276**	*e*PN	**Pn**	**23 06 47.9**	**-1.1**
APE	**Apeiranthos**	**1.70**	**276**	*e*PB	**Pb**	**23 06 50.2**	**-0.2**
ELL	**Elmali**	**1.82**	**95**	*e*PN	**Pn**	**23 06 51.4**	**+0.7**
AKS	**Akhisar**	**1.96**	**4**	*e*PN	**Pn**	**23 06 51.9**	**-0.7**
BCK	**Bucak**	**2.41**	**76**	*e*PN	**Pn**	**23 06 59.9**	**+0.8**
PRK	**Paraskevi**	**2.56**	**335**	*e*PN	**Pn**	**23 07 01.5**	**+0.2**
BALB	**Balikesir**	**2.72**	**4**	*e*PN	**Pn**	**23 07 04.1**	**+0.6**
DST	**Dursunbey**	**2.79**	**16**	PN	**Pn**	**23 07 03.6**	**-0.9**
KCT	**Karacabey**	**3.38**	**9**	*e*PN	**Pn**	**23 07 12.0**	**-1.0**
LIA	**Limnos Island**	**3.55**	**328**	*e*PN	**Pn**	**23 07 15.8**	**+0.5**
VLI	**Veliai**	**3.79**	**268**	*e*PN	**Pn**	**23 07 19.9**	**+1.2**
HDMB	**Hadim**	**3.87**	**88**	*e*PN	**Pn**	**23 07 20.8**	**+0.9**
KIZT	**Kizilcal**	**3.87**	**58**	*e*PN	**Pn**	**23 07 19.9**	**0.0**
NVR	**Nevrokopi**	**5.31**	**327**	*e*PN	**Pn**	**23 07 40.5**	**+0.2**

DHMR 13 23:07:08.1±1.4,11.98N×44.07E,h12km±10km,ML3.5, 1C-3D,Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.22**	**3**	⇑*i*P	Pb	23 07 31.8	+1.2
TRBA				*i* S	Sb	23 07 48.4	+2.3
TRBA				AML	AML	23 07 55.6	
	comp=N,848nm,0.6s						
UDYN	**Al 'Udayn**	**1.97**	**358**	⇓*i*P	Pn	23 07 42.8	+1.0
UDYN				*i* S	Sn	23 08 09.6	+3.0
UDYN				AML	AML	23 08 18.2	
	comp=Z,1µm,0.7s						
BDHA	**Al Bayda'**	**2.46**	**36**	⇓*i*P	Pn	23 07 50.3	+1.5
BDHA				*i* S	Sn	23 08 24.0	+5.0
BDHA				AML	AML	23 08 33.9	
	comp=Z,132nm,0.3s						
HAJJ	**Hajjah**	**3.72**	**353**	⇓*i*P	Pn	23 08 07.6	+0.9
HAJJ				*i* S	Sn	23 08 55.4	+4.4
HAJJ				AML	AML	23 09 11.9	
	comp=N,260nm,0.5s						

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*HEL **13** 23:18:25.9±0.1,67.88N×20.16E,ML1.8,ML2.2(UPP), ML1.6(BER),Explosion*
*BER **13** 23:18:25.8±3.6,67.83N×20.23E,ML1.6,Suspected explosion*

ISC 13 23:18:24.6±0.6,67.85N±0.03×20.17E±0.07,n13,σ0ˢ68/20, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.12**	**32**	*i* P	**Pg**	**23 18 27.3**	**+0.4**
KUA				*i* S	**Sg**	**23 18 29.1**	**+0.6**
NIKU	**Nikkaluokta**	**0.43**	**273**	*i* P	**Pg**	**23 18 33.2**	**0.0**
NIKU				*i* S	**Sg**	**23 18 39.5**	**+0.6**
KIF	**Kilpisjarvi**	**1.18**	**11**	*e*P	**Pb**	**23 18 47.4**	**-0.2**
KIF				*e*S	**Sb**	**23 19 03.2**	**0.0**
KTK1	**Kautokeino**	**1.62**	**43**	*e*P	**Pn**	**23 18 55.1**	**+0.5**
KTK1				*e*SN	**Sn**	**23 19 16.6**	**0.0**
KTK1				AML	AML	23 19 20.7	
	comp=Z,6.9nm,0.3s						
TRO	**Tromso**	**1.84**	**346**	*e*P	**Pn**	**23 18 56.9**	**-0.9**
TRO				*e*SN	**Sn**	**23 19 22.2**	**+0.1**
SJUU	**Sjulsmark**	**2.42**	**166**	*e*P	**Pn**	**23 19 07.7**	**+1.7**
SGF	**Sodankyl**	**2.46**	**97**	*e*P	**Pn**	**23 19 06.8**	**+0.1**
SGF				*e*S	**Sn**	**23 19 38.0**	**+0.1**
LOF	**Lofoten**	**2.51**	**279**	*e*	**Sg**	**23 19 47.3**	**-0.9**
LOF				AML	AML	23 19 48.7	
	comp=Z,6.5nm,0.3s						
LOF	**Lofoten**	**2.51**	**279**	*e*Sg	**Sg**	**23 19 47.3**	**-0.9**
LOF				AML	AML	23 19 48.7	
	comp=Z,6.5nm,0.3s						
MOR8	**Moi Rana**	**2.81**	**236**	*e*SG	**Sg**	**23 19 48.1**	**-10**
MOR8				AML	AML	23 19 50.5	
	comp=Z,8.5nm,0.3s						
KEV	**Kevo**	**3.13**	**49**	*e*P	**Pn**	**23 19 16.3**	**+0.2**
KEV				*e*S	**Sn**	**23 19 53.9**	**-0.9**
KEV				MSG		23 20 02.7	
	comp=Z,1.5nm,0.3s						
OUL	**Oulu**	**3.60**	**138**	*e*SB	**Sb**	**23 20 12.4**	**-1.2**
OUL				MSG		23 20 22.1	
	comp=Z,2.8nm,0.3s						
NSS	**Namsos**	**4.71**	**229**	*e*SG	**Sg**	**23 20 51.2**	**-10**

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*BER **13** 23:22:22.2±4.2,78.36N×6.97E,ML3.2(NAO)*

NAO 13 23:22:21.2±3.9,78.54N×6.95E,ML3.2,Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**1.05**	**66**	Pg	Pg	23 22 41.4	-0.9
KBS				Lg		23 22 56.0	
KBS	**Kingsbay**	**1.05**	**66**	*e*P	Pb	23 22 41.5	-0.5
KBS				*e*Sg	Sg	23 22 56.6	+0.3
SPA0	**Spitsbergen Ar**	**1.94**	**96**	Pn	Pn	23 22 55.2	-0.6
	baz=283,slow=9.3						
SPA0				Lg		23 23 22.2	
	baz=261,slow=22						

IDC 13 23:28:14.0±1.5,0.16N×123.66E,mb3.6/4,mb1 3.9/5, mb1mx3.6/15,ML3.8/1,Error ellipse: s-maj=136.0km s-min=22.3km az=64.0,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.25**	**174**	P	P	23 32 28.2	-2.3
	0.2nm,0.3s,baz=5.4,slow=12,SNR=4.4						
WRA	**Warramunga Arr**	**22.55**	**153**	P	P	23 33 15.9	-1.4
	1.8nm,0.6s,baz=335,slow=9.9,SNR=8.4						
ASAR	**Alice Springs**	**25.69**	**158**	P	P	23 33 46.6	-0.9
	0.7nm,0.5s,baz=343,slow=15,SNR=8.6						
STKA	**Stephens Creek**	**36.10**	**154**	P	P	23 35 16.7	-2.9
	1.0nm,0.6s,baz=315,slow=15,SNR=2.1						
MKAR	**Makanchi Array**	**58.83**	**328**	P	P	23 38 14.7	-2.0
	0.3nm,0.7s,baz=126,slow=9.3,SNR=3.4						

IDC 13 23:32:38.5±2.5,15.47S×173.33W,mb3.6/4,mb1 4.0/4, mb1mx3.8/14,Error ellipse: s-maj=204.0km s-min=26.9km az=153.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**14.08**	**116**	T		23 50 38.4	
	1.9nm,0.3s,baz=212,slow=15,SNR=2.5						
WRA	**Warramunga Arr**	**49.89**	**257**	P	P	23 41 33.8	-2.2
	0.6nm,0.9s,baz=90,slow=8.0,SNR=2.8						
ASAR	**Alice Springs**	**50.15**	**252**	P	P	23 41 36.0	-2.0
	1.7nm,0.8s,baz=87,slow=7.8,SNR=16						
TXAR	**Lajitas Array**	**80.60**	**56**	P	P	23 44 54.0	-0.9
	0.4nm,0.9s,baz=225,slow=3.8,SNR=3.8						
PDAR	**Pinedale Array**	**82.28**	**42**	P	P	23 45 01.6	-1.6
	0.3nm,0.5s,baz=247,slow=6.9,SNR=3.1						
BRTR	**Keskin Array B**	**146.25**	**321**	PKPbc	PKPbc	23 52 21.4	+0.1
	0.6nm,0.7s,baz=72,slow=3.9,SNR=3.8						

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*NEIC **13** 23:39:03.2±3.6,23.64S×179.86W,h484km±34km,mb4.5/3, Error ellipse: s-maj=34.6km s-min=13.0km az=220.0*
*IDC **13** 23:39:07.5±3.0,23.87S×179.99W,h523km±32km,mb3.5/8, mb1 3.7/9,mb1mx3.6/14,Error ellipse: s-maj=25.8km s-min=18.7km az=3.0*

ISC 13 23:39:05.1±2.7,23.8S±0.1×180.0E±0.1,h510km±31km, n23,σ0ˢ68/19,mb4.2/11,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.66**	**189**	P	**P**	**23 42 10.8**	**-1.0**
	2.5nm,0.3s,baz=248,slow=4.9,SNR=7.7						
URZ				S	**S**	**23 44 42.8**	**+0.4**
	0.9nm,0.3s,baz=108,slow=22,SNR=9.0						
RPZ	**Rata Peaks**	**21.21**	**198**	P	**P**	**23 43 15.4**	**+0.4**
	6.4nm,0.5s,mb4.5,baz=27,slow=4.5,SNR=4.5						
CTA	**Charters Tower**	**31.43**	**270**	P	**P**	**23 44 47.3**	**+1.7**
	6.1nm,0.5s,mb4.4,baz=96,slow=12,SNR=2.3						
CTAO	**Charters Tower**	**31.43**	**270**	P	**P**	**23 44 45.1**	**-0.4**
STKA	**Stephens Creek**	**34.73**	**248**	P	**P**	**23 45 13.9**	**+0.7**
	6.8nm,1.1s,mb4.1,baz=87,slow=6.7,SNR=4.6						
ASAR	**Alice Springs**	**42.01**	**260**	P	**P**	**23 46 13.1**	**+0.4**
	5.4nm,0.8s,mb4.1,baz=94,slow=7.9,SNR=35						
ASAR				S	**S**	**23 51 54.8**	**-0.4**
	0.7nm,0.9s,baz=93,slow=15,SNR=3.1						
ASPA	**Alice Springs**	**42.02**	**260**	*e*P	**P**	**23 46 13.3**	**+0.6**
WB2	**Warramunga Arr**	**42.36**	**266**	*e*P	**P**	**23 46 15.2**	**-0.3**
WRAB	**Tennant Creek**	**42.37**	**266**	P	**P**	**23 46 15.3**	**-0.2**
WRA	**Warramunga Arr**	**42.37**	**266**	P	**P**	**23 46 15.7**	**+0.2**
	2.4nm,0.3s,mb4.2,baz=97,slow=8.4,SNR=45						
FORT	**Forrest**	**46.32**	**249**	*e*P	**P**	**23 46 45.5**	**-0.7**
	60nm,0.6s,mb5.3						
FITZ	**Fitzroy Crossi**	**50.80**	**266**	P	**P**	**23 47 20.2**	**+0.3**
	3.9nm,0.7s,mb3.8,baz=158,slow=6.2,SNR=8.3						
SBA	**Scott Base**	**54.51**	**183**	*e*P	**P**	**23 47 46.4**	**+0.5**
	4.9nm,0.7s,mb3.9						
MBWA	**Marble Bar**	**55.35**	**260**	P	**P**	**23 47 50.8**	**-1.6**
QSPA	**South Pole Qui**	**66.32**	**180**	*e*P	**P**	**23 49 02.8**	**-0.8**
	8.6nm,0.8s,mb4.3						
MAW	**Mawson**	**77.86**	**200**	P	**P**	**23 50 10.5**	**+0.3**
	4.0nm,0.8s,mb3.8,baz=123,slow=8.5,SNR=7.2						
TXAR	**Lajitas Array**	**90.39**	**58**	P	**P**	**23 51 13.1**	**+0.3**
	0.5nm,0.6s,mb3.5,baz=199,slow=7.5,SNR=4.0						
MKAR	**Makanchi Array**	**112.03**	**313**	PKiKP		23 56 42.4	
	0.3nm,0.5s,baz=135,slow=2.0,SNR=3.6						
ARCES	**ARCESS Array B**	**131.74**	**348**	PKP	PKPdf	23 57 19.2	+0.1
	8.1nm,1.1s,baz=27,slow=2.0,SNR=3.7						
FINES	**FINESS Array B**	**138.30**	**341**	PKP	PKPdf	23 57 32.8	+1.5
	3.1nm,0.9s,baz=135,slow=2.7,SNR=3.7						
AKASG	**Malin Array Be**	**144.83**	**327**	PKP	PKPdf	23 57 43.8	+0.8
	1.8nm,0.5s,baz=40,slow=4.1,SNR=11						
BRTR	**Keskin Array B**	**147.46**	**307**	PKPbc	PKPdf	23 57 52.8	+5.1
	0.8nm,0.6s,baz=117,slow=2.8,SNR=3.9						
BRTR				PKPab	PKPab	23 57 56.9	-0.4
	1.1nm,0.7s,baz=94,slow=3.0,SNR=6.0						
CLL	**Collm**	**150.71**	**343**	*i* PKP1	PKPdf	23 57 59.6	+7.1

OTT 13 23:41:20.0±0.1,64.66N×110.67W,h1km,MN3.3/14, Blast, Ekati Mine, Nt Mining explosion.,Northwest Territories

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EKTN	**Ekati Mine**	**0.04**	**35**	PG	Pg	23 41 20.6	-0.3
LDGN	**Lac de Gras No**	**0.07**	**75**	PG	Pg	23 41 21.8	+0.4
DVKN	**Diavik Mine**	**0.22**	**134**	PG	Pg	23 41 24.0	-0.4
DVKN				SG	Sg	23 41 27.1	-0.2
DVKN				Trac		23 41 28.1	
	comp=Z,479nm,0.2s						
ACKN	**Achilles Lake**	**0.34**	**346**	PG	Pg	23 41 26.2	-0.6
ACKN				SG	Sg	23 41 31.0	-0.4
ACKN				Trac		23 41 32.0	
	comp=Z,466nm,0.2s						
LGSN	**Lac de Gras So**	**0.40**	**144**	PG	Pg	23 41 27.3	-0.7
LGSN				SG	Sg	23 41 32.9	-0.6
LGSN				Trac		23 41 33.5	
	comp=Z,99nm,0.1s						
YMBN	**Yamba Lake**	**0.43**	**300**	PG	Pg	23 41 27.8	-0.7
YMBN				Trac		23 41 34.8	
	comp=Z,122nm,0.1s						
MCKN	**MacKay Lake No**	**0.51**	**157**	PG	Pg	23 41 29.1	-1.0
MCKN				SG	Sg	23 41 35.4	-1.4
GLWN	**Glow Worm Lake**	**0.58**	**83**	PG	Pg	23 41 30.6	-1.0
GLWN				SG	Sg	23 41 38.5	-0.8
GLWN				Trac		23 41 39.6	
	comp=Z,156nm,0.1s						
COWN	**Contwyoto Lake**	**0.65**	**340**	PG	Pg	23 41 31.9	-1.0
COWN				SG	Sg	23 41 40.9	-0.7
COWN				Trac		23 41 41.6	
	comp=Z,115nm,0.1s						
NODN	**Nodinka Narrow**	**0.71**	**190**	PG	Pg	23 41 33.0	-1.3
NODN				SG	Sg	23 41 42.1	-1.6
NODN				Trac		23 41 42.8	
	comp=Z,278nm,0.2s						
MLON	**Marlo Lake**	**0.77**	**154**	PG	Pg	23 41 34.0	-1.5
MLON				SG	Sg	23 41 44.4	-1.3
MLON				Trac		23 41 45.2	
	comp=Z,44nm,0.1s						
BOXN	**Box Lake**	**0.91**	**152**	PG	Pg	23 41 36.8	-1.4
BOXN				SG	Sg	23 41 49.2	-1.2
BOXN				Trac		23 41 50.8	
	comp=Z,55nm,0.1s						
CAMN	**Camsell Lake**	**0.94**	**186**	PG	Pg	23 41 37.1	-1.7
CAMN				SG	Sg	23 41 49.8	-1.4
CAMN				Trac		23 41 49.9	
	comp=Z,36nm,0.1s						
MGTN	**Margaret Lake**	**1.09**	**154**	PG	Pg	23 41 39.9	-1.8
MGTN				SG	Sg	23 41 53.6	-2.6
MGTN				Trac		23 41 55.4	
	comp=Z,233nm,0.1s						
LUPN	**Lupin Mine**	**1.11**	**347**	PG	Pg	23 41 40.1	-2.0
LUPN				SG	Sg	23 41 54.5	-2.5
LUPN				Trac		23 41 56.1	
	comp=Z,135nm,0.2s						
SNPN	**Snap Lake**	**1.15**	**185**	PG	Pg	23 41 41.0	-2.0
SNPN				SG	Sg	23 41 55.8	-2.6
SNPN				Trac		23 41 60.0	
	comp=Z,534nm,0.1s						
IHLN	**Indian Hill La**	**1.36**	**184**	PG	Pg	23 41 44.4	-2.9
IHLN				SG	Sg	23 42 01.9	-3.5
IHLN				Trac		23 42 03.4	
	comp=Z,136nm,0.2s						
KNDN	**Kennady Lake**	**1.41**	**152**	PG	Pg	23 41 45.2	-2.8
KNDN				SG	Sg	23 42 03.3	-3.5
KNDN				Trac		23 42 04.7	
	comp=Z,103nm,0.2s						
DSMN	**Discovery Mine**	**2.06**	**225**	PN	Pn	23 41 54.3	-1.8
DSMN				PG	Pg	23 41 56.2	-5.0
DSMN				SN	Sn	23 42 22.5	-0.3
DSMN				Trac		23 42 24.4	
	comp=Z,40nm,0.1s						
YKW3	**Yellowknife Ar**	**2.75**	**222**	PN	Pn	23 42 03.1	-2.9
YKW3				SN	Sn	23 42 35.6	-4.7

YKW3				SG	Sg	23 42 48.4	-3.1
YKW3				Trac		23 42 51.4	
	comp=Z,52nm,0.2s						
FNBB	**Fort Nelson**	**8.22**	**231**	PN	P	23 43 18.8	-4.4
FNBB				SN	Sn	23 44 42.2	-16
FNBB				LG		23 45 40.1	
FNBB				Trac		23 45 54.2	
	comp=Z,4.2nm,0.7s						
INK	**Inuvik**	**9.80**	**302**	PN	P	23 43 40.1	-4.8
INK				SN	Sn	23 45 20.6	-16
FCC	**Fort Churchill**	**9.82**	**119**	PN	P	23 43 39.1	-6.2
FCC				SN	Sn	23 45 20.2	-17
BMBC	**Bull Mountain**	**10.32**	**218**	PN	P	23 43 43.7	-8.4
BMBC				SN	S	23 45 33.2	-16
BMBC				LG		23 46 39.6	
RES	**Resolute Bay**	**11.40**	**21**	PN	P	23 43 58.0	-8.8
RES				SN	S	23 45 54.4	-22
SILO	**Sutton Inlier**	**16.42**	**116**	PN	P	23 45 07.0	-5.9
SILO				SN	S	23 47 58.4	-17

IDC 14 00:10:46.2±17.0,23.40S×174.62W,mb4.4/5,mb1 4.5/5, mb1mx4.2/14,MS3.7/1,Ms1 3.7/1,ms1mx3.1/20,Error ellipse: s-maj=314.0km s-min=135.1km az=82.0,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**36.41**	**268**	P	P	00 17 53.6	-0.9
	4.2nm,0.3s,baz=102,slow=9.3,SNR=12						
STKA	**Stephens Creek**	**39.48**	**248**	P	P	00 18 17.4	-2.7
	3.7nm,1.1s,baz=86,slow=12,SNR=6.0						
ASAR	**Alice Springs**	**46.98**	**259**	P	P	00 19 18.5	-2.5
	0.9nm,0.4s,baz=93,slow=7.2,SNR=19						
WRA	**Warramunga Arr**	**47.36**	**264**	P	P	00 19 22.0	-2.2
	2.4nm,0.3s,baz=101,slow=8.1,SNR=24						
FITZ	**Fitzroy Crossi**	**55.78**	**263**	P	P	00 20 26.2	-1.4
	3.4nm,0.8s,baz=90,slow=3.0,SNR=3.6						
FITZ				LR	LR	00 44 04.9	
	comp=Z,68nm,22.0s,baz=61,slow=36						

NEIC 14 00:17:04.8,32.49S×71.68W,h34^{km},ML3.2(GUC),After GUC.

GUC 14 00:17:04.8±0.7,32.49S×71.68W,h34^{km}±2^{km},MD3.5, ML3.2,3C-4D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.53**	**176**	⇓*i*P	P	00 17 15.9	+0.1
IHA				*i*S	S	00 17 24.0	+0.3
JACH	**Jahuel**	**0.94**	**102**	⇑*i*P	P	00 17 22.1	+0.5
JACH				*i*S	S	00 17 35.3	+1.3
LCCH	**Las Cruces**	**0.98**	**174**	⇑*i*P	P	00 17 22.4	+0.1
LCCH				*i*S	S	00 17 35.5	+0.3
PEL	**Peldehue**	**1.06**	**128**	*e*P	P	00 17 24.1	+0.7
PEL				*i*S	S	00 17 38.2	+1.1
PEL				AMP		00 17 39.7	
	comp=N,1µm,0.4s						
RCDM	**Rinconada Maip**	**1.24**	**144**	*i*P	P	00 17 26.6	+0.8
RCDM				*i*S	S	00 17 43.1	+1.5
RCDM				AMP		00 17 44.6	
	comp=E,1µm,0.2s						
DSCH	**Colegio Aleman**	**1.30**	**134**	AMP		00 17 50.6	
	comp=N,556nm,0.5s						
TACH	**Talagante**	**1.31**	**152**	*e*P	P	00 17 27.9	+0.9
TACH				*i*S	S	00 17 44.9	+1.3
CLCH	**Cerro Calan**	**1.32**	**133**	⇓*i*P	P	00 17 27.8	+0.7
CLCH				*i*S	S	00 17 45.1	+1.5
CLCH				AMP		00 17 47.7	
	comp=N,330nm,0.3s						
ANTU	**Antumapu**	**1.39**	**141**	AMP		00 17 49.1	
	comp=E,457nm,0.2s						
FCH	**Farellones**	**1.44**	**126**	⇓*i*P	P	00 17 29.5	+0.8
FCH				*i*S	S	00 17 48.8	+2.2
FCH				AMP		00 17 52.6	
	comp=E,279nm,0.4s						
CMCH	**Combarbala**	**1.44**	**24**	⇓*i*P	P	00 17 27.9	-0.8
CMCH				*i*S	S	00 17 46.6	0.0
CMCH				AMP		00 17 47.4	
	comp=E,2µm,0.4s						
CHCH	**Chadas Angostu**	**1.68**	**149**	*i*P	P	00 17 32.8	+0.7
CHCH				*i*S	S	00 17 55.1	+2.4
LMEL	**Las Melosas**	**1.83**	**138**	⇑*i*P	P	00 17 35.5	+1.1
LMEL				*i*S	S	00 17 59.4	+2.7
LMEL				AMP		00 18 03.2	
	comp=N,474nm,0.1s						
CACH	**El Canelo**	**1.86**	**151**	*i*P	P	00 17 36.4	+1.7
CACH				*i*S	S	00 18 00.9	+3.6
CICH	**Cipreses**	**2.11**	**150**	*i*P	P	00 17 39.3	+1.0
CICH				*i*S	S	00 18 05.5	+2.0
TLL	**Tololo Astrono**	**2.44**	**18**	AMP		00 18 27.6	
	comp=N,183nm,0.4s						

IDC 14 00:41:30.9±1.0,11.64N×125.74E,mb4.1/9,mb1 4.2/9, mb1mx4.0/18,Error ellipse: s-maj=57.8km s-min=17.0km az=69.0

NEIC 14 00:41:43.4±0.6,11.51N×125.54E,h100^{km},mb4.6/3,Error ellipse: s-maj=31.0km s-min=8.9km az=68.0

ISC 14 00:41:32.1±1.8,11.77N±0.04×125.93E±0.08,h19^{km}±11^{km}, n25,σ0^{s}93/30,mb4.3/12,3C,Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.51**	**251**	*e*P	**Pb**	**00 41 42.0**	**-0.2**
BESP				*e*S	**Sb**	**00 41 47.8**	**-1.3**
CNP	**Catarman**	**1.44**	**301**	*e*P	**Pn**	**00 41 59.0**	**+1.4**
OCLP	**Ormoc**	**1.47**	**241**	*e*P	**Pn**	**00 41 57.6**	**-0.4**
MSLP	**Maasin**	**1.93**	**213**	*e*P	**Pn**	**00 42 06.3**	**+1.8**
MSLP				*e*S	**Sn**	**00 42 28.4**	**-0.1**
SCPH	**Surigao**	**2.02**	**192**	*e*P	**Pn**	**00 42 06.8**	**+1.0**
SCPH				*i*S	**Sn**	**00 42 30.7**	**0.0**
LLP	**Lapu-Lapu**	**2.40**	**233**	*e*P	**Pn**	**00 42 11.0**	**-0.3**
LLP				*e*S	**Sn**	**00 42 40.0**	**-0.5**
PVCP	**Virac**	**2.51**	**317**	*e*P	**Pn**	**00 42 18.5**	**+5.7**
TBP	**Tagbilaran**	**2.89**	**225**	⇑*e*P	**Pn**	**00 42 19.4**	**+1.1**
TBP				*e*S	**Sn**	**00 42 54.2**	**+1.3**
RCP	**Roxas**	**3.12**	**267**	⇑*e*P	**Pn**	**00 42 22.2**	**+0.6**
GUIM	**Jordan**	**3.46**	**251**	*e*P	**Pn**	**00 42 26.0**	**-0.4**
BOLP	**Bolinao**	**7.42**	**309**	*e*P	**Pn**	**00 43 33.8**	**+12**
CMAR	**Chiang Mai Arr**	**26.86**	**288**	P	**P**	**00 47 12.3**	**-1.6**
	0.7nm,0.4s,mb3.5,baz=98,slow=7.2,SNR=4.5						
FITZ	**Fitzroy Crossi**	**29.68**	**181**	P	**P**	**00 47 38.0**	**-1.3**
	3.1nm,0.8s,mb4.1,baz=357,slow=12,SNR=2.2						
ASAR	**Alice Springs**	**36.07**	**168**	P	**P**	**00 48 34.5**	**-0.4**
	0.3nm,0.4s,mb3.5,baz=348,slow=7.6,SNR=5.1						
ASAR				PcP	PcP	00 50 59.7	-1.4
	0.4nm,0.4s,baz=337,slow=2.7,SNR=4.1						
SONM	**Songino Array**	**39.51**	**339**	P	**P**	**00 49 05.0**	**+1.6**
	0.6nm,0.4s,mb3.7,baz=159,slow=10,SNR=3.7						
STKA	**Stephens Creek**	**45.92**	**161**	P	**P**	**00 49 54.6**	**-1.1**
	1.0nm,0.5s,mb4.0,baz=39,slow=14,SNR=4.1						
MKAR	**Makanchi Array**	**50.64**	**322**	P	**P**	**00 50 32.3**	**+0.1**
	3.4nm,0.6s,mb4.5,baz=119,slow=8.7,SNR=32						
KURK	**Kurchatov**	**54.65**	**325**	P	**P**	**00 51 02.1**	**0.0**
	96nm,0.6s,mb6.0,SNR=18						
KURK	**Kurchatov**	**54.65**	**325**	⇑*e*P	**P**	**00 51 01.8**	**-0.3**
	16nm,0.8s,mb5.1						
BRVK	**Borovoye**	**60.32**	**325**	*e*P	**P**	**00 51 41.7**	**-0.4**
	3.5nm,0.7s,mb4.5						
ZRNK	**Zerenda**	**61.01**	**325**	*e*P	**P**	**00 51 45.7**	**-1.1**
	2.4nm,0.5s,mb4.6						
ARCES	**ARCESS Array B**	**82.68**	**340**	P	**P**	**00 53 56.3**	**+0.8**
	14nm,1.2s,mb4.9,baz=79,slow=6.2,SNR=9.5						
FINES	**FINESS Array B**	**84.42**	**332**	P	**P**	**00 54 05.0**	**+0.5**
	1.3nm,0.5s,mb4.3,baz=93,slow=5.3,SNR=15						
FINES	**FINESS Array B**	**84.42**	**332**	P	**P**	**00 54 05.0**	**+0.5**
AKASG	**Malin Array Be**	**85.20**	**321**	P	**P**	**00 54 07.8**	**-0.9**
	0.5nm,0.6s,mb3.8,baz=64,slow=4.5,SNR=5.8						

IDC 14 01:13:13.6±0.9,57.11S×148.11E,mb4.5/8,mb1 4.6/8, mb1mx4.5/10,MS4.2/7,Ms1 4.3/7,ms1mx4.2/10,Error ellipse: s-maj=31.8km s-min=20.9km az=99.0

NEIC 14 01:13:16.0±0.5,57.06S×147.66E,h10^{km},mb4.6/8,Error ellipse: s-maj=20.1km s-min=8.6km az=89.0

ISC 14 01:13:13.8±0.5,57.08S±0.06×147.7E±0.2,h10^{km},n41, σ1^{s}18/28,mb4.5/14,MS4.2/7,4C,West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOO	**Toolangi**	**19.58**	**355**	*e*P	**P**	**01 17 44.4**	**-0.1**
	15nm,0.9s						
CASY	**Casey**	**19.59**	**227**	*e*P	**P**	**01 17 42.7**	**-1.7**
	15nm,0.8s						
CNB	**Canberra Magne**	**21.80**	**4**	*e*P	**P**	**01 18 09.0**	**+1.3**
	29nm,1.3s,mb4.5						
SBA	**Scott Base**	**21.86**	**169**	*e*P	**P**	**01 18 07.0**	**-0.9**
	77nm,1.6s,mb4.9						
STKA	**Stephens Creek**	**25.56**	**348**	*e*P	**P**	**01 18 46.2**	**+2.0**
	16nm,0.9s,mb4.5						
STKA	**Stephens Creek**	**25.56**	**348**	P	**P**	**01 18 46.0**	**+1.9**
	9.4nm,0.8s,mb4.4,baz=160,slow=12,SNR=12						
URZ	**Urewera**	**26.98**	**58**	P	**P**	**01 18 56.5**	**-0.8**
	27nm,0.9s,mb4.8,baz=266,slow=2.3,SNR=6.3						
URZ				LR	LR	01 28 36.9	
	comp=Z,639nm,21.5s,MS4.2,baz=108,slow=34						
FORT	**Forrest**	**29.65**	**324**	*e*P	**P**	**01 19 21.5**	**+0.1**
	80nm,0.6s,mb5.6						
NWAO	**Narrogin (SRO)**	**31.91**	**306**	LR	LR	01 29 31.6	
	comp=Z,517nm,21.2s,MS4.2,baz=143,slow=30						
QSPA	**South Pole Qui**	**33.02**	**180**	*e*P	**P**	**01 19 50.5**	**-0.1**
	3.9nm,1.0s,mb4.3						
QSPA				*e*		01 27 18.3	
ASAR	**Alice Springs**	**34.86**	**337**	P	**P**	**01 20 06.8**	**-0.3**
	2.4nm,0.6s,mb4.3,baz=161,slow=9.0,SNR=23						
ASAR				PcP	PcP	01 22 39.8	-0.5
	1.3nm,0.8s,baz=140,slow=3.3,SNR=5.1						
ASPA	**Alice Springs**	**34.86**	**337**	*e*P	**P**	**01 20 06.6**	**-0.5**
CTA	**Charters Tower**	**36.96**	**358**	P	**P**	**01 20 23.8**	**-1.0**
	5.7nm,0.9s,mb4.4,baz=195,slow=12,SNR=2.7						
CTA	**Charters Tower**	**36.96**	**358**	P	**P**	**01 20 23.8**	**-1.0**
MAW	**Mawson**	**37.57**	**219**	P	**P**	**01 20 30.2**	**+0.7**
	1.4nm,0.6s,mb3.9,baz=91,slow=13,SNR=3.0						
MAW				LR	LR	01 34 42.1	
	comp=Z,810nm,20.8s,MS4.5,baz=84,slow=34						
WB2	**Warramunga Arr**	**38.39**	**339**	*e*P	**P**	**01 20 36.8**	**-0.1**
WRA	**Warramunga Arr**	**38.40**	**339**	P	**P**	**01 20 36.1**	**-0.8**
	11nm,1.1s,mb4.5,baz=168,slow=7.8,SNR=26						
WRA				LR	LR	01 36 21.1	
	comp=Z,117nm,21.8s,MS3.7,baz=260,slow=36						
WRAB	**Tennant Creek**	**38.40**	**339**	P	**P**	**01 20 34.1**	**-2.8**
	19nm,0.8s,mb4.9						
MBWA	**Marble Bar**	**41.36**	**318**	*e*P	**P**	**01 21 00.3**	**-1.1**
	19nm,0.9s,mb4.7						
FITZ	**Fitzroy Crossi**	**42.28**	**328**	P	**P**	**01 21 10.2**	**+1.3**
	11nm,1.2s,mb4.4,baz=189,slow=12,SNR=3.9						
FITZ				LR	LR	01 37 20.3	
	comp=Z,201nm,18.1s,MS4.0,baz=162,slow=34						
SNAA	**Sanae**	**49.89**	**192**	*e*	**P**	**01 22 15.3**	**+6.7**
SNAA	**Sanae**	**49.89**	**192**	⇑*i*P	**P**	**01 22 08.3**	**-0.3**
SNAA				*e*		01 22 15.3	
VNA3	**Neumayer Olymp**	**50.97**	**189**	*e*	**P**	**01 22 25.7**	**+8.9**
VNA3	**Neumayer Olymp**	**50.97**	**189**	⇑*i*P	**P**	**01 22 18.4**	**+1.6**
VNA3				*e*		01 22 25.7	
VNA2	**Neumayer--Watz**	**51.07**	**190**	*e*	**P**	**01 22 26.0**	**+8.4**
VNA2	**Neumayer--Watz**	**51.07**	**190**	⇑*i*P	**P**	**01 22 19.0**	**+1.4**
VNA2				*e*		01 22 26.0	
VNA1	**Neumayer--Stat**	**51.42**	**190**	*e*	**P**	**01 22 28.5**	**+8.3**
VNA1	**Neumayer--Stat**	**51.42**	**190**	⇑*i*P	**P**	**01 22 21.7**	**+1.5**
VNA1				*e*		01 22 28.5	
CMAR	**Chiang Mai Arr**	**85.54**	**314**	P	**P**	**01 25 55.9**	**+2.8**
	0.5nm,0.4s,mb4.1,baz=172,slow=6.4,SNR=3.4						
CMAR				LR	LR	01 59 23.1	
	comp=Z,336nm,21.7s,MS4.7,baz=160,slow=32						
CPUP	**Villa Florida**	**94.26**	**158**	LR	LR	02 08 29.4	
	comp=Z,101nm,18.4s,MS4.3,baz=216,slow=35						
MSU	**Marysvale**	**126.48**	**74**	*e*PKPdf	PKPdf	01 32 20.9	+1.4
PV10	**Paradox Valley**	**128.04**	**76**	*e*PKPdf	PKPdf	01 32 22.1	-0.6
AKASG	**Malin Array Be**	**144.32**	**287**	PKP	PKPdf	01 32 49.2	-2.7
	2.1nm,0.9s,baz=102,slow=2.2,SNR=6.2						
SADO	**Sadowa**	**148.64**	**93**	PKPbc	PKPdf	01 32 58.5	-0.8
	3.3nm,0.7s,baz=246,slow=4.4,SNR=3.2						
MORC	**Moravsky Berou**	**150.03**	**278**	*e*PKPbc	PKPdf	01 33 05.7	+4.4
VRAC	**Vranov**	**150.28**	**276**	PKPbc	PKPdf	01 33 06.9	+5.1
	3.4nm,0.9s,baz=34,slow=5.4,SNR=3.8						
FINES	**FINESS Array B**	**150.74**	**303**	PKPbc	PKPdf	01 33 06.1	+4.0
	5.5nm,0.8s,baz=63,slow=4.3,SNR=10						
GERES	**GERESS Array B**	**151.60**	**273**	PKPbc	PKPdf	01 33 09.1	+5.4
	1.5nm,0.7s,baz=135,slow=1.9,SNR=16						
KHC	**Kasperske Hory**	**151.83**	**273**	*e*PKPbc	PKPdf	01 33 15.5	+11
ARCES	**ARCESS Array B**	**152.46**	**320**	PKPbc	PKPdf	01 33 10.2	+5.8
	2.9nm,0.8s,baz=90,slow=3.6,SNR=5.2						
ARCES				PKPab	PKPab	01 33 19.4	-1.5
	3.6nm,0.9s,baz=22,slow=6.5,SNR=7.1						
DAVOX	**Davos**	**152.47**	**266**	PKPbc	PKPdf	01 33 10.9	+5.9
	3.4nm,0.8s,baz=227,slow=5.8,SNR=6.2						

IDC 14 01:15:48.6±1.7,16.66S×177.24W,mb4.3/6,mb1 4.5/6, mb1mx4.3/13,MS4.1/4,Ms1 4.0/4,ms1mx3.8/11,Error ellipse: s-maj=97.5km s-min=23.0km az=149.0

ISC 14 01:15:52.3±1.5,16.7S±0.5×177.3W±0.4,h33^{km},n9, σ0^{s}43/6,mb4.3/6,MS4.2/3,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**17.19**	**108**	LR	LR	01 24 52.2	
	comp=Z,303nm,18.5s,baz=167,slow=32						
TBI	**Tubuai**	**26.97**	**109**	*e*L		01 26 59.6	
TBI				*e*R		01 27 59.8	
	921nm,28.5s,baz=283						
CTA	**Charters Tower**	**34.69**	**259**	P	**P**	**01 22 41.0**	**-0.2**
	10nm,0.9s,mb4.8,baz=58,slow=13,SNR=3.7						
STKA	**Stephens Creek**	**40.14**	**240**	P	**P**	**01 23 27.2**	**+0.3**
	6.2nm,0.8s,mb4.4,baz=94,slow=8.7,SNR=6.8						
STKA				LR	LR	01 36 39.0	
	comp=Z,212nm,20.8s,MS4.0,baz=32,slow=31						
WRA	**Warramunga Arr**	**45.89**	**258**	P	**P**	**01 24 14.2**	**+0.3**
	1.3nm,0.8s,mb3.9,baz=91,slow=7.9,SNR=4.1						
ASAR	**Alice Springs**	**46.13**	**253**	P	**P**	**01 24 15.2**	**-0.5**
	3.2nm,0.7s,mb4.3,baz=86,slow=8.3,SNR=20						
ASAR				LR	LR	01 43 18.7	
	comp=Z,317nm,18.5s,MS4.3,baz=88,slow=36						
TXAR	**Lajitas Array**	**84.46**	**57**	P	**P**	**01 28 23.3**	**-0.2**
	0.8nm,0.9s,mb3.8,baz=207,slow=8.4,SNR=6.7						
ILAR	**Eielson Array**	**84.47**	**13**	P	**P**	**01 28 22.8**	**+0.2**
	3.5nm,1.1s,mb4.4,baz=217,slow=6.1,SNR=11						
MAW	**Mawson**	**85.36**	**199**	LR	LR	02 03 16.2	
	comp=Z,133nm,18.8s,MS4.4,baz=231,slow=33						

LDG 14 02:38:20.0±0.1,43.13N×3.13E,h10^{km},Ml2.4/18,Error ellipse: s-maj=1.5km s-min=1.1km az=143.0

MDD 14 02:38:20.0±0.4,43.15N×3.12E,h10^{km},mbLg1.5/17,Error ellipse: s-maj=3.4km s-min=2.4km az=141.0,PRXIMO

STR 14 02:38:20.9±0.7,43.07N×3.16E,h2^{km}±1^{km},Ml2.4,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0

ISC 14 02:38:17.7±0.3,43.22N±0.02×3.15E±0.02,h9^{km}±3^{km},n36, σ1^{s}35/73,Near south coast of France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LRDF	**Laroque-de-Fa**	**0.53**	**238**	Pg	**Pg**	**02 38 29.5**	**+1.1**
LRDF				Sg	**Sg**	**02 38 36.6**	**+1.0**
LRDF	**Laroque-de-Fa**	**0.53**	**238**	P	**Pg**	**02 38 29.7**	**+1.3**
LRDF				S	**Sg**	**02 38 36.5**	**+0.9**
MTLF	**Montolieu**	**0.69**	**280**	*e*Pg	**Pg**	**02 38 31.6**	**0.0**
MTLF				*e*Pn	**Pn**	**02 38 34.2**	**+0.8**
MTLF				*e*Sg	**Sg**	**02 38 41.4**	**+0.5**
MTLF				*e*Sn	**Sn**	**02 38 44.0**	**-0.3**
	13nm,0.2s						
SJAF	**Saint Jean de**	**0.76**	**195**	Pg	**Pg**	**02 38 32.8**	**-0.2**
SJAF				Sg	**Sg**	**02 38 41.0**	**-2.2**
SJAF	**Saint Jean de**	**0.76**	**195**	P	**Pg**	**02 38 32.8**	**-0.2**
SJAF				S	**Sb**	**02 38 40.9**	**-2.0**
FILF	**Fillols**	**0.79**	**214**	Pg	**Pg**	**02 38 35.1**	**+1.6**
FILF	**Fillols**	**0.79**	**214**	P	**Pb**	**02 38 34.8**	**+1.7**
FILF				S	**Sb**	**02 38 44.8**	**+1.1**
EJON	**La Jonquera**	**0.79**	**194**	Pg	**Pg**	**02 38 33.4**	**-0.2**
	1.7nm,0.1s,SNR=7.9						
EJON				Lg		02 38 41.9	
	18nm,0.1s,SNR=7.9						
CARF	**Carcanieres**	**0.92**	**237**	P	**Pb**	**02 38 37.0**	**+1.7**
CARF				S	**Sb**	**02 38 48.1**	**+0.7**
LASF	**Ste Croix**	**1.00**	**31**	*e*Pn	**Pn**	**02 38 38.8**	**+1.0**
LASF				*e*Pg	**Pg**	**02 38 40.5**	**+2.8**
LASF				*e*Sn	**Sn**	**02 38 54.4**	**+2.4**
	16nm,0.2s						
CLLI	**Llivia**	**1.14**	**230**	Pg	**Pg**	**02 38 40.6**	**+0.1**
VALF	**Valcebollere**	**1.17**	**226**	S	**Sb**	**02 38 54.6**	**-0.1**
CBRU	**Bruguera**	**1.18**	**218**	Pg	**Pg**	**02 38 40.6**	**-0.6**
SALF	**Salau**	**1.51**	**253**	S	**Sb**	**02 39 07.3**	**+2.7**
CORG	**Organya**	**1.68**	**234**	Pn	**Pn**	**02 38 49.3**	**+1.9**
CSOR	**Sort**	**1.71**	**241**	Pg	**Pg**	**02 38 51.5**	**-0.3**
EMIR	**Miracle**	**1.77**	**223**	Pn	**Pn**	**02 38 51.4**	**+2.6**
	1.1nm,0.1s,SNR=7.9						
EMIR				Lg		02 39 14.1	
	3.1nm,0.2s,SNR=7.9						
CAF	**Calviac**	**1.88**	**336**	*e*Pn	**Pn**	**02 38 53.4**	**+3.1**
CAF				*e*Pg	**Pg**	**02 38 57.7**	**+2.5**
CAF				*e*Sn	**Sn**	**02 39 14.6**	**+0.2**
CAF				*e*Sg	**Sg**	**02 39 21.8**	**+1.5**
	4.0nm,0.2s						
SMRF	**Simiane la Rot**	**1.92**	**66**	*e*Pn	**Pn**	**02 38 52.0**	**+1.1**
SMRF				*e*Pg	**Pg**	**02 38 57.1**	**+1.2**
SMRF				*e*Sn	**Sn**	**02 39 15.5**	**+0.2**
SMRF				*e*Sg	**Sg**	**02 39 22.7**	**+1.2**
	2.4nm,0.3s						
VIVF	**Saint-Julien-l**	**1.97**	**33**	*e*Pn	**Pn**	**02 38 53.0**	**+1.3**
VIVF				*e*Pg	**Pg**	**02 38 58.9**	**+1.9**
VIVF				*e*Sn	**Sn**	**02 39 17.4**	**+0.7**
VIVF				*e*Sg	**Sg**	**02 39 25.1**	**+1.8**
	3.6nm,0.2s						
EPF	**Esparros**	**2.07**	**266**	*e*Pn	**Pn**	**02 38 52.1**	**-1.0**
EPF				*e*Pg	**Pg**	**02 38 56.2**	**-2.8**
EPF				*e*Sn	**Sn**	**02 39 16.1**	**-3.1**
EPF				*e*Sg	**Sg**	**02 39 23.6**	**-3.0**
	7.7nm,0.2s						
CAVN	**Les Avellanes**	**2.22**	**234**	Pg	**Pg**	**02 39 01.0**	**-1.0**
RJF	**Les Rejaudoux**	**2.39**	**331**	*e*Pg	**Pg**	**02 39 05.5**	**0.0**
RJF				*e*Sn	**Sn**	**02 39 26.6**	**-0.9**
RJF				*e*Sg	**Sg**	**02 39 37.7**	**+0.3**
	5.0nm,0.2s						
EPOB	**Poblet**	**2.42**	**220**	Pg	**Pg**	**02 39 01.7**	**-4.3**
	SNR=7.9						
EPOB				Lg		02 39 30.9	
	SNR=7.9						
LFF	**La Frestale**	**2.45**	**316**	*e*Sn	**Sn**	**02 39 26.8**	**-2.0**
LFF				*e*Sg	**Sg**	**02 39 38.4**	**-0.8**
	4.6nm,0.2s						
LMR	**La Mourre**	**2.45**	**86**	*e*Pn	**Pn**	**02 38 58.2**	**-0.4**
LMR				*e*Pg	**Pg**	**02 39 06.0**	**-0.7**
LMR				*e*Sn	**Sn**	**02 39 27.6**	**-1.4**
LMR				*e*Sg	**Sg**	**02 39 38.0**	**-1.4**
	1.6nm,0.2s						
FRF	**La Foret Royal**	**2.57**	**81**	*e*Pn	**Pn**	**02 39 00.3**	**+0.1**
FRF				*e*Pg	**Pg**	**02 39 08.5**	**-0.5**
FRF				*e*Sn	**Sn**	**02 39 30.3**	**-1.6**
FRF				*e*Sg	**Sg**	**02 39 42.2**	**-1.1**
	2.8nm,0.4s						
ETSF	**Etsaut**	**2.74**	**265**	*e*Sn	**Sn**	**02 39 32.7**	**-3.6**
ETSF				*e*Sg	**Sg**	**02 39 45.2**	**-3.7**
	4.9nm,0.6s						
TCF	**Toulx Ste Croi**	**3.14**	**348**	*e*Pg	**Pg**	**02 39 19.6**	**-0.8**
TCF				*e*Sg	**Sg**	**02 40 01.7**	**-0.6**
	1.0nm,0.2s						
SBF	**Sospel**	**3.18**	**77**	*e*Pn	**Pn**	**02 39 08.5**	**-0.4**
BGF	**Bois d'Agland**	**3.35**	**356**	*e*Pn	**Pn**	**02 39 11.4**	**+0.1**
BGF				*e*Sg	**Sg**	**02 40 08.3**	**-0.8**
	4.6nm,0.3s						
SMF	**Signal de Mont**	**3.46**	**8**	*e*Sg	**Sg**	**02 40 11.9**	**-1.0**
	1.0nm,0.2s						
AVF	**Avril sur Loir**	**3.57**	**2**	*e*Sg	**Sg**	**02 40 15.3**	**-1.4**
	0.7nm,0.2s						
SSF	**Saint Saulge**	**3.85**	**4**	*e*Sg	**Sg**	**02 40 23.9**	**-2.0**
	0.9nm,0.3s						
MFF	**Saint Martin d**	**4.12**	**326**	*e*Pn	**Pn**	**02 39 21.8**	**-0.4**
MFF				*e*Sg	**Sg**	**02 40 31.2**	**-3.5**
	0.6nm,0.2s						
PGF	**Pioggiola**	**4.35**	**97**	*e*Pn	**Pn**	**02 39 23.6**	**-1.9**
PGF				*e*Sn	**Sn**	**02 40 10.4**	**-6.6**
	4.7nm,0.8s						

NAO 14 02:41:39.4±3.1,74.12N×12.22E,ML2.5

BER 14 02:41:35.8±3.8,73.83N×9.93E,h5^{km}±33^{km},MD3.0, ML1.9,ML2.5(NAO),Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPA0	**Spitsbergen Ar**	**4.64**	**17**	Pn	Pn	02 42 44.9	-3.3
	baz=186,slow=16						
TRO	**Tromso**	**5.08**	**142**	*e*P	Pn	02 42 50.2	-4.2
TRO				*e*S	Sn	02 43 44.4	-10
TRO				AML	AML	02 43 49.1	
	comp=Z,2.9nm,0.4s						
KBS	**Kingsbay**	**5.14**	**4**	Pn	Pn	02 42 49.7	-5.7
KBS				Sn	Sn	02 43 48.3	-7.6
LOF	**Lofoten**	**5.85**	**167**	*e*P	Pn	02 43 01.6	-3.8
LOF				*e*S	Sn	02 44 02.1	-12
LOF				AML	AML	02 44 09.4	
	comp=Z,4.3nm,0.7s						
KTK1	**Kautokeino**	**6.43**	**132**	*e*	Pn	02 43 12.0	-1.6
ARA0	**ARCESS Array S**	**6.52**	**124**	Pn	Pn	02 43 11.6	-3.2
	baz=324,slow=12						
ARA0				Sn	Sn	02 44 21.3	-9.1
	baz=317,slow=22						
MOR8	**Moi Rana**	**7.85**	**166**	*e*S	Sn	02 44 48.2	-16

KRSC 14 03:29:54.7±0.9,49.75N×156.40E,h7^{km}±10^{km},ML4.4

MOS 14 03:29:55.3±2.5,49.62N×156.66E,h41^{km},mb4.5/1,Error ellipse: s-maj=37.0km s-min=12.3km az=77.3

ISC 14 03:29:56.6±1.6,49.72N±0.06×156.4E±0.1,h17^{km}±14^{km}, n32,σ1^{s}29/49,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.98**	**348**	*e*PN	**Pn**	**03 30 13.5**	**-2.1**
SKR				*i*S	**Sb**	**03 30 27.2**	**-0.1**
SKR				pmax	pmax		
	comp=N,100nm,0.5s						
SKR				pmax	pmax		
	comp=E,80nm,0.5s						
SKR				pmax	pmax		
	comp=Z,150nm,0.5s						
SKR				smax			
	comp=N,5µm,0.2s						
SKR				smax			
	comp=E,3µm,0.2s						
SKR				smax			
	comp=N,4µm,1.0s						
SKR				smax			
	comp=E,3µm,1.0s						
ALID	**Alaid**	**1.28**	**334**	*e*P	**Pn**	**03 30 19.4**	**-0.5**
ALID				*e*S	**Sb**	**03 30 36.0**	**+0.1**
PAU	**Pauzhetka**	**1.77**	**8**	*e*P	**Pn**	**03 30 26.2**	**-0.5**
PAU				*e*S	**Sn**	**03 30 48.7**	**-0.2**
PAU				Smax			
	comp=E,2µm,0.2s						
RUS	**Russkaya**	**3.02**	**25**	P	**Pn**	**03 30 43.6**	**-1.0**
RUS				S	**Sn**	**03 31 18.8**	**-1.9**
RUS	**Russkaya**	**3.02**	**25**	*e*P	**Pn**	**03 30 43.5**	**-1.1**
RUS				*e*S	**Sn**	**03 31 19.1**	**-1.6**
GRL	**Gorelyy**	**3.02**	**19**	*i*P	**Pn**	**03 30 45.0**	**+0.4**
GRL				*e*S	**Sn**	**03 31 21.6**	**+0.9**
PET	**Petropavlovsk**	**3.59**	**22**	P	**Pn**	**03 30 52.4**	**-0.3**
PET				S	**Sn**	**03 31 35.0**	**-0.1**
PET	**Petropavlovsk**	**3.59**	**22**	*e*P	**Pn**	**03 30 53.1**	**+0.4**
PET				*e*S	**Sn**	**03 31 35.2**	**+0.1**
PET	**Petropavlovsk**	**3.59**	**22**	*e*PN	**Pn**	**03 30 54.7**	**+2.0**
PET				*e*S	**Sn**	**03 31 35.2**	**+0.1**
PET				pmax	pmax		
	comp=Z,34nm,0.4s						
PET				smax			
	comp=N,131nm,0.4s						
UGLR	**Uglovaya**	**3.80**	**22**	*e*P	**Pn**	**03 30 56.4**	**+0.7**
UGLR				*e*S	**Sn**	**03 31 41.3**	**+0.8**
AVH	**Avacha**	**3.83**	**21**	*e*P	**Pn**	**03 30 57.2**	**+1.0**
AVH				*e*S	**Sn**	**03 31 43.7**	**+2.4**
KOK	**Koryaka**	**3.83**	**20**	*e*P	**Pn**	**03 30 57.8**	**+1.6**
SMAR	**Somma**	**3.84**	**22**	*e*P	**Pn**	**03 30 57.4**	**+1.0**
SDLR	**Sedlovina**	**3.88**	**22**	*e*P	**Pn**	**03 30 57.0**	**+0.2**
SDLR				*e*S	**Sn**	**03 31 41.8**	**-0.7**
NLC	**Nalytchevo**	**3.90**	**27**	*i*P	**Pn**	**03 30 55.6**	**-1.6**
NLC				*e*S	**Sn**	**03 31 40.8**	**-2.4**
SPN	**Mys Shipunski**	**4.06**	**32**	P	**Pn**	**03 30 58.9**	**-0.5**
SPN				S	**Sn**	**03 31 46.0**	**-1.1**
SPN	**Mys Shipunski**	**4.06**	**32**	*e*P	**Pn**	**03 30 58.8**	**-0.6**
SPN				*e*S	**Sn**	**03 31 46.1**	**-1.0**
GNL	**Ganaly**	**4.09**	**13**	*e*P	**Pn**	**03 31 00.4**	**+0.5**
MKZ	**Mys Kozlova**	**5.83**	**32**	P	**Pn**	**03 31 22.0**	**-2.6**
MKZ				S	**Sn**	**03 32 26.4**	**-5.4**
MKZ	**Mys Kozlova**	**5.83**	**32**	*e*P	**Pn**	**03 31 22.1**	**-2.5**
MKZ				*e*S	**Sn**	**03 32 27.3**	**-4.5**
TUMR	**Tumrok**	**6.01**	**21**	*e*P	**Pn**	**03 31 28.8**	**+1.7**
KPT	**Kopyto**	**6.66**	**19**	P	**Pn**	**03 31 36.3**	**+0.1**
KOZ	**Kozyrevsk**	**6.68**	**17**	P	**Pn**	**03 31 36.2**	**-0.3**
ZLN	**Zelenaya**	**6.84**	**21**	P	**Pn**	**03 31 38.1**	**-0.6**

LGNR	Loginova	6.87	20	*e*P	Pn	03 31 42.0	+2.8
CIRR	Tsirk	6.91	20	P	Pn	03 31 42.3	+2.5
SVLR	Shiveluch	7.44	21	P	Pn	03 31 48.6	+1.4
KBTR	Krutoberegovo	7.55	28	P	Pn	03 31 46.8	-1.9
KBTR	Krutoberegovo	7.55	28	*e*P	Pn	03 31 46.4	-2.3
BKI	Bering	8.00	43	*e*S	Sn	03 33 15.7	-10
YSS	Yuzh-Sakhalins	9.53	258	*i* PN	P	03 32 14.7	-1.3
YSS				pmax	pmax		
	comp=Z,79nm,2.2s						
TIXI	Tiksi	25.34	340	*e*P	P	03 35 25.7	+2.2
TIXI				*e*		03 35 44.1	
TIXI				*e*		03 36 19.1	

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*NEIC **14** 03:50:23.2,34.94S×70.49W,h4^{km},ML2.6(GUC),After GUC.*

GUC 14 03:50:23.2±1.0,**34.94S**×**70.49W,h4**^{km}±4^{km}**,MD3.9, ML2.6,1C-1D,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFDO	San Fernando	0.54	307	⇑*i*P	Pg	03 50 34.3	+0.2
SFDO				*i* S	Sg	03 50 42.4	+1.1
CICH	Cipreses	0.62	5	⇓*i*P	Pg	03 50 36.4	+0.6
CICH				*i* S	Sg	03 50 46.0	+1.9
CACH	El Canelo	0.83	354	*e*P	Pb	03 50 38.9	-0.9
LMEL	Las Melosas	1.12	12	*e*P	Pb	03 50 44.1	-0.6
LMEL				AMP		03 51 03.6	
	comp=N,141nm,0.3s						
LNV	Longovilo	1.25	322	*e*P	Pb	03 50 46.4	-0.5
LNV				*i* S	Sb	03 51 03.3	+0.2
PCH	Pirque	1.32	359	*e*P	Pb	03 50 48.4	+0.2
TACH	Talagante	1.34	344	*e*P	Pb	03 50 48.7	+0.2
RCDM	Rinconada Maip	1.48	350	*e*P	Pn	03 50 50.9	+0.3
RCDM				*i* S	Sb	03 51 11.3	+1.6
CLCH	Cerro Calan	1.54	359	*e*P	Pn	03 50 52.1	+0.5
CLCH				*i* S	Sb	03 51 11.7	-0.1
CLCH				AMP		03 51 22.9	
	comp=N,225nm,0.5s						
FCH	Farellones	1.62	6	*e*P	Pn	03 50 54.0	+1.3
FCH				AMP		03 51 18.6	
	comp=E,113nm,0.2s						

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*NNC **14** 04:36:55.1±6.4,39.07N×69.61E,mpv3.5,Error ellipse: s-maj=59.5km s-min=29.1km az=124.0*

ISC 14 04:36:59.6±5.1,**39.4N**±0.4×**70.0E**±0.2,**h33**^{km}**,n8,**σ**0**^{s}**57**/9,**1C-1D,Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	Karatay Array	3.69	6	⇑Pn	Pn	04 37 59.8	+4.0
	4.8nm,0.5s,baz=170,slow=11,SNR=42						
KK31				⇓Lg		04 39 03.9	
	19nm,0.5s,baz=189,slow=31						
AML	Almayashu	3.91	45	P	P	04 37 59.1	+0.2
	SNR=15						
AAK	Ala-Archa	4.69	46	P	P	04 38 10.2	+0.3
	SNR=9.8						
KZA	Kyzart	4.81	55	P	P	04 38 12.4	+0.8
	SNR=5.7						
CHMS	Chumysh	5.07	44	P	P	04 38 15.0	-0.3
	SNR=5.2						
USP	Ospenovka	5.13	40	P	P	04 38 15.8	-0.3
	SNR=8.7						
TKM2	Tokmak 2	5.50	49	P	P	04 38 20.3	-0.9
	SNR=12						
AB31	Akbulak array	12.15	327	Pn	P	04 39 53.0	-0.1
	1.4nm,0.5s,baz=141,slow=12,SNR=41						
AB31				Sn	S	04 42 08.4	0.0
	6.2nm,0.8s,baz=152,slow=22,SNR=8.0						

IDC 14 04:39:40.9±24.0,**2.37N**×**96.76E,h489**^{km}±257^{km}**,mb2.8**/3,**mb1 3.0**/4,**mb1mx2.8**/16,**1C,Error ellipse: s-maj=338.0km s-min=20.1km az=56.0,Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IPM	Ipoh	4.79	63	⇑*e*P	P	04 40 33.5	-33
CMAR	Chiang Mai Arr	16.13	7	P	P	04 43 03.2	+0.1
	baz=195,slow=10,SNR=5.4						
WRA	Warramunga Arr	43.03	123	P	P	04 46 57.0	-1.1
	1.1nm,0.7s,baz=300,slow=9.1,SNR=3.8						
ASAR	Alice Springs	44.45	128	P	P	04 47 07.5	-1.7
	0.8nm,0.8s,baz=300,slow=7.3,SNR=4.8						
MKAR	Makanchi Array	46.00	346	P	P	04 47 19.4	-1.6
	0.7nm,0.6s,baz=158,slow=9.4,SNR=7.1						

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*WEL **14** 05:06:07.0±0.3,45.07S×167.17E,h5^{km},ML3.6/7,Error ellipse: s-maj=2.4km s-min=1.2km az=90.0*

*NEIC **14** 05:06:08.6,45.15S×167.14E,h20^{km},ML3.7(WEL),After WEL.*

ISC 14 05:06:05.6±1.6,**45.03S**±0.05×**167.1E**±0.1,**h14**^{km}±7^{km}, **n16,**σ**0**^{s}**67**/26,**5D,South Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DCZ	Deep Cove	0.45	171	⇓PG	Pg	05 06 15.1	+0.1
DCZ				SG	Sg	05 06 20.7	-0.5
MSZ	Milford Sound	0.72	60	P*	Pb	05 06 19.7	+0.3
MSZ				SG	Sg	05 06 29.9	-0.1
MSZ				SG	Sg	05 06 30.1	0.0
MLZ	Mavora Lakes	0.85	112	⇓P*	Pb	05 06 22.1	+0.4
MLZ				S*	Sb	05 06 32.0	-0.8
MLZ				S*	Sb	05 06 32.9	+0.1
MLZ	Mavora Lakes	0.85	112	⇓P	Pb	05 06 22.1	+0.4
MLZ				S	Sb	05 06 33.0	+0.3
WHZ	Wether Hill Ro	1.07	144	⇓P*	Pb	05 06 25.7	+0.4
WHZ				S*	Sb	05 06 38.5	-0.4
WHZ	Wether Hill Ro	1.07	144	⇓P	Pb	05 06 25.7	+0.3
WHZ				S	Sb	05 06 39.4	+0.5
WKZ	Wanaka	1.41	82	P*	Pb	05 06 32.3	+1.1
TUZ	Tuapeka	2.04	118	*e*PN	Pn	05 06 40.4	+0.4
TUZ	Tuapeka	2.04	118	P	Pn	05 06 40.2	+0.2
LBZ	Lake Benmore	2.33	75	PN	Pn	05 06 44.8	+0.7
LBZ				SN	Sn	05 07 12.5	-0.2
ODZ	Otahua Downs	2.55	92	PN	Pn	05 06 47.0	-0.3
ODZ				*e*SN	Sn	05 07 17.8	-0.5
ODZ	Otahua Downs	2.55	92	*e*P	Pn	05 06 47.0	-0.3
WVZ	Waitaha Valley	3.30	55	*e*PN	Pn	05 06 53.9	-4.1
DSZ	Denniston Nort	4.77	48	*e*PN	Pn	05 07 11.6	-7.3
THZ	Tophouse	5.37	55	*e*PN	Pn	05 07 24.9	-2.5
THZ	Tophouse	5.37	55	*e*P	Pn	05 07 26.4	-1.0

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*NEIC **14** 05:16:53.8,31.16S×69.40W,h148^{km},MD3.7(GUC),After GUC.*

GUC 14 05:16:53.8±0.8,**31.16S**×**69.40W,h148**^{km}±22^{km}**,MD3.7, ML3.5,3D,San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMCH	Combarbala	1.37	269	⇓*i*P	P	05 17 22.5	+0.4
CMCH				*i* S	S	05 17 44.1	+0.1
CMCH				AMP		05 17 45.7	
	comp=N,2μm,0.8s						
TLL	Tololo Astrono	1.56	309	*e*P	P	05 17 25.2	+1.0
TLL				*i* S	S	05 17 48.0	+0.5
TLL				AMP		05 17 49.2	
	comp=E,295nm,0.4s						
LSCH	La Serena	2.02	308	*i* P	P	05 17 29.5	+0.2
LSCH				*i* S	S	05 17 55.9	-0.7
LSCH				AMP		05 17 57.2	
	comp=E,418nm,0.3s						
FCH	Farellones	2.29	199	⇓*i*P	P	05 17 33.6	+0.8
FCH				*i* S	S	05 18 03.5	+0.9
FCH				AMP		05 18 07.8	
	comp=E,96nm,0.2s						
CLCH	Cerro Calan	2.43	203	*e*P	P	05 17 34.2	-0.3
CLCH				⇓*i*S	S	05 18 06.0	+0.3
RCDM	Rinconada Maip	2.61	207	*i* P	P	05 17 36.6	-0.3

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*NEIC **14** 05:25:19.0±0.5,21.03S×178.05W,h400^{km},mb4.1/1, Error ellipse: s-maj=24.0km s-min=11.9km az=145.0*

*IDC **14** 05:25:30.0±3.2,21.40S×178.22W,h521^{km}±37^{km},mb3.1/8, mb1 3.4/8,mb1mx3.3/12,Error ellipse: s-maj=40.9km s-min=14.8km az=155.0*

ISC 14 05:25:19.5±2.0,**21.1S**±0.2×**178.1W**±0.2,**h416**^{km}±18^{km}, **n15,**σ**0**^{s}**58**/13,**mb3.6**/9,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	Nonsavu	4.95	312	Pn	P	05 26 42.5	0.0
	164nm,1.0s,SNR=15						
RPZ	Rata Peaks	24.28	199	P	P	05 30 02.7	-0.2
	30nm,1.2s,mb4.6,baz=44,slow=12,SNR=3.7						
RPZ	Rata Peaks	24.28	199	P	P	05 30 02.7	-0.2
STKA	Stephens Creek	37.44	245	P	P	05 31 57.3	+0.8
	2.2nm,1.0s,mb3.4,baz=106,slow=12,SNR=5.2						
ASAR	Alice Springs	44.29	257	P	P	05 32 51.6	-0.3
	1.4nm,0.8s,mb3.4,baz=87,slow=7.9,SNR=12						
ASAR				PcP	PcP	05 34 26.9	-1.3
	0.5nm,0.6s,baz=103,slow=3.8,SNR=5.1						
ASAR				S	S	05 38 46.4	-8.0
	0.9nm,0.4s,baz=347,slow=15,SNR=16						
WB2	Warramunga Arr	44.41	263	*e*P	P	05 32 52.7	-0.3
WRA	Warramunga Arr	44.42	263	P	P	05 32 53.1	0.0
	0.5nm,0.3s,mb3.2,baz=96,slow=7.5,SNR=8.2						
MBWA	Marble Bar	57.63	258	*e*P	P	05 34 29.5	-0.8
	3.0nm,0.4s,mb4.0						
TXAR	Lajitas Array	87.47	57	P	P	05 37 23.1	+0.4
	0.4nm,0.7s,mb3.3,baz=225,slow=7.1,SNR=6.5						
ILAR	Eielson Array	88.94	13	P	P	05 37 27.8	-0.9
	0.2nm,0.6s,mb3.0,baz=227,slow=5.8,SNR=4.1						
PDAR	Pinedale Array	89.48	43	P	P	05 37 31.8	+0.1
	0.4nm,0.6s,mb3.4,baz=207,slow=3.3,SNR=4.3						
CMAR	Chiang Mai Arr	90.23	290	P	P	05 37 36.8	+1.1
	0.6nm,0.4s,mb3.8,baz=117,slow=2.0,SNR=4.2						
AKASG	Malin Array Be	143.51	331	PKP	PKPdf	05 44 03.9	-1.1
	0.8nm,0.5s,baz=41,slow=4.3,SNR=6.7						
BRTR	Keskin Array B	147.18	312	PKPbc	PKPdf	05 44 15.6	+4.1
	0.4nm,0.4s,baz=27,slow=2.8,SNR=2.5						
GERES	GERESS Array B	150.77	344	PKPbc	PKPdf	05 44 24.5	+7.5
	0.4nm,0.4s,baz=346,slow=5.5,SNR=3.1						

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*ROM **14** 06:12:34.6±0.1,46.31N×13.60E,h10^{km},MD2.2/1, ML1.7/3,Error ellipse: s-maj=1.1km s-min=1.0km az=90.0*

*LJU **14** 06:12:35.7,46.32N×13.59E,h7^{km},ML2.4*

ISC 14 06:12:35.5±0.3,**46.34N**±0.02×**13.61E**±0.02,**h7**^{km}**,n28,** σ**0**^{s}**79**/49,**7C-9D,Austria**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ROBS	Robic	0.12	216	⇓*i*Pg	Pg	06 12 37.8	-0.3
ROBS				*i* Sg	Sg	06 12 39.3	-0.6
	comp=Z,659nm,0.0s						
CADS	Cadrg	0.14	142	⇓*i*Pg	Pg	06 12 38.8	+0.3
CADS				*i* Sg	Sg	06 12 41.2	+0.6
	comp=Z,332nm,0.1s						
LSR	Lussari	0.15	337	⇓*e*Pg	Pg	06 12 39.2	+0.5
LSR				*e*Sg	Sg	06 12 42.2	+1.4
DRE	Drenchia	0.17	172	⇓*i*Pg	Pg	06 12 38.9	-0.2
DRE				*e*Sg	Sg	06 12 41.2	-0.2
PTCC	Patocco-Chiusa	0.19	290	*e*PG	Pg	06 12 39.4	-0.1
PTCC				SG	Sg	06 12 42.6	+0.5
	comp=Z,165nm,0.3s						
COLI	Coloredo	0.26	218	⇓*i*Pg	Pg	06 12 40.5	-0.3
GMNA	Gemona	0.27	256	*e*PG	Pg	06 12 41.8	+0.9
GMNA				SG	Sg	06 12 46.7	+2.1
BAD	Bernadia	0.27	248	⇑*i*Pg	Pg	06 12 40.5	-0.6
BAD				*e*Sg	Sg	06 12 44.6	-0.2
BOO	Bordano	0.35	267	⇓*i*Pg	Pg	06 12 41.8	-0.8
BUA	Buia	0.36	250	⇓*i*Pg	Pg	06 12 42.1	-0.6
BUA				*e*Sg	Sg	06 12 47.7	+0.2
VOY	Vojsko	0.36	147	⇓*i*Pg	Pg	06 12 42.6	-0.3
VOY				*e*Sg	Sg	06 12 48.3	+0.5
PLRO	Paularo	0.38	304	⇑*e*Pg	Pg	06 12 43.3	+0.1
PLRO				*e*Sg	Sg	06 12 49.3	+0.9
MPRI	Monte Prat	0.44	257	⇑*i*Pg	Pg	06 12 43.6	-0.8
MPRI				*e*Sg	Sg	06 12 50.5	+0.2
ZOU	Zoufplan	0.49	297	⇑*e*Pg	Pg	06 12 45.3	-0.1
ZOU				*e*Sg	Sg	06 12 52.8	+0.8
JAVS	Javornik	0.55	145	*i* Pg	Pg	06 12 45.6	-0.8
FVI	Forni Avoltri	0.63	294	*e*PG	Pg	06 12 47.8	-0.3
FVI				SG	Sg	06 12 56.8	+0.3
	comp=Z,34nm,0.3s						
TRI	Trieste	0.64	170	*e*PG	Pg	06 12 46.8	-1.5
TRI				SG	Sg	06 12 56.3	-0.6
	comp=Z,35nm,0.4s						
OBKA	Obir	0.67	75	⇑*i*PG	Pg	06 12 48.9	0.0
OBKA				*i* SG	Sg	06 12 58.4	+0.5
	comp=Z,9.1nm,0.1s						
LJU	Ljubljana	0.70	115	*e*Pg	Pg	06 12 50.1	+0.6
KBA	Koelnbreinsper	0.76	346	⇑*i*PG	Pg	06 12 50.1	-0.6
KBA				*i* SG	Sg	06 13 00.9	0.0
	comp=Z,11nm,0.2s						
PDKS	Podkum	1.00	105	*i* Pg	Pg	06 12 55.5	0.0
VISS	Visnje	1.01	122	*i* Pg	Pg	06 12 55.4	-0.2
PERS	Pernice	1.08	74	*i* Pg	Pg	06 12 56.7	-0.4
VBY	Vinica-Bojanci	1.42	125	*e*Pg	Pg	06 13 03.8	0.0
VBY				*e*Sg	Sg	06 13 22.8	0.0
MOA	Molln	1.58	16	⇓*i*PG	Pg	06 13 05.6	-1.4
MOA				*i* SG	Sg	06 13 27.9	-0.1
	comp=Z,4.0nm,0.3s						
WTTA	Wattenberg	1.64	305	⇑*i*PG	Pg	06 13 06.7	-1.6
WTTA				*i* SG	Sg	06 13 29.0	-1.1
	comp=Z,5.2nm,0.4s						
NVLJ	Novalja	1.98	153	*i* Pn	Pn	06 13 12.1	+2.2
NVLJ				*i* Sn	Sn	06 13 37.2	+1.9
NVLJ	Novalja	1.98	153	*i* Pn	Pn	06 13 12.2	+2.3
NVLJ				*i* Sn	Sn	06 13 37.9	+2.6

GUC 14 06:21:44.4±1.0,**34.15S**×**70.43W,h11**^{km}±2^{km}**,MD3.5, ML2.1,2C-2D,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CACH	El Canelo	0.14	284	⇓*i*P	Pg	06 21 48.4	+0.5
CACH				*i* S	Sg	06 21 50.5	+0.3
CICH	Cipreses	0.17	177	⇓*i*P	Pg	06 21 49.0	+0.7
CICH				*i* S	Sg	06 21 51.3	+0.4
CHCH	Chadas Angostu	0.29	320	⇑*i*P	Pg	06 21 51.0	+0.5
CHCH				*i* S	Sg	06 21 55.2	+0.7
LMEL	Las Melosas	0.36	32	*e*P	Pg	06 21 52.5	+0.7
LMEL				*i* S	Sg	06 21 57.9	+1.2
LMEL				AMP		06 21 59.0	
	comp=N,748nm,0.1s						
TACH	Talagante	0.65	320	*e*P	Pb	06 21 56.9	-0.4
TACH				*i* S	Sb	06 22 05.7	-0.4
SFDO	San Fernando	0.67	226	⇑*i*P	Pb	06 21 57.2	-0.3
SFDO				*i* S	Sb	06 22 05.7	-0.9
RCDM	Rinconada Maip	0.73	335	*e*P	Pb	06 21 58.6	-0.1
RCDM				*i* S	Sb	06 22 08.5	+0.1
RCDM				AMP		06 22 09.1	
	comp=E,169nm,0.1s						
FCH	Farellones	0.83	8	*e*P	Pb	06 22 00.8	+0.5
FCH				*i* S	Sb	06 22 12.3	+1.1
FCH				AMP		06 22 13.3	
	comp=N,82nm,0.2s						
LNV	Longovilo	0.84	283	*i* P	Pb	06 21 59.9	-0.6
LNV				*i* S	Sb	06 22 11.7	+0.2

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*NIED **14** 06:50:00,33.20N×137.00E,h20^{km},Mw3.5 Best double couple: M$_0$1.69×10^{14} NP1:φ$_s$69°,δ82°,λ-99°. NP2:φ$_s$299°, δ12°,λ-41°.*

*JMA **14** 06:50:10.2±0.1,33.25N×136.96E,h36^{km}±3^{km},M3.6*

ISC 14 06:50:10.4±1.1,**33.29N**±0.08×**136.94E**±0.05,**h30**^{km}±9^{km}, **n16,**σ**0**^{s}**48**/27,**1C-7D,Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TK01	Tokai 1	0.72	49	P	Pb	06 50 24.0	-0.4
TK01				*e*S	Sb	06 50 33.9	-0.2
TK02	Tokai 2	0.95	46	⇑P	Pn	06 50 27.4	-0.5
TK02				S	Sb	06 50 40.1	-0.3
JWZ	Kozaga	1.05	284	⇓P	Pn	06 50 29.1	-0.2
JWZ				*e*S	Sn	06 50 42.3	-0.7
JKN	Kiinagashima	1.11	330	⇓P	Pn	06 50 30.4	+0.2
JKN				*e*S	Sn	06 50 44.0	-0.6
JIE	Ise	1.12	350	⇓P	Pn	06 50 30.8	+0.5
TK03	Tokai 3	1.23	44	*e*S	Sn	06 50 47.0	-0.5
TK04	Tokai 4	1.34	35	P	Pn	06 50 33.4	-0.1
TK04				*e*S	Sn	06 50 50.2	-0.3
JAA	Atsumi	1.35	7	⇓P	Pn	06 50 33.8	+0.2
JWM	Minabe	1.44	293	P	Pn	06 50 34.9	+0.1
JWM				*e*S	Sn	06 50 52.3	-0.5
JWY	Kouya	1.45	310	⇓P	Pn	06 50 35.8	+0.7
JWY				*e*S	Sn	06 50 53.4	+0.1
TSUJ	Tsu 2	1.48	343	⇓P	Pn	06 50 36.0	+0.5
TSUJ				*e*S	Sn	06 50 54.3	+0.3
JHE	Heguri	1.71	323	⇓P	Pn	06 50 39.4	+0.6
JHE				*e*S	Sn	06 51 00.1	+0.2
JAJ2	Tsuna	2.05	304	P	Pn	06 50 44.3	+0.7
JAI	Aioi	2.14	284	P	Pn	06 50 44.9	+0.1
JAI				*e*S	Sn	06 51 09.5	-1.1
JIZS	Izushimoda	2.15	48	P	Pn	06 50 45.5	+0.4
MAT	Matsushiro	3.41	17	P	Pn	06 51 03.7	+0.7
MAT				S	Sn	06 51 42.8	-0.1

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*PRU **14** 06:59:23.5,51.46N×16.16E*

*WAR **14** 06:59:24.1,51.45N×16.16E,ML2.8,Mining Induced*

ISC 14 06:59:20.6±1.1,**51.46N**±0.05×**16.17E**±0.05,**n10,**σ**1**^{s}**40**/23, **1C,Poland**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	Ksiaz	0.63	173	*e*PG	Pg	06 59 35.0	+1.9
KSP				*e*SG	Sg	06 59 42.0	+0.6
UPC	Upice	0.96	186	*e*PG	Pg	06 59 41.4	+1.6
UPC				*e*SG	Sg	06 59 54.7	+2.1
DPC	Dobruska-Polom	1.12	175	*e*PG	Pg	06 59 44.2	+1.3
DPC				*e*SG	Sg	06 59 58.7	+0.9
	22nm,0.3s						
PVCC	Panska Ves	1.38	228	*e*PG	Pg	06 59 49.5	+1.4
PVCC				*e*SG	Sg	07 00 07.0	+0.6
PRU	Pruhonice	1.80	216	PG	Pg	06 59 56.0	-0.5
PRU				SG	Sg	07 00 19.5	-1.1
	30nm,0.3s						
CLL	Collm	1.99	267	*e*PG	Pg	07 00 01.0	+0.7
CLL				*e*SG	Sg	07 00 27.0	+0.2
OKC	Ostrava-Krasne	2.06	141	*e*PN	Pn	06 59 54.9	-1.9
OKC				*e*PG	Pg	07 00 00.2	-1.5
OKC				*e*SG	Sg	07 00 27.8	-1.3
NKC	Novy Kostel	2.66	244	*e*PG	Pg	07 00 11.6	-2.1
NKC				*e*SG	Sg	07 00 49.0	-0.1
KHC	Kasperske Hory	2.87	216	*e*PN	Pn	07 00 10.5	+2.2
KHC				*e*PG	Pg	07 00 15.0	-2.8
KHC				*e*SN	Sn	07 00 44.0	0.0
KHC				*e*SG	Sg	07 00 53.5	-2.4
MOA	Molln	3.82	200	⇑*i*PN	Pn	07 00 22.2	+0.3
MOA				*i* SG	Sg	07 01 26.3	-1.5
	4.8nm,0.5s						

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*NEIC **14** 07:16:51.4,36.86N×4.39W,h62^{km},MG2.7(MDD),After MDD.*

*MDD **14** 07:16:51.5±0.8,36.85N×4.39W,h62^{km}±7^{km},mb3.2/9, Error ellipse: s-maj=7.6km s-min=4.3km az=157.0, PRXIMO*

*INMG **14** 07:16:51.2±1.0,36.85N×4.40W,h62^{km}±4^{km},ML2.2,Error ellipse: s-maj=3.7km s-min=2.6km az=147.0*

ISC 14 07:16:50.2±0.8,**36.94N**±0.05×**4.46W**±0.04,**h68**^{km}±7^{km}, **n24,**σ**0**^{s}**98**/42,**Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ELOJ	Sierra Loja	0.32	50	P	P	07 17 02.2	+0.8
	7.4nm,0.1s,SNR=9.0						
ELOJ				S	S	07 17 09.3	-0.4
	18nm,0.4s						
EMIJ	Mijas	0.45	214	P	P	07 17 02.4	-0.2
	1.7nm,0.1s,SNR=7.9						
EMIJ				S	S	07 17 10.2	-1.4
	SNR=7.9						
ERON	Agron	0.53	82	P	P	07 17 03.1	-0.2
	8.5nm,0.2s,SNR=21						
ERON				S	S	07 17 12.2	-0.7
	12nm,0.2s,SNR=6.9						
ELUQ	Luque	0.64	14	S	S	07 17 16.0	+1.0
	59nm,0.2s,SNR=10						
ESPR	Espera	1.12	267	S	S	07 17 27.2	+1.6
	SNR=7.9						
EADA	Adamuz	1.23	356	P	P	07 17 13.4	+1.5
	1.2nm,0.1s,SNR=8.0						
EADA				S	S	07 17 28.5	+0.5
	5.8nm,0.4s,SNR=15						
EQES	Quesada	1.40	52	P	P	07 17 14.6	+0.2
	2.1nm,0.1s,SNR=7.1						
EQES				S	S	07 17 32.1	-0.1
	5.8nm,0.3s						
EMIN	Mina Concepcio	1.95	296	P	P	07 17 22.4	+0.7
	2.2nm,0.1s,SNR=13						
EMIN				S	S	07 17 44.7	-0.3
	1.6nm,0.3s						
PALC	Alcoutim	2.46	283	*e*P	P	07 17 29.5	+0.4
PALC				*e*S	S	07 17 57.8	-0.2
	11nm,0.1s						
PALC	Alcoutim	2.46	283	P	P	07 17 29.5	+0.4
PALC				S	S	07 17 57.8	-0.2
	5.3nm,0.1s						
EGRO	El Granado	2.49	285	P	P	07 17 29.7	+0.4
	0.9nm,0.0s,SNR=7.9						
EGRO				S	S	07 17 57.7	-0.8
	4.0nm,0.5s,SNR=7.2						
EBAD	Badajoz	2.71	313	P	P	07 17 33.4	+0.8
	2.1nm,0.0s,SNR=6.1						
EBAD				S	S	07 18 05.1	+0.8
	1.7nm,0.4s,SNR=4.8						
ETOB	Tobarra	2.86	53	P	P	07 17 33.9	-0.8
	8.1nm,0.1s,SNR=32						
ETOB				S	S	07 18 04.6	-3.4
	6.0nm,0.8s						
PBEJ	Beja	2.92	293	*e*P	P	07 17 36.1	+0.6
PBEJ				*e*S	S	07 18 08.2	-1.3
PTEO	Sao Teotonio	3.46	281	*e*S	S	07 18 22.0	-0.9
	6.8nm,0.3s						
PTEO	Sao Teotonio	3.46	281	S	S	07 18 22.0	-0.9
	3.4nm,0.3s						
MOE	Montemor	3.47	298	*e*P	P	07 17 43.5	+0.4
MOE				*e*S	S	07 18 22.1	-1.1
PCBR	Castelo Branco	3.74	322	*e*P	P	07 17 48.1	+1.1
PCBR				*e*S	S	07 18 27.6	-2.5
	3.8nm,0.3s						
PCBR	Castelo Branco	3.74	322	P	P	07 17 48.1	+1.1
PCBR				S	S	07 18 27.6	-2.5
	1.9nm,0.3s						
PTOM	Tomar	4.10	312	*e*P	P	07 17 53.1	+1.1
PTOM				*e*S	S	07 18 38.7	-0.3
ETOR	Torete	4.30	25	P	P	07 17 54.6	-0.2
	0.7nm,0.1s,SNR=7.7						
ETOR				S	S	07 18 39.6	-4.5
	32nm,1.6s						
PVIS	Viseu	4.62	326	*e*P	P	07 18 00.3	+1.0
EMOS	Mosqueruela	4.63	41	P	P	07 17 58.9	-0.4
	SNR=7.9						
ECAL	Calabor	5.29	341	P	P	07 18 09.1	+0.6
	SNR=7.9						
ECAL				S	S	07 19 06.1	-2.9
	SNR=7.9						

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*NIED **14** 07:41:00,28.00N×128.00E,h107^{km},Mw4.6 Best double couple: M$_0$9.91×10^{15} NP1:φ$_s$27°,δ69°,λ-48°. NP2:φ$_s$138°, δ46°,λ-150°.*

*IDC **14** 07:41:54.4±0.6,27.91N×127.83E,h116^{km}±7^{km},mb4.2/20, mb1 4.4/23,mb1mx4.4/25,MS3.0/2,Ms1 3.0/2, ms1mx2.6/27,Error ellipse: s-maj=16.2km s-min=11.1km az=89.0*

*BJI **14** 07:41:55.7,27.91N×128.09E,h143^{km},mB4.6,mb4.7*

*NEIC **14** 07:41:56.0±0.6,27.99N×127.99E,h122^{km}±5^{km},mb4.8/42, MW4.6(NIED),Error ellipse: s-maj=6.7km s-min=5.8km az=124.0*

NEIC Recorded [2 JMA] on Tokuno-shima and [1 JMA] on Amami-oshima and Okino-erabu-shima.

*JMA **14** 07:41:56.1±0.1,27.97N×127.97E,h106^{km}±4^{km},M4.7*

JMA Felt II J1.

ISC 14 07:41:54.6±0.2,**27.96N**±0.03×**127.97E**±0.03,**h120**^{km}±2^{km}, **h132**^{km}±2.7^{km}**:pP-P,n135,**σ**1**^{s}**12**/153,**mb4.8**/53,**1C-1D, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTK	Tokunoshima	0.88	101	P	P	07 42 15.8	+0.1
JTK				S	S	07 42 30.6	-1.0
JIH	Iheya	0.92	180	P	P	07 42 16.6	+0.5
JIH				S	S	07 42 31.9	-0.3
JOW	Kunigami	1.15	166	P	P	07 42 18.8	+0.2
	3μm,0.3s,baz=15,slow=7.3,SNR=7997						
JOW				S	S	07 42 35.1	-1.3

	4µm,0.3s,baz=136,slow=27,SNR=21						
JOW	**Kunigami**	**1.15**	**166**	P	**P**	**07 42 18.9**	**+0.4**
JOW				S	**S**	**07 42 35.4**	**-1.0**
JAGN	**Aguni-jima**	**1.51**	**206**	P	**P**	**07 42 23.0**	**+0.4**
JAGN				S	**S**	**07 42 43.1**	**-0.6**
JAM	**Amami Oshima**	**1.51**	**72**	P	**P**	**07 42 22.8**	**+0.2**
JAM				S	**S**	**07 42 42.8**	**-0.9**
NAH1	**Naha**	**1.77**	**188**	P	**P**	**07 42 26.4**	**+0.8**
NAH1				S	**S**	**07 42 48.6**	**-0.4**
JZK	**Kikaishima**	**1.80**	**78**	P	**P**	**07 42 27.1**	**+1.1**
JZK				*e*S	**S**	**07 42 50.2**	**+0.4**
JJT2	**Tamagusuku 2**	**1.82**	**186**	P	**P**	**07 42 27.4**	**+1.1**
JJT2				S	**S**	**07 42 50.3**	**+0.1**
JKE	**Kume jima 2**	**1.94**	**213**	P	**P**	**07 42 28.3**	**+0.6**
JKE				S	**S**	**07 42 51.8**	**-0.9**
JNN	**Nakanoshima**	**2.51**	**41**	P	**P**	**07 42 35.7**	**+0.5**
JNN				*e*S	**S**	**07 43 06.6**	**+0.6**
JKC	**Kuchinoerabu**	**3.16**	**37**	P	**P**	**07 42 44.5**	**+0.6**
JTN	**Tanegashima 3**	**3.76**	**44**	P	**P**	**07 42 51.7**	**-0.2**
JTN				S	**S**	**07 43 33.8**	**-1.9**
JNU	**Nakatsue**	**5.72**	**25**	P	**P**	**07 43 20.2**	**+1.9**
	26nm,0.3s,baz=229,slow=3.9,SNR=99						
JNU				LR	LR	07 44 50.4	
	comp=Z,111nm,21.5s,baz=216,slow=30						
TATO	**Taipei**	**6.53**	**244**	Pn	**P**	**07 43 31.8**	**+2.4**
SSE	**Sheshan**	**6.69**	**299**	P	**P**	**07 43 32.3**	**+0.7**
SSE				S	**S**	**07 44 46.0**	**-0.8**
SSE	**Sheshan**	**6.69**	**299**	Pn	**P**	**07 43 32.2**	**+0.6**
	53nm,0.6s						
SSE				Sn	**S**	**07 44 46.0**	**-0.8**
NJ2	**Nanjing**	**8.89**	**300**	*e*P	**P**	**07 44 01.8**	**+0.5**
NJ2				XP		07 44 34.5	
NJ2				S	**S**	**07 45 40.1**	**-0.2**
NJ2				AMB	AMB		
	comp=Z,40nm,0.7s						
NJ2				LR	LR		
	comp=N,450nm,10.2s						
NJ2				LR	LR		
	comp=E,370nm,9.5s						
NJ2				LR	LR		
	comp=Z,3µm,9.3s						
JHJ	**Hachijo jima 2**	**11.40**	**60**	P	**P**	**07 44 36.8**	**+2.0**
	comp=Z,85nm,0.3s,baz=266,slow=17,SNR=8.6						
MAJO	**Matsushiro**	**12.17**	**43**	*e*P	**P**	**07 44 43.3**	**-1.5**
	comp=Z,16nm,0.3s						
MAT	**Matsushiro**	**12.17**	**43**	P	**P**	**07 44 43.1**	**-1.7**
MAT				S	**S**	**07 46 57.4**	**-0.9**
MAT	**Matsushiro**	**12.17**	**43**	*e*P	**P**	**07 44 43.0**	**-1.8**
	comp=Z,7.5nm,0.7s						
MAT				*e*S	**S**	**07 46 57.0**	**-1.3**
CBIJ	**Chichi jima**	**12.64**	**91**	P	**P**	**07 44 52.5**	**+1.5**
	comp=Z,43nm,0.3s,baz=336,slow=1.9,SNR=24						
SNY	**Shenyang**	**14.29**	**347**	⇑P	**P**	**07 45 17.1**	**+4.8**
SNY				AMB	AMB		
	comp=Z,90nm,0.7s						
BJT	**Baijiatuau**	**15.49**	**324**	*e*P	**P**	**07 45 29.8**	**+2.3**
	comp=Z,209nm,0.6s						
CN2	**Changchun**	**15.94**	**353**	*e*P	**P**	**07 45 33.6**	**+0.5**
CN2				*e*XP		07 46 08.8	
CN2				*e*S	**S**	**07 48 24.8**	**-1.0**
CN2				AMB	AMB		
	comp=Z,30nm,1.2s						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
ENH	**Enshi**	**16.32**	**283**	P	**P**	**07 45 34.5**	**-3.5**
	comp=Z,25nm,0.8s						
MDJ	**Mudanjiang**	**16.68**	**4**	P	**P**	**07 45 41.3**	**-0.9**
MDJ				XP		07 46 18.4	
MDJ				S	**S**	**07 48 46.3**	**+3.9**
MDJ				SCP		07 53 47.5	
MDJ				AMB	AMB		
	comp=Z,15nm,1.6s						
MDJ				AMB	AMB		
	comp=Z,70nm,4.8s						
MDJ	**Mudanjiang**	**16.68**	**4**	P	**P**	**07 45 42.5**	**+0.3**
	comp=Z,9.5nm,0.6s						
XAN	**Xi’an**	**17.41**	**295**	P	**P**	**07 45 52.1**	**+0.7**
XAN				AP		07 45 57.0	
XAN				AMB	AMB		
	comp=Z,37nm,0.7s						
HHC	**Hu-ho-hao-te**	**18.63**	**318**	*e*P	**P**	**07 46 06.4**	**+1.1**
HHC				S	**S**	**07 49 25.8**	**+0.1**
HHC				PCS		07 54 06.4	
HHC				AMB	AMB		
	comp=Z,32nm,1.0s						
HHC				AMB	AMB		
	comp=Z,272nm,4.3s						
GYA	**Guiyang**	**19.01**	**270**	⇓*i*P	**P**	**07 46 14.0**	**+4.5**
GYA				AP		07 46 36.8	
GYA				XP		07 46 55.3	
GYA				AMB	AMB		
	comp=Z,30nm,1.1s						
GYA				AMB	AMB		
	comp=Z,160nm,5.1s						
BTO	**Baotou**	**19.43**	**315**	*e*P	**P**	**07 46 13.1**	**-0.7**
ASAJ	**Asahikawa**	**19.95**	**32**	P	**P**	**07 46 20.1**	**+1.0**
	comp=Z,10.0nm,0.6s,baz=356,slow=17,SNR=5.8						
ASAJ				LR	LR	07 53 43.4	
	comp=Z,55nm,18.1s,baz=17,slow=35						
CD2	**Chengdu**	**21.28**	**284**	*e*P	**P**	**07 46 32.0**	**-0.7**
CD2				S	**S**	**07 50 14.0**	**-2.9**
CD2				SS	SS	07 51 01.3	+0.3
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.2						
LZH	**Lanzhou**	**21.96**	**298**	*e*P	**P**	**07 46 40.4**	**+1.0**
LZH				AP		07 47 07.0	
LZH				PP	PP	07 47 12.0	+3.0
LZH				XP		07 47 22.5	
LZH				S	**S**	**07 50 29.1**	**0.0**
LZH				SS	SS	07 51 16.3	-1.5
LZH				AMB	AMB		
	comp=Z,30nm,1.4s,mb4.4						
LZH				AMB	AMB		
	comp=Z,131nm,4.9s						
LZH				LR	LR		
	comp=E,172nm,8.5s						
LZH				LR	LR		
	comp=Z,244nm,10.2s						
LZH	**Lanzhou**	**21.96**	**298**	*e*P	**P**	**07 46 40.4**	**+1.0**
	comp=Z,30nm,1.4s,mb4.4						
LZH				pP		07 47 07.0	
LZH				PP	PP	07 47 12.0	+3.0
LZH				sP		07 47 22.5	
LZH				S	**S**	**07 50 29.1**	**0.0**
LZH				sS		07 51 11.0	
LZH				SS	SS	07 51 16.3	-1.5
HIA	**Hailar**	**22.20**	**346**	*e*P	**P**	**07 46 39.7**	**-1.9**
	comp=Z,9.8nm,0.5s,mb4.4						
KMI	**Kunming**	**22.74**	**269**	*e*P	**P**	**07 46 49.1**	**+2.1**
KMI				AP		07 47 15.0	
KMI				PP	PP	07 47 23.1	+3.1
KMI				XP		07 47 29.6	
KMI				S	**S**	**07 50 42.4**	**-0.4**
KMI				SS	SS	07 51 36.3	+0.1
KMI				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.4						
KMI				AMB	AMB		
	comp=Z,113nm,4.7s						
KMI	**Kunming**	**22.74**	**269**	*e*P	**P**	**07 46 49.1**	**+2.1**
	comp=Z,10.0nm,0.5s,mb4.4						
KMI				pP		07 47 15.0	
KMI				PP	PP	07 47 23.1	+3.1
KMI				sP		07 47 29.6	
KMI				S	**S**	**07 50 42.4**	**-0.4**
KMI				sS		07 51 26.1	
KMI				SS	SS	07 51 36.2	0.0
GTA	**Gaotai**	**25.96**	**303**	P	**P**	**07 47 19.3**	**+1.7**
GTA				AP	pP	07 47 46.1	+3.0
GTA				XP	sP	07 48 00.3	+3.1
GTA				S	**S**	**07 51 40.9**	**+3.9**
GTA				AMB	AMB		
	comp=Z,15nm,0.5s,mb4.7						
GTA				LR	LR		
	comp=N,71nm,11.8s						
GTA				LR	LR		
	comp=E,44nm,11.0s						
GTA				LR	LR		
	comp=Z,40nm,10.3s						
SONM	**Songino Array**	**25.99**	**326**	P	**P**	**07 47 17.1**	**-0.6**
	comp=Z,14nm,0.6s,mb4.6,baz=135,slow=8.7,SNR=55						
SONM				PcP	PcP	07 50 42.8	-0.7
	comp=Z,1.2nm,0.4s,baz=144,slow=3.2,SNR=5.9						
CMAR	**Chiang Mai Arr**	**28.25**	**257**	P	**P**	**07 47 39.4**	**+0.8**
	comp=Z,1.0nm,0.8s,baz=61,slow=5.0,SNR=4.2						
CMAR				PcP	PcP	07 50 48.7	-0.4
	comp=Z,4.1nm,0.8s,baz=51,slow=1.3,SNR=16						
WMQ	**Urumqi**	**35.88**	**307**	*e*P	**P**	**07 48 45.0**	**+0.4**
WMQ				AP	pP	07 49 13.0	+1.4
WMQ				AMB	AMB		
	comp=Z,26nm,1.1s,mb5.1						
GUN	**Gumba**	**37.05**	**280**	*e*P	**P**	**07 48 55.4**	**+0.8**
	comp=Z,15nm,0.4s,mb5.3						
PKI	**Pulchoki**	**37.52**	**280**	*e*P	**P**	**07 48 58.6**	**0.0**
	comp=Z,9.2nm,0.4s,mb5.0						
KKN	**Kakani**	**37.60**	**280**	*e*P	**P**	**07 48 59.2**	**0.0**
	comp=Z,5.4nm,0.3s,mb4.8						
DMN	**Daman**	**37.78**	**280**	*e*P	**P**	**07 49 01.2**	**+0.5**
KOLN	**Koldanda**	**39.06**	**280**	*e*P	**P**	**07 49 11.5**	**+0.1**
	comp=Z,6.3nm,0.6s,mb4.6						
MKAR	**Makanchi Array**	**40.23**	**310**	P	**P**	**07 49 19.2**	**-1.5**
	comp=Z,3.1nm,0.5s,mb4.4,baz=88,slow=10,SNR=39						
MKAR				pP	pP	07 49 48.8	+0.7
	comp=Z,5.8nm,0.7s,baz=100,slow=10.0,SNR=8.2						
MKAR				PcP	PcP	07 51 21.9	-1.2
	comp=Z,4.7nm,0.6s,baz=83,slow=3.3,SNR=12						
KURK	**Kurchatov**	**43.42**	**315**	P	**P**	**07 49 45.3**	**-1.5**
	comp=Z,64nm,0.4s,mb5.7,SNR=12						
KURK	**Kurchatov**	**43.42**	**315**	*e*P	**P**	**07 49 43.6**	**-3.1**
	comp=Z,8.2nm,0.5s,mb4.7						
FITZ	**Fitzroy Crossi**	**45.84**	**183**	*e*P	**P**	**07 50 06.4**	**-0.1**
	comp=Z,6.1nm,1.1s,mb4.2						
WRAB	**Tennant Creek**	**48.01**	**172**	P	**P**	**07 50 23.3**	**-0.2**
	comp=Z,4.4nm,0.6s,mb4.5						
WRA	**Warramunga Arr**	**48.01**	**172**	P	**P**	**07 50 21.1**	**-2.4**
	comp=Z,2.5nm,0.8s,mb4.1,baz=353,slow=8.3,SNR=8.1						
WRA				pP	pP	07 50 49.6	-1.9
	comp=Z,2.7nm,0.5s,baz=354,slow=8.4,SNR=5.6						
WRA				sP	sP	07 51 03.2	-1.7
	comp=Z,1.6nm,0.6s,baz=355,slow=8.8,SNR=2.5						
WB2	**Warramunga Arr**	**48.02**	**172**	*e*P	**P**	**07 50 22.7**	**-0.8**
ZRNK	**Zerenda**	**49.67**	**317**	P	**P**	**07 50 33.4**	**-2.4**
	comp=Z,8.4nm,0.5s,mb4.9						
ZRNK				*e*	pP	07 51 03.8	-0.2
ZRNK				*e*PcP	PcP	07 51 54.1	-1.4
ASAR	**Alice Springs**	**51.64**	**173**	P	**P**	**07 50 49.5**	**-1.7**
	comp=Z,1.3nm,0.5s,mb4.2,baz=2.1,slow=11,SNR=23						
ASAR				pP	pP	07 51 20.0	+0.5
	comp=Z,2.4nm,0.6s,baz=3.4,slow=14,SNR=7.0						
ASPA	**Alice Springs**	**51.64**	**173**	*e*P	**P**	**07 50 50.4**	**-0.8**
KLBR	**Kellerberrin**	**60.01**	**190**	*e*P	**P**	**07 51 50.0**	**-1.0**
	comp=Z,14nm,1.4s,mb4.8						
IMA	**Indian Mountai**	**60.09**	**27**	*e*P	**P**	**07 51 50.1**	**-0.9**
	comp=Z,43nm,0.8s,mb5.5						
IMA				*e*		07 52 35.3	
STKA	**Stephens Creek**	**60.90**	**167**	*e*P	**P**	**07 51 56.1**	**-0.9**
	comp=Z,2.8nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**60.90**	**167**	P	**P**	**07 51 54.9**	**-2.1**
	comp=Z,2.9nm,0.5s,mb4.5,baz=324,slow=4.9,SNR=8.7						
MCK	**McKinley**	**62.29**	**30**	*e*P	**P**	**07 52 03.8**	**-2.1**
	comp=Z,15nm,1.0s,mb5.0						
PMR	**Palmer**	**62.49**	**32**	*e*P	**P**	**07 52 03.8**	**-3.5**
	comp=Z,7.1nm,0.4s,mb5.0						
COLA	**College**	**62.61**	**29**	*e*P	**P**	**07 52 06.4**	**-1.6**
	comp=Z,9.3nm,0.6s,mb4.9						
SML	**Sawmill**	**62.84**	**32**	*e*P	**P**	**07 52 07.1**	**-2.4**
ILAR	**Eielson Array**	**63.03**	**29**	P	**P**	**07 52 08.5**	**-2.3**
	comp=Z,2.4nm,0.6s,mb4.3,baz=264,slow=4.3,SNR=72						
ILAR				PcP	PcP	07 52 45.1	-2.1
	comp=Z,1.2nm,0.8s,baz=282,slow=5.7,SNR=5.2						
DIV	**Divide**	**64.17**	**33**	*e*P	**P**	**07 52 17.6**	**-0.6**
	comp=Z,48nm,0.6s,mb5.5						
DIV				*e*	pP	07 52 51.5	+3.9
DAWY	**Dawson**	**66.36**	**29**	*e*P	**P**	**07 52 30.9**	**-1.3**
INK	**Inuvik**	**67.40**	**23**	P	**P**	**07 52 37.3**	**-1.4**
	comp=Z,7.9nm,0.8s,mb4.6,baz=280,slow=7.6,SNR=21						
INK	**Inuvik**	**67.40**	**23**	*e*P	**P**	**07 52 37.2**	**-1.4**
	comp=Z,8.3nm,0.6s,mb4.7						
ARCES	**ARCESS Array B**	**68.32**	**338**	P	**P**	**07 52 42.4**	**-1.9**
	comp=Z,3.7nm,1.0s,mb4.2,baz=56,slow=4.4,SNR=8.2						
FINES	**FINESS Array B**	**71.25**	**330**	P	**P**	**07 52 59.8**	**-2.5**
	comp=Z,3.6nm,0.6s,mb4.3,baz=69,slow=5.9,SNR=19						
DLBC	**Dease Lake**	**72.55**	**33**	*e*P	**P**	**07 53 09.7**	**-0.2**
MALT	**Malatya**	**72.94**	**305**	P	**P**	**07 53 12.2**	**-0.3**
	comp=Z,3.9nm,0.7s,mb4.3						
AKASG	**Malin Array Be**	**74.08**	**319**	P	**P**	**07 53 16.4**	**-2.6**
	comp=Z,0.9nm,0.3s,mb4.0,baz=56,slow=6.5,SNR=4.8						
BRTR	**Keskin Array B**	**75.80**	**308**	P	**P**	**07 53 27.6**	**-1.4**
	comp=Z,3.3nm,0.6s,mb4.2,baz=91,slow=4.4,SNR=12						
BRTR				pP	pP	07 54 03.5	+4.1
	comp=Z,2.2nm,0.8s,baz=72,slow=3.9,SNR=3.6						
YKW3	**Yellowknife Ar**	**77.02**	**25**	*e*P	**P**	**07 53 34.8**	**-0.6**
YKA	**Yellowknife Ar**	**77.06**	**25**	P	**P**	**07 53 34.8**	**-0.7**
	comp=Z,9.3nm,0.7s,mb4.6,baz=305,slow=5.8,SNR=76						
NB2	**NORSAR Subarra**	**77.67**	**334**	P	**P**	**07 53 36.2**	**-2.8**
	comp=Z,3.3nm,0.7s,mb4.2,baz=51,slow=5.6						
NOA	**NORSAR Array B**	**77.67**	**334**	P	**P**	**07 53 36.6**	**-2.3**
	comp=Z,1.7nm,0.6s,mb4.0,baz=51,slow=5.6,SNR=5.7						
MORC	**Moravsky Berou**	**81.09**	**322**	P	**P**	**07 53 57.7**	**+0.1**
	comp=Z,4.8nm,0.8s,mb4.4						
MORC				*e*		07 54 33.9	
RPW	**Rockport**	**81.86**	**39**	P	**P**	**07 54 01.9**	**+0.2**
CLL	**Collm**	**82.61**	**325**	P	**P**	**07 54 05.9**	**+0.4**
CLL	**Collm**	**82.61**	**325**	*i* P	**P**	**07 54 05.9**	**+0.4**
NLW	**Nelson Butte**	**82.72**	**39**	P	**P**	**07 54 06.9**	**+0.8**
ETW	**Entiat**	**82.99**	**39**	P	**P**	**07 54 08.2**	**+0.8**
WTV	**Waterville**	**83.15**	**39**	P	**P**	**07 54 08.7**	**+0.5**
EDM	**Edmonton**	**83.26**	**32**	*e*P	**P**	**07 54 09.1**	**+0.4**
CLZ	**Clausthal**	**83.60**	**326**	*e*P	**P**	**07 54 11.3**	**+0.9**
	comp=Z,31nm,0.9s,mb5.1						
GEC2	**GERESS Array S**	**83.69**	**323**	*e*P	**P**	**07 54 11.3**	**+0.4**
	comp=Z,11nm,1.2s,mb4.6						
GERES	**GERESS Array B**	**83.69**	**323**	P	**P**	**07 54 10.0**	**-0.9**
	comp=Z,13nm,1.2s,mb4.6,baz=45,slow=3.8,SNR=15						
MDW	**Midway**	**83.87**	**40**	P	**P**	**07 54 13.3**	**+1.4**
DPW	**Davenport**	**84.02**	**38**	*e*P	**P**	**07 54 13.0**	**+0.4**
GBL	**Gable Mountain**	**84.05**	**40**	P	**P**	**07 54 14.0**	**+1.2**
HAWA	**Hanford**	**84.13**	**40**	*e*P	**P**	**07 54 14.2**	**+1.1**
NEW	**Newport**	**84.38**	**38**	*e*P	**P**	**07 54 14.6**	**+0.3**
	comp=Z,16nm,0.6s,mb5.0						
GRA1	**Grafenberg Arr**	**84.49**	**324**	*e*P	**P**	**07 54 15.4**	**+0.5**
MOD	**Modoc**	**86.22**	**44**	*e*P	**P**	**07 54 24.3**	**+0.7**
	comp=Z,20nm,1.1s,mb5.0						
FFC	**Flin Flon**	**87.15**	**26**	P	**P**	**07 54 27.6**	**-0.2**
	comp=Z,177nm,0.8s,SNR=13						
FFC	**Flin Flon**	**87.15**	**26**	*e*P	**P**	**07 54 27.8**	**0.0**
	comp=Z,31nm,0.8s,mb5.3						
BEKR	**Beckwourth**	**87.34**	**46**	*e*P	**P**	**07 54 30.1**	**+1.0**
	comp=Z,9.7nm,0.8s,mb4.8						
HRY	**Holter Researc**	**88.15**	**37**	*e*P	**P**	**07 54 34.0**	**+1.2**
HLID	**Hailey**	**88.73**	**40**	*e*P	**P**	**07 54 37.0**	**+1.4**
	comp=Z,18nm,0.9s,mb5.1						
BOZ	**Bozeman (W)**	**88.95**	**37**	*e*P	**P**	**07 54 37.3**	**+0.7**
	comp=Z,10nm,1.0s,mb4.8						
QLMT	**Earthquake Lak**	**89.58**	**38**	*e*P	**P**	**07 54 41.1**	**+1.6**
YMR	**Madison River**	**89.94**	**38**	*e*P	**P**	**07 54 43.2**	**+1.9**
TPH	**Tonopah**	**90.37**	**46**	*e*P	**P**	**07 54 43.4**	**-0.1**
	comp=Z,13nm,1.1s,mb5.0						
TPAW	**Teton Pass**	**90.72**	**39**	*e*P	**P**	**07 54 46.2**	**+1.2**
DGMT	**Dagmar**	**90.75**	**32**	*e*P	**P**	**07 54 45.6**	**+0.7**
	comp=Z,40nm,1.0s,mb5.5						
SNOW	**Snow King Moun**	**90.84**	**38**	*e*P	**P**	**07 54 46.9**	**+1.3**
LAO	**LASA Array**	**91.03**	**34**	*e*P	**P**	**07 54 46.9**	**+0.6**
	comp=Z,40nm,0.9s,mb5.5						
KMBO	**Kilima Mbogo**	**91.16**	**269**	P	**P**	**07 54 47.9**	**+0.2**
	comp=Z,3.3nm,0.9s,mb4.5,baz=42,slow=7.9,SNR=6.7						
KMBO	**Kilima Mbogo**	**91.16**	**269**	*e*P	**P**	**07 54 48.2**	**+0.5**
	comp=Z,4.8nm,0.8s,mb4.7						
HWUT	**Hardware Ranch**	**91.59**	**40**	*e*P	**P**	**07 54 49.2**	**+0.1**
	comp=Z,43nm,1.3s,mb5.5						
TPNV	**Topopah Spring**	**91.67**	**46**	*e*P	**P**	**07 54 50.9**	**+1.3**
	comp=Z,7.2nm,1.0s,mb4.9						
DUG	**Dugway**	**91.77**	**42**	*e*P	**P**	**07 54 50.4**	**+0.4**
PDAR	**Pinedale Array**	**91.96**	**38**	P	**P**	**07 54 51.5**	**+0.8**
	comp=Z,5.3nm,0.7s,mb4.9,baz=11,slow=1.5,SNR=44						
JLU	**Jordanelle**	**92.31**	**41**	*e*P	**P**	**07 54 52.2**	**-0.2**
ULM	**Lac du Bonnet**	**92.98**	**26**	P	**P**	**07 54 55.0**	**-0.2**
	comp=Z,16nm,0.8s,mb5.4,baz=315,slow=4.2,SNR=14						
ULM	**Lac du Bonnet**	**92.98**	**26**	P	**P**	**07 54 55.0**	**-0.2**
SRU	**San Rafael**	**93.82**	**42**	*e*P	**P**	**07 54 60.0**	**+0.7**
RSSD	**Black Hills**	**93.94**	**35**	*e*P	**P**	**07 55 00.3**	**+0.7**
	comp=Z,7.1nm,0.5s,mb5.2						
PV10	**Paradox Valley**	**95.18**	**41**	*e*P	**P**	**07 55 06.2**	**+0.7**
SCHQ	**Schefferville**	**96.57**	**9**	P	**P**	**07 55 11.0**	**-0.4**
	comp=Z,3.7nm,0.8s,mb4.9,slow=3.0,SNR=4.3						
SCHQ	**Schefferville**	**96.57**	**9**	P	**P**	**07 55 11.0**	**-0.4**
TXAR	**Lajitas Array**	**104.60**	**45**	Pdiff	Pdif	07 55 47.6	-0.4
	comp=Z,0.4nm,0.6s,baz=302,slow=3.3,SNR=6.9						
QSPA	**South Pole Qui**	**117.73**	**180**	*e*PKP	PKPdf	08 00 26.5	+0.8
DBIC	**Dimbokro**	**122.92**	**300**	PKP	PKPdf	08 00 38.2	+0.9
	comp=Z,3.9nm,0.6s,baz=208,slow=16,SNR=11						
KIC	**Kosan Boka**	**123.03**	**299**	*e*PKIKP	PKPdf	08 00 38.2	+0.7
	comp=Z,11nm,0.4s						
TIC	**Toumodi**	**123.06**	**300**	*e*PKIKP	PKPdf	08 00 38.2	+0.7
	comp=Z,12nm,0.2s						
LIC	**Lamto**	**123.34**	**300**	*e*PKIKP	PKPdf	08 00 38.5	+0.4
	comp=Z,100nm,2.0s						
SDV	**Santo Domingo**	**139.19**	**29**	*e*PKPpre		08 00 59.6	
SDV				*e*PKPdf	PKPdf	08 01 09.2	+1.2
SAML	**Samuel**	**158.36**	**31**	*e*PKPdf	PKPdf	08 01 40.0	+2.1
SAML				*e*PKPab	PKPab	08 02 13.0	-2.4

*ISK **14** 07:49:49.1, 36.08N×27.42E, h12^{km}, MD3.2*
*NEIC **14** 07:49:51.4, 35.81N×27.84E, h21^{km}, MD3.2(ATH), After ATH.*
*ATH **14** 07:49:51.4, 35.81N×27.84E, h21^{km}±3^{km}, MD3.2/5*
ISC 14 07:49:49.9±1.7, **36.05N**±0.04×**27.48E**±0.06, **h11**^{km}±12^{km}, **n16**, σ**0$\overset{s}{.}$74**/23, **4C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARG	**Arkhangelos**	**0.55**	**72**	⇑*i*PB	**Pb**	**07 50 01.3**	**+0.2**
ARG				*e*SB	**Sb**	**07 50 07.9**	**-0.7**
KARP	**Karpathos**	**0.56**	**207**	⇑*i*PN	**Pn**	**07 50 03.8**	**+0.2**
KARP				*e*SN	**Sn**	**07 50 12.1**	**-0.8**
BDRM	**Kayabasi**	**1.01**	**358**	⇑*i*P	**Pb**	**07 50 08.7**	**-0.4**
BDRM				*i* S	**Sb**	**07 50 22.8**	**+0.7**
DALT	**Dalyan (Mudla)**	**1.18**	**52**	*i* PN	**Pn**	**07 50 12.2**	**-0.1**
DALT				*i* SN	**Sn**	**07 50 29.5**	**+1.1**
YER	**Yerkesik**	**1.26**	**31**	PN	**Pn**	**07 50 13.2**	**-0.3**
YER				SN	**Sn**	**07 50 30.4**	**-0.1**
MLSB	**Milas**	**1.27**	**11**	PN	**Pn**	**07 50 13.8**	**+0.2**
AYDN	**Tasoluk**	**1.64**	**11**	⇑*i*P	**Pn**	**07 50 20.1**	**+1.2**
AYDN				*i* S	**Sn**	**07 50 39.8**	**-0.4**
NPS	**Neapolis**	**1.71**	**243**	*e*PN	**Pn**	**07 50 21.4**	**+1.4**
APE	**Apeiranthos**	**1.87**	**304**	*e*PN	**Pn**	**07 50 20.9**	**-1.3**
XRY	**Khrisi**	**1.87**	**232**	*e*PN	**Pn**	**07 50 26.0**	**+3.8**
DNZL	**Cakiroluk**	**2.06**	**37**	*i* P	**Pn**	**07 50 24.8**	**-0.2**
DNZL				*i* S	**Sn**	**07 50 51.1**	**+0.2**
ELL	**Elmali**	**2.08**	**70**	*e*PN	**Pn**	**07 50 25.7**	**+0.5**
DENT	**Denizli**	**2.11**	**36**	PN	**Pn**	**07 50 25.0**	**-0.6**
VAM	**Vamos**	**2.75**	**257**	*e*PN	**Pn**	**07 50 40.5**	**+5.8**
AKS	**Akhisar**	**2.84**	**5**	*e*PN	**Pn**	**07 50 35.1**	**-1.0**
IKL	**Isikli**	**5.03**	**86**	*e*PN	**Pn**	**07 51 07.0**	**-0.1**

*IDC **14** 07:50:44.5±1.0, 0.34N×99.17E, mb3.9/7, mb1 4.0/8, mb1mx3.9/17, ML4.0/1, MS3.5/2, Ms1 3.5/2, ms1mx3.1/18, Error ellipse: s-maj=53.4km s-min=18.3km az=53.0*
*NEIC **14** 07:50:46.5±0.9, 0.50N×99.46E, h10^{km}, mb4.4/2, Error ellipse: s-maj=27.6km s-min=14.4km az=64.0*
ISC 14 07:50:47.3±1.0, **0.4N**±0.2×**99.2E**±0.2, **h33**^{km}, **n13**, σ**0$\overset{s}{.}$79**/12, **mb4.0**/9, **MS3.7**/1, **2C, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KGM	**Kluang**	**4.42**	**68**	⇑*e*P	**P**	**07 52 05.9**	**+12**
	152nm,0.7s						
IPM	**Ipoh**	**4.55**	**24**	⇑*e*P	**P**	**07 51 51.3**	**-4.3**
	35nm,0.8s						
CMAR	**Chiang Mai Arr**	**17.97**	**359**	P	**P**	**07 54 56.5**	**+0.2**
	0.2nm,0.3s,baz=191,slow=11,SNR=12						
CMAR				LR	LR	08 03 04.1	
	comp=Z,58nm,18.6s,baz=180,slow=41						
NWAO	**Narrogin (SRO)**	**37.23**	**155**	LR	LR	08 11 16.3	
	comp=Z,144nm,20.9s,MS3.7,baz=117,slow=33						
WRA	**Warramunga Arr**	**39.90**	**122**	P	**P**	**07 58 20.2**	**+0.2**
	0.6nm,0.9s,mb3.3,baz=305,slow=8.9,SNR=5.1						
WRA				PcP	PcP	08 00 27.3	+1.4
	0.5nm,0.7s,baz=314,slow=2.4,SNR=4.8						
ASAR	**Alice Springs**	**41.31**	**128**	P	**P**	**07 58 31.4**	**-0.2**
	0.6nm,0.7s,mb3.3,baz=300,slow=7.9,SNR=7.0						
ASAR				PcP	PcP	08 00 31.8	+1.4
	1.6nm,1.0s,baz=312,slow=2.7,SNR=6.8						
SONM	**Songino Array**	**47.68**	**7**	P	**P**	**07 59 23.3**	**+0.8**
	1.2nm,0.8s,mb4.0,baz=187,slow=10.0,SNR=6.5						
MKAR	**Makanchi Array**	**48.54**	**345**	P	**P**	**07 59 29.4**	**+0.1**
	3.8nm,0.6s,mb4.6,baz=154,slow=9.3,SNR=23						
KURK	**Kurchatov**	**53.12**	**344**	P	**P**	**08 00 02.4**	**-1.5**
	5.5nm,0.8s,mb4.5						
BVAR	**Borovoye Array**	**57.69**	**340**	P	**P**	**08 00 37.6**	**+0.6**
	0.8nm,0.6s,mb4.0,baz=143,slow=7.4,SNR=4.2						
ZRNK	**Zerenda**	**58.12**	**339**	P	**P**	**08 00 39.3**	**-0.6**
	3.4nm,1.0s,mb4.3						
BRTR	**Keskin Array B**	**71.14**	**312**	P	**P**	**08 02 06.0**	**+1.3**
	0.8nm,0.6s,mb3.8,baz=117,slow=9.7,SNR=3.4						
AKASG	**Malin Array Be**	**77.13**	**322**	P	**P**	**08 02 38.5**	**-0.8**
	0.8nm,0.4s,mb4.0,baz=91,slow=5.0,SNR=6.9						

*DJA **14** 07:56:19.2±1.0, 10.68S×112.51E, h2^{km}, MD5.1/3, ML4.7/3, Error ellipse: s-maj=35.0km s-min=22.3km az=143.0*
*IDC **14** 07:56:21.5±2.1, 11.04S×113.05E, mb4.0/5, mb1 4.1/6, mb1mx3.9/14, ML3.3/1, Error ellipse: s-maj=89.1km s-min=20.5km az=50.0*
*NEIC **14** 07:56:26.0±1.1, 11.45S×112.80E, h40^{km}, mb4.3/1, Error ellipse: s-maj=40.5km s-min=11.1km az=52.0*
ISC 14 07:56:22.9±3.8, **11.07S**±0.06×**113.21E**±0.09, **h21**^{km}±29^{km}, **n11**, σ**1$\overset{s}{.}$32**/16, **mb4.0**/6, **6C, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KELI	**Kelakatan**	**3.10**	**24**	⇑*e*Pn	**Pn**	**07 57 07.2**	**-4.6**
	311nm,0.3s						
KELI				⇑*e*Sn	**Sn**	**07 57 43.5**	**-5.2**
RATI	**Rata**	**3.26**	**45**	⇑*e*Pn	**Pn**	**07 57 13.5**	**-0.6**
	458nm,0.2s						
RATI				⇑*e*Sn	**Sn**	**07 57 52.3**	**-0.5**
KEDI	**Kedomdong**	**3.84**	**48**	⇑*e*Pn	**Pn**	**07 57 22.1**	**-0.2**
	77nm,0.2s						
KEDI				⇑*e*Sn	**Sn**	**07 58 08.1**	**+0.8**
MBWA	**Marble Bar**	**11.82**	**149**	*e*P	**P**	**07 59 10.2**	**-3.4**
MBWA				*e*S	**S**	**08 01 13.2**	**-13**
FITZ	**Fitzroy Crossi**	**13.90**	**122**	Pn	**P**	**07 59 42.2**	**+0.8**
	0.1nm,0.3s,baz=312,slow=14,SNR=3.1						
FITZ				Sn	**S**	**08 02 14.0**	**-2.0**
	0.2nm,0.3s,baz=177,slow=13,SNR=4.7						
WRA	**Warramunga Arr**	**22.16**	**116**	P	**P**	**08 01 21.2**	**+1.9**
	4.5nm,0.8s,mb3.9,baz=291,slow=11,SNR=12						
WRAB	**Tennant Creek**	**22.17**	**116**	P	**P**	**08 01 20.8**	**+1.4**
	8.5nm,0.8s,mb4.2						
ASAR	**Alice Springs**	**23.34**	**125**	P	**P**	**08 01 33.1**	**+2.2**
	3.3nm,0.8s,mb3.8,baz=303,slow=9.0,SNR=25						
STKA	**Stephens Creek**	**33.38**	**133**	P	**P**	**08 03 01.9**	**-0.3**
	2.0nm,0.5s,mb4.3,baz=300,slow=10,SNR=6.0						
SONM	**Songino Array**	**58.95**	**355**	P	**P**	**08 06 23.0**	**-0.2**
	0.3nm,0.4s,mb3.7,baz=172,slow=8.7,SNR=3.7						
MKAR	**Makanchi Array**	**63.90**	**337**	P	**P**	**08 06 55.6**	**-1.0**
	1.1nm,0.6s,mb4.1,baz=161,slow=7.2,SNR=4.2						

*SYO **14** 08:14:54.8, 8.73S×75.45W, h51^{km}, MB4.6*
*BJI **14** 08:14:55.0, 8.70S×75.50W, h48^{km}, mB4.6, Ms4.5, Msz4.4*
*NEIC **14** 08:14:55.0±0.7, 8.72S×75.55W, h48^{km}±7^{km}, mb4.5/10, Error ellipse: s-maj=10.1km s-min=5.7km az=62.0*
NEIC Felt [IV] at Aucayacu.
*IDC **14** 08:14:55.1±3.4, 8.70S×75.58W, h47^{km}±31^{km}, mb4.1/12, mb1 4.2/14, mb1mx4.2/19, ML3.4/2, MS3.8/8, Ms1 3.8/8, ms1mx3.6/17, Error ellipse: s-maj=39.1km s-min=15.5km az=49.0*
ISC 14 08:14:53.5±1.1, **8.71S**±0.05×**75.61W**±0.08, **h48**^{km}±11^{km}, **h43**^{km}±2.3^{km}**:pP-P**, **n47**, σ**1$\overset{s}{.}$06**/36, **mb4.3**/20, **MS3.8**/7, **3C-3D, Central Peru**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**3.47**	**200**	*e*Pn	**P**	**08 15 46.7**	**+0.2**
NNA				*e*S	**S**	**08 16 26.5**	**-0.2**
OTAV	**Otavalo**	**9.33**	**342**	*e*P	**P**	**08 17 08.9**	**+0.7**
	11nm,0.8s						
LPAZ	**La Paz**	**10.48**	**137**	P	**P**	**08 17 23.1**	**-0.9**
	0.3nm,0.3s,baz=219,slow=0.1,SNR=4.0						
LPAZ				Lg		08 20 23.1	
	2.9nm,0.3s,baz=171,slow=18,SNR=3.5						
LPAZ				LR	LR	08 22 03.7	
	comp=Z,414nm,20.9s,baz=273,slow=41						
SAML	**Samuel**	**12.28**	**92**	*e*P	**P**	**08 17 44.4**	**-4.0**
	0.3nm,0.8s						
ROSC	**El Rosal**	**13.54**	**5**	P	**P**	**08 18 06.3**	**+1.2**
	1.7nm,0.3s,baz=185,slow=16,SNR=7.1						
ROSC				Lg		08 21 59.1	

	0.5nm,0.3s,baz=87,slow=22,SNR=2.0						
LVC	Limon Verde	15.24	156	P	P	08 18 26.6	-0.6
	26nm,0.9s						
LVC				e		08 18 33.0	
SDV	Santo Domingo	18.17	16	eP	P	08 19 03.7	-0.5
	14nm,0.7s						
JTS	JuntasAbangare	21.05	334	P	P	08 19 38.4	+2.7
	5.8nm,1.1s,mb3.8,baz=167,slow=18,SNR=2.5						
JTS				LR	LR	08 27 07.6	
	comp=Z,194nm,19.5s,MS3.5,baz=216,slow=35						
CPUP	Villa Florida	24.65	138	P	P	08 20 10.8	-0.4
	3.7nm,0.6s,mb4.1,baz=346,slow=9.9,SNR=20						
CPUP				LR	LR	08 32 15.1	
	comp=Z,271nm,19.7s,MS3.8,baz=343,slow=42						
BDFB	Brasilia	27.82	107	P	P	08 20 39.8	-0.8
	2.5nm,0.5s,mb4.1,baz=280,slow=8.6,SNR=4.4						
BDFB				LR	LR	08 32 23.7	
	comp=Z,784nm,19.6s,MS4.3,baz=299,slow=38						
BAO	Brasilia Array	27.84	107	eP	P	08 20 40.7	-0.1
SJG	San Juan	28.24	19	P	P	08 20 47.7	+3.3
	8.4nm,0.4s,mb4.7,baz=353,slow=20,SNR=4.3						
TXAR	Lajitas Array	46.49	326	P	P	08 23 18.4	+0.3
	0.6nm,0.5s,mb3.8,baz=147,slow=8.3,SNR=11						
TXAR				LR	LR	08 41 43.1	
	comp=Z,50nm,20.9s,MS3.5,baz=120,slow=35						
ANMO	Albuquerque	52.31	328	eP	P	08 24 02.5	-0.2
	4.9nm,1.1s,mb4.3						
TUC	Tucson	52.83	322	eP	P	08 24 06.1	-0.5
	1.1nm,0.8s,mb3.8						
SDCO	Great Sand Dun	54.01	331	eP	P	08 24 15.1	-0.1
	6.8nm,0.8s,mb4.6						
PV01	Paradox Valley	55.84	329	eP	P	08 24 28.0	-0.5
TCUT	Toone Canyon	59.52	329	P	P	08 24 52.9	-1.5
DUG	Dugway	59.58	328	eP	P	08 24 54.5	-0.2
	0.6nm,0.9s,mb3.6						
PDAR	Pinedale Array	59.86	332	P	P	08 24 56.1	-0.6
	0.3nm,0.4s,mb3.7,baz=150,slow=7.3,SNR=8.1						
HWUT	Hardware Ranch	59.96	329	eP	P	08 24 56.6	-0.8
	5.0nm,0.7s,mb4.7						
HWUT				e	pP	08 25 06.2	-4.8
ULM	Lac du Bonnet	61.31	345	P	P	08 25 04.4	-2.0
	4.1nm,0.5s,mb4.8,baz=175,slow=3.9,SNR=5.3						
HLID	Hailey	62.83	329	eP	P	08 25 16.4	-0.2
	4.4nm,1.2s,mb4.5						
HLID				e	pP	08 25 27.8	-2.5
DBIC	Dimbokro	72.16	80	P	P	08 26 15.2	-0.3
	9.7nm,0.8s,mb4.8,baz=262,slow=8.0,SNR=26						
DBIC				LR	LR	08 57 40.8	
	comp=Z,63nm,18.7s,MS3.9,baz=193,slow=36						
VNA3	Neumayer Olymp	74.17	162	⇑iP	P	08 26 28.0	+1.6
VNA3				e	pP	08 26 41.8	+1.4
VNA1	Neumayer--Stat	74.41	161	⇓iP	P	08 26 31.2	+3.4
VNA1				e	pP	08 26 45.0	+3.3
VNA2	Neumayer--Watz	74.77	162	⇓iP	P	08 26 31.8	+2.0
VNA2				e	pP	08 26 45.2	+1.4
SNAA	Sanae	76.38	162	⇑iP	P	08 26 39.5	+0.4
SNAA				e	pP	08 26 53.3	+0.2
YKA	Yellowknife Ar	77.09	343	P	P	08 26 42.8	-0.3
	0.9nm,0.5s,mb4.0,baz=141,slow=5.9,SNR=14						
QSPA	South Pole Qui	81.40	180	eP	P	08 27 07.8	+1.6
	13nm,0.8s,mb4.9						
ESDC	Sonseca Array	81.69	48	P	P	08 27 09.3	+0.8
	0.9nm,0.5s,mb3.9,baz=267,slow=5.7,SNR=5.1						
ILAR	Eielson Array	90.00	336	P	P	08 27 49.0	+0.2
	2.2nm,1.1s,mb4.4,baz=134,slow=4.8,SNR=15						
ILAR				LR	LR	09 08 57.0	
	comp=Z,37nm,18.9s,MS3.8,baz=37,slow=36						
TSUM	Tsumeb	90.16	109	P	P	08 27 51.9	+1.4
	5.9nm,0.8s,mb5.0,baz=248,slow=5.0,SNR=14						
COLA	College	90.42	336	eP	P	08 27 50.0	-0.7
	7.5nm,0.8s,mb5.1						
COLA				e	pP	08 28 02.8	-2.3
SYO	Syowa Base	90.65	161	⇓P	P	08 27 50.0	-1.7
SYO	Syowa Base	90.65	161	⇑PcP	PcP	08 27 52.7	-0.3
MAW	Mawson	98.32	165	LR	LR	09 17 10.2	
	comp=Z,45nm,18.1s,MS4.0,baz=142,slow=38						
STKA	Stephens Creek	126.22	220	PKP	PKPdf	08 33 53.5	+2.0
	1.9nm,0.6s,baz=75,slow=5.6,SNR=4.9						
ASAR	Alice Springs	136.78	221	PKP	PKPdf	08 34 13.3	+1.7
	2.1nm,0.7s,baz=126,slow=2.1,SNR=17						
MKAR	Makanchi Array	137.62	23	PKP	PKPdf	08 34 14.2	+1.7
	1.0nm,0.6s,baz=283,slow=1.4,SNR=8.0						
WB2	Warramunga Arr	139.00	226	eP	PKPdf	08 34 17.5	+1.8
WRA	Warramunga Arr	139.01	226	PKP	PKPdf	08 34 17.5	+1.8
	2.8nm,0.7s,baz=123,slow=2.0,SNR=20						
CN2	Changchun	140.52	336	ePKP	PKPdf	08 34 20.0	+2.1
SONM	Songino Array	140.98	358	PKhKP		08 34 15.7	
	0.4nm,0.4s,slow=3.7,SNR=4.0						
WMQ	Urumqi	142.12	20	ePKP	PKPdf	08 34 20.0	-0.6
GTA	Gaotai	149.16	7	ePKP	PKPdf	08 34 39.3	+6.6
GTA				APKP		08 34 51.3	
LZH	Lanzhou	152.75	1	ePKP	PKPdf	08 34 41.0	+2.8
LZH				APKP		08 34 57.1	
LZH				XPKP		08 35 03.0	

IDC 14 08:59:45.7±43.0, 14.78S×170.33W, mb3.9/3, mb1 4.1/3, mb1mx3.7/14, Error ellipse: s-maj=854.0km s-min=194.0km az=79.0, Samoa Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	Stephens Creek	46.91	240	P	P	09 08 18.2	-1.8
	1.2nm,0.8s,baz=85,slow=11,SNR=3.3						
WRA	Warramunga Arr	52.87	256	P	P	09 09 03.6	-2.2
	0.3nm,0.5s,baz=93,slow=6.8,SNR=13						
ASAR	Alice Springs	53.12	251	P	P	09 09 05.5	-2.1
	1.9nm,0.4s,baz=89,slow=8.1,SNR=45						

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*NEIC **14** 09:18:11.3, 34.12S×70.08W, h8^{km}, ML2.6(GUC), After GUC.*

GUC 14 09:18:11.3±0.7, 34.12S×70.08W, h8^{km}±1^{km}, MD3.9, ML2.6, 5C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LMEL	Las Melosas	0.29	339	⇑iP	Pg	09 18 17.6	+0.4
LMEL				i S	Sg	09 18 22.8	+1.6
LMEL				AMP		09 18 23.2	
	comp=N,3µm,0.2s						
CICH	Cipreses	0.35	235	⇑iP	Pg	09 18 18.6	+0.3
CICH				i S	Sg	09 18 24.0	+0.9
CACH	El Canelo	0.43	270	i P	Pg	09 18 20.1	+0.1
CACH				i S	Sg	09 18 26.9	+1.0
CHCH	Chadas Angostu	0.51	291	eP	Pg	09 18 21.7	+0.1
CHCH				i S	Sg	09 18 29.7	+1.2
PCH	Pirque	0.61	324	⇓iP	Pg	09 18 23.8	+0.2
PCH				i S	Sg	09 18 33.2	+1.4
ANTU	Antumapu	0.72	320	eP	Pb	09 18 25.5	-0.1
ANTU				i S	Sg	09 18 35.9	+0.7
ANTU				AMP		09 18 36.7	
	comp=E,516nm,0.3s						
FCH	Farellones	0.81	347	⇑iP	Pb	09 18 26.9	-0.3
FCH				i S	Sb	09 18 39.2	+1.1
FCH				AMP		09 18 40.6	
	comp=E,495nm,0.2s						
CLCH	Cerro Calan	0.81	332	⇑iP	Pb	09 18 27.4	+0.1
CLCH				i S	Sb	09 18 39.2	+1.0
CLCH				AMP		09 18 42.4	
	comp=E,352nm,0.5s						
DSCH	Colegio Aleman	0.83	330	eP	Pb	09 18 27.3	-0.2
DSCH				i S	Sb	09 18 39.4	+0.8
DSCH				AMP		09 18 40.7	
	comp=E,343nm,0.4s						
TACH	Talagante	0.85	303	eP	Pb	09 18 27.7	-0.2
TACH				i S	Sb	09 18 39.5	+0.2
RCDM	Rinconada Maip	0.87	316	eP	Pb	09 18 28.2	-0.1
RCDM				i S	Sb	09 18 40.8	+0.9
RCDM				AMP		09 18 42.4	
	comp=N,556nm,0.1s						
SFDO	San Fernando	0.92	237	⇑iP	Pb	09 18 28.9	-0.2
SFDO				i S	Sb	09 18 41.8	+0.6
LNV	Longovilo	1.12	278	eP	Pb	09 18 31.8	-0.6
LNV				i S	Sb	09 18 47.1	+0.1

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*LDG **14** 09:26:15.4±0.1, 49.14N×6.80E, h1^{km}, Md2.8/2, Ml3.1/12, Error ellipse: s-maj=2.0km s-min=1.7km az=19.0, Suspected Mining induced.*

*NEIC **14** 09:26:15.4, 49.14N×6.80E, h1^{km}, ML3.1(LDG), ML2.6(STR), After LDG.*

*STR **14** 09:26:15.3±0.5, 49.14N×6.78E, h1^{km}±1^{km}, Ml2.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*BGR **14** 09:26:15.8±0.5, 49.21N×6.93E, h1^{km}, ML2.4/3, Error ellipse: s-maj=13.3km s-min=3.3km az=43.0*

ISC 14 09:26:13.6±0.4, 49.12N±0.02×6.72E±0.03, n28, σ1^{s}15/59, 1C, Germany

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WLF	Walferdange	0.66	326	ePg	Pg	09 26 28.6	+1.8
	SNR=4.3						
WLF				eSg	Sg	09 26 37.9	+2.3
	SNR=6.7						
WLF	Walferdange	0.66	326	eP	Pg	09 26 28.4	+1.6
LANF	Langenberg	0.73	101	Pg	Pg	09 26 27.8	-0.3
LANF				Sg	Sg	09 26 38.8	+1.0
CDF	Champ du Feu	0.80	152	ePg	Pg	09 26 29.6	0.0
CDF				ePn	Pn	09 26 31.2	-0.6
CDF				eSg	Sg	09 26 40.4	+0.2
CDF				eSn	Sn	09 26 43.6	-1.0
	72nm,0.2s						
WLS	Welschbruch	0.82	149	Pg	Pg	09 26 30.1	+0.1
WLS				Sg	Sg	09 26 42.6	+1.6
ECH	Echery	0.95	162	Pg	Pg	09 26 33.7	+1.1
ECH				Sg	Sg	09 26 47.6	+2.3
RFYF	Reffroy	0.96	240	ePn	Pn	09 26 35.1	+1.0
	baz=53						
RFYF				eSg	Sg	09 26 47.9	+2.3
RFYF				eSn	Sn	09 26 49.0	+0.3
	86nm,0.3s,baz=67						
THEF	They Montfort	1.02	209	Pg	Pg	09 26 35.1	+1.1
THEF				Sg	Sg	09 26 50.4	+2.9
LIBD	Limburg	1.13	149	Pg	Pg	09 26 36.7	+0.5
LIBD				Sg	Sg	09 26 51.6	+0.2
HAU	Haudompre	1.14	193	ePg	Pg	09 26 36.8	+0.4
HAU				eSg	Sg	09 26 52.3	+0.6
	52nm,0.3s						
MEZF	Maizieres J'vi	1.27	241	ePn	Pn	09 26 39.9	+1.4
	baz=46						
MEZF				eSg	Sg	09 26 56.4	+0.6
	36nm,0.4s						
MOF	Molkenrain	1.30	168	Pg	Pg	09 26 39.5	-0.1
MOF				Sg	Sg	09 26 57.5	+0.6
HINF	Hinteralfeld	1.31	176	ePg	Pg	09 26 39.9	+0.2
HINF				eSg	Sg	09 26 56.3	-0.9
	38nm,0.3s						
BFO	Black Forest	1.33	126	ePg	Pg	09 26 40.1	0.0
	SNR=8.4						
BFO				eSg	Sg	09 26 56.1	-1.7
	SNR=7.3						
SFTF	Sexfontaines	1.44	231	ePn	Pn	09 26 41.7	+0.6
SFTF				eSg	Sg	09 27 02.4	+0.7
	47nm,0.3s,baz=45						
GIVF	Givet	1.58	309	ePn	Pn	09 26 43.5	+0.5
GIVF				ePg	Pg	09 26 45.4	+0.3
GIVF				eSg	Sg	09 27 06.0	-0.2
	48nm,0.4s						
STU	Stuttgart	1.67	101	eSg	Sg	09 27 05.3	-3.8
	SNR=3.3						
HGN	Heimansgroeve	1.72	343	ePg	Pg	09 26 47.2	-0.8
	SNR=4.6						
HGN				eSg	Sg	09 27 09.4	-1.5
	SNR=2.8						
HGN	Heimansgroeve	1.72	343	⇑iPg	Pg	09 26 47.0	-1.0
	12nm,0.3s,baz=150						
HGN				eSg	Sg	09 27 06.0	-4.9
	5.1nm,0.3s						
LOMF	Lomont	1.77	178	Pg	Pg	09 26 49.5	+0.5
LOMF				Sg	Sg	09 27 13.7	+1.1
BAIF	Baives	1.89	301	ePn	Pn	09 26 47.5	+0.1
BAIF				ePg	Pg	09 26 51.2	-0.1
BAIF				eSg	Sg	09 27 16.6	+0.2
	42nm,0.5s						
CABF	La Chapelle	2.55	190	ePn	Pn	09 26 56.2	-0.7
CABF				eSg	Sg	09 27 36.8	-1.6
	37nm,0.7s						
LOR	Lormes	2.67	227	ePn	Pn	09 26 57.7	-0.8
	baz=55						
LOR				eSn	Sn	09 27 30.7	-1.3
LOR				eSg	Sg	09 27 40.3	-2.1
	25nm,0.4s,baz=41						
SSF	Saint Saulge	2.98	227	ePn	Pn	09 27 02.1	-1.0
SSF				eSn	Sn	09 27 38.2	-1.9
SSF				eSg	Sg	09 27 50.7	-2.2
	18nm,0.5s						
SMF	Signal de Mont	3.15	219	ePn	Pn	09 27 04.5	-0.9
SMF				eSg	Sg	09 27 55.4	-2.9
	7.9nm,0.3s						
AVF	Avril sur Loir	3.25	225	ePn	Pn	09 27 05.8	-1.1
TCF	Toulx Ste Croi	4.16	229	ePn	Pn	09 27 18.8	-1.0
CLL	Collm	4.59	59	i PN	Pn	09 27 23.9	-2.0
CLL				eSG	Sg	09 28 41.0	-5.4

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*HEL **14** 09:49:37.3±0.1, 59.00N×18.17E, ML1.8, ML2.6(UPP), ML2.3(NAO), Explosion*

*NAO **14** 09:49:39.3±3.2, 59.27N×18.13E, ML2.3*

*BER **14** 09:49:39.9±3.5, 59.16N×18.04E, ML2.3(NAO), Suspected explosion*

ISC 14 09:49:35.4±0.5, 59.03N±0.03×18.28E±0.06, n24, σ0^{s}89/33, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NYNU	Nynaeshamn	0.14	262	i P	Pg	09 49 38.3	+0.1
NYNU				i S	Sg	09 49 39.7	-0.5
NRTU	Norrtaelje	0.68	15	i P	Pg	09 49 49.7	+0.8
VIKU	Vikbolandet	0.98	238	eP	Pb	09 49 53.6	-1.2
ESKU	Eskilstuna	0.99	283	eP	Pb	09 49 54.0	-1.2
BACU	Backbrunna	1.02	325	eP	Pb	09 49 55.5	-0.1
FLYU	Flymyra	1.12	350	eP	Pb	09 49 56.9	-0.5
GRAU	Graesoe	1.32	6	eP	Pb	09 50 01.5	+0.7
GRAU				eS	Sb	09 50 19.2	+1.1
OSTU	Oestervaala	1.34	335	eP	Pb	09 50 01.5	+0.4
GOTU	Gotland	1.35	173	eP	Pb	09 50 01.1	-0.2
AAL	Aland	1.45	36	eP	Pn	09 50 03.8	+0.9
LNKU	Linkoeping	1.66	242	eP	Pn	09 50 05.7	-0.2
NRAU	Nora	1.75	290	eP	Pn	09 50 07.8	+0.6
NRAU				eS	Sn	09 50 30.2	-0.3
ASKU	Askersund	1.79	267	eP	Pn	09 50 08.0	+0.2
BYXU	Byxelkrok	1.87	202	eP	Pn	09 50 09.6	+0.7
BYXU				eS	Sn	09 50 33.8	+0.3
HFS	Hagfors	2.58	297	eP	Pn	09 50 20.4	+1.3
HFS				eSB	Sb	09 50 54.3	-0.5
HFS	Hagfors	2.58	297	Pn	Pn	09 50 20.4	+1.3
	baz=125,slow=12						
HFS				Lg		09 50 54.3	
	baz=108,slow=28						
KEF	Keuruu	4.53	43	eP	Pn	09 50 48.4	+1.6
KEF				eS	Sn	09 51 41.1	+0.2
KEF				MSG		09 52 00.8	
	comp=Z,0.7nm,0.2s						
FIA0	FINESS Array S	4.58	55	Pn	Pn	09 50 47.7	+0.1
	baz=248,slow=14						
FIA0				Sn	Sn	09 51 41.9	-0.4
FIA0				Lg		09 52 01.6	
	baz=240,slow=28						
FIA0	FINESS Array S	4.58	55	eP	Pn	09 50 48.6	+1.0
FIA0				eS	Sn	09 51 39.3	-3.0
KAF	Kangasniemi	5.03	49	eP	Pn	09 50 54.2	+0.3
KAF				eS	Sn	09 51 52.4	-1.1
KAF				MSG		09 51 54.3	
	comp=Z,1.3nm,0.2s						
SUF	Sumiainen	5.34	43	eS	Sn	09 52 00.2	-1.2
SUF				eSG	Sx	09 52 23.1	
KJN	Kajaani	6.78	38	eS	Sn	09 52 35.5	-2.0
ARA0	ARCESS Array S	11.00	13	Pn	P	09 52 12.8	-4.0
	baz=193,slow=14						
ARA0	ARCESS Array S	11.00	13	eP	P	09 52 12.8	-4.0

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*NEIC **14** 10:12:22.6, 31.03S×71.28W, h59^{km}, MD3.8(GUC), After GUC.*

GUC 14 10:12:22.6±0.8, 31.03S×71.28W, h59^{km}±5^{km}, MD3.8, ML3.4, 3C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMCH	Combarbala	0.28	121	⇑iP	P	10 12 32.8	+0.3
CMCH				i S	S	10 12 40.6	+0.8
CMCH				AMP		10 12 41.6	
	comp=E,9µm,0.7s						
TLL	Tololo Astrono	0.95	26	⇑iP	P	10 12 41.0	+0.8
TLL				i S	S	10 12 54.5	+1.3
TLL				AMP		10 12 56.9	
	comp=N,2µm,0.6s						
LSCH	La Serena	1.12	2	i P	P	10 12 42.3	-0.1
LSCH				i S	S	10 12 57.4	+0.3
LSCH				AMP		10 12 58.1	
	comp=N,406nm,0.6s						
FCH	Farellones	2.44	160	eP	P	10 13 01.6	+0.6
FCH				i S	S	10 13 30.9	+1.3
FCH				AMP		10 13 38.2	
	comp=N,140nm,0.3s						
CLCH	Cerro Calan	2.44	165	eP	P	10 13 01.0	0.0
CLCH				i S	S	10 13 29.2	-0.5
CLCH				AMP		10 13 47.6	
	comp=E,224nm,0.7s						
RCDM	Rinconada Maip	2.49	171	eP	P	10 13 00.9	-0.7
RCDM				i S	S	10 13 29.9	-0.9
RCDM				AMP		10 13 45.6	
	comp=E,200nm,0.2s						
VACH	Vallenar	2.49	11	eP	P	10 12 50.8	-11
VACH				i S	S	10 13 20.2	-11
LMEL	Las Melosas	2.95	162	⇑iP	P	10 13 08.5	+0.3
LMEL				i S	S	10 13 43.1	+0.5
LMEL				AMP		10 13 49.6	
	comp=N,150nm,0.2s						

CASC 14 10:20:36.7±2.3, 12.90N×88.93W, h35^{km}±999^{km}, MD3.7, ML3.3, 5C-8D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNVI	San Vicente	0.71	7	⇓eP	P	10 20 50.5	+0.2
SNVI				eS	S	10 21 00.8	+0.6
LFRS	El Faro	0.73	350	eP	P	10 20 50.8	+0.3
LFRS				eS	S	10 21 00.9	+0.3
LCBS	La Ceiba	0.75	356	⇓iP	P	10 20 51.0	+0.2
LCBS				eP		10 20 51.0	
LCBS				eS	S	10 21 01.8	+0.6
VSM	San Miguel	0.83	51	⇑eP	P	10 20 53.0	+1.1
VSM				eS	S	10 21 05.7	+2.6
SNET	Serv Nac Est T	0.84	340	⇑eP	P	10 20 52.0	0.0
SNET				eS	S	10 21 02.7	-0.6
SNET				i		10 21 05.1	
	comp=Z,2µm,0.3s						
LBRS	Las Brisas	0.84	353	⇓eP	P	10 20 52.6	+0.5
LBRS				eS	S	10 21 04.5	+1.1
BLLM	Bellamira	0.86	51	⇓eP	P	10 20 53.1	+0.7
BLLM				eS	S	10 21 04.8	+0.8
BOQS	Boqueron	0.90	338	⇓eP	P	10 20 53.3	+0.4
BOQS				eS	S	10 21 05.2	+0.3
CAHU	Cacacuatique	1.11	39	⇑eP	P	10 20 56.5	+0.5
CNCH	Conchagua	1.13	71	⇑eP	P	10 20 56.8	+0.5
CNCH				eS	S	10 21 11.8	+0.9
SBLS	San Blas	1.15	324	⇑eP	P	10 20 57.1	+0.6
SBLS				eS	S	10 21 11.9	+0.5
SNJE	San Jose	1.17	326	⇓eP	P	10 20 57.0	+0.3
SNJE				eS	S	10 21 11.8	0.0
RTR	El Retiro	1.21	325	eP	P	10 20 58.0	+0.6
RTR				eS	S	10 21 13.7	+0.8
MTO2	Montecristo 2	1.55	344	⇓eP	P	10 21 02.1	-0.2
MTO2				eS	S	10 21 21.8	+0.4
LEON	Leon	2.05	103	eP	P	10 21 09.2	-0.2
LEON				eS	S	10 21 29.8	-4.1
TELN	Telica	2.07	98	eP	P	10 21 10.7	+1.0
TELN				eS	S	10 21 32.5	-2.0
CNGN	Cerro Negro	2.21	100	eP	P	10 21 12.6	+0.8
CNGN				eS	S	10 21 38.4	+0.2
MIRN	Miramar	2.21	102	eP	P	10 21 12.6	+0.8
MIRN				eS	S	10 21 36.5	-1.7
MOMJ	Momotombo	2.38	102	eP	P	10 21 14.4	+0.2
MOMJ				eS	S	10 21 41.1	-1.4
COPN	Copaltepe	2.39	107	eP	P	10 21 13.8	-0.5
COPN				eS	S	10 21 40.1	-2.7
APYN	Apoyeque	2.60	104	⇓eP	P	10 21 17.5	+0.1
APYN				eS	S	10 21 46.4	-1.7
MGAN	Managua	2.73	106	eP	P	10 21 19.2	+0.1
MGAN				eS	S	10 21 49.7	-1.5
	comp=N,107nm,0.3s						
TICN	Ticuantepe	2.77	108	eP	P	10 21 21.0	+1.2
TICN				eS	S	10 21 50.0	-2.3

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*HEL **14** 10:24:04.3±0.5, 61.48N×34.67E, ML2.2, ML2.3(NAO), Explosion*

*NAO **14** 10:24:07.0±7.7, 61.82N×34.35E, ML2.3*

ISC 14 10:24:05.9±1.5, 61.91N±0.07×34.2E±0.1, n10, σ1^{s}44/21, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VJF	Virojoki	3.50	250	eP	Pn	10 25 01.2	-1.5
KJN	Kajaani	3.68	309	eP	Pn	10 25 09.5	+4.3
KJN				eS	Sn	10 25 58.3	+8.3
KJN				eSG	Sg	10 26 10.5	+2.0
KAF	Kangasniemi	3.73	277	eP	Pn	10 25 07.1	+1.1
KAF				eS	Sn	10 25 52.3	+0.9
KAF				eSG	Sg	10 26 08.4	-1.8
KAF				MSG		10 26 10.8	
	comp=Z,2.2nm,0.2s						
SUF	Sumiainen	3.85	286	eP	Pn	10 25 11.0	+3.3
SUF				eSG	Sg	10 26 13.9	-0.1
SUF				MSG		10 26 14.5	
	comp=Z,3.7nm,0.3s						
FIA0	FINESS Array S	3.91	267	Pn	Pn	10 25 07.5	-0.9
	baz=102,slow=16						
FIA0				Pg	Pg	10 25 18.7	-5.2
FIA0				Sn	Sn	10 25 56.5	+0.8
	baz=71,slow=22						
FIA0				Lg		10 26 11.3	
	baz=68,slow=28						
FIA0	FINESS Array S	3.91	267	eP	Pn	10 25 08.0	-0.5
FIA0				eS	Sn	10 25 55.2	-0.5
FIA0				eSB	Sb	10 26 07.2	+3.5
FIA0				MSG		10 26 15.0	
	comp=Z,6.7nm,0.4s						
KEF	Keuruu	4.41	277	eP	Pn	10 25 16.5	+0.9
KEF				eSG	Sg	10 26 27.9	-4.8
KEF				MSG		10 26 30.3	
	comp=Z,2.4nm,0.3s						
OUL	Oulu	4.90	314	eSG	Sg	10 26 46.5	-2.5
ARA0	ARCESS Array S	8.44	339	Pn	P	10 26 11.6	-0.8
	baz=152,slow=14						
ARA0				Sn	Sn	10 27 45.0	-4.6
	baz=148,slow=28						
ARA0	ARCESS Array S	8.44	339	eP	P	10 26 11.6	-0.8
ARA0				e		10 27 45.0	

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*IDC **14** 10:26:19.9±1.0, 34.41N×139.48E, mb3.7/5, mb1 3.9/6, mb1mx3.7/22, ML3.9/1, MS3.3/1, Ms1 3.4/1, ms1mx2.5/24, Error ellipse: s-maj=32.4km s-min=21.5km az=107.0*

ISC 14 10:26:22.5±0.9, 34.4N±0.1×139.4E±0.2, h33^{km}, n6, σ1^{s}11/6, mb3.6/5, MS3.3/1, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JNU	Nakatsue	7.23	262	Pn	Pn	10 28 08.6	-0.1
	1.8nm,0.3s,baz=205,slow=12,SNR=5.2						
SONM	Songino Array	28.04	309	P	P	10 32 12.9	+0.3
	0.3nm,0.3s,mb3.3,baz=90,slow=12,SNR=2.8						
ILAR	Eielson Array	52.59	31	P	P	10 35 35.9	+1.2
	0.3nm,0.5s,mb3.5,baz=261,slow=6.0,SNR=15						
ILAR				LR	LR	11 01 07.0	
	comp=Z,27nm,18.8s,MS3.3,baz=319,slow=40						
WRA	Warramunga Arr	54.25	186	P	P	10 35 47.9	+0.3
	0.4nm,0.4s,mb3.8,baz=359,slow=7.6,SNR=18						
INK	Inuvik	57.47	26	P	P	10 36 08.7	-1.5
	0.8nm,0.4s,mb4.1,baz=282,slow=7.6,SNR=3.7						
ASAR	Alice Springs	57.98	186	P	P	10 36 14.1	-0.2
	0.3nm,0.5s,mb3.6,baz=8.7,slow=12,SNR=3.9						

GUC 14 10:32:36.4±0.7, 34.13S×70.09W, h5^{km}±1^{km}, MD3.7, ML2.3, 4C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LMEL	Las Melosas	0.30	341	⇑iP	Pg	10 32 42.7	+0.3
LMEL				i S	Sg	10 32 47.9	+1.4
LMEL				AMP		10 32 50.6	
	comp=N,969nm,0.2s						
CICH	Cipreses	0.33	236	⇑iP	Pg	10 32 43.5	+0.3
CICH				i S	Sg	10 32 48.3	+0.7
CACH	El Canelo	0.43	272	⇓iP	Pg	10 32 45.2	+0.3

CACH				iS	Sg	10 32 51.8	+1.1
CHCH	Chadas Angostu	0.51	293	⇑iP	Pg	10 32 46.9	+0.3
CHCH				iS	Sg	10 32 54.6	+1.2
PCH	Pirque	0.62	325	iP	Pg	10 32 48.9	0.0
FCH	Farellones	0.82	348	eP	Pb	10 32 52.2	-0.6
FCH				iS	Sg	10 33 04.7	+0.9
FCH				AMP		10 33 05.3	
	comp=E,207nm,0.2s						
CLCH	Cerro Calan	0.82	333	eP	Pb	10 32 52.5	-0.4
CLCH				iS	Sg	10 33 04.4	+0.5
CLCH				AMP		10 33 07.1	
	comp=E,183nm,0.3s						
TACH	Talagante	0.85	304	iP	Pb	10 32 53.0	-0.4
TACH				iS	Sb	10 33 05.5	+0.7
RCDM	Rinconada Maip	0.88	317	eP	Pb	10 32 53.6	-0.1
RCDM				iS	Sb	10 33 06.3	+0.8
RCDM				AMP		10 33 07.4	
	comp=E,217nm,0.1s						
SFDO	San Fernando	0.91	238	⇑iP	Pb	10 32 53.7	-0.5
SFDO				iS	Sb	10 33 06.8	+0.5
LNV	Longovilo	1.11	279	iP	Pb	10 32 57.2	-0.5
LNV				iS	Sb	10 33 12.7	+0.3

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*MOS **14** 11:34:40.4±1.9, 48.05N×152.77E, h165^{km}, mb3.6/4, Error ellipse: s-maj=46.0km s-min=23.0km az=50.8*

*IDC **14** 11:34:42.6±3.3, 47.89N×152.85E, h170^{km}±31^{km}, mb3.3/6, mb1 3.6/8, mb1mx3.3/23, Error ellipse: s-maj=29.3km s-min=19.9km az=160.0*

ISC 14 11:34:37.8±0.8**, 47.8N**±0.1×**153.0E**±0.2**, h144^{km}**±9^{km}**, n27, $\sigma 1^{s}44$**/32**, mb3.5**/6**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	Severo-Kuril's	3.51	35	ePN	P	11 35 32.5	+0.2
SKR				eS	S	11 36 13.3	-0.7
SKR				pmax	pmax		
	comp=N,50nm,0.5s						
SKR				pmax	pmax		
	comp=E,20nm,0.5s						
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				smax			
	comp=N,80nm,0.5s						
SKR				smax			
	comp=E,80nm,0.4s						
NEM2	Nemuro 2	6.77	231	P	P	11 36 13.9	-1.9
NEM2				eS	S	11 37 24.6	-7.3
JNK	Nakash	7.18	237	P	P	11 36 21.6	+0.3
JTKR	Abashiri--Toko	7.42	242	P	P	11 36 25.6	+1.1
JAK	Akkeshi	7.58	233	P	P	11 36 24.7	-2.0
JAK				eS	S	11 37 43.9	-7.5
JMP	Maruseppu	7.73	244	P	P	11 36 30.6	+2.0
JAR	Ashorobuto	7.90	238	P	P	11 36 31.8	+0.8
JOB	Onbets	8.11	236	P	P	11 36 32.7	-1.1
JOB				eS	S	11 37 57.8	-6.4
ASAJ	Asahikawa	8.13	247	P	P	11 36 36.5	+2.4
	comp=E,2.6nm,0.3s,baz=89,slow=24,SNR=16						
ASAJ	Asahikawa	8.13	247	P	P	11 36 36.4	+2.3
ASAJ	Asahikawa	8.13	247	PN	P	11 36 36.5	+2.4
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
JKK2	Kamakawa 2	8.17	245	P	P	11 36 36.3	+1.7
JCH	Churui	8.56	236	P	P	11 36 38.4	-1.4
JCH				eS	S	11 38 08.1	-6.9
JFR	Furan	8.66	241	P	P	11 36 43.1	+2.0
JNBK	Urakawa-nobuka	9.12	236	P	P	11 36 45.3	-1.9
FX1	Attu Island--F	13.82	61	P	P	11 37 52.4	+4.2
	comp=Z,1.1nm,0.3s,baz=277,slow=8.1,SNR=2.9						
FX1	Attu Island--F	13.82	61	P	P	11 37 52.4	+4.2
FX1				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR	Makanchi Array	46.37	296	P	P	11 42 50.1	-0.8
	comp=Z,0.7nm,0.7s,mb3.4,baz=45,slow=6.9,SNR=4.3						
MKAR	Makanchi Array	46.37	296	P	P	11 42 50.1	-0.7
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BVAR	Borovoye Array	50.10	309	P	P	11 43 19.3	-0.3
	comp=Z,0.7nm,0.4s,mb3.6,baz=63,slow=6.6,SNR=3.7						
CMAR	Chiang Mai Arr	52.55	255	P	P	11 43 39.6	+1.2
	comp=Z,1.2nm,0.9s,mb3.6,baz=36,slow=6.9,SNR=4.3						
CMAR	Chiang Mai Arr	52.55	255	P	P	11 43 39.7	+1.2
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
FINES	FINESS Array B	63.01	334	P	P	11 44 49.8	-1.3
	comp=Z,1.2nm,0.6s,mb3.9,baz=9.5,slow=8.5,SNR=3.6						
FINES	FINESS Array B	63.01	334	P	P	11 44 49.8	-1.3
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA	Warramunga Arr	69.52	199	P	P	11 45 31.8	-0.9
	comp=Z,0.8nm,1.1s,mb3.4,baz=144,slow=31,SNR=3.6						
WRA	Warramunga Arr	69.52	199	P	P	11 45 31.8	-1.0
WRA				pmax	pmax		
	comp=Z,1.0nm,1.1s						
TXAR	Lajitas Array	77.03	61	P	P	11 46 17.6	+1.3
	comp=Z,0.5nm,0.6s,mb3.3,baz=294,slow=5.0,SNR=8.6						

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*MOS **14** 11:55:27.4±0.9, 47.53N×152.12E, h151^{km}, mb4.3/6, Error ellipse: s-maj=24.2km s-min=15.0km az=73.0*

*NEIC **14** 11:55:28.7±1.7, 47.47N×152.23E, h149^{km}±10^{km}, mb4.3/1, Error ellipse: s-maj=33.2km s-min=10.2km az=161.0*

*IDC **14** 11:55:29.3±3.4, 47.18N×152.11E, h171^{km}±39^{km}, mb3.5/11, mb1 3.7/12, mb1mx3.5/22, Error ellipse: s-maj=49.4km s-min=18.4km az=174.0*

ISC 14 11:55:26.9±1.4**, 47.5N**±0.2×**152.2E**±0.2**, h147^{km}**±9^{km}**, n30, $\sigma 0^{s}62$**/31**, mb3.8**/14**, 1C, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	Severo-Kuril's	4.10	38	ePN	P	11 56 29.0	-0.3
SKR				eS	S	11 57 17.0	-0.2
SKR				pmax	pmax		
	comp=Z,30nm,0.5s						
SKR				smax			
	comp=E,80nm,0.5s						
SKR				smax			
	comp=N,220nm,1.0s						
YSS	Yuzh-Sakhalins	6.45	269	ePN	P	11 57 01.8	+1.3
YSS	Yuzh-Sakhalins	6.45	269	ePn	P	11 57 01.9	+1.4
PET	Petropavlovsk	6.91	34	eP	P	11 57 06.9	+0.1
ASAJ	Asahikawa	7.51	247	P	P	11 57 13.8	-0.9
	comp=N,0.6nm,0.3s,baz=342,slow=26,SNR=3.9						
ASAJ	Asahikawa	7.51	247	PN	P	11 57 13.8	-0.9
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
TIXI	Tiksi	26.57	344	eP	P	12 00 51.9	-0.5
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.0						
IMA	Indian Mountai	33.58	37	P	P	12 01 46.5	-7.8
COLA	College	35.95	39	P	P	12 02 14.6	+0.2
	comp=Z,4.3nm,0.7s,mb4.2						
ILAR	Eielson Array	36.36	39	P	P	12 02 18.2	+0.4
	comp=Z,0.6nm,0.6s,mb3.4,baz=266,slow=8.5,SNR=5.2						
ILAR	Eielson Array	36.36	39	P	P	12 02 18.3	+0.4
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
INK	Inuvik	41.36	33	P	P	12 03 00.7	+1.4
	comp=Z,2.8nm,0.6s,mb4.1,baz=302,slow=6.0,SNR=18						
INK	Inuvik	41.36	33	P	P	12 03 00.7	+1.4
INK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
YKA	Yellowknife Ar	50.70	37	P	P	12 04 12.9	+0.2
	comp=Z,0.4nm,0.5s,mb3.3,baz=299,slow=7.1,SNR=5.4						
ARCES	ARCESS Array B	56.94	340	P	P	12 04 58.0	-0.3
	comp=Z,3.9nm,0.9s,mb4.2,baz=23,slow=9.2,SNR=3.7						
ARCES	ARCESS Array B	56.94	340	P	P	12 04 58.0	-0.2
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ARCES	ARCESS Array B	56.94	340	P	P	12 04 58.0	-0.3
FINES	FINESS Array B	63.09	334	P	P	12 05 39.6	-0.7
	comp=Z,1.6nm,0.4s,mb4.2,baz=44,slow=6.4,SNR=15						
FINES	FINESS Array B	63.09	334	P	P	12 05 39.6	-0.7
FINES				pmax	pmax		
	comp=Z,2.0nm,0.4s						
PDAR	Pinedale Array	64.81	54	P	P	12 05 51.0	-0.7
	comp=Z,0.3nm,0.6s,mb3.3,slow=1.5,SNR=3.4						
NB2	NORSAR Subarra	67.31	341	P	P	12 06 07.1	-0.1
	comp=Z,1.2nm,0.5s,mb4.0,baz=26,slow=6.2						
NOA	NORSAR Array B	67.31	341	P	P	12 06 07.5	+0.3
	comp=Z,1.5nm,0.5s,mb4.1,baz=27,slow=6.4,SNR=4.7						
NOA	NORSAR Array B	67.31	341	P	P	12 06 07.5	+0.3
NOA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AKASG	Malin Array Be	70.57	326	P	P	12 06 26.6	-0.7
	comp=Z,2.0nm,0.3s,mb4.3,baz=36,slow=6.0,SNR=14						
AKASG	Malin Array Be	70.57	326	P	P	12 06 26.6	-0.7
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.3s						
CLL	Collm	75.52	335	⇑P	P	12 06 56.2	+0.2
	comp=Z,logA/T=1.1,mb4.5						
BRTR	Keskin Array B	77.41	316	P	P	12 07 07.3	+0.5
	comp=Z,0.7nm,0.7s,mb3.4,baz=90,slow=1.2,SNR=4.1						
BRTR	Keskin Array B	77.41	316	P	P	12 07 07.4	+0.6
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
GERES	GERESS Array B	77.51	333	P	P	12 07 06.9	-0.2
	comp=Z,0.3nm,0.2s,mb3.5,baz=45,slow=5.7,SNR=5.1						
TXAR	Lajitas Array	77.67	60	P	P	12 07 08.4	0.0
	comp=Z,0.4nm,0.5s,mb3.3,baz=291,slow=4.3,SNR=6.5						

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*NIED **14** 11:55:00, 33.00N×136.90E, h20^{km}, Mw3.4 Best double couple: $M_0 1.49\times10^{14}$ NP1: $\phi_s 105°, \delta 70°, \lambda 138°$. NP2: $\phi_s 212°, \delta 51°, \lambda 26°$.*

*JMA **14** 11:55:53.5±0.1, 33.04N×136.88E, h45^{km}, M3.6*

ISC 14 11:55:53.8±1.4**, 33.08N**±0.08×**136.91E**±0.05**, h43^{km}**±32^{km}**, n13, $\sigma 0^{s}63$**/23**, 5D, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JWZ	Kozaga	1.10	295	P	P	11 56 12.6	-0.4
JWZ				S	S	11 56 26.4	-0.8
JKN	Kiinagashima	1.29	335	⇓P	P	11 56 15.8	+0.1
JKN				S	S	11 56 31.4	-0.6
JIE	Ise	1.32	353	⇓P	P	11 56 16.5	+0.2
JIE				S	S	11 56 33.4	+0.5
JWM	Minabe	1.51	301	P	P	11 56 18.2	-0.7
JWM				S	S	11 56 37.4	-0.2
TK04	Tokai 4	1.53	31	S	S	11 56 37.8	-0.3
JWY	Kouya	1.58	316	P	P	11 56 20.5	+0.6
JWY				eS	S	11 56 39.8	+0.5
TSUJ	Tsu 2	1.68	346	⇓P	P	11 56 21.6	+0.3
TSUJ				eS	S	11 56 42.5	+0.8
JHE	Heguri	1.87	327	⇓P	P	11 56 24.5	+0.5
JHE				eS	S	11 56 47.4	+0.8
JAJ2	Tsuna	2.15	309	P	P	11 56 28.5	+0.5
JAJ2				eS	S	11 56 53.8	+0.1
JAI	Aioi	2.18	290	⇓P	P	11 56 28.2	-0.2
JAI				eS	S	11 56 53.5	-0.7
SHZ3	Shizuoka 3	2.26	28	S	S	11 56 54.6	-1.7
JIZS	Izushimoda	2.31	44	P	P	11 56 30.9	+0.6
MAT	Matsushiro	3.62	17	P	P	11 56 49.6	+0.8
MAT				S	S	11 57 30.0	-0.8

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*BER **14** 12:36:54.3±1.1, 59.40N×15.21E, ML2.0(NAO), Suspected explosion*

NAO 14 12:36:53.8±5.5**, 59.37N×15.17E, ML2.0, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HFS	Hagfors	1.07	316	Pg	Pg	12 37 13.3	-1.8
	baz=138,slow=18						
HFS				Lg		12 37 27.2	
	baz=132,slow=37						
HFS				Rg		12 37 33.5	
	baz=130,slow=56						

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*NAO **14** 12:43:01.1±3.3, 61.03N×28.95E, ML2.4*

*HEL **14** 12:43:01.7±0.3, 60.93N×28.88E, ML2.0, ML2.4(NAO), Explosion*

*IDC **14** 12:43:02.7±3.4, 61.02N×28.41E, mb1 3.4/3, mb1mx3.1/18, ML3.1/3, Error ellipse: s-maj=38.1km s-min=12.4km az=134.0*

*BER **14** 12:43:02.0±4.4, 61.04N×28.93E, ML2.4(NAO), Suspected explosion*

ISC 14 12:42:57.8±1.3**, 61.05N**±0.05×**29.0E**±0.1**, n15, $\sigma 1^{s}50$**/26**, Finland-Karelia border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VJF	Virojoki	0.86	234	eP	Pg	12 43 15.7	+0.8
VJF				eS	Sg	12 43 25.1	-1.3
FIA0	FINESS Array S	1.45	287	eP	Pn	12 43 27.4	+2.1
FIA0				eSN	Sn	12 43 48.4	+3.0
FIA0	FINESS Array S	1.45	287	Pn	Pn	12 43 27.4	+2.1
	baz=109,slow=16						
FIA0				Lg		12 43 47.9	
	baz=106,slow=28						
FIA0				Rg		12 43 55.4	
	baz=117,slow=37						
FINES	FINESS Array B	1.45	287	Pn	Pn	12 43 27.5	+2.1
	2.2nm,0.3s,baz=112,slow=16,SNR=24						
FINES				Lg		12 43 47.9	
	5.3nm,0.3s,baz=106,slow=29,SNR=22						
FINES				Rg		12 43 55.7	
	27nm,0.7s,baz=111,slow=31,SNR=19						
PVF	Pernaja	1.60	253	eP	Pn	12 43 28.8	+1.2
PVF				eS	Sb	12 43 50.8	+2.1
KAF	Kangasniemi	1.66	311	eP	Pn	12 43 32.3	+4.0
KAF				eS	Sb	12 43 54.5	+4.1
KAF				MSG		12 43 58.0	
	comp=Z,12nm,0.2s						
SUF	Sumiainen	2.14	323	eSG	Sg	12 44 09.3	+0.3
SUF				MSG		12 44 11.2	
	comp=Z,4.9nm,0.1s						
KEF	Keuruu	2.25	302	eSG	Sg	12 44 12.0	-0.8
KEF				MSG		12 44 13.8	
	comp=Z,9.7nm,0.3s						
HFS	Hagfors	7.57	270	Pn	Pn	12 44 50.5	-1.6
	baz=64,slow=16						
HFS				Sn	Sn	12 46 15.1	-4.7
	baz=61,slow=28						
HFS				Lg		12 46 52.9	
	baz=66,slow=28						
HFS	Hagfors	7.57	270	eP	Pn	12 44 50.5	-1.6
HFS				eS	Sn	12 46 15.1	-4.7
HFS				eSG	Sg	12 46 52.9	-17
HFS	Hagfors	7.57	270	Pn	Pn	12 44 50.0	-2.1
	comp=Z,0.1nm,0.3s,baz=72,slow=14,SNR=4.2						
HFS				Sn	Sn	12 46 11.7	-8.1
	comp=Z,0.0nm,0.3s,baz=93,slow=26,SNR=2.9						
HFS				Lg		12 46 52.8	
	comp=Z,0.1nm,0.3s,baz=79,slow=22,SNR=3.4						
NOA	NORSAR Array B	8.61	278	Pn	P	12 45 03.8	-2.8
	comp=Z,0.2nm,0.3s,baz=127,slow=22,SNR=2.6						
ARA0	ARCESS Array S	8.64	352	Pn	P	12 45 07.2	+0.1
	baz=164,slow=16						
ARA0				Sn	Sn	12 46 41.7	-4.7
	baz=167,slow=28						
ARA0				Lg		12 47 26.0	
	baz=155,slow=37						
ARA0	ARCESS Array S	8.64	352	eP	P	12 45 07.2	+0.1
ARA0				eS	Sn	12 46 41.7	-4.7
ARA0				e		12 47 26.0	
ARCES	ARCESS Array B	8.64	352	Pn	P	12 45 06.8	-0.3
	comp=Z,0.4nm,0.3s,baz=168,slow=13,SNR=16						
ARCES				Sn	Sn	12 46 41.5	-5.0
	comp=Z,0.2nm,0.3s,baz=166,slow=23,SNR=3.4						

IDC 14 13:21:01.2±8.1**, 5.61S×145.76E, mb3.4**/3**, mb1 3.6**/4**, mb1mx3.4**/11**, ML2.9**/1**, Error ellipse: s-maj=165.0km s-min=38.9km az=91.0, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	18.07	217	P	P	13 25 14.2	-1.4
	0.0nm,0.3s,baz=37,slow=12,SNR=3.6						
ASAR	Alice Springs	21.28	211	P	P	13 25 49.5	-2.1
	0.2nm,0.8s,baz=43,slow=8.9,SNR=3.6						
FITZ	Fitzroy Crossi	23.25	236	P	P	13 26 10.3	-1.1
	3.5nm,0.8s,baz=61,slow=13,SNR=5.0						
CMAR	Chiang Mai Arr	51.98	299	P	P	13 30 12.6	-2.2
	0.7nm,0.7s,baz=130,slow=7.0,SNR=4.2						

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*JMA **14** 13:33:33.4±0.3, 24.36N×121.91E, h58^{km}, M2.6*

TAP 14 13:33:34.4, 24.33N×122.05E, h11^{km}, ML3.5, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	Yonaguni jima	0.89	81	P	Pb	13 33 51.8	+0.5
YOJ				S	Sb	13 34 05.1	+2.2
IRIF	Iriomote-Funau	1.53	89	P	Pn	13 34 00.6	-1.2
IRIF				S	Sb	13 34 21.0	-0.6
JKRS	Kuro-shima	1.79	93	P	Pn	13 34 04.8	-0.7
JKRS				S	Sn	13 34 28.6	+0.2
JIJ	Ishigaki jima	1.91	89	P	Pn	13 34 05.9	-1.3
JIJ				S	Sn	13 34 29.5	-1.9
JTJ	Tarama	2.44	82	P	Pn	13 34 13.8	-1.0
JTJ				eS	Sn	13 34 44.5	-0.3

MEX 14 13:37:09.5±0.7**, 18.16N×95.86W, h17^{km}**±999^{km}**, MD3.6, Veracruz**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OXX	Oaxaca	1.36	218	iP	Pn	13 37 30.0	-3.8
OXX				iS	Sb	13 37 46.0	-5.0
VHO	Vista Hermosa	1.37	218	eP	Pn	13 37 30.8	-3.2
VHO				eS	Sb	13 37 46.9	-4.4

IDC 14 13:43:39.2±60.0**, 1.04S×125.27E, h690^{km}**±275^{km}**, mb2.5**/3**, mb1 2.7**/4**, mb1mx2.4**/15**, Error ellipse: s-maj=792.0km s-min=116.8km az=163.0, Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	16.96	179	P	P	13 47 01.8	-2.3
	0.1nm,0.3s,baz=341,slow=12,SNR=3.9						
WRA	Warramunga Arr	20.78	155	P	P	13 47 36.7	-1.9
	0.5nm,0.3s,baz=334,slow=10,SNR=22						
ASAR	Alice Springs	24.00	160	P	P	13 48 05.8	-1.3
	0.4nm,0.3s,baz=336,slow=7.9,SNR=11						
STKA	Stephens Creek	34.33	155	P	P	13 49 32.6	-1.8
	1.9nm,1.0s,baz=311,slow=9.3,SNR=2.9						

TIF 14 13:53:53.9, 41.33N×43.89E, h7^{km}, Mpv3.8, 2C, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKH	Akhalkalaki	0.31	285	⇑iP	Pg	13 54 01.2	+1.0
AKH				iS	Sg	13 54 05.2	+0.8
STE	Stepanavan	0.51	130	iP	Pg	13 54 04.0	-0.1
STE				iS	Sg	13 54 11.0	+0.1
TBLG	Delisi	0.75	58	iS	Sg	13 54 19.0	0.0
MTA	Mtatsminda	0.77	61	iP	Pb	13 54 09.2	0.0
MTA				iS	Sg	13 54 19.2	-0.4
DUS	Dusheti	0.97	38	⇑iP	Pb	13 54 14.2	+1.5
DUS				iS	Sb	13 54 28.6	+3.1

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*NEIC **14** 13:56:30.7, 36.59N×21.03E, h5^{km}, MD3.7(ATH), After ATH.*

ATH 14 13:56:29.1, 36.47N×21.06E, h10^{km}, MD3.7/5**, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ITM	Ithomi	0.99	44	ePg	Pg	13 56 48.0	-1.0
ITM				eSb	Sb	13 57 01.5	+0.7
VLI	Veliai	1.53	80	ePG	Pg	13 56 57.8	-1.9
KYTH	Kithira	1.61	96	ePB	Pb	13 56 59.5	+1.1
KYTH	Kithira	1.61	96	ePn	Pn	13 56 59.8	+2.1
RLS	Riolos of Patr	1.62	11	ePb	Pb	13 56 59.6	+1.0
VLS	Valsamata	1.75	348	ePG	Pg	13 57 01.4	-2.6
NAIG	Nisos Aigina	2.33	56	ePg	Pg	13 57 13.5	-2.1
NSAL	Nisos Salamina	2.40	53	ePg	Pg	13 57 14.5	-2.5
EVR	Evrytania	2.51	13	ePN	Pn	13 57 14.0	+3.3
EVR	Evrytania	2.51	13	ePn	Pn	13 57 14.3	+3.6
MPAR	Parnis Oros	2.71	51	ePg	Pg	13 57 20.2	-3.1
VAM	Vamos	2.76	112	ePg	Pg	13 57 22.0	-2.2
KEK	Kerkira	3.39	343	ePN	Pn	13 57 24.4	+1.2

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*NEIC **14** 14:04:14.1±5.9, 25.29S×178.74W, h387^{km}±59^{km}, mb4.0/3, Error ellipse: s-maj=40.7km s-min=19.6km az=206.0*

*IDC **14** 14:04:16.0±3.0, 25.37S×178.75W, h402^{km}±31^{km}, mb3.5/6, mb1 3.6/7, mb1mx3.5/14, Error ellipse: s-maj=28.0km s-min=19.7km az=155.0*

ISC 14 14:04:11.7±1.2**, 25.29S**±0.06×**178.8W**±0.2**, h374^{km}**±16^{km}**, n25, $\sigma 1^{s}13$**/24**, mb3.6**/6**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	Nonsavu	8.09	338	Pn	P	14 06 09.0	+0.8
	831nm,0.8s,SNR=48						
PUZ	Puketiti	13.00	191	eP	P	14 07 05.6	-0.2
PUZ				eS	S	14 09 22.5	-1.8
MWZ	Matawai	13.38	193	P	P	14 07 08.5	-1.7
URZ	Urewera	13.40	194	P	P	14 07 09.4	-1.0
	2.7nm,0.3s,baz=330,slow=4.5,SNR=11						
URZ				S	S	14 09 34.2	+1.4
	3.7nm,0.3s,baz=146,slow=21,SNR=12						
URZ	Urewera	13.40	194	eP	P	14 07 08.2	-2.2
BKZ	Black Stump Fm	14.41	195	eP	P	14 07 20.5	-0.9
BFZ	Birch Farm	15.91	194	eP	P	14 07 38.0	+1.0
BFZ				eS	S	14 10 23.6	+1.2
THZ	Tophouse	17.83	201	eS	S	14 11 02.8	+4.5
KHZ	Kahutara	18.23	199	eP	P	14 08 01.8	+1.2
RPZ	Rata Peaks	20.18	202	P	P	14 08 21.3	+1.5
	7.6nm,0.6s,baz=259,slow=21,SNR=8.3						
CTA	Charters Tower	32.64	272	eP	P	14 10 13.0	+1.1
	3.0nm,0.4s,mb3.9						
CTA	Charters Tower	32.64	272	P	P	14 10 13.5	+1.7
	4.0nm,0.4s,mb4.0,baz=104,slow=13,SNR=10						
CTAO	Charters Tower	32.64	272	eP	P	14 10 13.2	+1.3
	5.0nm,0.5s,mb4.0						
STKA	Stephens Creek	35.29	250	P	P	14 10 35.1	+0.9
	2.8nm,0.8s,mb3.6,baz=112,slow=12,SNR=5.6						
ASAR	Alice Springs	42.95	262	P	P	14 11 37.2	+0.3
	5.2nm,1.0s,mb3.6,baz=96,slow=7.1,SNR=47						
ASAR				S	S	14 17 32.5	-1.3
	0.3nm,0.7s,baz=93,slow=15,SNR=5.4						
ASPA	Alice Springs	42.95	262	eP	P	14 11 35.8	-1.2
WB2	Warramunga Arr	43.45	267	eP	P	14 11 40.7	-0.3
WRAB	Tennant Creek	43.46	267	eP	P	14 11 39.9	-1.1
	3.2nm,0.5s,mb3.7						
WRA	Warramunga Arr	43.47	267	P	P	14 11 40.8	-0.3
	1.5nm,0.5s,mb3.4,baz=98,slow=6.7,SNR=75						
ILAR	Eielson Array	93.11	13	P	P	14 16 44.1	-0.4
	0.4nm,0.9s,mb3.5,baz=223,slow=5.6,SNR=5.1						
ARCES	ARCESS Array B	133.47	349	PKP	PKPdf	14 22 45.2	+1.8
	1.7nm,0.7s,baz=333,slow=2.7,SNR=5.9						
NB2	NORSAR Subarra	143.62	352	PKP		14 23 01.5	
	1.3nm,0.7s,baz=15,slow=3.0						
NOA	NORSAR Array B	143.62	352	PKP	PKPdf	14 23 02.1	+0.4
	3.1nm,0.8s,baz=13,slow=2.3,SNR=6.1						
AKASG	Malin Array Be	146.75	327	PKPbc	PKPbc	14 23 11.3	+2.0
	0.7nm,0.5s,baz=44,slow=4.0,SNR=4.7						
BRTR	Keskin Array B	149.32	306	PKPbc	PKPdf	14 23 18.9	+7.1
	0.5nm,0.4s,baz=135,slow=1.7,SNR=4.1						

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*NEIC **14** 14:29:06.0±2.3, 43.25N×126.90W, h10^{km}, mb3.4/2, Error ellipse: s-maj=27.7km s-min=6.2km az=77.0*

ISC 14 14:29:03.5±3.1**, 43.27N**±0.08×**127.0W**±0.3**, h10^{km}, n39, $\sigma 0^{s}75$**/39**, mb3.6**/1**, Off coast of Oregon**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KEBM	Edson Butte	2.02	100	eP	Pn	14 29 37.0	-1.1
KBO	Bosley Butte	2.32	116	eP	Pn	14 29 42.0	-0.5
MPOR	Mary's Peak	2.81	63	P	Pn	14 29 48.7	-0.7
HSO	Harness Mounta	2.89	84	P	Pn	14 29 49.9	-0.6
COR	Corvallis	3.00	63	eP	Pn	14 29 51.5	-0.7
HUMO	Hull Mountain	3.07	101	eP	Pn	14 29 51.9	-1.2
BBOR	Butler Butte	3.21	95	P	Pn	14 29 55.2	0.0
HBO	Huckleberry Mo	3.48	79	P	Pn	14 29 59.2	+0.4
YBH	Yreka Blue Hor	3.55	114	eP	Pn	14 30 00.7	+0.8
NLO	Nicolai Mounta	3.81	41	P	Pn	14 30 03.6	+0.1
HUOR	Husband	3.86	75	P	Pn	14 30 04.8	+0.5
PGO	Gresham	3.95	55	P	Pn	14 30 06.6	+1.0
BMW	Boistfort Moun	4.20	39	P	Pn	14 30 08.4	-0.7
RVW	Rose Valley	4.20	45	P	Pn	14 30 09.2	+0.1
TDH	Tom, Dick, Har	4.27	60	P	Pn	14 30 10.7	+0.5
WDC	Whiskeytown Da	4.30	127	P	Pn	14 30 09.9	-0.6
VBEM	Beaver Butte	4.31	64	P	Pn	14 30 11.6	+0.8
LVP	Lakeview Peak	4.33	48	P	Pn	14 30 11.3	+0.3
FL2	Flat Top 2	4.44	47	P	Pn	14 30 13.0	+0.4
SHW	Mount Saint He	4.50	48	P	Pn	14 30 14.2	+0.8
HSR	South Ridge	4.51	48	P	Pn	14 30 14.3	+0.7
ESD	East Dome	4.55	48	P	Pn	14 30 14.9	+0.8

CDFW	Cedar Flats	4.55	50	P	Pn	14 30 14.3	+0.1
TDL	Tradedollar La	4.61	46	P	Pn	14 30 15.2	+0.2
KOSW	Kosmos	4.70	46	P	Pn	14 30 16.8	+0.6
VIPM	Ingram Point	4.80	73	P	Pn	14 30 17.4	-0.3
VGB	Gordon Butte	5.01	61	eP	Pn	14 30 20.4	-0.3
LON	Longmire	5.08	45	eP	Pn	14 30 21.7	+0.1
GL2	New Goldendale	5.19	57	P	Pn	14 30 23.1	-0.1
GNW	Green Mountain	5.22	33	eP	Pn	14 30 22.1	-1.4
FMW	Mount Fremont	5.27	44	P	Pn	14 30 24.6	+0.2
HTW	Haystack Looko	5.85	37	P	Pn	14 30 32.0	-0.5
RPW	Rockport	6.46	35	eP	Pn	14 30 40.1	-0.9
NLW	Nelson Butte	6.72	42	P	Pn	14 30 44.6	-0.1
DPW	Davenport	7.72	50	eP	Pn	14 30 57.7	-1.0
BOZ	Bozeman (W)	11.27	73	P	P	14 31 47.0	-0.7
SDCO	Great Sand Dun	17.26	101	eP	P	14 33 07.7	+1.5
	0.9nm,0.7s						
LTX	Lajitas	23.31	119	P	P	14 34 18.7	+6.3
WMOK	Wichita Mounta	23.47	102	P	P	14 34 16.8	+2.9
	2.4nm,0.9s,mb3.6						

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*PDG **14** 14:37:49.3±1.5, 42.15N×15.89E, h29^{km}±4^{km}*
*NEIC **14** 14:37:49.2, 42.15N×15.92E, h19^{km}, MD3.3(ROM), MD3.3(PDG), ML3.1(ZAG), After ROM.*
*ROM **14** 14:37:49.1±0.4, 42.15N×15.92E, h19^{km}±1^{km}, MD3.3/10, ML3.1/10, Error ellipse: s-maj=2.8km s-min=2.2km az=90.0*
ISC 14 14:37:48.0±0.2, **42.26N**±0.02×**15.84E**±0.02, **h19**^{km}**, n72, σ1^{s}08**/105, **9C-6D, Adriatic Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FGMS	Monte Sant'Ang	0.56	172	⇓iPG	Pb	14 37 59.2	+0.2
FGMS				SG	Sb	14 38 05.4	-1.1
FGMS	Monte Sant'Ang	0.56	172	⇓iPg	Pb	14 37 59.2	+0.1
FGMS				eSg	Sb	14 38 05.4	-1.1
RGNG	Rignano Grg	0.62	198	⇓iPG	Pb	14 38 00.2	+0.2
RGNG				SG	Sb	14 38 09.6	+1.4
RGNG	Rignano Grg	0.62	198	⇓iPg	Pb	14 38 00.2	+0.2
RGNG				eSg	Sb	14 38 09.6	+1.4
FG2	Serracapriola	0.68	228	ePG	Pb	14 38 02.0	+0.9
FG2				SG	Sb	14 38 11.9	+1.8
FG2	Serracapriola	0.68	228	ePg	Pb	14 38 02.0	+0.9
FG2				eSg	Sb	14 38 11.9	+1.8
FG5	Orsara di Pugl	1.07	204	ePN	Pn	14 38 07.7	-0.4
FG5				SN	Sn	14 38 22.0	-0.5
	816nm,0.3s						
FG5	Orsara di Pugl	1.07	204	ePg	Pb	14 38 07.7	0.0
FG5				eSg	Sb	14 38 22.0	+0.8
FG4	Candela	1.16	192	ePN	Pb	14 38 08.2	-1.0
FG4				SN	Sn	14 38 23.8	-0.8
	351nm,0.3s						
FG4	Candela	1.16	192	ePg	Pb	14 38 08.2	-1.0
FG4				eSg	Sb	14 38 23.8	+0.1
CII	Carovilli	1.27	245	ePN	Pn	14 38 11.1	+0.2
CII	Carovilli	1.27	245	ePg	Pn	14 38 11.1	+0.2
IPES	Pescosannita	1.28	217	ePN	Pn	14 38 12.1	+1.1
MRB1	Monte Rocchett	1.31	210	ePN	Pn	14 38 11.8	+0.3
MRB1	Monte Rocchett	1.31	210	ePg	Pn	14 38 11.8	+0.3
SGG	Gregorio Mates	1.40	232	ePN	Pn	14 38 13.0	+0.2
SGG	Gregorio Mates	1.40	232	ePg	Pn	14 38 13.0	+0.2
INTR	Introdacqua	1.46	261	ePN	Pn	14 38 14.4	+0.7
INTR	Introdacqua	1.46	261	ePg	Pn	14 38 14.4	+0.7
STON	Ston	1.50	65	i Pn	Pn	14 38 14.4	+0.1
STON				i Pg	Pn	14 38 14.9	+0.6
STON				i Sn	Sn	14 38 35.1	+1.7
MRLC	Muro Lucano	1.53	190	ePN	Pn	14 38 13.2	-1.4
MRLC	Muro Lucano	1.53	190	ePg	Pn	14 38 13.2	-1.4
CSSN	Cassano Irpino	1.53	204	ePN	Pn	14 38 14.3	-0.4
	316nm,0.4s						
CSSN	Cassano Irpino	1.53	204	ePg	Pn	14 38 14.3	-0.3
TERO	Teramo	1.70	283	ePN	Pn	14 38 18.1	+1.1
TERO	Teramo	1.70	283	ePg	Pn	14 38 18.1	+1.1
SGO	Sicignano	1.75	194	ePN	Pn	14 38 16.3	-1.5
	128nm,0.3s						
SGO	Sicignano	1.75	194	ePg	Pn	14 38 16.3	-1.5
AQU	L'Aquila	1.81	274	Pn	Pn	14 38 22.5	+3.8
PTQR	Pietraquaria	1.83	263	ePN	Pn	14 38 21.1	+2.1
PTQR	Pietraquaria	1.83	263	ePn	Pn	14 38 21.1	+2.1
SLCN	Sala Consilina	1.88	185	ePN	Pn	14 38 18.3	-1.3
	237nm,0.3s						
SLCN	Sala Consilina	1.88	185	ePn	Pn	14 38 18.3	-1.4
HCY	Herceg Novi	1.98	84	⇑iPn	Pn	14 38 21.8	+0.7
HCY				eSn	Sn	14 38 46.5	+1.0
ISOR	Termini	2.03	215	ePN	Pn	14 38 20.3	-1.5
BRY	Bratogost	2.09	71	ePn	Pn	14 38 24.6	+1.8
BRY				eSn	Sn	14 38 49.6	+1.1
MGR	Morigerati	2.13	186	ePN	Pn	14 38 21.1	-2.2
	69nm,0.4s						
BUM	Brajici-Budva	2.27	88	⇑iPn	Pn	14 38 24.8	-0.5
BUM				eSn	Sn	14 38 53.1	+0.2
NKY	Niksic	2.40	76	ePn	Pn	14 38 28.5	+1.5
NKY				eSn	Sn	14 38 56.8	+0.7
NVLJ	Novalja	2.41	343	i Pn	Pn	14 38 28.1	+0.9
NVLJ				i Sn	Sn	14 38 56.9	+0.4
UPM	Unac-Piva	2.45	66	⇑iPn	Pn	14 38 28.7	+0.9
UPM				eSn	Sn	14 38 58.7	+1.2
ARV	Arcevia	2.46	301	ePN	Pn	14 38 28.7	+0.7
	37nm,0.2s						
TTG	Podgorica	2.54	85	⇑iPn	Pn	14 38 29.3	+0.2
TTG				eSn	Sn	14 38 59.1	-0.7
ULC	Ulcinj	2.55	96	⇑iPn	Pn	14 38 28.7	-0.6
ULC				eSn	Sn	14 38 58.7	-1.4
TDS	Terranova Siba	2.63	172	ePN	Pn	14 38 29.0	-1.4
	115nm,0.8s						
TDS	Terranova Siba	2.63	172	ePn	Pn	14 38 29.0	-1.4
FSSB	Fossombrone	2.67	303	ePN	Pn	14 38 31.5	+0.6
	76nm,0.4s						
PLE	Pljevlja	2.82	67	ePn	Pn	14 38 34.4	+1.2
PLE				eSn	Sn	14 39 06.8	-0.2
IVA	Berane	3.06	77	ePn	Pn	14 38 36.3	-0.2
IVA				eSn	Sn	14 39 12.4	-0.5
PVY	Plav	3.08	82	ePn	Pn	14 38 37.7	+1.0
PVY				eSn	Sn	14 39 12.8	-0.6
TIP	Timpagrande	3.16	167	ePn	Pn	14 38 36.4	-1.5
BOJS	Bojanci	3.27	353	i Pn	Pn	14 38 40.8	+1.3
BOJS				i Sn	Sn	14 39 18.1	-0.2
SFI	Santa Sofia	3.36	301	ePN	Pn	14 38 42.5	+1.8
SFI	Santa Sofia	3.36	301	ePn	Pn	14 38 42.5	+1.8
PGD	Poggio Sodo	3.42	299	ePN	Pn	14 38 43.4	+1.7
	12nm,0.3s						
KNDS	Knezji Dol	3.43	343	ePn	Pn	14 38 42.2	+0.4
DIVS	Divcibare	3.55	57	⇑iPn	Pn	14 38 43.7	+0.3
DIVS				Sn	Sn	14 39 23.4	-1.9
VISS	Visnje	3.61	349	i Pn	Pn	14 38 45.2	+0.8
CEY	Cerknica	3.62	344	ePn	Pn	14 38 43.5	-1.0
JAVS	Javornik	3.85	341	i Pn	Pn	14 38 48.0	+0.2
LJU	Ljubljana	3.90	346	ePn	Pn	14 38 49.1	+0.6
LJU				i Sn	Sn	14 39 33.3	-0.9
VOY	Vojsko	4.02	340	ePn	Pn	14 38 50.2	0.0
VOY				eSn	Sn	14 39 35.4	-1.9
SKO	Skopje	4.17	92	i Pn	Px	14 39 20.0	
OBKA	Obir	4.35	348	⇑iPN	Pn	14 38 55.1	+0.3
OBKA				i SN	Sn	14 39 44.9	-0.7
PERS	Pernice	4.40	353	i Pn	Pn	14 38 55.5	-0.1
ARSA	Arzberg	4.99	357	⇓iPN	Pn	14 39 04.0	0.0
ARSA				i SN	Sn	14 40 01.0	-0.9
KBA	Koelnbreinsper	5.13	341	⇑iPN	Pn	14 39 05.0	-0.9
KBA				i SN	Sn	14 40 03.7	-1.7
MOA	Molln	5.70	349	⇓iPN	Pn	14 39 13.6	-0.3
MOA				i SN	Sn	14 40 16.7	-2.8
DAVA	Damuels	6.58	322	⇑iPN	Pn	14 39 24.1	-2.2
DAVA				i SN	Sn	14 40 37.2	-4.3
KHC	Kasperske Hory	7.05	348	ePN	Pn	14 39 30.7	-2.2
KHC				x	x	14 39 48.0	
KHC				eSN	Sn	14 40 46.1	-7.3
KHC	Kasperske Hory	7.05	348	ePg	Pn	14 39 30.7	-2.2
KHC				e		14 39 48.0	
KHC				eSg	Sn	14 40 46.1	-7.3
UPC	Upice	8.25	1	ePG	P	14 40 03.7	+14

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*NEIC **14** 14:38:41.7±1.1, 55.28S×27.96W, h10^{km}, mb4.3/3, Error ellipse: s-maj=60.3km s-min=16.8km az=57.0*
*IDC **14** 14:38:41.8±3.4, 54.75S×27.65W, mb4.3/2, mb1 4.5/2, mb1mx4.0/10, Error ellipse: s-maj=394.0km s-min=40.5km az=29.0*
ISC 14 14:38:39.0±2.8, **54.7S**±0.5×**2 7W**± , **h10**^{km}**, n12, σ1^{s}41**/10, **mb4.3**/5, **5C, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA1	Neumayer--Stat	18.01	160	⇑i	P	14 42 57.1	+6.4
VNA3	Neumayer Olymp	18.23	162	⇑i	P	14 42 54.2	+0.8
VNA2	Neumayer--Watz	18.41	159	⇑i	P	14 42 57.0	+1.4
SNAA	Sanae	19.94	158	⇑i	P	14 43 08.4	-5.1
SNAA	Sanae	19.94	158	⇑i	P	14 43 10.9	-2.6
QSPA	South Pole Qui	35.53	180	eP	P	14 45 34.8	-2.6
	2.9nm,0.6s,mb4.4						
CPUP	Villa Florida	35.99	310	P	P	14 45 42.2	+0.4
	1.7nm,0.6s,mb4.1,baz=162,slow=5.9,SNR=4.2						
LVC	Limon Verde	44.70	299	P	P	14 46 54.6	+0.8
	2.4nm,0.6s,mb4.2						
LPAZ	La Paz	49.67	304	P	P	14 47 33.6	+0.8
	1.9nm,0.2s,mb4.7,baz=349,slow=0.4,SNR=5.3						
SAML	Samuel	53.92	314	eP	P	14 48 03.1	-1.7
	1.7nm,0.6s,mb4.2						
ILAR	Eielson Array	149.26	313	PKPbc	PKPdf	14 58 29.9	+5.0
	5.0nm,0.7s,baz=123,slow=1.9,SNR=52						
SONM	Songino Array	150.56	84	PKPbc	PKPdf	14 58 35.0	+7.5
	1.0nm,0.6s,baz=214,slow=2.5,SNR=7.3						

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*NEIC **14** 14:41:40.6±2.1, 6.38S×129.96E, h63^{km}±23^{km}, mb4.3/5, Error ellipse: s-maj=14.1km s-min=12.9km az=66.0*
*IDC **14** 14:41:43.0±4.3, 6.41S×130.12E, h91^{km}±41^{km}, mb3.9/9, mb1 4.1/10, mb1mx4.0/13, MS3.2/1, Ms1 3.2/1, ms1mx2.8/12, Error ellipse: s-maj=36.3km s-min=16.0km az=78.0*
ISC 14 14:41:41.7±2.2, **6.45S**±0.07×**130.0E**±0.1, **h97**^{km}±22^{km}, **n25, σ1^{s}06**/30, **mb4.3**/11, **1D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	Kakadu	6.64	160	⇓iP	P	14 43 22.6	+4.3
	651nm,0.6s						
KAKA				eS	S	14 44 32.8	-0.3
FITZ	Fitzroy Crossi	12.35	200	P	P	14 44 35.5	+0.1
	16nm,0.3s,baz=23,slow=8.4,SNR=146						
FITZ				S	S	14 46 43.5	-7.7
	21nm,0.3s,baz=164,slow=15,SNR=7.7						
WRAB	Tennant Creek	14.05	163	eP	P	14 44 56.1	-1.4
	43nm,0.4s						
WRA	Warramunga Arr	14.05	163	P	P	14 44 56.5	-1.1
	7.8nm,0.3s,baz=340,slow=13,SNR=245						
WRA				S	S	14 47 23.8	-7.6
	20nm,0.3s,baz=337,slow=22,SNR=11						
WB2	Warramunga Arr	14.06	163	eP	P	14 44 55.8	-1.9
WB2				eS	S	14 47 23.6	-7.9
PMG	Port Moresby	17.22	101	eP	P	14 45 39.3	+1.6
	31nm,0.6s						
ASAR	Alice Springs	17.52	168	P	P	14 45 42.1	+0.8
	4.2nm,0.3s,baz=346,slow=11,SNR=196						
ASAR				S	S	14 48 49.8	-0.9
	4.4nm,0.3s,baz=360,slow=26,SNR=5.3						
ASAR				LR	LR	14 53 27.3	
	comp=Z,78nm,18.8s,baz=238,slow=40						
ASPA	Alice Springs	17.52	168	eP	P	14 45 41.9	+0.6
MBWA	Marble Bar	17.70	213	eP	P	14 45 44.5	+1.1
	11nm,0.8s						
CTA	Charters Tower	20.79	132	P	P	14 46 19.2	+2.2
	4.1nm,0.6s,baz=313,slow=11,SNR=7.7						
CTA				S	S	14 50 06.7	+8.3
	8.0nm,1.0s,baz=204,slow=19,SNR=2.3						
CTAO	Charters Tower	20.79	132	eP	P	14 46 19.2	+2.1
	4.8nm,0.6s						
STKA	Stephens Creek	27.51	158	P	P	14 47 22.6	+1.4
	1.5nm,0.5s,mb3.8,baz=312,slow=10,SNR=3.5						
NWAO	Narrogin (SRO)	28.91	203	P	P	14 47 33.9	+0.1
	4.0nm,0.5s,mb4.3,baz=18,slow=5.1,SNR=5.9						
JNU	Nakatsue	39.36	1	P	P	14 49 03.6	+0.4
	8.5nm,1.0s,mb4.5,baz=31,slow=13,SNR=4.3						
CMAR	Chiang Mai Arr	39.40	309	P	P	14 49 04.7	+1.0
	2.2nm,0.8s,mb4.1,baz=138,slow=7.5,SNR=16						
MAT	Matsushiro	43.45	10	P	P	14 49 35.5	-1.3
MAT	Matsushiro	43.45	10	eP	P	14 49 36.0	-0.8
	9.0nm,0.8s,mb4.5						
SONM	Songino Array	57.93	341	P	P	14 51 26.2	+0.1
	1.1nm,0.7s,mb4.0,baz=167,slow=4.8,SNR=6.7						
MKAR	Makanchi Array	67.78	327	P	P	14 52 31.3	+0.1
	3.9nm,0.5s,mb4.5,baz=113,slow=8.7,SNR=31						
MKAR	Makanchi Array	67.78	327	P	P	14 52 31.3	0.0
YAK	Yakutsk	68.28	360	eP	P	14 52 32.5	-1.5
	25nm,0.6s,mb5.2						
KURK	Kurchatov	72.06	329	P	P	14 52 56.9	-0.3
	1.3nm,0.5s,mb4.0						
MAW	Mawson	75.47	201	P	P	14 53 17.0	+0.5
	2.0nm,0.7s,mb4.0,baz=62,slow=15,SNR=3.5						
ILAR	Eielson Array	92.84	25	P	P	14 54 43.0	-1.4
	0.4nm,0.7s,mb3.9,baz=241,slow=5.1,SNR=5.5						
CPUP	Villa Florida	146.64	168	PKPbc	PKPbc	15 01 14.2	+1.7
	1.7nm,1.0s,baz=241,slow=5.9,SNR=3.0						

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*NEIC **14** 14:53:43.6, 39.46N×11.08W, MN3.1(MDD), After MDD.*
*MDD **14** 14:53:44.1±1.5, 39.45N×11.18W, h12^{km}±29^{km}, mbLg3.0/12, Error ellipse: s-maj=31.8km s-min=7.4km az=81.0, PRXIMO*
INMG 14 14:53:45.9±1.2, **39.42N**×**11.18W, h96**^{km}±24^{km}, **ML2.7, Error ellipse: s-maj=8.2km s-min=5.9km az=88.0, North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLOU	Loures	1.67	108	eP	P	14 54 12.9	-1.5
PLOU				eS	S	14 54 33.6	-1.9
	24nm,0.2s						
PTOM	Tomar	2.15	84	eP	P	14 54 19.1	-1.7
PTOM				eS	S	14 54 44.4	-2.3
	58nm,0.2s						
PTOM	Tomar	2.15	84	P	P	14 54 19.1	-1.7
PTOM				S	S	14 54 44.4	-2.3
MOE	Montemor	2.38	111	eP	P	14 54 21.8	-2.2
MOE				eS	S	14 54 49.6	-2.8
MOE	Montemor	2.38	111	P	P	14 54 21.8	-2.3
MOE				S	S	14 54 49.8	-2.7
PTEO	Sao Teotonio	2.69	133	eP	P	14 54 25.9	-2.4
PTEO				eS	S	14 54 56.1	-3.9
	22nm,0.3s						
PTEO	Sao Teotonio	2.69	133	P	P	14 54 25.9	-2.3
PTEO				S	S	14 54 56.1	-3.9
PVIS	Viseu	2.83	62	eP	P	14 54 28.9	-1.4
PVIS				eS	S	14 54 59.7	-3.8
	48nm,0.1s						
PVIS	Viseu	2.83	62	P	P	14 54 28.9	-1.4
PVIS				S	S	14 54 59.7	-3.8
PCBR	Castelo Branco	2.89	81	eP	P	14 54 28.9	-2.1
PCBR				eS	S	14 55 01.0	-3.9
	14nm,0.1s						
PCBR	Castelo Branco	2.89	81	P	P	14 54 28.9	-2.1
PCBR				S	S	14 55 01.0	-3.9
PBEJ	Beja	2.94	117	eP	P	14 54 29.4	-2.4
PBEJ				eS	S	14 55 03.1	-3.2
	9.1nm,0.3s						
PBEJ	Beja	2.94	117	P	P	14 54 29.8	-2.0
PBEJ				S	S	14 55 03.1	-3.2
	4.6nm,0.3s						
MTE	Manteigas	2.96	70	eP	P	14 54 30.3	-1.7
MTE				eS	S	14 55 03.0	-3.7
	17nm,0.2s						
MTE	Manteigas	2.96	70	P	P	14 54 30.3	-1.7
MTE				S	S	14 55 03.0	-3.7
PVRL	Vila Real	3.23	54	eP	P	14 54 33.6	-2.1
PVRL				eS	S	14 55 08.7	-4.6
	34nm,0.1s						
PVRL	Vila Real	3.23	54	P	P	14 54 33.6	-2.1
PVRL				S	S	14 55 08.7	-4.6
EBAD	Badajoz	3.31	100	P	P	14 54 34.6	-2.2
	17nm,0.1s,SNR=42						
EBAD				S	S	14 55 11.5	-3.8
	29nm,0.1s,SNR=14						
EZAM	Zamans	3.31	34	P	P	14 54 34.2	-2.6
	1.8nm,0.2s,SNR=6.4						
EZAM				S	S	14 55 07.5	-7.8
	3.8nm,0.1s						
ELOB	Lobios	3.40	43	P	P	14 54 35.9	-2.2
	2.6nm,0.1s,SNR=7.9						
ELOB				S	S	14 55 12.4	-5.2
	12nm,0.1s,SNR=7.9						
EGRO	El Granado	3.46	122	P	P	14 54 36.8	-2.0
	8.0nm,0.2s,SNR=18						
EGRO				S	S	14 55 16.1	-2.9
	12nm,0.1s						
PALC	Alcoutim	3.50	123	eP	P	14 54 37.1	-2.4
PALC				eS	S	14 55 15.0	-5.1
	10.0nm,0.2s						
PALC	Alcoutim	3.50	123	P	P	14 54 36.3	-3.2
PALC				S	S	14 55 15.0	-5.1
	5.0nm,0.2s						
EMAZ	Mazaricos	3.89	25	P	P	14 54 41.1	-3.8
	3.1nm,0.1s,SNR=29						
EMAZ				S	S	14 55 20.8	-8.8
	58nm,0.2s						
PBRG	Braganca	4.13	53	eP	P	14 54 45.7	-2.4
PBRG				eS	S	14 55 29.3	-6.2
	9.1nm,0.1s						
PBRG	Braganca	4.13	53	P	P	14 54 45.7	-2.4
PBRG				S	S	14 55 29.7	-5.8
ECAL	Calabor	4.21	52	P	P	14 54 47.1	-2.1
	1.2nm,0.1s,SNR=6.3						
ECAL				S	S	14 55 32.6	-4.9
	20nm,0.3s,SNR=9.6						
ERUA	La Rua	4.26	45	S	S	14 55 34.5	-4.3
	9.7nm,0.2s,SNR=7.9						
EPON	Pontenova	4.94	37	P	P	14 54 55.9	-3.2
	0.7nm,0.1s,SNR=6.2						
EPON				S	S	14 55 47.4	-8.0
	1.8nm,0.1s,SNR=6.7						
EADA	Adamuz	5.31	102	P	P	14 55 02.2	-1.9
	2.8nm,0.1s,SNR=30						
EADA				S	S	14 55 59.4	-5.1
	1.7nm,0.2s						
ESDC	Sonseca Array	5.58	85	P	P	14 55 06.0	-1.9
	5.6nm,0.2s,baz=269,slow=13,SNR=6.0						
ESDC				S	S	14 56 06.5	-4.9
	3.3nm,0.2s,baz=269,slow=22,SNR=4.6						
EQES	Quesada	6.55	102	P	P	14 55 19.1	-2.2
	1.3nm,0.1s,SNR=7.9						
EQES				S	S	14 56 30.3	-4.9
	0.9nm,0.2s,SNR=7.9						
ELAN	Lanestosa	6.96	54	S	S	14 56 38.8	-6.3
	2.3nm,0.2s,SNR=4.0						
ETOB	Tobarra	7.54	93	P	P	14 55 31.9	-3.0
	SNR=7.9						
EMOS	Mosqueruela	8.29	80	P	P	14 55 43.7	-1.3
	SNR=7.9						
EMOS				S	S	14 57 10.5	-7.1
	0.6nm,0.1s,SNR=7.9						

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*HEL **14** 14:54:47.6±0.1, 59.00N×18.17E, ML1.7, ML2.5(UPP), Explosion*
*IDC **14** 14:54:50.6±2.1, 59.31N×18.09E, mb1 3.2/3, mb1mx3.1/19, ML2.4/4, Error ellipse: s-maj=27.3km s-min=7.1km az=178.0*
ISC 14 14:54:45.9±0.4, **59.01N**±0.03×**18.26E**±0.05, **n24, σ0^{s}77**/34, **Sweden**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NYNU	Nynaeshamn	0.13	270	i P	Pg	14 54 48.7	+0.1
NYNU				i S	Sg	14 54 50.1	-0.3
NRTU	Norrtaelje	0.70	16	i P	Pg	14 55 00.1	+0.2
VIKU	Vikbolandet	0.96	239	eP	Pg	14 55 04.0	-1.1
ESKU	Eskilstuna	0.99	284	eP	Pb	14 55 04.3	-1.3
BACU	Backbrunna	1.03	326	eP	Pb	14 55 05.9	-0.4
FLYU	Flymyra	1.14	350	eP	Pb	14 55 08.0	-0.2
GOTU	Gotland	1.33	173	eP	Pb	14 55 11.0	-0.5
GRAU	Graesoe	1.34	6	eP	Pb	14 55 11.8	+0.3
GRAU				eS	Sb	14 55 29.7	+0.5
OSTU	Oestervaala	1.35	335	eP	Pb	14 55 11.8	0.0
AAL	Aland	1.47	36	eP	Pn	14 55 14.1	+0.4
VSTU	Vaestervik	1.63	215	eP	Pn	14 55 16.0	0.0
LNKU	Linkoeping	1.64	243	eP	Pn	14 55 16.1	-0.1
NRAU	Nora	1.75	290	eP	Pn	14 55 18.2	+0.5
NRAU				eS	Sn	14 55 40.9	-0.1
ASKU	Askersund	1.78	268	eP	Pn	14 55 18.4	+0.2
BYXU	Byxelkrok	1.84	202	eP	Pn	14 55 19.9	+0.8
BYXU				eS	Sn	14 55 43.8	+0.3
HFS	Hagfors	2.58	298	Pn	Pn	14 55 30.5	+0.9
	0.1nm,0.3s,baz=104,slow=18,SNR=20						
HFS				Lg		14 56 04.4	
	0.2nm,0.3s,baz=113,slow=28,SNR=20						
NOA	NORSAR Array B	4.08	303	Pn	Pn	14 55 50.3	-0.7
	0.2nm,0.3s,baz=166,slow=11,SNR=1.4						
NOA				Lg		14 56 51.3	
	0.3nm,0.3s,baz=221,slow=19,SNR=2.6						
PVF	Pernaja	4.14	65	eS	Sn	14 56 40.4	-1.3
KEF	Keuruu	4.55	43	eP	Pn	14 55 58.6	+1.0
KEF				eS	Sn	14 56 52.2	+0.3
KEF				MSG		14 57 12.3	
	comp=Z,0.6nm,0.2s						
FIA0	FINESS Array S	4.60	55	eP	Pn	14 55 59.3	+1.0
FIA0				eS	Sn	14 56 52.7	-0.6
FIA0				eSG	Sg	14 57 12.5	-6.5
FINES	FINESS Array B	4.60	55	Pn	Pn	14 55 59.1	+0.8
	comp=Z,0.1nm,0.3s,baz=247,slow=13,SNR=1.2						
FINES				Sn	Sn	14 56 52.5	-0.8
	comp=Z,0.2nm,0.3s,baz=247,slow=21,SNR=4.0						
FINES				Lg		14 57 09.9	
	comp=Z,0.5nm,0.3s,baz=247,slow=24,SNR=7.8						
KAF	Kangasniemi	5.04	48	eP	Pn	14 56 05.1	+0.4
KAF				eS	Sn	14 57 03.0	-1.5
SUF	Sumiainen	5.36	43	eP	Pn	14 56 10.7	+1.6
SUF				eS	Sn	14 57 08.9	-3.5
SUF				MSG		14 57 36.5	
	comp=Z,0.7nm,0.2s						
ARCES	ARCESS Array B	11.02	13	Pn	P	14 57 22.9	-4.7
	comp=Z,0.1nm,0.3s,baz=192,slow=13,SNR=1.6						

MEX 14 15:13:00.4±0.8, **15.97N**×**97.28W, h22**^{km}±41^{km}, **MD3.8, 1C, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HUIG	Huatulco	1.14	100	eP	Pn	15 13 17.9	-3.3
HUIG				eS	Sb	15 13 32.8	-2.9
VHO	Vista Hermosa	1.22	25	⇑iP	Pn	15 13 19.4	-3.0
VHO				i S	Sb	15 13 33.9	-4.0
OXX	Oaxaca	1.23	25	i P	Pn	15 13 19.0	-3.5
OXX				i S	Sb	15 13 34.0	-4.2
CMIG	Matias Romero	2.55	64	eP	Pn	15 13 38.4	-3.0
CMIG				eS	Sn	15 14 07.3	-4.8
IISM	Ciudad Serdan	3.01	358	eP	Pn	15 13 46.0	-1.9
PPM	Popocatepetl	3.34	337	eP	Pn	15 13 50.0	-2.7

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*NEIC **14** 15:23:19.1, 35.47S×70.40W, h7^{km}, ML3.0(GUC), After GUC.*
GUC 14 15:23:19.1±0.9, **35.47S**×**70.40W, h7**^{km}**, MD3.8, ML3.0, 1C-2D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFDO	San Fernando	0.99	329	⇓iP	Pb	15 23 37.1	-1.1
SFDO				i S	Sb	15 23 51.9	+0.6
CICH	Cipreses	1.15	359	eP	Pb	15 23 38.8	-2.1
CICH				i S	Sb	15 23 54.4	-1.4
CACH	El Canelo	1.36	353	eP	Pb	15 23 42.5	-2.0
CACH				i S	Sb	15 24 01.0	-1.0
CHCH	Chadas Angostu	1.55	352	eP	Pn	15 23 45.9	-1.3
LMEL	Las Melosas	1.63	6	⇑iP	Pn	15 23 48.1	-0.2
LMEL				i S	Sb	15 24 09.9	+0.2
LMEL				AMP		15 24 12.2	
	comp=N,166nm,0.2s						
LMEL				AMP		15 24 12.2	
	comp=E,99nm,0.2s						
LNV	Longovilo	1.73	331	⇓iP	Pn	15 23 49.4	-0.4
LNV				i S	Sn	15 24 12.4	+0.1
CLCH	Cerro Calan	2.07	357	AMP		15 24 27.9	
	comp=E,431nm,0.7s						
CLCH				AMP		15 24 28.6	
	comp=N,250nm,0.7s						
FCH	Farellones	2.14	2	eP	Pn	15 23 57.0	+1.2
FCH				AMP		15 24 28.0	
	comp=E,137nm,0.2s						
FCH				AMP		15 24 29.2	
	comp=N,130nm,0.2s						
LCCH	Las Cruces	2.21	334	eP	Pn	15 23 56.8	0.0

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*TAP **14** 15:27:39.5, 23.24N×121.41E, h25^{km}, ML3.8*
TAP Felt II J at Chenggung, II J at Yuli, I J at Dungshan.
*JMA **14** 15:27:41.9±0.2, 23.35N×121.58E, h97^{km}, M2.8*
ISC 14 15:27:39.1±0.4, **23.20N**±0.02×**121.55E**±0.02, **h19**^{km}±5^{km}, **n51, σ0^{s}84**/85, **11C-2D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHKT	Chengkung	0.19	240	⇓iP	Pb	15 27 45.2	+1.2
CHKT				S	Sb	15 27 49.0	+1.7
TWF1	Yuli	0.28	304	⇑iP	Pb	15 27 45.2	-0.2
TWF1				S	Sb	15 27 49.4	-0.2
EHY	Hungye	0.37	327	⇑iP	Pb	15 27 46.5	-0.4
EHY				S	Sb	15 27 51.3	-0.9
ELDTW	Lidau	0.49	269	⇑iP	Pb	15 27 47.7	-1.2
ELDTW				S	Sb	15 27 53.0	-2.5
TWG	Pinlang	0.57	230	⇓iP	Pb	15 27 49.9	-0.4
TWG				S	Sb	15 27 57.7	-0.3
ESL	Shilin	0.62	351	⇑iP	Pb	15 27 50.7	-0.5
STYT	Tauyuan	0.72	268	⇑iP	Pb	15 27 52.1	-0.8
STYT				S	Sb	15 28 00.4	-2.0
ALS	Alishan	0.75	295	⇑iP	Pb	15 27 53.0	-0.3
HWA	Hwalien	0.78	4	eP	Pb	15 27 54.5	+0.7
ECL	Taimali	0.81	223	eP	Pb	15 27 53.3	-1.0
ECL				S	Sb	15 28 03.6	-1.2
WTP	Ta-pu	0.86	274	⇑P	Pb	15 27 55.0	-0.2
WTP				S	Sb	15 28 05.5	-0.7
TWD	Chiawan	0.88	3	eP	Pb	15 27 55.1	-0.5
TWD				S	Sb	15 28 07.2	+0.4
CHN5	Tsauling	0.89	297	⇑P	Pb	15 27 55.5	-0.2
SMLT	Sun Moon Lake	0.91	319	⇑P	Pb	15 27 55.4	-0.6
SMLT				S	Sb	15 28 07.5	-0.1
CHN1	Nanshi	0.94	270	⇑P	Pb	15 27 56.6	+0.1
CHN1				S	Sb	15 28 08.7	+0.3
TYC	Yuchr	0.95	318	eP	Pb	15 27 56.1	-0.6
TYC				S	Sb	15 28 09.4	+0.6
SSD	Sandimen	0.95	242	P	Pb	15 27 55.9	-0.9
SSD				S	Sb	15 28 09.8	+0.9
TWK	Hsinying	0.97	274	⇑P	Pb	15 27 57.0	-0.2
TWK				S	Sb	15 28 08.8	-0.8
TAW	Tawu	1.03	216	eP	Pb	15 27 57.3	-0.8
WGK	Gukeng	1.03	299	eP	Pb	15 27 58.2	+0.2
WGK				S	Sb	15 28 11.7	+0.6
EAST	Anshuo	1.03	219	eP	Pb	15 27 57.3	-0.8
CHN2	Minshiung	1.04	289	eP	Pb	15 27 58.6	+0.3
CHN2				S	Sb	15 28 12.1	+0.7
WNT	Mingjian	1.04	311	eP	Pb	15 27 58.7	+0.4
WNT				S	Sb	15 28 11.9	+0.4
CHY	Chiayi	1.07	287	eP	Pb	15 27 59.0	+0.1
CHY				S	Sb	15 28 12.6	+0.1
SGLT	Jiouru	1.08	244	eP	Pb	15 28 01.2	+2.3
TWM1	Shoushan	1.10	251	eP	Pb	15 28 00.7	+1.5
SCZT	Fangliau	1.18	226	eP	Pb	15 28 00.4	-0.3
SCZT				S	Sb	15 28 17.3	+1.8
CHN8	Yiju	1.24	277	eP	Pn	15 28 01.4	-0.2
CHN8				S	Sb	15 28 17.5	+0.3
TCU	Taichung	1.24	320	eP	Pn	15 28 02.1	+0.4
TCU				S	Sb	15 28 17.7	+0.5
ENA	Nanau	1.24	8	eP	Pn	15 28 00.6	-1.0
ENA				S	Sb	15 28 17.2	-0.1
SCLT	Jiali	1.24	269	eP	Pn	15 28 02.6	+0.9
SCLT				S	Sb	15 28 18.6	+1.3
NNS	Nan Shan	1.25	353	eP	Pn	15 28 01.2	-0.6
NNS				S	Sb	15 28 15.8	-1.7
WSF	Szhu	1.29	290	eP	Pn	15 28 02.1	-0.3
WSF				S	Sb	15 28 18.1	-0.7
WTCT	Ta-ch'eng	1.34	300	eP	Pn	15 28 03.0	0.0
WTCT				S	Sb	15 28 19.7	-0.3
NSY	Sanyi	1.41	330	eP	Pn	15 28 05.2	+1.1
NSY				S	Sb	15 28 23.6	+1.4
TWK1	Hengchun	1.42	209	eP	Pn	15 28 04.8	+0.6
TWC	Suao	1.44	11	eP	Pn	15 28 04.8	+0.3
NSTT	Nanjuang	1.51	341	eP	Pn	15 28 05.9	+0.3
NSTT				S	Sn	15 28 24.3	-0.5
TWE	Neicheng	1.52	4	eP	Pn	15 28 06.5	+0.8
WDGT	Dungji	1.73	272	eP	Pn	15 28 08.1	-0.6
TWA	Mucha	1.78	1	eP	Pn	15 28 11.5	+2.2
YOJ	Yonaguni jima	1.84	47	P	Pn	15 28 11.0	+0.7
YOJ				eS	Sn	15 28 33.5	+0.3
TWB1	Santiao Chiao	1.85	13	eP	Pn	15 28 11.2	+0.9
PNG	Penghu	1.86	282	eP	Pn	15 28 09.4	-1.2
NWF	Wu-fen Shan	1.88	7	eP	Pn	15 28 11.3	+0.5
NWF				S	Sn	15 28 33.9	-0.3
TWS1	Kuangyinshan	1.90	357	eP	Pn	15 28 12.1	+1.0
HATJ	Hateruma jima	2.24	67	eS	Sn	15 28 43.2	-0.2
IRIF	Iriomote-Funau	2.30	60	P	Pn	15 28 17.7	+0.9
IRIF				eS	Sn	15 28 44.9	0.0
JKRS	Kuro-shima	2.49	65	P	Pn	15 28 20.3	+0.8
JKRS				eS	Sn	15 28 48.8	-0.8
JIJ	Ishigaki jima	2.65	63	P	Pn	15 28 22.2	+0.4
JIJ				eS	Sn	15 28 52.3	-1.4
JTJ	Tarama	3.23	63	P	Pn	15 28 30.0	0.0
JTJ				eS	Sn	15 29 07.3	-1.1

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*NIED **14** 15:33:00, 33.10N×137.00E, h20^{km}, Mw3.6 Best double couple: M$_0$2.39×10^{14} NP1:φ$_s$271°, δ53°, λ108°. NP2:φ$_s$63°, δ41°, λ68°.*

*JMA **14** 15:33:56.9±0.1, 33.12N×136.99E, h38^{km}±3^{km}, M3.6*

ISC 14 15:33:57.6±1.1, **33.16N**±0.07×**136.98E**±0.04, **h38**^{km}, **n13**, σ**0^{s}51**/24, **9D, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	Tokai 1	0.79	40	P	P	15 34 11.9	-0.4
TK01				S	S	15 34 22.8	-0.3
TK02	Tokai 2	1.02	39	⇓P	P	15 34 15.3	-0.3
TK02				S	S	15 34 29.0	+0.1
JWZ	Kozaga	1.12	290	⇓P	P	15 34 16.7	-0.3
JWZ				S	S	15 34 30.6	-0.9
JKN	Kiinagashima	1.24	331	⇓P	P	15 34 19.0	+0.3
JKN				S	S	15 34 33.8	-0.7
JIE	Ise	1.25	350	⇓P	P	15 34 19.4	+0.5
JIE				S	S	15 34 34.9	+0.1
TK04	Tokai 4	1.43	31	⇓P	P	15 34 21.5	-0.1
TK04				S	S	15 34 39.6	+0.2
JWM	Minabe	1.52	297	⇓P	P	15 34 22.7	-0.1
JWM				S	S	15 34 41.1	-0.5
JWY	Kouya	1.56	313	⇓P	P	15 34 24.1	+0.7
JWY				S	S	15 34 42.9	+0.2
TSUJ	Tsu 2	1.61	343	⇓P	P	15 34 24.5	+0.4
TSUJ				S	S	15 34 44.6	+0.7
JHE	Heguri	1.84	325	P	P	15 34 27.9	+0.6
JHE				S	S	15 34 49.9	+0.4
SHZ3	Shizuoka 3	2.16	28	⇓P	P	15 34 31.3	-0.6
JIZS	Izushimoda	2.22	45	P	P	15 34 33.3	+0.6
MAT	Matsushiro	3.52	16	P	P	15 34 51.8	+0.5
MAT				S	S	15 35 31.2	-1.1

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*IDC **14** 15:44:32.9±15.0, 9.90N×125.15E, h137^{km}±168^{km}, mb3.3/5, mb1 3.5/6, mb1mx3.3/19, ML4.1/1, Error ellipse: s-maj=90.0km s-min=19.0km az=73.0*

ISC 14 15:44:31.7±1.2, **9.9N**±0.1×**125.2E**±0.4, **h145**^{km}±10^{km}, **n8**, σ**1^{s}00**/9, **mb3.5**/5, **Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCPH	Surigao	0.30	112	i P	P	15 44 54.6	+2.5
SCPH				i S	S	15 45 06.6	-1.1
JOW	Kunigami	17.09	9	P	P	15 48 23.5	+0.1
	1.2nm,0.3s,baz=162,slow=6.4,SNR=6.8						
FITZ	Fitzroy Crossi	27.83	179	eP	P	15 50 10.2	+0.4
	5.3nm,1.5s,mb4.0						
FITZ	Fitzroy Crossi	27.83	179	P	P	15 50 10.2	+0.4
	2.6nm,0.7s,mb4.0,baz=16,slow=7.4,SNR=4.5						
WRA	Warramunga Arr	30.99	163	P	P	15 50 36.6	-1.2
	0.2nm,0.5s,mb3.1,baz=345,slow=9.4,SNR=7.6						
ASAR	Alice Springs	34.43	166	P	P	15 51 07.5	0.0
	0.3nm,0.3s,mb3.5,baz=341,slow=6.8,SNR=19						
STKA	Stephens Creek	44.40	160	P	P	15 52 30.5	+0.7
	2.0nm,0.7s,mb3.9,baz=326,slow=11,SNR=5.9						
MKAR	Makanchi Array	51.69	323	P	P	15 53 25.5	-0.5
	0.5nm,0.8s,mb3.2,baz=120,slow=8.5,SNR=4.1						

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*NEIC **14** 16:47:35.7, 35.17N×26.77E, h23^{km}, MD3.6(ATH), After ATH.*

*ATH **14** 16:47:35.7, 35.17N×26.77E, h23^{km}±3^{km}, MD3.6/7*

ISC 14 16:47:34.5±1.7, **35.1N**±0.1×**26.8E**±0.1, **h10**^{km}, **n13**, σ**0^{s}82**/14, **1D, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KARP	Karpathos	0.57	32	⇓iPB	Pb	16 47 45.0	-1.1
KARP				eSB	Sb	16 47 53.5	-0.5
XRY	Khrisi	0.92	258	ePN	Pn	16 47 53.5	+0.2
NPS	Neapolis	0.98	282	ePN	Pn	16 47 54.5	+0.2
ARG	Arkhangelos	1.58	43	ePN	Pn	16 48 04.2	+1.3
SANT	Santorini	1.69	321	ePn	Pn	16 48 03.0	-1.4
THR1	Thera Island	1.69	321	eP	Pn	16 48 05.1	+0.7
THR6	Thira Island,	1.71	319	eP	Pn	16 48 05.1	+0.4
THR3	Thira Island,	1.75	320	eP	Pn	16 48 05.9	+0.7
THR5	Thira Island,	1.79	319	eP	Pn	16 48 06.4	+0.6
GVD	Gavdhos	2.23	265	ePn	Pg	16 48 17.6	-1.5
APE	Apeiranthos	2.24	333	ePB	Pn	16 48 12.1	-0.2
KYTH	Kithira	3.29	293	ePN	Pn	16 48 27.0	-0.2
VLI	Veliai	3.53	299	ePN	Pn	16 48 31.4	+0.7

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*IDC **14** 17:03:46.1±3.1, 21.48S×169.52E, mb4.1/5, mb1 4.4/5, mb1mx4.1/13, Error ellipse: s-maj=166.0km s-min=26.2km az=157.0*

ISC 14 17:03:45.8±3.9, **21.7S**±0.3×**169.71E**±0.09, **h12**^{km}±25^{km}, **n14**, σ**0^{s}92**/15, **mb4.1**/5, **4C-2D, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.06	263	eP	Pn	17 04 35.4	+0.6
DZM				eS	Sn	17 05 11.5	-0.2
NOUC	Port Laguerre	3.19	262	eP	Pn	17 04 37.3	+0.5
NOUC				eS	Sn	17 05 15.9	+0.8
ASAR	Alice Springs	33.04	260	P	P	17 10 22.1	-1.3
	2.0nm,0.8s,mb4.1,baz=84,slow=8.7,SNR=13						
WRA	Warramunga Arr	33.06	267	P	P	17 10 21.9	-1.7
	1.0nm,1.0s,mb3.7,baz=100,slow=9.0,SNR=4.1						
FITZ	Fitzroy Crossi	41.49	267	P	P	17 11 34.3	-0.2
	7.9nm,0.9s,mb4.3,baz=128,slow=6.7,SNR=7.2						
SNAA	Sanae	86.72	182	⇓i	P	17 16 27.2	-3.1
SNAA	Sanae	86.72	182	⇑i	P	17 16 36.9	+6.6
VNA3	Neumayer Olymp	87.30	180	⇑i	P	17 16 33.5	+0.4
VNA3	Neumayer Olymp	87.30	180	⇓i	P	17 16 42.5	+9.4
VNA2	Neumayer--Watz	87.59	181	⇑i	P	17 16 35.6	+1.1
VNA2	Neumayer--Watz	87.59	181	⇑i	P	17 16 44.2	+10
NVAR	Mina Array Bea	90.10	48	P	P	17 16 48.2	+1.0
	0.5nm,0.2s,mb4.4,baz=241,slow=9.3,SNR=3.0						
ILAR	Eielson Array	92.45	17	P	P	17 16 57.3	0.0
	0.6nm,0.9s,mb3.9,baz=225,slow=5.1,SNR=4.3						
GERES	GERESS Array B	146.86	331	PKPbc	PKPbc	17 23 29.4	+1.9
	0.6nm,0.7s,baz=63,slow=2.2,SNR=5.1						

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*NIED **14** 17:09:00, 44.00N×147.80E, h47^{km}, Mw3.9 Best double couple: M$_0$8.41×10^{14} NP1:φ$_s$6°, δ74°, λ74°. NP2:φ$_s$233°, δ22°, λ134°.*

*MOS **14** 17:09:46.7±0.9, 44.39N×148.06E, h63^{km}, mb4.2/5, Error ellipse: s-maj=22.9km s-min=22.2km az=141.2*

*SKHL **14** 17:09:47.9±0.2, 44.30N×148.00E, h33^{km}, mb5.2/2*

*JMA **14** 17:09:47.7±0.2, 43.95N×147.84E, M4.8*

*NEIC **14** 17:09:50.9±2.0, 44.43N×147.96E, h79^{km}±16^{km}, mb4.0/1, Error ellipse: s-maj=16.2km s-min=14.1km az=131.0*

*IDC **14** 17:09:50.4±4.1, 44.43N×147.95E, h74^{km}±35^{km}, mb3.5/10, mb1 3.7/11, mb1mx3.6/22, ML3.4/1, MS2.8/1, Ms1 2.8/1, ms1mx2.2/22, Error ellipse: s-maj=24.5km s-min=20.5km az=103.0*

ISC 14 17:09:47.2±0.9, **44.34N**±0.05×**148.04E**±0.08, **h63**^{km}±6^{km}, **n41**, σ**0^{s}98**/55, **mb4.0**/15, **2C-2D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUR	Kuril'sk	0.90	352	⇓iP	P	17 10 03.8	-0.5
KUR				AMB	AMB	17 10 04.7	
	815nm,0.4s						
KUR				AMB	AMB	17 10 04.7	
	758nm,0.4s						
KUR				AMB	AMB	17 10 04.7	
	1μm,0.4s						
KUR				i S	S	17 10 15.9	-1.1
KUR				A		17 10 17.4	
	2μm,0.5s						
KUR				A		17 10 17.4	
	4μm,0.5s						
KUR				A		17 10 18.0	
	5μm,1.6s						
KUR				A		17 10 18.0	
	10μm,1.6s						
KUR	Kuril'sk	0.90	352	⇓iPN	P	17 10 03.8	-0.5
KUR				i S	S	17 10 15.9	-1.1
KUR				pmax	pmax		
	comp=N,820nm,0.4s						
KUR				pmax	pmax		
	comp=E,760nm,0.4s						
KUR				pmax	pmax		
	comp=Z,1μm,0.4s						
KUR				smax			
	comp=N,2μm,0.5s						
KUR				smax			
	comp=E,4μm,0.5s						
KUR				smax			
	comp=N,5μm,1.6s						
KUR				smax			
	comp=E,10μm,1.6s						
YUK	Yuzh-Kuril'sk	1.60	260	⇑iP	P	17 10 13.4	-0.5
YUK				AMB	AMB	17 10 15.4	
	comp=E,1μm,0.2s						
YUK				i S	S	17 10 32.4	-1.2
YUK				A		17 10 35.3	
	comp=E,8μm,1.0s						
YUK				A		17 10 35.3	
	comp=E,8μm,0.7s						
YUK				A		17 10 35.5	
	comp=E,3μm,0.5s						
YUK				A		17 10 35.5	
	comp=E,4μm,0.5s						
YUK	Yuzh-Kuril'sk	1.60	260	⇑iPN	P	17 10 13.4	-0.5
YUK				i S	S	17 10 32.4	-1.2
YUK				pmax	pmax		
	comp=Z,1μm,0.3s						
YUK				smax			
	comp=N,8μm,1.0s						
YUK				smax			
	comp=E,8μm,0.7s						
YUK				smax			
	comp=N,3μm,0.5s						
YUK				smax			
	comp=E,4μm,0.5s						
NEM2	Nemuro 2	1.93	240	P	P	17 10 17.9	-0.5
NEM2				S	S	17 10 39.7	-1.7
JRA	Rausu	2.14	260	P	P	17 10 22.8	+1.4
JRA				eS	S	17 10 48.4	+1.7
JNK	Nakash	2.52	254	P	P	17 10 27.3	+0.6
JNK				eS	S	17 10 56.2	0.0
JAK	Akkeshi	2.77	242	P	P	17 10 30.0	-0.4
JAK				eS	S	17 11 00.9	-1.9
JAR	Ashorobuto	3.26	253	P	P	17 10 38.5	+1.2
JAR				eS	S	17 11 15.8	+0.7
JOB	Onbets	3.38	246	P	P	17 10 39.1	+0.3
JOB				eS	S	17 11 16.6	-1.3
JMP	Maruseppu	3.38	266	P	P	17 10 40.1	+1.1
JCH	Churui	3.82	245	P	P	17 10 44.5	-0.5
JCH				eS	S	17 11 26.8	-2.2
JKK2	Kamakawa 2	3.84	265	P	P	17 10 47.2	+1.8
ASAJ	Asahikawa	3.92	269	P	P	17 10 47.5	+1.0
	comp=E,2.1nm,0.3s,baz=83,slow=17,SNR=13						
ASAJ				S	S	17 11 44.0	+12
	comp=E,3.8nm,0.3s,baz=346,slow=17,SNR=3.0						
ASAJ				LR	LR	17 12 34.3	
	comp=E,127nm,18.6s,baz=165,slow=42						
JFR	Furan	4.12	255	P	P	17 10 51.2	+1.9
JFR				eS	S	17 11 37.7	+1.1
JNBK	Urakawa-nobuka	4.38	244	P	P	17 10 53.0	+0.2
YSS	Yuzh-Sakhalins	4.54	307	eP	P	17 10 55.0	-0.1
YSS				eS	S	17 11 47.0	0.0
YSS				A		17 11 52.0	
	comp=E,30nm,0.8s						
YSS	Yuzh-Sakhalins	4.54	307	ePn	P	17 10 55.6	+0.5
KLR	Kul'dur	12.19	299	ePN	P	17 12 45.0	+5.1
SONM	Songino Array	28.84	292	P	P	17 15 40.7	-0.8
	comp=E,0.6nm,0.7s,mb3.5,baz=96,slow=8.7,SNR=4.5						
TIXI	Tiksi	28.92	348	eP	P	17 15 50.4	+8.4
ILAR	Eielson Array	40.63	37	P	P	17 17 22.2	0.0
	comp=E,0.4nm,0.6s,mb3.3,baz=253,slow=9.4,SNR=4.5						
MKAR	Makanchi Array	44.88	297	P	P	17 17 56.4	-0.6
	comp=E,1.2nm,0.5s,mb4.0,baz=93,slow=6.8,SNR=9.9						
MKAR				PcP	PcP	17 19 38.0	-0.1
	comp=E,1.2nm,0.7s,baz=78,slow=4.4,SNR=5.9						
MKAR	Makanchi Array	44.88	297	P	P	17 17 56.4	-0.5
MKAR						17 19 38.0	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KURK	Kurchatov	45.73	304	P	P	17 18 02.9	-0.7
	comp=Z,1.4nm,0.6s,mb4.1						
CMAR	Chiang Mai Arr	48.31	254	P	P	17 18 24.5	+0.3
	comp=Z,0.9nm,0.9s,mb3.8,baz=44,slow=7.9,SNR=4.7						
CMAR	Chiang Mai Arr	48.31	254	P	P	17 18 24.5	+0.3
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
KKN	Kakani	52.12	274	eP	P	17 18 53.7	+0.5
	comp=Z,11nm,0.8s,mb4.8						
PKI	Pulchoki	52.16	273	eP	P	17 18 53.3	-0.2
	comp=Z,10nm,0.6s,mb4.9						
DMN	Daman	52.35	274	eP	P	17 18 55.3	+0.4
	comp=Z,9.1nm,0.7s,mb4.8						
GKN	Gorkha	52.46	274	eP	P	17 18 56.7	+1.0
KOLN	Koldanda	53.34	275	eP	P	17 19 02.2	-0.1
	comp=Z,10nm,0.8s,mb4.8						
FINES	FINESS Array B	64.64	333	P	P	17 20 18.6	-1.3
	comp=Z,2.1nm,0.7s,mb4.3,baz=45,slow=8.1,SNR=9.6						
FINES	FINESS Array B	64.64	333	P	P	17 20 18.6	-1.3
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
WRA	Warramunga Arr	65.19	194	P	P	17 20 23.3	-0.9
	comp=Z,1.0nm,0.7s,mb3.9,baz=8.9,slow=6.8,SNR=6.0						
WRA	Warramunga Arr	65.19	194	P	P	17 20 23.3	-0.8
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ASAR	Alice Springs	68.90	194	P	P	17 20 48.0	+0.6
	comp=Z,0.5nm,0.8s,mb3.5,baz=14,slow=5.9,SNR=5.6						
AKASG	Malin Array Be	71.48	324	P	P	17 21 01.7	-0.9
	comp=Z,0.3nm,0.3s,mb3.6,baz=36,slow=5.8,SNR=4.5						
BRTR	Keskin Array B	77.60	314	P	P	17 21 37.9	-0.1
	comp=Z,1.3nm,1.0s,mb3.8,baz=66,slow=2.6,SNR=3.6						
BRTR	Keskin Array B	77.60	314	P	P	17 21 37.9	-0.1
BRTR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
TXAR	Lajitas Array	81.79	57	P	P	17 22 01.7	+1.0
	comp=Z,0.4nm,0.6s,mb3.5,baz=284,slow=4.5,SNR=7.2						

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*IDC **14** 17:09:48.9±2.0, 21.95S×169.59E, mb4.1/8, mb1 4.3/8, mb1mx4.3/13, MS3.4/3, Ms1 3.4/3, ms1mx3.1/18, Error ellipse: s-maj=88.1km s-min=24.3km az=152.0*

*NEIC **14** 17:09:55.9±0.6, 22.17S×169.54E, h50^{km}, mb4.6/1, Error ellipse: s-maj=21.3km s-min=15.6km az=176.0*

ISC 14 17:09:54.2±2.6, **22.1S**±0.2×**169.5E**±0.1, **h50**^{km}±21^{km}, **n23**, σ**0^{s}94**/18, **mb4.1**/9, **MS3.3**/3, **4C-3D, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	2.86	270	eP	P	17 10 38.5	0.0
DZM				eS	S	17 11 11.0	-0.9
DZM	Mont Dzumac	2.86	270	eP	P	17 10 38.5	0.0
DZM				eS	S	17 11 11.0	-0.9
NOUC	Port Laguerre	2.99	269	eP	P	17 10 40.7	+0.4
NOUC				eS	S	17 11 15.8	+0.6
CTA	Charters Tower	21.80	271	LR	LR	17 21 51.5	
	comp=Z,80nm,20.9s,MS3.1,baz=41,slow=33						
STKA	Stephens Creek	26.66	243	P	P	17 15 30.9	+0.5
	2.7nm,1.0s,mb3.7,baz=99,slow=16,SNR=3.3						
STKA				LR	LR	17 25 43.9	
	comp=Z,100nm,20.0s,MS3.4,baz=30,slow=36						
ASAR	Alice Springs	32.80	260	P	P	17 16 25.4	+0.3
	5.8nm,1.1s,mb4.4,baz=87,slow=8.9,SNR=17						
ASAR				LR	LR	17 27 49.1	
	comp=Z,66nm,18.6s,MS3.4,baz=295,slow=33						
WRA	Warramunga Arr	32.87	267	P	P	17 16 25.1	-0.7
	1.3nm,1.0s,mb3.8,baz=98,slow=8.3,SNR=6.7						
FITZ	Fitzroy Crossi	41.30	267	eP	sP	17 17 52.5	-3.6
	7.4nm,0.8s						
FITZ	Fitzroy Crossi	41.30	267	P	P	17 17 36.1	-0.6
	6.9nm,1.0s,mb4.2,baz=72,slow=3.2,SNR=5.0						
QSPA	South Pole Qui	67.96	180	eP	P	17 20 47.6	-1.8
	6.3nm,1.0s,mb4.6						
CMAR	Chiang Mai Arr	79.93	295	P	P	17 21 59.8	-0.1
	0.2nm,0.4s,mb3.4,baz=135,slow=5.1,SNR=3.0						
SNAA	Sanae	86.33	182	⇑i	P	17 22 30.5	-0.9
SNAA	Sanae	86.33	182	⇓i	pP	17 22 40.2	-5.9
VNA3	Neumayer Olymp	86.90	180	⇓i	P	17 22 35.3	+1.0
VNA3	Neumayer Olymp	86.90	180	⇓i	pP	17 22 45.9	-3.1
VNA2	Neumayer--Watz	87.20	181	⇑i	P	17 22 37.4	+1.7
VNA2	Neumayer--Watz	87.20	181	⇑i	pP	17 22 47.4	-3.1
SONM	Songino Array	89.66	323	P	P	17 22 49.5	+1.6
	1.0nm,0.9s,mb4.2,baz=135,slow=3.5,SNR=5.9						
NVAR	Mina Array Bea	90.49	48	P	P	17 22 52.1	+0.1
	1.0nm,0.8s,mb4.2,baz=220,slow=5.8,SNR=7.2						
ILAR	Eielson Array	92.87	17	P	P	17 23 01.2	-1.2
	0.8nm,0.6s,mb4.3,baz=248,slow=6.3,SNR=6.8						
BRG	Berggiesshubel	145.53	332	eP	PKPdf	17 29 29.3	+2.7
BRG				e		17 29 43.2	
KHC	Kasperske Hory	146.97	331	⇑ePKPB	PKPbc	17 29 33.0	+2.3
GERES	GERESS Array B	147.12	330	PKPbc	PKPdf	17 29 33.9	+4.6
	1.3nm,0.6s,baz=27,slow=3.0,SNR=12						

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*NIED **14** 17:19:00, 42.80N×143.40E, h130^{km}, Mw3.7 Best double couple: M$_0$4.33×10^{14} NP1:φ$_s$271°, δ82°, λ-102°. NP2: φ$_s$148°, δ14°, λ-34°.*

*IDC **14** 17:19:40.2±6.7, 42.05N×143.67E, h100^{km}±43^{km}, mb3.7/6, mb1 3.8/7, mb1mx3.4/23, Error ellipse: s-maj=61.0km s-min=24.9km az=166.0*

*JMA **14** 17:19:47.7±0.1, 42.83N×143.37E, h113^{km}±1^{km}, M3.5*

ISC 14 17:19:46.3±0.6, **42.81N**±0.05×**143.41E**±0.05, **h122**^{km}±3^{km}, **n23**, σ**0^{s}87**/37, **mb3.9**/6, **Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JCH	Churui	0.20	191	P	P	17 20 03.5	+0.2
JCH				S	S	17 20 14.9	-1.2
JOB	Onbets	0.32	74	P	P	17 20 04.5	+0.8
JOB				S	S	17 20 17.1	+0.2
JAR	Ashorobuto	0.55	28	P	P	17 20 05.3	+0.4
JAR				S	S	17 20 18.5	-0.6
JFR	Furan	0.69	300	P	P	17 20 05.8	-0.1
JFR				eS	S	17 20 20.2	-0.7
JNBK	Urakawa-nobuka	0.72	223	P	P	17 20 07.0	+0.9
JNBK				S	S	17 20 21.2	-0.1
JBT2	Biratori 2	0.77	268	P	P	17 20 06.9	+0.3
JBT2				S	S	17 20 21.5	-0.5
JEM	Erimo	0.82	193	P	P	17 20 08.1	+1.1
JAK	Akkeshi	0.96	79	P	P	17 20 08.6	+0.2
JAK				S	S	17 20 24.4	-0.6
JAB	Ashibetsu	1.11	309	P	P	17 20 10.3	+0.4
JKK2	Kamakawa 2	1.16	336	P	P	17 20 10.8	+0.3
JMP	Maruseppu	1.19	358	P	P	17 20 11.2	+0.4
JMP				eS	S	17 20 28.9	-0.3
JTKR	Abashiri--Toko	1.21	17	P	P	17 20 11.3	+0.3
JTKR				eS	S	17 20 29.2	-0.4
ASAJ	Asahikawa	1.43	336	P	P	17 20 14.2	+0.7
	32nm,0.3s,baz=180,slow=7.1,SNR=210						
ASAJ				S	S	17 20 43.2	+9.0
	16nm,0.3s,baz=28,slow=28,SNR=5.5						
JEW	Eniwo	1.44	272	P	P	17 20 13.9	+0.2
JEW				eS	S	17 20 33.6	-0.8
JHR	Hokuryu	1.54	308	P	P	17 20 15.3	+0.5
JHR				eS	S	17 20 36.7	+0.3
JRA	Rausu	1.68	47	P	P	17 20 17.8	+1.4
JRA				eS	S	17 20 40.9	+1.7
NEM2	Nemuro 2	1.79	71	P	P	17 20 17.5	-0.2
NEM2				S	S	17 20 39.5	-2.1
SONM	Songino Array	26.33	294	P	P	17 25 11.9	-0.2
	2.4nm,0.9s,mb3.6,baz=81,slow=7.5,SNR=12						
MKAR	Makanchi Array	42.59	297	P	P	17 27 30.8	-0.6
	0.7nm,0.5s,mb3.6,baz=83,slow=9.2,SNR=8.5						
ILAR	Eielson Array	43.84	35	P	P	17 27 40.8	-0.4
	1.2nm,1.1s,mb3.6,baz=277,slow=8.4,SNR=5.5						
INK	Inuvik	48.58	29	P	P	17 28 17.4	-1.0
	0.7nm,0.4s,mb3.9,baz=311,slow=6.7,SNR=5.2						
ARCES	ARCESS Array B	59.15	339	P	P	17 29 38.8	+3.0
	4.2nm,0.9s,mb4.5,baz=22,slow=9.7,SNR=3.2						
FINES	FINESS Array B	64.44	332	P	P	17 30 08.9	-2.2
	1.3nm,0.5s,mb4.0,baz=39,slow=8.2,SNR=8.3						

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*NIED **14** 17:35:00, 42.90N×145.50E, h38^{km}, Mw3.9 Best double couple: M$_0$7.06×10^{14} NP1:φ$_s$27°, δ68°, λ81°. NP2:φ$_s$229°, δ23°, λ110°.*

*JMA **14** 17:35:15.9±0.1, 42.94N×145.48E, h45^{km}±1^{km}, M3.7*

*MOS **14** 17:35:19.8±0.6, 43.14N×145.25E, h90^{km}, mb3.9/6, Error ellipse: s-maj=42.8km s-min=26.6km az=118.4*

*IDC **14** 17:35:19.5±3.2, 42.98N×145.47E, h75^{km}±25^{km}, mb3.6/9, mb1 3.7/10, mb1mx3.5/23, Error ellipse: s-maj=27.4km s-min=20.9km az=168.0*

ISC 14 17:35:15.1±1.0, **42.93N**±0.08×**145.52E**±0.08, **h52**^{km}±6^{km}, **n26**, σ**0^{s}65**/32, **mb3.8**/9, **1D**, **Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NEM2	Nemuro 2	0.46	20	P	P	17 35 26.3	+0.2
NEM2				S	S	17 35 33.6	-0.3
JAK	Akkeshi	0.61	276	P	P	17 35 27.9	+0.1
JAK				eS	S	17 35 36.5	-0.6
JNK	Nakash	0.88	318	P	P	17 35 31.4	+0.1
JNK				S	S	17 35 42.2	-1.3
JRA	Rausu	1.05	344	P	P	17 35 34.1	+0.4
JRA				S	S	17 35 47.9	+0.4
YUK	Yuzh-Kuril'sk	1.13	12	⇓iPN	P	17 35 34.6	-0.2
YUK				pmax	pmax		
	comp=Z,420nm,0.3s						
JOB	Onbets	1.24	269	P	P	17 35 36.3	-0.1
JAR	Ashorobuto	1.33	286	P	P	17 35 37.9	0.0
JTKR	Abashiri--Toko	1.57	312	P	P	17 35 41.7	+0.6
ASAJ	Asahikawa	2.44	300	P	P	17 35 54.8	+1.4
	comp=Z,16nm,0.3s,baz=118,slow=12,SNR=63						
ASAJ				S	S	17 36 25.4	+3.4
	comp=Z,14nm,0.3s,baz=17,slow=19,SNR=6.2						
ASAJ	Asahikawa	2.44	300	PN	P	17 35 54.8	+1.4
ASAJ				S	S	17 36 25.5	+3.5
ASAJ				pmax	pmax		
	comp=Z,17nm,0.3s						
YSS	Yuzh-Sakhalins	4.48	335	ePN	P	17 36 30.5	+8.3
SONM	Songino Array	27.70	294	P	P	17 41 00.0	-0.2
	comp=Z,1.6nm,0.8s,mb3.7,baz=86,slow=8.5,SNR=9.8						
ILAR	Eielson Array	42.85	36	P	P	17 43 09.9	+0.6
	comp=Z,0.6nm,0.5s,mb3.5,baz=273,slow=8.1,SNR=7.3						
ILAR	Eielson Array	42.85	36	P	P	17 43 09.9	+0.6
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	Makanchi Array	43.91	298	P	P	17 43 17.9	-0.2
	comp=Z,1.9nm,0.7s,mb4.0,baz=80,slow=8.3,SNR=16						
MKAR	Makanchi Array	43.91	298	P	P	17 43 18.0	-0.2
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
INK	Inuvik	47.71	30	P	P	17 43 47.6	-0.3
	comp=Z,0.5nm,0.4s,mb3.9,baz=284,slow=23,SNR=5.5						
INK	Inuvik	47.71	30	P	P	17 43 47.7	-0.3
INK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	FINESS Array B	65.06	333	P	P	17 45 51.0	-0.7
	comp=Z,1.4nm,0.5s,mb4.3,baz=56,slow=6.9,SNR=16						
FINES	FINESS Array B	65.06	333	P	P	17 45 51.0	-0.7
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ASAR	Alice Springs	67.12	192	P	P	17 46 05.7	+0.2
	comp=Z,0.2nm,0.6s,mb3.4,baz=8.8,slow=6.2,SNR=4.4						
NOA	NORSAR Array B	69.93	338	P	P	17 46 21.9	-0.3
	comp=Z,1.1nm,0.7s,mb3.9,baz=36,slow=5.9,SNR=3.8						
NOA	NORSAR Array B	69.93	338	P	P	17 46 21.9	-0.3
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
PDAR	Pinedale Array	71.34	49	P	P	17 46 31.3	+0.3
	comp=Z,0.2nm,0.4s,mb3.4,baz=338,slow=27,SNR=2.3						
AKASG	Malin Array Be	71.53	323	P	P	17 46 31.2	-0.8
	comp=Z,1.3nm,0.4s,mb4.2,baz=40,slow=6.0,SNR=12						
AKASG	Malin Array Be	71.53	323	P	P	17 46 31.2	-0.8
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						

CASC 14 17:39:27.9±1.9, **7.52N**×**82.44W**, **h20**^{km}±9^{km}, **MD4.2**, **MW3.3**, **2C-4D**, **South of Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PTP1	Petroterminal	0.68	1	eP	Pb	17 39 43.2	+2.3
DVD	David	0.91	360	⇓eP	Pb	17 39 44.5	-0.3
BRU2	Volcan	1.29	349	eP	Pn	17 39 50.0	-1.0
ACR	Cerro Adams	1.33	327	⇓eP	Pn	17 39 50.2	-1.5
ACR				eS	Sb	17 40 08.4	-0.3
CNI	Changuinola	1.88	358	eP	Pn	17 39 59.4	-0.1
AZU	Azuero	2.17	83	eP	Pn	17 40 02.9	-0.7
AZU				eS	Sn	17 40 27.2	-2.9
BUS	Buena Vista	2.40	327	⇑eP	Pn	17 40 06.5	-0.4
BUS				eS	Sn	17 40 38.7	+2.6
URSC	Urasca	2.65	330	⇓eP	Pn	17 40 10.5	0.0
LCR2	La Lucha 2	2.69	325	⇑eP	Pn	17 40 11.0	-0.1
PRS1	Puriscal	3.06	323	⇓eP	Pn	17 40 14.8	-1.6
PRS1				eS	Sn	17 40 50.8	-2.0
CGA2	Cerro Gallo 2	3.18	321	eP	Pn	17 40 16.9	-1.1
UPA	Univ. de Panam	3.22	63	eP	Pn	17 40 17.6	-1.0
UPA				eS	Sn	17 40 57.8	+0.9
TRTC	Tortuguero	3.28	338	eP	Pn	17 40 19.4	0.0

*LDG **14** 18:09:24.8±0.1, 45.32N×14.72E, h10^{km}, Ml4.5/33, ms2.9/6, Error ellipse: s-maj=3.6km s-min=3.2km az=54.0*

*PDG **14** 18:09:25.2±1.6, 45.31N×14.55E, h12^{km}±3^{km}*

*ROM **14** 18:09:25.9±0.3, 45.32N×14.66E, h10^{km}, ML4.4, Error ellipse: s-maj=3.0km s-min=2.1km az=90.0*

*LJU **14** 18:09:25.0, 45.29N×14.62E, h7^{km}, ML3.9*

*BGR **14** 18:09:25.8±0.8, 45.26N×14.70E, h10^{km}, ML4.8/10, Error ellipse: s-maj=10.0km s-min=7.8km az=95.0*

*CSEM **14** 18:09:26.7, 45.31N×14.69E, h40^{km}, ML4.5*

*MED_RC **14** 18:09:26.0±0.7, 45.37N×14.78E, h20^{km}±1^{km}, MW4.2/6, Moment Tensor Solution. Body waves: s6,c6; Duration: 1^{s}0 Moment tensor: Scale 10^{15}Nm; M_{rr}1.89±.41; $M_{\theta\theta}$-1.62±.25; $M_{\phi\phi}$-0.27±.33; $M_{r\theta}$0.08±.23; $M_{\theta\phi}$0.95±.22; $M_{\phi r}$1.51±.55; Best double couple: $M_0$2.48×10^{15} NP1:ϕ_s94°, δ42°, λ47°. NP2:ϕ_s325°, δ61°, λ121°. Principal axes: T 2.73, Plg61°, Azm284°; N -.51, Plg27°, Azm129°; P -2.23, Plg11°, Azm33°; nsta1 refers to waves, cutoff=35s.*

*ZUR **14** 18:09:26.0, 45.31N×14.65E, h10^{km}, ML4.7/30*

*ZUR_RM **14** 18:09:26, 45.33N×14.58E, h12^{km}, Mw4.1/32, Moment Tensor Solution. s32 Moment tensor: Scale 10^{15}Nm; M_{rr}1.24; $M_{\theta\theta}$-1.12; $M_{\phi\phi}$-0.12; $M_{r\theta}$0.79; $M_{\theta\phi}$0.80; $M_{\phi r}$0.45; Best double couple: $M_0$1.69×10^{15} NP1:ϕ_s93°, δ61°, λ58°. NP2:ϕ_s324°, δ42°, λ133°. Principal axes: T 1.732, Plg60°, Azm314°; N -.084, Plg27°, Azm109°; P -1.648, Plg10°, Azm205°;*

*BJI **14** 18:09:26.0, 45.30N×14.60E, h10^{km}, mB4.7, mb4.5, Ms4.3, Msz3.9*

*NEIC **14** 18:09:26.0±0.1, 45.33N×14.58E, h10^{km}, mb4.2/7, MD4.3(PDG), ML4.5(LDG), ML4.5(STR), ML4.4(ROM), ML4.4(VIE), ML4.1(BRG), ML4.1(LJU), Error ellipse: s-maj=1.8km s-min=1.7km az=65.0*

*MOS **14** 18:09:27.2±0.9, 45.32N×14.57E, h33^{km}, mb4.4/8, Error ellipse: s-maj=8.1km s-min=4.2km az=86.6*

*IDC **14** 18:09:27.3±2.6, 45.28N×14.57E, h21^{km}±17^{km}, mb4.0/11, mb1 4.1/21, mb1mx4.1/29, ML4.0/11, MS3.1/2, Ms1 3.1/2, ms1mx2.4/31, Error ellipse: s-maj=12.5km s-min=9.1km az=46.0*

*STR **14** 18:09:34.4±0.3, 45.33N×13.74E, h10^{km}±1^{km}, Ml5.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 14 18:09:25.9±0.2, **45.313N**±0.010×**14.57E**±0.01, **h21**^{km}±2^{km}, **n455**, σ**1^{s}24**/612, **mb4.2**/22, **MS3.7**/3, **56C-28D**, **Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KNDS	Knezji Dol	0.25	329	⇓iPg	Pb	18 09 31.2	-0.7
KNDS				i Sg	Sb	18 09 36.0	0.0
	comp=Z,20μm,0.3s						
CEY	Cerknica	0.44	347	⇓iPg	Pb	18 09 34.1	-0.7
CEY				eSg	Sb	18 09 41.4	+0.4
	comp=Z,11μm,0.3s						
BOJS	Bojanci	0.52	68	⇓ePg	Pb	18 09 35.0	-1.3
BOJS				eSg	Sb	18 09 41.8	-1.5
VISS	Visnje	0.53	21	⇓ePg	Pb	18 09 35.3	-1.0
VISS				eSg	Sb	18 09 42.8	-0.7
	comp=Z,8μm,0.3s						
JAVS	Javornik	0.68	329	⇓iPg	Pb	18 09 38.1	-0.8
JAVS				i Sg	Sb	18 09 49.3	+1.4
TRI	Trieste	0.69	305	ePG	Pb	18 09 38.7	-0.4
TRI				SG	Sb	18 09 50.1	+2.0
TRI	Trieste	0.69	305	ePg	Pb	18 09 38.7	-0.4
TRI				eSg	Sb	18 09 50.1	+2.0
LJU	Ljubljana	0.73	358	⇓iPg	Pb	18 09 39.5	-0.4
LJU				eSg	Sb	18 09 50.2	+0.9
NVLJ	Novalja	0.78	164	i Pg	Pb	18 09 39.5	-1.2
NVLJ				i Sg	Sb	18 09 51.3	+0.5
CRES	Cresnjevec ost	0.81	50	i Pg	Pb	18 09 40.2	-0.9
PDKS	Podkum	0.82	21	⇓iPg	Pb	18 09 40.5	-0.8
PDKS				eSg	Sb	18 09 52.6	+0.6
	comp=Z,1μm,0.2s						
LEGS	Legarje	0.83	39	i Pg	Pb	18 09 40.7	-0.7
LEGS				eSg	Sb	18 09 52.4	+0.3
	comp=Z,3μm,0.2s						
VOY	Vojsko	0.86	327	⇓iPg	Pb	18 09 41.2	-0.8
CESS	Cesta pri Krsk	0.91	43	i Pg	Pb	18 09 42.3	-0.5
GCIS	Gornji Cirnik	0.92	53	i Pg	Pb	18 09 42.3	-0.7
GOLS	Golise	1.02	46	i Pg	Pb	18 09 44.4	-0.3
DOBS	Dobrina	1.05	37	i Pg	Pb	18 09 44.7	-0.5
DRE	Drenchia	1.08	323	⇑iP	Pb	18 09 45.0	-0.6
DRE	Drenchia	1.08	323	ePg	Pb	18 09 47.2	+1.6
DRE				eSg	Sb	18 10 03.0	+3.7
CADS	Cadrg	1.08	328	i Pg	Pb	18 09 44.9	-0.9
CADS				i Sg	Sb	18 10 03.4	+3.9
	comp=Z,6μm,0.5s						
COLI	Coloredo	1.17	315	⇓iP	Pn	18 09 47.0	-0.1
COLI	Coloredo	1.17	315	ePg	Pn	18 09 48.8	+1.7
COLI				eSg	Sb	18 10 05.5	+3.5
ROBS	Robic	1.19	322	i Pg	Pn	18 09 46.8	-0.6
TLI	Talmassons	1.19	301	⇑iP	Pn	18 09 47.0	-0.5
TLI	Talmassons	1.19	301	⇑iPg	Pn	18 09 49.2	+1.7
OBKA	Obir	1.20	359	⇑iPG	Pn	18 09 47.7	+0.2
OBKA				i SG	Sb	18 10 05.6	+2.8
	comp=Z,8μm,0.4s						
SISC	Sisak	1.28	82	⇓iPg	Pn	18 09 49.4	+0.6
SISC				i Sg	Sb	18 10 05.3	0.0
BAD	Bernadia	1.31	315	⇓iP	Pn	18 09 49.0	-0.1
BAD	Bernadia	1.31	315	⇑iPg	Pn	18 09 51.0	+1.8
BAD				eSg	Sb	18 10 09.8	+3.8
GROS	Grobnik	1.32	29	i Pg	Pn	18 09 49.6	+0.3
GMNA	Gemona	1.34	316	ePN	Pn	18 09 51.6	+2.0
GMNA				SN	Sn	18 10 09.6	+2.8
GMNA	Gemona	1.34	316	ePg	Pn	18 09 51.6	+2.0
GMNA				eSg	Sn	18 10 09.6	+2.8
BUA	Buia	1.36	312	⇓iP	Pn	18 09 50.0	+0.2
BUA	Buia	1.36	312	⇑iPg	Pn	18 09 52.1	+2.2
BUA				eSg	Sn	18 10 13.0	+5.7
LSR	Lussari	1.37	328	ePg	Pn	18 09 52.4	+2.4
PERS	Pernice	1.38	16	i Pg	Pn	18 09 50.6	+0.5
PTCC	Patocco-Chiusa	1.38	323	ePN	Pn	18 09 50.4	+0.2
PTCC				SN	Sn	18 10 09.9	+1.9
PTCC	Patocco-Chiusa	1.38	323	ePg	Pn	18 09 50.4	+0.2
PTCC				eSg	Sn	18 10 09.9	+1.9
BISS	Bistriski jare	1.39	16	i Pg	Pn	18 09 51.2	+0.9
IESO	Jesolo	1.43	279	⇓iPg	Pn	18 09 53.0	+2.1
BOO	Bordano	1.44	315	⇑iPg	Pn	18 09 52.8	+1.8
BOO				eSg	Sn	18 10 14.4	+5.1
MPRI	Monte Prat	1.44	311	⇑iP	Pn	18 09 52.0	+0.9
MPRI	Monte Prat	1.44	311	⇑iPg	Pn	18 09 53.2	+2.2
MPRI				eSg	Sn	18 10 14.8	+5.4
PLRO	Paularo	1.58	322	⇑ePg	Pn	18 09 54.9	+1.8
PLRO				eSg	Sn	18 10 18.9	+5.8
MLNI	Malnisio	1.60	302	⇑iPg	Pn	18 09 55.2	+1.8
MLNI				eSg	Sn	18 10 18.6	+5.0
CAE	Caneva	1.65	296	⇑iPg	Pn	18 09 55.8	+1.8
CAE				eSg	Sn	18 10 19.0	+4.3
ZOU	Zoufplan	1.67	319	⇑ePg	Pn	18 09 56.5	+2.2
ZOU				eSg	Sn	18 10 21.3	+6.1
FVI	Forni Avoltri	1.79	317	⇑iPN	Pn	18 09 57.9	+1.9
FVI	Forni Avoltri	1.79	317	⇑iPg	Pn	18 09 57.9	+1.9
CSMI	Casera Mimoias	1.79	313	⇑iPn	Pn	18 09 58.0	+1.9
CSMI				eSn	Sn	18 10 23.9	+5.5
CSO	Casso	1.84	302	⇑iPn	Pn	18 09 57.9	+1.2
CSO				eSn	Sn	18 10 23.5	+3.9
PESA	Pesaro	1.84	223	P	Pn	18 09 58.1	+1.3
AOI	Ancona	1.89	202	P	Pn	18 09 58.6	+1.1
KBA	Koelnbreinsper	1.96	335	⇑iPG	Pn	18 10 00.8	+2.4
KBA				i SG	Sn	18 10 29.5	+6.9
	comp=Z,3μm,0.8s						
CGRP	Cima Grappa	2.02	287	⇑iP	Pn	18 10 00.0	+0.6
CGRP	Cima Grappa	2.02	287	⇑iPn	Pn	18 10 00.7	+1.3
CGRP				eSn	Sn	18 10 28.8	+4.5
FAU	Forcella Aurin	2.03	298	⇑iPn	Pn	18 10 00.8	+1.4
RSM	Repubblica di	2.05	228	ePN	Pn	18 10 00.9	+1.2
	comp=Z,270nm,0.3s						
RSM	Repubblica di	2.05	228	ePg	Pn	18 10 00.9	+1.2
BRSN	Barisano	2.05	241	P	Pn	18 10 01.7	+2.0
ARSA	Arzberg	2.05	19	⇓iPN	Pn	18 09 59.5	-0.2
ARSA				i PG	Pn	18 10 03.8	+4.1
ARSA				i SG	Sn	18 10 30.1	+5.2
	comp=Z,558nm,0.5s						
AFL	Alpe Faloria	2.06	307	⇑iPn	Pn	18 10 01.9	+2.0
FSSB	Fossombrone	2.06	219	⇓iPN	Pn	18 10 00.9	+0.9
	comp=Z,424nm,0.5s						
FSSB	Fossombrone	2.06	219	⇓iPg	Pn	18 10 00.9	+1.0
ARV	Arcevia	2.16	213	⇓iPN	Pn	18 10 02.0	+0.7
	comp=Z,336nm,0.5s						
CING	Cingoli	2.17	207	ePN	Pn	18 10 01.9	+0.4
CING	Cingoli	2.17	207	ePg	Pn	18 10 01.9	+0.4
CTI	Castel Tesino	2.17	291	P	Pn	18 10 02.9	+1.4
SEST	Monte Rota	2.18	312	P	Pn	18 10 03.8	+2.2
SFI	Santa Sofia	2.40	235	P	Pn	18 10 05.3	+0.6
PGD	Poggio Sodo	2.49	236	P	Pn	18 10 06.9	+0.9
RAVA	Ravarino	2.51	258	P	Pn	18 10 08.2	+1.9
MURB	Monte Urbino	2.52	216	P	Pn	18 10 07.4	+0.9
CRE	Caprese Michel	2.52	229	P	Pn	18 10 07.9	+1.4
MOA	Molln	2.55	355	⇑iPN	Pn	18 10 05.7	-1.2
MOA				i SG	Sn	18 10 50.0	+12
	comp=Z,662nm,0.8s						
BGLD	Berchtesgaden	2.57	336	⇑iPn	Pn	18 10 09.6	+2.3
APPI	Appiano	2.60	298	P	Pn	18 10 09.0	+1.3
SEI	Scarperia	2.61	242	ePN	Pn	18 10 08.9	+1.1
SEI	Scarperia	2.61	242	ePn	Pn	18 10 08.9	+1.1
SCE	Schlegeis	2.63	312	⇑iPn	Pn	18 10 10.0	+2.0
ASS	Assisi	2.64	212	P	Pn	18 10 08.5	+0.4
NRCA	Norcia	2.69	203	ePN	Pn	18 10 08.8	-0.1
NRCA	Norcia	2.69	203	ePg	Pn	18 10 08.8	-0.1
ZCCA	Zocca	2.73	251	ePN	Pn	18 10 11.1	+1.6
	comp=Z,499nm,0.4s						
ZCCA	Zocca	2.73	251	ePg	Pn	18 10 11.1	+1.6
SOP	Sopron	2.74	29	⇓e	Pn	18 10 09.7	+0.1
SOP				e		18 10 53.6	
TERO	Teramo	2.78	195	⇓iPN	Pn	18 10 09.9	-0.3
WTTA	Wattenberg	2.82	315	⇑iPN	Pn	18 10 12.8	+2.1
WTTA				i SN	Sn	18 10 47.0	+2.6
SAL	Salo	2.86	277	ePN	Pn	18 10 12.1	+0.8
	comp=Z,1μm,0.5s						
SAL	Salo	2.86	277	ePn	Pn	18 10 12.1	+0.8
WATA	Walderalm	2.90	315	⇑iPN	Pn	18 10 14.0	+2.2
WATA				i SN	Sn	18 10 48.2	+1.8
MABI	Malga Bissina	2.94	286	ePN	Pn	18 10 13.6	+1.2
CSNT	Castellina Chi	2.98	233	ePN	Pn	18 10 13.3	+0.2
	comp=Z,588nm,0.5s						
CSNT	Castellina Chi	2.98	233	ePn	Pn	18 10 13.2	+0.2
GSCL	Gusciola	2.99	253	ePN	Pn	18 10 14.0	+0.8
	comp=Z,167nm,0.5s						
GSCL	Gusciola	2.99	253	ePn	Pn	18 10 14.0	+0.9
PKSM	Moragy	2.99	71	P	Pn	18 10 11.6	-1.6
SQTA	Sankt Quirin	3.01	311	⇑iPN	Pn	18 10 15.7	+2.3
SQTA				i SN	Sn	18 10 51.5	+2.2
AQU	L'Aquila	3.08	196	ePN	Pn	18 10 14.4	0.0
AQU	L'Aquila	3.08	196	ePn	Pn	18 10 14.3	0.0
ERBM	Eremo	3.08	255	ePN	Pn	18 10 15.9	+1.4
	comp=Z,566nm,0.8s						
ERBM	Eremo	3.08	255	ePn	Pn	18 10 15.9	+1.4
BDI	Bagni Di Lucca	3.09	248	ePN	Pn	18 10 15.2	+0.6
BDI	Bagni Di Lucca	3.09	248	ePn	Pn	18 10 15.2	+0.6
MOTA	Moosalm	3.14	312	⇑iPN	Pn	18 10 17.8	+2.5
MOTA				i SN	Sn	18 10 54.9	+2.3
BRMO	Bormio	3.15	293	ePN	Pn	18 10 17.2	+1.8
	comp=Z,410nm,0.5s						
BRMO	Bormio	3.15	293	ePn	Pn	18 10 17.2	+1.8
VKA	Vienna	3.19	22	⇓iPN	Pn	18 10 16.6	+0.6
VKA				i PG	Pn	18 10 27.3	+11
VKA				i SN	Sn	18 10 53.7	-0.1
VKA				i SG	Sn	18 11 11.5	+18
VLC	Villacollemand	3.19	250	eP	Pn	18 10 16.6	+0.6
MNS	Montasola	3.23	206	ePN	Pn	18 10 16.5	-0.1
MNS	Montasola	3.23	206	ePn	Pn	18 10 16.5	0.0
FUORN	Ofenpass	3.27	295	⇓iPn	Pn	18 10 19.2	+2.0
	comp=Z,215nm,2.0s						
GRAM		3.30	257	P	Pn	18 10 17.7	+0.1
GRAM				S	Sn	18 10 50.1	-6.5
STON	Ston	3.33	136	i Pn	Pn	18 10 18.7	+0.8
STON				i Sn	Sn	18 10 56.6	-0.6
STON				i Sg	Sn	18 11 09.0	+12
INTR	Introdacqua	3.33	188	ePN	Pn	18 10 17.5	-0.6
INTR	Introdacqua	3.33	188	ePn	Pn	18 10 17.5	-0.5
VINC	Vinca	3.36	251	P	Pn	18 10 19.5	+1.1
VINC				S	Sn	18 10 54.4	-3.6
BERNI	Berninapass	3.36	291	⇑iPn	Pn	18 10 20.4	+2.0
	comp=Z,193nm,2.0s						
BACM		3.36	254	P	Pn	18 10 19.7	+1.2
BACM				S	Sn	18 10 53.0	-5.1
GRFL	Gerfalco	3.37	231	ePN	Pn	18 10 18.2	-0.3
GRFL	Gerfalco	3.37	231	ePn	Pn	18 10 18.2	-0.3
ZST	Bratislava	3.37	30	i PN	Pn	18 10 18.3	-0.3
ZST				eSG	Sn	18 11 16.4	+18
PTQR	Pietraquaria	3.40	195	ePN	Pn	18 10 19.4	+0.5
	comp=Z,196nm,0.5s						
PTQR	Pietraquaria	3.40	195	ePn	Pn	18 10 19.4	+0.4
CODM		3.48	256	P	Pn	18 10 20.6	+0.5
CODM				S	Sn	18 10 54.6	-6.5
VVLD	Villa Vallelon	3.51	192	P	Pn	18 10 19.9	-0.6
FG2	Serracapriola	3.53	173	P	Pn	18 10 23.0	+2.1
CERT	Cerreto	3.55	199	ePN	Pn	18 10 20.7	-0.5
CERT	Cerreto	3.55	199	ePn	Pn	18 10 20.7	-0.5
DAVOX	Davos	3.58	296	Pn	Pn	18 10 23.3	+1.8
	comp=Z,37nm,0.3s,baz=101,slow=4.5,SNR=190						
DAVOX				Sn	Sn	18 11 06.4	+2.8
	comp=Z,38nm,0.3s,baz=99,slow=10,SNR=6.8						
DAVOX				Lg		18 11 19.9	
	comp=Z,43nm,0.3s,baz=293,slow=18,SNR=3.2						
DAVOX	Davos	3.58	296	ePn	Pn	18 10 23.7	+2.2
	comp=Z,182nm,2.0s						
GEC2	GERESS Array S	3.58	351	ePn	Pn	18 10 21.8	+0.2
GEC2				eSn	Sn	18 11 05.0	+1.2
GEC2	GERESS Array S	3.58	351	ePn	Pn	18 10 21.8	+0.2
GEC2				eSn	Sn	18 11 05.0	+1.2
GERES	GERESS Array B	3.58	351	Pn	Pn	18 10 22.7	+1.2
	comp=Z,30nm,0.3s,baz=173,slow=13,SNR=387						
GERES				Sn	Sn	18 11 04.3	+0.5
	comp=Z,99nm,0.3s,baz=165,slow=30,SNR=16						
GERES				Lg		18 11 21.1	
	comp=Z,79nm,0.3s,baz=163,slow=28,SNR=22						
CII	Carovilli	3.59	183	ePN	Pn	18 10 21.5	-0.2
CII	Carovilli	3.59	183	ePn	Pn	18 10 21.5	-0.2
SRO	Srobarova	3.60	45	ePN	Pn	18 10 23.4	+1.6
SRO				ePG	Pn	18 10 32.8	+11
FUR	Furstenfeldbru	3.64	323	ePn	Pn	18 10 23.5	+1.1
BOB	Bobbio (Coli)	3.67	263	ePN	Pn	18 10 23.6	+0.8
	comp=Z,209nm,0.3s						
BOB	Bobbio (Coli)	3.67	263	ePn	Pn	18 10 23.6	+0.8
RGNG	Rignano Grg	3.71	168	ePN	Pn	18 10 22.0	-1.4
RGNG	Rignano Grg	3.71	168	ePn	Pn	18 10 22.0	-1.4
TOLF	Tolfa	3.74	211	P	Pn	18 10 24.7	+0.8
BRY	Bratogost	3.75	129	ePn	Pn	18 10 24.8	+0.9
BRY				eSn	Sn	18 11 09.8	+1.9
VDL	Val di Lei	3.75	290	⇑iPn	Pn	18 10 26.2	+2.3
	comp=Z,417nm,0.6s						
VDL	Val di Lei	3.75	290	⇑P	Pn	18 10 26.1	+2.2
SMOL	Smolenice	3.76	30	i PN	Pn	18 10 23.3	-0.7
SMOL				e		18 10 25.7	
UPM	Unac-Piva	3.77	123	⇑iPn	Pn	18 10 25.4	+1.2
UPM				eSn	Sn	18 11 10.5	+2.1
BUD	Budapest	3.77	53	e	Pn	18 10 34.8	+11
DAVA	Damuels	3.80	303	⇑iPN	Pn	18 10 26.1	+1.4
DAVA				i SN	Sn	18 11 10.8	+1.5
TUE	Stuetta	3.82	290	P	Pn	18 10 26.7	+1.7
KHC	Kasperske Hory	3.88	350	ePN	Pn	18 10 25.9	+0.1
KHC				ex	x	18 11 01.5	
KHC				eSN	Sn	18 11 11.0	-0.2
KHC				eSG	Sn	18 11 28.7	+17
KHC	Kasperske Hory	3.88	350	eP	Pn	18 10 25.9	+0.1
KHC				e		18 11 11.0	
UBR	Uberruh	3.88	309	P	Pn	18 10 26.9	+1.0
MUGIO	Muggio	3.92	281	⇑iPn	Pn	18 10 26.4	0.0
	comp=Z,106nm,2.0s						
SGG	Gregorio Mates	3.93	182	ePN	Pn	18 10 26.5	0.0
SGG	Gregorio Mates	3.93	182	ePn	Pn	18 10 26.5	0.0
PLE	Pljevlja	3.99	118	ePn	Pn	18 10 28.5	+1.1
PLE				eSn	Sn	18 11 15.6	+1.5
PLONS	Plons	4.00	298	⇑iPn	Pn	18 10 29.1	+1.6
	comp=Z,64nm,2.0s						
WET	Wettzell	4.00	344	ePn	Pn	18 10 27.9	+0.4
WET				eSn	Sn	18 11 14.8	+0.4
WET	Wettzell	4.00	344	ePn	Pn	18 10 27.9	+0.4
WET				eSn	Sn	18 11 14.8	+0.4
HCY	Herceg Novi	4.04	134	⇑iPn	Pn	18 10 28.2	+0.2
HCY				eSn	Sn	18 11 16.9	+1.6
KAMOR	Kamor	4.04	301	⇑iPn	Pn	18 10 29.2	+1.2
	comp=Z,80nm,2.0s						
DIVS	Divcibare	4.05	106	⇑iPn	Pn	18 10 28.8	+0.5
DIVS				Sn	Sn	18 11 17.1	+1.4
NKY	Niksic	4.06	126	⇑iPn	Pn	18 10 29.4	+1.1
NKY				eSn	Sn	18 11 17.0	+1.3
FG5	Orsara di Pugl	4.06	172	ePN	Pn	18 10 27.1	-1.3
FG5	Orsara di Pugl	4.06	172	ePn	Pn	18 10 27.1	-1.3
GENL	Genova Univers	4.08	259	P	Pn	18 10 29.3	+0.6
PSB1	Pescosannita	4.09	177	P	Pn	18 10 28.4	-0.4
NVSS	Nova Varos 2	4.10	114	⇓iPn	Pn	18 10 31.2	+2.2
NVSS				Sn	Sn	18 11 16.4	-0.5
VAI	Varese	4.11	280	ePN	Pn	18 10 29.2	+0.2
VAI	Varese	4.11	280	ePn	Pn	18 10 29.2	+0.1
VTB1	Vitulano	4.13	179	P	Pn	18 10 29.0	-0.4
JAVC	Velka Javorina	4.13	30	P	Pn	18 10 29.4	0.0
LLS	Linth-Limmern	4.16	294	ePn	Pn	18 10 32.0	+2.2
	comp=Z,364nm,0.6s						
LLS	Linth-Limmern	4.16	294	P	Pn	18 10 31.9	+2.1
KOLL	Kolacno	4.19	37	P	Pn	18 10 29.2	-1.1
MRB1	Monte Rocchett	4.20	176	P	Pn	18 10 31.9	+1.6
BEO	Belgrade	4.20	95	⇑iPn	Pn	18 10 20.0	-10
BEO				Sn	Sn	18 11 34.0	+14
VRAC	Vranov	4.23	18	Pn	Pn	18 10 30.4	-0.4
	comp=Z,5.7nm,0.3s,baz=201,slow=13,SNR=33						
VRAC				Sn	Sn	18 11 19.4	-0.8
	comp=Z,12nm,0.3s,baz=312,slow=6.8,SNR=2.5						
FG4	Candela	4.24	170	P	Pn	18 10 31.6	+0.7
FUSIO	Fusio	4.28	288	⇑iPn	Pn	18 10 32.2	+0.7
	comp=Z,68nm,2.0s						
VYHS	Vyhne	4.32	41	eP	Pn	18 10 30.9	-1.2
VYHS				e		18 11 21.6	
VYHS	Vyhne	4.32	41	ePn	Pn	18 10 30.9	-1.2
VYHS				e		18 10 51.3	
VYHS				eSn	Sn	18 11 21.6	-0.9
VYHS				e		18 11 50.8	
PCP	Pian Castagno	4.34	262	P	Pn	18 10 33.2	+0.8
BUM	Brajici-Budva	4.35	132	⇑iPn	Pn	18 10 33.0	+0.5
BUM				eSn	Sn	18 11 24.3	+1.2
HDH	Heidenheim	4.43	319	P	Pn	18 10 33.8	+0.2
MUO	Muotathal	4.44	294	ePn	Pn	18 10 36.0	+2.2
	comp=Z,133nm,2.0s						
MUO	Muotathal	4.44	294	P	Pn	18 10 35.9	+2.1
WILA	Wila	4.45	300	ePn	Pn	18 10 34.4	+0.6
	comp=Z,85nm,2.0s						
WILA	Wila	4.45	300	P	Pn	18 10 34.4	+0.6
TTG	Podgorica	4.45	129	⇑iPn	Pn	18 10 34.9	+1.0
TTG				eSn	Sn	18 11 26.8	+1.0
CSSN	Cassano Irpino	4.46	176	P	Pn	18 10 32.8	-1.3
PSZ	Piszkesteto	4.50	53	eP	Pn	18 10 33.2	-1.5
BNALP	Bannalp	4.55	292	ePn	Pn	18 10 37.1	+1.8
	comp=Z,217nm,0.6s						
IVA	Berane	4.55	121	ePn	Pn	18 10 36.2	+0.9
IVA				eSn	Sn	18 11 28.9	+0.6
STEIN	Stein am Rhein	4.59	303	⇑iPn	Pn	18 10 36.6	+0.8
	comp=Z,92nm,0.6s						
MRLC	Muro Lucano	4.60	171	ePN	Pn	18 10 34.2	-1.9
	comp=Z,86nm,0.7s						
MRLC	Muro Lucano	4.60	171	ePn	Pn	18 10 34.2	-1.9
GRUS	Gruza	4.62	106	⇑iPn	Pn	18 10 36.7	+0.4
GRUS				Sn	Sn	18 11 28.7	-1.2
ZUR	Zurich	4.63	299	ePn	Pn	18 10 37.6	+1.2
	comp=Z,57nm,2.0s						
ZUR	Zurich	4.63	299	P	Pn	18 10 37.6	+1.2
GUT	Gutenstein	4.66	308	P	Pn	18 10 36.8	0.0
FIN	Finale Ligure	4.66	259	ePN	Pn	18 10 35.7	-1.2
	comp=Z,156nm,0.4s						
FIN	Finale Ligure	4.66	259	ePn	Pn	18 10 35.7	-1.2
PRU	Pruhonice	4.68	360	PN	Pn	18 10 36.2	-0.9
PRU				ePG	Pn	18 10 51.7	+15
PRU				SN	Sn	18 11 28.8	-2.7
PRU				SG	Sn	18 11 54.9	+23
	comp=Z,168nm,0.5s						
PRU	Pruhonice	4.68	360	eP	Pn	18 10 36.2	-0.9
PRU				e		18 11 30.8	
PRU	Pruhonice	4.68	360	ePn	Pn	18 10 36.2	-0.9

PRU				*e*Pg	Pn	18 10 51.6	+14
PRU				*e*Sn	Sn	18 11 30.8	-0.7
PRU				*e*Sg	Sn	18 11 54.6	+23
MMK	**Mattmark**	4.68	281	*e*Pn	Pn	18 10 35.7	-1.5
	comp=Z,41nm,2.0s						
HASLI	**Hasliberg**	4.69	290	*e*Pn	Pn	18 10 38.7	+1.3
	comp=Z,352nm,0.6s						
FLACH	**Flaach**	4.72	301	*e*Pn	Pn	18 10 37.9	+0.1
	comp=Z,182nm,0.6s						
BUCH	**Bad Urach**	4.75	313	P	Pn	18 10 38.6	+0.4
PVY	**Plav**	4.76	123	*e*Pn	Pn	18 10 39.1	+0.8
PVY				*e*Sn	Sn	18 11 33.8	+0.3
ULC	**Ulcinj**	4.77	133	⇑*i*Pn	Pn	18 10 38.5	0.0
ULC				*e*Sn	Sn	18 11 34.6	+0.7
SGO	**Sicignano**	4.78	173	P	Pn	18 10 37.1	-1.5
RORO		4.79	258	P	Pn	18 10 37.5	-1.1
SVIS	**Svilajnac**	4.84	100	*e*Pn	Pn	18 10 39.4	-0.1
SVIS				Sn	Sn	18 11 35.2	-0.5
SLE	**Schleitheim**	4.86	303	⇑*i*Pn	Pn	18 10 39.3	-0.3
	comp=Z,57nm,2.0s						
SLE	**Schleitheim**	4.86	303	⇑P	Pn	18 10 39.2	-0.4
SPAK	**Spaichingen**	4.86	307	P	Pn	18 10 39.9	+0.2
ROB	**Roburent**	4.87	260	P	Pn	18 10 39.5	-0.3
PGF	**Pioggiola**	4.88	237	*e*Pn	Pn	18 10 38.2	-1.8
PGF				*e*Sn	Sn	18 11 31.5	-5.0
	comp=Z,164nm,0.4s						
MORC	**Moravsky Berou**	4.90	23	*e*P	Pn	18 10 38.6	-1.7
PTRP	**Pietrapertosa**	4.91	167	P	Pn	18 10 40.1	-0.4
GRA1	**Grafenberg Arr**	4.93	334	*e*Pn	Pn	18 10 41.3	+0.6
GRA1				*e*Sn	Sn	18 11 36.4	-1.5
GRF	**Grafenberg Arr**	4.93	334	*e*Pn	Pn	18 10 41.3	+0.5
GRF				*e*Sn	Sn	18 11 36.4	-1.5
TUBL	**Tuebingen Lnz**	4.94	312	P	Pn	18 10 41.6	+0.7
LKBD	**Leukerbad**	4.96	285	*e*Pn	Pn	18 10 41.7	+0.5
	comp=Z,370nm,0.6s						
LKBD	**Leukerbad**	4.96	285	P	Pn	18 10 41.6	+0.4
IMI	**Imperia**	4.97	256	P	Pn	18 10 40.5	-0.7
SULZ	**Sulz-Cheisache**	4.98	299	*e*Pn	Pn	18 10 41.2	-0.2
	comp=Z,156nm,0.6s						
SULZ	**Sulz-Cheisache**	4.98	299	P	Pn	18 10 41.2	-0.2
SLCN	**Sala Consilina**	4.98	171	P	Pn	18 10 41.0	-0.5
MONE	**Monesi**	5.01	258	P	Pn	18 10 40.9	-1.0
WIMIS	**Wimmis**	5.02	288	⇑*i*Pn	Pn	18 10 43.2	+1.2
	comp=Z,123nm,0.6s						
STU	**Stuttgart**	5.04	315	*e*Pn	Pn	18 10 42.1	-0.2
DIX	**Grande Dixence**	5.07	281	⇓P	Pn	18 10 43.0	+0.3
NEGI	**Negi**	5.12	256	P	Pn	18 10 43.5	+0.1
NKC	**Novy Kostel**	5.13	345	*e*PN	Pn	18 10 42.7	-0.8
NKC				*e*SN	Sn	18 11 40.7	-2.0
NKC				*e*SG	Sn	18 12 09.7	+27
KECS	**Kecovo**	5.15	50	*e*PN	Pn	18 10 44.3	+0.5
KECS				*e*		18 11 00.4	
RSP	**Reno Superiore**	5.16	271	P	Pn	18 10 41.0	-3.0
BALST	**Balsthal**	5.17	295	*e*Pn	Pn	18 10 44.1	0.0
	comp=Z,372nm,0.6s						
DPC	**Dobruska-Polom**	5.18	13	*e*PN	Pn	18 10 43.7	-0.5
DPC				*e*SN	Sn	18 11 41.2	-2.8
DPC				*e*SG	Sn	18 12 08.4	+24
	comp=Z,161nm,0.8s						
DPC	**Dobruska-Polom**	5.18	13	*e*Pn	Pn	18 10 43.7	-0.5
	comp=Z,161nm,0.8s						
DPC				*e*Sn	Sn	18 11 41.2	-2.8
DPC				*e*Sg	Sn	18 12 08.4	+24
LBG	**Lerchenberg**	5.18	312	P	Pn	18 10 43.9	-0.3
SENIN	**Lac Senin**	5.18	284	*e*Pn	Pn	18 10 45.1	+0.8
	comp=Z,156nm,0.6s						
BHB	**Bricherasio**	5.19	267	P	Pn	18 10 41.7	-2.7
FELD	**Feldberg**	5.20	302	P	Pn	18 10 44.7	+0.2
ENR	**Entracque**	5.20	260	P	Pn	18 10 44.1	-0.5
PVCC	**Panska Ves**	5.22	0	*e*PN	Pn	18 10 44.1	-0.7
PVCC				*e*SN	Sn	18 11 44.0	-1.1
PVCC				*e*SG	Sn	18 12 11.0	+26
LSD	**Ceresole Reale**	5.22	274	P	Pn	18 10 43.2	-1.6
MGR	**Morigerati**	5.22	172	*e*Pn	Pn	18 10 44.4	-0.4
BFO	**Black Forest**	5.24	307	Pn	Pn	18 10 44.5	-0.5
	comp=Z,1µm,0.5s,SNR=93						
BFO	**Black Forest**	5.24	307	*e*Pn	Pn	18 10 44.4	-0.6
BFO				*e*Sn	Sn	18 11 45.5	0.0
BFO	**Black Forest**	5.24	307	*e*Pn	Pn	18 10 44.4	-0.6
BFO				*e*Sn	Sn	18 11 45.5	0.0
SIND	**Sindeldorf**	5.26	322	P	Pn	18 10 44.8	-0.5
AUTN	**L'Aution**	5.26	258	P	Pn	18 10 44.8	-0.5
AUTN				S	Sn	18 11 43.8	-2.3
STV	**Sta Anna Valdi**	5.26	261	P	Pn	18 10 44.6	-0.8
GUNZ	**Gunzen**	5.27	344	*e*Pn	Pn	18 10 45.3	-0.3
GUNZ				*e*Sn	Sn	18 11 45.2	-1.2
KIZ	**Kirchzarten**	5.29	302	P	Pn	18 10 45.5	-0.2
UPC	**Upice**	5.29	10	*e*PN	Pn	18 10 45.1	-0.7
UPC				*e*SN	Sn	18 11 44.4	-2.4
UPC				*e*SG	Sn	18 12 12.8	+26
SBF	**Sospel**	5.29	257	*e*Pn	Pn	18 10 43.2	-2.6
SBF				*e*Sn	Sn	18 11 42.8	-4.2
	comp=Z,308nm,0.4s						
GRYON	**Gryon**	5.30	283	*e*Pn	Pn	18 10 46.7	+0.8
	comp=Z,116nm,0.6s						
FENE	**Fenestrelle**	5.31	270	P	Pn	18 10 42.2	-3.9
BBS	**Basel-Blauen**	5.33	296	P	Pn	18 10 47.0	+0.6
WERD	**Werda**	5.36	344	*e*Pn	Pn	18 10 45.8	-1.0
WERD				*e*Sn	Sn	18 11 47.2	-1.3
AURF	**Auriere**	5.36	257	P	Pn	18 10 46.6	-0.2
AURF				S	Sn	18 11 46.5	-2.1
PZZ	**Prazzo**	5.36	264	P	Pn	18 10 44.8	-2.0
SALAN	**Lac Salanfe**	5.38	282	*e*Pn	Pn	18 10 48.0	+1.0
	comp=Z,262nm,0.6s						
REVF	**Revere**	5.38	256	P	Pn	18 10 46.8	-0.3
AIGLE	**Aigle**	5.42	284	⇑*i*Pn	Pn	18 10 47.9	+0.3
	comp=Z,127nm,0.6s						
EMV	**Vieux Emosson**	5.42	281	⇓P	Pn	18 10 49.0	+1.3
ORI	**Oriolo Calabro**	5.43	165	P	Pn	18 10 48.2	+0.5
QSH	**Qafa e Shtames**	5.43	132	*i* Pn	Pn	18 10 50.0	+2.3
QSH				*i* Sn	Sn	18 11 53.0	+2.6
MVIF	**Mont Vial**	5.48	258	P	Pn	18 10 48.6	+0.2
MVIF				S	Sn	18 11 49.4	-2.2
BOLS	**Boljevac**	5.49	103	⇓*i*Pn	Pn	18 10 48.5	-0.1
BOLS				Sn	Sn	18 11 52.1	+0.3
TORNY	**Torny**	5.49	288	⇑*i*Pn	Pn	18 10 49.1	+0.5
	comp=Z,187nm,0.6s						
LPG	**La Plagne**	5.50	275	*e*Pn	Pn	18 10 47.7	-1.1
LPG				*e*Sn	Sn	18 11 48.5	-3.8
	comp=Z,406nm,0.7s						
LPL	**La Plagne**	5.52	275	*e*Pn	Pn	18 10 48.2	-0.8
LPL				*e*Sn	Sn	18 11 47.9	-4.7
	comp=Z,270nm,0.6s						
RRL	**Cesana Torines**	5.52	269	P	Pn	18 10 47.3	-1.7
TIR	**Tirane**	5.54	134	*e*Pn	Pn	18 10 49.6	+0.4
MBDF	**Montbardon**	5.56	267	*e*Pn	Pn	18 10 47.2	-2.3
MBDF				*e*Sn	Sn	18 11 48.8	-4.7
	comp=Z,234nm,0.5s						
LIBD	**Limburg**	5.56	303	P	Pn	18 10 50.4	+0.8
SURF	**Saint Ours**	5.57	264	P	Pn	18 10 49.0	-0.7
BRG	**Berggiesshubel**	5.58	356	*e*Pn	Pn	18 10 49.2	-0.7
BRG				*e*Sn	Sn	18 11 51.6	-2.5
BRG	**Berggiesshubel**	5.58	356	*e*P	Pn	18 10 48.4	-1.5
BRG				*i*		18 11 49.4	
BRG	**Berggiesshubel**	5.58	356	*e*Pn	Pn	18 10 48.4	-1.5
BRG				*i*		18 10 57.7	
BRG				*i*		18 11 49.4	
BRG				*i*		18 12 05.8	
BRG				*i* Sg	Sn	18 12 23.2	+29
BNI	**Bardonecchia**	5.58	270	*e*P	Pn	18 10 48.4	-1.5
OG01	**Vacheresse**	5.60	283	P	Pn	18 10 50.3	+0.1
OG01				S	Sn	18 11 52.7	-2.0
LCI	**Lecce**	5.62	151	*e*Pn	Pn	18 10 48.8	-1.6
KSP	**Ksiaz**	5.65	11	*e*P	Pn	18 10 50.0	-0.9
KSP				*e*		18 11 49.0	
KSP	**Ksiaz**	5.65	11	*e*Pn	Pn	18 10 50.0	-0.9
KSP				*e*		18 10 52.8	
KSP				*e*Sn	Sn	18 11 49.0	-7.0
KSP				*e*Sg	Sn	18 12 22.8	+27
MOX	**Moxa**	5.69	341	*e*Pn	Pn	18 10 50.4	-1.0
MOX				*e*Sn	Sn	18 11 54.0	-2.9
MOX	**Moxa**	5.69	341	*i* P	Pn	18 10 50.5	-0.9
MOX				S	Sn	18 11 53.0	-3.9
MOX				Sg	Sn	18 12 27.0	+30
MOX				L		18 13 06.0	
MOX	**Moxa**	5.69	341	*e*P	Pn	18 10 50.5	-0.9
MOX				*e*		18 11 53.5	
MOX				MLR	MLR		
	comp=Z,800nm,14.0s						
MOX	**Moxa**	5.69	341	*e*Pn	Pn	18 10 50.5	-0.9
MOX				*e*Sn	Sn	18 11 53.5	-3.4
MOX				*e*Sg	Sn	18 12 27.2	+30
CALN	**Calern**	5.70	257	P	Pn	18 10 52.1	+0.5
MOF	**Molkenrain**	5.72	299	P	Pn	18 10 52.0	+0.2
LOMF	**Lomont**	5.73	294	P	Pn	18 10 52.3	+0.3
SWS	**Schriesheim**	5.77	318	P	Pn	18 10 51.7	-0.8
BARS	**Barje**	5.79	113	⇑*i*Pn	Pn	18 10 52.4	-0.5
TDS	**Terranova Siba**	5.80	166	*e*Pn	Pn	18 10 52.0	-0.9
TOD	**Tromm**	5.80	320	P	Pn	18 10 52.6	-0.4
WLS	**Welschbruch**	5.84	305	P	Pn	18 10 54.2	+0.7
BRANT	**Les Verrieres**	5.86	289	⇑*i*Pn	Pn	18 10 54.0	+0.3
	comp=Z,327nm,0.6s						
ECH	**Echery**	5.86	302	P	Pn	18 10 54.5	+0.7
HINF	**Hinteralfeld**	5.88	298	*e*Pn	Pn	18 10 53.2	-0.9
HINF				*e*Sn	Sn	18 11 56.5	-5.1
	comp=Z,272nm,0.6s						
CDF	**Champ du Feu**	5.88	304	*e*Pn	Pn	18 10 53.2	-0.9
CDF	**Champ du Feu**	5.88	304	*e*Sn	Sn	18 11 57.4	-4.3
CDF				*e*Sg	Sn	18 12 31.1	+29
	comp=Z,132nm,0.7s						
LANF	**Langenberg**	5.89	311	P	Pn	18 10 54.0	-0.3
GIMEL	**Gimel**	5.92	285	⇑*i*Pn	Pn	18 10 54.2	-0.4
	comp=Z,77nm,0.6s						
CRVS	**Cervenica-Dubn**	5.92	50	*e*PN	Pn	18 10 54.5	-0.2
CRVS				*e*		18 11 16.5	
FRF	**La Foret Royal**	5.93	256	*e*Pn	Pn	18 10 52.8	-2.1
FRF				*e*Sn	Sn	18 11 57.0	-6.0
	comp=Z,113nm,0.4s						
GDM	**Grand'Maison**	5.96	272	P	Pn	18 10 54.8	-0.5
SKO	**Skopje**	6.00	121	⇑*i*Pn	Pn	18 10 58.5	+2.7
SKO				*i*		18 11 06.8	
OJC	**Ojcow**	6.04	34	*e*Pn	Pn	18 10 59.1	+2.7
OJC				*e*Pg	Pn	18 11 27.8	+31
OJC				*e*Sg	Sn	18 12 40.1	+34
CABF	**La Chapelle**	6.05	285	*e*Sn	Sn	18 11 59.8	-6.1
	comp=Z,88nm,0.6s						
CABF	**La Chapelle**	6.05	285	*e*Pn	Pn	18 10 56.3	-0.2
CABF				*e*Sn	Sn	18 11 59.8	-6.1
CLL	**Collm**	6.09	351	*e*Pn	Pn	18 10 56.5	-0.6
CLL	**Collm**	6.09	351	*i* PN	Pn	18 10 56.6	-0.5
	comp=Z,logA/T=2.1						
CLL				*e*SN	Sn	18 12 03.0	-3.9
CLL				*i*		18 12 38.1	
CLL				*i* SG	Sn	18 12 47.7	+41
LMR	**La Mourre**	6.11	254	*e*Pn	Pn	18 10 54.2	-3.1
LMR				*e*Sn	Sn	18 12 01.2	-6.1
	comp=Z,115nm,0.4s						
ORIF	**Oris-en-Rattie**	6.16	269	*e*Sn	Sn	18 12 03.3	-5.3
	comp=Z,224nm,0.5s						
ORIF	**Oris-en-Rattie**	6.16	269	*e*Pn	Pn	18 10 56.3	-1.7
ORIF				*e*Sn	Sn	18 12 03.3	-5.3
GRN	**Grenoble**	6.22	272	P	Pn	18 10 58.8	-0.2
HAU	**Haudompre**	6.26	298	*e*Pn	Pn	18 10 58.2	-1.3
HAU				*e*Sn	Sn	18 12 05.0	-6.2
	comp=Z,111nm,0.4s						
HAU				*e*R			
	comp=Z,306nm,15.0s						
UBBA	**Unterbreizbach**	6.30	333	*e*Pn	Pn	18 10 59.7	-0.3
TAVF	**Tavernes**	6.32	257	P	Pn	18 10 59.8	-0.5
TAVF				S	Sn	18 12 10.6	-2.0
TIP	**Timpagrande**	6.34	164	*e*P	Pn	18 10 59.1	-1.5
KOLS	**Kolonicke sedl**	6.38	53	*e*PN	Pn	18 11 03.0	+1.8
KOLS				*e*		18 11 27.4	
VILF	**Villemus**	6.49	260	P	Pn	18 11 02.6	-0.1
SMRF	**Simiane la Rot**	6.55	261	*e*Pn	Pn	18 11 02.0	-1.6
SMRF				*e*Sn	Sn	18 12 10.0	-8.4
	comp=Z,49nm,0.5s						
THEF	**They Montfort**	6.57	299	P	Pn	18 11 03.8	-0.1
ABH	**Alteburg**	6.59	316	P	Pn	18 11 03.5	-0.6
PUYF	**Puyloubier**	6.59	257	P	Pn	18 11 02.8	-1.4
OCF	**Saint Nazaire**	6.62	267	P	Pn	18 11 03.4	-1.1
OG26	**St.-Nazaire-De**	6.62	267	P	Pn	18 11 03.4	-1.1
BERF	**Bertagne**	6.67	256	P	Pn	18 11 04.8	-0.5
FNA	**Florina**	6.74	130	*e*P	Pn	18 11 05.8	-0.4
TREF	**Trevaresse**	6.78	259	P	Pn	18 11 05.9	-0.9
VTS	**Vitosha**	6.80	111	*i* P	Pn	18 11 07.0	-0.1
VTS	**Vitosha**	6.80	111	P	Pn	18 11 07.3	+0.2
GELF	**Grande-Etoile**	6.83	257	P	Pn	18 11 06.2	-1.3
KWP	**Kalwaria**	7.01	49	*e*Pn	Pn	18 11 10.4	+0.4
KWP				*e*PP	PP	18 11 16.0	-1.6
KWP				*e*Sn	Sn	18 12 44.2	+14
VIVF	**Saint-Julien-l**	7.02	270	*e*Pn	Pn	18 11 07.3	-2.8
VIVF				*e*Sn	Sn	18 12 23.6	-6.5
	comp=Z,68nm,0.5s						
RFYF	**Reffroy**	7.05	301	*e*Pn	Pn	18 11 10.6	+0.1
	baz=118						
RFYF				*e*Sn	Sn	18 12 23.8	-7.1
RFYF				*e*Sg	Sn	18 13 06.9	+36
	comp=Z,113nm,0.8s						
KKB	**Krupnik**	7.08	116	*i* P	Pn	18 11 11.5	+0.5
CLZ	**Clausthal**	7.10	338	*e*P	Pn	18 11 11.2	-0.1
CLZ	**Clausthal**	7.10	338	*e*P	Pn	18 11 11.2	-0.1
SFTF	**Sexfontaines**	7.15	297	*e*Pn	Pn	18 11 10.6	-1.4
	baz=118						
SFTF				*e*Sn	Sn	18 12 26.1	-7.4
SFTF				*e*Sg	Sn	18 13 10.6	+37
	comp=Z,193nm,1.1s						
WLF	**Walferdange**	7.17	310	*e*P	Pn	18 11 11.3	-1.0
IGT	**Igoumenitsa**	7.18	142	*e*P	Pn	18 11 10.6	-1.8
RUE	**Ruedersdorf**	7.19	356	*e*P	Pn	18 11 10.3	-2.2
GRG	**Griva**	7.20	124	*e*P	Pn	18 11 11.8	-0.8
MEZF	**Maizieres J'vi**	7.25	299	*e*Pn	Pn	18 11 12.6	-0.8
	baz=118						
MEZF				*e*Sn	Sn	18 12 28.7	-7.3
MEZF				*e*Sg	Sn	18 13 12.9	+37
	comp=Z,157nm,1.1s						
SOI	**Samo**	7.32	171	P	Pn	18 11 16.2	+1.8
MTTG	**Motta San Giov**	7.35	173	P	Pn	18 11 16.1	+1.3
KNT	**Kendrikon**	7.36	121	*e*P	Pn	18 11 15.8	+0.8
SMF	**Signal de Mont**	7.59	284	*e*Pn	Pn	18 11 16.4	-1.7
SMF				*e*Sn	Sn	18 12 36.6	-7.8
	comp=Z,166nm,0.5s						
MMB	**Musomiste**	7.63	116	*i* P	Pn	18 11 19.3	+0.5
COLF	**Collangettes**	7.65	275	P	Pn	18 11 17.2	-1.8
LOR	**Lormes**	7.67	289	*e*Pn	Pn	18 11 17.6	-1.7
	baz=111						
LOR				*e*Sn	Sn	18 12 38.6	-7.8
	comp=Z,72nm,0.4s						
LOR				*e*R			
	comp=Z,184nm,16.5s						
PLDF	**La Plantade**	7.70	279	P	Pn	18 11 18.2	-1.5
LASF	**Ste Croix**	7.73	265	*e*Pn	Pn	18 11 16.8	-3.3
LASF				*e*Sn	Sn	18 12 40.6	-7.3
	comp=Z,93nm,0.6s						
SRS	**Serrai**	7.81	119	*e*P	Pn	18 11 21.2	0.0
LIT	**Litokhoron**	7.82	129	*e*P	Pn	18 11 19.6	-1.7
SSF	**Saint Saulge**	7.87	287	*e*Pn	Pn	18 11 20.4	-1.7
SSF				*e*Sn	Sn	18 12 42.8	-8.6
	comp=Z,44nm,0.5s						
AVF	**Avril sur Loir**	7.94	285	*e*Pn	Pn	18 11 21.1	-1.9
AVF				*e*Sn	Sn	18 12 45.8	-7.3
	comp=Z,23nm,0.5s						
HGN	**Heimansgroeve**	7.95	316	*e*Pn	Pn	18 11 23.4	+0.3
	comp=Z,13nm,1.0s						
HGN				*e*x	x	18 11 27.2	
HGN				*e*Sn	Sn	18 12 51.2	-2.1
LBL	**Lubilhac**	7.99	273	P	Pn	18 11 21.7	-2.0
LKD	**Levkas**	8.00	143	*e*P	P	18 11 21.6	-2.3
MLR	**Muntele Rosu**	8.01	85	Pn	P	18 11 24.0	0.0
	comp=Z,0.4nm,0.3s,baz=281,slow=8.7,SNR=8.9						
MLR				LR	LR	18 14 29.7	
	comp=Z,162nm,18.0s,baz=274,slow=38						
PYM	**Petit Puy Mans**	8.13	277	P	P	18 11 23.4	-2.2
GIVF	**Givet**	8.13	310	*e*Pn	P	18 11 25.6	0.0
GIVF				*e*Sg	Sn	18 13 41.0	+43
	comp=Z,46nm,0.7s						
GKP	**Gorka Klasztor**	8.15	11	*e*P	P	18 11 30.0	+4.0
GKP				*e*Sg	Sn	18 13 56.5	+58
BGF	**Bois d'Agland**	8.26	283	*e*Pn	P	18 11 24.8	-2.7
BGF				*e*Sn	Sn	18 12 53.2	-8.0
	comp=Z,182nm,0.5s						
WTSB	**Winterswijk**	8.41	325	*e*Pn	P	18 11 29.6	0.0
WTSB				*e*x	x	18 11 39.6	
WTSB				*e*Sn	Sn	18 13 03.9	-0.9
BAIF	**Baives**	8.45	308	*e*Pn	P	18 11 29.8	-0.2
HYF	**Humbligny**	8.49	288	*e*Pn	P	18 11 29.5	-1.1
HYF				*e*Sn	Sn	18 12 59.4	-7.4
AGG	**Agios Georgios**	8.53	135	*e*P	P	18 11 28.2	-2.9
TCF	**Toulx Ste Croi**	8.69	281	*e*Pn	P	18 11 31.0	-2.4
TCF				*e*Sn	Sn	18 13 03.7	-8.1
	comp=Z,76nm,0.7s						
XOR	**Xorichti**	8.72	130	*e*P	P	18 11 31.5	-2.4
CAF	**Calviac**	8.85	272	*e*Pn	P	18 11 33.6	-2.1
CAF				*e*Sn	Sn	18 13 07.4	-8.4
	comp=Z,36nm,0.7s						
MTLF	**Montolieu**	9.07	262	*e*Pn	P	18 11 36.4	-2.3
MTLF				*e*Sn	Sn	18 13 12.4	-8.8
	comp=Z,12nm,0.5s						
RJF	**Les Rejaudoux**	9.20	275	*e*Pn	P	18 11 38.1	-2.4
RJF				*e*Sn	Sn	18 13 14.5	-10
	comp=Z,42nm,0.8s						
RJF				*e*R			
	comp=Z,108nm,15.2s						
LFF	**La Frestale**	9.78	273	*e*Pn	P	18 11 46.4	-2.0
LFF				*e*Sn	Sn	18 13 29.8	-8.9
	comp=Z,48nm,0.8s						
MFF	**Saint Martin d**	10.33	282	*e*Pn	P	18 11 53.0	-2.9
MFF				*e*Sn	S	18 13 43.8	-8.3
	comp=Z,26nm,0.6s						
EPF	**Esparros**	10.47	262	*e*Pn	P	18 11 54.5	-3.4
LDF	**La Druitiere**	10.56	293	*e*Pn	P	18 11 58.0	-1.1
FLN	**La Foliniere**	10.83	294	*e*Pn	P	18 12 01.5	-1.3
FLN				*e*R			
	comp=Z,222nm,14.2s						
GRR	**Gorron**	11.00	292	*e*Pn	P	18 12 03.5	-1.6
ETSF	**Etsaut**	11.14	263	*e*Pn	P	18 12 04.9	-2.2
AKASG	**Malin Array Be**	11.20	56	Pn	P	18 12 07.6	-0.2
	comp=Z,0.2nm,0.3s,baz=239,slow=13,SNR=4.2						
SJPF	**Ste Jean**	11.55	265	*e*Pn	P	18 12 09.6	-3.0
SGMF	**Saint Gilles**	12.10	290	*e*Pn	P	18 12 17.4	-2.6
QUIF	**Quistinic**	12.47	288	*e*Pn	P	18 12 21.5	-3.4
ROSF	**Rostrenen**	12.59	290	*e*Pn	P	18 12 23.6	-2.9
ESDC	**Sonseca Array**	14.77	254	Pn	P	18 12 54.7	-0.6
	comp=Z,0.3nm,0.3s,baz=61,slow=13,SNR=3.3						
HFS	**Hagfors**	14.86	358	Pn	P	18 12 55.9	-0.3
	comp=Z,0.0nm,0.3s,baz=184,slow=20,SNR=2.6						
EKA	**Eskdalemuir Ar**	15.08	318	Pn	P	18 12 59.2	0.0
	comp=Z,0.3nm,0.3s,baz=122,slow=13,SNR=4.6						
BRTR	**Keskin Array B**	15.12	105	Pn	P	18 12 59.4	-0.5
	comp=Z,0.0nm,0.3s,baz=297,slow=9.7,SNR=2.3						
NB2	**NORSAR Subarra**	15.88	354	P	P	18 13 09.2	-0.3
	comp=Z,9.5nm,0.7s,baz=169,slow=11						
NB2	**NORSAR Subarra**	15.88	354	P	P	18 13 09.2	-0.3
	comp=Z,9.5nm,0.7s						
NOA	**NORSAR Array B**	15.88	354	Pn	P	18 13 09.3	-0.2
	comp=Z,0.4nm,0.3s,baz=72,slow=14,SNR=14						
OBN	**Obninsk**	17.09	47	*e*P	P	18 13 23.0	-1.9
OBN				pmax	pmax		
	comp=Z,16nm,1.1s						
OBN				MLR	MLR		
	comp=Z,100nm,16.0s						
FINES	**FINESS Array B**	17.51	19	P	P	18 13 30.6	+0.5
	comp=Z,0.8nm,0.3s,baz=203,slow=8.5,SNR=14						
FINES	**FINESS Array B**	17.51	19	P	P	18 13 30.6	+0.5
FINES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MOS	**Moscow**	17.91	46	*e*P	P	18 13 31.3	-3.8
MOS				pmax	pmax		
	comp=Z,37nm,0.6s						
SOC	**Sochi**	18.02	87	*e*P	P	18 13 32.7	-4.0
SOC				*e*S	S	18 16 46.1	-8.2
SOC				pmax	pmax		
	comp=Z,20nm,0.7s						
SOC				pmax	pmax		
	comp=N,7.0nm,0.5s						
SOC				pmax	pmax		
	comp=E,17nm,0.7s						
SOC				MLR	MLR		
	comp=Z,18nm,12.0s						
SOC				MLR	MLR		
	comp=N,18nm,11.0s						
SOC				MLR	MLR		
	comp=E,21nm,10.0s						
ZEI	**Tsey**	21.19	86	*e*P	P	18 14 10.0	-2.1
ZEI				*e*		18 14 19.0	
ASF	**Jabal al Asfar**	21.72	119	P	P	18 14 17.0	-0.6
	comp=E,12nm,1.1s,mb4.2,baz=208,slow=6.9,SNR=5.4						
EIL	**Elat**	22.39	127	P	P	18 14 23.7	-0.5
	comp=E,7.0nm,0.9s,mb4.1,baz=325,slow=12,SNR=4.7						
ARCES	**ARCESS Array B**	24.91	9	P	P	18 14 49.3	+1.0
	comp=E,2.7nm,0.8s,mb3.9,baz=233,slow=6.1,SNR=4.8						
ARCES				LR	LR	18 24 04.2	
	comp=E,35nm,20.0s,MS2.9,baz=194,slow=35						
ARCES	**ARCESS Array B**	24.91	9	P	P	18 14 49.3	+1.0
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ARCES				MLR	MLR		
	comp=Z,35nm,20.0s						
ARU	**Arti**	29.41	52	⇓*i*P	P	18 15 27.1	-2.5
ARU				*e*PPP	PPP	18 16 27.8	-11
ARU				*e*		18 18 33.8	
ARU				*e*S	S	18 20 16.9	-4.0
ARU				*e*SSS	SSS	18 21 57.0	-17
ARU				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.5						
ARU	**Arti**	29.41	52	*e*P	P	18 15 27.9	-1.7
	comp=Z,12nm,1.0s,mb4.6						
BRVK	**Borovoye**	36.40	57	*e*P	P	18 16 31.3	+0.9
KURK	**Kurchatov**	41.99	59	*de*P	P	18 17 15.8	-1.0
KURK	**Kurchatov**	41.99	59	*e*P	P	18 17 14.7	-2.0
	comp=Z,6.2nm,1.0s,mb4.2						
AAK	**Ala-Archa**	42.35	71	*e*P	P	18 17 20.9	+1.1
AAK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.0						
AAK	**Ala-Archa**	42.35	71	*e*P	P	18 17 18.8	-1.0
	comp=Z,3.5nm,0.9s,mb4.0						
MKAR	**Makanchi Array**	45.68	63	P	P	18 17 46.7	+0.1
	comp=Z,7.7nm,0.8s,mb4.7,baz=293,slow=5.8,SNR=24						
MKAR	**Makanchi Array**	45.68	63	P	P	18 17 46.7	+0.1
MKAR				pmax	pmax		
	comp=Z,8.0nm,0.8s						
MKAR	**Makanchi Array**	45.68	63	P	P	18 17 46.7	+0.1
WMQ	**Urumqi**	50.42	64	*e*P	P	18 18 24.8	+1.2
TIXI	**Tiksi**	54.54	21	*e*P	P	18 18 52.8	-1.2
TIXI				*e*		18 19 54.9	
TIXI				*e*S	S	18 26 29.5	-0.8
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
SONM	**Songino Array**	59.44	51	P	P	18 19 27.8	-1.3
	comp=Z,1.6nm,0.8s,mb4.1,baz=288,slow=8.0,SNR=10						
YAK	**Yakutsk**	61.07	29	*d i*P	P	18 19 38.7	-1.3
YAK				pmax	pmax		
	comp=Z,12nm,0.8s,mb5.1						
YAK	**Yakutsk**	61.07	29	P	P	18 19 38.2	-1.8
	comp=Z,17nm,0.5s						
LSZ	**Lusaka**	61.55	165	P	P	18 19 43.1	-0.8
TSUM	**Tsumeb**	64.26	177	P	P	18 20 03.9	+2.1
LZH	**Lanzhou**	64.99	63	*e*P	P	18 20 09.0	+2.7
LZH				AP	pP	18 20 14.0	+1.0
LZH				PP	PP	18 22 33.1	+1.7
YKA	**Yellowknife Ar**	65.12	337	P	P	18 20 07.2	+0.5
	comp=Z,2.7nm,0.9s,mb4.3,baz=30,slow=10.0,SNR=3.1						
YKA	**Yellowknife Ar**	65.12	337	P	P	18 20 07.2	+0.5
YKA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ULM	**Lac du Bonnet**	67.35	319	P	P	18 20 20.5	-0.6
	comp=Z,4.1nm,0.6s,mb4.6,baz=34,slow=6.3,SNR=5.8						
ILAR	**Eielson Array**	69.30	352	P	P	18 20 32.5	-0.4
	comp=Z,1.1nm,1.0s,mb3.8,baz=1.3,slow=6.4,SNR=6.8						
ILAR	**Eielson Array**	69.30	352	P	P	18 20 32.6	-0.3
ILAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
KMI	**Kunming**	71.36	73	*e*P	P	18 20 45.9	-0.3
KMI				AMB	AMB		
	comp=Z,3.0nm,0.7s,mb4.3						
KMI				LR	LR		
	comp=Z,29nm,18.7s,MS3.6						
CN2	**Changchun**	72.15	45	*e*P	P	18 20 48.9	-1.6
CMAR	**Chiang Mai Arr**	73.23	81	P	P	18 20 56.5	-0.8
	comp=Z,0.6nm,0.5s,mb3.8,baz=301,slow=6.9,SNR=6.1						
CMAR	**Chiang Mai Arr**	73.23	81	P	P	18 20 56.5	-0.8
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MDJ	**Mudanjiang**	73.57	42	P	P	18 20 57.9	-0.9
MDJ				AMB	AMB		
	comp=Z,4.0nm,1.3s,mb4.2						
LAO	**LASA Array**	74.61	322	*e*P	P	18 21 05.2	+0.4
	comp=Z,9.3nm,0.8s,mb4.8						
NJ2	**Nanjing**	76.92	58	*e*P	P	18 21 17.8	-0.4
NJ2				AP	pP	18 21 28.1	+3.2
NJ2				XP	sP	18 21 32.5	+5.2
NJ2				PP	PP	18 24 10.1	-2.7
NJ2				S	S	18 30 58.0	-5.5
NJ2				XS		18 31 16.0	
NJ2				SCS	ScS	18 31 28.0	-2.3
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
NJ2				LR	LR		
	comp=N,190nm,23.4s,MS4.7						
NJ2				LR	LR		

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	comp=E,380nm,20.6s,MS4.7						
NEW	**Newport**	**77.67**	**329**	P	**P**	**18 21 22.7**	**+0.8**
BOZ	**Bozeman (W)**	**77.72**	**325**	*e*P	**P**	**18 21 23.3**	**+1.0**
	comp=E,1.5nm,0.8s,mb4.0						
DPW	**Davenport**	**78.39**	**330**	*e*P	**P**	**18 21 26.5**	**+0.6**
SSE	**Sheshan**	**78.99**	**57**	*e*P	**P**	**18 21 28.5**	**-1.1**
BW06	**Boulder Array**	**79.17**	**322**	*e*P	**P**	**18 21 30.4**	**+0.1**
	comp=E,0.5nm,0.5s,mb3.7						
PDAR	**Pinedale Array**	**79.17**	**322**	P	**P**	**18 21 30.8**	**+0.4**
	comp=E,0.5nm,0.6s,mb3.6,baz=52,slow=5.2,SNR=5.1						
HLID	**Hailey**	**80.56**	**325**	P	**P**	**18 21 36.1**	**-1.7**
SDCO	**Great Sand Dun**	**81.28**	**316**	P	**P**	**18 21 41.9**	**+0.3**
DUG	**Dugway**	**82.68**	**322**	*e*P	**P**	**18 21 50.3**	**+1.5**
	comp=E,0.1nm,0.6s						
TXAR	**Lajitas Array**	**86.91**	**310**	P	**P**	**18 22 10.8**	**+0.5**
	comp=E,0.4nm,0.5s,mb3.9,baz=76,slow=5.2,SNR=4.4						
ASAR	**Alice Springs**	**126.86**	**87**	PKP	PKPdf	18 28 28.1	-4.3
	comp=E,0.8nm,1.0s,baz=318,slow=1.8,SNR=4.6						
SBA	**Scott Base**	**145.56**	**170**	PKP	PKPdf	18 29 03.6	-1.5

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*IDC **14** 18:10:09.3±1.5,30.22S×177.40W,mb4.2/5,mb1 4.3/6, mb1mx4.1/15,ML3.3/1,Error ellipse: s-maj=47.5km s-min=25.9km az=141.0*

*NEIC **14** 18:10:21.0±0.9,29.61S×177.77W,h75^{km},mb4.5/3,Error ellipse: s-maj=29.0km s-min=16.7km az=208.0*

ISC 14 18:10:18.4±1.1,**30.25S**±0.09×**178.3W**±0.2,**h33**^{km},**n21, σ1^{s}16**/16,**mb4.2**/7,**2C,Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**8.86**	**204**	Pn	**P**	**18 12 24.0**	**-3.0**
	0.3nm,0.3s,baz=300,slow=20,SNR=2.9						
URZ				Sn	**Sn**	**18 14 07.3**	**+0.5**
	2.2nm,0.3s,baz=134,slow=18,SNR=8.7						
CTA	**Charters Tower**	**33.53**	**279**	P	**P**	**18 16 58.1**	**+0.8**
	5.6nm,1.0s,mb4.4,baz=108,slow=11,SNR=4.6						
CTAO	**Charters Tower**	**33.53**	**279**	P	**P**	**18 16 58.4**	**+1.2**
	3.2nm,0.6s,mb4.4						
STKA	**Stephens Creek**	**34.27**	**257**	P	**P**	**18 17 05.1**	**+1.5**
	1.2nm,0.4s,mb4.2,baz=100,slow=9.2,SNR=6.4						
STKA	**Stephens Creek**	**34.27**	**257**	P	**P**	**18 17 05.1**	**+1.5**
ASAR	**Alice Springs**	**42.87**	**267**	P	**P**	**18 18 15.2**	**-0.3**
	2.1nm,0.5s,mb4.1,baz=104,slow=7.0,SNR=68						
ASAR				PcP	PcP	18 20 03.0	-3.6
	0.3nm,0.5s,baz=122,slow=3.6,SNR=4.8						
ASPA	**Alice Springs**	**42.87**	**267**	*e*P	**P**	**18 18 16.0**	**+0.5**
WB2	**Warramunga Arr**	**43.83**	**272**	*e*P	**P**	**18 18 23.6**	**+0.3**
WRAB	**Tennant Creek**	**43.84**	**272**	*e*P	**P**	**18 18 21.7**	**-1.7**
	7.0nm,0.8s,mb4.4						
WRA	**Warramunga Arr**	**43.84**	**272**	P	**P**	**18 18 22.7**	**-0.7**
	2.1nm,0.4s,mb4.2,baz=110,slow=8.1,SNR=59						
FITZ	**Fitzroy Crossi**	**52.11**	**270**	P	**P**	**18 19 27.3**	**-0.4**
	1.4nm,0.8s,mb4.0,baz=83,slow=8.1,SNR=3.1						
QSPA	**South Pole Qui**	**59.86**	**180**	*e*P	**P**	**18 20 22.7**	**0.0**
	3.5nm,1.0s,mb4.3						
SNAA	**Sanae**	**78.32**	**179**	⇑*i*	**P**	**18 22 14.0**	**-2.2**
VNA3	**Neumayer Olymp**	**78.48**	**176**	⇑*i*	**P**	**18 22 18.2**	**+1.1**
VNA2	**Neumayer--Watz**	**78.91**	**177**		**P**	**18 22 20.7**	**+1.2**
FINES	**FINESS Array B**	**144.91**	**340**	PKPbc	PKPbc	18 29 47.0	-4.5
	2.7nm,0.6s,baz=50,slow=4.2,SNR=19						
FINES	**FINESS Array B**	**144.91**	**340**	PKPbc	PKPbc	18 29 47.0	-4.5
NB2	**NORSAR Subarra**	**148.56**	**351**	PKP	PKPdf	18 29 57.5	+0.1
	1.4nm,0.7s,baz=16,slow=2.8						
NOA	**NORSAR Array B**	**148.56**	**351**	PKPbc	PKPdf	18 29 57.6	+0.2
	2.7nm,1.0s,baz=17,slow=4.1,SNR=5.0						
HFS	**Hagfors**	**149.04**	**348**	PKPbc	PKPdf	18 29 58.5	+0.3
	3.0nm,0.8s,baz=45,slow=2.0,SNR=3.8						
AKASG	**Malin Array Be**	**151.03**	**323**	PKPbc	PKPdf	18 30 04.1	+2.5
	1.3nm,0.5s,baz=46,slow=2.7,SNR=10						

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*IDC **14** 18:36:36.6±9.8,23.18S×179.73E,h643^{km}±127^{km}, mb3.3/6,mb1 3.5/6,mb1mx3.3/14,Error ellipse: s-maj=84.5km s-min=52.7km az=164.0*

*NEIC **14** 18:36:40.8±4.1,23.46S×179.67E,h710^{km}±54^{km},mb3.8/8, Error ellipse: s-maj=34.3km s-min=21.4km az=64.0*

ISC 14 18:36:39.3±1.1,**23.6S**±0.2×**179.6E**±0.2,**h700**^{km},**n17, σ0^{s}48**/16,**mb3.9**/11,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**31.13**	**270**	P	**P**	**18 42 07.6**	**+0.1**
	11nm,0.5s,mb4.7,baz=95,slow=11,SNR=26						
CTAO	**Charters Tower**	**31.13**	**270**	*e*P	**P**	**18 42 07.3**	**-0.2**
	12nm,0.5s,mb4.7						
STKA	**Stephens Creek**	**34.53**	**248**	*e*P	**P**	**18 42 35.8**	**+0.3**
	1.6nm,0.5s,mb3.8						
STKA	**Stephens Creek**	**34.53**	**248**	P	**P**	**18 42 35.5**	**-0.1**
	1.9nm,0.5s,mb3.9,baz=98,slow=12,SNR=10						
ASAR	**Alice Springs**	**41.75**	**260**	P	**P**	**18 43 33.5**	**-0.1**
	2.4nm,0.5s,mb4.0,baz=96,slow=7.2,SNR=58						
ASPA	**Alice Springs**	**41.75**	**260**	*e*P	**P**	**18 43 34.1**	**+0.4**
WB2	**Warramunga Arr**	**42.08**	**266**	*e*P	**P**	**18 43 35.9**	**-0.3**
WRAB	**Tennant Creek**	**42.08**	**266**	*e*P	**P**	**18 43 35.7**	**-0.5**
	5.3nm,0.4s,mb4.4						
WRA	**Warramunga Arr**	**42.09**	**266**	P	**P**	**18 43 36.0**	**-0.3**
	2.6nm,0.3s,mb4.2,baz=92,slow=8.5,SNR=124						
FORT	**Forrest**	**46.11**	**249**	*e*P	**P**	**18 44 06.7**	**-0.1**
	25nm,0.6s,mb4.8						
FITZ	**Fitzroy Crossi**	**50.51**	**265**	*e*P	**P**	**18 44 40.9**	**+1.4**
	3.8nm,1.6s,mb3.6						
FITZ	**Fitzroy Crossi**	**50.51**	**265**	P	**P**	**18 44 40.0**	**+0.5**
	2.8nm,0.7s,mb3.8,baz=138,slow=4.4,SNR=7.2						
SBA	**Scott Base**	**54.69**	**183**	P	**P**	**18 45 07.3**	**-0.8**
	1.5nm,0.6s,mb3.5						
QSPA	**South Pole Qui**	**66.52**	**180**	*e*P	**P**	**18 46 25.1**	**+0.8**
	1.0nm,0.6s,mb3.2						
SNAA	**Sanae**	**85.01**	**179**	*e*P	**P**	**18 48 04.5**	**0.0**
	1.5nm,0.9s,mb3.4						
TXAR	**Lajitas Array**	**90.55**	**58**	P	**P**	**18 48 31.2**	**-0.1**
	0.3nm,0.4s,mb3.3,baz=210,slow=7.3,SNR=3.7						
HFS	**Hagfors**	**142.15**	**349**	PKP	PKPdf	18 54 53.6	-0.3
	1.4nm,0.3s,baz=45,slow=2.0,SNR=16						

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*NIED **14** 18:51:00,37.50N×142.10E,h26^{km},Mw3.4 Best double couple: M$_0$1.38×10^{14} NP1:ϕ_s229°,δ85°,λ100°. NP2: ϕ_s343°,δ11°,λ24°.*

*JMA **14** 18:51:57.2±0.2,37.52N×142.11E,h27^{km}±4^{km},M3.5*

ISC 14 18:51:56.4±1.8,**37.56N**±0.06×**142.1E**±0.1,**h4**^{km}±15^{km}, **n12,σ0^{s}71**/21,**Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.97**	**259**	P	**Pb**	**18 52 15.3**	**-0.2**
JFK				*e*S	**Sb**	**18 52 28.0**	**-0.5**
JMM	**Marumori**	**1.06**	**287**	P	**Pb**	**18 52 17.0**	**0.0**
JMM				*e*S	**Sb**	**18 52 31.4**	**+0.3**
JIO	**Ouri**	**1.06**	**328**	P	**Pb**	**18 52 17.0**	**0.0**
JIO				S	**Sb**	**18 52 30.7**	**-0.4**
ONAJ	**Iwakimizuishiy**	**1.12**	**246**	*e*S	**Sb**	**18 52 31.0**	**-1.6**
JOU	**Okura**	**1.38**	**306**	P	**Pb**	**18 52 22.5**	**+0.1**
JOU				S	**Sb**	**18 52 40.7**	**+0.5**
JFT	**Otama**	**1.38**	**269**	P	**Pb**	**18 52 22.3**	**-0.2**
JFT				S	**Sb**	**18 52 40.4**	**0.0**
JMK	**Ichinoseki**	**1.55**	**334**	P	**Pn**	**18 52 24.4**	**-0.5**
JYS	**Shirataka**	**1.72**	**293**	P	**Pn**	**18 52 27.9**	**+0.5**
JYS				S	**Sn**	**18 52 50.8**	**+0.7**
JFY	**Yanaizu**	**1.89**	**266**	P	**Pn**	**18 52 29.5**	**-0.3**
JFY				*e*S	**Sn**	**18 52 53.7**	**-0.7**
JYK	**Kaneyama**	**1.92**	**316**	P	**Pn**	**18 52 31.1**	**+0.9**
JOM	**Ohasama**	**2.01**	**342**	P	**Pn**	**18 52 31.7**	**+0.2**
JOM				*e*S	**Sn**	**18 52 56.3**	**-1.1**
MAT	**Matsushiro**	**3.26**	**253**	P	**Pn**	**18 52 49.8**	**+0.5**
MAT				*e*S	**Sn**	**18 53 31.0**	**+2.0**

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*MDD **14** 19:05:35.8±0.3,41.50N×7.88W,mbLg1.4/10,Error ellipse: s-maj=5.0km s-min=2.2km az=69.0,PRXIMO*

*INMG **14** 19:05:35.9±0.5,41.50N×7.89W,ML1.0,Error ellipse: s-maj=1.4km s-min=0.7km az=76.0*

ISC 14 19:05:34.4±0.6,**41.52N**±0.03×**7.90W**±0.06,**h3**^{km}±10^{km}, **n14,σ0^{s}64**/19,**Portugal**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PVRL	**Vila Real**	**0.28**	**151**	*e*Pg	**Pg**	**19 05 39.8**	**-0.3**
PVRL				*e*Sg	**Sg**	**19 05 43.9**	**0.0**
	10nm,0.2s						
PVRL	**Vila Real**	**0.28**	**151**	Pg	**Pg**	**19 05 39.8**	**-0.3**
PVRL				Lg		19 05 43.9	
	5.1nm,0.2s						
ELOB	**Lobios**	**0.36**	**340**	Pg	**Pg**	**19 05 43.0**	**+1.3**
	2.7nm,0.2s,SNR=10.0						
ELOB				Lg		19 05 48.3	
	14nm,0.3s,SNR=6.9						
PVIS	**Viseu**	**0.81**	**180**	*e*Pg	**Pg**	**19 05 50.1**	**-0.4**
PVIS				*e*Sg	**Sg**	**19 06 01.9**	**+0.6**
	4.2nm,0.1s						
PVIS	**Viseu**	**0.81**	**180**	Pg	**Pg**	**19 05 50.1**	**-0.4**
PVIS				Lg		19 06 01.9	
	2.1nm,0.1s						
EZAM	**Zamans**	**0.86**	**317**	Pg	**Pg**	**19 05 52.2**	**+0.6**
	1.0nm,0.1s,SNR=7.9						
EZAM				Lg		19 06 05.6	
	1.8nm,0.2s,SNR=7.9						
PBRG	**Braganca**	**0.91**	**72**	*e*P	**Pb**	**19 05 53.1**	**+0.6**
PBRG				*e*S	**Sg**	**19 06 05.0**	**+0.2**
	2.5nm,0.1s						
PBRG	**Braganca**	**0.91**	**72**	P	**Pb**	**19 05 53.1**	**+0.6**
PBRG				S	**Sg**	**19 06 05.0**	**+0.2**
	1.2nm,0.1s						
ECAL	**Calabor**	**0.96**	**64**	Pg	**Pg**	**19 05 53.6**	**-0.1**
	2.0nm,0.1s,SNR=8.9						
ECAL				Lg		19 06 06.9	
	5.0nm,0.2s,SNR=8.5						
MTE	**Manteigas**	**1.16**	**166**	*e*P	**Pb**	**19 05 56.5**	**-0.2**
MTE				*e*S	**Sb**	**19 06 11.7**	**-0.2**
	4.4nm,0.3s						
MTE	**Manteigas**	**1.16**	**166**	P	**Pb**	**19 05 56.5**	**-0.2**
MTE				S	**Sb**	**19 06 11.7**	**-0.2**
	2.2nm,0.3s						
STS	**Santiago**	**1.45**	**341**	Lg		19 06 23.9	
	3.0nm,0.3s,SNR=7.9						
EMAZ	**Mazaricos**	**1.63**	**331**	Pg	**Pg**	**19 06 06.1**	**-0.9**
	1.4nm,0.2s,SNR=7.9						
EMAZ				Lg		19 06 28.7	
	4.5nm,0.2s,SNR=6.1						
EPON	**Pontenova**	**1.89**	**17**	Pg	**Pg**	**19 06 10.9**	**-1.2**
	0.4nm,0.1s,SNR=7.9						
EPON				Lg		19 06 35.7	
	1.7nm,0.2s,SNR=7.9						

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*IDC **14** 19:07:42.5±4.4,2.97S×128.69E,h37^{km}±38^{km},mb3.8/3, mb1 4.0/5,mb1mx3.7/14,ML3.8/2,Error ellipse: s-maj=90.3km s-min=14.9km az=71.0*

*NEIC **14** 19:07:43.3±3.8,2.85S×128.80E,h51^{km}±36^{km},mb4.0/3, Error ellipse: s-maj=37.5km s-min=22.7km az=64.0*

ISC 14 19:07:35.3±2.6,**2.8S**±0.1×**128.8E**±0.2,**h4**^{km}±17^{km},**n13, σ1^{s}03**/17,**mb4.0**/4,**Ceram Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**10.53**	**160**	*e*P	**P**	**19 10 11.7**	**+1.6**
	440nm,3.0s						
KAKA				*e*S	**S**	**19 12 09.6**	**0.0**
FITZ	**Fitzroy Crossi**	**15.56**	**191**	*e*P	**P**	**19 11 22.8**	**+5.5**
	2.8nm,0.8s						
FITZ	**Fitzroy Crossi**	**15.56**	**191**	Pn	**P**	**19 11 18.2**	**+0.9**
	0.1nm,0.3s,baz=27,slow=16,SNR=1.8						
FITZ	**Fitzroy Crossi**	**15.56**	**191**	Pn	**P**	**19 11 18.2**	**+0.9**
FITZ				*e*P		19 11 22.8	
WRAB	**Tennant Creek**	**17.93**	**163**	*e*P	**P**	**19 11 47.0**	**-0.3**
	8.1nm,0.8s						
WRA	**Warramunga Arr**	**17.94**	**163**	P	**P**	**19 11 46.2**	**-1.2**
	1.0nm,0.3s,baz=342,slow=12,SNR=60						
WRA				S	**S**	**19 15 02.9**	**-2.6**
	0.1nm,0.3s,baz=344,slow=22,SNR=3.1						
WB2	**Warramunga Arr**	**17.94**	**163**	*e*P	**P**	**19 11 46.1**	**-1.3**
WB2				*e*S	**S**	**19 15 07.1**	**+1.5**
MBWA	**Marble Bar**	**20.30**	**205**	P	**P**	**19 12 14.4**	**-0.6**
	7.5nm,0.8s						
ASAR	**Alice Springs**	**21.39**	**167**	P	**P**	**19 12 26.4**	**+0.2**
	9.2nm,0.6s,mb4.3,baz=351,slow=11,SNR=159						
ASAR				S	**S**	**19 16 19.6**	**+0.5**
	2.8nm,0.9s,baz=348,slow=22,SNR=7.1						
ASPA	**Alice Springs**	**21.39**	**167**	*e*P	**P**	**19 12 27.3**	**+1.1**
STKA	**Stephens Creek**	**31.40**	**159**	P	**P**	**19 13 59.5**	**-0.2**
	1.5nm,0.8s,mb3.9,baz=344,slow=7.4,SNR=3.5						
MKAR	**Makanchi Array**	**64.01**	**326**	P	**P**	**19 18 12.4**	**+0.1**
	0.8nm,0.9s,mb3.8,baz=131,slow=7.8,SNR=4.3						
ZRNK	**Zerenda**	**74.54**	**327**	P	**P**	**19 19 16.8**	**-0.1**
	1.1nm,0.6s,mb4.0						

DHMR 14 19:22:34.4±1.2,**12.10N**×**44.09E,h10**^{km}±8^{km},**MD3.7, ML3.6,1C-3D,Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TRBA	**At Turbah**	**1.10**	**2**	⇑*i*P	Pb	19 22 55.5	+0.5
TRBA				*i* S	Sb	19 23 11.1	+1.8
TRBA				AML	AML	19 23 18.6	
	comp=E,831nm,0.5s						
UDYN	**Al ‘Udayn**	**1.85**	**357**	*i* P	Pn	19 23 06.8	+0.1
UDYN				*i* S	Sn	19 23 33.6	+3.2
UDYN				AML	AML	19 23 40.7	
	comp=E,668nm,0.6s						
LBOS		**2.09**	**33**	*i* P	Pn	19 23 11.7	+1.7
LBOS				*i* S	Sn	19 23 40.3	+4.0
BDHA	**Al Bayda’**	**2.35**	**38**	⇓*i*P	Pn	19 23 14.7	+0.9
BDHA				*i* S	Sn	19 23 47.1	+4.2
BDHA				AML	AML	19 23 55.3	
	comp=E,1μm,0.6s						
DHBB	**Dhamar BB**	**2.46**	**7**	⇓*i*P	Pn	19 23 17.7	+2.4
DHBB				*i* S	Sn	19 23 50.7	+5.0
HAJJ	**Hajjah**	**3.61**	**352**	⇓*i*P	Pn	19 23 33.1	+1.6
HAJJ				*i* S	Sn	19 24 18.7	+3.9
HAJJ				AML	AML	19 24 34.5	
	comp=N,245nm,0.6s						

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*BJI **14** 19:28:42.8,20.64S×69.08W,h112^{km},mB4.9*

*NEIC **14** 19:28:43.7±0.4,20.39S×68.68W,mb4.4/5,Error ellipse: s-maj=11.5km s-min=7.1km az=69.0*

*SYO **14** 19:28:43.1,20.37S×68.71W,h104^{km},MB4.4*

*IDC **14** 19:28:44.2±0.8,20.40S×68.64W,h114^{km}±5^{km},mb3.9/9, mb1 4.1/11,mb1mx4.0/15,MS3.2/1,Ms1 3.1/1, ms1mx2.6/14,Error ellipse: s-maj=24.5km s-min=16.3km az=45.0*

ISC 14 19:28:41.8±0.7,**20.39S**±0.04×**68.72W**±0.08,**h107**^{km}±6^{km}, **h113**^{km}±2.0^{km}**:pP-P,n38,σ1^{s}15**/32,**mb4.2**/11,**5C-2D, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.22**	**184**	*e*Pn	**P**	**19 29 19.6**	**+1.5**
LVC				*e*S	**S**	**19 29 44.7**	**-0.6**
LPAZ	**La Paz**	**4.11**	**8**	P	**P**	**19 29 49.3**	**+5.4**
	4.8nm,0.3s,baz=188,slow=9.0,SNR=65						
LPAZ				S	**S**	**19 30 33.5**	**+2.3**
	2.3nm,0.3s,baz=233,slow=15,SNR=2.2						
ARE	**Arequipa**	**4.70**	**326**	*e*P	**P**	**19 29 52.0**	**+0.1**
ARE				*i* S	**S**	**19 30 44.3**	**-1.4**
CPUP	**Villa Florida**	**12.02**	**122**	P	**P**	**19 31 30.0**	**-0.7**
	0.3nm,0.3s,baz=326,slow=12,SNR=26						
SAML	**Samuel**	**12.57**	**26**	*e*P	**P**	**19 31 37.9**	**0.0**
	8.4nm,1.2s						
TRQA	**Tornquist**	**18.56**	**163**	*e*P	**P**	**19 32 50.8**	**-1.9**
	17nm,0.6s						
BDFB	**Brasilia**	**20.25**	**80**	P	**P**	**19 33 10.1**	**-0.8**
	6.3nm,0.4s,baz=265,slow=11,SNR=10						
BDFB				LR	LR	19 41 29.8	
	comp=Z,65nm,18.4s,baz=184,slow=38						
PLCA	**Paso Flores**	**20.34**	**184**	P	**P**	**19 33 10.3**	**-1.3**
	baz=4.8,slow=14						
PLCA	**Paso Flores**	**20.34**	**184**	P	**P**	**19 33 10.3**	**-1.3**
TXAR	**Lajitas Array**	**59.82**	**325**	P	**P**	**19 38 38.1**	**-0.4**
	0.4nm,0.8s,mb3.5,baz=149,slow=10,SNR=3.5						
TXAR				pP	pP	19 39 05.9	+1.2
	0.3nm,0.5s,baz=162,slow=5.7,SNR=3.0						
TXAR				sP	sP	19 39 18.9	+2.2
	0.2nm,0.4s,baz=124,slow=9.0,SNR=3.4						
VNA3	**Neumayer Olymp**	**61.07**	**162**	⇑*i*	**P**	**19 38 49.5**	**+3.1**
VNA1	**Neumayer--Stat**	**61.27**	**161**	⇓*i*	**P**	**19 38 50.3**	**+2.5**
VNA2	**Neumayer--Watz**	**61.64**	**161**	⇑*i*	**P**	**19 38 53.2**	**+2.9**
SNAA	**Sanae**	**63.27**	**161**	⇑*i*	**P**	**19 39 00.8**	**-0.3**
LIC	**Lamto**	**67.91**	**74**	*e*P	**P**	**19 39 30.3**	**-1.3**
	24nm,0.8s,mb5.1						
TIC	**Toumodi**	**68.09**	**74**	*e*P	**P**	**19 39 31.9**	**-0.8**
	24nm,0.2s						
KIC	**Kosan Boka**	**68.23**	**74**	*e*P	**P**	**19 39 32.8**	**-0.7**
	94nm,0.8s						
DBIC	**Dimbokro**	**68.25**	**74**	P	**P**	**19 39 32.9**	**-0.8**
	23nm,0.8s,baz=228,slow=6.3,SNR=28						
QSPA	**South Pole Qui**	**69.80**	**180**	*e*P	**P**	**19 39 42.9**	**+0.8**
	4.9nm,0.5s,mb4.6						
MSU	**Marysvale**	**71.36**	**325**	*e*P	**P**	**19 39 52.5**	**+0.4**
MSU				*e*	pP	19 40 22.2	+3.0
PDAR	**Pinedale Array**	**73.24**	**330**	P	**P**	**19 40 02.9**	**-0.2**
	0.4nm,0.6s,mb3.4,baz=124,slow=6.5,SNR=2.9						
HWUT	**Hardware Ranch**	**73.33**	**328**	*e*P	**P**	**19 40 02.9**	**-0.8**
	5.2nm,0.7s,mb4.5						
ULM	**Lac du Bonnet**	**74.31**	**342**	P	**P**	**19 40 08.4**	**-0.8**
	1.8nm,0.5s,mb4.1,baz=313,slow=2.7,SNR=3.2						
NVAR	**Mina Array Bea**	**74.73**	**322**	P	**P**	**19 40 13.3**	**+1.4**
	0.9nm,0.7s,mb3.6,baz=147,slow=7.0,SNR=7.4						
NVAR				pP	pP	19 40 41.8	+2.5
	1.0nm,0.8s,baz=133,slow=7.7,SNR=2.4						
SYO	**Syowa Base**	**77.48**	**159**	⇑P	**P**	**19 40 27.0**	**+0.3**
SYO	**Syowa Base**	**77.48**	**159**	⇑PcP	PcP	19 40 34.4	-2.6
SYO	**Syowa Base**	**77.48**	**159**	⇓pP	pP	19 40 50.3	-3.9
YBH	**Yreka Blue Hor**	**79.44**	**322**	P	**P**	**19 40 37.3**	**-0.6**
	1.4nm,0.7s,mb3.9,baz=158,slow=5.4,SNR=3.4						
TSUM	**Tsumeb**	**80.19**	**107**	*e*P	**P**	**19 40 43.4**	**+1.0**
	2.0nm,0.6s,mb4.1						
MAW	**Mawson**	**85.34**	**163**	P	**P**	**19 41 09.0**	**+1.3**
	1.5nm,0.4s,mb4.2,baz=189,slow=5.5,SNR=7.5						
YKA	**Yellowknife Ar**	**90.20**	**341**	P	**P**	**19 41 31.4**	**+0.4**
	3.7nm,0.7s,mb4.6,baz=134,slow=4.3,SNR=9.2						
YKA				pP	pP	19 41 59.9	+0.7
	2.5nm,0.8s,baz=141,slow=5.0,SNR=3.0						
ASAR	**Alice Springs**	**130.98**	**208**	PKP	PKPdf	19 47 43.0	+1.3
	0.8nm,0.5s,baz=126,slow=1.8,SNR=17						
WRA	**Warramunga Arr**	**134.00**	**211**	PKP	PKPdf	19 47 49.4	+2.0
	0.8nm,0.5s,baz=153,slow=1.6,SNR=17						
MKAR	**Makanchi Array**	**144.63**	**35**	PKP	PKPdf	19 48 06.7	+0.9
	1.2nm,0.6s,baz=351,slow=2.6,SNR=9.6						
MKAR				pPKP		19 48 38.1	
	1.5nm,0.6s,baz=315,slow=1.7,SNR=4.8						
MDJ	**Mudanjiang**	**151.46**	**332**	PKP	PKPdf	19 48 17.4	+0.6
SONM	**Songino Array**	**152.33**	**7**	PKP	PKPdf	19 48 19.4	+1.4
	0.6nm,0.6s,baz=326,slow=4.5,SNR=4.1						
SONM				PKPbc	PKPdf	19 48 27.2	+9.2
	1.9nm,0.7s,baz=313,slow=1.3,SNR=8.4						
CN2	**Changchun**	**153.82**	**336**	*e*PKP	PKPdf	19 48 22.4	+2.2
HHC	**Hu-ho-hao-te**	**159.60**	**359**	*e*PKP	PKPdf	19 48 26.3	-1.4
HHC				PKS	PKS	19 52 03.3	+3.1
HHC				SKS	SKS	19 55 22.4	+1.8
HHC				PP	PP		
	comp=Z,65nm,7.2s						

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*NIED **14** 19:30:00,29.10N×130.00E,h38^{km},Mw4.3 Best double couple: M$_0$3.1×10^{15} NP1:ϕ_s32°,δ73°,λ89°. NP2:ϕ_s216°, δ17°,λ93°.*

*JMA **14** 19:30:37.7±0.2,29.08N×130.04E,h67^{km}±4^{km},M3.7*

*IDC **14** 19:31:01.4±11.0,36.70N×133.97E,mb3.7/3,mb1 3.8/3, mb1mx3.6/21,Error ellipse: s-maj=290.0km s-min=97.0km az=178.0*

ISC 14 19:30:38.3±0.6,**29.09N**±0.04×**130.0E**±0.1,**h56**^{km}±6^{km}, **n19,σ0^{s}85**/27,**mb4.3**/5,**Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JNN	**Nakanoshima**	**0.76**	**349**	P	**P**	**19 30 53.1**	**0.0**
JNN				*e*S	**S**	**19 31 04.1**	**0.0**
JAM	**Amami Oshima**	**0.78**	**209**	P	**P**	**19 30 52.9**	**-0.5**
JAM				S	**S**	**19 31 04.1**	**-0.5**
JZK	**Kikaishima**	**0.78**	**184**	P	**P**	**19 30 53.2**	**-0.2**
JZK				S	**S**	**19 31 05.9**	**+1.3**
JKC	**Kuchinoerabu**	**1.37**	**6**	P	**P**	**19 31 01.5**	**-0.2**
JKC				*e*S	**S**	**19 31 19.9**	**+0.9**
JTK	**Tokunoshima**	**1.62**	**217**	P	**P**	**19 31 05.4**	**+0.3**
JTK				*e*S	**S**	**19 31 25.5**	**+0.6**
JTN	**Tanegashima 3**	**1.76**	**28**	P	**P**	**19 31 06.5**	**-0.5**
JTN				*e*S	**S**	**19 31 28.1**	**-0.2**
JOW	**Kunigami**	**2.74**	**215**	P	**P**	**19 31 20.0**	**-0.9**
JIH	**Iheya**	**2.75**	**222**	P	**P**	**19 31 20.7**	**-0.3**
JAGN	**Aguni-jima**	**3.51**	**225**	P	**P**	**19 31 32.1**	**+0.3**
JAGN				*e*S	**S**	**19 32 12.8**	**+0.3**
JJT2	**Tamagusuku 2**	**3.58**	**215**	P	**P**	**19 31 32.9**	**+0.2**
JJT2				*e*S	**S**	**19 32 14.3**	**+0.2**
JKE	**Kume jima 2**	**3.99**	**227**	P	**P**	**19 31 37.8**	**-0.7**
JKE				S	**S**	**19 32 23.2**	**-1.2**
SONM	**Songino Array**	**26.15**	**322**	P	**P**	**19 36 09.0**	**0.0**
	0.8nm,0.7s,mb3.4,baz=127,slow=7.2,SNR=4.3						
PKI	**Pulchoki**	**39.14**	**279**	*e*P	**P**	**19 38 03.7**	**+1.6**
KKN	**Kakani**	**39.20**	**279**	*e*P	**P**	**19 38 03.7**	**+1.0**
	8.2nm,0.6s,mb4.7						
DMN	**Daman**	**39.39**	**279**	*e*P	**P**	**19 38 05.3**	**+1.1**
	12nm,0.9s,mb4.6						
GKN	**Gorkha**	**39.71**	**280**	*e*P	**P**	**19 38 07.8**	**+0.9**
	5.8nm,0.6s,mb4.5						
KOLN	**Koldanda**	**40.65**	**280**	*e*P	**P**	**19 38 12.7**	**-2.0**
MKAR	**Makanchi Array**	**40.90**	**309**	P	pP	19 38 31.2	+0.2
	0.7nm,0.8s,baz=79,slow=7.3,SNR=4.6						
FINES	**FINESS Array B**	**71.17**	**330**	P	**P**	**19 41 50.7**	**-2.0**
	2.8nm,0.9s,mb4.2,baz=72,slow=6.0,SNR=5.0						

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*IDC **14** 19:31:38.2±1.4,13.52S×172.16E,mb4.0/5,mb1 4.3/5, mb1mx4.1/13,MS3.7/1,Ms1 3.7/1,ms1mx3.1/15,Error ellipse: s-maj=103.0km s-min=24.1km az=144.0*

ISC 14 19:31:41.7±1.2,**13.7S**±0.6×**172.2E**±0.4,**h33**^{km},**n6, σ0^{s}75**/5,**mb3.9**/5,**MS3.6**/1,**Vanuatu Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**24.87**	**171**	LR	LR	19 44 28.8	
	comp=Z,170nm,19.5s,MS3.6,baz=208,slow=31						
STKA	**Stephens Creek**	**33.35**	**232**	P	**P**	**19 38 19.6**	**+0.6**
	1.1nm,0.7s,mb3.9,baz=59,slow=13,SNR=3.0						
ASAR	**Alice Springs**	**37.51**	**249**	P	**P**	**19 38 53.7**	**-0.7**
	4.9nm,1.0s,mb4.2,baz=74,slow=9.2,SNR=33						
NVAR	**Mina Array Bea**	**83.00**	**48**	P	**P**	**19 44 04.8**	**-0.3**
	0.4nm,0.5s,mb3.7,baz=249,slow=7.7,SNR=3.0						
ILAR	**Eielson Array**	**84.12**	**16**	P	**P**	**19 44 10.8**	**+0.6**
	1.2nm,0.7s,mb4.1,baz=235,slow=5.7,SNR=11						
TXAR	**Lajitas Array**	**91.60**	**60**	P	**P**	**19 44 46.9**	**-0.2**
	0.3nm,0.7s,mb3.8,baz=233,slow=4.5,SNR=4.1						

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*IDC **14** 19:34:12.8±0.8,5.34S×145.44E,mb4.4/9,mb1 4.6/11, mb1mx4.5/15,ML3.9/2,MS3.9/4,Ms1 3.9/4,ms1mx3.5/14, Error ellipse: s-maj=25.8km s-min=16.7km az=77.0*

*NEIC **14** 19:34:20.1±1.6,5.48S×145.48E,h55^{km}±14^{km},mb4.6/9, Error ellipse: s-maj=12.9km s-min=11.0km az=212.0*

ISC 14 19:34:18.2±1.9,**5.47S**±0.09×**145.44E**±0.09,**h51**^{km}±18^{km}, **n36,σ0^{s}90**/30,**mb4.6**/17,**MS3.8**/3,**Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WAU	**Wau**	**2.25**	**146**	*e*P	**P**	**19 34 54.9**	**+1.0**
PMG	**Port Moresby**	**4.27**	**157**	*e*P	**P**	**19 35 20.8**	**-1.6**
CTA	**Charters Tower**	**14.55**	**177**	Pn	**P**	**19 37 43.0**	**+0.1**
	0.2nm,0.3s,baz=344,slow=11,SNR=3.3						
CTA	**Charters Tower**	**14.55**	**177**	Pn	**P**	**19 37 43.0**	**+0.1**
CTAO	**Charters Tower**	**14.55**	**177**	*e*P	**P**	**19 37 44.9**	**+2.0**
	4.1nm,0.3s						
KAKA	**Kakadu**	**14.74**	**240**	*e*P	**P**	**19 37 46.8**	**+1.5**
	39nm,0.7s						
WRAB	**Tennant Creek**	**17.98**	**216**	*e*P	**P**	**19 38 25.7**	**-0.6**
	33nm,0.8s						
WB2	**Warramunga Arr**	**17.98**	**216**	*e*P	**P**	**19 38 25.8**	**-0.5**
WRA	**Warramunga Arr**	**17.99**	**216**	P	**P**	**19 38 26.1**	**-0.3**
	0.5nm,0.3s,baz=40,slow=12,SNR=54						
WRA				PcP	PcP	19 43 00.2	0.0
	0.1nm,0.3s,baz=9.4,slow=1.7,SNR=6.2						
WRA				LR	LR	19 46 00.1	
	comp=Z,264nm,19.4s,baz=40,slow=39						
ASAR	**Alice Springs**	**21.23**	**210**	P	**P**	**19 39 00.9**	**-1.1**
	4.7nm,0.8s,mb3.9,baz=40,slow=8.7,SNR=19						
ASAR				LR	LR	19 48 03.6	
	comp=Z,300nm,19.8s,MS3.7,baz=33,slow=39						
ASAR	**Alice Springs**	**21.23**	**210**	P	**P**	**19 39 00.9**	**-1.1**
ASPA	**Alice Springs**	**21.23**	**210**	*e*P	**P**	**19 39 02.4**	**+0.3**
FITZ	**Fitzroy Crossi**	**23.06**	**235**	*e*P	**P**	**19 39 19.4**	**-0.8**
	5.0nm,0.6s,mb4.1						
FITZ	**Fitzroy Crossi**	**23.06**	**235**	P	**P**	**19 39 19.5**	**-0.7**
	5.6nm,0.6s,mb4.2,baz=77,slow=5.9,SNR=14						
FITZ				LR	LR	19 49 27.5	
	comp=Z,285nm,19.4s,MS3.7,baz=78,slow=40						
STKA	**Stephens Creek**	**26.52**	**187**	P	**P**	**19 39 52.3**	**-0.8**
	15nm,0.9s,mb4.5,baz=354,slow=9.6,SNR=19						
STKA				LR	LR	19 52 06.8	
	comp=Z,343nm,19.4s,MS3.9,baz=19,slow=40						
MAJO	**Matsushiro**	**42.34**	**351**	*e*P	**P**	**19 42 04.2**	**-4.8**
	13nm,0.3s,mb5.0						
URZ	**Urewera**	**43.50**	**143**	P	**P**	**19 42 19.3**	**+0.8**

	4.5nm,0.7s,mb4.3,baz=193,slow=9.2,SNR=2.6						
RPZ	**Rata Peaks**	44.27	153	P	**P**	**19 42 26.2**	**+1.6**
	7.8nm,0.6s,mb4.7,baz=325,slow=4.3,SNR=10						
CMAR	**Chiang Mai Arr**	51.63	299	P	**P**	**19 43 22.4**	**+0.1**
	4.3nm,0.7s,mb4.5,baz=122,slow=6.1,SNR=28						
SHL	**Shillong**	60.43	303	*e*	**P**	**19 44 26.0**	**+0.8**
SONM	**Songino Array**	63.20	332	P	**P**	**19 44 41.8**	**-1.7**
	0.4nm,0.4s,mb3.9,baz=158,slow=6.7,SNR=3.6						
PKI	**Pulchoki**	66.56	303	*e*P	**P**	**19 45 05.7**	**+0.2**
	7.9nm,0.6s,mb4.9						
KKN	**Kakani**	66.74	303	*e*P	**P**	**19 45 07.1**	**+0.5**
	15nm,0.8s,mb5.1						
DMN	**Daman**	66.82	303	*e*P	**P**	**19 45 07.9**	**+0.7**
	47nm,1.2s,mb5.4						
GKN	**Gorkha**	67.35	303	*e*P	**P**	**19 45 10.8**	**+0.4**
	11nm,0.7s,mb5.0						
KOLN	**Koldanda**	68.14	303	*e*P	**P**	**19 45 15.9**	**+0.5**
	23nm,1.0s,mb5.2						
MKAR	**Makanchi Array**	76.11	321	P	**P**	**19 46 02.7**	**+0.3**
	1.8nm,0.8s,mb4.1,baz=101,slow=7.4,SNR=12						
KURK	**Kurchatov**	79.86	324	P	**P**	**19 46 22.5**	**-0.6**
	2.1nm,0.9s,mb4.1						
QSPA	**South Pole Qui**	84.50	180	*e*P	**P**	**19 46 46.4**	**+0.1**
	5.3nm,0.9s,mb4.7						
ILAR	**Eielson Array**	85.61	23	P	**P**	**19 46 50.5**	**-1.6**
	4.3nm,0.7s,mb4.8,baz=253,slow=5.2,SNR=35						
CPUP	**Villa Florida**	141.44	146	PKP	PKPdf	19 53 44.3	-0.1
	1.4nm,0.8s,baz=227,slow=1.8,SNR=3.7						
SAML	**Samuel**	148.07	116	*e*PKPbc	PKPdf	19 53 59.6	+3.5
KIC	**Kosan Boka**	150.33	273	*e*PKP1	PKPdf	19 54 06.7	+7.0
	75nm,0.9s						
DBIC	**Dimbokro**	150.44	274	PKPbc	PKPdf	19 54 07.5	+7.7
	19nm,0.9s,baz=79,slow=4.3,SNR=18						
TIC	**Toumodi**	150.60	274	*e*PKP1	PKPdf	19 54 07.7	+7.6
	24nm,0.2s						
LIC	**Lamto**	150.61	273	*e*PKP1	PKPdf	19 54 07.6	+7.5
	71nm,0.8s						

SNSN ***14*** *19:39:28.3,28.94N×34.76E,h24^{km},Ml3.1*

GII ***14*** *19:39:28.1±0.6,29.01N×34.84E,h3^{km}±30^{km},ML3.5/9, Mw3.0/5*

HLW ***14*** *19:39:28.5,28.92N×34.78E,h19^{km},Mb3.4*

ISC 14 19:39:28.1±0.3,**28.92N**±0.02×**34.73E**±0.03,**h24**^{km}±4^{km}, **n36,σ0$\overset{s}{.}$69**/48,**8C-5D,Egypt**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NUB		0.13	325	⇑*i*P	**Pb**	**19 39 32.8**	**0.0**
HAQS	**Haql**	0.22	52	P	**Pb**	**19 39 33.8**	**-0.1**
HAQS				S	**Sb**	**19 39 37.8**	**0.0**
HDHB	**Dhahab**	0.22	207	⇓*i*P	**Pb**	**19 39 34.7**	**+0.8**
HBST	**Basata**	0.29	360	⇓*e*P	**Pb**	**19 39 34.9**	**-0.1**
TAYS	**Tayyib Ism**	0.39	162	P	**Pb**	**19 39 36.9**	**+0.5**
JMOS	**Jabal al Moall**	0.41	53	P	**Pb**	**19 39 36.7**	**-0.1**
JMOS				S	**Sb**	**19 39 42.6**	**-0.1**
ALWS	**Ilw as Safayha**	0.48	37	P	**Pb**	**19 39 37.6**	**-0.4**
ALWS				S	**Sb**	**19 39 44.4**	**-0.2**
BDAS	**Al Bad‘**	0.58	146	P	**Pb**	**19 39 39.9**	**+0.3**
HKAT	**Jabal Katrina**	0.76	239	⇑*e*P	**Pb**	**19 39 43.3**	**+0.7**
HKAT				S	**Sb**	**19 39 54.7**	**+2.1**
EIL	**Elat**	0.77	14	Pg	**Pb**	**19 39 42.0**	**-0.8**
AQBJ	**Aqaba**	0.85	19	Pg	**Pb**	**19 39 43.1**	**-1.0**
AYUS	**‘Aynunah**	0.87	147	P	**Pb**	**19 39 44.1**	**-0.3**
MBH	**Mount Berech**	0.88	10	Pg	**Pb**	**19 39 44.2**	**-0.4**
JMQS	**Jabal Moqyreh**	1.00	92	P	**Pb**	**19 39 46.8**	**+0.1**
JMQS				S	**Sb**	**19 39 59.8**	**+0.3**
TR2		1.03	239	⇑*e*P	**Pb**	**19 39 47.1**	**-0.1**
TR1		1.14	217	⇑*e*P	**Pn**	**19 39 48.6**	**-0.2**
SHRM		1.15	207	⇓*e*P	**Pn**	**19 39 48.4**	**-0.6**
SHRM				S	**Sb**	**19 40 03.4**	**-0.4**
KMTI	**Karmit**	1.18	360	Pg	**Pn**	**19 39 49.0**	**-0.4**
KMTI				Sg	**Sb**	**19 40 04.4**	**-0.2**
HNKL	**Nakhl**	1.20	327	⇓*e*P	**Pn**	**19 39 49.6**	**0.0**
HNKL				S	**Sb**	**19 40 04.5**	**-0.6**
PRNI	**Paran**	1.45	9	Pn	**Pn**	**19 39 53.1**	**0.0**
PRNI				Sn	**Sn**	**19 40 12.7**	**+1.2**
ZEIT		1.48	225	⇓P	**Pn**	**19 39 52.9**	**-0.8**
ZFRI	**Zfri**	1.67	13	Pn	**Pn**	**19 39 57.0**	**+0.6**
ZNM		1.69	286	⇑P	**Pn**	**19 39 56.3**	**-0.3**
ZNM				S	**Sn**	**19 40 16.7**	**-0.9**
TBKS	**Tabuk**	1.74	113	P	**Pn**	**19 39 56.8**	**-0.5**
GRB	**Gharib**	1.83	250	⇑P	**Pn**	**19 39 57.7**	**-0.9**
SUZ		1.90	299	⇑*e*P	**Pn**	**19 39 59.6**	**0.0**
ZAF		1.94	281	P	**Pn**	**19 40 00.3**	**0.0**
KZIT	**Kziot**	2.00	352	Pn	**Pn**	**19 40 02.5**	**+1.4**
KZIT				Sn	**Sn**	**19 40 28.4**	**+2.8**
SVTA	**Shivta**	2.00	357	Pn	**Pn**	**19 40 02.5**	**+1.4**
MASH	**Mash‘abbe Sade**	2.07	1	Pn	**Pn**	**19 40 02.1**	**+0.1**
RTMM	**Retamin**	2.12	359	Pn	**Pn**	**19 40 02.5**	**-0.4**
AMAG	**Maghara**	2.17	323	⇑*e*P	**Pn**	**19 40 02.6**	**-0.9**
MZDA	**Masada**	2.44	13	Pn	**Pn**	**19 40 07.1**	**-0.3**
DRGI	**Dragot**	2.72	12	Pn	**Pn**	**19 40 10.8**	**-0.7**
SLTI	**Sal’it**	3.32	5	Pn	**Pn**	**19 40 19.9**	**+0.1**
SLTI				Sn	**Sn**	**19 40 59.2**	**+0.2**
HMDT	**Nahal Hemdat**	3.39	11	Pn	**Pn**	**19 40 21.5**	**+0.6**

NIED ***14*** *19:41:00,33.20N×137.20E,h5^{km},Mw3.5 Best double couple: $M_0$1.71×10^{14} NP1:ϕ_s85°,δ70°,λ81°. NP2:ϕ_s289°, δ22°,λ113°.*

JMA ***14*** *19:41:11.7±0.1,33.21N×137.22E,h42^{km}±2^{km},M3.6*

ISC 14 19:41:11.9±0.7,**33.24N**±0.05×**137.22E**±0.03,**h50**^{km}±13^{km}, **n22,σ0$\overset{s}{.}$74**/44,**7D,Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK01	**Tokai 1**	0.61	31	P	**P**	**19 41 24.2**	**-0.3**
TK01				S	**S**	**19 41 33.2**	**-0.5**
TK02	**Tokai 2**	0.84	33	⇓P	**P**	**19 41 27.5**	**0.0**
TK02				S	**S**	**19 41 39.2**	**+0.1**
TK03	**Tokai 3**	1.11	34	P	**P**	**19 41 31.5**	**+0.1**
TK03				S	**S**	**19 41 46.4**	**+0.5**
JIE	**Ise**	1.22	340	⇓P	**P**	**19 41 33.7**	**+0.8**
JIE				S	**S**	**19 41 49.4**	**+0.8**
TK04	**Tokai 4**	1.27	26	P	**P**	**19 41 34.0**	**+0.4**
TK04				S	**S**	**19 41 50.0**	**+0.3**
JKN	**Kiinagashima**	1.28	322	⇓P	**P**	**19 41 34.1**	**+0.3**
JKN				S	**S**	**19 41 49.1**	**-1.0**
JWZ	**Kozaga**	1.29	283	⇓P	**P**	**19 41 33.7**	**-0.2**
JWZ				S	**S**	**19 41 48.8**	**-1.5**
TSUJ	**Tsu 2**	1.61	336	P	**P**	**19 41 39.0**	**+0.6**
TSUJ				S	**S**	**19 41 58.5**	**+0.4**
JWY	**Kouya**	1.67	306	⇓P	**P**	**19 41 40.0**	**+0.8**
JWY				S	**S**	**19 41 59.5**	**0.0**
JWM	**Minabe**	1.67	292	P	**P**	**19 41 39.4**	**+0.2**
JWM				S	**S**	**19 41 58.9**	**-0.6**
JHE	**Heguri**	1.90	318	⇓P	**P**	**19 41 43.1**	**+0.6**
JHE				S	**S**	**19 42 05.7**	**+0.5**
SHZ3	**Shizuoka 3**	2.00	24	⇓P	**P**	**19 41 43.9**	**0.0**
SHZ3				S	**S**	**19 42 06.8**	**-0.9**
JIZS	**Izushimoda**	2.02	43	P	**P**	**19 41 44.0**	**-0.2**
JIZS				S	**S**	**19 42 05.8**	**-2.4**
JHJ2	**Mitsune**	2.19	93	P	**P**	**19 41 46.6**	**0.0**
JHJ2				*e*S	**S**	**19 42 12.6**	**+0.2**
JIM2	**Oshima 3**	2.36	51	P	**P**	**19 41 49.6**	**+0.6**
JIM2				S	**S**	**19 42 16.2**	**-0.6**
JAI	**Aioi**	2.37	284	P	**P**	**19 41 49.5**	**+0.3**
JAI				S	**S**	**19 42 15.5**	**-1.7**
JGM	**Miyama**	2.49	351	P	**P**	**19 41 51.4**	**+0.5**
JGM				S	**S**	**19 42 20.5**	**+0.4**
JYN	**Shimob**	2.51	26	P	**P**	**19 41 51.2**	**+0.1**
JYN				S	**S**	**19 42 20.5**	**-0.1**
JWT	**Wachi**	2.53	324	P	**P**	**19 41 52.0**	**+0.5**
JWT				S	**S**	**19 42 20.9**	**-0.3**
JOD2	**Odawara 2**	2.55	37	P	**P**	**19 41 52.1**	**+0.4**
JOD2				S	**S**	**19 42 19.4**	**-2.2**
MAT	**Matsushiro**	3.39	14	P	**P**	**19 42 04.6**	**+0.9**
MAT				S	**S**	**19 42 43.6**	**+0.5**
MAT	**Matsushiro**	3.39	14	*e*P	**P**	**19 42 05.0**	**+1.3**
MAT				*e*S	**S**	**19 42 44.0**	**+0.9**

MDD ***14*** *19:45:13.3±1.0,37.37N×8.45W,h13^{km}±10^{km},mbLg1.7/6, Error ellipse: s-maj=10.4km s-min=3.8km az=16.0, PRXIMO*

INMG ***14*** *19:45:13.1±1.2,37.36N×8.46W,h15^{km}±5^{km},ML1.5,Error ellipse: s-maj=5.6km s-min=3.1km az=36.0*

ISC 14 19:45:13.4±1.1,**37.45N**±0.06×**8.40W**±0.05,**h1**^{km}±10^{km}, **n13,σ1$\overset{s}{.}$14**/18,**1D,Portugal**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTEO	**Sao Teotonio**	0.27	290	*i* Pg	**Pg**	**19 45 18.7**	**-0.1**
PTEO				*e*Sg	**Sg**	**19 45 22.8**	**+0.4**
	10nm,0.2s						
PTEO	**Sao Teotonio**	0.27	290	⇓Pg	**Pg**	**19 45 18.7**	**-0.1**
PTEO				Lg		19 45 22.8	
	5.2nm,0.2s						
PBEJ	**Beja**	0.71	36	*e*P	**Pg**	**19 45 28.4**	**+0.7**
PBEJ				*e*S	**Sg**	**19 45 38.7**	**+1.5**
	9.8nm,0.1s						
PBEJ	**Beja**	0.71	36	P	**Pg**	**19 45 28.4**	**+0.7**
PBEJ				S	**Sg**	**19 45 38.7**	**+1.5**
	4.9nm,0.1s						
EGRO	**El Granado**	0.74	83	Pg	**Pg**	**19 45 27.8**	**-0.4**
	SNR=7.9						
EGRO				Lg		19 45 37.7	
	14nm,0.1s,SNR=7.9						
PALC	**Alcoutim**	0.74	89	*e*Pg	**Pg**	**19 45 27.6**	**-0.5**
PALC				*e*Sg	**Sg**	**19 45 37.6**	**-0.4**
	23nm,0.2s						
PALC	**Alcoutim**	0.74	89	Pg	**Pg**	**19 45 27.6**	**-0.5**
PALC				Lg		19 45 37.6	
	12nm,0.2s						
MOE	**Montemor**	1.07	2	*e*P	**Pb**	**19 45 33.5**	**-0.9**
MOE				*e*S	**Sb**	**19 45 49.4**	**+0.6**
EBAD	**Badajoz**	1.70	40	Pg	**Pg**	**19 45 42.4**	**-5.0**
	0.4nm,0.1s,SNR=7.9						
EBAD				Lg		19 46 05.4	
	5.0nm,0.2s,SNR=7.9						
ESPR	**Espera**	2.12	105	Pn	**Pn**	**19 45 52.7**	**+2.3**
	2.2nm,0.3s,SNR=7.9						
ESPR				Lg		19 46 22.7	
	3.0nm,0.2s,SNR=7.9						
PTOM	**Tomar**	2.16	360	*e*Sg	**Sg**	**19 46 23.0**	**-2.4**
PCBR	**Castelo Branco**	2.49	17	*e*Sg	**Sg**	**19 46 31.9**	**-4.5**
EADA	**Adamuz**	3.11	76	Sn	**Sn**	**19 46 37.9**	**-5.2**
	0.6nm,0.1s,SNR=7.9						

BJI ***14*** *20:15:14.9,7.63N×127.35E,h29^{km},mB5.5,mb5.2,Ms4.9, Msz4.8*

SYO ***14*** *20:15:14.5,7.98N×127.48E,h2^{km},MB5.5,MS4.8*

NEIC ***14*** *20:15:16.9±2.5,7.96N×127.47E,h15^{km}±15^{km},mb5.4/54, MS4.9/12,MW5.5,Error ellipse: s-maj=6.2km s-min=3.8km az=70.0,Moment Tensor Solution. s11 Moment tensor: Scale 10^{17}Nm; M_{rr}-2.00; $M_{\theta\theta}$0.13; $M_{\phi\phi}$1.87; $M_{r\theta}$0.23; $M_{\theta\phi}$0.67; $M_{\phi r}$-0.45; Best double couple: $M_0$2.1×10^{17} NP1: ϕ_s209°,δ41°,λ-74°. NP2:ϕ_s9°,δ51°,λ-103°. Principal axes: T 2.13, Plg5°, Azm108°; N -.03, Plg10°, Azm17°; P -2.09, Plg79°, Azm224°;*

HRVD ***14*** *20:15:16.9±0.2,8.01N×127.60E,h12^{km},MW5.3/69, Centroid moment Tensor Solution. LP body waves: s59,c99;Mantle waves: s69,c143; Half duration: 1$\overset{s}{.}$1 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.28±.02; $M_{\theta\theta}$0.01±.02; $M_{\phi\phi}$1.27±.02; $M_{r\theta}$-0.03±.05; $M_{\theta\phi}$0.04±.02; $M_{\phi r}$-0.14±.05; Best double couple: $M_0$1.28×10^{17} NP1: ϕ_s181°,δ42°,λ-92°. NP2:ϕ_s3°,δ48°,λ-88°. Principal axes: T 1.28, Plg3°, Azm92°; N .01, Plg1°, Azm182°; P -1.29, Plg87°, Azm292°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

MOS ***14*** *20:15:21.1±1.1,7.94N×127.54E,h64^{km},mb5.7/24 Error ellipse: s-maj=14.0km s-min=7.2km az=113.0*

IDC ***14*** *20:15:21.1±1.7,7.85N×127.40E,h44^{km}±15^{km},mb4.9/25, mb1 4.9/26,mb1mx4.9/27,ML4.8/1,MS4.5/21,Ms1 4.5/21, ms1mx4.4/28,Error ellipse: s-maj=19.2km s-min=7.7km az=73.0*

ISC 14 20:15:17.5±0.8,**7.97N**±0.02×**127.50E**±0.03,**h31**^{km}±5^{km}, **h23**^{km}±3.1^{km}**:pP-P,n344,σ1$\overset{s}{.}$14**/341,**mb5.3**/96,**MS4.6**/56, **16C-33D,Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	1.15	281	⇑*i*P	**Pn**	**20 15 37.3**	**-0.3**
BIPH				*i* S	**Sn**	**20 15 51.4**	**-0.9**
MATI	**Mati**	1.59	231	*e*P	**Pn**	**20 15 43.9**	**-0.1**
DAV	**Davao City (W)**	2.10	245	⇑*e*P	**Pn**	**20 15 54.0**	**+2.7**
BUTP	**Butuan**	2.11	298	*e*P	**Pn**	**20 15 52.4**	**+1.0**
BUKP	**Musuan**	2.41	268	*e*P	**Pn**	**20 15 57.9**	**+2.1**
KCP	**Kidapawan**	2.57	248	⇑*i*P	**Pn**	**20 16 00.3**	**+2.3**
KCP				*i* S	**Sn**	**20 16 32.5**	**+3.9**
SCPH	**Surigao**	2.68	312	*i* P	**Pn**	**20 15 58.6**	**-1.0**
SCPH				*i* S	**Sn**	**20 16 21.7**	**-10**
GSPH	**General Santos**	3.15	234	*e*P	**Pn**	**20 16 07.0**	**+0.8**
GSPH				*e*S	**Sn**	**20 16 45.0**	**+1.9**
MSLP	**Maasin**	3.38	310	*e*P	**Pn**	**20 16 09.9**	**+0.4**
TBP	**Tagbilaran**	3.98	296	⇑*e*P	**Pn**	**20 16 18.3**	**+0.3**
TBP				*e*S	**Sn**	**20 17 04.2**	**0.0**
PAGZ	**Pagadian**	4.08	269	*e*P	**Pn**	**20 16 20.6**	**+1.2**
BESP	**Borongan**	4.14	331	*e*P	**Pn**	**20 16 20.0**	**-0.3**
DCPH	**Dipolog City**	4.15	279	*e*P	**Pn**	**20 16 24.2**	**+3.8**
DCPH				*e*S	**Sn**	**20 17 13.1**	**+4.6**
OCLP	**Ormoc**	4.18	317	*e*P	**Pn**	**20 16 21.2**	**+0.3**
LLP	**Lapu-Lapu**	4.20	304	⇑*e*P	**Pn**	**20 16 20.0**	**-1.1**
LLP				*e*S	**Sn**	**20 17 05.0**	**-4.7**
SNPH	**Sibulan**	4.43	288	⇑*i*P	**Pn**	**20 16 25.0**	**+0.6**
SNPH				*i* S	**Sn**	**20 17 16.0**	**+0.4**
IPIL	**Ipil**	4.88	268	*e*P	**Pn**	**20 16 33.5**	**+2.6**
CNP	**Catarman**	5.31	329	*e*P	**Pn**	**20 16 36.7**	**-0.1**
CNP				*e*S	**Sn**	**20 17 33.7**	**-4.0**
GUIM	**Jordan**	5.52	299	*e*P	**Pn**	**20 16 39.0**	**-0.7**
RCP	**Roxas**	5.89	308	⇓*e*P	**Pn**	**20 16 44.6**	**-0.4**
AAP	**Anini-y**	6.00	294	*e*P	**Pn**	**20 16 45.0**	**-1.6**
PVCP	**Virac**	6.49	330	*e*P	**Pn**	**20 16 53.6**	**+0.1**
OTRP	**Odiongan**	6.94	309	*e*P	**Pn**	**20 16 59.8**	**0.0**
CUYO	**Cuyo Island**	7.00	295	*e*P	**Pn**	**20 17 00.2**	**-0.5**
SJMP	**San Jose**	7.70	306	*e*P	**Pn**	**20 17 11.5**	**+1.0**
BOAC	**Boac**	7.79	315	*e*P	**Pn**	**20 17 11.6**	**-0.1**
LQP	**Lukban**	8.45	317	⇓*e*P	**P**	**20 17 20.4**	**-0.5**
ENPP	**El Nido**	8.59	293	*e*P	**P**	**20 17 20.7**	**-2.1**
TGY	**Tagaytay City**	8.87	314	P	**P**	**20 17 26.3**	**-0.3**
TGY				LR	LR	20 21 42.2	
	comp=Z,4µm,20.5s,baz=345,slow=43						
LUBP	**Lubang**	9.14	309	*e*P	**P**	**20 17 31.8**	**+1.4**
BATP	**Bataraza**	9.63	276	*e*P	**P**	**20 17 37.8**	**+0.6**
BALP	**Baler**	9.66	324	*e*P	**P**	**20 17 36.7**	**-0.9**
CAUP	**Cauayan**	10.50	329	*e*P	**P**	**20 17 46.6**	**-2.6**
KKM	**Kota Kinabalu**	11.36	261	⇓*e*P	**P**	**20 18 05.0**	**+4.0**
	128nm,1.4s						
TANI	**Tanete Lipujan**	13.92	216	⇓*e*P	**P**	**20 18 36.6**	**+1.4**
	7µm,1.2s						
TANI	**Tanete Lipujan**	13.92	216	⇓*e*P	**P**	**20 18 36.6**	**+1.4**
	7µm,1.2s						
NINI	**Niniconang**	14.53	212	⇑*e*P	**P**	**20 18 43.4**	**+0.2**
	193nm,0.9s						
GUMO	**Guam**	17.95	70	*e*P	**P**	**20 19 25.9**	**-0.8**
GUMO				pmax	pmax		
	comp=Z,290nm,1.2s						
GUMO	**Guam**	17.95	70	*e*P	**P**	**20 19 25.9**	**-0.8**
	comp=Z,288nm,1.3s						
JOW	**Kunigami**	18.78	2	P	**P**	**20 19 38.5**	**+1.7**
	comp=Z,4.5nm,0.3s,baz=167,slow=12,SNR=22						
JOW				LR	LR	20 25 55.1	
	comp=Z,2µm,18.2s,baz=168,slow=34						
QZH	**Quanzhou**	18.90	334	⇑*i*P	**P**	**20 19 39.5**	**+1.2**
QZH				S	**S**	**20 23 09.0**	**+4.6**
QZH				AMB	AMB		
	comp=Z,160nm,1.0s						
QZH				LR	LR		
	comp=N,3µm,15.7s						
QZH				LR	LR		
	comp=E,2µm,13.0s						
QZH				LR	LR		
	comp=Z,3µm,17.4s						
KEDI	**Kedomdong**	19.90	215	⇓*e*P	**P**	**20 19 49.2**	**-0.5**
	comp=Z,469nm,0.7s						
GZH	**Guangzhou**	20.27	319	P	**P**	**20 19 52.9**	**-0.5**
GZH				S	**S**	**20 23 35.9**	**+2.0**
GZH				LR	LR		
	comp=N,2µm,15.2s,MS4.7						
GZH				LR	LR		
	comp=E,2µm,15.9s,MS4.7						
GZH				LR	LR		
	comp=Z,4µm,15.9s,MS4.8						
QIZ	**Qiongzhong**	20.36	304	P	**P**	**20 19 52.0**	**-2.4**
QIZ				S	**S**	**20 23 34.1**	**-1.8**
QIZ				SS	SS	20 24 03.6	-2.2
QIZ				AMB	AMB		
	comp=Z,58nm,0.9s						
QIZ				LR	LR		
	comp=E,3µm,17.7s						
QIZ				LR	LR		
	comp=Z,4µm,17.9s,MS4.8						
QIZ	**Qiongzhong**	20.36	304	*e*P	**P**	**20 19 51.5**	**-2.9**
	comp=Z,98nm,1.1s						
RATI	**Rata**	20.42	216	⇓*e*P	**P**	**20 19 53.8**	**-1.3**
	comp=Z,351nm,0.6s						
KELI	**Kelakatan**	20.65	219	⇓*e*P	**P**	**20 19 59.0**	**+1.5**
INGI	**Ingas**	20.73	217	⇑*e*P	**P**	**20 19 57.6**	**-0.6**
KAKA	**Kakadu**	21.10	167	⇓*i*P	**P**	**20 20 02.1**	**+0.1**
	comp=Z,237nm,0.8s,mb5.6						
KAKA				*e*S	**S**	**20 24 02.0**	**+12**
UBT	**Ubonrachathani**	23.16	290	P	**P**	**20 20 22.0**	**-0.6**
CBIJ	**Chichi jima**	23.58	34	P	**P**	**20 20 26.6**	**+0.1**
	comp=Z,114nm,0.6s,mb5.5,baz=242,slow=6.0,SNR=8.2						
CBIJ				LR	LR	20 29 07.8	
	comp=Z,1µm,21.8s,MS4.2,baz=135,slow=35						
SSE	**Sheshan**	23.75	346	P	**P**	**20 20 30.3**	**+2.1**
SSE				S	**S**	**20 24 40.5**	**+2.3**
SSE				XS		20 24 59.3	
SSE				PCS		20 27 54.8	
SSE				AMB	AMB		
	comp=Z,123nm,1.2s,mb5.2						
SSE	**Sheshan**	23.75	346	P	**P**	**20 20 30.2**	**+2.0**
	comp=Z,123nm,1.2s,mb5.2						
SSE				S	**S**	**20 24 40.5**	**+2.3**
SSE				sS		20 24 59.2	
SSE				PcS		20 27 54.8	
SSE				LR	LR		
	comp=Z,660nm,19.0s,MS4.1						
WAU	**Wau**	24.46	128	*e*P	**P**	**20 20 36.2**	**+0.9**
KGM	**Kluang**	24.79	257	⇑*e*P	**P**	**20 20 39.2**	**+0.7**
	comp=Z,184nm,1.1s,mb5.5						
JNU	**Nakatsue**	25.23	7	P	**P**	**20 20 42.6**	**+0.2**
	comp=Z,40nm,0.9s,mb5.0,baz=253,slow=3.6,SNR=17						
JNU				LR	LR	20 30 08.8	
	comp=Z,872nm,19.1s,MS4.3,baz=3.0,slow=35						
NJ2	**Nanjing**	25.28	343	*e*P	**P**	**20 20 44.1**	**+1.2**
NJ2				AP	pP	20 20 53.3	+1.5
NJ2				XP	sP	20 20 57.8	+1.9
NJ2				PP	PP	20 21 24.4	+2.8
NJ2				PPP	PPP	20 21 34.0	+1.1
NJ2				S	**S**	**20 25 04.0**	**0.0**
NJ2				XS		20 25 19.0	
NJ2				LR	LR		
	comp=N,1µm,16.0s,MS4.8						
NJ2				LR	LR		
	comp=E,2µm,14.0s,MS4.8						
NJ2				LR	LR		
	comp=Z,4µm,14.0s,MS5.1						
KKTK	**Khon Kaen**	25.49	291	⇓P	**P**	**20 20 43.8**	**-1.2**
	comp=Z,1µm,0.7s						
WHN	**Wuhan**	25.61	333	P	**P**	**20 20 46.0**	**0.0**
WHN				S	**S**	**20 25 18.0**	**+8.4**
WHN				AMB	AMB		
	comp=Z,409nm,6.0s						
WHN				LR	LR		
	comp=N,1µm,14.0s						
WHN				LR	LR		
	comp=Z,3µm,17.2s,MS4.8						
FITZ	**Fitzroy Crossi**	25.97	184	*e*P	**P**	**20 20 47.6**	**-1.8**
	comp=Z,33nm,0.6s,mb5.0						
FITZ				*e*S	**S**	**20 25 24.5**	**+8.9**
FITZ	**Fitzroy Crossi**	25.97	184	P	**P**	**20 20 48.2**	**-1.2**
	comp=Z,43nm,0.5s,mb5.2,baz=11,slow=11,SNR=57						
IPM	**Ipoh**	26.52	264	⇓*e*P	**P**	**20 20 54.2**	**-0.4**
	comp=Z,23nm,0.8s,mb4.8						
GYA	**Guiyang**	27.02	315	⇑*i*P	**P**	**20 20 58.0**	**-1.0**
GYA				AP	pP	20 21 03.1	-4.8
GYA				XP	sP	20 21 07.6	-4.4
GYA				AMB	AMB		
	comp=Z,60nm,0.9s,mb5.1						
GYA				AMB	AMB		
	comp=Z,420nm,6.6s						
GYA				LR	LR		
	comp=N,1µm,15.9s,MS4.7						
GYA				LR	LR		
	comp=E,1µm,15.3s,MS4.7						
GYA				LR	LR		
	comp=Z,2µm,14.4s,MS4.9						
JHJ	**Hachijo jima 2**	27.49	23	LR	LR	20 31 34.4	
	comp=Z,2µm,18.2s,MS4.6,baz=134,slow=35						
NNT	**Nongplab**	27.69	282	P	**P**	**20 21 04.5**	**-0.7**
ENH	**Enshi**	27.88	325	*e*P	**P**	**20 21 04.1**	**-2.7**
	comp=Z,34nm,0.9s,mb5.0						
NANT	**Nan**	28.16	295	P	**P**	**20 21 07.5**	**-1.9**
WRAB	**Tennant Creek**	28.53	166	*e*P	**P**	**20 21 10.4**	**-2.4**
	comp=Z,55nm,0.6s,mb5.5						
WRAB				*e*	pP	20 21 19.3	-2.4
WRA	**Warramunga Arr**	28.54	166	P	**P**	**20 21 11.0**	**-1.8**
	comp=Z,10nm,0.5s,mb4.8,baz=349,slow=9.7,SNR=111						
WRA				PcP	PcP	20 24 24.1	0.0
	comp=Z,20nm,1.1s,baz=339,slow=3.0,SNR=5.7						
WRA				S	**S**	**20 25 53.4**	**-3.9**
	comp=Z,1.4nm,0.8s,baz=331,slow=17,SNR=3.0						
WRA				LR	LR	20 32 36.1	
	comp=Z,514nm,18.4s,MS4.2,baz=15,slow=36						
WB2	**Warramunga Arr**	28.54	166	⇓*i*P	**P**	**20 21 10.9**	**-2.0**
WB2				*e*S	**S**	**20 25 54.1**	**-3.3**
BDT	**Bhumibol Dam**	29.26	291	P	**P**	**20 21 18.0**	**-1.4**
CMAR	**Chiang Mai Arr**	29.64	293	P	**P**	**20 21 21.4**	**-1.4**
	comp=Z,5.2nm,0.7s,mb4.4,baz=121,slow=7.5,SNR=42						
CMAR				PcP	PcP	20 24 27.8	+0.9
	comp=Z,11nm,1.2s,baz=147,slow=1.8,SNR=7.1						
CMAR				LR	LR	20 33 46.9	
	comp=Z,1µm,18.2s,MS4.6,baz=228,slow=37						
TIA	**Tai’an**	29.67	343	*e*P	**P**	**20 21 22.6**	**-0.2**
TIA				S	**S**	**20 26 14.0**	**-1.2**
TIA				AMB	AMB		
	comp=Z,31nm,1.0s,mb5.0						
TIA				LR	LR		
	comp=N,309nm,15.0s,MS4.6						
TIA				LR	LR		
	comp=E,1µm,13.0s,MS4.6						
CHG	**Chiang Mai**	29.75	294	⇓P	**P**	**20 21 20.9**	**-2.8**
	comp=E,24nm,0.7s,mb5.0						
MBWA	**Marble Bar**	29.93	195	*e*P	**P**	**20 21 22.8**	**-2.5**
	comp=E,48nm,0.9s,mb5.2						
MAJO	**Matsushiro**	30.07	17	*e*P	**P**	**20 21 22.9**	**-3.5**
MAJO				pmax	pmax		
	comp=Z,15nm,0.6s,mb4.9						
MAJO	**Matsushiro**	30.07	17	*e*P	**P**	**20 21 23.9**	**-2.5**
	comp=Z,15nm,0.6s,mb4.9						
MAT	**Matsushiro**	30.07	17	P	**P**	**20 21 24.1**	**-2.3**
MAT				S	**S**	**20 26 19.0**	**-2.6**
MAT	**Matsushiro**	30.07	17	*e*P	**P**	**20 21 24.0**	**-2.4**
	comp=Z,58nm,1.4s,mb5.1						
MAT				*e*S	**S**	**20 26 09.0**	**-13**
XAN	**Xi’an**	31.09	329	P	**P**	**20 21 33.0**	**-2.4**
XAN				AP	pP	20 21 39.1	-5.3
XAN				AMB	AMB		
	comp=Z,37nm,1.0s,mb5.2						
CD2	**Chengdu**	31.83	319	⇓*i*P	**P**	**20 21 39.8**	**-2.1**
CD2				PP	PP	20 22 47.6	-0.1
CD2				S	**S**	**20 26 47.3**	**-1.8**
CD2				SS	SS	20 28 45.8	+4.9
CD2				SCS	ScS	20 32 04.8	-4.4
CD2				AMB	AMB		
	comp=Z,50nm,0.8s,mb5.4						
CD2				LR	LR		
	comp=N,2µm,16.8s						
CD2				LR	LR		
	comp=Z,3µm,15.6s,MS5.1						
ASAR	**Alice Springs**	32.06	169	P	**P**	**20 21 42.4**	**-1.6**
	comp=Z,8.2nm,0.8s,mb4.6,baz=345,slow=4.8,SNR=73						
ASAR				PcP	PcP	20 24 33.1	-0.1
	comp=Z,9.1nm,0.5s,baz=348,slow=2.5,SNR=14						
ASAR				S	**S**	**20 26 52.6**	**-0.2**
	comp=Z,2.3nm,1.1s,baz=344,slow=17,SNR=1.8						
ASAR				ScP		20 28 14.1	
	comp=Z,2.4nm,0.9s,baz=358,slow=3.6,SNR=3.9						
ASAR				LR	LR	20 36 39.6	
	comp=Z,444nm,18.4s,MS4.2,baz=346,slow=40						
ASAR				P3KPbc		20 53 14.3	
	comp=Z,0.3nm,0.5s,baz=165,slow=4.2,SNR=9.1						
ASAR	**Alice Springs**	32.06	169	P	**P**	**20 21 42.4**	**-1.6**
ASAR				PcP	PcP	20 24 33.1	-0.1
ASAR				S	**S**	**20 26 52.6**	**-0.2**
ASAR				ScP		20 28 14.1	
ASAR				*e*		20 53 14.3	
ASPA	**Alice Springs**	32.06	169	⇓*i*P	**P**	**20 21 42.4**	**-1.6**
ASPA				*e*S	**S**	**20 26 51.5**	**-1.3**
ASPA				*e*PCS		20 28 15.7	
CTA	**Charters Tower**	33.44	147	*e*P	**P**	**20 21 55.8**	**-0.2**
	comp=Z,24nm,1.1s,mb5.0						

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CTA   Charters Tower    33.44 147  P      P       20 21 55.2 -0.8
      comp=Z,26nm,0.9s,mb5.2,baz=312,slow=12,SNR=17
CTA                                LR     LR      20 34 00.5
      comp=Z,744nm,20.4s,MS4.4,baz=330,slow=34
CTAO  Charters Tower    33.44 147 eP      P       20 21 55.6 -0.4
CTAO                               pmax   pmax
      comp=Z,69nm,1.0s,mb5.5
CTAO  Charters Tower    33.44 147 eP      P       20 21 55.6 -0.5
      comp=Z,70nm,1.1s,mb5.5
BJT   Baijiatuau        33.49 344 eP      P       20 21 56.2 -0.1
      comp=Z,111nm,1.1s,mb5.7
BJI   Beijing           33.50 344  P      P       20 21 57.3 +0.9
BJI                                S      S       20 27 09.8 -5.4
BJI                                AMB    AMB
      comp=Z,98nm,1.4s,mb5.5
BJI                                LR     LR
      comp=N,525nm,16.5s,MS4.4
BJI                                LR     LR
      comp=E,406nm,19.8s,MS4.4
BJI   Beijing           33.50 344  P      P       20 21 57.2 +0.8
      comp=E,98nm,1.4s,mb5.5
BJI                                S      S       20 27 09.8 -5.4
BJI                                LR     LR
      comp=Z,430nm,22.3s,MS4.1
SNY   Shenyang          33.90 355 ⇓P      P       20 22 00.4 +0.6
SNY                                AP     pP      20 22 08.8 -0.1
SNY                                XP     sP      20 22 11.8 -1.0
SNY                                PP     PP      20 23 16.9 +3.2
SNY                                S      S       20 27 25.5 +4.2
SNY                                XS             20 27 40.3
SNY                                AMB    AMB
      comp=Z,50nm,1.2s,mb5.3
SNY                                AMB    AMB
      comp=Z,340nm,7.4s
SNY                                LR     LR
      comp=N,970nm,18.4s
SNY                                LR     LR
      comp=Z,830nm,19.6s,MS4.5
VLA   Vladivostok       35.23   6 eP      P       20 22 11.0 -0.2
VLA                               e               20 23 29.0
VLA                               ePPP    PPP     20 23 48.0 -1.0
VLA                               eS      S       20 27 40.0 -1.8
VLA                                pmax   pmax
      comp=N,500nm,7.0s
VLA                                pmax   pmax
      comp=Z,600nm,7.0s
VLA                                pmax   pmax
      comp=E,500nm,8.0s
VLA                                pmax   pmax
      comp=Z,500nm,8.0s
VLA                                pmax   pmax
      comp=N,500nm,6.0s
VLA                                pmax   pmax
      comp=E,400nm,8.0s
VLA                                smax
      comp=N,1µm,11.0s
VLA                                smax
      comp=E,500nm,10.0s
VLA                                MLR    MLR
      comp=Z,500nm,17.0s,MS4.3
VLA                                MLR    MLR
      comp=N,500nm,16.0s,MS4.6
VLA                                MLR    MLR
      comp=E,500nm,12.0s,MS4.6
LZH   Lanzhou           35.35 326 ⇑P      P       20 22 12.0 -0.3
LZH                                PP     PP      20 23 31.0 -1.1
LZH                                S      S       20 27 44.0 +0.2
LZH                                SS     SS      20 30 01.5 -0.6
LZH                                AMB    AMB
      comp=Z,45nm,1.0s,mb5.3
LZH                                AMB    AMB
      comp=Z,131nm,4.0s
LZH                                LR     LR
      comp=N,1µm,15.6s
LZH   Lanzhou           35.35 326 ⇑P      P       20 22 12.0 -0.3
      comp=N,45nm,1.0s,mb5.3
LZH                                pP     pP      20 22 15.0 -6.4
LZH                                sP     sP      20 22 16.6 -8.7
LZH                                PP     PP      20 23 31.0 -1.1
LZH                                S      S       20 27 44.0 +0.2
LZH                                sS             20 27 49.5
LZH                                SS     SS      20 30 01.5 -0.6
LZH                                LR     LR
      comp=Z,2µm,16.9s,MS4.9
HHC   Hu-ho-hao-te      35.69 339 eP      P       20 22 16.3 +1.2
HHC                                PP     PP      20 23 34.4 -1.7
HHC                                S      S       20 27 52.8 +3.8
HHC                                PCS            20 28 32.1
HHC                                SS     SS      20 30 08.8 -1.0
HHC                                AMB    AMB
      comp=Z,74nm,1.4s,mb5.4
HHC                                AMB    AMB
      comp=Z,886nm,4.7s
HHC                                LR     LR
      comp=N,883nm,16.6s,MS4.8
HHC                                LR     LR
      comp=E,1µm,18.4s,MS4.8
HHC                                LR     LR
      comp=Z,780nm,18.4s,MS4.5
CN2   Changchun         35.74 357 eP      P       20 22 19.1 +3.5
CN2                                PP     PP      20 23 42.3 +5.6
CN2                               eS      S       20 27 52.8 +3.0
CN2                                AMB    AMB
      comp=Z,200nm,8.0s
CN2                                LR     LR
      comp=N,700nm,16.0s,MS4.6
CN2                                LR     LR
      comp=E,400nm,16.0s,MS4.6
CN2                                LR     LR
      comp=Z,500nm,15.0s,MS4.4
BTO   Baotou            36.04 337 eP      P       20 22 15.5 -2.6
BTO                                S      S       20 27 52.3 -2.2
BTO                                LR     LR
      comp=N,825nm,7.4s
BTO                                LR     LR
      comp=E,2µm,17.2s
MDJ   Mudanjiang        36.55   3  P      P       20 22 22.3 -0.1
MDJ                                PP     PP      20 23 51.8 +4.8
MDJ                                PCP    PcP     20 24 46.4 +0.6
MDJ                                S      S       20 28 04.8 +2.6
MDJ                                SCP            20 28 31.8
MDJ                                PCS            20 28 34.8
MDJ                                SCS    ScS     20 32 38.3 +4.3
MDJ                                AMB    AMB
      comp=Z,66nm,1.5s,mb5.2
MDJ                                AMB    AMB
      comp=Z,291nm,5.0s
MDJ   Mudanjiang        36.55   3 eP      P       20 22 23.0 +0.6
      comp=Z,182nm,1.3s,mb5.8
MDJ                               e               20 22 55.2
SHL   Shillong          38.15 302⇑iP      P       20 22 35.0 -1.0
SHL                               i S     S       20 28 24.0 -2.8
ASAJ  Asahikawa         38.34  18  P      P       20 22 39.4 +1.9
      comp=Z,36nm,1.0s,mb5.0,baz=258,slow=13,SNR=10
FORT  Forrest           38.53 179 eP      P       20 22 38.5 -0.6
      comp=Z,243nm,0.7s,mb6.0
FORT                              ePCP    PcP     20 24 52.1 +0.1
GTA   Gaotai            39.95 326 eP      P       20 22 50.6 -0.3
GTA                                PP     PP      20 24 27.3 +0.8
GTA                                PCP    PcP     20 24 56.9 +0.5
GTA                                S      S       20 28 45.8 -8.1
GTA                                XS             20 29 15.5
GTA                                SCS    ScS     20 32 53.4 -0.1
GTA                                AMB    AMB
      comp=Z,195nm,6.1s
GTA                                LR     LR
      comp=N,455nm,19.4s,MS4.4
GTA                                LR     LR
      comp=E,361nm,18.6s,MS4.4
LSA   Lhasa             40.36 307  P      P       20 22 55.5 +1.2
LSA                                AP     pP      20 23 06.6 +3.1
LSA                                LR     LR
      comp=N,370nm,20.2s,MS4.3
LSA                                LR     LR
      comp=E,260nm,20.2s,MS4.3
LSA                                LR     LR
      comp=Z,590nm,20.2s,MS4.4
KLBR  Kellerberrin      40.42 193⇓iP      P       20 22 53.9 -0.9
      comp=Z,35nm,0.5s,mb5.3
YSS   Yuzh-Sakhalins    40.98  16  P      P       20 23 00.0 +0.8
YSS                               e*SP    sP      20 23 14.8 +2.6
YSS                               eS      S       20 29 06.0 -3.1
YSS                               eSSS    SSS     20 32 42.0 -3.5
YSS                                pmax   pmax
      comp=Z,110nm,1.6s,mb5.2
YSS   Yuzh-Sakhalins    40.98  16 eP      P       20 23 00.7 +1.4
      comp=Z,31nm,0.8s,mb5.0
MUN   Mundaring         41.16 195⇓iP      P       20 23 00.4 -0.4
      comp=Z,39nm,0.5s,mb5.3
KLR   Kul'dur           41.28   4 eP      P       20 23 01.8 +0.1
KLR                               e               20 24 37.5
KLR                               eS      S       20 29 09.5 -4.0
KLR                               e               20 32 19.5
KLR                                pmax   pmax
      comp=Z,50nm,1.8s,mb4.8
KLR                                pmax   pmax
      comp=N,500nm,9.0s
KLR                                pmax   pmax
      comp=Z,900nm,9.0s
KLR                                smax
      comp=N,600nm,13.0s
KLR                                smax
      comp=E,400nm,13.0s
HIA   Hailar            41.67 352 eP      P       20 23 06.0 +1.1
      comp=E,47nm,1.3s,mb5.0
NWAO  Narrogin (SRO)    41.82 193  P      P       20 23 06.0 -0.3
      comp=E,42nm,0.6s,mb5.2,baz=18,slow=8.0,SNR=58
NWAO  Narrogin (SRO)    41.82 193 eP      P       20 23 05.8 -0.6
NWAO                               pmax   pmax
      comp=Z,41nm,0.6s
NWAO  Narrogin (SRO)    41.82 193 eP      P       20 23 05.8 -0.6
      comp=Z,41nm,0.6s,mb5.2
STKA  Stephens Creek    41.85 162⇓iP      P       20 23 06.1 -0.5
      comp=Z,55nm,1.4s,mb5.0
STKA  Stephens Creek    41.85 162  P      P       20 23 06.2 -0.4
      comp=Z,35nm,0.6s,mb5.2,baz=337,slow=8.0,SNR=169
STKA                               LR     LR      20 40 04.3
      comp=Z,495nm,20.5s,MS4.4,baz=345,slow=36
SONM  Songino Array     43.59 339  P      P       20 23 21.8 +1.2
      comp=Z,46nm,0.9s,mb5.2,baz=153,slow=8.3,SNR=182
SONM                               PcP    PcP     20 25 09.5 +1.2
      comp=Z,6.9nm,0.6s,baz=152,slow=4.4,SNR=9.1
ADE   Adelaide          44.00 167⇓iP      P       20 23 24.6 +0.6
PKI   Pulchoki          44.28 302 eP      P       20 23 25.3 -1.2
      comp=Z,122nm,1.1s,mb5.6
KKN   Kakani            44.46 302 eP      P       20 23 26.9 -1.0
      comp=Z,103nm,0.8s,mb5.6
DMN   Daman             44.55 301 eP      P       20 23 27.8 -0.9
      comp=Z,128nm,1.0s,mb5.7
GKN   Gorkha            45.07 302 eP      P       20 23 31.4 -1.4
      comp=Z,66nm,0.8s,mb5.5
KOLN  Koldanda          45.87 301 eP      P       20 23 38.2 -0.9
      comp=Z,162nm,0.8s,mb6.0
KGD   Kothagudem        46.56 287 eP      P       20 23 42.9 -1.7
KGD                               ePcP    PcP     20 25 16.5 -2.5
KGD                               eScP            20 29 11.6
KGD                               eS      S       20 30 32.3 +1.8
KGD                               eScS    ScS     20 33 39.1 +4.5
ZAK   Zakamensk         46.84 339⇓iP      P       20 23 47.1 +0.7
ZAK                               e               20 25 19.8
CNB   Canberra Magne    47.74 156 eP      P       20 23 54.2 +0.4
      comp=Z,106nm,1.1s,mb5.8
IRK   Irkutsk           48.07 341 eP      P       20 23 47.1 -9.0
CUD   Cuddapah          48.16 282⇓eP      P       20 23 56.6 -0.7
TOO   Toolangi          48.32 161 eP      P       20 23 59.0 +0.7
      comp=Z,31nm,1.5s,mb5.1
DZM   Mont Dzumac       48.46 129 eP      P       20 23 58.8 -0.8
DZM   Mont Dzumac       48.46 129 eP      P       20 23 58.8 -0.8
HYB   Hyderabad         48.54 286 i P     P       20 23 59.0 -1.2
HYB                               eS      S       20 30 56.0 -2.6
HYB                               e               20 31 14.0
HYB   Hyderabad         48.54 286 eP      P       20 23 59.0 -1.2
MOY   Mondy             48.72 338 eP      P       20 24 03.0 +1.9
CLNS  Chul'man          48.79 358 eP      P       20 24 01.8 +0.2
CLNS                               pmax   pmax
      comp=Z,21nm,1.2s,mb5.0
CLNS                               pmax   pmax
      comp=N,16nm,1.3s
CLNS                               pmax   pmax
      comp=E,5.0nm,0.9s
CLNS                               pmax   pmax
      comp=Z,13nm,1.2s,mb4.8
CLNS                               pmax   pmax
      comp=N,10.0nm,1.0s
CLNS                               pmax   pmax
      comp=E,7.0nm,0.8s
CLNS                               MLR    MLR
      comp=N,200nm,15.0s,MS4.3
CLNS                               MLR    MLR
      comp=Z,300nm,15.0s,MS4.4
CLNS                               MLR    MLR
      comp=E,100nm,13.0s,MS4.3
WMQ   Urumqi            49.77 323  P      P       20 24 09.0 -0.4
WMQ                                AP     pP      20 24 13.8 -4.9
WMQ                                PP     PP      20 26 04.5 -0.2
WMQ                                S      S       20 31 16.8 +1.4
WMQ                                SS     SS      20 34 45.8 +1.5
WMQ                                AMB    AMB
      comp=Z,42nm,1.2s,mb5.3
WMQ                                LR     LR
      comp=N,774nm,19.8s,MS4.8
WMQ                                LR     LR
      comp=E,475nm,21.4s,MS4.8
WMQ                                LR     LR
      comp=Z,527nm,21.0s,MS4.5
TRD   Trivandrum        49.99 274 eP      P       20 24 10.3 -1.1
TRD                                AMb    AMB     20 24 12.4
      comp=Z,66nm,0.9s,mb5.7
BHPL  Bhopal            50.30 294 eP      P       20 24 12.4 -1.2
BHPL                               AMb    AMB     20 24 14.4
      comp=Z,45nm,1.1s,mb5.4
BOD   Bodaibo           50.82 351 eP      P       20 24 16.9 -0.2
BOD                               e               20 24 33.5
NDI   New Delhi         51.55 300 eP      P       20 24 19.0 -4.0
PET   Petropavlovsk     51.56  24 eP      P       20 24 23.4 +0.6
PET                               eS      S       20 31 43.9 +4.1
PET                                pmax   pmax
      comp=Z,400nm,4.8s
PET                                pmax   pmax
      comp=Z,58nm,1.4s,mb5.3
PET                                pmax   pmax
      comp=Z,100nm,12.5s
PET                                smax
      comp=N,400nm,24.3s
PET                                smax
      comp=E,300nm,32.4s
PET                                MLR    MLR
      comp=Z,500nm,18.0s,MS4.6
PET                                MLR    MLR
      comp=Z,400nm,18.0s
PET   Petropavlovsk     51.56  24 eP      P       20 24 19.9 -2.8
      comp=Z,31nm,0.6s,mb5.4
KAD   Karad             52.70 286 eP      P       20 24 29.5 -2.4
POO   Poona             53.09 287 eP      P       20 24 32.0 -2.8
YAK   Yakutsk           53.98   1 eP      P       20 24 41.1 +0.5
YAK                               e               20 25 43.9
YAK                               eS      S       20 32 11.2 -1.5
YAK                               e               20 34 25.6
YAK                                pmax   pmax
      comp=N,21nm,1.0s
YAK                                pmax   pmax
      comp=E,4.0nm,1.0s
YAK                                pmax   pmax
      comp=Z,41nm,1.0s,mb5.3
YAK                                pmax   pmax
      comp=Z,4.0nm,0.9s,mb4.3
YAK                                pmax   pmax
      comp=N,10.0nm,1.3s
YAK                                pmax   pmax
      comp=E,6.0nm,1.2s
YAK                                smax
      comp=N,83nm,8.6s
YAK                                smax
      comp=Z,35nm,8.7s
YAK                                smax
      comp=E,63nm,9.4s
YAK                                MLR    MLR
      comp=Z,183nm,15.0s,MS4.3
YAK                                MLR    MLR
      comp=N,174nm,18.0s
YAK                                MLR    MLR
      comp=E,95nm,11.0s
YAK   Yakutsk           53.98   1 eP      P       20 24 39.9 -0.7
      comp=E,60nm,0.7s,mb5.6
MKAR  Makanchi Array    54.58 323  P      P       20 24 45.0 -0.3
      comp=E,55nm,0.7s,mb5.7,baz=119,slow=7.9,SNR=461
MKAR                               S      S       20 32 22.2 +1.2
      comp=E,1.3nm,1.1s,baz=72,slow=4.6,SNR=3.1
MKAR                               LR     LR      20 50 32.2
      comp=E,356nm,18.7s,MS4.5,baz=122,slow=39
MKAR                               PKPPKP         20 54 55.2
      comp=E,1.0nm,1.0s,baz=270,slow=5.8,SNR=3.6
MKAR  Makanchi Array    54.58 323 i P     P       20 24 45.0 -0.3
MKAR                               pmax   pmax
      comp=Z,73nm,0.8s
MKAR  Makanchi Array    54.58 323  P      P       20 24 45.0 -0.3
MKAR                               S      S       20 32 22.2 +1.2
MKAR                               P'P'           20 54 55.2
KSH   Kashi             55.67 313 eP      P       20 24 54.0 +0.7
KSH                               eAP     pP      20 24 58.5 -4.2
KSH                               eXP     sP      20 25 01.1 -5.2
KSH                               ePCP    PcP     20 25 53.0 +0.6
KSH                               ePP     PP      20 27 00.0 +0.9
KSH                               eSCP            20 29 50.0
KSH                               ePCS            20 29 51.6
KSH                               eS      S       20 32 39.0 +3.3
KSH                               eSCS    ScS     20 34 39.3 +2.8
KSH                               eSS     SS      20 36 19.3 -1.7
KSH                                AMB    AMB
      comp=Z,400nm,3.8s
KSH                                LR     LR
      comp=N,240nm,6.3s
KSH                                LR     LR
      comp=E,560nm,12.6s
NIL   Nilore            56.03 305  P      P       20 24 55.5 -0.5
      comp=E,229nm,0.6s,mb6.4,SNR=18
KZA   Kyzart            57.09 315  P      P       20 25 04.2 +0.8
      SNR=31
TKM2  Tokmak 2          57.16 317  P      P       20 25 03.8 -0.2
      SNR=22
BHJ   Bhuj              57.39 292 eP      P       20 25 05.3 -0.5
BHJ                                AMb    AMB     20 25 05.9
      comp=Z,130nm,1.2s,mb5.8
KBK   Karagaybulak      57.50 316  P      P       20 25 05.9 -0.5
      SNR=24
UCH   Uchtor            57.65 315  P      P       20 25 08.1 +0.7
      SNR=95
SEY   Seymchan          57.76  13 i P     P       20 25 11.3 +3.4
SEY                                               20 26 01.4
SEY                               e               20 27 20.5
SEY                               eS      S       20 33 09.4 +6.4
SEY                                pmax   pmax
      comp=Z,140nm,1.7s,mb5.7
SEY                                smax
      comp=N,830nm,8.7s
SEY                                smax
      comp=E,610nm,9.5s
SEY                                MLR    MLR
      comp=Z,1µm,20.0s,MS5.0
SEY                                MLR    MLR
      comp=N,700nm,21.0s,MS4.9
SEY                                MLR    MLR
      comp=E,600nm,18.0s,MS4.9
CHMS  Chumysh           57.76 316  P      P       20 25 07.5 -0.7
      SNR=24
FRU   Bishkek           57.79 316 eP      P       20 25 08.0 -0.4
FRU                               e               20 25 20.0
FRU                                pmax   pmax
      comp=Z,60nm,2.0s,mb5.3
AAK   Ala-Archa         57.81 316  P      P       20 25 08.5  0.0
      SNR=9.7
AAK   Ala-Archa         57.81 316 eP      P       20 25 07.4 -1.1
AAK                                pmax   pmax
      comp=Z,18nm,1.0s,mb5.1
AAK   Ala-Archa         57.81 316 eP      P       20 25 07.3 -1.1
      comp=Z,18nm,1.0s,mb5.1
USP   Ospenovka         58.03 317  P      P       20 25 09.6 -0.4
      SNR=34
AML   Almayashu         58.19 315  P      P       20 25 11.5 +0.4
      SNR=47
EKS2  Erkin-Say         58.31 316  P      P       20 25 12.0  0.0
      SNR=5.1
NVS   Novosibirsk       58.49 332 i P     P       20 25 10.5 -2.6
NVS                               i S     S       20 33 11.4 -1.3
NVS                                pmax   pmax
      comp=Z,75nm,1.3s,mb5.6
NVS                                pmax   pmax
      comp=N,79nm,1.5s
NVS                                pmax   pmax
      comp=E,63nm,1.3s
NVS                                smax
      comp=N,249nm,2.9s
NVS                                smax
      comp=E,86nm,2.2s
KURK  Kurchatov         58.64 326  P      P       20 25 13.3 -0.9
      comp=E,644nm,0.7s
KURK  Kurchatov         58.64 326d iP     P       20 25 13.7 -0.5
KURK                               pmax   pmax
      comp=Z,86nm,1.2s,mb5.7
KURK  Kurchatov         58.64 326 eP      P       20 25 13.6 -0.6
      comp=Z,212nm,1.1s,mb6.1
KURK                              e               20 25 26.7
TIXI  Tiksi             63.62   0⇓eP      P       20 25 48.2 +0.6
TIXI                              i               20 26 04.8
TIXI                              e               20 28 06.6
TIXI                              eSS     SS      20 38 30.2 +3.1
TIXI                               pmax   pmax
      comp=Z,42nm,1.0s,mb5.4
TIXI                               MLR    MLR
      comp=Z,200nm,16.0s,MS4.4
VOSK  Vostochnaya       63.79 326  P      P       20 25 47.9 -1.0
VOSK                               pmax   pmax
      comp=Z,4.0nm,0.5s,mb4.7
BVA0  Borovoye Array    64.24 326 i P     P       20 25 51.3 -0.6
BVA0                               pmax   pmax
      comp=Z,1.0nm,0.6s
BVAR  Borovoye Array    64.24 326  P      P       20 25 51.4 -0.5
      comp=Z,7.8nm,0.4s,mb5.1,baz=111,slow=5.8,SNR=66
BRVK  Borovoye          64.31 326 eP      P       20 25 50.9 -1.4
BRVK                              e               20 26 02.8
BRVK                               pmax   pmax
      comp=Z,24nm,0.7s,mb5.3
BRVK  Borovoye          64.31 326 eP      P       20 25 50.9 -1.4
      comp=Z,24nm,0.6s,mb5.4
BRVK                              e               20 26 02.8
RPZ   Rata Peaks        64.81 146  P      P       20 25 55.8  0.0
      comp=Z,8.3nm,0.6s,mb4.9,baz=284,slow=4.4,SNR=6.3
RPZ                                LR     LR      20 52 32.7
      comp=Z,536nm,18.4s,MS4.8,baz=186,slow=34
ZRNK  Zerenda           64.99 325  P      P       20 25 56.2 -0.5
ZRNK                               pmax   pmax
      comp=Z,8.0nm,0.5s,mb5.0
ZRNK  Zerenda           64.99 325 eP      P       20 25 55.8 -1.0
      comp=Z,31nm,0.4s,mb5.7
ZRNK                              e               20 26 10.4
URZ   Urewera           65.14 139  P      P       20 25 59.8 +1.7
      comp=Z,8.8nm,0.8s,mb4.8,baz=78,slow=2.6,SNR=3.3
URZ                                LR     LR      20 53 51.7
      comp=Z,428nm,20.6s,MS4.6,baz=0.9,slow=36
ARU   Arti              71.80 327  P      P       20 26 38.4 -0.6
      comp=Z,196nm,0.5s,mb6.3,SNR=8.8
ARU   Arti              71.80 327⇓iP      P       20 26 38.3 -0.7
ARU                               i               20 26 55.4
ARU                               e               20 29 17.4
ARU                               ePPP    PPP     20 31 02.4 +0.4
ARU                               eS      S       20 35 57.5 +1.5
ARU                               eSS     SS      20 40 36.0 +2.0
ARU                                pmax   pmax
      comp=Z,61nm,1.5s,mb5.3
ARU                                MLR    MLR
      comp=N,200nm,17.0s,MS4.6
ARU                                MLR    MLR
      comp=E,200nm,17.0s,MS4.6
ARU                                MLR    MLR
      comp=Z,300nm,17.0s,MS4.6
ARU   Arti              71.80 327 eP      P       20 26 38.0 -1.1
      comp=Z,21nm,0.5s,mb5.3
CASY  Casey             75.09 187 eP      P       20 26 57.0 -1.0
      comp=Z,54nm,1.2s,mb5.3
HASS  Wahat al Ahsa'    75.65 294  P      P       20 27 01.5 -0.5
RAR   Rarotonga         77.01 114  LR     LR      20 54 42.9
      comp=Z,359nm,18.7s,MS4.7,baz=115,slow=31
QRN   Al-Qurain         77.10 298 eP      P       20 27 09.5 -0.7
UMR   Umm Al-Rimmam     77.25 298 eP      P       20 27 10.0 -0.9
KBD   Kabd              77.28 298 eP      P       20 27 10.3 -0.9
RDF   Al-Radifah        77.42 298 eP      P       20 27 10.7 -1.1
MIB   Mutribah          77.57 299 eP      P       20 27 11.4 -1.2
MIB                                AMb    AMB     20 27 13.5
      comp=Z,70nm,0.9s,mb5.6
RST   Umm Al-Ruwaisa    77.88 298 eP      P       20 27 13.2 -1.2
RST                                AMb    AMB     20 27 15.2
      comp=Z,130nm,1.2s,mb5.7
KDAK  Kodiak Island     77.93  33 eP      P       20 27 15.2 +1.2
      comp=Z,20nm,0.5s,mb5.3
IMA   Indian Mountai    78.23  24 eP      P       20 27 17.2 +1.7
      comp=Z,164nm,1.4s,mb5.8
SPU   Mount Spurr       78.46  29 eP      P       20 27 17.4 +0.6
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MZLS	**Mizel**	**79.79**	**293**	P	**P**	**20 27 24.9**	**0.0**
PMR	**Palmer**	**79.89**	**29**	P	**P**	**20 27 22.8**	**-1.8**
PMR				pmax	pmax		
	comp=Z,16nm,0.6s,mb5.1						
PMR	**Palmer**	**79.89**	**29**	P	**P**	**20 27 22.8**	**-1.8**
	comp=Z,16nm,0.6s,mb5.1						
ZEI	**Tsey**	**79.95**	**312**	*e*P	**P**	**20 27 22.0**	**-3.4**
ZEI				*e*S	S	20 37 22.0	-3.6
ZEI				pmax	pmax		
	comp=Z,100nm,5.0s						
ZEI				MLR	MLR		
	comp=Z,200nm,20.0s,MS4.5						
GOF	**Gofitskoye**	**80.51**	**314**	⇓*i*P	**P**	**20 27 29.5**	**+1.2**
GOF				pmax	pmax		
	comp=Z,60nm,1.5s,mb5.3						
COLA	**College**	**80.56**	**26**	*de*P	**P**	**20 27 28.6**	**+0.4**
COLA	**College**	**80.56**	**26**	P	**P**	**20 27 27.7**	**-0.5**
	comp=Z,7.1nm,0.6s,mb4.8						
ILAR	**Eielson Array**	**80.97**	**26**	P	**P**	**20 27 29.9**	**-0.4**
	comp=Z,4.0nm,0.5s,mb4.6,baz=246,slow=5.0,SNR=68						
ILAR				PKKPbc		20 46 08.3	
	comp=Z,1.4nm,1.0s,baz=39,slow=1.3,SNR=8.5						
ILAR				PKPPKP		20 54 20.4	
	comp=Z,0.3nm,0.6s,baz=40,slow=2.8,SNR=4.4						
ILAR				LR	LR	21 04 46.3	
	comp=Z,156nm,20.1s,MS4.4,baz=137,slow=37						
ARSS	**Ar Rass**	**81.43**	**295**	P	**P**	**20 27 33.7**	**+0.1**
TATS	**Tathlith**	**81.77**	**289**	P	**P**	**20 27 36.2**	**+0.8**
AFFS	**‘Afif**	**81.81**	**293**	P	**P**	**20 27 35.9**	**+0.4**
DJNS	**Zahran al Janu**	**81.89**	**287**	P	**P**	**20 27 36.9**	**+0.9**
BEST	**Besiri**	**82.20**	**307**	*i* P	**P**	**20 27 38.3**	**+1.1**
HILS	**Ha’il**	**82.59**	**297**	P	**P**	**20 27 40.4**	**+0.9**
VOR	**Voronezh**	**82.75**	**321**	*e*P	**P**	**20 27 40.0**	**+0.2**
VOR				pmax	pmax		
	comp=E,50nm,1.4s						
VOR				pmax	pmax		
	comp=Z,100nm,1.4s,mb5.7						
SOC	**Sochi**	**82.97**	**313**	*e*P	**P**	**20 27 40.0**	**-1.1**
SOC				*e*		20 27 55.2	
SOC				*e*		20 30 52.0	
SOC				*e*S	S	20 37 53.9	-2.7
SOC				*e*SS	SS	20 43 19.8	-3.9
SOC				*e*SSS	SSS	20 46 52.2	+3.5
SOC				pmax	pmax		
	comp=Z,25nm,0.7s,mb5.3						
SOC				pmax	pmax		
	comp=N,16nm,0.8s						
SOC				pmax	pmax		
	comp=E,16nm,0.8s						
NAMS	**An Nimas**	**83.00**	**288**	P	**P**	**20 27 42.9**	**+1.1**
FRSS	**Farasan al Kab**	**83.35**	**286**	P	**P**	**20 27 44.9**	**+1.3**
MOS	**Moscow**	**83.41**	**325**	*e*P	**P**	**20 27 41.4**	**-1.7**
MOS				*e*		20 28 10.7	
MOS				*e*		20 30 53.6	
MOS				*e*S	S	20 37 58.4	-2.4
MOS				pmax	pmax		
	comp=Z,93nm,1.5s,mb5.6						
LVZ	**Lovozero**	**83.75**	**338**	*e*P	**P**	**20 27 46.2**	**+1.6**
OBN	**Obninsk**	**84.06**	**325**	P	**P**	**20 27 46.3**	**-0.1**
	comp=Z,342nm,1.3s,mb6.3,SNR=9.4						
OBN	**Obninsk**	**84.06**	**325**	*e*P	**P**	**20 27 46.7**	**+0.3**
OBN				*e*		20 28 01.8	
OBN				*e*		20 31 01.1	
OBN				pmax	pmax		
	comp=Z,111nm,1.6s,mb5.7						
OBN				MLR	MLR		
	comp=Z,200nm,19.0s,MS4.5						
OBN	**Obninsk**	**84.06**	**325**	*e*P	**P**	**20 27 46.3**	**-0.1**
	comp=Z,102nm,1.1s,mb5.9						
MALT	**Malatya**	**84.40**	**308**	⇓*e*P	**P**	**20 27 49.5**	**+1.0**
	comp=Z,71nm,1.3s,mb5.6						
ANN	**Anapa**	**84.50**	**314**	*e*P	**P**	**20 27 48.8**	**-0.1**
ANN				*e*S	S	20 38 09.6	-2.3
ANN				pmax	pmax		
	comp=Z,108nm,1.3s,mb5.8						
LTHS	**Al Lith**	**84.57**	**290**	P	**P**	**20 27 50.8**	**+1.0**
KBRS	**Khaybar**	**85.00**	**295**	P	**P**	**20 27 53.2**	**+1.3**
GZT	**Gaziantep**	**85.17**	**307**	*i* P	**P**	**20 27 53.3**	**+0.8**
PPT	**Papeete**	**85.70**	**108**	*e*P	**P**	**20 27 52.6**	**-2.9**
PPT				*e*S	S	20 38 29.1	+4.9
PPT				*e*SS	SS	20 44 07.7	+3.4
PPT				*e*R		20 54 34.3	
	comp=Z,1µm,32.0s,baz=290						
INK	**Inuvik**	**85.97**	**22**	LR	LR	21 08 29.7	
	comp=Z,169nm,20.0s,MS4.4,baz=270,slow=37						
KEV	**Kevo**	**86.20**	**340**	*e*p	**P**	**20 27 57.5**	**+0.7**
COBT	**Iskenderun**	**86.31**	**306**	*i* P	**P**	**20 27 58.3**	**+0.1**
YNBS	**Yanbu‘ al Bahr**	**86.32**	**294**	P	**P**	**20 27 59.5**	**+1.0**
ASF	**Jabal al Asfar**	**86.32**	**302**	P	**P**	**20 27 59.6**	**+1.3**
	comp=Z,50nm,1.2s,mb5.6,baz=1.0,slow=3.8,SNR=37						
BOYT	**Boyabat**	**86.73**	**311**	*i* P	**P**	**20 28 00.7**	**+0.6**
ARCES	**ARCESS Array B**	**86.76**	**340**	P	**P**	**20 27 59.7**	**+0.2**
	comp=Z,4.7nm,0.6s,mb4.9,baz=75,slow=6.0,SNR=34						
ARCES				PKiKP		20 33 06.8	
	comp=Z,22nm,1.4s,baz=45,slow=1.7,SNR=6.2						
TBI	**Tubuai**	**86.79**	**114**	*e*S	S	20 38 38.1	+3.5
TBI				*e*SS	SS	20 44 34.2	+14
TBI				*e*R		20 55 31.8	
	comp=Z,994nm,28.5s,baz=292						
UMJS	**Umm Lajj**	**86.82**	**295**	P	**P**	**20 28 02.1**	**+1.2**
SIM	**Simferopol’**	**86.82**	**315**	*de*P	**P**	**20 28 01.0**	**+0.6**
SIM				*e*		20 28 17.0	
TBKS	**Tabuk**	**87.12**	**298**	P	**P**	**20 28 03.5**	**+1.3**
KSHT	**Keshet**	**87.13**	**303**	P	**P**	**20 28 03.3**	**+1.1**
HRI	**Mount Hermon**	**87.16**	**303**	P	**P**	**20 28 03.3**	**+1.0**
HMDT	**Nahal Hemdat**	**87.46**	**302**	P	**P**	**20 28 04.9**	**+1.1**
MMLI	**Mount Malkishu**	**87.53**	**302**	P	**P**	**20 28 05.1**	**+1.0**
JMQS	**Jabal Moqyreh**	**87.61**	**299**	P	**P**	**20 28 05.8**	**+1.2**
HNTI	**Hanita**	**87.64**	**303**	P	**P**	**20 28 05.6**	**+0.9**
DRGI	**Dragot**	**87.67**	**301**	P	**P**	**20 28 05.2**	**+0.4**
BALT	**Daday**	**87.84**	**311**	*i* P	**P**	**20 28 05.8**	**+0.4**
SLTI	**Sal’it**	**87.87**	**302**	P	**P**	**20 28 06.7**	**+0.9**
MAW	**Mawson**	**87.97**	**200**	*e*P	**P**	**20 28 11.5**	**+6.1**
	comp=Z,5.9nm,0.9s,mb4.8						
MAW	**Mawson**	**87.97**	**200**	P	**P**	**20 28 06.1**	**+0.8**
	comp=Z,4.8nm,1.0s,mb4.7,baz=73,slow=10,SNR=7.2						
MAW				LR	LR	21 02 29.3	
	comp=Z,115nm,18.8s,MS4.3,baz=242,slow=32						
PRNI	**Paran**	**88.17**	**300**	P	**P**	**20 28 08.2**	**+1.0**
AQBJ	**Aqaba**	**88.22**	**300**	P	**P**	**20 28 08.7**	**+1.2**
KAF	**Kangasniemi**	**88.22**	**333**	*e*p	**P**	**20 28 05.9**	**-0.8**
	baz=76,slow=5.4						
AYUS	**‘Aynunah**	**88.24**	**298**	P	**P**	**20 28 08.6**	**+0.9**
JMOS	**Jabal al Moall**	**88.24**	**299**	P	**P**	**20 28 08.4**	**+0.8**
ALWS	**Ilw as Safayha**	**88.26**	**299**	P	**P**	**20 28 09.1**	**+1.4**
EIL	**Elat**	**88.31**	**300**	P	**P**	**20 28 08.5**	**+0.6**
MBH	**Mount Berech**	**88.32**	**300**	P	**P**	**20 28 08.7**	**+0.7**
BDAS	**Al Bad‘**	**88.35**	**298**	P	**P**	**20 28 09.0**	**+0.9**
SBA	**Scott Base**	**88.40**	**172**	*e*P	**P**	**20 28 08.6**	**+1.3**
SBA				pmax	pmax		
	comp=Z,120nm,1.4s,mb5.9						
SBA	**Scott Base**	**88.40**	**172**	*e*P	**P**	**20 28 08.6**	**+1.3**
	comp=Z,117nm,1.4s,mb5.9						
HAQS	**Haql**	**88.41**	**299**	P	**P**	**20 28 09.6**	**+1.1**
KMTI	**Karmit**	**88.44**	**300**	P	**P**	**20 28 08.9**	**+0.3**
FINES	**FINESS Array B**	**88.48**	**332**	P	**P**	**20 28 07.6**	**-0.3**
	comp=Z,2.8nm,0.4s,mb4.8,baz=91,slow=4.3,SNR=28						
FINES	**FINESS Array B**	**88.48**	**332**	*i* P	**P**	**20 28 07.6**	**-0.4**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.4s						
TAYS	**Tayyib Ism**	**88.54**	**298**	P	**P**	**20 28 10.0**	**+0.9**
KZIT	**Kziot**	**88.61**	**301**	P	**P**	**20 28 09.5**	**+0.2**
CSS	**Prodhromos**	**88.89**	**305**	*e*P	**P**	**20 28 10.7**	**+0.1**
	comp=Z,20nm,0.8s,mb5.5						
AKASG	**Malin Array Be**	**89.10**	**321**	P	**P**	**20 28 10.9**	**-0.3**
	comp=Z,7.3nm,0.7s,mb5.1,baz=63,slow=4.2,SNR=38						
AKASG				LR	LR	21 12 24.8	
	comp=Z,185nm,18.6s,MS4.5,baz=100,slow=38						
KMBO	**Kilima Mbogo**	**90.40**	**269**	P	**P**	**20 28 19.4**	**+1.3**
	comp=Z,27nm,1.1s,mb5.5,baz=56,slow=6.8,SNR=30						
KMBO				LR	LR	21 07 25.6	
	comp=Z,126nm,18.8s,MS4.4,baz=276,slow=35						
KMBO	**Kilima Mbogo**	**90.40**	**269**	*e*P	**P**	**20 28 18.8**	**+0.6**
	comp=Z,58nm,1.1s,mb5.8						
SUW	**Suwalki**	**91.91**	**325**	*e*P	**P**	**20 28 24.6**	**+0.5**
KWP	**Kalwaria**	**93.43**	**321**	*e*P	**P**	**20 28 31.5**	**+0.3**
KWP				pmax	pmax		
	comp=Z,58nm,1.1s,mb5.9						
KWP	**Kalwaria**	**93.43**	**321**	*e*P	**P**	**20 28 32.3**	**+1.1**
KOLS	**Kolonicke sedl**	**93.90**	**320**	*e*P	**P**	**20 28 33.9**	**+0.5**
KOLS				*e*		20 28 48.9	
CRVS	**Cervenica-Dubn**	**94.42**	**320**	*e*P	**P**	**20 28 37.2**	**+1.4**
CRVS				*e*		20 32 07.9	
OJC	**Ojcow**	**95.04**	**322**	*e*P	**P**	**20 28 39.3**	**+0.7**
OJC				*e*		20 39 13.2	
OJC				*e*PS	PS	20 41 00.5	-14
OJC				MLR	MLR		
	comp=Z,300nm,18.2s,MS4.8						
OJC	**Ojcow**	**95.04**	**322**	*e*P	**P**	**20 28 39.3**	**+0.7**
OJC				*e*SKS	SKS	20 39 13.2	-5.9
OJC				*e*PS	PS	20 41 00.5	-14
OJC				*e*SS	SS	20 45 57.6	-20
NB2	**NORSAR Subarra**	**95.35**	**334**	P	**P**	**20 28 39.3**	**-0.4**
	comp=Z,80nm,2.0s,mb5.8,baz=67,slow=4.5						
NB2	**NORSAR Subarra**	**95.35**	**334**	P	**P**	**20 28 39.3**	**-0.4**
	baz=67,slow=4.6						
NOA	**NORSAR Array B**	**95.35**	**334**	P	**P**	**20 28 39.3**	**-0.4**
	comp=Z,4.3nm,1.1s,mb4.8,baz=64,slow=4.7,SNR=5.4						
NOA				LR	LR	21 14 03.6	
	comp=Z,343nm,19.9s,MS4.8,baz=55,slow=37						
YKA	**Yellowknife Ar**	**95.35**	**24**	P	**P**	**20 28 40.8**	**+1.1**
	comp=Z,5.1nm,0.8s,mb5.0,baz=297,slow=4.5,SNR=8.9						
YKA				PKiKP		20 33 22.4	
	comp=Z,0.7nm,0.5s,baz=309,slow=1.7,SNR=4.8						
YKA				LR	LR	21 11 23.9	
	comp=Z,132nm,21.3s,MS4.4,baz=285,slow=35						
YKA	**Yellowknife Ar**	**95.35**	**24**	P	**P**	**20 28 40.8**	**+1.1**
SKO	**Skopje**	**96.46**	**314**	*e*P	**P**	**20 28 44.0**	**-1.3**
SYO	**Syowa Base**	**96.63**	**201**	⇓P	**P**	**20 28 45.9**	**+0.5**
SYO	**Syowa Base**	**96.63**	**201**	⇓PcP	PcP	20 28 47.4	+1.7
SYO	**Syowa Base**	**96.63**	**201**	⇓pP	pP	20 28 49.9	-5.4
MBAR	**Mbarara**	**96.78**	**270**	*e*P	**P**	**20 28 46.5**	**-0.9**
	comp=Z,16nm,1.1s,mb5.3						
KSP	**Ksiaz**	**96.93**	**323**	*e*P	**P**	**20 28 47.4**	**+0.2**
KSP				*e**PP	pP	20 29 04.2	+7.2
DPC	**Dobruska-Polom**	**97.09**	**323**	*e*P	**P**	**20 28 48.9**	**+1.0**
DPC				*e*x	x	20 29 02.1	
DPC				LR		21 18 50.0	
	comp=Z,0.4nm,14.6s						
DPC	**Dobruska-Polom**	**97.09**	**323**	*e*P	**P**	**20 28 48.9**	**+1.0**
DPC				MLR	MLR		
	comp=Z,400nm,14.6s,MS5.0						
UPC	**Upice**	**97.22**	**323**	*e*P	**P**	**20 28 49.3**	**+0.8**
UPC				LR		21 21 40.0	
	comp=Z,0.3nm,16.3s						
QSPA	**South Pole Qui**	**97.84**	**180**	*e*P	**P**	**20 28 51.8**	**+1.1**
	comp=Z,26nm,1.2s,mb5.6						
PVCC	**Panska Ves**	**98.06**	**324**	*e*P	**P**	**20 28 53.3**	**+1.0**
PVCC				*e*x	x	20 29 08.5	
PRU	**Pruhonice**	**98.29**	**323**	*e*P	**P**	**20 28 53.5**	**+0.2**
PRU				*e*x	x	20 29 10.8	
PRU				L		21 19 50.0	
BRG	**Berggiesshubel**	**98.29**	**324**	*e*P	**P**	**20 28 54.5**	**+1.2**
BRG				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb5.1						
BRG	**Berggiesshubel**	**98.29**	**324**	*e*P	**P**	**20 28 54.5**	**+1.2**
	comp=Z,8.4nm,1.3s,mb5.1						
CLL	**Collm**	**98.66**	**325**	P	**P**	**20 28 56.0**	**+1.0**
CLL	**Collm**	**98.66**	**325**	*e*P	**P**	**20 28 56.0**	**+1.0**
KHC	**Kasperske Hory**	**99.20**	**323**	*e*P	**P**	**20 28 57.7**	**+0.2**
KHC				*e*x	x	20 29 12.9	
KHC				LR		21 20 20.0	
	comp=Z,0.4nm,19.7s						
GERES	**GERESS Array B**	**99.24**	**322**	P	**P**	**20 28 58.0**	**+0.4**
	comp=Z,1.3nm,0.7s,mb4.6,baz=56,slow=4.8,SNR=13						
NKC	**Novy Kostel**	**99.43**	**324**	LR		21 22 50.0	
	comp=Z,0.4nm,15.5s						
LSZ	**Lusaka**	**100.99**	**256**	*e*P	P	20 29 05.0	-1.4
LSZ				pmax	pmax		
	comp=Z,13nm,1.0s						
LSZ	**Lusaka**	**100.99**	**256**	*e*P	P	20 29 05.0	-1.4
	comp=Z,13nm,1.0s						
WVOR	**Wild Horse Val**	**101.78**	**44**	PFAKE		20 29 20.0	+11
WVOR				LR	LR		
	comp=Z,644nm,19.0s,MS5.2						
NVAR	**Mina Array Bea**	**103.51**	**47**	Pdiff	Pdif	20 29 19.7	+2.7
	comp=Z,2.3nm,0.9s,baz=282,slow=3.3,SNR=7.4						
NVAR				PKiKP		20 33 36.0	
	comp=Z,0.4nm,0.2s,baz=292,slow=4.4,SNR=4.1						
NVAR				PKKPbc		20 45 12.8	
	comp=Z,0.9nm,0.8s,baz=169,slow=5.2,SNR=3.9						
NVAR	**Mina Array Bea**	**103.51**	**47**	Pdif	Pdif	20 29 19.7	+2.7
HLID	**Hailey**	**104.15**	**41**	PFAKE		20 29 30.0	+10
HLID				LR	LR		
	comp=Z,338nm,20.0s,MS4.9						
CABF	**La Chapelle**	**104.84**	**323**	*e*PP	PP	20 33 34.0	-12
	comp=Z,78nm,1.6s						
LPG	**La Plagne**	**104.97**	**321**	*e*PP	PP	20 33 44.1	-2.7
	comp=Z,57nm,1.5s						
LPL	**La Plagne**	**104.97**	**321**	*e*PP	PP	20 33 43.9	-2.9
	comp=Z,23nm,1.1s						
TPNV	**Topopah Spring**	**105.58**	**48**	PFAKE		20 33 50.0	
TPNV				LR	LR		
	comp=Z,411nm,20.0s,MS5.0						
SMF	**Signal de Mont**	**106.16**	**323**	*e*PP	PP	20 33 40.8	-15
PDAR	**Pinedale Array**	**107.67**	**40**	PKKPbc		20 45 10.7	
	comp=Z,1.8nm,1.0s,baz=124,slow=5.3,SNR=6.8						
DGMT	**Dagmar**	**107.81**	**33**	PFAKE		20 34 00.0	
DGMT				LR	LR		
	comp=Z,339nm,20.0s,MS4.9						
SNAA	**Sanae**	**109.48**	**195**	⇓*i*		20 34 01.5	
SNAA	**Sanae**	**109.48**	**195**	⇑*i*	PP	20 34 15.9	-3.9
VNA2	**Neumayer--Watz**	**111.09**	**194**		PKPdf	20 34 07.4	+15
VNA3	**Neumayer Olymp**	**111.42**	**194**	⇑*i*	PKPdf	20 34 09.6	+16
VNA3	**Neumayer Olymp**	**111.42**	**194**	⇑*i*	PKPdf	20 34 16.7	+23
VNA1	**Neumayer--Stat**	**111.49**	**194**		PKPdf	20 34 09.7	+16
TUC	**Tucson**	**111.58**	**51**	PFAKE		20 34 00.0	+5.6
TUC				LR	LR		
	comp=Z,188nm,20.0s,MS4.7						
ISCO	**Idaho Springs**	**111.73**	**42**	PFAKE		20 34 00.0	+5.5
ISCO				LR	LR		
	comp=Z,304nm,20.0s,MS4.9						
ANMO	**Albuquerque**	**113.59**	**46**	PFAKE		20 34 10.0	+12
ANMO				LR	LR		
	comp=Z,231nm,20.0s,MS4.8						
SCHQ	**Schefferville**	**116.29**	**9**	PKP	PKPdf	20 34 00.1	-3.1
	comp=Z,7.8nm,1.0s,baz=297,slow=1.8,SNR=10						
LTX	**Lajitas**	**118.38**	**51**	PFAKE		20 34 20.0	+12
LTX				LR	LR		
	comp=Z,320nm,19.0s,MS5.0						
TXAR	**Lajitas Array**	**118.38**	**51**	PKP	PKPdf	20 34 05.0	-2.8
	comp=Z,0.6nm,0.4s,baz=185,slow=0.9,SNR=5.0						
WMOK	**Wichita Mounta**	**119.06**	**43**	PFAKE		20 34 20.0	+11
WMOK				LR	LR		
	comp=Z,441nm,21.0s,MS5.1						
JCT	**Junction City**	**120.69**	**48**	PFAKE		20 34 20.0	+7.7
JCT				LR	LR		
	comp=Z,179nm,19.0s,MS4.7						
NCB	**Newcomb**	**124.69**	**19**	*e*PKPdf	PKPdf	20 34 17.0	-2.7
SSPA	**Standing Stone**	**126.28**	**24**	*e*PKPdf	PKPdf	20 34 20.4	-2.4
LRAL	**Lakeview Retre**	**127.66**	**37**	*e*PKPdf	PKPdf	20 34 22.3	-3.5
KIC	**Kosan Boka**	**130.29**	**285**	*e*PKP1	PKPdf	20 34 28.3	-2.9
	comp=Z,61nm,1.1s						
DBIC	**Dimbokro**	**130.31**	**286**	PKP	PKPdf	20 34 26.6	-4.7
	comp=Z,4.0nm,0.9s,baz=35,slow=3.7,SNR=4.4						
TIC	**Toumodi**	**130.47**	**286**	*e*PKP1	PKPdf	20 34 27.6	-4.0
	comp=Z,9.3nm,0.2s						
LIC	**Lamto**	**130.60**	**285**	*e*PKP1	PKPdf	20 34 27.4	-4.4
	comp=Z,53nm,1.3s						
TRQA	**Tornquist**	**148.84**	**165**	*e*PKPbc	PKPdf	20 35 04.4	+0.7
CBYP	**Canovanas**	**150.79**	**27**	*e*PKPbc	PKPdf	20 35 09.8	+2.5
HUMP	**Col San Antoni**	**150.90**	**27**	*e*PKPdf	PKPdf	20 35 05.1	-2.3
CPD	**Cerro la Pandu**	**150.96**	**27**	*e*PKPdf	PKPdf	20 35 04.7	-2.8
ROSC	**El Rosal**	**154.77**	**60**	PKP	PKPdf	20 35 11.6	-1.5
	comp=Z,6.4nm,0.3s,baz=354,slow=12,SNR=6.3						
ROSC				PKPab	PKPab	20 35 36.8	+2.8
	comp=Z,15nm,0.7s,baz=331,slow=22,SNR=3.7						
SDV	**Santo Domingo**	**155.37**	**48**	*e*PKPdf	PKPdf	20 35 10.7	-3.1
LVC	**Limon Verde**	**158.53**	**135**	*e*PKPdf	PKPdf	20 35 16.4	-1.3
LVC				*e*PKPab	PKPab	20 35 52.0	+2.1
CPUP	**Villa Florida**	**161.17**	**166**	PKP	PKPdf	20 35 18.2	-2.2
	comp=Z,6.7nm,1.2s,baz=329,slow=1.5,SNR=3.9						
CPUP				PKPab	PKPab	20 36 02.4	+1.2
	comp=Z,8.5nm,0.9s,baz=251,slow=2.4,SNR=6.7						
CPUP	**Villa Florida**	**161.17**	**166**	PKPdf	PKPdf	20 35 18.7	-1.8
CPUP				PKPab	PKPab	20 36 02.2	+1.0
LPAZ	**La Paz**	**162.64**	**120**	PKP	PKPdf	20 35 21.1	-1.1
	comp=Z,3.0nm,0.5s,baz=26,slow=1.2,SNR=21						
LPAZ	**La Paz**	**162.64**	**120**	PKPdf	PKPdf	20 35 21.9	-0.3
SAML	**Samuel**	**169.39**	**96**	*e*PKPdf	PKPdf	20 35 24.8	-2.8
BDFB	**Brasilia**	**171.20**	**210**	PKP	PKPdf	20 35 25.7	-2.9
	comp=Z,4.0nm,0.6s,baz=318,slow=2.0,SNR=4.4						
BDFB				PKPab	PKPab	20 36 45.1	-0.2
	comp=Z,4.0nm,0.6s,baz=26,slow=2.4,SNR=3.9						

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*NEIC **14** 20:22:58.4±4.9, 6.88S×155.67E, $h188^{km}\pm35^{km}$, mb4.3/3, Error ellipse: s-maj=48.4km s-min=20.4km az=98.0*

*IDC **14** 20:23:16.1±30.0, 7.07S×155.13E, $h346^{km}\pm283^{km}$, mb3.5/6, mb1 3.6/6, mb1mx3.4/14, Error ellipse: s-maj=178.0km s-min=75.2km az=94.0*

ISC 14 20:22:59.2±6.0, **6.9S**±0.2×**155.5E**±0.4, **$h204^{km}$**$\pm43^{km}$**, n11,** σ**$0^{s}86$**/11, **mb4.0**/9, **Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.67**	**252**	*e*P	**P**	**20 25 02.0**	**-0.1**
WRAB	**Tennant Creek**	**24.33**	**236**	*e*P	**P**	**20 28 01.0**	**+1.2**
	20nm,0.8s,mb4.8						
WB2	**Warramunga Arr**	**24.33**	**236**	*e*P	**P**	**20 28 00.2**	**+0.4**
WRA	**Warramunga Arr**	**24.34**	**236**	P	**P**	**20 28 00.0**	**+0.1**
	7.2nm,0.6s,mb4.5,baz=60,slow=10,SNR=19						
ASAR	**Alice Springs**	**26.67**	**229**	P	**P**	**20 28 20.2**	**-1.1**
	0.9nm,0.5s,mb3.6,baz=57,slow=9.8,SNR=7.3						
FITZ	**Fitzroy Crossi**	**31.20**	**246**	P	**P**	**20 29 00.6**	**-1.1**
	4.0nm,0.8s,mb4.1,baz=25,slow=1.4,SNR=9.9						
MBWA	**Marble Bar**	**37.42**	**244**	P	**P**	**20 29 58.1**	**+3.6**
	2.6nm,0.4s,mb4.1						
SONM	**Songino Array**	**69.51**	**327**	P	**P**	**20 33 47.8**	**+0.3**
	1.6nm,0.6s,mb3.8,baz=148,slow=6.1,SNR=10						
QSPA	**South Pole Qui**	**83.12**	**180**	*e*P	**P**	**20 35 03.0**	**+0.1**
	1.5nm,0.5s,mb4.0						
MKAR	**Makanchi Array**	**83.65**	**319**	P	**P**	**20 35 06.8**	**+0.6**
	0.5nm,0.6s,mb3.4,baz=99,slow=7.2,SNR=6.9						
BVAR	**Borovoye Array**	**92.51**	**323**	P	**P**	**20 35 47.2**	**-1.0**
	0.3nm,0.4s,mb3.7,baz=134,slow=6.5,SNR=4.0						

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*IDC **14** 20:36:47.4±1.6, 5.43S×145.79E, mb3.8/5, mb1 4.1/6, mb1mx3.9/12, ML3.4/1, Error ellipse: s-maj=45.6km s-min=25.3km az=108.0*

*NEIC **14** 20:36:56.5±2.9, 5.57S×145.57E, $h68^{km}\pm31^{km}$, mb4.1/1, Error ellipse: s-maj=33.3km s-min=18.0km az=132.0*

ISC 14 20:36:55.4±3.2, **5.6S**±0.2×**145.5E**±0.2, **$h70^{km}$**$\pm33^{km}$**, n11,** σ**$1^{s}00$**/11, **mb3.6**/5, **Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WAU	**Wau**	**2.11**	**146**	*e*P	**P**	**20 37 30.6**	**+1.4**
PMG	**Port Moresby**	**4.13**	**157**	*e*Pn	**P**	**20 37 56.2**	**-1.3**
KAKA	**Kakadu**	**14.76**	**240**	*e*P	**P**	**20 40 28.4**	**+6.6**
	24nm,1.2s						
WRAB	**Tennant Creek**	**17.94**	**216**	*e*P	**P**	**20 41 00.3**	**-1.4**
	10.0nm,0.8s						
WB2	**Warramunga Arr**	**17.95**	**216**	*e*P	**P**	**20 41 02.1**	**+0.3**
WRA	**Warramunga Arr**	**17.95**	**216**	P	**P**	**20 41 01.4**	**-0.5**
	0.1nm,0.3s,baz=37,slow=12,SNR=9.4						
ASAR	**Alice Springs**	**21.18**	**211**	P	**P**	**20 41 36.8**	**-0.3**
	1.2nm,0.6s,mb3.4,baz=56,slow=8.1,SNR=6.5						
FITZ	**Fitzroy Crossi**	**23.07**	**236**	P	**P**	**20 41 57.1**	**+1.4**
	2.8nm,1.0s,mb3.5,baz=166,slow=7.2,SNR=4.6						
STKA	**Stephens Creek**	**26.42**	**188**	P	**P**	**20 42 28.4**	**+0.9**
	2.8nm,1.0s,mb3.7,baz=12,slow=14,SNR=5.5						
CMAR	**Chiang Mai Arr**	**51.77**	**299**	P	**P**	**20 45 59.0**	**+0.5**
	1.6nm,1.0s,mb4.0,baz=118,slow=7.5,SNR=5.9						
ILAR	**Eielson Array**	**85.67**	**23**	P	**P**	**20 49 26.4**	**-1.0**
	0.8nm,0.8s,mb3.7,baz=256,slow=4.4,SNR=5.4						

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*IDC **14** 20:50:23.3±3.2, 34.63N×25.57E, mb4.0/5, mb1 3.9/9, mb1mx3.8/23, ML3.6/3, Error ellipse: s-maj=62.0km s-min=10.7km az=36.0*

*NEIC **14** 20:50:25.2, 34.88N×25.70E, $h11^{km}$, MD3.7(ATH), After ATH.*

*ATH **14** 20:50:25.2, 34.88N×25.70E, $h11^{km}\pm3^{km}$, MD3.7/4*

ISC 14 20:50:25.6±0.7, **34.91N**±0.06×**25.73E**±0.05, **$h11^{km}$, n35,** σ**$1^{s}39$**/39, **mb4.0**/5, **Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.05**	**219**	*e*PG	**Pg**	**20 50 27.1**	**-0.7**
NPS	**Neapolis**	**0.36**	**345**	*e*PB	**Pb**	**20 50 32.1**	**-1.5**
NPS				*e*SB	**Sb**	**20 50 37.8**	**-1.1**
IDI	**Anoyia**	**0.79**	**299**	Pg	**Pg**	**20 50 39.4**	**-2.0**
	31nm,0.3s,baz=132,slow=15,SNR=320						
IDI				Lg		20 50 51.4	
	358nm,0.3s,baz=190,slow=19,SNR=58						
KARP	**Karpathos**	**1.33**	**61**	*e*PN	**Pn**	**20 50 49.8**	**-0.4**
KARP				*e*SB	**Sb**	**20 51 11.2**	**+4.2**
VAM	**Vamos**	**1.35**	**292**	*e*PN	**Pn**	**20 50 49.4**	**-1.0**
VAM				*e*SB	**Sb**	**20 51 10.3**	**+2.8**
GVD	**Gavdhos**	**1.35**	**267**	*e*PB	**Pb**	**20 50 51.7**	**+1.2**
THR6	**Thira Island,**	**1.47**	**349**	*e*P	**Pn**	**20 50 51.7**	**-0.4**
THR1	**Thera Island**	**1.47**	**351**	*e*P	**Pn**	**20 50 51.7**	**-0.5**
SANT	**Santorini**	**1.47**	**351**	*e*Pn	**Pn**	**20 50 51.3**	**-0.9**
THR3	**Thira Island,**	**1.52**	**350**	*e*P	**Pn**	**20 50 52.9**	**0.0**
THR5	**Thira Island,**	**1.53**	**348**	*e*P	**Pn**	**20 50 52.4**	**-0.7**
THR4	**Thira Island,**	**1.57**	**350**	*e*P	**Pn**	**20 50 53.5**	**-0.1**
NISR	**Nisiros**	**2.04**	**33**	*e*PG	**Pg**	**20 51 04.5**	**-1.9**
APE	**Apeiranthos**	**2.16**	**356**	*e*PB	**Pb**	**20 51 02.5**	**-1.8**
ARG	**Arkhangelos**	**2.35**	**56**	*e*PN	**Pn**	**20 51 06.7**	**+2.0**
BDRM	**Kayabasi**	**2.56**	**32**	*e*P	**Pn**	**20 51 09.2**	**+1.4**
KYTH	**Kithira**	**2.59**	**303**	*e*PB	**Pb**	**20 51 08.8**	**-2.8**
VLI	**Veliai**	**2.90**	**309**	*e*PN	**Pn**	**20 51 12.7**	**+0.1**
AYDN	**Tasoluk**	**3.25**	**32**	*e*P	**Pn**	**20 51 21.5**	**+4.0**
KDAG	**Bornova**	**3.70**	**19**	*i* P	**Pn**	**20 51 22.7**	**-1.2**
DNZL	**Cakiroluk**	**3.85**	**43**	*i* P	**Pn**	**20 51 28.2**	**+2.1**
MANT	**Manisa**	**4.23**	**32**	*e*P	**Pn**	**20 51 33.0**	**+1.4**
LKR	**Lokris**	**4.33**	**330**	*e*PN	**Pn**	**20 51 34.5**	**+1.6**
NEO	**Neokhori**	**4.82**	**336**	*e*PN	**Pn**	**20 51 41.3**	**+1.4**
XOR	**Xorichti**	**4.89**	**336**	*e*P	**Pn**	**20 51 40.9**	**+0.1**
AGG	**Agios Georgios**	**4.92**	**327**	*e*P	**Pn**	**20 51 42.5**	**+1.2**
EIL	**Elat**	**9.39**	**121**	Pn	**P**	**20 52 40.5**	**-3.4**
	0.5nm,0.3s,baz=64,slow=1.7,SNR=4.8						
EIL				Sn	**Sn**	**20 54 24.4**	**-6.2**
	0.3nm,0.3s,baz=285,slow=20,SNR=6.5						
MLR	**Muntele Rosu**	**10.57**	**1**	Pn	**P**	**20 53 00.0**	**0.0**
	baz=139,slow=12,SNR=3.5						
AKASG	**Malin Array Be**	**15.98**	**8**	Pn	**P**	**20 54 13.7**	**+1.8**
	0.7nm,0.3s,baz=198,slow=11,SNR=6.3						
GERES	**GERESS Array B**	**16.52**	**331**	Pn	**P**	**20 54 20.1**	**+1.4**
	0.1nm,0.3s,baz=168,slow=14,SNR=3.3						
FINES	**FINESS Array B**	**26.55**	**0**	P	**P**	**20 56 06.6**	**+1.7**
	9.7nm,1.2s,mb4.2,baz=156,slow=14,SNR=2.9						
ARCES	**ARCESS Array B**	**34.68**	**360**	P	**P**	**20 57 18.4**	**+1.5**
	3.9nm,1.0s,mb4.3,baz=186,slow=9.1,SNR=2.9						
BVAR	**Borovoye Array**	**36.18**	**46**	P	**P**	**20 57 29.4**	**-0.5**
	1.9nm,1.0s,mb4.0,baz=297,slow=6.4,SNR=4.7						
MKAR	**Makanchi Array**	**43.52**	**56**	P	**P**	**20 58 29.9**	**-0.8**
	1.8nm,0.8s,mb3.9,baz=280,slow=6.1,SNR=9.0						
SONM	**Songino Array**	**59.28**	**51**	P	**P**	**21 00 27.4**	**-2.1**
	0.3nm,0.4s,mb3.6,baz=288,slow=9.1,SNR=3.1						

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*STR **14** 21:03:14.9±0.2, 48.93N×7.83E, $h5^{km}\pm1^{km}$, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*BGR **14** 21:03:14.7±0.6, 48.96N×7.88E, $h10^{km}$, ML1.4/1, Error ellipse: s-maj=8.9km s-min=4.4km az=54.0*

LDG 14 21:03:14.5±0.1, **48.96N×7.83E, $h10^{km}$, Md2.4**/2, **Ml2.2**/7, **Error ellipse: s-maj=1.5km s-min=1.3km az=55.0, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LANF	**Langenberg**	**0.03**	**328**	*e*Pg	Pg	21 03 16.8	+0.4
	SNR=20						
LANF	**Langenberg**	**0.03**	**328**	Pg	Pg	21 03 16.7	+0.4
LANF				Sg	Sg	21 03 17.8	+0.2
WLS	**Welschbruch**	**0.63**	**210**	*e*Sg	Sg	21 03 34.7	-1.0
	SNR=3.1						
WLS	**Welschbruch**	**0.63**	**210**	Pg	Pg	21 03 26.8	-0.4
WLS				Sg	Sg	21 03 34.7	-0.9
CDF	**Champ du Feu**	**0.66**	**214**	*e*Pg	Pg	21 03 26.8	-0.9
CDF				*e*Pn	Pn	21 03 28.5	-1.1
CDF				*e*Sg	Sg	21 03 35.4	-1.1
CDF				*e*Sn	Sn	21 03 38.0	-2.0
	11nm,0.2s						
BFO	**Black Forest**	**0.71**	**152**	*e*Pg	Pg	21 03 27.6	-1.2
	SNR=2.7						
BFO				*e*Sg	Sg	21 03 37.5	-0.8
	SNR=3.8						
ECH	**Echery**	**0.86**	**211**	*e*Sg	Sg	21 03 43.4	-0.1
	SNR=4.3						
ECH	**Echery**	**0.86**	**211**	Pg	Pg	21 03 31.2	-0.7
ECH				Sg	Sg	21 03 42.8	-0.6
FELD	**Feldberg**	**1.09**	**174**	*e*Pg	Pg	21 03 34.9	-1.4
	SNR=3.4						
WLF	**Walferdange**	**1.31**	**303**	*e*Sg	Sg	21 03 57.3	-0.7
	SNR=2.1						
HINF	**Hinteralfeld**	**1.31**	**210**	*e*Pn	Pn	21 03 37.4	-1.6

HINF				*e*Pg	Pg	21 03 39.1	-1.7
HINF				*e*Sn	Sn	21 03 54.1	-2.6
HINF				*e*Sg	Sg	21 03 56.3	-2.0
	8.4nm,0.3s						
HAU	**Haudompre**	**1.37**	**227**	*e*Pg	Pg	21 03 40.1	-1.8
HAU				*e*Sg	Sg	21 03 57.8	-2.4
	3.8nm,0.2s						
THEF	**They Montfort**	**1.42**	**240**	Pg	Pg	21 03 41.6	-1.4
THEF				Sg	Sg	21 04 00.5	-1.5
RFYF	**Reffroy**	**1.59**	**259**	*e*Pn	Pn	21 03 41.2	-1.8
RFYF				*e*Pg	Pg	21 03 44.3	-2.0
RFYF				*e*Sn	Sn	21 04 00.5	-3.2
RFYF				*e*Sg	Sg	21 04 04.6	-2.9
	3.7nm,0.2s						
MEZF	**Maizieres J'vi**	**1.89**	**257**	*e*Sg	Sg	21 04 14.3	-3.3
	3.3nm,0.3s						
SFTF	**Sexfontaines**	**2.00**	**249**	*e*Pg	Pg	21 03 51.7	-2.8
SFTF				*e*Sg	Sg	21 04 17.9	-3.2
	1.7nm,0.2s						
LOR	**Lormes**	**3.15**	**239**	*e*Pn	Pn	21 04 02.5	-2.7
LOR				*e*Pg	Pg	21 04 12.8	-4.6
LOR				*e*Sg	Sg	21 04 53.6	-5.8
	0.7nm,0.2s						

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*NEIC **14** 21:23:11.7, 38.58N×21.51E, h5^{km}, MD3.3(ATH), After ATH.*

*THE **14** 21:23:12.7, 38.50N×21.50E, h6^{km}, ML3.4*

*ATH **14** 21:23:12.1, 38.58N×21.51E, h16^{km}±5^{km}, MD3.3/8*

ISC 14 21:23:11.3±1.2, **38.46N**±0.05×**21.52E**±0.06, **h7**^{km}±10^{km}, **n16**, σ**1^{s}03**/18, **2C, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.41**	**186**	*e*PN	**Pn**	**21 23 23.1**	**-0.1**
EVR	**Evrytania**	**0.51**	**27**	⇑*i*PB	**Pb**	**21 23 20.0**	**-2.2**
LKD	**Levkas**	**0.72**	**290**	*e*Pg	**Pg**	**21 23 25.9**	**+0.1**
VLS	**Valsamata**	**0.78**	**249**	⇑*i*PN	**Pn**	**21 23 27.8**	**-0.8**
AGG	**Agios Georgios**	**0.85**	**48**	*e*Pg	**Pg**	**21 23 27.5**	**-0.7**
AGG				*e*Sg	**Sg**	**21 23 41.0**	**+1.4**
LKR	**Lokris**	**1.18**	**80**	*e*PB	**Pb**	**21 23 33.4**	**-0.2**
JAN	**Janina**	**1.30**	**337**	*e*PN	**Pn**	**21 23 36.0**	**0.0**
ITM	**Ithomi**	**1.32**	**166**	*e*PN	**Pn**	**21 23 39.2**	**+2.9**
MEV	**Metsovon**	**1.34**	**350**	*e*Pb	**Pb**	**21 23 36.1**	**-0.3**
MEV				*e*Sb	**Sb**	**21 23 54.8**	**+1.1**
IGT	**Igoumenitsa**	**1.41**	**320**	*e*Pb	**Pb**	**21 23 38.0**	**+0.3**
NEO	**Neokhori**	**1.58**	**57**	*e*PN	**Pn**	**21 23 40.3**	**+0.4**
XOR	**Xorichti**	**1.59**	**55**	*e*Pb	**Pb**	**21 23 41.0**	**+0.4**
KEK	**Kerkira**	**1.83**	**314**	*e*PN	**Pn**	**21 23 43.4**	**-0.2**
AOS	**Alonnisos**	**1.98**	**68**	*e*Pb	**Pb**	**21 23 45.5**	**-1.8**
VLI	**Veliai**	**2.07**	**147**	*e*PN	**Pn**	**21 23 51.4**	**+4.4**
FNA	**Florina**	**2.32**	**357**	*e*Pn	**Pn**	**21 23 50.7**	**+0.1**

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*NEIC **14** 21:37:20.6, 39.64N×20.37E, h7^{km}, MD3.6(ATH), After ATH.*

*ATH **14** 21:37:20.6, 39.64N×20.37E, h7^{km}±2^{km}, MD3.6/9*

*THE **14** 21:37:21.8, 39.53N×20.38E, h10^{km}, ML3.7*

*IDC **14** 21:37:21.2±3.6, 39.24N×19.78E, h60^{km}±29^{km}, mb3.8/3, mb1 3.7/5, mb1mx3.4/21, ML3.3/2, Error ellipse: s-maj=67.3km s-min=17.4km az=57.0*

ISC 14 21:37:20.9±0.3, **39.52N**±0.03×**20.29E**±0.02, **h10**^{km}, **n49**, σ**1^{s}30**/72, **mb4.0**/3, **2C-1D, Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEK	**Kerkira**	**0.42**	**298**	⇓*i*PB	**Pb**	**21 37 29.3**	**-0.7**
SRN	**Sarande**	**0.42**	**329**	*i* Pg	**Pg**	**21 37 33.7**	**+4.1**
SRN				*i* Sg	**Sg**	**21 37 40.3**	**+4.9**
JAN	**Janina**	**0.46**	**72**	*e*PB	**Pb**	**21 37 27.7**	**-2.9**
LSK	**Leskovik**	**0.68**	**21**	*i* Pg	**Pg**	**21 37 30.5**	**-4.1**
LSK				*i* Sg	**Sg**	**21 37 40.1**	**-3.6**
MEV	**Metsovon**	**0.78**	**69**	*e*Pg	**Pg**	**21 37 34.4**	**-2.1**
MEV				*e*Sg	**Sg**	**21 37 45.0**	**-2.0**
TPE	**Tepelena**	**0.81**	**345**	*i* Pg	**Pg**	**21 37 34.4**	**-2.7**
LKD	**Levkas**	**0.85**	**160**	*e*Pg	**Pg**	**21 37 38.1**	**0.0**
KBN	**Korca**	**1.17**	**19**	*i* Pg	**Pg**	**21 37 42.1**	**-2.3**
EVR	**Evrytania**	**1.33**	**116**	*e*PG	**Pg**	**21 37 45.1**	**-2.3**
VLS	**Valsamata**	**1.36**	**170**	*e*PG	**Pg**	**21 37 47.9**	**-0.1**
VLS				*e*SB	**Sb**	**21 38 09.2**	**+6.0**
KZN	**Kozani**	**1.39**	**55**	*e*PB	**Pb**	**21 37 44.8**	**-1.7**
FNA	**Florina**	**1.52**	**33**	*e*Pb	**Pb**	**21 37 47.6**	**-1.1**
FNA				*e*Sb	**Sb**	**21 38 09.4**	**+1.5**
OHR	**Ohrid**	**1.64**	**14**	⇑*i*Pn	**Pn**	**21 37 51.3**	**+1.3**
OHR				*i*		21 37 55.2	
OHR				*i* Sg	**Sg**	**21 38 14.8**	**-0.8**
AGG	**Agios Georgios**	**1.66**	**107**	*e*Pb	**Pb**	**21 37 50.5**	**-0.6**
AGG				*e*Sb	**Sb**	**21 38 12.3**	**+0.2**
BIA	**Bitola**	**1.70**	**28**	⇑*i*Pn	**Pn**	**21 37 52.0**	**+1.1**
BIA				*i*		21 37 55.5	
BIA				*i* Sg	**Sg**	**21 38 16.5**	**-1.1**
RLS	**Riolos of Patr**	**1.72**	**147**	*e*PN	**Pn**	**21 37 54.2**	**+3.0**
LIT	**Litokhoron**	**1.80**	**70**	*e*Pb	**Pb**	**21 37 52.3**	**-1.1**
LIT				*e*Sb	**Sb**	**21 38 16.8**	**+0.9**
LCI	**Lecce**	**1.86**	**297**	*e*Pn	**Pn**	**21 37 56.0**	**+2.8**
LCI				*e*Sn	**Sn**	**21 38 21.0**	**+4.1**
QSH	**Qafa e Shtames**	**2.02**	**352**	*e*Pn	**Pn**	**21 38 03.0**	**+7.5**
QSH				*i* Sn	**Sn**	**21 38 24.0**	**+2.9**
GRG	**Griva**	**2.17**	**48**	*e*Pn	**Pn**	**21 37 57.5**	**0.0**
GRG				*e*Sn	**Sn**	**21 38 26.1**	**+1.4**
XOR	**Xorichti**	**2.26**	**93**	*e*Pn	**Pn**	**21 38 00.1**	**+1.3**
LKR	**Lokris**	**2.28**	**111**	*e*PN	**Pn**	**21 38 00.5**	**+1.3**
NEO	**Neokhori**	**2.29**	**94**	*e*PN	**Pn**	**21 38 00.9**	**+1.6**
THE	**Thessaloniki**	**2.34**	**61**	*e*Pn	**Pn**	**21 38 00.1**	**0.0**
THE				*e*Sn	**Sn**	**21 38 30.1**	**+1.0**
PLG	**Polygyros**	**2.58**	**70**	*e*PN	**Pn**	**21 38 03.0**	**-0.4**
KNT	**Kendrikon**	**2.59**	**50**	*e*Pn	**Pn**	**21 38 04.3**	**+0.7**
KNT				*e*Sn	**Sn**	**21 38 36.4**	**+1.1**
SKO	**Skopje**	**2.61**	**19**	*i* Pn	**Pn**	**21 38 05.0**	**+1.2**
SKO				*i*		21 38 09.3	
SOH	**Sokhos**	**2.69**	**60**	*e*Pn	**Pn**	**21 38 05.6**	**+0.6**
SOH				*e*Sn	**Sn**	**21 38 38.7**	**+0.7**
AOS	**Alonnisos**	**2.81**	**96**	*e*Pn	**Pn**	**21 38 07.3**	**+0.6**
AOS				*e*Sn	**Sn**	**21 38 41.2**	**+0.2**
OUR	**Ouranopolis**	**2.96**	**73**	*e*Pn	**Pn**	**21 38 08.3**	**-0.5**
OUR				*e*Sn	**Sn**	**21 38 44.9**	**+0.2**
SRS	**Serrai**	**2.99**	**57**	*e*Pn	**Pn**	**21 38 08.9**	**-0.4**
SRS				*e*Sn	**Sn**	**21 38 46.4**	**+0.7**
GRI	**Girifalco**	**3.08**	**258**	*e*Pn	**Pn**	**21 38 10.7**	**+0.1**
GRI				*e*Sn	**Sn**	**21 38 47.5**	**-0.4**
SLCN	**Sala Consilina**	**3.68**	**285**	*e*Pn	**Pn**	**21 38 19.7**	**+0.6**
MGR	**Morigerati**	**3.70**	**281**	*e*Pn	**Pn**	**21 38 21.3**	**+2.0**
LOS	**Limnos**	**3.72**	**82**	*e*Pn	**Pn**	**21 38 18.9**	**-0.8**
STON	**Ston**	**3.88**	**331**	*i* Pn	**Pn**	**21 38 19.1**	**-2.8**
STON				*i* Sn	**Sn**	**21 39 03.3**	**-4.8**
MRLC	**Muro Lucano**	**3.88**	**290**	*e*Pn	**Pn**	**21 38 22.6**	**+0.7**
SGO	**Sicignano**	**3.96**	**287**	*e*Pn	**Pn**	**21 38 23.5**	**+0.4**
CSSN	**Cassano Irpino**	**4.25**	**290**	*e*Pn	**Pn**	**21 38 27.9**	**+0.7**
CSSN				*e*Sn	**Sn**	**21 39 16.6**	**-0.8**
ALN	**Alexandroupoli**	**4.62**	**71**	*e*Pn	**Pn**	**21 38 31.9**	**-0.5**
ALN				*e*Sn	**Sn**	**21 39 27.9**	**+1.0**
CII	**Carovilli**	**5.06**	**298**	*e*Pn	**Pn**	**21 38 38.5**	**-0.1**
IDI	**Anoyia**	**5.59**	**138**	P	**Pn**	**21 38 43.9**	**-2.3**
	0.3nm,0.3s,baz=297,slow=11,SNR=8.5						
IDI				S	**Sn**	**21 39 46.6**	**-4.6**
	1.0nm,0.3s,baz=280,slow=17,SNR=6.5						
NRCA	**Norcia**	**6.34**	**304**	*e*Pn	**Pn**	**21 38 55.4**	**-1.4**
MLR	**Muntele Rosu**	**7.29**	**33**	P	**Pn**	**21 39 11.5**	**+1.4**
GERES	**GERESS Array B**	**10.45**	**335**	P	**P**	**21 39 50.1**	**-3.7**
	0.2nm,0.3s,baz=158,slow=14,SNR=6.1						
FINES	**FINESS Array B**	**22.24**	**7**	P	**P**	**21 42 14.8**	**-4.3**
	3.5nm,1.0s,mb3.8,baz=173,slow=11,SNR=4.5						
FINES	**FINESS Array B**	**22.24**	**7**	P	**P**	**21 42 14.8**	**-4.3**
ARCES	**ARCESS Array B**	**30.21**	**4**	P	**P**	**21 43 28.1**	**-5.2**
	7.8nm,1.2s,mb4.3,baz=193,slow=12,SNR=3.0						
MKAR	**Makanchi Array**	**44.77**	**59**	P	**P**	**21 45 32.8**	**-3.4**
	0.7nm,0.4s,mb3.8,baz=275,slow=7.5,SNR=22						

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*NEIC **14** 21:51:03.1, 35.05S×70.49W, h5^{km}, ML3.7(GUC), After GUC.*

GUC 14 21:51:03.1±1.1, **35.05S**×**70.49W**, **h5**^{km}±4^{km}, **MD4.3, ML3.7, 3C-3D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFDO	**San Fernando**	**0.61**	**315**	⇓*i*P	Pg	21 51 15.3	0.0
CICH	**Cipreses**	**0.73**	**4**	⇓*i*P	Pg	21 51 17.2	-0.5
CICH				*i* S	Sg	21 51 28.3	+1.0
CACH	**El Canelo**	**0.93**	**354**	⇑*i*P	Pb	21 51 20.8	-0.5
CACH				*i* S	Sb	21 51 33.9	0.0
CHCH	**Chadas Angostu**	**1.12**	**353**	⇓*i*P	Pb	21 51 24.3	-0.3
CHCH				*i* S	Sb	21 51 40.0	+0.7
LMEL	**Las Melosas**	**1.22**	**11**	*e*P	Pb	21 51 25.8	-0.4
LMEL				*i* S	Sb	21 51 42.7	+0.5
LMEL				AMP		21 51 47.1	
	comp=E,859nm,0.6s						
LNV	**Longovilo**	**1.33**	**325**	⇑*i*P	Pb	21 51 27.5	-0.6
LNV				*i* S	Sb	21 51 45.1	-0.3
SJCH	**San Jose de Ma**	**1.41**	**5**	*e*P	Pn	21 51 28.7	-0.8
SJCH				*i* S	Sb	21 51 47.9	+0.3
SJCH				AMP		21 52 03.1	
	comp=N,1µm,0.5s						
PCH	**Pirque**	**1.42**	**359**	*e*P	Pn	21 51 29.4	-0.2
PCH				*i* S	Sb	21 51 49.4	+1.3
TACH	**Talagante**	**1.44**	**345**	*e*P	Pn	21 51 29.4	-0.5
ANTU	**Antumapu**	**1.48**	**355**	*e*P	Pn	21 51 30.8	+0.3
ANTU				*i* S	Sb	21 51 50.6	+0.9
ANTU				AMP		21 52 01.4	
	comp=E,2µm,0.6s						
RCDM	**Rinconada Maip**	**1.58**	**350**	*e*P	Pn	21 51 32.1	+0.2
RCDM				*i* S	Sb	21 51 53.2	+0.7
RCDM				AMP		21 52 00.6	
	comp=E,2µm,0.5s						
DSCH	**Colegio Aleman**	**1.65**	**358**	*e*P	Pn	21 51 33.3	+0.5
DSCH				*i* S	Sb	21 51 55.3	+0.8
DSCH				AMP		21 52 06.7	
	comp=N,4µm,0.6s						
CLCH	**Cerro Calan**	**1.65**	**359**	⇑*i*P	Pn	21 51 33.4	+0.5
CLCH				*i* S	Sb	21 51 56.3	+1.7
CLCH				AMP		21 52 04.7	
	comp=N,3µm,0.6s						
FCH	**Farellones**	**1.72**	**5**	*i* P	Pn	21 51 34.8	+0.8
FCH				*i* S	Sn	21 51 58.2	+1.6
FCH				AMP		21 52 09.2	
	comp=N,1µm,0.3s						
LCCH	**Las Cruces**	**1.81**	**330**	*e*P	Pn	21 51 35.6	+0.5
LCCH				*i* S	Sn	21 51 59.7	+1.0
PEL	**Peldehue**	**1.91**	**355**	*e*P	Pn	21 51 37.6	+1.0
CCHI	**Chillan**	**2.02**	**219**	*e*P	Pn	21 51 37.8	-0.4
CCHI				*i* S	Sn	21 52 04.6	+0.5
CCHI				AMP		21 52 10.8	
	comp=E,2µm,0.5s						
COCH	**Cobquecura**	**2.17**	**239**	*e*P	Pn	21 51 40.2	-0.1
COCH				AMP		21 52 16.4	
	comp=E,871nm,0.7s						
IHA	**Instituto Hidr**	**2.23**	**334**	*e*P	Pn	21 51 42.2	+1.0
JACH	**Jahuel**	**2.36**	**358**	*e*P	Pn	21 51 45.0	+1.9
JACH				*i* S	Sn	21 52 16.8	+4.0
MDZ	**Mendoza**	**2.55**	**33**	*e*P	Pn	21 51 51.2	+5.4
MDZ				*e*		21 52 34.6	
CMCH	**Combarbala**	**3.89**	**353**	*e*P	Pn	21 52 05.0	+0.2
TRQA	**Tornquist**	**7.48**	**116**	*e*P	Pn	21 52 53.8	-1.7
	comp=E,13nm,1.0s						

MAN 14 22:02:49.7, 15.48N×122.37E, h1^{km}, MS3.5, 1C-2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BALP	**Baler**	**0.81**	**289**	*e*P	Pg	22 03 05.0	-0.8
BALP				*e*S	Sg	22 03 16.9	+0.3
POLP	**Polilio Island**	**0.85**	**209**	*e*P	Pg	22 03 06.4	-0.3
POLP				*e*S	Sg	22 03 18.1	0.0
CAUP	**Cauayan**	**1.55**	**340**	*e*P	Pn	22 03 18.7	+0.1
CAUP				*e*S	Sb	22 03 37.7	-1.3
GQP	**Guinayangan**	**1.56**	**177**	⇑*i*P	Pn	22 03 19.3	+0.5
GQP				*i* S	Sb	22 03 39.7	+0.4
LQP	**Lukban**	**1.57**	**211**	⇓*e*P	Pn	22 03 19.4	+0.5
LQP				*e*S	Sb	22 03 39.8	+0.1
BCPH	**Baguio City Da**	**1.94**	**298**	⇓*i*P	Pn	22 03 24.1	0.0
BCPH				*i* S	Sn	22 03 50.0	+0.5
CVP	**Callao Caves**	**2.28**	**347**	*e*P	Pn	22 03 29.2	+0.2
CVP				*i* S	Sn	22 03 57.3	-0.7
BOLP	**Bolinao**	**2.53**	**291**	*e*P	Pn	22 03 32.7	+0.2
PVCP	**Virac**	**2.54**	**137**	*e*P	Pn	22 03 32.6	-0.2
APYP	**Conner**	**2.61**	**336**	*e*P	Pn	22 03 33.3	-0.4
APYP				*e*S	Sn	22 04 07.3	+0.8

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*IDC **14** 22:17:56.9±1.4, 20.26N×93.49E, mb3.9/4, mb1 4.0/5, mb1mx3.7/18, ML3.9/1, Error ellipse: s-maj=58.2km s-min=19.6km az=52.0*

ISC 14 22:18:09.9±1.4, **20.7N**±0.2×**94.1E**±0.2, **h119**^{km}±16^{km}, **n14**, σ**0^{s}73**/15, **mb3.8**/4, **1C-1D, Myanmar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHG	**Chiang Mai**	**4.98**	**111**	⇑P	**S**	**22 20 26.9**	**+6.3**
	57nm,0.6s						
CMAR	**Chiang Mai Arr**	**5.13**	**115**	Pn	**P**	**22 19 19.2**	**-6.5**
	1.0nm,0.3s,baz=290,slow=13,SNR=34						
CMAR				Sn	**S**	**22 20 24.9**	**+0.6**
	1.3nm,0.3s,baz=285,slow=18,SNR=5.2						
SHL	**Shillong**	**5.23**	**338**	⇓*i*P	**P**	**22 19 25.5**	**-1.6**
SHL				*i* S	Sx	22 20 04.5	
BDT	**Bhumibol Dam**	**5.82**	**125**	P	**P**	**22 19 28.0**	**-7.0**
NANT	**Nan**	**6.55**	**106**	P	**P**	**22 19 38.0**	**-7.0**
PKI	**Pulchoki**	**10.43**	**313**	*e*P	**P**	**22 20 38.0**	**+0.7**
	15nm,0.5s						
KKN	**Kakani**	**10.66**	**313**	*e*P	**P**	**22 20 40.7**	**+0.4**
	9.6nm,0.3s						
DMN	**Daman**	**10.67**	**312**	*e*P	**P**	**22 20 40.8**	**+0.4**
	5.2nm,0.3s						
GKN	**Gorkha**	**11.23**	**312**	*e*P	**P**	**22 20 47.5**	**-0.4**
	15nm,0.3s						
KOLN	**Koldanda**	**11.84**	**308**	*e*P	**P**	**22 20 55.8**	**-0.1**
	9.4nm,0.3s						
MKAR	**Makanchi Array**	**27.73**	**342**	P	**P**	**22 23 49.4**	**+0.2**
	1.0nm,0.4s,mb3.7,baz=165,slow=8.4,SNR=14						
WRA	**Warramunga Arr**	**56.45**	**133**	P	**P**	**22 27 40.9**	**-1.0**
	0.3nm,0.5s,mb3.6,baz=322,slow=7.4,SNR=4.6						
ASAR	**Alice Springs**	**58.76**	**137**	P	**P**	**22 27 57.6**	**-0.4**
	0.4nm,0.6s,mb3.7,baz=320,slow=6.7,SNR=8.7						
ARCES	**ARCESS Array B**	**63.29**	**339**	P	**P**	**22 28 28.9**	**+0.9**
	3.2nm,0.9s,mb4.3,baz=102,slow=8.3,SNR=3.2						

IDC 14 22:24:14.8±13.0, **29.90N**×**53.58E, mb3.6**/3, **mb1 3.5**/4, **mb1mx3.4**/19, **ML3.4**/1, **Error ellipse: s-maj=310.0km s-min=31.8km az=6.0, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BRTR	**Keskin Array B**	**19.05**	**306**	P	P	22 28 39.0	-1.9
	0.1nm,0.3s,baz=117,slow=13,SNR=4.0						
AKASG	**Malin Array Be**	**27.65**	**326**	P	P	22 30 04.0	-2.1
	0.6nm,0.6s,baz=142,slow=8.2,SNR=4.1						
MKAR	**Makanchi Array**	**27.92**	**45**	P	P	22 30 06.6	-1.9
	0.3nm,0.7s,baz=230,slow=9.9,SNR=3.2						
SONM	**Songino Array**	**43.94**	**51**	P	P	22 32 23.5	-1.5
	0.4nm,0.5s,baz=261,slow=11,SNR=4.4						

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*NEIC **14** 22:32:26.5, 33.20S×71.94W, h30^{km}, ML3.2(GUC), After GUC.*

*GUC **14** 22:32:26.5±0.9, 33.20S×71.94W, h30^{km}±6^{km}, MD4.0, ML3.2*

ISC 14 22:32:24.9±1.3, **33.17S**±0.04×**72.08W**±0.08, **h24**^{km}±6^{km}, **n17**, σ**0^{s}68**/25, **2C-2D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.39**	**69**	⇓*i*P	**Pb**	**22 32 33.5**	**+0.3**
IHA				*i* S	**Sb**	**22 32 39.1**	**+0.2**
LCCH	**Las Cruces**	**0.53**	**126**	⇑*i*P	**Pb**	**22 32 35.2**	**-0.2**
LCCH				*i* S	**Sb**	**22 32 42.6**	**0.0**
LNV	**Longovilo**	**0.96**	**145**	*e*P	**Pb**	**22 32 42.0**	**-0.8**
TACH	**Talagante**	**1.07**	**117**	⇑*i*P	**Pn**	**22 32 44.1**	**-0.5**
RCDM	**Rinconada Maip**	**1.11**	**107**	*e*P	**Pn**	**22 32 44.5**	**-0.7**
RCDM				AMP		22 33 03.2	
	comp=E,421nm,0.2s						
PEL	**Peldehue**	**1.17**	**89**	*e*P	**Pn**	**22 32 46.3**	**+0.4**
DSCH	**Colegio Aleman**	**1.29**	**101**	*e*P	**Pn**	**22 32 47.7**	**+0.1**
DSCH				AMP		22 33 08.8	
	comp=N,892nm,0.6s						
CLCH	**Cerro Calan**	**1.31**	**100**	*e*P	**Pn**	**22 32 48.0**	**0.0**
CLCH				*i* S	**Sn**	**22 33 03.4**	**-1.5**
CLCH				AMP		22 33 12.1	
	comp=E,614nm,0.5s						
JACH	**Jahuel**	**1.34**	**69**	*e*P	**Pn**	**22 32 48.5**	**+0.1**
JACH				*i* S	**Sn**	**22 33 06.2**	**+0.7**
PCH	**Pirque**	**1.39**	**109**	*e*P	**Pn**	**22 32 48.9**	**-0.2**
PCH				*i* S	**Sn**	**22 33 05.4**	**-1.3**
CHCH	**Chadas Angostu**	**1.42**	**123**	*e*P	**Pn**	**22 32 49.5**	**0.0**
FCH	**Farellones**	**1.51**	**97**	⇓*i*P	**Pn**	**22 32 51.5**	**+0.7**
FCH				*i* S	**Sn**	**22 33 09.7**	**-0.1**
FCH				AMP		22 33 19.5	
	comp=N,384nm,0.8s						
SFDO	**San Fernando**	**1.69**	**149**	*e*P	**Pn**	**22 32 53.8**	**+0.4**
LMEL	**Las Melosas**	**1.71**	**114**	*e*P	**Pn**	**22 32 54.3**	**+0.7**
LMEL				*i* S	**Sn**	**22 33 17.0**	**+2.1**
LMEL				AMP		22 33 21.4	
	comp=N,575nm,0.2s						
CICH	**Cipreses**	**1.80**	**130**	*e*P	**Pn**	**22 32 55.4**	**+0.4**
CMCH	**Combarbala**	**2.19**	**25**	*e*P	**Pn**	**22 33 00.1**	**-0.4**
CMCH				*i* S	**Sn**	**22 33 26.8**	**-0.4**
CMCH				AMP		22 33 36.4	
	comp=E,1µm,0.4s						
MDZ	**Mendoza**	**2.73**	**85**	*e*P	**Pn**	**22 33 16.3**	**+8.1**
MDZ				*e*		22 33 30.3	

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*STR **14** 22:51:22.5±0.7, 48.96N×7.94E, h5^{km}±1^{km}, Ml1.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LDG **14** 22:51:23.0±0.1, 48.94N×7.84E, h9^{km}, Md2.2/2, Ml2.0/5, Error ellipse: s-maj=3.9km s-min=2.2km az=132.0*

*BGR **14** 22:51:23.0±0.5, 48.95N×7.84E, h10^{km}, ML1.3/1, Error ellipse: s-maj=6.7km s-min=4.4km az=67.0*

ISC 14 22:51:22.6±0.7, **48.93N**±0.03×**7.76E**±0.05, **h9**^{km}, **n14**, σ**0^{s}84**/27, **France**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LANF	**Langenberg**	**0.06**	**28**	*e*Pg	**Pg**	**22 51 25.2**	**+0.6**
	SNR=5.6						
LANF				*e*Sg	**Sg**	**22 51 26.5**	**+0.5**
	SNR=5.0						
LANF	**Langenberg**	**0.06**	**28**	Pg	**Pg**	**22 51 25.2**	**+0.6**
LANF				Sg	**Sg**	**22 51 26.4**	**+0.4**
WLS	**Welschbruch**	**0.58**	**208**	*e*Sg	**Sg**	**22 51 42.7**	**+0.6**
	SNR=3.9						
WLS	**Welschbruch**	**0.58**	**208**	Pg	**Pg**	**22 51 35.4**	**+1.1**
WLS				Sg	**Sg**	**22 51 45.7**	**+3.6**
CDF	**Champ du Feu**	**0.61**	**212**	*e*Pg	**Pg**	**22 51 35.0**	**+0.2**
CDF				*e*Pn	**Pn**	**22 51 36.9**	**-0.2**
CDF				*e*Sg	**Sg**	**22 51 43.9**	**+0.9**
CDF				*e*Sn	**Sn**	**22 51 46.5**	**-0.5**
	7.2nm,0.2s						
BFO	**Black Forest**	**0.70**	**147**	*e*Pg	**Pg**	**22 51 35.7**	**-1.0**
	SNR=1.4						
BFO				*e*Sg	**Sg**	**22 51 46.3**	**+0.1**
	SNR=4.1						
ECH	**Echery**	**0.81**	**210**	Pg	**Pg**	**22 51 39.9**	**+0.9**
ECH				Sg	**Sg**	**22 51 51.9**	**+2.0**
FELD	**Feldberg**	**1.06**	**171**	*e*Pg	**Pg**	**22 51 43.4**	**-0.5**
	SNR=1.8						
FELD				*e*Sg	**Sg**	**22 51 57.6**	**-0.4**
	SNR=4.4						
MOF	**Molkenrain**	**1.15**	**202**	*e*Sg	**Sg**	**22 52 00.7**	**-0.3**
	SNR=1.6						
HINF	**Hinteralfeld**	**1.26**	**209**	*e*Pn	**Pn**	**22 51 46.0**	**-0.5**
HINF				*e*Pg	**Pg**	**22 51 47.6**	**-0.3**
HINF				*e*Sn	**Sn**	**22 52 02.4**	**-1.3**
HINF				*e*Sg	**Sg**	**22 52 04.8**	**0.0**
	5.2nm,0.3s						
HAU	**Haudompre**	**1.32**	**226**	*e*Pg	**Pg**	**22 51 48.6**	**-0.3**
HAU				*e*Sg	**Sg**	**22 52 06.3**	**-0.2**
	3.6nm,0.2s						
THEF	**They Montfort**	**1.37**	**240**	*e*Sg	**Sg**	**22 52 09.0**	**+0.7**
	SNR=1.3						
MEZF	**Maizieres J'vi**	**1.84**	**258**	*e*Sg	**Sg**	**22 52 22.7**	**-1.3**
	1.1nm,0.2s						
LOR	**Lormes**	**3.10**	**239**	*e*Sg	**Sg**	**22 53 02.1**	**-3.6**
	0.8nm,0.3s						

DHMR 14 22:52:34.8±0.9, **12.21N**×**44.23E, h12**^{km}±5^{km}, **ML3.7, 2C-3D, Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.00**	**354**	⇓*i*P	Pb	22 52 53.9	+0.3
TRBA				*i* S	Sb	22 53 08.4	+1.9
TRBA				AML	AML	22 53 18.5	
	comp=N,1µm,0.3s						
UDYN	**Al 'Udayn**	**1.77**	**352**	⇑*i*P	Pn	22 53 06.3	+0.9
UDYN				*i* S	Sn	22 53 30.8	+2.8
UDYN				AML	AML	22 53 42.5	
	comp=E,631nm,0.9s						
LBOS		**1.93**	**31**	⇑*i*P	Pn	22 53 08.2	+0.4
LBOS				*i* S	Sn	22 53 35.5	+3.4
BDHA	**Al Bayda'**	**2.19**	**36**	⇓*i*P	Pn	22 53 13.5	+2.0
BDHA				*i* S	Sn	22 53 42.7	+4.0
BDHA				AML	AML	22 53 54.0	
	comp=E,1µm,0.5s						
DHBB	**Dhamar BB**	**2.35**	**4**	⇓*i*P	Pn	22 53 15.9	+2.1
DHBB				*i* S	Sn	22 53 47.6	+4.9
HAJJ	**Hajjah**	**3.53**	**350**	*i* P	Pn	22 53 31.8	+1.2
HAJJ				*i* S	Sn	22 54 16.9	+4.2
HAJJ				AML	AML	22 54 39.6	
	comp=E,261nm,0.8s						

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*IDC **14** 23:00:52.0±0.8, 7.43S×130.64E, mb4.5/7, mb1 4.7/10, mb1mx4.6/13, ML4.8/3, MS3.5/3, Ms1 3.5/3, ms1mx3.2/12, Error ellipse: s-maj=46.8km s-min=15.6km az=67.0*

*NEIC **14** 23:00:52.8±0.6, 7.48S×130.65E, h10^{km}, mb4.6/10, Error ellipse: s-maj=22.1km s-min=7.5km az=72.0*

ISC 14 23:01:01.8±1.6, **7.92S**±0.06×**130.4E**±0.1, **h106**^{km}±16^{km}, **n38**, σ**1^{s}32**/42, **mb4.6**/17, **1D, Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**5.16**	**157**	⇓*i*P	**P**	**23 02 19.5**	**+1.5**
	321nm,0.6s						
KAKA				*e*S	**S**	**23 03 17.7**	**+1.0**
FITZ	**Fitzroy Crossi**	**11.12**	**204**	*e*P	**P**	**23 03 39.1**	**+0.3**
	64nm,0.4s						
FITZ				*e*S	**S**	**23 05 41.3**	**-0.2**
FITZ	**Fitzroy Crossi**	**11.12**	**204**	Pn	**P**	**23 03 39.1**	**+0.4**
	23nm,0.3s,baz=21,slow=9.4,SNR=319						
FITZ				Sn	**S**	**23 05 41.1**	**-0.3**
	5.4nm,0.3s,baz=206,slow=21,SNR=6.3						
WRAB	**Tennant Creek**	**12.55**	**162**	*e*P	**P**	**23 03 54.8**	**-2.9**
WRAB				*e*S	**S**	**23 06 10.2**	**-5.3**
WRA	**Warramunga Arr**	**12.56**	**163**	Pn	**P**	**23 03 55.2**	**-2.6**
	2.7nm,0.3s,baz=346,slow=13,SNR=33						
WRA				Sn	**S**	**23 06 11.5**	**-4.2**
	6.8nm,0.3s,baz=347,slow=22,SNR=9.7						
WB2	**Warramunga Arr**	**12.56**	**163**	*e*P	**P**	**23 03 54.9**	**-3.0**
WB2				*e*S	**S**	**23 06 11.2**	**-4.5**
ASAR	**Alice Springs**	**16.02**	**168**	Pn	**P**	**23 04 42.6**	**+0.3**
	3.1nm,0.3s,baz=352,slow=14,SNR=110						
ASAR				Sn	**S**	**23 07 36.0**	**-0.2**
	1.8nm,0.3s,baz=353,slow=27,SNR=7.5						
ASPA	**Alice Springs**	**16.02**	**168**	*e*P	**P**	**23 04 42.3**	**0.0**
ASPA				*e*S	**S**	**23 07 35.7**	**-0.6**
MBWA	**Marble Bar**	**16.70**	**217**	*e*P	**P**	**23 04 53.1**	**+2.5**
	19nm,0.5s						
FORT	**Forrest**	**22.85**	**185**	*e*P	**P**	**23 06 02.7**	**+6.1**
	54nm,0.6s,mb5.0						
FORT				*e*S	S	23 10 18.0	+24
STKA	**Stephens Creek**	**26.03**	**158**	*e*P	**P**	**23 06 30.9**	**+4.0**
	4.4nm,0.6s,mb4.1						
STKA	**Stephens Creek**	**26.03**	**158**	P	**P**	**23 06 30.4**	**+3.5**
	8.5nm,0.8s,mb4.2,baz=341,slow=9.7,SNR=12						
STKA				LR	LR	23 17 45.6	
	comp=Z,104nm,18.3s,baz=205,slow=38						
MUN	**Mundaring**	**27.33**	**207**	*e*P	sP	23 07 13.0	-1.5
	5.3nm,0.5s						
NWAO	**Narrogin (SRO)**	**27.70**	**204**	LR	LR	23 19 41.0	
	comp=Z,112nm,19.7s,baz=336,slow=40						
NANT	**Nan**	**39.51**	**313**	P	**P**	**23 08 23.0**	**-0.8**
BDT	**Bhumibol Dam**	**39.83**	**309**	P	**P**	**23 08 26.0**	**-0.5**
CMAR	**Chiang Mai Arr**	**40.60**	**310**	P	**P**	**23 08 32.2**	**-0.6**
	3.7nm,0.7s,mb4.3,baz=136,slow=7.7,SNR=22						
CMAR				LR	LR	23 25 52.5	
	comp=Z,40nm,18.4s,baz=173,slow=37						
RPZ	**Rata Peaks**	**50.29**	**142**	P	**P**	**23 09 51.6**	**+2.0**
	17nm,1.2s,mb4.9,baz=16,slow=7.9,SNR=3.6						
PKI	**Pulchoki**	**56.00**	**311**	*e*P	**P**	**23 10 31.0**	**-0.9**
	8.5nm,0.5s,mb5.0						
KKN	**Kakani**	**56.21**	**311**	*e*P	**P**	**23 10 32.6**	**-0.9**
	12nm,0.6s,mb5.1						
GKN	**Gorkha**	**56.80**	**311**	*e*P	**P**	**23 10 37.0**	**-0.7**
	22nm,0.4s,mb5.5						
KOLN	**Koldanda**	**57.46**	**310**	*e*P	**P**	**23 10 41.2**	**-1.1**

	6.1nm,0.3s,mb5.1						
SONM	Songino Array	59.42	341	P	P	23 10 53.7	-1.8
	0.6nm,0.5s,mb3.9,baz=117,slow=2.8,SNR=6.1						
MKAR	Makanchi Array	69.19	327	P	P	23 11 59.3	+0.3
	11nm,0.4s,mb5.0,baz=115,slow=8.4,SNR=288						
TKM2	Tokmak 2	70.92	321	P	P	23 12 10.9	+1.4
	SNR=8.0						
UCH	Uchtor	71.25	320	P	P	23 12 13.7	+2.1
	SNR=9.3						
AAK	Ala-Archa	71.47	320	eP	P	23 12 12.5	-0.3
	6.6nm,0.8s,mb4.5						
AML	Almayashu	71.74	319	P	P	23 12 16.2	+1.8
	SNR=12						
USP	Ospenovka	71.79	320	P	P	23 12 16.1	+1.3
	SNR=8.7						
EKS2	Erkin-Say	71.94	320	P	P	23 12 17.6	+1.9
	SNR=8.8						
KURK	Kurchatov	73.48	329	eP	P	23 12 24.1	-0.4
	6.4nm,0.9s,mb4.5						
MAW	Mawson	74.23	202	P	P	23 12 34.9	+6.3
	2.1nm,0.7s,mb4.0,baz=59,slow=6.1,SNR=5.1						
BVAR	Borovoye Array	79.03	328	P	P	23 12 56.2	+0.5
	3.6nm,0.9s,mb4.2,baz=108,slow=4.7,SNR=16						
BRVK	Borovoye	79.10	328	eP	P	23 12 54.0	-2.0
	5.1nm,0.9s,mb4.3						
ZRNK	Zerenda	79.73	327	eP	P	23 12 59.5	+0.1
	5.4nm,0.8s,mb4.4						
QSPA	South Pole Qui	82.06	180	eP	P	23 13 17.2	+5.9
	2.4nm,0.9s,mb4.0						
CPUP	Villa Florida	145.15	168	PKPbc	PKPbc	23 20 31.8	+3.9
	5.1nm,0.9s,baz=220,slow=3.1,SNR=9.8						
LPAZ	La Paz	149.77	143	PKPbc	PKPdf	23 20 46.4	+11
	4.5nm,0.7s,baz=119,slow=0.5,SNR=11						

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*NEIC **14** 23:20:07.2, 38.35N×24.19E, h22^{km}, ML2.9(ATH), After ATH.*
*ATH **14** 23:20:07.2, 38.35N×24.19E, h22^{km}±1^{km}, MD3.0/5, ML2.9*
*THE **14** 23:20:13.7, 38.57N×24.10E, h20^{km}, ML2.9*
ISC 14 23:20:08.3±0.7**, 38.32N**±0.03×**24.11E**±0.07**, h22**^{km}±5^{km}**, n22, σ1^{s}03**/31**, 1C-1D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PTL	Penteli	0.33	215	⇑iPB	Pb	23 20 15.5	-0.1
PTL				eSB	Sb	23 20 21.0	+0.5
MPAR	Parnis Oros	0.34	240	⇓iPB	Pb	23 20 15.6	-0.1
MPAR				eSB	Sb	23 20 21.4	+0.7
ATH	Athens Observa	0.46	221	ePN	Pn	23 20 18.1	-1.4
ATH				eSN	Sn	23 20 25.3	-1.8
NSAL	Nisos Salamina	0.65	231	ePN	Pn	23 20 21.5	-0.7
NSAL				eSN	Sn	23 20 31.5	-0.4
MKIT	Kithairon Oros	0.68	259	ePN	Pn	23 20 22.0	-0.6
MKIT				eSN	Sn	23 20 32.5	0.0
NAIG	Nisos Aigina	0.74	221	ePN	Pn	23 20 23.2	-0.3
AOS	Alonnisos	0.87	348	ePg	Pb	23 20 25.6	+1.0
AOS				eSg	Sb	23 20 35.4	-0.4
LKR	Lokris	0.93	291	ePN	Pn	23 20 25.4	-0.8
NEO	Neokhori	1.20	325	ePN	Pn	23 20 30.4	+0.3
NEO				eSN	Sn	23 20 46.8	+1.0
XOR	Xorichti	1.26	326	ePg	Pn	23 20 31.8	+0.9
XOR				eSg	Sb	23 20 46.2	-1.0
AGG	Agios Georgios	1.56	297	ePb	Pb	23 20 37.6	+1.4
APE	Apeiranthos	1.69	137	ePN	Pn	23 20 37.3	+0.3
VLI	Veliai	1.85	211	ePN	Pn	23 20 40.4	+1.1
EVR	Evrytania	1.90	289	ePN	Pn	23 20 42.1	+2.1
OUR	Ouranopolis	2.01	357	ePb	Pb	23 20 41.5	-2.6
ITM	Ithomi	2.07	237	ePN	Pn	23 20 44.0	+1.5
PLG	Polygyros	2.11	346	ePN	Pn	23 20 42.9	-0.2
THR5	Thira Island,	2.14	152	ePn	Pn	23 20 50.3	+6.8
LIT	Litokhoron	2.18	325	ePb	Pb	23 20 44.3	-2.6
LIT				eSb	Sb	23 21 09.0	-4.6
SOH	Sokhos	2.56	347	ePn	Pn	23 20 49.9	+0.3
SRS	Serrai	2.82	352	ePn	Pn	23 20 53.6	+0.3
ALN	Alexandroupoli	2.98	30	ePn	Pn	23 20 55.6	+0.1

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*HEL **14** 23:20:45.7±0.1, 67.84N×20.20E, ML2.1(UPP), ML1.9(BER), ML2.0(NAO), Explosion*
*BER **14** 23:20:46.7±3.5, 67.82N×20.18E, ML1.9, ML2.0(NAO), Suspected explosion*
*NAO **14** 23:20:47.5±2.8, 67.80N×20.66E, ML2.0*
ISC 14 23:20:44.5±0.4**, 67.83N**±0.03×**20.15E**±0.07**, n22, σ0^{s}93**/34**, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUA	Kurravaara	0.15	29	i P	Pg	23 20 47.6	+0.1
KUA				i S	Sg	23 20 49.6	+0.2
NIKU	Nikkaluokta	0.42	276	i P	Pg	23 20 53.3	+0.3
NIKU				i S	Sg	23 20 59.7	+1.0
DUNU	Dundret	0.73	167	i P	Pg	23 20 58.4	-0.6
MASU	Masugnsbyn	0.80	117	i P	Pg	23 20 59.7	-0.8
KIF	Kilpisjarvi	1.21	11	eP	Pb	23 21 07.4	-0.6
KIF				eS	Sb	23 21 24.0	0.0
KTK1	Kautokeino	1.65	42	eP	Pn	23 21 15.6	+0.6
KTK1				eSN	Sn	23 21 39.7	+2.5
KTK1				AML	AML	23 21 41.6	
	comp=Z,19nm,0.2s						
TRO	Tromso	1.87	347	eP	Pn	23 21 17.7	-0.3
TRO				eS	Sn	23 21 42.6	-0.2
TRO				AML	AML	23 21 45.3	
	comp=Z,17nm,0.4s						
SJUU	Sjulsmark	2.40	165	eP	Pn	23 21 26.6	+0.9
SGF	Sodankyl	2.47	96	eP	Pn	23 21 26.9	+0.2
SGF				eS	Sn	23 21 58.3	+0.3
LOF	Lofoten	2.51	280	eSG	Sg	23 22 06.7	-1.3
LOF				AML	AML	23 22 09.2	
	comp=Z,8.4nm,0.3s						
ARA0	ARCESS Array S	2.60	46	Pn	Pn	23 21 28.4	-0.2
	baz=226,slow=16						
ARA0				Sn	Sn	23 22 01.1	-0.4
	baz=234,slow=22						
ARA0	ARCESS Array S	2.60	46	eP	Pn	23 21 28.4	-0.2
ARA0				eS	Sn	23 22 01.1	-0.4
MOR8	Moi Rana	2.79	236	eSG	Sg	23 22 08.0	-9.4
MOR8				AML	AML	23 22 09.3	
	comp=Z,19nm,0.3s						
KEV	Kevo	3.16	49	eP	Pn	23 21 36.4	-0.1
KEV				eS	Sn	23 22 15.4	0.0
BURU	Burvik	3.29	171	eP	Pn	23 21 39.7	+1.3
SVAU	Svanoeiden	3.35	184	eP	Pn	23 21 40.5	+1.2
OUL	Oulu	3.59	137	eSG	Sg	23 22 34.6	-9.4
MSF	Maaselka	4.00	115	eSG	Sg	23 22 51.5	-6.2
APA0	Apatity Array	4.90	87	Pn	Pn	23 21 58.6	-2.5
	baz=285,slow=12						
APA0				Sn	Sn	23 22 52.9	-6.5
	baz=280,slow=28						
APA0				Lg		23 23 15.2	
	baz=281,slow=28						
APA0	Apatity Array	4.90	87	eP	Pn	23 21 58.6	-2.5
APA0				eS	Sn	23 22 52.9	-6.5
APA0				eSG	Sg	23 23 15.2	-12
FIA0	FINESS Array S	6.89	156	Pn	Pn	23 22 27.7	-1.6
	baz=351,slow=16						
FIA0	FINESS Array S	6.89	156	eP	Pn	23 22 27.7	-1.6

IDC 14 23:32:10.9±4.4**, 3.13S**×**142.30E, mb3.4**/3**, mb1 3.6**/4**, mb1mx3.5**/12**, ML3.4**/1**, MS3.2**/1**, Ms1 3.2**/1**, ms1mx2.6**/9**, Error ellipse: s-maj=132.0km s-min=30.7km az=96.0, Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WB2	Warramunga Arr	18.42	204	eP	P	23 36 29.1	-0.5
WRA	Warramunga Arr	18.43	204	P	P	23 36 28.6	-1.1
	0.1nm,0.3s,baz=28,slow=12,SNR=2.8						
ASAR	Alice Springs	21.97	201	P	P	23 37 06.3	-2.0
	0.4nm,0.6s,baz=25,slow=12,SNR=3.5						
ASAR				LR	LR	23 46 06.7	
	comp=Z,77nm,21.9s,baz=29,slow=38						
FITZ	Fitzroy Crossi	22.09	226	P	P	23 37 07.7	-1.8
	1.9nm,0.8s,baz=33,slow=10,SNR=3.5						
MKAR	Makanchi Array	72.33	321	P	P	23 43 38.7	-1.9
	0.4nm,0.7s,baz=117,slow=8.1,SNR=4.2						

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*NEIC **14** 23:44:35.4, 38.34N×24.19E, h25^{km}, ML2.9(ATH), After ATH.*
*ATH **14** 23:44:35.4, 38.34N×24.19E, h25^{km}±3^{km}, MD3.1/8, ML2.9*
*THE **14** 23:44:41.0, 38.57N×24.11E, h16^{km}, ML3.2*
ISC 14 23:44:36.1±0.6**, 38.28N**±0.03×**24.17E**±0.05**, h23**^{km}±5^{km}**, n25, σ0^{s}88**/35**, 1C, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PTL	Penteli	0.33	226	ePB	Pb	23 44 43.2	-0.2
PTL				eSB	Sb	23 44 49.0	+0.7
MPAR	Parnis Oros	0.36	250	ePB	Pb	23 44 43.8	-0.1
MPAR				eSB	Sb	23 44 50.0	+0.8
ATH	Athens Observa	0.47	229	⇑iPN	Pn	23 44 45.9	-1.3
ATH				eSN	Sn	23 44 53.2	-1.5
NSAL	Nisos Salamina	0.67	237	ePN	Pn	23 44 49.5	-0.5
NSAL				eSN	Sn	23 44 59.5	-0.3
MKIT	Kithairon Oros	0.72	263	ePN	Pn	23 44 51.5	+0.7
MKIT				eSN	Sn	23 45 01.0	-0.1
NAIG	Nisos Aigina	0.74	226	ePN	Pn	23 44 51.3	+0.1
AOS	Alonnisos	0.92	346	ePg	Pb	23 44 53.4	+0.2
LKR	Lokris	0.99	293	ePN	Pn	23 44 55.0	+0.3
LKR				eSN	Sn	23 45 08.8	+0.8
NEO	Neokhori	1.27	325	ePN	Pn	23 44 58.3	-0.3
NEO				eSN	Sn	23 45 15.5	+0.5
XOR	Xorichti	1.33	325	ePg	Pn	23 45 00.7	+1.2
XOR				eSg	Sn	23 45 15.8	-0.8
AGG	Agios Georgios	1.62	298	ePb	Pb	23 45 05.5	+0.4
AGG				eSb	Sb	23 45 24.9	-0.3
APE	Apeiranthos	1.62	138	ePN	Pn	23 45 05.3	+1.6
LIA	Limnos Island	1.80	26	ePB	Pb	23 45 05.1	-3.1
VLI	Veliai	1.84	213	ePB	Pb	23 45 07.6	-1.2
PRK	Paraskevi	1.91	59	ePN	Pn	23 45 08.4	+0.6
OUR	Ouranopolis	2.06	356	ePb	Pb	23 45 09.6	-3.0
OUR				eSb	Sb	23 45 33.0	-4.9
ITM	Ithomi	2.09	239	ePB	Pb	23 45 13.8	+0.7
THR6	Thira Island,	2.15	152	ePn	Pn	23 45 19.8	+8.5
PLG	Polygyros	2.17	345	ePN	Pn	23 45 10.9	-0.6
LIT	Litokhoron	2.24	325	ePn	Pn	23 45 12.6	+0.1
THE	Thessaloniki	2.53	339	ePn	Pn	23 45 17.3	+0.6
SOH	Sokhos	2.62	346	ePn	Pn	23 45 18.0	0.0
SRS	Serrai	2.87	351	ePn	Pn	23 45 21.5	0.0
ALN	Alexandroupoli	2.99	28	ePn	Pn	23 45 23.6	+0.3
GRG	Griva	3.00	334	ePn	Pn	23 45 23.8	+0.4

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*MOS **14** 23:54:56.7±1.2, 46.50N×153.24E, h49^{km}, mb4.3/9, Error ellipse: s-maj=23.1km s-min=14.4km az=75.4*
*NEIC **14** 23:54:57.4±0.6, 46.60N×153.14E, h30^{km}, mb4.5/6, Error ellipse: s-maj=16.0km s-min=12.0km az=144.0*
*IDC **14** 23:55:01.0±4.7, 46.54N×153.08E, h64^{km}±42^{km}, mb3.7/13, mb1 3.9/15, mb1mx3.8/24, ML3.7/2, MS3.2/1, Ms1 3.2/1, ms1mx2.6/27, Error ellipse: s-maj=22.9km s-min=18.2km az=114.0*
ISC 14 23:54:56.6±1.7**, 46.58N**±0.10×**153.2E**±0.1**, h41**^{km}±14^{km}**, n38, σ1^{s}00**/40**, mb4.1**/18**, MS3.2**/1**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	Severo-Kuril's	4.54	24	ePN	P	23 56 06.4	+1.7
SKR				eS	S	23 56 56.5	-0.5
SKR				pmax	pmax		
	comp=Z,20nm,0.5s						
SKR				pmax	pmax		
	comp=E,40nm,0.8s						
SKR				smax			
	comp=E,50nm,0.5s						
SKR				smax			
	comp=Z,30nm,0.5s						
SKR				smax			
	comp=N,40nm,0.6s						
ASAJ	Asahikawa	7.86	256	P	P	23 56 51.1	0.0
	comp=N,1.6nm,0.3s,baz=95,slow=18,SNR=4.8						
ASAJ	Asahikawa	7.86	256	PN	P	23 56 51.1	0.0
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
FX1	Attu Island--F	14.35	57	P	P	23 58 16.8	-1.9
	comp=Z,0.9nm,0.3s,baz=269,slow=3.7,SNR=3.1						
FX1				S	S	00 00 44.0	-13
	comp=Z,0.6nm,0.3s,baz=264,slow=15,SNR=2.2						
INK	Inuvik	41.77	32	P	P	00 02 44.5	+1.5
	comp=Z,0.8nm,0.5s,mb3.6,baz=308,slow=5.9,SNR=5.9						
INK	Inuvik	41.77	32	P	P	00 02 44.5	+1.5
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
INK	Inuvik	41.77	32	P	P	00 02 44.5	+1.5
MKAR	Makanchi Array	47.06	298	P	P	00 03 25.4	-0.4
	comp=Z,0.7nm,0.5s,mb3.8,baz=71,slow=7.8,SNR=7.3						
MKAR				LR	LR	00 24 14.0	
	comp=Z,28nm,19.9s,MS3.2,baz=320,slow=37						
MKAR	Makanchi Array	47.06	298	P	P	00 03 25.4	-0.4
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR				MLR	MLR		
	comp=Z,28nm,19.9s						
MKAR	Makanchi Array	47.06	298	P	P	00 03 25.4	-0.4
KURK	Kurchatov	47.50	304	eP	P	00 03 27.4	-1.8
	comp=Z,2.6nm,0.5s,mb4.4						
KURK				e	pP	00 03 36.4	-4.2
ZRNK	Zerenda	51.77	310	P	P	00 04 00.2	-1.7
	comp=Z,0.9nm,0.4s,mb4.0						
CMAR	Chiang Mai Arr	52.38	257	P	P	00 04 07.0	+0.2
	comp=Z,1.2nm,0.7s,mb3.9,baz=35,slow=7.1,SNR=5.9						
CMAR	Chiang Mai Arr	52.38	257	P	P	00 04 07.1	+0.2
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KKN	Kakani	55.55	275	eP	P	00 04 31.0	+0.9
	comp=Z,5.7nm,0.5s,mb4.9						
PKI	Pulchoki	55.60	275	eP	P	00 04 32.1	+1.6
DMN	Daman	55.79	275	eP	P	00 04 32.7	+0.9
GKN	Gorkha	55.86	276	eP	P	00 04 32.5	+0.2
	comp=Z,5.9nm,0.5s,mb4.9						
KOLN	Koldanda	56.72	277	eP	P	00 04 38.8	+0.3
	comp=Z,9.8nm,0.9s,mb4.8						
ARCES	ARCESS Array B	58.03	341	P	P	00 04 46.2	-1.0
	comp=Z,2.4nm,0.9s,mb4.2,baz=39,slow=7.8,SNR=3.8						
ARCES	ARCESS Array B	58.03	341	P	P	00 04 46.2	-1.0
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KAF	Kangasniemi	63.62	335	ep	P	00 05 23.9	-1.1
FINES	FINESS Array B	64.21	335	P	P	00 05 28.5	-0.4
	comp=Z,3.5nm,1.0s,mb4.3,baz=45,slow=6.2,SNR=13						
FINES	FINESS Array B	64.21	335	P	P	00 05 28.5	-0.4
FINES				pmax	pmax		
	comp=Z,4.0nm,1.0s						
FINES	FINESS Array B	64.21	335	P	P	00 05 28.5	-0.4
PDAR	Pinedale Array	64.81	54	P	P	00 05 34.1	+1.1
	comp=Z,0.3nm,0.5s,mb3.6,baz=309,slow=5.8,SNR=3.4						
WRA	Warramunga Arr	68.37	199	P	P	00 05 54.9	-1.1
	comp=Z,1.1nm,0.9s,mb3.9,baz=16,slow=6.5,SNR=3.6						
WRA	Warramunga Arr	68.37	199	P	P	00 05 54.9	-1.1
WRA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
NB2	NORSAR Subarra	68.40	341	P	P	00 05 56.0	+0.5
	comp=Z,2.1nm,0.6s,mb4.3,baz=27,slow=6.2						
NOA	NORSAR Array B	68.40	341	P	P	00 05 55.8	+0.3
	comp=Z,2.4nm,0.6s,mb4.4,baz=27,slow=6.3,SNR=10						
NOA	NORSAR Array B	68.40	341	P	P	00 05 55.8	+0.3
NOA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AKASG	Malin Array Be	71.72	326	P	P	00 06 15.5	-0.3
	comp=Z,3.5nm,0.7s,mb4.4,baz=33,slow=6.2,SNR=9.6						
AKASG	Malin Array Be	71.72	326	P	P	00 06 15.5	-0.3
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ASAR	Alice Springs	72.06	199	P	P	00 06 17.7	-0.6
	comp=Z,0.8nm,0.6s,mb3.8,baz=11,slow=5.2,SNR=11						
TXAR	Lajitas Array	77.53	61	P	P	00 06 50.3	+0.6
	comp=Z,0.5nm,0.6s,mb3.7,baz=298,slow=4.4,SNR=9.7						
BRTR	Keskin Array B	78.55	317	P	P	00 06 55.9	+0.8
	comp=Z,0.9nm,0.7s,mb3.8,baz=63,slow=5.5,SNR=5.9						
BRTR	Keskin Array B	78.55	317	P	P	00 06 55.9	+0.8
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
GERES	GERESS Array B	78.63	334	P	P	00 06 55.9	+0.6
	comp=Z,0.4nm,0.5s,mb3.6,baz=56,slow=4.8,SNR=6.3						

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*IDC **15** 00:04:37.4±1.7, 7.64S×125.48E, mb3.9/2, mb1 4.0/5, mb1mx3.8/13, ML3.6/3, Error ellipse: s-maj=95.0km s-min=25.2km az=70.0*
ISC 15 00:04:42.2±3.9**, 7.7S**±0.1×**126.0E**±0.2**, h67**^{km}±43^{km}**, n7, σ0^{s}74**/10**, mb3.6**/2**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	10.32	182	eP	P	00 07 10.0	+0.2
	1.1nm,0.3s						
FITZ				eS	S	00 09 04.4	-0.4
FITZ	Fitzroy Crossi	10.32	182	Pn	P	00 07 09.0	-0.8
	0.5nm,0.3s,baz=2.8,slow=10,SNR=12						
FITZ				Sn	S	00 09 05.2	+0.4
	0.7nm,0.3s,baz=168,slow=8.8,SNR=3.7						
WRA	Warramunga Arr	14.59	147	Pn	P	00 08 05.8	-0.7
	0.3nm,0.3s,baz=318,slow=14,SNR=5.4						
WRA				Sn	S	00 10 46.6	-0.3
	0.2nm,0.3s,baz=111,slow=21,SNR=3.8						
WB2	Warramunga Arr	14.60	147	eP	P	00 08 06.6	0.0
ASAR	Alice Springs	17.57	155	P	P	00 08 45.8	+1.6
	0.4nm,0.3s,baz=322,slow=10,SNR=23						
STKA	Stephens Creek	28.08	151	P	P	00 10 34.1	+4.4
	2.5nm,0.8s,mb3.8,baz=324,slow=10,SNR=6.2						
MKAR	Makanchi Array	66.72	329	P	P	00 15 28.2	-0.2
	0.5nm,0.8s,mb3.4,baz=134,slow=7.0,SNR=3.5						

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*NEIC **15** 00:06:36.5, 34.85N×25.64E, h12^{km}, After ATH.*
*ATH **15** 00:06:36.8, 34.89N×25.70E, h12^{km}±1^{km}*
*THE **15** 00:06:41.1, 35.23N×26.18E, h7^{km}*
ISC 15 00:06:38.8±0.8**, 35.00N**±0.05×**25.70E**±0.06**, h12**^{km}**, n27, σ1^{s}14**/32**, 1C-1D, Crete**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
XRY	Khrisi	0.13	183	⇓iPG	Pg	00 06 39.1	-3.0
NPS	Neapolis	0.27	344	⇑iPB	Pb	00 06 44.3	-0.8
NPS				eSB	Sb	00 06 49.5	+0.2
VAM	Vamos	1.29	289	ePG	Pg	00 07 01.3	-3.5
KARP	Karpathos	1.31	65	ePn	Pn	00 07 01.9	-1.1
KARP				eSb	Sb	00 07 23.8	+4.3
GVD	Gavdhos	1.34	263	ePn	Pn	00 07 02.8	-0.6
GVD				eSn	Sn	00 07 24.6	+3.5
THR6	Thira Island,	1.37	350	ePb	Pb	00 07 04.1	+0.1
SANT	Santorini	1.38	352	ePn	Pn	00 07 02.9	-1.1
SANT				eSn	Sn	00 07 19.8	-2.4
THR1	Thera Island	1.38	352	ePb	Pb	00 07 03.8	-0.2
THR3	Thira Island,	1.43	350	ePb	Pb	00 07 04.4	-0.4
THR5	Thira Island,	1.44	349	ePb	Pb	00 07 04.4	-0.7
THR5				eSb	Sb	00 07 23.8	+0.5
THR4	Thira Island,	1.48	350	ePb	Pb	00 07 05.4	-0.4
APE	Apeiranthos	2.07	356	ePB	Pb	00 07 14.2	-1.6
ARG	Arkhangelos	2.32	58	ePN	Pn	00 07 18.3	+0.9
BDRM	Kayabasi	2.50	34	i P	Pn	00 07 20.2	+0.2
KYTH	Kithira	2.52	301	ePN	Pn	00 07 21.0	+0.7
VLI	Veliai	2.82	308	ePN	Pn	00 07 24.0	-0.6
AYDN	Tasoluk	3.18	33	i P	Pn	00 07 33.7	+4.0
KDAG	Bornova	3.62	20	i P	Pn	00 07 35.3	-0.7
ITM	Ithomi	3.75	306	ePN	Pn	00 07 38.8	+1.0
DNZL	Cakiroluk	3.81	44	i P	Pn	00 07 39.9	+1.3
MANT	Manisa	4.17	33	i P	Pn	00 07 44.6	+0.8
LKR	Lokris	4.24	330	ePN	Pn	00 07 46.4	+1.7
AOS	Alonnisos	4.41	341	ePn	Pn	00 07 46.9	-0.3
NEO	Neokhori	4.73	336	ePN	Pn	00 07 53.5	+1.8
XOR	Xorichti	4.79	336	ePn	Pn	00 07 52.8	+0.2
AGG	Agios Georgios	4.83	327	ePn	Pn	00 07 54.2	+1.0
EVR	Evrytania	5.00	323	ePN	Pn	00 07 57.0	+1.5

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*IDC **15** 00:17:32.7±0.8, 39.88N×29.73W, mb4.2/12, mb1 4.3/13, mb1mx4.2/22, ML4.1/1, MS4.0/1, Ms1 4.1/1, ms1mx3.3/29, Error ellipse: s-maj=22.7km s-min=17.3km az=166.0*
*BJI **15** 00:17:34.8, 39.90N×29.70W, h10^{km}, mB4.8, mb4.8, Ms4.4, Msz4.3*
*NEIC **15** 00:17:34.8±0.4, 39.93N×29.67W, h10^{km}, mb4.5/34, Error ellipse: s-maj=13.4km s-min=5.7km az=178.0*
*ZUR_RM **15** 00:17:34, 39.93N×29.67W, h18^{km}, Mw4.8/6, Moment Tensor Solution. s6 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.60; $M_{\theta\theta}$0.89; $M_{\phi\phi}$0.71; $M_{r\theta}$0.03; $M_{\theta\phi}$-0.00; $M_{\phi r}$1.18; Best double couple: $M_0$1.65×10^{16} NP1:ϕ_s181°, δ68°, λ-90°. NP2:ϕ_s2°, δ22°, λ-90°. Principal axes: T 1.201, Plg23°, Azm272°; N .894, Plg0°, Azm182°; P -2.095, Plg67°, Azm91°;*
*SVSA **15** 00:17:35.4±1.4, 39.83N×29.59W, h10^{km}, MD3.8, ML3.8 Error ellipse: s-maj=14.0km s-min=9.1km az=83.0*
ISC 15 00:17:33.3±1.4**, 39.65N**±0.05×**29.56W**±0.05**, h17**^{km}±10^{km}**, n102, σ0^{s}90**/105**, mb4.3**/42**, MS4.0**/2**, 3C, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCED	Cedros	1.21	147	eP	Pn	00 17 56.0	+0.4
PCED				eS	Sb	00 18 11.6	+0.9
CALA	Caldeira	1.25	148	eP	Pn	00 17 56.7	+0.6
STGR	Santa Cruz	1.33	115	eP	Pn	00 17 56.6	-0.6
STGR				eS	Sb	00 18 12.9	-1.1
	262nm,0.4s						
PGRA	Graciosa	1.37	116	eP	Pn	00 17 56.9	-0.8
ROSA	Rosais	1.38	132	eP	Pn	00 17 57.8	-0.1
PICO	Pico	1.44	142	eP	Pn	00 17 59.4	+0.6
PICO				eS	Sn	00 18 17.5	+0.1
PMAN	Manadas	1.52	131	eP	Pn	00 17 59.5	-0.5
PPNO	Prainha do Nor	1.54	139	eP	Pn	00 18 01.2	+0.9
PID	Ribeirinha	1.64	137	e-		00 18 02.0	
PSBA	Serra de Santa	1.94	116	eP	Pn	00 18 05.3	-0.7
ASBA	Santa Barbara	1.96	117	eP	Pn	00 18 06.3	0.0
PBIS	Biscoitos	2.00	116	i P	Pn	00 18 06.2	-0.5
PPAD	Pico dos Padre	2.00	117	eP	Pn	00 18 06.2	-0.6
ADH	Angra Heroismo	2.06	118	eP	Pn	00 18 07.1	-0.5
ADH				eLR	LR	00 18 50.0	
PVNV	Vila Nova	2.06	115	i P	Pn	00 18 07.2	-0.5
RIB2	Ribeirinha	2.09	117	eP	Pn	00 18 07.5	-0.6
PSCM	Serra do Cume	2.12	116	i P	Pn	00 18 07.7	-0.8
PSCM				eS	Sn	00 18 32.1	-2.5
	266nm,0.5s						
PFAV	Pico das Favas	2.13	115	i P	Pn	00 18 08.3	-0.4
PFAV				eS	Sn	00 18 33.1	-1.9
SET4	Mosteiros	3.43	120	eP	Pn	00 18 27.1	-0.1
SET2	Ginetes	3.44	120	eP	Pn	00 18 27.1	-0.2
PFET	Feteiras	3.47	121	eP	Pn	00 18 28.1	+0.4
PSAN	Santo Antonio	3.49	120	eP	Pn	00 18 28.5	+0.5
PSET	Sete Cidades	3.51	120	eP	Pn	00 18 28.2	-0.1
FAC	Faja de Cima	3.58	120	eP	Pn	00 18 30.2	+0.9
PDA	Ponta Delgada	3.59	121	eP	Pn	00 18 30.2	+0.8
CML	Cha da Macela	3.65	120	eP	Pn	00 18 30.3	0.0
PVER	Pico Vermelho	3.66	119	eP	Pn	00 18 30.2	-0.3
PMAT	Coroa da Mata	3.68	118	eP	Pn	00 18 31.2	+0.5
LFA	Lagoa do Fogo	3.69	119	eP	Pn	00 18 30.3	-0.6
LFA				eS	Sn	00 19 14.8	+0.3
MESC	Monte Escuro	3.71	119	eP	Pn	00 18 30.9	-0.2
PRCH	Ribeira Ch	3.72	120	eP	Pn	00 18 31.9	+0.6
VIF	Vila Franca	3.74	119	eP	Pn	00 18 31.3	-0.3
PCNG	Congro	3.76	119	eP	Pn	00 18 34.1	+2.3
PFAD	Fenais da Ajud	3.77	117	eP	Pn	00 18 32.4	+0.4
MIRA	Miradouro	3.83	118	eP	Pn	00 18 33.2	+0.4
MIRA				eS	Sn	00 19 17.1	-0.8
PSMN	Pico do Norte,	4.41	125	eP	Pn	00 18 40.4	-0.7
EVO	Evora	16.76	87	eP	P	00 21 27.8	-1.0
	20nm,0.9s						
EVO				eR			
	623nm,19.5s						
EADA	Adamuz	19.48	86	P	P	00 22 05.4	+3.3
	16nm,1.4s						
ESDC	Sonseca Array	19.69	82	P	P	00 22 04.7	+0.3
	0.1nm,0.3s,baz=289,slow=10,SNR=6.3						
ESDC				LR	LR	00 28 22.4	
	comp=Z,408nm,19.7s,baz=280,slow=33						
EMIJ	Mijas	19.73	91	P	P	00 22 10.0	+5.1
	18nm,0.9s						
ELOJ	Sierra Loja	20.05	89	P	P	00 22 10.3	+1.9
	4.3nm,0.7s						
QUIF	Quistinic	20.69	58	eP	P	00 22 14.2	-0.8
EQES	Quesada	20.72	87	P	P	00 22 17.6	+2.3
	63nm,2.3s						
EVIA	Vianos	20.98	84	P	P	00 22 21.8	+3.8
	21nm,1.0s						
GRR	Gorron	22.30	57	eP	P	00 22 31.0	-0.2
	27nm,1.0s,mb4.3						
MFF	Saint Martin d	22.48	62	eP	P	00 22 34.2	+1.3
	32nm,1.2s,mb4.3						
EPF	Esparros	22.64	72	eP	P	00 22 35.3	+0.7
	15nm,1.1s,mb4.0						
LDF	La Druitiere	22.83	57	eP	P	00 22 36.8	+0.5
	15nm,0.9s,mb4.1						
LFF	La Frestale	22.95	67	eP	P	00 22 36.9	-0.6
ESK	Eskdalemuir	23.52	39	P	P	00 22 45.9	+3.0
CAF	Calviac	23.89	67	eP	P	00 22 47.6	+0.9
	38nm,1.2s,mb4.4						
TCF	Toulx Ste Croi	24.06	64	eP	P	00 22 48.5	+0.1
	14nm,1.0s,mb4.0						
HYF	Humbligny	24.45	61	eP	P	00 22 53.3	+1.2

BGF	Bois d'Agland	24.52	63	eP	P	00 22 52.7	-0.1
	31nm,0.9s,mb4.5						
AVF	Avril sur Loir	24.89	62	eP	P	00 22 56.3	-0.1
	13nm,1.0s,mb4.1						
SSF	Saint Saulge	25.02	62	eP	P	00 22 57.7	+0.1
	28nm,1.3s,mb4.3						
SMF	Signal de Mont	25.21	63	eP	P	00 22 59.9	+0.5
LOR	Lormes	25.28	61	eP	P	00 22 59.5	-0.5
	11nm,0.8s,mb4.1						
LOR				eR			
	281nm,19.8s						
BAIF	Baives	25.89	55	eP	P	00 23 05.8	0.0
	69nm,1.2s,mb4.8						
GIVF	Givet	26.29	55	eP	P	00 23 08.4	-1.0
CABF	La Chapelle	26.76	63	eP	P	00 23 13.8	0.0
	11nm,0.8s,mb4.1						
CDF	Champ du Feu	27.67	59	eP	P	00 23 21.2	-0.8
	19nm,1.0s,mb4.4						
GRA1	Grafenberg Arr	30.35	57	eP	P	00 23 46.1	0.0
	6.0nm,1.0s,mb4.3						
GRA1				LR	LR		
	comp=Z,300nm,19.0s,MS4.0						
KBA	Koelnbreinsper	31.74	62⇑	iP	P	00 23 58.9	+0.6
	comp=Z,17nm,1.1s,mb4.8						
GERES	GERESS Array B	31.95	59	P	P	00 23 59.1	-1.1
	comp=Z,0.6nm,0.8s,mb3.5,baz=259,slow=6.8,SNR=4.4						
MOA	Molln	32.33	61⇑	iP	P	00 24 03.4	-0.1
	comp=Z,10nm,1.2s,mb4.5						
OBKA	Obir	32.59	63⇑	iP	P	00 24 05.5	-0.3
	comp=Z,11nm,0.9s,mb4.8						
OJC	Ojcow	35.89	56	eP	P	00 24 33.5	-0.7
KWP	Kalwaria	37.81	57	eP	P	00 24 51.3	+1.0
	comp=Z,14nm,1.2s,mb4.6						
DBIC	Dimbokro	39.64	139	P	P	00 25 08.4	+2.5
	comp=Z,6.3nm,0.9s,mb4.3,baz=335,slow=7.4,SNR=5.2						
FINES	FINESS Array B	39.94	38	P	P	00 25 08.4	+0.5
	comp=Z,4.3nm,1.1s,mb4.1,baz=304,slow=21,SNR=5.1						
ARCES	ARCESS Array B	41.37	26	P	P	00 25 19.1	-0.5
	comp=Z,4.6nm,1.0s,mb4.1,baz=217,slow=6.1,SNR=3.3						
AKASG	Malin Array Be	41.84	55	P	P	00 25 23.3	-0.3
	comp=Z,3.7nm,0.7s,mb4.2,baz=276,slow=8.4,SNR=16						
BRTR	Keskin Array B	47.70	69	P	P	00 26 11.6	+0.9
	comp=Z,2.2nm,1.0s,mb4.1,baz=270,slow=7.4,SNR=7.1						
BRTR				PcP	PcP	00 27 40.5	+0.2
	comp=Z,0.9nm,0.8s,baz=225,slow=5.2,SNR=4.1						
MALT	Malatya	51.68	68	eP	P	00 26 41.8	+0.5
	comp=Z,7.6nm,1.2s,mb4.5						
ARU	Arti	57.15	41	eP	P	00 27 20.5	-0.5
	comp=Z,12nm,1.1s,mb4.8						
BDFB	Brasilia	57.63	201	P	P	00 27 26.1	+1.1
	comp=Z,4.7nm,0.8s,mb4.5,baz=1.6,slow=5.0,SNR=6.2						
PDAR	Pinedale Array	58.09	301	P	P	00 27 25.9	-1.9
	comp=Z,3.7nm,0.9s,mb4.4,baz=59,slow=6.4,SNR=9.8						
BOZ	Bozeman (W)	58.16	305	eP	P	00 27 27.9	-0.4
	comp=Z,3.8nm,1.0s,mb4.4						
HWUT	Hardware Ranch	59.94	301	eP	P	00 27 39.6	-1.1
	comp=Z,8.7nm,1.0s,mb4.7						
DAU	Daniels Canyon	60.30	300	P	P	00 27 38.8	-4.4
NEW	Newport	60.35	310	eP	P	00 27 41.8	-1.6
	comp=Z,9.7nm,1.0s,mb4.8						
TXAR	Lajitas Array	60.38	285	P	P	00 27 42.9	-1.0
	comp=Z,1.4nm,0.9s,mb4.0,baz=70,slow=5.4,SNR=10						
HLID	Hailey	60.88	304	eP	P	00 27 47.2	+0.2
	comp=Z,3.8nm,1.1s,mb4.4						
DUG	Dugway	61.45	300	eP	P	00 27 50.6	-0.3
	comp=Z,0.5nm,1.1s,mb3.6						
MSU	Marysvale	61.84	298	P	P	00 27 53.2	-0.5
ELK	Elko	62.78	302	eP	P	00 28 00.0	+0.1
	comp=Z,2.5nm,0.9s,mb4.3						
ZRNK	Zerenda	64.12	42	eP	P	00 28 08.3	-0.2
	comp=Z,2.1nm,0.8s,mb4.2						
BRVK	Borovoye	64.72	41	eP	P	00 28 12.7	+0.3
	comp=Z,5.1nm,1.1s,mb4.5						
ILAR	Eielson Array	65.02	335	P	P	00 28 12.2	-1.9
	comp=Z,0.2nm,0.5s,mb3.4,baz=215,slow=20,SNR=3.4						
TPNV	Topopah Spring	65.42	298	P	P	00 28 16.4	-0.7
MOD	Modoc	65.46	305	eP	P	00 28 18.4	+1.1
KURK	Kurchatov	70.28	40	P	P	00 28 47.6	+0.3
	comp=Z,35nm,0.9s,mb5.3,SNR=7.7						
KURK	Kurchatov	70.28	40	eP	P	00 28 47.2	-0.1
	comp=Z,7.8nm,1.1s,mb4.5						
MKAR	Makanchi Array	74.67	41	P	P	00 29 13.7	+0.4
	comp=Z,6.3nm,0.8s,mb4.6,baz=307,slow=6.1,SNR=27						
KSH	Kashi	75.94	50	eP	P	00 29 28.1	+7.4
KSH				AP	pP	00 29 32.5	+6.4
KSH				XP	sP	00 29 35.0	+7.0
KSH				PCP	PcP	00 29 40.1	+6.6
WMQ	Urumqi	79.48	41	eP	P	00 29 42.5	+2.4
WMQ				AP	pP	00 29 47.3	+1.8
WMQ				XP	sP	00 29 49.5	+2.1
WMQ				AMB	AMB		
	comp=Z,8.0nm,1.2s,mb4.5						
WMQ				LR	LR		
	comp=E,84nm,20.1s						
WMQ				LR	LR		
	comp=Z,75nm,18.2s,MS4.1						
SONM	Songino Array	84.51	28	P	P	00 30 07.1	+1.0
	comp=Z,0.6nm,0.3s,mb4.2,baz=315,slow=5.2,SNR=6.3						
CN2	Changchun	93.92	18	eP	P	00 30 50.3	-0.6
NJ2	Nanjing	102.88	27	eP	Pdif	00 31 31.3	-0.5
NJ2				AP		00 31 36.1	
NJ2				PP	PP	00 35 50.6	+1.9
NJ2				S	S	00 43 12.0	-0.8
NJ2				XS		00 43 24.0	
WRA	Warramunga Arr	155.97	40	PKPab	PKPab	00 37 54.8	-1.4
	comp=Z,1.3nm,0.8s,baz=340,slow=4.1,SNR=4.7						
ASAR	Alice Springs	158.79	46	PKPab	PKPab	00 38 07.4	-0.8
	comp=Z,1.5nm,1.0s,baz=338,slow=4.9,SNR=6.0						

JMA 15 00:21:18.8±0.8**, 32.10N**×**142.34E, M3.8, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BSO3	Boso 3	3.10	331	P	Pn	00 22 11.3	+1.4
BSO3				eS	Sn	00 22 47.5	-0.7
BSO4	Boso 4	3.33	330	P	Pn	00 22 14.4	+1.2
JOD2	Odawara 2	4.16	320	P	Pn	00 22 25.8	+0.8
JOD2				S	Sn	00 23 16.1	+1.1
JHU	Hanno	4.52	327	P	Pn	00 22 31.0	+0.9
JHU				eS	Sn	00 23 22.2	-2.1
JYN	Shimob	4.63	318	P	Pn	00 22 32.4	+0.7
JHO	Hitachi	4.73	342	eS	Sn	00 23 23.5	-6.0
JRY	Ryogami san	4.84	325	P	Pn	00 22 34.6	0.0
JRY				eS	Sn	00 23 31.2	-1.0
JAG	Ashikaga	4.93	332	P	Pn	00 22 35.6	-0.3
JAG				eS	Sn	00 23 31.2	-3.4
JNY	Yasuok	4.95	312	P	Pn	00 22 39.1	+2.9
JNT	Takato	5.13	318	P	Pn	00 22 40.2	+1.4
JNG	Nsakai	5.55	322	P	Pn	00 22 45.7	+1.1
OFUJ	Ofunato	6.99	356	P	Pn	00 23 00.1	-4.8

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*SVSA **15** 00:28:11.0±1.3, 39.85N×29.61W, h5^{km}, MD3.5, ML3.5, Error ellipse: s-maj=11.4km s-min=8.5km az=76.0*

*IDC **15** 00:28:11.3±2.7, 40.47N×29.90W, mb4.0/6, mb1 4.3/7, mb1mx3.9/23, ML4.8/1, Error ellipse: s-maj=107.0km s-min=20.0km az=179.0*

ISC 15 00:28:08.1±0.6**, 39.75N**±0.06×**29.51W**±0.08**, h10^{km}, n38, σ0^{s}75**/41**, mb4.0**/6**, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCED	Cedros	1.28	151	eP	Pb	00 28 32.0	+0.1
CALA	Caldeira	1.33	152	eP	Pb	00 28 33.2	+0.6
CALA				eS	Sb	00 28 49.9	+0.4
STGR	Santa Cruz	1.34	119	eP	Pb	00 28 33.5	+0.6
STGR				eS	Sb	00 28 49.3	-0.7
	106nm,0.5s						
ROSA	Rosais	1.42	136	eP	Pn	00 28 34.3	+0.2
PICO	Pico	1.51	146	eP	Pn	00 28 35.8	+0.5
PICO				eS	Sb	00 28 54.5	-0.2
PMAN	Manadas	1.57	135	eP	Pn	00 28 36.1	-0.1
PPNO	Prainha do Nor	1.60	142	eP	Pn	00 28 36.5	-0.2
PSBA	Serra de Santa	1.96	119	eP	Pn	00 28 42.0	+0.3
ASBA	Santa Barbara	1.98	121	eP	Pn	00 28 42.5	+0.4
PBIS	Biscoitos	2.01	119	eP	Pn	00 28 42.5	0.0
PBIS				eS	Sn	00 29 06.1	-1.8
	64nm,0.3s						
PPAD	Pico dos Padre	2.02	121	eP	Pn	00 28 42.8	+0.2
PVNV	Vila Nova	2.08	118	eP	Pn	00 28 43.3	-0.1
PVNV				eS	Sn	00 29 07.7	-1.9
ADH	Angra Heroismo	2.08	121	eP	Pn	00 28 43.7	+0.3
ADH				e-		00 29 25.0	
RIB2	Ribeirinha	2.11	120	eP	Pn	00 28 43.5	-0.4
PFAV	Pico das Favas	2.15	118	eP	Pn	00 28 44.7	+0.2
SET4	Mosteiros	3.45	122	eP	Pn	00 29 03.2	+0.2
SET2	Ginetes	3.46	122	eP	Pn	00 29 03.1	-0.1
PFET	Feteiras	3.49	122	eP	Pn	00 29 03.7	+0.1
PSAN	Santo Antonio	3.51	122	eP	Pn	00 29 04.7	+0.8
FAC	Faja de Cima	3.60	122	eP	Pn	00 29 05.4	+0.2
PDA	Ponta Delgada	3.61	122	eP	Pn	00 29 06.3	+1.0
CML	Cha da Macela	3.67	121	eP	Pn	00 29 05.8	-0.4
PVER	Pico Vermelho	3.68	121	eP	Pn	00 29 05.8	-0.5
LFA	Lagoa do Fogo	3.71	121	eP	Pn	00 29 05.9	-0.9
MESC	Monte Escuro	3.73	120	eP	Pn	00 29 07.7	+0.7
PRCH	Ribeira Ch	3.74	121	eP	Pn	00 29 07.2	0.0
VIF	Vila Franca	3.76	121	eP	Pn	00 29 08.7	+1.3
PCNG	Congro	3.77	120	e-		00 29 09.7	
PFAD	Fenais da Ajud	3.79	119	eP	Pn	00 29 07.5	-0.3
MIRA	Miradouro	3.84	119	e-		00 29 09.4	
PSMN	Pico do Norte,	4.44	127	eP	Pn	00 29 17.0	-0.1
ESDC	Sonseca Array	19.64	82	P	P	00 32 44.8	+5.3
	0.6nm,0.3s,baz=284,slow=8.8,SNR=8.7						
AKASG	Malin Array Be	41.76	55	P	P	00 35 59.6	+0.9
	2.7nm,0.9s,mb3.9,baz=277,slow=8.2,SNR=9.0						
BRTR	Keskin Array B	47.62	69	P	P	00 36 49.8	+3.7
	1.3nm,1.0s,mb3.9,baz=260,slow=7.5,SNR=3.7						
PDAR	Pinedale Array	58.06	301	P	P	00 38 02.2	-1.3
	2.3nm,0.9s,mb4.2,baz=63,slow=9.9,SNR=9.6						
NEW	Newport	60.31	310	P	P	00 38 18.1	-0.9
	2.8nm,0.8s,mb4.4,baz=25,slow=6.3,SNR=3.7						
TXAR	Lajitas Array	60.38	285	P	P	00 38 18.4	-1.4
	0.8nm,0.8s,mb3.8,baz=77,slow=6.5,SNR=7.1						
MKAR	Makanchi Array	74.57	41	P	P	00 39 49.9	+1.3
	2.3nm,0.8s,mb4.2,baz=315,slow=5.1,SNR=12						

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*IDC **15** 00:28:54.0±2.9, 40.50N×29.67W, mb4.2/5, mb1 4.5/6, mb1mx4.0/23, ML4.6/1, MS3.9/1, Ms1 3.9/1, ms1mx3.9/3, Error ellipse: s-maj=112.0km s-min=21.8km az=178.0*

*SVSA **15** 00:28:57.1±0.8, 39.93N×29.27W, h10^{km}, ML3.4, Error ellipse: s-maj=7.8km s-min=4.8km az=88.0*

ISC 15 00:28:51.6±0.7**, 39.86N**±0.06×**29.31W**±0.09**, h10^{km}, n33, σ1^{s}07**/33**, mb4.2**/5**, MS3.9**/1**, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STGR	Santa Cruz	1.27	127	eS	Sb	00 29 31.7	+0.2
	110nm,0.3s						
CALA	Caldeira	1.36	159	eP	Pb	00 29 18.5	+1.8
CALA				eS	Sb	00 29 34.3	+0.3
ROSA	Rosais	1.41	144	eP	Pn	00 29 19.1	+1.7
PICO	Pico	1.52	153	eS	Sb	00 29 37.4	-1.2
ASBA	Santa Barbara	1.91	126	eP	Pn	00 29 25.4	+0.8
PBIS	Biscoitos	1.93	124	eP	Pn	00 29 25.5	+0.6
PBIS				eS	Sn	00 29 47.3	-2.2
	75nm,0.4s						
PPAD	Pico dos Padre	1.95	126	eP	Pn	00 29 25.9	+0.8
PVNV	Vila Nova	2.00	123	eS	Sn	00 29 48.4	-2.7
RIB2	Ribeirinha	2.04	125	eP	Pn	00 29 27.5	+1.1
PFAV	Pico das Favas	2.07	123	eS	Sn	00 29 51.6	-1.4
SET4	Mosteiros	3.38	125	eP	Pn	00 29 45.5	-0.1
SET2	Ginetes	3.39	125	eP	Pn	00 29 46.2	+0.4
PFET	Feteiras	3.42	125	eP	Pn	00 29 46.0	-0.1
PSAN	Santo Antonio	3.44	124	eP	Pn	00 29 46.6	+0.2
FAC	Faja de Cima	3.53	125	eP	Pn	00 29 48.1	+0.3
CML	Cha da Macela	3.60	124	eP	Pn	00 29 48.9	+0.2
PVER	Pico Vermelho	3.61	124	eP	Pn	00 29 48.4	-0.4
LFA	Lagoa do Fogo	3.64	124	eP	Pn	00 29 49.3	0.0
MESC	Monte Escuro	3.65	123	eP	Pn	00 29 49.6	+0.1
PRCH	Ribeira Ch	3.67	124	e-	Pn	00 29 50.0	+0.3
VIF	Vila Franca	3.69	124	e-	Pn	00 29 50.7	+0.8
PCNG	Congro	3.70	123	e-	Pn	00 29 50.8	+0.7
PFAD	Fenais da Ajud	3.71	122	e-	Pn	00 29 51.2	+1.0
MIRA	Miradouro	3.77	122	eP	Pn	00 29 51.3	+0.2
PSMN	Pico do Norte,	4.38	129	e-	Sn	00 30 49.0	-2.6
ESDC	Sonseca Array	19.47	82	P	P	00 33 26.6	+5.3
	0.4nm,0.3s,baz=287,slow=9.1,SNR=8.4						
AKASG	Malin Array Be	41.57	55	P	P	00 36 41.2	+0.4
	2.7nm,0.8s,mb3.9,baz=275,slow=8.5,SNR=7.4						
BRTR	Keskin Array B	47.44	69	LR	LR	00 57 48.0	
	comp=Z,126nm,19.4s,MS3.9,baz=290,slow=36						
PDAR	Pinedale Array	58.14	301	P	P	00 38 45.5	-2.1
	2.1nm,0.9s,mb4.2,baz=68,slow=8.0,SNR=6.8						
NEW	Newport	60.36	310	P	P	00 39 02.0	-0.9
	2.6nm,0.8s,mb4.3,baz=85,slow=3.6,SNR=4.4						
TXAR	Lajitas Array	60.51	285	P	P	00 39 02.3	-1.9
	1.5nm,1.0s,mb4.1,baz=90,slow=6.3,SNR=5.6						
MKAR	Makanchi Array	74.39	42	P	P	00 40 31.9	+0.8
	3.2nm,0.9s,mb4.2,baz=325,slow=5.6,SNR=7.7						
ASAR	Alice Springs	158.51	46	PKPab	PKPab	00 49 26.1	-0.5
	2.3nm,1.2s,baz=346,slow=5.5,SNR=4.9						

CASC 15 00:36:48.4±1.7**, 7.35N**×**82.50W, h6^{km}**±8^{km}**, MD4.3, MW3.4, 6C-2D, South of Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PTP1	Petroterminal	0.85	5⇑	eP	Pb	00 37 06.2	+1.0
DVD	David	1.08	3	eP	Pb	00 37 07.8	-1.3
BRU2	Volcan	1.44	353	eP	Pn	00 37 14.1	-1.1
ACR	Cerro Adams	1.45	333⇓	eP	Pn	00 37 13.4	-1.9
CNI	Changuinola	2.05	360	eP	Pn	00 37 23.8	-0.1
AZU	Azuero	2.25	79	eP	Pn	00 37 24.8	-2.0
AZU				eS	Sn	00 37 54.7	-0.6
BUS	Buena Vista	2.52	330⇑	eP	Pn	00 37 29.9	-0.7
BUS				eS	Sn	00 38 01.9	-0.1
URSC	Urasca	2.77	333⇓	eP	Pn	00 37 33.6	-0.6
LCR2	La Lucha 2	2.80	328	eP	Pn	00 37 33.7	-0.9
LCR2				eS	Sn	00 38 09.3	+0.1
LAJ	Bijagual	2.96	327⇑	eP	Pn	00 37 37.4	+0.4
PRS1	Puriscal	3.17	326⇑	eP	Pn	00 37 37.9	-1.9
CGA2	Cerro Gallo 2	3.28	324⇑	eP	Pn	00 37 40.3	-1.1
UPA	Univ. de Panam	3.35	61	eP	Pn	00 37 40.4	-2.1
UPA				eS	Sn	00 38 23.6	+0.4
TRTC	Tortuguero	3.42	340⇑	eP	Pn	00 37 42.6	-0.8
JCR	Jicaral	3.58	314	eP	Pn	00 37 45.0	-0.7
FORC	Fortuna	3.77	326	eP	Pn	00 37 48.6	+0.3
VCR	Vista de Mar	4.14	312	eP	Pn	00 37 52.4	-1.3

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*NAO **15** 01:03:13.0±2.0, 76.91N×18.13E, h10^{km}±23^{km}, ML2.4*

*BER **15** 01:03:15.0±5.9, 77.04N×19.21E, h15^{km}±77^{km}, ML2.4(NAO)*

ISC 15 01:03:10.0±1.1**, 76.87N**±0.08×**19.7E**±0.4**, h10^{km}, n4, σ1^{s}18**/7**, Svalbard region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HSP	Hornsund	0.96	281	ePg	Pg	01 03 30.6	+1.5
HSP				e(Sg)	Sg	01 03 41.5	-0.5
SPA0	Spitsbergen Ar	1.50	333	Pn	Pn	01 03 37.8	+0.6
	baz=150,slow=18						
SPA0				Lg		01 03 54.4	
	baz=150,slow=28						
KBS	Kingsbay	2.64	325	Pn	Pn	01 03 52.6	-0.8
KBS				Pg	Pg	01 03 58.9	-3.8
KBS				Lg		01 04 28.1	
ARA0	ARCESS Array S	7.55	164	Pn	Pn	01 05 04.0	+1.2
	baz=355,slow=12						
ARA0				Sn	Sn	01 06 28.4	-1.1
	baz=21,slow=22						

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*IDC **15** 01:13:56.5±3.7, 2.75S×139.50E, mb3.5/3, mb1 3.8/4, mb1mx3.7/11, ML3.8/1, Error ellipse: s-maj=122.0km s-min=27.6km az=91.0*

*NEIC **15** 01:14:03.0±2.5, 2.92S×139.42E, h45^{km}, mb3.7/1, Error ellipse: s-maj=66.4km s-min=22.7km az=91.0*

ISC 15 01:14:00.5±2.3**, 2.9S**±0.1×**139.2E**±0.4**, h33^{km}, n7, σ1^{s}13**/7**, mb3.4**/2**, Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	Kakadu	11.89	214	eP	P	01 16 50.2	-0.5
	4.4nm,0.4s						
WRAB	Tennant Creek	17.62	195	eP	P	01 18 03.4	-1.9
	4.6nm,0.7s						
WB2	Warramunga Arr	17.63	195	eP	P	01 18 07.2	+1.9
WRA	Warramunga Arr	17.64	195	P	P	01 18 04.5	-0.9
	0.3nm,0.3s,baz=14,slow=12,SNR=8.8						
FITZ	Fitzroy Crossi	20.17	220	P	P	01 18 35.9	+0.8
	3.3nm,1.1s,baz=51,slow=6.5,SNR=2.9						
ASAR	Alice Springs	21.32	194	P	P	01 18 47.5	+0.8
	1.3nm,0.6s,mb3.5,baz=24,slow=9.3,SNR=11						
MKAR	Makanchi Array	70.23	322	P	P	01 25 11.9	-0.3
	0.2nm,0.5s,mb3.3,baz=115,slow=7.8,SNR=3.4						

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*NEIC **15** 01:20:35.0, 34.20S×70.07W, h4^{km}, ML3.1(GUC), After GUC.*

GUC 15 01:20:35.0±0.9**, 34.20S**×**70.07W, h4^{km}**±2^{km}**, MD3.6, ML3.1, 4C-2D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CICH	Cipreses	0.32	248	iP	Pg	01 20 41.7	+0.4
CICH				iS	Sg	01 20 46.5	+0.9
LMEL	Las Melosas	0.37	342⇑	iP	Pg	01 20 43.0	+0.5
LMEL				iS	Sg	01 20 49.3	+1.8
LMEL				AMP		01 20 50.0	
	comp=N,4µm,0.3s						
CACH	El Canelo	0.45	281	iP	Pg	01 20 44.1	+0.1
CACH				iS	Sg	01 20 50.8	+0.8
CHCH	Chadas Angostu	0.56	299⇑	iP	Pg	01 20 46.5	+0.3
PCH	Pirque	0.69	327⇓	iP	Pg	01 20 48.8	0.0
ANTU	Antumapu	0.79	323	iS	Sg	01 21 02.2	+0.9
ANTU				AMP		01 21 03.0	
	comp=N,1µm,0.4s						
SFDO	San Fernando	0.88	242	iP	Pb	01 20 51.9	-0.6
SFDO				iS	Sg	01 21 05.5	+1.1
CLCH	Cerro Calan	0.90	334	AMP		01 21 09.7	
	comp=E,3µm,0.6s						
SAN	Santiago	0.90	326	AMP		01 21 05.9	
	comp=N,1µm,0.5s						
DSCH	Colegio Aleman	0.91	332⇑	iP	Pb	01 20 53.0	0.0
DSCH				iS	Sb	01 21 05.7	+0.6
DSCH				AMP		01 21 09.0	
	comp=N,2µm,0.7s						
TACH	Talagante	0.91	307⇓	iP	Pb	01 20 52.6	-0.4
TACH				iS	Sb	01 21 06.2	+1.0
RCDM	Rinconada Maip	0.94	319⇑	iP	Pb	01 20 53.2	-0.4
RCDM				iS	Sb	01 21 06.5	+0.3
RCDM				AMP		01 21 06.8	
	comp=E,672nm,0.2s						
LNV	Longovilo	1.14	282	iP	Pb	01 20 56.3	-0.7
LNV				iS	Sb	01 21 12.6	+0.6
LCCH	Las Cruces	1.45	300	eP	Pn	01 21 01.4	-0.6
MDZ	Mendoza	1.66	38	eP	Pn	01 21 06.1	+0.9
MDZ				iS	Sb	01 21 30.9	+3.8

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*CASC **15** 01:35:46.5±2.5, 11.43N×87.40W, h104^{km}±32^{km}, MD4.1*

ISC 15 01:35:46.4±0.8**, 11.4N**±0.1×**87.4W**±0.1**, h99^{km}**±26^{km}**, n26, σ1^{s}14**/33**, 4C-6D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
COPN	Copaltepe	1.13	46⇓	eP	P	01 36 07.5	-1.0
COPN				eS	S	01 36 26.2	+1.2
LEON	Leon	1.14	27⇑	iP	P	01 36 08.4	-0.3
CRUN	El Crucero	1.24	62⇑	eP	P	01 36 08.8	-1.1
CRUN				eS	S	01 36 28.5	+1.0
MIRN	Miramar	1.25	33⇓	eP	P	01 36 09.6	-0.4
MIRN				eS	S	01 36 32.2	+4.5
XAVN	Gruta Xavier	1.31	55⇓	eP	P	01 36 09.7	-1.0
CNGN	Cerro Negro	1.31	32	eP	P	01 36 10.3	-0.4
TICN	Ticuantepe	1.33	61	eP	P	01 36 09.9	-1.0
MOMJ	Momotombo	1.33	40⇑	eP	P	01 36 10.3	-0.6
APYN	Apoyeque	1.34	51⇓	eP	P	01 36 10.0	-1.0
MGAN	Managua	1.37	57⇓	eP	P	01 36 10.4	-1.0
MGAN				eS	S	01 36 32.4	+2.3
APON	Apoyo	1.42	68⇓	eP	P	01 36 10.8	-1.2
PYTN	Playitas	1.75	49⇑	eP	P	01 36 15.5	-0.7
CRZC	La Cruz	1.84	103	eP	P	01 36 14.8	-2.4
CNCH	Conchagua	1.92	348	eP	P	01 36 19.1	+0.7
QUIN	Quiabu	1.98	29	eP	P	01 36 19.2	+0.1
VCR	Vista de Mar	2.16	125	eP	P	01 36 22.9	+1.4
SOMN	Somoto	2.17	21	eP	P	01 36 23.8	+2.2
LCBS	La Ceiba	2.72	326	eP	P	01 36 30.6	+1.3
LCBS				eS	S	01 37 01.2	-0.2
JCR	Jicaral	2.73	124	eP	P	01 36 28.2	-1.2
CGA2	Cerro Gallo 2	3.21	115	eP	P	01 36 37.5	+1.6
PRS1	Puriscal	3.36	114	eP	P	01 36 39.3	+1.3
LAJ	Bijagual	3.58	115	eP	P	01 36 36.6	-4.4
TRTC	Tortuguero	3.73	102	eP	P	01 36 42.1	-0.9
URSC	Urasca	3.90	113	eP	P	01 36 46.5	+1.1
BUS	Buena Vista	4.03	117	eP	P	01 36 47.9	+0.6
BUS				eS	S	01 37 28.9	-4.7
ACR	Cerro Adams	4.99	123	eP	P	01 37 00.7	+0.3
ACR				eS	S	01 37 52.4	-4.8

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*WAR **15** 02:16:27.9, 51.45N×16.08E, ML2.7, Mining Induced*

*PRU **15** 02:16:28.1, 51.43N×16.08E*

ISC 15 02:16:26.8±1.3**, 51.40N**±0.05×**15.98E**±0.07**, n9, σ0^{s}87**/20**, 1C, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	Ksiaz	0.59	160	ePG	Pg	02 16 39.0	+0.3
KSP				eSG	Sg	02 16 47.0	+0.4
UPC	Upice	0.90	179	ePG	Pg	02 16 45.2	+0.5
UPC				eSG	Sg	02 16 57.4	+0.7
DPC	Dobruska-Polom	1.08	168	ePG	Pg	02 16 48.0	-0.3
DPC				eSG	Sg	02 17 02.8	+0.2
PVCC	Panska Ves	1.25	226	ePG	Pg	02 16 52.7	+1.0
PVCC				eSG	Sg	02 17 10.2	+1.8
PRU	Pruhonice	1.69	213	ePG	Pg	02 17 00.0	-0.4
PRU				eSG	Sg	02 17 23.0	+0.1
	8.2nm,0.4s						
CLL	Collm	1.87	268	ePG	Pg	02 17 04.0	-0.1
CLL				eSG	Sg	02 17 30.0	+1.0
NKC	Novy Kostel	2.53	244	ePG	Pg	02 17 16.3	-0.9
NKC				eSG	Sg	02 17 50.6	-0.3
KHC	Kasperske Hory	2.75	215	ePN	Pn	02 17 13.6	+0.7
KHC				ePG	Pg	02 17 19.2	-2.4
KHC				eSN	Sn	02 17 45.9	-1.4
KHC				eSG	Sg	02 17 57.8	-0.4
MOA	Molln	3.73	198⇑	iPN	Pn	02 17 26.7	-0.1
MOA				iSG	Sg	02 18 29.9	-1.0
	1.1nm,0.4s						

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*MOS **15** 02:31:42.4±1.1, 39.58N×29.74W, h10^{km}, mb5.0/5, MS4.6/7, Error ellipse: s-maj=56.0km s-min=11.0km az=47.9*

*IDC **15** 02:31:44.4±0.6, 39.89N×29.68W, mb4.1/18, mb1 4.3/19, mb1mx4.3/24, ML5.2/1, MS4.5/22, Ms1 4.5/22, ms1mx4.4/27, Error ellipse: s-maj=19.7km s-min=14.4km az=159.0*

*BJI **15** 02:31:45.7, 39.90N×29.60W, h10^{km}, mB5.0, mb5.0, Ms4.6, Msz4.4*

*ZUR_RM **15** 02:31:45, 39.86N×29.60W, h12^{km}, Mw5.2/6, Moment Tensor Solution. s6 Moment tensor: Scale 10^{16}Nm; M_{rr}-8.23; $M_{\theta\theta}$2.75; $M_{\phi\phi}$5.49; $M_{r\theta}$-2.52; $M_{\theta\phi}$-0.02; $M_{\phi r}$0.32; Best double couple: $M_0$7.14×10^{16} NP1:ϕ_s166°, δ48°, λ-107°. NP2:ϕ_s10°, δ45°, λ-72°. Principal axes: T 5.496, Plg2°, Azm268°; N 3.292, Plg12°, Azm178°; P -8.788, Plg78°, Azm6°;*

*NEIC **15** 02:31:45.7±0.2, 39.86N×29.60W, h10^{km}, mb4.7/46, MS4.6/7 Error ellipse: s-maj=8.4km s-min=3.3km az=173.0*

*SVSA **15** 02:31:46.4±1.3, 39.90N×29.59W, h10^{km}, MD3.8, ML3.9, Error ellipse: s-maj=11.5km s-min=8.0km az=32.0*

ISC 15 02:31:43.4±0.2**, 39.70N**±0.03×**29.57W**±0.03**, h10^{km}, n157, σ0^{s}91**/151**, mb4.5**/67**, MS4.5**/31**, 1C, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCED	Cedros	1.27	148	eP	Pb	02 32 07.7	+0.8
CALA	Caldeira	1.31	149	eP	Pb	02 32 08.5	+0.9
STGR	Santa Cruz	1.36	117	eP	Pn	02 32 08.1	-0.5
STGR				eS	Sb	02 32 24.9	-1.0
	244nm,0.3s						
ROSA	Rosais	1.43	133	eP	Pn	02 32 09.6	+0.2
PICO	Pico	1.50	143	eP	Pn	02 32 11.1	+0.7
PICO				eS	Sb	02 32 29.9	+0.2
PMAN	Manadas	1.57	132	eP	Pn	02 32 11.5	0.0
PPNO	Prainha do Nor	1.60	140	eP	Pn	02 32 12.3	+0.4
PID	Ribeirinha	1.69	138	e-		02 32 14.7	
PSBA	Serra de Santa	1.98	117	eP	Pn	02 32 16.8	-0.6
ASBA	Santa Barbara	2.00	119	eP	Pn	02 32 17.7	0.0
PBIS	Biscoitos	2.03	117	eP	Pn	02 32 17.9	-0.2
PBIS				eS	Sn	02 32 41.3	-2.4

PPAD	**Pico dos Padre**	2.04	119	*e*P	Pn	02 32 18.2	0.0
ADH	**Angra Heroismo**	2.10	119	*e*P	Pn	02 32 18.4	-0.6
ADH				*e*LR	LR	02 32 55.0	
PVNV	**Vila Nova**	2.10	116	*e*P	Pn	02 32 18.1	-1.0
PVNV				*e*S	Sn	02 32 42.0	-3.4
RIB2	**Ribeirinha**	2.13	118	*e*P	Pn	02 32 18.8	-0.7
RIB2				*e*S	Sn	02 32 43.9	-2.3
PSCM	**Serra do Cume**	2.15	117	*e*P	Pn	02 32 19.7	-0.2
PSCM				*e*S	Sn	02 32 44.0	-2.8
	384nm,0.4s						
PFAV	**Pico das Favas**	2.17	116	*i* P	Pn	02 32 19.9	-0.2
PFAV				*e*S	Sn	02 32 43.8	-3.5
SET4	**Mosteiros**	3.47	121	*e*P	Pn	02 32 38.5	-0.1
SET2	**Ginetes**	3.48	121	*e*P	Pn	02 32 38.7	-0.1
PFET	**Feteiras**	3.50	121	*e*P	Pn	02 32 38.8	-0.3
PSAN	**Santo Antonio**	3.53	120	*e*P	Pn	02 32 39.8	+0.3
PSET	**Sete Cidades**	3.55	121	*e*P	Pn	02 32 39.6	-0.1
FAC	**Faja de Cima**	3.62	121	*e*P	Pn	02 32 41.1	+0.3
PDA	**Ponta Delgada**	3.63	121	*e*P	Pn	02 32 42.1	+1.2
CML	**Cha da Macela**	3.69	120	*e*P	Pn	02 32 41.8	0.0
PVER	**Pico Vermelho**	3.70	120	*e*P	Pn	02 32 41.7	-0.2
PMAT	**Coroa da Mata**	3.72	119	*e*P	Pn	02 32 43.7	+1.6
LFA	**Lagoa do Fogo**	3.73	120	*e*P	Pn	02 32 42.4	0.0
MESC	**Monte Escuro**	3.75	119	*e*P	Pn	02 32 42.6	0.0
PRCH	**Ribeira Ch**	3.76	120	*e*P	Pn	02 32 43.6	+0.9
VIF	**Vila Franca**	3.78	120	*e*P	Pn	02 32 43.6	+0.6
PCNG	**Congro**	3.79	119	*e*P	Pn	02 32 46.3	+3.1
PFAD	**Fenais da Ajud**	3.81	118	*e*P	Pn	02 32 44.6	+1.2
MIRA	**Miradouro**	3.86	118	*e*P	Pn	02 32 44.5	+0.3
PSMN	**Pico do Norte,**	4.45	126	*e*P	Pn	02 32 51.9	-0.7
EVO	**Evora**	16.77	87	*e*P	P	02 35 39.7	-0.2
	7.3nm,0.5s						
EVO				*e*R			
	4µm,20.8s						
MTE	**Manteigas**	16.88	81	*e*P	P	02 35 42.3	+1.1
ESDC	**Sonseca Array**	19.69	82	P	P	02 36 15.7	+0.2
	1.4nm,0.3s,baz=288,slow=9.4,SNR=10						
ESDC				LR	LR	02 42 53.1	
	comp=Z,2µm,18.2s,baz=280,slow=34						
ESDC	**Sonseca Array**	19.69	82	P	P	02 36 15.7	+0.2
ESDC				LR	LR	02 42 53.1	
MFF	**Saint Martin d**	22.46	62	*e*P	P	02 36 45.8	+1.9
	42nm,1.1s,mb4.5						
RJF	**Les Rejaudoux**	23.50	66	*e*P	P	02 36 54.1	+0.1
	30nm,1.3s,mb4.3						
RJF				*e*R			
	2µm,21.2s						
EKA	**Eskdalemuir Ar**	23.51	40	P	P	02 36 55.6	+1.6
	5.4nm,0.9s,mb4.0,baz=247,slow=6.4,SNR=5.9						
EKA	**Eskdalemuir Ar**	23.51	40	P	P	02 36 55.6	+1.6
CAF	**Calviac**	23.88	67	*e*P	P	02 36 57.1	-0.6
TCF	**Toulx Ste Croi**	24.05	64	*e*P	P	02 37 00.5	+1.2
	12nm,0.9s,mb4.0						
HYF	**Humbligny**	24.43	61	*e*P	P	02 37 02.9	-0.2
BGF	**Bois d'Agland**	24.51	63	*e*P	P	02 37 03.8	0.0
	55nm,1.0s,mb4.7						
AVF	**Avril sur Loir**	24.87	63	*e*P	P	02 37 07.6	+0.3
	99nm,1.8s,mb4.7						
SSF	**Saint Saulge**	25.00	62	*e*P	P	02 37 08.7	+0.1
	14nm,0.8s,mb4.2						
SMF	**Signal de Mont**	25.20	63	*e*P	P	02 37 10.0	-0.4
	43nm,1.2s,mb4.5						
LOR	**Lormes**	25.26	62	*e*P	P	02 37 11.0	0.0
	22nm,0.9s,mb4.4						
LOR				*e*R			
	2µm,22.8s						
BORG	**Borgarnes**	25.54	8	LR	LR	02 44 26.1	
	comp=Z,1µm,18.9s,MS4.4,baz=182,slow=30						
BAIF	**Baives**	25.87	55	*e*P	P	02 37 16.0	-0.7
	84nm,1.4s,mb4.8						
MEZF	**Maizieres J'vi**	26.18	59	*e*P	P	02 37 19.5	-0.1
	23nm,0.8s,mb4.5						
GIVF	**Givet**	26.27	55	*e*P	P	02 37 20.0	-0.4
SMRF	**Simiane la Rot**	26.40	69	*e*P	P	02 37 22.1	+0.4
ORIF	**Oris-en-Rattie**	26.59	67	*e*P	P	02 37 23.0	-0.4
ORIF				*e*R			
	1µm,22.2s						
CABF	**La Chapelle**	26.74	63	*e*P	P	02 37 25.2	+0.4
	42nm,1.2s,mb4.5						
HAU	**Haudompre**	27.00	60	*e*P	P	02 37 26.7	-0.4
HAU				*e*R			
	1µm,21.5s						
FRF	**La Foret Royal**	27.20	70	*e*P	P	02 37 28.4	-0.6
	84nm,1.7s,mb4.7						
CDF	**Champ du Feu**	27.65	59	*e*P	P	02 37 32.1	-0.9
	16nm,0.9s,mb4.4						
SBF	**Sospel**	27.75	69	*e*P	P	02 37 33.0	-1.0
	44nm,1.1s,mb4.7						
SCHQ	**Schefferville**	29.05	314	LR	LR	02 48 07.2	
	comp=Z,606nm,19.1s,MS4.2,baz=305,slow=34						
GRA1	**Grafenberg Arr**	30.33	57	*e*P	P	02 38 02.9	+5.8
	9.0nm,1.0s,mb4.5						
GRA1				LR	LR		
	comp=Z,1µm,20.2s,MS4.6						
GRF	**Grafenberg Arr**	30.33	57	*e*P	P	02 38 02.9	+5.8
GRF				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.5						
MOX	**Moxa**	30.65	55	*i* P	P	02 37 47.7	-12
MOX				L		02 49 23.0	
MOX	**Moxa**	30.65	55	*e*P	P	02 37 47.7	-12
MOX				MLR	MLR		
	comp=Z,1µm,18.0s,MS4.6						
NKC	**Novy Kostel**	31.15	56	*e*P	P	02 38 03.6	-0.7
NKC				LR		02 49 30.0	
	comp=Z,1.7nm,16.4s						
KHC	**Kasperske Hory**	31.85	58	*e*P	P	02 38 10.9	+0.5
KHC				LR		02 48 40.0	
	comp=Z,0.7nm,19.0s						
GERES	**GERESS Array B**	31.93	59	P	P	02 38 11.0	-0.2
	comp=Z,1.1nm,0.9s,mb3.7,baz=260,slow=8.1,SNR=5.9						
GERES	**GERESS Array B**	31.93	59	P	P	02 38 10.9	-0.2
BRG	**Berggiesshubel**	32.14	55	*e*P	P	02 38 16.2	+3.2
BRG				pmax	pmax		
	comp=Z,10.0nm,1.5s,mb4.4						
BRG				MLR	MLR		
	comp=N,590nm,17.9s,MS4.8						
BRG				MLR	MLR		
	comp=E,2µm,17.9s,MS4.8						
BRG	**Berggiesshubel**	32.14	55	*e*P	P	02 38 16.2	+3.2
	comp=E,10.0nm,1.5s,mb4.4						
PRU	**Pruhonice**	32.49	57	*e*P	P	02 38 15.9	-0.1
PRU				LR		02 50 00.0	
	comp=E,1.2nm,14.0s						
PVCC	**Panska Ves**	32.52	56	LR		02 50 00.0	
	comp=E,1.9nm,18.6s						
NOA	**NORSAR Array B**	32.85	36	P	P	02 38 19.1	+0.1
	comp=E,0.7nm,0.7s,mb3.7,baz=248,slow=7.9,SNR=3.3						
NOA				LR	LR	02 49 34.7	
	comp=E,513nm,19.3s,MS4.2,baz=250,slow=33						
JMIC	**Jan Mayen**	33.17	12	LR	LR	02 48 17.2	
	comp=E,550nm,19.4s,MS4.3,baz=272,slow=30						
UPC	**Upice**	33.44	56	*e*P	P	02 38 29.7	+5.4
DPC	**Dobruska-Polom**	33.64	56	*e*P	P	02 38 31.2	+5.2
DPC				LR		02 50 40.0	
	comp=E,1.6nm,16.3s						
GKP	**Gorka Klasztor**	34.32	51	*e*P	P	02 38 32.6	+0.7
OJC	**Ojcow**	35.87	56	*e*P	P	02 38 45.7	+0.5
OJC				*e*S	S	02 44 25.6	+3.4
OJC				LR	LR		
	comp=Z,1µm,20.0s,MS4.6						
PSZ	**Piszkesteto**	36.09	60	*e*P	P	02 38 48.1	+1.0
	comp=Z,12nm,1.2s,mb4.7						
KWP	**Kalwaria**	37.79	57	*e*P	P	02 39 02.5	+1.2
DBIC	**Dimbokro**	39.69	139	P	P	02 39 20.6	+3.0
	comp=Z,4.7nm,0.9s,mb4.2,baz=318,slow=11,SNR=4.1						
DBIC				LR	LR	02 54 40.5	
	comp=Z,404nm,18.4s,MS4.3,baz=309,slow=34						
FINES	**FINESS Array B**	39.90	38	P	P	02 39 19.1	+0.3
	comp=Z,1.1nm,0.6s,mb3.8,baz=239,slow=8.1,SNR=3.5						
FINES				LR	LR	02 54 14.5	
	comp=Z,771nm,19.0s,MS4.6,baz=266,slow=34						
ARCES	**ARCESS Array B**	41.33	26	P	P	02 39 30.8	+0.4
	comp=Z,2.3nm,0.8s,mb3.9,baz=264,slow=9.1,SNR=3.4						
ARCES				LR	LR	02 53 15.2	
	comp=Z,512nm,19.3s,MS4.4,baz=203,slow=31						
AKASG	**Malin Array Be**	41.82	55	P	P	02 39 34.4	-0.2
	comp=Z,4.2nm,0.8s,mb4.1,baz=274,slow=8.5,SNR=16						
AKASG				LR	LR	02 56 28.4	
	comp=Z,786nm,18.3s,MS4.6,baz=270,slow=36						
WVT	**Waverly**	45.41	285	P	P	02 40 04.3	+0.4
	comp=Z,3.6nm,0.9s,mb4.2						
OBN	**Obninsk**	45.57	47	*e*P	P	02 40 04.5	-0.4
OBN				*e*S	S	02 46 52.8	+6.4
OBN				pmax	pmax		
	comp=Z,27nm,1.4s,mb5.0						
OBN				MLR	MLR		
	comp=Z,600nm,17.0s,MS4.6						
ULM	**Lac du Bonnet**	46.62	306	LR	LR	02 58 50.2	
	comp=Z,958nm,18.4s,MS4.8,baz=249,slow=35						
OXF	**Oxford**	47.24	283	*e*P	P	02 40 19.0	+0.6
	comp=Z,46nm,1.1s,mb5.3						
BRTR	**Keskin Array B**	47.69	69	P	P	02 40 22.6	+0.7
	comp=Z,1.1nm,0.8s,mb3.9,baz=270,slow=6.2,SNR=4.1						
BRTR				LR	LR	03 00 43.1	
	comp=Z,219nm,19.6s,MS4.1,baz=320,slow=36						
ANN	**Anapa**	48.59	61	*e*P	P	02 40 41.7	+13
ANN				pmax	pmax		
	comp=Z,43nm,1.3s,mb5.3						
FFC	**Flin Flon**	49.19	313	*e*P	P	02 40 33.3	0.0
	comp=Z,18nm,1.3s,mb4.9						
MALT	**Malatya**	51.67	68	*e*P	P	02 40 52.5	+0.1
	comp=Z,9.3nm,1.3s,mb4.5						
DGMT	**Dagmar**	52.34	306	*e*P	P	02 40 57.0	-0.3
	comp=Z,31nm,1.3s,mb5.1						
ROSC	**El Rosal**	53.18	241	LR	LR	03 00 19.9	
	comp=Z,804nm,21.3s,MS4.7,baz=48,slow=32						
YKA	**Yellowknife Ar**	53.52	325	LR	LR	03 01 33.4	
	comp=Z,286nm,18.6s,MS4.4,baz=75,slow=34						
ZEI	**Tsey**	53.69	61	*e*P	P	02 41 03.0	-4.4
ZEI				*i*		02 48 52.0	
WMOK	**Wichita Mounta**	54.10	288	P	P	02 41 07.9	-2.5
	comp=Z,1.4nm,0.8s,mb3.9						
LAO	**LASA Array**	54.26	304	*e*P	P	02 41 10.4	-1.1
	comp=Z,29nm,1.2s,mb5.1						
JCT	**Junction City**	56.88	284	*e*P	P	02 41 30.4	-0.3
	comp=Z,12nm,1.6s,mb4.7						
JTS	**JuntasAbangare**	57.03	255	LR	LR	03 01 56.3	
	comp=Z,573nm,20.9s,MS4.7,baz=347,slow=32						
ARU	**Arti**	57.11	41	⇑*i*P	P	02 41 31.8	-0.2
ARU				*i*		02 42 24.3	
ARU				*e*		02 43 38.2	
ARU				*e*PPP	PPP	02 44 56.4	-3.7
ARU				*e*S	S	02 49 28.3	+3.2
ARU				*e*SS	SS	02 53 17.0	+1.6
ARU				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.8						
ARU	**Arti**	57.11	41	*e*P	P	02 41 31.4	-0.6
	comp=Z,10nm,1.0s,mb4.8						
SDCO	**Great Sand Dun**	57.55	294	P	P	02 41 33.8	-1.6
	comp=Z,6.9nm,1.1s,mb4.6						
SAML	**Samuel**	57.56	220	*e*P	P	02 41 34.9	-0.9
	comp=Z,2.8nm,1.0s,mb4.2						
BAO	**Brasilia Array**	57.67	201	*e*P	P	02 41 37.9	+1.4
BDFB	**Brasilia**	57.68	201	P	P	02 41 37.5	+1.0
	comp=Z,14nm,1.1s,mb4.9,baz=3.0,slow=7.3,SNR=7.6						
BDFB				LR	LR	03 03 05.8	
	comp=Z,587nm,19.1s,MS4.7,baz=33,slow=32						
PDAR	**Pinedale Array**	58.05	301	P	P	02 41 37.4	-1.4
	comp=Z,3.7nm,0.9s,mb4.4,baz=63,slow=6.6,SNR=19						
PDAR				LR	LR	03 06 41.9	
	comp=Z,982nm,18.2s,MS5.0,baz=102,slow=36						
BOZ	**Bozeman (W)**	58.12	305	*e*P	P	02 41 38.6	-0.5
	comp=Z,10nm,1.2s,mb4.7						
INK	**Inuvik**	58.57	335	P	P	02 41 40.5	-1.6
	comp=Z,2.2nm,0.9s,mb4.2,baz=19,slow=7.5,SNR=3.6						
HWUT	**Hardware Ranch**	59.90	301	*e*P	P	02 41 51.2	-0.5
	comp=Z,17nm,1.0s,mb5.0						
DAU	**Daniels Canyon**	60.26	300	*e*P	P	02 41 54.1	-0.1
NEW	**Newport**	60.30	310	*e*P	P	02 41 53.0	-1.3
	comp=Z,23nm,1.3s,mb5.0						
LTX	**Lajitas**	60.35	285	P	P	02 41 55.2	+0.3
	comp=Z,2.7nm,0.6s,mb4.5						
TXAR	**Lajitas Array**	60.35	285	P	P	02 41 54.7	-0.2
	comp=Z,3.3nm,1.0s,mb4.3,baz=76,slow=7.2,SNR=10						
TXAR				LR	LR	03 06 19.8	
	comp=Z,543nm,20.3s,MS4.7,baz=75,slow=34						
HLID	**Hailey**	60.84	304	*e*P	P	02 41 58.1	+0.1
	comp=Z,5.6nm,1.0s,mb4.7						
DPW	**Davenport**	61.13	310	*e*P	P	02 41 58.6	-1.4
DUG	**Dugway**	61.41	300	*e*P	P	02 42 01.8	-0.2
	comp=Z,0.9nm,1.1s,mb3.8						
MSU	**Marysvale**	61.81	298	*e*P	P	02 42 05.1	+0.5
DLBC	**Dease Lake**	62.13	324	P	P	02 42 06.8	+0.2
	comp=Z,6.3nm,1.2s,mb4.6,baz=69,slow=12,SNR=3.7						
LNOR	**Lincton Mounta**	62.14	308	*e*P	P	02 42 05.8	-1.0
ELK	**Elko**	62.75	302	*e*P	P	02 42 10.3	-0.6
	comp=Z,6.2nm,1.0s,mb4.7						
WUAZ	**Wupatki**	62.76	295	*e*P	P	02 42 11.8	+0.8
	comp=Z,6.7nm,1.0s,mb4.7						
ARUT	**Antelope Range**	63.03	298	*e*P	P	02 42 13.3	+0.5
TUC	**Tucson**	64.01	291	P	P	02 42 20.3	+1.0
	comp=Z,3.6nm,1.2s,mb4.3						
WVOR	**Wild Horse Val**	64.08	305	*e*P	P	02 42 20.2	+0.6
	comp=Z,16nm,1.1s,mb5.0						
ZRNK	**Zerenda**	64.09	42	*e*P	P	02 42 19.4	-0.1
	comp=Z,2.9nm,0.8s,mb4.4						
BRVK	**Borovoye**	64.68	41	*e*P	P	02 42 22.7	-0.6
	comp=Z,5.2nm,1.1s,mb4.5						
ILAR	**Eielson Array**	64.97	335	P	P	02 42 23.6	-1.4
	comp=Z,0.5nm,0.9s,mb3.5,baz=41,slow=6.3,SNR=4.5						
ILAR				LR	LR	03 07 59.3	
	comp=Z,158nm,18.1s,MS4.2,baz=92,slow=34						
TPNV	**Topopah Spring**	65.38	298	P	P	02 42 28.8	+0.7
	comp=Z,4.7nm,1.1s,mb4.4						
MOD	**Modoc**	65.42	305	*e*P	P	02 42 26.9	-1.4
	comp=Z,10nm,1.1s,mb4.8						
TPH	**Tonopah**	65.44	300	*e*P	P	02 42 27.9	-0.6
	comp=Z,10nm,1.1s,mb4.8						
MNV	**Mina**	65.87	301	*e*P	P	02 42 30.5	-0.7
	comp=Z,3.3nm,1.0s,mb4.3						
NVAR	**Mina Array Bea**	65.97	301	P	P	02 42 32.2	+0.4
	comp=Z,1.1nm,0.9s,mb3.9,baz=61,slow=7.1,SNR=5.2						
LPAZ	**La Paz**	66.30	221	P	P	02 42 36.0	+1.7
	comp=Z,1.3nm,0.3s,mb4.5,baz=297,slow=0.4,SNR=4.3						
LPAZ				LR	LR	03 09 28.7	
	comp=Z,204nm,20.1s,MS4.3,baz=23,slow=34						
KURK	**Kurchatov**	70.24	40	*e*P	P	02 42 58.9	+0.6
KURK	**Kurchatov**	70.24	40	*e*P	P	02 42 58.2	-0.1
	comp=Z,5.0nm,1.0s,mb4.4						
CPUP	**Villa Florida**	70.61	206	LR	LR	03 09 54.8	
	comp=Z,217nm,20.0s,MS4.4,baz=36,slow=32						
FRU	**Bishkek**	73.03	48	*e*P	P	02 43 17.0	+1.9
FRU				MLR	MLR		
	comp=Z,500nm,18.0s,MS4.8						
KMBO	**Kilima Mbogo**	73.07	106	LR	LR	03 17 05.1	
	comp=Z,479nm,18.1s,MS4.8,baz=100,slow=37						
AAK	**Ala-Archa**	73.08	48	*e*P	P	02 43 14.2	-1.2
AAK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
AAK				MLR	MLR		
	comp=Z,400nm,19.0s,MS4.7						
MKAR	**Makanchi Array**	74.64	41	P	P	02 43 25.0	+0.7
	comp=Z,3.9nm,0.8s,mb4.4,baz=317,slow=5.4,SNR=22						
MKAR				LR	LR	03 16 14.3	
	comp=Z,543nm,19.7s,MS4.8,baz=312,slow=36						
YAK	**Yakutsk**	77.23	10	*e*P	P	02 43 30.5	-8.2
YAK				pmax	pmax		
	comp=E,13nm,1.2s						
YAK				pmax	pmax		
	comp=N,11nm,1.3s						
BOD	**Bodaibo**	78.16	19	*e*P	P	02 43 42.9	-0.9
ZAK	**Zakamensk**	81.21	28	*e*P	P	02 44 01.1	+0.7
SONM	**Songino Array**	84.46	28	P	P	02 44 18.4	+1.2
	comp=N,1.9nm,0.7s,mb4.3,baz=284,slow=5.1,SNR=4.8						
LZH	**Lanzhou**	93.23	36	*e*P	P	02 44 59.1	-0.1
LZH				PP	PP	02 48 44.4	-1.2
LZH				AMB	AMB		
	comp=Z,13nm,1.4s,mb5.2						
LZH				LR	LR		
	comp=N,205nm,18.2s						
LZH				LR	LR		
	comp=Z,281nm,20.0s,MS4.7						
LZH	**Lanzhou**	93.23	36	*e*P	P	02 44 59.1	-0.1
	comp=Z,13nm,1.4s,mb5.2						
LZH				pP	pP	02 45 02.0	-0.4
LZH				sP	sP	02 45 04.0	+0.6
LZH				PP	PP	02 48 44.4	-1.2
LZH				LR	LR		
	comp=Z,280nm,20.0s,MS4.7						
CN2	**Changchun**	93.87	18	*e*P	P	02 45 01.4	-0.5
BJI	**Beijing**	94.69	26	*e*P	P	02 45 07.8	+2.0
BJI				LR	LR		
	comp=Z,181nm,30.5s,MS4.3						
KMI	**Kunming**	101.66	43	*e*P	P	02 45 39.0	+1.3
KMI				S	S	02 57 15.3	+0.4
KMI				LR	LR		
	comp=Z,157nm,30.5s,MS4.3						
KMI	**Kunming**	101.66	43	*e*P	P	02 45 39.0	+1.3
	comp=Z,15nm,0.6s						
KMI				S	S	02 57 15.2	+0.3
KMI				SS	SS	03 04 18.1	-3.2
KMI				SSS	SSS	03 08 12.9	-1.1
KMI				LR	LR		
	comp=Z,160nm,30.5s,MS4.3						
NJ2	**Nanjing**	102.83	27	*e*P	Pdif	02 45 42.3	-0.5
WRA	**Warramunga Arr**	155.93	40	PKPab	PKPab	02 52 07.0	-0.2
	comp=Z,1.1nm,1.1s,baz=350,slow=3.8,SNR=3.6						
ASAR	**Alice Springs**	158.76	46	PKP	PKPdf	02 51 44.5	+0.2
	comp=Z,0.8nm,1.1s,baz=39,slow=2.6,SNR=4.0						
ASAR				PKPab	PKPab	02 52 18.7	-0.7
	comp=Z,1.0nm,0.8s,baz=318,slow=3.6,SNR=5.6						

MOS ***15*** *02:37:27.2±1.7, 47.57N×139.48E, h442^{km}, mb3.5/7, Error ellipse: s-maj=25.9km s-min=13.1km az=129.6*

IDC ***15*** *02:37:27.1±1.0, 47.31N×139.27E, h440^{km}±15^{km}, mb3.3/15, mb1 3.5/16, mb1mx3.4/25, Error ellipse: s-maj=18.0km s-min=11.7km az=174.0*

BJI ***15*** *02:37:28.7, 47.30N×139.20E, h460^{km}, mb4.4*

SKHL ***15*** *02:37:28.0±0.8, 47.16N×139.30E, h473^{km}±16^{km}, mb4.5/7, msh4.9/1*

NEIC ***15*** *02:37:28.8±0.5, 47.35N×139.23E, h460^{km}±7^{km}, mb4.1/5, Error ellipse: s-maj=14.7km s-min=6.9km az=174.0*

JMA ***15*** *02:37:29.1±0.4, 46.77N×139.71E, h481^{km}, M3.6*

ISC 15 02:37:26.7±0.3**, 46.97N**±0.06×**139.32E**±0.07**, h472**^{km}±4^{km}**, n66, σ**0^{s}**98**/78**, mb3.6**/19**, 1C-5D, Primorye**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YSS	**Yuzh-Sakhalins**	2.35	89	⇓*e*P	P	02 38 32.0	+0.3
YSS				AMB	AMB	02 38 32.8	
	120nm,0.6s						
YSS				AMB	AMB	02 38 32.8	
	30nm,0.7s						
YSS				*e*rx	rx	02 38 52.0	
YSS				*e*S	S	02 39 22.5	-0.6
YSS				A		02 39 24.5	
	220nm,1.0s						
YSS				A		02 39 24.5	
	140nm,1.0s						
YSS	**Yuzh-Sakhalins**	2.35	89	⇓*e*PN	P	02 38 32.0	+0.3
YSS				*e*S	S	02 39 22.5	-0.6
YSS				pmax	pmax		
	comp=Z,120nm,0.6s						
YSS				pmax	pmax		
	comp=E,30nm,0.7s						
YSS				smax			
	comp=N,220nm,1.0s						
YSS				smax			
	comp=E,140nm,1.0s						
YSS	**Yuzh-Sakhalins**	2.35	89	*e*P	P	02 38 32.6	+0.9
JWK2	**Keihoku**	2.44	132	P	P	02 38 33.1	+0.9
TEY	**Ternei**	2.71	225	⇓*i*P	P	02 38 35.0	+1.0
TEY				AMB	AMB	02 38 35.5	
	comp=E,60nm,0.6s						
JSE	**Soyaes**	3.04	130	P	P	02 38 36.8	+0.5
JSE				*e*S	S	02 39 30.6	-0.6
JHR	**Hokuryu**	3.64	151	P	P	02 38 42.4	+1.5
ASAJ	**Asahikawa**	3.66	140	P	P	02 38 41.6	+0.6
	comp=E,6.4nm,0.3s,baz=18,slow=3.2,SNR=9.7						
ASAJ				S	S	02 39 41.3	+1.4
	comp=E,0.1nm,0.3s,baz=97,slow=33,SNR=6.5						
ASAJ	**Asahikawa**	3.66	140	PN	P	02 38 41.7	+0.6
ASAJ				S	S	02 39 41.3	+1.4
ASAJ				pmax	pmax		
	comp=Z,6.0nm,0.3s						
JSK	**Shakotan**	3.71	167	P	P	02 38 42.3	+0.9
JKK2	**Kamakawa 2**	3.92	141	P	P	02 38 44.0	+0.8
JTKR	**Abashiri--Toko**	4.40	131	P	P	02 38 47.7	+0.3
JAR	**Ashorobuto**	4.83	138	P	P	02 38 51.6	+0.2
JCH	**Churui**	5.22	145	P	P	02 38 54.0	-1.0
JCH				*e*S	S	02 40 00.0	-4.8
JNBK	**Urakawa-nobuka**	5.29	151	P	P	02 38 56.4	+0.7
JNBK				*e*S	S	02 40 03.3	-2.8
JAK	**Akkeshi**	5.50	134	P	P	02 38 57.2	-0.7
JAK				*e*S	S	02 40 06.7	-3.2
KLR	**Kul'dur**	5.55	297	⇑*i*P	P	02 38 58.2	-0.1
KLR				AMB	AMB	02 38 59.2	
	comp=Z,20nm,1.0s						
KLR				AMB	AMB	02 38 59.2	
	comp=Z,36nm,1.0s						
KLR				*e*S	S	02 40 11.8	+1.1
JOT	**Ohata**	5.72	167	*e*S	S	02 40 14.3	+0.6
NEM2	**Nemuro 2**	5.79	126	P	P	02 39 00.0	-0.7
NEM2				*e*S	S	02 40 10.6	-4.4
JANG	**Nango**	6.78	166	P	P	02 39 09.6	-1.2
JANG				*e*S	S	02 40 28.8	-4.4
MDJ	**Mudanjiang**	7.20	254	P	P	02 39 15.9	+0.8
MDJ				AMB	AMB		
	comp=Z,17nm,0.7s						
MDJ	**Mudanjiang**	7.20	254	*e*P	P	02 39 16.0	+0.9
MDJ	**Mudanjiang**	7.20	254	*e*P	P	02 39 15.9	+0.8
	comp=Z,12nm,0.7s						
EKMR	**Ekimchan**	7.36	328	*e*P	P	02 39 16.0	-0.8
EKMR				AMB	AMB	02 39 19.5	
	comp=Z,8.0nm,0.8s						
JOM	**Ohasama**	7.63	168	P	P	02 39 19.5	-0.2
JOM				*e*S	S	02 40 46.9	-2.4
YASR	**Yasnyy**	9.64	315	⇓*i*P	P	02 39 41.0	-0.3
YASR				AMB	AMB	02 39 41.6	
	comp=Z,3.0nm,0.5s						
YASR				AMB	AMB	02 39 41.6	
	comp=Z,13nm,0.5s						
YASR				AMB	AMB	02 39 41.6	
	comp=Z,30nm,0.5s						
BMKR	**Bomnak**	10.19	323	⇓*i*P	P	02 39 45.7	-1.5
BMKR				AMB	AMB	02 39 46.6	
	comp=Z,16nm,0.6s						
ZEA	**Zeya**	10.26	316	*e*P	P	02 39 46.8	-1.2
ZEA				AMB	AMB	02 39 47.5	
	comp=Z,30nm,0.7s						
KROS	**Kirovskiy**	10.81	318	*i* P	P	02 39 53.3	-0.6
KROS				AMB	AMB	02 39 54.0	
	comp=Z,6.0nm,0.5s						
HIA	**Hailar**	13.28	287	*e*P	P	02 40 19.9	-0.3
	comp=Z,6.5nm,0.4s						
SONM	**Songino Array**	22.22	284	P	P	02 41 48.6	+0.8
	comp=Z,8.2nm,0.6s,mb4.5,baz=79,slow=8.9,SNR=14						
MKAR	**Makanchi Array**	38.23	291	P	P	02 44 06.2	+0.4
	comp=Z,3.2nm,0.5s,mb4.0,baz=77,slow=8.1,SNR=37						
MKAR	**Makanchi Array**	38.23	291	P	P	02 44 06.2	+0.4
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
MKAR	**Makanchi Array**	38.23	291	P	P	02 44 06.2	+0.4
KURK	**Kurchatov**	39.15	299	P	P	02 44 13.0	-0.2
KURK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.5						
KURK	**Kurchatov**	39.15	299	*e*P	P	02 44 13.0	-0.2
	comp=Z,3.7nm,0.5s,mb4.1						
ILAR	**Eielson Array**	42.24	38	P	P	02 44 37.2	-0.7
	comp=Z,0.7nm,0.5s,mb3.4,baz=284,slow=5.7,SNR=16						
ILAR	**Eielson Array**	42.24	38	P	P	02 44 37.2	-0.7
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
VOSK	**Vostochnaya**	42.94	304	P	P	02 44 43.9	+0.4
VOSK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.5						
BVA0	**Borovoye Array**	43.16	305	*e*P	P	02 44 45.4	+0.1
BRVK	**Borovoye**	43.21	305	P	P	02 44 45.3	-0.4
ZRNK	**Zerenda**	43.97	305	P	P	02 44 51.8	+0.1
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.6						
ZRNK	**Zerenda**	43.97	305	*e*P	P	02 44 51.3	-0.4
	comp=Z,2.5nm,0.5s,mb3.9						
INK	**Inuvik**	46.44	31	P	P	02 45 10.5	-0.2
	comp=Z,4.1nm,0.5s,mb4.1,baz=304,slow=8.3,SNR=49						
INK	**Inuvik**	46.44	31	P	P	02 45 10.5	-0.2
INK				pmax	pmax		
	comp=Z,4.0nm,0.5s						
DLBC	**Dease Lake**	52.00	42	P	P	02 45 53.5	+1.1
	comp=Z,1.2nm,0.5s,mb3.5,baz=16,slow=20,SNR=3.2						
YKA	**Yellowknife Ar**	56.13	33	P	P	02 46 20.9	-0.7
	comp=Z,0.7nm,0.5s,mb3.3,baz=304,slow=7.2,SNR=6.0						
YKA	**Yellowknife Ar**	56.13	33	P	P	02 46 20.9	-0.7
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KAF	**Kangasniemi**	58.86	330	*e*p	P	02 46 38.4	-1.7
FINES	**FINESS Array B**	59.39	329	P	P	02 46 42.7	-1.0
	comp=Z,1.3nm,0.4s,mb3.6,baz=54,slow=8.6,SNR=17						
FINES	**FINESS Array B**	59.39	329	P	P	02 46 42.7	-1.0
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	59.39	329	P	P	02 46 42.7	-1.0
NB2	**NORSAR Subarra**	64.48	335	P	P	02 47 15.7	-1.1
	comp=Z,0.6nm,0.4s,mb3.5,baz=35,slow=6.5						
NOA	**NORSAR Array B**	64.48	335	P	P	02 47 16.0	-0.7

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
	comp=Z,1.1nm,0.6s,mb3.6,baz=35,slow=6.5,SNR=3.8						
NOA	NORSAR Array B	64.48	335	P	P	02 47 16.0	-0.8
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA	NORSAR Array B	64.48	335	P	P	02 47 16.0	-0.7
HLID	Hailey	68.84	48	P	P	02 47 44.1	+0.2
	comp=Z,0.9nm,0.9s,mb3.3						
NVAR	Mina Array Bea	70.38	55	P	P	02 47 55.2	+2.0
	comp=Z,1.4nm,0.6s,mb3.7,baz=317,slow=4.5,SNR=11						
NVAR	Mina Array Bea	70.38	55	P	P	02 47 55.2	+2.0
ASAR	Alice Springs	70.47	185	P	P	02 47 58.0	+4.1
	comp=Z,0.3nm,0.7s,mb2.9,baz=2.1,slow=4.7,SNR=2.8						
PDAR	Pinedale Array	71.87	46	P	P	02 48 03.0	+1.2
	comp=Z,2.9nm,0.6s,mb4.0,baz=348,slow=2.7,SNR=28						
ULM	Lac du Bonnet	72.08	34	P	P	02 48 02.3	-0.6
	comp=Z,2.8nm,0.3s,mb4.2,baz=309,slow=6.7,SNR=8.1						
GERES	GERESS Array B	73.53	326	P	P	02 48 11.7	+0.5
	comp=Z,0.2nm,0.5s,mb2.9,baz=45,slow=5.6,SNR=3.5						
SCHQ	Schefferville	76.19	15	P	P	02 48 26.3	+0.4
	comp=Z,2.3nm,0.6s,mb3.9,baz=228,slow=19,SNR=6.2						
SCHQ	Schefferville	76.19	15	P	P	02 48 26.3	+0.4
TXAR	Lajitas Array	85.21	51	P	P	02 49 15.1	+2.1
	comp=Z,0.4nm,0.5s,mb3.3,baz=284,slow=3.1,SNR=7.1						

SYO ***15*** *02:51:30.5, 18.17S×173.80W, h10^{km}, MB4.7*
BJI ***15*** *02:51:35.0, 17.60S×173.96W, h33^{km}, mB5.0, mb5.2, Ms4.7, Msz4.7*
NEIC ***15*** *02:51:36.6±0.3, 18.23S×173.82W, h55^{km}, mb4.8/15, Error ellipse: s-maj=13.2km s-min=8.3km az=133.0*
IDC ***15*** *02:51:36.6±3.3, 18.23S×173.83W, h56^{km}±30^{km}, mb4.2/13, mb1 4.4/14, mb1mx4.3/20, ML4.5/1, MS3.9/5, Ms1 3.9/5, ms1mx3.7/14, Error ellipse: s-maj=31.8km s-min=12.6km az=144.0*
ISC 15 02:51:32.3±0.3**, 18.21S**±0.06×**173.86W**±0.09**, h33^{km}, n107, σ0^{s}97**/58**, mb4.6**/27**, MS4.3**/8**, 6C-7D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAR	Rarotonga	13.59	105	P	P	02 54 33.2	-12
	2.2nm,0.3s,baz=319,slow=1.1,SNR=5.5						
RAR				LR	LR	02 58 23.8	
	comp=Z,243nm,20.2s,baz=49,slow=30						
RAR				T		03 08 08.4	
	3.6nm,0.3s,baz=30,slow=16,SNR=4.2						
RAR	Rarotonga	13.59	105	*e*P	P	02 54 30.6	-15
URZ	Urewera	21.48	200	P	P	02 56 19.3	-0.8
	41nm,0.4s,mb5.1,baz=352,slow=2.4,SNR=23						
KNZ	Kokohu	22.00	198	*e*P	P	02 56 26.7	+1.3
MGZ	Maungaku	22.68	202	P	P	02 56 31.6	-0.5
NGZ	Ngauruhoe	22.81	202	P	P	02 56 32.1	-1.3
CNZ	Chateau	22.85	202	*e*P	P	02 56 34.7	+0.9
TUVZ	Tukino	22.87	201	P	P	02 56 32.3	-1.7
WVZ	Waitaha Valley	28.01	204	*e*P	P	02 57 21.5	-0.9
RPZ	Rata Peaks	28.43	203	P	P	02 57 26.7	+0.6
	20nm,0.5s,mb5.0,baz=14,slow=2.8,SNR=18						
CTA	Charters Tower	37.67	261	*e*P	P	02 58 47.0	+0.5
	9.0nm,0.7s,mb4.6						
CTA	Charters Tower	37.67	261	P	P	02 58 46.6	+0.2
	6.8nm,0.4s,mb4.7,baz=85,slow=9.5,SNR=14						
CTAO	Charters Tower	37.67	261	*e*P	P	02 58 46.9	+0.4
	6.2nm,0.5s,mb4.6						
STKA	Stephens Creek	42.31	242	*e*P	P	02 59 24.6	-0.2
	3.2nm,0.5s,mb4.2						
STKA	Stephens Creek	42.31	242	P	P	02 59 24.7	-0.1
	3.7nm,0.5s,mb4.3,baz=95,slow=11,SNR=13						
STKA				LR	LR	03 15 37.6	
	comp=Z,176nm,20.3s,MS3.9,baz=164,slow=34						
WB2	Warramunga Arr	48.82	259	*e*P	P	03 00 16.2	-0.6
WRAB	Tennant Creek	48.83	259	*e*P	P	03 00 15.6	-1.2
	9.3nm,0.5s,mb5.1						
WRA	Warramunga Arr	48.83	259	P	P	03 00 16.5	-0.3
	5.7nm,0.4s,mb5.0,baz=98,slow=5.8,SNR=111						
ASAR	Alice Springs	48.88	254	P	P	03 00 16.9	-0.3
	6.6nm,0.4s,mb5.0,baz=87,slow=8.3,SNR=86						
ASAR				PcP	PcP	03 01 41.0	-0.7
	3.8nm,0.5s,baz=89,slow=7.5,SNR=7.8						
ASAR				S	S	03 07 16.6	-0.7
	1.3nm,0.8s,baz=91,slow=16,SNR=7.8						
ASAR				LR	LR	03 20 18.8	
	comp=Z,93nm,19.4s,MS3.8,baz=16,slow=35						
ASPA	Alice Springs	48.88	254	*e*P	P	03 00 16.7	-0.5
FITZ	Fitzroy Crossi	57.25	260	P	P	03 01 19.4	+0.1
	2.8nm,0.7s,mb4.4,baz=162,slow=5.8,SNR=8.7						
SBA	Scott Base	60.43	185	*e*P	P	03 01 41.4	+0.8
	3.0nm,0.7s,mb4.4						
MBWA	Marble Bar	62.19	255	*e*P	P	03 01 52.5	-0.7
	7.6nm,1.0s,mb4.8						
QSPA	South Pole Qui	71.85	180	*e*P	P	03 02 53.3	+0.1
	5.4nm,0.8s,mb4.5						
QSPA				LR	LR		
	comp=Z,90nm,19.7s,MS4.0						
YBH	Yreka Blue Hor	76.09	37	P	P	03 03 18.2	-0.3
	comp=Z,1.5nm,0.8s,mb4.0,baz=204,slow=4.4,SNR=5.1						
NVAR	Mina Array Bea	76.70	42	P	P	03 03 21.4	-0.7
	comp=Z,0.8nm,0.7s,mb3.7,baz=219,slow=6.7,SNR=4.7						
SSE	Sheshan	79.31	308	*e*P	P	03 03 37.8	+1.2
SSE				S	S	03 13 38.1	+4.8
SSE				SS	SS	03 18 42.6	-0.8
SSE				LR	LR		
	comp=N,106nm,20.3s,MS4.3						
SSE				LR	LR		
	comp=E,88nm,20.5s,MS4.3						
SSE				LR	LR		
	comp=Z,160nm,19.6s,MS4.4						
SSE	Sheshan	79.31	308	*e*P	P	03 03 37.7	+1.1
	comp=Z,38nm,0.7s,mb5.4						
SSE				S	S	03 13 38.1	+4.8
SSE				sS		03 13 43.6	
SSE				SS	SS	03 18 42.6	-0.8
SSE				LR	LR		
	comp=Z,160nm,19.6s,MS4.4						
ELK	Elko	79.97	41	*e*P	P	03 03 38.2	-1.8
	comp=Z,2.7nm,1.2s,mb4.0						
MDJ	Mudanjiang	80.98	323	P	P	03 03 45.0	-0.3
MDJ				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,73nm,4.1s						
NJ2	Nanjing	81.52	308	*e*P	P	03 03 47.5	-0.8
NJ2				PP	PP	03 06 56.3	-0.5
NJ2				S	S	03 14 01.0	+4.8
NJ2				XS		03 14 08.0	
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.2						
NJ2				LR	LR		
	comp=N,700nm,25.6s,MS5.0						
NJ2				LR	LR		
	comp=E,440nm,22.5s,MS5.0						
HLID	Hailey	82.07	39	*e*P	P	03 03 50.6	-0.3
	comp=E,2.1nm,1.0s,mb4.0						
TXAR	Lajitas Array	82.54	56	P	P	03 03 52.2	-1.4
	comp=E,1.3nm,1.1s,mb3.9,baz=214,slow=4.5,SNR=6.8						
CN2	Changchun	82.96	320	*e*P	P	03 03 57.1	+1.6
MCK	McKinley	83.95	11	*e*P	P	03 04 00.4	+0.3
	comp=E,4.2nm,1.0s,mb4.5						
PDAR	Pinedale Array	84.64	42	P	P	03 04 03.8	-0.3
	comp=E,0.6nm,0.7s,mb3.9,baz=225,slow=4.2,SNR=5.2						
MAW	Mawson	85.00	199	P	P	03 04 06.7	+1.5
	comp=E,0.3nm,0.3s,mb4.0,baz=252,slow=1.2,SNR=3.0						
COLA	College	85.19	11	*e*P	P	03 04 06.3	+0.1
	comp=E,11nm,0.9s,mb5.0						
ILAR	Eielson Array	85.27	11	P	P	03 04 06.6	0.0
	comp=E,1.5nm,0.7s,mb4.2,baz=224,slow=6.0,SNR=12						
IMA	Indian Mountai	85.39	8	*e*P	P	03 04 07.3	+0.2
	comp=E,7.1nm,0.9s,mb4.8						
SYO	Syowa Base	89.77	191	⇓P	P	03 04 28.8	+0.6
VNA3	Neumayer Olymp	90.11	175	⇓*i*P	P	03 04 29.7	-0.1
VNA3	Neumayer Olymp	90.11	175	*e*	P	03 04 31.8	+2.0
VNA3	Neumayer Olymp	90.11	175	*e*	P	03 04 33.7	+3.9
SNAA	Sanae	90.14	177	⇑*i*P	P	03 04 26.4	-3.5
SNAA	Sanae	90.14	177	*e*	P	03 04 29.1	-0.8
SNAA	Sanae	90.14	177	*e*	P	03 04 30.5	+0.6
VNA2	Neumayer--Watz	90.60	176	⇑*i*P	P	03 04 32.6	+0.5
VNA2	Neumayer--Watz	90.60	176	*e*	P	03 04 34.1	+2.0
VNA2	Neumayer--Watz	90.60	176	*e*	P	03 04 36.6	+4.5
VNA1	Neumayer--Stat	90.80	175	⇓*i*P	P	03 04 34.2	+1.2
VNA1	Neumayer--Stat	90.80	175	*e*	P	03 04 35.1	+2.1
VNA1	Neumayer--Stat	90.80	175	*e*	P	03 04 38.2	+5.2
KMI	Kunming	91.85	296	*e*P	P	03 04 41.4	+2.5
KMI				AMB	AMB		
	comp=Z,8.0nm,0.6s,mb5.2						
KMI	Kunming	91.85	296	*e*P	P	03 04 41.4	+2.5
	comp=Z,8.0nm,0.6s,mb5.2						
LZH	Lanzhou	94.53	306	*e*P	P	03 04 52.4	+1.5
LZH				PP	PP	03 08 43.4	+2.0
LZH				AMB	AMB		
	comp=Z,14nm,1.5s,mb5.2						
LZH				AMB	AMB		
	comp=Z,45nm,4.0s						
LZH				LR	LR		
	comp=N,205nm,18.2s						
LZH				LR	LR		
	comp=Z,281nm,20.0s,MS4.7						
LZH	Lanzhou	94.53	306	*e*P	P	03 04 52.4	+1.5
	comp=Z,14nm,1.5s,mb5.2						
LZH				pP	pP	03 04 55.4	-6.1
LZH				sP	sP	03 04 57.0	-7.9
LZH				PP	PP	03 08 43.4	+2.0
LZH				LR	LR		
	comp=Z,280nm,20.0s,MS4.7						
ULM	Lac du Bonnet	96.38	39	LR	LR	03 39 59.8	
	comp=Z,132nm,21.3s,MS4.4,baz=46,slow=30						
LPAZ	La Paz	99.25	111	LR	LR	03 40 49.3	
	comp=Z,50nm,18.7s,MS4.0,baz=116,slow=30						
KURK	Kurchatov	114.95	318	*e*P	PKPdf	03 10 11.9	+2.0
ZRNK	Zerenda	120.64	321	*e*P	PKPdf	03 10 22.6	+1.7
ARU	Arti	125.48	327	*e*P	PKPdf	03 10 32.9	+2.9
ARCES	ARCESS Array B	127.32	352	PKP	PKPdf	03 10 35.6	+2.3
	comp=Z,2.7nm,0.6s,baz=315,slow=3.4,SNR=8.6						
FINES	FINESS Array B	134.57	347	PKP	PKPdf	03 10 49.8	+2.5
	comp=Z,5.3nm,1.2s,baz=45,slow=2.7,SNR=6.6						
AKASG	Malin Array Be	142.73	336	PKhKP		03 11 00.0	
	comp=Z,0.6nm,0.4s,baz=32,slow=3.8,SNR=7.3						
KMBO	Kilima Mbogo	143.86	241	PKP	PKPdf	03 11 06.1	+0.9
	comp=Z,0.8nm,0.5s,baz=57,slow=16,SNR=3.4						
MALT	Malatya	145.48	312	*e*PKPdf	PKPdf	03 11 11.7	+4.4
OJC	Ojcow	146.25	344	*e*PKP	PKPdf	03 11 10.9	+2.7
KSP	Ksiaz	146.46	348	*e*PKP	PKPdf	03 11 13.1	+4.5
CLL	Collm	146.53	352	*i* PKP	PKPdf	03 11 12.8	+4.1
CLL				*i*		03 11 27.3	
CLL				*e*		03 11 33.0	
KOLS	Kolonicke sedl	146.69	341	*e*PKP	PKPdf	03 11 14.4	+5.4
KOLS				*e*		03 11 24.3	
BRG	Berggiesshubel	146.83	351	*e*PKP	PKPdf	03 11 13.2	+4.0
UPC	Upice	146.83	348	*e*PKP	PKPdf	03 11 14.5	+5.3
DPC	Dobruska-Polom	146.92	348	*e*PKP	PKPdf	03 11 14.4	+5.0
PVCC	Panska Ves	147.06	350	*e*PKP	PKPdf	03 11 14.8	+5.2
MORC	Moravsky Berou	147.20	346	*e*PKPbc	PKPdf	03 11 15.2	+5.3
PRU	Pruhonice	147.59	350	*e*PKP	PKPdf	03 11 15.7	+5.2
NKC	Novy Kostel	147.66	352	*e*PKP	PKPdf	03 11 16.0	+5.4
BRTR	Keskin Array B	148.00	318	PKPbc	PKPdf	03 11 17.4	+6.0
	comp=Z,4.5nm,0.7s,baz=147,slow=3.4,SNR=24						
VYHS	Vyhne	148.08	344	*i* PKP	PKPdf	03 11 17.6	+6.3
GRA1	Grafenberg Arr	148.33	354	*e*PKP	PKPdf	03 11 18.7	+7.0
SMOL	Smolenice	148.41	346	*e*PKP	PKPdf	03 11 18.8	+7.0
KHC	Kasperske Hory	148.58	351	*e*PKP	PKPdf	03 11 18.9	+6.8
GERES	GERESS Array B	148.84	350	PKPbc	PKPdf	03 11 19.1	+6.6
	comp=Z,2.6nm,0.7s,baz=22,slow=2.7,SNR=21						
FLN	La Foliniere	149.06	9	*e*PKP1	PKPdf	03 11 18.9	+6.1
	comp=Z,42nm,1.0s						
LDF	La Druitiere	149.27	8	*e*PKP1	PKPdf	03 11 19.5	+6.3
GRR	Gorron	149.37	9	*e*PKP1	PKPdf	03 11 19.9	+6.5
	comp=Z,132nm,1.5s						
MOA	Molln	149.71	349	⇑*i*P	PKPdf	03 11 21.5	+7.6
CDF	Champ du Feu	149.87	358	*e*PKP1	PKPdf	03 11 21.6	+7.4
	comp=Z,28nm,1.1s						
ARSA	Arzberg	150.03	347	⇓*i*P	PKPdf	03 11 22.6	+8.1
HAU	Haudompre	150.28	360	*e*PKP1	PKPdf	03 11 22.5	+7.7
	comp=Z,24nm,1.0s						
KBA	Koelnbreinsper	150.61	350	⇓*i*P	PKPdf	03 11 23.7	+8.4
WATA	Walderalm	150.62	352	⇑*i*P	PKPdf	03 11 23.8	+8.5
MOTA	Moosalm	150.66	353	⇓*i*P	PKPdf	03 11 24.0	+8.6
WTTA	Wattenberg	150.68	352	⇑*i*P	PKPdf	03 11 24.0	+8.6
SQTA	Sankt Quirin	150.77	353	⇑*i*P	PKPdf	03 11 24.1	+8.5
DAVA	Damuels	150.84	355	⇓*i*P	PKPdf	03 11 24.9	+9.2
LOR	Lormes	150.96	3	*e*PKP1	PKPdf	03 11 24.1	+8.3
	comp=Z,28nm,1.1s						
SSF	Saint Saulge	151.15	4	*e*PKP1	PKPdf	03 11 24.6	+8.5
	comp=Z,46nm,1.2s						
AVF	Avril sur Loir	151.41	4	*e*PKP1	PKPdf	03 11 24.7	+8.2
SMF	Signal de Mont	151.58	3	*e*PKP1	PKPdf	03 11 25.5	+8.7
BGF	Bois d’Agland	151.60	5	*e*PKP1	PKPdf	03 11 25.4	+8.6
CABF	La Chapelle	151.68	0	*e*PKP1	PKPdf	03 11 26.4	+9.5
	comp=Z,33nm,1.1s						
TCF	Toulx Ste Croi	151.81	6	*e*PKP1	PKPdf	03 11 25.6	+8.4
	comp=Z,14nm,0.9s						
LPL	La Plagne	152.77	359	*e*PKP1	PKPdf	03 11 29.1	+11
LPG	La Plagne	152.79	359	*e*PKP1	PKPdf	03 11 29.2	+11
MBDF	Montbardon	153.56	359	*e*PKP1	PKPdf	03 11 29.1	+9.4
	comp=Z,11nm,1.0s						

LDG ***15*** *03:42:08.4±0.1, 48.94N×7.84E, h9^{km}, Md2.0/1, Ml2.0/5, Error ellipse: s-maj=2.8km s-min=2.2km az=155.0*
STR ***15*** *03:42:08.1±1.3, 48.97N×7.95E, h5^{km}±1^{km}, Ml1.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 15 03:42:08.0±0.8**, 48.96N**±0.06×**7.69E**±0.06**, h9^{km}, n8, σ0^{s}83**/17**, France**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LANF	Langenberg	0.08	75	Pg	Pg	03 42 10.6	+0.3
LANF				Sg	Sg	03 42 11.8	0.0
WLS	Welschbruch	0.59	202	Pg	Pg	03 42 22.2	+2.3
WLS				Sg	Sg	03 42 31.0	+3.2
CDF	Champ du Feu	0.61	207	*e*Pg	Pg	03 42 20.4	+0.1
CDF				*e*Pn	Pn	03 42 22.2	-0.3
CDF				*e*Sn	Sn	03 42 31.9	-0.6
	4.8nm,0.2s						
HINF	Hinteralfeld	1.27	206	*e*Pn	Pn	03 42 31.4	-0.6
HINF				*e*Pg	Pg	03 42 33.0	-0.4
HINF				*e*Sn	Sn	03 42 47.8	-1.5
HAU	Haudompre	1.31	224	*e*Pg	Pg	03 42 33.9	-0.2
HAU				*e*Sg	Sg	03 42 51.8	+0.2
	2.8nm,0.2s						
RFYF	Reffroy	1.50	258	*e*Pg	Pg	03 42 38.2	+0.2
RFYF				*e*Sn	Sn	03 42 54.4	-0.7
RFYF				*e*Sg	Sg	03 42 58.6	+0.6
	5.1nm,0.4s						
MEZF	Maizieres J’vi	1.80	256	*e*Sg	Sg	03 43 08.1	0.0
	1.2nm,0.2s						
SFTF	Sexfontaines	1.91	248	*e*Sg	Sg	03 43 11.8	0.0
	2.3nm,0.2s						

WEL 15 03:54:15.5±0.1**, 38.18S**×**178.31E, h39^{km}, ML3.7**/4**, 1C-2D, Error ellipse: s-maj=1.6km s-min=1.0km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PUZ	Puketiti	0.12	340	⇓PN	P	03 54 21.8	-0.1
PUZ				SN	S	03 54 26.6	+0.1
PUZ				SN	S	03 54 26.8	+0.3
MXZ	Matakaoa Point	0.62	0	⇑PN	P	03 54 27.4	-0.3
MXZ				SN	S	03 54 36.5	-0.1
MWZ	Matawai	0.63	256	PN	P	03 54 27.6	-0.4
MWZ				SN	S	03 54 36.7	-0.3
URZ	Urewera	0.94	265	PN	P	03 54 32.1	-0.3
KNZ	Kokohu	0.97	210	⇓PN	P	03 54 32.5	-0.3
WIZ	White Island	1.10	306	PN	P	03 54 33.4	-1.2
TAZ	Tarawera	1.42	267	PN	P	03 54 38.6	-0.6
BKZ	Black Stump Fm	1.73	235	PN	P	03 54 43.0	-0.6
BKZ				SN	S	03 55 04.1	-0.5
MOVZ	Moawhango	2.34	238	*e*PN	P	03 54 51.2	-1.1
TUVZ	Tukino	2.34	242	PN	P	03 54 51.5	-0.8
CNZ	Chateau	2.39	244	*e*PN	P	03 54 52.1	-0.9
WNVZ	Wahianoa	2.41	241	PN	P	03 54 52.0	-1.3
KUZ	Kuaotunu	2.51	304	PN	P	03 54 52.1	-2.6
TSZ	Takapari Road	2.62	223	PN	P	03 54 53.6	-2.7
MRZ	Mangatainoka R	3.26	220	PN	P	03 55 01.9	-3.4
MRZ				SN	S	03 55 38.4	-4.9
MTW	Mount Morrison	3.68	215	*e*PN	P	03 55 06.4	-5.0
KIW	Kapiti Island	3.75	223	*e*PN	P	03 55 07.9	-4.5
THZ	Tophouse	5.48	228	*e*PN	P	03 55 31.0	-5.7
KHZ	Kahutara	5.58	219	SN	S	03 56 31.2	-11
MQZ	McQueen’s Vall	6.98	216	SN	S	03 57 03.5	-13

LDG ***15*** *04:01:44.1±0.0, 45.97N×2.81E, h6^{km}, Md2.8/3, Ml2.5/19, Error ellipse: s-maj=0.6km s-min=0.5km az=104.0*
NEIC ***15*** *04:01:44.3, 45.94N×2.83E, h5^{km}, ML2.5(STR), ML2.5(LDG), After STR.*
STR ***15*** *04:01:44.3±0.2, 45.94N×2.83E, h5^{km}±1^{km}, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 15 04:01:42.3±0.3**, 45.96N**±0.01×**2.82E**±0.02**, h12^{km}**±3^{km}**, n28, σ1^{s}16**/64**, France**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PYM	Petit Puy Mans	0.25	147	Pg	Pg	04 01 49.1	+1.4
PYM				Sg	Sg	04 01 52.6	+1.3
VERF	Verneugheol	0.31	228	Pg	Pg	04 01 50.1	+1.2
VERF				Sg	Sg	04 01 55.7	+2.4
TCF	Toulx Ste Croi	0.53	308	*e*Pg	Pg	04 01 54.2	+1.0
TCF				*e*Sg	Sg	04 02 01.1	+0.7
	14nm,0.2s						
PLDF	La Plantade	0.56	89	Pg	Pg	04 01 54.7	+0.9
PLDF				Sg	Sg	04 02 02.5	+1.1
BGF	Bois d’Agland	0.60	2	*e*Pg	Pg	04 01 55.5	+1.0
BGF				*e*Pn	Pn	04 01 57.4	+1.0
BGF				*e*Sg	Sg	04 02 02.9	+0.3
	25nm,0.2s						
FRNF	Fournols	0.60	197	Pg	Pg	04 01 55.5	+1.0
FRNF				Sg	Sg	04 02 03.1	+0.5
COLF	Collangettes	0.76	125	Pg	Pg	04 01 58.5	+0.9
COLF				Sg	Sg	04 02 08.7	+0.9
LBL	Lubilhac	0.79	157	Pg	Pg	04 01 59.2	+1.0
LBL				Sg	Sg	04 02 09.5	+0.7
AVF	Avril sur Loir	0.91	24	*e*Pg	Pg	04 02 01.2	+0.6
AVF				*e*Pn	Pn	04 02 01.7	+0.9
AVF				*e*Sg	Sg	04 02 12.8	0.0
	20nm,0.2s						
AVF				*e*Sn	Sn	04 02 13.7	-0.2
SMF	Signal de Mont	0.99	46	*e*Pg	Pg	04 02 02.6	+0.4
SMF				*e*Pn	Pn	04 02 03.2	+1.2
SMF				*e*Sg	Sg	04 02 15.4	0.0
	14nm,0.2s						
SMF				*e*Sn	Sn	04 02 16.3	+0.4
RJF	Les Rejaudoux	1.12	235	*e*Pg	Pg	04 02 05.1	+0.3
RJF				*e*Sg	Sg	04 02 19.7	-0.2
	9.1nm,0.2s						
CAF	Calviac	1.16	207	*e*Pn	Pn	04 02 05.5	+1.1
CAF				*e*Pg	Pg	04 02 06.1	+0.5
CAF				*e*Sg	Sg	04 02 20.9	-0.3
	22nm,0.2s						
SSF	Saint Saulge	1.20	23	*e*Pg	Pg	04 02 06.5	+0.1
SSF				*e*Pn	Pn	04 02 07.0	+2.0
SSF				*e*Sn	Sn	04 02 21.4	+0.1
SSF				*e*Sg	Sg	04 02 22.1	-0.4
	22nm,0.3s						
HYF	Humbligny	1.31	355	*e*Pg	Pg	04 02 09.0	+0.3
HYF				*e*Sg	Sg	04 02 26.0	-0.2
LOR	Lormes	1.49	28	*e*Pg	Pg	04 02 11.9	-0.3
LOR				*e*Sg	Sg	04 02 30.8	-1.4
	16nm,0.2s						
VIVF	Saint-Julien-l	1.71	129	*e*Pn	Pn	04 02 13.2	+0.9
VIVF				*e*Pg	Pg	04 02 16.0	-0.6
VIVF				*e*Sn	Sn	04 02 33.6	-0.7
VIVF				*e*Sg	Sg	04 02 38.0	-1.4
	3.9nm,0.2s						
LFF	La Frestale	1.78	236	*e*Pg	Pg	04 02 17.2	-0.8
LFF				*e*Sn	Sn	04 02 35.2	-0.8
LFF				*e*Sg	Sg	04 02 40.0	-1.8
	13nm,0.4s						
LASF	Ste Croix	2.02	158	*e*Pg	Pg	04 02 21.7	-1.1
LASF				*e*Sg	Sg	04 02 48.3	-1.5
	4.1nm,0.2s						
MFF	Saint Martin d	2.15	288	*e*Pn	Pn	04 02 18.7	+0.1
MFF				*e*Pg	Pg	04 02 24.2	-1.1
MFF				*e*Sg	Sg	04 02 51.4	-2.6
	5.8nm,0.2s						
CABF	La Chapelle	2.36	73	*e*Pn	Pn	04 02 21.8	+0.2
CABF				*e*Sg	Sg	04 02 58.4	-2.6
	5.0nm,0.5s						
ORIF	Oris-en-Rattie	2.40	115	*e*Sg	Sg	04 02 59.7	-2.5
	1.4nm,0.3s						
MTLF	Montolieu	2.65	189	*e*Pg	Pg	04 02 33.6	-1.7
MTLF				*e*Sg	Sg	04 03 07.6	-3.1
	3.7nm,0.2s						
MEZF	Maizieres J’vi	2.96	30	*e*Pg	Pg	04 02 39.8	-1.8
MEZF				*e*Sg	Sg	04 03 16.9	-4.2
	7.5nm,0.4s						
HAU	Haudompre	3.17	48	*e*Pg	Pg	04 02 43.4	-2.2
HAU				*e*Sg	Sg	04 03 23.6	-4.3
	2.6nm,0.2s						
LDF	La Druitiere	3.31	324	*e*Sg	Sg	04 03 27.6	-4.9
	1.0nm,0.2s						
HINF	Hinteralfeld	3.33	55	*e*Sg	Sg	04 03 28.7	-4.7
	1.4nm,0.2s						
GRR	Gorron	3.49	315	*e*Pg	Pg	04 02 48.6	-3.4
GRR				*e*Sg	Sg	04 03 33.5	-5.1
	0.8nm,0.2s						
CDF	Champ du Feu	3.91	50	*e*Pg	Pg	04 02 56.6	-3.8

NEIC ***15*** *04:31:10.6±0.6, 5.96N×123.35E, h500^{km}, mb3.9/4, Error ellipse: s-maj=110.0km s-min=8.7km az=65.0*
IDC ***15*** *04:31:14.8±6.3, 5.97N×123.51E, h558^{km}±92^{km}, mb3.1/6, mb1 3.2/6, mb1mx2.9/18, Error ellipse: s-maj=118.0km s-min=18.6km az=67.0*
ISC 15 04:31:09.0±0.8**, 6.0N**±0.4×**123.3E**±0.9**, h500^{km}, n13, σ0^{s}56**/13**, mb3.7**/10**, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRAB	Tennant Creek	27.93	157	*e*P	P	04 36 19.5	-0.5
	2.4nm,0.5s,mb3.9						
WRA	Warramunga Arr	27.94	157	P	P	04 36 19.6	-0.4
	1.1nm,0.4s,mb3.6,baz=333,slow=11,SNR=20						
WB2	Warramunga Arr	27.94	157	*e*P	P	04 36 19.7	-0.4
ASAR	Alice Springs	31.21	161	P	P	04 36 49.3	+1.0
	1.3nm,0.6s,mb3.5,baz=344,slow=7.0,SNR=16						
STKA	Stephens Creek	41.47	156	P	P	04 38 13.3	+0.4
	1.2nm,0.7s,mb3.4,baz=343,slow=11,SNR=2.8						
STKA	Stephens Creek	41.47	156	P	P	04 38 13.3	+0.4
SONM	Songino Array	44.16	344	P	P	04 38 34.2	+0.3
	2.2nm,0.9s,mb3.6,baz=158,slow=6.7,SNR=4.1						
MKAR	Makanchi Array	53.80	326	P	P	04 39 46.7	+0.8
	5.4nm,0.7s,mb4.0,baz=122,slow=8.6,SNR=48						
MKAR				PcP	PcP	04 40 42.4	-1.6
	0.5nm,0.5s,baz=117,slow=6.4,SNR=3.8						
MKAR	Makanchi Array	53.80	326	P	P	04 39 46.7	+0.8
MKAR				PcP	PcP	04 40 42.4	-1.6
KURK	Kurchatov	58.05	328	*e*P	P	04 40 15.3	0.0
	5.0nm,0.5s,mb4.1						
BVAR	Borovoye Array	63.61	327	P	P	04 40 51.7	-0.2
	1.2nm,0.7s,mb3.6,baz=135,slow=6.1,SNR=6.7						
BRVK	Borovoye	63.68	327	P	P	04 40 52.2	-0.1
	1.3nm,0.6s,mb3.6						
ZRNK	Zerenda	64.32	327	*e*P	P	04 40 55.4	-0.9
	1.4nm,0.6s,mb3.7						

BJI ***15*** *04:56:29.5, 14.02S×76.24W, h14^{km}, mB5.0, Ms5.1, Msz5.0*
SYO ***15*** *04:56:31.4, 14.92S×75.30W, h29^{km}, MB4.9*
NEIC ***15*** *04:56:32.2±1.8, 14.92S×75.37W, h34^{km}±12^{km}, mb4.9/40, ML4.8(LIM), Error ellipse: s-maj=8.2km s-min=4.1km az=57.0*
NEIC Felt [IV] at Marcona and San Juan.
HRVD ***15*** *04:56:32.2±0.5, 15.13S×75.65W, h33^{km}±1^{km}, MW4.9/32, Centroid moment Tensor Solution. LP body waves: s20,c25;Mantle waves: s32,c44; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M$_{rr}$2.49±.20; M$_{\theta\theta}$-0.60±.12; M$_{\phi\phi}$-1.89±.14; M$_{r\theta}$0.19±.13; M$_{\theta\phi}$0.95±.10; M$_{\phi r}$-1.67±.15; Best double couple: M$_0$2.96×10^{16} NP1:φ$_s$322°, δ29°, λ71°. NP2:φ$_s$163°, δ62°, λ100°. Principal axes: T 3.06, Plg71°, Azm96°; N -.19, Plg9°, Azm339°; P -2.87, Plg17°, Azm246°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
IDC ***15*** *04:56:36.4±3.7, 14.92S×75.36W, h74^{km}±32^{km}, mb4.4/14, mb1 4.5/16, mb1mx4.5/17, MS4.2/12, Ms1 4.2/12, ms1mx4.1/19 Error ellipse: s-maj=25.3km s-min=14.6km az=56.0*
ISC 15 04:56:27.9±2.4**, 14.93S**±0.06×**75.47W**±0.06**, h17^{km}**±17^{km}**, h26^{km}**±1.2^{km}**:pP-P, n131, σ0^{s}98**/101**, mb4.8**/56**, MS4.3**/13**, 4C-4D, Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NNA	Nana	3.22	335	*e*P	Pn	04 57 20.3	+1.4
ARE	Arequipa	4.12	112	*e*P	Pn	04 57 33.0	+1.3
ARE				*i*		04 57 34.0	
ARE				*e*S	Sn	04 58 25.0	+5.0
LPAZ	La Paz	7.20	102	P	Pn	04 58 19.4	+4.3
	3.9nm,0.3s,baz=284,slow=10,SNR=42						
LPAZ				S	Sn	04 59 40.1	+2.9

	baz=209,slow=10,SNR=1.7						
LVC	Limon Verde	9.84	142	eP	P	04 58 50.6	-1.3
	78nm,0.8s						
SAML	Samuel	13.41	65	eP	P	04 59 38.2	-1.9
	1.2nm,1.4s						
OTAV	Otavalo	15.36	349	P	P	05 00 08.2	+2.4
	14nm,0.8s						
ROSC	El Rosal	19.70	3	P	P	05 01 05.7	+6.2
	2.5nm,0.3s,baz=195,slow=13,SNR=20						
CPUP	Villa Florida	20.39	127	P	P	05 01 05.3	-1.4
	14nm,0.9s,baz=322,slow=11,SNR=13						
CPUP				LR	LR	05 09 33.2	
	comp=Z,458nm,19.0s,MS3.9,baz=324,slow=38						
SDV	Santo Domingo	24.15	12	eP	P	05 01 45.5	+1.1
	17nm,0.8s,mb4.5						
TRQA	Tornquist	25.94	155	eP	P	05 01 59.2	-2.0
	17nm,0.9s,mb4.6						
BDFB	Brasilia	26.49	95	P	P	05 02 05.8	-0.6
	11nm,0.8s,mb4.5,baz=278,slow=12,SNR=14						
BDFB				LR	LR	05 13 39.2	
	comp=Z,920nm,19.8s,MS4.3,baz=106,slow=39						
BAO	Brasilia Array	26.51	95	P	P	05 02 06.2	-0.4
BAO				e		05 02 15.6	
BAO				e		05 02 18.7	
JTS	JuntasAbangare	26.77	339	LR	LR	05 12 45.2	
	comp=Z,504nm,18.3s,MS4.1,baz=141,slow=36						
SJG	San Juan	34.10	16	P	P	05 03 12.5	-1.5
	11nm,1.0s,mb4.8,baz=326,slow=7.3,SNR=2.7						
USHA	Ushuaia	40.19	174	P	P	05 04 04.6	-0.4
	21nm,0.9s,mb4.9,baz=342,slow=5.3,SNR=5.3						
SWET	Sewanee	50.85	349	eP	P	05 05 28.5	-1.5
JCT	Junction City	50.87	333	eP	P	05 05 29.6	-0.6
	3.7nm,0.6s,mb4.5						
LTX	Lajitas	51.75	328	eP	P	05 05 36.9	0.0
	12nm,1.0s,mb4.8						
TXAR	Lajitas Array	51.75	328	P	P	05 05 37.0	+0.1
	6.2nm,0.7s,mb4.6,baz=146,slow=9.1,SNR=88						
TXAR				LR	LR	05 25 56.0	
	comp=Z,144nm,18.5s,MS4.0,baz=75,slow=34						
UALR	University of	51.97	342	eP	P	05 05 37.9	-0.6
	21nm,1.1s,mb5.0						
WVT	Waverly	52.11	347	eP	P	05 05 37.2	-2.3
	13nm,1.2s,mb4.7						
MIAR	Mount Ida	52.13	341	eP	P	05 05 39.1	-0.6
	13nm,0.8s,mb4.9						
WCI	Wyandotte Cave	53.85	349	eP	P	05 05 50.7	-1.7
	27nm,0.9s,mb5.2						
WCI				epP	pP	05 05 59.5	+2.0
WMOK	Wichita Mounta	54.14	336	eP	P	05 05 51.0	-3.5
	10nm,1.1s,mb4.7						
WMOK				ePcP	PcP	05 06 58.2	-1.0
BLO	Bloomington	54.80	349	eP	P	05 05 58.4	-1.0
	10nm,0.6s,mb5.0						
SSPA	Standing Stone	55.33	358	eP	P	05 06 02.6	-0.6
	6.7nm,1.1s,mb4.6						
BINY	Binghamton	56.85	360	eP	P	05 06 12.9	-1.2
	16nm,1.0s,mb5.0						
ANMO	Albuquerque	57.68	330	eP	P	05 06 20.0	-0.1
	9.4nm,0.9s,mb4.8						
TUC	Tucson	57.88	325	eP	P	05 06 21.1	-0.4
	6.4nm,1.0s,mb4.6						
NCB	Newcomb	58.63	1	eP	P	05 06 25.2	-1.3
	17nm,1.1s,mb5.0						
SADO	Sadowa	59.51	357	LR	LR	05 30 39.7	
	comp=Z,164nm,21.6s,MS4.1,baz=223,slow=34						
SDCO	Great Sand Dun	59.52	333	eP	P	05 06 33.0	+0.2
	20nm,0.8s,mb5.2						
WUAZ	Wupatki	60.62	327	eP	P	05 06 41.3	+0.9
	16nm,1.0s,mb5.1						
WUAZ				epP	pP	05 06 50.6	+4.9
ISCO	Idaho Springs	61.27	334	eP	P	05 06 44.6	-0.1
	8.2nm,1.2s,mb4.7						
SRU	San Rafael	62.95	330	eP	P	05 06 55.9	0.0
MSU	Marysvale	63.31	328	eP	P	05 06 59.1	+0.7
ARUT	Antelope Range	63.42	327	eP	P	05 07 00.2	+1.2
RSSD	Black Hills	64.29	338	eP	P	05 07 04.4	-0.4
	5.6nm,0.9s,mb4.6						
RSSD				e		05 07 13.6	
DAU	Daniels Canyon	64.32	330	eP	P	05 07 05.5	+0.4
TPNV	Topopah Spring	64.33	325	eP	P	05 07 06.1	+1.0
	8.0nm,0.9s,mb4.8						
JLU	Jordanelle	64.56	330	eP	P	05 07 06.5	-0.1
JLU				epP	pP	05 07 15.6	+3.7
DUG	Dugway	64.91	329	eP	P	05 07 09.4	+0.6
	1.1nm,0.8s,mb3.9						
DUG				epP	pP	05 07 17.9	+3.7
TCUT	Toone Canyon	64.94	331	eP	P	05 07 08.2	-0.8
HWUT	Hardware Ranch	65.40	331	eP	P	05 07 11.7	-0.2
PDAR	Pinedale Array	65.40	333	P	P	05 07 11.1	-0.8
	2.0nm,0.9s,mb4.2,baz=143,slow=7.4,SNR=14						
PDAR				LR	LR	05 38 14.1	
	comp=Z,122nm,19.1s,MS4.1,baz=121,slow=38						
TPH	Tonopah	65.68	325	eP	P	05 07 14.6	+0.8
	8.1nm,0.8s,mb4.8						
TPH				epP	pP	05 07 23.0	+3.9
MTUM	Tungsten Hills	65.94	323	eP	P	05 07 16.2	+0.7
HVU	Hansel Valley	66.10	330	eP	P	05 07 16.2	-0.3
MNV	Mina	66.45	324	eP	P	05 07 18.9	+0.2
NVAR	Mina Array Bea	66.53	324	P	P	05 07 20.1	+0.8
	6.6nm,1.1s,mb4.6,baz=142,slow=7.0,SNR=16						
NVAR				LR	LR	05 32 35.3	
	comp=Z,97nm,21.2s,MS4.0,baz=180,slow=32						
ELK	Elko	66.55	328	eP	P	05 07 19.5	+0.2
	5.6nm,1.1s,mb4.5						
ELK				epP	pP	05 07 28.9	+4.3
ULM	Lac du Bonnet	67.34	346	P	P	05 07 22.8	-1.3
	8.5nm,0.6s,mb5.0,baz=156,slow=4.8,SNR=12						
DGMT	Dagmar	68.10	340	eP	P	05 07 29.3	+0.3
	13nm,0.8s,mb5.0						
DGMT				epP	pP	05 07 38.7	+4.4
HLID	Hailey	68.24	331	eP	P	05 07 30.5	+0.5
	5.5nm,1.0s,mb4.5						
HLID				epP	pP	05 07 39.7	+4.4
VNA3	Neumayer Olymp	68.25	161	e	P	05 07 37.3	+7.7
VNA3	Neumayer Olymp	68.25	161	e	pP	05 07 41.2	+6.3
VNA3	Neumayer Olymp	68.25	161	⇑iP	P	05 07 31.1	+1.5
VNA3				e	pP	05 07 37.3	+2.4
VNA3				e		05 07 41.2	
VNA3				e		05 08 00.4	
VNA1	Neumayer--Stat	68.51	161	e	P	05 07 39.4	+8.2
VNA1	Neumayer--Stat	68.51	161	e	pP	05 07 42.6	+6.1
VNA1	Neumayer--Stat	68.51	161	⇑iP	P	05 07 33.1	+1.9
VNA1				e	pP	05 07 39.4	+2.9
VNA1				e		05 07 42.6	
VNA1				e		05 08 05.9	
BOZ	Bozeman (W)	68.60	334	eP	P	05 07 31.8	-0.3
	4.5nm,0.7s,mb4.5						
VNA2	Neumayer--Watz	68.87	161	e	P	05 07 41.0	+7.6
VNA2	Neumayer--Watz	68.87	161	e	pP	05 07 44.4	+5.7
VNA2	Neumayer--Watz	68.87	161	⇑iP	P	05 07 34.9	+1.5
VNA2				e	pP	05 07 41.0	+2.3
VNA2				e		05 07 44.4	
VNA2				e		05 07 56.6	
SCHQ	Schefferville	69.88	5	P	P	05 07 38.9	-0.8
	6.3nm,0.8s,mb4.6,baz=208,slow=7.9,SNR=4.0						
SCHQ				LR	LR	05 35 22.0	
	comp=Z,90nm,19.4s,MS4.0,baz=84,slow=33						
SCHQ	Schefferville	69.88	5	P	P	05 07 38.9	-0.8
SCHQ				LR	LR	05 35 22.0	
MOD	Modoc	70.04	326	eP	P	05 07 41.7	+0.7
	9.7nm,1.1s,mb4.7						
WDC	Whiskeytown Da	70.40	324	eP	P	05 07 42.2	-1.0
	3.3nm,0.7s,mb4.4						
SNAA	Sanae	70.47	161	e	P	05 07 47.7	+4.5
SNAA	Sanae	70.47	161	e	P	05 07 51.2	+8.0
SNAA	Sanae	70.47	161	⇓iP	P	05 07 41.7	-1.5
SNAA				e	pP	05 07 47.7	-0.8
SNAA				e		05 07 51.2	
SNAA				e		05 08 13.4	
LIC	Lamto	72.89	79	eP	P	05 07 57.1	-1.6
	79nm,1.6s,mb5.4						
LIC	Lamto	72.89	79	eP	P	05 07 58.1	-0.6
	26nm,1.3s,mb5.0						
NEW	Newport	73.02	332	eP	P	05 07 58.8	+0.1
NEW				epP	pP	05 08 07.8	+3.8
TIC	Toumodi	73.03	78	eP	P	05 07 58.2	-1.3
	52nm,1.2s,mb5.3						
DBIC	Dimbokro	73.19	78	P	P	05 07 59.0	-1.4
	5.0nm,0.9s,mb4.5,baz=232,slow=10,SNR=9.6						
DBIC				LR	LR	05 38 14.5	
	comp=Z,398nm,19.7s,MS4.7,baz=217,slow=34						
KIC	Kosan Boka	73.20	79	eP	P	05 07 59.2	-1.3
	69nm,0.9s,mb5.6						
DPW	Davenport	73.22	331	eP	P	05 08 01.2	+1.3
DPW				epP	pP	05 08 10.6	+5.4
MAIT	Maitri	75.09	160	eP	P	05 08 10.9	+0.6
QSPA	South Pole Qui	75.22	180	eP	P	05 08 11.3	+0.4
	15nm,1.0s,mb4.9						
SBA	Scott Base	81.09	191	eP	P	05 08 44.3	+1.1
	9.7nm,1.1s,mb4.7						
EVO	Evora	82.43	47	eP	P	05 08 51.4	+0.6
	45nm,1.0s,mb5.0						
EVO				eR			
	206nm,19.5s						
YKA	Yellowknife Ar	83.03	343	P	P	05 08 53.2	-0.2
	26nm,1.2s,mb5.1,baz=136,slow=5.3,SNR=16						
YKA				LR	LR	05 49 57.5	
	comp=Z,120nm,20.5s,MS4.2,baz=145,slow=38						
YKA	Yellowknife Ar	83.03	343	P	P	05 08 53.2	-0.2
YKA				LR	LR	05 49 57.5	
SYO	Syowa Base	84.76	161	⇓P	P	05 09 01.6	-0.4
SYO	Syowa Base	84.76	161	⇓PcP	PcP	05 09 02.8	-3.2
SYO	Syowa Base	84.76	161	⇓pP	pP	05 09 11.3	+3.8
SYO	Syowa Base	84.76	161	⇑PP	sP	05 09 16.2	+7.0
ESDC	Sonseca Array	85.77	47	P	P	05 09 08.3	+0.5
	1.7nm,0.8s,mb4.3,baz=259,slow=4.8,SNR=5.2						
QUIF	Quistinic	89.53	40	eP	P	05 09 27.0	+1.3
	233nm,1.7s,mb5.9						
EPF	Esparros	90.02	45	eP	P	05 09 28.8	+0.7
	31nm,1.2s,mb5.2						
SUMG	Summit	90.67	10	eP	P	05 09 31.5	+1.1
	43nm,1.2s,mb5.7						
MAW	Mawson	92.30	165	P	P	05 09 37.8	-0.3
	8.4nm,0.8s,mb5.1,baz=215,slow=6.5,SNR=22						
MAW				LR	LR	05 47 25.8	
	comp=Z,217nm,21.1s,MS4.6,baz=232,slow=33						
TCF	Toulx Ste Croi	92.38	43	eP	P	05 09 39.3	+0.4
AVF	Avril sur Loir	93.28	42	eP	P	05 09 43.8	+0.8
	16nm,1.1s,mb5.1						
SMF	Signal de Mont	93.56	43	eP	P	05 09 44.5	+0.2
VIVF	Saint-Julien-l	93.57	45	eP	P	05 09 44.8	+0.4
	17nm,1.0s,mb5.1						
LOR	Lormes	93.76	42	eP	P	05 09 45.9	+0.7
URZ	Urewera	94.01	229	LR	LR	05 43 35.1	
	comp=Z,186nm,18.2s,MS4.6,baz=112,slow=30						
ORIF	Oris-en-Rattie	94.41	45	eP	P	05 09 49.0	+0.7
	16nm,1.0s,mb5.1						
CABF	La Chapelle	95.03	43	eP	P	05 09 51.5	+0.4
LPL	La Plagne	95.16	44	eP	P	05 09 52.2	+0.5
LPG	La Plagne	95.16	44	eP	P	05 09 52.4	+0.7
	6.5nm,0.7s,mb4.8						
SBF	Sospel	95.19	46	eP	P	05 09 52.2	+0.3
	31nm,0.9s,mb5.4						
ILAR	Eielson Array	95.70	336	P	P	05 09 53.6	-0.1
	1.3nm,0.8s,mb4.4,baz=152,slow=3.2,SNR=18						
ILAR				PP	PP	05 13 40.6	-7.0
	0.8nm,0.8s,baz=108,slow=6.7,SNR=7.7						
COLA	College	96.12	336	eP	P	05 09 55.6	-0.1
	2.7nm,0.6s,mb4.8						
CDF	Champ du Feu	96.29	42	eP	P	05 09 57.1	+0.3
GRA1	Grafenberg Arr	99.12	41	eP	P	05 10 19.8	+10
GERES	GERESS Array B	100.55	42	P	P	05 10 16.4	+0.4
	0.5nm,0.4s,baz=252,slow=8.4,SNR=4.8						
BRTR	Keskin Array B	114.02	53	PKiKP		05 15 07.0	
	0.6nm,0.6s,baz=180,slow=2.9,SNR=4.5						
STKA	Stephens Creek	121.44	217	PKP	PKPdf	05 15 22.5	-2.4
	3.8nm,0.7s,slow=19,SNR=4.4						
ASAR	Alice Springs	132.08	217	PKP	PKPdf	05 15 42.5	-3.1
	3.4nm,0.6s,baz=126,slow=2.1,SNR=44						
ASPA	Alice Springs	132.08	217	eP	PKPdf	05 15 42.4	-3.2
ZRNK	Zerenda	132.84	29	ePKPdf	PKPdf	05 15 43.9	-2.4
BVAR	Borovoye Array	133.42	28	PKP	PKPdf	05 15 45.5	-1.7
	1.2nm,0.7s,baz=315,slow=2.1,SNR=8.5						
WB2	Warramunga Arr	134.60	221	eP	PKPdf	05 15 47.6	-2.7
WRA	Warramunga Arr	134.61	221	PKP	PKPdf	05 15 47.6	-2.8
	5.1nm,0.5s,baz=132,slow=1.9,SNR=39						
KURK	Kurchatov	138.63	25	ePKPdf	PKPdf	05 15 55.1	-1.8
FITZ	Fitzroy Crossi	141.14	213	eP	PKPdf	05 15 53.6	-8.8
	4.6nm,0.8s						
MKAR	Makanchi Array	143.21	26	PKP	PKPdf	05 16 00.0	-5.0
	1.5nm,0.6s,baz=4.9,slow=3.4,SNR=12						
KSH	Kashi	144.99	40	ePKP	PKPdf	05 16 06.8	-1.6
SONM	Songino Array	147.16	358	PKPbc	PKPdf	05 16 10.1	-1.7
	13nm,0.7s,baz=335,slow=1.7,SNR=39						
SONM				PP	PP	05 19 36.2	-3.2
	0.5nm,0.4s,baz=333,slow=11,SNR=4.1						
WMQ	Urumqi	147.82	23	ePKP	PKPdf	05 16 09.3	-3.7
POO	Poona	150.42	79	eP	PKPdf	05 16 20.0	+2.1
BJT	Baijiatuau	153.01	340	ePKPbc	PKPdf	05 16 25.9	+4.9
GTA	Gaotai	155.27	9	ePKP	PKPdf	05 16 21.1	-3.0
NJ2	Nanjing	158.53	325	ePKP	PKPdf	05 16 24.8	-3.8
LZH	Lanzhou	158.93	2	ePKP	PKPdf	05 16 25.0	-4.0
LZH				APKP		05 16 34.6	
LZH				eSKS	SKS	05 23 25.0	-8.6
LZH				SKKS		05 27 30.0	
LZH				PP	PP		
	comp=Z,52nm,4.6s						
LZH				LR	LR		
	comp=E,182nm,18.5s						
LZH				LR	LR		
	comp=Z,234nm,21.0s,MS5.0						
LZH	Lanzhou	158.93	2	ePKP	PKPdf	05 16 25.0	-4.0
LZH				pPKP		05 16 34.6	
LZH				sPKP		05 16 38.7	
GYA	Guiyang	168.36	350	PKP	PKPdf	05 16 35.3	-2.6
GYA				PP	PP		
	comp=Z,130nm,7.8s						
CMAR	Chiang Mai Arr	173.60	56	PKP	PKPdf	05 16 39.0	-2.0
	comp=Z,0.6nm,0.4s,baz=238,slow=1.3,SNR=6.7						

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*NEIC **15** 04:56:58.3, 17.29N×94.24W, h171^{km}, MD3.6(MEX), After MEX.*

MEX 15 04:56:58.1±1.0**, 17.20N×94.18W, h169**^{km}±11^{km}**, MD3.9, 1D, Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.68	261	⇓iP	P	04 57 21.6	-1.4
CMIG				eS	S	04 57 38.9	-3.2
TUIG	Tuzandepetl	0.86	344	iP	P	04 57 22.2	-1.7
TUIG				iS	S	04 57 41.2	-2.7
HUIG	Huatulco	2.33	233	eP	P	04 57 35.9	-2.8
HUIG				eS	S	04 58 08.2	-1.9
OXX	Oaxaca	2.44	268	iP	P	04 57 37.5	-2.5
OXX				iS	S	04 58 10.0	-2.2
VHO	Vista Hermosa	2.45	267	eP	P	04 57 38.8	-1.3
VHO				eS	S	04 58 09.9	-2.5
PPM	Popocatepetl	4.62	294	eP	P	04 58 06.0	-1.7

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*ISK **15** 04:59:20.3, 36.93N×27.77E, h10^{km}, MD3.1*
*ATH **15** 04:59:23.8, 36.82N×27.73E, h38^{km}, MD3.0/3*

ISC 15 04:59:21.1±0.6**, 36.93N**±0.03×**27.79E**±0.04**, h10**^{km}±5^{km}**, n15, σ0^{s}85**/22**, 1C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.31	296	iP	Pg	04 59 27.6	+0.1
BDRM				iS	Sg	04 59 33.0	+1.2
MLSB	Milas	0.36	358	iPG	Pg	04 59 28.5	-0.1
MLSB				iSG	Sg	04 59 33.5	0.0
YER	Yerkesik	0.44	62	iPG	Pg	04 59 29.2	-0.9
NISR	Nisiros	0.62	239	ePN	Pn	04 59 35.5	-0.2
DALT	Dalyan (Mudla)	0.69	103	iPG	Pg	04 59 34.0	-1.1
DALT				iSG	Sg	04 59 45.5	+1.1
AYDN	Tasoluk	0.73	5	iP	Pb	04 59 34.8	-0.7
AYDN				iS	Sb	04 59 44.5	-0.8
ARG	Arkhangelos	0.76	159	ePB	Pb	04 59 36.5	+0.5
ARG				eSN	Sn	04 59 49.0	-0.3
DNZL	Cakiroluk	1.25	52	iP	Pb	04 59 43.9	-0.5
DNZL				iS	Sb	05 00 01.7	+1.2
DENT	Denizli	1.28	50	ePN	Pn	04 59 45.5	+0.3
KARP	Karpathos	1.47	201	ePN	Pn	04 59 48.0	+0.1
IZM	Izmir	1.52	344	ePN	Pn	04 59 47.8	-0.8
KDAG	Bornova	1.53	344	iP	Pn	04 59 49.9	+1.2
MANT	Manisa	1.67	21	⇑iP	Pn	04 59 50.0	-0.7
MANT				iS	Sn	05 00 15.1	+2.7
ELL	Elmali	1.71	96	ePN	Pn	04 59 51.4	+0.2
AKS	Akhisar	1.94	0	ePN	Pn	04 59 53.5	-1.1

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*IDC **15** 05:14:03.7±0.4, 7.40N×74.92W, h52^{km}±3^{km}, mb3.9/17, mb1 4.1/20, mb1mx4.1/23, MS3.5/3, Ms1 3.5/3, ms1mx3.2/22, Error ellipse: s-maj=18.7km s-min=9.0km az=72.0*
*BJI **15** 05:14:06.6, 7.20N×74.80W, h88^{km}, mB4.7*
*NEIC **15** 05:14:06.7±0.9, 7.21N×74.82W, h88^{km}±9^{km}, mb4.2/4, Error ellipse: s-maj=10.8km s-min=7.5km az=60.0*

ISC 15 05:14:02.5±0.4**, 7.49N**±0.05×**74.72W**±0.07**, h52**^{km}**, h52**^{km}±.5^{km}**:pP-P, n48, σ1^{s}13**/39**, mb4.2**/20**, MS3.4**/2**, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ROSC	El Rosal	2.65	172	P	P	05 14 45.1	+1.3
	146nm,0.3s,baz=34,slow=2.8,SNR=223						
ROSC				S	S	05 15 17.5	+2.7
	182nm,0.3s,baz=124,slow=22,SNR=3.7						
ROSC				LR	LR	05 15 57.9	
	comp=Z,646nm,19.0s,baz=314,slow=44						
SDV	Santo Domingo	4.27	71	eP	P	05 15 11.0	+4.3
OTAV	Otavalo	8.11	207	eP	P	05 16 00.3	0.0
	3.0nm,0.4s						
JTS	JuntasAbangare	10.49	286	P	P	05 16 33.5	+0.6
	1.2nm,0.3s,baz=268,slow=23,SNR=5.0						
JTS	JuntasAbangare	10.49	286	eP	P	05 16 33.6	+0.7
	5.8nm,0.8s						
MGP	Maguayo	12.82	35	eP	P	05 17 03.9	-0.5
SJG	San Juan	13.45	38	P	P	05 17 11.1	-1.5
	3.7nm,0.3s,baz=212,slow=11,SNR=17						
SJG				S	S	05 19 34.6	-6.8
	0.5nm,0.3s,baz=331,slow=13,SNR=2.4						
MTP	Monte Pirata	13.81	39	eP	P	05 17 17.5	+0.2
SAML	Samuel	19.97	145	eP	P	05 18 28.8	-4.5
	6.7nm,0.6s						
LPAZ	La Paz	24.51	165	P	P	05 19 17.0	-1.6
	4.1nm,0.6s,mb4.2,baz=305,slow=0.2,SNR=6.8						
LPAZ				LR	LR	05 29 36.9	
	comp=Z,96nm,18.8s,MS3.3,baz=317,slow=38						
LVC	Limon Verde	30.46	169	eP	P	05 20 09.6	-3.2
	2.4nm,0.8s,mb4.0						
CCM	Cathedral Cave	33.91	336	eP	P	05 20 42.9	+0.3
	10nm,0.7s,mb4.9						
TXAR	Lajitas Array	34.84	312	P	P	05 20 50.0	-0.7
	0.2nm,0.6s,mb3.3,baz=141,slow=8.0,SNR=4.3						
TXAR				sP	sP	05 21 09.4	-1.3
	0.7nm,0.8s,baz=130,slow=9.8,SNR=5.9						
TXAR				PcP	PcP	05 23 22.0	-1.2
	1.3nm,0.8s,baz=140,slow=5.7,SNR=10.0						
TXAR	Lajitas Array	34.84	312	P	P	05 20 50.0	-0.7
TXAR				sP	sP	05 21 09.4	-1.3
TXAR				PcP	PcP	05 23 22.0	-1.2
WMOK	Wichita Mounta	35.00	324	P	P	05 20 50.8	-1.3
BDFB	Brasilia	35.04	131	P	P	05 20 51.0	-1.7
	2.3nm,0.7s,mb4.2,baz=259,slow=5.2,SNR=3.6						
BDFB				LR	LR	05 36 07.9	
	comp=Z,95nm,20.4s,MS3.5,baz=295,slow=38						
CPUP	Villa Florida	37.62	154	P	P	05 21 08.7	-5.6
	1.0nm,0.5s,mb3.8,baz=354,slow=12,SNR=4.9						
ULM	Lac du Bonnet	46.13	341	P	P	05 22 23.5	-0.1
	2.5nm,0.5s,mb4.4,baz=146,slow=12,SNR=3.0						
ULM				sP	sP	05 22 42.4	-1.0
	2.5nm,0.5s,baz=171,slow=6.1,SNR=2.8						
ULM	Lac du Bonnet	46.13	341	P	P	05 22 23.5	-0.1
ULM				sP	sP	05 22 42.4	-1.1
PDAR	Pinedale Array	46.61	325	P	P	05 22 27.4	0.0
	0.8nm,0.7s,mb3.8,baz=127,slow=7.4,SNR=6.5						
PDAR				PcP	PcP	05 23 59.8	-1.4
	0.5nm,0.5s,baz=126,slow=5.4,SNR=3.5						
TCUT	Toone Canyon	46.72	322	eP	P	05 22 27.8	-0.5
TRQA	Tornquist	46.85	166	P	P	05 22 24.4	-5.0
	3.5nm,0.9s,mb4.3						
SCHQ	Schefferville	47.63	6	P	P	05 22 36.5	+1.2
	4.8nm,0.7s,mb4.7,baz=199,slow=7.7,SNR=4.3						
NVAR	Mina Array Bea	49.89	315	P	P	05 22 52.9	-0.1
	0.6nm,0.7s,mb3.7,baz=135,slow=6.4,SNR=4.4						
NVAR				PcP	PcP	05 24 12.8	-0.3
	1.1nm,0.6s,baz=124,slow=4.9,SNR=7.0						
YKA	Yellowknife Ar	62.09	340	P	P	05 24 18.9	-1.2
	2.2nm,0.6s,mb4.5,baz=133,slow=6.9,SNR=9.0						
YKA				pP	pP	05 24 33.1	-1.4
	1.1nm,0.5s,baz=134,slow=6.9,SNR=3.7						
YKA	Yellowknife Ar	62.09	340	P	P	05 24 18.9	-1.2
YKA				pP	pP	05 24 33.1	-1.4
TIC	Toumodi	69.11	86	eP	pP	05 25 16.9	-3.6
	41nm,1.1s						
LIC	Lamto	69.14	86	eP	pP	05 25 18.0	-2.7
	27nm,1.0s						
DBIC	Dimbokro	69.27	86	P	P	05 25 06.1	-0.7
	1.9nm,0.6s,mb4.2,baz=317,slow=6.6,SNR=4.3						
DBIC	Dimbokro	69.27	86	P	P	05 25 06.1	-0.7
KIC	Kosan Boka	69.41	86	eP	pP	05 25 19.7	-2.6
	23nm,0.7s						
ESDC	Sonseca Array	70.45	51	pP	pP	05 25 28.3	+0.1
	1.6nm,0.7s,baz=253,slow=6.0,SNR=2.7						
EKA	Eskdalemuir Ar	73.41	34	P	P	05 25 31.8	+0.9
	9.8nm,1.4s,mb4.6,baz=225,slow=5.9,SNR=4.0						
ILAR	Eielson Array	75.69	335	P	P	05 25 43.5	-0.3
	0.6nm,0.5s,mb3.8,baz=114,slow=4.2,SNR=9.6						
ILAR				pP	pP	05 25 58.1	-0.5
	0.7nm,0.7s,baz=107,slow=4.9,SNR=6.6						
ILAR				sP	sP	05 26 04.2	-0.1
	0.6nm,0.6s,baz=104,slow=4.5,SNR=3.9						
DAVOX	Davos	80.89	44	P	P	05 26 14.6	+1.8
	2.6nm,0.7s,mb4.3,baz=336,slow=18,SNR=2.2						
DAVOX				pP	pP	05 26 29.9	+2.2
	baz=310,slow=7.9						
NB2	NORSAR Subarra	81.52	29	P	P	05 26 16.8	+1.0
	1.2nm,0.7s,mb3.9,baz=271,slow=6.5						
NOA	NORSAR Array B	81.52	29	P	P	05 26 17.1	+1.3
	1.1nm,0.6s,mb4.0,baz=273,slow=6.7,SNR=5.0						
NOA				pP	pP	05 26 32.1	+1.4
	0.9nm,0.6s,baz=273,slow=5.3,SNR=3.6						
GERES	GERESS Array B	83.38	42	P	P	05 26 26.8	+1.3
	0.3nm,0.4s,mb3.7,baz=284,slow=4.0,SNR=3.4						
GERES				pP	pP	05 26 41.7	+1.2
	0.5nm,0.4s,baz=243,slow=6.0,SNR=2.9						
ARCES	ARCESS Array B	86.60	20	P	P	05 26 42.4	+1.3
	5.8nm,0.8s,mb4.9,baz=273,slow=4.0,SNR=22						
FINES	FINESS Array B	88.60	28	P	P	05 26 51.7	+0.9
	1.8nm,0.7s,mb4.5,baz=270,slow=11,SNR=5.1						
FINES	FINESS Array B	88.60	28	P	P	05 26 51.7	+0.9
CN2	Changchun	125.77	342	ePKP	PKPdf	05 32 56.3	-2.6
WMQ	Urumqi	126.50	16	ePKP	PKPdf	05 32 58.0	-2.3
LZH	Lanzhou	136.63	2	ePKP	PKPdf	05 33 19.5	-0.1
LZH				XPKP		05 33 50.5	
NJ2	Nanjing	138.60	342	ePKP	PKPdf	05 33 20.3	-3.0
ASAR	Alice Springs	148.19	236	PKPbc	PKPdf	05 33 42.4	+2.2
	1.1nm,0.5s,baz=115,slow=3.9,SNR=15						
ASAR				pPKPbc		05 33 58.5	
	1.7nm,0.7s,baz=118,slow=3.4,SNR=6.9						
WB2	Warramunga Arr	149.23	243	eP	PKPdf	05 33 45.4	+3.5
WRA	Warramunga Arr	149.24	243	PKPbc	PKPdf	05 33 45.6	+3.6
	1.8nm,0.5s,baz=105,slow=2.8,SNR=31						
WRA				pPKPbc		05 34 00.5	
	3.2nm,1.0s,baz=105,slow=3.0,SNR=5.1						

CASC 15 05:15:53.4±1.9**, 12.31N×87.72W, h26**^{km}±8^{km}**, MD3.5, 4C-1D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LEON	Leon	0.82	82	⇑eP	Pb	05 16 08.7	-0.1
LEON				eS	Sb	05 16 17.0	-2.5
TELN	Telica	0.92	71	eP	Pb	05 16 10.2	-0.4
TELN				eS	Sb	05 16 23.1	+0.7
MIRN	Miramar	0.99	82	eP	Pn	05 16 11.4	-0.4
COPN	Copaltepe	1.11	96	⇓eP	Pn	05 16 12.4	-1.1
MOMJ	Momotombo	1.16	85	⇑eP	Pn	05 16 13.6	-0.5
MOMJ				eS	Sn	05 16 31.9	+2.6
APYN	Apoyeque	1.34	93	⇑eP	Pn	05 16 15.7	-1.1
XAVN	Gruta Xavier	1.37	96	eP	Pn	05 16 16.8	-0.5
MGAN	Managua	1.45	96	eP	Pn	05 16 17.9	-0.4
MGAN				eS	Sn	05 16 36.1	-0.5
WILN	Americas 2	1.51	95	⇑eS	Sn	05 16 37.9	-0.2
PYTN	Playitas	1.64	82	eP	Pn	05 16 22.4	+1.3
PYTN				eS	Sn	05 16 44.1	+2.6
LCBS	La Ceiba	1.82	318	eP	Pn	05 16 23.0	-0.6
LCBS				eS	Sn	05 16 45.4	-0.6
LFRS	El Faro	1.85	315	eP	Pn	05 16 23.9	-0.1
LFRS				eS	Sn	05 16 47.3	+0.5

IDC 15 06:06:28.0±36.0**, 29.57S×176.53W, mb4.0**/3**, mb1 4.1**/3**, mb1mx3.9**/12**, Error ellipse: s-maj=675.0km s-min=180.3km az=96.0, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	35.92	256	P	P	06 13 30.2	-1.8
	1.3nm,0.5s,baz=90,slow=9.4,SNR=3.3						
ASAR	Alice Springs	44.44	265	P	P	06 14 41.0	-1.7
	0.5nm,0.5s,baz=104,slow=7.4,SNR=9.4						

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
WRA	**Warramunga Arr**	**45.36**	**271**	P	P	06 14 48.1	-1.9
	1.0nm,0.3s,baz=110,slow=8.1,SNR=35						

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*PRU **15** 06:12:09.8, 51.42N×16.16E*
*WAR **15** 06:12:09.5, 51.45N×16.16E, ML2.9, Mining Induced*
*NEIC **15** 06:12:10.8±1.9, 51.31N×16.12E, h5^{km}, ML3.1(VIE), Error ellipse: s-maj=21.2km s-min=7.8km az=213.0*
ISC 15 06:12:06.9±0.9**, 51.45N**±0.04×**16.14E**±0.04**, n15, σ1^{s}13**/34**, 1C, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.61**	**171**	*e*PG	**Pg**	**06 12 21.0**	**+1.8**
KSP				*i* SG	**Sg**	**06 12 29.0**	**+1.6**
KSP	**Ksiaz**	**0.61**	**171**	*e*Pg	**Pg**	**06 12 20.7**	**+1.5**
KSP				*i* Sg	**Sg**	**06 12 29.0**	**+1.6**
UPC	**Upice**	**0.95**	**185**	*e*PG	**Pg**	**06 12 26.7**	**+0.9**
UPC				*e*SG	**Sg**	**06 12 39.5**	**+1.1**
DPC	**Dobruska-Polom**	**1.11**	**174**	*e*PG	**Pg**	**06 12 29.5**	**+0.5**
DPC				*e*SG	**Sg**	**06 12 44.1**	**+0.4**
	39nm,0.4s						
PVCC	**Panska Ves**	**1.36**	**228**	*e*PG	**Pg**	**06 12 34.8**	**+0.8**
PVCC				*e*SG	**Sg**	**06 12 53.9**	**+1.8**
BRG	**Berggiesshubel**	**1.50**	**248**	*i* Pg	**Pg**	**06 12 37.2**	**+0.3**
BRG				*i* Sg	**Sg**	**06 12 57.6**	**+0.7**
PRU	**Pruhonice**	**1.78**	**215**	*e*PN	**Pn**	**06 12 38.9**	**-0.3**
PRU				PG	**Pg**	**06 12 41.5**	**-1.0**
PRU				*i* x	x	06 12 45.2	
PRU				*e*x	x	06 12 57.9	
PRU				SG	**Sg**	**06 13 05.4**	**-0.9**
	45nm,0.3s						
PRU	**Pruhonice**	**1.78**	**215**	*e*Pg	**Pg**	**06 12 41.4**	**-1.1**
PRU				*e*Sg	**Sg**	**06 13 05.3**	**-1.0**
MORC	**Moravsky Berou**	**1.90**	**151**	*e*Pn	**Pn**	**06 12 41.3**	**+0.4**
MORC				*e*Sn	**Sn**	**06 13 02.8**	**-3.0**
CLL	**Collm**	**1.97**	**267**	*e*PG	**Pg**	**06 12 46.0**	**-0.3**
CLL				*e*SG	**Sg**	**06 13 13.0**	**+0.4**
OJC	**Ojcow**	**2.62**	**117**	*e*PG	**Pg**	**06 12 58.0**	**-1.3**
OJC				*e*SG	**Sg**	**06 13 34.0**	**-0.3**
OJC	**Ojcow**	**2.62**	**117**	*e*Pg	**Pg**	**06 12 58.3**	**-1.0**
OJC				*e*Sg	**Sg**	**06 13 34.2**	**-0.1**
NKC	**Novy Kostel**	**2.64**	**244**	*e*PN	**Pn**	**06 12 52.6**	**+1.1**
NKC				*e*PG	**Pg**	**06 12 58.5**	**-1.1**
NKC				*e*SG	**Sg**	**06 13 34.6**	**-0.2**
KHC	**Kasperske Hory**	**2.84**	**216**	*e*PN	**Pn**	**06 12 55.0**	**+0.6**
KHC				*e*PG	**Pg**	**06 13 00.5**	**-3.2**
KHC				*e*SN	**Sn**	**06 13 29.6**	**-0.3**
KHC				*e*SG	**Sg**	**06 13 39.5**	**-2.1**
MOA	**Molln**	**3.80**	**199**	⇑*i*PN	**Pn**	**06 13 07.5**	**-0.5**
MOA				*i* SG	**Sg**	**06 14 11.2**	**-2.4**
	11nm,0.5s						

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*IDC **15** 06:12:09.7±1.8, 17.90N×75.49W, mb3.7/6, mb1 4.2/8, mb1mx4.0/21, ML5.0/2, MS3.4/2, Ms1 3.4/2, ms1mx2.8/26, Error ellipse: s-maj=48.8km s-min=22.2km az=2.0*
*JSN **15** 06:12:10.6±1.1, 18.04N×75.79W, MD4.3*
*NEIC **15** 06:12:15.2±6.0, 18.20N×75.38W, h28^{km}±47^{km}, mb4.0/2, Error ellipse: s-maj=18.4km s-min=17.7km az=127.0*
ISC 15 06:12:09.3±0.6**, 17.95N**±0.10×**75.74W**±0.04**, h10^{km}, n19, σ1^{s}18**/24**, mb3.7**/7**, MS3.7**/1**, 2C-3D, Jamaica region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HOJ	**Hope**	**0.97**	**273**	⇓*e*P	**Pb**	**06 12 27.3**	**-0.4**
HOJ				*i* S	**Sb**	**06 12 39.5**	**-0.9**
STH	**Stony Hill**	**1.03**	**277**	⇓*e*P	**Pb**	**06 12 28.1**	**-0.7**
STH				*i* S	**Sb**	**06 12 42.0**	**-0.1**
CVJ	**Coleyville**	**1.73**	**279**	⇑*e*P	**Pn**	**06 12 39.6**	**-0.2**
MCJ	**Malvern**	**1.86**	**269**	⇑*e*P	**Pn**	**06 12 41.8**	**+0.3**
MCJ				*e*S	**Sn**	**06 13 05.5**	**+0.2**
NEJ	**Negril**	**2.48**	**277**	⇓*e*P	**Pn**	**06 12 50.2**	**-0.4**
SJG	**San Juan**	**9.12**	**88**	Pn	**P**	**06 14 21.5**	**-2.6**
	3.4nm,0.3s,baz=278,slow=9.1,SNR=16						
SJG				Sn	**Sn**	**06 16 01.3**	**-6.6**
	1.6nm,0.3s,baz=288,slow=20,SNR=3.4						
SJG	**San Juan**	**9.12**	**88**	*e*P	**P**	**06 14 21.0**	**-3.1**
SJG				Sn	**Sn**	**06 16 01.3**	**-6.5**
SDV	**Santo Domingo**	**10.29**	**151**	*e*P	**P**	**06 14 40.1**	**-0.1**
	69nm,0.6s						
SDV				*e*S	**S**	**06 16 31.7**	**-4.9**
JTS	**JuntasAbangare**	**11.74**	**231**	Pn	**P**	**06 14 59.9**	**-0.2**
	1.0nm,0.3s,baz=319,slow=22,SNR=6.6						
JTS				LR	LR	06 19 01.6	
	comp=Z,77nm,18.9s,baz=354,slow=35						
OTAV	**Otavalo**	**17.80**	**189**	*e*P	**P**	**06 16 27.1**	**+8.0**
	3.1nm,0.8s						
TXAR	**Lajitas Array**	**27.91**	**299**	P	**P**	**06 18 04.5**	**+2.8**
	0.3nm,0.8s,mb3.0,baz=94,slow=12,SNR=3.2						
PDAR	**Pinedale Array**	**37.85**	**318**	P	**P**	**06 19 31.0**	**+3.0**
	1.1nm,0.6s,mb3.8,baz=119,slow=9.9,SNR=9.3						
NVAR	**Mina Array Bea**	**42.25**	**308**	P	**P**	**06 20 07.2**	**+2.7**
	1.0nm,0.7s,mb3.6,baz=112,slow=7.5,SNR=6.5						
NVAR	**Mina Array Bea**	**42.25**	**308**	P	**P**	**06 20 07.2**	**+2.7**
BDFB	**Brasilia**	**43.13**	**139**	LR	LR	06 38 26.8	
	comp=Z,95nm,18.7s,MS3.7,baz=106,slow=37						
TRQA	**Tornquist**	**57.19**	**167**	P	**P**	**06 22 00.8**	**+1.8**
	6.2nm,1.1s,mb4.5						
ILAR	**Eielson Array**	**65.88**	**334**	P	**P**	**06 22 56.0**	**-1.1**
	0.3nm,0.9s,mb3.3,baz=130,slow=7.0,SNR=3.8						
GERES	**GERESS Array B**	**76.34**	**43**	P	**P**	**06 23 59.8**	**-0.6**
	0.3nm,0.2s,mb3.8,baz=263,slow=7.9,SNR=2.7						
FINES	**FINESS Array B**	**79.92**	**29**	P	**P**	**06 24 20.0**	**+0.3**
	1.6nm,0.8s,mb4.0,baz=215,slow=23,SNR=1.9						

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*GUC **15** 06:16:48.3±0.7, 34.16S×70.07W, h5^{km}±2^{km}, MD3.7, ML2.2*
ISC 15 06:16:47.2±1.4**, 34.19S**±0.04×**69.99W**±0.07**, h8^{km}**±5^{km}**, n14, σ0^{s}40**/26**, 1C-5D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CICH	**Cipreses**	**0.38**	**250**	*e*P	**Pg**	**06 16 55.1**	**+0.2**
CICH				*i* S	**Sg**	**06 17 00.8**	**+0.7**
LMEL	**Las Melosas**	**0.39**	**332**	⇓*i*P	**Pg**	**06 16 55.2**	**+0.1**
LMEL				*i* S	**Sg**	**06 17 00.7**	**+0.4**
LMEL				AMP		06 17 02.2	
	comp=N,714nm,0.4s						
CACH	**El Canelo**	**0.52**	**278**	⇓*i*P	**Pg**	**06 16 57.2**	**-0.4**
CACH				*i* S	**Sg**	**06 17 04.0**	**-0.5**
CHCH	**Chadas Angostu**	**0.61**	**295**	*i* P	**Pg**	**06 16 59.2**	**-0.2**
CHCH				*i* S	**Sg**	**06 17 07.6**	**-0.1**
PCH	**Pirque**	**0.72**	**322**	*i* P	**Pb**	**06 17 01.3**	**-0.3**
ANTU	**Antumapu**	**0.82**	**319**	*e*P	**Pb**	**06 17 02.9**	**-0.4**
ANTU				*i* S	**Sb**	**06 17 14.0**	**-0.4**
ANTU				AMP		06 17 20.8	
	comp=N,144nm,0.5s						
FCH	**Farellones**	**0.90**	**344**	⇓*i*P	**Pb**	**06 17 04.4**	**-0.2**
FCH				*i* S	**Sb**	**06 17 16.6**	**+0.1**
FCH				AMP		06 17 18.1	
	comp=N,94nm,0.8s						
CLCH	**Cerro Calan**	**0.92**	**330**	⇓*i*P	**Pb**	**06 17 04.9**	**0.0**
CLCH				*i* S	**Sb**	**06 17 17.7**	**+0.6**
CLCH				AMP		06 17 19.9	
	comp=E,442nm,0.7s						
DSCH	**Colegio Aleman**	**0.93**	**328**	*e*P	**Pb**	**06 17 05.2**	**+0.1**
DSCH				*i* S	**Sb**	**06 17 18.0**	**+0.6**
DSCH				AMP		06 17 19.1	
	comp=E,310nm,0.5s						
SFDO	**San Fernando**	**0.95**	**243**	*i* P	**Pb**	**06 17 05.5**	**0.0**
SFDO				*i* S	**Sb**	**06 17 18.8**	**+0.8**
TACH	**Talagante**	**0.96**	**304**	⇑*i*P	**Pb**	**06 17 05.4**	**-0.2**
RCDM	**Rinconada Maip**	**0.98**	**316**	*i* P	**Pb**	**06 17 05.9**	**-0.1**
RCDM				*i* S	**Sb**	**06 17 18.8**	**-0.1**
PEL	**Peldehue**	**1.20**	**331**	*e*P	**Pb**	**06 17 09.9**	**+0.2**
PEL				*i* S	**Sb**	**06 17 25.6**	**+0.4**
LNV	**Longovilo**	**1.21**	**281**	⇓*i*P	**Pb**	**06 17 09.2**	**-0.6**
LNV				*i* S	**Sb**	**06 17 24.8**	**-0.7**

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*NIED **15** 06:28:00, 44.30N×151.40E, h65^{km}, Mw4.7 Best double couple: $M_0$1.15×10^{16} NP1:ϕ_s93°, δ74°, λ73°. NP2:ϕ_s321°, δ24°, λ136°.*
*IDC **15** 06:28:03.0±0.5, 44.06N×151.58E, mb4.5/21, mb1 4.6/22, mb1mx4.6/26, ML4.4/1, MS3.8/13, Ms1 3.8/13, ms1mx3.5/27, Error ellipse: s-maj=17.0km s-min=13.3km az=138.0*
*SKHL **15** 06:28:05.6±0.4, 44.10N×151.50E, h35^{km}±14^{km}, mb5.0/5, ms4.2/3, msh5.6/1*
*NEIC **15** 06:28:05.6±3.8, 44.05N×151.49E, h16^{km}±23^{km}, mb4.8/52, Error ellipse: s-maj=5.1km s-min=3.2km az=162.0*
*BJI **15** 06:28:07.9, 44.12N×150.74E, h16^{km}, mB4.8, mb4.9, Ms4.5, Msz4.4*
*MOS **15** 06:28:09.4±0.9, 44.43N×151.20E, h40^{km}, mb4.8/21, Error ellipse: s-maj=12.5km s-min=7.4km az=116.9*
ISC 15 06:28:04.0±1.4**, 44.08N**±0.04×**151.38E**±0.04**, h15^{km}**±8^{km}**, n185, σ1^{s}00**/188**, mb4.7**/80**, MS3.9**/21**, 4C-6D, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.76**	**296**	⇑*i*P	**Pn**	**06 28 48.6**	**0.0**
KUR				AMB	AMB	06 28 51.0	
	198nm,0.5s						
KUR				AMB	AMB	06 28 51.0	
	243nm,0.5s						
KUR				AMB	AMB	06 28 51.0	
	380nm,0.5s						
KUR				*e*S	**Sn**	**06 29 20.5**	**-1.5**
KUR				A		06 29 24.0	
	8μm,2.0s						
KUR				A		06 29 24.0	
	5μm,2.0s						
KUR				A		06 29 26.5	
	2μm,0.6s						
KUR				A		06 29 26.5	
	760nm,0.6s						
KUR	**Kuril'sk**	**2.76**	**296**	⇑*i*PN	**Pn**	**06 28 48.6**	**0.0**
KUR				*e*S	**Sn**	**06 29 20.5**	**-1.5**
KUR				pmax	pmax		
	comp=N,200nm,0.5s						
KUR				pmax	pmax		
	comp=E,240nm,0.5s						
KUR				pmax	pmax		
	comp=Z,380nm,0.5s						
KUR				smax			
	comp=N,8μm,2.0s						
KUR				smax			
	comp=E,5μm,2.0s						
KUR				smax			
	comp=N,2μm,0.6s						
KUR				smax			
	comp=E,760nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**3.98**	**271**	*e*P	**Pn**	**06 29 04.5**	**-1.4**
YUK				AMB	AMB	06 29 07.0	
	comp=E,150nm,0.3s						
YUK				AMB	AMB	06 29 07.0	
	comp=E,180nm,0.3s						
YUK				AMB	AMB	06 29 07.0	
	comp=E,350nm,0.3s						
YUK				*i* S	**Sn**	**06 29 49.0**	**-3.8**
YUK				A		06 29 56.9	
	comp=E,2μm,0.6s						
YUK				A		06 29 56.9	
	comp=E,3μm,0.6s						
YUK				A		06 29 56.9	
	comp=E,1μm,0.4s						
YUK				A		06 29 56.9	
	comp=E,1μm,0.4s						
ASAJ	**Asahikawa**	**6.33**	**273**	Pn	**Pn**	**06 29 40.2**	**+1.1**
	comp=E,7.2nm,0.3s,baz=78,slow=16,SNR=12						
ASAJ	**Asahikawa**	**6.33**	**273**	PN	**Pn**	**06 29 40.3**	**+1.2**
ASAJ				pmax	pmax		
	comp=Z,7.0nm,0.3s						
YSS	**Yuzh-Sakhalins**	**6.71**	**298**	*e*P	**Pn**	**06 29 44.7**	**+0.2**
YSS				AMB	AMB	06 29 45.8	
	comp=Z,20nm,0.5s						
YSS				*e*sP		06 30 01.8	
YSS				*e*S	**Sn**	**06 30 58.9**	**-2.4**
YSS				A		06 31 02.5	
	comp=Z,50nm,0.8s						
YSS				*e*LQ		06 31 37.0	
YSS				AMS	AMS	06 34 20.0	
	comp=Z,900nm,15.0s						
YSS				AMS	AMS	06 34 20.0	
	comp=Z,400nm,14.0s						
YSS				AMS	AMS	06 34 20.0	
	comp=Z,900nm,15.0s						
YSS	**Yuzh-Sakhalins**	**6.71**	**298**	*e*PN	**Pn**	**06 29 44.7**	**+0.2**
YSS				S	**Sn**	**06 30 58.9**	**-2.4**
YSS				pmax	pmax		
	comp=Z,20nm,0.5s						
YSS				smax			
	comp=E,50nm,0.8s						
YSS				MLR	MLR		
	comp=Z,900nm,15.0s						
YSS				MLR	MLR		
	comp=N,400nm,14.0s						
YSS				MLR	MLR		
	comp=E,900nm,15.0s						
YSS	**Yuzh-Sakhalins**	**6.71**	**298**	*e*P	**Pn**	**06 29 42.3**	**-2.2**
	comp=E,13nm,0.3s						
SKR	**Severo-Kuril's**	**7.34**	**24**	*e*P	**Pn**	**06 29 52.0**	**-1.4**
SKR				AMB	AMB	06 29 56.5	
	comp=E,70nm,0.7s						
SKR				AMB	AMB	06 29 56.5	
	comp=E,20nm,0.5s						
SKR				*e*S	**Sn**	**06 31 08.3**	**-9.0**
SKR				A		06 31 11.5	
	comp=E,40nm,0.6s						
SKR				A		06 31 11.5	
	comp=E,70nm,0.6s						
SKR				A		06 31 11.5	
	comp=E,50nm,0.9s						
SKR				AMS	AMS	06 33 16.0	
	comp=E,2μm,12.0s						
SKR				AMS	AMS	06 33 16.0	
	comp=E,2μm,12.0s						
SKR	**Severo-Kuril's**	**7.34**	**24**	*e*PN	**Pn**	**06 29 52.0**	**-1.4**
SKR				pmax	pmax		
	comp=Z,70nm,0.7s						
SKR				pmax	pmax		
	comp=E,20nm,0.5s						
SKR				MLR	MLR		
	comp=E,2μm,12.0s						
SKR				MLR	MLR		
	comp=Z,2μm,12.0s						
UGL	**Uglegorsk**	**8.13**	**311**	*e*L		06 31 44.0	
UGL				AMS	AMS	06 35 18.0	
	comp=Z,1μm,14.0s						
UGL				AMS	AMS	06 35 18.0	
	comp=Z,450nm,14.0s						
UGL				AMS	AMS	06 35 18.0	
	comp=Z,900nm,14.0s						
TYV	**Tymovskoe**	**8.99**	**322**	*e*rx	rx	06 30 26.9	
TYV				*e*S	**Sn**	**06 31 56.0**	**-2.4**
TYV				AMS	AMS	06 35 46.0	
	comp=Z,1μm,14.0s						
TEY	**Ternei**	**10.59**	**280**	*e*P	**P**	**06 30 39.5**	**+1.2**
TEY				AMB	AMB	06 30 40.0	
	comp=Z,30nm,0.7s						
OKH	**Okha**	**10.98**	**333**	AMS	AMS	06 36 36.0	
	comp=Z,1μm,10.0s						
OKH				AMS	AMS	06 36 36.0	
	comp=Z,1μm,13.0s						
MAJO	**Matsushiro**	**12.55**	**238**	*e*P	**P**	**06 31 01.8**	**-3.1**
	comp=Z,19nm,0.8s						
MAT	**Matsushiro**	**12.55**	**238**	P	**P**	**06 31 02.2**	**-2.7**
MAT				S	**S**	**06 33 24.0**	**-1.4**
KLR	**Kul'dur**	**14.42**	**298**	*e*P	**P**	**06 31 33.8**	**+4.4**
KLR				MLR	MLR		
	comp=N,500nm,13.0s						
KLR				MLR	MLR		
	comp=Z,1μm,13.0s						
MDJ	**Mudanjiang**	**15.60**	**280**	P	**P**	**06 31 43.4**	**-1.4**
MDJ				S	**S**	**06 34 30.6**	**-7.1**
MDJ				AMB	AMB		
	comp=Z,29nm,0.8s						
MDJ	**Mudanjiang**	**15.60**	**280**	*e*P	**P**	**06 31 43.1**	**-1.7**
	comp=Z,27nm,0.8s						
ZEA	**Zeya**	**18.49**	**310**	*e*P	**P**	**06 32 19.8**	**-1.4**
ZEA				AMB	AMB	06 32 22.4	
	comp=Z,41nm,1.4s						
CN2	**Changchun**	**18.66**	**278**	*e*P	**P**	**06 32 22.4**	**-0.9**
CN2				*e*S	**S**	**06 35 44.3**	**-3.5**
CN2				AMB	AMB		
	comp=Z,30nm,0.8s						
SEY	**Seymchan**	**18.90**	**1**	*e*P	**P**	**06 32 24.2**	**-1.9**
SEY				pmax	pmax		
	comp=Z,40nm,1.3s						
SEY				pmax	pmax		
	comp=N,20nm,0.9s						
JNU	**Nakatsue**	**19.35**	**243**	LR	LR	06 40 13.7	
	comp=N,101nm,18.8s,baz=239,slow=38						
CLNS	**Chul'man**	**20.98**	**317**	*e*P	**P**	**06 32 47.6**	**-1.3**
CLNS				*e*		06 33 00.1	
CLNS				*e*SS	SS	06 37 01.9	-7.8
CLNS				pmax	pmax		
	comp=Z,30nm,0.7s						
CLNS				pmax	pmax		
	comp=N,10.0nm,0.8s						
CLNS				pmax	pmax		
	comp=E,30nm,1.1s						
CLNS				pmax	pmax		
	comp=Z,11nm,0.6s						
CLNS				pmax	pmax		
	comp=N,5.0nm,0.7s						
CLNS				pmax	pmax		
	comp=E,8.0nm,0.8s						
CLNS				MLR	MLR		
	comp=N,300nm,14.0s,MS3.9						
CLNS				MLR	MLR		
	comp=Z,200nm,14.0s,MS3.6						
CLNS				MLR	MLR		
	comp=E,40nm,12.0s,MS3.9						
YAK	**Yakutsk**	**22.02**	**332**	*d i*P	**P**	**06 32 57.4**	**-1.9**
YAK				*e**PP		06 33 18.2	
YAK				*e*S	**S**	**06 36 54.1**	**-2.5**
YAK				*e**SS		06 37 26.8	
YAK				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.4						
YAK				pmax	pmax		
	comp=N,3.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,3.0nm,0.7s						
YAK				smax			
	comp=E,9.0nm,1.0s						
YAK				smax			
	comp=N,6.0nm,1.2s						
YAK	**Yakutsk**	**22.02**	**332**	*e*P	**P**	**06 32 57.8**	**-1.5**
	comp=N,56nm,0.7s,mb5.1						
HIA	**Hailar**	**22.22**	**295**	*e*P	**P**	**06 32 58.7**	**-2.7**
	comp=N,9.2nm,0.6s,mb4.4						
JOW	**Kunigami**	**25.37**	**235**	P	**P**	**06 33 32.8**	**+0.6**
	comp=N,13nm,0.9s,mb4.5,baz=37,slow=7.4,SNR=5.2						
BJI	**Beijing**	**26.32**	**273**	*e*P	**P**	**06 33 42.3**	**+1.5**
BJI				AMB	AMB		
	comp=Z,11nm,0.9s,mb4.4						
BJI	**Beijing**	**26.32**	**273**	*e*P	**P**	**06 33 42.2**	**+1.4**
	comp=Z,11nm,0.9s,mb4.4						
BJI				LR	LR		
	comp=Z,70nm,21.2s,MS3.2						
BJT	**Baijiatuau**	**26.34**	**273**	*e*P	**P**	**06 33 42.0**	**+1.1**
	comp=Z,12nm,0.7s,mb4.5						
BOD	**Bodaibo**	**26.86**	**314**	*e*P	**P**	**06 33 41.9**	**-3.7**
SSE	**Sheshan**	**27.05**	**252**	*e*P	**P**	**06 33 46.5**	**-1.1**
SSE				PCP	PcP	06 37 08.4	-0.8
SSE				S	**S**	**06 38 20.5**	**-2.4**
SSE				AMB	AMB		
	comp=Z,25nm,0.7s,mb4.8						
SSE	**Sheshan**	**27.05**	**252**	*e*P	**P**	**06 33 46.5**	**-1.1**
	comp=Z,25nm,0.7s,mb4.8						
SSE				PcP	PcP	06 37 08.4	-0.8
SSE				S	**S**	**06 38 20.5**	**-2.4**
SSE				sS		06 38 39.4	
SSE				LR	LR		
	comp=Z,50nm,21.4s,MS3.0						
NJ2	**Nanjing**	**28.10**	**256**	*e*P	**P**	**06 33 56.6**	**-0.5**
NJ2				PP	PP	06 34 47.4	-0.1
NJ2				S	**S**	**06 38 36.0**	**-3.9**
NJ2				XS		06 38 47.0	
NJ2				AMB	AMB		
	comp=Z,20nm,0.7s,mb4.9						
NJ2				LR	LR		
	comp=Z,620nm,15.2s,MS4.3						
HHC	**Hu-ho-hao-te**	**29.35**	**278**	*e*P	**P**	**06 34 13.4**	**+5.1**
HHC				PCS		06 41 02.1	
HHC				SCS	ScS	06 44 46.4	-1.3
HHC				AMB	AMB		
	comp=Z,26nm,0.6s,mb5.1						
HHC				AMB	AMB		
	comp=Z,75nm,5.3s						
BTO	**Baotou**	**30.54**	**278**	*e*P	**P**	**06 34 23.6**	**+4.8**
SONM	**Songino Array**	**31.16**	**293**	P	**P**	**06 34 25.1**	**+0.8**
	comp=Z,4.5nm,0.5s,mb4.5,baz=78,slow=8.6,SNR=17						
ZAK	**Zakamensk**	**32.79**	**298**	*e*P	**P**	**06 34 37.7**	**-0.7**
ZAK				*e*		06 37 22.8	
IMA	**Indian Mountai**	**36.70**	**34**	*e*P	**P**	**06 35 12.1**	**+0.4**
	comp=Z,64nm,0.9s,mb5.5						
LZH	**Lanzhou**	**36.81**	**274**	*e*P	**P**	**06 35 14.4**	**+1.4**
LZH				PP	PP	06 36 40.3	+1.7
LZH				*e*S	**S**	**06 40 54.8**	**-1.2**
LZH				AMB	AMB		
	comp=Z,36nm,1.5s,mb5.0						
LZH				AMB	AMB		
	comp=Z,123nm,4.0s						
LZH				LR	LR		
	comp=E,432nm,14.9s						
LZH				LR	LR		
	comp=Z,524nm,16.8s,MS4.4						
LZH	**Lanzhou**	**36.81**	**274**	*e*P	**P**	**06 35 14.4**	**+1.4**
	comp=Z,36nm,1.5s,mb5.0						
LZH				pP	pP	06 35 26.5	+9.0
LZH				sP	sP	06 35 31.5	+12
LZH				PP	PP	06 36 40.3	+1.7
LZH				*e*S	**S**	**06 40 54.8**	**-1.2**
LZH				sS		06 41 11.8	
LZH				SS	SS	06 43 25.1	+1.1
LZH				LR	LR		
	comp=Z,520nm,16.8s,MS4.4						
GTA	**Gaotai**	**38.24**	**281**	*e*P	**P**	**06 35 26.3**	**+1.3**
GTA				S	**S**	**06 41 12.3**	**-5.5**
GTA				AMB	AMB		
	comp=Z,8.0nm,1.2s,mb4.3						
GTA				AMB	AMB		
	comp=Z,49nm,6.9s						
PMR	**Palmer**	**38.39**	**42**	P	**P**	**06 35 24.7**	**-1.3**
	comp=Z,3.7nm,0.8s,mb4.2						
MCK	**McKinley**	**38.49**	**38**	*e*P	**P**	**06 35 26.5**	**-0.4**
	comp=Z,1.9nm,0.4s,mb4.2						
SML	**Sawmill**	**38.76**	**41**	*e*P	**P**	**06 35 28.7**	**-0.5**
COLA	**College**	**39.00**	**36**	*e*P	**P**	**06 35 31.3**	**+0.2**
COLA	**College**	**39.00**	**36**	*e*P	**P**	**06 35 31.2**	**+0.1**
	comp=Z,9.1nm,1.0s,mb4.5						
ILAR	**Eielson Array**	**39.41**	**36**	P	**P**	**06 35 33.5**	**-1.1**
	comp=Z,2.9nm,0.8s,mb4.1,baz=259,slow=8.2,SNR=27						
ILAR				LR	LR	06 53 09.1	
	comp=Z,65nm,18.3s,MS3.5,baz=203,slow=38						
ILAR	**Eielson Array**	**39.41**	**36**	P	**P**	**06 35 33.5**	**-1.0**
ILAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ILAR				MLR	MLR		
	comp=Z,65nm,18.3s						
CD2	**Chengdu**	**39.48**	**267**	*e*P	**P**	**06 35 35.6**	**+0.1**
CD2				PP	PP	06 37 08.4	-1.7
CD2				S	**S**	**06 41 36.3**	**-0.4**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
CD2				LR	LR		
	comp=N,160nm,9.0s						
GYA	**Guiyang**	**39.98**	**259**	⇑*i*P	**P**	**06 35 39.8**	**+0.2**
GYA				SCS	ScS	06 45 44.6	+0.2
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5						
GYA				LR	LR		
	comp=N,1μm,15.0s,MS5.1						
GYA				LR	LR		
	comp=E,1μm,14.8s,MS5.1						
GYA				LR	LR		
	comp=Z,1μm,15.8s,MS4.9						
NVS	**Novosibirsk**	**43.89**	**309**	*e*P	**P**	**06 36 11.3**	**+0.1**
NVS				pmax	pmax		
	comp=Z,21nm,1.0s,mb4.8						
NVS				pmax	pmax		
	comp=E,19nm,1.2s						
INK	**Inuvik**	**44.56**	**31**	P	**P**	**06 36 15.7**	**-0.8**
	comp=E,6.0nm,0.8s,mb4.5,baz=272,slow=4.2,SNR=10.0						
INK	**Inuvik**	**44.56**	**31**	P	**P**	**06 36 15.7**	**-0.8**
INK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
WMQ	**Urumqi**	**44.80**	**293**	*e*P	**P**	**06 36 19.0**	**+0.2**
WMQ				AP	pP	06 36 29.0	+5.7
WMQ				XP	sP	06 36 33.0	+7.9
WMQ				AMB	AMB		
	comp=Z,18nm,1.1s,mb4.8						
MKAR	**Makanchi Array**	**47.12**	**299**	P	**P**	**06 36 37.6**	**+0.6**
	comp=Z,4.9nm,0.6s,mb4.6,baz=76,slow=7.8,SNR=54						
MKAR				PcP	PcP	06 38 08.2	-1.1
	comp=Z,1.2nm,0.5s,baz=79,slow=1.9,SNR=4.6						
MKAR				LR	LR	06 58 17.1	
	comp=Z,135nm,18.4s,MS3.9,baz=85,slow=38						

MKAR	Makanchi Array	47.12	299	P	P	06 36 37.7	+0.6
MKAR						06 38 08.2	
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.6s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR				MLR	MLR		
	comp=Z,135nm,18.4s						
KURK	Kurchatov	47.86	305	P	P	06 36 43.4	+0.5
	comp=Z,276nm,0.5s,SNR=15						
KURK	Kurchatov	47.86	305	eP	P	06 36 42.7	-0.2
KURK				pmax	pmax		
	comp=Z,15nm,0.7s,mb5.1						
KURK	Kurchatov	47.86	305	eP	P	06 36 43.1	+0.2
	comp=Z,26nm,0.6s,mb5.4						
CMAR	Chiang Mai Arr	50.57	257	P	P	06 37 05.2	+1.1
	comp=Z,1.9nm,0.8s,mb4.0,baz=37,slow=6.5,SNR=6.2						
CMAR				PcP	PcP	06 38 22.9	+0.8
	comp=Z,1.9nm,0.8s,baz=359,slow=3.0,SNR=7.5						
CMAR	Chiang Mai Arr	50.57	257	P	P	06 37 05.2	+1.1
CMAR						06 38 22.9	
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
VOSK	Vostochnaya	51.44	310	P	P	06 37 10.0	-0.2
VOSK				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6						
BVA0	Borovoye Array	51.64	310	i P	P	06 37 11.8	+0.1
BRVK	Borovoye	51.68	311	eP	P	06 37 12.5	+0.4
	comp=Z,6.3nm,0.6s,mb4.7						
ZRNK	Zerenda	52.43	311	P	P	06 37 17.5	-0.2
ZRNK				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
ZRNK	Zerenda	52.43	311	eP	P	06 37 17.6	-0.1
	comp=Z,8.2nm,0.6s,mb4.8						
ULHL	Ulahol	53.02	296	P	P	06 37 23.1	+0.8
	SNR=7.4						
TKM2	Tokmak 2	53.10	297	P	P	06 37 23.8	+0.9
	SNR=5.6						
USP	Ospenovka	53.63	298	P	P	06 37 27.4	+0.6
	SNR=6.2						
KZA	Kyzart	53.74	296	P	P	06 37 29.6	+2.0
	SNR=11						
AAK	Ala-Archa	53.95	297	eP	P	06 37 28.7	-0.4
AAK	Ala-Archa	53.95	297	eP	P	06 37 28.8	-0.3
	comp=Z,4.6nm,0.7s,mb4.5						
GUN	Gumba	54.04	276	eP	P	06 37 30.0	+0.1
	comp=Z,20nm,0.6s,mb5.2						
EKS2	Erkin-Say	54.40	298	P	P	06 37 33.0	+0.6
	SNR=9.6						
KKN	Kakani	54.54	276	eP	P	06 37 33.6	0.0
	comp=Z,41nm,1.0s,mb5.4						
KSH	Kashi	54.56	293	eP	P	06 37 38.0	+4.3
KSH				eAP	pP	06 37 42.0	+3.8
KSH				eXP	sP	06 37 46.0	+6.0
KSH				ePP	PP	06 39 37.1	-0.6
KSH				eS	S	06 45 11.5	+0.8
KSH				LR	LR		
	comp=N,90nm,3.8s						
KSH				LR	LR		
	comp=E,130nm,3.9s						
PKI	Pulchoki	54.57	276	eP	P	06 37 33.6	-0.3
	comp=E,18nm,0.8s,mb5.1						
AML	Almayashu	54.72	297	P	P	06 37 35.5	+0.8
	SNR=6.6						
DMN	Daman	54.77	276	eP	P	06 37 35.5	+0.2
	comp=E,16nm,0.6s,mb5.2						
GKN	Gorkha	54.87	277	eP	P	06 37 36.0	-0.1
	comp=E,36nm,0.9s,mb5.4						
KOLN	Koldanda	55.75	277	eP	P	06 37 42.5	0.0
	comp=E,27nm,1.0s,mb5.2						
ARU	Arti	56.17	318	⇑iP	P	06 37 44.2	-0.8
ARU				e		06 38 41.0	
ARU				i		06 39 45.7	
ARU				eS	S	06 45 23.8	-8.1
ARU				eSS	SS	06 49 19.2	+0.3
ARU				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.9						
ARU	Arti	56.17	318	eP	P	06 37 44.8	-0.2
	comp=Z,6.7nm,0.5s,mb4.9						
NLW	Nelson Butte	58.08	52	eP	P	06 37 57.7	-1.0
VGB	Gordon Butte	59.20	55	eP	P	06 38 06.0	-0.6
DPW	Davenport	59.40	51	eP	P	06 38 06.7	-1.2
HAWA	Hanford	59.45	53	eP	P	06 38 07.5	-0.7
	comp=Z,0.3nm,0.8s						
KEV	Kevo	59.45	341	ep	P	06 38 06.5	-1.5
NEW	Newport	59.79	51	eP	P	06 38 09.3	-1.3
	comp=Z,3.2nm,1.0s,mb4.3						
ARCES	ARCESS Array B	59.97	341	P	P	06 38 10.8	-0.7
	comp=Z,12nm,1.2s,mb4.8,baz=18,slow=7.1,SNR=5.1						
ARCES				LR	LR	07 11 19.2	
	comp=Z,53nm,18.3s,MS3.7,baz=32,slow=43						
LNOR	Lincton Mounta	60.46	53	eP	P	06 38 14.7	-0.5
MOD	Modoc	61.51	58	eP	P	06 38 21.9	-0.5
	comp=Z,4.7nm,0.8s,mb4.7						
SUMG	Summit	63.44	3	eP	P	06 38 35.2	+0.4
	comp=Z,21nm,1.0s,mb5.2						
HLID	Hailey	64.05	54	eP	P	06 38 38.5	-0.6
	comp=Z,2.3nm,0.9s,mb4.2						
BOZ	Bozeman (W)	64.37	51	eP	P	06 38 40.5	-0.7
	comp=Z,4.9nm,0.8s,mb4.6						
NVAR	Mina Array Bea	64.79	60	P	P	06 38 43.6	-0.4
	comp=Z,2.3nm,0.7s,mb4.3,baz=289,slow=5.3,SNR=21						
MNV	Mina	64.88	60	P	P	06 38 43.6	-1.0
	comp=Z,1.3nm,0.6s,mb4.1						
ELK	Elko	65.26	57	eP	P	06 38 46.7	-0.4
	comp=Z,1.6nm,0.7s,mb4.2						
KAF	Kangasniemi	65.35	335	ep	P	06 38 45.6	-1.6
	baz=39,slow=6.1						
WRAB	Tennant Creek	65.58	198	eP	P	06 38 47.6	-1.9
	comp=Z,9.2nm,0.8s,mb4.9						
WB2	Warramunga Arr	65.59	198	eP	P	06 38 47.5	-2.0
WRA	Warramunga Arr	65.59	198	P	P	06 38 47.4	-2.1
	comp=Z,3.8nm,0.7s,mb4.5,baz=18,slow=6.9,SNR=20						
WRA				LR	LR	07 03 49.9	
	comp=Z,81nm,19.9s,MS3.9,baz=105,slow=33						
TPH	Tonopah	65.68	60	eP	P	06 38 49.4	-0.4
	comp=Z,7.2nm,1.0s,mb4.7						
FINES	FINESS Array B	65.93	335	P	P	06 38 50.4	-0.5
	comp=Z,9.2nm,0.8s,mb4.9,baz=37,slow=7.6,SNR=23						
FINES				LR	LR	07 10 06.2	
	comp=Z,86nm,18.1s,MS4.0,baz=0.5,slow=38						
FINES	FINESS Array B	65.93	335	P	P	06 38 50.4	-0.6
FINES				pmax	pmax		
	comp=Z,9.0nm,0.8s						
FINES				MLR	MLR		
	comp=Z,86nm,18.1s						
FINES	FINESS Array B	65.93	335	P	P	06 38 50.4	-0.5
FINES				LR	LR	07 10 06.2	
FITZ	Fitzroy Crossi	66.21	207	eP	P	06 38 52.3	-1.2
	comp=Z,7.3nm,0.9s,mb4.7						
OBN	Obninsk	66.82	325	eP	P	06 38 55.6	-1.1
OBN				pmax	pmax		
	comp=Z,12nm,0.6s,mb5.1						
OBN				MLR	MLR		
	comp=Z,100nm,18.0s,MS4.1						
OBN	Obninsk	66.82	325	P	P	06 38 56.5	-0.3
	comp=Z,13nm,0.6s,mb5.1						
HWUT	Hardware Ranch	66.91	54	eP	P	06 38 56.2	-1.3
	comp=Z,3.6nm,0.9s,mb4.4						
TPNV	Topopah Spring	66.98	60	eP	P	06 38 57.4	-0.7
	comp=Z,6.6nm,1.1s,mb4.6						
DUG	Dugway	67.06	56	eP	P	06 38 58.3	-0.2
	comp=Z,0.5nm,1.0s						
PDAR	Pinedale Array	67.33	52	P	P	06 38 59.4	-0.8
	comp=Z,1.8nm,0.8s,mb4.1,baz=292,slow=3.0,SNR=15						
NLU	North Lily Min	67.65	56	eP	P	06 39 01.9	-0.4
ARUT	Antelope Range	68.19	58	eP	P	06 39 05.1	-0.6
MSU	Marysvale	68.50	57	eP	P	06 39 07.6	0.0
SRU	San Rafael	69.11	56	eP	P	06 39 10.5	-0.8
ASAR	Alice Springs	69.29	197	P	P	06 39 11.9	-0.8
	comp=Z,2.3nm,0.7s,mb4.2,baz=16,slow=5.4,SNR=17						
ASAR				LR	LR	07 05 34.2	
	comp=Z,65nm,20.9s,MS3.9,baz=192,slow=32						
ULM	Lac du Bonnet	69.35	39	LR	LR	07 11 18.8	
	comp=Z,90nm,19.0s,MS4.0,baz=310,slow=38						
NB2	NORSAR Subarra	70.35	341	P	P	06 39 17.9	-0.6
	comp=Z,7.1nm,0.7s,mb4.7,baz=28,slow=6.2						
NOA	NORSAR Array B	70.35	341	P	P	06 39 18.3	-0.2
	comp=Z,7.9nm,0.8s,mb4.7,baz=28,slow=6.4,SNR=18						
NOA				LR	LR	07 18 16.5	
	comp=Z,34nm,18.0s,MS3.6,slow=43						
GOF	Gofitskoye	70.84	315	⇓iP	P	06 39 23.0	+1.2
GOF				pmax	pmax		
	comp=Z,360nm,1.1s						
WUAZ	Wupatki	70.92	59	eP	P	06 39 22.5	0.0
	comp=Z,4.4nm,0.9s,mb4.4						
ZEI	Tsey	71.97	312	eP	P	06 39 29.0	+0.4
ZEI				MLR	MLR		
	comp=Z,200nm,19.0s,MS4.4						
AKASG	Malin Array Be	73.08	326	P	P	06 39 34.5	-0.4
	comp=Z,3.5nm,0.5s,mb4.6,baz=36,slow=6.3,SNR=23						
AKASG				LR	LR	07 12 24.5	
	comp=Z,64nm,19.3s,MS3.9,baz=340,slow=36						
AKASG	Malin Array Be	73.08	326	P	P	06 39 34.5	-0.4
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.5s						
AKASG				MLR	MLR		
	comp=Z,64nm,19.3s						
SOC	Sochi	73.57	315	eP	P	06 39 38.5	+0.6
SOC				e		06 39 53.0	
SOC				e		06 42 17.4	
SOC				ePPP	PPP	06 44 01.5	-6.6
SOC				eS	S	06 48 57.6	-8.4
SOC				e		06 49 28.5	
SOC				eSS	SS	06 53 41.0	-11
SOC				eSSS	SSS	06 56 49.5	-13
SOC				pmax	pmax		
	comp=N,10.0nm,0.8s						
SOC				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.9						
SOC				pmax	pmax		
	comp=E,4.0nm,0.4s						
SOC				MLR	MLR		
	comp=Z,67nm,18.0s,MS4.0						
SOC				MLR	MLR		
	comp=N,52nm,21.0s,MS3.9						
SOC				MLR	MLR		
	comp=E,31nm,17.0s,MS3.9						
ANMO	Albuquerque	74.30	57	eP	P	06 39 41.9	-0.4
ANMO	Albuquerque	74.30	57	eP	P	06 39 42.2	-0.1
	comp=E,3.2nm,0.8s,mb4.3						
STKA	Stephens Creek	76.12	189	P	P	06 39 53.5	+0.6
	comp=E,2.3nm,1.0s,mb4.1,baz=28,slow=7.5,SNR=3.2						
STKA				LR	LR	07 10 29.6	
	comp=E,145nm,20.7s,MS4.3,baz=23,slow=34						
SCHQ	Schefferville	76.24	22	P	P	06 39 52.6	-0.4
	comp=E,4.6nm,0.8s,mb4.5,baz=294,slow=10.0,SNR=3.4						
SCHQ				LR	LR	07 14 00.2	
	comp=E,90nm,19.5s,MS4.1,baz=50,slow=36						
KWP	Kalwaria	76.48	329	eP	P	06 39 55.5	+1.0
OJC	Ojcow	77.06	330	eP	P	06 39 57.2	-0.5
KOLS	Kolonicke sedl	77.21	328	eP	P	06 39 59.2	+0.6
MALT	Malatya	78.06	312	eP	P	06 40 05.6	+2.1
	comp=E,9.8nm,1.0s,mb4.7						
UPC	Upice	78.11	333	eP	P	06 40 04.3	+0.8
DPC	Dobruska-Polom	78.14	332	eP	P	06 40 04.5	+0.9
MORC	Moravsky Berou	78.22	331	eP	P	06 40 04.8	+0.7
	comp=E,7.5nm,1.0s,mb4.6						
CLL	Collm	78.38	335	P	P	06 40 05.0	+0.1
	comp=E,logA/T=1.1,mb4.8						
CLL	Collm	78.38	335	eP	P	06 40 05.0	+0.1
CLL				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.8						
CLL	Collm	78.38	335	eP	P	06 40 05.0	+0.1
	comp=Z,9.0nm,0.7s,mb4.8						
BRG	Berggiesshubel	78.46	334	eP	P	06 40 05.6	+0.2
BRG				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.5						
BRG	Berggiesshubel	78.46	334	eP	P	06 40 05.6	+0.2
	comp=Z,8.5nm,1.3s,mb4.5						
EKA	Eskdalemuir Ar	78.63	345	P	P	06 40 06.0	-0.3
	comp=Z,2.3nm,0.9s,mb4.1,baz=8.1,slow=5.0,SNR=3.5						
EKA	Eskdalemuir Ar	78.63	345	P	P	06 40 06.0	-0.2
EKA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
VYHS	Vyhne	78.85	330	eP	P	06 40 08.1	+0.6
VRAC	Vranov	78.94	332	P	P	06 40 09.1	+1.1
	comp=Z,2.6nm,0.4s,mb4.5,baz=15,slow=12,SNR=3.1						
PRU	Pruhonice	79.04	333	eP	P	06 40 09.2	+0.6
BRTR	Keskin Array B	79.48	316	P	P	06 40 12.3	+1.1
	comp=Z,2.5nm,0.8s,mb4.2,baz=90,slow=4.9,SNR=12						
BRTR				LR	LR	07 15 01.2	
	comp=Z,26nm,21.9s,MS3.5,baz=230,slow=35						
BRTR	Keskin Array B	79.48	316	P	P	06 40 12.4	+1.2
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BRTR				MLR	MLR		
	comp=Z,26nm,21.9s						
LTX	Lajitas	79.89	59	eP	P	06 40 13.4	-0.2
	comp=Z,6.2nm,0.8s,mb4.6						
TXAR	Lajitas Array	79.89	59	P	P	06 40 13.0	-0.6
	comp=Z,4.4nm,0.7s,mb4.5,baz=299,slow=4.0,SNR=69						
TXAR	Lajitas Array	79.89	59	P	P	06 40 13.0	-0.6
KHC	Kasperske Hory	80.10	333	eP	P	06 40 15.0	+0.7
GERES	GERESS Array B	80.31	333	P	P	06 40 15.9	+0.5
	comp=Z,1.5nm,0.6s,mb4.1,baz=34,slow=4.8,SNR=6.7						
GERES	GERESS Array B	80.31	333	P	P	06 40 15.9	+0.5
GERES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
CDF	Champ du Feu	82.65	337	eP	P	06 40 27.9	+0.2
CSS	Prodhromos	83.28	313	P	P	06 40 31.3	+0.1
HAU	Haudompre	83.28	337	eP	P	06 40 30.8	-0.1
HAU				eR			
	comp=Z,66nm,20.8s						
CABF	La Chapelle	84.62	337	eP	P	06 40 38.1	+0.4
	comp=Z,9.2nm,0.8s,mb4.7						
LOR	Lormes	84.63	338	eP	P	06 40 38.1	+0.4
	comp=Z,16nm,0.8s,mb4.9						
LOR				eR			
	comp=Z,109nm,20.5s						
SSF	Saint Saulge	84.92	339	eP	P	06 40 39.7	+0.6
AVF	Avril sur Loir	85.21	339	eP	P	06 40 41.2	+0.6
	comp=Z,24nm,0.8s,mb5.1						
SMF	Signal de Mont	85.21	338	eP	P	06 40 41.3	+0.7
	comp=Z,61nm,1.0s,mb5.4						
LPL	La Plagne	85.43	336	eP	P	06 40 43.0	+1.3
LPG	La Plagne	85.44	336	eP	P	06 40 43.1	+1.3
	comp=Z,15nm,0.8s,mb4.9						
BGF	Bois d'Agland	85.55	339	eP	P	06 40 43.5	+1.2
	comp=Z,15nm,0.7s,mb5.0						
TCF	Toulx Ste Croi	85.97	339	eP	P	06 40 45.1	+0.7
ORIF	Oris-en-Rattie	86.22	336	eP	P	06 40 46.8	+1.1
	comp=Z,13nm,0.9s,mb4.8						
ORIF				eR			
	comp=Z,54nm,22.2s						
VIVF	Saint-Julien-l	86.63	337	eP	P	06 40 48.6	+0.9
	comp=Z,29nm,1.1s,mb5.1						
CAF	Calviac	87.27	339	eP	P	06 40 52.1	+1.3
	comp=Z,9.7nm,0.8s,mb4.8						
BDFB	Brasilia	147.21	36	PKPbc	PKPdf	06 47 48.0	-0.2
	comp=Z,7.8nm,0.7s,baz=270,slow=2.9,SNR=14						
BDFB	Brasilia	147.21	36	PKP2	PKPab	06 47 48.0	-2.8
BDFB				pmax	pmax		
	comp=Z,8.0nm,0.7s						
SNAA	Sanae	149.65	196	e	PKPdf	06 48 01.6	+11
SNAA	Sanae	149.65	196	⇓iPKPdf	PKPdf	06 47 52.2	+1.6
SNAA				e		06 48 01.6	
CPUP	Villa Florida	150.82	62	PKPbc	PKPdf	06 47 56.5	+2.8
	comp=Z,3.4nm,0.7s,baz=32,slow=2.8,SNR=11						
CPUP	Villa Florida	150.82	62	PKIKP	PKPdf	06 47 56.5	+2.8
CPUP				pmax	pmax		
	comp=Z,3.0nm,0.7s						
CPUP	Villa Florida	150.82	62	PKPbc	PKPdf	06 47 56.5	+2.8
VNA2	Neumayer--Watz	151.11	194	⇓iPKPdf	PKPdf	06 47 58.7	+5.9
VNA2				e		06 48 08.2	
VNA3	Neumayer Olymp	151.22	193	e	PKPdf	06 48 05.7	+13
VNA3	Neumayer Olymp	151.22	193	⇓iPKPdf	PKPdf	06 47 57.4	+4.4
VNA3				e		06 48 05.7	
VNA1	Neumayer--Stat	151.50	194	e	PKPdf	06 48 08.8	+15
VNA1	Neumayer--Stat	151.50	194	⇓iPKPdf	PKPdf	06 47 59.4	+6.0
VNA1				e		06 48 08.8	

IDC 15 06:46:21.8±2.2**,21.07N**×**145.38E,mb3.5**/3**,mb1 3.8**/3**, mb1mx3.5**/20**,MS3.2**/1**,Ms1 3.4**/1**,ms1mx2.8**/17**,Error ellipse: s-maj=340.0km s-min=26.9km az=111.0, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	42.17	196	P	P	06 54 16.0	-2.0
	0.5nm,0.5s,baz=18,slow=8.3,SNR=8.2						
CMAR	Chiang Mai Arr	43.67	275	LR	LR	07 13 49.1	
	comp=Z,28nm,19.7s,baz=46,slow=38						
ASAR	Alice Springs	45.85	195	P	P	06 54 45.9	-1.8
	0.6nm,1.0s,baz=8.1,slow=6.4,SNR=3.1						
ILAR	Eielson Array	61.67	27	P	P	06 56 41.2	-2.3
	0.5nm,1.0s,baz=256,slow=4.8,SNR=6.2						

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*LDG **15** 07:02:30.4±0.1,48.93N×7.83E,h9^{km},Md2.4/2,Ml2.6/6, Error ellipse: s-maj=1.3km s-min=0.9km az=155.0*

*NEIC **15** 07:02:30.4,48.93N×7.83E,h9^{km},ML2.6(LDG), ML2.2(STR),ML2.1(LEDBW),After LDG.*

*LEDBW **15** 07:02:30.6±0.3,48.91N×7.87E,h5^{km},ML2.1,Error ellipse: s-maj=14.0km s-min=6.0km az=62.0*

*STR **15** 07:02:30.4±0.4,48.93N×7.85E,h5^{km}±1^{km},Ml2.2,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*BGR **15** 07:02:30.4±0.5,48.96N×7.85E,h10^{km},ML1.8/2,Error ellipse: s-maj=5.6km s-min=3.3km az=59.0*

ISC 15 07:02:29.0±0.3**,48.93N**±0.02×**7.82E**±0.02**,h9^{km},n29, σ0^{s}95**/61**,France**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LANF	Langenberg	0.05	349	Pg	Pg	07 02 32.5	+1.6
LANF				eSg	Sg	07 02 33.7	+1.5
	SNR=7.7						
LANF	Langenberg	0.05	349	Pg	Pg	07 02 32.4	+1.5
LANF				Sg	Sg	07 02 33.5	+1.3
WLS	Welschbruch	0.60	211	Pg	Pg	07 02 42.6	+1.5
WLS				eSg	Sg	07 02 50.2	+1.1
	SNR=3.4						
CDF	Champ du Feu	0.63	215	ePg	Pg	07 02 42.5	+0.8
CDF				ePn	Pn	07 02 44.2	+0.4
CDF				eSg	Sg	07 02 51.0	+0.9
CDF				eSn	Sn	07 02 53.7	-0.2
	24nm,0.2s						
BFO	Black Forest	0.69	150	ePg	Pg	07 02 43.1	+0.4
BFO				ePmP		07 02 44.2	
BFO				Sg	Sg	07 02 52.0	0.0
LBG	Lerchenberg	0.69	112	Pg	Pg	07 02 44.1	+1.2
LBG				Sg	Sg	07 02 52.2	-0.1
SWS	Schriesheim	0.80	46	Pg	Pg	07 02 45.5	+0.4
SWS				Sg	Sg	07 02 56.1	+0.3
ECH	Echery	0.84	212	Pg	Pg	07 02 47.4	+1.6
ECH				eSg	Sg	07 02 58.9	+1.9
	SNR=7.5						
ECH	Echery	0.84	212	Pg	Pg	07 02 47.5	+1.7
ECH				Sg	Sg	07 02 59.1	+2.1
RUP	Ruppelstein	0.92	328	Pg	Pg	07 02 48.7	+1.3
TOD	Tromm	0.94	43	Pg	Pg	07 02 47.6	-0.1
ABH	Alteburg	0.97	350	Pg	Pg	07 02 49.2	+0.8
KIZ	Kirchzarten	0.97	176	Pg	Pg	07 02 49.0	+0.5
KIZ				Sg	Sg	07 03 01.5	-0.1
SPAK	Spaichingen	1.05	142	Pg	Pg	07 02 50.4	+0.5
FELD	Feldberg	1.06	173	Pg	Pg	07 02 50.5	+0.3
FELD				eSg	Sg	07 03 04.8	+0.5
	SNR=8.9						
BUCH	Bad Urach	1.12	115	ePg	Pg	07 02 51.6	+0.2
BUCH				Sn	Sn	07 03 05.3	-1.2
BUCH				Sg	Sg	07 03 06.5	+0.1
MOF	Molkenrain	1.17	203	Sg	Sg	07 03 08.9	+0.8
MOF	Molkenrain	1.17	203	Pg	Pg	07 02 52.3	-0.1
GUT	Gutenstein	1.22	134	ePg	Pg	07 02 53.0	-0.3
GUT				Sn	Sn	07 03 07.4	-1.4
GUT				Sg	Sg	07 03 08.7	-0.8
SIND	Sindeldorf	1.25	70	Pg	Pg	07 02 53.3	-0.6
SIND				Sg	Sg	07 03 09.8	-0.7
HINF	Hinteralfeld	1.29	210	ePn	Pn	07 02 52.8	-0.3
HINF				ePg	Pg	07 02 54.7	0.0
HINF				eSn	Sn	07 03 09.6	-1.0
HINF				eSg	Sg	07 03 12.0	+0.1
	19nm,0.3s						
WLF	Walferdange	1.32	305	ePn	Pn	07 02 53.8	+0.1
	SNR=0.8						
WLF				eSg	Sg	07 03 12.5	-0.4
	SNR=2.2						
HAU	Haudompre	1.35	227	ePn	Pn	07 02 53.7	-0.3
HAU				ePg	Pg	07 02 55.5	-0.4
HAU				eSg	Sg	07 03 13.2	-0.7
	9.0nm,0.2s						
THEF	They Montfort	1.41	241	Pg	Pg	07 02 56.2	-0.9
THEF				ePn	Pn	07 02 56.2	+1.4
	SNR=2.4						
THEF				eSg	Sg	07 03 15.9	0.0
	SNR=3.1						
THEF	They Montfort	1.41	241	Pg	Pg	07 02 57.5	+0.4
THEF				Sg	Sg	07 03 16.1	+0.2
RFYF	Reffroy	1.58	260	ePg	Pg	07 02 59.9	-0.7
RFYF				eSn	Sn	07 03 16.1	-2.0
RFYF				eSg	Sg	07 03 20.2	-1.5
	11nm,0.2s						
HDH	Heidenheim	1.62	101	Sg	Sg	07 03 21.4	-1.4
SFTF	Sexfontaines	1.98	250	ePg	Pg	07 03 07.3	-1.3
SFTF				eSg	Sg	07 03 33.7	-1.4
	6.7nm,0.2s						
LOR	Lormes	3.13	239	ePn	Pn	07 03 18.2	-1.3
LOR				ePg	Pg	07 03 28.5	-3.0
LOR				eSg	Sg	07 04 09.5	-3.8
	1.9nm,0.2s						

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*NIED **15** 07:23:00,44.30N×151.40E,h68^{km},Mw4.1 Best double couple: $M_0$1.72×10^{15} NP1:ϕ_s92°,δ75°,λ74°. NP2:ϕ_s320°, δ21°,λ136°.*

*IDC **15** 07:23:05.7±3.0,44.09N×151.54E,mb3.7/5,mb1 3.9/6, mb1mx3.7/22,ML3.8/1,Error ellipse: s-maj=88.3km s-min=24.2km az=174.0*

*NEIC **15** 07:23:12.9±2.8,44.31N×151.68E,h45^{km},mb4.3/2,Error ellipse: s-maj=77.4km s-min=16.8km az=173.0*

ISC 15 07:23:05.2±5.4**,44.2N**±0.5×**151.5E**±0.2**,h4^{km}**±35^{km}**,n10, σ0^{s}65**/11**,mb3.8**/7**,East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAJ	Asahikawa	6.41	272	Pn	Pn	07 24 43.0	+0.2
	2.1nm,0.3s,baz=128,slow=11,SNR=7.8						
ASAJ				Sn	Sn	07 25 56.8	-0.6
	baz=97,slow=17,SNR=1.8						
SMY	Shemya	17.16	52	P	P	07 27 06.0	-1.3
ILAR	Eielson Array	39.23	37	P	P	07 30 36.9	+0.9
	0.3nm,0.7s,mb3.2,baz=266,slow=9.6,SNR=5.4						
MKAR	Makanchi Array	47.13	299	P	P	07 31 39.9	-0.2
	0.8nm,0.6s,mb3.8,baz=72,slow=6.8,SNR=7.5						
MKAR	Makanchi Array	47.13	299	P	P	07 31 39.9	-0.2
KURK	Kurchatov	47.85	305	eP	P	07 31 45.8	+0.1
	3.2nm,0.6s,mb4.5						
ZRNK	Zerenda	52.40	311	P	P	07 32 21.4	+1.0
	1.3nm,0.6s,mb4.0						
FINES	FINESS Array B	65.83	335	P	P	07 33 52.9	-0.4
	1.2nm,0.7s,mb4.0,baz=45,slow=5.4,SNR=4.8						
NOA	NORSAR Array B	70.24	341	P	P	07 34 21.2	+0.4
	0.5nm,0.7s,mb3.6,baz=56,slow=8.2,SNR=2.7						
TXAR	Lajitas Array	79.73	59	P	P	07 35 15.7	-0.1
	0.4nm,0.6s,mb3.5,baz=312,slow=3.9,SNR=8.0						

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*NEIC **15** 07:24:50.9,34.99S×70.51W,h2^{km},ML2.7(GUC),After GUC.*

GUC 15 07:24:50.9±0.7**,34.99S**×**70.51W,h2^{km},MD3.8,ML2.7, 1C-1D,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFDO	San Fernando	0.56	311	⇓iP	Pg	07 25 02.0	0.0
SFDO				i S	Sg	07 25 11.0	+1.5
CICH	Cipreses	0.67	6	⇑iP	Pg	07 25 04.2	0.0
CICH				i S	Sg	07 25 14.5	+1.3
CACH	El Canelo	0.87	355	i P	Pg	07 25 07.5	-0.8
CACH				i S	Sg	07 25 21.2	+1.3
CHCH	Chadas Angostu	1.06	353	i P	Pb	07 25 11.3	-0.3
LMEL	Las Melosas	1.16	12	eP	Pb	07 25 12.8	-0.5
LMEL				i S	Sb	07 25 29.9	+1.1
LNV	Longovilo	1.27	324	i P	Pb	07 25 14.3	-0.9
LNV				i S	Sb	07 25 32.2	+0.3
PCH	Pirque	1.36	360	eP	Pb	07 25 16.2	-0.6
PCH				i S	Sb	07 25 35.4	+0.9
TACH	Talagante	1.38	345	eP	Pb	07 25 16.2	-0.9
TACH				i S	Sb	07 25 35.4	+0.4
ANTU	Antumapu	1.42	356	eP	Pb	07 25 17.4	-0.3
ANTU				i S	Sb	07 25 36.9	+0.7
RCDM	Rinconada Maip	1.51	350	eP	Pn	07 25 17.4	-1.8
RCDM				i S	Sb	07 25 39.0	0.0
RCDM				AMP		07 25 46.7	
	comp=E,259nm,0.1s						
CLCH	Cerro Calan	1.59	359	eP	Pn	07 25 19.8	-0.3
CLCH				AMP		07 25 53.1	
	comp=N,129nm,0.6s						
FCH	Farellones	1.66	6	eP	Pn	07 25 21.9	+0.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FCH				*i* S	Sb	07 25 45.1	+1.8

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*IDC **15** 07:52:16.8±0.7, 75.80N×69.46W, mb3.9/11, mb1 4.2/13, mb1mx4.0/24, ML4.7/2, MS3.4/5, Ms1 3.4/5, ms1mx2.9/31, Error ellipse: s-maj=21.7km s-min=14.3km az=137.0*

*NEIC **15** 07:52:17.2±4.4, 75.73N×69.23W, h3^{km}±29^{km}, mb4.3/2, Error ellipse: s-maj=12.3km s-min=7.3km az=143.0*

*OTT **15** 07:52:19.3±0.3, 75.71N×69.95W, h18^{km}, ML4.5/9, Western Greenland. 305km east from Craig Harbour, Nu Eastern Arctic Background Seismic Zone.*

ISC 15 07:52:15.0±0.4, **75.57N**±0.04×**69.7W**±0.2, **h10**^{km}, **n47**, σ**1^{s}36**/58, **mb3.9**/10, **MS3.6**/2, **4C-2D, Baffin Bay**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TULEG	Thule	0.99	11	⇓PG	Pg	07 52 35.6	+0.7
TULEG				SG	Sg	07 52 46.1	-2.1
PINU	Pond Inlet	3.68	222	PN	Pn	07 53 02.0	-11
PINU				SN	Sn	07 53 43.0	-14
EUNU	Eureka	5.70	330	PN	Pn	07 53 40.4	-1.5
EUNU				SN	Sn	07 54 39.4	-8.8
EUNU				LG		07 55 16.4	
RES	Resolute Bay	6.53	275	PN	Pn	07 53 53.0	-0.6
RES				SN	Sn	07 55 00.1	-8.8
RES				Trac		07 55 02.7	
	comp=Z,93nm,0.3s						
IGL	Igloolik	7.21	217	PN	Pn	07 54 04.9	+1.9
IGL				SN	Sn	07 55 23.5	-2.3
IGL				Trac		07 55 53.7	
	comp=Z,37nm,0.3s						
IGLN	Igloolik	7.21	217	PN	Pn	07 54 05.0	+1.8
IGLN				SN	Sn	07 55 22.1	-4.0
IGLN				Trac		07 55 25.5	
	comp=Z,45nm,0.5s						
SUMG	Summit	9.00	94	*e*P	P	07 54 27.0	-1.0
	10nm,0.5s						
QILN	Qililugaq Expl	10.40	219	PN	P	07 54 46.4	-0.8
QILN				SN	S	07 56 38.0	-6.9
QILN				Trac		07 56 43.0	
	comp=Z,12nm,0.3s						
FRB	Frobisher Bay	11.89	178	Pn	P	07 55 08.4	+1.0
	4.5nm,0.3s,baz=360,slow=10,SNR=32						
FRB				LR	LR	07 59 46.1	
	comp=Z,168nm,19.2s,baz=192,slow=37						
FRB	Frobisher Bay	11.89	178	PN	P	07 55 08.5	+1.1
FRB				SN	S	07 57 12.9	-8.3
FRB				Trac		07 57 33.9	
	comp=Z,17nm,0.5s						
DAG	Danmarks Havn	11.94	60	⇑*i*P	P	07 55 04.3	-3.7
	6.8nm,0.4s						
DAG				*i*		07 58 38.2	
DAG	Danmarks Havn	11.94	60	⇑*e*P	P	07 55 04.3	-3.7
	6.8nm,0.4s						
DAG				*i*		07 58 38.2	
SCO	Scoresbysund	14.43	86	*i* P	P	07 55 39.6	-1.2
YRTN	Rankin Inlet	14.91	223	PN	P	07 55 46.8	-0.4
YRTN				SN	S	07 58 23.2	-10
KBS	Kingsbay	16.89	41	P	P	07 56 12.8	+0.3
ACKN	Achilles Lake	16.98	254	PN	P	07 56 13.1	-0.6
ACKN				SN	S	07 59 06.0	-15
ACKN				Trac		07 59 14.6	
	comp=Z,11nm,0.7s						
KUQ	Kuujjuuaa	17.55	178	PN	P	07 56 19.7	-1.2
KUQ				SN	S	07 59 25.6	-8.9
KUQ				Trac		07 59 55.3	
	comp=Z,5.3nm,0.4s						
FCC	Fort Churchill	19.06	221	PN	P	07 56 40.7	+1.2
FCC				SN	S	08 00 01.4	-7.4
DSMN	Discovery Mine	19.23	254	PN	P	07 56 40.7	-0.8
DSMN				SN	S	07 59 57.5	-15
YKW3	Yellowknife Ar	19.93	254	PN	P	07 56 50.2	+0.8
YKW3				SN	S	08 00 13.5	-14
YKW3				Trac		08 00 16.6	
	comp=Z,6.3nm,0.7s						
YKA	Yellowknife Ar	19.99	254	P	P	07 56 51.4	+1.3
	0.6nm,0.4s,baz=66,slow=22,SNR=11						
YKA				LR	LR	08 04 38.5	
	comp=Z,83nm,18.7s,baz=305,slow=37						
INK	Inuvik	20.00	283	P	P	07 56 50.3	+0.2
	12nm,0.7s,baz=34,slow=12,SNR=91						
INK				LR	LR	08 05 25.8	
	comp=Z,51nm,18.5s,baz=269,slow=40						
INK	Inuvik	20.00	283	PN	P	07 56 50.0	-0.1
INK				SN	S	08 00 19.9	-9.3
INK				Trac		08 00 37.2	
	comp=Z,2.8nm,0.8s						
SCHQ	Schefferville	20.86	175	P	P	07 57 02.2	+3.1
	16nm,0.7s,baz=360,slow=10.0,SNR=16						
SCHQ	Schefferville	20.86	175	PN	P	07 57 03.1	+4.0
SILO	Sutton Inlier	21.99	204	PN	P	07 57 16.0	+5.4
SILO				SN	S	08 01 05.6	-2.5
LG4Q	La Grande 4	22.11	187	PN	P	07 57 22.9	+11
VIMO	Victor Mine	23.51	202	PN	P	07 57 30.7	+5.3
ILAR	Eielson Array	26.05	288	P	P	07 57 51.7	+2.2
	4.1nm,0.8s,mb4.0,baz=37,slow=8.5,SNR=25						
ILAR				PcP	PcP	08 01 18.1	0.0
	0.4nm,0.6s,baz=317,slow=2.1,SNR=7.6						
ILAR				LR	LR	08 10 23.2	
	comp=Z,61nm,18.6s,MS3.2,baz=296,slow=42						
ARCES	ARCESS Array B	26.07	53	P	P	07 57 50.4	+0.7
	19nm,1.2s,mb4.5,baz=338,slow=6.5,SNR=7.6						
IMA	Indian Mountai	26.56	295	*e*P	P	07 57 56.8	+2.7
ULM	Lac du Bonnet	27.55	218	P	P	07 58 05.5	+2.2
	2.1nm,0.7s,mb3.9,baz=323,slow=5.1,SNR=2.5						
DUG	Dugway	40.32	234	*e*P	P	07 59 59.6	+5.8
GERES	GERESS Array B	41.76	80	P	P	08 00 06.0	+0.7
	0.2nm,0.3s,mb3.2,baz=342,slow=6.2,SNR=2.3						
NVAR	Mina Array Bea	43.17	240	P	P	08 00 21.4	+4.4
	0.4nm,0.8s,mb3.2,baz=18,slow=5.7,SNR=3.1						
BVAR	Borovoye Array	49.05	31	P	P	08 01 03.6	+0.2
	0.4nm,0.5s,mb3.7,baz=333,slow=9.9,SNR=5.2						
TXAR	Lajitas Array	49.21	220	P	P	08 01 08.2	+3.3
	0.5nm,1.0s,mb3.5,baz=31,slow=7.3,SNR=4.3						
TXAR				LR	LR	08 21 43.4	
	comp=Z,151nm,19.6s,MS4.0,baz=130,slow=36						
BRTR	Keskin Array B	55.13	66	P	P	08 01 50.0	+0.8
	0.4nm,0.4s,mb3.8,baz=14,slow=5.9,SNR=2.3						
MKAR	Makanchi Array	56.54	23	P	P	08 01 58.7	-0.6
	2.8nm,0.8s,mb4.3,baz=35,slow=5.1,SNR=16						
MKAR	Makanchi Array	56.54	23	P	P	08 01 58.7	-0.6
SONM	Songino Array	56.85	3	P	P	08 02 00.9	-0.5
	slow=5.8						
AAK	Ala-Archa	59.78	30	*e*P	P	08 02 22.6	+0.6
	1.3nm,0.5s,mb4.2						
WRA	Warramunga Arr	122.94	333	PKP	PKPdf	08 11 12.7	-1.4
	0.7nm,1.1s,baz=335,slow=1.7,SNR=4.9						
ASAR	Alice Springs	126.67	333	PKP	PKPdf	08 11 19.2	-1.8
	0.4nm,0.9s,baz=348,slow=2.5,SNR=4.2						
VNA3	Neumayer Olymp	151.09	145	⇓*i*	PKPdf	08 12 12.0	+8.9
VNA2	Neumayer--Watz	151.15	143	⇑*i*	PKPdf	08 12 12.6	+9.4
SNAA	Sanae	152.51	141	⇑*i*	PKPdf	08 12 13.4	+8.2

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*NIED **15** 08:04:00, 44.50N×151.40E, h5^{km}, Mw4.0 Best double couple: $M_0 1.31\times10^{15}$ NP1:ϕ_s258°, δ68°, λ-91°. NP2:ϕ_s81°, δ22°, λ-87°.*

*IDC **15** 08:04:10.7±0.8, 43.98N×151.51E, mb3.8/12, mb1 4.0/13, mb1mx3.9/23, ML3.9/1, Error ellipse: s-maj=22.6km s-min=18.0km az=158.0*

*NEIC **15** 08:04:12.3±0.5, 43.97N×151.57E, h10^{km}, mb4.3/4, Error ellipse: s-maj=14.7km s-min=11.9km az=174.0*

ISC 15 08:04:13.5±6.0, **44.0N**±0.1×**151.4E**±0.1, **h32**^{km}±42^{km}, **n20**, σ**0^{s}82**/21, **mb3.9**/16, **East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAJ	Asahikawa	6.37	275	Pn	Pn	08 05 47.7	0.0
	2.3nm,0.3s,baz=102,slow=17,SNR=9.2						
ASAJ				Sn	Sn	08 06 59.2	-0.9
	baz=185,slow=27,SNR=2.0						
PMR	Palmer	38.46	41	*e*P	P	08 11 40.7	+6.9
	9.7nm,1.3s,mb4.4						
ILAR	Eielson Array	39.49	36	P	P	08 11 41.5	-0.8
	0.4nm,0.8s,mb3.2,baz=267,slow=9.4,SNR=6.0						
INK	Inuvik	44.66	31	P	P	08 12 24.8	+0.4
	1.2nm,0.8s,mb3.8,baz=270,slow=4.0,SNR=3.0						
INK	Inuvik	44.66	31	P	P	08 12 24.8	+0.4
MKAR	Makanchi Array	47.21	299	P	P	08 12 45.9	+0.9
	1.0nm,0.6s,mb3.9,baz=74,slow=7.5,SNR=11						
KURK	Kurchatov	47.96	305	*e*P	P	08 12 51.0	+0.2
	6.4nm,0.9s,mb4.7						
BVAR	Borovoye Array	51.75	311	P	P	08 13 20.8	+1.1
	0.5nm,0.4s,mb3.8,baz=45,slow=4.2,SNR=4.1						
BRVK	Borovoye	51.79	311	*e*P	P	08 13 20.1	+0.1
	1.8nm,0.8s,mb4.0						
ZRNK	Zerenda	52.53	311	*e*P	P	08 13 26.8	+1.2
	1.5nm,0.6s,mb4.1						
ARCES	ARCESS Array B	60.10	341	P	P	08 14 18.1	-1.4
	6.2nm,1.1s,mb4.5,baz=42,slow=11,SNR=2.2						
NVAR	Mina Array Bea	64.82	60	P	P	08 14 51.0	-0.3
	0.2nm,0.6s,mb3.4,baz=287,slow=9.6,SNR=3.9						
NVAR	Mina Array Bea	64.82	60	P	P	08 14 51.0	-0.3
WRA	Warramunga Arr	65.48	198	P	P	08 14 54.7	-1.1
	0.6nm,0.8s,mb3.7,baz=13,slow=6.8,SNR=5.3						
FINES	FINESS Array B	66.06	335	P	P	08 14 58.2	-0.6
	1.1nm,0.5s,mb4.2,baz=342,slow=6.0,SNR=11						
TPNV	Topopah Spring	67.01	60	*e*P	P	08 15 04.2	-1.1
PDAR	Pinedale Array	67.38	52	P	P	08 15 08.5	+0.9
	0.4nm,0.9s,mb3.5,baz=281,slow=4.6,SNR=2.8						
ASAR	Alice Springs	69.18	197	P	P	08 15 20.2	+1.2
	0.4nm,0.8s,mb3.4,baz=11,slow=6.5,SNR=4.1						
NOA	NORSAR Array B	70.48	341	P	P	08 15 26.6	+0.2
	1.1nm,0.6s,mb4.0,baz=28,slow=6.4,SNR=3.7						
TXAR	Lajitas Array	79.93	59	P	P	08 16 20.9	+0.1
	0.6nm,0.7s,mb3.6,baz=301,slow=3.9,SNR=9.7						

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*IDC **15** 08:09:49.3±46.0, 28.45S×178.85E, mb3.8/3, mb1 4.0/3, mb1mx3.8/10, Error ellipse: s-maj=820.0km s-min=141.6km az=94.0*

ISC 15 08:09:46.6±2.3, **30.05S**±0.07×**179.8E**±0.3, **h33**^{km}, **n9**, σ**1^{s}22**/13, **mb3.6**/3, **Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PUZ	Puketiti	8.10	188	*e*P	P	08 11 41.4	-3.3
PUZ				S	S	08 13 16.2	0.0
MWZ	Matawai	8.47	192	S	S	08 13 25.9	+0.5
URZ	Urewera	8.48	194	*e*P	P	08 11 50.0	0.0
NNZ	Nelson	12.29	203	*e*P	P	08 12 46.2	+4.0
NNZ				S	S	08 14 59.5	+0.5
THZ	Tophouse	12.94	204	*e*P	P	08 12 52.6	+1.8
THZ				S	S	08 15 13.1	-1.4
KHZ	Kahutara	13.32	200	*e*P	P	08 12 55.1	-0.7
KHZ				S	S	08 15 17.8	-5.9
STKA	Stephens Creek	32.67	257	P	P	08 16 20.3	+2.3
	4.0nm,1.2s,mb4.2,baz=84,slow=10,SNR=2.7						
ASAR	Alice Springs	41.19	268	P	P	08 17 29.3	-0.6
	0.3nm,0.6s,mb3.1,baz=102,slow=8.0,SNR=4.1						
WRA	Warramunga Arr	42.15	273	P	P	08 17 36.7	-1.1
	0.8nm,0.6s,mb3.5,baz=110,slow=7.8,SNR=12						

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*IDC **15** 08:27:38.5±1.3, 33.29N×48.48E, mb4.0/10, mb1 4.1/14, mb1mx4.0/23, ML3.8/4, MS2.9/1, Ms1 2.9/1, ms1mx2.2/22, Error ellipse: s-maj=29.9km s-min=18.1km az=176.0*

*NEIC **15** 08:27:39.4±6.1, 33.28N×48.45E, h6^{km}±39^{km}, mb4.2/5, Error ellipse: s-maj=17.9km s-min=11.5km az=165.0*

*KISR **15** 08:27:39.3±0.8, 33.35N×48.60E, h7^{km}±365^{km}, ML3.7*

*THR **15** 08:27:41.0±1.5, 33.38N×48.54E, h15^{km}±15^{km}, ML3.8*

*MOS **15** 08:27:41.5±1.4, 33.23N×48.38E, h33^{km}, mb4.2/9, Error ellipse: s-maj=26.5km s-min=12.8km az=120.9*

*SNSN **15** 08:27:53.5, 32.37N×47.96E, h9^{km}*

ISC 15 08:27:38.3±1.2, **33.39N**±0.03×**48.37E**±0.05, **h3**^{km}±8^{km}, **n52**, σ**1^{s}40**/57, **mb4.0**/16, **Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAO	Ashtian	1.80	50	*e*PG	Pg	08 28 11.6	-2.6
ASAO				AMP		08 28 43.1	
	comp=E,819nm,0.6s						
ASAO				AMP		08 28 46.5	
	comp=N,927nm,0.6s						
SNGE	Sanandaj	1.90	334	*e*PG	Pg	08 28 17.0	+0.8
SNGE				AMP		08 28 49.9	
	comp=N,2μm,0.5s						
THKV	Tehran--Karaj	3.26	39	*e*PN	Pn	08 28 33.3	+1.9
THKV				AMP		08 29 35.4	
	comp=E,231nm,0.7s						
THKV				AMP		08 29 41.1	
	comp=N,234nm,0.6s						
MIB	Mutribah	3.68	194	*e*P	Pn	08 28 38.7	+1.3
MIB				*e*S	Sn	08 29 23.5	+1.5
MIB				AML	AML	08 29 29.7	
	comp=Z,96nm,0.5s						
NASN	Na'in	3.77	98	*e*PN	Pn	08 28 39.4	+0.7
UMR	Umm Al-Rimmam	3.87	188	*e*P	Pn	08 28 41.1	+1.1
UMR				AML	AML	08 29 32.8	
	comp=Z,100nm,0.5s						
RST	Umm Al-Ruwaisa	4.05	197	*e*P	Pn	08 28 43.9	+1.2
RST				*e*S	Sn	08 29 32.5	+1.1
RST				AML	AML	08 29 59.5	
	comp=Z,84nm,0.6s						
KBD	Kabd	4.24	188	*e*P	Pn	08 28 46.9	+1.5
KBD				*e*S	Sn	08 29 35.9	-0.3
RDF	Al-Radifah	4.50	189	*e*P	Pn	08 28 50.3	+1.2
RDF				*e*S	Sn	08 29 42.4	-0.5
RDF				AML	AML	08 29 48.5	
	comp=Z,80nm,0.4s						
QRN	Al-Qurain	4.65	185	*e*P	Pn	08 28 52.2	+1.0
QRN				*e*S	Sn	08 29 45.6	-0.8
GRMI	Germi	5.42	356	*e*PN	Pn	08 29 04.2	+2.1
GHIR	Ghir-Karzin	6.45	141	*e*PN	Pn	08 29 15.8	-0.9
HILS	Ha'il	8.25	225	P	P	08 29 40.5	-1.4
ARSS	Ar Rass	8.71	212	P	P	08 29 45.6	-2.7
MALT	Malatya	9.45	304	P	P	08 29 56.2	-2.2
MZLS	Mizel	9.73	197	P	P	08 29 59.3	-3.1
ASF	Jabal al Asfar	9.73	266	Pn	P	08 30 00.3	-2.1
	comp=Z,0.7nm,0.3s,baz=310,slow=9.4,SNR=2.5						
ASF				LR	LR	08 34 49.0	
	comp=Z,64nm,19.0s,baz=197,slow=44						
AFFS	'Afif	10.54	208	P	P	08 30 10.6	-2.9
EIL	Elat	12.03	256	Pn	P	08 30 33.4	-0.4
	comp=Z,0.5nm,0.3s,baz=90,slow=11,SNR=2.1						
EIL	Elat	12.03	256	P	P	08 30 31.4	-2.4
BRTR	Keskin Array B	13.42	302	Pn	P	08 30 52.6	+0.4
	comp=Z,0.2nm,0.3s,baz=119,slow=13,SNR=3.9						
IDI	Anoyia	19.48	282	P	P	08 32 09.0	-0.1
	comp=Z,0.5nm,0.3s,baz=68,slow=13,SNR=3.9						
MLR	Muntele Rosu	21.04	312	P	P	08 32 27.1	+1.4
	comp=Z,7.8nm,0.7s,mb4.2,baz=103,slow=18,SNR=2.3						
MLR	Muntele Rosu	21.04	312	P	P	08 32 27.1	+1.4
MLR				pmax	pmax		
	comp=Z,8.0nm,0.7s						
AKASG	Malin Array Be	22.28	327	P	P	08 32 39.5	+1.4
	comp=Z,0.6nm,0.3s,mb3.5,baz=138,slow=9.1,SNR=5.9						
AKASG	Malin Array Be	22.28	327	P	P	08 32 39.6	+1.4
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
OBN	Obninsk	23.24	343	*e*P	P	08 32 49.2	+1.7
OBN				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.4						
ZRNK	Zerenda	24.51	31	*e*P	P	08 33 00.6	+0.7
	comp=Z,3.2nm,0.8s,mb3.9						
KOLS	Kolonicke sedl	24.87	316	*e*P	P	08 33 05.5	+2.1
BRVK	Borovoye	25.15	32	*e*P	P	08 33 06.3	+0.3
	comp=Z,7.3nm,1.1s,mb4.1						
BVAR	Borovoye Array	25.17	32	P	P	08 33 06.4	+0.2
	comp=Z,3.2nm,0.7s,mb4.0,baz=225,slow=8.4,SNR=11						
PSZ	Piszkesteto	25.84	313	*e*P	P	08 33 12.8	+0.2
	comp=Z,10nm,0.9s,mb4.4						
TIP	Timpagrande	26.05	292	*e*P	P	08 33 16.6	+2.1
VYHS	Vyhne	26.72	313	*e*P	P	08 33 21.9	+1.2
KURK	Kurchatov	28.08	43	*e*P	P	08 33 32.6	-0.4
	comp=Z,3.2nm,1.0s,mb3.9						
MKAR	Makanchi Array	28.96	52	P	P	08 33 40.3	-0.7
	comp=Z,1.0nm,0.7s,mb3.6,baz=244,slow=9.2,SNR=5.6						
MKAR	Makanchi Array	28.96	52	P	P	08 33 40.3	-0.6
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FINES	FINESS Array B	31.53	340	P	P	08 34 02.4	-1.3
	comp=Z,3.2nm,0.8s,mb4.2,baz=146,slow=12,SNR=12						
FINES	FINESS Array B	31.53	340	P	P	08 34 02.4	-1.3
FINES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KAF	Kangasniemi	32.01	341	*e*p	P	08 34 06.5	-1.3
HFS	Hagfors	35.06	330	P	P	08 34 33.8	-0.5
	comp=Z,2.4nm,0.5s,mb4.4,baz=117,slow=9.9,SNR=13						
HFS	Hagfors	35.06	330	P	P	08 34 33.8	-0.5
HFS				pmax	pmax		
	comp=Z,2.0nm,0.5s						
NOA	NORSAR Array B	36.58	330	P	P	08 34 45.1	-2.1
	comp=Z,1.2nm,0.8s,mb3.8,baz=117,slow=7.4,SNR=3.2						
NOA	NORSAR Array B	36.58	330	P	P	08 34 45.1	-2.0
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
CMAR	Chiang Mai Arr	47.41	95	P	P	08 36 13.7	-2.5
	comp=Z,0.7nm,0.5s,mb3.9,baz=304,slow=6.5,SNR=3.9						
CMAR	Chiang Mai Arr	47.41	95	P	P	08 36 13.7	-2.5
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
DBIC	Dimbokro	55.89	254	P	P	08 37 18.7	-1.4
	comp=Z,2.7nm,0.8s,mb4.3,baz=37,slow=5.1,SNR=3.2						
DBIC	Dimbokro	55.89	254	P	P	08 37 18.7	-1.4
DBIC				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MSLP	Maasin	73.25	89	*e*P	P	08 39 19.6	+6.4
COLA	College	81.24	7	*e*P	P	08 39 54.7	-1.9
	comp=Z,1.6nm,0.8s,mb4.0						
ILAR	Eielson Array	81.43	7	P	P	08 39 57.0	-0.6
	comp=Z,0.5nm,0.9s,mb3.5,baz=14,slow=5.9,SNR=4.3						
ILAR	Eielson Array	81.43	7	P	P	08 39 57.0	-0.6
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						

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*CSEM **15** 08:34:58.9, 8.24S×115.23E, h2^{km}, mb5.5*

*MOS **15** 08:35:01.9±0.8, 8.66S×115.29E, h39^{km}, mb5.4/9, Error ellipse: s-maj=20.7km s-min=9.0km az=113.2*

*SYO **15** 08:35:03.7, 8.78S×115.31E, h39^{km}, MB5.3, MS4.7*

*IDC **15** 08:35:10.0±0.5, 8.71S×115.42E, h92^{km}±4^{km}, mb5.1/23, mb1 5.1/24, mb1mx5.1/25, MS4.2/10, Ms1 4.2/10, ms1mx4.0/21, Error ellipse: s-maj=14.1km s-min=6.9km az=57.0*

*BJI **15** 08:35:10.8, 8.80S×115.40E, h98^{km}, mB5.0, mb5.3*

*HRVD **15** 08:35:10.8±0.2, 8.99S×115.26E, h105^{km}±1^{km}, MW5.3/71, Centroid moment Tensor Solution. LP body waves: s61,c85;Mantle waves: s71,c130; Half duration: 1^{s}1 Moment tensor: Scale 10^{17}Nm; M_{rr}0.91±.02; $M_{\theta\theta}$0.52±.02; $M_{\phi\phi}$-1.44±.03; $M_{r\theta}$-0.30±.02; $M_{\theta\phi}$-0.16±.02; $M_{\phi r}$-0.07±.02; Best double couple: $M_0 1.27\times10^{17}$ NP1:ϕ_s339°, δ50°, λ51°. NP2:ϕ_s210°, δ54°, λ126°. Principal axes: T 1.08, Plg61°, Azm181°; N .37, Plg29°, Azm6°; P -1.46, Plg2°, Azm275°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **15** 08:35:10.8±0.4, 8.77S×115.36E, h98^{km}±3^{km}, mb5.2/43 Error ellipse: s-maj=6.5km s-min=4.3km az=224.0*

NEIC One person killed and two injured at Denpasar. Felt [V] at Mataram, Lombok and [II] at Banyuwangi, Java.

*DJA **15** 08:35:11.4±0.2, 8.65S×115.12E, h80^{km}, mb6.0/2, Error ellipse: s-maj=7.0km s-min=3.7km az=176.0*

ISC 15 08:35:10.4±0.4, **8.88S**±0.03×**115.24E**±0.03, **h108**^{km}±3^{km}, **h93**^{km}±2.6^{km}**:pP-P**, **n369**, σ**1^{s}42**/321, **mb5.3**/85, **34C-20D, Bali region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
INGI	Ingas	0.11	302	⇑*i*P	P	08 35 24.7	-0.7
RATI	Rata	0.33	62	⇑*i*P	P	08 35 25.9	-0.3
KEDI	Kedomdong	0.94	66	⇑*i*P	P	08 35 30.9	-0.2
KELI	Kelakatan	0.99	311	⇑*i*P	P	08 35 32.0	+0.4
MKS	Makassar	5.55	49	*e*P	P	08 36 30.0	-1.9
	3μm,0.4s						
NINI	Niniconang	6.30	46	⇑*i*P	P	08 36 43.8	+1.6
	3μm,0.4s						
NINI				⇑*i*S	S	08 37 52.8	-0.5
NINI	Niniconang	6.30	46	⇑*i*P	P	08 36 43.8	+1.6
NINI				*i* S	S	08 37 51.9	-1.4
TANI	Tanete Lipujan	6.79	38	⇑*i*P	P	08 36 50.6	+1.6
	921nm,0.4s						
PACI	Pancar Gunung	8.56	285	*e*P	P	08 37 12.4	-0.5
KALI	Kaliastana	8.68	281	*e*P	P	08 37 15.4	+0.9
PULI	Pulasari	9.52	285	*e*P	P	08 37 25.2	-0.8
PASI	Pasiripis	9.81	282	*e*P	P	08 37 27.8	-2.0
PENI	Pendagan	10.52	288	*e*P	P	08 37 35.8	-3.5
MBWA	Marble Bar	12.95	161	*e*Pn	P	08 38 04.7	-6.8
	1.0nm,0.5s						
MBWA				*e*Sn	S	08 40 15.3	-18
FITZ	Fitzroy Crossi	13.64	133	*e*P	P	08 38 16.2	-4.3
	102nm,0.7s						
FITZ				*e*S	S	08 40 37.5	-12
FITZ	Fitzroy Crossi	13.64	133	P	P	08 38 16.7	-3.7
	14nm,0.3s,baz=343,slow=8.0,SNR=155						
FITZ				S	S	08 40 39.4	-10
	35nm,0.3s,baz=179,slow=17,SNR=6.1						
FITZ				LR	LR	08 44 17.7	
	comp=Z,321nm,18.7s,baz=299,slow=40						
KKM	Kota Kinabalu	14.86	4	⇓*e*P	P	08 38 38.5	+2.4
	83nm,0.8s						
KGM	Kluang	16.07	312	⇓*e*P	P	08 38 54.2	+2.7
KAKA	Kakadu	17.28	104	*e*P	P	08 39 05.1	-1.3
	115nm,0.4s						
KAKA				*e*S	S	08 42 10.0	-3.1
BATP	Bataraza	17.74	8	*e*P	P	08 39 14.8	+2.7
IPIL	Ipil	18.09	24	*e*P	P	08 39 17.3	+1.1
PAGZ	Pagadian	18.49	26	*e*P	P	08 39 23.4	+2.7
DAV	Davao City (W)	18.90	33	*e*P	P	08 39 26.8	+1.7
MATI	Mati	19.17	35	*e*P	P	08 39 29.1	+1.0
BUKP	Musuan	19.31	31	*e*P	P	08 39 31.4	+1.9
IPM	Ipoh	19.48	313	⇓*e*P	P	08 39 32.1	+0.7
SNPH	Sibulan	19.77	24	⇓*e*P	P	08 39 36.5	+2.1
SNPH	Sibulan	19.77	24	⇓*e*P	P	08 39 36.5	+2.1
TBP	Tagbilaran	20.34	25	⇑*e*P	P	08 39 41.3	+1.0
ENPP	El Nido	20.38	12	*e*P	P	08 39 41.7	+1.0
CUYO	Cuyo Island	20.42	16	*e*P	P	08 39 42.9	+1.8
GUIM	Jordan	20.71	21	*e*P	P	08 39 45.9	+1.9
BUSP	Coron	21.32	13	*e*P	P	08 39 53.3	+3.2
WRA	Warramunga Arr	21.49	123	P	P	08 39 50.6	-1.2
	73nm,0.4s,mb5.3,baz=295,slow=12,SNR=876						
WRA				S	S	08 43 38.0	-0.4
	51nm,1.1s,baz=298,slow=19,SNR=15						
WRA				ScP		08 47 18.0	
	21nm,0.8s,baz=303,slow=1.9,SNR=6.4						
WRA				LR	LR	08 47 37.7	
	comp=Z,453nm,21.6s,baz=295,slow=35						
WRA				PKiKP		08 51 36.5	
	0.7nm,0.4s,baz=310,slow=1.3,SNR=7.8						
WRA				P3KPbc		09 13 42.1	
	1.2nm,0.9s,baz=117,slow=4.9,SNR=6.3						
WRAB	Tennant Creek	21.50	123	*e*P	P	08 39 50.7	-1.1
	130nm,0.5s,mb5.5						
WRAB				*e*S	S	08 43 37.2	-1.3
WB2	Warramunga Arr	21.50	123	⇑*i*P	P	08 39 50.7	-1.2
WB2				*e*S	S	08 43 39.6	+1.0
SNG	Songkhla	21.61	317	P	P	08 39 54.0	+1.0
	120nm,0.9s,mb5.2						
RCP	Roxas	21.63	20	⇓*e*P	P	08 39 55.2	+2.0
OCLP	Ormoc	21.88	25	*e*P	P	08 39 57.5	+1.9
SJMP	San Jose	21.99	15	*e*P	P	08 40 00.3	+3.6
OTRP	Odiongan	22.15	18	*e*P	P	08 40 01.1	+2.8
KLBR	Kellerberrin	22.72	174	⇑*i*P	P	08 40 03.7	-0.1
	47nm,0.5s,mb5.1						
KLBR				*e*S	S	08 44 07.8	+7.6
BESP	Borongan	22.73	27	*e*P	P	08 40 05.9	+1.9
MUN	Mundaring	23.00	178	*e*P	P	08 40 07.3	+0.8
	31nm,0.4s,mb5.0						
MUN				*e*S	S	08 44 13.7	+8.6
LUBP	Lubang	23.01	13	*e*P	P	08 40 09.1	+2.4
ASPA	Alice Springs	23.13	132	⇑*i*P	P	08 40 08.0	+0.2
ASPA				*e*S	S	08 44 10.0	+2.6
ASAR	Alice Springs	23.13	132	P	P	08 40 08.1	+0.2
	60nm,0.7s,mb5.0,baz=306,slow=9.6,SNR=766						
ASAR				PcP	PcP	08 43 54.5	-0.5
	9.8nm,0.4s,baz=300,slow=1.7,SNR=6.0						
ASAR				S	S	08 44 12.6	+5.2
	10nm,0.9s,baz=302,slow=22,SNR=2.5						
ASAR				ScP		08 47 22.9	
	22nm,1.1s,baz=346,slow=3.7,SNR=4.7						
ASAR				LR	LR	08 49 16.1	
	comp=Z,402nm,19.3s,baz=300,slow=37						
ASAR				ScS	ScS	08 51 06.2	-0.1
	4.2nm,0.8s,baz=318,slow=3.9,SNR=4.9						
ASAR	Alice Springs	23.13	132	P	P	08 40 08.1	+0.2
ASAR				PcP	PcP	08 43 54.5	-0.5
ASAR				S	S	08 44 12.6	+5.1
ASAR				ScP		08 47 22.9	
ASAR				ScS	ScS	08 51 06.2	-0.1
BOAC	Boac	23.14	17	*e*P	P	08 40 08.7	+0.7
CNP	Catarman	23.22	24	*e*P	P	08 40 11.5	+2.7
AUQP	San Andres	23.26	19	*e*P	P	08 40 12.3	+3.2
LQP	Lukban	23.68	15	⇓*i*P	P	08 40 14.3	+1.1
NWAO	Narrogin (SRO)	24.00	176	P	P	08 40 16.0	-0.1
	80nm,0.5s,mb5.3,baz=1.5,slow=8.2,SNR=105						
NWAO				S	S	08 44 33.9	+12
	27nm,0.5s,baz=207,slow=1.2,SNR=3.5						
NWAO				LR	LR	08 48 47.4	
	comp=Z,410nm,21.2s,baz=97,slow=34						

NWAO	**Narrogin (SRO)**	24.00	176	P	P	08 40 16.0	-0.1
NWAO				S	S	08 44 33.8	+12
NWAO	**Narrogin (SRO)**	24.00	176	*e*P	P	08 40 15.7	-0.4
	73nm,0.6s,mb5.2						
NWAO				*e*S	S	08 44 32.8	+11
PVCP	**Virac**	24.02	22	*e*P	P	08 40 18.3	+1.9
FORT	**Forrest**	24.86	153	⇑*i*P	P	08 40 23.9	-0.5
	1µm,0.7s,mb6.4						
FORT				*e*S	S	08 44 57.7	+21
SCZP	**Santa Cruz**	24.93	11	*e*P	P	08 40 26.6	+1.5
BALP	**Baler**	25.25	14	*e*P	P	08 40 26.5	-1.7
BOLP	**Bolinao**	25.52	10	*e*P	P	08 40 32.6	+1.9
CAUP	**Cauayan**	26.47	14	*e*P	P	08 40 38.4	-1.1
ABRA	**Dolores**	26.91	12	*e*P	P	08 40 42.1	-1.4
APYP	**Conner**	27.22	13	*e*P	P	08 40 45.4	-1.0
KKTK	**Khon Kaen**	27.91	334	P	P	08 40 52.0	-0.6
	741nm,0.8s,mb6.3						
QIZ	**Qiongzhong**	28.24	349	P	P	08 40 55.0	-0.5
QIZ				S	S	08 45 32.8	+0.8
QIZ				LR	LR		
	comp=N,291nm,15.2s						
QIZ				LR	LR		
	comp=E,272nm,12.7s						
QIZ				LR	LR		
	comp=Z,411nm,15.0s						
QIZ	**Qiongzhong**	28.24	349	*e*P	P	08 40 54.9	-0.6
	comp=Z,11nm,0.9s,mb4.4						
BDT	**Bhumibol Dam**	30.52	328	⇑P	P	08 41 16.0	+0.2
	comp=Z,24nm,0.6s,mb5.1						
CMAR	**Chiang Mai Arr**	31.57	329	P	P	08 41 25.2	+0.2
	comp=Z,30nm,0.8s,mb5.1,baz=164,slow=7.2,SNR=96						
CMAR				PcP	PcP	08 44 15.4	+0.3
	comp=Z,19nm,1.0s,baz=202,slow=3.8,SNR=6.5						
CMAR				S	S	08 46 28.5	+4.1
	comp=Z,1.2nm,0.5s,baz=156,slow=16,SNR=2.7						
CMAR				ScP		08 47 48.4	
	comp=Z,9.6nm,0.9s,baz=194,slow=2.5,SNR=14						
CMAR				LR	LR	08 55 20.8	
	comp=Z,452nm,18.6s,baz=145,slow=38						
CMAR	**Chiang Mai Arr**	31.57	329	P	P	08 41 25.2	+0.2
CMAR				S	S	08 46 28.5	+4.0
CHG	**Chiang Mai**	31.87	330	⇓P	P	08 41 27.1	-0.5
	comp=Z,22nm,0.8s,mb5.0						
CTA	**Charters Tower**	31.96	114	*e*P	P	08 41 27.2	-1.2
	comp=Z,52nm,1.2s,mb5.1						
CTA	**Charters Tower**	31.96	114	P	P	08 41 27.8	-0.7
	comp=Z,39nm,0.7s,mb5.2,baz=279,slow=10,SNR=30						
CTA				PcP	PcP	08 44 16.4	+0.2
	comp=Z,6.5nm,0.5s,baz=297,slow=6.8,SNR=2.8						
CTA	**Charters Tower**	31.96	114	P	P	08 41 27.7	-0.7
CTA				PP	PcP	08 44 16.3	+0.2
CTAO	**Charters Tower**	31.96	114	*e*P	P	08 41 27.8	-0.7
	comp=Z,44nm,0.8s,mb5.2						
STKA	**Stephens Creek**	33.50	137	⇑*i*P	P	08 41 41.1	-0.5
	comp=Z,39nm,0.4s,mb5.6						
STKA	**Stephens Creek**	33.50	137	P	P	08 41 41.1	-0.5
	comp=Z,39nm,0.3s,mb5.6,baz=311,slow=8.6,SNR=335						
STKA				PcP	PcP	08 44 20.3	+0.1
	comp=Z,16nm,0.5s,baz=330,slow=4.7,SNR=3.8						
STKA				S	S	08 46 53.4	-0.9
	comp=Z,17nm,1.1s,baz=64,slow=19,SNR=2.5						
STKA				ScP		08 47 55.6	
	comp=Z,6.9nm,0.7s,baz=301,slow=2.0,SNR=2.9						
ADE	**Adelaide**	33.70	144	⇑*i*P	P	08 41 43.2	-0.1
TATO	**Taipei**	34.19	10	P	P	08 41 45.6	-2.0
TATO				*e*	pP	08 42 10.7	-1.4
KMI	**Kunming**	35.92	340	*e*P	P	08 42 03.6	+1.3
KMI				S	S	08 47 37.4	+5.6
KMI	**Kunming**	35.92	340	*e*P	P	08 42 03.6	+1.3
KMI				pP	pP	08 42 11.5	-15
KMI				PP	Px	08 42 28.1	
KMI				PPP	PPP	08 43 44.9	-2.6
KMI				S	S	08 47 37.4	+5.6
KMI				sS		08 47 57.0	
KMI				SSS	SSS	08 50 24.5	-7.8
GYA	**Guiyang**	36.10	347	⇑*i*P	P	08 42 03.8	0.0
GYA				PCP	PcP	08 44 28.3	+0.5
GYA				S	S	08 47 41.0	+6.5
GYA				SCP		08 48 05.4	
GYA				SCS	ScS	08 52 09.4	+2.0
GYA				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.2						
GUMO	**Guam**	36.92	53	*e*P	P	08 42 08.2	-2.5
	comp=Z,281nm,0.7s,mb6.3						
JOW	**Kunigami**	37.68	19	P	P	08 42 15.9	-1.1
	comp=Z,13nm,0.6s,mb4.9,baz=234,slow=10,SNR=11						
JOW				ScP		08 48 09.8	
	comp=Z,9.4nm,0.8s,baz=225,slow=1.1,SNR=4.7						
WHN	**Wuhan**	39.20	359	⇓P	P	08 42 30.0	+0.4
WHN				AP	pP	08 42 54.5	0.0
WHN				PPP	PPP	08 44 36.4	+5.6
ENH	**Enshi**	39.31	352	*e*P	P	08 42 29.8	-0.8
	comp=Z,13nm,0.4s,mb5.1						
ENH				*e*S	S	08 48 13.7	-9.5
TOO	**Toolangi**	39.52	141	⇑*i*P	P	08 42 33.6	+1.4
	comp=Z,21nm,0.5s,mb5.2						
ARMA	**Armidale**	40.14	127	⇑*i*P	P	08 42 39.4	+2.0
SSE	**Sheshan**	40.15	8	P	P	08 42 38.3	+0.9
SSE				AMB	AMB		
	comp=Z,35nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,119nm,4.4s						
SSE	**Sheshan**	40.15	8	P	P	08 42 38.3	+0.9
	comp=Z,35nm,0.7s,mb5.3						
SSE				S	S	08 48 42.6	+7.0
SSE				sS		08 49 02.0	
SSE				SS	SS	08 51 42.7	+11
CNB	**Canberra Magne**	40.78	135	⇑*i*P	P	08 42 43.2	+0.7
	comp=Z,16nm,0.4s,mb5.2						
NJ2	**Nanjing**	40.84	5	*e*P	P	08 42 43.1	0.0
NJ2				PP	PP	08 44 21.3	-0.7
NJ2				AMB	AMB		
	comp=Z,40nm,0.9s,mb5.2						
CD2	**Chengdu**	41.06	345	⇑*i*P	P	08 42 44.8	-0.1
CD2				S	S	08 48 46.8	-2.4
CD2				AMB	AMB		
	comp=Z,80nm,0.6s,mb5.7						
CD2				AMB	AMB		
	comp=Z,120nm,4.4s						
SHL	**Shillong**	41.10	327	⇓*i*P	P	08 42 45.5	+0.3
SHL				*e*		08 48 43.0	
CUD	**Cuddapah**	42.98	302	*e*P	P	08 42 59.9	-1.0
KGD	**Kothagudem**	43.11	308	*e*P	P	08 42 59.2	-2.7
KGD				*e*PcS		08 48 40.3	
KGD				*e*S	S	08 49 23.5	+4.1
KGD				*e*SS	SS	08 52 49.7	+22
CBIJ	**Chichi jima**	44.28	35	P	P	08 43 10.6	-0.7
	comp=Z,91nm,0.8s,mb5.6,baz=250,slow=17,SNR=6.2						
JNU	**Nakatsue**	44.34	19	P	P	08 43 09.4	-2.2
	comp=Z,13nm,0.8s,mb4.7,baz=33,slow=2.7,SNR=6.8						
HYB	**Hyderabad**	44.69	306	*i* P	P	08 43 13.0	-1.6
HYB				*e*pP	pP	08 43 37.0	-2.8
HYB				*e*sP	sP	08 43 50.5	-1.8
HYB				*e*		08 49 36.0	
HYB	**Hyderabad**	44.69	306	*e*P	P	08 43 13.0	-1.6
HYB				*e*		08 43 50.5	
LZH	**Lanzhou**	45.99	347	⇓P	P	08 43 25.0	+0.3
LZH				PCP	PcP	08 45 02.3	+2.2
LZH				SCP		08 48 44.0	
LZH				*e*S	S	08 50 08.0	+7.4
LZH				AMB	AMB		
	comp=Z,31nm,1.5s,mb4.8						
LZH				AMB	AMB		
	comp=Z,84nm,4.4s						
LZH	**Lanzhou**	45.99	347	⇓P	P	08 43 25.0	+0.3
	comp=Z,31nm,1.5s,mb4.8						
LZH				pP	pP	08 43 35.6	-14
LZH				sP	sP	08 43 41.8	-21
LZH				PcP	PcP	08 45 02.2	+2.1
LZH				PP	Px	08 45 57.6	
LZH				ScP		08 48 44.0	
LZH				*e*S	S	08 50 08.0	+7.4
LZH				sS		08 50 34.0	
LZH				*e*SS	SS	08 53 35.0	+15
GUN	**Gumba**	46.31	323	*e*P	P	08 43 26.9	-0.4
	comp=Z,138nm,0.7s,mb5.8						
PKI	**Pulchoki**	46.34	322	*e*P	P	08 43 26.6	-1.0
	comp=Z,88nm,1.0s,mb5.4						
DMN	**Daman**	46.55	322	*e*P	P	08 43 28.5	-0.7
	comp=Z,202nm,0.9s,mb5.8						
KKN	**Kakani**	46.58	322	*e*P	P	08 43 28.7	-0.7
	comp=Z,90nm,0.8s,mb5.5						
ALBI	**Allahabad**	47.06	317	*e*P	P	08 43 29.5	-3.8
GKN	**Gorkha**	47.12	322	*e*P	P	08 43 32.6	-1.1
	comp=Z,61nm,0.4s,mb5.7						
KOLN	**Koldanda**	47.59	321	*e*P	P	08 43 36.2	-1.2
	comp=Z,128nm,0.7s,mb5.8						
KAD	**Karad**	48.20	303	*e*P	P	08 43 40.0	-2.2
BJT	**Baijiatuau**	48.66	1	*e*P	P	08 43 44.0	-1.4
	comp=Z,15nm,0.7s,mb5.0						
BJT				*e*	pP	08 44 07.8	-3.2
BJI	**Beijing**	48.68	1	*e*P	P	08 43 44.0	-1.6
BJI				S	S	08 50 40.1	+1.7
BJI				AMB	AMB		
	comp=Z,16nm,0.8s,mb5.0						
BJI	**Beijing**	48.68	1	*e*P	P	08 43 44.0	-1.6
	comp=Z,16nm,0.8s,mb5.0						
BJI				S	S	08 50 40.1	+1.7
BJI				SS	SS	08 54 25.0	+19
BHPL	**Bhopal**	48.86	312	*e*P	P	08 43 44.5	-2.7
BHPL				*e*		08 43 47.8	
	comp=Z,14nm,0.5s						
POO	**Poona**	49.09	304	⇑*i*P	P	08 43 46.0	-3.0
BTO	**Baotou**	49.47	355	*e*P	P	08 43 49.6	-2.1
HHC	**Hu-ho-hao-te**	49.59	356	*e*P	P	08 43 51.3	-1.3
HHC				PP	PP	08 45 48.5	0.0
HHC				PCS		08 49 10.0	
HHC				S	S	08 50 53.8	+2.7
HHC				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.2						
HHC				AMB	AMB		
	comp=Z,274nm,4.3s						
HHC				LR	LR		
	comp=N,291nm,25.0s						
HHC				LR	LR		
	comp=E,337nm,19.6s						
HHC				LR	LR		
	comp=Z,421nm,21.4s						
MAJO	**Matsushiro**	50.07	24	*e*P	P	08 43 53.1	-3.3
	comp=Z,23nm,1.1s,mb5.0						
MAT	**Matsushiro**	50.07	24	P	P	08 43 53.2	-3.2
MAT				S	S	08 50 53.0	-4.8
MAT	**Matsushiro**	50.07	24	*e*P	P	08 43 53.0	-3.4
	comp=Z,13nm,0.9s,mb4.9						
MAT				*e*S	S	08 50 49.0	-8.8
GTA	**Gaotai**	50.13	344	P	P	08 43 55.3	-1.5
GTA				PCP	PcP	08 45 15.3	+0.4
GTA				PP	PP	08 45 54.0	+0.3
GTA				PPP	PPP	08 46 56.8	+4.0
GTA				SCP		08 49 00.4	
GTA				S	S	08 50 58.3	-0.3
GTA				SCS	ScS	08 53 36.8	+3.0
GTA				SS	SS	08 54 32.3	+2.3
SONA	**Sohna**	52.17	316	*e*P	P	08 44 08.9	-3.4
SONA				*e*		08 44 10.3	
	comp=Z,34nm,0.4s						
SONA				*e*		08 51 18.1	
AYAN	**Aya Nagar**	52.29	317	*e*P	P	08 44 09.8	-3.4
AYAN				*e*		08 44 10.7	
	comp=Z,23nm,0.6s						
AYAN				*e*		08 51 17.1	
NDI	**New Delhi**	52.36	317	*e*P	P	08 44 09.5	-4.2
NDI				*e*		08 51 20.0	
NDI				*e*		08 53 46.0	
BHGR	**Bahadurgarh**	52.55	317	*e*P	P	08 44 11.3	-3.8
BHGR				*e*		08 44 12.1	
	comp=Z,152nm,0.2s						
KHET	**Khetri**	52.94	315	*e*P	P	08 44 14.7	-3.4
KHET				*e*		08 44 15.6	
	comp=Z,14nm,0.4s						
CN2	**Changchun**	53.24	9	*e*P	P	08 44 17.4	-2.7
CN2				*e*S	S	08 51 45.3	+4.3
CN2				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.4						
CN2				AMB	AMB		
	comp=Z,200nm,6.0s						
KKR	**Kurukshetra**	53.44	318	*e*P	P	08 44 18.5	-3.2
KKR				*e*		08 44 19.4	
	comp=Z,102nm,0.4s						
KLP	**Kalpa**	53.55	320	*e*P	P	08 44 19.1	-3.3
KLP				*e*		08 44 21.9	
	comp=Z,26nm,1.0s						
MDJ	**Mudanjiang**	54.80	13	P	P	08 44 29.0	-2.4
MDJ				PP	PP	08 46 33.3	-3.3
MDJ				SCP		08 49 22.0	
MDJ				S	S	08 52 07.8	+5.8
MDJ				AMB	AMB		
	comp=Z,73nm,0.8s,mb5.8						
MDJ				AMB	AMB		
	comp=Z,91nm,4.3s						
MDJ				LR	LR		
	comp=N,184nm,25.7s						
MDJ				LR	LR		
	comp=Z,211nm,32.5s						
MDJ	**Mudanjiang**	54.80	13	*e*P	P	08 44 28.7	-2.7
	comp=Z,72nm,0.9s,mb5.7						
CASY	**Casey**	57.41	182	*e*P	P	08 44 48.2	-1.5
CASY				*e*		08 45 42.5	
MSZ	**Milford Sound**	57.67	138	P	P	08 44 52.5	+0.6
WMQ	**Urumqi**	58.10	337	P	P	08 44 54.0	-0.9
WMQ				PP	PP	08 47 04.3	-2.1
WMQ				*e*S	S	08 52 51.0	+5.4
WMQ				AMB	AMB		
	comp=Z,29nm,0.8s,mb5.4						
RPZ	**Rata Peaks**	59.46	136	P	P	08 45 03.1	-1.1
	comp=Z,41nm,0.5s,mb5.7,baz=297,slow=2.4,SNR=26						
RPZ				LR	LR	09 12 51.6	
	comp=Z,475nm,18.9s,baz=298,slow=38						
MIR	**Mirnyy**	59.56	190	⇑*e*P	P	08 45 04.2	-0.5
MIR				pmax	pmax		
	comp=Z,80nm,1.3s,mb5.6						
KLR	**Kul'dur**	59.65	12	*e*P	P	08 45 02.0	-3.5
WCZ	**Waipu Caves**	59.91	126	P	P	08 45 08.5	+1.0
ZAK	**Zakamensk**	59.92	351	*e*P	P	08 45 05.2	-2.2
KSH	**Kashi**	60.35	326	*e*P	P	08 45 08.0	-2.5
KSH				*e*PCP	PcP	08 45 55.5	+1.3
KSH				*e*PP	PP	08 47 23.0	-3.7
KSH				*e*SCP		08 49 48.5	
KSH				*e*PCS		08 49 52.1	
KSH				*e*S	S	08 53 13.8	-0.9
YSS	**Yuzh-Sakhalins**	60.74	21	*e*P	P	08 45 10.6	-2.4
YSS				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.3						
YSS				MLR	MLR		
	comp=Z,400nm,20.0s						
YSS				MLR	MLR		
	comp=N,300nm,18.0s						
YSS	**Yuzh-Sakhalins**	60.74	21	*e*P	P	08 45 09.8	-3.2
	comp=N,17nm,0.8s,mb5.1						
MOY	**Mondy**	61.54	350	*e*P	P	08 45 16.8	-1.5
BKZ	**Black Stump Fm**	62.23	130	P	P	08 45 22.6	-0.5
URZ	**Urewera**	62.53	129	P	P	08 45 24.0	-1.1
	comp=N,30nm,0.6s,mb5.4,baz=277,slow=4.6,SNR=40						
URZ				PcP	PcP	08 46 01.1	-1.8
	comp=N,28nm,0.8s,baz=60,slow=1.2,SNR=5.6						
URZ				LR	LR	09 11 02.8	
	comp=N,378nm,20.0s,baz=349,slow=34						
MKAR	**Makanchi Array**	62.72	335	P	P	08 45 24.3	-2.0
	comp=N,20nm,0.5s,mb5.3,baz=149,slow=6.7,SNR=134						
MKAR				pP	pP	08 45 47.0	-6.0
	comp=N,9.3nm,0.5s,baz=151,slow=6.5,SNR=3.9						
MKAR				PcP	PcP	08 46 01.5	-2.1
	comp=N,39nm,1.1s,baz=143,slow=6.1,SNR=6.1						
MKAR				ScP		08 49 54.8	
	comp=N,0.9nm,0.6s,baz=135,slow=7.1,SNR=4.1						
MKAR				S	S	08 53 42.7	-1.8
	comp=N,0.8nm,0.8s,baz=191,slow=12,SNR=5.0						
MKAR				PKP2bc		09 14 31.6	
	comp=N,1.6nm,1.0s,slow=1.2,SNR=8.2						
MKAR				LR	LR	09 17 01.3	
	comp=N,126nm,20.3s,baz=148,slow=40						
MKAR	**Makanchi Array**	62.72	335	*e*P	P	08 45 24.0	-2.3
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.5s						
MKAR	**Makanchi Array**	62.72	335	P	P	08 45 24.3	-2.0
MKAR				pP	pP	08 45 47.0	-6.0
MKAR				PcP	PcP	08 46 01.5	-2.1
MKAR				ScP		08 49 54.8	
MKAR				S	S	08 53 42.7	-1.8
MKAR				⇑*e*		09 14 31.6	
MWZ	**Matawai**	62.86	129	P	P	08 45 26.5	-0.8
TKM2	**Tokmak 2**	62.94	328	P	P	08 45 26.3	-1.4
	SNR=20						
UCH	**Uchtor**	63.03	327	P	P	08 45 27.6	-0.8
	SNR=14						
KBK	**Karagaybulak**	63.09	328	P	P	08 45 28.1	-0.7
	SNR=13						
AAK	**Ala-Archa**	63.32	327	P	P	08 45 29.4	-0.9
	SNR=18						
AAK	**Ala-Archa**	63.32	327	*c i*P	P	08 45 28.4	-1.9
AAK	**Ala-Archa**	63.32	327	*e*P	P	08 45 28.2	-2.1
	comp=Z,22nm,0.8s,mb5.1						
PUZ	**Puketiti**	63.38	128	⇑P	P	08 45 29.7	-1.1
FRU	**Bishkek**	63.39	328	*e*P	P	08 45 30.0	-0.8
FRU				*e*		08 46 05.0	
FRU				pmax	pmax		
	comp=Z,40nm,2.0s,mb5.0						
AML	**Almayashu**	63.41	327	P	P	08 45 30.0	-0.9
	SNR=25						
EKS2	**Erkin-Say**	63.72	327	P	P	08 45 32.5	-0.5
	SNR=27						
USP	**Ospenovka**	63.76	328	P	P	08 45 31.9	-1.3
	SNR=8.9						
BOD	**Bodaibo**	66.47	359	*e*P	P	08 45 47.9	-2.4
BOD				*e*	pP	08 46 10.8	-6.5
KURK	**Kurchatov**	67.30	336	P	P	08 45 53.4	-2.3
	comp=Z,93nm,0.5s,mb5.9,SNR=17						
KURK	**Kurchatov**	67.30	336	P	P	08 45 53.2	-2.5
KURK				pmax	pmax		
	comp=Z,30nm,1.6s,mb4.9						
KURK	**Kurchatov**	67.30	336	*e*P	P	08 45 52.8	-2.9
	comp=Z,10nm,0.7s,mb4.8						
MAW	**Mawson**	68.11	199	⇑*i*P	P	08 46 00.8	+0.4
	comp=Z,38nm,0.8s,mb5.3						
MAW	**Mawson**	68.11	199	P	P	08 46 00.5	+0.1
	comp=Z,46nm,0.7s,mb5.4,baz=62,slow=6.3,SNR=206						
MAW				ScS	ScS	08 55 46.7	+1.1
	comp=Z,2.4nm,0.3s,baz=326,slow=0.8,SNR=8.1						
MAW				PKP2bc		09 14 15.8	
	comp=Z,5.9nm,1.3s,baz=250,slow=5.6,SNR=4.8						
YAK	**Yakutsk**	71.58	7	*c i*P	P	08 46 18.9	-2.6
YAK				pmax	pmax		
	comp=Z,44nm,1.1s,mb5.2						
YAK				MLR	MLR		
	comp=Z,100nm,21.0s						
YAK	**Yakutsk**	71.58	7	*e*P	P	08 46 19.1	-2.4
	comp=Z,21nm,0.4s,mb5.3						
PET	**Petropavlovsk**	71.85	26	*e*P	P	08 46 26.3	+3.0
PET				*e*S	S	08 55 35.7	+1.9
PET				*e**SS		08 56 22.5	
PET				*e*SS	SS	09 00 12.9	-1.1
PET				smax			
	comp=N,100nm,14.5s						
PET				smax			
	comp=E,100nm,12.9s						
VOSK	**Vostochnaya**	72.02	333	P	P	08 46 22.3	-2.0
VOSK				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.5						
HASS	**Wahat al Ahsa'**	72.20	300	P	P	08 46 24.8	-1.1
BVA0	**Borovoye Array**	72.48	333	P	P	08 46 25.3	-1.7
BVAR	**Borovoye Array**	72.48	333	P	P	08 46 25.5	-1.5
	comp=Z,14nm,0.8s,mb4.9,baz=135,slow=8.4,SNR=36						
BRVK	**Borovoye**	72.55	333	*e*P	P	08 46 25.0	-2.4
	comp=Z,18nm,1.0s,mb4.8						
ZRNK	**Zerenda**	73.05	333	P	P	08 46 28.8	-1.5
ZRNK				pmax	pmax		
	comp=Z,18nm,0.9s,mb4.9						
ZRNK	**Zerenda**	73.05	333	*e*P	P	08 46 28.7	-1.6
	comp=Z,21nm,0.8s,mb5.0						
SBA	**Scott Base**	73.73	170	*e*P	P	08 46 35.1	+1.2
	comp=Z,62nm,1.4s,mb5.2						
MA2	**Magadan**	73.90	18	⇓*e*P	P	08 46 33.6	-1.6
MA2				pmax	pmax		
	comp=Z,26nm,0.9s,mb5.0						
QRN	**Al-Qurain**	74.86	303	*e*P	P	08 46 40.5	-0.8
QRN				AMb	AMB	08 46 41.8	
	comp=Z,109nm,0.8s,mb5.6						
KBD	**Kabd**	75.19	303	*e*P	P	08 46 42.1	-1.0
RDF	**Al-Radifah**	75.22	303	*e*P	P	08 46 42.1	-1.3
RDF				AMb	AMB	08 46 43.4	
	comp=Z,147nm,0.9s,mb5.7						
UMR	**Umm Al-Rimmam**	75.29	304	*e*P	P	08 46 42.5	-1.2
UMR				AMb	AMB	08 46 43.9	
	comp=Z,135nm,0.6s,mb5.8						
DJNS	**Zahran al Janu**	75.56	291	P	P	08 46 46.6	+1.2
MIB	**Mutribah**	75.68	304	*e*P	P	08 46 45.0	-0.9
MIB				AMb	AMB	08 46 45.9	
	comp=Z,111nm,0.8s,mb5.6						
MZLS	**Mizel**	75.73	298	P	P	08 46 45.8	-0.5
RST	**Umm Al-Ruwaisa**	75.87	303	*e*P	P	08 46 45.6	-1.4
RST				AMb	AMB	08 46 47.0	
	comp=Z,281nm,0.6s,mb6.2						
TATS	**Tathlith**	76.08	293	P	P	08 46 48.7	+0.3
SYO	**Syowa Base**	76.63	201	⇓P	P	08 46 51.1	+0.6
SYO	**Syowa Base**	76.63	201	⇓P	P	08 46 53.9	+3.4
SYO	**Syowa Base**	76.63	201	⇓PcP	PcP	08 47 00.6	-1.2
SYO	**Syowa Base**	76.63	201	⇓pP	pP	08 47 04.7	-14
FRSS	**Farasan al Kab**	76.65	290	P	P	08 46 52.5	+0.9
AFFS	**'Afif**	77.64	297	P	P	08 46 57.2	+0.1
KMBO	**Kilima Mbogo**	77.96	271	P	P	08 47 00.5	+1.5
	comp=Z,12nm,0.7s,mb4.7,baz=61,slow=8.3,SNR=37						
KMBO				pP	pP	08 47 23.7	-3.1
	comp=Z,6.0nm,0.9s,baz=62,slow=11,SNR=3.9						
KMBO	**Kilima Mbogo**	77.96	271	*e*P	P	08 46 59.9	+0.9
	comp=Z,15nm,0.8s,mb4.8						
ARSS	**Ar Rass**	77.97	299	P	P	08 46 58.6	-0.1
HILS	**Ha'il**	79.62	300	P	P	08 47 08.3	+0.6
ARU	**Arti**	79.97	332	⇑*i*P	P	08 47 07.8	-1.2
ARU				*e*		08 47 15.1	
ARU				*e*		08 50 09.1	
ARU				*i* S	S	08 56 59.3	-3.1
ARU				*e*SS	SS	09 02 12.0	-4.9
ARU				pmax	pmax		
	comp=Z,24nm,1.3s,mb4.9						
ARU	**Arti**	79.97	332	*e*P	P	08 47 07.6	-1.5
	comp=Z,18nm,0.6s,mb5.1						
TIXI	**Tiksi**	80.86	4	⇓*e*P	P	08 47 10.9	-2.6
TIXI				*e*		08 47 28.8	
TIXI				*e*S	S	08 57 20.5	+9.1
TIXI				pmax	pmax		
	comp=Z,68nm,2.7s,mb5.0						
QSPA	**South Pole Qui**	81.12	180	*e*P	P	08 47 15.7	+1.0
	comp=Z,98nm,1.2s,mb5.5						
QSPA				*e*		08 52 44.6	
QSPA				*e*		09 05 50.8	
KBRS	**Khaybar**	81.40	298	P	P	08 47 18.1	+0.9
YNBS	**Yanbu' al Bahr**	82.18	296	P	P	08 47 22.3	+1.1
ZEI	**Tsey**	82.59	315	*e*P	P	08 47 22.0	-1.0
ZEI				*e*S	S	08 57 28.0	-1.5
UMJS	**Umm Lajj**	82.98	297	P	P	08 47 27.1	+1.7
BEST	**Besiri**	82.99	310	*i* P	P	08 47 25.8	+0.7
ERZM	**Erzurum**	83.50	312	*i* P	P	08 47 29.5	+1.8
GOF	**Gofitskoye**	83.92	317	⇓*i*P	P	08 47 30.0	+0.3
GOF				pmax	pmax		
	comp=Z,50nm,1.2s,mb5.2						
TBKS	**Tabuk**	84.33	300	P	P	08 47 33.5	+1.4
QURS	**Qurayyt al Mil**	84.41	303	P	P	08 47 34.2	+1.7
MBAR	**Mbarara**	84.48	270	*e*P	P	08 47 33.8	+0.6
	comp=Z,16nm,0.7s,mb5.0						
MBAR				*e*	pP	08 47 58.0	-3.4
DBAS	**Duba**	84.59	298	P	P	08 47 34.3	+0.8
ELZG	**Elazig**	84.89	310	*i* P	P	08 47 36.3	+1.6
LSZ	**Lusaka**	84.89	255	*e*P	P	08 47 36.3	+1.1
	comp=Z,28nm,0.6s,mb5.4						
ASF	**Jabal al Asfar**	84.95	304	P	P	08 47 36.3	+1.2
	comp=Z,27nm,0.9s,mb5.2,baz=332,slow=3.0,SNR=33						
JMQS	**Jabal Moqyreh**	85.05	300	P	P	08 47 37.0	+1.3
KELT	**Kelkit**	85.13	312	*i* P	P	08 47 37.5	+1.7
MALT	**Malatya**	85.26	310	*e*P	P	08 47 37.5	+1.0
	comp=Z,29nm,1.0s,mb5.2						
BDAS	**Al Bad'**	85.62	300	P	P	08 47 39.4	+0.9
GZT	**Gaziantep**	85.67	309	*i* P	P	08 47 40.1	+1.6
SOC	**Sochi**	85.75	315	*i* P	P	08 47 38.5	-0.3
SOC				*e*S	S	08 57 56.6	-4.1
SOC				*e*SSS	SSS	09 07 09.2	-3.5
SOC				pmax	pmax		
	comp=Z,91nm,0.9s,mb5.7						
SOC				pmax	pmax		
	comp=N,10.0nm,0.8s						
SOC				pmax	pmax		
	comp=E,2.0nm,0.3s						
SOC				pmax	pmax		
	comp=Z,91nm,0.9s,mb5.7						
SOC				pmax	pmax		
	comp=N,16nm,0.8s						
SOC				pmax	pmax		
	comp=E,6.0nm,0.3s						
JMOS	**Jabal al Moall**	85.77	300	P	P	08 47 40.7	+1.5
ALWS	**Ilw as Safayha**	85.84	300	P	P	08 47 41.1	+1.5
TAYS	**Tayyib Ism**	85.84	300	P	P	08 47 40.7	+1.1
HAQS	**Haql**	85.90	300	P	P	08 47 41.5	+1.6
AQBJ	**Aqaba**	85.94	301	P	P	08 47 41.3	+1.2
EIL	**Elat**	86.01	301	P	P	08 47 41.6	+1.2

EIL	Elat	86.01	301	P	P	08 47 40.9	+0.5
	comp=E,21nm,0.8s,mb5.1,baz=44,slow=2.6,SNR=13						
ZFRI	Zfri	86.01	302	P	P	08 47 41.9	+1.5
MZDA	Masada	86.02	302	P	P	08 47 41.8	+1.4
KSHT	Keshet	86.03	304	P	P	08 47 42.5	+2.1
DRGI	Dragot	86.06	303	P	P	08 47 42.1	+1.5
MBH	Mount Berech	86.07	301	P	P	08 47 42.0	+1.3
MAIT	Maitri	86.09	199	*e*P	P	08 47 40.9	+1.1
HMDT	Nahal Hemdat	86.10	303	P	P	08 47 42.4	+1.6
PRNI	Paran	86.11	301	P	P	08 47 42.4	+1.5
HRI	Mount Hermon	86.16	304	P	P	08 47 42.9	+1.9
MMLI	Mount Malkishu	86.22	303	P	P	08 47 43.4	+2.0
KMTI	Karmit	86.30	301	P	P	08 47 42.9	+1.1
COBT	Iskenderun	86.49	308	*i* P	P	08 47 43.5	+0.9
SLTI	Sal'it	86.50	303	P	P	08 47 44.3	+1.6
HNTI	Hanita	86.57	304	P	P	08 47 44.9	+1.8
OFRI	'Ofer	86.62	304	P	P	08 47 44.9	+1.6
KZIT	Kziot	86.75	302	P	P	08 47 45.0	+1.1
ANN	Anapa	87.66	316*c*	*i*P	P	08 47 47.3	-0.7
ANN				*e*S	S	08 58 03.8	-15
ANN				pmax	pmax		
	comp=Z,91nm,0.8s,mb5.9						
AVNT	Avonos	88.09	310	*i* P	P	08 47 50.8	+0.6
VOR	Voronezh	88.39	323	*e*P	P	08 47 50.5	-0.8
VOR				pmax	pmax		
	comp=Z,180nm,1.0s,mb6.1						
CSS	Prodhromos	88.47	306	*e*P	P	08 47 52.9	+0.8
	comp=Z,62nm,1.2s,mb5.5						
CTKT	Corum	88.55	311	*i* P	P	08 47 53.4	+1.0
BOYT	Boyabat	88.64	312	*i* P	P	08 47 53.2	+0.5
SUR	Sutherland	89.02	238	*e*P	P	08 47 57.2	+2.5
	comp=Z,42nm,1.1s,mb5.4						
BRTR	Keskin Array B	89.22	310	P	P	08 47 55.5	0.0
	comp=Z,21nm,0.8s,mb5.2,baz=127,slow=6.2,SNR=95						
BRTR				pP	pP	08 48 19.4	-4.6
	comp=Z,12nm,0.9s,baz=143,slow=6.2,SNR=5.7						
BRTR				PKKPbc		09 05 32.6	
	comp=Z,0.4nm,0.4s,baz=315,slow=1.7,SNR=4.5						
SNAA	Sanae	90.10	196	*e*	P	08 48 09.3	+10
SNAA	Sanae	90.10	196	*e*	P	08 48 14.5	+16
SNAA	Sanae	90.10	196	⇑*i*P	P	08 48 00.8	+1.9
SNAA				*e*		08 48 09.3	
SNAA				*e*		08 48 14.5	
SNAA				*e*		08 51 34.9	
SNAA				*e*		08 52 45.5	
SGKT	Sivrigoynuk	90.57	311	*i* P	P	08 48 01.8	0.0
OBN	Obninsk	90.80	326	⇓*e*P	P	08 48 02.3	-0.3
OBN				*i*		08 58 22.2	
OBN				pmax	pmax		
	comp=Z,41nm,0.8s,mb5.6						
OBN	Obninsk	90.80	326	*e*P	P	08 48 01.9	-0.7
	comp=Z,32nm,0.8s,mb5.5						
ESKT	Eskisehir	91.29	310	*i* P	P	08 48 05.5	+0.3
VNA2	Neumayer--Watz	91.74	196	*e*	P	08 48 19.2	+13
VNA2	Neumayer--Watz	91.74	196	*e*	P	08 48 24.5	+18
VNA2	Neumayer--Watz	91.74	196	⇑*i*P	P	08 48 10.8	+4.2
VNA2				*e*		08 48 19.2	
VNA2				*e*		08 48 24.5	
VNA2				*e*		08 51 45.1	
VNA2				*e*		08 52 56.7	
VNA1	Neumayer--Stat	92.14	196	*e*	P	08 48 20.7	+12
VNA1	Neumayer--Stat	92.14	196	*e*	P	08 48 26.0	+18
VNA1	Neumayer--Stat	92.14	196	⇑*i*P	P	08 48 12.5	+4.1
VNA1				*e*		08 48 20.7	
VNA1				*e*		08 48 26.0	
VNA1				*e*		08 51 46.7	
VNA1				*e*		08 52 57.4	
VNA3	Neumayer Olymp	92.17	195	*e*	P	08 48 20.8	+12
VNA3	Neumayer Olymp	92.17	195	*e*	P	08 48 26.1	+18
VNA3	Neumayer Olymp	92.17	195	⇑*i*P	P	08 48 12.4	+3.9
VNA3				*e*		08 48 20.8	
VNA3				*e*		08 48 26.1	
VNA3				*e*		08 51 45.8	
VNA3				*e*		08 52 55.8	
ULDT	Uludag	92.69	310	*i* P	P	08 48 12.6	+0.9
TSUM	Tsumeb	94.26	250	*e*P	P	08 48 21.2	+1.9
	comp=Z,15nm,1.2s,mb5.2						
AKASG	Malin Array Be	94.28	320	P	P	08 48 17.4	-1.1
	comp=Z,9.9nm,0.7s,mb5.3,baz=80,slow=4.4,SNR=37						
AKASG				pP	pP	08 48 41.1	-6.2
	comp=Z,4.0nm,0.7s,baz=85,slow=4.1,SNR=3.6						
AKASG				PP	PP	08 52 05.7	-3.5
	comp=Z,0.2nm,0.3s,baz=81,slow=6.6,SNR=4.1						
AKASG	Malin Array Be	94.28	320	P	P	08 48 17.5	-1.1
AKASG				PP	PP	08 52 05.7	-3.6
IDI	Anoyia	95.34	305	P	P	08 48 22.4	-1.4
	comp=Z,12nm,1.2s,mb5.2,baz=38,slow=8.0,SNR=3.2						
MLR	Muntele Rosu	95.77	315	P	P	08 48 24.0	-1.5
	comp=Z,3.2nm,0.4s,mb5.1,baz=280,slow=1.2,SNR=6.5						
KAF	Kangasniemi	97.28	332	*e*p	P	08 48 29.8	-2.2
FINES	FINESS Array B	97.33	331	P	P	08 48 31.4	-0.8
	comp=Z,5.7nm,0.7s,mb5.1,baz=104,slow=7.9,SNR=16						
FINES				PKKPbc		09 05 11.4	
	comp=Z,1.8nm,1.0s,baz=270,slow=1.9,SNR=4.1						
FINES				LR	LR	09 34 16.6	
	comp=Z,98nm,21.1s,baz=51,slow=36						
KEV	Kevo	97.65	339	*e*p	P	08 48 31.1	-2.4
ARCES	ARCESS Array B	98.16	339	P	P	08 48 33.9	-1.9
	comp=Z,6.3nm,1.0s,mb5.1,baz=100,slow=6.0,SNR=6.9						
ARCES				PKKPbc		09 05 08.1	
	comp=Z,9.0nm,1.2s,baz=274,slow=2.3,SNR=6.2						
ARCES				LR	LR	09 35 34.5	
	comp=Z,187nm,19.7s,baz=51,slow=37						
ARCES	ARCESS Array B	98.16	339	P	P	08 48 33.9	-1.9
ARCES				PKKPbc		09 05 08.1	
KOLS	Kolonicke sedl	98.57	318	*e*PDIF	P	08 48 38.5	+0.4
KOLS	Kolonicke sedl	98.57	318	*i* P	P	08 48 38.5	+0.4
CRVS	Cervenica-Dubn	99.10	318	*e*PDIF	P	08 48 39.3	-1.3
ILAR	Eielson Array	101.33	26	P	P	08 48 47.2	-3.0
	comp=Z,0.2nm,0.6s,baz=248,slow=4.9,SNR=6.1						
ILAR				PKKPbc		09 04 59.5	
	comp=Z,2.4nm,0.6s,baz=92,slow=1.2,SNR=30						
MORC	Moravsky Berou	101.69	319	*e*Pdif	P	08 48 51.5	-0.6
	comp=Z,4.1nm,0.9s						
HFS	Hagfors	103.40	330	Pdiff	Pdif	08 48 56.3	-3.1
	comp=Z,4.8nm,0.8s,baz=90,slow=1.5,SNR=3.5						
GERES	GERESS Array B	104.22	318	Pdiff	Pdif	08 49 03.0	-0.4
	comp=Z,0.4nm,0.2s,baz=90,slow=1.3,SNR=5.9						
GERES				PKKPbc		09 04 52.2	
	comp=Z,0.4nm,0.5s,baz=225,slow=1.9,SNR=4.6						
GERES	GERESS Array B	104.22	318	P	Pdif	08 49 02.9	-0.4
INK	Inuvik	105.99	21	PKKPbc		09 04 46.0	
	comp=Z,1.7nm,0.5s,baz=119,slow=8.0,SNR=12						
DLBC	Dease Lake	110.36	31	PKKPbc		09 04 33.2	
	comp=Z,2.0nm,0.8s,baz=120,slow=13,SNR=6.3						
EKA	Eskdalemuir Ar	113.23	327	PKiKP		08 53 36.4	
	comp=Z,1.3nm,0.8s,baz=18,slow=2.2,SNR=3.8						
YKA	Yellowknife Ar	115.57	23	PKP	PKPdf	08 53 39.9	+0.4
	comp=Z,8.3nm,0.8s,baz=298,slow=1.5,SNR=17						
YKA				pPKP		08 54 05.7	
	comp=Z,2.2nm,0.6s,baz=316,slow=2.0,SNR=3.3						
YKA	Yellowknife Ar	115.57	23	PKP	PKPdf	08 53 39.9	+0.4
YKA				pPKP		08 54 05.7	
ESDC	Sonseca Array	118.01	310	PKP	PKPdf	08 53 46.1	+1.3
	comp=Z,2.9nm,0.7s,baz=24,slow=3.4,SNR=7.3						
ESDC				PKKPbc		09 04 10.4	
	comp=Z,0.5nm,0.5s,baz=261,slow=4.4,SNR=4.6						
NLW	Nelson Butte	119.23	39	*e*PKPdf	PKPdf	08 53 48.2	+1.3
HAWA	Hanford	120.34	41	*e*PKPdf	PKPdf	08 53 51.5	+2.4
KIC	Kosan Boka	120.51	272	*e*PKIKP	PKPdf	08 53 51.6	+1.4
	comp=Z,44nm,0.7s						
DPW	Davenport	120.64	39	*e*PKPdf	PKPdf	08 53 51.8	+2.1
DBIC	Dimbokro	120.66	273	PKP	PKPdf	08 53 51.8	+1.2
	comp=Z,9.1nm,0.5s,baz=76,slow=2.2,SNR=42						
DBIC				pPKP		08 54 16.9	
	comp=Z,4.2nm,0.8s,baz=170,slow=8.0,SNR=2.3						
DBIC				PKKPbc		09 03 57.9	
	comp=Z,1.0nm,0.5s,baz=100,slow=22,SNR=4.4						
LIC	Lamto	120.78	272	*e*PKIKP	PKPdf	08 53 51.9	+1.1
	comp=Z,33nm,0.4s						
TIC	Toumodi	120.82	272	*e*PKIKP	PKPdf	08 53 52.0	+1.2
	comp=Z,89nm,0.9s						
NEW	Newport	121.15	38	*e*PKPdf	PKPdf	08 53 49.5	-1.1
MOD	Modoc	121.29	46	*e*PKPdf	PKPdf	08 53 54.0	+2.8
LNOR	Lincton Mounta	121.34	41	*e*P	PKPdf	08 53 53.2	+2.1
BSMT	Bassoo Peak	122.74	38	P	PKPdf	08 53 55.3	+1.6
MSO	Missoula	123.71	39	*e*PKPdf	PKPdf	08 53 56.7	+1.0
NVAR	Mina Array Bea	123.78	49	PKP	PKPdf	08 53 58.0	+2.0
	comp=Z,4.4nm,0.7s,baz=236,slow=0.7,SNR=16						
NVAR				pPKP		08 54 23.3	
	comp=Z,3.1nm,0.7s,baz=205,slow=0.6,SNR=4.3						
NVAR				PKKPbc		09 03 47.1	
	comp=Z,1.0nm,0.6s,baz=127,slow=4.5,SNR=9.7						
CHMT	Chamberlain Mo	124.09	38	P	PKPdf	08 53 58.1	+1.7
HLID	Hailey	124.77	42	*e*PKPdf	PKPdf	08 54 00.5	+2.7
ELK	Elko	125.27	46	*e*PKPdf	PKPdf	08 54 01.7	+2.8
FFC	Flin Flon	125.55	26	*e*PKPdf	PKPdf	08 54 00.2	+1.3
BOZ	Bozeman (W)	125.67	39	*e*PKPdf	PKPdf	08 54 01.2	+1.7
TPNV	Topopah Spring	125.78	51	*e*PKPdf	PKPdf	08 54 02.8	+2.9
YMR	Madison River	126.54	40	*e*PKPbc	PKPdf	08 54 04.7	+3.5
PFO	Pinyon Flat Ob	126.56	55	*e*PKPbc	PKPdf	08 54 03.6	+2.1
HVU	Hansel Valley	126.59	44	*e*PKPdf	PKPdf	08 54 04.2	+2.9
DUG	Dugway	127.19	46	*e*PKPdf	PKPdf	08 54 04.3	+1.8
AHID	Auburn Hatcher	127.31	42	*e*PKPdf	PKPdf	08 54 05.0	+2.3
HWUT	Hardware Ranch	127.49	44	*e*PKPdf	PKPdf	08 54 04.6	+1.5
TCUT	Toone Canyon	127.80	44	*e*PKPdf	PKPdf	08 54 04.6	+0.9
NLU	North Lily Min	127.81	46	*e*PKPdf	PKPdf	08 54 06.0	+2.2
JLU	Jordanelle	127.99	45	*e*PKPdf	PKPdf	08 54 06.8	+2.7
MPU	Maple Canyon	128.10	45	*e*PKPdf	PKPdf	08 54 07.1	+2.7
DAU	Daniels Canyon	128.20	45	*e*PKPbc	PKPdf	08 54 07.6	+3.0
MVU	Marysvale	128.27	47	*e*PKPdf	PKPdf	08 54 06.9	+2.2
MSU	Marysvale	128.29	47	*e*PKPdf	PKPdf	08 54 08.6	+3.8
PDAR	Pinedale Array	128.32	41	PKP	PKPdf	08 54 06.2	+1.5
	comp=Z,3.9nm,0.8s,baz=270,slow=0.9,SNR=33						
PDAR				pPKP		08 54 31.4	
	comp=Z,1.0nm,0.5s,baz=136,slow=1.0,SNR=3.1						
PDAR				SKPbc		08 57 14.8	
	comp=Z,1.0nm,0.5s,baz=240,slow=0.8,SNR=5.0						
LAO	LASA Array	128.39	36	*e*PKPdf	PKPdf	08 54 07.1	+2.4
SRU	San Rafael	129.25	46	*e*PKiKP		08 54 08.9	
WUAZ	Wupatki	129.97	51	*e*PKPdf	PKPdf	08 54 11.1	+3.1
RSSD	Black Hills	131.09	37	*e*PKiKP		08 54 10.8	
RSSD				*e*SKP		08 57 24.2	
ULM	Lac du Bonnet	131.35	26	PKP	PKPdf	08 54 11.9	+1.7
	comp=Z,18nm,1.1s,baz=302,slow=2.5,SNR=12						
ULM				SKPbc		08 57 24.8	
	comp=Z,14nm,0.9s,baz=309,slow=5.0,SNR=10						
ISCO	Idaho Springs	132.34	43	*e*PKPdf	PKPdf	08 54 14.4	+2.0
SDCO	Great Sand Dun	133.39	45	*e*PKPdf	PKPdf	08 54 16.6	+2.2
ANMO	Albuquerque	133.91	49	*e*PKPdf	PKPdf	08 54 17.5	+2.0
ANMO				*e*SKP		08 57 36.3	
SCHQ	Schefferville	134.14	2	PKP	PKPdf	08 54 16.3	+1.0
	comp=Z,18nm,0.9s,baz=350,slow=3.3,SNR=10						
SCHQ				pPKP		08 54 41.2	
	comp=Z,6.6nm,0.7s,baz=33,slow=7.9,SNR=3.2						
SCHQ				SKPbc		08 57 34.8	
	comp=Z,12nm,0.9s,baz=14,slow=4.9,SNR=4.5						
SCHQ	Schefferville	134.14	2	PKP	PKPdf	08 54 16.3	+1.0
SCHQ				pPKP		08 54 41.2	
SCHQ				SKPbc		08 57 34.8	
LTX	Lajitas	138.26	55	*e*PKPdf	PKPdf	08 54 16.7	-6.9
TXAR	Lajitas Array	138.26	55	PKhKP		08 54 10.4	
	comp=Z,1.3nm,0.6s,baz=234,slow=2.4,SNR=13						
TXAR				SKPbc		08 57 48.6	
	comp=Z,1.8nm,0.7s,baz=240,slow=1.7,SNR=6.1						
WMOK	Wichita Mounta	139.59	45	*e*PKPpre		08 54 17.6	
WMOK				*e*SKP		08 57 52.2	
JCT	Junction City	140.88	52	*e*PKPpre		08 54 23.3	
JCT				*e*SKP		08 57 56.6	
CCM	Cathedral Cave	142.40	35	*e*PKPpre		08 54 27.0	
CCM				*e*SKP		08 57 59.0	
UALR	University of	143.90	40	*e*PKPdf	PKPdf	08 54 32.2	-1.2
UALR				*e*SKP		08 58 03.5	
BLO	Bloomington	144.08	29	*e*PKPdf	PKPdf	08 54 32.8	-0.8
NCB	Newcomb	144.08	12	*e*PKPdf	PKPdf	08 54 33.1	-0.3
NCB				*e*SKP		08 58 04.7	
NATX	Nacogdoches	144.10	46	*e*PKPdf	PKPdf	08 54 33.3	-0.5
CPUP	Villa Florida	144.27	191	PKP	PKPdf	08 54 35.4	+1.0
	comp=Z,82nm,0.9s,baz=183,slow=2.5,SNR=114						
CPUP				pPKP		08 55 01.8	
	comp=Z,16nm,0.5s,baz=168,slow=1.8,SNR=3.5						
ALLY	Alegheny Colle	144.64	20	*e*PKPpre		08 54 33.1	
ALLY				*e*PKPdf	PKPdf	08 54 34.8	+0.2
ACSO	Alum Creek Sta	144.81	25	*e*PKPdf	PKPdf	08 54 34.5	-0.4
WCI	Wyandotte Cave	144.93	30	*e*PKPdf	PKPdf	08 54 35.2	0.0
UTMT	University of	144.96	35	*e*PKPdf	PKPdf	08 54 35.1	-0.2
MET	Memphis--Engin	145.18	38	*e*PKPdf	PKPdf	08 54 37.0	+1.4
BINY	Binghamton	145.37	15	*e*PKPdf	PKPdf	08 54 36.7	+1.0
WVT	Waverly	145.69	34	*e*PKPdf	PKPdf	08 54 37.2	+0.7
WVT				*e*SKP		08 58 06.2	
OXF	Oxford	145.91	38	*e*PKPdf	PKPdf	08 54 38.4	+1.5
OXF				*e*		08 55 03.8	
OXF				*e*SKP		08 58 05.3	
HRV	Harvard--Oak R	145.97	9	*e*PKPdf	PKPdf	08 54 38.6	+1.8
SSPA	Standing Stone	146.29	18	*e*PKPdf	PKPdf	08 54 39.0	+1.7
MCWV	Mont Chateau	146.51	21	*e*PKPdf	PKPdf	08 54 40.3	+2.5
SWET	Sewanee	147.41	33	*e*PKPdf	PKPdf	08 54 42.2	+2.8
LRAL	Lakeview Retre	148.38	37	*e*PKPdf	PKPdf	08 54 42.8	+1.8
LRAL				*e*PKPbc	PKPdf	08 54 45.5	+4.5
BLA	Blacksburg	148.43	24	*e*PKPbc	PKPdf	08 54 45.4	+4.4
LVC	Limon Verde	148.44	173	*e*PKPdf	PKPdf	08 54 44.9	+3.4
LVC				*e*PKPbc	PKPdf	08 54 48.9	+7.5
CBN	Corbin	148.67	19	*e*PKPdf	PKPdf	08 54 43.0	+1.7
CBN				*e*PKPbc	PKPdf	08 54 46.6	+5.3
BDFB	Brasilia	150.53	214	PKP	PKPdf	08 54 47.3	+2.5
	comp=Z,14nm,1.1s,baz=172,slow=2.3,SNR=7.1						
BDFB				PKPbc	PKPdf	08 54 53.0	+8.2
	comp=Z,50nm,0.6s,baz=135,slow=1.0,SNR=48						
BDFB				PKPab	PKPab	08 55 00.4	+0.7
	comp=Z,29nm,0.8s,baz=120,slow=2.8,SNR=9.8						
ARE	Arequipa	153.96	165	P	PKPdf	08 54 55.0	+5.3
LPAZ	La Paz	154.78	172	PKP	PKPdf	08 54 54.6	+3.8
	comp=Z,1.9nm,0.2s,baz=272,slow=0.3,SNR=11						
LPAZ				PKPbc	PKPdf	08 55 04.6	+14
	comp=Z,4.1nm,0.3s,baz=38,slow=0.4,SNR=8.3						
LPAZ				PKPab	PKPab	08 55 18.6	+1.2
	comp=Z,9.3nm,0.6s,baz=136,slow=2.9,SNR=10.0						
JTS	JuntasAbangare	160.04	84	*e*PKPdf	PKPdf	08 54 58.3	+0.8
JTS				*e*PKPab	PKPab	08 55 40.2	0.0
SAML	Samuel	162.22	185	*e*PKPdf	PKPdf	08 55 01.9	+2.2
SAML				*e*PKPab	PKPab	08 55 49.2	-0.5
OTAV	Otavalo	163.89	121	*e*PKPdf	PKPdf	08 55 04.4	+3.0
ROSC	El Rosal	169.69	112	PKP	PKPdf	08 55 08.2	+2.5
	comp=Z,1.9nm,0.6s,baz=319,slow=23,SNR=6.5						
SDV	Santo Domingo	174.19	89	*e*PKPdf	PKPdf	08 55 08.6	+0.7

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*IDC **15** 08:40:47.1±1.0, 12.22S×167.92E, mb4.8/10, mb1 4.9/10, mb1mx4.8/15, MS4.4/14, Ms1 4.4/14, ms1mx4.3/18, Error ellipse: s-maj=36.8km s-min=20.6km az=137.0*

*BJI **15** 08:40:51.6, 12.20S×167.80E, h31^{km}, mB5.1, mb5.0, Ms4.5*

*NEIC **15** 08:40:51.6±6.1, 12.15S×167.78E, h31^{km}±42^{km}, mb4.9/14, Error ellipse: s-maj=16.1km s-min=11.8km az=164.0*

*HRVD **15** 08:40:51.6±0.4, 11.96S×167.45E, h15^{km}±2^{km}, MW5.0/54, Centroid moment Tensor Solution. LP body waves: s18,c26;Mantle waves: s54,c86; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.12±.20; $M_{\theta\theta}$-0.74±.18; $M_{\phi\phi}$1.86±.19; $M_{r\theta}$1.60±.44; $M_{\theta\phi}$-3.83±.18; $M_{\phi r}$-0.71±.37; Best double couple: $M_0$4.4×10^{16} NP1:ϕ_s189°,δ65°,λ-4°. NP2:ϕ_s281°,δ86°,λ-155°. Principal axes: T 4.98, Plg14°, Azm53°; N -1.17, Plg65°, Azm290°; P -3.81, Plg20°, Azm148°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 15 08:40:50.8±2.4**, 12.25S**±0.07×**167.77E**±0.08**, h37**^{km}±21^{km}**, n56,** $\sigma 0^{s}99$/51**, mb4.8**/27**, MS4.4**/15**, 1C-3D, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BKM	Butte a Klehm	5.41	175	⇑*i*P	P	08 42 15.2	+4.1
DZM	Mont Dzumac	9.85	187	*e*P	P	08 43 13.5	+0.4
DZM				*e*S	S	08 45 10.5	+7.0
DZM	Mont Dzumac	9.85	187	*e*P	P	08 43 13.5	+0.3
DZM				*e*S	S	08 45 10.5	+6.9
NOUC	Port Laguerre	9.89	188	*e*P	P	08 43 13.9	+0.1
NOUC	Port Laguerre	9.89	188	*e*S	S	08 45 03.6	-1.1
CTA	Charters Tower	22.07	247	P	P	08 45 45.1	+0.9
	34nm,0.8s,mb4.8,baz=70,slow=13,SNR=8.9						
CTA				LR	LR	08 52 55.6	
	comp=Z,2μm,21.3s,MS4.4,baz=256,slow=33						
CTA	Charters Tower	22.07	247	*e*S	P	08 45 45.2	+0.9
CTAO	Charters Tower	22.07	247	*e*P	P	08 45 43.0	-1.3
	57nm,1.0s,mb5.0						
URZ	Urewera	27.21	164	LR	LR	08 55 12.7	
	comp=Z,658nm,21.9s,MS4.2,baz=319,slow=32						
STKA	Stephens Creek	31.00	227	P	P	08 47 07.1	-0.2
	18nm,0.9s,mb4.9,baz=20,slow=6.9,SNR=4.6						
STKA				LR	LR	08 58 53.0	
	comp=Z,2μm,19.0s,MS4.7,baz=32,slow=35						
STKA	Stephens Creek	31.00	227	P	P	08 47 07.1	-0.2
WRAB	Tennant Creek	32.96	252	*e*P	P	08 47 18.7	-5.9
	55nm,0.8s,mb5.5						
WRA	Warramunga Arr	32.97	252	LR	LR	08 58 52.6	
	comp=Z,230nm,21.3s,MS3.9,baz=70,slow=33						
ASAR	Alice Springs	34.06	246	P	P	08 47 33.5	-0.5
	18nm,0.7s,mb5.1,baz=77,slow=8.6,SNR=5.1						
ASAR				LR	LR	09 00 11.8	
	comp=Z,556nm,21.0s,MS4.3,baz=66,slow=34						
FITZ	Fitzroy Crossi	41.01	257	P	P	08 48 33.1	+0.8
	16nm,0.7s,mb4.8,baz=139,slow=4.6,SNR=3.8						
FITZ				LR	LR	09 04 46.9	
	comp=Z,427nm,18.8s,MS4.3,baz=90,slow=35						
PPT	Papeete	41.49	103	*e*S	S	08 54 48.4	-0.7
PPT				*e*L		08 58 27.6	
PPT				*e*R		09 00 16.3	
	880nm,29.0s,baz=268						
NWAO	Narrogin (SRO)	50.46	237	P	P	08 49 44.9	-2.5
	11nm,0.7s,mb5.0						
JOW	Kunigami	54.59	316	P	P	08 50 17.9	-0.4
	15nm,1.1s,mb4.9,baz=134,slow=5.2,SNR=5.5						
ENH	Enshi	70.19	309	P	P	08 51 59.1	-3.1
	10nm,0.9s,mb4.8						
KMI	Kunming	73.44	301	*e*P	P	08 52 21.6	-0.1
KMI				AMB	AMB		
	comp=Z,13nm,0.9s,mb4.9						
KMI	Kunming	73.44	301	*e*P	P	08 52 21.6	-0.1
	comp=Z,13nm,0.9s,mb4.9						
HHC	Hu-ho-hao-te	74.03	319	*e*P	P	08 52 29.1	+4.2
HHC				AMB	AMB		
	comp=Z,11nm,0.6s,mb5.0						
HHC				AMB	AMB		
	comp=Z,86nm,6.2s						
HHC				LR	LR		
	comp=N,92nm,20.2s,MS4.3						
HHC				LR	LR		
	comp=E,137nm,21.4s,MS4.3						
HIA	Hailar	74.40	330	P	P	08 52 26.4	-0.4
	comp=E,4.5nm,0.6s,mb4.6						
CMAR	Chiang Mai Arr	74.41	293	P	P	08 52 28.9	+1.4
	comp=E,5.8nm,0.8s,mb4.5,baz=129,slow=5.4,SNR=14						
CMAR				LR	LR	09 20 37.2	
	comp=E,70nm,20.0s,MS4.0,baz=115,slow=32						
COLA	College	83.82	17	*e*P	P	08 53 14.6	-2.9
	comp=E,8.1nm,1.0s,mb4.8						
ILAR	Eielson Array	84.03	18	P	P	08 53 16.9	-1.7
	comp=E,1.2nm,0.6s,mb4.2,baz=241,slow=4.7,SNR=15						
ILAR				LR	LR	09 24 49.8	
	comp=E,257nm,20.8s,MS4.6,baz=247,slow=32						
MAW	Mawson	84.35	202	P	P	08 53 21.6	+1.5
	comp=E,2.9nm,0.4s,mb4.7,baz=97,slow=14,SNR=19						
MAW				LR	LR	09 24 48.5	
	comp=E,250nm,20.2s,MS4.6,baz=301,slow=31						
MTUM	Tungsten Hills	84.74	50	*e*P	P	08 53 23.8	+1.0
NVAR	Mina Array Bea	85.30	49	P	P	08 53 26.0	+0.5
	comp=E,2.0nm,0.8s,mb4.3,baz=212,slow=6.2,SNR=12						
NVAR				LR	LR	09 23 30.7	
	comp=E,485nm,20.1s,MS4.9,baz=310,slow=30						
MNV	Mina	85.41	49	*e*P	P	08 53 25.9	-0.2
	comp=E,7.4nm,1.0s,mb4.8						
TPNV	Topopah Spring	86.36	51	*e*P	P	08 53 29.6	-1.2
TPNV				*e*		08 53 36.8	
WVOR	Wild Horse Val	86.41	45	*e*P	P	08 53 30.7	-0.2
	comp=E,9.3nm,1.1s,mb4.9						
WVOR				*e*		08 53 37.0	
HAWA	Hanford	87.19	41	*e*P	P	08 53 35.2	+0.6
	comp=E,0.5nm,0.9s,mb3.7						
NLW	Nelson Butte	87.29	40	P	P	08 53 35.2	+0.1
NLW				*e*		08 53 40.1	
ELK	Elko	88.28	48	*e*P	P	08 53 40.1	+0.1
	comp=E,8.5nm,1.4s,mb4.8						
NEW	Newport	89.37	40	LR	LR	09 26 07.3	
	comp=E,104nm,20.2s,MS4.2,baz=266,slow=30						
HLID	Hailey	89.70	45	*e*P	P	08 53 46.9	+0.2
	comp=E,5.9nm,1.2s,mb4.8						
MVU	Marysvale	89.87	51	*e*P	P	08 53 48.9	+1.4
	comp=E,9.1nm,1.2s,mb5.0						
DUG	Dugway	89.89	49	*e*P	P	08 53 47.4	-0.2
	comp=E,0.4nm,1.1s,mb3.7						
MSU	Marysvale	89.90	51	*e*P	P	08 53 48.8	+1.0
HVU	Hansel Valley	90.35	47	*e*P	P	08 53 50.0	+0.2
NLU	North Lily Min	90.37	49	*e*P	P	08 53 49.9	+0.1
NLU				*e*		08 53 56.2	
MPU	Maple Canyon	90.71	49	*e*P	P	08 53 51.1	-0.4
MPU				*e*		08 53 58.1	
JLU	Jordanelle	91.00	49	*e*P	P	08 53 52.5	-0.3
JLU				*e*		08 53 59.1	
TCUT	Toone Canyon	91.17	48	*e*P	P	08 53 52.8	-0.8
HWUT	Hardware Ranch	91.18	48	*e*P	P	08 53 54.0	+0.4
	comp=E,30nm,1.3s,mb5.5						
HWUT				*e*		08 53 59.3	
WMQ	Urumqi	91.34	315	*e*P	P	08 53 59.4	+5.1
WMQ				AP	pP	08 54 04.3	-1.5
WMQ				XP	sP	08 54 06.4	-3.2
WMQ				AMB	AMB		
	comp=Z,12nm,1.1s,mb5.1						
BOZ	Bozeman (W)	92.19	44	*e*P	P	08 53 57.1	-1.1
	comp=Z,1.5nm,0.8s,mb4.4						
PDAR	Pinedale Array	92.92	47	LR	LR	09 30 13.2	
	comp=Z,219nm,18.3s,MS4.6,baz=258,slow=32						
TXAR	Lajitas Array	94.67	61	LR	LR	09 26 21.0	
	comp=Z,247nm,21.8s,MS4.6,baz=255,slow=29						
YKA	Yellowknife Ar	95.13	27	LR	LR	09 37 07.9	
	comp=Z,87nm,18.2s,MS4.3,baz=275,slow=36						
MKAR	Makanchi Array	95.75	316	P	P	08 54 16.2	+1.9
	comp=Z,4.7nm,0.6s,mb5.1,baz=92,slow=5.1,SNR=18						
SNAA	Sanae	96.03	183	⇓*i*	P	08 54 15.4	+0.3
VNA3	Neumayer Olymp	96.69	181	⇓*i*	P	08 54 18.4	+0.4
VNA2	Neumayer--Watz	96.96	182	⇓*i*	P	08 54 20.2	+0.9
ESDC	Sonseca Array	151.72	346	PKPbc	PKPdf	09 00 45.7	+10
	comp=Z,2.4nm,0.8s,baz=20,slow=2.6,SNR=4.4						

DJA 15 09:02:05.9±0.2**, 8.71S**×**115.36E, h80**^{km}**, MD5.1**/4**, ML3.6**/1**, 4C-6D, Error ellipse: s-maj=18.5km s-min=6.3km az=5.0, Bali region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RATI	Rata	0.17	95	⇓*i*Pn	P	09 02 18.0	+0.5
	181nm,0.2s						
RATI	Rata	0.17	95	⇑*i*P	P	09 02 18.4	+0.9
RATI				⇓*i*Sn	S	09 02 28.4	+2.1
INGI	Ingas	0.24	243	⇓*i*Pn	P	09 02 17.0	-0.9
	121nm,0.2s						
INGI				⇓*i*Sn	S	09 02 26.5	-0.4
KEDI	Kedomdong	0.77	73	⇓*i*Pn	P	09 02 22.4	-0.2
	82nm,0.2s						
KEDI	Kedomdong	0.77	73	⇓*i*P	P	09 02 22.8	+0.2
KEDI				⇑*i*Sn	S	09 02 35.6	+0.6
KELI	Kelakatan	0.99	299	⇑*i*Pn	P	09 02 24.3	-0.8
	84nm,0.2s						
KELI				⇑*i*Sn	S	09 02 38.8	-0.7

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*NEIC **15** 09:04:23.8, 34.15S×70.08W, h6^{km}, ML3.3(GUC), After GUC.*

GUC 15 09:04:23.8±0.5**, 34.15S**×**70.08W, h6**^{km}±1^{km}**, MD4.2, ML3.3, 6C-3D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LMEL	Las Melosas	0.32	341	⇑*i*P	Pg	09 04 30.6	+0.4
LMEL				*i* S	Sg	09 04 35.9	+1.4
LMEL				AMP		09 04 36.2	
	comp=E,11μm,0.2s						
CICH	Cipreses	0.33	238	⇑*i*P	Pg	09 04 30.7	+0.2
CACH	El Canelo	0.43	274	⇓*i*P	Pg	09 04 32.6	+0.1
CACH				*i* S	Sg	09 04 39.3	+0.9
CHCH	Chadas Angostu	0.52	294	⇑*i*P	Pg	09 04 34.6	+0.3
CHCH				*i* S	Sg	09 04 42.6	+1.3
PCH	Pirque	0.64	325	*e*P	Pg	09 04 36.4	-0.1
ANTU	Antumapu	0.74	321	*e*P	Pg	09 04 38.2	-0.3
ANTU				*i* S	Sg	09 04 49.3	+0.8
FCH	Farellones	0.83	348	⇑*i*P	Pb	09 04 39.7	-0.6
FCH				*i* S	Sb	09 04 52.4	+0.9
FCH				AMP		09 04 53.1	
	comp=N,2μm,0.3s						
CLCH	Cerro Calan	0.84	333	⇑*i*P	Pb	09 04 40.2	-0.2
CLCH				*i* S	Sb	09 04 52.6	+0.9
CLCH				AMP		09 04 54.8	
	comp=E,3μm,0.4s						
DSCH	Colegio Aleman	0.85	331	*e*P	Pb	09 04 40.4	-0.2
DSCH				*i* S	Sb	09 04 52.8	+0.8
DSCH				AMP		09 04 55.1	
	comp=E,2μm,0.6s						
TACH	Talagante	0.87	304	*e*P	Pb	09 04 40.5	-0.3
RCDM	Rinconada Maip	0.89	317	⇓*i*P	Pb	09 04 41.0	-0.2
RCDM				*i* S	Sb	09 04 53.9	+0.7
RCDM				AMP		09 04 54.3	

	comp=E,2µm,0.3s						
SFDO	**San Fernando**	**0.90**	**239**	⇑*i*P	Pb	09 04 41.0	-0.4
SFDO				*i* S	Sb	09 04 54.2	+0.6
PEL	**Peldehue**	**1.12**	**333**	*e*P	Pb	09 04 44.4	-0.8
LNV	**Longovilo**	**1.12**	**279**	⇓*i*P	Pb	09 04 44.6	-0.6
LNV				*i* S	Sb	09 04 59.9	+0.1
LCCH	**Las Cruces**	**1.41**	**298**	*e*P	Pn	09 04 49.3	-0.8
MDZ	**Mendoza**	**1.62**	**40**	*e*P	Pn	09 04 53.3	+0.2
MDZ				*e*		09 05 21.4	

DJA 15 09:08:05.9±0.9, **8.99S**×**115.25E**, **h96**^{km}±5^{km}, **MD5.0**/4, **ML3.3**/2, **4C-4D, Error ellipse: s-maj=28.1km s-min=9.6km az=6.0, Bali region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
INGI	**Ingas**	**0.19**	**329**	⇓*i*Pn	P	09 08 19.3	-0.3
	608nm,0.2s						
INGI				⇓*i*Sn	S	09 08 28.9	-1.1
RATI	**Rata**	**0.38**	**47**	⇓*i*Pn	P	09 08 20.5	-0.1
	606nm,0.2s						
RATI				⇓*i*Sn	S	09 08 31.1	-0.6
KEDI	**Kedomdong**	**0.99**	**60**	⇑*i*Pn	P	09 08 25.4	-0.8
	48nm,0.2s						
KEDI				⇑*i*Sn	S	09 08 39.7	-1.6
KELI	**Kelakatan**	**1.07**	**316**	⇑*i*Pn	P	09 08 26.8	-0.3
	42nm,0.2s						
KELI				⇑*i*Sn	S	09 08 41.8	-1.2

DJA 15 09:11:35.9±0.9, **8.87S**×**115.26E**, **h96**^{km}±5^{km}, **MD5.1**/4, **ML4.1**/2, **5C-5D, Error ellipse: s-maj=24.1km s-min=6.4km az=3.0, Bali region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
INGI	**Ingas**	**0.12**	**295**	⇑*i*Pn	P	09 11 49.2	-0.3
	777nm,0.2s						
INGI	**Ingas**	**0.12**	**295**	⇓*i*P	P	09 11 49.3	-0.2
INGI				⇑*i*Sn	S	09 11 58.7	-1.1
RATI	**Rata**	**0.31**	**62**	⇑*i*Pn	P	09 11 50.2	0.0
	455nm,0.2s						
RATI	**Rata**	**0.31**	**62**	⇓*i*P	P	09 11 50.6	+0.4
RATI				⇓*i*Sn	S	09 12 01.6	+0.6
KEDI	**Kedomdong**	**0.93**	**66**	⇓*i*Pn	P	09 11 55.0	-0.5
	448nm,0.2s						
KEDI				⇑*i*Sn	S	09 12 09.2	-1.0
KELI	**Kelakatan**	**1.00**	**311**	⇓*i*Pn	P	09 11 56.5	+0.2
	172nm,0.2s						
KELI				⇑*i*Sn	S	09 12 11.1	-0.4

DJA 15 09:21:49.4±0.9, **9.05S**×**115.23E**, **h96**^{km}±5^{km}, **MD5.0**/4, **ML3.2**/2, **2C-6D, Error ellipse: s-maj=28.6km s-min=9.8km az=7.0, South of Bali**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
INGI	**Ingas**	**0.24**	**340**	⇓*i*Pn	P	09 22 02.3	-1.0
	206nm,0.2s						
INGI				⇓*i*Sn	S	09 22 13.5	-0.4
RATI	**Rata**	**0.44**	**43**	⇓*i*Pn	P	09 22 04.9	+0.4
	90nm,0.2s						
RATI				⇓*i*Sn	S	09 22 15.3	-0.6
KEDI	**Kedomdong**	**1.04**	**58**	⇑*i*Pn	P	09 22 09.6	-0.6
	34nm,0.2s						
KEDI				⇓*i*Sn	S	09 22 23.1	-2.8
KELI	**Kelakatan**	**1.10**	**319**	⇑*i*Pn	P	09 22 10.6	-0.4
	28nm,0.3s						
KELI				⇓*i*Sn	S	09 22 26.0	-1.2

DJA 15 09:29:13.7±0.9, **8.90S**×**115.30E**, **h98**^{km}±5^{km}, **MD5.0**/4, **ML3.9**/2, **2C-7D, Error ellipse: s-maj=23.4km s-min=8.2km az=179.0, Bali region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
INGI	**Ingas**	**0.17**	**297**	⇓*i*Pn	P	09 29 27.0	-0.6
	363nm,0.2s						
INGI				⇑*i*Sn	S	09 29 36.5	-1.6
RATI	**Rata**	**0.29**	**54**	⇓*i*Pn	P	09 29 28.1	0.0
	515nm,0.2s						
RATI	**Rata**	**0.29**	**54**	⇓*i*P	P	09 29 28.2	+0.1
RATI				⇓*i*Sn	S	09 29 39.1	+0.2
KEDI	**Kedomdong**	**0.90**	**63**	⇓*i*Pn	P	09 29 32.8	-0.4
	258nm,0.2s						
KEDI				⇓*i*Sn	S	09 29 47.6	-0.1
KELI	**Kelakatan**	**1.04**	**310**	⇑*i*Pn	P	09 29 34.4	-0.3
	169nm,0.2s						
KELI				⇓*i*Sn	S	09 29 49.8	-0.8

DJA 15 09:37:11.9±1.0, **8.85S**×**115.24E**, **h94**^{km}±6^{km}, **MD4.8**/4, **ML4.4**/2, **4C-7D, Error ellipse: s-maj=30.1km s-min=6.1km az=1.0, Bali region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
INGI	**Ingas**	**0.10**	**289**	⇓*i*Pn	P	09 37 24.8	-0.4
	656nm,0.2s						
INGI	**Ingas**	**0.10**	**289**	⇓*i*P	P	09 37 25.0	-0.2
INGI				⇓*i*Sn	S	09 37 34.5	-0.6
RATI	**Rata**	**0.32**	**66**	⇓*i*Pn	P	09 37 26.0	+0.1
	1µm,0.2s						
RATI	**Rata**	**0.32**	**66**	⇑*i*P	P	09 37 26.5	+0.6
RATI				⇓*i*Sn	S	09 37 36.5	0.0
KEDI	**Kedomdong**	**0.94**	**67**	⇓*i*Pn	P	09 37 30.8	-0.6
	537nm,0.2s						
KEDI				⇑*i*Sn	S	09 37 44.7	-1.2
KELI	**Kelakatan**	**0.97**	**310**	⇓*e*Pn	P	09 37 32.0	+0.2
	573nm,0.2s						
KELI	**Kelakatan**	**0.97**	**310**	⇑*i*P	P	09 37 32.2	+0.4
KELI				⇑*i*Sn	S	09 37 47.9	+1.2

WEL 15 09:43:31.5±0.4, **38.33S**×**176.14E**, **h162**^{km}±3^{km}, **ML3.6**/6, **3C, Error ellipse: s-maj=3.1km s-min=2.9km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**0.77**	**85**	⇑PN	P	09 43 55.5	-0.5
URZ				SN	S	09 44 14.1	-0.9
MGZ	**Maungaku**	**0.82**	**215**	PN	P	09 43 56.5	+0.1
BKZ	**Black Stump Fm**	**0.88**	**162**	PN	P	09 43 56.8	+0.1
BKZ				SN	S	09 44 16.1	-0.2
NGZ	**Ngauruhoe**	**0.95**	**206**	PN	P	09 43 57.2	0.0
TUVZ	**Tukino**	**1.01**	**202**	PN	P	09 43 57.8	+0.1
MWZ	**Matawai**	**1.09**	**91**	⇑PN	P	09 43 58.3	-0.1
MWZ				SN	S	09 44 18.9	-0.3
MOVZ	**Moawhango**	**1.12**	**196**	PN	P	09 43 58.1	-0.6
KNZ	**Kokohu**	**1.39**	**120**	PN	P	09 44 01.2	0.0
PUZ	**Puketiti**	**1.69**	**82**	PN	P	09 44 03.7	-0.5
TSZ	**Takapari Road**	**1.73**	**185**	⇑PN	P	09 44 03.9	-0.9
TSZ				SN	S	09 44 28.6	-1.9
PWZ	**Pawanui**	**1.79**	**162**	PN	P	09 44 04.9	-0.5
PWZ				SN	S	09 44 30.9	-0.6
MRZ	**Mangatainoka R**	**2.37**	**190**	PN	P	09 44 10.0	-2.2
MRZ				SN	S	09 44 39.7	-3.7
KIW	**Kapiti Island**	**2.70**	**200**	PN	P	09 44 13.3	-3.0
MTW	**Mount Morrison**	**2.87**	**190**	PN	P	09 44 15.1	-3.3
CAW	**Cannon Point**	**2.90**	**196**	PN	P	09 44 15.6	-3.1
MSWZ	**Moikau Station**	**3.16**	**192**	PN	P	09 44 18.3	-3.7
TUWZ	**Tuamarina**	**3.53**	**208**	PN	P	09 44 22.7	-4.1
NNZ	**Nelson**	**3.58**	**216**	SN	S	09 45 04.9	-5.6
QRZ	**Quartz Range**	**3.74**	**227**	PN	P	09 44 24.5	-5.0
THZ	**Tophouse**	**4.24**	**215**	*e*PN	P	09 44 31.6	-4.3
KHZ	**Kahutara**	**4.54**	**205**	PN	P	09 44 35.3	-4.6
MQZ	**McQueen's Vall**	**5.99**	**205**	SN	S	09 45 56.3	-11

IDC 15 09:49:40.7±33.0, **55.45S**×**143.59E**, **mb3.6**/3, **mb1 3.8**/3, **mb1mx3.7**/8, **Error ellipse: s-maj=576.0km s-min=178.8km az=147.0, West of Macquarie Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**23.60**	**356**	P	P	09 54 53.3	-0.5
	2.2nm,0.8s,baz=188,slow=9.9,SNR=3.8						
ASAR	**Alice Springs**	**32.54**	**343**	P	P	09 56 13.0	-2.4
	0.5nm,0.7s,baz=166,slow=9.9,SNR=8.7						
WRA	**Warramunga Arr**	**36.13**	**345**	P	P	09 56 44.5	-1.8
	0.4nm,0.5s,baz=170,slow=7.7,SNR=8.1						

DJA 15 09:55:43.4±0.9, **8.94S**×**115.25E**, **h95**^{km}±5^{km}, **MD5.0**/4, **ML3.5**/2, **2C-6D, Error ellipse: s-maj=27.7km s-min=9.4km az=6.0, Bali region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
INGI	**Ingas**	**0.16**	**318**	⇑*i*Pn	P	09 55 56.1	-0.8
	217nm,0.2s						
INGI				⇓*i*Sn	S	09 56 06.2	-0.9
RATI	**Rata**	**0.35**	**53**	⇓*i*Pn	P	09 55 57.9	+0.2
RATI				⇓*i*Sn	S	09 56 08.1	-0.5
KEDI	**Kedomdong**	**0.96**	**62**	⇑*i*Pn	P	09 56 02.3	-1.0
	64nm,0.2s						
KEDI				⇓*i*Sn	S	09 56 16.4	-1.7
KELI	**Kelakatan**	**1.04**	**313**	⇓*i*Pn	P	09 56 04.0	-0.1
	66nm,0.2s						
KELI				⇓*i*Sn	S	09 56 18.0	-1.7

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*NEIC **15** 10:10:29.6, 35.09N×26.26E, h31^{km}, MD3.7(ATH), After ATH.*

*ATH **15** 10:10:29.4, 35.10N×26.28E, h30^{km}±4^{km}, MD3.7/8*

*IDC **15** 10:10:31.3±1.8, 35.08N×26.28E, h53^{km}±31^{km}, mb3.8/2, mb1 3.7/5, mb1mx3.4/20, ML3.7/3, Error ellipse: s-maj=42.7km s-min=16.8km az=13.0*

*ISK **15** 10:10:32.8, 35.35N×26.25E, h33^{km}, MD3.7*

*SNSN **15** 10:12:18.6, 30.04N×33.85E, h10^{km}, Ml1.6*

ISC 15 10:10:27.7±1.0, **34.92N**±0.04×**26.30E**±0.04, **h26**^{km}±10^{km}, **n37**, σ**0^{s}97**/47, **mb4.0**/2, **5C, Crete**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
XRY	**Khrisi**	**0.50**	**265**	⇑*i*PN	**Pn**	**10 10 39.5**	**+0.5**
NPS	**Neapolis**	**0.66**	**302**	⇑*i*PN	**Pn**	**10 10 41.4**	**+0.1**
NPS				*e*SN	**Sn**	**10 10 49.6**	**-1.2**
KARP	**Karpathos**	**0.95**	**48**	⇑*i*PN	**Pn**	**10 10 46.2**	**+0.8**
IDI	**Anoyia**	**1.21**	**288**	P	**Pn**	**10 10 51.0**	**+1.8**
	54nm,0.3s,baz=78,slow=14,SNR=144						
IDI				S	**Sb**	**10 11 06.3**	**+1.2**
	73nm,0.3s,baz=262,slow=21,SNR=11						
THR1	**Thera Island**	**1.60**	**335**	*e*P	**Pn**	**10 10 54.5**	**-0.3**
SANT	**Santorini**	**1.60**	**335**	*e*P	**Pn**	**10 10 54.1**	**-0.7**
THR6	**Thira Island,**	**1.61**	**333**	*e*P	**Pn**	**10 10 55.0**	**0.0**
THR3	**Thira Island,**	**1.66**	**334**	*e*P	**Pn**	**10 10 55.7**	**+0.1**
THR5	**Thira Island,**	**1.68**	**333**	*e*P	**Pn**	**10 10 55.7**	**-0.2**
THR4	**Thira Island,**	**1.70**	**335**	*e*P	**Pn**	**10 10 56.5**	**+0.3**
VAM	**Vamos**	**1.79**	**286**	*e*PN	**Pn**	**10 11 01.4**	**+4.0**
NISR	**Nisiros**	**1.82**	**22**	*e*PB	**Pb**	**10 10 57.5**	**-2.7**
ARG	**Arkhangelos**	**1.98**	**48**	*e*Pb	**Pb**	**10 11 02.8**	**0.0**
ARG				*e*Sn	**Sn**	**10 11 26.9**	**+2.6**
APE	**Apeiranthos**	**2.23**	**344**	*i* PN	**Pn**	**10 11 02.5**	**-1.4**
APE				*i* SN	**Sn**	**10 11 24.0**	**-6.9**
APE	**Apeiranthos**	**2.23**	**344**	*e*PN	**Pn**	**10 11 04.2**	**+0.3**
APE				*e*SN	**Sn**	**10 11 29.0**	**-1.9**
BDRM	**Kayabasi**	**2.34**	**23**	⇑*i*P	**Pn**	**10 11 05.1**	**-0.3**
BDRM				*i* S	**Sn**	**10 11 32.8**	**-0.7**
DALT	**Dalyan (Mudla)**	**2.65**	**45**	PN	**Pn**	**10 11 11.0**	**+1.2**
YER	**Yerkesik**	**2.74**	**35**	*e*PN	**Pn**	**10 11 11.4**	**+0.4**
SMG	**Samos**	**2.82**	**9**	*e*PN	**Pn**	**10 11 11.7**	**-0.5**
KYTH	**Kithira**	**2.98**	**298**	*e*PN	**Pn**	**10 11 15.5**	**+0.9**
AYDN	**Tasoluk**	**3.02**	**25**	⇑*i*P	**Pn**	**10 11 15.8**	**+0.7**
AYDN				*i* S	**Sn**	**10 11 47.5**	**-3.4**
VLI	**Veliai**	**3.27**	**304**	*e*PN	**Pn**	**10 11 18.3**	**-0.3**
ELL	**Elmali**	**3.46**	**57**	*e*PN	**Pn**	**10 11 22.3**	**+1.1**
DNZL	**Cakiroluk**	**3.55**	**38**	*i* P	**Pn**	**10 11 23.2**	**+0.6**
DNZL				*i* S	**Sn**	**10 12 05.1**	**+1.0**
MANT	**Manisa**	**4.00**	**26**	*i* P	**Pn**	**10 11 29.3**	**+0.3**
MANT				*i* S	**Sn**	**10 12 16.5**	**+0.8**
AKS	**Akhisar**	**4.14**	**17**	*e*PN	**Pn**	**10 11 29.8**	**-1.1**
KIZT	**Kizilcal**	**5.97**	**47**	*e*PN	**Pn**	**10 11 57.7**	**+0.9**
BRTR	**Keskin Array B**	**7.56**	**48**	P	**Pn**	**10 12 18.2**	**-1.0**
	0.2nm,0.3s,baz=233,slow=12,SNR=4.1						
BRTR	**Keskin Array B**	**7.56**	**48**	P	**Pn**	**10 12 18.2**	**-1.0**
EIL	**Elat**	**9.00**	**123**	P	**P**	**10 12 38.4**	**-0.7**
	0.8nm,0.3s,baz=330,slow=14,SNR=11						
EIL				S	**Sn**	**10 14 12.2**	**-8.6**
	0.7nm,0.3s,baz=162,slow=39,SNR=3.0						
ALWS	**Ilw as Safayha**	**9.30**	**125**	P	**P**	**10 12 42.6**	**-0.7**
HAQS	**Haql**	**9.37**	**126**	P	**P**	**10 12 43.8**	**-0.5**
JMOS	**Jabal al Moall**	**9.42**	**125**	P	**P**	**10 12 44.1**	**-0.8**
TAYS	**Tayyib Ism**	**9.67**	**129**	P	**P**	**10 12 48.8**	**+0.4**
AKASG	**Malin Array Be**	**15.92**	**7**	P	**P**	**10 14 10.4**	**-1.2**
	0.7nm,0.3s,baz=192,slow=11,SNR=2.7						
ARCES	**ARCESS Array B**	**34.67**	**360**	P	**P**	**10 17 12.1**	**-4.8**
	3.4nm,1.0s,mb4.2,baz=168,slow=8.3,SNR=4.1						
MKAR	**Makanchi Array**	**43.13**	**56**	P	**P**	**10 18 26.9**	**-0.6**
	1.3nm,0.6s,mb3.8,baz=277,slow=7.2,SNR=11						

DJA 15 10:12:38.2±0.8, **8.86S**×**115.25E**, **h96**^{km}±4^{km}, **MD4.9**/4, **ML3.3**/1, **1C-11D, Error ellipse: s-maj=23.5km s-min=5.2km az=4.0, Bali region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
INGI	**Ingas**	**0.12**	**291**	⇓*i*Pn	P	10 12 51.5	-0.3
	266nm,0.2s						
INGI	**Ingas**	**0.12**	**291**	⇓*i*P	P	10 12 51.6	-0.2
INGI				⇓*i*Sn	S	10 13 01.6	-0.4
RATI	**Rata**	**0.31**	**64**	⇓*e*Pn	P	10 12 52.8	+0.4
	277nm,0.2s						
RATI	**Rata**	**0.31**	**64**	⇓*i*P	P	10 12 53.0	+0.6
RATI				⇑*i*Sn	S	10 13 03.3	+0.1
KEDI	**Kedomdong**	**0.93**	**66**	⇓*i*Pn	P	10 12 57.4	-0.4
	51nm,0.2s						
KEDI	**Kedomdong**	**0.93**	**66**	⇓*i*P	P	10 12 57.7	-0.1
KEDI				⇓*i*Sn	S	10 13 12.0	-0.4
KELI	**Kelakatan**	**0.99**	**310**	⇓*i*Pn	P	10 12 58.8	+0.3
KELI	**Kelakatan**	**0.99**	**310**	⇓*i*P	P	10 12 59.1	+0.6
KELI				⇓*i*Sn	S	10 13 12.1	-1.6

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*ECX **15** 10:18:19.0±0.6, 29.57N×113.27W, h1^{km}, ML4.6*

*BJI **15** 10:18:30.1, 30.00N×114.00W, h10^{km}, mb4.3, Ms4.5, Msz4.3*

*IDC **15** 10:18:30.9±1.0, 29.96N×114.02W, mb4.4/7, mb1 4.4/12, mb1mx4.3/22, ML3.6/5, MS4.1/17, Ms1 4.1/17, ms1mx4.1/23, Error ellipse: s-maj=20.4km s-min=9.9km az=30.0*

*NEIC **15** 10:18:33.1±0.6, 29.97N×113.99W, h10^{km}, mb4.0/10, Error ellipse: s-maj=9.5km s-min=5.2km az=47.0*

ISC 15 10:18:31.9±0.6, **30.05N**±0.05×**113.85W**±0.04, **h10**^{km}, **n83**, σ**1^{s}03**/78, **mb4.3**/10, **MS4.1**/13, **3C-1D, Gulf of California**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPX	**San Pedro Mart**	**1.71**	**306**	⇑*e*P	**Pn**	**10 18 57.3**	**-4.8**
EMX	**El Mayor**	**2.27**	**329**	*e*S	**Sn**	**10 19 39.2**	**+0.7**
RDX	**Rancho Dowling**	**2.60**	**317**	*e*P	**Pn**	**10 19 10.2**	**-4.7**
RDX				*e*S	**Sn**	**10 19 47.7**	**+0.9**
CPBX	**Cerro Prieto**	**2.67**	**333**	*e*P	**Pn**	**10 19 10.4**	**-5.4**
CPBX				⇑*e*		10 20 21.9	
	comp=N,4µm,1.3s						
CPBX				⇓*e*		10 20 33.1	
	comp=E,4µm,0.8s						
ECNX	**Esteban Cantu**	**2.85**	**305**	*e*P	**Pn**	**10 19 13.6**	**-4.8**
ECNX				*e*S	**Sn**	**10 19 53.6**	**+0.4**
PGX	**Piedras Gordas**	**2.93**	**311**	*e*P	**Pn**	**10 19 14.4**	**-5.2**
PGX				*e*S	**Sn**	**10 19 55.5**	**+0.3**
PBX	**Punta Banda**	**2.99**	**305**	*e*P	**Pn**	**10 19 15.3**	**-5.1**
PBX				*e*S	**Sn**	**10 19 57.0**	**+0.2**
ENX	**Ensenada**	**3.03**	**308**	⇑*e*P	**Pn**	**10 19 15.9**	**-5.1**
ENX				*e*S	**Sn**	**10 19 58.0**	**+0.3**
RMX	**La Rumorosa**	**3.18**	**324**	*e*P	**Pn**	**10 19 18.1**	**-5.0**
CBX	**Cerro Bola**	**3.30**	**314**	*e*P	**Pn**	**10 19 19.9**	**-5.0**
CBX				*e*S	**Sn**	**10 20 04.9**	**+0.4**
TUC	**Tucson**	**3.47**	**49**	*e*P	**Pn**	**10 19 25.9**	**-1.3**
PFO	**Pinyon Flat Ob**	**4.19**	**329**	*e*P	**Pn**	**10 19 32.8**	**-4.6**
WUAZ	**Wupatki**	**5.84**	**20**	*e*P	**Pn**	**10 19 60.0**	**-0.8**
DAC	**Darwin (Calif)**	**6.96**	**334**	*e*P	**Pn**	**10 20 17.3**	**+0.8**
TPNV	**Topopah Spring**	**7.17**	**344**	*e*P	**Pn**	**10 20 19.1**	**-0.3**
ARUT	**Antelope Range**	**7.73**	**2**	*e*P	**Pn**	**10 20 24.6**	**-2.7**
ANMO	**Albuquerque**	**7.93**	**50**	*e*P	**Pn**	**10 20 29.4**	**-0.7**
TPH	**Tonopah**	**8.48**	**342**	*e*P	**P**	**10 20 38.1**	**+0.3**
MVU	**Marysvale**	**8.55**	**9**	*e*P	**P**	**10 20 38.6**	**0.0**
MSU	**Marysvale**	**8.56**	**9**	*e*P	**P**	**10 20 38.8**	**-0.1**
LTX	**Lajitas**	**8.89**	**92**	*e*P	**P**	**10 20 44.4**	**+0.9**
TXAR	**Lajitas Array**	**8.89**	**92**	Pn	**P**	**10 20 44.1**	**+0.7**
	comp=E,1.1nm,0.3s,baz=263,slow=14,SNR=60						
TXAR				Sn	**Sn**	**10 22 24.0**	**-0.7**
	comp=E,0.7nm,0.3s,baz=282,slow=30,SNR=5.2						
TXAR				Lg		10 23 15.8	
	comp=E,0.7nm,0.3s,baz=38,slow=49,SNR=4.3						
TXAR				LR	LR	10 24 25.9	
	comp=E,2µm,19.6s,baz=240,slow=39						
MNV	**Mina**	**9.09**	**338**	*e*P	**P**	**10 20 46.8**	**+0.6**
NVAR	**Mina Array Bea**	**9.14**	**337**	Pn	**P**	**10 20 47.4**	**+0.5**
	comp=E,0.1nm,0.3s,baz=160,slow=12,SNR=11						
NVAR				Pg	P	10 21 27.8	+41
	comp=E,0.1nm,0.3s,baz=150,slow=14,SNR=8.6						
NVAR				Lg		10 23 20.3	
	baz=154,slow=13,SNR=2.9						
NVAR				LR	LR	10 24 20.0	
	comp=E,1µm,19.6s,baz=165,slow=38						
SRU	**San Rafael**	**9.45**	**16**	*e*P	**P**	**10 20 50.7**	**-0.5**
DUG	**Dugway**	**10.16**	**5**	*e*P	**P**	**10 21 00.8**	**-0.2**
SDCO	**Great Sand Dun**	**10.35**	**40**	*e*P	**P**	**10 21 03.6**	**+0.1**
DAU	**Daniels Canyon**	**10.56**	**11**	*e*P	**P**	**10 21 06.6**	**+0.2**
ELK	**Elko**	**10.73**	**354**	*e*P	**P**	**10 21 06.8**	**-2.0**
HWUT	**Hardware Ranch**	**11.69**	**9**	*e*P	**P**	**10 21 20.0**	**-1.8**
ISCO	**Idaho Springs**	**11.84**	**33**	*e*P	**P**	**10 21 23.5**	**-0.5**
JCT	**Junction City**	**12.16**	**84**	*e*P	**P**	**10 21 29.5**	**+1.4**
MOD	**Modoc**	**12.93**	**338**	*e*P	**P**	**10 21 38.9**	**+0.4**
WVOR	**Wild Horse Val**	**12.95**	**344**	*e*P	**P**	**10 21 38.8**	**0.0**
BW06	**Boulder Array**	**13.15**	**14**	*e*P	**P**	**10 21 41.8**	**+0.3**
PDAR	**Pinedale Array**	**13.15**	**14**	Pn	**P**	**10 21 43.5**	**+2.0**
	comp=E,0.0nm,0.3s,baz=180,slow=8.9,SNR=13						
PDAR				Lg		10 25 28.0	
	comp=E,0.0nm,0.3s,baz=250,slow=14,SNR=2.5						
PDAR				LR	LR	10 26 37.7	
	comp=E,752nm,19.5s,baz=112,slow=37						
WMOK	**Wichita Mounta**	**13.57**	**66**	*e*P	**P**	**10 21 47.7**	**+0.7**
YBH	**Yreka Blue Hor**	**13.68**	**331**	Pn	**P**	**10 21 47.4**	**-1.1**
	comp=E,0.1nm,0.3s,baz=224,slow=2.9,SNR=2.8						
BOZ	**Bozeman (W)**	**15.67**	**6**	*e*P	**P**	**10 22 16.5**	**+2.0**
	comp=E,11nm,1.1s						
RSSD	**Black Hills**	**16.07**	**26**	*e*P	**P**	**10 22 21.1**	**+1.6**
	comp=E,19nm,1.3s						
LNOR	**Lincton Mounta**	**16.18**	**349**	*e*P	**P**	**10 22 21.9**	**+1.0**
MSO	**Missoula**	**16.76**	**360**	*e*P	**P**	**10 22 29.0**	**+0.7**
	comp=E,17nm,1.4s						
HAWA	**Hanford**	**16.91**	**346**	*e*P	**P**	**10 22 30.1**	**-0.1**
LAO	**LASA Array**	**17.65**	**18**	*e*P	**P**	**10 22 39.7**	**+0.3**
	comp=E,50nm,1.4s						
MIAR	**Mount Ida**	**17.72**	**70**	*e*P	**P**	**10 22 42.3**	**+1.9**
	comp=E,5.9nm,1.0s						
BMW	**Boistfort Moun**	**17.96**	**339**	P	**P**	**10 22 43.8**	**+0.5**
DPW	**Davenport**	**18.11**	**351**	*e*P	**P**	**10 22 44.8**	**-0.5**
NEW	**Newport**	**18.36**	**353**	P	**P**	**10 22 48.0**	**-0.4**
	comp=E,0.1nm,0.3s,baz=184,slow=13,SNR=7.1						
NEW				LR	LR	10 30 22.7	
	comp=E,1µm,18.2s,baz=178,slow=39						
NEW	**Newport**	**18.36**	**353**	*e*P	**P**	**10 22 47.9**	**-0.5**
	comp=E,12nm,1.3s						
NLW	**Nelson Butte**	**18.68**	**346**	*e*P	**P**	**10 22 52.2**	**-0.1**
DGMT	**Dagmar**	**19.83**	**19**	*e*P	**P**	**10 23 04.8**	**-0.9**
	comp=E,64nm,1.5s						
CCM	**Cathedral Cave**	**20.33**	**61**	*e*P	**P**	**10 23 11.0**	**0.0**
BLO	**Bloomington**	**24.19**	**61**	*e*P	**P**	**10 23 52.1**	**+2.6**
	comp=E,21nm,0.9s,mb4.6						
ULM	**Lac du Bonnet**	**24.30**	**29**	P	**P**	**10 23 49.8**	**-0.6**
	comp=E,14nm,1.1s,mb4.3,baz=216,slow=8.8,SNR=8.5						
ULM				LR	LR	10 33 03.4	
	comp=E,152nm,21.0s,MS3.5,baz=235,slow=36						
BBB	**Bella Bella**	**24.50**	**339**	LR	LR	10 33 34.4	
	comp=E,540nm,21.5s,MS4.0,baz=354,slow=37						
TEIG	**Tepich**	**25.08**	**107**	P	**P**	**10 23 56.8**	**-1.4**
FFC	**Flin Flon**	**26.10**	**16**	*e*P	**P**	**10 24 05.8**	**-1.7**
DLBC	**Dease Lake**	**30.49**	**343**	P	**P**	**10 24 44.3**	**-2.8**
	comp=E,6.9nm,1.2s,mb4.2,baz=148,slow=11,SNR=4.9						
YKA	**Yellowknife Ar**	**32.46**	**359**	LR	LR	10 38 46.8	
	comp=E,621nm,18.7s,MS4.3,baz=205,slow=37						
JTS	**JuntasAbangare**	**33.34**	**120**	P	**P**	**10 25 12.4**	**0.0**
INK	**Inuvik**	**40.00**	**349**	P	**P**	**10 26 08.2**	**0.0**
	comp=E,6.6nm,1.2s,mb4.2,baz=122,slow=8.3,SNR=4.3						
ILAR	**Eielson Array**	**40.39**	**339**	P	**P**	**10 26 11.0**	**-0.5**
	comp=E,2.3nm,0.8s,mb4.0,baz=150,slow=7.2,SNR=31						
ILAR				PcP	PcP	10 28 13.0	-2.2
	comp=E,1.0nm,1.0s,baz=138,slow=3.2,SNR=4.2						
ILAR				LR	LR	10 43 20.0	
	comp=E,224nm,18.6s,MS4.0,baz=354,slow=37						
ILAR	**Eielson Array**	**40.39**	**339**	P	**P**	**10 26 11.0**	**-0.5**
ILAR				PcP	PcP	10 28 13.0	-2.2
ILAR				LR	LR	10 43 20.0	
COLA	**College**	**40.77**	**339**	*e*P	**P**	**10 26 13.6**	**-0.9**
	comp=E,2.2nm,0.8s,mb3.8						
SCHQ	**Schefferville**	**41.55**	**40**	P	**P**	**10 26 21.6**	**+0.6**
	comp=E,9.1nm,1.0s,mb4.4,baz=273,slow=3.5,SNR=3.7						
IMA	**Indian Mountai**	**43.41**	**338**	*e*P	**P**	**10 26 34.8**	**-1.2**
	comp=E,98nm,1.8s,mb5.2						
OTAV	**Otavalo**	**44.86**	**125**	P	**P**	**10 26 49.6**	**+1.0**
ROSC	**El Rosal**	**44.90**	**116**	LR	LR	10 48 41.3	
	comp=E,131nm,18.9s,MS3.9,baz=356,slow=40						
SDV	**Santo Domingo**	**45.51**	**108**	P	**P**	**10 26 55.9**	**+2.3**
SAML	**Samuel**	**62.23**	**120**	P	**P**	**10 28 55.6**	**-0.8**
LPAZ	**La Paz**	**63.74**	**130**	LR	LR	10 55 10.1	
	comp=E,142nm,19.4s,MS4.2,baz=74,slow=34						
JMIC	**Jan Mayen**	**66.70**	**20**	LR	LR	10 58 38.1	
	comp=E,128nm,18.3s,MS4.2,baz=62,slow=36						
ARCES	**ARCESS Array B**	**76.41**	**14**	LR	LR	11 08 03.8	
	comp=E,207nm,18.8s,MS4.5,baz=340,slow=39						
CPUP	**Villa Florida**	**77.91**	**130**	P	**P**	**10 30 31.9**	**+0.1**
	comp=E,5.8nm,1.0s,mb4.5,baz=336,slow=5.9,SNR=3.9						
CPUP				LR	LR	11 03 55.7	
	comp=E,151nm,21.4s,MS4.3,baz=346,slow=35						
BDFB	**Brasilia**	**77.97**	**116**	LR	LR	11 05 26.3	
	comp=E,125nm,20.6s,MS4.2,baz=304,slow=36						
NOA	**NORSAR Array B**	**78.89**	**24**	P	**P**	**10 30 35.7**	**-0.9**
	comp=E,1.0nm,0.8s,mb3.8,baz=348,slow=6.2,SNR=2.5						
NOA				LR	LR	11 09 00.5	
	comp=E,86nm,19.0s,MS4.1,baz=285,slow=38						
FINES	**FINESS Array B**	**83.22**	**18**	LR	LR	11 10 54.7	
	comp=E,140nm,18.7s,MS4.4,baz=334,slow=38						
JHJ	**Hachijo jima 2**	**86.22**	**306**	P	**P**	**10 31 12.5**	**-2.6**
	comp=E,921nm,1.3s,baz=30,slow=6.9,SNR=2.5						
CN2	**Changchun**	**88.68**	**321**	*e*P	**P**	**10 31 26.8**	**+0.1**
AKASG	**Malin Array Be**	**93.23**	**22**	LR	LR	11 12 21.2	
	comp=E,70nm,19.7s,MS4.1,baz=300,slow=35						
NJ2	**Nanjing**	**100.55**	**317**	*e*P	P	10 32 20.8	-0.6
ASAR	**Alice Springs**	**119.98**	**258**	PKP	PKPdf	10 37 22.8	-3.5
	comp=E,1.0nm,1.0s,baz=135,slow=1.3,SNR=4.4						
CMAR	**Chiang Mai Arr**	**122.35**	**323**	PKP	PKPdf	10 37 28.6	-2.4
	comp=E,0.5nm,0.4s,baz=27,slow=2.0,SNR=4.6						

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*MAN **15** 10:26:48.4, 9.53N×122.30E, h1^{km}, mb4.8, ML3.7, MS3.7*

*IDC **15** 10:26:48.7±1.9, 8.96N×121.47E, mb3.8/4, mb1 4.0/4, mb1mx3.7/16, Error ellipse: s-maj=224.0km s-min=24.6km az=62.0*

ISC 15 10:26:49.8±1.2, **9.50N**±0.04×**122.23E**±0.06, **h22**^{km}±10^{km}, **n19**, σ**1^{s}32**/27, **mb3.8**/4, **6C, Negros**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAP	**Anini-y**	**0.95**	**343**	*e*P	**Pb**	**10 27 06.5**	**-1.0**
SNPH	**Sibulan**	**1.01**	**99**	⇑*i*P	**Pb**	**10 27 07.5**	**-1.0**
SNPH				*i* S	**Sb**	**10 27 22.0**	**+0.7**
SNPH	**Sibulan**	**1.01**	**99**	⇑*i*P	**Pb**	**10 27 07.5**	**-1.0**
SNPH				*i* S	**Sb**	**10 27 22.0**	**+0.7**
GUIM	**Jordan**	**1.17**	**18**	*e*P	**Pn**	**10 27 10.6**	**-0.5**
GUIM				*e*S	**Sb**	**10 27 25.4**	**-0.7**
DCPH	**Dipolog City**	**1.44**	**129**	⇑*e*P	**Pn**	**10 27 14.7**	**-0.3**
DCPH				*i* S	**Sn**	**10 27 35.5**	**+2.2**
TBP	**Tagbilaran**	**1.62**	**83**	⇑*e*P	**Pn**	**10 27 17.1**	**-0.5**
TBP						10 27 35.4	
IPIL	**Ipil**	**1.74**	**169**	*e*P	**Pn**	**10 27 19.6**	**+0.4**
CUYO	**Cuyo Island**	**1.79**	**319**	*e*P	**Pn**	**10 27 21.4**	**+1.4**
CUYO				*e*S	**Sn**	**10 27 42.5**	**+0.3**
LLP	**Lapu-Lapu**	**1.90**	**65**	⇑*i*P	**Pn**	**10 27 20.0**	**-1.5**
LLP				*e*S	**Sn**	**10 27 39.0**	**-5.9**
PAGZ	**Pagadian**	**2.00**	**145**	*e*P	**Pn**	**10 27 25.4**	**+2.4**
RCP	**Roxas**	**2.11**	**14**	⇑*e*P	**Pn**	**10 27 26.0**	**+1.5**
RCP				*e*S	**Sn**	**10 27 53.6**	**+3.3**
OTRP	**Odiongan**	**2.85**	**356**	*e*P	**Pn**	**10 27 35.7**	**+0.6**
OTRP				*e*S	**Sn**	**10 28 08.8**	**-0.3**
BUKP	**Musuan**	**3.23**	**120**	*e*P	**Pn**	**10 27 42.5**	**+2.0**
ENPP	**El Nido**	**3.23**	**302**	*e*P	**Pn**	**10 27 41.6**	**+1.0**
WRA	**Warramunga Arr**	**31.59**	**158**	P	**P**	**10 33 10.8**	**-2.7**
	0.7nm,0.6s,mb3.7,baz=333,slow=10,SNR=7.7						
WB2	**Warramunga Arr**	**31.60**	**158**	*e*P	**P**	**10 33 11.3**	**-2.3**
ASAR	**Alice Springs**	**34.88**	**161**	P	**P**	**10 33 40.8**	**-1.2**
	1.3nm,0.6s,mb4.0,baz=339,slow=7.3,SNR=20						
STKA	**Stephens Creek**	**45.12**	**157**	P	**P**	**10 35 04.9**	**-1.8**
	1.0nm,0.8s,mb3.7,baz=311,slow=11,SNR=2.8						
MKAR	**Makanchi Array**	**50.29**	**325**	P	**P**	**10 35 47.1**	**+0.3**

0.9nm,0.8s,mb3.9,baz=124,slow=8.7,SNR=7.5

TAP 15 10:32:11.9,21.30N×121.84E,h179^{km}±1^{km},ML3.8, Taiwan region

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DJA 15 10:33:07.6±0.9**,8.87S×115.28E,h100^{km}±6^{km},MD4.8**/4**, ML4.0**/2**,1C-10D,Error ellipse: s-maj=21.3km s-min=6.0km az=3.0,Bali region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
INGI	Ingas	0.15	290	⇓iPn	P	10 33 21.4	-0.4
	2μm,0.2s						
INGI	Ingas	0.15	290	⇓iP	P	10 33 21.7	-0.1
INGI				⇓iSn	S	10 33 31.5	-0.9
RATI	Rata	0.28	59	⇓iPn	P	10 33 22.8	+0.6
	874nm,0.2s						
RATI	Rata	0.28	59	⇓iP	P	10 33 22.9	+0.7
RATI				⇓iSn	S	10 33 33.1	-0.2
KEDI	Kedomdong	0.90	65	⇓iPn	P	10 33 26.5	-0.8
	262nm,0.2s						
KEDI				⇓iSn	S	10 33 40.9	-1.1
KELI	Kelakatan	1.02	310	⇑iPn	P	10 33 28.6	+0.1
	190nm,0.2s						
KELI	Kelakatan	1.02	310	⇓iP	P	10 33 29.0	+0.5
KELI				⇓iSn	S	10 33 43.3	-0.9

DJA 15 11:08:32.3±0.9**,8.07S×115.01E,h33^{km},MD4.9**/3**, ML3.3**/1**,1C-7D,Error ellipse: s-maj=21.5km s-min=11.7km az=135.0,Bali region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
INGI	Ingas	0.75	170	⇓iPn	Pn	11 08 45.8	-0.9
	208nm,0.2s						
INGI				⇓iSn	Sn	11 08 55.2	-1.8
RATI	Rata	0.83	142	⇓iPn	Pn	11 08 46.7	-1.0
	232nm,0.2s						
RATI	Rata	0.83	142	⇓iP	P	11 08 46.9	-0.6
RATI				⇓iSn	Sn	11 08 57.4	-1.4
KEDI	Kedomdong	1.17	111	⇑iPn	Pn	11 08 51.5	-1.1
	38nm,0.2s						
KEDI	Kedomdong	1.17	111	⇓iP	P	11 08 51.7	-0.6
KEDI				⇓iSn	Sn	11 09 04.2	-3.2

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*BER **15** 11:43:38.6±4.9,56.36N×22.93E,ML2.3(NAO), Suspected explosion*

NAO 15 11:43:40.0±9.5**,56.57N×22.84E,ML2.3,Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FIA0	FINESS Array S	5.17	18	Sn	Sn	11 45 56.5	-5.1
	baz=184,slow=28						
FIA0				Lg		11 46 23.2	
	baz=198,slow=37						
HFS	Hagfors	5.99	310	Pn	Pn	11 45 08.8	-3.2
	baz=136,slow=16						
HFS				Sn	Sn	11 46 18.8	-3.6
	baz=147,slow=37						
HFS				Lg		11 46 47.0	
	baz=124,slow=37						

IDC 15 11:43:47.3±2.1**,7.23S×147.12E,mb3.3**/2**,mb1 3.6**/3**, mb1mx3.4**/9**,ML2.8**/1**,MS3.2**/1**,Ms1 3.2**/1**,ms1mx2.7**/7**, Error ellipse: s-maj=123.0km s-min=31.2km az=125.0, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	12.81	184	LR	LR	11 50 52.3	
	comp=Z,121nm,21.0s,baz=192,slow=33						
WRA	Warramunga Arr	17.70	223	P	P	11 47 54.0	-2.9
	0.0nm,0.3s,baz=48,slow=11,SNR=5.5						
ASAR	Alice Springs	20.69	216	P	P	11 48 28.4	-3.3
	0.3nm,0.5s,baz=46,slow=8.3,SNR=7.3						
ILAR	Eielson Array	86.56	23	P	P	11 56 32.9	-0.4
	0.2nm,0.4s,baz=227,slow=5.4,SNR=4.6						

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*JMA **15** 11:44:28.9±0.3,24.28N×122.00E,h39^{km},M2.4*

*TAP **15** 11:44:29.2,24.43N×121.91E,h16^{km},ML3.1*

TAP Felt IV J at Nanau.

ISC 15 11:44:28.2±0.5**,24.40N**±0.02×**122.04E**±0.02**,h12**^{km}±3^{km}**, n33,σ0**^{s}**82**/60**,3C,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TWC	Suao	0.27	319	⇑iP	Pg	11 44 34.2	+0.2
TWC				S	Sg	11 44 37.7	-0.2
ENA	Nanau	0.28	276	⇑iP	Pg	11 44 33.7	-0.4
ENA				S	Sg	11 44 37.1	-0.9
ILA	Ilan	0.45	323	eP	Pg	11 44 37.5	0.0
ILA				S	Sg	11 44 43.7	0.0
EGS		0.45	347	eP	Pg	11 44 38.0	+0.6
EGS				S	Sg	11 44 44.4	+0.7
TWE	Neicheng	0.47	313	⇑iP	Pg	11 44 37.6	-0.2
TWE				S	Sg	11 44 43.1	-1.1
TWD	Chiawan	0.52	232	eP	Pb	11 44 37.8	-0.9
TWD				S	Sb	11 44 46.1	+0.3
HWA	Hwalien	0.58	224	eP	Pb	11 44 41.0	+1.2
TWB1	Santiao Chiao	0.61	355	eP	Pb	11 44 40.8	+0.6
TWB1				S	Sb	11 44 48.5	+0.1
NNS	Nan Shan	0.61	274	P	Pb	11 44 39.4	-1.0
NNS				S	Sb	11 44 46.4	-2.1
NSK	Sanguang	0.68	294	P	Pb	11 44 40.8	-0.6
NSK				S	Sb	11 44 49.0	-1.5
NWF	Wu-fen Shan	0.71	340	eP	Pb	11 44 42.7	+0.8
NWF				S	Sb	11 44 51.8	+0.5
TWA	Mucha	0.71	324	eP	Pb	11 44 42.6	+0.6
TWA				S	Sb	11 44 50.9	-0.6
ESL	Shilin	0.81	224	eP	Pb	11 44 43.2	-0.4
ESL				S	Sb	11 44 55.4	+1.1
YOJ	Yonaguni jima	0.88	86	P	Pb	11 44 45.8	+0.9
YOJ				eS	Sb	11 44 58.0	+1.6
TWS1	Kuangyinshan	0.90	321	eP	Pb	11 44 46.2	+1.0
TWS1				S	Sb	11 44 58.0	+1.1
TWY	Chenhua	0.96	335	eP	Pb	11 44 46.5	+0.3
TWY				S	Sb	11 44 59.1	+0.5
NSTT	Nanjuang	0.98	284	eP	Pb	11 44 46.5	0.0
NSTT				S	Sb	11 44 58.2	-1.0
SMLT	Sun Moon Lake	1.17	244	eP	Pb	11 44 49.1	-0.7
SMLT				S	Sb	11 45 04.4	-0.2
NSY	Sanyi	1.17	271	eP	Pb	11 44 51.2	+1.4
TYC	Yuchr	1.19	246	P	Pb	11 44 49.9	-0.3
TYC				S	Sb	11 45 05.5	+0.1
TWF1	Yuli	1.25	213	S	Sb	11 45 07.4	+0.4
CHN5	Tsauling	1.48	238	eP	Pn	11 44 55.4	+0.6
CHN5				S	Sb	11 45 15.8	+2.0
ELDTW	Lidau	1.53	218	eP	Pn	11 44 55.0	-0.4
IRIF	Iriomote-Funau	1.54	92	P	Pn	11 44 55.0	-0.6
IRIF				eS	Sb	11 45 14.8	-0.7
STYT	Tauyuan	1.71	224	eP	Pn	11 44 58.0	0.0
WTP	Ta-pu	1.74	229	eP	Pn	11 44 59.0	+0.5
WTP				S	Sn	11 45 21.5	+0.7
JKRS	Kuro-shima	1.80	95	P	Pn	11 44 59.4	+0.1
JKRS				eS	Sn	11 45 21.9	-0.4
TWG	Pinlang	1.81	210	eP	Pn	11 44 58.5	-1.0
TWK	Hsinying	1.82	232	eP	Pn	11 45 00.4	+0.8
TWK				S	Sn	11 45 22.6	-0.1
CHN1	Nanshi	1.84	229	eP	Pn	11 45 00.2	+0.3
CHN1				S	Sn	11 45 22.9	-0.4
JIJ	Ishigaki jima	1.91	91	P	Pn	11 45 00.0	-1.0
JIJ				eS	Sn	11 45 23.2	-1.9
SSD	Sandimen	2.10	218	eP	Pn	11 45 03.9	+0.4
SSD				S	Sn	11 45 29.5	-0.3
JTJ	Tarama	2.43	84	P	Pn	11 45 09.1	+0.7
JTJ				eS	Sn	11 45 37.0	-1.3

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*IGQ **15** 11:51:14.9,1.37S×77.85W,h208^{km}±7^{km},mb4.1,Error ellipse: s-maj=3.5km s-min=1.9km az=49.7*

ISC 15 11:51:17.6±4.6**,1.4S**±0.1×**78.0W**±0.1**,h195**^{km}±39^{km}**,n26, σ0**^{s}**63**/27**,1C-21D,Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RUN2	Runtun	0.38	258	⇓P	P	11 51 43.6	-0.4
ULBA	Ulba	0.38	254	⇓P	P	11 51 43.7	-0.4
RETU	Refugio	0.42	255	P	P	11 51 44.2	0.0
PATA	Patacocha	0.42	248	⇓P	P	11 51 44.1	-0.1
JUIV	Juive	0.43	259	⇓P	P	11 51 43.9	-0.3
ARRY	Arrayan	0.44	249	⇓P	P	11 51 43.8	-0.5
PISA	Pisayambo	0.45	310	⇓P	P	11 51 44.5	+0.2
CUSU	Cusua	0.45	257	P	P	11 51 44.3	0.0
IGUA	Igualata	0.61	256	P	P	11 51 45.4	+0.4
TAMB	Tambo	0.72	333	⇓P	P	11 51 45.6	+0.2
MARY	Rancho Maria	0.75	324	⇓P	P	11 51 46.3	+0.7
VC1	Cotopaxi 1	0.79	333	⇓P	P	11 51 46.2	+0.4
NAS1	Nasa	0.83	328	⇓P	P	11 51 46.9	+0.9
ANTI	Antisana	0.90	352	⇓P	P	11 51 46.4	0.0
QIL1	Quilotoa	1.02	299	⇓P	P	11 51 48.5	+1.3
JUA2	San Juan 2	1.26	333	⇓P	P	11 51 49.4	+0.2
GGP	Refugio Guagua	1.29	335	⇓P	P	11 51 49.8	+0.4
CGGP	Crater GGP	1.29	334	⇓P	P	11 51 49.8	+0.4
PINO	Pino	1.31	334	⇓P	P	11 51 50.0	+0.5
YANA	Yana	1.33	337	⇓P	P	11 51 50.0	+0.2
CONE	Cono NE Rev Vo	1.33	18	⇑P	P	11 51 48.2	-1.6
CAYR	Refugio Cayamb	1.35	2	⇓P	P	11 51 49.8	-0.2
CAYA	Cayambe	1.41	2	⇓P	P	11 51 50.2	-0.2
JOR1	San Jorge 1	1.46	336	⇓P	P	11 51 49.4	-1.6
COTA	Cotacachi	1.69	350	⇓P	P	11 51 53.1	0.0
HOJA	Cerro de Hojas	2.52	277	P	P	11 52 02.2	+0.3
HOJA				S	S	11 52 35.1	-1.0

DJA 15 11:56:06.0±0.9**,8.86S×115.29E,h97^{km}±5^{km},MD4.9**/4**, ML3.3**/1**,3C-7D,Error ellipse: s-maj=22.5km s-min=6.9km az=4.0,Bali region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
INGI	Ingas	0.15	286	⇓iPn	P	11 56 19.1	-0.7
	327nm,0.2s						
INGI				⇓iSn	S	11 56 29.1	-1.0
RATI	Rata	0.27	60	⇑ePn	P	11 56 20.2	0.0
	266nm,0.2s						
RATI	Rata	0.27	60	⇓iP	P	11 56 20.4	+0.2
RATI				⇓iSn	S	11 56 30.8	-0.1
KEDI	Kedomdong	0.89	66	⇑iPn	P	11 56 25.3	0.0
	60nm,0.2s						
KEDI				⇓iSn	S	11 56 39.2	-0.4
KELI	Kelakatan	1.02	309	⇑iPn	P	11 56 26.3	-0.4
KELI	Kelakatan	1.02	309	⇓iP	P	11 56 26.7	0.0
KELI				⇓iSn	S	11 56 41.6	-0.6

DJA 15 12:19:27.4±1.0**,8.84S×115.34E,h98^{km}±6^{km},MD5.0**/3**, ML3.6**/1**,5C-2D,Error ellipse: s-maj=26.5km s-min=10.1km az=179.0,Bali region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
INGI	Ingas	0.20	275	⇑iPn	P	12 19 40.7	-0.7
	298nm,0.2s						
INGI				⇓iSn	S	12 19 50.0	-1.9
RATI	Rata	0.22	59	⇑ePn	P	12 19 41.9	+0.4
RATI	Rata	0.22	59	⇓iP	P	12 19 42.2	+0.7
RATI				⇑iSn	S	12 19 52.6	+0.5
KELI	Kelakatan	1.04	306	⇑iPn	P	12 19 48.1	-0.3
	83nm,0.2s						
KELI				⇑iSn	S	12 20 03.3	-0.9

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*NEIC **15** 12:31:55.9,16.34N×98.36W,h10^{km},MD3.9(MEX),After MEX.*

MEX 15 12:31:55.4±0.7**,16.06N×98.14W,h6**^{km}±7^{km}**,MD4.0,1D, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.33	2	⇓iP	Pg	12 32 01.1	-0.9
PNIG				i S	Sg	12 32 06.7	+0.3
VHO	Vista Hermosa	1.68	53	i P	Pn	12 32 22.3	-3.3
VHO				i S	Sn	12 32 42.0	-5.6
VHO	Vista Hermosa	1.68	53	eP	Pn	12 32 22.4	-3.2
VHO				i S	Sn	12 32 43.7	-4.0
OXX	Oaxaca	1.70	53	i P	Pn	12 32 22.0	-3.8
OXX				i S	Sn	12 32 43.5	-4.5
HUIG	Huatulco	1.98	98	eP	Pn	12 32 26.9	-2.9
HUIG				i S	Sn	12 32 50.0	-5.2
HUIG	Huatulco	1.98	98	eP	Pn	12 32 30.9	+1.1
HUIG				i S	Sn	12 32 56.8	+1.7
PLIG	Platanillo	2.66	331	eP	Pn	12 32 36.9	-2.6
PLIG				i S	Sn	12 33 07.0	-5.3
PLIG	Platanillo	2.66	331	i P	Pn	12 32 35.4	-4.1
PLIG				i S	Sn	12 32 58.4	-14
YAIG	Yautepec	2.92	343	eP	Pn	12 32 40.3	-3.0
YAIG				i S	Sn	12 33 14.0	-5.0
PPM	Popocatepetl	3.02	351	eP	Pn	12 32 47.0	+2.3
CMIG	Matias Romero	3.29	71	eP	Pn	12 32 43.9	-4.6
CMIG				i S	Sn	12 33 25.0	-3.4

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*NEIC **15** 12:36:53.1,15.35N×97.95W,h10^{km},MD3.9(MEX),After MEX.*

MEX 15 12:36:57.8±0.7**,16.05N×98.24W,h11**^{km}±5^{km}**,MD3.9, 1C-1D,Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.36	18	⇓iP	Pg	12 37 04.3	-1.0
PNIG				i S	Sg	12 37 10.2	0.0
VHO	Vista Hermosa	1.77	55	i P	Pn	12 37 25.9	-2.8
VHO				i S	Sn	12 37 45.9	-5.4
VHO	Vista Hermosa	1.77	55	eP	Pn	12 37 23.4	-5.2
VHO				i S	Sn	12 37 49.5	-1.8
OXX	Oaxaca	1.78	55	eP	Pn	12 37 24.0	-4.8
OXX				eS	Sn	12 37 46.0	-5.6
HUIG	Huatulco	2.07	97	eP	Pn	12 37 30.0	-3.0
HUIG				i S	Sn	12 37 54.1	-4.9
HUIG	Huatulco	2.07	97	eP	Pn	12 37 20.9	-12
HUIG				i S	Sn	12 37 43.2	-16
PLIG	Platanillo	2.62	333	eP	Pn	12 37 38.0	-2.8
PLIG				i S	Sn	12 38 07.3	-5.7
PLIG	Platanillo	2.62	333	i P	Pn	12 37 46.3	+5.4
PLIG				i S	Sn	12 38 21.8	+8.8
YAIG	Yautepec	2.91	344	i P	Pn	12 37 42.0	-2.9
YAIG				i S	Sn	12 38 15.9	-4.3
YAIG	Yautepec	2.91	344	i P	Pn	12 37 50.6	+5.7
YAIG				i S	Sn	12 38 29.6	+9.4
PPM	Popocatepetl	3.02	353	eP	Pn	12 37 47.0	+0.4
CMIG	Matias Romero	3.38	72	eP	Pn	12 37 47.1	-4.6
CMIG				i S	Sn	12 38 26.9	-5.3
CMIG	Matias Romero	3.38	72	⇑eP	Pn	12 37 46.0	-5.7
CMIG				i S	Sn	12 38 21.1	-11
LVIG	Laguna Verde	4.05	25	eP	Pn	12 38 08.2	+7.1
LVIG				i S	Sn	12 38 45.1	-3.9

IDC 15 13:10:57.1±4.2**,30.50N×89.73E,mb3.6**/3**,mb1 3.8**/4**, mb1mx3.6**/18**,ML3.0**/1**,Error ellipse: s-maj=198.0km s-min=30.4km az=71.0,Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MKAR	Makanchi Array	17.26	343	P	P	13 14 60.0	-1.1
	0.1nm,0.3s,baz=159,slow=12,SNR=3.6						
WRA	Warramunga Arr	65.99	134	P	P	13 21 46.1	-1.7
	0.5nm,0.6s,baz=325,slow=6.5,SNR=6.9						
ASAR	Alice Springs	68.53	137	P	P	13 22 01.2	-2.5
	0.5nm,0.8s,baz=323,slow=6.2,SNR=5.6						
ILAR	Eielson Array	75.37	22	P	P	13 22 42.1	-1.6
	0.9nm,1.1s,baz=304,slow=4.2,SNR=5.1						

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*IDC **15** 13:13:21.6±1.7,19.14N×64.47W,mb3.7/4,mb1 4.1/4, mb1mx3.8/19,Error ellipse: s-maj=45.1km s-min=27.7km az=87.0*

*RSPR **15** 13:13:28.0,19.56N×65.09W,h51^{km}±23^{km},MD4.0/7, MD4.0/7*

*NEIC **15** 13:13:28.0,19.56N×65.09W,h51^{km},mb4.3/1, MD4.0(RSPR),After RSPR.*

ISC 15 13:13:25.6±1.9**,19.50N**±0.06×**65.3W**±0.1**,h4**^{km}±16^{km}**,n19, σ0**^{s}**48**/26**,mb3.8**/5**,7C,Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBYP	Canovanas	1.35	205	⇑eP	Pb	13 13 51.6	+0.5
CBYP				eS	Sb	13 14 08.8	+0.3
HUMP	Col San Antoni	1.46	202	eP	Pn	13 13 52.4	-0.5
SJG	San Juan	1.62	211	eS	Sb	13 14 15.9	-0.5
SJG	San Juan	1.62	211	Pn	Pn	13 13 55.1	0.0
	65nm,0.3s,baz=44,slow=10.0,SNR=82						
SJG				Sn	Sn	13 14 16.7	+0.1
	252nm,0.3s,baz=268,slow=17,SNR=12						
SJG	San Juan	1.62	211	⇑eP	Pn	13 13 55.6	+0.5
SJG				eS	Sb	13 14 15.9	-0.5
CELP	Cerrillos	1.89	221	⇑iP	Pn	13 13 59.1	+0.1
LRS	Lares	1.92	231	⇑eP	Pn	13 13 59.2	-0.3
LRS				eS	Sn	13 14 24.0	-0.3
PORP	Portuguez	1.94	222	⇑eP	Pn	13 13 59.8	0.0
PORP				eS	Sn	13 14 25.0	+0.1
LSP	Las Mesas	2.17	233	⇑eP	Pn	13 14 03.1	+0.1
LSP				eS	Sn	13 14 30.8	0.0
MGP	Maguayo	2.28	230	⇑eP	Pn	13 14 04.6	0.0
MGP				eS	Sn	13 14 33.9	+0.4
IDE	Isla Desecheo	2.37	242	⇑eP	Pn	13 14 05.5	-0.5
IDE				eS	Sn	13 14 35.8	-0.1
SDV	Santo Domingo	11.76	207	P	P	13 16 08.5	-8.9
SDCO	Great Sand Dun	39.36	306	eP	P	13 20 57.3	-0.7
	3.9nm,0.8s,mb4.2						
PV10	Paradox Valley	42.22	306	eP	P	13 21 22.0	+0.5
PDAR	Pinedale Array	43.80	312	P	P	13 21 35.2	+0.8
	0.6nm,0.6s,mb3.5,baz=114,slow=11,SNR=2.3						
CPUP	Villa Florida	46.20	170	P	P	13 21 43.9	-10
	2.2nm,1.1s,mb4.0,baz=201,slow=15,SNR=2.2						
NVAR	Mina Array Bea	49.39	304	P	P	13 22 19.4	+0.8
	0.5nm,0.5s,mb3.8,baz=104,slow=6.5,SNR=5.8						
ILAR	Eielson Array	68.98	333	P	P	13 24 32.7	-1.2
	0.5nm,0.6s,mb3.6,baz=111,slow=4.3,SNR=14						
ASAR	Alice Springs	161.70	254	PKPab	PKPab	13 34 14.2	-1.7
	0.4nm,0.9s,baz=92,slow=4.5,SNR=4.6						

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*BJI **15** 13:19:23.7,25.00N×112.50W,h10^{km},mb4.3,Ms4.3, Msz4.1*

*IDC **15** 13:19:25.9±1.1,25.04N×112.34W,mb4.5/8,mb1 4.6/12, mb1mx4.5/20,ML4.2/4,MS4.0/14,Ms1 4.0/14, ms1mx3.8/25,Error ellipse: s-maj=26.2km s-min=20.4km az=51.0*

*NEIC **15** 13:19:27.8±0.6,25.01N×112.47W,h10^{km},mb4.2/20, Error ellipse: s-maj=9.1km s-min=5.5km az=221.0*

ISC 15 13:19:27.0±3.5**,25.08N**±0.08×**112.42W**±0.06**, h14**^{km}±21^{km}**,n107,σ1**^{s}**12**/98**,mb4.5**/15**,MS4.0**/12**,Baja California**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TUC	Tucson	7.34	11	eP	Pn	13 21 15.1	-1.5
BAR	Barrett	8.44	335	P	P	13 21 29.1	-2.6
LTX	Lajitas	8.87	60	eP	P	13 21 38.2	+0.4
TXAR	Lajitas Array	8.87	60	Pn	P	13 21 36.6	-1.2
	1.2nm,0.3s,baz=236,slow=14,SNR=30						
TXAR				Lg		13 24 06.0	
	0.3nm,0.3s,baz=245,slow=26,SNR=3.8						
TXAR				LR	LR	13 25 10.5	
	comp=Z,708nm,19.8s,baz=220,slow=39						
GDL2	Guadalupe Moun	10.02	43	eP	P	13 21 53.9	+0.2
LDFC	Landfair	10.23	347	eP	P	13 21 56.1	-0.5
MWC	Mount Wilson	10.34	333	eP	P	13 21 56.8	-1.3
BNM	Barren Site	10.34	28	eP	P	13 21 58.1	0.0
LAZ	Ladron	10.36	25	eP	P	13 21 58.5	+0.2
WUAZ	Wupatki	10.44	5	eP	P	13 21 59.1	-0.4
NEN	Nelson	10.74	349	eP	P	13 22 01.6	-1.9
CPRX	Cap Rock	10.89	41	P	P	13 22 07.5	+1.9
ANMO	Albuquerque	11.11	26	eP	P	13 22 08.6	0.0
DAC	Darwin (Calif)	12.01	340	eP	P	13 22 20.0	-0.8
TPNV	Topopah Spring	12.27	345	eP	P	13 22 23.9	-0.5
JCT	Junction City	12.40	61	eP	P	13 22 26.7	+0.6
ARUT	Antelope Range	12.70	356	eP	P	13 22 30.8	+0.8
MTUM	Tungsten Hills	13.31	338	eP	P	13 22 38.6	+0.4
MVU	Marysvale	13.38	1	eP	P	13 22 39.7	+0.6
MSU	Marysvale	13.39	1	eP	P	13 22 40.4	+1.2
PV01	Paradox Valley	13.42	13	eP	P	13 22 39.2	-0.3
LRV	Little Rabbit	13.50	329	eP	P	13 22 39.8	-0.8
PV10	Paradox Valley	13.56	11	eP	P	13 22 42.6	+1.2
TPH	Tonopah	13.58	344	eP	P	13 22 41.9	+0.1
OMM	Old Mammoth Mi	13.69	337	eP	P	13 22 44.1	+0.9
SDCO	Great Sand Dun	13.93	23	eP	P	13 22 47.2	+0.9
	9.0nm,1.1s						
SRU	San Rafael	14.08	6	eP	P	13 22 49.1	+0.8
MNV	Mina	14.17	341	eP	P	13 22 51.1	+1.7
	18nm,1.2s						
NVAR	Mina Array Bea	14.21	341	Pn	P	13 22 51.4	+1.4
	0.2nm,0.3s,baz=164,slow=13,SNR=8.2						
NVAR				LR	LR	13 28 19.3	
	comp=Z,784nm,18.1s,baz=255,slow=37						
CMB	Columbia Colle	14.58	334	eP	P	13 22 55.5	+0.6
	9.1nm,1.0s						
NLU	North Lily Min	14.83	1	eP	P	13 22 59.4	+1.3
MPU	Maple Canyon	14.90	2	eP	P	13 22 59.7	+0.6
LKC	Lake Chabot	15.05	329	eP	P	13 23 01.7	+0.7
DUG	Dugway	15.07	359	eP	P	13 23 02.5	+1.2
WMOK	Wichita Mounta	15.23	48	eP	P	13 23 02.7	-0.8
	14nm,1.1s						
DAU	Daniels Canyon	15.32	3	eP	P	13 23 07.0	+2.5
WCN	Washoe City	15.47	338	eP	P	13 23 07.7	+1.2
	23nm,1.0s						
JLU	Jordanelle	15.50	3	eP	P	13 23 05.7	-1.1
CTU	Camp Tracy	15.58	2	eP	P	13 23 08.1	+0.2
ISCO	Idaho Springs	15.75	20	eP	P	13 23 11.8	+1.7
	7.9nm,1.1s						
ELK	Elko	15.79	352	eP	P	13 23 09.8	-0.8
	6.3nm,1.0s						
BMN	Battle Mountai	15.82	346	eP	P	13 23 10.9	-0.1
	19nm,1.3s						
TCUT	Toone Canyon	16.01	3	eP	P	13 23 13.8	+0.3
OHCM	Honcut	16.13	334	eP	P	13 23 15.5	+0.5
HWUT	Hardware Ranch	16.50	2	eP	P	13 23 20.5	+0.9
	12nm,0.9s						
HVU	Hansel Valley	16.66	359	eP	P	13 23 22.9	+1.2
BW06	Boulder Array	17.80	7	eP	P	13 23 35.0	-0.9
	7.3nm,1.0s						
PDAR	Pinedale Array	17.80	7	P	P	13 23 34.8	-1.2
	0.1nm,0.3s,baz=176,slow=9.4,SNR=24						
MOD	Modoc	18.00	341	eP	P	13 23 37.9	-0.6
	11nm,1.1s						
WVOR	Wild Horse Val	18.05	345	eP	P	13 23 38.9	-0.2
	20nm,1.2s						
CMIG	Matias Romero	18.18	113	eP	P	13 23 39.4	-1.5
SNOW	Snow King Moun	18.39	4	eP	P	13 23 43.2	-0.1
TPAW	Teton Pass	18.40	3	eP	P	13 23 41.5	-2.0
WUWY	Wally Ulrich	18.46	4	P	P	13 23 43.6	-0.6
HLID	Hailey	18.51	355	eP	P	13 23 44.1	-0.7
	7.3nm,1.0s						
YBH	Yreka Blue Hor	18.67	335	P	P	13 23 46.5	-0.3
	0.1nm,0.3s,baz=123,slow=6.5,SNR=5.1						
MOOW	Moose Ponds	18.67	4	eP	P	13 23 45.0	-1.7
MIAR	Mount Ida	18.86	56	P	P	13 23 49.9	+0.9
MCMT	McKenzie Canyo	19.70	359	eP	P	13 23 57.5	-1.3
QLMT	Earthquake Lak	19.72	2	eP	P	13 23 59.4	+0.4
RSSD	Black Hills	20.19	18	eP	P	13 24 04.2	+0.1
	8.7nm,0.9s						
BOZ	Bozeman (W)	20.53	2	eP	P	13 24 05.5	-2.1
	4.1nm,0.8s						
GCMT	Greycliff	20.78	5	eP	P	13 24 09.4	-0.8
LNOR	Lincton Mounta	21.27	349	eP	P	13 24 14.6	-0.6
VGB	Gordon Butte	21.47	344	eP	P	13 24 19.1	+1.9
HRY	Holter Researc	21.59	1	eP	P	13 24 17.6	-0.7
CHMT	Chamberlain Mo	21.80	358	eP	P	13 24 19.0	-1.4
HAWA	Hanford	22.01	347	eP	P	13 24 23.5	+0.9
LAO	LASA Array	22.12	11	eP	P	13 24 21.7	-2.0
	34nm,1.0s,mb4.7						
CCM	Cathedral Cave	22.14	49	P	P	13 24 23.4	-0.5
NEW	Newport	23.43	352	P	P	13 24 35.6	-0.9
	3.9nm,0.7s,mb4.0,baz=172,slow=13,SNR=6.7						
NEW				LR	LR	13 34 14.7	
	comp=Z,318nm,19.3s,MS3.8,baz=179,slow=38						
NEW	Newport	23.43	352	eP	P	13 24 34.8	-1.7
	4.4nm,0.7s,mb4.0						
NLW	Nelson Butte	23.79	347	eP	P	13 24 39.5	-0.5
DGMT	Dagmar	24.23	13	eP	P	13 24 43.9	-0.4
ULM	Lac du Bonnet	28.20	23	LR	LR	13 36 41.7	
	comp=Z,253nm,20.3s,MS3.8,baz=195,slow=37						
BBB	Bella Bella	29.57	340	LR	LR	13 37 26.3	
	comp=Z,409nm,18.1s,MS4.1,baz=314,slow=36						
JTS	JuntasAbangare	29.93	115	P	P	13 25 38.7	+1.6
	4.6nm,0.6s,mb4.4,baz=324,slow=16,SNR=6.0						
JTS				LR	LR	13 37 17.7	
	comp=Z,186nm,18.9s,MS3.7,baz=29,slow=36						
FFC	Flin Flon	30.60	12	eP	P	13 25 42.2	-0.4
SADO	Sadowa	33.29	45	LR	LR	13 39 22.8	

	comp=Z,337nm,21.1s,MS4.0,baz=76,slow=36						
DLBC	Dease Lake	35.59	344	P	P	13 26 24.6	-1.2
	1.9nm,0.8s,mb4.1,baz=179,slow=8.7						
DLBC	Dease Lake	35.59	344	eP	P	13 26 24.6	-1.3
NCB	Newcomb	36.27	49	P	P	13 26 32.5	+0.7
YKA	Yellowknife Ar	37.43	358	LR	LR	13 43 09.6	
	comp=Z,245nm,18.5s,MS4.0,baz=175,slow=38						
OTAV	Otavalo	41.09	122	eP	P	13 27 14.2	+2.0
ROSC	El Rosal	41.71	112	LR	LR	13 44 31.5	
	comp=Z,135nm,18.9s,MS3.8,baz=39,slow=36						
DAWY	Dawson	42.77	343	P	P	13 27 26.1	+0.7
SDV	Santo Domingo	42.88	105	eP	P	13 27 26.9	-0.1
	26nm,0.9s,mb5.0						
SML	Sawmill	43.96	336	P	P	13 27 36.4	+1.2
SCHQ	Schefferville	44.68	36	P	P	13 27 39.3	-1.8
	7.0nm,0.8s,mb4.5,baz=227,slow=19,SNR=2.5						
SPU	Mount Spurr	44.99	334	P	P	13 27 44.3	+0.8
INK	Inuvik	45.10	349	P	P	13 27 43.2	-1.0
	6.1nm,0.8s,mb4.5,baz=153,slow=6.8						
INK				LR	LR	13 46 54.0	
	comp=Z,385nm,18.4s,MS4.4,baz=354,slow=36						
INK	Inuvik	45.10	349	P	P	13 27 43.2	-1.0
INK				LR	LR	13 46 54.0	
ILAR	Eielson Array	45.47	340	P	P	13 27 45.6	-1.5
	3.7nm,0.6s,mb4.4,baz=152,slow=6.8,SNR=31						
ILAR				PcP	PcP	13 29 28.2	+1.5
	0.5nm,0.7s,baz=174,slow=1.9,SNR=4.8						
ILAR				LR	LR	13 46 32.3	
	comp=Z,115nm,18.1s,MS3.9,baz=149,slow=36						
COLA	College	45.84	340	eP	P	13 27 50.2	+0.1
	3.1nm,0.8s,mb4.3						
TTA	Tatalina	47.52	335	eP	P	13 28 04.9	+1.5
	6.0nm,0.5s,mb4.9						
IMA	Indian Mountai	48.47	339	eP	P	13 28 12.6	+1.8
	6.8nm,0.8s,mb4.7						
SAML	Samuel	58.68	119	eP	P	13 29 25.0	-1.8
LPAZ	La Paz	59.61	129	LR	LR	13 53 27.0	
	comp=Z,57nm,20.8s,MS3.7,baz=312,slow=34						
CPUP	Villa Florida	73.76	130	P	P	13 30 60.0	-3.0
	5.1nm,0.7s,mb4.5,baz=328,slow=6.8,SNR=11						
CPUP				LR	LR	14 03 36.8	
	comp=Z,78nm,19.9s,MS4.0,baz=160,slow=36						
CPUP	Villa Florida	73.76	130	P	P	13 30 60.0	-3.0
CPUP				LR	LR	14 03 36.8	
BDFB	Brasilia	74.67	116	LR	LR	14 05 35.8	
	comp=Z,105nm,19.1s,MS4.2,baz=297,slow=37						
ARCES	ARCESS Array B	80.91	14	P	P	13 31 42.2	+0.4
	10nm,1.0s,mb4.7,baz=315,slow=1.7,SNR=7.7						
NB2	NORSAR Subarra	82.89	24	P	P	13 31 53.8	+1.6
	6.0nm,0.8s,mb4.7,baz=309,slow=4.8						
NOA	NORSAR Array B	82.89	24	P	P	13 31 53.7	+1.5
	2.9nm,0.7s,mb4.4,baz=310,slow=5.0,SNR=7.9						
FINES	FINESS Array B	87.51	19	P	P	13 32 17.2	+2.1
	1.9nm,0.7s,mb4.4,baz=315,slow=5.4,SNR=4.2						
LZH	Lanzhou	110.18	329	XPKP		13 37 57.8	
CMAR	Chiang Mai Arr	127.03	322	PKP	PKPdf	13 38 34.2	-0.8
	1.5nm,0.9s,baz=352,slow=2.2,SNR=6.9						

MEX 15 13:19:43.7±0.3**, 16.18N×98.50W, h25**^{km}±18^{km}**, MD3.7, 1D,**
Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.42	59⇓	iP	Pb	13 19 51.2	-1.4
PNIG				iS	Sb	13 19 56.9	-1.7
VHO	Vista Hermosa	1.92	62	eP	Pn	13 20 12.4	-3.0
VHO				iS	Sn	13 20 35.9	-3.1
OXX	Oaxaca	1.93	62	eP	Pn	13 20 12.5	-3.1
OXX				eS	Sn	13 20 35.0	-4.3
PPM	Popocatepetl	2.88	358	eP	Pn	13 20 31.0	+1.9

*NEIC **15** 13:25:21.5, 37.75N×21.36E, h13^{km}, ML3.4(ATH), After ATH.*
*ATH **15** 13:25:21.5, 37.75N×21.36E, h13^{km}±3^{km}, MD3.7/15, ML3.4*
*THE **15** 13:25:22.7, 37.80N×21.23E, h4^{km}, ML3.8*
ISC 15 13:25:20.3±1.4**, 37.74N**±0.04×**21.27E**±0.06**, h0**^{km}±11^{km}**,**
n29, σ0^{s}86/34**, 1D, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RLS	Riolos of Patr	0.36	26⇓	ePB	Pb	13 25 28.8	-0.4
VLS	Valsamata	0.70	309	ePB	Pb	13 25 35.2	+0.2
VLS				eSB	Sb	13 25 46.9	+2.0
ITM	Ithomi	0.76	137	ePB	Pb	13 25 35.7	-0.4
ITM				eSB	Sb	13 25 45.5	-1.3
LKD	Levkas	1.09	333	ePg	Pn	13 25 41.8	-0.8
EVR	Evrytania	1.25	20	ePB	Pb	13 25 44.8	+0.3
AGG	Agios Georgios	1.53	33	ePb	Pb	13 25 50.2	+0.9
AGG				eSb	Sb	13 26 10.1	+1.0
MKIT	Kithairon Oros	1.63	74	ePB	Pb	13 25 51.0	0.0
LKR	Lokris	1.64	56	ePG	Pn	13 25 50.8	+0.3
VLI	Veliai	1.67	127	ePB	Pb	13 25 53.0	+1.3
NSAL	Nisos Salamina	1.74	84	ePN	Pn	13 25 50.6	-1.4
NAIG	Nisos Aigina	1.76	89	ePB	Pb	13 25 52.8	-0.3
IGT	Igoumenitsa	1.94	338	ePb	Pn	13 25 54.1	-0.7
IGT				eSb	Sb	13 26 20.3	-0.6
JAN	Janina	1.94	350	ePG	Pg	13 25 59.2	+0.1
ATH	Athens Observa	1.95	82	ePN	Pn	13 25 55.0	0.0
MPAR	Parnis Oros	1.99	77	ePN	Pn	13 25 56.0	+0.4
KYTH	Kithira	2.03	135	ePN	Pn	13 25 57.5	+1.4
NEO	Neokhori	2.19	44	ePN	Pn	13 25 58.8	+0.4
XOR	Xorichti	2.22	42	ePn	Pn	13 25 59.8	+1.0
KEK	Kerkira	2.29	330	ePN	Pg	13 26 02.5	-3.4
LIT	Litokhoron	2.54	22	ePn	Pn	13 26 04.3	+0.8
KZN	Kozani	2.60	8	ePG	Pn	13 26 09.1	+4.9
FNA	Florina	3.04	1	ePn	Pn	13 26 09.6	-1.0
FNA				eSn	Sn	13 26 47.5	-0.8
VAM	Vamos	3.31	134	ePN	Pn	13 26 14.5	+0.1
GRG	Griva	3.33	15	ePn	Pn	13 26 14.4	-0.3
OUR	Ouranopolis	3.34	38	ePn	Pn	13 26 14.5	-0.4
SOH	Sokhos	3.48	27	ePn	Pn	13 26 17.4	+0.6
GVD	Gavdhos	3.68	141	P	Pn	13 26 09.8	-10
SRS	Serrai	3.82	27	ePn	Pn	13 26 21.5	-0.2
NVR	Nevrokopi	4.13	28	ePN	Pn	13 26 24.9	-1.1

*BJI **15** 13:38:54.6, 38.70N×20.60E, h8^{km}, mB4.3, mb4.1, Ms4.3, Msz4.1*
*LDG **15** 13:38:55.2±0.1, 38.92N×20.60E, h10^{km}, Mb4.7/12, Ms3.0/4, Error ellipse: s-maj=9.1km s-min=3.7km az=26.0*
*IDC **15** 13:38:55.7±1.1, 38.61N×20.40E, mb4.2/6, mb1 4.2/12, mb1mx4.1/25, ML4.2/5, MS3.6/4, Ms1 3.7/4, ms1mx3.2/27, Error ellipse: s-maj=24.6km s-min=14.6km az=58.0*
*PDG **15** 13:38:57.6±0.5, 38.67N×20.36E, h11^{km}±1^{km}*
*ATH **15** 13:38:57.6, 38.65N×20.60E, h5^{km}±2^{km}, MD4.2/18, ML4.3*
*NEIC **15** 13:38:57.6, 38.65N×20.60E, h5^{km}, mb4.4/8, MD4.1(PDG), ML4.3(ATH), ML4.2(THE), After ATH.*
*THE **15** 13:38:58.5, 38.67N×20.50E, h10^{km}, ML4.4*
*MOS **15** 13:38:59.0±1.0, 38.68N×20.30E, h33^{km}, mb4.4/6, Error ellipse: s-maj=18.2km s-min=7.1km az=63.6*
ISC 15 13:38:57.3±0.4**, 38.65N**±0.02×**20.42E**±0.02**, h9**^{km}±2^{km}**,**
n179, σ1^{s}23/180**, mb4.2**/11**, MS3.7**/3**, 19C-3D, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LKD	Levkas	0.19	72	ePg	Pg	13 38 59.5	-2.0
VLS	Valsamata	0.49	164⇑	iPG	Pg	13 39 06.9	-0.3
VLS				eSB	Sb	13 39 14.9	+0.3
IGT	Igoumenitsa	0.89	356	ePg	Pg	13 39 14.3	-0.7
IGT				eSg	Sg	13 39 27.9	+1.0
RLS	Riolos of Patr	1.01	125	ePB	Pb	13 39 15.0	-1.6
JAN	Janina	1.06	18	ePG	Pg	13 39 16.8	-1.8
JAN				eSN	Sn	13 39 34.0	+0.8
EVR	Evrytania	1.12	76	ePB	Pb	13 39 16.6	-1.8
KEK	Kerkira	1.17	336⇑	iPG	Pn	13 39 20.7	+0.9
KEK				eSB	Sb	13 39 38.5	+4.2
SRN	Sarande	1.27	345	i Pn	Px	13 39 29.7	
SRN				i Sn	Sx	13 39 45.3	
MEV	Metsovon	1.30	29	ePb	Pb	13 39 21.5	0.0
AGG	Agios Georgios	1.54	75	ePb	Pb	13 39 24.6	-1.0
AGG				eSb	Sb	13 39 46.5	+1.4
TPE	Tepelena	1.67	349	ePn	Pg	13 39 30.5	-0.3
TPE				i Sn	Sg	13 39 55.0	+1.9
ITM	Ithomi	1.89	140	ePG	Pn	13 39 30.8	+0.7
KZN	Kozani	1.96	32	ePN	Pn	13 39 33.5	+2.4
KZN				eSG	Sg	13 40 01.1	-1.5
KBN	Korca	1.99	8	i Pn	Pb	13 39 35.4	+2.0
KBN				i Sn	Sb	13 40 01.8	+3.5
LKR	Lokris	2.02	89	ePG	Pn	13 39 32.7	+0.7
LKR				eSG	Sg	13 40 01.5	-3.2
LIT	Litokhoron	2.17	47	ePn	Pb	13 39 35.5	-0.8
LIT				eSn	Sb	13 40 02.7	-0.6
FNA	Florina	2.26	19	ePn	Pn	13 39 36.3	+0.9
FNA				eSn	Sn	13 40 05.0	+1.4
XOR	Xorichti	2.28	71	ePn	Pn	13 39 36.6	+0.9
MKIT	Kithairon Oros	2.28	101	ePG	Pn	13 39 37.0	+1.3
NEO	Neokhori	2.29	72	ePN	Pn	13 39 36.6	+0.8
LCI	Lecce	2.45	314	ePn	Pn	13 39 39.3	+1.2
LCI				eSn	Sn	13 40 12.1	+3.5
BIA	Bitola	2.47	16	i Pn	Pn	13 39 41.4	+3.0
BIA				i		13 39 51.8	
BIA				i Sn	Sn	13 40 12.4	+3.4
BIA				i Sb	Sb	13 40 17.6	+5.5
BIA				i Sg	Sg	13 40 22.8	+3.2
OHR	Ohrid	2.48	7⇑	iPn	Pn	13 39 40.3	+1.8
OHR				i Pg	Pg	13 39 47.5	+0.7
OHR				i Sn	Sn	13 40 12.0	+2.8
OHR				i Sg	Sg	13 40 19.3	-0.5
NSAL	Nisos Salamina	2.51	106	ePN	Pn	13 39 39.2	+0.2
NAIG	Nisos Aigina	2.58	109	ePN	Pn	13 39 40.5	+0.5
MPAR	Parnis Oros	2.66	100	ePN	Pn	13 39 42.0	+0.9
ATH	Athens Observa	2.68	104	ePN	Pn	13 39 41.9	+0.4
ATH				eSB	Sn	13 40 14.3	-0.1
TIR	Tirane	2.73	351	i Pn	Pn	13 39 44.0	+1.9
TIR				i Sn	Sn	13 40 15.5	-0.1
AOS	Alonnisos	2.75	78	ePn	Pn	13 39 42.9	+0.4
AOS				eSn	Sn	13 40 17.0	+0.8
GRG	Griva	2.77	33	ePn	Pn	13 39 43.2	+0.5
GRG				eSn	Sn	13 40 17.4	+0.9
VLI	Veliai	2.78	133	ePG	Pb	13 39 46.0	-0.8
THE	Thessaloniki	2.79	44	ePn	Pn	13 39 43.1	+0.1
THE				eSn	Sn	13 40 17.8	+0.6
QSH	Qafa e Shtames	2.90	352	i Pn	Pn	13 39 46.0	+1.5
TIP	Timpagrande	2.90	282	eP	Pn	13 39 45.7	+1.1
PLG	Polygyros	2.91	53	ePB	Pb	13 39 44.7	-4.3
SOH	Sokhos	3.14	45	ePn	Pn	13 39 48.8	+0.9
VAY	Valandovo	3.14	31	i Pn	Pn	13 39 50.5	+2.5
VAY				i Pb	Pb	13 39 55.6	+2.6
VAY				i Pg	Pg	13 39 58.5	-1.5
VAY				i Sn	Sn	13 40 27.5	+1.5
VAY				i Sg	Sg	13 40 40.0	-1.9
KYTH	Kithira	3.15	138	ePG	Pb	13 39 53.0	-0.2
KNT	Kendrikon	3.15	36	ePn	Pn	13 39 49.1	+0.9
KNT				eSn	Sn	13 40 28.2	+1.8
OUR	Ouranopolis	3.23	57	ePn	Pn	13 39 49.9	+0.6
TDS	Terranova Siba	3.33	289	ePn	Pn	13 39 54.2	+3.6
ORI	Oriolo Calabro	3.38	296	ePn	Pn	13 39 53.9	+2.5
SKO	Skopje	3.41	13⇓	iPn	Pn	13 39 52.8	+1.0
SKO				i Pg	Pg	13 40 02.7	-2.7
SKO				i Sn	Sn	13 40 32.1	-0.8
SKO				i Sb	Sb	13 40 39.8	+0.4
SKO				i		13 40 49.4	
SKO				Lg		13 40 58.0	
	comp=Z,0.1nm,0.8s						
ULC	Ulcinj	3.43	345⇑	iPn	Pn	13 39 51.6	-0.5
ULC				eSn	Sn	13 40 32.6	-0.7
SRS	Serrai	3.47	44	ePn	Pn	13 39 52.0	-0.7
SRS				eSn	Sn	13 40 34.7	+0.4
SOI	Samo	3.48	262	ePn	Pn	13 39 53.4	+0.7
NVR	Nevrokopi	3.78	43	ePN	Pn	13 39 58.5	+1.4
KKB	Krupnik	3.81	32	i P	Pn	13 39 58.0	+0.5
BUM	Brajici-Budva	3.83	343⇑	iPn	Pn	13 39 57.3	-0.4
BUM				eSn	Sn	13 40 42.5	-0.8
TTG	Podgorica	3.88	347⇑	iPn	Pn	13 39 57.9	-0.5
TTG				eSn	Sn	13 40 43.6	-1.1
MMB	Musomiste	3.88	40	i P	Pn	13 39 58.0	-0.5
LIA	Limnos Island	3.90	70	ePN	Pn	13 39 59.4	+0.6
PVY	Plav	3.96	355	ePn	Pn	13 39 59.2	-0.3
PVY				eSn	Sn	13 40 46.1	-0.5
HCY	Herceg Novi	4.07	340⇑	iPn	Pn	13 40 00.3	-0.8
HCY				eSn	Sn	13 40 48.6	-0.9
IVA	Berane	4.24	355⇑	iPn	Pn	13 40 03.5	0.0
IVA				eSn	Sn	13 40 52.9	-0.9
NKY	Niksic	4.30	346⇑	iPn	Pn	13 40 03.4	-1.0
NKY				eSn	Sn	13 40 53.7	-1.6
BARS	Barje	4.30	14⇑	iPn	Pn	13 40 03.9	-0.6
MRLC	Muro Lucano	4.34	301	ePn	Pn	13 40 06.5	+1.4
SGO	Sicignano	4.38	297	ePn	Pn	13 40 08.5	+2.8
VAM	Vamos	4.43	136	ePN	Pn	13 40 08.1	+1.8
VTS	Vitosha	4.47	27	i P	Pn	13 40 08.0	+1.0
BRY	Bratogost	4.48	342⇑	iPn	Pn	13 40 06.2	-0.9
BRY				eSn	Sn	13 40 58.0	-1.9
RZN	Rozhen	4.48	46	i P	Pn	13 40 07.5	+0.5
THR5	Thira Island,	4.51	118	ePn	Pn	13 40 07.7	+0.3
BOZC	Bozcaada	4.54	73	eP	Pn	13 40 09.1	+1.3
MNO	Monte Soro	4.56	263	ePn	Pn	13 40 09.1	+1.0
FGMS	Monte Sant'Ang	4.58	313	ePn	Pn	13 40 08.9	+0.4
FGMS				eSn	Sn	13 41 02.5	-0.1
PRK	Paraskevi	4.60	81	ePN	Pn	13 40 09.3	+0.5
MEU	Monte Lauro	4.61	252	ePn	Pn	13 40 08.0	-0.8
MEU				eSn	Sn	13 41 01.3	-1.8
PZI	Palazzolo	4.61	252	ePn	Pn	13 40 07.4	-1.5
RDO	Rodhopi	4.66	56	ePN	Pn	13 40 10.0	+0.4
UPM	Unac-Piva	4.69	346⇑	iPn	Pn	13 40 09.5	-0.5
UPM				eSn	Sn	13 41 03.7	-1.6
STON	Ston	4.70	335	i Pn	Pn	13 40 09.5	-0.6
STON				i Sn	Sn	13 41 01.2	-4.1
CSSN	Cassano Irpino	4.71	300	ePn	Pn	13 40 12.8	+2.6
PLE	Pljevlja	4.74	351⇑	iPn	Pn	13 40 10.4	-0.3
PLE				eSn	Sn	13 41 04.7	-1.8
FG5	Orsara di Pugl	4.75	305	ePn	Pn	13 40 12.4	+1.5
RGNG	Rignano Grg	4.78	311	ePn	Pn	13 40 12.7	+1.5
GVD	Gavdhos	4.81	141	eP	Pn	13 40 17.2	+5.5
PGB	Panagyurishte	4.83	35	i P	Pn	13 40 12.0	0.0
KDZ	Kurdzhali	4.87	50	i P	Pn	13 40 12.5	0.0
ALN	Alexandroupoli	4.88	61	ePn	Pn	13 40 12.3	-0.4
ALN				eSn	Sn	13 41 10.3	+0.2
NVSS	Nova Varos 2	4.88	354⇓	iPn	Pn	13 40 12.1	-0.7
NVSS				Sn	Sn	13 41 04.4	-5.7
IDI	Anoyia	4.91	132	Pn	Pn	13 40 12.7	-0.4
	comp=Z,0.5nm,0.3s,baz=46,slow=21,SNR=2.2						
IDI				Sn	Sn	13 41 09.1	-1.6
	comp=Z,3.4nm,0.3s,baz=288,slow=22,SNR=5.3						
AYVA	Ayvalik	4.93	80	P	Pn	13 40 14.3	+0.8
GRUS	Gruza	5.24	2⇑	iPn	Pn	13 40 16.8	-0.9
GRUS				Sn	Sn	13 41 11.8	-7.3
BOLS	Boljevac	5.31	12⇓	iPn	Pn	13 40 17.5	-1.2
BOLS				Sn	Sn	13 41 12.9	-7.9
SGG	Gregorio Mates	5.38	302	ePn	Pn	13 40 21.7	+2.0
DIVS	Divcibare	5.45	357⇑	iPn	Pn	13 40 19.0	-1.8
DIVS				Sn	Sn	13 41 18.5	-5.9
CII	Carovilli	5.60	305	eP	Pn	13 40 23.8	+1.0
	comp=Z,93nm,0.8s						
INTR	Introdacqua	6.00	306	ePn	Pn	13 40 29.5	+1.0
BTOK	Tokmak	6.02	77	P	Pn	13 40 29.6	+0.8
AQU	L'Aquila	6.50	307	eP	Pn	13 40 35.7	+0.1
	comp=Z,27nm,0.8s						
TERO	Teramo	6.53	310	ePn	Pn	13 40 35.9	0.0
ULDT	Uludag	6.92	75	P	Pn	13 40 42.0	+0.6
NRCA	Norcia	6.94	309	ePn	Pn	13 40 42.4	+0.6
PRD	Provadia	6.97	47	eP	Pn	13 40 37.0	-5.2
MNS	Montasola	6.97	305	ePn	Pn	13 40 42.8	+0.6
ARV	Arcevia	7.44	313	ePn	Pn	13 40 47.8	-0.9
FSSB	Fossombrone	7.65	314	ePn	Pn	13 40 50.7	-1.0
FSSB				eSn	Sn	13 42 14.2	-5.2
MLR	Muntele Rosu	7.98	29	Pn	Pn	13 40 56.3	+0.1
	comp=Z,0.9nm,0.3s,baz=280,slow=14,SNR=14						
MLR	Muntele Rosu	7.98	29	P	Pn	13 40 56.3	+0.1
MLR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
SFI	Santa Sofia	8.32	312	ePn	Px	13 41 01.0	
HENT	Hendek	8.37	72	P	Px	13 41 00.5	
PGD	Poggio Sodo	8.37	311	ePn	Px	13 41 02.7	
LJU	Ljubljana	8.58	331	ePn	Px	13 41 02.2	
VOY	Vojsko	8.81	329	ePn	Px	13 41 05.2	
VOY				eSn	Sx	13 42 43.0	
OBKA	Obir	8.97	333⇑	iPN	Px	13 41 08.0	
OBKA				i SN	Sx	13 42 39.8	
SGKT	Sivrigoynuk	9.19	74	P	Px	13 41 13.8	
PGF	Pioggiola	9.52	298	eP	Px	13 41 15.4	
	comp=Z,25nm,0.9s						
ELDT	Eldivan	10.21	76	P	Px	13 41 27.9	
BOB	Bobbio (Coli)	10.22	310	ePn	Px	13 41 28.0	
MOA	Molln	10.23	336⇑	iPN	Px	13 41 23.7	
MOA				i SN	Sx	13 43 09.1	
BRTR	Keskin Array B	10.32	80	Pn	Px	13 41 29.2	
	comp=Z,0.5nm,0.3s,baz=262,slow=12,SNR=13						
BRTR				LR	LR	13 46 06.1	
	comp=Z,185nm,20.6s,baz=230,slow=42						
BRTR	Keskin Array B	10.32	80	P	Px	13 41 29.2	
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BRTR				MLR	MLR		
	comp=Z,185nm,20.6s						
WTTA	Wattenberg	10.74	326⇑	iPN	Px	13 41 32.7	
WTTA				i SN	Sx	13 43 25.2	
SBF	Sospel	11.07	302	eP	Px	13 41 36.3	
	comp=Z,38nm,1.0s						
DAVOX	Davos	11.22	320	Sn	Px	13 43 46.6	
	comp=Z,0.5nm,0.3s,baz=346,slow=19,SNR=3.4						
GERES	GERESS Array B	11.29	337	Pn	Px	13 41 39.1	
	comp=Z,0.4nm,0.3s,baz=153,slow=15,SNR=10						
GERES				Sn	Sx	13 43 45.5	
	comp=Z,0.7nm,0.3s,baz=152,slow=23,SNR=6.0						
OKC	Ostrava-Krasne	11.30	352	LR	Px	13 47 50.0	
	comp=Z,0.4nm,13.3s						
MORC	Moravsky Berou	11.31	350	P	Px	13 41 40.4	
DAVA	Damuels	11.57	322⇑	iPn	Px	13 41 45.1	
DAVA				i Sn	Sx	13 43 47.7	
KHC	Kasperske Hory	11.58	337	eP	P	13 41 40.5	-5.2
KHC				x	Sx	13 41 55.0	
KHC				eS	S	13 43 35.0	-21
KHC				L		13 48 00.0	
	comp=Z,0.6nm,6.9s						
KHC	Kasperske Hory	11.58	337	eP	P	13 41 40.5	-5.2
KHC				MLR	MLR		
	comp=Z,600nm,6.9s						
KHC	Kasperske Hory	11.58	337	ePn	P	13 41 40.5	-5.2
KHC				e	Sx	13 41 55.0	
KHC				eSn	S	13 43 35.0	-21
MBDF	Montbardon	11.87	305	eP	Px	13 41 47.3	
	comp=Z,29nm,1.2s						
DPC	Dobruska-Polom	12.06	347	LR		13 47 20.0	
	comp=Z,0.9nm,13.3s						
PRU	Pruhonice	12.09	342	L		13 47 20.0	
ORIF	Oris-en-Rattie	12.52	305	eP	Px	13 41 55.3	
ORIF				eR			
	comp=Z,274nm,20.5s						
PVCC	Panska Ves	12.58	343	LR		13 47 50.0	
	comp=Z,0.7nm,13.1s						
NKC	Novy Kostel	12.89	336	L		13 48 00.0	
	comp=Z,0.5nm,8.8s						
CABF	La Chapelle	13.20	312	eP	Px	13 42 04.7	
	comp=Z,7.8nm,0.7s						
HINF	Hinteralfeld	13.46	317	eP	Px	13 42 08.5	
	comp=Z,4.4nm,0.4s						
AKASG	Malin Array Be	13.57	25	Pn	Px	13 42 09.5	
	comp=Z,0.5nm,0.3s,baz=211,slow=12,SNR=3.1						
AKASG	Malin Array Be	13.57	25	P	Px	13 42 09.5	
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
HAU	Haudompre	13.85	317	eP	Px	13 42 13.4	
	comp=Z,5.2nm,0.4s						
HAU				eR			
	comp=Z,208nm,20.2s						
MALT	Malatya	14.12	86	eP	Px	13 42 22.2	
	comp=Z,12nm,0.7s						
SSF	Saint Saulge	14.96	310	eP	Px	13 42 28.0	
EIL	Elat	14.98	122	P	Px	13 42 33.0	
SOC	Sochi	15.35	65	eP	Px	13 42 33.6	
SOC				pmax	pmax		
	comp=Z,8.0nm,0.5s						
SOC				pmax	pmax		
	comp=N,25nm,1.3s						
SOC				pmax	pmax		
	comp=E,5.0nm,0.4s						
SOC				MLR	MLR		
	comp=Z,280nm,30.0s						
SOC				MLR	MLR		
	comp=N,508nm,32.0s						
SOC				MLR	MLR		
	comp=E,138nm,33.0s						
TCF	Toulx Ste Croi	15.43	305	eP	Px	13 42 32.1	
	comp=E,32nm,1.2s						
RJF	Les Rejaudoux	15.53	301	eP	Px	13 42 35.8	
RJF				eR			
	comp=E,125nm,18.5s						
GOF	Gofitskoye	18.00	62	eP	Px	13 43 19.0	
ESDC	Sonseca Array	18.92	281	P	Px	13 43 19.0	
	comp=E,0.6nm,0.3s,baz=77,slow=11,SNR=6.0						
SGMF	Saint Gilles	19.18	307	eP	Px	13 43 20.7	
QUIF	Quistinic	19.44	306	eP	Px	13 43 22.3	
ROSF	Rostrenen	19.66	307	eP	Px	13 43 26.3	
	comp=E,76nm,1.4s						
OBN	Obninsk	19.75	28	i P	P	13 43 29.6	-0.5
OBN				MLR	MLR		
	comp=Z,100nm,14.0s						
HFS	Hagfors	21.92	351	P	P	13 43 51.1	-1.4
	comp=Z,4.2nm,0.5s,mb4.1,baz=157,slow=11,SNR=15						
HFS	Hagfors	21.92	351	P	P	13 43 51.1	-1.4
HFS				pmax	pmax		
	comp=Z,4.0nm,0.5s						
FINES	FINESS Array B	23.09	7	P	P	13 44 01.9	-2.1
	comp=Z,14nm,0.8s,mb4.4,baz=166,slow=8.7,SNR=28						
FINES	FINESS Array B	23.09	7	P	P	13 44 01.9	-2.0
FINES				pmax	pmax		
	comp=Z,14nm,0.8s						
NB2	NORSAR Subarra	23.14	349	P	P	13 44 03.0	-1.4
	comp=Z,0.6nm,0.7s,mb3.1,baz=155,slow=10						
NOA	NORSAR Array B	23.14	349	P	P	13 44 03.9	-0.5
	comp=Z,3.2nm,0.7s,mb3.8,baz=157,slow=9.2,SNR=9.8						
NOA				LR	LR	13 53 35.8	
	comp=Z,79nm,19.3s,MS3.2,baz=180,slow=38						
NOA	NORSAR Array B	23.14	349	P	P	13 44 03.9	-0.5
NOA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
NOA				MLR	MLR		
	comp=Z,79nm,19.3s						
KAF	Kangasniemi	23.77	7	ep	P	13 44 08.7	-1.8
ARCES	ARCESS Array B	31.07	3	P	P	13 45 15.5	-1.9
	comp=Z,4.5nm,1.0s,mb4.2,baz=196,slow=12,SNR=6.7						
ARCES	ARCESS Array B	31.07	3	P	P	13 45 15.5	-2.0
ARCES				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ARCES	ARCESS Array B	31.07	3	P	P	13 45 15.5	-2.0
ZRNK	Zerenda	36.04	50	eP	P	13 45 58.9	-1.7
	comp=Z,10nm,1.2s,mb4.6						
BRVK	Borovoye	36.82	50	eP	P	13 46 05.2	-2.0
	comp=Z,3.8nm,0.8s,mb4.3						
DBIC	Dimbokro	39.18	222	LR	LR	14 03 30.9	
	comp=Z,99nm,19.5s,MS3.6,baz=347,slow=38						
KURK	Kurchatov	42.06	54	eP	P	13 46 48.4	-2.2
	comp=Z,1.4nm,0.6s,mb3.8						
NVS	Novosibirsk	44.42	47	i P	P	13 47 07.8	-2.0
MKAR	Makanchi Array	45.13	59	P	P	13 47 13.4	-2.2
	comp=Z,2.2nm,0.5s,mb4.2,baz=278,slow=6.9,SNR=33						
MKAR				PcP	PcP	13 48 55.0	-1.6
	comp=Z,4.3nm,1.0s,baz=284,slow=4.2,SNR=6.1						
MKAR	Makanchi Array	45.13	59	P	P	13 47 13.5	-2.1
MKAR						13 48 55.0	
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MKAR				pmax	pmax		
	comp=Z,4.0nm,1.0s						
WMQ	Urumqi	49.60	61	eP	P	13 47 51.3	+0.6
WMQ				AP	pP	13 47 56.0	+2.5
WMQ				XP	sP	13 47 58.3	+3.8
WMQ				AMB	AMB		
	comp=Z,6.0nm,1.2s,mb4.5						
KOLN	Koldanda	53.04	82	eP	P	13 48 16.4	-0.5
	comp=Z,4.6nm,0.6s,mb4.6						
GKN	Gorkha	53.73	81	eP	Px	13 48 15.9	
	comp=Z,9.6nm,0.6s						
DMN	Daman	54.28	81	eP	Px	13 48 17.5	
KKN	Kakani	54.33	81	eP	Px	13 48 23.2	
	comp=Z,6.0nm,0.5s						
PKI	Pulchoki	54.53	81	eP	Px	13 48 23.8	
CMAR	Chiang Mai Arr	69.91	82	P	P	13 50 08.0	-2.9
	comp=Z,1.2nm,0.8s,mb3.9,baz=303,slow=7.7,SNR=6.2						
CMAR	Chiang Mai Arr	69.91	82	P	P	13 50 08.0	-2.9
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
CN2	Changchun	73.62	47	eP	P	13 50 31.6	-1.0
WHN	Wuhan	74.45	63	eP	P	13 50 31.6	-6.1
NJ2	Nanjing	76.65	60	eP	P	13 50 48.4	-1.8
CPUP	Villa Florida	97.19	242	LR	LR	14 36 49.0	
	comp=Z,103nm,21.9s,MS4.3,baz=332,slow=36						
WRA	Warramunga Arr	120.64	92	PKP	PKPdf	13 57 49.6	-3.3
	comp=Z,0.3nm,0.6s,baz=338,slow=1.8,SNR=6.9						
ASAR	Alice Springs	122.30	96	PKP	PKPdf	13 57 52.9	-3.1
	comp=Z,0.8nm,0.7s,baz=326,slow=1.8,SNR=12						

*DJA **15** 13:55:20.9±1.0, 8.67S×114.76E, h242^{km}±7^{km}, MD4.9/3,* *Error ellipse: s-maj=49.6km s-min=12.2km az=21.0*

ISC 15 13:55:23.1±3.2,**8.6S**±0.7×**114.8E**±0.5,**h224**^{km}±19^{km},**n5**, σ**0^{s}50**/8,**3C-5D,Bali region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
INGI	Ingas	0.38	124	⇓iPn	P	13 55 52.9	0.0
	211nm,0.2s						
INGI	Ingas	0.38	124	⇓iP	P	13 55 53.2	+0.3
INGI				⇓iSn	S	13 56 15.9	-0.1
KELI	Kelakatan	0.51	320	⇓iPn	P	13 55 52.7	-0.6
KELI				⇑iSn	S	13 56 17.0	+0.3
RATI	Rata	0.71	99	⇓iPn	P	13 55 54.3	+0.3
	136nm,0.2s						
RATI	Rata	0.71	99	⇑iP	P	13 55 54.6	+0.6
RATI				⇑iSn	S	13 56 17.8	-0.2

ISC 15 14:24:42.2±0.6,**46.30N**±0.03×**14.22E**±0.04,**n10**,σ**0^{s}58**/17, **1D,Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OBKA	Obir	0.31	47	⇓iPG	Pg	14 24 48.3	-0.1
OBKA				i SG	Sg	14 24 53.3	+0.8
	21nm,0.2s						
CADS	Cadrg	0.34	258	i Pg	Pg	14 24 48.7	-0.4
CADS				i Sg	Sg	14 24 54.1	+0.5
	comp=Z,47nm,0.4s						
VOY	Vojsko	0.35	221	ePg	Pg	14 24 48.5	-0.7
VOY				eSg	Sg	14 24 54.0	+0.1
DRE	Drenchia	0.42	253	ePg	Pg	14 24 50.0	-0.6
DRE				eSg	Sg	14 24 56.7	+0.5
JAVS	Javornik	0.42	195	ePg	Pg	14 24 49.8	-0.8
JAVS				eSg	Sg	14 24 57.0	+0.8
	comp=Z,10.0nm,0.2s						
ROBS	Robic	0.50	264	i Sg	Sg	14 24 59.2	+0.4
	comp=Z,9.0nm,0.2s						
CEY	Cerknica	0.58	166	i Pg	Pg	14 24 53.5	-0.3
CEY				i Sg	Sg	14 25 01.5	0.0
	comp=Z,34nm,0.2s						
PDKS	Podkum	0.58	112	i Pg	Pg	14 24 53.5	-0.3
VISS	Visnje	0.66	139	i Pg	Pg	14 24 54.9	-0.4
VBY	Vinica-Bojanci	1.07	137	ePg	Pg	14 25 03.0	-0.7
VBY				eSg	Sg	14 25 19.2	+1.2

MEX 15 14:30:45.6±0.9,**16.03N**×**98.12W**,**h4**^{km}±22^{km},**MD3.6,1D, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.36	359	⇓iP	Pg	14 30 51.9	-0.8
PNIG				i S	Sg	14 30 57.7	+0.1
VHO	Vista Hermosa	1.69	52	eP	Pn	14 31 13.1	-3.0
VHO				eS	Sn	14 31 31.8	-6.5
OXX	Oaxaca	1.70	52	eP	Pn	14 31 13.5	-2.7
OXX				eS	Sn	14 31 35.0	-3.6

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*BJI **15** 14:31:13.7,42.60N×126.80W,h10^{km},mB5.0,mb4.4, Ms4.2,Msz4.2*

*IDC **15** 14:31:15.7±1.5,42.43N×126.87W,mb4.0/5,mb1 4.2/11, mb1mx4.1/23,ML3.6/5,MS3.9/15,Ms1 3.9/15, ms1mx3.8/25,Error ellipse: s-maj=28.4km s-min=14.3km az=37.0*

*NEIC **15** 14:31:18.8±0.6,42.59N×126.82W,h10^{km},mb4.5/11, Error ellipse: s-maj=8.4km s-min=4.4km az=72.0*

ISC 15 14:31:17.2±0.5,**42.58N**±0.03×**126.75W**±0.06,**h10**^{km}, **n120**,σ**1^{s}10**/106,**mb4.3**/13,**MS3.9**/12,**4C-2D,Off coast of Oregon**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEBM	Edson Butte	1.81	80	eP	Pn	14 31 48.1	-0.6
HUMO	Hull Mountain	2.80	88	eP	Pn	14 32 02.5	-0.5
KHMM	Horse Mountain	2.83	126	eP	Pn	14 31 59.2	-4.2
HSO	Harness Mounta	2.85	69	eP	Pn	14 32 03.1	-0.5
YBH	Yreka Blue Hor	3.12	104	Pn	Pn	14 32 07.5	0.0
	3.5nm,0.3s,baz=279,slow=12,SNR=84						
YBH	Yreka Blue Hor	3.12	104	eP	Pn	14 32 07.4	-0.1
COR	Corvallis	3.21	50	eP	Pn	14 32 08.2	-0.6
WDC	Whiskeytown Da	3.73	121	eP	Pn	14 32 15.0	-1.2
TDH	Tom, Dick, Har	4.49	51	P	Pn	14 32 27.8	+0.8
VLMM	Larch Mountain	4.51	47	P	Pn	14 32 28.5	+1.4
BMW	Boistfort Moun	4.64	32	P	Pn	14 32 28.3	-0.8
VLL	Laurance Lake	4.66	50	P	Pn	14 32 30.6	+1.3
VFP	Flag Point	4.70	53	P	Pn	14 32 30.5	+0.6
FL2	Flat Top 2	4.80	40	P	Pn	14 32 32.1	+0.8
CROR	Criterion Ridg	4.82	58	P	Pn	14 32 31.7	+0.1
MOD	Modoc	4.83	96	eP	Pn	14 32 30.2	-1.7
SHW	Mount Saint He	4.85	40	eP	Pn	14 32 33.5	+1.4
VIPM	Ingram Point	4.86	64	P	Pn	14 32 32.8	+0.6
NSHM	Saint Helena R	5.14	141	eP	Pn	14 32 35.4	-0.7
OHCM	Honcut	5.14	127	eP	Pn	14 32 34.2	-1.9
ASR	Mount Adams--S	5.14	44	P	Pn	14 32 37.3	+1.2
VGB	Gordon Butte	5.21	54	eP	Pn	14 32 37.1	-0.1
LON	Longmire	5.46	38	eP	Pn	14 32 40.5	-0.2
BEKR	Beckwourth	5.53	117	eP	Pn	14 32 41.7	0.0
FMW	Mount Fremont	5.66	38	P	Pn	14 32 44.6	+1.2
WVOR	Wild Horse Val	6.00	89	eP	Pn	14 32 46.2	-2.1
WCN	Washoe City	6.22	119	eP	Pn	14 32 50.7	-0.8
CMB	Columbia Colle	6.65	131	eP	Pn	14 32 57.9	+0.4
LNOR	Lincton Mounta	6.92	59	eP	Pn	14 32 60.0	-1.2
RPW	Rockport	6.93	30	eP	Pn	14 33 00.3	-1.1
NLW	Nelson Butte	7.12	37	eP	Pn	14 33 02.7	-1.4
NVAR	Mina Array Bea	7.65	120	Pn	Pn	14 33 10.9	-0.6
	0.3nm,0.3s,baz=294,slow=14,SNR=24						
NVAR				LR	LR	14 36 19.6	
	comp=Z,2µm,19.1s,baz=20,slow=40						
MNV	Mina	7.75	119	eP	Pn	14 33 12.0	-0.8
DPW	Davenport	8.03	46	eP	P	14 33 15.2	-1.5
MTUM	Tungsten Hills	8.17	127	eP	P	14 33 19.0	+0.3
TPH	Tonopah	8.55	119	eP	P	14 33 22.4	-1.6
ELK	Elko	8.81	98	eP	P	14 33 29.2	+1.6
NEW	Newport	8.84	47	Pn	P	14 33 30.3	+2.3
	0.2nm,0.3s,baz=283,slow=17,SNR=3.5						
NEW				LR	LR	14 37 05.6	
	comp=Z,676nm,19.0s,baz=230,slow=39						
HLID	Hailey	9.09	80	eP	P	14 33 31.1	-0.4
BBB	Bella Bella	9.66	355	Pn	P	14 33 42.9	+3.6
	0.2nm,0.3s,baz=207,slow=9.8,SNR=4.7						
TPNV	Topopah Spring	9.84	121	eP	P	14 33 42.8	+1.0
MCMT	McKenzie Canyo	10.32	73	eP	P	14 33 48.2	-0.1
CHMT	Chamberlain Mo	10.54	61	eP	P	14 33 50.2	-1.1
SPUT	South Promonto	10.73	92	eP	P	14 33 49.7	-4.3
ARUT	Antelope Range	11.25	111	eP	P	14 34 00.9	-0.1
BOZ	Bozeman (W)	11.30	69	eP	P	14 34 01.6	-0.2
QLMT	Earthquake Lak	11.32	73	eP	P	14 34 02.6	+0.5
HWUT	Hardware Ranch	11.33	90	eP	P	14 34 01.7	-0.5
NLU	North Lily Min	11.35	98	eP	P	14 33 59.7	-2.8
HRY	Holter Researc	11.40	64	eP	P	14 34 00.3	-2.9
TPAW	Teton Pass	11.60	80	eP	P	14 34 06.1	+0.2
JLU	Jordanelle	11.63	95	eP	P	14 34 05.5	-0.8
REDW	Red Top Meadow	11.68	81	P	P	14 34 07.0	0.0
MOOW	Moose Ponds	11.75	79	eP	P	14 34 07.1	-0.9
LDFC	Landfair	11.76	126	eP	P	14 34 08.7	+0.7
MVU	Marysvale	11.79	105	eP	P	14 34 07.4	-1.0
MSU	Marysvale	11.81	105	eP	P	14 34 07.6	-1.1
DAU	Daniels Canyon	11.82	95	eP	P	14 34 07.6	-1.3
BW06	Boulder Array	12.66	83	eP	P	14 34 19.8	-0.4
PDAR	Pinedale Array	12.66	83	Pn	P	14 34 21.6	+1.5
	0.1nm,0.3s,baz=286,slow=11,SNR=11						
PDAR				LR	LR	14 39 37.8	
	comp=Z,856nm,19.3s,baz=268,slow=39						
GCMT	Greycliff	12.68	69	eP	P	14 34 20.2	-0.1
SRU	San Rafael	12.77	100	eP	P	14 34 21.1	-0.4
WUAZ	Wupatki	13.86	115	eP	P	14 34 35.7	-0.4
EDM	Edmonton	13.91	35	eP	P	14 34 36.0	-0.6
PV10	Paradox Valley	14.12	101	eP	P	14 34 40.1	+0.8
PV01	Paradox Valley	14.55	102	eP	P	14 34 45.5	+0.5
DLBC	Dease Lake	16.01	354	Pn	P	14 35 07.1	+3.2
	baz=191,slow=12,SNR=8.3						
DLBC				LR	LR	14 40 06.5	
	comp=Z,308nm,19.7s,baz=345,slow=33						
DLBC	Dease Lake	16.01	354	Pn	P	14 35 07.1	+3.2
DLBC				LR	LR	14 40 06.5	
ISCO	Idaho Springs	16.15	93	eP	P	14 35 07.6	+1.8
	16nm,0.8s						
TUC	Tucson	16.28	124	eP	P	14 35 09.2	+1.7
	36nm,1.7s						
DGMT	Dagmar	16.84	62	P	P	14 35 11.3	-3.2
	27nm,1.0s						
SDCO	Great Sand Dun	16.93	99	eP	P	14 35 17.2	+1.5
	47nm,1.4s						
LAZ	Ladron	17.36	112	eP	P	14 35 23.4	+2.2
ANMO	Albuquerque	17.54	109	eP	P	14 35 23.8	+0.5
	23nm,1.4s						
LENM	Lemitar	17.61	112	eP	P	14 35 25.4	+1.2
LPM	Los Pinos Moun	17.76	111	eP	P	14 35 27.5	+1.4
BNM	Barren Site	17.85	111	eP	P	14 35 28.6	+1.4
FFC	Flin Flon	20.26	45	Pn	P	14 35 56.7	+1.4
	144nm,1.1s,SNR=9.1						
FFC	Flin Flon	20.26	45	eP	P	14 35 54.2	-1.1
	24nm,1.0s						
CPRX	Cap Rock	20.39	110	eP	P	14 35 56.1	-0.7
GDL2	Guadalupe Moun	20.53	113	eP	P	14 35 58.6	+0.4
YKA	Yellowknife Ar	21.20	16	P	P	14 36 04.1	-0.8
	10nm,0.9s,mb4.2,baz=204,slow=11,SNR=13						
YKA				LR	LR	14 43 48.5	
	comp=Z,90nm,18.7s,MS3.2,baz=155,slow=35						
YKA	Yellowknife Ar	21.20	16	P	P	14 36 04.1	-0.8
YKA				LR	LR	14 43 48.5	
ULM	Lac du Bonnet	22.51	59	P	P	14 36 18.9	+0.8
	6.9nm,0.9s,mb4.1,baz=278,slow=6.7,SNR=3.7						
ULM				LR	LR	14 45 02.1	
	comp=Z,208nm,19.0s,MS3.6,baz=34,slow=36						
DAWY	Dawson	22.73	346	eP	P	14 36 20.7	+0.6
LTX	Lajitas	22.80	118	eP	P	14 36 24.4	+3.3
	45nm,1.5s,mb4.7						
TXAR	Lajitas Array	22.80	118	P	P	14 36 24.0	+2.8
	3.4nm,0.8s,mb3.9,baz=304,slow=6.5,SNR=8.2						
KSU1	Kansas State U	23.01	88	eP	P	14 36 24.4	+1.3
WMOK	Wichita Mounta	23.13	100	eP	P	14 36 24.9	+0.5
	20nm,1.2s,mb4.4						
ILAR	Eielson Array	25.00	340	P	P	14 36 42.4	+0.2
	2.6nm,1.0s,mb3.7,baz=156,slow=7.3,SNR=19						
ILAR				PcP	PcP	14 40 15.9	-2.3
	0.6nm,0.8s,baz=168,slow=2.0,SNR=7.6						
ILAR				LR	LR	14 44 49.2	
	comp=Z,287nm,21.1s,MS3.8,baz=163,slow=32						
INK	Inuvik	26.04	354	LR	LR	14 46 32.1	
	comp=Z,260nm,19.3s,MS3.8,baz=297,slow=35						
MIAR	Mount Ida	27.02	96	eP	P	14 37 01.7	+0.5
CCM	Cathedral Cave	27.32	87	eP	P	14 37 03.3	-0.7
SLM	Saint Louis	27.86	86	eP	P	14 37 07.5	-1.4
CPCT	Cooper Cave	33.30	88	P	P	14 37 59.4	+2.4
SCHQ	Schefferville	40.18	51	LR	LR	14 55 12.0	
	comp=Z,176nm,18.1s,MS4.0,baz=96,slow=36						
SUMG	Summit	49.51	23	P	P	14 40 09.6	+0.3
SDV	Santo Domingo	59.31	107	eP	P	14 41 22.2	+0.4
ROSC	El Rosal	59.63	114	LR	LR	15 12 56.6	
	comp=Z,92nm,19.5s,MS3.9,baz=359,slow=42						
OTAV	Otavalo	60.39	121	P	P	14 41 29.9	+0.7
ARCES	ARCESS Array B	66.35	10	LR	LR	15 12 48.1	
	comp=Z,113nm,18.2s,MS4.1,baz=300,slow=38						
MDJ	Mudanjiang	69.68	312	P	P	14 42 21.8	-6.9
MDJ				AMB	AMB		
	comp=Z,6.0nm,1.2s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,69nm,3.5s						
MDJ				LR	LR		
	comp=N,46nm,21.9s						
MDJ				LR	LR		
	comp=E,73nm,28.4s						
MDJ				LR	LR		
	comp=Z,108nm,24.1s,MS4.0						
CN2	Changchun	72.46	314	eP	P	14 42 44.8	-0.7
FINES	FINESS Array B	74.01	13	LR	LR	15 15 28.5	
	comp=Z,54nm,19.3s,MS3.9,baz=350,slow=36						
ESDC	Sonseca Array	83.11	41	LR	LR	15 20 25.2	
	comp=Z,108nm,18.3s,MS4.3,baz=290,slow=35						
BRVK	Borovoye	83.62	350	eP	P	14 43 46.1	-0.4
	comp=Z,4.1nm,0.9s,mb4.6						
ZRNK	Zerenda	83.89	350	eP	P	14 43 46.7	-1.1
	comp=Z,6.2nm,1.1s,mb4.7						
NJ2	Nanjing	84.44	309	eP	P	14 43 50.5	-0.7
KURK	Kurchatov	84.49	344	eP	P	14 43 49.9	-1.0
	comp=Z,3.6nm,1.1s,mb4.4						
MKAR	Makanchi Array	87.36	340	P	P	14 44 03.7	-1.5
	comp=Z,0.4nm,0.7s,mb3.8,slow=4.3,SNR=3.8						
MKAR				LR	LR	15 25 04.1	
	comp=Z,94nm,18.6s,MS4.2,baz=29,slow=37						
WMQ	Urumqi	88.61	336	eP	P	14 44 12.0	+0.7
WMQ				AP	pP	14 44 16.8	+2.3
WMQ				XP	sP	14 44 19.0	+3.5
WMQ				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.9						
WMQ				LR	LR		
	comp=E,42nm,19.5s						
LZH	Lanzhou	89.11	321	eP	P	14 44 13.8	-0.1
LZH				AMB	AMB		
	comp=Z,9.0nm,1.6s,mb4.8						
BDFB	Brasilia	92.39	109	LR	LR	15 27 44.2	
	comp=Z,99nm,20.5s,MS4.2,baz=292,slow=37						
VNA3	Neumayer Olymp	138.30	154	⇑i	PKPdf	14 50 46.6	+1.8
VNA3	Neumayer Olymp	138.30	154		PKPdf	14 50 49.6	+4.8
VNA1	Neumayer--Stat	138.85	154	⇓i	PKPdf	14 50 47.8	+2.0
VNA1	Neumayer--Stat	138.85	154	⇑i	PKPdf	14 50 49.0	+3.2
VNA2	Neumayer--Watz	139.09	154	⇓i	PKPdf	14 50 47.2	+1.0
VNA2	Neumayer--Watz	139.09	154	⇑i	PKPdf	14 50 53.6	+7.4
SNAA	Sanae	140.34	156	⇑i	PKPdf	14 50 53.3	+4.8

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*DJA **15** 14:42:40.3±0.9,8.56S×118.10E,h283^{km}±9^{km},MD4.5/4, ML4.6/4,Error ellipse: s-maj=67.4km s-min=26.2km az=177.0*

ISC 15 14:42:43.1±1.9,**7.6S**±0.3×**117.6E**±0.2,**h280**^{km}±25^{km},**n9**, σ**1^{s}21**/14,**4C-6D,Bali Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEDI	Kedomdong	1.73	240	⇑iPn	P	14 43 26.6	+0.4
	419nm,0.2s						
KEDI				⇑iSn	S	14 44 00.0	+0.2
RATI	Rata	2.35	242	⇑ePn	P	14 43 31.0	-0.5
	445nm,0.3s						
RATI	Rata	2.35	242	⇓iP	P	14 43 31.3	-0.2
RATI				⇓iSn	S	14 44 08.6	-0.5
INGI	Ingas	2.73	244	⇓iPn	P	14 43 34.9	-0.2
	604nm,0.3s						
INGI	Ingas	2.73	244	⇓iP	P	14 43 35.1	0.0
INGI				⇓iSn	S	14 44 14.8	-0.9
KELI	Kelakatan	3.17	259	⇓ePn	P	14 43 42.1	+2.5
	45nm,0.2s						
KELI				⇑iSn	S	14 44 28.1	+4.5
FITZ	Fitzroy Crossi	13.00	144	eP	P	14 45 37.4	-2.0
	1.8nm,0.6s						
FITZ				eS	S	14 48 01.4	+2.5
WB2	Warramunga Arr	20.30	129	eP	P	14 46 58.0	-1.0
ASPA	Alice Springs	22.31	137	eP	P	14 47 19.0	+0.6

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*NEIC **15** 14:51:44.6,34.87N×25.71E,h14^{km},MD3.6(ATH),After ATH.*

*ATH **15** 14:51:44.6,34.87N×25.71E,h14^{km}±2^{km},MD3.6/8*

*THE **15** 14:51:46.7,34.89N×25.89E,h14^{km}*

ISC 15 14:51:45.4±0.8,**34.93N**±0.04×**25.73E**±0.06,**h10**^{km},**n16**, σ**0^{s}96**/22,**1C-1D,Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
XRY	Khrisi	0.07	209	⇓iPG	Pg	14 51 47.0	-0.7
NPS	Neapolis	0.34	343	⇑iPB	Pb	14 51 52.1	-1.1
NPS				eSB	Sb	14 51 57.8	-0.6
KARP	Karpathos	1.32	62	ePB	Pb	14 52 10.2	+0.3
VAM	Vamos	1.34	291	ePG	Pg	14 52 09.8	-2.5
VAM				eSB	Sb	14 52 29.0	+1.7
GVD	Gavdhos	1.35	267	eP	Pb	14 52 11.2	+0.7
THR6	Thira Island,	1.45	349	ePb	Pb	14 52 12.2	+0.1
THR6				eSb	Sb	14 52 31.1	+0.7
THR1	Thera Island	1.45	351	ePb	Pb	14 52 12.0	-0.1
THR1				eSb	Sb	14 52 31.0	+0.5
SANT	Santorini	1.45	351	eP	Pn	14 52 10.1	-1.8
THR3	Thira Island,	1.50	350	ePb	Pb	14 52 13.0	0.0
THR3				eSb	Sb	14 52 31.8	-0.1
THR5	Thira Island,	1.51	348	ePb	Pb	14 52 12.4	-0.8
THR5				eSb	Sb	14 52 32.7	+0.4
THR4	Thira Island,	1.55	350	ePb	Pb	14 52 13.3	-0.5
APE	Apeiranthos	2.14	356	ePB	Pn	14 52 22.0	+0.3
ARG	Arkhangelos	2.33	56	ePN	Pn	14 52 26.4	+1.9
KYTH	Kithira	2.58	302	ePN	Pn	14 52 29.5	+1.5
VLI	Veliai	2.89	309	ePN	Pn	14 52 32.3	-0.1
AGG	Agios Georgios	4.91	327	ePn	Pn	14 53 00.7	-0.4

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*NEIC **15** 14:53:51.3,18.63N×64.50W,h25^{km},MD3.6(RSPR), After RSPR.*

RSPR 15 14:53:51.3,18.63N×**64.50W,h25**^{km}±23^{km},**3C,Virgin Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBYP	Canovanas	1.33	255	eP	Pn	14 54 14.2	-0.4
CELP	Cerrillos	2.05	255	⇑eP	Pn	14 54 22.1	-2.8
CELP				eS	Sn	14 54 46.1	-3.7
PORP	Portuguez	2.11	255	⇑eP	Pn	14 54 22.7	-3.0
PORP				eS	Sn	14 54 48.0	-3.3
LSP	Las Mesas	2.50	260	⇑eP	Pn	14 54 28.9	-2.3

KRSC 15 15:01:33.4±0.8,**55.26N**×**161.66E,h85**^{km}±3^{km},**ML3.9, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MKZ	Mys Kozlova	0.71	177	i P	P	15 01 49.9	+0.1
MKZ				eS	S	15 02 01.8	-0.1
TUMR	Tumrok	0.87	272	i P	P	15 01 52.1	+0.7
TUMR				i S	S	15 02 05.5	+0.5
ZLN	Zelenaya	0.90	328	i P	P	15 01 52.5	+0.7
ZLN				eS	S	15 02 07.3	+1.6
KMNR	Kamenistaya	0.95	302	i P	P	15 01 52.9	+0.5
KMNR				eS	S	15 02 07.4	+0.7
LGNR	Loginova	0.99	327	i P	P	15 01 54.0	+1.1
LGNR				eS	S	15 02 08.5	+0.9
CIRR	Tsirk	1.00	329	i P	P	15 01 53.8	+0.8
CIRR				eS	S	15 02 08.4	+0.6
KPT	Kopyto	1.08	312	eP	P	15 01 54.3	+0.4
KPT				eS	S	15 02 08.9	-0.5
KRSR	Krestovskiy	1.14	328	eP	P	15 01 55.0	+0.3
KRSR				eS	S	15 02 10.4	-0.3
KBTR	Krutoberegovo	1.15	34	i P	P	15 01 56.0	+1.1
KBTR				eS	S	15 02 12.0	+1.0
KBG	Krutoberegovo	1.16	30	eP	P	15 01 56.0	+1.0
KBG				eS	S	15 02 12.5	+1.4
KBG				Smax			
	1µm,0.8s						
KLY	Klyuchi	1.20	332	i P	P	15 01 55.3	-0.2
KLY				eS	S	15 02 11.2	-0.8
KOZ	Kozyrevsk	1.29	309	i P	P	15 01 57.2	+0.5
KOZ				i S	S	15 02 15.2	+1.1
SVLR	Shiveluch	1.34	350	eP	P	15 01 58.2	+0.8
SVLR				eS	S	15 02 16.7	+1.5
SRDR	Sredinnyy	1.52	315	i P	P	15 02 00.0	+0.3
SRDR				eS	S	15 02 17.9	-1.3
KII	Karymskiy	1.78	227	eP	P	15 02 04.0	+1.0
KII				eS	S	15 02 26.5	+1.7
ESO	Esso	1.81	293	i P	P	15 02 03.5	+0.1
ESO				eS	S	15 02 25.0	-0.5
SPN	Mys Shipunski	2.37	205	eP	P	15 02 11.0	-0.2
SPN				eS	S	15 02 37.4	-1.8
NLC	Nalytchevo	2.50	214	eP	P	15 02 13.4	+0.5
NLC				i S	S	15 02 42.9	+0.5
SDLR	Sedlovina	2.57	220	eP	P	15 02 14.7	+0.8
SDLR				eS	S	15 02 44.8	+0.7
SMAR	Somma	2.61	221	eP	P	15 02 15.1	+0.6
SMAR				eS	S	15 02 45.4	+0.2
AVH	Avacha	2.63	222	eP	P	15 02 16.1	+1.3
AVH				eS	S	15 02 47.7	+1.9
UGLR	Uglovaya	2.65	220	i P	P	15 02 16.0	+1.0
UGLR				eS	S	15 02 47.5	+1.4
KOK	Koryaka	2.65	223	eP	P	15 02 16.2	+1.1
KOK				eS	S	15 02 47.9	+1.7
GNL	Ganaly	2.68	236	eP	P	15 02 16.3	+0.9
GNL				eS	S	15 02 49.0	+2.1
PET	Petropavlovsk	2.85	220	eP	P	15 02 18.6	+0.7
PET				eS	S	15 02 50.8	-0.5
RUS	Russkaya	3.39	215	eP	P	15 02 25.8	+0.5
RUS				eS	S	15 03 04.0	-0.6
GRL	Gorelyy	3.44	219	eP	P	15 02 28.0	+1.9
GRL				eS	S	15 03 08.1	+2.2
APC	Apacha	3.54	230	eP	P	15 02 29.2	+1.9
APC				eS	S	15 03 09.9	+1.7
APC				Smax			
	10.0nm,1.3s						
MIPR	Malaya Ipel’ka	4.17	226	eP	P	15 02 37.1	+1.0

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*NEIC **15** 15:14:40.5±5.9,21.54S×176.50W,h125^{km}±50^{km}, mb4.8/10,Error ellipse: s-maj=25.4km s-min=15.6km az=215.0*

*IDC **15** 15:14:48.0±13.0,21.65S×176.54W,h190^{km}±110^{km}, mb4.2/7,mb1 4.4/8,mb1mx4.0/15,Error ellipse: s-maj=59.1km s-min=23.8km az=47.0*

ISC 15 15:14:40.9±3.0,**21.7S**±0.1×**176.7W**±0.1,**h134**^{km}±26^{km}, **n46**,σ**0^{s}98**/40,**mb4.6**/13,**4C-2D,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	Nonsavu	6.35	307	Pn	P	15 16 22.2	+9.0
	384nm,0.9s,SNR=16						
RAR	Rarotonga	15.73	91	eP	P	15 18 08.0	-8.3
PUZ	Puketiti	16.91	194	eP	P	15 18 31.4	+0.6
PUZ				S	S	15 21 22.9	-10
MWZ	Matawai	17.33	196	S	S	15 21 35.4	-7.0
URZ	Urewera	17.37	197	P	P	15 18 36.4	0.0
	12nm,0.3s,baz=7.2,slow=5.1,SNR=43						
TSZ	Takapari Road	19.36	197	eP	P	15 18 57.4	-1.0
SNZO	South Karori	20.88	198	P	P	15 19 12.3	-1.5
	78nm,1.0s						
NNZ	Nelson	21.21	201	eP	P	15 19 15.8	-1.4
NNZ				S	S	15 22 59.9	0.0
THZ	Tophouse	21.86	201	eP	P	15 19 22.7	-0.8
KHZ	Kahutara	22.24	199	P	P	15 19 28.2	+0.9
RPZ	Rata Peaks	24.22	202	P	P	15 19 48.7	+2.3
	20nm,0.7s,mb4.8,baz=233,slow=1.8,SNR=8.8						
CTA	Charters Tower	34.63	266	⇓iP	P	15 21 20.7	+1.3
	11nm,0.7s,mb4.6						
CTA	Charters Tower	34.63	266	P	P	15 21 21.1	+1.8
	13nm,0.6s,mb4.7,baz=102,slow=12,SNR=16						
CTAO	Charters Tower	34.63	266	eP	P	15 21 21.1	+1.7
	16nm,0.8s,mb4.7						
STKA	Stephens Creek	38.42	246	eP	P	15 21 52.0	+0.9
	3.9nm,0.4s,mb4.4						
STKA	Stephens Creek	38.42	246	P	P	15 21 52.6	+1.5
	3.8nm,0.5s,mb4.3,baz=100,slow=9.2,SNR=14						
STKA	Stephens Creek	38.42	246	eP	P	15 21 52.1	+1.1
ASAR	Alice Springs	45.48	258	P	P	15 22 48.9	+0.3
	35nm,1.2s,mb4.9,baz=97,slow=9.5,SNR=82						
ASPA	Alice Springs	45.48	258	eP	P	15 22 48.7	+0.1
WB2	Warramunga Arr	45.67	263	⇓iP	P	15 22 49.8	-0.4
WRA	Warramunga Arr	45.69	263	P	P	15 22 50.0	-0.3
	5.8nm,0.7s,mb4.3,baz=96,slow=8.5,SNR=52						
FORT	Forrest	49.98	247	eP	P	15 23 22.2	-1.3
	216nm,0.6s						
FITZ	Fitzroy Crossi	54.12	263	eP	P	15 23 53.9	-0.6
	4.1nm,1.2s,mb4.0						
FITZ	Fitzroy Crossi	54.12	263	P	P	15 23 54.3	-0.2
	3.9nm,0.6s,mb4.3,baz=62,slow=3.4,SNR=20						
KLBR	Kellerberrin	58.69	245	eP	P	15 24 27.2	+0.3
	19nm,0.7s,mb5.0						
MBWA	Marble Bar	58.82	258	eP	P	15 24 26.1	-1.8
	7.6nm,0.7s,mb4.6						
NWAO	Narrogin (SRO)	58.96	244	eP	P	15 24 29.1	+0.4
	10nm,0.9s,mb4.7						
MUN	Mundaring	59.95	245	eP	P	15 24 36.1	+0.6
	7.4nm,0.5s,mb4.8						
CASY	Casey	63.43	206	eP	P	15 24 58.5	+0.1
	4.0nm,0.6s,mb4.4						
QSPA	South Pole Qui	68.39	180	eP	P	15 25 30.8	+1.2
	6.8nm,0.9s,mb4.4						
QSPA				e		15 25 43.1	
MAW	Mawson	80.87	200	P	P	15 26 40.6	-0.4
	3.3nm,0.6s,mb4.2,baz=131,slow=8.3,SNR=15						
ARUT	Antelope Range	83.81	45	eP	P	15 26 56.3	-0.4
SNAA	Sanae	86.79	178		P	15 27 11.6	+1.0
SNAA	Sanae	86.79	178		P	15 27 22.6	+12
VNA3	Neumayer Olymp	86.88	176	⇑i	P	15 27 15.6	+4.6
VNA3	Neumayer Olymp	86.88	176	⇑i	P	15 27 27.1	+16
VNA2	Neumayer--Watz	87.33	176	⇑i	P	15 27 17.4	+4.2
VNA2	Neumayer--Watz	87.33	176	⇑i	P	15 27 29.2	+16
BVAR	Borovoye Array	120.79	320	PKP	PKPdf	15 33 16.9	-0.2
	2.2nm,0.6s,baz=146,slow=1.8,SNR=10						
ZRNK	Zerenda	121.63	320	ePKPdf	PKPdf	15 33 18.0	-0.7
ARCES	ARCESS Array B	130.31	350	PKP	PKPdf	15 33 34.4	-0.5
	4.2nm,0.8s,baz=346,slow=5.0,SNR=4.5						
AKASG	Malin Array Be	144.65	331	PKP	PKPdf	15 33 59.9	-1.5
	2.0nm,0.5s,baz=41,slow=4.4,SNR=14						

BRTR	**Keskin Array B**	**148.56**	**312**	PKPbc	PKPdf	15 34 12.4	+4.2
	1.2nm,0.6s,baz=158,slow=6.7,SNR=5.9						
CLL	**Collm**	**149.49**	**348**	i PKP1	PKPdf	15 34 15.1	+5.8
BRG	**Berggiesshubel**	**149.71**	**347**	eP	PKPdf	15 34 15.9	+6.2
GERES	**GERESS Array B**	**151.67**	**346**	PKPbc	PKPdf	15 34 20.2	+7.5
	0.7nm,0.6s,SNR=4.8						

DJA 15 15:24:11.5±0.8, 8.88S×115.25E, h96$^{\mathrm{km}}$±5$^{\mathrm{km}}$, MD4.9/4, ML3.3/1, 3C-8D, Error ellipse: s-maj=23.6km s-min=6.0km az=5.0, Bali region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
INGI	**Ingas**	**0.12**	**299**	⇓iPn	P	15 24 24.4	-0.7
	501nm,0.2s						
INGI	**Ingas**	**0.12**	**299**	⇑iP	P	15 24 24.7	-0.4
INGI				⇓iSn	S	15 24 35.0	-0.2
RATI	**Rata**	**0.32**	**61**	⇓iPn	P	15 24 25.9	+0.2
	240nm,0.2s						
RATI	**Rata**	**0.32**	**61**	⇓iP	P	15 24 26.1	+0.4
RATI				⇑iSn	S	15 24 36.6	0.0
KEDI	**Kedomdong**	**0.94**	**66**	⇑iPn	P	15 24 30.9	-0.2
KEDI				⇓iSn	S	15 24 44.7	-1.1
KELI	**Kelakatan**	**1.00**	**311**	⇓iPn	P	15 24 32.0	+0.1
	50nm,0.2s						
KELI	**Kelakatan**	**1.00**	**311**	⇓iP	P	15 24 32.1	+0.2
KELI				⇓iSn	S	15 24 47.0	-0.1

NIED 15 15:36:00, 33.20N×141.00E, h56$^{\mathrm{km}}$, Mw4.4 Best double couple: $M_0$3.96×10^{15} NP1:ϕ_s334°, δ56°, λ60°. NP2:ϕ_s200°, δ45°, λ127°.

MOS 15 15:36:11.2±0.9, 33.23N×140.83E, h47$^{\mathrm{km}}$, mb4.4/10, Error ellipse: s-maj=31.7km s-min=15.0km az=103.0

JMA 15 15:36:12.9±0.1, 33.25N×140.97E, h46$^{\mathrm{km}}$, M4.5

JMA Felt II J1.

IDC 15 15:36:13.8±0.6, 33.14N×140.77E, h48$^{\mathrm{km}}$±5$^{\mathrm{km}}$, mb4.1/12, mb1 4.3/14, mb1mx4.1/22, MS3.5/2, Ms1 3.5/2, ms1mx3.1/22, Error ellipse: s-maj=12.7km s-min=8.0km az=163.0

NEIC 15 15:36:15.4±1.1, 33.16N×140.77E, h62$^{\mathrm{km}}$±10$^{\mathrm{km}}$, mb4.5/10, MW4.4(NIED), Error ellipse: s-maj=11.0km s-min=6.0km az=84.0

NEIC Recorded [2 JMA] on Hachijo-jima and [1 JMA] on Aoga-shima.

ISC 15 15:36:12.5±0.7, 33.16N±0.03×140.90E±0.06, h55$^{\mathrm{km}}$±6$^{\mathrm{km}}$, h49$^{\mathrm{km}}$±2.7$^{\mathrm{km}}$:pP-P, n78, σ1$^{\mathrm{s}}$.08/82, mb4.5/23, MS3.9/1, 7C-6D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**0.91**	**268**	⇓P	**P**	**15 36 30.5**	**+1.1**
JHJ2				eS	**S**	**15 36 43.7**	**+1.8**
JHJ	**Hachijo jima 2**	**0.94**	**268**	P	**P**	**15 36 30.6**	**+0.9**
	2μm,0.3s,baz=89,slow=23,SNR=66						
JHJ				S	**S**	**15 36 40.5**	**-2.1**
	4μm,0.3s,baz=82,slow=23,SNR=12						
JMY	**Miyakejima3**	**1.47**	**309**	P	**P**	**15 36 37.8**	**+0.5**
JMY				eS	**S**	**15 36 55.9**	**+0.4**
BSO1	**Boso 1**	**1.50**	**2**	P	**P**	**15 36 36.8**	**-0.8**
BSO1				S	**S**	**15 36 53.0**	**-3.2**
BSO3	**Boso 3**	**1.67**	**349**	⇑P	**P**	**15 36 39.5**	**-0.6**
BSO3				eS	**S**	**15 36 59.3**	**-1.2**
JKO	**Kozu shima**	**1.79**	**305**	⇓P	**P**	**15 36 42.2**	**+0.5**
JKO				eS	**S**	**15 37 04.0**	**+0.6**
NJJJ	**Nii jima 2**	**1.83**	**313**	⇑P	**P**	**15 36 42.8**	**+0.5**
NJJJ				eS	**S**	**15 37 03.7**	**-0.6**
BSO4	**Boso 4**	**1.89**	**346**	⇑P	**P**	**15 36 42.7**	**-0.4**
JIM2	**Oshima 3**	**1.98**	**322**	P	**P**	**15 36 44.2**	**-0.1**
JIZS	**Izushimoda**	**2.29**	**313**	⇓P	**P**	**15 36 49.3**	**+0.5**
JIZS				eS	**S**	**15 37 15.1**	**-0.7**
JOD2	**Odawara 2**	**2.58**	**325**	P	**P**	**15 36 52.6**	**-0.3**
TK04	**Tokai 4**	**2.80**	**297**	P	**P**	**15 36 57.4**	**+1.4**
TK01	**Tokai 1**	**2.83**	**283**	P	**P**	**15 36 57.2**	**+0.7**
SHZ3	**Shizuoka 3**	**2.94**	**311**	⇓P	**P**	**15 36 59.2**	**+1.3**
JYN	**Shimob**	**3.04**	**321**	P	**P**	**15 37 00.3**	**+0.9**
JRY	**Ryogami san**	**3.30**	**331**	⇑P	**P**	**15 37 02.8**	**-0.2**
MAJO	**Matsushiro**	**4.04**	**328**	eP	**P**	**15 37 14.0**	**+0.5**
MAT	**Matsushiro**	**4.04**	**328**	P	**P**	**15 37 14.0**	**+0.5**
MAT				S	**S**	**15 37 58.5**	**-1.5**
MAT	**Matsushiro**	**4.04**	**328**	eP	**P**	**15 37 14.0**	**+0.5**
MAT				eS	**S**	**15 37 59.0**	**-1.0**
CBIJ	**Chichi jima**	**6.14**	**169**	P	**P**	**15 37 40.8**	**-2.0**
	33nm,0.3s,baz=281,slow=18,SNR=17						
CBIJ				S	**S**	**15 38 47.7**	**-4.8**
	19nm,0.3s,baz=284,slow=22,SNR=5.8						
JNU	**Nakatsue**	**8.41**	**273**	S	**S**	**15 39 47.6**	**-1.0**
	2.6nm,0.3s,baz=269,slow=30,SNR=2.3						
ASAJ	**Asahikawa**	**11.03**	**6**	P	**P**	**15 38 47.2**	**-2.8**
	1.7nm,0.3s,baz=272,slow=15,SNR=12						
ASAJ				S	**S**	**15 40 53.6**	**+0.9**
	0.4nm,0.3s,baz=118,slow=30,SNR=3.3						
ASAJ	**Asahikawa**	**11.03**	**6**	P	**P**	**15 38 47.2**	**-2.8**
ASAJ				S	**S**	**15 40 53.6**	**+0.9**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
JOW	**Kunigami**	**12.62**	**243**	LR	LR	15 42 58.4	
	comp=Z,107nm,21.4s,baz=125,slow=32						
GUMO	**Guam**	**19.81**	**169**	eP	**P**	**15 40 41.2**	**-0.1**
	comp=Z,32nm,0.8s						
HIA	**Hailar**	**22.52**	**322**	eP	**P**	**15 41 08.9**	**+0.5**
	comp=Z,3.2nm,0.5s,mb4.0						
BOD	**Bodaibo**	**30.66**	**332**	eP	**P**	**15 42 21.8**	**-1.9**
MKAR	**Makanchi Array**	**45.92**	**305**	P	**P**	**15 44 31.3**	**0.0**
	comp=Z,1.1nm,0.5s,mb4.1,baz=86,slow=9.8,SNR=13						
MKAR				pP	pP	15 44 44.9	-1.0
	comp=Z,7.3nm,0.6s,baz=88,slow=8.9,SNR=30						
MKAR				ScP		15 49 54.8	
	comp=Z,0.4nm,0.5s,baz=96,slow=5.3,SNR=5.2						
MKAR	**Makanchi Array**	**45.92**	**305**	P	**P**	**15 44 31.3**	**-0.1**
MKAR				*PP	pP	15 44 44.9	-1.0
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR				pmax	pmax		
	comp=Z,7.0nm,0.6s						
KAKA	**Kakadu**	**46.31**	**192**	eP	**P**	**15 44 36.4**	**+1.5**
	comp=Z,101nm,2.0s,mb5.4						
KURK	**Kurchatov**	**48.07**	**311**	i P	**P**	**15 44 47.6**	**-0.6**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
KURK	**Kurchatov**	**48.07**	**311**	eP	**P**	**15 44 47.4**	**-0.8**
	comp=Z,5.6nm,0.8s,mb4.7						
VOSK	**Vostochnaya**	**52.61**	**314**	P	**P**	**15 45 21.7**	**-1.0**
VOSK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
BVA0	**Borovoye Array**	**52.93**	**314**	i P	**P**	**15 45 27.9**	**+2.8**
BVAR	**Borovoye Array**	**52.93**	**314**	P	**P**	**15 45 24.2**	**-0.9**
	comp=Z,4.1nm,1.1s,mb4.3,baz=108,slow=9.4,SNR=7.7						
BVAR				pP	pP	15 45 38.3	-1.6
	comp=Z,2.9nm,0.8s,baz=76,slow=6.1,SNR=8.0						
BRVK	**Borovoye**	**52.98**	**315**	eP	**P**	**15 45 25.6**	**+0.1**
	comp=Z,2.3nm,0.8s,mb4.2						
FITZ	**Fitzroy Crossi**	**53.01**	**198**	eP	**P**	**15 45 25.8**	**-0.4**
	comp=Z,3.5nm,0.7s,mb4.4						
ILAR	**Eielson Array**	**53.01**	**31**	P	**P**	**15 45 25.4**	**-0.2**
	comp=Z,1.3nm,0.7s,mb4.0,baz=276,slow=6.7,SNR=13						
ILAR	**Eielson Array**	**53.01**	**31**	P	**P**	**15 45 25.4**	**-0.2**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRAB	**Tennant Creek**	**53.16**	**188**	eP	**P**	**15 45 26.4**	**-0.9**
	comp=Z,42nm,0.6s,mb5.5						
WB2	**Warramunga Arr**	**53.17**	**188**	⇑iP	**P**	**15 45 26.5**	**-0.9**
WRA	**Warramunga Arr**	**53.17**	**188**	P	**P**	**15 45 26.6**	**-0.8**
	comp=Z,23nm,0.3s,mb5.5,baz=2.9,slow=7.6,SNR=387						
WRA	**Warramunga Arr**	**53.17**	**188**	P	**P**	**15 45 26.6**	**-0.8**
WRA				pmax	pmax		
	comp=Z,23nm,0.4s						
ZRNK	**Zerenda**	**53.77**	**315**	P	**P**	**15 45 30.5**	**-0.8**
ZRNK				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.3						
ZRNK	**Zerenda**	**53.77**	**315**	eP	**P**	**15 45 30.4**	**-0.9**
	comp=Z,2.7nm,0.6s,mb4.3						
ASAR	**Alice Springs**	**56.90**	**188**	P	**P**	**15 45 53.8**	**-0.6**
	comp=Z,7.0nm,0.4s,mb5.1,baz=5.0,slow=5.2,SNR=239						
ASAR				PcP	PcP	15 46 49.8	+0.7
	comp=Z,1.9nm,0.6s,baz=5.5,slow=4.5,SNR=4.5						
ASPA	**Alice Springs**	**56.90**	**188**	eP	**P**	**15 45 53.7**	**-0.7**
INK	**Inuvik**	**58.04**	**26**	P	**P**	**15 46 01.8**	**+0.1**
	comp=Z,1.9nm,0.9s,mb4.1,baz=272,slow=5.3,SNR=7.9						
INK	**Inuvik**	**58.04**	**26**	P	**P**	**15 46 01.8**	**0.0**
INK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ARU	**Arti**	**59.02**	**320**	eP	**P**	**15 46 09.1**	**+0.4**
	comp=Z,3.5nm,0.6s,mb4.6						
STKA	**Stephens Creek**	**64.69**	**179**	eP	**P**	**15 46 47.0**	**0.0**
	comp=Z,3.0nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**64.69**	**179**	P	**P**	**15 46 46.1**	**-0.9**
	comp=Z,3.2nm,0.6s,mb4.6,baz=337,slow=9.0,SNR=11						
FORT	**Forrest**	**64.74**	**192**	⇑iP	**P**	**15 46 47.4**	**0.0**
	comp=Z,74nm,0.7s,mb5.8						
FINES	**FINESS Array B**	**72.05**	**333**	P	**P**	**15 47 32.3**	**+0.2**
	comp=Z,1.5nm,0.8s,mb4.0,baz=63,slow=6.2,SNR=3.1						
FINES				LR	LR	16 22 00.1	
	comp=Z,66nm,19.6s,MS3.9,baz=341,slow=38						
FINES	**FINESS Array B**	**72.05**	**333**	i P	**P**	**15 47 37.1**	**+5.0**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
DPW	**Davenport**	**72.80**	**44**	eP	**P**	**15 47 38.6**	**+1.8**
AKASG	**Malin Array Be**	**77.11**	**323**	P	**P**	**15 48 00.1**	**-1.4**
	comp=Z,2.6nm,0.8s,mb4.2,baz=48,slow=6.0,SNR=6.7						
AKASG				pP	pP	15 48 15.7	-1.4
	comp=Z,0.4nm,0.3s,baz=47,slow=5.9,SNR=3.0						
AKASG	**Malin Array Be**	**77.11**	**323**	P	**P**	**15 48 00.1**	**-1.4**
AKASG				*PP	pP	15 48 15.7	-1.4
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.8s						
NB2	**NORSAR Subarra**	**77.60**	**337**	P	**P**	**15 48 03.0**	**-0.9**
	comp=Z,3.9nm,0.8s,mb4.4,baz=41,slow=5.3						
NOA	**NORSAR Array B**	**77.60**	**337**	P	**P**	**15 48 04.0**	**+0.1**
	comp=Z,3.2nm,1.1s,mb4.2,baz=40,slow=5.6,SNR=3.2						
NOA				pP	pP	15 48 18.1	-1.4
	comp=Z,2.1nm,0.8s,baz=42,slow=5.6,SNR=4.3						
NOA	**NORSAR Array B**	**77.60**	**337**	P	**P**	**15 48 04.0**	**+0.1**
NOA				*PP	pP	15 48 18.1	-1.4
NOA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
NOA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NVAR	**Mina Array Bea**	**77.67**	**52**	P	**P**	**15 48 07.2**	**+2.4**
	comp=Z,1.8nm,0.7s,mb4.1,baz=284,slow=6.7,SNR=15						
NVAR				pP	pP	15 48 19.4	-1.1
	comp=Z,0.8nm,0.6s,baz=268,slow=6.7,SNR=5.2						
BRTR	**Keskin Array B**	**81.11**	**312**	P	**P**	**15 48 24.2**	**+0.8**
	comp=Z,5.9nm,1.3s,mb4.4,baz=108,slow=3.9,SNR=5.4						
BRTR				sP	sP	15 48 42.4	-2.8
	comp=Z,1.0nm,0.7s,baz=117,slow=2.8,SNR=3.1						
BRTR	**Keskin Array B**	**81.11**	**312**	P	**P**	**15 48 24.2**	**+0.8**
BRTR				*SP	sP	15 48 42.4	-2.8
BRTR				pmax	pmax		
	comp=Z,6.0nm,1.3s						
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SRU	**San Rafael**	**82.30**	**48**	eP	**P**	**15 48 31.3**	**+1.8**
PV10	**Paradox Valley**	**83.66**	**48**	eP	**P**	**15 48 39.2**	**+2.7**
PV01	**Paradox Valley**	**84.10**	**48**	eP	**P**	**15 48 38.2**	**-0.5**
KHC	**Kasperske Hory**	**85.62**	**328**	eP	**P**	**15 48 29.0**	**-17**
TXAR	**Lajitas Array**	**92.82**	**52**	P	**P**	**15 49 22.0**	**+1.5**
	comp=Z,3.3nm,0.7s,mb4.9,baz=270,slow=1.3,SNR=8.1						
TXAR	**Lajitas Array**	**92.82**	**52**	P	**P**	**15 49 22.0**	**+1.5**
SNAA	**Sanae**	**136.92**	**196**		PKPdf	15 55 33.8	+5.5
SNAA	**Sanae**	**136.92**	**196**	P	PKPdf	15 55 23.7	-4.6
SNAA				P		15 55 33.8	
VNA2	**Neumayer--Watz**	**138.48**	**195**	⇓i	PKPdf	15 55 40.0	+8.8
VNA2	**Neumayer--Watz**	**138.48**	**195**	⇑iP	PKPdf	15 55 36.7	+5.5
VNA2				⇓iP		15 55 40.0	
SAML	**Samuel**	**147.22**	**48**	ePKPbc	PKPdf	15 55 52.1	+4.2
LPAZ	**La Paz**	**148.88**	**64**	PKPbc	PKPdf	15 55 58.5	+8.0
	comp=Z,1.9nm,0.3s,baz=16,slow=4.8,SNR=6.1						
LPAZ	**La Paz**	**148.88**	**64**	PKP2	PKPab	15 55 58.5	-2.3
LPAZ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
LPAZ	**La Paz**	**148.88**	**64**	PKPbc	PKPdf	15 55 58.5	+8.0

DJA 15 15:38:33.1±1.0, 9.65S×114.94E, h33$^{\mathrm{km}}$±5$^{\mathrm{km}}$, MD5.5/3, ML3.6/1, 2C-5D, Error ellipse: s-maj=23.7km s-min=14.9km az=4.0, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
INGI	**Ingas**	**0.85**	**14**	⇓iPn	Pn	15 38 46.6	-2.3
	141nm,0.2s						
INGI				⇓iSn	Sn	15 38 57.5	-2.8
RATI	**Rata**	**1.09**	**33**	⇓iPn	Pn	15 38 51.9	-0.4
	91nm,0.2s						
RATI	**Rata**	**1.09**	**33**	⇓iP	Pn	15 38 52.1	-0.2
RATI				⇑iSn	Sn	15 39 04.3	-2.1
KELI	**Kelakatan**	**1.49**	**343**	⇓iPn	Pn	15 38 56.8	-1.2
KELI				⇑iSn	Sn	15 39 15.0	-1.5

STR 15 15:57:16.2±0.4, 48.97N×7.95E, h5$^{\mathrm{km}}$±1$^{\mathrm{km}}$, Ml1.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0

LDG 15 15:57:17.3±0.2, 48.96N×7.83E, h10$^{\mathrm{km}}$, Md2.2/1, Ml2.2/4, Error ellipse: s-maj=3.2km s-min=2.5km az=103.0, France

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LANF	**Langenberg**	**0.02**	**328**	Pg	Pg	15 57 19.1	-0.1
LANF				Sg	Sg	15 57 20.2	-0.2
WLS	**Welschbruch**	**0.63**	**210**	Pg	Pg	15 57 29.7	-0.3
WLS				Sg	Sg	15 57 39.0	+0.5
CDF	**Champ du Feu**	**0.66**	**214**	ePg	Pg	15 57 29.6	-1.0
CDF				ePn	Pn	15 57 31.3	-1.1
CDF				eSg	Sg	15 57 38.1	-1.3
CDF				eSn	Sn	15 57 40.8	-2.0
	10nm,0.2s						
BFO	**Black Forest**	**0.71**	**152**	ePg	Pg	15 57 31.5	-0.1
	SNR=5.6						
BFO				eSg	Sg	15 57 40.6	-0.6
ECH	**Echery**	**0.87**	**211**	Pg	Pg	15 57 33.6	-1.1
ECH				Sg	Sg	15 57 46.5	+0.2
HINF	**Hinteralfeld**	**1.31**	**210**	ePg	Pg	15 57 41.8	-1.8
HINF				eSn	Sn	15 57 56.7	-2.8
HINF				eSg	Sg	15 57 59.2	-2.0
	5.6nm,0.3s						
HAU	**Haudompre**	**1.37**	**226**	eSg	Sg	15 58 00.6	-2.4
	4.3nm,0.2s						
RFYF	**Reffroy**	**1.59**	**259**	ePg	Pg	15 57 47.1	-2.0
RFYF				eSn	Sn	15 58 03.0	-3.4
RFYF				eSg	Sg	15 58 07.4	-2.9
	6.5nm,0.3s						

OTT 15 15:59:24.8±0.2, 52.73N×67.14W, MN2.7/5, Blast, Mount Wright, Qc Mining explosion., Northern Quebec

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCHQ	**Schefferville**	**2.12**	**5**	PN	Pn	16 00 00.2	-1.7
SCHQ				SN	Sn	16 00 27.5	-1.8
SCHQ				Trac		16 00 30.6	
	comp=Z,31nm,0.2s						
MNQ	**Manicouagan**	**2.42**	**206**	PN	Pn	16 00 04.8	-1.5
MNQ				Trac		16 00 39.9	
	comp=Z,8.3nm,0.1s						
SMQ	**Clarke City**	**2.52**	**174**	PN	Pn	16 00 05.7	-2.0
SMQ				SN	Sn	16 00 35.6	-3.9
SMQ				Trac		16 00 44.8	
	comp=Z,10nm,0.2s						
ICQ	**Pointe Anglais**	**3.21**	**182**	PN	Pn	16 00 14.9	-2.6
ICQ				SN	Sn	16 00 53.5	-3.5
CNQ	**Baie Comeau**	**3.48**	**190**	PN	Pn	16 00 19.5	-1.8
CNQ				SN	Sn	16 01 00.3	-3.5
CNQ				Trac		16 01 21.3	
	comp=Z,4.0nm,0.2s						
GSQ	**Grosses Roches**	**3.82**	**180**	PN	Pn	16 00 23.5	-2.7
GSQ				Trac		16 01 36.6	
	comp=Z,0.3nm,0.0s						
LMQ	**La Malbaie**	**5.57**	**203**	PN	Pn	16 00 46.4	-4.6
MALO	**McAlpine Lake**	**8.35**	**256**	PN	P	16 01 22.5	-7.5
VIMO	**Victor Mine**	**10.07**	**277**	PN	P	16 01 45.1	-8.5
SILO	**Sutton Inlier**	**10.71**	**286**	PN	P	16 01 52.7	-10

PRU 15 16:13:13.6, 51.51N×16.16E

NEIC 15 16:13:13.6±2.7, 51.47N×16.21E, h5$^{\mathrm{km}}$, ML2.7(VIE), Error ellipse: s-maj=30.2km s-min=10.2km az=217.0

WAR 15 16:13:14.3, 51.49N×16.10E, ML2.7, Mining Induced

ISC 15 16:13:11.8±0.9, 51.50N±0.04×16.11E±0.05, n14, σ1$^{\mathrm{s}}$.15/33, 1C, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.67**	**170**	ePG	**Pg**	**16 13 26.0**	**+0.9**
KSP				eSG	**Sg**	**16 13 35.0**	**+1.0**
UPC	**Upice**	**0.99**	**183**	ePG	**Pg**	**16 13 32.6**	**+1.0**
UPC				eSG	**Sg**	**16 13 45.2**	**+0.3**
DPC	**Dobruska-Polom**	**1.16**	**173**	ePG	**Pg**	**16 13 35.3**	**+0.4**
DPC				eSG	**Sg**	**16 13 50.4**	**+0.1**
	7.8nm,0.2s						
PVCC	**Panska Ves**	**1.37**	**226**	ePG	**Pg**	**16 13 39.7**	**+0.5**
PVCC				eSG	**Sg**	**16 13 59.1**	**+1.6**
BRG	**Berggiesshubel**	**1.50**	**246**	ePn	**Pn**	**16 13 41.6**	**+1.6**
BRG				i Pg	**Pg**	**16 13 42.1**	**+0.4**
BRG				i Sg	**Sg**	**16 14 02.0**	**+0.3**
PRU	**Pruhonice**	**1.81**	**214**	ePN	**Pn**	**16 13 46.7**	**+2.2**
PRU				ePG	**Pg**	**16 13 48.8**	**+0.9**
PRU				eSG	**Sg**	**16 14 12.4**	**+0.4**
	6.3nm,0.3s						
PRU	**Pruhonice**	**1.81**	**214**	ePn	**Pn**	**16 13 46.7**	**+2.2**
PRU				ePg	**Pg**	**16 13 48.5**	**+0.6**
PRU				eSg	**Sg**	**16 14 12.4**	**+0.4**
MORC	**Moravsky Berou**	**1.95**	**151**	eP	**Pn**	**16 13 45.4**	**-1.1**
CLL	**Collm**	**1.95**	**266**	ePG	**Pg**	**16 13 50.0**	**-0.8**
CLL				eSG	**Sg**	**16 14 16.0**	**-0.8**
OKC	**Ostrava-Krasne**	**2.11**	**141**	ePG	**Pg**	**16 13 53.2**	**-0.7**
OKC				eSG	**Sg**	**16 14 19.7**	**-2.3**
NKC	**Novy Kostel**	**2.64**	**243**	ePN	**Pn**	**16 13 57.7**	**+1.3**
NKC				ePG	**Pg**	**16 14 03.6**	**-0.9**
NKC				eSG	**Sg**	**16 14 40.3**	**+0.6**
KHC	**Kasperske Hory**	**2.87**	**215**	ePN	**Pn**	**16 14 00.3**	**+0.6**
KHC				ePG	**Pg**	**16 14 06.0**	**-3.1**
KHC				eSN	**Sn**	**16 14 33.4**	**-2.0**
KHC				eSG	**Sg**	**16 14 46.4**	**-1.0**
MOX	**Moxa**	**2.96**	**255**	ePg	**Pg**	**16 14 09.3**	**-1.6**
MOX				eSg	**Sg**	**16 14 49.1**	**-1.2**
MOA	**Molln**	**3.84**	**199**	⇑iPN	**Pn**	**16 14 14.3**	**+0.8**
MOA				i SG	**Sg**	**16 15 18.2**	**-1.5**
	1.9nm,0.3s						

IDC 15 16:19:07.2±0.9, 21.76S×170.26E, mb4.4/8, mb1 4.5/8, mb1mx4.4/13, MS3.8/5, Ms1 3.8/5, ms1mx3.5/19, Error ellipse: s-maj=41.9km s-min=20.1km az=168.0

NEIC 15 16:19:14.4±2.1, 21.54S×170.11E, h52$^{\mathrm{km}}$±17$^{\mathrm{km}}$, mb4.7/8, Error ellipse: s-maj=16.2km s-min=12.0km az=185.0

ISC 15 16:19:13.2±2.0, 21.8S±0.2×170.09E±0.09, h55$^{\mathrm{km}}$±16$^{\mathrm{km}}$, n49, σ1$^{\mathrm{s}}$.09/34, mb4.5/14, MS3.7/5, 6C-4D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.40**	**264**	⇓eP	**P**	**16 20 06.0**	**+0.9**
DZM				eS	**S**	**16 20 44.4**	**-0.2**
DZM	**Mont Dzumac**	**3.40**	**264**	⇓eP	**P**	**16 20 06.0**	**+0.8**
DZM				eS	**S**	**16 20 44.4**	**-0.2**
NOUC	**Port Laguerre**	**3.53**	**264**	⇓iP	**P**	**16 20 07.7**	**+0.7**
NOUC				eS	**S**	**16 20 46.7**	**-1.2**
CTA	**Charters Tower**	**22.32**	**270**	P	**P**	**16 24 08.8**	**+1.3**
	8.5nm,0.9s,mb4.2,baz=80,slow=11,SNR=3.2						
CTA				LR	LR	16 30 28.0	
	comp=Z,110nm,21.4s,MS3.2,baz=272,slow=30						
CTAO	**Charters Tower**	**22.32**	**270**	eP	**P**	**16 24 08.7**	**+1.1**
	29nm,1.3s,mb4.5						
STKA	**Stephens Creek**	**27.28**	**242**	eP	**P**	**16 24 55.2**	**+0.5**
	7.7nm,0.8s,mb4.3						
STKA	**Stephens Creek**	**27.28**	**242**	P	**P**	**16 24 55.0**	**+0.4**
	7.4nm,0.7s,mb4.3,baz=84,slow=9.0,SNR=22						
STKA				LR	LR	16 34 53.6	
	comp=Z,259nm,19.4s,MS3.8,baz=288,slow=34						
STKA	**Stephens Creek**	**27.28**	**242**	eP	**P**	**16 24 55.1**	**+0.4**
RAR	**Rarotonga**	**28.03**	**95**	P	**P**	**16 25 00.2**	**-1.3**
	15nm,1.1s,mb4.5,baz=16,slow=12,SNR=3.8						
ASAR	**Alice Springs**	**33.38**	**260**	P	**P**	**16 25 48.6**	**-0.1**
	4.2nm,0.8s,mb4.4,baz=86,slow=8.9,SNR=45						
ASAR				LR	LR	16 37 56.6	
	comp=Z,133nm,21.9s,MS3.6,baz=17,slow=34						
ASPA	**Alice Springs**	**33.38**	**260**	eP	**P**	**16 25 47.3**	**-1.4**
WB2	**Warramunga Arr**	**33.40**	**266**	eP	**P**	**16 25 47.9**	**-1.0**
WRAB	**Tennant Creek**	**33.41**	**266**	eP	**P**	**16 25 47.9**	**-1.0**
	9.0nm,0.7s,mb4.8						
WRA	**Warramunga Arr**	**33.41**	**266**	P	**P**	**16 25 48.2**	**-0.8**
	5.8nm,0.6s,mb4.7,baz=98,slow=8.3,SNR=69						
KAKA	**Kakadu**	**37.02**	**278**	eP	**P**	**16 26 21.5**	**+1.8**
	12nm,1.1s,mb4.6						
FITZ	**Fitzroy Crossi**	**41.84**	**267**	eP	**P**	**16 26 59.4**	**-0.3**
	13nm,0.6s,mb4.7						
FITZ	**Fitzroy Crossi**	**41.84**	**267**	LR	LR	16 44 57.6	
	comp=Z,126nm,21.1s,MS3.8,baz=96,slow=37						
MBWA	**Marble Bar**	**46.70**	**261**	eP	**P**	**16 27 39.0**	**+0.2**
	9.2nm,0.5s,mb5.0						
NWAO	**Narrogin (SRO)**	**47.82**	**245**	LR	LR	16 46 28.1	
	comp=Z,230nm,21.9s,MS4.1,baz=70,slow=34						
NWAO	**Narrogin (SRO)**	**47.82**	**245**	eP	**P**	**16 27 47.2**	**-0.2**
	12nm,0.8s,mb5.0						
QSPA	**South Pole Qui**	**68.31**	**180**	eP	**P**	**16 30 10.3**	**+0.2**
	6.3nm,1.2s,mb4.5						
MAW	**Mawson**	**76.42**	**202**	P	**P**	**16 30 58.2**	**0.0**
	1.3nm,0.7s,mb3.9,baz=108,slow=13,SNR=4.1						
MAW	**Mawson**	**76.42**	**202**	eP	**P**	**16 30 58.1**	**0.0**
	1.7nm,0.9s,mb4.0						
CMAR	**Chiang Mai Arr**	**80.26**	**294**	P	**P**	**16 31 22.9**	**+2.7**
	3.2nm,1.1s,mb4.2,baz=133,slow=4.5,SNR=9.6						
SNAA	**Sanae**	**86.70**	**182**	⇓i	**P**	**16 31 49.6**	**-2.1**
SNAA	**Sanae**	**86.70**	**182**	⇑i	**P**	**16 31 51.9**	**+0.2**
SNAA	**Sanae**	**86.70**	**182**	⇑iP	**P**	**16 31 51.9**	**+0.2**
VNA3	**Neumayer Olymp**	**87.26**	**180**		**P**	**16 31 57.8**	**+3.4**
VNA3	**Neumayer Olymp**	**87.26**	**180**	⇑i	**P**	**16 31 59.8**	**+5.4**
VNA2	**Neumayer--Watz**	**87.56**	**181**	⇑i	**P**	**16 31 59.2**	**+3.3**
VNA2	**Neumayer--Watz**	**87.56**	**181**	⇑i	**P**	**16 32 01.6**	**+5.7**
VNA1	**Neumayer--Stat**	**87.84**	**181**	⇑i	**P**	**16 32 01.2**	**+3.9**
NVAR	**Mina Array Bea**	**89.87**	**48**	P	**P**	**16 32 06.9**	**-0.7**
	0.4nm,0.8s,mb3.8,baz=212,slow=5.4,SNR=3.5						
ARCES	**ARCESS Array B**	**127.69**	**345**	PKP	PKPdf	16 38 12.3	+0.3
	5.0nm,0.9s,baz=68,slow=2.3,SNR=13						
ARCES	**ARCESS Array B**	**127.69**	**345**	PKP	PKPdf	16 38 12.3	+0.3
FINES	**FINESS Array B**	**133.20**	**337**	PKP	PKPdf	16 38 23.6	+0.8
	0.9nm,0.8s,baz=333,slow=30,SNR=4.3						
DPC	**Dobruska-Polom**	**144.80**	**331**	ePKP	PKPdf	16 38 44.8	+1.0
VYHS	**Vyhne**	**144.81**	**326**	ePKP	PKPdf	16 38 44.6	+0.7
UPC	**Upice**	**144.83**	**331**	ePKP	PKPdf	16 38 42.2	-1.6
KOLL	**Kolacno**	**144.98**	**327**	ePKP	PKPdf	16 38 44.8	+0.6
PVCC	**Panska Ves**	**145.45**	**332**	ePKP	PKPdf	16 38 46.5	+1.6
BRG	**Berggiesshubel**	**145.46**	**333**	eP	PKPdf	16 38 46.6	+1.7
CLL	**Collm**	**145.52**	**334**	i PKIKP	PKPdf	16 38 46.5	+1.5
	logA/T=1.1						
CLL				i		16 38 48.2	
CLL				e		16 39 18.0	
PRU	**Pruhonice**	**145.86**	**332**	ePKP	PKPdf	16 38 47.1	+1.5
ZST	**Bratislava**	**145.89**	**327**	ePKP	PKPdf	16 38 48.0	+2.3
NKC	**Novy Kostel**	**146.57**	**334**	ePKP	PKPdf	16 38 47.5	+0.7
KHC	**Kasperske Hory**	**146.91**	**331**	ePKP	PKPdf	16 38 50.8	+3.4
GERES	**GERESS Array B**	**147.07**	**331**	PKPbc	PKPdf	16 38 51.3	+3.6
	2.9nm,0.6s,baz=35,slow=2.7,SNR=21						
GRA1	**Grafenberg Arr**	**147.49**	**334**	ePKP	PKPdf	16 38 52.0	+3.6

DJA 15 16:35:26.2±0.9, 8.95S×115.28E, h85$^{\mathrm{km}}$±5$^{\mathrm{km}}$, MD5.0/4, ML3.3/2, 4C-4D, Error ellipse: s-maj=27.0km s-min=8.9km az=5.0, Bali region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
INGI	**Ingas**	**0.18**	**315**	⇑iPn	P	16 35 38.0	-0.5
INGI				⇓iSn	S	16 35 47.6	-0.2
RATI	**Rata**	**0.34**	**49**	⇓iPn	P	16 35 38.8	-0.5
RATI				⇓iSn	S	16 35 49.2	-0.1
KEDI	**Kedomdong**	**0.95**	**61**	⇑iPn	P	16 35 44.6	-0.5
	31nm,0.2s						
KEDI				⇓iSn	S	16 35 57.6	-1.8
KELI	**Kelakatan**	**1.06**	**313**	⇑iPn	P	16 35 46.7	+0.2
	65nm,0.2s						
KELI				⇑iSn	S	16 35 59.5	-2.4

MAN 15 16:48:18.6, 5.34N×124.67E, h31$^{\mathrm{km}}$, mb4.7, ML3.6, MS3.5

IDC 15 16:48:22.4±1.7, 5.33N×123.36E, mb3.6/5, mb1 3.7/5, mb1mx3.6/17, MS3.3/2, Ms1 3.3/2, ms1mx3.0/13, Error ellipse: s-maj=128.0km s-min=24.0km az=65.0

ISC 15 16:48:22.2±2.8, 5.70N±0.05×124.58E±0.05, h21$^{\mathrm{km}}$±23$^{\mathrm{km}}$, n14, σ1$^{\mathrm{s}}$.01/17, mb3.4/5, MS3.2/2, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**1.40**	**21**	⇓eP	**Pn**	**16 48 46.6**	**-0.2**
KCP				i S	**Sn**	**16 49 05.0**	**+0.2**
CTBH	**Cotabato--PC H**	**1.55**	**348**	eP	**Pn**	**16 48 49.5**	**+0.5**

MATI	Mati	2.08	53	eP	Pn	16 48 56.3	-0.3
MATI				eS	Sn	16 49 21.2	-0.9
BUKP	Musuan	2.22	13	eP	Pn	16 48 58.4	-0.1
BUKP				eS	Sn	16 49 26.5	+0.8
PAGZ	Pagadian	2.44	331	eP	Pn	16 49 02.6	+0.9
PAGZ				eS	Sn	16 49 33.7	+2.4
IPIL	Ipil	2.88	316	eP	Pn	16 49 07.9	0.0
IPIL				eS	Sn	16 49 40.9	-1.4
ENPP	El Nido	7.48	317	eP	Pn	16 50 11.6	-1.3
JOW	Kunigami	21.31	9	LR	LR	17 03 13.4	
	comp=Z,35nm,18.3s,MS2.8,baz=111,slow=41						
FITZ	Fitzroy Crossi	23.67	177	P	P	16 53 34.4	+0.9
	2.6nm,0.7s,mb3.8,baz=13,slow=8.0,SNR=11						
WRA	Warramunga Arr	27.23	160	P	P	16 54 08.1	+1.1
	0.4nm,0.7s,mb3.1,baz=328,slow=11,SNR=3.1						
ASAR	Alice Springs	30.57	163	P	P	16 54 36.5	-0.5
	0.4nm,0.9s,mb3.2,baz=338,slow=7.6,SNR=5.4						
STKA	Stephens Creek	40.74	158	P	P	16 56 07.7	+4.2
	1.0nm,0.7s,mb3.5,baz=220,slow=14,SNR=2.2						
MKAR	Makanchi Array	54.73	326	P	P	16 57 50.8	-1.7
	0.2nm,0.5s,mb3.5,baz=119,slow=6.9,SNR=5.8						
BRTR	Keskin Array B	87.12	309	LR	LR	17 48 26.9	
	comp=Z,24nm,18.1s,MS3.6,baz=255,slow=42						

ECX 15 16:49:46.5±0.4**, 29.38N**×**114.36W, h2**^{km}**, ML4.2, 2C-1D, Baja California**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SPX	San Pedro Mart	1.92	330	⇑eP	Pn	16 50 18.3	-2.2
SPX				eS	Sn	16 50 40.8	-4.9
EMX	El Mayor	2.71	344	eS	Sn	16 51 00.8	-5.0
RDX	Rancho Dowling	2.90	332	eS	Sn	16 51 05.8	-4.6
RDX				⇑e		16 51 19.7	
	comp=E,698nm,1.1s						
RDX				⇓e		16 51 41.3	
	comp=N,346nm,0.9s						
PGX	Piedras Gordas	3.14	326	eS	Sn	16 51 11.2	-5.4
ENX	Ensenada	3.19	322	eS	Sn	16 51 12.4	-5.6
CBX	Cerro Bola	3.54	326	eP	Pn	16 50 40.9	-2.7
CBX				eS	Sn	16 51 20.9	-5.8

IDC 15 16:57:05.4±2.3**, 1.65S**×**133.11E, mb3.5**/2**, mb1 3.7**/4**, mb1mx3.6**/13**, ML3.5**/2**, Error ellipse: s-maj=95.1km s-min=25.3km az=78.0, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	17.92	204	Pn	P	17 01 15.9	-2.0
	0.1nm,0.3s,baz=48,slow=12,SNR=3.8						
FITZ				Sn	S	17 04 26.5	-10
	0.1nm,0.3s,baz=176,slow=18,SNR=3.1						
WRA	Warramunga Arr	18.22	176	P	P	17 01 20.3	-1.3
	0.2nm,0.3s,baz=355,slow=12,SNR=9.4						
ASAR	Alice Springs	21.90	178	P	P	17 02 00.2	-1.9
	1.3nm,0.7s,baz=4.1,slow=11,SNR=22						
MKAR	Makanchi Array	65.60	324	P	P	17 07 51.3	-2.2
	0.3nm,0.4s,baz=107,slow=7.7,SNR=3.1						

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*IDC **15** 17:19:04.9±2.3, 9.36S×118.91E, mb3.4/2, mb1 3.6/4, mb1mx3.5/13, ML3.4/2, MS3.3/1, Ms1 3.5/1, ms1mx3.0/8, Error ellipse: s-maj=200.0km s-min=24.5km az=52.0*

*DJA **15** 17:19:12.9±0.8, 9.60S×118.89E, h160^{km}, MD4.7/6, ML4.7/6, Error ellipse: s-maj=22.2km s-min=5.6km az=151.0*

ISC 15 17:19:13.3±0.9**, 9.67S**±0.09×**118.92E**±0.07**, h100**^{km}±19^{km}**, n15, σ1**$\overset{s}{.}$**06**/21**, mb3.5**/1**, 7C-7D, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEDI	Kedomdong	3.01	293	⇓iPn	P	17 20 00.9	+0.8
	317nm,0.2s						
KEDI	Kedomdong	3.01	293	⇑iP	P	17 20 01.5	+1.4
KEDI				⇓iSn	S	17 20 36.6	+1.2
RATI	Rata	3.47	285	⇑iPn	P	17 20 06.6	+0.1
	291nm,0.2s						
RATI	Rata	3.47	285	⇑iP	P	17 20 07.1	+0.6
RATI				⇓iSn	S	17 20 47.0	+0.2
INGI	Ingas	3.82	283	⇓iPn	P	17 20 11.7	+0.5
	352nm,0.2s						
INGI	Ingas	3.82	283	⇑iP	P	17 20 11.8	+0.6
INGI				⇓iSn	S	17 20 54.6	-0.7
KELI	Kelakatan	4.60	288	⇑iPn	P	17 20 21.5	-0.5
	58nm,0.2s						
KELI				⇓iSn	S	17 21 12.4	-2.2
NINI	Niniconang	5.28	9	⇓iPn	P	17 20 31.6	+0.4
	70nm,0.2s						
TANI	Tanete Lipujan	6.21	4	⇑iPn	P	17 20 42.3	-1.6
	32nm,0.3s						
TANI	Tanete Lipujan	6.21	4	⇑iP	P	17 20 43.2	-0.7
FITZ	Fitzroy Crossi	10.62	143	Pn	P	17 21 42.3	-1.5
	0.3nm,0.3s,baz=345,slow=11,SNR=36						
FITZ				Sn	S	17 23 32.3	-9.0
	0.7nm,0.3s,baz=181,slow=20,SNR=13						
WRA	Warramunga Arr	18.06	126	P	P	17 23 19.7	+0.6
	0.1nm,0.3s,baz=302,slow=13,SNR=4.9						
WRA				S	S	17 26 29.3	-4.6
	0.1nm,0.3s,baz=291,slow=21,SNR=4.3						
ASAR	Alice Springs	19.97	136	P	P	17 23 41.3	+1.4
	0.6nm,0.5s,baz=312,slow=9.3,SNR=9.9						
ASAR				S	S	17 27 19.4	+5.5
	0.4nm,0.9s,baz=306,slow=22,SNR=5.3						
CMAR	Chiang Mai Arr	34.20	325	LR	LR	17 42 23.6	
	comp=Z,43nm,19.1s,baz=124,slow=41						
MKAR	Makanchi Array	65.01	333	P	P	17 29 45.0	0.0
	0.3nm,0.4s,mb3.5,baz=145,slow=6.8,SNR=7.5						

WEL 15 17:36:13.2±0.2**, 42.46S**×**172.96E, h12**^{km}±1^{km}**, ML3.6**/12**, 4C-2D, Error ellipse: s-maj=1.5km s-min=1.0km az=90.0, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KHZ	Kahutara	0.43	85	⇓P*	Pb	17 36 22.0	-0.2
KHZ				S*	Sb	17 36 28.4	0.0
LTZ	Lake Taylor	0.61	237	⇑P*	Pb	17 36 24.9	-0.3
LTZ				S*	Sb	17 36 32.6	-0.8
LTZ				S*	Sb	17 36 32.9	-0.6
THZ	Tophouse	0.69	357	⇑P*	Pb	17 36 25.7	-1.0
THZ				S*	Sb	17 36 33.9	-2.0
BSWZ	Blackbirch Sta	1.01	43	P*	Pb	17 36 31.6	-0.4
DSZ	Denniston Nort	1.11	309	⇓P*	Pb	17 36 34.0	+0.1
CRLZ	Canterbury Las	1.15	192	⇑P*	Pb	17 36 34.4	-0.1
CRLZ				S*	Sb	17 36 48.5	-0.6
CMWZ	Cape Campbell	1.17	53	P*	Pb	17 36 35.8	+1.0
TUWZ	Tuamarina	1.26	36	P*	Pb	17 36 35.6	-0.8
MQZ	McQueen's Vall	1.27	190	⇑PN	Pn	17 36 35.7	-1.1
MQZ				S*	Sb	17 36 52.7	0.0
NNZ	Nelson	1.27	14	PN	Pn	17 36 35.4	-1.4
QRZ	Quartz Range	1.66	349	PN	Pn	17 36 42.4	0.0
SNZO	South Karori	1.73	49	PN	Pn	17 36 43.1	-0.3
WVZ	Waitaha Valley	1.75	249	PN	Pn	17 36 43.8	+0.1
MRW	Makara Radio	1.79	47	ePN	Pn	17 36 43.8	-0.3
MSWZ	Moikau Station	2.00	59	PN	Pn	17 36 45.6	-1.6
MRZ	Mangatainoka R	2.66	49	PN	Pn	17 36 55.0	-1.6
LBZ	Lake Benmore	2.80	225	ePN	Pn	17 36 57.1	-1.5
HIZ	Hauiti	4.19	21	PN	Pn	17 37 18.3	-0.2
TUZ	Tuapeka	4.24	213	PN	Pn	17 37 16.3	-2.8

DJA 15 17:45:50.9±0.4**, 8.06S**×**115.32E, h30**^{km}**, MD5.6**/4**, ML3.6**/1**, 6C-4D, Error ellipse: s-maj=11.1km s-min=5.6km az=7.0, Bali region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RATI	Rata	0.69	163	⇓iPn	Pn	17 46 04.6	0.0
	185nm,0.2s						
RATI	Rata	0.69	163	⇑iP	Pb	17 46 05.0	+0.7
RATI				⇑iSn	Sn	17 46 14.7	+0.5
INGI	Ingas	0.77	193	⇑iPn	Pn	17 46 05.7	-0.1
	172nm,0.2s						
INGI				⇑iSn	Sn	17 46 16.2	-0.2
KELI	Kelakatan	0.84	259	⇑iPn	Pn	17 46 07.0	+0.3
KELI				⇓iSn	Sn	17 46 17.6	-0.5
KEDI	Kedomdong	0.89	118	⇑iPn	Pn	17 46 07.7	+0.3
	123nm,0.2s						
KEDI	Kedomdong	0.89	118	⇓iP	Pn	17 46 07.8	+0.4
KEDI				⇓iSn	Sn	17 46 19.7	+0.4

DJA 15 18:04:04.5±0.2**, 7.26S**×**116.65E, h2**^{km}**, MD5.6**/4**, ML4.2**/2**, 8C-1D, Error ellipse: s-maj=16.6km s-min=4.5km az=132.0, Bali Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEDI	Kedomdong	1.33	204	⇑iPn	Pn	18 04 27.8	-2.3
KEDI				⇑iSn	Sn	18 04 43.3	-5.4
RATI	Rata	1.83	217	⇓iPn	Pn	18 04 35.4	-1.9
	130nm,0.2s						
RATI				⇑iSn	Sn	18 04 56.3	-5.0
INGI	Ingas	2.15	224	⇑iPn	Pn	18 04 37.4	-4.5
	175nm,0.2s						
KELI	Kelakatan	2.35	246	⇑iPn	Pn	18 04 40.6	-4.0
KELI				⇑iSn	Sn	18 05 10.9	-3.5
NINI	Niniconang	4.18	48	⇑iPn	Pn	18 05 06.6	-4.1
TANI	Tanete Lipujan	4.67	36	⇑iPn	Pn	18 05 16.2	-1.5

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*IDC **15** 18:05:22.3±1.0, 3.59S×129.37E, mb4.4/7, mb1 4.7/9, mb1mx4.5/16, ML5.0/2, MS3.3/4, Ms1 3.3/4, ms1mx3.1/16, Error ellipse: s-maj=44.0km s-min=15.5km az=65.0*

*NEIC **15** 18:05:32.3±0.3, 3.68S×129.34E, mb4.5/13, Error ellipse: s-maj=13.8km s-min=5.7km az=72.0*

ISC 15 18:05:29.8±1.9**, 3.71S**±0.06×**129.3E**±0.1**, h76**^{km}±17^{km}**, n32, σ0**$\overset{s}{.}$**92**/36**, mb4.3**/14**, 1C, Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	Kakadu	9.44	161	eP	P	18 07 46.5	+1.4
	13nm,0.2s						
KAKA				eS	S	18 09 28.7	-1.8
FITZ	Fitzroy Crossi	14.75	194	eP	P	18 08 56.2	+0.4
	7.3nm,0.6s						
FITZ				e		18 09 01.6	
FITZ				eS	S	18 11 37.1	-0.6
FITZ	Fitzroy Crossi	14.75	194	Pn	P	18 08 56.1	+0.3
	2.4nm,0.3s,baz=21,slow=9.2,SNR=32						
FITZ				Sn	S	18 11 34.0	-3.7
	0.4nm,0.3s,baz=8.8,slow=17,SNR=2.1						
FITZ				LR	LR	18 15 29.3	
	comp=Z,56nm,19.8s,baz=306,slow=41						
WRAB	Tennant Creek	16.86	163	eP	P	18 09 22.3	-0.1
	38nm,0.5s						
WRA	Warramunga Arr	16.86	163	Pn	P	18 09 22.5	+0.1
	9.8nm,0.3s,baz=340,slow=13,SNR=149						
WRA				Sn	S	18 12 19.0	-7.3
	2.1nm,0.3s,baz=347,slow=23,SNR=6.7						
WB2	Warramunga Arr	16.87	163	eP	P	18 09 20.8	-1.7
WB2				eS	S	18 12 15.9	-10
MBWA	Marble Bar	19.69	207	eP	P	18 09 55.7	+0.1
	47nm,0.9s						
ASAR	Alice Springs	20.33	168	P	P	18 10 02.9	+0.6
	276nm,1.0s,baz=345,slow=11,SNR=1491						
ASAR				S	S	18 13 41.5	+0.5
	12nm,0.8s,baz=347,slow=19,SNR=4.9						
ASAR				LR	LR	18 18 16.8	
	comp=Z,59nm,18.2s,baz=130,slow=38						
ASPA	Alice Springs	20.33	168	⇑iP	P	18 10 03.0	+0.7
ASPA				eS	S	18 13 40.0	-1.0
CTA	Charters Tower	23.19	136	eP	P	18 10 32.7	+1.9
	11nm,1.0s,mb4.2						
CTA	Charters Tower	23.19	136	P	P	18 10 32.8	+2.0
	15nm,0.9s,mb4.3,baz=334,slow=12,SNR=5.8						
CTAO	Charters Tower	23.19	136	eP	P	18 10 32.1	+1.3
	23nm,1.1s,mb4.4						
FORT	Forrest	26.95	182	eP	P	18 11 05.9	-0.4
	56nm,0.6s,mb5.3						
KLBR	Kellerberrin	29.79	200	eP	P	18 11 31.9	+0.1
	4.4nm,0.3s,mb4.6						
STKA	Stephens Creek	30.31	159	eP	P	18 11 36.2	-0.1
	3.4nm,0.3s,mb4.5						
STKA	Stephens Creek	30.31	159	P	P	18 11 36.2	-0.1
	4.0nm,0.3s,mb4.5,baz=327,slow=9.5,SNR=40						
STKA				LR	LR	18 23 43.9	
	comp=Z,73nm,20.5s,baz=209,slow=36						
NWAO	Narrogin (SRO)	31.19	200	P	P	18 11 44.2	+0.1
	5.7nm,0.8s,mb4.4,baz=61,slow=6.6,SNR=7.7						
NWAO	Narrogin (SRO)	31.19	200	P	P	18 11 44.2	+0.1
CMAR	Chiang Mai Arr	37.15	307	P	P	18 12 36.8	+1.5
	1.5nm,0.6s,mb4.1,baz=142,slow=7.6,SNR=15						
CMAR				LR	LR	18 28 18.7	
	comp=Z,69nm,18.8s,baz=279,slow=37						
MKAR	Makanchi Array	65.12	326	P	P	18 16 04.5	-0.4
	2.1nm,0.6s,mb4.2,baz=112,slow=7.6,SNR=39						
YAK	Yakutsk	65.56	0	eP	P	18 16 06.5	-0.9
	7.9nm,0.6s,mb4.7						
KURK	Kurchatov	69.37	328	eP	P	18 16 30.3	-1.2
	5.6nm,0.9s,mb4.4						
KURK				epP	pP	18 16 51.2	-0.3
RAR	Rarotonga	70.88	111	LR	LR	18 41 00.2	
	comp=Z,563nm,21.1s,baz=95,slow=30						
BVAR	Borovoye Array	74.93	328	P	P	18 17 04.3	0.0
	0.7nm,0.6s,mb3.5,baz=157,slow=11,SNR=7.2						
BRVK	Borovoye	75.00	328	eP	P	18 17 03.9	-0.8
ZRNK	Zerenda	75.64	327	eP	P	18 17 07.5	-0.9
	1.2nm,0.5s,mb3.9						
ZRNK				e	pP	18 17 30.1	+1.4
SBA	Scott Base	76.67	172	eP	P	18 17 14.6	+0.8
	2.6nm,0.9s,mb4.0						
MAW	Mawson	77.75	201	eP	P	18 17 20.0	+0.1
	3.9nm,0.9s,mb4.1						
MAW	Mawson	77.75	201	P	P	18 17 20.3	+0.4
	5.2nm,0.8s,mb4.3,baz=66,slow=6.2,SNR=14						
SNAA	Sanae	98.68	194	eP	P	18 19 02.7	+1.3
	1.0nm,0.9s,mb4.3						
CPUP	Villa Florida	149.46	168	PKPbc	PKPdf	18 25 12.8	+6.4
	4.7nm,0.8s,baz=222,slow=2.7,SNR=8.1						
ROSC	El Rosal	156.40	86	PKPbc	PKPdf	18 25 27.8	+11
	13nm,0.3s,baz=124,slow=19,SNR=4.4						

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*HEL **15** 18:21:47.6±0.2, 67.17N×20.68E, ML2.2, ML1.9(UPP), ML2.2(BER), Explosion*

*NAO **15** 18:21:48.3±3.2, 67.31N×20.65E, ML2.3*

*BER **15** 18:21:52.4±5.0, 67.24N×20.96E, ML2.2, ML2.3(NAO), Suspected explosion*

ISC 15 18:21:46.1±0.5**, 67.16N**±0.03×**20.61E**±0.10**, n21, σ1**$\overset{s}{.}$**24**/22**, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DUNU	Dundret	0.04	203	iP	Pg	18 21 48.6	+1.7
MASU	Masugnsbyn	0.61	60	iP	Pg	18 21 58.0	-0.4
ERTU	Ertsjaerv	0.87	134	iP	Pg	18 22 03.0	-0.5
PAJU	Pajala	0.99	97	eP	Pb	18 22 04.9	-0.9
KIF	Kilpisjarvi	1.85	2	eP	Pn	18 22 21.2	+1.8
KIF				eS	Sn	18 22 43.9	0.0
KTK1	Kautokeino	2.10	27	eP	Pn	18 22 25.4	+2.4
KTK1				eSG	Sg	18 22 54.5	-1.6
SGF	Sodankyl	2.31	80	eP	Pn	18 22 33.1	+7.1
SGF				e		18 23 03.4	
TRO	Tromso	2.56	347	AML	AML	18 23 17.5	
	comp=Z,17nm,0.6s						
TRO	Tromso	2.56	347	eSg	Sg	18 23 12.3	+1.0
TRO				AML	AML	18 23 17.5	
	comp=Z,17nm,0.6s						
MOR8	Moi Rana	2.65	251	AML	AML	18 23 15.5	
	comp=Z,32nm,0.5s						
MOR8	Moi Rana	2.65	251	eSg	Sg	18 23 12.0	-2.2
MOR8				AML	AML	18 23 15.5	
	comp=Z,32nm,0.5s						
LOF	Lofoten	2.87	293	eSg	Sg	18 23 28.5	+6.8
LOF				AML	AML	18 23 39.3	
	comp=Z,19nm,0.5s						
OUL	Oulu	2.99	132	MSG		18 23 28.6	
	comp=Z,8.2nm,0.4s						
ARA0	ARCESS Array S	3.00	35	eP	Pn	18 22 35.3	-0.5
ARA0				eSG	Sg	18 23 18.4	-7.4
ARA0	ARCESS Array S	3.00	35	Pn	Pn	18 22 35.3	-0.5
	baz=210,slow=14						
ARA0				Lg		18 23 18.4	
	baz=217,slow=28						
KEV	Kevo	3.52	39	eP	Pn	18 22 43.8	+0.7
KEV				eS	Sn	18 23 24.4	-1.6
MSF	Maaselka	3.60	106	e	Sn	18 23 43.4	+15
NSS	Namsos	4.42	237	e	Sg	18 24 12.7	-0.7
NSS				AML	AML	18 24 19.5	
	comp=Z,16nm,0.5s						
NSS	Namsos	4.42	237	eSg	Sg	18 24 12.7	-0.7
NSS				AML	AML	18 24 19.5	
	comp=Z,16nm,0.5s						
FIA0	FINESS Array S	6.21	155	Sn	Sn	18 24 35.0	+1.1
	baz=347,slow=28						
FIA0				Lg		18 25 06.6	
	baz=336,slow=37						
HFS	Hagfors	7.69	207	Sn	Sn	18 25 10.5	-0.5
	baz=34,slow=22						
HFS				Lg		18 25 53.9	
	baz=20,slow=37						

IDC 15 18:21:47.3±3.8**, 16.05S**×**173.07W, mb3.9**/3**, mb1 4.2**/3**, mb1mx3.9**/14**, MS2.5**/1**, Ms1 2.5**/1**, ms1mx2.3**/22**, Error ellipse: s-maj=224.0km s-min=31.0km az=148.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	50.01	257	P	P	18 30 43.1	-2.7
	0.6nm,0.7s,baz=91,slow=7.0,SNR=6.7						
ASAR	Alice Springs	50.22	252	P	P	18 30 45.5	-1.8
	4.3nm,0.7s,baz=86,slow=8.2,SNR=73						
ASAR				LR	LR	18 48 41.5	
	comp=Z,4.5nm,18.7s,baz=311,slow=32						
PDAR	Pinedale Array	82.53	42	P	P	18 34 11.7	-1.8
	0.3nm,0.6s,baz=207,slow=3.3,SNR=3.8						
MLR	Muntele Rosu	146.59	335	PKPbc	PKPbc	18 41 30.5	-0.2
	1.6nm,0.9s,baz=92,slow=13,SNR=4.0						
GERES	GERESS Array B	146.83	352	PKPbc	PKPbc	18 41 31.3	+0.2
	0.4nm,0.7s,baz=333,slow=3.0,SNR=4.3						
BRTR	Keskin Array B	146.86	321	PKPbc	PKPbc	18 41 32.0	+0.6
	2.9nm,0.8s,baz=92,slow=2.7,SNR=14						

DHMR 15 18:23:27.6±0.4**, 12.39N**×**46.06E, h12**^{km}±45^{km}**, ML3.6, 2D, Western Gulf of Aden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDHA	Al Bayda'	1.65	343	⇓iP	Pn	18 23 57.4	+0.7
BDHA				iS	Sn	18 24 20.2	+2.4
BDHA				AML	AML	18 24 21.5	
	comp=E,988nm,0.5s						
LBOS		1.67	332	⇓iP	Pn	18 23 57.7	+0.8
LBOS				iS	Sn	18 24 21.1	+2.6
TRBA	At Turbah	2.06	293	iP	Pn	18 24 03.8	+1.3
TRBA				iS	Sn	18 24 32.5	+4.2
TRBA				AML	AML	18 24 33.3	
	comp=N,445nm,0.5s						

DJA 15 18:42:24.3±0.4**, 8.21S**×**115.57E, h80**^{km}**, MD5.1**/4**, ML2.9**/1**, 3C-5D, Error ellipse: s-maj=14.4km s-min=8.1km az=2.0, Bali region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RATI	Rata	0.51	184	⇓ePn	P	18 42 39.8	+1.6
	209nm,0.2s						
RATI	Rata	0.51	184	⇓iP	P	18 42 40.4	+2.2
RATI				⇓iSn	S	18 42 48.3	-0.4
KEDI	Kedomdong	0.60	117	⇓iPn	P	18 42 38.9	-0.3
KEDI	Kedomdong	0.60	117	⇑iP	P	18 42 39.0	-0.2
INGI	Ingas	0.74	215	⇑iPn	P	18 42 39.0	-1.6
	170nm,0.3s						
INGI				⇓iSn	S	18 42 48.9	-3.7
KELI	Kelakatan	1.07	270	⇑iPn	P	18 42 43.9	-0.5
	18nm,0.3s						

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*NEIC **15** 18:54:24.0, 37.18S×176.86E, h223^{km}, After WEL.*

WEL 15 18:54:24.3±0.2**, 37.17S**×**176.82E, h219**^{km}±3^{km}**, ML4.2**/6**, 2C, Error ellipse: s-maj=4.6km s-min=4.4km az=0.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	1.11	168	⇑PN	P	18 54 56.8	-0.2
URZ				SN	S	18 55 22.1	-0.2
URZ	Urewera	1.11	168	⇑P	P	18 54 56.8	-0.2
MXZ	Matakaoa Point	1.25	109	PN	P	18 54 57.2	-0.8
MXZ				SN	S	18 55 23.2	-0.9
MXZ	Matakaoa Point	1.25	109	P	P	18 54 57.2	-0.8
MWZ	Matawai	1.29	154	PN	P	18 54 58.1	-0.2
MWZ				SN	S	18 55 23.9	-0.8
MWZ	Matawai	1.29	154	P	P	18 54 58.1	-0.3
MWZ				S	S	18 55 23.9	-0.8
PUZ	Puketiti	1.46	129	PN	P	18 54 59.5	-0.2
PUZ				SN	S	18 55 26.4	-0.6
PUZ	Puketiti	1.46	129	eP	P	18 54 59.5	-0.2
PUZ				S	S	18 55 26.4	-0.6
KNZ	Kokohu	1.97	160	PN	P	18 55 04.1	-0.2
KNZ				SN	S	18 55 34.3	-0.8
KNZ	Kokohu	1.97	160	eP	P	18 55 04.1	-0.2
KNZ				S	S	18 55 34.3	-0.8
BKZ	Black Stump Fm	2.01	187	PN	P	18 55 04.3	-0.4
BKZ				SN	S	18 55 35.2	-0.6
BKZ	Black Stump Fm	2.01	187	P	P	18 55 04.3	-0.4
BKZ				S	S	18 55 35.2	-0.6
MGZ	Maungaku	2.09	208	PN	P	18 55 06.1	+0.6
MGZ	Maungaku	2.09	208	P	P	18 55 06.1	+0.6
WTVZ	West Tongariro	2.17	206	PN	P	18 55 06.7	+0.4
TWVZ	Taurewa	2.19	209	PN	P	18 55 06.9	+0.3
TWVZ	Taurewa	2.19	209	P	P	18 55 06.9	+0.4
NGZ	Ngauruhoe	2.22	205	PN	P	18 55 06.9	0.0
NGZ	Ngauruhoe	2.22	205	P	P	18 55 06.9	0.0
CNZ	Chateau	2.26	206	PN	P	18 55 07.4	+0.2
CNZ	Chateau	2.26	206	P	P	18 55 07.4	+0.1
WPVZ	Whakapapa	2.27	206	PN	P	18 55 07.6	+0.3
WPVZ	Whakapapa	2.27	206	P	P	18 55 07.6	+0.3
TUVZ	Tukino	2.29	203	PN	P	18 55 07.7	+0.2
TUVZ	Tukino	2.29	203	P	P	18 55 07.5	-0.1
WNVZ	Wahianoa	2.36	204	PN	P	18 55 08.4	0.0
WNVZ	Wahianoa	2.36	204	P	P	18 55 08.4	+0.1
MOVZ	Moawhango	2.39	200	PN	P	18 55 07.9	-0.7
MOVZ				SN	S	18 55 41.8	-1.0
MOVZ	Moawhango	2.39	200	P	P	18 55 07.9	-0.7
MOVZ				S	S	18 55 41.8	-1.1
VRZ	Vera Road	2.54	219	PN	P	18 55 11.0	+0.8
VRZ	Vera Road	2.54	219	P	P	18 55 11.0	+0.7
PWZ	Pawanui	2.86	179	PN	P	18 55 12.8	-0.9
PWZ				SN	S	18 55 50.3	-1.7
PWZ	Pawanui	2.86	179	P	P	18 55 12.8	-0.9
WAZ	Wanganui	2.96	209	PN	P	18 55 14.4	-0.5
WAZ	Wanganui	2.96	209	eP	P	18 55 14.4	-0.5
TSZ	Takapari Road	2.96	193	PN	P	18 55 13.7	-1.3
TSZ	Takapari Road	2.96	193	P	P	18 55 13.8	-1.2
BFZ	Birch Farm	3.54	187	PN	P	18 55 20.5	-1.2
MRZ	Mangatainoka R	3.62	195	PN	P	18 55 20.5	-2.2
MRZ				SN	S	18 56 04.8	-3.2
MRZ	Mangatainoka R	3.62	195	P	P	18 55 20.5	-2.2
KIW	Kapiti Island	3.98	201	PN	P	18 55 24.7	-2.4
KIW	Kapiti Island	3.98	201	P	P	18 55 24.7	-2.4
MTW	Mount Morrison	4.11	194	PN	P	18 55 26.0	-2.7
MTW	Mount Morrison	4.11	194	P	P	18 55 26.0	-2.7
MRW	Makara Radio	4.38	201	PN	P	18 55 29.2	-2.8
MSWZ	Moikau Station	4.41	196	PN	P	18 55 29.3	-3.1
TUWZ	Tuamarina	4.80	207	PN	P	18 55 34.3	-3.0
TUWZ				SN	S	18 56 31.0	-3.1
NNZ	Nelson	4.85	212	PN	P	18 55 34.1	-3.7
NNZ				SN	S	18 56 31.8	-3.2
QRZ	Quartz Range	4.95	221	ePN	P	18 55 35.9	-3.3
THZ	Tophouse	5.50	212	PN	P	18 55 42.6	-3.6
THZ				SN	S	18 56 45.7	-4.1
KHZ	Kahutara	5.82	205	PN	P	18 55 46.9	-3.3
KHZ				SN	S	18 56 53.7	-3.4
DSZ	Denniston Nort	6.00	219	PN	P	18 55 48.3	-4.2
LTZ	Lake Taylor	6.61	211	PN	P	18 55 56.6	-3.7
MQZ	McQueen's Vall	7.26	205	PN	P	18 56 03.8	-5.0
LBZ	Lake Benmore	8.79	213	ePN	P	18 56 24.0	-4.5
ODZ	Otahua Downs	9.14	209	PN	P	18 56 29.5	-3.5
ODZ				SN	S	18 58 08.2	-5.6

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*NEIC **15** 18:58:54.2±1.0, 20.55S×178.75W, h600^{km}, mb4.0/2, Error ellipse: s-maj=73.9km s-min=11.3km az=158.0*

*IDC **15** 18:58:55.9±3.4, 20.46S×178.83W, h620^{km}±44^{km}, mb3.0/8, mb1 3.3/8, mb1mx3.2/13, Error ellipse: s-maj=108.0km s-min=15.5km az=158.0*

ISC 15 18:58:54.7±2.7**, 20.5S**±0.6×**178.9W**±0.3**, h621**^{km}±23^{km}**, n13, σ0**$\overset{s}{.}$**32**/14**, mb3.6**/9**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.05	313	P	P	19 00 22.5	+0.1
	164nm,0.6s,SNR=23						

CTA	Charters Tower	32.69	265	P	P	19 04 40.0	+0.3
	6.2nm,0.9s,mb4.2,baz=176,slow=14,SNR=7.1						
CTAO	Charters Tower	32.69	265	eP	P	19 04 40.2	+0.5
	4.8nm,0.7s,mb4.2						
STKA	Stephens Creek	37.05	244	P	P	19 05 15.8	+0.2
	0.6nm,0.4s,mb3.5,baz=66,slow=16,SNR=3.7						
STKA	Stephens Creek	37.05	244	eP	P	19 05 15.7	+0.1
ASAR	Alice Springs	43.73	257	P	P	19 06 08.9	0.0
	1.8nm,0.4s,mb3.9,baz=91,slow=7.6,SNR=55						
ASAR				S	S	19 11 56.5	+0.3
	0.1nm,0.6s,baz=93,slow=15,SNR=5.1						
WRAB	Tennant Creek	43.80	262	eP	P	19 06 09.1	-0.3
	1.8nm,0.6s,mb3.8						
WRA	Warramunga Arr	43.81	262	P	P	19 06 09.1	-0.4
	1.0nm,0.3s,mb3.8,baz=97,slow=7.4,SNR=31						
FITZ	Fitzroy Crossi	52.23	263	P	P	19 07 11.9	-0.2
	0.9nm,0.5s,mb3.3,baz=139,slow=3.3,SNR=9.8						
NVAR	Mina Array Bea	81.60	44	P	P	19 10 10.0	-0.5
	0.5nm,0.5s,mb3.3,baz=225,slow=6.7,SNR=5.2						
NVAR	Mina Array Bea	81.60	44	P	P	19 10 10.0	-0.5
TXAR	Lajitas Array	87.75	58	P	P	19 10 40.6	0.0
	0.3nm,0.4s,mb3.3,baz=214,slow=4.5,SNR=4.7						
PDAR	Pinedale Array	89.54	44	P	P	19 10 49.1	+0.6
	0.7nm,0.7s,mb3.6,baz=210,slow=3.7,SNR=5.9						

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*IDC **15** 19:05:30.2±1.8, 47.10N×146.17E, mb3.7/5, mb1 3.8/5, mb1mx3.5/20, Error ellipse: s-maj=75.7km s-min=24.6km az=77.0*

*JMA **15** 19:06:14.4±0.4, 46.51N×144.96E, h405^{km}, M3.1*

ISC 15 19:06:14.6±1.0, **46.53N**±0.10×**144.8E**±0.2, **h396**^{km}±9^{km}, **n17**, σ1^{s}**17**/23, **mb3.2**/5, **Sea of Okhotsk**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JWK2	Keihoku	2.34	240	P	P	19 07 14.0	+1.1
JTKR	Abashiri--Toko	2.63	194	P	P	19 07 16.1	+1.1
JMP	Maruseppu	2.71	202	P	P	19 07 16.5	+0.9
ASAJ	Asahikawa	2.86	213	P	P	19 07 18.1	+1.4
NEM2	Nemuro 2	3.23	167	P	P	19 07 19.3	-0.6
NEM2				eS	S	19 08 10.8	-0.5
JAK	Akkeshi	3.53	181	P	P	19 07 22.4	-0.2
JAK				eS	S	19 08 15.3	-0.7
JCH	Churui	4.04	195	P	P	19 07 27.2	-0.1
JCH				eS	S	19 08 23.3	-1.1
JNBK	Urakawa-nobuka	4.49	200	P	P	19 07 31.7	-0.1
JNBK				eS	S	19 08 30.3	-2.0
JKB	Kayabe	5.36	211	P	P	19 07 41.2	+0.4
JKB				eS	S	19 08 48.7	+0.3
JOT	Ohata	5.80	209	P	P	19 07 46.6	+1.1
JOT				eS	S	19 08 56.4	-0.5
JANG	Nango	6.59	202	eS	S	19 09 12.0	-0.9
JOM	Ohasama	7.50	201	eS	S	19 09 33.0	+1.7
MKAR	Makanchi Array	41.86	294	P	P	19 13 27.1	-1.7
	0.4nm,0.4s,mb3.1,baz=68,slow=7.8,SNR=9.1						
FINES	FINESS Array B	61.64	331	P	P	19 15 48.2	-4.9
	1.7nm,0.8s,mb3.6,baz=45,slow=3.9,SNR=4.7						
NOA	NORSAR Array B	66.40	337	P	P	19 16 19.9	-3.6
	1.0nm,0.8s,mb3.5,baz=34,slow=6.7,SNR=2.5						
WRA	Warramunga Arr	66.82	191	P	P	19 16 28.0	+1.2
	0.3nm,0.9s,mb2.9,baz=8.0,slow=6.7,SNR=3.3						
ASAR	Alice Springs	70.55	191	P	P	19 16 51.9	+2.5
	0.3nm,0.6s,mb3.0,baz=3.2,slow=5.4,SNR=4.7						

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*MOS **15** 19:10:42.9±0.7, 14.28N×120.43E, h56^{km}, mb6.3/55, MS5.0/39, Error ellipse: s-maj=9.0km s-min=4.9km az=114.7*

*MAN **15** 19:10:48.1, 14.28N×120.17E, h91^{km}, mb6.4, ML5.5, MS6.2*

MAN F Balanga Mariveles Bataan - INTENSITY IV Subic Zambales- INTENSITY IV Manila Tagaytay City- INTENSITY IV Clar.

*BJI **15** 19:10:48.7, 14.29N×120.56E, h112^{km}, mB6.0, mb5.9*

*IDC **15** 19:10:48.4±0.4, 14.17N×120.53E, h102^{km}±3^{km}, mb5.6/31, mb1 5.6/32, mb1mx5.6/33, MS4.9/21, Ms1 4.9/21, ms1mx4.7/29, Error ellipse: s-maj=10.5km s-min=5.4km az=62.0*

*NEIC **15** 19:10:50.6±0.1, 14.22N×120.41E, mb6.0/152, ME5.4, MW6.0, Error ellipse: s-maj=3.3km s-min=2.7km az=211.0 Broadband fault plane solution: P waves. NP1:ϕ_s160°, δ70°, λ90°. NP2:ϕ_s340°, δ20°, λ90°. Principal axes: T Plg65°, Azm70°; N Plg0°, Azm0°; P Plg25°, Azm250°; Moment Tensor Solution. s31 Moment tensor: Scale 10^{18} Nm; M_{rr}0.00; $M_{\theta\theta}$0.00; $M_{\phi\phi}$0.00; $M_{r\theta}$0.00; $M_{\theta\phi}$0.00; $M_{\phi r}$0.00; Best double couple: $M_0 1\times10^{18}$ NP1:ϕ_s352°, δ18°, λ101°. NP2:ϕ_s160°, δ72°, λ86°. Principal axes: T .94, Plg62°, Azm65°; N .2, Plg3°, Azm162°; P -1.14, Plg27°, Azm253°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Power outages occurred in some parts of central Luzon. Felt [IV PIVS] at Balanga, Manila, Mariveles, Subic and Tagaytay.

*HRVD **15** 19:10:50.6±0.1, 14.39N×120.30E, h106^{km}, MW6.0/69, Centroid moment Tensor Solution. LP body waves: s66,c151; Mantle waves: s69,c165; Half duration: 2^{s}3 Moment tensor: Scale 10^{18}Nm; M_{rr}0.38±.01; $M_{\theta\theta}$-0.09±.01; $M_{\phi\phi}$-0.29±.01; $M_{r\theta}$0.29±.01; $M_{\theta\phi}$0.21±.01; $M_{\phi r}$-0.89±.01; Best double couple: $M_0 1.02\times10^{18}$ NP1: ϕ_s313°, δ13°, λ62°. NP2:ϕ_s161°, δ79°, λ96°. Principal axes: T 1.01, Plg56°, Azm78°; N .02, Plg6°, Azm340°; P -1.03, Plg34°, Azm246°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*SYO **15** 19:10:50.9, 14.25N×120.42E, h119^{km}, MB5.9*

ISC 15 19:10:49.1±0.1, **14.26N**±0.01×**120.37E**±0.02, **h109**^{km}, **h109**^{km}±1.7^{km}**:pP-P**, **n1022**, σ1^{s}**02**/977, **mb6.0**/231, **128C-55D**, **Luzon**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LUBP	Lubang	0.53	193	eP	P	19 11 05.1	-1.0
LUBP				eS	S	19 11 17.4	-1.7
TGY	Tagaytay City	0.57	105	⇓iP	P	19 11 06.9	+0.5
TGY				i S	S	19 11 19.9	+0.3
LQP	Lukban	1.14	97	⇓iP	P	19 11 12.8	+0.7
SCZP	Santa Cruz	1.58	344	eP	P	19 11 15.5	-1.6
SCZP				eS	S	19 11 36.1	-2.1
POLP	Polilio Island	1.59	73	eP	P	19 11 18.4	+1.0
POLP				eS	S	19 11 40.7	+2.2
BOAC	Boac	1.64	119	eP	P	19 11 19.1	+1.2
BOAC				eS	S	19 11 43.7	+4.2
BALP	Baler	1.88	38	eP	P	19 11 21.6	+0.7
BALP				eS	S	19 11 46.5	+1.7
SJMP	San Jose	1.93	158	eP	P	19 11 22.1	+0.6
SJMP				eS	S	19 11 45.3	-0.5
GQP	Guinayangan	2.04	100	⇓iP	P	19 11 24.9	+1.8
BCPH	Baguio City Da	2.12	5	⇑iP	P	19 11 23.5	-0.6
BOLP	Bolinao	2.16	348	eP	P	19 11 23.3	-1.3
BOLP				eS	S	19 11 50.8	-0.4
BUSP	Coron	2.24	184	eP	P	19 11 25.3	-0.4
BUSP				eS	S	19 11 51.5	-1.8
AUQP	San Andres	2.42	112	eP	P	19 11 31.4	+3.2
OTRP	Odiongan	2.47	139	eP	P	19 11 29.7	+0.8
OTRP				eS	S	19 12 01.4	+2.6
CAUP	Cauayan	3.02	27	eP	P	19 11 36.5	+0.2
ENPP	El Nido	3.17	197	eP	P	19 11 37.6	-0.7
ENPP				eS	S	19 12 12.2	-3.3
KALP	Kalibo	3.20	143	⇓iP	P	19 11 40.4	+1.7
ABRA	Dolores	3.39	6	eP	P	19 11 39.9	-1.4
ABRA				eS	S	19 12 18.3	-2.6
PALP	Palanan	3.42	35	eP	P	19 11 41.7	0.0
CUYO	Cuyo Island	3.44	169	eP	P	19 11 41.0	-1.0
CUYO				eS	S	19 12 19.8	-2.3
RCP	Roxas	3.54	139	⇓eP	P	19 11 44.5	+1.2
	806μm,1.7s						
APYP	Conner	3.68	13	eP	P	19 11 44.9	-0.4
APYP				eS	S	19 12 30.2	+2.1
MMPH	Masbate	3.69	120	⇓iP	P	19 11 46.2	+0.9
MMPH				eS	S	19 12 35.2	+7.1
CVP	Callao Caves	3.70	22	⇑iP	P	19 11 45.0	-0.5
CVP				i S	S	19 12 29.0	+0.5
PVCP	Virac	3.73	100	eP	P	19 11 47.7	+1.8
PIP	Pasuquin	4.05	3	⇑iP	P	19 11 52.8	+2.5
PIP				eS	S	19 12 41.2	+4.1
AAP	Anini-y	4.11	158	⇓eP	P	19 11 48.5	-2.5
	7μm,0.5s						
GUIM	Jordan	4.21	149	eP	P	19 11 53.6	+1.2
GUIM				eS	S	19 12 43.7	+2.9
SGCP	Mt. Cagua	4.28	22	eP	P	19 11 53.7	+0.4
SGCP				eS	S	19 12 44.0	+1.5
CNP	Catarman	4.52	112	eP	P	19 11 58.8	+2.1
PPR	Puerto Princes	4.73	200	⇑eP	P	19 11 58.5	-1.0
OCLP	Ormoc	5.22	127	eP	P	19 12 08.9	+2.8
LLP	Lapu-Lapu	5.26	138	⇑iP	P	19 12 08.5	+1.9
	19μm,1.0s						
BESP	Borongan	5.60	118	eP	P	19 12 14.0	+2.8
SNPH	Sibulan	5.63	150	⇓iP	P	19 12 16.0	+4.4
SNPH	Sibulan	5.63	150	⇓iP	P	19 12 16.0	+4.4
TBP	Tagbilaran	5.68	143	⇑eP	P	19 12 14.8	+2.6
BATP	Bataraza	5.98	205	eP	P	19 12 14.1	-2.3
MSLP	Maasin	6.00	133	eP	P	19 12 19.4	+2.7
BBP	Basco	6.34	14	eP	P	19 12 19.6	-1.8
DCPH	Dipolog City	6.35	152	i P	P	19 12 23.2	+1.7
SCPH	Surigao	6.70	131	i P	P	19 12 28.7	+2.4
SCPH				i S	S	19 13 41.1	-0.5
IPIL	Ipil	6.78	161	eP	P	19 12 28.0	+0.5
IPIL				eS	S	19 13 43.5	-0.1
PAGZ	Pagadian	7.02	155	eP	P	19 12 33.5	+2.7
PAGZ				eS	S	19 13 51.1	+1.6
BUTP	Butuan	7.35	135	eP	P	19 12 37.3	+2.1
BUKP	Musuan	7.83	144	eP	P	19 12 44.9	+3.2
DAV	Davao City (W)	8.78	144	⇑eP	P	19 12 58.7	+4.1
KKM	Kota Kinabalu	9.12	207	⇓eP	P	19 12 58.5	-0.7
KKM				eS	S	19 14 36.1	-4.6
MATI	Mati	9.28	141	eP	P	19 13 05.2	+3.9
HKC	Hong Kong	9.94	325	eP	P	19 13 12.0	+1.9
HKC				i S	x	19 15 38.0	
TATO	Taipei	10.72	5	eP	P	19 13 20.4	-0.2
QZH	Quanzhou	10.76	351	⇑P	P	19 13 20.0	-1.2
QZH				S	S	19 15 18.0	-2.1
QZH				AMB	AMB		
	comp=Z,610nm,1.1s						
QZH				AMB	AMB		
	comp=Z,3μm,4.0s						
QZH				LR	LR		
	comp=N,11μm,13.6s						
QZH				LR	LR		
	comp=E,8μm,14.0s						
QZH				LR	LR		
	comp=Z,15μm,14.6s						
GZH	Guangzhou	11.02	324	P	P	19 13 26.5	+1.9
GZH				S	S	19 15 22.3	-3.9
GZH				LR	LR		
	comp=N,6μm,21.1s						
GZH				LR	LR		
	comp=E,7μm,12.8s						
GZH				LR	LR		
	comp=Z,8μm,14.9s						
QIZ	Qiongzhong	11.15	297	P	P	19 13 25.6	-0.7
QIZ				XP		19 13 55.8	
QIZ				S	S	19 15 26.3	-3.0
QIZ				AMB	AMB		
	comp=Z,494nm,1.6s						
QIZ				AMB	AMB		
	comp=Z,2μm,9.8s						
QIZ	Qiongzhong	11.15	297	eP	P	19 13 25.3	-1.0
	comp=Z,828nm,1.3s						
JOW	Kunigami	14.53	29	P	P	19 14 09.8	-0.8
	comp=Z,2.7nm,0.3s,baz=203,slow=10,SNR=45						
UBT	Ubonrachathani	14.88	276	⇓P	P	19 14 17.9	+2.8
	comp=Z,1μm,1.3s						
SSE	Sheshan	16.78	2	P	P	19 14 40.6	+1.9
SSE				XP		19 15 14.9	
SSE				S	S	19 17 42.8	+2.4
SSE				AMB	AMB		
	comp=Z,726nm,1.1s						
SSE				AMB	AMB		
	comp=Z,4μm,5.3s						
SSE				LR	LR		
	comp=N,3μm,16.5s						
SSE				LR	LR		
	comp=E,2μm,16.4s						
SSE				LR	LR		
	comp=Z,3μm,16.4s						
SSE	Sheshan	16.78	2	P	P	19 14 40.6	+1.9
	comp=Z,726nm,1.1s						
SSE				pP		19 15 01.7	
SSE				sP		19 15 14.9	
SSE				S	S	19 17 42.7	+2.3
KKTK	Khon Kaen	17.05	279	⇓P	P	19 14 43.5	+1.3
	comp=Z,5μm,0.8s						
WHN	Wuhan	17.13	342	⇑iP	P	19 14 44.0	+0.9
WHN				AMB	AMB		
	comp=Z,247nm,1.2s						
WHN				AMB	AMB		
	comp=Z,5μm,3.7s						
WHN				LR	LR		
	comp=E,15μm,15.4s						
WHN				LR	LR		
	comp=N,2μm,8.4s						
WHN				LR	LR		
	comp=E,15μm,15.1s						
WHN				LR	LR		
	comp=Z,10μm,16.4s						
GYA	Guiyang	17.66	316	⇓iP	P	19 14 50.3	+0.7
GYA				S	S	19 18 05.3	+5.2
GYA				SCP		19 22 43.6	
GYA				SCS	ScS	19 26 22.4	-3.5
GYA				AMB	AMB		
	comp=Z,3μm,5.7s						
GYA				LR	LR		
	comp=N,6μm,12.9s						
GYA				LR	LR		
	comp=E,6μm,12.9s						
GYA				LR	LR		
	comp=Z,10μm,13.8s						
NJ2	Nanjing	17.77	356	eP	P	19 14 51.6	+0.7
NJ2				S	S	19 18 02.0	-0.5
NJ2				SCP		19 22 44.0	
NJ2				AMB	AMB		
	comp=Z,1μm,1.2s						
NJ2				AMB	AMB		
	comp=Z,4μm,3.5s						
NJ2				LR	LR		
	comp=N,8μm,17.7s						
NJ2				LR	LR		
	comp=E,11μm,17.0s						
NJ2				LR	LR		
	comp=Z,14μm,18.5s						
ENH	Enshi	18.83	330	eP	P	19 15 02.3	-0.6
	comp=Z,244nm,0.9s						
NST	Nakhon Sawan	19.60	277	⇑P	P	19 15 11.0	-0.2
	comp=Z,346nm,0.8s						
KMI	Kunming	19.79	306	⇓eP	P	19 15 14.8	+1.7
KMI				AP		19 15 34.6	
KMI				PP	PP	19 15 39.6	+4.9
KMI				PPP	PPP	19 15 50.4	+4.3
KMI				S	S	19 18 50.8	+5.9
KMI				PCP	PcP	19 19 25.8	-1.1
KMI				SCP		19 22 54.0	
KMI				AMB	AMB		
	comp=Z,353nm,1.6s						
KMI				AMB	AMB		
	comp=Z,2μm,3.2s						
KMI				LR	LR		
	comp=N,3μm,13.8s						
KMI				LR	LR		
	comp=E,4μm,14.8s						
KMI				LR	LR		
	comp=Z,4μm,18.9s						
KMI	Kunming	19.79	306	⇓eP	P	19 15 14.8	+1.7
	comp=Z,353nm,1.6s						
KMI				pP		19 15 34.6	
KMI				PP	PP	19 15 39.6	+4.9
KMI				PPP	PPP	19 15 50.4	+4.3
KMI				S	S	19 18 50.8	+5.9
KMI				PcP	PcP	19 19 25.8	-1.1
KMI				ScP		19 22 54.0	
NNT	Nongplab	20.14	268	P	P	19 15 17.8	+1.0
CHRT	Chiangrai	20.45	289	⇓P	P	19 15 14.0	-5.9
	comp=Z,2μm,0.9s						
SNG	Songkhla	20.63	252	P	P	19 15 22.5	+0.7
	comp=Z,1μm,1.0s						
BDT	Bhumibol Dam	20.78	281	⇓P	P	19 15 25.0	+1.8
	comp=Z,224nm,0.9s						
KGM	Kluang	20.78	236	⇓eP	P	19 15 23.0	-0.3
	comp=Z,542nm,0.7s						
CM31	Chiang Mai Arr	20.98	284	eP	P	19 15 25.9	+0.7
	comp=Z,929nm,0.8s						
CMAR	Chiang Mai Arr	20.98	284	P	P	19 15 25.9	+0.7
	comp=Z,654nm,0.8s,baz=94,slow=8.8,SNR=1278						
CMAR				S	S	19 19 16.8	+9.2
	comp=Z,44nm,1.2s,baz=101,slow=15,SNR=6.9						
CMAR				PcP	PcP	19 19 29.0	-0.2
	comp=Z,44nm,1.0s,baz=124,slow=0.4,SNR=16						
CMAR				ScP		19 22 56.3	
	comp=Z,20nm,0.9s,baz=85,slow=1.3,SNR=17						
CMAR				LR	LR	19 23 33.5	
	comp=Z,4μm,20.1s,baz=100,slow=36						
CMAR	Chiang Mai Arr	20.98	284	P	P	19 15 26.0	+0.8
CMAR				S	S	19 19 16.8	+9.3
CMAR						19 19 29.0	
CMAR				pmax	pmax		
	comp=Z,654nm,0.8s						
CMAR				pmax	pmax		
	comp=Z,44nm,1.0s						
CMAR				pmax	pmax		
	comp=N,20nm,0.9s						
CMAR				MLR	MLR		
	comp=Z,4μm,20.1s						
CMAR	Chiang Mai Arr	20.98	284	P	P	19 15 25.9	+0.7
CMAR				S	S	19 19 16.8	+9.2
CMAR				PcP	PcP	19 19 29.0	-0.2
CMAR				ScP		19 22 56.3	
CMAR				LR	LR	19 23 33.5	
CHG	Chiang Mai	21.03	285	⇓P	P	19 15 26.6	+0.8
	comp=Z,150nm,0.9s,mb5.3						
CHG				S	S	19 19 14.4	+5.9
JNU	Nakatsue	21.08	25	LR	LR	19 24 41.4	
	comp=Z,2μm,18.1s,baz=210,slow=40						
IPM	Ipoh	21.35	245	⇓eP	P	19 15 29.9	+0.9
	comp=Z,119nm,0.5s,mb5.5						
KLM	Kuala Lumpur	21.55	241	⇑eP	P	19 15 32.0	+1.0
XAN	Xi’an	22.26	334	P	P	19 15 37.9	+0.1
XAN				S	S	19 19 32.3	+1.7
XAN				AMB	AMB		
	comp=Z,226nm,0.8s,mb5.5						
XAN				LR	LR		
	comp=N,3μm,23.2s						
XAN				LR	LR		
	comp=E,4μm,17.6s						
XAN				LR	LR		
	comp=Z,5μm,15.0s						
CD2	Chengdu	22.53	320	⇓iP	P	19 15 41.8	+1.2
CD2				AP		19 16 02.8	
CD2				XP		19 16 18.5	
CD2				S	S	19 19 37.5	+2.1
CD2				XS		19 20 16.6	
CD2				AMB	AMB		
	comp=Z,2μm,1.0s,mb6.3						
CD2				AMB	AMB		
	comp=Z,1μm,4.4s						
CD2				LR	LR		
	comp=N,8μm,12.0s						
CD2				LR	LR		
	comp=Z,9μm,14.4s						
GUMO	Guam	23.79	89	eP	P	19 15 50.9	-1.9
GUMO				pmax	pmax		
	comp=Z,800nm,1.2s,mb5.9						
GUMO	Guam	23.79	89	eP	P	19 15 50.9	-1.9
	comp=Z,800nm,1.2s,mb5.9						
INCN	Inchon	23.80	12	eP	P	19 15 51.9	-0.8
	comp=Z,1μm,1.4s,mb6.1						
CBIJ	Chichi jima	24.03	54	P	P	19 15 52.6	-2.4
	comp=Z,1μm,0.6s,mb6.4,baz=246,slow=4.1,SNR=55						
CBIJ				LR	LR	19 24 24.3	
	comp=Z,4μm,19.1s,baz=229,slow=34						
KS15	Wonju Array Si	24.04	15	eP	P	19 15 54.0	-1.0
TIY	Taiyuan	24.41	345	⇑P	P	19 15 56.0	-2.5
TIY				S	S	19 20 10.0	+2.5
TIY				LR	LR		
	comp=N,5μm,15.0s						
TIY				LR	LR		
	comp=Z,2μm,12.0s						
ANAT	Anatahan	24.47	82	⇑eP	P	19 16 00.6	+1.2
ANA2	Anatahan	24.53	82	⇑eP	P	19 16 00.4	+0.5
SAPN	Saipan	24.56	85	⇑iP	P	19 16 00.6	+0.3
DL2	Dalian	24.58	2	⇑iP	P	19 15 59.6	-0.6
DL2				AP		19 16 25.3	
DL2				S	S	19 20 10.8	+0.4
DL2				XS		19 20 55.4	
DL2				AMB	AMB		
	comp=Z,1μm,0.9s,mb6.3						
DL2				AMB	AMB		
	comp=Z,1μm,6.6s						
DL2				LR	LR		
	comp=N,2μm,13.7s						
DL2				LR	LR		
	comp=Z,2μm,14.4s						
SARN	Sarigan	24.59	81	⇑iP	P	19 16 00.5	0.0
JHJ	Hachijo jima 2	25.78	40	P	P	19 16 10.2	-1.4
	comp=Z,873nm,1.1s,mb6.1,baz=233,slow=9.4,SNR=5.1						
BJT	Baijiatuau	25.93	353	eP	P	19 16 12.3	-0.5
	comp=Z,502nm,0.9s,mb6.0						
BJI	Beijing	25.95	353	eP	P	19 16 13.3	+0.3
BJI				AP	pP	19 16 37.3	+0.7
BJI				XP	sP	19 16 51.3	+1.8
BJI				S	S	19 20 33.8	+0.6
BJI				AMB	AMB		
	comp=Z,758nm,1.0s,mb6.1						
BJI	Beijing	25.95	353	eP	P	19 16 13.2	+0.2
	comp=Z,758nm,1.0s,mb6.1						
BJI				pP	pP	19 16 37.3	+0.7
BJI				sP	sP	19 16 51.3	+1.8
BJI				S	S	19 20 33.7	+0.5
BJI				sS		19 21 22.7	
LZH	Lanzhou	26.31	329	⇑P	P	19 16 16.8	+0.4
LZH				AP	pP	19 16 42.0	+2.0
LZH				XP	sP	19 16 56.8	+3.9
LZH				PP	PP	19 17 06.0	+3.1
LZH				PCP	PcP	19 19 39.5	-0.8
LZH				S	S	19 20 40.3	+1.2
LZH				XS		19 21 24.4	
LZH				SS	SS	19 21 59.3	+2.5
LZH				AMB	AMB		
	comp=Z,167nm,1.5s,mb5.2						
LZH				LR	LR		
	comp=E,7μm,11.2s						
LZH				LR	LR		
	comp=Z,7μm,13.4s						
LZH	Lanzhou	26.31	329	⇑P	P	19 16 16.8	+0.4
	comp=Z,167nm,1.5s,mb5.2						
LZH				pP	pP	19 16 42.0	+2.0
LZH				sP	sP	19 16 56.7	+3.8
LZH				PP	PP	19 17 06.0	+3.1
LZH				PcP	PcP	19 19 39.5	-0.8
LZH				S	S	19 20 40.3	+1.2
LZH				sS		19 21 24.4	
LZH				SS	SS	19 21 59.2	+2.4
LZH				LR	LR		
	comp=Z,7μm,13.4s						
MAJO	Matsushiro	27.33	32	eP	P	19 16 21.6	-4.2
MAJO				pmax	pmax		
	comp=Z,77nm,1.0s,mb5.2						
MAJO	Matsushiro	27.33	32	eP	P	19 16 21.9	-3.9
	comp=Z,77nm,1.0s,mb5.2						
MAT	Matsushiro	27.33	32	P	P	19 16 22.6	-3.2
MAT				S	S	19 21 06.0	+10
MAT	Matsushiro	27.33	32	eP	P	19 16 23.0	-2.8
	comp=Z,70nm,1.0s,mb5.2						
MAT				eS	S	19 21 27.0	+31
MAT				LR	LR		
	comp=Z,3μm,18.0s						
HHC	Hu-ho-hao-te	27.59	345	eP	P	19 16 28.4	+0.3
HHC				AP	pP	19 16 55.6	+3.8
HHC				XP	sP	19 17 07.5	+2.9
HHC				PP	PP	19 17 19.4	-0.8
HHC				S	S	19 20 59.5	-0.3
HHC				XS		19 21 39.3	
HHC				SCP		19 23 13.1	
HHC				PCS		19 23 28.0	
HHC				SCS	ScS	19 27 04.1	+1.1
HHC				AMB	AMB		
	comp=Z,995nm,4.7s						
HHC				LR	LR		
	comp=N,2μm,16.0s						
HHC				LR	LR		
	comp=E,1μm,19.6s						
HHC				LR	LR		
	comp=Z,2μm,16.1s						
SNY	Shenyang	27.61	5	⇑iP	P	19 16 26.8	-1.5
SNY				S	S	19 21 00.0	-0.2
SNY				AMB	AMB		
	comp=Z,2μm,7.1s						
SNY				LR	LR		
	comp=N,2μm,17.2s						

SNY				LR	LR		
	comp=E,3μm,17.2s						
SNY				LR	LR		
	comp=Z,3μm,21.0s						
BTO	**Baotou**	**27.77**	**343**	*e*P	**P**	**19 16 28.1**	**-1.6**
BTO				S	**S**	**19 20 54.8**	**-7.9**
BTO				AMB	AMB		
	comp=Z,3μm,4.6s						
BTO				LR	LR		
	comp=N,4μm,11.7s						
BTO				LR	LR		
	comp=E,8μm,14.1s						
SHL	**Shillong**	**28.99**	**297**	⇓*i*P	**P**	**19 16 40.5**	**-0.2**
SHL				*e*		19 19 47.0	
SHL				*e*S	**S**	**19 21 20.0**	**-2.3**
AGT	**Agartala**	**29.09**	**294**	⇓*i*	**P**	**19 16 46.0**	**+4.4**
AGT				*i*	pP	19 17 12.0	+6.4
KAKA	**Kakadu**	**29.31**	**155**	*e*P	**P**	**19 16 42.0**	**-1.7**
	comp=E,54nm,0.6s,mb5.3						
CN2	**Changchun**	**29.77**	**7**	⇑P	**P**	**19 16 45.4**	**-2.1**
CN2				PCP	PcP	19 19 48.3	-0.3
CN2				*e*S	**S**	**19 21 31.3**	**-3.1**
CN2				LR	LR		
	comp=N,3μm,16.0s						
CN2				LR	LR		
	comp=E,3μm,16.0s						
CN2				LR	LR		
	comp=Z,3μm,16.0s						
VLA	**Vladivostok**	**30.43**	**17**	⇓*i*P	**P**	**19 16 55.0**	**+1.7**
VLA				*e**PP	pP	19 17 15.0	-2.5
VLA				*i*		19 17 56.0	
VLA				*i* PPP	PPP	19 18 09.0	-2.6
VLA				*e*		19 19 51.0	
VLA				*i* S	**S**	**19 21 42.0**	**-2.8**
VLA				pmax	pmax		
	comp=Z,2μm,10.0s						
VLA				pmax	pmax		
	comp=N,1μm,11.0s						
VLA				pmax	pmax		
	comp=E,1μm,4.0s						
VLA				pmax	pmax		
	comp=N,1μm,6.0s						
VLA				pmax	pmax		
	comp=Z,1μm,6.0s						
VLA				pmax	pmax		
	comp=E,500nm,4.0s						
VLA				smax			
	comp=E,2μm,13.0s						
VLA				smax			
	comp=E,2μm,10.0s						
VLA				MLR	MLR		
	comp=Z,2μm,15.0s						
VLA				MLR	MLR		
	comp=N,2μm,16.0s						
VLA				MLR	MLR		
	comp=E,1μm,14.0s						
GTA	**Gaotai**	**30.90**	**328**	⇑P	**P**	**19 16 57.8**	**+0.2**
GTA				AP	pP	19 17 24.8	+3.0
GTA				XP	sP	19 17 37.3	+2.7
GTA				PP	PP	19 18 02.9	0.0
GTA				PCP	PcP	19 19 52.1	+0.5
GTA				S	**S**	**19 21 49.8**	**-2.5**
GTA				XS		19 22 34.8	
GTA				SCP		19 23 25.0	
GTA				PCS		19 23 35.5	
GTA				SCS	ScS	19 27 20.1	+1.6
GTA				LR	LR		
	comp=N,2μm,19.4s						
GTA				LR	LR		
	comp=E,2μm,20.5s						
GTA				LR	LR		
	comp=Z,2μm,25.1s						
LSA	**Lhasa**	**31.03**	**305**	P	**P**	**19 17 00.0**	**+1.2**
LSA				S	**S**	**19 21 59.8**	**+5.4**
LSA				LR	LR		
	comp=N,2μm,23.2s						
LSA				LR	LR		
	comp=E,2μm,24.1s						
LSA				LR	LR		
	comp=Z,2μm,27.4s						
MDJ	**Mudanjiang**	**31.26**	**13**	P	**P**	**19 16 59.3**	**-1.3**
MDJ				AP	pP	19 17 24.4	-0.6
MDJ				XP	sP	19 17 37.4	-0.3
MDJ				S	**S**	**19 21 58.3**	**+0.4**
MDJ				SCP		19 23 22.5	
MDJ				PCS		19 23 35.8	
MDJ				AMB	AMB		
	comp=Z,246nm,1.0s,mb5.9						
MDJ				AMB	AMB		
	comp=Z,1μm,4.4s						
MDJ				LR	LR		
	comp=E,5μm,27.9s						
MDJ				LR	LR		
	comp=Z,5μm,28.3s						
MDJ	**Mudanjiang**	**31.26**	**13**	*e*P	**P**	**19 16 59.1**	**-1.6**
	comp=Z,344nm,1.2s,mb6.0						
CAL	**Calcutta**	**31.45**	**290**	*e*	**P**	**19 17 09.7**	**+7.2**
CAL				*e*		19 22 09.3	
FITZ	**Fitzroy Crossi**	**32.57**	**171**	⇑*i*P	**P**	**19 17 09.9**	**-2.3**
	comp=Z,52nm,1.0s,mb5.3						
FITZ				*i* S	**S**	**19 22 13.4**	**-5.1**
FITZ	**Fitzroy Crossi**	**32.57**	**171**	P	**P**	**19 17 10.0**	**-2.2**
	comp=Z,44nm,0.7s,mb5.4,baz=2.0,slow=6.8,SNR=99						
FITZ				pP	pP	19 17 31.7	-5.1
	comp=Z,49nm,0.9s,baz=315,slow=2.6,SNR=5.9						
FITZ				S	**S**	**19 22 13.6**	**-5.0**
	comp=Z,13nm,0.7s,baz=183,slow=15,SNR=3.2						
WAU	**Wau**	**33.82**	**128**	*e*P	**P**	**19 17 22.4**	**-0.7**
HIA	**Hailar**	**34.92**	**359**	P	**P**	**19 17 30.5**	**-1.5**
HIA				PcP	PcP	19 20 03.1	+0.4
HIA	**Hailar**	**34.92**	**359**	*e*P	**P**	**19 17 30.4**	**-1.7**
	comp=Z,410nm,0.9s,mb6.3						
PKI	**Pulchoki**	**35.11**	**298**	*e*P	**P**	**19 17 33.8**	**-0.1**
	comp=Z,465nm,0.6s,mb6.5						
MBWA	**Marble Bar**	**35.20**	**181**	*e*P	**P**	**19 17 32.9**	**-1.8**
	comp=Z,217nm,0.6s,mb6.2						
KKN	**Kakani**	**35.28**	**298**	*e*P	**P**	**19 17 35.1**	**-0.2**
	comp=Z,730nm,0.9s,mb6.5						
ASAJ	**Asahikawa**	**35.29**	**28**	P	**P**	**19 17 33.4**	**-1.9**
	comp=Z,110nm,0.9s,mb5.7,baz=247,slow=13,SNR=46						
ASAJ				LR	LR	19 33 10.4	
	comp=Z,2μm,19.1s,baz=226,slow=38						
ASAJ	**Asahikawa**	**35.29**	**28**	P	**P**	**19 17 33.4**	**-1.9**
ASAJ				pmax	pmax		
	comp=Z,110nm,0.9s						
ASAJ				MLR	MLR		
	comp=Z,2μm,19.2s						
DMN	**Daman**	**35.38**	**298**	*e*P	**P**	**19 17 36.2**	**0.0**
	comp=Z,632nm,0.8s,mb6.5						
PMG	**Port Moresby**	**35.48**	**130**	*e*P	**P**	**19 17 35.9**	**-1.3**
KMBE	**Kimbe**	**35.50**	**122**	*e*P	**P**	**19 17 36.5**	**-0.9**
VIS	**Vishakhapatnam**	**35.74**	**281**	*e*P	**P**	**19 17 39.5**	**+0.2**
GKN	**Gorkha**	**35.88**	**298**	*e*P	**P**	**19 17 40.1**	**-0.4**
	comp=Z,871nm,0.9s,mb6.7						
KLR	**Kul'dur**	**36.11**	**13**	⇓*i*P	**P**	**19 17 40.5**	**-1.6**
KLR				*e*		19 19 04.5	
KLR				*e*		19 20 05.4	
KLR				*i* S	**S**	**19 23 12.5**	**-0.3**
KLR				*e*		19 26 05.5	
KLR				pmax	pmax		
	comp=N,100nm,0.8s						
KLR				pmax	pmax		
	comp=Z,230nm,0.8s,mb6.2						
KLR				pmax	pmax		
	comp=N,2μm,8.5s						
KLR				pmax	pmax		
	comp=E,700nm,8.5s						
KLR				pmax	pmax		
	comp=Z,3μm,8.5s						
KLR				smax			
	comp=N,600nm,11.5s						
KLR				smax			
	comp=E,2μm,11.5s						
VLK	**Valmikinagar**	**36.38**	**297**	*i* P	**P**	**19 17 44.0**	**-0.6**
VLK				*i*		19 17 49.0	
RAB	**Rabaul**	**36.47**	**118**	*e*P	**P**	**19 17 46.2**	**+0.7**
WRAB	**Tennant Creek**	**36.65**	**158**	*e*P	**P**	**19 17 44.5**	**-2.4**
	comp=E,307nm,0.8s,mb6.3						
WRAB				*e*P		19 17 44.8	
WRA	**Warramunga Arr**	**36.66**	**158**	P	**P**	**19 17 44.5**	**-2.5**
	comp=E,176nm,0.9s,mb6.0,baz=329,slow=10,SNR=423						
WRA				pP	pP	19 18 06.7	-5.3
	comp=E,52nm,0.7s,baz=336,slow=9.5,SNR=3.9						
WRA				S	**S**	**19 23 15.1**	**-6.3**
	comp=E,34nm,0.8s,baz=330,slow=14,SNR=14						
WRA	**Warramunga Arr**	**36.66**	**158**	P	**P**	**19 17 44.5**	**-2.5**
WRA				*PP	pP	19 18 06.7	-5.3
WRA				pmax	pmax		
	comp=Z,176nm,0.9s						
WRA				pmax	pmax		
	comp=Z,52nm,0.7s						
WB2	**Warramunga Arr**	**36.66**	**158**	⇑*i*P	**P**	**19 17 44.9**	**-2.2**
WB2				*e*S	**S**	**19 23 13.4**	**-8.1**
KOLN	**Koldanda**	**36.71**	**297**	*e*P	**P**	**19 17 47.4**	**-0.1**
	comp=Z,832nm,1.1s,mb6.6						
BLSP	**Bilaspur**	**37.08**	**288**	*e*P	**P**	**19 17 51.0**	**+0.4**
BLSP				*e*S	**S**	**19 23 28.6**	**+0.7**
YSS	**Yuzh-Sakhalins**	**37.59**	**25*j***	*e*P	**P**	**19 17 53.0**	**-1.6**
YSS				*e**PP	pP	19 18 14.9	-4.7
YSS				*e*		19 19 23.0	
YSS				*e*PPP	PPP	19 19 49.0	+1.0
YSS				*e*		19 20 10.2	
YSS				*e*S	**S**	**19 23 30.0**	**-5.4**
YSS				pmax	pmax		
	comp=N,80nm,1.0s						
YSS				pmax	pmax		
	comp=Z,160nm,1.0s,mb5.8						
YSS				pmax	pmax		
	comp=E,60nm,0.9s						
YSS				pmax	pmax		
	comp=Z,70nm,1.0s,mb5.5						
YSS				pmax	pmax		
	comp=N,120nm,1.0s						
YSS				pmax	pmax		
	comp=Z,120nm,1.0s,mb5.7						
YSS				MLR	MLR		
	comp=E,1μm,19.0s						
YSS				MLR	MLR		
	comp=Z,2μm,19.0s						
YSS	**Yuzh-Sakhalins**	**37.59**	**25**	*e*P	**P**	**19 17 53.2**	**-1.4**
	comp=Z,119nm,0.8s,mb5.8						
KGD	**Kothagudem**	**38.29**	**280**	*e*P	**P**	**19 17 59.1**	**-1.6**
KGD				*e*PP	PP	19 19 41.7	+8.9
KGD				*e*PcP	PcP	19 20 10.3	-2.9
KGD				*e*S	**S**	**19 23 45.2**	**-1.1**
KGD				*e*SS	SS	19 26 43.8	+13
KGD				*e*ScS	ScS	19 27 57.5	-0.7
ZAK	**Zakamensk**	**38.62**	**342**	⇑*i*P	**P**	**19 18 03.1**	**0.0**
ZAK				*e*		19 20 13.8	
ZAK				*e*		19 23 47.2	
MDRS	**Chennai**	**38.98**	**273**	*e*P	**P**	**19 18 07.0**	**+0.6**
MDRS				*i*		19 19 34.0	
MDRS				*e*S	**S**	**19 23 59.0**	**+2.4**
PALK	**Pallekele**	**39.54**	**264**	*e*P	**P**	**19 18 11.4**	**+0.4**
	comp=Z,289nm,1.4s,mb5.9						
NGP	**Nagpur**	**39.87**	**286**	*e*P	**P**	**19 18 14.5**	**+0.8**
NGP				*e*S	**S**	**19 24 12.3**	**+2.3**
ASPA	**Alice Springs**	**39.94**	**160**	⇑*i*P	**P**	**19 18 12.8**	**-1.5**
ASPA				*e*S	**S**	**19 24 06.4**	**-4.7**
ASAR	**Alice Springs**	**39.94**	**160**	P	**P**	**19 18 12.9**	**-1.4**
	comp=Z,268nm,0.6s,mb6.2,baz=340,slow=7.0,SNR=2612						
ASAR				pP	pP	19 18 34.8	-4.7
	comp=Z,23nm,0.7s,baz=332,slow=6.8,SNR=1.4						
ASAR				ScP		19 23 56.0	
	comp=Z,9.2nm,0.8s,baz=342,slow=2.9,SNR=8.7						
ASAR				S	**S**	**19 24 06.8**	**-4.2**
	comp=Z,36nm,0.8s,baz=358,slow=24,SNR=12						
IRK	**Irkutsk**	**40.02**	**345**	*e*P	**P**	**19 18 14.7**	**0.0**
IRK				*e*S	**S**	**19 24 13.4**	**+1.4**
CUD	**Cuddapah**	**40.26**	**276**	*e*P	**P**	**19 18 18.3**	**+1.3**
CUD				*e*pP	pP	19 18 41.2	-1.0
CUD				*e*		19 18 53.5	
CUD				*e*S	**S**	**19 24 17.6**	**+1.7**
CUD				*e*		19 27 23.7	
CUD				*e*		19 27 34.9	
CUD				*e*		19 28 13.6	
HYB	**Hyderabad**	**40.30**	**280**	*i* P	**P**	**19 18 18.0**	**+0.7**
	comp=Z,340nm,1.0s,mb6.1						
HYB				*e*pP	pP	19 18 41.0	-1.5
HYB				*e*sP	sP	19 18 52.5	-2.8
HYB				*e*		19 19 41.0	
HYB				*e*PP	PP	19 19 52.0	-3.2
HYB				*e*PPP	PPP	19 20 20.5	-3.5
HYB				*e*ScP		19 24 00.5	
HYB				*e*S	**S**	**19 24 19.0**	**+2.6**
HYB				*e*sS		19 25 02.0	
HYB				*e*		19 27 30.0	
HYB				*e*ScS	ScS	19 28 13.0	+3.1
HYB	**Hyderabad**	**40.30**	**280**	*e*P	**P**	**19 18 18.0**	**+0.7**
	comp=Z,340nm,1.0s,mb6.1						
HYB				*e*	pP	19 18 41.0	-1.5
HYB				*e*		19 18 52.5	
HYB				*e*		19 19 41.0	
HYB				*e*		19 20 20.5	
HYB				*e*ScP		19 24 00.0	
HYB				*e*S	**S**	**19 24 19.0**	**+2.6**
MOY	**Mondy**	**40.44**	**341**	*e*P	**P**	**19 18 18.8**	**+0.7**
WMQ	**Urumqi**	**40.57**	**323**	P	**P**	**19 18 20.0**	**+0.7**
WMQ				AP	pP	19 18 47.0	+2.5
WMQ				XP	sP	19 19 00.8	+3.5
WMQ				PP	PP	19 19 58.5	+0.8
WMQ				S	**S**	**19 24 20.4**	**+0.2**
WMQ				SS	SS	19 27 19.6	+0.3
WMQ				AMB	AMB		
	comp=Z,141nm,0.8s,mb5.8						
WMQ				LR	LR		
	comp=N,2μm,20.0s						
WMQ				LR	LR		
	comp=E,2μm,18.8s						
WMQ				LR	LR		
	comp=Z,3μm,20.0s						
WMQ	**Urumqi**	**40.57**	**323**	P	**P**	**19 18 20.9**	**+1.7**
WMQ				PcP	PcP	19 20 20.8	+0.7
WMQ				ScP		19 24 00.6	
WMQ				S	**S**	**19 24 22.9**	**+2.7**
WMQ				ScS	ScS	19 28 13.6	+2.3
WMQ				ScS	ScS	19 28 14.7	+3.4
BHPL	**Bhopal**	**41.51**	**289**	*e*P	**P**	**19 18 27.7**	**+0.4**
BHPL				*e*		19 18 30.8	
	comp=Z,393nm,1.6s						
AKL	**Akola**	**41.75**	**285**	⇓*i*	**P**	**19 18 34.8**	**+5.5**
	comp=Z,500nm,1.5s,mb6.0						
AKL				*i*	pP	19 18 55.1	+0.5
LATR	**Latur**	**42.17**	**282**	*e*P	**P**	**19 18 33.9**	**+1.1**
NDI	**New Delhi**	**42.41**	**297**	*e*P	**P**	**19 18 32.0**	**-2.6**
NDI				*e*		19 24 43.0	
CTA	**Charters Tower**	**42.58**	**143**	*e*P	**P**	**19 18 35.7**	**-0.4**
	comp=Z,164nm,0.8s,mb5.8						
CTA				*e*		19 20 26.5	
CTA				*e*S	**S**	**19 24 48.2**	**-1.8**
CTA	**Charters Tower**	**42.58**	**143**	P	**P**	**19 18 35.0**	**-1.1**
	comp=Z,194nm,0.7s,mb5.9,baz=324,slow=10,SNR=171						
CTA				S	**S**	**19 24 48.1**	**-1.9**
	comp=Z,7.1nm,1.1s,baz=142,slow=20,SNR=5.9						
CTA				LR	LR	19 36 13.6	
	comp=Z,985nm,19.4s,baz=320,slow=36						
CTA	**Charters Tower**	**42.58**	**143**	P	**P**	**19 18 35.0**	**-1.1**
CTA				S	**S**	**19 24 48.1**	**-1.9**
CTA				pmax	pmax		
	comp=Z,194nm,0.7s						
CTA				MLR	MLR		
	comp=Z,985nm,19.4s						
CTAO	**Charters Tower**	**42.58**	**143**	*e*P	**P**	**19 18 35.4**	**-0.7**
CTAO				pmax	pmax		
	comp=Z,250nm,0.9s,mb5.9						
CTAO	**Charters Tower**	**42.58**	**143**	*e*P	**P**	**19 18 35.4**	**-0.7**
	comp=Z,253nm,0.8s,mb6.0						
CLNS	**Chul'man**	**42.64**	**4**	⇑*i*P	**P**	**19 18 35.9**	**-0.2**
CLNS				*e*		19 20 32.2	
CLNS				*e*S	**S**	**19 24 50.9**	**+0.5**
CLNS				pmax	pmax		
	comp=Z,325nm,1.0s,mb6.0						
CLNS				pmax	pmax		
	comp=N,237nm,1.1s						
CLNS				pmax	pmax		
	comp=E,86nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,67nm,1.2s,mb5.2						
CLNS				pmax	pmax		
	comp=N,64nm,1.1s						
CLNS				pmax	pmax		
	comp=E,42nm,1.1s						
CLNS				smax			
	comp=E,969nm,12.7s						
CLNS				smax			
	comp=Z,302nm,11.3s						
CLNS				smax			
	comp=N,996nm,12.4s						
CLNS				MLR	MLR		
	comp=N,2μm,17.0s						
CLNS				MLR	MLR		
	comp=Z,2μm,17.0s						
CLNS				MLR	MLR		
	comp=E,200nm,20.0s						
TRD	**Trivandrum**	**42.89**	**267**	⇓*i*	**P**	**19 18 47.1**	**+8.4**
TRD				*i*		19 24 19.1	
BHK	**Bhakra**	**43.64**	**301**	*e*P	**P**	**19 18 46.9**	**+2.3**
BHK				*e*S	**S**	**19 25 06.7**	**+1.3**
BOD	**Bodaibo**	**43.75**	**355**	*e*P	**P**	**19 18 44.1**	**-0.9**
AJM	**Ajmer**	**44.34**	**293**	⇓*i*P	**P**	**19 18 49.0**	**-1.3**
AJM				*i*	pP	19 19 15.0	-0.7
KAD	**Karad**	**44.47**	**280**	*e*P	**P**	**19 18 51.2**	**-0.2**
KAD				*e*		19 18 54.8	
	comp=Z,290nm,1.4s						
KAD				⇑*i*		19 24 17.0	
POO	**Poona**	**44.74**	**282**	⇓*i*P	**P**	**19 18 53.0**	**-0.5**
GOA	**Goa**	**44.94**	**278**	*e*P	**P**	**19 18 56.2**	**+1.1**
GOA				*e*S	**S**	**19 25 29.1**	**+4.8**
FORT	**Forrest**	**45.38**	**171**	⇑*i*P	**P**	**19 18 56.8**	**-1.7**
	comp=Z,2μm,0.6s						
FORT				*e*S	**S**	**19 25 26.0**	**-4.4**
MKAR	**Makanchi Array**	**45.40**	**323**	P	**P**	**19 18 59.0**	**+0.6**
	comp=Z,156nm,0.8s,mb5.8,baz=128,slow=8.3,SNR=740						
MKAR				pP	pP	19 19 20.3	-3.6
	comp=Z,59nm,0.8s,baz=144,slow=10,SNR=2.4						
MKAR				PcP	PcP	19 20 35.9	-0.5
	comp=Z,147nm,0.8s,baz=110,slow=3.5,SNR=14						
MKAR				ScP		19 24 18.2	
	comp=Z,57nm,0.9s,baz=124,slow=4.4,SNR=16						
MKAR				S	**S**	**19 25 32.2**	**+1.8**
	comp=Z,1.9nm,0.7s,baz=131,slow=13,SNR=1.8						
MKAR				ScS	ScS	19 28 43.7	+2.7
	comp=Z,3.4nm,0.9s,baz=112,slow=6.5,SNR=4.2						
MKAR				LR	LR	19 38 43.2	
	comp=Z,1μm,18.3s,baz=122,slow=37						
MKAR	**Makanchi Array**	**45.40**	**323**	P	**P**	**19 18 59.0**	**+0.6**
MKAR				*PP	pP	19 19 20.3	-3.6
MKAR						19 20 35.9	
MKAR				S	**S**	**19 25 32.2**	**+1.8**
MKAR						19 28 43.7	
MKAR				pmax	pmax		
	comp=Z,156nm,0.8s						
MKAR				pmax	pmax		
	comp=Z,59nm,0.8s						
MKAR				pmax	pmax		
	comp=Z,147nm,0.8s						
MKAR				pmax	pmax		
	comp=N,57nm,0.9s						
MKAR				MLR	MLR		
	comp=Z,1μm,18.3s						
MKAR	**Makanchi Array**	**45.40**	**323**	P	**P**	**19 18 59.0**	**+0.6**
MKAR				pP	pP	19 19 20.3	-3.6
MKAR				PcP	PcP	19 20 35.9	-0.5
MKAR				ScP		19 24 18.2	
MKAR				S	**S**	**19 25 32.2**	**+1.8**
MKAR				ScS	ScS	19 28 43.7	+2.7
MKAR				LR	LR	19 38 43.2	
KLBR	**Kellerberrin**	**45.65**	**183**	⇑*i*P	**P**	**19 18 58.9**	**-1.7**
	comp=Z,232nm,0.6s,mb6.1						
KLBR				*e*S	**S**	**19 25 32.1**	**-2.1**
BOM	**Bombay**	**45.71**	**283**	*i* P	**P**	**19 18 57.3**	**-3.9**
BOM				*i*		19 18 58.9	
BOM				*e*		19 19 02.7	
BOM				*e*S	**S**	**19 25 31.7**	**-3.6**
MUN	**Mundaring**	**46.14**	**185**	*e*P	**P**	**19 19 02.9**	**-1.6**
	comp=Z,57nm,0.7s,mb5.4						
MUN				*i* S	**S**	**19 25 40.6**	**-0.6**
KSH	**Kashi**	**46.29**	**312**	*e*P	**P**	**19 19 08.5**	**+2.9**
KSH				*e*AP	pP	19 19 34.1	+3.0
KSH				*e*XP	sP	19 19 47.0	+3.5
KSH				*e*PCP	PcP	19 20 41.1	+1.5
KSH				*e*PP	PP	19 20 59.4	+3.7
KSH				*e*SCP		19 24 23.0	
KSH				*e*PCS		19 24 35.0	
KSH				*e*S	**S**	**19 25 48.1**	**+4.8**
KSH				*e*XS		19 26 33.4	
KSH				*e*SCS	ScS	19 28 49.1	+2.2
KSH				*e*SS	SS	19 29 09.0	+5.7
KSH				AMB	AMB		
	comp=Z,540nm,1.7s,mb6.0						
KSH				LR	LR		
	comp=N,1μm,13.2s						
KSH				LR	LR		
	comp=E,2μm,13.2s						
SKR	**Severo-Kuril's**	**46.42**	**31**	*e*P	**P**	**19 19 05.6**	**-0.8**
SKR				*e*	pP	19 19 31.5	-0.4
SKR				*e*		19 20 37.0	
SKR				*e*		19 20 56.0	
SKR				*e*S	**S**	**19 25 48.0**	**+3.1**
SKR				pmax	pmax		
	comp=E,2μm,4.0s						
SKR				pmax	pmax		
	comp=Z,2μm,4.0s						
SKR				pmax	pmax		
	comp=Z,380nm,1.0s,mb6.1						
SKR				pmax	pmax		
	comp=N,130nm,0.7s						
SKR				pmax	pmax		
	comp=E,200nm,1.0s						
SKR				smax			
	comp=N,3μm,16.0s						
SKR				smax			
	comp=E,3μm,16.0s						
SKR				MLR	MLR		
	comp=N,2μm,14.0s						
SKR				MLR	MLR		
	comp=E,2μm,14.0s						
SKR				MLR	MLR		
	comp=Z,2μm,14.0s						
NWAO	**Narrogin (SRO)**	**47.01**	**184**	P	**P**	**19 19 09.9**	**-1.4**
	comp=Z,186nm,0.7s,mb6.0,baz=6.1,slow=7.6,SNR=192						
NWAO				pP	pP	19 19 31.9	-5.0
	comp=Z,38nm,0.8s,baz=320,slow=11,SNR=2.1						
NWAO	**Narrogin (SRO)**	**47.01**	**184**	P	**P**	**19 19 09.9**	**-1.4**
NWAO				*PP	pP	19 19 31.9	-5.0
NWAO				pmax	pmax		
	comp=Z,186nm,0.7s						
NWAO				pmax	pmax		
	comp=Z,38nm,0.9s						
NWAO	**Narrogin (SRO)**	**47.01**	**184**	*e*P	**P**	**19 19 09.1**	**-2.2**
	comp=Z,161nm,0.7s,mb5.9						
AAA	**Alma-Ata**	**47.04**	**317**	*e*P	**P**	**19 19 12.8**	**+1.4**
AAA				*i*		19 19 32.4	
AAA				*i* S	**S**	**19 25 56.0**	**+2.2**
AAA				pmax	pmax		
	comp=Z,600nm,5.0s						
AAA				smax			
	comp=E,4μm,8.0s						
AAA				MLR	MLR		
	comp=Z,1μm,14.0s						
ULHL	**Ulahol**	**47.10**	**315**	P	**P**	**19 19 14.5**	**+2.6**
	SNR=27						
KZA	**Kyzart**	**47.72**	**315**	P	**P**	**19 19 18.6**	**+1.9**
	SNR=24						
TKM2	**Tokmak 2**	**47.81**	**316**	P	**P**	**19 19 18.4**	**+1.1**
	SNR=16						
KBK	**Karagaybulak**	**48.15**	**315**	P	**P**	**19 19 21.4**	**+1.4**
	SNR=74						
YAK	**Yakutsk**	**48.17**	**6**	*e*P	**P**	**19 19 18.3**	**-1.6**
YAK				*e*S	PP	19 21 11.5	-1.3
YAK				pmax	pmax		
	comp=N,155nm,1.0s						
YAK				pmax	pmax		
	comp=Z,392nm,1.0s,mb6.2						
YAK				pmax	pmax		
	comp=E,34nm,1.1s						
YAK				pmax	pmax		
	comp=Z,229nm,1.0s,mb6.0						
YAK				pmax	pmax		
	comp=N,156nm,1.1s						
YAK				pmax	pmax		
	comp=E,33nm,1.0s						
YAK	**Yakutsk**	**48.17**	**6**	*e*P	**P**	**19 19 18.1**	**-1.8**
	comp=E,645nm,1.0s,mb6.4						
UCH	**Uchtor**	**48.29**	**314**	P	**P**	**19 19 22.9**	**+1.8**
	SNR=99						
CHMS	**Chumysh**	**48.41**	**315**	P	**P**	**19 19 22.5**	**+0.4**
	SNR=63						
FRU	**Bishkek**	**48.44**	**315**	*i* P	**P**	**19 19 24.5**	**+2.2**
FRU				*e*		19 19 44.0	
FRU				*i* S	**S**	**19 26 18.0**	**+4.6**
FRU				*e*		19 29 04.0	
FRU				smax			
	comp=N,5μm,8.0s						

AAK	**Ala-Archa**	**48.45**	**315**	P	**P**	**19 19 23.5**	**+1.2**
	SNR=29						
AAK	**Ala-Archa**	**48.45**	**315**	eP	**P**	**19 19 22.5**	**+0.2**
AAK				pmax	pmax		
	comp=Z,69nm,1.0s,mb5.4						
AAK	**Ala-Archa**	**48.45**	**315**	eP	**P**	**19 19 22.3**	**-0.1**
	comp=Z,69nm,1.0s,mb5.4						
AAK				ePcP	PcP	19 20 46.0	-1.3
BHJ	**Bhuj**	**48.65**	**288**	eP	**P**	**19 19 19.7**	**-4.5**
BHJ				e		19 19 28.2	
	comp=Z,381nm,1.6s						
USP	**Ospenovka**	**48.68**	**316**	P	**P**	**19 19 24.7**	**+0.6**
	SNR=56						
AML	**Almayashu**	**48.82**	**314**	P	**P**	**19 19 25.9**	**+0.7**
	SNR=63						
EKS2	**Erkin-Say**	**48.95**	**315**	P	**P**	**19 19 27.4**	**+1.2**
	SNR=51						
PET	**Petropavlovsk**	**49.10**	**30**	i P	**P**	**19 19 25.5**	**-1.7**
PET				e		19 21 18.5	
PET				i S	**S**	**19 26 23.4**	**+0.9**
PET				eSS	SS	19 29 49.7	-1.3
PET				eSSS	SSS	19 31 18.7	-1.9
PET				pmax	pmax		
	comp=Z,109nm,0.8s,mb5.8						
PET				pmax	pmax		
	comp=N,66nm,0.6s						
PET				pmax	pmax		
	comp=N,600nm,6.2s						
PET				pmax	pmax		
	comp=Z,2µm,6.1s						
PET				pmax	pmax		
	comp=N,500nm,16.2s						
PET				pmax	pmax		
	comp=Z,1µm,14.5s						
PET				pmax	pmax		
	comp=E,500nm,13.0s						
PET				pmax	pmax		
	comp=Z,1µm,13.1s						
PET				pmax	pmax		
	comp=Z,1µm,6.3s						
PET				pmax	pmax		
	comp=Z,2µm,6.1s						
PET				smax			
	comp=N,700nm,13.8s						
PET				smax			
	comp=N,1µm,23.2s						
PET				smax			
	comp=E,900nm,27.4s						
PET				MLR	MLR		
	comp=Z,900nm,16.0s						
PET				MLR	MLR		
	comp=Z,800nm,18.0s						
PET	**Petropavlovsk**	**49.10**	**30**	eP	**P**	**19 19 25.5**	**-1.7**
	comp=Z,103nm,0.9s,mb5.8						
KURK	**Kurchatov**	**49.55**	**326**	P	**P**	**19 19 30.2**	**-0.5**
	comp=Z,6µm,0.8s						
KURK	**Kurchatov**	**49.55**	**326**	P	**P**	**19 19 30.9**	**+0.2**
KURK				pmax	pmax		
	comp=Z,316nm,0.8s,mb6.3						
KURK	**Kurchatov**	**49.55**	**326**	eP	**P**	**19 19 29.5**	**-1.2**
	comp=Z,739nm,0.8s,mb6.7						
NVS	**Novosibirsk**	**49.71**	**333**	i P	**P**	**19 19 30.4**	**-1.4**
NVS				pmax	pmax		
	comp=N,368nm,1.4s						
NVS				pmax	pmax		
	comp=E,215nm,1.4s						
NVS				pmax	pmax		
	comp=Z,372nm,1.4s,mb6.1						
STKA	**Stephens Creek**	**50.18**	**156**	eP	**P**	**19 19 33.9**	**-1.9**
	comp=Z,109nm,0.7s,mb5.9						
STKA				eS	**S**	**19 26 34.1**	**-3.7**
STKA	**Stephens Creek**	**50.18**	**156**	P	**P**	**19 19 33.6**	**-2.2**
	comp=Z,134nm,0.7s,mb6.0,baz=333,slow=7.2,SNR=288						
STKA				S	**S**	**19 26 34.3**	**-3.5**
	comp=Z,4.9nm,0.8s,baz=73,slow=19,SNR=3.5						
STKA				LR	LR	19 40 38.8	
	comp=Z,2µm,18.7s,baz=331,slow=36						
MA2	**Magadan**	**50.49**	**20**	ceP	**P**	**19 19 36.7**	**-1.0**
MA2				e		19 21 32.0	
MA2				eS	**S**	**19 26 37.7**	**-3.9**
MA2				e		19 29 16.5	
MA2				pmax	pmax		
	comp=Z,80nm,0.9s,mb5.7						
MA2				MLR	MLR		
	comp=Z,3µm,16.0s						
MA2	**Magadan**	**50.49**	**20**	eP	**P**	**19 19 35.6**	**-2.1**
	comp=Z,119nm,0.9s,mb5.8						
ADE	**Adelaide**	**51.95**	**161**	⇑iP	**P**	**19 19 47.6**	**-1.5**
SEY	**Seymchan**	**53.58**	**18**	i P	**P**	**19 19 59.7**	**-1.1**
SEY						19 21 05.3	
SEY				e		19 21 56.9	
SEY				e		19 23 17.2	
SEY				eS	**S**	**19 27 20.0**	**-3.8**
SEY						19 29 39.8	
SEY				eSS	SS	19 31 00.1	-5.0
SEY				pmax	pmax		
	comp=Z,100nm,0.8s,mb5.9						
SEY				pmax	pmax		
	comp=E,30nm,0.6s						
SEY				MLR	MLR		
	comp=Z,3µm,25.0s						
SEY				MLR	MLR		
	comp=N,970nm,15.0s						
SEY				MLR	MLR		
	comp=E,500nm,16.0s						
VOSK	**Vostochnaya**	**54.68**	**326**	P	**P**	**19 20 08.0**	**-1.0**
VOSK				pmax	pmax		
	comp=Z,78nm,0.8s,mb5.8						
VOSK	**Vostochnaya**	**54.68**	**326**	i P	**P**	**19 20 08.0**	**-1.0**
BVA0	**Borovoye Array**	**55.14**	**326**	i P	**P**	**19 20 11.5**	**-0.8**
BVA0				pmax	pmax		
	comp=Z,5.0nm,0.6s						
BVAR	**Borovoye Array**	**55.14**	**326**	P	**P**	**19 20 11.9**	**-0.4**
	comp=Z,94nm,0.8s,mb5.9,baz=116,slow=8.9,SNR=307						
BVAR				pP	pP	19 20 36.1	-2.5
	comp=Z,17nm,0.8s,baz=98,slow=10,SNR=1.3						
BVAR				PcP	PcP	19 21 10.9	-1.0
	comp=Z,113nm,0.8s,baz=117,slow=3.3,SNR=11						
BVAR				ScP		19 24 59.8	
	comp=Z,12nm,0.9s,baz=112,slow=8.0,SNR=4.2						
BVAR				S	**S**	**19 27 48.1**	**+3.3**
	comp=Z,9.5nm,1.0s,baz=114,slow=18,SNR=5.6						
BRVK	**Borovoye**	**55.21**	**326**	P	**P**	**19 20 12.1**	**-0.7**
BRVK				pmax	pmax		
	comp=Z,730nm,1.2s,mb6.6						
BRVK	**Borovoye**	**55.21**	**326**	eP	**P**	**19 20 12.1**	**-0.7**
	comp=Z,727nm,1.2s,mb6.6						
ZRNK	**Zerenda**	**55.87**	**325**	P	**P**	**19 20 17.1**	**-0.5**
ZRNK				pmax	pmax		
	comp=Z,547nm,1.3s,mb6.4						
ZRNK	**Zerenda**	**55.87**	**325**	eP	**P**	**19 20 16.9**	**-0.7**
	comp=Z,370nm,1.0s,mb6.4						
CNB	**Canberra Magne**	**56.44**	**152**	eP	**P**	**19 20 20.5**	**-1.4**
	comp=Z,99nm,0.7s,mb6.0						
FX1	**Attu Island--F**	**56.64**	**35**	eP	**P**	**19 20 21.3**	**-1.7**
SMY	**Shemya**	**57.11**	**36**	P	**P**	**19 20 25.4**	**-0.9**
SMY				pmax	pmax		
	comp=Z,450nm,1.3s,mb6.3						
SMY	**Shemya**	**57.11**	**36**	eP	**P**	**19 20 24.9**	**-1.5**
	comp=Z,454nm,1.4s,mb6.3						
TIXI	**Tiksi**	**57.60**	**3**	c iP	**P**	**19 20 27.6**	**-1.9**
TIXI				e	pP	19 20 50.9	-5.2
TIXI				i		19 22 33.7	
TIXI				i S	**S**	**19 28 16.5**	**-0.6**
TIXI				pmax	pmax		
	comp=Z,448nm,1.2s,mb6.4						
TIXI				MLR	MLR		
	comp=Z,1µm,18.0s						
TIXI	**Tiksi**	**57.60**	**3**	⇑iP	**P**	**19 20 27.7**	**-1.8**
NOUC	**Port Laguerre**	**57.73**	**128**	eP	**P**	**19 20 29.7**	**-1.5**
DZM	**Mont Dzumac**	**57.82**	**128**	⇓eP	**P**	**19 20 30.1**	**-1.7**
MIDW	**Midway**	**59.11**	**66**	eP	**P**	**19 20 39.6**	**-1.0**
	comp=Z,572nm,1.4s,mb6.4						
ARU	**Arti**	**62.75**	**327**	P	**P**	**19 21 03.4**	**-1.4**
	comp=Z,6µm,0.8s						
ARU	**Arti**	**62.75**	**327**	⇑iP	**P**	**19 21 03.7**	**-1.1**
ARU				i		19 21 40.4	
ARU				i		19 23 20.0	
ARU				i PPP	PPP	19 24 55.2	-1.8
ARU				i S	**S**	**19 29 23.9**	**+0.8**
ARU				i PS	PS	19 30 01.0	+3.4
ARU				i		19 30 41.8	
ARU				i SS	SS	19 33 33.4	+1.6
ARU				eSSS	SSS	19 36 21.6	+4.1
ARU				pmax	pmax		
	comp=Z,755nm,0.8s,mb6.7						
ARU	**Arti**	**62.75**	**327**	eP	**P**	**19 21 03.4**	**-1.4**
	comp=Z,631nm,0.8s,mb6.6						
MSVF	**Nonsavu**	**65.17**	**117**	P	**P**	**19 21 21.8**	**+0.6**
	comp=Z,515nm,0.7s,mb6.5,SNR=11						
NIKO	**Nikolski**	**67.17**	**38**	eP	**P**	**19 21 31.0**	**-2.3**
QRN	**Al-Qurain**	**68.05**	**295**	eP	**P**	**19 21 38.6**	**-0.6**
QRN				AMb	AMB	19 21 43.8	
	comp=Z,215nm,0.6s,mb6.1						
UMR	**Umm Al-Rimmam**	**68.17**	**296**	eP	**P**	**19 21 38.9**	**-1.0**
UMR				AMb	AMB	19 21 43.8	
	comp=Z,183nm,0.9s,mb5.9						
KBD	**Kabd**	**68.21**	**296**	eP	**P**	**19 21 39.7**	**-0.5**
RDF	**Al-Radifah**	**68.36**	**296**	eP	**P**	**19 21 40.2**	**-0.9**
MIB	**Mutribah**	**68.47**	**297**	eP	**P**	**19 21 41.8**	**0.0**
MIB				AMb	AMB	19 21 46.5	
	comp=Z,263nm,0.8s,mb6.1						
UNV	**Unalaska Valle**	**68.66**	**38**	eP	**P**	**19 21 40.6**	**-2.0**
	comp=Z,261nm,0.8s,mb6.1						
RST	**Umm Al-Ruwaisa**	**68.79**	**296**	eP	**P**	**19 21 42.7**	**-1.1**
RST				AMb	AMB	19 21 48.7	
	comp=Z,142nm,0.6s,mb6.0						
MUKL	**Al Mukalla**	**68.86**	**280**	⇓eP	**P**	**19 21 40.4**	**-4.0**
TNA	**Tin City**	**69.57**	**25**	eP	**P**	**19 21 46.9**	**-1.0**
	comp=Z,31nm,0.9s,mb5.1						
RYDS	**Riyadh**	**69.65**	**291**	P	**P**	**19 21 48.5**	**-0.6**
TI2	**Plekhanov**	**69.97**	**309**	eP	**P**	**19 21 50.0**	**-0.8**
TI2				i		19 22 12.0	
TI2				i S	S	19 30 53.0	+2.2
TI2				i		19 31 35.0	
ANM	**Nome**	**70.47**	**26**	eP	**P**	**19 21 54.0**	**+0.6**
ZEI	**Tsey**	**70.58**	**311**	⇑iP	**P**	**19 21 55.0**	**+0.6**
ZEI				i	pP	19 22 19.0	-3.0
ZEI				i S	S	19 30 55.0	-2.7
ZEI				pmax	pmax		
	comp=Z,100nm,1.2s,mb5.5						
ZEI				smax			
	comp=E,1µm,11.0s						
ZEI				smax			
	comp=N,2µm,13.0s						
ZEI				MLR	MLR		
	comp=Z,1µm,16.0s						
MZLS	**Mizel**	**70.97**	**291**	P	**P**	**19 21 57.3**	**+0.3**
TVAN	**Van**	**71.14**	**306**	P	**P**	**19 21 57.0**	**-0.9**
GOF	**Gofitskoye**	**71.14**	**313**	⇓iP	**P**	**19 21 58.0**	**+0.3**
GOF				i S	S	19 31 08.0	+3.9
GOF				pmax	pmax		
	comp=Z,85nm,1.2s,mb5.5						
GOF				smax			
	comp=N,390nm,1.7s						
VANB	**Van**	**71.15**	**306**	eP	**P**	**19 21 58.4**	**+0.5**
KAMS	**Al Khamasin**	**72.07**	**287**	P	**P**	**19 22 03.5**	**-0.1**
BCA	**Borcka**	**72.33**	**309**	eP	**P**	**19 22 03.9**	**-0.9**
LBOS		**72.54**	**280**	⇓eP	**P**	**19 22 06.3**	**-0.2**
VRT	**Varto**	**72.56**	**307**	eP	**P**	**19 22 08.7**	**+2.4**
ERZM	**Erzurum**	**72.63**	**308**	P	**P**	**19 22 08.7**	**+2.0**
EZM	**Erzurum**	**72.63**	**308**	eP	**P**	**19 22 06.6**	**-0.1**
BTMT	**Batman**	**72.66**	**306**	eP	**P**	**19 22 06.1**	**-0.8**
BEST	**Besiri**	**72.86**	**306**	P	**P**	**19 22 09.0**	**+0.9**
AFFS	**‘Afif**	**72.98**	**291**	P	**P**	**19 22 09.6**	**+0.6**
TATS	**Tathlith**	**73.22**	**286**	P	**P**	**19 22 10.9**	**+0.4**
DJNS	**Zahran al Janu**	**73.47**	**284**	P	**P**	**19 22 13.2**	**+1.3**
VOR	**Voronezh**	**73.49**	**320**	⇑iP	**P**	**19 22 10.5**	**-0.9**
VOR				S	S	19 31 29.0	-1.7
VOR				pmax	pmax		
	comp=E,270nm,1.4s						
VOR				pmax	pmax		
	comp=Z,770nm,1.4s,mb6.3						
VOR				smax			
	comp=N,650nm,1.5s						
VOR				smax			
	comp=E,400nm,1.5s						
VOR				smax			
	comp=Z,110nm,1.5s						
HILS	**Ha’il**	**73.58**	**295**	P	**P**	**19 22 12.9**	**+0.4**
SOC	**Sochi**	**73.59**	**312**	i P	**P**	**19 22 12.0**	**-0.2**
SOC				e		19 22 31.3	
SOC				e		19 24 58.1	
SOC				ePPP	PPP	19 26 39.7	-4.2
SOC				eS	S	19 31 31.4	-0.6
SOC				eSSS	SSS	19 39 35.4	+3.5
SOC				pmax	pmax		
	comp=Z,107nm,0.7s,mb5.7						
SOC				pmax	pmax		
	comp=N,6.0nm,0.5s						
SOC				pmax	pmax		
	comp=E,15nm,1.1s						
SOC				pmax	pmax		
	comp=Z,137nm,0.8s,mb5.7						
SOC				pmax	pmax		
	comp=N,23nm,1.2s						
SOC				pmax	pmax		
	comp=E,25nm,1.1s						
SOC				smax			
	comp=N,830nm,5.8s						
SOC				smax			
	comp=E,472nm,4.7s						
SOC				MLR	MLR		
	comp=Z,792nm,20.0s						
SOC				MLR	MLR		
	comp=N,861nm,21.0s						
SOC				MLR	MLR		
	comp=E,859nm,20.0s						
EZC	**Erzincan**	**73.83**	**308**	eP	**P**	**19 22 16.5**	**+2.8**
RPZ	**Rata Peaks**	**73.92**	**144**	P	**P**	**19 22 12.2**	**-1.9**
	comp=E,60nm,0.7s,mb5.4,baz=187,slow=0.5,SNR=29						
RPZ				LR	LR	19 51 55.0	
	comp=E,1µm,21.9s,baz=64,slow=33						
KELT	**Kelkit**	**74.22**	**308**	P	**P**	**19 22 17.3**	**+1.3**
PTK	**Pertek**	**74.24**	**307**	eP	**P**	**19 22 17.6**	**+1.5**
MOS	**Moscow**	**74.27**	**324**	αiP	**P**	**19 22 15.1**	**-0.8**
MOS				e		19 22 25.8	
MOS				e*PP	pP	19 22 39.5	-4.3
MOS				e		19 25 05.7	
MOS				i S	S	19 31 37.8	-1.5
MOS				i		19 32 11.2	
MOS				e*SS		19 32 19.8	
MOS				eSS	SS	19 36 26.2	-3.3
MOS				pmax	pmax		
	comp=Z,1µm,1.6s,mb6.4						
MOS				pmax	pmax		
	comp=Z,75nm,1.5s,mb5.2						
MOS				pmax	pmax		
	comp=N,132nm,1.1s						
MOS				pmax	pmax		
	comp=E,163nm,1.1s						
MOS				smax			
	comp=N,3µm,4.2s						
MOS				smax			
	comp=E,2µm,3.6s						
MOS				MLR	MLR		
	comp=Z,1µm,18.2s						
MOS				MLR	MLR		
	comp=N,900nm,20.0s						
MOS				MLR	MLR		
	comp=E,800nm,16.8s						
URZ	**Urewera**	**74.47**	**137**	LR	LR	19 51 47.1	
	comp=E,838nm,21.6s,baz=306,slow=33						
TTA	**Tatalina**	**74.52**	**28**	eP	**P**	**19 22 16.7**	**-0.5**
	comp=E,136nm,0.9s,mb5.7						
ELZG	**Elazig**	**74.60**	**306**	P	**P**	**19 22 19.6**	**+1.4**
BLJS	**Baljurashi**	**74.91**	**287**	P	**P**	**19 22 21.4**	**+1.1**
OBN	**Obninsk**	**74.91**	**324**	P	**P**	**19 22 18.5**	**-1.0**
	comp=E,1µm,0.7s,mb6.8,SNR=35						
OBN	**Obninsk**	**74.91**	**324**	eP	**P**	**19 22 18.5**	**-1.0**
OBN				i S	S	19 31 44.9	-1.4
OBN				i PS	PS	19 32 28.6	-9.2
OBN				pmax	pmax		
	comp=Z,560nm,1.6s,mb6.0						
OBN				MLR	MLR		
	comp=Z,800nm,19.0s						
OBN	**Obninsk**	**74.91**	**324**	eP	**P**	**19 22 18.2**	**-1.3**
	comp=Z,441nm,1.2s,mb6.1						
FRSS	**Farasan al Kab**	**74.98**	**284**	P	**P**	**19 22 22.4**	**+1.7**
MALT	**Malatya**	**75.05**	**306**	eP	**P**	**19 22 19.3**	**-1.4**
MALT	**Malatya**	**75.05**	**306**	eP	**P**	**19 22 21.5**	**+0.8**
	comp=Z,105nm,1.0s,mb5.5						
MYA	**Malataya**	**75.05**	**306**	eP	**P**	**19 22 21.4**	**+0.7**
ANN	**Anapa**	**75.13**	**313**	c iP	**P**	**19 22 20.5**	**-0.5**
ANN				eS	S	19 31 48.9	-0.1
ANN				e		19 32 19.9	
ANN				ePS	PS	19 32 29.3	-12
ANN				pmax	pmax		
	comp=Z,261nm,1.5s,mb5.7						
ANN	**Anapa**	**75.13**	**313**	eP	**P**	**19 22 19.6**	**-1.4**
LVZ	**Lovozero**	**75.29**	**337**	P	**P**	**19 22 21.6**	**+0.1**
	comp=Z,1µm,1.1s,mb6.5,SNR=20						
LVZ	**Lovozero**	**75.29**	**337**	⇓iP	**P**	**19 22 21.5**	**0.0**
LVZ				eS	S	19 31 50.7	+0.4
LVZ				e		19 32 20.2	
LVZ				eSS	SS	19 36 49.3	+4.6
LVZ				pmax	pmax		
	comp=Z,294nm,1.3s,mb5.8						
LVZ				pmax	pmax		
	comp=E,66nm,1.1s						
LVZ				smax			
	comp=N,2µm,5.3s						
LVZ				smax			
	comp=E,766nm,4.1s						
LVZ				MLR	MLR		
	comp=Z,2µm,20.0s						
LVZ				MLR	MLR		
	comp=E,884nm,15.0s						
LVZ	**Lovozero**	**75.29**	**337**	eP	**P**	**19 22 21.2**	**-0.3**
IMA	**Indian Mountai**	**75.44**	**25**	eP	**P**	**19 22 22.3**	**0.0**
IMA				eP		19 22 22.6	
APA	**Apatity**	**75.78**	**337**	⇓iP	**P**	**19 22 24.6**	**+0.4**
APA				i S	S	19 31 55.0	-0.7
APA				i PS	PS	19 32 38.0	-11
APA				pmax	pmax		
	comp=Z,860nm,1.4s,mb6.3						
APA				MLR	MLR		
	comp=Z,2µm,15.0s						
GZT	**Gaziantep**	**75.84**	**305**	P	**P**	**19 22 26.2**	**+1.0**
LTHS	**Al Lith**	**75.94**	**288**	P	**P**	**19 22 27.9**	**+1.9**
SVSK	**Karacayir**	**75.97**	**308**	eP	**P**	**19 22 23.6**	**-2.3**
SVST	**Sivas**	**76.02**	**308**	P	**P**	**19 22 28.0**	**+1.8**
KBRS	**Khaybar**	**76.06**	**293**	P	**P**	**19 22 27.5**	**+0.9**
GAZ	**Gaziantep**	**76.15**	**305**	eP	**P**	**19 22 26.4**	**-0.5**
KDAK	**Kodiak Island**	**76.50**	**33**	eP	**P**	**19 22 27.4**	**-1.1**
	comp=Z,52nm,0.9s,mb5.3						
QURS	**Qurayyt al Mil**	**76.87**	**299**	P	**P**	**19 22 31.5**	**+0.4**
BNN	**Bunyan**	**76.99**	**307**	eP	**P**	**19 22 32.4**	**+0.8**
COBT	**Iskenderun**	**76.99**	**305**	P	**P**	**19 22 32.9**	**+1.2**
ASF	**Jabal al Asfar**	**77.11**	**300**	P	**P**	**19 22 32.5**	**+0.1**
	comp=Z,70nm,0.8s,mb5.4,baz=329,slow=4.3,SNR=75						
ASF				pP	pP	19 22 57.7	-2.8
	comp=Z,72nm,1.3s,baz=232,slow=4.8,SNR=2.1						
ASF				LR	LR	20 00 59.4	
	comp=Z,405nm,21.0s,baz=309,slow=39						
KIP	**Kipapa**	**77.26**	**71**	eP	**P**	**19 22 33.9**	**+0.5**
CEYT	**Ceyhan**	**77.33**	**305**	eP	**P**	**19 22 34.4**	**+0.9**
BOYT	**Boyabat**	**77.36**	**310**	P	**P**	**19 22 33.8**	**+0.2**
YNBS	**Yanbu‘ al Bahr**	**77.43**	**292**	P	**P**	**19 22 35.5**	**+1.1**
SIM	**Simferopol’**	**77.45**	**313**	ceP	**P**	**19 22 35.4**	**+1.3**
SIM				eS	S	19 32 15.4	+1.1
SIM				e*SS		19 32 57.6	
SIM				MLR	MLR		
	comp=Z,450nm,18.0s						
SIM	**Simferopol’**	**77.45**	**313**	⇑iP	**P**	**19 22 35.4**	**+1.3**
CTKT	**Corum**	**77.55**	**309**	P	**P**	**19 22 35.7**	**+1.0**
MCK	**McKinley**	**77.65**	**27**	P	**P**	**19 22 33.6**	**-1.1**
MCK				pmax	pmax		
	comp=Z,82nm,0.8s,mb5.5						
MCK	**McKinley**	**77.65**	**27**	eP	**P**	**19 22 33.2**	**-1.5**
	comp=Z,82nm,0.8s,mb5.5						
AVNT	**Avonos**	**77.77**	**307**	P	**P**	**19 22 36.5**	**+0.6**
PMR	**Palmer**	**77.83**	**29**	eP	**P**	**19 22 34.5**	**-1.3**
PMR				pmax	pmax		
	comp=Z,42nm,0.9s,mb5.2						
PMR	**Palmer**	**77.83**	**29**	eP	**P**	**19 22 35.0**	**-0.8**
	comp=Z,51nm,0.7s,mb5.4						
PUL	**Pulkovo**	**77.84**	**329**	⇑iP	**P**	**19 22 35.0**	**-0.9**
PUL				eS	S	19 32 16.4	-1.8
PUL				e		19 32 50.4	
PUL				pmax	pmax		
	comp=Z,481nm,0.9s,mb6.2						
PUL				pmax	pmax		
	comp=N,151nm,0.7s						
PUL				pmax	pmax		
	comp=E,445nm,1.0s						
PUL				smax			
	comp=E,1µm,2.9s						
PUL	**Pulkovo**	**77.84**	**329**	eP	**P**	**19 22 36.1**	**+0.2**
UMJS	**Umm Lajj**	**77.89**	**293**	P	**P**	**19 22 38.3**	**+1.5**
KSHT	**Keshet**	**77.89**	**301**	P	**P**	**19 22 37.9**	**+1.2**
KEV	**Kevo**	**77.90**	**339**	ep	**P**	**19 22 35.4**	**-0.6**
	comp=E,109nm,0.7s,mb5.7						
KEV	**Kevo**	**77.90**	**339**	eP	**P**	**19 22 35.4**	**-0.6**
KEV				pmax	pmax		
	comp=Z,109nm,0.7s,mb5.7						
HRI	**Mount Hermon**	**77.91**	**301**	P	**P**	**19 22 38.1**	**+1.3**
BZK	**Bozkurt**	**77.95**	**310**	eP	**P**	**19 22 37.6**	**+0.8**
COLA	**College**	**77.97**	**26**	eP	**P**	**19 22 35.7**	**-0.8**
COLA				pmax	pmax		
	comp=Z,62nm,1.0s,mb5.3						
COLA	**College**	**77.97**	**26**	eP	**P**	**19 22 36.2**	**-0.3**
	comp=Z,105nm,1.1s,mb5.5						
TBKS	**Tabuk**	**78.04**	**296**	P	**P**	**19 22 38.9**	**+1.3**
NIG	**Nigde**	**78.06**	**306**	eP	**P**	**19 22 39.0**	**+1.5**
TOS	**Tosya**	**78.07**	**310**	eP	**P**	**19 22 38.4**	**+0.9**
SML	**Sawmill**	**78.18**	**29**	P	**P**	**19 22 37.2**	**-0.5**
SML	**Sawmill**	**78.18**	**29**	eP	**P**	**19 22 36.0**	**-1.7**
HMDT	**Nahal Hemdat**	**78.24**	**300**	P	**P**	**19 22 38.9**	**+0.2**
MMLI	**Mount Malkishu**	**78.30**	**301**	P	**P**	**19 22 40.5**	**+1.5**
ILAR	**Eielson Array**	**78.39**	**26**	P	**P**	**19 22 37.0**	**-1.7**
	comp=Z,11nm,0.7s,baz=277,slow=3.9,SNR=78						
ILAR				pP	pP	19 23 02.6	-4.3
	comp=Z,11nm,1.1s,baz=247,slow=6.9,SNR=2.5						
ILAR				PKKPbc		19 41 34.5	
	comp=Z,1.1nm,0.7s,baz=146,slow=2.0,SNR=6.1						
ILAR	**Eielson Array**	**78.39**	**26**	P	**P**	**19 22 37.1**	**-1.7**
ILAR				*PP	pP	19 23 02.6	-4.3
ILAR				pmax	pmax		
	comp=Z,11nm,0.7s						
ILAR				pmax	pmax		
	comp=Z,11nm,1.1s						
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
HNTI	**Hanita**	**78.40**	**301**	P	**P**	**19 22 40.8**	**+1.3**
ARCES	**ARCESS Array B**	**78.46**	**339**	P	**P**	**19 22 38.7**	**-0.3**
	comp=Z,125nm,0.6s,mb5.8,baz=77,slow=7.0,SNR=374						
ARCES				LR	LR	20 00 38.7	
	comp=Z,862nm,19.2s,baz=79,slow=38						
ARCES	**ARCESS Array B**	**78.46**	**339**	P	**P**	**19 22 38.7**	**-0.4**
ARCES				pmax	pmax		
	comp=Z,125nm,0.6s						
ARCES				MLR	MLR		
	comp=Z,862nm,19.2s						
ARCES	**ARCESS Array B**	**78.46**	**339**	P	**P**	**19 22 38.7**	**-0.3**
ARCES				LR	LR	20 00 38.8	
ARE0	**ARCESS Array S**	**78.46**	**339**	eP	**P**	**19 22 38.1**	**-0.9**
ARE0				epP	pP	19 23 08.4	+1.2
DRGI	**Dragot**	**78.46**	**300**	P	**P**	**19 22 40.0**	**+0.1**
BALT	**Daday**	**78.47**	**310**	P	**P**	**19 22 40.5**	**+0.8**
JMQS	**Jabal Moqyreh**	**78.51**	**297**	P	**P**	**19 22 41.4**	**+1.2**
MZDA	**Masada**	**78.54**	**300**	P	**P**	**19 22 41.8**	**+1.5**
KAMT	**Kaman**	**78.56**	**308**	eP	**P**	**19 22 39.8**	**-0.4**
BRTR	**Keskin Array B**	**78.56**	**308**	P	**P**	**19 22 40.0**	**-0.2**
	comp=Z,25nm,0.8s,mb5.1,baz=120,slow=5.0,SNR=113						
BRTR				pP	pP	19 23 05.4	-2.9
	comp=Z,4.2nm,0.7s,baz=20,slow=18,SNR=3.1						
BRTR				LR	LR	20 03 52.3	
	comp=Z,352nm,20.2s,baz=350,slow=40						
BRTR	**Keskin Array B**	**78.56**	**308**	P	**P**	**19 22 40.0**	**-0.2**
BRTR				*PP	pP	19 23 05.4	-2.9
BRTR				pmax	pmax		
	comp=Z,25nm,0.8s						
BRTR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BRTR				MLR	MLR		
	comp=Z,352nm,20.2s						
HAF	**Haifa**	**78.57**	**301**	P	**P**	**19 22 41.5**	**+1.0**
ELDT	**Eldivan**	**78.60**	**309**	P	**P**	**19 22 41.2**	**+0.8**
OFRI	**‘Ofer**	**78.63**	**301**	P	**P**	**19 22 41.9**	**+1.1**
SLTI	**Sal’it**	**78.65**	**301**	P	**P**	**19 22 42.3**	**+1.4**
MEST	**Erdemli**	**78.66**	**305**	P	**P**	**19 22 41.3**	**+0.4**
ZFRI	**Zfri**	**78.82**	**299**	P	**P**	**19 22 41.9**	**0.0**
PRNI	**Paran**	**79.00**	**299**	P	**P**	**19 22 44.1**	**+1.2**
SAFT	**Safranbolu**	**79.03**	**310**	eP	**P**	**19 22 42.4**	**-0.4**
AQBJ	**Aqaba**	**79.08**	**298**	P	**P**	**19 22 43.4**	**+0.1**
MASH	**Mash‘abbe Sade**	**79.08**	**299**	P	**P**	**19 22 43.1**	**-0.2**
JMOS	**Jabal al Moall**	**79.12**	**297**	P	**P**	**19 22 44.7**	**+1.2**
ALWS	**Ilw as Safayha**	**79.14**	**298**	P	**P**	**19 22 45.1**	**+1.5**
RTMM	**Retamin**	**79.15**	**299**	P	**P**	**19 22 43.4**	**-0.3**
AYUS	**‘Aynunah**	**79.16**	**296**	P	**P**	**19 22 44.8**	**+1.1**
EIL	**Elat**	**79.17**	**298**	P	**P**	**19 22 45.0**	**+1.2**
EIL	**Elat**	**79.17**	**298**	LR	LR	20 03 31.8	
	comp=Z,544nm,20.2s,baz=88,slow=40						
ANTO	**Ankara**	**79.18**	**308**	eP	**P**	**19 22 44.4**	**+0.8**

MBH	**Mount Berech**	**79.18**	**298**	P	**P**	**19 22 45.1**	**+1.3**
LOD	**Lodumlu**	**79.20**	**308**	*e*P	**P**	**19 22 43.8**	**+0.1**
SVTA	**Shivta**	**79.23**	**299**	P	**P**	**19 22 43.9**	**-0.2**
BDAS	**Al Bad‘**	**79.26**	**297**	P	**P**	**19 22 45.2**	**+0.9**
HAQS	**Haql**	**79.30**	**297**	P	**P**	**19 22 45.8**	**+1.3**
KTK1	**Kautokeino**	**79.35**	**339**	*e*P	**P**	**19 22 44.2**	**+0.3**
KTK1				AMb	AMB	19 22 47.3	
	comp=Z,320nm,1.2s,mb6.0						
KTK1				*e*pP	pP	19 23 10.1	-2.0
KTK1	**Kautokeino**	**79.35**	**339**	*e*P	**P**	**19 22 44.2**	**+0.3**
	comp=Z,320nm,1.2s,mb6.0						
KAF	**Kangasniemi**	**79.42**	**332**	*e*p	**P**	**19 22 43.3**	**-1.1**
	comp=Z,115nm,0.6s,mb5.9,baz=76,slow=5.0						
KAF	**Kangasniemi**	**79.42**	**332**	*e*P	**P**	**19 22 43.3**	**-1.1**
KAF				pmax	pmax		
	comp=Z,115nm,0.6s,mb5.9						
KZIT	**Kziot**	**79.42**	**299**	P	**P**	**19 22 44.9**	**-0.2**
TAYS	**Tayyib Ism**	**79.44**	**297**	P	**P**	**19 22 46.3**	**+1.0**
DIV	**Divide**	**79.50**	**30**	*e*P	**P**	**19 22 44.7**	**-0.2**
	comp=Z,304nm,1.2s,mb6.0						
HSP	**Hornsund**	**79.50**	**347**	⇓*e*P	**P**	**19 22 44.4**	**-0.2**
KBS	**Kingsbay**	**79.58**	**349**	*e*P	**P**	**19 22 45.0**	**-0.1**
KBS				AMb	AMB	19 22 47.8	
	comp=Z,171nm,1.8s,mb5.6						
KBS				*e*PP	PP	19 25 45.9	-2.2
KBS				*e*S	S	19 32 35.9	-0.5
KBS				AMS	AMS	20 02 16.4	
	comp=Z,1µm,19.5s						
KBS	**Kingsbay**	**79.58**	**349**	P	**P**	**19 22 44.6**	**-0.5**
KBS				pmax	pmax		
	comp=Z,140nm,1.0s,mb5.8						
KBS	**Kingsbay**	**79.58**	**349**	*e*P	**P**	**19 22 45.0**	**-0.1**
	comp=Z,171nm,1.8s,mb5.6						
KBS				*i*		19 32 23.8	
KBS				LR	LR		
	comp=Z,1084µm,19.5s						
CSS	**Prodhromos**	**79.59**	**303**	⇓P	**P**	**19 22 46.7**	**+0.8**
	comp=Z,2.6nm,1.2s						
CSS	**Prodhromos**	**79.59**	**303**	⇓*i*P	**P**	**19 22 46.7**	**+0.8**
	comp=Z,2.6nm,1.2s						
EYAK	**Cordova Ski Ar**	**79.61**	**30**	*e*P	**P**	**19 22 45.4**	**-0.1**
SGKT	**Sivrigoynuk**	**79.62**	**309**	P	**P**	**19 22 46.2**	**+0.3**
MAMC	**Mammari**	**79.64**	**304**	P	**P**	**19 22 47.3**	**+1.1**
FINES	**FINESS Array B**	**79.65**	**331**	P	**P**	**19 22 44.9**	**-0.8**
	comp=Z,207nm,1.1s,mb5.9,baz=67,slow=4.3,SNR=295						
FINES				pP	pP	19 23 09.5	-4.3
	comp=Z,64nm,1.2s,baz=63,slow=6.2,SNR=2.2						
FINES				LR	LR	19 59 47.8	
	comp=Z,745nm,20.0s,baz=270,slow=37						
FINES	**FINESS Array B**	**79.65**	**331**	P	**P**	**19 22 44.9**	**-0.8**
FINES				*PP	pP	19 23 09.5	-4.3
FINES				pmax	pmax		
	comp=Z,207nm,1.1s						
FINES				pmax	pmax		
	comp=Z,64nm,1.2s						
FINES				MLR	MLR		
	comp=Z,745nm,20.0s						
FINES	**FINESS Array B**	**79.65**	**331**	P	**P**	**19 22 44.9**	**-0.8**
FINES				pP	pP	19 23 09.5	-4.3
FINES				LR	LR	19 59 47.8	
AKASG	**Malin Array Be**	**79.83**	**320**	P	**P**	**19 22 45.7**	**-1.2**
	comp=Z,72nm,0.8s,mb5.6,baz=64,slow=5.6,SNR=196						
AKASG				pP	pP	19 23 10.9	-4.1
	comp=Z,2.3nm,0.5s,baz=62,slow=5.6,SNR=1.2						
AKASG				S	S	19 32 37.5	-1.9
	comp=Z,4.7nm,1.0s,baz=69,slow=10,SNR=8.1						
AKASG				LR	LR	20 02 34.5	
	comp=Z,587nm,18.8s,baz=90,slow=39						
AKASG	**Malin Array Be**	**79.83**	**320**	P	**P**	**19 22 45.7**	**-1.2**
AKASG				*PP	pP	19 23 11.0	-4.0
AKASG				S	S	19 32 37.6	-1.9
AKASG				pmax	pmax		
	comp=Z,72nm,0.8s						
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AKASG				MLR	MLR		
	comp=Z,587nm,18.8s						
VSU	**Vasula**	**79.87**	**328**	*e*P	**P**	**19 22 46.6**	**-0.4**
HDMB	**Hadim**	**79.91**	**306**	*e*P	**P**	**19 22 47.8**	**+0.2**
SZAC	**Souni-Zanaja**	**79.99**	**303**	P	**P**	**19 22 49.1**	**+1.0**
MNK	**Minsk**	**80.00**	**324**	⇓*e*P	**P**	**19 22 43.0**	**-4.7**
MNK				pmax	pmax		
	comp=Z,740nm,1.1s,mb6.4						
MNK				pmax	pmax		
	comp=E,650nm,1.4s						
KIZT	**Kizilcal**	**80.04**	**308**	*e*P	**P**	**19 22 47.7**	**-0.6**
ALFC	**Alevga**	**80.15**	**304**	P	**P**	**19 22 49.9**	**+1.0**
	comp=E,2.4nm,0.8s						
MDU	**Mudurnu**	**80.27**	**309**	*e*P	**P**	**19 22 48.9**	**-0.6**
PPCY	**Paphos**	**80.40**	**304**	P	**P**	**19 22 50.9**	**+0.6**
HENT	**Hendek**	**80.44**	**310**	P	**P**	**19 22 50.2**	**-0.2**
IDID	**Didziasalis**	**80.47**	**325**	*i* P	**P**	**19 22 49.8**	**-0.4**
IDID				AMPb	AMB	19 22 52.4	
	comp=Z,108nm,1.1s,mb5.6						
IDID				*e*pP	pP	19 23 20.9	+2.6
CASY	**Casey**	**80.63**	**184**	⇑*i*P	**P**	**19 22 49.3**	**-1.6**
IZAR	**Zarasai**	**80.66**	**325**	*i* P	**P**	**19 22 50.8**	**-0.4**
IZAR				AMPb	AMB	19 22 54.0	
	comp=Z,105nm,1.3s,mb5.5						
TRO	**Tromso**	**80.69**	**340**	*e*P	**P**	**19 22 49.0**	**-2.1**
TRO				*e*S	S	19 32 46.9	-1.1
TRO				AMS	AMS	20 03 35.5	
	comp=Z,439nm,17.7s						
ESKT	**Eskisehir**	**80.72**	**308**	P	**P**	**19 22 51.7**	**-0.1**
ESKT	**Eskisehir**	**80.72**	**308**	*e*P	**P**	**19 22 49.4**	**-2.5**
IIGN	**Ignalina**	**80.75**	**325**	*i* P	**P**	**19 22 51.2**	**-0.4**
IIGN				AMPb	AMB	19 22 54.6	
	comp=Z,97nm,1.2s,mb5.5						
IIGN				*e*pP	pP	19 23 22.7	+2.9
ISAL	**Salakas**	**80.76**	**325**	*i* P	**P**	**19 22 51.2**	**-0.5**
ISAL				AMPb	AMB	19 22 54.5	
	comp=Z,74nm,1.2s,mb5.4						
ISAL				*e*pP	pP	19 23 22.4	+2.5
KIS	**Kishinev**	**80.77**	**316**	α*i*P	**P**	**19 22 51.0**	**-1.0**
KIS				*e*		19 26 04.0	
KIS				*i* S	S	19 32 48.0	-1.3
KIS				*e*SS	SS	19 38 10.0	+2.5
KIS				pmax	pmax		
	comp=Z,400nm,1.5s,mb6.0						
KIS				pmax	pmax		
	comp=Z,600nm,2.0s,mb6.1						
KIS				MLR	MLR		
	comp=Z,1µm,20.0s						
KIS				MLR	MLR		
	comp=Z,1µm,20.0s						
ISP	**Isparta**	**81.30**	**307**	*e*P	**P**	**19 22 52.1**	**-2.8**
ISP	**Isparta**	**81.30**	**307**	*e*P	**P**	**19 22 54.2**	**-0.7**
ISP				pmax	pmax		
	comp=Z,100nm,0.7s,mb5.8						
ISP	**Isparta**	**81.30**	**307**	*e*P	**P**	**19 22 54.2**	**-0.8**
	comp=Z,102nm,0.7s,mb5.8						
HRT	**Hereke**	**81.36**	**310**	*e*P	**P**	**19 22 54.3**	**-0.9**
YLV	**Yalova**	**81.63**	**310**	*e*P	**P**	**19 22 54.9**	**-1.7**
DAWY	**Dawson**	**81.72**	**26**	*e*P	**P**	**19 22 56.4**	**-0.2**
DAWY				*e*pP	pP	19 23 24.3	-0.5
HARR	**Harsova**	**81.83**	**314**	⇑*i*P	**P**	**19 22 58.3**	**+0.7**
HARR	**Harsova**	**81.83**	**314**	⇑*i*P	**P**	**19 22 58.3**	**+0.7**
PSN	**Preselentsi**	**81.86**	**313**	*i* P	**P**	**19 22 58.5**	**+0.7**
ULDT	**Uludag**	**81.89**	**309**	P	**P**	**19 22 58.1**	**+0.1**
ELL	**Elmali**	**81.98**	**306**	*e*P	**P**	**19 22 58.7**	**+0.2**
DRV	**Dumont d’Urvil**	**81.99**	**172**	P	**P**	**19 22 56.0**	**-1.9**
ORLT	**Orhaneli**	**82.09**	**309**	*e*P	**P**	**19 22 59.3**	**+0.3**
BRD	**Bordesti**	**82.28**	**315**	⇑*i*P	**P**	**19 23 02.1**	**+2.3**
BRD	**Bordesti**	**82.28**	**315**	⇑*i*P	**P**	**19 23 02.1**	**+2.3**
VRI	**Vrincioaia**	**82.42**	**315**	⇓*i*P	**P**	**19 23 01.5**	**+0.9**
VRI	**Vrincioaia**	**82.42**	**315**	⇓*i*P	**P**	**19 23 01.5**	**+1.0**
DENT	**Denizli**	**82.46**	**307**	*e*P	**P**	**19 23 00.7**	**-0.3**
DNZL	**Cakiroluk**	**82.46**	**307**	P	**P**	**19 23 00.9**	**-0.1**
PRD	**Provadia**	**82.52**	**313**	*i* P	**P**	**19 23 02.0**	**+0.8**
MANT	**Manisa**	**82.67**	**308**	P	**P**	**19 23 01.9**	**-0.1**
INK	**Inuvik**	**82.70**	**21**	P	**P**	**19 23 00.6**	**-0.9**
	comp=Z,76nm,1.1s,mb5.4,baz=285,slow=5.2,SNR=50						
INK				S	S	19 33 08.2	-0.3
	comp=Z,9.7nm,1.3s,baz=178,slow=30,SNR=5.8						
INK	**Inuvik**	**82.70**	**21**	P	**P**	**19 23 00.6**	**-0.9**
INK				S	S	19 33 08.2	-0.3
INK				pmax	pmax		
	comp=Z,76nm,1.1s						
INK	**Inuvik**	**82.70**	**21**	*e*P	**P**	**19 23 00.1**	**-1.4**
	comp=Z,111nm,1.2s,mb5.6						
INK				*e*pP	pP	19 23 31.2	+1.4
ISR	**Istrita**	**82.71**	**315**	⇓*i*P	**P**	**19 23 03.5**	**+1.5**
ISR	**Istrita**	**82.71**	**315**	⇓*i*P	**P**	**19 23 03.5**	**+1.4**
BNT	**Bandirma**	**82.75**	**310**	*e*P	**P**	**19 23 02.0**	**-0.4**
SUW	**Suwalki**	**82.77**	**324**	*e*P	**P**	**19 23 02.2**	**0.0**
SUW				*e*S	S	19 33 06.6	-2.9
SUW				MLR	MLR		
	comp=Z,2µm,29.1s						
SUW	**Suwalki**	**82.77**	**324**	*e*P	**P**	**19 23 02.2**	**0.0**
SUW				*e*PcP	PcP	19 23 03.8	-3.3
SUW				*e*pP	pP	19 23 32.3	+1.8
SUW				*e*S	S	19 33 06.6	-2.9
LOF	**Lofoten**	**83.01**	**339**	*e*P	**P**	**19 23 04.3**	**+1.2**
LOF				AMb	AMB	19 23 08.9	
	comp=Z,246nm,1.8s,mb5.8						
LOF	**Lofoten**	**83.01**	**339**	*e*P	**P**	**19 23 04.3**	**+1.2**
	comp=Z,246nm,1.8s,mb5.7						
MLR	**Muntele Rosu**	**83.03**	**315**	P	**P**	**19 23 03.9**	**+0.2**
	comp=Z,83nm,0.7s,mb5.7,baz=339,slow=5.7,SNR=194						
MLR				S	S	19 33 13.4	+1.1
	comp=Z,16nm,1.3s,baz=241,slow=21,SNR=11						
MLR	**Muntele Rosu**	**83.03**	**315**	⇓*i*P	**P**	**19 23 04.2**	**+0.5**
MLR	**Muntele Rosu**	**83.03**	**315**	P	**P**	**19 23 03.9**	**+0.2**
MLR				S	S	19 33 13.4	+1.1
MLR				pmax	pmax		
	comp=Z,83nm,0.7s						
MLR	**Muntele Rosu**	**83.03**	**315**	⇓*i*P	**P**	**19 23 04.2**	**+0.5**
MIR	**Mirnyy**	**83.08**	**191**	⇓*e*P	**P**	**19 23 03.6**	**+0.1**
MIR				pmax	pmax		
	comp=Z,75nm,1.2s,mb5.4						
YER	**Yerkesik**	**83.17**	**306**	*e*P	**P**	**19 23 04.2**	**-0.4**
BUC1	**Bucharest**	**83.24**	**314**	⇓*i*P	**P**	**19 23 06.6**	**+1.9**
BUC1	**Bucharest**	**83.24**	**314**	⇓*i*P	**P**	**19 23 06.6**	**+1.9**
LVV	**L’vov**	**83.28**	**320**	*e*P	**P**	**19 23 05.0**	**+0.2**
EDRB	**Edirne**	**83.29**	**311**	*e*P	**P**	**19 23 00.4**	**-4.7**
MOR8	**Moi Rana**	**83.37**	**337**	*e*P	**P**	**19 23 03.1**	**-1.9**
MOR8				AMb	AMB	19 23 05.8	
	comp=Z,302nm,1.2s,mb6.0						
MOR8	**Moi Rana**	**83.37**	**337**	*e*P	**P**	**19 23 03.1**	**-1.9**
	comp=Z,302nm,1.2s,mb6.0						
AYDN	**Tasoluk**	**83.37**	**307**	P	**P**	**19 23 06.3**	**+0.8**
ARG	**Arkhangelos**	**83.50**	**306**	*e*P	**P**	**19 23 07.0**	**+0.8**
SZH	**Strazhica**	**83.55**	**313**	*i* P	**P**	**19 23 06.5**	**+0.1**
KMBO	**Kilima Mbogo**	**83.61**	**267**	P	**P**	**19 23 08.7**	**+1.4**
	comp=Z,39nm,0.9s,mb5.2,baz=57,slow=8.8,SNR=58						
KMBO				pP	pP	19 23 33.5	-2.3
	comp=Z,9.6nm,0.8s,baz=27,slow=5.8,SNR=2.4						
KMBO				LR	LR	20 00 03.0	
	comp=Z,746nm,18.5s,baz=95,slow=35						
KMBO	**Kilima Mbogo**	**83.61**	**267**	*e*P	**P**	**19 23 09.2**	**+1.9**
	comp=Z,71nm,1.1s,mb5.4						
KMBO				*e*pP	pP	19 23 38.0	+2.3
KDAG	**Bornova**	**83.68**	**308**	P	**P**	**19 23 07.4**	**+0.2**
IZM	**Izmir**	**83.68**	**308**	*e*P	**P**	**19 23 06.4**	**-0.7**
BDRM	**Kayabasi**	**83.84**	**307**	P	**P**	**19 23 08.2**	**+0.2**
AYVA	**Ayvalik**	**83.91**	**309**	P	**P**	**19 23 04.8**	**-3.5**
PVL	**Pavlikeni**	**83.99**	**313**	*i* P	**P**	**19 23 10.0**	**+1.4**
DIM	**Dimitrovgrad**	**84.12**	**312**	*i* P	**P**	**19 23 10.0**	**+0.7**
KWP	**Kalwaria**	**84.16**	**320**	*e*P	**P**	**19 23 09.5**	**+0.3**
KWP				*e*S	S	19 33 23.3	-0.1
KWP				MLR	MLR		
	comp=Z,900nm,29.3s						
KWP	**Kalwaria**	**84.16**	**320**	*e*P	**P**	**19 23 09.5**	**+0.3**
KWP				*e*PcP	PcP	19 23 11.7	-1.5
KWP				*e*pP	pP	19 23 40.3	+2.7
KWP				*e*S	S	19 33 23.3	-0.1
PRK	**Paraskevi**	**84.24**	**309**	*e*P	**P**	**19 23 10.2**	**+0.3**
BOZC	**Bozcaada**	**84.27**	**310**	P	**P**	**19 23 09.9**	**-0.1**
KDZ	**Kurdzhali**	**84.30**	**311**	*i* P	**P**	**19 23 11.0**	**+0.8**
RDO	**Rodhopi**	**84.34**	**311**	*e*P	**P**	**19 23 10.5**	**+0.2**
KARP	**Karpathos**	**84.41**	**305**	*e*P	**P**	**19 23 11.5**	**+0.6**
WAR	**Warsaw**	**84.48**	**322**	*e*P	**P**	**19 23 12.0**	**+1.2**
WAR				*e*S	S	19 33 28.0	+1.4
WAR				pmax	pmax		
	comp=Z,700nm,0.8s,mb6.5						
WAR				MLR	MLR		
	comp=Z,800nm,27.3s						
WAR	**Warsaw**	**84.48**	**322**	*e*P	**P**	**19 23 12.0**	**+1.2**
	comp=Z,0.7nm,0.8s						
WAR				*e*PcP	PcP	19 23 14.6	0.0
WAR				*e*pP	pP	19 23 41.7	+2.5
WAR				*e*S	S	19 33 28.0	+1.4
WAR				LR	LR		
	comp=Z,800nm,27.3s						
KOLS	**Kolonicke sedl**	**84.61**	**319**	*i* P	**P**	**19 23 11.7**	**+0.2**
KOLS				*e*		19 23 22.3	
KOLS				*e*	pP	19 23 40.8	+0.8
KOLS				*e*S	S	19 33 28.2	+0.3
KOLS	**Kolonicke sedl**	**84.61**	**319**	*i* P	**P**	**19 23 11.7**	**+0.2**
KOLS				*e*S	S	19 33 28.2	+0.3
PLD	**Plovdiv**	**84.71**	**312**	*i* P	**P**	**19 23 12.5**	**+0.3**
RZN	**Rozhen**	**84.80**	**312**	*i* P	**P**	**19 23 13.0**	**+0.3**
NSS	**Namsos**	**84.94**	**336**	*e*S	S	19 33 24.9	-5.8
NSS				AMS	AMS	20 08 00.8	
	comp=Z,729nm,19.1s						
PGB	**Panagyurishte**	**84.98**	**312**	*i* P	**P**	**19 23 14.0**	**+0.5**
CRVS	**Cervenica-Dubn**	**85.14**	**319**	*i* P	**P**	**19 23 15.3**	**+1.2**
CRVS				*e*	pP	19 23 48.6	+6.0
CRVS				*e*S	S	19 33 26.5	-6.5
CRVS	**Cervenica-Dubn**	**85.14**	**319**	*i* P	**P**	**19 23 15.3**	**+1.2**
CRVS				*e*S	S	19 33 26.5	-6.5
MMB	**Musomiste**	**85.55**	**312**	*i* P	**P**	**19 23 16.0**	**-0.3**
THR1	**Thera Island**	**85.56**	**306**	*e*P	**P**	**19 23 15.9**	**-0.6**
SANT	**Santorini**	**85.56**	**306**	*e*P	**P**	**19 23 15.3**	**-1.2**
	comp=Z,519nm,1.2s,mb6.3						
SANT				*e*pP	pP	19 23 47.6	+2.5
THR3	**Thira Island,**	**85.59**	**306**	*e*P	**P**	**19 23 16.1**	**-0.6**
DJES	**Djerdap**	**85.59**	**315**	⇑*i*P	**P**	**19 23 17.2**	**+0.7**
THR6	**Thira Island,**	**85.61**	**306**	*e*P	**P**	**19 23 16.1**	**-0.6**
THR5	**Thira Island,**	**85.63**	**306**	*e*P	**P**	**19 23 15.8**	**-1.0**
VTS	**Vitosha**	**85.66**	**313**	*i* P	**P**	**19 23 17.5**	**+0.6**
NPS	**Neapolis**	**85.71**	**305**	*e*P	**P**	**19 23 17.5**	**+0.2**
XRY	**Khrisi**	**85.74**	**305**	*e*P	**P**	**19 23 19.0**	**+1.5**
SIT	**Sitka**	**85.75**	**32**	*e*P	**P**	**19 23 18.0**	**+1.1**
SIT				pmax	pmax		
	comp=Z,280nm,1.0s,mb6.2						
SIT	**Sitka**	**85.75**	**32**	*e*P	**P**	**19 23 18.3**	**+1.4**
	comp=Z,275nm,0.9s,mb6.2						
SRS	**Serrai**	**85.77**	**311**	*e*P	**P**	**19 23 16.3**	**-1.1**
OJC	**Ojcow**	**85.80**	**321**	*e*P	**P**	**19 23 17.7**	**+0.4**
OJC				*i* S	S	19 33 36.8	-2.6
OJC				MLR	MLR		
	comp=Z,700nm,21.9s						
OJC	**Ojcow**	**85.80**	**321**	*e*P	**P**	**19 23 17.7**	**+0.4**
OJC				*e*PP	PP	19 26 31.2	-8.1
OJC				*i* S	S	19 33 36.8	-2.6
OJC				*e*SS	SS	19 39 13.9	-8.0
OJC				LR	LR		
	comp=Z,700nm,21.9s						
HFS	**Hagfors**	**85.84**	**331**	P	**P**	**19 23 16.5**	**-0.8**
	comp=Z,164nm,0.8s,mb6.0,baz=117,slow=3.3,SNR=158						
HFS	**Hagfors**	**85.84**	**331**	P	**P**	**19 23 16.5**	**-0.8**
HFS				pmax	pmax		
	comp=Z,164nm,0.8s						
KECS	**Kecovo**	**85.88**	**319**	*i* P	**P**	**19 23 18.3**	**+0.5**
KECS				*e*		19 23 33.4	
KECS				*e*pP	pP	19 23 47.6	+1.3
RAR	**Rarotonga**	**85.91**	**113**	LR	LR	19 54 35.6	
	comp=Z,641nm,20.8s,baz=281,slow=31						
KKB	**Krupnik**	**85.94**	**312**	*i* P	**P**	**19 23 18.0**	**-0.2**
DAG	**Danmarks Havn**	**86.01**	**351**	⇓*i*P	**P**	**19 23 17.3**	**-0.5**
	comp=Z,54nm,0.8s,mb5.5						
DAG				*i*	pP	19 23 46.6	+0.2
SOH	**Sokhos**	**86.02**	**311**	*e*P	**P**	**19 23 17.5**	**-1.1**
PLG	**Polygyros**	**86.07**	**311**	*e*P	**P**	**19 23 18.0**	**-0.9**
BOLS	**Boljevac**	**86.20**	**314**	⇑*i*P	**P**	**19 23 20.1**	**+0.6**
IDI	**Anoyia**	**86.28**	**305**	P	**P**	**19 23 19.6**	**-0.5**
	comp=Z,76nm,0.9s,mb5.6,baz=34,slow=8.5,SNR=28						
IDI				S	S	19 33 34.3	-10
	comp=Z,44nm,1.2s,baz=234,slow=20,SNR=8.3						
THE	**Thessaloniki**	**86.35**	**311**	*e*P	**P**	**19 23 19.3**	**-1.0**
GKP	**Gorka Klasztor**	**86.37**	**324**	*e*P	**P**	**19 23 20.6**	**+0.5**
GKP				*e*		19 33 37.6	
GKP				*e*S	S	19 33 45.0	+0.2
GKP				pmax	pmax		
	comp=Z,500nm,1.1s,mb6.4						
GKP				MLR	MLR		
	comp=Z,1µm,22.1s						
GKP	**Gorka Klasztor**	**86.37**	**324**	*e*P	**P**	**19 23 20.6**	**+0.5**
	comp=Z,0.5nm,1.1s						
GKP				*e*PcP	PcP	19 23 22.2	-0.6
GKP				*e*SKS	SKS	19 33 37.6	+4.3
GKP				*e*S	S	19 33 45.0	+0.2
GKP				LR	LR		
	comp=Z,1µm,22.1s						
PSZ	**Piszkesteto**	**86.42**	**318**	*e*P	**P**	**19 23 21.0**	**+0.6**
PSZ	**Piszkesteto**	**86.42**	**318**	*e*P	**P**	**19 23 20.5**	**+0.1**
PSZ				pmax	pmax		
	comp=Z,110nm,1.0s,mb5.7						
PSZ	**Piszkesteto**	**86.42**	**318**	*e*P	**P**	**19 23 20.5**	**+0.1**
	comp=Z,107nm,1.0s,mb5.7						
PSZ				*e*pP	pP	19 23 52.6	+3.6
VAY	**Valandovo**	**86.46**	**312**	⇑*i*P	**P**	**19 23 20.7**	**-0.1**
VAY				*i*	pP	19 23 51.0	+1.6
BARS	**Barje**	**86.58**	**313**	⇓*i*P	**P**	**19 23 20.6**	**-0.7**
LIKS	**Likavka**	**86.58**	**320**	*e*P	**P**	**19 23 22.3**	**+1.1**
SVIS	**Svilajnac**	**86.58**	**315**	⇑*i*P	**P**	**19 23 21.8**	**+0.5**
NB2	**NORSAR Subarra**	**86.62**	**333**	P	**P**	**19 23 20.2**	**-0.9**
	comp=Z,274nm,0.8s,mb6.2,baz=66,slow=4.6						
NB2	**NORSAR Subarra**	**86.62**	**333**	P	**P**	**19 23 20.2**	**-0.9**
	baz=66,slow=4.8						
NOA	**NORSAR Array B**	**86.62**	**333**	P	**P**	**19 23 20.1**	**-1.0**
	comp=Z,176nm,0.7s,mb6.1,baz=68,slow=4.7,SNR=334						
NOA				pP	pP	19 23 46.0	-3.7
	comp=Z,15nm,1.1s,baz=243,slow=1.0,SNR=1.2						
NOA				LR	LR	20 05 25.5	
	comp=Z,834nm,18.8s,baz=65,slow=38						
NOA	**NORSAR Array B**	**86.62**	**333**	P	**P**	**19 23 20.1**	**-1.0**
NOA				*PP	pP	19 23 46.0	-3.7
NOA				pmax	pmax		
	comp=Z,176nm,0.7s						
NOA				pmax	pmax		
	comp=Z,15nm,1.1s						
NOA				MLR	MLR		
	comp=Z,834nm,18.8s						
NSAL	**Nisos Salamina**	**86.71**	**308**	*e*P	**P**	**19 23 20.5**	**-1.6**
NSAL	**Nisos Salamina**	**86.71**	**308**	*e*P	**P**	**19 23 20.5**	**-1.6**
MKIT	**Kithairon Oros**	**86.79**	**308**	*e*P	**P**	**19 23 21.0**	**-1.5**
VAM	**Vamos**	**86.79**	**306**	*e*P	**P**	**19 23 23.0**	**+0.4**
RAC	**Raciborz**	**86.83**	**321**	*e*P	**P**	**19 23 23.2**	**+0.9**
RAC				*e*		19 33 49.7	
RAC				MLR	MLR		
	comp=Z,900nm,19.8s						
RAC	**Raciborz**	**86.83**	**321**	*e*P	**P**	**19 23 23.2**	**+0.9**
RAC				*e*SKSac		19 33 49.7	
RAC				*e*S		19 34 35.0	
RAC				LR	LR		
	comp=Z,900nm,19.8s						
LIT	**Litokhoron**	**86.85**	**310**	*e*P	**P**	**19 23 21.5**	**-1.2**
NAO01	**NORSAR Array S**	**86.85**	**332**	*e*P	**P**	**19 23 20.8**	**-1.4**
	comp=Z,188nm,0.8s,mb6.1						
VYHS	**Vyhne**	**86.92**	**319**	*i* P	**P**	**19 23 23.1**	**+0.3**
VYHS				*e*		19 23 37.0	
VYHS				*e*	pP	19 23 47.5	-4.0
VYHS				*e*S	S	19 33 51.5	+1.4
OKC	**Ostrava-Krasne**	**86.93**	**321**	*e*P	**P**	**19 23 23.2**	**+0.3**
OKC				*e*pP	pP	19 23 49.2	-2.3
OKC				*e*SKS	SKS	19 33 42.2	+5.1
OKC				*e*S	S	19 33 50.6	+0.4
OKC				*e*AS		19 34 35.0	
OKC				*e*SS	SS	19 39 49.8	+12
OKC				*e*x	x	19 46 43.8	
OKC				LR		20 03 10.0	
	comp=Z,0.6nm,18.6s						
OKC	**Ostrava-Krasne**	**86.93**	**321**	*e*P	**P**	**19 23 23.2**	**+0.3**
OKC				*e**PP	pP	19 23 49.2	-2.3
OKC				*e*		19 33 42.2	
OKC				*e*S	S	19 33 50.6	+0.4
OKC				MLR	MLR		
	comp=Z,600nm,18.6s						
GVD	**Gavdhos**	**87.03**	**305**	*e*P	**P**	**19 23 23.1**	**-0.6**
	comp=Z,134nm,0.9s,mb5.9						
BSD	**Bornholm Skovb**	**87.03**	**326**	⇑*i*P	**P**	**19 23 23.0**	**-0.2**
	comp=Z,90nm,0.8s,mb5.8						
BSD				*i* S	S	19 33 51.9	+0.9
GRUS	**Gruza**	**87.05**	**314**	⇑*i*P	**P**	**19 23 23.8**	**+0.2**
SKO	**Skopje**	**87.09**	**312**	⇑*i*P	**P**	**19 23 24.0**	**+0.2**
	comp=Z,0.1nm,0.8s						
SKO				*i*	pP	19 23 55.0	+2.5
BUD	**Budapest**	**87.11**	**318**	*e*Pc		19 23 24.5	
DOMB	**Dombas**	**87.15**	**334**	*e*P	**P**	**19 23 23.1**	**-0.5**
DOMB				AMb	AMB	19 23 25.8	
	comp=Z,218nm,1.3s,mb5.9						
DOMB				*e*pP	pP	19 23 52.8	+0.6
DOMB	**Dombas**	**87.15**	**334**	*e*P	**P**	**19 23 23.1**	**-0.5**
	comp=Z,218nm,1.3s,mb5.9						
KOLL	**Kolacno**	**87.17**	**319**	*e*P	**P**	**19 23 25.0**	**+1.0**
AGG	**Agios Georgios**	**87.26**	**309**	*e*P	**P**	**19 23 23.4**	**-1.3**
HOPOS	**Hopovo Monaste**	**87.29**	**316**	⇓*i*P	**P**	**19 23 25.4**	**+0.6**
OSL	**Oslo**	**87.29**	**332**	*e*P	**P**	**19 23 23.9**	**-0.5**
OSL				AMb	AMB	19 23 26.1	
	comp=Z,222nm,1.4s,mb5.9						
OSL	**Oslo**	**87.29**	**332**	*e*P	**P**	**19 23 23.9**	**-0.5**
	comp=Z,44nm,1.3s,mb5.2						
KZN	**Kozani**	**87.32**	**311**	*e*P	**P**	**19 23 23.5**	**-1.5**
MORC	**Moravsky Berou**	**87.32**	**321**	*e*P	**P**	**19 23 25.1**	**+0.3**
MORC				pmax	pmax		
	comp=Z,130nm,1.0s,mb5.8						
MORC	**Moravsky Berou**	**87.32**	**321**	*e*P	**P**	**19 23 25.1**	**+0.3**
	comp=Z,134nm,1.0s,mb5.8						
VLI	**Veliai**	**87.43**	**307**	*e*P	**P**	**19 23 24.0**	**-1.6**
SRO	**Srobarova**	**87.47**	**319**	*e*P	**P**	**19 23 26.3**	**+0.8**
KYTH	**Kithira**	**87.47**	**307**	*e*P	**P**	**19 23 24.0**	**-1.8**
DIVS	**Divcibare**	**87.49**	**315**	⇑*i*P	**P**	**19 23 25.7**	**0.0**
MOL	**Molde**	**87.55**	**335**	*e*P	**P**	**19 23 26.9**	**+1.3**
MOL				AMb	AMB	19 23 28.3	
	comp=Z,106nm,0.8s,mb5.9						
MOL				*e*pP	pP	19 23 56.0	+1.8
MOL	**Molde**	**87.55**	**335**	*e*P	**P**	**19 23 26.9**	**+1.3**
	comp=Z,106nm,0.8s,mb5.9						
EVR	**Evrytania**	**87.68**	**309**	*e*P	**P**	**19 23 25.5**	**-1.3**
KSP	**Ksiaz**	**87.72**	**322**	⇑*e*P	**P**	**19 23 27.1**	**+0.4**
KSP				*e*pP	pP	19 23 51.9	-3.4
KSP				*e*SKS	SKS	19 33 45.0	+2.8
KSP				*e*S	S	19 33 59.0	+1.3
KSP				*e*SP	SP	19 34 37.5	-25
KSP				*e*SS	SS	19 39 34.0	-16
OHR	**Ohrid**	**87.80**	**312**	⇑*i*P	**P**	**19 23 26.5**	**-0.8**
OHR				⇑*i*	pP	19 23 56.9	+1.0
NVSS	**Nova Varos 2**	**87.87**	**314**	⇑*i*P	**P**	**19 23 27.4**	**-0.2**
DPC	**Dobruska-Polom**	**87.88**	**322**	*e*P	**P**	**19 23 27.9**	**+0.5**
DPC				*e*pP	pP	19 23 52.9	-3.2
DPC				*e*SKS	SKS	19 33 46.6	+3.4
DPC				*e*S	S	19 33 58.9	-0.2
DPC				*e*AS		19 34 43.1	
DPC				*e*SS	SS	19 39 43.0	-9.0
DPC				*e*x	x	19 46 24.6	
DPC				LR		20 09 10.0	
	comp=Z,0.9nm,16.6s						
DPC	**Dobruska-Polom**	**87.88**	**322**	*e*P	**P**	**19 23 27.9**	**+0.5**
DPC				*e**PP	pP	19 23 52.9	-3.2
DPC				*e*		19 33 46.6	
DPC				*e*S	S	19 33 58.9	-0.2
DPC				MLR	MLR		
	comp=Z,900nm,16.6s						
DLBC	**Dease Lake**	**87.88**	**30**	*e*P	**P**	**19 23 28.7**	**+1.5**
DLBC				*e*pP	pP	19 23 58.0	+2.1
IVA	**Berane**	**87.92**	**314**	⇑*i*P	**P**	**19 23 28.1**	**+0.3**
KONO	**Kongsberg**	**87.93**	**332**	*e*P	pP	19 24 11.3	+15
KONO				AMb	AMB	19 24 13.9	
	comp=Z,113nm,1.6s,mb5.6						
KONO				*i*		19 34 38.1	
KONO				AMS	AMS	20 09 24.8	
	comp=Z,874nm,14.3s						
PVY	**Plav**	**87.95**	**313**	⇑*i*P	**P**	**19 23 27.6**	**-0.4**
UPC	**Upice**	**88.01**	**322**	⇑*e*P	**P**	**19 23 28.4**	**+0.4**
UPC				*e*pP	pP	19 23 54.8	-1.9
VRAC	**Vranov**	**88.06**	**321**	P	**P**	**19 23 29.1**	**+0.8**
	comp=Z,101nm,0.8s,mb5.9,baz=72,slow=4.6,SNR=106						
ITM	**Ithomi**	**88.08**	**308**	*e*P	**P**	**19 23 28.0**	**-0.7**
ZST	**Bratislava**	**88.11**	**319**	*e*P	**P**	**19 23 28.9**	**+0.3**
ZST				*e*		19 23 48.5	
ZST				*e*S	S	19 34 01.2	-0.1
ZST				*e*		19 47 03.6	
PLE	**Pljevlja**	**88.13**	**314**	⇑*i*P	**P**	**19 23 29.4**	**+0.6**
COP	**Copenhagen**	**88.14**	**327**	*i* P	pP	19 23 59.8	+2.6
COP				*i* S	S	19 33 55.6	-5.8
COP				*i*		19 34 44.9	
	comp=Z,380nm,19.0s						
JMIC	**Jan Mayen**	**88.19**	**345**	*e*SS	SS	19 39 53.6	-2.4
JMIC				AMS	AMS	20 04 43.8	
	comp=Z,406nm,21.2s						
QSH	**Qafa e Shtames**	**88.32**	**312**	*i* p	**P**	**19 23 31.0**	**+1.3**
TTG	**Podgorica**	**88.50**	**313**	⇑*i*P	**P**	**19 23 29.7**	**-0.9**
UPM	**Unac-Piva**	**88.51**	**314**	⇑*i*P	**P**	**19 23 30.0**	**-0.6**
RES	**Resolute Bay**	**88.54**	**9**	*e*P	**P**	**19 23 29.6**	**-0.4**
RES				*e*pP	pP	19 23 59.9	+1.1
NKY	**Niksic**	**88.57**	**314**	⇑*i*P	**P**	**19 23 30.3**	**-0.6**
VKA	**Vienna**	**88.58**	**320**	⇑*i*P	**P**	**19 23 30.9**	**+0.1**
	comp=Z,373nm,2.5s,mb6.0						

RUE	**Ruedersdorf**	**88.61**	**324**	*e*P	**P**	**19 23 31.0**	**+0.2**
	comp=Z,463nm,0.9s,mb6.5						
ULC	**Ulcinj**	**88.65**	**313**	⇑*i*P	**P**	**19 23 31.0**	**-0.3**
HYA	**Hoyanger**	**88.77**	**334**	*e*P	**P**	**19 23 32.0**	**+0.6**
HYA				AMb	AMB	19 23 33.1	
	comp=Z,73nm,0.8s,mb5.8						
HYA				*e*pP	pP	19 23 58.9	-1.2
HYA	**Hoyanger**	**88.77**	**334**	*e*P	**P**	**19 23 32.0**	**+0.6**
	comp=Z,73nm,0.8s,mb5.8						
BUM	**Brajici-Budva**	**88.80**	**313**	⇑*i*P	**P**	**19 23 31.6**	**-0.3**
VLS	**Valsamata**	**88.81**	**309**	*e*P	**P**	**19 23 31.0**	**-1.1**
BRY	**Bratogost**	**88.86**	**314**	⇑*i*P	**P**	**19 23 30.7**	**-1.5**
PVCC	**Panska Ves**	**88.86**	**322**	⇑*e*P	**P**	**19 23 32.5**	**+0.4**
PVCC				*e*pP	pP	19 23 59.9	-0.9
PVCC				*e*S	S	19 34 10.7	+2.4
PVCC				*e*AS		19 34 52.9	
PVCC				*e*x	x	19 46 56.8	
PVCC				LR		20 02 30.0	
	comp=Z,0.7nm,20.4s						
PVCC	**Panska Ves**	**88.86**	**322**	*e*P	**P**	**19 23 32.5**	**+0.4**
PVCC				*e*S	S	19 34 10.7	+2.4
PVCC				MLR	MLR		
	comp=Z,700nm,20.4s						
KEK	**Kerkira**	**88.94**	**311**	*e*P	**P**	**19 23 31.5**	**-1.2**
HCY	**Herceg Novi**	**89.03**	**314**	⇑*i*P	**P**	**19 23 32.5**	**-0.6**
PRU	**Pruhonice**	**89.07**	**322**	⇑*i*P	**P**	**19 23 33.2**	**+0.1**
	comp=Z,143nm,1.0s,mb6.0						
PRU				*e*pP	pP	19 24 01.3	-0.5
PRU				*e*SKS	SKS	19 33 53.2	+2.7
PRU				*e*S	S	19 34 11.6	+1.4
PRU				*e*AS		19 34 55.3	
PRU				*e*SS	SS	19 39 59.4	-10
PRU				*e*x	x	19 46 47.7	
PRU				L		20 04 30.0	
PRU	**Pruhonice**	**89.07**	**322**	*e*P	**P**	**19 23 33.2**	**+0.1**
PRU				*e*		19 33 53.2	
PRU				*e*S	S	19 34 11.6	+1.4
PRU	**Pruhonice**	**89.07**	**322**	*e*P	**P**	**19 23 33.2**	**+0.1**
PRU				*e*pP	pP	19 24 01.3	-0.5
PRU				*e*SKS	SKS	19 33 53.2	+2.7
PRU				*e*S	S	19 34 11.6	+1.4
PRU				*e*pS		19 34 55.3	
PRU				*e*SS	SS	19 39 59.4	-10
PRU				*e*		19 46 47.7	
BRG	**Berggiesshubel**	**89.11**	**323**	*i* P	**P**	**19 23 33.4**	**+0.2**
BRG				*e*		19 27 06.0	
BRG				*e*		19 33 53.0	
BRG				*i* SS	SS	19 40 08.0	-1.5
BRG				pmax	pmax		
	comp=Z,246nm,0.1s						
BRG				MLR	MLR		
	comp=N,1µm,18.2s						
BRG				MLR	MLR		
	comp=E,840nm,18.2s						
BRG				MLR	MLR		
	comp=Z,760nm,18.2s						
BRG	**Berggiesshubel**	**89.11**	**323**	*i* P	**P**	**19 23 33.4**	**+0.2**
BRG				*i* pP	pP	19 24 04.2	+2.2
BRG				*e*PP	PP	19 27 06.0	-0.7
BRG				*e*SKS	SKS	19 33 53.0	+2.3
BRG				*i* S		19 34 54.0	
BRG				*i* SS	SS	19 40 08.0	-1.5
BRG				LR	LR		
	comp=Z,760nm,18.2s						
ODD1	**Odda**	**89.16**	**333**	*e*P	**P**	**19 23 31.9**	**-1.3**
ODD1				AMb	AMB	19 23 33.4	
	comp=Z,127nm,0.8s,mb6.0						
ODD1				*e*pP	pP	19 24 04.9	+2.9
ODD1	**Odda**	**89.16**	**333**	*e*P	**P**	**19 23 31.9**	**-1.3**
	comp=Z,127nm,0.8s,mb6.0						
SUE	**Sulen**	**89.43**	**334**	*e*P	**P**	**19 23 34.0**	**-0.4**
SUE				AMb	AMB	19 23 36.8	
	comp=Z,102nm,1.6s,mb5.6						
SUE	**Sulen**	**89.43**	**334**	*e*P	**P**	**19 23 34.0**	**-0.4**
	comp=Z,102nm,1.6s,mb5.6						
ARSA	**Arzberg**	**89.44**	**319**	⇑*i*P	**P**	**19 23 34.7**	**-0.1**
	comp=Z,228nm,2.3s,mb5.8						
STON	**Ston**	**89.45**	**314**	*i* P	**P**	**19 23 34.5**	**-0.5**
BLS5	**Blasjo**	**89.47**	**332**	*e*P	**P**	**19 23 35.1**	**+0.5**
BLS5				AMb	AMB	19 23 36.5	
	comp=Z,162nm,0.9s,mb6.1						
BLS5	**Blasjo**	**89.47**	**332**	*e*P	**P**	**19 23 35.1**	**+0.5**
	comp=Z,162nm,0.9s,mb6.1						
RUND	**Rundenannen**	**89.48**	**333**	*e*P	**P**	**19 23 34.5**	**-0.2**
RUND				AMb	AMB	19 23 37.0	
	comp=Z,206nm,1.1s,mb6.1						
MUD	**Monsted U'grnd**	**89.49**	**329**	*i* S	S	19 34 10.2	-3.7
MUD				*i*		19 35 22.2	
	comp=Z,1µm,19.0s						
MUD	**Monsted U'grnd**	**89.49**	**329**	⇑*i*P	**P**	**19 23 34.9**	**0.0**
	comp=Z,125nm,0.7s,mb6.0						
MUD				*i*	pP	19 24 06.7	+3.1
MUD				*i* S	S	19 34 10.2	-3.7
MUD				*i*		19 35 22.2	
CLL	**Collm**	**89.50**	**323**	P	**P**	**19 23 34.9**	**-0.1**
	comp=Z,logA/T=2.3,mb6.1						
CLL				*e*		19 23 40.0	
CLL				*i* *PP	pP	19 24 07.0	+3.2
CLL				*e*		19 24 11.0	
CLL				*e*		19 26 44.0	
CLL				*i* PP	PP	19 27 09.0	-0.8
CLL				*e**PPP		19 27 36.0	
CLL				*e**SPP		19 27 47.0	
CLL				*e*		19 33 52.0	
CLL				*e*S	S	19 34 13.0	-1.0
CLL				*e**SS		19 34 53.0	
CLL				*e*SP	SP	19 35 19.0	-4.0
CLL				*e*SPP	SPP	19 35 55.0	+2.7
CLL				*e*SS	SS	19 40 15.0	-0.3
CLL				*e**SSS		19 40 55.0	
CLL				*e*SSS	SSS	19 43 48.0	-2.8
CLL	**Collm**	**89.50**	**323**	*i* P	**P**	**19 23 34.9**	**-0.1**
CLL				*e**PP	pP	19 23 57.0	-6.8
CLL				*e*		19 33 52.0	
CLL				*e*S	S	19 34 13.0	-1.0
CLL				pmax	pmax		
	comp=Z,192nm,1.0s,mb6.1						
CLL				MLR	MLR		
	comp=Z,1µm,21.1s						
CLL	**Collm**	**89.50**	**323**	*i* P	**P**	**19 23 34.9**	**-0.1**
	comp=Z,192nm,1.0s,mb6.1						
CLL				*e*pP	pP	19 23 57.0	-6.8
CLL				*e*SKS	SKS	19 33 52.0	-1.1
CLL				*e*S	S	19 34 13.0	-1.0
CLL				LR	LR		
	comp=Z,1µm,21.1s						
BER	**Bergen**	**89.51**	**333**	*e*P	**P**	**19 23 34.0**	**-0.9**
EGD	**Espegrend**	**89.61**	**333**	*e*P	**P**	**19 23 35.6**	**+0.3**
MBAR	**Mbarara**	**89.79**	**269**	*e*P	**P**	**19 23 37.4**	**+0.1**
	comp=Z,20nm,0.8s,mb5.3						
MBAR				*e*pP	pP	19 24 08.1	+2.0
BSEG	**Bad Segeberg**	**89.96**	**326**	*e*P	**P**	**19 23 37.0**	**-0.1**
BSEG				pmax	pmax		
	comp=Z,244nm,0.9s,mb6.3						
KHC	**Kasperske Hory**	**89.97**	**321**	*e*P	**P**	**19 23 37.4**	**+0.1**
KHC				*e*pP	pP	19 24 07.4	+1.3
KHC				*e*x	x	19 24 11.0	
KHC				*e*SKS	SKS	19 33 58.0	+2.0
KHC				*e*S	S	19 34 20.5	+2.1
KHC				*e*AS		19 35 02.3	
KHC				*e*SS	SS	19 40 25.6	+3.1
KHC				*e*x	x	19 47 00.8	
KHC				LR		20 06 20.0	
	comp=Z,0.9nm,19.4s						
KHC	**Kasperske Hory**	**89.97**	**321**	*e*P	**P**	**19 23 37.4**	**+0.1**
KHC				*e*		19 33 58.0	
KHC				*e*S	S	19 34 20.5	+2.1
KHC				*e*SS	SS	19 40 25.6	+3.1
KHC				MLR	MLR		
	comp=Z,900nm,19.4s						
GEC2	**GERESS Array S**	**90.00**	**321**	*e*P	**P**	**19 23 37.6**	**+0.2**
GEC2				pmax	pmax		
	comp=Z,148nm,1.0s,mb6.1						
GEC2	**GERESS Array S**	**90.00**	**321**	*e*P	**P**	**19 23 37.6**	**+0.2**
	comp=Z,148nm,1.0s,mb6.1						
GERES	**GERESS Array B**	**90.00**	**321**	P	**P**	**19 23 37.7**	**+0.2**
	comp=Z,83nm,0.8s,mb5.9,baz=72,slow=4.2,SNR=317						
GERES				pP	pP	19 24 03.7	-2.5
	comp=Z,8.4nm,0.8s,baz=90,slow=6.7,SNR=2.1						
GERES	**GERESS Array B**	**90.00**	**321**	P	**P**	**19 23 37.7**	**+0.3**
GERES				*PP	pP	19 24 03.7	-2.6
GERES				pmax	pmax		
	comp=Z,83nm,0.9s						
GERES				pmax	pmax		
	comp=Z,8.0nm,0.8s						
MOA	**Molln**	**90.02**	**320**	⇑*i*P	**P**	**19 23 37.9**	**+0.4**
	comp=Z,224nm,1.2s,mb6.2						
STAV	**Stavanger**	**90.04**	**332**	*e*P	**P**	**19 23 37.2**	**-0.1**
STAV				AMb	AMB	19 23 39.1	
	comp=Z,92nm,1.2s,mb5.8						
STAV	**Stavanger**	**90.04**	**332**	*e*P	**P**	**19 23 37.2**	**-0.1**
	comp=Z,92nm,1.2s,mb5.8						
KMY	**Karmoy**	**90.11**	**332**	*e*P	**P**	**19 23 37.7**	**0.0**
KMY				AMb	AMB	19 23 39.8	
	comp=Z,254nm,1.3s,mb6.2						
KMY				*e*pP	pP	19 24 09.0	+2.4
KMY	**Karmoy**	**90.11**	**332**	*e*P	**P**	**19 23 37.7**	**0.0**
	comp=Z,254nm,1.3s,mb6.2						
BOJS	**Bojanci**	**90.22**	**317**	*e*P	**P**	**19 23 38.6**	**+0.1**
BOJS				*e*pP	pP	19 24 12.1	+4.7
BOJS				*e*SKSac		19 34 00.2	
NKC	**Novy Kostel**	**90.23**	**322**	*e*P	**P**	**19 23 38.6**	**+0.1**
NKC				*e*pP	pP	19 24 08.3	+1.0
NKC				*e*S	S	19 34 23.0	+2.3
NKC				*e*AS		19 35 05.0	
NKC				*e*SS	SS	19 40 28.5	+2.3
NKC				*e*x	x	19 47 02.2	
NKC				LR		20 08 30.0	
	comp=Z,0.7nm,15.5s						
NKC	**Novy Kostel**	**90.23**	**322**	*e*P	**P**	**19 23 38.6**	**+0.1**
NKC				*e*S	S	19 34 23.0	+2.3
NKC				*e*SS	SS	19 40 28.5	+2.3
NKC				MLR	MLR		
	comp=Z,700nm,15.5s						
OBKA	**Obir**	**90.32**	**318**	⇑*i*P	**P**	**19 23 38.9**	**-0.1**
	comp=Z,86nm,1.2s,mb5.8						
VISS	**Visnje**	**90.39**	**318**	*e*P	**P**	**19 23 39.6**	**+0.2**
VISS				*e*pP	pP	19 24 12.1	+3.9
WET	**Wettzell**	**90.39**	**321**	*e*P	**P**	**19 23 39.6**	**+0.3**
WET				pmax	pmax		
	comp=Z,163nm,1.4s,mb6.0						
WET	**Wettzell**	**90.39**	**321**	*e*P	**P**	**19 23 39.6**	**+0.3**
	comp=Z,163nm,1.4s,mb6.0						
LJU	**Ljubljana**	**90.50**	**318**	*i* P	**P**	**19 23 40.4**	**+0.5**
LJU				*e*PP	PP	19 27 19.2	+1.2
LJU				*e*SKSac		19 34 00.6	
LJU				*e*S	S	19 34 26.9	+3.6
LJU				*e*		19 35 07.4	
MOX	**Moxa**	**90.56**	**323**	*i* P	**P**	**19 23 39.8**	**-0.2**
	comp=Z,logA/T=2.1,mb6.0						
MOX				pP	pP	19 24 10.0	+1.1
MOX				S	S	19 34 25.0	+1.4
MOX				SS	SS	19 40 35.0	+4.3
MOX				L		20 06 22.0	
MOX	**Moxa**	**90.56**	**323**	*e*P	**P**	**19 23 39.8**	**-0.2**
MOX				pmax	pmax		
	comp=Z,189nm,1.5s,mb6.0						
MOX				MLR	MLR		
	comp=Z,500nm,20.0s						
MOX	**Moxa**	**90.56**	**323**	*e*P	**P**	**19 23 39.8**	**-0.2**
	comp=Z,189nm,1.5s,mb6.0						
MOX				LR	LR		
	comp=Z,500nm,20.0s						
CLZ	**Clausthal**	**90.79**	**324**	*e*P	**P**	**19 23 41.3**	**+0.2**
	comp=Z,281nm,1.5s,mb6.2						
KBA	**Koelnbreinsper**	**90.88**	**319**	⇑*i*P	**P**	**19 23 41.1**	**-0.5**
	comp=Z,106nm,1.4s,mb5.8						
VOY	**Vojsko**	**90.92**	**318**	*e*P	**P**	**19 23 39.2**	**-2.6**
VOY				*e*		19 23 41.4	
CADS	**Cadrg**	**90.95**	**318**	*e*P	**P**	**19 23 41.1**	**-0.8**
GRA1	**Grafenberg Arr**	**91.17**	**322**	*e*P	**P**	**19 23 43.2**	**+0.3**
	comp=Z,146nm,1.0s,mb6.1						
GRA1				*e*PP	PP	19 27 12.2	-11
GRA1				*e*S	S	19 34 33.1	+4.0
GRA1				*e*SS	SS	19 40 38.6	-0.7
GRA1				LR	LR		
	comp=Z,700nm,21.6s						
GRF	**Grafenberg Arr**	**91.17**	**322**	*e*P	**P**	**19 23 43.2**	**+0.3**
GRF				*e*S	S	19 34 33.1	+4.0
GRF				*e*SS	SS	19 40 38.6	-0.7
GRF				pmax	pmax		
	comp=Z,146nm,1.0s,mb6.1						
GRF				MLR	MLR		
	comp=Z,700nm,21.6s						
ORI	**Oriolo Calabro**	**91.27**	**312**	*e*P	**P**	**19 23 44.4**	**+0.7**
RGNG	**Rignano Grg**	**91.33**	**314**	*e*P	**P**	**19 23 43.6**	**-0.3**
FVI	**Forni Avoltri**	**91.42**	**319**	*e*P	**P**	**19 23 43.7**	**-0.4**
MAW	**Mawson**	**91.51**	**199**	*e*P	**P**	**19 23 43.8**	**-0.3**
	comp=Z,24nm,1.1s,mb5.3						
MAW	**Mawson**	**91.51**	**199**	P	**P**	**19 23 44.2**	**+0.1**
	comp=Z,42nm,1.1s,mb5.6,baz=46,slow=5.7,SNR=44						
MAW				pP	pP	19 24 09.3	-3.6
	comp=Z,14nm,1.0s,baz=341,slow=2.1,SNR=3.1						
MAW				LR	LR	20 02 46.4	
	comp=Z,251nm,20.4s,baz=50,slow=34						
MAW	**Mawson**	**91.51**	**199**	P	**P**	**19 23 44.2**	**+0.1**
MAW				*PP	pP	19 24 09.3	-3.6
MAW				pmax	pmax		
	comp=Z,42nm,1.1s						
MAW				pmax	pmax		
	comp=Z,14nm,1.0s						
MAW				MLR	MLR		
	comp=Z,251nm,20.4s						
FG4	**Candela**	**91.57**	**313**	*e*P	**P**	**19 23 45.2**	**+0.2**
FG5	**Orsara di Pugl**	**91.69**	**313**	*e*P	**P**	**19 23 46.4**	**+0.9**
GRI	**Girifalco**	**91.71**	**311**	*e*P	**P**	**19 23 46.8**	**+1.1**
MRLC	**Muro Lucano**	**91.72**	**313**	*e*P	**P**	**19 23 45.6**	**-0.1**
SLCN	**Sala Consilina**	**91.75**	**312**	*e*P	**P**	**19 23 45.5**	**-0.4**
FUR	**Furstenfeldbru**	**91.75**	**321**	*e*P	**P**	**19 23 45.9**	**+0.3**
FUR				pmax	pmax		
	comp=Z,369nm,1.4s,mb6.4						
FUR	**Furstenfeldbru**	**91.75**	**321**	*e*P	**P**	**19 23 45.9**	**+0.3**
	comp=Z,369nm,1.4s,mb6.4						
WTTA	**Wattenberg**	**91.89**	**320**	⇑*i*P	**P**	**19 23 46.1**	**-0.2**
	comp=Z,344nm,1.1s,mb6.5						
MGR	**Morigerati**	**91.89**	**312**	*e*P	**P**	**19 23 45.4**	**-1.1**
WATA	**Walderalm**	**91.90**	**320**	⇑*i*P	**P**	**19 23 45.8**	**-0.5**
	comp=Z,246nm,1.4s,mb6.2						
SGO	**Sicignano**	**91.92**	**313**	*e*P	**P**	**19 23 46.2**	**-0.3**
CSSN	**Cassano Irpino**	**92.02**	**313**	*e*P	**P**	**19 23 46.2**	**-0.8**
YEL1	**Yell**	**92.14**	**335**	⇑*e*P	**P**	**19 23 46.8**	**-0.3**
SQTA	**Sankt Quirin**	**92.17**	**320**	⇑*i*P	**P**	**19 23 47.4**	**-0.2**
	comp=Z,160nm,1.0s,mb6.2						
MOTA	**Moosalm**	**92.19**	**320**	⇑*i*P	**P**	**19 23 47.3**	**-0.3**
	comp=Z,135nm,1.0s,mb6.1						
CII	**Carovilli**	**92.22**	**314**	*e*P	**P**	**19 23 48.3**	**+0.4**
SOI	**Samo**	**92.23**	**310**	*e*P	**P**	**19 23 48.4**	**+0.3**
HDH	**Heidenheim**	**92.23**	**321**	*e*P	**P**	**19 23 47.8**	**0.0**
SUMG	**Summit**	**92.24**	**354**	*e*P	**P**	**19 23 47.1**	**-0.2**
	comp=Z,86nm,1.1s,mb5.9						
SUMG				*e*pP	pP	19 24 18.9	+2.7
CPI2	**Carpinone**	**92.25**	**314**	*e*P	**P**	**19 23 48.0**	**-0.1**
SIND	**Sindeldorf**	**92.28**	**322**	*e*P	**P**	**19 23 47.7**	**-0.3**
SGG	**Gregorio Mates**	**92.28**	**314**	*e*P	**P**	**19 23 47.8**	**-0.4**
YKW3	**Yellowknife Ar**	**92.34**	**22**	*e*P	**P**	**19 23 48.5**	**+0.5**
CTI	**Castel Tesino**	**92.36**	**319**	*e*P	**P**	**19 23 47.9**	**-0.5**
CING	**Cingoli**	**92.37**	**316**	*e*P	**P**	**19 23 49.1**	**+0.5**
TERO	**Teramo**	**92.37**	**315**	*e*P	**P**	**19 23 48.8**	**+0.2**
INTR	**Introdacqua**	**92.39**	**314**	*e*P	**P**	**19 23 48.2**	**-0.5**
YKA	**Yellowknife Ar**	**92.39**	**22**	P	**P**	**19 23 48.2**	**+0.1**
	comp=Z,20nm,0.6s,mb5.5,baz=312,slow=4.4,SNR=64						
YKA				PKKPbc		19 41 00.6	
	comp=Z,1.7nm,0.4s,baz=134,slow=2.7,SNR=9.0						
YKA				LR	LR	20 04 31.3	
	comp=Z,374nm,21.5s,baz=295,slow=35						
YKA	**Yellowknife Ar**	**92.39**	**22**	P	**P**	**19 23 48.2**	**0.0**
YKA						19 41 00.6	
YKA				pmax	pmax		
	comp=Z,20nm,0.6s						
YKA				pmax	pmax		
	comp=Z,2.0nm,0.4s						
YKA				MLR	MLR		
	comp=Z,374nm,21.5s						
YKA	**Yellowknife Ar**	**92.39**	**22**	P	**P**	**19 23 48.2**	**+0.1**
YKA				PKKPbc		19 41 00.6	
YKA				LR	LR	20 04 31.3	
LRW	**Lerwick**	**92.41**	**335**	*e*P	**P**	**19 23 47.9**	**-0.5**
WIT	**Witteveen**	**92.42**	**326**	⇑*e*P	**P**	**19 23 49.7**	**+1.2**
	comp=Z,351nm,1.4s,mb6.4						
ARV	**Arcevia**	**92.50**	**316**	*e*P	**P**	**19 23 49.4**	**+0.2**
SAN1	**Sandwick**	**92.50**	**335**	*e*P	**P**	**19 23 48.2**	**-0.5**
WAL1	**Walls**	**92.52**	**335**	⇑*e*P	**P**	**19 23 48.5**	**-0.3**
MTTG	**Motta San Giov**	**92.53**	**310**	⇑*i*P	**P**	**19 23 50.1**	**+0.7**
FSSB	**Fossombrone**	**92.53**	**316**	*e*P	**P**	**19 23 49.5**	**+0.2**
AQU	**L'Aquila**	**92.61**	**315**	⇑*i*P	**P**	**19 23 50.3**	**+0.6**
NRCA	**Norcia**	**92.63**	**315**	*e*P	**P**	**19 23 49.7**	**0.0**
TOD	**Tromm**	**92.64**	**323**	*e*P	**P**	**19 23 49.6**	**-0.1**
MSC	**Monte Massico**	**92.64**	**314**	*e*P	**P**	**19 23 49.3**	**-0.6**
RSM	**Repubblica di**	**92.66**	**317**	*e*P	**P**	**19 23 51.0**	**+1.1**
UBR	**Uberruh**	**92.67**	**321**	*e*P	**P**	**19 23 49.7**	**-0.1**
WTSB	**Winterswijk**	**92.73**	**325**	⇓*e*P	**P**	**19 23 50.1**	**0.0**
	comp=Z,65nm,1.0s,mb5.9						
PTQR	**Pietraquaria**	**92.73**	**314**	*e*P	**P**	**19 23 50.2**	**-0.1**
SWS	**Schriesheim**	**92.75**	**323**	*e*P	**P**	**19 23 49.8**	**-0.4**
STU	**Stuttgart**	**92.77**	**322**	*e*P	**P**	**19 23 50.1**	**-0.2**
STU				pmax	pmax		
	comp=Z,130nm,0.9s,mb6.3						
STU	**Stuttgart**	**92.77**	**322**	*e*P	**P**	**19 23 50.1**	**-0.2**
	comp=Z,135nm,0.9s,mb6.3						
BUCH	**Bad Urach**	**92.81**	**322**	*e*P	**P**	**19 23 50.7**	**+0.2**
MURB	**Monte Urbino**	**92.86**	**316**	*e*P	**P**	**19 23 51.4**	**+0.6**
SLNA	**Salina**	**92.97**	**311**	*e*P	**P**	**19 23 50.6**	**-0.8**
DAVA	**Damuels**	**92.97**	**320**	⇑*i*P	**P**	**19 23 51.2**	**0.0**
	comp=Z,223nm,1.4s,mb6.3						
BRMO	**Bormio**	**93.00**	**319**	⇑*i*P	**P**	**19 23 52.4**	**+1.0**
FUORN	**Ofenpass**	**93.01**	**320**	⇑*i*Pdiff	**P**	**19 23 51.9**	**+0.5**
	comp=Z,380nm,1.1s,mb6.6						
LBG	**Lerchenberg**	**93.05**	**322**	*e*P	**P**	**19 23 51.5**	**-0.1**
SFI	**Santa Sofia**	**93.07**	**317**	*e*P	**P**	**19 23 52.6**	**+0.8**
MNS	**Montasola**	**93.09**	**315**	*e*P	**P**	**19 23 50.9**	**-1.1**
GUT	**Gutenstein**	**93.11**	**321**	*e*P	**P**	**19 23 51.6**	**-0.3**
CRE	**Caprese Michel**	**93.11**	**316**	⇑*i*P	**P**	**19 23 52.8**	**+0.8**
DAVOX	**Davos**	**93.18**	**320**	⇑*i*Pdiff	**P**	**19 23 52.6**	**+0.4**
	comp=Z,219nm,1.0s,mb6.5						
KTD	**Kalmit**	**93.19**	**323**	*e*P	**P**	**19 23 52.4**	**+0.2**
KAMOR	**Kamor**	**93.21**	**320**	⇑*i*Pdiff	**P**	**19 23 52.4**	**+0.1**
	comp=Z,213nm,1.1s,mb6.4						
BERNI	**Berninapass**	**93.25**	**319**	⇑*i*Pdiff	**P**	**19 23 52.9**	**+0.4**
	comp=Z,432nm,1.3s,mb6.6						
ABH	**Alteburg**	**93.25**	**323**	*e*P	**P**	**19 23 52.7**	**+0.3**
VMG	**Vicchio**	**93.25**	**317**	*e*P	**P**	**19 23 54.1**	**+1.5**
SAL	**Salo**	**93.26**	**319**	⇑*i*P	**P**	**19 23 53.4**	**+0.8**
MNO	**Monte Soro**	**93.29**	**310**	*e*P	**P**	**19 23 53.4**	**+0.5**
SPAK	**Spaichingen**	**93.30**	**321**	*e*P	**P**	**19 23 52.5**	**-0.2**
SEI	**Scarperia**	**93.34**	**317**	*e*P	**P**	**19 23 54.1**	**+1.1**
PLONS	**Plons**	**93.38**	**320**	⇑*i*Pdiff	**P**	**19 23 53.1**	**0.0**
	comp=Z,332nm,1.3s,mb6.5						
WEIN	**Weingarten**	**93.42**	**321**	⇑*i*Pdiff	**P**	**19 23 53.0**	**-0.3**
	comp=Z,315nm,1.2s,mb6.5						
FNVD	**Fontana Vidola**	**93.45**	**317**	*e*P	**P**	**19 23 55.0**	**+1.6**
ZCCA	**Zocca**	**93.47**	**317**	*e*P	**P**	**19 23 55.3**	**+1.7**
BFO	**Black Forest**	**93.47**	**322**	P	**P**	**19 23 53.3**	**-0.2**
	comp=Z,418nm,0.9s,mb6.8,SNR=33						
BFO	**Black Forest**	**93.47**	**322**	*e*P	**P**	**19 23 53.1**	**-0.4**
BFO				pmax	pmax		
	comp=Z,94nm,1.1s,mb6.0						
BFO	**Black Forest**	**93.47**	**322**	*e*P	**P**	**19 23 53.1**	**-0.4**
	comp=Z,94nm,1.1s,mb6.0						
LANF	**Langenberg**	**93.50**	**322**	*e*P	**P**	**19 23 53.7**	**+0.1**
WILA	**Wila**	**93.52**	**321**	⇑*i*Pdiff	**P**	**19 23 53.6**	**-0.1**
	comp=Z,266nm,1.1s,mb6.5						
CSNT	**Castellina Chi**	**93.61**	**316**	*e*P	**P**	**19 23 53.7**	**-0.6**
RUP	**Ruppelstein**	**93.61**	**323**	*e*P	**P**	**19 23 54.4**	**+0.3**
SLE	**Schleitheim**	**93.62**	**321**	⇑*i*Pdiff	**P**	**19 23 53.8**	**-0.4**
	comp=Z,172nm,1.1s,mb6.3						
VAE	**Valguarnera**	**93.66**	**310**	P	**P**	**19 23 55.4**	**+0.8**
	comp=Z,26nm,0.9s,mb5.6,baz=35,slow=3.1,SNR=10						
LLS	**Linth-Limmern**	**93.70**	**320**	⇑*i*Pdiff	**P**	**19 23 54.6**	**+0.1**
	comp=Z,168nm,1.1s,mb6.3						
STR	**Strasbourg**	**93.70**	**322**	*e*P	**P**	**19 23 54.7**	**+0.2**
GSCL	**Gusciola**	**93.73**	**317**	*e*P	**P**	**19 23 55.7**	**+0.9**
ZUR	**Zurich**	**93.74**	**321**	⇑*i*Pdiff	**P**	**19 23 54.4**	**-0.3**
	comp=Z,223nm,1.3s,mb6.3						
HGN	**Heimansgroeve**	**93.77**	**325**	*e*P	**P**	**19 23 54.5**	**-0.2**
	comp=Z,68nm,1.0s,mb5.9						
HGN				*e*x	x	19 24 21.9	
HGN				*e*SKS	tx	19 33 50.0	
HGN				*e*S	S	19 34 56.2	+4.5
HGN				*e*SS	SS	19 41 18.8	+2.3
ERBM	**Eremo**	**93.81**	**318**	*e*P	**P**	**19 23 56.1**	**+1.0**
BDI	**Bagni Di Lucca**	**93.84**	**317**	*e*P	**P**	**19 23 54.9**	**-0.3**
FELD	**Feldberg**	**93.87**	**321**	*e*P	**P**	**19 23 55.2**	**-0.1**
MUO	**Muotathal**	**93.88**	**320**	⇑*i*Pdiff	**P**	**19 23 55.4**	**+0.1**
	comp=Z,248nm,1.3s,mb6.4						
KIZ	**Kirchzarten**	**93.89**	**321**	*e*P	**P**	**19 23 55.0**	**-0.3**
VALM		**93.95**	**318**	P	**P**	**19 23 56.1**	**+0.4**
GRFL	**Gerfalco**	**93.95**	**316**	*e*P	**P**	**19 23 55.4**	**-0.3**
SULZ	**Sulz-Cheisache**	**93.95**	**321**	⇑*i*Pdiff	**P**	**19 23 55.2**	**-0.5**
	comp=Z,136nm,1.0s,mb6.2						
LIBD	**Limburg**	**93.99**	**322**	*e*P	**P**	**19 23 55.9**	**+0.1**
LIBD	**Limburg**	**93.99**	**322**	*e*P	**P**	**19 23 55.6**	**-0.2**
GRAM		**94.01**	**318**	P	**P**	**19 23 56.0**	**0.0**
WLS	**Welschbruch**	**94.02**	**322**	*e*P	**P**	**19 23 55.8**	**-0.1**
BNALP	**Bannalp**	**94.05**	**320**	⇑*i*Pdiff	**P**	**19 23 56.1**	**0.0**
	comp=Z,155nm,1.2s,mb6.2						
CDF	**Champ du Feu**	**94.07**	**322**	*e*P	**P**	**19 23 56.1**	**-0.1**
	comp=Z,342nm,1.0s,mb6.3						
MUGIO	**Muggio**	**94.07**	**319**	⇑*i*Pdiff	**P**	**19 23 55.0**	**-1.2**
	comp=Z,59nm,0.8s,mb6.0						
FUSIO	**Fusio**	**94.08**	**320**	⇑*i*Pdiff	**P**	**19 23 56.3**	**0.0**
	comp=Z,182nm,1.2s,mb6.3						
BACM		**94.09**	**318**	P	**P**	**19 23 55.8**	**-0.6**
VINC	**Vinca**	**94.10**	**317**	P	**P**	**19 23 55.3**	**-1.1**
WLF	**Walferdange**	**94.16**	**324**	*e*P	**P**	**19 23 57.0**	**+0.5**
WLF				pmax	pmax		
	comp=Z,250nm,1.0s,mb6.5						
WLF	**Walferdange**	**94.16**	**324**	*e*P	**P**	**19 23 57.0**	**+0.5**
	comp=Z,247nm,1.0s,mb6.5						
CODM		**94.19**	**318**	P	**P**	**19 23 56.2**	**-0.6**
ECH	**Echery**	**94.23**	**322**	*e*P	**P**	**19 23 56.3**	**-0.6**
PPT	**Papeete**	**94.26**	**107**	*e*P	**P**	**19 23 59.9**	**+2.2**
	comp=Z,23nm,1.1s,mb5.4						
PPT	**Papeete**	**94.26**	**107**	*e*SS	SS	19 41 39.3	+15
PPT				*e*L		19 50 31.2	
PPT				*e*R		19 53 59.1	
	baz=291						
VAI	**Varese**	**94.27**	**319**	*e*P	**P**	**19 23 56.0**	**-1.1**
HASLI	**Hasliberg**	**94.27**	**320**	⇑*i*Pdiff	**P**	**19 23 57.0**	**-0.1**
	comp=Z,210nm,1.2s,mb6.3						
PAE	**Paea**	**94.28**	**107**	*e*P	**P**	**19 23 59.7**	**+1.9**
	comp=Z,32nm,1.0s,mb5.6						
BOB	**Bobbio (Coli)**	**94.30**	**318**	*e*P	**P**	**19 23 57.8**	**+0.5**
BBS	**Basel-Blauen**	**94.35**	**321**	*e*P	**P**	**19 23 57.3**	**-0.2**
MLA1	**Latheron**	**94.39**	**334**	*e*P	**P**	**19 23 56.4**	**-0.9**
MOF	**Molkenrain**	**94.41**	**322**	*e*P	**P**	**19 23 57.5**	**-0.2**
TIAR	**Tiarei**	**94.47**	**107**	*e*P	**P**	**19 24 00.6**	**+1.9**
	comp=Z,41nm,0.9s,mb5.8						
BOURR	**Bourrignon**	**94.55**	**321**	⇑*i*Pdiff	**P**	**19 23 58.0**	**-0.4**
	comp=Z,127nm,1.2s,mb6.2						
HINF	**Hinteralfeld**	**94.59**	**322**	*e*P	**P**	**19 23 58.1**	**-0.5**
	comp=Z,182nm,1.2s,mb6.1						
TVO	**Taravao**	**94.61**	**107**	*e*P	**P**	**19 24 01.3**	**+2.0**
	comp=Z,58nm,0.9s,mb6.0						
WIMIS	**Wimmis**	**94.63**	**320**	⇑*i*Pdiff	**P**	**19 23 58.6**	**-0.2**
	comp=Z,174nm,1.2s,mb6.4						
MMK	**Mattmark**	**94.69**	**320**	⇑*i*Pdiff	**P**	**19 23 59.5**	**+0.4**
	comp=Z,288nm,0.9s,mb6.7						
GIVF	**Givet**	**94.71**	**324**	*e*P	**P**	**19 23 59.0**	**0.0**
	comp=Z,292nm,1.0s,mb6.4						
MCGN	**Macugnaga**	**94.72**	**320**	*e*P	**P**	**19 23 59.5**	**+0.3**
LKBD	**Leukerbad**	**94.75**	**320**	⇑*i*Pdiff	**P**	**19 23 59.2**	**-0.2**
	comp=Z,93nm,0.9s,mb6.2						
GENL	**Genova Univers**	**94.76**	**318**	P	**P**	**19 23 58.1**	**-1.4**
MCD	**Coleburn Disti**	**94.77**	**333**	*e*P	**P**	**19 23 58.1**	**-1.0**
HAU	**Haudompre**	**94.81**	**322**	*e*P	**P**	**19 23 59.0**	**-0.6**
	comp=Z,79nm,1.0s,mb5.8						
HAU				*e*R			
	comp=Z,647nm,22.2s						
LOMF	**Lomont**	**94.82**	**321**	*e*P	**P**	**19 23 59.3**	**-0.3**
ORO	**Oropa**	**94.87**	**319**	*e*P	**P**	**19 23 59.2**	**-0.7**
THEF	**They Montfort**	**94.92**	**322**	*e*P	**P**	**19 23 59.6**	**-0.5**
MVH1	**Achvaich**	**94.96**	**334**	*e*P	**P**	**19 23 58.5**	**-1.5**
SENIN	**Lac Senin**	**94.97**	**320**	⇑*i*Pdiff	**P**	**19 24 00.3**	**-0.1**
	comp=Z,128nm,1.6s,mb6.1						
PCP	**Pian Castagno**	**94.98**	**318**	P	**P**	**19 24 00.1**	**-0.4**
TORNY	**Torny**	**95.00**	**321**	⇑*i*Pdiff	**P**	**19 24 00.2**	**-0.3**
	comp=Z,127nm,1.1s,mb6.2						
DIX	**Grande Dixence**	**95.03**	**320**	⇑*i*Pdiff	**P**	**19 24 01.1**	**+0.5**
	comp=Z,97nm,0.8s,mb6.3						
TRAV		**95.06**	**319**	P	**P**	**19 23 59.5**	**-1.3**
BAIF	**Baives**	**95.08**	**324**	*e*P	**P**	**19 24 00.6**	**-0.1**
	comp=Z,276nm,1.2s,mb6.2						
GRYON	**Gryon**	**95.14**	**320**	⇑*i*Pdiff	**P**	**19 24 00.9**	**-0.2**
	comp=Z,73nm,0.9s,mb6.1						
PMOR	**Pomariorio Ree**	**95.24**	**104**	*e*P	**P**	**19 24 04.4**	**+2.1**
	comp=Z,59nm,1.1s,mb5.9						
SALAN	**Lac Salanfe**	**95.27**	**320**	⇑*i*Pdiff	**P**	**19 24 01.6**	**-0.1**
	comp=Z,85nm,0.8s,mb6.2						
MDO	**Dochfour**	**95.33**	**333**	*e*P	**P**	**19 24 00.5**	**-1.3**
FIN	**Finale Ligure**	**95.34**	**318**	*e*P	**P**	**19 24 01.8**	**-0.3**
MEZF	**Maizieres J'vi**	**95.34**	**323**	*e*P	**P**	**19 24 01.9**	**-0.1**
	comp=Z,156nm,1.0s,mb6.1						

EMV	Vieux Emosson	95.35	320	⇑iPdiff	P	19 24 02.1	0.0
	comp=Z,104nm,0.9s,mb6.3						
OG01	Vacheresse	95.37	320	eP	P	19 24 02.6	+0.4
ESY	Stoneypath	95.45	332	⇑eP	P	19 24 00.8	-1.5
ESY				AMb	AMB	19 24 04.1	
	comp=Z,85nm,1.3s,mb6.0						
LSD	Ceresole Reale	95.46	319	P	P	19 24 03.0	+0.4
RORO		95.47	318	P	P	19 24 02.0	-0.7
ROB	Roburent	95.52	318	P	P	19 24 02.2	-0.7
PGF	Pioggiola	95.52	316	eP	P	19 24 02.8	-0.2
	comp=Z,239nm,0.8s,mb6.4						
RSP	Reno Superiore	95.53	319	P	P	19 24 02.2	-0.8
LCP	Cassop	95.59	330	eP	P	19 24 02.2	-0.7
CABF	La Chapelle	95.60	321	eP	P	19 24 02.9	-0.3
	comp=Z,22nm,0.7s,mb5.4						
BHB	Bricherasio	95.67	319	P	P	19 24 02.0	-1.5
IMI	Imperia	95.67	318	P	P	19 24 03.2	-0.4
TBI	Tubuai	95.68	113	eSS	SS	19 42 05.1	+21
TBI				eR		19 55 00.7	
	comp=Z,5μm,36.2s,baz=287						
MONE	Monesi	95.69	318	P	P	19 24 03.2	-0.4
RSL	Roselend	95.69	320	eP	P	19 24 03.2	-0.4
LPG	La Plagne	95.70	320	eP	P	19 24 04.1	+0.4
	comp=Z,219nm,0.9s,mb6.3						
LPL	La Plagne	95.70	320	eP	P	19 24 03.9	+0.2
	comp=Z,232nm,0.9s,mb6.3						
EDI	Edinburgh	95.71	332	eP	P	19 24 02.2	-1.2
EDI				AMb	AMB	19 24 06.1	
	comp=Z,78nm,1.5s,mb5.9						
FENE	Fenestrelle	95.71	319	P	P	19 24 02.7	-1.0
LSZ	Lusaka	95.72	256	eP	P	19 24 04.8	+0.4
LSZ				e*PP	pP	19 24 31.3	-2.1
LSZ				pmax	pmax		
	comp=Z,19nm,1.0s,mb5.5						
LSZ	Lusaka	95.72	256	eP	P	19 24 04.8	+0.3
	comp=Z,19nm,1.0s,mb5.5						
LSZ				epP	pP	19 24 31.3	-2.1
EBL	Broad Law	95.73	332	⇑eP	P	19 24 02.7	-0.9
PGC	Sidney	95.77	37	eP	P	19 24 03.4	-0.6
	comp=Z,128nm,1.0s,mb6.3						
NEGI	Negi	95.82	318	P	P	19 24 03.4	-0.9
ENR	Entracque	95.84	318	P	P	19 24 02.7	-1.6
SAOF	Saorge	95.86	318	eP	P	19 24 04.0	-0.4
SNB	Saturna Island	95.87	37	P	P	19 24 06.2	+1.8
EAU	Auchinoon	95.87	332	⇑eP	P	19 24 03.2	-1.0
EAU				AMb	AMB	19 24 07.1	
	comp=Z,201nm,1.3s,mb6.4						
STW	Striped Peak	95.88	37	P	P	19 24 06.4	+1.9
STV2	Anna di Valdie	95.89	318	P	P	19 24 03.0	-1.6
STV	Sta Anna Valdi	95.89	318	P	P	19 24 03.0	-1.6
PZZ	Prazzo	95.92	319	P	P	19 24 03.1	-1.6
AUTN	L'Aution	95.94	318	eP	P	19 24 05.3	+0.5
RRL	Cesana Torines	95.94	319	P	P	19 24 04.7	0.0
SBF	Sospel	95.99	318	eP	P	19 24 04.3	-0.7
	comp=Z,133nm,0.8s,mb6.1						
MBDF	Montbardon	96.03	319	eP	P	19 24 04.2	-1.0
	comp=Z,49nm,0.9s,mb5.6						
AURF	Auriere	96.05	318	eP	P	19 24 05.6	+0.3
ESK	Eskdalemuir	96.07	331	⇑eP	P	19 24 04.8	-0.3
ESK				AMb	AMB	19 24 06.5	
	comp=Z,108nm,1.2s,mb6.2						
ESK	Eskdalemuir	96.07	331	P	P	19 24 05.0	-0.1
ESK	Eskdalemuir	96.07	331	eP	P	19 24 04.4	-0.7
EAB	Aberfoyle	96.07	332	⇑eP	P	19 24 05.0	-0.1
EAB				AMb	AMB	19 24 08.0	
	comp=Z,127nm,1.4s,mb6.2						
SURF	Saint Ours	96.12	319	eP	P	19 24 06.0	+0.4
MVIF	Mont Vial	96.16	318	eP	P	19 24 05.8	0.0
GDM	Grand'Maison	96.23	320	eP	P	19 24 07.0	+0.9
OG05	Jujurieux	96.25	321	eP	P	19 24 05.9	-0.3
CALN	Calern	96.39	318	eP	P	19 24 05.9	-1.0
LHO	Holmfirth	96.44	329	⇑eP	P	19 24 06.5	-0.4
GRN	Grenoble	96.45	320	eP	P	19 24 07.8	+0.7
HDW	Hoodsport	96.49	37	P	P	19 24 09.0	+1.8
ORIF	Oris-en-Rattie	96.51	319	eP	P	19 24 07.2	-0.2
	comp=Z,97nm,0.9s,mb6.0						
ORIF				eR			
	comp=Z,792nm,19.8s						
MBW	Mount Baker	96.60	36	P	P	19 24 08.6	+1.0
FRF	La Foret Royal	96.64	318	eP	P	19 24 07.4	-0.6
	comp=Z,101nm,0.9s,mb5.9						
CMW	Cultus Mountai	96.65	36	P	P	19 24 08.9	+0.9
GNW	Green Mountain	96.67	37	eP	P	19 24 08.8	+0.8
LMR	La Mourre	96.83	318	eP	P	19 24 08.2	-0.7
	comp=Z,113nm,1.2s,mb5.9						
JCW	Jim Creek	96.88	37	P	P	19 24 10.0	+1.1
SSF	Saint Saulge	96.95	322	eP	P	19 24 08.8	-0.5
	comp=Z,54nm,1.0s,mb5.6						
SMF	Signal de Mont	96.95	322	eP	P	19 24 08.8	-0.6
	comp=Z,92nm,1.2s,mb5.8						
BMW	Boistfort Moun	96.96	39	eP	P	19 24 10.2	+0.8
RPW	Rockport	96.99	36	P	P	19 24 10.1	+0.6
TAVF	Tavernes	96.99	318	eP	P	19 24 09.4	-0.2
OCF	Saint Nazaire	97.03	319	eP	P	19 24 09.8	0.0
OG26	St.-Nazaire-De	97.03	319	eP	P	19 24 09.8	0.0
VILF	Villemus	97.11	319	eP	P	19 24 09.4	-0.7
SMRF	Simiane la Rot	97.14	319	eP	P	19 24 10.0	-0.3
PUYF	Puyloubier	97.26	318	eP	P	19 24 11.2	+0.3
VIVF	Saint-Julien-l	97.30	320	eP	P	19 24 10.5	-0.5
	comp=Z,108nm,1.0s,mb5.9						
PLDF	La Plantade	97.41	321	eP	P	19 24 11.9	+0.4
PRAF	Pradon	97.48	319	eP	P	19 24 10.1	-1.7
GELF	Grande-Etoile	97.51	318	eP	P	19 24 10.3	-1.7
COLF	Collangettes	97.59	321	eP	P	19 24 12.8	+0.5
BGF	Bois d'Agland	97.59	322	eP	P	19 24 11.8	-0.5
PNT	Penticton	97.61	35	P	P	19 24 13.2	+0.9
FL2	Flat Top 2	97.62	39	P	P	19 24 14.2	+1.7
WRW	Wenatchee Ridg	97.65	37	P	P	19 24 13.2	+0.7
FMW	Mount Fremont	97.66	38	P	P	19 24 13.3	+0.8
NLW	Nelson Butte	97.85	36	eP	P	19 24 13.4	+0.1
PYM	Petit Puy Mans	97.89	321	eP	P	19 24 14.2	+0.6
SLFW	Sugar Loaf	97.91	37	P	P	19 24 14.5	+0.8
KEBM	Edson Butte	97.97	42	eP	P	19 24 14.0	0.0
LBL	Lubilhac	98.00	321	eP	P	19 24 14.9	+0.8
ETW	Entiat	98.10	37	P	P	19 24 14.4	-0.1
TCF	Toulx Ste Croi	98.11	322	eP	P	19 24 14.4	-0.2
	comp=Z,66nm,0.9s,mb5.9						
LASF	Ste Croix	98.19	319	eP	P	19 24 14.8	-0.2
	comp=Z,122nm,1.3s,mb6.0						
SSOR	Sweet Springs	98.22	40	P	P	19 24 11.2	-3.9
SSOR	Sweet Springs	98.22	40	eP	P	19 24 10.5	-4.7
LDF	La Druitiere	98.26	325	eP	P	19 24 14.8	-0.4
	comp=Z,158nm,1.1s,mb6.2						
WTV	Waterville	98.27	36	P	P	19 24 15.7	+0.4
FLN	La Foliniere	98.37	325	eP	P	19 24 15.2	-0.5
	comp=Z,89nm,1.0s,mb6.0						
FLN				eR			
	comp=Z,1μm,23.0s						
EDM	Edmonton	98.60	29	eP	P	19 24 16.6	-0.1
EDM				epP	pP	19 24 51.4	+5.8
DMUB	Kingscourt	98.65	332	eP	P	19 24 16.0	-0.9
GRR	Gorron	98.78	325	eP	P	19 24 17.2	-0.4
	comp=Z,173nm,1.3s,mb6.1						
DLF	Lyons Farm	98.85	331	eP	P	19 24 16.6	-1.2
CAF	Calviac	98.88	321	eP	P	19 24 18.3	+0.1
	comp=Z,85nm,1.2s,mb5.9						
VGB	Gordon Butte	98.92	39	eP	P	19 24 18.6	+0.3
HUMO	Hull Mountain	98.99	42	eP	P	19 24 18.5	-0.2
RJF	Les Rejaudoux	99.03	321	eP	P	19 24 19.0	+0.2
	comp=Z,141nm,1.2s,mb6.1						
RJF				eR			
	comp=Z,658nm,19.5s						
DCN	Croghan	99.17	331	eP	P	19 24 18.9	-0.4
DPW	Davenport	99.18	36	eP	P	19 24 19.6	+0.1
DPW				epP	pP	19 24 51.8	+3.4
MFF	Saint Martin d	99.34	323	eP	P	19 24 19.9	-0.3
	comp=Z,35nm,0.9s,mb5.6						
NEW	Newport	99.56	35	LR	LR	20 09 57.5	
	comp=Z,458nm,21.1s,baz=246,slow=36						
NEW	Newport	99.56	35	eP	P	19 24 21.3	+0.1
NEW				pmax	pmax		
	comp=Z,32nm,0.8s						
NEW	Newport	99.56	35	eP	P	19 24 21.3	+0.1
	comp=Z,32nm,0.8s,mb6.0						
YBH	Yreka Blue Hor	99.57	43	P	P	19 24 22.0	+0.6
	comp=Z,8.4nm,0.9s,mb5.3,baz=307,slow=2.9,SNR=11						
YBH	Yreka Blue Hor	99.57	43	P	P	19 24 22.0	+0.6
YBH				pmax	pmax		
	comp=Z,8.0nm,1.0s						
YBH	Yreka Blue Hor	99.57	43	eP	P	19 24 21.4	0.0
	comp=Z,7.2nm,1.0s,mb5.3						
MTLF	Montolieu	99.58	319	eP	P	19 24 20.9	-0.5
	comp=Z,40nm,1.0s,mb5.7						
SGMF	Saint Gilles	99.80	325	eP	P	19 24 21.6	-0.7
	comp=Z,73nm,1.2s,mb5.9						
SYO	Syowa Base	99.92	201	⇑Pdiff	P	19 24 23.1	+0.8
SYO	Syowa Base	99.92	201	⇓pPdiff		19 24 51.7	
ROSF	Rostrenen	100.15	326	eP	P	19 24 23.0	-0.8
	comp=Z,75nm,1.2s						
LNOR	Lincton Mounta	100.22	37	P	P	19 24 25.7	+1.5
LNOR	Lincton Mounta	100.22	37	ePdif	P	19 24 24.2	0.0
WDC	Whiskeytown Da	100.24	44	P	P	19 24 25.3	+0.9
WDC				pmax	pmax		
	comp=Z,6.0nm,0.9s						
WDC	Whiskeytown Da	100.24	44	ePdif	P	19 24 24.1	-0.4
	comp=Z,6.3nm,0.9s						
EPF	Esparros	100.92	320	eP	P	19 24 26.5	-0.9
MOD	Modoc	101.05	42	ePdif	P	19 24 27.9	-0.2
	comp=Z,22nm,1.0s						
BSMT	Bassoo Peak	101.08	34	P	P	19 24 28.9	+0.9
OHCM	Honcut	101.55	44	ePdif	P	19 24 29.5	-0.8
ETSF	Etsaut	101.55	320	eP	P	19 24 29.3	-0.9
	comp=Z,42nm,1.2s						
WVOR	Wild Horse Val	101.84	40	P	P	19 24 25.0	-6.5
WVOR				pmax	pmax		
	comp=Z,59nm,1.2s						
WVOR	Wild Horse Val	101.84	40	eP	P	19 24 31.7	+0.2
	comp=Z,59nm,1.2s						
SJPF	Ste Jean	101.85	320	eP	P	19 24 31.7	+0.2
	comp=Z,62nm,1.5s						
BEKR	Beckwourth	102.04	43	ePdif	Pdif	19 24 32.2	-0.3
	comp=Z,8.9nm,1.0s						
MSO	Missoula	102.15	35	ePdif	Pdif	19 24 32.7	-0.1
	comp=Z,2.2nm,0.7s						
CHMT	Chamberlain Mo	102.48	34	ePdif	Pdif	19 24 34.0	-0.2
CMB	Columbia Colle	102.94	45	Pdiff	Pdif	19 24 37.4	+1.0
CMB	Columbia Colle	102.94	45	P	Pdif	19 24 37.3	+0.8
CMB				pmax	pmax		
	comp=Z,11nm,1.0s						
CMB	Columbia Colle	102.94	45	ePdif	Pdif	19 24 36.7	+0.2
	comp=Z,11nm,1.0s						
HLID	Hailey	103.79	38	ePdif	Pdif	19 24 40.2	+0.1
	comp=Z,9.1nm,0.9s						
HLID				ePKKP	PKKP	19 40 51.7	+27
MCMT	McKenzie Canyo	103.96	36	ePKKP	PKKP	19 40 50.8	+27
QSPA	South Pole Qui	104.10	180	eP	Pdif	19 24 41.2	+0.6
	comp=Z,3.3nm,0.8s						
QSPA				e		19 28 53.0	
QSPA				e		19 40 29.3	
QSPA				e		19 41 34.7	
QSPA				LR	LR		
	comp=Z,400nm,21.3s						
BOZ	Bozeman (W)	104.14	35	P	Pdif	19 24 42.5	+0.9
BOZ				pmax	pmax		
	comp=Z,3.0nm,1.0s						
BOZ	Bozeman (W)	104.14	35	ePdif	Pdif	19 24 41.8	+0.2
	comp=Z,3.2nm,1.0s						
NVAR	Mina Array Bea	104.15	44	Pdiff	Pdif	19 24 42.4	+0.6
	comp=Z,6.7nm,0.9s,baz=292,slow=4.0,SNR=23						
NVAR				PP	PP	19 28 55.5	-7.7
	comp=Z,2.8nm,0.9s,baz=285,slow=10,SNR=3.1						
NVAR				PKKPbc		19 40 30.5	
	comp=Z,1.0nm,0.6s,baz=119,slow=4.3,SNR=7.3						
NVAR				PKKPab		19 40 49.6	
	comp=Z,4.6nm,0.6s,baz=135,slow=5.1,SNR=21						
ELK	Elko	104.89	40	ePKKP	PKKP	19 40 46.0	+23
ESDC	Sonseca Array	105.46	319	PP		19 28 58.4	
	comp=Z,2.0nm,0.8s,baz=52,slow=8.6,SNR=4.3						
DAC	Darwin (Calif)	105.75	45	ePKKP	PKKP	19 40 42.6	+22
MOOW	Moose Ponds	105.81	36	ePKKP	PKKP	19 40 41.8	+21
TPAW	Teton Pass	105.86	36	ePKKP	PKKP	19 40 40.6	+20
TPNV	Topopah Spring	106.32	44	eP	Pdif	19 24 53.2	+1.9
TPNV				pmax	pmax		
	comp=Z,4.0nm,0.8s						
TPNV	Topopah Spring	106.32	44	ePdif	Pdif	19 24 51.3	-0.1
	comp=Z,3.8nm,0.8s						
TPNV				ePKKP	PKKP	19 40 40.2	+20
HWUT	Hardware Ranch	106.65	38	ePdif	Pdif	19 24 52.6	-0.1
	comp=Z,3.7nm,0.8s						
HWUT				ePKKP	PKKP	19 40 38.0	+19
DUG	Dugway	106.72	40	P	Pdif	19 24 54.8	+1.7
DUG				pmax	pmax		
	comp=Z,5.0nm,0.9s						
DUG	Dugway	106.72	40	ePdif	Pdif	19 24 53.4	+0.3
	comp=Z,0.3nm,0.9s						
DUG				ePKKP	PKKP	19 40 38.8	+19
PDAR	Pinedale Array	107.10	36	Pdiff	Pdif	19 24 55.0	+0.3
	comp=Z,1.7nm,0.8s,slow=1.5,SNR=13						
PDAR				PKKPbc		19 40 20.2	
	comp=Z,1.6nm,0.7s,baz=121,slow=5.3,SNR=7.3						
PDAR				PKKPab		19 40 35.4	
	comp=Z,13nm,0.7s,baz=122,slow=4.7,SNR=62						
JLU	Jordanelle	107.32	39	ePKKP	PKKP	19 40 35.8	+18
DAU	Daniels Canyon	107.55	39	P	Pdif	19 25 00.5	+3.8
DAU	Daniels Canyon	107.55	39	ePdif	Pdif	19 24 56.6	-0.1
NEN	Nelson	107.97	45	ePdif	Pdif	19 24 58.4	-0.3
MVU	Marysvale	108.09	41	ePKP		19 29 05.3	
MVU				ePKKP	PKKP	19 40 32.6	+16
LDFC	Landfair	108.10	45	ePKKP	PKKP	19 40 33.0	+16
MSU	Marysvale	108.11	41	P	Pdif	19 25 03.8	+4.6
MSU	Marysvale	108.11	41	ePdif	Pdif	19 24 58.5	-0.7
MSU				eP		19 29 07.2	
MSU				ePKKP	PKKP	19 40 32.6	+16
RKT	Rikitea	108.75	110	eL		19 56 30.5	
RKT				eR		20 00 44.1	
	comp=Z,3μm,34.0s						
SRU	San Rafael	108.79	40	P	Pdif	19 25 05.6	+3.4
SRU	San Rafael	108.79	40	ePdif	Pdif	19 25 02.7	+0.6
SRU				ePKKP	PKKP	19 40 29.5	+14
PV10	Paradox Valley	110.16	39	ePdif	Pdif	19 25 09.2	+1.0
PV10				ePKiKP		19 29 07.5	
WUAZ	Wupatki	110.38	43	ePKKP	PKKP	19 40 22.3	+10
ISCO	Idaho Springs	111.29	36	ePKIKP	PKPdf	19 29 10.3	+0.2
ISCO	Idaho Springs	111.29	36	ePKKP	PKKP	19 40 18.6	+7.7
TUC	Tucson	112.63	46	PKIKP	PKPdf	19 29 16.0	+3.1
TUC	Tucson	112.63	46	PKP	PKPdf	19 29 15.1	+2.2
TUC				ePP	PP	19 29 58.9	-7.3
SDCO	Great Sand Dun	112.71	38	ePKKP	PKKP	19 40 11.8	+3.8
LAZ	Ladron	113.83	42	ePKP	PKPdf	19 29 17.0	+1.7
LAZ				ePKKP	PKKP	19 40 07.0	+1.2
ANMO	Albuquerque	113.92	41	PKIKP	PKPdf	19 29 17.7	+2.3
ANMO	Albuquerque	113.92	41	ePKP	PKPdf	19 29 16.9	+1.4
ANMO				ePKKP	PKKP	19 40 07.0	+1.3
LENM	Lemitar	114.08	42	ePKP	PKPdf	19 29 17.5	+1.7
LENM				ePKKP	PKKP	19 40 05.4	0.0
LPM	Los Pinos Moun	114.21	42	ePKKP	PKKP	19 40 04.7	-0.4
BNM	Barren Site	114.31	42	ePKP	PKPdf	19 29 17.3	+1.1
VNA2	Neumayer--Watz	115.23	197	⇑i		19 29 54.0	
VNA2	Neumayer--Watz	115.23	197	⇑i	PP	19 30 08.7	-15
VNA3	Neumayer Olymp	115.68	196	⇓i		19 29 54.5	
VNA3	Neumayer Olymp	115.68	196	⇑i	PP	19 30 08.2	-19
KSU1	Kansas State U	116.68	32	ePKP	PKPdf	19 29 21.5	+0.8
CPRX	Cap Rock	116.80	41	ePKKP	PKKP	19 39 53.8	-6.5
GDL2	Guadalupe Moun	117.01	42	ePKP	PKPdf	19 29 22.6	+1.1
GDL2				ePKKP	PKKP	19 39 52.7	-7.2
WMOK	Wichita Mounta	118.72	36	PKIKP	PKPdf	19 29 25.3	+0.5
WMOK	Wichita Mounta	118.72	36	ePKP	PKPdf	19 29 24.3	-0.4
WMOK				ePKKP	PKKP	19 39 45.2	-12
LTX	Lajitas	119.30	44	PKIKP	PKPdf	19 29 27.6	+1.6
LTX	Lajitas	119.30	44	ePKP	PKPdf	19 29 27.3	+1.3
TXAR	Lajitas Array	119.30	44	PKhKP		19 29 19.4	
	comp=Z,1.1nm,0.8s,baz=315,slow=2.6,SNR=5.5						
TXAR				PKP	PKPdf	19 29 26.8	+0.8
	comp=Z,52nm,1.1s,baz=262,slow=1.4,SNR=63						
TXAR				PKKPbc		19 39 39.4	
	comp=Z,3.2nm,0.7s,baz=135,slow=6.4,SNR=15						
TXAR	Lajitas Array	119.30	44	PKP	PKPdf	19 29 19.4	-6.6
TXAR				PKP	PKPdf	19 29 26.8	+0.8
TXAR				PKKPbc		19 39 39.4	
FVM	French Village	120.54	28	P	Pdif	19 25 50.3	-3.6
FVM				e		19 29 29.1	
FVM	French Village	120.54	28	eP	PKPdf	19 29 28.8	+0.6
JCT	Junction City	121.07	41	ePKP	PKPdf	19 29 30.2	+0.8
JCT				ePKKP	PKKP	19 39 34.9	-18
DBIC	Dimbokro	121.82	287	PKP	PKPdf	19 29 31.7	+0.4
	comp=Z,39nm,0.8s,baz=49,slow=2.0,SNR=38						
DBIC	Dimbokro	121.82	287	PKPdf	PKPdf	19 29 32.1	+0.8
DBIC				PKPdf	PKPdf	19 29 32.2	+0.9
DBIC				SKKSac		19 37 53.5	
DBIC				P'P'df		20 04 40.4	
DBIC	Dimbokro	121.82	287	PKIKP	PKPdf	19 29 31.7	+0.5
DBIC				pmax	pmax		
	comp=Z,39nm,0.8s						
DBIC	Dimbokro	121.82	287	ePKP	PKPdf	19 29 31.6	+0.4
KIC	Kosan Boka	121.83	287	ePKP2	PKPdf	19 29 32.1	+0.8
	comp=Z,496nm,1.1s						
TIC	Toumodi	121.98	287	ePKP2	PKPdf	19 29 32.2	+0.6
	comp=Z,286nm,1.1s						
WCI	Wyandotte Cave	122.12	25	ePKIKP	PKPdf	19 29 32.1	+0.9
LIC	Lamto	122.14	287	ePKIKP	PKPdf	19 29 32.3	+0.4
	comp=Z,237nm,1.1s						
LIC	Lamto	122.14	287	ePKP2	PKPdf	19 29 33.3	+1.4
	comp=Z,285nm,1.1s						
UALR	University of	122.18	32	ePKP	PKPdf	19 29 31.9	+0.4
SSPA	Standing Stone	122.82	16	ePKPdf	PKPdf	19 29 33.7	+1.1
NATX	Nacogdoches	123.24	36	ePKP	PKPdf	19 29 35.1	+1.5
WVT	Waverly	123.24	27	PKIKP	PKPdf	19 29 33.7	+0.2
OXF	Oxford	123.85	30	PKIKP	PKPdf	19 29 35.7	+1.0
OXF	Oxford	123.85	30	ePKP	PKPdf	19 29 35.2	+0.5
FWV	Forest Hill	124.73	20	ePKKP	PKKP	19 39 14.5	-31
PWV	Princeton	124.87	21	ePKPdf	PKPdf	19 29 37.8	+1.1
PWV				ePKKP	PKKP	19 39 08.8	-37
ELN	Prospectdale	125.07	21	ePKP	PKPdf	19 29 37.1	+0.1
ELN				ePKKP	PKKP	19 39 13.8	-32
BLA	Blacksburg	125.19	20	ePKKP	PKKP	19 39 21.8	-23
CRZC	La Cruz	144.08	47	eP	PKPbc	19 30 11.4	-0.8
VCR	Vista de Mar	144.62	48	eP	PKPbc	19 30 14.2	+0.6
JTS	JuntasAbangare	144.99	47	PKP	PKPdf	19 30 13.5	-0.9
	comp=Z,106nm,0.6s,baz=345,slow=4.1,SNR=115						
JTS	JuntasAbangare	144.99	47	ePKP	PKPdf	19 30 13.5	-0.9
FORC	Fortuna	145.07	47	eP	PKPdf	19 30 15.2	+0.7
JCR	Jicaral	145.18	48	eP	PKPdf	19 30 15.9	+1.2
CGA2	Cerro Gallo 2	145.53	47	eP	PKPdf	19 30 17.2	+1.9
PRS1	Puriscal	145.66	47	eP	PKPdf	19 30 18.4	+2.8
TRTC	Tortuguero	145.66	45	eP	PKPdf	19 30 17.1	+1.6
LAJ	Bijagual	145.88	47	eP	PKPdf	19 30 18.0	+2.1
LCR2	La Lucha 2	146.05	47	eP	PKPdf	19 30 18.2	+2.0
URSC	Urasca	146.14	46	eP	PKPdf	19 30 18.6	+2.3
BUS	Buena Vista	146.35	47	eP	PKPdf	19 30 19.2	+2.5
ACR	Cerro Adams	147.39	47	eP	PKPdf	19 30 21.9	+3.4
CPB	Codrington	148.24	4	eP	PKPdf	19 30 22.7	+3.0
BPA	Boggy Peak	148.82	4	eP	PKPdf	19 30 23.9	+3.3
PLCA	Paso Flores	151.95	162	PKP	PKPdf	19 30 24.8	+0.1
	comp=Z,3.9nm,1.0s,baz=2.8,slow=2.5,SNR=6.9						
PLCA				PKPbc	PKPdf	19 30 33.0	+8.3
	comp=Z,28nm,0.9s,baz=185,slow=2.8,SNR=33						
PLCA	Paso Flores	151.95	162	PKIKP	PKPdf	19 30 24.8	+0.1
PLCA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
PLCA				pmax	pmax		
	comp=Z,29nm,0.9s						
SDV	Santo Domingo	154.55	26	ePKPdf	PKPdf	19 30 30.6	+1.5
RCBR	Riachuelo	155.20	287	ePKPbc	PKPdf	19 30 40.4	+10
ROSC	El Rosal	156.06	39	PKP	PKPdf	19 30 32.7	+1.6
	comp=Z,12nm,0.4s,baz=319,slow=23,SNR=10						
ROSC				PKPab	PKPab	19 31 00.7	-0.8
	comp=Z,29nm,0.8s,baz=99,slow=17,SNR=6.2						
OTAV	Otavalo	156.45	54	PKP	PKPdf	19 30 29.4	-2.2
CAM4	Nova Friburgo	161.92	241	(P)	PKPab	19 31 24.9	-1.7
CAM4				i		19 31 27.5	
CAM4				i		19 32 02.0	
CPUP	Villa Florida	167.79	190	PKP	PKPdf	19 30 43.1	+0.4
	comp=Z,2.1nm,0.9s,baz=100,slow=2.3,SNR=3.2						
CPUP				PKPab	PKPab	19 31 50.7	-1.3
	comp=Z,20nm,1.1s,baz=211,slow=3.6,SNR=10						
CPUP	Villa Florida	167.79	190	PKIKP	PKPdf	19 30 43.1	+0.4
CPUP						19 31 50.7	
CPUP				pmax	pmax		
	comp=Z,2.0nm,0.9s						
CPUP				pmax	pmax		
	comp=Z,20nm,1.2s						
CPUP	Villa Florida	167.79	190	PKP	PKPdf	19 30 43.1	+0.4
CPUP				PKPab	PKPab	19 31 50.7	-1.3
CPUP				ePKPab	PKPab	19 31 51.2	-0.8
BDFB	Brasilia	168.69	262	PKP	PKPdf	19 30 44.4	+0.9
	comp=Z,7.3nm,0.8s,baz=354,slow=4.4,SNR=6.4						
BDFB				PKPab	PKPab	19 31 56.6	+0.4
	comp=Z,11nm,0.7s,baz=97,slow=4.7,SNR=7.7						
BDFB	Brasilia	168.69	262	PKIKP	PKPdf	19 30 44.4	+0.9
BDFB						19 31 56.6	
BDFB				pmax	pmax		
	comp=Z,7.0nm,0.8s						
BDFB				pmax	pmax		
	comp=Z,11nm,0.7s						
LPAZ	La Paz	171.55	105	PKP	PKPdf	19 30 47.2	+2.0
	comp=Z,5.0nm,0.7s,baz=316,slow=0.6,SNR=11						
LPAZ				PKPab	PKPab	19 32 08.8	-0.1
	comp=Z,38nm,0.9s,baz=275,slow=2.2,SNR=25						
LPAZ	La Paz	171.55	105	PKPdf	PKPdf	19 30 47.9	+2.8
LPAZ				PKPab	PKPab	19 32 10.9	+2.0
LPAZ	La Paz	171.55	105	PKIKP	PKPdf	19 30 47.2	+2.1
LPAZ						19 32 08.9	
LPAZ				pmax	pmax		
	comp=Z,5.0nm,0.7s						
LPAZ				pmax	pmax		
	comp=Z,38nm,0.9s						
LPAZ	La Paz	171.55	105	ePKPdf	PKPdf	19 30 47.8	+2.7
LPAZ				ePKPab	PKPab	19 32 10.9	+2.0
SAML	Samuel	173.68	34	ePKPdf	PKPdf	19 30 47.0	+0.8
SAML				ePKPab	PKPab	19 32 16.0	-2.5

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*LDG **15** 19:29:54.1±0.4, 15.49S×166.53E, h10^{km}, Mb4.5/1, Error ellipse: s-maj=36.7km s-min=30.0km az=11.0*

*BJI **15** 19:30:08.6, 15.10S×167.40E, h123^{km}, mb4.4*

*NEIC **15** 19:30:08.6±1.8, 15.13S×167.39E, h124^{km}±15^{km}, mb4.5/11, Error ellipse: s-maj=11.1km s-min=9.4km az=222.0*

*IDC **15** 19:30:10.9±6.4, 15.20S×167.47E, h148^{km}±55^{km}, mb4.1/12, mb1 4.2/12, mb1mx4.1/16, Error ellipse: s-maj=25.8km s-min=19.6km az=33.0*

ISC 15 19:30:09.4±2.2**, 15.24S**±0.09×**167.4E**±0.1**, h143**^{km}±19^{km}**,** **n84, σ1^{s}06**/41**, mb4.3**/23**, 5C, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	6.84	187	eP	P	19 31 48.6	+0.2
DZM				eS	S	19 33 04.0	-1.3
DZM	Mont Dzumac	6.84	187	eP	P	19 31 48.6	+0.2
DZM				eS	S	19 33 04.0	-1.3
NOUC	Port Laguerre	6.89	188	eP	P	19 31 50.1	+1.1
NOUC	Port Laguerre	6.89	188	eS	S	19 33 06.9	+0.4
CTA	Charters Tower	20.66	253	P	P	19 34 41.3	+1.8
	8.0nm,1.0s,baz=74,slow=13,SNR=3.8						
URZ	Urewera	24.49	161	P	P	19 35 16.2	-0.5
	5.1nm,0.4s,mb4.4,baz=2.5,slow=4.0,SNR=4.5						
RPZ	Rata Peaks	28.55	174	P	P	19 35 53.0	-0.8
	9.5nm,0.9s,mb4.5,baz=137,slow=18,SNR=5.9						
STKA	Stephens Creek	28.72	230	⇑iP	P	19 35 56.5	+1.1
	7.1nm,0.9s,mb4.4						
STKA	Stephens Creek	28.72	230	P	P	19 35 56.5	+1.1
	8.6nm,0.7s,mb4.6,baz=43,slow=7.2,SNR=25						
STKA				PcP	PcP	19 39 01.6	-0.6
	5.2nm,0.6s,baz=45,slow=4.4,SNR=16						
STKA	Stephens Creek	28.72	230	eP	P	19 35 56.4	+1.0
WRAB	Tennant Creek	31.77	257	eP	P	19 36 20.4	-2.0
	3.9nm,0.9s,mb4.1						
WRA	Warramunga Arr	31.78	257	P	P	19 36 20.9	-1.7
	1.5nm,0.6s,mb3.9,baz=86,slow=8.7,SNR=21						
WRA				PcP	PcP	19 39 08.9	-1.5
	1.9nm,0.9s,baz=80,slow=2.8,SNR=10						
ASAR	Alice Springs	32.56	250	P	P	19 36 28.8	-0.5
	7.9nm,0.6s,mb4.7,baz=78,slow=9.1,SNR=121						
ASAR				PcP	PcP	19 39 11.1	-1.4
	1.1nm,0.7s,baz=83,slow=3.0,SNR=7.2						
ASPA	Alice Springs	32.56	250	eP	P	19 36 28.8	-0.5
FORT	Forrest	39.10	240	eP	P	19 37 25.1	+0.8
	50nm,0.7s,mb5.2						
FITZ	Fitzroy Crossi	40.00	260	eP	P	19 37 32.2	+0.4
	6.6nm,0.7s,mb4.4						
MBWA	Marble Bar	45.48	255	eP	P	19 38 15.9	-0.4
KLBR	Kellerberrin	47.92	241	eP	P	19 38 34.6	-0.6
	4.7nm,0.6s,mb4.3						
NWAO	Narrogin (SRO)	48.55	239	P	P	19 38 39.9	-0.2
	12nm,1.1s,mb4.5,baz=99,slow=4.0,SNR=3.6						
SBA	Scott Base	62.62	180	eP	P	19 40 20.3	-0.1
	12nm,0.9s,mb4.7						
CASY	Casey	63.08	202	eP	P	19 40 18.0	-5.6
	5.0nm,0.8s,mb4.4						
MDJ	Mudanjiang	68.77	332	eP	P	19 40 59.6	-0.3
ENH	Enshi	71.75	310	eP	P	19 41 17.3	-0.8
	9.5nm,0.9s,mb4.5						
BJT	Baijiatuau	72.70	321	eP	P	19 41 23.1	-0.5
	5.6nm,0.7s,mb4.4						
KMI	Kunming	74.64	302	eP	P	19 41 35.9	+0.8
KMI				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.3						
KMI	Kunming	74.64	302	eP	P	19 41 35.9	+0.8
	comp=Z,7.0nm,0.8s,mb4.3						
CMAR	Chiang Mai Arr	75.23	294	P	P	19 41 39.3	+0.7
	comp=Z,2.2nm,0.6s,mb3.9,baz=131,slow=4.8,SNR=16						

HHC	**Hu-ho-hao-te**	**76.02**	**320**	*e*P	**P**	**19 41 45.3**	**+2.7**
HHC				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.6						
HIA	**Hailar**	**76.77**	**330**	*e*P	**P**	**19 41 45.7**	**-0.9**
	comp=Z,2.3nm,0.6s,mb4.0						
MAW	**Mawson**	**81.44**	**202**	*e*P	**P**	**19 42 11.6**	**+0.1**
	comp=Z,3.8nm,0.9s,mb4.0						
MAW	**Mawson**	**81.44**	**202**	P	**P**	**19 42 11.4**	**-0.1**
	comp=Z,4.5nm,0.9s,mb4.1,baz=116,slow=2.8,SNR=8.1						
GTA	**Gaotai**	**83.08**	**314**	*e*P	**P**	**19 42 21.1**	**+0.7**
GTA				AMB	AMB		
	comp=Z,3.0nm,1.2s,mb3.9						
ILAR	**Eielson Array**	**86.99**	**18**	P	**P**	**19 42 38.5**	**-0.7**
	comp=Z,1.7nm,1.1s,mb3.8,baz=237,slow=6.8,SNR=6.3						
NVAR	**Mina Array Bea**	**87.55**	**49**	P	**P**	**19 42 41.9**	**-0.6**
	comp=Z,0.6nm,0.7s,mb3.5,baz=234,slow=7.8,SNR=3.3						
SNAA	**Sanae**	**93.04**	**183**	⇑*i*	**P**	**19 43 06.2**	**-1.1**
VNA3	**Neumayer Olymp**	**93.70**	**181**	⇑*i*	**P**	**19 43 13.3**	**+3.0**
VNA2	**Neumayer--Watz**	**93.97**	**182**	⇑*i*	**P**	**19 43 14.8**	**+3.3**
VNA1	**Neumayer--Stat**	**94.27**	**181**	⇑*i*	**P**	**19 43 15.3**	**+2.4**
MKAR	**Makanchi Array**	**97.62**	**316**	P	**P**	**19 43 28.9**	**+0.1**
	comp=Z,1.7nm,0.7s,mb4.6,baz=98,slow=6.5,SNR=14						
ARCES	**ARCESS Array B**	**120.77**	**345**	PKP	PKPdf	19 48 44.0	-0.1
	comp=Z,3.3nm,0.7s,baz=82,slow=2.5,SNR=17						
ARCES	**ARCESS Array B**	**120.77**	**345**	PKP	PKPdf	19 48 44.0	-0.1
KMBO	**Kilima Mbogo**	**128.06**	**256**	PKP	PKPdf	19 49 00.9	+1.3
	comp=Z,1.0nm,0.5s,baz=56,slow=24,SNR=3.9						
GERES	**GERESS Array B**	**140.13**	**333**	PKhKP		19 49 14.4	
	comp=Z,0.4nm,0.6s,baz=18,slow=4.2,SNR=4.1						
GERES				PKP	PKPdf	19 49 23.0	+2.0
	comp=Z,0.2nm,0.3s,baz=27,slow=3.0,SNR=3.9						
DAVOX	**Davos**	**143.37**	**334**	PKP	PKPdf	19 49 26.1	-0.6
	comp=Z,11nm,0.7s,baz=205,slow=1.5,SNR=19						
CABF	**La Chapelle**	**145.03**	**337**	*e*PKP1	PKPbc	19 49 30.9	+1.0
	comp=Z,42nm,0.6s						
GRAM		**145.06**	**331**	P	PKPdf	19 49 30.9	+1.1
FLN	**La Foliniere**	**145.11**	**346**	*e*PKP1	PKPbc	19 49 30.2	+0.1
	comp=Z,48nm,0.6s						
LDF	**La Druitiere**	**145.18**	**345**	*e*PKP1	PKPbc	19 49 30.3	0.0
	comp=Z,34nm,0.7s						
CODM		**145.23**	**331**	P	PKPdf	19 49 30.8	+0.8
TRAV		**145.28**	**335**	P	PKPdf	19 49 31.2	+1.1
VINC	**Vinca**	**145.28**	**331**	P	PKPdf	19 49 30.7	+0.5
SSF	**Saint Saulge**	**145.54**	**340**	*e*PKP1	PKPbc	19 49 32.2	+1.0
	comp=Z,32nm,0.6s						
GRR	**Gorron**	**145.55**	**346**	*e*PKP1	PKPbc	19 49 31.8	+0.6
	comp=Z,34nm,0.6s						
LSD	**Ceresole Reale**	**145.57**	**335**	P	PKPdf	19 49 32.9	+2.3
LPL	**La Plagne**	**145.69**	**336**	*e*PKP1	PKPbc	19 49 33.1	+1.5
	comp=Z,22nm,0.8s						
LPG	**La Plagne**	**145.70**	**336**	*e*PKP1	PKPbc	19 49 33.3	+1.6
	comp=Z,22nm,0.6s						
PCP	**Pian Castagno**	**145.71**	**333**	P	PKPdf	19 49 32.7	+1.9
RSP	**Reno Superiore**	**145.78**	**335**	P	PKPdf	19 49 33.4	+2.4
SMF	**Signal de Mont**	**145.79**	**340**	*e*PKP1	PKPbc	19 49 32.7	+0.8
	comp=Z,32nm,1.0s						
BHB	**Bricherasio**	**146.02**	**334**	P	PKPdf	19 49 32.6	+1.2
SGMF	**Saint Gilles**	**146.04**	**348**	*e*PKP1	PKPbc	19 49 33.1	+0.7
	comp=Z,29nm,0.7s						
ROSF	**Rostrenen**	**146.11**	**349**	*e*PKP1	PKPbc	19 49 33.9	+1.3
	comp=Z,13nm,0.7s						
FIN	**Finale Ligure**	**146.12**	**333**	P	PKPdf	19 49 33.4	+1.9
RRL	**Cesana Torines**	**146.16**	**335**	P	PKPdf	19 49 34.3	+2.7
BGF	**Bois d'Agland**	**146.20**	**341**	*e*PKP1	PKPbc	19 49 34.0	+1.2
	comp=Z,34nm,0.6s						
ROB	**Roburent**	**146.20**	**333**	P	PKPdf	19 49 33.2	+1.6
RORO		**146.26**	**333**	P	PKPdf	19 49 34.1	+2.4
PZZ	**Prazzo**	**146.36**	**334**	P	PKPdf	19 49 34.8	+2.9
STV2	**Anna di Valdie**	**146.48**	**334**	P	PKPdf	19 49 34.2	+2.1
ORIF	**Oris-en-Rattie**	**146.52**	**336**	*e*PKP1	PKPbc	19 49 35.2	+1.6
	comp=Z,22nm,0.8s						
TCF	**Toulx Ste Croi**	**146.64**	**341**	*e*PKP1	PKPbc	19 49 35.1	+1.2
	comp=Z,13nm,0.6s						
SBF	**Sospel**	**146.74**	**333**	*e*PKP1	PKPbc	19 49 35.1	+0.9
MFF	**Saint Martin d**	**147.03**	**344**	*e*PKP1	PKPdf	19 49 36.2	+3.3
	comp=Z,47nm,0.8s						
PGF	**Pioggiola**	**147.03**	**330**	*e*PKP1	PKPdf	19 49 36.3	+3.2
VIVF	**Saint-Julien-l**	**147.04**	**337**	*e*PKP1	PKPdf	19 49 36.5	+3.5
FRF	**La Foret Royal**	**147.32**	**334**	*e*PKP1	PKPdf	19 49 36.8	+3.3
	comp=Z,17nm,0.9s						
SMRF	**Simiane la Rot**	**147.43**	**335**	*e*PKP1	PKPdf	19 49 37.7	+4.0
	comp=Z,12nm,0.8s						
LMR	**La Mourre**	**147.56**	**333**	*e*PKP1	PKPdf	19 49 37.4	+3.5
	comp=Z,30nm,1.0s						
RJF	**Les Rejaudoux**	**147.74**	**341**	*e*PKP1	PKPdf	19 49 38.3	+4.1
CAF	**Calviac**	**147.90**	**340**	*e*PKP1	PKPdf	19 49 39.0	+4.5
LASF	**Ste Croix**	**148.01**	**337**	*e*PKP1	PKPdf	19 49 39.2	+4.5
	comp=Z,27nm,1.0s						
LFF	**La Frestale**	**148.30**	**342**	*e*PKP1	PKPdf	19 49 39.8	+4.7
	comp=Z,19nm,0.7s						
MTLF	**Montolieu**	**149.24**	**339**	*e*PKP1	PKPdf	19 49 42.3	+5.7
	comp=Z,16nm,0.8s						
ETSF	**Etsaut**	**150.55**	**342**	*e*PKP1	PKPdf	19 49 45.3	+6.7

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*MAN **15** 19:45:33.5, 5.24N×125.55E, h115^{km}, mb5.8, ML4.8, MS5.2*

MAN General Santos City Intensity IV.

*MOS **15** 19:45:37.1±0.9, 6.12N×125.18E, h51^{km}, mb5.4/12, Error ellipse: s-maj=27.1km s-min=11.2km az=111.3*

*BJI **15** 19:45:41.5, 5.67N×125.39E, h100^{km}, mB5.2, mb5.1*

*IDC **15** 19:45:41.1±0.5, 5.79N×125.32E, h83^{km}±3^{km}, mb5.0/26, mb1 5.0/27, mb1mx5.0/28, MS4.3/6, Ms1 4.3/6, ms1mx3.9/23, Error ellipse: s-maj=15.6km s-min=6.9km az=72.0*

*NEIC **15** 19:45:42.1±0.2, 5.89N×125.28E, mb5.2/52, Error ellipse: s-maj=7.8km s-min=4.9km az=69.0*

NEIC Felt [IV PIVS] at General Santos.

*HRVD **15** 19:45:42.1±0.3, 5.88N×125.28E, h101^{km}±2^{km}, MW5.5/61, Centroid moment Tensor Solution. LP body waves: s41,c65;Mantle waves: s61,c116; Half duration: 1^{s}4 Moment tensor: Scale 10^{17}Nm; M$_{rr}$-0.02±.06; M$_{\theta\theta}$-1.49±.05; M$_{\phi\phi}$1.51±.07; M$_{r\theta}$-0.18±.04; M$_{\theta\phi}$-1.31±.05; M$_{\phi r}$1.10±.05; Best double couple: M$_0$2.25×10^{17} NP1: ϕ_s292°, δ68°, λ168°. NP2: ϕ_s26°, δ79°, λ22°. Principal axes: T 2.48, Plg24°, Azm251°; N -.47, Plg65°, Azm51°; P -2.01, Plg7°, Azm157°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*SYO **15** 19:45:42.2, 5.87N×125.16E, h83^{km}, MB5.2*

*DJA **15** 19:46:05.8±1.0, 4.54N×125.03E, h200^{km}, mb5.8/3, MD5.1/6, Error ellipse: s-maj=112.7km s-min=21.5km az=119.0*

ISC 15 19:45:40.6±0.2**, 5.79N**±0.02×**125.41E**±0.03**, h84^{km}, h84^{km}**±1.5^{km}**:pP-P, n316,** σ1^{s}**26**/330**, mb5.1**/95**, 24C-33D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KCP	**Kidapawan**	**1.25**	**345**	⇓*i*P	**P**	**19 46 04.0**	**+0.7**
KCP				*i* S	**S**	**19 46 22.8**	**+2.5**
DAV	**Davao City (W)**	**1.28**	**7**	⇓*i*P	**P**	**19 46 05.3**	**+1.6**
DMPH	**Davao City--Mi**	**1.28**	**4**	⇓*i*P	**P**	**19 46 05.9**	**+2.2**
DMPH				*i* S	**S**	**19 46 26.6**	**+5.5**
MATI	**Mati**	**1.42**	**36**	*e*P	**P**	**19 46 06.0**	**+0.4**
MATI				*e*S	**S**	**19 46 23.0**	**-1.0**
CTBH	**Cotabato--PC H**	**1.83**	**321**	⇓*i*P	**P**	**19 46 11.3**	**+0.3**
CTBH				*i* S	**S**	**19 46 33.9**	**+0.6**
CTBH	**Cotabato--PC H**	**1.83**	**321**	⇓*i*P	**P**	**19 46 11.3**	**+0.3**
CTBH				*i* S	**S**	**19 46 33.9**	**+0.6**
BUKP	**Musuan**	**2.10**	**350**	*e*P	**P**	**19 46 15.3**	**+0.8**
BIPH	**Bislig**	**2.55**	**22**	⇓*e*P	**P**	**19 46 22.0**	**+1.0**
BIPH				*i* S	**S**	**19 46 49.7**	**-1.3**
PAGZ	**Pagadian**	**2.87**	**315**	*e*P	**P**	**19 46 25.7**	**+0.4**
PAGZ				*e*S	**S**	**19 47 05.2**	**+6.3**
BUTP	**Butuan**	**3.16**	**4**	*e*P	**P**	**19 46 30.5**	**+1.1**
DCPH	**Dipolog City**	**3.44**	**324**	*e*P	**P**	**19 46 35.0**	**+1.7**
IPIL	**Ipil**	**3.45**	**305**	*e*P	**P**	**19 46 34.3**	**+0.9**
IPIL				*e*S	**S**	**19 47 13.0**	**-0.2**
SCPH	**Surigao**	**3.96**	**1**	*i* P	**P**	**19 46 38.6**	**-1.9**
SCPH				*i* S	Sx	19 47 03.8	
SNPH	**Sibulan**	**4.13**	**329**	⇓*i*P	**P**	**19 46 44.0**	**+1.2**
	10μm,1.0s						
SNPH	**Sibulan**	**4.13**	**329**	⇓*i*P	**P**	**19 46 44.0**	**+1.2**
	10μm,1.0s						
TBP	**Tagbilaran**	**4.17**	**338**	⇓*e*P	**P**	**19 46 43.2**	**0.0**
MSLP	**Maasin**	**4.35**	**353**	*e*P	**P**	**19 46 45.7**	**-0.1**
LLP	**Lapu-Lapu**	**4.72**	**342**	⇓*i*P	**P**	**19 46 50.0**	**-0.9**
	38μm,1.0s						
OCLP	**Ormoc**	**5.28**	**351**	*e*P	**P**	**19 46 59.1**	**+0.5**
GUIM	**Jordan**	**5.55**	**330**	*e*P	**P**	**19 47 02.9**	**+0.6**
AAP	**Anini-y**	**5.74**	**323**	⇓*e*P	**P**	**19 47 04.0**	**-0.8**
	8μm,1.0s						
BESP	**Borongan**	**5.77**	**0**	*e*P	**P**	**19 47 06.1**	**+0.8**
RCP	**Roxas**	**6.31**	**335**	⇑*e*P	**P**	**19 47 13.7**	**+1.0**
	992μm,0.8s						
CUYO	**Cuyo Island**	**6.64**	**319**	*e*P	**P**	**19 47 18.2**	**+0.7**
CNP	**Catarman**	**6.71**	**354**	*e*P	**P**	**19 47 18.7**	**+0.2**
OTRP	**Odiongan**	**7.33**	**333**	*e*P	**P**	**19 47 28.3**	**+1.3**
PPR	**Puerto Princes**	**7.71**	**301**	⇑*e*P	**P**	**19 47 31.6**	**-0.6**
PVCP	**Virac**	**7.85**	**351**	*e*P	**P**	**19 47 33.1**	**-0.9**
SJMP	**San Jose**	**7.86**	**328**	*e*P	**P**	**19 47 35.0**	**+0.8**
AUQP	**San Andres**	**7.95**	**340**	*e*P	**P**	**19 47 44.7**	**+9.3**
ENPP	**El Nido**	**8.00**	**313**	*e*P	**P**	**19 47 35.5**	**-0.6**
BUSP	**Coron**	**8.04**	**320**	*e*P	**P**	**19 47 36.1**	**-0.4**
BATP	**Bataraza**	**8.12**	**292**	*e*P	**P**	**19 47 36.6**	**-1.0**
BATP				*e*S	**S**	**19 49 11.0**	**+2.4**
BOAC	**Boac**	**8.39**	**335**	*e*P	**P**	**19 47 42.3**	**+1.0**
GQP	**Guinayangan**	**8.57**	**340**	⇑*i*P	**P**	**19 47 46.6**	**+2.7**
LQP	**Lukban**	**9.10**	**336**	⇓*e*P	**P**	**19 47 52.8**	**+1.7**
KKM	**Kota Kinabalu**	**9.15**	**272**	⇓*e*P	**P**	**19 47 55.3**	**+3.6**
	802nm,1.4s						
KKM				*e*		19 49 37.0	
TGY	**Tagaytay City**	**9.36**	**332**	P	**P**	**19 47 55.7**	**+1.2**
	20nm,0.3s,baz=84,slow=2.7,SNR=25						
TGY	**Tagaytay City**	**9.36**	**332**	⇑*e*P	**P**	**19 48 05.2**	**+11**
LUBP	**Lubang**	**9.39**	**328**	*e*P	**P**	**19 47 57.0**	**+2.1**
POLP	**Polilio Island**	**9.51**	**339**	*e*P	**P**	**19 47 59.1**	**+2.3**
BALP	**Baler**	**10.58**	**339**	*e*P	**P**	**19 48 13.6**	**+2.5**
TANI	**Tanete Lipujan**	**10.97**	**213**	⇓*e*P	**P**	**19 48 20.7**	**+4.3**
TANI				*e*S	**S**	**19 50 10.8**	**-7.1**
SCZP	**Santa Cruz**	**11.29**	**332**	*e*P	**P**	**19 48 22.7**	**+2.0**
PALP	**Palanan**	**11.57**	**346**	*e*P	**P**	**19 48 22.7**	**-1.8**
NINI	**Niniconang**	**11.62**	**209**	⇓*e*P	**P**	**19 48 31.0**	**+6.0**
	856nm,0.7s						
NINI				*e*S	**S**	**19 50 22.8**	**-11**
CAUP	**Cauayan**	**11.62**	**343**	*e*P	**P**	**19 48 26.0**	**+0.9**
BOLP	**Bolinao**	**11.82**	**333**	*e*P	**P**	**19 48 30.1**	**+2.3**
CVP	**Callao Caves**	**12.35**	**344**	*e*P	**P**	**19 48 35.7**	**+1.0**
	13μm,1.0s						
ABRA	**Dolores**	**12.65**	**339**	*e*P	**P**	**19 48 40.0**	**+1.3**
APYP	**Conner**	**12.67**	**342**	*e*P	**P**	**19 48 40.1**	**+1.1**
BBP	**Basco**	**14.94**	**347**	*e*P	**P**	**19 49 08.0**	**-0.6**
KEDI	**Kedomdong**	**16.95**	**213**	⇓*i*P	**P**	**19 49 38.9**	**+5.0**
	628nm,1.2s						
RATI	**Rata**	**17.46**	**214**	⇓*i*P	**P**	**19 49 44.3**	**+3.9**
KELI	**Kelakatan**	**17.67**	**218**	⇓*i*P	**P**	**19 49 47.1**	**+4.2**
INGI	**Ingas**	**17.76**	**215**	⇑*i*P	**P**	**19 49 47.2**	**+3.2**
	842nm,0.9s						
TATO	**Taipei**	**19.44**	**349**	*e*P	**P**	**19 50 02.8**	**-0.2**
	119nm,1.4s						
KAKA	**Kakadu**	**19.64**	**159**	⇓*i*P	**P**	**19 50 07.7**	**+2.5**
	2μm,0.6s						
KAKA				*e*		19 57 49.9	
QIZ	**Qiongzhong**	**20.08**	**312**	P	**P**	**19 50 09.8**	**0.0**
QIZ				XP		19 50 39.3	
QIZ				S	**S**	**19 53 43.6**	**-2.1**
QIZ				XS		19 54 10.8	
QIZ				AMB	AMB		
	comp=Z,55nm,1.4s						
QIZ	**Qiongzhong**	**20.08**	**312**	*e*P	**P**	**19 50 10.3**	**+0.6**
	comp=Z,38nm,0.9s						
QZH	**Quanzhou**	**20.13**	**342**	P	**P**	**19 50 09.0**	**-1.3**
QZH				AMB	AMB		
	comp=Z,440nm,1.2s						
GUMO	**Guam**	**20.67**	**67**	P	**P**	**19 50 18.6**	**+2.7**
JOW	**Kunigami**	**21.10**	**7**	P	**P**	**19 50 20.9**	**+0.7**
	comp=Z,175nm,0.8s,mb5.4,baz=188,slow=8.2,SNR=53						
JOW				S	**S**	**19 54 06.5**	**+1.6**
	comp=Z,8.3nm,1.0s,baz=159,slow=26,SNR=2.2						
JOW				LR	LR	19 57 18.6	
	comp=Z,535nm,20.6s,slow=33						
UBT	**Ubonrachathani**	**22.12**	**297**	⇓P	**P**	**19 50 32.0**	**+1.7**
KGM	**Kluang**	**22.36**	**261**	⇑*e*P	**P**	**19 50 33.0**	**+0.3**
	comp=Z,571nm,1.1s,mb5.8						
FITZ	**Fitzroy Crossi**	**23.75**	**179**	*e*P	**P**	**19 50 46.5**	**+0.4**
	comp=Z,209nm,0.4s,mb5.8						
FITZ				*e*S	**S**	**19 54 54.5**	**+2.4**
FITZ	**Fitzroy Crossi**	**23.75**	**179**	P	**P**	**19 50 47.4**	**+1.3**
	comp=Z,214nm,0.5s,mb5.8,baz=6.5,slow=9.2,SNR=1034						
FITZ				S	**S**	**19 54 53.2**	**+1.0**
	comp=Z,29nm,1.0s,baz=142,slow=19,SNR=4.3						
IPM	**Ipoh**	**24.32**	**268**	⇑*e*P	**P**	**19 50 53.8**	**+2.0**
	comp=Z,118nm,0.5s,mb5.5						
KKTK	**Khon Kaen**	**24.49**	**297**	⇑P	**P**	**19 50 54.5**	**+1.1**
	comp=Z,2μm,0.7s						
SNG	**Songkhla**	**24.68**	**275**	P	**P**	**19 50 57.0**	**+1.8**
	comp=Z,480nm,1.0s,mb5.9						
WAU	**Wau**	**24.94**	**121**	*e*P	**P**	**19 51 00.0**	**+2.2**
SSE	**Sheshan**	**25.48**	**352**	*e*P	**P**	**19 51 05.8**	**+3.1**
SSE				XP	sP	19 51 33.9	+1.9
SSE				S	**S**	**19 55 25.0**	**+3.8**
SSE				XS		19 55 57.3	
SSE				AMB	AMB		
	comp=Z,29nm,0.8s,mb4.8						
SSE				AMB	AMB		
	comp=Z,643nm,11.6s						
SSE				LR	LR		
	comp=N,259nm,12.6s						
SSE				LR	LR		
	comp=E,504nm,12.6s						
SSE				LR	LR		
	comp=Z,539nm,10.3s						
SSE	**Sheshan**	**25.48**	**352**	*e*P	**P**	**19 51 05.8**	**+3.1**
	comp=Z,29nm,0.8s,mb4.8						
SSE				sP	sP	19 51 33.9	+1.9
SSE				S	**S**	**19 55 25.0**	**+3.8**
SSE				sS		19 55 57.3	
SSE				LR	LR		
	comp=Z,540nm,10.3s						
NNT	**Nongplab**	**26.22**	**287**	P	**P**	**19 51 10.8**	**+1.1**
PMG	**Port Moresby**	**26.41**	**125**	*e*P	**P**	**19 51 12.4**	**+0.9**
CBIJ	**Chichi jima**	**26.53**	**35**	P	**P**	**19 51 11.2**	**-1.2**
	comp=Z,82nm,0.5s,mb5.5,baz=236,slow=6.0,SNR=19						
CBIJ				LR	LR	19 59 10.3	
	comp=Z,650nm,21.8s,baz=358,slow=30						
NST	**Nakhon Sawan**	**26.68**	**294**	⇓P	**P**	**19 51 15.4**	**+1.5**
	comp=Z,117nm,1.0s,mb5.4						
WHN	**Wuhan**	**26.73**	**338**	*e*P	**P**	**19 51 14.0**	**-0.2**
WHN				LR	LR		
	comp=Z,1μm,20.7s						
NJ2	**Nanjing**	**26.83**	**348**	*e*P	**P**	**19 51 17.9**	**+2.7**
NJ2				AP	pP	19 51 38.0	+3.7
NJ2				S	**S**	**19 55 47.0**	**+3.6**
NJ2				AMB	AMB		
	comp=Z,100nm,1.2s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,580nm,6.5s						
NJ2				LR	LR		
	comp=N,1μm,19.2s						
NJ2				LR	LR		
	comp=E,2μm,20.8s						
NJ2				LR	LR		
	comp=Z,1μm,11.3s						
WRAB	**Tennant Creek**	**27.04**	**161**	*e*P	**P**	**19 51 17.0**	**-0.2**
	comp=Z,267nm,0.8s,mb5.8						
WRA	**Warramunga Arr**	**27.04**	**161**	P	**P**	**19 51 16.6**	**-0.5**
	comp=Z,57nm,0.5s,mb5.3,baz=329,slow=11,SNR=27						
WRA				pP	pP	19 51 36.0	-0.4
	comp=Z,128nm,0.8s,baz=344,slow=10,SNR=8.3						
WRA				S	**S**	**19 55 44.5**	**-2.3**
	comp=Z,39nm,1.2s,baz=336,slow=15,SNR=9.6						
WB2	**Warramunga Arr**	**27.04**	**161**	⇓*i*P	**P**	**19 51 17.3**	**+0.1**
WB2				*e*S	**S**	**19 55 45.0**	**-1.9**
WB2				*e*SCS	ScS	20 01 56.3	-1.5
GYA	**Guiyang**	**27.25**	**321**	⇑*i*P	**P**	**19 51 19.3**	**+0.3**
GYA				AP	pP	19 51 41.4	+3.2
GYA				XP	sP	19 51 52.8	+4.5
GYA				PPP	PPP	19 52 25.6	+4.4
GYA				S	**S**	**19 55 51.5**	**+1.3**
GYA				XS		19 56 29.4	
GYA				AMB	AMB		
	comp=Z,40nm,1.2s,mb4.8						
GYA				AMB	AMB		
	comp=Z,530nm,7.6s						
GYA				LR	LR		
	comp=N,780nm,16.5s						
GYA				LR	LR		
	comp=E,580nm,15.3s						
GYA				LR	LR		
	comp=Z,1μm,14.1s						
MBWA	**Marble Bar**	**27.36**	**192**	*e*P	**P**	**19 51 20.0**	**-0.1**
	comp=Z,40nm,0.8s,mb5.0						
JNU	**Nakatsue**	**27.66**	**10**	P	**P**	**19 51 21.6**	**-1.1**
	comp=Z,28nm,1.1s,mb4.7,baz=270,slow=4.0						
JNU				ScP		19 58 08.1	
	comp=Z,16nm,0.9s,baz=194,slow=3.7,SNR=5.4						
BDT	**Bhumibol Dam**	**28.22**	**296**	P	**P**	**19 51 28.0**	**+0.1**
	comp=Z,29nm,0.9s,mb4.8						
RAB	**Rabaul**	**28.50**	**110**	*e*P	**P**	**19 51 32.5**	**+2.1**
ENH	**Enshi**	**28.60**	**330**	*e*P	**P**	**19 51 31.6**	**+0.4**
	comp=Z,48nm,0.9s,mb5.1						
CM31	**Chiang Mai Arr**	**28.72**	**298**	*e*P	**P**	**19 51 32.5**	**+0.1**
	comp=Z,20nm,0.8s,mb4.8						
CMAR	**Chiang Mai Arr**	**28.72**	**298**	P	**P**	**19 51 31.9**	**-0.5**
	comp=Z,18nm,0.8s,mb4.7,baz=119,slow=7.4,SNR=54						
CMAR				PcP	PcP	19 54 39.7	-1.2
	comp=Z,7.8nm,0.8s,baz=132,slow=1.1,SNR=10						
CMAR				ScP		19 58 10.6	
	comp=Z,9.2nm,0.9s,baz=121,slow=1.5,SNR=20						
CMAR				LR	LR	20 03 51.9	
	comp=Z,567nm,18.1s,baz=301,slow=38						
CHG	**Chiang Mai**	**28.86**	**299**	⇑P	**P**	**19 51 33.7**	**+0.1**
	comp=Z,42nm,0.7s,mb5.2						
KMI	**Kunming**	**29.01**	**314**	*e*P	**P**	**19 51 34.1**	**-0.7**
KMI				AP	pP	19 51 55.9	+1.6
KMI				XP	sP	19 52 06.8	+2.6
KMI				PPP	PPP	19 52 46.1	+1.3
KMI				PCP	PcP	19 54 40.5	-1.1
KMI				S	**S**	**19 56 16.8**	**-1.6**
KMI				SS	SS	19 57 51.5	-1.7
KMI				SSS	SSS	19 58 12.3	-3.4
KMI				SCS	ScS	20 02 06.8	+0.2
KMI				AMB	AMB		
	comp=Z,51nm,1.3s,mb5.0						
KMI				LR	LR		
	comp=N,651nm,19.2s						
KMI				LR	LR		
	comp=E,379nm,12.8s						
KMI				LR	LR		
	comp=Z,602nm,19.4s						
KMI	**Kunming**	**29.01**	**314**	*e*P	**P**	**19 51 34.1**	**-0.7**
	comp=Z,51nm,1.3s,mb5.0						
KMI				pP	pP	19 51 55.9	+1.6
KMI				sP	sP	19 52 06.8	+2.6
KMI				PPP	PPP	19 52 46.1	+1.3
KMI				PcP	PcP	19 54 40.5	-1.1
KMI				S	**S**	**19 56 16.7**	**-1.7**
KMI				SS	SS	19 57 51.5	-1.7
KMI				SSS	SSS	19 58 12.2	-3.5
KMI				ScS	ScS	20 02 06.7	+0.1
KMI				LR	LR		
	comp=Z,600nm,19.4s						
ASAR	**Alice Springs**	**30.43**	**164**	P	**P**	**19 51 47.7**	**+0.2**
	comp=Z,44nm,0.5s,mb5.4,baz=344,slow=7.1,SNR=932						
ASAR				PP	PP	19 52 45.0	-5.0
	comp=Z,38nm,0.8s,baz=350,slow=11,SNR=4.1						
ASAR				PcP	PcP	19 54 44.6	-0.5
	comp=Z,18nm,1.0s,baz=340,slow=2.5,SNR=7.9						
ASAR				S	**S**	**19 56 39.8**	**-1.1**
	comp=Z,13nm,0.9s,baz=350,slow=17,SNR=4.1						
ASAR				ScP		19 58 17.6	
	comp=Z,2.8nm,0.7s,baz=343,slow=2.8,SNR=4.1						
ASPA	**Alice Springs**	**30.43**	**165**	⇓*i*P	**P**	**19 51 47.9**	**+0.4**
ASPA				*e*S	**S**	**19 56 39.4**	**-1.5**
ASPA				*e*SCS	ScS	20 02 11.5	-1.9
XAN	**Xi'an**	**32.00**	**334**	P	**P**	**19 51 59.9**	**-1.2**
XAN				AMB	AMB		
	comp=Z,14nm,0.8s,mb4.7						
CD2	**Chengdu**	**32.21**	**323**	⇑*i*P	**P**	**19 52 02.6**	**-0.4**
CD2				*e*S	**S**	**19 57 03.1**	**-5.7**
CD2				AMB	AMB		
	comp=Z,90nm,1.0s,mb5.5						
CD2				LR	LR		
	comp=E,2μm,15.6s						
CD2				LR	LR		
	comp=Z,930nm,15.6s						
MAJO	**Matsushiro**	**32.77**	**19**	*e*P	**P**	**19 52 05.9**	**-1.9**
	comp=Z,57nm,1.5s,mb5.2						
MAT	**Matsushiro**	**32.77**	**19**	P	**P**	**19 52 05.0**	**-2.8**
MAT				S	**S**	**19 57 12.4**	**-5.0**
MAT	**Matsushiro**	**32.77**	**19**	*e*P	**P**	**19 52 05.0**	**-2.8**
	comp=Z,39nm,1.2s,mb5.1						
MAT				*e*S	**S**	**19 57 12.0**	**-5.4**
CTA	**Charters Tower**	**32.89**	**142**	*e*P	**P**	**19 52 10.7**	**+1.7**
	comp=Z,50nm,0.8s,mb5.4						
CTA	**Charters Tower**	**32.89**	**142**	P	**P**	**19 52 09.3**	**+0.3**
	comp=Z,59nm,0.7s,mb5.5,baz=320,slow=11,SNR=65						
CTAO	**Charters Tower**	**32.89**	**142**	*e*P	**P**	**19 52 10.6**	**+1.7**
	comp=Z,72nm,0.8s,mb5.5						
BJT	**Baijiatuau**	**35.08**	**348**	*e*P	**P**	**19 52 25.6**	**-1.9**
	comp=Z,11nm,0.8s,mb4.7						
BJI	**Beijing**	**35.09**	**348**	P	**P**	**19 52 26.1**	**-1.6**
BJI				AP	pP	19 52 47.8	+0.1
BJI				S	**S**	**19 58 01.6**	**+8.4**
BJI				LR	LR		
	comp=N,736nm,18.7s						
BJI				LR	LR		
	comp=E,707nm,16.5s						
BJI				LR	LR		
	comp=Z,651nm,34.4s						
BJI	**Beijing**	**35.09**	**348**	P	**P**	**19 52 26.1**	**-1.6**
	comp=Z,11nm,1.2s,mb4.6						
BJI				pP	pP	19 52 47.7	0.0
BJI				S	**S**	**19 58 01.6**	**+8.4**
BJI				SS	SS	20 00 36.0	+22
BJI				LR	LR		
	comp=Z,650nm,34.4s						
SNY	**Shenyang**	**35.92**	**358**	⇓P	**P**	**19 52 38.0**	**+3.3**
SNY				AMB	AMB		
	comp=Z,50nm,1.1s,mb5.4						
SNY				LR	LR		
	comp=N,2μm,14.7s						
SNY				LR	LR		
	comp=Z,700nm,14.7s						
LZH	**Lanzhou**	**36.07**	**330**	⇓P	**P**	**19 52 37.3**	**+1.3**
LZH				AP	pP	19 52 57.0	+0.9
LZH				PP	PP	19 54 01.3	+0.9
LZH				S	**S**	**19 58 09.1**	**+0.8**
LZH				SS	SS	20 00 36.1	+0.4
LZH				AMB	AMB		
	comp=Z,57nm,1.6s,mb5.2						
LZH				AMB	AMB		
	comp=Z,331nm,8.0s						
LZH				LR	LR		
	comp=E,801nm,13.2s						
LZH				LR	LR		
	comp=Z,921nm,14.2s						
LZH	**Lanzhou**	**36.07**	**330**	⇓P	**P**	**19 52 37.2**	**+1.2**
	comp=Z,57nm,1.6s,mb5.2						
LZH				pP	pP	19 52 57.0	+0.9
LZH				sP	sP	19 53 07.1	+0.8
LZH				PP	PP	19 54 01.2	+0.8
LZH				S	**S**	**19 58 09.1**	**+0.8**
LZH				sS		19 58 42.6	
LZH				SS	SS	20 00 36.1	+0.4
LZH				LR	LR		
	comp=Z,920nm,14.2s						
FORT	**Forrest**	**36.45**	**176**	⇓*i*P	**P**	**19 52 40.2**	**+0.9**
	comp=Z,336nm,0.6s						
SHL	**Shillong**	**37.61**	**305**	⇑*i*P	**P**	**19 52 50.0**	**+1.0**
SHL				*e*S	**S**	**19 58 31.0**	**-0.9**
CN2	**Changchun**	**37.85**	**0**	*e*P	**P**	**19 52 53.3**	**+2.5**
CN2				PPP	PPP	19 54 50.4	+5.8
CN2				PCP	PcP	19 55 05.8	-0.4
CN2				*e*S	**S**	**19 58 37.4**	**+2.1**
KLBR	**Kellerberrin**	**37.89**	**191**	⇑*i*P	**P**	**19 52 52.0**	**+0.8**
	comp=Z,18nm,0.3s,mb5.4						
MUN	**Mundaring**	**38.57**	**193**	*e*P	**P**	**19 52 58.0**	**+1.1**
	comp=Z,24nm,0.5s,mb5.3						
MDJ	**Mudanjiang**	**38.84**	**5**	P	**P**	**19 52 58.9**	**-0.1**
MDJ				AP	pP	19 53 20.9	+1.6
MDJ				XP	sP	19 53 32.0	+2.8
MDJ				PP	PP	19 54 29.3	-3.6
MDJ				S	**S**	**19 58 48.3**	**-2.0**
MDJ				AMB	AMB		
	comp=Z,18nm,0.9s,mb4.9						
MDJ				AMB	AMB		
	comp=Z,335nm,9.4s						
MDJ				LR	LR		
	comp=N,734nm,13.4s						
MDJ				LR	LR		
	comp=Z,1μm,14.3s						
MDJ	**Mudanjiang**	**38.84**	**5**	*e*P	**P**	**19 52 58.7**	**-0.3**
	comp=Z,18nm,0.9s,mb4.9						
NWAO	**Narrogin (SRO)**	**39.28**	**191**	P	**P**	**19 53 03.0**	**+0.2**
	comp=Z,30nm,0.5s,mb5.4,baz=18,slow=8.3,SNR=84						
NWAO				ScP		19 58 48.4	
	comp=Z,20nm,1.0s,baz=29,slow=8.8,SNR=3.5						
NWAO	**Narrogin (SRO)**	**39.28**	**191**	*e*P	**P**	**19 53 03.6**	**+0.7**
	comp=Z,24nm,0.5s,mb5.3						
LSA	**Lhasa**	**40.10**	**310**	P	**P**	**19 53 11.0**	**+1.4**

STKA	Stephens Creek	40.51	159⇓	iP	P	19 53 14.8	+1.8
	comp=Z,99nm,0.7s,mb5.8						
STKA				eS	S	19 59 12.4	-3.0
STKA	Stephens Creek	40.51	159	P	P	19 53 14.1	+1.1
	comp=Z,129nm,0.7s,mb5.9,baz=334,slow=8.0,SNR=279						
STKA				PP	PP	19 54 44.7	-6.3
	comp=Z,45nm,0.8s,baz=307,slow=13,SNR=4.0						
STKA				ScP		19 58 53.5	
	comp=Z,6.8nm,0.8s,baz=2.0,slow=6.7,SNR=3.0						
STKA				S	S	19 59 14.1	-1.3
	comp=Z,31nm,1.2s,baz=123,slow=18,SNR=7.5						
GTA	Gaotai	40.66	329	eP	P	19 53 13.8	-0.3
GTA				PCP	PcP	19 55 13.8	-1.3
GTA				S	S	19 59 10.1	-7.5
GTA				AMB	AMB		
	comp=Z,158nm,5.7s						
GTA				LR	LR		
	comp=N,414nm,19.0s						
GTA				LR	LR		
	comp=E,435nm,19.8s						
GTA				LR	LR		
	comp=Z,460nm,13.7s						
ASAJ	Asahikawa	41.04	19	P	P	19 53 17.1	-0.1
	comp=Z,10nm,0.5s,mb5.0,baz=249,slow=18,SNR=11						
ADE	Adelaide	42.44	164⇓	iP	P	19 53 31.5	+2.7
HIA	Hailar	43.59	355	eP	P	19 53 36.8	-1.2
	comp=Z,6.0nm,0.7s,mb4.4						
KLR	Kul'dur	43.62	6	eP	P	19 53 36.7	-1.5
YSS	Yuzh-Sakhalins	43.64	17	P	P	19 53 40.8	+2.3
YSS				e	pP	19 53 59.8	+0.9
YSS	Yuzh-Sakhalins	43.64	17	P	P	19 53 38.1	-0.4
YSS				epP	pP	19 54 01.3	+2.4
PKI	Pulchoki	43.72	304	eP	P	19 53 39.2	-0.2
	comp=Z,189nm,1.3s,mb5.7						
KKN	Kakani	43.91	305	eP	P	19 53 40.7	-0.2
	comp=Z,159nm,1.1s,mb5.6						
DMN	Daman	43.98	304	eP	P	19 53 41.5	0.0
	comp=Z,238nm,1.5s,mb5.7						
GKN	Gorkha	44.52	305	eP	P	19 53 45.4	-0.4
	comp=Z,134nm,1.2s,mb5.5						
BLSP	Bilaspur	44.83	296	eP	P	19 53 48.4	0.0
KGD	Kothagudem	45.25	289	eP	P	19 53 48.9	-2.8
KGD				epP	pP	19 54 08.3	-3.8
KGD				ePcP	PcP	19 55 28.9	-1.9
KGD				eScP		19 59 13.0	
KGD				eS	S	20 00 21.4	-3.4
KGD				eSS	SS	20 03 47.4	+7.0
KOLN	Koldanda	45.28	304	eP	P	19 53 52.0	+0.1
	comp=Z,67nm,0.4s,mb5.7						
CUD	Cuddapah	46.64	284⇑	eP	P	19 54 03.6	+0.9
CUD				e	pP	19 54 27.5	+4.1
CUD				eS	S	20 00 38.7	-6.0
CNB	Canberra Magne	46.69	153	eP	P	19 54 05.2	+2.3
	comp=Z,106nm,1.0s,mb5.5						
HYB	Hyderabad	47.21	288⇑	iP	P	19 54 07.5	+0.3
	comp=Z,200nm,1.0s,mb5.8						
HYB				e	pP	19 54 27.5	-0.3
HYB	Hyderabad	47.21	288⇑	eP	P	19 54 07.5	+0.3
	comp=Z,200nm,1.0s,mb5.8						
ZAK	Zakamensk	48.16	341	eP	P	19 54 15.2	+1.1
ZAK				e		19 55 38.1	
NOUC	Port Laguerre	48.70	126	eP	P	19 54 19.8	+1.1
LATR	Latur	49.23	289	eP	P	19 54 23.6	+0.8
BHPL	Bhopal	49.32	296	eP	P	19 54 24.6	+1.1
BHPL				e		19 54 25.1	
	comp=Z,156nm,1.4s						
MOY	Mondy	50.01	340	eP	P	19 54 36.5	+8.1
WMQ	Urumqi	50.29	325	P	P	19 54 29.0	-1.7
WMQ				PP	PP	19 56 26.0	-1.5
WMQ				AMB	AMB		
	comp=Z,15nm,1.2s,mb4.8						
WMQ				LR	LR		
	comp=N,471nm,19.2s						
WMQ				LR	LR		
	comp=E,321nm,20.6s						
WMQ				LR	LR		
	comp=Z,405nm,22.0s						
NDI	New Delhi	50.91	302	i P	P	19 54 34.0	-1.5
KAD	Karad	51.33	287	eP	P	19 54 38.2	-0.6
KAD				e		19 54 40.0	
	comp=Z,195nm,1.1s						
POO	Poona	51.79	289	i P	P	19 54 41.0	-1.3
BHK	Bhakra	52.40	305	eP	P	19 54 48.1	+1.4
BOD	Bodaibo	52.65	352	eP	P	19 54 44.6	-3.6
PET	Petropavlovsk	54.37	24	eP	P	19 54 59.4	-1.5
PET				pmax	pmax		
	comp=Z,40nm,1.5s,mb5.2						
MKAR	Makanchi Array	55.12	325	P	P	19 55 04.3	-2.2
	comp=Z,14nm,0.5s,mb5.2,baz=119,slow=7.2,SNR=95						
MKAR				ScP		19 59 52.4	
	comp=Z,2.4nm,0.7s,baz=124,slow=4.4,SNR=3.6						
MKAR	Makanchi Array	55.12	325	i P	P	19 55 04.8	-1.7
MKAR				pmax	pmax		
	comp=Z,8.0nm,0.6s						
MKAR	Makanchi Array	55.12	325	P	P	19 55 04.3	-2.2
MKAR				ScP		19 59 52.4	
NIL	Nilore	55.64	307	P	P	19 55 10.2	-0.2
	comp=Z,329nm,0.8s,SNR=15						
KSH	Kashi	55.67	315	eP	P	19 55 11.5	+1.0
KSH				ePCP	PcP	19 56 10.4	+1.6
KSH				ePP	PP	19 57 17.6	+0.6
KSH				ePCS		20 00 09.6	
KSH				eS	S	20 02 48.6	+0.3
KSH				ePS	PS	20 03 11.5	-1.8
KSH				eSCS	ScS	20 04 49.8	+2.0
KSH				eSS	SS	20 06 33.5	-1.1
KSH				AMB	AMB		
	comp=Z,300nm,4.0s						
KSH				LR	LR		
	comp=N,430nm,14.3s						
KSH				LR	LR		
	comp=E,330nm,9.2s						
YAK	Yakutsk	56.20	2c	iP	P	19 55 12.6	-1.5
YAK				i *PP	pP	19 55 32.8	-2.5
YAK				pmax	pmax		
	comp=Z,55nm,0.9s,mb5.6						
YAK	Yakutsk	56.20	2	eP	P	19 55 12.8	-1.3
	comp=Z,57nm,0.9s,mb5.6						
BHJ	Bhuj	56.34	294	eP	P	19 55 15.5	-0.1
BHJ				e		19 55 17.1	
	comp=Z,284nm,1.3s						
MA2	Magadan	57.05	15	eP	P	19 55 18.7	-1.4
MA2				e*SP	sP	19 55 40.0	-11
MA2				e		19 57 20.0	
MA2				eS	S	20 03 04.5	-1.8
MA2				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.7						
KBK	Karagaybulak	57.66	318	P	P	19 55 24.6	0.0
	SNR=10						
UCH	Uchtor	57.78	317	P	P	19 55 26.2	+0.7
	SNR=30						
CHMS	Chumysh	57.94	318	P	P	19 55 25.6	-0.9
	SNR=8.7						
AAK	Ala-Archa	57.96	317	P	P	19 55 26.2	-0.5
	SNR=8.7						
AAK	Ala-Archa	57.96	317	eP	P	19 55 24.2	-2.5
AAK	Ala-Archa	57.96	317	eP	P	19 55 25.2	-1.5
	comp=Z,23nm,1.1s,mb5.1						
USP	Ospenovka	58.22	318	P	P	19 55 27.3	-1.2
	SNR=18						
AML	Almayashu	58.30	317	P	P	19 55 29.4	+0.4
	SNR=17						
EKS2	Erkin-Say	58.45	317	P	P	19 55 29.7	-0.4
	SNR=11						
KURK	Kurchatov	59.31	327	P	P	19 55 33.9	-2.0
	comp=Z,294nm,0.8s,mb6.4,SNR=49						
KURK	Kurchatov	59.31	327	P	P	19 55 33.3	-2.6
KURK				pmax	pmax		
	comp=Z,101nm,2.1s,mb5.5						
KURK	Kurchatov	59.31	327	eP	P	19 55 33.5	-2.4
NVS	Novosibirsk	59.45	333	eP	P	19 55 33.5	-3.3
NVS				pmax	pmax		
	comp=E,25nm,1.8s						
NVS				pmax	pmax		
	comp=Z,26nm,1.8s,mb5.0						
SEY	Seymchan	60.34	14	eP	P	19 55 43.4	+0.6
SEY				e	pP	19 56 04.2	-0.2
SEY				e		20 03 45.1	
SEY				pmax	pmax		
	comp=E,20nm,1.4s						
SEY				pmax	pmax		
	comp=Z,70nm,1.4s,mb5.5						
SEY				pmax	pmax		
	comp=N,30nm,1.3s						
FX1	Attu Island--F	60.98	31	eP	P	19 55 47.2	-0.1
RPZ	Rata Peaks	64.19	145	P	P	19 56 08.3	-0.5
	comp=N,36nm,0.7s,mb5.3,baz=315,slow=2.9,SNR=19						
RPZ				LR	LR	20 24 41.5	
	comp=N,505nm,18.6s,baz=312,slow=36						
VOSK	Vostochnaya	64.43	327	P	P	19 56 07.5	-2.7
VOSK				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.7						
BVA0	Borovoye Array	64.89	327	i P	P	19 56 10.7	-2.4
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.9s						
BVAR	Borovoye Array	64.89	327	P	P	19 56 10.8	-2.3
	comp=Z,18nm,0.9s,mb4.9,baz=127,slow=7.4,SNR=29						
BVAR				pP	pP	19 56 31.6	-3.3
	comp=Z,8.3nm,0.9s,baz=130,slow=11,SNR=2.6						
URZ	Urewera	64.94	137	P	P	19 56 13.3	-0.5
	comp=Z,13nm,0.7s,mb4.9,baz=95,slow=2.0,SNR=5.6						
BRVK	Borovoye	64.96	327	eP	P	19 56 11.1	-2.5
	comp=Z,38nm,1.1s,mb5.1						
ZRNK	Zerenda	65.61	326	P	P	19 56 15.3	-2.5
ZRNK				pmax	pmax		
	comp=Z,24nm,1.1s,mb4.9						
ZRNK	Zerenda	65.61	326	eP	P	19 56 15.5	-2.3
TIXI	Tiksi	65.81	1	eP	P	19 56 16.8	-2.0
TIXI				e		19 56 47.2	
TIXI				pmax	pmax		
	comp=Z,24nm,1.7s,mb4.8						
UNV	Unalaska Valle	72.49	35	eP	P	19 57 00.8	+0.8
ARU	Arti	72.50	328⇑	iP	P	19 56 57.8	-2.2
ARU				i	pP	19 57 18.2	-4.0
ARU				i		19 59 34.0	
ARU				eS	S	20 06 15.3	-0.8
ARU				i		20 06 59.1	
ARU				eSS	SS	20 10 48.7	-10
ARU				eSSS	SSS	20 14 05.6	-3.2
ARU				pmax	pmax		
	comp=Z,26nm,0.9s,mb5.1						
ARU	Arti	72.50	328	eP	P	19 56 57.5	-2.4
	comp=Z,25nm,0.9s,mb5.0						
CASY	Casey	72.70	186⇑	iP	P	19 57 01.7	+0.8
QRN	Al-Qurain	76.28	298	eP	P	19 57 21.6	-0.8
QRN				AMb	AMB	19 57 22.6	
	comp=Z,114nm,0.9s,mb5.6						
UMR	Umm Al-Rimmam	76.47	299	eP	P	19 57 22.0	-1.4
UMR				AMb	AMB	19 57 24.6	
	comp=Z,88nm,0.9s,mb5.5						
KBD	Kabd	76.48	298	eP	P	19 57 22.0	-1.5
RDF	Al-Radifah	76.61	298	eP	P	19 57 22.8	-1.3
MIB	Mutribah	76.80	299	eP	P	19 57 23.4	-1.9
MIB				AMb	AMB	19 57 24.9	
	comp=Z,146nm,0.8s,mb5.8						
RST	Umm Al-Ruwaisa	77.10	299	eP	P	19 57 25.1	-1.8
RST				AMb	AMB	19 57 28.0	
	comp=Z,120nm,1.3s,mb5.5						
MZLS	Mizel	78.73	293	P	P	19 57 34.8	-1.1
KAMS	Al Khamasin	79.43	290	P	P	19 57 38.5	-1.4
ARSS	Ar Rass	80.47	295	P	P	19 57 44.6	-0.7
TATS	Tathlith	80.50	289	P	P	19 57 45.1	-0.5
DJNS	Zahran al Janu	80.54	287	P	P	19 57 45.8	0.0
GOF	Gofitskoye	80.55	315⇑	iP	P	19 57 44.0	-1.3
GOF				pmax	pmax		
	comp=Z,37nm,1.6s,mb5.0						
AFFS	'Afif	80.75	293	P	P	19 57 46.2	-0.6
KDAK	Kodiak Island	80.86	33	eP	P	19 57 48.0	+1.3
	comp=Z,77nm,1.4s,mb5.3						
RSO	Redoubt South	80.96	30	eP	P	19 57 48.1	+1.0
IMA	Indian Mountai	81.04	24	eP	P	19 57 49.5	+2.0
	comp=Z,6.3nm,0.9s,mb4.5						
SPU	Mount Spurr	81.35	29	eP	P	19 57 50.1	+0.9
HILS	Ha'il	81.71	297	P	P	19 57 51.7	-0.1
ERZM	Erzurum	81.75	309	P	P	19 57 52.4	+0.7
BEST	Besiri	81.86	307	P	P	19 57 52.1	-0.2
FRSS	Farasan al Kab	81.96	286	P	P	19 57 54.1	+0.9
SLKM	Skilak Lake	82.21	30	eP	P	19 57 54.4	+0.7
BLJS	Baljurashi	82.25	289	P	P	19 57 55.0	+0.3
PMR	Palmer	82.77	29	eP	P	19 57 57.5	+0.9
	comp=Z,29nm,1.1s,mb5.0						
MCK	McKinley	82.91	27	eP	P	19 57 57.3	+0.1
	comp=Z,11nm,0.9s,mb4.7						
SOC	Sochi	82.93	313	eP	P	19 57 55.1	-2.6
SOC				eS	S	20 08 03.8	-4.2
SOC				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.8						
SOC				pmax	pmax		
	comp=N,6.0nm,0.7s						
SOC				pmax	pmax		
	comp=E,8.0nm,0.9s						
SOC				MLR	MLR		
	comp=Z,170nm,16.0s						
SOC				MLR	MLR		
	comp=N,239nm,20.0s						
SOC				MLR	MLR		
	comp=E,196nm,22.0s						
SML	Sawmill	83.16	29	eP	P	19 57 58.9	+0.4
LTHS	Al Lith	83.34	290	P	P	19 58 00.7	+0.4
KELT	Kelkit	83.37	310	P	P	19 58 00.5	+0.6
COLA	College	83.40	25	eP	P	19 57 58.3	-1.3
COLA	College	83.40	25	eP	P	19 58 00.6	+0.9
	comp=E,11nm,1.0s,mb4.6						
COLA				epP	pP	19 58 21.7	-0.7
ELZG	Elazig	83.64	308	P	P	19 58 01.3	-0.2
ILAR	Eielson Array	83.82	26	P	P	19 58 01.1	-0.6
	comp=E,4.7nm,1.1s,mb4.2,baz=317,slow=4.4,SNR=5.6						
ILAR				pP	pP	19 58 22.0	-2.4
	comp=E,10nm,0.9s,baz=266,slow=5.9,SNR=10						
MALT	Malatya	84.08	308	eP	P	19 58 03.6	-0.1
	comp=E,13nm,0.9s,mb4.8						
DIV	Divide	84.39	29	eP	P	19 58 06.1	+1.4
	comp=E,65nm,1.3s,mb5.3						
EYAK	Cordova Ski Ar	84.42	30	eP	P	19 58 07.6	+2.8
EYAK				epP	pP	19 58 28.2	+0.7
ANN	Anapa	84.53	314d	iP	P	19 58 03.4	-2.3
ANN				e*PP	pP	19 58 26.7	-1.8
ANN				eS	S	20 08 18.0	-5.9
ANN				pmax	pmax		
	comp=Z,74nm,1.0s,mb5.6						
OBN	Obninsk	84.63	325	eP	P	19 58 03.9	-2.1
OBN				pmax	pmax		
	comp=Z,54nm,1.4s,mb5.3						
OBN	Obninsk	84.63	325	eP	P	19 58 04.1	-1.8
	comp=Z,138nm,1.8s,mb5.6						
GZT	Gaziantep	84.82	307	P	P	19 58 07.3	0.0
SVST	Sivas	85.15	309	P	P	19 58 09.9	+0.9
MAW	Mawson	85.23	200⇑	iP	P	19 58 09.3	+0.6
	comp=Z,20nm,0.7s,mb5.2						
MAW	Mawson	85.23	200	P	P	19 58 09.0	+0.3
	comp=Z,22nm,0.7s,mb5.2,baz=73,slow=6.0,SNR=86						
MAW				LR	LR	20 35 32.5	
	comp=Z,128nm,18.3s,baz=211,slow=35						
QURS	Qurayyt al Mil	85.39	301	P	P	19 58 10.8	+0.5
ASF	Jabal al Asfar	85.70	302	P	P	19 58 12.0	+0.1
	comp=Z,42nm,1.1s,mb5.3,baz=324,slow=1.2,SNR=31						
ASF				pP	pP	19 58 34.0	-0.7
	comp=Z,29nm,1.1s,baz=326,slow=1.1,SNR=7.8						
UMJS	Umm Lajj	85.85	295	P	P	19 58 13.1	+0.4
COBT	Iskenderun	85.92	306	P	P	19 58 12.2	-0.5
TBKS	Tabuk	86.30	298	P	P	19 58 15.0	+0.1
SBA	Scott Base	86.55	172	eP	P	19 58 17.8	+2.8
	comp=Z,6.8nm,1.1s,mb4.5						
SBA				epP	pP	19 58 43.2	+5.4
KSHT	Keshet	86.55	303	P	P	19 58 16.3	+0.3
BOYT	Boyabat	86.59	311	P	P	19 58 15.6	-0.4
HRI	Mount Hermon	86.59	303	P	P	19 58 15.7	-0.5
GLH	Golan-Tel Qazi	86.71	302	P	P	19 58 17.2	+0.4
CTKT	Corum	86.74	310	P	P	19 58 16.6	-0.1
JMQS	Jabal Moqyreh	86.83	299	P	P	19 58 17.3	-0.2
AVNT	Avonos	86.85	308	P	P	19 58 15.7	-1.6
HMDT	Nahal Hemdat	86.85	302	P	P	19 58 17.6	+0.1
SIM	Simferopol'	86.87	315	P	P	19 58 17.9	+0.7
MMLI	Mount Malkishu	86.92	302	P	P	19 58 18.3	+0.5
DAWY	Dawson	87.11	26	eP	P	19 58 18.7	+0.8
DAWY				epP	pP	19 58 42.2	+1.4
SLTI	Sal'it	87.26	302	P	P	19 58 19.5	0.0
ZFRI	Zfri	87.30	300	P	P	19 58 19.6	-0.1
AYUS	'Aynunah	87.43	298	P	P	19 58 20.1	-0.2
PRNI	Paran	87.46	300	P	P	19 58 20.7	+0.2
JMOS	Jabal al Moall	87.48	299	P	P	19 58 20.6	+0.1
AQBJ	Aqaba	87.48	299	P	P	19 58 20.6	0.0
ALWS	Ilw as Safayha	87.50	299	P	P	19 58 21.0	+0.3
BDAS	Al Bad'	87.55	298	P	P	19 58 20.6	-0.3
EIL	Elat	87.57	299	P	P	19 58 21.0	0.0
EIL	Elat	87.57	299	P	P	19 58 20.2	-0.8
	comp=Z,21nm,1.1s,mb5.1,baz=30,slow=5.2,SNR=9.7						
HAQS	Haql	87.64	299	P	P	19 58 21.6	+0.2
BRTR	Keskin Array B	87.70	310	P	P	19 58 19.4	-2.0
	comp=Z,7.1nm,0.9s,mb4.7,baz=117,slow=2.8,SNR=25						
BRTR				pP	pP	19 58 41.9	-2.5
	comp=Z,4.6nm,0.9s,baz=90,slow=1.2,SNR=4.2						
KMTI	Karmit	87.73	300	P	P	19 58 21.6	-0.1
TAYS	Tayyib Ism	87.74	298	P	P	19 58 21.5	-0.4
ARCES	ARCESS Array B	88.07	340	P	P	19 58 20.7	-1.7
	comp=Z,10nm,1.0s,mb4.8,baz=82,slow=6.4,SNR=12						
KMBO	Kilima Mbogo	88.28	269	P	P	19 58 24.8	0.0
	comp=Z,20nm,1.0s,mb5.1,baz=46,slow=6.4,SNR=35						
KMBO	Kilima Mbogo	88.28	269	eP	P	19 58 24.7	0.0
	comp=Z,32nm,1.1s,mb5.3						
KMBO				epP	pP	19 58 49.1	+1.4
INK	Inuvik	88.73	21	eP	P	19 58 25.5	-0.1
	comp=Z,6.8nm,1.1s,mb4.6						
INK				epP	pP	19 58 47.5	-1.1
KAF	Kangasniemi	89.17	332	ep	P	19 58 25.6	-2.2
	comp=Z,6.2nm,0.7s,mb4.8,baz=75,slow=4.3						
KAF	Kangasniemi	89.17	332	eP	P	19 58 25.6	-2.2
KAF				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
FINES	FINESS Array B	89.41	332	P	P	19 58 27.1	-1.8
	comp=Z,4.8nm,0.7s,mb4.6,baz=73,slow=4.9,SNR=22						
FINES	FINESS Array B	89.41	332	i P	P	19 58 27.1	-1.8
FINES				pmax	pmax		
	comp=Z,5.0nm,0.7s						
AKASG	Malin Array Be	89.47	321	P	P	19 58 27.2	-2.2
	comp=Z,5.3nm,0.8s,mb4.6,baz=70,slow=4.2,SNR=20						
AKASG				pP	pP	19 58 49.5	-3.0
	comp=Z,8.1nm,1.1s,baz=68,slow=4.5,SNR=4.0						
AKASG				LR	LR	20 43 39.5	
	comp=Z,170nm,21.5s,baz=70,slow=39						
ESKT	Eskisehir	89.87	310	P	P	19 58 29.1	-2.5
ULDT	Uludag	91.09	310	P	P	19 58 35.2	-2.2
MANT	Manisa	91.78	309	P	P	19 58 39.4	-1.2
SUW	Suwalki	92.49	325	eP	P	19 58 42.0	-1.4
	comp=Z,41nm,0.8s,mb5.7						
KWP	Kalwaria	93.79	321	P	P	19 58 48.7	-0.8
	comp=Z,6.7nm,0.6s,mb5.2						
SYO	Syowa Base	93.87	201	⇓P	P	19 58 49.5	+0.2
SYO	Syowa Base	93.87	201	⇓pP	pP	19 59 13.7	+1.2
HFS	Hagfors	95.59	332	P	P	19 58 54.8	-2.6
	comp=Z,3.1nm,0.7s,mb4.9,baz=117,slow=3.3,SNR=8.4						
QSPA	South Pole Qui	95.69	180	eP	P	19 58 59.2	+1.8
	comp=Z,12nm,1.0s,mb5.3						
NB2	NORSAR Subarra	96.37	333	P	P	19 58 58.2	-2.7
	comp=Z,1.9nm,0.7s,mb4.6,baz=66,slow=4.5						
NOA	NORSAR Array B	96.37	333	P	P	19 58 58.3	-2.6
	comp=Z,3.2nm,0.8s,mb4.8,baz=68,slow=4.4,SNR=6.8						
NOA				pP	pP	19 59 21.8	-2.3
	comp=Z,1.8nm,0.8s,baz=66,slow=4.5,SNR=2.6						
NOA	NORSAR Array B	96.37	333	P	P	19 58 58.3	-2.6
NOA				pP	pP	19 59 21.8	-2.3
KSP	Ksiaz	97.42	323	eP	P	19 59 06.8	+0.9
KSP				e*PP	pP	19 59 28.4	-0.7
DPC	Dobruska-Polom	97.56	322	ePDIF	pP	19 59 29.1	-0.6
YKA	Yellowknife Ar	98.17	24	pP	pP	19 59 30.8	-1.3
	comp=Z,2.4nm,0.8s,baz=296,slow=4.8,SNR=3.7						
LSZ	Lusaka	98.45	255	eP	P	19 59 09.6	-1.9
BRG	Berggiesshubel	98.81	323	eP	P	19 59 11.2	-1.0
BRG				e	pP	19 59 34.8	-0.6
BRG				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb5.1						
BRG	Berggiesshubel	98.81	323	eP	P	19 59 11.2	-1.0
	comp=Z,8.1nm,1.2s,mb5.1						
BRG				e	pP	19 59 34.8	-0.6
CLL	Collm	99.21	324	e*PP	pP	19 59 36.0	-1.2
KHC	Kasperske Hory	99.64	322	ePDIF	P	19 59 21.6	+5.5
GERES	GERESS Array B	99.66	321	P	P	19 59 14.1	-2.1
	comp=Z,1.4nm,0.9s,mb4.6,baz=76,slow=5.5,SNR=9.0						
NVAR	Mina Array Bea	106.50	47	PKKPbc		20 15 17.5	
	comp=Z,1.5nm,0.8s,baz=136,slow=5.6,SNR=8.6						
NVAR				PKKPab		20 15 33.3	
	comp=Z,1.0nm,0.8s,baz=173,slow=3.8,SNR=5.4						
SNAA	Sanae	106.86	195⇑	i	PP	20 04 21.5	+4.0
VNA2	Neumayer--Watz	108.48	195		PP	20 04 23.8	-5.6
VNA3	Neumayer Olymp	108.83	194⇓	i		20 04 00.9	
VNA3	Neumayer Olymp	108.83	194⇑	i	PP	20 04 24.0	-8.3
VNA3	Neumayer Olymp	108.83	194⇑	i	PP	20 04 24.7	-7.6
PDAR	Pinedale Array	110.65	40	PKKPab		20 15 13.8	
	comp=Z,3.8nm,1.0s,baz=111,slow=5.3,SNR=7.7						
TXAR	Lajitas Array	121.34	51	PKP	PKPdf	20 04 26.5	+1.8
	comp=Z,1.3nm,0.9s,baz=270,slow=2.5,SNR=4.4						
TXAR				pPKP		20 04 47.6	
	comp=Z,0.9nm,0.4s,baz=202,slow=4.9,SNR=2.8						
TXAR				PKKPbc		20 14 27.1	
	comp=Z,1.1nm,0.8s,baz=143,slow=4.5,SNR=3.5						
SADO	Sadowa	125.05	21	PKP	PKPdf	20 04 32.5	+1.0
	comp=Z,3.7nm,0.7s,baz=322,slow=3.8,SNR=3.3						
SADO	Sadowa	125.05	21	PKP	PKPdf	20 04 32.5	+1.0
KIC	Kosan Boka	128.81	283	eP	PKPdf	20 04 39.5	-0.1
	comp=Z,70nm,0.8s						
DBIC	Dimbokro	128.85	283	PKP	PKPdf	20 04 40.0	+0.3
	comp=Z,13nm,0.8s,baz=83,slow=1.3,SNR=15						
DBIC	Dimbokro	128.85	283	ePKPdf	PKPdf	20 04 40.6	+1.0
TIC	Toumodi	129.01	283	eP	PKPdf	20 04 40.1	+0.1
	comp=Z,13nm,0.2s						
LIC	Lamto	129.11	283	eP	PKPdf	20 04 41.0	+0.9
	comp=Z,50nm,0.9s						
PLCA	Paso Flores	142.38	160	PKP	PKPdf	20 05 04.1	+0.2
	comp=Z,3.7nm,0.8s,baz=221,slow=0.8,SNR=9.2						
PLCA	Paso Flores	142.38	160	PKP	PKPdf	20 05 04.1	+0.2
JTS	JuntasAbangare	145.79	62	PKPbc	PKPbc	20 05 13.1	+1.7
	comp=Z,6.4nm,0.6s,baz=330,slow=19,SNR=4.8						
JTS				pPKPbc		20 05 33.1	
	comp=Z,13nm,0.8s,baz=304,slow=4.9,SNR=4.6						
JTS	JuntasAbangare	145.79	62	ePKPdf	PKPdf	20 05 12.7	+2.3
TRQA	Tornquist	147.19	169	ePKPbc	PKPdf	20 05 16.3	+4.1
SDV	Santo Domingo	158.35	48	ePKPbc	PKPdf	20 05 30.5	+1.7
CPUP	Villa Florida	159.41	173	PKP	PKPdf	20 05 29.9	+0.2
	comp=Z,5.9nm,1.1s,baz=53,slow=6.6,SNR=4.8						
CPUP				PKPab	PKPab	20 06 10.2	0.0
	comp=Z,4.2nm,0.8s,baz=250,slow=2.3,SNR=5.9						
LPAZ	La Paz	163.12	129	PKP	PKPdf	20 05 36.6	+2.9
	comp=Z,2.0nm,0.3s,baz=170,slow=0.4,SNR=8.4						
BDFB	Brasilia	168.28	213	PKP	PKPdf	20 05 39.5	+1.6
	comp=Z,13nm,1.0s,baz=348,slow=1.9,SNR=8.0						
BDFB				PKPab	PKPab	20 06 47.9	-1.1
	comp=Z,4.8nm,0.9s,baz=196,slow=4.4,SNR=8.7						

SVSA 15 19:51:55.6±0.9, 39.81N×29.43W, h5km, MD3.6, ML3.0, Error ellipse: s-maj=9.1km s-min=5.0km az=90.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCED	Cedros	1.30	154	eP	Pb	19 52 16.0	-4.2
PCED				eS	Sb	19 52 30.2	-6.9
STGR	Santa Cruz	1.32	123	eP	Pb	19 52 15.6	-4.9
STGR				eS	Sb	19 52 30.8	-6.7
	56nm,0.3s						
CALA	Caldeira	1.34	155	eP	Pb	19 52 16.3	-4.6
CALA				eS	Sb	19 52 32.1	-6.2
PGRA	Graciosa	1.36	124	eP	Pb	19 52 15.7	-5.5
PGRA				eS	Sb	19 52 32.2	-6.6
	71nm,0.4s						
ROSA	Rosais	1.42	139	eP	Pn	19 52 17.0	-5.2
PICO	Pico	1.52	149	eP	Pn	19 52 18.4	-5.1
PICO				eS	Sb	19 52 36.0	-7.3
TOPO	Topo	1.69	136	e-		19 52 19.4	
PID	Ribeirinha	1.70	143	e-		19 52 19.9	
PSBA	Serra de Santa	1.93	122	eP	Pn	19 52 24.2	-5.3
ASBA	Santa Barbara	1.96	123	eP	Pn	19 52 25.0	-4.8
PBIS	Biscoitos	1.98	121	eP	Pn	19 52 25.2	-5.0
PPAD	Pico dos Padre	1.99	123	eP	Pn	19 52 25.3	-5.0
PVNV	Vila Nova	2.05	120	eP	Pn	19 52 26.2	-4.9
ADH	Angra Heroismo	2.05	123	eP	Pn	19 52 26.2	-5.0
RIB2	Ribeirinha	2.08	122	eP	Pn	19 52 26.5	-5.1
PFAV	Pico das Favas	2.12	120	eP	Pn	19 52 27.3	-4.9

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*SYO **15** 19:59:58.9, 43.90N×151.51E, h13km, MB5.0, MS4.0*

*SKHL **15** 20:00:00.9±2.1, 44.10N×151.50E, h37km±3km, mb4.9/6, ms4.6/4, msh5.2/1*

*IDC **15** 20:00:01.4±7.0, 44.01N×151.59E, h27km±47km, mb4.6/27, mb1 4.7/30, mb1mx4.7/33, ML4.0/3, MS4.1/6, Ms1 4.1/6, ms1mx3.7/28, Error ellipse: s-maj=14.2km s-min=10.3km az=134.0*

*NEIC **15** 20:00:03.5±1.1, 43.99N×151.55E, h43km±10km, mb5.0/92, MS4.6/69, Error ellipse: s-maj=4.3km s-min=2.5km az=163.0*

*HRVD **15** 20:00:03.5±1.0, 43.94N×151.29E, h21km±3km, MW5.1/28, Centroid moment Tensor Solution. LP body waves: s6,c6;*

Mantle waves: s28,c38; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.51±.85; $M_{\theta\theta}$3.64±.64; $M_{\phi\phi}$-1.13±.48; $M_{r\theta}$-0.67±.76; $M_{\theta\phi}$2.43±.28; $M_{\phi r}$3.88±1.12; Best double couple: $M_0$5.51×10^{16} NP1:ϕ_s100°,δ51°,λ-31°. NP2: ϕ_s210°,δ67°,λ-137°. Principal axes: T 4.81, Plg10°, Azm332°; N 1.4, Plg42°, Azm233°; P -6.21, Plg47°, Azm72°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

*MOS **15** 20:00:04.8±1.0, 44.44N×151.29E, h48^{km}, mb5.0/35 Error ellipse: s-maj=11.1km s-min=6.5km az=112.8*

*BJI **15** 20:00:06.8, 44.18N×150.58E, h42^{km}, mB5.1, mb5.0, Ms4.6, Msz4.5*

ISC 15 20:00:00.2±0.2**, 44.00N**±0.04×**151.51E**±0.03**, h29^{km}, h29^{km}**±1.8^{km}**:pP-P, n359, σ0^{s}94**/305**, mb4.9**/126**, MS4.5**/86**, 25C-11D, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUR	**Kuril’sk**	**2.88**	**297**	*i* P	**Pn**	**20 00 42.8**	**-2.4**
KUR				AMB	AMB	20 00 44.5	
	240nm,0.6s						
KUR				AMB	AMB	20 00 44.5	
	300nm,0.6s						
KUR				AMB	AMB	20 00 44.5	
	680nm,0.6s						
KUR				sP		20 00 59.5	
KUR				*e*S	**Sn**	**20 01 17.0**	**-2.3**
KUR				A		20 01 19.0	
	18µm,1.5s						
KUR				A		20 01 19.0	
	9µm,1.5s						
KUR				A		20 01 19.5	
	5µm,0.6s						
KUR				A		20 01 19.5	
	2µm,0.6s						
KUR	**Kuril’sk**	**2.88**	**297**	⇑*i*PN	**Pn**	**20 00 42.8**	**-2.4**
KUR				*e*S	**Sn**	**20 01 17.0**	**-2.3**
KUR				pmax	pmax		
	comp=N,240nm,0.6s						
KUR				pmax	pmax		
	comp=E,300nm,0.6s						
KUR				pmax	pmax		
	comp=Z,680nm,0.6s						
KUR				smax			
	comp=N,18µm,1.5s						
KUR				smax			
	comp=E,9µm,1.5s						
KUR				smax			
	comp=E,2µm,0.6s						
YUK	**Yuzh-Kuril’sk**	**4.07**	**272**	*e*P	**Pn**	**20 00 59.3**	**-2.9**
YUK				*i* S	**Sn**	**20 01 44.0**	**-5.5**
YUK				A		20 01 52.3	
	comp=E,7µm,0.8s						
YUK				A		20 01 52.3	
	comp=E,9µm,0.8s						
ASAJ	**Asahikawa**	**6.42**	**274**	Pn	**Pn**	**20 01 34.5**	**-0.9**
	comp=E,5.1nm,0.3s,baz=80,slow=19,SNR=32						
ASAJ				LR	LR	20 04 16.5	
	comp=E,461nm,21.4s,baz=22,slow=39						
ASAJ	**Asahikawa**	**6.42**	**274**	PN	**Pn**	**20 01 34.5**	**-0.9**
ASAJ				pmax	pmax		
	comp=Z,5.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,461nm,21.4s						
YSS	**Yuzh-Sakhalins**	**6.83**	**299**	⇑*e*P	**Pn**	**20 01 39.0**	**-2.0**
YSS				AMB	AMB	20 01 41.8	
	comp=Z,40nm,0.6s						
YSS				AMB	AMB	20 01 41.8	
	comp=Z,50nm,0.6s						
YSS				sP		20 01 54.0	
YSS				*e*S	**Sn**	**20 02 52.0**	**-6.5**
YSS				A		20 02 58.0	
	comp=Z,90nm,0.7s						
YSS				A		20 02 58.0	
	comp=Z,130nm,0.7s						
YSS				*e*LQ		20 03 40.0	
YSS				AMS	AMS	20 06 15.0	
	comp=Z,2µm,14.0s						
YSS				AMS	AMS	20 06 15.0	
	comp=Z,4µm,15.0s						
YSS				AMS	AMS	20 06 15.0	
	comp=Z,900nm,14.0s						
YSS				AMS	AMS	20 06 15.0	
	comp=Z,3µm,14.0s						
YSS				AMS	AMS	20 06 15.0	
	comp=Z,3µm,14.0s						
YSS	**Yuzh-Sakhalins**	**6.83**	**299**	⇑*e*PN	**Pn**	**20 01 39.0**	**-2.0**
YSS				pmax	pmax		
	comp=N,40nm,0.6s						
YSS				pmax	pmax		
	comp=Z,50nm,0.6s						
YSS				MLR	MLR		
	comp=N,900nm,13.0s						
YSS				MLR	MLR		
	comp=E,3µm,14.0s						
YSS				MLR	MLR		
	comp=Z,3µm,14.0s						
YSS	**Yuzh-Sakhalins**	**6.83**	**299**	*e*P	**Pn**	**20 01 39.5**	**-1.6**
	comp=Z,31nm,0.4s						
SKR	**Severo-Kuril’s**	**7.38**	**23**	*e*P	**Pn**	**20 01 45.5**	**-3.3**
SKR				AMB	AMB	20 01 49.1	
	comp=Z,160nm,1.0s						
SKR				AMB	AMB	20 01 49.1	
	comp=Z,130nm,1.0s						
SKR				AMB	AMB	20 01 49.1	
	comp=Z,220nm,1.0s						
SKR				*e*S	**Sn**	**20 03 02.4**	**-10**
SKR				A		20 03 10.0	
	comp=Z,210nm,0.4s						
SKR				A		20 03 10.0	
	comp=Z,120nm,0.4s						
SKR				A		20 03 10.0	
	comp=Z,50nm,0.4s						
SKR				A		20 03 21.0	
	comp=Z,2µm,10.0s						
SKR				A		20 03 21.0	
	comp=Z,3µm,10.0s						
SKR				AMS	AMS	20 05 12.0	
	comp=Z,3µm,14.0s						
SKR				AMS	AMS	20 05 12.0	
	comp=Z,3µm,14.0s						
SKR				AMS	AMS	20 05 12.0	
	comp=Z,3µm,14.0s						
SKR	**Severo-Kuril’s**	**7.38**	**23**	*e*PN	**Pn**	**20 01 45.5**	**-3.3**
SKR				pmax	pmax		
	comp=N,160nm,1.0s						
SKR				pmax	pmax		
	comp=E,130nm,1.0s						
SKR				pmax	pmax		
	comp=Z,220nm,1.0s						
SKR				MLR	MLR		
	comp=E,3µm,14.0s						
SKR				MLR	MLR		
	comp=Z,3µm,14.0s						
UGL	**Uglegorsk**	**8.25**	**311**	*e*P	**P**	**20 01 58.5**	**-2.5**
UGL				AMB	AMB	20 01 59.5	
	comp=Z,51nm,0.8s						
UGL				*e*S	**Sn**	**20 03 29.0**	**-5.2**
UGL				A		20 03 35.5	
	comp=Z,72nm,0.9s						
UGL				A		20 03 35.5	
	comp=Z,150nm,0.9s						
UGL				*e*L		20 04 08.0	
UGL				AMS	AMS	20 07 20.0	
	comp=Z,3µm,14.0s						
UGL				AMS	AMS	20 07 20.0	
	comp=Z,1µm,14.0s						
UGL				AMS	AMS	20 07 20.0	
	comp=Z,2µm,14.0s						
TYV	**Tymovskoe**	**9.11**	**322**	*e*P	**P**	**20 02 12.9**	**0.0**
TYV				AMB	AMB	20 02 16.0	
	comp=Z,16nm,0.8s						
TYV				*e*S	**Sn**	**20 03 51.0**	**-4.5**
TYV				AMS	AMS	20 08 08.0	
	comp=Z,1µm,14.0s						
TYV				AMS	AMS	20 08 08.0	
	comp=Z,1µm,14.0s						
TYV				AMS	AMS	20 08 08.0	
	comp=Z,3µm,14.0s						
PET	**Petropavlovsk**	**10.19**	**25**	*e*PN	**P**	**20 02 27.6**	**0.0**
PET				MLR	MLR		
	comp=Z,2µm,15.0s						
TEY	**Ternei**	**10.70**	**281**	*e*P	**P**	**20 02 34.0**	**-0.6**
TEY				AMB	AMB	20 02 35.0	
	comp=Z,20nm,0.5s						
MAJO	**Matsushiro**	**12.59**	**238**	*e*P	**P**	**20 02 56.5**	**-3.7**
	comp=Z,16nm,0.7s						
MAT	**Matsushiro**	**12.59**	**238**	P	**P**	**20 02 56.7**	**-3.4**
MAT				S	**S**	**20 05 12.7**	**-7.6**
MAT	**Matsushiro**	**12.59**	**238**	*e*P	**P**	**20 02 57.0**	**-3.1**
	comp=Z,22nm,0.9s						
MAT				*e*S	**S**	**20 05 13.0**	**-7.3**
JHJ	**Hachijo jima 2**	**14.20**	**224**	Sn	**S**	**20 05 42.2**	**-17**
	comp=Z,18nm,0.3s,baz=217,slow=20,SNR=2.7						
KLR	**Kul’dur**	**14.54**	**298**	*e*P	**P**	**20 03 24.7**	**-1.0**
MDJ	**Mudanjiang**	**15.70**	**280**	P	**P**	**20 03 38.3**	**-2.5**
MDJ				AP		20 03 41.4	
MDJ				PP	PP	20 03 51.5	-1.8
MDJ				AMB	AMB		
	comp=Z,28nm,0.7s						
MDJ				AMB	AMB		
	comp=Z,412nm,7.1s						
MDJ				LR	LR		
	comp=N,748nm,15.0s						
MDJ				LR	LR		
	comp=E,645nm,14.0s						
MDJ				LR	LR		
	comp=Z,1µm,13.1s						
MDJ	**Mudanjiang**	**15.70**	**280**	*e*P	**P**	**20 03 37.8**	**-3.1**
	comp=Z,18nm,0.6s						
FX1	**Attu Island--F**	**16.84**	**51**	Pn	**P**	**20 03 54.9**	**-0.4**
	comp=Z,0.8nm,0.3s,baz=75,slow=16,SNR=5.9						
FX1				Sn	**S**	**20 06 44.7**	**-16**
	comp=Z,1.2nm,0.3s,baz=36,slow=21,SNR=3.8						
SMY	**Shemya**	**17.31**	**52**	P	**P**	**20 04 01.1**	**0.0**
ZEA	**Zeya**	**18.61**	**310**	*e*rx	rx	20 03 06.0	
ZEA				*e*P		20 04 14.4	
ZEA				AMB	AMB	20 04 18.9	
	comp=Z,20nm,0.9s						
ZEA				AMB	AMB	20 04 18.9	
	comp=Z,22nm,0.9s						
ZEA				AMB	AMB	20 04 18.9	
	comp=Z,29nm,0.9s						
CN2	**Changchun**	**18.76**	**278**	*e*P	**P**	**20 04 16.3**	**-2.8**
CN2				*e*S	**S**	**20 07 41.8**	**-2.1**
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,700nm,15.0s						
CN2				LR	LR		
	comp=E,700nm,15.0s						
CN2				LR	LR		
	comp=Z,1µm,15.0s						
JNU	**Nakatsue**	**19.40**	**243**	P	**P**	**20 04 26.6**	**0.0**
	comp=Z,0.4nm,0.3s,baz=58,slow=20,SNR=8.6						
CLNS	**Chul’man**	**21.11**	**317**	*e*P	**P**	**20 04 41.9**	**-2.6**
CLNS				*e*		20 05 00.2	
CLNS				*e*PPP	PPP	20 05 09.3	-7.6
CLNS				*e*S	**S**	**20 08 31.6**	**-1.3**
CLNS				*e*		20 08 46.0	
CLNS				*e*SS	SS	20 09 08.5	+2.2
CLNS				*e*		20 16 00.7	
CLNS				pmax	pmax		
	comp=Z,34nm,1.0s,mb4.6						
CLNS				pmax	pmax		
	comp=N,13nm,0.8s						
CLNS				pmax	pmax		
	comp=E,15nm,0.7s						
CLNS				smax			
	comp=N,38nm,1.2s						
CLNS				smax			
	comp=Z,8.0nm,1.0s						
CLNS				smax			
	comp=E,29nm,1.1s						
CLNS				MLR	MLR		
	comp=N,400nm,15.0s						
CLNS				MLR	MLR		
	comp=Z,600nm,15.0s,MS4.1						
CLNS				MLR	MLR		
	comp=E,300nm,24.0s						
YAK	**Yakutsk**	**22.13**	**332**	*d* *i*P	**P**	**20 04 52.0**	**-2.8**
YAK				*e*		20 05 12.3	
YAK				*e*S	**S**	**20 08 49.2**	**-2.7**
YAK				*e*		20 08 54.6	
YAK				*e*SSS	SSS	20 09 27.0	-20
YAK				pmax	pmax		
	comp=Z,18nm,0.7s,mb4.6						
YAK				pmax	pmax		
	comp=N,12nm,1.3s						
YAK				pmax	pmax		
	comp=E,7.0nm,0.9s						
YAK				pmax	pmax		
	comp=Z,14nm,0.7s,mb4.5						
YAK				pmax	pmax		
	comp=N,13nm,0.9s						
YAK				pmax	pmax		
	comp=E,16nm,1.2s						
YAK				smax			
	comp=N,18nm,1.1s						
YAK				smax			
	comp=E,17nm,0.9s						
YAK				MLR	MLR		
	comp=N,104nm,15.0s,MS3.6						
YAK				MLR	MLR		
	comp=E,161nm,15.0s,MS3.6						
YAK				MLR	MLR		
	comp=Z,332nm,15.0s,MS3.9						
YAK	**Yakutsk**	**22.13**	**332**	*e*P	**P**	**20 04 49.4**	**-5.4**
	comp=Z,56nm,0.7s,mb5.1						
YAK				LR	LR		
	comp=Z,487nm,21.0s,MS3.9						
HIA	**Hailar**	**22.34**	**295**	*e*P	**P**	**20 04 53.1**	**-3.8**
	comp=Z,14nm,0.6s,mb4.6						
HIA				LR	LR		
	comp=Z,541nm,20.0s,MS4.0						
JOW	**Kunigami**	**25.40**	**235**	P	**P**	**20 05 26.7**	**0.0**
	comp=Z,29nm,1.0s,mb4.8,baz=45,slow=12,SNR=6.7						
BJI	**Beijing**	**26.42**	**274**	*e*P	**P**	**20 05 38.3**	**+2.3**
BJI				AMB	AMB		
	comp=Z,12nm,0.8s,mb4.5						
BJI	**Beijing**	**26.42**	**274**	*e*P	**P**	**20 05 38.2**	**+2.2**
	comp=Z,12nm,0.8s,mb4.5						
BJT	**Baijiatuau**	**26.43**	**274**	*e*P	**P**	**20 05 35.7**	**-0.4**
	comp=Z,15nm,0.7s,mb4.6						
BJT				LR	LR		
	comp=Z,377nm,19.0s,MS4.0						
BOD	**Bodaibo**	**26.98**	**314**	*e*P	**P**	**20 05 37.8**	**-3.1**
SSE	**Sheshan**	**27.11**	**252**	*e*P	**P**	**20 05 42.3**	**-0.1**
SSE				S	**S**	**20 10 17.6**	**+0.7**
SSE				PCS		20 12 47.8	
SSE				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.7						
SSE				AMB	AMB		
	comp=Z,132nm,12.0s						
SSE				LR	LR		
	comp=N,149nm,11.6s,MS4.0						
SSE				LR	LR		
	comp=E,214nm,11.5s,MS4.0						
SSE				LR	LR		
	comp=Z,385nm,14.8s,MS4.1						
SSE	**Sheshan**	**27.11**	**252**	*e*P	**P**	**20 05 42.3**	**-0.1**
	comp=Z,20nm,0.9s,mb4.7						
SSE				S	**S**	**20 10 17.6**	**+0.7**
SSE				sS		20 10 22.7	
SSE				PcS		20 12 47.8	
SSE				LR	LR		
	comp=Z,390nm,14.8s,MS4.1						
NJ2	**Nanjing**	**28.17**	**256**	*e*P	**P**	**20 05 52.3**	**+0.3**
NJ2				S	**S**	**20 10 35.0**	**+1.0**
NJ2				AMB	AMB		
	comp=Z,20nm,0.7s,mb4.9						
NJ2				LR	LR		
	comp=N,670nm,13.0s,MS4.6						
NJ2				LR	LR		
	comp=E,750nm,12.8s,MS4.6						
NJ2				LR	LR		
	comp=Z,870nm,11.5s,MS4.6						
UNV	**Unalaska Valle**	**28.90**	**55**	PFAKE		20 06 10.0	+12
UNV				LR	LR		
	comp=Z,1µm,22.0s,MS4.5						
TIXI	**Tiksi**	**29.82**	**346**	PFAKE		20 06 20.0	+14
TIXI				LR	LR		
	comp=Z,287nm,22.0s,MS3.9						
BTO	**Baotou**	**30.64**	**278**	*e*P	**P**	**20 06 15.0**	**+1.0**
TNA	**Tin City**	**30.96**	**32**	PFAKE		20 06 30.0	+14
TNA				LR	LR		
	comp=Z,183nm,20.0s,MS3.7						
ZAK	**Zakamensk**	**32.91**	**298**	*e*P	**P**	**20 06 33.6**	**-0.1**
ZAK				*e*		20 09 17.4	
TTA	**Tatalina**	**35.25**	**39**	*e*P	**P**	**20 06 53.6**	**-0.2**
	comp=Z,2.2nm,0.3s,mb4.6						
ENH	**Enshi**	**35.80**	**262**	PFAKE		20 07 10.0	+11
ENH				LR	LR		
	comp=Z,317nm,22.0s,MS4.0						
IMA	**Indian Mountai**	**36.71**	**34**	*e*P	**P**	**20 07 06.8**	**+0.7**
	comp=Z,16nm,0.8s,mb4.9						
KDAK	**Kodiak Island**	**36.75**	**48**	PFAKE		20 07 20.0	+13
KDAK				LR	LR		
	comp=Z,74nm,19.0s,MS3.5						
LZH	**Lanzhou**	**36.91**	**274**	⇑P	**P**	**20 07 08.6**	**+0.6**
LZH				PP	PP	20 08 34.0	-0.3
LZH				S	**S**	**20 12 52.0**	**+1.5**
LZH				XS		20 12 59.0	
LZH				AMB	AMB		
	comp=Z,39nm,1.1s,mb5.2						
LZH				AMB	AMB		
	comp=Z,152nm,4.0s						
LZH				LR	LR		
	comp=E,392nm,12.6s						
LZH				LR	LR		
	comp=Z,556nm,14.1s,MS4.5						
LZH	**Lanzhou**	**36.91**	**274**	⇑P	**P**	**20 07 08.6**	**+0.6**
	comp=Z,39nm,1.1s,mb5.2						
LZH				pP	pP	20 07 13.0	-3.8
LZH				sP	sP	20 07 15.9	-4.6
LZH				PP	PP	20 08 34.0	-0.3
LZH				S	**S**	**20 12 52.0**	**+1.5**
LZH				sS		20 12 59.0	
LZH				SS	SS	20 15 19.5	-0.2
LZH				LR	LR		
	comp=Z,560nm,14.1s,MS4.5						
SPU	**Mount Spurr**	**36.98**	**42**	*e*P	**P**	**20 07 08.7**	**+0.3**
KWAJ	**Kwajalein Atol**	**37.77**	**153**	PFAKE		20 07 30.0	+15
KWAJ				LR	LR		
	comp=Z,152nm,19.0s,MS3.8						
GTA	**Gaotai**	**38.35**	**282**	*e*P	**P**	**20 07 20.5**	**+0.4**
GTA				PCP	PcP	20 09 34.4	+0.4
GTA				S	**S**	**20 13 12.8**	**+0.4**
GTA				LR	LR		
	comp=N,135nm,16.0s,MS4.2						
GTA				LR	LR		
	comp=E,201nm,13.3s,MS4.2						
PMR	**Palmer**	**38.39**	**41**	*e*P	**P**	**20 07 19.6**	**-0.6**
	comp=E,5.9nm,0.3s,mb4.8						
MCK	**McKinley**	**38.50**	**38**	*e*P	**P**	**20 07 20.8**	**-0.3**
	comp=E,3.0nm,0.7s,mb4.1						
SML	**Sawmill**	**38.76**	**41**	*e*P	**P**	**20 07 23.1**	**-0.2**
COLA	**College**	**39.01**	**36**	*e*P	**P**	**20 07 25.7**	**+0.3**
COLA				pmax	pmax		
	comp=Z,30nm,1.1s,mb4.9						
COLA	**College**	**39.01**	**36**	*e*P	**P**	**20 07 25.7**	**+0.3**
	comp=Z,30nm,1.1s,mb4.9						
ILAR	**Eielson Array**	**39.42**	**36**	P	**P**	**20 07 28.0**	**-0.8**
	comp=Z,6.3nm,0.9s,mb4.3,baz=257,slow=7.5,SNR=37						
ILAR	**Eielson Array**	**39.42**	**36**	P	**P**	**20 07 28.0**	**-0.8**
ILAR				pmax	pmax		
	comp=Z,6.0nm,0.9s						
CD2	**Chengdu**	**39.57**	**267**	*e*P	**P**	**20 07 30.0**	**-0.4**
CD2				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.0						
DIV	**Divide**	**40.02**	**42**	*e*P	**P**	**20 07 33.8**	**0.0**
	comp=Z,44nm,1.0s,mb5.2						
GYA	**Guiyang**	**40.05**	**259**	⇓*i*P	**P**	**20 07 34.4**	**0.0**
GYA				PCP	PcP	20 09 40.0	+0.5
GYA				S	**S**	**20 13 38.4**	**+0.2**
GYA				SCS	ScS	20 17 39.3	+2.3
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.9						
GYA				LR	LR		
	comp=N,240nm,13.1s,MS4.3						
GYA				LR	LR		
	comp=E,210nm,15.9s,MS4.3						
GYA				LR	LR		
	comp=Z,380nm,15.6s,MS4.3						
DAWY	**Dawson**	**42.70**	**37**	*e*P	**P**	**20 07 55.9**	**+0.3**
QIZ	**Qiongzhong**	**42.75**	**248**	PFAKE		20 08 10.0	+13
QIZ				LR	LR		
	comp=Z,187nm,22.0s,MS3.9						
KMI	**Kunming**	**43.66**	**261**	*e*P	**P**	**20 08 04.4**	**+0.5**
KMI				PP	PP	20 09 49.5	+2.2
KMI				AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.4						
KMI	**Kunming**	**43.66**	**261**	*e*P	**P**	**20 08 04.4**	**+0.5**
	comp=Z,9.0nm,1.2s,mb4.4						
KMI				pP	pP	20 08 09.9	-2.8
KMI				sP	sP	20 08 13.4	-3.0
KMI				PP	PP	20 09 49.5	+2.2
KMI				LR	LR		
	comp=Z,110nm,24.3s,MS3.7						
NVS	**Novosibirsk**	**44.01**	**309**	*e*P	**P**	**20 08 04.6**	**-1.8**
NVS				*i*		20 09 51.7	
NVS				*i* S	**S**	**20 14 28.0**	**-8.1**
NVS				pmax	pmax		
	comp=N,7.0nm,1.1s						
NVS				pmax	pmax		
	comp=E,11nm,1.1s						
NVS				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.6						
NVS				smax			
	comp=N,7.0nm,1.2s						
NVS				smax			
	comp=E,79nm,2.8s						
INK	**Inuvik**	**44.59**	**31**	P	**P**	**20 08 10.2**	**-0.7**
	comp=E,10nm,0.9s,mb4.7,baz=280,slow=6.2,SNR=19						
INK	**Inuvik**	**44.59**	**31**	P	**P**	**20 08 10.2**	**-0.7**
INK				pmax	pmax		
	comp=Z,11nm,0.9s						
INK	**Inuvik**	**44.59**	**31**	*e*P	**P**	**20 08 10.9**	**0.0**
	comp=Z,16nm,1.0s,mb4.8						
WMQ	**Urumqi**	**44.92**	**293**	P	**P**	**20 08 14.8**	**+0.9**
WMQ				AMB	AMB		
	comp=Z,9.0nm,0.8s,mb4.7						
WMQ				LR	LR		
	comp=N,189nm,18.4s,MS4.2						
WMQ				LR	LR		
	comp=E,142nm,18.4s,MS4.2						
WMQ				LR	LR		
	comp=Z,256nm,18.4s,MS4.2						
SIT	**Sitka**	**46.05**	**47**	PFAKE		20 08 30.0	+7.3
SIT				LR	LR		
	comp=Z,551nm,20.0s,MS4.5						
MKAR	**Makanchi Array**	**47.24**	**299**	P	**P**	**20 08 32.5**	**+0.3**
	comp=Z,9.7nm,0.8s,mb4.8,baz=74,slow=7.7,SNR=57						
MKAR				LR	LR	20 30 04.2	
	comp=Z,248nm,18.7s,MS4.2,baz=248,slow=38						
KURK	**Kurchatov**	**47.98**	**305**	P	**P**	**20 08 38.0**	**0.0**
	comp=Z,262nm,0.6s,SNR=46						
KURK	**Kurchatov**	**47.98**	**305**	P	**P**	**20 08 38.0**	**0.0**
KURK				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb5.0						
KURK	**Kurchatov**	**47.98**	**305**	*e*P	**P**	**20 08 37.9**	**-0.1**
	comp=Z,25nm,0.6s,mb5.4						
DLBC	**Dease Lake**	**48.34**	**44**	*e*P	**P**	**20 08 42.0**	**+1.4**
LSA	**Lhasa**	**49.33**	**274**	PFAKE		20 09 00.0	+11
LSA				LR	LR		
	comp=Z,147nm,19.0s,MS4.0						
KKTK	**Khon Kaen**	**49.39**	**252**	P	**P**	**20 08 50.5**	**+1.3**
	comp=Z,309nm,1.0s						
CHG	**Chiang Mai**	**50.40**	**257**	⇑P	**P**	**20 08 57.9**	**+0.9**
	comp=Z,11nm,0.9s,mb4.9						
CM31	**Chiang Mai Arr**	**50.64**	**257**	P	**P**	**20 08 56.6**	**-2.2**
	comp=Z,4.8nm,0.8s,mb4.5						
CMAR	**Chiang Mai Arr**	**50.64**	**257**	P	**P**	**20 08 58.9**	**+0.1**
	comp=Z,3.8nm,0.8s,mb4.4,baz=43,slow=7.7,SNR=26						
CMAR				PcP	PcP	20 10 16.1	-0.2
	comp=Z,3.4nm,0.9s,baz=17,slow=2.9,SNR=7.2						
CMAR	**Chiang Mai Arr**	**50.64**	**257**	P	**P**	**20 08 58.9**	**+0.1**
CMAR						20 10 16.1	
CMAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
VOSK	**Vostochnaya**	**51.56**	**310**	P	**P**	**20 09 04.9**	**-0.4**
VOSK				pmax	pmax		
	comp=Z,21nm,1.2s,mb4.9						
BVA0	**Borovoye Array**	**51.76**	**311**	P	**P**	**20 09 07.1**	**+0.3**
BVAR	**Borovoye Array**	**51.76**	**311**	P	**P**	**20 09 07.4**	**+0.6**
	comp=Z,3.4nm,0.6s,mb4.5,baz=90,slow=5.9,SNR=15						
BRVK	**Borovoye**	**51.80**	**311**	*e*P	**P**	**20 09 06.2**	**-0.9**
	comp=Z,10.0nm,0.7s,mb4.8						
BRVK				*e*		20 09 17.8	
ZRNK	**Zerenda**	**52.55**	**311**	P	**P**	**20 09 12.6**	**-0.2**
ZRNK				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
ZRNK	**Zerenda**	**52.55**	**311**	*e*P	**P**	**20 09 12.8**	**0.0**
	comp=Z,8.0nm,0.6s,mb4.8						
YKA	**Yellowknife Ar**	**53.82**	**35**	P	**P**	**20 09 21.1**	**-0.8**
	comp=Z,7.4nm,0.9s,mb4.6,baz=299,slow=7.0,SNR=11						
YKA				PcP	PcP	20 10 25.5	-2.0

	comp=Z,2.3nm,0.8s,baz=299,slow=4.1,SNR=3.8						
YKA	Yellowknife Ar	53.82	35	P	P	20 09 21.1	-0.8
YKA						20 10 25.5	
YKA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
YKA	Yellowknife Ar	53.82	35	P	P	20 09 21.1	-0.9
YKA				PcP	PcP	20 10 25.5	-1.9
AAK	Ala-Archa	54.07	297	*e*P	P	20 09 23.8	-0.3
AAK	Ala-Archa	54.07	297	*e*P	P	20 09 23.4	-0.7
	comp=Z,7.9nm,0.8s,mb4.7						
AAK				LR	LR		
	comp=Z,110nm,21.0s,MS3.9						
KKN	Kakani	54.64	276	*e*P	P	20 09 28.3	-0.2
	comp=Z,55nm,1.0s,mb5.5						
PKI	Pulchoki	54.67	276	*e*P	P	20 09 28.3	-0.5
KSH	Kashi	54.68	293	*e*P	P	20 09 30.6	+1.9
KSH				*e*PCP	PcP	20 10 32.6	+1.5
KSH				*e*PP	PP	20 11 35.1	+2.4
KSH				*e*SCP		20 14 29.6	
KSH				*e*PCS		20 14 31.4	
KSH				*e*S	S	20 17 09.8	+4.7
KSH				*e*XS		20 17 16.4	
KSH				*e*SCS	ScS	20 19 15.5	+3.3
KSH				AMB	AMB		
	comp=Z,100nm,4.0s						
KSH				LR	LR		
	comp=N,190nm,8.8s						
KSH				LR	LR		
	comp=E,270nm,11.2s						
DMN	Daman	54.87	276	*e*P	P	20 09 29.9	-0.3
	comp=E,30nm,0.8s,mb5.4						
GKN	Gorkha	54.97	277	*e*P	P	20 09 30.7	-0.3
	comp=E,60nm,1.0s,mb5.6						
KBS	Kingsbay	55.04	351	PFAKE		20 09 40.0	+9.2
KBS				LR	LR		
	comp=Z,466nm,19.0s,MS4.6						
KOLN	Koldanda	55.85	277	*e*P	P	20 09 37.2	-0.1
	comp=Z,26nm,0.9s,mb5.3						
ARU	Arti	56.29	318	P	P	20 09 39.1	-0.9
	comp=Z,148nm,0.9s,mb6.0,SNR=16						
ARU	Arti	56.29	318	⇑*i*P	P	20 09 39.7	-0.3
ARU				*i*		20 11 44.2	
ARU				*e*PPP	PPP	20 13 02.8	-1.2
ARU				*i* S	S	20 17 27.2	+0.9
ARU				*e*		20 19 25.9	
ARU				*e*SS	SS	20 21 13.0	-0.6
ARU				pmax	pmax		
	comp=Z,23nm,0.9s,mb5.2						
ARU	Arti	56.29	318	*e*P	P	20 09 39.7	-0.3
	comp=Z,23nm,0.9s,mb5.2						
ARU				LR	LR		
	comp=Z,93nm,21.0s,MS3.9						
MBW	Mount Baker	56.80	52	P	P	20 09 42.9	-0.9
JCW	Jim Creek	57.08	53	P	P	20 09 45.1	-0.8
LVP	Lakeview Peak	57.91	55	P	P	20 09 51.8	+0.2
NLW	Nelson Butte	58.05	52	*e*P	P	20 09 52.1	-0.5
ETW	Entiat	58.31	53	P	P	20 09 53.6	-0.8
EBG	Ellensburg	58.54	53	P	P	20 09 55.9	-0.2
VFP	Flag Point	58.87	55	P	P	20 09 58.6	+0.3
KAKA	Kakadu	59.05	202	*e*P	P	20 10 00.4	+0.4
	comp=Z,16nm,0.7s,mb5.2						
EDM	Edmonton	59.05	44	*e*P	P	20 09 58.4	-1.2
VGB	Gordon Butte	59.17	55	*e*P	P	20 09 59.8	-0.7
CROR	Criterion Ridg	59.34	56	P	P	20 10 01.7	+0.1
HAWA	Hanford	59.42	53	*e*P	P	20 10 01.9	-0.2
	comp=Z,1.7nm,1.1s,mb4.0						
HAWA				*e*	pP	20 10 12.5	+1.2
HAWA				LR	LR		
	comp=Z,26nm,19.0s,MS3.4						
KEV	Kevo	59.56	341	*e*p	P	20 10 01.6	-1.2
NEW	Newport	59.77	51	P	P	20 10 02.6	-1.9
	comp=Z,5.5nm,0.8s,mb4.7,baz=322,slow=7.6,SNR=7.2						
NEW	Newport	59.77	51	P	P	20 10 02.7	-1.9
NEW				pmax	pmax		
	comp=Z,6.0nm,0.8s						
NEW	Newport	59.77	51	*e*P	P	20 10 03.4	-1.1
	comp=Z,11nm,1.1s,mb4.8						
NEW				LR	LR		
	comp=Z,387nm,19.0s,MS4.6						
ARCES	ARCESS Array B	60.08	341	P	P	20 10 05.3	-1.1
	comp=Z,12nm,1.0s,mb4.9,baz=27,slow=5.6,SNR=6.6						
ARCES				LR	LR	20 37 01.8	
	comp=Z,193nm,21.1s,MS4.2,baz=293,slow=37						
ARCES	ARCESS Array B	60.08	341	P	P	20 10 05.3	-1.1
ARCES				pmax	pmax		
	comp=Z,12nm,1.0s						
ARCES				MLR	MLR		
	comp=Z,193nm,21.1s						
YBH	Yreka Blue Hor	60.08	59	P	P	20 10 06.3	-0.5
	comp=Z,7.5nm,0.8s,mb4.8,baz=276,slow=1.9,SNR=15						
YBH	Yreka Blue Hor	60.08	59	P	P	20 10 06.3	-0.5
YBH				pmax	pmax		
	comp=Z,8.0nm,0.8s						
YBH	Yreka Blue Hor	60.08	59	*e*P	P	20 10 07.2	+0.4
	comp=Z,16nm,1.1s,mb5.0						
YBH				LR	LR		
	comp=Z,369nm,19.0s,MS4.5						
WDC	Whiskeytown Da	60.83	60	*e*P	P	20 10 11.8	-0.1
	comp=Z,21nm,1.2s,mb5.2						
MOD	Modoc	61.47	58	*e*P	P	20 10 15.8	-0.4
MOD				LR	LR		
	comp=Z,290nm,22.0s,MS4.4						
WVOR	Wild Horse Val	62.18	57	*e*P	P	20 10 20.5	-0.5
	comp=Z,17nm,1.1s,mb5.1						
WVOR				LR	LR		
	comp=Z,545nm,20.0s,MS4.7						
OHCM	Honcut	62.21	61	*e*P	P	20 10 20.2	-1.0
OHCM				*e*	pP	20 10 30.6	+0.2
MSO	Missoula	62.36	51	PFAKE		20 10 30.0	+7.9
MSO				LR	LR		
	comp=Z,188nm,19.0s,MS4.3						
SUMG	Summit	63.52	3	*e*P	P	20 10 29.6	+0.3
	comp=Z,28nm,1.0s,mb5.2						
FFC	Flin Flon	63.59	38	P	P	20 10 29.0	-1.0
	comp=Z,166nm,1.0s,mb6.0,SNR=8.6						
FFC	Flin Flon	63.59	38	PFAKE		20 10 40.0	+10
FFC				LR	LR		
	comp=Z,64nm,19.0s,MS3.8						
CMB	Columbia Colle	63.67	62	*e*P	P	20 10 30.4	-0.4
	comp=Z,14nm,1.1s,mb4.9						
CMB				LR	LR		
	comp=Z,441nm,20.0s,MS4.6						
HLID	Hailey	64.02	54	*e*P	P	20 10 32.0	-1.0
	comp=Z,8.2nm,1.0s,mb4.7						
HLID				LR	LR		
	comp=Z,397nm,20.0s,MS4.6						
MCMT	McKenzie Canyo	64.16	52	*e*P	P	20 10 33.4	-0.5
BMN	Battle Mountai	64.22	58	PFAKE		20 10 50.0	+16
BMN				LR	LR		
	comp=Z,360nm,19.0s,MS4.6						
BOZ	Bozeman (W)	64.35	51	*e*P	P	20 10 34.9	-0.2
	comp=Z,46nm,1.5s,mb5.3						
BOZ				LR	LR		
	comp=Z,326nm,21.0s,MS4.5						
NVAR	Mina Array Bea	64.75	60	P	P	20 10 37.6	-0.3
	comp=Z,7.0nm,0.8s,mb4.7,baz=300,slow=5.5,SNR=34						
MNV	Mina	64.84	60	*e*P	P	20 10 37.7	-0.7
	comp=Z,11nm,1.2s,mb4.8						
QLMT	Earthquake Lak	64.96	51	*e*P	P	20 10 39.1	0.0
ELK	Elko	65.23	57	PFAKE		20 10 50.0	+9.1
ELK				LR	LR		
	comp=Z,434nm,21.0s,MS4.6						
GCMT	Greycliff	65.35	50	*e*P	P	20 10 41.6	0.0
KAF	Kangasniemi	65.46	335	*e*p	P	20 10 40.5	-1.5
	comp=Z,6.1nm,0.7s,mb4.7						
KAF	Kangasniemi	65.46	335	*e*P	P	20 10 40.5	-1.5
KAF				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
WRAB	Tennant Creek	65.53	198	*e*P	P	20 10 41.6	-1.6
	comp=Z,24nm,0.8s,mb5.3						
WB2	Warramunga Arr	65.54	198	⇓*i*P	P	20 10 41.3	-2.0
WRA	Warramunga Arr	65.55	198	P	P	20 10 41.5	-1.8
	comp=Z,14nm,0.8s,mb5.0,baz=18,slow=6.8,SNR=85						
WRA				PKPPKP		20 39 23.2	
	comp=Z,1.0nm,0.8s,baz=205,slow=3.5,SNR=5.3						
TPH	Tonopah	65.64	60	*e*P	P	20 10 43.4	-0.2
	comp=Z,13nm,1.0s,mb4.9						
TPH				LR	LR		
	comp=Z,410nm,19.0s,MS4.7						
MOOW	Moose Ponds	66.02	52	*e*P	P	20 10 46.1	+0.2
FINES	FINESS Array B	66.04	335	P	P	20 10 45.1	-0.7
	comp=Z,9.4nm,0.7s,mb5.0,baz=45,slow=6.2,SNR=28						
FINES	FINESS Array B	66.04	335	P	P	20 10 45.1	-0.7
FINES				pmax	pmax		
	comp=Z,9.0nm,0.7s						
TPAW	Teton Pass	66.06	52	*e*P	P	20 10 46.9	+0.8
FITZ	Fitzroy Crossi	66.18	207	⇓*i*P	P	20 10 46.9	-0.5
	comp=Z,22nm,0.8s,mb5.2						
FITZ	Fitzroy Crossi	66.18	207	P	P	20 10 46.8	-0.6
	comp=Z,27nm,0.8s,mb5.3,baz=9.0,slow=6.9,SNR=44						
REDW	Red Top Meadow	66.19	52	*e*P	P	20 10 47.5	+0.5
AHID	Auburn Hatcher	66.42	53	PFAKE		20 11 00.0	+11
AHID				LR	LR		
	comp=Z,377nm,19.0s,MS4.6						
DAC	Darwin (Calif)	66.51	62	PFAKE		20 11 00.0	+11
DAC				LR	LR		
	comp=Z,289nm,20.0s,MS4.5						
SPUT	South Promonto	66.55	55	*e*P	P	20 10 48.3	-1.1
LAO	LASA Array	66.64	47	PFAKE		20 11 00.0	+10
LAO				LR	LR		
	comp=Z,310nm,20.0s,MS4.5						
HWUT	Hardware Ranch	66.88	54	*e*P	P	20 10 51.0	-0.5
	comp=Z,15nm,1.2s,mb4.9						
HWUT				LR	LR		
	comp=Z,456nm,19.0s,MS4.7						
OBN	Obninsk	66.94	326	*e*P	P	20 10 50.5	-1.1
OBN				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.9						
OBN				MLR	MLR		
	comp=Z,200nm,19.0s,MS4.3						
OBN	Obninsk	66.94	326	*e*P	P	20 10 50.4	-1.1
	comp=Z,21nm,1.1s,mb5.1						
OBN				LR	LR		
	comp=Z,99nm,20.0s,MS4.0						
TPNV	Topopah Spring	66.94	60	*e*P	P	20 10 50.9	-1.0
	comp=Z,18nm,1.1s,mb5.0						
DUG	Dugway	67.03	56	*e*P	P	20 10 52.2	-0.2
	comp=Z,1.6nm,1.0s,mb4.0						
DUG				LR	LR		
	comp=Z,22nm,19.0s,MS3.4						
BW06	Boulder Array	67.31	52	PFAKE		20 11 10.0	+16
BW06				LR	LR		
	comp=Z,395nm,19.0s,MS4.7						
PDAR	Pinedale Array	67.31	52	P	P	20 10 53.5	-0.6
	comp=Z,6.6nm,1.0s,mb4.6,baz=297,slow=3.3,SNR=32						
NLU	North Lily Min	67.62	56	*e*P	P	20 10 56.3	+0.1
DAU	Daniels Canyon	67.81	55	*e*P	P	20 10 57.8	+0.5
ARUT	Antelope Range	68.16	58	*e*P	P	20 10 58.7	-0.8
MVU	Marysvale	68.45	57	*e*P	P	20 11 00.9	-0.4
	comp=Z,7.8nm,1.0s,mb4.7						
MVU				LR	LR		
	comp=Z,324nm,20.0s,MS4.6						
MSU	Marysvale	68.47	57	*e*P	P	20 11 01.6	+0.1
NEN	Nelson	68.64	61	*e*P	P	20 11 02.4	-0.2
LDFC	Landfair	68.83	61	*e*P	P	20 11 03.5	-0.3
SRU	San Rafael	69.08	56	*e*P	P	20 11 04.9	-0.4
ASAR	Alice Springs	69.24	197	P	P	20 11 05.8	-0.7
	comp=Z,8.1nm,0.8s,mb4.7,baz=13,slow=5.3,SNR=57						
ASAR				LR	LR	20 36 36.1	
	comp=Z,125nm,21.4s,MS4.1,baz=96,slow=32						
ASAR				PKPPKP		20 39 15.3	
	comp=Z,1.4nm,1.0s,baz=190,slow=4.2,SNR=7.4						
ASPA	Alice Springs	69.24	197	*e*P	P	20 11 05.5	-1.0
ULM	Lac du Bonnet	69.36	39	PFAKE		20 11 20.0	+13
ULM				LR	LR		
	comp=Z,567nm,19.0s,MS4.8						
RSSD	Black Hills	69.48	48	*e*P	P	20 11 06.6	-1.0
	comp=Z,20nm,1.2s,mb4.9						
PV10	Paradox Valley	70.44	55	*e*P	P	20 11 13.9	+0.4
NB2	NORSAR Subarra	70.46	341	P	P	20 11 12.8	-0.4
	comp=Z,13nm,0.8s,mb4.9,baz=28,slow=6.2						
NOA	NORSAR Array B	70.46	341	P	P	20 11 12.7	-0.6
	comp=Z,10nm,0.8s,mb4.8,baz=29,slow=6.1,SNR=25						
NOA	NORSAR Array B	70.46	341	P	P	20 11 12.7	-0.5
NOA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
HFS	Hagfors	70.63	339	P	P	20 11 13.3	-1.0
	comp=Z,14nm,0.8s,mb5.0,baz=63,slow=3.3,SNR=12						
HFS	Hagfors	70.63	339	P	P	20 11 13.3	-1.0
HFS				pmax	pmax		
	comp=Z,14nm,0.8s						
PV01	Paradox Valley	70.88	55	*e*P	P	20 11 15.9	-0.3
WUAZ	Wupatki	70.89	59	*e*P	P	20 11 15.9	-0.4
	comp=Z,19nm,1.1s,mb4.9						
GOF	Gofitskoye	70.96	315	⇑*i*P	P	20 11 17.0	+0.4
GOF				pmax	pmax		
	comp=Z,40nm,1.0s,mb5.3						
ISCO	Idaho Springs	71.49	52	*e*P	P	20 11 20.2	+0.3
	comp=Z,10nm,1.0s,mb4.7						
ISCO				LR	LR		
	comp=Z,387nm,19.0s,MS4.7						
KONO	Kongsberg	72.07	341	PFAKE		20 11 30.0	+7.0
KONO				LR	LR		
	comp=Z,1µm,21.0s,MS5.1						
SUW	Suwalki	72.86	331	*e*P	P	20 11 27.6	0.0
SDCO	Great Sand Dun	72.94	54	PFAKE		20 11 40.0	+12
SDCO				LR	LR		
	comp=Z,397nm,20.0s,MS4.7						
EYMN	Ely	73.01	39	PFAKE		20 11 40.0	+11
EYMN				LR	LR		
	comp=Z,10.0nm,20.0s						
AKASG	Malin Array Be	73.20	326	P	P	20 11 28.9	-0.8
	comp=Z,4.7nm,0.6s,mb4.6,baz=34,slow=6.0,SNR=28						
AKASG	Malin Array Be	73.20	326	P	P	20 11 28.9	-0.8
AKASG				pmax	pmax		
	comp=Z,5.0nm,0.6s						
TUC	Tucson	73.37	61	*e*P	P	20 11 30.8	-0.2
	comp=Z,8.9nm,1.1s,mb4.6						
TUC				LR	LR		
	comp=Z,263nm,20.0s,MS4.5						
SOC	Sochi	73.69	315	*e*P	P	20 11 31.9	-0.8
SOC				*e*		20 14 21.9	
SOC				*e*PPP	PPP	20 15 55.2	-8.1
SOC				*e*S	S	20 21 03.2	+3.2
SOC				*e*SS	SS	20 25 44.5	-1.6
SOC				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.8						
SOC				pmax	pmax		
	comp=N,12nm,0.8s						
SOC				pmax	pmax		
	comp=E,7.0nm,0.6s						
LAZ	Ladron	74.22	57	*e*P	P	20 11 36.2	+0.2
ANMO	Albuquerque	74.27	57	*e*P	P	20 11 36.5	+0.3
ANMO	Albuquerque	74.27	57	*e*P	P	20 11 36.1	-0.1
	comp=E,14nm,1.1s,mb4.8						
ANMO				LR	LR		
	comp=Z,377nm,20.0s,MS4.7						
LENM	Lemitar	74.49	57	*e*P	P	20 11 37.5	0.0
SIM	Simferopol'	75.43	319	P	P	20 11 44.2	+1.5
STKA	Stephens Creek	76.05	189	*e*P	P	20 11 47.5	+1.0
	comp=Z,5.9nm,0.9s,mb4.5						
STKA	Stephens Creek	76.05	189	P	P	20 11 46.5	0.0
	comp=Z,6.2nm,0.9s,mb4.5,baz=345,slow=6.2,SNR=11						
STKA				LR	LR	20 41 14.7	
	comp=Z,228nm,20.1s,MS4.5,baz=22,slow=32						
SCHQ	Schefferville	76.28	22	P	P	20 11 47.1	-0.2
	comp=Z,5.1nm,0.7s,mb4.5,baz=292,slow=6.3,SNR=4.5						
SCHQ	Schefferville	76.28	22	P	P	20 11 47.1	-0.2
SCHQ				LR	LR		
	comp=Z,615nm,21.0s,MS4.9						
KWP	Kalwaria	76.59	329	*e*P	P	20 11 50.2	+1.0
BSEG	Bad Segeberg	76.95	338	*e*P	P	20 11 51.3	+0.2
BSEG				pmax	pmax		
	comp=Z,48nm,1.7s,mb5.2						
KSU1	Kansas State U	76.97	48	*e*P	P	20 11 49.8	-1.7
OJC	Ojcow	77.17	331	*e*P	P	20 11 52.2	-0.1
KOLS	Kolonicke sedl	77.33	328	*i* P	P	20 11 53.8	+0.6
KOLS				*e*	pP	20 12 02.1	-0.4
JFWS	Jewell Farm	77.36	42	PFAKE		20 12 10.0	+16
JFWS				LR	LR		
	comp=Z,597nm,22.0s,MS4.9						
FORT	Forrest	77.45	201	*e*P	P	20 11 54.5	+0.2
	comp=Z,34nm,0.7s,mb5.4						
CRVS	Cervenica-Dubn	77.66	329	*e*P	P	20 11 54.0	-1.1
BOYT	Boyabat	77.69	317	*i* P	P	20 11 57.0	+1.5
OKC	Ostrava-Krasne	78.07	331	*e*P	P	20 12 07.7	+10
OKC				*e*pP	pP	20 12 11.8	+5.2
OKC				*e*x	x	20 12 16.8	
MALT	Malatya	78.18	312	*e*P	P	20 12 00.2	+2.0
	comp=Z,13nm,1.0s,mb4.8						
DPC	Dobruska-Polom	78.26	333	*e*P	P	20 11 59.4	+1.1
DPC				*e*pP	pP	20 12 09.1	+1.5
MORC	Moravsky Berou	78.33	332	*e*P	P	20 11 58.9	+0.1
	comp=Z,8.8nm,0.9s,mb4.7						
CLL	Collm	78.49	335	P	P	20 11 58.8	-0.8
	comp=Z,logA/T=1.2,mb4.9						
CLL				*i* *PP	pP	20 12 08.9	+0.1
CLL				*i* *SP	sP	20 12 14.1	+2.1
CLL	Collm	78.49	335	*i* P	P	20 11 58.8	-0.8
CLL				*i*	pP	20 12 08.9	+0.1
CLL				pmax	pmax		
	comp=Z,17nm,1.1s,mb4.9						
CLL	Collm	78.49	335	*i* P	P	20 11 58.8	-0.8
	comp=Z,17nm,1.1s,mb4.9						
CLL				*i*	pP	20 12 08.9	+0.1
BRG	Berggiesshubel	78.58	334	*e*P	P	20 12 00.3	+0.3
BRG				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.6						
BRG				MLR	MLR		
	comp=N,380nm,17.6s,MS4.9						
BRG				MLR	MLR		
	comp=E,260nm,17.6s,MS4.9						
BRG				MLR	MLR		
	comp=Z,400nm,17.6s,MS4.8						
BRG	Berggiesshubel	78.58	334	*e*P	P	20 12 00.3	+0.3
	comp=Z,8.7nm,1.1s,mb4.6						
BRG				LR	LR		
	comp=Z,400nm,17.6s,MS4.8						
PVCC	Panska Ves	78.68	334	*e*P	P	20 12 01.5	+0.9
PVCC				*e*pP	pP	20 12 12.3	+2.4
RAR	Rarotonga	78.74	134	LR	LR	20 46 04.9	
	comp=Z,174nm,18.3s,MS4.4,baz=127,slow=35						
ESK	Eskdalemuir	78.76	346	PFAKE		20 12 10.0	+9.1
ESK				LR	LR		
	comp=Z,94nm,20.0s,MS4.1						
CLZ	Clausthal	78.80	337	*e*P	P	20 12 01.9	+0.7
	comp=Z,16nm,1.0s,mb4.9						
WMOK	Wichita Mounta	78.92	52	*e*P	P	20 12 01.4	-0.9
	comp=Z,14nm,1.0s,mb4.8						
WMOK				LR	LR		
	comp=Z,404nm,19.0s,MS4.8						
VYHS	Vyhne	78.96	330	*i* P	P	20 12 02.8	+0.6
VYHS				*e*	pP	20 12 12.7	+1.2
PSZ	Piszkesteto	79.06	329	*e*P	P	20 12 03.7	+0.9
	comp=Z,7.8nm,0.9s,mb4.6						
MIB	Mutribah	79.12	301	*e*P	P	20 12 04.5	+1.0
MIB				AMb	AMB	20 12 07.1	
	comp=Z,50nm,0.9s,mb5.5						
ELDT	Eldivan	79.13	317	*i* P	P	20 12 02.2	-1.1
PRU	Pruhonice	79.15	333	*e*P	P	20 12 03.6	+0.4
PRU				*e*PCP	PcP	20 12 08.2	-3.7
PRU				*e*pP	pP	20 12 13.4	+0.9
PRU				*e*sP	sP	20 12 18.9	+3.3
PRU	Pruhonice	79.15	333	*e*P	P	20 12 03.6	+0.4
PRU				*e*	pP	20 12 13.4	+0.9
PRU				*e*		20 12 18.9	
GZT	Gaziantep	79.35	312	*i* P	P	20 12 05.9	+1.3
MOX	Moxa	79.49	335	*i* P	P	20 12 05.3	+0.2
	comp=Z,logA/T=1.1,mb4.8						
MOX	Moxa	79.49	335	*e*P	P	20 12 05.3	+0.2
MOX				pmax	pmax		
	comp=Z,18nm,1.3s,mb4.8						
MOX	Moxa	79.49	335	*e*P	P	20 12 05.3	+0.2
	comp=Z,18nm,1.3s,mb4.8						
RST	Umm Al-Ruwaisa	79.54	301	*e*P	P	20 12 05.9	+0.1
RST				AMb	AMB	20 12 07.6	
	comp=Z,59nm,0.9s,mb5.5						
NKC	Novy Kostel	79.60	335	*e*P	P	20 12 08.7	+3.1
NKC				*e*pP	pP	20 12 18.3	+3.4
RDF	Al-Radifah	79.60	300	*e*P	P	20 12 06.6	+0.4
RDF				AMb	AMB	20 12 09.1	
	comp=Z,77nm,0.8s,mb5.7						
BRTR	Keskin Array B	79.60	316	P	P	20 12 06.5	+0.6
	comp=Z,4.8nm,0.8s,mb4.5,baz=72,slow=3.9,SNR=22						
BRTR	Keskin Array B	79.60	316	P	P	20 12 06.5	+0.6
BRTR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
SGKT	Sivrigoynuk	79.74	318	*i* P	P	20 12 08.3	+1.7
LTX	Lajitas	79.85	59	PFAKE		20 12 20.0	+13
LTX				LR	LR		
	comp=Z,416nm,20.0s,MS4.8						
TXAR	Lajitas Array	79.85	59	P	P	20 12 07.0	-0.5
	comp=Z,12nm,0.8s,mb4.9,baz=288,slow=4.0,SNR=58						
KHC	Kasperske Hory	80.21	333	*e*P	P	20 12 09.5	+0.6
KHC				*e*PCP	PcP	20 12 14.2	-2.3
KHC				*e*pP	pP	20 12 19.3	+1.1
KHC				*e*x	x	20 12 24.8	
KHC	Kasperske Hory	80.21	333	*e*P	P	20 12 09.5	+0.6
KHC				*e*	pP	20 12 19.3	+1.1
KHC				*e*		20 12 24.8	
GEC2	GERESS Array S	80.42	333	*e*P	P	20 12 10.5	+0.5
GEC2				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.5						
GEC2	GERESS Array S	80.42	333	*e*P	P	20 12 10.5	+0.5
	comp=Z,7.0nm,1.2s,mb4.5						
GERES	GERESS Array B	80.42	333	P	P	20 12 10.2	+0.2
	comp=Z,2.7nm,0.7s,mb4.3,baz=31,slow=4.8,SNR=22						
GERES	GERESS Array B	80.42	333	P	P	20 12 10.2	+0.2
GERES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
WET	Wettzell	80.42	334	*e*P	P	20 12 11.0	+0.9
WET				pmax	pmax		
	comp=Z,16nm,1.3s,mb4.8						
WET	Wettzell	80.42	334	*e*P	P	20 12 11.0	+0.9
	comp=Z,16nm,1.3s,mb4.8						
GRA1	Grafenberg Arr	80.45	335	*e*P	P	20 12 11.3	+1.1
	comp=Z,16nm,1.0s,mb4.9						
GRF	Grafenberg Arr	80.45	335	*e*P	P	20 12 11.3	+1.1
GRF				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.9						
CCM	Cathedral Cave	80.56	45	*e*P	P	20 12 10.1	-0.9
	comp=Z,19nm,0.9s,mb5.0						
COBT	Iskenderun	80.67	312	*i* P	P	20 12 13.0	+1.4
MOA	Molln	81.10	332	⇑*i*P	P	20 12 14.6	+1.0
	comp=Z,5.4nm,1.1s,mb4.4						
ESKT	Eskisehir	81.14	318	*i* P	P	20 12 14.8	+0.8
JCT	Junction City	81.39	56	PFAKE		20 12 30.0	+14
JCT				LR	LR		
	comp=Z,452nm,21.0s,MS4.8						
ULDT	Uludag	81.47	319	*i* P	P	20 12 16.5	+0.8
PGB	Panagyurishte	81.78	324	*i* P	P	20 12 19.0	+1.7
FUR	Furstenfeldbru	81.79	334	*e*P	P	20 12 17.9	+0.7
	comp=Z,297nm,2.9s,mb5.7						
BAIF	Baives	82.08	339	*e*P	P	20 12 18.8	+0.1
KBA	Koelnbreinsper	82.08	333	⇑*i*P	P	20 12 20.3	+1.6
	comp=Z,17nm,0.8s,mb5.0						
VTS	Vitosha	82.16	324	*i* P	P	20 12 20.0	+0.7
RZN	Rozhen	82.25	323	*i* P	P	20 12 21.0	+1.3
WATA	Walderalm	82.43	334	⇑*i*P	P	20 12 21.7	+1.1
	comp=Z,12nm,0.9s,mb4.8						
WTTA	Wattenberg	82.47	334	⇓*i*P	P	20 12 21.7	+0.9
	comp=Z,18nm,1.1s,mb4.9						
BFO	Black Forest	82.53	336	*e*P	P	20 12 21.1	0.0
BFO				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.9						
BFO	Black Forest	82.53	336	*e*P	P	20 12 21.1	0.0
	comp=Z,13nm,1.1s,mb4.9						
MOTA	Moosalm	82.57	334	⇑*i*P	P	20 12 22.3	+1.0
	comp=Z,14nm,1.0s,mb4.9						
ERPA	Erie	82.63	36	PFAKE		20 12 30.0	+8.3
ERPA				LR	LR		
	comp=Z,298nm,19.0s,MS4.7						
SQTA	Sankt Quirin	82.65	334	⇑*i*P	P	20 12 23.1	+1.4
	comp=Z,13nm,1.1s,mb4.9						
MMB	Musomiste	82.76	323	*i* P	P	20 12 23.5	+1.1
CDF	Champ du Feu	82.76	337	*e*P	P	20 12 23.3	+1.0
	comp=Z,31nm,1.1s,mb5.0						
KKB	Krupnik	82.81	324	*e*P	P	20 12 24.0	+1.4
ACSO	Alum Creek Sta	82.85	39	PFAKE		20 12 30.0	+7.1
ACSO				LR	LR		
	comp=Z,537nm,19.0s,MS4.9						
DAVA	Damuels	83.00	335	⇑*i*P	P	20 12 24.6	+1.1
	comp=Z,14nm,0.9s,mb5.0						
MEZF	Maizieres J'vi	83.29	338	*e*P	P	20 12 25.4	+0.4
NCB	Newcomb	83.38	31	PFAKE		20 12 40.0	+14
NCB				LR	LR		
	comp=Z,668nm,21.0s,MS5.0						
HAU	Haudompre	83.39	337	*e*P	P	20 12 25.4	-0.1
CSS	Prodhromos	83.40	313	*e*P	P	20 12 26.4	+0.6
	comp=Z,16nm,0.8s,mb5.1						
SKO	Skopje	83.41	325	*i* P	P	20 12 26.8	+1.1
HINF	Hinteralfeld	83.42	337	*e*P	P	20 12 26.2	+0.5
	comp=Z,18nm,1.1s,mb4.7						
NATX	Nacogdoches	83.44	52	PFAKE		20 12 40.0	+14
NATX				LR	LR		
	comp=Z,1µm,19.0s,MS5.2						
DAVOX	Davos	83.45	335	P	P	20 12 26.9	+1.0
	comp=Z,4.5nm,0.7s,mb4.6,baz=345,slow=5.2,SNR=5.0						
ASF	Jabal al Asfar	83.57	309	P	P	20 12 27.8	+1.0
	comp=Z,8.5nm,0.9s,mb4.9,baz=288,slow=2.5,SNR=14						
BINY	Binghamton	84.21	33	PFAKE		20 12 40.0	+10
BINY				LR	LR		
	comp=Z,2µm,21.0s,MS5.5						
OXF	Oxford	84.22	46	PFAKE		20 12 40.0	+10
OXF				LR	LR		
	comp=Z,580nm,19.0s,MS5.0						

FLN	**La Foliniere**	**84.41**	**342**	*e*P	**P**	**20 12 31.7**	**+1.1**
	comp=Z,28nm,1.1s,mb5.0						
SSPA	**Standing Stone**	**84.74**	**35**	PFAKE		20 12 40.0	+7.6
SSPA				LR	LR		
	comp=Z,501nm,20.0s,MS4.9						
GRR	**Gorron**	**84.85**	**342**	*e*P	**P**	**20 12 33.1**	**+0.3**
	comp=Z,34nm,1.0s,mb5.1						
SSF	**Saint Saulge**	**85.02**	**339**	*e*P	**P**	**20 12 34.0**	**+0.3**
	comp=Z,33nm,1.0s,mb5.1						
SMF	**Signal de Mont**	**85.32**	**338**	*e*P	**P**	**20 12 35.8**	**+0.6**
	comp=Z,74nm,0.9s,mb5.5						
SGMF	**Saint Gilles**	**85.34**	**343**	*e*P	**P**	**20 12 35.3**	**+0.1**
	comp=Z,94nm,1.4s,mb5.4						
ROSF	**Rostrenen**	**85.42**	**343**	*e*P	**P**	**20 12 35.8**	**+0.2**
SWET	**Sewanee**	**85.45**	**44**	*e*P	**P**	**20 12 35.4**	**-0.7**
LPL	**La Plagne**	**85.54**	**336**	*e*P	**P**	**20 12 37.5**	**+1.2**
	comp=Z,24nm,0.9s,mb5.1						
LPG	**La Plagne**	**85.55**	**336**	*e*P	**P**	**20 12 37.7**	**+1.3**
	comp=Z,40nm,1.0s,mb5.3						
BGF	**Bois d'Agland**	**85.66**	**339**	*e*P	**P**	**20 12 37.6**	**+0.7**
	comp=Z,10nm,0.8s,mb4.8						
TCF	**Toulx Ste Croi**	**86.08**	**339**	*e*P	**P**	**20 12 39.7**	**+0.8**
	comp=Z,26nm,1.0s,mb5.1						
MBDF	**Montbardon**	**86.25**	**336**	*e*P	**P**	**20 12 40.9**	**+1.1**
ORIF	**Oris-en-Rattie**	**86.34**	**336**	*e*P	**P**	**20 12 41.3**	**+1.0**
	comp=Z,14nm,0.8s,mb5.0						
MFF	**Saint Martin d**	**86.36**	**341**	*e*P	**P**	**20 12 40.7**	**+0.4**
	comp=Z,28nm,1.2s,mb5.1						
MYNC	**Murphy**	**86.45**	**43**	PFAKE		20 12 50.0	+8.9
MYNC				LR	LR		
	comp=Z,297nm,19.0s,MS4.7						
VIVF	**Saint-Julien-l**	**86.74**	**337**	*e*P	**P**	**20 12 43.2**	**+1.0**
	comp=Z,28nm,1.1s,mb5.1						
SBF	**Sospel**	**86.83**	**335**	*e*P	**P**	**20 12 42.7**	**0.0**
	comp=Z,39nm,0.9s,mb5.4						
CBN	**Corbin**	**86.99**	**36**	PFAKE		20 13 00.0	+16
CBN				LR	LR		
	comp=Z,648nm,19.0s,MS5.0						
RJF	**Les Rejaudoux**	**87.17**	**339**	*e*P	**P**	**20 12 44.5**	**+0.2**
FRF	**La Foret Royal**	**87.35**	**335**	*e*P	**P**	**20 12 46.2**	**+1.0**
IDI	**Anoyia**	**87.37**	**319**	P	**P**	**20 12 45.2**	**-0.4**
	comp=Z,5.9nm,0.7s,mb5.0,baz=62,slow=8.9,SNR=6.6						
CAF	**Calviac**	**87.38**	**339**	*e*P	**P**	**20 12 46.1**	**+0.8**
	comp=Z,13nm,0.9s,mb4.8						
PGF	**Pioggiola**	**87.52**	**333**	*e*P	**P**	**20 12 46.9**	**+0.8**
LASF	**Ste Croix**	**87.68**	**337**	*e*P	**P**	**20 12 48.0**	**+1.2**
MTLF	**Montolieu**	**88.81**	**338**	*e*P	**P**	**20 12 52.7**	**+0.5**
	comp=Z,10nm,0.9s,mb4.8						
EPF	**Esparros**	**89.59**	**339**	*e*P	**P**	**20 12 56.5**	**+0.6**
JTS	**JuntasAbangare**	**105.64**	**58**	PFAKE		20 18 30.0	
JTS				LR	LR		
	comp=Z,78nm,20.0s,MS4.2						
KMBO	**Kilima Mbogo**	**108.06**	**287**	PFAKE		20 18 40.0	
KMBO				LR	LR		
	comp=Z,162nm,21.0s,MS4.6						
PAYG	**Puerto Ayora**	**110.44**	**70**	PFAKE		20 18 40.0	+5.2
PAYG				LR	LR		
	comp=Z,422nm,19.0s,MS5.0						
MBAR	**Mbarara**	**112.11**	**292**	PFAKE		20 18 50.0	+12
MBAR				LR	LR		
	comp=Z,58nm,19.0s,MS4.2						
CASY	**Casey**	**114.37**	**197**	PFAKE		20 18 50.0	+8.8
CASY				LR	LR		
	comp=Z,346nm,19.0s,MS5.0						
SDV	**Santo Domingo**	**115.00**	**47**	PFAKE		20 18 50.0	+6.4
SDV				LR	LR		
	comp=Z,456nm,21.0s,MS5.1						
OTAV	**Otavalo**	**117.48**	**60**	PFAKE		20 19 00.0	+12
OTAV				LR	LR		
	comp=Z,279nm,21.0s,MS4.9						
LSZ	**Lusaka**	**124.32**	**282**	PFAKE		20 19 10.0	+8.3
LSZ				LR	LR		
	comp=Z,315nm,22.0s,MS4.9						
DBIC	**Dimbokro**	**125.23**	**331**	PKP	PKPdf	20 18 59.2	-4.3
	comp=Z,4.6nm,1.0s,baz=313,slow=3.4,SNR=3.3						
DBIC	**Dimbokro**	**125.23**	**331**	PKP	PKPdf	20 18 59.2	-4.3
DBIC				LR	LR		
	comp=Z,173nm,20.0s,MS4.7						
NNA	**Nana**	**127.74**	**68**	PFAKE		20 19 20.0	+12
NNA				LR	LR		
	comp=Z,106nm,22.0s,MS4.5						
MAW	**Mawson**	**129.26**	**210**	PKP	PKPdf	20 19 06.1	-3.8
	comp=Z,1.8nm,0.8s,baz=56,slow=5.2,SNR=4.1						
MAW	**Mawson**	**129.26**	**210**	PKIKP	PKPdf	20 19 06.1	-3.7
MAW				pmax	pmax		
	comp=Z,2.0nm,0.9s						
QSPA	**South Pole Qui**	**133.74**	**180**	*e*PKP	PKPdf	20 19 13.9	-4.1
QSPA				LR	LR		
	comp=Z,377nm,20.0s,MS5.1						
SAML	**Samuel**	**133.89**	**51**	PFAKE		20 19 30.0	+10
SAML				LR	LR		
	comp=Z,314nm,19.0s,MS5.0						
TSUM	**Tsumeb**	**134.38**	**288**	PFAKE		20 19 30.0	+9.2
TSUM				LR	LR		
	comp=Z,448nm,21.0s,MS5.2						
LPAZ	**La Paz**	**136.61**	**63**	PKP	PKPdf	20 19 21.9	-3.0
	comp=Z,1.6nm,0.2s,baz=97,slow=0.7,SNR=4.9						
LPAZ	**La Paz**	**136.61**	**63**	PKP	PKPdf	20 19 21.9	-3.0
LPAZ				LR	LR		
	comp=Z,264nm,19.0s,MS5.0						
SYO	**Syowa Base**	**137.97**	**210**	⇑Pdiff	Pdif	20 16 32.8	+2.8
RCBR	**Riachuelo**	**141.43**	**12**	PFAKE		20 19 40.0	+6.2
RCBR				LR	LR		
	comp=Z,176nm,20.0s,MS4.8						
BDFB	**Brasilia**	**147.22**	**36**	PKPbc	PKPdf	20 19 42.2	-1.4
	comp=Z,13nm,0.8s,baz=342,slow=1.1,SNR=16						
BDFB	**Brasilia**	**147.22**	**36**	PKP2	PKPab	20 19 42.2	-2.5
BDFB				pmax	pmax		
	comp=Z,13nm,0.8s						
BAO	**Brasilia Array**	**147.23**	**36**	P	PKPdf	20 19 42.0	-1.6
PLCA	**Paso Flores**	**149.00**	**99**	PKPbc	PKPdf	20 19 46.3	+0.6
	comp=Z,11nm,0.8s,baz=270,slow=2.4,SNR=22						
PLCA	**Paso Flores**	**149.00**	**99**	PKIKP	PKPdf	20 19 46.3	+0.6
PLCA				pmax	pmax		
	comp=Z,11nm,0.8s						
SNAA	**Sanae**	**149.60**	**196**	⇓*i*	PKPdf	20 19 46.5	+0.7
SNAA	**Sanae**	**149.60**	**196**	⇑*i*	PKPdf	20 19 47.1	+1.3
SNAA	**Sanae**	**149.60**	**196**	⇑*i*PKPdf	PKPdf	20 19 38.3	-7.5
SNAA				⇑*i*P		20 19 47.1	
CPUP	**Villa Florida**	**150.78**	**62**	PKPbc	PKPdf	20 19 50.8	+1.9
	comp=Z,7.6nm,0.8s,baz=27,slow=4.1,SNR=12						
CPUP	**Villa Florida**	**150.78**	**62**	PKIKP	PKPdf	20 19 50.8	+1.8
CPUP				pmax	pmax		
	comp=Z,8.0nm,0.8s						
VNA2	**Neumayer--Watz**	**151.06**	**194**	⇓*i*	PKPdf	20 19 54.8	+6.8
VNA2	**Neumayer--Watz**	**151.06**	**194**	⇑*i*	PKPdf	20 19 55.0	+7.0
VNA2	**Neumayer--Watz**	**151.06**	**194**	⇑*i*PKPdf	PKPdf	20 19 48.1	+0.1
VNA2				⇓*i*P		20 19 54.8	
VNA3	**Neumayer Olymp**	**151.16**	**192**	⇓*i*	PKPdf	20 19 54.7	+6.5
VNA3	**Neumayer Olymp**	**151.16**	**192**	⇑*i*	PKPdf	20 19 55.1	+6.9
VNA3	**Neumayer Olymp**	**151.16**	**192**	⇑*i*PKPdf	PKPdf	20 19 48.4	+0.2
VNA3				⇑*i*P		20 19 55.1	
PMSA	**Palmer Station**	**151.29**	**149**	*e*PKPbc	PKPdf	20 19 51.1	+2.5
VNA1	**Neumayer--Stat**	**151.44**	**194**	⇑*i*	PKPdf	20 19 55.1	+6.5
VNA1	**Neumayer--Stat**	**151.44**	**194**	⇓*i*	PKPdf	20 19 56.1	+7.5
VNA1	**Neumayer--Stat**	**151.44**	**194**	⇑*i*PKPdf	PKPdf	20 19 49.2	+0.6
VNA1				⇓*i*P		20 19 56.1	

DJA 15 20:18:30.2±0.8**,8.09S**×**115.00E,h30**^{km}**,MD6.1**/3**,4C-4D, Error ellipse: s-maj=20.7km s-min=4.6km az=9.0,Bali region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KELI	**Kelakatan**	**0.52**	**256**	⇑*i*Pn	Pn	20 18 43.4	+2.0
KELI				⇑*i*Sn	Sn	20 18 52.7	+3.5
INGI	**Ingas**	**0.73**	**168**	⇓*i*Pn	Pn	20 18 44.7	+0.1
INGI	**Ingas**	**0.73**	**168**	⇑*i*P	Pb	20 18 45.1	+0.7
INGI				⇓*i*Sn	Sn	20 18 54.8	0.0
RATI	**Rata**	**0.82**	**140**	⇑*i*Pn	Pn	20 18 46.3	+0.5
	160nm,0.2s						
RATI	**Rata**	**0.82**	**140**	⇓*i*P	Pn	20 18 46.6	+0.8
RATI				⇓*i*Sn	Sn	20 18 56.4	-0.5

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*LDG **15** 20:25:05.3±0.1,41.85N×2.63E,h10^{km},Md2.5/1,Ml2.3/6, Error ellipse: s-maj=2.3km s-min=1.3km az=132.0*

*MDD **15** 20:25:05.7±0.7,41.86N×2.66E,h10^{km},mbLg2.0/8,Error ellipse: s-maj=6.2km s-min=2.8km az=132.0,PRXIMO*

*STR **15** 20:25:05.5±0.2,41.87N×2.62E,h10^{km}±1^{km},Ml2.2,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 15 20:25:01.4±0.9**,41.77N**±0.04×**2.75E**±0.06**,h3**^{km}±4^{km}**,n26,**σ**1**^{s}**32**/42**,1C-1D,Spain**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBRU	**Bruguera**	**0.67**	**321**	Pg	**Pg**	**20 25 16.1**	**+1.3**
EJON	**La Jonquera**	**0.69**	**8**	⇓Pg	**Pg**	**20 25 17.2**	**+2.0**
	2.0nm,0.1s,SNR=18						
EJON				Lg		20 25 25.8	
	29nm,0.1s,SNR=20						
SJAF	**Saint Jean de**	**0.72**	**8**	Pg	**Pg**	**20 25 17.9**	**+2.0**
SJAF				Sg	**Sg**	**20 25 26.8**	**+1.2**
FILF	**Fillols**	**0.81**	**350**	Pg	**Pg**	**20 25 19.1**	**+1.6**
FILF				Sg	**Sg**	**20 25 29.1**	**+0.8**
VALF	**Valcebollere**	**0.84**	**320**	Pg	**Pg**	**20 25 18.8**	**+0.7**
VALF				Sg	**Sg**	**20 25 28.6**	**-0.7**
CLLI	**Llivia**	**0.92**	**321**	Pg	**Pg**	**20 25 20.4**	**+0.7**
EMIR	**Miracle**	**0.93**	**280**	Pg	**Pg**	**20 25 21.4**	**+1.4**
	7.2nm,0.1s,SNR=41						
EMIR				Lg		20 25 33.2	
	24nm,0.2s,SNR=5.0						
CARF	**Carcanieres**	**1.06**	**333**	P	**Pb**	**20 25 23.6**	**+1.5**
CARF				S	**Sb**	**20 25 35.6**	**-0.7**
CORG	**Organya**	**1.17**	**294**	Pg	**Pg**	**20 25 25.2**	**+0.5**
CGAR	**Garraf**	**1.30**	**249**	Pg	**Pg**	**20 25 19.7**	**-7.7**
EPOB	**Poblet**	**1.32**	**252**	⇑Pg	**Pg**	**20 25 29.2**	**+1.4**
	5.8nm,0.1s,SNR=18						
EPOB				Lg		20 25 46.4	
	12nm,0.2s,SNR=5.0						
CSOR	**Sort**	**1.35**	**297**	Pg	**Pg**	**20 25 28.7**	**+0.4**
CAVN	**Les Avellanes**	**1.50**	**275**	Pg	**Pg**	**20 25 31.6**	**+0.3**
SALF	**Salau**	**1.53**	**311**	S	**Sb**	**20 25 50.0**	**+0.3**
MTLF	**Montolieu**	**1.62**	**346**	*e*Pn	**Pn**	**20 25 31.1**	**0.0**
MTLF				*e*P		20 25 32.7	
MTLF				*e*Pg	**Pg**	**20 25 33.5**	**-0.3**
MTLF				*e*Sg	**Sg**	**20 25 52.8**	**-2.7**
	4.0nm,0.3s						
MLS	**Moulis**	**1.71**	**315**	S	**Sn**	**20 25 56.1**	**+1.1**
MELF	**Melles**	**1.85**	**308**	S	**Sn**	**20 25 59.9**	**+1.5**
EPF	**Esparros**	**2.19**	**306**	*e*Pn	**Pn**	**20 25 38.4**	**-0.8**
EPF				*e*Pg	**Pg**	**20 25 43.3**	**-1.8**
EPF				*e*Sg	**Sg**	**20 26 09.5**	**-4.8**
	3.3nm,0.2s						
ESAC	**San Caprasio**	**2.41**	**270**	Pg	**Pg**	**20 25 48.2**	**-1.3**
	5.3nm,0.2s,SNR=7.9						
ESAC				Lg		20 26 18.2	
	15nm,0.2s,SNR=7.9						
LASF	**Ste Croix**	**2.45**	**19**	*e*Pn	**Pn**	**20 25 43.1**	**+0.2**
LASF				*e*Pg	**Pg**	**20 25 49.5**	**-0.8**
LASF				*e*Sn	**Sn**	**20 26 10.4**	**-3.4**
LASF				*e*Sg	**Sg**	**20 26 20.6**	**-2.3**
	1.3nm,0.3s						
ETSF	**Etsaut**	**2.70**	**296**	*e*Pg	**Pg**	**20 25 52.8**	**-2.6**
ETSF				*e*Sg	**Sg**	**20 26 26.1**	**-5.3**
	3.7nm,0.3s						
EMOS	**Mosqueruela**	**2.81**	**241**	Pg	**Pg**	**20 25 57.5**	**0.0**
	0.9nm,0.3s,SNR=7.9						
EMOS				Lg		20 26 34.8	
	0.5nm,0.3s,SNR=7.9						
EIBI	**Ibiza**	**2.94**	**202**	Pn	**Pn**	**20 25 55.0**	**+5.0**
	7.4nm,0.2s,SNR=4.0						
CAF	**Calviac**	**3.20**	**351**	*e*Pn	**Pn**	**20 25 52.2**	**-1.4**
CAF				*e*Pg	**Pg**	**20 26 02.7**	**-2.6**
CAF				*e*Sg	**Sg**	**20 26 42.5**	**-5.4**
	1.6nm,0.2s						
SJPF	**Ste Jean**	**3.24**	**296**	*e*Pg	**Pg**	**20 26 02.8**	**-3.2**
SJPF				*e*Sg	**Sg**	**20 26 42.1**	**-7.1**
	1.6nm,0.2s						
ETOR	**Torete**	**3.74**	**257**	Pg	**Pg**	**20 26 15.1**	**-1.0**
	0.4nm,0.3s,SNR=7.9						
ETOR				Sn	**Sn**	**20 26 45.8**	**-0.8**
	0.7nm,0.5s,SNR=4.0						
ETOR				Lg		20 27 02.7	
	0.9nm,0.4s,SNR=7.9						

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*IDC **15** 20:35:52.4±1.9,18.02S×177.26W,mb4.5/5,mb1 4.7/5, mb1mx4.2/14,Error ellipse: s-maj=136.0km s-min=31.8km az=156.0*

*NEIC **15** 20:36:52.0±1.1,19.20S×177.71W,h600^{km},mb4.2/6, Error ellipse: s-maj=81.0km s-min=19.5km az=160.0*

ISC 15 20:36:50.3±2.7**,19.2S**±0.7×**177.8W**±0.3**,h594**^{km}±23^{km}**, n15,**σ**0**^{s}**54**/15**,mb4.1**/9**,1D,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.22**	**289**	P	**P**	**20 38 17.4**	**0.0**
	188nm,0.8s,SNR=32						
CTAO	**Charters Tower**	**33.87**	**262**	*e*P	**P**	**20 42 46.1**	**-0.3**
	21nm,1.2s,mb4.6						
STKA	**Stephens Creek**	**38.59**	**243**	⇓*i*P	**P**	**20 43 26.0**	**+0.9**
	2.6nm,0.8s,mb3.8						
STKA	**Stephens Creek**	**38.59**	**243**	P	**P**	**20 43 25.6**	**+0.5**
	4.4nm,0.5s,mb4.2,baz=97,slow=9.5,SNR=26						
WB2	**Warramunga Arr**	**45.02**	**261**	*e*P	**P**	**20 44 15.8**	**-0.2**
WRAB	**Tennant Creek**	**45.02**	**261**	*e*P	**P**	**20 44 15.5**	**-0.5**
	6.2nm,0.5s,mb4.4						
WRA	**Warramunga Arr**	**45.03**	**261**	P	**P**	**20 44 15.6**	**-0.5**
	3.0nm,0.3s,mb4.3,baz=98,slow=7.3,SNR=73						
ASAR	**Alice Springs**	**45.06**	**255**	P	**P**	**20 44 16.6**	**+0.2**
	5.6nm,0.4s,mb4.5,baz=88,slow=8.0,SNR=127						
ASPA	**Alice Springs**	**45.06**	**255**	*e*P	**P**	**20 44 16.3**	**0.0**
KAKA	**Kakadu**	**48.23**	**270**	*e*P	**P**	**20 44 41.8**	**+1.4**
	8.2nm,0.4s,mb4.6						
FITZ	**Fitzroy Crossi**	**53.44**	**261**	*e*P	**P**	**20 45 18.0**	**-0.1**
	2.9nm,0.5s,mb3.9						
FITZ	**Fitzroy Crossi**	**53.44**	**261**	P	**P**	**20 45 18.3**	**+0.2**
	3.3nm,0.6s,mb3.9,baz=104,slow=4.2,SNR=26						
MBWA	**Marble Bar**	**58.38**	**257**	*e*P	**P**	**20 45 51.3**	**-0.7**
	2.2nm,0.5s,mb3.5						
TXAR	**Lajitas Array**	**86.14**	**57**	P	**P**	**20 48 30.9**	**0.0**
	0.6nm,0.7s,mb3.4,baz=233,slow=6.3,SNR=3.6						
TXAR	**Lajitas Array**	**86.14**	**57**	P	**P**	**20 48 30.9**	**0.0**

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*TAP **15** 20:56:55.8,22.96N×121.03E,h8^{km}±2^{km},ML0.9*

JMA 15 20:56:55.6±0.2**,23.91N**×**122.71E,h49**^{km}**,M2.4,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.61**	**27**	P	P	20 57 08.1	-0.1
YOJ				S	S	20 57 17.2	-0.3
HATJ	**Hateruma jima**	**1.01**	**81**	P	P	20 57 13.5	-0.2
HATJ				*e*S	S	20 57 26.8	-0.2
IRIF	**Iriomote-Funau**	**1.02**	**65**	P	P	20 57 13.6	-0.2
IRIF				S	S	20 57 27.6	+0.3
JKRS	**Kuro-shima**	**1.23**	**74**	P	P	20 57 17.0	+0.3
JKRS				*e*S	S	20 57 32.5	0.0
JIJ	**Ishigaki jima**	**1.39**	**71**	P	P	20 57 18.5	-0.5
JIJ				S	S	20 57 35.1	-1.3
JTJ	**Tarama**	**1.96**	**68**	P	P	20 57 26.7	-0.3

DJA 15 20:58:43.4±1.1**,8.62S**×**117.80E,h30**^{km}±16^{km}**,MD4.6**/4**, ML4.3**/3**,5C-3D,Error ellipse: s-maj=56.7km s-min=25.7km az=2.0,Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**1.67**	**274**	⇓*i*Pn	Pn	20 59 14.4	+3.3
	114nm,0.2s						
KEDI	**Kedomdong**	**1.67**	**274**	⇑*i*P	Pn	20 59 15.0	+3.9
RATI	**Rata**	**2.24**	**267**	⇓*i*Pn	Pn	20 59 21.3	+2.0
	127nm,0.2s						
RATI	**Rata**	**2.24**	**267**	⇑*i*P	Pn	20 59 21.8	+2.5
INGI	**Ingas**	**2.63**	**265**	⇑*i*Pn	Pn	20 59 26.0	+1.1
	248nm,0.2s						
INGI				⇑*i*Sn	Sn	20 59 55.8	-0.3
KELI	**Kelakatan**	**3.30**	**277**	⇓*i*Pn	Pn	20 59 34.3	0.0
KELI				⇑*i*Sn	Sn	21 00 13.4	+0.5

DJA 15 21:06:03.0±1.0**,8.58S**×**115.32E,h116**^{km}±8^{km}**,MD4.9**/4**, 2C-5D,Error ellipse: s-maj=28.5km s-min=10.3km az=9.0,Bali region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RATI	**Rata**	**0.26**	**124**	⇓*i*Pn	P	21 06 19.3	-0.1
RATI				⇓*i*Sn	S	21 06 31.0	-0.8
INGI	**Ingas**	**0.29**	**216**	⇓*i*Pn	P	21 06 19.1	-0.4
	134nm,0.2s						
KEDI	**Kedomdong**	**0.79**	**83**	⇑*i*Pn	P	21 06 22.4	-0.5
	72nm,0.2s						
KEDI				⇓*i*Sn	S	21 06 36.4	-1.5
KELI	**Kelakatan**	**0.89**	**294**	⇓*i*Pn	P	21 06 23.6	-0.3
KELI				⇑*i*Sn	S	21 06 38.6	-1.0

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*NAO **15** 21:23:26.0±5.6,67.17N×20.65E,ML2.6*

*HEL **15** 21:23:27.0±0.1,67.18N×20.67E,ML2.1,ML2.6(UPP), ML1.9(BER),Explosion*

*BER **15** 21:23:28.7±4.0,67.20N×20.62E,ML1.9,ML2.6(NAO), Suspected explosion*

ISC 15 21:23:25.8±0.4**,67.20N**±0.02×**20.67E**±0.08**,n23,**σ**0**^{s}**97**/35**, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.09**	**207**	*i* P	**Pg**	**21 23 27.9**	**+0.3**
DUNU				*i* S	**Sg**	**21 23 29.3**	**+0.5**
KUA	**Kurravaara**	**0.77**	**350**	*i* P	**Pg**	**21 23 40.7**	**-0.4**
SALU	**Saltoluokta**	**0.86**	**283**	*i* P	**Pg**	**21 23 43.0**	**0.0**
ERTU	**Ertsjaerv**	**0.88**	**137**	*i* P	**Pg**	**21 23 42.1**	**-1.4**
NIKU	**Nikkaluokta**	**0.92**	**318**	*e*P	**Pg**	**21 23 43.6**	**-0.6**
PAJU	**Pajala**	**0.97**	**99**	*e*P	**Pg**	**21 23 44.4**	**-0.8**
SJUU	**Sjulsmark**	**1.74**	**167**	*e*P	**Pn**	**21 23 57.3**	**-0.2**
SJUU				*e*S	**Sn**	**21 24 20.7**	**-0.1**
KIF	**Kilpisjarvi**	**1.81**	**1**	*e*P	**Pn**	**21 23 59.5**	**+0.9**
KIF				*e*S	**Sn**	**21 24 24.0**	**+1.4**
KIF				*e*SG	**Sg**	**21 24 25.4**	**-0.7**
LILU	**Lilltraesk**	**1.95**	**190**	*e*P	**Pn**	**21 24 00.4**	**-0.2**
KTK1	**Kautokeino**	**2.06**	**27**	*e*P	**Pn**	**21 24 04.4**	**+2.4**
KTK1				*e*SG	**Sg**	**21 24 32.3**	**-2.0**
KTK1				AML	AML	21 24 33.9	
	comp=Z,14nm,0.3s						
SGF	**Sodankyl**	**2.28**	**81**	*e*P	**Pn**	**21 24 06.1**	**+0.9**
SGF				*e*S	**Sn**	**21 24 36.9**	**+2.4**
SGF				MSG		21 24 38.8	
	comp=Z,9.1nm,0.3s						
TRO	**Tromso**	**2.53**	**346**	*e*P	**Pn**	**21 24 08.7**	**-0.1**
TRO				*e*SG	**Sg**	**21 24 44.9**	**-5.1**
MOR8	**Moi Rana**	**2.69**	**250**	*e*SG	**Sg**	**21 24 45.2**	**-10**
MOR8				AML	AML	21 24 47.9	
	comp=Z,14nm,0.5s						
LOF	**Lofoten**	**2.88**	**292**	*e*	**Sg**	**21 25 01.4**	**-0.3**
LOF				AML	AML	21 25 04.1	
	comp=Z,9.4nm,0.5s						
LOF	**Lofoten**	**2.88**	**292**	*e*Sg	**Sg**	**21 25 01.4**	**-0.3**
LOF				AML	AML	21 25 04.1	
	comp=Z,9.4nm,0.5s						
ARA0	**ARCESS Array S**	**2.95**	**35**	Pn	**Pn**	**21 24 14.3**	**-0.5**
	baz=217,slow=14						
ARA0				Sn	**Sn**	**21 24 50.6**	**-0.8**
	baz=214,slow=28						
ARA0	**ARCESS Array S**	**2.95**	**35**	*e*P	**Pn**	**21 24 14.3**	**-0.5**
ARA0				*e*S	**Sn**	**21 24 50.6**	**-0.8**
OUL	**Oulu**	**3.00**	**133**	*e*S	**Sn**	**21 24 52.1**	**-0.7**
KEV	**Kevo**	**3.47**	**39**	*e*P	**Pn**	**21 24 22.8**	**+0.6**
KEV				*e*S	**Sn**	**21 25 05.3**	**+0.7**
MSF	**Maaselka**	**3.59**	**107**	*e*PG	**Pg**	**21 24 31.5**	**-5.9**
MSF				*e*SG	**Sg**	**21 25 16.1**	**-9.1**
NSS	**Namsos**	**4.47**	**237**	*e*SG	**Sg**	**21 25 46.3**	**-8.2**
NSS				AML	AML	21 25 47.5	
	comp=Z,7.2nm,0.4s						
FIA0	**FINESS Array S**	**6.24**	**155**	*e*S	**Sn**	**21 26 09.6**	**-4.7**
FIA0				*e*SG	**Sg**	**21 26 40.2**	**-13**
FIA0	**FINESS Array S**	**6.24**	**155**	Sn	**Sn**	**21 26 09.6**	**-4.7**
	baz=345,slow=22						
FIA0				Lg		21 26 40.2	
	baz=344,slow=28						

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*ATH **15** 21:27:58.7,41.26N×23.83E,h28^{km}±2^{km},MD3.0/3*

*THE **15** 21:28:00.8,41.14N×23.86E,h14^{km},ML2.6*

ISC 15 21:27:60.0±0.6**,41.18N**±0.05×**23.91E**±0.04**,h17**^{km}±9^{km}**, n11,**σ**0**^{s}**74**/20**,1C,Greece-Bulgaria border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NVR	**Nevrokopi**	**0.17**	**349**	⇑*i*PB	**Pb**	**21 28 04.1**	**-0.4**
NVR				*e*SB	**Sb**	**21 28 07.5**	**-0.1**
SRS	**Serrai**	**0.24**	**255**	*e*Pg	**Pb**	**21 28 05.1**	**-0.5**
SRS				*e*Sg	**Sb**	**21 28 09.1**	**-0.4**
SOH	**Sokhos**	**0.55**	**230**	*e*Pg	**Pb**	**21 28 10.4**	**-0.4**
SOH				*e*Sg	**Sb**	**21 28 17.6**	**-0.5**
KNT	**Kendrikon**	**0.76**	**269**	*e*Pg	**Pb**	**21 28 14.7**	**+0.3**
KNT				*e*Sg	**Sb**	**21 28 25.1**	**+0.9**
OUR	**Ouranopolis**	**0.85**	**176**	*e*Pg	**Pb**	**21 28 15.9**	**0.0**
OUR				*e*Sg	**Sb**	**21 28 28.3**	**+1.6**
PLG	**Polygyros**	**0.88**	**204**	*e*PN	**Pn**	**21 28 16.4**	**-1.0**
PLG				*e*SN	**Sn**	**21 28 29.5**	**-0.3**
THE	**Thessaloniki**	**0.90**	**233**	*e*Pg	**Pb**	**21 28 16.5**	**-0.2**
THE				*e*Sg	**Sb**	**21 28 28.7**	**+0.5**
GRG	**Griva**	**1.16**	**259**	*e*Pg	**Pb**	**21 28 21.5**	**+0.4**
GRG				*e*Sg	**Sb**	**21 28 37.0**	**+1.2**
RDO	**Rodhopi**	**1.23**	**91**	*e*PN	**Pn**	**21 28 22.9**	**+0.4**
ALN	**Alexandroupoli**	**1.64**	**99**	*e*Pb	**Pb**	**21 28 29.3**	**-0.1**
ALN				*e*Sb	**Sb**	**21 28 50.3**	**+0.6**
XOR	**Xorichti**	**1.89**	**197**	*e*Pb	**Pb**	**21 28 31.7**	**-2.0**

IDC 15 21:34:46.3±2.5**,7.24S**×**128.20E,mb3.8**/1**,mb1 3.9**/3**, mb1mx3.7**/10**,ML3.5**/2**,Error ellipse: s-maj=304.0km s-min=30.7km az=65.0,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.96**	**155**	Pn	P	21 38 04.7	-3.3
	0.3nm,0.3s,baz=331,slow=12,SNR=10						
WRA				Sn	S	21 40 28.9	-16
	0.8nm,0.3s,baz=333,slow=22,SNR=11						
ASAR	**Alice Springs**	**17.23**	**162**	P	P	21 38 49.3	-0.8
	0.3nm,0.3s,baz=343,slow=11,SNR=16						
ASAR				S	S	21 41 51.1	-10
	0.2nm,0.3s,baz=346,slow=26,SNR=5.6						
MKAR	**Makanchi Array**	**67.46**	**328**	P	P	21 45 44.0	-2.1
	0.4nm,0.4s,baz=125,slow=7.9,SNR=12						

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*CASC **15** 21:46:27.0±2.3,14.93N×92.51W,h27^{km}±10^{km},MD4.4, ML4.7*

*IDC **15** 21:46:34.3±4.0,15.08N×91.95W,h128^{km}±43^{km},mb3.6/2, mb1 3.7/4,mb1mx3.4/21,MS3.7/1,Ms1 3.6/1,ms1mx3.0/23, Error ellipse: s-maj=43.8km s-min=19.6km az=70.0*

*MEX **15** 21:46:35.8±0.6,15.17N×92.40W,h75^{km}±35^{km},MD4.3*

*NEIC **15** 21:46:35.9,15.18N×92.39W,h75^{km},MD4.1(MEX),After MEX.*

ISC 15 21:46:29.5±0.4**,14.97N**±0.05×**92.35W**±0.04**,h84**^{km}±8^{km}**, n34,**σ**1**^{s}**43**/55**,mb4.0**/2**,5C-7D,Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAT	**Jato**	**0.94**	**133**	⇑*e*P	**P**	**21 46 46.4**	**-2.0**
JAT				*e*S	**S**	**21 47 00.8**	**-1.7**
JAT				AML	AML	21 47 02.5	
	comp=N,119μm,0.3s						
TP2	**Tecpan 2**	**1.29**	**98**	⇓*e*P	**P**	**21 46 52.4**	**-0.3**
TP2				*e*S	**S**	**21 47 12.5**	**+2.3**
TP2				AML	AML	21 47 17.8	
	comp=N,6μm,0.4s						
FUG	**Fuego 3**	**1.54**	**109**	⇓*e*P	**P**	**21 46 54.6**	**-1.4**
PCG	**Pacaya**	**1.78**	**109**	⇓*e*P	**P**	**21 46 57.8**	**-1.3**
PCG				*e*S	**S**	**21 47 21.5**	**+0.7**
SCX	**San Cristobal**	**1.78**	**351**	*e*P	**P**	**21 47 01.0**	**+1.9**
SCX				*e*S	**S**	**21 47 20.0**	**-0.9**
NBG	**Las Nubes**	**1.97**	**101**	⇓*e*P	**P**	**21 47 01.1**	**-0.6**
NBG				*e*S	**S**	**21 47 30.7**	**+5.3**
NBG				AML	AML	21 47 32.4	
	comp=N,11μm,0.6s						
IXG	**Ixpaco**	**2.00**	**113**	⇑*e*P	**P**	**21 47 01.0**	**-1.0**
IXG				*e*S	**S**	**21 47 26.8**	**+0.8**
IXG				AML	AML	21 47 31.2	
	comp=N,31μm,0.4s						
CUSS	**Cusmapa**	**2.55**	**114**	*e*P	**P**	**21 47 08.0**	**-1.8**
CUSS				*e*S	**S**	**21 47 38.7**	**-1.1**
MRL	**Marmol**	**2.57**	**87**	⇓*i*P	**P**	**21 47 09.6**	**-0.4**
MRL				AML	AML	21 48 00.9	
	comp=N,491nm,0.4s						
RTR	**El Retiro**	**2.83**	**112**	⇑*e*P	**P**	**21 47 12.1**	**-1.5**
RTR				*e*S	**S**	**21 47 49.4**	**+2.8**
SBLS	**San Blas**	**2.87**	**113**	⇑*e*P	**P**	**21 47 13.6**	**-0.6**
SBLS				*e*S	**S**	**21 47 48.0**	**+0.3**
SNJE	**San Jose**	**2.87**	**112**	*e*P	**P**	**21 47 12.6**	**-1.7**
SNJE				*e*S	**S**	**21 47 50.5**	**+2.8**
MTO2	**Montecristo 2**	**2.94**	**101**	*e*P	**P**	**21 47 12.7**	**-2.5**
BOQS	**Boqueron**	**3.21**	**112**	*e*P	**P**	**21 47 17.9**	**-1.1**

BOQS				eS	S	21 47 58.8	+2.5
CMIG	**Matias Romero**	**3.23**	**311**	eP	**P**	**21 47 19.2**	**+0.1**
CMIG				eS	S	21 47 57.3	+0.8
SNET	**Serv Nac Est T**	**3.28**	**112**	eP	**P**	**21 47 17.4**	**-2.5**
SNET				eS	S	21 47 58.7	+0.9
LFU	**La Fuente**	**3.36**	**111**	eP	**P**	**21 47 20.6**	**-0.4**
LBRS	**Las Brisas**	**3.43**	**110**	⇓eP	**P**	**21 47 23.3**	**+1.4**
LFRS	**El Faro**	**3.45**	**112**	⇑eP	**P**	**21 47 20.6**	**-1.7**
LFRS				eS	S	21 48 03.9	+1.7
LCBS	**La Ceiba**	**3.52**	**111**	eP	**P**	**21 47 22.8**	**-0.4**
LCBS				eS	S	21 48 05.2	+1.4
SNVI	**San Vicente**	**3.66**	**111**	⇓eP	**P**	**21 47 25.9**	**+0.8**
SNVI				eS	S	21 48 10.6	+3.3
SCIG		**4.13**	**15**	eP	**P**	**21 47 32.6**	**+1.0**
SCIG				eS	S	21 48 18.2	-0.8
EVV	**El Vigia**	**4.51**	**321**	eP	**P**	**21 47 39.0**	**+2.2**
EVV				eS	S	21 48 27.0	-1.4
CNCH	**Conchagua**	**4.69**	**110**	eP	**P**	**21 47 39.7**	**+0.3**
CNCH				eS	S	21 48 34.3	+1.4
OXX	**Oaxaca**	**4.70**	**297**	eP	**P**	**21 47 42.0**	**+2.4**
OXX				eS	S	21 48 34.0	+0.7
VHO	**Vista Hermosa**	**4.71**	**297**	eP	**P**	**21 47 42.6**	**+2.9**
VHO				iS	S	21 48 32.7	-0.7
TEIG	**Tepich**	**6.51**	**36**	P	**P**	**21 48 03.5**	**-1.0**
	comp=N,0.0nm,0.3s,baz=46,slow=24,SNR=44						
TEIG				S	S	21 49 13.9	-4.1
	comp=N,0.0nm,0.3s,baz=199,slow=24,SNR=15						
PPM	**Popocatepetl**	**7.26**	**305**	eP	**P**	**21 48 17.0**	**+2.2**
JTS	**JuntasAbangare**	**8.58**	**122**	P	**P**	**21 48 32.2**	**-0.7**
	comp=N,1.7nm,0.3s,baz=329,slow=18,SNR=6.0						
JTS				S	S	21 50 04.8	-4.1
	comp=N,0.3nm,0.3s,baz=82,slow=19,SNR=2.5						
TXAR	**Lajitas Array**	**17.71**	**326**	P	**P**	**21 50 32.4**	**+0.2**
	comp=N,0.1nm,0.3s,baz=146,slow=13,SNR=4.4						
NVAR	**Mina Array Bea**	**32.71**	**320**	P	**P**	**21 52 56.6**	**+0.4**
	comp=N,2.1nm,0.7s,mb4.1,baz=143,slow=7.9,SNR=17						
ULM	**Lac du Bonnet**	**35.30**	**356**	LR	LR	22 11 39.7	
	comp=N,123nm,19.7s,baz=214,slow=43						
ILAR	**Eielson Array**	**61.82**	**337**	P	**P**	**21 56 39.9**	**-1.8**
	comp=N,1.0nm,0.9s,mb3.8,baz=127,slow=5.6,SNR=5.7						
CMAR	**Chiang Mai Arr**	**144.97**	**341**	PKP	PKPdf	22 05 56.5	-1.3
	comp=N,1.2nm,0.6s,baz=344,slow=2.8,SNR=8.2						

IDC 15 21:59:53.6±25.0**,18.32S**×**173.40W,mb3.9**/4**,mb1 4.1**/4**, mb1mx3.8**/15**,Error ellipse: s-maj=461.0km s-min=149.1km az=73.0,Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**38.08**	**261**	P	P	22 07 14.6	-1.4
	2.9nm,0.3s,baz=92,slow=7.0,SNR=5.1						
STKA	**Stephens Creek**	**42.65**	**243**	P	P	22 07 51.7	-2.0
	0.4nm,0.5s,baz=78,slow=14,SNR=2.1						
WRA	**Warramunga Arr**	**49.24**	**259**	P	P	22 08 43.8	-2.4
	0.3nm,0.3s,baz=96,slow=7.3,SNR=5.4						
ASAR	**Alice Springs**	**49.27**	**254**	P	P	22 08 44.9	-1.5
	1.0nm,0.6s,baz=93,slow=8.0,SNR=19						

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*NEIC **15** 22:47:53.5,34.01S×72.35W,h33^{km},ML3.3(GUC),After GUC.*

GUC 15 22:47:53.5±0.7**,34.01S**×**72.35W,h33**^{km}±3^{km}**,MD4.1, ML3.3,1C-3D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.78**	**86**	⇓iP	P	22 48 08.0	0.0
LNV				iS	S	22 48 18.9	+0.2
LCCH	**Las Cruces**	**0.84**	**51**	eP	P	22 48 08.9	0.0
LCCH				iS	S	22 48 20.6	+0.4
TACH	**Talagante**	**1.23**	**73**	⇓iP	P	22 48 14.9	+0.5
TACH				iS	S	22 48 29.5	-0.6
SFDO	**San Fernando**	**1.25**	**119**	eP	P	22 48 15.2	+0.5
RCDM	**Rinconada Maip**	**1.39**	**68**	eP	P	22 48 17.5	+0.8
RCDM				iS	S	22 48 35.1	+1.1
RCDM				AMP		22 48 39.6	
	comp=N,478nm,0.6s						
CHCH	**Chadas Angostu**	**1.41**	**87**	eP	P	22 48 17.9	+0.8
CHCH				iS	S	22 48 37.2	+2.6
CACH	**El Canelo**	**1.45**	**95**	⇓iP	P	22 48 19.1	+1.4
CACH				iS	S	22 48 39.4	+3.7
ANTU	**Antumapu**	**1.49**	**73**	eP	P	22 48 19.4	+1.1
ANTU				eS	S	22 48 38.9	+2.2
ANTU				AMP		22 48 43.1	
	comp=E,951nm,0.4s						
PCH	**Pirque**	**1.57**	**76**	eP	P	22 48 20.6	+1.1
PCH				iS	S	22 48 41.0	+2.2
CICH	**Cipreses**	**1.62**	**101**	⇑iP	P	22 48 21.3	+1.1
CLCH	**Cerro Calan**	**1.63**	**68**	eP	P	22 48 21.7	+1.5
CLCH				iS	S	22 48 43.3	+3.1
CLCH				AMP		22 49 05.3	
	comp=E,647nm,0.5s						
LMEL	**Las Melosas**	**1.79**	**85**	eP	P	22 48 24.0	+1.6
LMEL				AMP		22 48 52.5	
	comp=N,507nm,0.3s						
FCH	**Farellones**	**1.85**	**69**	eP	P	22 48 24.8	+1.5
FCH				iS	S	22 48 48.2	+2.5
FCH				AMP		22 48 55.4	
	comp=N,462nm,0.4s						
JACH	**Jahuel**	**1.98**	**48**	eP	P	22 48 28.1	+2.9

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*NIED **15** 23:09:00,44.00N×151.50E,h71^{km},Mw4.2 Best double couple: M$_0$2.19×10^{15} NP1:ϕ_s95°,δ70°,λ96°. NP2:ϕ_s258°,δ21°,λ74°.*

*IDC **15** 23:09:02.1±1.2,43.88N×151.38E,mb3.7/5,mb1 4.1/5, mb1mx3.7/20,Error ellipse: s-maj=48.6km s-min=29.9km az=121.0*

ISC 15 23:09:05.3±1.0**,43.9N**±0.2×**151.3E**±0.2**,h33**^{km}**,n6,** σ**0**^{s}**43**/6**,mb3.7**/5**,East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BTO	**Baotou**	**30.54**	**278**	eP	**P**	**23 15 17.8**	**+0.1**
ILAR	**Eielson Array**	**39.60**	**36**	P	**P**	**23 16 34.3**	**-0.5**
	0.6nm,0.7s,mb3.5,baz=270,slow=7.1,SNR=4.9						
NVAR	**Mina Array Bea**	**64.92**	**60**	P	**P**	**23 19 44.0**	**+0.5**
	0.6nm,0.7s,mb3.7,baz=288,slow=5.7,SNR=3.7						
WRA	**Warramunga Arr**	**65.38**	**198**	P	**P**	**23 19 46.5**	**-0.2**
	0.7nm,0.7s,mb3.8,baz=11,slow=6.5,SNR=4.8						
FINES	**FINESS Array B**	**66.12**	**335**	P	**P**	**23 19 50.8**	**0.0**
	0.9nm,0.6s,mb4.0,baz=90,slow=8.3,SNR=4.3						
TXAR	**Lajitas Array**	**80.03**	**59**	P	**P**	**23 21 13.1**	**+0.1**
	0.7nm,0.7s,mb3.7,baz=288,slow=5.0,SNR=8.5						

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*IDC **15** 23:16:35.7±1.2,43.63N×151.69E,mb3.6/6,mb1 3.9/6, mb1mx3.7/21,Error ellipse: s-maj=33.8km s-min=30.6km az=139.0*

ISC 15 23:16:38.8±1.1**,43.6N**±0.2×**151.6E**±0.3**,h33**^{km}**,n6,** σ**0**^{s}**53**/6**,mb3.6**/6**,East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ILAR	**Eielson Array**	**39.69**	**36**	P	**P**	**23 24 08.4**	**-0.5**
	0.3nm,0.7s,mb3.1,baz=276,slow=8.2,SNR=4.2						
MKAR	**Makanchi Array**	**47.51**	**299**	P	**P**	**23 25 12.1**	**-0.3**
	0.4nm,0.6s,mb3.6,baz=82,slow=8.6,SNR=4.1						
BVAR	**Borovoye Array**	**52.08**	**311**	P	**P**	**23 25 47.6**	**+0.4**
	0.2nm,0.4s,mb3.4,baz=72,slow=9.1,SNR=3.4						
WRA	**Warramunga Arr**	**65.20**	**198**	P	**P**	**23 27 18.9**	**-0.2**
	0.6nm,0.8s,mb3.7,baz=12,slow=6.7,SNR=4.5						
FINES	**FINESS Array B**	**66.44**	**335**	P	**P**	**23 27 26.4**	**+0.1**
	3.6nm,1.1s,mb4.3,baz=22,slow=7.5,SNR=4.0						
TXAR	**Lajitas Array**	**79.98**	**59**	P	**P**	**23 28 46.8**	**+0.5**
	0.5nm,0.7s,mb3.5,baz=298,slow=3.8,SNR=6.0						

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*NIED **15** 23:25:00,43.60N×147.20E,h50^{km},Mw4.1 Best double couple: M$_0$1.49×10^{15} NP1:ϕ_s230°,δ87°,λ-158°. NP2: ϕ_s139°,δ68°,λ-3°.*

*MOS **15** 23:25:30.8±0.9,43.83N×147.21E,h72^{km},mb4.5/8,Error ellipse: s-maj=17.6km s-min=11.9km az=87.9*

*SKHL **15** 23:25:31.5±0.5,43.80N×147.20E,h33^{km},mb5.0/3*

*JMA **15** 23:25:31.4±0.2,43.63N×147.22E,h38^{km},M4.5*

*IDC **15** 23:25:36.1±3.4,44.73N×147.05E,h56^{km}±30^{km},mb3.8/16, mb1 4.0/18,mb1mx3.9/26,ML4.0/2,Error ellipse: s-maj=22.8km s-min=16.7km az=164.0*

*NEIC **15** 23:25:42.7±1.8,44.81N×147.12E,h112^{km}±14^{km},mb4.4/2, Error ellipse: s-maj=19.3km s-min=11.8km az=173.0*

ISC 15 23:25:30.8±0.7**,43.83N**±0.06×**147.23E**±0.07**,h66**^{km}±6^{km}**, n65,** σ**1**^{s}**02**/76**,mb4.0**/17**,2C-5D,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**1.01**	**282**	⇓iP	**P**	**23 25 48.8**	**-0.7**
YUK				⇓iP		23 25 48.8	
YUK				AMB	AMB	23 25 49.0	
	1µm,0.2s						
YUK				AMB	AMB	23 25 49.0	
	1µm,0.2s						
YUK				AMB	AMB	23 25 49.0	
	11µm,0.2s						
YUK				AMB	AMB	23 25 49.0	
	11µm,0.2s						
YUK				eS	**S**	**23 26 02.2**	**-1.1**
YUK				A		23 26 04.5	
	8µm,0.8s						
YUK				A		23 26 04.5	
	3µm,0.5s						
YUK				A		23 26 04.5	
	6µm,0.5s						
YUK	**Yuzh-Kuril'sk**	**1.01**	**282**	κ iPN	**P**	**23 25 48.8**	**-0.7**
YUK				eS	**S**	**23 26 02.2**	**-1.1**
YUK				pmax	pmax		
	comp=Z,11µm,0.3s						
YUK				pmax	pmax		
	comp=N,1µm,0.2s						
YUK				pmax	pmax		
	comp=E,1µm,0.2s						
YUK				pmax	pmax		
	comp=Z,11µm,0.2s						
YUK				smax			
	comp=E,6µm,0.5s						
YUK				smax			
	comp=N,3µm,0.5s						
YUK				smax			
	comp=N,8µm,0.8s						
YUK				smax			
	comp=E,8µm,0.8s						
NEM2	**Nemuro 2**	**1.17**	**247**	P	**P**	**23 25 51.0**	**-0.6**
NEM2				eS	**S**	**23 26 05.0**	**-2.2**
KUR	**Kuril'sk**	**1.48**	**18**	eP	**P**	**23 25 56.0**	**+0.1**
KUR				AMB	AMB	23 25 57.5	
	comp=E,240nm,0.4s						
KUR				eS	**S**	**23 26 14.0**	**-0.4**
KUR				A		23 26 16.0	
	comp=E,6µm,0.4s						
KUR				A		23 26 16.0	
	comp=E,4µm,0.4s						
KUR	**Kuril'sk**	**1.48**	**18**	⇓ePN	**P**	**23 25 56.0**	**+0.1**
KUR				eS	**S**	**23 26 14.0**	**-0.4**
KUR				pmax	pmax		
	comp=Z,240nm,0.4s						
KUR				smax			
	comp=N,6µm,0.4s						
KUR				smax			
	comp=E,4µm,0.4s						
JRA	**Rausu**	**1.53**	**275**	P	**P**	**23 25 57.3**	**+0.8**
JRA				eS	**S**	**23 26 17.0**	**+1.5**
JNK	**Nakash**	**1.83**	**263**	P	**P**	**23 26 00.9**	**+0.2**
JNK				eS	**S**	**23 26 23.0**	**+0.2**
JAK	**Akkeshi**	**2.02**	**247**	P	**P**	**23 26 02.7**	**-0.6**
JAK				eS	**S**	**23 26 26.0**	**-1.4**
JTKR	**Abashiri--Toko**	**2.40**	**275**	P	**P**	**23 26 09.9**	**+1.2**
JAR	**Ashorobuto**	**2.57**	**259**	P	**P**	**23 26 11.5**	**+0.4**
JAR				eS	**S**	**23 26 42.2**	**+1.0**
JOB	**Onbets**	**2.64**	**251**	P	**P**	**23 26 11.9**	**-0.2**
JMP	**Maruseppu**	**2.80**	**275**	P	**P**	**23 26 15.6**	**+1.3**
JCH	**Churui**	**3.07**	**248**	P	**P**	**23 26 17.2**	**-1.0**
JCH				eS	**S**	**23 26 51.7**	**-2.2**
JKK2	**Kamakawa 2**	**3.24**	**272**	P	**P**	**23 26 21.8**	**+1.3**
ASAJ	**Asahikawa**	**3.35**	**277**	P	**P**	**23 26 23.5**	**+1.4**
	comp=E,6.4nm,0.3s,baz=78,slow=15,SNR=20						
ASAJ				S	**S**	**23 27 09.0**	**+8.1**
	baz=101,slow=19,SNR=1.7						
ASAJ	**Asahikawa**	**3.35**	**277**	P	**P**	**23 26 24.0**	**+1.9**
ASAJ	**Asahikawa**	**3.35**	**277**	PN	**P**	**23 26 23.5**	**+1.4**
ASAJ				pmax	pmax		
	comp=Z,6.0nm,0.3s						
JFR	**Furan**	**3.44**	**260**	P	**P**	**23 26 24.5**	**+1.3**
JFR				eS	**S**	**23 27 03.5**	**+0.5**
JEM	**Erimo**	**3.49**	**240**	P	**P**	**23 26 24.9**	**+0.8**
JSE	**Soyaes**	**3.52**	**290**	P	**P**	**23 26 25.5**	**+1.2**
JNBK	**Urakawa-nobuka**	**3.62**	**246**	P	**P**	**23 26 25.1**	**-0.8**
YSS	**Yuzh-Sakhalins**	**4.44**	**316**	⇑iP	**P**	**23 26 37.8**	**+0.6**
YSS				AMB	AMB	23 26 38.5	
	comp=Z,20nm,0.8s						
YSS				iS	**S**	**23 27 26.6**	**-1.5**
YSS				A		23 27 28.0	
	comp=Z,40nm,0.7s						
YSS				A		23 27 28.0	
	comp=Z,60nm,0.7s						
YSS	**Yuzh-Sakhalins**	**4.44**	**316**	⇑iPN	**P**	**23 26 37.8**	**+0.6**
YSS				iS	**S**	**23 27 26.6**	**-1.5**
YSS				pmax	pmax		
	comp=Z,20nm,0.8s						
YSS				smax			
	comp=E,40nm,0.6s						
YSS				smax			
	comp=E,60nm,0.7s						
YSS	**Yuzh-Sakhalins**	**4.44**	**316**	eP	**P**	**23 26 38.5**	**+1.3**
SKR	**Severo-Kuril's**	**9.14**	**38**	eP	**P**	**23 27 41.6**	**-0.6**
FX1	**Attu Island--F**	**19.38**	**53**	P	**P**	**23 29 53.2**	**-0.4**
	comp=E,2.6nm,0.3s,baz=307,slow=5.2,SNR=8.7						
FX1	**Attu Island--F**	**19.38**	**53**	P	**P**	**23 29 53.2**	**-0.4**
FX1				pmax	pmax		
	comp=Z,3.0nm,0.3s						
FX1	**Attu Island--F**	**19.38**	**53**	eP	**P**	**23 29 53.5**	**-0.1**
MCK	**McKinley**	**40.54**	**38**	eP	**P**	**23 33 05.0**	**+0.4**
	comp=Z,3.1nm,0.8s,mb4.2						
ILAR	**Eielson Array**	**41.39**	**36**	P	**P**	**23 33 11.2**	**-0.4**
	comp=Z,2.2nm,0.7s,mb4.1,baz=259,slow=7.6,SNR=20						
ILAR	**Eielson Array**	**41.39**	**36**	P	**P**	**23 33 11.2**	**-0.4**
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MKAR	**Makanchi Array**	**44.60**	**298**	P	**P**	**23 33 38.7**	**+0.9**
	comp=Z,0.6nm,0.6s,mb3.5,baz=79,slow=8.2,SNR=7.9						
MKAR	**Makanchi Array**	**44.60**	**298**	P	**P**	**23 33 38.7**	**+0.9**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**44.60**	**298**	P	**P**	**23 33 38.7**	**+0.9**
INK	**Inuvik**	**46.31**	**30**	P	**P**	**23 33 51.7**	**+0.6**
	comp=Z,7.4nm,0.4s,mb4.8,baz=302,slow=5.7,SNR=44						
INK	**Inuvik**	**46.31**	**30**	P	**P**	**23 33 51.7**	**+0.6**
INK				pmax	pmax		
	comp=Z,7.0nm,0.4s						
INK	**Inuvik**	**46.31**	**30**	eP	**P**	**23 33 51.3**	**+0.2**
	comp=Z,8.2nm,0.6s,mb4.6						
BVAR	**Borovoye Array**	**49.50**	**309**	P	**P**	**23 34 16.9**	**+0.8**
	comp=Z,0.1nm,0.3s,mb3.2,baz=82,slow=10,SNR=3.6						
YKA	**Yellowknife Ar**	**55.71**	**34**	P	**P**	**23 35 02.2**	**+0.1**
	comp=Z,1.1nm,0.4s,mb4.3,baz=302,slow=7.2,SNR=5.9						
YKA	**Yellowknife Ar**	**55.71**	**34**	P	**P**	**23 35 02.2**	**0.0**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
YKA	**Yellowknife Ar**	**55.71**	**34**	P	**P**	**23 35 02.2**	**+0.1**
ARCES	**ARCESS Array B**	**59.20**	**340**	P	**P**	**23 35 24.3**	**-2.3**
	comp=Z,4.9nm,1.1s,mb4.5,baz=32,slow=6.4,SNR=5.1						
ARCES	**ARCESS Array B**	**59.20**	**340**	P	**P**	**23 35 24.3**	**-2.3**
ARCES				pmax	pmax		
	comp=Z,5.0nm,1.1s						
KAF	**Kangasniemi**	**64.27**	**333**	ep	**P**	**23 35 58.7**	**-1.9**
FINES	**FINESS Array B**	**64.83**	**333**	P	**P**	**23 36 02.6**	**-1.6**
	comp=Z,1.9nm,0.5s,mb4.2,baz=48,slow=7.8,SNR=24						
FINES	**FINESS Array B**	**64.83**	**333**	P	**P**	**23 36 02.6**	**-1.7**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
NVAR	**Mina Array Bea**	**67.49**	**58**	P	**P**	**23 36 22.5**	**+0.9**
	comp=Z,0.9nm,0.8s,mb3.7,baz=301,slow=5.4,SNR=5.3						
ASAR	**Alice Springs**	**68.27**	**193**	P	**P**	**23 36 36.8**	**+10**
	comp=Z,0.2nm,0.4s,mb3.3,baz=13,slow=5.9,SNR=2.8						
NB2	**NORSAR Subarra**	**69.55**	**339**	P	**P**	**23 36 33.1**	**-0.8**
	comp=Z,1.2nm,0.5s,mb4.0,baz=31,slow=6.2						
NOA	**NORSAR Array B**	**69.55**	**339**	P	**P**	**23 36 32.9**	**-1.0**
	comp=Z,1.5nm,0.5s,mb4.0,baz=32,slow=6.2,SNR=4.9						
NOA	**NORSAR Array B**	**69.55**	**339**	P	**P**	**23 36 32.9**	**-1.0**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
NOA	**NORSAR Array B**	**69.55**	**339**	P	**P**	**23 36 32.9**	**-1.0**
HFS	**Hagfors**	**69.64**	**337**	P	**P**	**23 36 33.7**	**-0.8**
	comp=Z,4.1nm,0.7s,mb4.4,baz=34,slow=5.3,SNR=15						
HFS	**Hagfors**	**69.64**	**337**	P	**P**	**23 36 33.7**	**-0.8**
HFS				pmax	pmax		
	comp=Z,4.0nm,0.7s						
AKASG	**Malin Array Be**	**71.55**	**324**	P	**P**	**23 36 45.8**	**-0.4**
	comp=Z,2.9nm,0.6s,mb4.3,baz=40,slow=6.1,SNR=17						
AKASG	**Malin Array Be**	**71.55**	**324**	P	**P**	**23 36 45.8**	**-0.3**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.6s						
CLL	**Collm**	**77.27**	**333**	P	**P**	**23 37 19.0**	**0.0**
SCHQ	**Schefferville**	**77.53**	**19**	P	**P**	**23 37 20.6**	**+0.2**
	comp=Z,1.6nm,0.4s,mb4.1,baz=17,slow=11,SNR=6.2						
EKA	**Eskdalemuir Ar**	**78.07**	**343**	P	**P**	**23 37 23.8**	**+0.5**
	comp=Z,2.1nm,0.6s,mb4.0,baz=23,slow=4.1,SNR=7.4						
EKA	**Eskdalemuir Ar**	**78.07**	**343**	P	**P**	**23 37 23.8**	**+0.5**
EKA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
GERES	**GERESS Array B**	**79.12**	**331**	P	**P**	**23 37 29.5**	**+0.3**
	comp=Z,0.4nm,0.4s,mb3.6,baz=34,slow=5.7,SNR=5.3						
TXAR	**Lajitas Array**	**82.56**	**56**	P	**P**	**23 37 49.4**	**+1.6**
	comp=Z,0.3nm,0.5s,mb3.4,baz=305,slow=3.8,SNR=4.7						
PLCA	**Paso Flores**	**152.04**	**97**	PKP	PKPdf	23 45 20.2	+9.0
	comp=Z,0.9nm,0.9s,baz=42,slow=13,SNR=3.6						
PLCA	**Paso Flores**	**152.04**	**97**	PKIKP	PKPdf	23 45 20.2	+9.0
PLCA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
PLCA	**Paso Flores**	**152.04**	**97**	PKP	PKPdf	23 45 20.2	+9.0

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*IDC **15** 23:45:55.9±1.2,1.68N×126.55E,mb4.1/5,mb1 4.3/6, mb1mx4.0/15,ML3.5/1,Error ellipse: s-maj=100.0km s-min=17.2km az=68.0*

*NEIC **15** 23:45:57.0±9.7,1.61N×126.40E,h4^{km}±60^{km},mb4.2/8, Error ellipse: s-maj=32.8km s-min=11.1km az=65.0*

ISC 15 23:45:56.0±0.8**,1.7N**±0.1×**126.4E**±0.3**,h10**^{km}**,n17,** σ**0**^{s}**63**/17**,mb4.2**/11**,1C,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.64**	**182**	eP	**P**	**23 50 26.7**	**-1.1**
	3.0nm,1.2s						
FITZ	**Fitzroy Crossi**	**19.64**	**182**	P	**P**	**23 50 26.7**	**-1.2**
	0.1nm,0.3s,slow=8.1,SNR=5.7						
WRAB	**Tennant Creek**	**22.82**	**160**	eP	**P**	**23 51 00.1**	**-0.4**
	23nm,0.8s,mb4.7						
WRA	**Warramunga Arr**	**22.83**	**160**	P	**P**	**23 51 00.5**	**0.0**
	13nm,0.7s,mb4.5,baz=339,slow=11,SNR=42						
WB2	**Warramunga Arr**	**22.83**	**160**	⇑iP	**P**	**23 51 00.9**	**+0.3**
MBWA	**Marble Bar**	**23.59**	**196**	eP	**P**	**23 51 08.5**	**+0.6**
	3.7nm,0.9s,mb3.8						
ASAR	**Alice Springs**	**26.20**	**164**	P	**P**	**23 51 32.8**	**-0.1**
	3.4nm,0.9s,mb3.9,baz=345,slow=7.6,SNR=21						
ASPA	**Alice Springs**	**26.20**	**164**	eP	**P**	**23 51 33.8**	**+1.0**
STKA	**Stephens Creek**	**36.33**	**158**	eP	**P**	**23 53 01.8**	**-0.2**
	2.6nm,0.8s,mb4.2						
STKA	**Stephens Creek**	**36.33**	**158**	P	**P**	**23 53 00.8**	**-1.2**
	4.5nm,0.9s,mb4.4,baz=341,slow=7.2,SNR=8.1						
MKAR	**Makanchi Array**	**59.08**	**326**	P	**P**	**23 55 58.2**	**-0.6**
	0.4nm,0.3s,mb3.9,baz=116,slow=7.4,SNR=17						
MKAR				PcP	PcP	23 56 46.8	-0.6
	1.1nm,0.8s,baz=138,slow=3.0,SNR=4.0						
MKAR	**Makanchi Array**	**59.08**	**326**	P	**P**	**23 55 58.2**	**-0.6**
MKAR				PcP	PcP	23 56 46.8	-0.6
KURK	**Kurchatov**	**63.31**	**328**	eP	**P**	**23 56 27.4**	**0.0**
	1.8nm,0.5s,mb4.5						
BVAR	**Borovoye Array**	**68.88**	**328**	P	**P**	**23 57 03.2**	**+0.3**
	0.7nm,0.7s,mb3.7,baz=135,slow=2.1,SNR=5.8						
BRVK	**Borovoye**	**68.95**	**328**	P	**P**	**23 57 03.3**	**0.0**
	1.0nm,0.6s,mb3.9						
SBA	**Scott Base**	**82.33**	**172**	P	**P**	**23 58 18.5**	**-0.4**
	1.3nm,1.0s,mb3.8						
QSPA	**South Pole Qui**	**91.57**	**180**	P	**P**	**23 59 04.9**	**+1.2**
	5.5nm,1.4s,mb4.7						

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*THE **16** 00:01:05.5,39.77N×20.76E,h11^{km}*

*ATH **16** 00:01:05.5,39.81N×20.61E,h4^{km},MD2.9/3*

ISC 16 00:01:05.2±0.8**,39.74N**±0.06×**20.73E**±0.05**,h22**^{km}±9^{km}**, n8,** σ**0**^{s}**80**/14**,Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAN	**Janina**	**0.13**	**131**	ePG	**Pb**	**00 01 09.4**	**-0.3**
JAN				eSG	**Sb**	**00 01 13.2**	**+0.4**
IGT	**Igoumenitsa**	**0.37**	**236**	ePg	**Pb**	**00 01 12.6**	**-0.4**
IGT				eSg	**Sb**	**00 01 19.6**	**+1.1**
MEV	**Metsovon**	**0.39**	**83**	ePg	**Pb**	**00 01 13.4**	**0.0**
MEV				eSg	**Sb**	**00 01 17.6**	**-1.4**
KEK	**Kerkira**	**0.72**	**268**	ePG	**Pb**	**00 01 17.5**	**-1.4**
FNA	**Florina**	**1.16**	**25**	ePg	**Pn**	**00 01 26.5**	**+0.3**
FNA				eSg	**Sb**	**00 01 42.2**	**+1.2**
EVR	**Evrytania**	**1.17**	**134**	ePN	**Pn**	**00 01 31.8**	**+5.3**
LIT	**Litokhoron**	**1.40**	**75**	ePb	**Pb**	**00 01 29.9**	**-0.7**
LIT				eSb	**Sb**	**00 01 48.1**	**+0.1**
AGG	**Agios Georgios**	**1.43**	**119**	ePb	**Pb**	**00 01 31.2**	**+0.1**
AGG				eSb	**Sb**	**00 01 49.9**	**+0.9**

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*NIED **16** 00:16:00,41.00N×141.60E,h86^{km},Mw4.2 Best double couple: M$_0$2.12×10^{15} NP1:ϕ_s54°,δ76°,λ-159°. NP2: ϕ_s319°,δ70°,λ-15°.*

*MOS **16** 00:16:04.7±0.8,40.93N×141.40E,h84^{km},mb4.4/11,Error ellipse: s-maj=20.0km s-min=10.4km az=88.3*

*BJI **16** 00:16:06.4,40.92N×141.48E,h105^{km},mB4.8,mb4.8*

*JMA **16** 00:16:07.2±0.1,40.97N×141.55E,h84^{km}±1^{km},M4.0 Broadband fault plane solution: P waves. NP1:ϕ_s322°, δ65°,λ-16°. NP2:ϕ_s59°,δ76°,λ-154°. Principal axes: T Plg7°, Azm189°; N Plg61°, Azm86°; P Plg28°, Azm283°;*

JMA Felt II J1.

*IDC **16** 00:16:07.5±0.8,40.86N×141.39E,h92^{km}±7^{km},mb3.9/15, mb1 4.1/18,mb1mx4.0/25,MS2.7/1,Ms1 2.7/1, ms1mx2.1/24 Error ellipse: s-maj=18.3km s-min=10.0km az=104.0*

*NEIC **16** 00:16:09.0±0.8,40.96N×141.48E,h105^{km}±7^{km},mb4.8/18, MW4.2(NIED),Error ellipse: s-maj=9.7km s-min=7.0km az=105.0*

NEIC Recorded [2 JMA] in Aomori and Iwate Prefectures; [1 JMA] in southern Hokkaido.

ISC 16 00:16:06.1±0.4**,40.96N**±0.03×**141.53E**±0.06**,h95**^{km}±2^{km}**, h95**^{km}±6.3^{km}**:pP-P,n76,** σ**0**^{s}**84**/87**,mb4.4**/29**,10C-2D,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JTM	**Tenmabayashi**	**0.39**	**243**	⇑P	**P**	**00 16 20.5**	**-0.2**
JTM				S	**S**	**00 16 30.4**	**-1.3**
JOT	**Ohata**	**0.55**	**319**	⇑P	**P**	**00 16 21.8**	**-0.2**
JOT				eS	**S**	**00 16 33.2**	**-0.6**
JANG	**Nango**	**0.59**	**181**	⇑P	**P**	**00 16 22.0**	**-0.3**
JANG				S	**S**	**00 16 32.6**	**-1.7**
JKB	**Kayabe**	**0.99**	**338**	⇑P	**P**	**00 16 26.8**	**+0.4**
JKB				eS	**S**	**00 16 41.1**	**-0.4**
JSR	**Shiriuchi**	**1.01**	**304**	⇓P	**P**	**00 16 26.7**	**+0.2**
JAH	**Hinai**	**1.03**	**221**	⇑P	**P**	**00 16 27.3**	**+0.5**
JAH				eS	**S**	**00 16 42.6**	**+0.3**
JIW	**Iwasaki**	**1.21**	**253**	⇓P	**P**	**00 16 29.4**	**+0.3**
JIW				eS	**S**	**00 16 46.8**	**+0.7**
JYM2	**Yakumo 2**	**1.44**	**323**	⇑P	**P**	**00 16 32.7**	**+0.9**
JYM2				eS	**S**	**00 16 51.4**	**+0.5**
JOM	**Ohasama**	**1.50**	**187**	⇑P	**P**	**00 16 33.2**	**+0.7**
JOM				S	**S**	**00 16 53.0**	**+0.9**
JNB	**Noboribetsu**	**1.55**	**347**	⇑P	**P**	**00 16 33.7**	**+0.6**
JNBK	**Urakawa-nobuka**	**1.60**	**35**	P	**P**	**00 16 34.6**	**+0.7**
ASAJ	**Asahikawa**	**3.25**	**14**	P	**P**	**00 16 56.4**	**+0.2**
	17nm,0.3s,baz=190,slow=10.0,SNR=32						
ASAJ				S	**S**	**00 17 38.5**	**+4.5**
	7.7nm,0.3s,baz=12,slow=27,SNR=4.4						
ASAJ	**Asahikawa**	**3.25**	**14**	P	**P**	**00 16 56.4**	**+0.2**
ASAJ				S	**S**	**00 17 38.5**	**+4.5**
ASAJ				pmax	pmax		
	comp=Z,17nm,0.3s						
ASAJ				smax			
	comp=N,8.0nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**4.44**	**45**	eP	**P**	**00 17 11.5**	**-1.0**
YUK				iS	**S**	**00 17 58.0**	**-5.3**
YUK				pmax	pmax		
	comp=Z,250nm,0.3s						
YUK				smax			
	comp=N,2µm,0.4s						
YUK				smax			
	comp=E,2µm,0.4s						
YUK				smax			
	comp=N,6µm,0.8s						
YUK				smax			
	comp=E,3µm,0.6s						
MAJO	**Matsushiro**	**5.12**	**211**	ePn	**P**	**00 17 23.0**	**+1.2**
	comp=E,77nm,0.5s						

MAT	Matsushiro	5.12	211	P	P	00 17 22.9	+1.1
MAT	Matsushiro	5.12	211	eP	P	00 17 23.0	+1.2
	comp=E,66nm,0.7s						
YSS	Yuzh-Sakhalins	6.05	8	⇑eP	P	00 17 33.9	-0.7
YSS				pmax	pmax		
	comp=Z,60nm,0.9s						
YSS	Yuzh-Sakhalins	6.05	8	eP	P	00 17 34.9	+0.3
	comp=Z,48nm,0.8s						
JHJ	Hachijo jima 2	7.95	191	P	P	00 17 56.6	-4.1
	comp=Z,33nm,0.3s,baz=74,slow=19,SNR=7.2						
MDJ	Mudanjiang	9.50	297	P	P	00 18 21.1	-0.5
MDJ				AMB	AMB		
	comp=Z,14nm,1.3s						
MDJ				AMB	AMB		
	comp=Z,34nm,4.7s						
MDJ	Mudanjiang	9.50	297	ePn	P	00 18 24.3	+2.8
	comp=Z,17nm,1.0s						
JNU	Nakatsue	11.55	231	LR	LR	00 22 28.0	
	comp=Z,43nm,20.9s,baz=226,slow=33						
CBIJ	Chichi jima	13.84	178	P	P	00 19 15.3	-3.8
	comp=Z,4.8nm,0.3s,baz=265,slow=21,SNR=3.7						
HIA	Hailar	17.43	306	eP	P	00 20 02.5	-1.8
	comp=Z,9.1nm,1.2s						
NJ2	Nanjing	20.23	251	eP	P	00 20 35.5	-0.2
NJ2				AP		00 20 55.3	
NJ2				PP	PP	00 21 01.4	+3.0
NJ2				XP		00 21 10.1	
NJ2				S	S	00 24 12.0	-0.4
NJ2				XS		00 24 40.0	
NJ2				AMB	AMB		
	comp=Z,70nm,0.6s						
NJ2				AMB	AMB		
	comp=Z,80nm,5.4s						
ZAK	Zakamensk	28.06	303	eP	P	00 21 44.6	-5.7
KMI	Kunming	35.82	256	⇑eP	P	00 22 57.0	-1.2
KMI				AMB	AMB		
	comp=Z,9.0nm,0.5s,mb5.0						
WMQ	Urumqi	39.27	293	eP	P	00 23 27.5	+0.7
WMQ				AP	pP	00 23 52.8	+3.6
WMQ				XP	sP	00 24 05.9	+5.5
WMQ				AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.5						
MKAR	Makanchi Array	42.21	299	P	P	00 23 51.2	+0.3
	comp=Z,8.6nm,0.8s,mb4.5,baz=83,slow=9.3,SNR=43						
MKAR	Makanchi Array	42.21	299	P	P	00 23 51.2	+0.3
MKAR				pmax	pmax		
	comp=Z,9.0nm,0.8s						
MKAR	Makanchi Array	42.21	299	P	P	00 23 51.2	+0.3
CMAR	Chiang Mai Arr	42.71	251	P	P	00 23 56.1	+0.8
	comp=Z,1.2nm,0.5s,mb3.9,baz=55,slow=6.5,SNR=6.6						
CMAR	Chiang Mai Arr	42.71	251	P	P	00 23 56.2	+0.9
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KURK	Kurchatov	43.66	305	P	P	00 24 01.1	-1.5
	comp=Z,164nm,0.6s,mb5.9,SNR=22						
KURK	Kurchatov	43.66	305	i P	P	00 24 02.0	-0.6
KURK				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.3						
KURK	Kurchatov	43.66	305	eP	P	00 24 01.8	-0.9
	comp=Z,18nm,0.7s,mb4.9						
ILAR	Eielson Array	46.17	34	P	P	00 24 23.8	+1.4
	comp=Z,1.2nm,0.6s,mb3.8,baz=265,slow=6.0,SNR=14						
ILAR				pP	pP	00 24 44.5	-0.6
	comp=Z,1.2nm,1.0s,baz=268,slow=8.9,SNR=2.2						
ILAR	Eielson Array	46.17	34	P	P	00 24 23.8	+1.4
ILAR				*PP	pP	00 24 44.5	-0.6
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ILAR				pmax	pmax		
	comp=N,1.0nm,1.0s						
KKN	Kakani	47.49	272	eP	P	00 24 34.1	+0.8
	comp=N,70nm,0.7s,mb5.5						
PKI	Pulchoki	47.51	272	eP	P	00 24 33.6	+0.1
	comp=N,20nm,0.5s,mb5.2						
DMN	Daman	47.72	272	eP	P	00 24 35.8	+0.7
	comp=N,37nm,0.7s,mb5.3						
VOSK	Vostochnaya	47.80	309	P	P	00 24 34.4	-0.9
VOSK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.8						
GKN	Gorkha	47.87	273	eP	P	00 24 36.5	+0.2
	comp=Z,41nm,0.5s,mb5.5						
BVA0	Borovoye Array	48.06	310	P	P	00 24 36.9	-0.5
BVAR	Borovoye Array	48.06	310	P	P	00 24 37.1	-0.2
	comp=Z,3.7nm,0.4s,mb4.6,baz=66,slow=8.6,SNR=26						
BRVK	Borovoye	48.11	310	eP	P	00 24 37.7	-0.1
	comp=Z,4.7nm,0.8s,mb4.4						
KOLN	Koldanda	48.77	273	eP	P	00 24 43.6	+0.4
	comp=Z,23nm,0.5s,mb5.3						
ZRNK	Zerenda	48.88	310	P	P	00 24 43.2	-0.5
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
ZRNK	Zerenda	48.88	310	eP	P	00 24 43.0	-0.8
	comp=Z,5.5nm,0.6s,mb4.7						
INK	Inuvik	50.88	29	P	P	00 25 00.2	+1.5
	comp=Z,1.9nm,0.4s,mb4.5,baz=301,slow=4.3,SNR=17						
INK	Inuvik	50.88	29	P	P	00 25 00.3	+1.5
INK				pmax	pmax		
	comp=Z,2.0nm,0.4s						
INK	Inuvik	50.88	29	eP	P	00 24 59.7	+1.0
	comp=Z,2.3nm,0.4s,mb4.6						
ARU	Arti	53.52	317	eP	P	00 25 17.9	-0.8
	comp=Z,3.6nm,0.7s,mb4.5						
ARCES	ARCESS Array B	60.36	339	P	P	00 26 06.8	-0.1
	comp=Z,2.8nm,0.7s,mb4.4,baz=45,slow=5.1,SNR=5.1						
ARCES	ARCESS Array B	60.36	339	P	P	00 26 06.8	-0.1
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
WRAB	Tennant Creek	60.95	188	eP	P	00 26 10.3	-1.2
	comp=Z,9.4nm,1.0s,mb4.8						
WRA	Warramunga Arr	60.96	188	P	P	00 26 10.0	-1.6
	comp=Z,1.5nm,0.4s,mb4.4,baz=5.7,slow=7.0,SNR=14						
WRA	Warramunga Arr	60.96	188	P	P	00 26 10.0	-1.6
WRA				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ASAR	Alice Springs	64.69	188	P	P	00 26 35.6	-0.6
	comp=Z,1.1nm,0.5s,mb3.9,baz=9.8,slow=7.8,SNR=14						
ASAR				pP	pP	00 26 57.2	-3.1
	comp=Z,0.4nm,0.6s,baz=8.1,slow=6.4,SNR=3.6						
KAF	Kangasniemi	64.87	332	ep	P	00 26 35.6	-1.2
	comp=Z,4.9nm,0.5s,mb4.6,baz=48,slow=6.1						
KAF	Kangasniemi	64.87	332	eP	P	00 26 35.6	-1.2
KAF				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.6						
FINES	FINESS Array B	65.39	331	P	P	00 26 40.0	-0.2
	comp=Z,7.4nm,0.6s,mb4.7,baz=44,slow=8.5,SNR=72						
FINES	FINESS Array B	65.39	331	P	P	00 26 40.0	-0.1
FINES				pmax	pmax		
	comp=Z,7.0nm,0.6s						
FINES	FINESS Array B	65.39	331	P	P	00 26 40.0	-0.2
NB2	NORSAR Subarra	70.61	337	P	P	00 27 12.6	+0.1
	comp=Z,1.5nm,0.6s,mb4.0,baz=38,slow=6.2						
NOA	NORSAR Array B	70.61	337	P	P	00 27 12.9	+0.5
	comp=Z,1.9nm,0.6s,mb4.1,baz=38,slow=6.1,SNR=6.6						
NOA	NORSAR Array B	70.61	337	P	P	00 27 12.9	+0.4
NOA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AKASG	Malin Array Be	71.26	322	P	P	00 27 16.3	-0.3
	comp=Z,1.0nm,0.4s,mb4.0,baz=43,slow=6.8,SNR=7.4						
AKASG	Malin Array Be	71.26	322	P	P	00 27 16.3	-0.3
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NVAR	Mina Array Bea	72.59	54	P	P	00 27 25.2	+0.6
	comp=Z,0.5nm,0.8s,mb3.4,baz=282,slow=7.5,SNR=4.0						
NVAR				pP	pP	00 27 51.4	+2.1
	comp=Z,0.3nm,0.6s,baz=288,slow=5.7,SNR=3.1						
PDAR	Pinedale Array	74.87	46	P	P	00 27 39.1	+1.4
	comp=Z,0.5nm,0.6s,mb3.4,baz=225,slow=2.1,SNR=3.5						
BRTR	Keskin Array B	76.33	311	P	P	00 27 45.6	-0.5
	comp=Z,0.5nm,0.5s,mb3.5,baz=76,slow=4.3,SNR=3.8						
BRTR	Keskin Array B	76.33	311	P	P	00 27 45.6	-0.5
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
GERES	GERESS Array B	79.43	328	P	P	00 28 03.4	+0.4
	comp=Z,0.5nm,0.5s,mb3.6,baz=40,slow=5.6,SNR=6.7						
GERES	GERESS Array B	79.43	328	P	P	00 28 03.4	+0.4
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						

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*NEIC **16** 00:16:25.8, 33.12S×70.52W, h90^{km}, MD3.5(GUC), After GUC.*
*GUC **16** 00:16:25.8±0.7, 33.12S×70.52W, h90^{km}±2^{km}, MD3.5, ML3.6*
ISC 16 00:16:25.8±0.9**, 33.12S**±0.04×**70.57W**±0.07**, h93**^{km}±6^{km}**, n20, $\sigma 0^{s}.$37**/39**, 10C-8D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CLCH	Cerro Calan	0.28	174	⇓iP	P	00 16 39.5	0.0
CLCH				i S	S	00 16 49.8	-0.2
CLCH				AMP		00 16 51.5	
	comp=E,3µm,0.3s						
DSCH	Colegio Aleman	0.28	180	⇑iP	P	00 16 39.7	+0.2
DSCH				i S	S	00 16 49.7	-0.3
DSCH				AMP		00 16 51.1	
	comp=N,5µm,0.2s						
FCH	Farellones	0.31	131	⇓iP	P	00 16 39.9	+0.2
FCH				i S	S	00 16 50.5	+0.2
FCH				AMP		00 16 53.7	
	comp=E,5µm,0.2s						
STL	Santa Lucia	0.32	191	⇓iP	P	00 16 39.7	-0.1
STL				i S	S	00 16 50.2	-0.2
STL				AMP		00 16 50.5	
	comp=N,2µm,0.2s						
SAN	Santiago	0.34	193	⇑iP	P	00 16 39.9	0.0
SAN				i S	S	00 16 50.3	-0.3
SAN				AMP		00 16 52.4	
	comp=E,2µm,0.2s						
FSR	Penalolen	0.36	174	eP	P	00 16 40.1	+0.1
FSR				i S	S	00 16 50.6	-0.2
FSR				AMP		00 16 51.4	
	comp=N,6µm,0.3s						
RCDM	Rinconada Maip	0.42	208	i P	P	00 16 40.3	-0.2
RCDM				i S	S	00 16 51.5	0.0
RCDM				AMP		00 16 52.9	
	comp=N,7µm,0.1s						
JACH	Jahuel	0.44	357	⇓iP	P	00 16 40.6	0.0
JACH				i S	S	00 16 52.1	+0.3
ANTU	Antumapu	0.45	187	⇓iP	P	00 16 40.5	-0.2
ANTU				i S	S	00 16 51.7	-0.2
ANTU				AMP		00 16 52.2	
	comp=E,3µm,0.2s						
PCH	Pirque	0.50	175	⇑iP	P	00 16 41.0	-0.1
PCH				i S	S	00 16 52.3	-0.2
TACH	Talagante	0.61	210	⇑iP	P	00 16 41.8	-0.2
TACH				i S	S	00 16 53.9	-0.2
LMEL	Las Melosas	0.79	157	⇓iP	P	00 16 43.6	-0.1
LMEL				i S	S	00 16 57.2	+0.3
LMEL				AMP		00 17 00.9	
	comp=N,4µm,0.1s						
CHCH	Chadas Angostu	0.81	185	⇑iP	P	00 16 43.6	-0.4
CHCH				i S	S	00 16 57.8	+0.4
IHA	Instituto Hidr	0.91	276	⇑iP	P	00 16 45.1	+0.2
IHA				i S	S	00 16 59.8	+0.6
LCCH	Las Cruces	0.91	247	⇑iP	P	00 16 45.2	+0.2
LCCH				i S	S	00 16 59.8	+0.5
CACH	El Canelo	0.99	181	⇓iP	P	00 16 46.3	+0.4
CACH				i S	S	00 17 02.2	+1.2
LNV	Longovilo	1.09	220	⇓iP	P	00 16 46.4	-0.7
LNV				i S	S	00 17 02.0	-1.0
CICH	Cipreses	1.20	174	⇑iP	P	00 16 48.3	-0.2
CICH				i S	S	00 17 05.7	+0.3
SFDO	San Fernando	1.53	194	⇑iP	P	00 16 52.2	-0.4
SFDO				i S	S	00 17 12.9	+0.5
CMCH	Combarbala	1.98	349	⇑iP	P	00 16 58.3	-0.1
CMCH				AMP		00 17 24.6	
	comp=N,802nm,0.8s						

IDC 16 00:21:41.4±2.2**, 30.89S**×**177.87W, mb4.1**/3**, mb1 4.2**/4**, mb1mx3.9**/14**, ML3.3**/1**, 1C-2D, Error ellipse: s-maj=59.7km s-min=32.4km az=124.0, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	8.44	208	Pn	P	00 23 45.2	-2.5
	0.4nm,0.3s,baz=130,slow=12,SNR=2.8						
URZ				Sn	Sn	00 25 19.5	-5.3
	1.8nm,0.3s,baz=78,slow=23,SNR=7.1						
STKA	Stephens Creek	34.48	258	P	P	00 28 32.3	-0.8
	1.8nm,0.5s,baz=108,slow=10,SNR=5.2						
ASAR	Alice Springs	43.20	267	P	P	00 29 44.0	-1.9
	1.5nm,0.6s,baz=107,slow=7.4,SNR=17						
WRA	Warramunga Arr	44.23	273	P	P	00 29 51.8	-2.5
	1.6nm,0.6s,baz=112,slow=7.8,SNR=5.0						
VNA3	Neumayer Olymp	77.81	176	⇑i	P	00 33 48.7	+7.2
VNA2	Neumayer--Watz	78.25	177	⇓i	P	00 33 51.8	+7.9
VNA1	Neumayer--Stat	78.48	176	⇓i	P	00 33 51.0	+5.9
FINES	FINESS Array B	145.64	340	PKPbc	PKPbc	00 41 20.6	-0.9
	1.6nm,0.5s,baz=63,slow=4.3,SNR=8.6						
AKASG	Malin Array Be	151.76	322	PKPbc	PKPdf	00 41 37.0	+4.2
	1.0nm,0.6s,baz=44,slow=3.2,SNR=4.8						

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*IDC **16** 00:39:25.0±2.0, 8.86S×124.02E, mb3.7/1, mb1 3.9/3, mb1mx3.7/11, ML3.5/2, Error ellipse: s-maj=185.0km s-min=31.9km az=57.0*
*NEIC **16** 00:39:27.8±0.9, 8.84S×124.20E, h15^{km}, mb4.5/2, Error ellipse: s-maj=29.2km s-min=12.9km az=60.0*
ISC 16 00:39:34.5±3.0**, 9.5S**±0.2×**124.2E**±0.2**, h40**^{km}±29^{km}**, n8, $\sigma 1^{s}.$11**/11**, mb4.2**/3**, 1C, Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	8.71	171	⇑iP	P	00 41 40.2	-0.6
	1.4nm,0.3s						
FITZ				eS	S	00 43 13.7	-5.1
WRA	Warramunga Arr	14.28	138	Pn	P	00 42 55.4	-0.8
	0.2nm,0.3s,baz=316,slow=12,SNR=4.7						
WRA				Sn	S	00 45 31.9	-2.3
	0.3nm,0.3s,baz=303,slow=20,SNR=5.6						
WRAB	Tennant Creek	14.28	138	eP	P	00 42 56.2	+0.1
	14nm,1.2s						
WB2	Warramunga Arr	14.29	138	eP	P	00 42 57.1	+0.8
ASAR	Alice Springs	16.89	148	P	P	00 43 31.1	+1.6
	0.3nm,0.3s,baz=318,slow=12,SNR=12						
ASAR				S	S	00 46 35.9	+1.1
	0.1nm,0.3s,baz=310,slow=21,SNR=6.2						
MKAR	Makanchi Array	67.32	330	P	P	00 50 17.9	-10
	0.7nm,0.8s,mb3.8,baz=146,slow=8.3,SNR=5.2						
MAW	Mawson	70.62	201	P	P	00 50 47.0	-0.6
	5.1nm,1.3s,mb4.3						
SNAA	Sanae	91.92	195	eP	P	00 52 44.3	+4.7
	1.8nm,0.7s,mb4.5						

CASC 16 00:48:54.3±2.5**, 13.66N**×**90.24W, h104**^{km}±11^{km}**, MD3.8, ML3.9, 7D, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CUSS	Cusmapa	0.38	48	eP	P	00 49 09.2	-0.6
CUSS				eS	S	00 49 21.8	+0.3
IXG	Ixpaco	0.56	338	⇓eP	P	00 49 10.4	-0.6
IXG				eS	S	00 49 22.4	-1.2
IXG				AML	AML	00 49 28.4	
	comp=E,30µm,0.4s						
RTR	El Retiro	0.62	67	⇓eP	P	00 49 11.6	0.0
SBLS	San Blas	0.62	73	⇓eP	P	00 49 11.7	+0.1
SBLS				eS	S	00 49 25.8	+1.2
SNJE	San Jose	0.65	71	⇓eP	P	00 49 11.9	+0.1
SNJE				eS	S	00 49 26.3	+1.4
PCG	Pacaya	0.82	334	eP	P	00 49 13.1	-0.3
PCG				eS	S	00 49 30.5	+2.9
NBG	Las Nubes	0.93	354	⇓eP	P	00 49 14.6	0.0
NBG				eS	S	00 49 30.1	+0.4
NBG				AML	AML	00 49 32.2	
	comp=E,7µm,0.5s						
BOQS	Boqueron	0.94	85	eP	P	00 49 14.5	-0.1
SNET	Serv Nac Est T	0.98	88	eP	P	00 49 14.6	-0.5
SNET				eS	S	00 49 31.6	+1.0
SNET				i		00 49 36.4	
	comp=Z,2µm,0.2s						
FUG	Fuego 3	0.98	323	⇓eP	P	00 49 14.6	-0.5
LFU	La Fuente	1.10	85	eP	P	00 49 16.4	+0.1
LFRS	El Faro	1.14	91	eP	P	00 49 16.8	-0.2
LBRS	Las Brisas	1.16	86	eP	P	00 49 17.2	0.0
LCBS	La Ceiba	1.23	90	eP	P	00 49 17.9	0.0
TP2	Tecpan 2	1.35	326	eP	P	00 49 19.5	+0.1
TP2				eS	S	00 49 42.8	+4.6
TP2				AML	AML	00 49 44.2	
	comp=E,632nm,0.3s						
SNVI	San Vicente	1.36	92	eP	P	00 49 19.9	+0.4
SNVI				eS	S	00 49 39.9	+1.6
MRL	Marmol	1.50	21	⇓eP	P	00 49 21.0	-0.2
MRL				eS	S	00 49 41.3	+0.1
MRL				AML	AML	00 49 42.4	
	comp=E,156nm,0.5s						
JAT	Jato	1.51	296	eP	P	00 49 21.4	+0.1
JAT				eS	S	00 49 42.0	+0.5
JAT				AML	AML	00 49 43.9	
	comp=E,1µm,0.3s						
VSM	San Miguel	1.92	97	eP	P	00 49 27.2	+0.7
CNCH	Conchagua	2.37	99	eP	P	00 49 32.6	+0.1

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*NEIC **16** 00:48:59.5±2.7, 37.14N×71.52E, h131^{km}±27^{km}, mb4.0/8, Error ellipse: s-maj=35.7km s-min=6.6km az=65.0*
*IDC **16** 00:49:06.6±28.0, 37.61N×71.58E, h166^{km}±212^{km}, mb3.6/2, mb1 3.3/4, mb1mx3.0/20, ML3.3/2, Error ellipse: s-maj=259.0km s-min=111.7km az=15.0*
ISC 16 00:49:04.8±0.5**, 37.46N**±0.04×**72.2E**±0.1**, h192**^{km}±9^{km}**, n23, $\sigma 0^{s}.$80**/25**, mb4.0**/3**, 3D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CEP	Cherat	3.64	184	⇓P	P	00 50 02.5	0.0
CEP				S	S	00 50 46.0	-1.0
CHCP	Chirah Chowk	3.89	167	⇓P	P	00 50 06.5	+1.0
NIL	Nilore	3.89	168	P	P	00 50 06.5	+0.9
	129nm,0.4s,SNR=17						
THW	Thamme Wali	4.68	185	⇓P	P	00 50 15.1	-0.5
AML	Almayashu	4.79	13	P	P	00 50 17.4	+0.4
	SNR=26						
UCH	Uchtor	5.07	19	P	P	00 50 20.9	+0.3
	SNR=30						
SBDP	Sheikh Budin	5.29	193	P	P	00 50 23.8	+0.4
EKS2	Erkin-Say	5.32	12	P	P	00 50 24.4	+0.5
	SNR=9.4						
AAK	Ala-Archa	5.44	18	P	P	00 50 26.2	+0.7
	SNR=20						
AAK	Ala-Archa	5.44	18	ePn	P	00 50 24.7	-0.8
AAK				eSn	S	00 51 26.2	-1.9
CHMS	Chumysh	5.85	18	P	P	00 50 30.6	-0.2
	SNR=6.0						
MKAR	Makanchi Array	11.93	35	P	P	00 51 54.0	+4.3
	0.1nm,0.3s,baz=216,slow=9.3,SNR=5.7						
KOLN	Koldanda	13.59	132	eP	P	00 52 09.6	-1.2
	3.4nm,0.3s						
KURK	Kurchatov	14.01	17	eP	P	00 52 17.9	+2.0
	2.3nm,0.9s						
GKN	Gorkha	14.05	129	eP	P	00 52 17.1	+0.6
	13nm,0.3s						
KKN	Kakani	14.60	128	eP	P	00 52 23.4	0.0
	8.3nm,0.5s						
DMN	Daman	14.62	129	eP	P	00 52 23.1	-0.6
	10.0nm,0.5s						
PKI	Pulchoki	14.84	128	eP	P	00 52 26.6	+0.2
	9.6nm,0.5s						
BVAR	Borovoye Array	15.62	356	P	P	00 52 35.3	-0.5
	0.2nm,0.3s,baz=162,slow=9.1,SNR=5.4						
ZRNK	Zerenda	15.65	353	eP	P	00 52 36.7	+0.4
	1.5nm,0.5s						
FINES	FINESS Array B	37.25	325	P	P	00 55 58.2	-1.0
	1.9nm,0.8s,mb3.7,baz=121,slow=8.1,SNR=3.4						
ARCES	ARCESS Array B	40.64	337	P	P	00 56 27.1	0.0
	3.0nm,1.0s,mb3.7,baz=121,slow=9.2,SNR=7.5						
RES	Resolute Bay	67.81	356	P	P	00 59 43.4	+0.1
	24nm,1.1s,mb4.7						

IDC 16 01:01:01.1±8.0**, 15.43S**×**175.22W, mb3.5**/2**, mb1 3.8**/2**, mb1mx3.6**/13**, Error ellipse: s-maj=395.0km s-min=49.1km az=143.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	48.13	257	P	P	01 09 43.2	-1.9
	0.3nm,0.6s,baz=91,slow=6.8,SNR=2.9						
ASAR	Alice Springs	48.43	252	P	P	01 09 45.4	-2.0
	0.6nm,0.5s,baz=87,slow=8.3,SNR=9.0						
GERES	GERESS Array B	145.88	349	PKPbc	PKPbc	01 20 41.8	-0.9
	0.7nm,0.6s,baz=27,slow=3.0,SNR=8.5						

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*BJI **16** 01:24:08.8, 39.80N×20.60E, h14^{km}, mB4.3, mb4.5, Ms4.4, Msz4.2*
*PDG **16** 01:24:16.9±0.7, 39.82N×20.66E, h11^{km}±2^{km}*
*ATH **16** 01:24:16.8, 39.80N×20.65E, h24^{km}±1^{km}, MD4.2/22, ML4.3*
*THE **16** 01:24:17.6, 39.77N×20.77E, h10^{km}, ML4.2*
*MOS **16** 01:24:17.2±1.2, 39.82N×20.43E, h30^{km}, mb4.3/9, Error ellipse: s-maj=10.3km s-min=5.0km az=71.4*
*NEIC **16** 01:24:18.0±0.8, 39.80N×20.65E, h15^{km}±6^{km}, mb4.1/10, MD4.0(PDG), ML4.3(ATH), ML4.2(THE), Error ellipse: s-maj=3.5km s-min=2.3km az=203.0*
NEIC Felt at Ioannina.
*IDC **16** 01:24:20.2±1.5, 39.80N×20.61E, h41^{km}±15^{km}, mb3.7/10, mb1 3.9/21, mb1mx3.8/32, ML3.9/11, MS3.5/7, Ms1 3.6/7, ms1mx3.3/21, Error ellipse: s-maj=14.1km s-min=11.8km az=156.0*
*TIR **16** 01:24:25.9, 40.40N×20.43E, h7^{km}, Ml3.9*
ISC 16 01:24:16.9±0.3**, 39.75N**±0.01×**20.58E**±0.01**, h22**^{km}±3^{km}**, n282, $\sigma 1^{s}.$45**/352**, mb4.2**/21**, MS3.7**/7**, 34C-17D, Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAN	Janina	0.23	115	⇑iPB	Pb	01 24 22.0	-0.6
JAN				eSB	Sb	01 24 25.8	-0.6
IGT	Igoumenitsa	0.29	222	ePg	Pb	01 24 24.7	+1.1
IGT				eSg	Sb	01 24 32.2	+4.2
KEK	Kerkira	0.61	267	⇓iPN	Pn	01 24 30.0	-0.1
TPE	Tepelena	0.70	321	i Pg	Pb	01 24 32.4	+2.1
KBN	Korca	0.89	10	i Pg	Pb	01 24 33.2	-0.2
KBN				i Sg	Sb	01 24 46.0	+1.2
LKD	Levkas	1.04	177	ePg	Pb	01 24 38.0	+1.9
KZN	Kozani	1.07	58	ePB	Pb	01 24 35.0	-1.5
KZN				eSN	Sn	01 24 51.2	+0.3
VLO	Vlora	1.10	311	ePn	Pn	01 24 41.7	+4.5
FNA	Florina	1.20	30	ePg	Pn	01 24 37.9	-0.6
FNA				eSg	Sb	01 24 55.1	+1.3
EVR	Evrytania	1.26	131	ePN	Pn	01 24 39.9	+0.4
EVR				eSN	Sn	01 24 58.4	+2.5
OHR	Ohrid	1.37	7	⇓iPn	Pn	01 24 41.6	+0.6
OHR				i		01 24 45.4	
OHR				i Sg	Sn	01 25 01.7	+3.1
BIA	Bitola	1.39	24	⇓iPn	Pn	01 24 42.0	+0.7
BIA				i		01 24 45.6	
BIA				i		01 24 48.8	
BIA				i Sg	Sn	01 25 02.1	+3.0
LIT	Litokhoron	1.51	76	ePb	Pb	01 24 42.5	-1.5
LIT				eSb	Sb	01 25 03.2	+0.4
AGG	Agios Georgios	1.54	118	ePb	Pb	01 24 44.9	+0.4
VLS	Valsamata	1.57	180	ePB	Pb	01 24 45.4	+0.3
VLS				eSN	Sn	01 25 08.0	+4.2
TIR	Tirane	1.69	341	epn?	Pn	01 24 41.5	-4.0
TIR				i Sn	Sn	01 25 10.5	+3.8
RLS	Riolos of Patr	1.83	158	ePN	Pn	01 24 49.9	+2.4
GRG	Griva	1.84	48	ePb	Pb	01 24 47.8	-1.9
GRG				eSb	Sb	01 25 12.6	+0.2
QSH	Qafa e Shtames	1.84	344	i Pn	Pn	01 24 50.0	+2.2
LCI	Lecce	1.98	288	⇓iPn	Pn	01 24 51.6	+1.8
LACI	Lac	2.00	341	i Pn	Pn	01 24 52.1	+2.1
LACI				i Sn	Sn	01 25 14.3	-0.3
THE	Thessaloniki	2.02	63	ePb	Pb	01 24 50.5	-2.4
XOR	Xorichti	2.05	100	ePb	Pb	01 24 51.5	-1.8
NEO	Neokhori	2.09	101	ePN	Pn	01 24 52.0	+0.7
LKR	Lokris	2.17	120	ePB	Pb	01 24 54.0	-1.4
VAY	Valandovo	2.18	43	⇑iPn	Pn	01 24 52.9	+0.3
VAY				i Pb	Pb	01 24 54.9	-0.6
VAY				i Pg	Pn	01 24 57.2	+4.6
VAY				i Sn	Sn	01 25 22.2	+3.0
VAY				i Sg	Sn	01 25 32.2	+13
KNT	Kendrikon	2.26	51	ePn	Pn	01 24 53.7	-0.1
KNT				eSn	Sn	01 25 22.5	+1.3
PLG	Polygyros	2.28	73	⇑iPN	Pn	01 24 53.5	-0.6
PLG				eSN	Sn	01 25 21.2	-0.6
SKO	Skopje	2.31	16	i Pn	Pn	01 24 56.6	+2.1
SKO				i Pb	Pb	01 25 02.0	+4.3
SKO				i Pg	Pn	01 25 05.0	+10
SKO				⇑iSn	Sn	01 25 30.0	+7.4
SKO				Lg		01 25 43.0	
	comp=Z,0.5nm,0.8s						
PUK	Puka	2.35	347	i Pn	Pn	01 24 57.7	+2.7
SOH	Sokhos	2.37	62	ePn	Pn	01 24 56.1	+0.7
ULC	Ulcinj	2.43	336	⇑iPn	Pn	01 24 57.5	+1.3
ULC				eSn	Sn	01 25 28.2	+2.6
MKIT	Kithairon Oros	2.61	126	ePB	Pb	01 25 01.0	-1.8

AOS	Alonnisos	2.62	102	*e*Pn	Pn	01 24 59.5	+0.6
AOS				*e*Sn	Sn	01 25 29.3	-1.0
BCI	Bajram Curri	2.64	352	*i* Pn	Pn	01 25 02.4	+3.2
BCI				*i* Sn	Sn	01 25 37.1	+6.1
SRS	Serrai	2.67	58	*e*Pn	Pn	01 24 59.3	-0.4
SRS				*e*Sn	Sn	01 25 33.1	+1.4
OUR	Ouranopolis	2.67	76	*e*Pn	Pn	01 24 59.5	-0.2
OUR				*e*Sn	Sn	01 25 32.5	+0.8
ITM	Ithomi	2.78	157	*e*PB	Pb	01 25 03.7	-1.9
KKB	Krupnik	2.84	41	*i* P	Pn	01 25 02.5	+0.5
BUM	Brajici-Budva	2.85	334	⇑*i*Pn	Pn	01 25 03.2	+1.0
BUM				*e*Sn	Sn	01 25 38.6	+2.4
TTG	Podgorica	2.86	340	⇑*i*Pn	Pn	01 25 03.4	+1.1
TTG				*e*Sn	Sn	01 25 38.4	+2.0
PVY	Plav	2.88	351	⇑*i*Pn	Pn	01 25 05.0	+2.4
PVY				*e*Sn	Sn	01 25 39.0	+2.0
NSAL	Nisos Salamina	2.91	128	*e*PN	Pn	01 25 04.2	+1.2
MPAR	Parnis Oros	2.93	122	*e*PB	Pb	01 25 05.5	-2.8
NVR	Nevrokopi	2.96	56	*e*PN	Pn	01 25 03.5	-0.3
MMB	Musomiste	3.02	51	*i* P	Pn	01 25 04.5	0.0
NAIG	Nisos Aigina	3.02	130	*e*PN	Pn	01 25 06.0	+1.4
ATH	Athens Observa	3.02	125	*e*PN	Pn	01 25 06.0	+1.4
ATH				*e*SN	Sn	01 25 41.5	+0.9
PTL	Penteli	3.07	123	*e*PB	Pb	01 25 07.2	-3.5
HCY	Herceg Novi	3.12	330	⇑*i*Pn	Pn	01 25 06.5	+0.5
HCY				*e*Sn	Sn	01 25 44.5	+1.4
IVA	Berane	3.16	351	*e*Pn	Pn	01 25 07.9	+1.3
IVA				*e*Sn	Sn	01 25 45.8	+1.8
ORI	Oriolo Calabro	3.19	277	*e*Pn	Pn	01 25 08.6	+1.5
BARS	Barje	3.21	17	⇑*i*Pn	Pn	01 25 08.3	+1.1
BARS				Sn	Sn	01 25 49.5	+4.3
TDS	Terranova Siba	3.28	270	*e*Pn	Pn	01 25 11.3	+3.1
NKY	Niksic	3.28	339	⇑*i*Pn	Pn	01 25 09.0	+0.7
NKY				*e*Sn	Sn	01 25 48.7	+1.5
GRI	Girifalco	3.36	255	*e*Pn	Pn	01 25 10.9	+1.4
VTS	Vitosha	3.46	34	*i* P	Pn	01 25 12.0	+1.1
LOS	Limnos	3.47	86	*e*Pn	Pn	01 25 10.3	-0.6
BRY	Bratogost	3.50	335	⇑*i*Pn	Pn	01 25 11.7	+0.3
BRY				*e*Sn	Sn	01 25 54.1	+1.4
LIA	Limnos Island	3.54	86	*e*PN	Pn	01 25 12.4	+0.3
VLI	Veliai	3.55	148	⇑*i*PN	Pn	01 25 13.1	+1.0
UPM	Unac-Piva	3.67	341	⇑*i*Pn	Pn	01 25 14.6	+0.8
UPM				*e*Sn	Sn	01 25 58.3	+1.3
PLE	Pljevlja	3.69	346	⇑*i*Pn	Pn	01 25 15.2	+1.1
PLE				*e*Sn	Sn	01 25 58.4	+1.0
RZN	Rozhen	3.69	57	*i* P	Pn	01 25 14.3	+0.2
STON	Ston	3.80	326	*i* Pn	Pn	01 25 15.4	-0.3
STON				*i* Sn	Sn	01 25 57.4	-2.8
NVSS	Nova Varos 2	3.81	350	⇓*i*Pn	Pn	01 25 16.5	+0.7
NVSS				Sn	Sn	01 26 03.8	+3.2
SLCN	Sala Consilina	3.85	281	*e*Pn	Pn	01 25 18.2	+1.8
MGR	Morigerati	3.89	277	*e*Pn	Pn	01 25 19.1	+2.2
PGB	Panagyurishte	3.89	43	*i* P	Pn	01 25 17.0	0.0
PLD	Plovdiv	3.91	52	*i* P	Pn	01 25 18.5	+1.3
SOI	Samo	3.91	246	*e*Pn	Pn	01 25 17.5	+0.3
SOI				*e*Sn	Sn	01 26 01.1	-1.9
KYTH	Kithira	3.97	150	*e*PN	Pn	01 25 20.0	+1.9
FGMS	Monte Sant'Ang	4.02	301	*e*Pn	Pn	01 25 19.8	+0.9
MRLC	Muro Lucano	4.03	286	*e*Pn	Pn	01 25 20.0	+1.1
RDO	Rodhopi	4.03	68	*e*PN	Pn	01 25 17.8	-1.1
SCLL	Scilla	4.08	250	*e*Pn	Pn	01 25 20.1	+0.5
SCLL				*e*Sn	Sn	01 26 06.2	-1.1
FG4	Candela	4.10	291	*e*Pn	Pn	01 25 22.4	+2.4
SGO	Sicignano	4.12	283	⇓*i*Pn	Pn	01 25 21.5	+1.2
SGO				*e*Sn	Sn	01 26 10.9	+2.4
KDZ	Kurdzhali	4.13	61	*i* P	Pn	01 25 19.0	-1.4
GRUS	Gruza	4.13	1	⇑*i*Pn	Pn	01 25 20.3	-0.1
GRUS				Sn	Sn	01 26 13.0	+4.2
MTTG	Motta San Giov	4.20	247	⇑*i*Pn	Pn	01 25 21.5	+0.2
MTTG				*e*Sn	Sn	01 26 08.4	-2.0
BOLS	Boljevac	4.20	14	⇑*i*Pn	Pn	01 25 21.4	0.0
BOLS				Sn	Sn	01 26 12.6	+2.1
RGNG	Rignano Grg	4.26	298	*e*Pn	Pn	01 25 23.2	+1.0
ALN	Alexandroupoli	4.33	73	*e*Pn	Pn	01 25 22.2	-1.0
ALN				*e*Sn	Sn	01 26 12.4	-1.3
FG5	Orsara di Pugl	4.33	292	⇑*i*Pn	Pn	01 25 25.7	+2.4
DIVS	Divcibare	4.37	354	⇑*i*Pn	Pn	01 25 24.0	+0.3
DIVS				Sn	Sn	01 26 13.7	-1.0
CSSN	Cassano Irpino	4.39	286	*e*Pn	Pn	01 25 26.4	+2.3
CSSN				*e*Sn	Sn	01 26 16.0	+0.7
PRK	Paraskevi	4.43	95	*e*PN	Pn	01 25 25.1	+0.5
MRB1	Monte Rocchett	4.50	290	*e*Pn	Pn	01 25 28.1	+2.5
SVIS	Svilajnac	4.57	6	⇑*i*Pn	Pn	01 25 26.6	+0.1
SVIS				Sn	Sn	01 26 17.1	-2.6
FG2	Serracapriola	4.60	298	*e*Pn	Pn	01 25 27.9	+0.8
SLNA	Salina	4.62	257	*e*Pn	Pn	01 25 27.1	-0.3
APE	Apeiranthos	4.72	123	*e*PN	Pn	01 25 29.9	+1.2
AYVA	Ayvalik	4.74	93	*i* P	Pn	01 25 30.5	+1.5
LPK	Lapseki	4.78	81	*e*P	Pn	01 25 28.7	-0.9
AGST	Augusta-Monte	4.88	241	*e*Pn	Pn	01 25 29.3	-1.7
AGST				*e*Sn	Sn	01 26 23.2	-4.5
PVL	Pavlikeni	4.97	44	*i* P	Pn	01 25 30.0	-2.3
THR4	Thira Island,	5.02	129	*e*Pn	Pn	01 25 33.9	+0.9
SANT	Santorini	5.12	130	*e*Pn	Pn	01 25 34.3	-0.1
EDRB	Edirne	5.12	64	*e*P	Pn	01 25 33.9	-0.5
CII	Carovilli	5.16	294	*e*Pn	Pn	01 25 36.6	+1.6
MEU	Monte Lauro	5.17	241	*e*Pn	Pn	01 25 34.3	-0.8
MEU				*e*Sn	Sn	01 26 33.2	-1.6
VAM	Vamos	5.20	145	*e*PN	Pn	01 25 34.6	-0.9
MFT	Murefte	5.23	76	*e*P	Pn	01 25 35.5	-0.4
MFT	Murefte	5.23	76	*e*P	Pn	01 25 36.0	+0.1
MFT	Murefte	5.23	76	Pn	Pn	01 25 35.4	-0.5
MSC	Monte Massico	5.24	288	*e*Pn	Pn	01 25 36.8	+0.7
SZH	Strazhica	5.33	47	*i* P	Pn	01 25 38.8	+1.4
VAE	Valguarnera	5.34	247	P	Pn	01 25 38.0	+0.5
	comp=Z,2.3nm,0.3s,baz=38,slow=4.4,SNR=12						
VAE				S	Sn	01 26 38.8	-0.2
	comp=Z,3.6nm,0.3s,baz=80,slow=21,SNR=3.3						
KDAG	Bornova	5.37	102	*i* P	Pn	01 25 40.1	+2.2
INTR	Introdacqua	5.54	296	*e*Pn	Pn	01 25 41.9	+1.6
IDI	Anoyia	5.62	141	P	Pn	01 25 39.6	-1.8
	comp=Z,2.9nm,0.3s,baz=234,slow=23,SNR=25						
IDI				S	Sn	01 26 41.0	-5.1
	comp=Z,21nm,0.3s,baz=91,slow=20,SNR=11						
BALB	Balikesir	5.63	89	*e*P	Pn	01 25 41.2	-0.4
GVD	Gavdhos	5.64	149	*e*Pn	Pn	01 25 40.3	-1.4
GVD				*e*Sn	Sn	01 26 33.7	-13
BNT	Bandirma	5.66	82	*e*P	Pn	01 25 41.2	-0.8
BTOK	Tokmak	5.74	88	*i* P	Pn	01 25 45.5	+2.4
PTQR	Pietraquaria	5.90	295	⇓*i*Pn	Pn	01 25 47.3	+2.0
TERO	Teramo	6.00	301	*e*Pn	Pn	01 25 48.6	+1.9
NPS	Neapolis	6.00	137	*e*PN	Pn	01 25 47.5	+0.6
BDRM	Kayabasi	6.02	114	*i* P	Pn	01 25 48.4	+1.3
AQU	L'Aquila	6.02	298	*e*Pn	Pn	01 25 35.2	-12
AYDN	Tasoluk	6.08	108	*i* P	Pn	01 25 49.9	+2.0
CTT	Catalca	6.15	74	*e*P	Pn	01 25 47.9	-1.0
CTT	Catalca	6.15	74	Pn	Pn	01 25 47.8	-1.1
CERT	Cerreto	6.17	293	*e*Pn	Pn	01 25 50.7	+1.6
PRD	Provadia	6.17	54	*i* P	Pn	01 25 50.0	+0.8
DST	Dursunbey	6.21	89	*i* P	Pn	01 25 49.1	-0.6
DST	Dursunbey	6.21	89	Pn	Pn	01 25 49.0	-0.7
MANT	Manisa	6.33	99	*i* P	Pn	01 25 52.7	+1.2
XRY	Khrisi	6.35	138	*e*PN	Pn	01 25 50.5	-1.2
ORLT	Orhaneli	6.40	85	*e*P	Pn	01 25 52.7	+0.3
NRCA	Norcia	6.41	301	⇓*i*Pn	Pn	01 25 53.1	+0.5
NVLJ	Novalja	6.41	320	*i* Pn	Pn	01 25 51.7	-0.9
NVLJ				*i* Sn	Sn	01 27 01.7	-4.2
MNS	Montasola	6.53	296	*e*Pn	Pn	01 25 55.8	+1.6
YER	Yerkesik	6.58	111	*e*P	Pn	01 25 57.9	+2.9
ULDT	Uludag	6.58	84	*i* P	Pn	01 25 55.0	0.0
RHK1	Bakonya	6.60	345	*e*P	Pn	01 25 53.9	-1.4
PKSM	Moragy	6.61	348	⇑*e*P	Pn	01 25 54.0	-1.4
PKSM				*e*S	Sn	01 27 04.6	-6.3
CING	Cingoli	6.62	306	*e*Pn	Pn	01 25 56.3	+0.8
PKS6	Bocsa	6.89	354	⇓*e*P	Pn	01 25 58.1	-1.2
DENT	Denizli	6.90	104	*e*P	Pn	01 26 01.1	+1.7
DENT	Denizli	6.90	104	Pn	Pn	01 26 01.0	+1.6
DNZL	Cakiroluk	6.93	105	*i* P	Pn	01 26 02.4	+2.5
ISR	Istrita	6.94	37	⇓*i*P	Pn	01 26 00.9	+0.8
ISR	Istrita	6.94	37	⇓*i*P	Pn	01 26 00.9	+0.9
BOJS	Bojanci	6.96	327	*i* Pn	Pn	01 25 59.2	-1.1
BOJS				*e*Sn	Sn	01 27 14.9	-4.8
MLR	Muntele Rosu	6.96	33	P	Pn	01 26 00.9	+0.5
	comp=Z,2.1nm,0.3s,baz=275,slow=10.0,SNR=44						
MLR	Muntele Rosu	6.96	33	⇑*i*P	Pn	01 26 04.7	+4.3
MLR	Muntele Rosu	6.96	33	P	Pn	01 26 00.9	+0.5
MLR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MURB	Monte Urbino	6.99	303	*e*Pn	Pn	01 26 01.9	+1.1
PKS9	Tamasi	7.04	347	⇑*e*P	Pn	01 25 59.9	-1.5
FSSB	Fossombrone	7.04	307	⇑*i*Pn	Pn	01 26 00.3	-1.2
PKSN	Nyarlorinc	7.16	356	*e*P	Pn	01 26 01.7	-1.4
PKS8	Sarbogard	7.26	350	⇑*i*P	Pn	01 26 02.7	-1.8
HARR	Harsova	7.35	45	⇓*i*P	Pn	01 26 05.9	+0.1
HARR	Harsova	7.35	45	⇓*i*P	Pn	01 26 05.9	+0.1
VISS	Visnje	7.38	327	*e*Pn	Pn	01 26 05.4	-0.8
ALT	Altintas	7.41	92	*e*P	Pn	01 26 07.4	+0.8
CEY	Cerknica	7.50	325	*e*Pn	Pn	01 26 06.7	-1.3
CRE	Caprese Michel	7.53	304	*e*Pn	Pn	01 26 09.1	+0.8
VRI	Vrincioaia	7.60	34	⇑*i*P	Pn	01 26 09.9	+0.7
VRI	Vrincioaia	7.60	34	⇑*i*P	Pn	01 26 09.9	+0.7
LJU	Ljubljana	7.70	327	*e*Pn	Pn	01 26 09.5	-1.1
LJU				*e*Sn	Sn	01 27 33.4	-4.7
JAVS	Javornik	7.79	324	*i* Pn	Pn	01 26 10.3	-1.6
ELL	Elmali	7.93	109	*e*P	Pn	01 26 16.7	+2.9
ESKT	Eskisehir	7.93	88	*i* P	Pn	01 26 14.6	+0.8
ESKT	Eskisehir	7.93	88	*e*P	Pn	01 26 14.1	+0.3
PERS	Pernice	7.95	332	*e*Pn	Pn	01 26 12.3	-1.9
VOY	Vojsko	7.97	324	*e*Pn	Pn	01 26 12.7	-1.7
VOY				*e*Sn	Sn	01 27 38.0	-6.8
ISP	Isparta	7.98	101	*e*Pn	Pn	01 26 14.9	+0.3
OBKA	Obir	8.07	329	⇓*i*PN	P	01 26 14.0	-1.8
OBKA				*i* SN	Sn	01 27 42.0	-5.3
SEI	Scarperia	8.11	305	*e*Pn	P	01 26 17.3	+0.9
PSZ	Piszkesteto	8.18	357	*e*	P	01 26 16.1	-1.3
PSZ				*e*Sn	Sn	01 27 41.7	-8.4
ARSA	Arzberg	8.35	336	⇑*i*PN	P	01 26 17.7	-2.0
ARSA				*i* SN	Sn	01 27 49.2	-5.1
KIZT	Kizilcal	8.80	92	*e*P	P	01 26 26.1	+0.1
SGKT	Sivrigoynuk	8.82	81	*i* P	P	01 26 26.6	+0.3
VYHS	Vyhne	8.83	352	*e*PN	P	01 26 25.7	-0.7
FVI	Forni Avoltri	8.90	323	*e*Pn	P	01 26 27.1	-0.2
KBA	Koelnbreinsper	9.02	327	⇑*i*PN	P	01 26 26.3	-2.7
KBA				*i* SN	Sn	01 28 05.5	-5.4
CRVS	Cervenica-Dubn	9.17	4	*e*PN	P	01 26 31.1	0.0
KOLS	Kolonicke sedl	9.26	7	*e*PN	P	01 26 33.8	+1.5
MOA	Molln	9.29	333	⇑*i*PN	P	01 26 30.3	-2.5
MOA				*i* SN	Sn	01 28 12.0	-5.7
SAFT	Safranbolu	9.34	77	*e*P	P	01 26 32.9	-0.5
SAFT	Safranbolu	9.34	77	Pn	P	01 26 32.8	-0.6
KIS	Kishinev	9.40	37	*e*P	P	01 26 33.0	-1.2
KIS				MLR	MLR		
	comp=Z,900nm,13.0s						
KIS				MLR	MLR		
	comp=Z,1µm,12.0s						
BALT	Daday	9.89	76	*i* P	P	01 26 38.9	-2.1
VRAC	Vranov	9.97	345	P	P	01 26 40.6	-1.4
	comp=Z,0.1nm,0.3s,baz=180,slow=14,SNR=3.0						
KWP	Kalwaria	9.99	8	*e*Pn	P	01 26 44.7	+2.4
BRMO	Bormio	10.04	315	*e*Pn	P	01 26 42.1	-0.9
BRTR	Keskin Array B	10.06	86	P	P	01 26 42.7	-0.5
	comp=Z,0.3nm,0.3s,baz=271,slow=12,SNR=8.8						
BRTR				S	S	01 28 35.1	-1.4
	comp=Z,0.2nm,0.3s,baz=278,slow=20,SNR=4.3						
SQTA	Sankt Quirin	10.10	321	⇑*i*PN	P	01 26 41.7	-2.1
SQTA				*i* SN	S	01 28 31.3	-6.2
OKC	Ostrava-Krasne	10.23	351	*e*P	P	01 26 42.4	-3.2
OKC				LR		01 31 10.0	
	comp=Z,0.4nm,17.3s						
MOTA	Moosalm	10.24	321	⇓*i*PN	P	01 26 44.1	-1.6
MOTA				*i* SN	S	01 28 35.9	-5.0
MORC	Moravsky Berou	10.25	349	*e*Pn	P	01 26 44.0	-2.0
	comp=Z,6.6nm,1.1s						
GERES	GERESS Array B	10.34	334	P	P	01 26 46.4	-0.6
	comp=Z,0.5nm,0.3s,baz=159,slow=14,SNR=15						
GERES				S	S	01 28 39.5	-3.9
	comp=Z,0.5nm,0.3s,baz=152,slow=23,SNR=5.5						
GERES	GERESS Array B	10.34	334	P	P	01 26 46.4	-0.7
GERES				S	S	01 28 39.5	-3.8
GERES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
GERES				smax			
	comp=N,1.0nm,0.3s						
OJC	Ojcow	10.48	357	*e*P	P	01 26 51.0	+1.9
DAVOX	Davos	10.49	316	P	P	01 26 48.5	-0.7
	comp=N,0.8nm,0.3s,baz=146,slow=15,SNR=10						
VAI	Varese	10.61	309	*e*Pn	P	01 26 50.7	-0.1
KHC	Kasperske Hory	10.62	334	*e*P	P	01 26 44.5	-6.5
KHC				x	x	01 27 05.5	
KHC				*e*S	S	01 28 42.0	-8.4
KHC				LR		01 31 30.0	
	comp=N,0.5nm,13.0s						
KHC	Kasperske Hory	10.62	334	*e*P	P	01 26 44.5	-6.5
KHC				*e*		01 28 42.0	
KHC				MLR	MLR		
	comp=Z,500nm,13.0s						
KHC	Kasperske Hory	10.62	334	*e*Pn	P	01 26 44.5	-6.5
KHC				*e*		01 27 05.5	
KHC				*e*Sn	S	01 28 42.0	-8.4
SBF	Sospel	10.64	297	*e*P	P	01 26 47.9	-3.3
	comp=Z,4.0nm,0.4s						
DAVA	Damuels	10.81	318	⇑*i*PN	P	01 26 51.7	-1.9
DAVA				*i* SN	S	01 28 49.1	-5.9
DPC	Dobruska-Polom	11.02	346	*e*P	P	01 26 54.0	-2.3
DPC				LR		01 31 50.0	
	comp=Z,0.7nm,15.0s						
BOYT	Boyabat	11.02	77	*i* P	P	01 26 56.0	-0.5
PRU	Pruhonice	11.09	339	*e*P	P	01 26 53.1	-4.3
PRU				L		01 31 40.0	
FRF	La Foret Royal	11.10	295	*e*P	P	01 26 55.6	-1.9
	comp=Z,11nm,0.6s						
CSS	Prodhromos	11.21	111	P	P	01 26 53.1	-6.0
SIM	Simferopol'	11.28	58	P	P	01 27 12.0	+12
SIM				MLR	MLR		
	comp=Z,210nm,15.3s						
MBDF	Montbardon	11.38	300	*e*P	P	01 26 58.4	-2.9
	comp=Z,10nm,0.8s						
PVCC	Panska Ves	11.58	341	LR		01 32 00.0	
	comp=Z,0.4nm,15.4s						
LPG	La Plagne	11.69	304	*e*P	P	01 27 02.9	-2.6
	comp=Z,5.2nm,0.4s						
LPL	La Plagne	11.71	304	*e*P	P	01 27 02.9	-2.9
	comp=Z,3.0nm,0.3s						
NKC	Novy Kostel	11.95	334	LR		01 32 20.0	
	comp=Z,0.4nm,11.6s						
AKASG	Malin Array Be	12.52	26	P	P	01 27 15.2	-1.4
	comp=Z,0.5nm,0.3s,baz=208,slow=12,SNR=4.8						
AKASG	Malin Array Be	12.52	26	P	P	01 27 15.3	-1.3
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MOX	Moxa	12.58	333	*e*P	P	01 27 16.0	-1.5
MOX				L		01 32 54.0	
CLL	Collm	12.71	338	P	P	01 27 16.0	-3.2
CLL				*e*		01 27 30.0	
CLL	Collm	12.71	338	*e*P	P	01 27 16.0	-3.2
HINF	Hinteralfeld	12.77	314	*e*P	P	01 27 15.2	-4.8
	comp=Z,2.8nm,0.4s						
VIVF	Saint-Julien-l	12.83	299	*e*P	P	01 27 18.4	-2.4
CDF	Champ du Feu	12.89	317	*e*P	P	01 27 17.4	-4.2
	comp=Z,3.5nm,0.5s						
HAU	Haudompre	13.16	313	*e*P	P	01 27 20.6	-4.5
	comp=Z,3.8nm,0.3s						
HAU				*e*R			
	comp=Z,101nm,17.8s						
ANN	Anapa	13.45	63	*e*P	P	01 27 35.1	+6.1
ANN				pmax	pmax		
	comp=Z,46nm,1.0s						
MALT	Malatya	13.95	90	P	P	01 27 30.2	-5.4
	comp=Z,4.8nm,0.6s						
SMF	Signal de Mont	14.01	305	*e*P	P	01 27 33.3	-3.0
	comp=Z,3.6nm,0.5s						
LOR	Lormes	14.26	307	*e*P	P	01 27 36.2	-3.3
	comp=Z,2.4nm,0.3s						
LOR				*e*R			
	comp=Z,114nm,18.0s						
SUW	Suwalki	14.38	6	*e*P	P	01 27 42.4	+1.3
	comp=Z,24nm,0.7s						
SSF	Saint Saulge	14.39	306	*e*P	P	01 27 38.0	-3.2
	comp=Z,6.2nm,0.8s						
BGF	Bois d'Agland	14.61	304	*e*P	P	01 27 40.9	-3.2
	comp=Z,1.3nm,0.2s						
SOC	Sochi	14.80	69	*e*P	P	01 27 48.9	+2.2
SOC				*e*S	S	01 30 35.5	+4.7
SOC				pmax	pmax		
	comp=Z,18nm,0.7s						
SOC				pmax	pmax		
	comp=N,9.0nm,0.6s						
SOC				pmax	pmax		
	comp=E,15nm,0.8s						
SOC				MLR	MLR		
	comp=Z,45nm,14.0s						
SOC				MLR	MLR		
	comp=N,64nm,20.0s						
SOC				MLR	MLR		
	comp=E,39nm,19.0s						
ASF	Jabal al Asfar	15.21	115	P	P	01 27 56.5	+4.4
	comp=E,0.1nm,0.3s,baz=133,slow=19,SNR=2.2						
EIL	Elat	15.50	126	P	P	01 27 57.8	+2.0
	comp=E,0.5nm,0.3s,baz=8.0,slow=22,SNR=5.7						
EIL				S	S	01 30 34.4	-13
	comp=E,0.8nm,0.3s,baz=312,slow=31,SNR=5.3						
EIL	Elat	15.50	126	P	P	01 27 50.5	-5.4
EIL				P		01 27 57.8	
EIL				*e*S	S	01 30 30.5	-17
EIL				S	S	01 30 34.4	-13
GOF	Gofitskoye	17.39	65	⇑*i*P	P	01 28 21.0	+1.3
GOF				pmax	pmax		
	comp=Z,31nm,0.7s						
OBN	Obninsk	18.72	30	κ *i*P	P	01 28 34.6	-1.5
OBN				pmax	pmax		
	comp=Z,22nm,0.9s						
OBN				MLR	MLR		
	comp=Z,300nm,11.0s						
OBN	Obninsk	18.72	30	*e*P	P	01 28 34.1	-2.0
	comp=Z,41nm,1.2s						
OBN				*e*		01 28 43.1	
ESDC	Sonseca Array	18.88	278	P	P	01 28 38.5	+0.4
	comp=Z,0.3nm,0.3s,baz=89,slow=38,SNR=2.3						
ESDC				LR	LR	01 36 32.9	
	comp=Z,76nm,18.3s,baz=30,slow=39						
ESLA	Sonseca Array	18.88	278	P	P	01 28 43.0	+4.8
	comp=Z,2.4nm,0.9s						
MOS	Moscow	19.59	30	*e*P	P	01 28 53.2	+6.9
MOS				*e*		01 32 21.4	
MOS				pmax	pmax		
	comp=Z,53nm,1.3s						
MOS				MLR	MLR		
	comp=Z,600nm,20.3s						
HFS	Hagfors	20.86	350	P	P	01 28 57.2	-2.4
	comp=Z,5.9nm,0.7s,baz=164,slow=11,SNR=20						
HFS	Hagfors	20.86	350	P	P	01 28 57.2	-2.4
HFS				pmax	pmax		
	comp=Z,6.0nm,0.7s						
NAO01	NORSAR Array S	21.96	347	P	P	01 29 09.1	-1.7
	comp=Z,11nm,0.8s,mb4.3						
FINES	FINESS Array B	21.98	7	P	P	01 29 08.6	-2.4
	comp=Z,3.4nm,0.4s,mb4.1,baz=170,slow=12,SNR=41						
FINES				LR	LR	01 38 21.1	
	comp=Z,111nm,19.7s,MS3.3,baz=157,slow=38						
FINES	FINESS Array B	21.98	7	P	P	01 29 08.6	-2.4
FINES				pmax	pmax		
	comp=Z,3.0nm,0.4s						
FINES				MLR	MLR		
	comp=Z,111nm,19.7s						
FINES	FINESS Array B	21.98	7	P	P	01 29 08.6	-2.4
FINES				LR	LR	01 38 21.1	
NB2	NORSAR Subarra	22.09	348	P	P	01 29 09.9	-2.2
	comp=Z,0.5nm,0.6s,mb3.1,baz=164,slow=11						
NOA	NORSAR Array B	22.09	348	P	P	01 29 10.5	-1.6
	comp=Z,5.4nm,0.7s,mb4.1,baz=164,slow=11,SNR=8.3						
NOA				LR	LR	01 38 25.1	
	comp=Z,66nm,21.1s,MS3.0,baz=165,slow=38						
NOA	NORSAR Array B	22.09	348	P	P	01 29 10.5	-1.6
NOA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
NOA				MLR	MLR		
	comp=Z,66nm,21.1s						
EVO	Evora	22.18	276	*e*P	P	01 29 12.9	-0.2
	comp=Z,53nm,1.4s,mb4.5						
EVO				*e*R			
	comp=Z,146nm,17.8s						
EKA	Eskdalemuir Ar	22.19	322	P	P	01 29 12.4	-0.7
	comp=Z,2.1nm,0.7s,mb3.7,baz=108,slow=10,SNR=4.8						
EKA	Eskdalemuir Ar	22.19	322	P	P	01 29 12.4	-0.7
EKA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ESK	Eskdalemuir	22.20	322	P	P	01 29 11.1	-2.1
	comp=Z,22nm,1.1s,mb4.5						
KAF	Kangasniemi	22.66	7	*e*p	P	01 29 15.6	-2.0
	comp=Z,3.5nm,0.5s,mb4.0,baz=189,slow=10						
KAF	Kangasniemi	22.66	7	*e*P	P	01 29 15.6	-2.0
KAF				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.1						
ARCES	ARCESS Array B	29.96	3	P	P	01 30 22.6	-2.9
	comp=Z,1.9nm,0.5s,mb4.1,baz=188,slow=11,SNR=20						
ARCES				LR	LR	01 43 19.7	
	comp=Z,146nm,18.0s,MS3.7,baz=203,slow=38						
ARCES	ARCESS Array B	29.96	3	P	P	01 30 22.6	-2.9
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ARCES				MLR	MLR		
	comp=Z,146nm,18.0s						
KEV	Kevo	30.26	4	*e*p	P	01 30 24.4	-3.7
BVAR	Borovoye Array	36.09	52	P	P	01 31 17.1	-1.7
	comp=Z,0.8nm,0.8s,mb3.7,baz=270,slow=5.8,SNR=3.6						
DBIC	Dimbokro	40.09	221	P	P	01 31 52.5	-0.2
	comp=Z,1.6nm,0.6s,mb3.9,baz=258,slow=18,SNR=5.1						
DBIC				LR	LR	01 49 58.6	
	comp=Z,71nm,20.0s,MS3.5,baz=95,slow=38						
DBIC	Dimbokro	40.09	221	P	P	01 31 52.5	-0.2
DBIC				pmax	pmax		
	comp=Z,2.0nm,0.6s						
DBIC				MLR	MLR		
	comp=Z,71nm,20.0s						
DBIC	Dimbokro	40.09	221	P	P	01 31 52.5	-0.2
DBIC				LR	LR	01 49 58.6	
AAK	Ala-Archa	40.10	68	P	P	01 31 46.9	-5.6
	comp=Z,2.5nm,0.7s,mb4.0						
KURK	Kurchatov	41.31	55	P	P	01 31 59.4	-3.0
	comp=Z,2.5nm,0.9s,mb3.8						
MKAR	Makanchi Array	44.45	60	P	P	01 32 25.9	-2.0
	comp=Z,4.0nm,0.5s,mb4.4,baz=284,slow=7.0,SNR=26						
MKAR	Makanchi Array	44.45	60	P	P	01 32 25.9	-2.0
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.5s						
WMQ	Urumqi	48.97	62	*e*P	P	01 32 59.0	-4.5
WMQ				AMB	AMB		
	comp=Z,5.0nm,1.2s,mb4.4						
LSZ	Lusaka	55.20	171	P	P	01 33 54.6	+4.0
	comp=Z,7.5nm,1.3s,mb4.6						
GTA	Gaotai	59.05	63	*e*P	P	01 34 15.4	-2.2
GTA				AMB	AMB		
	comp=Z,2.0nm,0.8s,mb4.2						
LZH	Lanzhou	63.46	64	*e*P	P	01 34 41.6	-5.8
LZH				PP	PP	01 37 05.8	-2.9
LZH				AMB	AMB		
	comp=Z,21nm,1.5s,mb5.0						
LZH				LR	LR		
	comp=N,156nm,14.2s						
LZH				LR	LR		
	comp=Z,243nm,17.0s,MS4.5						
YKA	Yellowknife Ar	71.93	340	LR	LR	02 08 09.3	
	comp=Z,32nm,18.4s,MS3.6,baz=85,slow=37						
CN2	Changchun	72.78	47	*e*P	P	01 35 36.8	-8.5
MDJ	Mudanjiang	74.55	44	P	P	01 35 46.3	-9.3
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.2s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,30nm,5.8s						
ILAR	Eielson Array	75.35	354	P	P	01 35 59.4	-0.4
	comp=Z,0.2nm,0.5s,mb3.3,baz=351,slow=2.7,SNR=3.4						
NJ2	Nanjing	75.98	60	*e*P	P	01 35 56.5	-7.6
SSE	Sheshan	78.13	59	*e*P	P	01 36 08.8	-7.2
SSE				AMB	AMB		
	comp=Z,17nm,0.7s,mb5.1						
SSE				AMB	AMB		
	comp=Z,22nm,4.6s						
NVAR	Mina Array Bea	93.55	329	LR	LR	02 21 25.3	
	comp=Z,58nm,18.6s,MS4.1,baz=235,slow=37						
TXAR	Lajitas Array	93.92	314	P	P	01 37 35.4	+1.2
	comp=Z,0.3nm,1.0s,mb3.7,baz=139,slow=35,SNR=3.2						
WRA	Warramunga Arr	120.54	91	PKP	PKPdf	01 43 06.2	-5.3
	comp=Z,0.7nm,0.8s,baz=67,slow=17,SNR=4.8						
WRA	Warramunga Arr	120.54	91	PKIKP	PKPdf	01 43 06.2	-5.4
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ASAR	Alice Springs	122.28	95	PKP	PKPdf	01 43 10.9	-3.9
	comp=Z,0.6nm,0.8s,baz=330,slow=2.6,SNR=4.3						

DJA 16 01:36:27.0±0.9, 8.95S×115.23E, h98^{km}±5^{km}, MD4.7/4, ML4.1/2, 4C-5D, Error ellipse: s-maj=26.3km s-min=8.2km az=10.0, Bali region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INGI	Ingas	0.15	326	⇓*i*Pn	P	01 36 40.6	-0.3
	906nm,0.3s						
INGI				⇓*i*Sn	S	01 36 49.9	-1.5
RATI	Rata	0.37	53	⇓*e*Pn	P	01 36 41.7	-0.1
	1µm,0.2s						

RATI				⇑iSn	S	01 36 52.8	-0.3
KEDI	**Kedomdong**	**0.98**	**62**	⇑iPn	P	01 36 46.4	-1.0
	450nm,0.2s						
KEDI				⇓iSn	S	01 37 01.2	-1.5
KELI	**Kelakatan**	**1.03**	**315**	⇓iPn	P	01 36 47.7	-0.2
	155nm,0.2s						
KELI	**Kelakatan**	**1.03**	**315**	⇑iP	P	01 36 48.0	+0.1
KELI				⇑iSn	S	01 37 02.1	-1.5

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*THE **16** 01:39:40.0, 39.82N×20.68E, h10^{km}*

*ATH **16** 01:39:40.5, 39.82N×20.63E, h10^{km}, MD2.9/3*

ISC 16 01:39:39.7±0.8**, 39.85N**±0.05×**20.63E**±0.07**, h4**^{km}±11^{km}**, n7, σ0^{s}74**/11**, Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAN	**Janina**	**0.26**	**139**	ePG	**Pg**	**01 39 44.5**	**-0.4**
IGT	**Igoumenitsa**	**0.39**	**215**	ePg	**Pg**	**01 39 47.2**	**-0.4**
IGT				eSg	**Sg**	**01 39 53.8**	**+1.0**
KEK	**Kerkira**	**0.65**	**258**	ePB	**Pb**	**01 39 53.0**	**-0.3**
FNA	**Florina**	**1.09**	**31**	ePg	**Pg**	**01 40 01.1**	**-0.4**
FNA				eSg	**Sg**	**01 40 16.7**	**+0.7**
EVR	**Evrytania**	**1.31**	**135**	ePB	**Pb**	**01 40 05.5**	**+1.0**
LIT	**Litokhoron**	**1.45**	**80**	ePb	**Pb**	**01 40 06.3**	**-0.7**
LIT				eSb	**Sb**	**01 40 26.5**	**+0.8**
AGG	**Agios Georgios**	**1.56**	**122**	ePb	**Pb**	**01 40 07.3**	**-1.4**
AGG				eSb	**Sb**	**01 40 28.9**	**+0.1**

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*NIC **16** 01:40:31.1±0.3, 37.78N×28.63E, h100^{km}, mb4.4, ML4.0*

*ISK **16** 01:40:31.0, 37.77N×29.15E, h6^{km}, MD4.0, ML4.0*

*IDC **16** 01:40:31.9±1.4, 37.72N×29.29E, mb3.9/1, mb1 4.0/7, mb1mx3.8/22, ML3.8/6, MS3.0/5, Ms1 3.1/5, ms1mx2.9/21, Error ellipse: s-maj=21.3km s-min=18.4km az=54.0*

*BJI **16** 01:40:33.6, 37.52N×28.86E, h48^{km}, mB4.3, mb4.3, Ms4.4, Msz4.2*

*NEIC **16** 01:40:33.4±0.3, 37.74N×29.15E, h20^{km}, mb4.0/1, ML4.0(NIC), Error ellipse: s-maj=5.0km s-min=3.8km az=59.0*

ISC 16 01:40:31.4±0.4**, 37.70N**±0.02×**29.21E**±0.02**, h12**^{km}±3^{km}**, n111, σ1^{s}16**/133**, mb4.3**/6**, MS3.3**/5**, 4C, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DNZL	**Cakiroluk**	**0.13**	**267**	i P	**Pg**	**01 40 34.3**	**-0.4**
DNZL				i S	**Sg**	**01 40 36.1**	**-0.7**
DENT	**Denizli**	**0.15**	**293**	i PG	**Pg**	**01 40 34.3**	**-0.7**
KHL	**Karahalli**	**0.67**	**22**	i PG	**Pg**	**01 40 43.7**	**-1.3**
YER	**Yerkesik**	**0.93**	**233**	i PG	**Pg**	**01 40 48.9**	**-1.1**
MANT	**Manisa**	**0.94**	**327**	i P	**Pb**	**01 40 48.6**	**-0.6**
MANT				i S	**Sb**	**01 41 02.1**	**+0.7**
DALT	**Dalyan (Mudla)**	**1.03**	**206**	i PG	**Pg**	**01 40 51.6**	**-0.5**
DALT				i SG	**Sg**	**01 41 07.9**	**+2.0**
DALT	**Dalyan (Mudla)**	**1.03**	**206**	Pg	**Pg**	**01 40 51.6**	**-0.5**
DALT				Sg	**Sg**	**01 41 07.6**	**+1.7**
ISP	**Isparta**	**1.04**	**82**	i PN	**Pn**	**01 40 51.6**	**-0.2**
ISP				i SN	**Sn**	**01 41 08.5**	**+2.2**
ISP	**Isparta**	**1.04**	**82**	Pn	**Pn**	**01 40 51.6**	**-0.2**
ISP				Sg	**Sg**	**01 41 08.6**	**+2.3**
AYDN	**Tasoluk**	**1.05**	**268**	i P	**Pb**	**01 40 51.2**	**+0.1**
AYDN				i S	**Sb**	**01 41 04.6**	**-0.1**
ELL	**Elmali**	**1.10**	**149**	i PN	**Pn**	**01 40 53.1**	**+0.5**
BCK	**Bucak**	**1.12**	**102**	i PN	**Pn**	**01 40 54.7**	**+1.7**
MLSB	**Milas**	**1.21**	**251**	i PN	**Pn**	**01 40 53.7**	**-0.4**
ANTB	**Antalya**	**1.40**	**124**	PN	**Pn**	**01 40 59.1**	**+2.2**
ALT	**Altintas**	**1.53**	**27**	PN	**Pn**	**01 40 59.1**	**+0.3**
BDRM	**Kayabasi**	**1.54**	**246**	i P	**Pn**	**01 40 59.4**	**+0.6**
BDRM				i S	**Sb**	**01 41 21.4**	**+2.6**
AKS	**Akhisar**	**1.61**	**318**	PN	**Pn**	**01 40 59.8**	**-0.1**
KDAG	**Bornova**	**1.69**	**295**	i P	**Pn**	**01 41 00.6**	**-0.4**
KDAG				i S	**Sn**	**01 41 17.7**	**-4.9**
IZM	**Izmir**	**1.69**	**295**	PN	**Pn**	**01 41 00.5**	**-0.5**
ARG	**Arkhangelos**	**1.71**	**211**	eP	**Pn**	**01 41 03.4**	**+2.0**
SMG	**Samos**	**1.88**	**271**	eP	**Pn**	**01 41 04.0**	**+0.2**
NISR	**Nisiros**	**1.98**	**237**	eP	**Pn**	**01 41 06.5**	**+1.3**
BALB	**Balikesir**	**2.20**	**332**	ePN	**Pn**	**01 41 07.9**	**-0.5**
ESKT	**Eskisehir**	**2.23**	**35**	i P	**Pn**	**01 41 10.8**	**+2.0**
ESKT				i S	**Sg**	**01 41 48.6**	**+2.9**
ESKT	**Eskisehir**	**2.23**	**35**	ePN	**Pn**	**01 41 08.5**	**-0.3**
ORLT	**Orhaneli**	**2.36**	**354**	ePN	**Pn**	**01 41 09.5**	**-1.1**
KIZT	**Kizilcal**	**2.41**	**60**	ePN	**Pn**	**01 41 12.0**	**+0.6**
ULDT	**Uludag**	**2.44**	**359**	i P	**Pn**	**01 41 13.6**	**+1.8**
ULDT				i S	**Sg**	**01 41 52.8**	**0.0**
KONT	**Konya--Tatoy**	**2.51**	**83**	ePN	**Pn**	**01 41 13.2**	**+0.4**
KARP	**Karpathos**	**2.70**	**218**	eP	**Pn**	**01 41 17.0**	**+1.4**
HDMB	**Hadim**	**2.71**	**105**	ePN	**Pn**	**01 41 17.9**	**+2.2**
PRK	**Paraskevi**	**2.77**	**305**	eP	**Pn**	**01 41 16.5**	**-0.1**
BNT	**Bandirma**	**2.84**	**340**	ePN	**Pn**	**01 41 16.7**	**-0.8**
EDC	**Edincik**	**2.84**	**339**	ePN	**Pn**	**01 41 16.7**	**-0.9**
YLV	**Yalova**	**2.87**	**3**	ePN	**Pn**	**01 41 18.5**	**+0.6**
APE	**Apeiranthos**	**2.99**	**259**	eP	**Pn**	**01 41 20.0**	**+0.3**
SANT	**Santorini**	**3.28**	**247**	ePn	**Pn**	**01 41 26.9**	**+3.2**
THR4	**Thira Island,**	**3.29**	**249**	eP	**Pn**	**01 41 23.9**	**+0.1**
THR6	**Thira Island,**	**3.33**	**247**	eP	**Pn**	**01 41 25.0**	**+0.5**
ISK	**Istanbul-Kandi**	**3.37**	**358**	ePN	**Pn**	**01 41 24.4**	**-0.6**
HENT	**Hendek**	**3.39**	**22**	i P	**Pn**	**01 41 25.9**	**+0.6**
HENT				i S	**Sg**	**01 42 23.4**	**-0.9**
MFT	**Murefte**	**3.43**	**335**	ePN	**Pn**	**01 41 26.2**	**+0.3**
ANTO	**Ankara**	**3.54**	**51**	ePN	**Pn**	**01 41 27.9**	**+0.4**
SGKT	**Sivrigoynuk**	**3.63**	**37**	i P	**Pn**	**01 41 30.3**	**+1.6**
SGKT				i S	**Sg**	**01 42 36.2**	**+3.9**
AKMC	**Akamas**	**3.67**	**136**	P	**Pn**	**01 41 31.1**	**+1.8**
ALFC	**Alevga**	**3.73**	**132**	P	**Pn**	**01 41 30.2**	**+0.1**
	3.2nm,0.3s						
ALFC				S	**Sn**	**01 42 20.2**	**+5.7**
NPS	**Neapolis**	**3.78**	**231**	eP	**Pn**	**01 41 32.0**	**+1.1**
PPCY	**Paphos**	**3.78**	**137**	⇑P	**Pn**	**01 41 32.7**	**+1.8**
PPCY	**Paphos**	**3.78**	**137**	⇑iP	**Pn**	**01 41 32.7**	**+1.8**
IKL	**Isikli**	**3.87**	**111**	ePN	**Pn**	**01 41 34.2**	**+2.0**
KAMT	**Kaman**	**3.91**	**63**	ePN	**Pn**	**01 41 33.2**	**+0.5**
LOS	**Limnos**	**3.92**	**306**	eP	**Pn**	**01 41 33.2**	**+0.4**
XRY	**Khrisi**	**4.00**	**226**	eP	**Pn**	**01 41 35.3**	**+1.4**
BRTR	**Keskin Array B**	**4.02**	**58**	Pn	**Pn**	**01 41 34.5**	**+0.2**
	1.5nm,0.3s,baz=166,slow=23,SNR=39						
BRTR				Sn	**Sn**	**01 42 22.1**	**+0.4**
	2.3nm,0.3s,baz=230,slow=24,SNR=9.6						
ALN	**Alexandroupoli**	**4.03**	**323**	eP	**Pn**	**01 41 33.6**	**-0.7**
MAMC	**Mammari**	**4.10**	**127**	P	**Pn**	**01 41 37.8**	**+2.4**
SZAC	**Souni-Zanaja**	**4.18**	**134**	⇑P	**Pn**	**01 41 37.9**	**+1.4**
SZAC				S	**Sn**	**01 42 30.5**	**+4.7**
SZAC	**Souni-Zanaja**	**4.18**	**134**	⇑eP	**Pn**	**01 41 37.9**	**+1.4**
SZAC				S	**Sn**	**01 42 30.5**	**+4.7**
IDI	**Anoyia**	**4.23**	**237**	Pn	**Pn**	**01 41 37.9**	**+0.7**
	7.9nm,0.3s,baz=59,slow=17,SNR=37						
IDI				Sn	**Sn**	**01 42 31.0**	**+3.9**
	2.7nm,0.3s,baz=162,slow=20,SNR=2.0						
CSS	**Prodhromos**	**4.30**	**128**	P	**Pn**	**01 41 39.5**	**+1.2**
CSS				S	**Sn**	**01 42 34.5**	**+5.4**
ELDT	**Eldivan**	**4.31**	**48**	i P	**Pn**	**01 41 38.8**	**+0.4**
ELDT				i S	Sn	01 42 58.6	+29
RDO	**Rodhopi**	**4.46**	**322**	eP	**Pn**	**01 41 40.5**	**-0.1**
EDRB	**Edirne**	**4.56**	**336**	ePN	**Pn**	**01 41 42.1**	**+0.2**
OUR	**Ouranopolis**	**4.85**	**305**	eP	**Pn**	**01 41 45.3**	**-0.7**
KDZ	**Kurdzhali**	**4.91**	**325**	i P	**Pn**	**01 41 46.0**	**-0.9**
XOR	**Xorichti**	**5.00**	**291**	eP	**Pn**	**01 41 48.0**	**-0.2**
GVD	**Gavdhos**	**5.02**	**237**	ePn	**Pn**	**01 41 49.9**	**+1.4**
RZN	**Rozhen**	**5.28**	**320**	i P	**Pn**	**01 41 51.5**	**-0.6**
SRS	**Serrai**	**5.53**	**310**	eP	**Pn**	**01 41 54.5**	**-1.1**
AGG	**Agios Georgios**	**5.56**	**286**	eP	**Pn**	**01 41 56.3**	**+0.2**
LIT	**Litokhoron**	**5.76**	**297**	eP	**Pn**	**01 41 58.9**	**0.0**
SZH	**Strazhica**	**6.10**	**337**	i P	**Pn**	**01 42 02.5**	**-1.1**
GRG	**Griva**	**6.20**	**304**	eP	**Pn**	**01 42 04.7**	**-0.4**
PVL	**Pavlikeni**	**6.25**	**333**	i P	**Pn**	**01 42 05.0**	**-0.9**
KKB	**Krupnik**	**6.29**	**313**	i P	**Pn**	**01 42 06.0**	**-0.4**
HNTI	**Hanita**	**6.70**	**132**	P	**Pn**	**01 42 11.0**	**-1.2**
HNTI				S	**Sn**	**01 43 26.9**	**-2.4**
FNA	**Florina**	**6.81**	**299**	eP	**Pn**	**01 42 13.9**	**+0.1**
HAF	**Haifa**	**6.83**	**134**	P	**Pn**	**01 42 12.5**	**-1.5**
HRI	**Mount Hermon**	**6.92**	**128**	P	**Pn**	**01 42 14.0**	**-1.2**
KSDI	**Kefar Szold**	**6.92**	**129**	P	**Pn**	**01 42 13.8**	**-1.5**
KSDI				S	**Sn**	**01 43 32.2**	**-2.6**
OFRI	**‘Ofer**	**6.93**	**135**	P	**Pn**	**01 42 13.8**	**-1.6**
KSHT	**Keshet**	**7.16**	**129**	P	**Pn**	**01 42 18.5**	**-0.1**
GLH	**Golan-Tel Qazi**	**7.25**	**131**	P	**Pn**	**01 42 19.3**	**-0.5**
SLTI	**Sal’it**	**7.25**	**137**	P	**Pn**	**01 42 19.2**	**-0.7**
SLTI				S	**Sn**	**01 43 39.0**	**-3.9**
MMLI	**Mount Malkishu**	**7.31**	**134**	P	**Pn**	**01 42 19.7**	**-1.0**
MMLI				S	**Sn**	**01 43 41.8**	**-2.7**
HMDT	**Nahal Hemdat**	**7.51**	**134**	P	**Pn**	**01 42 22.6**	**-0.9**
DRGI	**Dragot**	**7.94**	**138**	P	**Pn**	**01 42 28.3**	**-1.2**
KZIT	**Kziot**	**8.02**	**146**	P	**P**	**01 42 28.5**	**-2.1**
KZIT				S	**Sn**	**01 43 56.4**	**-5.8**
MZDA	**Masada**	**8.15**	**140**	P	**P**	**01 42 31.6**	**-0.8**
MLR	**Muntele Rosu**	**8.16**	**344**	Pn	**P**	**01 42 31.4**	**-1.2**
	0.9nm,0.3s,baz=121,slow=4.4,SNR=21						
MLR				Lg		01 44 52.0	
	0.0nm,0.3s,baz=286,slow=23,SNR=2.0						
ASF	**Jabal al Asfar**	**8.38**	**129**	Pn	**P**	**01 42 35.8**	**+0.2**
	0.7nm,0.3s,baz=110,slow=21,SNR=6.2						
ASF				LR	LR	01 45 47.7	
	comp=Z,54nm,21.7s,baz=188,slow=38						
PRNI	**Paran**	**8.76**	**145**	P	**P**	**01 42 39.2**	**-1.8**
MBH	**Mount Berech**	**9.20**	**147**	P	**P**	**01 42 45.3**	**-1.8**
AQBJ	**Aqaba**	**9.32**	**147**	P	**P**	**01 42 46.9**	**-1.7**
EIL	**Elat**	**9.32**	**147**	Pn	**P**	**01 42 46.2**	**-2.5**
	1.2nm,0.3s,baz=356,slow=23,SNR=13						
EIL				Sn	**Sn**	**01 44 28.8**	**-5.8**
	0.7nm,0.3s,baz=14,slow=28,SNR=4.0						
EIL	**Elat**	**9.32**	**147**	ePn	**P**	**01 42 45.6**	**-3.1**
EIL				eSn	**Sn**	**01 44 27.4**	**-7.2**
AQU	**L’Aquila**	**12.97**	**296**	P	**P**	**01 43 26.9**	**-11**
GERES	**GERESS Array B**	**15.83**	**320**	Pn	**P**	**01 44 19.7**	**+4.1**
	0.1nm,0.3s,baz=130,slow=10,SNR=12						
FINES	**FINESS Array B**	**23.85**	**356**	LR	LR	01 55 41.5	
	comp=Z,39nm,18.2s,MS2.9,baz=65,slow=38						
NOA	**NORSAR Array B**	**25.96**	**340**	LR	LR	01 57 53.5	
	comp=Z,25nm,18.1s,MS2.8,baz=295,slow=40						
ARCES	**ARCESS Array B**	**31.96**	**358**	LR	LR	01 59 09.4	
	comp=Z,42nm,18.6s,MS3.1,baz=184,slow=35						
KURK	**Kurchatov**	**37.05**	**53**	P	**P**	**01 47 42.2**	**-0.6**
	2.1nm,0.8s,mb4.0						
MKAR	**Makanchi Array**	**39.67**	**59**	P	**P**	**01 48 04.7**	**-0.2**
	1.6nm,0.9s,mb3.7,baz=280,slow=7.4,SNR=6.9						
BORG	**Borgarnes**	**39.98**	**329**	eP	**P**	**01 48 08.7**	**+1.6**
DBIC	**Dimbokro**	**43.70**	**234**	LR	LR	02 09 39.9	
	comp=Z,37nm,19.0s,MS3.3,baz=117,slow=40						
WMQ	**Urumqi**	**43.93**	**63**	eP	**P**	**01 48 40.8**	**+1.1**
WMQ				AMB	AMB		
	comp=Z,4.0nm,1.1s,mb4.1						
LZH	**Lanzhou**	**58.18**	**67**	eP	**P**	**01 50 26.5**	**-1.1**
LZH				AMB	AMB		
	comp=Z,23nm,1.4s,mb5.0						
LZH				LR	LR		
	comp=N,219nm,15.1s						
LZH				LR	LR		
	comp=Z,275nm,17.8s,MS4.4						
CN2	**Changchun**	**69.05**	**50**	eP	**P**	**01 51 44.1**	**+5.2**
NJ2	**Nanjing**	**70.99**	**64**	eP	**P**	**01 51 50.0**	**-1.0**
MDJ	**Mudanjiang**	**71.09**	**48**	P	**P**	**01 51 51.3**	**-0.1**
MDJ				AMB	AMB		
	comp=Z,9.0nm,2.5s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,48nm,4.4s						
SSE	**Sheshan**	**73.18**	**64**	eP	**P**	**01 52 03.3**	**-0.7**
SSE				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,27nm,2.6s,mb4.7						

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*NEIC **16** 01:48:07.3, 39.57N×20.42E, h4^{km}, MD3.1(ATH), After ATH.*

*ATH **16** 01:48:07.3, 39.57N×20.42E, h4^{km}, MD3.1/4*

*THE **16** 01:48:10.6, 39.82N×20.69E, h10^{km}, ML2.8*

ISC 16 01:48:09.8±0.8**, 39.84N**±0.04×**20.66E**±0.07**, h4**^{km}±9^{km}**, n10, σ0^{s}82**/15**, Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAN	**Janina**	**0.23**	**141**	ePG	**Pg**	**01 48 14.3**	**-0.2**
JAN				eSG	**Sg**	**01 48 17.8**	**+0.2**
IGT	**Igoumenitsa**	**0.40**	**220**	ePg	**Pg**	**01 48 17.9**	**+0.1**
IGT				eSg	**Sg**	**01 48 24.5**	**+1.4**
KEK	**Kerkira**	**0.68**	**260**	ePG	**Pg**	**01 48 17.0**	**-6.4**
FNA	**Florina**	**1.09**	**30**	ePg	**Pg**	**01 48 31.0**	**-0.6**
FNA				eSg	**Sg**	**01 48 46.6**	**+0.3**
LKD	**Levkas**	**1.13**	**180**	ePg	**Pg**	**01 48 31.4**	**-0.9**
EVR	**Evrytania**	**1.28**	**136**	ePN	**Pn**	**01 48 32.7**	**-1.7**
LIT	**Litokhoron**	**1.43**	**79**	ePb	**Pb**	**01 48 37.1**	**+0.5**
LIT				eSb	**Sb**	**01 48 56.3**	**+1.2**
AGG	**Agios Georgios**	**1.53**	**122**	ePb	**Pb**	**01 48 37.5**	**-0.8**
AGG				eSb	**Sb**	**01 48 58.5**	**+0.6**
VLS	**Valsamata**	**1.66**	**182**	ePB	**Pb**	**01 48 32.8**	**-7.7**
GRG	**Griva**	**1.74**	**49**	ePb	**Pb**	**01 48 41.7**	**-0.2**

MEX 16 01:57:27.0±0.9**, 15.79N**×**98.82W, h16**^{km}±64^{km}**, MD4.0, Off coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.90**	**48**	i P	Pb	01 57 41.1	-2.6
PNIG				i S	Sb	01 57 51.3	-3.9
ACX	**Acapulco**	**1.50**	**316**	eP	Pn	01 57 49.5	-3.9
ACX				i S	Sb	01 58 06.5	-6.1
VHO	**Vista Hermosa**	**2.38**	**57**	i P	Pn	01 58 03.0	-2.9
VHO				i S	Sn	01 58 30.8	-4.1
OXX	**Oaxaca**	**2.39**	**57**	i P	Pn	01 58 02.0	-4.1
OXX				i S	Sn	01 58 30.5	-4.8
PLIG	**Platanillo**	**2.67**	**346**	eP	Pn	01 58 06.4	-3.8
PLIG				i S	Sn	01 58 37.1	-5.2
PPM	**Popocatepetl**	**3.26**	**3**	eP	Pn	01 58 20.0	+1.4
IIZ	**Mezontepec**	**3.40**	**353**	eP	Pn	01 58 21.0	+0.4
IISM	**Ciudad Serdan**	**3.46**	**23**	eP	Pn	01 58 25.0	+3.5
CMIG	**Matias Romero**	**3.99**	**71**	eP	Pn	01 58 24.9	-4.1
CMIG				i S	Sn	01 59 10.7	-5.2

IDC 16 02:37:15.6±1.9**, 25.19N**×**140.82E, h190**^{km}±15^{km}**, mb3.5**/3**, mb1 3.7**/4**, mb1mx3.2**/20**, MS3.6**/1**, Ms1 3.6**/1**, ms1mx2.5**/23**, Error ellipse: s-maj=50.8km s-min=20.3km az=102.0, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.27**	**33**	P	P	02 37 58.1	+1.4
	70nm,0.3s,baz=166,slow=2.1,SNR=42						
CBIJ				S	S	02 38 28.1	-0.4
	42nm,0.3s,baz=302,slow=22,SNR=15						
WRA	**Warramunga Arr**	**45.30**	**189**	P	P	02 45 13.9	-2.3
	1.2nm,0.4s,baz=10,slow=8.8,SNR=8.6						
CTA	**Charters Tower**	**45.31**	**173**	LR	LR	03 03 10.6	
	comp=Z,68nm,18.6s,baz=43,slow=34						
ILAR	**Eielson Array**	**59.97**	**28**	P	P	02 47 01.1	-2.6
	0.4nm,0.6s,baz=262,slow=6.2,SNR=7.9						
FINES	**FINESS Array B**	**79.11**	**334**	P	P	02 48 58.6	-1.3
	2.8nm,0.9s,baz=273,slow=40,SNR=3.3						
LPAZ	**La Paz**	**151.57**	**77**	PKPbc	PKPdf	02 56 49.3	+8.1
	1.4nm,0.3s,baz=22,slow=0.2,SNR=2.4						

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*IDC **16** 02:40:59.7±2.9, 10.83S×118.73E, mb3.8/1, mb1 3.6/4, mb1mx3.5/11, ML3.2/3, Error ellipse: s-maj=224.0km s-min=25.5km az=50.0*

*DJA **16** 02:41:07.0±0.8, 11.53S×117.72E, h80^{km}, MD4.7/4, ML5.1/4, Error ellipse: s-maj=31.7km s-min=16.5km az=49.0*

ISC 16 02:41:00.5±0.7**, 11.5S**±0.3×**118.4E**±0.3**, h33**^{km}**, n10, σ1^{s}23**/17**, mb3.9**/1**, 3C-6D, South of Sumbawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**3.69**	**323**	⇓iPn	**Pn**	**02 41 58.2**	**+1.4**
	500nm,0.2s						
KEDI	**Kedomdong**	**3.69**	**323**	ePg	**P**	**02 41 58.5**	**+1.9**
KEDI				⇓iSn	**Sn**	**02 42 37.1**	**-2.6**
RATI	**Rata**	**3.89**	**314**	⇓iPn	**Pn**	**02 41 59.8**	**+0.2**
	777nm,0.2s						
RATI				⇓iSn	**Sn**	**02 42 38.9**	**-5.8**
INGI	**Ingas**	**4.11**	**309**	⇓iPn	**Pn**	**02 42 02.1**	**-0.7**
	780nm,0.2s						
INGI				⇑iSn	**Sn**	**02 42 41.9**	**-8.4**
KELI	**Kelakatan**	**4.99**	**310**	⇓iPn	**Pn**	**02 42 15.1**	**-0.1**
	214nm,0.2s						
KELI	**Kelakatan**	**4.99**	**310**	⇑iP	**P**	**02 42 15.4**	**+0.3**
KELI				⇑iSn	**Sn**	**02 43 03.6**	**-8.9**
FITZ	**Fitzroy Crossi**	**9.65**	**134**	Pn	**P**	**02 43 20.5**	**+0.2**
	0.2nm,0.3s,baz=356,slow=2.9,SNR=6.5						
FITZ				Sn	**Sn**	**02 44 58.3**	**-10**
	0.8nm,0.3s,baz=183,slow=19,SNR=9.4						
WRA	**Warramunga Arr**	**17.53**	**121**	P	**P**	**02 45 05.5**	**+1.4**
	0.1nm,0.3s,baz=295,slow=13,SNR=6.4						
WRA				S	**S**	**02 48 08.6**	**-7.6**
	0.1nm,0.3s,baz=289,slow=24,SNR=3.4						
ASAR	**Alice Springs**	**19.13**	**131**	P	**P**	**02 45 28.2**	**+4.5**
	0.1nm,0.3s,baz=315,slow=13,SNR=3.7						
ASAR				S	**S**	**02 48 50.6**	**-1.7**
	0.1nm,0.3s,baz=306,slow=25,SNR=5.4						
MKAR	**Makanchi Array**	**66.36**	**334**	P	**P**	**02 51 47.6**	**-0.6**
	0.5nm,0.4s,mb3.9,baz=149,slow=6.3,SNR=6.4						

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*JMA **16** 02:45:03.5±0.1, 33.41N×136.84E, h38^{km}±3^{km}, M3.4*

*NEIC **16** 02:45:13.9±1.3, 34.28N×139.22E, h176^{km}±11^{km}, mb4.1/6, Error ellipse: s-maj=29.8km s-min=13.6km az=74.0*

*IDC **16** 02:45:36.4±3.0, 33.39N×136.81E, h322^{km}±29^{km}, mb3.3/7, mb1 3.4/8, mb1mx3.3/24, Error ellipse: s-maj=31.2km s-min=13.7km az=77.0*

ISC 16 02:45:03.4±0.7**, 33.43N**±0.04×**136.84E**±0.03**, h26**^{km}±5^{km}**, n32, σ0^{s}57**/42**, mb4.1**/10**, 3D, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	**Tokai 1**	**0.71**	**62**	P	**Pb**	**02 45 16.8**	**-0.2**
TK02	**Tokai 2**	**0.92**	**56**	P	**Pb**	**02 45 21.3**	**+0.7**
TK02				S	**Sb**	**02 45 32.6**	**+0.2**
JKN	**Kiinagashima**	**0.94**	**330**	⇓P	**Pb**	**02 45 20.7**	**-0.3**
JKN				eS	**Sb**	**02 45 32.8**	**-0.3**
JWZ	**Kozaga**	**0.95**	**276**	⇓P	**Pb**	**02 45 20.5**	**-0.5**
JWZ				S	**Sb**	**02 45 33.1**	**-0.1**
JIE	**Ise**	**0.96**	**353**	⇓P	**Pn**	**02 45 21.5**	**+0.2**
JIE				eS	**Sb**	**02 45 34.0**	**+0.3**
JAA	**Atsumi**	**1.22**	**12**	P	**Pn**	**02 45 25.0**	**0.0**
JAA				eS	**Sn**	**02 45 40.2**	**-0.6**
TK04	**Tokai 4**	**1.28**	**42**	P	**Pn**	**02 45 25.4**	**-0.5**
TK04				eS	**Sn**	**02 45 42.2**	**-0.1**
JWY	**Kouya**	**1.30**	**307**	P	**Pn**	**02 45 26.5**	**+0.4**
JWY				eS	**Sn**	**02 45 42.6**	**-0.2**
JWM	**Minabe**	**1.31**	**289**	P	**Pn**	**02 45 26.2**	**0.0**
JWM				eS	**Sn**	**02 45 42.2**	**-0.7**
TSUJ	**Tsu 2**	**1.32**	**345**	P	**Pn**	**02 45 26.5**	**+0.1**
JHE	**Heguri**	**1.55**	**322**	P	**Pn**	**02 45 29.7**	**0.0**
JAJ2	**Tsuna**	**1.90**	**302**	P	**Pn**	**02 45 35.3**	**+0.6**
JAJ2				S	**Sn**	**02 45 58.4**	**+0.4**
MAJO	**Matsushiro**	**3.30**	**19**	P	**Pn**	**02 45 55.3**	**+0.7**
MAT	**Matsushiro**	**3.30**	**19**	P	**Pn**	**02 45 54.8**	**+0.2**
MAT				S	**Sn**	**02 46 31.9**	**-1.6**
MAT	**Matsushiro**	**3.30**	**19**	eP	**Pn**	**02 45 55.0**	**+0.4**
MAT				eS	**Sn**	**02 46 32.0**	**-1.5**
JNU	**Nakatsue**	**5.00**	**268**	P	Px	02 46 55.2	
	0.9nm,0.3s,baz=184,slow=3.8,SNR=5.8						
HIA	**Hailar**	**20.30**	**326**	eP	**P**	**02 49 40.0**	**+0.1**
	7.8nm,1.0s						
MKAR	**Makanchi Array**	**42.97**	**305**	P	**P**	**02 53 03.4**	**+1.5**
	1.5nm,0.7s,mb3.9,baz=94,slow=9.5,SNR=11						
KURK	**Kurchatov**	**45.31**	**311**	eP	**P**	**02 53 19.6**	**-1.1**
	3.1nm,0.9s,mb4.1						
BVAR	**Borovoye Array**	**50.30**	**314**	P	**P**	**02 54 00.3**	**+0.8**
	0.9nm,0.6s,mb4.0,baz=90,slow=12,SNR=4.3						
BRVK	**Borovoye**	**50.36**	**314**	eP	**P**	**02 54 00.3**	**+0.3**
ZRNK	**Zerenda**	**51.14**	**314**	eP	**P**	**02 54 06.2**	**+0.3**
	3.2nm,1.1s,mb4.2						
FITZ	**Fitzroy Crossi**	**52.35**	**193**	eP	**P**	**02 54 15.3**	**-0.2**
	1.2nm,0.5s,mb4.1						
FITZ	**Fitzroy Crossi**	**52.35**	**193**	P	**P**	**02 54 15.8**	**+0.3**
	1.6nm,0.5s,mb4.2,baz=8.1,slow=10,SNR=8.0						
WRAB	**Tennant Creek**	**53.12**	**183**	eP	**P**	**02 54 20.5**	**-0.7**
	5.2nm,0.8s,mb4.5						
WB2	**Warramunga Arr**	**53.13**	**183**	eP	**P**	**02 54 20.4**	**-0.9**
WRA	**Warramunga Arr**	**53.13**	**183**	P	**P**	**02 54 21.0**	**-0.3**
	3.9nm,0.7s,mb4.4,baz=1.4,slow=7.7,SNR=28						
ILAR	**Eielson Array**	**54.51**	**31**	P	**P**	**02 54 31.4**	**+0.6**
	0.3nm,0.7s,mb3.4,baz=285,slow=5.7,SNR=4.8						
ASAR	**Alice Springs**	**56.85**	**183**	P	**P**	**02 54 48.2**	**-0.1**
	1.6nm,0.6s,mb4.2,baz=6.8,slow=7.5,SNR=19						
ASPA	**Alice Springs**	**56.85**	**183**	eP	**P**	**02 54 48.5**	**+0.2**
STKA	**Stephens Creek**	**65.11**	**176**	eP	**P**	**02 55 43.8**	**-0.4**
BRTR	**Keskin Array B**	**78.36**	**310**	P	**P**	**02 57 03.8**	**+0.8**
	1.6nm,1.1s,mb3.9,baz=90,slow=4.9,SNR=5.5						

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*IDC **16** 02:47:53.2±5.3, 24.75N×112.50W, mb3.6/1, mb1 4.2/4, mb1mx3.9/19, ML4.1/3, MS3.4/4, Ms1 3.4/4, ms1mx3.1/24, Error ellipse: s-maj=77.7km s-min=28.6km az=175.0*

*NEIC **16** 02:48:00.2±1.2, 25.07N×112.48W, h10^{km}, mb3.7/6, Error ellipse: s-maj=16.8km s-min=9.3km az=212.0*

ISC 16 02:47:58.3±1.2**, 25.1N**±0.1×**112.40W**±0.08**, h10**^{km}**, n38, σ1^{s}19**/36**, mb3.8**/4**, MS3.5**/2**, Baja California**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TUC	**Tucson**	**7.33**	**11**	eP	**Pn**	**02 49 46.2**	**-1.9**
LTX	**Lajitas**	**8.85**	**60**	eP	**P**	**02 50 09.5**	**+0.2**
	5.5nm,0.8s						
TXAR	**Lajitas Array**	**8.85**	**60**	Pn	**P**	**02 50 06.8**	**-2.5**
	0.7nm,0.3s,baz=237,slow=15,SNR=53						
TXAR				Lg		02 52 41.3	
	0.0nm,0.3s,baz=338,slow=14,SNR=3.2						
TXAR				LR	LR	02 53 40.7	
	comp=Z,235nm,18.5s,baz=170,slow=38						
GDL2	**Guadalupe Moun**	**10.00**	**43**	eP	**P**	**02 50 26.2**	**+1.0**
LDFC	**Landfair**	**10.23**	**347**	eP	**P**	**02 50 27.4**	**-0.9**
LAZ	**Ladron**	**10.35**	**25**	P	**P**	**02 50 30.1**	**+0.2**
WUAZ	**Wupatki**	**10.43**	**5**	eP	**P**	**02 50 31.0**	**-0.1**
ANMO	**Albuquerque**	**11.09**	**26**	P	**P**	**02 50 40.7**	**+0.6**
TPNV	**Topopah Spring**	**12.27**	**345**	eP	**P**	**02 50 55.5**	**-0.6**
JCT	**Junction City**	**12.38**	**61**	eP	**P**	**02 50 57.8**	**+0.3**
ARUT	**Antelope Range**	**12.69**	**356**	eP	**P**	**02 51 02.4**	**+0.7**
MSU	**Marysvale**	**13.38**	**1**	eP	**P**	**02 51 12.4**	**+1.5**
SDCO	**Great Sand Dun**	**13.92**	**23**	eP	**P**	**02 51 18.4**	**+0.5**
SRU	**San Rafael**	**14.07**	**6**	P	**P**	**02 51 22.7**	**+2.8**
MNV	**Mina**	**14.17**	**341**	eP	**P**	**02 51 21.8**	**+0.6**
NVAR	**Mina Array Bea**	**14.21**	**341**	Pn	**P**	**02 51 21.7**	**0.0**
	0.2nm,0.3s,baz=164,slow=16,SNR=7.3						
NVAR				LR	LR	02 57 14.7	
	comp=Z,99nm,18.1s,baz=135,slow=39						
CMB	**Columbia Colle**	**14.58**	**334**	eP	**P**	**02 51 27.1**	**+0.5**
WMOK	**Wichita Mounta**	**15.22**	**48**	eP	**P**	**02 51 33.9**	**-1.1**
	15nm,1.6s						
ELK	**Elko**	**15.79**	**352**	P	**P**	**02 51 44.1**	**+1.7**
OHCM	**Honcut**	**16.14**	**334**	P	**P**	**02 51 48.5**	**+1.7**
HWUT	**Hardware Ranch**	**16.49**	**2**	eP	**P**	**02 51 51.1**	**-0.2**
	6.6nm,1.1s						
BW06	**Boulder Array**	**17.79**	**7**	P	**P**	**02 52 08.5**	**+0.9**
PDAR	**Pinedale Array**	**17.79**	**7**	P	**P**	**02 52 07.0**	**-0.7**
	0.1nm,0.3s,baz=175,slow=10.0,SNR=6.1						
MOD	**Modoc**	**18.00**	**341**	eP	**P**	**02 52 09.8**	**-0.4**
HLID	**Hailey**	**18.50**	**355**	eP	**P**	**02 52 16.8**	**+0.3**
MCMT	**McKenzie Canyo**	**19.70**	**359**	eP	**P**	**02 52 29.1**	**-1.4**
BOZ	**Bozeman (W)**	**20.52**	**2**	eP	**P**	**02 52 36.6**	**-2.7**
	1.8nm,0.8s						
MSO	**Missoula**	**21.73**	**357**	eP	**P**	**02 52 51.0**	**-0.7**
	3.2nm,1.0s,mb3.7						
CHMT	**Chamberlain Mo**	**21.79**	**358**	eP	**P**	**02 52 50.5**	**-1.8**
CCM	**Cathedral Cave**	**22.12**	**49**	P	**P**	**02 52 56.9**	**+1.3**
NEW	**Newport**	**23.43**	**352**	eP	**P**	**02 53 07.7**	**-0.6**
	1.6nm,0.8s,mb3.5						
EDM	**Edmonton**	**28.10**	**359**	P	**P**	**02 53 51.7**	**-0.5**
YKA	**Yellowknife Ar**	**37.42**	**358**	LR	LR	03 12 21.2	
	comp=Z,36nm,18.6s,MS3.2,baz=180,slow=39						
SDV	**Santo Domingo**	**42.87**	**105**	eP	**P**	**02 56 01.2**	**+2.5**
	7.5nm,0.8s,mb4.5						
INK	**Inuvik**	**45.09**	**349**	LR	LR	03 15 16.9	
	comp=Z,89nm,18.9s,MS3.7,baz=168,slow=36						
ILAR	**Eielson Array**	**45.47**	**340**	P	**P**	**02 56 16.1**	**-3.0**
	1.0nm,1.0s,mb3.6,baz=151,slow=7.3,SNR=9.8						
IMA	**Indian Mountai**	**48.47**	**339**	P	**P**	**02 56 43.6**	**+0.9**
SAML	**Samuel**	**58.67**	**119**	P	**P**	**02 57 58.0**	**-0.6**

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*NIED **16** 02:58:00, 33.10N×137.00E, h14^{km}, Mw3.6 Best double couple: $M_0 2.81\times10^{14}$ NP1: $\phi_s 87°, \delta 65°, \lambda 110°$. NP2: $\phi_s 227°, \delta 32°, \lambda 55°$.*

*IDC **16** 02:58:25.7±4.9, 33.51N×137.23E, mb3.9/5, mb1 4.0/6, mb1mx3.7/22, ML3.8/1, Error ellipse: s-maj=213.0km s-min=22.1km az=19.0*

*JMA **16** 02:58:27.2±0.1, 33.14N×137.00E, h42^{km}±3^{km}, M3.9*

ISC 16 02:58:27.8±1.5**, 33.17N**±0.04×**137.00E**±0.03**, h33**^{km}±13^{km}**, n25, σ0^{s}70**/41**, mb3.8**/5**, 10D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	**Tokai 1**	**0.77**	**39**	P	**Pn**	**02 58 42.0**	**-0.4**

TK02	Tokai 2	1.00	39	⇓P	Pn	02 58 45.4	-0.3
TK02				S	Sn	02 58 58.6	-0.1
JWZ	Kozaga	1.14	289	⇓P	Pn	02 58 47.1	-0.6
JWZ				S	Sn	02 59 01.0	-1.2
JKN	Kiinagashima	1.24	330	⇓P	Pn	02 58 49.2	+0.1
JKN				S	Sn	02 59 03.9	-0.9
JIE	Ise	1.24	349	⇓P	Pn	02 58 49.5	+0.3
JIE				S	Sn	02 59 05.0	+0.1
TK03	Tokai 3	1.27	39	P	Pn	02 58 49.4	-0.2
TK03				S	Sn	02 59 05.7	0.0
TK04	Tokai 4	1.41	31	⇓P	Pn	02 58 51.6	0.0
TK04				S	Sn	02 59 09.2	0.0
JWM	Minabe	1.54	297	⇓P	Pn	02 58 53.1	-0.3
JWM				*e*S	Sn	02 59 11.4	-0.9
JWY	Kouya	1.57	312	⇓P	Pn	02 58 54.4	+0.5
JWY				S	Sn	02 59 13.1	-0.2
TSUJ	Tsu 2	1.61	343	⇓P	Pn	02 58 54.7	+0.3
TSUJ				S	Sn	02 59 13.9	-0.3
JHE	Heguri	1.84	324	⇓P	Pn	02 58 58.1	+0.4
JHE				S	Sn	02 59 19.7	-0.4
SHZ3	Shizuoka 3	2.14	28	P	Pn	02 59 01.5	-0.5
SHZ3				*e*S	Sn	02 59 25.9	-1.8
JAJ2	Tsuna	2.16	306	⇓P	Pn	02 59 02.7	+0.4
JAJ2				*e*S	Sn	02 59 27.7	-0.5
JIZS	Izushimoda	2.19	45	P	Pn	02 59 03.0	+0.2
JAI	Aioi	2.22	287	P	Pn	02 59 02.6	-0.6
JAI				*e*S	Sn	02 59 27.6	-2.2
JHJ	Hachijo jima 2	2.33	91	Pn	Pn	02 59 04.0	-0.8
	57nm,0.3s,baz=209,slow=6.6,SNR=11						
JHJ				Sn	Sn	02 59 30.7	-1.9
	39nm,0.3s,baz=71,slow=21,SNR=4.9						
JHJ2	Mitsune	2.36	91	P	Pn	02 59 04.2	-1.0
JWT	Wachi	2.49	328	P	Pn	02 59 07.3	+0.3
JWT				*e*S	Sn	02 59 36.8	+0.2
JIM2	Oshima 3	2.54	52	P	Pn	02 59 08.0	+0.3
MAT	Matsushiro	3.51	16	P	Pn	02 59 21.9	+0.4
MAT				S	Sn	03 00 01.4	-0.9
MKAR	Makanchi Array	43.23	305	P	P	03 06 28.5	+1.0
	0.7nm,0.8s,mb3.4,baz=86,slow=10,SNR=3.6						
FINES	FINESS Array B	70.51	332	P	P	03 09 40.9	+0.2
	3.7nm,1.0s,mb4.3,baz=108,slow=4.4,SNR=4.6						
AKASG	Malin Array Be	75.08	321	P	P	03 10 07.9	+0.1
	0.2nm,0.3s,mb3.5,baz=50,slow=6.1,SNR=4.5						
GERES	GERESS Array B	84.00	326	P	P	03 10 56.9	+1.1
	0.6nm,0.7s,mb3.9,baz=27,slow=3.0,SNR=5.6						
TXAR	Lajitas Array	95.36	50	P	P	03 11 51.1	+1.1
	0.2nm,0.6s,mb3.8,baz=292,slow=2.8,SNR=4.3						

*IDC **16** 03:00:16.8±7.5, 33.09S×179.94E, h225^{km}±76^{km}, mb3.9/3, mb1 4.1/4, mb1mx3.6/14, Error ellipse: s-maj=78.8km s-min=45.3km az=8.0*

*NEIC **16** 03:00:22.8±1.9, 33.78S×179.88E, h297^{km}±14^{km}, mb4.0/2, Error ellipse: s-maj=29.6km s-min=19.5km az=72.0*

ISC 16 03:00:17.9±1.3**, 33.9S**±0.1×**179.1W**±0.2**, h337**^{km}±13^{km}**, n58,** σ1^{s}**01**/71**, mb3.8**/5**, 1C, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	4.22	209	P	P	03 01 27.7	-1.2
MXZ				S	S	03 02 24.6	-0.1
MXZ	Matakaoa Point	4.22	209	*e*P	P	03 01 28.1	-0.8
MXZ				S	S	03 02 24.6	-0.1
PUZ	Puketiti	4.68	206	P	P	03 01 35.2	+1.2
PUZ				S	S	03 02 34.4	+0.8
PUZ	Puketiti	4.68	206	P	P	03 01 35.2	+1.2
PUZ				S	S	03 02 34.6	+1.0
MWZ	Matawai	5.20	211	P	P	03 01 39.1	-0.6
MWZ				S	S	03 02 44.4	+0.5
MWZ	Matawai	5.20	211	*e*P	P	03 01 39.3	-0.4
MWZ				S	S	03 02 44.4	+0.5
URZ	Urewera	5.32	214	P	P	03 01 40.1	-1.1
	3.6nm,0.3s,baz=343,slow=3.0,SNR=56						
URZ				S	S	03 02 46.2	-0.2
	6.3nm,0.3s,baz=78,slow=23,SNR=17						
URZ	Urewera	5.32	214	P	P	03 01 39.6	-1.5
URZ	Urewera	5.32	214	*e*P	P	03 01 39.7	-1.4
KNZ	Kokohu	5.73	206	P	P	03 01 46.9	+1.1
KNZ	Kokohu	5.73	206	*e*P	P	03 01 46.9	+1.1
BKZ	Black Stump Fm	6.34	213	P	P	03 01 53.3	+0.4
BKZ	Black Stump Fm	6.34	213	*e*P	P	03 01 53.3	+0.4
MGZ	Maungaku	6.67	219	P	P	03 01 57.9	+1.0
MGZ	Maungaku	6.67	219	*e*P	P	03 01 57.9	+1.0
NGZ	Ngauruhoe	6.78	217	P	P	03 01 58.8	+0.7
CNZ	Chateau	6.82	218	P	P	03 01 59.9	+1.3
CNZ	Chateau	6.82	218	*e*P	P	03 02 00.4	+1.8
MOVZ	Moawhango	6.88	215	*e*P	P	03 01 59.0	-0.3
PWZ	Pawanui	6.92	207	P	P	03 02 00.3	+0.5
PWZ	Pawanui	6.92	207	*e*P	P	03 02 00.3	+0.5
TSZ	Takapari Road	7.31	211	P	P	03 02 03.3	-1.1
TSZ	Takapari Road	7.31	211	*e*P	P	03 02 03.3	-1.1
BFZ	Birch Farm	7.72	207	P	P	03 02 10.4	+1.1
BFZ	Birch Farm	7.72	207	*e*P	P	03 02 10.4	+1.1
MRZ	Mangatainoka R	7.97	211	P	P	03 02 10.6	-1.7
MRZ				S	S	03 03 40.8	-1.5
MRZ	Mangatainoka R	7.97	211	*e*P	P	03 02 11.0	-1.3
MRZ				S	S	03 03 41.1	-1.2
KIW	Kapiti Island	8.42	213	P	P	03 02 16.2	-1.5
KIW	Kapiti Island	8.42	213	*e*P	P	03 02 16.2	-1.5
CAW	Cannon Point	8.55	211	P	P	03 02 17.2	-2.1
CAW	Cannon Point	8.55	211	*e*P	P	03 02 17.2	-2.1
MSWZ	Moikau Station	8.73	209	*e*P	P	03 02 22.4	+0.9
MRW	Makara Radio	8.81	212	P	P	03 02 22.4	0.0
MRW	Makara Radio	8.81	212	*e*P	P	03 02 22.4	0.0
SNZO	South Karori	8.88	212	P	P	03 02 22.0	-1.2
SNZO				S	S	03 04 04.2	+2.2
SNZO	South Karori	8.88	212	*e*P	P	03 02 22.0	-1.2
SNZO	South Karori	8.88	212	*e*Pn	P	03 02 22.4	-0.8
SNZO				*e*Sn	S	03 03 53.4	-8.6
BHW	Baring Head	8.89	211	P	P	03 02 23.6	+0.3
BHW	Baring Head	8.89	211	*e*P	P	03 02 23.6	+0.3
NNZ	Nelson	9.43	217	P	P	03 02 28.7	-1.2
NNZ				S	S	03 04 14.9	+0.8
THZ	Tophouse	10.07	217	P	P	03 02 37.0	-0.6
THZ	Tophouse	10.07	217	*e*P	P	03 02 37.0	-0.6
KHZ	Kahutara	10.28	212	P	P	03 02 39.3	-0.9
KHZ	Kahutara	10.28	212	*e*P	P	03 02 39.3	-0.9
LTZ	Lake Taylor	11.15	215	P	P	03 02 51.2	+0.5
LTZ	Lake Taylor	11.15	215	*e*P	P	03 02 51.2	+0.5
MQZ	McQueen's Vall	11.71	211	P	P	03 02 58.3	+0.9
MQZ				S	S	03 05 02.5	-1.1
MQZ	McQueen's Vall	11.71	211	*e*P	P	03 02 58.3	+0.9
MQZ				S	S	03 05 02.5	-1.1
ODZ	Otahua Downs	13.65	212	*e*P	P	03 03 22.5	+1.9
CTA	Charters Tower	33.63	285	P	P	03 06 28.4	-0.9
	4.1nm,0.7s,mb3.8,baz=111,slow=10,SNR=5.3						
CTAO	Charters Tower	33.63	285	P	P	03 06 27.9	-1.5
ASAR	Alice Springs	42.12	271	P	P	03 07 40.5	+1.0
	2.1nm,0.4s,mb3.6,baz=109,slow=7.6,SNR=25						
ASPA	Alice Springs	42.12	271	*e*P	P	03 07 40.6	+1.0
WB2	Warramunga Arr	43.42	276	⇑*i*P	P	03 07 50.0	0.0
WRAB	Tennant Creek	43.42	276	*e*P	P	03 07 49.9	-0.2
	4.5nm,0.6s,mb3.8						
WRA	Warramunga Arr	43.43	276	P	P	03 07 50.0	-0.1
	3.3nm,0.3s,mb3.9,baz=115,slow=7.6,SNR=42						
MAW	Mawson	68.71	201	*e*P	P	03 10 53.2	+6.5
	4.9nm,1.1s,mb4.2						
FINES	FINESS Array B	148.06	337	PKPbc	PKPdf	03 19 31.3	+12
	7.1nm,1.2s,baz=14,slow=5.7,SNR=3.8						

IDC 16 03:08:43.8±8.0**, 18.49S**×**176.16W, mb3.7**/3**, mb1 4.0**/3**, mb1mx3.7**/13**, Error ellipse: s-maj=350.0km s-min=36.8km az=143.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	46.63	260	P	P	03 17 13.5	-2.5
	0.3nm,0.3s,baz=96,slow=7.1,SNR=7.7						
ASAR	Alice Springs	46.69	255	P	P	03 17 15.3	-1.1
	0.9nm,0.6s,baz=93,slow=7.7,SNR=11						
ILAR	Eielson Array	85.99	12	P	P	03 21 25.6	-1.3
	0.2nm,0.4s,baz=221,slow=4.5,SNR=7.4						

IDC 16 03:16:54.1±57.0**, 20.58S**×**179.32W, mb4.3**/3**, mb1 4.5**/3**, mb1mx4.0**/12**, Error ellipse: s-maj=1038.0km s-min=148.2km az=82.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	36.64	244	*e*P	P	03 24 02.4	-1.8
	2.1nm,0.5s						
STKA	Stephens Creek	36.64	244	P	P	03 24 02.5	-1.7
	2.7nm,0.5s,baz=86,slow=11,SNR=13						
ASAR	Alice Springs	43.29	257	P	P	03 24 57.5	-2.0
	3.3nm,0.6s,baz=94,slow=8.3,SNR=32						
ASPA	Alice Springs	43.30	257	*e*P	P	03 24 58.3	-1.2
WRA	Warramunga Arr	43.36	262	P	P	03 24 58.6	-1.5
	1.4nm,0.3s,baz=97,slow=7.8,SNR=14						

BJI 16 03:19:17.9, 23.76N×**100.46E, h19**^{km}**, ML3.7, 1C, Yunnan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KMI	Kunming	2.48	56	*e*P	Pn	03 19 58.4	+0.2
NANT	Nan	4.94	177	P	Sn	03 21 50.5	+20
CHG	Chiang Mai	5.12	196	⇑P	Sn	03 22 06.8	+32
	26nm,0.7s						

DJA 16 03:20:57.6±1.1**, 3.36S**×**121.26E, h100**^{km}**, MD4.4**/3**, ML4.1**/3**, 3C-5D, Error ellipse: s-maj=25.5km s-min=19.0km az=70.0, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BUNI	Buntu Taipa	0.98	252	⇑*e*Pn	P	03 21 12.0	-6.0
	218nm,0.2s						
BUNI				⇓*i*Sn	S	03 21 32.6	-0.8
NINI	Niniconang	1.83	235	⇓*i*Pn	P	03 21 28.4	-0.1
	218nm,0.2s						
NINI	Niniconang	1.83	235	⇓*i*P	P	03 21 28.6	+0.1
NINI				⇑*i*Sn	S	03 21 49.7	-1.7
TANI	Tanete Lipujan	1.87	268	⇓*i*Pn	P	03 21 28.4	-0.6
	129nm,0.2s						
TANI	Tanete Lipujan	1.87	268	⇓*i*P	P	03 21 28.6	-0.4
TANI				⇑*i*Sn	S	03 21 51.1	-1.1

*NEIC **16** 03:22:06.5, 34.13S×70.09W, h6^{km}, ML2.7(GUC), After GUC.*

GUC 16 03:22:06.5±0.6**, 34.13S**×**70.09W, h6**^{km}±1^{km}**, MD3.6, ML2.7, 8C-3D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LMEL	Las Melosas	0.29	341	⇑*i*P	Pg	03 22 12.7	+0.2
LMEL				*i* S	Sg	03 22 17.7	+1.3
LMEL				AMP		03 22 19.1	
	comp=N,2μm,0.1s						
CICH	Cipreses	0.34	235	⇑*i*P	Pg	03 22 13.5	+0.2
CICH				*i* S	Sg	03 22 18.6	+0.7
CACH	El Canelo	0.43	271	⇓*i*P	Pg	03 22 15.2	+0.2
CACH				*i* S	Sg	03 22 22.0	+1.2
CHCH	Chadas Angostu	0.51	292	*e*P	Pg	03 22 16.9	+0.3
CHCH				*i* S	Sg	03 22 24.8	+1.3
PCH	Pirque	0.62	325	⇓*i*P	Pg	03 22 18.8	0.0
PCH				*i* S	Sg	03 22 28.5	+1.5
ANTU	Antumapu	0.72	320	*i* P	Pg	03 22 20.4	-0.4
ANTU				*i* S	Sg	03 22 31.4	+0.9
ANTU				AMP		03 22 31.9	
	comp=N,588nm,0.2s						
FSR	Penalolen	0.74	330	*e*P	Pg	03 22 21.3	0.0
FSR				*i* S	Sg	03 22 32.6	+1.3
FSR				AMP		03 22 33.5	
	comp=N,345nm,0.3s						
FCH	Farellones	0.81	348	⇑*i*P	Pb	03 22 21.9	-0.7
FCH				*i* S	Sg	03 22 34.1	+0.5
FCH				AMP		03 22 35.5	
	comp=E,777nm,0.3s						
CLCH	Cerro Calan	0.82	333	⇑*i*P	Pb	03 22 22.4	-0.3
CLCH				*i* S	Sg	03 22 34.5	+0.7
CLCH				AMP		03 22 36.4	
	comp=E,605nm,0.3s						
CLCH				AMP		03 22 36.8	
	comp=N,509nm,0.6s						
DSCH	Colegio Aleman	0.83	331	*i* P	Pb	03 22 22.7	-0.2
DSCH				*i* S	Sb	03 22 34.8	+0.7
DSCH				AMP		03 22 36.5	
	comp=N,494nm,0.7s						
TACH	Talagante	0.85	303	⇑*i*P	Pb	03 22 23.0	-0.3
TACH				*i* S	Sb	03 22 34.9	+0.2
RCDM	Rinconada Maip	0.87	316	⇑*i*P	Pb	03 22 23.3	-0.3
RCDM				*i* S	Sb	03 22 36.2	+0.8
RCDM				AMP		03 22 37.4	
	comp=E,739nm,0.1s						
SFDO	San Fernando	0.91	237	⇑*i*P	Pb	03 22 23.8	-0.5
SFDO				*i* S	Sb	03 22 36.8	+0.3
LNV	Longovilo	1.11	278	⇓*i*P	Pb	03 22 27.2	-0.5
LNV				*i* S	Sb	03 22 42.7	+0.4
LCCH	Las Cruces	1.39	297	*e*P	Pn	03 22 31.9	-0.7
JACH	Jahuel	1.50	343	⇑*i*P	Pn	03 22 33.4	-0.7

*DJA **16** 03:46:08.7±1.3, 2.86S×122.39E, h46^{km}±217^{km}, MD4.6/3, ML4.3/3, Error ellipse: s-maj=62.3km s-min=41.9km az=110.0*

ISC 16 03:46:10.5±2.9**, 2.8S**±0.3×**122.2E**±0.1**, h33**^{km}**, n4,** σ1^{s}**79**/6**, 3C-2D, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BUNI	Buntu Taipa	2.00	245	⇓*i*Pn	Pn	03 46 41.6	-1.1
	150nm,0.3s						
BUNI				⇑*i*Sn	Sn	03 47 08.9	+2.1
TANI	Tanete Lipujan	2.83	257	⇑*i*Pn	Pn	03 46 54.4	-0.1
	100nm,0.3s						
NINI	Niniconang	2.87	236	⇑*i*Pn	Pn	03 46 55.4	+0.4
	104nm,0.2s						
NINI				⇓*i*Sn	Sn	03 47 26.4	-2.4
FITZ	Fitzroy Crossi	15.56	168	*e*P	P	03 49 49.6	+0.4
	2.2nm,0.8s						

*IDC **16** 04:26:41.9±3.6, 34.24N×139.14E, h59^{km}±74^{km}, mb3.6/3, mb1 3.8/3, mb1mx3.4/20, Error ellipse: s-maj=348.0km s-min=28.2km az=62.0*

*JMA **16** 04:26:45.4±0.2, 33.33N×140.93E, h46^{km}, M3.4*

ISC 16 04:26:45.4±1.0**, 33.32N**±0.05×**140.87E**±0.09**, h63**^{km}±11^{km}**, n15,** σ0^{s}**75**/24**, mb3.9**/3**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHJ2	Mitsune	0.91	257	P	P	04 27 02.9	+0.3
JHJ2				S	S	04 27 15.4	+0.1
JHJ	Hachijo jima 2	0.93	258	P	P	04 27 02.9	0.0
	90nm,0.3s,baz=74,slow=21,SNR=57						
JHJ				S	S	04 27 14.8	-1.1
	435nm,0.3s,baz=69,slow=22,SNR=34						
BSO1	Boso 1	1.33	4	P	P	04 27 07.8	-0.7
BSO3	Boso 3	1.51	349	P	P	04 27 10.1	-0.7
BSO3				*e*S	S	04 27 29.5	-0.1
JKO	Kozu shima	1.68	301	P	P	04 27 14.5	+1.3
JKO				S	S	04 27 34.4	+0.7
BSO4	Boso 4	1.72	345	P	P	04 27 14.1	+0.4
JIM2	Oshima 3	1.83	320	P	P	04 27 15.5	+0.2
JIM2				*e*S	S	04 27 36.9	-0.5
JIZS	Izushimoda	2.16	311	P	P	04 27 20.3	+0.4
JIZS				S	S	04 27 46.1	+0.6
KTJJ	Kamata 2	2.19	317	P	P	04 27 20.7	+0.4
KTJJ				*e*S	S	04 27 45.1	-1.1
JOD2	Odawara 2	2.44	323	P	P	04 27 23.6	-0.1
JOD2				*e*S	S	04 27 51.2	-1.2
MAT	Matsushiro	3.89	327	P	P	04 27 46.3	+2.1
MAT				S	S	04 28 14.8	-14
MKAR	Makanchi Array	45.80	305	P	P	04 34 44.0	-18
	0.5nm,0.5s,mb3.7,baz=124,slow=10,SNR=5.9						
WB2	Warramunga Arr	53.33	188	*e*P	P	04 36 00.1	-0.4
WRA	Warramunga Arr	53.33	188	P	P	04 36 00.2	-0.4
	1.4nm,0.4s,mb4.2,baz=4.4,slow=7.6,SNR=25						
ASAR	Alice Springs	57.06	188	P	P	04 36 27.5	+0.1
	0.5nm,0.5s,mb3.8,baz=8.2,slow=8.7,SNR=8.0						

WEL 16 04:31:21.6±0.2**, 45.11S**×**167.39E, h84**^{km}±1^{km}**, ML3.5**/5**, 1C-1D, Error ellipse: s-maj=1.6km s-min=1.0km az=90.0, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DCZ	Deep Cove	0.41	204	PN	P	04 31 34.6	-0.3
DCZ				SN	S	04 31 44.8	-0.3
MSZ	Milford Sound	0.58	41	PN	P	04 31 36.2	-0.4
MSZ				SN	S	04 31 47.0	-0.6
MLZ	Mavora Lakes	0.60	114	⇑PN	P	04 31 36.3	-0.5
MLZ				SN	S	04 31 47.5	-0.5
MLZ				SN	S	04 31 47.6	-0.3
WHZ	Wether Hill Ro	0.88	154	PN	P	04 31 39.3	-0.3
WHZ				SN	S	04 31 52.0	-1.2
WKZ	Wanaka	1.19	77	PN	P	04 31 43.0	-0.3
WKZ				SN	S	04 31 58.3	-1.5
TUZ	Tuapeka	1.79	119	PN	P	04 31 50.3	-1.0
TUZ				SN	S	04 32 10.8	-2.3
LBZ	Lake Benmore	2.12	71	PN	P	04 31 52.9	-2.8
LBZ				SN	S	04 32 15.9	-5.2
ODZ	Otahua Downs	2.31	90	⇓PN	P	04 31 56.2	-2.2

*NEIC **16** 04:40:06.9±0.5, 17.99S×178.57W, h600^{km}, mb4.0/7, Error ellipse: s-maj=24.0km s-min=9.4km az=151.0*

*IDC **16** 04:40:08.2±11.0, 17.56S×178.78W, h602^{km}±151^{km}, mb3.2/10, mb1 3.5/10, mb1mx3.4/16, Error ellipse: s-maj=79.3km s-min=40.5km az=158.0*

ISC 16 04:40:05.8±0.6**, 18.0S**±0.2×**178.6W**±0.1**, h600**^{km}**, n22,** σ0^{s}**65**/22**, mb3.8**/13**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	33.23	261	*e*P	P	04 45 57.1	+0.8
	2.7nm,0.4s,mb4.2						
CTA	Charters Tower	33.23	261	P	P	04 45 56.9	+0.6
	3.7nm,0.6s,mb4.2,baz=96,slow=8.2,SNR=6.0						
CTAO	Charters Tower	33.23	261	*e*P	P	04 45 56.6	+0.3
	5.3nm,0.6s,mb4.3						
TAU	Tasmania Unive	38.05	222	*e*P	P	04 46 34.8	-1.0
STKA	Stephens Creek	38.41	241	*e*P	P	04 46 40.4	+1.5
	3.6nm,0.9s,mb3.9						
STKA	Stephens Creek	38.41	241	P	P	04 46 40.1	+1.2
	3.8nm,0.7s,mb4.1,baz=88,slow=9.8,SNR=7.1						
WB2	Warramunga Arr	44.40	260	*e*P	P	04 47 26.1	-0.3
WRAB	Tennant Creek	44.40	260	*e*P	P	04 47 25.9	-0.6
	11nm,0.9s,mb4.4						
WRA	Warramunga Arr	44.41	260	P	P	04 47 26.5	-0.1
	3.1nm,0.5s,mb4.1,baz=95,slow=7.1,SNR=72						
ASAR	Alice Springs	44.57	254	P	P	04 47 28.1	+0.4
	19nm,0.6s,mb4.8,baz=88,slow=8.4,SNR=261						
ASPA	Alice Springs	44.57	254	*e*P	P	04 47 28.0	+0.3
FITZ	Fitzroy Crossi	52.81	261	*e*P	P	04 48 29.0	+0.3
	1.7nm,0.9s,mb3.4						
FITZ	Fitzroy Crossi	52.81	261	P	P	04 48 28.9	+0.2
	1.9nm,0.8s,mb3.5,baz=161,slow=8.8,SNR=8.3						
MBWA	Marble Bar	57.85	256	*e*P	P	04 49 02.9	-0.6
	2.6nm,0.5s,mb3.6						
QSPA	South Pole Qui	72.08	180	*e*P	P	04 50 31.1	-0.2
	7.0nm,1.4s,mb4.0						
YBH	Yreka Blue Hor	78.71	39	P	P	04 51 08.6	+0.2
	0.8nm,0.4s,mb3.4,baz=188,slow=5.4,SNR=2.7						
NVAR	Mina Array Bea	79.62	44	P	P	04 51 13.3	+0.1
	0.8nm,0.7s,mb3.1,baz=226,slow=10.0,SNR=6.7						
NVAR	Mina Array Bea	79.62	44	P	P	04 51 13.3	+0.1
ILAR	Eielson Array	86.00	13	P	P	04 51 43.2	-1.2
	0.2nm,0.4s,mb3.1,baz=234,slow=5.5,SNR=5.2						
TXAR	Lajitas Array	86.21	58	P	P	04 51 47.2	+1.0
	0.5nm,0.6s,mb3.3,baz=220,slow=6.0,SNR=9.2						
TXAR	Lajitas Array	86.21	58	P	P	04 51 47.2	+1.0
PDAR	Pinedale Array	87.55	44	P	P	04 51 52.1	-0.1
	0.6nm,0.9s,mb3.3,baz=220,slow=3.1,SNR=4.8						

IDC 16 04:50:47.7±8.1**, 7.76S**×**128.78E, h370**^{km}±98^{km}**, mb3.0**/1**, mb1 2.9**/4**, mb1mx2.9**/11**, Error ellipse: s-maj=76.9km s-min=36.8km az=51.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	10.73	196	*e*P	P	04 53 12.9	-2.6
	1.5nm,0.8s						
FITZ				*e*S	S	04 55 16.7	+4.5
FITZ	Fitzroy Crossi	10.73	196	P	P	04 53 12.8	-2.7
	0.1nm,0.3s,baz=358,slow=17,SNR=13						
FITZ				S	S	04 55 15.6	+3.4
	0.1nm,0.3s,baz=164,slow=14,SNR=2.7						
WRA	Warramunga Arr	13.26	157	P	P	04 53 41.7	-3.3
	0.5nm,0.3s,baz=333,slow=12,SNR=21						
WRA				S	S	04 56 05.1	-1.0
	0.3nm,0.3s,baz=337,slow=21,SNR=5.6						
WB2	Warramunga Arr	13.26	157	*e*P	P	04 53 41.6	-3.4
WB2				*e*S	S	04 56 04.5	-1.6
ASAR	Alice Springs	16.56	163	P	P	04 54 20.2	0.0
	0.3nm,0.3s,baz=337,slow=9.3,SNR=15						
MKAR	Makanchi Array	68.20	328	P	P	05 01 09.3	-1.5
	0.3nm,0.4s,baz=122,slow=7.5,SNR=6.0						

*ISK **16** 05:07:26.2, 38.69N×31.20E, h5^{km}, MD4.1, ML4.2*

*IDC **16** 05:07:26.9±1.2, 38.73N×31.16E, mb4.0/6, mb1 4.0/13, mb1mx3.9/24, ML3.8/7, MS3.2/2, Ms1 3.3/2, ms1mx2.6/20, Error ellipse: s-maj=21.4km s-min=15.2km az=51.0*

*MOS **16** 05:07:29.4±1.0, 38.57N×31.05E, h33^{km}, mb4.1/6, Error ellipse: s-maj=10.5km s-min=6.1km az=114.2*

*BJI **16** 05:07:32.3, 38.60N×31.20E, h44^{km}, mB4.5, mb4.4, Ms4.3, Msz4.0*

*NEIC **16** 05:07:32.4±0.6, 38.62N×31.20E, h45^{km}±7^{km}, mb4.1/16, Error ellipse: s-maj=7.9km s-min=5.8km az=212.0*

ISC 16 05:07:27.2±0.2**, 38.70N**±0.02×**31.16E**±0.02**, h5**^{km}**, n155,** σ1^{s}**10**/179**, mb4.2**/20**, MS3.6**/4**, 6C, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KIZT	Kizilcal	0.59	72	*i* PG	Pg	05 07 38.4	-0.6
ESKT	Eskisehir	0.85	344	*i* P	Pb	05 07 43.9	-0.2
ESKT				*i* S	Sb	05 07 52.7	-3.0
ALT	Altintas	0.89	294	*i* PG	Pg	05 07 45.0	-0.1
ISP	Isparta	1.00	211	*i* PG	Pg	05 07 46.1	-1.1
ISP				*i* SG	Sg	05 08 01.9	+1.4
ISP	Isparta	1.00	211	*e*Pg	Pg	05 07 45.9	-1.3
ISP				*e*Sg	Sg	05 08 02.5	+2.0
KONT	Konya--Tatoy	1.21	128	*i* PN	Pn	05 07 49.1	-1.6
BCK	Bucak	1.32	200	PN	Pn	05 07 53.4	+1.1
KHL	Karahalli	1.34	254	*i* PN	Pn	05 07 52.9	+0.3
GPA	Golpazari	1.72	338	PN	Pn	05 07 59.5	+1.4
LOD	Lodumlu	1.72	46	*e*PN	Pn	05 07 58.5	+0.4
ANTO	Ankara	1.72	47	PN	Pn	05 07 58.2	+0.1
ANTO				SN	Sn	05 08 21.2	+0.5
MDU	Mudurnu	1.76	1	PN	Pn	05 08 00.1	+1.4
ANTB	Antalya	1.84	193	PN	Pn	05 08 00.4	+0.6
DENT	Denizli	1.92	241	PN	Pn	05 08 01.7	+0.7
DNZL	Cakiroluk	1.95	239	*i* P	Sg	05 08 31.9	-0.3
SGKT	Sivrigoynuk	1.99	20	*i* P	Pn	05 08 03.0	+1.0
SGKT				*i* S	Sn	05 08 36.3	+8.7
EYL	Eskiyayla	2.02	338	PN	Pn	05 08 03.9	+1.6
HDMB	Hadim	2.03	148	PN	Pn	05 08 02.7	+0.2
MANT	Manisa	2.05	265	*i* P	Pn	05 08 03.3	+0.4
MANT				*i* S	Sn	05 08 33.9	+4.8
KAMT	Kaman	2.10	71	PN	Pn	05 08 04.1	+0.6
ULDT	Uludag	2.13	313	*i* P	Pn	05 08 05.0	+1.0
ULDT				*i* S	Sn	05 08 39.5	+8.5
HENT	Hendek	2.13	355	*i* P	Pn	05 08 05.2	+1.2
HENT				*i* S	Sn	05 08 32.6	+1.5
DST	Dursunbey	2.17	295	PN	Pn	05 08 04.4	-0.1
BRTR	Keskin Array B	2.18	61	Pn	Pn	05 08 05.0	+0.3
	10nm,0.3s,baz=239,slow=16,SNR=58						
BRTR				Sn	Sn	05 08 34.4	+2.0
	16nm,0.3s,baz=238,slow=19,SNR=14						
BRTR	Keskin Array B	2.18	61	P	Pn	05 08 05.0	+0.3
BRTR						05 08 34.4	
BRTR				pmax	pmax		
	comp=Z,10.0nm,0.3s						
BRTR				smax			
	comp=N,16nm,0.3s						
ELL	Elmali	2.19	207	*e*PN	Pn	05 08 04.9	+0.1
ORLT	Orhaneli	2.21	308	PN	Pn	05 08 06.7	+1.6
YLV	Yalova	2.32	324	PN	Pn	05 08 08.0	+1.3
HRT	Hereke	2.41	332	PN	Pn	05 08 08.3	+0.3
ELDT	Eldivan	2.50	44	*i* P	Pn	05 08 09.2	-0.1
ELDT				*i* S	Sn	05 08 49.2	+8.7
AKS	Akhisar	2.62	275	PN	Pn	05 08 11.6	+0.6
BADT	Buyukada	2.67	324	PN	Pn	05 08 11.6	0.0
KCT	Karacabey	2.67	307	PN	Pn	05 08 13.0	+1.3
CANT	Cankiri	2.69	44	*e*PN	Pn	05 08 12.2	+0.3
BALB	Balikesir	2.72	291	*e*PN	Pn	05 08 13.9	+1.5
YER	Yerkesik	2.76	236	*e*PN	Pn	05 08 13.5	+0.5
NIG	Nigde	2.77	101	*e*PN	Pn	05 08 13.7	+0.6
AYDN	Tasoluk	2.79	249	*i* P	Pn	05 08 13.5	+0.1
AYDN				*i* S	Sn	05 08 57.5	+10
SAFT	Safranbolu	2.79	24	*e*PN	Pn	05 08 13.6	+0.2

ISK	Istanbul-Kandi	2.86	326	*e*PN	Pn	05 08 14.3	-0.1
AVNT	Avonos	2.89	87	*i* P	Pg	05 08 26.4	+1.5
BNT	Bandirma	3.00	304	*e*PN	Pn	05 08 17.1	+0.7
EDC	Edincik	3.04	304	*e*PN	Pn	05 08 17.1	+0.2
KDAG	Bornova	3.07	266	*i* P	Pn	05 08 17.1	-0.3
KDAG				*i* S	Sg	05 09 12.2	+2.8
IZM	Izmir	3.07	266	*e*PN	Pn	05 08 17.4	0.0
MEST	Erdemli	3.17	131	*i* P	Pn	05 08 18.6	-0.3
MEST				*i* S	Sn	05 08 49.9	-7.6
IKL	Isikli	3.17	140	*e*PN	Pn	05 08 19.3	+0.5
TOS	Tosya	3.21	42	*e*PN	Pn	05 08 19.7	+0.4
CTT	Catalca	3.22	320	*e*PN	Pn	05 08 19.8	+0.3
BALT	Daday	3.30	30	*i* P	Pn	05 08 20.7	0.0
BALT				*i* S	Sg	05 09 19.8	+2.6
BDRM	Kayabasi	3.36	242	*i* P	Pn	05 08 21.9	+0.3
YOZ	Yozgat	3.37	73	*e*PN	Pn	05 08 20.9	-0.7
CTKT	Corum	3.40	54	*i* P	Pn	05 08 22.4	+0.4
ARG	Arkhangelos	3.46	225	*e*P	Pn	05 08 31.5	+8.6
AYVA	Ayvalik	3.54	281	*i* P	Pn	05 08 26.8	+2.8
AYVA				*i* S	Sn	05 09 16.6	+10
SMG	Samos	3.55	255	*e*P	Pn	05 08 24.1	-0.1
MFT	Murefte	3.65	306	*e*PN	Pn	05 08 26.9	+1.4
ALFC	Alevga	3.72	162	P	Pn	05 08 25.2	-1.4
	comp=N,3.9nm,0.5s						
LPK	Lapseki	3.79	298	*e*PN	Pn	05 08 28.4	+0.8
PRK	Paraskevi	3.85	280	*e*P	Pn	05 08 29.0	+0.5
CSS	Prodhromos	4.12	154	P	Pn	05 08 34.3	+2.1
	comp=N,2.0nm,0.5s						
CSS	Prodhromos	4.12	154	*e*Pn	Pn	05 08 29.0	-3.2
BOZC	Bozcaada	4.13	288	*i* P	Pn	05 08 32.5	+0.2
SZAC	Souni-Zanaja	4.17	160	P	Pn	05 08 34.7	+1.7
ALN	Alexandroupoli	4.51	301	*e*P	Pn	05 08 37.7	-0.1
COBT	Iskenderun	4.59	117	*i* P	Pn	05 08 39.5	+0.5
EDRB	Edirne	4.61	314	*e*PN	Pn	05 08 39.3	0.0
SVST	Sivas	4.62	75	*i* P	Pg	05 08 55.8	-3.7
SVST				*i* S	Sg	05 09 54.3	-6.8
LIA	Limnos Island	4.79	286	*e*P	Pn	05 08 41.9	+0.1
LOS	Limnos	4.87	287	*e*P	Pn	05 08 43.3	+0.3
RDO	Rodhopi	4.97	301	*e*P	Pn	05 08 44.4	+0.1
JMB	Yambol	5.13	319	*i* P	Pn	05 08 47.0	+0.4
GZT	Gaziantep	5.23	103	*i* P	Pn	05 08 47.6	-0.5
KDZ	Kurdzhali	5.29	306	*i* P	Pn	05 08 49.0	+0.1
PRD	Provadia	5.32	329	*i* P	Pn	05 08 50.0	+0.7
DIM	Dimitrovgrad	5.45	310	*i* P	Pn	05 08 51.0	-0.1
PSN	Preselentsi	5.46	337	*i* P	Pn	05 08 52.0	+0.7
AOS	Alonnisos	5.70	277	*e*P	Pn	05 08 55.1	+0.5
MALT	Malatya	5.71	92	*e*Pn	Pn	05 08 55.8	+1.0
MALT				*e*Pb	Pb	05 09 16.4	+9.1
RZN	Rozhen	5.77	303	*i* P	Pn	05 08 56.0	+0.4
OUR	Ouranopolis	5.79	289	*e*P	Pn	05 08 55.2	-0.6
PLD	Plovdiv	5.99	307	*i* P	Pn	05 08 58.0	-0.7
SZH	Strazhica	6.04	321	*i* P	Pn	05 08 58.0	-1.4
IDI	Anoyia	6.07	238	Pn	Pn	05 08 59.6	-0.2
	comp=N,1.2nm,0.3s,baz=56,slow=12,SNR=8.2						
TIRR	Tirgusor	6.11	341	⇑*i*P	Pn	05 08 59.5	-0.9
SRS	Serrai	6.30	295	*e*P	Pn	05 09 02.6	-0.5
PVL	Pavlikeni	6.31	318	*i* P	Pn	05 09 03.0	-0.2
SOH	Sokhos	6.38	292	*e*P	Pn	05 09 04.5	+0.3
MMB	Musomiste	6.38	299	*i* P	Pn	05 09 04.0	-0.3
PGB	Panagyurishte	6.56	308	*i* P	Pn	05 09 07.0	+0.2
SIM	Simferopol'	6.62	19	P	Pn	05 09 11.8	+4.2
SIM				S	Sn	05 10 23.0	-1.4
SIM				pmax	pmax		
	comp=Z,20nm,0.6s						
SIM				MLR	MLR		
	comp=Z,40nm,8.8s						
KNT	Kendrikon	6.81	294	*e*P	Pn	05 09 10.1	-0.2
KKB	Krupnik	6.94	300	*i* P	Pn	05 09 13.0	+0.9
VTS	Vitosha	7.19	305	*i* P	Pn	05 09 14.0	-1.6
ISR	Istrita	7.28	333	⇑*e*P	Pn	05 09 17.8	+0.9
ISR	Istrita	7.28	333	⇑*i*P	Pn	05 09 18.8	+1.9
MLR	Muntele Rosu	7.81	332	Pn	Pn	05 09 24.4	0.0
	comp=Z,1.3nm,0.3s,baz=126,slow=14,SNR=17						
MLR				Sn	Sn	05 10 50.9	-3.3
	baz=72,slow=20,SNR=1.9						
MLR	Muntele Rosu	7.81	332	P	Pn	05 09 24.4	0.0
MLR						05 10 50.9	
MLR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
VRI	Vrincioaia	7.88	337	⇑*i*P	Pn	05 09 26.3	+1.0
VRI	Vrincioaia	7.88	337	⇑*i*P	Pn	05 09 26.2	+1.0
ASF	Jabal al Asfar	8.02	143	Pn	P	05 09 27.0	-0.2
	comp=Z,0.6nm,0.3s,baz=253,slow=8.6,SNR=2.6						
SOC	Sochi	8.09	50	*e*P	P	05 09 29.8	+1.6
SOC				*e*S	Sn	05 10 59.4	-1.7
SOC				pmax	pmax		
	comp=Z,22nm,0.9s						
SOC				pmax	pmax		
	comp=N,4.0nm,0.4s						
SOC				pmax	pmax		
	comp=E,11nm,0.8s						
SOC				MLR	MLR		
	comp=Z,149nm,15.0s						
SOC				MLR	MLR		
	comp=N,121nm,13.0s						
SOC				MLR	MLR		
	comp=E,82nm,11.0s						
KIS	Kishinev	8.47	349	*i* P	P	05 09 31.5	-2.0
KIS				*e*S	Sn	05 11 05.5	-5.1
KIS				MLR	MLR		
	comp=Z,200nm,10.0s						
EIL	Elat	9.54	160	Pn	P	05 09 46.7	-1.6
	comp=Z,0.5nm,0.3s,baz=26,slow=19,SNR=4.8						
EIL	Elat	9.54	160	*e*Pn	P	05 09 48.2	-0.1
ZEI	Tsey	10.48	63	*e*P	P	05 10 03.0	+1.7
ZEI				*e*S	S	05 12 06.0	+5.7
ZEI				pmax	pmax		
	comp=Z,50nm,5.0s						
ZEI				MLR	MLR		
	comp=Z,100nm,10.0s						
TIP	Timpagrande	11.23	277	*e*Pn	P	05 10 10.7	-0.8
AKASG	Malin Array Be	12.08	354	Pn	P	05 10 19.3	-3.6
	comp=Z,3.4nm,0.3s,baz=175,slow=12,SNR=15						
AKASG				Sn	S	05 12 24.4	-15
	comp=Z,1.1nm,0.3s,baz=177,slow=22,SNR=4.0						
KWP	Kalwaria	12.49	334	P	P	05 10 30.2	+1.8
GERES	GERESS Array B	16.14	315	Pn	P	05 11 12.6	-3.8
	comp=Z,0.1nm,0.3s,baz=217,slow=33,SNR=2.2						
OBN	Obninsk	16.82	11	*e*P	P	05 11 26.4	+1.5
OBN				S	S	05 14 29.0	-2.4
OBN				pmax	pmax		
	comp=Z,8.0nm,0.5s						
PGF	Pioggiola	17.25	290	*e*P	P	05 11 29.9	-0.5
	comp=Z,65nm,1.2s						
SBF	Sospel	18.54	294	*e*P	P	05 11 45.3	-1.1
MBDF	Montbardon	19.14	296	*e*P	P	05 11 52.9	-0.8
	comp=Z,26nm,0.8s						
LPG	La Plagne	19.30	298	*e*P	P	05 11 55.2	-0.4
	comp=Z,18nm,0.9s						
LPL	La Plagne	19.32	298	*e*P	P	05 11 55.3	-0.5
	comp=Z,8.8nm,0.8s						
CDF	Champ du Feu	19.77	307	*e*P	P	05 11 59.2	-1.7
ORIF	Oris-en-Rattie	19.80	296	*e*P	P	05 12 00.1	-1.2
	comp=Z,16nm,1.0s						
HINF	Hinteralfeld	19.84	305	*e*P	P	05 12 00.3	-1.4
	comp=Z,5.4nm,0.5s						
HAU	Haudompre	20.23	305	*e*P	P	05 12 04.7	-1.1
	comp=Z,26nm,0.9s						
VIVF	Saint-Julien-l	20.64	296	*e*P	P	05 12 09.2	-0.9
LASF	Ste Croix	21.13	293	*e*P	P	05 12 14.2	-1.0
SMF	Signal de Mont	21.52	300	*e*P	P	05 12 18.3	-0.8
	comp=Z,13nm,0.9s,mb4.0						
SSF	Saint Saulge	21.83	301	*e*P	P	05 12 21.1	-1.2
	comp=Z,15nm,1.0s,mb4.1						
FINES	FINESS Array B	22.99	354	P	P	05 12 32.0	-1.4
	comp=Z,10nm,1.1s,mb4.2,baz=148,slow=13,SNR=4.6						
FINES	FINESS Array B	22.99	354	P	P	05 12 32.0	-1.5
FINES				pmax	pmax		
	comp=Z,10.0nm,1.2s						
KAF	Kangasniemi	23.63	354	*e*p	P	05 12 38.3	-1.4
HFS	Hagfors	24.13	338	P	P	05 12 40.8	-3.8
	comp=Z,4.2nm,0.9s,mb3.9,baz=185,slow=16,SNR=2.2						
HFS	Hagfors	24.13	338	P	P	05 12 40.8	-3.7
HFS				pmax	pmax		
	comp=Z,4.0nm,0.9s						
LDF	La Druitiere	24.55	304	*e*P	P	05 12 47.9	-0.9
	comp=Z,10nm,0.7s,mb4.2						
GRR	Gorron	24.99	303	*e*P	P	05 12 51.8	-1.2
	comp=Z,53nm,0.9s,mb4.8						
ARU	Arti	25.35	37	⇑*i*P	P	05 12 56.2	-0.2
ARU				*e*		05 13 31.8	
ARU				*e*S	S	05 17 22.3	+1.8
ARU				*e*SS	SS	05 18 20.0	-1.6
ARU				pmax	pmax		
	comp=Z,10.0nm,1.5s,mb4.1						
ARU	Arti	25.35	37	*e*P	P	05 12 56.3	-0.1
	comp=Z,11nm,1.2s,mb4.3						
NB2	NORSAR Subarra	25.59	337	P	P	05 12 56.9	-1.6
	comp=Z,1.2nm,0.7s,mb3.5,baz=138,slow=10						
NOA	NORSAR Array B	25.59	337	P	P	05 12 56.1	-2.4
	comp=Z,2.1nm,0.8s,mb3.7,baz=140,slow=9.4,SNR=4.4						
NOA	NORSAR Array B	25.59	337	P	P	05 12 56.1	-2.4
NOA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ESDC	Sonseca Array	27.14	283	LR	LR	05 25 08.3	
	comp=Z,38nm,19.2s,MS3.0,baz=300,slow=39						
ZRNK	Zerenda	29.58	49	P	P	05 13 34.7	-0.3
	comp=Z,2.3nm,0.9s,mb3.9						
ARCES	ARCESS Array B	31.05	356	LR	LR	05 28 21.3	
	comp=Z,61nm,21.9s,MS3.2,baz=108,slow=40						
KURK	Kurchatov	35.22	54	*e*P	P	05 14 22.6	-1.7
	comp=Z,12nm,1.3s,mb4.7						
MKAR	Makanchi Array	37.83	61	P	P	05 14 44.1	-2.2
	comp=Z,0.8nm,0.5s,mb3.7,baz=264,slow=9.5,SNR=7.5						
MKAR	Makanchi Array	37.83	61	P	P	05 14 44.1	-2.2
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WMQ	Urumqi	42.10	64	*e*P	P	05 15 23.3	+1.7
WMQ				AP	pP	05 15 30.6	+7.5
WMQ				XP	sP	05 15 34.0	+10
WMQ				AMB	AMB		
	comp=Z,5.0nm,1.2s,mb4.0						
GTA	Gaotai	52.09	66	*e*P	P	05 16 41.9	+1.6
GTA				AMB	AMB		
	comp=Z,1.0nm,0.5s,mb4.0						
LSZ	Lusaka	53.76	184	P	P	05 16 50.7	-2.2
	comp=Z,1.1nm,0.7s,mb3.9						
BOD	Bodaibo	54.68	41	*e*P	P	05 16 56.0	-3.1
LZH	Lanzhou	56.37	68	*e*P	P	05 17 11.3	-0.4
LZH				AMB	AMB		
	comp=Z,25nm,1.3s,mb5.1						
LZH				LR	LR		
	comp=N,213nm,15.0s						
LZH				LR	LR		
	comp=Z,269nm,17.9s,MS4.4						
HHC	Hu-ho-hao-te	59.69	60	*e*P	P	05 17 35.0	+0.1
HHC				PP	PP	05 19 49.1	+0.5
HHC				S	S	05 25 43.6	-0.8
HHC				SCS	ScS	05 27 20.8	-1.5
HHC				SS	SS	05 29 41.8	+0.5
HHC				AMB	AMB		
	comp=Z,12nm,0.5s,mb5.2						
HHC				LR	LR		
	comp=N,61nm,16.1s,MS4.0						
HHC				LR	LR		
	comp=E,83nm,17.2s,MS4.0						
HHC				LR	LR		
	comp=Z,52nm,13.7s,MS3.8						
SCHQ	Schefferville	63.58	320	P	P	05 17 57.3	-3.5
	comp=Z,3.1nm,0.8s,mb4.4,slow=3.0,SNR=2.6						
NJ2	Nanjing	69.17	65	*e*P	P	05 18 35.3	-1.5
MDJ	Mudanjiang	69.27	49	P	P	05 18 35.1	-2.1
MDJ				AMB	AMB		
	comp=Z,8.0nm,1.7s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,65nm,6.1s						
SSE	Sheshan	71.35	65	*e*P	P	05 18 49.3	-0.8
SSE				AMB	AMB		
	comp=Z,55nm,5.3s						
ILAR	Eielson Array	76.85	359	P	P	05 19 20.3	-0.9
	comp=Z,0.5nm,0.8s,mb3.5,baz=11,slow=4.6,SNR=4.5						
ILAR	Eielson Array	76.85	359	P	P	05 19 20.3	-0.9
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
LAO	LASA Array	86.83	332	*e*P	P	05 20 13.4	-0.2
	comp=Z,20nm,1.0s,mb5.3						

IDC 16 05:59:58.0±3.0, 29.94S×138.86E, mb1 3.0/3, mb1mx3.0/8, ML2.4/3, Error ellipse: s-maj=103.0km s-min=16.6km az=47.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	3.04	130	Pn	Pn	06 00 47.1	-1.2
	0.2nm,0.3s,baz=296,slow=17,SNR=2.7						
STKA				Pg	Pg	06 00 55.7	-3.1
	1.1nm,0.3s,baz=298,slow=13,SNR=7.9						
STKA				Sn	Sn	06 01 24.4	-1.6
	0.5nm,0.3s,baz=287,slow=20,SNR=3.7						
STKA				Lg		06 01 35.5	
	1.4nm,0.3s,baz=311,slow=20,SNR=3.6						
ASAR	Alice Springs	7.66	324	Pn	Pn	06 01 50.5	-3.1
	0.1nm,0.3s,baz=143,slow=14,SNR=3.6						
ASAR				Sn	Sn	06 03 20.8	-1.2
	0.1nm,0.3s,baz=153,slow=22,SNR=3.7						
WRA	Warramunga Arr	10.76	337	Pn	P	06 02 33.8	-2.8
	0.1nm,0.3s,baz=154,slow=14,SNR=5.1						

IDC 16 06:26:47.9±1.2, 5.43N×127.97E, mb3.8/4, mb1 4.0/4, mb1mx3.8/15, Error ellipse: s-maj=68.9km s-min=22.8km az=73.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	25.98	166	P	P	06 32 22.3	-2.0
	1.4nm,0.4s,baz=345,slow=10,SNR=21						
ASAR	Alice Springs	29.49	169	P	P	06 32 54.4	-1.7
	0.3nm,0.4s,baz=352,slow=7.3,SNR=5.4						
MKAR	Makanchi Array	56.90	324	P	P	06 36 35.0	-2.1
	1.1nm,0.5s,baz=117,slow=8.0,SNR=18						
ILAR	Eielson Array	83.05	25	P	P	06 39 14.6	-1.7
	0.1nm,0.6s,baz=252,slow=5.7,SNR=4.9						

IDC 16 06:47:53.2±8.3, 15.30S×172.99W, mb3.5/3, mb1 3.8/3, mb1mx3.7/15, Error ellipse: s-maj=388.0km s-min=32.7km az=140.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	50.26	257	P	P	06 56 51.5	-2.0
	0.2nm,0.6s,baz=93,slow=6.7,SNR=4.5						
ASAR	Alice Springs	50.52	252	P	P	06 56 53.2	-2.3
	0.3nm,0.5s,baz=91,slow=7.6,SNR=5.3						
ILAR	Eielson Array	82.27	11	P	P	07 00 15.7	-1.8
	0.9nm,0.8s,baz=219,slow=6.3,SNR=12						
GERES	GERESS Array B	146.10	352	PKPbc	PKPbc	07 07 34.8	-0.4
	0.2nm,0.4s,baz=321,slow=6.3,SNR=3.9						
BRTR	Keskin Array B	146.33	321	PKPbc	PKPbc	07 07 36.4	+0.3
	0.8nm,0.6s,baz=124,slow=5.2,SNR=4.2						

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*BJI **16** 06:53:18.8, 4.19N×76.67W, h103^{km}, mB4.5*
*NEIC **16** 06:53:19.5±0.7, 3.94N×76.89W, h103^{km}±6^{km}, mb4.2/9, Error ellipse: s-maj=8.7km s-min=6.8km az=54.0*
NEIC Felt at Choco and in Valle del Cauca.
*IDC **16** 06:53:22.9±2.3, 4.21N×76.74W, h122^{km}±19^{km}, mb3.9/11, mb1 4.1/12, mb1mx3.9/20, MS3.6/2, Ms1 3.6/2, ms1mx2.9/18, Error ellipse: s-maj=23.9km s-min=14.0km az=53.0*
ISC 16 06:53:18.5±0.7, 3.92N±0.05×76.89W±0.05, h110^{km}±8^{km}, n42, $\sigma 0^{s}$78/35, mb4.3/21, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ROSC	El Rosal	2.72	70	P	P	06 54 02.8	+1.2
	75nm,0.3s,baz=350,slow=4.5,SNR=424						
ROSC				S	S	06 54 34.4	+0.2
	33nm,0.3s,baz=124,slow=24,SNR=5.8						
OTAV	Otavalo	3.97	203	*e*Pn	P	06 54 18.5	-0.1
OTAV				*e*Sn	S	06 55 04.0	-0.5
SDV	Santo Domingo	7.94	51	Pn	P	06 55 10.8	-1.9
SDV				*e*Sn	S	06 56 35.0	-6.5
JTS	JuntasAbangare	10.20	309	P	P	06 55 43.4	+0.3
	24nm,1.4s						
SAML	Samuel	18.71	133	*e*P	P	06 57 31.0	0.0
	4.3nm,0.7s						
LPAZ	La Paz	21.86	157	P	P	06 58 10.8	+7.4
	1.9nm,0.2s,mb4.0,baz=332,slow=0.4,SNR=1.9						
LVC	Limon Verde	27.49	164	P	P	06 58 56.9	+0.1
	25nm,1.7s,mb4.5						
BDFB	Brasilia	34.56	125	P	P	06 59 59.8	+1.2
	5.1nm,0.6s,mb4.6,baz=289,slow=12,SNR=12						
CPUP	Villa Florida	35.53	149	LR	LR	07 15 34.2	
	comp=Z,69nm,19.1s,baz=186,slow=37						
TXAR	Lajitas Array	35.82	318	P	P	07 00 09.3	0.0
	0.1nm,0.5s,baz=124,slow=9.8,SNR=3.4						
TXAR				PcP	PcP	07 02 36.8	+1.9
	0.6nm,0.6s,baz=148,slow=6.5,SNR=9.1						
WMOK	Wichita Mounta	36.78	329	P	P	07 00 15.8	-1.5
	3.2nm,1.0s,mb4.2						
SADO	Sadowa	40.74	358	P	P	07 00 50.0	+0.1
	13nm,1.1s,mb4.7,baz=165,slow=4.2,SNR=3.8						
ANMO	Albuquerque	41.28	322	P	P	07 00 55.4	+0.9
	1.3nm,0.8s,mb3.8						
SDCO	Great Sand Dun	42.63	326	*e*P	P	07 01 06.8	+1.1
	1.9nm,0.8s,mb3.9						
PV10	Paradox Valley	45.10	324	*e*P	P	07 01 26.3	+0.8
RSSD	Black Hills	46.65	333	*e*P	P	07 01 37.9	+0.3
	6.6nm,1.0s,mb4.3						
PDAR	Pinedale Array	48.37	328	P	P	07 01 50.6	-0.4
	0.4nm,0.6s,mb3.4,baz=121,slow=7.9,SNR=4.4						
ULM	Lac du Bonnet	48.88	344	P	P	07 01 53.3	-1.5
	3.6nm,0.7s,mb4.4,baz=172,slow=13,SNR=3.0						
NVAR	Mina Array Bea	50.98	318	P	P	07 02 12.1	+1.0
	1.2nm,0.7s,mb4.0,baz=122,slow=7.7,SNR=14						
NVAR				PcP	PcP	07 03 27.2	+1.3
	0.8nm,0.7s,baz=117,slow=5.1,SNR=6.4						
NVAR	Mina Array Bea	50.98	318	P	P	07 02 12.1	+1.0
NVAR				PcP	PcP	07 03 27.2	+1.3
SCHQ	Schefferville	51.41	7	P	P	07 02 14.3	+0.1
	6.0nm,0.9s,mb4.6,baz=138,slow=4.0,SNR=6.3						
SCHQ	Schefferville	51.41	7	P	P	07 02 14.3	+0.1
HLID	Hailey	51.55	326	*e*P	P	07 02 15.3	-0.1
	1.2nm,0.7s,mb4.0						
YKA	Yellowknife Ar	64.75	342	P	P	07 03 45.5	-1.6
	3.3nm,0.7s,mb4.3,baz=137,slow=6.4,SNR=9.4						
YKA	Yellowknife Ar	64.75	342	P	P	07 03 45.5	-1.6
TIC	Toumodi	71.57	84	*e*P	P	07 04 29.7	-0.4
	74nm,1.4s,mb5.3						
LIC	Lamto	71.58	85	*e*P	P	07 04 29.9	-0.3
	47nm,1.6s,mb5.1						
DBIC	Dimbokro	71.73	84	P	P	07 04 30.8	-0.3
	3.4nm,0.6s,mb4.3,baz=264,slow=9.6,SNR=6.9						
DBIC	Dimbokro	71.73	84	P	P	07 04 30.8	-0.3
KIC	Kosan Boka	71.86	85	*e*P	P	07 04 31.7	-0.1
	30nm,0.9s,mb5.1						
SUMG	Summit	72.54	11	*e*P	P	07 04 35.1	+0.2
	7.8nm,0.7s,mb4.7						
ESDC	Sonseca Array	74.39	50	P	P	07 04 46.8	+0.6
	1.2nm,0.5s,mb3.9,baz=262,slow=5.6,SNR=6.4						
ESDC				LR	LR	07 35 08.3	
	comp=Z,41nm,18.3s,baz=260,slow=34						
ILAR	Eielson Array	78.02	336	P	P	07 05 06.2	+0.2
	1.1nm,0.6s,mb3.8,baz=110,slow=4.3,SNR=7.9						
MKAR	Makanchi Array	126.26	18	PKP	PKPdf	07 12 10.3	+1.9
	0.4nm,0.5s,baz=261,slow=3.3,SNR=8.1						
WMQ	Urumqi	130.50	15	*e*PKP	PKPdf	07 12 18.4	+1.8
LZH	Lanzhou	140.20	359	*e*PKP	PKPdf	07 12 36.3	+1.5
LZH				XPKP		07 13 13.6	
NJ2	Nanjing	141.22	338	*e*PKP	PKPdf	07 12 38.4	+1.6
ASAR	Alice Springs	144.38	234	PKP	PKPdf	07 12 43.5	+1.1
	2.9nm,0.4s,baz=118,slow=3.8,SNR=64						
ASPA	Alice Springs	144.38	234	*e*P	PKPbc	07 12 43.1	+1.0
WB2	Warramunga Arr	145.64	240	*e*P	PKPdf	07 12 47.6	+2.9
WRA	Warramunga Arr	145.65	240	PKPbc	PKPbc	07 12 47.8	+2.2
	2.9nm,0.6s,baz=113,slow=2.8,SNR=32						
CMAR	Chiang Mai Arr	157.39	10	PKPab	PKPab	07 13 35.2	-1.3
	1.5nm,0.8s,baz=333,slow=6.4,SNR=4.4						

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*TAP **16** 07:03:51.1, 22.60N×121.38E, h8^{km}, ML3.2*
*JMA **16** 07:03:53.2±0.6, 22.49N×121.62E, h36^{km}, M3.1*
ISC 16 07:03:53.4±2.1, 22.7N±0.2×121.7E±0.2, h8^{km}, n6, $\sigma 0^{s}$55/12, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	2.18	34	P	Pn	07 04 30.8	+0.3
YOJ				*e*S	Sn	07 04 57.2	-0.7
HATJ	Hateruma jima	2.41	54	P	Pn	07 04 33.1	-0.6
HATJ				S	Sn	07 05 03.2	-0.4
IRIF	Iriomote-Funau	2.52	48	P	Pn	07 04 35.9	+0.5
IRIF				S	Sn	07 05 08.0	+1.4
JKRS	Kuro-shima	2.66	53	P	Pn	07 04 36.9	-0.5
JKRS				S	Sn	07 05 10.3	+0.2
JIJ	Ishigaki jima	2.83	53	P	Pn	07 04 40.0	+0.2
JIJ				S	Sn	07 05 14.2	-0.3
JTJ	Tarama	3.41	54	P	Pn	07 04 48.0	0.0
JTJ				S	Sn	07 05 28.9	-0.2

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*IDC **16** 07:10:00.1±1.9, 8.39S×128.11E, mb3.3/1, mb1 3.9/4, mb1mx3.7/12, ML3.5/3, Error ellipse: s-maj=73.8km s-min=23.6km az=76.0*
ISC 16 07:10:01.9±3.9, 8.42S±0.09×128.3E±0.1, h31^{km}±32^{km}, n6, $\sigma 0^{s}$77/11, mb3.2/1, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	9.96	195	*e*P	P	07 12 24.8	-1.5
	2.8nm,1.4s						
FITZ				*e*S	Sn	07 14 19.0	+1.0
FITZ	Fitzroy Crossi	9.96	195	Pn	P	07 12 25.0	-1.3
	0.2nm,0.3s,baz=15,slow=11,SNR=10						
FITZ				Sn	Sn	07 14 18.4	+0.4
	0.7nm,0.3s,baz=124,slow=10,SNR=6.4						
WRA	Warramunga Arr	12.86	154	Pn	P	07 13 05.6	+0.1
	0.4nm,0.3s,baz=324,slow=13,SNR=15						
WRA				Sn	S	07 15 28.9	+0.4
	0.4nm,0.3s,baz=331,slow=22,SNR=7.5						
WB2	Warramunga Arr	12.86	154	*e*P	P	07 13 06.1	+0.5
WB2				*e*S	S	07 15 27.5	-1.2
ASAR	Alice Springs	16.08	161	Pn	P	07 13 48.4	+0.8
	0.3nm,0.3s,baz=342,slow=11,SNR=22						
ASAR				Sn	S	07 16 50.6	+5.9
	0.1nm,0.3s,baz=245,slow=37,SNR=4.5						
MKAR	Makanchi Array	68.50	328	P	P	07 21 03.5	-0.1
	0.2nm,0.7s,mb3.2,baz=131,slow=6.5,SNR=2.7						

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*ATH **16** 07:43:37.3, 40.25N×19.15E, h36^{km}±6^{km}, MD3.4/4*
*PDG **16** 07:43:41.3±0.2, 40.65N×19.63E, h1^{km}*
*NEIC **16** 07:43:41.1±0.5, 40.29N×19.43E, h35^{km}, MD3.4(ATH), MD2.8(PDG), Error ellipse: s-maj=8.5km s-min=5.5km az=66.0*
*TIR **16** 07:43:48.9, 41.11N×19.33E, h15^{km}, Ml2.4*
ISC 16 07:43:39.7±1.2, 40.30N±0.03×19.42E±0.05, h25^{km}±11^{km}, n22, $\sigma 1^{s}$01/36, 2C, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEK	Kerkira	0.65	154	*e*PN	Pn	07 43 51.9	-1.4
LCI	Lecce	1.00	273	*e*Pn	Pn	07 43 59.3	+1.0
LCI				*e*Sn	Sn	07 44 12.4	+0.7
TIR	Tirane	1.10	18	*e*Pg	Pn	07 43 58.5	-1.2
TIR				*i* Sg	Sb	07 44 14.5	+0.6
JAN	Janina	1.27	120	*e*PN	Pn	07 44 02.5	+0.4
QSH	Qafa e Shtames	1.28	16	*i* Pn	Pn	07 44 01.0	-1.2
QSH				*i* Sn	Sn	07 44 21.2	+2.6
OHR	Ohrid	1.32	52	*i* Sg	Sn	07 44 20.0	+0.1
BIA	Bitola	1.62	63	⇑*i*Pn	Pn	07 44 07.5	+0.4
BIA				*i* Sg	Sn	07 44 28.1	+0.8
ULC	Ulcinj	1.67	356	*e*Pg	Pn	07 44 06.0	-1.9
ULC				*e*Sg	Sn	07 44 26.9	-1.8
KZN	Kozani	1.80	89	*e*PN	Pn	07 44 10.8	+1.2
BUM	Brajici-Budva	2.04	349	*e*Pn	Pn	07 44 12.8	-0.4
BUM				*e*Sn	Sn	07 44 39.0	+0.9
TTG	Podgorica	2.13	357	⇑*i*Pn	Pn	07 44 14.6	+0.1
TTG				*e*Sn	Sn	07 44 40.9	+0.4
HCY	Herceg Novi	2.26	342	*e*Pn	Pn	07 44 16.9	+0.7
HCY				*e*Sn	Sn	07 44 45.5	+1.9
SKO	Skopje	2.26	42	*e*Pn	Pn	07 44 19.0	+2.7
EVR	Evrytania	2.30	126	*e*PN	Pn	07 44 17.5	+0.6
VLS	Valsamata	2.30	156	*e*PN	Pn	07 44 15.6	-1.3
PVY	Plav	2.33	10	*e*Pn	Pn	07 44 16.4	-0.9
PVY				*e*Sn	Sn	07 44 44.6	-0.9
TIP	Timpagrande	2.34	242	*e*Pn	Pn	07 44 17.8	+0.4
NKY	Niksic	2.53	353	*e*Pn	Pn	07 44 19.7	-0.5
NKY				*e*Sn	Sn	07 44 50.9	+0.3
IVA	Berane	2.60	8	*e*Pn	Pn	07 44 20.4	-0.7
IVA				*e*Sn	Sn	07 44 51.4	-0.8
BRY	Bratogost	2.68	346	*e*Pn	Pn	07 44 22.6	+0.3
BRY				*e*Sn	Sn	07 44 54.6	+0.2
UPM	Unac-Piva	2.93	353	*e*Pn	Pn	07 44 25.9	+0.1
UPM				*e*Sn	Sn	07 45 00.2	-0.4
PLE	Pljevlja	3.03	360	*e*Pn	Pn	07 44 27.2	0.0
PLE				*e*Sn	Sn	07 45 01.8	-1.4

IDC 16 07:50:00.6±16.0, 4.56S×129.31E, h399^{km}±224^{km}, mb3.0/1, mb1 2.9/3, mb1mx2.8/13, Error ellipse: s-maj=173.0km s-min=74.2km az=74.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	16.06	163	P	P	07 53 24.3	-1.9
	0.1nm,0.3s,baz=342,slow=12,SNR=7.9						
ASAR	Alice Springs	19.51	167	P	P	07 54 00.7	0.0
	0.2nm,0.3s,baz=345,slow=10,SNR=18						
MKAR	Makanchi Array	65.82	327	P	P	08 00 04.6	-1.7
	0.6nm,0.7s,baz=119,slow=7.9,SNR=5.6						

BER 16 08:17:43.2±3.3, 57.50N×5.96W, h5^{km}±33^{km}, ML2.9, ML3.3(BGS)

BGS 16 08:17:43.2±0.1, 57.44N×5.97W, h5^{km}±1^{km}, ML3.3, 7C, United Kingdom

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KPL	Plockton	0.20	119	P	Pg	08 17 47.3	+0.1
KPL				AML	AML	08 17 49.8	
	497nm,0.5s						
KPL				AML	AML	08 17 50.0	
	711nm,0.4s						
KPL	Plockton	0.20	119	⇑iP	Pg	08 17 47.3	+0.1
KPL				⇑iP		08 17 47.3	
KPL				AML	AML	08 17 49.8	
	comp=N,497nm,0.5s						
KPL				AML	AML	08 17 50.0	
	comp=E,711nm,0.4s						
KPL	Plockton	0.20	119	P	Pg	08 17 47.3	+0.1
KSB	Sheil Bridge	0.37	127	⇑iP	Pg	08 17 50.6	-0.1
KSK	Scoval	0.40	275	⇑iP	Pg	08 17 51.1	-0.2
KSK				eS	Sg	08 17 56.8	+0.2
KAR1	Arisaig	0.52	172	⇑iP	Pg	08 17 53.2	-0.5
MDO	Dochfour	0.87	89	⇑iP	Pb	08 17 59.2	-1.1
MVH1	Achvaich	1.08	62	eP	Pb	08 18 02.6	-1.3
MCD	Coleburn Disti	1.47	83	eP	Pn	08 18 09.1	-1.3
MCD				eS	Sb	08 18 27.6	-2.0
MCD				AML	AML	08 18 30.6	
	comp=E,711nm,0.3s						
MCD				AML	AML	08 18 33.0	
	comp=N,393nm,0.5s						
EAB	Aberfoyle	1.54	144	eP	Pn	08 18 10.8	-0.5
ORE	Reay	1.62	46	⇑iP	Pn	08 18 10.0	-2.6
ORE				eS	Sb	08 18 32.5	-1.3
ORE				AML	AML	08 18 33.8	
	comp=N,292nm,0.4s						
ORE				AML	AML	08 18 33.9	
	comp=E,308nm,0.2s						
MME1	Meikle Cairn	1.63	93	eP	Pn	08 18 12.1	-0.6
MLA1	Latheron	1.64	57	eP	Pn	08 18 09.9	-3.0
OBR	Brabster	1.90	50	eP	Pn	08 18 14.0	-2.7
OHO	Hoy	2.01	45	eP	Pn	08 18 15.2	-3.0
ESY	Stoneypath	2.40	128	eP	Pn	08 18 23.8	+0.1
OST	Stronsay	2.45	46	eP	Pn	08 18 21.1	-3.3

IDC 16 08:36:56.3±4.9, 43.80N×151.56E, h46^{km}±46^{km}, mb3.5/6, mb1 3.8/7, mb1mx3.5/23, ML3.4/1, Error ellipse: s-maj=29.3km s-min=28.2km az=35.0

ISC 16 08:36:53.6±4.6, 43.8N±0.2×151.5E±0.3, h39^{km}±41^{km}, n7, σ1^{s}32/7, mb3.8/6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAJ	Asahikawa	6.45	276	P	P	08 38 28.5	0.0
	0.9nm,0.3s,baz=120,slow=14,SNR=2.3						
MKAR	Makanchi Array	47.37	299	P	P	08 45 25.2	-0.2
	0.4nm,0.5s,mb3.6,baz=81,slow=6.2,SNR=5.3						
BVAR	Borovoye Array	51.92	311	P	P	08 46 01.9	+1.7
	0.5nm,0.5s,mb3.7,baz=117,slow=3.2,SNR=2.8						
NVAR	Mina Array Bea	64.86	60	P	P	08 47 30.8	+0.1
	0.5nm,0.7s,mb3.7,baz=292,slow=5.5,SNR=5.7						
WRA	Warramunga Arr	65.32	198	P	P	08 47 33.8	-0.2
	0.4nm,0.6s,mb3.6,baz=14,slow=7.2,SNR=4.0						
FINES	FINESS Array B	66.26	335	P	P	08 47 37.5	-1.8
	5.7nm,1.1s,mb4.5,baz=63,slow=3.1,SNR=3.2						
TXAR	Lajitas Array	79.97	59	P	P	08 49 00.7	+0.4
	0.4nm,0.6s,mb3.6,baz=297,slow=3.2,SNR=7.3						

MAN 16 09:22:15.8, 10.15N×125.98E, h6^{km}, mb4.2, ML3.0, MS2.9, Leyte

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCPH	Surigao	0.60	233	i P	Pg	09 22 27.7	-0.2
SCPH				i S	Sg	09 22 35.7	-0.3
MSLP	Maasin	1.10	269	eP	Pb	09 22 37.1	+0.2
MSLP				eS	Sb	09 22 53.3	+1.9
BESP	Borongan	1.54	340	eP	Pn	09 22 43.5	-0.4
BESP				eS	Sb	09 23 04.3	+0.3
TBP	Tagbilaran	2.14	258	eP	Pn	09 22 52.3	-0.2
TBP				eS	Sn	09 23 17.7	-1.8
BUKP	Musuan	2.43	202	eP	Pn	09 22 56.0	-0.6
BUKP				eS	Sn	09 23 27.3	+0.3

NEIC 16 09:27:12.7, 33.91S×71.29W, h49^{km}, mb4.4/4, MD4.3(GUC), After GUC.
NEIC Felt [III] at Rancagua and Santiago; [II] at San Antonio and San Fernando.
GUC 16 09:27:12.7±0.7, 33.91S×71.29W, h49^{km}±4^{km}, MD4.3, ML4.3
SYO 16 09:27:12.7, 33.91S×71.29W, h49^{km}, MB4.4
IDC 16 09:27:14.6±4.4, 33.95S×71.33W, h66^{km}±42^{km}, mb3.3/2, mb1 3.7/4, mb1mx3.6/12, ML4.0/2, Error ellipse: s-maj=96.6km s-min=26.4km az=80.0

ISC 16 09:27:11.8±0.4, 33.93S±0.03×71.36W±0.04, h58^{km}±4^{km}, n33, σ0^{s}84/44, mb3.9/5, 12C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LNV	Longovilo	0.05	243	⇑iP	P	09 27 20.5	+0.1
LLCH	Llolleo	0.39	326	⇑iP	P	09 27 21.6	-1.0
LLCH				i S	S	09 27 29.1	-1.3
TACH	Talagante	0.45	51	⇑iP	P	09 27 23.1	-0.1
LCCH	Las Cruces	0.49	339	⇓iP	P	09 27 23.6	0.0
CHCH	Chadas Angostu	0.59	90	⇑iP	P	09 27 24.8	+0.2
RCDM	Rinconada Maip	0.64	46	eP	P	09 27 24.9	-0.3
RCDM				i S	S	09 27 34.0	-1.2
RCDM				AMP		09 27 34.5	
	comp=E,42µm,0.1s						
CACH	El Canelo	0.66	106	⇓iP	P	09 27 26.4	+0.9
CACH				i S	S	09 27 36.3	+0.8
ANTU	Antumapu	0.70	59	eP	P	09 27 26.2	+0.1
ANTU				i S	S	09 27 36.2	-0.4
ANTU				AMP		09 27 37.5	
	comp=E,14µm,0.1s						
SFDO	San Fernando	0.74	157	⇑iP	P	09 27 27.2	+0.8
PCH	Pirque	0.77	66	⇑iP	P	09 27 27.1	+0.2
PCH				i S	S	09 27 36.0	-2.0
FSR	Penalolen	0.83	57	⇓iP	P	09 27 27.9	+0.2
FSR				i S	S	09 27 39.0	-0.4
DSCH	Colegio Aleman	0.85	51	⇑iP	P	09 27 28.3	+0.4
DSCH				i S	S	09 27 39.4	-0.5
DSCH				AMP		09 27 41.1	
	comp=N,11µm,0.6s						
CICH	Cipreses	0.87	117	⇑iP	P	09 27 28.8	+0.6
CLCH	Cerro Calan	0.87	52	⇓iP	P	09 27 28.5	+0.3
CLCH				i S	S	09 27 40.3	-0.1
IHA	Instituto Hidr	0.94	345	⇑iP	P	09 27 29.6	+0.5
IHA				i S	S	09 27 43.1	+1.1
LMEL	Las Melosas	0.96	85	⇓iP	P	09 27 30.0	+0.5
LMEL				i S	S	09 27 43.1	+0.5
LMEL				AMP		09 27 44.3	
	comp=N,13µm,0.1s						
FCH	Farellones	1.07	56	⇓iP	P	09 27 31.6	+0.5
FCH				i S	S	09 27 45.6	+0.4
FCH				AMP		09 27 46.0	
	comp=N,16µm,0.3s						
JACH	Jahuel	1.40	27	⇑iP	P	09 27 35.9	+0.2
MDZ	Mendoza	2.34	64	eP	P	09 27 49.9	+1.1
MDZ				e		09 27 53.7	
MDZ				S	S	09 28 29.9	+13
CCHI	Chillan	2.73	192	eP	P	09 27 54.9	+0.6
CMCH	Combarbala	2.77	6	⇑iP	P	09 27 54.6	-0.2
CMCH				i S	S	09 28 27.1	-0.1
CMCH				AMP		09 28 52.5	
	comp=E,2µm,0.9s						
TLL	Tololo Astrono	3.78	7	eP	P	09 28 09.2	0.0
TLL				AMP		09 29 14.6	
	comp=N,533nm,0.6s						
PLCA	Paso Flores	6.82	175	P	P	09 28 51.9	+0.3
	comp=N,0.3nm,0.3s,baz=339,slow=15,SNR=3.6						
TRQA	Tornquist	8.64	121	ePn	P	09 29 14.9	-1.8
LPAZ	La Paz	17.81	10	P	P	09 31 18.4	+1.1
	comp=N,0.6nm,0.3s,baz=202,slow=0.5,SNR=2.4						
EFI	East Falkland	20.18	155	eP	P	09 31 41.5	-2.4
	comp=N,113nm,1.4s						
SAML	Samuel	25.98	19	eP	P	09 32 42.3	+1.3
	comp=N,7.7nm,0.5s,mb4.5						
SNAA	Sanae	51.43	158	eP	P	09 36 10.7	-2.0
	comp=N,1.1nm,0.8s,mb3.8						
SYO	Syowa Base	65.72	158	⇑sP	sP	09 38 09.3	-5.0
TXAR	Lajitas Array	69.95	330	P	P	09 38 19.4	+0.3
	comp=N,0.1nm,0.4s,mb3.1,baz=165,slow=10,SNR=4.9						
TXAR				pP	pP	09 38 32.9	-2.3
	comp=N,0.2nm,0.8s,baz=147,slow=9.5,SNR=3.4						
WVT	Waverly	71.38	346	eP	P	09 38 26.4	-1.1
	comp=N,2.7nm,0.6s,mb4.3						
MAW	Mawson	73.08	163	P	P	09 38 37.0	+0.1
	comp=N,0.5nm,0.4s,mb3.8,baz=216,slow=8.7,SNR=6.0						
NVAR	Mina Array Bea	84.15	325	pP	pP	09 39 53.0	-1.3
	comp=N,0.1nm,0.5s,baz=139,slow=6.9,SNR=4.4						

NEIC 16 09:45:57.4±0.8, 20.10S×177.95W, h500^{km}, mb3.9/5, Error ellipse: s-maj=31.9km s-min=17.3km az=169.0
IDC 16 09:46:02.2±24.0, 20.35S×178.29W, h526^{km}±218^{km}, mb3.2/4, mb1 3.3/4, mb1mx3.0/14, Error ellipse: s-maj=168.0km s-min=93.3km az=91.0

ISC 16 09:45:56.5±1.1, 20.2S±0.3×178.0W±0.2, h500^{km}, n12, σ0^{s}84/11, mb3.8/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	Charters Tower	33.55	264	P	P	09 51 56.5	+1.0
	3.6nm,0.8s,mb3.8,baz=85,slow=8.3,SNR=7.9						
CTAO	Charters Tower	33.55	264	eP	P	09 51 56.3	+0.8
	5.5nm,0.6s,mb4.2						
STKA	Stephens Creek	37.97	244	P	P	09 52 31.6	-0.3
	2.9nm,1.1s,mb3.6,baz=91,slow=13,SNR=5.6						
ASAR	Alice Springs	44.63	256	P	P	09 53 25.1	-0.3
	1.9nm,0.6s,mb3.7,baz=95,slow=7.9,SNR=39						
ASAR				PcP	PcP	09 54 58.9	+0.9
	0.5nm,0.5s,baz=101,slow=3.8,SNR=8.1						
WB2	Warramunga Arr	44.67	262	eP	P	09 53 25.2	-0.5
WRAB	Tennant Creek	44.67	262	eP	P	09 53 25.4	-0.3
	1.5nm,0.6s,mb3.6						
WRA	Warramunga Arr	44.68	262	P	P	09 53 25.4	-0.4
	1.0nm,0.3s,mb3.7,baz=97,slow=7.7,SNR=66						
KAKA	Kakadu	48.04	271	eP	P	09 53 53.7	+2.1
	5.1nm,0.8s,mb3.9						
MBWA	Marble Bar	57.96	257	eP	P	09 55 01.3	-1.2
	5.3nm,0.9s,mb3.9						
QSPA	South Pole Qui	69.92	180	eP	P	09 56 18.2	+0.6
	1.4nm,0.6s,mb3.7						
NEN	Nelson	81.53	47	eP	P	09 57 22.2	-0.2
AKASG	Malin Array Be	142.72	331	PKP	PKPdf	10 04 34.2	+2.3
	2.0nm,0.5s,baz=41,slow=4.4,SNR=13						

DJA 16 09:50:47.7±0.3, 6.40S×105.55E, h2^{km}, MD4.0/2, ML3.6/1, 1C-3D, Error ellipse: s-maj=6.9km s-min=5.5km az=102.0, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PASI	Pasiripis	0.29	173	ePn	Pn	09 50 54.6	-3.8
	643nm,0.1s						
PASI				⇓iSn	Sn	09 51 01.7	-3.7
PULI	Pulasari	0.42	83	⇓iPn	Pn	09 50 58.3	-2.1
PULI				⇑iSn	Sn	09 51 08.0	-0.8
PENI	Pendagan	0.91	335	⇓iPn	Pn	09 51 04.5	-2.8
	107nm,0.2s						

IDC 16 09:50:57.5±0.9, 54.72S×28.15W, mb4.4/5, mb1 4.4/5, mb1mx4.1/13, MS4.0/11, Ms1 3.9/11, ms1mx3.9/15, Error ellipse: s-maj=38.1km s-min=20.6km az=24.0
NEIC 16 09:50:58.7±0.5, 55.05S×28.41W, h10^{km}, mb4.5/6, Error ellipse: s-maj=14.7km s-min=9.8km az=58.0

ISC 16 09:51:01.9±5.0, 55.0S±0.1×28.4W±0.2, h52^{km}±48^{km}, n29, σ1^{s}33/16, mb4.4/10, MS4.0/11, 1C-3D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA1	Neumayer--Stat	18.07	158	⇑iP	P	09 55 12.0	+1.5
VNA1				e		09 55 22.2	
VNA3	Neumayer Olymp	18.26	161	e	P	09 55 22.9	+10
VNA3	Neumayer Olymp	18.26	161	⇓iP	P	09 55 13.0	+0.3
VNA3				e		09 55 22.9	
VNA2	Neumayer--Watz	18.47	158	⇓iP	P	09 55 14.1	-1.2
VNA2				e		09 55 24.3	
SNAA	Sanae	20.03	156	⇓iP	P	09 55 29.3	-3.4
SNAA				e		09 55 39.5	
PMSA	Palmer Station	20.11	227	eP	P	09 55 32.1	-1.5
	11nm,0.7s						
USHA	Ushuaia	22.80	254	P	P	09 56 03.6	+3.0
	6.8nm,0.9s,mb4.1,baz=96,slow=9.2,SNR=2.9						
USHA				LR	LR	10 01 42.0	
	comp=Z,178nm,20.9s,MS3.5,baz=270,slow=28						
PLCA	Paso Flores	31.12	280	LR	LR	10 09 01.7	
	comp=Z,163nm,21.8s,MS3.6,baz=142,slow=35						
QSPA	South Pole Qui	35.29	180	eP	P	09 57 52.8	-0.4
	4.8nm,0.6s,mb4.6						
CPUP	Villa Florida	35.56	312	P	P	09 57 55.8	-0.2
	4.8nm,0.8s,mb4.5,baz=151,slow=6.4,SNR=8.7						
CPUP				LR	LR	10 11 15.3	
	comp=Z,157nm,19.7s,MS3.8,baz=176,slow=34						
SUR	Sutherland	41.06	77	P	P	09 58 40.6	-1.2
	6.5nm,1.1s,mb4.2,baz=182,slow=11,SNR=2.8						
MAW	Mawson	41.45	145	P	P	09 58 45.9	+1.4
	3.8nm,0.8s,mb4.1,baz=233,slow=9.0,SNR=13						
MAW				LR	LR	10 16 48.7	
	comp=Z,131nm,18.3s,MS3.8,baz=124,slow=37						
BDFB	Brasilia	42.07	331	LR	LR	10 12 53.3	
	comp=Z,102nm,18.3s,MS3.7,baz=317,slow=31						
SBA	Scott Base	47.12	184	P	P	09 59 31.2	+1.3
	2.5nm,0.8s,mb4.2						
LPAZ	La Paz	49.17	306	P	P	09 59 47.6	+1.0
	5.0nm,0.7s,mb4.7,baz=170,slow=5.4,SNR=9.8						
LPAZ				LR	LR	10 21 40.2	
	comp=Z,57nm,18.0s,MS3.6,baz=111,slow=38						
TSUM	Tsumeb	49.79	63	eP	P	09 59 52.4	+1.1
	4.9nm,0.9s,mb4.5						
SAML	Samuel	53.53	316	eP	P	10 00 18.2	-1.3
	5.2nm,0.8s,mb4.5						
CASY	Casey	55.17	161	eP	P	10 00 29.6	-1.3
	3.9nm,0.8s,mb4.5						
ROSC	El Rosal	70.66	311	LR	LR	10 33 05.1	
	comp=Z,63nm,18.9s,MS3.9,baz=174,slow=36						
RPZ	Rata Peaks	80.31	194	LR	LR	10 33 27.3	
	comp=Z,411nm,18.5s,MS4.8,baz=269,slow=32						
STKA	Stephens Creek	93.09	172	LR	LR	10 45 55.1	
	comp=Z,201nm,19.6s,MS4.6,baz=106,slow=35						
ESDC	Sonseca Array	96.56	19	LR	LR	10 42 02.6	
	comp=Z,60nm,21.8s,MS4.0,slow=32						
VAE	Valguarnera	99.12	33	LR	LR	10 44 21.1	
	comp=Z,84nm,18.2s,MS4.3,baz=313,slow=32						
MKAR	Makanchi Array	137.20	71	PKP	PKPdf	10 10 22.8	+4.2
	0.8nm,1.0s,baz=135,slow=2.0,SNR=2.8						
INK	Inuvik	144.51	322	PKP	PKPdf	10 10 32.2	+1.4
	5.9nm,1.0s,baz=136,slow=3.2,SNR=4.4						
ILAR	Eielson Array	148.86	313	PKPbc	PKPdf	10 10 44.8	+6.7
	5.0nm,0.9s,baz=133,slow=1.4,SNR=38						
COLA	College	149.28	313	ePKPbc	PKPdf	10 10 46.2	+7.4
MCK	McKinley	149.53	311	ePKPbc	PKPdf	10 10 45.7	+6.5
SONM	Songino Array	151.35	85	PKPbc	PKPdf	10 10 51.6	+9.1
	1.7nm,0.6s,baz=224,slow=2.3,SNR=8.8						

CASC 16 09:51:58.3±2.9, 10.41N×86.28W, h20^{km}±13^{km}, MD4.0
IDC 16 09:51:58.1±2.6, 11.50N×85.09W, mb3.5/3, mb1 4.0/3, mb1mx3.7/19, MS3.4/1, Ms1 3.4/1, ms1mx2.9/19, Error ellipse: s-maj=124.0km s-min=11.6km az=76.0

ISC 16 09:51:58.5±1.6, 10.42N±0.06×86.23W±0.09, h24^{km}±14^{km}, n32, σ0^{s}95/38, mb3.4/3, MS3.4/1, 2C-2D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VCR	Vista de Mar	0.66	116	eP	Pb	09 52 10.4	-0.9
JCR	Jicaral	1.24	117	eP	Pn	09 52 19.1	-1.5
JTS	JuntasAbangare	1.27	96	Pg	Pn	09 52 19.8	-1.1
	14nm,0.3s,baz=282,slow=9.2,SNR=51						
JTS				Lg		09 52 38.8	
	36nm,0.3s,baz=193,slow=19,SNR=9.7						
APON	Apoyo	1.50	6	eP	Pn	09 52 26.5	+2.2
FORC	Fortuna	1.54	88	eP	Pn	09 52 27.4	+2.6
CRUN	El Crucero	1.56	358	eP	Pn	09 52 22.5	-2.6
TICN	Ticuantepe	1.60	0	⇓eP	Pn	09 52 26.5	+0.7
MGAN	Managua	1.72	360	⇑eP	Pn	09 52 27.7	+0.3
MGAN				eS	Sn	09 52 49.2	+0.4
XAVN	Gruta Xavier	1.72	357	eP	Pn	09 52 28.1	+0.6
WILN	Americas 2	1.73	1	eP	Pn	09 52 29.2	+1.5
COPN	Copaltepe	1.78	349	eP	Pn	09 52 28.6	+0.2
COPN				eS	Sn	09 52 49.3	-1.2
CGA2	Cerro Gallo 2	1.79	103	eP	Pn	09 52 27.8	-0.6
APYN	Apoyeque	1.81	356	⇓eP	Pn	09 52 29.3	+0.6
APYN				eS	Sn	09 52 51.0	-0.1
PRS1	Puriscal	1.94	103	eP	Pn	09 52 29.9	-0.7
MOMJ	Momotombo	2.00	351	eP	Pn	09 52 31.6	+0.1
MIRN	Miramar	2.06	347	eP	Pn	09 52 32.0	-0.4
MIRN				eS	Sn	09 52 57.0	-0.5
LEON	Leon	2.09	342	eP	Pn	09 52 32.7	-0.1
LEON				eS	Sn	09 52 58.2	0.0
PYTN	Playitas	2.11	5	⇑eP	Pn	09 52 33.0	-0.1
CNGN	Cerro Negro	2.12	348	eP	Pn	09 52 33.3	+0.1
CNGN				eS	Sn	09 52 58.4	-0.5
LAJ	Bijagual	2.15	105	eP	Pn	09 52 28.4	-5.2
SJS	Escuela Geolog	2.20	102	eP	Pn	09 52 34.7	+0.4
TELN	Telica	2.25	345	eP	Pn	09 52 35.1	+0.1
TELN				eS	Sn	09 53 01.9	-0.5
LCR2	La Lucha 2	2.30	107	eP	Pn	09 52 35.9	+0.1
TRTC	Tortuguero	2.48	86	eP	Pn	09 52 37.4	-1.0
URSC	Urasca	2.48	103	eP	Pn	09 52 39.0	+0.5
BUS	Buena Vista	2.58	109	eP	Pn	09 52 41.3	+1.5
LIO	Limon	3.17	97	eP	Pn	09 52 48.5	+0.3
ACR	Cerro Adams	3.50	120	eP	Pn	09 52 52.8	+0.1
TXAR	Lajitas Array	24.89	322	P	P	09 57 21.5	+0.3
	0.9nm,0.6s,mb3.5,baz=137,slow=10.0,SNR=13						
TXAR				PcP	PcP	10 00 58.9	+1.2
	0.2nm,0.9s,baz=117,slow=8.4,SNR=3.6						
SADO	Sadowa	34.77	9	LR	LR	10 12 20.6	
	comp=Z,58nm,18.4s,MS3.4,baz=253,slow=36						
PDAR	Pinedale Array	38.12	332	P	P	09 59 15.5	-2.0
	0.3nm,0.7s,mb3.1,baz=124,slow=6.5,SNR=3.5						
NVAR	Mina Array Bea	40.01	320	P	P	09 59 34.8	+1.5
	1.0nm,0.9s,mb3.6,baz=134,slow=8.5,SNR=7.7						
NVAR				PcP	PcP	10 01 40.6	+1.8
	0.4nm,0.6s,baz=127,slow=4.5,SNR=4.1						

IDC 16 09:56:45.6±0.8, 14.75N×147.10E, mb4.3/12, mb1 4.4/12, mb1mx4.2/22, Error ellipse: s-maj=25.3km s-min=16.4km az=92.0
NEIC 16 09:56:51.5±1.2, 14.75N×147.04E, h39^{km}±9^{km}, mb4.7/7, Error ellipse: s-maj=14.3km s-min=7.2km az=93.0

ISC 16 09:56:49.8±2.1, 14.74N±0.07×147.1E±0.2, h43^{km}±14^{km}, n32, σ0^{s}99/27, mb4.4/18, 3C, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SAPN	Saipan	1.41	290	⇑iP	P	09 57 13.9	+0.3
ANA2	Anatahan	2.10	319	⇑eP	P	09 57 24.0	+0.8
ANA2				eS	S	09 57 54.6	+6.5
ANAT	Anatahan	2.14	319	eP	P	09 57 23.9	+0.1
SARN	Sarigan	2.35	326	⇑eP	P	09 57 26.6	-0.2
GUMO	Guam	2.48	243	ePn	P	09 57 27.6	-1.0
JOW	Kunigami	21.31	307	P	P	10 01 34.9	-0.2
	12nm,0.4s,mb4.6,baz=136,slow=14,SNR=16						
JNU	Nakatsue	23.51	324	P	P	10 01 57.2	+0.5
	9.8nm,0.6s,mb4.4,baz=98,slow=14,SNR=4.0						
ASAJ	Asahikawa	29.53	353	P	P	10 02 51.2	-1.1
	3.9nm,0.4s,mb4.5,baz=180,slow=10,SNR=4.6						
WB2	Warramunga Arr	36.69	200	eP	P	10 03 55.6	+0.9
WRA	Warramunga Arr	36.69	200	P	P	10 03 54.1	-0.6
	5.2nm,1.4s,mb4.2,baz=24,slow=9.2,SNR=12						
FITZ	Fitzroy Crossi	38.91	214	eP	P	10 04 13.5	+0.3
	1.2nm,0.6s,mb3.8						
FITZ	Fitzroy Crossi	38.91	214	P	P	10 04 13.1	-0.1
	2.5nm,0.7s,mb4.0,baz=7.6,slow=13,SNR=7.4						
ASAR	Alice Springs	40.31	199	P	P	10 04 24.8	0.0
	0.8nm,1.0s,mb3.4,baz=24,slow=6.3,SNR=7.5						
CMAR	Chiang Mai Arr	46.23	282	P	P	10 05 13.1	+0.1
	3.0nm,0.9s,mb4.2,baz=79,slow=5.8,SNR=9.2						
SONM	Songino Array	47.09	323	P	P	10 05 18.8	-0.5
	3.2nm,0.6s,mb4.4,baz=137,slow=7.5,SNR=18						
PKI	Pulchoki	58.45	293	eP	P	10 06 47.5	+3.6
	9.8nm,0.8s,mb4.9						
KKN	Kakani	58.56	294	eP	P	10 06 47.8	+3.1
	3.0nm,0.3s,mb4.8						
DMN	Daman	58.71	293	eP	P	10 06 49.7	+3.9
	11nm,0.5s,mb5.2						
GKN	Gorkha	59.12	294	eP	P	10 06 48.7	+0.1
KOLN	Koldanda	60.05	294	eP	P	10 06 54.7	-0.3
	11nm,0.8s,mb4.9						
MKAR	Makanchi Array	62.20	315	P	P	10 07 08.8	-0.5
	4.7nm,0.5s,mb4.9,baz=91,slow=8.3,SNR=64						
KURK	Kurchatov	65.13	319	eP	P	10 07 27.0	-1.4
	8.3nm,0.9s,mb4.8						
ILAR	Eielson Array	66.59	25	P	P	10 07 37.0	-0.5
	0.7nm,0.8s,mb3.7,baz=256,slow=5.1,SNR=7.9						
ZRNK	Zerenda	71.23	321	eP	P	10 08 05.1	-1.2
	3.2nm,0.6s,mb4.4						
NVAR	Mina Array Bea	84.49	52	P	P	10 09 22.6	+2.9
	0.3nm,0.6s,mb3.6,baz=261,slow=3.5,SNR=3.9						
ARCES	ARCESS Array B	86.66	343	P	P	10 09 30.6	+1.0
	4.1nm,0.8s,mb4.7,baz=14,slow=5.0,SNR=3.5						
DBIC	Dimbokro	145.01	306	PKP	PKPdf	10 16 24.9	+1.4
	3.7nm,0.6s,baz=258,slow=0.8,SNR=7.9						
KIC	Kosan Boka	145.11	305	ePKP1	PKPbc	10 16 24.9	+0.9
	24nm,1.0s						
TIC	Toumodi	145.16	306	ePKP1	PKPbc	10 16 25.0	+0.9
	5.9nm,0.3s						
LIC	Lamto	145.41	305	ePKP1	PKPbc	10 16 26.0	+1.3
	45nm,1.4s						
LPAZ	La Paz	146.01	97	PKPbc	PKPbc	10 16 28.9	+2.8
	1.4nm,0.3s,baz=21,slow=0.3,SNR=1.8						
LPAZ	La Paz	146.01	97	PKPbc	PKPbc	10 16 28.9	+2.8

DJA 16 10:05:05.8±1.3, 5.14S×105.64E, h106^{km}±15^{km}, MD4.3/2, ML3.9/1, 4C-1D, Error ellipse: s-maj=53.0km s-min=23.3km az=64.0, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PENI	Pendagan	0.63	227	⇓iPn	P	10 05 23.0	-0.3
	274nm,0.2s						
PENI				⇑eSn	S	10 05 35.4	-1.1
PULI	Pulasari	1.25	164	⇑ePn	P	10 05 29.5	-0.3
	138nm,0.1s						
PASI	Pasiripis	1.54	182	⇑iPn	P	10 05 32.7	-0.6
PASI				⇑eSn	S	10 05 52.7	-1.2

NEIC 16 10:25:21.7±2.3, 33.49S×178.95W, h56^{km}±17^{km}, mb5.0/12, Error ellipse: s-maj=23.2km s-min=13.9km az=218.0
SYO 16 10:25:21.0, 33.51S×178.82W, h54^{km}, MB4.9
IDC 16 10:25:24.9±2.8, 33.45S×179.13W, h79^{km}±23^{km}, mb4.2/7, mb1 4.4/9, mb1mx4.2/16, Error ellipse: s-maj=24.3km s-min=16.4km az=164.0

ISC 16 10:25:23.1±1.4, 33.61S±0.06×179.7W±0.1, h44^{km}±11^{km}, n79, σ1^{s}33/78, mb4.7/16, 4C-5D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	Matakaoa Point	4.28	202	P	P	10 26 30.0	+2.5
MXZ	Matakaoa Point	4.28	202	eP	P	10 26 30.5	+3.0
PUZ	Puketiti	4.77	200	P	P	10 26 35.6	+1.3
PUZ				S	S	10 27 37.0	+8.0
PUZ	Puketiti	4.77	200	eP	P	10 26 35.6	+1.3
PUZ				S	S	10 27 37.0	+8.0
MWZ	Matawai	5.24	205	P	P	10 26 41.9	+1.0
MWZ				S	S	10 27 48.8	+7.9
MWZ	Matawai	5.24	205	eP	P	10 26 42.1	+1.2
MWZ				S	S	10 27 48.8	+7.9
URZ	Urewera	5.33	208	P	P	10 26 45.2	+3.0
	14nm,0.3s,baz=49,slow=1.8,SNR=46						
URZ				S	S	10 27 49.8	+6.6
	7.6nm,0.3s,baz=70,slow=19,SNR=3.9						
URZ	Urewera	5.33	208	P	P	10 26 43.4	+1.2

URZ	**Urewera**	5.33	208	eP	P	10 26 43.4	+1.2
WCZ	**Waipu Caves**	5.45	243	P	P	10 26 50.5	+6.6
WCZ	**Waipu Caves**	5.45	243	eP	P	10 26 50.8	+6.9
OUZ	**Omahuta**	5.80	252	P	P	10 26 55.4	+6.7
OUZ	**Omahuta**	5.80	252	P	P	10 26 55.3	+6.6
KNZ	**Kokohu**	5.82	201	P	P	10 26 48.9	-0.1
KNZ				S	S	10 27 56.8	+1.5
KNZ	**Kokohu**	5.82	201	eP	P	10 26 48.9	-0.1
HIZ	**Hauiti**	6.61	221	P	P	10 27 05.6	+5.5
MOVZ	**Moawhango**	6.87	211	eP	P	10 27 04.8	+1.1
PWZ	**Pawanui**	6.99	202	P	P	10 27 03.9	-1.6
PWZ				S	S	10 28 25.5	+1.0
PWZ	**Pawanui**	6.99	202	eP	P	10 27 03.9	-1.6
PWZ				S	S	10 28 25.5	+1.0
MRZ	**Mangatainoka R**	8.00	207	P	P	10 27 17.7	-1.8
MRZ				S	S	10 28 49.9	+0.3
MRZ	**Mangatainoka R**	8.00	207	eP	P	10 27 17.7	-1.8
MRZ				S	S	10 28 49.9	+0.3
KIW	**Kapiti Island**	8.44	209	P	P	10 27 23.3	-2.2
KIW				S	S	10 29 01.0	+0.6
CAW	**Cannon Point**	8.58	208	P	P	10 27 25.4	-2.1
CAW	**Cannon Point**	8.58	208	eP	P	10 27 25.4	-2.1
SNZO	**South Karori**	8.90	209	ePn	P	10 27 29.2	-2.7
SNZO				eSn	S	10 29 11.0	-0.8
BSWZ	**Blackbirch Sta**	9.57	210	eP	P	10 27 39.3	-1.9
THZ	**Tophouse**	10.04	214	P	P	10 27 44.2	-3.4
THZ				S	S	10 29 39.9	-0.2
THZ	**Tophouse**	10.04	214	eP	P	10 27 44.3	-3.3
KHZ	**Kahutara**	10.30	209	P	P	10 27 47.1	-4.0
KHZ				S	S	10 29 43.2	-3.0
KHZ	**Kahutara**	10.30	209	eP	P	10 27 47.1	-4.0
MQZ	**McQueen’s Vall**	11.73	208	S	S	10 30 12.7	-8.4
RPZ	**Rata Peaks**	12.42	213	P	P	10 28 15.7	-4.1
	1.9nm,0.3s,baz=176,slow=6.2,SNR=11						
RPZ				S	S	10 30 31.0	-6.7
	1.0nm,0.3s,baz=104,slow=15,SNR=4.3						
TAU	**Tasmania Unive**	27.39	240	P	P	10 31 07.4	+1.1
	41nm,1.2s,mb4.8						
STKA	**Stephens Creek**	32.51	262	P	P	10 31 52.5	+0.7
	1.0nm,0.7s,mb3.9,baz=85,slow=20,SNR=3.9						
STKA				PcP	PcP	10 34 33.2	-4.7
	0.6nm,0.4s,baz=116,slow=4.6,SNR=2.5						
CTA	**Charters Tower**	33.09	285	⇓iP	P	10 31 58.4	+1.4
	7.2nm,0.4s,mb5.0						
CTA	**Charters Tower**	33.09	285	P	P	10 31 58.4	+1.4
	7.2nm,0.4s,mb4.9,baz=110,slow=11,SNR=19						
CTAO	**Charters Tower**	33.09	285	eP	P	10 31 58.0	+1.0
	9.3nm,0.5s,mb5.0						
ASAR	**Alice Springs**	41.64	271	P	P	10 33 09.3	+0.5
	6.5nm,0.5s,mb4.5,baz=110,slow=7.5,SNR=152						
ASAR				PcP	PcP	10 35 01.4	-4.4
	0.8nm,0.5s,baz=122,slow=3.8,SNR=5.1						
ASAR				S	S	10 39 22.9	+0.9
	0.4nm,0.9s,baz=115,slow=15,SNR=2.8						
ASAR				PKiKP		10 42 07.3	
	0.3nm,0.6s,baz=105,slow=1.3,SNR=4.9						
ASPA	**Alice Springs**	41.65	271	eP	P	10 33 09.3	+0.4
WB2	**Warramunga Arr**	42.92	277	⇓iP	P	10 33 19.3	0.0
WRAB	**Tennant Creek**	42.92	277	eP	P	10 33 19.1	-0.2
	13nm,0.4s,mb5.0						
WRA	**Warramunga Arr**	42.93	276	P	P	10 33 19.3	-0.2
	6.5nm,0.4s,mb4.8,baz=116,slow=7.9,SNR=169						
WRA				PKiKP		10 42 08.8	
	0.3nm,0.7s,baz=143,slow=0.3,SNR=5.6						
FORT	**Forrest**	43.95	259	eP	P	10 33 28.1	+0.5
	39nm,0.6s,mb5.3						
SBA	**Scott Base**	44.75	184	eP	P	10 33 35.5	+2.1
	13nm,1.5s,mb4.5						
KAKA	**Kakadu**	48.24	284	eP	P	10 34 02.0	+0.3
	7.6nm,0.6s,mb4.9						
FITZ	**Fitzroy Crossi**	51.03	273	eP	P	10 34 22.3	-0.8
	4.2nm,0.5s,mb4.6						
FITZ	**Fitzroy Crossi**	51.03	273	P	P	10 34 22.3	-0.7
	4.1nm,0.5s,mb4.6,baz=172,slow=7.2,SNR=25						
CASY	**Casey**	51.66	209	eP	P	10 34 25.6	-1.5
	20nm,0.9s,mb5.0						
MBWA	**Marble Bar**	54.55	267	eP	P	10 34 46.6	-2.6
	8.3nm,1.1s,mb4.7						
QSPA	**South Pole Qui**	56.51	180	eP	P	10 35 03.3	+0.7
	11nm,0.6s,mb5.1						
MAW	**Mawson**	68.82	201	P	P	10 36 23.7	-0.5
	2.1nm,0.5s,mb4.3,baz=141,slow=6.8,SNR=12						
SYO	**Syowa Base**	73.68	194	⇓P	P	10 36 51.5	-1.8
SYO	**Syowa Base**	73.68	194	⇓PcP	PcP	10 37 02.2	-7.0
SNAA	**Sanae**	74.99	179	e	P	10 37 05.6	+4.8
SNAA	**Sanae**	74.99	179	⇑iP	P	10 36 59.2	-1.6
SNAA				eP		10 36 59.3	
SNAA				e		10 37 05.6	
VNA3	**Neumayer Olymp**	75.20	177	e	P	10 37 08.9	+6.8
VNA3	**Neumayer Olymp**	75.20	177	⇑iP	P	10 37 02.9	+0.8
VNA3				e		10 37 08.9	
VNA2	**Neumayer--Watz**	75.62	177	e	P	10 37 11.3	+6.9
VNA2	**Neumayer--Watz**	75.62	177	⇑iP	P	10 37 05.3	+0.9
VNA2				e		10 37 11.3	
VNA1	**Neumayer--Stat**	75.86	177	e	P	10 37 12.7	+6.9
VNA1	**Neumayer--Stat**	75.86	177	⇓iP	P	10 37 07.1	+1.3
VNA1				e		10 37 12.7	
YSS	**Yuzh-Sakhalins**	87.03	335	P	P	10 38 00.4	-4.4
	18nm,1.5s,mb5.1						
NVAR	**Mina Array Bea**	91.54	44	P	P	10 38 21.2	-5.0
	0.5nm,0.8s,mb3.9,baz=232,slow=8.5,SNR=3.6						
ILAR	**Eielson Array**	101.36	14	P	P	10 39 05.0	-5.3
	0.2nm,0.6s,baz=219,slow=6.5,SNR=6.4						
MKAR	**Makanchi Array**	118.72	309	PKP	PKPdf	10 44 02.5	-3.8
	0.3nm,0.4s,baz=225,slow=1.7,SNR=6.4						
MKAR	**Makanchi Array**	118.72	309	PKP	PKPdf	10 44 02.5	-3.8
ARCES	**ARCESS Array B**	141.38	346	PKhKP		10 44 40.6	
	2.4nm,0.7s,slow=2.4,SNR=6.5						
KAF	**Kangasniemi**	147.03	338	epkp	PKPdf	10 44 55.4	-2.7
	baz=42,slow=2.7						
FINES	**FINESS Array B**	147.60	337	PKPbc	PKPdf	10 44 58.7	-0.3
	13nm,0.6s,baz=45,slow=4.2,SNR=74						
FINES	**FINESS Array B**	147.60	337	PKPbc	PKPdf	10 44 58.7	-0.3
NB2	**NORSAR Subarra**	151.66	349	PKP	PKPdf	10 45 08.7	+3.3
	6.2nm,0.5s,baz=15,slow=2.6						
NB2	**NORSAR Subarra**	151.66	349	⇑PKPab	PKPdf	10 45 08.7	+3.3
NOA	**NORSAR Array B**	151.66	349	PKPbc	PKPdf	10 45 08.9	+3.5
	5.0nm,0.5s,baz=14,slow=4.1,SNR=24						
LIC	**Lamto**	152.30	168	eP	PKPdf	10 45 13.4	+5.6
	36nm,0.8s						
KIC	**Kosan Boka**	152.48	169	eP	PKPdf	10 45 15.0	+7.0
	65nm,1.1s						
BRTR	**Keskin Array B**	152.70	293	PKPbc	PKPdf	10 45 12.4	+4.8
	1.5nm,0.5s,baz=111,slow=3.1,SNR=8.9						
TIC	**Toumodi**	152.72	168	eP	PKPdf	10 45 14.2	+5.8
	21nm,0.8s						
DBIC	**Dimbokro**	152.77	169	PKPbc	PKPdf	10 45 14.7	+6.2
	3.1nm,0.9s,baz=259,slow=1.5,SNR=4.0						
AKASG	**Malin Array Be**	152.85	318	PKPbc	PKPdf	10 45 11.8	+4.3
	0.6nm,0.3s,baz=57,slow=2.0,SNR=6.7						

GUC 16 10:32:20.0±0.8, 35.11S×70.63W, h3^{km}, MD3.6, ML2.6, 2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFDO	**San Fernando**	0.59	327	⇓iP	Pg	10 32 32.0	+0.3
SFDO				i S	Sg	10 32 40.8	+1.2
CICH	**Cipreses**	0.81	12	⇓iP	Pg	10 32 35.4	-0.7
CICH				i S	Sg	10 32 47.4	+0.5
CACH	**El Canelo**	0.99	1	eP	Pb	10 32 38.5	-1.0
CACH				i S	Sb	10 32 52.9	+0.2
CHCH	**Chadas Angostu**	1.17	359	eP	Pb	10 32 42.1	-0.5
LMEL	**Las Melosas**	1.31	16	eP	Pb	10 32 43.9	-1.0
LMEL				i S	Sb	10 33 02.8	+0.9
LMEL				AMP		10 33 05.2	
	comp=N,128nm,0.1s						
LNV	**Longovilo**	1.32	330	eP	Pb	10 32 44.3	-0.7
LNV				i S	Sb	10 33 03.0	+0.8
TACH	**Talagante**	1.48	350	i P	Pn	10 32 47.2	-0.3
RCDM	**Rinconada Maip**	1.62	355	eP	Pn	10 32 49.7	0.0
RCDM				i S	Sb	10 33 12.2	+1.2
RCDM				AMP		10 33 13.6	
	comp=E,263nm,0.1s						
FCH	**Farellones**	1.80	9	eP	Pn	10 32 53.0	+0.9
FCH				i S	Sn	10 33 18.0	+2.2
FCH				AMP		10 33 27.2	
	comp=N,105nm,0.3s						

MAN 16 10:33:58.1, 10.11N×126.10E, h1^{km}, mb4.4, ML3.3, MS3.1, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCPH	**Surigao**	0.68	241	i P	Pg	10 34 11.6	-0.1
SCPH				i S	Sg	10 34 21.6	+0.8
MSLP	**Maasin**	1.22	271	eP	Pb	10 34 22.1	+0.5
MSLP				eS	Sb	10 34 40.2	+2.5
BUTP	**Butuan**	1.23	202	eP	Pb	10 34 23.0	+1.2
BUTP				eS	Sb	10 34 39.7	+1.7
BESP	**Borongan**	1.61	336	eP	Pn	10 34 29.0	+1.1
BESP				eS	Sb	10 34 53.0	+3.8
TBP	**Tagbilaran**	2.24	259	eP	Pn	10 34 36.3	-0.5
TBP				eS	Sn	10 35 05.4	-0.2
BUKP	**Musuan**	2.44	205	eP	Pn	10 34 39.9	+0.1
BUKP				eS	Sn	10 35 11.0	+0.4
CNP	**Catarman**	2.77	330	eP	Pn	10 34 44.0	-0.3
PAGZ	**Pagadian**	3.50	230	eP	Pn	10 34 54.9	+0.1

*NEIC **16** 10:49:57.1, 17.03N×94.56W, h138^{km}, MD3.9(MEX), After MEX.*

MEX 16 10:49:57.3±0.8, 17.03N×94.60W, h138^{km}±8^{km}, MD3.9, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	0.28	283	eP	P	10 50 15.0	-1.8
CMIG				eS	S	10 50 28.4	-3.2
SCX	**San Cristobal**	1.90	98	eP	P	10 50 30.0	-0.9
SCX				i S	S	10 50 54.0	-2.6
HUIG	**Huatulco**	1.91	229	i P	P	10 50 28.4	-2.6
HUIG				i S	S	10 50 55.1	-1.7
OXX	**Oaxaca**	2.03	272	eP	P	10 50 30.3	-2.1
OXX				eS	S	10 50 57.0	-2.3
VHO	**Vista Hermosa**	2.04	272	eP	P	10 50 31.9	-0.7
VHO				i S	S	10 50 58.0	-1.6
IISM	**Ciudad Serdan**	3.28	307	eP	P	10 50 46.0	-2.7
IISM				eS	S	10 51 26.0	-1.9
IISM	**Ciudad Serdan**	3.28	307	eP	P	10 50 45.0	-3.7
IISM				eS	S	10 51 15.0	-13
PPM	**Popocatepetl**	4.33	298	eP	P	10 51 02.0	-0.6

*IDC **16** 10:55:40.9±1.7, 9.96S×124.72E, mb3.7/1, mb1 3.4/4, mb1mx3.3/12, ML3.0/2, Error ellipse: s-maj=82.6km s-min=23.1km az=65.0*

ISC 16 10:55:39.8±4.2, 10.0S±0.1×124.8E±0.2, h7^{km}±28^{km}, n4, σ1$\overset{s}{.}$43/6, mb3.7/1, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	8.14	174	Pn	P	10 57 40.7	-0.5
	0.1nm,0.3s,baz=355,slow=13,SNR=5.8						
FITZ				Sn	Sn	10 59 14.4	0.0
	0.1nm,0.3s,baz=357,slow=23,SNR=4.4						
WRA	**Warramunga Arr**	13.55	138	Pn	P	10 58 54.2	-1.0
	0.1nm,0.3s,baz=314,slow=15,SNR=7.8						
WRA				Sn	S	11 01 27.0	-0.1
	0.0nm,0.3s,baz=17,slow=29,SNR=2.9						
ASAR	**Alice Springs**	16.18	149	Pn	P	10 59 31.2	+1.8
	baz=319,slow=11,SNR=5.5						
MKAR	**Makanchi Array**	68.02	330	P	P	11 06 42.0	-0.1
	0.3nm,0.4s,mb3.7,baz=154,slow=8.4,SNR=7.9						

*NEIC **16** 10:58:05.1, 35.23S×70.39W, h13^{km}, ML2.5(GUC), After GUC.*

GUC 16 10:58:05.1±0.7, 35.23S×70.39W, h13^{km}, MD3.9, ML2.5, 1C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFDO	**San Fernando**	0.80	320	⇑iP	Pb	10 58 20.0	-0.3
SFDO				i S	Sb	10 58 30.7	0.0
CICH	**Cipreses**	0.90	359	i P	Pb	10 58 21.3	-0.9
CICH				i S	Sb	10 58 34.3	+0.5
CACH	**El Canelo**	1.12	351	⇓iP	Pb	10 58 24.7	-1.1
CACH				i S	Sb	10 58 39.7	-0.4
CHCH	**Chadas Angostu**	1.31	350	eP	Pb	10 58 28.3	-0.8
CHCH				i S	Sb	10 58 45.4	-0.2
LMEL	**Las Melosas**	1.38	7	eP	Pn	10 58 29.6	-0.6
LMEL				i S	Sb	10 58 47.6	-0.1
LMEL				AMP		10 58 56.2	
	comp=N,95nm,0.1s						
LNV	**Longovilo**	1.52	326	⇓iP	Pn	10 58 32.3	+0.1
LNV				i S	Sb	10 58 52.0	+0.2
PCH	**Pirque**	1.60	356	eP	Pn	10 58 33.7	+0.3
TACH	**Talagante**	1.63	344	eP	Pn	10 58 33.7	-0.1
TACH				i S	Sn	10 58 54.9	+0.1
RCDM	**Rinconada Maip**	1.77	349	eP	Pn	10 58 36.1	+0.4
RCDM				i S	Sn	10 58 58.4	+0.2
FCH	**Farellones**	1.90	3	eP	Pn	10 58 38.8	+1.2
FCH				i S	Sn	10 59 04.0	+2.6
FCH				AMP		10 59 07.4	
	comp=E,85nm,0.1s						

*IDC **16** 11:18:08.6±0.8, 55.30S×28.88W, mb4.4/5, mb1 4.4/5, mb1mx4.2/14, MS4.1/10, Ms1 4.0/10, ms1mx3.9/15, Error ellipse: s-maj=37.2km s-min=20.4km az=22.0*

*NEIC **16** 11:18:10.2±0.4, 55.21S×28.84W, h10^{km}, mb4.6/9, Error ellipse: s-maj=16.7km s-min=8.6km az=53.0*

ISC 16 11:18:08.2±0.5, 55.18S±0.10×28.8W±0.2, h10^{km}, n37, σ1$\overset{s}{.}$31/19, mb4.5/13, MS4.1/10, 2C-2D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	17.94	158	⇑i	P	11 22 23.2	+4.2
VNA3	**Neumayer Olymp**	18.11	160	⇓i	P	11 22 24.7	+3.5
VNA2	**Neumayer--Watz**	18.34	158	⇓i	P	11 22 26.1	+2.1
SNAA	**Sanae**	19.90	156	⇑i	P	11 22 40.6	-1.7
SNAA	**Sanae**	19.90	156	eP	P	11 22 40.1	-2.2
	30nm,1.0s						
USHA	**Ushuaia**	22.56	254	P	P	11 23 08.9	-0.5
	9.2nm,1.0s,mb4.2,baz=92,slow=6.2,SNR=2.5						
TRQA	**Tornquist**	28.16	294	eP	P	11 24 02.2	-0.2
	15nm,1.2s,mb4.5						
PLCA	**Paso Flores**	30.98	280	LR	LR	11 35 55.4	
	comp=Z,187nm,19.6s,MS3.8,baz=134,slow=34						
QSPA	**South Pole Qui**	35.08	180	eP	P	11 25 03.7	+0.9
	5.9nm,0.7s,mb4.6						
CPUP	**Villa Florida**	35.57	312	P	P	11 25 06.8	-0.6
	5.8nm,1.0s,mb4.5,baz=157,slow=8.9,SNR=7.1						
CPUP				LR	LR	11 38 56.9	
	comp=Z,150nm,21.0s,MS3.7,baz=176,slow=35						
CPUP	**Villa Florida**	35.57	312	P	P	11 25 06.8	-0.7
SUR	**Sutherland**	41.29	77	P	P	11 25 56.2	+1.0
	6.7nm,0.9s,mb4.3,baz=256,slow=2.6,SNR=2.9						
MAW	**Mawson**	41.38	145	P	P	11 25 54.8	-0.7
	2.9nm,0.8s,mb3.9,baz=264,slow=7.8,SNR=9.3						
MAW				LR	LR	11 40 42.3	
	comp=Z,120nm,20.6s,MS3.8,baz=36,slow=33						
LVC	**Limon Verde**	44.09	301	eP	P	11 26 19.6	+1.5
	7.9nm,0.8s,mb4.5						
SBA	**Scott Base**	46.89	184	P	P	11 26 35.9	-3.8
	7.9nm,1.1s,mb4.6						
LPAZ	**La Paz**	49.15	306	P	P	11 26 59.4	+1.4
	11nm,1.1s,mb4.8,baz=132,slow=1.1,SNR=8.0						
LPAZ				LR	LR	11 46 43.1	
	comp=Z,107nm,19.4s,MS3.9,baz=92,slow=35						
TSUM	**Tsumeb**	50.05	63	P	P	11 27 04.4	-0.5
	5.2nm,1.1s,mb4.5						
SAML	**Samuel**	53.56	316	eP	P	11 27 30.2	-1.2
	14nm,1.2s,mb4.8						
SAML				e		11 27 41.3	
CASY	**Casey**	55.03	161	eP	P	11 27 39.4	-2.1
	8.1nm,1.2s,mb4.6						
DBIC	**Dimbokro**	64.76	26	LR	LR	11 51 06.4	
	comp=Z,86nm,19.1s,MS4.0,baz=94,slow=30						
ROSC	**El Rosal**	70.66	311	LR	LR	11 58 08.8	
	comp=Z,98nm,21.1s,MS4.0,baz=65,slow=34						
SDV	**Santo Domingo**	72.76	316	eP	P	11 29 38.5	0.0
	6.6nm,0.8s,mb4.6						
KMBO	**Kilima Mbogo**	75.57	71	LR	LR	12 01 04.3	
	comp=Z,189nm,18.2s,MS4.4,baz=278,slow=34						
RPZ	**Rata Peaks**	80.05	194	LR	LR	12 03 28.4	
	comp=Z,310nm,18.8s,MS4.7,baz=314,slow=34						
STKA	**Stephens Creek**	92.90	172	LR	LR	12 12 39.9	
	comp=Z,255nm,21.2s,MS4.7,baz=205,slow=35						
ASAR	**Alice Springs**	100.08	164	LR	LR	12 18 40.9	
	comp=Z,67nm,18.7s,MS4.2,baz=193,slow=36						
CMAR	**Chiang Mai Arr**	126.20	111	PKP	PKPdf	11 37 12.8	-1.1
	0.6nm,0.9s,baz=217,slow=4.5,SNR=4.5						
MKAR	**Makanchi Array**	137.45	71	PKP	PKPdf	11 37 33.2	-1.2
	0.4nm,0.8s,baz=270,slow=2.9,SNR=4.0						
MKAR	**Makanchi Array**	137.45	71	PKP	PKPdf	11 37 33.2	-1.2
INK	**Inuvik**	144.56	322	PKP	PKPdf	11 37 43.5	-2.8
	7.2nm,1.2s,baz=115,slow=7.3,SNR=4.4						
INK	**Inuvik**	144.56	322	ePKPdf	PKPdf	11 37 43.4	-2.9
DAWY	**Dawson**	145.55	313	ePKPdf	PKPdf	11 37 46.5	-1.6
SML	**Sawmill**	148.80	307	ePKPdf	PKPdf	11 37 54.6	+1.1
ILAR	**Eielson Array**	148.87	313	PKPbc	PKPdf	11 37 56.2	+2.7
	5.9nm,0.8s,baz=129,slow=1.8,SNR=48						
MCK	**McKinley**	149.53	311	ePKPbc	PKPdf	11 37 57.3	+2.7
SONM	**Songino Array**	151.55	86	PKP	PKPdf	11 37 59.1	+1.0
	2.8nm,0.9s,baz=229,slow=3.6,SNR=14						
SONM				PKPbc	PKPdf	11 38 03.8	+5.6
	2.8nm,0.9s,baz=230,slow=3.1,SNR=15						
MAJO	**Matsushiro**	159.33	149	ePKPdf	PKPdf	11 38 06.1	-2.8
MAJO				ePKPbc	PKPdf	11 38 17.2	+8.3

*IDC **16** 11:39:30.1±3.1, 12.30S×167.12E, h249^{km}±29^{km}, mb3.8/14, mb1 4.0/14, mb1mx3.9/17, Error ellipse: s-maj=17.2km s-min=14.8km az=139.0*

*NEIC **16** 11:39:33.0±2.5, 12.29S×167.10E, h281^{km}±24^{km}, mb4.3/14, Error ellipse: s-maj=10.0km s-min=9.2km az=193.0*

ISC 16 11:39:28.7±0.4, 12.31S±0.08×167.12E±0.09, h250^{km}, n48, σ0$\overset{s}{.}$79/32, mb4.2/28, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	**Charters Tower**	21.46	246	P	P	11 44 00.0	+1.9
	8.7nm,0.9s,mb4.3,baz=92,slow=10.0,SNR=7.4						
CTAO	**Charters Tower**	21.46	246	eP	P	11 44 00.0	+1.9
	11nm,0.9s,mb4.4						
URZ	**Urewera**	27.34	163	P	P	11 44 52.0	-0.8
	8.4nm,0.9s,mb4.4,baz=169,slow=19,SNR=2.4						
STKA	**Stephens Creek**	30.50	226	P	P	11 45 20.1	-0.6
	1.0nm,0.5s,mb3.7,baz=31,slow=9.5,SNR=3.9						
RPZ	**Rata Peaks**	31.48	175	P	P	11 45 29.7	+0.5
	7.3nm,0.8s,mb4.4,baz=347,slow=19,SNR=4.6						
WRAB	**Tennant Creek**	32.34	252	eP	P	11 45 35.7	-1.1
	4.3nm,0.6s,mb4.2						
WB2	**Warramunga Arr**	32.34	252	eP	P	11 45 36.0	-0.8
WRA	**Warramunga Arr**	32.35	252	P	P	11 45 35.9	-1.0
	2.1nm,0.5s,mb3.9,baz=85,slow=9.0,SNR=34						
ASAR	**Alice Springs**	33.47	246	P	P	11 45 45.5	-0.9
	1.8nm,0.5s,mb3.9,baz=71,slow=9.7,SNR=29						
ASAR				pP	pP	11 46 34.1	-2.9
	3.7nm,1.0s,baz=71,slow=9.6,SNR=6.3						
ASAR				sP	sP	11 47 02.4	-3.4
	0.9nm,0.5s,baz=73,slow=9.8,SNR=2.6						
ASAR				ScP		11 51 42.2	
	0.7nm,0.9s,baz=69,slow=5.0,SNR=3.9						
KAKA	**Kakadu**	33.88	266	eP	P	11 45 51.0	+0.9
	3.1nm,0.4s,mb4.2						
TAU	**Tasmania Unive**	34.99	206	eP	P	11 45 59.8	+0.7
	107nm,1.4s,mb5.2						
FITZ	**Fitzroy Crossi**	40.38	257	eP	P	11 46 44.5	+0.4
	1.8nm,0.4s,mb3.9						
MBWA	**Marble Bar**	46.09	252	eP	P	11 47 30.2	+0.3
	2.4nm,0.6s,mb3.7						
MAJO	**Matsushiro**	55.71	332	eP	P	11 48 33.7	-7.7
	12nm,0.8s,mb4.5						
ASAJ	**Asahikawa**	60.43	340	P	P	11 49 14.3	+0.3
	4.4nm,0.6s,mb4.3,baz=204,slow=13,SNR=5.9						
SBA	**Scott Base**	65.54	180	P	P	11 49 46.8	-0.1
	4.9nm,1.1s,mb4.0						
CASY	**Casey**	65.71	202	eP	P	11 49 47.3	-0.7
	1.8nm,0.5s,mb4.0						
QSPA	**South Pole Qui**	77.71	180	eP	P	11 50 59.8	+1.1
	3.3nm,0.8s,mb4.0						
SONM	**Songino Array**	80.47	323	P	P	11 51 14.9	+0.8
	0.9nm,0.7s,mb3.5,baz=141,slow=6.3,SNR=6.4						
PMR	**Palmer**	81.28	20	eP	P	11 51 17.3	-0.7
	7.3nm,0.6s,mb4.5						
MCK	**McKinley**	82.91	18	eP	P	11 51 25.6	-0.7
	3.6nm,0.6s,mb4.3						
YBH	**Yreka Blue Hor**	83.82	45	P	P	11 51 32.5	+1.1
	5.0nm,0.8s,mb4.3,baz=270,slow=1.2,SNR=12						
COLA	**College**	84.06	18	eP	P	11 51 31.3	-0.7
	16nm,0.8s,mb4.8						
ILAR	**Eielson Array**	84.28	18	P	P	11 51 32.7	-0.5
	14nm,0.6s,mb4.9,baz=247,slow=5.2,SNR=349						
NVAR	**Mina Array Bea**	85.81	49	P	P	11 51 42.4	+1.0
	2.2nm,0.8s,mb4.0,baz=237,slow=12,SNR=16						
DAWY	**Dawson**	86.25	21	eP	P	11 51 42.6	-0.3
HLID	**Hailey**	90.19	45	eP	P	11 52 02.7	+0.7
	3.7nm,0.7s,mb4.3						
PDAR	**Pinedale Array**	93.42	47	P	P	11 52 16.7	-0.2
	0.3nm,0.5s,mb3.6,baz=184,slow=2.4,SNR=3.8						
TXAR	**Lajitas Array**	95.25	61	P	P	11 52 25.6	0.0
	0.6nm,0.6s,mb3.9,baz=229,slow=5.9,SNR=8.8						
MKAR	**Makanchi Array**	95.36	317	P	P	11 52 26.2	+0.6
	3.2nm,0.7s,mb4.6,baz=93,slow=6.8,SNR=29						
YKA	**Yellowknife Ar**	95.47	27	P	P	11 52 24.7	-1.1
	1.7nm,0.7s,mb4.3,baz=257,slow=4.6,SNR=4.4						
YKA	**Yellowknife Ar**	95.47	27	P	P	11 52 24.7	-1.1
KEV	**Kevo**	117.36	345	ep	PKPdf	11 57 43.9	0.0
ARCES	**ARCESS Array B**	117.88	346	PKP	PKPdf	11 57 45.7	+0.8
	3.0nm,0.5s,baz=86,slow=2.4,SNR=28						
SCHQ	**Schefferville**	120.36	33	PKP	PKPdf	11 57 50.3	+0.2
	1.0nm,0.4s,baz=129,slow=8.0,SNR=3.2						
KAF	**Kangasniemi**	122.89	339	ep	PKPdf	11 57 55.1	+0.3
FINES	**FINESS Array B**	123.43	339	PKP	PKPdf	11 57 56.9	+1.0
	1.9nm,0.7s,baz=90,slow=3.8,SNR=7.3						
LOR	**Lormes**	142.42	341	ePKIKP	PKPdf	11 58 32.8	+1.3
ORIF	**Oris-en-Rattie**	143.76	337	ePKIKP	PKPdf	11 58 34.3	+0.4
	14nm,0.7s						
SBF	**Sospel**	144.02	335	ePKIKP	PKPdf	11 58 34.3	-0.1
	74nm,0.9s						
MFF	**Saint Martin d**	144.16	345	ePKIKP	PKPdf	11 58 35.2	+0.7
	11nm,0.6s						
VIVF	**Saint-Julien-l**	144.25	338	ePKIKP	PKPdf	11 58 35.9	+1.2
	13nm,0.9s						
PGF	**Pioggiola**	144.38	332	ePKIKP	PKPdf	11 58 35.5	+0.5
	22nm,0.8s						
FRF	**La Foret Royal**	144.59	335	ePKIKP	PKPdf	11 58 36.3	+0.9
	349nm,1.8s						
SMRF	**Simiane la Rot**	144.67	337	ePKIKP	PKPdf	11 58 36.6	+1.1
RJF	**Les Rejaudoux**	144.90	342	ePKIKP	PKPdf	11 58 37.0	+1.1
SJPF	**Ste Jean**	147.69	344	ePKIKP	PKPdf	11 58 41.4	+0.8
	9.7nm,1.1s						
ESDC	**Sonseca Array**	151.62	345	PKPbc	PKPdf	11 58 55.5	+8.7
	1.8nm,0.7s,baz=358,slow=2.6,SNR=6.3						
ESDC				PKPab	PKPab	11 59 04.5	-0.9
	1.1nm,0.5s,baz=14,slow=4.6,SNR=4.6						

MEX 16 11:46:46.7±1.0, 17.09N×100.15W, h14^{km}±12^{km}, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ACX	**Acapulco**	0.32	136	i P	Pg	11 46 52.0	-1.5
ACX				i S	Sg	11 46 58.0	0.0
ZIIG	**Zihuatanejo**	1.36	292	i P	Pn	11 47 08.1	-3.3
ZIIG				i S	Sb	11 47 23.3	-5.2
PLIG	**Platanillo**	1.43	25	i P	Pn	11 47 08.5	-3.9
PLIG				i S	Sb	11 47 26.1	-4.5
YAIG	**Yautepec**	2.04	30	i P	Pn	11 47 17.6	-3.5
YAIG				i S	Sn	11 47 40.3	-6.2
IIZ	**Mezontepec**	2.25	22	i P	Pn	11 47 21.0	-3.2
IIZ				i S	Sn	11 47 45.0	-7.0
PPM	**Popocatepetl**	2.44	36	eP	Pn	11 47 24.0	-2.8
PPM				i S	Sn	11 47 52.0	-4.6
MOIG	**Morelia**	2.75	339	eP	Pn	11 47 29.0	-2.3
MOIG				i S	Sn	11 48 01.6	-3.1

*NEIC **16** 11:53:24.6±1.0, 20.44S×178.69W, h600^{km}, mb4.0/6, Error ellipse: s-maj=25.0km s-min=19.6km az=139.0*

*IDC **16** 11:53:24.4±11.0, 20.69S×178.57W, h603^{km}±117^{km}, mb3.2/5, mb1 3.4/5, mb1mx3.1/14, Error ellipse: s-maj=122.0km s-min=46.8km az=128.0*

ISC 16 11:53:23.1±1.3, 20.5S±0.2×178.7W±0.2, h600^{km}, n13, σ0$\overset{s}{.}$72/12, mb3.9/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	**Charters Tower**	32.85	264	P	P	11 59 11.5	+1.1
	4.6nm,0.4s,mb4.5,baz=100,slow=12,SNR=14						
CTAO	**Charters Tower**	32.85	264	eP	P	11 59 11.4	+1.0
	5.9nm,0.5s,mb4.5						
STKA	**Stephens Creek**	37.21	244	P	P	11 59 46.1	-0.2
	1.3nm,0.4s,mb3.9,baz=108,slow=13,SNR=4.8						
ASAR	**Alice Springs**	43.89	257	P	P	12 00 39.9	+0.2

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	3.1nm,0.7s,mb3.9,baz=96,slow=7.6,SNR=27						
ASAR				PcP	PcP	12 02 12.8	+0.4
	0.4nm,0.6s,baz=113,slow=3.4,SNR=4.6						
WB2	Warramunga Arr	43.95	262	eP	P	12 00 40.1	-0.1
WRAB	Tennant Creek	43.95	262	eP	P	12 00 40.0	-0.2
	7.4nm,0.9s,mb4.2						
WRA	Warramunga Arr	43.96	262	P	P	12 00 40.0	-0.2
	1.2nm,0.3s,mb4.0,baz=97,slow=6.8,SNR=145						
FITZ	Fitzroy Crossi	52.39	263	eP	P	12 01 43.5	+0.6
	0.7nm,0.3s,mb3.5						
MBWA	Marble Bar	57.23	258	eP	P	12 02 16.1	-0.4
	5.3nm,0.7s,mb3.9						
SBA	Scott Base	57.84	184	eP	P	12 02 19.7	-0.3
	0.5nm,0.4s,mb3.0						
MAJO	Matsushiro	69.82	324	P	P	12 03 34.4	-1.7
	28nm,1.2s,mb4.6						
ILAR	Eielson Array	88.44	13	P	P	12 05 14.2	+1.1
	0.3nm,0.5s,mb3.3,baz=229,slow=6.1,SNR=5.4						
AKASG	Malin Array Be	142.69	331	PKP	PKPdf	12 11 48.2	-0.2
	2.1nm,0.4s,baz=37,slow=3.9,SNR=14						

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*BJI **16** 12:13:14.7,25.58N×140.93E,h171^{km},mB4.5,mb4.3*
*IDC **16** 12:13:15.3±1.1,25.62N×141.03E,h167^{km}±12^{km},mb3.5/11,mb1 3.7/13,mb1mx3.5/26,Error ellipse: s-maj=26.4km s-min=11.1km az=87.0*
*NEIC **16** 12:13:16.2±1.6,25.59N×140.98E,h177^{km}±15^{km},mb4.1/7,Error ellipse: s-maj=16.1km s-min=6.2km az=89.0*
*JMA **16** 12:13:17.5±0.1,25.67N×140.67E,h123^{km},M4.5*
ISC 16 12:13:14.8±0.6,25.62N±0.05×141.1E±0.1,h179^{km}±7^{km},n43,σ1^{s}03/54,mb3.9/18,1D,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHHJ	Haha-jima-NKT	1.41	44	P	P	12 13 47.2	+1.0
JHHJ				S	S	12 14 09.9	-0.5
CBIJ	Chichi jima	1.77	34	P	P	12 13 51.0	+1.3
	334nm,0.3s,baz=204,slow=4.6,SNR=431						
CBIJ				S	S	12 14 15.6	-1.2
	300nm,0.3s,baz=277,slow=23,SNR=32						
CBIJ	Chichi jima	1.77	34	P	P	12 13 51.2	+1.5
CBIJ				S	S	12 14 16.5	-0.2
JHJ2	Mitsune	7.55	352	P	P	12 15 04.3	+1.3
JHJ2				eS	S	12 16 23.8	-3.6
JHJ	Hachijo jima 2	7.56	352	P	P	12 15 04.3	+1.2
	11nm,0.3s,baz=76,slow=21,SNR=8.9						
JHJ				S	S	12 16 23.9	-3.8
	3.4nm,0.3s,baz=260,slow=24,SNR=2.3						
BSO1	Boso 1	9.01	359	P	P	12 15 21.6	-0.5
BSO3	Boso 3	9.17	357	P	P	12 15 23.5	-0.7
BSO3				eS	S	12 17 02.5	-2.9
JIM2	Oshima 3	9.18	351	P	P	12 15 24.9	+0.5
BSO4	Boso 4	9.36	356	P	P	12 15 27.1	+0.3
JOD2	Odawara 2	9.77	350	P	P	12 15 33.3	+1.3
JRY	Ryogami san	10.53	350	P	P	12 15 42.3	+0.3
JYT	Yasato	10.60	356	P	P	12 15 42.2	-0.8
JAG	Ashikaga	10.86	353	P	P	12 15 44.8	-1.5
JAG				eS	S	12 17 38.1	-7.1
JHO	Hitachi	10.97	358	P	P	12 15 46.3	-1.4
JHO				S	S	12 17 40.6	-7.0
MAJO	Matsushiro	11.16	348	P	P	12 15 50.9	+0.7
JFK	Kawauchi	11.71	359	eS	S	12 17 58.3	-6.7
JMK	Ichinoseki	13.30	0	P	P	12 16 18.1	+0.6
JMK				eS	S	12 18 36.0	-5.5
SSE	Sheshan	18.34	292	eP	P	12 17 18.0	0.0
SSE				AMB	AMB		
	comp=Z,25nm,0.8s						
SSE				AMB	AMB		
	comp=Z,195nm,11.2s						
ASAJ	Asahikawa	18.50	3	P	P	12 17 21.6	+2.0
	comp=Z,0.7nm,0.3s,baz=172,slow=11,SNR=5.9						
NJ2	Nanjing	20.48	293	eP	P	12 17 39.1	-0.9
NJ2				PP	PP	12 18 09.6	+2.6
NJ2				XP		12 18 32.8	
NJ2				S	S	12 21 14.0	+0.1
NJ2				PCS		12 25 23.3	
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s						
NJ2				AMB	AMB		
	comp=Z,260nm,5.1s						
MDJ	Mudanjiang	21.12	337	P	P	12 17 47.3	+1.1
MDJ				AP		12 18 16.5	
MDJ				XP		12 18 37.8	
MDJ				S	S	12 21 29.5	+4.2
MDJ				SS	SS	12 22 21.1	+5.1
MDJ				SCP		12 25 06.5	
MDJ				SCS	ScS	12 28 50.8	+3.5
MDJ				AMB	AMB		
	comp=Z,4.0nm,1.4s,mb3.6						
MDJ				AMB	AMB		
	comp=Z,33nm,4.9s						
LZH	Lanzhou	33.45	297	⇓P	P	12 19 39.8	+1.2
LZH				AP	pP	12 20 16.8	+0.3
LZH				XP	sP	12 20 37.5	+0.2
LZH				PP	PP	12 20 57.9	+0.6
LZH				AMB	AMB		
	comp=Z,25nm,1.3s,mb4.8						
LZH				AMB	AMB		
	comp=Z,107nm,4.3s						
CTA	Charters Tower	45.71	173	P	P	12 21 19.6	-0.2
	comp=Z,4.2nm,0.7s,mb4.2,baz=253,slow=21,SNR=4.7						
CTAO	Charters Tower	45.71	173	eP	P	12 21 19.6	-0.2
	comp=Z,5.1nm,0.8s,mb4.2						
WRAB	Tennant Creek	45.75	189	eP	P	12 21 19.6	-0.4
	comp=Z,9.4nm,0.6s,mb4.6						
WB2	Warramunga Arr	45.76	189	eP	P	12 21 19.6	-0.5
WRA	Warramunga Arr	45.76	189	P	P	12 21 19.8	-0.3
	comp=Z,3.3nm,0.4s,mb4.3,baz=11,slow=8.7,SNR=89						
FITZ	Fitzroy Crossi	45.98	201	eP	P	12 21 21.8	-0.1
	comp=Z,2.6nm,0.6s,mb4.0						
FITZ	Fitzroy Crossi	45.98	201	P	P	12 21 21.9	0.0
	comp=Z,6.1nm,1.1s,mb4.2,baz=360,slow=9.2,SNR=14						
WMQ	Urumqi	46.65	307	eP	P	12 21 28.8	+2.0
WMQ				AP	pP	12 22 08.3	+1.8
WMQ				XP	sP	12 22 27.9	+1.0
WMQ				AMB	AMB		
	comp=Z,4.0nm,1.2s,mb3.9						
ASAR	Alice Springs	49.48	189	P	P	12 21 48.0	-0.9
	comp=Z,0.4nm,0.4s,mb3.4,baz=20,slow=12,SNR=6.6						
MKAR	Makanchi Array	50.67	311	P	P	12 21 58.0	+0.5
	comp=Z,0.5nm,1.0s,mb3.1,baz=94,slow=9.6,SNR=3.0						
MBWA	Marble Bar	50.91	206	eP	P	12 21 59.1	-0.7
	comp=Z,3.7nm,0.9s,mb4.0						
STKA	Stephens Creek	57.17	179	P	P	12 22 44.5	-0.7
	comp=Z,1.0nm,0.5s,mb3.9,baz=7.0,slow=9.4,SNR=5.1						
PMR	Palmer	58.21	32	eP	P	12 22 52.5	+0.5
	comp=Z,3.8nm,0.9s,mb4.2						
BVAR	Borovoye Array	58.47	318	P	P	12 22 53.2	-0.7
	comp=Z,0.4nm,0.4s,mb3.6,baz=83,slow=6.9,SNR=3.8						
BRVK	Borovoye	58.53	318	eP	P	12 22 53.4	-0.9
	comp=Z,1.0nm,0.5s,mb3.9						
ILAR	Eielson Array	59.48	28	P	P	12 23 00.8	+0.1
	comp=Z,0.5nm,0.8s,mb3.4,baz=264,slow=6.1,SNR=5.8						
INK	Inuvik	64.78	24	P	P	12 23 36.4	+0.6
	comp=Z,1.3nm,0.9s,mb3.8,baz=315,slow=7.8,SNR=4.6						
INK	Inuvik	64.78	24	eP	P	12 23 36.1	+0.4
	comp=Z,2.1nm,0.9s,mb4.0						
FINES	FINESS Array B	78.83	334	P	P	12 24 59.1	+0.3
	comp=Z,6.8nm,1.2s,mb4.2,baz=108,slow=6.0,SNR=5.9						
NOA	NORSAR Array B	84.61	338	P	P	12 25 28.5	-0.1
	comp=Z,0.6nm,0.8s,mb3.4,baz=56,slow=4.0,SNR=2.1						
NOA	NORSAR Array B	84.61	338	P	P	12 25 28.5	-0.1

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*NEIC **16** 12:27:40.8,15.30N×96.85W,h20^{km},MD3.7(MEX),After MEX.*
MEX 16 12:27:42.6±1.0,15.37N×96.75W,h18^{km}±24^{km},MD3.9,Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HUIG	Huatulco	0.73	57	eP	Pb	12 27 54.5	-2.1
HUIG				eS	Sb	12 28 04.6	-1.6
HUIG	Huatulco	0.73	57	eP	Pb	12 27 54.5	-2.1
HUIG				eS	Sb	12 28 05.0	-1.2
PNIG	Pinotepa	1.68	308	i P	Pn	12 28 08.7	-2.7
PNIG				i S	Sn	12 28 28.4	-4.1
VHO	Vista Hermosa	1.70	0	eP	Pn	12 28 07.5	-4.2
VHO				i S	Sn	12 28 28.4	-4.8
OXX	Oaxaca	1.71	1	eP	Pn	12 28 07.5	-4.4
OXX				eS	Sn	12 28 28.0	-5.4
OXX	Oaxaca	1.71	1	eP	Pn	12 28 07.0	-4.9
OXX				eS	Sn	12 28 28.0	-5.4
CMIG	Matias Romero	2.48	46	eP	Pn	12 28 18.8	-4.1
CMIG				i S	Sn	12 28 48.6	-4.4
CMIG	Matias Romero	2.48	46	eP	Pn	12 28 18.7	-4.2
CMIG				i S	Sn	12 28 50.4	-2.6
IISM	Ciudad Serdan	3.65	351	eP	Pn	12 28 42.3	+2.7
PLIG	Platanillo	4.00	319	eP	Pn	12 28 41.9	-2.7
PLIG				i S	Sn	12 29 26.6	-5.0
YAIG	Yautepec	4.12	328	eP	Pn	12 28 43.2	-3.1
YAIG				eS	Sn	12 29 29.2	-5.5

MEX 16 12:28:58.1±1.0,15.25N×96.73W,h16^{km}±27^{km},MD3.9,Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HUIG	Huatulco	0.79	49	i P	Pb	12 29 10.9	-2.1
HUIG				i S	Sb	12 29 20.8	-2.5
PNIG	Pinotepa	1.76	310	i P	Pn	12 29 24.7	-3.6
PNIG				i S	Sn	12 29 45.6	-4.9
VHO	Vista Hermosa	1.82	360	i P	Pn	12 29 25.2	-3.9
VHO				i S	Sn	12 29 47.8	-4.1
OXX	Oaxaca	1.82	0	eP	Pn	12 29 26.0	-3.2
OXX				eS	Sn	12 29 45.0	-7.1
CMIG	Matias Romero	2.55	44	eP	Pn	12 29 35.8	-3.8
CMIG				i S	Sn	12 30 05.2	-5.4
PLIG	Platanillo	4.10	320	eP	Pn	12 30 03.4	+1.7
PLIG				i S	Sn	12 30 42.6	-7.3
YAIG	Yautepec	4.23	328	eP	Pn	12 30 09.6	+6.0
YAIG				i S	Sn	12 30 47.8	-5.4

IDC 16 12:42:53.1±11.0,12.82S×167.98E,mb4.0/5,mb1 4.2/5,mb1mx3.8/15,Error ellipse: s-maj=192.0km s-min=91.6km az=64.0,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	22.04	248	P	P	12 47 50.3	-0.9
	3.3nm,0.8s,baz=82,slow=15,SNR=3.9						
STKA	Stephens Creek	30.77	228	eP	P	12 49 10.9	-1.7
	2.9nm,0.4s						
STKA	Stephens Creek	30.77	228	P	P	12 49 10.8	-1.8
	2.8nm,0.3s,baz=51,slow=11,SNR=20						
WRA	Warramunga Arr	33.00	253	P	P	12 49 29.6	-2.6
	0.6nm,0.5s,baz=85,slow=9.1,SNR=14						
ASAR	Alice Springs	34.03	247	P	P	12 49 38.2	-2.9
	1.5nm,0.4s,baz=74,slow=9.4,SNR=40						
FITZ	Fitzroy Crossi	41.08	257	P	P	12 50 39.6	-0.8
	0.7nm,0.5s,baz=72,slow=9.6,SNR=5.7						

GUC 16 13:04:58.9±0.8,35.02S×70.57W,h5^{km},MD3.7,ML2.3,3C-4D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFDO	San Fernando	0.54	318	⇓iP	Pg	13 05 09.5	-0.3
SFDO				i S	Sg	13 05 18.4	+1.4
CICH	Cipreses	0.71	10	⇓iP	Pg	13 05 12.2	-0.8
CICH				i S	Sg	13 05 23.0	+0.5
CACH	El Canelo	0.90	359	⇓iP	Pb	13 05 15.7	-0.9
CACH				i S	Sb	13 05 29.2	+0.5
CHCH	Chadas Angostu	1.08	356	i P	Pb	13 05 19.2	-0.5
CHCH				i S	Sb	13 05 34.7	+0.6
LMEL	Las Melosas	1.21	15	⇑iP	Pb	13 05 20.9	-0.9
LMEL				i S	Sb	13 05 38.3	+0.7
LMEL				AMP		13 05 39.5	
	comp=E,82nm,0.2s						
LNV	Longovilo	1.27	327	i P	Pb	13 05 21.8	-1.1
LNV				i S	Sb	13 05 39.9	+0.6
PCH	Pirque	1.40	2	⇑iP	Pb	13 05 24.5	-0.6
TACH	Talagante	1.40	347	⇑iP	Pb	13 05 24.3	-0.8
LLCH	Llolleo	1.65	328	i S	Sb	13 05 50.0	-0.4
FCH	Farellones	1.70	8	⇓iP	Pn	13 05 29.9	+0.4
FCH				i S	Sn	13 05 54.0	+2.1
FCH				AMP		13 05 55.5	
	comp=N,81nm,0.2s						
LCCH	Las Cruces	1.75	331	eP	Pn	13 05 30.2	0.0
JACH	Jahuel	2.33	360	eP	Pn	13 05 39.0	+0.6

IDC 16 13:05:44.6±26.0,14.81S×167.01E,h212^{km}±220^{km},mb3.5/6,mb1 3.6/6,mb1mx3.5/13,Error ellipse: s-maj=121.0km s-min=47.5km az=78.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	28.75	229	eP	P	13 11 23.3	-1.3
	1.9nm,0.4s						
STKA	Stephens Creek	28.75	229	P	P	13 11 23.6	-1.0
	2.4nm,0.5s,baz=51,slow=9.5,SNR=19						
WRA	Warramunga Arr	31.56	256	P	P	13 11 46.8	-2.6
	0.4nm,0.4s,baz=83,slow=8.0,SNR=15						
ASAR	Alice Springs	32.41	249	P	P	13 11 53.7	-3.0
	1.0nm,0.4s,baz=77,slow=9.4,SNR=28						
ASAR				PcP	PcP	13 14 36.6	-2.3
	0.5nm,0.7s,baz=101,slow=2.4,SNR=5.7						
FITZ	Fitzroy Crossi	39.75	259	eP	P	13 12 57.3	-1.1
	1.1nm,0.3s						
CMAR	Chiang Mai Arr	74.75	294	P	P	13 17 03.3	-0.2
	0.3nm,0.5s,baz=136,slow=5.4,SNR=4.4						
SONM	Songino Array	82.41	324	P	P	13 17 43.2	-0.9
	0.8nm,1.0s,baz=139,slow=5.2,SNR=3.9						
MKAR	Makanchi Array	97.08	316	P	P	13 18 52.7	-0.9
	0.7nm,0.6s,baz=96,slow=5.4,SNR=6.8						
ARCES	ARCESS Array B	120.26	345	PKP	PKPdf	13 24 08.2	-1.7
	2.6nm,0.8s,baz=45,slow=1.7,SNR=4.8						

DJA 16 13:09:17.8±1.8,2.64S×121.67E,h100^{km},MD4.5/3,ML4.1/3,6D,Error ellipse: s-maj=54.5km s-min=30.1km az=14.0,Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BUNI	Buntu Taipa	1.68	233	⇓iPn	P	13 09 43.3	-3.4
	81nm,0.2s						
BUNI				⇓eSn	S	13 09 59.7	-8.5
TANI	Tanete Lipujan	2.41	251	⇓ePn	P	13 09 56.8	+0.3
	133nm,0.9s						
TANI				⇓iSn	S	13 10 23.0	-2.4
NINI	Niniconang	2.60	227	⇓ePn	P	13 10 00.7	+1.6
	100nm,0.2s						
NINI				⇓iSn	S	13 10 30.7	+0.7

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*NEIC **16** 13:19:02.0,37.20S×177.59E,h118^{km},After WEL.*
WEL 16 13:19:02.2±0.4,37.23S×177.68E,h120^{km}±3^{km},ML3.6/6,Error ellipse: s-maj=4.5km s-min=3.9km az=90.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.60	124	PN	P	13 19 20.5	-0.4
MXZ				SN	S	13 19 35.1	0.0
MXZ	Matakaoa Point	0.60	124	P	P	13 19 21.0	+0.1
MXZ				S	S	13 19 35.1	0.0
PUZ	Puketiti	0.96	151	PN	P	13 19 23.9	-0.2
PUZ				SN	S	13 19 39.1	-1.3
PUZ	Puketiti	0.96	151	eP	P	13 19 23.9	-0.2
PUZ				S	S	13 19 40.6	+0.1
MWZ	Matawai	1.11	186	PN	P	13 19 25.4	-0.3
MWZ				SN	S	13 19 42.7	-0.4
MWZ	Matawai	1.11	186	P	P	13 19 25.4	-0.2
MWZ				S	S	13 19 42.7	-0.5
URZ	Urewera	1.12	203	PN	P	13 19 25.4	-0.3
URZ				SN	S	13 19 43.4	0.0
URZ	Urewera	1.12	203	P	P	13 19 25.4	-0.4
KNZ	Kokohu	1.79	180	PN	P	13 19 32.8	-0.6
KNZ	Kokohu	1.79	180	P	P	13 19 32.8	-0.6
BKZ	Black Stump Fm	2.15	205	PN	P	13 19 37.1	-0.9
BKZ	Black Stump Fm	2.15	205	P	P	13 19 37.1	-0.9
MOVZ	Moawhango	2.65	214	PN	P	13 19 43.2	-1.5
MOVZ	Moawhango	2.65	214	P	P	13 19 43.1	-1.6
BFZ	Birch Farm	3.62	198	PN	P	13 19 54.4	-3.3
BFZ	Birch Farm	3.62	198	eP	P	13 19 54.4	-3.3
MRZ	Mangatainoka R	3.80	205	PN	P	13 19 56.1	-3.9
MRZ				SN	S	13 20 39.0	-5.3
MRZ	Mangatainoka R	3.80	205	eP	P	13 19 56.1	-3.9
MRZ				S	S	13 20 39.0	-5.3
KIW	Kapiti Island	4.22	210	PN	P	13 20 01.4	-4.3
KIW				SN	S	13 20 49.3	-5.1
KIW	Kapiti Island	4.22	210	eP	P	13 20 01.4	-4.3
MTW	Mount Morrison	4.27	203	PN	P	13 20 01.7	-4.8
MTW	Mount Morrison	4.27	203	eP	P	13 20 01.7	-4.7
CAW	Cannon Point	4.37	207	PN	P	13 20 03.2	-4.6
CAW				SN	S	13 20 53.1	-5.1
CAW	Cannon Point	4.37	207	eP	P	13 20 03.2	-4.6
SNZO	South Karori	4.68	209	PN	P	13 20 06.6	-5.3
SNZO				SN	S	13 20 59.2	-6.5
SNZO	South Karori	4.68	209	eP	P	13 20 06.8	-5.2
TUWZ	Tuamarina	5.10	213	PN	P	13 20 12.2	-5.4
TUWZ				SN	S	13 21 08.7	-7.0
NNZ	Nelson	5.20	219	PN	P	13 20 14.6	-4.2
NNZ				SN	S	13 21 11.8	-6.4
NNZ	Nelson	5.20	219	eP	P	13 20 14.6	-4.3
NNZ				eS	S	13 21 11.8	-6.3
THZ	Tophouse	5.84	218	PN	P	13 20 23.0	-4.6
THZ				SN	S	13 21 25.9	-8.0
THZ	Tophouse	5.84	218	eP	P	13 20 23.0	-4.6
KHZ	Kahutara	6.08	210	PN	P	13 20 24.9	-5.9

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*NEIC **16** 13:23:42.8±4.1,20.28S×176.78W,h301^{km}±38^{km},mb4.3/8,Error ellipse: s-maj=21.9km s-min=15.2km az=46.0*
*IDC **16** 13:23:46.2±2.1,20.37S×176.81W,h334^{km}±21^{km},mb3.8/8,mb1 4.0/9,mb1mx3.8/17,Error ellipse: s-maj=17.1km s-min=12.1km az=114.0*
ISC 16 13:23:40.7±2.4,20.17S±0.09×177.0W±0.1,h284^{km}±23^{km},n24,σ1^{s}22/27,mb4.2/14,2C-1D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	15.61	260	eP	P	13 27 09.5	+1.5
URZ	Urewera	18.75	195	P	P	13 27 39.3	-1.4
	6.2nm,0.3s,baz=35,slow=8.2,SNR=13						
URZ				S	S	13 30 54.9	+0.5
	0.8nm,0.3s,baz=261,slow=23,SNR=6.7						
SNZO	South Karori	22.23	197	eP	P	13 28 13.4	-1.5
	60nm,1.0s,mb4.9						
RPZ	Rata Peaks	25.53	200	P	P	13 28 42.7	-2.7
	33nm,1.1s,mb4.7,baz=172,slow=8.4,SNR=4.7						
CTA	Charters Tower	34.50	264	eP	P	13 30 05.3	+1.1
	7.0nm,0.5s,mb4.5						
CTA	Charters Tower	34.50	264	P	P	13 30 05.2	+1.0
	14nm,0.7s,mb4.6,baz=105,slow=10,SNR=15						
CTAO	Charters Tower	34.50	264	eP	P	13 30 05.2	+1.0
	13nm,0.7s,mb4.6						
STKA	Stephens Creek	38.81	244	eP	P	13 30 40.8	+0.7
	3.0nm,0.9s,mb3.7						
STKA	Stephens Creek	38.81	244	P	P	13 30 40.4	+0.3
	3.1nm,0.8s,mb3.8,baz=82,slow=11,SNR=12						
ASAR	Alice Springs	45.55	256	P	P	13 31 35.0	+0.5
	13nm,0.5s,mb4.6,baz=88,slow=8.3,SNR=256						
ASAR				S	S	13 37 53.1	-1.1
	0.5nm,0.8s,baz=93,slow=16,SNR=3.8						
ASPA	Alice Springs	45.55	256	eP	P	13 31 34.7	+0.2
WB2	Warramunga Arr	45.60	261	eP	P	13 31 34.5	-0.4
WRAB	Tennant Creek	45.61	262	eP	P	13 31 34.2	-0.8
	8.5nm,0.6s,mb4.2						
WRA	Warramunga Arr	45.62	261	P	P	13 31 34.8	-0.2
	4.3nm,0.4s,mb4.1,baz=97,slow=5.2,SNR=75						
WRA				S	S	13 37 51.5	-3.8
	0.5nm,0.8s,baz=97,slow=13,SNR=3.1						
SBA	Scott Base	58.26	184	eP	P	13 33 09.0	+1.7
	4.2nm,0.7s,mb4.0						
MBWA	Marble Bar	58.88	257	eP	P	13 33 11.4	-0.9
	3.9nm,0.7s,mb4.0						
CBIJ	Chichi jima	61.44	318	P	P	13 33 30.4	+0.9
	66nm,0.5s,mb5.4,baz=95,slow=23,SNR=7.4						
QSPA	South Pole Qui	69.89	180	eP	P	13 34 22.7	+0.5
	5.5nm,0.8s,mb4.3						
NVAR	Mina Array Bea	80.12	43	P	P	13 35 20.5	-0.2
	0.5nm,0.6s,mb3.4,baz=221,slow=8.3,SNR=5.0						
MAW	Mawson	82.20	200	P	P	13 35 30.9	-0.1
	2.1nm,0.6s,mb4.0,baz=152,slow=7.0,SNR=12						
ILAR	Eielson Array	87.78	12	P	P	13 35 56.6	-1.7
	0.4nm,0.6s,mb3.4,baz=215,slow=5.4,SNR=16						
SNAA	Sanae	88.31	178	⇑i	P	13 35 59.8	-0.9
VNA3	Neumayer Olymp	88.40	176	⇓i	P	13 36 03.8	+2.6
VNA2	Neumayer--Watz	88.85	177	⇑i	P	13 36 05.8	+2.5

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*MAN **16** 13:26:42.5,11.46N×125.34E,h40^{km},mb4.8,ML3.8,MS3.8*
*IDC **16** 13:27:10.1±16.0,12.09N×124.50E,h282^{km}±189^{km},mb3.0/6,mb1 3.1/6,mb1mx3.0/18,Error ellipse: s-maj=57.2km s-min=17.4km az=61.0*
ISC 16 13:26:40.9±0.7,11.52N±0.04×125.43E±0.06,h69^{km}±5^{km},n19,σ1^{s}22/28,mb3.6/4,3D,Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BESP	Borongan	0.08	3	eP	P	13 26 50.1	-0.9
BESP				eS	S	13 26 56.9	-1.5
OCLP	Ormoc	0.94	240	eP	P	13 26 58.8	+0.1
OCLP				eS	S	13 27 10.7	-1.3
CNP	Catarman	1.24	323	eP	P	13 27 03.0	+0.3
CNP				eS	S	13 27 20.4	+1.4
MSLP	Maasin	1.49	202	eP	P	13 27 06.9	+0.7
MSLP				eS	S	13 27 27.4	+2.5
LLP	Lapu-Lapu	1.87	230	⇓eP	P	13 27 10.0	-1.4
LLP				eS	S	13 27 32.0	-1.9
MMPH	Masbate	1.96	295	⇓iP	P	13 27 13.7	+1.2
MMPH				i S	S	13 27 37.5	+1.6
TBP	Tagbilaran	2.39	220	eP	P	13 27 17.9	-0.7
PVCP	Virac	2.41	329	eP	P	13 27 18.6	-0.3
PVCP				eS	S	13 27 54.7	+7.4
BUTP	Butuan	2.54	176	eP	P	13 27 22.1	+1.3
BUTP				eS	S	13 27 54.9	+4.2
RCP	Roxas	2.64	271	⇓eP	P	13 27 22.6	+0.5
RCP				eS	S	13 27 53.0	+0.1
BUKP	Musuan	3.64	186	eP	P	13 27 37.7	+1.5
BUKP				eS	S	13 28 22.2	+4.1
PAGZ	Pagadian	4.17	209	eP	P	13 27 44.0	+0.4
PAGZ				eS	S	13 28 30.5	-1.0
CUYO	Cuyo Island	4.38	262	eP	P	13 27 47.1	+0.5
CMAR	Chiang Mai Arr	26.48	288	P	P	13 32 12.7	-1.1
	1.1nm,0.8s,mb3.3,baz=98,slow=7.6,SNR=4.9						
WRA	Warramunga Arr	32.47	164	P	pP	13 33 21.5	-2.4
	0.2nm,0.5s,baz=343,slow=9.4,SNR=2.2						
ASAR	Alice Springs	35.94	167	P	pP	13 33 51.0	-2.9
	0.4nm,0.6s,baz=349,slow=7.2,SNR=4.0						
SONM	Songino Array	39.57	340	P	P	13 34 07.3	+0.5
	1.3nm,0.8s,mb3.8,baz=157,slow=9.4,SNR=7.7						
MKAR	Makanchi Array	50.54	323	P	P	13 35 33.2	-1.1
	0.9nm,0.6s,mb4.0,baz=123,slow=7.6,SNR=8.0						
BVAR	Borovoye Array	60.17	325	P	P	13 36 41.1	-2.7
	0.3nm,0.7s,mb3.5,baz=96,slow=14,SNR=2.4						

NEIC 16 13:29:30.8,34.12N×116.40W,h8^{km},ML3.6(PAS),After PAS.,Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PFO	Pinyon Flat Ob	0.51	185	eP	Pg	13 29 39.5	-1.6
PFO				eS	Sg	13 29 46.3	-1.7
MWC	Mount Wilson	1.38	275	eP	Pn	13 29 55.3	-1.0
LDFC	Landfair	1.43	48	eP	Pn	13 29 55.0	-2.1
BAR	Barrett	1.46	189	eP	Pn	13 29 55.9	-1.6
NEN	Nelson	1.99	40	ePn	Pn	13 30 03.5	-1.6
DAC	Darwin (Calif)	2.36	336	ePn	Pn	13 30 08.4	-2.0
TPNV	Topopah Spring	2.82	2	ePn	Pn	13 30 15.6	-1.5
MTUM	Tungsten Hills	3.67	332	ePn	Pn	13 30 27.8	-1.3
TPH	Tonopah	4.00	351	ePn	Pn	13 30 32.3	-1.5
OMM	Old Mammoth Mi	4.08	330	ePn	Pn	13 30 32.6	-2.2
WUAZ	Wupatki	4.36	70	ePn	Pn	13 30 36.4	-2.5
ARUT	Antelope Range	4.38	32	ePn	Pn	13 30 36.6	-2.5
MNV	Mina	4.53	342	ePn	Pn	13 30 39.4	-2.0
TUC	Tucson	5.04	109	ePn	Pn	13 30 44.0	-4.6
CMB	Columbia Colle	5.07	322	ePn	Pn	13 30 45.8	-3.1
MVU	Marysvale	5.53	37	ePn	Pn	13 30 52.8	-2.7
MSU	Marysvale	5.55	37	ePn	Pn	13 30 52.1	-3.7
BEKR	Beckwourth	6.55	332	ePn	Pn	13 31 05.9	-3.9
ELK	Elko	6.68	8	ePn	Pn	13 31 08.2	-3.4
DUG	Dugway	6.71	24	ePn	Pn	13 31 07.7	-4.3
SRU	San Rafael	6.87	42	Pn	Pn	13 31 12.7	-1.5

DJA 16 14:10:12.8±0.9,9.04S×115.25E,h108^{km}±6^{km},ML4.4/2,4C-4D,Error ellipse: s-maj=29.3km s-min=10.3km az=7.0,South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
INGI	Ingas	0.24	334	⇓ePn	P	14 10 27.9	-0.3

INGI				⇑*e*Sn	S	14 10 38.4	-1.3
RATI	Rata	0.42	42	⇓*i*Pn	P	14 10 29.0	0.0
RATI				⇑*e*Sn	S	14 10 40.0	-1.2
KEDI	Kedomdong	1.01	57	⇑*e*Pn	P	14 10 33.6	-0.6
	410nm,58.4s						
KEDI				⇑*e*Sn	S	14 10 48.7	-1.6
KELI	Kelakatan	1.11	317	⇓*e*Pn	P	14 10 34.6	-0.7
	639nm,59.0s						
KELI				⇓*e*Sn	S	14 10 51.9	-0.3

MAN 16 14:10:12.4, 9.59N×122.25E, h32^{km}, mb4.6, ML3.5, MS3.4, 1C, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUIM	Jordan	1.08	18	*e*P	Pn	14 10 31.2	-0.3
GUIM				*e*S	Sn	14 10 45.5	0.0
DCPH	Dipolog City	1.48	133	⇑*i*P	Pn	14 10 36.0	-1.2
DCPH				*i* S	Sn	14 10 54.8	-0.8
CUYO	Cuyo Island	1.74	316	*e*P	Pn	14 10 41.3	+0.4
CUYO				*e*S	Sn	14 11 01.6	-0.6
IPIL	Ipil	1.82	170	*e*P	Pn	14 10 41.8	-0.3
IPIL				*e*S	Sn	14 11 01.8	-2.5
PAGZ	Pagadian	2.06	147	*e*P	Pn	14 10 46.6	+1.1
PAGZ				*e*S	Sn	14 11 10.7	+0.3
BUSP	Coron	3.13	320	*e*P	Pn	14 11 00.2	-0.5
BUSP				*e*S	Sn	14 11 35.8	-1.6
ENPP	El Nido	3.21	300	*e*P	Pn	14 11 01.4	-0.4
ENPP				*e*S	Sn	14 11 36.1	-3.3
BUKP	Musuan	3.26	121	*e*P	Pn	14 11 03.6	+1.1

*DJA **16** 14:12:37.7±0.9, 7.39S×117.30E, h623^{km}±10^{km}, ML5.0/6, Error ellipse: s-maj=60.7km s-min=13.9km az=139.0*
*NEIC **16** 14:12:38.9±1.6, 7.00S×116.99E, h591^{km}±25^{km}, mb4.4/9, Error ellipse: s-maj=22.5km s-min=11.3km az=50.0*
*IDC **16** 14:12:42.7±1.6, 7.06S×117.20E, h647^{km}±25^{km}, mb3.5/6, mb1 3.7/7, mb1mx3.4/16, Error ellipse: s-maj=34.0km s-min=9.9km az=56.0*
ISC 16 14:12:39.7±0.7, **7.1S**±0.1×**117.0E**±0.2, **h632**^{km}±10^{km}, **n21**, σ**0^{s}77**/25, **mb4.3**/11, **3C-2D, Bali Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEDI	Kedomdong	1.65	213	⇑*e*Pn	P	14 13 54.2	-1.6
	2μm,104s						
KEDI				⇑*e*Sn	S	14 14 48.4	-8.2
NINI	Niniconang	3.80	46	⇑*e*Pn	P	14 14 07.6	+1.0
	406nm,76.0s						
FITZ	Fitzroy Crossi	13.80	143	*e*P	P	14 15 36.6	+0.7
	7.9nm,0.6s						
FITZ	Fitzroy Crossi	13.80	143	P	P	14 15 36.7	+0.7
	2.5nm,0.3s,baz=352,slow=7.7,SNR=96						
MBWA	Marble Bar	14.23	170	*e*P	P	14 15 41.1	+1.0
	15nm,0.9s						
WRA	Warramunga Arr	21.11	129	P	P	14 16 43.9	+0.1
	6.4nm,0.4s,mb4.6,baz=310,slow=9.4,SNR=154						
WRA				S	S	14 19 57.1	-2.4
	0.3nm,0.8s,baz=297,slow=14,SNR=2.7						
WRAB	Tennant Creek	21.11	129	*e*P	P	14 16 43.9	0.0
	12nm,0.6s,mb4.7						
WB2	Warramunga Arr	21.12	129	*e*P	P	14 16 43.7	-0.2
ASPA	Alice Springs	23.12	137	*e*P	P	14 17 01.6	-0.3
ASAR	Alice Springs	23.12	137	P	P	14 17 01.6	-0.3
	5.7nm,0.4s,mb4.6,baz=314,slow=8.0,SNR=346						
ASAR				S	S	14 20 28.8	-2.8
	0.2nm,0.7s,baz=308,slow=17,SNR=3.6						
ASAR				ScP		14 23 05.0	
	0.7nm,0.5s,baz=324,slow=2.3,SNR=16						
ASAR	Alice Springs	23.12	137	P	P	14 17 01.6	-0.3
ASAR				S	S	14 20 28.8	-2.8
ASAR				ScP		14 23 05.0	
NWAO	Narrogin (SRO)	25.71	180	P	P	14 17 24.9	+0.3
	16nm,1.0s,mb4.6,baz=360,slow=7.3,SNR=7.2						
NWAO	Narrogin (SRO)	25.71	180	*e*P	P	14 17 24.6	0.0
	32nm,1.2s,mb4.8						
FORT	Forrest	25.74	158	⇓*i*P	P	14 17 25.3	+0.4
	43nm,0.6s,mb5.3						
STKA	Stephens Creek	33.66	140	⇓*i*P	P	14 18 33.2	+1.0
	4.9nm,0.3s,mb4.6						
STKA	Stephens Creek	33.66	140	P	P	14 18 33.2	+1.1
	6.0nm,0.3s,mb4.7,baz=319,slow=7.5,SNR=39						
SONM	Songino Array	55.48	351	P	P	14 21 18.8	-0.1
	1.5nm,0.5s,mb3.6,baz=170,slow=8.2,SNR=16						
MKAR	Makanchi Array	61.88	334	P	P	14 22 01.6	+0.2
	2.4nm,0.4s,mb3.8,baz=149,slow=6.1,SNR=46						
AAK	Ala-Archa	62.80	326	*e*P	P	14 22 07.0	-0.4
	1.7nm,0.5s,mb3.6						
KURK	Kurchatov	66.43	334	*e*P	P	14 22 29.6	-0.3
	1.6nm,0.5s,mb3.7						
ZRNK	Zerenda	72.30	332	*e*P	P	14 23 04.4	0.0
	2.3nm,0.5s,mb4.0						

*BJI **16** 14:36:20.2, 51.31N×174.99W, h70^{km}, mB4.3, mb4.5, Ms3.8, Msz3.6*
*MOS **16** 14:36:20.4±1.1, 51.97N×175.50W, h33^{km}, mb4.5/7, Error ellipse: s-maj=28.0km s-min=23.8km az=52.9*
*NEIC **16** 14:36:23.9±0.6, 51.69N×175.39W, h53^{km}±5^{km}, mb4.0/6, ML4.2(AEIC), Error ellipse: s-maj=13.5km s-min=4.8km az=169.0*
*IDC **16** 14:36:25.7±2.5, 51.84N×175.33W, h66^{km}±21^{km}, mb4.0/13, mb1 4.2/15, mb1mx4.0/27, MS3.5/4, Ms1 3.5/4, ms1mx2.9/31, Error ellipse: s-maj=21.8km s-min=11.2km az=173.0*
ISC 16 14:36:23.2±0.6, **51.78N**±0.10×**175.33W**±0.05, **h61**^{km}±4^{km}, **h60**^{km}±.6^{km}**:pP-P, n71,** σ**0^{s}98**/67, **mb4.3**/24, **4C-1D, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GSIG	Igitkin Island	0.42	300	P	P	14 36 34.3	-0.3
GSMY	Great Sitkin M	0.52	301	P	P	14 36 35.7	+0.1
GSTR	Great Sitkin T	0.55	305	P	P	14 36 36.6	+0.7
GSTD	Great Sitkin T	0.57	299	P	P	14 36 36.5	+0.3
ADAG	Mount Adagdak	0.81	285	P	P	14 36 39.8	+0.8
ATKA	Atka Island	0.82	58	P	P	14 36 38.2	-1.0
ATKA				S	S	14 36 49.4	-1.7
KINC	Kanaga Island	1.12	279	P	P	14 36 43.4	+0.2
KIWB	Kanaga Island	1.13	274	P	P	14 36 43.2	-0.1
KIKV	Kanaga Island	1.14	276	P	P	14 36 43.5	+0.1
KIMD	Kanaga Island	1.18	270	P	P	14 36 43.4	-0.5
NIKO	Nikolski	4.15	71	P	P	14 37 24.0	-1.6
MSW	Makushin Switc	5.61	64	P	P	14 37 46.2	+0.3
UNV	Unalaska Valle	5.74	65	P	P	14 37 48.2	+0.5
SPIA	Saint Paul Isl	6.17	27	P	P	14 37 54.4	+0.7
FX1	Attu Island--F	7.14	283	P	P	14 38 08.2	+1.0
	10.0nm,0.3s,baz=262,slow=22,SNR=18						
FX1				S	S	14 39 29.9	+2.3
	1.0nm,0.3s,baz=35,slow=22,SNR=2.8						
FX1	Attu Island--F	7.14	283	P	P	14 38 08.2	+0.9
FX1				S	S	14 39 29.9	+2.2
FX1				pmax	pmax		
	comp=Z,10.0nm,0.3s						
FX1				smax			
	comp=N,1.0nm,0.3s						
KDAK	Kodiak Island	14.40	56	*e*P	P	14 39 48.4	+3.6
	comp=N,13nm,0.4s						
PET	Petropavlovsk	15.90	285	*e*P	P	14 40 00.4	-3.7
PET				*e*		14 42 58.1	
PET				MLR	MLR		
	comp=Z,40nm,22.0s						
MCK	McKinley	18.31	39	*e*P	P	14 40 34.7	+0.6
	comp=Z,3.5nm,0.7s						
COLA	College	19.28	37	P	P	14 40 46.4	+1.1
	comp=Z,4.0nm,0.8s						
ILAR	Eielson Array	19.59	38	P	P	14 40 46.0	-2.6
	comp=Z,1.3nm,0.3s,baz=227,slow=8.9,SNR=59						
ILAR	Eielson Array	19.59	38	P	P	14 40 46.0	-2.6
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
DAWY	Dawson	22.34	43	*e*P	P	14 41 17.2	+0.7
INK	Inuvik	25.90	35	P	P	14 41 50.9	+0.3
	comp=Z,1.3nm,0.4s,mb3.8,baz=247,slow=5.8,SNR=9.5						
INK				LR	LR	14 53 39.7	
	comp=Z,57nm,18.5s,baz=31,slow=40						
INK	Inuvik	25.90	35	P	P	14 41 50.9	+0.3
INK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
INK				MLR	MLR		
	comp=Z,57nm,18.5s						
INK	Inuvik	25.90	35	P	P	14 41 50.6	0.0
YSS	Yuzh-Sakhalins	27.43	277	*e*P	P	14 42 04.0	-0.9
ASAJ	Asahikawa	28.86	271	P	P	14 42 17.8	0.0
	comp=Z,9.1nm,0.8s,mb4.5,baz=233,slow=5.9,SNR=6.6						
ASAJ				LR	LR	14 54 27.6	
	comp=Z,26nm,19.7s,baz=201,slow=38						
ASAJ	Asahikawa	28.86	271	P	P	14 42 17.8	0.0
ASAJ				pmax	pmax		
	comp=Z,9.0nm,0.8s						
ASAJ				MLR	MLR		
	comp=Z,26nm,19.7s						
YKA	Yellowknife Ar	33.38	47	LR	LR	14 57 34.9	
	comp=Z,70nm,20.7s,baz=275,slow=38						
MDJ	Mudanjiang	36.63	281	P	P	14 43 22.8	-2.4
MDJ				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,69nm,6.0s						
MDJ				LR	LR		
	comp=N,26nm,22.2s						
MDJ				LR	LR		
	comp=E,42nm,25.2s						
MDJ				LR	LR		
	comp=Z,51nm,21.9s						
NEW	Newport	36.71	72	P	P	14 43 26.2	+0.4
	comp=Z,7.0nm,0.9s,mb4.5,baz=303,slow=9.3,SNR=5.9						
NEW	Newport	36.71	72	P	P	14 43 26.2	+0.4
NEW				pmax	pmax		
	comp=Z,7.0nm,0.9s						
NEW	Newport	36.71	72	*e*P	P	14 43 25.4	-0.4
	comp=Z,3.3nm,0.7s,mb4.3						
WVOR	Wild Horse Val	38.80	81	*e*P	P	14 43 43.9	+0.6
	comp=Z,2.0nm,0.7s,mb4.0						
MCMT	McKenzie Canyo	40.99	74	*e*P	P	14 44 01.7	+0.4
BOZ	Bozeman (W)	41.28	72	*e*P	P	14 44 04.2	+0.5
	comp=Z,2.4nm,0.5s,mb4.1						
NVAR	Mina Array Bea	41.36	86	P	P	14 44 05.9	+1.4
	comp=Z,1.2nm,1.1s,mb3.5,baz=276,slow=8.2,SNR=3.2						
MNV	Mina	41.45	86	P	P	14 44 05.0	-0.3
ELK	Elko	41.86	81	*e*P	P	14 44 09.9	+1.4
	comp=Z,1.9nm,0.7s,mb3.8						
PDAR	Pinedale Array	44.12	75	P	P	14 44 28.0	+1.1
	comp=Z,4.5nm,0.6s,mb4.4,baz=311,slow=4.3,SNR=31						
SONM	Songino Array	48.38	298	P	P	14 44 59.5	-0.9
	comp=Z,0.4nm,0.8s,mb3.5,baz=22,slow=7.8,SNR=2.6						
SONM				PcP	PcP	14 46 26.4	-0.1
	comp=Z,1.0nm,0.6s,baz=78,slow=3.6,SNR=6.3						
SONM				ScP		14 50 16.8	
	comp=Z,0.8nm,0.9s,baz=45,slow=3.5,SNR=6.0						
SSE	Sheshan	50.16	271	P	P	14 45 12.8	-1.5
SSE				AP	pP	14 45 28.1	-2.2
SSE				XP	sP	14 45 35.3	-2.0
SSE				S	S	14 52 16.4	-3.7
SSE				LR	LR		
	comp=N,31nm,15.6s						
SSE				LR	LR		
	comp=E,25nm,15.5s						
SSE				LR	LR		
	comp=Z,44nm,20.6s						
NJ2	Nanjing	50.95	274	*e*P	P	14 45 19.1	-1.2
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.0						
TXAR	Lajitas Array	56.46	84	P	P	14 46 00.3	-0.6
	comp=Z,0.3nm,0.3s,mb3.7,baz=307,slow=4.5,SNR=3.0						
LZH	Lanzhou	57.33	288	*e*P	P	14 46 05.6	-1.4
LZH				AP	pP	14 46 21.8	-1.5
LZH				AMB	AMB		
	comp=Z,22nm,1.5s,mb5.0						
LZH				LR	LR		
	comp=N,203nm,14.9s						
LZH				LR	LR		
	comp=Z,224nm,17.7s						
WMQ	Urumqi	60.92	305	*e*P	P	14 46 32.5	+0.9
WMQ				AP	pP	14 46 48.6	+0.5
WMQ				XP	sP	14 46 55.9	+0.7
WMQ				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.7						
MKAR	Makanchi Array	61.45	310	P	P	14 46 33.5	-1.7
	comp=Z,0.6nm,0.4s,mb4.1,baz=43,slow=5.8,SNR=7.7						
MKAR	Makanchi Array	61.45	310	P	P	14 46 33.5	-1.7
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BVAR	Borovoye Array	61.95	321	P	P	14 46 37.8	-0.7
	comp=Z,1.7nm,0.5s,mb4.4,baz=54,slow=5.8,SNR=10						
HFS	Hagfors	68.20	355	P	P	14 47 18.1	-0.3
	comp=Z,6.5nm,1.1s,mb4.6,slow=2.9,SNR=10						
HFS	Hagfors	68.20	355	P	P	14 47 18.1	-0.3
HFS				pmax	pmax		
	comp=Z,7.0nm,1.1s						
OBN	Obninsk	70.23	341	*e*P	P	14 47 37.3	+6.4
CMAR	Chiang Mai Arr	73.11	278	P	P	14 47 49.6	+1.0
	comp=Z,2.7nm,0.8s,mb4.2,baz=18,slow=7.1,SNR=11						
CMAR	Chiang Mai Arr	73.11	278	P	P	14 47 49.7	+1.0
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
RAR	Rarotonga	73.94	165	LR	LR	15 16 50.5	
	comp=Z,149nm,20.1s,baz=211,slow=33						
KKN	Kakani	74.12	295	*e*P	P	14 47 54.9	+0.4
	comp=Z,7.6nm,0.6s,mb4.8						
PKI	Pulchoki	74.21	294	*e*P	P	14 47 55.3	+0.3
GKN	Gorkha	74.32	295	*e*P	P	14 47 56.1	+0.5
	comp=Z,8.6nm,0.5s,mb5.0						
DMN	Daman	74.36	295	*e*P	P	14 47 55.2	-0.6
KOLN	Koldanda	75.08	296	*e*P	P	14 48 00.0	0.0
	comp=Z,3.3nm,0.5s,mb4.6						
WRA	Warramunga Arr	83.83	227	P	P	14 48 46.9	-0.3
	comp=Z,0.7nm,0.5s,mb4.1,baz=34,slow=5.9,SNR=15						
WRA	Warramunga Arr	83.83	227	P	P	14 48 46.9	-0.3
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ASAR	Alice Springs	87.27	225	P	P	14 49 04.7	+0.6
	comp=Z,3.7nm,1.1s,mb4.5,baz=28,slow=5.0,SNR=17						
STKA	Stephens Creek	91.47	216	P	P	14 49 24.5	+0.7
	comp=Z,1.3nm,0.6s,mb4.5,baz=28,slow=6.5,SNR=5.1						
MAW	Mawson	148.13	218	⇑*i*P	PKPdf	14 56 02.3	+5.2
	comp=Z,2.0nm,0.6s						
MAW	Mawson	148.13	218	PKPbc	PKPdf	14 56 02.4	+5.3
	comp=Z,2.9nm,0.6s,baz=113,slow=3.6,SNR=14						
MAW	Mawson	148.13	218	PKP2	PKPab	14 56 02.4	-3.1
MAW				pmax	pmax		
	comp=Z,3.0nm,0.6s						
SNAA	Sanae	159.75	173	⇓*i*P	PKPdf	14 56 15.1	+2.0
VNA2	Neumayer--Watz	160.01	168	⇑*i*	PKPdf	14 56 35.5	+22
VNA2	Neumayer--Watz	160.01	168	⇑*i*PKPdf	PKPdf	14 56 18.6	+5.2
VNA2				⇑*i*P		14 56 35.5	

*IDC **16** 14:48:47.4±0.5, 17.35S×72.44W, mb5.0/17, mb1 5.1/19, mb1mx5.0/21, ML4.4/2, MS4.8/12, Ms1 4.8/12, ms1mx4.7/20, Error ellipse: s-maj=17.1km s-min=13.1km az=49.0*
*LDG **16** 14:48:48.4±0.3, 16.96S×72.30W, h10^{km}, Mb5.6/32, Ms5.0/9, Error ellipse: s-maj=17.7km s-min=7.4km az=40.0*
*SYO **16** 14:48:50.7, 17.13S×72.47W, h16^{km}, MB5.3, MS5.0*
*NEIC **16** 14:48:51.8±2.0, 17.28S×72.49W, h28^{km}±13^{km}, mb5.5/112, MS5.1/20, MW5.4, Error ellipse: s-maj=6.6km s-min=4.6km az=219.0, Moment Tensor Solution. s14 Moment tensor: Scale 10^{17}Nm; M$_{rr}$1.03; M$_{\theta\theta}$-0.20; M$_{\phi\phi}$-0.83; M$_{r\theta}$0.38; M$_{\theta\phi}$0.13; M$_{\phi r}$-1.10; Best double couple: M$_0$1.5×10^{17} NP1: φ$_s$351°, δ20°, λ98°. NP2: φ$_s$163°, δ71°, λ87°. Principal axes: T 1.59, Plg64°, Azm68°; N -.18, Plg3°, Azm164°; P -1.41, Plg25°, Azm255°;*
NEIC Felt [II] at Arequipa and Punta de Bombon.
*MOS **16** 14:48:51.4±1.3, 17.40S×72.69W, h33^{km}, mb5.0/1 Error ellipse: s-maj=20.5km s-min=15.5km az=143.3*
*HRVD **16** 14:48:51.8±0.2, 17.50S×72.82W, h19^{km}±1^{km}, MW5.4/52, Centroid moment Tensor Solution. LP body waves: s45,c76;Mantle waves: s52,c84; Half duration: 1^{s}2 Moment tensor: Scale 10^{17}Nm; M$_{rr}$0.67±.03; M$_{\theta\theta}$-0.11±.02; M$_{\phi\phi}$-0.56±.03; M$_{r\theta}$0.35±.04; M$_{\theta\phi}$0.42±.02; M$_{\phi r}$-1.13±.09; Best double couple: M$_0$1.4×10^{17} NP1: φ$_s$314°, δ18°, λ64°. NP2: φ$_s$161°, δ74°, λ98°. Principal axes: T 1.35, Plg60°, Azm83°; N .1, Plg8°, Azm339°; P -1.45, Plg29°, Azm245°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **16** 14:48:52.5, 16.78S×71.96W, h28^{km}, mB5.4, Ms5.3, Msz5.1*
ISC 16 14:48:52.7±1.1, **17.22S**±0.04×**72.59W**±0.04, **h46**^{km}±8^{km}, **h47**^{km}±5.4^{km}**:pP-P, n325,** σ**1^{s}13**/230, **mb5.4**/134, **MS5.0**/35, **17C-8D, Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARE	Arequipa	1.29	55	⇑*i*P	P	14 49 16.7	+2.0
ARE				S	S	14 49 32.2	+1.1
LPAZ	La Paz	4.37	78	Pn	P	14 50 00.4	+2.1
	14nm,0.3s,baz=271,slow=0.9,SNR=224						
LPAZ				Pg	P	14 50 05.2	+6.8
	baz=262,slow=11						
LPAZ				Lg		14 51 01.1	
	baz=124,slow=15,SNR=1.5						
LPAZ				LR	LR	14 51 22.2	
	comp=Z,4μm,19.4s,baz=259,slow=36						
LVC	Limon Verde	6.39	148	*e*Pn	P	14 50 20.8	-5.8
	118nm,0.8s						
LVC				*e*Sn	S	14 51 28.9	-10
NNA	Nana	6.63	321	*e*Pn	P	14 50 29.2	-0.8
	61nm,0.8s						
NNA				*e*Sn	S	14 51 38.4	-6.6
SAML	Samuel	12.30	49	*e*P	P	14 51 43.5	-4.4
SAML				*e*		14 51 48.8	
MDZ	Mendoza	15.96	168	*e*P	P	14 52 35.5	-0.1
CPUP	Villa Florida	16.82	125	Pn	P	14 52 39.8	-6.6
	0.3nm,0.3s,baz=332,slow=11,SNR=8.7						
CPUP				LR	LR	14 59 51.4	
	comp=Z,2μm,21.1s,baz=321,slow=40						
OTAV	Otavalo	18.28	341	*e*P	P	14 53 07.8	+3.1
	23nm,1.0s						
LPA	La Plata	21.95	146	*ce*P	P	14 53 45.0	+1.0
LPA				*e*sP		14 53 53.0	
LPA				*e*PP	PP	14 54 06.0	-4.5
LPA				*e*S	S	14 57 46.0	+7.5
ROSC	El Rosal	22.00	355	P	P	14 53 46.5	+1.9
	64nm,1.0s,mb5.0,baz=298,slow=21,SNR=22						
TRQA	Tornquist	22.76	158	*e*P	P	14 53 47.8	-4.2
	100nm,1.0s,mb5.2						
TRQA				LR	LR		
	comp=Z,2μm,19.0s,MS4.7						
PLCA	Paso Flores	23.50	176	P	P	14 53 57.6	-1.5
	comp=Z,23nm,0.9s,mb4.6,baz=346,slow=10,SNR=45						
BDFB	Brasilia	23.62	90	P	P	14 53 58.6	-1.9
	comp=Z,116nm,0.7s,mb5.5,baz=267,slow=12,SNR=74						
BDFB				LR	LR	15 03 56.2	
	comp=Z,2μm,21.2s,MS4.5,baz=121,slow=39						
BAO	Brasilia Array	23.65	90	P	P	14 53 59.0	-1.8
BAO				*i*		14 54 00.6	
BAO				*e*		14 54 08.2	
SDV	Santo Domingo	26.01	4	*e*P	P	14 54 23.0	-0.4
	comp=Z,186nm,1.1s,mb5.5						
JTS	JuntasAbangare	29.94	335	LR	LR	15 07 51.4	
	comp=Z,3μm,18.2s,MS4.9,baz=182,slow=38						
JTS	JuntasAbangare	29.94	335	P	P	14 54 57.0	-1.8
	comp=Z,19nm,1.0s,mb4.8						
RCBR	Riachuelo	37.61	77	*e*P	P	14 56 03.0	-2.0
	comp=Z,192nm,1.0s,mb5.8						
RCBR				LR	LR		
	comp=Z,4μm,22.0s,MS5.1						
USHA	Ushuaia	37.68	176	P	P	14 56 02.2	-2.9
	comp=Z,48nm,1.3s,mb5.1,baz=359,slow=7.9,SNR=3.5						
BBSR	BB Station	49.88	9	*e*P	P	14 57 41.9	-1.8
	comp=Z,50nm,0.8s,mb5.6						
CSU	Charleston Sou	50.43	352	*e*P	P	14 57 46.0	-1.9
NHSC	New Hope	50.56	352	*e*P	P	14 57 47.1	-1.8
	comp=Z,224nm,1.1s,mb6.0						
SWET	Sewanee	53.66	346	*e*P	P	14 58 10.6	-1.5
JCT	Junction City	54.17	331	*e*P	P	14 58 14.8	-1.1
	comp=Z,18nm,1.0s,mb4.9						
ELN	Prospectdale	54.69	352	*e*P	P	14 58 19.6	0.0
PWV	Princeton	54.84	352	*e*P	P	14 58 20.2	-0.4
WVT	Waverly	54.98	345	*e*P	P	14 58 19.6	-2.1
	comp=Z,17nm,0.8s,mb5.1						
WVT				*e*		14 58 25.5	
UALR	University of	55.01	340	*e*P	P	14 58 21.4	-0.5
	comp=Z,50nm,1.1s,mb5.5						
FWV	Forest Hill	55.05	352	*e*P	P	14 58 20.6	-1.6
FWV				*e*	pP	14 58 31.7	-3.4
LTX	Lajitas	55.15	327	P	P	14 58 20.4	-2.6
	comp=Z,29nm,1.3s,mb5.2						
LTX				LR	LR		
	comp=Z,713nm,20.0s,MS4.7						
TXAR	Lajitas Array	55.15	327	P	P	14 58 22.8	-0.3
	comp=Z,1.5nm,0.6s,baz=146,slow=9.0,SNR=14						
TXAR	Lajitas Array	55.15	327	P	P	14 58 22.8	-0.3
WCI	Wyandotte Cave	56.63	347	*e*P	P	14 58 30.4	-3.2
	comp=Z,66nm,1.1s,mb5.6						
USIN	University of	56.69	346	*e*P	P	14 58 32.8	-1.2
	comp=Z,70nm,0.7s,mb5.8						
MCWV	Mont Chateau	56.98	353	*e*P	P	14 58 35.9	-0.1
	comp=Z,58nm,1.0s,mb5.6						
WMOK	Wichita Mounta	57.35	334	*e*P	P	14 58 36.8	-2.0
	comp=Z,6.0nm,0.9s,mb4.6						
FVM	French Village	57.41	343	*e*P	P	14 58 37.6	-1.5
	comp=Z,22nm,0.6s,mb5.4						
CLNB	Carlsbad	57.61	329	*e*P	P	14 58 40.7	+0.2
CCM	Cathedral Cave	57.70	343	*e*P	P	14 58 39.3	-1.8
	comp=Z,17nm,0.9s,mb5.1						
SSPA	Standing Stone	57.76	355	*e*P	P	14 58 41.2	-0.3
	comp=Z,48nm,1.0s,mb5.5						
GDL2	Guadalupe Moun	57.80	328	*e*P	P	14 58 41.9	0.0
PAL	Palisades	57.93	359	*e*P	P	14 58 42.5	-0.2
	comp=Z,52nm,1.3s,mb5.4						
SACV	Santiago Islan	57.95	59	*e*P	P	14 58 41.1	-2.0
	comp=Z,84nm,1.0s,mb5.7						
ACSO	Alum Creek Sta	57.96	351	*e*P	P	14 58 41.6	-1.3
	comp=Z,82nm,1.2s,mb5.6						
SLM	Saint Louis	57.97	344	*e*P	P	14 58 40.5	-2.4
	comp=Z,34nm,0.7s,mb5.5						
CPRX	Cap Rock	58.22	329	*e*P	P	14 58 44.4	-0.4
RKT	Rikitea	58.48	253	*e*S	S	15 06 48.9	+3.9
RKT				*e*R		15 16 04.1	
	comp=Z,2μm,23.2s						
BRYW	Bryant College	58.84	1	*e*P	P	14 58 48.8	-0.2
	comp=Z,180nm,0.8s,mb6.2						
BINY	Binghamton	59.20	357	*e*P	P	14 58 51.2	-0.3
	comp=Z,86nm,1.2s,mb5.7						
BINY				*e*	pP	14 59 02.1	-2.4
WES	Weston	59.31	1	*e*P	P	14 58 50.8	-1.4
	comp=Z,101nm,1.2s,mb5.7						
HRV	Harvard--Oak R	59.43	1	*e*P	P	14 58 52.1	-0.9
	comp=Z,52nm,0.8s,mb5.6						
GENY	Geneseo	59.88	356	*e*P	P	14 58 55.4	-0.7
GENY				*e*	pP	14 59 05.8	-3.4
ACCN	Adirondack Com	60.31	359	*e*P	P	14 58 58.9	-0.2
ACCN				*e*	pP	14 59 07.8	-4.4
KSU1	Kansas State U	60.36	339	P	P	14 58 56.0	-3.5
BNM	Barren Site	60.50	328	*e*P	P	14 59 00.4	-0.1
LPM	Los Pinos Moun	60.63	328	*e*P	P	14 59 01.8	+0.4
NCB	Newcomb	60.90	359	*e*P	P	14 59 02.6	-0.5
	comp=Z,17nm,0.9s,mb5.2						
LAZ	Ladron	60.96	328	*e*P	P	14 59 04.1	+0.5
ANMO	Albuquerque	61.04	328	*de*P	P	14 59 04.8	+0.6
ANMO	Albuquerque	61.04	328	*e*P	P	14 59 03.9	-0.4
	comp=Z,11nm,0.9s,mb5.0						
ANMO				LR	LR		
	comp=Z,785nm,19.0s,MS4.9						
TUC	Tucson	61.34	323	*e*P	P	14 59 05.9	-0.3
	comp=Z,8.1nm,1.0s,mb4.8						
LOZ	Lake Ozonia	61.56	358	*e*P	P	14 59 05.6	-2.0
EMMW	East Machias	61.80	4	*e*P	P	14 59 08.9	-0.2
	comp=Z,217nm,1.0s,mb6.2						
MSNY	Massena	61.95	358	*e*P	P	14 59 10.1	0.0
SDCO	Great Sand Dun	62.82	331	*e*P	P	14 59 16.1	0.0
	comp=Z,29nm,0.9s,mb5.4						
SDCO				*e*		14 59 21.9	
SDCO				LR	LR		
	comp=Z,778nm,20.0s,MS4.9						
WUAZ	Wupatki	64.04	325	*e*P	P	14 59 23.8	-0.4
	comp=Z,28nm,1.0s,mb5.2						
WUAZ				*e*		14 59 44.2	
ISCO	Idaho Springs	64.54	332	*e*P	P	14 59 26.5	-0.8
	comp=Z,10nm,0.9s,mb4.9						
ISCO				*e*		14 59 33.4	
PV01	Paradox Valley	64.59	329	*e*P	P	14 59 28.4	+0.7
PV01				*e*		14 59 33.8	
PV10	Paradox Valley	65.01	329	*e*P	P	14 59 28.1	-2.3
BAR	Barrett	65.11	320	*e*P	P	14 59 30.6	-0.5
VNA3	Neumayer Olymp	65.22	162	⇑*i*P	P	14 59 32.4	+1.2
VNA3	Neumayer Olymp	65.22	162		pP	14 59 43.0	-1.5
VNA3	Neumayer Olymp	65.22	162	⇑*i*	sP	14 59 51.2	+1.6
VNA3	Neumayer Olymp	65.22	162	⇑*i*	PcP	15 00 03.7	+0.5
VNA1	Neumayer--Stat	65.46	161	⇑*i*P	P	14 59 34.2	+1.5
VNA1	Neumayer--Stat	65.46	161		pP	14 59 45.0	-1.0
VNA1	Neumayer--Stat	65.46	161	⇑*i*	sP	14 59 52.9	+1.8
VNA1	Neumayer--Stat	65.46	161	⇑*i*	PcP	15 00 04.7	+0.5
VNA2	Neumayer--Watz	65.82	161	⇑*i*P	P	14 59 36.3	+1.3
VNA2	Neumayer--Watz	65.82	161		sP	14 59 51.0	-2.4
VNA2	Neumayer--Watz	65.82	161	⇑*i*	PcP	15 00 07.1	+1.4
LDFC	Landfair	65.83	323	*e*P	P	14 59 34.2	-1.5

NEN	**Nelson**	**66.08**	**323**	*e*P	**P**	**14 59 37.7**	**+0.4**
SRU	**San Rafael**	**66.32**	**329**	*e*P	**P**	**14 59 39.1**	**+0.4**
SRU				*e*		14 59 44.6	
MSU	**Marysvale**	**66.71**	**327**	*e*P	**P**	**14 59 42.4**	**+1.3**
MVU	**Marysvale**	**66.72**	**327**	*e*P	**P**	**14 59 42.3**	**+1.1**
	comp=Z,20nm,1.0s,mb5.1						
ARUT	**Antelope Range**	**66.84**	**326**	*e*P	**P**	**14 59 43.4**	**+1.3**
SNAA	**Sanae**	**67.44**	**161**	⇑*i*P	**P**	**14 59 43.6**	**-1.6**
SNAA	**Sanae**	**67.44**	**161**		pP	14 59 55.0	-3.5
SNAA	**Sanae**	**67.44**	**161**	⇓*i*	sP	15 00 00.6	-3.0
SNAA	**Sanae**	**67.44**	**161**	⇑*i*	PcP	15 00 12.8	+0.3
RSSD	**Black Hills**	**67.47**	**336**	*e*P	**P**	**14 59 45.4**	**-0.5**
	comp=Z,9.9nm,0.8s,mb4.9						
MPU	**Maple Canyon**	**67.56**	**328**	*e*P	**P**	**14 59 47.5**	**+1.0**
DAU	**Daniels Canyon**	**67.67**	**329**	*e*P	**P**	**14 59 48.4**	**+1.2**
NLU	**North Lily Min**	**67.74**	**328**	*e*P	**P**	**14 59 47.7**	**+0.1**
TPNV	**Topopah Spring**	**67.80**	**323**	*e*P	**P**	**14 59 49.4**	**+1.4**
	comp=Z,22nm,1.0s,mb5.2						
TPNV				*e*		14 59 54.9	
TPNV				*e*	pP	15 00 03.7	+2.4
JLU	**Jordanelle**	**67.92**	**329**	*e*P	**P**	**14 59 49.8**	**+1.0**
JLU				*e*		14 59 55.1	
DAC	**Darwin (Calif)**	**68.11**	**322**	*e*P	**P**	**14 59 51.1**	**+1.1**
	comp=Z,9.6nm,0.9s,mb4.8						
TCUT	**Toone Canyon**	**68.29**	**329**	*e*P	**P**	**14 59 49.9**	**-1.1**
DUG	**Dugway**	**68.29**	**328**	*e*P	**P**	**14 59 52.0**	**+0.9**
	comp=Z,1.6nm,1.0s						
PDAR	**Pinedale Array**	**68.69**	**332**	P	**P**	**14 59 53.8**	**+0.3**
	comp=Z,4.5nm,1.2s,mb4.3,baz=153,slow=6.6,SNR=9.7						
PDAR				PKPPKP		15 28 06.1	
	comp=Z,0.7nm,0.9s,slow=0.9,SNR=5.5						
PDAR				LR	LR	15 34 23.8	
	comp=Z,392nm,19.2s,MS4.7,baz=142,slow=40						
HWUT	**Hardware Ranch**	**68.74**	**330**	*e*P	**P**	**14 59 54.0**	**+0.2**
	comp=Z,13nm,0.8s,mb4.9						
TPH	**Tonopah**	**69.14**	**324**	*e*P	**P**	**14 59 56.5**	**+0.1**
	comp=Z,16nm,1.1s,mb4.8						
MTUM	**Tungsten Hills**	**69.41**	**322**	*e*P	**P**	**14 59 59.3**	**+1.2**
HVU	**Hansel Valley**	**69.46**	**329**	*e*P	**P**	**14 59 58.3**	**0.0**
OMM	**Old Mammoth Mi**	**69.84**	**322**	*e*P	**P**	**15 00 00.2**	**-0.4**
MNV	**Mina**	**69.91**	**323**	*e*P	**P**	**15 00 01.9**	**+0.8**
	comp=Z,12nm,1.1s,mb4.7						
ELK	**Elko**	**69.95**	**327**	*e*P	**P**	**15 00 02.0**	**+0.8**
	comp=Z,14nm,1.1s,mb4.8						
ELK				*e*		15 00 07.4	
ELK				*e*		15 00 20.9	
NVAR	**Mina Array Bea**	**70.00**	**323**	P	**P**	**15 00 03.4**	**+1.8**
	comp=Z,1.8nm,0.8s,baz=138,slow=7.4,SNR=16						
NVAR				PKPPKP		15 28 04.0	
	comp=Z,1.1nm,1.1s,baz=243,slow=4.0,SNR=4.1						
EGOM	**La Gomera**	**70.04**	**51**	P	**P**	**15 00 00.8**	**-1.2**
	comp=Z,243nm,1.7s,mb5.9						
PDA	**Ponta Delgada**	**70.24**	**38**	*e*-		15 26 44.0	
ULM	**Lac du Bonnet**	**70.24**	**344**	P	**P**	**15 00 02.1**	**-0.7**
	comp=Z,16nm,0.8s,mb5.0,baz=146,slow=5.9,SNR=17						
ULM				LR	LR	15 33 56.1	
	comp=Z,716nm,19.5s,MS4.9,baz=46,slow=38						
LAO	**LASA Array**	**70.46**	**336**	*e*P	**P**	**15 00 03.7**	**-0.6**
	comp=Z,53nm,1.3s,mb5.3						
CCAN	**Las Canadas**	**70.52**	**51**	P	**P**	**15 00 06.6**	**+1.6**
	comp=Z,6.0nm,0.6s,mb4.7						
LIC	**Lamto**	**70.67**	**77**	*e*P	**P**	**15 00 04.2**	**-1.9**
	comp=Z,141nm,1.3s,mb5.7						
LIC	**Lamto**	**70.67**	**77**	*e*P	**P**	**15 00 04.0**	**-2.1**
	comp=Z,46nm,1.1s,mb5.3						
TIC	**Toumodi**	**70.83**	**76**	*e*P	**P**	**15 00 05.2**	**-1.8**
	comp=Z,254nm,1.3s,mb6.0						
KIC	**Kosan Boka**	**70.99**	**77**	*e*P	**P**	**15 00 06.2**	**-1.8**
	comp=Z,115nm,0.5s,mb6.0						
DBIC	**Dimbokro**	**70.99**	**76**	P	**P**	**15 00 06.3**	**-1.7**
	comp=Z,47nm,0.9s,mb5.4,baz=224,slow=5.8,SNR=49						
DBIC				LR	LR	15 29 51.1	
	comp=Z,3µm,18.6s,MS5.6,baz=224,slow=35						
DBIC	**Dimbokro**	**70.99**	**76**	P	**P**	**15 00 06.3**	**-1.7**
DBIC				LR	LR	15 29 51.1	
GCMT	**Greycliff**	**71.13**	**334**	*e*P	**P**	**15 00 09.1**	**+0.8**
GCMT				*e*		15 00 15.0	
QLMT	**Earthquake Lak**	**71.15**	**332**	*e*P	**P**	**15 00 09.8**	**+1.4**
DGMT	**Dagmar**	**71.20**	**338**	*e*P	**P**	**15 00 08.7**	**0.0**
	comp=Z,80nm,1.4s,mb5.5						
HLID	**Hailey**	**71.59**	**329**	*e*P	**P**	**15 00 12.3**	**+1.2**
	comp=Z,16nm,1.1s,mb4.9						
HLID				LR	LR		
	comp=Z,646nm,20.0s,MS4.9						
TBI	**Tubuai**	**71.61**	**251**	*e*S	S	15 09 30.4	+4.3
TBI				*e*SS	SS	15 13 56.7	-7.3
TBI				*e*R		15 22 01.1	
	comp=Z,1µm,29.2s,baz=102						
MCMT	**McKenzie Canyo**	**71.80**	**331**	*e*P	**P**	**15 00 13.8**	**+1.6**
BOZ	**Bozeman (W)**	**71.87**	**332**	*e*P	**P**	**15 00 13.1**	**+0.4**
	comp=Z,8.1nm,1.0s,mb4.6						
SCHQ	**Schefferville**	**71.92**	**4**	P	**P**	**15 00 12.9**	**+0.1**
	comp=Z,12nm,0.8s,mb4.9,baz=172,slow=3.9,SNR=11						
SCHQ				LR	LR	15 34 49.7	
	comp=Z,600nm,19.3s,MS4.9,baz=190,slow=38						
BEKR	**Beckwourth**	**72.14**	**323**	*e*P	**P**	**15 00 13.6**	**-0.8**
	comp=Z,40nm,1.5s,mb5.1						
OHCM	**Honcut**	**72.44**	**322**	*e*P	**P**	**15 00 17.0**	**+0.8**
HRY	**Holter Researc**	**72.79**	**333**	*e*P	**P**	**15 00 18.9**	**+0.8**
PPT	**Papeete**	**72.93**	**256**	*e*S	S	15 09 44.3	+2.9
PPT				*e*R		15 22 24.7	
	comp=Z,773nm,22.8s,baz=101						
WVOR	**Wild Horse Val**	**72.94**	**326**	*e*P	**P**	**15 00 19.3**	**+0.2**
	comp=Z,13nm,1.3s,mb4.7						
QSPA	**South Pole Qui**	**72.95**	**180**	*e*P	**P**	**15 00 18.2**	**-0.3**
	comp=Z,23nm,0.9s,mb5.1						
QSPA				LR	LR		
	comp=Z,220nm,21.0s,MS4.4						
MOD	**Modoc**	**73.48**	**325**	*e*P	**P**	**15 00 23.4**	**+1.1**
	comp=Z,27nm,1.2s,mb5.0						
CHMT	**Chamberlain Mo**	**73.57**	**332**	*e*P	**P**	**15 00 24.1**	**+1.4**
YBH	**Yreka Blue Hor**	**74.71**	**323**	P	**P**	**15 00 29.1**	**-0.4**
	comp=Z,3.0nm,0.8s,mb4.3,baz=96,slow=5.7,SNR=7.3						
YBH	**Yreka Blue Hor**	**74.71**	**323**	*e*P	**P**	**15 00 29.0**	**-0.5**
	comp=Z,6.4nm,0.9s,mb4.5						
LNOR	**Lincton Mounta**	**75.17**	**329**	*e*P	**P**	**15 00 32.6**	**+0.6**
LNOR				*e*		15 00 39.3	
FFC	**Flin Flon**	**75.91**	**343**	*e*P	**P**	**15 00 28.8**	**-7.2**
	comp=Z,5.8nm,0.9s,mb4.5						
DPW	**Davenport**	**76.55**	**330**	*e*P	**P**	**15 00 41.1**	**+1.4**
NLW	**Nelson Butte**	**77.72**	**329**	*e*P	**P**	**15 00 45.1**	**-1.2**
FCC	**Fort Churchill**	**77.74**	**349**	*e*P	**P**	**15 00 46.1**	**-0.1**
	comp=Z,8.8nm,0.7s,mb4.8						
BMW	**Boistfort Moun**	**78.09**	**327**	*e*P	**P**	**15 00 50.0**	**+1.6**
EDM	**Edmonton**	**78.45**	**336**	*e*P	**P**	**15 00 50.1**	**-0.1**
RPW	**Rockport**	**78.54**	**329**	*e*P	**P**	**15 00 51.5**	**+0.7**
SBA	**Scott Base**	**79.38**	**191**	*e*P	**P**	**15 00 54.9**	**0.0**
	comp=Z,13nm,1.0s,mb4.8						
SBA				LR	LR		
	comp=Z,867nm,21.0s,MS5.1						
PGC	**Sidney**	**79.64**	**328**	*e*P	**P**	**15 00 58.6**	**+1.8**
	comp=Z,39nm,0.8s,mb5.4						
FRB	**Frobisher Bay**	**80.76**	**2**	LR	LR	15 39 57.5	
	comp=Z,549nm,20.2s,MS4.9,baz=266,slow=38						
PTEO	**Sao Teotonio**	**81.02**	**46**	*e*P	**P**	**15 01 06.0**	**+1.6**
	comp=Z,195nm,1.3s,mb5.9						
SYO	**Syowa Base**	**81.70**	**160**	⇓P	**P**	**15 01 06.5**	**-0.8**
SYO	**Syowa Base**	**81.70**	**160**	⇓pP	pP	15 01 12.9	-8.0
MOE	**Montemor**	**81.76**	**46**	*e*P	**P**	**15 01 08.8**	**+0.6**
PALC	**Alcoutim**	**81.85**	**47**	*e*P	**P**	**15 01 10.2**	**+1.5**
	comp=Z,81nm,1.1s,mb5.6						
PBEJ	**Beja**	**81.85**	**46**	*e*P	**P**	**15 01 10.0**	**+1.3**
	comp=Z,51nm,1.6s,mb5.2						
EGRO	**El Granado**	**81.88**	**47**	P	**P**	**15 01 08.9**	**0.0**
	comp=Z,32nm,0.6s,mb5.4						
EVO	**Evora**	**81.99**	**46**	*e*P	**P**	**15 01 09.2**	**-0.2**
	comp=Z,104nm,0.9s,mb5.5						
EVO				*e*R			
	comp=Z,2µm,21.2s						
PTOM	**Tomar**	**82.26**	**45**	*e*P	**P**	**15 01 11.7**	**+0.9**
	comp=Z,88nm,0.9s,mb5.7						
EMIN	**Mina Concepcio**	**82.55**	**47**	P	**P**	**15 01 12.7**	**+0.4**
	comp=Z,57nm,0.8s,mb5.7						
ESPR	**Espera**	**82.70**	**48**	P	**P**	**15 01 14.8**	**+1.7**
	comp=Z,12nm,0.3s,mb5.4						
EBAD	**Badajoz**	**82.79**	**46**	P	**P**	**15 01 12.8**	**-0.7**
	comp=Z,20nm,0.7s,mb5.3						
PCBR	**Castelo Branco**	**83.00**	**45**	*e*P	**P**	**15 01 15.2**	**+0.7**
	comp=Z,46nm,1.2s,mb5.4						
PVIS	**Viseu**	**83.14**	**44**	*e*P	**P**	**15 01 16.1**	**+0.8**
	comp=Z,80nm,1.5s,mb5.5						
MTE	**Manteigas**	**83.22**	**44**	*e*P	**P**	**15 01 16.6**	**+0.9**
	comp=Z,63nm,1.1s,mb5.6						
MTE				*e*S	S	15 11 41.7	+11
MTE				*e*LQ		15 23 38.5	
MTE				*e*LR	LR	15 29 26.9	
	comp=Z,1µm,22.6s						
MTE	**Manteigas**	**83.22**	**44**	*e*P	**P**	**15 01 15.7**	**+0.1**
	comp=Z,47nm,0.9s,mb5.5						
EZAM	**Zamans**	**83.34**	**42**	P	**P**	**15 01 16.9**	**+0.7**
	comp=Z,15nm,0.6s,mb5.2						
EMIJ	**Mijas**	**83.34**	**49**	P	**P**	**15 01 16.8**	**+0.5**
	comp=Z,11nm,0.4s,mb5.2						
PVRL	**Vila Real**	**83.54**	**43**	*e*P	**P**	**15 01 18.4**	**+1.1**
	comp=Z,88nm,1.4s,mb5.7						
EMAZ	**Mazaricos**	**83.56**	**41**	P	**P**	**15 01 17.9**	**+0.6**
	comp=Z,59nm,0.8s,mb5.8						
ELOB	**Lobios**	**83.60**	**43**	P	**P**	**15 01 18.6**	**+1.0**
	comp=Z,45nm,0.7s,mb5.7						
SUR	**Sutherland**	**83.76**	**122**	P	**P**	**15 01 19.3**	**+0.7**
	comp=Z,32nm,0.9s,mb5.5,baz=252,slow=4.0,SNR=13						
SUR	**Sutherland**	**83.76**	**122**	*e*P	**P**	**15 01 18.9**	**+0.3**
	comp=Z,63nm,1.0s,mb5.7						
STS	**Santiago**	**83.80**	**42**	P	**P**	**15 01 19.0**	**+0.5**
	comp=Z,16nm,0.6s,mb5.3						
ELOJ	**Sierra Loja**	**84.04**	**48**	P	**P**	**15 01 21.8**	**+1.9**
	comp=Z,48nm,0.6s,mb5.8						
ELUQ	**Luque**	**84.15**	**48**	P	**P**	**15 01 22.3**	**+1.9**
	comp=Z,57nm,0.6s,mb5.9						
EADA	**Adamuz**	**84.20**	**47**	P	**P**	**15 01 21.8**	**+1.1**
	comp=Z,90nm,0.9s,mb5.9						
ERON	**Agron**	**84.23**	**49**	P	**P**	**15 01 22.1**	**+1.2**
	comp=Z,24nm,0.7s,mb5.4						
PBRG	**Braganca**	**84.43**	**43**	*e*P	**P**	**15 01 22.9**	**+1.1**
	comp=Z,124nm,1.3s,mb5.9						
ERUA	**La Rua**	**84.46**	**43**	P	**P**	**15 01 23.2**	**+1.4**
	comp=Z,48nm,0.8s,mb5.7						
ECAL	**Calabor**	**84.50**	**43**	P	**P**	**15 01 23.3**	**+1.2**
	comp=Z,167nm,1.1s,mb6.1						
TSUM	**Tsumeb**	**84.64**	**108**	*e*P	**P**	**15 01 23.5**	**+0.2**
	comp=Z,86nm,1.1s,mb5.8						
EPON	**Pontenova**	**84.91**	**42**	P	**P**	**15 01 25.4**	**+1.3**
	comp=Z,74nm,0.9s,mb5.8						
EQES	**Quesada**	**85.11**	**48**	P	**P**	**15 01 26.4**	**+1.2**
	comp=Z,139nm,1.2s,mb6.0						
ESDC	**Sonseca Array**	**85.31**	**46**	P	**P**	**15 01 27.6**	**+1.4**
	comp=Z,38nm,0.8s,mb5.6,baz=252,slow=5.2,SNR=104						
ESDC				LR	LR	15 36 40.3	
	comp=Z,1µm,20.1s,MS5.3,baz=245,slow=34						
ESDC	**Sonseca Array**	**85.31**	**46**	P	**P**	**15 01 27.5**	**+1.3**
	comp=Z,31nm,0.8s,mb5.5						
EVIA	**Vianos**	**85.87**	**48**	P	**P**	**15 01 29.6**	**+0.7**
	comp=Z,39nm,0.6s,mb5.8						
YKA	**Yellowknife Ar**	**86.03**	**342**	P	**P**	**15 01 29.9**	**+0.8**
	comp=Z,6.9nm,0.7s,mb5.0,baz=136,slow=4.9,SNR=18						
YKA				LR	LR	15 43 34.8	
	comp=Z,493nm,19.4s,MS4.9,baz=130,slow=38						
YKW3	**Yellowknife Ar**	**86.09**	**342**	*e*P	**P**	**15 01 29.7**	**+0.3**
ETOB	**Tobarra**	**86.55**	**48**	P	**P**	**15 01 33.2**	**+0.9**
	comp=Z,67nm,0.8s,mb5.9						
ETOR	**Torete**	**87.12**	**46**	P	**P**	**15 01 36.9**	**+1.9**
	comp=Z,22nm,0.8s,mb5.4						
ELAN	**Lanestosa**	**87.26**	**43**	P	**P**	**15 01 36.8**	**+1.1**
	comp=Z,18nm,1.0s,mb5.3						
ESAC	**San Caprasio**	**88.59**	**45**	P	**P**	**15 01 43.5**	**+1.5**
	comp=Z,13nm,0.4s,mb5.6						
SJPF	**Ste Jean**	**88.67**	**44**	*e*P	**P**	**15 01 42.3**	**0.0**
	comp=Z,88nm,1.2s,mb5.7						
DLBC	**Dease Lake**	**88.83**	**334**	P	**P**	**15 01 44.6**	**+1.8**
	comp=Z,13nm,0.9s,mb5.3,baz=124,slow=3.8,SNR=17						
DLBC	**Dease Lake**	**88.83**	**334**	*e*P	**P**	**15 01 44.1**	**+1.3**
EBR	**Ebro Roquetas**	**88.88**	**47**	*e*P	**P**	**15 01 42.0**	**-1.4**
ETSF	**Etsaut**	**89.02**	**44**	*e*P	**P**	**15 01 44.1**	**+0.1**
	comp=Z,30nm,0.8s,mb5.4						
MAW	**Mawson**	**89.39**	**164**	⇑*i*P	**P**	**15 01 45.2**	**0.0**
	comp=Z,17nm,0.9s,mb5.4						
MAW	**Mawson**	**89.39**	**164**	P	**P**	**15 01 45.3**	**+0.1**
	comp=Z,23nm,0.9s,mb5.5,baz=215,slow=5.9,SNR=53						
MAW				LR	LR	15 42 28.6	
	comp=Z,479nm,18.4s,MS5.0,baz=126,slow=36						
QUIF	**Quistinic**	**89.53**	**39**	*e*P	**P**	**15 01 45.3**	**-1.0**
ROSF	**Rostrenen**	**89.65**	**39**	*e*P	**P**	**15 01 46.0**	**-0.9**
	comp=Z,101nm,1.3s,mb5.7						
EPF	**Esparros**	**89.67**	**45**	*e*P	**P**	**15 01 47.0**	**-0.1**
	comp=Z,63nm,1.1s,mb5.6						
MELF	**Melles**	**89.89**	**45**	*e*P	**P**	**15 01 49.3**	**+1.2**
SGMF	**Saint Gilles**	**90.04**	**39**	*e*P	**P**	**15 01 47.3**	**-1.4**
	comp=Z,74nm,1.2s,mb5.6						
SALF	**Salau**	**90.14**	**45**	*e*P	**P**	**15 01 50.7**	**+1.4**
LFF	**La Frestale**	**90.71**	**43**	*e*P	**P**	**15 01 51.2**	**-0.7**
	comp=Z,100nm,1.0s,mb5.8						
MFF	**Saint Martin d**	**90.82**	**41**	*e*P	**P**	**15 01 51.9**	**-0.5**
	comp=Z,57nm,1.0s,mb5.6						
FILF	**Fillols**	**90.99**	**46**	*e*P	**P**	**15 01 53.7**	**+0.4**
MTLF	**Montolieu**	**91.06**	**45**	*e*P	**P**	**15 01 52.8**	**-0.8**
GRR	**Gorron**	**91.12**	**39**	*e*P	**P**	**15 01 53.5**	**-0.3**
	comp=Z,70nm,1.0s,mb5.7						
RJF	**Les Rejaudoux**	**91.36**	**43**	*e*P	**P**	**15 01 54.0**	**-0.9**
	comp=Z,50nm,1.1s,mb5.5						
RJF				*e*R			
	comp=Z,851nm,18.8s						
FLN	**La Foliniere**	**91.51**	**39**	*e*P	**P**	**15 01 54.7**	**-0.8**
	comp=Z,59nm,1.0s,mb5.6						
FLN				*e*R			
	comp=Z,1µm,20.2s						
CAF	**Calviac**	**91.57**	**43**	*e*P	**P**	**15 01 55.2**	**-0.7**
	comp=Z,74nm,1.3s,mb5.5						
LDF	**La Druitiere**	**91.65**	**39**	*e*P	**P**	**15 01 55.2**	**-1.0**
	comp=Z,57nm,1.1s,mb5.5						
TCF	**Toulx Ste Croi**	**92.19**	**42**	*e*P	**P**	**15 01 57.5**	**-1.2**
	comp=Z,25nm,1.0s,mb5.2						
SUMG	**Summit**	**92.42**	**10**	*e*P	**P**	**15 02 00.8**	**+1.7**
	comp=Z,55nm,1.0s,mb5.8						
LASF	**Ste Croix**	**92.44**	**45**	*e*P	**P**	**15 01 58.6**	**-1.3**
	comp=Z,65nm,1.3s,mb5.5						
BGF	**Bois d'Agland**	**92.70**	**42**	*e*P	**P**	**15 02 00.3**	**-0.8**
	comp=Z,51nm,0.9s,mb5.7						
VIVF	**Saint-Julien-l**	**93.26**	**44**	*e*P	**P**	**15 02 03.3**	**-0.4**
	comp=Z,80nm,1.5s,mb5.6						
SSF	**Saint Saulge**	**93.31**	**42**	*e*P	**P**	**15 02 02.4**	**-1.4**
	comp=Z,9.3nm,0.7s,mb5.0						
SMF	**Signal de Mont**	**93.37**	**42**	*e*P	**P**	**15 02 03.1**	**-1.0**
	comp=Z,28nm,0.8s,mb5.4						
LOR	**Lormes**	**93.61**	**42**	*e*P	**P**	**15 02 04.3**	**-0.9**
	comp=Z,12nm,0.7s,mb5.1						
LOR				*e*R			
	comp=Z,673nm,19.0s						
LMR	**La Mourre**	**93.97**	**46**	*e*P	**P**	**15 02 05.1**	**-1.8**
	comp=Z,188nm,1.6s,mb6.0						
ORIF	**Oris-en-Rattie**	**94.09**	**44**	*e*P	**P**	**15 02 06.4**	**-1.0**
	comp=Z,52nm,1.1s,mb5.6						
ORIF				*e*R			
	comp=Z,2µm,22.8s						
MBDF	**Montbardon**	**94.62**	**45**	*e*P	**P**	**15 02 08.3**	**-1.5**
	comp=Z,46nm,1.2s,mb5.5						
CABF	**La Chapelle**	**94.80**	**43**	*e*P	**P**	**15 02 09.9**	**-0.7**
	comp=Z,16nm,0.9s,mb5.2						
LPL	**La Plagne**	**94.86**	**44**	*e*P	**P**	**15 02 11.3**	**+0.4**
LPG	**La Plagne**	**94.86**	**44**	*e*P	**P**	**15 02 11.4**	**+0.5**
	comp=Z,48nm,1.2s,mb5.5						
GIVF	**Givet**	**95.22**	**39**	*e*P	**P**	**15 02 11.9**	**-0.6**
LSZ	**Lusaka**	**95.48**	**108**	PFAKE		15 02 30.0	+16
LSZ				LR	LR		
	comp=Z,1µm,19.0s,MS5.5						
INK	**Inuvik**	**95.76**	**341**	P	**P**	**15 02 14.5**	**0.0**
	comp=Z,2.7nm,0.9s,mb4.7,baz=141,slow=6.6,SNR=5.5						
INK	**Inuvik**	**95.76**	**341**	*e*P	**P**	**15 02 14.6**	**+0.1**
CDF	**Champ du Feu**	**96.16**	**41**	*e*P	**P**	**15 02 15.9**	**-0.8**
	comp=Z,18nm,1.0s,mb5.2						
CASY	**Casey**	**96.72**	**181**	*e*P	**P**	**15 02 15.4**	**-3.5**
	comp=Z,7.4nm,1.2s,mb5.0						
PMR	**Palmer**	**98.74**	**332**	PFAKE		15 02 40.0	+12
PMR				LR	LR		
	comp=Z,513nm,19.0s,MS5.0						
GRA1	**Grafenberg Arr**	**99.02**	**41**	*e*P	**P**	**15 02 30.5**	**+0.8**
	comp=Z,90nm,0.1s						
GRA1				*e*pP	pP	15 02 47.5	+4.0
GRA1				LR	LR		
	comp=Z,700nm,20.1s						
GRF	**Grafenberg Arr**	**99.02**	**41**	*e*P	**P**	**15 02 30.5**	**+0.8**
GRF				*e**PP	pP	15 02 47.5	+4.0
CLZ	**Clausthal**	**99.09**	**39**	*e*P	**P**	**15 02 31.1**	**+1.1**
	comp=Z,33nm,1.4s,mb5.7						
COLA	**College**	**99.33**	**335***d*	*e*P	**P**	**15 02 31.2**	**+0.4**
MCK	**McKinley**	**99.38**	**334**	PFAKE		15 02 40.0	+9.0
MCK				LR	LR		
	comp=Z,225nm,21.0s,MS4.7						
MOX	**Moxa**	**99.52**	**40**	*e*P	**P**	**15 02 32.0**	**0.0**
MOX				pP	pP	15 02 50.0	+4.2
MOX				L		15 44 29.0	
MOX	**Moxa**	**99.52**	**40**	*e*P	**P**	**15 02 32.0**	**0.0**
MOX				*e*pP	pP	15 02 50.0	+4.2
MOX				LR	LR		
	comp=Z,900nm,21.0s,MS5.2						
BSEG	**Bad Segeberg**	**99.64**	**37**	*e*P	**P**	**15 02 33.6**	**+1.2**
WET	**Wettzell**	**99.92**	**42**	*e*P	**P**	**15 02 35.0**	**+1.2**
WET				pmax	pmax		
	comp=Z,37nm,1.8s,mb5.5						
WET	**Wettzell**	**99.92**	**42**	*e*P	**P**	**15 02 35.0**	**+1.2**
	comp=Z,37nm,1.8s,mb5.5						
KHC	**Kasperske Hory**	**100.36**	**42**	*e*PDIF	P	15 02 36.0	+0.2
GERES	**GERESS Array B**	**100.37**	**42**	P	P	15 02 36.6	+0.7
	comp=Z,1.6nm,0.8s,baz=252,slow=4.2,SNR=9.3						
CLL	**Collm**	**100.54**	**40**	P	P	15 02 37.0	+0.4
CLL				*e*		15 13 28.0	
CLL				*e*PS	PS	15 15 50.0	+4.5
CLL	**Collm**	**100.54**	**40**	*e*P	P	15 02 37.0	+0.4
CLL				MLR	MLR		
	comp=Z,900nm,17.3s,MS5.3						
BRG	**Berggiesshubel**	**101.01**	**40**	*e*P	P	15 02 39.8	+1.1
BRG				pmax	pmax		
	comp=Z,11nm,1.3s						
BRG				MLR	MLR		
	comp=N,480nm,18.1s,MS5.3						
BRG				MLR	MLR		
	comp=E,650nm,18.1s,MS5.3						
BRG				MLR	MLR		
	comp=Z,1µm,18.1s,MS5.4						
BRG	**Berggiesshubel**	**101.01**	**40**	*e*P	P	15 02 39.8	+1.1
	comp=Z,11nm,1.3s						
BRG				LR	LR		
	comp=Z,1µm,18.1s,MS5.4						
PRU	**Pruhonice**	**101.18**	**41**	*e*PDIF	P	15 02 43.6	+4.1
KMBO	**Kilima Mbogo**	**108.58**	**97**	PFAKE		15 07 30.0	
KMBO				LR	LR		
	comp=Z,853nm,20.0s,MS5.3						
BRTR	**Keskin Array B**	**113.16**	**54**	PKiKP		15 07 27.3	
	comp=Z,4.6nm,1.1s,baz=180,slow=4.9,SNR=11						
OBN	**Obninsk**	**114.90**	**37**	*i* PKIKP	PKPdf	15 07 30.0	+1.7
OBN				*e*		15 08 28.3	
OBN				*i*		15 14 19.8	
OBN				*e*PS	PS	15 18 13.7	+6.4
OBN				SS	SS	15 24 34.0	+13
OBN				pmax	pmax		
	comp=Z,13nm,0.9s						
OBN				MLR	MLR		
	comp=Z,800nm,17.0s,MS5.4						
MOS	**Moscow**	**115.43**	**36**	*e*PKIKP	PKPdf	15 07 29.1	-0.2
MOS				pmax	pmax		
	comp=Z,48nm,0.6s						
MOS				MLR	MLR		
	comp=Z,1µm,20.4s,MS5.4						
ANN	**Anapa**	**116.08**	**48**	*e*PKIKP	PKPdf	15 07 30.3	-0.6
ANN				pmax	pmax		
	comp=Z,11nm,0.8s						
ANN				MLR	MLR		
	comp=N,317nm,19.0s,MS5.1						
ANN				MLR	MLR		
	comp=Z,424nm,19.0s,MS5.1						
ANN				MLR	MLR		
	comp=E,203nm,16.0s,MS5.1						
MALT	**Malatya**	**116.83**	**55**	*e*PKPdf	PKPdf	15 07 34.1	+1.6
SOC	**Sochi**	**117.76**	**49**	*i* PKIKP	PKPdf	15 07 36.2	+2.1
SOC				*e*		15 14 34.6	
SOC				pmax	pmax		
	comp=Z,15nm,0.7s						
SOC				pmax	pmax		
	comp=N,16nm,1.0s						
SOC				pmax	pmax		
	comp=E,16nm,0.9s						
SOC				MLR	MLR		
	comp=Z,289nm,21.0s,MS4.9						
SOC				MLR	MLR		
	comp=N,515nm,26.0s,MS5.2						
SOC				MLR	MLR		
	comp=E,528nm,21.0s,MS5.2						
ZEI	**Tsey**	**120.86**	**50**	*i* PKIKP	PKPdf	15 07 36.0	-4.2
ZEI				*e*		15 09 08.0	
STKA	**Stephens Creek**	**121.20**	**214**	PKP	PKPdf	15 07 42.8	+1.7
	comp=E,1.8nm,0.8s,baz=274,slow=15,SNR=5.6						
TIXI	**Tiksi**	**124.11**	**352**	⇓*i*PKIKP	PKPdf	15 07 46.0	+0.2
TIXI				*e*		15 09 36.9	
TIXI				*e*		15 14 40.2	
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.1s						
ARU	**Arti**	**126.44**	**31**	*i* PKIKP	PKPdf	15 07 52.5	+1.9
ARU				*e*		15 09 47.7	
ARU				*i*		15 14 54.1	
ARU				*e*PS	PS	15 19 52.5	+2.3
ARU				*e*SS	SS	15 26 49.7	+1.2
ARU				MLR	MLR		
	comp=N,200nm,18.0s,MS5.3						
ARU				MLR	MLR		
	comp=E,500nm,18.0s,MS5.3						
ARU				MLR	MLR		
	comp=Z,700nm,18.0s,MS5.4						
ASAR	**Alice Springs**	**131.83**	**213**	PKP	PKPdf	15 08 02.6	+0.8
	comp=Z,5.2nm,1.1s,baz=132,slow=1.5,SNR=26						
ASPA	**Alice Springs**	**131.83**	**213**	*e*PKP	PKPdf	15 08 02.4	+0.6
ASPA				*e*PKS	PKS	15 11 29.1	-8.0
YAK	**Yakutsk**	**132.56**	**346**	*e*PKIKP	PKPdf	15 08 04.5	+2.4
YAK				pmax	pmax		
	comp=Z,8.0nm,1.1s						
ZRNK	**Zerenda**	**133.43**	**31**	*e*PKPdf	PKPdf	15 08 06.3	+2.3
ZRNK				*e*		15 08 14.8	
BRVK	**Borovoye**	**133.99**	**30**	*e*PKPdf	PKPdf	15 08 07.1	+2.1
WB2	**Warramunga Arr**	**134.57**	**217**	*e*PKP	PKPdf	15 08 08.2	+1.2
WRA	**Warramunga Arr**	**134.58**	**217**	PKP	PKPdf	15 08 08.1	+1.0
	comp=Z,3.3nm,0.7s,baz=146,slow=2.0,SNR=45						
NVS	**Novosibirsk**	**138.10**	**21**	*i* PKIKP	PKPdf	15 08 14.1	+1.6
NVS				*e*		15 08 22.8	
NVS				pmax	pmax		
	comp=E,10.0nm,1.6s						
NVS				pmax	pmax		
	comp=Z,34nm,1.6s						
CLNS	**Chul'man**	**138.31**	**346**	*e*PKIKP	PKPdf	15 08 11.3	-1.5
CLNS				pmax	pmax		
	comp=Z,13nm,1.4s						
CLNS				pmax	pmax		
	comp=N,2.0nm,0.7s						
CLNS				pmax	pmax		
	comp=E,4.0nm,0.7s						
YSS	**Yuzh-Sakhalins**	**138.45**	**323**	*i* PKIKP	PKPdf	15 08 11.9	-1.5
BOD	**Bodaibo**	**139.16**	**355**	*e*PKHKP		15 08 03.6	
KURK	**Kurchatov**	**139.43**	**28***c*	*i*PKIKP	PKPdf	15 08 17.4	+2.4
KURK	**Kurchatov**	**139.43**	**28**	*e*PKPdf	PKPdf	15 08 17.2	+2.2
FITZ	**Fitzroy Crossi**	**140.59**	**208**	*e*PKP	PKPdf	15 08 12.6	-5.5
	comp=E,6.5nm,0.9s						
AAK	**Ala-Archa**	**142.24**	**41***d*	*i*PKIKP	PKPdf	15 08 21.5	+1.3
AAK				MLR	MLR		
	comp=Z,300nm,21.0s,MS5.0						
AAK	**Ala-Archa**	**142.24**	**41**	*e*PKPpre		15 08 17.8	
AAK				LR	LR		
	comp=Z,108nm,19.0s,MS4.6						
KLR	**Kul'dur**	**142.47**	**334**	*e*PKIKP	PKPdf	15 08 22.6	+2.2
MKAR	**Makanchi Array**	**143.93**	**30**	PKP	PKPdf	15 08 22.7	-0.3
	comp=Z,16nm,0.8s,baz=325,slow=3.9,SNR=93						
MKAR	**Makanchi Array**	**143.93**	**30**	*i* PKIKP	PKPdf	15 08 22.7	-0.3
MKAR				pmax	pmax		
	comp=Z,17nm,0.8s						
MKAR	**Makanchi Array**	**143.93**	**30**	PKP	PKPdf	15 08 22.7	-0.3
KSH	**Kashi**	**144.81**	**44**	*e*PKP	PKPdf	15 08 27.6	+2.8
KSH				*e*XPKP		15 08 42.3	
KSH				*e*PKS	PKS	15 12 01.6	+2.3
KSH				*e*SKS	SKS	15 15 32.3	+4.9
JASL	**Jaisalmer**	**144.93**	**68**	*e*PKP	PKPdf	15 08 27.2	+1.8
HIA	**Hailar**	**146.50**	**345**	*e*PKPdf	PKPdf	15 08 29.6	+2.2
MAJO	**Matsushiro**	**146.67**	**311**	*e*PKPbc	PKPbc	15 08 31.7	+2.2
MAT	**Matsushiro**	**146.67**	**311**	PKP	PKPdf	15 08 31.8	+3.7
MAT	**Matsushiro**	**146.67**	**311**	*e*PKP	PKPdf	15 08 32.0	+3.9
MAT				LR	LR		
	comp=Z,350nm,20.0s,MS5.1						
MDJ	**Mudanjiang**	**146.93**	**330**	PKP	PKPdf	15 08 31.9	+3.7
MDJ	**Mudanjiang**	**146.93**	**330**	*e*PKPbc	PKPbc	15 08 31.2	+1.4
POO	**Poona**	**148.06**	**82**	*e*P	PKPdf	15 08 32.5	+1.7
POO				*e*		15 40 42.0	
KAD	**Karad**	**148.29**	**85**	⇑*i*PKP	PKPdf	15 08 35.5	+4.3
WMQ	**Urumqi**	**148.68**	**28**	PKP	PKPdf	15 08 32.4	+1.3
WMQ				APKP		15 08 43.1	
WMQ				XPKP		15 08 46.8	
WMQ				PP	PP	15 12 09.6	+1.0
WMQ				LR	LR		
	comp=N,169nm,21.0s,MS5.0						
WMQ				LR	LR		
	comp=E,158nm,20.0s,MS5.0						
WMQ				LR	LR		
	comp=Z,300nm,20.2s,MS5.1						
KHET	**Khetri**	**148.99**	**64**	*e*PKP	PKPdf	15 08 34.0	+1.9

TRD	**Trivandrum**	149.12	102	*i*	PKPdf	15 08 40.1	+7.4
KKR	**Kurukshetra**	149.34	60	*e*PKP	PKPdf	15 08 35.4	+2.8
KKR				*e*		15 08 36.0	
	comp=Z,78nm,0.4s						
CN2	**Changchun**	149.42	334	*e*PKP	PKPdf	15 08 38.0	+5.7
SONM	**Songino Array**	149.45	1	PKP	PKPdf	15 08 35.4	+3.2
	comp=Z,29nm,0.6s,baz=322,slow=1.7,SNR=108						
SONM				PKPbc	PKPdf	15 08 39.6	+7.4
	comp=Z,31nm,0.7s,baz=330,slow=1.8,SNR=164						
KUDL	**Kundal**	149.55	64	*e*PKP	PKPdf	15 08 35.7	+2.8
KUDL				*e*		15 08 41.9	
	comp=Z,89nm,1.1s						
KLP	**Kalpa**	149.97	56	*e*PKP	PKPdf	15 08 37.1	+3.6
SONA	**Sohna**	150.03	63	*e*PKP	PKPdf	15 08 35.6	+1.9
SONA				*e*		15 08 42.0	
	comp=Z,45nm,0.7s						
LATR	**Latur**	150.62	83	⇓*i*	PKPdf	15 08 42.0	+7.2
JOSI	**Joshimath**	151.37	57	*e*PKP	PKPdf	15 08 38.9	+3.2
CUD	**Cuddapah**	152.32	92	⇑*e*P	PKPdf	15 08 39.9	+2.4
CUD				*e*		15 08 46.1	
HYB	**Hyderabad**	152.46	85	*i* PKP	PKPdf	15 08 39.5	+1.9
HYB				*e*		15 08 46.5	
HYB				*e*PKPAB	PKPab	15 08 56.0	-1.3
HYB	**Hyderabad**	152.46	85	*e*P	PKPdf	15 08 39.5	+1.9
HYB				*e*		15 08 46.5	
HYB				*e*		15 08 56.0	
KGD	**Kothagudem**	154.48	85	*e*KiKP		15 08 49.6	
KGD				*e*PP	PP	15 12 38.8	-3.5
KGD				*e*SS	SS	15 32 19.6	+3.3
KOLN	**Koldanda**	155.67	60	*e*P	PKPdf	15 08 43.3	+1.6
	comp=Z,27nm,1.4s						
BJI	**Beijing**	156.02	343	PKP	PKPdf	15 08 45.8	+4.1
BJI				LR	LR		
	comp=N,412nm,20.9s,MS5.3						
BJI				LR	LR		
	comp=E,249nm,19.5s,MS5.3						
BJI				LR	LR		
	comp=Z,429nm,21.6s,MS5.2						
GKN	**Gorkha**	156.44	59	*e*P	PKPdf	15 08 41.4	-1.3
GTA	**Gaotai**	156.92	15	PKP	PKPdf	15 08 46.0	+3.0
GTA				PP	PP	15 12 56.1	+1.2
GTA				SKS	SKS	15 15 46.5	+4.1
GTA				LR	LR		
	comp=N,146nm,22.1s,MS4.9						
GTA				LR	LR		
	comp=E,115nm,23.2s,MS4.9						
GTA				LR	LR		
	comp=Z,213nm,20.5s,MS5.0						
DMN	**Daman**	156.97	59	*e*P	PKPdf	15 08 42.9	-0.5
KKN	**Kakani**	157.04	59	*e*P	PKPdf	15 08 42.2	-1.3
PKI	**Pulchoki**	157.23	59	*e*P	PKPdf	15 08 43.1	-0.7
	comp=Z,19nm,1.0s						
LZH	**Lanzhou**	160.94	9	⇑PKP	PKPdf	15 08 49.5	+1.7
LZH				*e*PP	PP	15 13 19.3	+2.2
LZH				SKKS		15 20 00.5	
LZH				SS	SS	15 33 25.8	+2.0
LZH				PP	PP		
	comp=Z,316nm,8.5s						
LZH				LR	LR		
	comp=E,435nm,18.2s						
LZH				LR	LR		
	comp=Z,498nm,20.0s						
SSE	**Sheshan**	161.35	320	PKP	PKPdf	15 08 50.6	+2.3
SSE				SS	SS	15 33 34.3	+5.9
SSE				LR	LR		
	comp=N,84nm,29.1s						
SSE				LR	LR		
	comp=E,168nm,29.2s						
SSE				LR	LR		
	comp=Z,287nm,22.3s						
NJ2	**Nanjing**	161.96	327	*e*PKP	PKPdf	15 08 51.3	+2.4
NJ2				APKP		15 09 02.3	
NJ2				XPKP		15 09 06.0	
NJ2				PKP2	PKPab	15 09 40.3	+2.7
NJ2				PP	PP	15 13 25.0	+2.6
NJ2				SKS	SKS	15 15 51.0	+3.6
NJ2				SKKS		15 20 07.0	
NJ2				PP	PP		
	comp=Z,140nm,7.2s						
NJ2				LR	LR		
	comp=N,570nm,23.2s						
NJ2				LR	LR		
	comp=E,410nm,25.3s						
NJ2				LR	LR		
	comp=Z,730nm,29.1s						
XAN	**Xi’an**	163.19	356	PKP	PKPdf	15 08 52.0	+1.9
XAN				APKP		15 09 02.3	
SHL	**Shillong**	163.34	57	*e*PKP	PKPdf	15 08 53.2	+2.7
SHL				*e*PP	PP	15 13 28.3	-1.5
CD2	**Chengdu**	165.97	13	*e*PKP	PKPdf	15 08 56.5	+3.6
GYA	**Guiyang**	170.78	4	PKP	PKPdf	15 08 58.6	+2.6
GYA				APKP		15 09 11.4	
GYA				PKS	PKS	15 12 29.5	+1.9
GYA				PP	PP		
	comp=Z,160nm,9.2s						
GYA				LR	LR		
	comp=N,160nm,20.3s						
GYA				LR	LR		
	comp=E,150nm,21.8s						
GYA				LR	LR		
	comp=Z,180nm,23.0s						
KMI	**Kunming**	171.01	28	*e*PKP	PKPdf	15 08 56.0	-0.1
KMI				PKP2	PKPab	15 10 17.3	-0.1
KMI				PKS	PKS	15 12 24.8	-3.0
KMI				PP	PP	15 14 07.6	-1.2
KMI				SKS	SKS	15 15 51.5	-1.7
KMI				SS	SS	15 35 05.1	-0.7
KMI				LR	LR		
	comp=N,204nm,19.1s						
KMI				LR	LR		
	comp=E,189nm,16.6s						
KMI				LR	LR		
	comp=Z,309nm,20.6s						
CMAR	**Chiang Mai Arr**	171.84	80	PKP	PKPdf	15 08 58.8	+2.0
	comp=Z,2.8nm,0.8s,baz=291,slow=2.1,SNR=17						
CMAR				PKPab	PKPab	15 10 20.9	-0.3
	comp=Z,5.2nm,0.7s,baz=278,slow=6.8,SNR=13						
QIZ	**Qiongzhong**	177.06	308	PKP	PKPdf	15 08 56.5	-2.0
QIZ				LR	LR		
	comp=N,967nm,21.6s						
QIZ				LR	LR		
	comp=E,734nm,19.8s						
QIZ				LR	LR		
	comp=Z,603nm,18.2s						

JMA ***16*** *14:57:25.2±0.4, 23.45N×121.62E, h82^{km}, M2.3*

TAP 16 14:57:24.2, 23.41N×121.60E, h29^{km}, ML3.0, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	1.66	51	P	Pn	14 57 52.6	+0.7
YOJ				S	Sn	14 58 13.1	+0.7
HATJ	**Hateruma jima**	2.12	72	*e*S	Sn	14 58 24.1	0.0
IRIF	**Iriomote-Funau**	2.16	64	P	Pn	14 57 59.8	+0.8
IRIF				S	Sn	14 58 26.0	+1.0
JKRS	**Kuro-shima**	2.35	69	P	Pn	14 58 02.2	+0.4
JKRS				S	Sn	14 58 29.6	-0.4
JIJ	**Ishigaki jima**	2.51	67	P	Pn	14 58 03.9	-0.2
JIJ				S	Sn	14 58 32.7	-1.4
JTJ	**Tarama**	3.09	66	S	Sn	14 58 47.7	-0.9

MOS ***16*** *15:35:44.8±1.1, 63.56N×150.13E, h10^{km}, mb3.9/5, Error ellipse: s-maj=32.4km s-min=14.5km az=94.3*

NEIC ***16*** *15:35:47.7±0.5, 63.47N×150.30E, mb3.9/1, Error ellipse: s-maj=11.4km s-min=8.2km az=206.0*

IDC ***16*** *15:35:47.8±0.9, 63.53N×150.19E, h15^{km}±5^{km}, mb3.4/7, mb1 3.7/8, mb1mx3.6/22, ML3.7/1, Error ellipse: s-maj=25.0km s-min=19.5km az=153.0*

ISC 16 15:35:46.8±1.7**, 63.49N**±0.06×**150.2E**±0.2**, h21**^{km}±13^{km}**, h16**^{km}±1.9^{km}**:pP-P, n25, σ0^{s}62**/26**, mb3.6**/9**, 3D, Eastern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SEY	**Seymchan**	1.15	118	*d i*P	Pb	15 36 07.8	0.0
SEY				*e*		15 36 22.3	
SEY				pmax	pmax		
	comp=Z,600nm,0.2s						
SEY				smax			
	comp=N,5µm,0.2s						
SEY				smax			
	comp=E,2µm,0.2s						
MGD	**Magadan 1**	3.47	175	*d i*P	Pn	15 36 39.5	-1.4
MGD				*e*		15 37 33.0	
MGD				pmax	pmax		
	comp=Z,420nm,0.8s						
MGD				smax			
	comp=N,2µm,1.0s						
MA2	**Magadan**	3.94	176	*e*P	Pn	15 36 48.5	+0.8
MA2				*e*S	Sn	15 37 33.7	-0.2
MA2				pmax	pmax		
	comp=Z,230nm,0.4s						
MA2				smax			
	comp=N,840nm,0.5s						
MA2				smax			
	comp=E,450nm,0.5s						
YAK	**Yakutsk**	9.50	270	*e*P	P	15 38 05.7	+0.3
YAK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
YAK				pmax	pmax		
	comp=N,2.0nm,1.2s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.2s						
YAK				pmax	pmax		
	comp=N,2.0nm,0.9s						
YAK				pmax	pmax		
	comp=Z,7.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,6.0nm,1.2s						
YAK				MLR	MLR		
	comp=Z,77nm,9.0s						
YAK	**Yakutsk**	9.50	270	*e*P	P	15 38 05.7	+0.3
	comp=Z,4.0nm,0.7s						
TIXI	**Tiksi**	11.46	325	*e*P	P	15 38 46.6	+14
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BOD	**Bodaibo**	18.42	269	*e*P	P	15 40 01.5	-0.8
ASAJ	**Asahikawa**	19.90	196	P	P	15 40 19.9	+0.4
	comp=Z,0.5nm,0.3s,baz=281,slow=13,SNR=6.0						
ASAJ	**Asahikawa**	19.90	196	P	P	15 40 20.0	+0.4
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ILAR	**Eielson Array**	26.50	59	P	P	15 41 24.6	+0.6
	comp=Z,0.5nm,0.8s,mb3.1,baz=281,slow=4.6,SNR=6.0						
ILAR	**Eielson Array**	26.50	59	P	P	15 41 24.6	+0.6
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
SONM	**Songino Array**	28.52	258	P	P	15 41 43.2	+0.8
	comp=Z,0.4nm,0.8s,mb3.2,baz=56,slow=5.2,SNR=2.0						
SONM				pP	pP	15 41 46.7	-1.9
	comp=Z,1.0nm,1.0s,baz=24,slow=12,SNR=3.6						
SONM	**Songino Array**	28.52	258	P	P	15 41 43.2	+0.8
SONM				pP	pP	15 41 46.6	-1.9
MKAR	**Makanchi Array**	40.06	278	P	P	15 43 22.3	+0.5
	comp=Z,0.3nm,0.6s,mb3.2,baz=63,slow=8.3,SNR=4.0						
MKAR				pP	pP	15 43 26.9	-1.1
	comp=Z,0.4nm,0.4s,baz=46,slow=6.4,SNR=4.0						
MKAR				PP	PP	15 44 59.9	+2.1
	comp=Z,0.9nm,0.7s,baz=52,slow=9.3,SNR=4.9						
MKAR	**Makanchi Array**	40.06	278	P	P	15 43 22.3	+0.5
MKAR				*PP	pP	15 43 27.0	-1.0
MKAR						15 44 59.9	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	40.06	278	P	P	15 43 22.3	+0.5
MKAR				pP	pP	15 43 27.0	-1.0
MKAR				*e*		15 44 59.9	
ZRNK	**Zerenda**	41.13	295	*e*P	P	15 43 30.7	+0.1
	comp=Z,2.3nm,0.8s,mb3.9						
ARU	**Arti**	42.60	305	⇓*i*P	P	15 43 47.4	+5.0
ARU				*e*		15 45 27.1	
ARU				*e*		15 45 40.4	
ARU				*e*PPP	PPP	15 46 04.1	+6.7
ARU				*e*S	S	15 50 03.4	-0.4
ARU				*e*SSS	SSS	15 53 54.2	-0.5
ARU				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb3.9						
NOA	**NORSAR Array B**	51.98	336	P	P	15 44 54.9	-1.0
	comp=Z,0.8nm,0.8s,mb3.7,baz=35,slow=4.8,SNR=3.0						
NOA	**NORSAR Array B**	51.98	336	P	P	15 44 54.9	-1.0
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
PDAR	**Pinedale Array**	56.93	60	P	P	15 45 32.0	-0.3
	comp=Z,0.4nm,0.8s,mb3.5,baz=315,slow=6.4,SNR=2.6						
WRA	**Warramunga Arr**	84.08	195	P	P	15 48 17.0	0.0
	comp=Z,0.5nm,0.8s,mb3.7,baz=7.3,slow=5.6,SNR=6.0						
WRA				pP	pP	15 48 23.1	-0.5
	comp=Z,0.4nm,0.6s,baz=7.1,slow=5.5,SNR=2.8						
WRA	**Warramunga Arr**	84.08	195	P	P	15 48 17.0	0.0
WRA				*PP	pP	15 48 23.1	-0.5
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ASAR	**Alice Springs**	87.81	195	P	P	15 48 35.5	+0.2
	comp=Z,0.4nm,0.7s,mb3.8,baz=6.8,slow=5.6,SNR=4.8						
ASAR				pP	pP	15 48 40.7	-1.2
	comp=Z,0.5nm,0.7s,baz=12,slow=6.3,SNR=4.7						
VNA2	**Neumayer--Watz**	168.63	220	P	PKPdf	15 55 53.1	-0.8

NEIC ***16*** *15:40:46.1±1.7, 51.60N×16.22E, h1^{km}±9^{km}, ML2.9(VIE), ML2.8(SZGRF), Error ellipse: s-maj=12.4km s-min=6.7km az=201.0*

PRU ***16*** *15:40:48.3, 51.50N×16.11E*

WAR ***16*** *15:40:48.5, 51.53N×16.09E, ML2.8, Mining Induced*

ISC 16 15:40:46.3±0.6**, 51.49N**±0.03×**16.08E**±0.04**, n22, σ1^{s}15**/49**, 2C, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	**Ksiaz**	0.66	168	*e*PG	Pg	15 41 01.0	+1.4
KSP				*e*SG	Sg	15 41 11.0	+2.6
KSP	**Ksiaz**	0.66	168	*e*Pg	Pg	15 41 01.3	+1.7
KSP				*e*Sg	Sg	15 41 10.6	+2.2
UPC	**Upice**	0.99	183	*e*PG	Pg	15 41 07.5	+1.5
UPC				*e*SG	Sg	15 41 20.6	+1.4
DPC	**Dobruska-Polom**	1.15	172	*e*PG	Pg	15 41 10.1	+0.8
DPC				*e*SG	Sg	15 41 25.5	+0.8
	21nm,0.4s						
PVCC	**Panska Ves**	1.36	225	*e*PG	Pg	15 41 14.3	+0.9
PVCC				*e*SG	Sg	15 41 32.6	+1.1
BRG	**Berggiesshubel**	1.48	246	*e*Pn	Pn	15 41 15.4	+1.1
BRG				*i* Pg	Pg	15 41 16.3	+0.4
BRG				*i* Sg	Sg	15 41 36.6	+0.9
RUE	**Ruedersdorf**	1.73	306	Pn	Pn	15 41 18.6	+0.6
PRU	**Pruhonice**	1.79	214	*e*PN	Pn	15 41 18.7	-0.1
PRU				*e*PG	Pg	15 41 21.4	-0.8
PRU				*i* x	x	15 41 24.0	
PRU				*i* x	x	15 41 38.4	
PRU				SG	Sg	15 41 45.6	-0.5
	23nm,0.3s						
CLL	**Collm**	1.94	266	*i* PN	Pn	15 41 20.8	0.0
	logA/T=1.3						
CLL				*i* PG	Pg	15 41 23.9	-1.1
CLL				*i*		15 41 27.9	
CLL				*i* SG	Sg	15 41 50.8	-0.1
CLL	**Collm**	1.94	266	*i* Pn	Pn	15 41 20.8	0.0
CLL				*i* Pg	Pg	15 41 23.9	-1.1
CLL				*i* Sg	Sg	15 41 50.8	-0.1
MORC	**Moravsky Berou**	1.95	151	*e*Pn	Pn	15 41 21.5	+0.4
MORC				*e*Sn	Sn	15 41 46.1	-0.5
OKC	**Ostrava-Krasne**	2.11	141	*e*PN	Pn	15 41 24.1	+0.7
OKC				*e*PG	Pg	15 41 26.8	-1.7
OKC				*e*SG	Sg	15 41 56.0	-0.7
NKC	**Novy Kostel**	2.62	243	*e*PN	Pn	15 41 31.5	+0.8
NKC				*e*PG	Pg	15 41 37.1	-1.6
NKC				*e*SG	Sg	15 42 13.0	-0.7
OJC	**Ojcow**	2.68	117	*e*PG	Pg	15 41 38.0	-1.8
OJC				*e*SG	Sg	15 42 14.0	-1.4
OJC	**Ojcow**	2.68	117	*e*Pg	Pg	15 41 38.5	-1.3
OJC				*e*Sg	Sg	15 42 13.8	-1.6
KHC	**Kasperske Hory**	2.86	215	*e*PN	Pn	15 41 34.4	+0.4
KHC				*e*PG	Pg	15 41 40.5	-2.9
KHC				*e*SN	Sn	15 42 09.9	+0.3
KHC				*e*SG	Sg	15 42 19.9	-1.5
MOX	**Moxa**	2.94	255	*e*Pg	Pg	15 41 44.5	-0.6
MOX				*e*Sg	Sg	15 42 23.5	-0.8
GEC2	**GERESS Array S**	3.06	211	*e*Pn	Pn	15 41 38.4	+1.5
GEC2				*e*Sg	Sg	15 42 25.5	-2.7
WET	**Wettzell**	3.12	222	*e*Pn	Pn	15 41 38.7	+1.0
MOA	**Molln**	3.83	199	⇑*i*PN	Pn	15 41 48.6	+0.8
MOA				*i* SG	Sg	15 42 51.8	-2.1
	7.3nm,0.5s						
ARSA	**Arzberg**	4.26	185	⇑*i*PN	Pn	15 41 54.0	+0.1
ARSA				*i* SG	Sg	15 43 03.1	-5.1
	4.7nm,0.5s						
KWP	**Kalwaria**	4.62	111	*e*Pn	Pn	15 41 55.0	-3.9

WEL 16 15:43:29.1±0.4**, 36.71S**×**177.06E, h247**^{km}±4^{km}**, ML3.5**/5**, Error ellipse: s-maj=6.9km s-min=5.7km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	1.31	131	PN	P	15 44 05.5	-0.5
MXZ				SN	S	15 44 33.9	-0.9
URZ	**Urewera**	1.55	179	PN	P	15 44 07.6	-0.2
URZ				SN	S	15 44 38.1	+0.2
PUZ	**Puketiti**	1.66	145	PN	P	15 44 08.4	-0.3
PUZ				SN	S	15 44 38.2	-1.3
PUZ				SN	S	15 44 38.2	-1.2
MWZ	**Matawai**	1.66	167	PN	P	15 44 08.7	0.0
MWZ				SN	S	15 44 39.7	+0.2
KNZ	**Kokohu**	2.36	168	PN	P	15 44 14.9	-0.2
BKZ	**Black Stump Fm**	2.49	190	PN	P	15 44 16.2	-0.3
BKZ				SN	S	15 44 51.6	-1.7
TSZ	**Takapari Road**	3.45	194	PN	P	15 44 26.1	-0.8
BFZ	**Birch Farm**	4.01	189	PN	P	15 44 32.6	-0.9
MRZ	**Mangatainoka R**	4.11	196	PN	P	15 44 33.2	-1.4
MRZ				SN	S	15 45 24.0	-1.6
KIW	**Kapiti Island**	4.47	201	PN	P	15 44 37.5	-1.4
KIW				SN	S	15 45 32.7	-0.7
MTW	**Mount Morrison**	4.61	195	PN	P	15 44 39.7	-0.9
CAW	**Cannon Point**	4.66	199	PN	P	15 44 39.3	-1.9
TUWZ	**Tuamarina**	5.30	206	PN	P	15 44 47.8	-1.3
TUWZ				SN	S	15 45 50.8	-0.7
THZ	**Tophouse**	5.99	211	PN	P	15 44 56.6	-1.0
THZ				SN	S	15 46 06.3	-0.5
KHZ	**Kahutara**	6.32	204	PN	P	15 44 59.8	-2.0
LTZ	**Lake Taylor**	7.10	210	PN	P	15 45 09.6	-2.0

NEIC ***16*** *16:03:03.7, 20.21N×68.85W, h25^{km}, MD3.6(RSPR), After RSPR.*

RSPR 16 16:03:03.7, 20.21N×**68.85W, h25**^{km}±63^{km}**, MD3.6**/4**, MD3.6**/4**, 4C, North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IDE	**Isla Desecheo**	2.23	144	⇑*e*P	Pn	16 03 36.3	-3.5
IDE				*e*S	Sn	16 04 03.2	-3.5
LSP	**Las Mesas**	2.62	140	⇑*e*P	Pn	16 03 43.5	-1.9
LSP				*e*S	Sn	16 04 13.8	-2.9
PORP	**Portuguez**	2.99	135	⇑*e*P	Pn	16 03 47.7	-3.0
PORP				*e*S	Sn	16 04 23.3	-3.0
CELP	**Cerrillos**	3.02	134	⇑*e*P	Pn	16 03 48.7	-2.4
CELP				*e*S	Sn	16 04 21.9	-4.9

NIED ***16*** *16:06:00, 31.70N×141.00E, h32^{km}, Mw4.3 Best double couple: $M_0$2.96×10^{15} NP1:ϕ_s333°, δ87°, λ-98°. NP2: ϕ_s220°, δ9°, λ-23°.*

MOS ***16*** *16:06:26.4±1.7, 31.10N×140.62E, h39^{km}, mb4.6/8, Error ellipse: s-maj=27.2km s-min=11.4km az=100.3*

IDC ***16*** *16:06:29.1±1.7, 31.10N×140.57E, h41^{km}±15^{km}, mb4.0/15, mb1 4.2/20, mb1mx4.1/25, ML4.0/5, MS3.2/3, Ms1 3.2/3, ms1mx3.1/24, Error ellipse: s-maj=20.3km s-min=10.4km az=75.0*

JMA ***16*** *16:06:30.3±0.2, 31.69N×140.97E, M5.1*

NEIC ***16*** *16:06:32.5±1.2, 31.08N×140.54E, h75^{km}±11^{km}, mb4.5/16, MW4.3(NIED), Error ellipse: s-maj=12.5km s-min=6.8km az=82.0*

BJI ***16*** *16:06:33.5, 31.10N×140.50E, h75^{km}, mB4.4, mb4.2, Ms4.3, Msz4.0*

ISC 16 16:06:28.2±0.6**, 31.15N**±0.04×**140.79E**±0.09**, h54**^{km}±6^{km}**, h70**^{km}±7.0^{km}**:pP-P, n83, σ1^{s}53**/89**, mb4.4**/30**, MS4.4**/3**, 2C, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	2.12	337	P	P	16 07 02.0	-0.1
JHJ2				S	S	16 07 24.9	-2.3
JHJ	**Hachijo jima 2**	2.14	337	P	P	16 07 01.9	-0.4
	81nm,0.3s,baz=268,slow=23,SNR=39						
JHJ				S	S	16 07 25.1	-2.6
	609nm,0.3s,baz=270,slow=23,SNR=25						
JHJ				LR	LR	16 07 41.4	
	comp=Z,593nm,19.6s,baz=147,slow=34						
JMY	**Miyakejima3**	3.10	340	P	P	16 07 16.7	+0.8
JMY				*e*S	S	16 07 49.7	-2.3
JKO	**Kozu shima**	3.33	336	P	P	16 07 20.2	+1.0
BSO1	**Boso 1**	3.50	3	P	P	16 07 19.2	-2.3
BSO3	**Boso 3**	3.65	356	P	P	16 07 22.1	-1.6
JIM2	**Oshima 3**	3.74	343	P	P	16 07 24.7	-0.2
JIM2				*e*S	S	16 08 05.5	-2.5
TK01	**Tokai 1**	3.75	315	P	P	16 07 27.4	+2.2
JIZS	**Izushimoda**	3.90	336	P	P	16 07 29.1	+1.9
CBIJ	**Chichi jima**	4.22	163	P	P	16 07 31.9	+0.2
	31nm,0.3s,baz=259,slow=18,SNR=15						
CBIJ				S	S	16 08 19.2	-1.0
	29nm,0.3s,baz=272,slow=23,SNR=3.3						
CBIJ				LR	LR	16 08 46.7	
	comp=Z,151nm,21.4s,baz=342,slow=33						
CBIJ	**Chichi jima**	4.22	163	P	P	16 07 33.4	+1.7
JOD2	**Odawara 2**	4.34	341	P	P	16 07 33.6	+0.2
JOD2				*e*S	S	16 08 18.8	-4.5
JIE	**Ise**	4.72	314	P	P	16 07 39.8	+1.1
JYN	**Shimob**	4.73	337	P	P	16 07 40.5	+1.7
JWZ	**Kozaga**	4.91	300	⇑P	P	16 07 41.9	+0.6
JRY	**Ryogami san**	5.10	343	⇑P	P	16 07 44.3	+0.2
JAG	**Ashikaga**	5.38	348	P	P	16 07 47.0	-0.9
JAG				*e*S	S	16 08 43.9	-5.4
MAJO	**Matsushiro**	5.79	339	*e*P	P	16 07 55.7	+2.1
MAT	**Matsushiro**	5.79	339	P	P	16 07 55.9	+2.3
MAT				S	S	16 08 59.0	-0.6
MAT	**Matsushiro**	5.79	339	P	P	16 07 55.7	+2.1
MAT	**Matsushiro**	5.79	339	*e*P	P	16 07 56.0	+2.4
	17nm,0.7s						
MAT				*e*S	S	16 08 59.0	-0.6
JNU	**Nakatsue**	8.63	286	P	P	16 08 37.1	+4.1
	1.8nm,0.3s,baz=117,slow=11,SNR=8.1						
JNU				LR	LR	16 11 24.3	
	comp=Z,278nm,21.2s,baz=66,slow=35						
JOW	**Kunigami**	11.77	252	P	P	16 09 20.2	+4.5
	2.1nm,0.3s,baz=87,slow=14,SNR=7.1						
ASAJ	**Asahikawa**	13.02	6	P	P	16 09 30.6	-1.9
	1.0nm,0.3s,baz=237,slow=9.3,SNR=7.0						
ASAJ	**Asahikawa**	13.02	6	P	P	16 09 30.6	-1.9
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
INCN	**Inchon**	13.29	302	*e*P	P	16 09 41.1	+5.1
	comp=Z,46nm,1.1s						
YSS	**Yuzh-Sakhalins**	15.86	5	*e*P	P	16 10 11.2	+2.0
YSS	**Yuzh-Sakhalins**	15.86	5	*e*P	P	16 10 11.3	+2.1
	comp=Z,16nm,1.0s						
MDJ	**Mudanjiang**	16.07	330	P	P	16 10 14.3	+2.4
MDJ				AMB	AMB		
	comp=Z,5.0nm,1.5s						
MDJ				AMB	AMB		
	comp=Z,64nm,7.7s						
GUMO	**Guam**	17.88	167	*e*P	P	16 10 37.2	+2.5
	comp=Z,137nm,1.0s						
KLR	**Kul’dur**	19.31	342	*e*P	P	16 10 51.7	+0.3
BJT	**Baijiatuau**	21.84	301	P	P	16 11 18.7	+1.1
	comp=Z,5.2nm,0.5s,mb4.2						
HIA	**Hailar**	24.07	325	*e*P	P	16 11 40.1	+0.9
	comp=Z,11nm,1.0s,mb4.3						
SONM	**Songino Array**	31.02	312	P	P	16 12 41.9	-0.9
	comp=Z,1.6nm,0.4s,mb4.2,baz=118,slow=8.5,SNR=29						
SONM				PcP	PcP	16 15 38.8	+1.1
	comp=Z,0.3nm,0.4s,baz=141,slow=4.2,SNR=4.5						
LZH	**Lanzhou**	31.03	289	*e*P	P	16 12 44.5	+1.5
LZH				AP	pP	16 13 06.5	+10
LZH				PP	PP	16 13 50.6	+4.1
LZH				AMB	AMB		
	comp=Z,28nm,1.3s,mb4.9						
LZH				LR	LR		
	comp=N,191nm,13.2s						
LZH				LR	LR		
	comp=Z,276nm,17.0s,MS4.0						
YAK	**Yakutsk**	31.73	350	P	P	16 12 46.2	-2.6
	comp=Z,12nm,0.9s,mb4.7						
BOD	**Bodaibo**	32.39	333	*e*P	P	16 12 51.1	-3.6
ZAK	**Zakamensk**	33.81	316	*e*P	P	16 12 54.6	-13
CMAR	**Chiang Mai Arr**	39.80	262	P	P	16 13 57.2	-0.6
	comp=Z,0.7nm,0.5s,mb3.6,baz=75,slow=5.2,SNR=7.8						
CMAR				PcP	PcP	16 16 04.8	+1.0

	comp=Z,0.8nm,0.6s,baz=51,slow=0.7,SNR=5.8						
CMAR	**Chiang Mai Arr**	**39.80**	**262**	P	**P**	**16 13 57.3**	**-0.5**
CMAR						16 16 04.8	
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WMQ	**Urumqi**	**43.30**	**302**	*e*P	**P**	**16 14 27.8**	**+1.6**
WMQ				AP	pP	16 14 50.5	+10
WMQ				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.4						
MKAR	**Makanchi Array**	**47.02**	**307**	P	**P**	**16 14 54.2**	**-1.6**
	comp=Z,1.7nm,0.5s,mb4.3,baz=92,slow=10,SNR=24						
MKAR				PcP	PcP	16 16 28.0	+0.2
	comp=Z,0.9nm,0.6s,baz=83,slow=5.4,SNR=4.4						
MKAR				PP	PP	16 16 46.1	-0.4
	comp=Z,2.0nm,0.9s,baz=80,slow=7.4,SNR=4.6						
MKAR				ScP		16 20 15.4	
	comp=Z,0.9nm,0.7s,baz=82,slow=4.7,SNR=5.7						
MKAR	**Makanchi Array**	**47.02**	**307**	P	**P**	**16 14 54.2**	**-1.6**
MKAR						16 16 28.0	
MKAR						16 16 46.1	
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MKAR				pmax	pmax		
	comp=N,1.0nm,0.7s						
KURK	**Kurchatov**	**49.32**	**312**	*e*P	**P**	**16 15 11.5**	**-2.2**
	comp=N,6.7nm,1.1s,mb4.6						
FITZ	**Fitzroy Crossi**	**51.08**	**199**	*e*P	**P**	**16 15 26.8**	**-0.8**
	comp=N,2.2nm,0.6s,mb4.3						
WRAB	**Tennant Creek**	**51.16**	**188**	*e*P	**P**	**16 15 26.0**	**-2.2**
	comp=N,5.1nm,0.6s,mb4.6						
WB2	**Warramunga Arr**	**51.17**	**188**	*e*P	**P**	**16 15 26.3**	**-1.9**
WRA	**Warramunga Arr**	**51.17**	**188**	P	**P**	**16 15 26.8**	**-1.5**
	comp=N,2.2nm,0.4s,mb4.4,baz=3.9,slow=7.7,SNR=108						
WRA				PcP	PcP	16 16 43.9	+0.7
	comp=N,3.0nm,0.6s,baz=0.2,slow=3.9,SNR=14						
WRA	**Warramunga Arr**	**51.17**	**188**	P	**P**	**16 15 26.8**	**-1.4**
WRA						16 16 43.9	
WRA				pmax	pmax		
	comp=Z,2.0nm,0.4s						
WRA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
CTAO	**Charters Tower**	**51.21**	**173**	*e*P	**P**	**16 15 28.7**	**+0.2**
	comp=Z,4.7nm,0.7s,mb4.5						
BRVK	**Borovoye**	**54.33**	**316**	*e*P	**P**	**16 15 52.1**	**+0.8**
	comp=Z,2.2nm,0.8s,mb4.1						
ILAR	**Eielson Array**	**54.79**	**30**	P	**P**	**16 15 54.5**	**0.0**
	comp=Z,0.9nm,0.7s,mb3.9,baz=256,slow=7.3,SNR=6.8						
ILAR	**Eielson Array**	**54.79**	**30**	P	**P**	**16 15 54.5**	**0.0**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ASAR	**Alice Springs**	**54.90**	**188**	P	**P**	**16 15 54.0**	**-1.9**
	comp=Z,1.7nm,0.5s,mb4.3,baz=360,slow=6.4,SNR=79						
ASPA	**Alice Springs**	**54.90**	**188**	*e*P	**P**	**16 15 53.9**	**-1.9**
ZRNK	**Zerenda**	**55.11**	**316**	*e*P	**P**	**16 15 56.4**	**-0.6**
	comp=Z,8.8nm,1.4s,mb4.6						
MBWA	**Marble Bar**	**55.80**	**204**	*e*P	**P**	**16 16 00.7**	**-1.6**
	comp=Z,2.7nm,0.5s,mb4.5						
INK	**Inuvik**	**59.88**	**25**	P	**P**	**16 16 26.7**	**-3.6**
ARU	**Arti**	**60.50**	**321**	*e*P	**P**	**16 16 33.3**	**-1.4**
ARU				*e*	pP	16 16 50.4	+0.8
ARU	**Arti**	**60.50**	**321**	*e*P	**P**	**16 16 33.1**	**-1.7**
	comp=Z,7.1nm,0.8s,mb4.8						
ARU				*e*	pP	16 16 51.1	+1.5
STKA	**Stephens Creek**	**62.69**	**179**	*e*P	**P**	**16 16 49.5**	**-0.3**
	comp=Z,2.9nm,0.9s,mb4.4						
STKA	**Stephens Creek**	**62.69**	**179**	P	**P**	**16 16 49.4**	**-0.4**
	comp=Z,2.4nm,0.6s,mb4.5,baz=344,slow=7.8,SNR=6.7						
ARCES	**ARCESS Array B**	**69.33**	**340**	P	**P**	**16 17 32.4**	**+1.0**
	comp=Z,3.0nm,0.8s,mb4.3,baz=72,slow=7.7,SNR=8.3						
ARCES	**ARCESS Array B**	**69.33**	**340**	P	**P**	**16 17 32.4**	**+1.0**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
OBN	**Obninsk**	**72.53**	**324**	*e*P	**P**	**16 17 53.2**	**+2.4**
OBN				*e*		16 28 02.1	
OBN				pmax	pmax		
	comp=Z,24nm,1.5s,mb4.9						
OBN				MLR	MLR		
	comp=Z,100nm,16.0s,MS4.2						
KAF	**Kangasniemi**	**73.31**	**333**	*e*p	**P**	**16 17 55.3**	**0.0**
FINES	**FINESS Array B**	**73.79**	**333**	P	**P**	**16 17 58.8**	**+0.7**
	comp=Z,2.1nm,0.4s,mb4.4,baz=70,slow=4.9,SNR=34						
FINES	**FINESS Array B**	**73.79**	**333**	P	**P**	**16 17 58.8**	**+0.7**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.4s						
SUMG	**Summit**	**76.56**	**360**	P	**P**	**16 18 15.8**	**+2.0**
	comp=Z,14nm,1.0s,mb4.8						
SUMG				*e*	pP	16 18 33.2	+4.1
AKASG	**Malin Array Be**	**78.65**	**323**	P	**P**	**16 18 25.9**	**+0.1**
	comp=Z,3.9nm,0.4s,mb4.7,baz=47,slow=5.8,SNR=34						
AKASG	**Malin Array Be**	**78.65**	**323**	P	**P**	**16 18 25.9**	**+0.1**
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.4s						
NVAR	**Mina Array Bea**	**78.98**	**52**	P	**P**	**16 18 30.0**	**+2.1**
	comp=Z,0.7nm,0.8s,mb3.7,baz=285,slow=6.3,SNR=5.1						
NB2	**NORSAR Subarra**	**79.41**	**338**	P	**P**	**16 18 29.7**	**0.0**
	comp=Z,1.5nm,0.6s,mb4.1,baz=42,slow=5.0						
NOA	**NORSAR Array B**	**79.41**	**338**	P	**P**	**16 18 30.1**	**+0.3**
	comp=Z,3.4nm,0.9s,mb4.3,baz=42,slow=5.3,SNR=8.7						
NOA	**NORSAR Array B**	**79.41**	**338**	P	**P**	**16 18 30.1**	**+0.4**
NOA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
PDAR	**Pinedale Array**	**82.19**	**44**	P	**P**	**16 18 48.1**	**+3.4**
	comp=Z,0.3nm,0.7s,mb3.3,baz=281,slow=4.6,SNR=2.6						
BRTR	**Keskin Array B**	**82.38**	**312**	P	**P**	**16 18 46.5**	**+0.7**
	comp=Z,2.2nm,0.6s,mb4.2,baz=109,slow=4.3,SNR=9.1						
BRTR	**Keskin Array B**	**82.38**	**312**	P	**P**	**16 18 46.5**	**+0.7**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
PV10	**Paradox Valley**	**85.08**	**48**	*e*P	**P**	**16 19 01.9**	**+2.5**
PV10				*e*	pP	16 19 19.6	+4.6
TXAR	**Lajitas Array**	**94.13**	**52**	P	**P**	**16 19 45.0**	**+2.7**
	comp=Z,0.7nm,0.3s,mb4.5,baz=315,slow=3.5,SNR=3.8						
QSPA	**South Pole Qui**	**120.91**	**180**	*e*PKP	PKPdf	16 25 15.6	+1.8
QSPA				LR	LR		
	comp=Z,540nm,21.7s,MS5.2						
LPAZ	**La Paz**	**149.79**	**67**	PKPbc	PKPdf	16 26 15.6	+7.7
	comp=Z,1.6nm,0.3s,baz=38,slow=0.6,SNR=2.8						
LPAZ	**La Paz**	**149.79**	**67**	PKP2	PKPab	16 26 15.6	-4.8
LPAZ				pmax	pmax		
	comp=Z,2.0nm,0.3s						

MAN 16 16:11:43.5,9.83N×126.16E,h4^{km},mb4.4,ML3.2,MS3.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.67**	**266**	*i* P	Pg	16 11 56.8	-0.1
SCPH				*i* S	Sg	16 12 07.8	+2.1
BUTP	**Butuan**	**1.01**	**212**	*e*P	Pb	16 12 02.6	-0.6
BUTP				*e*S	Sb	16 12 19.1	+2.5
MSLP	**Maasin**	**1.32**	**283**	*e*P	Pb	16 12 08.2	-0.3
MSLP				*e*S	Sb	16 12 26.4	+0.8
BESP	**Borongan**	**1.90**	**338**	*e*P	Pn	16 12 15.8	-1.1
BESP				*e*S	Sn	16 12 42.1	+0.5
OCLP	**Ormoc**	**1.95**	**309**	*e*P	Pn	16 12 17.8	0.0
BUKP	**Musuan**	**2.23**	**209**	*e*P	Pn	16 12 22.0	+0.3
BUKP				*e*S	Sn	16 12 52.5	+2.5

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*IDC **16** 16:46:41.1±1.1,54.24S×135.72W,mb4.2/6,mb1 4.4/6, mb1mx4.2/13,MS4.2/15,Ms1 4.1/15,ms1mx4.1/17,Error ellipse: s-maj=57.3km s-min=22.2km az=172.0*

*NEIC **16** 16:46:42.7±0.6,54.13S×135.82W,h10^{km},mb4.4/4,Error ellipse: s-maj=21.0km s-min=13.1km az=185.0*

ISC 16 16:46:41.0±0.7,54.1S±0.2×135.8W±0.2,h10^{km},n33, σ1^{s}08/24,mb4.3/10,MS4.3/14,5C-4D,Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TBI	**Tubuai**	**32.42**	**336**	*e*S	**S**	**16 58 31.4**	**+5.0**
TBI				*e*R		17 01 24.4	
	2μm,28.5s,baz=168						
SNZO	**South Karori**	**34.95**	**271**	P	**P**	**16 53 32.1**	**-2.8**
	219nm,1.4s						
URZ	**Urewera**	**35.51**	**277**	LR	LR	17 04 42.6	
	comp=Z,680nm,18.7s,MS4.4,baz=243,slow=30						
QSPA	**South Pole Qui**	**36.03**	**180**	*e*P	**P**	**16 53 43.5**	**-0.2**
	9.2nm,1.1s,mb4.6						
RAR	**Rarotonga**	**37.58**	**322**	LR	LR	17 05 18.5	
	comp=Z,448nm,18.4s,MS4.3,baz=84,slow=30						
RAR	**Rarotonga**	**37.58**	**322**	P	**P**	**16 53 46.9**	**-10**
USHA	**Ushuaia**	**37.77**	**119**	LR	LR	17 05 26.6	
	comp=Z,2.3nm,18.5s,baz=218,slow=30						
PPT	**Papeete**	**38.02**	**338**	*e*S	**S**	**16 59 57.8**	**+4.9**
PPT				*e*R		17 04 00.3	
	2μm,26.5s,baz=172						
PLCA	**Paso Flores**	**44.54**	**100**	LR	LR	17 08 60.0	
	comp=Z,242nm,20.8s,MS4.1,baz=55,slow=30						
VNA3	**Neumayer Olymp**	**49.25**	**160**	⇑*i*	**P**	**16 55 31.6**	**+0.7**
VNA3	**Neumayer Olymp**	**49.25**	**160**	⇑*i*	**P**	**16 55 34.0**	**+3.1**
CASY	**Casey**	**49.92**	**209**	*e*P	**P**	**16 55 35.5**	**-0.6**
	3.5nm,0.9s,mb4.4						
VNA2	**Neumayer--Watz**	**49.95**	**160**	⇑*i*	**P**	**16 55 36.2**	**-0.1**
VNA2	**Neumayer--Watz**	**49.95**	**160**	⇑*i*	**P**	**16 55 39.5**	**+3.2**
VNA1	**Neumayer--Stat**	**50.00**	**160**	⇓*i*	**P**	**16 55 39.8**	**+3.1**
VNA1	**Neumayer--Stat**	**50.00**	**160**	⇑*i*	**P**	**16 55 43.8**	**+7.1**
SNAA	**Sanae**	**50.20**	**162**	⇓*i*	**P**	**16 55 33.4**	**-4.8**
SNAA	**Sanae**	**50.20**	**162**	⇓*i*	**P**	**16 55 38.3**	**+0.1**
MAW	**Mawson**	**57.78**	**188**	P	**P**	**16 56 32.7**	**-1.3**
	3.1nm,0.7s,mb4.5,baz=187,slow=8.1,SNR=5.4						
MAW				LR	LR	17 20 34.2	
	comp=Z,215nm,19.4s,MS4.3,baz=347,slow=35						
STKA	**Stephens Creek**	**60.70**	**255**	P	**P**	**16 56 54.4**	**-0.3**
	2.5nm,1.0s,mb4.3,baz=149,slow=5.9,SNR=4.1						
STKA				LR	LR	17 18 26.3	
	comp=Z,390nm,21.8s,MS4.5,baz=302,slow=31						
CPUP	**Villa Florida**	**62.47**	**97**	P	**P**	**16 57 05.3**	**-1.3**
	3.4nm,1.1s,mb4.4,baz=230,slow=4.9,SNR=3.4						
CPUP				LR	LR	17 19 34.5	
	comp=Z,333nm,20.0s,MS4.5,baz=333,slow=32						
LPAZ	**La Paz**	**63.89**	**82**	P	**P**	**16 57 16.4**	**+0.3**
	0.4nm,0.6s,mb3.6,baz=243,slow=6.8,SNR=3.5						
LPAZ				LR	LR	17 17 15.1	
	comp=Z,48nm,21.7s,MS3.6,baz=282,slow=29						
CTA	**Charters Tower**	**66.95**	**267**	LR	LR	17 23 37.0	
	comp=Z,188nm,20.0s,MS4.3,baz=41,slow=33						
ASAR	**Alice Springs**	**71.34**	**255**	P	**P**	**16 58 02.6**	**-0.1**
	4.3nm,1.0s,mb4.3,baz=135,slow=7.4,SNR=18						
ASAR				LR	LR	17 26 34.5	
	comp=Z,265nm,18.7s,MS4.5,baz=187,slow=34						
ASPA	**Alice Springs**	**71.34**	**255**	⇓*i*P	**P**	**16 58 04.8**	**+2.0**
SAML	**Samuel**	**72.62**	**81**	*e*P	**P**	**16 58 10.7**	**+0.1**
	1.5nm,0.8s,mb4.0						
WB2	**Warramunga Arr**	**74.00**	**258**	*e*P	**P**	**16 58 18.8**	**+0.3**
WRA	**Warramunga Arr**	**74.01**	**258**	P	**P**	**16 58 18.9**	**+0.4**
	3.0nm,0.8s,mb4.3,baz=143,slow=5.4,SNR=18						
WRA				LR	LR	17 27 30.7	
	comp=Z,309nm,19.4s,MS4.6,baz=135,slow=33						
WRAB	**Tennant Creek**	**74.01**	**258**	*e*P	**P**	**16 58 18.9**	**+0.4**
	12nm,1.0s,mb4.8						
BDFB	**Brasilia**	**76.20**	**98**	LR	LR	17 27 47.2	
	comp=Z,372nm,19.0s,MS4.7,baz=214,slow=32						
ROSC	**El Rosal**	**77.75**	**64**	LR	LR	17 26 10.1	
	comp=Z,135nm,21.7s,MS4.2,baz=215,slow=30						
FITZ	**Fitzroy Crossi**	**80.42**	**253**	LR	LR	17 31 16.0	
	comp=Z,155nm,19.5s,MS4.4,baz=116,slow=33						
PDAR	**Pinedale Array**	**99.11**	**19**	LR	LR	17 37 03.8	
	comp=Z,123nm,20.1s,MS4.4,baz=93,slow=30						

IDC 16 17:07:49.2±1.9,1.07N×127.72E,mb3.6/3,mb1 3.9/3, mb1mx3.5/14,Error ellipse: s-maj=123.0km s-min=24.8km az=67.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.87**	**163**	P	P	17 12 42.5	-3.1
	1.3nm,0.7s,baz=343,slow=11,SNR=13						
ASAR	**Alice Springs**	**25.31**	**167**	P	P	17 13 18.8	-0.5
	1.2nm,0.8s,baz=354,slow=16,SNR=10						
MKAR	**Makanchi Array**	**60.29**	**326**	P	P	17 17 59.6	-2.4
	0.6nm,0.6s,baz=125,slow=8.2,SNR=8.1						

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*SKHL **16** 17:14:36.9±1.4,45.18N×131.75E,h12^{km}±1^{km},mb4.1/3, Ms4.3*

*IDC **16** 17:14:36.0±0.8,45.09N×131.82E,mb3.7/6,mb1 3.9/7, mb1mx3.7/22,ML3.8/1,MS3.5/2,Ms1 3.5/2,ms1mx2.8/32, Error ellipse: s-maj=26.3km s-min=23.4km az=122.0*

*BJI **16** 17:14:37.4,45.27N×131.76E,h33^{km},ML4.0,Ms3.9, Msz3.4*

*MOS **16** 17:14:51.2±1.4,46.24N×130.99E,h99^{km},mb4.0/1,Error ellipse: s-maj=48.8km s-min=23.2km az=95.3*

NEIC 16 17:14:37.5±0.6,45.14N×131.73E,h10^{km},mb3.9/3,Error ellipse: s-maj=17.3km s-min=12.2km az=176.0, Priamurye-Northeastern China border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MDJ	**Mudanjiang**	**1.60**	**252**	PG	Pg	17 15 05.9	-3.7
MDJ				SG	Sg	17 15 29.4	-1.6
MDJ				Smax			
	comp=N,1μm,0.7s						
MDJ				Smax			
	comp=E,1μm,0.8s						
MDJ	**Mudanjiang**	**1.60**	**252**	*e*Pg	Pg	17 15 05.7	-3.9
MDJ				*e*Sg	Sg	17 15 28.8	-2.2
MDJ	**Mudanjiang**	**1.60**	**252**	*e*Pn	Pn	17 15 05.7	-0.4
MDJ				*e*Sn	Sn	17 15 28.8	+1.8
VLA	**Vladivostok**	**2.02**	**177**	*e*Sg	Sg	17 15 40.0	-4.8
VLA				*e*rx	rx	17 15 51.0	
TEY	**Ternei**	**3.46**	**90**	*e*Pn	Pn	17 15 29.5	-3.0
TEY				*e*Pg	Pg	17 15 38.8	-7.7
TEY				AMB	AMB	17 15 40.0	
	comp=E,60nm,0.7s						
TEY				pP		17 15 42.2	
TEY				*e*Sn	Sn	17 16 12.0	-1.9
TEY				*e*Sg	Sg	17 16 24.0	-8.5
TEY				A		17 16 30.7	
	comp=E,416nm,0.8s						
KLR	**Kul'dur**	**4.09**	**0**	*e*Pn	Pn	17 15 38.3	-3.3
KLR				*e*rx	rx	17 16 14.8	
KLR				*e*Sg	Sg	17 16 41.7	-12
KLR				AMS	AMS	17 17 06.5	
	comp=E,500nm,0.7s						
KLR				AMS	AMS	17 17 06.5	
	comp=E,600nm,0.7s						
KLR	**Kul'dur**	**4.09**	**0**	*e*P	Pn	17 15 38.2	-3.4
KLR				*e*		17 16 14.8	
KLR				MLR	MLR		
	comp=E,500nm,0.7s						
KLR				MLR	MLR		
	comp=Z,600nm,0.7s						
CN2	**Changchun**	**4.69**	**256**	*e*PG	Pg	17 16 04.6	-6.5
CN2				*e*SG	Sg	17 17 03.4	-10
CN2				Smax			
	comp=N,270nm,0.8s						
CN2				Smax			
	comp=E,200nm,0.8s						
GRNR	**Gornyy**	**6.46**	**28**	*e*rx	rx	17 16 20.0	
GRNR				*e*Sg	Sg	17 17 55.8	-17
GRNR				A		17 18 01.8	
	comp=E,78nm,0.8s						
SNY	**Shenyang**	**6.79**	**244**	*e*P	Pn	17 16 16.8	-2.8
SNY				LR	LR		
	comp=N,370nm,4.5s						
SNY				LR	LR		
	comp=E,300nm,6.0s						
SNY				LR	LR		
	comp=Z,280nm,9.3s						
ASAJ	**Asahikawa**	**7.82**	**94**	LR	LR	17 19 29.5	
	comp=Z,81nm,19.8s,baz=343,slow=38						
YSS	**Yuzh-Sakhalins**	**7.89**	**73**	*e*Sg	Sg	17 18 42.0	-18
YSS				*e*rx	rx	17 19 12.0	
EKMR	**Ekimchan**	**7.98**	**5**	*e*Pn	Pn	17 16 35.2	-1.1
EKMR				AMB	AMB	17 16 38.5	
	comp=Z,4.0nm,0.6s						
EKMR				*e*Sg	Sg	17 18 43.5	-20
EKMR				A		17 18 51.8	
	comp=Z,19nm,0.8s						
UGL	**Uglegorsk**	**8.08**	**57**	*e*Sg	Sg	17 18 44.5	-22
UGL				A		17 18 51.5	
	comp=Z,78nm,0.8s						
UGL				A		17 18 51.5	
	comp=Z,60nm,0.8s						
UGL				AMS	AMS	17 20 15.0	
	comp=Z,500nm,10.0s						
YASR	**Yasnyy**	**8.52**	**345**	*e*Pn	P	17 16 40.6	-3.2
YASR				sP		17 16 46.4	
YASR				*e*Sg	Sg	17 19 02.6	-19
YASR				A		17 19 16.9	
	comp=Z,11nm,0.6s						
ZEA	**Zeya**	**9.09**	**343**	*e*Pn	P	17 16 50.6	-1.1
ZEA				AMB	AMB	17 16 51.8	
	comp=Z,10.0nm,0.7s						
ZEA				*e*Sg	Sg	17 19 19.2	-21
ZEA				*e*rx	rx	17 19 28.0	
ZEA				AMS	AMS	17 20 09.0	
	comp=Z,200nm,8.0s						
TYV	**Tymovskoe**	**9.30**	**48**	*e*Sg	Sg	17 19 25.5	-21
TYV				A		17 19 40.0	
	comp=Z,200nm,1.7s						
BMKR	**Bomnak**	**9.76**	**350**	*e*rx	rx	17 18 40.0	
BMKR				*e*Sg	Sg	17 19 40.0	-22
BMKR				A		17 19 49.5	
	comp=Z,24nm,0.6s						
KROS	**Kirovskiy**	**9.80**	**343**	*e*Sg	Sg	17 19 42.4	-21
KROS				A		17 19 52.3	
	comp=Z,5.0nm,0.7s						
NKL	**Nikolayevsk**	**9.93**	**33**	*e*rx	rx	17 20 04.0	
SONM	**Songino Array**	**17.63**	**288**	P	P	17 18 44.2	-0.4
	comp=Z,0.1nm,0.3s,baz=59,slow=8.4,SNR=3.1						
SONM				Lg		17 24 01.9	
	comp=Z,0.1nm,0.3s,baz=98,slow=26,SNR=5.5						
ZAK	**Zakamensk**	**19.76**	**296**	*e*P	P	17 19 05.3	-5.0
MKAR	**Makanchi Array**	**33.95**	**291**	P	P	17 21 20.8	-2.0
	comp=Z,0.4nm,0.5s,baz=84,slow=8.9,SNR=4.2						
KURK	**Kurchatov**	**35.37**	**299**	*e*P	P	17 21 31.1	-3.9
	comp=Z,4.7nm,1.2s						
BRVK	**Borovoye**	**39.88**	**304**	*e*P	P	17 22 11.8	-0.9
	comp=Z,2.0nm,0.9s						
ZRNK	**Zerenda**	**40.65**	**304**	*e*P	P	17 22 16.7	-2.4
	comp=Z,2.0nm,0.9s						
ILAR	**Eielson Array**	**46.87**	**35**	P	P	17 23 07.0	-2.0
	comp=Z,0.3nm,0.6s,baz=284,slow=7.5,SNR=4.7						
WRA	**Warramunga Arr**	**64.81**	**177**	P	P	17 25 15.4	-3.3
	comp=Z,0.4nm,0.5s,baz=352,slow=7.0,SNR=9.9						
ASAR	**Alice Springs**	**68.50**	**178**	P	P	17 25 40.6	-1.5
	comp=Z,0.5nm,0.9s,baz=355,slow=6.2,SNR=5.2						
FRB	**Frobisher Bay**	**70.28**	**9**	LR	LR	17 58 01.8	
	comp=Z,127nm,19.5s,baz=327,slow=37						
NVAR	**Mina Array Bea**	**75.68**	**50**	P	P	17 26 23.7	-0.7
	comp=Z,1.0nm,0.7s,baz=292,slow=4.7,SNR=8.5						
PDAR	**Pinedale Array**	**76.85**	**42**	P	P	17 26 29.3	-1.6
	comp=Z,0.9nm,0.8s,baz=18,slow=4.7,SNR=7.2						
LPAZ	**La Paz**	**146.74**	**37**	PKPbc	PKPbc	17 34 21.6	+2.0
	comp=Z,0.6nm,0.6s,slow=5.1,SNR=4.0						
LPAZ	**La Paz**	**146.74**	**37**	PKP2	PKPab	17 34 21.6	-1.5
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.6s						

DJA 16 17:18:48.6±1.0,8.91S×117.02E,h2^{km},ML5.0/3,3C-3D, Error ellipse: s-maj=33.0km s-min=22.3km az=8.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KEDI	**Kedomdong**	**0.99**	**295**	⇓*e*Pn	Pn	17 19 06.9	-2.4
	3μm,33.6s						
KEDI				⇑*e*Sn	Sn	17 19 19.9	-4.1
RATI	**Rata**	**1.48**	**277**	⇑*e*Pn	Pn	17 19 13.3	-3.0
	836nm,47.2s						
RATI				⇓*i*Sn	Sn	17 19 31.8	-4.7
INGI	**Ingas**	**1.85**	**273**	⇓*i*Pn	Pn	17 19 18.7	-3.0
	1μm,52.6s						
INGI				⇑*e*Sn	Sn	17 19 40.5	-5.5

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*STR **16** 17:23:02.8±0.0,42.73N×0.68W,h5^{km}±1^{km},Ml2.3,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LDG **16** 17:23:03.2±0.4,42.95N×1.50W,h2^{km},Md2.8/1,Ml2.6/3, Error ellipse: s-maj=6.0km s-min=5.3km az=45.0*

*NEIC **16** 17:23:03.2,42.95N×1.50W,h2^{km},ML2.3(STR), ML2.6(LDG),MN2.1(MDD),After LDG.*

*MDD **16** 17:23:03.6±0.5,42.88N×1.42W,h2^{km}±6^{km},mbLg2.1/6, Error ellipse: s-maj=3.8km s-min=2.8km az=24.0,PRXIMO*

ISC 16 17:23:01.3±0.6,42.85N±0.03×1.48W±0.04,h2^{km},n22, σ1^{s}05/37,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJPF	**Ste Jean**	**0.33**	**35**	*e*Pg	**Pg**	**17 23 08.8**	**+1.0**
SJPF				*e*Sg	**Sg**	**17 23 11.6**	**-0.6**
	216nm,0.3s						
EALK	**Alkurruntz**	**0.37**	**357**	Pg	**Pg**	**17 23 10.0**	**+1.2**
	16nm,0.4s,SNR=29						
EALK				Lg		17 23 14.9	
	40nm,0.3s						
LARF	**Larrau**	**0.41**	**62**	Pg	**Pg**	**17 23 10.3**	**+0.8**
LARF				Sg	**Sg**	**17 23 15.8**	**+0.9**
LARF	**Larrau**	**0.41**	**62**	P	**Pg**	**17 23 10.0**	**+0.5**
LARF				S	**Sg**	**17 23 15.5**	**+0.6**
OSSF	**Osses**	**0.44**	**21**	P	**Pg**	**17 23 10.8**	**+0.8**
OSSF				S	**Sg**	**17 23 16.1**	**+0.1**
ORDF	**Ordiarp**	**0.54**	**47**	Pg	**Pg**	**17 23 12.7**	**+0.6**
ORDF				Sg	**Sg**	**17 23 19.9**	**+0.6**
ORDF	**Ordiarp**	**0.54**	**47**	P	**Pg**	**17 23 12.7**	**+0.6**
ORDF				S	**Sg**	**17 23 19.3**	**0.0**
REYF	**Montagne du Re**	**0.83**	**74**	S	**Sg**	**17 23 27.8**	**-1.1**
VIEF	**Viey**	**1.11**	**88**	S	**Sb**	**17 23 37.8**	**+0.2**
LABF	**Labassere**	**1.16**	**79**	S	**Sb**	**17 23 38.5**	**-0.5**
RESF	**Ens**	**1.34**	**91**	S	**Sb**	**17 23 44.1**	**-0.2**
EPF	**Esparros**	**1.35**	**82**	*e*Pn	**Pn**	**17 23 27.0**	**-0.2**
EPF				*e*Pg	**Pg**	**17 23 29.2**	**+1.0**
EPF				*e*Sg	**Sg**	**17 23 45.9**	**-0.3**
	17nm,0.2s						
ESAC	**San Caprasio**	**1.35**	**146**	Pg	**Pg**	**17 23 27.6**	**-0.7**
	23nm,0.3s,SNR=11						
ESAC				Lg		17 23 46.2	
	77nm,0.3s						
ELAN	**Lanestosa**	**1.48**	**286**	Pn	**Pn**	**17 23 27.9**	**-1.2**
	2.8nm,0.3s,SNR=11						
ELAN				Lg		17 23 50.1	
	7.4nm,0.4s						
MELF	**Melles**	**1.65**	**88**	S	**Sb**	**17 23 54.0**	**+0.8**
SALF	**Salau**	**1.97**	**92**	S	**Sn**	**17 24 02.9**	**+1.4**
ETOR	**Torete**	**2.07**	**192**	Pn	**Pn**	**17 23 38.3**	**+0.8**
	2.6nm,0.3s,SNR=7.6						
ETOR				Sn	**Sn**	**17 24 04.9**	**+0.7**
	13nm,0.5s						
ETOR	**Torete**	**2.07**	**192**	Pn	**Pn**	**17 23 38.3**	**+0.8**
ETOR				Sn	**Sn**	**17 24 04.9**	**+0.7**
EPOB	**Poblet**	**2.42**	**127**	Pn	**Pn**	**17 23 43.6**	**+1.1**
	SNR=7.9						
EPOB				Sn	**Sn**	**17 24 13.8**	**+0.7**
	SNR=7.9						
EMOS	**Mosqueruela**	**2.59**	**163**	Pg	**Pg**	**17 23 51.1**	**-1.9**
	SNR=7.9						
EMOS				Lg		17 24 22.2	
	SNR=7.9						
LFF	**La Frestale**	**2.64**	**37**	*e*Pn	**Pn**	**17 23 43.8**	**-1.8**
LFF				*e*Pg	**Pg**	**17 23 50.5**	**-3.4**
LFF				*e*Sg	**Sg**	**17 24 22.9**	**-6.2**
	8.9nm,0.4s						
MTLF	**Montolieu**	**2.75**	**78**	*e*Pn	**Pn**	**17 23 46.6**	**-0.6**
MTLF				*e*Pg	**Pg**	**17 23 53.9**	**-2.3**
MTLF				*e*Sn	**Sn**	**17 24 18.4**	**-3.2**
	3.6nm,0.4s						

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*IDC **16** 17:31:25.5±3.8,7.49S×128.89E,h156^{km}±32^{km},mb3.5/4, mb1 3.7/7,mb1mx3.5/13,Error ellipse: s-maj=56.2km s-min=17.1km az=66.0*

*NEIC **16** 17:31:29.2±5.5,7.63S×128.78E,h196^{km}±57^{km},mb4.1/9, Error ellipse: s-maj=50.3km s-min=14.7km az=219.0*

ISC 16 17:31:19.7±2.4,7.33S±0.07×129.3E±0.1,h128^{km}±24^{km}, n17,σ1^{s}15/22,mb4.1/10,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.27**	**198**	P	**P**	**17 33 59.1**	**+1.1**
	0.9nm,0.3s,baz=16,slow=9.1,SNR=34						
FITZ				S	**S**	**17 35 58.9**	**-3.1**
	3.6nm,0.3s,baz=159,slow=22,SNR=9.9						
WRAB	**Tennant Creek**	**13.47**	**159**	*e*P	**P**	**17 34 25.3**	**-1.4**
	8.6nm,0.5s						
WRAB				*e*S	**S**	**17 36 45.6**	**-8.0**
WRA	**Warramunga Arr**	**13.48**	**159**	P	**P**	**17 34 25.1**	**-1.7**
	1.8nm,0.3s,baz=343,slow=13,SNR=62						
WRA				S	**S**	**17 36 47.2**	**-6.5**
	2.9nm,0.3s,baz=335,slow=22,SNR=12						
MBWA	**Marble Bar**	**16.55**	**213**	*e*P	**P**	**17 35 08.0**	**+2.4**
	2.6nm,0.4s						
MBWA				*e*S	**S**	**17 38 03.7**	**-0.5**

ASAR	**Alice Springs**	**16.85**	**165**	P	**P**	**17 35 10.1**	**+0.9**
	0.8nm,0.3s,baz=332,slow=9.3,SNR=36						
ASAR				S	**S**	**17 38 11.8**	**+0.8**
	0.8nm,0.3s,baz=286,slow=19,SNR=5.5						
ASAR				ScP		17 43 10.3	
	baz=344,slow=2.3,SNR=4.3						
CTAO	**Charters Tower**	**20.80**	**129**	*e*P	**P**	**17 35 57.9**	**+5.4**
	8.4nm,1.2s						
STKA	**Stephens Creek**	**27.00**	**156**	P	**P**	**17 36 53.5**	**+1.8**
	1.3nm,0.8s,mb3.5,baz=331,slow=13,SNR=3.1						
CMAR	**Chiang Mai Arr**	**39.38**	**311**	P	**P**	**17 38 39.7**	**+1.2**
	0.8nm,0.6s,mb3.8,baz=133,slow=7.2,SNR=7.3						
KKN	**Kakani**	**54.99**	**311**	*e*P	**P**	**17 40 40.2**	**-0.1**
	4.4nm,0.5s,mb4.7						
DMN	**Daman**	**55.02**	**311**	*e*P	**P**	**17 40 41.6**	**+1.1**
GKN	**Gorkha**	**55.58**	**311**	*e*P	**P**	**17 40 44.1**	**-0.5**
	8.0nm,0.5s,mb5.0						
KOLN	**Koldanda**	**56.24**	**310**	*e*P	**P**	**17 40 48.9**	**-0.4**
	4.8nm,0.5s,mb4.8						
MKAR	**Makanchi Array**	**68.09**	**327**	P	**P**	**17 42 07.9**	**+0.1**
	1.5nm,0.4s,mb4.2,baz=116,slow=8.4,SNR=42						
KURK	**Kurchatov**	**72.41**	**329**	*e*P	**P**	**17 42 32.4**	**-1.3**
	1.2nm,0.6s,mb3.9						
BVAR	**Borovoye Array**	**77.94**	**328**	P	**P**	**17 43 05.0**	**-0.1**
	0.3nm,0.6s,mb3.2,baz=112,slow=8.0,SNR=4.6						
BRVK	**Borovoye**	**78.02**	**328**	P	**P**	**17 43 04.7**	**-0.8**
	2.0nm,0.9s,mb3.9						
ZRNK	**Zerenda**	**78.64**	**328**	*e*P	**P**	**17 43 08.6**	**-0.3**
	1.3nm,0.7s,mb3.9						

DJA 16 17:31:32.9±0.9,**8.57S**×**116.22E,h111**^{km}±6^{km}**,ML4.7**/2, **5C-3D,Error ellipse: s-maj=30.8km s-min=14.9km az=173.0,Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KEDI	**Kedomdong**	**0.13**	**310**	⇓*e*Pn	P	17 31 48.0	-0.4
KEDI				⇓*e*Sn	S	17 31 59.5	-0.5
RATI	**Rata**	**0.69**	**258**	⇑*e*Pn	P	17 31 51.2	-0.2
RATI				⇑*i*Sn	S	17 32 05.4	-0.1
INGI	**Ingas**	**1.09**	**257**	⇓*e*Pn	P	17 31 55.0	-0.4
	2µm,34.0s						
INGI				⇑*e*Sn	S	17 32 10.5	-1.8
KELI	**Kelakatan**	**1.74**	**282**	⇑*e*Pn	P	17 32 03.0	-0.2
	238nm,42.8s						
KELI				⇑*i*Sn	S	17 32 24.3	-1.6

IDC 16 17:48:10.2±15.0**,18.89S**×**173.99W,mb4.5**/5**,mb1 4.6**/5**, mb1mx4.1**/17**,Error ellipse: s-maj=293.0km s-min=133.9km az=80.0,Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARMA	**Armidale**	**33.17**	**243**	*e*P	P	17 54 49.6	-1.0
CTA	**Charters Tower**	**37.44**	**261**	*e*P	P	17 55 26.1	-1.0
	3.9nm,0.3s						
CTA	**Charters Tower**	**37.44**	**261**	P	P	17 55 26.4	-0.8
	5.1nm,0.4s,baz=91,slow=11,SNR=27						
STKA	**Stephens Creek**	**41.89**	**243**	*e*P	P	17 56 02.5	-1.5
	1.7nm,0.4s						
STKA	**Stephens Creek**	**41.89**	**243**	P	P	17 56 02.1	-1.8
	2.0nm,0.5s,baz=87,slow=12,SNR=11						
WB2	**Warramunga Arr**	**48.58**	**260**	*e*P	P	17 56 54.5	-3.1
ASAR	**Alice Springs**	**48.58**	**255**	P	P	17 56 55.2	-2.3
	5.0nm,0.5s,baz=88,slow=7.9,SNR=150						
ASPA	**Alice Springs**	**48.58**	**255**	*e*P	P	17 56 55.0	-2.6
WRA	**Warramunga Arr**	**48.59**	**260**	P	P	17 56 55.1	-2.5
	1.7nm,0.3s,baz=97,slow=7.6,SNR=126						
FITZ	**Fitzroy Crossi**	**57.01**	**260**	P	P	17 57 58.3	-2.1
	2.2nm,0.7s,baz=156,slow=4.1,SNR=15						

NEIC ***16*** *18:02:15.9±5.0,38.73N×70.58E,h6*^{km}*±33*^{km}*,mb4.3/10, Error ellipse: s-maj=14.1km s-min=8.6km az=224.0*

BJI ***16*** *18:02:17.7,38.90N×70.49E,h5*^{km}*,mB4.1,mb4.3,ML4.3, Ms3.7,Msz3.0*

MOS ***16*** *18:02:20.0±1.3,38.95N×70.53E,h33*^{km}*,mb4.5/17,Error ellipse: s-maj=11.7km s-min=8.0km az=98.4*

IDC ***16*** *18:02:20.5±0.8,38.80N×70.50E,h30*^{km}*±6*^{km}*,mb3.9/16, mb1 4.1/18,mb1mx4.0/24,ML4.0/2,MS3.1/1,Ms1 3.3/1, ms1mx2.9/26,Error ellipse: s-maj=15.3km s-min=13.1km az=8.0*

NNC ***16*** *18:02:23.2±2.6,39.49N×70.43E,Error ellipse: s-maj=31.2km s-min=14.2km az=56.0*

ISC 16 18:02:22.3±0.6**,38.98N**±0.03×**70.42E**±0.05**,h56**^{km}±7^{km}**, h29**^{km}±2.1^{km}**:pP-P,n97,**σ**1**^{s}**31**/103**,mb4.2**/29**,MS3.2**/5**, 9C-2D,Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TAS	**Tashkent**	**2.49**	**340**	*e*PN	**P**	**18 03 01.0**	**-0.4**
TAS				*e*		18 03 37.8	
TAS				pmax	pmax		
	comp=Z,450µm,1.0s						
AML	**Almayashu**	**4.01**	**37**	P	**P**	**18 03 23.9**	**+1.1**
	SNR=222						
KSH	**Kashi**	**4.34**	**81**	P	**P**	**18 03 28.4**	**+0.9**
KSH				*e*S	**S**	**18 04 20.8**	**+3.5**
KSH				Smax			
	comp=N,470nm,0.7s						
KSH				Smax			
	comp=E,460nm,0.8s						
EKS2	**Erkin-Say**	**4.47**	**34**	P	**P**	**18 03 30.2**	**+1.0**
	SNR=65						
UCH	**Uchtor**	**4.49**	**43**	P	**P**	**18 03 30.7**	**+1.1**
	SNR=235						
AAK	**Ala-Archa**	**4.78**	**39**	P	**P**	**18 03 34.7**	**+1.1**
	SNR=20						
AAK	**Ala-Archa**	**4.78**	**39**	*c i*PN	**P**	**18 03 33.5**	**-0.1**
AAK	**Ala-Archa**	**4.78**	**39**	*e*Pn	**P**	**18 03 32.9**	**-0.7**
KZA	**Kyzart**	**4.80**	**48**	P	**P**	**18 03 35.3**	**+1.3**
	SNR=228						
KBK	**Karagaybulak**	**5.02**	**42**	P	**P**	**18 03 38.4**	**+1.4**
	SNR=211						
CHMS	**Chumysh**	**5.18**	**38**	P	**P**	**18 03 39.8**	**+0.7**
	SNR=12						
USP	**Ospenovka**	**5.27**	**34**	P	**P**	**18 03 40.8**	**+0.4**
	SNR=37						
CEP	**Cherat**	**5.29**	**166**	⇑P	**P**	**18 03 38.5**	**-2.1**
CEP				S	**S**	**18 04 42.0**	**+1.0**
ULHL	**Ulahol**	**5.50**	**52**	P	**P**	**18 03 43.7**	**+0.1**
	SNR=17						
TKM2	**Tokmak 2**	**5.55**	**43**	P	**P**	**18 03 44.9**	**+0.7**
	SNR=250						
CHCP	**Chirah Chowk**	**5.79**	**156**	P	**P**	**18 03 46.6**	**-1.0**
THW	**Thamme Wali**	**6.27**	**170**	⇑P	**P**	**18 03 51.3**	**-3.0**
DRP	**Derazinda**	**7.23**	**181**	P	**P**	**18 04 04.0**	**-3.7**
MK31	**Makanchi Array**	**11.68**	**44**	P	**P**	**18 05 06.6**	**-1.9**
	comp=E,2.7nm,0.6s,baz=231,slow=13,SNR=34						
MKAR	**Makanchi Array**	**11.68**	**44**	Pn	**P**	**18 05 06.8**	**-1.7**
	comp=E,0.5nm,0.3s,baz=228,slow=12,SNR=42						
MKAR	**Makanchi Array**	**11.68**	**44**	P	**P**	**18 05 06.8**	**-1.7**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KURK	**Kurchatov**	**13.08**	**24**	P	**P**	**18 05 23.2**	**-4.0**
	comp=Z,2.0nm,0.9s,baz=227,slow=13,SNR=8.8						
KURK	**Kurchatov**	**13.08**	**24**	*e*P	**P**	**18 05 23.4**	**-3.8**
KURK	**Kurchatov**	**13.08**	**24**	*e*P	**P**	**18 05 22.5**	**-4.7**
	comp=Z,3.8nm,0.8s						
VOSK	**Vostochnaya**	**13.75**	**1**	⇑P	**P**	**18 05 31.9**	**-3.8**
	comp=Z,6.0nm,0.7s						
VOSK				⇑S	**S**	**18 08 00.6**	**-6.9**
	comp=Z,11nm,0.8s						
ZRNK	**Zerenda**	**14.00**	**356**	⇓P	**P**	**18 05 35.8**	**-3.3**
	comp=Z,3.9nm,0.5s						
ZRNK				⇑S	**S**	**18 08 08.3**	**-5.3**
	comp=Z,11nm,1.1s						
ZRNK	**Zerenda**	**14.00**	**356**	*e*P	**P**	**18 05 35.4**	**-3.7**
BVA0	**Borovoye Array**	**14.04**	**360**	⇑P	**P**	**18 05 36.9**	**-2.7**
	comp=Z,1.0nm,0.8s,baz=166,slow=14,SNR=45						
BVA0				⇑S	**S**	**18 08 09.3**	**-5.2**
	comp=Z,1.5nm,0.8s,baz=170,slow=27,SNR=5.4						
BVAR	**Borovoye Array**	**14.04**	**360**	Pn	**P**	**18 05 37.0**	**-2.6**
	comp=Z,1.7nm,0.3s,baz=165,slow=14,SNR=32						
BVAR				Sn	**S**	**18 08 06.2**	**-8.4**
	comp=Z,0.4nm,0.3s,baz=217,slow=22,SNR=2.7						
BRVK	**Borovoye**	**14.08**	**360**	*e*P	**P**	**18 05 36.9**	**-3.2**
KOLN	**Koldanda**	**15.67**	**132**	*e*P	**P**	**18 05 53.5**	**-7.4**
	comp=Z,13nm,0.5s						
GKN	**Gorkha**	**16.12**	**129**	*e*P	**P**	**18 06 00.7**	**-5.8**
	comp=Z,40nm,0.5s						
KKN	**Kakani**	**16.67**	**128**	*e*P	**P**	**18 06 07.0**	**-6.4**
	comp=Z,24nm,0.5s						
DMN	**Daman**	**16.69**	**128**	*e*P	**P**	**18 06 06.3**	**-7.4**
	comp=Z,20nm,0.5s						
PKI	**Pulchoki**	**16.90**	**128**	*e*P	**P**	**18 06 09.4**	**-7.0**
	comp=Z,27nm,0.7s						
NVS	**Novosibirsk**	**18.07**	**24**	*i* P	**P**	**18 06 28.8**	**-1.9**
NVS				pmax	pmax		
	comp=Z,11nm,1.1s						
NVS				pmax	pmax		
	comp=N,12nm,1.2s						
ARU	**Arti**	**19.14**	**340**	⇑*i*P	**P**	**18 06 42.8**	**-0.5**
ARU				*i* S	**S**	**18 10 10.2**	**-1.0**
ARU				pmax	pmax		
	comp=Z,11nm,0.8s						
ARU	**Arti**	**19.14**	**340**	*e*P	**P**	**18 06 41.6**	**-1.7**
	comp=Z,17nm,0.9s						
ARU				*e*S	**S**	**18 10 09.1**	**-2.1**
LSA	**Lhasa**	**19.43**	**112**	*e*P	**P**	**18 06 45.6**	**-1.0**
ZEI	**Tsey**	**20.38**	**289**	*e*P	**P**	**18 06 57.0**	**+0.4**
ZEI				MLR	MLR		
	comp=Z,200nm,16.0s,MS3.6						
UMR	**Umm Al-Rimmam**	**20.95**	**250**	*e*P	**P**	**18 07 01.8**	**-0.8**
KBD	**Kabd**	**21.17**	**249**	*e*P	**P**	**18 07 06.3**	**+1.5**
GOF	**Gofitskoye**	**21.18**	**296**	*e*P	**P**	**18 07 05.5**	**+0.7**
GOF				pmax	pmax		
	comp=Z,60nm,1.5s,mb4.7						
RDF	**Al-Radifah**	**21.41**	**249**	*e*P	**P**	**18 07 06.6**	**-0.6**
RDF				AMb	AMB	18 07 09.7	
	comp=Z,31nm,1.1s,mb4.5						
RST	**Umm Al-Ruwaisa**	**21.50**	**251**	*e*P	**P**	**18 07 06.9**	**-1.3**
RST				AMb	AMB	18 07 11.0	
	comp=Z,21nm,1.2s,mb4.5						
GTA	**Gaotai**	**22.74**	**80**	*e*P	**P**	**18 07 21.9**	**+1.6**
GTA				AP		18 07 28.6	
GTA				XP		18 07 31.8	
GTA				AMB	AMB		
	comp=Z,2.0nm,0.8s,mb3.6						
GTA				AMB	AMB		
	comp=Z,22nm,4.6s						
GTA				LR	LR		
	comp=N,45nm,16.7s,MS3.1						
GTA				LR	LR		
	comp=E,38nm,12.9s,MS3.1						
GTA				LR	LR		
	comp=Z,47nm,16.4s,MS3.0						
SOC	**Sochi**	**23.45**	**291**	*e*P	**P**	**18 07 29.8**	**+2.7**
SOC				*e*		18 07 56.0	
SOC				*e*S	**S**	**18 11 31.3**	**-1.7**
SOC				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.4						
SOC				pmax	pmax		
	comp=N,14nm,0.8s						
SOC				pmax	pmax		
	comp=E,9.0nm,0.7s						
SOC				MLR	MLR		
	comp=Z,64nm,18.0s,MS3.1						
SOC				MLR	MLR		
	comp=N,33nm,15.0s,MS3.0						
SOC				MLR	MLR		
	comp=E,23nm,15.0s,MS3.0						
MALT	**Malatya**	**24.93**	**279**	*e*P	**P**	**18 07 43.4**	**+1.8**
	comp=E,5.2nm,0.9s,mb4.1						
ANN	**Anapa**	**25.12**	**294**	*e*P	**P**	**18 07 44.0**	**+0.7**
ANN				*e*S	**S**	**18 11 56.5**	**-4.8**
ANN				pmax	pmax		
	comp=Z,22nm,1.2s,mb4.6						
ZAK	**Zakamensk**	**25.78**	**53**	*e*P	**P**	**18 07 50.7**	**+1.3**
SONM	**Songino Array**	**27.38**	**59**	P	**P**	**18 08 04.8**	**+0.6**
	comp=Z,0.4nm,0.5s,mb3.2,baz=240,slow=10.0,SNR=4.5						
SIM	**Simferopol’**	**27.48**	**294**	*e*P	**P**	**18 08 08.0**	**+2.9**
SIM				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.0						
OBN	**Obninsk**	**27.79**	**317**	*e*P	**P**	**18 08 08.6**	**+0.9**
OBN				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.5						
OBN				MLR	MLR		
	comp=Z,100nm,22.0s,MS3.4						
BRTR	**Keskin Array B**	**28.33**	**283**	P	**P**	**18 08 14.1**	**+1.3**
	comp=Z,2.0nm,0.9s,mb3.8,baz=80,slow=7.5,SNR=7.8						
BRTR	**Keskin Array B**	**28.33**	**283**	P	**P**	**18 08 14.1**	**+1.4**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
AKASG	**Malin Array Be**	**31.08**	**306**	P	**P**	**18 08 38.1**	**+1.1**
	comp=Z,2.3nm,0.5s,mb4.3,baz=112,slow=8.2,SNR=14						
AKASG	**Malin Array Be**	**31.08**	**306**	P	**P**	**18 08 38.1**	**+1.1**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
CMAR	**Chiang Mai Arr**	**32.09**	**121**	LR	LR	18 23 20.1	
	comp=Z,31nm,18.8s,MS3.0,baz=200,slow=39						
MLR	**Muntele Rosu**	**33.23**	**296**	P	**P**	**18 08 57.0**	**+1.1**
	comp=Z,3.5nm,0.8s,mb4.3,baz=113,slow=7.7						
MLR	**Muntele Rosu**	**33.23**	**296**	P	**P**	**18 08 57.0**	**+1.2**
MLR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MLR	**Muntele Rosu**	**33.23**	**296**	P	**P**	**18 08 57.0**	**+1.1**
BOD	**Bodaibo**	**33.76**	**42**	*e*P	**P**	**18 08 58.7**	**-1.6**
FINES	**FINESS Array B**	**35.19**	**324**	P	**P**	**18 09 12.2**	**-0.3**
	comp=Z,2.6nm,0.6s,mb4.4,baz=121,slow=8.4,SNR=16						
FINES	**FINESS Array B**	**35.19**	**324**	P	**P**	**18 09 12.2**	**-0.3**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KAF	**Kangasniemi**	**35.31**	**326**	*e*p	**P**	**18 09 16.2**	**+2.7**
IDI	**Anoyia**	**36.20**	**279**	P	**P**	**18 09 21.4**	**0.0**
	comp=Z,7.5nm,1.0s,mb4.6,baz=86,slow=9.1,SNR=3.5						
ARCES	**ARCESS Array B**	**38.68**	**337**	P	**P**	**18 09 41.7**	**0.0**
	comp=Z,1.9nm,0.5s,mb4.0,baz=109,slow=7.7,SNR=19						
ARCES	**ARCESS Array B**	**38.68**	**337**	P	**P**	**18 09 41.7**	**0.0**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ARCES	**ARCESS Array B**	**38.68**	**337**	P	**P**	**18 09 41.7**	**0.0**
NJ2	**Nanjing**	**39.65**	**85**	*e*P	**P**	**18 09 55.0**	**+4.9**
HFS	**Hagfors**	**40.85**	**320**	P	**P**	**18 10 00.0**	**+0.3**
	comp=Z,5.1nm,0.4s,mb4.5,baz=98,slow=10,SNR=33						
HFS				pP	pP	18 10 09.5	-4.9
	comp=Z,4.4nm,0.7s,baz=108,slow=9.4,SNR=2.6						
HFS	**Hagfors**	**40.85**	**320**	P	**P**	**18 10 00.0**	**+0.2**
HFS				*PP	pP	18 10 09.5	-4.9
HFS				pmax	pmax		
	comp=Z,5.0nm,0.4s						
HFS				pmax	pmax		
	comp=N,4.0nm,0.7s						
GERES	**GERESS Array B**	**41.16**	**303**	P	**P**	**18 10 02.9**	**+0.4**
	comp=N,0.6nm,0.6s,mb3.4,baz=72,slow=8.4,SNR=6.4						
GERES	**GERESS Array B**	**41.16**	**303**	P	**P**	**18 10 02.9**	**+0.5**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SSE	**Sheshan**	**41.85**	**85**	*e*P	**P**	**18 10 14.3**	**+6.0**
SSE				AMB	AMB		
	comp=Z,27nm,0.7s,mb5.0						
SSE				AMB	AMB		
	comp=Z,48nm,9.4s						
NB2	**NORSAR Subarra**	**42.14**	**321**	P	**P**	**18 10 09.5**	**-0.7**
	comp=Z,2.0nm,0.6s,mb3.9,baz=94,slow=7.9						
NOA	**NORSAR Array B**	**42.14**	**321**	P	**P**	**18 10 09.9**	**-0.3**
	comp=Z,1.8nm,0.5s,mb3.9,baz=94,slow=8.0,SNR=7.9						
NOA	**NORSAR Array B**	**42.14**	**321**	P	**P**	**18 10 09.9**	**-0.3**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
YAK	**Yakutsk**	**42.24**	**37**	*de*P	**P**	**18 10 10.9**	**-0.1**
YAK				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.3						
YAK	**Yakutsk**	**42.24**	**37**	*e*P	**P**	**18 10 10.6**	**-0.4**
	comp=Z,12nm,0.8s,mb4.6						
TIXI	**Tiksi**	**43.66**	**23**	*e*P	**P**	**18 10 22.2**	**-0.3**
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.2						
ESDC	**Sonseca Array**	**55.92**	**296**	P	**P**	**18 11 55.6**	**-1.1**
	comp=Z,2.3nm,0.6s,mb4.4,baz=50,slow=7.3,SNR=6.2						
INK	**Inuvik**	**71.53**	**9**	P	**P**	**18 13 38.5**	**0.0**
	comp=Z,0.9nm,0.5s,mb4.0,baz=12,slow=5.6,SNR=8.2						
INK	**Inuvik**	**71.53**	**9**	P	**P**	**18 13 38.5**	**0.0**
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
INK	**Inuvik**	**71.53**	**9**	*e*P	**P**	**18 13 38.9**	**+0.4**
	comp=Z,2.5nm,0.7s,mb4.2						
ILAR	**Eielson Array**	**72.52**	**16**	P	**P**	**18 13 44.4**	**+0.2**
	comp=Z,0.8nm,1.0s,mb3.6,baz=328,slow=6.2,SNR=5.2						
ILAR	**Eielson Array**	**72.52**	**16**	P	**P**	**18 13 44.4**	**+0.2**
ILAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
YKW3	**Yellowknife Ar**	**78.72**	**2**	*e*P	**P**	**18 14 16.2**	**-3.3**
YKA	**Yellowknife Ar**	**78.79**	**2**	P	**P**	**18 14 20.7**	**+0.8**
	comp=Z,2.1nm,0.6s,mb4.3,baz=352,slow=5.4,SNR=8.2						
YKA	**Yellowknife Ar**	**78.79**	**2**	P	**P**	**18 14 20.7**	**+0.8**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
SCHQ	**Schefferville**	**79.64**	**336**	P	**P**	**18 14 25.4**	**+0.7**
	comp=Z,2.0nm,0.7s,mb4.2,baz=302,slow=2.8,SNR=4.5						
WRA	**Warramunga Arr**	**83.69**	**122**	P	**P**	**18 14 45.5**	**-1.0**
	comp=Z,0.7nm,0.6s,mb4.0,baz=324,slow=4.7,SNR=12						
WRA				pP	pP	18 14 55.3	-7.2
	comp=Z,1.1nm,0.9s,baz=327,slow=4.9,SNR=4.9						
WRA	**Warramunga Arr**	**83.69**	**122**	P	**P**	**18 14 45.5**	**-1.0**
WRA				*PP	pP	18 14 55.3	-7.3
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA				pmax	pmax		
	comp=N,1.0nm,0.9s						
ASAR	**Alice Springs**	**86.05**	**125**	P	**P**	**18 14 57.9**	**-0.2**
	comp=N,0.2nm,0.7s,mb3.5,baz=320,slow=4.9,SNR=8.5						
ASAR				pP	pP	18 15 06.8	-7.4
	comp=N,0.5nm,0.7s,baz=314,slow=4.3,SNR=4.5						
PLCA	**Paso Flores**	**150.15**	**254**	PKPbc	PKPdf	18 22 10.5	+9.3
	comp=N,2.3nm,0.9s,baz=149,slow=7.6,SNR=4.0						
PLCA	**Paso Flores**	**150.15**	**254**	PKIKP	PKPdf	18 22 10.5	+9.2
PLCA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
PLCA	**Paso Flores**	**150.15**	**254**	PKPbc	PKPdf	18 22 10.5	+9.2

WAR ***16*** *18:03:09.7,51.50N×16.09E,ML2.8,Mining Induced*

NEIC ***16*** *18:03:09.1±2.0,51.48N×16.09E,h5*^{km}*,ML2.9(VIE), ML2.5(BRG),Error ellipse: s-maj=20.9km s-min=7.2km az=206.0*

PRU ***16*** *18:03:10.2,51.45N×16.10E*

ISC 16 18:03:07.2±0.8**,51.48N**±0.04×**16.08E**±0.04**,n15,**σ**1**^{s}**22**/34**, 1C,Poland**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.66**	**168**	*e*PG	**Pg**	**18 03 22.0**	**+1.8**
KSP				*i* SG	**Sg**	**18 03 30.8**	**+1.8**
UPC	**Upice**	**0.98**	**183**	*e*PG	**Pg**	**18 03 28.1**	**+1.4**
UPC				*e*SG	**Sg**	**18 03 40.8**	**+1.1**
DPC	**Dobruska-Polom**	**1.15**	**172**	*e*PG	**Pg**	**18 03 30.7**	**+0.7**
DPC				*e*SG	**Sg**	**18 03 45.4**	**+0.1**
	32nm,0.4s						
PVCC	**Panska Ves**	**1.35**	**226**	*e*PG	**Pg**	**18 03 35.3**	**+1.2**
PVCC				*e*SG	**Sg**	**18 03 53.7**	**+1.6**
BRG	**Berggiesshubel**	**1.48**	**246**	*e*Pn	**Pn**	**18 03 36.5**	**+1.4**
BRG				*i* Pg	**Pg**	**18 03 37.6**	**+1.0**
BRG				*i* Sg	**Sg**	**18 03 57.2**	**+0.9**
PRU	**Pruhonice**	**1.79**	**214**	PG	**Pg**	**18 03 42.0**	**-0.8**
PRU				*i* x	x	18 03 45.7	
PRU				SG	**Sg**	**18 04 05.6**	**-1.1**
	27nm,0.4s						
CLL	**Collm**	**1.94**	**266**	*e*PG	**Pg**	**18 03 45.0**	**-0.8**
CLL				*i* SG	**Sg**	**18 04 10.8**	**-0.8**
MORC	**Moravsky Berou**	**1.95**	**151**	*e*Pn	**Pn**	**18 03 42.2**	**+0.4**
MORC				*e*Sn	**Sn**	**18 04 04.0**	**-3.3**
OKC	**Ostrava-Krasne**	**2.11**	**141**	*e*PG	**Pg**	**18 03 48.9**	**-0.3**
OKC				*e*SG	**Sg**	**18 04 15.9**	**-1.4**
NKC	**Novy Kostel**	**2.62**	**243**	*e*PN	**Pn**	**18 03 54.7**	**+3.3**
NKC				*e*PG	**Pg**	**18 03 59.0**	**-0.5**
NKC				*e*SG	**Sg**	**18 04 34.0**	**-0.4**
OJC	**Ojcow**	**2.67**	**117**	*e*PG	**Pg**	**18 04 00.0**	**-0.5**
OJC				*e*SG	**Sg**	**18 04 35.0**	**-1.2**
OJC	**Ojcow**	**2.67**	**117**	*e*Pg	**Pg**	**18 03 59.8**	**-0.7**
OJC				*e*Sg	**Sg**	**18 04 35.4**	**-0.8**
KHC	**Kasperske Hory**	**2.85**	**215**	*e*PN	**Pn**	**18 03 56.1**	**+1.4**
KHC				*e*PG	**Pg**	**18 04 01.9**	**-2.1**
KHC				*e*SN	**Sn**	**18 04 29.7**	**-0.5**
KHC				*e*SG	**Sg**	**18 04 39.4**	**-2.6**
MOX	**Moxa**	**2.94**	**255**	*e*Pg	**Pg**	**18 04 04.8**	**-1.0**
MOX				*e*Sg	**Sg**	**18 04 44.4**	**-0.6**
MOA	**Molln**	**3.82**	**199**	⇑*i*PN	**Pn**	**18 04 09.1**	**+0.6**
MOA				*i* SG	**Sg**	**18 05 13.0**	**-1.4**
	7.9nm,0.6s						

NIED ***16*** *18:14:00,43.60N×147.40E,h50*^{km}*,Mw3.6 Best double couple: M*$_0$*3.01*$\times 10^{14}$ *NP1:φ*$_s$*72°,δ47°,λ82°. NP2:φ*$_s$*264°, δ44°,λ99°.*

JMA ***16*** *18:14:35.4±0.2,43.61N×147.35E,h21*^{km}*±4*^{km}*,M3.9*

IDC ***16*** *18:14:43.0±1.7,46.29N×146.27E,mb3.8/6,mb1 4.0/7, mb1mx3.7/23,ML3.3/1,MS3.2/1,Ms1 3.2/1,ms1mx2.1/38, Error ellipse: s-maj=48.3km s-min=21.6km az=149.0*

MOS ***16*** *18:14:43.5±1.6,45.81N×146.73E,h39*^{km}*,mb4.2/4,Error ellipse: s-maj=32.9km s-min=27.4km az=80.5*

ISC 16 18:14:34.8±1.1**,43.73N**±0.08×**147.51E**±0.09**,h55**^{km}±10^{km}**, n25,**σ**0**^{s}**89**/35**,mb3.7**/6**,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**1.33**	**255**	P	**P**	**18 14 57.1**	**-0.5**
NEM2				*e*S	**S**	**18 15 12.3**	**-2.3**
KUR	**Kuril’sk**	**1.53**	**10**	*e*PN	**P**	**18 15 00.5**	**+0.2**
KUR				*e*S	**S**	**18 15 18.0**	**-1.2**
KUR				pmax	pmax		
	comp=Z,150nm,0.5s						
KUR				smax			
	comp=N,980nm,0.4s						
KUR				smax			
	comp=E,810nm,0.4s						
JRA	**Rausu**	**1.74**	**278**	P	**P**	**18 15 03.6**	**+0.4**
JRA				*e*S	**S**	**18 15 24.4**	**+0.1**
JNK	**Nakash**	**2.03**	**267**	P	**P**	**18 15 07.3**	**0.0**
JNK				*e*S	**S**	**18 15 31.1**	**-0.3**
JAK	**Akkeshi**	**2.18**	**251**	P	**P**	**18 15 09.1**	**-0.3**
JAK				*e*S	**S**	**18 15 34.2**	**-0.9**
JTKR	**Abashiri--Toko**	**2.62**	**277**	P	**P**	**18 15 16.5**	**+0.9**
JTKR				*e*S	**S**	**18 15 48.5**	**+2.2**
JAR	**Ashorobuto**	**2.75**	**262**	P	**P**	**18 15 18.2**	**+0.6**
JAR				*e*S	**S**	**18 15 50.2**	**+0.5**
JOB	**Onbets**	**2.80**	**254**	P	**P**	**18 15 18.4**	**+0.1**
JOB				*e*S	**S**	**18 15 50.3**	**-0.7**
JCH	**Churui**	**3.23**	**251**	P	**P**	**18 15 24.8**	**+0.5**
JCH				*e*S	**S**	**18 16 00.4**	**-1.4**
ASAJ	**Asahikawa**	**3.57**	**278**	Pn	**P**	**18 15 36.3**	**+7.2**
	comp=E,2.3nm,0.3s,baz=101,slow=12,SNR=16						
ASAJ				Sn	**S**	**18 16 17.2**	**+6.8**
	comp=E,2.1nm,0.3s,baz=216,slow=10,SNR=2.2						
ASAJ	**Asahikawa**	**3.57**	**278**	PN	**P**	**18 15 36.3**	**+7.2**
ASAJ						18 16 17.2	
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				smax			
	comp=N,2.0nm,0.3s						
JFR	**Furan**	**3.62**	**263**	P	**P**	**18 15 31.0**	**+1.2**
JFR				*e*S	**S**	**18 16 11.8**	**+0.1**
JEM	**Erimo**	**3.63**	**243**	P	**P**	**18 15 31.5**	**+1.6**
JNBK	**Urakawa-nobuka**	**3.77**	**249**	P	**P**	**18 15 31.9**	**-0.1**
JNU	**Nakatsue**	**16.76**	**236**	LR	LR	18 25 07.6	
	comp=N,84nm,21.5s,baz=46,slow=35						
ILAR	**Eielson Array**	**41.35**	**36**	P	**P**	**18 22 16.9**	**+0.5**
	comp=N,1.5nm,0.9s,mb3.6,baz=260,slow=7.3,SNR=7.9						
ILAR	**Eielson Array**	**41.35**	**36**	P	**P**	**18 22 17.0**	**+0.6**
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MKAR	**Makanchi Array**	**44.83**	**298**	P	**P**	**18 22 44.6**	**-0.2**
	comp=Z,0.1nm,0.5s,mb3.0,baz=80,slow=7.4,SNR=3.5						
INK	**Inuvik**	**46.29**	**30**	P	**P**	**18 22 55.9**	**-0.3**
	comp=Z,1.4nm,0.7s,mb4.0,baz=275,slow=5.0,SNR=3.5						
INK	**Inuvik**	**46.29**	**30**	P	**P**	**18 22 55.9**	**-0.2**
INK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FINES	**FINESS Array B**	**65.01**	**333**	P	**P**	**18 25 05.2**	**-5.5**
	comp=Z,1.0nm,0.5s,mb4.1,baz=45,slow=8.1,SNR=8.8						
FINES	**FINESS Array B**	**65.01**	**333**	P	**P**	**18 25 05.2**	**-5.5**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**71.75**	**324**	P	**P**	**18 25 51.6**	**-1.0**
	comp=Z,0.5nm,0.4s,mb3.8,baz=37,slow=5.4,SNR=4.0						
AKASG	**Malin Array Be**	**71.75**	**324**	P	**P**	**18 25 51.6**	**-1.0**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
TXAR	**Lajitas Array**	**82.45**	**56**	P	**P**	**18 27 04.8**	**+12**
	comp=Z,0.8nm,0.7s,mb3.8,baz=270,slow=2.5,SNR=4.0						

CASC ***16*** *18:16:35.8±2.6,16.05N×94.17W,h35*^{km}*±999*^{km}*,MD4.6, ML4.9,mb3.5(NEIC)*

MEX ***16*** *18:16:38.8±0.8,15.84N×93.99W,h43*^{km}*±134*^{km}*,MD4.2*

NEIC ***16*** *18:16:38.5,15.82N×94.02W,h44*^{km}*,mb3.5/1, MD4.2(MEX),After MEX.*

IDC ***16*** *18:16:41.7±3.4,16.06N×93.69W,h98*^{km}*±30*^{km}*,mb3.8/8, mb1 4.0/10,mb1mx3.8/21,MS3.8/2,Ms1 3.8/2, ms1mx3.0/29,Error ellipse: s-maj=30.1km s-min=15.2km*

az=57.0

ISC 16 18:16:37.8±0.4**, 16.00N**±0.04×**94.02W**±0.03**, h77**^{km}±5^{km}**, n52, σ1**^{s}**37**/80**, mb4.1**/8**, 4C-3D, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMIG	Matias Romero	1.37	323	*i* P	P	18 17 02.4	+0.7
CMIG				*i* S	S	18 17 19.8	+0.3
CMIG	Matias Romero	1.37	323	*e*P	P	18 17 02.4	+0.7
CMIG				*i* S	S	18 17 19.8	+0.3
SCX	San Cristobal	1.51	61	*i* P	P	18 17 03.0	-0.6
SCX				*i* S	S	18 17 22.0	-0.7
SCX	San Cristobal	1.51	61	*i* P	P	18 17 02.0	-1.6
SCX				*i* S	S	18 17 23.5	+0.8
HUIG	Huatulco	2.03	264	*e*P	P	18 17 08.4	-2.1
HUIG				*i* S	S	18 17 31.7	-3.1
HUIG	Huatulco	2.03	264	*e*P	P	18 17 08.4	-2.1
HUIG				*e*S	S	18 17 30.5	-4.2
TUIG	Tuzandepetl	2.06	349	*e*P	P	18 17 11.9	+1.0
TUIG				*e*S	S	18 17 36.5	+1.0
EVV	El Vigia	2.75	333	*i* P	P	18 17 21.0	+0.3
EVV				*i* S	S	18 17 53.0	+0.1
EVV	El Vigia	2.75	333	*i* P	P	18 17 19.0	-1.7
EVV				*i* S	S	18 17 53.0	+0.1
OXX	Oaxaca	2.81	293	*i* P	P	18 17 21.0	-0.6
OXX				*i* S	S	18 17 55.0	+0.6
OXX	Oaxaca	2.81	293	*i* P	P	18 17 21.0	-0.6
OXX				*i* S	S	18 17 56.0	+1.6
VHO	Vista Hermosa	2.82	293	*e*P	P	18 17 22.0	+0.4
VHO	Vista Hermosa	2.82	293	*e*P	P	18 17 23.1	+1.5
JAT	Jato	2.84	126	⇑*e*P	P	18 17 20.3	-1.7
JAT				*e*S	S	18 17 55.3	+0.1
JAT				AML	AML	18 18 05.7	
	comp=E,5µm,0.3s						
TP2	Tecpan 2	3.13	112	⇓*e*P	P	18 17 26.1	0.0
TP2				*e*S	S	18 18 06.3	+4.0
FUG	Fuego 3	3.43	116	⇓*e*P	P	18 17 29.3	-0.9
FUG				*e*S	S	18 18 11.5	+1.7
NBG	Las Nubes	3.81	111	*e*P	P	18 17 34.7	-0.7
NBG				*e*S	S	18 18 21.1	+1.8
IXG	Ixpaco	3.89	117	*e*P	P	18 17 36.3	-0.3
IXG				*e*S	S	18 18 24.0	+2.7
IXG				AML	AML	18 18 42.1	
	comp=E,8µm,0.5s						
SCIG		4.00	42	*e*P	P	18 17 37.5	-0.5
SCIG				*i* S	S	18 18 23.0	-1.0
MRL	Marmol	4.27	102	⇓*e*P	P	18 17 39.7	-2.1
MRL				*e*S	S	18 18 27.6	-3.3
IISM	Ciudad Serdan	4.37	313	*i* P	P	18 17 43.0	-0.2
IISM				*i* S	S	18 18 34.0	+0.7
IISM	Ciudad Serdan	4.37	313	*i* P	P	18 17 41.0	-2.2
IISM				*i* S	S	18 18 23.0	-10
RTR	El Retiro	4.71	116	⇑*e*P	P	18 17 49.4	+1.4
RTR				*e*S	S	18 18 43.2	+1.4
SBLS	San Blas	4.76	116	⇑*e*P	P	18 17 49.6	+0.9
SBLS				*e*S	S	18 18 44.1	+1.1
SNJE	San Jose	4.76	116	*e*P	P	18 17 49.3	+0.7
SNJE				*e*S	S	18 18 44.8	+1.7
MTO2	Montecristo 2	4.77	109	*e*P	P	18 17 46.8	-2.0
BOQS	Boqueron	5.10	116	*e*P	P	18 17 54.7	+1.3
LFRS	El Faro	5.34	116	*e*P	P	18 17 56.2	-0.4
LFRS				*e*S	S	18 18 56.8	-0.7
PPM	Popocatepetl	5.35	305	*i* P	P	18 17 58.0	+1.3
PPM				*i* S	S	18 18 59.0	+1.3
PPM	Popocatepetl	5.35	305	*i* P	P	18 17 58.0	+1.3
PPM				*i* S	S	18 18 52.0	-5.7
LCBS	La Ceiba	5.40	115	⇑*e*P	P	18 17 56.7	-0.8
LCBS				*e*S	S	18 18 59.9	+1.0
PLIG	Platanillo	5.76	295	*e*P	P	18 18 22.4	+20
PLIG				*i* S	S	18 19 05.4	-2.4
PLIG	Platanillo	5.76	295	*e*P	P	18 18 22.4	+20
PLIG				*i* S	S	18 19 04.9	-2.9
CNCH	Conchagua	6.57	114	*e*P	P	18 18 11.3	-2.4
CNCH				*e*S	S	18 19 32.9	+5.1
TEIG	Tepich	6.89	52	P	P	18 18 15.8	-2.3
	comp=E,0.0nm,0.3s,baz=62,slow=24,SNR=21						
TEIG				S	S	18 19 31.8	-3.7
	comp=E,0.0nm,0.3s,baz=243,slow=24,SNR=16						
JTS	JuntasAbangare	10.49	122	P	P	18 19 04.9	-2.5
	comp=E,6.4nm,0.3s,baz=286,slow=20,SNR=14						
JTS	JuntasAbangare	10.49	122	*e*P	P	18 19 03.7	-3.7
	comp=E,3.8nm,0.6s						
TXAR	Lajitas Array	15.97	328	P	P	18 20 21.2	+2.1
	comp=E,0.7nm,0.3s,baz=152,slow=13,SNR=6.1						
GDL2	Guadalupe Moun	18.67	332	*e*P	P	18 20 54.0	+1.8
WMOK	Wichita Mounta	19.14	348	*e*P	P	18 20 57.0	-0.5
	comp=E,1.9nm,0.6s						
CPRX	Cap Rock	19.16	334	*e*P	P	18 20 58.1	+0.4
ROSC	El Rosal	22.28	118	P	P	18 21 29.2	-0.5
	comp=E,4.2nm,0.3s,mb4.2,baz=121,slow=22,SNR=3.0						
ROSC				LR	LR	18 31 02.0	
	comp=E,87nm,20.5s,baz=118,slow=39						
NVAR	Mina Array Bea	30.90	321	P	P	18 22 51.4	+2.1
	comp=E,1.8nm,0.8s,mb3.9,baz=128,slow=9.7,SNR=12						
MCMT	McKenzie Canyo	32.84	335	*e*P	P	18 23 06.9	+0.7
LPAZ	La Paz	41.01	140	P	P	18 24 16.3	+1.2
	comp=E,2.3nm,0.2s,mb4.7,baz=306,slow=0.2,SNR=3.6						
LPAZ	La Paz	41.01	140	P	P	18 24 16.3	+1.2
CPUP	Villa Florida	55.16	139	P	P	18 26 03.3	-1.7
	comp=E,1.4nm,0.7s,mb4.1,baz=328,slow=5.5,SNR=2.9						
BDFB	Brasilia	55.23	122	P	P	18 26 02.0	-3.5
	comp=E,1.6nm,0.4s,mb4.4,baz=255,slow=8.3,SNR=3.1						
ILAR	Eielson Array	60.24	337	P	P	18 26 39.5	-0.6
	comp=E,0.4nm,0.5s,mb3.7,baz=28,slow=8.1,SNR=4.6						
NOA	NORSAR Array B	83.32	28	P	P	18 28 55.2	-2.1
	comp=E,1.2nm,0.8s,mb3.8,baz=294,slow=5.4,SNR=3.6						
ARCES	ARCESS Array B	84.85	18	P	P	18 29 05.3	+0.6
	comp=E,2.0nm,0.7s,mb4.2,baz=297,slow=5.4,SNR=5.5						
URZ	Urewera	98.86	233	LR	LR	19 04 16.3	
	comp=E,129nm,19.1s,baz=216,slow=29						

PLV ***16*** *18:30:58.7±24.0, 13.91N×107.52E, MD4.0*

BJI ***16*** *18:31:21.5, 21.88N×111.59E, h10*^{km}*, mB4.6, mb4.4, ML5.2, Ms4.7, Msz4.3*

NEIC ***16*** *18:31:22.1±0.6, 21.76N×111.55E, h10*^{km}*, mb4.4/9, Error ellipse: s-maj=13.6km s-min=10.7km az=102.0*

IDC ***16*** *18:31:22.0±1.0, 21.98N×112.25E, mb3.8/6, mb1 3.9/8, mb1mx3.8/18, ML4.4/2, MS3.8/8, Ms1 3.9/8, ms1mx3.5/34, Error ellipse: s-maj=29.7km s-min=19.6km az=57.0*

ISC 16 18:31:20.2±0.4**, 21.74N**±0.03×**111.61E**±0.04**, h10**^{km}**, n48, σ1**^{s}**28**/57**, mb4.1**/16**, MS3.9**/13**, 4D, Southeastern China**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GZH	Guangzhou	2.09	50	PG	Pg	18 32 00.5	-1.5
GZH				S	Sn	18 32 28.0	+5.9
GZH				Smax			
	comp=N,7µm,1.1s						
GZH				Smax			
	comp=E,9µm,0.7s						
HKC	Hong Kong	2.44	76	⇓*i*P	Pn	18 32 02.5	+1.7
HKC				*i* S	Sn	18 32 30.4	-0.6
QIZ	Qiongzhong	3.16	212	P	Pn	18 32 11.3	+0.3
QIZ				PG	Pg	18 32 21.8	-1.5
QIZ				SG	Sg	18 33 04.6	-0.9
QIZ				Smax			
	comp=N,2µm,0.7s						
QIZ				Smax			
	comp=E,2µm,0.7s						
QIZ	Qiongzhong	3.16	212	*e*Pn	Pn	18 32 11.1	+0.1
QIZ				*e*Pg	Pg	18 32 21.7	-1.7
QZH	Quanzhou	7.17	62	⇓*i*P	Pn	18 33 02.8	-4.9
QZH				Smax			
	comp=N,4µm,0.9s						
QZH				Smax			
	comp=E,2µm,0.8s						
QZH				LR	LR		
	comp=N,17µm,4.0s						
QZH				LR	LR		
	comp=E,9µm,3.5s						
DBV	Dienbien	8.00	269	*e*PN	P	18 33 19.8	+0.6
	baz=149,slow=4.8						
DBV				*e*PG	P	18 33 23.5	+4.2
DBV				*e*SG	Sg	18 35 41.5	-4.9
ENH	Enshi	8.71	348	*e*Pn	P	18 33 26.8	-2.4
	comp=E,17nm,0.9s						
ENH				*e*Sn	Sn	18 34 59.0	-10
UBT	Ubonrachathani	8.98	225	⇓P	P	18 33 33.0	0.0
WHN	Wuhan	9.11	15	P	P	18 33 33.0	-1.7
WHN				S	Sn	18 35 19.4	+1.0
WHN				LR	LR		
	comp=N,3µm,5.4s						
WHN				LR	LR		
	comp=E,13µm,8.8s						
WHN				LR	LR		
	comp=Z,3µm,7.0s						
KKTK	Khon Kaen	9.89	239	P	P	18 33 46.0	+0.4
	comp=Z,494nm,1.0s						
NANT	Nan	10.65	256	P	P	18 33 56.0	0.0
NANT				S	Sx	18 37 15.0	
CHRT	Chiangrai	11.22	263	P	P	18 34 12.0	+8.3
	comp=Z,290nm,0.6s						
CD2	Chengdu	11.53	324	P	P	18 34 05.0	-3.0
CD2				AMB	AMB		
	comp=Z,20nm,1.0s						
CD2				AMB	AMB		
	comp=Z,90nm,6.5s						
CD2				LR	LR		
	comp=E,5µm,8.3s						
CD2				LR	LR		
	comp=Z,1µm,6.4s						
NJ2	Nanjing	12.13	31	*e*P	P	18 34 12.6	-3.5
NJ2				AP		18 34 15.9	
NJ2				XP		18 34 19.1	
NJ2				PP	PP	18 34 22.4	-3.5
NJ2				S	S	18 36 28.0	-4.5
NJ2				SS	SS	18 36 43.0	-4.0
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s						
NJ2				AMB	AMB		
	comp=Z,70nm,4.3s						
NJ2				LR	LR		
	comp=N,2µm,14.9s						
NJ2				LR	LR		
	comp=E,2µm,15.4s						
NJ2				LR	LR		
	comp=Z,2µm,16.6s						
CMAR	Chiang Mai Arr	12.34	257	Pn	P	18 34 28.3	+9.4
	comp=Z,0.1nm,0.3s,baz=75,slow=10,SNR=5.8						
CMAR				Sn	S	18 36 56.2	+19
	comp=Z,0.1nm,0.3s,baz=254,slow=37,SNR=3.2						
CMAR				Lg		18 38 08.3	
	comp=Z,0.1nm,0.3s,baz=72,slow=29,SNR=6.9						
TIA	Tai'an	15.20	17	*e*P	P	18 35 01.0	+4.3
TIA				*e*S	S	18 37 35.0	-11
TIA				LG		18 39 13.0	
TIA				LR	LR		
	comp=E,2µm,10.0s						
LZH	Lanzhou	15.82	336	*e*P	P	18 35 03.9	-0.8
LZH				AP		18 35 10.1	
LZH				XP		18 35 14.5	
LZH				PP	PP	18 35 17.6	0.0
LZH				*e*S	S	18 38 00.5	+0.1
LZH				XS		18 38 07.0	
LZH				SS	SS	18 38 20.3	+1.2
LZH				AMB	AMB		
	comp=Z,73nm,1.3s						
LZH				AMB	AMB		
	comp=Z,322nm,4.1s						
LZH				LR	LR		
	comp=N,3µm,8.1s						
LZH				LR	LR		
	comp=Z,4µm,10.2s						
BJT	Baijiatuau	18.63	11	*e*P	P	18 35 40.1	+0.1
	comp=Z,14nm,1.0s						
BJI	Beijing	18.66	11	P	P	18 35 40.0	-0.3
BJI				AMB	AMB		
	comp=Z,11nm,0.9s						
BJI				LR	LR		
	comp=N,484nm,15.0s						
BJI				LR	LR		
	comp=E,1µm,15.0s						
BJI				LR	LR		
	comp=Z,201nm,15.0s						
LSA	Lhasa	20.05	297	P	P	18 35 58.4	+2.0
LSA				LR	LR		
	comp=N,200nm,13.4s,MS3.9						
LSA				LR	LR		
	comp=E,290nm,13.4s,MS3.9						
LSA				LR	LR		
	comp=Z,220nm,10.9s,MS3.8						
GTA	Gaotai	20.30	333	*e*P	P	18 35 59.3	+0.3
GTA				AP		18 36 02.3	
GTA				XP		18 36 04.6	
GTA				PP	PP	18 36 23.1	+3.9
GTA				AMB	AMB		
	comp=Z,4.0nm,1.1s						
GTA				AMB	AMB		
	comp=Z,48nm,4.2s						
GTA				LR	LR		
	comp=N,606nm,11.0s,MS4.4						
GTA				LR	LR		
	comp=E,819nm,11.4s,MS4.4						
GTA				LR	LR		
	comp=Z,253nm,10.3s,MS3.9						
INCN	Inchon	20.37	36	*e*P	P	18 35 57.3	-2.4
	comp=Z,43nm,1.0s						
JNU	Nakatsue	20.49	52	P	P	18 35 55.8	-5.1
	comp=Z,2.2nm,0.3s,baz=353,slow=25,SNR=4.2						
JNU				LR	LR	18 45 12.6	
	comp=Z,216nm,19.1s,MS3.5,baz=356,slow=42						
KS15	Wonju Array Si	21.05	38	*e*P	P	18 36 07.5	+0.8
SNY	Shenyang	22.42	24	⇓P	P	18 36 20.6	+0.1
SNY				S	S	18 40 21.9	+0.2
SNY				LR	LR		
	comp=N,240nm,13.2s,MS4.1						
SNY				LR	LR		
	comp=E,360nm,12.3s,MS4.1						
SNY				LR	LR		
	comp=Z,310nm,11.1s,MS4.0						
PKI	Pulchoki	24.48	289	*e*P	P	18 36 42.8	+2.0
	comp=Z,29nm,0.9s,mb4.7						
KKN	Kakani	24.63	289	*e*P	P	18 36 42.9	+0.8
	comp=Z,19nm,0.9s,mb4.6						
DMN	Daman	24.76	289	*e*P	P	18 36 43.9	+0.5
	comp=Z,42nm,1.0s,mb4.9						
CN2	Changchun	24.82	24	*e*P	P	18 36 46.4	+2.6
CN2				*e*S	S	18 41 03.4	-0.1
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.3						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,380nm,12.0s,MS4.2						
CN2				LR	LR		
	comp=E,280nm,12.0s,MS4.2						
CN2				LR	LR		
	comp=Z,310nm,13.0s,MS4.0						
GKN	Gorkha	25.22	290	*e*P	P	18 36 46.1	-1.7
SONM	Songino Array	26.38	352	P	P	18 36 58.9	+0.6
	comp=Z,1.8nm,0.9s,mb3.6,baz=170,slow=9.9,SNR=13						
MDJ	Mudanjiang	27.22	29	P	P	18 37 08.8	+2.7
MDJ				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.0						
MDJ				AMB	AMB		
	comp=Z,29nm,4.6s						
MDJ				LR	LR		
	comp=N,223nm,12.3s,MS4.1						
MDJ				LR	LR		
	comp=E,236nm,11.8s,MS4.1						
MDJ				LR	LR		
	comp=Z,236nm,11.1s,MS4.0						
JHJ	Hachijo jima 2	27.37	60	LR	LR	18 49 09.0	
	comp=Z,120nm,19.4s,MS3.5,baz=147,slow=40						
WMQ	Urumqi	29.63	324	*e*P	P	18 37 27.0	-0.9
WMQ				AP	pP	18 37 32.0	+1.2
WMQ				XP	sP	18 37 34.0	+1.9
WMQ				AMB	AMB		
	comp=Z,4.0nm,1.4s,mb4.0						
MKAR	Makanchi Array	34.46	324	P	P	18 38 10.8	+0.7
	comp=Z,1.1nm,0.9s,mb3.8,baz=124,slow=8.7,SNR=7.1						
MKAR				LR	LR	18 52 28.7	
	comp=Z,101nm,19.1s,MS3.6,baz=120,slow=37						
AAK	Ala-Archa	37.29	313	P	P	18 38 34.9	+0.8
	comp=Z,8.3nm,1.2s,mb4.4						
KURK	Kurchatov	38.74	326	*e*P	P	18 38 44.1	-2.1
	comp=Z,4.1nm,0.8s,mb4.2						
ZRNK	Zerenda	44.99	325	*e*P	P	18 39 37.1	-0.2
	comp=Z,6.7nm,1.3s,mb4.3						
WRA	Warramunga Arr	47.01	150	P	P	18 39 54.0	+0.3
	comp=Z,1.2nm,0.9s,mb3.8,baz=338,slow=8.6,SNR=6.0						
ASAR	Alice Springs	50.07	153	P	P	18 40 18.5	+1.0
	comp=Z,0.4nm,0.6s,mb3.6,baz=338,slow=6.5,SNR=7.7						
MALT	Malatya	63.96	303	*e*P	P	18 42 01.1	+5.1
	comp=Z,2.3nm,0.9s,mb4.2						
BRTR	Keskin Array B	67.43	305	P	P	18 42 22.6	+4.4
	comp=Z,0.9nm,0.8s,mb3.9,baz=90,slow=7.4,SNR=4.7						
ARCES	ARCESS Array B	68.48	338	LR	LR	19 14 24.3	
	comp=Z,109nm,21.0s,MS4.1,baz=168,slow=38						
AKASG	Malin Array Be	68.75	317	P	P	18 42 29.8	+3.6
	comp=Z,0.6nm,0.6s,mb3.7,baz=66,slow=5.9,SNR=5.0						
FINES	FINESS Array B	69.04	329	LR	LR	19 13 38.0	
	comp=Z,78nm,20.9s,MS3.9,baz=117,slow=37						
NOA	NORSAR Array B	76.11	330	LR	LR	19 17 44.6	
	comp=Z,59nm,19.0s,MS3.9,baz=90,slow=36						
YKA	Yellowknife Ar	88.43	20	LR	LR	19 26 10.8	
	comp=Z,54nm,19.2s,MS4.0,baz=340,slow=37						
FRB	Frobisher Bay	94.80	0	LR	LR	19 31 55.1	
	comp=Z,92nm,18.1s,MS4.3,baz=350,slow=38						

THR ***16*** *18:45:00.0±0.5, 38.15N×57.54E, h15*^{km}*, ML3.9*

IDC ***16*** *18:45:12.0±1.6, 37.10N×56.54E, mb3.5/4, mb1 3.8/7, mb1mx3.6/22, ML3.8/3, Error ellipse: s-maj=43.0km s-min=21.4km az=4.0*

ISC 16 18:45:16.9±2.0**, 37.2N**±0.1×**56.6E**±0.1**, h51**^{km}±27^{km}**, n12, σ0**^{s}**73**/12**, mb3.4**/4**, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DAMV	Damavand	4.04	249	*e*PN	P	18 46 18.9	+1.1
DAMV				AMP		18 47 27.8	
	comp=N,88nm,0.6s						
DAMV				AMP		18 47 33.1	
	comp=E,74nm,0.6s						
THKV	Tehran--Karaj	4.77	257	*e*PN	P	18 46 27.2	-0.9
THKV				AMP		18 47 45.9	
	comp=N,50nm,0.6s						
THKV				AMP		18 47 57.9	
	comp=E,42nm,0.6s						
ASAO	Ashtian	5.94	246	*e*PN	P	18 46 45.4	+1.0
GRMI	Germi	7.07	286	*e*PN	P	18 46 52.7	-7.5
KRBR	Kerman	7.16	179	*e*PN	P	18 47 00.8	-0.7
ASF	Jabal al Asfar	16.95	259	Pn	P	18 49 11.6	-0.2
	comp=E,0.3nm,0.3s,baz=326,slow=7.8,SNR=3.0						
BRTR	Keskin Array B	18.16	285	P	P	18 49 26.0	-0.9
	comp=E,0.2nm,0.3s,baz=112,slow=7.8,SNR=2.9						
BVAR	Borovoye Array	18.56	27	P	P	18 49 30.9	-0.7
	comp=E,0.5nm,0.3s,baz=202,slow=9.3,SNR=27						
MKAR	Makanchi Array	21.30	55	P	P	18 50 02.1	+1.0
	comp=E,0.9nm,0.6s,mb3.3,baz=244,slow=11,SNR=8.9						
AKASG	Malin Array Be	23.75	313	P	P	18 50 25.3	+0.3
	comp=E,1.5nm,0.6s,mb3.6,baz=115,slow=12,SNR=4.7						
MLR	Muntele Rosu	24.36	300	P	P	18 50 31.2	+0.1
	comp=E,0.9nm,0.8s,mb3.3,baz=100,slow=6.1,SNR=2.8						
CMAR	Chiang Mai Arr	41.43	105	P	P	18 53 00.1	0.0
	comp=E,0.7nm,1.1s,mb3.2,baz=302,slow=8.5,SNR=4.6						

JMA 16 18:55:46.4±0.1**, 32.91N**×**136.68E, h39**^{km}±3^{km}**, M3.1, Southeast of Shikoku**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JWZ	Kozaga	1.02	308	P	P	18 56 04.5	+0.1
JWZ				S	S	18 56 17.9	+0.2
JKN	Kiinagashima	1.38	346	P	P	18 56 09.9	+0.3
JKN				S	S	18 56 26.3	-0.6
JWM	Minabe	1.45	311	P	P	18 56 11.0	+0.4
JWM				S	S	18 56 28.5	-0.1
JIE	Ise	1.48	1	P	P	18 56 11.4	+0.4
JIE				S	S	18 56 28.9	-0.4
JWY	Kouya	1.59	325	P	P	18 56 13.5	+0.9
JWY				S	S	18 56 32.8	+0.7
TK04	Tokai 4	1.78	34	P	P	18 56 14.9	-0.3
TSUJ	Tsu 2	1.81	353	P	P	18 56 16.1	+0.4
TSUJ				S	S	18 56 37.4	-0.1
JHE	Heguri	1.93	335	P	P	18 56 18.2	+0.9
JHE				S	S	18 56 41.2	+0.7
JAI	Aioi	2.06	296	P	P	18 56 19.7	+0.4
JAI				S	S	18 56 44.2	+0.2
JAJ2	Tsuna	2.12	316	P	P	18 56 21.3	+1.1
JMN	Monobe	2.48	290	P	P	18 56 25.6	+0.3
JWT	Wachi	2.59	336	P	P	18 56 27.6	+0.7
JWT				S	S	18 56 58.3	+0.8

NIED ***16*** *18:56:00, 32.90N×136.70E, h8*^{km}*, Mw4.4 Best double couple: M*$_0$*4.74×10*^{15} *NP1:*ϕ_s*99°, δ70°, λ27°. NP2:*ϕ_s*358°, δ65°, λ157°.*

BJI ***16*** *18:56:20.5, 32.36N×137.50E, h15*^{km}*, mB4.4, mb4.3, Ms4.1, Msz3.9*

JMA ***16*** *18:56:27.7±0.1, 32.90N×136.71E, h40*^{km}*±4*^{km}*, M4.1*

JMA Felt I J1.

NEIC ***16*** *18:56:28.6±0.5, 32.91N×136.75E, h15*^{km}*, mb4.4/13, Error ellipse: s-maj=10.8km s-min=8.5km az=112.0*

NEIC Recorded [1 JMA] in Nara Prefecture, Honshu.

MOS ***16*** *18:56:29.4±1.9, 32.88N×136.90E, h33*^{km}*, mb4.1/5, Error ellipse: s-maj=38.8km s-min=18.5km az=78.7*

IDC ***16*** *18:56:30.8±0.5, 32.82N×136.82E, h26*^{km}*±3*^{km}*, mb3.8/13, mb1 4.0/17, mb1mx3.9/28, ML3.5/4, MS3.7/7, Ms1 3.7/7, ms1mx3.4/35, Error ellipse: s-maj=13.7km s-min=11.7km az=78.0*

ISC 16 18:56:28.5±0.3**, 32.96N**±0.03×**136.73E**±0.03**, h28**^{km}**, h28**^{km}±1.2^{km}**: pP-P, n72, σ1**^{s}**25**/84**, mb4.2**/28**, MS3.7**/4**, 2C, Southeast of Shikoku**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JWZ	Kozaga	1.02	304	⇑P	Pn	18 56 46.1	-1.0
JWZ				S	Sb	18 56 59.3	-1.1
TK01	Tokai 1	1.08	42	S	Sn	18 57 01.9	-0.1
TK02	Tokai 2	1.30	41	P	Pn	18 56 50.4	-0.8
TK02				S	Sn	18 57 06.9	-0.9
JKN	Kiinagashima	1.34	343	P	Pn	18 56 51.5	-0.1
JKN				S	Sn	18 57 08.0	-0.6
JIE	Ise	1.42	359	P	Pn	18 56 53.1	+0.2
JIE				S	Sn	18 57 10.9	+0.1
JWM	Minabe	1.45	308	⇑P	Pn	18 56 52.6	-0.6
JWM				S	Sn	18 57 10.5	-0.9
JWY	Kouya	1.57	323	P	Pn	18 56 55.1	+0.2
JWY				S	Sn	18 57 14.6	+0.1
TK04	Tokai 4	1.71	34	P	Pn	18 56 56.5	-0.5
TK04				S	Sn	18 57 18.1	0.0
TSUJ	Tsu 2	1.76	352	P	Pn	18 56 57.7	0.0
TSUJ				S	Sn	18 57 19.1	-0.2
JHE	Heguri	1.89	333	P	Pn	18 56 59.9	+0.3
JHE				S	Sn	18 57 22.8	0.0
JAI	Aioi	2.07	294	P	Pn	18 57 01.3	-0.9
JAI				S	Sn	18 57 26.1	-1.3
JAJ2	Tsuna	2.11	314	P	Pn	18 57 02.5	-0.2
JMN	Monobe	2.50	289	P	Pn	18 57 07.3	-1.0
JMN				S	Sn	18 57 35.6	-2.6
JWT	Wachi	2.56	335	P	Pn	18 57 09.3	+0.2
JWT				S	Sn	18 57 40.1	+0.4
JHJ	Hachijo jima 2	2.57	86	Pn	Pn	18 57 08.7	-0.6
	13nm,0.3s,baz=76,slow=19,SNR=3.4						
JHJ				Sn	Sn	18 57 39.1	-0.9
	84nm,0.3s,baz=237,slow=21,SNR=9.1						
MAJO	Matsushiro	3.77	18	*e*Pn	Pn	18 57 27.2	+0.9
MAT	Matsushiro	3.77	18	P	Pn	18 57 26.2	-0.1
MAT				S	Sn	18 58 10.2	-0.2
MAT	Matsushiro	3.77	18	*e*P	Pn	18 57 26.0	-0.3
MAT				*e*S	Sn	18 58 10.0	-0.4
JNU	Nakatsue	4.91	273	Pn	Pn	18 57 39.8	-2.7
JNU				Sn	Sn	18 58 40.8	+1.5
	3.4nm,0.3s,baz=206,slow=32,SNR=5.2						
JNU				LR	LR	18 59 52.4	
	comp=Z,340nm,20.1s,baz=94,slow=40						
CBIJ	Chichi jima	7.52	140	Pn	Pn	18 58 13.9	-5.3
	8.4nm,0.3s,baz=268,slow=20,SNR=4.7						
CBIJ				LR	LR	19 00 39.3	
	comp=Z,813nm,20.0s,baz=312,slow=34						
KS15	Wonju Array Si	8.50	304	*e*Pn	P	18 58 30.2	-2.6
JOW	Kunigami	9.54	232	Pn	P	18 58 46.6	-0.7
	0.6nm,0.3s,baz=221,slow=29,SNR=10						
JOW				Sn	Sn	19 00 14.7	-20
	0.2nm,0.3s,baz=143,slow=25,SNR=1.2						
JOW				LR	LR	19 02 17.1	
	comp=Z,312nm,19.1s,baz=76,slow=36						
ASAJ	Asahikawa	12.04	21	Pn	P	18 59 18.9	-2.3
	0.2nm,0.3s,baz=67,slow=21,SNR=4.8						
ASAJ				LR	LR	19 04 27.9	
	comp=Z,488nm,19.1s,baz=348,slow=39						
MDJ	Mudanjiang	12.89	337	P	P	18 59 39.3	+6.7
MDJ				AMB	AMB		
	comp=Z,4.0nm,2.0s						
MDJ				AMB	AMB		
	comp=Z,25nm,4.6s						
CN2	Changchun	13.96	324	*e*P	P	18 59 56.1	+9.4

CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s						
YSS	**Yuzh-Sakhalins**	**14.71**	**16**	*e*P	**P**	**18 59 58.5**	**+2.0**
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS	**Yuzh-Sakhalins**	**14.71**	**16**	*e*P	**P**	**18 59 55.0**	**-1.5**
	comp=Z,18nm,0.9s						
BJT	**Baijiatuau**	**17.95**	**299**	*e*P	**P**	**19 00 39.8**	**+2.1**
	comp=Z,10nm,0.7s						
BJI	**Beijing**	**17.95**	**299**	P	**P**	**19 00 40.3**	**+2.6**
BJI				AMB	AMB		
	comp=Z,7.0nm,0.7s						
BJI				LR	LR		
	comp=N,261nm,16.5s						
BJI				LR	LR		
	comp=E,440nm,15.4s						
BJI				LR	LR		
	comp=Z,340nm,18.5s						
HHC	**Hu-ho-hao-te**	**21.55**	**299**	*e*P	**P**	**19 01 21.5**	**+3.8**
HHC				AP		19 01 27.9	
HHC				XP		19 01 33.4	
HHC				AMB	AMB		
	comp=Z,13nm,0.4s,mb4.7						
HHC				AMB	AMB		
	comp=Z,71nm,4.8s						
HHC				LR	LR		
	comp=N,257nm,17.8s						
HHC				LR	LR		
	comp=E,392nm,23.2s						
HHC				LR	LR		
	comp=Z,177nm,19.6s,MS3.5						
XAN	**Xi'an**	**23.19**	**280**	P	**P**	**19 01 36.8**	**+2.9**
XAN				AP		19 01 42.8	
XAN				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.1						
SONM	**Songino Array**	**27.25**	**312**	P	**P**	**19 02 12.8**	**+0.7**
	comp=Z,2.0nm,0.8s,mb3.7,baz=116,slow=7.6,SNR=16						
SONM				pP	pP	19 02 21.6	+1.5
	comp=Z,1.7nm,0.8s,baz=124,slow=8.4,SNR=5.3						
MA2	**Magadan**	**28.21**	**15**	P	**P**	**19 02 27.6**	**+6.9**
	comp=Z,13nm,0.9s,mb4.5						
YAK	**Yakutsk**	**29.43**	**353**	P	**P**	**19 02 39.8**	**+8.1**
	comp=Z,5.5nm,0.9s,mb4.3						
GTA	**Gaotai**	**30.33**	**293**	*e*P	**P**	**19 02 40.9**	**+1.0**
GTA				AP	pP	19 02 51.5	+3.5
GTA				XP	sP	19 02 56.8	+5.2
GTA				AMB	AMB		
	comp=Z,1.0nm,0.9s,mb3.5						
CMAR	**Chiang Mai Arr**	**36.77**	**256**	P	**P**	**19 03 36.9**	**+1.2**
	comp=Z,0.8nm,0.6s,mb3.7,baz=48,slow=9.5,SNR=7.7						
CMAR				pP	pP	19 03 44.5	+0.6
	comp=Z,1.1nm,0.7s,baz=52,slow=8.4,SNR=5.3						
CMAR	**Chiang Mai Arr**	**36.77**	**256**	P	**P**	**19 03 36.9**	**+1.2**
CMAR				*PP	pP	19 03 44.5	+0.6
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CMAR				pmax	pmax		
	comp=N,1.0nm,0.7s						
LSA	**Lhasa**	**38.84**	**278**	P	**P**	**19 03 56.4**	**+3.4**
MKAR	**Makanchi Array**	**43.16**	**305**	P	**P**	**19 04 29.9**	**+1.6**
	comp=N,2.7nm,0.8s,mb4.1,baz=93,slow=9.7,SNR=21						
MKAR				pP	pP	19 04 38.8	+2.2
	comp=N,9.4nm,1.0s,baz=91,slow=10,SNR=15						
MKAR				LR	LR	19 23 14.6	
	comp=N,140nm,19.3s,MS3.9,baz=110,slow=37						
MKAR	**Makanchi Array**	**43.16**	**305**	P	**P**	**19 04 29.9**	**+1.6**
MKAR				*PP	pP	19 04 38.8	+2.2
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MKAR				pmax	pmax		
	comp=N,9.0nm,1.0s						
MKAR				MLR	MLR		
	comp=Z,140nm,19.3s						
MKAR	**Makanchi Array**	**43.16**	**305**	P	**P**	**19 04 29.9**	**+1.6**
MKAR				pP	pP	19 04 38.8	+2.2
MKAR				LR	LR	19 23 14.6	
KKN	**Kakani**	**44.33**	**277**	*e*P	**P**	**19 04 45.5**	**+7.5**
	comp=Z,16nm,0.9s,mb4.8						
DMN	**Daman**	**44.53**	**277**	*e*P	**P**	**19 04 45.4**	**+5.7**
	comp=Z,13nm,1.0s,mb4.7						
GKN	**Gorkha**	**44.79**	**278**	*e*P	**P**	**19 04 48.8**	**+7.0**
	comp=Z,7.9nm,0.8s,mb4.6						
KURK	**Kurchatov**	**45.54**	**311**	*e*P	**P**	**19 04 47.5**	**+0.1**
	comp=Z,3.7nm,0.8s,mb4.4						
KOLN	**Koldanda**	**45.73**	**278**	*e*P	**P**	**19 04 53.4**	**+4.2**
	comp=Z,10nm,0.9s,mb4.8						
BVAR	**Borovoye Array**	**50.55**	**314**	P	**P**	**19 05 27.4**	**+1.0**
	comp=Z,3.2nm,1.0s,mb4.2,baz=101,slow=7.6,SNR=11						
BVAR				pP	pP	19 05 36.2	+1.4
	comp=Z,1.7nm,0.7s,baz=101,slow=7.6,SNR=9.4						
BRVK	**Borovoye**	**50.61**	**314**	*e*P	**P**	**19 05 27.0**	**+0.2**
	comp=Z,1.9nm,0.7s,mb4.1						
ZRNK	**Zerenda**	**51.39**	**314**	*e*P	**P**	**19 05 33.1**	**+0.4**
	comp=Z,3.1nm,0.8s,mb4.3						
FITZ	**Fitzroy Crossi**	**51.87**	**193**	P	**P**	**19 05 35.9**	**-0.9**
	comp=Z,2.0nm,0.6s,mb4.2,baz=351,slow=8.3,SNR=11						
WRAB	**Tennant Creek**	**52.65**	**183**	P	**P**	**19 05 41.1**	**-1.6**
	comp=Z,7.6nm,0.7s,mb4.7						
WRA	**Warramunga Arr**	**52.66**	**183**	P	**P**	**19 05 41.1**	**-1.6**
	comp=Z,1.8nm,0.7s,mb4.1,baz=0.4,slow=7.9,SNR=18						
WRA				pP	pP	19 05 49.2	-2.0
	comp=Z,3.9nm,0.8s,baz=359,slow=7.8,SNR=15						
WRA	**Warramunga Arr**	**52.66**	**183**	P	**P**	**19 05 41.1**	**-1.6**
WRA				*PP	pP	19 05 49.2	-2.0
WRA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
WRA				pmax	pmax		
	comp=N,4.0nm,0.8s						
ILAR	**Eielson Array**	**54.97**	**31**	P	**P**	**19 06 00.8**	**+1.6**
	comp=N,0.5nm,0.8s,mb3.6,baz=278,slow=6.4,SNR=4.2						
ILAR				pP	pP	19 06 07.8	+0.2
	comp=N,0.7nm,0.8s,baz=281,slow=5.3,SNR=5.7						
ILAR	**Eielson Array**	**54.97**	**31**	P	**P**	**19 06 00.8**	**+1.7**
ILAR				*PP	pP	19 06 07.8	+0.2
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ILAR				pmax	pmax		
	comp=N,1.0nm,0.8s						
MBWA	**Marble Bar**	**56.21**	**199**	*e*P	**P**	**19 06 07.0**	**-1.7**
	comp=N,5.1nm,0.8s,mb4.6						
ASAR	**Alice Springs**	**56.38**	**183**	P	**P**	**19 06 09.4**	**-0.4**
	comp=N,1.5nm,0.7s,mb4.1,baz=11,slow=12,SNR=21						
ASAR				pP	pP	19 06 17.4	-0.9
	comp=N,2.0nm,0.6s,baz=9.3,slow=14,SNR=11						
DLBC	**Dease Lake**	**64.18**	**36**	*e*P	**P**	**19 07 08.8**	**+6.3**
STKA	**Stephens Creek**	**64.66**	**175**	P	**P**	**19 07 05.5**	**-0.6**
	comp=N,1.4nm,0.8s,mb4.0,baz=347,slow=16,SNR=5.6						
STKA				pP	pP	19 07 12.9	-1.8
	comp=N,4.1nm,0.9s,baz=327,slow=7.0,SNR=4.9						
STKA	**Stephens Creek**	**64.66**	**175**	*e*P	**P**	**19 07 04.3**	**-1.9**
STKA				pP	pP	19 07 12.9	-1.8
FINES	**FINESS Array B**	**70.58**	**332**	LR	LR	19 38 01.3	
	comp=N,48nm,18.9s,MS3.8,baz=318,slow=35						
AKASG	**Malin Array Be**	**75.10**	**321**	P	**P**	**19 08 10.9**	**+1.5**
	comp=N,0.2nm,0.3s,mb3.5,baz=286,slow=24,SNR=1.4						
AKASG				pP	pP	19 08 20.4	+2.3
	comp=N,0.8nm,0.6s,baz=49,slow=6.3,SNR=3.1						
AKASG	**Malin Array Be**	**75.10**	**321**	P	**P**	**19 08 10.9**	**+1.4**
AKASG				*PP	pP	19 08 20.5	+2.3
AKASG				pmax	pmax		
	comp=N,1.0nm,0.6s						
BRTR	**Keskin Array B**	**78.58**	**310**	LR	LR	19 46 23.8	
	comp=N,51nm,21.6s,MS3.8,baz=125,slow=38						
NVAR	**Mina Array Bea**	**80.52**	**50**	P	**P**	**19 08 41.8**	**+2.2**
	comp=N,0.8nm,0.6s,mb3.8,baz=270,slow=3.0,SNR=3.8						
NVAR				pP	pP	19 08 50.3	+1.9
	comp=N,1.1nm,0.6s,baz=282,slow=2.3,SNR=3.5						
TPNV	**Topopah Spring**	**82.71**	**51**	*e*P	**P**	**19 08 53.5**	**+2.4**
	comp=N,2.5nm,0.8s,mb4.3						
PDAR	**Pinedale Array**	**83.26**	**43**	P	**P**	**19 08 56.1**	**+2.4**
	comp=N,0.6nm,0.8s,mb3.7,baz=270,slow=1.5,SNR=5.4						
PDAR				pP	pP	19 09 04.0	+1.4
	comp=N,1.1nm,0.9s,baz=333,slow=3.3,SNR=5.6						
GERES	**GERESS Array B**	**84.04**	**326**	P	**P**	**19 09 00.7**	**+3.1**
	comp=N,0.5nm,0.7s,mb3.8,baz=169,slow=14,SNR=3.1						
GERES	**GERESS Array B**	**84.04**	**326**	P	**P**	**19 09 00.7**	**+3.2**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
PV10	**Paradox Valley**	**86.36**	**46**	*e*P	**P**	**19 09 08.8**	**-0.6**
LPAZ	**La Paz**	**152.07**	**60**	PKPbc	PKPdf	19 16 24.1	+4.2
	comp=Z,1.4nm,0.3s,baz=358,slow=0.2,SNR=4.2						
LPAZ				pPKPbc		19 16 33.3	
	comp=Z,1.7nm,0.3s,baz=248,slow=0.4,SNR=3.0						
LPAZ	**La Paz**	**152.07**	**60**	PKIKP	PKPdf	19 16 24.1	+4.2
LPAZ						19 16 33.3	
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
LPAZ				pmax	pmax		
	comp=N,2.0nm,0.3s						

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*LDG **16** 19:17:06.0±0.1, 42.88N×1.49W, h2^{km}, Md3.6/3, Ml3.6/38, Error ellipse: s-maj=1.8km s-min=1.0km az=143.0*

*NEIC **16** 19:17:06.3, 42.86N×1.45W, h6^{km}, ML3.7(STR), ML3.6(LDG), MN3.3(MDD), After MDD.*

NEIC Felt [III] at Pamplona and [II] at Aoiz, Spain.

*INMG **16** 19:17:06.8±1.6, 42.94N×1.46W, h23^{km}±6^{km}, ML3.3, Error ellipse: s-maj=5.9km s-min=4.1km az=21.0*

*STR **16** 19:17:09.0±0.4, 43.05N×1.27W, h5^{km}±1^{km}, Ml3.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

MDD 16 19:17:06.1±0.2**, 42.86N×1.45W, h6**^{km}±2^{km}**, mbLg3.2**/27**, 1C-4D, Error ellipse: s-maj=2.3km s-min=1.9km az=149.0, II PAMPLONA PRXIMO, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EXPA	**Pamplona**	**0.14**	**252**	P	Pg	19 17 08.5	-0.6
EXPA				S	Sg	19 17 11.3	+0.2
SJPF	**Ste Jean**	**0.30**	**32**	*e*Pg	Pg	19 17 11.9	-0.4
SJPF				*e*Sg	Sg	19 17 14.8	-1.6
	7μm,0.3s						
EALK	**Alkurruntz**	**0.36**	**353**	⇑Pg	Pg	19 17 13.0	-0.5
	489nm,0.2s,SNR=18						
EALK				Lg		19 17 18.8	
	2μm,0.3s,SNR=5.0						
LARF	**Larrau**	**0.38**	**62**	Pg	Pg	19 17 12.9	-0.9
LARF	**Larrau**	**0.38**	**62**	P	Pg	19 17 12.9	-0.9
LARF				S	Sg	19 17 18.0	-1.0
OSSF	**Osses**	**0.42**	**19**	P	Pg	19 17 13.9	-0.7
OSSF				S	Sg	19 17 19.8	-0.5
ORDF	**Ordiarp**	**0.52**	**46**	Pg	Pg	19 17 15.6	-0.9
ORDF	**Ordiarp**	**0.52**	**46**	P	Pg	19 17 15.7	-0.8
ORDF				S	Sg	19 17 22.4	-1.0
FDAF	**Les Forges d'A**	**0.65**	**93**	P	Pg	19 17 17.3	-1.8
FDAF				S	Sg	19 17 27.8	0.0
ETSF	**Etsaut**	**0.65**	**86**	*e*Pg	Pg	19 17 17.4	-1.8
ETSF				*e*Sg	Sg	19 17 26.5	-1.5
	432nm,0.3s						
ETSF				*e*Sn	Sn	19 17 31.8	-0.5
REYF	**Montagne du Re**	**0.80**	**74**	P	Pb	19 17 20.1	-2.0
REYF				S	Sg	19 17 30.9	-2.0
VIEF	**Viey**	**1.08**	**88**	Pg	Pg	19 17 27.5	-0.2
VIEF				Sg	Sg	19 17 40.7	-1.5
VIEF	**Viey**	**1.08**	**88**	P	Pb	19 17 24.8	-2.0
VIEF				S	Sb	19 17 40.8	-0.2
LABF	**Labassere**	**1.13**	**80**	Pg	Pg	19 17 28.0	-0.8
LABF	**Labassere**	**1.13**	**80**	P	Pb	19 17 26.3	-1.4
LABF				S	Sb	19 17 42.4	-0.1
RESF	**Ens**	**1.31**	**92**	Pg	Pg	19 17 31.1	-1.3
RESF				Sg	Sg	19 17 48.9	-1.0
RESF	**Ens**	**1.31**	**92**	P	Pb	19 17 29.3	-1.5
RESF				S	Sb	19 17 48.6	+0.8
EPF	**Esparros**	**1.32**	**82**	*e*Pn	Pn	19 17 29.3	-1.9
EPF				*e*Pg	Pg	19 17 31.2	-1.4
EPF				*e*Sn	Sn	19 17 47.6	-1.7
	288nm,0.2s						
ESAC	**San Caprasio**	**1.35**	**147**	⇓Pn	Pn	19 17 29.8	-1.7
	402nm,0.2s,SNR=18						
ESAC				Lg		19 17 48.6	
	2μm,0.4s,SNR=12						
ELAN	**Lanestosa**	**1.50**	**285**	Pn	Pn	19 17 33.4	-0.4
	69nm,0.2s,SNR=161						
ELAN				Lg		19 17 54.0	
	136nm,0.2s,SNR=13						
MELF	**Melles**	**1.62**	**89**	Pg	Pg	19 17 36.6	-1.9
MELF				Sg	Sg	19 17 58.5	-1.6
MELF	**Melles**	**1.62**	**89**	P	Pn	19 17 35.1	-0.3
MELF				S	Sb	19 17 57.4	+0.7
MLS	**Moulis**	**1.87**	**86**	P	Pn	19 17 40.1	+1.1
MLS				S	Sn	19 18 05.8	+2.7
SALF	**Salau**	**1.94**	**92**	Pn	Pn	19 17 40.1	+0.1
SALF				Sg	Sg	19 18 08.5	-2.3
SALF	**Salau**	**1.94**	**92**	P	Pn	19 17 40.4	+0.4
SALF				S	Sn	19 18 07.3	+2.3
ETOR	**Torete**	**2.09**	**193**	Pn	Pn	19 17 40.7	-1.4
	22nm,0.2s,SNR=145						
ETOR				Pg	Pg	19 17 44.9	-2.9
	SNR=7.9						
ETOR				Lg		19 18 09.0	
	332nm,0.6s,SNR=5.0						
GRBF	**Gourbit**	**2.19**	**89**	P	Pn	19 17 43.5	-0.1
EMIR	**Miracle**	**2.39**	**112**	Pn	Pn	19 17 44.6	-1.9
	2.3nm,0.1s,SNR=21						
EMIR				Pg	Pg	19 17 50.5	-3.4
	41nm,0.3s,SNR=15						
EMIR				Lg		19 18 21.9	
	100nm,0.4s,SNR=9.0						
EPOB	**Poblet**	**2.41**	**128**	Pn	Pn	19 17 44.1	-2.6
	3.7nm,0.1s,SNR=32						
EPOB				Pg	Pg	19 17 51.4	-2.8
	22nm,0.3s,SNR=23						
EPOB				Sn	Sn	19 18 12.8	-4.0
	86nm,0.3s,SNR=7.3						
EPOB				Lg		19 18 18.8	
	86nm,0.3s,SNR=7.7						
EBR	**Ebro Roquetas**	**2.50**	**144**	*e*P*	Pb	19 17 50.0	-1.1
EBR				*i* S*	Sb	19 18 23.5	+1.3
EBR				*i* S*S*		19 18 28.0	
EMOS	**Mosqueruela**	**2.60**	**163**	Pn	Pn	19 17 48.6	-0.8
	1.9nm,0.1s,SNR=25						
EMOS				Pg	Pg	19 17 54.7	-3.3
	62nm,0.5s,SNR=12						
EMOS				Sn	Sn	19 18 18.7	-2.9
	SNR=7.9						
EMOS				Lg		19 18 28.7	
	99nm,0.6s,SNR=5.0						
LFF	**La Frestale**	**2.61**	**36**	*e*Pn	Pn	19 17 46.6	-3.0
LFF				*e*Pg	Pg	19 17 54.5	-3.8
LFF				*e*Sn	Sn	19 18 17.5	-4.6
LFF				*e*Sg	Sg	19 18 28.7	-4.5
	131nm,0.4s						
MTLF	**Montolieu**	**2.73**	**79**	*e*Pn	Pn	19 17 49.5	-1.8
MTLF				*e*Pg	Pg	19 17 57.0	-3.6
MTLF				*e*Sn	Sn	19 18 21.5	-3.4
	51nm,0.3s						
LRDF	**Laroque-de-Fa**	**2.93**	**87**	Pn	Pn	19 17 53.4	-0.7
FILF	**Fillols**	**2.97**	**94**	Pn	Pn	19 17 52.9	-1.8
EJON	**La Jonquera**	**3.22**	**96**	Pn	Pn	19 17 57.7	-0.6
	2.5nm,0.2s,SNR=9.6						
EJON				Pg	Pg	19 18 05.4	-5.1
	23nm,0.7s,SNR=12						
EJON				Lg		19 18 48.8	
	105nm,0.5s,SNR=7.4						
RJF	**Les Rejaudoux**	**3.25**	**40**	*e*Pn	Pn	19 17 55.1	-3.6
RJF				*e*Pg	Pg	19 18 06.0	-5.0
RJF				*e*Sn	Sn	19 18 32.5	-5.6
	72nm,0.3s						
RJF				*e*Sg	Sg	19 18 48.3	-5.9
CAF	**Calviac**	**3.27**	**50**	*e*Pn	Pn	19 17 55.7	-3.3
CAF				*e*Sn	Sn	19 18 34.5	-4.3
	68nm,0.3s						
ESDC	**Sonseca Array**	**3.70**	**212**	Pn	Pn	19 18 01.7	-3.4
	5.1nm,0.2s,baz=37,slow=13,SNR=80						
ESDC				Pg	Pg	19 18 12.9	-7.2
	3.9nm,0.3s,baz=32,slow=18,SNR=8.5						
ESDC				Sn	Sn	19 18 44.5	-5.2
	baz=36,slow=24,SNR=7.9						
ESDC				Lg		19 19 02.4	
	33nm,0.6s,baz=29,slow=29,SNR=11						
MFF	**Saint Martin d**	**3.86**	**13**	*e*Pn	Pn	19 18 04.2	-3.1
MFF				*e*Pg	Pg	19 18 17.1	-6.1
MFF				*e*Sn	Sn	19 18 47.0	-6.6
	47nm,0.4s						
MFF				*e*Sg	Sg	19 19 06.1	-8.5
ECAL	**Calabor**	**4.02**	**259**	⇓Pn	Pn	19 18 07.1	-2.6
	25nm,0.3s,SNR=18						
ECAL				Sn	Sn	19 18 51.5	-6.3
	SNR=7.9						
ECAL				Lg		19 19 11.1	
	100nm,0.4s,SNR=7.2						
VERF	**Verneugheol**	**4.04**	**43**	Pn	Pn	19 18 06.2	-3.7
LASF	**Ste Croix**	**4.05**	**71**	*e*Pn	Pn	19 18 06.9	-3.1
LASF				*e*Sn	Sn	19 18 53.5	-4.9
	93nm,0.5s						
PBRG	**Braganca**	**4.06**	**257**	*e*Pn	Pn	19 18 07.4	-2.9
PBRG				*e*Sn	Sn	19 18 52.1	-6.7
PBRG				*e*Sg	Sg	19 19 10.8	-11
	42nm,0.6s						
PBRG	**Braganca**	**4.06**	**257**	Pn	Pn	19 18 07.4	-2.9
PBRG				Sn	Sn	19 18 52.1	-6.7
PBRG				Lg		19 19 10.8	
	21nm,0.6s						
LBL	**Lubilhac**	**4.13**	**53**	Pn	Pn	19 18 08.2	-3.1
EPON	**Pontenova**	**4.20**	**278**	Pn	Pn	19 18 10.3	-2.0
	9.5nm,0.2s,SNR=51						
EPON				Sn	Sn	19 18 57.7	-4.7
	15nm,0.3s,SNR=6.6						
EPON				Lg		19 19 17.4	
	29nm,0.3s,SNR=5.0						
ETOB	**Tobarra**	**4.21**	**181**	Pn	Pn	19 18 10.2	-2.1
	3.0nm,0.2s,SNR=28						
ETOB				Pg	Pg	19 18 24.6	-5.6
	34nm,0.6s,SNR=10						
ETOB				Sn	Sn	19 18 56.2	-6.3
	SNR=7.9						
ETOB				Lg		19 19 19.4	
	22nm,0.4s,SNR=5.0						
ERUA	**La Rua**	**4.23**	**266**	⇓Pn	Pn	19 18 10.0	-2.7
	13nm,0.3s,SNR=18						
ERUA				Sn	Sn	19 18 58.0	-5.0
	25nm,0.3s,SNR=5.0						
ERUA				Lg		19 19 21.1	
	40nm,0.6s,SNR=5.0						
EBEN	**Beniarda**	**4.25**	**167**	Pn	Pn	19 18 10.4	-2.5
	11nm,0.7s,SNR=11						
EBEN				Pg	Pg	19 18 24.3	-6.7
	19nm,0.5s,SNR=6.1						
EBEN				Sn	Sn	19 18 58.4	-5.2
	SNR=7.9						
EVIA	**Vianos**	**4.29**	**191**	⇓Pn	Pn	19 18 11.6	-1.9
	20nm,0.2s,SNR=18						
EVIA				Pg	Pg	19 18 25.2	-6.5
	37nm,0.4s,SNR=9.9						
EVIA				Sn	Sn	19 19 00.2	-4.3
	SNR=7.9						
EVIA				Lg		19 19 18.9	
	42nm,0.4s,SNR=5.0						
PYM	**Petit Puy Mans**	**4.31**	**46**	Pn	Pn	19 18 10.3	-3.5
TCF	**Toulx Ste Croi**	**4.31**	**36**	*e*Pn	Pn	19 18 09.1	-4.7
TCF				*e*Sn	Sn	19 18 58.6	-6.5
	52nm,0.4s						
EIBI	**Ibiza**	**4.37**	**150**	Pn	Pn	19 18 11.4	-3.2
	3.0nm,0.2s,SNR=7.4						
EIBI				Sn	Sn	19 18 56.3	-10
	SNR=7.9						
COLF	**Collangettes**	**4.55**	**53**	Pn	Pn	19 18 13.2	-4.0
PLDF	**La Plantade**	**4.78**	**48**	Pn	Pn	19 18 16.8	-3.6
BGF	**Bois d'Agland**	**4.80**	**38**	*e*Pn	Pn	19 18 16.3	-4.4
BGF				*e*Sn	Sn	19 19 10.2	-7.2
	113nm,0.4s						
VIVF	**Saint-Julien-l**	**4.86**	**64**	*e*Pn	Pn	19 18 18.1	-3.4
VIVF				*e*Pg	Pg	19 18 36.2	-6.9
VIVF				*e*Sn	Sn	19 19 12.6	-6.2
	33nm,0.5s						
PVRL	**Vila Real**	**4.93**	**253**	*e*Pn	Pn	19 18 19.0	-3.5
PVRL				*e*Sn	Sn	19 19 13.5	-7.1
PVRL				*e*Sg	Sg	19 19 38.5	-12
	69nm,0.5s						
PVRL	**Vila Real**	**4.93**	**253**	Pn	Pn	19 18 19.0	-3.5
PVRL				Sn	Sn	19 19 13.5	-7.1
PVRL				Lg		19 19 38.5	
	35nm,0.5s						
ELOB	**Lobios**	**5.00**	**261**	Pn	Pn	19 18 20.0	-3.6
	7.0nm,0.2s,SNR=23						
ELOB				Sn	Sn	19 19 15.9	-6.6
	SNR=7.9						
ELOB				Lg		19 19 39.7	
	11nm,0.3s,SNR=5.0						
ELOB	**Lobios**	**5.00**	**261**	Pn	Pn	19 18 20.0	-3.6
ELOB				Sn	Sn	19 19 15.8	-6.6
ELOB				Lg		19 19 39.7	
EMUR	**La Murta**	**5.01**	**178**	Pn	Pn	19 18 21.0	-2.8
	4.8nm,0.4s,SNR=10						
EMUR				Pg	Pg	19 18 37.9	-8.3
	8.9nm,0.3s,SNR=7.4						
MTE	**Manteigas**	**5.19**	**244**	*e*Pn	Pn	19 18 22.4	-3.8
MTE				*e*Sn	Sn	19 19 20.3	-6.9
MTE				*e*Sg	Sg	19 19 45.5	-13
	56nm,0.5s						
MTE	**Manteigas**	**5.19**	**244**	Pn	Pn	19 18 22.4	-3.8
MTE				Sn	Sn	19 19 20.3	-6.9
MTE				Lg		19 19 45.5	
	28nm,0.5s						
EQES	**Quesada**	**5.20**	**194**	Pn	Pn	19 18 23.7	-2.7
	4.0nm,0.2s,SNR=25						
EQES				Pg	Pg	19 18 42.3	-7.7
	31nm,0.3s,SNR=29						
EQES				Lg		19 19 49.1	
	23nm,0.6s,SNR=5.0						
QUIF	**Quistinic**	**5.20**	**347**	*e*Pn	Pn	19 18 22.9	-3.5
QUIF				*e*Sn	Sn	19 19 19.3	-8.3
	20nm,0.3s						
SMRF	**Simiane la Rot**	**5.24**	**75**	*e*Pn	Pn	19 18 24.2	-2.7
SMRF				*e*Sn	Sn	19 19 21.5	-6.9
	6.2nm,0.4s						
EADA	**Adamuz**	**5.26**	**208**	Pn	Pn	19 18 23.8	-3.4
	11nm,0.2s,SNR=75						
EADA				Pg	Pg	19 18 42.6	-8.5
	11nm,0.7s,SNR=9.0						
EADA				Sn	Sn	19 19 21.3	-7.6
	SNR=7.9						
EADA				Lg		19 19 53.1	
	5.8nm,0.3s,SNR=5.0						
PVIS	**Viseu**	**5.27**	**248**	*e*Pn	Pn	19 18 23.5	-3.9
PVIS				*e*Sn	Sn	19 19 21.5	-7.9
PVIS				*e*Sg	Sg	19 19 48.8	-13
	28nm,0.6s						
PVIS	**Viseu**	**5.27**	**248**	Pn	Pn	19 18 23.5	-3.9
PVIS				Sn	Sn	19 19 21.5	-7.9
PVIS				Lg		19 19 48.8	
	14nm,0.6s						
HYF	**Humbligny**	**5.28**	**32**	*e*Pn	Pn	19 18 23.8	-3.6
HYF				*e*Sn	Sn	19 19 21.5	-7.9
SMF	**Signal de Mont**	**5.34**	**43**	*e*Pn	Pn	19 18 24.4	-3.9
SMF				*e*Sn	Sn	19 19 23.4	-7.6
	9.2nm,0.2s						
PCBR	**Castelo Branco**	**5.45**	**238**	*e*Pn	Pn	19 18 25.5	-4.4
PCBR				*e*Sn	Sn	19 19 25.7	-8.0
PCBR				*e*Sg	Sg	19 19 53.9	-14
	29nm,0.4s						
PCBR	**Castelo Branco**	**5.45**	**238**	Pn	Pn	19 18 25.5	-4.4
PCBR				Sn	Sn	19 19 25.7	-8.0
PCBR				Lg		19 19 53.9	
	15nm,0.4s						
SGMF	**Saint Gilles**	**5.45**	**352**	*e*Pn	Pn	19 18 26.3	-3.6
SGMF				*e*Pg	Pg	19 18 46.0	-9.0
SGMF				*e*Sn	Sn	19 19 25.1	-8.8
	15nm,0.3s						
SSF	**Saint Saulge**	**5.48**	**38**	*e*Pn	Pn	19 18 25.3	-5.0
SSF				*e*Sn	Sn	19 19 26.4	-8.1
	27nm,0.5s						
EMAZ	**Mazaricos**	**5.53**	**274**	Pn	Pn	19 18 27.4	-3.7
	13nm,0.2s,SNR=37						
EMAZ				Sn	Sn	19 19 26.7	-9.2
	18nm,0.7s,SNR=5.0						
GRR	**Gorron**	**5.55**	**4**	*e*Pn	Pn	19 18 27.4	-3.9
GRR				*e*Sn	Sn	19 19 27.5	-8.7
	18nm,0.3s						
ROSF	**Rostrenen**	**5.63**	**347**	*e*Pn	Pn	19 18 28.5	-3.9
ROSF				*e*Sn	Sn	19 19 28.7	-10
	13nm,0.3s						
ORIF	**Oris-en-Rattie**	**5.68**	**66**	*e*Pn	Pn	19 18 30.3	-2.9
ORIF				*e*Sn	Sn	19 19 32.3	-7.3
	19nm,0.6s						
ELUQ	**Luque**	**5.71**	**203**	Pn	Pn	19 18 30.4	-3.2
	4.7nm,0.2s,SNR=4.8						
LOR	**Lormes**	**5.79**	**39**	*e*Pn	Pn	19 18 30.0	-4.7
	baz=218						
LOR	**Lormes**	**5.79**	**39**	*e*Sn	Sn	19 19 34.2	-8.2
	14nm,0.3s						
LOR	**Lormes**	**5.79**	**39**	*e*Pn	Pn	19 18 30.0	-4.7
LOR				*e*Sn	Sn	19 19 34.2	-8.2
LDF	**La Druitiere**	**5.81**	**9**	*e*Sn	Sn	19 19 34.2	-8.6
	8.2nm,0.2s						
LDF	**La Druitiere**	**5.81**	**9**	*e*Pn	Pn	19 18 30.0	-5.0
LDF				*e*Sn	Sn	19 19 34.2	-8.6
LDF				*e*Sg	Sg	19 20 06.3	-13
LMR	**La Mourre**	**5.84**	**83**	*e*Pn	Pn	19 18 31.8	-3.7
LMR				*e*P		19 18 36.4	
LMR				*e*Sn	Sn	19 19 35.6	-8.1
	6.6nm,0.5s						
LMR	**La Mourre**	**5.84**	**83**	*e*Pn	Pn	19 18 31.8	-3.7
LMR				*e*Sn	Sn	19 19 35.6	-8.1
EBAD	**Badajoz**	**5.88**	**228**	Pn	Pn	19 18 31.6	-4.4
	1.6nm,0.2s,SNR=16						
EBAD				Sn	Sn	19 19 36.5	-8.1

	SNR=7.9						
EBAD				Lg		19 20 11.4	
	6.6nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**5.88**	**228**	Pn	Pn	19 18 31.6	-4.4
EBAD				Sn	Sn	19 19 36.5	-8.1
EBAD				Lg		19 20 11.4	
FLN	**La Foliniere**	**5.95**	**6**	*e*Pn	Pn	19 18 32.5	-4.4
FLN				*e*Sn	Sn	19 19 36.9	-9.3
	13nm,0.3s						
FRF	**La Foret Royal**	**5.96**	**80**	*e*Pn	Pn	19 18 34.3	-2.7
FRF				*e*Sn	Sn	19 19 38.1	-8.4
	2.0nm,0.2s						
ELOJ	**Sierra Loja**	**6.07**	**201**	Pn	Pn	19 18 34.8	-3.8
	2.0nm,0.3s,SNR=5.0						
ERON	**Agron**	**6.11**	**198**	Pn	Pn	19 18 35.4	-3.8
	SNR=7.9						
MBDF	**Montbardon**	**6.23**	**70**	*e*Pn	Pn	19 18 37.9	-3.1
MBDF				*e*Sn	Sn	19 19 44.8	-8.6
	7.0nm,0.5s						
LPL	**La Plagne**	**6.45**	**63**	*e*Pn	Pn	19 18 41.1	-2.9
LPL				*e*Sn	Sn	19 19 49.6	-9.3
	8.0nm,0.6s						
LPG	**La Plagne**	**6.46**	**63**	*e*Pn	Pn	19 18 41.6	-2.5
LPG				*e*Sn	Sn	19 19 50.6	-8.4
	8.1nm,0.6s						
EMIN	**Mina Concepcio**	**6.46**	**220**	Pn	Pn	19 18 39.4	-4.8
	1.8nm,0.2s,SNR=7.9						
EMIN				Lg		19 20 29.8	
	12nm,0.7s,SNR=7.9						
CABF	**La Chapelle**	**6.55**	**52**	*e*Pn	Pn	19 18 42.9	-2.5
CABF				*e*Sn	Sn	19 19 52.5	-8.7
CABF				*e*Sg	Sg	19 20 31.7	-12
	30nm,0.8s						
SBF	**Sospel**	**6.55**	**78**	*e*Pn	Pn	19 18 42.0	-3.4
EVO	**Evora**	**6.60**	**231**	*e*Pn	Pn	19 18 42.3	-3.8
EVO				*e*Pg	Pg	19 19 09.2	-8.7
EVO				*e*Sn	Sn	19 19 53.9	-8.6
EVO				*e*Sg	Sg	19 20 34.8	-11
	38nm,0.5s						
EMIJ	**Mijas**	**6.79**	**203**	Pn	Pn	19 18 46.2	-2.6
	1.6nm,0.2s,SNR=7.9						
EMIJ				Sn	Sn	19 19 58.9	-8.3
	SNR=7.9						
EMIJ				Lg		19 20 42.1	
	4.0nm,0.4s,SNR=7.9						
MOE	**Montemor**	**6.80**	**233**	*e*Pn	Pn	19 18 43.5	-5.5
MOE				*e*Sn	Sn	19 19 56.7	-11
MOE				*e*Sg	Sg	19 20 38.0	-15
PBEJ	**Beja**	**6.87**	**228**	*e*Pn	Pn	19 18 45.3	-4.7
PBEJ				*e*Sn	Sn	19 19 59.4	-10
PBEJ				*e*Sg	Sg	19 20 41.3	-14
	10nm,0.6s						
PBEJ	**Beja**	**6.87**	**228**	Pn	Pn	19 18 45.3	-4.7
PBEJ				Sn	Sn	19 19 59.4	-10
PBEJ				Lg		19 20 41.3	
	5.2nm,0.6s						
ESPR	**Espera**	**6.88**	**211**	Pn	Pn	19 18 47.2	-2.8
	5.4nm,0.2s,SNR=5.7						
ESPR				Sn	Sn	19 20 00.1	-9.4
	SNR=7.9						
ESPR				Lg		19 20 46.2	
	8.6nm,0.5s,SNR=5.0						
SFTF	**Sexfontaines**	**7.02**	**38**	*e*Pn	Pn	19 18 47.8	-4.3
SFTF				*e*Sn	Sn	19 20 02.6	-11
	5.5nm,0.2s,baz=213						
EGRO	**El Granado**	**7.04**	**223**	Pn	Pn	19 18 47.4	-4.9
	4.2nm,0.4s,SNR=9.7						
EGRO				Sn	Sn	19 20 02.4	-11
	SNR=7.9						
EGRO				Lg		19 20 48.2	
	6.7nm,0.5s,SNR=5.0						
PALC	**Alcoutim**	**7.09**	**223**	*e*Pn	Pn	19 18 47.8	-5.3
PALC				*e*Sn	Sn	19 20 04.2	-11
PALC				*e*Sg	Sg	19 20 47.6	-15
	21nm,0.9s						
PALC	**Alcoutim**	**7.09**	**223**	Pn	Pn	19 18 47.8	-5.3
PALC				Sn	Sn	19 20 04.2	-11
PALC				Lg		19 20 47.6	
	10nm,0.9s						
MEZF	**Maizieres J'vi**	**7.25**	**37**	*e*Pn	Pn	19 18 50.6	-4.6
MEZF				*e*Sn	Sn	19 20 08.7	-10
	10nm,0.3s						
HAU	**Haudompre**	**7.52**	**44**	*e*Pn	Pn	19 18 54.3	-4.7
HAU				*e*Sn	Sn	19 20 15.4	-10
	5.7nm,0.4s						
RFYF	**Reffroy**	**7.53**	**38**	*e*Pn	Pn	19 18 54.6	-4.6
	baz=216						
RFYF				*e*Sn	Sn	19 20 15.3	-11
	13nm,0.4s,baz=217						
HINF	**Hinteralfeld**	**7.66**	**47**	*e*Pn	Pn	19 18 55.2	-5.9
HINF				*e*Sn	Sn	19 20 18.7	-10
	3.0nm,0.4s						
PTEO	**Sao Teotonio**	**7.69**	**229**	*e*Pn	Pn	19 18 56.2	-5.2
PTEO				*e*Sn	Sn	19 20 18.9	-11
	14nm,0.4s						
PTEO	**Sao Teotonio**	**7.69**	**229**	Pn	Pn	19 18 56.2	-5.2
PTEO				Sn	Sn	19 20 18.9	-11
	6.8nm,0.4s						
PGF	**Pioggiola**	**7.70**	**89**	*e*Pn	Pn	19 18 57.3	-4.3
PGF				*e*Sn	Sn	19 20 20.9	-9.2
BAIF	**Baives**	**8.19**	**26**	*e*Pn	P	19 19 03.3	-5.1
BAIF				*e*Sn	Sn	19 20 30.9	-11
	8.7nm,0.3s						
CDF	**Champ du Feu**	**8.26**	**45**	*e*Pn	P	19 19 04.4	-4.9
CDF				*e*Sn	Sn	19 20 33.3	-11
	4.7nm,0.5s						
GIVF	**Givet**	**8.44**	**29**	*e*Pn	P	19 19 06.7	-5.1
GIVF				*e*Sn	Sn	19 20 36.9	-12
	13nm,0.3s						

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*NEIC **16** 19:25:34.6±2.1, 30.77S×178.42W, h109^{km}±20^{km}, mb4.9/10, Error ellipse: s-maj=21.8km s-min=13.6km az=159.0*

*IDC **16** 19:25:36.0±3.7, 30.58S×178.45W, h115^{km}±34^{km}, mb4.7/5, mb1 4.5/8, mb1mx4.3/15, Error ellipse: s-maj=33.5km s-min=18.4km az=165.0*

ISC 16 19:25:46.0±1.6**, 31.17S**±0.06×**179.5W**±0.1**, h165**^{km}±13^{km}**, n60, σ1^{s}48**/70**, mb4.5**/12**, 10C, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**6.62**	**195**	S	**S**	**19 28 38.8**	**+2.3**
PUZ	**Puketiti**	**7.12**	**194**	P	**P**	**19 27 27.3**	**-1.3**
PUZ	**Puketiti**	**7.12**	**194**	*e*P	**P**	**19 27 27.3**	**-1.3**
PUZ				S	**S**	**19 28 51.4**	**+3.0**
MWZ	**Matawai**	**7.54**	**198**	P	**P**	**19 27 28.3**	**-5.9**
MWZ				S	**S**	**19 29 01.1**	**+2.6**
MWZ	**Matawai**	**7.54**	**198**	*e*P	**P**	**19 27 29.9**	**-4.3**
MWZ				S	**S**	**19 29 02.0**	**+3.5**
URZ	**Urewera**	**7.59**	**200**	P	**P**	**19 27 35.0**	**+0.2**
	2.3nm,0.3s,baz=136,slow=2.8,SNR=8.8						
URZ				S	**S**	**19 29 06.8**	**+7.2**
	7.6nm,0.3s,baz=133,slow=22,SNR=12						
URZ	**Urewera**	**7.59**	**200**	P	**P**	**19 27 31.8**	**-3.0**
URZ	**Urewera**	**7.59**	**200**	*e*P	**P**	**19 27 31.8**	**-3.0**
URZ				S	**S**	**19 29 06.8**	**+7.2**
KNZ	**Kokohu**	**8.16**	**195**	P	**P**	**19 27 41.9**	**-0.4**
KNZ				S	**S**	**19 29 11.0**	**-2.1**
KNZ	**Kokohu**	**8.16**	**195**	*e*P	**P**	**19 27 41.9**	**-0.4**
KNZ				S	**S**	**19 29 11.0**	**-2.1**
BKZ	**Black Stump Fm**	**8.61**	**201**	P	**P**	**19 27 50.5**	**+2.2**
BKZ				S	**S**	**19 29 26.4**	**+2.5**
BFZ	**Birch Farm**	**10.08**	**199**	S	**S**	**19 29 57.7**	**-0.9**
MRZ	**Mangatainoka R**	**10.26**	**201**	P	**P**	**19 28 05.6**	**-4.3**
MRZ				S	**S**	**19 30 00.6**	**-2.1**
MRZ	**Mangatainoka R**	**10.26**	**201**	*e*P	**P**	**19 28 05.6**	**-4.3**
MTW	**Mount Morrison**	**10.74**	**200**	S	**S**	**19 30 13.6**	**-0.4**
MRW	**Makara Radio**	**11.06**	**203**	S	**S**	**19 30 19.8**	**-1.7**
SNZO	**South Karori**	**11.13**	**203**	P	**P**	**19 28 17.7**	**-3.5**
SNZO				*e*S	**S**	**19 30 16.7**	**-6.4**
NNZ	**Nelson**	**11.54**	**208**	P	**P**	**19 28 26.1**	**-0.4**
NNZ				S	**S**	**19 30 33.8**	**+1.2**
NNZ	**Nelson**	**11.54**	**208**	*e*P	**P**	**19 28 26.1**	**-0.4**
THZ	**Tophouse**	**12.19**	**208**	P	**P**	**19 28 33.6**	**-1.4**
THZ				S	**S**	**19 30 45.4**	**-2.4**
THZ	**Tophouse**	**12.19**	**208**	*e*P	**P**	**19 28 33.6**	**-1.4**
THZ				S	**S**	**19 30 49.1**	**+1.3**
KHZ	**Kahutara**	**12.51**	**204**	*e*P	**P**	**19 28 40.1**	**+1.0**
MQZ	**McQueen's Vall**	**13.96**	**204**	S	**S**	**19 31 22.6**	**-6.0**
WVZ	**Waitaha Valley**	**14.18**	**210**	P	**P**	**19 29 01.7**	**+1.4**
WVZ	**Waitaha Valley**	**14.18**	**210**	*e*P	**P**	**19 29 02.3**	**+2.0**
RPZ	**Rata Peaks**	**14.57**	**208**	P	**P**	**19 29 05.6**	**+0.4**
	2.1nm,0.3s,baz=314,slow=5.1,SNR=8.9						
RPZ				S	**S**	**19 31 43.0**	**+0.5**
	1.6nm,0.3s,baz=83,slow=20,SNR=7.0						
RPZ	**Rata Peaks**	**14.57**	**208**	P	**P**	**19 29 05.6**	**+0.4**
RPZ				S	**S**	**19 31 43.0**	**+0.5**
RAR	**Rarotonga**	**20.30**	**65**	P	**P**	**19 29 51.1**	**-19**
	0.1nm,0.3s,baz=85,slow=23,SNR=1.8						
CTA	**Charters Tower**	**32.63**	**282**	⇑*i*P	**P**	**19 32 05.3**	**+1.0**
	20nm,0.6s,mb5.0						
CTA	**Charters Tower**	**32.63**	**282**	P	**P**	**19 32 05.4**	**+1.1**
	23nm,0.6s,mb5.1,baz=102,slow=10,SNR=46						
CTAO	**Charters Tower**	**32.63**	**282**	*e*P	**P**	**19 32 05.0**	**+0.7**
	26nm,0.6s,mb5.1						
STKA	**Stephens Creek**	**33.02**	**258**	⇑*i*P	**P**	**19 32 10.3**	**+2.8**
	31nm,0.5s,mb5.3						
STKA	**Stephens Creek**	**33.02**	**258**	P	**P**	**19 32 10.4**	**+2.9**
	47nm,0.6s,mb5.4,baz=101,slow=11,SNR=161						
ASAR	**Alice Springs**	**41.75**	**269**	P	**P**	**19 33 20.9**	**+0.4**
	6.1nm,0.4s,mb4.6,baz=105,slow=7.3,SNR=131						
ASPA	**Alice Springs**	**41.75**	**269**	*e*P	**P**	**19 33 21.1**	**+0.5**
WB2	**Warramunga Arr**	**42.80**	**274**	*e*P	**P**	**19 33 28.8**	**-0.3**
WRAB	**Tennant Creek**	**42.81**	**274**	*e*P	**P**	**19 33 28.5**	**-0.6**
	23nm,0.6s,mb5.0						
WRA	**Warramunga Arr**	**42.81**	**274**	P	**P**	**19 33 28.8**	**-0.4**
	13nm,0.4s,mb4.9,baz=111,slow=8.1,SNR=354						
KAKA	**Kakadu**	**47.81**	**282**	*e*P	**P**	**19 34 09.2**	**+0.4**
	6.5nm,0.8s,mb4.3						
FITZ	**Fitzroy Crossi**	**51.04**	**271**	*e*P	**P**	**19 34 32.0**	**-1.4**
	2.5nm,0.8s,mb3.9						
CASY	**Casey**	**53.84**	**208**	*e*P	**P**	**19 34 51.4**	**-2.1**
	8.6nm,0.6s,mb4.7						
MBWA	**Marble Bar**	**54.83**	**265**	P	**P**	**19 34 57.7**	**-3.6**
	3.7nm,0.9s,mb4.1						
QSPA	**South Pole Qui**	**58.94**	**180**	*e*P	**P**	**19 35 30.9**	**+1.3**
	16nm,0.5s,mb5.1						
MAW	**Mawson**	**71.12**	**201**	P	**P**	**19 36 47.2**	**-0.5**
	2.6nm,0.7s,mb4.1,baz=105,slow=4.8,SNR=6.0						
MAW	**Mawson**	**71.12**	**201**	*e*P	**P**	**19 36 46.3**	**-1.5**
	4.2nm,0.9s,mb4.2						
SNAA	**Sanae**	**77.42**	**179**	⇑*i*	**P**	**19 37 21.9**	**-1.8**
SNAA	**Sanae**	**77.42**	**179**	⇑*i*	**P**	**19 37 23.7**	**0.0**
SNAA	**Sanae**	**77.42**	**179**	⇑*i*P	**P**	**19 37 23.7**	**0.0**
VNA3	**Neumayer Olymp**	**77.62**	**177**	⇑*i*	**P**	**19 37 25.3**	**+0.5**
VNA3	**Neumayer Olymp**	**77.62**	**177**	⇑*i*	**P**	**19 37 28.1**	**+3.3**
VNA2	**Neumayer--Watz**	**78.04**	**177**		**P**	**19 37 28.6**	**+1.5**
VNA2	**Neumayer--Watz**	**78.04**	**177**	⇑*i*	**P**	**19 37 30.7**	**+3.6**
VNA1	**Neumayer--Stat**	**78.28**	**177**	⇑*i*	**P**	**19 37 30.4**	**+2.0**
VNA1	**Neumayer--Stat**	**78.28**	**177**	⇑*i*	**P**	**19 37 32.3**	**+3.9**
NVAR	**Mina Array Bea**	**89.71**	**44**	P	**P**	**19 38 16.7**	**-10**
	0.3nm,0.5s,mb3.5,baz=225,slow=5.1,SNR=3.5						
MKAR	**Makanchi Array**	**117.25**	**310**	PKP	PKPdf	19 44 06.5	-4.9
	0.2nm,0.5s,baz=168,slow=2.0,SNR=6.1						
KAF	**Kangasniemi**	**144.81**	**339**	*e*p	PKPdf	19 44 55.2	-7.1
FINES	**FINESS Array B**	**145.39**	**339**	PKPbc	PKPbc	19 44 58.0	-6.0
	2.1nm,0.5s,baz=53,slow=3.9,SNR=39						
AKASG	**Malin Array Be**	**151.08**	**321**	PKPbc	PKPdf	19 45 14.4	+1.7
	0.2nm,0.3s,baz=50,slow=2.6,SNR=5.3						
BRTR	**Keskin Array B**	**151.78**	**297**	PKPbc	PKPdf	19 45 19.6	+5.5
	0.7nm,0.8s,baz=153,slow=2.8,SNR=3.7						

IDC 16 19:51:09.7±2.0**, 1.38S**×**126.39E, mb3.4**/3**, mb1 3.7**/3**, mb1mx3.4**/14**, Error ellipse: s-maj=150.0km s-min=27.2km az=65.0, Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.02**	**158**	P	P	19 55 45.0	-2.1
	0.4nm,0.4s,baz=336,slow=11,SNR=25						
ASAR	**Alice Springs**	**23.32**	**162**	P	P	19 56 19.2	-1.3
	1.3nm,0.4s,baz=344,slow=12,SNR=23						
MKAR	**Makanchi Array**	**61.58**	**327**	P	P	20 01 28.9	-2.4
	0.1nm,0.5s,baz=108,slow=3.8,SNR=3.6						

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*MOS **16** 19:56:34.3±0.8, 2.81S×101.84E, h47^{km}, mb5.6/17, Error ellipse: s-maj=19.7km s-min=8.5km az=114.9*

*SYO **16** 19:56:35.7, 3.21S×101.96E, h67^{km}, MB5.1*

*BJI **16** 19:56:36.8, 3.12S×101.74E, h69^{km}, mB4.9, mb5.2, Ms4.6, Msz4.0*

*NEIC **16** 19:56:37.9±0.1, 3.25S×101.90E, mb5.1/48, Error ellipse: s-maj=6.1km s-min=3.0km az=224.0*

NEIC Felt [III] at Kapahiang. Also felt at Bengkulu.

*DJA **16** 19:56:37.9±0.3, 2.91S×102.22E, h80^{km}, mb5.1/7, MD5.0/7, Error ellipse: s-maj=12.8km s-min=5.7km az=42.0*

*HRVD **16** 19:56:37.9±0.6, 3.39S×101.83E, h92^{km}±5^{km}, MW4.9/43, Centroid moment Tensor Solution. LP body waves: s10,c10;Mantle waves: s43,c77; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.12±.18; $M_{\theta\theta}$-1.47±.16; $M_{\phi\phi}$1.36±.19; $M_{r\theta}$1.55±.08; $M_{\theta\phi}$-1.49±.14; $M_{\phi r}$-0.30±.12; Best double couple: $M_0$2.58×10^{16} NP1:ϕ_s200°, δ53°, λ-1°. NP2:ϕ_s291°, δ89°, λ-143°. Principal axes: T 2.41, Plg25°, Azm59°; N .34, Plg53°, Azm292°; P -2.74, Plg26°, Azm162°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*IDC **16** 19:56:38.2±0.4, 3.27S×101.85E, h86^{km}±3^{km}, mb4.9/18, mb1 4.9/18, mb1mx4.9/18, MS3.7/9, Ms1 3.7/9, ms1mx3.5/18 Error ellipse: s-maj=16.0km s-min=8.6km az=54.0*

ISC 16 19:56:37.4±0.6**, 3.33S**±0.03×**101.94E**±0.03**, h95**^{km}±5^{km}**, h79**^{km}±2.5^{km}**:pP-P, n310, σ0^{s}97**/279**, mb5.2**/88**, 42C-23D, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSI	**Kapahiang**	**0.73**	**117**	*e*Pn	**P**	**19 56 54.5**	**-0.3**
PPI	**Padang Panjang**	**3.24**	**332**	*e*Pn	**P**	**19 57 24.0**	**-3.4**
PENI	**Pendagan**	**3.92**	**125**	⇓*i*P	**P**	**19 57 39.8**	**+3.2**
	4μm,0.3s						
PENI	**Pendagan**	**3.92**	**125**	⇓*i*Pn	**P**	**19 57 39.8**	**+3.2**
PENI				*i* Sn	Sx	19 58 44.4	
PASI	**Pasiripis**	**4.94**	**133**	⇓*i*P	**P**	**19 57 50.8**	**+0.2**
	2μm,0.1s						
PASI				*e*S	**S**	**19 58 44.4**	**-2.5**
PASI	**Pasiripis**	**4.94**	**133**	⇓*i*Pn	**P**	**19 57 50.8**	**+0.2**
PASI				*i* Sn	**S**	**19 58 45.0**	**-1.9**
PULI	**Pulasari**	**5.02**	**127**	⇓*i*P	**P**	**19 57 54.0**	**+2.3**
	3μm,0.6s						
PULI	**Pulasari**	**5.02**	**127**	⇓*i*Pn	**P**	**19 57 54.0**	**+2.3**
PULI				*i* Sn	**S**	**19 58 49.7**	**+0.8**
KGM	**Kluang**	**5.48**	**15**	⇑*e*P	**P**	**19 58 00.8**	**+2.8**
	302nm,0.8s						
IPM	**Ipoh**	**7.90**	**353**	⇑*e*P	**P**	**19 58 33.2**	**+1.9**
SNG	**Songkhla**	**10.52**	**353**	P	**P**	**19 59 06.0**	**-0.7**
	200nm,1.0s						
KELI	**Kelakatan**	**13.39**	**112**	⇑*i*P	**P**	**19 59 45.9**	**+1.1**
	141nm,0.2s						
KELI				⇑*i*S	**S**	**20 02 09.6**	**-2.1**
INGI	**Ingas**	**14.21**	**113**	⇓*i*P	**P**	**19 59 56.8**	**+1.3**
	246nm,0.3s						
INGI				⇑*i*S	**S**	**20 02 30.4**	**-0.8**
INGI	**Ingas**	**14.21**	**113**	⇓*i*Pn	**P**	**19 59 56.8**	**+1.3**
INGI				*i* Sn	**S**	**20 02 24.1**	**-7.1**
RATI	**Rata**	**14.54**	**112**	⇑*i*P	**P**	**19 59 57.0**	**-2.7**
	163nm,0.2s						
RATI				⇑*i*S	**S**	**20 02 33.9**	**-4.9**
KEDI	**Kedomdong**	**15.00**	**111**	⇓*i*P	**P**	**20 00 03.6**	**-2.0**
	38nm,0.2s						
KEDI	**Kedomdong**	**15.00**	**111**	⇓*i*Pn	**P**	**20 00 03.6**	**-2.0**
KEDI				*i* Sn	**S**	**20 02 46.9**	**-2.6**
KKM	**Kota Kinabalu**	**17.02**	**57**	⇓*e*P	**P**	**20 00 35.2**	**+4.2**
	81nm,0.9s						
TANI	**Tanete Lipujan**	**17.41**	**91**	⇓*e*P	**P**	**20 00 34.0**	**-1.9**
TANI	**Tanete Lipujan**	**17.41**	**91**	⇓*e*P	**P**	**20 00 38.9**	**+3.0**
NINI	**Niniconang**	**17.81**	**94**	⇑*i*P	**P**	**20 00 39.5**	**-1.2**
	82nm,0.3s						
UBT	**Ubonrachathani**	**18.70**	**9**	⇓P	**P**	**20 00 51.5**	**+0.5**
NST	**Nakhon Sawan**	**18.96**	**355**	P	**P**	**20 00 55.0**	**+1.2**
KKTK	**Khon Kaen**	**19.55**	**3**	P	**P**	**20 01 01.0**	**+0.8**
BDT	**Bhumibol Dam**	**20.64**	**352**	P	**P**	**20 01 07.0**	**-4.5**
CM31	**Chiang Mai Arr**	**21.84**	**352**	*e*P	**P**	**20 01 21.9**	**-1.6**
	18nm,0.6s,mb4.6						
CMAR	**Chiang Mai Arr**	**21.84**	**352**	P	**P**	**20 01 22.9**	**-0.6**
	18nm,0.5s,mb4.7,baz=182,slow=7.5,SNR=91						
CMAR				pP		20 01 40.6	
	4.9nm,0.7s,baz=181,slow=8.2,SNR=2.8						
CMAR				PcP	PcP	20 05 21.2	+0.2
	6.1nm,0.5s,baz=211,slow=3.5,SNR=22						
CMAR				ScP		20 08 48.9	
	2.6nm,1.0s,baz=212,slow=3.3,SNR=8.2						
CMAR				LR	LR	20 09 41.2	
	comp=Z,117nm,18.9s,baz=165,slow=36						
NANT	**Nan**	**22.02**	**357**	P	**P**	**20 01 27.0**	**+1.8**
CHG	**Chiang Mai**	**22.20**	**352**	⇑P	**P**	**20 01 27.4**	**+0.5**
	18nm,0.7s,mb4.5						
CHRT	**Chiangrai**	**23.15**	**355**	P	**P**	**20 01 35.5**	**-0.7**
	316nm,0.6s,mb5.8						
QIZ	**Qiongzhong**	**23.53**	**19**	P	**P**	**20 01 42.3**	**+2.4**
QIZ				XP		20 02 01.6	
QIZ				S	**S**	**20 05 46.9**	**+3.3**
QIZ				AMB	AMB		
	comp=Z,114nm,1.1s,mb5.1						
QIZ	**Qiongzhong**	**23.53**	**19**	*e*P	**P**	**20 01 41.8**	**+1.8**
	comp=Z,134nm,1.0s,mb5.2						
MBWA	**Marble Bar**	**24.77**	**137**	*e*P	**P**	**20 01 52.1**	**+0.2**
	comp=Z,42nm,0.8s,mb4.9						
LQP	**Lukban**	**26.03**	**48**	*e*P	**P**	**20 02 05.0**	**+1.2**
FITZ	**Fitzroy Crossi**	**27.47**	**124**	*e*P	**P**	**20 02 16.2**	**-0.7**
	comp=Z,11nm,0.9s,mb4.4						
FITZ				*e*S	**S**	**20 06 47.2**	**-1.7**
FITZ	**Fitzroy Crossi**	**27.47**	**124**	P	**P**	**20 02 17.1**	**+0.2**
	comp=Z,32nm,1.1s,mb4.8,baz=334,slow=4.9,SNR=34						
FITZ				pP	pP	20 02 36.9	-1.2
	comp=Z,31nm,1.1s,baz=243,slow=2.9,SNR=4.8						
FITZ				LR	LR	20 12 19.0	
	comp=Z,51nm,20.7s,baz=294,slow=34						
KMI	**Kunming**	**28.29**	**2**	⇑*e*P	**P**	**20 02 25.3**	**+1.1**
KMI				AP	pP	20 02 41.8	-3.7
KMI				PP	PP	20 03 18.3	-0.2
KMI				PPP	PPP	20 03 32.0	+0.8
KMI				PCP	PcP	20 05 35.1	-0.1
KMI				S	**S**	**20 07 05.0**	**+3.0**
KMI				AMB	AMB		
	comp=Z,19nm,0.9s,mb4.6						
KMI				AMB	AMB		
	comp=Z,111nm,6.3s						
KMI				LR	LR		
	comp=N,105nm,7.5s						
KMI				LR	LR		
	comp=E,139nm,16.1s						
KMI				LR	LR		
	comp=Z,123nm,20.6s						
CUD	**Cuddapah**	**28.99**	**308**	*e*P	**P**	**20 02 30.5**	**-0.1**
CUD				*e*		20 02 58.6	
GYA	**Guiyang**	**29.96**	**8**	⇑*i*P	**P**	**20 02 39.5**	**+0.4**
GYA				AP	pP	20 02 52.8	-7.8
GYA				XP	sP	20 03 02.4	-9.2
GYA				PP	PP	20 03 42.0	+1.8
GYA				PCP	PcP	20 05 39.3	-0.1
GYA				S	**S**	**20 07 33.3**	**+4.9**
GYA				AMB	AMB		
	comp=Z,70nm,0.7s,mb5.4						
GYA				LR	LR		
	comp=N,150nm,15.0s						
GYA				LR	LR		
	comp=E,90nm,13.5s						
GYA				LR	LR		
	comp=Z,230nm,13.5s						
SHL	**Shillong**	**30.33**	**342**	⇑*i*P	**P**	**20 02 41.0**	**-1.4**
SHL				*e*S	**S**	**20 07 32.0**	**-2.3**
HYB	**Hyderabad**	**30.94**	**313**	*i* P	**P**	**20 02 54.0**	**+6.2**
HYB	**Hyderabad**	**30.94**	**313**	*e*P	**P**	**20 02 54.0**	**+6.2**
MUN	**Mundaring**	**31.50**	**156**	⇓*i*P	**P**	**20 02 53.2**	**+0.6**
	comp=Z,11nm,0.4s,mb4.9						
KAKA	**Kakadu**	**31.53**	**109**	*e*P	**P**	**20 02 53.3**	**+0.3**
	comp=Z,7.9nm,0.5s,mb4.7						
KLBR	**Kellerberrin**	**31.82**	**154**	*e*P	**P**	**20 02 55.3**	**0.0**
	comp=Z,39nm,1.5s,mb4.9						
NWAO	**Narrogin (SRO)**	**32.75**	**156**	P	**P**	**20 03 04.0**	**+0.5**
	comp=Z,22nm,0.7s,mb5.1,baz=340,slow=9.7,SNR=26						
CD2	**Chengdu**	**34.09**	**3**	⇑*i*P	**P**	**20 03 14.4**	**-0.6**
CD2				PP	PP	20 04 29.8	-2.1
CD2				S	**S**	**20 08 31.8**	**-1.0**
CD2				AMB	AMB		
	comp=Z,100nm,6.2s						
CD2				LR	LR		
	comp=E,260nm,11.1s						
CD2				LR	LR		
	comp=Z,230nm,21.8s						
PKI	**Pulchoki**	**34.61**	**334**	*e*P	**P**	**20 03 19.3**	**-0.1**
	comp=Z,37nm,0.6s,mb5.4						
DMN	**Daman**	**34.77**	**333**	*e*P	**P**	**20 03 20.8**	**0.0**
	comp=Z,23nm,0.4s,mb5.4						
KKN	**Kakani**	**34.85**	**334**	*e*P	**P**	**20 03 21.4**	**-0.1**
	comp=Z,54nm,0.4s,mb5.7						
GKN	**Gorkha**	**35.32**	**333**	*e*P	**P**	**20 03 25.5**	**0.0**
	comp=Z,78nm,0.4s,mb5.9						
KOLN	**Koldanda**	**35.61**	**331**	*e*P	**P**	**20 03 28.2**	**+0.3**
	comp=Z,55nm,0.5s,mb5.7						
WRA	**Warramunga Arr**	**35.65**	**120**	P	**P**	**20 03 28.1**	**-0.3**
	comp=Z,24nm,0.4s,mb5.5,baz=303,slow=8.9,SNR=397						
WRA				pP	pP	20 03 48.3	-2.2
	comp=Z,6.5nm,0.4s,baz=300,slow=9.3,SNR=3.6						
WRA				PcP	PcP	20 05 55.3	0.0
	comp=Z,5.1nm,0.5s,baz=312,slow=2.1,SNR=6.1						
WRA				pPcP		20 06 18.5	
	comp=Z,2.3nm,0.5s,baz=310,slow=2.1,SNR=3.6						
WRA				ScP		20 09 32.2	
	comp=Z,3.6nm,0.7s,baz=309,slow=3.2,SNR=5.6						
WRAB	**Tennant Creek**	**35.66**	**120**	*e*P	**P**	**20 03 28.0**	**-0.5**
	comp=Z,56nm,0.4s,mb5.8						
WB2	**Warramunga Arr**	**35.66**	**120**	⇑*i*P	**P**	**20 03 28.0**	**-0.5**
WB2				*e*S	**S**	**20 08 51.5**	**-5.7**
FORT	**Forrest**	**36.79**	**141**	*e*P	**P**	**20 03 39.0**	**+1.1**
	comp=Z,55nm,0.7s,mb5.6						
ASPA	**Alice Springs**	**36.91**	**126**	⇓*i*P	**P**	**20 03 39.5**	**+0.6**
ASPA				*e*S	**S**	**20 09 14.1**	**-2.0**
ASAR	**Alice Springs**	**36.91**	**126**	P	**P**	**20 03 39.4**	**+0.5**
	comp=Z,23nm,0.4s,mb5.4,baz=299,slow=7.8,SNR=191						
ASAR				pP	pP	20 04 00.6	-0.5
	comp=Z,7.7nm,0.5s,baz=295,slow=7.5,SNR=2.2						
ASAR				PcP	PcP	20 05 59.0	+0.1
	comp=Z,6.2nm,0.6s,baz=303,slow=2.3,SNR=8.2						
ASAR				pPcP		20 06 22.4	
	comp=Z,2.3nm,0.5s,baz=300,slow=2.4,SNR=3.6						
ASAR				ScP		20 09 37.4	
	comp=Z,3.5nm,0.7s,baz=297,slow=3.2,SNR=4.4						
ASAR				LR	LR	20 20 02.9	
	comp=Z,87nm,21.8s,baz=290,slow=38						
XAN	**Xi'an**	**37.74**	**9**	P	**P**	**20 03 45.8**	**+0.1**
XAN				AMB	AMB		
	comp=Z,74nm,0.8s,mb5.6						
NJ2	**Nanjing**	**38.68**	**23**	*e*P	**P**	**20 03 55.1**	**+1.6**
NJ2				AP	pP	20 04 10.8	-5.0
NJ2				XP	sP	20 04 18.1	-8.9
NJ2				PP	PP	20 05 29.4	+2.5
NJ2				S	**S**	**20 09 48.4**	**+5.5**
NJ2				AMB	AMB		
	comp=Z,40nm,0.6s,mb5.4						
NJ2				AMB	AMB		
	comp=Z,170nm,4.5s						
NJ2				LR	LR		
	comp=N,220nm,19.5s						
NJ2				LR	LR		
	comp=E,310nm,19.6s						
NJ2				LR	LR		
	comp=Z,280nm,23.3s						
SSE	**Sheshan**	**38.84**	**27**	P	**P**	**20 03 56.3**	**+1.4**
SSE				AP	pP	20 04 09.6	-7.6
SSE				XP	sP	20 04 19.1	-9.2
SSE				S	**S**	**20 09 50.3**	**+5.0**
SSE				XS		20 10 18.1	
SSE				AMB	AMB		
	comp=Z,22nm,0.6s,mb5.2						
SSE				LR	LR		
	comp=N,51nm,24.9s						
SSE				LR	LR		
	comp=E,99nm,25.0s						
SSE				LR	LR		
	comp=Z,111nm,37.5s						
LZH	**Lanzhou**	**39.25**	**2**	⇑P	**P**	**20 03 58.5**	**+0.3**
LZH				AP	pP	20 04 14.8	-5.7
LZH				XP	sP	20 04 20.5	-11
LZH				PP	PP	20 05 34.3	+0.9
LZH				*e*S	**S**	**20 09 53.5**	**+2.1**
LZH				AMB	AMB		
	comp=Z,56nm,1.3s,mb5.2						
LZH				AMB	AMB		
	comp=Z,273nm,5.2s						
LZH				LR	LR		
	comp=N,553nm,13.4s						
LZH				LR	LR		
	comp=Z,957nm,17.1s						
JOW	**Kunigami**	**39.32**	**39**	P	**P**	**20 04 00.5**	**+1.6**
	comp=Z,13nm,0.4s,mb5.1,baz=229,slow=8.4,SNR=12						
GTA	**Gaotai**	**42.57**	**358**	⇑P	**P**	**20 04 26.3**	**+0.7**
GTA				PCP	PcP	20 06 17.0	+0.1

Sta	Station	Dist	Az	Phase	ISC phase	Time	Res
GTA				SCP		20 09 56.5	
GTA				S	S	20 10 41.5	+0.9
GTA				AMB	AMB		
	comp=Z,18nm,0.7s,mb4.9						
GTA				AMB	AMB		
	comp=Z,40nm,4.2s						
GTA				LR	LR		
	comp=N,52nm,19.8s						
GTA				LR	LR		
	comp=E,45nm,19.0s						
GTA				LR	LR		
	comp=Z,103nm,24.7s						
BTO	Baotou	44.34	9	eP	P	20 04 39.5	-0.4
HHC	Hu-ho-hao-te	44.83	10	eP	P	20 04 45.0	+1.2
HHC				AP	pP	20 05 01.8	-4.6
HHC				XP	sP	20 05 08.3	-9.0
HHC				PP	PP	20 06 30.8	-0.3
HHC				PCS		20 10 18.8	
HHC				S	S	20 11 17.5	+4.1
HHC				AMB	AMB		
	comp=Z,83nm,1.5s,mb5.2						
HHC				LR	LR		
	comp=N,102nm,10.7s						
HHC				LR	LR		
	comp=E,92nm,13.7s						
HHC				LR	LR		
	comp=Z,60nm,14.9s						
BJT	Baijiatuau	45.07	15	eP	P	20 04 46.2	+0.5
	comp=Z,45nm,0.5s,mb5.5						
BJI	Beijing	45.09	15	P	P	20 04 46.6	+0.7
BJI				XP	sP	20 05 08.5	-11
BJI				S	S	20 11 17.8	+0.7
BJI				AMB	AMB		
	comp=Z,234nm,4.2s						
BJI				LR	LR		
	comp=N,91nm,17.4s						
BJI				LR	LR		
	comp=E,155nm,18.1s						
BJI				LR	LR		
	comp=Z,83nm,27.9s						
JNU	Nakatsue	45.42	35	P	P	20 04 49.2	+0.6
	baz=253,slow=6.9						
GUMO	Guam	45.78	68	eP	P	20 04 48.7	-3.0
CTA	Charters Tower	46.28	115	eP	P	20 04 55.6	0.0
	comp=Z,20nm,0.6s,mb5.0						
CTA	Charters Tower	46.28	115	P	P	20 04 56.1	+0.5
	comp=Z,30nm,0.7s,mb5.1,baz=286,slow=10,SNR=35						
CTA				pP	pP	20 05 16.6	-1.6
	comp=Z,8.4nm,0.6s,baz=329,slow=3.6,SNR=2.3						
CTA				LR	LR	20 26 45.1	
	comp=Z,85nm,18.3s,baz=141,slow=39						
CTAO	Charters Tower	46.28	115	eP	P	20 04 55.4	-0.2
	comp=Z,34nm,0.9s,mb5.1						
ADE	Adelaide	46.40	137	⇑iP	P	20 04 58.1	+1.8
STKA	Stephens Creek	46.83	132	eP	P	20 05 00.4	+0.7
	comp=Z,16nm,0.4s,mb5.1						
STKA				eS	S	20 11 42.2	+0.2
STKA	Stephens Creek	46.83	132	P	P	20 05 00.7	+0.9
	comp=Z,21nm,0.6s,mb5.1,baz=308,slow=7.1,SNR=100						
STKA				LR	LR	20 23 27.1	
	comp=Z,216nm,21.3s,baz=25,slow=34						
KS15	Wonju Array Si	47.18	28	eP	P	20 05 02.8	+0.3
WMQ	Urumqi	48.65	346	⇑P	P	20 05 14.0	+0.3
WMQ				AP	pP	20 05 29.5	-7.1
WMQ				XP	sP	20 05 36.6	-11
WMQ				PP	PP	20 07 07.3	-0.2
WMQ				LR	LR		
	comp=Z,61nm,24.0s						
KSH	Kashi	48.87	333	eP	P	20 05 16.3	+0.8
KSH				eAP	pP	20 05 32.5	-5.9
KSH				eXP	sP	20 05 39.0	-10
KSH				ePCP	PcP	20 06 40.3	+1.4
KSH				ePP	PP	20 07 09.5	-0.2
KSH				ePPP	PPP	20 08 04.5	-0.5
KSH				eSCP		20 10 28.3	
KSH				ePCS		20 10 35.1	
KSH				eS	S	20 12 13.5	+3.0
KSH				eSCS	ScS	20 15 00.0	+4.8
KSH				eSS	SS	20 15 42.0	+4.1
KSH				AMB	AMB		
	comp=Z,90nm,1.3s,mb5.5						
KSH				LR	LR		
	comp=E,320nm,4.5s						
KSH				LR	LR		
	comp=N,210nm,5.2s						
SONM	Songino Array	51.09	4	P	P	20 05 32.9	+0.6
	comp=N,60nm,0.7s,mb5.7,baz=188,slow=9.4,SNR=590						
SONM				pP	pP	20 05 53.4	-2.0
	comp=N,20nm,1.1s,baz=180,slow=8.6,SNR=2.5						
SONM				PcP	PcP	20 06 46.2	-0.8
	comp=N,8.7nm,0.5s,baz=190,slow=4.3,SNR=14						
SONM				pPcP		20 07 11.1	
	comp=N,1.9nm,0.5s,baz=190,slow=5.0,SNR=2.0						
KZA	Kyzart	51.27	335	P	P	20 05 34.2	+0.3
	SNR=6.6						
CN2	Changchun	51.45	22	eP	P	20 05 34.5	-0.6
CN2				AMB	AMB		
	comp=Z,50nm,0.7s,mb5.7						
UCH	Uchtor	51.72	334	P	P	20 05 37.1	0.0
	SNR=20						
TKM2	Tokmak 2	51.82	336	P	P	20 05 37.5	-0.4
	SNR=78						
KBK	Karagaybulak	51.88	335	P	P	20 05 38.3	0.0
	SNR=36						
AML	Almayashu	52.00	333	P	P	20 05 39.1	-0.1
	SNR=35						
AAK	Ala-Archa	52.05	334	P	P	20 05 39.4	-0.2
	SNR=12						
AAK	Ala-Archa	52.05	334	c iP	P	20 05 38.3	-1.3
AAK				pmax	pmax		
	comp=Z,11nm,0.7s,mb5.0						
AAK				MLR	MLR		
	comp=Z,100nm,21.0s						
MAJO	Matsushiro	52.11	37	eP	P	20 05 37.0	-3.2
	comp=Z,14nm,0.5s,mb5.2						
MAT	Matsushiro	52.11	37	P	P	20 05 39.1	-1.1
MAT	Matsushiro	52.11	37	eP	P	20 05 39.0	-1.2
	comp=Z,13nm,0.8s,mb5.0						
CHMS	Chumysh	52.24	335	P	P	20 05 40.1	-1.0
	SNR=6.4						
EKS2	Erkin-Say	52.39	334	P	P	20 05 41.5	-0.6
	SNR=44						
USP	Ospenovka	52.56	335	P	P	20 05 42.5	-1.0
	SNR=8.6						
MKAR	Makanchi Array	52.83	343	P	P	20 05 44.5	-0.9
	comp=Z,60nm,0.5s,mb5.9,baz=152,slow=8.3,SNR=465						
MKAR				pP	pP	20 06 05.5	-3.2
	comp=Z,12nm,0.6s,baz=162,slow=9.7,SNR=3.7						
ZAK	Zakamensk	53.51	1	⇑iP	P	20 05 49.6	-0.8
ZAK				e		20 06 54.8	
MDJ	Mudanjiang	53.75	24	P	P	20 05 51.8	-0.4
MDJ				AP	pP	20 06 07.1	-8.4
MDJ				PCP	PcP	20 06 55.6	-1.3
MDJ				PP	PP	20 07 52.5	-3.0
MDJ				SCP		20 10 47.5	
MDJ				PCS		20 10 53.8	
MDJ				S	S	20 13 20.0	+2.5
MDJ				SCS	ScS	20 15 35.0	+6.3
MDJ				AMB	AMB		
	comp=Z,15nm,1.0s,mb5.0						
MDJ				LR	LR		
	comp=N,42nm,33.8s						
MDJ				LR	LR		
	comp=E,64nm,38.7s						
MDJ				LR	LR		
	comp=Z,88nm,41.9s						
MDJ	Mudanjiang	53.75	24	eP	P	20 05 51.9	-0.4
	comp=Z,14nm,0.8s,mb5.0						
ARMA	Armidale	54.06	126	eP	P	20 05 56.0	+1.3
MOY	Mondy	54.79	359	eP	P	20 05 59.6	-0.1
KURK	Kurchatov	57.43	343	c iP	P	20 06 17.1	-1.4
KLR	Kul'dur	58.37	23	eP	P	20 06 24.6	-0.6
KLR				pmax	pmax		
	comp=N,16nm,1.0s						
KLR				pmax	pmax		
	comp=Z,32nm,1.0s,mb5.3						
ASAJ	Asahikawa	59.63	33	LR	LR	20 31 09.0	
	comp=Z,29nm,20.8s,baz=221,slow=35						
NVS	Novosibirsk	60.00	348	i P	P	20 06 33.6	-2.7
NVS				e	pP	20 06 54.2	-5.8
NVS				i S	S	20 14 35.1	-4.4
NVS				i		20 14 54.6	
NVS				e		20 15 05.8	
NVS				pmax	pmax		
	comp=Z,34nm,1.0s,mb5.3						
NVS				pmax	pmax		
	comp=N,43nm,1.2s						
NVS				pmax	pmax		
	comp=E,24nm,1.2s						
NVS				smax			
	comp=N,15nm,1.5s						
NVS				smax			
	comp=E,20nm,1.5s						
QRN	Al-Qurain	60.83	306	eP	P	20 06 41.7	-0.6
KAMS	Al Khamasin	60.95	295	P	P	20 06 41.7	-1.5
KBD	Kabd	61.17	306	eP	P	20 06 43.9	-0.7
KBD				AMb	AMB	20 06 45.2	
	comp=Z,250nm,0.8s						
RDF	Al-Radifah	61.20	306	eP	P	20 06 43.7	-1.1
RDF				AMb	AMB	20 06 46.0	
	comp=Z,81nm,1.2s,mb5.6						
DJNS	Zahran al Janu	61.23	292	P	P	20 06 46.3	+1.1
UMR	Umm Al-Rimmam	61.30	306	eP	P	20 06 44.6	-0.9
UMR				AMb	AMB	20 06 45.6	
	comp=Z,130nm,0.8s,mb6.0						
MZLS	Mizel	61.48	300	P	P	20 06 46.0	-0.8
YSS	Yuzh-Sakhalins	61.60	31	⇑eP	P	20 06 46.0	-1.2
YSS				pmax	pmax		
	comp=Z,110nm,0.9s,mb5.9						
YSS	Yuzh-Sakhalins	61.60	31	eP	P	20 06 46.5	-0.7
	comp=Z,95nm,0.8s,mb5.9						
MIB	Mutribah	61.70	306	eP	P	20 06 48.1	0.0
MIB				AMb	AMB	20 06 49.3	
	comp=Z,130nm,0.7s,mb6.0						
BOD	Bodaibo	61.72	7	⇑iP	P	20 06 47.2	-0.7
RST	Umm Al-Ruwaisa	61.86	306	eP	P	20 06 48.1	-1.1
RST				AMb	AMB	20 06 49.2	
	comp=Z,105nm,0.8s,mb6.0						
ZRNK	Zerenda	62.54	338	eP	P	20 06 51.2	-2.2
	comp=Z,22nm,0.7s,mb5.2						
CLNS	Chul'man	62.80	14	eP	P	20 06 52.4	-2.7
CLNS				pmax	pmax		
	comp=Z,48nm,0.7s,mb5.5						
CLNS				pmax	pmax		
	comp=N,24nm,0.8s						
CLNS				pmax	pmax		
	comp=E,11nm,0.7s						
CASY	Casey	63.13	176	eP	P	20 06 56.8	-0.4
AFFS	'Afif	63.38	299	P	P	20 06 59.2	-0.2
ARSS	Ar Rass	63.76	301	P	P	20 07 01.1	-0.9
KMBO	Kilima Mbogo	64.67	270	P	P	20 07 08.1	+0.1
	comp=E,1.0nm,0.6s,baz=48,slow=22,SNR=3.5						
KMBO	Kilima Mbogo	64.67	270	eP	P	20 07 07.8	-0.3
NOUC	Port Laguerre	65.03	113	eP	P	20 07 09.9	-0.3
DZM	Mont Dzumac	65.16	113	eP	P	20 07 11.2	+0.2
HILS	Ha'il	65.45	302	P	P	20 07 12.9	0.0
KBRS	Khaybar	67.16	300	P	P	20 07 24.1	+0.4
YNBS	Yanbu' al Bahr	67.89	298	P	P	20 07 28.5	+0.2
YAK	Yakutsk	68.54	14	⇑iP	P	20 07 30.1	-1.5
YAK				pmax	pmax		
	comp=Z,79nm,0.9s,mb5.5						
YAK				pmax	pmax		
	comp=N,22nm,1.1s						
YAK				pmax	pmax		
	comp=E,10.0nm,1.2s						
YAK	Yakutsk	68.54	14	eP	P	20 07 29.9	-1.8
	comp=E,135nm,0.6s,mb6.0						
UMJS	Umm Lajj	68.72	299	P	P	20 07 34.4	+1.0
ARU	Arti	69.19	336	⇑iP	P	20 07 34.2	-1.5
ARU				e	pP	20 07 57.0	-3.1
ARU				e		20 10 09.6	
ARU				eS	S	20 16 27.3	-5.4
ARU				e		20 17 20.3	
ARU				eSS	SS	20 20 52.9	-10
ARU				pmax	pmax		
	comp=Z,31nm,1.2s,mb5.0						
MAW	Mawson	69.50	195	eP	P	20 07 38.3	+0.9
	comp=Z,8.7nm,0.9s,mb4.6						
MAW	Mawson	69.50	195	P	P	20 07 38.4	+1.0
	comp=Z,9.8nm,0.8s,mb4.7,baz=29,slow=6.5,SNR=25						
MAW				pP	pP	20 08 00.9	-1.0
	comp=Z,6.6nm,1.0s,baz=17,slow=7.8,SNR=3.4						
MAW				LR	LR	20 32 44.8	
	comp=Z,157nm,18.3s,baz=231,slow=31						
ZEI	Tsey	69.50	318	eP	P	20 07 36.0	-1.9
ZEI				e		20 10 19.0	
ZEI				pmax	pmax		
	comp=Z,100nm,5.0s						
QURS	Qurayyt al Mil	70.36	305	P	P	20 07 43.7	+0.4
JMQS	Jabal Moqyreh	70.88	302	P	P	20 07 46.7	+0.2
GOF	Gofitskoye	71.05	320	⇓iP	P	20 07 45.5	-1.7
GOF				pmax	pmax		
	comp=Z,50nm,1.3s,mb5.2						
AYUS	'Aynunah	71.22	301	P	P	20 07 48.6	+0.1
ELZG	Elazig	71.31	312	i P	P	20 07 48.9	0.0
BDAS	Al Bad'	71.43	301	P	P	20 07 49.7	0.0
JMOS	Jabal al Moall	71.60	302	P	P	20 07 51.2	+0.4
TAYS	Tayyib Ism	71.65	301	P	P	20 07 51.1	0.0
MALT	Malatya	71.66	312	eP	P	20 07 50.4	-0.6
	comp=Z,5.7nm,0.5s,mb4.7						
EIL	Elat	71.86	303	P	P	20 07 52.2	-0.1
ZFRI	Zfri	71.90	303	P	P	20 07 52.6	+0.1
MBH	Mount Berech	71.93	303	P	P	20 07 52.8	+0.1
GZT	Gaziantep	71.99	311	i P	P	20 07 52.8	-0.1
PRNI	Paran	72.00	303	P	P	20 07 53.4	+0.3
PRNI	Paran	72.00	303	⇑P	P	20 07 53.4	+0.3
KSHT	Keshet	72.04	306	P	P	20 07 53.7	+0.4
HMDT	Nahal Hemdat	72.07	305	P	P	20 07 53.5	0.0
HMDT	Nahal Hemdat	72.07	305	⇑P	P	20 07 53.5	0.0
HRI	Mount Hermon	72.18	306	P	P	20 07 54.5	+0.3
MMLI	Mount Malkishu	72.21	305	P	P	20 07 54.4	+0.1
HNTI	Hanita	72.58	306	P	P	20 07 56.8	+0.2
OFRI	'Ofer	72.61	306	P	P	20 07 56.7	0.0
SOC	Sochi	72.63	318	i P	P	20 07 54.9	-1.7
SOC				e		20 08 14.1	
SOC				e		20 10 37.6	
SOC				ePPP	PPP	20 12 14.2	-10
SOC				eSSS	SSS	20 24 56.0	-10
SOC				pmax	pmax		
	comp=Z,33nm,0.5s,mb5.4						
SOC				pmax	pmax		
	comp=N,11nm,0.6s						
SOC				pmax	pmax		
	comp=E,9.0nm,0.8s						
KZIT	Kziot	72.64	304	P	P	20 07 56.9	-0.1
COBT	Iskenderun	72.72	310	i P	P	20 07 56.6	-0.7
MA2	Magadan	73.45	24	c iP	P	20 08 01.3	+0.3
MA2				e		20 08 12.3	
MA2				S	S	20 17 17.4	-3.9
MA2				pmax	pmax		
	comp=Z,20nm,0.6s,mb5.1						
MA2				pmax	pmax		
	comp=E,8.0nm,0.9s						
MA2				pmax	pmax		
	comp=N,7.0nm,0.7s						
MA2	Magadan	73.45	24	eP	P	20 08 00.9	-0.1
	comp=N,34nm,0.8s,mb5.2						
LSZ	Lusaka	73.46	255	P	P	20 08 01.5	-0.4
	comp=N,9.9nm,1.2s,mb4.5						
CSS	Prodhromos	74.56	307	eP	P	20 08 07.5	-0.6
	comp=N,42nm,0.9s,mb5.2						
ANN	Anapa	74.61	318	eP	P	20 08 08.0	-0.1
ANN				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.5						
CTKT	Corum	75.07	313	i P	P	20 08 10.3	-0.5
BOYT	Boyabat	75.23	314	i P	P	20 08 11.0	-0.7
BRTR	Keskin Array B	75.64	312	P	P	20 08 12.9	-1.1
	comp=Z,24nm,0.5s,mb5.2,baz=138,slow=7.1,SNR=121						
BRTR				pP	pP	20 08 34.9	-4.0
	comp=Z,6.7nm,0.6s,baz=117,slow=5.9,SNR=4.5						
BRTR				LR	LR	20 47 14.4	
	comp=Z,24nm,18.6s,baz=130,slow=40						
ELDT	Eldivan	76.02	313	i P	P	20 08 14.8	-1.4
SEY	Seymchan	76.13	21	eP	P	20 08 16.7	+0.3
SEY				pmax	pmax		
	comp=E,20nm,0.6s						
SEY				pmax	pmax		
	comp=Z,70nm,0.6s,mb5.6						
SEY				pmax	pmax		
	comp=N,10.0nm,0.7s						
BALT	Daday	76.35	314	i P	P	20 08 17.7	-0.3
TIXI	Tiksi	76.86	8	eP	P	20 08 19.1	-1.2
TIXI				pmax	pmax		
	comp=Z,54nm,1.4s,mb5.1						
SIM	Simferopol'	76.88	318	c iP	P	20 08 21.5	+0.6
SIM				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.3						
SGKT	Sivrigoynuk	77.04	313	i P	P	20 08 20.9	-1.0
SYO	Syowa Base	77.25	199	⇓P	P	20 08 23.6	+1.1
SYO	Syowa Base	77.25	199	⇓PcP	PcP	20 08 37.0	+3.9
SYO	Syowa Base	77.25	199	⇓sP	sP	20 08 47.7	-10
OBN	Obninsk	78.94	328	αiP	P	20 08 31.5	-0.5
OBN				e		20 08 40.9	
OBN				e		20 11 30.6	
OBN				pmax	pmax		
	comp=Z,43nm,0.9s,mb5.3						
ULDT	Uludag	79.09	312	i P	P	20 08 32.7	-0.5
SBA	Scott Base	81.59	169	eP	P	20 08 47.1	+1.4
	comp=Z,2.3nm,0.7s,mb4.1						
AKASG	Malin Array Be	81.71	322	P	P	20 08 45.9	-1.0
	comp=Z,5.8nm,0.3s,mb4.8,baz=87,slow=4.6,SNR=38						
AKASG				pP	pP	20 09 09.8	-2.1
	comp=Z,1.6nm,0.5s,baz=86,slow=4.7,SNR=2.7						
VRI	Vrincioaia	82.14	317	⇑iP	P	20 08 49.9	+0.7
DIM	Dimitrovgrad	82.17	313	i P	P	20 08 58.0	+8.6
MLR	Muntele Rosu	82.59	317	⇑iP	P	20 08 52.0	+0.5
RZN	Rozhen	82.69	313	i P	P	20 08 52.0	-0.1
PGB	Panagyurishte	83.26	313	i P	P	20 08 55.5	+0.5
MMB	Musomiste	83.40	312	i P	P	20 08 55.5	-0.2
KKB	Krupnik	83.93	313	i P	P	20 08 58.0	-0.4
VTS	Vitosha	83.96	313	i P	P	20 08 59.0	+0.5
SKO	Skopje	85.16	312	eP	P	20 09 02.5	-2.0
KWP	Kalwaria	85.56	320	eP	P	20 09 06.6	+0.3
KOLS	Kolonicke sedl	85.71	319	i P	P	20 09 08.1	+1.1
KOLS				e	pP	20 09 33.5	+1.2
SUW	Suwalki	86.08	325	eP	P	20 09 08.5	-0.2
FINES	FINESS Array B	86.18	332	P	P	20 09 09.1	+0.1
	comp=Z,6.0nm,0.6s,mb4.7,baz=111,slow=5.5,SNR=33						
FINES	FINESS Array B	86.18	332	i P	P	20 09 09.1	+0.1
FINES				pmax	pmax		
	comp=Z,6.0nm,0.6s						
CRVS	Cervenica-Dubn	86.23	319	eP	P	20 09 12.3	+2.7
KAF	Kangasniemi	86.24	333	ep	P	20 09 09.3	0.0
	comp=Z,13nm,0.6s,mb5.0,baz=99,slow=4.4						
KAF	Kangasniemi	86.24	333	eP	P	20 09 09.3	0.0
KAF				pmax	pmax		
	comp=Z,13nm,0.6s,mb5.0						
QSPA	South Pole Qui	86.64	180	eP	P	20 09 12.6	+1.6
	comp=Z,4.1nm,0.7s,mb4.5						
PSZ	Piszkesteto	87.12	318	⇑eP	P	20 09 14.2	+0.3
OJC	Ojcow	87.51	320	eP	P	20 09 15.9	+0.1
VYHS	Vyhne	87.90	319	eP	P	20 09 18.0	+0.3
KEV	Kevo	87.92	340	ep	P	20 09 16.8	-0.5
	comp=Z,15nm,0.8s,mb5.1						
KEV	Kevo	87.92	340	eP	P	20 09 16.8	-0.5
KEV				pmax	pmax		
	comp=Z,15nm,0.8s,mb5.1						
RHK1	Bakonya	88.12	316	⇑eP	P	20 09 19.1	+0.3
ARCES	ARCESS Array B	88.37	340	P	P	20 09 19.8	+0.4
	comp=Z,11nm,0.5s,mb5.2,baz=103,slow=5.4,SNR=96						
ARCES				pP	pP	20 09 43.2	-1.7
	comp=Z,4.4nm,0.7s,baz=101,slow=6.2,SNR=2.6						
ARCES				LR	LR	20 53 47.6	
	comp=Z,50nm,18.1s,baz=14,slow=39						
ARCES	ARCESS Array B	88.37	340	P	P	20 09 19.8	+0.4
ARCES				pP	pP	20 09 43.2	-1.7
ARCES				LR	LR	20 53 47.6	
OKC	Ostrava-Krasne	88.51	320	eP	P	20 09 21.3	+0.8
ORI	Oriolo Calabro	88.67	310	eP	P	20 09 23.0	+1.5
TDS	Terranova Siba	88.71	310	eP	P	20 09 23.6	+1.9
MORC	Moravsky Berou	88.89	320	eP	P	20 09 22.5	+0.2
	comp=Z,7.5nm,0.6s,mb4.9						
ZST	Bratislava	89.01	318	i P	P	20 09 23.4	+0.5
SISC	Sisak	89.24	315	i P	P	20 09 32.3	+8.3
GKP	Gorka Klasztor	89.47	323	eP	P	20 09 25.3	+0.4
DPC	Dobruska-Polom	89.73	320	eP	P	20 09 27.4	+1.1
KSP	Ksiaz	89.80	321	⇑eP	P	20 09 27.3	+0.7
GROS	Grobnik	89.93	316	i P	P	20 09 27.8	+0.6
UPC	Upice	89.95	320	eP	P	20 09 28.2	+0.9
ARSA	Arzberg	89.98	317	⇑iP	P	20 09 28.0	+0.5
	comp=Z,6.7nm,0.9s,mb4.8						
BOJS	Bojanci	90.02	315	i P	P	20 09 28.3	+0.5
VAE	Valguarnera	90.04	307	P	P	20 09 28.4	+0.4
	comp=Z,10nm,1.0s,mb4.9,baz=56,slow=3.6,SNR=3.0						
VAE				pP	pP	20 09 50.3	-3.2
	comp=Z,4.6nm,0.6s,baz=331,slow=22,SNR=2.6						
PERS	Pernice	90.21	317	i P	P	20 09 29.2	+0.6
LJU	Ljubljana	90.57	316	i P	P	20 09 31.0	+0.7
PRU	Pruhonice	90.85	320	eP	P	20 09 32.1	+0.6
PVCC	Panska Ves	90.87	320	eP	P	20 09 32.7	+1.1
BRG	Berggiesshubel	91.29	321	eP	P	20 09 34.4	+0.9
BRG				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.8						
BRG	Berggiesshubel	91.29	321	eP	P	20 09 34.4	+0.9
	comp=Z,7.3nm,0.8s,mb4.9						
ROBS	Robic	91.29	316	i P	P	20 09 33.5	-0.1
GERES	GERESS Array B	91.32	319	P	P	20 09 34.2	+0.5
	comp=Z,3.2nm,0.7s,mb4.5,baz=104,slow=3.7,SNR=25						
GERES				pP	pP	20 09 56.7	-2.6
	comp=Z,1.1nm,0.8s,baz=104,slow=5.5,SNR=2.6						
KHC	Kasperske Hory	91.42	319	eP	P	20 09 34.6	+0.4
SNAA	Sanae	91.49	198	⇑iP	P	20 09 35.9	+1.9
SNAA	Sanae	91.49	198	⇓i	P	20 09 36.9	+2.9
SNAA	Sanae	91.49	198	⇓i	P	20 09 53.0	+19
SNAA	Sanae	91.49	198		pP	20 09 59.4	-0.1
CLL	Collm	91.91	321	P	P	20 09 37.0	+0.6
CLL	Collm	91.91	321	eP	P	20 09 37.0	+0.6
NKC	Novy Kostel	92.21	320	eP	P	20 09 38.7	+0.9
WTTA	Wattenberg	92.62	317	⇑iP	P	20 09 39.6	-0.2
	comp=Z,8.8nm,0.6s,mb5.3						
WATA	Walderalm	92.67	317	⇓iP	P	20 09 39.5	-0.5
	comp=Z,4.3nm,1.1s,mb4.7						
MOX	Moxa	92.75	320	eP	P	20 09 40.0	-0.3
SQTA	Sankt Quirin	92.92	317	⇑iP	P	20 09 41.0	-0.1
	comp=Z,2.9nm,0.7s,mb4.7						
GRA1	Grafenberg Arr	92.98	319	eP	P	20 09 41.3	0.0
	comp=Z,6.0nm,0.9s,mb4.9						
GRF	Grafenberg Arr	92.98	319	eP	P	20 09 41.3	0.0
GRF				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.9						
MOTA	Moosalm	92.99	317	⇑iP	P	20 09 41.1	-0.3
	comp=Z,5.5nm,0.9s,mb4.9						
VNA2	Neumayer--Watz	93.11	198	P	P	20 09 42.3	+0.8
NB2	NORSAR Subarra	93.24	331	P	P	20 09 41.5	-0.7
	comp=Z,4.0nm,0.7s,mb4.9,baz=94,slow=4.6						
NB2	NORSAR Subarra	93.24	331	P	P	20 09 41.5	-0.7
	baz=94,slow=4.6						
NOA	NORSAR Array B	93.24	331	P	P	20 09 42.1	-0.2
	comp=Z,3.6nm,0.7s,mb4.8,baz=94,slow=4.5,SNR=9.7						
NOA				pP	pP	20 10 05.7	-2.2
	comp=Z,1.9nm,0.9s,baz=96,slow=4.5,SNR=1.9						
DAVA	Damuels	93.82	317	⇑iP	P	20 09 45.8	+0.6
	comp=Z,11nm,0.8s,mb5.2						
SBF	Sospel	95.54	314	eP	P	20 09 52.2	-0.9
	comp=Z,53nm,1.1s,mb5.6						
CDF	Champ du Feu	95.57	318	eP	P	20 09 52.2	-0.9
LPG	La Plagne	96.00	315	eP	P	20 09 55.0	-0.1
	comp=Z,17nm,1.1s,mb5.1						
MBDF	Montbardon	96.00	314	eP	P	20 09 54.4	-0.8
LPL	La Plagne	96.01	315	eP	P	20 09 54.9	-0.3
	comp=Z,3.9nm,0.5s,mb4.8						
HAU	Haudompre	96.20	318	eP	P	20 09 55.3	-0.7
	comp=Z,7.3nm,0.6s,mb5.0						
ORIF	Oris-en-Rattie	96.63	315	eP	P	20 09 57.5	-0.5
LOR	Lormes	97.92	317	eP	P	20 10 02.7	-1.1
	comp=Z,6.7nm,0.7s,mb5.0						
LFF	La Frestale	100.27	315	eP	P	20 10 13.5	-1.1
LDF	La Druitiere	100.46	319	eP	P	20 10 14.4	-0.9
ILAR	Eielson Array	101.92	24	P	P	20 10 19.8	-1.7
	comp=Z,0.4nm,0.7s,baz=273,slow=4.1,SNR=4.5						
ILAR				PP	PP	20 14 21.4	-14
	comp=Z,0.5nm,0.8s,baz=279,slow=6.6,SNR=4.9						
INK	Inuvik	105.30	19	PKiKP		20 14 48.4	
	comp=Z,0.6nm,0.3s,baz=279,slow=11,SNR=4.8						
FRB	Frobisher Bay	119.31	355	PKP	PKPdf	20 15 15.9	+0.6
	comp=Z,3.2nm,0.4s,baz=103,slow=2.1,SNR=5.7						
NEW	Newport	124.11	31	PKP	PKPdf	20 15 27.4	+2.4
	comp=Z,4.3nm,0.7s,baz=332,slow=0.9,SNR=4.1						
HUMO	Hull Mountain	124.12	39	ePKP	PKPdf	20 15 27.1	+1.8
YBH	Yreka Blue Hor	124.73	40	PKP	PKPdf	20 15 30.2	+3.7
	comp=Z,1.6nm,0.6s,baz=28,slow=2.8,SNR=4.7						
LNOR	Lincton Mounta	125.01	33	ePKP	PKPdf	20 15 28.0	+1.1
MOD	Modoc	126.16	38	ePKP	PKPdf	20 15 31.2	+2.1
OHCM	Honcut	126.78	42	PKP	PKPdf	20 15 32.1	+1.7
WVOR	Wild Horse Val	126.88	37	ePKP	PKPdf	20 15 32.4	+1.9
SCHQ	Schefferville	127.85	352	PKP	PKPdf	20 15 33.2	+1.1
	comp=Z,3.1nm,0.4s,baz=244,slow=16,SNR=17						
SCHQ	Schefferville	127.85	352	PKP	PKPdf	20 15 33.2	+1.1
MCMT	McKenzie Canyo	128.60	31	ePKP	PKPdf	20 15 35.5	+1.7
HLID	Hailey	128.61	33	ePKP	PKPdf	20 15 36.0	+2.1
NVAR	Mina Array Bea	129.36	41	PKP	PKPdf	20 15 38.3	+2.9
	comp=Z,4.5nm,0.8s,baz=321,slow=0.7,SNR=26						
NVAR				SKPbc		20 18 50.4	

	comp=Z,2.6nm,0.8s,baz=261,slow=5.7,SNR=10						
ELK	Elko	129.93	37	ePKP	PKPdf	20 15 38.0	+1.5
HVU	Hansel Valley	130.69	34	ePKP	PKPdf	20 15 39.8	+1.8
ULM	Lac du Bonnet	130.87	15	PKP	PKPdf	20 15 39.2	+1.2
	comp=Z,4.7nm,0.5s,baz=273,slow=0.7,SNR=5.9						
ULM				SKPbc		20 18 54.4	
	comp=Z,3.3nm,0.7s,baz=297,slow=6.5,SNR=3.6						
ULM	Lac du Bonnet	130.87	15	PKP	PKPdf	20 15 39.2	+1.2
ULM				SKPbc		20 18 54.4	
DUG	Dugway	131.71	36	ePKP	PKPdf	20 15 41.6	+1.8
DUG				eSKP		20 18 58.5	
PDAR	Pinedale Array	131.75	31	PKP	PKPdf	20 15 42.0	+2.2
	comp=Z,1.4nm,0.7s,baz=46,slow=2.4,SNR=9.0						
PDAR				SKPbc		20 18 57.9	
	comp=Z,3.1nm,0.7s,slow=1.5,SNR=9.8						
MVU	Marysvale	133.15	37	ePKP	PKPdf	20 15 45.2	+2.5
MSU	Marysvale	133.17	37	ePKP	PKPdf	20 15 45.5	+2.8
MSU				eSKP		20 19 04.1	
PV10	Paradox Valley	135.10	35	ePKP	PKPdf	20 15 49.1	+2.8
PV01	Paradox Valley	135.53	35	ePKP	PKPdf	20 15 49.6	+2.5
WUAZ	Wupatki	135.55	40	ePKP	PKPdf	20 15 49.9	+2.8
SADO	Sadowa	138.72	1	PKP	PKPdf	20 15 55.5	+2.8
	comp=Z,7.0nm,0.7s,baz=302,slow=9.9,SNR=4.1						
SADO	Sadowa	138.72	1	PKP	PKPdf	20 15 55.5	+2.8
ANMO	Albuquerque	138.96	37	PKP	PKPdf	20 15 55.8	+2.3
BNM	Barren Site	139.40	38	PKP	PKPdf	20 15 58.0	+3.7
GDL2	Guadalupe Moun	142.12	38	ePKP	PKPdf	20 15 57.4	-1.8
WMOK	Wichita Mounta	143.29	29	ePKP	PKPdf	20 15 58.4	-2.6
CPUP	Villa Florida	144.34	213	PKP	PKPdf	20 16 04.2	+1.1
	comp=Z,12nm,0.8s,baz=135,slow=2.4,SNR=24						
CPUP				pPKP		20 16 28.0	
	comp=Z,11nm,0.6s,baz=201,slow=2.8,SNR=8.2						
CPUP	Villa Florida	144.34	213	ePKP	PKPdf	20 16 03.7	+0.5
WCI	Wyandotte Cave	144.45	11	ePKP	PKPdf	20 16 02.5	-0.5
LTX	Lajitas	144.51	41	ePKP	PKPdf	20 16 04.3	+0.9
TXAR	Lajitas Array	144.51	41	PKP	PKPdf	20 16 04.5	+1.2
	comp=Z,41nm,0.5s,baz=291,slow=1.2,SNR=273						
TXAR				pPKP		20 16 28.9	
	comp=Z,6.1nm,0.5s,baz=270,slow=0.4,SNR=3.0						
TXAR				SKPbc		20 19 35.8	
	comp=Z,3.0nm,0.7s,baz=276,slow=0.7,SNR=5.9						
TXAR	Lajitas Array	144.51	41	PKP	PKPdf	20 16 04.5	+1.2
TXAR				pPKP		20 16 28.9	
TXAR				SKPbc		20 19 35.8	
BAO	Brasilia Array	144.79	237	i P	PKPdf	20 16 05.8	+1.7
BAO				e		20 16 10.4	
BAO				e		20 16 14.4	
BAO				e		20 16 28.4	
BDFB	Brasilia	144.80	237	PKP	PKPdf	20 16 05.9	+1.7
	comp=Z,30nm,1.0s,baz=144,slow=2.8,SNR=18						
BDFB				pPKP		20 16 29.3	
	comp=Z,9.1nm,0.5s,baz=100,slow=3.7,SNR=4.2						
CBN	Corbin	145.28	359	ePKP	PKPdf	20 16 05.1	+0.6
UALR	University of	146.01	21	ePKP	PKPdf	20 16 07.0	+1.2
JCT	Junction City	146.06	35	ePKP	PKPdf	20 16 08.1	+2.1
WVT	Waverly	146.13	14	ePKP	PKPdf	20 16 07.8	+1.8
ELN	Prospectdale	146.17	4	ePKP	PKPdf	20 16 06.9	+0.9
SWET	Sewanee	147.44	12	ePKPbc	PKPdf	20 16 11.1	+3.0
CPCT	Cooper Cave	147.48	10	ePKPab	PKPab	20 16 14.7	-0.6
NATX	Nacogdoches	147.69	27	ePKPbc	PKPdf	20 16 13.0	+4.4
LRAL	Lakeview Retre	149.28	15	ePKPbc	PKPdf	20 16 15.9	+4.7
LVC	Limon Verde	152.72	199	ePKPdf	PKPdf	20 16 19.7	+3.1
LVC				ePKPbc	PKPdf	20 16 26.8	+10
LPAZ	La Paz	158.18	206	PKP	PKPdf	20 16 27.5	+3.5
	comp=Z,1.9nm,0.3s,baz=148,slow=0.3,SNR=2.6						

DJA 16 20:00:18.8±1.0**, 2.99S×120.31E, h100^{km}, ML4.6**/3**, 6C-1D, Error ellipse: s-maj=34.4km s-min=14.7km az=17.0, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BUNI	Buntu Taipa	0.66	179	⇑ePn	P	20 00 36.3	+0.2
BUNI				⇑eSn	S	20 00 42.9	-6.1
TANI	Tanete Lipujan	1.03	245	⇑ePn	P	20 00 38.8	-1.0
	3μm,42.2s						
TANI	Tanete Lipujan	1.03	245	⇓ePn	P	20 00 39.2	-0.6
	3μm,42.2s						
TANI				⇑eSn	S	20 00 55.2	-0.4
TANI				⇑eSn	S	20 00 55.2	-0.4
NINI	Niniconang	1.53	201	⇑ePn	P	20 00 44.9	-0.9
	859nm,33.0s						

IGQ 16 20:06:32.5, 1.83S×80.06W, h12^{km}±4^{km}, mb4.0, 9C-6D, Error ellipse: s-maj=6.5km s-min=1.8km az=105.9, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HOJA	Cerro de Hojas	0.91	328	⇑P	Pb	20 06 50.6	+0.8
IGUA	Igualata	1.46	77	P	Pn	20 07 00.8	+1.9
IGUA				S	Sb	20 07 20.9	+3.4
QIL1	Quilotoa	1.49	49	⇓P	Pn	20 07 00.1	+0.9
CUSU	Cusua	1.62	76	P	Pn	20 07 03.1	+1.9
ARRY	Arrayan	1.64	79	P	Pn	20 07 03.0	+1.6
JUIV	Juive	1.64	76	⇓P	Pn	20 07 02.6	+1.1
RETU	Refugio	1.66	77	P	Pn	20 07 03.9	+2.3
PATA	Patacocha	1.66	79	⇓P	Pn	20 07 03.3	+1.7
PATA				S	Sn	20 07 26.0	+3.0
ULBA	Ulba	1.69	77	P	Pn	20 07 04.3	+2.1
ULBA				S	Sn	20 07 27.2	+3.4
NAS1	Nasa	1.98	53	⇓P	Pn	20 07 09.5	+3.3
TAMB	Tambo	2.03	56	⇑P	Pn	20 07 10.0	+3.0
VC1	Cotopaxi 1	2.03	55	⇑P	Pn	20 07 10.4	+3.4
JUA2	San Juan 2	2.16	42	⇓P	Pn	20 07 11.2	+2.3
CGGP	Crater GGP	2.19	42	⇑P	Pn	20 07 11.2	+1.9
CGGP				S	Sn	20 07 40.7	+4.2
GGP	Refugio Guagua	2.20	42	⇑P	Pn	20 07 11.2	+1.7
PINO	Pino	2.20	41	⇓P	Pn	20 07 11.1	+1.6
YANA	Yana	2.26	41	⇑P	Pn	20 07 11.8	+1.5
YANA				S	Sn	20 07 40.8	+2.6
JOR1	San Jorge 1	2.30	38	⇑P	Pn	20 07 09.6	-1.3
JOR1				S	Sn	20 07 35.9	-3.5
ANTI	Antisana	2.34	54	⇑P	Pn	20 07 14.7	+3.3
CAYR	Refugio Cayamb	2.75	48	P	Pn	20 07 21.6	+4.3
COTA	Cotacachi	2.75	39	⇑P	Pn	20 07 19.4	+2.1
COTA				S	Sn	20 07 54.6	+3.8
CAYA	Cayambe	2.80	48	P	Pn	20 07 21.7	+3.7

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*NIED **16** 20:09:00, 29.80N×129.60E, h175^{km}, Mw4.5 Best double couple: M$_0$7.41×10^{15} NP1:ϕ_s355°, δ76°, λ97°. NP2:ϕ_s149°, δ16°, λ65°.*
*BJI **16** 20:09:44.9, 29.71N×129.50E, h199^{km}, mB4.7, mb4.7*
*NEIC **16** 20:09:46.3±0.6, 29.81N×129.36E, h180^{km}±5^{km}, mb4.5/25, MW4.5(NIED), Error ellipse: s-maj=7.7km s-min=5.6km az=99.0*
*JMA **16** 20:09:46.9±0.1, 29.80N×129.58E, h168^{km}±2^{km}, M4.4*
*IDC **16** 20:09:47.2±0.5, 29.90N×129.36E, h187^{km}±4^{km}, mb3.8/16, mb1 3.9/21, mb1mx3.9/28, Error ellipse: s-maj=13.5km s-min=7.8km az=91.0*

ISC 16 20:09:44.7±0.2**, 29.78N**±0.03×**129.45E**±0.05**, h179**^{km}±2^{km}**, h184**^{km}±1.7^{km}**:pP-P, n93, σ0^{s}98**/106**, mb4.3**/41**, 4C-4D, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JNN	Nakanoshima	0.37	81	P	P	20 10 09.5	+0.2
JKC	Kuchinoerabu	0.94	43	P	P	20 10 12.4	+0.4
JAM	Amami Oshima	1.37	174	P	P	20 10 16.4	+0.7
JAM				S	S	20 10 38.6	-1.1
JZK	Kikaishima	1.53	163	P	P	20 10 18.9	+1.7
JZK				S	S	20 10 44.2	+1.9
JTN	Tanegashima 3	1.58	56	P	P	20 10 17.6	-0.1
JTN				eS	S	20 10 41.5	-1.7
JTSR	Tashiro 2	1.87	42	P	P	20 10 21.0	+0.3
JTSR				S	S	20 10 46.7	-1.7
JSJ	Shimokoshiki	1.90	7	P	P	20 10 21.8	+0.8
JSJ				eS	S	20 10 48.9	-0.1
JSU	Suzuyama	1.92	26	P	P	20 10 22.0	+0.8
JTK	Tokunoshima	2.04	193	P	P	20 10 23.6	+1.2
JTK				eS	S	20 10 50.8	-0.7
JNAR	Kushima--Naru	2.34	42	P	P	20 10 26.9	+0.9
JNAR				S	S	20 10 56.3	-1.5
JTZ	Takazaki	2.54	33	P	P	20 10 28.8	+0.5
JTZ				eS	S	20 11 00.7	-1.2
JOW	Kunigami	3.12	200	P	P	20 10 35.0	-0.3
	14nm,0.3s,baz=54,slow=13,SNR=150						
JOW				S	S	20 11 12.6	-1.7
	21nm,0.3s,baz=149,slow=29,SNR=20						
JNU	Nakatsue	3.54	20	P	P	20 10 42.0	+1.3
	23nm,0.3s,baz=299,slow=4.8,SNR=80						
JNU				S	S	20 11 26.5	+2.6
	22nm,0.3s,baz=335,slow=3.1,SNR=12						
JAGN	Aguni-jima	3.73	212	P	P	20 10 42.2	-0.8
JKE	Kume jima 2	4.17	215	P	P	20 10 47.3	-1.3
KS15	Wonju Array Si	7.75	351	eP	P	20 11 37.0	+1.4
JHJ	Hachijo jima 2	9.43	67	P	P	20 12 04.3	+6.8
	35nm,0.3s,baz=57,slow=20,SNR=5.1						
MAJO	Matsushiro	9.96	45	ePn	P	20 12 16.0	+12
MAT	Matsushiro	9.96	45	P	P	20 12 16.5	+12
MAT				S	S	20 13 53.9	0.0
MAT	Matsushiro	9.96	45	eP	P	20 12 17.0	+13
MAT				eS	S	20 13 54.0	+0.1
CBIJ	Chichi jima	11.52	100	P	P	20 12 32.9	+8.1
	13nm,0.3s,baz=145,slow=17,SNR=6.3						
SNY	Shenyang	12.93	340	⇓P	P	20 12 45.1	+2.4
SNY				AMB	AMB		
	comp=Z,10.0nm,0.8s						
WHN	Wuhan	13.09	277	⇑P	P	20 12 44.5	-0.3
CN2	Changchun	14.35	348	eP	P	20 13 04.9	+4.3
CN2				AMB	AMB		
	comp=Z,10.0nm,1.1s						
BJT	Baijiatuau	14.92	317	eP	P	20 13 07.9	+0.1
	comp=Z,102nm,0.8s						
BJI	Beijing	14.93	317	P	P	20 13 08.8	+1.0
BJI				AMB	AMB		
	comp=Z,68nm,1.4s						
ENH	Enshi	17.30	277	eP	P	20 13 36.3	-0.3
	comp=Z,160nm,1.0s						
ASAJ	Asahikawa	17.72	33	P	P	20 13 39.0	-2.2
	comp=Z,1.3nm,0.3s,baz=242,slow=13,SNR=16						
ASAJ				S	S	20 16 47.8	-2.5
	comp=Z,0.3nm,0.3s,baz=1.0,slow=29,SNR=2.9						
XAN	Xi'an	17.94	289	P	P	20 13 42.3	-1.4
XAN				AMB	AMB		
	comp=Z,70nm,1.2s						
HHC	Hu-ho-hao-te	18.27	312	eP	P	20 13 46.4	-0.7
HHC				XP		20 14 46.6	
HHC				S	S	20 16 53.3	-8.4
HHC				SCP		20 21 26.4	
HHC				PCS		20 21 49.6	
HHC				SCS	ScS	20 25 07.5	-0.2
HHC				AMB	AMB		
	comp=Z,62nm,1.1s						
BTO	Baotou	19.16	310	P	P	20 13 55.1	-1.3
BTO				AMB	AMB		
	comp=Z,49nm,0.8s						
YSS	Yuzh-Sakhalins	20.02	27	eP	P	20 14 05.0	-0.2
	comp=Z,9.9nm,0.4s						
GYA	Guiyang	20.36	266	⇓iP	P	20 14 09.8	+1.1
GYA				AMB	AMB		
	comp=Z,30nm,0.7s						
QIZ	Qiongzhong	20.79	243	P	P	20 14 13.0	0.0
	comp=Z,13nm,1.2s						
CD2	Chengdu	22.19	279	eP	P	20 14 27.5	+0.8
CD2				AMB	AMB		
	comp=Z,70nm,0.9s,mb5.1						
LZH	Lanzhou	22.36	293	⇑P	P	20 14 28.6	+0.3
LZH				AMB	AMB		
	comp=Z,54nm,1.5s,mb4.8						
KMI	Kunming	24.13	265	eP	P	20 14 46.6	+1.2
KMI				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.2						
SONM	Songino Array	25.30	322	P	P	20 14 56.2	+0.1
	comp=Z,7.5nm,0.7s,mb4.3,baz=138,slow=9.7,SNR=70						
SONM				pP	pP	20 15 33.0	+1.2
	comp=Z,1.3nm,0.7s,baz=156,slow=12,SNR=1.1						
SONM				ScP		20 21 46.5	
	comp=Z,1.5nm,1.0s,baz=133,slow=1.6,SNR=8.2						
GTA	Gaotai	26.12	300	eP	P	20 15 03.8	+0.1
GTA				AP	pP	20 15 39.3	-0.5
GTA				PP	PP	20 15 54.6	+2.0
GTA				PCP	PcP	20 18 27.6	+0.9
GTA				SCP		20 21 48.8	
GTA				SCS	ScS	20 25 37.5	+0.7
GTA				AMB	AMB		
	comp=Z,17nm,0.7s,mb4.8						
CMAR	Chiang Mai Arr	29.95	255	P	P	20 15 37.6	-0.7
	comp=Z,0.5nm,0.5s,mb3.5,baz=49,slow=8.1,SNR=8.3						
CMAR				pP	pP	20 16 17.3	+1.9
	comp=Z,3.1nm,0.9s,baz=51,slow=7.1,SNR=9.5						
CMAR				PcP	PcP	20 18 37.0	+0.6
	comp=Z,1.3nm,0.6s,baz=10,slow=1.2,SNR=9.8						
LSA	Lhasa	33.16	280	P	P	20 16 04.5	-1.6
	comp=Z,2.9nm,0.8s,mb4.1						
WMQ	Urumqi	35.87	305	eP	P	20 16 28.6	-0.3
WMQ				AMB	AMB		
	comp=Z,5.0nm,1.2s,mb4.0						
PKI	Pulchoki	38.53	278	eP	P	20 16 51.5	+0.1
	comp=Z,25nm,0.7s,mb5.0						
KKN	Kakani	38.59	278	eP	P	20 16 52.3	+0.5
	comp=Z,31nm,0.7s,mb5.1						
DMN	Daman	38.78	278	eP	P	20 16 53.3	-0.1
	comp=Z,25nm,1.0s,mb4.8						
GKN	Gorkha	39.09	279	eP	P	20 16 55.0	-1.0
	comp=Z,14nm,0.4s,mb4.9						
KOLN	Koldanda	40.04	279	eP	P	20 17 03.3	-0.5
	comp=Z,7.4nm,0.4s,mb4.7						
MKAR	Makanchi Array	40.08	309	P	P	20 17 03.2	-0.7
	comp=Z,1.9nm,0.8s,mb3.8,baz=95,slow=10,SNR=14						
MKAR				pP	pP	20 17 43.7	+1.0
	comp=Z,1.7nm,0.7s,baz=97,slow=10,SNR=4.6						
MKAR				PcP	PcP	20 19 04.8	-0.7
	comp=Z,22nm,1.2s,baz=89,slow=3.4,SNR=15						
MKAR				ScP		20 22 37.0	
	comp=Z,2.5nm,0.8s,baz=90,slow=4.7,SNR=17						
MKAR	Makanchi Array	40.08	309	P	P	20 17 03.2	-0.7
MKAR				pP	pP	20 17 43.7	+1.0
MKAR				PcP	PcP	20 19 04.8	-0.7
MKAR				ScP		20 22 37.0	
FITZ	Fitzroy Crossi	47.74	185	eP	P	20 18 06.1	+0.6
	comp=Z,4.8nm,0.6s,mb4.3						
FITZ	Fitzroy Crossi	47.74	185	P	P	20 18 06.4	+0.9
	comp=Z,6.9nm,0.7s,mb4.4,baz=8.9,slow=6.6,SNR=30						
FITZ				pP	pP	20 18 46.0	+0.6
	comp=Z,1.9nm,0.8s,baz=256,slow=5.5,SNR=2.0						
ZRNK	Zerenda	49.24	316	eP	P	20 18 14.4	-2.1
	comp=Z,7.4nm,0.8s,mb4.4						
ZRNK				ePcP	PcP	20 19 35.6	-1.5
WRA	Warramunga Arr	49.66	174	P	P	20 18 20.5	+0.3
	comp=Z,5.8nm,0.7s,mb4.3,baz=353,slow=8.1,SNR=48						
WRA				pP	pP	20 19 02.0	+1.7
	comp=Z,1.6nm,1.0s,baz=355,slow=8.0,SNR=2.8						
WB2	Warramunga Arr	49.66	174	eP	P	20 18 20.3	+0.2
ASAR	Alice Springs	53.31	175	P	P	20 18 48.0	+0.6
	comp=Z,2.9nm,0.5s,mb4.2,baz=5.5,slow=14,SNR=54						
ASAR				pP	pP	20 19 29.9	+1.8
	comp=Z,1.0nm,0.8s,baz=349,slow=5.5,SNR=3.3						
ASAR				PcP	PcP	20 19 52.8	+0.3
	comp=Z,0.8nm,0.7s,baz=346,slow=2.5,SNR=2.8						
ILAR	Eielson Array	60.81	29	P	P	20 19 38.5	-1.1
	comp=Z,1.2nm,0.6s,mb3.9,baz=268,slow=5.5,SNR=15						
STKA	Stephens Creek	62.39	168	eP	P	20 19 50.8	+0.2
	comp=Z,1.6nm,0.6s,mb4.0						
STKA	Stephens Creek	62.39	168	P	P	20 19 51.3	+0.7
	comp=Z,1.8nm,0.6s,mb4.1,baz=283,slow=4.3,SNR=5.8						
INK	Inuvik	65.22	24	P	P	20 20 08.3	-0.1
	comp=Z,1.2nm,0.7s,mb3.8,baz=42,slow=2.1,SNR=3.1						
ARCES	ARCESS Array B	67.11	338	P	P	20 20 18.5	-1.9
	comp=Z,4.3nm,0.7s,mb4.4,baz=70,slow=7.4,SNR=17						
MIB	Mutribah	69.63	293	eP	P	20 20 36.5	-0.1
MIB				AMb	AMB	20 20 40.3	
	comp=Z,11nm,0.7s,mb4.7						
RDF	Al-Radifah	69.81	292	eP	P	20 20 37.2	-0.4
RDF				AMb	AMB	20 20 47.9	
	comp=Z,18nm,1.0s,mb4.7						
RST	Umm Al-Ruwaisa	70.03	293	eP	P	20 20 38.2	-0.7
RST				AMb	AMB	20 20 45.8	
	comp=Z,10nm,1.3s,mb4.4						
FINES	FINESS Array B	70.32	330	P	P	20 20 38.5	-1.6
	comp=Z,1.7nm,0.5s,mb4.0,baz=74,slow=6.6,SNR=24						
AKASG	Malin Array Be	73.55	319	P	P	20 20 58.6	-0.8
	comp=Z,0.8nm,0.4s,mb3.8,baz=51,slow=5.8,SNR=7.9						
BRTR	Keskin Array B	75.72	308	P	P	20 21 11.3	-0.7
	comp=Z,2.7nm,1.1s,mb3.8,baz=108,slow=3.9,SNR=10.0						
BRTR				pP	pP	20 21 56.5	+1.0
	comp=Z,1.8nm,1.0s,baz=117,slow=2.8,SNR=2.4						
NB2	NORSAR Subarra	76.61	334	P	P	20 21 15.0	-1.5
	comp=Z,2.5nm,0.6s,mb4.0,baz=51,slow=5.3						
NOA	NORSAR Array B	76.61	334	P	P	20 21 15.0	-1.5
	comp=Z,3.5nm,0.7s,mb4.1,baz=50,slow=5.5,SNR=14						
NOA	NORSAR Array B	76.61	334	P	P	20 21 15.0	-1.5
SUMG	Summit	77.58	356	eP	P	20 21 22.2	+0.6
	comp=Z,6.3nm,0.7s,mb4.3						
KWP	Kalwaria	77.73	320	eP	P	20 21 23.2	+0.3
	comp=Z,19nm,1.0s,mb4.7						
OJC	Ojcow	79.00	322	eP	P	20 21 30.1	+0.3
OKC	Ostrava-Krasne	80.09	322	eP	P	20 21 36.7	+1.1
PSZ	Piszkesteto	80.22	320	P	P	20 21 36.7	+0.4
	comp=Z,5.0nm,1.0s,mb4.1						
VYHS	Vyhne	80.48	321	eP	P	20 21 37.6	-0.1
DPC	Dobruska-Polom	80.75	323	eP	P	20 21 40.2	+1.1
BRG	Berggiesshubel	81.66	325	i P	P	20 21 43.8	0.0
	comp=Z,3.2nm,0.8s,mb4.0						
CLL	Collm	81.86	325	⇑P	P	20 21 44.8	-0.1
	comp=Z,logA/T=1.1,mb4.5						
CLL	Collm	81.86	325	⇑iP	P	20 21 44.8	-0.1
	comp=Z,9.0nm,0.8s,mb4.5						
PRU	Pruhonice	81.89	324	eP	P	20 21 45.5	+0.5
CLZ	Clausthal	82.80	327	eP	P	20 21 50.3	+0.6
	comp=Z,29nm,1.2s,mb4.9						
NKC	Novy Kostel	82.80	325	eP	P	20 21 50.5	+0.8
KHC	Kasperske Hory	82.91	323	eP	P	20 21 51.2	+0.9
MOX	Moxa	82.96	325	eP	P	20 21 50.0	-0.5
GEC2	GERESS Array S	83.02	323	eP	P	20 21 51.5	+0.6
	comp=Z,7.0nm,0.9s,mb4.4						
GERES	GERESS Array B	83.02	323	P	P	20 21 51.3	+0.4
	comp=Z,5.0nm,0.9s,mb4.2,baz=43,slow=4.4,SNR=22						
WET	Wettzell	83.26	324	eP	P	20 21 52.6	+0.5
MOA	Molln	83.34	322	⇓iP	P	20 21 53.3	+0.8
	comp=Z,8.7nm,1.1s,mb4.4						
GRA1	Grafenberg Arr	83.76	325	eP	P	20 21 55.3	+0.8
	comp=Z,21nm,1.0s,mb4.8						
FUR	Furstenfeldbru	84.71	324	eP	P	20 22 00.4	+1.1
	comp=Z,12nm,0.9s,mb4.6						
DAVA	Damuels	85.99	324	⇓iP	P	20 22 06.0	+0.3
	comp=Z,7.8nm,1.3s,mb4.3						
PDAR	Pinedale Array	89.73	39	P	P	20 22 24.8	+1.3
	comp=Z,0.2nm,0.6s,mb3.3,baz=208,slow=22,SNR=2.2						
PDAR				pP	pP	20 23 10.2	+1.9
	comp=Z,0.7nm,0.9s,baz=315,slow=2.1,SNR=4.0						
DBIC	Dimbokro	123.11	302	PKP	PKPdf	20 28 21.9	+1.5
	comp=Z,2.2nm,0.6s,baz=335,slow=5.8,SNR=5.5						

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*LDG **16** 20:11:15.9±0.3, 42.88N×1.50W, h3^{km}, Md2.2/1, Ml1.7/6, Error ellipse: s-maj=5.7km s-min=3.7km az=66.0*
*MDD **16** 20:11:16.8±0.5, 42.87N×1.41W, h8^{km}±5^{km}, mbLg1.5/6, Error ellipse: s-maj=3.9km s-min=3.3km az=36.0, PRXIMO AftershockPLICA*

ISC 16 20:11:14.3±0.7**, 42.82N**±0.03×**1.41W**±0.05**, h10**^{km}**, n14, σ1^{s}32**/23**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	Ste Jean	0.32	25	ePg	Pg	20 11 22.4	+1.5
SJPF				eSg	Sg	20 11 25.2	-0.2
	38nm,0.3s						
LARF	Larrau	0.38	55	P	Pg	20 11 23.9	+1.9
LARF				S	Sg	20 11 28.4	+1.2
EALK	Alkurruntz	0.40	350	Pg	Pg	20 11 23.5	+1.0
	3.7nm,0.2s,SNR=19						
EALK				Lg		20 11 28.6	
	8.6nm,0.2s,SNR=5.8						
OSSF	Osses	0.45	14	P	Pg	20 11 24.4	+1.0
OSSF				S	Sg	20 11 30.4	+0.9
EPF	Esparros	1.30	80	ePn	Pn	20 11 40.1	+1.5
EPF				ePg	Pg	20 11 41.2	+0.8
EPF				eSg	Sg	20 11 58.7	+0.9
	3.9nm,0.2s						
ESAC	San Caprasio	1.30	147	Pg	Pg	20 11 40.6	+0.2
	3.8nm,0.2s,SNR=7.9						
ESAC				Lg		20 11 58.8	
	17nm,0.3s,SNR=8.4						
ELAN	Lanestosa	1.54	286	Pg	Pg	20 11 44.4	-0.6
	1.3nm,0.3s,SNR=4.0						
ELAN				Lg		20 12 05.6	
	1.8nm,0.2s,SNR=4.0						
ETOR	Torete	2.06	194	Pg	Pg	20 11 55.7	+0.2
	0.8nm,0.3s,SNR=7.9						
ETOR				Lg		20 12 19.2	
	2.2nm,0.4s,SNR=4.7						
EMOS	Mosqueruela	2.56	164	Pg	Pg	20 12 04.4	-0.9
	0.2nm,0.1s,SNR=4.0						
EMOS				Lg		20 12 38.4	
	0.6nm,0.3s,SNR=4.0						
LFF	La Frestale	2.63	36	ePn	Pn	20 11 57.0	-0.5
LFF				eSg	Sg	20 12 38.2	-3.6
	1.4nm,0.3s						
MTLF	Montolieu	2.71	78	ePg	Pg	20 12 07.2	-1.2
MTLF				eSn	Sn	20 12 31.3	-0.6
	0.3nm,0.2s						
RJF	Les Rejaudoux	3.26	39	ePg	Pg	20 12 16.1	-3.2
RJF				eSn	Sn	20 12 42.9	-2.8
	0.6nm,0.3s						
CAF	Calviac	3.28	49	ePn	Pn	20 12 06.1	-0.7
CAF				eSn	Sn	20 12 44.1	-2.1
	0.2nm,0.2s						
MFF	Saint Martin d	3.88	13	eSn	Sn	20 12 57.5	-4.1
	0.3nm,0.2s						

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*TAP **16** 20:28:17.2, 24.77N×122.49E, h99^{km}, ML3.0*

JMA 16 20:28:12.1±0.2**, 24.81N×122.45E, h94**^{km}±3^{km}**, M2.0, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.62	124	P	P	20 28 28.3	-0.1
YOJ				S	S	20 28 40.4	-0.2
IRIF	Iriomote-Funau	1.26	112	P	P	20 28 35.0	-0.5
IRIF				S	S	20 28 52.5	-0.5
HATJ	Hateruma jima	1.45	121	P	P	20 28 37.7	-0.1
HATJ				eS	S	20 28 57.6	+0.8
JKRS	Kuro-shima	1.53	112	P	P	20 28 38.8	-0.1
JKRS				S	S	20 28 58.4	-0.3
JIJ	Ishigaki jima	1.60	106	P	P	20 28 39.3	-0.5
JIJ				S	S	20 28 59.5	-0.8
JTJ	Tarama	2.06	94	P	P	20 28 46.2	+0.5
JTJ				S	S	20 29 11.4	+0.9
JOGS	Gusukube	2.69	90	eS	S	20 29 26.6	+0.5

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*THE **16** 20:36:50.0, 38.66N×22.75E, h5^{km}, ML2.5*
*NEIC **16** 20:36:51.5, 38.73N×22.90E, h5^{km}, ML2.9(ATH), After ATH.*
*ATH **16** 20:36:51.5, 38.73N×22.90E, h5^{km}, ML2.9*

ISC 16 20:36:50.4±0.8**, 38.75N**±0.06×**22.85E**±0.06**, h3**^{km}±11^{km}**, n7, σ0^{s}60**/10**, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LKR	Lokris	0.16	130	ePG	Pg	20 36 53.2	-0.4
LKR				eSG	Sg	20 36 56.0	+0.3
AGG	Agios Georgios	0.48	304	ePg	Pg	20 36 59.3	-0.8
AGG				eSg	Sg	20 37 06.6	0.0
NEO	Neokhori	0.63	28	ePB	Pb	20 37 03.0	-0.7
NEO				eSB	Sb	20 37 12.8	+0.2
XOR	Xorichti	0.67	24	ePg	Pg	20 37 04.8	+1.0
EVR	Evrytania	0.83	282	ePB	Pb	20 37 08.1	+1.1
ATH	Athens Observa	1.04	138	ePB	Pb	20 37 10.4	-0.2
LIT	Litokhoron	1.38	349	ePb	Pb	20 37 16.0	-0.4

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*NEIC **16** 20:55:00.6, 38.12N×22.06E, h11^{km}, ML3.1(ATH), After ATH.*
*ATH **16** 20:55:00.6, 38.12N×22.06E, h11^{km}±3^{km}, MD3.4/13, ML3.1*
*THE **16** 20:55:03.6, 38.27N×21.96E, h19^{km}, ML3.5*

ISC 16 20:55:00.7±0.4**, 38.15N**±0.03×**22.08E**±0.04**, h11**^{km}**, n33, σ1^{s}12**/38**, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RLS	Riolos of Patr	0.49	259	ePB	Pb	20 55 10.3	-0.5
EVR	Evrytania	0.79	345	ePG	Pg	20 55 15.9	-0.7
EVR				eSB	Sb	20 55 28.8	+2.3
LKR	Lokris	0.88	55	ePG	Pg	20 55 17.1	-1.3
AGG	Agios Georgios	0.89	13	ePg	Pg	20 55 17.7	-1.0
AGG				eSg	Sg	20 55 30.6	0.0
MKIT	Kithairon Oros	0.93	88	ePN	Pn	20 55 19.1	-0.5
ITM	Ithomi	0.98	187	ePB	Pb	20 55 18.5	-0.6
NSAL	Nisos Salamina	1.12	102	ePB	Pb	20 55 22.0	+0.4
VLS	Valsamata	1.17	272	ePN	Pn	20 55 22.0	-1.0
NAIG	Nisos Aigina	1.18	109	ePB	Pb	20 55 23.9	+1.2
LKD	Levkas	1.25	297	ePg	Pg	20 55 23.8	-1.9
LKD				eSg	Sg	20 55 38.6	-3.8

ATH	Athens Observa	1.31	97	*e*PB	Pb	20 55 26.0	+1.2
MPAR	Parnis Oros	1.31	89	*e*PB	Pb	20 55 26.0	+1.2
PTL	Penteli	1.42	94	*e*PN	Pn	20 55 26.0	-0.5
NEO	Neokhori	1.46	38	*e*PN	Pn	20 55 27.2	0.0
XOR	Xorichti	1.50	35	*e*Pb	Pb	20 55 28.0	0.0
VLI	Veliai	1.59	154	*e*PG	Pg	20 55 29.1	-3.3
JAN	Janina	1.78	328	*e*PG	Pg	20 55 35.5	-0.8
IGT	Igoumenitsa	1.94	316	*e*Pb	Pb	20 55 36.5	+0.9
LIT	Litokhoron	1.97	9	*e*Pb	Pb	20 55 34.6	-1.6
LIT				*e*Sb	Sb	20 55 57.9	-2.9
KYTH	Kithira	2.02	157	*e*PG	Pg	20 55 37.5	-3.5
KZN	Kozani	2.17	354	*e*PN	Pn	20 55 39.2	+2.0
KEK	Kerkira	2.36	312	*e*PN	Pn	20 55 41.8	+1.8
PLG	Polygyros	2.46	25	*e*PN	Pn	20 55 41.3	-0.2
SOH	Sokhos	2.84	20	*e*Pn	Pn	20 55 47.3	+0.4
KNT	Kendrikon	3.07	12	*e*Pn	Pn	20 55 50.1	0.0
SRS	Serrai	3.19	21	*e*Pn	Pn	20 55 51.1	-0.6
VAM	Vamos	3.23	147	*e*PN	Pn	20 55 53.0	+0.7
NVR	Nevrokopi	3.48	23	*e*PN	Pn	20 55 56.1	+0.2
SLCN	Sala Consilina	5.48	296	*e*Pn	Pn	20 56 25.5	+1.2
MRLC	Muro Lucano	5.72	299	*e*Pn	Pn	20 56 28.3	+0.6
SGO	Sicignano	5.77	297	*e*Pn	Pn	20 56 29.2	+0.8
SGO				*e*Sn	Sn	20 57 40.9	+5.6
CSSN	Cassano Irpino	6.09	299	*e*Pn	Pn	20 56 33.7	+0.8
SGG	Gregorio Mates	6.75	301	*e*Pn	Pn	20 56 41.7	-0.6

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*ISK **16** 21:14:59.1,36.67N×27.07E,h5^{km},MD3.2*
*NEIC **16** 21:15:01.7,36.67N×27.19E,h14^{km},MD3.0(ATH),After ATH.*
*ATH **16** 21:15:01.7,36.67N×27.19E,h14^{km}±2^{km},MD3.0/5*
*THE **16** 21:15:25.8,36.42N×25.82E,h8^{km}*
ISC 16 21:15:02.3±0.5,**36.67N**±0.04×**27.22E**±0.04,**h5^{km},n20,σ1^{s}15**/27,**Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NISR	Nisiros	0.09	236	*e*PG	Pg	21 15 04.6	+0.2
BDRM	Kayabasi	0.44	24	*i* P	Pg	21 15 09.7	-1.4
BDRM				*i* S	Sg	21 15 15.8	-1.1
MLSB	Milas	0.77	35	*i* PG	Pg	21 15 16.1	-1.6
MLSB				*i* SG	Sg	21 15 29.3	+1.3
ARG	Arkhangelos	0.85	121	*e*PB	Pb	21 15 18.5	-0.7
YER	Yerkesik	0.97	61	*i* PN	Pn	21 15 21.1	-1.3
SMG	Samos	1.09	344	*e*PB	Pb	21 15 22.0	-1.2
KARP	Karpathos	1.12	183	*e*PB	Pb	21 15 23.2	-0.5
AYDN	Tasoluk	1.12	28	*i* P	Pb	21 15 22.5	-1.3
AYDN				*i* S	Sb	21 15 39.9	+1.3
DALT	Dalyan (Mudla)	1.14	84	PN	Pn	21 15 23.7	-1.1
DALT				SN	Sn	21 15 43.1	+2.1
APE	Apeiranthos	1.42	287	*e*PN	Pn	21 15 25.2	-3.6
APE	Apeiranthos	1.42	287	*e*PB	Pb	21 15 27.8	-1.1
THR1	Thera Island	1.45	259	*e*Pg	Pg	21 15 31.6	+0.3
THR4	Thira Island,	1.48	263	*e*Pg	Pg	21 15 33.0	+1.1
THR4				*e*Sg	Px	21 15 38.0	
THR3	Thira Island,	1.49	261	*e*Pg	Pg	21 15 32.3	+0.3
THR6	Thira Island,	1.50	259	*e*Pg	Pg	21 15 33.0	+0.7
THR6				*e*Sg	Px	21 15 38.2	
THR5	Thira Island,	1.53	261	*e*Pg	Pg	21 15 33.1	+0.2
KDAG	Bornova	1.73	1	*i* P	Pn	21 15 35.0	+1.6
KDAG				*i* S	Sn	21 15 56.9	+0.8
DNZL	Cakiroluk	1.78	54	*i* P	Pn	21 15 35.5	+1.6
DNZL				*i* S	Sn	21 16 03.0	+5.8
MANT	Manisa	2.11	30	*i* P	Pn	21 15 44.0	+5.3
MANT				*i* S	Sn	21 16 12.3	+6.7
ELL	Elmali	2.16	87	*e*PN	Pn	21 15 39.9	+0.5

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*NEIC **16** 21:18:49.9±0.7,22.81S×68.50W,h103^{km}±7^{km},mb4.3/2, Error ellipse: s-maj=15.2km s-min=11.6km az=82.0*
*IDC **16** 21:18:51.0±4.1,22.80S×68.42W,h111^{km}±32^{km},mb3.9/3, mb1 3.8/5,mb1mx3.6/14,Error ellipse: s-maj=41.2km s-min=32.8km az=60.0*
ISC 16 21:18:49.2±0.6,**22.81S**±0.10×**68.4W**±0.1,**h102**^{km}±9^{km},**n17,σ1^{s}17**/16,**mb4.1**/3,**2C-1D,Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	Limon Verde	0.50	292	*e*Pn	P	21 19 05.2	-0.2
LVC				*e*Sn	S	21 19 17.1	-0.3
LPAZ	La Paz	6.49	2	P	P	21 20 24.6	+1.0
	1.1nm,0.3s,baz=186,slow=3.2,SNR=2.9						
ARE	Arequipa	6.95	335	*e*P	P	21 20 39.0	+9.1
ARE				*e*S	S	21 21 40.0	-7.9
CPUP	Villa Florida	10.68	111	P	P	21 21 20.3	0.0
	0.1nm,0.3s,baz=309,slow=15,SNR=6.3						
CPUP	Villa Florida	10.68	111	P	P	21 21 20.3	0.0
TRQA	Tornquist	16.17	161	*e*P	P	21 22 32.3	+0.7
	19nm,0.7s						
BDFB	Brasilia	20.52	73	P	P	21 23 21.2	-0.1
	4.2nm,0.4s,baz=259,slow=11,SNR=6.1						
VNA3	Neumayer Olymp	58.70	161	⇑*i*	P	21 28 39.9	+1.9
VNA1	Neumayer--Stat	58.91	160	⇓*i*	P	21 28 37.5	-1.9
VNA2	Neumayer--Watz	59.27	160	⇑*i*	P	21 28 44.0	+2.1
SNAA	Sanae	60.90	161		P	21 28 51.0	-2.1
QSPA	South Pole Qui	67.39	180	*e*P	P	21 29 35.1	0.0
	1.4nm,0.5s,mb4.0						
QSPA				*e*	pP	21 30 02.7	+1.8
QSPA				*e*		21 30 13.9	
DBIC	Dimbokro	68.67	73	P	P	21 29 42.8	-1.2
	6.6nm,0.9s,mb4.5,baz=206,slow=8.4,SNR=10						
MAW	Mawson	82.95	163	P	P	21 31 03.8	+0.1
	0.7nm,0.5s,mb3.8,baz=215,slow=11,SNR=4.0						
WRA	Warramunga Arr	132.06	209	PKP	PKPdf	21 37 51.4	-0.3
	0.6nm,1.1s,baz=156,slow=1.9,SNR=5.4						
MKAR	Makanchi Array	146.40	37	PKPbc	PKPbc	21 38 18.2	+0.3
	2.8nm,1.1s,baz=329,slow=3.0,SNR=9.9						
MKAR				pPKPbc		21 38 48.3	
	1.0nm,0.7s,baz=323,slow=2.5,SNR=5.1						
MKAR	Makanchi Array	146.40	37	PKPbc	PKPbc	21 38 18.2	+0.3
MKAR				pPKPbc		21 38 48.3	

MAN 16 21:37:15.0,13.58N×120.75E,h111^{km},mb4.0,ML2.8, MS2.5,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LUBP	Lubang	0.51	287	*e*P	P	21 37 33.9	+1.7
LUBP				*e*S	S	21 37 47.5	+2.4
SJMP	San Jose	1.17	162	*e*P	P	21 37 39.0	+0.5
SJMP				*e*S	S	21 37 57.3	+1.1
BUSP	Coron	1.66	199	*e*P	P	21 37 44.3	0.0
BUSP				*e*S	S	21 38 06.2	0.0
OTRP	Odiongan	1.74	134	*e*P	P	21 37 45.2	0.0
ENPP	El Nido	2.69	209	*e*P	P	21 37 57.8	-0.1
ENPP				*e*S	S	21 38 36.2	+6.0
BOLP	Bolinao	2.90	344	*e*P	P	21 38 01.0	+0.4

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*SYO **16** 21:43:11.6,8.47S×122.50E,h96^{km},MB4.4*
*IDC **16** 21:43:12.6±4.0,8.47S×122.56E,h101^{km}±39^{km},mb4.0/7, mb1 4.2/10,mb1mx4.0/16,Error ellipse: s-maj=36.5km s-min=15.6km az=62.0*
*BJI **16** 21:43:15.4,8.50S×122.60E,h134^{km},mB5.0,mb4.4*
*NEIC **16** 21:43:15.4±1.0,8.52S×122.60E,h134^{km}±10^{km},mb4.5/18, Error ellipse: s-maj=13.5km s-min=6.2km az=222.0*
*DJA **16** 21:43:16.5±0.9,9.14S×122.30E,h240^{km},ML5.5/3,Error ellipse: s-maj=156.9km s-min=19.3km az=4.0*
ISC 16 21:43:11.1±1.2,**8.47S**±0.06×**122.58E**±0.05,**h107**^{km}±12^{km},**n44,σ1^{s}23**/55,**mb4.4**/22,**3C-10D,Flores region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KEDI	Kedomdong	6.40	269	⇓*i*Pn	P	21 44 49.0	+4.7
KEDI				⇓*i*Sn	S	21 45 57.9	+1.4
RATI	Rata	6.98	267	⇑*e*Pn	P	21 44 56.5	+4.3
	180nm,0.1s						
RATI				⇓*e*Sn	S	21 46 08.5	-2.1
INGI	Ingas	7.36	267	⇑*e*Pn	P	21 45 01.0	+3.5
INGI				*e*Sn	S	21 46 17.2	-2.8
KELI	Kelakatan	8.01	271	⇓*e*Pn	P	21 45 10.2	+3.9
	30nm,0.1s						
KELI				⇓*e*Sn	S	21 46 33.6	-2.2
FITZ	Fitzroy Crossi	10.03	163	*e*P	P	21 45 33.7	+0.2
	6.9nm,0.5s						
FITZ				*e*S	S	21 47 18.1	-6.6
FITZ	Fitzroy Crossi	10.03	163	P	P	21 45 33.8	+0.3
	1.6nm,0.3s,baz=2.4,slow=8.1,SNR=34						
FITZ				S	S	21 47 17.9	-6.7
	5.8nm,0.3s,baz=190,slow=8.7,SNR=18						
KAKA	Kakadu	10.53	114	*e*P	P	21 45 44.0	+3.8
	30nm,0.5s						
KAKA				*e*S	S	21 47 35.7	-0.9
MBWA	Marble Bar	12.92	192	*e*P	P	21 46 12.2	+0.4
MBWA				*e*S	S	21 48 22.4	-11
WRA	Warramunga Arr	16.11	136	P	P	21 46 51.8	-0.9
	2.9nm,0.3s,baz=311,slow=12,SNR=82						
WRA				S	S	21 49 35.2	-12
	0.6nm,0.3s,baz=309,slow=24,SNR=4.9						
WRAB	Tennant Creek	16.11	136	*e*P	P	21 46 52.4	-0.3
	36nm,0.6s						
WRAB				*e*S	S	21 49 34.0	-14
WB2	Warramunga Arr	16.12	136	*e*P	P	21 46 52.6	-0.2
WB2				*e*S	S	21 49 40.9	-6.9
ASPA	Alice Springs	18.60	146	⇓*i*P	P	21 47 23.0	+0.4
ASPA				*e*S	S	21 50 41.3	-1.8
ASAR	Alice Springs	18.60	146	P	P	21 47 23.1	+0.4
	2.3nm,0.3s,baz=328,slow=11,SNR=112						
ASAR				S	S	21 50 38.9	-4.2
	0.6nm,0.3s,baz=318,slow=23,SNR=21						
FORT	Forrest	22.78	168	*e*P	P	21 48 06.2	+1.0
	88nm,0.8s,mb5.1						
FORT				*e*S	S	21 52 23.2	+21
KLBR	Kellerberrin	23.45	190	*e*P	P	21 48 12.1	+0.5
	58nm,1.8s,mb4.6						
KLBR				*e*S	S	21 52 32.8	+19
MUN	Mundaring	24.14	193	⇓*i*P	P	21 48 18.7	+0.5
	5.6nm,0.6s,mb4.1						
MUN				*e*S	S	21 52 49.5	+24
NWAO	Narrogin (SRO)	24.84	191	P	P	21 48 24.8	-0.3
	4.4nm,0.5s,mb4.2,baz=35,slow=3.8,SNR=12						
NWAO	Narrogin (SRO)	24.84	191	P	P	21 48 23.2	-1.8
	18nm,1.1s,mb4.4						
NWAO				*e*S	S	21 53 05.5	+28
CTA	Charters Tower	25.64	119	P	P	21 48 33.4	+0.7
	3.4nm,0.7s,mb3.9,baz=288,slow=11,SNR=4.1						
CTAO	Charters Tower	25.64	119	P	P	21 48 33.4	+0.8
	8.0nm,0.9s,mb4.2						
STKA	Stephens Creek	29.24	145	⇓*i*P	P	21 49 05.4	+0.2
	9.3nm,0.8s,mb4.5						
STKA	Stephens Creek	29.24	145	P	P	21 49 05.4	+0.2
	10nm,0.6s,mb4.6,baz=315,slow=9.1,SNR=32						
CMAR	Chiang Mai Arr	35.49	319	P	P	21 50 01.6	+2.1
	0.7nm,0.7s,mb3.6,baz=145,slow=7.8,SNR=7.8						
KMI	Kunming	38.58	330	*e*P	P	21 50 28.1	+2.8
KMI				AMB	AMB		
	comp=Z,3.0nm,0.9s,mb4.1						
XAN	Xi'an	44.21	344	P	P	21 51 12.3	+0.9
XAN				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.4						
BJT	Baijiatuau	48.60	353	P	P	21 51 46.3	+0.4
	comp=Z,5.7nm,0.6s,mb4.7						
PKI	Pulchoki	50.77	316	*e*P	P	21 52 01.6	-1.0
	comp=Z,5.9nm,0.5s,mb4.9						
KKN	Kakani	51.00	316	*e*P	P	21 52 03.4	-1.0
DMN	Daman	51.00	316	*e*P	P	21 52 03.3	-1.1
	comp=Z,55nm,1.8s,mb5.3						
GKN	Gorkha	51.57	316	*e*P	P	21 52 07.0	-1.7
	comp=Z,15nm,0.9s,mb5.0						
KOLN	Koldanda	52.15	315	*e*P	P	21 52 12.5	-0.5
	comp=Z,13nm,1.1s,mb4.9						
SONM	Songino Array	57.86	347	P	P	21 52 53.8	-0.2
	comp=Z,0.9nm,0.5s,mb4.0,baz=164,slow=8.7,SNR=12						
WMQ	Urumqi	60.89	332	*e*P	P	21 53 15.8	+0.9
WMQ				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.5						
MKAR	Makanchi Array	65.66	331	P	P	21 53 45.0	-1.2
	comp=Z,4.7nm,0.5s,mb4.6,baz=139,slow=7.5,SNR=99						
MKAR				PcP	PcP	21 54 18.1	+1.6
	comp=Z,1.0nm,0.7s,baz=121,slow=5.7,SNR=2.7						
MAW	Mawson	70.96	200	P	P	21 54 09.3	-9.2
SBA	Scott Base	72.95	171	P	P	21 54 31.3	+1.1
	comp=Z,2.5nm,1.0s,mb4.0						
BVAR	Borovoye Array	75.54	330	P	P	21 54 44.7	-0.8
	comp=Z,2.0nm,0.9s,mb3.9,baz=135,slow=8.4,SNR=6.4						
ZRNK	Zerenda	76.17	330	*e*P	P	21 54 47.6	-1.4
	comp=Z,3.1nm,0.6s,mb4.2						
SYO	Syowa Base	79.64	201	⇓P	P	21 55 08.5	+0.7
SYO	Syowa Base	79.64	201	⇓pP	pP	21 55 33.8	-1.7
SYO	Syowa Base	79.64	201	⇑sP	sP	21 55 44.3	-3.1
QSPA	South Pole Qui	81.52	180	*e*P	P	21 55 18.6	+1.0
	comp=Z,2.1nm,0.8s,mb4.0						
SNAA	Sanae	92.45	195	*e*P	P	21 56 11.7	+1.0
	comp=Z,1.1nm,0.6s,mb4.3						
CPUP	Villa Florida	145.41	180	PKPbc	PKPbc	22 02 39.4	+1.6
	comp=Z,4.5nm,0.8s,baz=185,slow=4.5,SNR=9.0						

MAN 16 21:49:49.7,9.94N×126.08E,h8^{km},mb4.5,ML3.3,MS3.2, 1C,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCPH	Surigao	0.60	255	*i* P	Pg	21 50 01.7	-0.1
SCPH				*i* S	Sg	21 50 09.2	-0.7
BUTP	Butuan	1.07	205	*e*P	Pb	21 50 09.9	-0.1
BUTP				*e*S	Sb	21 50 25.8	+1.9
MSLP	Maasin	1.22	279	*e*P	Pb	21 50 12.2	-0.3
MSLP				*e*S	Sb	21 50 30.2	+1.9
BESP	Borongan	1.77	339	*e*P	Pn	21 50 20.2	-0.6
BESP				*e*S	Sn	21 50 43.8	+0.1
OCLP	Ormoc	1.82	307	*e*P	Pn	21 50 21.7	+0.1
CGP	Cagayan de Oro	2.01	223	⇑*e*P	Pn	21 50 23.8	-0.6
CGP				*e*S	Sn	21 50 49.1	-0.9
LLP	Lapu-Lapu	2.12	280	*e*P	Pn	21 50 24.0	-1.9
TBP	Tagbilaran	2.20	264	*e*P	Pn	21 50 26.2	-0.8
TBP				*e*S	Sn	21 50 52.8	-1.9
BUKP	Musuan	2.28	206	*e*P	Pn	21 50 28.6	+0.3
BUKP				*e*S	Sn	21 50 58.1	+1.3
CNP	Catarman	2.91	332	*e*P	Pn	21 50 35.0	-2.2
CNP				*e*S	Sn	21 51 09.9	-2.8
PAGZ	Pagadian	3.38	232	*e*P	Pn	21 50 43.8	-0.1
GUIM	Jordan	3.50	282	*e*P	Pn	21 50 45.1	-0.5
GUIM				*e*S	Sn	21 51 19.2	-8.6

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*NEIC **16** 21:56:42.7,38.11S×178.55E,h49^{km},ML3.8(WEL),After WEL.*
WEL 16 21:56:42.6±0.2,**38.12S×178.57E,h49**^{km}±1^{km},**ML3.8**/6,**4C-4D,Error ellipse: s-maj=2.1km s-min=1.0km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PUZ	Puketiti	0.25	281	⇓PN	P	21 56 51.1	-0.2
PUZ				SN	S	21 56 57.2	-0.2
PUZ	Puketiti	0.25	281	⇓P	P	21 56 51.1	-0.2
PUZ				S	S	21 56 57.2	-0.2
MXZ	Matakaoa Point	0.59	339	PN	P	21 56 54.7	-0.3
MXZ				SN	S	21 57 04.4	+0.4
MXZ	Matakaoa Point	0.59	339	P	P	21 56 54.7	-0.3
MWZ	Matawai	0.85	255	PN	P	21 56 57.9	-0.5
MWZ				SN	S	21 57 09.3	-0.8
MWZ	Matawai	0.85	255	⇑P	P	21 56 57.9	-0.5
MWZ				S	S	21 57 09.3	-0.8
KNZ	Kokohu	1.14	218	PN	P	21 57 02.0	-0.5
KNZ				SN	S	21 57 17.2	-0.1
KNZ	Kokohu	1.14	218	P	P	21 57 02.0	-0.5
URZ	Urewera	1.16	263	⇑PN	P	21 57 02.5	-0.2
URZ				SN	S	21 57 17.0	-0.7
URZ	Urewera	1.16	263	⇑P	P	21 57 02.5	-0.2
EDRZ	Edgecumbe	1.45	270	PN	P	21 57 05.7	-1.2
EDRZ	Edgecumbe	1.45	270	P	P	21 57 05.9	-1.0
MARZ	Manawahe	1.50	275	PN	P	21 57 06.5	-1.2
MARZ	Manawahe	1.50	275	P	P	21 57 06.5	-1.2
TAZ	Tarawera	1.63	265	⇓PN	P	21 57 08.8	-0.7
TAZ	Tarawera	1.63	265	P	P	21 57 08.8	-0.7
PATZ	Paeroa	1.84	261	PN	P	21 57 11.4	-1.0
PATZ	Paeroa	1.84	261	P	P	21 57 11.4	-1.0
BKZ	Black Stump Fm	1.93	237	⇑PN	P	21 57 13.0	-0.7
BKZ				SN	S	21 57 35.7	-1.1
BKZ	Black Stump Fm	1.93	237	⇓P	P	21 57 13.0	-0.7
BKZ				S	S	21 57 36.1	-0.7
PWZ	Pawanui	2.32	214	PN	P	21 57 16.7	-2.5
PWZ				SN	S	21 57 44.9	-1.8
PWZ	Pawanui	2.32	214	*e*P	P	21 57 16.7	-2.6
PWZ				S	S	21 57 44.9	-1.8
MOVZ	Moawhango	2.55	239	PN	P	21 57 20.7	-1.8
MOVZ				SN	S	21 57 49.4	-3.1
TSZ	Takapari Road	2.81	226	PN	P	21 57 23.6	-2.6
TSZ				SN	S	21 57 55.6	-3.4
BFZ	Birch Farm	3.13	214	PN	P	21 57 27.3	-3.4
BFZ	Birch Farm	3.13	214	*e*P	P	21 57 27.3	-3.4
MRZ	Mangatainoka R	3.44	221	SN	S	21 58 09.8	-5.2
KIW	Kapiti Island	3.94	225	SN	S	21 58 22.0	-5.6
TUWZ	Tuamarina	4.86	226	SN	S	21 58 44.4	-6.4
NNZ	Nelson	5.06	231	SN	S	21 58 48.0	-7.8
KHZ	Kahutara	5.76	220	SN	S	21 59 02.8	-11
MQZ	McQueen's Vall	7.16	217	SN	S	21 59 33.8	-14
WVZ	Waitaha Valley	7.75	228	SN	S	21 59 48.4	-14

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*NEIC **16** 22:04:41.3,31.21S×68.95W,h166^{km},mb4.2/1,After GUC.*
GUC 16 22:04:41.3±0.7,**31.21S×68.95W,h166^{km},ML3.6,2C-3D, San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MDZ	Mendoza	1.67	177	*e*P	P	22 05 08.0	-6.2
MDZ				S	S	22 05 11.1	-28
CMCH	Combarbala	1.76	271	⇓*i*P	P	22 05 15.7	+0.6
CMCH				*i* S	S	22 05 41.4	+0.2
CMCH				AMP		22 05 42.9	
	comp=N,779nm,0.3s						
TLL	Tololo Astrono	1.91	303	*e*P	P	22 05 17.6	+0.9
TLL				*i* S	S	22 05 44.7	+0.6
TLL				AMP		22 05 50.3	
	comp=N,269nm,0.6s						
JACH	Jahuel	2.03	223	*e*P	P	22 05 18.8	+0.8
JACH				*i* S	S	22 05 46.9	+0.5
LSCH	La Serena	2.37	303	*i* S	S	22 05 52.9	-0.7
LSCH				AMP		22 05 56.6	
	comp=E,164nm,0.3s						
FCH	Farellones	2.40	208	⇑*i*P	P	22 05 23.1	+0.6
FCH				*i* S	S	22 05 55.0	+0.9
FCH				AMP		22 05 59.1	
	comp=E,93nm,0.2s						
CLCH	Cerro Calan	2.56	211	*e*P	P	22 05 27.6	+3.1
CLCH				*i* S	S	22 05 57.9	+0.2
CLCH				AMP		22 05 59.3	
	comp=E,234nm,0.5s						
RCDM	Rinconada Maip	2.76	214	*e*P	P	22 05 26.8	-0.1
RCDM				*i* S	S	22 06 01.6	-0.5
RCDM				AMP		22 06 03.6	
	comp=E,191nm,0.2s						
CHCH	Chadas Angostu	3.07	207	⇑*i*P	P	22 05 31.0	+0.1
CHCH				*i* S	S	22 06 08.9	0.0
CACH	El Canelo	3.21	205	⇓*i*P	P	22 05 33.5	+0.8
CICH	Cipreses	3.34	201	⇓*i*P	P	22 05 34.5	+0.2
LVC	Limon Verde	8.56	0	*e*Pn	P	22 06 40.9	-2.1
	comp=E,2.7nm,0.3s						
TRQA	Tornquist	8.92	142	*e*Pn	P	22 06 43.7	-4.0
TRQA				*e*Sn	S	22 08 17.4	-9.0

IDC 16 23:30:18.2±1.8,**18.78N×145.49E,mb3.9**/4,**mb1 4.2**/4,**mb1mx3.7**/18,**Error ellipse: s-maj=162.0km s-min=24.1km az=114.0,Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WB2	Warramunga Arr	40.00	196	*e*P	P	23 37 55.2	-1.4
WRA	Warramunga Arr	40.00	196	P	P	23 37 54.6	-2.0
	1.1nm,0.7s,baz=17,slow=8.8,SNR=9.9						
ASAR	Alice Springs	43.67	195	P	P	23 38 25.3	-1.4
	1.0nm,1.1s,baz=12,slow=7.9,SNR=4.2						
ILAR	Eielson Array	63.66	26	P	P	23 40 51.6	-1.6
	2.0nm,1.1s,baz=255,slow=5.4,SNR=6.5						
NVAR	Mina Array Bea	83.25	52	P	P	23 42 46.5	-1.6
	1.2nm,0.9s,baz=253,slow=3.2,SNR=6.4						

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*BGR **16** 23:37:52.8,49.01N×7.81E,h10^{km},ML1.5/2*
*STR **16** 23:37:53.3±1.0,48.98N×7.85E,h5^{km}±1^{km},Ml1.7,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG 16 23:37:52.8±0.1,**48.95N×7.83E,h10^{km},Md2.1**/1,**Ml2.1**/6,**Error ellipse: s-maj=2.1km s-min=1.7km az=124.0, France**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LANF	Langenberg	0.04	330	*e*Pg	Pg	23 37 54.8	+0.1
	SNR=8.1						
LANF	Langenberg	0.04	330	Pg	Pg	23 37 54.9	+0.2
LANF				Sg	Sg	23 37 55.7	-0.3
WLS	Welschbruch	0.62	211	Pg	Pg	23 38 06.1	+0.7
WLS				Sg	Sg	23 38 15.6	+1.8
CDF	Champ du Feu	0.65	215	*e*Pg	Pg	23 38 05.1	-0.8
CDF				*e*Pn	Pn	23 38 06.6	-1.2
CDF				*e*Sg	Sg	23 38 13.7	-1.0
CDF				*e*Sn	Sn	23 38 16.3	-1.8
	11nm,0.3s						
BFO	Black Forest	0.70	152	*e*Pg	Pg	23 38 06.8	-0.1
	SNR=2.2						
BFO				*e*Sg	Sg	23 38 17.1	+0.8
	SNR=3.4						
ECH	Echery	0.86	212	*e*Sg	Sg	23 38 21.8	+0.2
	SNR=8.7						
ECH	Echery	0.86	212	Pg	Pg	23 38 09.7	-0.4
ECH				Sg	Sg	23 38 22.0	+0.4
STU	Stuttgart	0.92	101	*e*Sg	Sg	23 38 23.2	-0.2
	SNR=3.4						
HINF	Hinteralfeld	1.31	210	*e*Pg	Pg	23 38 17.2	-1.8
HINF				*e*Sn	Sn	23 38 32.1	-2.7
HINF				*e*Sg	Sg	23 38 34.6	-1.9
	5.7nm,0.3s						
HAU	Haudompre	1.37	227	*e*Pn	Pn	23 38 16.8	-1.2
HAU				*e*Pg	Pg	23 38 18.3	-1.8
HAU				*e*Sg	Sg	23 38 36.2	-2.2
	3.1nm,0.2s						
RFYF	Reffroy	1.59	259	*e*Pg	Pg	23 38 22.4	-2.2
RFYF				*e*Sn	Sn	23 38 38.7	-3.3
RFYF				*e*Sg	Sg	23 38 43.0	-2.9
	2.5nm,0.2s						
MEZF	Maizieres J'vi	1.90	257	*e*Sg	Sg	23 38 52.6	-3.4
	0.9nm,0.2s						
SFTF	Sexfontaines	2.00	249	*e*Pg	Pg	23 38 30.0	-2.8
SFTF				*e*Sg	Sg	23 38 56.2	-3.2
	1.2nm,0.2s						

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*IDC **16** 23:50:01.3±3.5,47.04N×154.04E,mb3.8/5,mb1 4.0/5, mb1mx3.6/21,Error ellipse: s-maj=107.0km s-min=40.6km az=9.0*
ISC 16 23:50:05.6±3.4,**47.3N**±0.7×**154.0E**±0.4,**h33^{km},n5,σ1^{s}12**/5,**mb3.8**/5,**Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	Makanchi Array	47.24	297	P	P	23 58 36.1	-0.9
	0.5nm,0.8s,mb3.5,baz=51,slow=7.8,SNR=4.0						
ARCES	ARCESS Array B	57.57	341	P	P	23 59 53.5	-0.3
	3.6nm,0.9s,mb4.4,baz=20,slow=11,SNR=2.2						
FINES	FINESS Array B	63.84	335	P	P	00 00 36.2	0.0
	1.4nm,0.6s,mb4.2,baz=37,slow=9.5,SNR=7.3						
TXAR	Lajitas Array	76.73	61	P	P	00 01 54.8	-0.3
	0.2nm,0.6s,mb3.2,baz=288,slow=5.7,SNR=3.6						
BRTR	Keskin Array B	78.43	317	P	P	00 02 05.8	+1.5
	0.5nm,0.8s,mb3.5,baz=18,slow=4.6,SNR=3.7						

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*IDC **16** 23:55:07.3±0.8,23.72S×176.20W,mb4.5/10,mb1 4.7/12, mb1mx4.6/18,ML4.5/2,MS4.0/12,Ms1 4.0/12, ms1mx3.8/22,Error ellipse: s-maj=36.3km s-min=15.4km az=153.0*
*BJI **16** 23:55:10.1,23.80S×176.10W,h35^{km},mb5.3,Ms5.8, Msz5.3*
*NEIC **16** 23:55:13.1±0.4,23.75S×176.11W,h35^{km},mb4.8/11, Error ellipse: s-maj=13.6km s-min=12.1km az=138.0*
ISC 16 23:55:07.8±3.7,**23.81S**±0.10×**176.18W**±0.10,**h8**^{km}±22^{km},**n53,σ1^{s}18**/38,**mb4.7**/18,**MS4.0**/11,**1C-3D,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	Nonsavu	8.10	317	Pn	P	23 57 17.0	+8.3
	622nm,0.9s,SNR=7.2						
RAR	Rarotonga	15.38	84	Pn	P	23 58 35.4	-12
	3.4nm,0.3s,baz=251,slow=6.9,SNR=25						
RAR				Sn	S	00 01 06.1	-32
	1.0nm,0.3s,baz=86,slow=21,SNR=3.4						
RAR				LR	LR	00 03 50.3	
	comp=Z,329nm,19.3s,baz=282,slow=34						
RAR				T		00 14 40.2	
	11nm,0.3s,baz=222,slow=8.2,SNR=4.5						
RAR	Rarotonga	15.38	84	*e*P	P	23 58 35.3	-12

URZ	Urewera	15.51	200	Pn	P	23 58 48.5	-0.1
	0.9nm,0.3s,baz=18,slow=19,SNR=2.8						
URZ				Sn	S	00 01 26.4	-15
	0.8nm,0.3s,baz=140,slow=21,SNR=4.1						
TBI	Tubuai	24.48	94	*e*L		00 04 44.8	
TBI				*e*R		00 05 54.8	
	538nm,29.8s,baz=258						
PPT	Papeete	25.62	81	*e*L		00 05 19.5	
PPT				*e*R		00 06 24.1	
	683nm,28.5s,baz=258						
CTA	Charters Tower	34.98	269	*e*P	P	00 02 04.2	+1.4
	9.2nm,0.9s,mb4.7						
CTA	Charters Tower	34.98	269	P	P	00 02 02.5	-0.3
	6.4nm,0.4s,mb5.0,baz=87,slow=11,SNR=20						
CTA				LR	LR	00 14 04.7	
	comp=Z,150nm,21.7s,MS3.7,baz=50,slow=32						
CTAO	Charters Tower	34.98	269	*e*P	P	00 02 03.9	+1.1
	18nm,0.8s,mb5.0						
STKA	Stephens Creek	38.01	248	P	P	00 02 27.7	-0.6
	1.8nm,0.5s,mb4.1,baz=84,slow=9.7,SNR=7.8						
STKA				LR	LR	00 16 05.6	
	comp=Z,442nm,19.7s,MS4.3,baz=292,slow=33						
STKA	Stephens Creek	38.01	248	*e*P	P	00 02 28.7	+0.4
ASAR	Alice Springs	45.50	260	P	P	00 03 28.9	-0.9
	5.0nm,0.9s,mb4.4,baz=93,slow=8.2,SNR=23						
ASAR				S	S	00 10 10.7	-0.4
	0.7nm,1.1s,baz=96,slow=17,SNR=2.5						
ASAR				LR	LR	00 22 40.9	
	comp=Z,178nm,18.3s,MS4.0,baz=88,slow=36						
ASPA	Alice Springs	45.50	260	*e*P	P	00 03 31.3	+1.5
WB2	Warramunga Arr	45.89	265	*e*P	P	00 03 32.8	-0.1
WRAB	Tennant Creek	45.90	265	*e*P	P	00 03 31.3	-1.6
	12nm,0.8s,mb4.9						
WRA	Warramunga Arr	45.91	265	P	P	00 03 32.2	-0.8
	3.4nm,0.5s,mb4.5,baz=95,slow=8.3,SNR=56						
WRA				LR	LR	00 21 36.3	
	comp=Z,211nm,19.5s,MS4.1,baz=95,slow=35						
GUMO	Guam	53.21	310	P	P	00 04 32.2	+2.9
	100nm,1.1s,mb5.7						
FITZ	Fitzroy Crossi	54.33	264	*e*P	P	00 04 37.4	+0.1
	4.5nm,0.9s,mb4.4						
FITZ	Fitzroy Crossi	54.33	264	P	P	00 04 35.8	-1.6
	2.9nm,0.8s,mb4.2,baz=137,slow=2.7,SNR=6.1						
FITZ				LR	LR	00 27 50.8	
	comp=Z,90nm,19.2s,MS3.9,baz=202,slow=36						
SBA	Scott Base	54.71	184	*e*P	P	00 04 40.2	+0.8
	8.3nm,1.0s,mb4.7						
NWAO	Narrogin (SRO)	58.45	245	LR	LR	00 29 38.8	
	comp=Z,155nm,18.2s,MS4.2,baz=82,slow=35						
MBWA	Marble Bar	58.83	259	P	P	00 05 08.4	-1.1
CASY	Casey	61.73	206	*e*P	P	00 05 27.8	-1.0
	6.1nm,0.8s,mb4.8						
CBIJ	Chichi jima	64.64	319	LR	LR	00 29 59.3	
	comp=Z,176nm,20.9s,MS4.2,baz=353,slow=32						
QSPA	South Pole Qui	66.28	180	*e*P	P	00 05 57.6	-0.6
	8.6nm,0.7s,mb4.9						
MAW	Mawson	79.04	200	P	P	00 07 12.7	-0.9
	6.2nm,1.0s,mb4.5,baz=143,slow=5.0,SNR=8.4						
MAW	Mawson	79.04	200	*e*P	P	00 07 13.5	-0.1
	9.1nm,1.0s,mb4.7						
YSS	Yuzh-Sakhalins	79.59	333	*e*P	P	00 07 11.1	-5.9
NVAR	Mina Array Bea	82.29	42	P	P	00 07 30.9	-0.5
	4.8nm,1.3s,mb4.3,baz=219,slow=6.5,SNR=5.9						
NVAR				LR	LR	00 38 16.0	
	comp=Z,66nm,18.5s,MS4.0,baz=25,slow=32						
SNAA	Sanae	84.67	178	⇓*i*P	P	00 07 41.7	-1.1
SNAA				*e*P		00 07 41.9	
SNAA				*e*		00 07 51.5	
SNAA				*e*		00 07 52.9	
VNA3	Neumayer Olymp	84.74	176	⇓*i*P	P	00 07 44.1	+0.9
VNA3				*e*		00 07 55.1	
VNA2	Neumayer--Watz	85.20	176	⇑*i*P	P	00 07 47.2	+1.7
VNA2				*e*		00 07 58.3	
VNA1	Neumayer--Stat	85.42	176	⇓*i*P	P	00 07 48.1	+1.5
VNA1				*e*		00 07 59.1	
TXAR	Lajitas Array	87.43	56	P	P	00 07 56.7	-0.8
	2.3nm,1.1s,mb4.3,baz=211,slow=7.3,SNR=12						
TXAR	Lajitas Array	87.43	56	P	P	00 07 56.7	-0.8
ANMO	Albuquerque	88.17	50	*e*P	P	00 08 00.3	-0.5
	3.2nm,1.1s,mb4.5						
ENH	Enshi	89.28	304	*e*P	P	00 08 08.1	+1.8
	13nm,0.9s,mb5.2						
PDAR	Pinedale Array	90.22	43	LR	LR	00 43 42.4	
	comp=Z,82nm,18.2s,MS4.2,baz=62,slow=32						
ILAR	Eielson Array	91.16	12	P	P	00 08 12.8	-1.3
	0.5nm,0.6s,mb4.0,baz=225,slow=6.4,SNR=3.8						
KMI	Kunming	92.34	296	*e*P	P	00 08 14.8	-5.7
KMI				AMB	AMB		
	comp=Z,8.0nm,0.5s,mb5.3						
CMAR	Chiang Mai Arr	92.79	289	P	P	00 08 25.0	+2.3
	comp=Z,6.1nm,0.9s,mb5.0,baz=129,slow=3.1,SNR=25						
CMAR				LR	LR	00 46 14.0	
	comp=Z,53nm,20.1s,MS4.0,baz=135,slow=33						
LPAZ	La Paz	99.24	112	LR	LR	00 45 52.2	
	comp=Z,43nm,21.8s,MS3.9,baz=262,slow=31						
MKAR	Makanchi Array	114.67	312	PKP	PKPdf	00 13 49.0	-2.5
	comp=Z,0.3nm,0.5s,baz=90,slow=2.4,SNR=5.0						
AKASG	Malin Array Be	146.71	330	PKPbc	PKPbc	00 14 50.5	+0.7
	comp=Z,1.0nm,0.4s,baz=38,slow=3.6,SNR=18						
MALT	Malatya	147.23	304	*e*PKPbc	PKPdf	00 14 54.2	+1.7
ASF	Jabal al Asfar	149.72	293	PKPbc	PKPdf	00 14 59.8	+3.1
	comp=Z,2.5nm,0.8s,baz=269,slow=6.6,SNR=5.9						
BRTR	Keskin Array B	150.27	309	PKPbc	PKPdf	00 15 01.1	+3.9
	comp=Z,2.4nm,0.9s,baz=90,slow=2.5,SNR=13						
CLL	Collm	151.64	348	P	PKPdf	00 15 01.0	+2.1
CLL				*i* PKP1	PKPdf	00 15 03.9	+5.0
CLL				*i*		00 15 18.6	
CLL	Collm	151.64	348	*e*P	PKPdf	00 15 01.0	+2.1
CLL				*i*		00 15 03.9	
CLL				*i*		00 15 18.6	
BRG	Berggiesshubel	151.86	346	*i* P	PKPdf	00 15 04.2	+4.9
KHC	Kasperske Hory	153.58	346	*e*PKP	PKPab	00 15 22.0	+0.3
GERES	GERESS Array B	153.82	345	PKPab	PKPab	00 15 19.2	-3.5
	comp=Z,0.4nm,0.6s,slow=2.0,SNR=2.4						
ESDC	Sonseca Array	162.86	21	PKPab	PKPab	00 15 58.7	-3.1
	comp=Z,0.5nm,0.8s,baz=346,slow=5.3,SNR=2.9						

IDC 17 00:11:37.6±11.0**, 6.07S**×**152.77E, mb3.6**/4**, mb1 3.8**/4**, mb1mx3.7**/13**, Error ellipse: s-maj=181.0km s-min=75.6km az=40.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.60	231	P	P	00 16 39.3	-2.2
	0.3nm,0.8s,baz=55,slow=10,SNR=2.9						
ASAR	Alice Springs	25.21	224	P	P	00 17 05.0	-1.7
	0.4nm,0.5s,baz=56,slow=9.2,SNR=4.6						
STKA	Stephens Creek	27.72	201	P	P	00 17 27.6	-2.2
	1.7nm,0.9s,baz=27,slow=9.0,SNR=3.1						
FITZ	Fitzroy Crossi	29.05	243	P	P	00 17 40.7	-1.2
	1.7nm,0.5s,baz=54,slow=4.2,SNR=9.4						

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*NEIC **17** 00:14:08.9±1.6, 5.23S×150.98E, h130^{km}±12^{km}, mb4.6/7, Error ellipse: s-maj=22.3km s-min=14.3km az=101.0*

*IDC **17** 00:14:12.0±2.1, 5.39S×150.81E, h151^{km}±17^{km}, mb3.9/9, mb1 4.0/10, mb1mx3.9/15, Error ellipse: s-maj=21.9km s-min=13.3km az=116.0*

ISC 17 00:14:08.1±1.2**, 5.20S**±0.08×**151.0E**±0.1**, h139**^{km}±9^{km}**, n25, σ1^{s}30**/27**, mb4.2**/14**, 2D, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KMBE	Kimbe	0.90	247	⇓*i*P	P	00 14 28.7	-2.5
PMG	Port Moresby	5.64	222	*e*P	P	00 15 32.8	+2.0
PMG				*e*S	S	00 16 35.9	+0.9
CTA	Charters Tower	15.49	197	P	P	00 17 42.2	+1.8
	0.2nm,0.3s,baz=13,slow=10,SNR=3.0						
KAKA	Kakadu	19.80	247	*e*P	P	00 18 31.0	+1.1
	13nm,0.4s						
WRAB	Tennant Creek	21.82	226	*e*P	P	00 18 51.2	+1.1
	8.7nm,0.4s,mb4.5						
WB2	Warramunga Arr	21.83	226	*e*P	P	00 18 49.8	-0.4
WB2				*e*S	S	00 22 41.6	+4.0
WRA	Warramunga Arr	21.84	226	P	P	00 18 49.5	-0.8
	5.6nm,0.5s,mb4.3,baz=50,slow=10,SNR=82						
WRA				S	S	00 22 41.2	+3.5
	1.8nm,0.7s,baz=42,slow=16,SNR=9.0						
WRA				ScP		00 26 09.9	
	0.8nm,0.6s,baz=52,slow=2.7,SNR=10						
ASAR	Alice Springs	24.65	220	P	P	00 19 17.1	-0.3
	2.3nm,0.4s,mb4.1,baz=53,slow=9.1,SNR=24						
ASAR				S	S	00 23 24.9	-1.1
	1.2nm,1.0s,baz=34,slow=20,SNR=3.6						
ASAR				ScP		00 26 16.8	
	0.8nm,0.8s,baz=44,slow=2.3,SNR=6.8						
ASPA	Alice Springs	24.66	220	*e*P	P	00 19 17.6	+0.1
ASPA				*e*S	S	00 23 24.8	-1.2
FITZ	Fitzroy Crossi	27.88	241	⇓*i*P	P	00 19 45.6	-1.7
	5.4nm,0.3s,mb4.8						
FITZ	Fitzroy Crossi	27.88	241	P	P	00 19 45.6	-1.7
	5.1nm,0.3s,mb4.7,baz=37,slow=5.0,SNR=55						
STKA	Stephens Creek	27.95	197	P	P	00 19 46.7	-1.1
	0.6nm,0.5s,mb3.6,baz=11,slow=11,SNR=3.4						
STKA	Stephens Creek	27.95	197	P	P	00 19 46.7	-1.1
MBWA	Marble Bar	34.20	239	*e*P	P	00 20 40.7	-1.8
	3.6nm,0.5s,mb4.4						
MEEK	Meekatharra	37.52	232	*e*P	P	00 21 09.5	-1.0
	4.4nm,0.4s,mb4.4						
URZ	Urewera	40.58	148	P	P	00 21 37.1	+1.5
	6.7nm,0.7s,mb4.4,baz=190,slow=6.1,SNR=4.0						
JNU	Nakatsue	42.62	335	P	P	00 21 54.3	+1.9
	13nm,0.7s,mb4.7,baz=32,slow=2.8,SNR=6.8						
ENH	Enshi	53.12	314	*e*P	P	00 23 14.5	+0.6
	16nm,0.9s,mb4.8						
SONM	Songino Array	65.71	329	P	P	00 24 41.3	+1.2
	0.6nm,0.8s,mb3.5,baz=142,slow=7.1,SNR=2.4						
SONM				pP	pP	00 25 17.6	+3.9
	4.1nm,1.1s,baz=143,slow=6.2,SNR=7.6						
CASY	Casey	67.11	197	P	P	00 24 47.4	-1.2
	2.0nm,0.7s,mb4.1						
ILAR	Eielson Array	83.22	22	P	P	00 26 18.9	-1.0
	1.2nm,0.6s,mb3.8,baz=256,slow=5.1,SNR=9.2						
MAW	Mawson	84.50	203	P	P	00 26 26.4	+0.1
	1.0nm,0.5s,mb3.8,baz=100,slow=5.8,SNR=8.1						
GERES	GERESS Array B	123.44	328	PKP	PKPdf	00 32 50.2	+1.1
	0.3nm,0.5s,baz=117,slow=3.0,SNR=4.0						
BDFB	Brasilia	152.02	138	PKPbc	PKPdf	00 33 49.4	+8.4
	4.8nm,0.4s,baz=278,slow=2.7,SNR=11						
BAO	Brasilia Array	152.04	138	*e*P	PKPdf	00 33 49.8	+8.8

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*BJI **17** 00:16:40.6, 23.93N×93.20E, h30^{km}, mB4.2, mb4.6, ML4.3, Ms4.0, Msz3.6*

*NEIC **17** 00:16:43.3±0.3, 23.78N×93.15E, mb4.3/4, Error ellipse: s-maj=13.3km s-min=4.8km az=42.0*

*IDC **17** 00:16:43.7±0.5, 23.88N×93.34E, h47^{km}±4^{km}, mb4.1/16, mb1 4.2/17, mb1mx4.0/24, MS3.4/2, Ms1 3.5/2, ms1mx3.2/23, Error ellipse: s-maj=25.6km s-min=10.2km az=58.0*

ISC 17 00:16:40.8±0.3**, 23.75N**±0.05×**93.10E**±0.04**, h48**^{km}**, h48**^{km}±2.1^{km}**:pP-P, n64, σ1^{s}26**/73**, mb4.3**/19**, MS3.6**/2**, 4C-2D, Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IMP	Imphal	1.27	36	⇑*i*P	P	00 17 01.0	-1.6
IMP				*i*		00 17 06.0	
AGT	Agartala	1.70	275	⇑*i*PG	P	00 17 18.0	+9.4
AGT				*i*		00 17 48.0	
SHL	Shillong	2.12	329	*e*P	P	00 17 16.3	+1.8
SHL				*e*S	S	00 17 46.7	+7.1
CAL	Calcutta	4.55	256	*e*PG	P	00 18 03.1	+14
CAL				*e*		00 18 48.4	
LSA	Lhasa	6.17	344	P	P	00 18 12.8	+1.1
LSA				S	S	00 19 17.3	-4.5
LSA				Smax			
	comp=N,100nm,0.8s						
LSA				Smax			
	comp=E,170nm,0.6s						
CHRT	Chiangrai	7.31	121	⇓P	P	00 18 26.0	-1.6
	comp=E,216nm,1.0s						
CHG	Chiang Mai	7.34	131	⇑P	P	00 18 31.2	+3.3
	comp=E,13nm,0.7s						
CMAR	Chiang Mai Arr	7.58	133	P	P	00 18 30.9	-0.5
	comp=E,0.6nm,0.3s,baz=313,slow=14,SNR=15						
CMAR				LR	LR	00 22 00.2	
	comp=E,145nm,19.3s,slow=42						
PKI	Pulchoki	7.91	300	*e*Pn	P	00 18 36.6	+0.7
PKI				*e*Sn	S	00 20 02.6	-2.4
	comp=E,144nm,0.7s						
PKI	Pulchoki	7.91	300	*e*Pn	P	00 18 36.6	+0.7
	comp=E,72nm,0.7s						
PKI				*e*Sn	S	00 20 02.6	-2.4
KKN	Kakani	8.12	301	*e*Pn	P	00 18 39.2	+0.5
KKN				*e*Sn	S	00 20 07.9	-2.1
	comp=E,183nm,0.6s						
KKN	Kakani	8.12	301	*e*Pn	P	00 18 39.2	+0.5
	comp=E,91nm,0.6s						
KKN				*e*Sn	S	00 20 07.9	-2.1
DMN	Daman	8.17	300	*e*Pn	P	00 18 38.8	-0.7
DMN				*e*Sn	S	00 20 08.9	-2.5
NANT	Nan	8.63	123	P	P	00 18 44.0	-1.8
GKN	Gorkha	8.72	301	*e*Pn	P	00 18 47.2	+0.2
GKN				*e*Sn	S	00 20 22.5	-2.5
	comp=E,208nm,0.5s						
GKN	Gorkha	8.72	301	*e*Pn	P	00 18 47.2	+0.2
	comp=E,104nm,0.5s						
GKN				*e*Sn	S	00 20 22.5	-2.5
KMI	Kunming	8.89	79	*e*P	P	00 18 48.3	-1.1
KMI				AP		00 18 54.4	
KMI				XP		00 19 00.5	
KMI				AMB	AMB		
	comp=Z,13nm,1.1s						
KMI				LR	LR		
	comp=N,763nm,12.9s						
KMI				LR	LR		
	comp=E,350nm,9.6s						
KMI				LR	LR		
	comp=Z,416nm,13.4s						
KOLN	Koldanda	9.45	297	*e*Pn	P	00 18 56.4	-0.7
KOLN				*e*Sn	S	00 20 38.3	-4.8
	comp=Z,118nm,0.8s						
KOLN	Koldanda	9.45	297	*e*Pn	P	00 18 56.4	-0.7
	comp=Z,59nm,0.8s						
KOLN				*e*Sn	S	00 20 38.3	-4.8
BLSP	Bilaspur	10.24	263	*e*	S	00 21 01.0	-1.4
GYA	Guiyang	12.58	75	P	P	00 19 40.9	+1.3
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s						
GYA				LR	LR		
	comp=N,630nm,16.1s						
GYA				LR	LR		
	comp=E,200nm,10.5s						
GYA				LR	LR		
	comp=Z,290nm,12.6s						
JOSI	Joshimath	13.82	302	*e*P	P	00 19 57.8	+1.8
JOSI				AMb	AMB	00 20 05.5	
	comp=Z,82nm,1.4s						
BHPL	Bhopal	14.39	271	*e*P	P	00 20 01.2	-2.3
BHPL				*e*		00 22 32.8	
HYB	Hyderabad	15.01	248	*i* P	P	00 20 22.5	+11
HYB				*e*S	S	00 22 52.5	-4.3
HYB	Hyderabad	15.01	248	*e*P	P	00 20 22.5	+11
HYB				*e*S	S	00 22 52.5	-4.3
NDI	New Delhi	15.07	292	*e*P	P	00 20 14.3	+2.0
NDI				*e*		00 22 49.0	
AYAN	Aya Nagar	15.10	292	*e*P	P	00 20 13.6	+0.9
AYAN				AMb	AMB	00 20 15.4	
	comp=Z,7.1nm,0.6s						
AYAN				*e*		00 22 48.3	
KLP	Kalpa	15.26	304	*e*P	P	00 20 15.7	+1.0
KLP				AMb	AMB	00 20 21.9	
	comp=Z,8.6nm,0.9s						
LZH	Lanzhou	15.40	35	⇓P	P	00 20 10.5	-6.0
LZH				AMB	AMB		
	comp=Z,29nm,1.2s						
LZH				LR	LR		
	comp=N,159nm,12.9s						
LZH				LR	LR		
	comp=Z,294nm,17.3s						
ENH	Enshi	15.97	62	P	P	00 20 18.0	-5.8
	comp=Z,12nm,0.6s						
KHET	Khetri	16.14	289	*e*P	P	00 20 26.3	+0.4
KHET				*e*		00 20 29.2	
	comp=Z,14nm,1.3s						
KHET				*e*		00 23 13.4	
QIZ	Qiongzhong	16.28	104	P	P	00 20 27.9	+0.2
QIZ				AMB	AMB		
	comp=Z,18nm,1.0s						
QIZ				LR	LR		
	comp=E,158nm,7.1s						
QIZ				LR	LR		
	comp=Z,176nm,9.2s						
GTA	Gaotai	16.61	18	*e*P	P	00 20 29.3	-2.5
GTA				AP		00 20 34.8	
GTA				AMB	AMB		
	comp=Z,3.0nm,1.1s						
JASL	Jaisalmer	20.31	284	*e*P	P	00 21 17.1	+1.8
BTO	Baotou	22.01	36	*e*P	P	00 21 28.6	-3.9
HHC	Hu-ho-hao-te	23.03	38	*e*P	P	00 21 41.5	-1.0
HHC				PP	PP	00 22 06.3	-7.3
HHC				S	S	00 25 36.5	-9.2
HHC				AMB	AMB		
	comp=Z,13nm,0.5s,mb4.6						
HHC				AMB	AMB		
	comp=Z,68nm,3.7s						
HHC				LR	LR		
	comp=N,193nm,13.7s,MS3.8						
HHC				LR	LR		
	comp=E,186nm,14.9s,MS3.8						
HHC				LR	LR		
	comp=Z,126nm,19.0s,MS3.4						
MKAR	Makanchi Array	24.58	342	P	P	00 21 58.3	+0.8
	comp=Z,2.0nm,0.4s,mb4.0,baz=152,slow=10,SNR=28						
MKAR				pP		00 22 10.9	
	comp=Z,7.2nm,0.8s,baz=154,slow=11,SNR=19						
SONM	Songino Array	26.26	20	P	P	00 22 12.4	-1.0
	comp=Z,5.4nm,0.8s,mb4.1,baz=202,slow=9.4,SNR=32						
SONM				pP	pP	00 22 25.7	+0.1
	comp=Z,2.9nm,0.8s,baz=204,slow=12,SNR=6.5						
JOW	Kunigami	31.89	77	LR	LR	00 35 51.4	
	comp=Z,147nm,19.2s,MS3.7,baz=121,slow=36						
BVAR	Borovoye Array	33.92	335	P	P	00 23 21.4	+0.1
	comp=Z,0.4nm,0.4s,mb3.7,baz=150,slow=12,SNR=6.6						
BVAR				pP	pP	00 23 34.5	+0.5
	comp=Z,1.8nm,0.7s,baz=140,slow=12,SNR=8.0						
ZRNK	Zerenda	34.41	334	*e*P	P	00 23 25.9	+0.4
	comp=Z,2.0nm,0.5s,mb4.3						
ZRNK				*e*pP	pP	00 23 38.2	0.0
FITZ	Fitzroy Crossi	52.34	140	*e*P	P	00 25 50.2	-0.1
	comp=Z,3.2nm,0.9s,mb4.2						
FITZ	Fitzroy Crossi	52.34	140	P	P	00 25 50.3	0.0
	comp=Z,6.2nm,1.0s,mb4.5,baz=183,slow=16,SNR=7.3						
FITZ				pP	pP	00 26 04.9	+1.4
	comp=Z,4.8nm,1.0s,baz=343,slow=9.6,SNR=4.1						
AKASG	Malin Array Be	55.55	316	P	P	00 26 13.8	+0.3
	comp=Z,0.8nm,0.4s,mb4.1,baz=78,slow=6.3,SNR=6.0						
AKASG				pP	pP	00 26 28.1	+1.2
	comp=Z,1.2nm,0.6s,baz=80,slow=6.7,SNR=3.1						
FINES	FINESS Array B	58.46	329	P	P	00 26 34.2	+0.3
	comp=Z,4.4nm,1.1s,mb4.4,baz=141,slow=12,SNR=5.0						
WRA	Warramunga Arr	59.17	134	P	P	00 26 39.0	-0.5
	comp=Z,11nm,0.6s,mb5.1,baz=323,slow=7.4,SNR=174						
WRAB	Tennant Creek	59.18	134	*e*P	P	00 26 38.8	-0.7
	comp=Z,12nm,0.7s,mb5.0						
WB2	Warramunga Arr	59.18	134	*e*P	P	00 26 39.0	-0.5
ARCES	ARCESS Array B	60.15	338	P	P	00 26 46.6	+1.1
	comp=Z,3.7nm,0.8s,mb4.5,baz=108,slow=8.6,SNR=3.7						
ARCES	ARCESS Array B	60.15	338	P	P	00 26 46.6	+1.1
NWAO	Narrogin (SRO)	60.88	157	P	P	00 26 52.5	+1.5
	comp=Z,4.2nm,0.8s,mb4.7,baz=333,slow=11,SNR=2.9						
ASPA	Alice Springs	61.57	137	⇑*i*P	P	00 26 55.8	0.0
ASAR	Alice Springs	61.57	137	P	P	00 26 55.9	+0.1
	comp=Z,16nm,0.6s,mb5.3,baz=320,slow=6.8,SNR=215						
NOA	NORSAR Array B	65.62	328	P	P	00 27 29.9	+8.2
	comp=Z,0.8nm,0.6s,mb3.9,baz=101,slow=5.7,SNR=2.7						
GERES	GERESS Array B	65.67	315	P	P	00 27 24.1	+1.8
	comp=Z,1.2nm,0.6s,mb4.1,baz=73,slow=6.7,SNR=13						
GERES				pP	pP	00 27 36.6	+0.7
	comp=Z,1.4nm,0.6s,baz=75,slow=6.0,SNR=8.4						
CTA	Charters Tower	67.68	126	P	P	00 27 35.3	-0.1
	comp=Z,4.0nm,0.7s,mb4.6,baz=337,slow=13,SNR=4.2						
STKA	Stephens Creek	72.17	138	P	P	00 28 02.9	+0.3
	comp=Z,3.4nm,0.8s,mb4.4,baz=326,slow=7.3,SNR=7.8						
STKA	Stephens Creek	72.17	138	P	P	00 28 02.9	+0.3
ILAR	Eielson Array	80.48	22	P	P	00 28 50.2	+1.4
	comp=Z,0.4nm,0.7s,mb3.5,baz=288,slow=5.7,SNR=4.0						
ILAR				pP	pP	00 29 02.3	-0.5
	comp=Z,1.1nm,1.0s,baz=272,slow=7.5,SNR=4.4						
INK	Inuvik	82.08	16	P	P	00 28 58.0	+0.9
	comp=Z,2.0nm,1.0s,mb4.0,baz=328,slow=2.0,SNR=3.0						
TXAR	Lajitas Array	124.81	18	PKP	PKPdf	00 35 38.6	+2.6
	comp=Z,0.4nm,0.7s,baz=204,slow=0.1,SNR=5.6						
TXAR				pPKP		00 35 52.5	
	comp=Z,0.3nm,0.6s,baz=153,slow=2.8,SNR=2.9						
ROSC	El Rosal	149.03	335	PKPbc	PKPdf	00 36 29.2	+8.9
	comp=Z,3.8nm,0.6s,baz=114,slow=19,SNR=2.8						
ROSC				pPKPbc		00 36 42.9	
	comp=Z,4.5nm,0.5s,baz=57,slow=22,SNR=2.4						
CPUP	Villa Florida	153.11	258	PKPbc	PKPdf	00 36 37.0	+11
	comp=Z,1.1nm,0.5s,baz=173,slow=7.6,SNR=5.5						
CPUP				pPKPbc		00 36 50.7	
	comp=Z,2.5nm,1.1s,baz=215,slow=11,SNR=2.3						
CPUP	Villa Florida	153.11	258	PKPbc	PKPdf	00 36 37.0	+11
CPUP				pPKPbc		00 36 50.7	

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*IDC **17** 00:36:30.9±0.8, 21.23S×169.70E, mb4.2/8, mb1 4.4/8, mb1mx4.3/13, MS3.4/4, Ms1 3.4/4, ms1mx3.3/17, Error ellipse: s-maj=35.1km s-min=25.4km az=152.0*

*NEIC **17** 00:36:32.2±0.5, 21.17S×169.73E, h10^{km}, mb4.7/10, Error ellipse: s-maj=15.4km s-min=11.5km az=170.0*

ISC 17 00:36:35.0±1.8**, 21.31S**±0.10×**169.5E**±0.1**, h33**^{km}±14^{km}**, n56, σ1^{s}04**/30**, mb4.4**/16**, MS3.4**/4**, 6C-6D, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	2.96	255	*e*P	P	00 37 21.3	+0.5
DZM				*e*S	S	00 37 55.0	-0.7
DZM	Mont Dzumac	2.96	255	*e*P	P	00 37 21.3	+0.5
DZM				*e*S	S	00 37 55.0	-0.7
NOUC	Port Laguerre	3.10	255	*e*P	P	00 37 23.0	+0.3
BKM	Butte a Klehm	3.82	341	⇓*i*P	P	00 37 32.8	-0.2
CTA	Charters Tower	21.80	269	P	P	00 41 29.3	+3.2
	5.8nm,1.0s,mb4.0,baz=93,slow=13,SNR=3.9						
CTA				LR	LR	00 49 10.2	
	comp=Z,104nm,21.1s,MS3.2,baz=64,slow=35						
CNB	Canberra Magne	22.52	227	*e*P	P	00 41 36.8	+3.6
	29nm,1.1s,mb4.6						
STKA	Stephens Creek	27.03	241	*e*P	P	00 42 17.3	+1.0
	3.4nm,0.9s,mb3.9						
STKA	Stephens Creek	27.03	241	P	P	00 42 17.1	+0.8
	3.4nm,0.8s,mb4.0,baz=109,slow=7.6,SNR=5.9						
RAR	Rarotonga	28.59	95	LR	LR	00 51 05.4	
	comp=Z,104nm,21.6s,MS3.4,baz=314,slow=31						
WB2	Warramunga Arr	32.91	266	*e*P	P	00 43 08.4	-0.2
WRAB	Tennant Creek	32.91	266	*e*P	P	00 43 08.4	-0.2
	8.1nm,1.1s,mb4.6						
WRA	Warramunga Arr	32.92	266	P	P	00 43 08.1	-0.6
	0.9nm,0.7s,mb3.8,baz=96,slow=8.4,SNR=17						
WRA				PcP	PcP	00 45 51.4	-1.3
	0.7nm,0.7s,baz=102,slow=2.7,SNR=5.2						
ASAR	Alice Springs	32.95	259	P	P	00 43 08.2	-0.6
	3.3nm,0.7s,mb4.4,baz=84,slow=9.1,SNR=32						
ASAR				PcP	PcP	00 45 51.8	-0.9
	1.4nm,0.8s,baz=113,slow=4.1,SNR=6.4						
ASAR				LR	LR	00 54 39.1	
	comp=Z,29nm,20.3s,MS3.0,baz=87,slow=33						
ASPA	Alice Springs	32.95	259	*e*P	P	00 43 08.3	-0.6
FITZ	Fitzroy Crossi	41.34	267	*e*P	P	00 44 20.4	+0.8
	8.4nm,0.8s,mb4.4						
MBWA	Marble Bar	46.25	261	*e*P	P	00 44 59.4	0.0
	6.6nm,0.9s,mb4.6						
NWAO	Narrogin (SRO)	47.54	244	LR	LR	01 06 42.3	
	comp=Z,104nm,20.0s,MS3.8,baz=174,slow=38						
NWAO	Narrogin (SRO)	47.54	244	*e*P	P	00 45 08.8	-0.5
	6.6nm,0.8s,mb4.7						
SBA	Scott Base	56.61	181	*e*P	P	00 46 16.2	-0.4
	10nm,0.9s,mb4.8						
CASY	Casey	58.35	204	*e*P	P	00 46 27.0	-2.0
	4.3nm,0.4s,mb4.8						
QSPA	South Pole Qui	68.75	180	*e*P	P	00 47 36.5	-0.6
	15nm,0.8s,mb5.0						
MAW	Mawson	76.63	202	P	P	00 48 23.6	0.0
	3.8nm,0.8s,mb4.4,baz=109,slow=7.1,SNR=9.7						
MAW	Mawson	76.63	202	*e*P	P	00 48 23.6	-0.1
	4.6nm,0.8s,mb4.5						
CMAR	Chiang Mai Arr	79.60	294	P	P	00 48 42.8	+1.8
	2.5nm,1.0s,mb4.1,baz=134,slow=4.3,SNR=8.9						
SNAA	Sanae	87.12	182	⇓*i*	P	00 49 16.8	-1.3
VNA3	Neumayer Olymp	87.69	180	⇓*i*	P	00 49 22.0	+1.1
VNA2	Neumayer--Watz	87.99	181	⇓*i*	P	00 49 24.0	+1.7
VNA1	Neumayer--Stat	88.28	181	⇑*i*	P	00 49 25.6	+1.9
SONM	Songino Array	89.03	323	P	P	00 49 27.5	-0.4
	1.9nm,1.2s,mb4.3,baz=149,slow=7.2,SNR=4.4						
NVAR	Mina Array Bea	89.97	48	P	P	00 49 31.4	-1.1
	0.3nm,0.4s,mb4.0,baz=221,slow=9.6,SNR=3.5						
ARCES	ARCESS Array B	127.13	345	PKP	PKPdf	00 55 35.2	-0.4
	3.8nm,0.8s,baz=84,slow=1.4,SNR=15						
ARCES	ARCESS Array B	127.13	345	PKP	PKPdf	00 55 35.2	-0.4
BDFB	Brasilia	127.99	132	PKP	PKPdf	00 55 40.2	+1.6
	1.9nm,0.6s,baz=180,slow=3.0,SNR=2.4						
KMBO	Kilima Mbogo	128.32	251	PKP	PKPdf	00 55 41.9	+2.6

	3.8nm,1.2s,baz=329,slow=0.9,SNR=4.2						
FINES	**FINESS Array B**	**132.59**	**337**	PKP	PKPdf	00 55 45.8	-0.4
	0.5nm,0.5s,slow=1.9,SNR=7.3						
BRG	**Berggiesshubel**	**144.83**	**333**	*i* P	PKPdf	00 56 08.0	-0.4
BRG				*i*		00 56 12.5	
BRG				*e*		00 56 15.9	
CLL	**Collm**	**144.90**	**334**	*i* PKIKP	PKPdf	00 56 08.1	-0.4
CLL				*i* *PPKP		00 56 16.2	
KHC	**Kasperske Hory**	**146.28**	**331**	*e*PKP	PKPdf	00 56 12.5	+1.6
GERES	**GERESS Array B**	**146.43**	**331**	PKPbc	PKPbc	00 56 13.4	+0.9
	4.6nm,0.6s,baz=27,slow=2.7,SNR=55						
MOA	**Molln**	**146.87**	**329**	⇑*i*P	PKPdf	00 56 12.9	+0.9
KBA	**Koelnbreinsper**	**147.86**	**329**	⇓*i*P	PKPdf	00 56 16.4	+2.8
WATA	**Walderalm**	**148.50**	**331**	⇑*i*P	PKPdf	00 56 18.6	+4.0
WTTA	**Wattenberg**	**148.53**	**331**	⇓*i*P	PKPdf	00 56 18.6	+3.9
MOTA	**Moosalm**	**148.71**	**331**	⇑*i*P	PKPdf	00 56 19.0	+4.0
SQTA	**Sankt Quirin**	**148.76**	**331**	⇑*i*P	PKPdf	00 56 19.5	+4.5
DAVA	**Damuels**	**149.29**	**332**	⇑*i*P	PKPdf	00 56 21.1	+5.2
HAU	**Haudompre**	**150.12**	**337**	*e*PKIKP	PKPdf	00 56 22.5	+5.3
	8.4nm,0.7s						
CABF	**La Chapelle**	**151.39**	**336**	*e*PKIKP	PKPdf	00 56 26.0	+6.9
	13nm,0.6s						
LOR	**Lormes**	**151.62**	**339**	*e*PKIKP	PKPdf	00 56 26.0	+6.6
SSF	**Saint Saulge**	**151.92**	**339**	*e*PKIKP	PKPdf	00 56 26.8	+6.9
LPL	**La Plagne**	**152.03**	**334**	*e*PKIKP	PKPdf	00 56 27.5	+7.4
	6.8nm,0.6s						
LPG	**La Plagne**	**152.04**	**334**	*e*PKIKP	PKPdf	00 56 27.6	+7.5
	9.8nm,0.6s						
MBDF	**Montbardon**	**152.65**	**333**	*e*PKIKP	PKPdf	00 56 28.1	+7.1
ORIF	**Oris-en-Rattie**	**152.87**	**334**	*e*PKIKP	PKPdf	00 56 27.7	+6.4
	7.5nm,0.6s						
SBF	**Sospel**	**153.03**	**331**	*e*PKIKP	PKPdf	00 56 28.4	+6.8
DBIC	**Dimbokro**	**164.47**	**201**	PKPab	PKPab	00 57 32.1	-0.7
	3.9nm,0.7s,baz=167,slow=4.7,SNR=6.5						

WEL 17 00:44:21.8±0.2**, 35.92S**×**178.09E, h33^{km}, ML3.8**/1**, Error ellipse: s-maj=3.0km s-min=1.8km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**2.15**	**177**	PN	Pn	00 44 54.8	-1.4
PUZ				SN	Sn	00 45 19.4	-2.6
MWZ	**Matawai**	**2.45**	**190**	P*	Pb	00 44 59.6	-5.6
MWZ				S*	Sb	00 45 27.9	-7.3
URZ	**Urewera**	**2.46**	**198**	P*	Pb	00 44 59.7	-5.6
URZ				S*	Sb	00 45 28.7	-6.8

*NEIC **17** 00:44:43.6±12.0, 36.95N×13.39W, h10^{km}, MN2.6(MDD), Error ellipse: s-maj=136.0km s-min=15.8km az=56.0*

*MDD **17** 00:44:51.9±2.6, 37.27N×12.70W, mb3.9/7, mbLg2.3/2, Error ellipse: s-maj=26.5km s-min=17.6km az=36.0, PRXIMO*

*INMG **17** 00:44:52.9±0.7, 37.03N×13.11W, h10^{km}, ML2.1, Error ellipse: s-maj=6.0km s-min=5.0km az=33.0*

ISC 17 00:44:54.1±1.5**, 37.50N**±0.08×**12.40W**±0.09**, h10^{km}, n17,** σ**$1\overset{s}{.}11$**/29**, Azores-Cape St. Vincent Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLOU	**Loures**	**2.91**	**61**	*e*P	**Pn**	**00 45 43.4**	**+2.1**
	8.3nm,0.3s						
PTEO	**Sao Teotonio**	**2.92**	**88**	*e*P	**Pn**	**00 45 41.8**	**+0.3**
PTEO				*e*S	**Sn**	**00 46 18.4**	**+1.4**
	2.3nm,0.1s						
PTEO	**Sao Teotonio**	**2.92**	**88**	P	**Pn**	**00 45 41.8**	**+0.3**
PTEO				S	**Sn**	**00 46 18.4**	**+1.4**
	1.1nm,0.1s						
MOE	**Montemor**	**3.35**	**71**	*e*P	**Pn**	**00 45 48.3**	**+0.6**
MOE				*e*S	**Sn**	**00 46 31.3**	**+3.3**
PBEJ	**Beja**	**3.63**	**80**	*e*P	**Pn**	**00 45 52.1**	**+0.5**
PBEJ				*e*S	**Sn**	**00 46 36.3**	**+1.4**
EGRO	**El Granado**	**3.91**	**88**	P	**Pn**	**00 45 55.3**	**-0.2**
	0.6nm,0.1s,SNR=7.3						
EGRO				S	**Sn**	**00 46 41.5**	**-0.5**
	1.3nm,0.1s						
PALC	**Alcoutim**	**3.91**	**89**	*e*P	**Pn**	**00 45 55.4**	**-0.2**
PALC				*e*S	**Sn**	**00 46 42.1**	**-0.1**
	2.3nm,0.1s						
PALC	**Alcoutim**	**3.91**	**89**	P	**Pn**	**00 45 55.4**	**-0.2**
PALC				S	**Sn**	**00 46 42.1**	**-0.1**
	1.1nm,0.1s						
EBAD	**Badajoz**	**4.42**	**72**	P	**Pn**	**00 46 03.2**	**+0.3**
	0.5nm,0.1s,SNR=5.5						
EBAD				S	**Sn**	**00 46 55.4**	**+0.3**
	1.2nm,0.2s,SNR=6.8						
EMIN	**Mina Concepcio**	**4.55**	**85**	P	**Pn**	**00 46 04.4**	**-0.3**
	0.2nm,0.1s,SNR=8.1						
EMIN				S	**Sn**	**00 46 56.3**	**-2.0**
	0.8nm,0.1s						
ELOB	**Lobios**	**5.49**	**36**	P	**Pn**	**00 46 18.3**	**+0.3**
	0.4nm,0.1s,SNR=7.9						
ELOB				S	**Sn**	**00 47 23.0**	**+0.9**
	0.4nm,0.1s,SNR=7.9						
EMAZ	**Mazaricos**	**6.04**	**25**	P	**Pn**	**00 46 24.5**	**-1.2**
	0.6nm,0.1s,SNR=4.7						
EMAZ				S	**Sn**	**00 47 32.8**	**-2.8**
	1.1nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**6.22**	**43**	P	**Pn**	**00 46 28.5**	**+0.2**
	0.5nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**6.22**	**81**	P	**Pn**	**00 46 27.7**	**-0.6**
	0.1nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**00 47 38.4**	**-1.9**
	0.6nm,0.1s,SNR=7.9						
ESDC	**Sonseca Array**	**6.95**	**69**	P	**Pn**	**00 46 38.2**	**-0.4**
	0.4nm,0.1s,baz=249,slow=13,SNR=7.9						
EQES	**Quesada**	**7.40**	**85**	S	**Sn**	**00 48 06.6**	**-3.3**
	0.1nm,0.1s,SNR=4.0						
ETOR	**Torete**	**8.69**	**64**	P	**P**	**00 47 03.0**	**+0.1**
	0.9nm,0.2s,SNR=6.5						

*PRU **17** 00:49:41.4, 51.45N×16.11E*

*WAR **17** 00:49:41.4, 51.50N×16.09E, ML2.6, Mining Induced*

*NEIC **17** 00:49:45.0±1.2, 51.26N×15.78E, h5^{km}, ML2.5(VIE), Error ellipse: s-maj=14.1km s-min=6.4km az=196.0*

ISC 17 00:49:38.2±0.6**, 51.50N**±0.03×**16.09E**±0.04**, n17,** σ**$1\overset{s}{.}41$**/36**, 1C, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.67**	**169**	*e*PG	**Pg**	**00 49 54.0**	**+2.3**
KSP				*e*SG	**Sg**	**00 50 02.0**	**+1.4**
UPC	**Upice**	**1.00**	**183**	*e*PG	**Pg**	**00 50 00.3**	**+2.1**
DPC	**Dobruska-Polom**	**1.16**	**173**	*e*PG	**Pg**	**00 50 02.4**	**+0.9**
DPC				*e*SG	**Sg**	**00 50 17.2**	**+0.2**
PVCC	**Panska Ves**	**1.37**	**225**	*e*PG	**Pg**	**00 50 06.8**	**+1.2**
BRG	**Berggiesshubel**	**1.49**	**246**	*i* Pg	**Pg**	**00 50 09.0**	**+1.0**
BRG				*i* Sg	**Sg**	**00 50 28.9**	**+1.1**
PRU	**Pruhonice**	**1.81**	**214**	*e*PG	**Pg**	**00 50 12.8**	**-1.5**
PRU				*i* x	x	00 50 17.9	
PRU				*e*x	x	00 50 29.8	
PRU				*e*SG	**Sg**	**00 50 37.3**	**-1.1**
	6.0nm,0.4s						
CLL	**Collm**	**1.94**	**265**	*e*PG	**Pg**	**00 50 17.0**	**0.0**
CLL				*e*		00 50 21.0	
CLL				*e*SG	**Sg**	**00 50 43.0**	**+0.1**
CLL	**Collm**	**1.94**	**265**	*e*Pg	**Pg**	**00 50 17.0**	**0.0**
CLL				*e*Sg	**Sg**	**00 50 43.0**	**+0.1**
MORC	**Moravsky Berou**	**1.96**	**151**	*e*Pn	**Pn**	**00 50 14.4**	**+1.3**
MORC				*e*Sn	**Sn**	**00 50 41.5**	**+2.8**
OKC	**Ostrava-Krasne**	**2.12**	**141**	*e*PG	**Pg**	**00 50 20.5**	**0.0**
OKC				*e*SG	**Sg**	**00 50 46.4**	**-2.4**
NKC	**Novy Kostel**	**2.63**	**243**	*e*PN	**Pn**	**00 50 25.3**	**+2.6**
NKC				*e*PG	**Pg**	**00 50 31.1**	**+0.3**
NKC				*e*SG	**Sg**	**00 51 04.8**	**-1.1**
OJC	**Ojcow**	**2.68**	**117**	*e*PG	**Pg**	**00 50 30.0**	**-1.7**
OJC				*e*SG	**Sg**	**00 51 05.0**	**-2.4**
OJC	**Ojcow**	**2.68**	**117**	*e*Pg	**Pg**	**00 50 30.5**	**-1.2**
OJC				*e*Sg	**Sg**	**00 51 05.4**	**-2.0**
KHC	**Kasperske Hory**	**2.87**	**215**	*e*PN	**Pn**	**00 50 27.2**	**+1.1**
KHC				*e*PG	**Pg**	**00 50 33.2**	**-2.3**
KHC				*e*SN	**Sn**	**00 51 01.5**	**-0.3**
KHC				*e*SG	**Sg**	**00 51 11.1**	**-2.6**
MOX	**Moxa**	**2.95**	**255**	*e*Pg	**Pg**	**00 50 36.7**	**-0.4**
MOX				*e*Sg	**Sg**	**00 51 16.0**	**-0.4**
BSD	**Bornholm Skovb**	**3.69**	**349**	*i* P	**Pn**	**00 50 37.1**	**-0.6**
BSD				*i* S	**Sn**	**00 51 17.6**	**-4.9**
BSD				*i* S	**Sn**	**00 51 20.5**	**-2.0**
MOA	**Molln**	**3.84**	**199**	⇑*i*PN	**Pn**	**00 50 40.6**	**+0.7**
MOA				*i* SG	**Sg**	**00 51 44.1**	**-2.1**
	2.0nm,0.4s						

*MAN **17** 01:15:46.8, 9.26N×122.18E, h19^{km}, mb5.1, ML4.0, MS4.2*

*NEIC **17** 01:15:48.1±5.9, 9.35N×122.55E, h29^{km}±44^{km}, mb4.2/2, Error ellipse: s-maj=20.4km s-min=7.3km az=72.0*

*IDC **17** 01:15:49.4±5.5, 9.35N×122.57E, h40^{km}±50^{km}, mb3.9/12, mb1 4.0/13, mb1mx3.9/20, ML3.8/1, MS3.4/4, Ms1 3.5/4, ms1mx3.2/21, Error ellipse: s-maj=32.6km s-min=13.4km az=69.0*

ISC 17 01:15:47.9±0.5**, 9.27N**±0.03×**122.21E**±0.04**, h36^{km}**±6^{km}**, n42,** σ**$1\overset{s}{.}17$**/51**, mb4.0**/14**, MS3.4**/3**, 2C-3D, Negros**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**1.02**	**86**	⇓*i*P	**P**	**01 16 04.6**	**-1.2**
SNPH				*i* S	**S**	**01 16 17.5**	**-1.7**
DCPH	**Dipolog City**	**1.32**	**121**	⇑*i*P	**P**	**01 16 08.7**	**-1.5**
DCPH				*i* S	**S**	**01 16 27.4**	**+0.5**
GUIM	**Jordan**	**1.40**	**16**	*e*P	**P**	**01 16 11.1**	**-0.3**
GUIM				*e*S	**S**	**01 16 29.5**	**+0.6**
IPIL	**Ipil**	**1.51**	**166**	*e*P	**P**	**01 16 12.3**	**-0.6**
IPIL				*e*S	**S**	**01 16 32.5**	**+0.9**
TBP	**Tagbilaran**	**1.69**	**75**	*e*P	**P**	**01 16 15.5**	**+0.1**
TBP				*e*S	**S**	**01 16 36.0**	**0.0**
PAGZ	**Pagadian**	**1.83**	**140**	*e*P	**P**	**01 16 18.1**	**+0.7**
CUYO	**Cuyo Island**	**1.96**	**323**	*e*P	**P**	**01 16 19.2**	**-0.1**
LLP	**Lapu-Lapu**	**2.02**	**59**	*e*P	**P**	**01 16 19.0**	**-1.2**
LLP				*e*S	**S**	**01 16 41.0**	**-3.5**
RCP	**Roxas**	**2.34**	**13**	⇓*e*P	**P**	**01 16 25.8**	**+1.1**
RCP				*e*S	**S**	**01 16 58.5**	**+6.0**
CGP	**Cagayan de Oro**	**2.59**	**108**	⇑*e*P	**P**	**01 16 28.5**	**+0.2**
CGP				*e*S	**S**	**01 17 00.6**	**+1.8**
MSLP	**Maasin**	**2.75**	**72**	*e*P	**P**	**01 16 31.7**	**+1.1**
CTBH	**Cotabato--PC H**	**2.87**	**135**	⇓*e*P	**P**	**01 16 36.0**	**+3.8**
CTBH				*i* S	**S**	**01 17 06.0**	**+0.2**
OCLP	**Ormoc**	**2.96**	**53**	*e*P	**P**	**01 16 33.4**	**-0.1**
BUKP	**Musuan**	**3.14**	**116**	*e*P	**P**	**01 16 38.2**	**+2.0**
SCPH	**Surigao**	**3.28**	**81**	*e*P	**P**	**01 16 38.6**	**+0.5**
SCPH				*e*S	**S**	**01 17 05.8**	**-11**
ENPP	**El Nido**	**3.35**	**305**	*e*P	**P**	**01 16 38.4**	**-0.7**
SJMP	**San Jose**	**3.35**	**342**	*e*P	**P**	**01 16 38.5**	**-0.7**
BUSP	**Coron**	**3.36**	**324**	*e*P	**P**	**01 16 38.2**	**-1.0**
MMPH	**Masbate**	**3.37**	**24**	*e*P	**P**	**01 16 42.4**	**+2.9**
PPR	**Puerto Princes**	**3.47**	**279**	*e*P	**P**	**01 16 40.3**	**-0.4**
CNP	**Catarman**	**4.03**	**37**	*e*P	**P**	**01 16 49.7**	**+1.0**
LUBP	**Lubang**	**4.84**	**337**	*e*P	**P**	**01 16 59.4**	**-0.8**
LUBP	**Lubang**	**4.84**	**337**	*e*P	**P**	**01 17 00.5**	**+0.2**
JOW	**Kunigami**	**18.39**	**17**	P	**P**	**01 19 58.8**	**-3.2**
	0.5nm,0.3s,baz=291,slow=29,SNR=2.3						
JOW				LR	LR	01 26 49.8	
	comp=Z,87nm,21.0s,baz=150,slow=36						
JOW	**Kunigami**	**18.39**	**17**	P	**P**	**01 19 58.8**	**-3.2**
JOW				LR	LR	01 26 49.8	
CMAR	**Chiang Mai Arr**	**24.34**	**295**	P	**P**	**01 21 05.4**	**+1.7**
	1.7nm,0.9s,mb3.5,baz=115,slow=7.4,SNR=8.3						
CMAR				LR	LR	01 30 34.6	
	comp=Z,92nm,18.3s,MS3.3,baz=358,slow=36						
JNU	**Nakatsue**	**25.05**	**17**	P	**P**	**01 21 07.7**	**-2.8**
	4.2nm,0.4s,mb4.3,baz=322,slow=19,SNR=2.9						
JNU				LR	LR	01 30 37.8	
	comp=Z,95nm,20.0s,MS3.3,baz=48,slow=36						
FITZ	**Fitzroy Crossi**	**27.40**	**173**	P	**P**	**01 21 31.5**	**-0.9**
	1.8nm,0.8s,mb3.6,baz=347,slow=7.3,SNR=2.6						
WRAB	**Tennant Creek**	**31.38**	**158**	*e*P	**P**	**01 22 05.7**	**-2.1**
	2.7nm,0.5s,mb4.3						
WRA	**Warramunga Arr**	**31.39**	**158**	P	**P**	**01 22 06.0**	**-1.9**
	2.5nm,0.8s,mb4.1,baz=337,slow=9.9,SNR=12						
WRA				PcP	PcP	01 24 57.7	-3.4
	1.0nm,0.8s,baz=342,slow=3.2,SNR=7.6						
ASAR	**Alice Springs**	**34.67**	**161**	P	**P**	**01 22 35.9**	**-0.5**
	4.1nm,0.9s,mb4.4,baz=340,slow=7.2,SNR=28						
ASAR				PcP	PcP	01 25 08.9	-1.2
	0.6nm,0.6s,baz=341,slow=2.5,SNR=5.5						
ASPA	**Alice Springs**	**34.67**	**161**	*e*P	**P**	**01 22 35.9**	**-0.4**
SONM	**Songino Array**	**40.70**	**344**	P	**P**	**01 23 27.0**	**+0.5**
	1.5nm,1.1s,mb3.5,baz=166,slow=11,SNR=6.0						
STKA	**Stephens Creek**	**44.92**	**156**	P	**P**	**01 24 00.5**	**-0.6**
	3.5nm,1.0s,mb4.2,baz=333,slow=17,SNR=3.3						
STKA	**Stephens Creek**	**44.92**	**156**	P	**P**	**01 24 00.5**	**-0.6**
MKAR	**Makanchi Array**	**50.47**	**325**	P	**P**	**01 24 45.2**	**+0.9**
	1.0nm,0.6s,mb4.0,baz=132,slow=10,SNR=8.1						
MKAR				LR	LR	01 47 50.1	
	comp=Z,46nm,18.9s,MS3.5,baz=296,slow=38						
ZRNK	**Zerenda**	**60.98**	**326**	*e*P	**P**	**01 25 59.1**	**-0.8**
	0.8nm,0.6s,mb4.0						
BRTR	**Keskin Array B**	**83.06**	**309**	P	**P**	**01 28 12.3**	**+1.1**
	1.0nm,0.9s,mb3.8,baz=146,slow=4.5,SNR=3.9						
AKASG	**Malin Array Be**	**84.79**	**320**	P	**P**	**01 28 21.0**	**+1.3**
	0.2nm,0.3s,mb3.7,baz=76,slow=37,SNR=4.0						
FINES	**FINESS Array B**	**84.86**	**331**	P	**P**	**01 28 20.5**	**+0.7**
	7.9nm,1.2s,mb4.7,baz=90,slow=9.7,SNR=1.7						
KMBO	**Kilima Mbogo**	**85.20**	**268**	P	**P**	**01 28 24.6**	**+1.9**
	1.0nm,0.9s,mb4.0,baz=78,slow=20,SNR=3.0						
PLCA	**Paso Flores**	**146.68**	**162**	PKPbc	PKPbc	01 35 26.8	+0.9
	3.2nm,0.8s,baz=199,slow=3.4,SNR=6.7						

*LDG **17** 01:19:12.0±0.2, 42.84N×1.55W, h3^{km}, Md2.7/1, Ml2.2/10, Error ellipse: s-maj=3.8km s-min=2.8km az=64.0*

*STR **17** 01:19:12.7±0.5, 42.87N×1.46W, h10^{km}±1^{km}, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*MDD **17** 01:19:13.8±0.4, 42.88N×1.43W, h10^{km}±3^{km}, mbLg2.0/9, Error ellipse: s-maj=3.7km s-min=2.7km az=11.0, AftershockPLICA PRXIMO*

ISC 17 01:19:10.5±0.5**, 42.99N**±0.03×**1.59W**±0.03**, h10^{km}, n27,** σ**$1\overset{s}{.}32$**/47**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EALK	**Alkurruntz**	**0.24**	**14**	Pg	**Pg**	**01 19 20.4**	**+4.7**
	4.0nm,0.1s,SNR=57						
EALK				Lg		01 19 25.3	
	31nm,0.2s,SNR=5.0						
SJPF	**Ste Jean**	**0.30**	**64**	*e*Pg	**Pg**	**01 19 19.2**	**+2.5**
SJPF				*e*Sg	**Sg**	**01 19 22.0**	**+1.2**
	178nm,0.3s						
OSSF	**Osses**	**0.36**	**41**	Pg	**Pg**	**01 19 21.2**	**+3.2**
OSSF				Sg	**Sg**	**01 19 27.0**	**+4.1**
LARF	**Larrau**	**0.44**	**83**	Pg	**Pg**	**01 19 20.5**	**+0.9**
LARF				Sg	**Sg**	**01 19 26.2**	**+0.6**
ORDF	**Ordiarp**	**0.53**	**64**	Pg	**Pg**	**01 19 23.0**	**+1.7**
ORDF				Sg	**Sg**	**01 19 30.4**	**+2.0**
FDAF	**Les Forges d'A**	**0.77**	**102**	P	**Pb**	**01 19 25.4**	**-0.2**
FDAF				S	**Sb**	**01 19 34.6**	**-1.2**
VIEF	**Viey**	**1.19**	**94**	S	**Sb**	**01 19 48.3**	**+0.3**
LABF	**Labassere**	**1.22**	**86**	S	**Sb**	**01 19 49.7**	**+0.8**
ELAN	**Lanestosa**	**1.37**	**281**	Pg	**Pg**	**01 19 41.4**	**+3.4**
	0.6nm,0.1s,SNR=9.4						
ELAN				Lg		01 20 01.9	
	5.1nm,0.3s,SNR=5.0						
EPF	**Esparros**	**1.42**	**87**	*e*Pn	**Pn**	**01 19 36.6**	**+0.1**
EPF				*e*Pg	**Pg**	**01 19 38.5**	**-0.4**
EPF				*e*Sn	**Sn**	**01 19 54.9**	**-0.4**
	11nm,0.2s						
RESF	**Ens**	**1.43**	**96**	S	**Sb**	**01 19 55.9**	**+0.9**
ESAC	**San Caprasio**	**1.51**	**146**	Pg	**Pg**	**01 19 38.0**	**-2.7**
	12nm,0.2s,SNR=16						
ESAC				Lg		01 19 55.1	
	33nm,0.3s,SNR=5.0						
MELF	**Melles**	**1.73**	**93**	S	**Sn**	**01 20 05.1**	**+1.9**
SALF	**Salau**	**2.06**	**95**	S	**Sn**	**01 20 14.9**	**+3.4**
ETOR	**Torete**	**2.19**	**189**	Pn	**Pn**	**01 19 48.3**	**+0.8**
	0.7nm,0.3s,SNR=7.9						
ETOR				Pg	**Pg**	**01 19 52.4**	**-1.9**
	1.6nm,0.3s,SNR=13						
ETOR				Sn	**Sn**	**01 20 15.5**	**+0.5**
	6.4nm,0.5s,SNR=5.0						
EMIR	**Miracle**	**2.54**	**114**	Pg	**Pg**	**01 19 57.3**	**-4.0**
	0.3nm,0.1s,SNR=7.9						
EMIR				Lg		01 20 28.7	
	14nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**2.57**	**129**	Pn	**Pn**	**01 19 52.0**	**-1.0**
	0.1nm,0.1s,SNR=7.9						
EPOB				Lg		01 20 26.7	
	2.6nm,0.2s,SNR=7.9						
LFF	**La Frestale**	**2.58**	**40**	*e*Pn	**Pn**	**01 19 53.8**	**+0.7**
LFF				*e*Pg	**Pg**	**01 20 01.5**	**-0.5**
LFF				*e*Sn	**Sn**	**01 20 24.5**	**-0.3**
LFF				*e*Sg	**Sg**	**01 20 35.9**	**-0.5**
	2.2nm,0.3s						
EMOS	**Mosqueruela**	**2.75**	**162**	Pg	**Pg**	**01 20 02.2**	**-3.2**
	0.1nm,0.1s,SNR=7.9						
EMOS				Lg		01 20 33.4	
	1.2nm,0.2s,SNR=7.9						
MTLF	**Montolieu**	**2.81**	**81**	*e*Pn	**Pn**	**01 19 57.0**	**+0.6**
MTLF				*e*Sn	**Sn**	**01 20 28.9**	**-1.7**
	0.9nm,0.2s						
RJF	**Les Rejaudoux**	**3.22**	**43**	*e*Pn	**Pn**	**01 20 02.4**	**+0.2**
RJF				*e*Sn	**Sn**	**01 20 39.8**	**-1.3**
	2.3nm,0.2s						
CAF	**Calviac**	**3.27**	**52**	*e*Pn	**Pn**	**01 20 03.0**	**0.0**
CAF				*e*Sn	**Sn**	**01 20 41.8**	**-0.6**
	1.1nm,0.2s						
MFF	**Saint Martin d**	**3.76**	**15**	*e*Pn	**Pn**	**01 20 11.4**	**+1.5**
MFF				*e*Pg	**Pg**	**01 20 24.4**	**-1.2**
MFF				*e*Sn	**Sn**	**01 20 54.2**	**-0.5**
	0.9nm,0.2s						
ECAL	**Calabor**	**3.95**	**256**	Pn	**Pn**	**01 20 14.2**	**+1.6**
	0.1nm,0.3s,SNR=7.9						
ECAL				Sn	**Sn**	**01 20 59.4**	**-0.1**
	0.5nm,0.2s,SNR=7.9						
ECAL				Lg		01 21 17.3	
	2.2nm,0.4s,SNR=7.9						
LASF	**Ste Croix**	**4.11**	**73**	*e*Pn	**Pn**	**01 20 14.0**	**-0.8**
LASF				*e*Sn	**Sn**	**01 21 00.8**	**-2.7**
	1.1nm,0.3s						
TCF	**Toulx Ste Croi**	**4.27**	**38**	*e*Pn	**Pn**	**01 20 16.4**	**-0.8**
TCF				*e*Sn	**Sn**	**01 21 05.9**	**-1.8**
	0.3nm,0.2s						
BGF	**Bois d'Agland**	**4.77**	**40**	*e*Sn	**Sn**	**01 21 17.3**	**-2.9**
	2.1nm,0.3s						

*NEIC **17** 02:13:34.7, 15.93N×98.14W, h9^{km}, MD4.0(MEX), After MEX.*

MEX 17 02:13:35.2±0.7**, 16.17N**×**98.10W, h4^{km}**±5^{km}**, MD4.0, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.23**	**352**	*i* P	Pg	02 13 39.5	-0.3
PNIG				*i* S	Sg	02 13 42.3	-0.5
VHO	**Vista Hermosa**	**1.58**	**55**	*i* P	Pn	02 14 00.2	-4.1
VHO				*i* S	Sb	02 14 20.8	-4.2
VHO	**Vista Hermosa**	**1.58**	**55**	*i* P	Pn	02 14 01.6	-2.6
VHO				*i* S	Sb	02 14 23.5	-1.5
OXX	**Oaxaca**	**1.60**	**55**	*i* P	Pn	02 14 00.5	-3.9
OXX				*i* S	Sb	02 14 21.0	-4.4
ACX	**Acapulco**	**1.88**	**292**	*i* P	Pn	02 14 05.0	-3.5
ACX				*i* S	Sn	02 14 27.0	-5.9
HUIG	**Huatulco**	**1.95**	**101**	*e*P	Pn	02 14 06.1	-3.4
HUIG				*e*S	Sn	02 14 28.2	-6.5
HUIG	**Huatulco**	**1.95**	**101**	*e*P	Pn	02 14 06.8	-2.7
HUIG				*e*S	Sn	02 14 28.4	-6.3
PLIG	**Platanillo**	**2.59**	**329**	*e*P	Pn	02 14 15.7	-2.9
PLIG				*i* S	Sn	02 14 46.0	-4.9
PLIG	**Platanillo**	**2.59**	**329**	*e*P	Pn	02 14 16.3	-2.2
PLIG				*i* S	Sn	02 14 53.7	+2.8
YAIG	**Yautepec**	**2.83**	**341**	*e*P	Pn	02 14 18.8	-3.3
YAIG				*i* S	Sn	02 14 51.2	-6.0
YAIG	**Yautepec**	**2.83**	**341**	*e*P	Pn	02 14 23.4	+1.3
YAIG				*i* S	Sn	02 14 55.4	-1.8
IISM	**Ciudad Serdan**	**2.89**	**14**	*i* P	Pn	02 14 20.7	-2.2
IISM				*i* S	Sn	02 14 53.6	-4.9
IISM	**Ciudad Serdan**	**2.89**	**14**	*i* P	Pn	02 14 25.0	+2.2
IISM				*i* S	Sn	02 14 59.0	+0.5
PPM	**Popocatepetl**	**2.93**	**350**	*i* P	Pn	02 14 20.2	-3.2
PPM				*i* S	Sn	02 14 56.0	-3.5
IIZ	**Mezontepec**	**3.20**	**340**	*e*P	Pn	02 14 28.0	+0.8
IIZ				*i* S	Sn	02 14 58.0	-8.3
CMIG	**Matias Romero**	**3.21**	**73**	*e*P	Pn	02 14 23.1	-4.3
CMIG				*i* S	Sn	02 14 59.9	-6.8
CMIG	**Matias Romero**	**3.21**	**73**	*e*P	Pn	02 14 23.8	-3.7
CMIG				*e*S	Sn	02 15 08.8	+2.1
LVIG	**Laguna Verde**	**3.88**	**24**	*e*P	Pn	02 14 38.9	+1.9
LVIG				*i* S	Sn	02 15 15.3	-8.2
MOIG	**Morelia**	**4.57**	**320**	*i* S	Sn	02 15 35.7	-5.3

*IDC **17** 02:22:10.5±5.5, 39.61S×177.22E, mb4.1/3, mb1 4.2/4, mb1mx4.1/11, ML3.3/1, Error ellipse: s-maj=99.6km s-min=15.8km az=106.0*

*NEIC **17** 02:22:16.0, 39.46S×177.14E, h26^{km}, ML4.2(WEL), After WEL.*

NEIC Felt in Hawke's Bay County.

*WEL **17** 02:22:16.1±0.1, 39.45S×177.11E, h23^{km}, ML4.2/16, Error ellipse: s-maj=1.6km s-min=1.1km az=90.0*

WEL Felt in the Hawke's Bay region, maximum reported intensity MM 5.

ISC 17 02:22:14.3±0.5**, 39.57S**±0.03×**177.22E**±0.05**, h47^{km}**±6^{km}**, n93,** σ**$1\overset{s}{.}04$**/109**, mb3.9**/3**, 14C-11D, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PWZ	**Pawanui**	**0.53**	**211**	⇑P*	**P**	**02 22 28.3**	**+2.5**
PWZ	**Pawanui**	**0.53**	**211**	⇑P	**P**	**02 22 28.3**	**+2.5**
KNZ	**Kokohu**	**0.66**	**33**	⇓P*	**P**	**02 22 28.5**	**+1.2**
KNZ				S*	**S**	**02 22 38.3**	**+1.4**
KNZ	**Kokohu**	**0.66**	**33**	⇓P	**P**	**02 22 28.5**	**+1.2**
BKZ	**Black Stump Fm**	**0.70**	**306**	⇓P*	**P**	**02 22 26.3**	**-1.6**
BKZ				S*	**S**	**02 22 34.7**	**-3.2**
BKZ	**Black Stump Fm**	**0.70**	**306**	⇑P	**P**	**02 22 26.3**	**-1.6**
BKZ				S	**S**	**02 22 34.7**	**-3.2**
TSZ	**Takapari Road**	**1.08**	**243**	PN	**P**	**02 22 34.5**	**+1.2**
TSZ				SN	**S**	**02 22 48.6**	**+1.1**
TSZ	**Takapari Road**	**1.08**	**243**	P	**P**	**02 22 34.5**	**+1.2**
HATZ	**Hinemaiaia**	**1.11**	**307**	⇓PN	**P**	**02 22 33.5**	**-0.1**
HATZ				SN	**S**	**02 22 46.2**	**-1.9**
HATZ	**Hinemaiaia**	**1.11**	**307**	⇓P	**P**	**02 22 33.6**	**0.0**
MOVZ	**Moawhango**	**1.15**	**278**	⇓PN	**P**	**02 22 34.9**	**+0.8**
MOVZ				SN	**S**	**02 22 48.3**	**-0.7**
MOVZ	**Moawhango**	**1.15**	**278**	⇓P	**P**	**02 22 34.9**	**+0.7**
MOVZ				S	**S**	**02 22 49.1**	**+0.1**
RITZ	**Rihia Road**	**1.21**	**299**	PN	**P**	**02 22 35.6**	**+0.5**
RITZ	**Rihia Road**	**1.21**	**299**	P	**P**	**02 22 35.7**	**+0.6**
TUVZ	**Tukino**	**1.25**	**284**	⇑PN	**P**	**02 22 36.7**	**+1.0**
TUVZ				SN	**S**	**02 22 52.4**	**+0.8**
TUVZ	**Tukino**	**1.25**	**284**	⇑P	**P**	**02 22 36.7**	**+1.0**
MWZ	**Matawai**	**1.26**	**11**	PN	**P**	**02 22 35.6**	**-0.2**
MWZ				SN	**S**	**02 22 51.6**	**-0.3**
MWZ	**Matawai**	**1.26**	**11**	⇓P	**P**	**02 22 35.8**	**0.0**
WNVZ	**Wahianoa**	**1.28**	**281**	PN	**P**	**02 22 36.9**	**+0.8**
WNVZ				SN	**S**	**02 22 54.4**	**+2.0**
WNVZ	**Wahianoa**	**1.28**	**281**	P	**P**	**02 22 36.9**	**+0.8**
KAVZ	**Karewarewa**	**1.31**	**291**	⇓PN	**P**	**02 22 37.0**	**+0.3**
URZ	**Urewera**	**1.31**	**356**	Pg	**P**	**02 22 36.4**	**-0.3**
	148nm,0.3s,baz=223,slow=7.7,SNR=372						
URZ				Lg		02 22 53.6	
	156nm,0.3s,baz=139,slow=20,SNR=21						
URZ	**Urewera**	**1.31**	**356**	⇑PN	**P**	**02 22 36.3**	**-0.4**
DRZ	**Dome Shelter**	**1.32**	**283**	⇑P	**P**	**02 22 37.7**	**+1.0**
NGZ	**Ngauruhoe**	**1.32**	**287**	⇑PN	**P**	**02 22 37.3**	**+0.6**
NGZ				SN	**S**	**02 22 52.8**	**-0.6**
NGZ	**Ngauruhoe**	**1.32**	**287**	⇓P	**P**	**02 22 37.3**	**+0.6**
KATZ	**Kakaramea**	**1.33**	**296**	⇑PN	**P**	**02 22 37.0**	**+0.2**
KATZ	**Kakaramea**	**1.33**	**296**	⇑P	**P**	**02 22 37.0**	**+0.1**
RATZ	**Rangitukua**	**1.33**	**302**	PN	**P**	**02 22 36.3**	**-0.5**
RATZ	**Rangitukua**	**1.33**	**302**	P	**P**	**02 22 36.8**	**-0.1**
BFZ	**Birch Farm**	**1.33**	**214**	PN	**P**	**02 22 38.3**	**+1.3**
BFZ	**Birch Farm**	**1.33**	**214**	P	**P**	**02 22 38.4**	**+1.4**
WHTZ	**Whakaora**	**1.34**	**312**	PN	**P**	**02 22 36.8**	**-0.2**
WHTZ				SN	**S**	**02 22 53.6**	**-0.2**
WHTZ	**Whakaora**	**1.34**	**312**	P	**P**	**02 22 36.8**	**-0.2**
WTVZ	**West Tongariro**	**1.34**	**289**	⇑PN	**P**	**02 22 37.6**	**+0.5**
WTVZ	**West Tongariro**	**1.34**	**289**	⇑P	**P**	**02 22 37.6**	**+0.5**
CNZ	**Chateau**	**1.35**	**286**	PN	**P**	**02 22 37.6**	**+0.5**
CNZ	**Chateau**	**1.35**	**286**	P	**P**	**02 22 37.7**	**+0.5**
WPVZ	**Whakapapa**	**1.35**	**285**	⇑PN	**P**	**02 22 37.8**	**+0.6**
WPVZ	**Whakapapa**	**1.35**	**285**	⇑P	**P**	**02 22 37.8**	**+0.6**
PATZ	**Paeroa**	**1.41**	**327**	PN	**P**	**02 22 37.6**	**-0.4**
PATZ	**Paeroa**	**1.41**	**327**	P	**P**	**02 22 37.6**	**-0.4**
MGZ	**Maungaku**	**1.43**	**293**	PN	**P**	**02 22 37.9**	**-0.3**
MGZ	**Maungaku**	**1.43**	**293**	P	**P**	**02 22 38.1**	**-0.1**
WATZ	**Wairara**	**1.44**	**306**	PN	**P**	**02 22 37.4**	**-1.0**
WATZ	**Wairara**	**1.44**	**306**	P	**P**	**02 22 37.8**	**-0.7**
TAZ	**Tarawera**	**1.45**	**337**	PN	**P**	**02 22 37.7**	**-0.9**
TAZ	**Tarawera**	**1.45**	**337**	P	**P**	**02 22 38.3**	**-0.3**
TWVZ	**Taurewa**	**1.47**	**289**	PN	**P**	**02 22 38.7**	**-0.2**
TWVZ	**Taurewa**	**1.47**	**289**	P	**P**	**02 22 38.7**	**-0.2**
UTU	**Utuhina**	**1.61**	**330**	PN	**P**	**02 22 40.1**	**-0.7**
UTU	**Utuhina**	**1.61**	**330**	P	**P**	**02 22 40.2**	**-0.6**

MRZ	**Mangatainoka R**	**1.66**	**229**	PN	**P**	**02 22 42.3**	**+0.8**
MRZ	**Mangatainoka R**	**1.66**	**229**	*e*P	**P**	**02 22 42.3**	**+0.8**
PUZ	**Puketiti**	**1.70**	**29**	PN	**P**	**02 22 41.7**	**-0.4**
PUZ	**Puketiti**	**1.70**	**29**	*e*P	**P**	**02 22 41.7**	**-0.4**
WAZ	**Wanganui**	**1.73**	**263**	PN	**P**	**02 22 44.1**	**+1.6**
WAZ	**Wanganui**	**1.73**	**263**	P	**P**	**02 22 44.1**	**+1.6**
VRZ	**Vera Road**	**1.96**	**282**	PN	**P**	**02 22 45.5**	**-0.2**
VRZ	**Vera Road**	**1.96**	**282**	P	**P**	**02 22 46.0**	**+0.3**
MTW	**Mount Morrison**	**2.06**	**219**	PN	**P**	**02 22 47.4**	**+0.3**
HIZ	**Hauiti**	**2.12**	**299**	PN	**P**	**02 22 47.4**	**-0.6**
MXZ	**Matakaoa Point**	**2.18**	**23**	PN	**P**	**02 22 48.5**	**-0.3**
KIW	**Kapiti Island**	**2.19**	**233**	PN	**P**	**02 22 49.2**	**+0.2**
RAEZ	**Rainy Point**	**2.21**	**277**	PN	**P**	**02 22 49.8**	**+0.5**
CAW	**Cannon Point**	**2.25**	**226**	PN	**P**	**02 22 49.8**	**-0.1**
PAWZ	**Paruwai Farm**	**2.27**	**217**	PN	**P**	**02 22 50.7**	**+0.6**
TOZ	**Tahuroa Road**	**2.28**	**323**	PN	**P**	**02 22 49.1**	**-1.2**
MSWZ	**Moikau Station**	**2.38**	**219**	PN	**P**	**02 22 51.6**	**0.0**
DFE	**Dawson Falls**	**2.43**	**275**	PN	**P**	**02 22 52.5**	**+0.2**
NEZ	**North Egmont**	**2.44**	**276**	PN	**P**	**02 22 52.7**	**+0.2**
PKE	**Pukeiti**	**2.53**	**278**	PN	**P**	**02 22 54.7**	**+0.8**
MRW	**Makara Radio**	**2.54**	**229**	PN	**P**	**02 22 53.3**	**-0.6**
BHW	**Baring Head**	**2.56**	**224**	PN	**P**	**02 22 53.5**	**-0.9**
SNZO	**South Karori**	**2.59**	**227**	*e*Pn	**P**	**02 22 54.4**	**-0.3**
TUWZ	**Tuamarina**	**3.11**	**232**	PN	**P**	**02 23 00.4**	**-1.7**
NNZ	**Nelson**	**3.36**	**240**	PN	**P**	**02 23 04.1**	**-1.5**
QRZ	**Quartz Range**	**3.81**	**249**	PN	**P**	**02 23 09.8**	**-2.1**
THZ	**Tophouse**	**3.94**	**235**	PN	**P**	**02 23 11.7**	**-2.2**
KHZ	**Kahutara**	**3.98**	**223**	PN	**P**	**02 23 11.7**	**-2.7**
LTZ	**Lake Taylor**	**4.92**	**228**	PN	**P**	**02 23 24.9**	**-2.8**
LTZ				SN	**S**	**02 24 19.0**	**-5.1**
LTZ	**Lake Taylor**	**4.92**	**228**	*e*P	**P**	**02 23 24.9**	**-2.8**
MQZ	**McQueen's Vall**	**5.36**	**218**	PN	**P**	**02 23 29.4**	**-4.3**
MQZ				SN	**S**	**02 24 27.8**	**-7.3**
WVZ	**Waitaha Valley**	**6.00**	**232**	SN	**S**	**02 24 45.2**	**-5.9**
RPZ	**Rata Peaks**	**6.20**	**226**	Pn	**P**	**02 23 42.9**	**-2.6**
	0.6nm,0.3s,baz=45,slow=19,SNR=3.1						
RPZ				Sn	**S**	**02 24 49.7**	**-6.3**
	11nm,0.3s,baz=22,slow=21,SNR=29						
RPZ	**Rata Peaks**	**6.20**	**226**	SN	**S**	**02 24 48.3**	**-7.7**
RPZ	**Rata Peaks**	**6.20**	**226**	Pn	**P**	**02 23 42.9**	**-2.6**
RPZ				Sn	**S**	**02 24 49.7**	**-6.3**
LBZ	**Lake Benmore**	**7.11**	**225**	PN	**P**	**02 23 53.2**	**-5.0**
STKA	**Stephens Creek**	**29.78**	**274**	P	**P**	**02 28 20.1**	**+1.5**
	0.7nm,0.7s,mb3.5,baz=123,slow=17,SNR=3.2						
ASAR	**Alice Springs**	**39.75**	**280**	P	**P**	**02 29 44.8**	**+0.8**
	3.3nm,0.8s,mb4.1,baz=125,slow=7.8,SNR=25						
ASPA	**Alice Springs**	**39.75**	**280**	*e*P	**P**	**02 29 45.0**	**+1.0**
WB2	**Warramunga Arr**	**41.58**	**285**	⇓*i*P	**P**	**02 29 59.2**	**+0.1**
WRA	**Warramunga Arr**	**41.59**	**285**	P	**P**	**02 29 59.4**	**+0.2**
	2.7nm,0.7s,mb4.0,baz=127,slow=7.2,SNR=27						

WEL 17 02:27:11.7±0.2**, 39.44S**×**177.09E, h23**^{km}±1^{km}**, ML3.5**/8**, 1C-2D, Error ellipse: s-maj=1.8km s-min=1.3km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BKZ	**Black Stump Fm**	**0.54**	**300**	⇓P*	Pb	02 27 21.7	-0.7
BKZ				S*	Sb	02 27 29.2	-0.5
KNZ	**Kokohu**	**0.61**	**47**	⇓P*	Pb	02 27 23.8	+0.1
KNZ				S*	Sb	02 27 33.6	+1.7
PWZ	**Pawanui**	**0.62**	**197**	P*	Pb	02 27 23.6	0.0
PWZ				S*	Sb	02 27 35.8	+3.9
HATZ	**Hinemaiaia**	**0.95**	**305**	PN	Pn	02 27 28.9	-0.8
HATZ				S*	Sb	02 27 41.1	-0.4
MOVZ	**Moawhango**	**1.04**	**271**	PN	Pn	02 27 30.3	-0.7
MOVZ				SN	Sn	02 27 43.8	-1.0
TSZ	**Takapari Road**	**1.07**	**234**	PN	Pn	02 27 29.9	-1.5
TUVZ	**Tukino**	**1.13**	**278**	PN	Pn	02 27 32.0	-0.2
TUVZ				SN	Sn	02 27 45.7	-1.4
MWZ	**Matawai**	**1.15**	**17**	PN	Pn	02 27 31.5	-1.1
WNVZ	**Wahianoa**	**1.17**	**275**	PN	Pn	02 27 32.6	-0.2
WNVZ				SN	Sn	02 27 48.0	-0.1
KAVZ	**Karewarewa**	**1.17**	**286**	PN	Pn	02 27 32.3	-0.6
URZ	**Urewera**	**1.18**	**1**	PN	Pn	02 27 31.9	-1.0
URZ				SN	Sn	02 27 47.2	-1.2
NGZ	**Ngauruhoe**	**1.19**	**282**	⇑PN	Pn	02 27 32.7	-0.4
NGZ				SN	Sn	02 27 48.8	+0.2
DRZ	**Dome Shelter**	**1.20**	**277**	PN	Pn	02 27 33.3	0.0
WTVZ	**West Tongariro**	**1.21**	**285**	PN	Pn	02 27 33.0	-0.4
CNZ	**Chateau**	**1.22**	**281**	PN	Pn	02 27 33.1	-0.5
WPVZ	**Whakapapa**	**1.22**	**281**	PN	Pn	02 27 33.1	-0.5
PATZ	**Paeroa**	**1.24**	**328**	PN	Pn	02 27 33.2	-0.6
MGZ	**Maungaku**	**1.28**	**289**	PN	Pn	02 27 33.5	-1.0
TAZ	**Tarawera**	**1.29**	**339**	PN	Pn	02 27 33.8	-0.7
TWVZ	**Taurewa**	**1.34**	**285**	PN	Pn	02 27 34.1	-1.2
BFZ	**Birch Farm**	**1.40**	**207**	PN	Pn	02 27 33.8	-2.4
WAZ	**Wanganui**	**1.66**	**258**	PN	Pn	02 27 40.0	+0.2
MRZ	**Mangatainoka R**	**1.69**	**223**	PN	Pn	02 27 37.8	-2.5
MRZ				SN	Sn	02 27 59.2	-2.1
MSWZ	**Moikau Station**	**2.42**	**215**	SN	Sn	02 28 15.7	-4.4
KHZ	**Kahutara**	**4.01**	**221**	SN	Sn	02 28 50.8	-9.5

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*IDC **17** 02:37:56.9±0.5, 58.70N×31.08W, mb4.1/26, mb1 4.2/29, mb1mx4.2/32, ML3.5/3, MS4.1/23, Ms1 4.1/23, ms1mx4.0/30, Error ellipse: s-maj=17.3km s-min=10.0km az=6.0*

*NEIC **17** 02:37:58.0±0.3, 58.62N×30.82W, h10^{km}, mb4.5/53, MS4.3/13, Error ellipse: s-maj=10.4km s-min=4.8km az=197.0*

*ZUR_RM **17** 02:37:58, 58.62N×30.82W, h12^{km}, Mw4.9/12, Moment Tensor Solution. s12 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.03; $M_{\theta\theta}$0.72; $M_{\phi\phi}$1.31; $M_{r\theta}$0.23; $M_{\theta\phi}$0.88; $M_{\phi r}$-1.98; Best double couple: $M_0$2.77×10^{16} NP1:ϕ_s10°,δ68°,λ-109°. NP2:ϕ_s231°,δ29°,λ-52°. Principal axes: T 2.507, Plg21°, Azm114°; N .529, Plg17°, Azm17°; P -3.036, Plg62°, Azm250°;*

ISC 17 02:37:56.5±0.2**, 58.66N**±0.05×**30.80W**±0.06**, h10**^{km}**, n112, σ1**^{s}**27**/104**, mb4.3**/70**, MS4.1**/28**, Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**7.58**	**32**	Pn	**Pn**	**02 39 48.5**	**-1.2**
	6.1nm,0.3s,baz=196,slow=9.4,SNR=12						
BORG				Sn	**Sn**	**02 41 16.0**	**-0.7**
	2.8nm,0.3s,baz=49,slow=21,SNR=13						
BORG				LR	LR	02 42 03.1	
	comp=Z,2µm,18.2s,baz=211,slow=32						
SUMG	**Summit**	**14.31**	**351**	Pn	**P**	**02 41 20.9**	**0.0**
EKA	**Eskdalemuir Ar**	**15.37**	**91**	Pn	**P**	**02 41 34.5**	**-0.3**
	0.2nm,0.3s,baz=292,slow=19,SNR=3.8						
JMIC	**Jan Mayen**	**15.44**	**28**	LR	LR	02 45 51.6	
	comp=Z,592nm,18.1s,baz=102,slow=31						
FRB	**Frobisher Bay**	**18.67**	**302**	LR	LR	02 48 28.1	
	comp=Z,1µm,18.9s,baz=84,slow=34						
ROSF	**Rostrenen**	**19.22**	**110**	*e*P	**P**	**02 42 22.1**	**-0.8**
QUIF	**Quistinic**	**19.56**	**111**	*e*P	**P**	**02 42 26.1**	**-0.8**
	249nm,1.8s						
SGMF	**Saint Gilles**	**19.62**	**110**	*e*P	**P**	**02 42 26.1**	**-1.5**
	223nm,1.6s						
SCHQ	**Schefferville**	**19.97**	**275**	P	**P**	**02 42 28.4**	**-3.0**
	0.3nm,0.3s,baz=52,slow=9.7,SNR=7.1						
SCHQ				LR	LR	02 48 55.1	
	comp=Z,723nm,18.6s,baz=272,slow=33						
SCHQ	**Schefferville**	**19.97**	**275**	*e*P	**P**	**02 42 28.1**	**-3.3**
	7.7nm,0.6s						
FLN	**La Foliniere**	**20.32**	**106**	*e*P	**P**	**02 42 34.4**	**-0.7**
	235nm,1.5s						
FLN				*e*R			
	525nm,21.0s						
GRR	**Gorron**	**20.38**	**107**	*e*P	**P**	**02 42 35.3**	**-0.4**
	143nm,1.5s						
LDF	**La Druitiere**	**20.61**	**106**	*e*P	**P**	**02 42 37.5**	**-0.7**
EMAZ	**Mazaricos**	**20.76**	**130**	P	**P**	**02 42 45.0**	**+5.3**
	58nm,1.5s						
NOA	**NORSAR Array B**	**20.98**	**66**	P	**P**	**02 42 41.3**	**-0.5**
	2.4nm,1.0s,baz=282,slow=10,SNR=2.7						
NOA				LR	LR	02 50 08.7	
	comp=Z,297nm,18.3s,MS3.7,baz=280,slow=35						
STS	**Santiago**	**20.99**	**129**	P	**P**	**02 42 44.6**	**+2.6**
	19nm,0.7s						
EPON	**Pontenova**	**21.20**	**126**	P	**P**	**02 42 47.1**	**+2.8**
	64nm,1.4s,mb4.8						
EZAM	**Zamans**	**21.55**	**130**	P	**P**	**02 42 46.5**	**-1.3**
	9.4nm,0.9s,mb4.2						
BAIF	**Baives**	**21.91**	**98**	*e*P	**P**	**02 42 50.2**	**-1.1**
	78nm,1.1s,mb4.8						
MFF	**Saint Martin d**	**21.95**	**110**	*e*P	**P**	**02 42 51.0**	**-0.8**
	131nm,1.5s,mb4.8						
ERUA	**La Rua**	**21.98**	**127**	P	**P**	**02 42 54.3**	**+2.2**
	28nm,1.3s,mb4.5						
WTSB	**Winterswijk**	**22.18**	**91**	*e*P	**P**	**02 43 01.4**	**+7.4**
	28nm,1.3s,mb4.5						
GIVF	**Givet**	**22.20**	**97**	*e*P	**P**	**02 42 53.2**	**-1.1**
HFS	**Hagfors**	**22.38**	**67**	P	**P**	**02 42 58.3**	**+2.4**
	3.3nm,0.8s,mb3.8,baz=72,slow=9.4,SNR=3.3						
HGN	**Heimansgroeve**	**22.40**	**95**	*e*P	**P**	**02 43 02.4**	**+6.2**
	17nm,1.6s,mb4.2						
HGN				*e*S	**S**	**02 47 11.3**	**+14**
ECAL	**Calabor**	**22.52**	**127**	P	**P**	**02 43 04.9**	**+7.6**
	58nm,1.6s,mb4.8						
WLF	**Walferdange**	**23.16**	**97**	P	**P**	**02 43 06.9**	**+3.4**
MEZF	**Maizieres J'vi**	**23.31**	**100**	*e*P	**P**	**02 43 04.1**	**-0.9**
TCF	**Toulx Ste Croi**	**23.34**	**107**	*e*P	**P**	**02 43 04.0**	**-1.3**
SSF	**Saint Saulge**	**23.46**	**105**	*e*P	**P**	**02 43 05.6**	**-0.9**
	12nm,0.8s,mb4.1						
BGF	**Bois d'Agland**	**23.47**	**106**	*e*P	**P**	**02 43 05.6**	**-1.0**
	43nm,0.9s,mb4.6						
MTE	**Manteigas**	**23.49**	**131**	*e*P	**P**	**02 43 10.3**	**+3.5**
	8.2nm,0.9s,mb4.2						
LOR	**Lormes**	**23.50**	**104**	*e*P	**P**	**02 43 06.0**	**-0.8**
	32nm,1.1s,mb4.4						
LOR				*e*R			
	604nm,21.5s						
LFF	**La Frestale**	**23.57**	**112**	*e*P	**P**	**02 43 06.2**	**-1.4**
	25nm,0.9s,mb4.4						
RJF	**Les Rejaudoux**	**23.69**	**110**	*e*P	**P**	**02 43 08.0**	**-0.7**
	28nm,1.1s,mb4.3						
RJF				*e*R			
	590nm,22.5s						
EALK	**Alkurruntz**	**23.80**	**118**	P	**P**	**02 43 16.1**	**+6.3**
	67nm,1.4s,mb4.9						
SMF	**Signal de Mont**	**23.91**	**105**	*e*P	**P**	**02 43 10.5**	**-0.3**
	20nm,0.9s,mb4.2						
CAF	**Calviac**	**24.23**	**110**	*e*P	**P**	**02 43 13.1**	**-0.9**
	37nm,1.3s,mb4.3						
HAU	**Haudompre**	**24.29**	**100**	*e*P	**P**	**02 43 13.8**	**-0.7**
	16nm,0.8s,mb4.2						
HAU				*e*R			
	1µm,18.8s						
CDF	**Champ du Feu**	**24.51**	**98**	*e*P	**P**	**02 43 15.7**	**-1.0**
	23nm,1.1s,mb4.3						
EVO	**Evora**	**24.93**	**134**	*e*P	**P**	**02 43 19.5**	**-1.3**
	13nm,1.1s,mb4.1						
EVO				*e*R			
	894nm,21.8s						
CABF	**La Chapelle**	**25.07**	**102**	*e*P	**P**	**02 43 21.3**	**-0.8**
	62nm,1.3s,mb4.7						
EBAD	**Badajoz**	**25.11**	**132**	P	**P**	**02 43 25.3**	**+2.7**
	14nm,1.2s,mb4.3						
MOX	**Moxa**	**25.43**	**90**	*i* P	**P**	**02 43 23.3**	**-2.1**
	logA/T=1.3,mb4.6						
MOX				L		02 54 05.0	
MOX	**Moxa**	**25.43**	**90**	*e*P	**P**	**02 43 23.3**	**-2.1**
	32nm,1.6s,mb4.6						
MOX				LR	LR		
	comp=Z,700nm,18.0s,MS4.2						
ETOR	**Torete**	**25.45**	**122**	P	**P**	**02 43 27.9**	**+2.1**
	comp=Z,31nm,1.7s,mb4.6						
ESDC	**Sonseca Array**	**25.57**	**126**	P	**P**	**02 43 27.6**	**+0.7**
	comp=Z,1.3nm,0.6s,mb3.6,baz=146,slow=33,SNR=2.3						
ESDC				LR	LR	02 51 48.9	
	comp=Z,167nm,18.6s,MS3.6,baz=330,slow=32						
ESDC	**Sonseca Array**	**25.57**	**126**	P	**P**	**02 43 29.5**	**+2.6**
	comp=Z,7.2nm,1.9s,mb3.9						
ESLA	**Sonseca Array**	**25.57**	**126**	*e*P	**P**	**02 43 32.2**	**+5.4**
	comp=Z,2.2nm,0.8s,mb3.7						
GRA1	**Grafenberg Arr**	**25.78**	**92**	*e*P	**P**	**02 43 32.0**	**+3.3**
	comp=Z,8.0nm,1.0s,mb4.2						
GRA1				LR	LR		
	comp=Z,600nm,20.9s,MS4.1						
CLL	**Collm**	**25.78**	**87**	*i*	**P**	**02 43 35.0**	**+6.3**
ARCES	**ARCESS Array B**	**25.84**	**42**	P	**P**	**02 43 29.4**	**+0.3**
	comp=Z,4.4nm,0.6s,mb4.2,baz=270,slow=9.7,SNR=13						
ARCES				LR	LR	02 51 47.8	
	comp=Z,110nm,19.4s,MS3.4,baz=317,slow=32						
EMIN	**Mina Concepcio**	**26.10**	**133**	P	**P**	**02 43 36.7**	**+4.8**
	comp=Z,22nm,1.5s,mb4.5						
LPL	**La Plagne**	**26.15**	**104**	*e*P	**P**	**02 43 31.5**	**-0.7**
	comp=Z,21nm,1.3s,mb4.2						
EADA	**Adamuz**	**26.59**	**129**	P	**P**	**02 43 41.4**	**+5.1**
	comp=Z,14nm,1.7s,mb4.2						
EVIA	**Vianos**	**27.05**	**125**	P	**P**	**02 43 44.8**	**+4.2**
	comp=Z,17nm,1.0s,mb4.5						
EQES	**Quesada**	**27.52**	**127**	P	**P**	**02 43 50.0**	**+5.2**
	comp=Z,15nm,1.2s,mb4.5						
GERES	**GERESS Array B**	**27.59**	**91**	P	**P**	**02 43 47.0**	**+1.6**
	comp=Z,0.3nm,0.7s,mb3.0,baz=292,slow=11,SNR=3.0						
SBF	**Sospel**	**27.67**	**105**	*e*P	**P**	**02 43 45.0**	**-1.1**
	comp=Z,43nm,0.9s,mb4.8						
FINES	**FINESS Array B**	**27.76**	**60**	P	**P**	**02 43 47.7**	**+0.9**
	comp=Z,2.1nm,0.8s,mb3.8,baz=225,slow=8.1,SNR=3.6						
FINES				LR	LR	02 54 24.7	
	comp=Z,239nm,18.1s,MS3.8,baz=304,slow=35						
VRAC	**Vranov**	**28.82**	**88**	P	**P**	**02 43 58.8**	**+2.4**
	comp=Z,1.8nm,0.7s,mb3.9,baz=42,slow=16,SNR=2.6						
AKASG	**Malin Array Be**	**34.51**	**76**	P	**P**	**02 44 46.9**	**+0.4**
	comp=Z,2.7nm,0.8s,mb4.3,baz=302,slow=8.6,SNR=8.2						
MLR	**Muntele Rosu**	**36.14**	**86**	LR	LR	02 59 50.1	
	comp=Z,235nm,19.0s,MS4.0,baz=163,slow=36						
ULM	**Lac du Bonnet**	**37.34**	**286**	P	**P**	**02 45 09.0**	**-1.4**
	comp=Z,5.5nm,0.8s,mb4.4,baz=63,slow=10.0,SNR=4.5						
ULM				LR	LR	02 59 04.0	
	comp=Z,429nm,19.6s,MS4.2,baz=50,slow=34						
ULM	**Lac du Bonnet**	**37.34**	**286**	*e*P	**P**	**02 45 10.4**	**0.0**
	comp=Z,6.5nm,0.7s,mb4.6						
ULM				LR	LR		
	comp=Z,758nm,21.0s,MS4.5						
YKA	**Yellowknife Ar**	**38.63**	**312**	P	**P**	**02 45 20.3**	**-0.7**
	comp=Z,3.9nm,0.7s,mb4.3,baz=55,slow=9.2,SNR=7.2						
YKA				LR	LR	02 59 42.1	
	comp=Z,457nm,21.4s,MS4.3,baz=60,slow=34						
YKA	**Yellowknife Ar**	**38.63**	**312**	P	**P**	**02 45 20.3**	**-0.7**
YKA				LR	LR	02 59 42.1	
INK	**Inuvik**	**41.53**	**327**	P	**P**	**02 45 43.8**	**-1.1**
	comp=Z,0.9nm,0.7s,mb3.5,baz=39,slow=12,SNR=7.1						
INK				LR	LR	03 01 53.3	
	comp=Z,222nm,19.2s,MS4.0,baz=248,slow=35						
INK	**Inuvik**	**41.53**	**327**	*e*P	**P**	**02 45 44.9**	**+0.1**
	comp=Z,1.5nm,0.5s,mb3.9						
IDI	**Anoyia**	**43.00**	**98**	P	**P**	**02 45 59.2**	**+1.9**
	comp=Z,8.5nm,0.9s,mb4.5,baz=136,slow=17,SNR=4.0						
CCM	**Cathedral Cave**	**43.38**	**269**	*e*P	**P**	**02 45 59.1**	**-1.1**
	comp=Z,7.5nm,1.0s,mb4.4						
CCM				LR	LR		
	comp=Z,218nm,21.0s,MS4.0						
BRTR	**Keskin Array B**	**44.23**	**86**	P	**P**	**02 46 10.1**	**+2.9**
	comp=Z,2.8nm,1.1s,mb3.9,baz=320,slow=4.1,SNR=9.9						
BRTR				LR	LR	03 05 11.6	
	comp=Z,219nm,21.4s,MS4.0,slow=37						
LAO	**LASA Array**	**44.85**	**289**	*e*P	**P**	**02 46 13.2**	**+1.0**
	comp=Z,4.8nm,0.7s,mb4.4						
LAO				LR	LR		
	comp=Z,486nm,19.0s,MS4.5						
LRAL	**Lakeview Retre**	**45.02**	**261**	P	**P**	**02 46 13.6**	**-0.1**
	comp=Z,3.4nm,0.6s,mb4.3						
LRAL				LR	LR		
	comp=Z,440nm,19.0s,MS4.4						
DAWY	**Dawson**	**46.18**	**325**	*e*P	**P**	**02 46 24.2**	**+1.8**
MALT	**Malatya**	**47.77**	**83**	*e*P	**P**	**02 46 38.6**	**+3.3**
	comp=Z,18nm,1.4s,mb4.9						
ILAR	**Eielson Array**	**47.80**	**329**	P	**P**	**02 46 34.8**	**-0.4**
	comp=Z,1.0nm,0.7s,mb3.9,baz=31,slow=6.5,SNR=13						
ILAR				PcP	PcP	02 48 03.5	-1.0
	comp=Z,0.6nm,0.7s,baz=0.8,slow=2.1,SNR=5.2						
BOZ	**Bozeman (W)**	**48.24**	**292**	*e*P	**P**	**02 46 38.9**	**0.0**
	comp=Z,1.8nm,0.7s,mb4.2						
BOZ				LR	LR		
	comp=Z,376nm,19.0s,MS4.4						
NEW	**Newport**	**48.96**	**298**	P	**P**	**02 46 44.8**	**+0.4**
	comp=Z,1.3nm,0.6s,mb4.1,baz=237,slow=13,SNR=2.3						
NEW				LR	LR	03 06 33.8	
	comp=Z,756nm,19.3s,MS4.7,baz=326,slow=35						
IMW	**Indian Meadow**	**49.18**	**290**	*e*P	**P**	**02 46 45.8**	**-0.4**
BW06	**Boulder Array**	**49.32**	**288**	*e*P	**P**	**02 46 47.1**	**-0.2**
BW06				LR	LR		
	comp=Z,457nm,19.0s,MS4.5						
PDAR	**Pinedale Array**	**49.32**	**288**	P	**P**	**02 46 47.3**	**0.0**
	comp=Z,1.7nm,0.8s,mb4.1,baz=53,slow=7.4,SNR=8.0						
PDAR				LR	LR	03 06 27.6	
	comp=Z,340nm,19.0s,MS4.4,baz=31,slow=35						
MCMT	**McKenzie Canyo**	**49.43**	**292**	*e*P	**P**	**02 46 49.0**	**+0.9**
REDW	**Red Top Meadow**	**49.53**	**289**	*e*P	**P**	**02 46 48.3**	**-0.5**
ISCO	**Idaho Springs**	**49.53**	**282**	*e*P	**P**	**02 46 50.3**	**+1.4**
	comp=Z,8.1nm,1.4s,mb4.6						
ISCO				LR	LR		
	comp=Z,381nm,19.0s,MS4.4						
WMOK	**Wichita Mounta**	**49.84**	**272**	*e*P	**P**	**02 46 50.8**	**-0.5**
	comp=Z,6.5nm,1.3s,mb4.5						
SDCO	**Great Sand Dun**	**51.02**	**280**	*e*P	**P**	**02 47 00.4**	**+0.1**
	comp=Z,2.5nm,1.0s,mb4.1						
SDCO				LR	LR		
	comp=Z,415nm,22.0s,MS4.4						
HWUT	**Hardware Ranch**	**51.18**	**288**	*e*P	**P**	**02 47 01.3**	**-0.1**
	comp=Z,3.5nm,1.0s,mb4.2						
ASF	**Jabal al Asfar**	**51.69**	**90**	P	**P**	**02 47 08.0**	**+2.5**
	comp=Z,2.0nm,0.8s,mb4.1,baz=101,slow=9.7,SNR=3.2						
BVAR	**Borovoye Array**	**51.82**	**49**	P	**P**	**02 47 06.7**	**+0.6**
	comp=Z,1.5nm,0.6s,mb4.1,baz=323,slow=7.4,SNR=8.4						
EIL	**Elat**	**52.65**	**93**	P	**P**	**02 47 14.8**	**+2.0**
	comp=Z,2.3nm,0.8s,mb4.2,baz=31,slow=23,SNR=2.9						
EIL	**Elat**	**52.65**	**93**	*e*P	**P**	**02 47 14.6**	**+1.8**
	comp=Z,20nm,1.4s,mb4.9						
ELK	**Elko**	**53.65**	**290**	*e*P	**P**	**02 47 20.7**	**+0.8**
	comp=Z,1.9nm,0.8s,mb4.1						
DBIC	**Dimbokro**	**55.58**	**148**	P	**P**	**02 47 34.4**	**0.0**
	comp=Z,2.7nm,0.6s,mb4.5,baz=333,slow=8.0,SNR=8.4						
DBIC				LR	LR	03 08 19.1	
	comp=Z,207nm,18.3s,MS4.2,baz=315,slow=33						
DBIC	**Dimbokro**	**55.58**	**148**	P	**P**	**02 47 33.4**	**-1.0**
	comp=Z,3.6nm,0.6s,mb4.6						
WUAZ	**Wupatki**	**55.75**	**283**	*e*P	**P**	**02 47 35.0**	**-0.4**
	comp=Z,3.1nm,0.8s,mb4.4						
LIC	**Lamto**	**55.96**	**149**	*e*P	**P**	**02 47 36.5**	**-0.6**
TXAR	**Lajitas Array**	**56.64**	**272**	P	**P**	**02 47 40.1**	**-1.7**
	comp=Z,0.4nm,0.7s,mb3.5,baz=53,slow=6.3,SNR=5.5						
TXAR				PcP	PcP	02 48 36.8	-1.2
	comp=Z,0.2nm,0.9s,baz=72,slow=2.9,SNR=2.2						
TXAR				LR	LR	03 11 32.9	
	comp=Z,222nm,18.5s,MS4.3,baz=80,slow=36						
NVAR	**Mina Array Bea**	**56.94**	**291**	P	**P**	**02 47 43.2**	**-0.7**
	comp=Z,1.2nm,0.7s,mb4.1,baz=50,slow=7.0,SNR=4.7						
NVAR				LR	LR	03 11 24.7	
	comp=Z,176nm,19.5s,MS4.2,baz=80,slow=35						
MKAR	**Makanchi Array**	**61.41**	**46**	P	**P**	**02 48 14.7**	**+0.1**
	comp=Z,2.8nm,0.9s,mb4.4,baz=335,slow=5.4,SNR=16						
MKAR				LR	LR	03 12 36.9	
	comp=Z,48nm,20.8s,MS3.6,baz=85,slow=34						
ROSC	**El Rosal**	**63.30**	**230**	P	**P**	**02 48 29.9**	**+2.3**
	comp=Z,6.6nm,0.5s,mb5.0,baz=134,slow=19,SNR=4.2						
SONM	**Songino Array**	**68.19**	**30**	P	**P**	**02 48 58.3**	**-0.2**
	comp=Z,1.9nm,1.0s,mb4.1,baz=329,slow=7.2,SNR=11						
SAML	**Samuel**	**72.28**	**214**	*e*P	**P**	**02 49 22.9**	**-1.0**
	comp=Z,0.9nm,0.7s,mb3.8						
BDFB	**Brasilia**	**75.36**	**197**	P	**P**	**02 49 41.3**	**-0.5**
	comp=Z,2.0nm,0.7s,mb4.1,baz=32,slow=9.5,SNR=3.0						
BDFB				LR	LR	03 16 00.2	
	comp=Z,89nm,20.1s,MS4.1,baz=298,slow=30						
ASAJ	**Asahikawa**	**77.45**	**5**	LR	LR	03 23 47.4	
	comp=Z,52nm,19.4s,MS3.9,baz=3.9,slow=36						
LPAZ	**La Paz**	**80.70**	**216**	LR	LR	03 21 24.4	
	comp=Z,36nm,18.9s,MS3.8,baz=195,slow=32						
CPUP	**Villa Florida**	**87.50**	**204**	LR	LR	03 25 49.3	
	comp=Z,77nm,20.1s,MS4.1,baz=243,slow=33						
CMAR	**Chiang Mai Arr**	**92.81**	**47**	P	**P**	**02 51 11.8**	**+1.6**
	comp=Z,0.8nm,0.3s,mb4.6,baz=310,slow=4.9,SNR=4.2						
MAW	**Mawson**	**143.15**	**140**	PKP	PKPdf	02 57 29.7	-2.3
	comp=Z,1.1nm,0.7s,baz=334,slow=5.5,SNR=3.9						
ASAR	**Alice Springs**	**143.38**	**24**	PKP	PKPdf	02 57 30.2	-3.4
	comp=Z,1.0nm,0.8s,baz=346,slow=2.4,SNR=9.7						
QSPA	**South Pole Qui**	**148.56**	**180**	*e*PKP	PKPdf	02 57 44.4	+3.6
STKA	**Stephens Creek**	**152.73**	**14**	PKPbc	PKPdf	02 57 54.4	+5.8
	comp=Z,3.7nm,0.8s,baz=75,slow=1.3,SNR=5.0						

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*NIED **17** 02:40:00, 33.10N×137.10E, h11^{km}, Mw3.9 Best double couple: $M_0$6.85×10^{14} NP1:ϕ_s83°,δ55°,λ99°. NP2:ϕ_s248°, δ36°,λ78°.*

*IDC **17** 02:40:22.5±1.2, 33.24N×137.14E, mb4.0/12, mb1 4.1/14, mb1mx4.0/27, ML3.9/2, Error ellipse: s-maj=45.4km s-min=21.3km az=22.0*

*NEIC **17** 02:40:24.1±1.2, 33.14N×137.07E, h10^{km}, Error ellipse: s-maj=27.8km s-min=14.5km az=141.0*

*JMA **17** 02:40:25.1±0.1, 33.12N×137.06E, h37^{km}±3^{km}, M3.9*

ISC 17 02:40:25.1±1.1**, 33.14N**±0.04×**137.08E**±0.03**, h31**^{km}±8^{km}**, n32, σ0**^{s}**89**/48**, mb3.9**/12**, 8D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	**Tokai 1**	**0.76**	**34**	P	**Pn**	**02 40 39.6**	**-0.1**
TK01				S	**Sb**	**02 40 50.1**	**+0.3**
TK02	**Tokai 2**	**0.98**	**35**	⇓P	**Pn**	**02 40 43.1**	**+0.1**
TK02				S	**Sn**	**02 40 56.4**	**+0.5**
JWZ	**Kozaga**	**1.21**	**289**	⇓P	**Pn**	**02 40 45.7**	**-0.4**
JWZ				S	**Sn**	**02 41 00.1**	**-1.4**
JIE	**Ise**	**1.28**	**346**	⇓P	**Pn**	**02 40 47.8**	**+0.5**
JIE				S	**Sn**	**02 41 04.9**	**+1.4**
JKN	**Kiinagashima**	**1.30**	**329**	⇓P	**Pn**	**02 40 47.6**	**+0.2**
JKN				S	**Sn**	**02 41 02.8**	**-1.0**
TK04	**Tokai 4**	**1.41**	**28**	⇓P	**Pn**	**02 40 49.4**	**+0.4**
TK04				S	**Sn**	**02 41 06.8**	**+0.2**
JWM	**Minabe**	**1.60**	**297**	⇓P	**Pn**	**02 40 51.7**	**-0.1**
JWM				S	**Sn**	**02 41 10.6**	**-1.0**
JWY	**Kouya**	**1.64**	**311**	⇓P	**Pn**	**02 40 53.0**	**+0.7**
JWY				S	**Sn**	**02 41 12.0**	**-0.5**
TSUJ	**Tsu 2**	**1.66**	**341**	P	**Pn**	**02 40 53.0**	**+0.4**
TSUJ				S	**Sn**	**02 41 13.2**	**+0.2**
JHE	**Heguri**	**1.90**	**323**	⇓P	**Pn**	**02 40 56.5**	**+0.4**
JHE				S	**Sn**	**02 41 19.0**	**-0.2**
SHZ3	**Shizuoka 3**	**2.14**	**26**	P	**Pn**	**02 40 59.2**	**-0.3**
SHZ3				S	**Sn**	**02 41 23.8**	**-1.4**
JIZS	**Izushimoda**	**2.17**	**43**	P	**Pn**	**02 41 01.4**	**+1.4**
JAJ2	**Tsuna**	**2.23**	**306**	P	**Pn**	**02 41 01.3**	**+0.6**
JAJ2				S	**Sn**	**02 41 26.7**	**-0.8**
JHJ	**Hachijo jima 2**	**2.27**	**90**	Pn	**Pn**	**02 41 00.3**	**-1.0**
	29nm,0.3s,baz=225,slow=20,SNR=5.4						
JHJ				Sn	**Sn**	**02 41 27.2**	**-1.4**
	82nm,0.3s,baz=75,slow=22,SNR=9.3						
MAJO	**Matsushiro**	**3.52**	**15**	*e*Pn	**Pn**	**02 41 19.2**	**+0.1**
MAJO				*e*Sn	**Sn**	**02 41 56.4**	**-3.8**
MAT	**Matsushiro**	**3.52**	**15**	P	**Pn**	**02 41 19.4**	**+0.3**
MAT				S	**Sn**	**02 41 58.6**	**-1.6**
MAT	**Matsushiro**	**3.52**	**15**	*e*P	**Pn**	**02 41 19.0**	**-0.1**
MAT				*e*S	**Sn**	**02 41 59.0**	**-1.2**
CBIJ	**Chichi jima**	**7.47**	**142**	Pn	**Pn**	**02 42 13.0**	**-1.9**
	9.1nm,0.3s,baz=292,slow=19,SNR=4.3						
SONM	**Songino Array**	**27.35**	**312**	P	**P**	**02 46 08.3**	**-1.0**
	1.2nm,1.2s,mb3.3,baz=135,slow=8.2,SNR=3.0						
MKAR	**Makanchi Array**	**43.30**	**305**	P	**P**	**02 48 27.0**	**+1.4**
	0.6nm,0.7s,mb3.4,baz=72,slow=9.1,SNR=4.1						
ILAR	**Eielson Array**	**54.66**	**31**	P	**P**	**02 49 52.2**	**-0.8**
	0.6nm,1.1s,mb3.5,baz=263,slow=5.9,SNR=4.1						
FINES	**FINESS Array B**	**70.57**	**332**	P	**P**	**02 51 38.6**	**-0.2**
	8.9nm,1.3s,mb4.5,baz=45,slow=8.1,SNR=5.1						
AKASG	**Malin Array Be**	**75.15**	**321**	P	**P**	**02 52 06.0**	**+0.1**
	1.2nm,0.6s,mb4.0,baz=49,slow=6.4,SNR=8.4						
HFS	**Hagfors**	**76.11**	**334**	P	**P**	**02 52 11.6**	**+0.4**
	1.9nm,0.8s,mb4.1,baz=63,slow=3.2,SNR=4.3						
NOA	**NORSAR Array B**	**76.34**	**336**	P	**P**	**02 52 12.9**	**+0.5**
	1.2nm,0.8s,mb3.9,baz=78,slow=12,SNR=3.0						
BRTR	**Keskin Array B**	**78.70**	**310**	P	**P**	**02 52 26.8**	**+0.9**
	1.5nm,1.1s,mb3.8,baz=90,slow=7.4,SNR=4.3						
EIL	**Elat**	**83.42**	**301**	P	**P**	**02 52 52.8**	**+1.8**
	2.0nm,0.7s,mb4.3,baz=62,slow=18,SNR=2.4						
EIL	**Elat**	**83.42**	**301**	P	**P**	**02 52 52.8**	**+1.8**
GERES	**GERESS Array B**	**84.06**	**326**	P	**P**	**02 52 54.4**	**+0.7**
	0.8nm,0.7s,mb4.0,baz=37,slow=6.7,SNR=7.1						
DAVOX	**Davos**	**87.33**	**327**	P	**P**	**02 53 10.0**	**0.0**
	1.8nm,0.8s,mb4.4,baz=18,slow=3.2,SNR=2.0						
TXAR	**Lajitas Array**	**95.33**	**50**	P	**P**	**02 53 49.7**	**+2.0**
	0.3nm,0.6s,mb3.9,baz=297,slow=2.8,SNR=5.9						
TXAR	**Lajitas Array**	**95.33**	**50**	P	**P**	**02 53 49.7**	**+2.0**

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*NEIC **17** 02:43:35.5±1.5, 5.73S×149.07E, h143^{km}±13^{km}, mb4.6/10, Error ellipse: s-maj=11.3km s-min=8.9km az=77.0*

*IDC **17** 02:43:35.2±2.0, 5.72S×148.99E, h137^{km}±17^{km}, mb4.2/14, mb1 4.2/15, mb1mx4.1/20, Error ellipse: s-maj=17.4km s-min=9.1km az=107.0*

ISC 17 02:43:33.3±1.7**, 5.68S**±0.07×**149.04E**±0.09**, h135**^{km}±16^{km}**, n38, σ0**^{s}**84**/36**, mb4.4**/19**, 2D, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.15**	**207**	*e*P	**P**	**02 44 36.2**	**+0.1**
CTA	**Charters Tower**	**14.58**	**190**	*e*P	**P**	**02 46 59.2**	**+5.0**
	6.0nm,0.8s						
CTA	**Charters Tower**	**14.58**	**190**	P	**P**	**02 46 54.9**	**+0.7**
	0.3nm,0.3s,baz=278,slow=20,SNR=2.3						
CTAO	**Charters Tower**	**14.58**	**190**	*e*P	**P**	**02 46 58.9**	**+4.7**
KAKA	**Kakadu**	**17.84**	**246**	*e*P	**P**	**02 47 34.5**	**0.0**

	14nm,0.3s						
WRAB	Tennant Creek	20.12	224	eP	P	02 47 57.7	-0.9
	15nm,0.6s						
WRAB				eS	S	02 51 33.8	+1.9
WB2	Warramunga Arr	20.13	224	eP	P	02 47 58.3	-0.4
WRA	Warramunga Arr	20.14	224	P	P	02 47 58.6	-0.2
	7.2nm,0.4s,baz=48,slow=10,SNR=46						
WRA				S	S	02 51 36.2	+3.9
	5.7nm,1.1s,baz=45,slow=20,SNR=8.6						
WRA				PcP	PcP	02 52 09.3	+0.7
	0.6nm,0.4s,baz=36,slow=2.0,SNR=4.9						
WRA				ScP		02 55 32.4	
	1.5nm,0.7s,baz=48,slow=2.7,SNR=10						
ASAR	Alice Springs	23.07	218	P	P	02 48 28.9	+1.2
	5.7nm,0.5s,mb4.3,baz=56,slow=8.4,SNR=86						
ASAR				S	S	02 52 30.2	+5.2
	1.9nm,0.8s,baz=30,slow=21,SNR=5.5						
ASAR				ScP		02 55 40.0	
	1.1nm,0.9s,baz=40,slow=3.2,SNR=5.4						
ASPA	Alice Springs	23.07	218	⇓iP	P	02 48 29.1	+1.3
DZM	Mont Dzumac	23.43	136	eP	P	02 48 31.0	-0.2
DZM	Mont Dzumac	23.43	136	eP	P	02 48 31.0	-0.3
FITZ	Fitzroy Crossi	25.97	240	eP	P	02 48 54.6	-0.7
	33nm,0.5s,mb5.2						
FITZ	Fitzroy Crossi	25.97	240	P	P	02 48 54.6	-0.7
	39nm,0.5s,mb5.3,baz=55,slow=5.8,SNR=99						
STKA	Stephens Creek	26.98	194	eP	P	02 49 05.0	+0.6
	2.2nm,0.6s,mb4.0						
STKA	Stephens Creek	26.98	194	P	P	02 49 03.4	-1.0
	2.8nm,0.6s,mb4.1,baz=30,slow=13,SNR=12						
MBWA	Marble Bar	32.30	239	eP	P	02 49 50.1	-1.6
	6.7nm,0.6s,mb4.5						
MEEK	Meekatharra	35.72	231	⇓iP	P	02 50 20.2	-0.6
	5.5nm,0.3s,mb4.7						
JOW	Kunigami	38.06	329	P	P	02 50 41.5	+1.0
	11nm,0.4s,mb4.8,baz=146,slow=10,SNR=7.5						
URZ	Urewera	41.24	146	P	P	02 51 07.0	+0.5
	6.7nm,0.6s,mb4.4,baz=18,slow=3.2,SNR=3.1						
JNU	Nakatsue	42.26	337	P	P	02 51 16.2	+1.2
	11nm,0.5s,mb4.8,baz=80,slow=7.9,SNR=9.7						
RPZ	Rata Peaks	42.55	156	P	P	02 51 17.6	+0.4
	7.2nm,0.4s,mb4.7,baz=295,slow=14,SNR=2.9						
ASAJ	Asahikawa	49.90	354	P	P	02 52 14.3	-0.7
	2.7nm,0.3s,mb4.3,baz=138,slow=22,SNR=2.8						
HIA	Hailar	60.38	338	eP	P	02 53 30.3	-0.2
	9.0nm,0.8s,mb4.7						
FX1	Attu Island--F	61.82	16	P	P	02 53 40.9	+0.8
	31nm,1.0s,mb5.1,baz=259,slow=3.6,SNR=3.6						
SONM	Songino Array	65.13	330	P	P	02 54 02.0	+0.1
	1.4nm,0.5s,mb4.1,baz=146,slow=4.3,SNR=12						
CASY	Casey	66.11	196	eP	P	02 54 06.2	-1.7
	1.7nm,0.4s,mb4.2						
MKAR	Makanchi Array	78.55	320	P	P	02 55 20.5	-0.8
	0.7nm,0.4s,mb3.6,baz=98,slow=8.2,SNR=11						
MKAR	Makanchi Array	78.55	320	P	P	02 55 20.5	-0.8
MCK	McKinley	83.12	23	eP	P	02 55 44.8	-0.2
	4.5nm,1.0s,mb4.2						
QSPA	South Pole Qui	84.29	180	P	P	02 55 51.0	+0.5
	3.0nm,0.8s,mb4.1						
ILAR	Eielson Array	84.39	23	P	P	02 55 50.7	-0.6
	1.8nm,0.7s,mb3.9,baz=252,slow=5.1,SNR=20						
BVAR	Borovoye Array	87.71	324	P	P	02 56 08.2	+0.5
	0.7nm,0.5s,mb3.8,baz=124,slow=10,SNR=4.0						
GERES	GERESS Array B	122.78	326	PKP	PKPdf	03 02 14.0	+0.7
	0.3nm,0.7s,baz=90,slow=1.3,SNR=4.5						
SAML	Samuel	144.74	114	ePKPdf	PKPdf	03 02 55.0	-0.1
BDFB	Brasilia	152.91	142	PKPbc	PKPdf	03 03 16.9	+9.1
	1.1nm,0.3s,baz=252,slow=3.2,SNR=4.8						
DBIC	Dimbokro	154.03	274	PKPbc	PKPdf	03 03 18.8	+9.3
	1.2nm,0.8s,baz=360,slow=18,SNR=2.5						
DBIC	Dimbokro	154.03	274	PKPbc	PKPdf	03 03 18.8	+9.3

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*IDC **17** 02:46:42.0±1.2, 58.67N×31.12W, mb3.5/8, mb1 3.8/11, mb1mx3.6/28, ML3.2/3, Error ellipse: s-maj=29.2km s-min=18.5km az=3.0*

*NEIC **17** 02:46:43.5±0.7, 58.64N×31.15W, h10^{km}, Error ellipse: s-maj=16.2km s-min=9.8km az=175.0*

ISC 17 02:46:41.9±0.8, **58.8N**±0.1×**31.1W**±0.2, **h10^{km}, n12,** σ**0^{s}71**/13, **mb3.5**/8, **Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BORG	Borgarnes	7.60	34	Pn	Pn	02 48 35.7	+0.2
	1.0nm,0.3s,baz=203,slow=7.7,SNR=3.3						
BORG				Sn	Sn	02 50 01.9	-0.7
	baz=81,slow=10,SNR=2.7						
EKA	Eskdalemuir Ar	15.55	91	Pn	P	02 50 28.8	+6.1
	0.1nm,0.3s,baz=299,slow=8.6,SNR=4.4						
SCHQ	Schefferville	19.78	274	P	P	02 51 13.8	-1.0
	0.2nm,0.3s,baz=349,slow=9.4,SNR=3.6						
HFS	Hagfors	22.51	67	P	P	02 51 43.8	+1.2
	3.9nm,1.0s,mb3.8,baz=270,slow=7.2,SNR=2.8						
HFS	Hagfors	22.51	67	P	P	02 51 43.8	+1.2
ESDC	Sonseca Array	25.77	126	P	P	02 52 13.7	-0.5
	0.6nm,0.6s,mb3.3,baz=342,slow=8.1,SNR=3.0						
INK	Inuvik	41.35	327	P	P	02 54 29.1	+0.1
	0.8nm,0.6s,mb3.6,baz=72,slow=9.2,SNR=3.2						
ILAR	Eielson Array	47.63	328	P	P	02 55 20.6	+1.4
	0.1nm,0.6s,mb3.0,baz=24,slow=6.3,SNR=4.7						
PDAR	Pinedale Array	49.12	287	P	P	02 55 31.4	+0.3
	0.5nm,0.8s,mb3.6,baz=58,slow=8.5,SNR=3.5						
BVAR	Borovoye Array	51.90	49	P	P	02 55 52.1	-0.1
	0.3nm,0.5s,mb3.5,baz=333,slow=9.7,SNR=3.2						
MKAR	Makanchi Array	61.47	46	P	P	02 57 00.1	-0.4
	0.5nm,0.6s,mb3.8,baz=320,slow=5.2,SNR=5.0						
SONM	Songino Array	68.19	29	P	P	02 57 43.6	-0.4
	1.1nm,1.0s,mb3.8,baz=342,slow=4.6,SNR=3.8						

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*IDC **17** 02:46:58.1±0.8, 58.66N×30.98W, mb3.5/14, mb1 3.8/17, mb1mx3.7/28, ML3.2/3, MS3.6/3, Ms1 3.6/3, ms1mx2.9/22, Error ellipse: s-maj=25.0km s-min=13.8km az=3.0*

*NEIC **17** 02:46:59.4±0.6, 58.61N×31.01W, h10^{km}, Error ellipse: s-maj=16.6km s-min=10.0km az=180.0*

ISC 17 02:46:57.8±0.6, **58.74N**±0.09×**31.0W**±0.1, **h10^{km}, n23,** σ**0^{s}86**/21, **mb3.6**/14, **MS3.4**/1, **Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BORG	Borgarnes	7.57	33	Pn	Pn	02 48 51.3	+0.4
	2.9nm,0.3s,baz=204,slow=12,SNR=7.3						
BORG				Sn	Sn	02 50 16.4	-1.2
	0.6nm,0.3s,baz=78,slow=16,SNR=3.8						
BORG				LR	LR	02 50 54.1	
	comp=Z,427nm,21.5s,baz=130,slow=31						
JMIC	Jan Mayen	15.41	28	LR	LR	02 54 42.1	
	comp=Z,236nm,20.1s,baz=86,slow=30						
EKA	Eskdalemuir Ar	15.47	91	Pn	P	02 50 46.9	+10
	0.1nm,0.3s,baz=306,slow=7.2,SNR=3.6						
SCHQ	Schefferville	19.86	274	P	P	02 51 30.1	-1.4
	0.2nm,0.3s,baz=70,slow=3.2,SNR=3.6						
NOA	NORSAR Array B	21.03	66	P	P	02 51 42.8	-0.9
	1.2nm,0.9s,mb3.2,baz=310,slow=15,SNR=2.6						
HFS	Hagfors	22.44	67	P	P	02 51 58.1	+0.2
	3.5nm,0.9s,mb3.8,baz=338,slow=16,SNR=3.1						
ESDC	Sonseca Array	25.70	126	P	P	02 52 28.4	-0.9
	0.6nm,0.8s,mb3.2,baz=298,slow=34,SNR=2.3						
ESDC	Sonseca Array	25.70	126	P	P	02 52 28.4	-0.9
ARCES	ARCESS Array B	25.85	42	P	P	02 52 31.2	+0.8
	1.2nm,0.6s,mb3.6,baz=280,slow=10,SNR=3.7						
ARCES	ARCESS Array B	25.85	42	P	P	02 52 31.2	+0.7
FINES	FINESS Array B	27.81	60	LR	LR	03 03 27.4	
	comp=Z,86nm,18.2s,MS3.4,baz=167,slow=36						
AKASG	Malin Array Be	34.59	76	P	P	02 53 47.7	-0.7
	0.2nm,0.3s,mb3.5,baz=305,slow=8.9,SNR=2.5						
INK	Inuvik	41.41	327	P	P	02 54 46.1	+0.9
	2.0nm,1.1s,mb3.7,baz=46,slow=3.1,SNR=2.9						
BRTR	Keskin Array B	44.32	86	P	P	02 55 09.7	+0.5
	0.2nm,0.5s,mb3.1,baz=342,slow=4.6,SNR=3.0						
ILAR	Eielson Array	47.68	329	P	P	02 55 37.0	+1.5
	0.4nm,0.7s,mb3.5,baz=35,slow=6.4,SNR=6.1						
PDAR	Pinedale Array	49.20	288	P	P	02 55 46.7	-0.9
	0.5nm,0.7s,mb3.6,baz=69,slow=7.7,SNR=2.9						
EIL	Elat	52.75	93	P	P	02 56 16.3	+1.5
	2.5nm,0.8s,mb4.2,baz=313,slow=28,SNR=2.9						
EIL	Elat	52.75	93	P	P	02 56 16.3	+1.5
TXAR	Lajitas Array	56.53	272	P	P	02 56 42.5	+0.2
	0.2nm,0.7s,mb3.3,baz=31,slow=5.3,SNR=2.5						
NVAR	Mina Array Bea	56.82	290	P	P	02 56 44.1	-0.1
	0.2nm,0.3s,mb3.6,baz=37,slow=4.5,SNR=2.7						
MKAR	Makanchi Array	61.42	46	P	P	02 57 15.8	-0.3
	0.9nm,0.7s,mb4.0,baz=339,slow=5.4,SNR=6.0						
SONM	Songino Array	68.17	29	P	P	02 58 00.1	+0.4
	0.5nm,0.8s,mb3.6,baz=315,slow=6.1,SNR=2.5						
WRA	Warramunga Arr	139.81	22	PKP	PKPdf	03 06 26.4	-2.5
	0.5nm,0.9s,baz=339,slow=2.5,SNR=3.1						

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*IDC **17** 02:47:19.7±1.2, 58.71N×31.07W, mb3.8/7, mb1 4.0/9, mb1mx3.7/26, ML2.2/1, MS3.2/1, Ms1 3.2/1, ms1mx2.6/15, Error ellipse: s-maj=29.0km s-min=19.1km az=177.0*

*NEIC **17** 02:47:21.2±0.7, 58.68N×31.06W, h10^{km}, Error ellipse: s-maj=18.4km s-min=11.2km az=171.0*

ISC 17 02:47:19.5±0.8, **58.7N**±0.1×**31.1W**±0.2, **h10^{km}, n11,** σ**0^{s}40**/12, **mb3.8**/7, **MS3.1**/1, **Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BORG	Borgarnes	7.60	33	Pn	Pn	02 49 13.4	+0.5
	2.4nm,0.3s,baz=204,slow=16,SNR=4.3						
BORG				Sn	Sn	02 50 39.8	-0.2
	0.3nm,0.3s,baz=60,slow=16,SNR=3.4						
SCHQ	Schefferville	19.80	274	P	P	02 51 52.5	0.0
	0.1nm,0.3s,baz=79,slow=4.5,SNR=2.7						
HFS	Hagfors	22.50	67	P	P	02 52 20.0	-0.1
	6.0nm,1.1s,mb4.0,baz=288,slow=9.1,SNR=2.8						
HFS	Hagfors	22.50	67	P	P	02 52 20.0	-0.1
MOX	Moxa	25.59	90	eP	P	02 52 54.0	+4.0
ESDC	Sonseca Array	25.75	126	P	P	02 52 51.6	+0.1
	0.9nm,0.6s,mb3.5,baz=297,slow=38,SNR=2.4						
ARCES	ARCESS Array B	25.88	42	P	P	02 52 52.1	-0.4
	5.2nm,0.9s,mb4.1,baz=292,slow=6.5,SNR=6.2						
ARCES				LR	LR	03 02 15.7	
	comp=Z,50nm,18.8s,MS3.1,baz=285,slow=35						
INK	Inuvik	41.37	327	P	P	02 55 07.0	+0.3
	0.8nm,0.7s,mb3.5,baz=34,slow=12,SNR=2.0						
PDAR	Pinedale Array	49.14	287	P	P	02 56 08.6	-0.3
	0.7nm,0.9s,mb3.7,baz=34,slow=6.5,SNR=3.1						
MKAR	Makanchi Array	61.46	46	P	P	02 57 37.6	-0.4
	0.6nm,0.5s,mb4.0,baz=344,slow=5.5,SNR=5.4						
SONM	Songino Array	68.19	29	P	P	02 58 21.8	+0.3
	1.0nm,1.1s,mb3.8,baz=315,slow=4.1,SNR=2.5						

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*IDC **17** 02:49:47.0±0.9, 58.92N×31.10W, mb3.7/11, mb1 3.9/14, mb1mx3.8/26, ML3.2/3, Error ellipse: s-maj=27.2km s-min=15.5km az=177.0*

*NEIC **17** 02:49:48.8±0.6, 58.95N×31.17W, h10^{km}, Error ellipse: s-maj=17.3km s-min=9.4km az=177.0*

ISC 17 02:49:46.4±0.6, **58.89N**±0.09×**31.2W**±0.1, **h10^{km}, n17,** σ**0^{s}95**/16, **mb3.7**/11, **Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BORG	Borgarnes	7.51	34	Pn	Pn	02 51 37.8	-0.9
	3.0nm,0.3s,baz=198,slow=9.5,SNR=7.4						
BORG				Sn	Sn	02 53 05.8	+1.1
	0.4nm,0.3s,baz=9.2,slow=6.3,SNR=5.0						
EKA	Eskdalemuir Ar	15.59	91	Pn	P	02 53 28.8	+1.2
	0.1nm,0.3s,baz=309,slow=10,SNR=3.1						
SCHQ	Schefferville	19.73	274	P	P	02 54 17.8	-1.0
	0.1nm,0.3s,baz=26,slow=3.6,SNR=3.1						
ARCES	ARCESS Array B	25.81	42	P	P	02 55 17.8	-1.0
	2.0nm,0.6s,mb3.8,baz=276,slow=9.1,SNR=8.5						
ARCES	ARCESS Array B	25.81	42	P	P	02 55 17.8	-1.0
ESDC	Sonseca Array	25.88	126	P	P	02 55 19.6	-0.1
	2.2nm,0.8s,mb3.8,baz=327,slow=9.6,SNR=7.5						
AKASG	Malin Array Be	34.67	77	P	P	02 56 36.1	-1.6
	1.8nm,0.8s,mb4.1,baz=306,slow=8.7,SNR=5.2						
BRTR	Keskin Array B	44.42	86	P	P	02 57 59.7	+1.0
	0.4nm,0.7s,mb3.3,baz=307,slow=7.2,SNR=2.3						
ILAR	Eielson Array	47.49	328	P	P	02 58 22.9	+0.1
	0.5nm,0.9s,mb3.4,baz=36,slow=7.8,SNR=3.1						
PDAR	Pinedale Array	49.05	287	P	P	02 58 35.0	0.0
	0.6nm,0.7s,mb3.7,baz=82,slow=6.4,SNR=4.9						
BVAR	Borovoye Array	51.83	49	P	P	02 58 56.0	-0.1
	0.8nm,0.8s,mb3.7,baz=329,slow=8.4,SNR=3.4						
TXAR	Lajitas Array	56.41	272	P	P	02 59 31.7	+1.5
	0.2nm,0.9s,mb3.2,baz=9.5,slow=5.5,SNR=3.2						
NVAR	Mina Array Bea	56.66	290	P	P	02 59 32.6	+0.8
	0.5nm,0.8s,mb3.6,baz=67,slow=6.9,SNR=3.4						
MKAR	Makanchi Array	61.40	46	P	P	03 00 03.3	-1.3
	0.7nm,0.5s,mb4.0,baz=351,slow=5.4,SNR=9.3						
SONM	Songino Array	68.09	29	P	P	03 00 48.1	+0.3
	0.8nm,1.0s,mb3.7,baz=315,slow=6.1,SNR=2.4						
WRA	Warramunga Arr	139.72	21	PKP	PKPdf	03 09 17.2	-0.2
	0.6nm,0.8s,slow=2.5,SNR=2.7						
ASAR	Alice Springs	143.25	23	PKP	PKPdf	03 09 24.5	+1.1
	0.4nm,0.5s,slow=2.7,SNR=2.5						

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*STR **17** 02:58:53.6±0.8, 42.76N×1.47W, h5^{km}±1^{km}, Ml3.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LDG **17** 02:58:55.5±0.1, 42.84N×1.43W, h2^{km}, Md3.4/2, Ml3.5/25, Error ellipse: s-maj=1.7km s-min=1.1km az=143.0*

*NEIC **17** 02:58:55.0, 42.82N×1.41W, h10^{km}, ML3.5(STR), ML3.5(LDG), MN3.1(MDD), After STR.*

NEIC Felt [III] at Aoiz, Pamplona and Urroz, Spain.

*MDD **17** 02:58:56.0±0.3, 42.87N×1.42W, h10^{km}, mbLg3.0/30, Error ellipse: s-maj=2.6km s-min=2.3km az=113.0, PRXIMO*

MDD EMS: III AOIZ URROZ PAMPLONA.

*INMG **17** 02:58:56.4±1.6, 42.85N×1.47W, h13^{km}±5^{km}, ML2.8, Error ellipse: s-maj=4.1km s-min=2.7km az=82.0*

ISC 17 02:58:52.3±0.2, **42.90N**±0.02×**1.51W**±0.02, **h10^{km}, n115,** σ**1^{s}47**/221, **1D, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	Ste Jean	0.30	43	ePg	Pg	02 59 01.7	+3.2
SJPF				eSg	Sg	02 59 04.6	+1.9
	2μm,0.3s						
EALK	Alkurruntz	0.33	360	Pg	Pg	02 59 02.8	+3.8
	170nm,0.2s,SNR=1281						
EALK				Lg		02 59 08.4	
	779nm,0.2s,SNR=5.0						
OSSF	Osses	0.40	26	Pg	Pg	02 59 03.5	+3.0
OSSF				Sg	Sg	02 59 10.8	+4.8
ORDF	Ordiarp	0.53	52	Pg	Pg	02 59 05.4	+2.5
ORDF				Sg	Sg	02 59 12.2	+2.2
ETSF	Etsaut	0.69	89	eSg	Sg	02 59 16.0	+0.4
	350nm,0.3s						
REYF	Montagne du Re	0.83	78	Pg	Pg	02 59 10.2	+1.2
REYF				Sg	Sg	02 59 21.5	+1.3
VIEF	Viey	1.12	90	Pg	Pg	02 59 14.6	-0.2
VIEF				Sg	Sg	02 59 30.5	+0.7
LABF	Labassere	1.17	82	Pn	Pn	02 59 16.3	+1.7
LABF				Sg	Sg	02 59 31.9	+0.6
RESF	Ens	1.36	93	Pn	Pn	02 59 18.9	+1.6
RESF				Sg	Sg	02 59 38.8	+1.2
EPF	Esparros	1.36	84	ePn	Pn	02 59 19.4	+2.0
EPF				ePg	Pg	02 59 20.8	+1.3
EPF				eSn	Sn	02 59 35.7	+0.1
EPF				eSg	Sg	02 59 37.1	-0.6
	215nm,0.2s						
ESAC	San Caprasio	1.40	146	Pg	Pg	02 59 19.7	-0.7
	211nm,0.2s,SNR=228						
ESAC				Lg		02 59 38.1	
	1μm,0.3s,SNR=21						
ELAN	Lanestosa	1.45	284	Pg	Pg	02 59 23.3	+1.9
	23nm,0.2s,SNR=190						
ELAN				Lg		02 59 43.7	
	62nm,0.3s,SNR=13						
ELAN	Lanestosa	1.45	284	Pg	Pg	02 59 23.3	+1.9
ELAN				Lg		02 59 45.3	
MELF	Melles	1.66	90	Pg	Pg	02 59 25.0	-0.6
MELF				Sg	Sg	02 59 47.7	-0.1
MLS	Moulis	1.91	87	Pg	Pg	02 59 28.8	-1.7
MLS				Sg	Sg	02 59 54.9	-1.1
SALF	Salau	1.99	93	Pg	Pg	02 59 30.5	-1.5
SALF				Sg	Sg	02 59 57.2	-1.3
ETOR	Torete	2.11	191	Pn	Pn	02 59 30.6	+2.4
	8.1nm,0.2s,SNR=43						
ETOR				Pg	Pg	02 59 34.4	-0.2
	67nm,0.3s,SNR=18						
ETOR				Lg		02 59 58.4	
	84nm,0.2s,SNR=5.0						
ETOR	Torete	2.11	191	Pn	Pn	02 59 30.6	+2.4
ETOR				Pg	Pg	02 59 34.7	+0.2
ETOR				Lg		02 59 58.5	
EMIR	Miracle	2.45	113	Pn	Pn	02 59 34.8	+1.9
	2.7nm,0.1s,SNR=12						
EMIR				Pg	Pg	02 59 39.5	-1.7
	25nm,0.2s,SNR=28						
EMIR				Lg		03 00 08.3	
	124nm,0.4s,SNR=5.0						
EMIR	Miracle	2.45	113	Pn	Pn	02 59 35.0	+2.0
EMIR				Pg	Pg	02 59 39.5	-1.7
EMIR				Lg		03 00 08.3	
EPOB	Poblet	2.46	128	Pn	Pn	02 59 34.1	+0.9
	4.2nm,0.1s,SNR=25						
EPOB				Pg	Pg	02 59 39.1	-2.4
	6.8nm,0.1s,SNR=22						
EPOB				Sn	Sn	03 00 01.9	-1.6
	5.8nm,0.1s,SNR=6.4						
EPOB				Lg		03 00 08.7	
	79nm,0.5s,SNR=7.2						
EPOB	Poblet	2.46	128	Pn	Pn	02 59 34.1	+0.9
EPOB				Pg	Pg	02 59 39.2	-2.3
EPOB				Sn	Sn	03 00 01.9	-1.6
EPOB				Lg		03 00 08.7	
EBR	Ebro Roquetas	2.55	144	eP*	Pb	02 59 39.5	+1.7
EBR				eS*S*		03 00 16.0	
LFF	La Frestale	2.61	38	ePn	Pn	02 59 36.2	+1.0
LFF				eSn	Sn	03 00 07.6	+0.3
	46nm,0.3s						
LFF				eSg	Sg	03 00 18.2	-1.0
EMOS	Mosqueruela	2.65	163	Pn	Pn	02 59 37.3	+1.5
	0.8nm,0.1s,SNR=17						
EMOS				Pg	Pg	02 59 43.2	-1.9
	12nm,0.2s,SNR=8.5						
EMOS				Sn	Sn	03 00 07.9	-0.3
	12nm,0.3s,SNR=6.2						
EMOS				Lg		03 00 20.5	
	54nm,0.4s,SNR=5.0						
EMOS	Mosqueruela	2.65	163	Pn	Pn	02 59 37.3	+1.5
EMOS				Pg	Pg	02 59 44.5	-0.6
EMOS				Lg		03 00 16.3	
VALF	Valcebollere	2.65	100	Pg	Pg	02 59 38.7	-6.4
MTLF	Montolieu	2.76	79	ePn	Pn	02 59 39.5	+2.1
MTLF				eSn	Sn	03 00 10.1	-1.0
MTLF				eSg	Sg	03 00 20.9	-3.4
	36nm,0.3s						
FILF	Fillols	3.01	95	Pg	Pg	02 59 47.5	-5.0
FILF				Sg	Sg	03 00 26.9	-5.8
RJF	Les Rejaudoux	3.25	41	ePn	Pn	02 59 45.3	+1.0
RJF				eSn	Sn	03 00 22.4	-1.0
	30nm,0.2s						
EJON	La Jonquera	3.27	96	Pn	Pn	02 59 47.2	+2.6
	1.9nm,0.1s,SNR=15						
EJON				Pg	Pg	02 59 55.0	-2.6
	11nm,0.3s,SNR=5.7						
EJON				Lg		03 00 35.1	
	43nm,0.4s,SNR=5.0						
EJON	La Jonquera	3.27	96	Pn	Pn	02 59 47.4	+2.8
EJON				Pg	Pg	02 59 55.0	-2.6
EJON				Lg		03 00 35.1	
CAF	Calviac	3.28	51	eSn	Sn	03 00 23.7	-0.6
	31nm,0.3s						
CAF	Calviac	3.28	51	Pn	Pn	02 59 45.3	+0.5
CAF				Sn	Sn	03 00 23.7	-0.6
	16nm,0.3s						
CAF	Calviac	3.28	51	ePn	Pn	02 59 45.3	+0.5
CAF				eSn	Sn	03 00 23.7	-0.6
ESDC	Sonseca Array	3.71	211	Pn	Pn	02 59 51.5	+0.6
	3.7nm,0.2s,baz=38,slow=13,SNR=17						
ESDC				Pg	Pg	03 00 03.4	-3.0
	10nm,0.3s,baz=31,slow=18,SNR=13						
ESDC				Sn	Sn	03 00 32.4	-2.8
	5.4nm,0.3s,baz=35,slow=22,SNR=4.0						
ESDC				Lg		03 00 52.4	
	20nm,0.5s,baz=28,slow=29,SNR=4.0						
ESDC	Sonseca Array	3.71	211	Pn	Pn	02 59 51.7	+0.8
ESDC				Pg	Pg	03 00 03.7	-2.7
MFF	Saint Martin d	3.83	14	ePn	Pn	02 59 53.8	+1.2
MFF				eSn	Sn	03 00 37.7	-0.5
	17nm,0.3s						
ECAL	Calabor	3.99	258	⇓Pn	Pn	02 59 56.9	+2.1
	10nm,0.2s,SNR=18						
ECAL				Sn	Sn	03 00 41.4	-0.8
	8.7nm,0.3s,SNR=6.5						
ECAL				Lg		03 00 59.3	
	52nm,0.4s,SNR=5.0						
ECAL	Calabor	3.99	258	Pn	Pn	02 59 57.1	+2.2
ECAL				Sn	Sn	03 00 41.4	-0.8
ECAL				Lg		03 00 59.8	
PBRG	Braganca	4.03	256	ePn	Pn	02 59 57.5	+2.0
PBRG				eSn	Sn	03 00 42.5	-0.8
PBRG				eSg	Sg	03 01 00.4	-6.1
	17nm,0.5s						
PBRG	Braganca	4.03	256	Pn	Pn	02 59 57.5	+2.0
PBRG				Sn	Sn	03 00 42.5	-0.8
PBRG				Lg		03 01 00.4	
	8.6nm,0.5s						
LASF	Ste Croix	4.08	71	ePn	Pn	02 59 56.8	+0.7
LASF				eSn	Sn	03 00 41.6	-2.8
	35nm,0.3s						
LASF				eSg	Sg	03 01 02.3	-5.7
EPON	Pontenova	4.16	278	Pn	Pn	02 59 59.8	+2.6
	8.2nm,0.3s,SNR=27						
EPON				Sn	Sn	03 00 47.1	+0.7
	5.4nm,0.3s,SNR=6.6						
EPON				Lg		03 01 05.9	
	17nm,0.5s,SNR=7.9						
EPON	Pontenova	4.16	278	Pn	Pn	03 00 00.8	+3.6
EPON				Sn	Sn	03 00 47.1	+0.7
EPON				Lg		03 01 06.1	
ERUA	La Rua	4.19	265	Pn	Pn	02 59 59.7	+2.0
	8.9nm,0.2s,SNR=36						
ERUA				Sn	Sn	03 00 49.2	+2.0
	4.2nm,0.2s,SNR=5.0						
ERUA	La Rua	4.19	265	Pn	Pn	02 59 60.0	+2.3
ERUA				Sn	Sn	03 00 46.9	-0.3
ETOB	Tobarra	4.25	180	Pn	Pn	02 59 59.5	+0.9
	3.0nm,0.2s,SNR=14						
ETOB				Pg	Pg	03 00 13.4	-3.7
	5.3nm,0.3s,SNR=7.0						
ETOB				Sn	Sn	03 00 46.1	-2.7
	5.3nm,0.4s,SNR=5.0						
ETOB	Tobarra	4.25	180	Pn	Pn	02 59 59.5	+1.0
ETOB				Sn	Sn	03 00 47.4	-1.4
EBEN	Beniarda	4.30	167	Pn	Pn	03 00 00.9	+1.6
	0.9nm,0.1s,SNR=9.5						
EBEN				Pg	Pg	03 00 14.6	-3.5
	5.0nm,0.4s,SNR=4.0						
TCF	Toulx Ste Croi	4.31	37	ePn	Pn	02 59 58.8	-0.6
TCF				eSn	Sn	03 00 47.1	-3.2
	22nm,0.3s						
EVIA	Vianos	4.32	190	Pn	Pn	03 00 01.4	+1.8
	9.9nm,0.2s,SNR=21						
EVIA				Pg	Pg	03 00 14.2	-4.4
	12nm,0.3s,SNR=6.0						
EVIA				Lg		03 01 09.8	
	42nm,0.6s,SNR=5.0						
EVIA	Vianos	4.32	190	Pn	Pn	03 00 01.5	+1.9
EVIA				Pg	Pg	03 00 14.0	-4.5
EVIA				Lg		03 01 08.3	
EIBI	Ibiza	4.42	150	Pn	Pn	03 00 00.4	-0.6
	2.9nm,0.1s,SNR=8.5						
EIBI				Sn	Sn	03 00 46.9	-6.4
	4.8nm,0.3s,SNR=5.0						
EIBI	Ibiza	4.42	150	Pn	Pn	03 00 01.2	+0.1
EIBI				Sn	Sn	03 00 46.1	-7.1
BGF	Bois d'Agland	4.80	39	ePn	Pn	03 00 06.1	-0.2
BGF				eSn	Sn	03 00 59.8	-2.9
	48nm,0.4s						
VIVF	Saint-Julien-l	4.88	64	ePn	Pn	03 00 06.9	-0.6
VIVF				eSn	Sn	03 01 01.2	-3.5
	14nm,0.3s						
PVRL	Vila Real	4.90	253	ePn	Pn	03 00 09.0	+1.2
PVRL				eSg	Sg	03 01 27.4	-8.0
	19nm,0.3s						
PVRL	Vila Real	4.90	253	Pn	Pn	03 00 09.0	+1.2
PVRL				Lg		03 01 27.4	
	9.4nm,0.3s						
ELOB	Lobios	4.96	260	Pn	Pn	03 00 09.9	+1.2
	2.4nm,0.2s,SNR=14						
ELOB				Sn	Sn	03 01 03.2	-3.7
	2.9nm,0.3s,SNR=7.9						
ELOB				Lg		03 01 30.4	
	30nm,0.6s,SNR=5.0						
ELOB	Lobios	4.96	260	Pn	Pn	03 00 10.0	+1.3
ELOB				Sn	Sn	03 01 03.0	-3.8
ELOB				Lg		03 01 29.4	
EMUR	La Murta	5.05	178	Pn	Pn	03 00 10.3	+0.4
	1.9nm,0.3s,SNR=7.1						
EMUR				Pg	Pg	03 00 28.4	-4.7
	4.9nm,0.4s,SNR=7.9						
EMUR				Lg		03 01 36.5	
	13nm,0.7s,SNR=4.0						
EMUR	La Murta	5.05	178	Pn	Pn	03 00 11.5	+1.5
EMUR				Pg	Pg	03 00 28.4	-4.7
EMUR				Lg		03 01 36.5	

QUIF	**Quistinic**	5.16	347	*e*Pn	Pn	03 00 13.0	+1.6
QUIF				*e*Sn	Sn	03 01 10.2	-1.5
	4.5nm,0.2s						
MTE	**Manteigas**	5.17	243	*e*Pn	Pn	03 00 12.9	+1.4
MTE				*e*Sg		03 01 34.1	
	23nm,0.7s						
MTE	**Manteigas**	5.17	243	Pn	Pn	03 00 12.9	+1.4
MTE				Lg		03 01 34.1	
	11nm,0.7s						
STS	**Santiago**	5.18	272	Pn	Pn	03 00 13.3	+1.6
	1.4nm,0.2s,SNR=7.9						
STS				Sn	Sn	03 01 10.8	-1.4
	2.9nm,0.2s,SNR=7.9						
STS	**Santiago**	5.18	272	Pn	Pn	03 00 13.1	+1.4
STS				Sn	Sn	03 01 10.8	-1.4
EQES	**Quesada**	5.22	194	Pn	Pn	03 00 13.4	+1.0
	2.3nm,0.2s,SNR=22						
EQES				Pg	Pg	03 00 31.9	-4.7
	13nm,0.4s,SNR=6.8						
EQES				Sn	Sn	03 01 08.6	-4.8
	3.3nm,0.4s,SNR=4.0						
EQES				Lg		03 01 38.9	
	16nm,0.6s,SNR=5.0						
EQES	**Quesada**	5.22	194	Pn	Pn	03 00 13.5	+1.1
EQES				Pg	Pg	03 00 31.9	-4.7
EQES				Lg		03 01 37.7	
PVIS	**Viseu**	5.25	248	*e*Pn	Pn	03 00 13.5	+0.8
PVIS				*e*Sn	Sn	03 01 13.0	-1.0
PVIS				*e*Sg		03 01 37.2	
	9.9nm,0.5s						
PVIS	**Viseu**	5.25	248	Pn	Pn	03 00 13.5	+0.8
PVIS				Sn	Sn	03 01 13.0	-1.0
PVIS				Lg		03 01 37.2	
	4.9nm,0.5s						
HYF	**Humbligny**	5.27	32	*e*Pn	Pn	03 00 13.1	+0.1
HYF				*e*Sn	Sn	03 01 11.3	-3.1
SMRF	**Simiane la Rot**	5.27	76	*e*Pn	Pn	03 00 13.9	+0.9
EADA	**Adamuz**	5.27	207	Pn	Pn	03 00 13.3	+0.3
	3.0nm,0.1s,SNR=50						
EADA				Sn	Sn	03 01 11.6	-2.9
	3.8nm,0.4s,SNR=6.3						
EADA				Lg		03 01 42.1	
	16nm,0.7s,SNR=5.0						
EADA	**Adamuz**	5.27	207	Pn	Pn	03 00 13.7	+0.7
EADA				Sn	Sn	03 01 11.7	-2.9
EADA				Lg		03 01 42.1	
SMF	**Signal de Mont**	5.34	44	*e*Pn	Pn	03 00 13.9	-0.1
SMF				*e*Sn	Sn	03 01 12.7	-3.6
	7.0nm,0.3s						
SGMF	**Saint Gilles**	5.41	353	*e*Pn	Pn	03 00 15.7	+0.7
SGMF				*e*Sn	Sn	03 01 15.2	-2.9
	5.8nm,0.3s						
PCBR	**Castelo Branco**	5.43	238	*e*Pn	Pn	03 00 15.9	+0.6
PCBR				*e*Sn	Sn	03 01 15.1	-3.5
PCBR				*e*Sg	Sg	03 01 43.8	-9.3
	8.9nm,0.7s						
PCBR	**Castelo Branco**	5.43	238	Pn	Pn	03 00 15.9	+0.6
PCBR				Sn	Sn	03 01 15.1	-3.5
PCBR				Lg		03 01 43.8	
	4.4nm,0.7s						
SSF	**Saint Saulge**	5.47	39	*e*Pn	Pn	03 00 15.3	-0.6
SSF				*e*Sn	Sn	03 01 15.5	-4.2
	9.3nm,0.3s						
EMAZ	**Mazaricos**	5.49	273	Pn	Pn	03 00 17.4	+1.4
	3.8nm,0.2s,SNR=19						
EMAZ				Sn	Sn	03 01 16.4	-3.6
	3.3nm,0.2s,SNR=5.0						
GRR	**Gorron**	5.51	4	*e*Pn	Pn	03 00 16.8	+0.4
GRR				*e*Sn	Sn	03 01 18.3	-2.3
	8.8nm,0.3s						
ROSF	**Rostrenen**	5.58	348	*e*Pn	Pn	03 00 18.4	+1.0
ROSF				*e*Sn	Sn	03 01 20.2	-2.2
	5.6nm,0.3s						
ORIF	**Oris-en-Rattie**	5.71	67	*e*Pn	Pn	03 00 20.4	+1.3
ORIF				*e*Sn	Sn	03 01 20.8	-4.7
	6.3nm,0.4s						
LDF	**La Druitiere**	5.78	9	*e*Pn	Pn	03 00 20.9	+0.7
LDF				*e*Sn	Sn	03 01 24.2	-3.2
	5.0nm,0.2s						
LOR	**Lormes**	5.79	39	*e*Pn	Pn	03 00 20.6	+0.2
	baz=213						
LOR				*e*Sn	Sn	03 01 22.6	-5.0
	8.4nm,0.3s						
EBAD	**Badajoz**	5.88	227	Pn	Pn	03 00 21.3	-0.3
	0.6nm,0.1s,SNR=11						
EBAD				Sn	Sn	03 01 24.6	-5.2
	1.6nm,0.2s,SNR=5.6						
EBAD				Lg		03 01 60.0	
	11nm,0.5s,SNR=7.9						
EBAD	**Badajoz**	5.88	227	Pn	Pn	03 00 21.6	0.0
EBAD				Sn	Sn	03 01 24.3	-5.5
EBAD				Lg		03 01 59.1	
LMR	**La Mourre**	5.88	83	*e*P	Pn	03 00 25.4	+3.8
FLN	**La Foliniere**	5.91	7	*e*Pn	Pn	03 00 22.4	+0.3
FLN				*e*Sn	Sn	03 01 27.8	-2.8
	6.2nm,0.2s						
FRF	**La Foret Royal**	5.99	81	*e*Pn	Pn	03 00 23.0	-0.2
ELOJ	**Sierra Loja**	6.09	200	Pn	Pn	03 00 25.5	+0.9
	1.5nm,0.3s,SNR=4.0						
PTOM	**Tomar**	6.15	240	*e*Pn	Pn	03 00 26.0	+0.6
PTOM				*e*Sn	Sn	03 01 34.0	-2.5
PTOM				*e*Sg		03 02 05.4	
	16nm,0.3s						
PTOM	**Tomar**	6.15	240	Pn	Pn	03 00 26.0	+0.6
PTOM				Sn	Sn	03 01 34.0	-2.5
PTOM				Lg		03 02 05.4	
	8.2nm,0.3s						
EMIN	**Mina Concepcio**	6.46	219	Pn	Pn	03 00 29.2	-0.7
	1.0nm,0.2s,SNR=7.9						
EMIN				Sn	Sn	03 01 35.6	-8.8
	1.0nm,0.3s,SNR=7.9						
EMIN				Lg		03 02 19.7	
	4.5nm,0.5s,SNR=7.9						
EMIN	**Mina Concepcio**	6.46	219	Pn	Pn	03 00 28.1	-1.8
EMIN				Sn	Sn	03 01 35.7	-8.7
EMIN				Lg		03 02 19.7	
LPG	**La Plagne**	6.48	64	*e*Pn	Pn	03 00 31.0	+0.9
CABF	**La Chapelle**	6.56	53	*e*Pn	Pn	03 00 30.9	-0.3
EVO	**Evora**	6.59	231	*e*Pn	Pn	03 00 32.0	+0.4
EVO				*e*Sn	Sn	03 01 43.9	-3.7
EVO				*e*Sg	Sg	03 02 24.0	-7.7
	14nm,0.5s						
MOE	**Montemor**	6.79	232	*e*Pn	Pn	03 00 33.7	-0.7
MOE				*e*Sn	Sn	03 01 48.0	-4.6
MOE				*e*Sg	Sg	03 02 23.8	-15
EMIJ	**Mijas**	6.80	203	Pn	Pn	03 00 35.6	+0.9
	1.3nm,0.3s,SNR=7.9						
EMIJ				Sn	Sn	03 01 47.4	-5.6
	1.0nm,0.3s,SNR=7.9						
EMIJ				Lg		03 02 32.1	
	3.5nm,0.4s,SNR=4.0						
EMIJ	**Mijas**	6.80	203	Pn	Pn	03 00 35.5	+0.9
ESPR	**Espera**	6.88	211	Pn	Pn	03 00 37.1	+1.3
	0.8nm,0.2s,SNR=7.9						
ESPR	**Espera**	6.88	211	Pn	Pn	03 00 38.1	+2.3
SFTF	**Sexfontaines**	7.02	39	*e*Pn	Pn	03 00 36.7	-1.0
SFTF				*e*Sn	Sn	03 01 53.0	-5.3
	6.8nm,0.3s						
EGRO	**El Granado**	7.04	222	Pn	Pn	03 00 37.0	-1.0
	1.2nm,0.3s,SNR=6.3						
EGRO				Sn	Sn	03 01 52.8	-6.0
	2.4nm,0.4s,SNR=7.9						
EGRO				Lg		03 02 38.0	
	11nm,0.6s,SNR=5.0						
PALC	**Alcoutim**	7.09	222	*e*Pn	Pn	03 00 37.9	-0.8
PALC				*e*Sn	Sn	03 01 54.8	-5.3
	8.0nm,0.7s						
PALC	**Alcoutim**	7.09	222	Pn	Pn	03 00 37.9	-0.8
PALC				Sn	Sn	03 01 54.8	-5.3
	4.0nm,0.7s						
MEZF	**Maizieres J'vi**	7.24	37	*e*Pn	Pn	03 00 40.2	-0.6
	baz=214						
MEZF				*e*Sn	Sn	03 01 58.8	-5.2
	5.2nm,0.3s						
RFYF	**Reffroy**	7.53	38	*e*Pn	Pn	03 00 42.9	-1.9
RFYF				*e*Sn	Sn	03 02 05.3	-5.7
	5.8nm,0.3s						
PTEO	**Sao Teotonio**	7.68	228	*e*Pn	Pn	03 00 45.8	-1.2
BAIF	**Baives**	8.18	27	*e*Pn	P	03 00 52.6	-1.2
CDF	**Champ du Feu**	8.26	45	*e*Pn	P	03 00 54.3	-0.7
GIVF	**Givet**	8.42	29	*e*Pn	P	03 00 56.1	-1.2

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*LDG **17** 03:03:06.3±0.4, 42.88N×1.45W, h4^{km}, Md2.5/1, Ml2.0/5, Error ellipse: s-maj=7.3km s-min=5.4km az=48.0*
*MDD **17** 03:03:06.7±0.5, 42.86N×1.38W, h6^{km}±5^{km}, mbLg1.6/6, Error ellipse: s-maj=4.7km s-min=3.5km az=77.0, AftershockPLICA PRXIMO*
ISC 17 03:03:05.2±0.7**, 42.91N**±0.03×**1.40W**±0.06**, h14**^{km}±4^{km}**, n13,** σ**1ˢ23**/27**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	0.24	33	*e*Pg	Pg	03 03 12.2	+1.6
SJPF				*e*Sg	Sg	03 03 14.9	+0.6
	34nm,0.3s						
EALK	**Alkurruntz**	0.32	346	Pg	Pg	03 03 13.5	+1.4
	3.6nm,0.1s,SNR=7.9						
EALK				Lg		03 03 19.5	
	27nm,0.2s,SNR=10						
EPF	**Esparros**	1.28	84	*e*Pn	Pn	03 03 29.7	+1.0
EPF				*e*Pg	Pg	03 03 31.3	+0.3
EPF				*e*Sn	Sn	03 03 46.1	+0.4
EPF				*e*Sg	Sg	03 03 47.7	-0.5
	11nm,0.3s						
ESAC	**San Caprasio**	1.38	150	Pg	Pg	03 03 31.0	-1.8
	6.7nm,0.3s,SNR=8.6						
ESAC				Lg		03 03 49.4	
	31nm,0.3s,SNR=5.0						
ELAN	**Lanestosa**	1.52	283	Pg	Pg	03 03 34.1	-1.6
	0.6nm,0.1s,SNR=4.6						
ELAN				Lg		03 03 55.4	
	1.9nm,0.2s,SNR=5.0						
ETOR	**Torete**	2.15	193	Pg	Pg	03 03 43.4	-4.8
	1.0nm,0.2s,SNR=7.1						
ETOR				Sn	Sn	03 04 07.2	-0.5
	3.4nm,0.4s,SNR=5.0						
EMIR	**Miracle**	2.39	114	Pn	Pn	03 03 47.0	+2.4
	0.0nm,0.1s,SNR=7.9						
EMIR				Sn	Sn	03 04 18.3	+4.5
	0.1nm,0.1s,SNR=7.9						
EPOB	**Poblet**	2.42	129	Pn	Pn	03 03 46.1	+1.2
	0.4nm,0.2s,SNR=4.0						
EPOB				Sn	Sn	03 04 17.5	+3.0
	1.0nm,0.1s,SNR=4.0						
LFF	**La Frestale**	2.55	37	*e*Pn	Pn	03 03 46.7	-0.2
LFF				*e*Sn	Sn	03 04 18.0	+0.1
	0.9nm,0.2s						
EMOS	**Mosqueruela**	2.64	164	Pg	Pg	03 03 53.2	-4.8
	0.3nm,0.2s,SNR=4.0						
EMOS				Sn	Sn	03 04 20.3	+0.1
	0.4nm,0.3s,SNR=4.0						
MTLF	**Montolieu**	2.68	80	*e*Pn	Pn	03 03 49.4	+0.6
MTLF				*e*Pg	Pg	03 03 55.9	-3.0
MTLF				*e*Sn	Sn	03 04 20.3	-1.0
MTLF				*e*Sg	Sg	03 04 31.4	-3.3
	1.2nm,0.3s						
RJF	**Les Rejaudoux**	3.18	40	*e*Pn	Pn	03 03 55.9	0.0
RJF				*e*Sn	Sn	03 04 32.9	-1.1
	1.8nm,0.3s						
CAF	**Calviac**	3.21	50	*e*Pn	Pn	03 03 55.8	-0.5
CAF				*e*Sn	Sn	03 04 34.1	-0.6
	0.7nm,0.2s						

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*NEIC **17** 03:04:46.2±1.4, 6.76S×125.12E, h506^{km}±20^{km}, mb4.0/3, Error ellipse: s-maj=25.9km s-min=11.1km az=54.0*
*IDC **17** 03:04:47.1±3.2, 6.77S×125.21E, h515^{km}±43^{km}, mb3.4/7, mb1 3.5/10, mb1mx3.4/17, Error ellipse: s-maj=56.0km s-min=12.0km az=53.0*
ISC 17 03:04:46.6±2.2**, 6.8S**±0.1×**125.0E**±0.2**, h526**^{km}±33^{km}**, n18,** σ**0ˢ89**/19**, mb3.8**/8**, 1D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	11.23	177	⇓*i*P	P	03 07 18.0	0.0
	2.9nm,0.2s						
FITZ	**Fitzroy Crossi**	11.23	177	P	P	03 07 18.1	+0.1
	1.4nm,0.3s,baz=8.6,slow=8.1,SNR=93						
FITZ				S	S	03 09 18.6	-0.7
	0.3nm,0.3s,baz=350,slow=22,SNR=5.4						
MBWA	**Marble Bar**	15.12	199	*e*P	P	03 07 56.9	-0.8
	2.6nm,0.6s						
WRAB	**Tennant Creek**	15.91	146	*e*P	P	03 08 05.6	+0.2
	6.5nm,0.7s						
WRA	**Warramunga Arr**	15.91	146	P	P	03 08 05.8	+0.4
	1.5nm,0.3s,baz=327,slow=11,SNR=73						
WRA				S	S	03 10 47.6	+1.7
	0.1nm,0.3s,baz=320,slow=19,SNR=3.8						
WB2	**Warramunga Arr**	15.91	146	*e*P	P	03 08 05.8	+0.4
ASPA	**Alice Springs**	18.82	154	*e*P	P	03 08 33.9	+0.2
ASAR	**Alice Springs**	18.83	154	P	P	03 08 34.0	+0.4
	1.7nm,0.3s,baz=339,slow=11,SNR=71						
STKA	**Stephens Creek**	29.37	150	P	P	03 10 07.8	-0.6
	7.5nm,0.8s,mb4.4,baz=321,slow=8.9,SNR=15						
CMAR	**Chiang Mai Arr**	35.91	315	P	P	03 11 04.5	+0.8
	0.8nm,0.4s,mb3.6,baz=135,slow=8.9,SNR=3.3						
KS15	**Wonju Array Si**	44.12	3	P	P	03 12 06.7	-2.9
RPZ	**Rata Peaks**	54.51	140	P	P	03 13 25.8	-0.8
	12nm,1.1s,mb4.1,baz=334,slow=18,SNR=3.6						
SONM	**Songino Array**	56.84	345	P	P	03 13 42.5	-0.2
	0.8nm,0.8s,mb3.0,baz=169,slow=7.3,SNR=4.5						
MKAR	**Makanchi Array**	65.42	329	P	P	03 14 39.5	+0.6
	1.4nm,0.5s,mb3.7,baz=123,slow=7.5,SNR=21						
RAR	**Rarotonga**	73.86	110	P	P	03 15 27.6	-1.8
	10nm,0.7s,mb4.4,baz=111,slow=11,SNR=2.7						
BVAR	**Borovoye Array**	75.30	329	P	P	03 15 37.7	+0.8
	0.5nm,0.3s,mb3.4,baz=143,slow=7.2,SNR=5.0						
ZRNK	**Zerenda**	75.97	329	*e*P	P	03 15 40.9	+0.4
	1.2nm,0.4s,mb3.7						
LPAZ	**La Paz**	153.64	151	PKPbc	PKPdf	03 23 49.0	+11
	1.8nm,0.4s,baz=244,slow=0.7,SNR=2.2						

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*IDC **17** 03:13:35.5±6.3, 3.80S×136.17E, mb3.9/1, mb1 3.7/4, mb1mx3.6/10, ML3.2/3, MS3.6/1, Ms1 3.6/1, ms1mx2.9/9, Error ellipse: s-maj=101.0km s-min=33.1km az=146.0*
ISC 17 03:13:33.7±5.8**, 3.5S**±0.3×**136.3E**±0.2**, h22**^{km}±63^{km}**, n5,** σ**0ˢ15**/6**, mb3.7**/1**, MS3.5**/1**, Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	16.42	187	Pn	P	03 17 24.7	0.0
	0.1nm,0.3s,baz=3.2,slow=13,SNR=4.1						
WRA				Sn	S	03 20 25.7	0.0
	0.1nm,0.3s,baz=9.6,slow=22,SNR=5.0						
FITZ	**Fitzroy Crossi**	17.86	215	P	P	03 17 42.8	0.0
	0.1nm,0.3s,baz=54,slow=8.7,SNR=3.6						
FITZ				S	S	03 20 58.7	0.0
	0.1nm,0.3s,baz=148,slow=12,SNR=2.2						
ASAR	**Alice Springs**	20.15	186	P	P	03 18 09.3	-0.2
	0.2nm,0.3s,baz=16,slow=10.0,SNR=6.5						
STKA	**Stephens Creek**	28.62	171	P	P	03 19 31.0	+0.1
	0.6nm,0.3s,mb3.7,baz=328,slow=13,SNR=2.5						
JOW	**Kunigami**	31.18	346	LR	LR	03 31 32.0	
	comp=Z,117nm,20.1s,MS3.5,baz=356,slow=34						

MEX 17 03:14:25.1±1.1**, 15.07N**×**93.16W, h28**^{km}±999^{km}**, MD4.1, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CCIG	**Comitan**	1.56	39	*i* P	Pn	03 14 49.0	-2.4
CCIG				*i* S	Sn	03 15 06.7	-4.1
SCX	**San Cristobal**	1.74	17	*i* P	Pn	03 14 52.0	-1.9
SCX				*i* S	Sn	03 15 13.0	-2.3
CMIG	**Matias Romero**	2.61	321	*e*P	Pn	03 15 03.8	-2.5
CMIG				*i* S	Sn	03 15 32.3	-5.1
OXX	**Oaxaca**	3.97	301	*e*P	Pn	03 15 22.0	-3.7
OXX				*i* S	Sn	03 16 10.0	-1.8

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*IDC **17** 03:38:40.3±1.6, 34.76N×80.30E, mb3.5/4, mb1 3.7/6, mb1mx3.5/20, ML3.5/2, Error ellipse: s-maj=44.6km s-min=21.3km az=63.0*
*NEIC **17** 03:38:41.4±1.1, 34.75N×80.30E, h10^{km}, Error ellipse: s-maj=30.8km s-min=13.6km az=64.0*
ISC 17 03:38:39.9±1.1**, 34.85N**±0.09×**80.3E**±0.2**, h10**^{km}**, n7,** σ**1ˢ37**/8**, mb3.6**/5**, Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	12.02	7	Pn	P	03 41 32.8	-1.4
	0.2nm,0.3s,baz=185,slow=13,SNR=6.1						
MKAR				Sn	S	03 43 49.3	-0.1
	0.0nm,0.3s,baz=176,slow=22,SNR=2.0						
BVAR	**Borovoye Array**	19.49	342	P	P	03 43 09.6	-0.1
	0.3nm,0.3s,baz=156,slow=15,SNR=5.2						
CMAR	**Chiang Mai Arr**	23.26	130	P	P	03 43 49.5	+1.1
	1.5nm,0.9s,mb3.4,baz=309,slow=11,SNR=7.0						
SONM	**Songino Array**	23.36	48	P	P	03 43 51.6	+2.4
	0.2nm,0.4s,mb2.9,baz=243,slow=9.7,SNR=5.5						
FINES	**FINESS Array B**	43.12	325	P	P	03 46 43.1	+1.4
	1.9nm,0.9s,mb3.8,baz=106,slow=10,SNR=4.5						
WRA	**Warramunga Arr**	74.84	128	P	P	03 50 21.9	-0.7
	0.5nm,1.0s,mb3.4,baz=318,slow=6.2,SNR=4.8						
WRAB	**Tennant Creek**	74.84	128	*e*P	P	03 50 20.3	-2.3
	8.5nm,1.3s,mb4.5						

GUC 17 03:49:44.3±0.9**, 35.03S**×**70.57W, h3**^{km}**, MD4.0, ML3.1, 7C-7D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFDO	**San Fernando**	0.56	318	⇓*i*P	Pg	03 49 55.3	-0.1
CICH	**Cipreses**	0.72	10	⇓*i*P	Pg	03 49 57.8	-0.9
CACH	**El Canelo**	0.91	358	⇑*i*P	Pb	03 50 01.2	-1.2
CACH				*i* S	Sg	03 50 14.9	+0.3
CHCH	**Chadas Angostu**	1.10	356	⇑*i*P	Pb	03 50 04.9	-0.7
LMEL	**Las Melosas**	1.22	14	⇑*i*P	Pb	03 50 06.5	-1.1
LMEL				*i* S	Sb	03 50 24.1	+0.5
LMEL				AMP		03 50 29.1	
	comp=N,414nm,0.2s						
LMEL				AMP		03 50 29.7	
	comp=E,280nm,0.1s						
LNV	**Longovilo**	1.28	327	⇑*i*P	Pb	03 50 07.6	-1.1
LNV				*i* S	Sb	03 50 25.4	0.0
SJCH	**San Jose de Ma**	1.40	7	⇑*i*P	Pb	03 50 09.3	-1.3
SJCH				*i* S	Sb	03 50 28.8	0.0
SJCH				AMP		03 50 32.5	
	comp=N,189nm,0.3s						
PCH	**Pirque**	1.41	2	⇓*i*P	Pb	03 50 10.1	-0.8
TACH	**Talagante**	1.41	347	⇓*i*P	Pb	03 50 09.8	-1.0
TACH				*i* S	Sb	03 50 29.3	+0.1
ANTU	**Antumapu**	1.46	358	*i* P	Pn	03 50 11.1	-0.5
ANTU				*i* S	Sb	03 50 31.0	+0.4
ANTU				AMP		03 50 32.5	
	comp=E,473nm,0.2s						
FSR	**Penalolen**	1.55	1	*i* P	Pn	03 50 12.6	-0.3
FSR				*i* S	Sb	03 50 33.6	+0.4
FSR				AMP		03 50 45.2	
	comp=N,404nm,0.4s						
RCDM	**Rinconada Maip**	1.55	353	⇓*i*P	Pn	03 50 12.5	-0.5
RCDM				*i* S	Sb	03 50 33.2	-0.1
RCDM				AMP		03 50 40.0	
	comp=E,955nm,0.1s						
DSCH	**Colegio Aleman**	1.63	360	*i* P	Pn	03 50 14.1	+0.1
DSCH				*i* S	Sb	03 50 36.5	+0.9
DSCH				AMP		03 50 45.5	
	comp=N,796nm,0.9s						
CLCH	**Cerro Calan**	1.63	1	⇑*i*P	Pn	03 50 14.0	-0.1
CLCH				*i* S	Sb	03 50 37.3	+1.7
CLCH				AMP		03 50 44.8	
	comp=E,559nm,0.3s						
FCH	**Farellones**	1.71	8	⇑*i*P	Pn	03 50 15.4	+0.1
FCH				*i* S	Sn	03 50 39.0	+1.0
FCH				AMP		03 50 50.9	
	comp=E,371nm,0.3s						
FCH				AMP		03 50 51.6	
	comp=N,373nm,0.4s						
LCCH	**Las Cruces**	1.76	331	⇓*i*P	Pn	03 50 15.6	-0.3
LCCH				*i* S	Sn	03 50 38.9	-0.2
JACH	**Jahuel**	2.34	359	⇓*i*P	Pn	03 50 25.5	+1.2

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*MAN **17** 04:06:35.9, 11.99N×125.98E, h3^{km}, mb4.9, ML3.9, MS3.9*
*NEIC **17** 04:06:42.1±3.9, 11.73N×125.58E, h39^{km}±36^{km}, mb4.5/11, Error ellipse: s-maj=19.9km s-min=5.3km az=60.0*
*IDC **17** 04:06:43.0±6.5, 11.76N×125.66E, h48^{km}±61^{km}, mb4.1/13, mb1 4.2/13, mb1mx4.1/20, Error ellipse: s-maj=46.6km s-min=12.9km az=63.0*
ISC 17 04:06:34.3±0.5**, 11.98N**±0.03×**126.05E**±0.05**, h3**^{km}**, n48,** σ**1ˢ22**/53**, mb4.5**/23**, 3C-2D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BESP	**Borongan**	0.71	238	*e*P	Pg	04 06 48.9	+0.3
CNP	**Catarman**	1.46	291	*e*P	Pn	04 07 01.8	+0.2
OCLP	**Ormoc**	1.69	237	*e*P	Pn	04 07 05.5	+0.5
MSLP	**Maasin**	2.18	213	*e*P	Pn	04 07 13.9	+1.9
MSLP				*e*S	Sn	04 07 41.7	+1.8
SCPH	**Surigao**	2.26	194	⇓*i*P	Pn	04 07 13.6	+0.5
SCPH				*i* S	Sn	04 07 34.8	-7.0
PVCP	**Virac**	2.45	311	*e*P	Pn	04 07 17.0	+1.2
LLP	**Lapu-Lapu**	2.63	231	⇓*e*P	Pn	04 07 18.0	-0.5
LLP				*e*S	Sn	04 07 42.0	-9.4
BUTP	**Butuan**	3.03	188	*e*P	Pn	04 07 26.7	+2.7
TBP	**Tagbilaran**	3.13	224	*e*P	Pn	04 07 26.2	+0.6
TBP				*e*S	Sn	04 08 04.8	+0.7
RCP	**Roxas**	3.27	263	⇑*e*P	Pn	04 07 27.5	0.0
GUIM	**Jordan**	3.66	249	*e*P	Pn	04 07 32.5	-0.5
GUIM				*e*S	Sn	04 08 14.2	-3.0
CGP	**Cagayan de Oro**	3.75	201	⇑*e*P	Pn	04 07 35.0	+0.7
CGP				*e*S	Sn	04 08 17.2	-2.5
OTRP	**Odiongan**	3.96	276	*e*P	Pn	04 07 37.5	+0.1
BUKP	**Musuan**	4.19	194	*e*P	Pn	04 07 42.8	+2.2
DCPH	**Dipolog City**	4.30	218	⇑*e*P	Pn	04 07 42.0	-0.1
BOAC	**Boac**	4.36	290	*e*P	Pn	04 07 45.2	+2.2
SJMP	**San Jose**	4.85	276	*e*P	Pn	04 07 50.6	+0.6
PAGZ	**Pagadian**	4.88	213	*e*P	Pn	04 07 50.8	+0.4
CUYO	**Cuyo Island**	5.06	258	*e*P	Pn	04 07 51.6	-1.4
ENH	**Enshi**	23.82	322	P	P	04 11 50.8	+1.3
	8.1nm,0.7s,mb4.3						
CMAR	**Chiang Mai Arr**	26.92	287	P	P	04 12 17.6	-1.2
	1.5nm,0.4s,mb3.9,baz=102,slow=7.7,SNR=8.8						
FITZ	**Fitzroy Crossi**	29.90	181	*e*P	P	04 12 44.3	-1.5
	6.6nm,0.9s,mb4.4						
FITZ	**Fitzroy Crossi**	29.90	181	P	P	04 12 44.2	-1.6
	5.4nm,0.6s,mb4.5,baz=4.0,slow=9.7,SNR=26						
WRAB	**Tennant Creek**	32.75	165	*e*P	P	04 13 09.3	-1.5
	5.9nm,1.0s,mb4.5						
WRA	**Warramunga Arr**	32.76	165	P	P	04 13 09.4	-1.5
	0.7nm,0.4s,mb3.9,baz=346,slow=8.8,SNR=17						
WRA				PcP	PcP	04 15 55.5	-0.9
	1.6nm,0.7s,baz=334,slow=3.4,SNR=9.7						
MBWA	**Marble Bar**	33.52	191	*e*P	P	04 13 15.0	-2.5
	2.4nm,0.5s,mb4.4						
ASAR	**Alice Springs**	36.25	168	P	P	04 13 40.4	-0.5
	1.7nm,0.4s,mb4.3,baz=348,slow=7.4,SNR=24						
ASAR				PcP	PcP	04 16 05.4	-1.0
	1.4nm,0.5s,baz=345,slow=2.8,SNR=10						
ASPA	**Alice Springs**	36.25	168	*e*P	P	04 13 42.1	+1.2
CTA	**Charters Tower**	37.56	148	P	P	04 13 53.2	+1.3
	6.1nm,1.0s,mb4.3,baz=313,slow=11,SNR=2.8						
CTA	**Charters Tower**	37.56	148	P	P	04 13 53.2	+1.3
SONM	**Songino Array**	39.35	339	P	P	04 14 08.3	+1.6
	0.5nm,0.4s,mb3.6,baz=161,slow=10,SNR=5.8						
GUN	**Gumba**	40.74	299	*e*P	P	04 14 17.5	-0.8
	30nm,0.7s,mb5.0						
PKI	**Pulchoki**	41.06	298	*e*P	P	04 14 19.7	-1.2
	14nm,0.7s,mb4.7						
KKN	**Kakani**	41.22	299	*e*P	P	04 14 21.2	-1.0
	8.0nm,0.5s,mb4.6						
DMN	**Daman**	41.33	298	*e*P	P	04 14 22.4	-0.7
GKN	**Gorkha**	41.82	299	*e*P	P	04 14 25.6	-1.7
	11nm,0.7s,mb4.6						
KOLN	**Koldanda**	42.66	298	*e*P	P	04 14 32.9	-1.3
	17nm,0.8s,mb4.8						
NWAO	**Narrogin (SRO)**	45.44	190	P	P	04 14 55.0	-1.6
	5.4nm,0.4s,mb4.7,baz=354,slow=5.4,SNR=12						
NWAO	**Narrogin (SRO)**	45.44	190	P	P	04 14 55.0	-1.6
STKA	**Stephens Creek**	46.08	162	P	P	04 15 02.2	+0.6
	6.6nm,0.6s,mb4.7,baz=342,slow=7.3,SNR=23						
MKAR	**Makanchi Array**	50.55	322	P	P	04 15 36.6	+0.5
	5.0nm,0.8s,mb4.5,baz=120,slow=8.6,SNR=40						
MKAR				PcP	PcP	04 16 53.4	-0.9
	1.3nm,0.6s,baz=108,slow=4.6,SNR=5.3						
ZRNK	**Zerenda**	60.90	324	*e*P	P	04 16 50.5	-0.2
	2.9nm,0.7s,mb4.5						
CASY	**Casey**	78.89	186	*e*P	P	04 18 39.2	-1.1
	5.3nm,0.6s,mb4.7						
ARCES	**ARCESS Array B**	82.52	340	P	P	04 19 00.9	+1.5
	2.7nm,0.8s,mb4.3,baz=63,slow=5.4,SNR=5.5						
BRTR	**Keskin Array B**	84.29	309	P	P	04 19 09.1	-0.1
	1.4nm,0.6s,mb4.2,baz=87,slow=3.6,SNR=7.7						
FINES	**FINESS Array B**	84.29	332	P	P	04 19 09.4	+0.8
	3.8nm,0.8s,mb4.6,baz=117,slow=8.5,SNR=6.6						
AKASG	**Malin Array Be**	85.11	321	P	P	04 19 12.9	0.0
	5.3nm,0.8s,mb4.7,baz=62,slow=4.8,SNR=16						
PLCA	**Paso Flores**	147.85	156	PKPbc	PKPdf	04 26 23.6	+3.2
	3.3nm,1.2s,baz=136,slow=5.9,SNR=3.7						

*LDG **17** 04:13:51.4±0.1, 48.95N×7.83E, h10^{km}, Md2.5/2, Ml2.6/7, Error ellipse: s-maj=1.7km s-min=1.1km az=171.0*

*NEIC **17** 04:13:51.0, 48.91N×7.84E, h5^{km}, ML2.6(LDG), ML2.2(STR), ML2.1(SZGRF), ML2.1(LEDBW), After STR.*

*LEDBW **17** 04:13:51.7±0.2, 48.95N×7.84E, h10^{km}, ML2.1, Error ellipse: s-maj=4.0km s-min=4.0km az=38.0*

*STR **17** 04:13:51.0±0.2, 48.91N×7.84E, h5^{km}±1^{km}, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*BGR **17** 04:13:52.3±0.4, 48.93N×7.87E, h10^{km}, ML2.1, Error ellipse: s-maj=8.9km s-min=4.4km az=27.0*

ISC 17 04:13:50.0±0.3, **48.94N**±0.02×**7.79E**±0.02, **h10**^{km}**, n40, σ1^{s}00**/79, **France**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LANF	Langenberg	0.04	10	P	Pg	04 13 53.6	+1.7
LANF	Langenberg	0.04	10	Pg	Pg	04 13 53.5	+1.5
LANF				Sg	Sg	04 13 54.6	+1.3
WLS	Welschbruch	0.60	209	Pg	Pg	04 14 03.7	+1.6
WLS	Welschbruch	0.60	209	Pg	Pg	04 14 02.4	+0.3
CDF	Champ du Feu	0.63	213	*e*Pg	Pg	04 14 03.6	+0.9
CDF				*e*Pn	Pn	04 14 05.2	+0.6
CDF				*e*Sg	Sg	04 14 12.2	+1.1
CDF				*e*Sn	Sn	04 14 14.8	+0.1
	41nm,0.2s						
BFO	Black Forest	0.70	150	*e*Pg	Pg	04 14 05.5	+1.3
BFO				PmP		04 14 05.9	
BFO				Sg	Sg	04 14 13.3	-0.3
BFO	Black Forest	0.70	150	*e*Pg	Pg	04 14 05.4	+1.2
BFO				*e*Sg	Sg	04 14 13.4	-0.2
LBG	Lerchenberg	0.71	112	Pg	Pg	04 14 04.6	+0.2
LBG				PmP		04 14 05.9	
LBG				Sg	Sb	04 14 13.3	-0.4
LBG				SmS		04 14 16.0	
LBG	Lerchenberg	0.71	112	P	Pb	04 14 04.6	+0.5
LBG				S	Sb	04 14 13.3	-0.4
LBG				S	Sb	04 14 16.0	+2.3
SWS	Schriesheim	0.81	47	Pg	Pg	04 14 06.6	+0.4
SWS				Sg	Sg	04 14 17.0	-0.1
ECH	Echery	0.84	211	P	Pb	04 14 08.7	+2.5
ECH				S	Sb	04 14 20.9	+3.7
ECH	Echery	0.84	211	Pg	Pg	04 14 07.0	+0.2
RUP	Ruppelstein	0.90	328	PmP		04 14 10.1	
STU	Stuttgart	0.94	100	*e*Sg	Sg	04 14 21.8	+0.4
TOD	Tromm	0.94	44	Sn	Sn	04 14 21.5	-1.2
KIZ	Kirchzarten	0.99	175	Pn	Pn	04 14 09.7	-0.1
KIZ				Pg	Pg	04 14 10.4	+0.6
KIZ				Sn	Sn	04 14 22.6	-1.2
KIZ				Sg	Sg	04 14 23.9	+1.0
KIZ	Kirchzarten	0.99	175	S	Sb	04 14 22.6	+1.1
KIZ	Kirchzarten	0.99	175	SG	Sg	04 14 24.0	+1.1
KIZ	Kirchzarten	0.99	175	Pg	Pg	04 14 10.4	+0.7
KIZ				S	Sb	04 14 22.6	+1.1
KIZ				Sg	Sg	04 14 24.0	+1.1
SPAK	Spaichingen	1.07	141	Pg	Pg	04 14 11.7	+0.4
FELD	Feldberg	1.07	172	Pg	Pg	04 14 12.1	+0.6
BUCH	Bad Urach	1.14	115	Pg	Pg	04 14 12.8	0.0
BUCH				Sn	Sn	04 14 26.4	-1.3
BUCH				*e*Sg	Sg	04 14 27.9	-0.2
BUCH	Bad Urach	1.14	115	*e*SG	Sg	04 14 28.0	-0.1
BUCH	Bad Urach	1.14	115	P	Pb	04 14 12.9	+1.5
BUCH				S	Sb	04 14 26.4	+0.3
BUCH				*e*Sg	Sg	04 14 28.0	-0.1
MOF	Molkenrain	1.17	202	Pg	Pg	04 14 12.9	-0.6
MOF				Sg	Sg	04 14 28.3	-0.8
GUT	Gutenstein	1.23	134	Pn	Pn	04 14 13.3	0.0
GUT				Pg	Pg	04 14 14.6	-0.1
GUT				*e*Sg	Sg	04 14 30.2	-1.0
GUT	Gutenstein	1.23	134	PG	Pg	04 14 14.6	-0.1
GUT				*e*SG	Sg	04 14 30.2	-1.0
SIND	Sindeldorf	1.26	70	Pg	Pg	04 14 14.3	-0.9
SIND				Sg	Sg	04 14 31.0	-1.0
HINF	Hinteralfeld	1.29	210	*e*Pn	Pn	04 14 13.8	-0.2
HINF				*e*Pg	Pg	04 14 15.8	+0.1
HINF				*e*Sn	Sn	04 14 30.7	-0.7
HINF				*e*Sg	Sg	04 14 33.1	+0.2
	17nm,0.3s						
WLF	Walferdange	1.30	305	*e*Pg	Pg	04 14 16.7	+0.8
WLF				*e*Sg	Sg	04 14 34.6	+1.3
HAU	Haudompre	1.34	226	*e*Pn	Pn	04 14 15.6	+0.8
HAU				*e*Pg	Pg	04 14 16.8	0.0
HAU				*e*Sg	Sg	04 14 34.6	-0.1
	14nm,0.2s						
THEF	They Montfort	1.40	240	P	Pn	04 14 18.4	+2.8
THEF	They Montfort	1.40	240	Pg	Pg	04 14 17.8	-0.1
THEF				Sg	Sg	04 14 36.9	+0.4
SISB	Singen-Sch Ber	1.48	148	Sg	Sg	04 14 38.9	-0.3
RFYF	Reffroy	1.56	259	*e*Pn	Pn	04 14 18.0	0.0
RFYF				*e*Pg	Pg	04 14 21.2	-0.1
RFYF				*e*Sn	Sn	04 14 36.9	-1.6
RFYF				*e*Sg	Sg	04 14 41.4	-0.8
	6.4nm,0.2s						
MEZF	Maizieres J'vi	1.87	258	*e*Pg	Pg	04 14 25.6	-1.7
MEZF				*e*Sg	Sg	04 14 50.9	-1.3
	5.8nm,0.3s						
SFTF	Sexfontaines	1.97	249	*e*Pn	Pn	04 14 24.1	+0.3
SFTF				*e*Pg	Pg	04 14 28.4	-1.0
SFTF				*e*Sg	Sg	04 14 54.7	-1.0
	4.2nm,0.2s						
UBR	Uberruh	1.99	128	Sg	Sg	04 14 54.6	-1.8
GRF	Grafenberg Arr	2.37	70	*e*Sg	Sg	04 15 05.4	-3.5
LOR	Lormes	3.12	239	*e*Pn	Pn	04 14 39.4	-0.9
LOR				*e*Pg	Pg	04 14 49.6	-2.7
LOR				*e*Sg	Sg	04 15 30.5	-3.5
	3.0nm,0.2s						

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*MOS **17** 04:22:12.7±1.5, 37.92N×75.07E, h81^{km}, mb3.9/4, Error ellipse: s-maj=30.4km s-min=13.4km az=90.0*

*NEIC **17** 04:22:14.9±1.1, 37.95N×75.13E, h90^{km}±10^{km}, mb4.0/2, Error ellipse: s-maj=19.1km s-min=5.7km az=65.0*

*IDC **17** 04:22:17.0±5.7, 37.96N×75.28E, h106^{km}±48^{km}, mb3.5/9, mb1 3.7/11, mb1mx3.6/21, Error ellipse: s-maj=36.7km s-min=17.7km az=31.0*

*BJI **17** 04:22:19.3, 38.17N×75.46E, h90^{km}, mb4.4*

ISC 17 04:22:16.9±0.3, **37.99N**±0.02×**75.31E**±0.07, **h122**^{km}±5^{km}, **n54, σ1^{s}19**/57, **mb3.7**/10, **2C, Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSH	Kashi	1.61	19	⇑*i*P	P	04 22 47.3	+1.2
KSH				S	S	04 23 09.0	+0.7
KZA	Kyzart	4.08	359	P	P	04 23 18.6	-0.1
	SNR=92						
UCH	Uchtor	4.28	352	P	P	04 23 21.4	+0.1
	SNR=180						
ULHL	Ulahol	4.31	9	P	P	04 23 21.8	+0.1
	SNR=74						
AML	Almayashu	4.32	344	P	P	04 23 21.2	-0.6
	SNR=57						
CHCP	Chirah Chowk	4.63	202	⇑P	P	04 23 29.7	+3.7
CHCP				S	S	04 24 19.0	-0.1
NIL	Nilore	4.64	202	Pn	P	04 23 30.1	+3.9
	607nm,0.5s,SNR=14						
KBK	Karagaybulak	4.67	357	P	P	04 23 26.7	+0.2
	SNR=35						
AAK	Ala-Archa	4.68	353	P	P	04 23 26.8	+0.1
	SNR=45						
EKS2	Erkin-Say	4.81	346	P	P	04 23 28.3	-0.2
	SNR=23						
TKM2	Tokmak 2	4.93	2	P	P	04 23 30.2	+0.2
	SNR=148						
CEP	Cherat	4.99	215	P	P	04 23 33.1	+2.3
CEP				S	S	04 24 25.0	-2.8
CHMS	Chumysh	5.02	355	P	P	04 23 31.1	-0.1
	SNR=12						
USP	Ospenovka	5.31	354	P	P	04 23 34.5	-0.6
	SNR=18						
THW	Thamme Wali	5.95	210	P	P	04 23 44.1	+0.4
SARP	Sargodha	6.43	200	P	P	04 23 51.7	+1.3
BHK	Bhakra	6.62	172	*e*	S	04 25 06.0	-1.5
SBDP	Sheikh Budin	6.77	214	P	P	04 23 55.8	+0.8
KLP	Kalpa	6.88	159	*e*P	P	04 23 58.3	+1.8
KLP				*e*S	S	04 25 05.4	-8.3
KLP				*e*		04 26 22.2	
	comp=E,206nm,0.9s						
KLP				*e*		04 26 22.8	
	comp=N,143nm,0.8s						
DRP	Derazinda	7.51	215	P	P	04 24 06.6	+1.5
DDI	Dehra Dun	7.98	163	*e*	Sx	04 24 57.0	
DDI				*e*		04 25 38.3	
JOSI	Joshimath	8.20	153	*e*S	Sx	04 25 33.4	
NDI	New Delhi	9.42	170	*e*	Sx	04 25 40.0	
NDI				*e*S	S	04 26 07.0	-8.1
AYAN	Aya Nagar	9.60	170	*e*P	P	04 24 31.7	-1.4
KHET	Khetri	9.90	177	*e*P	P	04 24 34.7	-2.3
KHET				*e*S	S	04 26 18.6	-8.0
KHET				*e*		04 26 23.6	
	comp=E,45nm,0.3s						
KHET				*e*		04 26 23.6	
	comp=N,22nm,0.3s						
MKAR	Makanchi Array	10.20	28	P	P	04 24 40.0	-0.9
	comp=N,1.2nm,0.3s,baz=201,slow=15,SNR=55						
MKAR	Makanchi Array	10.20	28	*e*P	P	04 24 40.2	-0.7
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KOLN	Koldanda	12.34	143	*e*P	P	04 25 08.5	-0.8
	comp=Z,16nm,0.3s						
GKN	Gorkha	12.66	139	*e*P	P	04 25 12.4	-1.1
	comp=Z,23nm,0.3s						
KURK	Kurchatov	12.94	9	*i* P	P	04 25 13.6	-3.5
KURK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KKN	Kakani	13.17	138	*e*P	P	04 25 19.3	-0.8
	comp=Z,24nm,0.5s						
DMN	Daman	13.22	139	*e*P	P	04 25 20.2	-0.6
	comp=Z,12nm,0.3s						
GUN	Gumba	13.40	136	*e*P	P	04 25 22.5	-0.5
	comp=Z,17nm,0.4s						
PKI	Pulchoki	13.41	138	*e*P	P	04 25 23.2	0.0
	comp=Z,9.5nm,0.2s						
BHPL	Bhopal	14.81	172	*e*P	P	04 25 44.2	+3.0
BHPL				*e*		04 28 13.2	
VOSK	Vostochnaya	15.04	350	P	P	04 25 41.6	-2.3
VOSK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BVAR	Borovoye Array	15.42	349	P	P	04 25 45.5	-3.2
	comp=Z,2.6nm,0.3s,baz=153,slow=10.0,SNR=26						
ZRNK	Zerenda	15.59	346	*e*P	P	04 25 49.0	-1.8
	comp=Z,2.7nm,0.5s						
GTA	Gaotai	19.17	78	*e*P	P	04 26 36.1	+2.9
GTA				AMB	AMB		
	comp=Z,4.0nm,0.8s						
ZAK	Zakamensk	23.42	49	*e*P	P	04 27 18.1	+2.7
SONM	Songino Array	24.66	57	P	P	04 27 28.9	+1.6
	comp=Z,3.1nm,0.8s,mb3.8,baz=258,slow=8.8,SNR=20						
SONM				sP		04 27 56.1	
	comp=Z,1.3nm,0.8s,baz=254,slow=9.0,SNR=4.7						
AKASG	Malin Array Be	34.76	307	P	P	04 28 57.4	+0.2
	comp=Z,0.3nm,0.5s,mb3.4,baz=67,slow=6.7,SNR=2.5						
FINES	FINESS Array B	38.24	324	P	P	04 29 26.3	+0.1
	comp=Z,0.7nm,0.4s,mb3.9,baz=111,slow=8.3,SNR=7.8						
FINES				pP	pP	04 29 44.6	-9.2
	comp=Z,1.2nm,0.8s,baz=109,slow=9.1,SNR=1.7						
FINES	FINESS Array B	38.24	324	P	P	04 29 26.3	+0.1
FINES				*PP	pP	04 29 44.6	-9.2
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES				pmax	pmax		
	comp=N,1.0nm,0.8s						
ARCES	ARCESS Array B	41.14	336	P	P	04 29 50.3	+0.2
	comp=N,3.9nm,0.9s,mb4.2,baz=108,slow=7.7,SNR=6.1						
ARCES	ARCESS Array B	41.14	336	P	P	04 29 50.3	+0.2
ARCES				pmax	pmax		
	comp=Z,4.0nm,1.0s						
NOA	NORSAR Array B	45.30	322	P	P	04 30 23.2	-0.4
	comp=Z,0.4nm,0.5s,mb3.4,baz=105,slow=6.2,SNR=2.8						
ILAR	Eielson Array	72.37	18	P	P	04 33 30.4	-0.3
	comp=Z,0.6nm,1.0s,mb3.4,baz=308,slow=3.9,SNR=4.5						
ILAR	Eielson Array	72.37	18	P	P	04 33 30.5	-0.2
ILAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
YKA	Yellowknife Ar	79.55	5	P	P	04 34 12.0	+1.0
	comp=Z,0.9nm,0.6s,mb3.8,baz=346,slow=5.8,SNR=2.6						
YKA	Yellowknife Ar	79.55	5	P	P	04 34 12.0	+0.9
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA	Warramunga Arr	79.94	125	P	P	04 34 14.3	+0.3
	comp=Z,0.3nm,0.4s,mb3.5,baz=325,slow=4.9,SNR=9.8						
WRAB	Tennant Creek	79.94	125	*e*P	P	04 34 13.9	-0.2
	comp=Z,2.2nm,0.6s,mb4.2						
ASAR	Alice Springs	82.36	128	P	P	04 34 27.3	+0.6
	comp=Z,1.3nm,1.0s,mb3.7,baz=312,slow=4.9,SNR=9.3						

CASC 17 04:38:30.9±2.1, **12.91N**×**90.30W, h20**^{km}±8^{km}, **MD4.1, ML4.4, 3C-5D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SBLS	San Blas	1.14	35	⇓*e*P	Pb	04 38 51.5	-0.2
SBLS				*e*S	Sb	04 39 07.6	+1.6
SNJE	San Jose	1.17	35	⇓*e*P	Pb	04 38 52.0	-0.2
SNJE				*e*S	Sb	04 39 08.9	+1.9
RTR	El Retiro	1.17	33	⇑*e*P	Pb	04 38 51.9	-0.4
RTR				*e*S	Sb	04 39 13.8	+6.7
IXG	Ixpaco	1.27	353	⇑*e*P	Pn	04 38 52.5	-1.2
IXG				*e*S	Sb	04 39 10.7	+0.9
IXG				AML	AML	04 39 19.2	
	comp=E,9μm,0.4s						
BOQS	Boqueron	1.29	50	*e*P	Pn	04 38 53.5	-0.5
BOQS				*e*S	Sb	04 39 12.4	+1.9
SNET	Serv Nac Est T	1.30	53	*e*P	Pn	04 38 55.3	+1.2
LFRS	El Faro	1.40	59	⇓*e*P	Pn	04 38 54.6	-1.0
LBRS	Las Brisas	1.48	56	*e*P	Pn	04 38 56.0	-0.7
LBRS				*e*S	Sn	04 39 16.3	+0.8
LCBS	La Ceiba	1.49	60	⇓*e*P	Pn	04 38 55.8	-1.1
LCBS				*e*S	Sn	04 39 16.1	+0.2
SNVI	San Vicente	1.59	64	*e*P	Pn	04 38 55.8	-2.5
SNVI				⇑*e*P		04 38 57.5	
FUG	Fuego 3	1.62	341	*e*P	Pn	04 38 57.3	-1.4
NBG	Las Nubes	1.67	359	*e*P	Pn	04 38 59.9	+0.4
NBG				*e*S	Sn	04 39 22.3	+1.9
MTO2	Montecristo 2	1.74	32	⇓*e*P	Pn	04 39 00.6	+0.1
MTO2				*e*S	Sn	04 39 22.5	+0.2
JAT	Jato	1.91	317	*e*P	Pn	04 39 03.7	+0.8
BLLM	Bellamira	2.08	75	*e*P	Pn	04 39 05.1	-0.2
MRL	Marmol	2.22	15	*e*P	Pn	04 39 08.4	+1.0

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*NIED **17** 04:42:00, 43.70N×147.30E, h56^{km}, Mw4.1 Best double couple: $M_0 1.52\times10^{15}$ NP1: $\phi_s 176°, \delta 56°, \lambda 60°$. NP2: $\phi_s 42°, \delta 44°, \lambda 126°$.*

*MOS **17** 04:42:29.0±0.8, 43.86N×147.14E, h83^{km}, mb4.2/9, Error ellipse: s-maj=21.2km s-min=16.4km az=105.7*

*JMA **17** 04:42:29.1±0.2, 43.72N×147.25E, h30^{km}, M4.5*

*NEIC **17** 04:42:31.8±1.2, 43.95N×147.15E, h87^{km}±11^{km}, mb4.1/17, Error ellipse: s-maj=9.5km s-min=6.1km az=141.0*

*IDC **17** 04:42:32.3±2.6, 43.94N×147.11E, h90^{km}±23^{km}, mb3.8/15, mb1 4.0/18, mb1mx3.9/26, MS2.9/1, Ms1 2.9/1, ms1mx2.5/24, Error ellipse: s-maj=17.8km s-min=13.9km az=135.0*

ISC 17 04:42:29.3±0.8, **43.87N**±0.06×**147.21E**±0.09, **h80**^{km}±8^{km}, **n78, σ0^{s}79**/81, **mb4.0**/31, **4C-2D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YUK	Yuzh-Kuril'sk	0.98	280	⇓*i*PN	P	04 42 46.7	-1.6
YUK				*i* S	S	04 42 58.5	-4.2
YUK				pmax	pmax		
	comp=Z,4μm,0.8s						
YUK				pmax	pmax		
	comp=Z,3μm,0.4s						
YUK				pmax	pmax		
	comp=N,230nm,0.3s						
YUK				pmax	pmax		
	comp=E,720nm,0.3s						
YUK				smax			
	comp=N,12μm,1.0s						
YUK				smax			
	comp=E,18μm,2.0s						
YUK				smax			
	comp=N,6μm,0.4s						
YUK				smax			
	comp=E,10μm,0.5s						
NEM2	Nemuro 2	1.18	245	P	P	04 42 49.6	-1.1
NEM2				*e*S	S	04 43 04.0	-2.9
JRA	Rausu	1.51	273	P	P	04 42 55.4	+0.2
JRA				*e*S	S	04 43 14.7	+0.4
JNK	Nakash	1.82	262	P	P	04 42 59.1	-0.3
JAK	Akkeshi	2.03	245	P	P	04 43 01.6	-0.5
JAK				*e*S	S	04 43 25.4	-0.9
JTKR	Abashiri--Toko	2.38	273	P	P	04 43 07.9	+0.8
JAR	Ashorobuto	2.56	258	P	P	04 43 10.1	+0.5
JAR				*e*S	S	04 43 40.6	+0.9
JOB	Onbets	2.64	250	P	P	04 43 10.6	-0.1
JOB				*e*S	S	04 43 40.9	-0.8
JMP	Maruseppu	2.78	274	P	P	04 43 13.6	+0.9
JCH	Churui	3.08	247	P	P	04 43 16.6	-0.2
JCH				*e*S	S	04 43 52.2	-0.4
JKK2	Kamakawa 2	3.22	272	P	P	04 43 20.1	+1.3
ASAJ	Asahikawa	3.33	276	P	P	04 43 21.4	+1.0
	comp=E,17nm,0.3s,baz=80,slow=15,SNR=41						
ASAJ				S	S	04 44 07.8	+8.9
	comp=E,13nm,0.3s,baz=25,slow=31,SNR=5.6						
ASAJ				LR	LR	04 44 46.1	
	comp=E,201nm,21.8s,baz=197,slow=41						
ASAJ	Asahikawa	3.33	276	P	P	04 43 21.9	+1.5
JFR	Furan	3.43	260	P	P	04 43 22.9	+1.2
JFR				*e*S	S	04 44 02.5	+1.2
JSE	Soyaes	3.48	290	P	P	04 43 23.1	+0.6
JEM	Erimo	3.50	239	P	P	04 43 23.8	+1.1
JNBK	Urakawa-nobuka	3.63	246	P	P	04 43 23.6	-0.9
YSS	Yuzh-Sakhalins	4.39	316	⇓*e*PN	P	04 43 34.7	-0.4
YSS				*e*S	S	04 44 21.6	-3.8
YSS				pmax	pmax		
	comp=N,50nm,0.4s						
YSS				pmax	pmax		
	comp=Z,70nm,0.4s						
YSS				pmax	pmax		
	comp=E,30nm,0.5s						
YSS				smax			
	comp=N,30nm,0.7s						
YSS	Yuzh-Sakhalins	4.39	316	*e*Pn	P	04 43 35.1	+0.1
JHJ	Hachijo jima 2	12.20	211	P	P	04 45 23.1	+1.6
	comp=N,7.9nm,0.3s,baz=57,slow=22,SNR=2.9						
JHJ				S	S	04 47 25.1	-11
	comp=N,14nm,0.3s,baz=82,slow=21,SNR=3.9						
FX1	Attu Island--F	19.36	53	P	P	04 46 52.0	+1.2
	comp=N,2.5nm,0.3s,baz=275,slow=14,SNR=4.4						
FX1	Attu Island--F	19.36	53	P	P	04 46 52.0	+1.1
FX1				pmax	pmax		
	comp=Z,3.0nm,0.3s						
SONM	Songino Array	28.46	292	P	P	04 48 16.5	-2.0
	comp=Z,0.2nm,0.3s,mb3.1,baz=97,slow=9.5,SNR=3.2						
IMA	Indian Mountai	38.56	34	*e*P	P	04 49 44.7	-0.6
	comp=Z,15nm,0.6s,mb5.0						
MCK	McKinley	40.51	38	*e*P	P	04 50 01.4	-0.1
	comp=Z,3.3nm,0.6s,mb4.3						
COLA	College	40.95	36	*e*P	P	04 50 05.4	+0.3
	comp=Z,2.4nm,0.6s,mb4.2						
ILAR	Eielson Array	41.37	36	P	P	04 50 08.1	-0.4
	comp=Z,2.0nm,0.5s,mb4.2,baz=252,slow=6.8,SNR=32						
ILAR	Eielson Array	41.37	36	P	P	04 50 08.1	-0.4
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MKAR	Makanchi Array	44.56	298	P	P	04 50 35.1	+0.5
	comp=Z,1.2nm,0.9s,mb3.6,baz=85,slow=8.9,SNR=6.0						
MKAR				PcP	PcP	04 52 17.0	+0.1
	comp=Z,1.8nm,1.0s,baz=71,slow=4.0,SNR=4.6						
MKAR	Makanchi Array	44.56	298	P	P	04 50 35.2	+0.6
MKAR						04 52 17.0	
MKAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
MKAR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
DAWY	Dawson	44.67	37	*e*P	P	04 50 35.1	-0.2
INK	Inuvik	46.28	30	P	P	04 50 48.1	+0.2
	comp=Z,4.2nm,0.6s,mb4.4,baz=307,slow=7.2,SNR=32						
INK	Inuvik	46.28	30	P	P	04 50 48.1	+0.2
INK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
INK	Inuvik	46.28	30	*e*P	P	04 50 47.7	-0.3
	comp=Z,4.3nm,0.6s,mb4.4						
YKA	Yellowknife Ar	55.68	34	P	P	04 51 58.5	-0.6
	comp=Z,2.9nm,0.7s,mb4.5,baz=293,slow=7.1,SNR=4.9						
YKA	Yellowknife Ar	55.68	34	P	P	04 51 58.5	-0.5
YKA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
YKA	Yellowknife Ar	55.68	34	P	P	04 51 58.5	-0.6
EDM	Edmonton	61.28	43	*e*P	P	04 52 37.5	-0.6
WRAB	Tennant Creek	64.58	193	*e*P	P	04 53 00.1	-0.2
	comp=Z,4.3nm,1.0s,mb4.2						
WRA	Warramunga Arr	64.59	193	P	P	04 52 59.7	-0.7
	comp=Z,2.7nm,1.1s,mb4.0,baz=9.2,slow=6.7,SNR=10						
WRA	Warramunga Arr	64.59	193	P	P	04 52 59.7	-0.7
WRA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
FINES	FINESS Array B	64.78	333	P	P	04 52 59.4	-1.6
	comp=Z,3.6nm,1.0s,mb4.1,baz=63,slow=8.5,SNR=7.0						
FINES	FINESS Array B	64.78	333	P	P	04 52 59.4	-1.6
FINES				pmax	pmax		
	comp=Z,4.0nm,1.0s						
FINES	FINESS Array B	64.78	333	P	P	04 52 59.4	-1.6
CHMT	Chamberlain Mo	65.13	48	*e*P	P	04 53 03.0	-0.5
OBN	Obninsk	65.24	324	*e*P	P	04 53 16.9	+13
OBN				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.3						
HLID	Hailey	66.57	52	*e*P	P	04 53 12.2	-0.5
	comp=Z,0.8nm,0.6s,mb3.7						
BOZ	Bozeman (W)	66.80	48	*e*P	P	04 53 14.2	+0.1
	comp=Z,3.5nm,0.7s,mb4.3						
NVAR	Mina Array Bea	67.48	58	P	P	04 53 18.6	0.0
	comp=Z,1.8nm,0.5s,mb4.1,baz=304,slow=5.3,SNR=22						
ELK	Elko	67.87	54	*e*P	P	04 53 21.5	+0.7
	comp=Z,0.4nm,0.4s,mb3.6						
ASAR	Alice Springs	68.31	193	P	P	04 53 24.2	+0.3
	comp=Z,0.5nm,0.6s,mb3.5,baz=14,slow=4.8,SNR=6.4						
DGMT	Dagmar	68.78	43	*e*P	P	04 53 26.2	-0.2
	comp=Z,9.6nm,0.5s,mb4.9						
HWUT	Hardware Ranch	69.44	52	*e*P	P	04 53 30.3	-0.2
	comp=Z,1.1nm,0.5s,mb3.9						
NOA	NORSAR Array B	69.50	339	P	P	04 53 30.4	-0.2
	comp=Z,1.1nm,0.8s,mb3.8,baz=35,slow=5.5,SNR=3.1						
NOA	NORSAR Array B	69.50	339	P	P	04 53 30.4	-0.2
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
HFS	Hagfors	69.59	337	P	P	04 53 30.6	-0.6
	comp=Z,1.8nm,0.7s,mb4.0,baz=45,slow=4.2,SNR=7.1						
HFS	Hagfors	69.59	337	P	P	04 53 30.6	-0.6
HFS				pmax	pmax		
	comp=Z,2.0nm,0.7s						
DUG	Dugway	69.64	54	*e*P	P	04 53 32.1	+0.3
	comp=Z,0.1nm,0.6s						
TPNV	Topopah Spring	69.68	58	*e*P	P	04 53 32.0	-0.1
	comp=Z,1.8nm,0.6s,mb4.1						
BW06	Boulder Array	69.80	50	*e*P	P	04 53 32.2	-0.5
	comp=Z,2.1nm,0.9s,mb4.0						
PDAR	Pinedale Array	69.80	50	P	P	04 53 33.1	+0.4
	comp=Z,1.3nm,0.7s,mb3.9,baz=297,slow=2.4,SNR=13						
AKASG	Malin Array Be	71.50	324	P	P	04 53 42.7	-0.1
	comp=Z,0.3nm,0.3s,mb3.5,baz=40,slow=6.4,SNR=3.8						
RSSD	Black Hills	71.84	46	*e*P	P	04 53 45.0	0.0
	comp=Z,1.9nm,0.6s,mb4.1						
PV10	Paradox Valley	73.03	53	*e*P	P	04 53 52.9	+0.8
PV01	Paradox Valley	73.47	53	*e*P	P	04 53 55.1	+0.5
SDCO	Great Sand Dun	75.49	51	*e*P	P	04 54 07.0	+0.7
	comp=Z,0.6nm,0.5s,mb3.6						
ANMO	Albuquerque	76.89	54	*e*P	P	04 54 14.6	+0.4
	comp=Z,0.8nm,0.6s,mb3.6						
SCHQ	Schefferville	77.49	19	P	P	04 54 17.4	+0.2
	comp=Z,4.4nm,0.9s,mb4.2,baz=360,slow=8.6,SNR=5.7						
WMOK	Wichita Mounta	81.41	50	*e*P	P	04 54 38.2	-0.5
	comp=Z,1.4nm,0.8s,mb3.8						
TXAR	Lajitas Array	82.55	56	P	P	04 54 45.4	+0.7
	comp=Z,1.2nm,0.6s,mb3.9,baz=298,slow=4.1,SNR=21						
SNAA	Sanae	148.58	198	⇑*i*	PKPdf	05 02 08.2	+6.5
BDFB	Brasilia	149.02	29	PKPbc	PKPdf	05 02 10.1	+6.1
	comp=Z,2.5nm,0.7s,baz=96,slow=2.1,SNR=5.1						
BDFB	Brasilia	149.02	29	PKP2	PKPab	05 02 10.1	-4.7
BDFB				pmax	pmax		
	comp=Z,3.0nm,0.7s						
VNA2	Neumayer--Watz	150.12	196	⇑*i*	PKPdf	05 02 14.5	+10
VNA3	Neumayer Olymp	150.30	195	⇑*i*	PKPdf	05 02 14.3	+10
VNA1	Neumayer--Stat	150.51	196	⇑*i*	PKPdf	05 02 12.5	+7.7
PLCA	Paso Flores	152.06	97	PKPbc	PKPdf	05 02 17.5	+9.5
	comp=Z,1.1nm,0.8s,baz=59,slow=3.0,SNR=2.9						
PLCA	Paso Flores	152.06	97	PKIKP	PKPdf	05 02 17.5	+9.5
PLCA				pmax	pmax		
	comp=Z,1.0nm,0.8s						

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*NEIC **17** 04:48:37.9±0.9, 19.44S×69.19W, h117^{km}±9^{km}, mb4.0/1, Error ellipse: s-maj=18.3km s-min=10.6km az=60.0*

*IDC **17** 04:48:37.9±4.4, 19.46S×69.20W, h119^{km}±33^{km}, mb3.6/5, mb1 3.9/7, mb1mx3.6/16, Error ellipse: s-maj=42.5km* *s-min=21.1km az=43.0*

ISC 17 04:48:36.4±0.9**, 19.43S**±0.07×**69.30W**±0.09**, h124**^{km}±9^{km}**,**
n17, σ1^{s}22/18**, mb3.8**/5**, 1C-1D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	Limon Verde	3.19	174	ePn	P	04 49 27.0	+0.8
LVC				eSn	S	04 49 55.7	-8.5
LPAZ	La Paz	3.31	20	P	P	04 49 29.2	+1.3
	7.1nm,0.3s,baz=199,slow=7.5,SNR=58						
LPAZ				S	S	04 50 08.5	+1.4
	1.5nm,0.3s,baz=130,slow=23,SNR=2.4						
LPAZ	La Paz	3.31	20	⇓iPn	P	04 49 29.1	+1.3
LPAZ				eSn	S	04 50 06.0	-1.1
ARE	Arequipa	3.61	324	⇑iP	P	04 49 32.5	+0.6
ARE				i		04 49 35.4	
ARE				i S	S	04 50 12.5	-1.7
CPUP	Villa Florida	12.99	124	P	P	04 51 35.2	-2.1
	0.1nm,0.3s,baz=320,slow=12,SNR=3.7						
CPUP	Villa Florida	12.99	124	ePn	P	04 51 36.0	-1.4
BDFB	Brasilia	20.64	83	P	P	04 53 08.5	+0.6
	2.7nm,0.4s,baz=270,slow=9.7,SNR=13						
OTAV	Otavalo	21.51	334	eP	P	04 53 21.0	+4.5
	6.8nm,0.8s,mb4.0						
SDV	Santo Domingo	28.16	357	P	P	04 54 18.3	-1.1
DBIC	Dimbokro	68.51	74	P	P	04 59 26.6	-1.4
	2.8nm,0.8s,mb4.1,baz=268,slow=16,SNR=6.0						
PDAR	Pinedale Array	72.14	330	P	P	04 59 49.9	+0.6
	0.2nm,0.5s,mb3.2,baz=129,slow=5.8,SNR=3.2						
PDAR	Pinedale Array	72.14	330	P	P	04 59 49.9	+0.6
NVAR	Mina Array Bea	73.64	322	P	P	04 59 58.7	+0.5
	0.5nm,0.7s,mb3.4,baz=135,slow=8.9,SNR=4.5						
YKA	Yellowknife Ar	89.12	341	P	P	05 01 19.5	+1.0
	2.3nm,0.6s,mb4.4,baz=133,slow=5.0,SNR=6.7						
WRA	Warramunga Arr	134.53	212	PKP	PKPdf	05 07 44.1	+3.2
	0.4nm,0.9s,baz=167,slow=1.7,SNR=4.2						
WRA	Warramunga Arr	134.53	212	PKP	PKPdf	05 07 44.1	+3.2
SONM	Songino Array	151.45	6	PKPbc	PKPdf	05 08 18.7	+10
	1.0nm,0.5s,baz=315,slow=2.0,SNR=5.9						

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*LDG **17** 04:57:00.8±0.3, 42.87N×1.49W, h3^{km}, Md2.5/1, Ml2.0/4, Error ellipse: s-maj=5.0km s-min=3.8km az=63.0*
*STR **17** 04:57:00.0±0.4, 42.80N×1.44W, h10^{km}±1^{km}, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*MDD **17** 04:57:01.6±0.5, 42.86N×1.39W, h5^{km}±6^{km}, mbLg1.6/6, Error ellipse: s-maj=3.7km s-min=2.7km az=39.0, PRXIMO AftershockPLICA*

ISC 17 04:56:59.5±0.7**, 42.84N**±0.03×**1.45W**±0.05**, h15**^{km}±3^{km}**,**
n19, σ1^{s}13/32**, 1C, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	Ste Jean	0.32	32	ePg	Pg	04 57 07.2	+0.8
SJPF				eSg	Sg	04 57 10.1	-0.9
	43nm,0.3s						
EALK	Alkurruntz	0.38	354	⇑Pg	Pg	04 57 08.3	+0.8
	5.0nm,0.3s,SNR=18						
EALK				Lg		04 57 14.1	
	45nm,0.5s,SNR=17						
LARF	Larrau	0.39	60	Pg	Pg	04 57 08.2	+0.4
LARF				Sg	Sg	04 57 14.2	+0.8
LARF	Larrau	0.39	60	P	Pb	04 57 08.3	+0.6
LARF				S	Sb	04 57 12.4	-0.7
OSSF	Osses	0.43	19	Pg	Pg	04 57 09.1	+0.5
OSSF	Osses	0.43	19	P	Pb	04 57 09.2	+0.9
OSSF				S	Sb	04 57 13.8	-0.6
ORDF	Ordiarp	0.53	46	Pg	Pg	04 57 11.0	+0.5
ORDF				Sg	Sg	04 57 18.6	+0.9
ORDF	Ordiarp	0.53	46	P	Pb	04 57 11.1	+1.1
ORDF				S	Sb	04 57 17.2	+0.1
VIEF	Viey	1.09	87	S	Sb	04 57 35.8	+2.5
EPF	Esparros	1.33	81	ePn	Pn	04 57 25.0	+1.3
EPF				ePg	Pg	04 57 26.1	-0.1
EPF				eSn	Sn	04 57 42.5	+1.4
EPF				eSg	Sg	04 57 43.3	-0.8
	5.4nm,0.2s						
ESAC	San Caprasio	1.34	147	Pg	Pg	04 57 25.2	-1.2
	3.2nm,0.2s,SNR=7.1						
ESAC				Lg		04 57 43.1	
	30nm,0.3s,SNR=12						
ELAN	Lanestosa	1.50	286	Pg	Pg	04 57 29.5	-0.1
	0.2nm,0.1s,SNR=7.9						
ELAN				Lg		04 57 51.1	
	2.0nm,0.3s,SNR=7.9						
ETOR	Torete	2.07	193	Pg	Pg	04 57 40.5	-0.5
	1.7nm,0.4s,SNR=5.9						
ETOR				Lg		04 58 04.4	
	2.9nm,0.3s,SNR=5.7						
EPOB	Poblet	2.40	127	Pn	Pn	04 57 40.4	+1.4
	0.2nm,0.1s,SNR=7.9						
EPOB				Sn	Sn	04 58 07.8	-0.6
	SNR=7.9						
EPOB				Lg		04 58 14.8	
	SNR=7.9						
LFF	La Frestale	2.63	36	ePg	Pg	04 57 49.4	-2.7
LFF				eSg	Sg	04 58 22.9	-4.2
	0.6nm,0.2s						
MTLF	Montolieu	2.73	78	ePn	Pn	04 57 44.4	+0.6
MTLF				ePg	Pg	04 57 51.9	-2.3
RJF	Les Rejaudoux	3.26	40	ePn	Pn	04 57 50.4	-0.8
CAF	Calviac	3.29	50	ePn	Pn	04 57 51.0	-0.6
CAF				eSn	Sn	04 58 28.9	-1.8
	0.3nm,0.2s						
LASF	Ste Croix	4.06	71	eSn	Sn	04 58 47.7	-2.6
	0.6nm,0.2s						

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*LDG **17** 05:02:04.2±0.3, 42.94N×1.46W, h2^{km}, Md2.2/1, Ml1.9/3, Error ellipse: s-maj=5.6km s-min=4.1km az=67.0*
*MDD **17** 05:02:04.3±0.6, 42.88N×1.43W, h6^{km}±6^{km}, mbLg1.4/6, Error ellipse: s-maj=4.5km s-min=3.9km az=38.0, PRXIMO AftershockPLICA*

ISC 17 05:02:02.0±0.7**, 42.83N**±0.04×**1.44W**±0.06**, h14**^{km}±4^{km}**,**
n12, σ1^{s}01/21**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	Ste Jean	0.32	30	ePg	Pg	05 02 09.8	+0.9
SJPF				eSg	Sg	05 02 12.5	-1.0
	51nm,0.3s						
EALK	Alkurruntz	0.39	353	Pg	Pg	05 02 11.1	+0.9
	0.5nm,0.1s,SNR=7.9						
EALK				Lg		05 02 15.3	
	12nm,0.3s,SNR=7.9						
LARF	Larrau	0.39	58	P	Pg	05 02 11.2	+1.0
LARF				S	Sg	05 02 16.4	+0.7
EPF	Esparros	1.32	81	ePn	Pn	05 02 28.0	+1.9
EPF				ePg	Pg	05 02 29.0	+0.4
EPF				eSn	Sn	05 02 44.7	+1.1
EPF				eSg	Sg	05 02 46.0	-0.3
	3.7nm,0.3s						
ESAC	San Caprasio	1.32	147	Pg	Pg	05 02 28.3	-0.2
	2.6nm,0.2s,SNR=7.9						
ESAC				Lg		05 02 46.0	
	10nm,0.3s,SNR=7.9						
ELAN	Lanestosa	1.51	286	Pg	Pg	05 02 32.1	-0.2
	0.4nm,0.1s,SNR=7.9						
ELAN				Lg		05 02 53.2	
	0.7nm,0.2s,SNR=4.0						
ETOR	Torete	2.06	193	Pg	Pg	05 02 42.3	-0.9
	0.3nm,0.2s,SNR=4.0						
ETOR				Sn	Sn	05 03 02.4	+0.1
	SNR=7.9						
ETOR				Lg		05 03 07.1	
	1.2nm,0.3s,SNR=7.9						
EPOB	Poblet	2.39	127	Lg		05 03 18.9	
	0.5nm,0.2s,SNR=7.9						
EMOS	Mosqueruela	2.57	163	Lg		05 03 24.0	
	SNR=7.9						
LFF	La Frestale	2.63	36	ePn	Pn	05 02 44.7	-0.1
LFF				ePg	Pg	05 02 51.3	-3.3
LFF				eSg	Sg	05 03 24.0	-5.7
	2.0nm,0.3s						
MTLF	Montolieu	2.73	78	ePn	Pn	05 02 46.9	+0.7
MTLF				ePg	Pg	05 02 54.7	-1.8
MTLF				eSn	Sn	05 03 18.5	-0.8
CAF	Calviac	3.29	49	ePn	Pn	05 02 54.4	+0.2
CAF				eSn	Sn	05 03 31.8	-1.6
	0.5nm,0.3s						

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*IDC **17** 05:35:29.4±0.6, 58.91N×31.06W, mb4.0/18, mb1 4.1/21, mb1mx4.1/25, ML3.0/3, Error ellipse: s-maj=18.6km s-min=13.3km az=173.0*
*NEIC **17** 05:35:31.1±0.4, 59.02N×31.28W, h10^{km}, mb4.4/19, Error ellipse: s-maj=13.1km s-min=6.4km az=196.0*

ISC 17 05:35:27.9±4.3**, 58.99N**±0.06×**31.38W**±0.08**, h0**^{km}±28^{km}**,**
n52, σ1^{s}19/50**, mb4.2**/33**, Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BORG	Borgarnes	7.47	35	Pn	Pn	05 37 20.2	-0.6
	1.4nm,0.3s,baz=225,slow=6.0,SNR=5.0						
BORG				Sn	Sn	05 38 47.4	+0.1
	0.8nm,0.3s,baz=58,slow=21,SNR=7.6						
EKA	Eskdalemuir Ar	15.68	91	Pn	P	05 39 09.7	-1.7
	0.0nm,0.3s,baz=288,slow=9.0,SNR=3.0						
ROSF	Rostrenen	19.62	111	eP	P	05 40 01.0	+0.7
	295nm,1.8s						
SCHQ	Schefferville	19.64	273	P	P	05 39 58.7	-1.9
	0.2nm,0.3s,baz=68,slow=13,SNR=3.3						
SCHQ	Schefferville	19.64	273	P	P	05 39 59.1	-1.5
	6.1nm,0.8s						
SGMF	Saint Gilles	20.02	110	eP	P	05 40 04.9	+0.1
	176nm,1.6s						
FLN	La Foliniere	20.70	106	eP	P	05 40 11.7	-0.3
	124nm,1.4s						
LDF	La Druitiere	20.99	106	eP	P	05 40 13.3	-1.6
	46nm,1.1s						
NOA	NORSAR Array B	21.11	66	P	P	05 40 12.1	-4.0
	1.4nm,0.8s,mb3.3,baz=328,slow=8.7,SNR=3.2						
BAIF	Baives	22.26	98	eP	P	05 40 28.6	+0.9
MFF	Saint Martin d	22.35	110	eP	P	05 40 29.4	+0.8
	43nm,1.0s,mb4.5						
TCF	Toulx Ste Croi	23.72	108	eP	P	05 40 43.3	+1.4
	16nm,1.0s,mb4.2						
SSF	Saint Saulge	23.83	105	eP	P	05 40 43.6	+0.6
	17nm,1.0s,mb4.2						
BGF	Bois d'Agland	23.85	106	eP	P	05 40 44.7	+1.5
	18nm,0.7s,mb4.4						
LOR	Lormes	23.87	104	eP	P	05 40 44.0	+0.7
	16nm,0.9s,mb4.2						
SJPF	Ste Jean	24.43	117	eP	P	05 40 49.2	+0.3
	39nm,1.4s,mb4.4						
CAF	Calviac	24.63	110	eP	P	05 40 51.4	+0.7
	26nm,1.2s,mb4.5						
HAU	Haudompre	24.64	100	eP	P	05 40 52.1	+1.2
	14nm,0.8s,mb4.5						
CDF	Champ du Feu	24.86	98	eP	P	05 40 54.3	+1.4
	17nm,1.0s,mb4.4						
EPF	Esparros	25.22	115	eP	P	05 40 56.9	+0.4
	24nm,1.1s,mb4.5						
EVO	Evora	25.37	133	eP	P	05 40 56.9	-1.0
	9.9nm,0.8s,mb4.3						
CABF	La Chapelle	25.44	103	eP	P	05 40 59.5	+1.0
	114nm,1.6s,mb5.0						
ARCES	ARCESS Array B	25.80	43	P	P	05 41 01.9	+0.3
	8.7nm,1.0s,mb4.3,baz=280,slow=7.4,SNR=5.8						
ESDC	Sonseca Array	26.01	126	P	P	05 41 03.3	-0.6
	6.9nm,0.8s,mb4.3,baz=325,slow=9.8,SNR=14						
ESLA	Sonseca Array	26.01	126	eP	P	05 41 03.6	-0.3
	2.0nm,0.9s,mb3.8						
SMRF	Simiane la Rot	27.04	107	eP	P	05 41 14.0	+0.7
	51nm,1.4s,mb4.8						
FINES	FINESS Array B	27.86	60	P	P	05 41 17.4	-3.2
	1.5nm,0.8s,mb3.9,baz=321,slow=8.9,SNR=2.5						
AKASG	Malin Array Be	34.73	77	P	P	05 42 20.8	-0.4
	1.0nm,0.6s,mb3.9,baz=303,slow=8.6,SNR=8.3						
ULM	Lac du Bonnet	36.96	285	P	P	05 42 41.3	+1.2
	3.6nm,1.0s,mb4.0,baz=68,slow=8.2,SNR=3.0						
YKA	Yellowknife Ar	38.18	312	P	P	05 42 50.7	+0.4
	1.3nm,0.8s,mb3.7,baz=59,slow=8.8,SNR=2.7						
EDM	Edmonton	43.36	300	eP	P	05 43 32.8	-0.1
BRTR	Keskin Array B	44.50	86	P	P	05 43 41.9	-0.5
	0.8nm,0.9s,mb3.6,baz=333,slow=2.8,SNR=4.3						
DAWY	Dawson	45.74	324	eP	P	05 43 54.6	+2.8
ILAR	Eielson Array	47.36	328	P	P	05 44 07.3	+2.7
	0.9nm,0.8s,mb3.9,baz=32,slow=6.3,SNR=7.4						
MALT	Malatya	48.03	83	eP	P	05 44 08.2	-2.1
BW06	Boulder Array	48.94	287	eP	P	05 44 17.6	+0.3
	1.1nm,0.7s,mb4.0						
PDAR	Pinedale Array	48.94	287	P	P	05 44 18.2	+0.9
	0.7nm,0.4s,mb4.0,baz=18,slow=5.7,SNR=3.9						
REDW	Red Top Meadow	49.13	289	eP	P	05 44 17.0	-1.8
HWUT	Hardware Ranch	50.79	288	eP	P	05 44 31.1	-0.4
DBIC	Dimbokro	56.02	148	P	P	05 45 09.7	-0.9
	1.9nm,0.7s,mb4.2,baz=319,slow=13,SNR=4.2						
TXAR	Lajitas Array	56.32	272	P	P	05 45 14.8	+2.2
	0.3nm,0.8s,mb3.4,baz=76,slow=7.4,SNR=2.4						
NVAR	Mina Array Bea	56.54	290	P	P	05 45 14.6	+0.6
	1.5nm,1.1s,mb3.9,baz=59,slow=5.3,SNR=3.3						
NVAR	Mina Array Bea	56.54	290	P	P	05 45 14.6	+0.6
MKAR	Makanchi Array	61.39	46	P	P	05 45 45.4	-2.1
	1.3nm,0.7s,mb4.2,baz=323,slow=6.1,SNR=7.4						
MKAR	Makanchi Array	61.39	46	P	P	05 45 45.4	-2.1
ROSC	El Rosal	63.28	229	P	P	05 45 59.7	-0.9
	3.0nm,0.6s,mb4.6,baz=279,slow=19,SNR=4.6						
SONM	Songino Array	68.05	29	P	P	05 46 29.1	-1.5
	1.7nm,1.0s,mb4.2,baz=333,slow=2.8,SNR=7.4						
BDFB	Brasilia	75.60	197	P	P	05 47 13.9	-2.3
	2.1nm,1.0s,mb4.2,baz=30,slow=8.1,SNR=2.2						
CMAR	Chiang Mai Arr	92.80	46	P	P	05 48 42.5	-0.7
	0.5nm,0.4s,mb4.3,baz=322,slow=6.1,SNR=5.2						
WRA	Warramunga Arr	139.65	21	PKP	PKPdf	05 55 00.2	+0.9
	1.2nm,1.1s,baz=353,slow=2.1,SNR=4.6						
ASAR	Alice Springs	143.19	23	PKP	PKPdf	05 55 03.2	-2.1
	1.2nm,0.8s,baz=3.5,slow=2.6,SNR=8.9						
MAW	Mawson	143.60	140	PKP	PKPdf	05 55 03.6	-1.0
	1.8nm,0.9s,baz=286,slow=17,SNR=3.2						

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*BJI **17** 05:37:00.5, 58.61N×31.31W, h10^{km}, mB5.1, mb4.7, Ms4.6, Msz4.4*
*IDC **17** 05:37:03.2±0.5, 58.93N×31.02W, mb4.3/23, mb1 4.5/27, mb1mx4.4/30, ML3.3/3, MS4.6/12, Ms1 4.6/12, ms1mx4.3/20, Error ellipse: s-maj=16.2km s-min=10.7km az=179.0*
*MOS **17** 05:37:04.9±1.4, 58.73N×31.00W, h10^{km}, mb5.0/7, MS4.7/11, Error ellipse: s-maj=25.1km s-min=17.0km az=143.8*
*NEIC **17** 05:37:05.0±0.2, 58.72N×30.72W, h10^{km}, mb4.7/70, MS4.8/100, Error ellipse: s-maj=9.1km s-min=3.7km az=194.0*
*ZUR_RM **17** 05:37:05, 58.72N×30.72W, h12^{km}, Mw5.3/11, Moment Tensor Solution. s11 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.52; $M_{\theta\theta}$-0.06; $M_{\phi\phi}$0.58; $M_{r\theta}$-0.20; $M_{\theta\phi}$0.36; $M_{\phi r}$-0.71; Best double couple: M_0.968×10^{17} NP1:ϕ_s16°, δ70°, λ-98°. NP2:ϕ_s218°, δ21°, λ-70°. Principal axes: T 1.0736, Plg25°, Azm112°; N -.2118, Plg7°, Azm19°; P -.8618, Plg64°, Azm273°;*
*HRVD **17** 05:37:05.0±0.2, 58.90N×30.97W, h12^{km}, MW5.2/58, Centroid moment Tensor Solution. LP body waves: s32,c45;Mantle waves: s58,c105; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-6.07±.16; $M_{\theta\theta}$0.74±.19; $M_{\phi\phi}$5.33±.14; $M_{r\theta}$-0.73±.53; $M_{\theta\phi}$2.57±.12; $M_{\phi r}$-2.33±.42; Best double couple: $M_0$6.73×10^{16} NP1: ϕ_s207°, δ34°, λ-86°. NP2:ϕ_s22°, δ56°, λ-93°. Principal axes: T 6.93, Plg11°, Azm114°; N -.4, Plg2°, Azm23°; P -6.54, Plg79°, Azm280°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BGS **17** 05:37:13.5±2.7, 58.72N×30.71W, h10^{km}, mb5.4*

ISC 17 05:37:04.1±0.2**, 58.81N**±0.04×**30.84W**±0.04**, h10**^{km}**,**
(h12^{km}±.8^{km}**:pP-P), n273, σ1^{s}52**/203**, mb4.6**/105**,**
MS4.7/118**, 7C-3D, Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BORG	Borgarnes	7.47	33	Pn	Pn	05 38 53.9	-1.8
	9.7nm,0.3s,baz=206,slow=9.2,SNR=17						
BORG				Sn	Sn	05 40 21.3	-0.1
	1.5nm,0.3s,baz=275,slow=11,SNR=3.4						
BORG				LR	LR	05 41 11.2	
	comp=Z,5µm,19.4s,baz=171,slow=33						
SUMG	Summit	14.16	351	P	P	05 40 28.7	+2.3
DCN	Croghan	14.21	102	eP	P	05 40 28.9	+1.7
DLF	Lyons Farm	14.61	102	eP	P	05 40 33.0	+0.5
BWH	Wardlaw	15.20	92	eP	P	05 40 47.9	+7.7
BWH				AMb	AMB	05 40 52.1	
	comp=Z,105nm,1.2s						
JMIC	Jan Mayen	15.31	28	LR	LR	05 45 00.2	
	comp=Z,1µm,20.8s,baz=252,slow=31						
EKA	Eskdalemuir Ar	15.40	91	Pn	P	05 40 42.6	-0.1
	comp=Z,0.2nm,0.3s,baz=291,slow=14,SNR=3.7						
BHH	Howats Hill	15.47	92	⇑eP	P	05 40 50.8	+7.2
BHH				AMb	AMB	05 40 54.4	
	comp=Z,157nm,1.2s						
BBH	Bruntsheil	15.60	92	eP	P	05 40 52.6	+7.3
BBH				AMb	AMB	05 40 55.8	
	comp=Z,153nm,1.3s						
BBO1	Bothel	15.61	93	eP	P	05 40 52.4	+7.0
BBO1				AMb	AMB	05 40 57.9	
	comp=Z,95nm,1.3s						
BTA	Talkin	15.82	92	⇑eP	P	05 40 55.0	+6.7
BTA				AMb	AMB	05 41 00.7	
	comp=Z,98nm,1.5s						
FRB	Frobisher Bay	18.57	301	P	P	05 41 18.5	-4.2
	comp=Z,0.1nm,0.3s,baz=36,slow=6.6,SNR=2.2						
FRB				LR	LR	05 47 34.3	
	comp=Z,6µm,19.0s,baz=92,slow=34						
ROSF	Rostrenen	19.29	111	eP	P	05 41 28.8	-2.6
	comp=Z,218nm,1.5s						
QUIF	Quistinic	19.63	112	eP	P	05 41 33.3	-2.0
SGMF	Saint Gilles	19.70	110	eP	P	05 41 33.8	-2.2
	comp=Z,119nm,1.3s						
SCHQ	Schefferville	19.93	274	P	P	05 41 34.0	-4.6
	comp=Z,0.5nm,0.3s,baz=62,slow=10,SNR=8.4						
SCHQ				LR	LR	05 48 01.5	
	comp=Z,3µm,19.0s,baz=75,slow=33						
SCHQ	Schefferville	19.93	274	eP	P	05 41 34.8	-3.8
	comp=Z,197nm,1.9s						
SCHQ				LR	LR		
	comp=Z,4µm,20.0s						
FLN	La Foliniere	20.38	106	eP	P	05 41 41.4	-2.0
	comp=Z,224nm,1.2s						
FLN				eR			
	comp=Z,2µm,21.8s						
GRR	Gorron	20.44	107	eP	P	05 41 41.7	-2.3
	comp=Z,280nm,1.6s						
KONO	Kongsberg	20.49	70	PFAKE		05 41 50.0	+5.6
KONO				LR	LR		
	comp=Z,2µm,19.0s,MS4.4						
LDF	La Druitiere	20.67	106	eP	P	05 41 44.7	-1.7
	comp=Z,77nm,1.1s						
EMAZ	Mazaricos	20.88	130	P	P	05 41 51.7	+3.2
	comp=Z,26nm,0.9s						
NB2	NORSAR Subarra	20.93	66	P	P	05 41 51.3	+2.3
	comp=Z,1.3nm,0.8s,baz=283,slow=9.3						
NOA	NORSAR Array B	20.93	66	P	P	05 41 48.2	-0.8
	comp=Z,8.9nm,1.1s,baz=282,slow=10,SNR=4.6						
NOA				LR	LR	05 48 45.5	
	comp=Z,1µm,20.8s,MS4.2,baz=280,slow=34						
NOA	NORSAR Array B	20.93	66	P	P	05 41 48.2	-0.8
NOA				LR	LR	05 48 45.5	
STS	Santiago	21.10	129	P	P	05 41 52.0	+1.2
	comp=Z,47nm,1.0s,mb4.8						
EPON	Pontenova	21.31	126	P	P	05 41 56.1	+3.2
	comp=Z,30nm,0.9s,mb4.6						
MUD	Monsted U'grnd	21.33	79	⇑iP	P	05 41 51.8	-1.3
	comp=Z,61nm,1.1s,mb4.8						
MUD				i S	S	05 45 55.4	+10
	comp=Z,610nm,16.0s						
EZAM	Zamans	21.66	131	P	P	05 42 00.7	+4.2
	comp=Z,14nm,0.8s,mb4.5						
BAIF	Baives	21.95	98	eP	P	05 41 56.5	-2.9
	comp=Z,152nm,1.2s,mb5.0						
MFF	Saint Martin d	22.02	110	eP	P	05 41 57.4	-2.7
	comp=Z,137nm,1.4s,mb4.9						
ERUA	La Rua	22.08	128	P	P	05 42 01.7	+1.0
	comp=Z,25nm,1.2s,mb4.5						
ELOB	Lobios	22.15	130	P	P	05 42 02.2	+0.8
	comp=Z,6.5nm,0.8s,mb4.1						
WTSB	Winterswijk	22.21	91	eP	P	05 42 03.1	+1.2
	comp=Z,26nm,1.3s,mb4.5						
GIVF	Givet	22.25	97	eP	P	05 42 00.2	-2.1
	comp=Z,55nm,1.0s,mb4.6						
HFS	Hagfors	22.34	67	P	P	05 42 02.6	-0.6
	comp=Z,5.9nm,1.0s,mb4.0,baz=270,slow=4.3,SNR=2.6						
HGN	Heimansgroeve	22.43	95	eP	P	05 42 07.5	+3.4
	comp=Z,27nm,1.1s,mb4.6						
HGN				ex	x	05 42 15.3	
HGN				eS	S	05 46 18.9	+14
	comp=Z,7.6nm,1.1s						
ECAL	Calabor	22.63	128	P	P	05 42 11.0	+5.0
	comp=Z,122nm,1.4s,mb5.1						
PBRG	Braganca	22.74	128	eP	P	05 42 09.0	+1.9
	comp=Z,23nm,1.9s,mb4.3						
PVRL	Vila Real	22.79	130	eP	P	05 42 09.6	+2.0
	comp=Z,32nm,1.4s,mb4.5						
HYF	Humbligny	22.94	105	eP	P	05 42 06.8	-2.2
PVIS	Viseu	23.20	131	eP	P	05 42 13.6	+2.0
	comp=Z,53nm,1.2s,mb4.8						
WLF	Walferdange	23.20	97	eP	P	05 42 12.8	+1.4
TCF	Toulx Ste Croi	23.40	108	eP	P	05 42 11.9	-1.6
	comp=Z,84nm,1.4s,mb4.7						
SSF	Saint Saulge	23.52	105	eP	P	05 42 11.7	-2.9
	comp=Z,121nm,1.5s,mb4.8						
BGF	Bois d'Agland	23.53	107	eP	P	05 42 12.7	-2.1
	comp=Z,65nm,0.9s,mb4.7						
LOR	Lormes	23.55	104	eP	P	05 42 12.6	-2.4
	comp=Z,52nm,1.2s,mb4.5						
LOR				eR			
	comp=Z,2µm,23.0s						
MTE	Manteigas	23.60	131	eP	P	05 42 17.2	+1.7
	comp=Z,33nm,1.7s,mb4.5						
MTE				eLR	LR	05 48 15.2	
	comp=Z,2µm,17.7s						
MTE	Manteigas	23.60	131	eP	P	05 42 16.4	+0.8
	comp=Z,16nm,0.9s,mb4.4						
LFF	La Frestale	23.65	112	eP	P	05 42 14.2	-1.7
RJF	Les Rejaudoux	23.76	110	eP	P	05 42 14.0	-3.0
RJF				eR			
	comp=Z,2µm,21.2s						
EALK	Alkurruntz	23.89	118	P	P	05 42 23.1	+4.9
	comp=Z,74nm,1.4s,mb4.9						
PTOM	Tomar	23.95	133	eP	P	05 42 19.9	+1.0
	comp=Z,53nm,1.5s,mb4.8						
SMF	Signal de Mont	23.97	105	eP	P	05 42 16.9	-2.1
	comp=Z,108nm,1.5s,mb4.8						
SJPF	Ste Jean	24.10	118	eP	P	05 42 18.0	-2.3
	comp=Z,46nm,1.0s,mb4.5						
PCBR	Castelo Branco	24.11	132	eP	P	05 42 22.9	+2.4
	comp=Z,37nm,1.6s,mb4.6						
CAF	Calviac	24.30	110	eP	P	05 42 20.4	-1.9
	comp=Z,61nm,1.2s,mb4.6						
HAU	Haudompre	24.34	100	eP	P	05 42 20.4	-2.2
	comp=Z,26nm,0.9s,mb4.4						
HAU				eR			
	comp=Z,5µm,18.8s						
CDF	Champ du Feu	24.55	98	eP	P	05 42 22.8	-1.9
	comp=Z,48nm,1.2s,mb4.6						
HINF	Hinteralfeld	24.72	100	eP	P	05 42 24.1	-2.2
EPF	Esparros	24.89	116	eP	P	05 42 25.5	-2.5
	comp=Z,51nm,1.4s,mb4.6						
EVO	Evora	25.05	134	eP	P	05 42 25.9	-3.6
	comp=Z,51nm,1.2s,mb4.6						
EVO				eR			
	comp=Z,3µm,21.2s						
CABF	La Chapelle	25.13	103	eP	P	05 42 27.9	-2.3
	comp=Z,84nm,1.3s,mb4.8						
PQI	Presque Isle	25.21	258	PFAKE		05 42 40.0	+9.0
PQI				LR	LR		
	comp=Z,9µm,20.0s,MS5.3						
EBAD	Badajoz	25.23	132	P	P	05 42 33.5	+2.2
	comp=Z,35nm,1.2s,mb4.8						
MOX	Moxa	25.45	90	i P	P	05 42 33.5	+0.3
	comp=Z,logA/T=1.4,mb4.7						
MOX				L		05 52 58.0	
MOX	Moxa	25.45	90	eP	P	05 42 33.5	+0.3
MOX				pmax	pmax		
	comp=Z,32nm,1.3s,mb4.7						
MOX				MLR	MLR		
	comp=Z,2µm,18.0s,MS4.8						
MOX	Moxa	25.45	90	eP	P	05 42 33.5	+0.3
	comp=Z,32nm,1.3s,mb4.7						
MOX				LR	LR		
	comp=Z,2µm,18.0s,MS4.8						
PBEJ	Beja	25.54	134	eP	P	05 42 36.0	+1.8
	comp=Z,45nm,1.5s,mb4.8						
MTLF	Montolieu	25.55	113	eP	P	05 42 31.6	-2.6
	comp=Z,35nm,1.2s,mb4.5						
ETOR	Torete	25.55	122	P	P	05 42 36.7	+2.4
	comp=Z,54nm,1.2s,mb5.0						
VIVF	Saint-Julien-l	25.64	107	eP	P	05 42 32.6	-2.4
PTEO	Sao Teotonio	25.66	136	eP	P	05 42 36.7	+1.4
	comp=Z,50nm,1.4s,mb4.8						
ESDC	Sonseca Array	25.67	126	P	P	05 42 36.4	+0.9
	comp=Z,12nm,0.8s,mb4.4,baz=326,slow=9.2,SNR=18						
ESDC				LR	LR	05 50 44.7	
	comp=Z,680nm,18.9s,MS4.2,baz=290,slow=32						
ESDC	Sonseca Array	25.67	126	P	P	05 42 39.2	+3.7
	comp=Z,17nm,1.0s,mb4.5						
ESLA	Sonseca Array	25.67	126	eP	P	05 42 36.2	+0.8
	comp=Z,5.2nm,1.0s,mb4.0						

ESLA				LR	LR		
	comp=Z,5µm,19.0s,MS5.1						
ARCES	**ARCESS Array B**	**25.74**	**42**	P	**P**	**05 42 35.2**	**-0.6**
	comp=Z,29nm,1.2s,mb4.7,baz=270,slow=8.5,SNR=16						
ARCES				LR	LR	05 50 46.8	
	comp=Z,341nm,19.0s,MS3.9,baz=20,slow=32						
ARCES	**ARCESS Array B**	**25.74**	**42**	P	**P**	**05 42 35.2**	**-0.6**
ARCES				LR	LR	05 50 46.8	
CLL	**Collm**	**25.80**	**88**	P	**P**	**05 42 39.3**	**+2.8**
CLL				*e*		05 42 53.0	
CLL	**Collm**	**25.80**	**88**	*i* P	**P**	**05 42 39.3**	**+2.8**
LASF	**Ste Croix**	**25.80**	**109**	*e*P	**P**	**05 42 33.7**	**-2.9**
GRA1	**Grafenberg Arr**	**25.81**	**92**	*e*P	**P**	**05 42 37.3**	**+0.7**
	comp=Z,22nm,1.2s,mb4.6						
GRA1				LR	LR		
	comp=Z,2µm,22.0s,MS4.6						
GRF	**Grafenberg Arr**	**25.81**	**92**	*e*P	**P**	**05 42 37.3**	**+0.7**
GRF				pmax	pmax		
	comp=Z,22nm,1.2s,mb4.6						
GRF				MLR	MLR		
	comp=Z,2µm,22.0s,MS4.6						
NKC	**Novy Kostel**	**26.13**	**90**	*e*P	**P**	**05 42 41.4**	**+1.9**
NKC				LR		05 53 00.0	
	comp=Z,2.6nm,16.8s						
PALC	**Alcoutim**	**26.18**	**134**	*e*P	**P**	**05 42 43.0**	**+2.8**
	comp=Z,13nm,1.0s,mb4.4						
ORIF	**Oris-en-Rattie**	**26.20**	**106**	*e*P	**P**	**05 42 37.9**	**-2.3**
	comp=Z,48nm,1.1s,mb4.6						
ORIF				*e*R			
	comp=Z,2µm,21.8s						
LPL	**La Plagne**	**26.20**	**104**	*e*P	**P**	**05 42 38.2**	**-2.1**
EMIN	**Mina Concepcio**	**26.22**	**133**	P	**P**	**05 42 42.6**	**+2.1**
LPG	**La Plagne**	**26.23**	**104**	*e*P	**P**	**05 42 38.5**	**-2.0**
	comp=Z,61nm,1.3s,mb4.7						
EMMW	**East Machias**	**26.29**	**254**	PFAKE		05 42 50.0	+8.9
EMMW				LR	LR		
	comp=Z,6µm,20.0s,MS5.1						
BRG	**Berggiesshubel**	**26.53**	**88**	*e*P	**P**	**05 42 49.0**	**+5.7**
BRG				pmax	pmax		
	comp=Z,24nm,1.5s,mb4.5						
BRG				MLR	MLR		
	comp=Z,2µm,14.9s,MS4.8						
BRG				MLR	MLR		
	comp=N,1µm,14.5s,MS4.8						
BRG				MLR	MLR		
	comp=E,1µm,14.5s,MS4.8						
BRG	**Berggiesshubel**	**26.53**	**88**	*e*P	**P**	**05 42 49.0**	**+5.7**
	comp=E,24nm,1.5s,mb4.5						
BRG				*e*		05 43 09.2	
BRG				LR	LR		
	comp=Z,2µm,14.9s,MS4.8						
EADA	**Adamuz**	**26.70**	**129**	P	**P**	**05 42 47.4**	**+2.4**
SMRF	**Simiane la Rot**	**26.72**	**108**	*e*P	**P**	**05 42 42.8**	**-2.3**
MBDF	**Montbardon**	**26.78**	**105**	*e*P	**P**	**05 42 43.5**	**-2.1**
	comp=Z,22nm,1.0s,mb4.3						
DAVOX	**Davos**	**26.95**	**98**	P	**P**	**05 42 53.1**	**+5.9**
	comp=Z,2.2nm,0.7s,mb3.8,baz=346,slow=17,SNR=2.9						
PVCC	**Panska Ves**	**27.06**	**88**	LR		05 54 40.0	
	comp=Z,1.8nm,14.8s						
EVIA	**Vianos**	**27.16**	**125**	P	**P**	**05 42 52.8**	**+3.7**
ESPR	**Espera**	**27.32**	**132**	P	**P**	**05 42 50.8**	**+0.2**
PRU	**Pruhonice**	**27.36**	**89**	*e*P	**P**	**05 42 53.8**	**+3.0**
PRU				LR		05 54 30.0	
	comp=Z,2.6nm,13.0s						
KHC	**Kasperske Hory**	**27.38**	**91**	*e*P	**P**	**05 42 58.2**	**+7.2**
KHC				*e*x	x	05 43 09.0	
KHC				LR		05 53 30.0	
	comp=Z,2.1nm,17.8s						
KHC	**Kasperske Hory**	**27.38**	**91**	*e*P	**P**	**05 42 58.2**	**+7.2**
KHC				MLR	MLR		
	comp=Z,2µm,17.8s,MS4.8						
WVL	**Waterville**	**27.50**	**256**	PFAKE		05 43 00.0	+7.8
WVL				LR	LR		
	comp=Z,9µm,21.0s,MS5.3						
GERES	**GERESS Array B**	**27.61**	**91**	P	**P**	**05 42 54.3**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=254,slow=7.1,SNR=2.9						
EQES	**Quesada**	**27.63**	**127**	P	**P**	**05 42 53.7**	**+0.3**
FINES	**FINESS Array B**	**27.71**	**60**	P	**P**	**05 42 53.4**	**-0.5**
	comp=Z,2.1nm,0.9s,mb3.8,baz=297,slow=6.2,SNR=3.5						
FINES				LR	LR	05 53 22.5	
	comp=Z,718nm,18.5s,MS4.3,baz=287,slow=35						
UPC	**Upice**	**27.82**	**87**	*e*P	**P**	**05 42 57.9**	**+2.9**
DPC	**Dobruska-Polom**	**28.07**	**87**	*e*P	**P**	**05 43 00.8**	**+3.5**
DPC				LR		05 55 30.0	
	comp=Z,1.6nm,14.2s						
VRAC	**Vranov**	**28.84**	**88**	P	**P**	**05 43 08.6**	**+4.4**
	comp=Z,3.6nm,0.3s,mb4.6						
VRAC				LR	LR	05 55 08.6	
	comp=Z,2µm,19.3s,MS4.7,baz=198,slow=38						
OKC	**Ostrava-Krasne**	**29.32**	**86**	LR		05 56 30.0	
	comp=Z,1.6nm,14.1s						
WES	**Weston**	**29.91**	**255**	PFAKE		05 43 30.0	+16
WES				LR	LR		
	comp=Z,1µm,19.0s,MS4.6						
HRV	**Harvard--Oak R**	**29.94**	**255**	PFAKE		05 43 30.0	+16
HRV				LR	LR		
	comp=Z,992nm,20.0s,MS4.5						
NCB	**Newcomb**	**30.24**	**260**	PFAKE		05 43 30.0	+13
NCB				LR	LR		
	comp=Z,1µm,20.0s,MS4.6						
GENY	**Geneseo**	**32.94**	**262**	*e*P	**P**	**05 43 39.9**	**-0.6**
AKASG	**Malin Array Be**	**34.50**	**77**	P	**P**	**05 43 52.1**	**-1.8**
	comp=Z,4.5nm,0.8s,mb4.5,baz=301,slow=8.5,SNR=7.8						
AKASG				PcP	PcP	05 46 26.3	-2.9
	comp=Z,0.7nm,0.6s,baz=296,slow=3.4,SNR=3.9						
ERPA	**Erie**	**34.53**	**263**	PFAKE		05 44 10.0	+16
ERPA				LR	LR		
	comp=Z,1µm,20.0s,MS4.7						
SSPA	**Standing Stone**	**34.53**	**259**	*e*P	**P**	**05 43 53.9**	**-0.4**
SSPA				LR	LR		
	comp=Z,2µm,19.0s,MS4.9						
BBSR	**BB Station**	**34.84**	**236**	PFAKE		05 44 10.0	+13
BBSR				LR	LR		
	comp=Z,329nm,20.0s,MS4.1						
OBN	**Obninsk**	**35.54**	**66**	*e*P	**P**	**05 44 05.4**	**+2.7**
OBN				*e*		05 46 31.3	
OBN				*e*S	**S**	**05 49 38.7**	**+1.2**
OBN				*e*SS	SS	05 52 04.2	+8.1
OBN				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.8						
OBN				MLR	MLR		
	comp=Z,800nm,19.0s,MS4.5						
CBN	**Corbin**	**36.10**	**256**	PFAKE		05 44 20.0	+12
CBN				LR	LR		
	comp=Z,1µm,20.0s,MS4.7						
MCWV	**Mont Chateau**	**36.26**	**260**	PFAKE		05 44 20.0	+11
MCWV				LR	LR		
	comp=Z,3µm,20.0s,MS5.0						
ULM	**Lac du Bonnet**	**37.28**	**286**	P	**P**	**05 44 15.6**	**-1.8**
	comp=Z,7.2nm,0.7s,mb4.6,baz=65,slow=8.5,SNR=9.0						
ULM	**Lac du Bonnet**	**37.28**	**286**	*e*P	**P**	**05 44 15.8**	**-1.6**
	comp=Z,13nm,0.9s,mb4.8						
ULM				LR	LR		
	comp=Z,2µm,20.0s,MS5.0						
ACSO	**Alum Creek Sta**	**37.45**	**264**	PFAKE		05 44 30.0	+11
ACSO				LR	LR		
	comp=Z,3µm,21.0s,MS5.0						
BLA	**Blacksburg**	**38.41**	**258**	*e*P	**P**	**05 44 27.7**	**+0.6**
BLA				LR	LR		
	comp=Z,1µm,20.0s,MS4.8						
YKA	**Yellowknife Ar**	**38.51**	**312**	P	**P**	**05 44 24.0**	**-3.7**
	comp=Z,4.4nm,0.7s,mb4.3,baz=57,slow=8.7,SNR=7.3						
JFWS	**Jewell Farm**	**39.29**	**273**	*e*P	**P**	**05 44 35.0**	**+0.6**
	comp=Z,8.3nm,0.8s,mb4.5						
JFWS				LR	LR		
	comp=Z,878nm,21.0s,MS4.6						
WCI	**Wyandotte Cave**	**40.66**	**265**	*e*P	**P**	**05 44 45.9**	**+0.2**
	comp=Z,9.7nm,0.8s,mb4.5						
WCI				LR	LR		
	comp=Z,3µm,20.0s,MS5.2						
SIM	**Simferopol’**	**40.74**	**80**	*e*P	**P**	**05 44 47.2**	**+0.8**
SIM				*e*		05 46 30.0	
SIM				*e*S	**S**	**05 50 58.0**	**+1.4**
SIM				pmax	pmax		
	comp=Z,400nm,14.0s						
SIM				MLR	MLR		
	comp=Z,550nm,13.0s,MS4.6						
INK	**Inuvik**	**41.40**	**327**	P	**P**	**05 44 49.2**	**-2.2**
	comp=Z,31nm,1.5s,mb4.7,baz=26,slow=5.0,SNR=5.8						
INK	**Inuvik**	**41.40**	**327**	*e*P	**P**	**05 44 51.8**	**+0.3**
NHSC	**New Hope**	**41.51**	**254**	PFAKE		05 45 00.0	+7.3
NHSC				LR	LR		
	comp=Z,1µm,20.0s,MS4.8						
MYNC	**Murphy**	**41.95**	**260**	PFAKE		05 45 10.0	+14
MYNC				LR	LR		
	comp=Z,1µm,19.0s,MS4.7						
DGMT	**Dagmar**	**42.56**	**289**	PFAKE		05 45 10.0	+8.9
DGMT				LR	LR		
	comp=Z,999nm,20.0s,MS4.7						
WVT	**Waverly**	**43.05**	**264**	*e*P	**P**	**05 45 05.0**	**-0.3**
	comp=Z,4.3nm,0.8s,mb4.2						
WVT				LR	LR		
	comp=Z,3µm,20.0s,MS5.1						
CCM	**Cathedral Cave**	**43.36**	**269**	*e*P	**P**	**05 45 06.2**	**-1.5**
	comp=Z,35nm,1.6s,mb4.8						
CCM				LR	LR		
	comp=Z,608nm,20.0s,MS4.5						
EDM	**Edmonton**	**43.69**	**300**	*e*P	**P**	**05 45 09.1**	**-1.1**
BRTR	**Keskin Array B**	**44.24**	**86**	P	**P**	**05 45 15.9**	**+1.1**
	comp=Z,2.4nm,0.9s,mb3.9,baz=304,slow=5.2,SNR=6.2						
BRTR				PcP	PcP	05 46 56.7	-3.3
	comp=Z,0.4nm,0.4s,baz=284,slow=5.9,SNR=2.5						
BRTR				LR	LR	06 04 29.1	
	comp=Z,833nm,20.9s,MS4.6,baz=275,slow=37						
ARU	**Arti**	**44.52**	**52**	*e*P	**P**	**05 45 20.4**	**+3.5**
ARU				*e*		05 47 08.0	
ARU				*e*S	**S**	**05 51 58.4**	**+6.7**
SOC	**Sochi**	**44.56**	**78**	*e*P	**P**	**05 45 21.0**	**+3.5**
SOC				*e*		05 47 11.1	
SOC				*e*PPP	PPP	05 47 51.0	+9.3
SOC				*e*S	**S**	**05 51 55.6**	**+3.1**
SOC				*e*SSS	SSS	05 56 08.0	+7.7
SOC				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.1						
SOC				pmax	pmax		
	comp=N,41nm,1.1s						
SOC				pmax	pmax		
	comp=E,20nm,0.7s						
SOC				MLR	MLR		
	comp=Z,533nm,18.0s,MS4.5						
SOC				MLR	MLR		
	comp=N,466nm,17.0s,MS4.5						
SOC				MLR	MLR		
	comp=E,149nm,17.0s,MS4.5						
LAO	**LASA Array**	**44.78**	**289**	*e*P	**P**	**05 45 20.3**	**+1.1**
	comp=E,11nm,0.9s,mb4.7						
LAO				LR	LR		
	comp=Z,1µm,21.0s,MS4.9						
LRAL	**Lakeview Retre**	**45.03**	**260**	*e*P	**P**	**05 45 21.5**	**+0.2**
	comp=Z,18nm,1.3s,mb4.8						
LRAL				LR	LR		
	comp=Z,2µm,20.0s,MS5.1						
OXF	**Oxford**	**45.11**	**264**	PFAKE		05 45 30.0	+8.0
OXF				LR	LR		
	comp=Z,2µm,20.0s,MS5.1						
GOF	**Gofitskoye**	**45.19**	**74**	*e*P	**P**	**05 45 23.5**	**+1.1**
GOF				pmax	pmax		
	comp=Z,50nm,1.3s,mb5.2						
KSU1	**Kansas State U**	**45.37**	**274**	*e*P	**P**	**05 45 22.1**	**-1.8**
RSSD	**Black Hills**	**45.51**	**285**	PFAKE		05 45 40.0	+15
RSSD				LR	LR		
	comp=Z,1µm,20.0s,MS4.8						
DAWY	**Dawson**	**46.05**	**325**	*e*P	**P**	**05 45 30.1**	**+1.2**
DWPF	**Disney**	**46.20**	**251**	PFAKE		05 45 40.0	+9.3
DWPF				LR	LR		
	comp=Z,328nm,21.0s,MS4.3						
MIAR	**Mount Ida**	**47.25**	**268**	PFAKE		05 45 50.0	+11
MIAR				LR	LR		
	comp=Z,1µm,19.0s,MS5.0						
ZEI	**Tsey**	**47.27**	**75**	*e*P	**P**	**05 45 38.0**	**-0.9**
ZEI				*e*		05 47 30.0	
ZEI				*e*S	**S**	**05 52 28.0**	**-3.2**
ZEI				*i* PS	PS	05 52 40.0	+0.3
ZEI				pmax	pmax		
	comp=Z,50nm,6.0s						
ZEI				MLR	MLR		
	comp=Z,600nm,18.0s,MS4.6						
ILAR	**Eielson Array**	**47.66**	**329**	P	**P**	**05 45 39.0**	**-2.7**
	comp=Z,1.0nm,0.7s,mb3.9,baz=20,slow=5.9,SNR=9.2						
ILAR				PcP	PcP	05 47 07.4	-4.2
	comp=Z,0.3nm,0.7s,baz=18,slow=2.9,SNR=3.7						
MALT	**Malatya**	**47.77**	**84**	*e*P	**P**	**05 45 44.1**	**+1.2**
	comp=Z,21nm,1.4s,mb5.0						
COLA	**College**	**47.84**	**329**⇑	*e*P	**P**	**05 45 45.1**	**+2.0**
COLA	**College**	**47.84**	**329**	PFAKE		05 45 50.0	+6.9
COLA				LR	LR		
	comp=Z,470nm,20.0s,MS4.5						
CHMT	**Chamberlain Mo**	**48.03**	**294**	*e*P	**P**	**05 45 45.1**	**+0.3**
BOZ	**Bozeman (W)**	**48.17**	**292**	*e*P	**P**	**05 45 45.4**	**-0.4**
	comp=Z,3.8nm,1.0s,mb4.4						
BOZ				LR	LR		
	comp=Z,903nm,19.0s,MS4.8						
MSO	**Missoula**	**48.42**	**294**	PFAKE		05 46 00.0	+12
MSO				LR	LR		
	comp=Z,1µm,20.0s,MS4.8						
NEW	**Newport**	**48.87**	**298**	P	**P**	**05 45 52.1**	**+0.9**
	comp=Z,1.6nm,0.7s,mb4.2,baz=36,slow=11,SNR=2.8						
NEW	**Newport**	**48.87**	**298**	*e*P	**P**	**05 45 52.5**	**+1.2**
	comp=Z,2.7nm,0.9s,mb4.3						
NEW				LR	LR		
	comp=Z,3µm,20.0s,MS5.3						
MCK	**McKinley**	**49.03**	**329**	*e*P	**P**	**05 45 53.8**	**+1.4**
	comp=Z,1.3nm,0.4s,mb4.3						
MCK				LR	LR		
	comp=Z,261nm,19.0s,MS4.2						
TIXI	**Tiksi**	**49.06**	**8**⇓	*e*P	**P**	**05 45 54.6**	**+2.1**
TIXI				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
TIXI	**Tiksi**	**49.06**	**8**	PFAKE		05 46 00.0	+7.5
TIXI				LR	LR		
	comp=Z,175nm,22.0s,MS4.0						
IMW	**Indian Meadow**	**49.11**	**290**	*e*P	**P**	**05 45 54.1**	**+1.0**
BW06	**Boulder Array**	**49.26**	**288**	*e*P	**P**	**05 45 53.9**	**-0.5**
	comp=Z,3.8nm,0.9s,mb4.4						
BW06				LR	LR		
	comp=Z,2µm,19.0s,MS5.0						
PDAR	**Pinedale Array**	**49.26**	**288**	P	**P**	**05 45 52.1**	**-2.2**
	comp=Z,3.9nm,0.9s,mb4.4,baz=58,slow=7.8,SNR=13						
PDAR				LR	LR	06 05 42.7	
	comp=Z,1µm,18.1s,MS5.0,baz=21,slow=35						
SNOW	**Snow King Moun**	**49.34**	**289**	*e*P	**P**	**05 45 55.2**	**+0.3**
MCMT	**McKenzie Canyo**	**49.35**	**292**	*e*P	**P**	**05 45 55.8**	**+0.8**
TPAW	**Teton Pass**	**49.41**	**289**	*e*P	**P**	**05 45 56.0**	**+0.5**
REDW	**Red Top Meadow**	**49.46**	**289**	*e*P	**P**	**05 45 56.0**	**+0.1**
ISCO	**Idaho Springs**	**49.48**	**282**	*e*P	**P**	**05 45 56.3**	**+0.2**
	comp=Z,4.6nm,1.0s,mb4.5						
ISCO				LR	LR		
	comp=Z,1µm,20.0s,MS4.9						
DPW	**Davenport**	**49.65**	**298**	*e*P	**P**	**05 45 57.0**	**-0.3**
WMOK	**Wichita Mounta**	**49.81**	**272**	*e*P	**P**	**05 45 57.3**	**-1.4**
	comp=Z,8.6nm,1.1s,mb4.7						
WMOK				LR	LR		
	comp=Z,628nm,20.0s,MS4.6						
SIT	**Sitka**	**49.91**	**316**	PFAKE		05 46 10.0	+11
SIT				LR	LR		
	comp=Z,1µm,20.0s,MS5.0						
NATX	**Nacogdoches**	**49.99**	**266**	PFAKE		05 46 10.0	+10
NATX				LR	LR		
	comp=Z,1µm,19.0s,MS4.9						
AHID	**Auburn Hatcher**	**50.02**	**289**	PFAKE		05 46 10.0	+10
AHID				LR	LR		
	comp=Z,2µm,19.0s,MS5.0						
DIV	**Divide**	**50.20**	**325**	PFAKE		05 46 10.0	+8.7
DIV				LR	LR		
	comp=Z,2µm,21.0s,MS5.2						
PMR	**Palmer**	**50.81**	**327**	PFAKE		05 46 20.0	+14
PMR				LR	LR		
	comp=Z,425nm,19.0s,MS4.5						
SDCO	**Great Sand Dun**	**50.98**	**280**	*e*P	**P**	**05 46 07.8**	**+0.3**
	comp=Z,4.2nm,1.0s,mb4.3						
SDCO				LR	LR		
	comp=Z,1µm,22.0s,MS4.9						
HLID	**Hailey**	**51.05**	**292**	*e*P	**P**	**05 46 09.3**	**+1.3**
	comp=Z,2.1nm,0.9s,mb4.1						
HLID				LR	LR		
	comp=Z,844nm,19.0s,MS4.8						
HWUT	**Hardware Ranch**	**51.12**	**288**	*e*P	**P**	**05 46 08.1**	**-0.4**
	comp=Z,6.0nm,0.9s,mb4.5						
HWUT				LR	LR		
	comp=Z,2µm,19.0s,MS5.1						
HAWA	**Hanford**	**51.35**	**298**	PFAKE		05 46 20.0	+10
HAWA				LR	LR		
	comp=Z,162nm,20.0s,MS4.0						
FIB	**Fire Island**	**51.45**	**327**	PFAKE		05 46 20.0	+9.2
FIB				LR	LR		
	comp=Z,1µm,21.0s,MS4.8						
TNA	**Tin City**	**51.84**	**339**	PFAKE		05 46 30.0	+16
TNA				LR	LR		
	comp=Z,222nm,19.0s,MS4.2						
PV01	**Paradox Valley**	**52.24**	**283**	*e*P	**P**	**05 46 17.0**	**-0.1**
PV10	**Paradox Valley**	**52.30**	**283**	*e*P	**P**	**05 46 19.0**	**+1.4**
OCWA	**Octopus Mounta**	**52.44**	**302**	PFAKE		05 46 30.0	+12
OCWA				LR	LR		
	comp=Z,2µm,19.0s,MS5.1						
SRU	**San Rafael**	**52.48**	**285**	*e*P	**P**	**05 46 19.1**	**+0.1**
EIL	**Elat**	**52.68**	**93**	*e*P	**P**	**05 46 20.8**	**+0.3**
	comp=Z,14nm,1.1s,mb4.8						
DUG	**Dugway**	**52.80**	**288**	PFAKE		05 46 30.0	+8.7
DUG				LR	LR		
	comp=Z,79nm,19.0s,MS3.8						
ELK	**Elko**	**53.58**	**290**	*e*P	**P**	**05 46 27.9**	**+0.9**
	comp=Z,3.4nm,0.8s,mb4.3						
ELK				LR	LR		
	comp=Z,1µm,19.0s,MS4.9						
ANMO	**Albuquerque**	**53.62**	**279**⇓	*e*P	**P**	**05 46 27.6**	**+0.2**
ANMO	**Albuquerque**	**53.62**	**279**	*e*P	**P**	**05 46 27.8**	**+0.4**
	comp=Z,2.6nm,0.9s,mb4.2						
ANMO				LR	LR		
	comp=Z,1µm,22.0s,MS4.9						
JCT	**Junction City**	**53.68**	**270**	*e*P	**P**	**05 46 26.5**	**-1.4**
	comp=Z,5.6nm,0.7s,mb4.6						
JCT				LR	LR		
	comp=Z,702nm,21.0s,MS4.7						
MSU	**Marysvale**	**53.77**	**286**	*e*P	**P**	**05 46 29.0**	**+0.5**
MVU	**Marysvale**	**53.80**	**286**	*e*P	**P**	**05 46 29.2**	**+0.5**
	comp=Z,1.4nm,0.7s,mb4.0						
MVU				LR	LR		
	comp=Z,1µm,22.0s,MS4.9						
WVOR	**Wild Horse Val**	**53.93**	**294**	*e*P	**P**	**05 46 29.5**	**0.0**
	comp=Z,4.7nm,0.9s,mb4.4						
WVOR				LR	LR		
	comp=Z,1µm,20.0s,MS5.0						
LAZ	**Ladron**	**54.40**	**279**	*e*P	**P**	**05 46 31.7**	**-1.4**
COR	**Corvallis**	**54.45**	**299**	PFAKE		05 46 50.0	+17
COR				LR	LR		
	comp=Z,2µm,20.0s,MS5.1						
GDL2	**Guadalupe Moun**	**54.69**	**275**	*e*P	**P**	**05 46 34.9**	**-0.4**
BMN	**Battle Mountai**	**54.78**	**291**	PFAKE		05 46 50.0	+14
BMN				LR	LR		
	comp=Z,713nm,21.0s,MS4.7						
KDAK	**Kodiak Island**	**54.95**	**326**	PFAKE		05 46 50.0	+13
KDAK				LR	LR		
	comp=Z,131nm,21.0s,MS4.0						
NVS	**Novosibirsk**	**54.99**	**40**	*i* P	**P**	**05 46 36.1**	**-1.1**
NVS				pmax	pmax		
	comp=Z,20nm,1.6s,mb4.9						
NVS				pmax	pmax		
	comp=N,16nm,1.9s						
NVS				pmax	pmax		
	comp=E,8.0nm,1.3s						
MOD	**Modoc**	**55.13**	**295**	*e*P	**P**	**05 46 38.4**	**+0.1**
MOD				LR	LR		
	comp=Z,534nm,20.0s,MS4.6						
WUAZ	**Wupatki**	**55.69**	**283**	*e*P	**P**	**05 46 43.0**	**+0.5**
	comp=Z,7.4nm,1.1s,mb4.6						
DBIC	**Dimbokro**	**55.72**	**148**	P	**P**	**05 46 41.2**	**-1.8**
	comp=Z,7.4nm,0.8s,mb4.7,baz=354,slow=8.7,SNR=7.1						
DBIC	**Dimbokro**	**55.72**	**148**	*e*P	**P**	**05 46 41.1**	**-1.9**
	comp=Z,9.2nm,0.9s,mb4.8						
DBIC				LR	LR		
	comp=Z,879nm,20.0s,MS4.8						
HUMO	**Hull Mountain**	**55.82**	**297**	PFAKE		05 46 50.0	+6.6
HUMO				LR	LR		
	comp=Z,1µm,20.0s,MS4.9						
LIC	**Lamto**	**56.09**	**149**	*e*P	**P**	**05 46 42.3**	**-3.4**
	comp=Z,68nm,1.4s,mb5.2						
YBH	**Yreka Blue Hor**	**56.39**	**296**	PFAKE		05 47 00.0	+13
YBH				LR	LR		
	comp=Z,2µm,21.0s,MS5.1						
LTX	**Lajitas**	**56.61**	**272**	PFAKE		05 47 00.0	+11
LTX				LR	LR		
	comp=Z,958nm,20.0s,MS4.9						
TXAR	**Lajitas Array**	**56.61**	**272**	P	**P**	**05 46 48.5**	**-0.8**
	comp=Z,1.0nm,0.8s,mb3.9,baz=58,slow=5.2,SNR=6.2						
TXAR				PcP	PcP	05 47 44.6	-0.9
	comp=Z,1.3nm,0.9s,baz=63,slow=2.8,SNR=5.5						
TPH	**Tonopah**	**56.61**	**289**	*e*P	**P**	**05 46 49.0**	**-0.1**
	comp=Z,5.5nm,0.9s,mb4.6						
TPH				LR	LR		
	comp=Z,788nm,21.0s,MS4.8						
KURK	**Kurchatov**	**56.71**	**46**⇓	*e*P	**P**	**05 46 51.4**	**+1.8**
MNV	**Mina**	**56.79**	**290**	PFAKE		05 47 00.0	+10
MNV				LR	LR		
	comp=Z,859nm,20.0s,MS4.8						
NVAR	**Mina Array Bea**	**56.87**	**290**	P	**P**	**05 46 50.5**	**-0.4**
	comp=Z,2.4nm,0.8s,mb4.3,baz=62,slow=6.7,SNR=11						
NVAR	**Mina Array Bea**	**56.87**	**290**	P	**P**	**05 46 50.5**	**-0.5**
TPNV	**Topopah Spring**	**57.01**	**288**	PFAKE		05 47 00.0	+8.0
TPNV				LR	LR		
	comp=Z,977nm,20.0s,MS4.9						
WDC	**Whiskeytown Da**	**57.21**	**295**	PFAKE		05 47 10.0	+17
WDC				LR	LR		
	comp=Z,1µm,22.0s,MS5.0						
TUC	**Tucson**	**57.92**	**280**	PFAKE		05 47 10.0	+12
TUC				LR	LR		
	comp=Z,932nm,22.0s,MS4.8						
CMB	**Columbia Colle**	**58.19**	**292**	PFAKE		05 47 10.0	+10
CMB				LR	LR		
	comp=Z,939nm,22.0s,MS4.9						
DAC	**Darwin (Calif)**	**58.21**	**288**	PFAKE		05 47 10.0	+10
DAC				LR	LR		
	comp=Z,573nm,20.0s,MS4.7						
SDV	**Santo Domingo**	**58.25**	**228**	PFAKE		05 47 10.0	+9.1
SDV				LR	LR		
	comp=Z,289nm,22.0s,MS4.3						
YAK	**Yakutsk**	**58.56**	**11**	PFAKE		05 47 10.0	+7.5
YAK				LR	LR		
	comp=Z,190nm,20.0s,MS4.2						
HOPS	**Hopland**	**58.72**	**294**	PFAKE		05 47 20.0	+16
HOPS				LR	LR		
	comp=Z,768nm,22.0s,MS4.8						
SAO	**San Andreas Ge**	**59.71**	**292**	PFAKE		05 47 20.0	+9.2
SAO				LR	LR		
	comp=Z,867nm,20.0s,MS4.9						
PFO	**Pinyon Flat Ob**	**59.76**	**286**	PFAKE		05 47 20.0	+8.8
PFO				LR	LR		
	comp=Z,246nm,19.0s,MS4.4						
MKAR	**Makanchi Array**	**61.32**	**46**	P	**P**	**05 47 20.2**	**-1.5**
	comp=Z,1.3nm,0.5s,mb4.3,baz=340,slow=4.5,SNR=18						
MKAR	**Makanchi Array**	**61.32**	**46**	*i* P	**P**	**05 47 21.3**	**-0.3**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**61.32**	**46**	P	**P**	**05 47 20.2**	**-1.5**
MA2	**Magadan**	**61.95**	**359**	PFAKE		05 47 40.0	+14
MA2				LR	LR		
	comp=Z,186nm,19.0s,MS4.3						
UNV	**Unalaska Valle**	**62.15**	**332**	PFAKE		05 47 40.0	+13
UNV				LR	LR		
	comp=Z,2µm,19.0s,MS5.2						
ROSC	**El Rosal**	**63.38**	**230**	P	**P**	**05 47 35.4**	**-0.4**
	comp=Z,18nm,0.9s,mb5.2,baz=29,slow=16,SNR=8.9						
RCBR	**Riachuelo**	**64.55**	**186**	PFAKE		05 47 50.0	+6.5
RCBR				LR	LR		
	comp=Z,229nm,19.0s,MS4.4						
ZAK	**Zakamensk**	**64.92**	**30**	*e*P	**P**	**05 47 34.8**	**-10**
WMQ	**Urumqi**	**65.85**	**44**	*e*P	**P**	**05 47 54.8**	**+3.5**
WMQ				AP	pP	05 47 59.5	+5.1
WMQ				XP	sP	05 48 01.9	+6.3
WMQ				PP	PP	05 50 15.4	-3.2
WMQ				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.8						
WMQ				LR	LR		
	comp=Z,200nm,21.0s,MS4.3						
SONM	**Songino Array**	**68.07**	**30**	P	**P**	**05 48 03.7**	**-1.6**
	comp=Z,4.2nm,1.1s,mb4.4,baz=333,slow=5.5,SNR=12						
PET	**Petropavlovsk**	**68.26**	**354**	PFAKE		05 48 20.0	+14
PET				LR	LR		
	comp=Z,288nm,19.0s,MS4.5						
OTAV	**Otavalo**	**69.24**	**232**	*e*P	**P**	**05 48 10.3**	**-2.8**
	comp=Z,5.0nm,0.8s,mb4.5						
OTAV				LR	LR		
	comp=Z,264nm,20.0s,MS4.5						
HIA	**Hailar**	**69.63**	**20**	PFAKE		05 48 30.0	+15
HIA				LR	LR		
	comp=Z,194nm,21.0s,MS4.3						
SAML	**Samuel**	**72.39**	**214**	*e*P	**P**	**05 48 31.6**	**-0.6**
	comp=Z,4.1nm,1.2s,mb4.2						
SAML				LR	LR		
	comp=Z,350nm,19.0s,MS4.7						
GTA	**Gaotai**	**73.91**	**38**	P	**P**	**05 48 40.4**	**-0.1**
GTA				AP	pP	05 48 43.8	+0.1
GTA				XP	sP	05 48 47.1	+2.3
GTA				PCP	PcP	05 48 58.6	+2.3
GTA				PP	PP	05 51 24.9	-2.3
GTA				S	S	05 58 06.8	-4.2
GTA				AMB	AMB		
	comp=Z,3.0nm,1.5s,mb4.0						
GTA				AMB	AMB		

	comp=Z,68nm,4.9s						
GTA				LR	LR		
	comp=N,83nm,25.1s,MS4.2						
GTA				LR	LR		
	comp=E,119nm,20.9s,MS4.2						
GTA				LR	LR		
	comp=Z,99nm,38.0s						
YSS	**Yuzh-Sakhalins**	**74.47**	**5**	PFAKE		05 49 00.0	+16
YSS				LR	LR		
	comp=Z,168nm,19.0s,MS4.3						
BDFB	**Brasilia**	**75.50**	**197**	P	**P**	**05 48 50.0**	**-0.2**
	comp=Z,4.2nm,0.9s,mb4.3,baz=4.5,slow=7.9,SNR=5.3						
MDJ	**Mudanjiang**	**75.68**	**14**	P	**P**	**05 48 50.8**	**+0.2**
MDJ				AP	pP	05 48 53.9	+0.2
MDJ				XP	sP	05 48 55.5	+0.7
MDJ				PCP	PcP	05 49 03.3	-0.5
MDJ				PP	PP	05 51 36.8	-5.5
MDJ				S	S	05 58 32.9	+2.3
MDJ				AMB	AMB		
	comp=Z,8.0nm,1.7s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,60nm,4.9s						
MDJ				LR	LR		
	comp=N,79nm,17.4s,MS4.4						
MDJ				LR	LR		
	comp=E,141nm,13.7s,MS4.4						
MDJ				LR	LR		
	comp=Z,204nm,17.4s,MS4.5						
MDJ	**Mudanjiang**	**75.68**	**14**	PFAKE		05 49 00.0	+9.4
MDJ				LR	LR		
	comp=Z,187nm,21.0s,MS4.4						
CN2	**Changchun**	**75.89**	**17**	*e*P	**P**	**05 48 53.3**	**+1.5**
CN2				*e*AP	pP	05 48 57.9	+2.9
CN2				*e*S	S	05 58 33.5	+0.6
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
CN2				AMB	AMB		
	comp=Z,400nm,8.0s						
CN2				LR	LR		
	comp=N,420nm,20.0s,MS4.8						
CN2				LR	LR		
	comp=E,210nm,20.0s,MS4.8						
CN2				LR	LR		
	comp=Z,830nm,21.0s,MS5.0						
HHC	**Hu-ho-hao-te**	**75.91**	**28**	*e*P	**P**	**05 48 52.3**	**+0.3**
HHC				AP	pP	05 48 56.1	+0.9
HHC				XP	sP	05 48 59.8	+3.6
HHC				PP	PP	05 51 39.8	-4.4
HHC				S	S	05 58 33.3	+0.1
HHC				XS		05 58 40.6	
HHC				SKS	SKS	05 58 56.6	-5.8
HHC				AMB	AMB		
	comp=Z,13nm,0.6s,mb5.0						
HHC				AMB	AMB		
	comp=Z,105nm,5.2s						
HHC				LR	LR		
	comp=N,68nm,21.4s,MS4.2						
HHC				LR	LR		
	comp=E,105nm,23.2s,MS4.2						
HHC				LR	LR		
	comp=Z,63nm,22.0s,MS3.9						
BJI	**Beijing**	**77.77**	**25**	P	**P**	**05 49 01.9**	**-0.4**
BJI				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.7						
BJI				LR	LR		
	comp=N,73nm,19.5s,MS4.3						
BJI				LR	LR		
	comp=E,118nm,19.5s,MS4.3						
BJI				LR	LR		
	comp=Z,177nm,28.5s						
BJT	**Baijiatuau**	**77.78**	**25**	PFAKE		05 49 10.0	+7.6
BJT				LR	LR		
	comp=Z,248nm,20.0s,MS4.5						
LZH	**Lanzhou**	**78.22**	**36**	*e*P	**P**	**05 49 05.0**	**+0.1**
LZH				AP	pP	05 49 08.3	+0.2
LZH				XP	sP	05 49 09.8	+0.7
LZH				PP	PP	05 52 03.1	-0.7
LZH				AMB	AMB		
	comp=Z,27nm,1.3s,mb5.0						
LZH				LR	LR		
	comp=N,219nm,15.2s						
LZH				LR	LR		
	comp=Z,296nm,17.9s,MS4.7						
KMBO	**Kilima Mbogo**	**79.78**	**110**	PFAKE		05 49 20.0	+6.2
KMBO				LR	LR		
	comp=Z,343nm,20.0s,MS4.7						
INCN	**Inchon**	**82.25**	**18**	PFAKE		05 49 40.0	+14
INCN				LR	LR		
	comp=Z,69nm,19.0s,MS4.0						
MAJO	**Matsushiro**	**84.57**	**9**	PFAKE		05 49 50.0	+12
MAJO				LR	LR		
	comp=Z,161nm,20.0s,MS4.4						
ENH	**Enshi**	**85.32**	**34**	PFAKE		05 49 50.0	+8.0
ENH				LR	LR		
	comp=Z,319nm,21.0s,MS4.7						
NJ2	**Nanjing**	**86.03**	**25**	*e*P	**P**	**05 49 47.0**	**+1.5**
WHN	**Wuhan**	**86.39**	**30**	*e*P	**P**	**05 49 46.8**	**-0.5**
SSE	**Sheshan**	**87.45**	**24**	P	**P**	**05 49 53.3**	**+0.8**
SSE				XP	sP	05 49 57.8	+1.1
SSE				S	S	06 00 31.8	+0.2
SSE				XS		06 00 38.3	
SSE				AMB	AMB		
	comp=Z,40nm,0.7s						
SSE				AMB	AMB		
	comp=Z,92nm,6.3s						
SSE				LR	LR		
	comp=N,45nm,28.0s,MS4.0						
SSE				LR	LR		
	comp=E,77nm,28.1s,MS4.0						
SSE				LR	LR		
	comp=Z,68nm,26.7s,MS3.9						
CPUP	**Villa Florida**	**87.63**	**204**	LR	LR	06 22 05.4	
	comp=Z,119nm,20.3s,MS4.3,baz=25,slow=31						
KMI	**Kunming**	**87.98**	**41**	*e*P	**P**	**05 49 54.9**	**-0.3**
KMI				AP	pP	05 49 58.5	+0.1
KMI				XP	sP	05 50 01.5	+2.1
KMI				PP	PP	05 53 24.8	+0.8
KMI				S	S	06 00 36.1	-0.5
KMI				XS		06 00 44.1	
KMI				AMB	AMB		
	comp=Z,9.0nm,0.5s,mb5.3						
KMI				LR	LR		
	comp=N,122nm,16.7s,MS4.5						
KMI				LR	LR		
	comp=E,125nm,17.8s,MS4.5						
KMI				LR	LR		
	comp=Z,170nm,28.3s						
LSZ	**Lusaka**	**88.00**	**124**	PFAKE		05 50 10.0	+15
LSZ				LR	LR		
	comp=Z,902nm,20.0s,MS5.2						
CM31	**Chiang Mai Arr**	**92.72**	**47**	PFAKE		05 50 30.0	+13
CM31				LR	LR		
	comp=Z,8µm,20.0s						
CMAR	**Chiang Mai Arr**	**92.72**	**47**	P	**P**	**05 50 16.9**	**-0.5**
	comp=Z,3.3nm,1.1s,mb4.7,baz=327,slow=5.8,SNR=8.4						
TATO	**Taipei**	**93.43**	**25**	PFAKE		05 50 30.0	+9.5
TATO				LR	LR		
	comp=Z,211nm,21.0s,MS4.6						
QIZ	**Qiongzhong**	**95.98**	**37**	PFAKE		05 50 40.0	+7.6
QIZ				LR	LR		
	comp=Z,156nm,19.0s,MS4.5						
BOSA	**Boshof**	**98.72**	**132**	PFAKE		05 50 50.0	+5.5
BOSA				LR	LR		
	comp=Z,521nm,21.0s,MS5.0						
VNA2	**Neumayer--Watz**	**130.50**	**170**	⇑*i*P	PKPdf	05 56 15.1	-1.6
VNA3	**Neumayer Olymp**	**130.61**	**171**	⇑*i*P	PKPdf	05 56 15.6	-1.3
SNAA	**Sanae**	**131.65**	**169**	⇑*i*P	PKPdf	05 56 17.5	-1.4
WRA	**Warramunga Arr**	**139.72**	**22**	PKP	PKPdf	05 56 31.1	-4.0
	comp=Z,0.5nm,0.8s,baz=344,slow=2.4,SNR=4.9						
ASAR	**Alice Springs**	**143.25**	**24**	PKP	PKPdf	05 56 37.0	-4.0
	comp=Z,1.4nm,0.8s,baz=351,slow=3.1,SNR=7.1						
MAW	**Mawson**	**143.28**	**140**	PKP	PKPdf	05 56 36.8	-2.9
	comp=Z,2.1nm,0.5s,baz=280,slow=7.7,SNR=3.3						
STKA	**Stephens Creek**	**152.59**	**14**	PKPbc	PKPdf	05 56 59.7	+3.7
	comp=Z,1.7nm,0.8s,baz=309,slow=16,SNR=3.1						
CASY	**Casey**	**160.97**	**129**	PFAKE		05 57 10.0	+4.6
CASY				LR	LR		
	comp=Z,397nm,21.0s						

DJA 17 05:54:34.7±0.9**, 9.02S**×**115.24E, h98**^{km}±5^{km}**, MD5.3**/4**, ML4.2**/2**, 4C-3D, Error ellipse: s-maj=28.5km s-min=9.8km az=6.0, South of Bali**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
INGI	**Ingas**	**0.22**	**336**	*e*Pn	P	05 54 48.5	-0.3
	2µm,0.2s						
INGI				⇑*e*Sn	S	05 54 58.3	-1.2
RATI	**Rata**	**0.42**	**44**	⇑*e*Pn	P	05 54 49.8	0.0
	4µm,0.2s						
RATI				⇓*i*Sn	S	05 55 00.5	-0.7
KEDI	**Kedomdong**	**1.02**	**58**	⇑*i*Pn	P	05 54 54.7	-0.7
	359nm,0.2s						
KEDI				⇑*i*Sn	S	05 55 09.4	-1.6
KELI	**Kelakatan**	**1.09**	**317**	⇓*e*Pn	P	05 54 55.8	-0.5
	336nm,0.2s						
KELI				⇓*i*Sn	S	05 55 11.5	-1.0

IGQ 17 05:58:11.9, 0.60S×**80.51W, h16**^{km}±5^{km}**, mb4.3, 2C-14D, Error ellipse: s-maj=6.8km s-min=3.7km az=24.8, Near coast of Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOJA	**Cerro de Hojas**	**0.45**	**185**	⇑P	Pb	05 58 20.6	-0.4
QIL1	**Quilotoa**	**1.59**	**99**	⇓P	Pn	05 58 39.8	0.0
JUA2	**San Juan 2**	**1.94**	**79**	⇓P	Pn	05 58 46.6	+1.9
JUA2				S	Sn	05 59 12.6	+3.7
CGGP	**Crater GGP**	**1.95**	**78**	P	Pn	05 58 46.4	+1.6
CGGP				S	Sn	05 59 11.0	+1.9
PINO	**Pino**	**1.95**	**77**	⇓P	Pn	05 58 46.4	+1.6
GGP	**Refugio Guagua**	**1.96**	**78**	⇓P	Pn	05 58 46.6	+1.6
JOR1	**San Jorge 1**	**1.96**	**72**	⇓P	Pn	05 58 45.3	+0.3
JOR1				S	Sn	05 59 09.9	+0.5
YANA	**Yana**	**2.00**	**76**	⇓P	Pn	05 58 46.9	+1.4
MARY	**Rancho Maria**	**2.02**	**94**	P	Pn	05 58 49.0	+3.1
NAS1	**Nasa**	**2.03**	**91**	⇓P	Pn	05 58 48.7	+2.7
IGUA	**Igualata**	**2.07**	**115**	P	Pn	05 58 48.1	+1.5
VC1	**Cotopaxi 1**	**2.10**	**91**	⇓P	Pn	05 58 49.8	+2.8
TAMB	**Tambo**	**2.14**	**93**	⇑P	Pn	05 58 50.3	+2.7
PISA	**Pisayambo**	**2.17**	**102**	P	Pn	05 58 51.5	+3.5
CUSU	**Cusua**	**2.19**	**112**	P	Pn	05 58 50.6	+2.2
JUIV	**Juive**	**2.20**	**112**	⇓P	Pn	05 58 50.6	+2.2
RETU	**Refugio**	**2.23**	**112**	P	Pn	05 58 51.4	+2.6
ARRY	**Arrayan**	**2.24**	**114**	⇓P	Pn	05 58 50.7	+1.7
ARRY				S	Sn	05 59 20.0	+3.5
PATA	**Patacocha**	**2.26**	**113**	⇓P	Pn	05 58 51.3	+2.0
ULBA	**Ulba**	**2.26**	**112**	⇓P	Pn	05 58 51.3	+2.0
ANTI	**Antisana**	**2.35**	**86**	⇓P	Pn	05 58 53.3	+2.7
COTA	**Cotacachi**	**2.36**	**67**	P	Pn	05 58 53.5	+2.8
COTA				S	Sn	05 59 25.9	+6.4
CAYR	**Refugio Cayamb**	**2.58**	**76**	P	Pn	05 58 57.5	+3.7
CAYR				S	Sn	05 59 29.4	+4.5
CAYA	**Cayambe**	**2.60**	**75**	⇓P	Pn	05 58 58.1	+3.9
CAYA				S	Sn	05 59 30.4	+4.7
CONE	**Cono NE Rev Vo**	**2.91**	**80**	P	Pn	05 59 02.0	+3.4

IDC 17 06:01:31.9±10.0**, 5.87S**×**128.63E, h241**^{km}±115^{km}**, mb3.0**/1**, mb1 2.9**/4**, mb1mx2.8**/12**, Error ellipse: s-maj=66.5km s-min=42.0km az=50.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.50**	**193**	P	P	06 04 22.7	-0.3
	0.2nm,0.3s,baz=7.1,slow=8.1,SNR=6.4						
FITZ				S	S	06 06 40.4	+2.4
	0.1nm,0.3s,baz=150,slow=20,SNR=2.9						
WRA	**Warramunga Arr**	**15.05**	**159**	P	P	06 04 53.1	-1.4
	0.1nm,0.3s,baz=339,slow=12,SNR=10						
WRA				S	S	06 07 43.3	+8.4
	0.1nm,0.3s,baz=332,slow=24,SNR=3.7						
ASAR	**Alice Springs**	**18.41**	**165**	P	P	06 05 28.9	-2.6
	0.1nm,0.3s,baz=346,slow=12,SNR=5.5						
MKAR	**Makanchi Array**	**66.54**	**327**	P	P	06 11 56.2	-1.7
	0.2nm,0.4s,baz=110,slow=8.7,SNR=4.9						

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*IDC **17** 06:04:43.3±0.6, 58.82N×31.12W, mb4.0/18, mb1 4.1/21, mb1mx4.1/27, ML3.1/2, MS3.7/14, Ms1 3.7/14, ms1mx3.5/26, Error ellipse: s-maj=18.9km s-min=12.4km az=177.0*

*NEIC **17** 06:04:45.1±0.2, 58.86N×31.15W, h10^{km}, mb4.3/30, MS3.9/1, Error ellipse: s-maj=9.5km s-min=4.5km az=190.0*

ISC 17 06:04:44.2±3.8**, 58.89N**±0.06×**31.17W**±0.06**, h15**^{km}±25^{km}**, n70, σ**$0\overset{s}{.}$**99**/66**, mb4.1**/44**, MS3.6**/11**, Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BORG	**Borgarnes**	**7.50**	**34**	Pn	**Pn**	**06 06 35.4**	**-0.4**
	6.7nm,0.3s,baz=188,slow=7.8,SNR=20						
BORG				Sn	**Sn**	**06 08 01.1**	**-0.2**
	1.3nm,0.3s,baz=225,slow=1.4,SNR=4.1						
BORG				LR	LR	06 08 33.1	
	comp=Z,342nm,20.7s,baz=170,slow=30						
SUMG	**Summit**	**14.05**	**351**	*e*Pn	**P**	**06 08 04.8**	**+0.2**
EKA	**Eskdalemuir Ar**	**15.57**	**91**	Pn	**P**	**06 08 21.4**	**-3.1**
	0.1nm,0.3s,baz=300,slow=11,SNR=3.0						
FRB	**Frobisher Bay**	**18.39**	**301**	LR	LR	06 15 12.8	
	comp=Z,658nm,18.6s,baz=133,slow=34						
SCHQ	**Schefferville**	**19.76**	**274**	P	**P**	**06 09 14.7**	**-1.5**
	0.2nm,0.3s,baz=72,slow=6.8,SNR=4.8						
SCHQ				LR	LR	06 15 18.9	
	comp=Z,294nm,19.8s,baz=261,slow=32						
SCHQ	**Schefferville**	**19.76**	**274**	*e*P	**P**	**06 09 14.8**	**-1.3**
QUIF	**Quistinic**	**19.82**	**111**	*e*P	**P**	**06 09 17.3**	**+0.4**
	393nm,1.9s						
FLN	**La Foliniere**	**20.57**	**106**	*e*P	**P**	**06 09 24.1**	**-0.7**
	85nm,1.0s						
FLN				*e*R			
	258nm,22.2s						
GRR	**Gorron**	**20.63**	**107**	*e*P	**P**	**06 09 25.5**	**+0.1**
	106nm,1.4s						
LDF	**La Druitiere**	**20.86**	**106**	*e*P	**P**	**06 09 26.4**	**-1.4**
NOA	**NORSAR Array B**	**21.05**	**66**	P	**P**	**06 09 29.4**	**-0.3**
	1.0nm,0.8s,mb3.2,baz=271,slow=6.2,SNR=2.9						
BAIF	**Baives**	**22.13**	**98**	*e*P	**P**	**06 09 40.2**	**-0.4**
	46nm,1.0s,mb4.6						
TCF	**Toulx Ste Croi**	**23.59**	**108**	*e*P	**P**	**06 09 56.3**	**+1.5**
	31nm,1.1s,mb4.3						
SSF	**Saint Saulge**	**23.70**	**105**	*e*P	**P**	**06 09 57.1**	**+1.2**
	31nm,1.2s,mb4.3						
BGF	**Bois d'Agland**	**23.72**	**106**	*e*P	**P**	**06 09 57.5**	**+1.5**
	24nm,0.8s,mb4.4						
LOR	**Lormes**	**23.74**	**104**	*e*P	**P**	**06 09 57.1**	**+0.9**
	19nm,1.0s,mb4.2						
LOR				*e*R			
	390nm,20.2s						
SMF	**Signal de Mont**	**24.15**	**105**	*e*P	**P**	**06 10 01.6**	**+1.3**
	7.5nm,0.7s,mb4.0						
SJPF	**Ste Jean**	**24.29**	**117**	*e*P	**P**	**06 10 04.1**	**+2.5**
	44nm,1.4s,mb4.4						
EVO	**Evora**	**25.22**	**134**	*e*P	**P**	**06 10 17.0**	**+6.3**
	2.0nm,0.4s,mb3.7						
EVO				*e*R			
	359nm,21.2s						
ARCES	**ARCESS Array B**	**25.80**	**42**	P	**P**	**06 10 16.3**	**+0.6**
	7.1nm,0.9s,mb4.2,baz=270,slow=4.9,SNR=5.5						
ARCES				LR	LR	06 18 20.6	
	comp=Z,22nm,19.7s,MS2.7,baz=195,slow=32						
ESDC	**Sonseca Array**	**25.86**	**126**	P	**P**	**06 10 16.4**	**-0.2**
	3.6nm,0.8s,mb3.9,baz=322,slow=9.3,SNR=11						
ESDC				LR	LR	06 18 33.8	
	comp=Z,65nm,18.9s,MS3.2,baz=345,slow=32						
FINES	**FINESS Array B**	**27.81**	**60**	P	**P**	**06 10 33.0**	**-1.2**
	2.1nm,0.9s,mb3.8,baz=252,slow=13,SNR=3.1						
GENY	**Geneseo**	**32.79**	**261**	P	**P**	**06 11 17.4**	**-1.2**
AKASG	**Malin Array Be**	**34.65**	**77**	P	**P**	**06 11 33.6**	**-1.0**
	1.7nm,0.7s,mb4.1,baz=305,slow=8.6,SNR=6.7						
MLR	**Muntele Rosu**	**36.32**	**86**	LR	LR	06 25 28.9	
	comp=Z,148nm,19.2s,MS3.8,baz=162,slow=34						
ULM	**Lac du Bonnet**	**37.09**	**286**	P	**P**	**06 11 56.0**	**+0.8**
	4.4nm,0.8s,mb4.4,baz=84,slow=8.1,SNR=4.8						
ULM				LR	LR	06 25 28.4	
	comp=Z,200nm,21.2s,MS3.9,baz=17,slow=34						
ULM	**Lac du Bonnet**	**37.09**	**286**	*e*P	**P**	**06 11 55.7**	**+0.4**
	4.7nm,0.7s,mb4.4						
YKA	**Yellowknife Ar**	**38.33**	**312**	P	**P**	**06 12 05.3**	**-0.3**
	3.1nm,0.7s,mb4.2,baz=58,slow=8.9,SNR=3.7						
YKA				LR	LR	06 27 01.0	
	comp=Z,242nm,18.7s,MS4.0,baz=55,slow=35						
JFWS	**Jewell Farm**	**39.12**	**273**	*e*P	**P**	**06 12 11.9**	**-0.5**
	6.6nm,0.8s,mb4.4						
WCI	**Wyandotte Cave**	**40.49**	**264**	*e*P	**P**	**06 12 22.8**	**-1.0**
	4.9nm,0.8s,mb4.3						
INK	**Inuvik**	**41.23**	**327**	*e*P	**P**	**06 12 29.4**	**-0.1**
	2.2nm,0.7s,mb3.9						
CCM	**Cathedral Cave**	**43.19**	**269**	*e*P	**P**	**06 12 45.2**	**-0.6**
	3.1nm,0.7s,mb4.2						
EDM	**Edmonton**	**43.51**	**300**	*e*P	**P**	**06 12 48.1**	**0.0**
BRTR	**Keskin Array B**	**44.40**	**86**	P	**P**	**06 12 52.9**	**-2.6**
	0.6nm,0.5s,mb3.6,baz=308,slow=8.6,SNR=3.6						
BRTR				LR	LR	06 32 21.0	
	comp=Z,66nm,18.7s,MS3.6,baz=325,slow=37						
LAO	**LASA Array**	**44.60**	**289**	*e*P	**P**	**06 12 58.4**	**+1.4**
	5.1nm,0.8s,mb4.4						
KSU1	**Kansas State U**	**45.19**	**274**	*e*P	**P**	**06 13 03.9**	**+1.9**
DAWY	**Dawson**	**45.88**	**324**	*e*P	**P**	**06 13 08.0**	**+0.9**
ILAR	**Eielson Array**	**47.50**	**328**	P	**P**	**06 13 20.5**	**+0.6**
	0.4nm,0.6s,mb3.6,baz=31,slow=6.8,SNR=4.6						
BOZ	**Bozeman (W)**	**47.98**	**291**	*e*P	**P**	**06 13 26.8**	**+2.9**
	1.8nm,0.8s,mb4.2						
PDAR	**Pinedale Array**	**49.07**	**287**	P	**P**	**06 13 32.1**	**-0.2**
	1.8nm,0.7s,mb4.2,baz=53,slow=7.2,SNR=16						
PDAR				LR	LR	06 35 43.0	
	comp=Z,126nm,18.0s,MS4.0,baz=60,slow=38						
BW06	**Boulder Array**	**49.07**	**287**	*e*P	**P**	**06 13 32.0**	**-0.3**
	1.8nm,0.7s,mb4.2						
MCMT	**McKenzie Canyo**	**49.16**	**291**	*e*P	**P**	**06 13 33.1**	**+0.1**
REDW	**Red Top Meadow**	**49.27**	**289**	P	**P**	**06 13 32.8**	**-1.0**
ISCO	**Idaho Springs**	**49.30**	**282**	*e*P	**P**	**06 13 34.6**	**+0.5**
WMOK	**Wichita Mounta**	**49.64**	**272**	*e*P	**P**	**06 13 36.5**	**-0.3**
	4.9nm,1.2s,mb4.4						
SDCO	**Great Sand Dun**	**50.79**	**280**	*e*P	**P**	**06 13 45.8**	**+0.2**
	1.9nm,0.9s,mb4.0						
HLID	**Hailey**	**50.86**	**291**	P	**P**	**06 13 45.8**	**-0.2**
	0.8nm,0.7s,mb3.8						
HWUT	**Hardware Ranch**	**50.93**	**288**	*e*P	**P**	**06 13 46.6**	**+0.1**
	1.6nm,0.8s,mb4.0						
BVAR	**Borovoye Array**	**51.81**	**49**	P	**P**	**06 13 52.2**	**-0.8**
	1.3nm,0.7s,mb4.0,slow=3.0,SNR=5.7						
ASF	**Jabal al Asfar**	**51.88**	**90**	P	**P**	**06 13 54.2**	**+0.3**
	0.9nm,0.3s,mb4.2,baz=84,slow=8.7,SNR=2.1						
ASF				LR	LR	06 34 37.0	
	comp=Z,70nm,18.5s,MS3.7,baz=20,slow=35						
PV01	**Paradox Valley**	**52.06**	**283**	*e*P	**P**	**06 13 54.2**	**-1.0**
SRU	**San Rafael**	**52.30**	**285**	*e*P	**P**	**06 13 56.4**	**-0.6**
ELK	**Elko**	**53.39**	**290**	*e*P	**P**	**06 14 05.0**	**0.0**
	1.7nm,0.8s,mb4.0						
ANMO	**Albuquerque**	**53.44**	**278**	*e*P	**P**	**06 14 05.6**	**+0.2**
	0.8nm,0.7s,mb3.8						
JCT	**Junction City**	**53.51**	**270**	*e*P	**P**	**06 14 06.6**	**+0.5**
	3.7nm,0.8s,mb4.4						
WVOR	**Wild Horse Val**	**53.74**	**293**	P	**P**	**06 14 07.0**	**-0.6**
	1.8nm,0.8s,mb4.0						
MOD	**Modoc**	**54.94**	**294**	P	**P**	**06 14 16.2**	**-0.2**
	1.4nm,0.5s,mb4.2						
DBIC	**Dimbokro**	**55.88**	**148**	P	**P**	**06 14 21.3**	**-2.2**
	1.6nm,0.6s,mb4.2,baz=99,slow=15,SNR=3.9						
DBIC				LR	LR	06 35 27.2	
	comp=Z,90nm,20.2s,MS3.9,baz=22,slow=33						
DBIC	**Dimbokro**	**55.88**	**148**	*e*P	**P**	**06 14 21.1**	**-2.4**
	5.0nm,1.0s,mb4.5						
TPH	**Tonopah**	**56.43**	**289**	*e*P	**P**	**06 14 29.2**	**+2.1**
	2.9nm,0.7s,mb4.4						
TXAR	**Lajitas Array**	**56.44**	**272**	P	**P**	**06 14 26.9**	**-0.5**
	0.2nm,0.6s,mb3.3,baz=63,slow=8.1,SNR=4.6						
TXAR				LR	LR	06 37 06.4	
	comp=Z,62nm,21.9s,MS3.7,baz=155,slow=34						
NVAR	**Mina Array Bea**	**56.68**	**290**	P	**P**	**06 14 28.3**	**-0.7**
	1.5nm,0.8s,mb4.1,baz=61,slow=6.9,SNR=9.6						
NVAR				LR	LR	06 36 44.1	
	comp=Z,84nm,18.6s,MS3.9,baz=280,slow=34						
NVAR	**Mina Array Bea**	**56.68**	**290**	P	**P**	**06 14 28.3**	**-0.7**
NVAR				LR	LR	06 36 44.1	
MKAR	**Makanchi Array**	**61.39**	**46**	P	**P**	**06 15 00.1**	**-1.3**
	1.3nm,0.6s,mb4.2,baz=342,slow=4.7,SNR=10						
SONM	**Songino Array**	**68.08**	**29**	P	**P**	**06 15 44.8**	**+0.1**
	1.8nm,1.0s,mb4.1,baz=338,slow=7.8,SNR=4.1						
OTAV	**Otavalo**	**69.16**	**232**	*e*P	**P**	**06 15 50.9**	**-1.1**
	3.9nm,0.8s,mb4.4						
BDFB	**Brasilia**	**75.53**	**197**	P	**P**	**06 16 29.5**	**-0.2**
	2.3nm,1.0s,mb4.1,baz=246,slow=22,SNR=3.2						
WRA	**Warramunga Arr**	**139.71**	**21**	PKP	PKPdf	06 24 13.6	-1.4
	0.5nm,0.9s,baz=348,slow=2.5,SNR=4.4						
ASAR	**Alice Springs**	**143.24**	**23**	PKP	PKPdf	06 24 16.9	-4.1
	0.6nm,0.8s,baz=340,slow=2.8,SNR=6.1						
MAW	**Mawson**	**143.45**	**140**	PKP	PKPdf	06 24 20.3	+0.3
	0.9nm,0.7s,baz=314,slow=17,SNR=2.2						

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*IDC **17** 06:08:19.2±22.0, 36.99N×71.75E, h102^{km}±189^{km}, mb3.3/5, mb1 3.4/7, mb1mx3.3/21, ML3.1/2, Error ellipse: s-maj=179.0km s-min=21.7km az=38.0*

ISC 17 06:08:20.7±5.9**, 37.1N**±0.4×**71.7E**±0.4**, h128**^{km}±48^{km}**, n15, σ**$0\overset{s}{.}$**55**/15**, mb3.5**/5**, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**5.25**	**16**	P	**P**	**06 09 37.6**	**-0.5**
	SNR=79						
UCH	**Uchtor**	**5.55**	**22**	P	**P**	**06 09 42.2**	**0.0**
	SNR=22						
KZA	**Kyzart**	**5.67**	**28**	P	**P**	**06 09 44.3**	**+0.5**
	SNR=8.7						
EKS2	**Erkin-Say**	**5.77**	**15**	P	**P**	**06 09 45.3**	**+0.1**
	SNR=16						
AAK	**Ala-Archa**	**5.92**	**20**	P	**P**	**06 09 47.5**	**+0.3**
	SNR=18						
CHMS	**Chumysh**	**6.33**	**21**	P	**P**	**06 09 52.2**	**-0.6**
	SNR=11						
USP	**Ospenovka**	**6.51**	**18**	P	**P**	**06 09 55.5**	**+0.2**
	SNR=12						
TKM2	**Tokmak 2**	**6.53**	**26**	P	**P**	**06 09 56.0**	**+0.5**
	SNR=9.4						
MKAR	**Makanchi Array**	**12.46**	**36**	P	**P**	**06 11 14.7**	**+0.2**
	0.0nm,0.3s,baz=223,slow=16,SNR=6.7						
BVAR	**Borovoye Array**	**15.95**	**357**	P	**P**	**06 11 57.4**	**-1.4**
	0.5nm,0.3s,baz=172,slow=11,SNR=5.0						
ARCES	**ARCESS Array B**	**40.82**	**337**	P	**P**	**06 15 51.3**	**+0.7**
	2.4nm,0.8s,mb4.1,baz=110,slow=11,SNR=3.5						
HFS	**Hagfors**	**42.96**	**321**	P	**P**	**06 16 08.8**	**+0.6**
	1.6nm,0.8s,mb3.8,baz=83,slow=12,SNR=3.6						
NOA	**NORSAR Array B**	**44.26**	**323**	P	**P**	**06 16 18.4**	**-0.2**
	0.8nm,0.9s,mb3.5,baz=96,slow=5.6,SNR=2.7						
WRA	**Warramunga Arr**	**81.81**	**122**	P	**P**	**06 20 26.5**	**-0.6**
	0.1nm,0.3s,mb3.1,baz=326,slow=5.2,SNR=7.7						
ASAR	**Alice Springs**	**84.12**	**125**	P	**P**	**06 20 38.8**	**+0.1**
	0.1nm,0.4s,mb3.0,baz=315,slow=5.1,SNR=2.6						

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*IDC **17** 06:09:29.2±1.0, 58.83N×31.13W, mb3.6/7, mb1 3.8/10, mb1mx3.7/25, ML3.0/3, Error ellipse: s-maj=32.3km s-min=17.8km az=1.0*

*NEIC **17** 06:09:30.6±0.5, 58.95N×31.13W, h10^{km}, mb4.1/4, Error ellipse: s-maj=16.8km s-min=7.9km az=181.0*

ISC 17 06:09:28.7±0.6**, 58.79N**±0.10×**31.2W**±0.1**, h10**^{km}**, n18, σ**$0\overset{s}{.}$**81**/18**, mb3.7**/11**, Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BORG	**Borgarnes**	**7.58**	**34**	Pn	**Pn**	**06 11 18.3**	**-3.7**
	0.6nm,0.3s,baz=210,slow=18,SNR=2.2						
BORG				Sn	**Sn**	**06 12 49.7**	**+0.8**
	0.6nm,0.3s,baz=52,slow=8.5,SNR=2.5						
EKA	**Eskdalemuir Ar**	**15.59**	**91**	Pn	**P**	**06 13 09.0**	**-0.8**
	0.1nm,0.3s,baz=287,slow=9.7,SNR=2.7						
EKA	**Eskdalemuir Ar**	**15.59**	**91**	Pn	**P**	**06 13 09.0**	**-0.8**
SCHQ	**Schefferville**	**19.75**	**274**	P	**P**	**06 14 00.8**	**-0.3**
	0.1nm,0.3s,baz=160,slow=13,SNR=2.9						
ESDC	**Sonseca Array**	**25.82**	**126**	P	**P**	**06 15 02.2**	**+0.8**
	1.1nm,0.7s,mb3.5,baz=311,slow=12,SNR=5.1						
AKASG	**Malin Array Be**	**34.69**	**76**	P	**P**	**06 16 19.1**	**-1.0**
	0.1nm,0.2s,mb3.3,baz=296,slow=9.5,SNR=3.6						
INK	**Inuvik**	**41.30**	**327**	*e*P	**P**	**06 17 13.3**	**-2.0**
	2.7nm,1.1s,mb3.8						
BRTR	**Keskin Array B**	**44.42**	**86**	P	**P**	**06 17 41.2**	**+0.2**
	0.3nm,0.4s,mb3.4,baz=315,slow=6.1,SNR=2.7						
MALT	**Malatya**	**47.96**	**83**	P	**P**	**06 18 09.4**	**+0.4**
	1.6nm,0.6s,mb4.2						
BOZ	**Bozeman (W)**	**47.99**	**291**	*e*P	**P**	**06 18 09.9**	**+0.7**
	1.2nm,0.9s,mb3.9						
PDAR	**Pinedale Array**	**49.08**	**287**	P	**P**	**06 18 17.7**	**+0.1**
	0.6nm,0.7s,mb3.7,baz=68,slow=8.0,SNR=5.3						
TPAW	**Teton Pass**	**49.24**	**289**	*e*P	**P**	**06 18 18.7**	**-0.1**
WMOK	**Wichita Mounta**	**49.62**	**272**	*e*P	**P**	**06 18 21.8**	**-0.1**
	4.1nm,1.3s,mb4.3						
HWUT	**Hardware Ranch**	**50.94**	**288**	P	**P**	**06 18 32.4**	**+0.5**
NVAR	**Mina Array Bea**	**56.69**	**290**	P	**P**	**06 19 14.8**	**+0.5**
	0.2nm,0.5s,mb3.4,baz=50,slow=8.0,SNR=4.0						
MKAR	**Makanchi Array**	**61.47**	**46**	P	**P**	**06 19 46.8**	**-0.5**
	0.7nm,0.9s,mb3.8,baz=326,slow=8.7,SNR=4.5						
SONM	**Songino Array**	**68.17**	**29**	P	**P**	**06 20 31.6**	**+1.0**
	0.2nm,0.4s,mb3.5,baz=333,slow=3.2,SNR=4.6						
ASAR	**Alice Springs**	**143.34**	**23**	PKP	PKPdf	06 29 03.2	-2.6

0.7nm,0.9s,baz=90,slow=1.4,SNR=4.4

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*NAO **17** 06:15:52.4±2.0, 67.68N×34.44E, ML2.1*
*HEL **17** 06:15:54.1±0.6, 67.63N×34.32E, ML2.1, ML1.9(BER), ML2.1(NAO), Explosion*
ISC 17 06:15:54.1±1.7**, 67.64N**±0.05×**34.0E**±0.3**, n12, σ1^{s}27**/22**,**
Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
APA0	Apatity Array	0.40	266	*i* P	Pg	06 16 01.8	-0.3
APA0				*i* S	Sg	06 16 10.2	+2.7
APA0				*e*RG		06 16 13.4	
APA0	Apatity Array	0.40	266	Pg	Pg	06 16 01.8	-0.3
	baz=87,slow=16						
APA0				Lg		06 16 10.2	
	baz=85,slow=37						
APA0				Rg		06 16 13.4	
	baz=85,slow=37						
MSF	Maaselka	2.63	231	*e*P	Pn	06 16 40.3	+1.8
MSF				*e*SB	Sb	06 17 14.8	-0.1
SGF	Sodankyl	2.89	270	*e*P	Pn	06 16 44.4	+2.1
SGF				*e*S	Sn	06 17 18.4	+0.2
KEV	Kevo	3.33	313	*e*P	Pn	06 16 48.4	-0.1
KEV				*e*S	Sn	06 17 29.0	-0.5
KEV				*e*SG	Sg	06 17 39.1	-6.0
KEV				MSG		06 17 40.0	
	comp=Z,5.2nm,0.3s						
ARA0	ARCESS Array S	3.66	305	Pn	Pn	06 16 52.0	-1.2
	baz=125,slow=16						
ARA0				Sn	Sn	06 17 36.8	-1.0
	baz=123,slow=28						
ARA0				Lg		06 17 49.6	
	baz=117,slow=28						
ARA0	ARCESS Array S	3.66	305	*e*P	Pn	06 16 52.0	-1.2
ARA0				*e*S	Sn	06 17 36.8	-1.0
ARA0				*e*SG	Sg	06 17 49.6	-6.5
OUL	Oulu	4.16	236	*e*SG	Sg	06 18 04.3	-8.3
KTK1	Kautokeino	4.24	294	*e*P	Pn	06 17 02.4	+1.0
KTK1				AML	AML	06 18 14.2	
	comp=Z,4.6nm,0.7s						
KJN	Kajaani	4.41	219	*e*P	Pn	06 17 04.0	+0.1
KJN				*e*S	Sn	06 17 54.0	-2.8
KJN				*e*SG	Sg	06 18 11.4	-10
KJN				MSG		06 18 16.0	
	comp=Z,3.2nm,0.3s						
FIA0	FINESS Array S	7.10	213	Pn	Pn	06 17 37.7	-4.0
	baz=30,slow=14						
FIA0	FINESS Array S	7.10	213	*e*P	Pn	06 17 37.7	-4.0

DJA 17 06:21:30.7±1.0**, 9.95S×114.11E, h65^{km}**±45^{km}**, MD5.1**/4**,**
ML4.5/4**, 3C-4D, Error ellipse: s-maj=40.6km s-min=17.2km az=19.0, South of Bali**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
INGI	Ingas	1.52	42	*e*Pn	P	06 21 55.2	-1.2
	766nm,0.2s						
INGI				⇓*e*Sn	S	06 22 13.8	-1.6
KELI	Kelakatan	1.77	12	⇓*i*Pn	P	06 21 58.9	-0.8
	473nm,0.4s						
KELI				⇑*i*Sn	S	06 22 19.4	-1.7
RATI	Rata	1.86	49	⇓*e*Pn	P	06 22 00.4	-0.6
	469nm,0.2s						
RATI				⇑*i*Sn	S	06 22 17.7	-5.7
KEDI	Kedomdong	2.46	54	⇓*i*Pn	P	06 22 08.1	-1.3
	73nm,0.3s						
KEDI				⇑*i*Sn	S	06 22 35.4	-2.9

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*IDC **17** 06:36:42.8±6.4, 32.70N×140.51E, h134^{km}±13^{km}, mb3.2/3, mb1 3.3/4, mb1mx3.1/21, MS3.4/1, Ms1 3.6/1, ms1mx2.6/11, Error ellipse: s-maj=269.0km s-min=13.5km az=66.0*
*JMA **17** 06:36:44.8±0.2, 32.82N×140.30E, h129^{km}±2^{km}, M3.4*
ISC 17 06:36:42.6±0.7**, 32.74N**±0.05×**140.26E**±0.09**, h137**^{km}±6^{km}**,**
n21, σ0^{s}93/28**, mb3.3**/3**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHJ2	Mitsune	0.53	314	P	P	06 37 04.1	+0.9
JHJ2				S	S	06 37 18.6	-0.3
JHJ	Hachijo jima 2	0.55	313	P	P	06 37 04.0	+0.8
	80nm,0.3s,baz=85,slow=21,SNR=21						
JHJ				S	S	06 37 18.1	-1.0
	136nm,0.3s,baz=77,slow=24,SNR=21						
JMY	Miyakejima3	1.46	335	*e*S	S	06 37 32.4	-0.6
JKO	Kozu shima	1.72	327	P	P	06 37 15.2	+1.2
BSO1	Boso 1	2.00	17	P	P	06 37 18.0	+0.7
BSO1				*e*S	S	06 37 43.0	-0.8
BSO2	Boso 2	2.04	11	*e*S	S	06 37 45.4	+0.6
BSO3	Boso 3	2.06	6	P	P	06 37 18.9	+0.8
BSO3				S	S	06 37 45.3	0.0
JIM2	Oshima 3	2.09	341	P	P	06 37 19.4	+1.0
JIM2				S	S	06 37 43.8	-2.0
JIZS	Izushimoda	2.28	330	*e*S	S	06 37 49.8	-0.4
TK01	Tokai 1	2.46	295	P	P	06 37 23.3	+0.1
TK04	Tokai 4	2.58	310	P	P	06 37 25.9	+1.1
JOD2	Odawara 2	2.70	339	P	P	06 37 27.2	+0.9
JOD2				*e*S	S	06 37 58.7	-0.9
JYN	Shimob	3.10	333	P	P	06 37 33.0	+1.5
JIE	Ise	3.39	300	P	P	06 37 35.7	+0.3
JRY	Ryogami san	3.45	341	P	P	06 37 36.9	+0.7
JRY				S	S	06 38 15.8	-1.4
JAG	Ashikaga	3.73	350	P	P	06 37 39.1	-0.8
CBIJ	Chichi jima	5.87	163	P	P	06 38 07.5	-0.9
	5.4nm,0.3s,baz=351,slow=19,SNR=10						
CBIJ				S	S	06 39 10.2	-4.9
	15nm,0.3s,baz=274,slow=23,SNR=8.3						
SONM	Songino Array	29.63	311	P	P	06 42 37.0	0.0
	0.3nm,0.5s,mb3.3,baz=94,slow=11,SNR=3.2						
CMAR	Chiang Mai Arr	39.63	259	LR	LR	07 04 03.7	
	comp=Z,46nm,18.1s,baz=330,slow=41						
MKAR	Makanchi Array	45.72	306	P	P	06 44 51.2	-0.2
	0.9nm,0.7s,mb3.5,baz=89,slow=9.6,SNR=9.0						
WRA	Warramunga Arr	52.69	187	P	P	06 45 43.8	-1.4
	0.6nm,1.2s,mb3.2,baz=7.7,slow=7.7,SNR=8.1						

CASC 17 07:02:53.0±2.9**, 11.73N×87.00W, MD4.0, ML3.8, 4C-4D,**
Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
COPN	Copaltepe	0.60	42	⇑*e*P	Pg	07 03 06.5	+1.7
COPN				*e*S	Sg	07 03 17.7	+4.9
LEON	Leon	0.69	9	⇓*e*P	Pg	07 03 07.8	+1.0
LEON				*e*S	Sg	07 03 19.9	+4.0
CRUN	El Crucero	0.73	70	*e*P	Pg	07 03 07.8	+0.3
CRUN				*e*S	Sg	07 03 19.1	+1.9
MIRN	Miramar	0.76	22	⇑*e*P	Pg	07 03 08.7	+0.6
XAVN	Gruta Xavier	0.78	58	*e*P	Pg	07 03 08.6	+0.1
APYN	Apoyeque	0.81	52	⇑*e*P	Pg	07 03 09.2	+0.1
APYN				*e*S	Sg	07 03 20.6	+0.8
MOMJ	Momotombo	0.81	34	⇓*e*P	Pg	07 03 09.3	+0.3
MOMJ				*e*S	Sg	07 03 22.6	+2.7
TICN	Ticuantepe	0.81	68	*e*P	Pg	07 03 09.0	-0.1
CNGN	Cerro Negro	0.82	21	⇓*e*P	Pg	07 03 09.4	+0.1
MGAN	Managua	0.84	61	⇑*e*P	Pg	07 03 09.4	-0.4
MGAN				*e*S	Sg	07 03 22.6	+1.6
MGAN				*i*		07 03 23.1	
	comp=E,2µm,0.3s						
TELN	Telica	0.88	11	⇓*e*P	Pg	07 03 10.3	-0.3
WILN	Americas 2	0.90	62	*e*S	Sg	07 03 24.2	+1.3
WILN				*i*		07 03 24.7	
	comp=E,5µm,0.4s						
APON	Apoyo	0.93	79	*e*P	Pg	07 03 10.4	-1.1
PYTN	Playitas	1.22	49	*e*P	Pb	07 03 14.8	-1.8
PYTN				*e*S	Sb	07 03 32.8	+0.1
VCR	Vista de Mar	2.08	140	*e*P	Pn	07 03 27.5	-2.1
VCR				*e*S	Sn	07 03 58.8	+2.2
JCR	Jicaral	2.63	135	*e*P	Pn	07 03 35.7	-1.7
JCR				*e*S	Sn	07 04 13.6	+3.0
CGA2	Cerro Gallo 2	3.02	124	*e*P	Pn	07 03 43.6	+0.7
PRS1	Puriscal	3.16	123	*e*P	Pn	07 03 43.0	-2.0
LCR2	La Lucha 2	3.54	124	*e*P	Pn	07 03 50.8	+0.3
LCR2				*e*S	Sn	07 04 34.9	+1.2
URSC	Urasca	3.68	121	*e*P	Pn	07 03 50.1	-2.2

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*BJI **17** 07:07:20.2, 58.83N×32.05W, h16^{km}, mB5.0, mb4.9, Ms4.8, Msz4.5*
*IDC **17** 07:07:20.8±0.5, 58.80N×31.24W, mb4.3/29, mb1 4.5/33, mb1mx4.5/36, ML3.9/4, MS4.6/27, Ms1 4.6/27, ms1mx4.6/30, Error ellipse: s-maj=15.5km s-min=9.3km az=4.0*
*NEIC **17** 07:07:23.2±0.1, 58.80N×31.16W, h10^{km}, mb4.6/85, MS4.8/99, Error ellipse: s-maj=6.5km s-min=2.6km az=195.0*
*ZUR_RM **17** 07:07:23, 58.80N×31.16W, h9^{km}, Mw5.2/10, Moment Tensor Solution. s10 Moment tensor: Scale 10^{16}Nm; M$_{rr}$-7.80; M$_{\theta\theta}$2.99; M$_{\phi\phi}$4.81; M$_{r\theta}$0.08; M$_{\theta\phi}$1.24; M$_{\phi r}$-2.83; Best double couple: M$_0$7.16×10^{16} NP1:φ$_s$17°, δ56°, λ-97°. NP2:φ$_s$211°, δ35°, λ-79°. Principal axes: T 5.91, Plg11°, Azm113°; N 2.509, Plg6°, Azm22°; P -8.419, Plg78°, Azm262°;*
*HRVD **17** 07:07:23.2±0.2, 58.85N×31.01W, h12^{km}, MW5.2/59, Centroid moment Tensor Solution. LP body waves: s34,c50;Mantle waves: s59,c107; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M$_{rr}$-6.21±.15; M$_{\theta\theta}$1.03±.18; M$_{\phi\phi}$5.17±.14; M$_{r\theta}$-0.41±.57; M$_{\theta\phi}$1.95±.12; M$_{\phi r}$-2.36±.46; Best double couple: M$_0$6.53×10^{16} NP1: φ$_s$206°, δ35°, λ-83°. NP2:φ$_s$18°, δ56°, λ-94°. Principal axes: T 6.38, Plg11°, Azm111°; N .29, Plg4°, Azm20°; P -6.68, Plg79°, Azm271°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **17** 07:07:27.9±1.6, 59.70N×30.04W, h10^{km}, mb4.9/6, MS4.9/10 Error ellipse: s-maj=31.6km s-min=21.1km az=167.6*
ISC 17 07:07:21.6±2.9**, 58.82N**±0.04×**31.19W**±0.04**, h10**^{km}±18^{km}**,**
h13^{km}±1.1^{km}**:pP-P, n291, σ1^{s}07**/212**, mb4.5**/120**, MS4.7**/127**,**
3C-2D, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BORG	Borgarnes	7.55	34	Pn	Pn	07 09 13.6	-0.9
	15nm,0.3s,baz=196,slow=8.1,SNR=32						
BORG				Sn	Sn	07 10 41.2	+0.1
	1.9nm,0.3s,baz=58,slow=19,SNR=6.1						
BORG				LR	LR	07 11 21.2	
	comp=Z,4µm,20.1s,baz=174,slow=32						
BORG	Borgarnes	7.55	34	*e*P	Pn	07 09 14.4	-0.1
	108nm,0.8s						
SUMG	Summit	14.11	351	*e*Pn	P	07 10 43.8	+0.5
	21nm,1.1s						
DMUB	Kingscourt	14.29	100	*e*P	P	07 10 50.0	+4.3
DCN	Croghan	14.39	102	*e*P	P	07 10 50.2	+3.2
DLF	Lyons Farm	14.79	101	*e*P	P	07 10 52.0	-0.3
JMIC	Jan Mayen	15.38	28	LR	LR	07 15 32.1	
	comp=Z,1µm,21.8s,baz=80,slow=32						
EKA	Eskdalemuir Ar	15.58	91	Pn	P	07 11 03.1	+0.6
	0.6nm,0.3s,baz=287,slow=10,SNR=13						
FRB	Frobisher Bay	18.41	301	P	P	07 11 35.5	-2.7
	0.1nm,0.3s,baz=110,slow=7.9,SNR=2.3						
FRB				LR	LR	07 17 52.0	
	comp=Z,6µm,19.0s,baz=88,slow=34						
ROSF	Rostrenen	19.46	110	*e*P	P	07 11 50.3	-0.6
	282nm,1.8s						
SCHQ	Schefferville	19.75	274	P	P	07 11 52.0	-2.1
	0.9nm,0.3s,baz=73,slow=6.7,SNR=24						
SCHQ				LR	LR	07 18 18.3	
	comp=Z,3µm,18.4s,baz=83,slow=33						
SCHQ	Schefferville	19.75	274	*e*P	P	07 11 51.6	-2.5
	28nm,0.8s						
QUIF	Quistinic	19.81	111	*e*P	P	07 11 53.9	-0.9
	185nm,1.5s						
SGMF	Saint Gilles	19.87	110	*e*P	P	07 11 55.0	-0.5
FLN	La Foliniere	20.56	106	*e*P	P	07 12 02.0	-0.7
	36nm,0.8s						
FLN				*e*R			
	2µm,21.5s						
GRR	Gorron	20.62	107	*e*P	P	07 12 03.0	-0.3
	213nm,1.5s						
KONO	Kongsberg	20.65	70	PFAKE		07 12 20.0	+16
KONO				LR	LR		
	comp=Z,1µm,20.0s,MS4.3						
LDF	La Druitiere	20.85	106	*e*P	P	07 12 05.2	-0.5
	comp=Z,71nm,1.1s						
EMAZ	Mazaricos	21.02	129	P	P	07 12 05.5	-2.0
	comp=Z,23nm,0.9s,mb4.5						
NB2	NORSAR Subarra	21.09	66	P	P	07 12 06.4	-1.7
	comp=Z,13nm,1.1s,mb4.2,baz=282,slow=10						
NOA	NORSAR Array B	21.09	66	P	P	07 12 05.7	-2.4
	comp=Z,1.5nm,0.8s,baz=263,slow=8.3,SNR=4.7						
NOA				LR	LR	07 18 54.1	
	comp=Z,1µm,21.4s,baz=280,slow=33						
STS	Santiago	21.25	129	P	P	07 12 09.1	-0.8
	comp=Z,25nm,0.8s,mb4.6						
EPON	Pontenova	21.47	126	P	P	07 12 11.9	-0.1
	comp=Z,31nm,1.1s,mb4.5						
BAIF	Baives	22.14	98	*e*P	P	07 12 20.1	+1.4
	comp=Z,119nm,1.2s,mb4.9						
MFF	Saint Martin d	22.20	110	*e*P	P	07 12 18.7	-0.6
	comp=Z,74nm,1.2s,mb4.7						
ERUA	La Rua	22.24	127	P	P	07 12 20.8	+1.0
	comp=Z,7.2nm,0.7s,mb4.2						
ELOB	Lobios	22.30	129	P	P	07 12 21.5	+1.1
	comp=Z,11nm,0.9s,mb4.3						
WTSB	Winterswijk	22.39	91	*e*P	P	07 12 23.5	+2.3
	comp=Z,29nm,1.9s,mb4.4						
GIVF	Givet	22.43	97	*e*P	P	07 12 21.4	-0.2
HFS	Hagfors	22.51	67	P	P	07 12 21.8	-0.3
	comp=Z,5.0nm,1.0s,mb3.9,baz=214,slow=10,SNR=2.6						
HGN	Heimansgroeve	22.61	95	*e*P	P	07 12 23.7	+0.5
HGN				*e*x	x	07 12 26.4	
	comp=Z,22nm,1.2s						
HGN				*e*S	S	07 16 38.7	+13
HGN				*e*x	x	07 18 30.9	
ECAL	Calabor	22.78	127	P	P	07 12 26.8	+1.8
	comp=Z,28nm,1.2s,mb4.6						
PBRG	Braganca	22.89	127	*e*P	P	07 12 26.9	+0.8
	comp=Z,20nm,1.6s,mb4.3						
PVRL	Vila Real	22.94	130	*e*P	P	07 12 28.1	+1.5
	comp=Z,32nm,1.6s,mb4.5						
ELAN	Lanestosa	23.17	120	P	P	07 12 31.9	+3.2
	comp=Z,233nm,4.0s						
PVIS	Viseu	23.34	131	*e*P	P	07 12 31.8	+1.3
	comp=Z,34nm,1.3s,mb4.6						
MEZF	Maizieres J'vi	23.54	100	*e*P	P	07 12 32.1	-0.2
TCF	Toulx Ste Croi	23.58	107	*e*P	P	07 12 32.9	+0.2
	comp=Z,13nm,0.7s,mb4.2						
SSF	Saint Saulge	23.70	104	*e*P	P	07 12 33.3	-0.5
	comp=Z,10.0nm,0.6s,mb4.2						
BGF	Bois d'Agland	23.71	106	*e*P	P	07 12 34.7	+0.7
	comp=Z,30nm,0.6s,mb4.6						
LOR	Lormes	23.73	104	*e*P	P	07 12 33.6	-0.6
	comp=Z,17nm,0.8s,mb4.3						
LOR				*e*R			
	comp=Z,2µm,19.0s						
MTE	Manteigas	23.75	130	*e*P	P	07 12 35.1	+0.6
LFF	La Frestale	23.82	112	*e*P	P	07 12 34.7	-0.4
RJF	Les Rejaudoux	23.94	110	*e*P	P	07 12 35.4	-0.8
RJF				*e*R			
	comp=Z,2µm,22.5s						
EALK	Alkurruntz	24.06	117	P	P	07 12 42.6	+5.3
	comp=Z,22nm,1.0s,mb4.5						
SMF	Signal de Mont	24.15	105	*e*P	P	07 12 37.5	-0.8
	comp=Z,24nm,0.8s,mb4.4						
PCBR	Castelo Branco	24.26	131	*e*P	P	07 12 40.9	+1.5
	comp=Z,24nm,1.4s,mb4.4						
SJPF	Ste Jean	24.27	117	*e*P	P	07 12 38.9	-0.6
	comp=Z,30nm,1.1s,mb4.3						
CAF	Calviac	24.48	110	*e*P	P	07 12 41.1	-0.4
	comp=Z,32nm,1.1s,mb4.4						
HAU	Haudompre	24.52	100	*e*P	P	07 12 41.6	-0.2
	comp=Z,17nm,0.7s,mb4.4						
HAU				*e*R			
	comp=Z,5µm,18.8s						
CDF	Champ du Feu	24.73	98	*e*P	P	07 12 44.0	+0.1
	comp=Z,19nm,0.9s,mb4.3						
ETSF	Etsaut	24.74	117	*e*P	P	07 12 43.3	-0.8
HINF	Hinteralfeld	24.90	99	*e*P	P	07 12 45.6	+0.1
PQI	Presque Isle	25.04	257	PFAKE		07 13 00.0	+13
PQI				LR	LR		
	comp=Z,10µm,20.0s,MS5.3						
EPF	Esparros	25.06	115	*e*P	P	07 12 46.7	-0.4
MOE	Montemor	25.07	134	*e*P	P	07 12 48.7	+1.5
EVO	Evora	25.19	134	*e*P	P	07 12 46.7	-1.6
	comp=Z,42nm,1.2s,mb4.5						
EVO				*e*R			
	comp=Z,3µm,21.2s						
CABF	La Chapelle	25.31	102	*e*P	P	07 12 49.1	-0.3
	comp=Z,64nm,1.3s,mb4.7						
EBAD	Badajoz	25.38	132	P	P	07 12 52.2	+2.1
	comp=Z,19nm,1.1s,mb4.5						
MOX	Moxa	25.64	90	*i* P	P	07 12 49.0	-3.4
	comp=Z,logA/T=1.4,mb4.7						
MOX				L		07 23 31.0	
MOX	Moxa	25.64	90	*e*P	P	07 12 49.0	-3.4
MOX				pmax	pmax		
	comp=Z,41nm,1.6s,mb4.7						
MOX				MLR	MLR		
	comp=Z,3µm,17.0s,MS4.9						
MOX	Moxa	25.64	90	*e*P	P	07 12 49.0	-3.4
	comp=Z,41nm,1.6s,mb4.7						
MOX				LR	LR		
	comp=Z,3µm,17.0s,MS4.9						
PBEJ	Beja	25.69	134	*e*P	P	07 12 54.7	+1.7
	comp=Z,24nm,1.5s,mb4.5						
ETOR	Torete	25.71	122	P	P	07 12 57.4	+4.2
	comp=Z,7.2nm,0.8s,mb4.2						
MTLF	Montolieu	25.72	112	*e*P	P	07 12 53.1	-0.2
	comp=Z,13nm,0.8s,mb4.2						
VIVF	Saint-Julien-l	25.82	107	*e*P	P	07 12 53.5	-0.7
	comp=Z,22nm,1.1s,mb4.3						
ESDC	Sonseca Array	25.83	126	P	P	07 12 53.8	-0.6
	comp=Z,6.6nm,0.8s,mb4.2,baz=324,slow=9.3,SNR=22						
ESDC				LR	LR	07 21 02.6	
	comp=Z,618nm,18.6s,MS4.2,baz=330,slow=32						
ESLA	Sonseca Array	25.83	126	*e*P	P	07 12 53.8	-0.6
	comp=Z,6.0nm,1.0s,mb4.1						
ESLA				LR	LR		
	comp=Z,5µm,19.0s,MS5.1						
ARCES	ARCESS Array B	25.85	42	P	P	07 12 53.4	-0.9
	comp=Z,13nm,1.0s,mb4.4,baz=280,slow=7.4,SNR=12						
ARCES				LR	LR	07 21 06.5	
	comp=Z,505nm,21.4s,MS4.0,baz=210,slow=32						
LASF	Ste Croix	25.98	109	*e*P	P	07 12 54.9	-0.8
CLL	Collm	25.98	87	P	P	07 12 54.0	-1.6
CLL				*i*	pP	07 12 56.7	-1.9
CLL				*e*PP	PP	07 13 39.0	+2.4
CLL	Collm	25.98	87	*e*P	P	07 12 54.0	-1.6
CLL				pmax	pmax		
	comp=Z,15nm,1.3s,mb4.4						
CLL	Collm	25.98	87	*e*P	P	07 12 54.0	-1.6
	comp=Z,15nm,1.3s,mb4.4						
GRA1	Grafenberg Arr	25.99	92	*e*P	P	07 12 58.0	+2.3
	comp=Z,23nm,1.3s,mb4.5						
GRA1				LR	LR		
	comp=Z,2µm,21.4s,MS4.7						
GRF	Grafenberg Arr	25.99	92	*e*P	P	07 12 58.0	+2.3
GRF				pmax	pmax		
	comp=Z,23nm,1.3s,mb4.5						
GRF				MLR	MLR		
	comp=Z,2µm,21.4s,MS4.7						
EMMW	East Machias	26.12	253	PFAKE		07 13 10.0	+13
EMMW				LR	LR		
	comp=Z,7µm,22.0s,MS5.2						
NKC	Novy Kostel	26.31	90	*e*P	P	07 13 00.7	+2.0
NKC				LR		07 23 40.0	
	comp=Z,3.0nm,15.5s						
EMIN	Mina Concepcio	26.37	132	P	P	07 13 03.6	+4.3
	comp=Z,17nm,1.2s,mb4.4						
ORIF	Oris-en-Rattie	26.37	105	*e*P	P	07 12 59.1	-0.2
ORIF				*e*R			
	comp=Z,2µm,22.2s						
BRG	Berggiesshubel	26.71	87	*e*P	P	07 13 07.9	+5.5
BRG				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.2						
BRG				MLR	MLR		
	comp=Z,3µm,14.9s,MS4.9						
BRG				MLR	MLR		
	comp=N,2µm,13.9s,MS4.8						
BRG				MLR	MLR		
	comp=E,1µm,13.9s,MS4.8						
BRG	Berggiesshubel	26.71	87	*e*P	P	07 13 07.9	+5.5
	comp=E,8.6nm,1.1s,mb4.2						
BRG				LR	LR		
	comp=Z,3µm,14.9s,MS4.9						
EMOS	Mosqueruela	26.79	120	P	P	07 13 09.0	+5.8
	comp=Z,23nm,1.1s,mb4.6						
EADA	Adamuz	26.85	129	P	P	07 13 08.9	+5.1
	comp=Z,6.4nm,1.0s,mb4.1						
MBDF	Montbardon	26.96	105	*e*P	P	07 13 04.1	-0.6
DAVOX	Davos	27.14	98	P	P	07 13 07.2	+0.9
	comp=Z,1.8nm,0.5s,mb3.9,baz=352,slow=20,SNR=3.2						
PVCC	Panska Ves	27.24	87	*e*P	P	07 13 08.7	+1.5
PVCC				LR		07 25 00.0	
	comp=Z,2.5nm,14.4s						
EVIA	Vianos	27.32	125	P	P	07 13 16.1	+8.1
	comp=Z,17nm,0.8s,mb4.6						
WVL	Waterville	27.33	256	PFAKE		07 13 20.0	+12
WVL				LR	LR		
	comp=Z,8µm,20.0s,MS5.3						
ESPR	Espera	27.47	132	P	P	07 13 14.7	+5.3
	comp=Z,10nm,1.0s,mb4.3						
PRU	Pruhonice	27.54	88	*e*P	P	07 13 09.4	-0.6
PRU				LR		07 24 50.0	
	comp=Z,3.5nm,13.0s						
KHC	Kasperske Hory	27.56	91	*e*P	P	07 13 14.5	+4.4
KHC				LR		07 23 40.0	
	comp=Z,2.4nm,18.4s						
EQES	Quesada	27.78	127	P	P	07 13 18.2	+5.9
	comp=Z,6.8nm,0.7s,mb4.4						
GERES	GERESS Array B	27.80	91	P	P	07 13 12.0	-0.3
	comp=Z,0.7nm,0.7s,baz=280,slow=8.1,SNR=4.4						
FINES	FINESS Array B	27.86	60	P	P	07 13 14.2	+1.5
	comp=Z,6.4nm,0.9s,mb4.3,baz=309,slow=12,SNR=8.0						
FINES				LR	LR	07 23 42.2	
	comp=Z,827nm,18.7s,MS4.3,baz=93,slow=35						
KSP	Ksiaz	27.95	86	*e*P	P	07 13 15.3	+1.6
KSP				MLR	MLR		
	comp=Z,4µm,17.2s,MS5.1						
UPC	Upice	28.00	86	*e*P	P	07 13 14.6	+0.5
EMIJ	Mijas	28.16	131	P	P	07 13 22.2	+6.5
	comp=Z,15nm,1.3s,mb4.5						
DPC	Dobruska-Polom	28.25	86	*e*P	P	07 13 15.0	-1.4
DPC				LR		07 25 50.0	
	comp=Z,2.2nm,13.9s						
VRAC	Vranov	29.02	88	P	P	07 13 25.0	+1.8
	comp=Z,2.4nm,0.4s,mb4.3,baz=286,slow=17,SNR=4.4						
OKC	Ostrava-Krasne	29.50	86	LR		07 26 40.0	
	comp=Z,2.2nm,14.0s						
HRV	Harvard--Oak R	29.77	255	PFAKE		07 13 40.0	+10
HRV				LR	LR		
	comp=Z,877nm,20.0s,MS4.4						
NCB	Newcomb	30.07	260	PFAKE		07 13 40.0	+7.2
NCB				LR	LR		
	comp=Z,3µm,20.0s,MS4.9						
FCC	Fort Churchill	31.53	297	*e*P	P	07 13 45.3	-0.1
SADO	Sadowa	32.05	265	LR	LR	07 25 28.2	
	comp=Z,3µm,19.1s,MS5.0,baz=60,slow=34						
BINY	Binghamton	32.24	259	PFAKE		07 14 00.0	+8.1
BINY				LR	LR		
	comp=Z,2µm,19.0s,MS4.9						
ERPA	Erie	34.35	263	PFAKE		07 14 20.0	+10
ERPA				LR	LR		
	comp=Z,1µm,19.0s,MS4.8						
SSPA	Standing Stone	34.36	259	*e*P	P	07 14 08.9	-1.3
	comp=Z,4.9nm,0.9s,mb4.4						
SSPA				LR	LR		
	comp=Z,2µm,19.0s,MS4.9						
AKASG	Malin Array Be	34.67	76	P	P	07 14 11.1	-1.8
	comp=Z,7.2nm,0.9s,mb4.6,baz=305,slow=8.5,SNR=11						
AKASG				LR	LR	07 27 41.5	
	comp=Z,459nm,19.6s,MS4.2,baz=295,slow=35						
BBSR	BB Station	34.70	235	PFAKE		07 14 20.0	+6.7
BBSR				LR	LR		
	comp=Z,355nm,20.0s,MS4.1						
CBN	Corbin	35.93	256	PFAKE		07 14 40.0	+16
CBN				LR	LR		
	comp=Z,2µm,19.0s,MS4.8						
MCWV	Mont Chateau	36.08	260	PFAKE		07 14 40.0	+15
MCWV				LR	LR		
	comp=Z,3µm,19.0s,MS5.1						
MLR	Muntele Rosu	36.33	86	P	P	07 14 28.0	+0.9
	comp=Z,1.3nm,0.8s,mb3.9,baz=187,slow=11,SNR=2.7						
ULM	Lac du Bonnet	37.10	286	P	P	07 14 33.0	-0.4
	comp=Z,9.9nm,0.9s,mb4.6,baz=69,slow=9.1,SNR=8.1						
ULM				LR	LR	07 28 26.4	
	comp=Z,2µm,19.1s,MS4.8,baz=71,slow=34						
ULM	Lac du Bonnet	37.10	286	*e*P	P	07 14 32.9	-0.5
	comp=Z,73nm,1.6s,mb5.3						
ULM				LR	LR		
	comp=Z,2µm,20.0s,MS5.0						
ACSO	Alum Creek Sta	37.27	263	PFAKE		07 14 50.0	+15
ACSO				LR	LR		
	comp=Z,3µm,20.0s,MS5.0						
FWV	Forest Hill	38.15	258	*e*P	P	07 14 43.4	+1.0
BLA	Blacksburg	38.23	258	PFAKE		07 14 50.0	+6.9
BLA				LR	LR		
	comp=Z,2µm,19.0s,MS4.9						

YKW3	**Yellowknife Ar**	**38.33**	**312**	P	**P**	**07 14 43.7**	**+0.1**
YKA	**Yellowknife Ar**	**38.37**	**312**	P	**P**	**07 14 42.9**	**-1.0**
	comp=Z,6.9nm,0.8s,mb4.5,baz=57,slow=9.1,SNR=8.8						
YKA				LR	LR	07 29 40.6	
	comp=Z,1µm,20.4s,MS4.8,baz=60,slow=35						
YKA	**Yellowknife Ar**	**38.37**	**312**	P	**P**	**07 14 42.9**	**-1.0**
YKA				LR	LR	07 29 40.6	
PWV	**Princeton**	**38.46**	**258**	*e*P	**P**	**07 14 45.8**	**+0.8**
JFWS	**Jewell Farm**	**39.11**	**273**	PFAKE		07 15 00.0	+10
JFWS				LR	LR		
	comp=Z,1µm,19.0s,MS4.7						
WCI	**Wyandotte Cave**	**40.48**	**264**	*e*P	**P**	**07 15 02.9**	**+1.2**
	comp=Z,10nm,0.8s,mb4.6						
WCI				LR	LR		
	comp=Z,3µm,20.0s,MS5.2						
SIM	**Simferopol’**	**40.92**	**80**	*e*P	**P**	**07 15 05.5**	**+0.2**
SIM				*e*		07 16 44.0	
SIM				pmax	pmax		
	comp=Z,200nm,10.6s						
SIM				MLR	MLR		
	comp=Z,1µm,13.0s,MS4.9						
INK	**Inuvik**	**41.28**	**327**	P	**P**	**07 15 06.8**	**-1.3**
	comp=Z,1.8nm,0.7s,mb3.8,baz=28,slow=14,SNR=7.6						
INK				LR	LR	07 31 49.2	
	comp=Z,830nm,19.6s,MS4.6,baz=47,slow=36						
INK	**Inuvik**	**41.28**	**327**	*e*P	**P**	**07 15 07.5**	**-0.5**
	comp=Z,2.8nm,0.7s,mb4.0						
NHSC	**New Hope**	**41.34**	**254**	PFAKE		07 15 20.0	+11
NHSC				LR	LR		
	comp=Z,2µm,19.0s,MS5.0						
MYNC	**Murphy**	**41.78**	**259**	PFAKE		07 15 20.0	+7.6
MYNC				LR	LR		
	comp=Z,1µm,19.0s,MS4.7						
DGMT	**Dagmar**	**42.39**	**289**	*e*P	**P**	**07 15 19.6**	**+2.4**
	comp=Z,11nm,0.9s,mb4.5						
DGMT				LR	LR		
	comp=Z,1µm,22.0s,MS4.7						
FVM	**French Village**	**42.81**	**268**	*e*P	**P**	**07 15 20.7**	**0.0**
	comp=Z,7.8nm,0.6s,mb4.6						
WVT	**Waverly**	**42.87**	**264**	*e*P	**P**	**07 15 20.6**	**-0.7**
	comp=Z,4.7nm,0.7s,mb4.3						
WVT				LR	LR		
	comp=Z,2µm,19.0s,MS5.1						
CCM	**Cathedral Cave**	**43.18**	**269**	*e*P	**P**	**07 15 23.9**	**+0.1**
	comp=Z,8.9nm,0.8s,mb4.5						
CCM				LR	LR		
	comp=Z,666nm,20.0s,MS4.5						
IDI	**Anoyia**	**43.23**	**98**	P	**P**	**07 15 23.2**	**-1.0**
	comp=Z,13nm,1.1s,mb4.5,baz=343,slow=20,SNR=2.5						
EDM	**Edmonton**	**43.53**	**300**	*e*P	**P**	**07 15 26.9**	**+0.5**
BRTR	**Keskin Array B**	**44.41**	**86**	P	**P**	**07 15 33.7**	**-0.1**
	comp=Z,2.4nm,0.9s,mb3.9,baz=314,slow=5.1,SNR=7.5						
BRTR				LR	LR	07 34 47.9	
	comp=Z,838nm,21.2s,MS4.6,baz=275,slow=37						
BRTR	**Keskin Array B**	**44.41**	**86**	P	**P**	**07 15 33.7**	**-0.1**
BRTR				LR	LR	07 34 47.9	
LAO	**LASA Array**	**44.61**	**289**	*e*P	**P**	**07 15 35.8**	**+0.5**
	comp=Z,11nm,0.7s,mb4.8						
LAO				LR	LR		
	comp=Z,1µm,20.0s,MS4.9						
LRAL	**Lakeview Retre**	**44.85**	**260**	*e*P	**P**	**07 15 37.1**	**-0.3**
	comp=Z,23nm,1.4s,mb4.8						
LRAL				LR	LR		
	comp=Z,2µm,20.0s,MS5.1						
OXF	**Oxford**	**44.94**	**264**	PFAKE		07 15 50.0	+12
OXF				LR	LR		
	comp=Z,3µm,20.0s,MS5.2						
KSU1	**Kansas State U**	**45.19**	**274**	*e*P	**P**	**07 15 39.5**	**-0.4**
RSSD	**Black Hills**	**45.33**	**285**	*e*P	**P**	**07 15 42.3**	**+1.2**
	comp=Z,2.3nm,0.7s,mb4.1						
RSSD				LR	LR		
	comp=Z,998nm,22.0s,MS4.7						
GOF	**Gofitskoye**	**45.35**	**73⇑**	*i*P	**P**	**07 15 43.5**	**+2.3**
GOF				pmax	pmax		
	comp=Z,40nm,1.4s,mb5.1						
DAWY	**Dawson**	**45.93**	**324**	*e*P	**P**	**07 15 46.6**	**+1.1**
DWPF	**Disney**	**46.04**	**251**	PFAKE		07 16 00.0	+13
DWPF				LR	LR		
	comp=Z,376nm,19.0s,MS4.4						
DLBC	**Dease Lake**	**46.82**	**315**	LR	LR	07 34 32.3	
	comp=Z,1µm,21.6s,MS4.8,baz=38,slow=35						
MIAR	**Mount Ida**	**47.07**	**267**	*e*P	**P**	**07 15 54.2**	**-0.7**
	comp=Z,12nm,1.0s,mb4.8						
MIAR				LR	LR		
	comp=Z,1µm,19.0s,MS5.0						
HRY	**Holter Researc**	**47.32**	**293**	*e*P	**P**	**07 15 56.7**	**-0.1**
ILAR	**Eielson Array**	**47.55**	**328**	P	**P**	**07 15 57.3**	**-1.0**
	comp=Z,1.4nm,0.8s,mb4.0,baz=31,slow=7.3,SNR=13						
ILAR				PcP	PcP	07 17 27.6	-1.0
	comp=Z,1.3nm,0.8s,baz=337,slow=4.1,SNR=5.0						
COLA	**College**	**47.73**	**329⇓**	*e*P	**P**	**07 16 02.4**	**+2.7**
COLA	**College**	**47.73**	**329**	*e*P	**P**	**07 15 59.0**	**-0.7**
	comp=Z,11nm,1.4s,mb4.7						
COLA				LR	LR		
	comp=Z,493nm,21.0s,MS4.5						
CHMT	**Chamberlain Mo**	**47.86**	**294**	*e*P	**P**	**07 16 00.5**	**-0.4**
MALT	**Malatya**	**47.95**	**83**	*e*P	**P**	**07 16 02.0**	**+0.2**
	comp=Z,21nm,1.4s,mb5.0						
BOZ	**Bozeman (W)**	**47.99**	**291**	*e*P	**P**	**07 16 02.6**	**+0.6**
	comp=Z,4.4nm,0.7s,mb4.6						
BOZ				LR	LR		
	comp=Z,600nm,21.0s,MS4.5						
MSO	**Missoula**	**48.25**	**294**	PFAKE		07 16 20.0	+16
MSO				LR	LR		
	comp=Z,922nm,21.0s,MS4.7						
IMA	**Indian Mountai**	**48.26**	**333**	*e*P	**P**	**07 16 04.6**	**+0.8**
	comp=Z,9.9nm,0.6s,mb5.0						
QLMT	**Earthquake Lak**	**48.49**	**291**	P	**P**	**07 16 08.4**	**+2.5**
NEW	**Newport**	**48.70**	**297**	P	**P**	**07 16 06.7**	**-0.7**
	comp=Z,2.7nm,0.9s,mb4.2,baz=20,slow=6.9,SNR=5.0						
NEW				LR	LR	07 35 57.5	
	comp=Z,3µm,18.8s,MS5.3,baz=44,slow=35						
NEW	**Newport**	**48.70**	**297**	*e*P	**P**	**07 16 07.1**	**-0.3**
	comp=Z,3.9nm,1.0s,mb4.4						
NEW				LR	LR		
	comp=Z,3µm,20.0s,MS5.2						
MCK	**McKinley**	**48.93**	**329**	*e*P	**P**	**07 16 10.8**	**+1.9**
MCK				LR	LR		
	comp=Z,194nm,19.0s,MS4.1						
IMW	**Indian Meadow**	**48.93**	**289**	*e*P	**P**	**07 16 11.8**	**+2.5**
MOOW	**Moose Ponds**	**48.94**	**289**	*e*P	**P**	**07 16 09.7**	**+0.3**
TIXI	**Tiksi**	**49.07**	**8**	PFAKE		07 16 20.0	+10
TIXI				LR	LR		
	comp=Z,140nm,20.0s,MS4.0						
PDAR	**Pinedale Array**	**49.08**	**287**	P	**P**	**07 16 09.2**	**-1.2**
	comp=Z,8.1nm,1.0s,mb4.7,baz=59,slow=6.5,SNR=21						
PDAR				LR	LR	07 35 50.7	
	comp=Z,1µm,19.0s,MS5.0,baz=20,slow=35						
BW06	**Boulder Array**	**49.08**	**287**	*e*P	**P**	**07 16 09.7**	**-0.8**
	comp=Z,4.5nm,0.7s,mb4.6						
BW06				LR	LR		
	comp=Z,2µm,19.0s,MS5.0						
SNOW	**Snow King Moun**	**49.16**	**289**	*e*P	**P**	**07 16 11.2**	**+0.1**
MCMT	**McKenzie Canyo**	**49.18**	**292**	*e*P	**P**	**07 16 12.7**	**+1.5**
TPAW	**Teton Pass**	**49.23**	**289**	*e*P	**P**	**07 16 11.5**	**-0.2**
REDW	**Red Top Meadow**	**49.28**	**289**	*e*P	**P**	**07 16 11.6**	**-0.4**
ISCO	**Idaho Springs**	**49.30**	**282**	*e*P	**P**	**07 16 12.6**	**+0.4**
	comp=Z,20nm,1.4s,mb5.0						
ISCO				LR	LR		
	comp=Z,1µm,20.0s,MS4.9						
DPW	**Davenport**	**49.48**	**298**	*e*P	**P**	**07 16 13.8**	**+0.3**
WMOK	**Wichita Mounta**	**49.63**	**272**	*e*P	**P**	**07 16 14.3**	**-0.5**
	comp=Z,22nm,1.4s,mb5.0						
WMOK				LR	LR		
	comp=Z,1µm,21.0s,MS4.8						
SIT	**Sitka**	**49.77**	**316**	PFAKE		07 16 30.0	+14
SIT				LR	LR		
	comp=Z,1µm,19.0s,MS5.0						
NATX	**Nacogdoches**	**49.81**	**266**	PFAKE		07 16 30.0	+14
NATX				LR	LR		
	comp=Z,1µm,20.0s,MS5.0						
AHID	**Auburn Hatcher**	**49.84**	**288**	PFAKE		07 16 30.0	+14
AHID				LR	LR		
	comp=Z,1µm,19.0s,MS5.0						
DIV	**Divide**	**50.09**	**325**	PFAKE		07 16 30.0	+12
DIV				LR	LR		
	comp=Z,2µm,19.0s,MS5.1						
BBB	**Bella Bella**	**50.63**	**308**	LR	LR	07 37 30.4	
	comp=Z,998nm,19.4s,MS4.8,baz=48,slow=36						
PMR	**Palmer**	**50.70**	**327**	PFAKE		07 16 30.0	+7.4
PMR				LR	LR		
	comp=Z,454nm,19.0s,MS4.5						
SDCO	**Great Sand Dun**	**50.80**	**280**	*e*P	**P**	**07 16 23.5**	**-0.1**
	comp=Z,16nm,1.5s,mb4.7						
SDCO				LR	LR		
	comp=Z,1µm,21.0s,MS4.9						
HLID	**Hailey**	**50.87**	**291**	*e*P	**P**	**07 16 24.7**	**+0.6**
	comp=Z,2.1nm,0.8s,mb4.1						
HLID				LR	LR		
	comp=Z,860nm,20.0s,MS4.8						
HWUT	**Hardware Ranch**	**50.94**	**288**	*e*P	**P**	**07 16 24.4**	**-0.3**
	comp=Z,4.7nm,0.8s,mb4.5						
HWUT				LR	LR		
	comp=Z,2µm,20.0s,MS5.1						
HAWA	**Hanford**	**51.19**	**297**	PFAKE		07 16 40.0	+14
HAWA				LR	LR		
	comp=Z,149nm,19.0s,MS4.0						
FIB	**Fire Island**	**51.34**	**327**	PFAKE		07 16 40.0	+13
FIB				LR	LR		
	comp=Z,580nm,20.0s,MS4.6						
SPUT	**South Promonto**	**51.60**	**288**	*e*P	**P**	**07 16 29.3**	**-0.4**
TNA	**Tin City**	**51.76**	**339**	PFAKE		07 16 40.0	+9.4
TNA				LR	LR		
	comp=Z,257nm,21.0s,MS4.2						
BVAR	**Borovoye Array**	**51.87**	**49**	P	**P**	**07 16 30.3**	**-1.3**
	comp=Z,3.5nm,0.9s,mb4.3,baz=307,slow=7.4,SNR=9.7						
BVAR				LR	LR	07 38 14.4	
	comp=Z,6.1nm,20.2s,baz=75,slow=36						
ASF	**Jabal al Asfar**	**51.89**	**90**	P	**P**	**07 16 31.3**	**-0.7**
	comp=Z,23nm,1.4s,mb4.9,baz=79,slow=5.5,SNR=4.5						
PV01	**Paradox Valley**	**52.06**	**283**	*e*P	**P**	**07 16 33.3**	**0.0**
PV10	**Paradox Valley**	**52.12**	**283**	*e*P	**P**	**07 16 33.8**	**+0.1**
OCWA	**Octopus Mounta**	**52.27**	**302**	PFAKE		07 16 50.0	+15
OCWA				LR	LR		
	comp=Z,1µm,20.0s,MS5.0						
SRU	**San Rafael**	**52.31**	**285**	*e*P	**P**	**07 16 35.4**	**+0.3**
NLU	**North Lily Min**	**52.44**	**287**	*e*P	**P**	**07 16 36.0**	**0.0**
DUG	**Dugway**	**52.62**	**288**	*e*P	**P**	**07 16 36.9**	**-0.6**
	comp=Z,1.6nm,1.8s,mb3.6						
DUG				LR	LR		
	comp=Z,80nm,19.0s,MS3.8						
EIL	**Elat**	**52.86**	**93**	P	**P**	**07 16 37.9**	**-1.5**
	comp=Z,8.0nm,1.0s,mb4.6,baz=343,slow=23,SNR=5.6						
EIL	**Elat**	**52.86**	**93**	*e*P	**P**	**07 16 38.6**	**-0.7**
	comp=Z,15nm,1.1s,mb4.8						
ELK	**Elko**	**53.40**	**290**	*e*P	**P**	**07 16 43.8**	**+0.6**
	comp=Z,7.9nm,1.2s,mb4.5						
ELK				LR	LR		
	comp=Z,1µm,19.0s,MS4.9						
ANMO	**Albuquerque**	**53.44**	**278⇑**	*e*P	**P**	**07 16 46.5**	**+2.9**
ANMO	**Albuquerque**	**53.44**	**278**	*e*P	**P**	**07 16 43.7**	**+0.1**
	comp=Z,15nm,1.6s,mb4.7						
ANMO				LR	LR		
	comp=Z,1µm,20.0s,MS4.9						
JCT	**Junction City**	**53.50**	**270**	*e*P	**P**	**07 16 42.9**	**-1.1**
	comp=Z,8.8nm,0.8s,mb4.7						
JCT				LR	LR		
	comp=Z,619nm,22.0s,MS4.6						
MSU	**Marysvale**	**53.59**	**286**	*e*P	**P**	**07 16 46.1**	**+1.4**
MVU	**Marysvale**	**53.62**	**286**	*e*P	**P**	**07 16 44.7**	**-0.1**
	comp=Z,4.2nm,1.1s,mb4.3						
MVU				LR	LR		
	comp=Z,1µm,19.0s,MS5.0						
WVOR	**Wild Horse Val**	**53.75**	**294**	*e*P	**P**	**07 16 45.8**	**+0.1**
	comp=Z,3.1nm,0.9s,mb4.2						
WVOR				LR	LR		
	comp=Z,1µm,21.0s,MS4.9						
BNM	**Barren Site**	**54.15**	**278**	*e*P	**P**	**07 16 49.9**	**+1.2**
LAZ	**Ladron**	**54.22**	**279**	*e*P	**P**	**07 16 51.9**	**+2.6**
COR	**Corvallis**	**54.29**	**298**	PFAKE		07 17 00.0	+10
COR				LR	LR		
	comp=Z,2µm,19.0s,MS5.2						
GDL2	**Guadalupe Moun**	**54.51**	**275**	*e*P	**P**	**07 16 51.9**	**+0.5**
BMN	**Battle Mountai**	**54.61**	**291**	PFAKE		07 17 00.0	+8.0
BMN				LR	LR		
	comp=Z,708nm,22.0s,MS4.7						
KDAK	**Kodiak Island**	**54.83**	**326**	PFAKE		07 17 10.0	+17
KDAK				LR	LR		
	comp=Z,138nm,20.0s,MS4.0						
MOD	**Modoc**	**54.95**	**294**	*e*P	**P**	**07 16 54.3**	**-0.3**
	comp=Z,3.7nm,0.8s,mb4.5						
MOD				LR	LR		
	comp=Z,547nm,19.0s,MS4.7						
NVS	**Novosibirsk**	**55.10**	**40**	*i* P	**P**	**07 16 54.2**	**-1.2**
NVS				pmax	pmax		
	comp=Z,24nm,1.7s,mb5.0						
NVS				pmax	pmax		
	comp=N,26nm,2.0s						
WUAZ	**Wupatki**	**55.51**	**283**	*e*P	**P**	**07 16 58.9**	**+0.1**
	comp=N,13nm,1.3s,mb4.8						
HUMO	**Hull Mountain**	**55.66**	**297**	PFAKE		07 17 10.0	+10
HUMO				LR	LR		
	comp=Z,1µm,19.0s,MS5.0						
TIC	**Toumodi**	**55.81**	**148**	*e*P	**P**	**07 16 57.7**	**-3.4**
	comp=Z,31nm,0.7s,mb5.4						
DBIC	**Dimbokro**	**55.83**	**148**	P	**P**	**07 16 58.3**	**-3.0**
	comp=Z,5.8nm,0.7s,mb4.7,baz=340,slow=9.7,SNR=11						
DBIC				LR	LR	07 38 03.4	
	comp=Z,853nm,18.8s,MS4.9,baz=334,slow=33						
DBIC	**Dimbokro**	**55.83**	**148**	*e*P	**P**	**07 16 59.1**	**-2.2**
	comp=Z,23nm,1.4s,mb5.0						
DBIC				LR	LR		
	comp=Z,1µm,19.0s,MS4.9						
KIC	**Kosan Boka**	**56.15**	**148**	*e*P	**P**	**07 17 00.2**	**-3.4**
	comp=Z,22nm,0.7s,mb5.3						
LIC	**Lamto**	**56.20**	**148**	*e*P	**P**	**07 17 00.5**	**-3.5**
	comp=Z,102nm,1.8s,mb5.5						
LIC	**Lamto**	**56.20**	**148**	*e*P	**P**	**07 17 01.4**	**-2.6**
	comp=Z,11nm,0.8s,mb5.0						
YBH	**Yreka Blue Hor**	**56.22**	**296**	PFAKE		07 17 20.0	+16
YBH				LR	LR		
	comp=Z,1µm,21.0s,MS5.1						
LTX	**Lajitas**	**56.43**	**272**	PFAKE		07 17 20.0	+15
LTX				LR	LR		
	comp=Z,905nm,21.0s,MS4.8						
TXAR	**Lajitas Array**	**56.43**	**272**	P	**P**	**07 17 04.3**	**-1.0**
	comp=Z,1.0nm,0.8s,mb3.9,baz=65,slow=5.6,SNR=11						
TXAR				PcP	PcP	07 18 00.6	-1.6
	comp=Z,0.7nm,0.8s,baz=57,slow=4.1,SNR=4.2						
TXAR				LR	LR	07 40 37.9	
	comp=Z,1µm,18.3s,MS5.0,baz=20,slow=35						
TPH	**Tonopah**	**56.44**	**289**	*e*P	**P**	**07 17 05.1**	**-0.3**
	comp=Z,6.3nm,1.0s,mb4.6						
TPH				LR	LR		
	comp=Z,970nm,19.0s,MS4.9						
MNV	**Mina**	**56.61**	**290**	PFAKE		07 17 20.0	+13
MNV				LR	LR		
	comp=Z,861nm,19.0s,MS4.9						
NVAR	**Mina Array Bea**	**56.69**	**290**	P	**P**	**07 17 05.6**	**-1.6**
	comp=Z,2.2nm,0.7s,mb4.3,baz=58,slow=6.0,SNR=16						
NVAR				LR	LR	07 40 49.0	
	comp=Z,749nm,19.9s,MS4.8,baz=110,slow=35						
NVAR	**Mina Array Bea**	**56.69**	**290**	P	**P**	**07 17 05.6**	**-1.6**
NVAR				LR	LR	07 40 49.0	
KURK	**Kurchatov**	**56.83**	**46⇑**	*e*P	**P**	**07 17 06.6**	**-1.4**
TPNV	**Topopah Spring**	**56.84**	**288**	*e*P	**P**	**07 17 08.1**	**-0.1**
	comp=Z,4.9nm,1.0s,mb4.5						
TPNV				LR	LR		
	comp=Z,876nm,20.0s,MS4.8						
WDC	**Whiskeytown Da**	**57.04**	**295**	PFAKE		07 17 20.0	+10
WDC				LR	LR		
	comp=Z,1µm,22.0s,MS4.9						
TUC	**Tucson**	**57.73**	**280**	PFAKE		07 17 30.0	+15
TUC				LR	LR		
	comp=Z,958nm,21.0s,MS4.9						
CMB	**Columbia Colle**	**58.01**	**291**	PFAKE		07 17 30.0	+14
CMB				LR	LR		
	comp=Z,782nm,22.0s,MS4.8						
DAC	**Darwin (Calif)**	**58.03**	**288**	PFAKE		07 17 30.0	+13
DAC				LR	LR		
	comp=Z,629nm,19.0s,MS4.8						
SDV	**Santo Domingo**	**58.12**	**228**	PFAKE		07 17 30.0	+12
SDV				LR	LR		
	comp=Z,228nm,21.0s,MS4.3						
HOPS	**Hopland**	**58.54**	**294**	PFAKE		07 17 30.0	+10
HOPS				LR	LR		
	comp=Z,792nm,22.0s,MS4.8						
YAK	**Yakutsk**	**58.57**	**10**	PFAKE		07 17 30.0	+10
YAK				LR	LR		
	comp=Z,210nm,22.0s,MS4.2						
SAO	**San Andreas Ge**	**59.53**	**291**	PFAKE		07 17 40.0	+13
SAO				LR	LR		
	comp=Z,794nm,21.0s,MS4.8						
PFO	**Pinyon Flat Ob**	**59.58**	**285**	PFAKE		07 17 40.0	+13
PFO				LR	LR		
	comp=Z,302nm,21.0s,MS4.4						
MKAR	**Makanchi Array**	**61.44**	**46**	P	**P**	**07 17 39.0**	**-0.9**
	comp=Z,1.8nm,0.3s,mb4.7,baz=304,slow=10,SNR=1.9						
MKAR				LR	LR	07 44 28.4	
	comp=Z,295nm,18.1s,MS4.5,baz=319,slow=36						
AAK	**Ala-Archa**	**61.80**	**54⇓**	*e*P	**P**	**07 17 42.1**	**-0.3**
MA2	**Magadan**	**61.93**	**359**	*e*P	**P**	**07 17 42.4**	**-0.7**
	comp=Z,6.1nm,0.6s,mb4.9						
MA2				LR	LR		
	comp=Z,181nm,20.0s,MS4.2						
UNV	**Unalaska Valle**	**62.05**	**332**	PFAKE		07 18 00.0	+16
UNV				LR	LR		
	comp=Z,2µm,19.0s,MS5.2						
ROSC	**El Rosal**	**63.25**	**230**	P	**P**	**07 17 52.1**	**-0.4**
	comp=Z,5.8nm,0.5s,mb5.0,baz=204,slow=12,SNR=8.7						
WMQ	**Urumqi**	**65.96**	**44**	*e*P	**P**	**07 18 11.8**	**+2.3**
WMQ				AP	pP	07 18 16.5	+3.8
WMQ				XP	sP	07 18 18.8	+4.9
WMQ				PP	PP	07 20 39.5	+2.4
WMQ				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.8						
WMQ				LR	LR		
	comp=Z,225nm,21.0s,MS4.3						
SONM	**Songino Array**	**68.14**	**29**	P	**P**	**07 18 22.8**	**-0.5**
	comp=Z,7.6nm,1.2s,mb4.6,baz=329,slow=7.2,SNR=15						
OTAV	**Otavalo**	**69.11**	**232**	PFAKE		07 18 40.0	+10
OTAV				LR	LR		
	comp=Z,311nm,20.0s,MS4.5						
HIA	**Hailar**	**69.67**	**20**	PFAKE		07 18 40.0	+7.4
HIA				LR	LR		
	comp=Z,232nm,20.0s,MS4.4						
SAML	**Samuel**	**72.30**	**213**	*e*P	**P**	**07 18 47.5**	**-1.7**
	comp=Z,8.4nm,1.4s,mb4.5						
SAML				LR	LR		
	comp=Z,428nm,19.0s,MS4.7						
GTA	**Gaotai**	**74.00**	**37**	P	**P**	**07 18 58.4**	**-0.1**
GTA				AP	pP	07 19 01.9	+0.1
GTA				XP	sP	07 19 04.5	+1.6
GTA				PP	PP	07 21 45.4	-0.1
GTA				S	S	07 28 24.5	-5.0
GTA				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.5						
GTA				AMB	AMB		
	comp=Z,62nm,8.0s						
GTA				LR	LR		
	comp=N,75nm,19.8s,MS4.2						
GTA				LR	LR		
	comp=E,115nm,20.2s,MS4.2						
GTA				LR	LR		
	comp=Z,152nm,17.9s,MS4.3						
YSS	**Yuzh-Sakhalins**	**74.47**	**4**	PFAKE		07 19 10.0	+8.9
YSS				LR	LR		
	comp=Z,247nm,20.0s,MS4.5						
BDFB	**Brasilia**	**75.47**	**197**	P	**P**	**07 19 06.4**	**-1.0**
	comp=Z,1.9nm,0.6s,mb4.2,baz=42,slow=5.1,SNR=6.9						
BDFB				LR	LR	07 49 02.6	
	comp=Z,204nm,19.1s,MS4.5,baz=0.9,slow=33						
MDJ	**Mudanjiang**	**75.70**	**14**	PFAKE		07 19 20.0	+12
MDJ				LR	LR		
	comp=Z,188nm,20.0s,MS4.4						
BTO	**Baotou**	**75.82**	**29**	*e*P	**P**	**07 19 08.9**	**-0.1**
CN2	**Changchun**	**75.92**	**17**	*e*P	**P**	**07 19 09.1**	**-0.4**
CN2				*e*AP	pP	07 19 13.8	+1.1
CN2				*e*S	S	07 28 48.3	-2.4
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,160nm,14.0s,MS4.7						
CN2				LR	LR		
	comp=E,180nm,14.0s,MS4.7						
CN2				LR	LR		
	comp=Z,200nm,15.0s,MS4.5						
HHC	**Hu-ho-hao-te**	**75.98**	**28**	*e*P	**P**	**07 19 12.6**	**+2.7**
HHC				XP	sP	07 19 18.3	+4.1
HHC				PP	PP	07 22 05.8	+3.6
HHC				S	S	07 28 56.1	+4.7
HHC				XS		07 29 05.4	
HHC				SKS	SKS	07 29 17.8	-2.6
HHC				SCS	ScS	07 29 23.3	+2.2
HHC				PS	PS	07 29 34.3	+3.8
HHC				SS	SS	07 33 49.8	+2.7
HHC				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
HHC				AMB	AMB		
	comp=Z,103nm,5.0s						
HHC				LR	LR		
	comp=N,102nm,22.6s,MS4.3						
HHC				LR	LR		
	comp=E,148nm,19.6s,MS4.3						
HHC				LR	LR		
	comp=Z,95nm,23.2s,MS4.0						
BJI	**Beijing**	**77.83**	**25**	P	**P**	**07 19 23.3**	**+3.2**
BJI				S	S	07 29 02.0	-9.5
BJI				AMB	AMB		
	comp=Z,7.0nm,0.7s,mb4.7						
BJI				LR	LR		
	comp=N,200nm,19.3s,MS4.6						
BJI				LR	LR		
	comp=E,156nm,19.5s,MS4.6						
BJI				LR	LR		
	comp=Z,180nm,27.7s						
BJT	**Baijiatuau**	**77.85**	**25**	PFAKE		07 19 30.0	+10
BJT				LR	LR		
	comp=Z,280nm,20.0s,MS4.6						
LZH	**Lanzhou**	**78.31**	**36**	*e*P	**P**	**07 19 22.6**	**-0.3**
LZH				AP	pP	07 19 25.9	-0.2
LZH				PP	PP	07 22 20.8	-1.2
LZH				AMB	AMB		
	comp=Z,29nm,1.3s,mb5.0						
LZH				LR	LR		
	comp=N,263nm,15.0s						
LZH				LR	LR		
	comp=Z,319nm,17.8s,MS4.7						
KOLN	**Koldanda**	**78.32**	**55**	*e*P	**P**	**07 19 22.5**	**-0.6**
	comp=Z,15nm,0.9s,mb4.9						
GKN	**Gorkha**	**78.55**	**54**	*e*P	**P**	**07 19 24.3**	**-0.1**
	comp=Z,15nm,0.8s,mb5.0						
KKN	**Kakani**	**79.01**	**54**	*e*P	**P**	**07 19 27.6**	**+0.7**
	comp=Z,20nm,0.9s,mb5.0						
DMN	**Daman**	**79.10**	**54**	*e*P	**P**	**07 19 27.2**	**-0.2**
	comp=Z,12nm,0.5s,mb5.0						
PKI	**Pulchoki**	**79.26**	**54**	*e*P	**P**	**07 19 28.8**	**+0.6**
	comp=Z,8.1nm,0.7s,mb4.8						
KMBO	**Kilima Mbogo**	**79.95**	**109**	LR	LR	07 57 53.0	
	comp=Z,318nm,18.3s,MS4.7,baz=186,slow=38						
KMBO	**Kilima Mbogo**	**79.95**	**109**	PFAKE		07 19 40.0	+7.7
KMBO				LR	LR		
	comp=Z,339nm,21.0s,MS4.7						
LPAZ	**La Paz**	**80.72**	**216**	LR	LR	07 53 37.8	
	comp=Z,134nm,21.3s,MS4.3,baz=206,slow=34						
INCN	**Inchon**	**82.29**	**18**	PFAKE		07 20 00.0	+16
INCN				LR	LR		
	comp=Z,118nm,19.0s,MS4.3						
CD2	**Chengdu**	**83.07**	**38**	*e*P	**P**	**07 19 47.9**	**-0.3**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb5.0						
MAJO	**Matsushiro**	**84.58**	**9**	PFAKE		07 20 10.0	+14
MAJO				LR	LR		
	comp=Z,163nm,21.0s,MS4.4						
ENH	**Enshi**	**85.40**	**33**	PFAKE		07 20 10.0	+10
ENH				LR	LR		
	comp=Z,87nm,19.0s,MS4.2						
NJ2	**Nanjing**	**86.09**	**25**	*e*P	**P**	**07 20 03.6**	**+0.3**
NJ2				AP	pP	07 20 09.3	+2.7
NJ2				XP	sP	07 20 11.4	+3.7
NJ2				PP	PP	07 23 27.0	+1.7
NJ2				S	S	07 30 33.0	-2.9
NJ2				AMB	AMB		
	comp=Z,130nm,6.0s						
NJ2				LR	LR		
	comp=N,140nm,16.0s,MS4.5						
NJ2				LR	LR		
	comp=E,120nm,17.7s,MS4.5						
NJ2				LR	LR		
	comp=Z,120nm,13.6s,MS4.5						
WHN	**Wuhan**	**86.46**	**29**	*e*P	**P**	**07 20 03.5**	**-1.7**
TSUM	**Tsumeb**	**87.43**	**135**	PFAKE		07 20 20.0	+10
TSUM				LR	LR		
	comp=Z,381nm,20.0s,MS4.8						
SSE	**Sheshan**	**87.51**	**23**	P	**P**	**07 20 10.3**	**+0.1**
SSE				XP	sP	07 20 15.1	+0.5
SSE				S	S	07 30 47.3	-2.2
SSE				AMB	AMB		
	comp=Z,35nm,0.7s						
SSE				LR	LR		
	comp=N,81nm,24.7s,MS4.2						
SSE				LR	LR		
	comp=E,81nm,24.7s,MS4.2						
SSE				LR	LR		
	comp=Z,85nm,22.9s,MS4.1						
CPUP	**Villa Florida**	**87.57**	**203**	LR	LR	07 53 46.7	

	comp=Z,189nm,19.1s,MS4.5,baz=6.8,slow=32						
KMI	Kunming	88.09	41	eP	P	07 20 13.4	+0.3
KMI				AP	pP	07 20 17.1	+0.6
KMI				PP	PP	07 23 41.1	-1.3
KMI				SKS	SKS	07 30 39.5	-4.9
KMI				S	S	07 30 55.8	+0.7
KMI				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.3						
KMI				LR	LR		
	comp=N,142nm,20.2s,MS4.5						
KMI				LR	LR		
	comp=E,112nm,19.7s,MS4.5						
LSZ	Lusaka	88.16	124	PFAKE		07 20 30.0	+16
LSZ				LR	LR		
	comp=Z,1µm,21.0s,MS5.2						
MIDW	Midway	88.84	331	PFAKE		07 20 30.0	+13
MIDW				LR	LR		
	comp=Z,478nm,21.0s,MS4.9						
CMAR	Chiang Mai Arr	92.84	47	P	P	07 20 34.9	-0.5
	comp=Z,1.6nm,0.8s,mb4.5,baz=321,slow=5.2,SNR=6.7						
CMAR				LR	LR	08 04 40.5	
	comp=Z,121nm,19.3s,MS4.4,baz=305,slow=37						
TATO	Taipei	93.49	25	PFAKE		07 20 50.0	+12
TATO				LR	LR		
	comp=Z,154nm,19.0s,MS4.5						
QIZ	Qiongzhong	96.08	37	PFAKE		07 21 00.0	+10
QIZ				LR	LR		
	comp=Z,162nm,19.0s,MS4.5						
BOSA	Boshof	98.86	132	PFAKE		07 21 10.0	+7.4
BOSA				LR	LR		
	comp=Z,438nm,21.0s,MS4.9						
VNA1	Neumayer--Stat	130.20	170	e	PKPdf	07 26 35.6	+2.0
VNA2	Neumayer--Watz	130.54	170	e	PKPdf	07 26 34.7	+0.4
VNA3	Neumayer Olymp	130.66	171	e	PKPdf	07 26 35.1	+0.6
SNAA	Sanae	131.70	168	e	PKPdf	07 26 28.9	-7.6
SNAA	Sanae	131.70	168	ePKPdf	PKPdf	07 26 32.8	-3.6
WRA	Warramunga Arr	139.77	21	PKhKP		07 26 43.7	
	comp=Z,0.6nm,0.7s,baz=347,slow=3.0,SNR=7.2						
WRA				PKP	PKPdf	07 26 49.6	-3.1
	comp=Z,0.9nm,0.8s,baz=324,slow=2.5,SNR=4.6						
ASAR	Alice Springs	143.31	23	PKP	PKPdf	07 26 54.0	-4.7
	comp=Z,2.2nm,0.7s,baz=344,slow=2.3,SNR=26						
MAW	Mawson	143.41	140	PKP	PKPdf	07 26 52.8	-4.7
	comp=Z,2.4nm,0.8s,baz=305,slow=8.8,SNR=5.7						
QSPA	South Pole Qui	148.72	180	ePKP	PKPdf	07 27 07.6	+1.4
QSPA				LR	LR		
	comp=Z,130nm,21.8s,MS4.7						
URZ	Urewera	152.53	306	PKPbc	PKPdf	07 27 17.8	+4.6
	comp=Z,9.2nm,0.6s,baz=33,slow=2.7,SNR=8.0						
STKA	Stephens Creek	152.61	13	PKPbc	PKPdf	07 27 18.7	+5.2
	comp=Z,3.4nm,0.8s,baz=318,slow=6.1,SNR=6.8						
STKA	Stephens Creek	152.61	13	PKPbc	PKPdf	07 27 18.7	+5.2

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*IDC **17** 07:10:30.0±13.0, 19.62S×175.83W, h89^{km}±123^{km}, mb3.9/6, mb1 4.2/7, mb1mx3.9/16, ML4.6/1, Error ellipse: s-maj=47.5km s-min=27.6km az=172.0*

*NEIC **17** 07:10:49.9±6.2, 19.85S×175.96W, h274^{km}±58^{km}, mb4.0/6, Error ellipse: s-maj=26.9km s-min=24.4km az=194.0*

ISC 17 07:10:48.3±5.7**, 19.8S**±0.2×**176.0W**±0.2**, h275**^{km}±54^{km}**, n21, σ0^{s}90**/19**, mb3.9**/12**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	16.57	259	eP	P	07 14 27.0	+0.5
DZM	Mont Dzumac	16.57	259	eP	P	07 14 27.0	+0.5
NOUC	Port Laguerre	16.70	259	eP	P	07 14 28.0	0.0
URZ	Urewera	19.35	197	P	P	07 14 49.4	-5.6
	1.9nm,0.3s,baz=214,slow=5.3,SNR=9.4						
RPZ	Rata Peaks	26.21	202	P	P	07 15 59.7	-0.2
	10nm,0.7s,mb4.4,baz=29,slow=8.4,SNR=7.7						
CTAO	Charters Tower	35.44	263	eP	P	07 17 20.8	+0.3
	6.3nm,0.4s,mb4.5						
STKA	Stephens Creek	39.79	244	P	P	07 17 55.6	-0.9
	1.6nm,0.6s,mb3.5,baz=89,slow=12,SNR=5.1						
ASAR	Alice Springs	46.52	256	P	P	07 18 50.5	0.0
	11nm,0.6s,mb4.4,baz=95,slow=8.4,SNR=172						
ASPA	Alice Springs	46.52	256	eP	P	07 18 50.6	+0.1
WB2	Warramunga Arr	46.56	261	eP	P	07 18 50.1	-0.7
WRAB	Tennant Creek	46.56	261	eP	P	07 18 49.8	-1.0
	6.3nm,0.3s,mb4.4						
WRA	Warramunga Arr	46.57	261	P	P	07 18 50.2	-0.7
	3.0nm,0.3s,mb4.2,baz=94,slow=7.4,SNR=294						
FITZ	Fitzroy Crossi	54.99	261	eP	P	07 19 56.2	+2.6
	1.2nm,0.3s,mb3.8						
SBA	Scott Base	58.70	184	eP	P	07 20 19.4	+0.5
	1.3nm,0.8s,mb3.4						
MBWA	Marble Bar	59.85	257	eP	P	07 20 28.2	+0.8
	2.1nm,0.4s,mb4.0						
FX1	Attu Island--F	72.98	353	P	P	07 21 49.0	-0.5
	227nm,1.5s,baz=153,slow=10,SNR=2.6						
NVAR	Mina Array Bea	79.22	43	P	P	07 22 26.3	+1.7
	0.2nm,0.5s,mb3.1,baz=233,slow=9.0,SNR=2.9						
TXAR	Lajitas Array	85.09	57	P	P	07 22 53.5	-1.5
	0.3nm,0.8s,mb3.2,baz=233,slow=6.3,SNR=4.5						
SNAA	Sanae	88.65	178	eP	P	07 23 10.9	-0.1
	0.8nm,0.8s,mb3.6						
BRTR	Keskin Array B	147.73	314	PKPbc	PKPdf	07 30 04.1	+6.6
	1.2nm,0.9s,baz=63,slow=2.8,SNR=4.2						
GERES	GERESS Array B	149.98	347	PKPbc	PKPdf	07 30 08.9	+8.3
	0.5nm,0.5s,baz=76,slow=4.0,SNR=2.5						

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*NEIC **17** 07:28:16.4, 38.94N×24.33E, h36^{km}, MD3.2(ATH), After ATH.*

*ATH **17** 07:28:16.0, 38.89N×24.28E, h75^{km}±7^{km}, ML3.2*

*THE **17** 07:28:17.4, 39.03N×24.29E, h9^{km}, ML3.2*

ISC 17 07:28:16.5±0.7**, 38.93N**±0.03×**24.34E**±0.07**, h72**^{km}±14^{km}**, n22, σ0^{s}80**/30**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MPAR	Parnis Oros	0.91	212	eP	P	07 28 33.2	-1.1
MPAR				eS	S	07 28 47.5	0.0
NEO	Neokhori	0.95	294	eP	P	07 28 34.0	-0.7
NEO				eS	S	07 28 48.0	-0.2
PTL	Penteli	0.96	203	ePn	P	07 28 33.5	-1.3
PTL				eSn	S	07 28 48.5	0.0
XOR	Xorichti	0.99	296	ePg	P	07 28 34.6	-0.6
XOR				eSg	S	07 28 48.0	-1.3
ATH	Athens Observa	1.08	207	ePb	P	07 28 35.5	-0.9
ATH				eSn	S	07 28 52.5	+1.4
MKIT	Kithairon Oros	1.13	229	ePb	P	07 28 37.0	-0.1
MKIT				eSn	S	07 28 53.5	+1.1
LOS	Limnos	1.15	30	ePg	P	07 28 37.5	+0.2
NSAL	Nisos Salamina	1.24	214	eP	P	07 28 38.2	-0.3
NSAL				eS	S	07 28 55.0	+0.2
NAIG	Nisos Aigina	1.35	210	eP	P	07 28 40.5	+0.4
OUR	Ouranopolis	1.43	349	ePb	P	07 28 41.0	-0.1
PRK	Paraskevi	1.53	78	eP	P	07 28 43.5	+1.0
AGG	Agios Georgios	1.57	274	ePb	P	07 28 43.9	+0.9
AGG				eSb	S	07 29 04.6	+2.0
PLG	Polygyros	1.60	335	eP	P	07 28 43.5	+0.1
LIT	Litokhoron	1.85	310	ePb	P	07 28 46.9	+0.1
SOH	Sokhos	2.03	338	ePb	P	07 28 50.1	+0.8
APE	Apeiranthos	2.08	153	eP	P	07 28 50.0	0.0
SRS	Serrai	2.26	345	ePn	P	07 28 52.6	+0.2
KNT	Kendrikon	2.49	334	ePn	P	07 28 55.6	-0.1
ITM	Ithomi	2.59	228	eP	P	07 28 55.5	-1.6
MMB	Musomiste	2.69	350	P	P	07 28 58.0	-0.6
KKB	Krupnik	3.08	342	P	P	07 29 04.0	-0.1
VTS	Vitosha	3.75	347	i P	P	07 29 14.2	+0.8

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*NIED **17** 07:28:00, 25.90N×140.80E, h86^{km}, Mw4.2 Best double couple: M$_0$2.19×10^{15} NP1:ϕ_s35°, δ71°, λ66°. NP2:ϕ_s268°, δ30°, λ139°.*

*IDC **17** 07:28:48.6±0.7, 25.89N×140.95E, h129^{km}±5^{km}, mb4.0/22, mb1 4.1/24, mb1mx4.1/30, Error ellipse: s-maj=12.5km s-min=8.3km az=107.0*

*NEIC **17** 07:28:50.1±1.6, 25.88N×140.90E, h143^{km}±15^{km}, mb4.2/16, Error ellipse: s-maj=11.0km s-min=5.4km az=98.0*

*JMA **17** 07:28:50.5±0.1, 25.95N×140.84E, h99^{km}, M4.7*

ISC 17 07:28:47.2±0.7**, 25.86N**±0.04×**140.87E**±0.07**, h128**^{km}±5^{km}**, h126**^{km}±1.3^{km}**:pP-P, n67, σ0^{s}95**/69**, mb4.0**/35**, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHHJ	Haha-jima-NKT	1.41	57	P	P	07 29 15.4	+0.9
JHHJ				S	S	07 29 34.1	-1.2
CBIJ	Chichi jima	1.71	44	P	P	07 29 19.1	+1.1
	187nm,0.3s,baz=205,slow=3.1,SNR=58						
CBIJ				S	S	07 29 40.2	-1.1
	1µm,0.3s,baz=272,slow=24,SNR=43						
CBIJ	Chichi jima	1.71	44	P	P	07 29 19.0	+1.1
JHJ2	Mitsune	7.28	353	P	P	07 30 33.9	+1.7
JHJ	Hachijo jima 2	7.29	353	P	P	07 30 33.4	+1.0
	9.5nm,0.3s,baz=89,slow=22,SNR=4.1						
JHJ				S	S	07 31 54.7	+0.7
	10nm,0.3s,baz=280,slow=22,SNR=2.6						
BSO1	Boso 1	8.76	1	P	P	07 30 51.6	-0.4
BSO3	Boso 3	8.92	358	P	P	07 30 53.8	-0.3
BSO3				S	S	07 32 32.5	-0.7
BSO4	Boso 4	9.11	357	P	P	07 30 57.3	+0.7
JKN	Kiinagashima	9.26	336	P	P	07 30 57.6	-1.0
JOD2	Odawara 2	9.50	351	P	P	07 31 03.4	+1.6
JNY	Yasuok	9.81	345	P	P	07 31 08.9	+2.9
JAO	Obara	9.88	343	P	P	07 31 10.8	+4.0
JHU	Hanno	10.05	353	P	P	07 31 09.0	-0.2
JHU				S	S	07 32 57.9	-2.4
JRY	Ryogami san	10.26	351	P	P	07 31 12.4	+0.4
JAG	Ashikaga	10.60	354	P	P	07 31 14.7	-1.7
JHO	Hitachi	10.72	359	P	P	07 31 16.5	-1.5
MAJO	Matsushiro	10.89	349	ePn	P	07 31 20.9	+0.7
	10nm,0.3s						
ASAJ	Asahikawa	18.27	4	P	P	07 32 54.4	+1.1
	2.9nm,0.3s,baz=246,slow=7.1,SNR=16						
SONM	Songino Array	34.81	318	P	P	07 35 29.0	+1.7
	0.2nm,0.3s,mb3.2,baz=125,slow=7.8,SNR=6.5						
WRAB	Tennant Creek	45.96	189	eP	P	07 36 58.9	-0.3
	21nm,0.6s,mb4.9						
WB2	Warramunga Arr	45.97	189	eP	P	07 36 59.2	0.0
WRA	Warramunga Arr	45.97	189	P	P	07 36 59.0	-0.3
	16nm,0.7s,mb4.8,baz=10,slow=8.6,SNR=72						
CTA	Charters Tower	45.97	173	P	P	07 36 59.5	+0.2
	7.2nm,0.6s,mb4.5,baz=355,slow=9.1,SNR=10						
CTAO	Charters Tower	45.97	173	eP	P	07 36 58.8	-0.5
	7.7nm,0.7s,mb4.4						
FITZ	Fitzroy Crossi	46.14	200	eP	P	07 37 01.4	+0.8
	9.8nm,0.8s,mb4.5						
FITZ	Fitzroy Crossi	46.14	200	P	P	07 37 01.7	+1.0
	12nm,0.8s,mb4.6,baz=15,slow=7.9,SNR=40						
ASAR	Alice Springs	49.69	188	P	P	07 37 27.9	-0.3
	1.2nm,0.4s,mb3.9,baz=21,slow=10,SNR=24						
ASAR				PcP	PcP	07 38 46.5	-1.2
	2.0nm,1.1s,baz=18,slow=4.9,SNR=5.3						
ASPA	Alice Springs	49.69	188	eP	P	07 37 28.6	+0.5
MKAR	Makanchi Array	50.36	310	P	P	07 37 33.4	+0.5
	0.5nm,0.3s,mb3.6,baz=95,slow=9.2,SNR=9.8						
MKAR				pP	pP	07 38 02.0	-0.8
	0.3nm,0.8s,baz=117,slow=6.4,SNR=1.4						
MKAR				ScP		07 42 31.3	
	0.3nm,0.5s,baz=80,slow=3.7,SNR=3.7						
MBWA	Marble Bar	51.04	206	eP	P	07 37 38.3	-0.2
	3.7nm,0.6s,mb4.2						
STKA	Stephens Creek	57.42	179	P	P	07 38 23.5	-1.2
	2.5nm,0.4s,mb4.4,baz=334,slow=7.0,SNR=12						
BVAR	Borovoye Array	58.16	318	P	P	07 38 28.1	-1.4
	0.9nm,0.5s,mb3.9,baz=96,slow=7.4,SNR=4.9						
MCK	McKinley	58.38	29	P	P	07 38 30.1	-0.9
	1.5nm,0.8s,mb3.9						
ILAR	Eielson Array	59.36	28	P	P	07 38 36.3	-1.4
	1.9nm,0.8s,mb4.0,baz=255,slow=5.8,SNR=8.6						
ILAR				pP	pP	07 39 07.2	-1.4
	0.5nm,0.9s,baz=264,slow=5.3,SNR=2.1						
ILAR				PcP	PcP	07 39 23.0	-1.0
	0.4nm,0.6s,baz=274,slow=5.2,SNR=3.7						
INK	Inuvik	64.64	24	P	P	07 39 12.0	-0.8
	0.6nm,0.4s,mb3.8,baz=223,slow=6.0,SNR=5.4						
DLBC	Dease Lake	67.89	35	P	P	07 39 34.1	+0.6
	1.3nm,0.7s,mb3.8,baz=242,slow=25,SNR=2.9						
YKA	Yellowknife Ar	73.78	28	P	P	07 40 08.3	-0.4
	0.7nm,0.4s,mb3.7,baz=295,slow=6.0,SNR=3.9						
ARCES	ARCESS Array B	74.31	341	P	P	07 40 11.8	+0.2
	4.5nm,1.0s,mb4.2,baz=78,slow=8.3,SNR=3.1						
RPZ	Rata Peaks	74.58	158	P	P	07 40 11.9	-1.7
	10.0nm,0.8s,mb4.5,baz=28,slow=7.9,SNR=4.2						
YBH	Yreka Blue Hor	77.75	50	P	P	07 40 31.7	+0.2
	3.1nm,0.7s,mb4.0,baz=304,slow=3.3,SNR=9.1						
KAF	Kangasniemi	78.07	334	ep	P	07 40 31.6	-1.2
	0.8nm,0.4s,mb3.7						
FINES	FINESS Array B	78.53	334	P	P	07 40 34.6	-0.6
	2.6nm,0.4s,mb4.2,baz=70,slow=4.9,SNR=38						
NEW	Newport	78.61	42	P	P	07 40 36.7	+0.6
	4.7nm,0.5s,mb4.3,baz=316,slow=2.9,SNR=10						
NEW	Newport	78.61	42	eP	P	07 40 36.4	+0.3
	4.9nm,0.6s,mb4.3						
NVAR	Mina Array Bea	82.21	51	P	P	07 40 55.5	+0.2
	1.4nm,0.6s,mb3.8,baz=299,slow=4.6,SNR=16						
HLID	Hailey	82.44	45	eP	P	07 40 57.2	+0.7
	1.7nm,0.8s,mb3.7						
AKASG	Malin Array Be	82.91	323	P	P	07 40 57.3	-1.4
	0.2nm,0.2s,mb3.4,baz=44,slow=5.9,SNR=2.9						
BOZ	Bozeman (W)	83.16	42	eP	P	07 41 00.1	+0.1
	2.5nm,0.7s,mb4.0						
ELK	Elko	83.24	48	eP	P	07 41 01.3	+0.7
	1.3nm,0.4s,mb4.0						
HFS	Hagfors	84.08	336	P	P	07 41 02.9	-1.3
	2.0nm,0.8s,mb3.9,baz=56,slow=5.2,SNR=7.8						
NOA	NORSAR Array B	84.31	338	P	P	07 41 04.3	-1.1
	1.7nm,0.9s,mb3.8,baz=52,slow=4.3,SNR=2.7						
TPNV	Topopah Spring	84.34	52	eP	P	07 41 06.4	+0.3
	2.1nm,0.8s,mb3.9						
IMW	Indian Meadow	84.47	44	eP	P	07 41 07.6	+1.0
DUG	Dugway	85.13	48	eP	P	07 41 10.4	+0.4
	0.2nm,0.6s,mb3.0						
HWUT	Hardware Ranch	85.24	46	eP	P	07 41 10.4	-0.1
BW06	Boulder Array	85.92	44	eP	P	07 41 14.2	+0.4
PDAR	Pinedale Array	85.92	44	P	P	07 41 14.6	+0.8
	0.7nm,0.5s,mb3.6,baz=25,slow=1.2,SNR=8.8						
PDAR				pP	pP	07 41 46.9	+0.1
	0.3nm,0.6s,baz=270,slow=1.8,SNR=2.1						
RSSD	Black Hills	88.53	41	eP	P	07 41 27.3	+1.1
	1.2nm,0.6s,mb4.0						
PV01	Paradox Valley	89.02	48	eP	P	07 41 29.2	+0.5
SDCO	Great Sand Dun	91.25	47	eP	P	07 41 39.5	+0.3
	0.6nm,0.6s,mb3.8						
ANMO	Albuquerque	92.17	49	eP	P	07 41 44.1	+0.6
	2.1nm,1.1s,mb4.1						
TXAR	Lajitas Array	97.29	53	P	P	07 42 07.3	+0.4
	0.2nm,0.6s,mb3.6,baz=316,slow=2.1,SNR=6.1						
TXAR				pP	pP	07 42 40.4	+0.1
	0.1nm,0.6s,baz=326,slow=3.3,SNR=1.9						
TXAR	Lajitas Array	97.29	53	P	P	07 42 07.3	+0.4
TXAR				pP	pP	07 42 40.4	0.0
VAE	Valguarnera	99.39	320	P	P	07 42 16.8	+0.5
	7.8nm,0.4s,baz=45,slow=7.1,SNR=2.7						
PLCA	Paso Flores	150.03	128	PKPbc	PKPdf	07 48 23.4	+6.1
	3.8nm,0.7s,baz=245,slow=3.9,SNR=11						
LPAZ	La Paz	151.37	76	PKPbc	PKPdf	07 48 27.0	+7.1
	2.3nm,0.3s,baz=240,slow=1.7,SNR=3.0						
LPAZ	La Paz	151.37	76	PKPbc	PKPdf	07 48 27.0	+7.1

IDC 17 08:02:01.1±1.8**, 1.65N**×**127.43E, mb3.9**/4**, mb1 4.1**/5**, mb1mx3.8**/15**, ML4.1**/1**, Error ellipse: s-maj=98.4km s-min=24.4km az=68.0, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	19.70	185	P	P	08 06 32.5	-2.6
	0.4nm,0.3s,baz=9.0,slow=11,SNR=13						
WRA	Warramunga Arr	22.50	163	P	P	08 07 03.0	-1.0
	2.2nm,0.6s,baz=342,slow=11,SNR=7.2						
ASAR	Alice Springs	25.94	166	P	P	08 07 35.0	-2.1
	1.1nm,0.5s,baz=351,slow=7.2,SNR=21						
STKA	Stephens Creek	35.95	159	P	P	08 09 03.3	-2.3
	2.7nm,0.6s,baz=328,slow=10.0,SNR=8.8						
MKAR	Makanchi Array	59.65	326	P	P	08 12 07.5	-2.1
	0.3nm,0.3s,baz=105,slow=7.3,SNR=4.6						

MDD 17 08:34:35.0±0.7**, 36.61N**×**5.12E, mb4.1**/2**, Error ellipse: s-maj=10.9km s-min=5.9km az=33.0, PRXIMO, Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CKHR	Kef el Ahmar	0.67	152	P	Pg	08 34 48.0	-0.4
CASM	Ain Smara	1.16	107	P	Pb	08 34 56.0	-1.6
CMER	Merouana	1.17	147	P	Pb	08 34 55.0	-2.8
CTEI	Djebel Teioual	1.17	117	P	Pb	08 34 57.0	-0.9
CAEH	’Ain El Ouahch	1.40	82	P	Pb	08 35 03.0	+1.2
CMAH	Djebel Manchou	1.85	89	P	Pn	08 35 13.0	+4.7
EIBI	Ibiza	3.84	310	Pn	Pn	08 35 35.2	-1.5
	1.3nm,0.1s,SNR=7.9						
EIBI				Sn	Sn	08 36 19.2	-4.0
	7.2nm,0.3s,SNR=7.9						
EPOB	Poblet	5.69	328	Pn	Pn	08 35 59.1	-3.7
	1.1nm,0.1s,SNR=7.9						
EPOB				Sn	Sn	08 36 59.5	-10
	1.0nm,0.2s,SNR=7.9						
EMOS	Mosqueruela	5.77	312	Pn	Pn	08 36 00.5	-3.4
	SNR=4.0						

DHMR 17 08:53:39.2±1.0**, 12.20N**×**44.26E, h6**^{km}±6^{km}**, ML3.5, 3D, Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TRBA	At Turbah	1.01	352	i P	Pb	08 53 58.1	-0.7
TRBA				i S	Sb	08 54 14.1	+1.9
TRBA				AML	AML	08 54 21.0	
	comp=E,275nm,0.3s						
UDYN	Al ‘Udayn	1.78	352	⇓iP	Pn	08 54 11.8	+1.0
UDYN				i S	Sn	08 54 36.0	+2.0
UDYN				AML	AML	08 54 41.8	
	comp=E,7µm,0.5s						
LBOS		1.92	30	i P	Pn	08 54 14.2	+1.3
LBOS				i S	Sn	08 54 40.8	+3.2
BDHA	Al Bayda’	2.18	36	⇓iP	Pn	08 54 17.8	+1.3
BDHA				i S	Sn	08 54 47.6	+3.5
BDHA				AML	AML	08 54 56.8	
	comp=N,156nm,0.6s						
DHBB	Dhamar BB	2.35	3	⇓iP	Pn	08 54 20.6	+1.6
DHBB				i S	Sn	08 54 53.5	+4.9

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*JMA **17** 09:07:39.6±0.2, 24.99N×122.66E, h22^{km}, M3.2*

*TAP **17** 09:07:42.4, 24.78N×122.63E, h4^{km}, ML3.8*

*NEIC **17** 09:07:45.2±1.4, 24.82N×122.02E, h10^{km}, Error ellipse: s-maj=44.5km s-min=11.4km az=219.0*

*IDC **17** 09:07:45.4±1.7, 24.43N×121.32E, mb3.7/4, mb1 3.9/4, mb1mx3.6/20, Error ellipse: s-maj=143.0km s-min=20.9km az=65.0*

ISC 17 09:07:40.6±1.0**, 25.03N**±0.06×**122.85E**±0.07**, h4**^{km}**, n11, σ1^{s}11**/16**, mb3.9**/5**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	Yonaguni jima	0.59	165	P	Pg	09 07 51.4	-1.0
YOJ				eS	Sg	09 07 59.7	-0.6
IRIF	Iriomote-Funau	1.06	131	P	Pb	09 08 00.4	-0.8
IRIF				eS	Sb	09 08 15.2	0.0
HATJ	Hateruma jima	1.31	138	P	Pb	09 08 04.0	-1.4
HATJ				S	Sb	09 08 23.5	+1.2
JKRS	Kuro-shima	1.32	127	P	Pb	09 08 04.7	-0.9
JKRS				eS	Sb	09 08 23.1	+0.4
JIJ	Ishigaki jima	1.35	119	P	Pb	09 08 05.7	-0.5
JTJ	Tarama	1.73	103	P	Pn	09 08 11.0	-0.7
JTJ				S	Sn	09 08 35.1	+0.7
SONM	Songino Array	26.22	334	P	P	09 13 22.3	+4.2
	0.9nm,0.9s,mb3.3,baz=135,slow=10,SNR=7.1						
MKAR	Makanchi Array	38.80	315	P	P	09 15 06.8	-1.4
	0.3nm,0.6s,mb3.2,baz=117,slow=9.1,SNR=3.3						
WRAB	Tennant Creek	46.08	165	eP	P	09 16 09.3	+1.6
	7.3nm,0.8s,mb4.7						
WRA	Warramunga Arr	46.08	165	P	P	09 16 09.1	+1.3
	3.6nm,0.8s,mb4.3,baz=346,slow=8.1,SNR=21						
ASAR	Alice Springs	49.58	167	P	P	09 16 37.3	+2.3
	0.6nm,0.6s,mb3.8,baz=349,slow=9.2,SNR=7.2						

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*NEIC **17** 09:21:30.4±0.8, 6.32S×155.46E, h105^{km}, mb4.8/4, Error ellipse: s-maj=26.5km s-min=13.5km az=122.0*

*IDC **17** 09:21:54.7±13.0, 6.73S×155.33E, h347^{km}±144^{km}, mb3.3/7, mb1 3.4/8, mb1mx3.4/13, Error ellipse: s-maj=48.8km s-min=41.2km az=19.0*

ISC 17 09:21:44.2±6.5**, 6.3S**±0.2×**155.1E**±0.2**, h238**^{km}±60^{km}**, n18, σ1^{s}07**/18**, mb4.1**/13**, 1D, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	Charters Tower	16.12	211	P	P	09 25 20.1	+0.5
	0.3nm,0.3s,baz=40,slow=16,SNR=3.1						
KAKA	Kakadu	23.23	253	⇓iP	P	09 26 33.3	+1.6
	25nm,0.4s,mb5.1						
WRAB	Tennant Creek	24.24	234	eP	P	09 26 40.9	-0.2
	21nm,0.6s,mb4.9						
WB2	Warramunga Arr	24.25	234	eP	P	09 26 41.3	+0.1
WRA	Warramunga Arr	24.25	234	P	P	09 26 41.8	+0.6
	14nm,0.4s,mb5.0,baz=57,slow=10,SNR=182						
ASAR	Alice Springs	26.66	228	P	P	09 27 02.4	-0.9
	0.9nm,0.4s,mb3.8,baz=57,slow=8.8,SNR=13						
STKA	Stephens Creek	28.35	205	P	P	09 27 15.0	-3.4
	1.7nm,0.9s,mb3.7,baz=15,slow=12,SNR=2.2						
STKA	Stephens Creek	28.35	205	P	P	09 27 15.0	-3.4
FITZ	Fitzroy Crossi	30.99	245	eP	P	09 27 40.2	-1.6
	7.9nm,0.4s,mb4.7						
MBWA	Marble Bar	37.23	243	eP	P	09 28 33.7	-1.1
	6.3nm,0.5s,mb4.4						
CMAR	Chiang Mai Arr	60.58	295	P	P	09 31 32.9	+0.8
	1.2nm,0.6s,mb3.7,baz=129,slow=5.4,SNR=6.4						
SONM	Songino Array	68.84	327	P	P	09 32 24.9	+0.3
	1.0nm,0.4s,mb3.8,baz=142,slow=5.5,SNR=14						
ILAR	Eielson Array	82.74	22	P	P	09 33 40.5	-1.8
	0.4nm,0.9s,mb3.2,baz=247,slow=4.9,SNR=4.5						
MKAR	Makanchi Array	82.97	319	P	P	09 33 44.0	+0.1
	1.5nm,0.6s,mb3.9,baz=107,slow=5.8,SNR=19						
MKAR	Makanchi Array	82.97	319	P	P	09 33 44.0	+0.1
QSPA	South Pole Qui	83.63	180	eP	P	09 33 48.1	+1.6
	1.3nm,0.5s,mb3.9						
INK	Inuvik	89.09	21	P	P	09 34 13.7	+0.6
	0.6nm,0.6s,mb3.6,baz=243,slow=2.3,SNR=3.1						
INK	Inuvik	89.09	21	eP	P	09 34 13.8	+0.7

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*NEIC **17** 09:28:41.9, 34.02S×70.13W, h8^{km}, ML2.9(GUC), After GUC.*

GUC 17 09:28:41.9±0.6**, 34.02S**×**70.13W, h8**^{km}±1^{km}**, MD3.7, ML2.9, 9C-4D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LMEL	Las Melosas	0.19	341	⇑iP	Pg	09 28 46.4	+0.5
LMEL				i S	Sg	09 28 49.8	+1.2
LMEL				AMP		09 28 50.1	
	comp=E,7µm,0.3s						
CICH	Cipreses	0.38	219	⇑iP	Pg	09 28 49.6	-0.1
CICH				i S	Sg	09 28 55.2	+0.4
CACH	El Canelo	0.40	256	⇑iP	Pg	09 28 50.2	+0.2
CACH				i S	Sg	09 28 56.5	+1.0
SJCH	San Jose de Ma	0.42	334	⇑iP	Pg	09 28 49.9	-0.7
SJCH				i S	Sg	09 28 56.6	+0.3
SJCH				AMP		09 28 56.9	
	comp=E,1µm,0.2s						
CHCH	Chadas Angostu	0.44	282	⇓iP	Pg	09 28 51.2	+0.4
CHCH				i S	Sg	09 28 58.1	+1.2
ANTU	Antumapu	0.62	317	⇓iP	Pg	09 28 54.5	+0.1
ANTU				i S	Sg	09 29 03.7	+1.1
ANTU				AMP		09 29 04.1	
	comp=N,1µm,0.2s						
FSR	Penalolen	0.64	329	⇑iP	Pg	09 28 54.6	-0.1
FSR				i S	Sg	09 29 04.1	+0.8
FSR				AMP		09 29 05.5	
	comp=N,977nm,0.3s						
FCH	Farellones	0.71	349	⇑iP	Pb	09 28 55.5	-0.5
FCH				i S	Sg	09 29 06.1	+0.5
FCH				AMP		09 29 07.3	
	comp=N,788nm,0.3s						
CLCH	Cerro Calan	0.71	332	⇑iP	Pb	09 28 55.9	-0.2
CLCH				i S	Sg	09 29 06.5	+0.8
CLCH				AMP		09 29 08.7	
	comp=E,1µm,0.5s						
CLCH				AMP		09 29 09.3	
	comp=E,2µm,0.5s						
DSCH	Colegio Aleman	0.72	330	⇓iP	Pb	09 28 56.2	-0.1
DSCH				i S	Sb	09 29 06.9	+0.9
DSCH				AMP		09 29 07.6	
	comp=N,2µm,0.4s						
STL	Santa Lucia	0.72	324	⇑iP	Pb	09 28 56.0	-0.3
STL				i S	Sb	09 29 06.6	+0.5
STL				AMP		09 29 07.1	
	comp=N,544nm,0.3s						
RCDM	Rinconada Maip	0.78	313	eP	Pb	09 28 57.0	-0.2
RCDM				i S	Sb	09 29 08.3	+0.8
RCDM				AMP		09 29 09.8	
	comp=N,766nm,0.1s						
PEL	Peldehue	0.99	332	⇑iP	Pb	09 29 01.0	+0.2

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
PEL				iS	Sb	09 29 14.9	+1.0
LNV	Longovilo	1.07	273	⇓iP	Pb	09 29 01.8	-0.3
LNV				iS	Sb	09 29 16.3	+0.3

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*BER **17** 10:23:32.0±4.1, 56.90N×24.67E, ML2.4(NAO), Suspected explosion*

*NAO **17** 10:23:33.5±4.5, 57.08N×24.47E, ML2.4*

HEL 17 10:23:28.9±0.8**, 56.81N×24.78E, ML2.1, Explosion, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PVF	Pernaja	3.79	8	eSG	Sg	10 25 24.5	-10
VJF	Virojoki	4.01	20	ePG	Pg	10 24 40.6	-8.3
VJF				eS	Sn	10 25 17.2	-4.1
VJF				eSG	Sg	10 25 32.9	-9.4
FIA0	FINESS Array S	4.69	8	Pn	Pn	10 24 42.0	-0.7
	baz=188,slow=12						
FIA0				Pg	Pg	10 24 52.8	-10
	baz=182,slow=18						
FIA0				Sn	Sn	10 25 35.8	-2.9
	baz=185,slow=22						
FIA0				Lg		10 25 52.8	
	baz=193,slow=28						
FIA0	FINESS Array S	4.69	8	ePG	Pg	10 24 53.0	-10
FIA0				eS	Sn	10 25 34.0	-4.6
FIA0				eSG	Sg	10 25 52.9	-12
KEF	Keuruu	5.37	0	eS	Sn	10 25 50.1	-5.6
KEF				eSG	Sg	10 26 14.7	-13
KAF	Kangasniemi	5.37	8	eS	Sn	10 25 50.8	-5.0
KAF				eSG	Sg	10 26 13.6	-14
KAF				MSG		10 26 17.7	
	comp=Z,1.5nm,0.3s						
SUF	Sumiainen	5.97	6	eS	Sn	10 26 05.3	-5.3
SUF				eSG	Sg	10 26 31.1	-16
SUF				MSG		10 26 33.8	
	comp=Z,1.9nm,0.5s						
HFS	Hagfors	6.70	304	Pn	Pn	10 25 07.5	-3.4
	baz=126,slow=12						
HFS				Sn	Sn	10 26 20.9	-8.1
	baz=96,slow=28						
HFS				Lg		10 26 55.0	
	baz=112,slow=37						

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*IDC **17** 10:25:14.0±0.7, 7.85N×127.43E, $h36^{km}\pm5^{km}$, mb4.0/11, mb1 4.1/11, mb1mx3.9/21, MS3.2/1, Ms1 3.4/1, ms1mx2.6/25, Error ellipse: s-maj=33.8km s-min=11.2km az=74.0*

*MAN **17** 10:25:15.9, 7.25N×127.19E, $h79^{km}$, mb4.2, ML3.1, MS2.8*

*NEIC **17** 10:25:16.6±6.7, 7.85N×127.43E, $h60^{km}\pm65^{km}$, mb4.3/4, Error ellipse: s-maj=26.4km s-min=10.7km az=69.0*

ISC 17 10:25:12.8±2.0**, 7.88N**±0.07×**127.5E**±0.1**,** $h44^{km}\pm19^{km}$, $h37^{km}\pm1.2^{km}$**:pP-P, n24,** $\sigma1^{s}10$/26**, mb4.1**/13**, MS3.1**/1**, 2C, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BIPH	Bislig	1.14	285	⇑iP	P	10 25 39.9	+7.4
BIPH				iS	S	10 25 45.2	-2.0
BUTP	Butuan	2.13	301	eP	P	10 25 45.9	-0.7
BUTP				eS	S	10 26 13.1	+1.2
BUKP	Musuan	2.39	270	eP	P	10 25 51.5	+1.2
KCP	Kidapawan	2.52	250	⇑eP	P	10 25 53.7	+1.5
SCPH	Surigao	2.72	314	iP	P	10 25 53.9	-1.2
SCPH				iS	S	10 26 27.3	+0.3
GSPH	General Santos	3.07	235	eP	P	10 25 52.0	-8.1
BESP	Borongan	4.21	332	eP	P	10 26 25.4	+9.3
JNU	Nakatsue	25.31	7	P	P	10 30 38.6	+1.6
	8.1nm,1.0s,mb4.2,baz=220,slow=7.9,SNR=4.8						
FITZ	Fitzroy Crossi	25.88	184	eP	P	10 30 44.7	+2.2
	2.4nm,0.6s,mb3.9						
FITZ	Fitzroy Crossi	25.88	184	P	P	10 30 43.8	+1.3
	3.4nm,0.7s,mb4.0,baz=9.2,slow=12,SNR=9.0						
WRAB	Tennant Creek	28.46	166	eP	P	10 31 07.8	+1.9
	5.4nm,0.6s,mb4.3						
WRA	Warramunga Arr	28.46	166	P	P	10 31 04.7	-1.4
	0.9nm,0.5s,mb3.6,baz=350,slow=9.7,SNR=12						
WRA				sP	sP	10 31 20.8	-2.5
	5.2nm,0.9s,baz=347,slow=10,SNR=7.7						
WB2	Warramunga Arr	28.46	166	eP	P	10 31 04.9	-1.2
CMAR	Chiang Mai Arr	29.65	294	P	P	10 31 15.4	-1.2
	0.5nm,0.3s,mb3.7,baz=84,slow=8.2,SNR=2.8						
CMAR				LR	LR	10 42 59.4	
	comp=Z,44nm,18.0s,MS3.1,baz=114,slow=36						
ASAR	Alice Springs	31.98	169	P	P	10 31 36.4	-0.7
	0.7nm,0.7s,mb3.6,baz=17,slow=12,SNR=9.6						
ASAR				pP	pP	10 31 47.3	-1.7
	0.9nm,0.7s,baz=11,slow=9.5,SNR=6.3						
ASAR				PcP	PcP	10 34 26.6	+0.1
	0.6nm,0.5s,baz=347,slow=2.4,SNR=6.5						
CTA	Charters Tower	33.38	147	P	P	10 31 49.1	-0.2
	4.6nm,0.9s,mb4.4,baz=54,slow=14,SNR=2.4						
CTAO	Charters Tower	33.38	147	P	P	10 31 49.5	+0.2
	2.9nm,0.6s,mb4.4						
NWAO	Narrogin (SRO)	41.73	193	P	P	10 32 59.1	-0.3
	3.8nm,0.7s,mb4.1,baz=165,slow=13,SNR=3.7						
STKA	Stephens Creek	41.77	162	P	P	10 32 59.3	-0.4
	10.0nm,0.8s,mb4.5,baz=344,slow=5.6,SNR=13						
SONM	Songino Array	43.66	339	P	P	10 33 15.4	+0.5
	2.9nm,0.9s,mb4.0,baz=162,slow=6.4,SNR=19						
SONM				pP	pP	10 33 26.2	-0.9
	1.9nm,0.8s,baz=146,slow=8.9,SNR=7.9						
MKAR	Makanchi Array	54.64	323	P	P	10 34 39.1	-0.3
	2.2nm,0.6s,mb4.4,baz=124,slow=7.8,SNR=17						
MKAR				pP	pP	10 34 49.5	-2.4
	3.6nm,0.7s,baz=121,slow=7.1,SNR=11						
ZRNK	Zerenda	65.04	325	eP	P	10 35 51.0	+0.3
	3.4nm,0.8s,mb4.4						
ILAR	Eielson Array	81.06	26	P	P	10 37 23.9	-0.5
	0.5nm,0.7s,mb3.6,baz=254,slow=6.6,SNR=4.1						
TXAR	Lajitas Array	118.45	51	PKP	PKPdf	10 43 59.2	+3.0
	0.5nm,1.1s,baz=315,slow=1.3,SNR=2.9						

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*IDC **17** 10:41:19.5±2.1, 16.62S×176.66E, mb3.8/5, mb1 4.1/5, mb1mx3.9/13, MS3.6/3, Ms1 3.6/3, ms1mx3.3/15, Error ellipse: s-maj=126.0km s-min=24.7km az=146.0*

*NEIC **17** 10:41:29.3±1.0, 16.42S×176.41E, $h70^{km}$, mb4.4/1, Error ellipse: s-maj=43.1km s-min=21.3km az=145.0*

ISC 17 10:41:23.8±1.0**, 16.4S**±0.3×**176.4E**±0.2**,** $h33^{km}$**, n8,** $\sigma1^{s}12$/7**, mb3.9**/6**, MS3.5**/3**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	Nonsavu	2.01	130	Pn	Pn	10 41 46.3	-10
	14µm,0.4s						
URZ	Urewera	21.75	179	LR	LR	10 53 07.2	
	comp=Z,99nm,19.1s,MS3.2,baz=130,slow=33						
STKA	Stephens Creek	35.13	238	P	P	10 48 16.9	+0.5
	0.9nm,0.4s,mb4.0,baz=289,slow=16,SNR=2.4						
STKA				LR	LR	11 00 34.6	
	comp=Z,170nm,20.0s,MS3.8,baz=26,slow=33						
WRA	Warramunga Arr	40.08	258	P	P	10 48 57.2	-0.7
	0.8nm,0.8s,mb3.5,baz=93,slow=8.9,SNR=3.6						
ASAR	Alice Springs	40.48	253	P	P	10 49 01.1	-0.2
	1.0nm,0.8s,mb3.6,baz=81,slow=8.7,SNR=8.5						
ASAR				LR	LR	11 05 37.7	
	comp=Z,64nm,19.3s,MS3.5,baz=88,slow=36						
QSPA	South Pole Qui	73.61	180	eP	P	10 52 55.2	+0.2
	6.1nm,1.1s,mb4.4						
NVAR	Mina Array Bea	81.87	46	P	P	10 53 40.2	-1.3
	0.9nm,1.1s,mb3.6,baz=234,slow=7.8,SNR=3.2						
ILAR	Eielson Array	85.65	15	P	P	10 54 01.4	+1.4
	0.6nm,0.8s,mb3.9,baz=230,slow=6.3,SNR=7.8						

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*TAP **17** 10:51:18.7, 24.56N×122.77E, $h79^{km}\pm1^{km}$, ML3.0*

JMA 17 10:51:20.1±0.1**, 24.64N×122.56E,** $h92^{km}$**, M1.7, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.45	113	P	P	10 51 34.7	-0.1
YOJ				S	S	10 51 45.6	-0.2
IRIF	Iriomote-Funau	1.11	106	P	P	10 51 41.0	-0.5
IRIF				eS	S	10 51 57.1	-0.4
HATJ	Hateruma jima	1.27	117	eS	S	10 52 01.0	-0.2
JKRS	Kuro-shima	1.38	107	P	P	10 51 44.9	0.0
JKRS				eS	S	10 52 03.5	+0.2
JIJ	Ishigaki jima	1.47	100	P	P	10 51 45.7	-0.3
JIJ				eS	S	10 52 04.5	-0.6
JTJ	Tarama	1.95	90	P	P	10 51 52.6	+0.4
JTJ				eS	S	10 52 16.2	+0.3
JOGS	Gusukube	2.59	87	eS	S	10 52 31.3	-0.4

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*ATH **17** 10:52:59.4, 38.98N×21.55E, $h17^{km}$, MD3.0/3*

*THE **17** 10:53:00.8, 38.82N×21.61E, $h7^{km}$, ML2.9*

ISC 17 10:53:00.2±1.0**, 38.86N**±0.09×**21.60E**±0.06**,** $h8^{km}\pm9^{km}$**, n8,** $\sigma0^{s}59$/11**, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EVR	Evrytania	0.17	72	ePB	Pb	10 53 04.5	-0.7
EVR				eSB	Sb	10 53 08.0	-0.4
AGG	Agios Georgios	0.59	74	ePg	Pg	10 53 11.8	-0.4
AGG				eSg	Sg	10 53 21.1	+1.0
LKD	Levkas	0.76	258	ePg	Pg	10 53 15.2	-0.1
MEV	Metsovon	0.96	343	ePg	Pg	10 53 19.6	+0.1
VLS	Valsamata	1.05	229	ePB	Pb	10 53 19.2	-0.9
VLS				eSN	Sn	10 53 36.9	+1.0
XOR	Xorichti	1.34	67	ePb	Pb	10 53 24.9	-0.2
NEO	Neokhori	1.34	70	ePN	Pn	10 53 25.5	+0.3
LIT	Litokhoron	1.42	29	ePb	Pb	10 53 26.7	+0.3

TIF 17 11:00:26.2, 40.75N×46.13E, $h14^{km}$**, Mpv4.1, 1D, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VAD	Vardenisi	0.64	209	iP	Pb	11 00 42.0	+3.4
VAD				iS	Sb	11 00 52.0	+5.0
DUS	Dusheti	1.72	322	⇓iP	Pn	11 01 03.2	+7.3
DUS				iS	Sn	11 01 26.8	+9.1
AKH	Akhalkalaki	2.10	289	iS	Sn	11 01 35.8	+8.3

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*NEIC **17** 11:10:05.5, 36.64N×3.17E, MG3.5(MDD), After MDD.*

MDD 17 11:10:03.5±0.5**, 36.39N×3.32E,** $h7^{km}\pm9^{km}$**, mb4.0**/4**, Error ellipse: s-maj=7.2km s-min=5.5km az=106.0, PRXIMO, Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ADJB	Djebel Djouab	0.24	158	P	Pg	11 10 08.3	-0.3
EMHD	Djebel Mahouad	0.35	239	P	Pg	11 10 10.0	-0.6
AKET	Djebel Ketaf	0.56	126	P	Pg	11 10 13.8	-1.1
ECHF	Ech Chlef	1.62	262	P	Pn	11 10 33.6	+0.9
EANR	'Ain N'Sour	1.85	257	P	Pn	11 10 34.5	-1.5
ETRT	Tiaret	1.92	239	P	Pn	11 10 36.5	-0.5
EIBI	Ibiza	3.07	330	P	Pn	11 10 50.5	-3.0
	0.1nm,0.3s,SNR=7.9						
EIBI				S	Sn	11 11 23.0	-7.9
	3.9nm,0.2s,SNR=7.9						
EBEN	Beniarda	3.65	310	P	Pn	11 11 00.8	-0.9
	6.1nm,0.6s,SNR=7.9						
EBEN				S	Sn	11 11 37.4	-8.1
	6.6nm,0.6s,SNR=7.9						
EMUR	La Murta	3.93	293	P	Pn	11 11 00.4	-5.2
	14nm,0.4s,SNR=7.9						
ETOB	Tobarra	4.48	302	P	Pn	11 11 09.9	-3.6
	6.4nm,0.7s,SNR=7.7						
ETOB				S	Sn	11 11 59.1	-7.5
	7.1nm,0.4s,SNR=7.9						
EMOS	Mosqueruela	4.97	324	P	Pn	11 11 16.5	-3.9
	1.9nm,0.3s,SNR=7.9						

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*NEIC **17** 11:11:22.5±1.9, 14.30N×93.56E, $h44^{km}\pm18^{km}$, mb4.3/5, Error ellipse: s-maj=20.8km s-min=7.8km az=211.0*

*IDC **17** 11:11:22.8±1.0, 14.72N×95.23E, mb3.9/7, mb1 4.2/7, mb1mx3.9/17, Error ellipse: s-maj=28.0km s-min=18.6km az=77.0*

ISC 17 11:11:18.5±4.0**, 14.20N**±0.07×**93.57E**±0.08**,** $h27^{km}\pm32^{km}$**, n18,** $\sigma0^{s}59$/18**, mb4.1**/7**, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PBA	Port Blair	2.66	198	eP	Pn	11 12 07.5	+6.9
PBA				eS	Sn	11 12 32.0	-0.3
CM31	Chiang Mai Arr	6.67	50	ePn	Pn	11 12 57.4	+0.1
	6.4nm,0.4s						
CMAR	Chiang Mai Arr	6.67	50	Pg	Pn	11 12 57.2	-0.1
	1.8nm,0.3s,baz=238,slow=14,SNR=42						
CMAR				Lg		11 14 08.0	
	1.5nm,0.3s,baz=238,slow=33,SNR=6.4						
PKI	Pulchoki	15.32	332	eP	P	11 14 55.6	+0.8
	12nm,0.3s						
DMN	Daman	15.50	331	eP	P	11 14 57.0	-0.1
	15nm,0.4s						
KKN	Kakani	15.57	332	eP	P	11 14 58.2	+0.2
GKN	Gorkha	16.05	330	eP	P	11 15 03.5	-0.7
	10.0nm,0.2s						
KOLN	Koldanda	16.39	327	eP	P	11 15 08.5	+0.1
	15nm,0.4s						
MKAR	Makanchi Array	33.84	346	P	P	11 18 05.4	+4.7
	0.3nm,0.3s,mb3.6,baz=172,slow=10,SNR=14						
MKAR	Makanchi Array	33.84	346	P	P	11 18 05.4	+4.7
SONM	Songino Array	35.19	15	P	P	11 18 10.9	-1.3
	0.4nm,0.5s,mb3.6,baz=202,slow=6.7,SNR=4.2						
WRA	Warramunga Arr	52.53	129	P	P	11 20 31.8	-0.2
	2.3nm,0.9s,mb4.1,baz=314,slow=8.1,SNR=31						
WRAB	Tennant Creek	52.53	129	eP	P	11 20 31.4	-0.6
	2.3nm,0.4s,mb4.5						
ASAR	Alice Springs	54.51	133	P	P	11 20 47.4	+0.8
	0.6nm,0.5s,mb3.9,baz=310,slow=7.0,SNR=24						
STKA	Stephens Creek	64.93	136	P	P	11 21 58.9	+0.7
	1.7nm,0.7s,mb4.2,baz=300,slow=9.3,SNR=3.8						
STKA	Stephens Creek	64.93	136	P	P	11 21 58.9	+0.7
GERES	GERESS Array B	72.80	317	P	pP	11 22 59.4	+4.3
	0.7nm,0.6s,baz=83,slow=7.9,SNR=4.0						
ILAR	Eielson Array	89.12	22	P	P	11 24 12.9	+0.5
	4.9nm,1.5s,mb4.6,baz=277,slow=7.3,SNR=4.1						

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*HEL **17** 11:18:52.2±0.0, 69.39N×30.76E, ML1.8, ML2.1(NAO), Explosion*

*NAO **17** 11:18:53.2±1.3, 69.29N×30.52E, ML2.1*

*BER **17** 11:18:53.9±2.8, 69.29N×30.51E, ML2.1(NAO), Suspected explosion*

ISC 17 11:18:51.0±1.1**, 69.35N**±0.06×**30.7E**±0.2**, n13,** $\sigma1^{s}10$/21**, Norway-Murmansk border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEV	Kevo	1.35	290	eP	Pb	11 19 16.8	0.0
KEV				eS	Sb	11 19 34.4	-0.2
ARA0	ARCESS Array S	1.83	278	ePN	Pn	11 19 25.2	+1.3
ARA0				eS	Sn	11 19 48.9	+0.7
ARA0				eRG		11 19 59.9	
ARA0	ARCESS Array S	1.83	278	Pn	Pn	11 19 25.2	+1.3
	baz=101,slow=18						
ARA0				Lg		11 19 48.9	
	baz=91,slow=28						
ARA0				Rg		11 19 59.9	
	baz=98,slow=37						
APA0	Apatity Array	1.95	153	ePB	Pb	11 19 26.9	-0.2
APA0				eS	Sn	11 19 51.9	+0.8
APA0	Apatity Array	1.95	153	Pn	Pb	11 19 26.9	-0.2
	baz=331,slow=12						
APA0				Lg		11 19 51.9	
	baz=318,slow=37						
SGF	Sodankyl	2.45	221	eP	Pn	11 19 34.2	+1.4
SGF				eS	Sn	11 20 05.0	+1.1
MSF	Maaselka	3.50	191	eP	Pn	11 19 48.7	+0.8
MSF				eS	Sn	11 20 30.0	-0.7
MSF				e		11 20 46.8	
MSF				MSG		11 20 49.6	
	comp=Z,1.7nm,0.3s						
KIF	Kilpisjarvi	3.54	269	eP	Pn	11 19 48.8	+0.5
KIF				eS	Sn	11 20 30.3	-1.2
OUL	Oulu	4.66	206	eP	Pn	11 20 04.8	+0.5
OUL				eS	Sn	11 20 57.9	-2.1
OUL				eSG	Sg	11 21 17.1	-9.1
OUL				MSG		11 21 19.7	
	comp=Z,1.5nm,0.4s						
FIA0	FINESS Array S	8.16	196	Pn	P	11 20 51.8	-1.7
	baz=20,slow=10						
FIA0	FINESS Array S	8.16	196	eP	P	11 20 51.8	-1.7
SPA0	Spitsbergen Ar	9.69	342	Pn	P	11 21 11.8	-2.6
	baz=147,slow=18						
SPA0	Spitsbergen Ar	9.69	342	eP	P	11 21 11.8	-2.6

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*IDC **17** 11:25:44.5±0.4, 15.76N×95.62E, mb5.0/23, mb1 5.1/24, mb1mx5.1/24, ML5.2/1, MS5.5/15, Ms1 5.5/15, ms1mx5.4/19, Error ellipse: s-maj=10.4km s-min=8.5km az=38.0*

*BJI **17** 11:25:46.2, 15.58N×95.65E, $h34^{km}$, mB5.4, mb5.4, Ms6.2, Msz6.1*

*SYO **17** 11:25:47.9, 15.76N×95.82E, $h15^{km}$, MB5.6, MS5.8*

*NEIC **17** 11:25:48.2±0.1, 15.81N×95.88E, $h15^{km}$, mb5.5/114, MS5.8/115, MW5.7, Error ellipse: s-maj=6.2km s-min=4.0km az=212.0, Moment Tensor Solution. s19 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.03; $M_{\theta\theta}$0.32; $M_{\phi\phi}$-0.29; $M_{r\theta}$0.93; $M_{\theta\phi}$0.79; $M_{\phi r}$3.79; Best double couple: $M_0 4\times10^{17}$ NP1:ϕ_s101°, δ12°, λ-2°. NP2:ϕ_s194°, δ90°, λ-102°. Principal axes: T 4.04, Plg43°, Azm295°; N -.08, Plg12°, Azm194°; P -3.96, Plg44°, Azm92°;*

*HRVD **17** 11:25:48.2±0.2, 15.76N×95.83E, $h12^{km}$, MW5.7/69, Centroid moment Tensor Solution. LP body waves: s58,c100;Mantle waves: s69,c134; Half duration: $1^{s}7$ Moment tensor: Scale 10^{17}Nm; M_{rr}-1.42±.06; $M_{\theta\theta}$1.73±.06; $M_{\phi\phi}$-0.31±.06; $M_{r\theta}$2.25±.16; $M_{\theta\phi}$2.99±.05; $M_{\phi r}$1.96±.16; Best double couple: $M_0 4.05\times10^{17}$ NP1:ϕ_s95°, δ32°, λ-31°. NP2:ϕ_s212°, δ74°, λ-118°. Principal axes: T 5.2, Plg24°, Azm323°; N -2.3, Plg27°, Azm220°; P -2.9, Plg53°, Azm89°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*MOS **17** 11:25:49.8±1.5, 16.02N×95.77E, $h33^{km}$, mb5.8/42, MS5.8/22 Error ellipse: s-maj=10.5km s-min=5.3km az=116.4*

*CSEM **17** 11:25:53.6, 15.97N×95.22E, $h33^{km}$, mb5.6*

ISC 17 11:25:46.0±0.1**, 15.77N**±0.03×**95.76E**±0.02**,** $h12^{km}$**,** $h12^{km}\pm1.3^{km}$**:pP-P, n658,** $\sigma1^{s}43$/592**, mb5.4**/173**, MS5.8**/153**, 41C-28D, Near south coast of Myanmar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDT	Bhumibol Dam	3.44	64	P	Pn	11 26 39.0	-1.5
	260nm,0.8s						
CM31	Chiang Mai Arr	4.05	48	ePn	Pn	11 26 48.1	-1.0
CM31				ePg	Pg	11 27 06.5	-0.3
CMAR	Chiang Mai Arr	4.05	48	Pn	Pn	11 26 47.9	-1.3
	34nm,0.3s,baz=235,slow=15,SNR=289						
CMAR				Pg	Pg	11 27 06.1	-0.7
	47nm,0.3s,baz=233,slow=20,SNR=23						
CMAR				Lg		11 27 54.1	
	39nm,0.3s,baz=232,slow=33,SNR=3.9						
CMAR				LR	LR	11 28 38.7	
	comp=Z,41µm,20.6s,baz=225,slow=42						
NST	Nakhon Sawan	4.21	91	⇑P	Pn	11 26 50.0	-1.5
CHG	Chiang Mai	4.29	45	⇓P	Pn	11 26 51.3	-1.3
	150nm,0.6s						
NNT	Nongplab	4.98	129	P	Pn	11 26 59.7	-2.7
PBA	Port Blair	5.04	216	eP	Pn	11 27 01.0	-2.2
PBA				e		11 27 06.0	
KKTK	Khon Kaen	6.81	84	⇑P	Pn	11 27 27.5	-0.7
UBT	Ubonrachathani	8.94	92	P	P	11 28 02.5	+4.6
AGT	Agartala	9.12	333	⇑i	P	11 28 08.0	+7.6
AGT				⇓i		11 29 23.0	
IMP	Imphal	9.13	349	eP	P	11 27 58.0	-2.5
CAL	Calcutta	9.73	315	e	P	11 28 12.5	+3.6
CAL				e		11 30 32.0	
SNG	Songkhla	9.77	150	P	P	11 28 10.0	+0.4
	600nm,2.0s						
SHL	Shillong	10.40	340	eP	P	11 28 12.0	-6.1
SHL				e		11 30 13.5	
KMI	Kunming	11.37	34	⇓iP	P	11 28 34.8	+3.5
KMI				AP		11 28 38.0	
KMI				PP	PP	11 28 41.4	+1.3
KMI				S	S	11 30 45.6	+6.3
KMI				SS	SS	11 30 56.4	+3.0
KMI				AMB	AMB		
	comp=Z,463nm,3.6s						
KMI				LR	LR		
	comp=Z,81µm,9.3s						
VIS	Vishakhapatnam	12.07	281	eP	P	11 28 38.1	-2.7
VIS				e		11 30 40.1	
IPM	Ipoh	12.27	155	⇓eP	P	11 28 46.5	+3.0
QIZ	Qiongzhong	13.82	74	⇓iP	P	11 29 03.1	-1.2
QIZ				AP		11 29 07.3	
QIZ				PP	PP	11 29 14.9	-0.3
QIZ				S	S	11 31 38.5	-0.1
QIZ				SS	SS	11 31 53.8	-1.0
QIZ				AMB	AMB		
	comp=Z,2µm,9.7s						
QIZ				LR	LR		
	comp=E,70µm,13.6s						
QIZ				LR	LR		
	comp=Z,61µm,11.9s						
QIZ	Qiongzhong	13.82	74	ePn	P	11 29 03.8	-0.4
	comp=Z,128nm,1.5s						
BLSP	Bilaspur	14.36	298	e	P	11 29 16.0	+4.7
BLSP				i		11 31 46.0	
LSA	Lhasa	14.50	344	P	P	11 29 09.0	-4.1
LSA				AMB	AMB		
	comp=Z,20nm,0.6s						
LSA				LR	LR		
	comp=N,22µm,15.0s						
LSA				LR	LR		
	comp=E,39µm,12.0s						
LSA				LR	LR		
	comp=Z,38µm,13.0s						
KGD	Kothagudem	14.59	279	eP	P	11 29 10.8	-3.5
KGD				esP		11 29 26.1	
KGD				eS	S	11 31 47.5	-9.3
KGD				esS		11 32 22.6	
KGD				e		11 39 40.5	
GYA	Guiyang	14.70	42	⇓P	P	11 29 16.5	+0.7
GYA				AP		11 29 20.3	
GYA				PP	PP	11 29 28.8	+1.3
GYA				PPP	PPP	11 29 37.0	+2.5
GYA				S	S	11 32 02.8	+3.3
GYA				SS	SS	11 32 24.3	+7.6
GYA				AMB	AMB		
	comp=Z,80nm,1.4s						
GYA				AMB	AMB		
	comp=Z,2µm,6.3s						
GYA				LR	LR		
	comp=N,61µm,10.8s						
GYA				LR	LR		
	comp=E,53µm,11.7s						
GYA				LR	LR		
	comp=Z,44µm,12.0s						
PKI	Pulchoki	15.17	322	eP	P	11 29 19.8	-2.1
	comp=Z,639nm,1.0s						
MDRS	Chennai	15.27	262	eP	P	11 29 18.0	-5.2
MDRS				e		11 32 17.0	
MDRS				e		11 32 51.0	
DMN	Daman	15.38	322	eP	P	11 29 22.6	-2.0
	comp=Z,437nm,0.7s						
KKN	Kakani	15.41	323	eP	P	11 29 24.1	-0.9
	comp=Z,223nm,0.8s						
GKN	Gorkha	15.95	322	eP	P	11 29 30.3	-1.6
	comp=Z,561nm,0.7s						
KOLN	Koldanda	16.42	319	eP	P	11 29 35.0	-3.0
	comp=Z,622nm,0.7s						
CUD	Cuddapah	16.46	268	ePn	P	11 29 37.4	-1.1
CUD				epPn		11 29 43.1	
CUD				e		11 32 35.5	
CUD				eS	S	11 32 51.8	+11
HYB	Hyderabad	16.58	278	iP	P	11 29 42.0	+2.0
	comp=Z,364nm,1.2s						
HYB				e		11 32 32.0	
HYB				eS	S	11 32 44.0	+0.6
HYB				LR	LR	11 48 26.0	
	comp=Z,25nm,10.0s						
HYB	Hyderabad	16.58	278	eP	P	11 29 36.0	-4.0
HYB	Hyderabad	16.58	278	eP	P	11 29 36.0	-4.0
	comp=Z,364nm,1.2s						
HYB				eS	S	11 32 32.0	-11
NGP	Nagpur	16.73	291	eP	P	11 29 37.9	-4.0
NGP				e		11 32 40.5	
CD2	Chengdu	16.75	25	P	P	11 29 41.5	-0.6
CD2				PP	PP	11 29 57.3	+1.1
CD2				S	S	11 32 49.0	+1.8
CD2				SS	SS	11 33 10.5	+2.7
CD2				AMB	AMB		
	comp=Z,250nm,0.9s						
CD2				AMB	AMB		
	comp=Z,1µm,9.1s						
CD2				LR	LR		
	comp=E,66µm,12.4s						
CD2				LR	LR		

	comp=Z,59µm,10.8s						
GZH	**Guangzhou**	**18.10**	**64**	P	**P**	**11 30 03.9**	**+4.9**
GZH				LR	LR		
	comp=N,27µm,10.6s						
GZH				LR	LR		
	comp=E,35µm,12.1s						
GZH				LR	LR		
	comp=Z,37µm,12.1s						
AKL	**Akola**	**18.47**	**288**	*i*	**P**	**11 30 11.6**	**+8.0**
	comp=Z,292nm,1.7s						
AKL				*i*		11 33 28.5	
LATR	**Latur**	**18.55**	**281**	*e*P	**P**	**11 30 02.9**	**-1.7**
	comp=Z,209nm,0.8s						
LATR				*e*		11 33 19.0	
HKC	**Hong Kong**	**18.57**	**67**	⇑*i*P	**P**	**11 30 10.0**	**+5.1**
HKC				*i* S	S	11 33 49.0	+20
BHPL	**Bhopal**	**18.80**	**296**	*e*P	**P**	**11 30 04.3**	**-3.4**
BHPL				*e*		11 30 15.4	
	comp=Z,127nm,1.5s						
BHPL				*e*		11 33 30.7	
ENH	**Enshi**	**19.15**	**39**	*e*P	**P**	**11 30 10.2**	**-1.6**
	comp=Z,90nm,1.0s						
TRD	**Trivandrum**	**19.74**	**251**	*e*P	**P**	**11 30 18.5**	**-0.2**
TRD				*e*		11 30 20.1	
	comp=Z,78nm,1.0s						
AGRA	**Agra**	**20.09**	**308**	*e*P	**P**	**11 30 20.2**	**-2.2**
KAD	**Karad**	**20.75**	**277**	*e*P	**P**	**11 30 27.1**	**-2.1**
KAD				*e*		11 34 15.8	
JOSI	**Joshimath**	**20.90**	**318**	*e*P	**P**	**11 30 29.6**	**-1.2**
ASOR	**Ausora**	**21.04**	**311**	*e*P	**P**	**11 30 29.9**	**-2.2**
POO	**Poona**	**21.12**	**281**	*e*P	**P**	**11 30 31.1**	**-1.9**
POO				*i*		11 34 14.0	
POO	**Poona**	**21.12**	**281**	⇓*i*P	**P**	**11 30 30.0**	**-3.0**
	comp=Z,1µm,1.0s,mb6.2						
GOA	**Goa**	**21.13**	**272**	*i* P	**P**	**11 30 32.6**	**-0.6**
GOA				*i* S	**S**	**11 34 30.6**	**+7.5**
AYAN	**Aya Nagar**	**21.36**	**309**	*e*P	**P**	**11 30 32.9**	**-2.6**
NDI	**New Delhi**	**21.41**	**310**	*e*P	**P**	**11 30 31.5**	**-4.4**
NDI				*e*		11 34 21.0	
LZH	**Lanzhou**	**21.48**	**18**	⇓P	**P**	**11 30 36.3**	**-0.3**
LZH				PP	PP	11 31 01.1	+0.3
LZH				S	**S**	**11 34 30.5**	**+1.0**
LZH				SS	SS	11 35 06.4	+1.6
BHGR	**Bahadurgarh**	**21.61**	**310**	*e*P	**P**	**11 30 35.7**	**-2.3**
XAN	**Xi’an**	**21.71**	**31**	P	**P**	**11 30 36.9**	**-2.1**
XAN				S	**S**	**11 34 36.6**	**+2.6**
XAN				LR	LR		
	comp=N,45µm,10.7s						
XAN				LR	LR		
	comp=E,18µm,9.0s						
XAN				LR	LR		
	comp=Z,42µm,9.0s						
BOM	**Bombay**	**22.12**	**281**	*e*P	**P**	**11 30 41.2**	**-2.0**
	comp=Z,821nm,1.5s,mb5.9						
BOM				*i*		11 30 42.0	
BOM				*e*S	**S**	**11 34 47.4**	**+5.7**
KHET	**Khetri**	**22.16**	**307**	*e*P	**P**	**11 30 42.1**	**-1.3**
KKM	**Kota Kinabalu**	**22.26**	**113**	⇑*e*P	**P**	**11 30 45.5**	**+0.9**
AJM	**Ajmer**	**22.36**	**302**	⇑*i*P	**P**	**11 30 44.0**	**-1.5**
AJM				*i* S	**S**	**11 34 52.0**	**+6.0**
KLP	**Kalpa**	**22.39**	**318**	*e*P	**P**	**11 30 45.3**	**-0.4**
KKR	**Kurukshetra**	**22.41**	**312**	*e*P	**P**	**11 30 45.1**	**-0.8**
WHN	**Wuhan**	**22.49**	**46**	*e*P	**P**	**11 30 46.0**	**-0.7**
WHN				S	**S**	**11 34 54.1**	**+5.8**
WHN				AMB	AMB		
	comp=Z,953nm,9.0s						
BATP	**Bataraza**	**22.61**	**105**	*e*P	**P**	**11 30 48.1**	**0.0**
PPR	**Puerto Princes**	**23.16**	**102**	⇓*e*P	**P**	**11 30 52.2**	**-1.4**
QZH	**Quanzhou**	**23.24**	**63**	*i* PR		11 30 54.1	
QZH				S	**S**	**11 35 07.5**	**+5.8**
QZH				AMB	AMB		
	comp=Z,450nm,1.8s,mb5.6						
QZH				LR	LR		
	comp=Z,43µm,12.0s,MS6.1						
ENPP	**El Nido**	**23.44**	**98**	*e*P	**P**	**11 30 57.0**	**+0.7**
BHK	**Bhakra**	**23.54**	**315**	*e*	**P**	**11 31 01.0**	**+4.0**
BHK				*e*		11 35 18.0	
GTA	**Gaotai**	**23.82**	**8**	P	**P**	**11 31 01.0**	**+1.4**
GTA				AP		11 31 04.8	
GTA				PP	PP	11 31 30.6	-2.5
GTA				S	**S**	**11 35 14.1**	**+2.4**
GTA				AMB	AMB		
	comp=Z,93nm,1.3s,mb5.0						
GTA				AMB	AMB		
	comp=Z,762nm,5.3s						
GTA				LR	LR		
	comp=N,12µm,15.6s						
GTA				LR	LR		
	comp=E,12µm,21.7s						
GTA				LR	LR		
	comp=Z,14µm,14.4s,MS5.6						
QVPH	**Quezon City--P**	**24.43**	**89**	⇑*e*P	**P**	**11 31 06.7**	**+0.9**
SJMP	**San Jose**	**24.80**	**94**	*e*P	**P**	**11 31 10.1**	**+0.6**
LQP	**Lukban**	**24.95**	**90**	⇓*e*P	**P**	**11 31 11.3**	**+0.4**
JASL	**Jaisalmer**	**25.63**	**300**	*e*P	**P**	**11 31 16.3**	**-0.8**
BHJ	**Bhuj**	**25.68**	**291**	*e*P	**P**	**11 31 19.9**	**+2.2**
BHJ				*e*		11 31 21.4	
	comp=Z,134nm,1.0s						
BHJ				*e*		11 35 50.2	
TATO	**Taipei**	**25.76**	**65**	PFAKE		11 31 30.0	+12
TATO				LR	LR		
	comp=Z,14µm,20.0s,MS5.5						
BTO	**Baotou**	**27.67**	**24**	*e*P	**P**	**11 31 32.5**	**-3.3**
BTO				S	**S**	**11 36 13.0**	**-2.8**
SSE	**Sheshan**	**27.77**	**52**	P	**P**	**11 31 37.1**	**+0.3**
SSE				XP	sP	11 31 45.8	+3.8
SSE				S	**S**	**11 36 18.6**	**+1.0**
SSE				XS		11 36 30.0	
SSE				AMB	AMB		
	comp=Z,32nm,0.8s,mb5.0						
SSE				AMB	AMB		
	comp=Z,530nm,11.5s						
TIA	**Tai’an**	**27.86**	**39**	P	**P**	**11 31 35.4**	**-2.2**
TIA				S	**S**	**11 36 19.9**	**+1.0**
TIA				LR	LR		
	comp=N,16µm,11.0s,MS6.0						
TIA				LR	LR		
	comp=E,13µm,10.7s,MS6.0						
HHC	**Hu-ho-hao-te**	**28.50**	**26**	*e*P	**P**	**11 31 42.8**	**-0.5**
HHC				S	**S**	**11 36 29.4**	**+0.2**
HHC				AMB	AMB		
	comp=Z,31nm,1.0s,mb5.0						
HHC				AMB	AMB		
	comp=Z,286nm,7.1s						
HHC				LR	LR		
	comp=N,19µm,11.3s,MS6.1						
HHC				LR	LR		
	comp=E,20µm,11.9s,MS6.1						
HHC				LR	LR		
	comp=Z,15µm,12.5s,MS5.8						
WMQ	**Urumqi**	**28.79**	**348**	P	**P**	**11 31 46.0**	**+0.2**
WMQ				AP	pP	11 31 50.3	+0.9
WMQ				PP	PP	11 32 39.0	+0.2
WMQ				S	**S**	**11 36 33.9**	**+0.1**
WMQ				SCS	ScS	11 42 27.8	-0.2
WMQ				AMB	AMB		
	comp=Z,93nm,1.2s,mb5.4						
WMQ				AMB	AMB		
	comp=Z,370nm,9.1s						
WMQ				LR	LR		
	comp=N,11µm,16.8s,MS5.7						
WMQ				LR	LR		
	comp=E,12µm,20.0s,MS5.7						
WMQ				LR	LR		
	comp=Z,13µm,17.0s,MS5.6						
KSH	**Kashi**	**29.31**	**328**	*e*P	**P**	**11 31 49.5**	**-1.1**
KSH				*e*AP	pP	11 31 55.0	+0.8
KSH				*e*S	**S**	**11 36 39.1**	**-3.0**
KSH				AMB	AMB		
	comp=Z,200nm,0.9s,mb5.8						
KSH				LR	LR		
	comp=N,19µm,12.2s,MS6.1						
KSH				LR	LR		
	comp=E,19µm,11.9s,MS6.1						
DAV	**Davao City (W)**	**30.44**	**103**	*e*P	**P**	**11 31 59.0**	**-1.9**
ULHL	**Ulahol**	**31.27**	**331**	P	**P**	**11 32 07.4**	**-0.5**
	SNR=6.5						
KZA	**Kyzart**	**31.61**	**330**	P	**P**	**11 32 10.6**	**-0.3**
	SNR=15						
AAA	**Alma-Ata**	**31.77**	**333**	*e*P	**P**	**11 32 12.0**	**-0.3**
AAA				pmax	pmax		
	comp=Z,2µm,3.5s						
UCH	**Uchtor**	**32.08**	**330**	P	**P**	**11 32 16.8**	**+1.9**
	SNR=11						
TKM2	**Tokmak 2**	**32.09**	**332**	P	**P**	**11 32 14.2**	**-0.9**
	SNR=9.8						
JOW	**Kunigami**	**32.14**	**65**	P	**P**	**11 32 14.8**	**-0.9**
	comp=Z,12nm,0.8s,mb4.8,baz=352,slow=5.1,SNR=7.1						
JOW				S	**S**	**11 37 32.0**	**+5.3**
	comp=Z,11nm,1.0s,baz=117,slow=12,SNR=2.1						
JOW				LR	LR	11 46 07.3	
	comp=Z,9µm,19.1s,MS5.5,baz=253,slow=38						
KBK	**Karagaybulak**	**32.19**	**331**	P	**P**	**11 32 15.6**	**-0.4**
	SNR=11						
DL2	**Dalian**	**32.34**	**40**	P	**P**	**11 32 19.3**	**+2.0**
DL2				S	**S**	**11 37 35.5**	**+5.8**
DL2				AMB	AMB		
	comp=Z,440nm,9.8s						
DL2				LR	LR		
	comp=N,11µm,11.2s,MS5.9						
DL2				LR	LR		
	comp=E,11µm,11.6s,MS5.9						
DL2				LR	LR		
	comp=Z,10µm,10.3s,MS5.8						
AAK	**Ala-Archa**	**32.39**	**330**	P	**P**	**11 32 17.6**	**-0.1**
	SNR=28						
AAK	**Ala-Archa**	**32.39**	**330**	c *i*P	**P**	**11 32 16.0**	**-1.7**
AAK	**Ala-Archa**	**32.39**	**330**	⇑*i*P	**P**	**11 32 16.1**	**-1.6**
AML	**Almayashu**	**32.41**	**329**	P	**P**	**11 32 17.0**	**-0.9**
	SNR=26						
FRU	**Bishkek**	**32.48**	**330**	*e*P	**P**	**11 32 18.0**	**-0.5**
FRU				*e*		11 33 27.0	
FRU				PPP	PPP	11 33 45.0	+2.6
FRU				*e*S	**S**	**11 37 36.0**	**+4.0**
FRU				pmax	pmax		
	comp=Z,570nm,2.2s,mb6.0						
FRU				smax			
	comp=N,2µm,12.0s						
CHMS	**Chumysh**	**32.55**	**331**	P	**P**	**11 32 21.0**	**+2.0**
	SNR=17						
DGAR	**Diego Garcia**	**32.61**	**227**	PFAKE		11 32 30.0	+10
DGAR				LR	LR		
	comp=Z,2µm,19.0s,MS4.7						
EKS2	**Erkin-Say**	**32.76**	**329**	P	**P**	**11 32 23.1**	**+2.2**
	SNR=14						
USP	**Ospenovka**	**32.87**	**331**	P	**P**	**11 32 20.7**	**-1.2**
	SNR=31						
MKAR	**Makanchi Array**	**32.90**	**343**	P	**P**	**11 32 20.6**	**-1.6**
	comp=Z,16nm,0.8s,mb5.0,baz=157,slow=9.2,SNR=38						
MKAR				S	**S**	**11 37 40.2**	**+1.8**
	comp=Z,0.5nm,0.4s,baz=148,slow=43,SNR=3.0						
MKAR	**Makanchi Array**	**32.90**	**343**	*i* P	**P**	**11 32 20.3**	**-1.8**
MKAR				pmax	pmax		
	comp=Z,135nm,1.2s						
SONM	**Songino Array**	**33.16**	**13**	P	**P**	**11 32 23.2**	**-1.2**
	comp=Z,37nm,1.1s,mb5.2,baz=203,slow=9.4,SNR=53						
SONM				PcP	PcP	11 35 06.5	-0.9
	comp=Z,6.4nm,1.0s,baz=201,slow=2.4,SNR=4.0						
SONM				S	**S**	**11 37 45.5**	**+3.1**
	comp=Z,0.2nm,0.3s,baz=320,slow=42,SNR=2.4						
SONM				ScP		11 38 51.7	
	comp=Z,2.1nm,0.9s,baz=214,slow=4.5,SNR=5.0						
SONM				ScS	ScS	11 42 51.1	+1.8
	comp=Z,0.2nm,0.4s,baz=43,slow=46,SNR=2.5						
ULN	**Ulaanbaatar**	**33.33**	**14**	PFAKE		11 32 40.0	+14
ULN				LR	LR		
	comp=Z,12µm,19.0s,MS5.6						
INCN	**Inchon**	**34.80**	**46**	PFAKE		11 32 50.0	+11
INCN				LR	LR		
	comp=Z,4µm,20.0s,MS5.2						
ZAK	**Zakamensk**	**35.05**	**8**	⇓*i*P	**P**	**11 32 40.1**	**-0.6**
ZAK				*e*		11 35 14.2	
JNU	**Nakatsue**	**36.11**	**55**	P	**P**	**11 32 48.6**	**-1.2**
	comp=Z,20nm,0.9s,mb5.0,baz=47,slow=6.3,SNR=8.5						
JNU				S	**S**	**11 38 36.3**	**+7.9**
	comp=Z,2.0nm,0.3s,baz=255,slow=42,SNR=2.0						
IRK	**Irkutsk**	**37.01**	**9**	*e*P	**P**	**11 32 57.1**	**-0.1**
KURK	**Kurchatov**	**37.50**	**342**	c *i*P	**P**	**11 32 59.8**	**-1.5**
CN2	**Changchun**	**37.63**	**36**	*e*P	**P**	**11 33 04.8**	**+2.3**
CN2				*e*AP	pP	11 33 09.3	+3.2
CN2				*e*XP	sP	11 33 11.8	+4.1
CN2				PP	PP	11 34 33.3	+2.2
CN2				*e*S	**S**	**11 38 54.1**	**+2.6**
CN2				SS	SS	11 41 26.9	+1.6
CN2				AMB	AMB		
	comp=Z,660nm,9.0s						
CN2				LR	LR		
	comp=Z,17µm,13.0s,MS6.0						
HIA	**Hailar**	**38.71**	**25**	*e*P	**P**	**11 33 10.4**	**-1.1**
HIA				pmax	pmax		
	comp=Z,55nm,1.3s						
HIA	**Hailar**	**38.71**	**25**	*e*P	**P**	**11 33 10.3**	**-1.1**
	comp=Z,55nm,1.3s,mb5.1						
VAN	**Vannovskaya**	**39.82**	**311**	P	**P**	**11 33 20.1**	**-0.8**
VAN				S	**S**	**11 39 22.0**	**-2.7**
NVS	**Novosibirsk**	**40.18**	**349**	*i* P	**P**	**11 33 21.5**	**-2.1**
NVS				*e*		11 33 37.4	
NVS				*i* S	**S**	**11 39 24.5**	**-5.4**
NVS				*e*		11 43 25.9	
NVS				pmax	pmax		
	comp=N,338nm,1.8s						
NVS				pmax	pmax		
	comp=E,204nm,1.8s						
NVS				pmax	pmax		
	comp=Z,376nm,1.8s,mb5.8						
NVS				smax			
	comp=N,283nm,2.9s						
NVS				smax			
	comp=E,147nm,2.9s						
MDJ	**Mudanjiang**	**40.51**	**38**	P	**P**	**11 33 26.3**	**-0.1**
MDJ				PP	PP	11 34 59.8	-3.5
MDJ				PCP	PcP	11 35 28.4	-1.2
MDJ				S	**S**	**11 39 36.3**	**+1.4**
MDJ				SS	SS	11 42 32.3	+3.3
MDJ				SCS	ScS	11 43 28.6	-1.7
MDJ				AMB	AMB		
	comp=Z,305nm,11.6s						
MDJ				LR	LR		
	comp=N,11µm,16.1s,MS6.0						
MDJ				LR	LR		
	comp=E,11µm,14.3s,MS6.0						
MDJ				LR	LR		
	comp=Z,11µm,14.3s,MS5.8						
VLA	**Vladivostok**	**41.12**	**41**	⇑*i*P	**P**	**11 33 29.0**	**-2.4**
VLA				*i*		11 35 16.0	
VLA				*i* S	**S**	**11 39 46.0**	**+2.1**
VLA				*i*		11 43 22.0	
VLA				pmax	pmax		
	comp=Z,500nm,8.0s						
VLA				pmax	pmax		
	comp=Z,500nm,5.0s						
VLA				smax			
	comp=N,2µm,10.0s						
VLA				smax			
	comp=E,2µm,10.0s						
VLA				MLR	MLR		
	comp=Z,31µm,17.0s,MS6.2						
VLA				MLR	MLR		
	comp=N,11µm,12.0s,MS6.3						
VLA				MLR	MLR		
	comp=E,24µm,15.0s,MS6.3						
VOSK	**Vostochnaya**	**41.75**	**337**	P	**P**	**11 33 34.5**	**-2.0**
VOSK				pmax	pmax		
	comp=Z,57nm,1.1s,mb5.1						
VOSK	**Vostochnaya**	**41.75**	**337**	*i* P	**P**	**11 33 34.5**	**-2.0**
BVA0	**Borovoye Array**	**42.20**	**337**	P	**P**	**11 33 39.3**	**-1.0**
BVAR	**Borovoye Array**	**42.20**	**337**	ScP		11 39 24.6	
	comp=Z,1.1nm,0.8s,baz=143,slow=7.2,SNR=3.1						
BVAR				S	**S**	**11 40 02.3**	**+2.4**
	comp=Z,0.4nm,0.4s,baz=36,slow=23,SNR=2.6						
BVAR				LR	LR	11 53 31.6	
	comp=Z,100nm,19.4s,baz=175,slow=40						
BRVK	**Borovoye**	**42.27**	**337**	⇓*e*P	**P**	**11 33 39.6**	**-1.2**
ZRNK	**Zerenda**	**42.67**	**336**	*e*P	**P**	**11 33 41.9**	**-2.2**
ZRNK				pmax	pmax		
	comp=Z,59nm,1.3s,mb5.2						
ZRNK	**Zerenda**	**42.67**	**336**	*e*P	**P**	**11 33 41.9**	**-2.2**
	comp=Z,59nm,1.3s,mb5.2						
MAJO	**Matsushiro**	**42.92**	**53**	*e*P	**P**	**11 33 45.1**	**-1.2**
	comp=Z,19nm,1.0s,mb4.8						
MAJO				LR	LR		
	comp=Z,9µm,19.0s,MS5.7						
MAT	**Matsushiro**	**42.92**	**53**	P	**P**	**11 33 45.1**	**-1.2**
MAT				S	**S**	**11 40 09.0**	**-1.6**
MAT	**Matsushiro**	**42.92**	**53**	*e*P	**P**	**11 33 45.0**	**-1.3**
	comp=Z,10nm,0.8s,mb4.6						
MAT				*e*S	**S**	**11 40 10.0**	**-0.6**
MAT				LR	LR		
	comp=Z,6µm,19.0s,MS5.5						
MBWA	**Marble Bar**	**43.59**	**147**	*e*P	**P**	**11 33 49.8**	**-2.1**
	comp=Z,38nm,1.0s,mb5.1						
MBWA				LR	LR		
	comp=Z,8µm,20.0s,MS5.6						
BOD	**Bodaibo**	**44.15**	**14**	*e*P	**P**	**11 33 54.5**	**-1.5**
KLR	**Kul’dur**	**44.38**	**33**	*e*P	**P**	**11 33 54.5**	**-3.5**
KLR				*e*		11 36 24.5	
KLR				*e*S	**S**	**11 40 33.0**	**+1.3**
KLR				*e*		11 43 52.5	
KLR				pmax	pmax		
	comp=Z,600nm,10.0s						
KLR				smax			
	comp=N,2µm,9.5s						
KLR				smax			
	comp=E,1µm,9.5s						
KLR				MLR	MLR		
	comp=Z,33µm,13.0s,MS6.4						
CBIJ	**Chichi jima**	**44.43**	**67**	P	**P**	**11 33 58.7**	**0.0**
	comp=Z,59nm,0.7s,mb5.4,baz=298,slow=22,SNR=2.5						
CBIJ				LR	LR	11 52 40.2	
	comp=Z,2µm,19.9s,MS5.0,baz=262,slow=36						
FITZ	**Fitzroy Crossi**	**44.71**	**138**	*e*P	**P**	**11 33 58.9**	**-2.2**
	comp=Z,5.3nm,0.9s,mb4.4						
FITZ				*e*S	**S**	**11 40 40.5**	**+3.7**
QRN	**Al-Qurain**	**45.84**	**295**	*e*P	**P**	**11 34 07.9**	**-2.1**
QRN				AMb	AMB	11 34 14.0	
	comp=Z,162nm,1.0s,mb5.9						
KBD	**Kabd**	**46.08**	**295**	*e*P	**P**	**11 34 09.6**	**-2.3**
RDF	**Al-Radifah**	**46.18**	**295**	*e*P	**P**	**11 34 10.0**	**-2.6**
RDF				AMb	AMB	11 34 14.3	
	comp=Z,151nm,1.0s,mb5.9						
MIB	**Mutribah**	**46.46**	**296**	*e*P	**P**	**11 34 11.8**	**-2.9**
MIB				AMb	AMB	11 34 18.1	
	comp=Z,126nm,1.2s,mb5.7						
CLNS	**Chul’man**	**46.54**	**22**	*e*P	**P**	**11 34 15.1**	**+0.1**
CLNS				*e*		11 35 56.9	
CLNS				*e*		11 36 03.1	
CLNS				*e*S	**S**	**11 40 50.7**	**-12**
CLNS				*e*SS	SS	11 44 03.9	-17
CLNS				pmax	pmax		
	comp=Z,57nm,1.1s,mb5.4						
CLNS				pmax	pmax		
	comp=N,25nm,1.0s						
CLNS				pmax	pmax		
	comp=E,27nm,1.0s						
CLNS				smax			
	comp=N,824nm,12.2s						
CLNS				smax			
	comp=Z,104nm,9.7s						
CLNS				smax			
	comp=E,144nm,11.0s						
CLNS				MLR	MLR		
	comp=Z,23µm,11.0s,MS6.4						
CLNS				MLR	MLR		
	comp=N,15µm,12.0s,MS6.2						
CLNS				MLR	MLR		
	comp=E,3µm,12.0s,MS6.2						
RST	**Umm Al-Ruwaisa**	**46.72**	**296**	*e*P	**P**	**11 34 14.2**	**-2.6**
RST				AMb	AMB	11 34 18.4	
	comp=Z,119nm,0.8s,mb5.9						
GUMO	**Guam**	**47.47**	**86**	PFAKE		11 34 30.0	+7.0
GUMO				LR	LR		
	comp=Z,2µm,19.0s,MS5.2						
MZLS	**Mizel**	**48.03**	**288**	P	**P**	**11 34 27.0**	**-0.3**
ASAJ	**Asahikawa**	**48.56**	**44**	P	**P**	**11 34 29.9**	**-1.1**
	comp=Z,11nm,0.9s,mb4.9,baz=241,slow=17,SNR=6.4						
ASAJ				S	**S**	**11 41 32.4**	**+1.1**
	comp=Z,2.7nm,1.0s,baz=223,slow=32,SNR=2.1						
KAMS	**Al Khamasin**	**48.73**	**283**	P	**P**	**11 34 29.7**	**-3.0**
SVE	**Sverdlovsk**	**48.81**	**335**	⇑*i*P	**P**	**11 34 31.0**	**-1.8**
SVE				*e*S	**S**	**11 41 41.0**	**+6.4**
SVE				pmax	pmax		
	comp=Z,320nm,1.8s,mb6.0						
SVE				MLR	MLR		
	comp=Z,10µm,15.0s,MS6.0						
SVE				MLR	MLR		
	comp=N,6µm,16.0s,MS5.9						
SVE				MLR	MLR		
	comp=E,7µm,16.0s,MS5.9						
MAK	**Makhachkala**	**49.16**	**314**	*e*P	**P**	**11 34 36.0**	**+0.3**
MAK				*e*		11 36 30.0	
MAK				*e*S	**S**	**11 41 40.0**	**+0.3**
MAK				*i* PS	PS	11 41 51.0	+1.8
MAK				*e*		11 44 22.0	
MAK				pmax	pmax		
	comp=Z,1µm,8.0s						
MAK				pmax	pmax		
	comp=Z,2µm,10.0s						
MAK				smax			
	comp=N,900nm,7.0s						
MAK				smax			
	comp=E,1µm,7.0s						
MAK				smax			
	comp=Z,900nm,7.0s						
ARU	**Arti**	**49.41**	**334**	⇑*i*P	**P**	**11 34 37.1**	**-0.4**
ARU				*e*		11 35 55.0	
ARU				*i*		11 36 30.0	
ARU				*e*PPP	PPP	11 37 23.5	-2.8
ARU				*e*S	**S**	**11 41 48.4**	**+5.4**
ARU				*e*		11 44 27.8	
ARU				pmax	pmax		
	comp=Z,92nm,1.6s,mb5.6						
ARU				MLR	MLR		
	comp=Z,6µm,18.0s,MS5.6						
ARU				MLR	MLR		
	comp=N,2µm,16.0s,MS5.6						
ARU				MLR	MLR		
	comp=E,5µm,19.0s,MS5.6						
YSS	**Yuzh-Sakhalins**	**49.71**	**41**	*e*P	**P**	**11 34 32.9**	**-7.0**
YSS				*e**SP	sP	11 34 40.0	-5.1
YSS				*e*		11 35 59.0	
YSS				*e*		11 36 41.0	
YSS				*e*S	**S**	**11 41 50.0**	**+2.7**
YSS				*e*PS	PS	11 42 04.0	+7.2
YSS				*e*SSS	SSS	11 46 33.0	-10
YSS				smax			
	comp=N,1µm,11.0s						
YSS				smax			
	comp=E,600nm,11.0s						
YSS				MLR	MLR		
	comp=N,9µm,13.0s,MS6.1						
YSS				MLR	MLR		
	comp=E,10µm,13.0s,MS6.1						
YSS				MLR	MLR		
	comp=Z,17µm,13.0s,MS6.2						
YSS	**Yuzh-Sakhalins**	**49.71**	**41**	*e*P	**P**	**11 34 40.1**	**+0.2**
YSS				LR	LR		
	comp=Z,9µm,21.0s,MS5.7						
TATS	**Tathlith**	**49.81**	**282**	P	**P**	**11 34 40.7**	**-0.4**
DJNS	**Zahran al Janu**	**49.92**	**280**	P	**P**	**11 34 43.3**	**+1.4**
AFFS	**‘Afif**	**50.05**	**288**	P	**P**	**11 34 42.9**	**+0.1**
TI2	**Plekhanov**	**50.77**	**311**	*i* P	**P**	**11 34 46.6**	**-1.4**
TI2				*e*S	**S**	**11 42 07.2**	**+5.3**
NAMS	**An Nimas**	**51.04**	**282**	P	**P**	**11 34 48.5**	**-1.8**
HILS	**Ha’il**	**51.16**	**293**	P	**P**	**11 34 49.7**	**-1.5**
MUN	**Mundaring**	**51.36**	**158**	*e*P	**P**	**11 34 51.7**	**-1.0**
	comp=Z,41nm,0.7s,mb5.5						
MUN				*e*S	**S**	**11 42 16.4**	**+6.1**
ZEI	**Tsey**	**51.64**	**312**	c *i*P	**P**	**11 34 56.0**	**+1.3**
ZEI				*i* S	**S**	**11 42 16.0**	**+2.0**
ZEI				*i* PS	PS	11 42 27.0	+2.4
ZEI				*i* SS	SS	11 45 40.0	-8.4
ZEI				pmax	pmax		
	comp=Z,600nm,10.0s						
ZEI				smax			
	comp=E,1µm,12.0s						
ZEI				MLR	MLR		
	comp=Z,2µm,20.0s,MS5.2						
WRA	**Warramunga Arr**	**51.93**	**132**	P	**P**	**11 34 54.8**	**-2.4**
	comp=Z,45nm,0.9s,mb5.4,baz=311,slow=7.6,SNR=149						
WRA				S	**S**	**11 42 19.0**	**+0.7**
	comp=Z,1.1nm,1.2s,baz=302,slow=15,SNR=5.0						
WRA				LR	LR	11 59 10.7	
	comp=Z,4µm,21.2s,MS5.5,baz=315,slow=39						
WRAB	**Tennant Creek**	**51.94**	**132**	*e*P	**P**	**11 34 54.6**	**-2.5**
	comp=Z,110nm,0.9s,mb5.8						
WRAB				LR	LR		
	comp=Z,2µm,21.0s,MS5.1						
WB2	**Warramunga Arr**	**51.94**	**132**	⇓*i*P	**P**	**11 34 54.8**	**-2.4**
WB2				*e*S	**S**	**11 42 18.5**	**0.0**
YAK	**Yakutsk**	**52.05**	**19**	*e*P	**P**	**11 34 55.8**	**-1.7**
YAK				*e*		11 36 09.1	
YAK				*e*		11 36 59.2	
YAK				*e*S	**S**	**11 42 18.4**	**-1.0**
YAK				*e*		11 44 40.9	
YAK				*e*SSS	SSS	11 47 35.7	-0.2

YAK				pmax	pmax		
	comp=E,18nm,1.0s						
YAK				pmax	pmax		
	comp=Z,35nm,1.0s,mb5.2						
YAK				pmax	pmax		
	comp=N,21nm,1.3s						
YAK				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.8						
YAK				pmax	pmax		
	comp=N,4.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,6.0nm,1.1s						
YAK				smax			
	comp=N,238nm,8.9s						
YAK				smax			
	comp=E,167nm,8.3s						
YAK				MLR	MLR		
	comp=N,7µm,12.0s,MS6.1						
YAK				MLR	MLR		
	comp=Z,12µm,12.0s,MS6.2						
YAK				MLR	MLR		
	comp=E,8µm,14.0s,MS6.1						
YAK	**Yakutsk**	**52.05**	**19**	*e*P	**P**	**11 34 57.6**	**+0.1**
	comp=E,18nm,0.5s,mb5.2						
YAK				LR	LR		
	comp=Z,9µm,19.0s,MS5.8						
BEST	**Besiri**	**52.58**	**306**	*i* P	**P**	**11 34 59.7**	**-2.1**
NWAO	**Narrogin (SRO)**	**52.59**	**157**	*e*P	**P**	**11 34 59.8**	**-2.2**
	comp=Z,145nm,1.4s,mb5.7						
NWAO				LR	LR		
	comp=Z,4µm,19.0s,MS5.5						
GOF	**Gofitskoye**	**52.86**	**315**	*e*P	**P**	**11 34 54.0**	**-10**
GOF				pmax	pmax		
	comp=Z,40nm,1.5s,mb5.1						
GOF				pmax	pmax		
	comp=Z,270nm,1.8s,mb5.9						
KBRS	**Khaybar**	**53.42**	**291**	P	**P**	**11 35 09.2**	**+1.1**
ASPA	**Alice Springs**	**54.09**	**136**	*e*P	**P**	**11 35 10.7**	**-2.4**
ASAR	**Alice Springs**	**54.09**	**136**	P	**P**	**11 35 10.7**	**-2.4**
	comp=Z,15nm,0.8s,mb5.0,baz=315,slow=6.9,SNR=76						
ASAR				PcP	PcP	11 36 17.2	-0.7
	comp=Z,10nm,1.0s,baz=317,slow=4.0,SNR=6.4						
ASAR				LR	LR	12 01 19.4	
	comp=Z,3µm,18.6s,MS5.3,baz=295,slow=39						
ASAR				PKP2bc		12 05 39.4	
	comp=Z,0.9nm,0.9s,baz=117,slow=4.0,SNR=4.2						
ASAR	**Alice Springs**	**54.09**	**136**	P	**P**	**11 35 10.7**	**-2.4**
ASAR				PcP	PcP	11 36 17.2	-0.7
ASAR				LR	LR	12 01 19.4	
ASAR			⇑	*e*		12 05 39.4	
GUMT	**Gumushane**	**54.38**	**309**	P	**P**	**11 35 13.1**	**-1.9**
SOC	**Sochi**	**54.81**	**312**	*i* P	**P**	**11 35 16.4**	**-1.7**
SOC				*e*		11 36 21.6	
SOC				*e*		11 37 14.8	
SOC				*e*S	**S**	**11 42 55.2**	**-1.8**
SOC				*e*PS	PS	11 43 04.9	-4.4
SOC				*e*SS	SS	11 46 37.4	-2.6
SOC				pmax	pmax		
	comp=Z,1µm,3.8s						
SOC				pmax	pmax		
	comp=N,108nm,1.4s						
SOC				pmax	pmax		
	comp=E,312nm,2.2s						
SOC				pmax	pmax		
	comp=Z,125nm,1.1s,mb5.9						
SOC				pmax	pmax		
	comp=N,47nm,1.2s						
SOC				pmax	pmax		
	comp=E,97nm,1.6s						
SOC				MLR	MLR		
	comp=Z,2µm,19.0s,MS5.2						
SOC				MLR	MLR		
	comp=N,1µm,16.0s,MS5.3						
SOC				MLR	MLR		
	comp=E,2µm,20.0s,MS5.3						
MALT	**Malatya**	**54.86**	**306**	*e*P	**P**	**11 35 17.0**	**-1.6**
	comp=E,90nm,1.5s,mb5.6						
MYA	**Malataya**	**54.87**	**306**	P	**P**	**11 35 17.1**	**-1.5**
UMJS	**Umm Lajj**	**55.20**	**290**	P	**P**	**11 35 22.5**	**+1.3**
GAZ	**Gaziantep**	**55.69**	**304**	P	**P**	**11 35 22.5**	**-2.1**
FORT	**Forrest**	**55.74**	**146**	*e*P	**P**	**11 35 23.3**	**-1.8**
	comp=E,68nm,1.2s,mb5.5						
TBKS	**Tabuk**	**55.81**	**294**	P	**P**	**11 35 23.7**	**-2.0**
COBT	**Iskenderun**	**56.39**	**304**	*i* P	**P**	**11 35 30.1**	**+0.4**
ANN	**Anapa**	**56.66**	**314**	*e*P	**P**	**11 35 28.1**	**-3.4**
ANN				*e**PP	pP	11 35 37.7	+2.4
ANN				*e*S	**S**	**11 43 18.8**	**-2.9**
ANN				*e*SS	SS	11 47 07.7	-2.7
ANN				pmax	pmax		
	comp=Z,69nm,1.4s,mb5.5						
KVT	**Kavak**	**57.05**	**309**	P	**P**	**11 35 32.4**	**-2.0**
JMOS	**Jabal al Moall**	**57.07**	**295**	P	**P**	**11 35 34.3**	**-0.4**
BDAS	**Al Bad‘**	**57.09**	**294**	P	**P**	**11 35 35.1**	**+0.4**
EIL	**Elat**	**57.20**	**295**	*e*P	**P**	**11 35 33.0**	**-2.5**
	comp=Z,117nm,1.8s,mb5.6						
VOR	**Voronezh**	**57.22**	**322**	*e*P	**P**	**11 35 33.3**	**-2.1**
VOR				*e*S	**S**	**11 43 27.5**	**-1.4**
VOR				pmax	pmax		
	comp=N,110nm,1.6s						
VOR				pmax	pmax		
	comp=E,180nm,1.6s						
VOR				pmax	pmax		
	comp=Z,420nm,1.6s,mb6.2						
VOR				smax			
	comp=N,70nm,1.6s						
HAQS	**Haql**	**57.23**	**295**	P	**P**	**11 35 35.6**	**-0.2**
TAYS	**Tayyib Ism**	**57.28**	**294**	P	**P**	**11 35 36.1**	**-0.1**
AVNT	**Avonos**	**57.70**	**306**	*i* P	**P**	**11 35 36.0**	**-2.9**
NIG	**Nigde**	**57.83**	**305**	P	**P**	**11 35 37.3**	**-2.5**
CTKT	**Corum**	**57.94**	**308**	*i* P	**P**	**11 35 40.9**	**+0.3**
BOYT	**Boyabat**	**57.95**	**309**	*i* P	**P**	**11 35 38.4**	**-2.2**
TOS	**Tosya**	**58.57**	**309**	P	**P**	**11 35 44.6**	**-0.3**
KAMT	**Kaman**	**58.64**	**307**	P	**P**	**11 35 42.1**	**-3.4**
BZK	**Bozkurt**	**58.69**	**310**	*e*P	**P**	**11 35 46.2**	**+0.4**
BRTR	**Keskin Array B**	**58.73**	**307**	P	**P**	**11 35 43.1**	**-3.0**
	comp=N,24nm,1.0s,mb5.2,baz=112,slow=6.7,SNR=26						
BRTR				S	**S**	**11 43 47.1**	**-1.8**
	comp=N,0.2nm,0.4s,baz=307,slow=6.2,SNR=2.5						
BRTR				LR	LR	12 06 41.4	
	comp=N,2µm,19.4s,MS5.3,baz=165,slow=42						
CANT	**Cankiri**	**58.83**	**308**	*e*P	**P**	**11 35 46.6**	**-0.2**
ELDT	**Eldivan**	**58.96**	**308**	*i* P	**P**	**11 35 45.8**	**-1.9**
SIM	**Simferopol’**	**59.01**	**313***c*	*i*P	**P**	**11 35 47.7**	**-0.3**
SIM				*i* S	**S**	**11 44 01.0**	**+8.5**
SIM				pmax	pmax		
	comp=Z,40nm,1.1s,mb5.4						
LEF	**Lefka**	**59.03**	**302**	*e*P	**P**	**11 35 45.8**	**-2.5**
BALT	**Daday**	**59.10**	**309**	*i* P	**P**	**11 35 46.4**	**-2.3**
MA2	**Magadan**	**59.10**	**29**	*e*P	**P**	**11 35 47.0**	**-1.4**
MA2				*e*		11 38 02.8	
MA2				*e*PPP	PPP	11 39 17.1	-8.2
MA2				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.1						
MA2	**Magadan**	**59.10**	**29**	*e*P	**P**	**11 35 46.8**	**-1.6**
	comp=Z,67nm,1.4s,mb5.5						
MA2				LR	LR		
	comp=Z,3µm,19.0s,MS5.5						
TIXI	**Tiksi**	**59.22**	**12**⇓	*e*P	**P**	**11 35 46.3**	**-2.8**
TIXI				pmax	pmax		
	comp=Z,170nm,1.3s,mb5.9						
TIXI				MLR	MLR		
	comp=Z,9µm,12.0s,MS6.1						
MOS	**Moscow**	**59.32**	**326**	*e*P	**P**	**11 35 46.2**	**-3.8**
MOS				*e*		11 36 02.1	
MOS				*e*		11 36 34.7	
MOS				*e*S	**S**	**11 43 51.1**	**-5.3**
MOS				pmax	pmax		
	comp=Z,295nm,1.6s,mb6.1						
MOS				MLR	MLR		
	comp=Z,3µm,16.6s,MS5.5						
MOS				MLR	MLR		
	comp=N,4µm,17.9s						
ANTO	**Ankara**	**59.39**	**307**	P	**P**	**11 35 45.3**	**-5.4**
HDMB	**Hadim**	**59.44**	**304**	*e*P	**P**	**11 35 48.5**	**-2.6**
SAFT	**Safranbolu**	**59.59**	**309**	*e*P	**P**	**11 35 49.3**	**-2.8**
OBN	**Obninsk**	**59.71**	**325**	P	**P**	**11 35 53.6**	**+0.9**
	comp=N,496nm,0.7s,SNR=20						
OBN	**Obninsk**	**59.71**	**325**⇑	*e*P	**P**	**11 35 51.1**	**-1.6**
OBN				*e*		11 38 04.7	
OBN				*i* S	**S**	**11 44 01.3**	**-0.1**
OBN				pmax	pmax		
	comp=Z,310nm,1.7s,mb6.1						
OBN				MLR	MLR		
	comp=Z,4µm,17.0s,MS5.7						
OBN	**Obninsk**	**59.71**	**325**⇑	*e*P	**P**	**11 35 51.1**	**-1.6**
OBN				LR	LR		
	comp=Z,4µm,17.0s,MS5.7						
SGKT	**Sivrigoynuk**	**60.01**	**308**	*i* P	**P**	**11 35 52.8**	**-2.2**
KIZT	**Kizilcal**	**60.02**	**306**	*e*P	**P**	**11 35 50.4**	**-4.7**
KMBO	**Kilima Mbogo**	**60.16**	**259**	*e*P	**P**	**11 35 56.6**	**+0.3**
	comp=Z,111nm,2.1s,mb5.5						
KMBO				LR	LR		
	comp=Z,4µm,21.0s,MS5.5						
MDU	**Mudurnu**	**60.64**	**308**	*e*P	**P**	**11 35 56.6**	**-2.6**
ESKT	**Eskisehir**	**60.86**	**307**	*i* P	**P**	**11 35 57.9**	**-2.9**
ESKT	**Eskisehir**	**60.86**	**307**	*e*P	**P**	**11 35 58.0**	**-2.7**
HENT	**Hendek**	**60.91**	**308**	*i* P	**P**	**11 35 58.2**	**-2.8**
CTA	**Charters Tower**	**61.08**	**124**	*e*P	**P**	**11 36 03.6**	**+1.1**
	comp=Z,9.3nm,1.2s,mb4.8						
CTA				*e*S	**S**	**11 44 27.0**	**+7.5**
CTA	**Charters Tower**	**61.08**	**124**	P	**P**	**11 36 01.1**	**-1.4**
	comp=Z,7.0nm,0.9s,mb4.8,baz=164,slow=23,SNR=2.1						
CTA				S	**S**	**11 44 26.2**	**+6.7**
	comp=Z,3.6nm,1.1s,baz=318,slow=8.6,SNR=1.8						
CTA				LR	LR	12 05 49.4	
	comp=Z,3µm,19.6s,MS5.5,baz=297,slow=39						
CTAO	**Charters Tower**	**61.08**	**124**	*e*P	**P**	**11 36 01.6**	**-0.9**
	comp=Z,19nm,1.1s,mb5.1						
CTAO				LR	LR		
	comp=Z,3µm,20.0s,MS5.5						
SEY	**Seymchan**	**61.15**	**26**	*e*P	**P**	**11 35 59.5**	**-2.9**
SEY						11 36 42.9	
SEY				*e*PPP	PPP	11 39 49.3	+1.8
SEY				*e*S	**S**	**11 44 18.9**	**-0.8**
SEY						11 45 45.2	
SEY				pmax	pmax		
	comp=Z,30nm,1.5s,mb5.2						
SEY				pmax	pmax		
	comp=E,20nm,1.4s						
SEY				smax			
	comp=N,3µm,19.3s						
SEY				smax			
	comp=E,730nm,21.8s						
SEY				MLR	MLR		
	comp=Z,25µm,18.0s,MS6.4						
SEY				MLR	MLR		
	comp=E,13µm,16.0s						
PET	**Petropavlovsk**	**61.30**	**38**	*e*P	**P**	**11 36 04.6**	**+1.1**
PET				*e*		11 38 22.9	
PET				*i* S	**S**	**11 44 22.7**	**+1.0**
PET				*e*PS	PS	11 44 39.6	+0.7
PET				*e*SS	SS	11 48 26.8	+3.1
PET				pmax	pmax		
	comp=Z,400nm,6.0s						
PET				pmax	pmax		
	comp=Z,29nm,1.1s,mb5.3						
PET				pmax	pmax		
	comp=Z,200nm,14.1s						
PET				pmax	pmax		
	comp=Z,600nm,27.5s						
PET				smax			
	comp=N,500nm,15.3s						
PET				MLR	MLR		
	comp=Z,9µm,13.0s,MS6.1						
PET				MLR	MLR		
	comp=Z,9µm,15.0s						
PET	**Petropavlovsk**	**61.30**	**38**	P	**P**	**11 36 02.2**	**-1.3**
PET				LR	LR		
	comp=Z,5µm,20.0s,MS5.7						
ELL	**Elmali**	**61.49**	**303**	*e*P	**P**	**11 36 02.5**	**-2.6**
ULDT	**Uludag**	**62.21**	**307**	*i* P	**P**	**11 36 06.6**	**-3.3**
DALT	**Dalyan (Mudla)**	**62.52**	**303**	*e*P	**P**	**11 36 07.9**	**-4.1**
KIS	**Kishinev**	**62.94**	**315**α	*i*P	**P**	**11 36 13.0**	**-1.6**
KIS				*e*S	**S**	**11 44 45.0**	**+2.5**
KIS				*e*PS	PS	11 45 02.0	+0.1
KIS				pmax	pmax		
	comp=Z,400nm,1.2s,mb6.4						
KIS				pmax	pmax		
	comp=Z,900nm,4.0s						
AKASG	**Malin Array Be**	**63.11**	**319**	P	**P**	**11 36 12.7**	**-3.0**
	comp=Z,19nm,0.8s,mb5.2,baz=81,slow=5.1,SNR=26						
AKASG				S	**S**	**11 44 44.9**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=266,slow=27,SNR=4.1						
AKASG				LR	LR	12 09 30.0	
	comp=Z,4µm,19.5s,MS5.5,baz=95,slow=42						
BALB	**Balikesir**	**63.16**	**307**	*e*P	**P**	**11 36 13.7**	**-2.4**
IZM	**Izmir**	**63.62**	**305**	*e*P	**P**	**11 36 15.4**	**-3.8**
LPK	**Lapseki**	**64.03**	**307**	*e*P	**P**	**11 36 22.0**	**+0.1**
EDRB	**Edirne**	**64.08**	**309**	*e*P	**P**	**11 36 17.2**	**-5.0**
VRI	**Vrincioaia**	**64.28**	**314**⇓	*i*P	**P**	**11 36 22.2**	**-1.3**
VRI	**Vrincioaia**	**64.28**	**314**⇓	*i*P	**P**	**11 36 22.2**	**-1.2**
STKA	**Stephens Creek**	**64.61**	**138**	*e*P	**P**	**11 36 24.7**	**-1.1**
	comp=Z,19nm,1.0s,mb5.1						
STKA				*e*S	**S**	**11 45 05.4**	**+1.8**
STKA	**Stephens Creek**	**64.61**	**138**	P	**P**	**11 36 24.7**	**-1.1**
	comp=Z,14nm,0.7s,mb5.1,baz=315,slow=7.7,SNR=16						
STKA				LR	LR	12 07 45.8	
	comp=Z,6µm,18.9s,MS5.8,baz=288,slow=39						
BUC1	**Bucharest**	**64.70**	**312**⇓	*i*P	**P**	**11 36 25.3**	**-0.9**
BUC1	**Bucharest**	**64.70**	**312**⇓	*i*P	**P**	**11 36 25.3**	**-0.8**
LVZ	**Lovozero**	**64.78**	**339**	*e*P	**P**	**11 36 25.8**	**-0.5**
LVZ				pmax	pmax		
	comp=Z,81nm,1.4s,mb5.6						
LVZ				pmax	pmax		
	comp=N,23nm,1.5s						
LVZ				pmax	pmax		
	comp=E,30nm,1.5s						
LVZ				pmax	pmax		
	comp=Z,1µm,5.0s						
LVZ				pmax	pmax		
	comp=N,361nm,3.0s						
LVZ				pmax	pmax		
	comp=E,746nm,5.1s						
LVZ				MLR	MLR		
	comp=N,4µm,15.0s,MS5.8						
LVZ				MLR	MLR		
	comp=E,3µm,14.0s,MS5.8						
LVZ				MLR	MLR		
	comp=Z,5µm,14.0s,MS5.9						
LVZ	**Lovozero**	**64.78**	**339**⇓	*e*P	**P**	**11 36 25.2**	**-1.1**
MLR	**Muntele Rosu**	**64.81**	**313**⇓	*i*P	**P**	**11 36 25.9**	**-1.0**
MLR	**Muntele Rosu**	**64.81**	**313**⇓	*i*P	**P**	**11 36 25.9**	**-1.0**
KDZ	**Kurdzhali**	**65.07**	**309**	*e*P	**P**	**11 36 27.0**	**-1.6**
APA	**Apatity**	**65.11**	**338**⇑	*i*P	**P**	**11 36 28.4**	**-0.1**
APA				*i*		11 37 01.0	
APA				pmax	pmax		
	comp=Z,85nm,1.4s,mb5.6						
RZN	**Rozhen**	**65.59**	**309**	P	**P**	**11 36 30.0**	**-2.0**
PGB	**Panagyurishte**	**66.01**	**310**	*e*P	**P**	**11 36 32.5**	**-2.1**
MMB	**Musomiste**	**66.34**	**309**	P	**P**	**11 36 33.0**	**-3.7**
LVV	**L’vov**	**66.34**	**318**	*e*P	**P**	**11 36 35.7**	**-0.9**
LVV				*e*S	S	11 45 22.0	-2.5
FINES	**FINESS Array B**	**66.58**	**331**	P	**P**	**11 36 36.0**	**-1.9**
	comp=Z,11nm,0.6s,mb5.0,baz=106,slow=6.9,SNR=36						
FINES				LR	LR	12 10 19.2	
	comp=Z,6µm,19.0s,MS5.8,baz=100,slow=40						
FINES	**FINESS Array B**	**66.58**	**331**	*i* P	**P**	**11 36 39.2**	**+1.3**
FINES				pmax	pmax		
	comp=Z,11nm,0.6s						
KAF	**Kangasniemi**	**66.59**	**331**	*e*p	**P**	**11 36 36.6**	**-1.4**
	comp=Z,34nm,1.1s,mb5.3,baz=98,slow=5.9						
KAF	**Kangasniemi**	**66.59**	**331**	*e*P	**P**	**11 36 36.6**	**-1.4**
KAF				pmax	pmax		
	comp=Z,34nm,1.1s,mb5.3						
VTS	**Vitosha**	**66.72**	**310**	P	**P**	**11 36 37.0**	**-2.1**
KKB	**Krupnik**	**66.82**	**309**	*i* P	**P**	**11 36 37.5**	**-2.3**
SUW	**Suwalki**	**67.16**	**322**	*e*P	**P**	**11 36 40.0**	**-1.8**
SUW				*e*S	S	11 45 33.5	-0.8
SUW	**Suwalki**	**67.16**	**322**	*e*P	**P**	**11 36 40.0**	**-1.8**
SUW				*e*pP	pP	11 36 41.9	-3.7
SUW				*e*S	S	11 45 33.5	-0.8
KWP	**Kalwaria**	**67.19**	**318**	*e*P	**P**	**11 36 40.3**	**-1.7**
KWP				*e*		11 37 05.6	
KWP				MLR	MLR		
	comp=Z,4µm,21.3s,MS5.6						
KWP	**Kalwaria**	**67.19**	**318**	*e*P	**P**	**11 36 40.3**	**-1.7**
KWP				*e*pP	pP	11 36 43.6	-2.3
KWP				*e*PcP	PcP	11 37 05.6	-4.4
DJES	**Djerdap**	**67.21**	**312**⇑	*i*P	**P**	**11 36 39.8**	**-2.5**
UZH	**Uzhgorod**	**67.43**	**316**	*e*P	**P**	**11 36 42.0**	**-1.6**
UZH				*e*		11 39 09.0	
UZH				*e*S	S	11 45 27.0	-11
KOLS	**Kolonicke sedl**	**67.45**	**317**	*e*P	**P**	**11 36 44.7**	**+1.0**
KOLS				*e*		11 36 57.1	
BOLS	**Boljevac**	**67.62**	**311**⇓	*i*P	**P**	**11 36 42.7**	**-2.2**
BARS	**Barje**	**67.73**	**310**⇓	*i*P	**P**	**11 36 44.8**	**-0.8**
CRVS	**Cervenica-Dubn**	**67.98**	**317**	*e*pP	pP	11 36 51.1	+0.2
CRVS				*e*		11 37 06.1	
KEV	**Kevo**	**68.00**	**340**	*e*p	**P**	**11 36 47.4**	**+0.6**
	comp=Z,2.4nm,0.4s,mb4.6						
KEV	**Kevo**	**68.00**	**340**	*e*P	**P**	**11 36 47.4**	**+0.6**
KEV				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.5						
SKO	**Skopje**	**68.04**	**309**	*i* P	**P**	**11 36 47.5**	**0.0**
WAR	**Warsaw**	**68.36**	**320**	*e*P	**P**	**11 36 47.0**	**-2.3**
WAR				*e*S	S	11 45 44.4	-4.3
WAR				*e*		11 46 43.3	
WAR				MLR	MLR		
	comp=Z,3µm,22.0s,MS5.5						
WAR	**Warsaw**	**68.36**	**320**	*e*P	**P**	**11 36 47.0**	**-2.3**
WAR				*e*pP	pP	11 36 50.2	-2.9
WAR				*e*S	S	11 45 44.4	-4.3
WAR				*e*SKS	SKS	11 46 43.3	-5.8
WAR				LR	LR		
	comp=Z,3µm,22.0s,MS5.5						
ARCES	**ARCESS Array B**	**68.45**	**339**	P	**P**	**11 36 47.8**	**-1.9**
	comp=Z,15nm,0.8s,mb5.1,baz=90,slow=6.1,SNR=34						
ARCES				S	S	11 45 52.8	+3.2
	comp=Z,3.1nm,0.9s,baz=357,slow=26,SNR=2.5						
ARCES				LR	LR	12 10 39.2	
	comp=Z,6µm,20.1s,MS5.8,baz=103,slow=39						
ARE0	**ARCESS Array S**	**68.45**	**339**	*e*P	**P**	**11 36 51.0**	**+1.3**
GRUS	**Gruza**	**68.52**	**311**⇓	*i*P	**P**	**11 36 48.1**	**-2.4**
OHR	**Ohrid**	**68.55**	**308**⇑	*i*P	**P**	**11 36 49.4**	**-1.3**
KECS	**Kecovo**	**68.63**	**316**	*i* P	**P**	**11 36 51.4**	**+0.4**
PSZ	**Piszkesteto**	**69.02**	**316**⇓	*e*P	**P**	**11 36 54.8**	**+1.3**
PSZ	**Piszkesteto**	**69.02**	**316**	P	**P**	**11 36 52.7**	**-0.8**
PSZ				pmax	pmax		
	comp=Z,280nm,2.0s,mb5.8						
DIVS	**Divcibare**	**69.03**	**312**⇑	*i*P	**P**	**11 36 51.7**	**-1.9**
OJC	**Ojcow**	**69.08**	**318**	*e*P	**P**	**11 36 54.3**	**+0.5**
OJC				*e*		11 39 22.1	
OJC				*i* S	S	11 45 54.7	-2.7
OJC				MLR	MLR		
	comp=Z,3µm,18.9s,MS5.6						
KTK1	**Kautokeino**	**69.14**	**338**	*e*P	**P**	**11 36 53.8**	**0.0**
KTK1				AMb	AMB	11 36 58.2	
	comp=Z,106nm,1.9s,mb5.4						
KTK1	**Kautokeino**	**69.14**	**338**	*e*P	**P**	**11 36 53.8**	**0.0**
	comp=Z,106nm,1.9s,mb5.5						
QSH	**Qafa e Shtames**	**69.21**	**309**	*i* p	**P**	**11 36 55.0**	**+0.3**
NVSS	**Nova Varos 2**	**69.27**	**311**⇑	*i*P	**P**	**11 36 52.9**	**-2.2**
VYHS	**Vyhne**	**69.72**	**316**	*e*P	**P**	**11 36 58.1**	**+0.3**
VYHS				*e*S	S	11 46 02.4	-2.5
SRO	**Srobarova**	**70.09**	**316**	*e*P	**P**	**11 37 01.6**	**+1.6**
OKC	**Ostrava-Krasne**	**70.15**	**318**	*e*P	**P**	**11 37 01.8**	**+1.5**
OKC				LR		12 13 30.0	
	comp=Z,3.0nm,16.8s						
MORC	**Moravsky Berou**	**70.55**	**318**	P	**P**	**11 37 01.7**	**-1.0**
MORC				pmax	pmax		
	comp=Z,170nm,1.7s,mb5.7						
MORC	**Moravsky Berou**	**70.55**	**318**	*e*P	**P**	**11 37 01.4**	**-1.3**
	comp=Z,169nm,1.8s,mb5.7						
SMY	**Shemya**	**70.56**	**39**	PFAKE		11 37 10.0	+7.2
SMY				LR	LR		
	comp=Z,6µm,19.0s,MS5.9						
LCI	**Lecce**	**70.64**	**308**	*e*P	**P**	**11 37 03.7**	**+0.2**
GKP	**Gorka Klasztor**	**70.67**	**321**	*e*P	**P**	**11 37 01.8**	**-1.6**
GKP				*e*		11 37 23.1	
GKP				*e*S	S	11 46 14.8	-1.2
GKP	**Gorka Klasztor**	**70.67**	**321**	*e*P	**P**	**11 37 01.8**	**-1.6**
GKP				*e*pP	pP	11 37 05.7	-1.6
GKP				*e*PcP	PcP	11 37 23.1	-1.5
GKP				*e*S	S	11 46 14.8	-1.2
GKP				LR	LR		
	comp=Z,6µm,18.2s,MS5.9						
ARMA	**Armidale**	**70.69**	**131**	*e*P	**P**	**11 37 03.9**	**-0.1**
TOO	**Toolangi**	**70.70**	**140**	*e*P	**P**	**11 37 05.2**	**+1.3**
	comp=Z,11nm,1.2s,mb4.7						
TRO	**Tromso**	**70.75**	**339**	*e*P	**P**	**11 37 03.6**	**0.0**
TRO				*e*S	S	11 46 16.7	+0.2
TRO				*e*SS	SS	11 50 48.1	-2.5
TRO				AMS	AMS	12 12 31.1	
	comp=Z,4µm,17.4s,MS5.7						
STON	**Ston**	**70.76**	**310**	*i* P	**P**	**11 37 03.2**	**-1.0**
ZST	**Bratislava**	**70.89**	**316**	*e*P	**P**	**11 37 06.0**	**+1.1**
ZST				*e*S	S	11 46 07.2	-11
KSP	**Ksiaz**	**71.31**	**319**	*e*P	**P**	**11 37 05.8**	**-1.6**
KSP				*e*PPP	PPP	11 41 32.5	+3.6
KSP				*e*S	S	11 46 23.5	+0.1
KSP				MLR	MLR		
	comp=Z,7µm,20.7s,MS5.9						
KSP	**Ksiaz**	**71.31**	**319**	*e*P	**P**	**11 37 05.8**	**-1.6**
KSP				*e*pP	pP	11 37 09.0	-2.2
KSP				*e*PPP	PPP	11 41 32.5	+3.6
KSP				*e*S	S	11 46 23.5	+0.1
KSP				*e*SS	SS	11 51 06.0	+6.3
KSP				LR	LR		
	comp=Z,7µm,20.7s,MS5.9						
DPC	**Dobruska-Polom**	**71.31**	**318**	*e*P	**P**	**11 37 08.4**	**+1.0**
DPC				*e*S	S	11 46 25.6	+2.2
DPC				LR		12 14 40.0	
	comp=Z,3.4nm,13.5s						
BJO	**Bjornoya**	**71.32**	**344**	AMS	AMS	12 17 25.1	
	comp=Z,4µm,17.5s,MS5.7						
VKA	**Vienna**	**71.41**	**316**⇑	*i*P	**P**	**11 37 09.0**	**+1.0**
	comp=Z,560nm,2.5s,mb6.0						
UPC	**Upice**	**71.50**	**319**	*e*P	**P**	**11 37 08.0**	**-0.5**
TIP	**Timpagrande**	**71.78**	**307**	*e*P	**P**	**11 37 09.3**	**-1.1**
ORI	**Oriolo Calabro**	**71.93**	**308**	*e*P	**P**	**11 37 12.4**	**+1.1**
ARSA	**Arzberg**	**72.01**	**315**⇑	*i*P	**P**	**11 37 11.8**	**+0.2**
	comp=Z,573nm,2.8s,mb6.0						
TDS	**Terranova Siba**	**72.06**	**307**	*e*P	**P**	**11 37 10.8**	**-1.2**
GROS	**Grobnik**	**72.08**	**314**	*e*P	**P**	**11 37 12.7**	**+0.7**
GROS				*e*S	S	11 46 30.9	-1.4
GRI	**Girifalco**	**72.08**	**306**	*e*P	**P**	**11 37 13.4**	**+1.3**
FGMS	**Monte Sant’Ang**	**72.15**	**309**	*e*P	**P**	**11 37 12.8**	**+0.3**
MOR8	**Moi Rana**	**72.19**	**335**	*e*P	**P**	**11 37 12.6**	**+0.2**
MOR8				AMb	AMB	11 37 14.9	
	comp=Z,63nm,1.4s,mb5.4						
MOR8	**Moi Rana**	**72.19**	**335**	*e*P	**P**	**11 37 12.6**	**+0.2**
	comp=Z,63nm,1.4s,mb5.3						
BOJS	**Bojanci**	**72.32**	**313**	*e*P	**P**	**11 37 14.2**	**+0.7**
PVCC	**Panska Ves**	**72.42**	**319**	*e*P	**P**	**11 37 15.8**	**+1.8**
PVCC				LR		12 15 10.0	
	comp=Z,4.5nm,14.3s						
SOI	**Samo**	**72.44**	**305**	*e*P	**P**	**11 37 15.5**	**+1.1**
PDKS	**Podkum**	**72.45**	**314**	*e*P	**P**	**11 37 15.4**	**+1.1**
PRU	**Pruhonice**	**72.47**	**318**	*e*P	**P**	**11 37 13.4**	**-0.9**
	comp=Z,140nm,1.7s,mb5.6						
PRU				*e*S	S	11 46 40.4	+3.6
PRU				LR		12 15 00.0	
	comp=Z,3.7nm,15.0s						
PRU	**Pruhonice**	**72.47**	**318**	*e*P	**P**	**11 37 13.4**	**-0.9**
PRU				*e*S	S	11 46 40.4	+3.6
PRU				pmax	pmax		
	comp=Z,140nm,1.7s,mb5.6						
PRU				MLR	MLR		
	comp=Z,4µm,15.0s,MS5.8						
SLCN	**Sala Consilina**	**72.52**	**308**	*e*P	**P**	**11 37 15.5**	**+0.7**
LOF	**Lofoten**	**72.59**	**337**	*e*P	**P**	**11 37 17.5**	**+2.9**
MRLC	**Muro Lucano**	**72.59**	**308**	*e*P	**P**	**11 37 15.8**	**+0.6**
MTTG	**Motta San Giov**	**72.74**	**305**	*e*P	**P**	**11 37 16.8**	**+0.7**
LJU	**Ljubljana**	**72.78**	**314**	*e*P	**P**	**11 37 17.5**	**+1.3**
LJU				*e*		11 38 24.0	
LJU				*e*S	S	11 46 40.6	+0.2
LJU	**Ljubljana**	**72.78**	**314**	*e*P	**P**	**11 37 17.5**	**+1.3**
LJU				*e*S	S	11 46 40.6	+0.2
RUE	**Ruedersdorf**	**72.79**	**321**	*e*P	**P**	**11 37 15.9**	**-0.2**
	comp=Z,158nm,1.4s,mb5.8						
BRG	**Berggiesshubel**	**72.80**	**319**	*i* P	**P**	**11 37 17.4**	**+1.2**
BRG				*i* S	S	11 46 43.0	+2.6
BRG				pmax	pmax		
	comp=Z,121nm,1.6s,mb5.6						
BRG				MLR	MLR		
	comp=Z,5µm,15.5s,MS5.9						
BRG				MLR	MLR		
	comp=N,4µm,15.7s,MS5.9						
BRG				MLR	MLR		
	comp=E,3µm,15.7s,MS5.9						
BRG	**Berggiesshubel**	**72.80**	**319**	*i* P	**P**	**11 37 17.4**	**+1.2**
	comp=E,121nm,1.6s,mb5.6						
BRG				*e*	pP	11 37 21.0	+1.0
BRG				*i* S	S	11 46 43.0	+2.6
BRG				*e*		11 54 44.0	
BRG				LR	LR		
	comp=Z,5µm,15.5s,MS5.9						
MOA	**Molln**	**72.81**	**316**⇑	*i*P	**P**	**11 37 17.0**	**+0.7**
	comp=Z,212nm,2.8s,mb5.6						
GEC2	**GERESS Array S**	**73.11**	**317**	*e*P	**P**	**11 37 19.1**	**+1.1**
GEC2				pmax	pmax		
	comp=Z,73nm,1.4s,mb5.4						
GEC2	**GERESS Array S**	**73.11**	**317**	*e*P	**P**	**11 37 19.1**	**+1.1**

	comp=Z,73nm,1.4s,mb5.4						
GERES	**GERESS Array B**	**73.11**	**317**	P	**P**	**11 37 16.7**	**-1.3**
	comp=Z,8.8nm,0.7s,mb4.8,baz=79,slow=6.8,SNR=24						
KHC	**Kasperske Hory**	**73.16**	**317**	*e*P	**P**	**11 37 19.0**	**+0.6**
KHC				*e*S	S	11 46 38.6	-6.0
KHC				LR		12 17 30.0	
	comp=Z,2.2nm,15.0s						
AGST	**Augusta-Monte**	**73.19**	**305**	*e*P	**P**	**11 37 19.3**	**+0.5**
VOY	**Vojsko**	**73.22**	**314**	*e*P	**P**	**11 37 17.8**	**-1.0**
NSS	**Namsos**	**73.23**	**333**	*e*S	S	11 46 44.2	-0.9
NSS				AMS	AMS	12 13 41.4	
	comp=Z,4µm,16.1s,MS5.8						
CLL	**Collm**	**73.36**	**319**	⇑P	**P**	**11 37 20.1**	**+0.6**
	comp=Z,logA/T=1.8,mb5.5						
CLL				*i* *PP	pP	11 37 23.8	+0.5
CLL				*i* PCP	PcP	11 37 40.8	+4.8
CLL				*e*PPP	PPP	11 41 54.0	+5.3
CLL				*e*S	S	11 46 48.0	+1.3
CLL				*e*PS	PS	11 47 17.0	-4.1
CLL				*e*PPS	PPS	11 47 35.0	-0.5
CLL				*e*SS	SS	11 51 30.0	-1.4
CLL	**Collm**	**73.36**	**319**	⇑*i*P	**P**	**11 37 20.1**	**+0.6**
CLL				*e*S	S	11 46 48.0	+1.3
CLL				pmax	pmax		
	comp=Z,106nm,1.6s,mb5.5						
CLL	**Collm**	**73.36**	**319**	⇑*i*P	**P**	**11 37 20.1**	**+0.6**
	comp=Z,106nm,1.6s,mb5.5						
CLL				*i*	pP	11 37 23.8	+0.5
CLL				*e*S	S	11 46 48.0	+1.3
KBS	**Kingsbay**	**73.44**	**348**	*e*P	**P**	**11 37 19.3**	**-0.2**
KBS				*e*S	S	11 46 44.6	-2.6
KBS				*e*SS	SS	11 51 32.6	+0.5
KBS				AMS	AMS	12 19 00.2	
	comp=Z,3µm,17.0s,MS5.7						
KBS	**Kingsbay**	**73.44**	**348**	*e*P	**P**	**11 37 23.5**	**+4.1**
KBS				LR	LR		
	comp=Z,5µm,21.0s,MS5.8						
KBA	**Koelnbreinsper**	**73.50**	**315**	⇓*i*P	**P**	**11 37 20.6**	**+0.2**
	comp=Z,369nm,3.9s						
LSZ	**Lusaka**	**73.52**	**248**	*e*P	**P**	**11 37 19.3**	**-1.7**
	comp=Z,164nm,1.8s,mb5.7						
LSZ				LR	LR		
	comp=Z,4µm,20.0s,MS5.7						
PTCC	**Patocco-Chiusa**	**73.56**	**314**	*e*P	**P**	**11 37 21.3**	**+0.5**
WET	**Wettzell**	**73.62**	**317**	*e*P	**P**	**11 37 22.1**	**+1.1**
WET				pmax	pmax		
	comp=Z,95nm,1.6s,mb5.5						
WET	**Wettzell**	**73.62**	**317**	*e*P	**P**	**11 37 22.1**	**+1.1**
	comp=Z,95nm,1.6s,mb5.5						
INTR	**Introdacqua**	**73.64**	**310**	*e*P	**P**	**11 37 21.0**	**-0.3**
NB2	**NORSAR Subarra**	**73.71**	**330**	P	**P**	**11 37 19.5**	**-1.8**
	comp=Z,21nm,0.8s,mb5.1,baz=88,slow=5.8						
NB2	**NORSAR Subarra**	**73.71**	**330**	P	**P**	**11 37 19.5**	**-1.8**
	baz=88,slow=5.9						
NOA	**NORSAR Array B**	**73.71**	**330**	P	**P**	**11 37 19.9**	**-1.4**
	comp=Z,14nm,0.7s,mb5.0,baz=88,slow=5.9,SNR=44						
NOA				LR	LR	12 14 39.4	
	comp=Z,5µm,18.6s,MS5.8,baz=90,slow=40						
NKC	**Novy Kostel**	**73.80**	**318**	*e*P	**P**	**11 37 22.5**	**+0.5**
NKC				LR		12 16 10.0	
	comp=Z,4.5nm,15.3s						
VAE	**Valguarnera**	**73.81**	**305**	P	**P**	**11 37 22.0**	**-0.3**
	comp=Z,5.8nm,0.3s,mb5.0,baz=53,slow=9.9,SNR=2.7						
NAO01	**NORSAR Array S**	**73.88**	**329**	*e*P	**P**	**11 37 21.4**	**-0.9**
	comp=Z,12nm,0.8s,mb4.9						
NAO01				LR	LR		
	comp=Z,4µm,20.0s,MS5.7						
FVI	**Forni Avoltri**	**73.94**	**315**	*e*P	**P**	**11 37 23.7**	**+0.8**
AQU	**L'Aquila**	**73.97**	**310**	*e*P	**P**	**11 37 22.4**	**-0.8**
AQU				pmax	pmax		
	comp=Z,68nm,1.1s,mb5.5						
AQU	**L'Aquila**	**73.97**	**310**	*e*P	**P**	**11 37 22.4**	**-0.8**
	comp=Z,68nm,1.1s,mb5.5						
PTQR	**Pietraquaria**	**74.01**	**310**	*e*P	**P**	**11 37 24.0**	**+0.6**
ARV	**Arcevia**	**74.17**	**311**	*e*P	**P**	**11 37 26.0**	**+1.7**
MOX	**Moxa**	**74.29**	**319**	*i* P	**P**	**11 37 26.1**	**+1.2**
	comp=Z,logA/T=2.0,mb5.7						
MOX				S	S	11 47 01.0	+3.8
MOX				L		12 15 01.0	
MOX	**Moxa**	**74.29**	**319**	*e*P	**P**	**11 37 26.1**	**+1.2**
MOX				pmax	pmax		
	comp=Z,196nm,2.1s,mb5.7						
MOX				MLR	MLR		
	comp=Z,2µm,22.0s,MS5.5						
MOX	**Moxa**	**74.29**	**319**	*e*P	**P**	**11 37 26.1**	**+1.2**
	comp=Z,196nm,2.1s,mb5.7						
MOX				*e*S	S	11 47 01.0	+3.8
MOX				LR	LR		
	comp=Z,2µm,22.0s,MS5.5						
KONO	**Kongsberg**	**74.61**	**328**	PFAKE		11 37 40.0	+13
KONO				LR	LR		
	comp=Z,5µm,20.0s,MS5.8						
GRA1	**Grafenberg Arr**	**74.64**	**318**	*e*P	**P**	**11 37 28.6**	**+1.7**
	comp=Z,203nm,1.6s,mb5.8						
GRA1				*e*S	S	11 47 11.9	+11
GRA1				LR	LR		
	comp=Z,4µm,18.6s,MS5.7						
GRF	**Grafenberg Arr**	**74.64**	**318**	*e*P	**P**	**11 37 28.6**	**+1.7**
GRF				pmax	pmax		
	comp=Z,203nm,1.6s,mb5.8						
WTTA	**Wattenberg**	**74.64**	**315**	⇑*i*P	**P**	**11 37 27.2**	**+0.2**
	comp=Z,288nm,2.3s,mb5.8						
WATA	**Walderalm**	**74.67**	**315**	⇑*i*P	**P**	**11 37 28.0**	**+0.8**
	comp=Z,86nm,1.7s,mb5.4						
BSEG	**Bad Segeberg**	**74.75**	**322**	*e*P	**P**	**11 37 29.6**	**+2.1**
BSEG				pmax	pmax		
	comp=Z,191nm,1.5s,mb5.8						
CTI	**Castel Tesino**	**74.78**	**314**	*e*P	**P**	**11 37 28.8**	**+1.0**
FUR	**Furstenfeldbru**	**74.78**	**316**	*e*P	**P**	**11 37 29.4**	**+1.6**
CRE	**Caprese Michel**	**74.87**	**312**	*e*P	**P**	**11 37 30.1**	**+1.7**
SFI	**Santa Sofia**	**74.91**	**312**	*e*P	**P**	**11 37 30.9**	**+2.3**
SQTA	**Sankt Quirin**	**74.94**	**315**	⇑*i*P	**P**	**11 37 28.3**	**-0.4**
	comp=Z,98nm,1.7s,mb5.5						
CLZ	**Clausthal**	**74.94**	**320**	*e*P	**P**	**11 37 30.0**	**+1.4**
	comp=Z,118nm,1.4s,mb5.6						
MOTA	**Moosalm**	**74.99**	**315**	⇑*i*P	**P**	**11 37 28.7**	**-0.3**
	comp=Z,77nm,1.6s,mb5.4						
PGD	**Poggio Sodo**	**75.00**	**312**	*e*P	**P**	**11 37 29.9**	**+0.7**
TOLF	**Tolfa**	**75.04**	**310**	*e*P	**P**	**11 37 29.0**	**-0.4**
VMG	**Vicchio**	**75.12**	**312**	*e*P	**P**	**11 37 30.9**	**+1.1**
MUD	**Monsted U'grnd**	**75.14**	**325**	*i* P	PcP	11 37 49.3	+5.7
MUD				*i* S	S	11 47 15.1	+8.5
	comp=Z,5µm,17.0s						
SEI	**Scarperia**	**75.24**	**312**	*e*P	**P**	**11 37 33.7**	**+3.2**
MOL	**Molde**	**75.33**	**331**	*e*P	**P**	**11 37 34.6**	**+4.0**
MOL				AMb	AMB	11 37 36.6	
	comp=Z,174nm,1.9s,mb5.7						
MOL	**Molde**	**75.33**	**331**	*e*P	**P**	**11 37 34.6**	**+4.0**
	comp=Z,174nm,1.9s,mb5.7						
CSNT	**Castellina Chi**	**75.36**	**312**	*e*P	**P**	**11 37 31.6**	**+0.4**
ZCCA	**Zocca**	**75.47**	**312**	*e*P	**P**	**11 37 34.1**	**+2.3**
BRMO	**Bormio**	**75.60**	**315**	*e*P	**P**	**11 37 34.5**	**+1.9**
SAL	**Salo**	**75.61**	**314**	*e*P	**P**	**11 37 34.7**	**+2.1**
GRFL	**Gerfalco**	**75.64**	**311**	*e*P	**P**	**11 37 33.5**	**+0.7**
GSCL	**Gusciola**	**75.74**	**312**	*e*P	**P**	**11 37 33.2**	**-0.2**
BDI	**Bagni Di Lucca**	**75.78**	**312**	*e*P	**P**	**11 37 33.4**	**-0.1**
DAVA	**Damuels**	**75.82**	**316**	⇑*i*P	**P**	**11 37 34.5**	**+0.7**
	comp=Z,457nm,3.8s						
ERBM	**Eremo**	**75.86**	**313**	*e*P	**P**	**11 37 36.8**	**+2.8**
DAVOX	**Davos**	**75.89**	**315**	P	**P**	**11 37 33.1**	**-1.1**
	comp=Z,7.9nm,0.6s,mb4.9,baz=59,slow=5.1,SNR=12						
BOB	**Bobbio (Coli)**	**76.49**	**313**	*e*P	**P**	**11 37 38.4**	**+0.9**
BFO	**Black Forest**	**76.71**	**317**	*e*P	**P**	**11 37 39.3**	**+0.6**
BFO				pmax	pmax		
	comp=Z,92nm,1.9s,mb5.4						
BFO	**Black Forest**	**76.71**	**317**	*e*P	**P**	**11 37 39.3**	**+0.6**
	comp=Z,92nm,1.9s,mb5.4						
VAI	**Varese**	**76.79**	**314**	*e*P	**P**	**11 37 39.5**	**+0.3**
LANF	**Langenberg**	**76.95**	**317**	*e*P	**P**	**11 37 41.2**	**+1.2**
FELD	**Feldberg**	**76.99**	**316**	*e*P	**P**	**11 37 41.1**	**+0.8**
WTSB	**Winterswijk**	**77.12**	**321**	*e*P	**P**	**11 37 42.9**	**+2.0**
	comp=Z,54nm,1.5s,mb5.3						
PGF	**Pioggiola**	**77.17**	**311**	*e*P	**P**	**11 37 40.3**	**-1.1**
	comp=Z,422nm,1.9s,mb5.8						
LIBD	**Limburg**	**77.22**	**317**	*e*P	**P**	**11 37 42.2**	**+0.7**
WLS	**Welschbruch**	**77.34**	**317**	*e*P	**P**	**11 37 42.8**	**+0.6**
CDF	**Champ du Feu**	**77.39**	**317**	*e*P	**P**	**11 37 42.8**	**+0.3**
	comp=Z,60nm,1.2s,mb5.1						
FIN	**Finale Ligure**	**77.45**	**313**	*e*P	**P**	**11 37 41.0**	**-1.9**
ECH	**Echery**	**77.50**	**317**	*e*P	**P**	**11 37 43.8**	**+0.7**
MOF	**Molkenrain**	**77.58**	**316**	*e*P	**P**	**11 37 44.2**	**+0.7**
HINF	**Hinteralfeld**	**77.77**	**316**	*e*P	**P**	**11 37 44.8**	**+0.2**
HGN	**Heimansgroeve**	**77.85**	**319**	*e*P	**P**	**11 37 45.8**	**+0.9**
	comp=Z,19nm,2.2s,mb4.6						
HGN				*i* S	S	11 47 33.9	-2.3
HGN				*e*SS	SS	11 52 46.0	+6.2
WLF	**Walferdange**	**77.90**	**318**	*e*P	**P**	**11 37 46.0**	**+0.7**
WLF				pmax	pmax		
	comp=Z,70nm,1.2s,mb5.5						
WLF	**Walferdange**	**77.90**	**318**	*e*P	**P**	**11 37 46.0**	**+0.7**
	comp=Z,70nm,1.3s,mb5.4						
SAOF	**Saorge**	**77.96**	**312**	*e*P	**P**	**11 37 46.8**	**+1.1**
AUTN	**L'Aution**	**78.05**	**312**	*e*P	**P**	**11 37 47.8**	**+1.6**
SBF	**Sospel**	**78.06**	**312**	*e*P	**P**	**11 37 46.7**	**+0.4**
HAU	**Haudompre**	**78.07**	**317**	*e*P	**P**	**11 37 46.7**	**+0.5**
HAU				*e*R			
	comp=Z,4µm,19.0s						
REVF	**Revere**	**78.14**	**312**	*e*P	**P**	**11 37 48.0**	**+1.3**
AURF	**Auriere**	**78.14**	**312**	*e*P	**P**	**11 37 47.2**	**+0.5**
LPG	**La Plagne**	**78.25**	**314**	*e*P	**P**	**11 37 47.5**	**+0.2**
	comp=Z,43nm,0.9s,mb5.1						
THEF	**They Montfort**	**78.27**	**317**	*e*P	**P**	**11 37 48.3**	**+1.0**
RSL	**Roselend**	**78.30**	**314**	*e*P	**P**	**11 37 48.5**	**+1.0**
TNA	**Tin City**	**78.37**	**25**	PFAKE		11 38 00.0	+12
TNA				LR	LR		
	comp=Z,3µm,19.0s,MS5.7						
MBDF	**Montbardon**	**78.38**	**313**	*e*P	**P**	**11 37 47.9**	**-0.1**
	comp=Z,144nm,1.6s,mb5.4						
BNI	**Bardonecchia**	**78.38**	**314**	*e*P	**P**	**11 37 47.8**	**-0.2**
BNI				pmax	pmax		
	comp=Z,85nm,1.7s,mb5.4						
BNI	**Bardonecchia**	**78.38**	**314**	*e*P	**P**	**11 37 47.8**	**-0.2**
	comp=Z,84nm,1.7s,mb5.4						
SURF	**Saint Ours**	**78.39**	**313**	*e*P	**P**	**11 37 49.4**	**+1.3**
CALN	**Calern**	**78.47**	**312**	*e*P	**P**	**11 37 50.1**	**+1.6**
CABF	**La Chapelle**	**78.50**	**315**	*e*P	**P**	**11 37 49.2**	**+0.6**
	comp=Z,339nm,1.7s,mb5.7						
GIVF	**Givet**	**78.67**	**319**	*e*P	**P**	**11 37 50.3**	**+0.8**
FRF	**La Foret Royal**	**78.68**	**312**	*e*P	**P**	**11 37 50.2**	**+0.5**
	comp=Z,351nm,1.5s,mb5.8						
LMR	**La Mourre**	**78.82**	**312**	*e*P	**P**	**11 37 50.0**	**-0.5**
	comp=Z,258nm,1.6s,mb5.6						
ORIF	**Oris-en-Rattie**	**78.96**	**314**	*e*P	**P**	**11 37 51.7**	**+0.5**
ORIF				*e*R			
	comp=Z,4µm,22.2s						
GRN	**Grenoble**	**78.99**	**314**	*e*P	**P**	**11 37 52.8**	**+1.4**
OG05	**Jujurieux**	**79.03**	**315**	*e*P	**P**	**11 37 52.2**	**+0.6**
BAIF	**Baives**	**79.07**	**319**	*e*P	**P**	**11 37 52.6**	**+0.9**
TAVF	**Tavernes**	**79.09**	**312**	*e*P	**P**	**11 37 53.4**	**+1.5**
VILF	**Villemus**	**79.29**	**313**	*e*P	**P**	**11 37 54.3**	**+1.3**
PUYF	**Puyloubier**	**79.36**	**312**	*e*P	**P**	**11 37 55.3**	**+1.9**
SMRF	**Simiane la Rot**	**79.36**	**313**	*e*P	**P**	**11 37 53.0**	**-0.4**
BERF	**Bertagne**	**79.41**	**312**	*e*P	**P**	**11 37 55.7**	**+2.0**
TREF	**Trevaresse**	**79.57**	**312**	*e*P	**P**	**11 37 56.2**	**+1.7**
GELF	**Grande-Etoile**	**79.59**	**312**	*e*P	**P**	**11 37 56.2**	**+1.6**
PRAF	**Pradon**	**79.69**	**313**	*e*P	**P**	**11 37 56.9**	**+1.8**
JMIC	**Jan Mayen**	**79.78**	**341**	AMS	AMS	12 16 35.0	
	comp=Z,2µm,20.9s,MS5.4						
VIVF	**Saint-Julien-l**	**79.81**	**314**	*e*P	**P**	**11 37 56.4**	**+0.6**
	comp=Z,174nm,1.6s,mb5.4						
LOR	**Lormes**	**79.86**	**316**	*e*P	**P**	**11 37 56.4**	**+0.4**
	comp=Z,269nm,1.6s,mb5.6						
LOR				*e*R			
	comp=Z,3µm,21.8s						
SMF	**Signal de Mont**	**80.01**	**316**	*e*P	**P**	**11 37 57.1**	**+0.3**
MIDW	**Midway**	**80.01**	**63**	PFAKE		11 38 10.0	+13
MIDW				LR	LR		
	comp=Z,853nm,20.0s,MS5.1						
SSF	**Saint Saulge**	**80.14**	**316**	*e*P	**P**	**11 37 58.0**	**+0.5**
DAG	**Danmarks Havn**	**80.14**	**348**	⇑*i*P	**P**	**11 37 58.2**	**+1.2**
	comp=Z,52nm,1.2s,mb5.3						
COLF	**Collangettes**	**80.35**	**315**	*e*P	**P**	**11 37 59.7**	**+1.0**
LASF	**Ste Croix**	**80.55**	**313**	*e*P	**P**	**11 38 00.5**	**+0.7**
	comp=Z,231nm,1.7s,mb5.5						
HYF	**Humbligny**	**80.67**	**316**	*e*P	**P**	**11 38 01.5**	**+1.2**
BGF	**Bois d'Agland**	**80.70**	**316**	*e*P	**P**	**11 38 01.3**	**+0.8**
LBL	**Lubilhac**	**80.72**	**314**	*e*P	**P**	**11 38 02.0**	**+1.4**
PYM	**Petit Puy Mans**	**80.77**	**315**	*e*P	**P**	**11 38 01.8**	**+0.9**
VERF	**Verneugheol**	**81.13**	**315**	*e*P	**P**	**11 38 04.1**	**+1.4**
BOSA	**Boshof**	**81.15**	**237**	*e*P	**P**	**11 38 02.2**	**-1.1**
	comp=Z,58nm,0.8s,mb5.6						
BOSA				LR	LR		
	comp=Z,2µm,19.0s,MS5.5						
TCF	**Toulx Ste Croi**	**81.19**	**316**	*e*P	**P**	**11 38 03.9**	**+0.9**
	comp=Z,245nm,1.5s,mb5.6						
CAF	**Calviac**	**81.61**	**314**	*e*P	**P**	**11 38 06.2**	**+0.9**
	comp=Z,135nm,1.5s,mb5.3						
EJON	**La Jonquera**	**81.61**	**312**	P	**P**	**11 38 07.0**	**+1.7**
	comp=Z,13nm,1.0s,mb4.8						
LRN	**Richmond**	**81.65**	**324**	*e*P	**P**	**11 38 07.7**	**+2.4**
HPK	**Haverah Park**	**81.68**	**324**	*e*P	**P**	**11 38 07.7**	**+2.3**
MTLF	**Montolieu**	**81.88**	**313**	*e*P	**P**	**11 38 07.6**	**+0.9**
	comp=Z,198nm,1.6s,mb5.5						
RJF	**Les Rejaudoux**	**81.89**	**315**	*e*P	**P**	**11 38 08.0**	**+1.3**
RJF				*e*R			
	comp=Z,2µm,22.5s						
UNV	**Unalaska Valle**	**81.91**	**36**	PFAKE		11 38 20.0	+13
UNV				LR	LR		
	comp=Z,7µm,21.0s,MS6.0						
LHO	**Holmfirth**	**81.92**	**323**	*e*P	**P**	**11 38 08.8**	**+2.1**
EDI	**Edinburgh**	**82.01**	**326**	*e*P	**P**	**11 38 09.2**	**+2.1**
EDI				AMb	AMB	11 38 11.3	
	comp=Z,119nm,1.8s,mb5.5						
KWE	**Weaver Farm**	**82.06**	**323**	*e*P	**P**	**11 38 08.6**	**+1.2**
LDF	**La Druitiere**	**82.16**	**318**	*e*P	**P**	**11 38 09.0**	**+1.0**
EAU	**Auchinoon**	**82.18**	**326**	*e*P	**P**	**11 38 10.2**	**+2.3**
EAU				AMb	AMB	11 38 12.4	
	comp=Z,135nm,1.7s,mb5.6						
ESK	**Eskdalemuir**	**82.19**	**325**	*e*P	**P**	**11 38 10.4**	**+2.3**
ESK				AMb	AMB	11 38 12.3	
	comp=Z,107nm,1.8s,mb5.5						
VALF	**Valcebollere**	**82.25**	**312**	*e*P	**P**	**11 38 10.5**	**+1.9**
FLN	**La Foliniere**	**82.34**	**318**	*e*P	**P**	**11 38 09.8**	**+0.8**
	comp=Z,322nm,1.6s,mb5.7						
FLN				*e*R			
	comp=Z,4µm,21.0s						
LFF	**La Frestale**	**82.52**	**314**	*e*P	**P**	**11 38 11.1**	**+1.1**
CASY	**Casey**	**82.55**	**174**	*e*P	**P**	**11 38 10.4**	**+0.7**
EAB	**Aberfoyle**	**82.56**	**326**	*e*P	**P**	**11 38 12.0**	**+2.0**
EAB				AMb	AMB	11 38 16.8	
	comp=Z,79nm,1.4s,mb5.5						
GRR	**Gorron**	**82.69**	**318**	*e*P	**P**	**11 38 11.8**	**+1.0**
	comp=Z,281nm,1.7s,mb5.7						
MFF	**Saint Martin d**	**82.69**	**316**	*e*P	**P**	**11 38 11.6**	**+0.8**
	comp=Z,225nm,1.4s,mb5.7						
EMIR	**Miracle**	**82.72**	**311**	P	**P**	**11 38 13.3**	**+2.2**
	comp=Z,32nm,1.0s,mb5.3						
MLS	**Moulis**	**82.77**	**312**	*e*P	**P**	**11 38 12.0**	**+0.7**
EPOB	**Poblet**	**83.19**	**311**	P	**P**	**11 38 15.5**	**+1.9**
	comp=Z,15nm,0.8s,mb5.1						
EPF	**Esparros**	**83.29**	**313**	*e*P	**P**	**11 38 14.5**	**+0.5**
	comp=Z,98nm,1.7s,mb5.3						
RESF	**Ens**	**83.35**	**312**	*e*P	**P**	**11 38 16.1**	**+1.8**
EGRA	**Graus**	**83.52**	**312**	P	**P**	**11 38 17.2**	**+1.9**
	comp=Z,25nm,0.9s,mb5.3						
VIEF	**Viey**	**83.55**	**313**	*e*P	**P**	**11 38 17.5**	**+2.1**
EIBI	**Ibiza**	**83.59**	**309**	P	**P**	**11 38 17.5**	**+1.8**
	comp=Z,16nm,1.1s,mb5.1						
EBR	**Ebro Roquetas**	**83.76**	**311**	*e*P	**P**	**11 38 19.0**	**+2.5**
IMA	**Indian Mountai**	**83.76**	**23**	*e*P	**P**	**11 38 16.1**	**+0.2**
	comp=Z,11nm,1.0s,mb4.9						
SGMF	**Saint Gilles**	**83.81**	**318**	*e*P	**P**	**11 38 17.7**	**+1.1**
	comp=Z,52nm,0.9s,mb5.4						
ETSF	**Etsaut**	**83.96**	**313**	*e*P	**P**	**11 38 18.7**	**+1.2**
	comp=Z,77nm,1.4s,mb5.3						
FDAF	**Les Forges d'A**	**83.98**	**313**	*e*P	**P**	**11 38 18.9**	**+1.3**
ESAC	**San Caprasio**	**84.21**	**312**	P	**P**	**11 38 20.9**	**+2.1**
	comp=Z,25nm,0.7s,mb5.5						
LARF	**Larrau**	**84.22**	**313**	*e*P	**P**	**11 38 20.5**	**+1.7**
ROSF	**Rostrenen**	**84.25**	**319**	*e*P	**P**	**11 38 19.8**	**+1.0**
QUIF	**Quistinic**	**84.30**	**318**	*e*P	**P**	**11 38 19.6**	**+0.6**
SJPF	**Ste Jean**	**84.37**	**313**	*e*P	**P**	**11 38 20.7**	**+1.2**
	comp=Z,136nm,1.4s,mb5.6						
TSUM	**Tsumeb**	**84.37**	**248**	*e*P	**P**	**11 38 19.5**	**-0.6**
	comp=Z,65nm,1.7s,mb5.5						
TSUM				LR	LR		
	comp=Z,3µm,22.0s,MS5.6						
EALK	**Alkurruntz**	**84.54**	**313**	P	**P**	**11 38 22.8**	**+2.5**
	comp=Z,11nm,0.9s,mb5.0						
EMOS	**Mosqueruela**	**84.59**	**310**	P	**P**	**11 38 23.9**	**+3.2**
	comp=Z,36nm,1.2s,mb5.4						
EBEN	**Beniarda**	**84.86**	**309**	P	**P**	**11 38 24.3**	**+2.3**
	comp=Z,36nm,1.1s,mb5.4						
ETOR	**Torete**	**85.61**	**311**	P	**P**	**11 38 28.5**	**+2.7**
	comp=Z,105nm,1.9s,mb5.7						
EMUR	**La Murta**	**85.87**	**308**	P	**P**	**11 38 28.9**	**+1.8**
	comp=Z,134nm,2.2s,mb5.8						
ETOB	**Tobarra**	**85.87**	**309**	P	**P**	**11 38 29.8**	**+2.7**
	comp=Z,12nm,0.7s,mb5.2						
ELAN	**Lanestosa**	**85.88**	**314**	P	**P**	**11 38 29.5**	**+2.5**
	comp=Z,39nm,1.3s,mb5.5						
COLA	**College**	**86.47**	**23**	*e*P	**P**	**11 38 28.3**	**-1.1**
COLA				pmax	pmax		
	comp=Z,33nm,1.2s,mb5.4						
COLA	**College**	**86.47**	**23**	*e*P	**P**	**11 38 28.3**	**-1.1**
	comp=Z,33nm,1.2s,mb5.4						
MAW	**Mawson**	**86.54**	**192**	P	**P**	**11 38 27.9**	**-1.8**
	comp=Z,6.8nm,1.1s,mb4.8,baz=28,slow=7.9,SNR=8.7						
MAW				PKKPbc		11 56 27.0	
	comp=Z,3.1nm,1.1s,baz=101,slow=3.1,SNR=3.7						
MAW				LR	LR	12 13 04.0	
	comp=Z,3µm,19.0s,MS5.7,baz=28,slow=33						
MAW	**Mawson**	**86.54**	**192**	*e*P	**P**	**11 38 28.6**	**-1.2**
	comp=Z,26nm,0.6s,mb5.6						
MAW				LR	LR		
	comp=Z,4µm,20.0s,MS5.8						
EVIA	**Vianos**	**86.59**	**309**	P	**P**	**11 38 32.7**	**+2.0**
	comp=Z,17nm,0.9s,mb5.3						
MCK	**McKinley**	**86.63**	**24**	P	**P**	**11 38 29.7**	**-0.5**
MCK				pmax	pmax		
	comp=Z,29nm,1.0s,mb5.5						
MCK	**McKinley**	**86.63**	**24**	*e*P	**P**	**11 38 29.4**	**-0.9**
	comp=Z,29nm,1.1s,mb5.4						
MCK				LR	LR		
	comp=Z,2µm,22.0s,MS5.6						
ILAR	**Eielson Array**	**86.88**	**22**	P	**P**	**11 38 29.8**	**-1.6**
	comp=Z,5.3nm,0.7s,mb4.9,baz=296,slow=4.5,SNR=51						
ILAR				PP	PP	11 41 54.8	-1.9
	comp=Z,0.9nm,0.9s,baz=298,slow=6.6,SNR=2.7						
ILAR				PKKPbc		11 56 25.6	
	comp=Z,0.4nm,0.7s,baz=147,slow=1.9,SNR=7.1						
EQES	**Quesada**	**87.27**	**308**	P	**P**	**11 38 35.1**	**+1.1**
	comp=Z,14nm,1.0s,mb5.1						
ESDC	**Sonseca Array**	**87.35**	**310**	P	**P**	**11 38 34.1**	**-0.2**
	comp=Z,6.8nm,0.8s,mb5.0,baz=55,slow=4.8,SNR=22						
ESDC				S	S	11 49 00.2	-12
	comp=Z,30nm,0.4s,baz=190,slow=26,SNR=32						
ESDC				LR	LR	12 20 53.1	
	comp=Z,948nm,21.5s,MS5.2,baz=100,slow=38						
ESDC	**Sonseca Array**	**87.35**	**310**	P	**P**	**11 38 34.8**	**+0.4**
	comp=Z,5.9nm,0.8s,mb4.9						
ESLA	**Sonseca Array**	**87.35**	**310**	*e*P	**P**	**11 38 35.8**	**+1.5**
	comp=Z,4.2nm,1.1s,mb4.6						
ESLA				LR	LR		
	comp=Z,6µm,21.0s,MS6.0						
FIB	**Fire Island**	**87.37**	**26**	PFAKE		11 38 50.0	+16
FIB				LR	LR		
	comp=Z,3µm,21.0s,MS5.7						
PMR	**Palmer**	**87.60**	**26**	P	**P**	**11 38 36.3**	**+1.3**
PMR				pmax	pmax		
	comp=Z,40nm,1.4s,mb5.5						
PMR	**Palmer**	**87.60**	**26**	*e*P	**P**	**11 38 35.0**	**0.0**
	comp=Z,40nm,1.4s,mb5.5						
PMR				LR	LR		
	comp=Z,4µm,20.0s,MS5.8						
SML	**Sawmill**	**87.83**	**25**	*e*P	**P**	**11 38 35.9**	**-0.2**
KDAK	**Kodiak Island**	**87.84**	**30**	PFAKE		11 38 50.0	+14
KDAK				LR	LR		
	comp=Z,846nm,20.0s,MS5.2						
THY	**Trims Highway**	**88.02**	**23**	*e*P	**P**	**11 38 38.1**	**+1.1**
ELUQ	**Luque**	**88.24**	**308**	P	**P**	**11 38 39.8**	**+1.2**
	comp=Z,4.1nm,0.3s,mb5.1						
EADA	**Adamuz**	**88.28**	**309**	P	**P**	**11 38 39.9**	**+1.0**
	comp=Z,20nm,1.1s,mb5.3						
ELOJ	**Sierra Loja**	**88.29**	**308**	P	**P**	**11 38 39.2**	**+0.3**
	comp=Z,1.7nm,0.3s,mb4.8						
EPON	**Pontenova**	**88.42**	**315**	P	**P**	**11 38 41.4**	**+2.0**
	comp=Z,19nm,1.1s,mb5.2						
DRV	**Dumont d'Urvil**	**88.45**	**164**	S	S	11 49 08.0	-14
DRV				SS	SS	11 55 07.0	-9.0
ECAL	**Calabor**	**88.60**	**313**	P	**P**	**11 38 42.0**	**+1.7**
	comp=Z,31nm,1.1s,mb5.5						
ERUA	**La Rua**	**88.73**	**314**	P	**P**	**11 38 42.9**	**+2.1**
	comp=Z,8.9nm,0.9s,mb5.1						
EMIJ	**Mijas**	**88.94**	**308**	P	**P**	**11 38 42.7**	**+0.6**
	comp=Z,49nm,1.7s,mb5.6						
INK	**Inuvik**	**89.01**	**16**	P	**P**	**11 38 40.6**	**-1.0**
	comp=Z,31nm,1.1s,mb5.5,baz=312,slow=5.0,SNR=24						
INK	**Inuvik**	**89.01**	**16**	*e*P	**P**	**11 38 40.4**	**-1.2**
INK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
INK	**Inuvik**	**89.01**	**16**	*e*P	**P**	**11 38 40.4**	**-1.2**
	comp=Z,1.3nm,0.8s						
DIV	**Divide**	**89.23**	**25**	*e*P	**P**	**11 38 42.5**	**-0.3**
	comp=Z,149nm,1.2s,mb6.2						
DIV				LR	LR		
	comp=Z,11µm,19.0s,MS6.3						
PVRL	**Vila Real**	**89.52**	**313**	*e*P	**P**	**11 38 47.1**	**+2.4**
	comp=Z,70nm,1.8s,mb5.7						
STS	**Santiago**	**89.53**	**315**	P	**P**	**11 38 46.6**	**+1.9**
	comp=Z,22nm,0.8s,mb5.5						
ELOB	**Lobios**	**89.56**	**314**	P	**P**	**11 38 45.9**	**+1.1**
	comp=Z,12nm,0.8s,mb5.3						
ESPR	**Espera**	**89.67**	**308**	P	**P**	**11 38 46.5**	**+1.0**
	comp=Z,4.9nm,0.4s,mb5.2						
MTE	**Manteigas**	**89.71**	**312**	*e*P	**P**	**11 38 47.1**	**+1.5**
	comp=Z,131nm,1.4s,mb6.1						
MTE				*e*SKSac		11 49 17.9	
MTE				*e*S	S	11 49 38.8	+4.3
MTE	**Manteigas**	**89.71**	**312**	*e*P	**P**	**11 38 48.1**	**+2.6**
	comp=Z,98nm,1.3s,mb6.0						
MTE				*e*		11 41 39.2	
EMAZ	**Mazaricos**	**89.80**	**315**	P	**P**	**11 38 47.4**	**+1.5**
	comp=Z,31nm,0.9s,mb5.6						
PVIS	**Viseu**	**89.85**	**312**	*e*P	**P**	**11 38 46.9**	**+0.7**
	comp=Z,38nm,1.4s,mb5.5						
PCBR	**Castelo Branco**	**89.85**	**311**	*e*P	**P**	**11 38 47.8**	**+1.5**
	comp=Z,34nm,1.4s,mb5.5						
EBAD	**Badajoz**	**89.89**	**310**	P	**P**	**11 38 47.8**	**+1.4**
	comp=Z,35nm,1.2s,mb5.6						
DAWY	**Dawson**	**89.96**	**21**	*e*P	**P**	**11 38 45.4**	**-0.8**
EMIN	**Mina Concepcio**	**89.98**	**309**	P	**P**	**11 38 48.0**	**+1.1**
	comp=Z,14nm,1.0s,mb5.2						
PTOM	**Tomar**	**90.61**	**312**	*e*P	**P**	**11 38 50.1**	**+0.4**
	comp=Z,36nm,1.8s,mb5.4						
EGRO	**El Granado**	**90.66**	**309**	P	**P**	**11 38 52.0**	**+2.0**
	comp=Z,22nm,0.9s,mb5.5						
PALC	**Alcoutim**	**90.68**	**309**	*e*P	**P**	**11 38 51.1**	**+1.0**
	comp=Z,38nm,1.2s,mb5.6						
EVO	**Evora**	**90.70**	**310**	*e*P	**P**	**11 38 52.2**	**+2.0**
	comp=Z,147nm,1.5s,mb5.8						
EVO				*e*R			
	comp=Z,2µm,19.5s						
PBEJ	**Beja**	**90.77**	**310**	*e*P	**P**	**11 38 51.8**	**+1.3**
	comp=Z,38nm,1.4s,mb5.5						
MOE	**Montemor**	**90.95**	**310**	*e*P	**P**	**11 38 53.4**	**+2.0**
PLOU	**Loures**	**91.41**	**311**	*e*P	**P**	**11 38 54.4**	**+1.0**
	comp=Z,35nm,1.3s,mb5.5						
PTEO	**Sao Teotonio**	**91.58**	**310**	*e*P	**P**	**11 38 55.4**	**+1.1**
	comp=Z,18nm,1.1s,mb5.3						
SNZO	**South Karori**	**92.21**	**132**	PFAKE		11 39 10.0	+13
SNZO				LR	LR		
	comp=Z,2µm,20.0s,MS5.7						
SYO	**Syowa Base**	**93.37**	**197**	⇓P	**P**	**11 39 02.9**	**+1.2**
SYO	**Syowa Base**	**93.37**	**197**	⇑PcP	PcP	11 39 06.5	+3.8
SIT	**Sitka**	**95.98**	**25**	PFAKE		11 39 30.0	+16
SIT				LR	LR		
	comp=Z,6µm,21.0s,MS6.0						
DBIC	**Dimbokro**	**98.34**	**279**	S	SKS	11 50 03.7	-3.8
	comp=Z,5.0nm,1.2s,baz=192,slow=23,SNR=2.1						
DBIC	**Dimbokro**	**98.34**	**279**	PFAKE		11 39 40.0	+14
DBIC				LR	LR		
	comp=Z,1µm,21.0s,MS5.4						
YKA	**Yellowknife Ar**	**98.42**	**14**	P	**P**	**11 39 26.2**	**+1.3**
	comp=Z,2.2nm,0.9s,mb4.7,baz=326,slow=5.1,SNR=3.9						
YKA				LR	LR	12 29 37.7	
	comp=Z,3µm,18.1s,MS5.8,baz=320,slow=39						
YKA	**Yellowknife Ar**	**98.42**	**14**	P	**P**	**11 39 26.2**	**+1.3**
YKA				LR	LR	12 29 37.7	
SBA	**Scott Base**	**101.39**	**168**	*e*P	P	11 39 38.1	0.0
SBA				LR	LR		
	comp=Z,2µm,19.0s,MS5.6						
QSPA	**South Pole Qui**	**105.62**	**180**	*e*PKP		11 44 00.2	
QSPA				LR	LR		
	comp=Z,2µm,18.8s,MS5.7						
OCWA	**Octopus Mounta**	**107.39**	**27**	PFAKE		11 44 30.0	
OCWA				LR	LR		
	comp=Z,4µm,20.0s,MS5.9						
SNAA	**Sanae**	**107.56**	**199**	⇑*i*PKPdf		11 44 07.5	
SNAA				*e*		11 44 33.1	
SCHQ	**Schefferville**	**108.14**	**350**	PFAKE		11 44 30.0	
SCHQ				LR	LR		
	comp=Z,4µm,21.0s,MS5.9						
VNA2	**Neumayer--Watz**	**109.09**	**200**	⇑*i*PKPdf		11 44 18.7	
VNA2				*e*		11 44 44.0	
VNA1	**Neumayer--Stat**	**109.42**	**200**	⇑*i*PKPdf		11 44 17.3	
VNA1				*e*		11 44 42.0	

VNA3	**Neumayer Olymp**	**109.78**	**199**	⇓*i*PKPdf		11 44 19.8	
VNA3				*e*		11 44 44.8	
NEW	**Newport**	**109.84**	**23**	PFAKE		11 44 30.0	
NEW				LR	LR		
	comp=Z,3µm,20.0s,MS5.9						
COR	**Corvallis**	**110.19**	**29**	PFAKE		11 44 30.0	+9.0
COR				LR	LR		
	comp=Z,2µm,19.0s,MS5.7						
HAWA	**Hanford**	**110.42**	**25**	PFAKE		11 44 30.0	+8.6
HAWA				LR	LR		
	comp=Z,198nm,19.0s,MS4.7						
HUMO	**Hull Mountain**	**111.86**	**30**	PFAKE		11 44 30.0	+5.8
HUMO				LR	LR		
	comp=Z,2µm,20.0s,MS5.7						
MSO	**Missoula**	**112.20**	**22**	PFAKE		11 44 30.0	+5.3
MSO				LR	LR		
	comp=Z,3µm,20.0s,MS5.9						
YBH	**Yreka Blue Hor**	**112.65**	**30**	PFAKE		11 44 40.0	+14
YBH				LR	LR		
	comp=Z,3µm,22.0s,MS5.8						
ULM	**Lac du Bonnet**	**113.47**	**8**	PFAKE		11 44 40.0	+13
ULM				LR	LR		
	comp=Z,5µm,19.0s,MS6.1						
WDC	**Whiskeytown Da**	**113.61**	**31**	PFAKE		11 44 40.0	+12
WDC				LR	LR		
	comp=Z,1µm,20.0s,MS5.6						
DGMT	**Dagmar**	**113.62**	**14**	PFAKE		11 44 40.0	+12
DGMT				LR	LR		
	comp=Z,4µm,20.0s,MS6.0						
MOD	**Modoc**	**113.66**	**29**	*e*PKP	PKPdf	11 44 28.2	+0.3
MOD				LR	LR		
	comp=Z,3µm,20.0s,MS5.8						
WVOR	**Wild Horse Val**	**113.99**	**27**	PFAKE		11 44 40.0	+12
WVOR				LR	LR		
	comp=Z,3µm,21.0s,MS5.9						
BOZ	**Bozeman (W)**	**114.03**	**21**	PKP	PKPdf	11 44 27.4	-1.1
BOZ				LR	LR		
	comp=Z,4µm,19.0s,MS6.1						
HOPS	**Hopland**	**114.53**	**32**	PFAKE		11 44 40.0	+10
HOPS				LR	LR		
	comp=Z,2µm,19.0s,MS5.7						
GCMT	**Greycliff**	**114.55**	**19**	*e*PKP	PKPdf	11 44 28.2	-1.2
LAO	**LASA Array**	**114.75**	**16**	*e*PKP	PKPdf	11 44 29.1	-0.6
LAO				LR	LR		
	comp=Z,4µm,20.0s,MS6.1						
HLID	**Hailey**	**114.81**	**24**	*e*PKPdf	PKPdf	11 44 29.8	-0.1
HLID				LR	LR		
	comp=Z,4µm,19.0s,MS6.0						
MOOW	**Moose Ponds**	**116.00**	**21**	*e*PKPdf	PKPdf	11 44 30.6	-1.8
TPAW	**Teton Pass**	**116.15**	**21**	*e*PKPdf	PKPdf	11 44 30.9	-1.7
PQI	**Presque Isle**	**116.16**	**348**	PFAKE		11 44 40.0	+7.4
PQI				LR	LR		
	comp=Z,10µm,21.0s,MS6.4						
WUWY	**Wally Ulrich**	**116.18**	**21**	*e*PKPdf	PKPdf	11 44 30.2	-2.6
BMN	**Battle Mountai**	**116.23**	**28**	PFAKE		11 44 40.0	+7.1
BMN				LR	LR		
	comp=Z,2µm,20.0s,MS5.8						
SNOW	**Snow King Moun**	**116.24**	**21**	*e*PKPdf	PKPdf	11 44 31.6	-1.2
REDW	**Red Top Meadow**	**116.30**	**21**	*e*PKPdf	PKPdf	11 44 32.0	-1.0
CMB	**Columbia Colle**	**116.63**	**31**	PFAKE		11 44 40.0	+6.3
CMB				LR	LR		
	comp=Z,1µm,20.0s,MS5.6						
AHID	**Auburn Hatcher**	**116.73**	**22**	PFAKE		11 44 40.0	+6.2
AHID				LR	LR		
	comp=Z,3µm,20.0s,MS5.9						
ELK	**Elko**	**116.84**	**26**	*e*PKPdf	PKPdf	11 44 32.6	-1.5
ELK				LR	LR		
	comp=Z,3µm,20.0s,MS5.9						
SAO	**San Andreas Ge**	**117.05**	**33**	PFAKE		11 44 40.0	+5.5
SAO				LR	LR		
	comp=Z,2µm,19.0s,MS5.7						
BW06	**Boulder Array**	**117.27**	**21**	*e*PKPdf	PKPdf	11 44 33.9	-0.9
BW06				LR	LR		
	comp=Z,2µm,19.0s,MS5.8						
PDAR	**Pinedale Array**	**117.27**	**21**	PKP	PKPdf	11 44 31.5	-3.3
	comp=Z,1.9nm,0.8s,slow=3.0,SNR=17						
NVAR	**Mina Array Bea**	**117.34**	**30**	PKP	PKPdf	11 44 32.5	-2.5
	comp=Z,2.4nm,0.7s,baz=246,slow=0.8,SNR=16						
MNV	**Mina**	**117.41**	**30**	*e*PKPdf	PKPdf	11 44 34.8	-0.4
MNV				LR	LR		
	comp=Z,2µm,20.0s,MS5.7						
HWUT	**Hardware Ranch**	**117.57**	**23**	*e*PKPdf	PKPdf	11 44 33.5	-1.9
HWUT				LR	LR		
	comp=Z,3µm,20.0s,MS5.9						
RSSD	**Black Hills**	**117.72**	**16**	*e*PKPdf	PKPdf	11 44 33.4	-2.2
RSSD				LR	LR		
	comp=Z,4µm,20.0s,MS6.0						
EMMW	**East Machias**	**117.90**	**347**	PFAKE		11 44 50.0	+14
EMMW				LR	LR		
	comp=Z,8µm,20.0s,MS6.3						
TPH	**Tonopah**	**118.13**	**29**	PFAKE		11 44 50.0	+13
TPH				LR	LR		
	comp=Z,2µm,20.0s,MS5.7						
DUG	**Dugway**	**118.30**	**25**	*e*PKPdf	PKPdf	11 44 34.9	-2.0
DUG				LR	LR		
	comp=Z,117nm,22.0s						
WVL	**Waterville**	**118.50**	**348**	PFAKE		11 44 50.0	+13
WVL				LR	LR		
	comp=Z,8µm,22.0s,MS6.3						
TBI	**Tubuai**	**118.51**	**108**	*e*PP	PP	11 45 46.1	-10
TBI				*e*PS	PS	11 55 39.5	+1.1
TBI				*e*SS	SS	12 02 27.8	+19
TBI				*e*L		12 16 10.9	
TBI				*e*R		12 20 49.2	
	comp=Z,1µm,22.0s						
DAC	**Darwin (Calif)**	**119.39**	**31**	PFAKE		11 44 50.0	+11
DAC				LR	LR		
	comp=Z,1µm,20.0s,MS5.5						
TPNV	**Topopah Spring**	**119.50**	**29**	PFAKE		11 44 50.0	+11
TPNV				LR	LR		
	comp=Z,2µm,20.0s,MS5.8						
NCB	**Newcomb**	**119.85**	**352**	PFAKE		11 44 50.0	+10
NCB				LR	LR		
	comp=Z,2µm,19.0s,MS5.8						
MVU	**Marysvale**	**119.98**	**25**	*e*PKPdf	PKPdf	11 44 38.9	-1.2
MVU				LR	LR		
	comp=Z,2µm,20.0s,MS5.7						
MSU	**Marysvale**	**119.99**	**25**	*e*PKIKP	PKPdf	11 44 39.4	-0.7
HRV	**Harvard--Oak R**	**120.85**	**349**	PFAKE		11 44 50.0	+8.2
HRV				LR	LR		
	comp=Z,2µm,20.0s,MS5.7						
WES	**Weston**	**120.92**	**349**	PFAKE		11 44 50.0	+8.0
WES				LR	LR		
	comp=Z,2µm,22.0s,MS5.7						
NEN	**Nelson**	**121.21**	**29**	*e*PKPdf	PKPdf	11 44 41.2	-1.4
ISCO	**Idaho Springs**	**121.23**	**19**	*e*PKPdf	PKPdf	11 44 42.1	-0.5
ISCO				LR	LR		
	comp=Z,3µm,20.0s,MS5.9						
PV10	**Paradox Valley**	**121.33**	**23**	*e*PKPdf	PKPdf	11 44 42.8	-0.1
JFWS	**Jewell Farm**	**121.35**	**5**	PFAKE		11 44 50.0	+7.2
JFWS				LR	LR		
	comp=Z,3µm,20.0s,MS5.9						
PV01	**Paradox Valley**	**121.72**	**22**	*e*PKPdf	PKPdf	11 44 43.2	-0.4
BINY	**Binghamton**	**121.82**	**353**	PFAKE		11 44 50.0	+6.3
BINY				LR	LR		
	comp=Z,2µm,22.0s,MS5.8						
PFO	**Pinyon Flat Ob**	**122.07**	**32**	PFAKE		11 44 50.0	+5.6
PFO				LR	LR		
	comp=Z,439nm,20.0s,MS5.1						
ERPA	**Erie**	**122.27**	**356**	PFAKE		11 44 50.0	+5.5
ERPA				LR	LR		
	comp=Z,3µm,19.0s,MS5.9						
WUAZ	**Wupatki**	**122.87**	**26**	*e*PKPdf	PKPdf	11 44 44.7	-1.1
SDCO	**Great Sand Dun**	**123.14**	**20**	PFAKE		11 45 00.0	+14
SDCO				LR	LR		
	comp=Z,3µm,22.0s,MS5.9						
SSPA	**Standing Stone**	**123.58**	**354**	PFAKE		11 45 00.0	+13
SSPA				LR	LR		
	comp=Z,2µm,20.0s,MS5.8						
KSU1	**Kansas State U**	**124.20**	**12**	*e*PKPdf	PKPdf	11 44 46.9	-1.5
ACSO	**Alum Creek Sta**	**124.28**	**359**	PFAKE		11 45 00.0	+12
ACSO				LR	LR		
	comp=Z,3µm,19.0s,MS5.9						
MCWV	**Mont Chateau**	**124.71**	**356**	PFAKE		11 45 00.0	+11
MCWV				LR	LR		
	comp=Z,4µm,21.0s,MS6.1						
ANMO	**Albuquerque**	**125.32**	**22**	PKIKP	PKPdf	11 44 49.1	-1.6
ANMO	**Albuquerque**	**125.32**	**22**	*e*PKPdf	PKPdf	11 44 48.8	-1.9
ANMO				LR	LR		
	comp=Z,2µm,20.0s,MS5.7						
LAZ	**Ladron**	**125.55**	**23**	*e*PKPdf	PKPdf	11 44 49.5	-1.6
TUC	**Tucson**	**125.85**	**28**	*e*PKPdf	PKPdf	11 44 50.7	-1.0
TUC				LR	LR		
	comp=Z,1µm,19.0s,MS5.6						
CBN	**Corbin**	**125.93**	**353**	PFAKE		11 45 00.0	+8.3
CBN				LR	LR		
	comp=Z,4µm,20.0s,MS6.1						
BNM	**Barren Site**	**125.97**	**23**	*e*PKPdf	PKPdf	11 44 49.7	-2.2
CCM	**Cathedral Cave**	**126.06**	**7**	*e*PKPdf	PKPdf	11 44 50.0	-1.9
CCM				LR	LR		
	comp=Z,3µm,21.0s,MS5.9						
WCI	**Wyandotte Cave**	**126.25**	**2**	PFAKE		11 45 00.0	+7.7
WCI				LR	LR		
	comp=Z,3µm,20.0s,MS6.0						
BLA	**Blacksburg**	**127.18**	**356**	PFAKE		11 45 00.0	+5.9
BLA				LR	LR		
	comp=Z,3µm,20.0s,MS6.0						
WMOK	**Wichita Mounta**	**127.90**	**15**	*e*PKPdf	PKPdf	11 44 49.4	-6.3
WMOK				LR	LR		
	comp=Z,4µm,19.0s,MS6.1						
CPRX	**Cap Rock**	**127.97**	**21**	*e*PKPdf	PKPdf	11 44 54.3	-1.5
WVT	**Waverly**	**128.27**	**4**	*e*PKPdf	PKPdf	11 44 54.5	-1.8
WVT				LR	LR		
	comp=Z,3µm,19.0s,MS6.0						
GDL2	**Guadalupe Moun**	**128.55**	**22**	*e*PKPdf	PKPdf	11 44 57.0	0.0
BBSR	**BB Station**	**128.60**	**339**	PFAKE		11 45 10.0	+13
BBSR				LR	LR		
	comp=Z,1µm,21.0s,MS5.5						
MIAR	**Mount Ida**	**129.18**	**10**	*e*PKPdf	PKPdf	11 44 57.1	-1.0
MIAR				LR	LR		
	comp=Z,2µm,20.0s,MS5.9						
MYNC	**Murphy**	**129.44**	**360**	PFAKE		11 45 10.0	+11
MYNC				LR	LR		
	comp=Z,4µm,20.0s,MS6.1						
OXF	**Oxford**	**129.76**	**6**	PFAKE		11 45 10.0	+11
OXF				LR	LR		
	comp=Z,3µm,21.0s,MS5.9						
NHSC	**New Hope**	**131.25**	**355**	PFAKE		11 45 10.0	+7.9
NHSC				LR	LR		
	comp=Z,5µm,19.0s,MS6.2						
LTX	**Lajitas**	**131.39**	**23**	*e*PKPdf	PKPdf	11 45 00.4	-2.0
LTX				LR	LR		
	comp=Z,3µm,20.0s,MS6.0						
TXAR	**Lajitas Array**	**131.39**	**23**	PKP	PKPdf	11 44 59.9	-2.6
	comp=Z,1.2nm,0.6s,SNR=18						
TXAR				PP	PP	11 47 09.2	-13
	comp=Z,1.2nm,1.0s,baz=14,slow=5.2,SNR=4.4						
TXAR				SKPbc		11 48 26.1	
	comp=Z,3.7nm,1.2s,baz=270,slow=0.9,SNR=6.6						
TXAR				SKP		11 48 35.6	
	comp=Z,2.4nm,1.2s,baz=270,slow=2.7,SNR=3.5						
LRAL	**Lakeview Retre**	**131.40**	**3**	*e*PKPdf	PKPdf	11 44 59.9	-2.5
LRAL				LR	LR		
	comp=Z,3µm,21.0s,MS6.0						
RCBR	**Riachuelo**	**131.61**	**276**	PFAKE		11 45 10.0	+6.7
RCBR				LR	LR		
	comp=Z,1µm,21.0s,MS5.6						
JCT	**Junction City**	**131.64**	**18**	*e*PKPdf	PKPdf	11 45 01.2	-1.7
JCT				LR	LR		
	comp=Z,2µm,19.0s,MS5.9						
NATX	**Nacogdoches**	**131.69**	**12**	PFAKE		11 45 10.0	+7.0
NATX				LR	LR		
	comp=Z,3µm,20.0s,MS6.0						
DWPF	**Disney**	**136.29**	**356**	PFAKE		11 45 20.0	+8.5
DWPF				LR	LR		
	comp=Z,3µm,20.0s,MS6.0						
BAO	**Brasilia Array**	**145.13**	**265**	*e*P	PKPbc	11 45 26.8	+2.2
BDFB	**Brasilia**	**145.16**	**265**	PKPbc	PKPbc	11 45 25.1	+0.4
	comp=Z,19nm,0.7s,baz=52,slow=4.1,SNR=15						
TRQA	**Tornquist**	**150.37**	**217**	*e*PKPbc	PKPdf	11 45 39.0	+3.5
TRQA				LR	LR		
	comp=Z,2µm,19.0s,MS5.9						
SDV	**Santo Domingo**	**152.04**	**330**	*e*PKPdf	PKPdf	11 45 37.8	-0.9
SDV				*e*PKPbc	PKPdf	11 45 44.2	+5.4
SDV				LR	LR		
	comp=Z,1µm,20.0s,MS5.7						
PLCA	**Paso Flores**	**152.43**	**203**	PKP	PKPdf	11 45 39.1	+0.6
	comp=Z,8.2nm,1.2s,baz=118,slow=1.2,SNR=2.2						
PLCA				PKPbc	PKPdf	11 45 45.9	+7.4
	comp=Z,29nm,1.2s,baz=137,slow=4.0,SNR=9.6						
PLCA				PKPab	PKPab	11 45 54.3	-0.5
	comp=Z,8.3nm,1.0s,baz=217,slow=3.2,SNR=4.8						
PLCA	**Paso Flores**	**152.43**	**203**	PKP	PKPdf	11 45 39.1	+0.6
PLCA				*e*PKPbc	PKPdf	11 45 44.0	+5.5
PLCA				PKPbc	PKPdf	11 45 45.9	+7.4
PLCA				PKPab	PKPab	11 45 54.3	-0.4
PLCA				LR	LR		
	comp=Z,2µm,20.0s,MS6.0						
CPUP	**Villa Florida**	**152.84**	**243**	PKP	PKPdf	11 45 39.0	-0.6
	comp=Z,5.6nm,1.1s,baz=141,slow=3.5,SNR=7.3						
CPUP				PKPbc	PKPdf	11 45 45.1	+5.6
	comp=Z,13nm,0.8s,baz=112,slow=2.4,SNR=22						
CPUP				PKPab	PKPab	11 45 54.9	-2.0
	comp=Z,11nm,0.8s,baz=122,slow=2.4,SNR=8.7						
CPUP	**Villa Florida**	**152.84**	**243**	*e*PKPdf	PKPdf	11 45 38.6	-0.9
CPUP				*e*PKPbc	PKPdf	11 45 45.0	+5.5
CPUP				*e*PKPab	PKPab	11 45 55.5	-1.4
CPUP				LR	LR		
	comp=Z,1µm,20.0s,MS5.7						
ROSC	**El Rosal**	**157.28**	**334**	PKP	PKPdf	11 45 46.9	+1.0
	comp=Z,11nm,0.8s,baz=158,slow=19,SNR=8.3						
ROSC				PKPab	PKPab	11 46 17.3	+1.2
	comp=Z,25nm,0.8s,baz=110,slow=16,SNR=12						
SAML	**Samuel**	**158.36**	**286**	*e*PKPdf	PKPdf	11 45 46.3	-0.9
SAML				*e*PKPab	PKPab	11 46 21.4	+0.6
SAML				LR	LR		
	comp=Z,2µm,21.0s,MS6.0						
OTAV	**Otavalo**	**163.10**	**340**	PFAKE		11 46 00.0	+7.8
OTAV				LR	LR		
	comp=Z,985nm,20.0s						
PAYG	**Puerto Ayora**	**163.85**	**22**	PFAKE		11 46 00.0	+7.0
PAYG				LR	LR		
	comp=Z,1µm,19.0s						
LVC	**Limon Verde**	**164.01**	**242**	*e*PKPab	PKPab	11 46 45.6	+0.6
LVC				LR	LR		
	comp=Z,1µm,20.0s						
LPAZ	**La Paz**	**164.51**	**266**	PKP	PKPdf	11 45 53.4	-0.1
	comp=Z,2.0nm,0.2s,baz=30,slow=0.3,SNR=8.8						
LPAZ				PKPab	PKPab	11 46 47.9	+0.6
	comp=Z,13nm,1.0s,baz=63,slow=5.4,SNR=14						
LPAZ	**La Paz**	**164.51**	**266**	*e*PKPdf	PKPdf	11 45 53.0	-0.5
LPAZ				*e*PKPab	PKPab	11 46 47.4	+0.1
LPAZ				LR	LR		
	comp=Z,1µm,21.0s						

*IDC **17** 11:27:29.7±2.9,30.59S×178.24W,mb4.0/4,mb1 4.1/5, mb1mx4.0/14,ML3.2/1,Error ellipse: s-maj=60.1km s-min=35.4km az=109.0*

ISC 17 11:27:28.8±5.4,30.7S±0.1×178.1W±0.8,h10^{km},n6, σ1^{s}06/6,mb4.0/4,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**8.49**	**206**	Pn	**P**	**11 29 34.7**	**-0.1**
	0.3nm,0.3s,baz=2.0,slow=19,SNR=2.3						
URZ				Sn	**Sn**	**11 31 11.6**	**-0.1**
	0.3nm,0.3s,baz=163,slow=15,SNR=3.3						
CTA	**Charters Tower**	**33.73**	**280**	P	**P**	**11 34 12.1**	**-0.6**
	1.0nm,0.4s,mb4.1,baz=103,slow=13,SNR=4.1						
STKA	**Stephens Creek**	**34.30**	**257**	P	**P**	**11 34 18.7**	**+1.3**
	0.8nm,0.3s,mb4.1,baz=132,slow=12,SNR=3.0						
ASAR	**Alice Springs**	**42.98**	**267**	P	**P**	**11 35 30.5**	**+0.6**
	2.2nm,1.1s,mb3.8,baz=104,slow=7.9,SNR=5.7						
WRA	**Warramunga Arr**	**43.99**	**273**	P	**P**	**11 35 37.2**	**-1.1**
	1.1nm,0.5s,mb3.9,baz=110,slow=8.0,SNR=12						
FINES	**FINESS Array B**	**145.39**	**340**	PKPbc	PKPbc	11 47 07.5	+0.8
	2.6nm,1.1s,baz=72,slow=4.4,SNR=2.6						

*IDC **17** 11:34:38.2±2.7,23.70N×142.03E,h66^{km}±25^{km},mb3.4/8, mb1 3.7/10,mb1mx3.5/24,Error ellipse: s-maj=36.4km s-min=16.8km az=94.0*

ISC 17 11:34:37.9±2.2,23.75N±0.09×141.8E±0.2,h77^{km}±20^{km}, n10,σ0^{s}78/12,mb3.6/7,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**3.35**	**6**	P	**P**	**11 35 30.1**	**+1.0**
	46nm,0.3s,baz=200,slow=20,SNR=38						
CBIJ				S	**S**	**11 36 07.7**	**-0.1**
	70nm,0.3s,baz=347,slow=22,SNR=14						
JHJ	**Hachijo jima 2**	**9.50**	**350**	P	**P**	**11 36 53.9**	**-0.1**
	4.5nm,0.3s,baz=285,slow=15,SNR=3.6						
JHJ				S	**S**	**11 38 38.3**	**-1.6**
	4.9nm,0.3s,baz=251,slow=17,SNR=2.7						
ASAJ	**Asahikawa**	**20.32**	**2**	P	**P**	**11 39 10.4**	**+0.4**
	1.4nm,0.5s,baz=208,slow=15,SNR=2.8						
WRA	**Warramunga Arr**	**44.04**	**190**	P	**P**	**11 42 38.8**	**-1.1**
	1.1nm,0.5s,mb3.9,baz=6.5,slow=7.8,SNR=41						
ASAR	**Alice Springs**	**47.76**	**190**	P	**P**	**11 43 08.7**	**-0.6**
	0.4nm,0.5s,mb3.5,baz=18,slow=11,SNR=4.9						
MKAR	**Makanchi Array**	**52.39**	**312**	P	**P**	**11 43 45.6**	**+1.3**
	0.3nm,0.4s,mb3.7,baz=104,slow=7.8,SNR=4.5						
BVAR	**Borovoye Array**	**60.30**	**319**	P	**P**	**11 44 41.2**	**+0.6**
	0.5nm,0.4s,mb3.9,baz=90,slow=5.9,SNR=3.6						
YKA	**Yellowknife Ar**	**75.24**	**28**	P	**P**	**11 46 13.4**	**-0.1**
	0.6nm,0.6s,mb3.5,baz=294,slow=6.1,SNR=2.9						
FINES	**FINESS Array B**	**80.79**	**334**	P	**P**	**11 46 44.3**	**+0.2**
	2.1nm,1.0s,mb3.9,baz=72,slow=4.4,SNR=2.6						
FINES				pP	pP	11 47 02.0	-3.0
	3.5nm,0.8s,baz=56,slow=5.0,SNR=3.4						
NVAR	**Mina Array Bea**	**82.86**	**51**	P	**P**	**11 46 55.4**	**+0.1**
	0.2nm,0.6s,mb3.1,baz=252,slow=2.9,SNR=2.5						

*NEIC **17** 12:07:51.5±0.8,32.85N×136.79E,h10^{km},Error ellipse: s-maj=16.7km s-min=11.8km az=118.0*

*JMA **17** 12:07:51.8±0.2,32.90N×136.69E,h36^{km}±5^{km},M3.2*

*IDC **17** 12:07:56.0±3.4,32.74N×136.64E,h37^{km}±32^{km},mb3.1/5, mb1 3.3/7,mb1mx3.2/23,ML3.1/2,Error ellipse: s-maj=24.4km s-min=21.6km az=24.0*

ISC 17 12:07:51.8±1.1,32.93N±0.04×136.69E±0.03,h26^{km}±8^{km}, n26,σ0^{s}88/41,mb3.2/5,6C,Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JWZ	**Kozaga**	**1.01**	**307**	⇑P	**Pn**	**12 08 10.1**	**-0.4**
JWZ				S	**Sb**	**12 08 23.2**	**-0.3**
TK01	**Tokai 1**	**1.12**	**42**	P	**Pn**	**12 08 11.4**	**-0.6**
TK01				S	**Sb**	**12 08 26.6**	**-0.1**
TK02	**Tokai 2**	**1.35**	**41**	P	**Pn**	**12 08 14.9**	**-0.4**
TK02				S	**Sn**	**12 08 31.4**	**-1.1**
JKN	**Kiinagashima**	**1.36**	**345**	⇑P	**Pn**	**12 08 15.7**	**+0.2**
JKN				S	**Sn**	**12 08 31.8**	**-1.0**
JWM	**Minabe**	**1.45**	**310**	⇑P	**Pn**	**12 08 16.6**	**0.0**
JIE	**Ise**	**1.46**	**1**	P	**Pn**	**12 08 17.4**	**+0.6**
JIE				S	**Sn**	**12 08 35.1**	**-0.2**
JWY	**Kouya**	**1.58**	**325**	⇑P	**Pn**	**12 08 19.2**	**+0.7**
JWY				S	**Sn**	**12 08 38.3**	**0.0**
TK04	**Tokai 4**	**1.76**	**34**	S	**Sn**	**12 08 42.4**	**-0.4**
TSUJ	**Tsu 2**	**1.79**	**353**	P	**Pn**	**12 08 22.2**	**+0.6**
TSUJ				S	**Sn**	**12 08 43.7**	**0.0**
JHE	**Heguri**	**1.91**	**334**	⇑P	**Pn**	**12 08 23.9**	**+0.6**
JHE				S	**Sn**	**12 08 46.8**	**0.0**
JAI	**Aioi**	**2.06**	**295**	⇑P	**Pn**	**12 08 25.2**	**-0.3**
JAI				S	**Sn**	**12 08 49.6**	**-1.0**
JAJ2	**Tsuna**	**2.12**	**315**	P	**Pn**	**12 08 26.8**	**+0.6**
JMN	**Monobe**	**2.48**	**289**	P	**Pn**	**12 08 31.2**	**-0.3**
JMN				S	**Sn**	**12 08 59.5**	**-1.8**
JWT	**Wachi**	**2.58**	**336**	P	**Pn**	**12 08 33.4**	**+0.5**
JWT				S	**Sn**	**12 09 04.1**	**+0.4**
JHJ	**Hachijo jima 2**	**2.61**	**85**	Pn	**Pn**	**12 08 37.0**	**+3.8**
	4.5nm,0.3s,baz=225,slow=23,SNR=2.3						
JHJ				Sn	**Sn**	**12 09 04.0**	**-0.4**
	12nm,0.3s,baz=246,slow=21,SNR=3.4						
MAJO	**Matsushiro**	**3.82**	**19**	*e*Pn	**Pn**	**12 08 50.6**	**+0.2**
MAT	**Matsushiro**	**3.82**	**19**	P	**Pn**	**12 08 49.8**	**-0.6**
MAT				*e*S	**Sn**	**12 09 30.8**	**-4.2**
MAT	**Matsushiro**	**3.82**	**19**	*e*P	**Pn**	**12 08 50.0**	**-0.4**
MAT				S	**Sn**	**12 09 31.0**	**-4.0**
JNU	**Nakatsue**	**4.88**	**274**	Pn	**Pn**	**12 09 05.2**	**-0.4**
JNU				Sn	**Sn**	**12 10 02.3**	**+0.3**
	1.0nm,0.3s,baz=20,slow=44,SNR=3.0						
ASAJ	**Asahikawa**	**12.09**	**21**	Pn	**P**	**12 10 48.4**	**+3.0**
	0.2nm,0.3s,baz=251,slow=31,SNR=2.4						
SONM	**Songino Array**	**27.25**	**312**	P	**P**	**12 13 37.6**	**+2.0**
	0.5nm,0.9s,mb3.0,baz=112,slow=7.8,SNR=2.4						
MKAR	**Makanchi Array**	**43.16**	**305**	P	**P**	**12 15 54.2**	**+2.4**
	0.3nm,0.8s,mb3.1,baz=94,slow=9.4,SNR=4.1						
KURK	**Kurchatov**	**45.54**	**311**	P	**P**	**12 16 11.8**	**+0.8**
WRA	**Warramunga Arr**	**52.62**	**183**	P	**P**	**12 17 05.0**	**-1.0**
	0.2nm,0.5s,mb3.3,baz=359,slow=7.9,SNR=5.2						
ILAR	**Eielson Array**	**55.01**	**31**	P	**P**	**12 17 24.0**	**+1.0**
	0.2nm,0.8s,mb3.2,baz=259,slow=9.2,SNR=3.2						
ASAR	**Alice Springs**	**56.34**	**183**	P	**P**	**12 17 31.9**	**-1.2**
	0.3nm,0.8s,mb3.4,baz=5.2,slow=8.5,SNR=4.7						

*TAP **17** 12:10:31.0,24.40N×121.88E,h14^{km},ML1.5*

JMA 17 12:11:26.2±0.6,24.31N×123.60E,h16^{km}±3^{km}, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.12**	**78**	P	Pb	12 11 29.7	-0.2
IRIF				S	Sb	12 11 32.1	-0.3
HATJ	**Hateruma jima**	**0.31**	**143**	*e*S	Sb	12 11 37.7	+0.2
JKRS	**Kuro-shima**	**0.38**	**101**	P	Pb	12 11 34.1	0.0
JKRS				S	Sb	12 11 39.6	+0.1
JIJ	**Ishigaki jima**	**0.50**	**84**	P	Pb	12 11 35.5	-0.6
JIJ				S	Sb	12 11 42.4	-0.5

DHMR 17 12:29:43.4±1.1,12.37N×45.98E,h11^{km}±74^{km},ML3.5, 1C-1D,Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDHA	**Al Bayda'**	**1.65**	**346**	*i* P	Pn	12 30 12.5	0.0
BDHA				*i* S	Sn	12 30 35.9	+2.2
BDHA				AML	AML	12 30 36.1	
	comp=E,613nm,0.9s						
LBOS		**1.65**	**335**	⇑*i*P	Pn	12 30 13.0	+0.5
LBOS				*i* S	Sn	12 30 36.7	+2.7
TRBA	**At Turbah**	**1.99**	**295**	*i* P	Pn	12 30 19.1	+1.7
TRBA				*i* S	Sn	12 30 45.8	+3.3
TRBA				AML	AML	12 30 48.0	
	comp=N,456nm,0.5s						
DHBB	**Dhamar BB**	**2.67**	**325**	⇓*i*P	Pn	12 30 29.9	+2.8
DHBB				*i* S	Sn	12 31 05.9	+6.1

DHMR 17 12:34:07.2±1.0,12.51N×46.05E,h17^{km}±76^{km},ML3.6, 2C-1D,Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDHA	**Al Bayda'**	**1.53**	**342**	⇓*i*P	Pn	12 34 34.9	+0.8
BDHA				*i* S	Sn	12 34 55.4	+1.8
LBOS		**1.56**	**330**	*i* P	Pn	12 34 35.4	+1.0
LBOS				*i* S	Sn	12 34 56.8	+2.4
TRBA	**At Turbah**	**2.00**	**291**	⇑*i*P	Pn	12 34 41.7	+1.0
TRBA				*i* S	Sn	12 35 09.6	+4.1
TRBA				AML	AML	12 35 10.9	
	comp=N,542nm,0.4s						
DHBB	**Dhamar BB**	**2.60**	**322**	⇑*i*P	Pn	12 34 51.8	+2.5
DHBB				*i* S	Sn	12 35 27.1	+6.3

*NEIC **17** 12:52:24.8,16.05N×94.94W,h16^{km},MD3.7(MEX),After MEX.*

MEX 17 12:52:25.1±0.7,16.05N×94.95W,h16^{km}±17^{km},MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**1.04**	**3**	*i* P	Pb	12 52 41.2	-3.0
CMIG				*i* S	Sb	12 52 53.4	-3.9
HUIG	**Huatulco**	**1.15**	**256**	*e*P	Pb	12 52 42.5	-3.7
HUIG				*i* S	Sb	12 52 56.2	-4.4
OXX	**Oaxaca**	**1.99**	**301**	*i* P	Pn	12 52 55.0	-3.6
OXX				*i* S	Sn	12 53 18.0	-5.3
VHO	**Vista Hermosa**	**1.99**	**301**	*e*P	Pn	12 52 54.7	-3.9
VHO				*i* S	Sn	12 53 18.5	-4.8

*NEIC **17** 12:57:52.8,39.52N×23.99E,h34^{km},ML3.1(ATH),After ATH.*

*ATH **17** 12:57:52.9,39.52N×23.98E,h37^{km}±4^{km},MD3.3/10*

*THE **17** 12:57:53.2,39.54N×24.09E,h5^{km},ML3.4*

ISC 17 12:57:51.8±0.9,39.50N±0.03×24.10E±0.05,h12^{km}±7^{km}, n24,σ1^{s}10/27,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NEO	**Neokhori**	**0.71**	**254**	*e*PN	**Pn**	**12 58 06.0**	**-1.3**
XOR	**Xorichti**	**0.72**	**259**	*e*Pg	**Pg**	**12 58 06.1**	**-0.2**
XOR				*e*Sg	**Sg**	**12 58 17.4**	**+1.4**
OUR	**Ouranopolis**	**0.84**	**354**	*e*Pg	**Pg**	**12 58 08.0**	**-0.6**
LOS	**Limnos**	**0.87**	**60**	*e*Pg	**Pg**	**12 58 09.8**	**+0.5**
PLG	**Polygyros**	**1.01**	**330**	*e*PN	**Pn**	**12 58 10.5**	**-1.1**
LIT	**Litokhoron**	**1.38**	**296**	*e*Pb	**Pb**	**12 58 17.3**	**+0.3**
MPAR	**Parnis Oros**	**1.38**	**192**	*e*Pb	**Pb**	**12 58 17.0**	**0.0**

MPAR				*e*Sn	Sn	12 58 38.0	+2.9
SOH	Sokhos	1.44	337	*e*Pb	Pb	12 58 18.4	+0.4
AGG	Agios Georgios	1.46	251	*e*Pb	Pb	12 58 18.9	+0.5
PTL	Penteli	1.46	187	*e*PN	Pn	12 58 16.5	-1.6
MKIT	Kithairon Oros	1.47	207	*e*PB	Pb	12 58 17.8	-0.8
MKIT				*e*SN	Sn	12 58 37.5	0.0
ATH	Athens Observa	1.56	191	*e*Pn	Pn	12 58 14.5	-5.0
NSAL	Nisos Salamina	1.67	198	*e*PN	Pn	12 58 20.0	-1.1
PRK	Paraskevi	1.70	98	*e*PN	Pn	12 58 23.5	+2.0
NAIG	Nisos Aigina	1.81	196	*e*PN	Pn	12 58 23.5	+0.5
KNT	Kendrikon	1.90	331	*e*Pb	Pb	12 58 25.4	-0.5
GRG	Griva	1.95	319	*e*Pb	Pb	12 58 25.5	-1.3
RDO	Rodhopi	1.98	33	*e*PN	Pn	12 58 26.5	+1.1
ALN	Alexandroupoli	2.04	46	*e*Pn	Pn	12 58 26.5	+0.1
MMB	Musomiste	2.10	352	P	Pn	12 58 28.0	+0.7
KDZ	Kurdzhali	2.37	25	P	Pn	12 58 30.0	-1.1
LKD	Levkas	2.80	255	*e*Pn	Pn	12 58 38.2	+1.0
IGT	Igoumenitsa	2.92	272	*e*Pn	Pn	12 58 40.6	+1.7
VLI	Veliai	2.93	199	*e*PB	Pb	12 58 41.0	-2.5

IDC ***17*** *13:13:30.0±8.3, 25.14N×123.57E, h159^{km}±97^{km}, mb3.4/4, mb1 3.4/5, mb1mx3.1/22, MS3.5/1, Ms1 3.5/1, ms1mx2.7/16, Error ellipse: s-maj=86.1km s-min=18.7km az=56.0*

JMA ***17*** *13:13:30.1±0.1, 24.94N×123.33E, h125^{km}±2^{km}, M3.5*

ISC 17 13:13:27.2±0.7**, 25.00N**±0.07×**123.36E**±0.07**, h143**^{km}±5^{km}**, n21, σ1^{s}25**/35**, mb3.6**/4**, Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.62	211	P	P	13 13 49.1	+0.2
YOJ				S	S	13 14 03.8	-1.7
IRIF	Iriomote-Funau	0.74	153	P	P	13 13 49.9	+0.3
IRIF				S	S	13 14 05.3	-1.5
JIJ	Ishigaki jima	0.95	132	P	P	13 13 52.0	+0.9
JIJ				S	S	13 14 08.1	-1.3
JKRS	Kuro-shima	0.96	142	P	P	13 13 52.3	+1.2
JKRS				S	S	13 14 08.8	-0.7
HATJ	Hateruma jima	1.02	157	P	P	13 13 52.6	+1.0
HATJ				S	S	13 14 09.3	-1.1
JTJ	Tarama	1.27	106	P	P	13 13 55.9	+1.8
JTJ				S	S	13 14 15.3	+0.5
JMJ	Miyako jima 2	1.76	96	P	P	13 14 01.5	+2.0
JMJ				S	S	13 14 24.8	+0.5
JOGS	Gusukube	1.87	97	P	P	13 14 03.0	+2.3
JOGS				S	S	13 14 27.2	+0.7
JKE	Kume jima 2	3.36	66	P	P	13 14 21.0	+1.3
JKE				*e*S	S	13 15 01.6	+1.7
JAGN	Aguni-jima	3.84	65	P	P	13 14 26.5	+0.5
JAGN				*e*S	S	13 15 10.7	-0.5
JJT2	Tamagusuku 2	4.12	73	P	P	13 14 30.5	+0.7
JIH	Iheya	4.61	63	*e*S	S	13 15 28.4	-1.1
JOW	Kunigami	4.79	67	P	P	13 14 37.9	-0.7
	1.4nm,0.3s,baz=177,slow=9.4,SNR=22						
JOW				S	S	13 15 31.4	-2.2
JOW	Kunigami	4.79	67	P	P	13 14 37.9	-0.7
JOW				*e*S	S	13 15 31.2	-2.4
JTK	Tokunoshima	5.73	60	P	P	13 14 50.2	-0.9
JTK				*e*S	S	13 15 53.6	-2.6
JAM	Amami Oshima	6.54	57	P	P	13 15 03.7	+1.7
JMZ	Minamidaito 2	7.15	82	P	P	13 15 07.9	-2.4
JMZ				*e*S	S	13 16 22.3	-8.2
MKAR	Makanchi Array	39.16	314	P	P	13 20 42.3	-0.1
	0.7nm,0.4s,mb3.6,baz=98,slow=10.0,SNR=11						
WRA	Warramunga Arr	45.93	166	P	P	13 21 37.3	-0.2
	1.6nm,0.6s,mb3.8,baz=348,slow=8.9,SNR=16						
WRA				LR	LR	13 39 35.1	
	comp=Z,58nm,19.0s,baz=125,slow=34						
ASAR	Alice Springs	49.44	167	P	P	13 22 04.9	+0.1
	0.3nm,0.5s,mb3.2,baz=354,slow=7.6,SNR=12						
STKA	Stephens Creek	59.18	162	P	P	13 23 14.6	-0.9
	1.2nm,0.8s,mb3.8,baz=322,slow=19,SNR=2.1						

NAO ***17*** *13:15:31.6±4.5, 59.31N×26.98E, ML2.0*

HEL ***17*** *13:15:31.9±0.5, 59.30N×27.20E, ML1.7, ML2.0(NAO), Explosion*

BER ***17*** *13:15:32.0±2.2, 59.31N×27.23E, ML2.0(NAO), Suspected explosion*

ISC 17 13:15:29.8±2.4**, 59.3N**±0.1×**26.8E**±0.2**, n10, σ1^{s}35**/15**, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VJF	Virojoki	1.32	16	*e*P	Pb	13 15 54.0	-1.2
VJF				*e*S	Sb	13 16 10.3	-2.3
PVF	Pernaja	1.37	339	*e*P	Pb	13 15 56.7	+0.7
PVF				*e*S	Sb	13 16 13.9	0.0
FIA0	FINESS Array S	2.21	351	Pn	Pn	13 16 08.9	+0.7
	baz=166,slow=18						
FIA0				Lg		13 16 39.9	
	baz=170,slow=28						
FIA0				Rg		13 16 54.3	
	baz=165,slow=37						
FIA0	FINESS Array S	2.21	351	*e*P	Pn	13 16 10.4	+2.2
FIA0				*e*S	Sn	13 16 38.0	+1.4
KAF	Kangasniemi	2.86	355	*e*P	Pn	13 16 19.2	+1.7
KAF				*e*S	Sn	13 16 53.3	+0.1
SUF	Sumiainen	3.47	355	*e*SG	Sg	13 17 18.6	-6.9
SUF				MSG		13 17 23.8	
	comp=Z,1.3nm,0.2s						
HFS	Hagfors	6.71	283	*e*S	Sn	13 18 28.6	-1.4
HFS				*e*SG	Sg	13 19 03.6	-9.4
HFS	Hagfors	6.71	283	Sn	Sn	13 18 28.6	-1.4
	baz=99,slow=28						
HFS				Lg		13 19 03.6	
	baz=93,slow=28						
ARA0	ARCESS Array S	10.32	357	Pn	P	13 17 57.9	-4.2
	baz=176,slow=14						
ARA0	ARCESS Array S	10.32	357	*e*P	P	13 17 57.9	-4.2

HEL ***17*** *13:20:15.5±0.1, 59.00N×18.19E, ML1.9, ML2.7(UPP), ML2.3(NAO), Explosion*

BER ***17*** *13:20:18.7±3.7, 59.26N×18.07E, ML2.3(NAO), Suspected explosion*

NAO ***17*** *13:20:19.4±3.6, 59.45N×18.07E, ML2.3*

ISC 17 13:20:13.6±0.5**, 59.00N**±0.04×**18.31E**±0.05**, n25, σ1^{s}16**/39**, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NYNU	Nynaeshamn	0.16	270	*i* P	Pg	13 20 16.8	0.0
NYNU				*i* S	Sg	13 20 18.2	-0.7
NRTU	Norrtaelje	0.69	14	*i* P	Pg	13 20 28.2	+0.7
VIKU	Vikbolandet	0.98	240	*e*P	Pb	13 20 32.1	-1.0
ESKU	Eskilstuna	1.01	284	*e*P	Pb	13 20 32.5	-1.2
BACU	Backbrunna	1.05	325	*e*P	Pb	13 20 33.7	-0.6
FLYU	Flymyra	1.15	349	*e*P	Pb	13 20 36.1	+0.1
GOTU	Gotland	1.33	174	*e*P	Pb	13 20 39.1	0.0
GRAU	Graesoe	1.34	5	*e*P	Pb	13 20 39.9	+0.6
AAL	Aland	1.46	35	*e*P	Pn	13 20 42.2	+1.0
LNKU	Linkoeping	1.66	243	*e*P	Pn	13 20 44.2	0.0
NRAU	Nora	1.77	290	*e*P	Pn	13 20 46.3	+0.6
ASKU	Askersund	1.81	268	*e*P	Pn	13 20 46.5	+0.2
BYXU	Byxelkrok	1.85	202	*e*S	Sn	13 21 11.7	+0.3
IGGU	Iggoen	1.94	345	*e*P	Pn	13 20 49.2	+1.1
IGGU				*e*S	Sn	13 21 15.0	+1.4
FALU	Falun	1.95	321	*e*S	Sn	13 21 14.7	+0.9
HFS	Hagfors	2.61	298	*e*P	Pn	13 20 58.7	+1.0
HFS				*e*SB	Sb	13 21 31.9	-1.8
HFS	Hagfors	2.61	298	Pn	Pn	13 20 58.7	+1.0
	baz=123,slow=16						
HFS				Lg		13 21 31.9	
	baz=111,slow=28						
PVF	Pernaja	4.12	65	*e*PB	Pb	13 21 28.1	+1.2
PVF				*e*SG	Sg	13 22 24.9	-5.8
PVF				MSG		13 22 27.8	
	comp=Z,1.6nm,0.2s						
KEF	Keuruu	4.53	43	*e*P	Pn	13 21 25.8	+0.8
KEF				*e*S	Sn	13 22 16.9	-2.4
KEF				*e*SG	Sg	13 22 33.7	-11
FIA0	FINESS Array S	4.58	54	Pn	Pn	13 21 27.5	+1.8
	baz=251,slow=14						
FIA0				Pg	Pg	13 21 37.5	-7.5
	baz=247,slow=16						
FIA0				Sn	Sn	13 22 20.4	-0.1
	baz=238,slow=22						
FIA0				Lg		13 22 37.6	
	baz=245,slow=28						
FIA0	FINESS Array S	4.58	54	*e*P	Pn	13 21 26.1	+0.4
FIA0				*e*S	Sn	13 22 18.6	-1.9
FIA0				*e*SG	Sg	13 22 38.8	-7.3
FIA0				MSG		13 22 41.1	
	comp=Z,2.0nm,0.3s						
KAF	Kangasniemi	5.03	48	*e*P	Pn	13 21 31.8	-0.2
KAF				*e*S	Sn	13 22 30.0	-1.8
KAF				*e*SG	Sg	13 22 50.1	-11
KAF				MSG		13 22 55.1	
	comp=Z,1.0nm,0.3s						
SUF	Sumiainen	5.34	42	*e*P	Pn	13 21 37.5	+1.0
SUF				*e*S	Sn	13 22 35.6	-4.1
SUF				*e*SG	Sg	13 22 59.0	-12
SUF				MSG		13 23 04.2	
	comp=Z,0.6nm,0.2s						
ARA0	ARCESS Array S	11.01	13	Pn	P	13 22 51.5	-3.8
	baz=192,slow=14						
ARA0	ARCESS Array S	11.01	13	*e*P	P	13 22 51.5	-3.8

IDC 17 13:25:08.8±13.0**, 22.31S**×**173.91W, h268**^{km}±183^{km}**, mb3.3**/4**, mb1 3.4**/5**, mb1mx3.2**/17**, Error ellipse: s-maj=110.0km s-min=70.6km az=173.0, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAR	Rarotonga	13.18	88	P	P	13 28 06.9	-0.6
	0.6nm,0.3s,baz=352,slow=12,SNR=5.4						
RAR				S	S	13 30 31.7	+2.8
	0.4nm,0.3s,baz=252,slow=21,SNR=2.8						
CTA	Charters Tower	37.13	266	P	P	13 31 53.9	-1.9
	4.4nm,0.8s,baz=80,slow=11,SNR=3.6						
STKA	Stephens Creek	40.51	247	P	P	13 32 22.0	-1.4
	1.0nm,0.7s,baz=107,slow=14,SNR=2.3						
ASAR	Alice Springs	47.84	258	P	P	13 33 20.2	-1.5
	1.0nm,0.7s,baz=100,slow=7.7,SNR=14						
WRA	Warramunga Arr	48.14	263	P	P	13 33 22.3	-1.8
	0.4nm,0.3s,baz=102,slow=8.0,SNR=43						

BER ***17*** *13:26:02.0±1.8, 60.85N×28.92E, ML2.4(NAO), Suspected explosion*

NAO 17 13:25:59.5±3.4**, 60.79N**×**28.99E, ML2.4, Finland-Karelia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FIA0	FINESS Array S	1.56	296	Pn	Pn	13 26 28.1	-0.5
	baz=114,slow=16						
FIA0				Lg		13 26 49.0	
	baz=107,slow=28						
FIA0				Rg		13 26 56.4	
	baz=118,slow=37						
HFS	Hagfors	7.59	272	Lg		13 29 56.0	
	baz=78,slow=37						
HFS	Hagfors	7.59	272	Lg		13 29 56.0	
	baz=78,slow=37						
ARA0	ARCESS Array S	8.90	352	Pn	P	13 28 08.3	-4.0
	baz=168,slow=12						
ARA0				Sn	Sn	13 29 44.5	-10
	baz=169,slow=22						

IDC 17 13:52:27.7±15.0**, 16.91S**×**177.54W, mb4.1**/4**, mb1 4.2**/4**, mb1mx3.9**/15**, Error ellipse: s-maj=302.0km s-min=141.1km az=60.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	39.84	240	P	P	14 00 03.5	-1.2
	1.6nm,0.7s,baz=84,slow=10,SNR=3.2						
WRA	Warramunga Arr	45.64	258	P	P	14 00 50.2	-1.9
	0.7nm,0.4s,baz=96,slow=7.0,SNR=42						
ASAR	Alice Springs	45.87	253	P	P	14 00 51.5	-2.3
	4.0nm,1.0s,baz=89,slow=8.0,SNR=30						
NWAO	Narrogin (SRO)	60.41	241	P	P	14 02 39.6	-1.9
	1.6nm,0.3s,baz=127,slow=10,SNR=2.7						

IDC ***17*** *13:54:16.3±0.6, 58.67N×31.24W, mb4.0/21, mb1 4.2/25, mb1mx4.2/30, ML3.6/4, MS4.0/3, Ms1 4.0/3, ms1mx3.6/25, Error ellipse: s-maj=18.0km s-min=12.2km az=4.0*

NEIC ***17*** *13:54:17.6±0.3, 58.60N×31.26W, h10^{km}, mb4.5/19, MS4.0/1, Error ellipse: s-maj=9.5km s-min=5.1km az=197.0*

ZUR_RM ***17*** *13:54:17, 58.60N×31.26W, h12^{km}, Mw4.7/10, Moment Tensor Solution. s10 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.45; $M_{\theta\theta}$0.25; $M_{\phi\phi}$1.20; $M_{r\theta}$0.49; $M_{\theta\phi}$0.16; $M_{\phi r}$-0.27; Best double couple: $M_0$1.42×10^{16} NP1:ϕ_s353°, δ51°, λ-110°. NP2:ϕ_s203°, δ43°, λ-67°. Principal axes: T 1.237, Plg4°, Azm97°; N .374, Plg16°, Azm6°; P -1.61, Plg74°, Azm202°;*

ISC 17 13:54:16.1±0.3**, 58.69N**±0.04×**31.21W**±0.07**, h10**^{km}**, n67, σ0^{s}98**/61**, mb4.1**/35**, MS3.8**/2**, 2C-1D, Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BORG	Borgarnes	7.67	33	Pn	Pn	13 56 10.5	-0.2
	5.5nm,0.3s,baz=205,slow=5.5,SNR=13						
BORG				Sn	Sn	13 57 37.6	-1.0
	0.8nm,0.3s,baz=61,slow=19,SNR=5.1						
BORG	Borgarnes	7.67	33	*e*Pn	Pn	13 56 11.2	+0.5
SUMG	Summit	14.24	351	*e*Pn	P	13 57 38.3	-1.4
JMIC	Jan Mayen	15.51	28	Pn	P	13 57 57.7	+1.6
	6.7nm,0.3s,baz=157,slow=6.4,SNR=1.9						
JMIC				Sn	S	14 00 48.0	-0.5
	44nm,0.3s,baz=227,slow=18,SNR=2.9						
EKA	Eskdalemuir Ar	15.59	90	Pn	P	13 57 58.9	+1.6
	0.1nm,0.3s,baz=297,slow=13,SNR=4.0						
FRB	Frobisher Bay	18.47	302	P	P	13 58 34.4	+0.8
	0.4nm,0.3s,baz=90,slow=1.7,SNR=2.6						
FRB				LR	LR	14 04 56.9	
	comp=Z,771nm,18.1s,baz=259,slow=35						
ROSF	Rostrenen	19.43	110	*e*P	P	13 58 44.8	-0.3
	268nm,1.8s						
SCHQ	Schefferville	19.75	274	P	P	13 58 47.6	-1.1
	0.6nm,0.3s,baz=84,slow=7.6,SNR=10.0						
SCHQ				LR	LR	14 04 53.0	
	comp=Z,412nm,20.9s,baz=99,slow=32						
SCHQ	Schefferville	19.75	274	*e*P	P	13 58 46.7	-2.0
	45nm,1.4s						
GRR	Gorron	20.59	107	*e*P	P	13 58 56.7	-0.9
	76nm,1.2s						
LDF	La Druitiere	20.83	105	*e*P	P	13 59 00.1	0.0
NOA	NORSAR Array B	21.16	65	P	P	13 59 03.7	+0.4
	1.1nm,0.8s,mb3.3,baz=275,slow=13,SNR=3.4						
NOA				LR	LR	14 06 09.6	
	comp=Z,251nm,18.5s,MS3.6,baz=295,slow=34						
BAIF	Baives	22.13	97	*e*P	P	13 59 13.4	+0.2
	34nm,0.9s,mb4.5						
MFF	Saint Martin d	22.16	109	*e*P	P	13 59 13.8	+0.2
	99nm,1.5s,mb4.7						
GIVF	Givet	22.42	97	*e*P	P	13 59 16.1	0.0
MTE	Manteigas	23.67	130	P	P	13 59 29.6	+1.3
	14nm,1.1s,mb4.3						
SSF	Saint Saulge	23.67	104	*e*P	P	13 59 28.0	-0.2
	8.2nm,0.7s,mb4.0						
BGF	Bois d'Agland	23.68	106	*e*P	P	13 59 27.9	-0.4
	11nm,0.6s,mb4.2						
LOR	Lormes	23.71	103	*e*P	P	13 59 27.7	-0.9
LOR				*e*R			
	287nm,17.4s						
SMF	Signal de Mont	24.12	105	*e*P	P	13 59 32.2	-0.4
SJPF	Ste Jean	24.22	117	*e*P	P	13 59 33.1	-0.5
HAU	Haudompre	24.51	99	*e*P	P	13 59 36.3	0.0
HAU				*e*R			
	726nm,19.5s						
MOX	Moxa	25.65	89	*i* P	P	13 59 48.3	+1.2
MOX				L		14 10 07.0	
MOX	Moxa	25.65	89	*e*P	P	13 59 48.3	+1.2
MOX				LR	LR		
	comp=Z,400nm,18.0s,MS4.0						
ESDC	Sonseca Array	25.76	126	P	P	13 59 49.9	+1.5
	comp=Z,6.6nm,1.0s,mb4.1,baz=327,slow=9.1,SNR=17						
ESLA	Sonseca Array	25.76	126	*e*P	P	13 59 47.3	-1.0
	comp=Z,2.9nm,1.1s,mb3.7						
ARCES	ARCESS Array B	25.96	42	P	P	13 59 49.9	+0.1
	comp=Z,5.3nm,0.9s,mb4.0,baz=270,slow=4.9,SNR=4.7						
ORIF	Oris-en-Rattie	26.35	105	*e*P	P	13 59 53.1	-0.6
ORIF				*e*R			
	comp=Z,272nm,20.1s						
SBF	Sospel	27.88	105	*e*P	P	14 00 07.1	-0.6
	comp=Z,47nm,1.0s,mb4.8						
FINES	FINESS Array B	27.93	60	P	P	14 00 07.2	-0.7
	comp=Z,1.0nm,0.7s,mb3.6,baz=258,slow=13,SNR=2.9						
SSPA	Standing Stone	34.32	259	P	P	14 01 01.4	-3.2
	comp=Z,2.9nm,0.8s,mb4.3						
AKASG	Malin Array Be	34.71	76	P	P	14 01 07.3	-0.5
	comp=Z,2.0nm,0.7s,mb4.2,baz=300,slow=8.5,SNR=8.2						
ULM	Lac du Bonnet	37.13	286	P	P	14 01 26.1	-2.2
	comp=Z,6.3nm,1.2s,mb4.3,baz=37,slow=10,SNR=2.4						
ULM	Lac du Bonnet	37.13	286	*e*P	P	14 01 25.8	-2.4
	comp=Z,12nm,1.0s,mb4.7						
YKA	Yellowknife Ar	38.45	312	P	P	14 01 38.4	-0.8
	comp=Z,2.3nm,0.7s,mb4.0,baz=223,slow=48,SNR=3.3						
INK	Inuvik	41.39	327	P	P	14 02 02.4	-1.1
	comp=Z,1.6nm,0.7s,mb3.8,baz=353,slow=4.4,SNR=5.4						
INK	Inuvik	41.39	327	*e*P	P	14 02 02.6	-0.9
	comp=Z,1.6nm,0.6s,mb3.8						
BRTR	Keskin Array B	44.44	86	P	P	14 02 31.1	+2.6
	comp=Z,0.5nm,0.5s,mb3.5,baz=323,slow=6.2,SNR=4.3						
BRTR	Keskin Array B	44.44	86	P	P	14 02 31.1	+2.6
LAO	LASA Array	44.64	289	P	P	14 02 29.5	-0.6
	comp=Z,5.4nm,0.7s,mb4.5						
DAWY	Dawson	46.03	325	*e*P	P	14 02 42.4	+1.5
DLBC	Dease Lake	46.91	315	P	P	14 02 49.5	+1.6
	comp=Z,1.3nm,0.8s,mb3.9,baz=296,slow=24,SNR=2.5						
MIAR	Mount Ida	47.05	268	*e*P	P	14 02 49.8	+0.4
	comp=Z,8.1nm,1.1s,mb4.6						
ILAR	Eielson Array	47.66	328	P	P	14 02 54.6	+0.9
	comp=Z,0.7nm,0.8s,mb3.7,baz=31,slow=6.2,SNR=8.3						
ILAR				PcP	PcP	14 04 22.6	-1.0
	comp=Z,0.7nm,0.9s,baz=5.7,slow=2.8,SNR=5.1						
NEW	Newport	48.75	298	P	P	14 03 04.9	+2.4
	comp=Z,1.6nm,0.4s,mb4.4,baz=38,slow=11,SNR=3.4						
BW06	Boulder Array	49.11	287	*e*P	P	14 03 05.3	0.0
	comp=Z,2.8nm,0.8s,mb4.3						
PDAR	Pinedale Array	49.11	287	P	P	14 03 05.3	0.0
	comp=Z,1.9nm,0.8s,mb4.2,baz=63,slow=7.9,SNR=10						
WMOK	Wichita Mounta	49.62	272	*e*P	P	14 03 09.1	-0.2
	comp=Z,9.1nm,1.2s,mb4.7						
SDCO	Great Sand Dun	50.81	280	*e*P	P	14 03 18.6	+0.2
	comp=Z,3.4nm,1.3s,mb4.1						
ELK	Elko	53.44	290	*e*P	P	14 03 39.3	+1.3
	comp=Z,4.0nm,1.1s,mb4.3						
DBIC	Dimbokro	55.72	148	P	P	14 03 53.8	-1.3
	comp=Z,3.4nm,1.0s,mb4.3,baz=13,slow=16,SNR=3.0						
TXAR	Lajitas Array	56.42	272	P	P	14 03 59.6	-0.3
	comp=Z,0.6nm,0.8s,mb3.7,baz=56,slow=4.5,SNR=4.0						
NVAR	Mina Array Bea	56.73	290	P	P	14 04 02.5	+0.5
	comp=Z,0.7nm,0.6s,mb3.9,baz=58,slow=6.6,SNR=6.7						
MKAR	Makanchi Array	61.54	46	P	P	14 04 34.8	-0.4
	comp=Z,1.5nm,0.7s,mb4.2,baz=329,slow=6.1,SNR=18						
SONM	Songino Array	68.27	29	P	P	14 05 18.1	-0.5
	comp=Z,2.1nm,1.0s,mb4.1,baz=323,slow=6.2,SNR=12						
TSUM	Tsumeb	87.34	135	P	P	14 07 04.9	+0.6
	comp=Z,2.7nm,1.1s,mb4.4,baz=193,slow=6.1,SNR=2.8						
CPUP	Villa Florida	87.44	203	P	P	14 07 04.0	-0.7
	comp=Z,0.5nm,0.4s,mb4.1,baz=15,slow=20,SNR=3.2						
CPUP	Villa Florida	87.44	203	P	P	14 07 04.0	-0.7
CMAR	Chiang Mai Arr	92.94	47	P	P	14 07 31.4	+1.0
	comp=Z,0.9nm,0.8s,mb4.2,baz=322,slow=3.7,SNR=5.0						
VNA2	Neumayer--Watz	130.41	170	⇓*i*	PKPdf	14 13 29.9	+1.3
VNA3	Neumayer Olymp	130.52	171	⇑*i*	PKPdf	14 13 30.1	+1.3
SNAA	Sanae	131.57	168	⇑*i*	PKPdf	14 13 29.4	-1.4
WRA	Warramunga Arr	139.90	21	PKP	PKPdf	14 13 45.8	-1.7
	comp=Z,0.8nm,0.9s,baz=342,slow=2.5,SNR=5.0						
MAW	Mawson	143.31	140	PKP	PKPdf	14 13 48.5	-3.4
	comp=Z,1.5nm,0.8s,baz=300,slow=8.1,SNR=5.2						
ASAR	Alice Springs	143.43	23	PKhKP		14 13 49.5	
	comp=Z,1.3nm,0.8s,baz=349,slow=2.2,SNR=13						
QSPA	South Pole Qui	148.59	180	*e*PKP	PKPdf	14 14 03.2	+2.6
STKA	Stephens Creek	152.75	13	PKPbc	PKPdf	14 14 13.0	+4.7
	comp=Z,2.1nm,0.9s,baz=302,slow=11,SNR=3.3						

BJI ***17*** *14:08:05.3, 58.50N×30.40W, h10^{km}, mB5.4, mb5.0, Ms5.2, Msz5.0*

NEIC ***17*** *14:08:05.3±0.2, 58.46N×30.36W, h10^{km}, mb4.9/93, MS5.2/111, Error ellipse: s-maj=8.6km s-min=3.4km az=195.0*

ZUR_RM ***17*** *14:08:05, 58.46N×30.36W, h12^{km}, Mw5.6/11, Moment Tensor Solution. s11 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.32; $M_{\theta\theta}$1.00; $M_{\phi\phi}$0.31; $M_{r\theta}$-0.32; $M_{\theta\phi}$0.12; $M_{\phi r}$-3.06; Best double couple: $M_0$3.2×10^{17} NP1:ϕ_s9°, δ82°, λ-94°. NP2:ϕ_s218°, δ9°, λ-61°. Principal axes: T 2.715, Plg37°, Azm102°; N .961, Plg4°, Azm9°; P -3.676, Plg53°, Azm274°;*

HRVD ***17*** *14:08:05.3±0.2, 58.81N×31.07W, h12^{km}, MW5.4/64, Centroid moment Tensor Solution. LP body waves: s52,c89;Mantle waves: s64,c143; Half duration: 1^{s}3 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.56±.03; $M_{\theta\theta}$0.13±.03; $M_{\phi\phi}$1.43±.03; $M_{r\theta}$-0.10±.07; $M_{\theta\phi}$0.51±.02; $M_{\phi r}$-0.31±.07; Best double couple: $M_0$1.62×10^{17} NP1: ϕ_s199°, δ39°, λ-89°. NP2:ϕ_s19°, δ51°, λ-91°. Principal axes: T 1.64, Plg6°, Azm109°; N -.04, Plg0°, Azm19°; P -1.59, Plg84°, Azm285°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

IDC ***17*** *14:08:06.4±0.4, 58.80N×31.19W, mb4.4/29, mb1 4.5/33, mb1mx4.5/33, ML3.6/3, MS5.1/30, Ms1 5.1/30, ms1mx5.0/33 Error ellipse: s-maj=14.0km s-min=9.3km az=4.0*

IGIL ***17*** *14:08:08.4, 58.90N×31.00W, h0^{km}, MS5.2*

MOS ***17*** *14:08:08.6±1.1, 59.00N×30.78W, h10^{km}, mb5.2/14, MS5.2/20, Error ellipse: s-maj=15.7km s-min=10.0km az=48.2*

ISC 17 14:08:08.0±1.4**, 58.83N**±0.03×**31.17W**±0.04**, h15**^{km}±8^{km}**, h12**^{km}±1.1^{km}**:pP-P, n425, σ1^{s}09**/339**, mb4.8**/150**, MS5.1**/153**, 23C-6D, Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BORG	Borgarnes	7.54	34	Pn	Pn	14 09 59.5	-0.7
	18nm,0.3s,baz=197,slow=9.8,SNR=46						
BORG				Sn	Sn	14 11 27.6	+1.4
	4.0nm,0.3s,baz=59,slow=19,SNR=3.0						
BORG				LR	LR	14 12 06.7	
	comp=Z,13µm,20.2s,baz=233,slow=32						
BORG	Borgarnes	7.54	34	*e*Pn	Pn	14 09 57.5	-2.6
	82nm,0.6s						
SUMG	Summit	14.11	351	*e*P	P	14 11 29.3	+0.3
	12nm,0.6s						
DMUB	Kingscourt	14.28	100	*e*P	P	14 11 34.9	+3.5
DCN	Croghan	14.38	102	⇑*i*P	P	14 11 35.8	+3.1
DLF	Lyons Farm	14.79	101	⇑*i*P	P	14 11 40.1	+2.1
JMIC	Jan Mayen	15.37	28	LR	LR	14 16 05.9	
	comp=Z,5µm,21.0s,baz=42,slow=31						
EKA	Eskdalemuir Ar	15.57	91	Pn	P	14 11 46.7	-1.5
	0.3nm,0.3s,baz=298,slow=13,SNR=9.8						
FRB	Frobisher Bay	18.41	301	P	P	14 12 23.5	-0.5
	0.4nm,0.3s,baz=98,slow=10,SNR=3.1						
FRB				LR	LR	14 18 37.3	
	comp=Z,17µm,19.1s,baz=91,slow=34						
DAG	Danmarks Havn	18.55	9	⇑*i*P	P	14 12 28.4	+2.8
	31nm,1.2s						
ROSF	Rostrenen	19.46	110	*e*P	P	14 12 26.1	-10
	164nm,1.3s						
SCHQ	Schefferville	19.76	274	P	P	14 12 37.5	-2.4
	0.9nm,0.3s,baz=62,slow=9.8,SNR=18						
SCHQ				LR	LR	14 19 03.7	
	comp=Z,9µm,18.5s,baz=85,slow=33						
SCHQ	Schefferville	19.76	274	*e*P	P	14 12 38.0	-2.0
	131nm,1.4s						
QUIF	Quistinic	19.80	111	*e*P	P	14 12 31.4	-9.0
SGMF	Saint Gilles	19.87	110	*e*P	P	14 12 32.1	-9.1
	91nm,1.1s						
ADH	Angra Heroismo	20.35	171	*e*LR	LR	14 17 50.0	
FLN	La Foliniere	20.55	106	*e*P	P	14 12 38.9	-9.5
	142nm,1.0s						
FLN				*e*R			
	6µm,23.0s						
GRR	Gorron	20.61	107	*e*P	P	14 12 39.9	-9.1
	72nm,0.9s						
KONO	Kongsberg	20.64	70	PFAKE		14 12 50.0	+0.8
KONO				LR	LR		
	comp=Z,4µm,20.0s,MS4.7						
LDF	La Druitiere	20.85	106	*e*P	P	14 12 42.3	-9.1
	comp=Z,230nm,1.4s						
NAO01	NORSAR Array S	20.97	66	PFAKE		14 13 00.0	+7.5
NAO01				LR	LR		
	comp=Z,6µm,19.0s,MS5.0						
EMAZ	Mazaricos	21.02	129	P	P	14 12 52.0	-1.2
	comp=Z,276nm,1.8s,mb5.3						
NB2	NORSAR Subarra	21.08	66	P	P	14 12 52.0	-1.7
	comp=Z,3.9nm,0.8s,mb3.8,baz=281,slow=10						
NOA	NORSAR Array B	21.08	66	P	P	14 12 51.9	-1.7
	comp=Z,6.5nm,0.8s,mb4.0,baz=282,slow=10,SNR=10.0						

NOA				LR	LR	14 19 50.2	
	comp=Z,4µm,21.2s,MS4.7,baz=280,slow=33						
STS	Santiago	21.25	129	P	P	14 12 53.6	-1.9
	comp=Z,38nm,0.8s,mb4.8						
PDA	Ponta Delgada	21.40	168	i LQ		14 17 37.0	
PDA				i LR	LR	14 18 14.0	
EPON	Pontenova	21.46	126	P	P	14 12 57.8	+0.1
EZAM	Zamans	21.81	130	P	P	14 13 01.8	+0.6
BAIF	Baives	22.13	98	eP	P	14 12 55.9	-8.4
	comp=Z,178nm,1.2s,mb5.1						
MFF	Saint Martin d	22.19	110	eP	P	14 12 55.6	-9.3
	comp=Z,183nm,1.3s,mb5.0						
ERUA	La Rua	22.24	127	P	P	14 13 06.6	+1.2
ELOB	Lobios	22.30	129	P	P	14 13 07.0	+0.9
WTSB	Winterswijk	22.38	91	eP	P	14 13 07.7	+0.9
	comp=Z,47nm,1.4s,mb4.7						
GIVF	Givet	22.42	97	eP	P	14 12 58.2	-9.0
HFS	Hagfors	22.50	67	P	P	14 13 07.4	-0.5
	comp=Z,6.5nm,0.7s,mb4.2,baz=270,slow=7.4,SNR=7.3						
HGN	Heimansgroeve	22.60	95	eP	P	14 13 08.5	-0.4
	comp=Z,27nm,1.1s,mb4.6						
HGN				eS	S	14 17 26.9	+16
ECAL	Calabor	22.78	127	P	P	14 13 13.2	+2.5
PVRL	Vila Real	22.94	130	eP	P	14 13 12.4	+0.2
	comp=Z,54nm,1.3s,mb4.8						
ELAN	Lanestosa	23.16	120	P	P	14 13 16.1	+1.6
PVIS	Viseu	23.34	131	eP	P	14 13 16.2	0.0
	comp=Z,94nm,1.4s,mb5.0						
WLF	Walferdange	23.37	97	P	P	14 13 08.9	-7.4
	comp=Z,19nm,0.8s,mb4.6						
MEZF	Maizieres J'vi	23.53	100	eP	P	14 13 09.4	-8.5
	comp=Z,42nm,0.8s,mb4.6						
TCF	Toulx Ste Croi	23.57	107	eP	P	14 13 09.8	-8.6
	comp=Z,56nm,1.0s,mb4.7						
SSF	Saint Saulge	23.69	104	eP	P	14 13 11.2	-8.3
	comp=Z,37nm,0.8s,mb4.6						
BGF	Bois d'Agland	23.70	106	eP	P	14 13 11.2	-8.4
	comp=Z,84nm,0.7s,mb5.0						
LOR	Lormes	23.73	104	eP	P	14 13 11.6	-8.2
	comp=Z,35nm,0.8s,mb4.5						
LOR				eR			
	comp=Z,3µm,17.0s						
MTE	Manteigas	23.75	131	eP	P	14 13 20.7	+0.6
MTE				eLR	LR	14 19 06.5	
	comp=Z,5µm,16.3s						
MTE	Manteigas	23.75	131	eP	P	14 13 14.8	-5.4
	comp=Z,21nm,1.1s,mb4.5						
LFF	La Frestale	23.82	112	eP	P	14 13 11.4	-9.3
	comp=Z,40nm,0.7s,mb4.7						
RJF	Les Rejaudoux	23.93	110	eP	P	14 13 13.0	-8.8
	comp=Z,41nm,1.2s,mb4.4						
RJF				eR			
	comp=Z,7µm,22.8s						
EALK	Alkurruntz	24.05	117	P	P	14 13 24.3	+1.2
	comp=Z,834nm,3.0s						
PTOM	Tomar	24.09	133	eP	P	14 13 22.5	-0.9
	comp=Z,98nm,1.5s,mb5.0						
VERF	Verneugheol	24.09	108	eP	P	14 13 22.9	-0.5
OSSF	Osses	24.14	117	eP	P	14 13 23.9	0.0
OSSF	Osses	24.14	117	eP	P	14 13 24.5	+0.6
SMF	Signal de Mont	24.14	105	eP	P	14 13 15.3	-8.6
	comp=Z,259nm,1.6s,mb5.1						
THEF	They Montfort	24.18	100	eP	P	14 13 24.6	+0.3
THEF	They Montfort	24.18	100	eP	P	14 13 25.6	+1.3
PCBR	Castelo Branco	24.26	131	eP	P	14 13 24.6	-0.5
	comp=Z,66nm,1.5s,mb4.8						
SJPF	Ste Jean	24.26	117	eP	P	14 13 16.0	-9.1
	comp=Z,31nm,0.9s,mb4.4						
KBS	Kingsbay	24.30	19	PFAKE		14 13 40.0	+15
KBS				LR	LR		
	comp=Z,1µm,20.0s,MS4.4						
ORDF	Ordiarp	24.32	117	eP	P	14 13 25.6	-0.1
ORDF	Ordiarp	24.32	117	eP	P	14 13 25.9	+0.2
PLOU	Loures	24.45	135	eP	P	14 13 27.1	+0.1
	comp=Z,97nm,1.6s,mb5.0						
CAF	Calviac	24.47	110	eP	P	14 13 18.2	-8.9
	comp=Z,72nm,1.3s,mb4.6						
HAU	Haudompre	24.51	100	eP	P	14 13 18.8	-8.7
	comp=Z,38nm,0.8s,mb4.7						
HAU				eR			
	comp=Z,15µm,18.0s						
LIS	Lisbon	24.60	135	eP	P	14 13 29.1	+0.6
LIS				eS	S	14 17 53.7	+7.8
LIS				eS	S	14 17 53.8	+7.8
LIS				AMS	AMS	14 21 16.1	
	comp=Z,7µm,20.9s,MS5.2						
LIS	Lisbon	24.60	135	eP	P	14 13 29.1	+0.7
LIS				eS	S	14 17 53.7	+7.7
	comp=Z,7µm,20.9s						
LANF	Langenberg	24.64	96	eP	P	14 13 30.9	+2.2
CDF	Champ du Feu	24.73	98	eP	P	14 13 20.8	-8.7
	comp=Z,80nm,1.3s,mb4.8						
ETSF	Etsaut	24.74	117	eP	P	14 13 20.5	-9.2
	comp=Z,52nm,1.2s,mb4.6						
WLS	Welschbruch	24.77	98	eP	P	14 13 30.0	+0.1
WLS	Welschbruch	24.77	98	eP	P	14 13 29.5	-0.4
ECH	Echery	24.79	98	eP	P	14 13 29.8	-0.4
FDAF	Les Forges d'A	24.80	117	eP	P	14 13 30.3	0.0
COLF	Collangettes	24.85	107	eP	P	14 13 31.2	+0.4
COLF	Collangettes	24.85	107	eP	P	14 13 30.3	-0.5
HINF	Hinteralfeld	24.89	99	eP	P	14 13 22.0	-9.1
	comp=Z,97nm,1.4s,mb4.8						
MOF	Molkenrain	25.01	99	eP	P	14 13 33.0	+0.7
MOF	Molkenrain	25.01	99	eP	P	14 13 33.2	+0.9
VIEF	Viey	25.02	116	eP	P	14 13 34.2	+1.8
VIEF	Viey	25.02	116	eP	P	14 13 34.3	+1.9
PQI	Presque Isle	25.05	257	PFAKE		14 13 40.0	+7.4
PQI				LR	LR		
	comp=Z,30µm,19.0s,MS5.8						
EPF	Esparros	25.06	115	eP	P	14 13 23.5	-9.3
	comp=Z,79nm,1.4s,mb4.8						
LOMF	Lomont	25.18	100	eP	P	14 13 34.5	+0.6
LOMF	Lomont	25.18	100	eP	P	14 13 34.4	+0.5
EVO	Evora	25.19	134	eP	P	14 13 26.0	-8.0
	comp=Z,48nm,1.2s,mb4.6						
EVO				eR			
	comp=Z,8µm,18.5s						
RESF	Ens	25.23	116	eP	P	14 13 36.0	+1.6
RESF	Ens	25.23	116	eP	P	14 13 36.5	+2.1
CABF	La Chapelle	25.30	102	eP	P	14 13 26.4	-8.6
	comp=Z,126nm,1.4s,mb5.0						
EBAD	Badajoz	25.37	132	P	P	14 13 35.7	-0.1
	comp=Z,159nm,1.6s,mb5.3						
FELD	Feldberg	25.45	98	eP	P	14 13 35.7	-0.7
MLS	Moulis	25.47	114	eP	P	14 13 37.7	+1.0
STU	Stuttgart	25.49	95	P	P	14 13 37.9	+1.1
MOX	Moxa	25.63	90	i P	P	14 13 37.4	-0.6
	comp=Z,logA/T=1.6,mb4.9						
MOX				S	S	14 17 34.0	-29
MOX				L		14 24 00.0	
MOX	Moxa	25.63	90	eP	P	14 13 37.4	-0.6
MOX				pmax	pmax		
	comp=Z,62nm,1.5s,mb4.9						
MOX				MLR	MLR		
	comp=Z,8µm,19.0s,MS5.3						
PBEJ	Beja	25.68	134	eP	P	14 13 38.9	+0.2
	comp=Z,54nm,1.2s,mb5.0						
EGRA	Graus	25.69	116	P	P	14 13 41.9	+3.2
ETOR	Torete	25.71	122	P	P	14 13 42.4	+3.5
MTLF	Montolieu	25.72	112	eP	P	14 13 29.8	-9.2
	comp=Z,32nm,0.9s,mb4.5						
PTEO	Sao Teotonio	25.79	136	eP	P	14 13 39.8	+0.1
	comp=Z,127nm,1.5s,mb5.2						
VIVF	Saint-Julien-l	25.81	107	eP	P	14 13 31.1	-8.7
	comp=Z,95nm,1.5s,mb4.8						
ESDC	Sonseca Array	25.83	126	P	P	14 13 38.9	-1.2
	comp=Z,6.4nm,0.7s,mb4.3,baz=324,slow=9.4,SNR=26						
ESDC				LR	LR	14 21 48.0	
	comp=Z,2µm,18.7s,MS4.7,baz=320,slow=32						
ESDC	Sonseca Array	25.83	126	P	P	14 13 40.1	+0.1
	comp=Z,11nm,0.7s,mb4.5						
ESLA	Sonseca Array	25.83	126	P	P	14 13 32.5	-7.6
	comp=Z,3.0nm,0.8s,mb3.9						
ESLA				LR	LR		
	comp=Z,12µm,19.0s,MS5.5						
ARCES	ARCESS Array B	25.84	42	P	P	14 13 39.0	-0.9
	comp=Z,15nm,0.9s,mb4.5,baz=268,slow=4.7,SNR=12						
ARCES				LR	LR	14 21 51.7	
	comp=Z,2µm,19.4s,MS4.6,baz=104,slow=32						
ARCES	ARCESS Array B	25.84	42	P	P	14 13 39.0	-0.9
ARCES				LR	LR	14 21 51.7	
CLL	Collm	25.97	87⇑	iP	P	14 13 41.3	+0.1
CLL				eS	S	14 18 12.0	+3.3
CLL				pmax	pmax		
	comp=Z,37nm,1.4s,mb4.7						
CLL	Collm	25.97	87⇑	iP	P	14 13 41.3	+0.1
	comp=Z,37nm,1.4s,mb4.7						
CLL				e		14 13 53.0	
CLL				eS	S	14 18 12.0	+3.3
LASF	Ste Croix	25.97	109	eP	P	14 13 32.1	-9.2
	comp=Z,175nm,1.9s,mb5.0						
GRA1	Grafenberg Arr	25.98	92	eP	P	14 13 41.0	-0.4
	comp=Z,50nm,1.6s,mb4.8						
GRA1				ePPP	PPP	14 14 19.3	-15
GRA1				LR	LR		
	comp=Z,7µm,21.7s,MS5.1						
GRF	Grafenberg Arr	25.98	92	eP	P	14 13 41.0	-0.4
GRF				ePPP	PPP	14 14 19.3	-15
GRF				pmax	pmax		
	comp=Z,50nm,1.6s,mb4.8						
GRF				MLR	MLR		
	comp=Z,7µm,21.7s,MS5.1						
EMMW	East Machias	26.13	253	eP	P	14 13 42.5	-0.3
	comp=Z,132nm,1.2s,mb5.3						
EMMW				LR	LR		
	comp=Z,17µm,20.0s,MS5.6						
NKC	Novy Kostel	26.30	90	eP	P	14 13 43.3	-1.0
NKC				LR		14 24 20.0	
	comp=Z,9.0nm,15.6s						
PALC	Alcoutim	26.32	134	eP	P	14 13 44.0	-0.7
	comp=Z,18nm,1.8s,mb4.3						
KEV	Kevo	26.35	42	ep	P	14 13 43.8	-0.7
	comp=Z,0.5nm,0.4s						
KEV	Kevo	26.35	42	eP	P	14 13 43.8	-0.7
KEV				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.7						
EMIN	Mina Concepcio	26.36	132	P	P	14 13 45.3	+0.3
	comp=Z,254nm,2.3s,mb5.3						
ORIF	Oris-en-Rattie	26.37	105	eP	P	14 13 36.6	-8.4
	comp=Z,40nm,1.0s,mb4.6						
ORIF				eR			
	comp=Z,6µm,22.5s						
LPL	La Plagne	26.38	104	eP	P	14 13 36.6	-8.4
LPG	La Plagne	26.40	104	eP	P	14 13 37.0	-8.3
	comp=Z,31nm,1.1s,mb4.5						
BRG	Berggiesshubel	26.70	87	i P	P	14 13 49.5	+1.5
BRG				e		14 14 31.8	
BRG				e		14 18 22.0	
BRG				pmax	pmax		
	comp=Z,14nm,1.5s,mb4.3						
BRG				MLR	MLR		
	comp=Z,7µm,14.2s,MS5.4						
BRG				MLR	MLR		
	comp=N,4µm,14.4s,MS5.3						
BRG				MLR	MLR		
	comp=E,4µm,14.4s,MS5.3						
BRG	Berggiesshubel	26.70	87	i P	P	14 13 49.5	+1.5
	comp=E,14nm,1.5s,mb4.3						
BRG				e		14 14 31.8	
BRG				e		14 18 22.0	
BRG				LR	LR		
	comp=Z,7µm,14.2s,MS5.4						
SMRF	Simiane la Rot	26.89	107	eP	P	14 13 41.0	-8.8
MBDF	Montbardon	26.95	105	eP	P	14 13 41.2	-9.1
	comp=Z,16nm,0.9s,mb4.2						
DAVOX	Davos	27.13	98	P	P	14 13 52.6	+0.7
	comp=Z,2.2nm,0.6s,mb3.9,baz=235,slow=13,SNR=3.5						
PVCC	Panska Ves	27.23	87	eP	P	14 13 52.6	-0.2
PVCC				LR		14 25 50.0	
	comp=Z,7.4nm,14.2s						
EVIA	Vianos	27.31	125	P	P	14 13 54.3	+0.6
	comp=Z,19nm,0.8s,mb4.7						
WVL	Waterville	27.34	256	PFAKE		14 14 00.0	+6.1
WVL				LR	LR		
	comp=Z,16µm,19.0s,MS5.6						
ESPR	Espera	27.46	132	P	P	14 13 56.8	+1.7
ELUQ	Luque	27.50	129	P	P	14 13 57.9	+2.5
PRU	Pruhonice	27.53	88	eP	P	14 13 55.8	+0.2
PRU				LR		14 25 20.0	
	comp=Z,9.9nm,15.0s						
KHC	Kasperske Hory	27.55	91	eP	P	14 13 55.6	-0.1
KHC				LR		14 24 20.0	
	comp=Z,7.0nm,17.7s						
KAF	Kangasniemi	27.72	58	ep	P	14 14 00.7	+3.6
	comp=Z,4.0nm,0.7s,mb4.2						
KAF	Kangasniemi	27.72	58	eP	P	14 14 00.7	+3.6
KAF				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.2						
FRF	La Foret Royal	27.73	107	eP	P	14 13 48.3	-9.1
EQES	Quesada	27.78	127	P	P	14 14 00.8	+2.8
GERES	GERESS Array B	27.79	91	P	P	14 13 58.0	+0.1
	comp=Z,1.1nm,0.7s,baz=307,slow=6.7,SNR=4.8						
LMR	La Mourre	27.82	107	eP	P	14 13 49.1	-9.2
	comp=Z,101nm,1.4s,mb4.9						
FINES	FINESS Array B	27.84	60	P	P	14 13 58.2	-0.1
	comp=Z,5.2nm,0.7s,mb4.3,baz=270,slow=9.5,SNR=8.2						
FINES				LR	LR	14 24 27.3	
	comp=Z,2µm,18.2s,MS4.8,baz=283,slow=35						
FINES	FINESS Array B	27.84	60	P	P	14 13 58.2	-0.1
FINES				LR	LR	14 24 27.3	
SBF	Sospel	27.90	105	eP	P	14 13 50.3	-8.7
KSP	Ksiaz	27.94	86	eP	P	14 13 57.7	-1.6
KSP				e*PP	pP	14 13 59.7	-4.0
KSP				eS	S	14 18 42.5	+1.6
KSP				MLR	MLR		
	comp=Z,12µm,17.3s,MS5.5						
KSP	Ksiaz	27.94	86	eP	P	14 13 57.7	-1.6
KSP				epP	pP	14 13 59.7	-4.0
KSP				ePP	PP	14 14 36.5	-12
KSP				eS	S	14 18 42.5	+1.6
KSP				LR	LR		
	comp=Z,12µm,17.3s,MS5.5						
UPC	Upice	27.99	86	eP	P	14 13 58.3	-1.4
EMIJ	Mijas	28.15	131	P	P	14 14 01.1	-0.2
	comp=Z,91nm,2.2s,mb5.0						
DPC	Dobruska-Polom	28.24	86	eP	P	14 13 59.7	-2.3
DPC				LR		14 26 30.0	
	comp=Z,6.6nm,13.7s						
VRAC	Vranov	29.01	88	P	P	14 14 07.6	-1.3
	comp=Z,4.2nm,0.9s,mb4.2,baz=321,slow=7.5,SNR=7.2						
VRAC				LR	LR	14 26 04.0	
	comp=Z,6µm,19.9s,MS5.2,baz=301,slow=37						
OKC	Ostrava-Krasne	29.50	86	eP	P	14 14 13.5	+0.2
OKC				LR		14 27 30.0	
	comp=Z,6.2nm,13.4s						
SUW	Suwalki	29.73	75	eP	P	14 14 13.8	-1.5
WES	Weston	29.75	254	PFAKE		14 14 30.0	+14
WES				LR	LR		
	comp=Z,3µm,21.0s,MS4.8						
HRV	Harvard--Oak R	29.78	255	PFAKE		14 14 30.0	+14
HRV				LR	LR		
	comp=Z,3µm,20.0s,MS4.8						
LJU	Ljubljana	30.02	95	ePP	PP	14 15 10.0	-6.0
LJU				eS	S	14 19 20.0	+5.9
NCB	Newcomb	30.08	260	PFAKE		14 14 30.0	+11
NCB				LR	LR		
	comp=Z,6µm,20.0s,MS5.2						
OJC	Ojcow	30.12	84	eP	P	14 14 19.1	+0.2
MNK	Minsk	31.79	72	eP	P	14 14 31.0	-2.5
KWP	Kalwaria	31.98	83	eP	P	14 14 33.8	-1.4
BINY	Binghamton	32.25	259	PFAKE		14 14 50.0	+12
BINY				LR	LR		
	comp=Z,6µm,19.0s,MS5.3						
GENY	Geneseo	32.78	262	eP	P	14 14 42.5	+0.3
ERPA	Erie	34.36	263	PFAKE		14 15 10.0	+14
ERPA				LR	LR		
	comp=Z,4µm,19.0s,MS5.2						
SSPA	Standing Stone	34.37	259	eP	P	14 14 55.3	-0.7
	comp=Z,8.1nm,0.9s,mb4.7						
SSPA				LR	LR		
	comp=Z,6µm,19.0s,MS5.4						
AKASG	Malin Array Be	34.66	76	P	P	14 14 56.3	-2.1
	comp=Z,6.8nm,0.7s,mb4.7,baz=301,slow=8.7,SNR=19						
AKASG				PcP	PcP	14 17 30.2	-2.5
	comp=Z,0.3nm,0.3s,baz=293,slow=3.6,SNR=6.4						
AKASG				LR	LR	14 28 36.3	
	comp=Z,1µm,19.1s,MS4.7,baz=295,slow=36						
BBSR	BB Station	34.71	235	PFAKE		14 15 10.0	+11
BBSR				LR	LR		
	comp=Z,921nm,20.0s,MS4.5						
OBN	Obninsk	35.69	66⇓	eP	P	14 15 07.9	+0.8
OBN				e		14 17 33.4	
OBN				eS	S	14 20 37.9	-4.4
OBN				i SS	SS	14 23 00.9	-1.6
OBN				pmax	pmax		
	comp=Z,45nm,1.6s,mb5.2						
OBN				MLR	MLR		
	comp=Z,3µm,15.0s,MS5.2						
MOS	Moscow	35.83	64	eP	P	14 15 07.7	-0.7
MCWV	Mont Chateau	36.09	260	PFAKE		14 15 20.0	+9.2
MCWV				LR	LR		
	comp=Z,9µm,20.0s,MS5.6						
VAE	Valguarnera	36.19	106	LR	LR	14 29 11.0	
	comp=Z,3µm,18.0s,MS5.2,baz=123,slow=35						
MLR	Muntele Rosu	36.32	86	LR	LR	14 30 38.3	
	comp=Z,2µm,18.0s,MS4.9,baz=301,slow=37						
SKO	Skopje	36.43	94	i P	P	14 15 13.2	-0.4
OHR	Ohrid	36.72	95⇑	iP	P	14 15 16.3	+0.3
KIS	Kishinev	36.80	82	eP	P	14 15 15.0	-1.6
KIS				e		14 16 40.0	
KIS				eS	S	14 20 54.0	-5.6
KIS				MLR	MLR		
	comp=Z,2µm,15.0s,MS5.1						
KIS				MLR	MLR		
	comp=N,2µm,13.0s,MS5.2						
KIS				MLR	MLR		
	comp=E,2µm,15.0s,MS5.2						
KIS				MLR	MLR		
	comp=Z,2µm,16.0s						
ULM	Lac du Bonnet	37.11	286	P	P	14 15 17.0	-2.1
	comp=Z,8.2nm,0.8s,mb4.6,baz=63,slow=8.2,SNR=8.6						
ULM				LR	LR	14 29 11.8	
	comp=Z,5µm,19.0s,MS5.3,baz=39,slow=34						
ULM	Lac du Bonnet	37.11	286	eP	P	14 15 17.2	-1.9
	comp=Z,28nm,1.1s,mb5.0						
ULM				LR	LR		
	comp=Z,7µm,20.0s,MS5.4						
ACSO	Alum Creek Sta	37.28	263	PFAKE		14 15 30.0	+9.3
ACSO				LR	LR		
	comp=Z,6µm,20.0s,MS5.4						
FWV	Forest Hill	38.16	258	eP	P	14 15 28.9	+0.8
BLA	Blacksburg	38.24	258	eP	P	14 15 28.4	-0.4
BLA				LR	LR		
	comp=Z,5µm,20.0s,MS5.3						
YKW3	Yellowknife Ar	38.33	312	eP	P	14 15 29.9	+0.5
YKA	Yellowknife Ar	38.37	312	P	P	14 15 28.4	-1.2
	comp=Z,7.8nm,0.7s,mb4.5,baz=57,slow=9.2,SNR=11						
YKA				LR	LR	14 30 25.9	
	comp=Z,4µm,20.2s,MS5.3,baz=60,slow=35						
ELN	Prospectdale	38.40	258	eP	P	14 15 30.4	+0.2
PWV	Princeton	38.47	258	eP	P	14 15 31.4	+0.6
VOR	Voronezh	38.97	69	P	P	14 15 35.0	+0.2
VOR				pmax	pmax		
	comp=Z,80nm,1.6s,mb5.2						
JFWS	Jewell Farm	39.12	273	PFAKE		14 15 50.0	+14
JFWS				LR	LR		
	comp=Z,3µm,19.0s,MS5.1						
WCI	Wyandotte Cave	40.49	264	eP	P	14 15 48.1	+0.6
WCI				LR	LR		
	comp=Z,9µm,20.0s,MS5.6						
SIM	Simferopol'	40.91	80	eP	P	14 15 56.4	+5.6
SIM				e		14 17 30.2	
SIM				pmax	pmax		
	comp=Z,600nm,11.0s						
SIM				MLR	MLR		
	comp=Z,2µm,16.0s,MS5.2						
INK	Inuvik	41.28	327	P	P	14 15 52.8	-0.8
	comp=Z,2.5nm,0.5s,mb4.1,baz=38,slow=8.0,SNR=15						
INK				PcP	PcP	14 17 51.6	-1.4
	comp=Z,3.7nm,0.9s,baz=337,slow=6.3,SNR=3.2						
INK				LR	LR	14 32 34.7	
	comp=Z,3µm,19.8s,MS5.1,baz=60,slow=36						
INK	Inuvik	41.28	327	eP	P	14 15 52.9	-0.8
	comp=Z,15nm,1.3s,mb4.5						
NHSC	New Hope	41.35	254	PFAKE		14 16 10.0	+15
NHSC				LR	LR		
	comp=Z,5µm,19.0s,MS5.4						
CPCT	Cooper Cave	41.70	260	P	P	14 15 59.0	+1.7
MYNC	Murphy	41.79	259	PFAKE		14 16 10.0	+12
MYNC				LR	LR		
	comp=Z,3µm,20.0s,MS5.1						
DGMT	Dagmar	42.39	289	eP	P	14 16 04.9	+2.1
	comp=Z,106nm,1.7s,mb5.2						
DGMT				LR	LR		
	comp=Z,3µm,20.0s,MS5.2						
ANN	Anapa	42.70	78d	iP	P	14 16 05.2	-0.3
ANN				e		14 16 11.8	
ANN				e		14 17 47.4	
ANN				e		14 17 55.8	
ANN				eS	S	14 22 26.3	-1.7
ANN				pmax	pmax		
	comp=Z,36nm,1.0s,mb5.1						
ANN				MLR	MLR		
	comp=Z,3µm,15.9s,MS5.3						
ANN				MLR	MLR		
	comp=N,1µm,19.5s,MS5.2						
ANN				MLR	MLR		
	comp=E,2µm,15.1s,MS5.2						
WVT	Waverly	42.88	264	eP	P	14 16 07.0	0.0
	comp=E,9.2nm,1.0s,mb4.5						
WVT				LR	LR		
	comp=Z,8µm,20.0s,MS5.6						
CCM	Cathedral Cave	43.19	269	PFAKE		14 16 20.0	+11
CCM				LR	LR		
	comp=Z,2µm,21.0s,MS5.0						
EDM	Edmonton	43.53	300	eP	P	14 16 12.8	+0.7
BRTR	Keskin Array B	44.41	86	P	P	14 16 19.7	+0.3
	comp=Z,3.5nm,0.7s,mb4.2,baz=311,slow=7.0,SNR=14						
BRTR				PcP	PcP	14 18 02.2	-1.4
	comp=Z,2.9nm,1.1s,baz=315,slow=1.7,SNR=5.2						
BRTR				LR	LR	14 35 33.3	
	comp=Z,3µm,21.1s,MS5.1,baz=305,slow=37						
LAO	LASA Array	44.61	289	eP	P	14 16 21.9	+1.0
	comp=Z,78nm,1.6s,mb5.3						
LAO				LR	LR		
	comp=Z,4µm,20.0s,MS5.4						
ARU	Arti	44.64	52⇑	iP	P	14 16 22.0	+1.0
ARU				e		14 18 03.5	
ARU				e		14 18 07.0	
ARU				ePPP	PPP	14 18 43.8	-2.1
ARU				eS	S	14 22 56.6	+0.6
ARU				eSS	SS	14 26 20.8	+13
ARU				eSSS	SSS	14 27 02.0	-3.0
ARU				pmax	pmax		
	comp=Z,20nm,1.3s,mb4.8						
SOC	Sochi	44.73	77	i P	P	14 16 21.0	-0.9
SOC				e		14 18 07.6	
SOC				eS	S	14 22 56.0	-1.4
SOC				eSS	SS	14 26 07.6	-2.1
SOC				eSSS	SSS	14 27 06.4	-0.8
SOC				pmax	pmax		
	comp=Z,11nm,0.5s,mb4.9						
SOC				pmax	pmax		
	comp=N,8.0nm,0.4s						
SOC				pmax	pmax		
	comp=E,4.0nm,0.3s						
SOC				MLR	MLR		
	comp=Z,2µm,17.0s,MS5.1						
SOC				MLR	MLR		
	comp=N,1µm,16.0s,MS5.0						
SOC				MLR	MLR		
	comp=E,952nm,17.0s,MS5.0						
LRAL	Lakeview Retre	44.86	260	eP	P	14 16 22.1	-1.0
	comp=E,26nm,1.3s,mb4.9						
LRAL				LR	LR		
	comp=Z,7µm,19.0s,MS5.6						
OXF	Oxford	44.94	264	PFAKE		14 16 30.0	+6.2
OXF				LR	LR		
	comp=Z,8µm,19.0s,MS5.7						
KSU1	Kansas State U	45.19	274	eP	P	14 16 25.4	-0.3
SVE	Sverdlovsk	45.22	51⇑	eP	P	14 16 26.0	+0.4
SVE				e		14 18 11.0	
SVE				eS	S	14 23 12.0	+7.7
SVE				pmax	pmax		
	comp=Z,120nm,2.7s,mb5.2						
SVE				MLR	MLR		
	comp=N,1µm,16.0s,MS5.1						
SVE				MLR	MLR		
	comp=E,2µm,16.0s,MS5.1						
SVE				MLR	MLR		
	comp=Z,4µm,16.0s,MS5.4						
RSSD	Black Hills	45.34	285	eP	P	14 16 26.8	0.0
	comp=Z,2.0nm,0.5s,mb4.2						
RSSD				LR	LR		
	comp=Z,3µm,21.0s,MS5.1						
GOF	Gofitskoye	45.34	73	i P	P	14 16 25.5	-1.3
DAWY	Dawson	45.93	324	eP	P	14 16 32.3	+1.1
DWPF	Disney	46.05	251	PFAKE		14 16 40.0	+7.4
DWPF				LR	LR		
	comp=Z,576nm,19.0s,MS4.5						
DLBC	Dease Lake	46.82	315	P	P	14 16 38.7	+0.4
	comp=Z,1.3nm,0.8s,mb3.9,baz=94,slow=24,SNR=2.1						
GCMT	Greycliff	46.94	290	eP	P	14 16 38.8	-0.5
MIAR	Mount Ida	47.08	267	eP	P	14 16 40.9	+0.2
	comp=Z,24nm,1.1s,mb5.0						
MIAR				LR	LR		

	comp=Z,4µm,19.0s,MS5.4						
HRY	**Holter Researc**	47.33	293	*e*P	**P**	**14 16 44.1**	**+1.7**
ZEI	**Tsey**	47.43	75*c*	*i*P	**P**	**14 16 44.0**	**+0.7**
ZEI				*e*		14 18 38.0	
ZEI				*e*S	**S**	**14 23 34.0**	**-2.0**
ZEI				*i* PS	PS	14 23 49.0	+3.4
ZEI				pmax	pmax		
	comp=Z,200nm,6.0s						
ZEI				MLR	MLR		
	comp=Z,2µm,15.0s,MS5.1						
ILAR	**Eielson Array**	47.55	328	P	**P**	**14 16 43.2**	**-0.8**
	comp=Z,1.9nm,0.7s,mb4.2,baz=35,slow=6.5,SNR=18						
ILAR				PcP	PcP	14 18 12.2	-2.0
	comp=Z,2.2nm,0.9s,baz=334,slow=2.6,SNR=6.2						
COLA	**College**	47.73	329⇑	*e*P	**P**	**14 16 45.6**	**+0.2**
COLA	**College**	47.73	329	PFAKE		14 17 00.0	+15
COLA				LR	LR		
	comp=Z,1µm,19.0s,MS4.9						
CSS	**Prodhromos**	47.85	90	*e*P	**P**	**14 16 46.3**	**-0.4**
	comp=Z,54nm,1.3s,mb5.4						
CHMT	**Chamberlain Mo**	47.86	294	*e*P	**P**	**14 16 48.8**	**+2.2**
BOZ	**Bozeman (W)**	48.00	291	*e*P	**P**	**14 16 48.4**	**+0.7**
	comp=Z,37nm,1.6s,mb5.2						
BOZ				LR	LR		
	comp=Z,1µm,22.0s,MS4.9						
MSO	**Missoula**	48.25	294	PFAKE		14 17 00.0	+10
MSO				LR	LR		
	comp=Z,3µm,21.0s,MS5.2						
IMA	**Indian Mountai**	48.26	333	*e*P	**P**	**14 16 49.8**	**+0.3**
	comp=Z,45nm,1.1s,mb5.4						
QLMT	**Earthquake Lak**	48.49	291	*e*P	**P**	**14 16 52.9**	**+1.3**
TI2	**Plekhanov**	48.62	75	*e*P	**P**	**14 16 55.2**	**+2.7**
TI2				*e*S	**S**	**14 24 07.2**	**+14**
TI2				MLR	MLR		
	comp=N,500nm,15.0s,MS5.0						
TI2				MLR	MLR		
	comp=E,1µm,15.0s,MS5.0						
TI2				MLR	MLR		
	comp=Z,2µm,15.0s,MS5.2						
NEW	**Newport**	48.70	297	P	**P**	**14 16 53.6**	**+0.5**
	comp=Z,3.6nm,0.7s,mb4.5,baz=61,slow=7.8,SNR=5.4						
NEW				LR	LR	14 36 42.8	
	comp=Z,9µm,18.8s,MS5.8,baz=43,slow=35						
NEW	**Newport**	48.70	297	*e*P	**P**	**14 16 53.5**	**+0.4**
	comp=Z,14nm,1.3s,mb4.8						
NEW				LR	LR		
	comp=Z,8µm,20.0s,MS5.7						
MCK	**McKinley**	48.92	329	*e*P	**P**	**14 16 55.9**	**+1.3**
	comp=Z,177nm,2.8s,mb5.6						
MCK				LR	LR		
	comp=Z,863nm,20.0s,MS4.7						
IMW	**Indian Meadow**	48.94	289	*e*P	**P**	**14 16 55.9**	**+0.9**
MOOW	**Moose Ponds**	48.95	289	*e*P	**P**	**14 16 55.4**	**+0.3**
TIXI	**Tiksi**	49.06	8⇑	*i*P	**P**	**14 16 56.0**	**+0.4**
TIXI				pmax	pmax		
	comp=Z,15nm,0.8s,mb5.1						
TIXI				MLR	MLR		
	comp=Z,200nm,18.0s,MS4.2						
TIXI	**Tiksi**	49.06	8	PFAKE		14 17 10.0	+14
TIXI				LR	LR		
	comp=Z,388nm,21.0s,MS4.4						
PDAR	**Pinedale Array**	49.09	287	P	**P**	**14 16 54.4**	**-1.8**
	comp=Z,3.0nm,0.7s,mb4.4,baz=60,slow=7.0,SNR=18						
PDAR				PP	PP	14 18 49.5	-0.6
	comp=Z,1.6nm,1.1s,baz=56,slow=11,SNR=3.8						
PDAR				LR	LR	14 36 44.9	
	comp=Z,4µm,18.0s,MS5.5,baz=18,slow=35						
BW06	**Boulder Array**	49.09	287	*e*P	**P**	**14 16 54.3**	**-1.9**
	comp=Z,8.1nm,1.0s,mb4.7						
BW06				LR	LR		
	comp=Z,4µm,19.0s,MS5.5						
MCMT	**McKenzie Canyo**	49.18	292	*e*P	**P**	**14 16 57.7**	**+0.9**
TPAW	**Teton Pass**	49.24	289	*e*P	**P**	**14 16 57.9**	**+0.6**
REDW	**Red Top Meadow**	49.29	289	*e*P	**P**	**14 16 55.9**	**-1.8**
ISCO	**Idaho Springs**	49.31	282	*e*P	**P**	**14 16 58.8**	**+0.9**
	comp=Z,33nm,1.5s,mb5.1						
ISCO				LR	LR		
	comp=Z,3µm,20.0s,MS5.3						
DPW	**Davenport**	49.49	298	*e*P	**P**	**14 16 59.1**	**0.0**
WMOK	**Wichita Mounta**	49.64	272	*e*P	**P**	**14 16 59.1**	**-1.4**
	comp=Z,34nm,1.4s,mb5.2						
WMOK				LR	LR		
	comp=Z,2µm,20.0s,MS5.2						
SIT	**Sitka**	49.77	316	PFAKE		14 17 10.0	+8.8
SIT				LR	LR		
	comp=Z,4µm,19.0s,MS5.4						
NATX	**Nacogdoches**	49.82	266	PFAKE		14 17 10.0	+8.0
NATX				LR	LR		
	comp=Z,4µm,19.0s,MS5.4						
AHID	**Auburn Hatcher**	49.85	288	PFAKE		14 17 10.0	+8.0
AHID				LR	LR		
	comp=Z,4µm,19.0s,MS5.5						
DIV	**Divide**	50.08	325	PFAKE		14 17 20.0	+16
DIV				LR	LR		
	comp=Z,6µm,19.0s,MS5.7						
PMR	**Palmer**	50.69	327	PFAKE		14 17 20.0	+12
PMR				LR	LR		
	comp=Z,1µm,19.0s,MS5.0						
SDCO	**Great Sand Dun**	50.80	280	*e*P	**P**	**14 17 09.9**	**+0.6**
	comp=Z,18nm,1.4s,mb4.8						
SDCO				LR	LR		
	comp=Z,3µm,22.0s,MS5.3						
HLID	**Hailey**	50.88	291	*e*P	**P**	**14 17 10.6**	**+0.8**
	comp=Z,46nm,2.2s,mb5.0						
HLID				LR	LR		
	comp=Z,2µm,20.0s,MS5.2						
HWUT	**Hardware Ranch**	50.94	288	*e*P	**P**	**14 17 09.6**	**-0.7**
	comp=Z,9.9nm,0.9s,mb4.7						
HWUT				LR	LR		
	comp=Z,5µm,20.0s,MS5.5						
HAWA	**Hanford**	51.19	297	PFAKE		14 17 20.0	+7.8
HAWA				LR	LR		
	comp=Z,448nm,20.0s,MS4.5						
FIB	**Fire Island**	51.34	327	PFAKE		14 17 30.0	+17
FIB				LR	LR		
	comp=Z,1µm,19.0s,MS4.9						
SPUT	**South Promonto**	51.61	288	*e*P	**P**	**14 17 14.4**	**-1.0**
TNA	**Tin City**	51.76	339	*e*P	**P**	**14 17 17.4**	**+1.2**
	comp=Z,30nm,1.3s,mb5.1						
TNA				LR	LR		
	comp=Z,520nm,20.0s,MS4.6						
BVAR	**Borovoye Array**	51.85	49	LR	LR	14 37 50.5	
	comp=Z,14nm,18.5s,baz=125,slow=34						
ASF	**Jabal al Asfar**	51.88	90	LR	LR	14 40 42.5	
	comp=Z,1µm,21.0s,MS4.9,baz=4.5,slow=38						
PV01	**Paradox Valley**	52.07	283	*e*P	**P**	**14 17 20.3**	**+1.3**
PV10	**Paradox Valley**	52.12	283	*e*P	**P**	**14 17 19.9**	**+0.6**
OCWA	**Octopus Mounta**	52.28	302	PFAKE		14 17 30.0	+10
OCWA				LR	LR		
	comp=Z,4µm,20.0s,MS5.4						
SRU	**San Rafael**	52.31	285	*e*P	**P**	**14 17 21.1**	**+0.4**
VGB	**Gordon Butte**	52.42	297	*e*P	**P**	**14 17 23.4**	**+1.9**
NLU	**North Lily Min**	52.45	287	*e*P	**P**	**14 17 21.8**	**0.0**
DUG	**Dugway**	52.63	288	*e*P	**P**	**14 17 23.5**	**+0.4**
	comp=Z,0.4nm,1.2s						
DUG				LR	LR		
	comp=Z,239nm,19.0s						
BMW	**Boistfort Moun**	52.81	300	*e*P	**P**	**14 17 23.9**	**-0.6**
EIL	**Elat**	52.85	93	*e*P	**P**	**14 17 22.5**	**-2.5**
	comp=Z,42nm,1.4s,mb5.2						
HAQS	**Haql**	53.34	94	P	**P**	**14 17 30.4**	**+1.9**
JMOS	**Jabal al Moall**	53.34	93	P	**P**	**14 17 28.5**	**0.0**
ELK	**Elko**	53.41	290	*e*P	**P**	**14 17 28.9**	**0.0**
	comp=Z,58nm,2.0s,mb5.2						
ELK				LR	LR		
	comp=Z,3µm,19.0s,MS5.4						
ANMO	**Albuquerque**	53.45	278*c*	*i*P	**P**	**14 17 32.4**	**+3.1**
ANMO	**Albuquerque**	53.45	278	*e*P	**P**	**14 17 29.1**	**-0.2**
	comp=Z,7.9nm,1.3s,mb4.5						
ANMO				LR	LR		
	comp=Z,3µm,21.0s,MS5.3						
JCT	**Junction City**	53.51	270	*e*P	**P**	**14 17 28.7**	**-1.1**
	comp=Z,4.3nm,0.3s,mb4.9						
JCT				LR	LR		
	comp=Z,2µm,22.0s,MS5.1						
MSU	**Marysvale**	53.60	286	*e*P	**P**	**14 17 30.7**	**+0.4**
MVU	**Marysvale**	53.62	286	*e*P	**P**	**14 17 29.0**	**-1.5**
	comp=Z,6.8nm,1.2s,mb4.5						
MVU				LR	LR		
	comp=Z,3µm,19.0s,MS5.4						
TAYS	**Tayyib Ism**	53.71	94	P	**P**	**14 17 31.3**	**0.0**
WVOR	**Wild Horse Val**	53.76	294	*e*P	**P**	**14 17 30.8**	**-0.6**
	comp=Z,15nm,1.3s,mb4.8						
WVOR				LR	LR		
	comp=Z,4µm,20.0s,MS5.4						
BDAS	**Al Bad‘**	53.92	94	P	**P**	**14 17 32.9**	**0.0**
JMQS	**Jabal Moqyreh**	53.96	93	P	**P**	**14 17 32.8**	**-0.3**
BNM	**Barren Site**	54.16	278	P	**P**	**14 17 34.6**	**+0.1**
AYUS	**‘Aynunah**	54.21	94	P	**P**	**14 17 34.7**	**-0.2**
LAZ	**Ladron**	54.22	279	*e*P	**P**	**14 17 34.9**	**0.0**
COR	**Corvallis**	54.29	298	PFAKE		14 17 50.0	+15
COR				LR	LR		
	comp=Z,6µm,19.0s,MS5.7						
GDL2	**Guadalupe Moun**	54.52	275	*e*P	**P**	**14 17 35.7**	**-1.4**
BMN	**Battle Mountai**	54.61	291	PFAKE		14 17 50.0	+12
BMN				LR	LR		
	comp=Z,2µm,21.0s,MS5.1						
KDAK	**Kodiak Island**	54.83	326	PFAKE		14 17 50.0	+11
KDAK				LR	LR		
	comp=Z,260nm,21.0s,MS4.3						
TBKS	**Tabuk**	54.84	93	P	**P**	**14 17 39.7**	**+0.1**
MOD	**Modoc**	54.96	294	*e*P	**P**	**14 17 39.3**	**-1.0**
	comp=Z,6.8nm,0.9s,mb4.7						
MOD				LR	LR		
	comp=Z,2µm,21.0s,MS5.0						
NVS	**Novosibirsk**	55.09	40	*e*P	**P**	**14 17 38.7**	**-2.3**
NVS				*e*		14 19 43.9	
NVS				*e*S	**S**	**14 25 24.3**	**+3.1**
NVS				pmax	pmax		
	comp=N,47nm,2.0s						
NVS				pmax	pmax		
	comp=E,25nm,2.0s						
NVS				pmax	pmax		
	comp=Z,105nm,2.0s,mb5.5						
NVS				smax			
	comp=N,28nm,4.2s						
NVS				smax			
	comp=E,106nm,4.2s						
DBAS	**Duba**	55.37	94	P	**P**	**14 17 45.4**	**+2.0**
WUAZ	**Wupatki**	55.52	283	*e*P	**P**	**14 17 44.2**	**-0.1**
	comp=E,13nm,1.1s,mb4.9						
HUMO	**Hull Mountain**	55.66	297	PFAKE		14 18 00.0	+15
HUMO				LR	LR		
	comp=Z,3µm,20.0s,MS5.4						
TIC	**Toumodi**	55.81	148	*e*P	**P**	**14 17 43.5**	**-3.3**
	comp=Z,11nm,0.2s,mb5.6						
DBIC	**Dimbokro**	55.83	148	P	**P**	**14 17 44.0**	**-3.0**
	comp=Z,7.3nm,0.7s,mb4.8,baz=334,slow=7.5,SNR=13						
DBIC				LR	LR	14 38 48.8	
	comp=Z,2µm,19.6s,MS5.3,baz=332,slow=33						
DBIC	**Dimbokro**	55.83	148	*e*P	**P**	**14 17 44.1**	**-2.8**
	comp=Z,69nm,1.6s,mb5.4						
DBIC				LR	LR		
	comp=Z,2µm,20.0s,MS5.3						
KIC	**Kosan Boka**	56.16	148	*e*P	**P**	**14 17 46.2**	**-3.1**
	comp=Z,229nm,1.7s						
LIC	**Lamto**	56.21	148	*e*P	**P**	**14 17 45.8**	**-3.8**
	comp=Z,29nm,0.8s,mb5.0						
LIC	**Lamto**	56.21	148	*e*P	**P**	**14 17 46.6**	**-3.0**
	comp=Z,105nm,1.4s,mb5.7						
PAHR	**Pah Rah Range**	56.22	292	*e*P	**P**	**14 17 51.5**	**+2.1**
	comp=Z,14nm,1.0s,mb5.0						
YBH	**Yreka Blue Hor**	56.23	296	PFAKE		14 18 00.0	+11
YBH				LR	LR		
	comp=Z,4µm,21.0s,MS5.5						
LTX	**Lajitas**	56.44	272	PFAKE		14 18 00.0	+8.9
LTX				LR	LR		
	comp=Z,3µm,19.0s,MS5.5						
TXAR	**Lajitas Array**	56.44	272	P	**P**	**14 17 50.9**	**-0.1**
	comp=Z,0.4nm,0.3s,mb3.9,baz=298,slow=6.1,SNR=4.4						
TXAR				LR	LR	14 41 23.4	
	comp=Z,3µm,18.6s,MS5.4,slow=35						
TPH	**Tonopah**	56.44	289	*e*P	**P**	**14 17 50.5**	**-0.5**
	comp=Z,13nm,1.2s,mb4.8						
TPH				LR	LR		
	comp=Z,3µm,19.0s,MS5.4						
MNV	**Mina**	56.62	290	PFAKE		14 18 00.0	+7.7
MNV				LR	LR		
	comp=Z,3µm,19.0s,MS5.3						
NVAR	**Mina Array Bea**	56.70	290	P	**P**	**14 17 51.4**	**-1.5**
	comp=Z,2.2nm,0.8s,mb4.2,baz=52,slow=6.2,SNR=10						
NVAR				PP	PP	14 19 59.7	-0.9
	comp=Z,1.2nm,1.0s,baz=41,slow=4.7,SNR=3.9						
NVAR				LR	LR	14 41 42.9	
	comp=Z,2µm,18.4s,MS5.3,baz=105,slow=36						
KURK	**Kurchatov**	56.82	46⇑	*e*P	**P**	**14 17 52.2**	**-1.3**
TPNV	**Topopah Spring**	56.84	288	*e*P	**P**	**14 17 52.8**	**-1.1**
	comp=Z,7.6nm,1.1s,mb4.6						
TPNV				LR	LR		
	comp=Z,2µm,21.0s,MS5.2						
WDC	**Whiskeytown Da**	57.05	295	PFAKE		14 18 10.0	+15
WDC				LR	LR		
	comp=Z,3µm,20.0s,MS5.3						
MTUM	**Tungsten Hills**	57.67	290	P	**P**	**14 17 59.7**	**0.0**
TUC	**Tucson**	57.74	280	PFAKE		14 18 10.0	+10
TUC				LR	LR		
	comp=Z,2µm,22.0s,MS5.3						
CMB	**Columbia Colle**	58.02	291	PFAKE		14 18 10.0	+7.9
CMB				LR	LR		
	comp=Z,2µm,20.0s,MS5.2						
DAC	**Darwin (Calif)**	58.04	288	PFAKE		14 18 10.0	+7.7
DAC				LR	LR		
	comp=Z,2µm,19.0s,MS5.2						
SDV	**Santo Domingo**	58.14	228	*e*P	**P**	**14 18 02.1**	**-1.2**
	comp=Z,7.1nm,1.0s,mb4.7						
SDV				LR	LR		
	comp=Z,552nm,20.0s,MS4.7						
KBRS	**Khaybar**	58.23	92	P	**P**	**14 18 04.0**	**+0.3**
HILS	**Ha’il**	58.25	89	P	**P**	**14 18 03.3**	**-0.5**
SEY	**Seymchan**	58.54	358	*e*P	**P**	**14 18 05.2**	**-0.2**
SEY						14 18 55.4	
SEY				*e*PPP	PPP	14 21 38.3	-1.9
SEY				*e*S	**S**	**14 26 02.5**	**-4.2**
SEY				pmax	pmax		
	comp=Z,50nm,1.7s,mb5.3						
SEY				pmax	pmax		
	comp=N,20nm,1.4s						
HOPS	**Hopland**	58.55	294	PFAKE		14 18 20.0	+14
HOPS				LR	LR		
	comp=Z,2µm,22.0s,MS5.2						
YAK	**Yakutsk**	58.56	10*c*	*i*P	**P**	**14 18 05.5**	**-0.1**
YAK				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.9						
YAK				MLR	MLR		
	comp=Z,400nm,15.0s,MS4.7						
YAK	**Yakutsk**	58.56	10	PFAKE		14 18 20.0	+14
YAK				LR	LR		
	comp=Z,483nm,21.0s,MS4.6						
MIB	**Mutribah**	59.18	83	*e*P	**P**	**14 18 09.6**	**-0.7**
MIB				AMb	AMB	14 18 13.2	
	comp=Z,92nm,1.0s,mb5.8						
RST	**Umm Al-Ruwaisa**	59.24	83	*e*P	**P**	**14 18 09.6**	**-1.2**
RST				AMb	AMB	14 18 12.9	
	comp=Z,64nm,1.3s,mb5.5						
SAO	**San Andreas Ge**	59.54	291	PFAKE		14 18 20.0	+7.3
SAO				LR	LR		
	comp=Z,2µm,22.0s,MS5.2						
UMR	**Umm Al-Rimmam**	59.57	83	*e*P	**P**	**14 18 12.6**	**-0.5**
UMR				AMb	AMB	14 18 15.9	
	comp=Z,63nm,1.0s,mb5.6						
PFO	**Pinyon Flat Ob**	59.59	285	PFAKE		14 18 20.0	+6.9
PFO				LR	LR		
	comp=Z,659nm,20.0s,MS4.8						
KBD	**Kabd**	59.86	83	*e*P	**P**	**14 18 13.8**	**-1.2**
RDF	**Al-Radifah**	59.99	83	*e*P	**P**	**14 18 14.9**	**-1.1**
RDF				AMb	AMB	14 18 18.1	
	comp=Z,97nm,1.0s,mb5.8						
MKAR	**Makanchi Array**	61.43	46	P	**P**	**14 18 23.9**	**-1.6**
	comp=Z,2.3nm,0.5s,mb4.5,baz=332,slow=5.7,SNR=27						
MKAR				LR	LR	14 45 13.8	
	comp=Z,895nm,18.0s,MS5.0,baz=319,slow=36						
MKAR	**Makanchi Array**	61.43	46	*i* P	**P**	**14 18 24.1**	**-1.4**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
FRU	**Bishkek**	61.68	54	P	**P**	**14 18 26.8**	**-0.4**
FRU				pmax	pmax		
	comp=Z,120nm,2.5s,mb5.6						
AFFS	**‘Afif**	61.69	90	P	**P**	**14 18 29.2**	**+1.6**
MA2	**Magadan**	61.93	359⇓	*e*P	**P**	**14 18 31.5**	**+2.8**
MA2				pmax	pmax		
	comp=Z,37nm,1.7s,mb5.2						
MA2	**Magadan**	61.93	359	PFAKE		14 18 40.0	+11
MA2				LR	LR		
	comp=Z,482nm,19.0s,MS4.7						
UNV	**Unalaska Valle**	62.04	332	PFAKE		14 18 40.0	+10
UNV				LR	LR		
	comp=Z,5µm,19.0s,MS5.7						
AAA	**Alma-Ata**	62.28	52	*e*P	**P**	**14 18 32.0**	**+0.7**
AAA				pmax	pmax		
	comp=Z,600nm,6.0s						
MZLS	**Mizel**	62.75	88	P	**P**	**14 18 34.1**	**-0.6**
JTS	**JuntasAbangare**	63.00	243	LR	LR	14 42 56.6	
	comp=Z,1µm,20.9s,MS5.0,baz=346,slow=33						
ROSC	**El Rosal**	63.26	230	P	**P**	**14 18 38.8**	**+0.7**
	comp=Z,12nm,0.5s,mb5.3,baz=146,slow=21,SNR=9.8						
IRK	**Irkutsk**	63.54	29	*e*P	**P**	**14 18 37.7**	**-1.6**
IRK				*e*		14 19 18.5	
RCBR	**Riachuelo**	64.56	185	PFAKE		14 18 50.0	+3.4
RCBR				LR	LR		
	comp=Z,552nm,22.0s,MS4.7						
ZAK	**Zakamensk**	64.98	30	*e*P	**P**	**14 18 47.4**	**-1.3**
NAMS	**An Nimas**	65.20	94	P	**P**	**14 18 50.5**	**-0.2**
TATS	**Tathlith**	65.56	93	P	**P**	**14 18 52.7**	**-0.2**
WMQ	**Urumqi**	65.95	44	P	**P**	**14 18 55.8**	**+0.7**
WMQ				AP	pP	14 19 00.8	+1.1
WMQ				XP	sP	14 19 02.8	+1.4
WMQ				PP	PP	14 21 23.4	+0.7
WMQ				S	S	14 27 41.4	+1.0
WMQ				SS	SS	14 31 58.1	+1.1
WMQ				AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.7						
WMQ				LR	LR		
	comp=N,543nm,18.6s,MS5.0						
WMQ				LR	LR		
	comp=E,702nm,20.5s,MS5.0						
WMQ				LR	LR		
	comp=Z,658nm,20.5s,MS4.8						
DJNS	**Zahran al Janu**	67.11	94	P	**P**	**14 19 02.9**	**-0.1**
SONM	**Songino Array**	68.13	29	P	**P**	**14 19 07.5**	**-1.3**
	comp=Z,6.2nm,1.1s,mb4.6,baz=321,slow=4.0,SNR=29						
PET	**Petropavlovsk**	68.22	354	*e*P	**P**	**14 19 02.4**	**-6.9**
PET				*e*S	S	14 27 57.4	-10
PET				pmax	pmax		
	comp=Z,100nm,13.1s						
PET				smax			
	comp=N,100nm,17.8s						
PET				MLR	MLR		
	comp=Z,1µm,21.0s,MS5.1						
PET				MLR	MLR		
	comp=Z,1µm,14.0s						
PET	**Petropavlovsk**	68.22	354	PFAKE		14 19 20.0	+11
PET				LR	LR		
	comp=Z,1µm,21.0s,MS5.1						
ULN	**Ulaanbaatar**	68.27	29	PFAKE		14 19 20.0	+10
ULN				LR	LR		
	comp=Z,533nm,19.0s,MS4.8						
OTAV	**Otavalo**	69.12	232	PFAKE		14 19 20.0	+4.5
OTAV				LR	LR		
	comp=Z,689nm,22.0s,MS4.8						
HIA	**Hailar**	69.66	20	*e*P	**P**	**14 19 18.5**	**+0.3**
	comp=Z,11nm,1.3s,mb4.6						
HIA				LR	LR		
	comp=Z,596nm,19.0s,MS4.9						
KLR	**Kul’dur**	71.40	12	*e*P	**P**	**14 19 28.0**	**-0.7**
KLR				*e*		14 19 29.0	
KLR				*e*S	S	14 28 50.0	+5.0
KLR				*e*		14 33 22.5	
SAML	**Samuel**	72.31	213	*e*P	**P**	**14 19 32.0**	**-2.8**
	comp=Z,7.0nm,1.3s,mb4.4						
SAML				LR	LR		
	comp=Z,1µm,20.0s,MS5.1						
GTA	**Gaotai**	73.99	37	P	**P**	**14 19 42.9**	**-1.2**
GTA				AP	pP	14 19 47.4	-1.4
GTA				XP	sP	14 19 49.3	-1.2
GTA				PP	PP	14 22 27.1	-4.0
GTA				S	S	14 29 07.1	-7.4
GTA				AMB	AMB		
	comp=Z,9.0nm,1.5s,mb4.5						
GTA				AMB	AMB		
	comp=Z,198nm,6.5s						
GTA				LR	LR		
	comp=N,193nm,26.6s,MS4.5						
GTA				LR	LR		
	comp=E,280nm,22.8s,MS4.5						
GTA				LR	LR		
	comp=Z,430nm,16.7s						
YSS	**Yuzh-Sakhalins**	74.46	4*α*	*e*P	**P**	**14 19 47.0**	**+0.4**
YSS				e*SP	sP	14 19 51.0	-2.0
YSS				*e*S	S	14 29 22.0	+2.5
YSS				pmax	pmax		
	comp=Z,20nm,1.2s,mb4.9						
YSS				smax			
	comp=N,300nm,6.0s						
YSS				smax			
	comp=E,200nm,6.0s						
YSS				MLR	MLR		
	comp=N,400nm,15.0s,MS5.0						
YSS				MLR	MLR		
	comp=E,500nm,15.0s,MS5.0						
YSS				MLR	MLR		
	comp=Z,300nm,15.0s,MS4.7						
YSS	**Yuzh-Sakhalins**	74.46	4	PFAKE		14 20 00.0	+13
YSS				LR	LR		
	comp=Z,429nm,20.0s,MS4.7						
PAYG	**Puerto Ayora**	75.11	243	PFAKE		14 20 00.0	+8.9
PAYG				LR	LR		
	comp=Z,757nm,19.0s,MS5.0						
BDFB	**Brasilia**	75.47	197	P	**P**	**14 19 51.6**	**-1.4**
	comp=Z,5.6nm,0.8s,mb4.6,baz=352,slow=4.1,SNR=5.1						
BDFB				LR	LR	14 49 47.7	
	comp=Z,519nm,19.6s,MS4.8,baz=7.0,slow=33						
MDJ	**Mudanjiang**	75.70	14	P	**P**	**14 19 53.1**	**-0.7**
MDJ				AP	pP	14 19 56.3	-2.2
MDJ				PCP	PcP	14 20 06.0	-0.9
MDJ				PP	PP	14 22 42.3	-3.3
MDJ				S	S	14 29 34.1	+0.8
MDJ				SCS	ScS	14 30 06.6	+2.8
MDJ				AMB	AMB		
	comp=Z,17nm,1.6s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,138nm,4.9s						
MDJ				LR	LR		
	comp=N,201nm,21.2s,MS4.6						
MDJ				LR	LR		
	comp=E,218nm,16.3s,MS4.6						
MDJ				LR	LR		
	comp=Z,514nm,19.6s,MS4.8						
MDJ	**Mudanjiang**	75.70	14	*e*P	**P**	**14 19 52.2**	**-1.5**
	comp=Z,4.3nm,0.8s,mb4.4						
MDJ				LR	LR		
	comp=Z,496nm,19.0s,MS4.8						
BTO	**Baotou**	75.81	29	*e*P	**P**	**14 19 54.1**	**-0.4**
CN2	**Changchun**	75.91	17	*e*P	**P**	**14 19 55.1**	**+0.1**
CN2				*e*XP	sP	14 20 02.1	+0.7
CN2				*e*S	S	14 29 34.3	-1.4
CN2				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.6						
CN2				AMB	AMB		
	comp=Z,410nm,5.0s						
CN2				LR	LR		
	comp=N,170nm,21.0s,MS4.6						
CN2				LR	LR		
	comp=E,240nm,21.0s,MS4.6						
HHC	**Hu-ho-hao-te**	75.97	28	*e*P	**P**	**14 19 55.9**	**+0.5**
HHC				XP	sP	14 20 02.3	+0.5
HHC				PP	PP	14 22 48.4	+0.6
HHC				S	S	14 29 36.9	+0.5
HHC				SKS	SKS	14 30 01.4	-4.9
HHC				SCS	ScS	14 30 08.5	+2.4
HHC				PS	PS	14 30 15.6	-0.5
HHC				SS	SS	14 34 33.1	+0.9
HHC				AMB	AMB		
	comp=Z,22nm,1.4s,mb4.9						
HHC				AMB	AMB		
	comp=Z,310nm,5.8s						
HHC				LR	LR		
	comp=N,329nm,21.4s,MS4.8						
HHC				LR	LR		
	comp=E,293nm,17.2s,MS4.8						
SNY	**Shenyang**	77.53	19	⇑P	**P**	**14 20 05.3**	**+1.2**
SNY				S	S	14 29 59.8	+6.4
SNY				AMB	AMB		
	comp=Z,170nm,7.3s						
SNY				LR	LR		
	comp=N,390nm,17.9s,MS4.9						
SNY				LR	LR		
	comp=E,260nm,15.3s,MS4.9						
SNY				LR	LR		
	comp=Z,430nm,23.6s						
BJI	**Beijing**	77.82	25	P	**P**	**14 20 05.5**	**-0.2**
BJI				S	S	14 30 01.3	+4.9
BJI				AMB	AMB		
	comp=Z,8.0nm,1.2s,mb4.5						
BJI				AMB	AMB		
	comp=Z,139nm,3.4s						
BJI				LR	LR		
	comp=N,468nm,17.5s,MS4.9						

BJI				LR	LR		
	comp=E,274nm,17.9s,MS4.9						
BJI				LR	LR		
	comp=Z,573nm,30.1s						
BJT	**Baijiatuau**	**77.83**	**25**	PFAKE		14 20 10.0	+4.2
BJT				LR	LR		
	comp=Z,806nm,19.0s,MS5.1						
LZH	**Lanzhou**	**78.30**	**36**	*e*P	**P**	**14 20 08.5**	**+0.1**
LZH				AP	pP	14 20 11.8	-1.4
LZH				XP	sP	14 20 13.3	-1.5
LZH				PP	PP	14 23 06.5	-1.1
LZH				*e*S	S	14 30 00.5	-1.2
LZH				XS		14 30 08.6	
LZH				SS	SS	14 35 04.8	-2.5
LZH				AMB	AMB		
	comp=Z,44nm,1.5s,mb5.2						
LZH				AMB	AMB		
	comp=Z,197nm,5.1s						
LZH				LR	LR		
	comp=N,1μm,15.2s						
LZH				LR	LR		
	comp=Z,1μm,17.9s,MS5.3						
KOLN	**Koldanda**	**78.31**	**55**	*e*P	**P**	**14 20 08.6**	**0.0**
	comp=Z,51nm,1.3s,mb5.3						
GKN	**Gorkha**	**78.54**	**54**	*e*P	**P**	**14 20 10.0**	**+0.1**
	comp=Z,92nm,1.5s,mb5.5						
KKN	**Kakani**	**79.00**	**54**	*e*P	**P**	**14 20 12.6**	**+0.1**
	comp=Z,41nm,1.2s,mb5.2						
DMN	**Daman**	**79.08**	**54**	*e*P	**P**	**14 20 13.4**	**+0.5**
	comp=Z,74nm,1.4s,mb5.4						
PKI	**Pulchoki**	**79.25**	**54**	*e*P	**P**	**14 20 14.9**	**+1.1**
	comp=Z,142nm,1.9s,mb5.6						
NNA	**Nana**	**79.67**	**225**	PFAKE		14 20 20.0	+3.7
NNA				LR	LR		
	comp=Z,792nm,20.0s,MS5.0						
KMBO	**Kilima Mbogo**	**79.95**	**109**	P	**P**	**14 20 18.7**	**+0.9**
	comp=Z,1.3nm,0.8s,mb3.9,baz=301,slow=3.2,SNR=2.7						
KMBO				LR	LR	14 58 29.4	
	comp=Z,878nm,18.4s,MS5.1,baz=280,slow=38						
LPAZ	**La Paz**	**80.73**	**216**	P	**P**	**14 20 22.2**	**+0.3**
	comp=Z,1.7nm,0.3s,mb4.5,baz=16,slow=1.1,SNR=4.1						
LPAZ				LR	LR	14 54 34.4	
	comp=Z,343nm,21.9s,MS4.7,baz=206,slow=34						
LPAZ	**La Paz**	**80.73**	**216**	P	**P**	**14 20 22.2**	**+0.3**
LPAZ				LR	LR	14 54 34.4	
XAN	**Xi'an**	**81.69**	**33**	P	**P**	**14 20 26.0**	**-0.6**
XAN				AMB	AMB		
	comp=Z,10.0nm,1.5s,mb4.5						
INCN	**Inchon**	**82.28**	**18**	PFAKE		14 20 40.0	+10
INCN				LR	LR		
	comp=Z,270nm,20.0s,MS4.6						
CD2	**Chengdu**	**83.06**	**38**	*e*P	**P**	**14 20 35.1**	**+1.3**
CD2				AMB	AMB		
	comp=Z,20nm,1.3s,mb5.0						
MAJO	**Matsushiro**	**84.57**	**9**	PFAKE		14 20 50.0	+8.8
MAJO				LR	LR		
	comp=Z,394nm,21.0s,MS4.8						
MAT	**Matsushiro**	**84.57**	**9**	P	**P**	**14 20 40.9**	**-0.3**
MAT				S	S	14 31 10.0	+3.9
MAT	**Matsushiro**	**84.57**	**9**	*e*P	**P**	**14 20 41.0**	**-0.2**
	comp=Z,6.7nm,0.6s,mb5.0						
MAT				*e*S	S	14 31 10.0	+3.9
HYB	**Hyderabad**	**85.04**	**64**	*i* P	**P**	**14 20 44.5**	**+0.5**
ENH	**Enshi**	**85.39**	**33**	*e*P	**P**	**14 20 45.7**	**+0.2**
	comp=Z,16nm,0.9s,mb5.2						
ENH				LR	LR		
	comp=Z,973nm,22.0s,MS5.2						
KGD	**Kothagudem**	**85.88**	**63**	*e*P	**P**	**14 20 43.4**	**-4.8**
KGD				*e*PP	PP	14 24 02.9	-6.6
KGD				*e*S	S	14 31 16.4	-2.9
NJ2	**Nanjing**	**86.08**	**25**	*e*P	**P**	**14 20 50.3**	**+1.4**
NJ2				AP	pP	14 20 54.4	+0.7
NJ2				XP	sP	14 20 58.5	+3.3
NJ2				PP	PP	14 24 12.0	+1.1
NJ2				S	S	14 31 19.0	-1.9
NJ2				XS		14 31 29.0	
NJ2				AMB	AMB		
	comp=Z,340nm,7.0s						
NJ2				LR	LR		
	comp=N,160nm,16.5s,MS4.7						
NJ2				LR	LR		
	comp=E,190nm,17.2s,MS4.7						
NJ2				LR	LR		
	comp=Z,200nm,13.2s,MS4.7						
WHN	**Wuhan**	**86.45**	**29**	⇑P	**P**	**14 20 51.5**	**+0.8**
TSUM	**Tsumeb**	**87.43**	**135**	P	**P**	**14 20 55.2**	**-0.5**
	comp=Z,2.2nm,0.9s,mb4.4,baz=43,slow=2.8,SNR=3.5						
TSUM	**Tsumeb**	**87.43**	**135**	P	**P**	**14 20 55.2**	**-0.5**
TSUM				LR	LR		
	comp=Z,961nm,21.0s,MS5.2						
SSE	**Sheshan**	**87.50**	**23**	P	**P**	**14 20 56.0**	**+0.2**
SSE				AP	pP	14 20 59.3	-1.3
SSE				S	S	14 31 33.5	-1.0
SSE				AMB	AMB		
	comp=Z,45nm,0.7s,mb5.8						
SSE				AMB	AMB		
	comp=Z,158nm,7.1s						
SSE				LR	LR		
	comp=N,206nm,21.5s,MS4.7						
SSE				LR	LR		
	comp=E,235nm,21.6s,MS4.7						
SSE				LR	LR		
	comp=Z,308nm,17.9s,MS4.8						
CPUP	**Villa Florida**	**87.58**	**203**	P	**P**	**14 20 54.9**	**-1.4**
	comp=Z,1.2nm,0.9s,mb4.1,baz=108,slow=11,SNR=1.8						
CPUP				LR	LR	14 54 08.6	
	comp=Z,495nm,19.0s,MS4.9,baz=20,slow=32						
KMI	**Kunming**	**88.08**	**41**	*e*P	**P**	**14 21 00.1**	**+1.4**
KMI				AP	pP	14 21 04.0	+0.5
KMI				XP	sP	14 21 05.6	+0.6
KMI				PP	PP	14 24 27.4	-0.5
KMI				SKS	SKS	14 31 28.1	-2.2
KMI				S	S	14 31 42.3	+2.3
KMI				SS	SS	14 37 35.1	+3.1
KMI				AMB	AMB		
	comp=Z,9.0nm,1.3s,mb4.8						
KMI				AMB	AMB		
	comp=Z,256nm,6.7s						
KMI				LR	LR		
	comp=N,256nm,25.6s,MS4.7						
KMI				LR	LR		
	comp=E,275nm,22.6s,MS4.7						
KMI				LR	LR		
	comp=Z,454nm,26.6s,MS4.8						
GYA	**Guiyang**	**88.12**	**37**	P	**P**	**14 20 58.1**	**-0.8**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb5.1						
LSZ	**Lusaka**	**88.15**	**124**	PFAKE		14 21 00.0	+0.8
LSZ				LR	LR		
	comp=Z,2μm,20.0s,MS5.6						
MIDW	**Midway**	**88.84**	**331**	PFAKE		14 21 10.0	+7.7
MIDW				LR	LR		
	comp=Z,1μm,22.0s,MS5.2						
KIP	**Kipapa**	**88.88**	**312**	PFAKE		14 21 10.0	+7.4
KIP				LR	LR		
	comp=Z,2μm,20.0s,MS5.5						
CM31	**Chiang Mai Arr**	**92.83**	**47**	PFAKE		14 21 30.0	+9.1
CM31				LR	LR		
	comp=Z,401nm,19.0s,MS4.9						
CMAR	**Chiang Mai Arr**	**92.83**	**47**	P	**P**	**14 21 19.6**	**-1.4**
	comp=Z,1.7nm,0.8s,mb4.5,baz=323,slow=5.4,SNR=11						
CMAR				LR	LR	15 05 25.6	
	comp=Z,376nm,19.3s,MS4.9,baz=305,slow=37						
JOW	**Kunigami**	**92.97**	**18**	LR	LR	15 05 59.4	
	comp=Z,240nm,19.5s,MS4.7,baz=38,slow=37						
TATO	**Taipei**	**93.48**	**25**	PFAKE		14 21 30.0	+6.2
TATO				LR	LR		
	comp=Z,390nm,22.0s,MS4.8						
QIZ	**Qiongzhong**	**96.07**	**37**	PFAKE		14 21 40.0	+4.2
QIZ				LR	LR		
	comp=Z,414nm,19.0s,MS4.9						
BOSA	**Boshof**	**98.86**	**132**	PFAKE		14 21 50.0	+1.8
BOSA				LR	LR		
	comp=Z,1μm,20.0s,MS5.4						
TRQA	**Tornquist**	**99.88**	**204**	PFAKE		14 22 00.0	+7.3
TRQA				LR	LR		
	comp=Z,470nm,20.0s,MS5.0						
PPT	**Papeete**	**119.49**	**285**	*e*SP	SP	14 38 06.0	0.0
PPT				*e*SS	SS	14 45 09.6	+27
PPT				*e*R		15 03 43.0	
	comp=Z,784nm,22.0s,baz=32						
RAR	**Rarotonga**	**127.59**	**293**	PFAKE		14 27 20.0	+3.9
RAR				LR	LR		
	comp=Z,2μm,21.0s,MS5.8						
VNA1	**Neumayer--Stat**	**130.21**	**170**		PKPdf	14 27 21.2	+1.4
VNA1	**Neumayer--Stat**	**130.21**	**170**	⇓*i*	PKPdf	14 27 23.4	+3.6
VNA2	**Neumayer--Watz**	**130.55**	**170**	⇑*i*	PKPdf	14 27 18.7	-1.7
VNA2	**Neumayer--Watz**	**130.55**	**170**	⇑*i*	PKPdf	14 27 21.2	+0.8
VNA2	**Neumayer--Watz**	**130.55**	**170**	⇓*i*	PKPdf	14 27 23.5	+3.1
VNA3	**Neumayer Olymp**	**130.66**	**171**	⇑*i*	PKPdf	14 27 19.6	-1.0
VNA3	**Neumayer Olymp**	**130.66**	**171**	⇑*i*	PKPdf	14 27 21.0	+0.4
VNA3	**Neumayer Olymp**	**130.66**	**171**	⇑*i*	PKPdf	14 27 23.4	+2.8
SNAA	**Sanae**	**131.71**	**168**	⇓*i*	PKPdf	14 27 23.4	+0.8
SNAA	**Sanae**	**131.71**	**168**	⇑*i*	PKPdf	14 27 25.4	+2.8
SNAA	**Sanae**	**131.71**	**168**	*e*P	PKPdf	14 27 19.3	-3.4
WRAB	**Tennant Creek**	**139.75**	**21**	PFAKE		14 27 50.0	+11
WRAB				LR	LR		
	comp=Z,131nm,19.0s,MS4.7						
WRA	**Warramunga Arr**	**139.76**	**21**	PKhKP		14 27 29.2	
	comp=Z,0.6nm,0.7s,baz=346,slow=3.3,SNR=7.5						
WRA				PKP	PKPdf	14 27 36.2	-2.6
	comp=Z,1.0nm,0.7s,baz=340,slow=2.7,SNR=4.9						
CTAO	**Charters Tower**	**141.26**	**4**	PFAKE		14 27 50.0	+8.6
CTAO				LR	LR		
	comp=Z,1μm,20.0s,MS5.7						
ASAR	**Alice Springs**	**143.30**	**23**	PKP	PKPdf	14 27 40.1	-4.6
	comp=Z,1.9nm,0.8s,baz=341,slow=2.2,SNR=18						
MAW	**Mawson**	**143.41**	**140**	*e*PKP	PKPdf	14 27 38.6	-5.0
	comp=Z,2.8nm,0.9s						
MAW	**Mawson**	**143.41**	**140**	PKP	PKPdf	14 27 38.7	-4.9
	comp=Z,3.0nm,0.8s,baz=300,slow=11,SNR=5.5						
MAW	**Mawson**	**143.41**	**140**	*e*PKP	PKPdf	14 27 38.6	-5.0
MAW				*e*PKPdf	PKPdf	14 27 42.5	-1.1
MUN	**Mundaring**	**145.33**	**54**	*e*PKP	PKPdf	14 27 44.5	-3.6
	comp=Z,24nm,1.4s						
NWAO	**Narrogin (SRO)**	**146.58**	**53**	PKPbc	PKPbc	14 27 46.5	-1.5
	comp=Z,4.6nm,0.8s,baz=74,slow=15,SNR=3.1						
NWAO	**Narrogin (SRO)**	**146.58**	**53**	PKPbc	PKPbc	14 27 46.5	-1.5
QSPA	**South Pole Qui**	**148.73**	**180**	*e*PKP	PKPdf	14 27 54.3	+2.0
ARMA	**Armidale**	**151.53**	**355**	*e*PKP	PKPdf	14 28 02.7	+4.6
URZ	**Urewera**	**152.53**	**306**	PKPbc	PKPdf	14 28 02.0	+2.6
	comp=Z,9.0nm,0.6s,baz=344,slow=3.2,SNR=8.5						
STKA	**Stephens Creek**	**152.60**	**13**	*e*PKP	PKPdf	14 28 02.7	+3.1
	comp=Z,5.0nm,0.9s						
STKA	**Stephens Creek**	**152.60**	**13**	PKPbc	PKPdf	14 28 04.8	+5.1
	comp=Z,5.4nm,0.8s,baz=330,slow=5.4,SNR=7.1						
SNZO	**South Karori**	**156.09**	**306**	PFAKE		14 28 10.0	+6.0
SNZO				LR	LR		
	comp=Z,1μm,19.0s,MS5.8						
SBA	**Scott Base**	**159.97**	**191**	*e*PKPdf	PKPdf	14 28 05.6	-2.2
SBA				LR	LR		
	comp=Z,576nm,21.0s,MS5.4						
CASY	**Casey**	**161.12**	**129**	PFAKE		14 28 10.0	+0.8
CASY				LR	LR		
	comp=Z,786nm,20.0s						

IDC 17 14:11:53.3±1.5**, 0.51S**×**124.32E, mb3.7**/4**, mb1 3.9**/4**, mb1mx3.6**/14**, Error ellipse: s-maj=190.0km s-min=22.0km az=62.0, Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.66**	**154**	P	P	14 16 45.2	-2.4
	1.1nm,0.6s,baz=330,slow=11,SNR=9.5						
ASAR	**Alice Springs**	**24.82**	**159**	P	P	14 17 19.4	+0.6
	0.5nm,0.4s,baz=345,slow=11,SNR=12						
STKA	**Stephens Creek**	**35.21**	**154**	P	P	14 18 47.7	-3.7
	1.3nm,0.8s,baz=343,slow=14,SNR=2.6						
MKAR	**Makanchi Array**	**59.74**	**328**	P	P	14 22 00.0	-2.4
	1.0nm,0.6s,baz=118,slow=8.6,SNR=14						

HEL ***17*** *14:21:42.4±0.2, 58.97N×18.22E, ML1.9, ML2.3(UPP), ML2.1(NAO), Explosion*

IDC ***17*** *14:21:45.7±2.1, 59.22N×18.08E, mb1 3.0/4, mb1mx2.9/20, ML2.5/3, Error ellipse: s-maj=28.8km s-min=6.4km az=180.0*

BER ***17*** *14:21:45.6±3.8, 59.19N×18.11E, ML2.1(NAO), Suspected explosion*

NAO ***17*** *14:21:46.9±3.4, 59.43N×18.09E, ML2.1*

ISC 17 14:21:40.0±0.9**, 58.96N**±0.06×**18.41E**±0.05**, n26,** σ**1**^{s}**37**/41**, Baltic Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NYNU	**Nynaeshamn**	**0.21**	**283**	*i* P	**Pg**	**14 21 44.3**	**+0.1**
NYNU				*i* S	**Sg**	**14 21 45.7**	**-1.4**
NRTU	**Norrtaelje**	**0.73**	**9**	*i* P	**Pg**	**14 21 55.7**	**+1.1**
UPP	**Uppsala**	**0.99**	**337**	*e*P	**Pb**	**14 21 59.6**	**-0.1**
VIKU	**Vikbolandet**	**1.00**	**243**	*e*P	**Pb**	**14 21 59.6**	**-0.3**
ESKU	**Eskilstuna**	**1.07**	**286**	*e*P	**Pb**	**14 22 00.0**	**-1.1**
FLYU	**Flymyra**	**1.20**	**347**	*e*P	**Pb**	**14 22 03.6**	**+0.2**
GRAU	**Graesoe**	**1.38**	**3**	*e*P	**Pb**	**14 22 07.3**	**+0.9**
OSTU	**Oestervaala**	**1.43**	**334**	*e*P	**Pn**	**14 22 07.7**	**+0.4**
AAL	**Aland**	**1.47**	**33**	*e*P	**Pn**	**14 22 09.7**	**+1.9**
IGGU	**Iggoen**	**2.00**	**345**	*e*P	**Pn**	**14 22 16.5**	**+1.1**
IGGU				*e*S	**Sn**	**14 22 42.6**	**+1.1**
FALU	**Falun**	**2.02**	**321**	*e*S	**Sn**	**14 22 42.7**	**+0.8**
HFS	**Hagfors**	**2.67**	**298**	*e*PB	**Pn**	**14 22 26.4**	**+1.4**
HFS				*e*SB	**Sb**	**14 22 59.7**	**-2.3**
HFS	**Hagfors**	**2.67**	**298**	Pn	**Pn**	**14 22 26.1**	**+1.1**
	0.1nm,0.3s,baz=105,slow=18,SNR=29						
HFS				Lg		14 23 00.0	
	0.6nm,0.3s,baz=118,slow=31,SNR=27						
HFS	**Hagfors**	**2.67**	**298**	Pn	**Pn**	**14 22 26.4**	**+1.4**
	baz=123,slow=16						
HFS				Lg		14 22 59.7	
	baz=112,slow=37						
ARNU	**Arnoeviken**	**2.79**	**350**	*e*P	**Pn**	**14 22 27.0**	**+0.3**
PVF	**Pernaja**	**4.09**	**64**	*e*P	**Pn**	**14 22 49.4**	**+4.2**
PVF				*e*SG	**Sg**	**14 23 54.5**	**-1.8**
PVF				MSG		14 23 58.0	
	comp=Z,1.4nm,0.2s						
NOA	**NORSAR Array B**	**4.17**	**303**	Pn	**Pn**	**14 22 46.0**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=101,slow=20,SNR=2.5						
NOA				Lg		14 23 48.1	
	comp=Z,0.4nm,0.3s,baz=5.6,slow=18,SNR=3.2						
KEF	**Keuruu**	**4.53**	**42**	*e*P	**Pn**	**14 22 53.3**	**+1.8**
KEF				*e*S	**Sn**	**14 23 43.8**	**-1.9**
KEF				*e*SG	**Sg**	**14 24 01.8**	**-9.0**
FIA0	**FINESS Array S**	**4.57**	**54**	Pn	**Pn**	**14 22 54.7**	**+2.7**
	baz=242,slow=12						
FIA0				Pg	**Pg**	**14 23 05.0**	**-6.1**
	baz=236,slow=14						
FIA0				Sn	**Sn**	**14 23 48.0**	**+1.4**
	baz=238,slow=22						
FIA0				Lg		14 24 04.7	
	baz=246,slow=28						
FIA0	**FINESS Array S**	**4.57**	**54**	*e*P	**Pn**	**14 22 53.9**	**+1.9**
FIA0				*e*S	**Sn**	**14 23 46.9**	**+0.4**
FIA0				*e*SG	**Sg**	**14 24 05.2**	**-6.8**
FIA0				MSG		14 24 08.7	
	comp=Z,2.2nm,0.3s						
FINES	**FINESS Array B**	**4.57**	**54**	Pn	**Pn**	**14 22 54.7**	**+2.7**
	comp=Z,0.2nm,0.3s,baz=247,slow=13,SNR=12						
FINES				Pg	**Pg**	**14 23 05.0**	**-6.2**
	comp=Z,0.3nm,0.3s,baz=243,slow=14,SNR=6.8						
FINES				Sn	**Sn**	**14 23 47.8**	**+1.2**
	comp=Z,0.5nm,0.3s,baz=249,slow=22,SNR=8.3						
FINES				Lg		14 24 07.8	
	comp=Z,0.8nm,0.3s,baz=238,slow=19,SNR=9.2						
KAF	**Kangasniemi**	**5.02**	**48**	*e*P	**Pn**	**14 22 59.6**	**+1.2**
KAF				*e*S	**Sn**	**14 23 56.8**	**-1.2**
SUF	**Sumiainen**	**5.34**	**42**	*e*P	**Pn**	**14 23 02.7**	**-0.2**
SUF				*e*S	**Sn**	**14 24 03.4**	**-2.8**
SUF				*e*SG	**Sg**	**14 24 25.5**	**-12**
ARA0	**ARCESS Array S**	**11.05**	**13**	Pn	**P**	**14 24 18.8**	**-3.3**
	baz=193,slow=14						
ARA0	**ARCESS Array S**	**11.05**	**13**	*e*P	**P**	**14 24 18.8**	**-3.3**
ARCES	**ARCESS Array B**	**11.05**	**13**	Pn	**P**	**14 24 19.0**	**-3.2**
	comp=Z,0.1nm,0.3s,baz=188,slow=14,SNR=6.5						

MOS ***17*** *14:32:51.5±0.6, 58.91N×31.22W, h10*^{km}*, mb4.7/9, Error ellipse: s-maj=49.3km s-min=20.8km az=60.8*

IDC ***17*** *14:32:51.7±0.5, 58.94N×31.33W, mb4.3/32, mb1 4.5/35, mb1mx4.5/36, ML3.7/3, MS4.1/15, Ms1 4.1/15, ms1mx3.8/34, Error ellipse: s-maj=15.7km s-min=9.4km az=180.0*

BJI ***17*** *14:32:52.9, 59.47N×31.35W, h10*^{km}*, mB5.0, mb4.7, Ms5.0, Msz4.7*

NEIC ***17*** *14:32:53.1±0.2, 58.83N×31.19W, h10*^{km}*, mb4.7/68, Error ellipse: s-maj=6.9km s-min=3.1km az=195.0*

ZUR_RM ***17*** *14:32:53, 58.83N×31.19W, h12*^{km}*, Mw4.8/10, Moment Tensor Solution. s10 Moment tensor: Scale* 10^{16}*Nm;* M_{rr}*-2.13;* $M_{\theta\theta}$*0.67;* $M_{\phi\phi}$*1.46;* $M_{r\theta}$*0.64;* $M_{\theta\phi}$*0.49;* $M_{\phi r}$*-0.33; Best double couple:* $M_0 2\times10^{16}$ *NP1:*ϕ_s*11°,*δ*47°,*λ*-110°. NP2:*ϕ_s*220°,*δ*47°,*λ*-70°. Principal axes: T 1.689, Plg0°, Azm115°; N .625, Plg15°, Azm25°; P -2.315, Plg75°, Azm206°;*

ISC 17 14:32:50.2±2.0**, 58.84N**±0.04×**31.22W**±0.04**,** $h2^{km}$±12^{km}**,** $h13^{km}$±1.4^{km}**:pP-P, n209,** σ**1**^{s}**00**/197**, mb4.6**/105**, MS4.2**/21**, 7C-7D, Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**7.55**	**34**	Pn	**Pn**	**14 34 43.5**	**-0.5**
	6.4nm,0.3s,baz=188,slow=9.0,SNR=15						
BORG				Sn	**Sn**	**14 36 11.8**	**+0.6**
	2.2nm,0.3s,baz=63,slow=22,SNR=11						
BORG				LR	LR	14 37 09.7	
	comp=Z,2μm,18.8s,baz=209,slow=34						
BORG	**Borgarnes**	**7.55**	**34**	*e*Pn	**Pn**	**14 34 45.9**	**+1.9**
	128nm,1.0s						
SUMG	**Summit**	**14.09**	**351**	*e*P	**P**	**14 36 13.6**	**+0.9**
JMIC	**Jan Mayen**	**15.38**	**28**	Pn	**P**	**14 36 28.4**	**-1.1**
	baz=210,slow=8.1,SNR=2.7						
EKA	**Eskdalemuir Ar**	**15.59**	**91**	Pn	**P**	**14 36 32.2**	**-0.2**
	0.4nm,0.3s,baz=291,slow=10.0,SNR=10.0						
FRB	**Frobisher Bay**	**18.39**	**301**	LR	LR	14 43 10.3	
	comp=Z,730nm,18.8s,baz=155,slow=34						
DAG	**Danmarks Havn**	**18.54**	**9**	⇑*i*P	**P**	**14 37 10.3**	**+0.8**
	10nm,1.1s						
ROSF	**Rostrenen**	**19.49**	**110**	*e*P	**P**	**14 37 20.6**	**-0.3**
SCHQ	**Schefferville**	**19.73**	**274**	P	**P**	**14 37 22.8**	**-0.9**
	0.6nm,0.3s,baz=63,slow=12,SNR=9.6						
SCHQ				LR	LR	14 43 16.0	
	comp=Z,534nm,20.1s,baz=117,slow=32						
SCHQ	**Schefferville**	**19.73**	**274**	*e*P	**P**	**14 37 22.4**	**-1.3**
	32nm,1.0s						
QUIF	**Quistinic**	**19.83**	**111**	*e*P	**P**	**14 37 24.2**	**-0.6**
	380nm,1.8s						
SGMF	**Saint Gilles**	**19.89**	**110**	*e*P	**P**	**14 37 24.6**	**-0.9**
	79nm,1.1s						
FLN	**La Foliniere**	**20.58**	**106**	*e*P	**P**	**14 37 32.0**	**-0.7**
	155nm,1.0s						
FLN				*e*R			
	447nm,18.6s						
GRR	**Gorron**	**20.64**	**107**	*e*P	**P**	**14 37 32.5**	**-0.9**
	76nm,1.1s						
LDF	**La Druitiere**	**20.87**	**106**	*e*P	**P**	**14 37 35.6**	**-0.1**
EMAZ	**Mazaricos**	**21.05**	**129**	P	**P**	**14 37 38.2**	**+0.7**
	18nm,1.0s,mb4.3						
NB2	**NORSAR Subarra**	**21.10**	**66**	P	**P**	**14 37 37.5**	**-0.5**
	15nm,1.2s,mb4.2,baz=281,slow=11						
NB2	**NORSAR Subarra**	**21.10**	**66**	P	**P**	**14 37 37.5**	**-0.5**
	15nm,1.2s,mb4.2						
NOA	**NORSAR Array B**	**21.10**	**66**	P	**P**	**14 37 38.2**	**+0.2**
	5.8nm,1.0s,mb3.9,baz=280,slow=10,SNR=4.3						
NOA				LR	LR	14 44 10.7	
	comp=Z,245nm,19.4s,MS3.6,baz=280,slow=32						
STS	**Santiago**	**21.27**	**129**	P	**P**	**14 37 39.9**	**0.0**
	21nm,0.9s,mb4.5						
EPON	**Pontenova**	**21.49**	**126**	P	**P**	**14 37 42.3**	**+0.2**
	29nm,0.9s,mb4.6						
MUD	**Monsted U'grnd**	**21.52**	**79**	*i* P	**P**	**14 37 49.1**	**+6.9**
	65nm,1.4s,mb4.9						
MUD	**Monsted U'grnd**	**21.52**	**79**	*e*P	**P**	**14 37 49.1**	**+6.9**
	65nm,1.4s,mb4.9						
BAIF	**Baives**	**22.15**	**98**	*e*P	**P**	**14 37 47.5**	**-1.2**
	114nm,1.2s,mb4.9						
MFF	**Saint Martin d**	**22.22**	**110**	*e*P	**P**	**14 37 48.9**	**-0.4**
	88nm,1.2s,mb4.8						
ERUA	**La Rua**	**22.26**	**127**	P	**P**	**14 37 53.0**	**+3.2**
	21nm,1.0s,mb4.5						
ELOB	**Lobios**	**22.32**	**129**	P	**P**	**14 37 53.3**	**+2.9**
	54nm,1.5s,mb4.8						
GIVF	**Givet**	**22.44**	**97**	*e*P	**P**	**14 37 50.2**	**-1.4**
	97nm,1.3s,mb4.8						
HFS	**Hagfors**	**22.51**	**67**	P	**P**	**14 37 52.3**	**+0.3**
	5.7nm,0.8s,mb4.1,baz=270,slow=5.9,SNR=4.9						
ECAL	**Calabor**	**22.80**	**127**	P	**P**	**14 37 57.9**	**+2.8**
	21nm,0.9s,mb4.6						
MEZF	**Maizieres J'vi**	**23.55**	**100**	*e*P	**P**	**14 38 01.2**	**-1.1**
TCF	**Toulx Ste Croi**	**23.60**	**107**	*e*P	**P**	**14 38 01.6**	**-1.2**
	49nm,1.0s,mb4.6						
SSF	**Saint Saulge**	**23.71**	**104**	*e*P	**P**	**14 38 02.9**	**-1.0**
BGF	**Bois d'Agland**	**23.73**	**106**	*e*P	**P**	**14 38 03.6**	**-0.4**
	31nm,0.8s,mb4.5						
LOR	**Lormes**	**23.75**	**104**	*e*P	**P**	**14 38 03.2**	**-1.1**
	42nm,1.2s,mb4.5						
LOR				*e*R			
	689nm,18.2s						
MTE	**Manteigas**	**23.78**	**130**	*e*P	**P**	**14 38 05.9**	**+1.4**
LFF	**La Frestale**	**23.84**	**112**	*e*P	**P**	**14 38 04.8**	**-0.4**
RJF	**Les Rejaudoux**	**23.96**	**110**	*e*P	**P**	**14 38 05.5**	**-0.7**
RJF				*e*R			
	478nm,17.3s						
EALK	**Alkurruntz**	**24.08**	**117**	P	**P**	**14 38 13.3**	**+5.9**
	19nm,1.0s,mb4.5						
SMF	**Signal de Mont**	**24.17**	**105**	*e*P	**P**	**14 38 07.4**	**-0.9**
	49nm,1.0s,mb4.6						
SJPF	**Ste Jean**	**24.29**	**117**	*e*P	**P**	**14 38 09.4**	**-0.1**
	19nm,1.0s,mb4.2						
CAF	**Calviac**	**24.50**	**110**	*e*P	**P**	**14 38 10.4**	**-1.1**
HAU	**Haudompre**	**24.54**	**100**	*e*P	**P**	**14 38 10.9**	**-1.0**
HAU				*e*R			
	1μm,17.2s						
CDF	**Champ du Feu**	**24.75**	**98**	*e*P	**P**	**14 38 12.5**	**-1.5**
ETSF	**Etsaut**	**24.77**	**117**	*e*P	**P**	**14 38 13.6**	**-0.5**
	9.1nm,0.9s,mb4.0						
HINF	**Hinteralfeld**	**24.92**	**99**	*e*P	**P**	**14 38 14.7**	**-0.8**
EPF	**Esparros**	**25.08**	**115**	*e*P	**P**	**14 38 16.4**	**-0.8**
CABF	**La Chapelle**	**25.33**	**102**	*e*P	**P**	**14 38 18.6**	**-0.8**
EBAD	**Badajoz**	**25.40**	**132**	P	**P**	**14 38 22.5**	**+2.3**
	12nm,1.0s,mb4.4						
MOX	**Moxa**	**25.65**	**90**	*i* P	**P**	**14 38 23.0**	**+0.6**
	logA/T=1.3,mb4.6						
MOX	**Moxa**	**25.65**	**90**	*e*P	**P**	**14 38 23.0**	**+0.6**
MOX				pmax	pmax		
	comp=Z,30nm,1.6s,mb4.6						
MOX	**Moxa**	**25.65**	**90**	*e*P	**P**	**14 38 23.0**	**+0.6**
	comp=Z,30nm,1.6s,mb4.6						
EGRA	**Graus**	**25.72**	**116**	P	**P**	**14 38 26.4**	**+3.2**
	comp=Z,23nm,1.3s,mb4.6						
ESAC	**San Caprasio**	**25.73**	**118**	P	**P**	**14 38 28.5**	**+5.2**
	comp=Z,6.4nm,0.4s,mb4.5						
ETOR	**Torete**	**25.73**	**122**	P	**P**	**14 38 28.4**	**+5.1**
	comp=Z,19nm,1.0s,mb4.6						
MTLF	**Montolieu**	**25.74**	**112**	*e*P	**P**	**14 38 22.2**	**-1.2**
	comp=Z,50nm,1.2s,mb4.6						
VIVF	**Saint-Julien-l**	**25.84**	**107**	*e*P	**P**	**14 38 23.3**	**-0.9**
ARCES	**ARCESS Array B**	**25.85**	**42**	P	**P**	**14 38 23.8**	**-0.3**
	comp=Z,7.0nm,0.8s,mb4.3,baz=304,slow=4.4,SNR=8.9						
ESDC	**Sonseca Array**	**25.85**	**126**	P	**P**	**14 38 25.2**	**+0.7**
	comp=Z,6.4nm,0.8s,mb4.2,baz=327,slow=8.9,SNR=13						
ESDC				LR	LR	14 47 00.2	
	comp=Z,114nm,20.8s,MS3.4,baz=310,slow=33						
ESDC	**Sonseca Array**	**25.85**	**126**	P	**P**	**14 38 27.5**	**+3.1**
	comp=Z,5.8nm,0.8s,mb4.2						
ESLA	**Sonseca Array**	**25.85**	**126**	*e*P	**P**	**14 38 24.9**	**+0.4**
	comp=Z,3.9nm,1.1s,mb3.9						
CLL	**Collm**	**25.99**	**87**	P	**P**	**14 38 25.0**	**-0.6**
CLL				*e*		14 38 43.0	
CLL	**Collm**	**25.99**	**87**	*e*P	**P**	**14 38 25.0**	**-0.6**
LASF	**Ste Croix**	**26.00**	**109**	*e*P	**P**	**14 38 25.1**	**-0.6**
	comp=Z,27nm,1.1s,mb4.4						
GRA1	**Grafenberg Arr**	**26.01**	**92**	*e*P	**P**	**14 38 26.9**	**+1.1**
	comp=Z,29nm,1.5s,mb4.6						
GRF	**Grafenberg Arr**	**26.01**	**92**	*e*P	**P**	**14 38 26.9**	**+1.1**
GRF				pmax	pmax		
	comp=Z,29nm,1.5s,mb4.6						
NKC	**Novy Kostel**	**26.32**	**90**	*e*P	**P**	**14 38 29.3**	**+0.6**
EMIN	**Mina Concepcio**	**26.39**	**132**	P	**P**	**14 38 27.9**	**-1.5**
	comp=Z,9.5nm,1.0s,mb4.3						
ORIF	**Oris-en-Rattie**	**26.39**	**105**	*e*P	**P**	**14 38 28.2**	**-1.2**
ORIF				*e*R			
	comp=Z,422nm,17.3s						
LPG	**La Plagne**	**26.43**	**104**	*e*P	**P**	**14 38 29.0**	**-0.7**
BRG	**Berggiesshubel**	**26.73**	**87**	*e*P	**P**	**14 38 34.4**	**+2.0**
BRG				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.0						
BRG	**Berggiesshubel**	**26.73**	**87**	*e*P	**P**	**14 38 34.4**	**+2.0**
	comp=Z,5.4nm,1.1s,mb4.0						
BRG				*e*		14 39 02.0	
EADA	**Adamuz**	**26.87**	**129**	P	**P**	**14 38 38.2**	**+4.3**
	comp=Z,6.1nm,0.9s,mb4.1						
SMRF	**Simiane la Rot**	**26.92**	**107**	*e*P	**P**	**14 38 33.5**	**-0.7**
EVIA	**Vianos**	**27.34**	**125**	P	**P**	**14 38 39.5**	**+1.3**
	comp=Z,21nm,0.9s,mb4.7						
EQES	**Quesada**	**27.80**	**127**	P	**P**	**14 38 44.6**	**+2.2**
	comp=Z,8.1nm,0.9s,mb4.3						
GERES	**GERESS Array B**	**27.81**	**91**	P	**P**	**14 38 47.2**	**+4.9**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,0.4nm,0.5s,baz=315,slow=6.9,SNR=3.3						
LMR	La Mourre	27.85	107	eP	P	14 38 41.7	-1.0
	comp=Z,182nm,1.8s,mb5.1						
FINES	FINESS Array B	27.86	60	P	P	14 38 42.5	-0.1
	comp=Z,4.2nm,1.0s,mb4.0,baz=278,slow=9.8,SNR=3.2						
KSP	Ksiaz	27.96	86	eP	P	14 38 44.0	+0.3
KSP				e*PP	pP	14 38 47.2	+3.0
DPC	Dobruska-Polom	28.27	86	eP	P	14 38 46.9	+0.5
VRAC	Vranov	29.03	88	P	P	14 38 55.0	+1.7
	comp=Z,1.5nm,0.5s,mb3.9,baz=286,slow=15,SNR=2.6						
PGF	Pioggiola	29.67	105	eP	P	14 38 58.2	-0.9
	comp=Z,88nm,1.3s,mb5.0						
FCC	Fort Churchill	31.51	297	eP	P	14 39 15.4	+0.3
SADO	Sadowa	32.04	265	P	P	14 39 19.5	-0.5
	comp=Z,20nm,1.0s,mb4.9,baz=48,slow=8.9,SNR=6.1						
SADO				LR	LR	14 50 46.3	
	comp=Z,640nm,18.7s,MS4.3,baz=112,slow=34						
AKASG	Malin Array Be	34.68	76	P	P	14 39 42.6	-0.3
	comp=Z,7.6nm,1.0s,mb4.6,baz=302,slow=8.5,SNR=11						
OBN	Obninsk	35.70	66	eP	P	14 39 51.1	-0.4
OBN				eS	S	14 45 26.0	-2.4
OBN				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.7						
OBN				MLR	MLR		
	comp=Z,200nm,16.0s,MS4.0						
VAE	Valguarnera	36.22	106	P	P	14 39 57.8	+1.8
	comp=Z,7.6nm,0.4s,mb5.0,baz=147,slow=21,SNR=2.6						
MLR	Muntele Rosu	36.34	86	LR	LR	14 55 31.7	
	comp=Z,235nm,18.4s,MS4.0,baz=172,slow=37						
SKO	Skopje	36.46	94	eP	P	14 40 00.5	+2.5
ULM	Lac du Bonnet	37.08	286	P	P	14 40 02.0	-1.2
	comp=Z,15nm,0.8s,mb4.8,baz=64,slow=8.7,SNR=7.6						
ULM				LR	LR	14 53 32.6	
	comp=Z,324nm,18.2s,MS4.2,baz=53,slow=34						
ULM	Lac du Bonnet	37.08	286	eP	P	14 40 02.0	-1.1
	comp=Z,24nm,1.0s,mb5.0						
FWV	Forest Hill	38.14	258	eP	P	14 40 11.3	-0.9
YKA	Yellowknife Ar	38.34	312	P	P	14 40 12.8	-0.8
	comp=Z,7.7nm,0.8s,mb4.5,baz=53,slow=9.1,SNR=6.7						
YKA				LR	LR	14 56 18.1	
	comp=Z,131nm,20.2s,MS3.7,baz=80,slow=37						
JFWS	Jewell Farm	39.10	273	eP	P	14 40 20.8	+0.6
INK	Inuvik	41.26	327	P	P	14 40 35.7	-2.0
	comp=Z,1.5nm,0.8s,mb3.7,baz=41,slow=12,SNR=2.6						
INK				PcP	PcP	14 42 35.6	-1.6
	comp=Z,2.3nm,0.9s,baz=45,slow=4.9,SNR=3.2						
INK				LR	LR	14 55 47.9	
	comp=Z,150nm,20.5s,MS3.9,baz=291,slow=34						
INK	Inuvik	41.26	327	eP	P	14 40 39.1	+1.4
	comp=Z,11nm,1.2s,mb4.3						
INK				PcP	PcP	14 42 35.6	-1.6
INK				LR	LR	14 55 47.9	
CCM	Cathedral Cave	43.16	269	eP	P	14 40 53.0	-0.5
	comp=Z,8.6nm,0.8s,mb4.5						
IDI	Anoyia	43.24	98	P	P	14 40 55.0	+0.8
	comp=Z,12nm,1.0s,mb4.6,baz=232,slow=12,SNR=2.3						
EDM	Edmonton	43.51	300	eP	P	14 40 55.5	-0.6
BRTR	Keskin Array B	44.43	86	P	P	14 41 05.5	+1.7
	comp=Z,2.7nm,0.9s,mb4.0,baz=315,slow=7.0,SNR=6.6						
BRTR				PcP	PcP	14 42 46.8	-1.3
	comp=Z,0.5nm,0.5s,baz=346,slow=5.9,SNR=3.6						
BRTR				LR	LR	14 59 55.3	
	comp=Z,168nm,19.8s,MS4.0,baz=250,slow=36						
LAO	LASA Array	44.59	289	eP	P	14 41 05.7	+0.7
	comp=Z,20nm,1.0s,mb4.9						
ARU	Arti	44.66	52⇓	iP	P	14 41 05.8	+0.4
ARU				e		14 42 47.6	
ARU				i		14 42 49.6	
ARU				eS	S	14 47 41.1	-0.9
ARU				eSS	SS	14 51 07.8	+14
ARU				eSSS	SSS	14 51 46.0	-4.0
ARU				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.4						
LRAL	Lakeview Retre	44.84	260	eP	P	14 41 08.8	+1.6
KSU1	Kansas State U	45.17	274	eP	P	14 41 11.2	+1.4
DAWY	Dawson	45.91	324	eP	P	14 41 16.1	+0.9
DLBC	Dease Lake	46.80	315	LR	LR	15 00 19.8	
	comp=Z,225nm,18.4s,MS4.2,baz=227,slow=35						
MIAR	Mount Ida	47.05	267	eP	P	14 41 24.3	-0.4
	comp=Z,29nm,1.3s,mb5.0						
HRY	Holter Researc	47.30	293	eP	P	14 41 26.8	+0.3
ILAR	Eielson Array	47.53	328	P	P	14 41 28.5	+0.4
	comp=Z,1.1nm,0.8s,mb4.0,baz=13,slow=8.5,SNR=9.2						
ILAR				PcP	PcP	14 42 56.5	-2.1
	comp=Z,2.3nm,1.1s,slow=2.9,SNR=4.9						
COLA	College	47.71	329⇓	eP	P	14 41 29.5	0.0
MALT	Malatya	47.96	83	eP	P	14 41 32.7	+0.8
	comp=Z,9.6nm,1.1s,mb4.7						
BOZ	Bozeman (W)	47.97	291	eP	P	14 41 32.1	+0.3
	comp=Z,19nm,1.4s,mb4.9						
QLMT	Earthquake Lak	48.47	290	eP	P	14 41 37.0	+1.4
NEW	Newport	48.68	297	P	P	14 41 36.4	-0.8
	comp=Z,5.6nm,1.1s,mb4.5,baz=36,slow=14,SNR=2.5						
NEW				LR	LR	15 01 26.1	
	comp=Z,610nm,18.6s,MS4.6,baz=126,slow=35						
NEW	Newport	48.68	297	P	P	14 41 36.4	-0.8
NEW				LR	LR	15 01 26.1	
MCK	McKinley	48.90	328	eP	P	14 41 38.9	+0.2
	comp=Z,8.9nm,1.4s,mb4.6						
TIXI	Tiksi	49.06	8⇓	eP	P	14 41 40.2	+0.4
TIXI				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.8						
TIXI				MLR	MLR		
	comp=Z,100nm,16.0s,MS3.9						
PDAR	Pinedale Array	49.06	287	P	P	14 41 39.4	-0.9
	comp=Z,4.4nm,0.8s,mb4.5,baz=53,slow=7.4,SNR=18						
PDAR				PP	PP	14 43 30.4	-3.6
	comp=Z,0.6nm,0.7s,baz=49,slow=9.6,SNR=3.8						
MCMT	McKenzie Canyo	49.16	291	eP	P	14 41 41.6	+0.6
REDW	Red Top Meadow	49.26	289	eP	P	14 41 44.3	+2.5
DPW	Davenport	49.46	298	eP	P	14 41 43.0	-0.2
WMOK	Wichita Mounta	49.61	272	eP	P	14 41 44.0	-0.6
	comp=Z,20nm,1.2s,mb5.0						
BBB	Bella Bella	50.61	308	LR	LR	15 02 46.7	
	comp=Z,242nm,18.4s,MS4.2,baz=234,slow=36						
SDCO	Great Sand Dun	50.78	280	eP	P	14 41 53.9	+0.5
	comp=Z,12nm,1.2s,mb4.7						
HLID	Hailey	50.85	291	eP	P	14 41 53.6	-0.3
	comp=Z,2.9nm,1.0s,mb4.2						
HWUT	Hardware Ranch	50.92	288	eP	P	14 41 53.5	-0.9
	comp=Z,10nm,1.0s,mb4.7						
DAU	Daniels Canyon	51.66	287	eP	P	14 42 00.7	+0.5
BVAR	Borovoye Array	51.86	49	P	P	14 42 01.4	-0.1
	comp=Z,1.8nm,0.8s,mb4.1,baz=333,slow=3.3,SNR=6.9						
ASF	Jabal al Asfar	51.90	90	P	P	14 42 02.0	-0.1
	comp=Z,4.7nm,0.8s,mb4.4,baz=176,slow=2.3,SNR=4.0						
PV01	Paradox Valley	52.05	283	eP	P	14 42 03.4	+0.3
PV10	Paradox Valley	52.10	283	eP	P	14 42 04.3	+0.8
NLU	North Lily Min	52.42	287	eP	P	14 42 04.8	-1.1
EIL	Elat	52.88	93	P	P	14 42 09.4	0.0
	comp=Z,6.6nm,0.8s,mb4.6,baz=350,slow=16,SNR=3.5						
EIL	Elat	52.88	93	eP	P	14 42 09.6	+0.2
	comp=Z,9.6nm,0.9s,mb4.7						
ALWS	Ilw as Safayha	53.23	93	P	P	14 42 14.8	+2.7
JMOS	Jabal al Moall	53.36	93	P	P	14 42 14.3	+1.3
ELK	Elko	53.38	290	eP	P	14 42 11.3	-1.7
	comp=Z,6.2nm,1.0s,mb4.5						
ANMO	Albuquerque	53.42	278⇑	eP	P	14 42 14.1	+0.7
ANMO	Albuquerque	53.42	278	eP	P	14 42 13.3	0.0
	comp=Z,2.3nm,0.7s,mb4.2						
JCT	Junction City	53.49	270	eP	P	14 42 12.9	-1.0
	comp=Z,22nm,1.2s,mb5.0						
MSU	Marysvale	53.57	286	eP	P	14 42 14.6	+0.2
MVU	Marysvale	53.60	286	eP	P	14 42 14.2	-0.4
	comp=Z,5.6nm,1.1s,mb4.4						
WVOR	Wild Horse Val	53.73	293	eP	P	14 42 14.8	-0.7
	comp=Z,6.0nm,1.0s,mb4.5						
TAYS	Tayyib Ism	53.73	94	P	P	14 42 17.0	+1.3
BDAS	Al Bad‘	53.95	94	P	P	14 42 18.7	+1.4
JMQS	Jabal Moqyreh	53.99	93	P	P	14 42 18.7	+1.1
BNM	Barren Site	54.13	278	eP	P	14 42 19.0	+0.4
LAZ	Ladron	54.20	279	eP	P	14 42 20.1	+1.0
GDL2	Guadalupe Moun	54.49	275	eP	P	14 42 20.6	-0.6
MOD	Modoc	54.93	294	eP	P	14 42 23.7	-0.7
	comp=Z,14nm,1.3s,mb4.8						
NVS	Novosibirsk	55.09	40	iP	P	14 42 24.5	-0.9
NVS				pmax	pmax		
	comp=N,7.0nm,1.2s						
NVS				pmax	pmax		
	comp=E,5.0nm,1.2s						
NVS				pmax	pmax		
	comp=Z,23nm,1.2s,mb5.1						
WUAZ	Wupatki	55.49	283	eP	P	14 42 28.6	+0.1
	comp=Z,9.6nm,1.1s,mb4.7						
DBIC	Dimbokro	55.85	148	P	P	14 42 31.4	+0.1
	comp=Z,3.6nm,0.8s,mb4.5,baz=336,slow=15,SNR=4.6						
DBIC				LR	LR	15 02 46.8	
	comp=Z,175nm,19.2s,MS4.2,baz=52,slow=32						
DBIC	Dimbokro	55.85	148	P	P	14 42 31.1	-0.2
	comp=Z,3.8nm,0.8s,mb4.5						
YBH	Yreka Blue Hor	56.20	296	P	P	14 42 32.1	-1.4
	comp=Z,1.2nm,0.8s,mb4.0,baz=240,slow=4.4,SNR=1.8						
LIC	Lamto	56.23	148	eP	P	14 42 32.7	-1.4
	comp=Z,14nm,0.8s,mb4.7						
TXAR	Lajitas Array	56.41	272	P	P	14 42 34.9	-0.3
	comp=Z,0.8nm,0.5s,mb4.0,baz=63,slow=5.6,SNR=9.9						
TPH	Tonopah	56.42	289	eP	P	14 42 34.8	-0.3
	comp=Z,8.3nm,0.9s,mb4.8						
NVAR	Mina Array Bea	56.67	290	P	P	14 42 36.1	-0.8
	comp=Z,1.2nm,0.8s,mb4.0,baz=60,slow=6.1,SNR=10						
TPNV	Topopah Spring	56.82	288	eP	P	14 42 37.9	-0.1
	comp=Z,4.2nm,1.0s,mb4.4						
KURK	Kurchatov	56.83	46⇓	eP	P	14 42 36.9	-1.0
OHCM	Honcut	57.49	293	eP	P	14 42 41.4	-1.4
MTUM	Tungsten Hills	57.64	290	eP	P	14 42 45.0	+1.2
HILS	Ha’il	58.27	89	P	P	14 42 47.7	-0.7
YAK	Yakutsk	58.56	10⇑	eP	P	14 42 48.5	-1.4
YAK				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.8						
YAK				MLR	MLR		
	comp=Z,200nm,18.0s,MS4.3						
MIB	Mutribah	59.20	83	eP	P	14 42 54.9	+0.1
MIB				AMb	AMB	14 43 01.1	
	comp=Z,57nm,0.9s,mb5.6						
RST	Umm Al-Ruwaisa	59.27	83	eP	P	14 42 55.0	-0.3
RST				AMb	AMB	14 42 56.5	
	comp=Z,22nm,1.2s,mb5.1						
RDF	Al-Radifah	60.01	83	eP	P	14 43 00.1	-0.3
RDF				AMb	AMB	14 43 01.6	
	comp=Z,44nm,1.2s,mb5.4						
MKAR	Makanchi Array	61.44	46	P	P	14 43 09.0	-0.9
	comp=Z,1.7nm,0.6s,mb4.3,baz=333,slow=5.4,SNR=21						
MKAR	Makanchi Array	61.44	46	iP	P	14 43 09.0	-0.9
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AFFS	‘Afif	61.71	90	P	P	14 43 13.3	+1.3
AAK	Ala-Archa	61.80	54⇓	eP	P	14 43 12.9	+0.5
MZLS	Mizel	62.78	88	P	P	14 43 17.5	-1.7
ROSC	El Rosal	63.25	230	P	P	14 43 23.1	+0.7
	comp=Z,14nm,0.7s,mb5.2,baz=154,slow=22,SNR=4.5						
TATS	Tathlith	65.58	93	P	P	14 43 37.8	+0.4
WMQ	Urumqi	65.96	44	eP	P	14 43 41.8	+2.3
WMQ				AP	pP	14 43 46.8	+6.8
WMQ				XP	sP	14 43 48.8	+8.6
WMQ				AMB	AMB		
	comp=Z,5.0nm,1.4s,mb4.3						
WMQ				LR	LR		
	comp=Z,247nm,16.0s,MS4.5						
SONM	Songino Array	68.14	29	P	P	14 43 52.9	-0.3
	comp=Z,6.9nm,1.1s,mb4.6,baz=323,slow=6.2,SNR=25						
GTA	Gaotai	74.00	37	P	P	14 44 28.8	+0.3
GTA				XP	sP	14 44 34.4	+5.2
GTA				PP	PP	14 47 13.9	-1.4
GTA				S	S	14 53 56.9	-3.6
GTA				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.5						
GTA				AMB	AMB		
	comp=Z,65nm,6.1s						
GTA				LR	LR		
	comp=N,145nm,15.2s,MS4.5						
GTA				LR	LR		
	comp=E,93nm,15.6s,MS4.5						
GTA				LR	LR		
	comp=Z,129nm,14.8s,MS4.3						
BDFB	Brasilia	75.48	197	P	P	14 44 37.3	-0.2
	comp=Z,1.6nm,0.4s,mb4.3,slow=2.0,SNR=3.1						
MDJ	Mudanjiang	75.69	14	P	P	14 44 37.1	-1.0
MDJ				AMB	AMB		
	comp=Z,6.0nm,1.3s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,71nm,5.7s						
BTO	Baotou	75.81	29	eP	P	14 44 38.9	0.0
CN2	Changchun	75.91	17	eP	P	14 44 40.1	+0.7
CN2				eXP	sP	14 44 47.1	+7.0
CN2				eS	S	14 54 20.3	-1.3
CN2				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.7						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,350nm,17.0s,MS4.8						
CN2				LR	LR		
	comp=E,250nm,17.0s,MS4.8						
CN2				LR	LR		
	comp=Z,390nm,18.0s,MS4.8						
HHC	Hu-ho-hao-te	75.97	28	eP	P	14 44 40.8	+1.0
HHC				AMB	AMB		
	comp=Z,17nm,0.5s,mb5.2						
HHC				AMB	AMB		
	comp=Z,96nm,4.6s						
BJI	Beijing	77.82	25	P	P	14 44 51.0	+0.9
BJI				AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.6						
BJI				LR	LR		
	comp=N,375nm,17.8s,MS4.9						
BJI				LR	LR		
	comp=E,281nm,17.8s,MS4.9						
BJI				LR	LR		
	comp=Z,237nm,18.9s,MS4.5						
LZH	Lanzhou	78.30	36	eP	P	14 44 52.6	-0.2
LZH				AP	pP	14 44 55.8	+2.4
LZH				XP	sP	14 44 57.3	+3.7
LZH				PP	PP	14 47 50.4	-1.4
LZH				AMB	AMB		
	comp=Z,27nm,1.5s,mb5.0						
LZH				AMB	AMB		
	comp=Z,113nm,5.3s						
LZH				LR	LR		
	comp=N,438nm,15.3s						
LZH				LR	LR		
	comp=Z,637nm,18.1s,MS5.0						
KOLN	Koldanda	78.32	55	eP	P	14 44 53.4	+0.3
	comp=Z,31nm,1.2s,mb5.1						
GKN	Gorkha	78.56	54	eP	P	14 44 54.3	-0.1
KKN	Kakani	79.01	54	eP	P	14 44 56.9	0.0
	comp=Z,16nm,0.9s,mb4.9						
DMN	Daman	79.10	54	eP	P	14 44 57.8	+0.4
	comp=Z,19nm,1.0s,mb5.0						
PKI	Pulchoki	79.26	54	eP	P	14 44 58.3	+0.1
	comp=Z,7.9nm,0.9s,mb4.7						
LPAZ	La Paz	80.72	216	P	P	14 45 11.4	+5.2
	comp=Z,1.8nm,0.3s,mb4.5,baz=267,slow=0.2,SNR=2.8						
NJ2	Nanjing	86.08	25	eP	P	14 45 35.0	+1.7
NJ2				AP	pP	14 45 40.0	+6.2
NJ2				XP	sP	14 45 43.0	+9.0
NJ2				PP	PP	14 48 55.0	-0.1
NJ2				S	S	14 56 06.0	-0.9
NJ2				XS		14 56 16.0	
NJ2				AMB	AMB		
	comp=Z,320nm,4.8s						
NJ2				LR	LR		
	comp=N,770nm,25.4s						
NJ2				LR	LR		
	comp=E,380nm,18.0s						
NJ2				LR	LR		
	comp=Z,810nm,19.0s						
WHN	Wuhan	86.45	29	eP	P	14 45 33.5	-1.6
SSE	Sheshan	87.50	23	P	P	14 45 40.0	-0.2
SSE				AMB	AMB		
	comp=Z,25nm,0.7s,mb5.5						
SSE				AMB	AMB		
	comp=Z,22nm,5.3s						
CPUP	Villa Florida	87.58	203	P	P	14 45 42.8	+2.1
	comp=Z,0.7nm,0.6s,mb4.0,baz=350,slow=6.1,SNR=2.2						
KMI	Kunming	88.08	41	eP	P	14 45 43.9	+0.8
KMI				S	S	14 56 26.1	0.0
KMI				AMB	AMB		
	comp=Z,11nm,0.6s,mb5.3						
KMI				LR	LR		
	comp=N,169nm,19.5s,MS4.6						
KMI				LR	LR		
	comp=E,122nm,19.5s,MS4.6						
KMI				LR	LR		
	comp=Z,196nm,21.6s,MS4.5						
CMAR	Chiang Mai Arr	92.84	47	P	P	14 46 05.2	-0.2
	comp=Z,1.9nm,0.8s,mb4.5,baz=324,slow=5.1,SNR=11						
VNA2	Neumayer--Watz	130.56	170⇑	i	PKPdf	14 52 06.7	+3.4
VNA2	Neumayer--Watz	130.56	170⇑	i	PKPdf	14 52 08.5	+5.2
VNA3	Neumayer Olymp	130.68	171⇑	i	PKPdf	14 52 06.4	+2.9
VNA3	Neumayer Olymp	130.68	171⇓	i	PKPdf	14 52 09.0	+5.5
SNAA	Sanae	131.72	168⇑	i	PKPdf	14 52 03.5	-2.0
SNAA	Sanae	131.72	168		PKPdf	14 52 07.6	+2.1
SNAA	Sanae	131.72	168⇓	i	PKPdf	14 52 09.1	+3.6
ASAR	Alice Springs	143.30	23	PKhKP		14 52 24.3	
	comp=Z,2.2nm,0.8s,baz=338,slow=1.7,SNR=8.6						
MAW	Mawson	143.43	140	PKhKP		14 52 23.1	
	comp=Z,2.3nm,0.9s,baz=288,slow=7.5,SNR=4.8						
QSPA	South Pole Qui	148.74	180	ePKP	PKPdf	14 52 34.8	-0.4
STKA	Stephens Creek	152.60	13	PKPbc	PKPdf	14 52 47.5	+5.0
	comp=Z,4.6nm,0.9s,baz=22,slow=7.0,SNR=3.6						

CASC 17 14:38:06.0±2.7**, 9.28N**×**79.05W, h82**^{km}±20^{km}**, MD4.5, MW4.1, 1C-2D, Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
UPA	Univ. de Panam	0.56	238	eP	P	14 38 20.1	-0.5
UPA				eS	S	14 38 32.1	+0.8
AZU	Azuero	1.91	219⇓	iP	P	14 38 36.0	-1.2
AZU				eS	S	14 39 00.8	+0.5
CNI	Changuinola	3.42	273	eP	P	14 38 57.3	-1.0
DVD	David	3.46	256	eP	P	14 38 58.8	0.0
BUS	Buena Vista	4.65	274	eP	P	14 39 15.6	+0.2
BUS				eS	S	14 40 10.6	+2.1
URSC	Urasca	4.69	277	eP	P	14 39 14.9	-1.0
URSC				eS	S	14 40 07.1	-2.4
TRTC	Tortuguero	4.77	286	eP	P	14 39 14.7	-2.3
TRTC				eS	S	14 40 09.1	-2.3
LCR2	La Lucha 2	4.90	276⇑	eP	P	14 39 18.6	-0.2
LCR2				eS	S	14 40 17.5	+2.7
CGA2	Cerro Gallo 2	5.39	278⇓	eP	P	14 39 26.1	+0.7
FORC	Fortuna	5.66	283	eP	P	14 39 29.3	+0.2
JCR	Jicaral	6.00	276	eP	P	14 39 34.8	+0.9
VCR	Vista de Mar	6.54	278	eP	P	14 39 43.2	+1.7
CRZC	La Cruz	6.65	285	eP	P	14 39 41.8	-1.2

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*NEIC **17** 14:43:56.0±1.9, 20.58S×178.43W, h499^{km}±21^{km}, mb4.1/21, Error ellipse: s-maj=13.3km s-min=10.0km az=140.0*

*IDC **17** 14:44:02.7±2.1, 20.80S×178.47W, h577^{km}±23^{km}, mb3.7/17, mb1 3.9/18, mb1mx3.8/21, Error ellipse: s-maj=27.6km s-min=9.4km az=154.0*

ISC 17 14:44:00.6±1.0**, 20.59S**±0.10×**178.59W**±0.07**, h559**^{km}±11^{km}**, n85,** σ0^{s}**87**/59**, mb4.1**/33**, 4C-7D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.26	311	P	P	14 45 25.2	-0.4
	427nm,1.1s,SNR=59						
DZM	Mont Dzumac	14.02	261	eP	P	14 46 55.3	-4.5
NOUC	Port Laguerre	14.15	261	eP	P	14 47 02.2	+1.1
URZ	Urewera	18.00	191	P	P	14 47 33.8	-4.5
	3.8nm,0.3s,baz=15,slow=3.3,SNR=21						
ARMA	Armidale	28.53	244	eP	P	14 49 13.7	+0.4
CTA	Charters Tower	32.93	265⇓	iP	P	14 49 51.4	+0.6
	14nm,0.4s,mb4.8						
CTA	Charters Tower	32.93	265	P	P	14 49 51.4	+0.7
	25nm,0.6s,mb4.9,baz=92,slow=10,SNR=71						
CTAO	Charters Tower	32.93	265	eP	P	14 49 51.1	+0.3
	9.0nm,0.3s,mb4.8						
STKA	Stephens Creek	37.25	244⇑	iP	P	14 50 26.8	+0.4
	7.7nm,1.1s,mb4.2						
STKA				e		14 52 47.8	
STKA	Stephens Creek	37.25	244	P	P	14 50 26.7	+0.3
	6.1nm,0.5s,mb4.4,baz=89,slow=10,SNR=34						
ASAR	Alice Springs	43.96	257	P	P	14 51 20.1	-0.1
	17nm,0.6s,mb4.7,baz=88,slow=8.2,SNR=229						
ASAR				PcP	PcP	14 52 52.0	-2.0
	3.5nm,0.9s,baz=103,slow=3.3,SNR=7.4						
ASAR				S	S	14 57 12.0	-0.1
	1.8nm,0.7s,baz=90,slow=16,SNR=22						
ASAR				tx	tx	14 57 31.1	
	1.5nm,0.5s,baz=117,slow=3.6,SNR=23						
ASAR				tx	tx	15 30 48.4	
	0.1nm,0.5s,baz=110,slow=1.5,SNR=4.6						
ASPA	Alice Springs	43.96	257	eP	P	14 51 19.8	-0.4
ASPA				eS	S	14 57 12.4	+0.2
WB2	Warramunga Arr	44.03	262⇓	iP	P	14 51 20.1	-0.7
WB2				eS	S	14 57 12.5	-0.7
WB2				eSCS	ScS	15 00 21.6	+5.7
WRAB	Tennant Creek	44.03	262⇓	eP	P	14 51 19.9	-0.8
	16nm,0.8s,mb4.6						
WRA	Warramunga Arr	44.04	262	P	P	14 51 20.2	-0.6
	5.4nm,0.4s,mb4.5,baz=97,slow=7.2,SNR=421						
WRA				PcP	PcP	14 52 52.9	-1.4
	1.3nm,0.9s,baz=100,slow=3.2,SNR=3.6						
WRA				S	S	14 57 12.1	-1.2
	1.0nm,0.8s,baz=99,slow=13,SNR=4.6						
WRA				tx	tx	14 57 32.7	
	1.3nm,1.0s,baz=100,slow=2.9,SNR=7.1						
WRA				tx	tx	15 30 55.5	
	0.7nm,1.1s,baz=152,slow=1.9,SNR=6.5						
KAKA	Kakadu	47.46	271⇓	iP	P	14 51 48.6	+1.5
	10nm,0.3s,mb4.8						
FITZ	Fitzroy Crossi	52.46	263	eP	P	14 52 23.5	-0.4
	2.6nm,0.6s,mb3.7						
FITZ	Fitzroy Crossi	52.46	263	P	P	14 52 23.7	-0.2
	3.6nm,0.7s,mb3.8,baz=164,slow=3.7,SNR=22						
MBWA	Marble Bar	57.29	258	eP	P	14 52 56.3	-1.2
	6.1nm,0.7s,mb3.9						
SBA	Scott Base	57.74	184	eP	P	14 52 59.1	-0.8
	5.5nm,0.8s,mb3.8						
CASY	Casey	63.64	205	P	P	14 53 37.3	-1.2
	3.9nm,0.6s,mb4.0						
QSPA	South Pole Qui	69.48	180	eP	P	14 54 13.1	-1.1
	10.0nm,0.8s,mb4.4						
JOW	Kunigami	69.80	310	P	P	14 54 18.2	+1.3
	3.3nm,0.4s,mb4.2,baz=125,slow=30,SNR=2.9						
MTUM	Tungsten Hills	80.69	44	eP	P	14 55 17.4	+0.5
YBH	Yreka Blue Hor	80.71	39	P	P	14 55 17.5	+0.6
	6.0nm,0.7s,mb4.2,baz=58,slow=2.2,SNR=19						
MAW	Mawson	81.29	200	P	P	14 55 18.7	-0.6
	1.4nm,0.9s,mb3.4,baz=119,slow=8.8,SNR=3.8						
NVAR	Mina Array Bea	81.47	44	P	P	14 55 21.1	+0.2
	2.1nm,0.6s,mb3.7,baz=214,slow=7.6,SNR=23						
TPNV	Topopah Spring	82.00	46	eP	P	14 55 23.3	-0.3
	4.6nm,0.9s,mb3.9						
MOD	Modoc	82.24	40	eP	P	14 55 24.5	-0.1
	6.1nm,1.0s,mb4.0						
TUC	Tucson	83.47	52	eP	P	14 55 30.8	-0.2
	2.1nm,0.6s,mb3.8						
WVOR	Wild Horse Val	83.56	40	eP	P	14 55 31.3	+0.1
	2.1nm,0.4s,mb4.0						
WUAZ	Wupatki	84.62	49	P	P	14 55 36.4	-0.2
ELK	Elko	84.73	43	eP	P	14 55 36.3	-0.7
	1.3nm,0.7s,mb3.6						
HLID	Hailey	86.76	41	eP	P	14 55 47.0	+0.3
	2.2nm,0.8s,mb3.8						
DPW	Davenport	86.95	36	eP	P	14 55 47.4	0.0
SRU	San Rafael	86.99	46	eP	P	14 55 47.7	-0.1
TXAR	Lajitas Array	87.57	58	P	P	14 55 50.6	-0.2
	1.1nm,0.7s,mb3.7,baz=217,slow=6.3,SNR=5.5						
NEW	Newport	87.77	36	P	P	14 55 50.9	-0.4
	2.7nm,0.8s,mb4.0,baz=254,slow=8.1,SNR=2.8						
NEW	Newport	87.77	36	eP	P	14 55 50.7	-0.6
	3.0nm,0.8s,mb4.1						
VNA3	Neumayer Olymp	88.09	176⇑	i	P	14 55 53.4	+1.2
DLBC	Dease Lake	88.35	23	P	P	14 55 53.9	+0.1
	2.2nm,0.8s,mb3.9,baz=219,slow=24,SNR=4.2						
MCMT	McKenzie Canyo	88.38	40	eP	P	14 55 54.5	+0.3
COLA	College	88.42	13	eP	P	14 55 52.6	-1.3
	6.3nm,0.6s,mb4.5						
VNA2	Neumayer--Watz	88.52	177⇓	i	P	14 55 56.0	+1.7
ILAR	Eielson Array	88.53	13	P	P	14 55 53.3	-1.1
	2.0nm,0.6s,mb4.2,baz=221,slow=5.9,SNR=37						
VNA1	Neumayer--Stat	88.75	177⇓	i	P	14 55 58.0	+2.6
BW06	Boulder Array	89.41	43	eP	P	14 55 58.4	-0.7
	2.2nm,0.7s,mb4.1						
PDAR	Pinedale Array	89.41	43	P	P	14 55 58.6	-0.5
	3.0nm,0.8s,mb4.2,baz=224,slow=2.3,SNR=24						
BOZ	Bozeman (W)	89.54	40	eP	P	14 55 59.6	-0.1
	2.6nm,0.8s,mb4.1						
CMAR	Chiang Mai Arr	89.62	290	P	P	14 56 02.6	+2.0
	1.8nm,0.8s,mb4.0,baz=122,slow=3.3,SNR=10						
DAWY	Dawson	89.70	16	eP	P	14 55 59.6	-0.3
SDCO	Great Sand Dun	89.84	49	eP	P	14 56 01.4	+0.2
	1.1nm,0.6s,mb3.9						
INK	Inuvik	94.51	15	P	P	14 56 20.8	-1.0
	1.0nm,0.9s,mb4.0,baz=147,slow=4.6,SNR=3.5						
SONM	Songino Array	95.46	319	P	P	14 56 28.0	+1.5
	0.2nm,0.5s,mb3.5,baz=130,slow=5.1,SNR=3.6						
KSU1	Kansas State U	96.77	51	eP	P	14 56 34.5	+1.8
MKAR	Makanchi Array	110.86	313	PKiKP		15 01 30.1	
	1.1nm,0.7s,baz=82,slow=1.4,SNR=13						

BVAR	Borovoye Array	118.79	320	PKP	PKPdf	15 01 45.5	+0.2
	1.5nm,0.3s,baz=90,slow=1.5,SNR=9.0						
ARCES	ARCESS Array B	128.91	349	PKP	PKPdf	15 02 04.5	+0.2
	3.5nm,0.8s,baz=63,slow=2.7,SNR=9.4						
FINES	FINESS Array B	135.70	343	PKhKP		15 02 06.2	
	3.4nm,0.9s,slow=3.8,SNR=4.0						
FINES				PKP	PKPdf	15 02 19.4	+2.2
	2.4nm,0.7s,baz=90,slow=1.9,SNR=4.8						
NB2	NORSAR Subarra	139.00	353	PKP		15 02 16.5	
	2.7nm,1.0s,baz=22,slow=3.7						
NB2	NORSAR Subarra	139.00	353	⇑PKPab		15 02 16.5	
NOA	NORSAR Array B	139.00	353	PKhKP		15 02 17.4	
	0.8nm,0.8s,baz=36,slow=8.8,SNR=3.5						
AKASG	Malin Array Be	142.82	331	PKP	PKPdf	15 02 28.5	-1.7
	16nm,0.5s,baz=40,slow=4.2,SNR=53						
ELZG	Elazig	143.07	307	*i* P	PKPbc	15 02 32.0	+2.5
MALT	Malatya	143.54	307	*e*PKPdf	PKPdf	15 02 32.8	+1.0
BSD	Bornholm Skovb	144.05	347	⇑*i*P	PKPbc	15 02 32.8	+0.8
	29nm,0.8s						
GZT	Gaziantep	144.49	306	*i* P	PKPdf	15 02 35.7	+2.2
BOYT	Boyabat	144.89	314	*i* P	PKPdf	15 02 36.7	+2.7
EKA	Eskdalemuir Ar	145.14	5	PKPbc	PKPbc	15 02 36.0	+1.1
	3.5nm,0.7s,baz=330,slow=2.9,SNR=8.2						
EKA	Eskdalemuir Ar	145.14	5	PKPbc	PKPbc	15 02 36.0	+1.1
ELDT	Eldivan	146.30	313	*i* P	PKPdf	15 02 40.6	+4.1
KWP	Kalwaria	146.43	335	*e*PKPbc	PKPbc	15 02 39.9	+1.6
BRTR	Keskin Array B	146.49	312	PKPbc	PKPbc	15 02 40.5	+1.8
	4.0nm,0.6s,baz=128,slow=3.8,SNR=19						
UPC	Upice	147.99	342	*e*PKPbc	PKPdf	15 02 44.6	+5.7
MLR	Muntele Rosu	148.00	327	PKPbc	PKPdf	15 02 44.5	+5.4
	2.5nm,0.4s,baz=285,slow=4.7,SNR=7.5						
CLL	Collm	148.02	346	⇓*i*PKP1	PKPdf	15 02 43.9	+5.0
CLL				*i* PKP2	PKPab	15 02 49.1	-1.0
PVCC	Panska Ves	148.37	344	*e*PKPbc	PKPdf	15 02 46.5	+7.1
EIL	Elat	148.41	293	PKPbc	PKPdf	15 02 46.0	+5.8
	3.5nm,0.6s,baz=29,slow=20,SNR=6.9						
EIL	Elat	148.41	293	*e*PKPbc	PKPdf	15 02 46.2	+6.0
PRU	Pruhonice	148.87	344	*e*PKPbc	PKPdf	15 02 44.8	+4.6
PRU				*e*PKPab	PKPab	15 02 52.8	-0.8
VRAC	Vranov	148.89	341	PKPbc	PKPdf	15 02 47.1	+6.8
MOX	Moxa	148.95	347	*e*PKP	PKPdf	15 02 46.0	+5.7
KHC	Kasperske Hory	149.91	344	*e*PKPbc	PKPdf	15 02 48.8	+6.9
KHC				*e*PKPab	PKPab	15 02 57.5	-0.4
GRA1	Grafenberg Arr	149.93	347	*e*PKP	PKPab	15 02 57.6	-0.4
GERES	GERESS Array B	150.14	344	PKPbc	PKPdf	15 02 49.3	+7.0
	2.7nm,0.7s,baz=22,slow=2.3,SNR=22						
GERES				PKPab	PKPab	15 02 58.0	-0.9
	1.1nm,0.6s,slow=4.0,SNR=6.3						

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*OTT **17** 15:21:42.4±0.1, 36.74N×83.92W, h5^{km}, MN3.9/23, Eastern Kentucky, Us 600km south from Amherstburg, On*

*NEIC **17** 15:21:43.6, 36.93N×84.01W, h1^{km}, MN3.7, After CERI.*

NEIC Felt [V] at Gray; [IV] at Barbourville, Corbin, London and Rockholds; [III] at Manchester and Williamsburg.

*IDC **17** 15:21:43.9±2.0, 37.02N×83.88W, mb3.8/3, mb1 4.1/6, mb1mx3.8/24, ML3.3/3, Error ellipse: s-maj=30.8km s-min=16.6km az=139.0*

ISC 17 15:21:42.5±0.3**, 37.22N**±0.03×**83.95W**±0.04**, h1**^{km}**, n84,** σ**1**^{s}**26**/107**, Kentucky**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CPCT	Cooper Cave	1.83	195	*e*P	Pn	15 22 13.8	-1.4
CPCT				*e*S	Sn	15 22 35.0	-4.4
WCI	Wyandotte Cave	2.12	299	*e*Pn	Pn	15 22 23.0	+3.6
FWV	Forest Hill	2.52	81	*e*Pn	Pn	15 22 26.4	+1.1
ELN	Prospectdale	2.55	89	*e*Pn	Pn	15 22 26.3	+0.6
SWET	Sewanee	2.56	219	*e*Pn	Pn	15 22 24.1	-1.7
BLO	Bloomington	2.81	315	*e*Pn	Pn	15 22 32.1	+2.7
BLA	Blacksburg	2.81	89	*e*Pn	Pn	15 22 29.1	-0.4
USIN	University of	3.05	285	*e*Pn	Pn	15 22 34.2	+1.5
ACSO	Alum Creek Sta	3.10	14	*e*Pn	Pn	15 22 38.2	+4.7
WVT	Waverly	3.31	252	*e*Pn	Pn	15 22 36.0	-0.4
MCWV	Mont Chateau	4.04	52	*e*Pn	Pn	15 22 48.4	+1.6
UTMT	University of	4.04	259	Pn	Pn	15 22 48.3	+1.4
GLAT	Glass	4.39	259	Pn	Pn	15 22 51.7	-0.1
HALT	Halls	4.53	255	Pn	Pn	15 22 55.8	+2.0
PLIO	Pelee Island,	4.64	12	PN	Pn	15 22 58.4	+3.1
PLIO				SN	Sn	15 23 55.1	+4.4
PLIO				Trac		15 24 20.7	
	comp=Z,127nm,0.3s						
PVMO	Portageville	4.69	262	Pn	Pn	15 22 55.8	-0.2
LRAL	Lakeview Retre	4.87	212	*e*Pn	Pn	15 22 53.9	-4.7
NHSC	New Hope	5.13	142	Pn	Pn	15 22 59.3	-3.1
SLM	Saint Louis	5.17	288	Pn	Pn	15 23 04.1	+1.2
OXF	Oxford	5.19	240	*e*Pn	Pn	15 22 59.8	-3.4
FVM	French Village	5.20	280	*e*Pn	Pn	15 23 04.2	+0.9
MET	Memphis--Engin	5.28	248	Pn	Pn	15 23 03.2	-1.2
ALLY	Alegheny Colle	5.31	32	Pn	Pn	15 23 06.8	+2.0
HBAR	Harrisburg	5.66	255	*e*Lg		15 24 34.2	
ERPA	Erie	5.77	31	Pn	Pn	15 23 12.1	+0.8
SSPA	Standing Stone	5.83	52	*e*Pn	Pn	15 23 12.8	+0.6
CCM	Cathedral Cave	5.85	280	*e*Pn	Pn	15 23 12.3	-0.1
HGVO	Hagersville	6.44	26	PN	Pn	15 23 22.1	+1.3
HGVO				SN	Sn	15 24 35.8	0.0
HGVO				Trac		15 25 15.7	
	comp=Z,148nm,0.5s						
TYNO	Tyneside	6.65	27	PN	Pn	15 23 24.9	+1.2
TYNO				SN	Sn	15 24 41.3	+0.3
TYNO				Trac		15 25 22.5	
	comp=Z,108nm,0.4s						
PTCO	Port Colborne	6.68	31	SN	Sn	15 24 41.9	0.0
ELGO	Elora Gorge	6.98	21	PN	Pn	15 23 29.9	+1.5
ELGO				SN	Sn	15 24 50.0	+0.6
ELGO				Trac		15 25 30.1	
	comp=Z,95nm,0.3s						
ACTO	Acton	7.04	24	PN	Pn	15 23 30.0	+0.8
ACTO				SN	Sn	15 24 50.8	+0.1
ACTO				Trac		15 25 30.1	
	comp=Z,160nm,0.4s						
UALR	University of	7.23	253	Pn	Pn	15 23 28.9	-3.0
GENY	Geneseo	7.27	38	Pn	Pn	15 23 32.9	+0.4
BRCO	Bruce Peninsul	7.27	14	PN	Pn	15 23 34.1	+1.6
BRCO				SN	Sn	15 24 57.1	+0.5
BRCO				Trac		15 25 38.9	
	comp=Z,214nm,0.3s						
MEDO	Medina	7.27	34	PN	Pn	15 23 32.9	+0.4
MEDO				SN	Sn	15 24 55.8	-0.9
MEDO				Trac		15 25 33.8	
	comp=Z,64nm,0.4s						
TORO	Toronto--Lesli	7.29	27	PN	Pn	15 23 34.1	+1.4
TORO				SN	Sn	15 24 56.5	-0.6
TORO				Trac		15 25 38.9	
	comp=Z,94nm,0.3s						
JFWS	Jewell Farm	7.46	322	PN	Pn	15 23 35.8	+0.7
JFWS				SN	Sn	15 25 00.2	-1.1
JFWS				Trac		15 25 58.6	
	comp=Z,23nm,0.2s						
JFWS	Jewell Farm	7.46	322	*e*Pn	Pn	15 23 35.4	+0.3
PKRO	Pickering	7.69	27	PN	Pn	15 23 39.2	+0.9
PKRO				SN	Sn	15 25 08.3	+1.2
PKRO				Trac		15 25 54.5	
	comp=Z,231nm,0.3s						
CLWO	Collingwood	7.73	20	PN	Pn	15 23 40.0	+1.1
CLWO				SN	Sn	15 25 08.1	0.0
BINY	Binghamton	7.90	49	*e*Lg		15 25 53.7	
WLVO	Wesleyville	7.92	30	PN	Pn	15 23 41.8	+0.3
WLVO				SN	Sn	15 25 10.8	-1.9
WLVO				Trac		15 25 59.3	
	comp=Z,12nm,0.1s						
MIAR	Mount Ida	8.26	254	*e*Pn	P	15 23 42.4	-3.8
SADO	Sadowa	8.37	24	Pn	P	15 23 47.2	-0.6
	1.1nm,0.3s,baz=208,slow=11,SNR=6.8						
SADO				Sn	Sn	15 25 21.9	-2.1
	3.1nm,0.3s,baz=274,slow=20,SNR=2.7						
SADO	Sadowa	8.37	24	PN	P	15 23 48.8	+1.0
SADO				SN	Sn	15 25 22.6	-1.5
SADO				Trac		15 26 15.7	
	comp=Z,86nm,0.5s						
PECO	Prince Edward	8.54	36	PN	P	15 23 50.6	+0.5
PECO				SN	Sn	15 25 24.6	-3.7
PECO				Trac		15 26 19.8	
	comp=Z,127nm,0.7s						
CPNY	Central Park	8.55	62	*e*Lg		15 26 10.1	
KLBO	Killbear Provi	8.60	18	PN	P	15 23 52.0	+1.0
KLBO				SN	Sn	15 25 28.4	-1.4
PAL	Palisades	8.67	61	*e*Lg		15 26 09.0	
DELO	Deloro Mine	8.72	31	PN	P	15 23 53.1	+0.4
DELO				SN	Sn	15 25 30.3	-2.6
DELO				Trac		15 26 32.5	
	comp=Z,47nm,0.4s						
BUKO	Buck Lake	8.90	21	PN	P	15 23 55.7	+0.6
BUKO				SN	Sn	15 25 34.7	-2.5
KGNO	Kingston	9.00	37	PN	P	15 23 57.0	+0.5
KGNO				SN	Sn	15 25 36.9	-2.8
KGNO				Trac		15 26 29.2	
	comp=Z,34nm,0.3s						
PLVO	Plevna	9.37	31	PN	P	15 24 01.2	-0.5
PLVO				SN	Sn	15 25 45.5	-3.5
PLVO				Trac		15 26 48.1	
	comp=Z,15nm,0.2s						
MPPO	Murphy's Point	9.52	35	PN	P	15 24 03.0	-0.7
MPPO				SN	Sn	15 25 48.7	-3.7
MPPO				Trac		15 26 47.5	
	comp=Z,51nm,0.5s						
SUNO	Sudbury Onapin	9.61	11	PN	P	15 24 05.7	+0.7
SUNO				SN	Sn	15 25 52.5	-2.4
SUNO				Trac		15 26 46.8	
	comp=Z,50nm,0.5s						
ACCN	Adirondack Com	9.97	49	*e*Pn	P	15 24 08.9	-1.0
PTN	Potsdam (NY)	9.99	40	Pn	P	15 24 10.5	+0.3
NCB	Newcomb	10.00	45	*e*Pn	P	15 24 11.2	+0.8
CRLO	Chalk River	10.08	27	PN	P	15 24 10.9	-0.5
CRLO				SN	S	15 26 02.1	-4.3
CRLO				Trac		15 27 17.7	
	comp=Z,54nm,0.5s						
EEO	Eldee	10.09	20	PN	P	15 24 11.4	-0.1
EEO				SN	S	15 26 03.4	-3.1
EEO				Trac		15 27 01.8	
	comp=Z,65nm,0.5s						
EEO				LG		15 27 08.2	
KSU1	Kansas State U	10.15	285	Pn	P	15 24 09.7	-2.7
WBO	Williamsburg	10.15	37	SN	S	15 25 54.9	-13
WBO				Trac		15 27 13.9	
	comp=Z,46nm,0.5s						
LOZ	Lake Ozonia	10.23	41	*e*Lg		15 27 01.9	
QUA2	Belchertown	10.26	57	*e*Lg		15 26 53.9	
GAC	Glen Almond	10.59	34	PN	P	15 24 18.8	+0.4
GAC				SN	S	15 26 14.2	-4.7
GAC				Trac		15 27 33.2	
	comp=Z,35nm,0.5s						
BRYW	Bryant College	10.66	60	*e*Lg		15 27 06.0	
ALFO	Alfred	10.80	36	PN	P	15 24 20.9	-0.4
ALFO				SN	S	15 26 19.0	-5.1
ALFO				Trac		15 27 45.9	
	comp=Z,7.0nm,0.3s						
HRV	Harvard--Oak R	10.88	57	*e*Lg		15 27 24.0	
HNH	Hanover	10.99	50	*e*Lg		15 27 23.5	
GRQ	Grand Remous	11.14	30	PN	P	15 24 25.3	-0.7
GRQ				SN	S	15 26 27.6	-4.7
GRQ				Trac		15 27 47.4	
	comp=Z,44nm,0.6s						
FFD	Franklin Falls	11.26	53	*e*Lg		15 27 37.0	
MRHQ	Morin Heights	11.31	37	PN	P	15 24 27.7	-0.6
TRQ	Mont Tremblant	11.40	35	PN	P	15 24 28.6	-0.9
TRQ				SN	S	15 26 32.8	-5.9
TRQ				Trac		15 27 55.7	
	comp=Z,30nm,0.5s						
KILO	Kirkland Lake	11.69	14	PN	P	15 24 33.0	-0.4
VLDQ	Val d'Or	11.88	22	PN	P	15 24 36.0	0.0
VLDQ				SN	S	15 26 43.4	-7.1
VLDQ				Trac		15 28 15.6	
	comp=Z,5.5nm,0.3s						
TBO	Thunder Bay	12.10	342	PN	P	15 24 39.1	+0.2
TBO				SN	S	15 26 47.8	-7.8
TBO				Trac		15 28 21.5	
	comp=Z,14nm,0.5s						
KAPO	Kapuskasing	12.27	4	PN	P	15 24 42.2	+0.9
KAPO				SN	S	15 26 55.7	-4.1
KAPO				Trac		15 28 22.4	
	comp=Z,4.4nm,0.3s						
DPQ	Saint Jean	12.58	38	PN	P	15 24 45.2	-0.1
DPQ				Trac		15 28 40.6	
	comp=Z,3.3nm,0.3s						
ULM	Lac du Bonnet	15.59	330	Pn	P	15 25 22.4	-2.6
	0.3nm,0.3s,baz=146,slow=11,SNR=2.9						
ULM				Sn	S	15 28 11.2	-7.7
	0.6nm,0.3s,baz=62,slow=22,SNR=2.6						
TXAR	Lajitas Array	18.25	250	P	P	15 25 57.1	-1.5
	0.2nm,0.3s,baz=70,slow=11,SNR=7.0						
PDAR	Pinedale Array	20.35	294	P	P	15 26 22.9	0.0
	3.8nm,1.1s,baz=111,slow=13,SNR=12						
NVAR	Mina Array Bea	27.08	283	P	P	15 27 29.1	+0.8
	0.1nm,0.4s,baz=96,slow=8.2,SNR=2.3						
ARCES	ARCESS Array B	61.95	22	P	P	15 32 07.4	+1.6
	25nm,1.4s,baz=302,slow=8.5,SNR=2.4						

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*BJI **17** 15:29:25.7, 17.60S×173.20W, h10^{km}, mB5.4, mb5.2, Ms5.0, Msz4.8*

*NEIC **17** 15:29:25.7±0.2, 17.61S×173.24W, h10^{km}, mb4.8/29, Error ellipse: s-maj=10.1km s-min=5.2km az=131.0*

*SYO **17** 15:29:25.7, 17.63S×173.22W, h10^{km}, MB4.8*

*IDC **17** 15:29:27.1±3.5, 17.82S×173.10W, h24^{km}±22^{km}, mb4.5/16, mb1 4.7/17, mb1mx4.6/23, ML4.6/1, MS4.6/13, Ms1 4.6/13, ms1mx4.5/19, Error ellipse: s-maj=33.1km s-min=13.1km az=141.0*

*MOS **17** 15:29:30.4±1.4, 17.13S×174.07W, h21^{km}, mb5.5/6, Error ellipse: s-maj=26.9km s-min=18.7km az=125.7*

*ORF **17** 15:29:36.6, 15.77S×172.71W, h30^{km}, mb5.6*

ISC 17 15:29:23.8±2.3**, 17.70S**±0.06×**173.19W**±0.06**, h7**^{km}±14^{km}**, h13**^{km}±1.1^{km}**:pP-P, n213,** σ**1**^{s}**22**/125**, mb4.8**/53**, MS4.7**/25**, 29C-12D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	Nonsavu	8.35	268	Pn	P	15 31 36.7	+8.6
	747nm,1.1s,SNR=29						
RAR	Rarotonga	13.13	108	Pn	P	15 32 19.6	-14
	3.1nm,0.3s,baz=274,slow=8.4,SNR=15						
RAR				Sn	S	15 34 32.2	-29
	1.4nm,0.3s,baz=31,slow=22,SNR=2.4						
RAR				LR	LR	15 36 31.5	
	comp=Z,2μm,21.3s,baz=326,slow=33						
RAR				T		15 45 52.5	
	2.2nm,0.3s,baz=223,slow=22,SNR=3.6						
RAR	Rarotonga	13.13	108	*e*P	P	15 32 19.7	-14
OUZ	Omahuta	21.04	211	P	P	15 34 11.3	+0.6
WCZ	Waipu Caves	21.27	209	P	P	15 34 13.0	0.0
WCZ	Waipu Caves	21.27	209	*e*P	P	15 34 13.0	0.0
KUZ	Kuaotunu	21.35	205	P	P	15 34 13.9	+0.1
KUZ	Kuaotunu	21.35	205	*e*P	P	15 34 13.9	+0.1
PUZ	Puketiti	21.64	199	P	P	15 34 15.4	-1.3
PUZ	Puketiti	21.64	199	*e*P	P	15 34 15.8	-0.9
PUZ				*e*S	S	15 38 06.8	-4.8
URZ	Urewera	22.17	201	P	P	15 34 21.7	-0.4
	103nm,0.8s,mb5.3,baz=34,slow=4.8,SNR=31						
URZ	Urewera	22.17	201	P	P	15 34 21.8	-0.3
TOZ	Tahuroa Road	22.29	204	P	P	15 34 25.1	+1.9
TOZ	Tahuroa Road	22.29	204	*e*P	P	15 34 25.1	+1.9
PPT	Papeete	22.51	93	*e*L		15 38 18.9	
PPT				*e*R		15 39 11.4	
	1μm,21.0s						
TBI	Tubuai	22.91	108	*e*L		15 38 38.4	
TBI				*e*R		15 39 30.4	
	2μm,28.8s						
RPZ	Rata Peaks	29.15	204	P	P	15 35 31.9	+4.2
	58nm,1.0s,mb5.3,baz=354,slow=2.2,SNR=8.6						
CTA	Charters Tower	38.38	260	*e*P	P	15 36 46.7	-0.9
	9.5nm,0.8s,mb4.6						
CTA	Charters Tower	38.38	260	P	P	15 36 47.0	-0.6
	18nm,1.1s,mb4.7,baz=96,slow=14,SNR=5.3						
CTAO	Charters Tower	38.38	260	*e*P	P	15 36 46.2	-1.3
	10nm,0.7s,mb4.7						
TOO	Toolangi	41.20	233	*e*P	P	15 37 10.1	-0.7
	7.1nm,0.9s,mb4.3						
STKA	Stephens Creek	43.10	242	*e*P	P	15 37 26.1	-0.4
	9.9nm,1.1s,mb4.5						
STKA	Stephens Creek	43.10	242	P	P	15 37 25.5	-1.0
	13nm,1.1s,mb4.6,baz=94,slow=8.9,SNR=13						
STKA				LR	LR	15 54 20.9	
	comp=Z,640nm,18.9s,MS4.5,baz=307,slow=35						
WB2	Warramunga Arr	49.54	259	*e*P	P	15 38 15.9	-1.6
WRAB	Tennant Creek	49.54	259	*e*P	P	15 38 15.5	-2.1
	22nm,0.8s,mb5.2						
WRA	Warramunga Arr	49.55	259	P	P	15 38 15.6	-2.0
	8.1nm,0.6s,mb5.0,baz=96,slow=7.6,SNR=86						
WRA				PcP	PcP	15 39 39.0	-0.8
	2.8nm,0.9s,baz=100,slow=4.3,SNR=2.8						
WRA				S	S	15 45 25.6	+1.0
	1.3nm,1.2s,baz=92,slow=14,SNR=3.2						
ASAR	Alice Springs	49.62	254	P	P	15 38 16.7	-1.5
	51nm,0.8s,mb5.6,baz=89,slow=8.2,SNR=368						
ASAR				S	S	15 45 24.6	-1.0
	1.7nm,0.9s,baz=98,slow=17,SNR=7.5						
ASAR				LR	LR	15 56 27.5	
	comp=Z,375nm,19.3s,MS4.4,baz=188,slow=33						
ASPA	Alice Springs	49.63	254	*e*P	P	15 38 17.0	-1.2
ASPA				*e*S	S	15 45 24.0	-1.7
KAKA	Kakadu	52.60	267	*e*P	P	15 38 41.8	+1.0
	12nm,0.8s,mb4.9						
FITZ	Fitzroy Crossi	57.96	259	*e*P	P	15 39 19.2	-0.4
	4.9nm,1.4s,mb4.3						
SBA	Scott Base	60.99	185	*e*P	P	15 39 39.4	-0.3
	14nm,1.2s,mb5.0						
MBWA	Marble Bar	62.94	255	*e*P	P	15 39 52.6	-1.0
	24nm,1.2s,mb5.2						
NWAO	Narrogin (SRO)	63.69	242	LR	LR	16 07 16.5	
	comp=Z,604nm,18.5s,MS4.8,baz=277,slow=36						
MUN	Mundaring	64.64	243	*e*P	P	15 40 04.9	+0.3
	15nm,1.2s,mb4.9						
CASY	Casey	68.42	205	*e*P	P	15 40 27.2	-0.9
MAJO	Matsushiro	70.82	320	*e*P	P	15 40 42.7	-0.6
	10nm,1.0s,mb4.7						
MAT	Matsushiro	70.82	320	P	P	15 40 42.9	-0.4
MAT				S	S	15 49 57.0	-0.3
MAT	Matsushiro	70.82	320	*e*P	P	15 40 43.0	-0.3
	15nm,1.1s,mb4.8						
MAT				*e*S	S	15 49 58.0	+0.7
QSPA	South Pole Qui	72.36	180	*e*P	P	15 40 52.6	+0.8
	22nm,1.4s,mb4.9						
QSPA				LR	LR		
	comp=Z,340nm,19.3s,MS4.6						
ASAJ	Asahikawa	73.59	328	P	P	15 41 00.5	+0.9
	comp=Z,8.6nm,1.0s,mb4.6,baz=185,slow=5.7,SNR=4.0						
ASAJ				LR	LR	16 06 58.1	
	comp=Z,244nm,20.1s,MS4.5,baz=162,slow=30						
PET	Petropavlovsk	74.52	343	*e*P	P	15 41 13.6	+8.8
PET				*e*PS	PS	15 51 22.4	+7.8
PET				pmax	pmax		
	comp=Z,100nm,10.7s						
PET				pmax	pmax		
	comp=Z,100nm,13.9s						
PET				MLR	MLR		
	comp=Z,700nm,15.0s,MS5.1						
PET				MLR	MLR		
	comp=Z,300nm,18.0s						
MTUM	Tungsten Hills	75.10	42	*e*P	P	15 41 06.9	-1.5
YBH	Yreka Blue Hor	75.31	37	P	P	15 41 07.8	-1.7
	comp=Z,3.1nm,0.7s,mb4.3,baz=81,slow=5.1,SNR=7.4						
YBH	Yreka Blue Hor	75.31	37	*e*P	P	15 41 08.1	-1.4
	comp=Z,14nm,1.4s,mb4.7						
YSS	Yuzh-Sakhalins	75.57	331	α*e*P	P	15 41 11.1	+0.1
YSS				*e**SP	sP	15 41 15.0	+1.1
YSS				*e*		15 41 23.0	
YSS				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.2						
YSS	Yuzh-Sakhalins	75.57	331	*e*P	P	15 41 11.4	+0.4
NVAR	Mina Array Bea	75.90	41	P	P	15 41 11.6	-1.5
	comp=Z,1.9nm,0.7s,mb4.2,baz=225,slow=8.7,SNR=16						
NVAR				LR	LR	16 09 33.7	
	comp=Z,538nm,18.2s,MS4.9,baz=260,slow=32						
MNV	Mina	76.00	42	*e*P	P	15 41 11.6	-2.0
	comp=Z,2.8nm,0.8s,mb4.2						
TPH	Tonopah	76.38	42	*e*P	P	15 41 13.9	-1.9
	comp=Z,3.1nm,0.8s,mb4.3						
NEN	Nelson	76.58	45	*e*P	P	15 41 16.5	-0.5
MOD	Modoc	76.80	38	*e*P	P	15 41 18.7	+0.6
	comp=Z,3.4nm,0.9s,mb4.3						
WVOR	Wild Horse Val	78.11	38	*e*P	P	15 41 25.4	+0.3
	comp=Z,9.1nm,1.1s,mb4.6						
ELK	Elko	79.17	41	*e*P	P	15 41 31.6	+0.6
	comp=Z,4.1nm,1.1s,mb4.3						
SSE	Sheshan	79.50	307	P	P	15 41 33.8	+0.8
SSE				XP	sP	15 41 39.3	+3.3
SSE				PP	PP	15 44 33.1	-2.0
SSE				S	S	15 51 34.5	+1.0
SSE				SS	SS	15 56 38.3	-5.7
SSE				AMB	AMB		
	comp=Z,43nm,0.7s,mb5.5						
SSE				AMB	AMB		
	comp=Z,121nm,8.4s						
SSE				LR	LR		
	comp=N,109nm,29.3s,MS4.2						
SSE				LR	LR		
	comp=E,96nm,29.3s,MS4.2						
SSE				LR	LR		
	comp=Z,178nm,31.6s,MS4.2						
MVU	Marysvale	79.89	44	*e*P	P	15 41 33.9	-1.1
	comp=Z,2.4nm,0.8s,mb4.2						
MSU	Marysvale	79.92	44	*e*P	P	15 41 35.9	+0.8
MDJ	Mudanjiang	80.96	323	P	P	15 41 41.4	+0.9
MDJ				AMB	AMB		
	comp=Z,15nm,1.7s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,162nm,7.9s						
HLID	Hailey	81.28	39	*e*P	P	15 41 41.4	-0.9
	comp=Z,5.4nm,1.0s,mb4.4						
HVU	Hansel Valley	81.29	41	*e*P	P	15 41 44.0	+1.6
DPW	Davenport	81.67	34	*e*P	P	15 41 44.1	-0.1
NJ2	Nanjing	81.71	307	*e*P	P	15 41 47.0	+2.3
NJ2				AP	pP	15 41 52.0	+5.1
NJ2				XP	sP	15 41 56.0	+8.4
NJ2				PP	PP	15 44 54.0	+0.3
NJ2				S	S	15 51 58.0	+1.6
NJ2				XS		15 52 06.0	
NJ2				AMB	AMB		
	comp=Z,50nm,0.5s,mb5.7						
NJ2				AMB	AMB		
	comp=Z,330nm,5.2s						
NJ2				LR	LR		
	comp=N,170nm,14.0s,MS4.7						
NJ2				LR	LR		
	comp=E,180nm,19.0s,MS4.7						
NJ2				LR	LR		
	comp=Z,240nm,19.1s,MS4.6						
TXAR	Lajitas Array	81.73	56	P	P	15 41 44.5	-0.4
	comp=Z,1.9nm,1.0s,mb4.0,baz=217,slow=6.3,SNR=7.5						
TXAR				LR	LR	16 14 34.9	
	comp=Z,362nm,18.0s,MS4.8,baz=175,slow=33						
TXAR	Lajitas Array	81.73	56	P	P	15 41 44.5	-0.4
TXAR				LR	LR	16 14 34.9	
TCUT	Toone Canyon	81.80	42	*e*P	P	15 41 46.4	+1.4
HWUT	Hardware Ranch	81.96	42	*e*P	P	15 41 46.3	+0.5
	comp=Z,18nm,1.7s,mb4.7						
ANMO	Albuquerque	82.12	50	⇑*e*P	P	15 41 48.1	+1.3
ANMO	Albuquerque	82.12	50	*e*P	P	15 41 47.9	+1.1
	comp=Z,5.0nm,1.1s,mb4.4						
GDL2	Guadalupe Moun	82.44	53	*e*P	P	15 41 49.9	+1.4
KLR	Kul'dur	82.55	327	*e*P	P	15 41 47.9	-0.8
MCMT	McKenzie Canyo	82.92	39	*e*P	P	15 41 51.8	+1.1
CN2	Changchun	82.97	320	*e*P	P	15 41 52.3	+1.3
CN2				*e*XP	sP	15 41 59.5	+5.6
CN2				*e*S	S	15 52 10.4	+1.4
CN2				AMB	AMB		
	comp=Z,20nm,1.3s,mb5.0						
CN2				LR	LR		
	comp=N,140nm,17.0s,MS4.6						
CN2				LR	LR		
	comp=E,160nm,17.0s,MS4.6						
CN2				LR	LR		
	comp=Z,210nm,19.0s,MS4.5						
SNY	Shenyang	83.10	318	⇑P	P	15 41 52.5	+0.8
SNY				S	S	15 52 20.1	+10
SNY				LR	LR		
	comp=N,210nm,14.6s						
SNY				LR	LR		
	comp=Z,160nm,17.3s,MS4.5						
MCK	McKinley	83.33	11	*e*P	P	15 41 50.9	-1.6
	comp=Z,6.5nm,0.9s,mb4.7						
REDW	Red Top Meadow	83.34	41	*e*P	P	15 41 54.4	+1.5
TPAW	Teton Pass	83.34	40	*e*P	P	15 41 52.3	-0.6
IMW	Indian Meadow	83.57	40	*e*P	P	15 41 55.3	+1.2
QLMT	Earthquake Lak	83.77	39	*e*P	P	15 41 55.8	+0.7
CHMT	Chamberlain Mo	83.84	37	*e*P	P	15 41 53.9	-1.5
PDAR	Pinedale Array	83.84	42	P	P	15 41 54.3	-1.2
	comp=Z,1.9nm,0.8s,mb4.3,baz=225,slow=2.1,SNR=8.1						
PDAR				LR	LR	16 16 08.8	
	comp=Z,323nm,18.0s,MS4.8,baz=248,slow=33						
BOZ	Bozeman (W)	84.08	38	*e*P	P	15 41 57.2	+0.5
	comp=Z,20nm,1.5s,mb5.0						
HRY	Holter Researc	84.54	37	*e*P	P	15 41 56.7	-2.2
WHN	Wuhan	84.54	304	*e*P	P	15 42 00.8	+1.5
COLA	College	84.57	11	⇑*e*P	P	15 41 57.3	-1.3
COLA	College	84.57	11	*e*P	P	15 41 57.2	-1.4
	comp=Z,16nm,0.9s,mb5.1						
ILAR	Eielson Array	84.65	11	P	P	15 41 57.8	-1.2
	comp=Z,2.4nm,0.7s,mb4.5,baz=224,slow=5.4,SNR=18						
SEY	Seymchan	84.78	345	*e*P	P	15 41 59.8	+0.1
SEY				*e*		15 42 08.2	

SEY				pmax	pmax		
	comp=Z,70nm,1.1s,mb5.7						
SEY				pmax	pmax		
	comp=N,20nm,1.3s						
IMA	Indian Mountai	84.80	8	*e*P	P	15 41 59.7	0.0
GCMT	Greycliff	85.33	39	*e*P	P	15 42 03.6	+0.7
DAWY	Dawson	85.59	14	*e*P	P	15 42 02.9	-0.8
MAW	Mawson	85.69	199	*e*P	P	15 42 06.6	+2.4
	comp=N,3.5nm,0.9s,mb4.6						
MAW	Mawson	85.69	199	P	P	15 42 02.1	-2.1
	comp=N,1.2nm,0.9s,mb4.1,baz=154,slow=8.9,SNR=2.7						
MAW				LR	LR	16 20 25.2	
	comp=N,698nm,18.7s,MS5.1,baz=344,slow=36						
BJT	Baijiatuau	87.18	313	*e*P	P	15 42 13.8	+1.6
	comp=N,4.2nm,0.4s,mb5.0						
BJI	Beijing	87.19	314	P	P	15 42 14.0	+1.8
BJI				AMB	AMB		
	comp=Z,24nm,1.4s,mb5.2						
BJI				LR	LR		
	comp=N,137nm,18.0s,MS4.6						
BJI				LR	LR		
	comp=E,183nm,17.7s,MS4.6						
BJI				LR	LR		
	comp=Z,148nm,19.8s,MS4.4						
EDM	Edmonton	87.33	31	*e*P	P	15 42 10.6	-1.9
PLCA	Paso Flores	87.83	132	LR	LR	16 14 17.9	
	comp=Z,356nm,18.9s,MS4.8,baz=185,slow=31						
ENH	Enshi	88.31	302	*e*P	P	15 42 19.1	+1.3
HIA	Hailar	89.14	323	*e*P	P	15 42 21.8	+0.5
	comp=Z,6.9nm,1.0s,mb4.9						
GYA	Guiyang	89.29	298	P	P	15 42 25.1	+2.5
GYA				AP	pP	15 42 30.3	+5.5
GYA				XP	sP	15 42 32.8	+7.3
GYA				PP	PP	15 45 59.0	+3.4
GYA				S	S	15 53 14.4	+4.1
GYA				AMB	AMB		
	comp=Z,20nm,1.4s,mb5.2						
GYA				AMB	AMB		
	comp=Z,240nm,5.4s						
GYA				LR	LR		
	comp=N,330nm,17.4s,MS4.9						
GYA				LR	LR		
	comp=E,180nm,18.6s,MS4.9						
GYA				LR	LR		
	comp=Z,320nm,16.2s,MS4.8						
SYO	Syowa Base	90.40	191	⇑P	P	15 42 27.5	+0.8
SYO	Syowa Base	90.40	191	⇑PcP	PcP	15 42 28.8	+0.6
SYO	Syowa Base	90.40	191	⇑pP	pP	15 42 30.5	+1.6
INK	Inuvik	90.44	14	P	P	15 42 25.9	-1.0
	comp=Z,0.8nm,0.6s,mb4.2,baz=266,slow=2.1,SNR=2.4						
VNA3	Neumayer Olymp	90.56	175	⇑*i*P	P	15 42 29.2	+1.8
VNA3	Neumayer Olymp	90.56	175	⇓*i*	P	15 42 30.2	+2.8
VNA3	Neumayer Olymp	90.56	175	⇑*i*	P	15 42 32.0	+4.6
VNA3	Neumayer Olymp	90.56	175	⇓*i*	P	15 42 33.9	+6.5
SNAA	Sanae	90.61	177	⇑*i*P	P	15 42 27.1	-0.6
SNAA	Sanae	90.61	177	⇓*i*	P	15 42 28.3	+0.6
SNAA	Sanae	90.61	177	⇑*i*	P	15 42 29.2	+1.5
SNAA	Sanae	90.61	177		P	15 42 31.0	+3.3
SNAA	Sanae	90.61	177	⇓*i*P	P	15 42 28.3	+0.6
VNA2	Neumayer--Watz	91.06	175	⇑*i*P	P	15 42 31.6	+1.9
VNA2	Neumayer--Watz	91.06	175	⇑*i*	P	15 42 32.7	+3.0
VNA2	Neumayer--Watz	91.06	175	⇓*i*	P	15 42 34.7	+5.0
VNA2	Neumayer--Watz	91.06	175	⇑*i*	P	15 42 35.3	+5.6
VNA1	Neumayer--Stat	91.26	175	⇑*i*P	P	15 42 32.1	+1.5
VNA1	Neumayer--Stat	91.26	175	⇓*i*	P	15 42 33.2	+2.6
VNA1	Neumayer--Stat	91.26	175	⇑*i*	P	15 42 35.4	+4.8
VNA1	Neumayer--Stat	91.26	175	⇓*i*	P	15 42 36.7	+6.1
YAK	Yakutsk	91.29	337	⇑*e*P	P	15 42 30.0	-1.0
YAK				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb5.0						
KMI	Kunming	92.19	296	⇑*i*P	P	15 42 38.5	+2.5
KMI				AP	pP	15 42 42.3	+4.1
KMI				XP	sP	15 42 43.4	+4.5
KMI				PP	PP	15 46 21.6	+2.7
KMI				SKS	SKS	15 53 08.8	-3.4
KMI				S	S	15 53 37.3	+0.9
KMI				XS		15 53 44.3	
KMI				SS	SS	15 59 49.4	-0.2
KMI				AMB	AMB		
	comp=Z,12nm,1.7s,mb5.0						
KMI				LR	LR		
	comp=N,140nm,17.7s,MS4.6						
KMI				LR	LR		
	comp=E,155nm,22.1s,MS4.6						
KMI				LR	LR		
	comp=Z,143nm,23.7s,MS4.3						
CMAR	Chiang Mai Arr	93.52	288	P	P	15 42 44.2	+2.0
	comp=Z,11nm,1.3s,mb5.1,baz=103,slow=2.9,SNR=23						
CMAR				LR	LR	16 24 18.7	
	comp=Z,166nm,18.1s,MS4.5,baz=115,slow=35						
CMAR	Chiang Mai Arr	93.52	288	P	P	15 42 44.2	+2.0
CMAR				LR	LR	16 24 18.7	
LZH	Lanzhou	94.74	306	*e*P	P	15 42 49.5	+2.0
LZH				AP	pP	15 42 52.8	+3.1
LZH				XP	sP	15 42 54.3	+3.9
LZH				PP	PP	15 46 40.5	+2.3
LZH				SKS	SKS	15 53 22.8	-3.3
LZH				*e*S	S	15 54 00.5	+2.4
LZH				XS		15 54 08.6	
LZH				SS	SS	16 00 29.5	+3.7
LZH				AMB	AMB		
	comp=Z,29nm,1.5s,mb5.5						
LZH				AMB	AMB		
	comp=Z,118nm,5.3s						
LZH				LR	LR		
	comp=N,526nm,15.3s						
LZH				LR	LR		
	comp=Z,987nm,18.0s,MS5.3						
ULM	Lac du Bonnet	95.58	39	LR	LR	16 24 20.5	
	comp=Z,680nm,18.2s,MS5.2,baz=240,slow=34						
SONM	Songino Array	96.68	318	P	P	15 42 54.8	-1.3
	comp=Z,0.2nm,0.8s,mb3.6,baz=72,slow=4.6,SNR=2.5						
TIXI	Tiksi	97.26	344	⇓*e*P	P	15 42 57.8	-0.3
TIXI				pmax	pmax		
	comp=Z,10.0nm,1.7s,mb5.0						
TIXI				MLR	MLR		
	comp=Z,100nm,17.0s,MS4.4						
GTA	Gaotai	98.76	308	*e*P	P	15 43 05.6	0.0
GTA				AP	pP	15 43 09.3	+1.5
GTA				PP	PP	15 47 05.1	-4.2
GTA				S	S	15 54 30.4	-1.6
GTA				AMB	AMB		
	comp=Z,1.0nm,0.6s,mb4.5						
GTA				AMB	AMB		
	comp=Z,65nm,5.7s						
GTA				LR	LR		
	comp=N,93nm,20.5s,MS4.4						
GTA				LR	LR		
	comp=E,106nm,21.3s,MS4.4						
GTA				LR	LR		
	comp=Z,145nm,18.6s,MS4.5						
LPAZ	La Paz	98.84	110	LR	LR	16 18 06.6	
	comp=Z,141nm,18.7s,MS4.5,baz=172,slow=30						
MKAR	Makanchi Array	112.56	314	PKiKP		15 48 01.4	
	comp=Z,0.9nm,0.7s,baz=45,slow=1.7,SNR=6.1						
MKAR	Makanchi Array	112.56	314	*i* PKIKP	PKPdf	15 48 03.6	+0.1
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KURK	Kurchatov	114.99	318	⇓*i*PKIKP	PKPdf	15 48 06.3	-1.8
AAK	Ala-Archa	118.10	309	⇓*i*PKIKP	PKPdf	15 48 12.3	-2.1
BVAR	Borovoye Array	119.80	321	PKP	PKPdf	15 48 15.1	-2.2
	comp=Z,3.8nm,1.0s,baz=90,slow=1.5,SNR=10						
SVE	Sverdlovsk	124.17	328	⇓*e*PKIKP	PKPdf	15 48 25.1	-0.8
ARU	Arti	125.39	328	*i* PKIKP	PKPdf	15 48 20.4	-7.8
ARCES	ARCESS Array B	126.90	352	PKP	PKPdf	15 48 28.0	-2.6
	comp=Z,1.8nm,0.6s,baz=18,slow=3.8,SNR=3.8						
ARCES	ARCESS Array B	126.90	352	PKP	PKPdf	15 48 28.0	-2.6
FINES	FINESS Array B	134.22	347	PKP	PKPdf	15 48 48.9	+4.1
	comp=Z,9.5nm,1.3s,baz=18,slow=4.4,SNR=4.3						
OBN	Obninsk	136.28	336	*e*PKIKP	PKPdf	15 48 50.6	+1.9
OBN				*e*		15 55 50.9	
OBN				pmax	pmax		
	comp=Z,12nm,1.1s						
ZEI	Tsey	139.85	316	*i* PKIKP	PKPdf	15 48 54.0	-1.7
ZEI				pmax	pmax		
	comp=Z,100nm,5.0s						
ZEI				MLR	MLR		
	comp=Z,200nm,18.0s,MS4.9						
SOC	Sochi	142.11	320	*i* PKIKP	PKPdf	15 48 55.7	-3.9
SOC				*e*		15 52 00.3	
SOC				*e*PPP	PPP	15 55 05.9	-10
SOC				*e*SS	SS	16 10 36.1	-2.1
SOC				pmax	pmax		
	comp=Z,15nm,0.6s						
SOC				pmax	pmax		
	comp=N,12nm,0.8s						
SOC				pmax	pmax		
	comp=E,16nm,0.7s						
AKASG	Malin Array Be	142.52	337	PKP	PKPdf	15 48 60.0	-0.1
	comp=E,0.4nm,0.3s,baz=31,slow=3.0,SNR=5.3						
KMBO	Kilima Mbogo	144.66	241	PKP	PKPdf	15 49 03.9	-1.0
	comp=E,18nm,1.1s,baz=80,slow=4.6,SNR=15						
KMBO	Kilima Mbogo	144.66	241	*e*PKPdf	PKPdf	15 49 04.2	-0.7
ELZG	Elazig	145.13	313	*i* P	PKPbc	15 49 05.4	+2.7
MALT	Malatya	145.60	313	*e*PKPbc	PKPbc	15 49 05.3	+1.4
KIS	Kishinev	145.61	333	*e*PKIKP	PKPdf	15 49 04.0	-1.6
KIS				*e*		15 49 10.0	
KWP	Kalwaria	145.66	342	*e*PKIKP	PKPdf	15 49 04.7	-0.8
WTSB	Winterswijk	145.81	0	*e*P	PKPbc	15 49 04.9	+1.0
	comp=E,25nm,1.6s						
CLZ	Clausthal	145.82	356	*e*PKPbc	PKPbc	15 49 05.1	+1.2
OJC	Ojcow	145.92	345	*e*PKP2	PKPab	15 49 05.8	-0.7
KSP	Ksiaz	146.08	349	*e*PKP	PKPdf	15 49 05.8	-0.4
KSP				*e*		15 49 17.0	
CLL	Collm	146.11	353	⇑*i*PKP1	PKPbc	15 49 05.7	+1.1
CLL				*e**PPKP		15 49 12.0	
CLL				*e*		15 49 17.0	
CLL	Collm	146.11	353	*i* PKP2	PKPab	15 49 05.7	-1.5
CLL				pmax	pmax		
	comp=Z,76nm,1.1s						
BOYT	Boyabat	146.26	320	*i* P	PKPbc	15 49 07.9	+2.5
KOLS	Kolonicke sedl	146.41	341	*e*PKP	PKPdf	15 49 06.9	0.0
KOLS				*e*		15 49 13.1	
KOLS				*e*		15 49 18.5	
BRG	Berggiesshubel	146.42	352	⇑*i*PKIKP	PKPdf	15 49 06.7	-0.1
BRG				*e*		15 49 17.5	
BRG				pmax	pmax		
	comp=Z,75nm,1.5s						
UPC	Upice	146.45	349	*e*PKP	PKPdf	15 49 07.1	+0.2
DPC	Dobruska-Polom	146.54	349	*e*PKP	PKPdf	15 49 07.5	+0.5
OKC	Ostrava-Krasne	146.66	347	*e*PKP	PKPdf	15 49 07.1	-0.2
PVCC	Panska Ves	146.66	351	*e*PKP	PKPdf	15 49 07.4	+0.2
CTKT	Corum	146.80	319	*i* P	PKPbc	15 49 09.5	+3.0
MORC	Moravsky Berou	146.85	347	*e*PKPbc	PKPbc	15 49 08.4	+2.0
MOX	Moxa	146.91	354	*i* P	PKPbc	15 49 08.1	+1.6
	comp=Z,logA/T=1.6						
MOX	Moxa	146.91	354	*e*PKIKP	PKPdf	15 49 08.1	+0.5
MOX				pmax	pmax		
	comp=Z,68nm,1.9s						
HGN	Heimansgroeve	147.01	1	*e*P	PKPdf	15 49 08.1	+0.3
	comp=Z,11nm,1.4s						
BALT	Daday	147.10	322	*i* P	PKPdf	15 49 05.9	-2.3
PRU	Pruhonice	147.19	351	*e*PKP	PKPdf	15 49 09.0	+0.9
NKC	Novy Kostel	147.23	353	*e*PKP	PKPdf	15 49 09.1	+0.9
KECS	Kecovo	147.34	343	*e*PKP	PKPdf	15 49 11.0	+2.6
KECS				*e*		15 49 15.5	
VRAC	Vranov	147.49	348	PKPbc	PKPdf	15 49 09.6	+1.0
	comp=Z,4.4nm,0.9s,baz=357,slow=3.9,SNR=10.0						
ELDT	Eldivan	147.72	320	*i* P	PKPdf	15 49 11.6	+2.3
VYHS	Vyhne	147.76	345	*i* PKP	PKPdf	15 49 10.8	+1.7
VYHS				*e*		15 49 24.2	
VYHS				*e*		15 49 30.7	
AVNT	Avonos	147.79	316	*i* P	PKPdf	15 49 11.5	+2.1
GRA1	Grafenberg Arr	147.89	355	*e*PKPbc	PKPdf	15 49 11.2	+2.0
GRF	Grafenberg Arr	147.89	355	*e*PKIKP	PKPdf	15 49 11.2	+2.0
COBT	Iskenderun	147.97	312	*i* P	PKPdf	15 49 12.4	+2.6
PSZ	Piszkesteto	148.01	343	*e*PKPbc	PKPdf	15 49 11.6	+2.1
MLR	Muntele Rosu	148.02	334	PKPbc	PKPdf	15 49 11.4	+1.8
	comp=Z,3.9nm,1.0s,baz=327,slow=3.2,SNR=9.3						
BRTR	Keskin Array B	148.04	319	PKPbc	PKPdf	15 49 12.0	+2.2
	comp=Z,16nm,1.1s,baz=135,slow=3.5,SNR=19						
WLF	Walferdange	148.11	1	*e*PKPbc	PKPdf	15 49 10.5	+0.9
KHC	Kasperske Hory	148.17	352	*e*PKP	PKPdf	15 49 11.2	+1.5
KHC				x	x	15 49 22.5	
KHC	Kasperske Hory	148.17	352	*e*PKIKP	PKPdf	15 49 11.2	+1.5
KHC				*e*		15 49 22.5	
WET	Wettzell	148.25	352	*e*PKIKP	PKPdf	15 49 12.0	+2.2
GEC2	GERESS Array S	148.43	351	*e*PKIKP	PKPdf	15 49 12.6	+2.5
GERES	GERESS Array B	148.43	351	PKPbc	PKPdf	15 49 12.1	+2.0
	comp=Z,3.0nm,0.9s,baz=45,slow=1.9,SNR=18						
ZST	Bratislava	148.44	347	*e*PKP	PKPdf	15 49 13.0	+2.8
FUR	Furstenfeldbru	149.40	354	*e*PKIKP	PKPdf	15 49 15.4	+3.7
BFO	Black Forest	149.43	358	*e*PKIKP	PKPdf	15 49 14.3	+2.5
HRI	Mount Hermon	149.77	306	P	PKPdf	15 49 17.5	+4.7
HRI	Mount Hermon	149.77	306	⇑P	PKPdf	15 49 17.5	+4.7
KSHT	Keshet	149.82	306	P	PKPdf	15 49 17.5	+4.6
ESKT	Eskisehir	149.87	321	*i* P	PKPdf	15 49 16.5	+3.7
ESKT	Eskisehir	149.87	321	*i* P	PKPdf	15 49 16.5	+3.7
MOTA	Moosalm	150.22	354	⇓*i*P	PKPdf	15 49 16.7	+3.7
WTTA	Wattenberg	150.25	353	⇑*i*P	PKPdf	15 49 17.0	+3.9
HMDT	Nahal Hemdat	150.32	305	P	PKPdf	15 49 18.7	+5.0
HMDT	Nahal Hemdat	150.32	305	⇑P	PKPdf	15 49 18.7	+5.0
MMLI	Mount Malkishu	150.34	305	P	PKPdf	15 49 18.9	+5.2
MMLI	Mount Malkishu	150.34	305	⇑P	PKPdf	15 49 18.9	+5.2
DAVA	Damuels	150.39	356	⇑*i*P	PKPdf	15 49 17.3	+4.0
ULDT	Uludag	150.46	324	*i* P	PKPdf	15 49 16.8	+3.2
BEO	Belgrade	150.64	340	⇑*i*P	PKPdf	15 49 18.2	+4.4
DRGI	Dragot	150.67	304	P	PKPdf	15 49 19.3	+5.1
MZDA	Masada	150.80	303	P	PKPdf	15 49 19.6	+5.2
DAVOX	Davos	150.89	356	PKPbc	PKPdf	15 49 18.9	+4.9
	comp=Z,7.5nm,0.9s,baz=19,slow=5.9,SNR=5.2						
PRNI	Paran	151.42	301	P	PKPdf	15 49 21.1	+5.7
PRNI	Paran	151.42	301	⇑P	PKPdf	15 49 21.1	+5.7
DIVS	Divcibare	151.43	340	⇑*i*P	PKPdf	15 49 20.1	+5.1
MBH	Mount Berech	151.68	300	P	PKPdf	15 49 21.6	+5.8
MBH	Mount Berech	151.68	300	⇑P	PKPdf	15 49 21.6	+5.8
EIL	Elat	151.69	300	*e*PKPbc	PKPdf	15 49 20.7	+4.9

BJI 17 15:30:05.1,41.07N×113.41E,h18^{km},mb3.6,ML3.6, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HHC	Hu-ho-hao-te	1.42	262	*e*PG	Pn	15 30 30.3	+0.1
HHC				SG	Sb	15 30 48.3	0.0
HHC				Smax			
	comp=N,716nm,0.6s						
HHC				Smax			
	comp=E,1μm,0.4s						
BJI	Beijing	2.34	115	PG	Pn	15 30 47.3	+3.8
BJI				SG	Sn	15 31 18.5	+6.4
BJI				Smax			
	comp=N,346nm,0.6s						
BJI				Smax			
	comp=E,160nm,0.6s						
BTO	Baotou	2.61	261	*e*PG	Pn	15 30 50.3	+3.0
BTO				SG	Sn	15 31 22.3	+3.4
BTO				Smax			
	comp=N,386nm,0.2s						
BTO				Smax			
	comp=E,284nm,0.3s						
TIA	Tai'an	5.66	148	*e*PG	Pn	15 31 45.8	+15
TIA				*e*SG	Sn	15 32 57.3	+22
TIA				Smax			
	comp=N,35nm,0.5s						
TIA				Smax			
	comp=E,33nm,0.5s						

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*NAO **17** 15:32:43.9±1.9,67.09N×20.94E,ML2.3*

*HEL **17** 15:32:43.7±0.1,67.07N×20.91E,ML2.3,ML2.6(UPP), ML1.9(BER),Explosion*

*IDC **17** 15:32:43.8±0.8,67.08N×21.12E,mb1 3.0/4, mb1mx2.9/20,ML2.7/4,Error ellipse: s-maj=14.9km s-min=6.1km az=115.0*

*BER **17** 15:32:45.7±3.9,67.12N×20.76E,ML1.9,ML2.3(NAO), Suspected explosion*

ISC 17 15:32:41.6±0.4,67.04N±0.02×20.83E±0.07,n35,$\sigma 1^{s}27$/55, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DUNU	Dundret	0.13	310	*i* P	Pg	15 32 46.3	+2.1
MASU	Masugnsbyn	0.62	47	*i* P	Pg	15 32 54.2	+0.1
ERTU	Ertsjaerv	0.73	131	*i* P	Pg	15 32 56.3	+0.1
PAJU	Pajala	0.90	90	*i* P	Pg	15 32 58.9	-0.7
KUA	Kurravaara	0.94	349	*e*P	Pg	15 32 59.9	-0.5
NIKU	Nikkaluokta	1.08	321	*e*P	Pb	15 33 03.0	+0.1
SJUU	Sjulsmark	1.57	168	*e*P	Pn	15 33 12.2	+1.3
LILU	Lilltraesk	1.80	193	*e*P	Pn	15 33 16.5	+2.2
KIF	Kilpisjarvi	1.98	360	*e*P	Pn	15 33 18.5	+1.8
KIF				*e*S	Sn	15 33 42.6	0.0
KTK1	Kautokeino	2.18	23	*e*P	Pn	15 33 21.9	+2.3
KTK1				*e*SG	Sg	15 33 50.5	-3.8
KTK1				AML	AML	15 33 52.1	
	comp=Z,16nm,0.3s						
SGF	Sodankyl	2.25	77	*e*P	Pn	15 33 21.4	+0.7
SGF				*e*S	Sn	15 33 50.4	+0.8
BURU	Burvik	2.48	174	*e*P	Pn	15 33 26.0	+2.1
SVAU	Svanoeiden	2.61	192	*e*P	Pn	15 33 27.7	+2.0
MOR8	Moi Rana	2.69	254	*e*SG	Sg	15 34 02.9	-8.4
MOR8				AML	AML	15 34 09.0	
	comp=Z,14nm,0.4s						
TRO	Tromso	2.70	346	*e*SG	Sg	15 34 06.0	-5.6
TRO				AML	AML	15 34 09.4	
	comp=Z,16nm,0.6s						
OUL	Oulu	2.85	131	*e*P	Pn	15 33 30.2	+1.0
OUL				*e*S	Sn	15 34 04.8	+0.1
LOF	Lofoten	3.00	295	*e*SG	Sg	15 34 19.6	-1.9
LOF				AML	AML	15 34 31.9	
	comp=Z,10nm,0.7s						
ARA0	ARCESS Array S	3.05	33	Pn	Pn	15 33 32.0	-0.1
	baz=207,slow=16						
ARA0				Sn	Sn	15 34 08.8	-1.1
	baz=213,slow=28						
ARA0	ARCESS Array S	3.05	33	*e*P	Pn	15 33 32.0	-0.1
ARA0				*e*S	Sn	15 34 08.8	-1.1
ARCES	ARCESS Array B	3.05	33	Pn	Pn	15 33 32.0	-0.1
	comp=Z,1.3nm,0.3s,baz=211,slow=14,SNR=74						
ARCES				Sn	Sn	15 34 09.1	-0.8
	comp=Z,2.6nm,0.3s,baz=215,slow=22,SNR=8.9						
ARCES				Lg		15 34 16.4	
	comp=Z,2.0nm,0.3s,baz=222,slow=29,SNR=7.6						
UMAU	Umeaa	3.17	181	*e*P	Pn	15 33 35.1	+1.3
MSF	Maaselka	3.48	105	*e*P	Pn	15 33 37.8	-0.4
MSF				*e*SB	Sb	15 34 28.0	+0.8
KEV	Kevo	3.56	37	*e*P	Pn	15 33 38.7	-0.6
KEV				*e*S	Sn	15 34 21.6	-1.2
KEV				MSG		15 34 37.4	
	comp=Z,9.9nm,0.5s						
KJN	Kajaani	4.12	133	*e*P	Pn	15 33 47.9	+0.7
KJN				*e*S	Sn	15 34 34.6	-2.2
KJN				*e*SB	Sb	15 34 47.2	+1.6
KJN				MSG		15 34 52.2	
	comp=Z,5.0nm,0.4s						
NSS	Namsos	4.43	240	*e*SG	Sg	15 35 03.3	-5.8
SUF	Sumiainen	4.89	150	*e*P	Pn	15 33 58.0	-0.2
SUF				*e*S	Sn	15 34 54.2	-2.2
KEF	Keuruu	5.19	159	*e*P	Pn	15 34 02.4	0.0
KEF				*e*S	Sn	15 35 01.8	-2.1
KAF	Kangasniemi	5.48	152	*e*P	Pn	15 34 06.2	-0.3
KAF				*e*S	Sn	15 35 06.2	-4.9
KAF				*e*SG	Sg	15 35 34.0	-10
FIA0	FINESS Array S	6.06	155	Pn	Pn	15 34 14.7	0.0
	baz=346,slow=16						
FIA0				Sn	Sn	15 35 23.4	-2.4
	baz=346,slow=28						
FIA0				Lg		15 35 54.9	
	baz=343,slow=37						
FIA0	FINESS Array S	6.06	155	*e*P	Pn	15 34 14.7	0.0
FIA0				*e*S	Sn	15 35 23.4	-2.4
FIA0				*e*		15 35 54.9	
FINES	FINESS Array B	6.06	155	Pn	Pn	15 34 14.9	+0.1
	comp=Z,0.3nm,0.3s,baz=348,slow=13,SNR=10						
FINES				Sn	Sn	15 35 23.5	-2.3
	comp=Z,0.4nm,0.3s,baz=347,slow=24,SNR=9.1						
FINES				Lg		15 35 54.2	
	comp=Z,0.8nm,0.3s,baz=341,slow=26,SNR=8.1						
NOA	NORSAR Array B	7.34	219	Pn	Pn	15 34 32.4	-0.3
	comp=Z,0.1nm,0.3s,baz=30,slow=16,SNR=2.5						
NOA				Sn	Sn	15 35 53.4	-4.4
	comp=Z,0.2nm,0.3s,baz=31,slow=23,SNR=2.6						
NOA				Lg		15 36 37.1	
	comp=Z,0.4nm,0.3s,baz=339,slow=15,SNR=3.3						
HFS	Hagfors	7.62	208	*e*P	Pn	15 34 35.5	-1.1
HFS				*e*		15 36 45.3	
HFS	Hagfors	7.62	208	Pn	Pn	15 34 35.7	-0.9
	comp=Z,0.0nm,0.3s,baz=29,slow=12,SNR=10.0						
HFS				Sn	Sn	15 35 59.7	-5.0
	comp=Z,0.0nm,0.3s,baz=29,slow=26,SNR=3.7						
HFS				Lg		15 36 45.6	
	comp=Z,0.1nm,0.3s,baz=20,slow=29,SNR=3.3						
HFS	Hagfors	7.62	208	Pn	Pn	15 34 35.5	-1.1
	baz=26,slow=12						
HFS				Lg		15 36 45.3	
	baz=11,slow=28						

JMA 17 16:05:07.1±0.5,44.69N×148.29E,h123^{km},M3.5,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NEM2	Nemuro 2	2.27	235	P	P	16 05 44.5	-0.1
NEM2				*e*S	S	16 06 13.4	+0.4
JNK	Nakash	2.80	248	P	P	16 05 51.2	-0.5
JAK	Akkeshi	3.10	238	P	P	16 05 54.9	-0.8
JAK				*e*S	S	16 06 32.2	-0.5
JAR	Ashorobuto	3.55	248	P	P	16 06 01.7	0.0
JCH	Churui	4.13	242	P	P	16 06 08.4	-1.2
JCH				*e*S	S	16 06 54.2	-3.2
JFR	Furan	4.39	252	P	P	16 06 13.1	+0.1
JNBK	Urakawa-nobuka	4.69	241	P	P	16 06 14.9	-2.2
JNBK				*e*S	S	16 07 07.5	-3.4
JKB	Kayabe	5.99	245	P	P	16 06 31.8	-2.7
JKB				*e*S	S	16 07 35.7	-6.7
JOT	Ohata	6.25	241	P	P	16 06 34.9	-3.2
JOT				*e*S	S	16 07 40.6	-8.1
JOSM	Okushiri--Mats	6.93	251	P	P	16 06 44.5	-2.9
JMK	Ichinoseki	7.79	225	*e*S	S	16 08 20.3	-5.8

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*IDC **17** 16:22:27.4±2.5,4.69S×145.54E,mb3.5/4,mb1 3.7/5, mb1mx3.5/12,ML3.6/1,Error ellipse: s-maj=71.3km s-min=27.8km az=94.0*

ISC 17 16:22:30.5±2.2,4.8S±0.2×145.6E±0.4,h33^{km},n7,$\sigma 0^{s}64$/7, mb3.3/4,Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WB2	Warramunga Arr	18.64	215	*e*P	P	16 26 48.1	+0.2
WRA	Warramunga Arr	18.64	215	P	P	16 26 47.2	-0.9
	0.2nm,0.3s,baz=30,slow=9.5,SNR=14						
ASAR	Alice Springs	21.91	210	P	P	16 27 22.2	-0.5
	0.2nm,0.4s,mb2.9,baz=40,slow=7.6,SNR=11						
FITZ	Fitzroy Crossi	23.59	234	*e*P	P	16 27 40.7	+1.3
	2.9nm,1.2s,mb3.6						
FITZ	Fitzroy Crossi	23.59	234	P	P	16 27 40.3	+0.8
	1.6nm,0.5s,mb3.8,baz=24,slow=13,SNR=11						
STKA	Stephens Creek	27.21	187	P	P	16 28 14.1	+0.5
	0.6nm,0.3s,mb3.5,baz=25,slow=13,SNR=6.5						
MKAR	Makanchi Array	75.69	321	P	P	16 34 14.2	-0.3
	0.1nm,0.5s,mb3.0,baz=90,slow=5.8,SNR=2.4						

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*IDC **17** 16:25:39.1±8.1,16.79S×174.13W,h126^{km}±77^{km}, mb3.9/10,mb1 4.0/11,mb1mx3.9/20,Error ellipse: s-maj=48.5km s-min=17.3km az=156.0*

*NEIC **17** 16:25:40.8±3.2,16.85S×174.12W,h144^{km}±31^{km},mb4.5/1, Error ellipse: s-maj=25.4km s-min=9.1km az=157.0*

ISC 17 16:25:45.7±1.8,17.1S±0.2×174.00W±0.09,h209^{km}±18^{km}, n20,$\sigma 0^{s}91$/17,mb3.9/11,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	Nonsavu	7.62	264	Pn	P	16 27 35.4	+0.7
	207nm,0.9s,SNR=8.8						
RAR	Rarotonga	14.05	109	P	P	16 28 55.9	-1.0
	0.8nm,0.3s,baz=294,slow=18,SNR=2.9						
RAR				T		16 43 25.1	
URZ	Urewera	22.50	199	P	P	16 30 30.3	+2.1
	17nm,1.0s,mb4.5,baz=324,slow=3.4,SNR=6.2						
CTA	Charters Tower	37.74	259	P	P	16 32 42.5	-0.6
	3.0nm,1.0s,mb3.8,baz=80,slow=11,SNR=3.6						
STKA	Stephens Creek	42.72	241	P	P	16 33 24.2	+0.4
	6.6nm,0.7s,mb4.2,baz=90,slow=10,SNR=18						
WB2	Warramunga Arr	48.91	258	*e*P	P	16 34 11.5	-1.0
WRA	Warramunga Arr	48.92	258	P	P	16 34 11.3	-1.3
	1.5nm,0.8s,mb3.4,baz=96,slow=7.0,SNR=24						
ASAR	Alice Springs	49.06	253	P	P	16 34 13.0	-0.7
	13nm,0.6s,mb4.4,baz=89,slow=8.3,SNR=221						
ASPA	Alice Springs	49.07	253	*e*P	P	16 34 13.2	-0.5
FITZ	Fitzroy Crossi	57.32	259	P	P	16 35 14.5	+0.4
	1.3nm,0.7s,mb3.6,baz=98,slow=14,SNR=3.5						
MBWA	Marble Bar	62.35	255	*e*P	P	16 35 47.9	-0.5
	6.2nm,1.0s,mb4.2						
YBH	Yreka Blue Hor	75.28	37	P	P	16 37 08.2	+0.8
	2.2nm,0.9s,mb3.8,baz=83,slow=3.3,SNR=4.5						
PDAR	Pinedale Array	83.89	42	P	P	16 37 53.7	+0.5
	0.8nm,0.7s,mb3.5,baz=221,slow=2.7,SNR=6.3						

PDAR				PP	PP	16 41 04.7	-6.3
	0.3nm,0.7s,slow=1.5,SNR=3.7						
ILAR	Eielson Array	84.19	11	P	P	16 37 53.9	-0.3
	0.5nm,0.6s,mb3.5,baz=204,slow=6.7,SNR=4.4						
ILAR	Eielson Array	84.19	11	P	P	16 37 53.9	-0.3
CMAR	Chiang Mai Arr	92.60	288	P	P	16 38 36.7	+1.5
	1.6nm,1.1s,mb4.0,baz=105,slow=3.9,SNR=4.5						
CMAR	Chiang Mai Arr	92.60	288	P	P	16 38 36.6	+1.5
MKAR	Makanchi Array	111.58	314	PKiKP		16 43 57.5	
	0.1nm,0.5s,baz=93,slow=5.7,SNR=3.0						
KMBO	Kilima Mbogo	144.28	243	PKP	PKPdf	16 45 00.5	+3.0
	1.2nm,0.8s,baz=43,slow=24,SNR=4.3						
BRTR	Keskin Array B	147.07	319	PKPbc	PKPdf	16 45 06.7	+5.2
	1.9nm,0.7s,baz=153,slow=2.8,SNR=6.8						

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*SOF **17** 16:45:06.7, 39.46N×24.28E, h10^{km}, MD3.1*
*THE **17** 16:45:09.5, 39.50N×24.10E, h8^{km}, ML3.7*
*NEIC **17** 16:45:09.9, 39.52N×24.04E, h39^{km}, MD3.7(ATH), After ATH.*
*ATH **17** 16:45:09.9, 39.51N×24.04E, h39^{km}±8^{km}, MD3.7/12*
ISC 17 16:45:08.8±0.6**, 39.51N**±0.02×**24.11E**±0.03**, h12**^{km}±5^{km}**, n46, σ0^{s}99**/56**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NEO	Neokhori	0.72	254	ePB	Pb	16 45 22.6	-0.1
NEO				eSN	Sn	16 45 34.0	-1.4
XOR	Xorichti	0.72	259	ePg	Pg	16 45 23.2	-0.2
XOR				eSg	Sg	16 45 33.6	+0.4
OUR	Ouranopolis	0.83	353	ePg	Pg	16 45 25.2	-0.2
LOS	Limnos	0.86	60	ePg	Pg	16 45 26.1	0.0
LOS				eSg	Sg	16 45 38.1	+0.4
PLG	Polygyros	1.00	330	ePN	Pn	16 45 28.0	-0.6
PLG				eSN	Sn	16 45 42.0	-0.6
LIT	Litokhoron	1.38	296	ePb	Pb	16 45 33.4	-0.6
LIT				eSb	Sb	16 45 53.0	+1.5
MPAR	Parnis Oros	1.39	192	ePB	Pb	16 45 34.0	-0.2
THE	Thessaloniki	1.43	322	ePb	Pb	16 45 34.6	-0.2
THE				eSb	Sb	16 45 54.8	+2.0
SOH	Sokhos	1.43	336	ePb	Pb	16 45 35.1	+0.1
SOH				eSb	Sb	16 45 54.8	+1.7
AGG	Agios Georgios	1.47	251	ePb	Pb	16 45 34.8	-0.7
PTL	Penteli	1.47	188	ePN	Pn	16 45 35.0	-0.3
MKIT	Kithairon Oros	1.48	207	ePN	Pn	16 45 35.0	-0.4
MKIT				eSN	Sn	16 45 54.5	-0.3
ATH	Athens Observa	1.56	191	ePN	Pn	16 45 36.5	-0.1
NSAL	Nisos Salamina	1.68	198	ePn	Pn	16 45 38.0	-0.2
NSAL				eSn	Sn	16 46 03.5	+3.7
PRK	Paraskevi	1.70	98	ePB	Pb	16 45 40.5	+1.0
NAIG	Nisos Aigina	1.81	196	ePN	Pn	16 45 40.0	-0.2
EVR	Evrytania	1.88	252	ePN	Pn	16 45 41.0	-0.2
KNT	Kendrikon	1.89	331	ePb	Pb	16 45 41.6	-1.3
GRG	Griva	1.95	318	ePb	Pb	16 45 42.6	-1.2
RDO	Rodhopi	1.97	33	ePN	Pn	16 45 41.5	-0.8
AYVA	Ayvalik	2.01	95	i P	Pn	16 45 47.9	+4.9
ALN	Alexandroupoli	2.03	46	ePn	Pn	16 45 43.3	+0.1
MMB	Musomiste	2.10	352	P	Pn	16 45 44.0	-0.2
RZN	Rozhen	2.23	12	P	Pn	16 45 46.0	-0.1
MEV	Metsovon	2.24	278	ePn	Pn	16 45 46.4	+0.1
KDZ	Kurdzhali	2.36	25	eP	Pn	16 45 46.0	-2.0
FNA	Florina	2.45	302	ePn	Pn	16 45 49.4	+0.1
KKB	Krupnik	2.48	342	P	Pn	16 45 49.5	-0.2
JAN	Janina	2.52	274	ePN	Pn	16 45 51.5	+1.2
APE	Apeiranthos	2.68	155	ePN	Pn	16 45 52.0	-0.6
KDAG	Bornova	2.70	113	i P	Pn	16 45 49.6	-3.2
DIM	Dimitrovgrad	2.76	23	P	Pn	16 45 53.2	-0.5
SMG	Samos	2.79	129	ePN	Pn	16 45 55.5	+1.3
ITM	Ithomi	2.89	217	ePN	Pn	16 45 56.5	+0.9
VLI	Veliai	2.94	199	ePN	Pn	16 45 57.0	+0.8
VLS	Valsamata	3.05	245	ePN	Pn	16 45 58.5	+0.6
VTS	Vitosha	3.15	348	P	Pn	16 46 00.0	+0.7
SKO	Skopje	3.19	321	i Pn	Pn	16 46 03.2	+3.4
SKO				i		16 46 14.5	
THR5	Thira Island,	3.24	162	ePn	Pn	16 46 00.1	-0.4
THR3	Thira Island,	3.26	161	ePn	Pn	16 46 00.9	+0.1
KEK	Kerkira	3.34	275	ePN	Pn	16 46 04.5	+2.6
PVL	Pavlikeni	3.82	14	P	Pn	16 46 07.0	-1.7
ULDT	Uludag	3.92	79	i P	Pn	16 46 13.6	+3.4
DNZL	Cakiroluk	4.27	114	i P	Pn	16 46 16.4	+1.2
TIP	Timpagrande	5.71	269	ePn	Pn	16 46 33.3	-2.2
TIP				eSn	Sn	16 47 36.3	-5.4
SGKT	Sivrigoynuk	6.19	78	i P	Pn	16 46 43.0	+0.7

BJI 17 17:10:30.8, 24.91N×103.06E, h18^{km}, mb4.0, ML3.5, Ms4.1, Msz3.7, 1D, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KMI	Kunming	0.36	306	⇓ePG	Pb	17 10 35.5	-2.9
KMI				SG	Sb	17 10 40.5	-3.0
KMI				Smax			
	comp=N,3µm,0.5s						
KMI				Smax			
	comp=E,8µm,0.5s						
GYA	Guiyang	3.60	64	P	Pn	17 11 27.1	+0.1
GYA				PG	Pn	17 11 37.3	+10
GYA				S	Sn	17 12 14.0	+4.5
GYA				SG	Sn	17 12 27.3	+18
GYA				Smax			
	comp=N,80nm,0.9s						
GYA				Smax			
	comp=E,50nm,0.9s						

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*TAP **17** 17:30:35.6, 24.78N×122.11E, h6^{km}±1^{km}, ML2.6*
*JMA **17** 17:30:37.2±0.3, 24.97N×122.11E, h33^{km}, M2.3*
ISC 17 17:30:37.0±2.6**, 25.0N**±0.4×**122.1E**±0.3**, h23**^{km}±16^{km}**, n5, σ0^{s}25**/10**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.96	122	P	Pb	17 30 54.6	-0.1
YOJ				S	Sb	17 31 07.0	+0.1
IRIF	Iriomote-Funau	1.59	113	P	Pn	17 31 03.8	-0.4
IRIF				eS	Sn	17 31 24.5	+0.3
HATJ	Hateruma jima	1.78	121	P	Pn	17 31 07.0	+0.1
HATJ				eS	Sn	17 31 28.9	-0.1
JKRS	Kuro-shima	1.87	113	P	Pn	17 31 08.0	-0.1
JKRS				eS	Sn	17 31 31.3	+0.2
JIJ	Ishigaki jima	1.94	108	P	Pn	17 31 09.5	+0.5
JIJ				eS	Sn	17 31 32.5	-0.4

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*NEIC **17** 17:35:24.6±1.1, 9.10S×157.93E, mb4.3/2, Error ellipse: s-maj=34.0km s-min=13.3km az=122.0*
*IDC **17** 17:35:24.4±1.1, 9.03S×157.92E, h12^{km}±3^{km}, mb3.7/7, mb1 4.0/8, mb1mx3.9/13, ML3.9/1, Error ellipse: s-maj=37.9km s-min=18.4km az=126.0*
ISC 17 17:35:23.3±1.2**, 9.1S**±0.2×**157.9E**±0.2**, h14**^{km}**, h14**^{km}±.8^{km}**:pP-P, n12, σ0^{s}61**/12**, mb3.7**/8**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	15.69	224	Pn	P	17 39 06.3	+0.7
	0.3nm,0.3s,baz=255,slow=22,SNR=5.3						
CTAO	Charters Tower	15.69	224	eP	P	17 39 04.5	-1.1
	28nm,1.5s						
WRAB	Tennant Creek	25.17	242	eP	P	17 40 49.9	0.0
	6.7nm,0.9s,mb4.2						
WB2	Warramunga Arr	25.17	242	eP	P	17 40 49.4	-0.5
WRA	Warramunga Arr	25.18	242	P	P	17 40 50.3	+0.4
	2.3nm,0.7s,mb3.8,baz=68,slow=9.4,SNR=16						
WRA				sP	sP	17 40 55.5	-0.6
	2.9nm,0.8s,baz=68,slow=9.7,SNR=9.5						
ASAR	Alice Springs	27.13	235	P	P	17 41 07.3	-0.6
	1.0nm,0.8s,mb3.4,baz=68,slow=9.2,SNR=7.7						
ASAR				sP	sP	17 41 13.8	-0.3
	1.1nm,0.8s,baz=63,slow=10,SNR=6.9						
STKA	Stephens Creek	27.27	211	P	P	17 41 10.0	+0.8
	0.8nm,0.5s,mb3.5,baz=25,slow=16,SNR=2.3						
CMAR	Chiang Mai Arr	64.23	295	P	P	17 46 01.3	+0.8
	0.2nm,0.6s,mb3.4,baz=112,slow=4.9,SNR=1.9						
CMAR				sP	sP	17 46 05.3	-1.4
	0.5nm,0.7s,baz=133,slow=5.1,SNR=2.4						
SONM	Songino Array	72.60	326	P	P	17 46 52.5	+0.4
	0.3nm,0.6s,mb3.4,baz=138,slow=4.0,SNR=3.9						
SONM				pP	pP	17 46 56.5	-0.2
	0.3nm,0.6s,baz=134,slow=4.1,SNR=3.5						
MKAR	Makanchi Array	86.82	318	P	P	17 48 07.7	-0.9
	0.4nm,0.6s,mb3.8,baz=95,slow=6.7,SNR=6.1						
MKAR				pP	pP	17 48 12.7	-0.5
	0.7nm,0.5s,baz=94,slow=6.5,SNR=7.9						
MKAR				sP	sP	17 48 14.2	-0.5
	0.7nm,0.5s,baz=94,slow=6.5,SNR=7.9						
NVAR	Mina Array Bea	90.77	51	P	P	17 48 27.4	-0.2
	1.3nm,0.8s,mb4.3,baz=250,slow=11,SNR=7.1						
NVAR				pP	pP	17 48 32.2	+0.1
	0.8nm,0.7s,baz=223,slow=5.0,SNR=4.7						
NVAR	Mina Array Bea	90.77	51	P	P	17 48 27.4	-0.2
NVAR				pP	pP	17 48 32.2	+0.1

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*IDC **17** 17:50:58.3±1.0, 15.65N×95.89E, mb3.6/6, mb1 3.8/7, mb1mx3.7/17, ML4.2/1, Error ellipse: s-maj=23.2km s-min=20.0km az=59.0*
*NEIC **17** 17:51:00.2±1.0, 15.79N×95.78E, h15^{km}, mb4.1/4, Error ellipse: s-maj=19.6km s-min=11.7km az=208.0*
ISC 17 17:50:57.7±0.8**, 15.80N**±0.08×**95.79E**±0.05**, h10**^{km}**, n21, σ1^{s}04**/21**, mb3.6**/6**, 1D, Near south coast of Myanmar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDT	Bhumibol Dam	3.40	65	PG	Pn	17 51 52.0	+0.1
BDT				SG	Pg	17 52 10.0	+4.5
CM31	Chiang Mai Arr	4.01	48	ePn	Pn	17 52 01.1	+0.6
CM31				Sn	Sn	17 52 47.0	-1.1
CMAR	Chiang Mai Arr	4.01	48	Pn	Pn	17 52 01.1	+0.6
	4.2nm,0.3s,baz=236,slow=15,SNR=112						
CMAR				Lg		17 53 08.2	
	1.7nm,0.3s,baz=229,slow=31,SNR=5.0						
NST	Nakhon Sawan	4.18	91	P	Pn	17 52 03.5	+0.5
CHG	Chiang Mai	4.25	45	P	Pn	17 52 04.4	+0.4
	26nm,0.5s						
NNT	Nongplab	4.98	129	P	Px	17 52 28.0	
CHRT	Chiangrai	5.55	43	⇓P	Pn	17 52 23.0	+0.6
	132nm,0.8s						
NANT	Nan	5.56	57	P	Pn	17 52 22.0	-0.5
	62nm,1.0s						
KKTK	Khon Kaen	6.78	85	P	Px	17 53 03.0	
KKTK				S	Sx	17 54 51.0	
SHL	Shillong	10.38	340	eP	P	17 53 27.0	-2.8
PKI	Pulchoki	15.16	322	eP	P	17 54 33.7	-0.1
	13nm,0.7s						
DMN	Daman	15.37	322	eP	P	17 54 36.8	+0.3
	20nm,0.7s						
KKN	Kakani	15.40	323	eP	P	17 54 36.7	-0.2
GKN	Gorkha	15.94	321	eP	P	17 54 42.3	-1.5
	19nm,0.6s						
KOLN	Koldanda	16.42	319	eP	P	17 54 49.0	-0.9
	18nm,0.6s						
MKAR	Makanchi Array	32.88	343	P	P	17 57 35.2	+1.2
	0.4nm,0.6s,mb3.6,baz=146,slow=10,SNR=3.3						
SONM	Songino Array	33.12	13	P	P	17 57 36.6	+0.6
	0.3nm,0.8s,mb3.3,baz=187,slow=10.0,SNR=4.0						
WRA	Warramunga Arr	51.93	132	P	P	18 00 08.0	-1.2
	1.0nm,0.6s,mb3.9,baz=311,slow=7.6,SNR=25						
ASAR	Alice Springs	54.09	136	P	P	18 00 23.8	-1.3
	0.4nm,0.5s,mb3.6,baz=318,slow=7.3,SNR=8.6						
BRTR	Keskin Array B	58.73	307	P	P	18 00 60.0	+1.8
	0.4nm,0.5s,mb3.7,baz=124,slow=5.2,SNR=3.0						
GERES	GERESS Array B	73.10	317	P	P	18 02 31.7	+1.6
	0.3nm,0.5s,mb3.5,baz=45,slow=6.9,SNR=3.3						

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*THE **17** 17:53:49.7, 40.79N×26.22E, h2^{km}, ML3.3*
*NEIC **17** 17:53:49.7, 40.79N×26.22E, h2^{km}, MD3.3(ATH), ML3.8(THE), After THE.*
*SOF **17** 17:53:50.0, 40.87N×26.11E, h10^{km}, MD2.7*
*ISK **17** 17:53:50.5, 40.92N×26.02E, h5^{km}, MD3.0*
*ATH **17** 17:53:51.2, 40.84N×26.00E, h5^{km}, MD3.3/3*
ISC 17 17:53:51.3±0.4**, 40.88N**±0.03×**25.97E**±0.03**, h2**^{km}**, n28, σ1^{s}02**/35**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ALN	Alexandroupoli	0.06	73	ePg	Pg	17 53 52.5	0.0
ALN				eSg	Sg	17 53 55.7	+2.3
RDO	Rodhopi	0.42	309	ePB	Pb	17 54 00.5	-0.6
RDO				eSB	Sb	17 54 07.0	-0.7
LPK	Lapseki	0.79	130	i PG	Pg	17 54 06.4	-0.6
KDZ	Kurdzhali	0.88	332	Pg	Pg	17 54 10.5	+1.7
EZN	Ezine	1.09	166	i PN	Pn	17 54 13.0	-0.4
EDRB	Edirne	1.13	31	i PG	Pg	17 54 12.0	-1.8
EDRB				SG	Sg	17 54 28.0	-0.9
LOS	Limnos	1.16	216	ePb	Pb	17 54 12.4	-1.5
LOS				eSb	Sb	17 54 30.1	+0.9
DIM	Dimitrovgrad	1.22	344	Pg	Pg	17 54 14.5	-1.1
RZN	Rozhen	1.24	311	P	Pb	17 54 15.2	0.0
EDC	Edincik	1.54	110	PN	Pn	17 54 19.4	-0.4
PLD	Plovdiv	1.55	323	P	Pn	17 54 20.2	+0.1
PLD				Pg	Pg	17 54 22.0	-0.3
OUR	Ouranopolis	1.61	251	ePb	Pb	17 54 20.4	-1.0
PRK	Paraskevi	1.65	172	ePB	Pb	17 54 21.5	-0.6
JMB	Yambol	1.65	16	P	Pn	17 54 21.0	-0.5
MMB	Musomiste	1.83	293	eP	Pn	17 54 24.0	-0.1
CTT	Catalca	1.88	81	PN	Pn	17 54 24.9	+0.1
BALB	Balikesir	1.91	130	ePN	Pn	17 54 26.3	+1.0
SOH	Sokhos	1.99	269	ePn	Pn	17 54 26.3	0.0
SOH				eSn	Sn	17 54 54.4	+2.3
PLG	Polygyros	1.99	256	ePG	Pg	17 54 29.5	-1.5
KNT	Kendrikon	2.34	278	ePn	Pn	17 54 31.4	0.0
ISK	Istanbul-Kandi	2.34	84	ePN	Pn	17 54 32.0	+0.6
PVL	Pavlikeni	2.38	349	P	Pn	17 54 33.0	+1.0
SZH	Strazhica	2.38	359	P	Pn	17 54 36.2	+4.2
KKB	Krupnik	2.39	295	P	Pn	17 54 32.0	0.0
YLV	Yalova	2.60	96	ePN	Pn	17 54 35.7	+0.6
VTS	Vitosha	2.68	310	P	Pn	17 54 38.0	+1.7
GRG	Griva	2.71	273	ePn	Pn	17 54 35.9	-0.8
GRG				eSn	Sn	17 55 12.4	+2.0
FNA	Florina	3.49	270	ePn	Pn	17 54 47.4	-0.3

IDC 17 18:07:28.7±3.2**, 16.55S**×**173.76W, mb4.0**/5**, mb1 4.1**/5**, mb1mx3.9**/17**, Error ellipse: s-maj=69.7km s-min=44.6km az=88.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	23.07	199	P	P	18 12 35.6	-1.4
	2.8nm,0.5s,baz=126,slow=23,SNR=2.4						
STKA	Stephens Creek	43.17	241	eP	P	18 15 31.9	-1.2
	2.7nm,1.0s						
STKA	Stephens Creek	43.17	241	P	P	18 15 32.5	-0.6
	2.3nm,0.7s,baz=109,slow=8.1,SNR=3.9						
WRA	Warramunga Arr	49.25	258	P	P	18 16 19.0	-2.4
	0.3nm,0.4s,baz=94,slow=7.7,SNR=18						
ASAR	Alice Springs	49.43	253	P	P	18 16 20.6	-2.2
	3.5nm,0.6s,baz=89,slow=8.1,SNR=131						
ASPA	Alice Springs	49.44	253	eP	P	18 16 20.4	-2.4
FITZ	Fitzroy Crossi	57.64	259	P	P	18 17 21.2	-2.3
	0.9nm,0.8s,baz=135,slow=16,SNR=1.4						
BRTR	Keskin Array B	146.81	320	PKPbc	PKPbc	18 27 12.6	-0.2
	0.3nm,0.4s,baz=90,slow=1.4,SNR=3.6						

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*SYO **17** 18:20:25.9, 4.68S×125.37E, h465^{km}, MB4.2*
*NEIC **17** 18:20:26.9±0.7, 4.69S×125.27E, h468^{km}±8^{km}, mb4.3/18, Error ellipse: s-maj=12.4km s-min=6.0km az=53.0*
*DJA **17** 18:20:26.8±0.9, 4.88S×125.21E, h459^{km}±19^{km}, mb5.0/4, MD4.8/7, Error ellipse: s-maj=63.6km s-min=22.1km az=158.0*
*IDC **17** 18:20:26.1±1.4, 4.73S×125.27E, h452^{km}±15^{km}, mb3.8/13, mb1 3.9/14, mb1mx3.9/18, Error ellipse: s-maj=25.8km s-min=8.2km az=63.0*
ISC 17 18:20:26.1±0.7**, 4.66S**±0.05×**125.20E**±0.05**, h471**^{km}±8^{km}**, n65, σ0^{s}90**/83**, mb4.2**/27**, 13C-12D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BUNI	Buntu Taipa	4.97	281	⇑ePn	P	18 21 52.6	+0.6
	387nm,0.4s						
BUNI	Buntu Taipa	4.97	281	⇑eP	P	18 21 52.6	+0.6
	386nm,0.3s						
NINI	Niniconang	5.43	272	⇑ePn	P	18 21 57.6	+1.1
	1µm,0.6s						
NINI	Niniconang	5.43	272	⇑eP	P	18 21 57.5	+1.0
	499nm,0.3s						
NINI	Niniconang	5.43	272	⇑eP	P	18 21 57.5	+1.0
TANI	Tanete Lipujan	5.93	282	⇑ePn	P	18 22 01.9	+0.4
TANI	Tanete Lipujan	5.93	282	⇑eP	P	18 22 01.9	+0.4
KEDI	Kedomdong	9.79	247	⇓iPn	P	18 22 43.3	+0.7
	174nm,0.3s						
KEDI				eSn	S	18 24 36.4	+5.2
KEDI	Kedomdong	9.79	247	⇓eP	P	18 22 43.3	+0.7
RATI	Rata	10.41	247	⇓iPn	P	18 22 47.7	-1.6
RATI				eSn	S	18 24 43.7	+0.3
RATI	Rata	10.41	247	⇓eP	P	18 22 48.1	-1.2
RATI				eS	S	18 24 42.1	-1.3
RATI	Rata	10.41	247	⇓eP	P	18 22 48.1	-1.2
RATI				eS	S	18 24 42.1	-1.3
RATI				eSn	S	18 24 43.7	+0.3
KAKA	Kakadu	10.69	139	eP	P	18 22 52.5	+0.2
	21nm,0.4s						
KAKA				eS	S	18 24 42.9	-6.0
INGI	Ingas	10.80	247	⇑iPn	P	18 22 53.8	+0.3
	785nm,0.3s						
INGI				eSn	S	18 24 51.6	+0.4
INGI	Ingas	10.80	247	⇑iP	P	18 22 53.8	+0.3
	477nm,0.3s						
INGI				eS	S	18 24 51.9	+0.7
INGI	Ingas	10.80	247	⇑iPn	P	18 22 53.8	+0.3
INGI				eSn	S	18 24 51.6	+0.4
INGI				eS	S	18 24 51.9	+0.7
KELI	Kelakatan	11.21	251	⇑ePn	P	18 22 58.8	+0.9
	172nm,0.3s						
KELI				eSn	S	18 24 57.8	-1.4
KELI	Kelakatan	11.21	251	⇓eP	P	18 22 58.9	+1.0
	110nm,0.2s						
KELI				eS	S	18 24 58.3	-0.9
KELI	Kelakatan	11.21	251	⇑ePn	P	18 22 58.8	+0.9
KELI				eSn	S	18 24 57.8	-1.4
KELI				eS	S	18 24 58.3	-0.9
FITZ	Fitzroy Crossi	13.36	178	⇓iP	P	18 23 19.7	-1.0
	107nm,0.3s						
FITZ				eS	S	18 25 40.3	-0.8
FITZ	Fitzroy Crossi	13.36	178	P	P	18 23 19.7	-1.0
	38nm,0.3s,baz=10.0,slow=8.8,SNR=1732						
FITZ				S	S	18 25 40.6	-0.4
	2.4nm,0.3s,baz=180,slow=20,SNR=14						
MBWA	Marble Bar	17.24	197	eP	P	18 23 59.8	-0.4
	35nm,0.6s						
WRAB	Tennant Creek	17.60	150	eP	P	18 24 02.7	-1.0
	63nm,0.6s						
WRA	Warramunga Arr	17.60	150	P	P	18 24 02.8	-1.0
	7.2nm,0.3s,baz=332,slow=9.9,SNR=220						
WRA				S	S	18 27 01.5	+1.9
	0.5nm,0.3s,baz=328,slow=17,SNR=11						
WB2	Warramunga Arr	17.61	150	eP	P	18 24 02.8	-1.0
WB2				eS	S	18 27 01.6	+1.9
ASPA	Alice Springs	20.67	157	⇓iP	P	18 24 33.4	+0.1
ASPA				eS	S	18 27 53.1	+0.9
ASAR	Alice Springs	20.67	157	P	P	18 24 33.1	-0.1
	21nm,0.5s,baz=343,slow=15,SNR=401						
ASAR				S	S	18 27 53.5	+1.2
	4.7nm,0.9s,baz=346,slow=21,SNR=5.4						
CTA	Charters Tower	25.59	129	P	P	18 25 19.2	+1.0
	2.8nm,0.7s,mb3.8,baz=267,slow=8.6,SNR=2.1						
CTA				PcP	PcP	18 28 32.0	-2.4
	5.7nm,0.7s,baz=133,slow=5.9,SNR=6.5						
CTA				ScP		18 31 32.0	
	1.6nm,0.6s,baz=288,slow=13,SNR=3.0						
FORT	Forrest	26.12	174	⇓iP	P	18 25 21.9	-0.9
	196nm,0.5s						
MUN	Mundaring	28.45	196	⇓iP	P	18 25 42.3	-1.0
	14nm,0.6s,mb4.6						
NWAO	Narrogin (SRO)	29.09	194	P	P	18 25 48.1	-0.7
	12nm,0.6s,mb4.5,baz=20,slow=8.5,SNR=23						
NWAO	Narrogin (SRO)	29.09	194	eP	P	18 25 47.5	-1.3
	9.6nm,0.8s,mb4.3						
STKA	Stephens Creek	31.13	152	⇓iP	P	18 26 06.0	-0.5
	13nm,0.4s,mb4.7						
STKA				eS	S	18 30 37.3	-1.3
STKA	Stephens Creek	31.13	152	P	P	18 26 06.0	-0.4
	20nm,0.5s,mb4.8,baz=325,slow=8.5,SNR=100						
STKA				PcP	PcP	18 28 47.3	-0.8
	1.1nm,0.4s,baz=336,slow=21,SNR=2.7						
STKA				ScP		18 31 46.8	
	0.7nm,0.5s,baz=336,slow=8.7,SNR=2.9						
CMAR	Chiang Mai Arr	34.61	312	P	P	18 26 37.1	+1.3
	1.3nm,0.5s,mb3.6,baz=136,slow=7.0,SNR=11						
CMAR				PcP	PcP	18 28 59.1	+1.1
	2.7nm,1.0s,baz=172,slow=2.6,SNR=9.2						
CMAR				ScP		18 32 01.7	
	0.9nm,0.8s,baz=160,slow=3.5,SNR=5.1						
ARMA	Armidale	35.74	139	eP	P	18 26 46.1	+0.9
TOO	Toolangi	37.64	153	⇓iP	P	18 27 02.1	+1.3
	6.7nm,0.5s,mb4.3						
MAJO	Matsushiro	42.76	15	eP	P	18 27 40.2	-2.0
	4.0nm,0.8s,mb3.9						
MDJ	Mudanjiang	49.21	4	eP	P	18 28 30.9	-1.0
	5.8nm,0.7s,mb4.0						
PKI	Pulchoki	50.01	312	eP	P	18 28 38.4	+0.3
KKN	Kakani	50.22	312	eP	P	18 28 40.3	+0.6
	13nm,1.2s,mb4.1						
GKN	Gorkha	50.82	312	eP	P	18 28 43.3	-0.8
	5.2nm,0.4s,mb4.2						
KOLN	Koldanda	51.46	311	eP	P	18 28 48.4	-0.4
	3.5nm,0.5s,mb3.9						
SONM	Songino Array	54.83	345	P	P	18 29 13.2	+0.6
	1.3nm,0.9s,mb3.3,baz=166,slow=8.0,SNR=10						
SONM				PcP	PcP	18 30 07.7	-0.2
	0.8nm,0.6s,baz=161,slow=4.0,SNR=6.8						
SONM				ScP		18 33 23.6	
	0.3nm,0.8s,baz=117,slow=5.5,SNR=3.7						
RPZ	Rata Peaks	56.01	141	P	P	18 29 20.9	-0.1
	31nm,0.7s,mb4.8,baz=211,slow=1.9,SNR=9.7						
URZ	Urewera	57.73	133	P	P	18 29 31.7	-1.1
	2.8nm,0.3s,mb4.0,baz=245,slow=4.3,SNR=5.6						
MKAR	Makanchi Array	63.71	329	P	P	18 30 12.1	-0.1
	2.3nm,0.5s,mb4.0,baz=124,slow=7.9,SNR=31						
MKAR				PcP	PcP	18 30 43.7	+0.2
	2.1nm,0.5s,baz=122,slow=4.6,SNR=11						
MKAR	Makanchi Array	63.71	329	P	P	18 30 12.1	-0.1
MKAR				PcP	PcP	18 30 43.7	+0.2
ZRNK	Zerenda	74.26	329	eP	P	18 31 15.2	-0.3
	3.5nm,0.7s,mb4.0						
MAW	Mawson	75.41	201	P	P	18 31 22.0	+0.5
	1.0nm,0.6s,mb3.6,baz=61,slow=7.4,SNR=8.8						
MAW	Mawson	75.41	201	eP	P	18 31 20.4	-1.2
	1.7nm,0.6s,mb3.8						
SBA	Scott Base	76.30	172	eP	P	18 31 25.8	-0.5
	2.1nm,0.7s,mb3.8						
UMR	Umm Al-Rimmam	81.46	301	eP	P	18 31 55.8	+1.3
UMR				AMb	AMB	18 31 57.2	
	comp=Z,9.0nm,0.5s,mb4.5						
MIB	Mutribah	81.82	301	eP	P	18 31 57.6	+1.2
MIB				AMb	AMB	18 31 58.3	
	comp=Z,11nm,0.6s,mb4.5						
RST	Umm Al-Ruwaisa	82.06	301	eP	P	18 31 57.9	+0.3
RST				AMb	AMB	18 31 58.7	
	comp=Z,17nm,0.6s,mb4.8						
SYO	Syowa Base	84.10	201	⇑P	P	18 32 07.5	+0.6
QSPA	South Pole Qui	85.30	180	eP	P	18 32 12.9	+0.3
	comp=Z,6.0nm,0.7s,mb4.3						
BRTR	Keskin Array B	94.15	309	P	P	18 32 54.8	0.0
	comp=Z,0.6nm,0.6s,mb3.8,baz=135,slow=7.0,SNR=3.9						
SNAA	Sanae	96.76	195	eP	P	18 33 06.3	+0.5
	comp=Z,3.3nm,1.2s,mb4.4						
AKASG	Malin Array Be	97.37	320	P	P	18 33 08.6	-0.4
	comp=Z,0.6nm,0.4s,mb4.2,baz=68,slow=4.7,SNR=5.6						
ARCES	ARCESS Array B	97.74	340	P	P	18 33 10.5	+0.3
	comp=Z,2.9nm,0.8s,mb4.7,slow=8.5,SNR=4.6						
INK	Inuvik	98.48	22	P	P	18 33 12.5	-1.1
	comp=Z,2.7nm,1.0s,mb4.5						
SCHQ	Schefferville	129.04	9	PKP	PKPdf	18 38 41.4	+1.8
	comp=Z,3.8nm,0.8s,baz=215,slow=17,SNR=2.9						
DBIC	Dimbokro	130.28	275	PKP	PKPdf	18 38 46.1	+3.0
	comp=Z,2.8nm,0.6s,baz=145,slow=5.5,SNR=4.1						
CPUP	Villa Florida	149.09	176	PKPbc	PKPdf	18 39 22.5	+6.5
	comp=Z,1.5nm,0.7s,baz=235,slow=2.5,SNR=4.9						

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*SYO **17** 18:22:19.9, 34.35S×179.15E, h231^{km}, MB4.1*
*NEIC **17** 18:22:21.2±2.2, 34.42S×179.04E, h230^{km}±14^{km}, mb4.3/3, Error ellipse: s-maj=29.6km s-min=24.5km az=65.0*
ISC 17 18:22:15.9±1.0**, 34.00S**±0.08×**179.1E**±0.2**, h206**^{km}±11^{km}**, n62, σ1^{s}39**/80**, mb4.2**/3**, 6C-3D, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	3.62	190	P	P	18 23 14.0	+0.1
MXZ				S	S	18 23 59.9	+1.1
MXZ	Matakaoa Point	3.62	190	P	P	18 23 13.5	-0.4
MXZ				S	S	18 23 59.9	+1.1
PUZ	Puketiti	4.13	190	P	P	18 23 19.6	-0.6
PUZ				S	S	18 24 10.7	+0.8
PUZ	Puketiti	4.13	190	eP	P	18 23 20.1	-0.1

PUZ				S	S	18 24 10.7	+0.8
MWZ	Matawai	4.52	196	P	P	18 23 25.5	+0.4
MWZ				S	S	18 24 21.5	+2.8
MWZ	Matawai	4.52	196	*e*P	P	18 23 25.5	+0.4
URZ	Urewera	4.56	200	P	P	18 23 26.2	+0.6
URZ	Urewera	4.56	200	*e*P	P	18 23 26.3	+0.7
KNZ	Kokohu	5.15	193	P	P	18 23 32.4	-0.7
KNZ	Kokohu	5.15	193	*e*P	P	18 23 32.4	-0.7
BKZ	Black Stump Fm	5.58	202	P	P	18 23 40.3	+1.7
BKZ				S	S	18 24 44.4	+1.5
BKZ	Black Stump Fm	5.58	202	*e*P	P	18 23 40.4	+1.8
MGZ	Maungaku	5.78	209	P	P	18 23 45.0	+3.9
CNZ	Chateau	5.94	208	P	P	18 23 44.8	+1.6
CNZ	Chateau	5.94	208	*e*P	P	18 23 45.1	+1.9
MOVZ	Moawhango	6.05	206	*e*P	P	18 23 45.9	+1.3
PWZ	Pawanui	6.29	196	P	P	18 23 45.2	-2.6
PWZ				S	S	18 24 58.4	-0.9
PWZ	Pawanui	6.29	196	*e*P	P	18 23 45.9	-1.9
PWZ				S	S	18 24 58.6	-0.7
TSZ	Takapari Road	6.56	202	P	P	18 23 51.4	+0.1
TSZ				S	S	18 25 05.3	-0.3
TSZ	Takapari Road	6.56	202	*e*P	P	18 23 51.4	+0.1
WAZ	Wanganui	6.64	209	P	P	18 23 54.7	+2.4
BFZ	Birch Farm	7.06	198	P	P	18 23 57.4	-0.3
BFZ	Birch Farm	7.06	198	*e*P	P	18 23 57.4	-0.3
MRZ	Mangatainoka R	7.23	202	P	P	18 23 58.6	-1.4
MRZ				S	S	18 25 19.4	-1.8
MRZ	Mangatainoka R	7.23	202	*e*P	P	18 23 58.6	-1.4
KIW	Kapiti Island	7.63	205	P	P	18 24 04.6	-0.6
KIW				S	S	18 25 30.7	+0.1
KIW	Kapiti Island	7.63	205	*e*P	P	18 24 04.4	-0.8
MTW	Mount Morrison	7.71	201	P	P	18 24 05.3	-0.9
MTW				S	S	18 25 33.0	+0.6
MTW	Mount Morrison	7.71	201	*e*P	P	18 24 04.5	-1.7
CAW	Cannon Point	7.80	203	P	P	18 24 06.2	-1.2
CAW				S	S	18 25 35.9	+1.4
CAW	Cannon Point	7.80	203	*e*P	P	18 24 05.6	-1.8
MRW	Makara Radio	8.03	205	P	P	18 24 09.6	-0.8
MRW	Makara Radio	8.03	205	*e*P	P	18 24 09.6	-0.8
SNZO	South Karori	8.10	204	Pn	P	18 24 10.2	-1.1
SNZO				*e*Sn	S	18 25 40.0	-1.5
NNZ	Nelson	8.53	211	P	P	18 24 15.8	-1.1
NNZ				S	S	18 25 53.0	+1.5
NNZ	Nelson	8.53	211	*e*P	P	18 24 15.6	-1.3
NNZ				S	S	18 25 53.0	+1.5
QRZ	Quartz Range	8.61	216	P	P	18 24 18.0	+0.1
QRZ				S	S	18 25 57.4	+4.2
BSWZ	Blackbirch Sta	8.76	207	*e*P	P	18 24 18.9	-0.9
THZ	Tophouse	9.18	211	P	P	18 24 24.3	-1.0
THZ				S	S	18 26 07.4	+0.8
THZ	Tophouse	9.18	211	*e*P	P	18 24 23.9	-1.4
THZ				S	S	18 26 07.4	+0.8
KHZ	Kahutara	9.49	206	S	S	18 26 09.9	-3.7
LTZ	Lake Taylor	10.29	210	P	P	18 24 38.8	-0.8
LTZ	Lake Taylor	10.29	210	*e*P	P	18 24 38.7	-0.9
MQZ	McQueen's Vall	10.93	206	P	P	18 24 45.5	-2.3
MQZ				S	S	18 26 44.2	-2.9
MQZ	McQueen's Vall	10.93	206	*e*P	P	18 24 45.0	-2.8
WVZ	Waitaha Valley	11.20	213	P	P	18 24 52.6	+1.4
ODZ	Otahua Downs	12.82	208	*e*P	P	18 25 10.3	-1.5
CTAO	Charters Tower	32.24	287	P	P	18 28 28.2	+1.2
	11nm,0.9s,mb4.4						
WAU	Wau	39.97	304	*e*P	P	18 29 46.4	+14
SBA	Scott Base	44.29	184	P	P	18 30 10.0	+3.8
	3.9nm,1.0s,mb3.7						
QSPA	South Pole Qui	56.12	180	*e*P	P	18 31 41.3	+6.0
	8.5nm,0.7s,mb4.4						
SYO	Syowa Base	73.06	194	⇑P	P	18 33 22.7	-1.7
SYO	Syowa Base	73.06	194	⇑PcP	PcP	18 33 34.3	-5.9
SNAA	Sanae	74.62	179	⇓*i*	P	18 33 33.4	0.0
SNAA	Sanae	74.62	179	⇑*i*	P	18 33 37.8	+4.4
VNA3	Neumayer Olymp	74.87	177	⇑*i*	P	18 33 39.9	+5.1
VNA3	Neumayer Olymp	74.87	177	⇓*i*	P	18 33 42.2	+7.4
VNA2	Neumayer--Watz	75.27	178		P	18 33 40.3	+3.2
VNA2	Neumayer--Watz	75.27	178	⇑*i*	P	18 33 44.7	+7.6
VNA1	Neumayer--Stat	75.52	177	⇑*i*	P	18 33 41.3	+2.8
VNA1	Neumayer--Stat	75.52	177	⇓*i*	P	18 33 45.1	+6.6
KAF	Kangasniemi	147.00	337	*e*p	PKPdf	18 41 31.4	+0.6
	0.3nm,0.4s						

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*IDC **17** 18:28:48.4±1.6,3.60S×136.89E,mb3.6/4,mb1 4.0/7, mb1mx3.9/12,ML3.7/3,MS3.2/1,Ms1 3.2/1,ms1mx2.5/10, Error ellipse: s-maj=52.3km s-min=21.2km az=78.0*

*NEIC **17** 18:28:49.9±0.8,3.65S×136.88E,h10^{km},mb3.9/4,Error ellipse: s-maj=20.4km s-min=10.1km az=75.0*

ISC 17 18:28:55.9±3.2,**3.78S**±0.09×**137.0E**±0.2,**h85**^{km}±32^{km}, **n14,**σ**0^{s}60**/15,**mb3.5**/4,**Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	Kakadu	9.95	207	*e*P	P	18 31 18.6	+0.7
	6.8nm,0.5s						
WRAB	Tennant Creek	16.26	189	*e*P	P	18 32 40.9	+0.4
	7.6nm,0.7s						
WB2	Warramunga Arr	16.27	189	*e*P	P	18 32 39.2	-1.3
WRA	Warramunga Arr	16.27	189	Pn	P	18 32 40.0	-0.6
	0.2nm,0.3s,baz=9.1,slow=12,SNR=8.2						
WRA				Sn	S	18 35 37.9	0.0
	0.1nm,0.3s,baz=0.2,slow=24,SNR=1.1						
FITZ	Fitzroy Crossi	18.05	217	*e*P	P	18 33 02.5	-0.2
	1.6nm,0.4s						
FITZ				*e*S	Sx	18 36 00.8	
FITZ	Fitzroy Crossi	18.05	217	P	P	18 33 02.3	-0.4
	0.2nm,0.3s,baz=33,slow=11,SNR=6.7						
CTA	Charters Tower	18.56	152	P	P	18 33 09.1	+0.6
	0.2nm,0.3s,baz=5.5,slow=14,SNR=3.7						
CTA	Charters Tower	18.56	152	P	P	18 33 09.1	+0.6
CTAO	Charters Tower	18.56	152	*e*P	P	18 33 08.7	+0.2
	7.0nm,0.7s						
ASAR	Alice Springs	19.99	188	P	P	18 33 24.6	+0.6
	3.2nm,0.7s,baz=13,slow=10,SNR=17						
ASAR				LR	LR	18 42 29.3	
	comp=Z,62nm,18.8s,baz=19,slow=41						
MBWA	Marble Bar	24.08	223	*e*P	P	18 34 04.5	0.0
	3.9nm,0.9s,mb3.7						
CMAR	Chiang Mai Arr	43.50	302	P	P	18 36 53.5	+0.6
	0.8nm,0.8s,mb3.5,baz=101,slow=4.6,SNR=3.6						
SONM	Songino Array	57.97	336	P	P	18 38 41.8	0.0
	0.3nm,1.0s,mb3.3,baz=153,slow=9.7,SNR=2.5						
MKAR	Makanchi Array	69.59	323	P	P	18 39 57.2	-0.6
	0.9nm,0.9s,mb3.6,baz=112,slow=7.8,SNR=5.8						

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*MOS **17** 18:58:02.7±1.5,62.85N×51.26E,h11^{km},mb3.5/3,Error ellipse: s-maj=13.4km s-min=6.9km az=113.4*

MOS Felt (III-IV) at Rakpas; (II) at Trakt, Emba. , - 2.

*NAO **17** 18:58:04.8±4.0,62.81N×50.92E,ML3.8*

*NEIC **17** 18:58:04.8±0.7,62.83N×51.50E,h10^{km},MG3.5(MOS), Error ellipse: s-maj=14.4km s-min=6.5km az=221.0*

NEIC Felt [IV] at Rakpas; [III] at Emba and Trakt.

*IDC **17** 18:58:07.4±1.1,62.56N×50.86E,mb3.4/3,mb1 3.8/8, mb1mx3.7/19,ML4.0/5,MS2.9/1,Ms1 3.0/1,ms1mx2.2/25, Error ellipse: s-maj=24.4km s-min=9.9km az=25.0*

*HEL **17** 18:58:15.3±0.3,62.86N×50.07E,h10^{km},ML3.6*

ISC 17 18:58:02.0±0.5,**62.81N**±0.05×**51.3E**±0.1,**h10**^{km}**,n43,** σ**1^{s}13**/45,**mb3.2**/3,**Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SYKR	Syktyvkar	1.16	191	*i* P	Px	18 58 29.2	
SYKR				*i*	Sn	18 58 42.0	+1.7
PRGR	Permogore	2.90	249	P	Pg	18 58 54.9	-4.9
PRGR				*e*	Sn	18 59 24.3	0.0
PR1R	Pomanovo	4.51	141	P	Pn	18 59 13.4	+1.4
ARU	Arti	7.38	147	*i* P	Pn	18 59 52.2	-0.3
LVZ	Lovozero	8.60	314	*i* P	P	19 00 12.7	+3.2
APA	Apatity	8.88	310	*i* P	P	19 00 14.3	+0.9
APA				*e*		19 01 52.0	
APA0	Apatity Array	9.04	310	Pn	P	19 00 14.3	-1.3
	baz=123,slow=12						
APA0				Sn	Sn	19 01 51.9	-6.6
	baz=130,slow=22						
MSF	Maaselka	10.10	298	*e*P	P	19 00 31.3	+1.3
MSF				*e*S	Sx	19 02 14.2	
MSF				MSN		19 02 20.8	
	comp=Z,14nm,0.3s						
MSF	Maaselka	10.10	298	*e*P	P	19 00 31.0	+1.0
KJN	Kajaani	10.61	287	*e*P	P	19 00 37.6	+0.7
KJN				*e*S	Sx	19 02 25.6	
KJN				MSN		19 02 32.8	
	comp=Z,12nm,0.3s						
OBN	Obninsk	10.80	231	*i* P	P	19 00 37.7	-1.9
OUL	Oulu	11.36	293	*e*P	P	19 00 47.1	-0.1
OUL				*e*S	Sx	19 02 43.3	
OUL				MSN		19 02 50.4	
	comp=Z,9.3nm,0.3s						
SGF	Sodankyl	11.36	305	*e*P	P	19 00 47.1	-0.1
SGF				*e*S	Sx	19 02 44.9	
SGF				MSN		19 02 51.7	
	comp=Z,6.4nm,0.3s						
VJF	Virojoki	11.47	269	*e*P	P	19 00 47.6	-1.1
VJF				*e*S	Sx	19 02 45.8	
SUF	Sumiainen	11.49	281	*e*P	P	19 00 48.4	-0.6
SUF				*e*S	Sx	19 02 46.5	
SUF				MSN		19 02 55.8	
	comp=Z,4.4nm,0.3s						
KAF	Kangasniemi	11.55	278	*e*P	P	19 00 50.0	+0.1
KAF				*e*S	Sx	19 02 48.0	
KAF				MSN		19 02 54.0	
	comp=Z,7.3nm,0.3s						
FIA0	FINESS Array S	11.85	275	Pn	P	19 00 52.0	-1.8
	baz=88,slow=12						
FIA0				Sn	Sx	19 02 54.6	
	baz=76,slow=22						
FIA0	FINESS Array S	11.85	275	*e*P	P	19 00 52.8	-1.0
FIA0				*e*S	Sx	19 02 54.5	
FIA0				MSN		19 02 59.4	
	comp=Z,4.6nm,0.2s						
FINES	FINESS Array B	11.85	275	Pn	P	19 00 53.0	-0.8
	comp=Z,0.5nm,0.3s,baz=87,slow=12,SNR=22						
FINES				Sn	Sx	19 02 55.8	
	comp=Z,2.3nm,0.3s,baz=65,slow=23,SNR=13						
FINES				Lg		19 04 15.1	
	baz=74,slow=25,SNR=1.9						
FINES	FINESS Array B	11.85	275	Pn	P	19 00 53.0	-0.8
FINES				Sn	Sx	19 02 55.8	
FINES				Lg		19 04 15.1	
KEV	Kevo	11.91	316	*e*P	P	19 00 55.3	+0.6
KEV				*e*S	Sx	19 02 59.7	
KEV				MSN		19 03 06.5	
	comp=Z,10.0nm,0.3s						
KEF	Keuruu	12.19	279	*e*P	P	19 00 57.8	-0.7
KEF				*e*S	Sx	19 03 02.9	
PVF	Pernaja	12.25	271	*e*P	P	19 00 58.5	-0.8
PVF				*e*S	Sx	19 03 04.1	
PVF				MSN		19 03 09.7	
	comp=Z,5.9nm,0.3s						
ARA0	ARCESS Array S	12.32	314	P	P	19 01 00.1	-0.1
	baz=111,slow=14						
ARA0				Sn	Sx	19 03 08.7	
	baz=115,slow=28						
ARCES	ARCESS Array B	12.32	314	Pn	P	19 01 00.3	+0.2
	comp=Z,1.6nm,0.3s,baz=112,slow=15,SNR=42						
ARCES				Sn	Sx	19 03 09.7	
	comp=Z,2.4nm,0.3s,baz=111,slow=23,SNR=8.1						
ARCES	ARCESS Array B	12.32	314	P	P	19 01 00.3	+0.2
ARCES						19 03 09.7	
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ARE0	ARCESS Array S	12.32	314	*e*Pn	P	19 01 00.4	+0.3
ZRNK	Zerenda	13.60	128	*e*Pn	P	19 01 15.1	-2.0
	comp=Z,1.6nm,0.5s						
KIF	Kilpisjarvi	13.78	310	*e*P	P	19 01 19.9	+0.7
KIF				*e*S	Sx	19 03 42.7	
BRVK	Borovoye	13.99	126	*e*P	P	19 01 22.0	-0.2
BVAR	Borovoye Array	14.05	125	Pn	P	19 01 22.2	-0.8
	comp=Z,1.6nm,0.3s,baz=328,slow=12,SNR=18						
BVAR				Sn	Sx	19 03 44.6	
	comp=Z,1.7nm,0.3s,baz=322,slow=24,SNR=11						
HFS	Hagfors	17.98	278	P	P	19 02 11.4	-1.8
	baz=77,slow=8.6						
HFS	Hagfors	17.98	278	Pn	P	19 02 11.3	-1.9
	comp=Z,0.1nm,0.3s,baz=77,slow=13,SNR=12						
HFS				Sn	Sx	19 05 20.2	
	comp=Z,0.2nm,0.3s,baz=77,slow=26,SNR=6.7						
NB2	NORSAR Subarra	18.73	283	P	P	19 02 21.4	-1.1
NOA	NORSAR Array B	18.73	283	P	P	19 02 24.0	+1.5
	comp=Z,0.4nm,0.3s,baz=76,slow=9.6,SNR=1.9						
NOA				Sn	Sx	19 05 38.8	
	comp=Z,0.3nm,0.3s,baz=72,slow=19,SNR=3.3						
NOA				LR	LR	19 09 22.5	
	comp=Z,39nm,20.7s,baz=285,slow=36						
SPA0	Spitsbergen Ar	18.77	338	P	P	19 02 23.4	+0.4
	baz=131,slow=14						
SPITS	Spitsbergen Ar	18.77	338	*i* P	P	19 02 23.4	+0.5
MKAR	Makanchi Array	23.67	118	P	P	19 03 21.1	+7.1
	comp=Z,0.6nm,0.5s,mb3.3,baz=327,slow=9.3,SNR=10						
MKAR	Makanchi Array	23.67	118	P	P	19 03 21.1	+7.1
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
GERES	GERESS Array B	24.86	253	P	P	19 03 28.4	+2.9
	comp=Z,0.5nm,0.6s,mb3.2,baz=50,slow=10,SNR=4.7						
GERES	GERESS Array B	24.86	253	P	P	19 03 28.4	+2.9
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRTR	Keskin Array B	25.44	213	P	P	19 03 33.2	+2.0
	comp=Z,0.6nm,0.7s,mb3.2,baz=30,slow=12,SNR=3.0						
BRTR	Keskin Array B	25.44	213	P	P	19 03 33.2	+2.1
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						

WEL 17 19:13:00.4±0.2,**37.64S**×**177.12E,h131**^{km}±1^{km}**,ML3.6**/4, **4C-1D,Error ellipse: s-maj=1.1km s-min=0.9km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	Urewera	0.62	181	⇑PN	P	19 13 20.3	-0.1
URZ				SN	S	19 13 35.4	-0.4
MWZ	Matawai	0.77	155	⇑PN	P	19 13 21.5	0.0
MWZ				SN	S	19 13 37.7	+0.1
MXZ	Matakaoa Point	0.94	86	⇑PN	P	19 13 22.9	-0.1
MXZ				SN	S	19 13 39.8	-0.6
PUZ	Puketiti	1.00	116	⇑PN	P	19 13 23.2	-0.4
PUZ				SN	S	19 13 41.0	-0.3
KUZ	Kuaotunu	1.43	308	⇓PN	P	19 13 27.7	-0.5
KNZ	Kokohu	1.45	163	PN	P	19 13 28.0	-0.4
KNZ				SN	S	19 13 48.2	-1.6
BKZ	Black Stump Fm	1.60	198	PN	P	19 13 29.3	-0.8
BKZ				SN	S	19 13 52.2	-0.6
MOVZ	Moawhango	2.07	211	PN	P	19 13 35.3	-0.4
PWZ	Pawanui	2.39	185	PN	P	19 13 38.5	-1.4
PWZ				SN	S	19 14 07.1	-2.9
TSZ	Takapari Road	2.58	200	PN	P	19 13 40.7	-1.7
TSZ				SN	S	19 14 12.0	-2.2
BFZ	Birch Farm	3.11	192	PN	P	19 13 46.9	-2.4
MRZ	Mangatainoka R	3.25	201	PN	P	19 13 48.2	-2.9
MRZ				SN	S	19 14 25.4	-4.4
NNZ	Nelson	4.60	218	SN	S	19 14 57.4	-4.7
THZ	Tophouse	5.25	217	PN	P	19 14 14.0	-3.8
THZ				SN	S	19 15 12.4	-5.3
MQZ	McQueen's Vall	6.95	208	SN	S	19 15 47.3	-11

IDC 17 19:19:46.9±51.0,**17.70S**×**175.31W,mb3.6**/3,**mb1 3.8**/3, **mb1mx3.6**/14,**MS3.4**/1,**Ms1 3.4**/1,**ms1mx2.8**/21,**Error ellipse: s-maj=963.0km s-min=171.5km az=80.0,Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	Urewera	21.54	196	LR	LR	19 31 55.7	
	comp=Z,118nm,21.1s,baz=292,slow=34						
STKA	Stephens Creek	41.32	242	P	P	19 27 34.2	-1.8
	0.4nm,0.4s,baz=112,slow=16,SNR=2.5						
WRA	Warramunga Arr	47.57	259	P	P	19 28 23.9	-2.6
	0.3nm,0.6s,baz=96,slow=7.1,SNR=5.6						
ASAR	Alice Springs	47.69	254	P	P	19 28 26.2	-1.2
	0.9nm,0.4s,baz=88,slow=8.5,SNR=23						

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*IDC **17** 19:20:26.7±0.6,53.06S×27.11E,mb4.2/9,mb1 4.3/9, mb1mx4.2/15,MS3.0/1,Ms1 3.0/1,ms1mx2.9/14,Error ellipse: s-maj=29.1km s-min=18.2km az=44.0*

*NEIC **17** 19:20:28.4±0.5,52.89S×27.21E,h10^{km},mb4.5/7,Error ellipse: s-maj=19.3km s-min=11.3km az=70.0*

ISC 17 19:20:27.7±0.5,**52.75S**±0.08×**27.7E**±0.2,**h10**^{km}**,n24,** σ**1^{s}40**/20,**mb4.3**/14,**MS2.8**/1,**3C-1D,South of Africa**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SUR	Sutherland	20.95	344	P	P	19 25 14.9	+1.9
	11nm,0.8s,baz=210,slow=8.7,SNR=3.4						
SUR				LR	LR	19 32 26.2	
	comp=Z,44nm,20.5s,MS2.8,baz=148,slow=34						
MAW	Mawson	22.52	145	P	P	19 25 28.2	-0.1
	6.2nm,0.8s,mb4.1,baz=291,slow=13,SNR=15						
MAW	Mawson	22.52	145	*e*P	P	19 25 29.7	+1.3
	6.6nm,0.9s,mb4.1						
SNAA	Sanae	23.23	204	⇑*i*	P	19 25 35.3	0.0
SNAA	Sanae	23.23	204	*e*P	P	19 25 34.2	-1.1
	17nm,0.9s,mb4.5						
VNA2	Neumayer--Watz	24.02	208	⇑*i*	P	19 25 45.9	+3.0
VNA1	Neumayer--Stat	24.13	209	⇑*i*	P	19 25 46.2	+2.2
VNA3	Neumayer Olymp	24.82	208	⇓*i*	P	19 25 51.9	+1.2
TSUM	Tsumeb	34.39	343	P	P	19 27 16.9	0.0
	1.9nm,0.8s,mb4.1,baz=139,slow=11,SNR=3.4						
LSZ	Lusaka	37.38	1	*e*P	P	19 27 41.2	-1.2
	2.5nm,0.7s,mb4.2						
QSPA	South Pole Qui	37.47	180	*e*P	P	19 27 40.5	-2.0
	9.0nm,0.9s,mb4.6						
CASY	Casey	40.83	142	*e*P	P	19 28 11.4	+0.9
	10nm,0.7s,mb4.6						
SBA	Scott Base	47.26	169	P	P	19 28 59.6	-2.5
	2.1nm,0.8s,mb4.1						
CPUP	Villa Florida	66.56	257	P	P	19 31 16.1	-3.8
	6.6nm,1.1s,mb4.6,baz=135,slow=5.7,SNR=11						
BDFB	Brasilia	69.05	272	P	P	19 31 33.1	-2.5
	1.6nm,0.5s,mb4.2,baz=62,slow=9.5,SNR=3.6						
STKA	Stephens Creek	78.02	127	P	P	19 32 27.6	-0.1
	2.4nm,0.9s,mb4.1,baz=202,slow=12,SNR=4.6						
ASAR	Alice Springs	80.73	117	P	P	19 32 42.5	+0.1
	2.3nm,0.7s,mb4.2,baz=210,slow=4.8,SNR=26						
WRA	Warramunga Arr	83.96	115	P	P	19 32 59.3	+0.1
	1.2nm,0.8s,mb4.1,baz=214,slow=3.9,SNR=17						
WRAB	Tennant Creek	83.97	115	*e*P	P	19 32 59.1	-0.2
	2.3nm,0.5s,mb4.6						
BRTR	Keskin Array B	92.24	5	P	P	19 33 39.3	+0.8
	0.7nm,0.6s,mb4.2,baz=187,slow=10.0,SNR=4.1						
ULM	Lac du Bonnet	145.53	289	PKPbc	PKPbc	19 40 04.2	-1.4
	4.5nm,0.8s,baz=318,slow=1.6,SNR=5.4						
PDAR	Pinedale Array	149.98	268	PKPbc	PKPdf	19 40 15.8	+0.2
	2.7nm,1.2s,baz=117,slow=3.3,SNR=6.7						
NVAR	Mina Array Bea	152.53	252	PKPbc	PKPdf	19 40 23.8	+4.3
	2.0nm,0.6s,baz=118,slow=3.6,SNR=8.8						
NVAR				PKPab	PKPab	19 40 31.7	-4.5
	1.3nm,0.7s,baz=116,slow=4.4,SNR=3.9						
ILAR	Eielson Array	167.62	349	PKPab	PKPab	19 41 40.9	+0.4
	0.3nm,0.5s,baz=6.1,slow=3.2,SNR=4.1						

IDC 17 19:39:08.5±3.4,**10.92N**×**138.13E,mb3.6**/4,**mb1 3.8**/4, **mb1mx3.6**/17,**MS2.9**/2,**Ms1 2.9**/2,**ms1mx2.7**/28,**Error ellipse: s-maj=103.0km s-min=25.3km az=67.0,Western Caroline Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JOW	Kunigami	18.36	331	LR	LR	19 48 59.6	
	comp=Z,33nm,18.7s,baz=140,slow=32						
JNU	Nakatsue	23.08	344	LR	LR	19 52 04.0	
	comp=Z,28nm,19.8s,baz=63,slow=34						
WRA	Warramunga Arr	30.89	187	P	P	19 45 26.4	-2.7
	0.3nm,0.8s,baz=1.8,slow=9.4,SNR=4.5						
ASAR	Alice Springs	34.62	187	P	P	19 45 59.9	-1.7
	0.5nm,0.5s,baz=18,slow=12,SNR=8.9						
CMAR	Chiang Mai Arr	38.58	286	P	P	19 46 33.5	-1.6
	1.5nm,0.8s,baz=96,slow=7.2,SNR=12						
MKAR	Makanchi Array	58.96	318	P	P	19 49 09.7	-2.4
	0.4nm,0.6s,baz=100,slow=7.4,SNR=4.5						

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*NEIC **17** 20:02:20.0±3.1,23.56S×179.85W,h546^{km}±35^{km},mb4.1/4, Error ellipse: s-maj=30.0km s-min=16.5km az=201.0*

*IDC **17** 20:02:21.6±5.5,23.63S×179.88W,h561^{km}±65^{km},mb3.4/8, mb1 3.6/9,mb1mx3.4/15,Error ellipse: s-maj=44.6km s-min=22.5km az=15.0*

ISC 17 20:02:19.3±1.3,**23.6S**±0.1×**179.9W**±0.2,**h540**^{km}±17^{km}, **n22,**σ**0^{s}54**/14,**mb4.0**/10,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	Nonsavu	6.11	342	P	P	20 03 59.3	+0.1
	293nm,0.9s,SNR=34						
URZ	Urewera	14.86	189	P	P	20 05 27.2	0.0
	2.3nm,0.3s,baz=280,slow=2.4,SNR=7.9						
RPZ	Rata Peaks	21.42	198	P	P	20 06 29.8	+0.1
	14nm,0.8s,mb4.6,baz=318,slow=18,SNR=5.6						
CTA	Charters Tower	31.53	270	P	P	20 07 59.4	+0.6
	6.2nm,0.3s,mb4.6,baz=87,slow=10,SNR=17						
CTAO	Charters Tower	31.53	270	*e*P	P	20 07 59.2	+0.4
	6.6nm,0.4s,mb4.5						
STKA	Stephens Creek	34.90	248	*e*P	P	20 08 27.4	+0.5
	1.1nm,0.4s,mb3.7						
STKA	Stephens Creek	34.90	248	P	P	20 08 27.5	+0.6
	1.3nm,0.4s,mb3.8,baz=107,slow=10.0,SNR=8.4						
ASAR	Alice Springs	42.14	260	P	P	20 09 25.7	-0.1
	2.0nm,0.5s,mb3.9,baz=98,slow=8.1,SNR=11						
WRAB	Tennant Creek	42.48	266	*e*P	P	20 09 27.4	-1.1
	5.6nm,0.5s,mb4.3						
WRA	Warramunga Arr	42.48	266	P	P	20 09 27.9	-0.7
	2.7nm,0.3s,mb4.2,baz=92,slow=8.4,SNR=18						
QSPA	South Pole Qui	66.51	180	*e*P	P	20 12 16.4	0.0
	1.1nm,0.5s,mb3.6						
CMAR	Chiang Mai Arr	89.46	290	P	P	20 14 21.2	+1.1
	1.0nm,1.1s,mb3.6,baz=121,slow=2.4,SNR=4.6						
TXAR	Lajitas Array	90.21	58	P	P	20 14 23.1	-0.2
	0.4nm,0.3s,mb3.7,baz=214,slow=6.5,SNR=4.9						
PDAR	Pinedale Array	92.42	44	P	P	20 14 33.1	-0.1
	0.5nm,0.9s,mb3.5,baz=247,slow=6.9,SNR=3.0						
MKAR	Makanchi Array	111.97	313	PKiKP		20 19 51.9	
	0.7nm,0.9s,baz=61,slow=0.9,SNR=4.4						
ARCES	ARCESS Array B	131.58	348	PKP	PKPdf	20 20 28.5	-1.4
	4.0nm,1.0s,slow=2.4,SNR=5.3						
FINES	FINESS Array B	138.15	342	PKhKP		20 20 36.0	
	1.6nm,0.8s,slow=3.8,SNR=3.8						
FINES				PKP	PKPdf	20 20 42.8	+0.6
	1.6nm,0.8s,SNR=4.1						
FINES	FINESS Array B	138.15	342	PKP	PKPdf	20 20 42.8	+0.6
NOA	NORSAR Array B	141.77	351	PKhKP		20 20 44.1	
	0.5nm,0.7s,baz=41,slow=3.0,SNR=2.7						
AKASG	Malin Array Be	144.72	328	PKP	PKPdf	20 20 53.8	-0.2
	1.1nm,0.4s,baz=39,slow=4.0,SNR=7.2						
BRTR	Keskin Array B	147.42	308	PKPbc	PKPdf	20 21 02.5	+3.7
	0.6nm,0.6s,baz=155,slow=5.1,SNR=2.8						
BRTR				PKPab	PKPab	20 21 07.6	-0.8
	1.1nm,0.6s,baz=63,slow=2.8,SNR=4.6						
CLL	Collm	150.56	343	*i* PKP1	PKPdf	20 21 09.8	+6.4

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*IDC **17** 20:03:40.9±1.3,11.70S×119.03E,mb3.9/3,mb1 4.0/6, mb1mx3.9/13,ML3.7/3,Error ellipse: s-maj=54.5km s-min=21.2km az=62.0*

*NEIC **17** 20:03:42.8±4.7,12.01S×118.75E,h17^{km}±35^{km},mb4.3/3, Error ellipse: s-maj=15.7km s-min=6.7km az=54.0*

*DJA **17** 20:03:45.6±0.8,11.80S×118.68E,h80^{km},MD4.8/7, ML5.8/4,Error ellipse: s-maj=17.5km s-min=7.3km az=170.0*

ISC 17 20:03:43.0±0.9,**12.05S**±0.07×**118.70E**±0.08,**h63**^{km}±14^{km}, **n28,**σ**1^{s}34**/44,**mb3.9**/3,**5C-5D,South of Sumbawa**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KEDI	Kedomdong	4.36	324	⇑*e*Pn	P	20 04 48.7	+0.3
	2µm,0.1s						
KEDI				*e*Sn	S	20 05 33.7	-4.7
RATI	Rata	4.54	316	⇑*e*Pn	P	20 04 50.4	-0.5
	3µm,0.1s						
RATI	Rata	4.54	316	*e*P	P	20 04 51.0	+0.1
RATI				*e*Sn	S	20 05 37.7	-5.3
RATI	Rata	4.54	316	⇑*e*Pn	P	20 04 50.4	-0.5
RATI				*e*Sn	S	20 05 37.7	-5.3
INGI	Ingas	4.75	312	⇑*e*Pn	P	20 04 52.7	-1.1
	2µm,0.2s						
INGI	Ingas	4.75	312	*e*P	P	20 04 53.3	-0.5
INGI				*e*Sn	S	20 05 42.1	-6.0
INGI	Ingas	4.75	312	⇑*e*Pn	P	20 04 52.7	-1.1
INGI				*e*Sn	S	20 05 42.1	-6.0
KELI	Kelakatan	5.63	312	⇓*e*Pn	P	20 05 05.7	-0.2
	526nm,0.1s						
KELI	Kelakatan	5.63	312	*e*P	P	20 05 06.4	+0.5
KELI				*e*Sn	S	20 06 04.3	-5.8
KELI	Kelakatan	5.63	312	⇓*e*Pn	P	20 05 05.7	-0.2
KELI				*e*Sn	S	20 06 04.3	-5.8
NINI	Niniconang	7.66	8	⇓*i*Pn	P	20 05 33.9	-0.3
BUNI	Buntu Taipa	8.50	11	⇓*i*Pn	P	20 05 45.8	+0.1
TANI	Tanete Lipujan	8.59	5	⇓*e*Pn	P	20 05 46.0	-1.0

FITZ	**Fitzroy Crossi**	9.00	133	*e*P	P	20 05 51.8	-0.9
	10nm,0.6s						
FITZ				*e*S	S	20 07 27.0	-6.6
FITZ	**Fitzroy Crossi**	9.00	133	Pn	P	20 05 52.1	-0.5
	1.7nm,0.3s,baz=346,slow=7.4,SNR=62						
FITZ				Sn	S	20 07 27.4	-6.1
	4.3nm,0.3s,baz=183,slow=18,SNR=9.7						
MBWA	**Marble Bar**	9.11	174	*e*Pn	P	20 05 55.7	+1.6
	14nm,0.5s						
MBWA				*e*Sn	S	20 07 28.9	-7.2
KAKA	**Kakadu**	13.40	94	*e*P	P	20 06 58.2	+6.3
	2.7nm,0.3s						
KAKA				*e*S	S	20 09 11.3	-8.5
WRA	**Warramunga Arr**	16.95	120	Pn	P	20 07 37.1	-0.3
	0.2nm,0.3s,baz=287,slow=14,SNR=12						
WRA				Sn	S	20 10 33.0	-10
	0.5nm,0.3s,baz=284,slow=24,SNR=5.2						
WRAB	**Tennant Creek**	16.95	119	P	P	20 07 38.3	+0.8
WB2	**Warramunga Arr**	16.96	120	*e*P	P	20 07 38.2	+0.6
WB2				*e*S	S	20 10 32.4	-10
ASPA	**Alice Springs**	18.49	131	*e*P	P	20 07 59.7	+3.2
ASAR	**Alice Springs**	18.50	131	P	P	20 07 59.5	+3.0
	0.4nm,0.3s,baz=310,slow=11,SNR=20						
ASAR				S	S	20 11 15.2	-2.1
	0.4nm,0.3s,baz=306,slow=23,SNR=5.6						
MUN	**Mundaring**	19.96	186	*e*P	P	20 08 18.5	+5.8
	4.4nm,0.3s						
MUN				*e*S	S	20 11 45.3	-3.4
FORT	**Forrest**	20.55	156	*e*P	P	20 08 27.0	+8.2
	25nm,0.5s						
NWAO	**Narrogin (SRO)**	20.82	183	P	P	20 08 28.0	+6.5
	5.3nm,0.4s,baz=4.5,slow=12,SNR=7.0						
NWAO				S	S	20 12 06.3	+1.1
	10nm,0.5s,baz=286,slow=20,SNR=7.7						
SONM	**Songino Array**	60.62	351	P	P	20 13 51.6	+1.9
	0.4nm,0.5s,mb3.9,baz=167,slow=8.4,SNR=6.2						
MKAR	**Makanchi Array**	67.03	334	P	P	20 14 34.8	+3.2
	1.1nm,0.8s,mb3.9,baz=151,slow=7.3,SNR=6.1						
SNAA	**Sanae**	88.00	196	P	P	20 16 24.9	-2.0
	0.4nm,0.4s,mb4.0						

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*BUG **17** 20:14:12.7, 51.67N×7.74E, h1^{km}, ML2.1*
*NEIC **17** 20:14:13.6±1.0, 51.64N×7.86E, h10^{km}, ML2.5(LDG), ML2.1(SZGRF), Error ellipse: s-maj=15.5km s-min=9.6km az=140.0*
*BNS **17** 20:14:14.8±0.5, 51.64N×7.69E, h1^{km}, ML2.0*
*BGR **17** 20:14:14.8±0.4, 51.63N×7.77E, h1^{km}, ML2.1, Error ellipse: s-maj=7.8km s-min=4.4km az=141.0*
*LDG **17** 20:14:15.4±0.7, 51.62N×7.72E, h1^{km}, Ml2.5/4, Error ellipse: s-maj=9.4km s-min=6.9km az=46.0, Suspected Mining induced.*
ISC 17 20:14:12.5±0.4**, 51.58N**±0.02×**7.75E**±0.04**, n20, σ1$\overset{s}{.}$26**/39**, 1C, Germany**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BAHL	**Ahlen**	0.17	17	Pg	Pg	20 14 15.8	0.0
BAHL				Sg	Sg	20 14 17.9	-0.1
BUG	**Bochum--Univer**	0.33	245 ⇑	*i*Pg	Pg	20 14 20.7	+1.7
BUG				Sg	Sg	20 14 26.6	+3.2
BUG	**Bochum--Univer**	0.33	245	*e*Pg	Pg	20 14 20.9	+1.9
BUG				*e*Sg	Sg	20 14 26.9	+3.5
WTSB	**Winterswijk**	0.70	304	*e*Pg	Pg	20 14 26.8	+0.2
	16nm,0.3s						
WTSB				*e*Sg	Sg	20 14 36.2	+0.3
BNS	**Bensberg**	0.71	210	*e*Sg	Sg	20 14 40.5	+4.3
	106nm,0.4s						
IBBN	**Ibbenburen**	0.73	1	*e*Pg	Pg	20 14 27.3	+0.2
IBBN				*e*Sg	Sg	20 14 36.3	-0.5
IBBN	**Ibbenburen**	0.73	1	*e*Pg	Pg	20 14 27.3	+0.2
IBBN				*e*Sg	Sg	20 14 36.3	-0.5
STB	**Steinbach**	1.14	210	*e*Pg	Pg	20 14 36.6	+1.4
STB				*e*Sg	Sg	20 14 52.6	+2.2
	23nm,0.4s						
KLL	**Kalltalsperre**	1.30	225	*e*Pg	Pg	20 14 38.5	+0.1
KLL				*e*Sg	Sg	20 14 56.7	+0.9
	24nm,0.3s						
BGG	**Burgeitz**	1.40	191	*e*Pg	Pg	20 14 41.3	+0.9
BGG				*e*Sg	Sg	20 15 00.0	+1.0
	17nm,0.7s						
HGN	**Heimansgroeve**	1.40	235	*i* Pg	Pg	20 14 39.9	-0.6
	4.2nm,0.3s,baz=50						
HGN				*e*Sg	Sg	20 14 59.0	-0.3
CLZ	**Clausthal**	1.66	80	*e*Pg	Pg	20 14 42.6	-3.0
CLZ				*e*Sg	Sg	20 15 07.6	-0.1
CLZ	**Clausthal**	1.66	80	*e*Pg	Pg	20 14 42.6	-3.0
CLZ				*e*Sg	Sg	20 15 07.6	0.0
WLF	**Walferdange**	2.17	209	*e*Pg	Pg	20 14 55.1	-0.7
GIVF	**Givet**	2.37	233	*e*Pg	Pg	20 14 59.9	+0.1
GIVF				*e*Sn	Sn	20 15 21.0	-2.4
GIVF				*e*Sg	Sg	20 15 28.5	-2.9
	17nm,0.5s						
BAIF	**Baives**	2.71	237	*e*Pn	Pn	20 14 58.6	+0.5
BAIF				*e*Pg	Pg	20 15 06.6	0.0
BAIF				*e*Sn	Sn	20 15 29.9	-2.2
BAIF				*e*Sg	Sg	20 15 38.2	-4.5
	5.2nm,0.4s						
CDF	**Champ du Feu**	3.18	186	*e*Pn	Pn	20 15 07.0	+2.2
CDF				*e*Sn	Sn	20 15 43.6	-0.5
CDF				*e*Sg	Sg	20 15 57.1	-1.4
	3.4nm,0.4s						
CLL	**Collm**	3.30	93	*e*SG	Sg	20 16 03.0	+0.6
HAU	**Haudompre**	3.69	195	*e*Sg	Sg	20 16 12.8	-2.5
	1.2nm,0.2s						
LOR	**Lormes**	5.00	212	*e*Sn	Sn	20 16 25.8	-4.3

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*IDC **17** 20:59:55.3±1.2, 24.82N×103.42E, mb3.4/3, mb1 3.5/4, mb1mx3.4/16, ML3.1/1, Error ellipse: s-maj=30.0km s-min=19.3km az=89.0*
*BJI **17** 20:59:56.9, 24.61N×102.97E, h12^{km}, mb3.3, ML3.3*
ISC 17 20:59:55.1±0.8**, 24.82N**±0.06×**103.12E**±0.05**, h12^{km}, n8, σ1$\overset{s}{.}$25**/13**, mb3.2**/4**, 1D, Yunnan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMI	**Kunming**	0.46	311 ⇓	*i*PG	Pg	21 00 03.8	-0.7
KMI				SG	Sg	21 00 10.3	-0.5
KMI				Smax			
	comp=N,2µm,0.7s						
KMI				Smax			
	comp=E,3µm,0.7s						
GYA	**Guiyang**	3.59	62	P	Pn	21 00 53.3	+1.4
GYA				PG	Pg	21 01 05.8	-1.1
GYA				S	Sn	21 01 36.3	+1.7
GYA				SG	Sg	21 01 53.5	-1.2
GYA				Smax			
	comp=N,60nm,0.7s						
GYA				Smax			
	comp=E,40nm,0.8s						
CD2	**Chengdu**	6.09	5	*e*P	Pn	21 01 32.4	+5.1
CMAR	**Chiang Mai Arr**	7.43	212	Pn	Pn	21 01 47.5	+1.4
	comp=E,0.1nm,0.3s,baz=23,slow=12,SNR=2.9						
CMAR				Pg	Pg	21 02 13.3	-10
	comp=E,0.1nm,0.3s,baz=35,slow=16,SNR=6.7						
CMAR				Lg		21 03 54.0	
	comp=E,0.1nm,0.3s,baz=31,slow=33,SNR=7.0						
SONM	**Songino Array**	23.11	6	P	P	21 05 02.5	+0.7
	comp=E,0.3nm,0.7s,mb2.8,baz=191,slow=7.3,SNR=3.5						
MKAR	**Makanchi Array**	27.52	328	P	P	21 05 44.5	+1.1
	comp=E,0.4nm,0.7s,mb3.2,baz=128,slow=10,SNR=4.4						
WRA	**Warramunga Arr**	53.88	143	P	P	21 09 19.0	-1.7
	comp=E,0.7nm,0.6s,mb3.8,baz=332,slow=8.5,SNR=11						
ASAR	**Alice Springs**	56.69	146	P	P	21 09 40.2	-0.9
	comp=E,0.1nm,0.5s,mb3.1,baz=321,slow=5.8						

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*THE **17** 21:14:10.9, 38.66N×22.76E, h4^{km}*
*ATH **17** 21:14:10.9, 38.83N×22.86E, h62^{km}±11^{km}*
ISC 17 21:14:11.2±1.0**, 38.73N**±0.05×**22.80E**±0.06**, h6^{km}**±14^{km}**, n10, σ0$\overset{s}{.}$76**/14**, Greece**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AGG	**Agios Georgios**	0.47	309	*e*Pg	Pg	21 14 20.3	-0.4
AGG				*e*Sg	Sg	21 14 27.5	+0.5
NEO	**Neokhori**	0.67	29	*e*P	Pg	21 14 24.2	-0.4
NEO				*e*S	Sg	21 14 34.0	+0.5
XOR	**Xorichti**	0.71	25	*e*Pg	Pg	21 14 25.6	+0.2
EVR	**Evrytania**	0.80	284	*e*P	Pg	21 14 27.5	+0.3
MPAR	**Parnis Oros**	0.93	128	*e*P	Pb	21 14 30.0	+0.6
MPAR				*e*S	Sb	21 14 42.0	+0.2
NSAL	**Nisos Salamina**	0.97	147	*e*P	Pb	21 14 28.5	-1.6
PTL	**Penteli**	1.07	129	*e*P	Pb	21 14 30.5	-1.3
NAIG	**Nisos Aigina**	1.11	151	*e*P	Pb	21 14 32.5	+0.1
NAIG				*e*S	Sb	21 14 48.5	+1.6
LIT	**Litokhoron**	1.39	350	*e*Pb	Pb	21 14 37.0	-0.3
SOH	**Sokhos**	2.14	11	*e*Pn	Pn	21 14 47.9	-0.1

IDC 17 21:16:10.2±1.4**, 25.49N×141.44E, mb3.3**/3**, mb1 3.5**/3**, mb1mx3.3**/20**, Error ellipse: s-maj=49.9km s-min=20.2km az=103.0, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	1.73	23	Pn	Pn	21 16 42.2	+0.4
	13nm,0.3s,baz=187,slow=17,SNR=9.8						
CBIJ				Sn	Sn	21 17 04.1	-0.8
	24nm,0.3s,baz=221,slow=23,SNR=14						
WRA	**Warramunga Arr**	45.68	189	P	P	21 24 32.9	-1.9
	1.0nm,1.0s,baz=9.9,slow=8.6,SNR=5.3						
ASAR	**Alice Springs**	49.41	189	P	P	21 25 01.6	-2.3
	0.2nm,0.8s,baz=14,slow=7.4,SNR=2.2						
MKAR	**Makanchi Array**	50.99	311	P	P	21 25 13.7	-2.0
	0.3nm,0.8s,baz=111,slow=8.5,SNR=2.9						

IDC 17 21:38:48.4±1.3**, 0.76S×123.38E, mb3.2**/4**, mb1 3.3**/4**, mb1mx3.3**/14**, Error ellipse: s-maj=154.0km s-min=22.6km az=65.0, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	21.87	151	P	P	21 43 42.1	-2.7
	0.5nm,1.0s,baz=331,slow=10,SNR=4.3						
ASAR	**Alice Springs**	24.95	157	P	P	21 44 14.4	-0.6
	0.5nm,0.8s,baz=320,slow=7.0,SNR=4.3						
SONM	**Songino Array**	50.61	345	P	P	21 47 49.4	-1.7
	0.2nm,0.8s,baz=157,slow=11,SNR=2.5						
MKAR	**Makanchi Array**	59.46	328	P	P	21 48 52.7	-2.7
	0.2nm,0.3s,baz=126,slow=7.9,SNR=5.9						

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*ATH **17** 21:38:53.4, 36.84N×27.51E, h80^{km}±2^{km}*
*ISK **17** 21:38:56.1, 36.96N×27.74E, h4^{km}, MD3.2*
ISC 17 21:38:56.5±0.5**, 36.92N**±0.03×**27.71E**±0.04**, h4^{km}, n15, σ0$\overset{s}{.}$93**/23**, 1C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDRM	**Kayabasi**	0.26	304	*i* P	Pg	21 39 01.3	-0.4
BDRM				*i* S	Sg	21 39 05.6	+0.4
MLSB	**Milas**	0.38	8	*i* PG	Pg	21 39 03.4	-0.7
YER	**Yerkesik**	0.51	65	*i* PG	Pg	21 39 05.8	-0.8
YER				*i* SG	Sg	21 39 13.2	-0.1
NISR	**Nisiros**	0.56	237	*e*P	Pg	21 39 06.8	-0.9
NISR				*e*S	Sg	21 39 16.5	+1.3
AYDN	**Tasoluk**	0.75	10	*i* P	Pg	21 39 10.5	-1.0
AYDN				*i* S	Sg	21 39 21.5	-0.1
DALT	**Dalyan (Mudla)**	0.76	101	PG	Pg	21 39 11.1	-0.5
ARG	**Arkhangelos**	0.78	154	*e*P	Pg	21 39 11.0	-1.0
ARG				*e*S	Sg	21 39 23.5	+1.2
SMG	**Samos**	1.05	319	*e*P	Pb	21 39 13.5	-3.4
DNZL	**Cakiroluk**	1.31	54 ⇑	*i*P	Pb	21 39 21.7	+0.4
DNZL				*i* S	Sb	21 39 40.7	+2.3
DENT	**Denizli**	1.34	51	PN	Pn	21 39 21.8	-0.2
IZM	**Izmir**	1.52	347	*e*PN	Pn	21 39 24.4	-0.1
KDAG	**Bornova**	1.52	347	P	Pn	21 39 25.5	+0.9
KDAG				S	Sb	21 39 45.5	+1.0
MANT	**Manisa**	1.71	23	P	Pn	21 39 26.0	-1.2
MANT				S	Sn	21 39 51.0	+1.2
ELL	**Elmali**	1.77	95	*e*PN	Pn	21 39 28.2	+0.1
AKS	**Akhisar**	1.96	2	*e*PN	Pn	21 39 30.4	-0.4

IDC 17 21:50:55.5±3.3**, 4.22S×103.27E, mb3.6**/5**, mb1 3.7**/5**, mb1mx3.5**/14**, Error ellipse: s-maj=146.0km s-min=22.5km az=57.0, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	34.06	120	P	P	21 57 41.8	-2.1
	0.3nm,0.4s,baz=300,slow=8.1,SNR=6.8						
ASAR	**Alice Springs**	35.32	126	P	P	21 57 52.5	-2.1
	0.2nm,0.3s,baz=301,slow=7.9,SNR=5.0						
STKA	**Stephens Creek**	45.25	132	P	P	21 59 14.7	-2.0
	1.1nm,0.6s,baz=336,slow=14,SNR=3.1						
SONM	**Songino Array**	51.91	3	P	P	22 00 07.1	-1.0
	0.3nm,0.4s,baz=182,slow=8.7,SNR=4.8						
MKAR	**Makanchi Array**	54.08	342	P	P	22 00 21.2	-3.0
	0.3nm,0.5s,baz=158,slow=8.8,SNR=7.3						

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*WAR **17** 22:18:36.6, 50.05N×18.45E, ML2.4, Mining Induced*
*NEIC **17** 22:18:37.0±0.7, 50.08N×18.45E, h5^{km}, ML2.5(VIE), Error ellipse: s-maj=9.7km s-min=6.4km az=192.0*
*PRU **17** 22:18:38.3, 50.06N×18.40E*
ISC 17 22:18:35.6±0.5**, 50.12N**±0.03×**18.42E**±0.03**, n19, σ1$\overset{s}{.}$05**/34**, 1C, Poland**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAC	**Raciborz**	0.15	255	*e*PG	Pg	22 18 41.0	+2.4
RAC				*e*SG	Sg	22 18 45.0	+4.4
RAC	**Raciborz**	0.15	255	*e*Pg	Pg	22 18 41.4	+2.8
RAC				*e*Sg	Sg	22 18 44.8	+4.2
OKC	**Ostrava-Krasne**	0.34	212	*e*PG	Pg	22 18 43.2	+0.9
OKC				*e*SG	Sg	22 18 47.7	+1.0
MORC	**Moravsky Berou**	0.66	239	*e*Pg	Pg	22 18 49.4	+0.6
MORC				*e*Sg	Sg	22 18 58.5	+0.9
OJC	**Ojcow**	0.89	83	*e*PG	Pg	22 18 54.0	+0.6
OJC				*e*SG	Sg	22 19 06.0	+0.7
OJC	**Ojcow**	0.89	83	*e*Pg	Pg	22 18 54.0	+0.6
OJC				*e*Sg	Sg	22 19 06.4	+1.1
DPC	**Dobruska-Polom**	1.36	280	*e*PG	Pg	22 19 03.1	+0.3
DPC				*e*SG	Sg	22 19 21.8	+0.8
	27nm,0.4s						
NIE	**Niedzica**	1.42	119	*e*PG	Pg	22 19 02.0	-1.9
NIE				*e*SG	Sg	22 19 23.0	+0.2
KSP	**Ksiaz**	1.54	299	*e*PG	Pg	22 19 06.0	-0.3
KSP				*e*(SG)	Sg	22 19 28.0	+1.2
UPC	**Upice**	1.59	285	*e*PG	Pg	22 19 07.2	-0.1
VYHS	**Vyhne**	1.65	170	*e*PN	Pn	22 19 06.0	0.0
VYHS				*e*SN	Sn	22 19 27.6	-0.7
SMOL	**Smolenice**	1.74	202	*e*PN	Pn	22 19 06.5	-0.7
SMOL				*e*SN	Sn	22 19 29.4	-1.0
CRVS	**Cervenica-Dubn**	2.33	120	*e*PB	Pb	22 19 19.1	+0.9
PRU	**Pruhonice**	2.50	268	*e*SG	Sg	22 19 55.8	-3.1
	3.9nm,0.4s						
KOLS	**Kolonicke sedl**	2.78	114	*e*PG	Pg	22 19 29.8	-1.3
BRG	**Berggiesshubel**	2.95	286	*e*Pg	Pg	22 19 34.0	-0.6
BRG				*e*Sg	Sg	22 20 12.5	-1.5
KHC	**Kasperske Hory**	3.30	254	*e*PN	Pn	22 19 31.0	+1.5
KHC				*e*PG	Pg	22 19 40.5	-1.0
KHC				*e*SG	Sg	22 20 21.2	-4.2
MOA	**Molln**	3.56	232 ⇑	*i*PN	Pn	22 19 32.8	-0.4
MOA				*i* SG	Sg	22 20 29.2	-4.8
	3.6nm,0.5s						
CLL	**Collm**	3.64	291	*e*SG	Sg	22 20 36.0	-0.8

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*NEIC **17** 22:37:29.9, 16.99N×94.73W, h117^{km}, MD4.0(MEX), After MEX.*
MEX 17 22:37:29.9±1.2**, 16.99N×94.73W, h117^{km}**±10^{km}**, MD4.1, 1C-1D, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	0.17	304	*i* P	P	22 37 45.1	-1.1
CMIG				*e*S	S	22 37 56.7	-1.8
TUIG	**Tuzandepetl**	1.08	16	*i* P	P	22 37 51.4	-1.4
TUIG				*e*S	S	22 38 07.0	-2.9
EVV	**El Vigia**	1.57	338	*i* P	P	22 37 57.0	-1.4
EVV				*i* S	S	22 38 17.0	-2.9
HUIG	**Huatulco**	1.80	227 ⇑	*i*P	P	22 37 57.8	-3.4
HUIG				*e*S	S	22 38 22.4	-2.3
OXX	**Oaxaca**	1.91	273	*e*P	P	22 38 02.0	-0.5
OXX				*e*S	S	22 38 25.0	-2.0
VHO	**Vista Hermosa**	1.91	273	*i* P	P	22 38 01.6	-1.0
VHO				*e*S	S	22 38 26.2	-1.0
SCX	**San Cristobal**	2.03	97	*i* P	P	22 38 03.0	-1.0
SCX				*i* S	S	22 38 28.0	-1.7
CCIG	**Comitan**	2.59	106 ⇓	*e*P	P	22 38 10.3	-1.2
CCIG				*e*S	S	22 38 39.9	-3.0
IISM	**Ciudad Serdan**	3.20	309	*e*P	P	22 38 18.0	-1.8
PPM	**Popocatepetl**	4.24	300	*i* P	P	22 38 34.0	+0.3
PPM				*i* S	S	22 39 21.0	-1.6

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*NEIC **17** 22:49:07.2±4.5, 3.21N×126.28E, h52^{km}±46^{km}, mb4.3/6, Error ellipse: s-maj=35.4km s-min=12.5km az=80.0*
*IDC **17** 22:49:09.8±12.0, 3.19N×125.89E, h84^{km}±128^{km}, mb3.7/8, mb1 3.8/8, mb1mx3.6/19, Error ellipse: s-maj=55.1km s-min=19.1km az=80.0*
ISC 17 22:49:04.9±1.5**, 3.20N**±0.09×**126.2E**±0.2**, h46^{km}**±19^{km}**, n19, σ0$\overset{s}{.}$97**/20**, mb4.0**/10**, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	3.11	337	*e*P	P	22 49 54.0	+1.3
BUKP	**Musuan**	4.78	347	*e*P	P	22 50 15.8	-0.4
BUKP				*e*S	S	22 51 07.0	-3.9
PAGZ	**Pagadian**	5.38	329	*e*P	P	22 50 23.9	-0.7
KAKA	**Kakadu**	16.97	159	*e*P	P	22 53 00.8	+0.2
	7.0nm,0.4s						
FITZ	**Fitzroy Crossi**	21.17	181	*e*P	P	22 53 48.5	-0.1
	2.2nm,0.4s,mb3.8						
FITZ	**Fitzroy Crossi**	21.17	181	P	P	22 53 48.5	0.0
	2.4nm,0.4s,mb3.8,baz=11,slow=8.6,SNR=20						
JOW	**Kunigami**	23.59	5	P	P	22 54 13.3	+0.9
	3.3nm,0.5s,mb4.0,baz=202,slow=16,SNR=2.4						
WRAB	**Tennant Creek**	24.36	161	*e*P	P	22 54 19.7	-0.3
	17nm,0.8s,mb4.5						
WRA	**Warramunga Arr**	24.36	161	P	P	22 54 20.2	+0.2
	4.4nm,0.5s,mb4.2,baz=333,slow=11,SNR=46						
WB2	**Warramunga Arr**	24.36	161	*e*P	P	22 54 19.6	-0.4
MBWA	**Marble Bar**	25.01	194	*e*P	P	22 54 27.3	+1.1
	9.4nm,0.9s,mb4.3						
ASAR	**Alice Springs**	27.75	165	P	P	22 54 51.1	-0.4
	2.3nm,0.5s,mb4.0,baz=346,slow=7.3,SNR=24						
ASPA	**Alice Springs**	27.75	165	*e*P	P	22 54 51.4	-0.1
NWAO	**Narrogin (SRO)**	36.91	193	P	P	22 56 11.0	-0.2
	6.8nm,0.9s,mb4.5,baz=49,slow=11,SNR=3.3						
NWAO	**Narrogin (SRO)**	36.91	193	*e*P	P	22 56 10.8	-0.4
	6.8nm,0.9s,mb4.5						
STKA	**Stephens Creek**	37.84	158	*e*P	P	22 56 18.9	-0.1
	2.3nm,0.9s,mb3.9						
STKA	**Stephens Creek**	37.84	158	P	P	22 56 18.7	-0.3
	1.6nm,0.4s,mb4.1,baz=339,slow=10.0,SNR=5.5						
MKAR	**Makanchi Array**	57.67	326	P	P	22 58 50.6	-2.4
	0.3nm,0.6s,mb3.5,baz=127,slow=8.0,SNR=5.9						
BVAR	**Borovoye Array**	67.45	327	P	P	22 59 59.9	+2.1
	0.2nm,0.5s,mb3.4,baz=101,slow=7.3,SNR=2.5						

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*NEIC **17** 23:02:06.5, 17.50N×95.95W, h84^{km}, MD3.6(MEX), After MEX.*
MEX 17 23:02:06.5±0.6**, 17.52N×95.95W, h83^{km}**±17^{km}**, MD3.7, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OXX	**Oaxaca**	0.86	240	*e*P	P	23 02 23.0	-1.3
OXX				*e*S	S	23 02 36.0	-1.7
VHO	**Vista Hermosa**	0.87	240	*i* P	P	23 02 23.0	-1.5
VHO				*i* S	S	23 02 36.3	-1.7
CMIG	**Matias Romero**	1.10	113	*e*P	P	23 02 25.9	-1.3
CMIG				*e*S	S	23 02 40.3	-2.4
IISM	**Ciudad Serdan**	2.00	317	*e*P	P	23 02 39.0	0.0
IISM				*e*S	S	23 03 01.0	-1.9
PPM	**Popocatepetl**	2.98	302	*e*P	P	23 02 50.0	-2.7

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*IDC **17** 23:16:11.0±1.5, 15.48S×176.21W, mb3.8/8, mb1 4.1/8, mb1mx4.0/16, Error ellipse: s-maj=100.0km s-min=19.5km az=147.0*
*NEIC **17** 23:16:15.3±0.6, 15.26S×176.39W, h25^{km}, mb4.8/2, Error ellipse: s-maj=31.6km s-min=16.2km az=137.0*
ISC 17 23:16:14.8±0.6**, 15.3S**±0.2×**176.4W**±0.2**, h33^{km}, n14, σ0$\overset{s}{.}$92**/10**, mb3.9**/10**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	41.58	239	P	P	23 24 01.5	+0.1
	1.5nm,0.9s,mb3.6,baz=289,slow=14,SNR=2.4						
WRA	**Warramunga Arr**	47.02	257	P	P	23 24 44.2	-1.0
	0.5nm,0.9s,mb3.4,baz=90,slow=7.0,SNR=3.0						
ASAR	**Alice Springs**	47.37	252	P	P	23 24 48.8	+0.8
	1.8nm,0.7s,mb4.1,baz=84,slow=7.9,SNR=15						
SBA	**Scott Base**	63.16	184	P	P	23 26 43.0	+1.5
	5.1nm,0.9s,mb4.7						
QSPA	**South Pole Qui**	74.77	180	*e*P	P	23 27 51.4	-1.4
	22nm,1.6s,mb4.8						
YBH	**Yreka Blue Hor**	75.29	39	P	P	23 27 57.6	+1.1
	1.2nm,0.7s,mb4.0,baz=252,slow=9.6,SNR=3.5						
NVAR	**Mina Array Bea**	76.22	43	P	P	23 28 01.9	+0.1
	0.6nm,0.3s,mb3.9,baz=270,slow=8.1,SNR=2.6						
ILAR	**Eielson Array**	82.91	12	P	P	23 28 37.1	-0.2
	0.4nm,0.8s,mb3.5,baz=221,slow=9.6,SNR=3.5						
TXAR	**Lajitas Array**	82.98	57	P	P	23 28 37.3	-1.1
	0.4nm,0.8s,mb3.5,baz=202,slow=6.7,SNR=4.4						
PDAR	**Pinedale Array**	84.14	43	P	P	23 28 44.3	+0.2
	0.7nm,0.8s,mb3.8,baz=225,slow=2.1,SNR=5.6						
BRTR	**Keskin Array B**	144.17	319	PKP	PKPdf	23 35 49.7	+2.2
	4.1nm,1.1s,baz=135,slow=3.5,SNR=7.9						
ASF	**Jabal al Asfar**	145.34	305	PKPbc	PKPbc	23 35 52.6	+2.3
	1.3nm,0.7s,baz=109,slow=4.0,SNR=3.7						
GERES	**GERESS Array B**	145.50	348	PKPbc	PKPbc	23 35 52.4	+2.3
	0.4nm,0.7s,baz=8.1,slow=6.9,SNR=3.7						
DAVOX	**Davos**	148.14	352	PKPbc	PKPdf	23 35 57.9	+3.9
	2.2nm,0.8s,baz=320,slow=8.7,SNR=2.9						

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*NEIC **17** 23:18:47.9±0.7, 15.04S×176.38W, h95^{km}, Error ellipse: s-maj=44.8km s-min=13.6km az=145.0*
*IDC **17** 23:18:48.2±16.0, 15.10S×176.35W, h97^{km}±146^{km}, mb3.6/10, mb1 3.9/10, mb1mx3.8/16, MS4.2/6, Ms1 4.2/6, ms1mx4.0/17, Error ellipse: s-maj=56.3km s-min=23.3km az=140.0*
ISC 17 23:18:47.2±0.8**, 14.9S**±0.3×**176.5W**±0.2**, h100^{km}, n16, σ0$\overset{s}{.}$75**/10**, mb3.8**/10**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	23.91	192	LR	LR	23 31 43.5	
	comp=Z,966nm,20.3s,baz=346,slow=33						
PPT	**Papeete**	25.97	99	*e*S	PcP	23 27 50.1	+11
PPT				*e*L		23 28 56.4	
PPT				*e*R		23 30 08.6	
	694nm,25.5s,baz=269						
CTA	**Charters Tower**	35.84	256	LR	LR	23 38 35.4	
	comp=Z,236nm,18.9s,baz=45,slow=33						
STKA	**Stephens Creek**	41.70	239	P	P	23 26 28.5	+0.8
	4.4nm,1.1s,mb4.1,baz=119,slow=2.6,SNR=3.3						
STKA				LR	LR	23 43 04.0	
	comp=Z,233nm,18.3s,baz=203,slow=35						
WRA	**Warramunga Arr**	47.04	257	P	P	23 27 10.2	-0.5
	1.0nm,0.8s,mb3.6,baz=90,slow=7.7,SNR=6.5						
WRA				LR	LR	23 44 08.5	
	comp=Z,268nm,21.6s,baz=100,slow=32						
ASAR	**Alice Springs**	47.41	251	P	P	23 27 13.3	-0.3
	2.2nm,0.6s,mb4.0,baz=85,slow=7.6,SNR=11						
ASAR				LR	LR	23 44 56.2	
	comp=Z,216nm,18.8s,baz=38,slow=33						
FITZ	**Fitzroy Crossi**	55.38	258	P	P	23 28 14.2	+0.7
	1.4nm,0.8s,mb4.1,baz=155,slow=10.0,SNR=2.9						
YBH	**Yreka Blue Hor**	75.07	39	P	P	23 30 20.6	+0.7
	1.8nm,0.8s,mb3.8,baz=197,slow=12,SNR=3.3						
NVAR	**Mina Array Bea**	76.02	43	P	P	23 30 25.5	+0.2
	0.9nm,0.6s,mb3.7,baz=202,slow=4.9,SNR=3.7						
ILAR	**Eielson Array**	82.60	12	P	P	23 30 59.8	-0.5
	0.3nm,0.6s,mb3.3,baz=225,slow=6.4,SNR=3.0						
TXAR	**Lajitas Array**	82.86	57	P	P	23 31 03.4	+1.1
	1.3nm,1.0s,mb3.7,baz=243,slow=5.6,SNR=7.5						
PDAR	**Pinedale Array**	83.94	43	P	P	23 31 06.1	-1.4
	1.0nm,0.9s,mb3.6,baz=225,slow=2.1,SNR=5.4						
MAW	**Mawson**	87.26	199	P	P	23 31 22.5	-0.7
	1.1nm,0.9s,mb3.8,baz=56,slow=4.9,SNR=3.4						
MAW				LR	LR	00 07 03.9	
	comp=Z,194nm,19.2s,baz=330,slow=33						
BRTR	**Keskin Array B**	143.88	319	PKP	PKPdf	23 38 12.2	+1.4
	1.8nm,0.8s,baz=124,slow=4.5,SNR=5.6						
KHC	**Kasperske Hory**	144.91	348	*e*PKP	PKPdf	23 38 24.5	+12
GERES	**GERESS Array B**	145.16	348	PKPbc	PKPbc	23 38 15.1	+1.8
	0.7nm,0.8s,baz=333,slow=3.0,SNR=5.3						

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*GRAL **17** 23:19:38.8±1.3, 34.43N×36.06E, MD3.0*

GII 17 23:19:40.3±0.6, 34.32N×36.06E, h5^{km}±30^{km}, ML2.7/6, Mw2.8/7

ISC 17 23:19:37.9±0.7, 34.39N±0.05×36.1E±0.1, h5^{km}, n14, σ0^{s}89/20, 2C, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HWQ	Hawqa	0.18	230	iPG	Pg	23 19 41.5	-0.1
	baz=32,slow=3.1						
HWQ				iSG	Sg	23 19 43.7	-0.4
BHL	Bhannes	0.62	218	iPG	Pg	23 19 50.0	-0.3
BHL				iSG	Sg	23 19 58.9	+0.3
MATL	Matirih	1.11	216	iPG	Pg	23 19 59.4	-0.7
HRI	Mount Hermon	1.17	196	Pg	Pg	23 20 00.4	-0.8
KSDI	Kefar Szold	1.26	198	Pg	Pg	23 20 02.0	-1.0
KSDI				Sg	Sg	23 20 19.0	-0.7
KSHT	Keshet	1.43	190	Pn	Pn	23 20 05.2	+0.6
HNTI	Hanita	1.52	211	Pn	Pn	23 20 06.2	+0.2
HNTI				Sn	Sn	23 20 26.1	-0.2
HAF	Haifa	1.85	210	Pn	Pn	23 20 11.4	+0.8
OFRI	‘Ofer	2.00	208	Pn	Pn	23 20 13.4	+0.6
MMLI	Mount Malkishu	2.03	197	Pn	Pn	23 20 14.0	+0.7
COBT	Iskenderun	2.12	3	⇑iP	Pn	23 20 13.9	-0.6
COBT				iS	Sn	23 20 42.9	+1.3
HMDT	Nahal Hemdat	2.19	193	Pn	Pn	23 20 16.8	+1.3
SLTI	Sal’it	2.33	203	Pn	Pn	23 20 18.4	+0.9
GZT	Gaziantep	3.18	21	⇑iP	Pg	23 20 38.7	-2.8
GZT				iS	Sn	23 21 03.9	-4.6

IDC 17 23:32:20.0±1.3, 28.56N×52.83E, mb4.0/12, mb1 4.0/14, mb1mx3.9/22, ML3.3/2, Error ellipse: s-maj=29.4km s-min=19.2km az=1.0

NEIC 17 23:32:25.3±0.9, 28.61N×52.75E, h35^{km}, mb3.8/2, Error ellipse: s-maj=19.4km s-min=10.5km az=181.0

THR 17 23:33:06.2±0.5, 31.80N×52.09E, h25^{km}±15^{km}, ML2.8

ISC 17 23:32:20.3±2.4, 28.48N±0.06×52.67E±0.08, h17^{km}±18^{km}, n33, σ0^{s}96/34, mb3.9/15, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HASS	Wahat al Ahsa’	4.22	220	P	Pn	23 33 28.4	+3.0
NASN	Na’in	4.31	2	ePG	Pn	23 33 27.9	+1.3
NASN				eSG	rx	23 33 43.7	
ASAO	Ashtian	6.46	340	ePN	Pn	23 33 57.9	+0.8
ASAO				AMP		23 35 13.7	
	comp=E,33nm,0.6s						
ASAO				AMP		23 35 19.9	
	comp=N,18nm,0.6s						
DAMV	Damavand	7.16	355	ePN	Pn	23 34 05.8	-1.0
THKV	Tehran--Karaj	7.57	349	ePN	Pn	23 34 11.8	-0.8
MZLS	Mizel	8.04	238	P	P	23 34 20.3	+1.2
ARSS	Ar Rass	8.79	255	P	P	23 34 29.0	-0.7
HILS	Ha’il	9.69	266	P	P	23 34 40.9	-1.1
AFFS	‘Afif	9.80	245	P	P	23 34 43.0	-0.5
KAMS	Al Khamasin	10.97	224	P	P	23 34 59.0	-0.7
TATS	Tathlith	12.23	225	P	P	23 35 15.6	-1.2
DJNS	Zahran al Janu	13.61	220	P	P	23 35 34.9	-0.3
YNBS	Yanbu‘ al Bahr	13.79	256	P	P	23 35 37.8	+0.5
ASF	Jabal al Asfar	14.11	289	Pn	P	23 35 41.7	+0.1
	comp=N,0.1nm,0.3s,baz=275,slow=16,SNR=2.9						
ASF				Sn	S	23 38 15.8	-2.9
	comp=N,0.1nm,0.3s,baz=190,slow=23,SNR=4.2						
MALT	Malatya	15.40	313	eP	P	23 35 58.6	+0.1
	comp=N,1.5nm,0.7s						
BRTR	Keskin Array B	19.30	310	P	P	23 36 48.3	+1.2
	comp=N,0.1nm,0.3s,baz=128,slow=11,SNR=3.5						
ELDT	Eldivan	19.83	312	iP	P	23 36 53.3	+0.2
MLR	Muntele Rosu	27.10	316	P	P	23 38 08.3	+4.3
	comp=N,1.8nm,0.9s,mb3.6,baz=125,slow=18						
ZRNK	Zerenda	27.27	22	eP	P	23 38 05.0	-0.5
	comp=N,1.9nm,0.8s,mb3.7						
BVAR	Borovoye Array	27.80	23	P	P	23 38 09.9	-0.4
	comp=N,2.8nm,0.8s,mb3.9,baz=207,slow=6.6,SNR=9.7						
AKASG	Malin Array Be	28.40	328	P	P	23 38 15.3	-0.3
	comp=N,0.5nm,0.5s,mb3.5,baz=136,slow=8.4,SNR=5.2						
MKAR	Makanchi Array	29.48	44	P	P	23 38 24.7	-0.8
	comp=N,2.5nm,0.7s,mb4.0,baz=231,slow=8.3,SNR=16						
GERES	GERESS Array B	36.08	315	P	P	23 39 23.5	+0.7
	comp=N,0.4nm,0.6s,mb3.5,baz=117,slow=9.0,SNR=4.3						
FINES	FINESS Array B	37.41	339	P	P	23 39 34.1	+0.1
	comp=N,5.3nm,0.8s,mb4.4,baz=141,slow=13,SNR=19						
KAF	Kangasniemi	37.86	340	ep	P	23 39 36.4	-1.3
	comp=N,0.5nm,0.3s,mb3.7						
DAVOX	Davos	37.95	311	P	P	23 39 40.5	+1.9
	comp=N,1.6nm,0.6s,mb3.9,baz=303,slow=2.7,SNR=2.9						
HFS	Hagfors	41.13	331	P	P	23 40 05.2	+0.4
	comp=N,2.1nm,0.4s,mb4.2,baz=128,slow=8.1,SNR=27						
NB2	NORSAR Subarra	42.65	332	P	P	23 40 16.6	-0.6
	comp=N,2.1nm,0.8s,mb3.9,baz=120,slow=7.9						
NOA	NORSAR Array B	42.65	332	P	P	23 40 17.1	-0.1
	comp=N,1.1nm,0.7s,mb3.7,baz=124,slow=8.5,SNR=4.0						
ARCES	ARCESS Array B	43.99	347	P	P	23 40 28.0	+0.1
	comp=N,2.0nm,0.7s,mb4.0,baz=108,slow=3.8,SNR=9.4						
SONM	Songino Array	45.45	50	P	P	23 40 40.2	+0.2
	comp=N,1.2nm,0.8s,mb3.8,baz=262,slow=8.7,SNR=10						
DBIC	Dimbokro	58.39	260	P	P	23 42 19.3	+1.9
	comp=N,3.5nm,0.8s,mb4.5,baz=77,slow=7.2,SNR=3.0						
WRA	Warramunga Arr	92.34	111	P	P	23 45 31.1	-0.3
	comp=N,0.3nm,0.8s,mb3.7,baz=316,slow=3.8,SNR=3.2						

CASC 17 23:36:05.4±2.4, 8.45N×82.77W, h21^{km}±6^{km}, MD4.2, 2C-4D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DVD	David	0.31	92	⇑iP	Pb	23 36 11.4	-0.9
DVD				iS	Sb	23 36 18.4	+1.3
PTP1	Petroterminal	0.41	126	⇑iP	Pb	23 36 11.7	-2.3
PTP1				iS	Sb	23 36 17.1	-2.7
ACR	Cerro Adams	0.45	298	⇓eP	Pb	23 36 13.9	-0.7
ACR				eS	Sb	23 36 21.1	+0.3
CNI	Changuinola	1.00	14	⇓iP	Pb	23 36 22.7	-1.1
CNI				eS	Sb	23 36 37.4	+0.9
BUS	Buena Vista	1.48	318	eP	Pn	23 36 30.0	-1.1
BUS				eS	Sn	23 36 50.2	+0.3
LIO	Limon	1.57	350	eP	Pn	23 36 31.8	-0.6
LIO				eS	Sn	23 36 53.4	+1.1
URSC	Urasca	1.71	324	eP	Pn	23 36 33.4	-0.9
LCR2	La Lucha 2	1.78	317	eP	Pn	23 36 33.9	-1.5
LCR2				eS	Sn	23 37 00.6	+3.1
LAJ	Bijagual	1.94	317	⇓eP	Pn	23 36 40.3	+2.5
LAJ				eS	Sn	23 37 11.8	+10
SJS	Escuela Geolog	1.96	320	eP	Pn	23 36 38.4	+0.5
SJS				eS	Sn	23 37 02.2	+0.2
PRS1	Puriscal	2.16	315	eP	Pn	23 36 39.3	-1.6
PRS1				eS	Sn	23 37 08.1	+0.9
VPS2	Volcan Poas 2	2.26	320	eP	Pn	23 36 43.2	+0.9
CGA2	Cerro Gallo 2	2.29	313	eP	Pn	23 36 42.7	-0.1
CGA2				eS	Sn	23 37 14.7	+4.1
TRTC	Tortuguero	2.31	336	eP	Pn	23 36 42.1	-1.0
AZU	Azuero	2.55	105	⇓iP	Pn	23 36 45.0	-1.5
AZU				eS	Sn	23 37 16.8	-0.4
UPA	Univ. de Panam	3.24	80	eP	Pn	23 36 54.6	-1.7
UPA				eS	Sn	23 37 33.6	-1.0
VCR	Vista de Mar	3.29	301	eP	Pn	23 36 56.0	-0.9
CRZC	La Cruz	3.74	312	eP	Pn	23 37 03.6	+0.2

NEIC 17 23:37:01.2±0.7, 5.10S×154.03E, h130^{km}, mb4.5/9, Error ellipse: s-maj=18.8km s-min=8.8km az=105.0

IDC 17 23:37:01.3±10.0, 5.17S×154.14E, h131^{km}±95^{km}, mb3.9/8, mb1 4.1/9, mb1mx4.0/13, ML3.8/1, Error ellipse: s-maj=46.0km s-min=24.0km az=82.0

ISC 17 23:37:02.0±3.8, 5.1S±0.1×153.9E±0.2, h147^{km}±29^{km}, n23, σ0^{s}73/23, mb4.3/17, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	7.95	237	eP	P	23 38 55.4	-0.3
CTA	Charters Tower	16.65	206	P	P	23 40 49.3	+1.1
	0.2nm,0.3s,baz=17,slow=12,SNR=3.2						
WRAB	Tennant Creek	24.08	231	eP	P	23 42 05.6	+0.4
	19nm,0.6s,mb4.8						
WB2	Warramunga Arr	24.08	231	eP	P	23 42 05.9	+0.7
WRA	Warramunga Arr	24.09	231	P	P	23 42 05.5	+0.2
	9.4nm,0.5s,mb4.5,baz=56,slow=9.9,SNR=145						
ASAR	Alice Springs	26.69	224	P	P	23 42 28.9	-0.6
	5.2nm,0.8s,mb4.2,baz=58,slow=8.5,SNR=39						
STKA	Stephens Creek	29.03	202	eP	P	23 42 49.2	-1.2
	2.2nm,0.8s,mb3.9						
STKA	Stephens Creek	29.03	202	P	P	23 42 49.1	-1.3
	3.1nm,0.6s,mb4.2,baz=42,slow=15,SNR=11						
STKA	Stephens Creek	29.03	202	eP	P	23 42 48.8	-1.7
STKA				epP	pP	23 43 16.3	-5.1
FITZ	Fitzroy Crossi	30.50	243	eP	P	23 43 02.2	-1.5
	11nm,0.6s,mb4.8						
FORT	Forrest	35.27	221	eP	P	23 43 43.9	-0.6
	71nm,0.6s						
CMAR	Chiang Mai Arr	59.02	295	P	P	23 46 49.9	+0.9
	2.2nm,0.7s,mb4.1,baz=113,slow=5.6,SNR=13						
SONM	Songino Array	67.18	327	P	P	23 47 42.7	+0.3
	0.8nm,0.7s,mb3.7,baz=138,slow=6.1,SNR=6.8						
PKI	Pulchoki	73.55	301	eP	P	23 48 20.9	-0.2
	13nm,1.0s,mb4.6						
KKN	Kakani	73.72	301	eP	P	23 48 22.4	+0.4
	9.7nm,0.7s,mb4.6						
DMN	Daman	73.82	301	eP	P	23 48 23.1	+0.5
	31nm,1.1s,mb5.0						
GKN	Gorkha	74.32	301	eP	P	23 48 25.8	+0.3
	16nm,0.8s,mb4.8						
KOLN	Koldanda	75.15	300	eP	P	23 48 30.0	-0.2
	9.5nm,0.8s,mb4.5						
MKAR	Makanchi Array	81.29	319	P	P	23 49 03.8	+0.4
	1.7nm,0.7s,mb3.8,baz=99,slow=6.2,SNR=15						
ILAR	Eielson Array	82.03	22	P	P	23 49 06.0	-0.7
	0.5nm,0.6s,mb3.3,baz=248,slow=5.0,SNR=4.1						
QSPA	South Pole Qui	84.85	180	eP	P	23 49 21.5	+0.8
	2.7nm,0.7s,mb4.1						
QSPA				e		23 49 47.7	
MAW	Mawson	85.72	203	P	P	23 49 25.9	+0.7
	4.9nm,0.6s,mb4.4,baz=96,slow=6.7,SNR=36						
ZRNK	Zerenda	90.97	323	eP	P	23 49 49.3	-1.2
	0.9nm,0.6s,mb4.0						

STR 17 23:43:08.7±0.3, 46.20N×3.42W, h2^{km}±1^{km}, Ml3.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0

MDD 17 23:43:09.9±0.9, 46.16N×3.28W, h11^{km}, mbLg2.4/14, Error ellipse: s-maj=10.4km s-min=5.8km az=138.0, PRXIMO SOLUCIN POBRE

LDG 17 23:43:11.1±0.1, 46.20N×3.25W, h10^{km}, Md3.3/2, Ml3.1/22, Error ellipse: s-maj=2.0km s-min=1.1km az=67.0

NEIC 17 23:43:11.1, 46.20N×3.25W, h10^{km}, ML3.1(LDG), After LDG.

ISC 17 23:43:07.0±0.3, 46.15N±0.01×3.13W±0.03, h10^{km}, n40, σ1^{s}57/103, Bay of Biscay

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LRYF	La Roche-sur-Y	1.18	68	Pn	Pg	23 43 33.4	+2.8
LRYF				Sn	Sg	23 43 52.7	+6.4
OLEF	Ile d’Oleron	1.25	99	Pn	Pg	23 43 34.7	+2.5
OLEF				Sn	Sg	23 43 55.7	+6.8
QUIF	Quistinic	1.77	359	ePn	Pn	23 43 39.5	+1.5
QUIF				ePg	Pg	23 43 43.2	+0.8
QUIF				eSn	Sn	23 44 00.0	-0.8
QUIF				eSg	Sg	23 44 04.3	-1.8
	81nm,0.3s						
MFF	Saint Martin d	2.11	76	ePn	Pn	23 43 46.0	+3.1
MFF				ePg	Pg	23 43 51.5	+2.2
MFF				eSn	Sn	23 44 10.4	+0.9
MFF				eSg	Sg	23 44 19.4	+1.9
	24nm,0.2s						
SGMF	Saint Gilles	2.14	10	ePn	Pn	23 43 44.9	+1.5
SGMF				ePg	Pg	23 43 50.1	+0.2
SGMF				eSn	Sn	23 44 09.4	-0.9
SGMF				eSg	Sg	23 44 17.0	-1.5
	23nm,0.2s						
ROSF	Rostrenen	2.19	357	ePn	Pn	23 43 45.1	+1.0
ROSF				ePg	Pg	23 43 50.3	-0.6
ROSF				eSn	Sn	23 44 10.0	-1.5
ROSF				eSg	Sg	23 44 17.3	-2.8
	29nm,0.2s						
GRR	Gorron	2.72	34	ePn	Pn	23 43 53.2	+1.5
GRR				ePg	Pg	23 44 02.0	+0.6
GRR				eSn	Sn	23 44 23.9	-1.1
GRR				eSg	Sg	23 44 37.0	-0.7
	20nm,0.2s						
ELAN	Lanestosa	2.92	184	P	Pn	23 43 55.8	+1.3
	0.3nm,0.1s,SNR=7.9						
ELAN				S	Sn	23 44 27.7	-2.4
	1.3nm,0.2s,SNR=7.9						
ELAN	Lanestosa	2.92	184	P	Pn	23 43 55.8	+1.3
ELAN				S	Sn	23 44 26.1	-4.0
LFF	La Frestale	2.97	113	ePn	Pn	23 43 58.2	+3.0
LFF				ePg	Pg	23 44 08.1	+1.7
LFF				eSn	Sn	23 44 32.5	+1.2
LFF				eSg	Sg	23 44 47.3	+1.2
	17nm,0.3s						
EALK	Alkurruntz	3.15	158	P	Pn	23 43 59.2	+1.5
	0.9nm,0.2s,SNR=7.9						
EALK				S	Sn	23 44 33.6	-2.1
	2.8nm,0.2s,SNR=7.6						
FLN	La Foliniere	3.17	33	ePn	Pn	23 43 59.8	+1.7
FLN				ePg	Pg	23 44 11.4	+1.0
FLN				eSn	Sn	23 44 35.0	-1.4
FLN				eSg	Sg	23 44 49.0	-3.7
	25nm,0.4s						
LDF	La Druitiere	3.19	39	ePn	Pn	23 44 00.0	+1.7
LDF				eSn	Sn	23 44 35.9	-0.8
LDF				eSg	Sg	23 44 49.0	-4.2
	16nm,0.3s						
SJPF	Ste Jean	3.32	155	ePn	Pn	23 44 01.8	+1.6
SJPF				eSn	Sn	23 44 38.9	-1.3
RJF	Les Rejaudoux	3.36	103	ePn	Pn	23 44 03.5	+2.8
RJF				eSn	Sn	23 44 42.0	+0.9
RJF				eSg	Sg	23 44 59.6	+0.7
	12nm,0.2s						
TCF	Toulx Ste Croi	3.71	86	ePn	Pn	23 44 08.4	+2.7
TCF				ePg	Pg	23 44 22.9	+1.8
TCF				eSn	Sn	23 44 49.0	-0.9
	12nm,0.4s						
ETSF	Etsaut	3.73	150	ePn	Pn	23 44 07.9	+1.9
ETSF				eSn	Sn	23 44 49.6	-0.9
CAF	Calviac	3.85	107	ePn	Pn	23 44 09.8	+2.2
CAF				ePg	Pg	23 44 24.0	+0.1
CAF				eSn	Sn	23 44 52.0	-1.4
CAF				eSg	Sg	23 45 13.6	-1.5
	6.6nm,0.2s						
EPF	Esparros	3.98	140	ePn	Pn	23 44 11.4	+1.9
EPF				ePg	Pg	23 44 26.4	-0.1
EPF				eSn	Sn	23 44 56.2	-0.6
EPF				eSg	Sg	23 45 18.7	-0.9
	4.3nm,0.2s						
EPON	Pontenova	4.02	227	P	Pn	23 44 08.4	-1.7
	0.9nm,0.1s,SNR=7.5						
EPON				S	Sn	23 44 49.8	-8.0
	2.0nm,0.1s						
HYF	Humbligny	4.12	72	ePn	Pn	23 44 12.8	+1.2
HYF				eSn	Sn	23 44 59.4	-1.0
HYF				eSg	Sg	23 45 22.2	-2.1
BGF	Bois d’Agland	4.16	82	ePn	Pn	23 44 13.9	+1.9
BGF				eSn	Sn	23 45 00.0	-1.3
BGF				eSg	Sg	23 45 23.7	-1.8
	28nm,0.4s						
AVF	Avril sur Loir	4.52	79	ePn	Pn	23 44 18.4	+1.1
AVF				eSn	Sn	23 45 08.6	-2.0
	2.2nm,0.3s						
SSF	Saint Saulge	4.66	76	ePn	Pn	23 44 20.9	+1.7
SSF				eSn	Sn	23 45 11.9	-2.2
SSF				eSg	Sg	23 45 40.2	-2.1
	7.0nm,0.5s						
MTLF	Montolieu	4.73	124	ePn	Pn	23 44 22.4	+2.2
MTLF				eSn	Sn	23 45 13.5	-2.2
MTLF				eSg	Sg	23 45 42.1	-2.4
	2.6nm,0.3s						
ERUA	La Rua	4.73	219	P	Pn	23 44 15.5	-4.7
	1.1nm,0.1s,SNR=4.0						
ERUA				S	Sn	23 45 05.0	-11
	0.5nm,0.2s,SNR=7.9						
ESAC	San Caprasio	4.82	156	S	Sn	23 45 16.9	-1.2
	3.0nm,0.2s,SNR=4.0						
SMF	Signal de Mont	4.85	82	ePn	Pn	23 44 22.9	+1.1
SMF				eSn	Sn	23 45 15.6	-3.1
	1.1nm,0.2s						
LOR	Lormes	4.93	74	ePn	Pn	23 44 24.4	+1.3
LOR				eSn	Sn	23 45 18.2	-2.7
LOR				eSg	Sg	23 45 47.8	-3.5
	5.2nm,0.4s						
ECAL	Calabor	4.94	213	P	Pn	23 44 22.5	-0.7
	0.8nm,0.1s,SNR=9.4						
ECAL				S	Sn	23 45 12.4	-8.8
	2.4nm,0.3s						
STS	Santiago	5.07	232	P	Pn	23 44 23.6	-1.3
	5.9nm,0.1s,SNR=7.9						
EMAZ	Mazaricos	5.26	235	P	Pn	23 44 26.4	-1.3
	5.7nm,0.2s,SNR=25						
EMAZ				S	Sn	23 45 18.8	-10
	2.2nm,0.1s						
LASF	Ste Croix	5.36	110	ePn	Pn	23 44 29.8	+0.7
LASF				eSg	Sg	23 46 01.9	-3.6
	5.3nm,0.6s						
ETOR	Torete	5.38	171	P	Pn	23 44 28.2	-1.2
	0.3nm,0.2s,SNR=4.0						
ETOR				S	Sn	23 45 28.5	-3.7
	0.6nm,0.2s,SNR=7.9						
ELOB	Lobios	5.56	222	P	Pn	23 44 30.4	-1.5
	0.6nm,0.1s,SNR=7.9						
ELOB				S	Sn	23 45 26.2	-11
	1.1nm,0.2s,SNR=7.9						
VIVF	Saint-Julien-l	5.63	100	ePn	Pn	23 44 33.5	+0.6
VIVF				eSg	Sg	23 46 10.4	-4.2
	3.7nm,0.4s						
MEZF	Maizieres J’vi	6.04	64	eSn	Sn	23 45 44.6	-4.0
EMOS	Mosqueruela	6.10	161	P	Pn	23 44 42.1	+2.7
	0.2nm,0.2s,SNR=7.9						
EMOS				S	Sn	23 45 44.2	-5.9
	0.3nm,0.2s,SNR=7.9						
BAIF	Baives	6.28	49	ePn	Pn	23 44 42.5	+0.4
BAIF				eSn	Sn	23 45 49.1	-5.5
	3.4nm,0.6s						
ESDC	Sonseca Array	6.50	186	P	Pn	23 44 44.0	-1.1
	0.2nm,0.1s,baz=359,slow=12,SNR=3.7						
ESDC				S	Sn	23 45 54.1	-6.1
	0.3nm,0.2s,baz=5.6,slow=23,SNR=3.9						

MEX 17 23:43:20.0±1.2, 16.04N×91.22W, h46^{km}±39^{km}, MD5.0

IDC 17 23:43:20.3±0.6, 16.50N×91.39W, mb4.7/21, mb1 4.8/23, mb1mx4.8/24, ML4.0/2, MS4.7/22, Ms1 4.7/22, ms1mx4.6/26, Error ellipse: s-maj=18.6km s-min=12.1km az=70.0

NEIC 17 23:43:21.8±0.2, 16.50N×91.32W, h10^{km}, mb5.3/119, MS4.5/19, MD5.0(MEX), Error ellipse: s-maj=4.3km s-min=2.4km az=196.0

HRVD 17 23:43:21.8±0.3, 16.76N×91.54W, h12^{km}, MW5.1/59, Centroid moment Tensor Solution. LP body waves: s38,c53;Mantle waves: s59,c104; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M$_{rr}$5.41±.14; M$_{\theta\theta}$-2.58±.11; M$_{\phi\phi}$-2.83±.16; M$_{r\theta}$0.30±.38; M$_{\theta\phi}$2.68±.09; M$_{\phi r}$-2.78±.41; Best double couple: M$_0$6.07×10^{16} NP1: ϕ_s302°, δ36°, λ66°. NP2: ϕ_s152°, δ58°, λ106°. Principal axes: T 6.29, Plg72°, Azm101°; N -.45, Plg14°, Azm323°; P -5.84, Plg12°, Azm230°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

CASC 17 23:43:22.4±2.2, 16.79N×91.46W, h10^{km}, MD5.1, ML5.0, mb5.3(NEIC)

BJI 17 23:43:23.7, 16.50N×91.30W, h10^{km}, mB5.5, Ms5.4, Msz5.0

MOS 17 23:43:23.8±1.4, 16.42N×91.46W, h33^{km}, mb5.8/10, Error ellipse: s-maj=18.8km s-min=12.3km az=84.7

ISC 17 23:43:21.9±0.1, 16.78N±0.02×91.31W±0.02, h10^{km}, n453, σ1^{s}06/460, mb5.1/138, MS4.7/45, 28C-10D, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CCIG	Comitan	0.94	238	⇓eP	Pb	23 43 34.7	-5.1
CCIG				eS	Sb	23 43 47.2	-4.8
SCX	San Cristobal	1.27	268	eP	Pb	23 43 44.0	-1.5
SCX				iS	Sb	23 44 03.0	+1.3
TP2	Tecpan 2	2.01	172	⇑eP	Pn	23 43 54.9	-1.4
TP2				eS	Sn	23 44 24.4	+2.7
TP2				AML	AML	23 44 26.9	
	comp=N,229µm,0.6s						
SCIG		2.17	3	⇑eP	Pn	23 44 01.5	+2.7
SCIG				eS	Sn	23 44 36.7	+11
MRL	Marmol	2.31	137	⇑eP	Pn	23 43 59.8	-0.9
MRL				eS	Sn	23 44 30.4	+1.0
MRL				AML	AML	23 44 44.8	
	comp=N,7µm,0.6s						
FUG	Fuego 3	2.37	169	⇑eP	Pn	23 43 59.9	-1.6
NBG	Las Nubes	2.37	157	⇑eP	Pn	23 44 02.3	+0.7
NBG				eS	Sn	23 44 33.8	+2.8
NBG				AML	AML	23 44 41.2	
	comp=N,47µm,0.5s						
PCG	Pacaya	2.47	164	eP	Pn	23 44 03.9	+0.9
JAT	Jato	2.47	187	⇓eP	Pn	23 44 03.5	+0.6
JAT				eS	Sn	23 44 34.4	+0.9
JAT				AML	AML	23 44 58.0	
	comp=N,9µm,0.6s						
IXG	Ixpaco	2.72	162	eP	Pn	23 44 05.8	-0.7
IXG				AML	AML	23 45 06.1	
	comp=E,25µm,0.8s						
MTO2	Montecristo 2	3.02	141	eP	Pn	23 44 10.4	-0.4
RBDL	Robledal	3.08	149	eP	Pn	23 44 12.6	+0.9
TUIG	Tuzandepetl	3.22	293	eP	Pn	23 44 12.4	-1.2
TUIG				eS	Sn	23 44 54.5	+2.1
RTR	El Retiro	3.29	151	eP	Pn	23 44 15.2	+0.6
SNJE	San Jose	3.33	150	eP	Pn	23 44 16.0	+0.8
SBLS	San Blas	3.35	151	⇓eP	Pn	23 44 16.2	+0.7
CMIG	Matias Romero	3.43	276	⇓eP	Pn	23 44 13.1	-3.5
CMIG				eS	Sn	23 44 53.4	-4.5
CMIG	Matias Romero	3.43	276	⇓eP	Pn	23 44 13.1	-3.5
CMIG				eS	Sn	23 45 02.2	+4.3
BOQS	Boqueron	3.61	147	eP	Pn	23 44 21.9	+2.8
BOQS				eS	Sn	23 45 04.6	+2.3
LBRS	Las Brisas	3.73	144	eP	Pn	23 44 20.8	-0.1
LFRS	El Faro	3.82	145	eP	Pn	23 44 22.0	-0.2
LCBS	La Ceiba	3.84	144	eP	Pn	23 44 21.1	-1.3
SNVI	San Vicente	3.95	143	eP	Pn	23 44 26.0	+2.0
EVV	El Vigia	4.20	294	eP	Pn	23 44 29.0	+1.5
EVV				eS	Sn	23 45 20.1	+2.9
CAHU	Cacacuatique	4.23	135	eP	Pn	23 44 27.9	-0.1
TEIG	Tepich	4.47	40	Pn	Pn	23 44 34.1	+2.6
	comp=E,0.1nm,0.3s,baz=236,slow=24,SNR=238						
TEIG				Sn	Sn	23 45 28.8	+4.6
	comp=E,0.0nm,0.3s,baz=307,slow=24,SNR=12						
TEIG				Lg		23 45 50.8	
	comp=E,0.0nm,0.3s,baz=3.5,slow=24,SNR=2.3						
TEIG	Tepich	4.47	40	eP	Pn	23 44 33.7	+2.3
TEIG				eS	Sn	23 45 28.4	+4.2
TEIG	Tepich	4.47	40	ePn	Pn	23 44 30.4	-1.1
TEIG				eSn	Sn	23 45 26.8	+2.6
TEIG				Lg		23 45 50.8	
HUIG	Huatulco	4.72	258	eP	Pn	23 44 28.8	-6.1
HUIG				eS	Sn	23 45 22.7	-7.7
HUIG	Huatulco	4.72	258	eP	Pn	23 44 30.1	-4.8
HUIG				eS	Sn	23 45 24.9	-5.4
CNCH	Conchagua	4.84	136	eP	Pn	23 44 35.8	-0.9
OXX	Oaxaca	5.19	274	eP	Pn	23 44 39.0	-2.5
OXX				iS	Sn	23 45 38.0	-4.2
VHO	Vista Hermosa	5.20	274	eP	Pn	23 44 39.0	-2.7
VHO				eS	Sn	23 45 41.1	-1.3
LVIG	Laguna Verde	5.67	302	eP	Pn	23 44 43.5	-4.8
LVIG				iS	Sn	23 45 50.4	-3.8
LVIG	Laguna Verde	5.67	302	eP	Pn	23 44 43.5	-4.8
LVIG				iS	Sn	23 45 49.7	-4.5
TELN	Telica	6.00	133	eP	Pn	23 44 55.1	+2.0
LEON	Leon	6.09	135	eP	Pn	23 44 54.5	+0.2
CNGN	Cerro Negro	6.17	133	eP	Pn	23 44 55.6	+0.2
IISM	Ciudad Serdan	6.18	292	eP	Pn	23 44 58.2	+2.7
IISM				iS	Sn	23 46 07.2	+0.3
MIRN	Miramar	6.20	134	eP	Pn	23 44 57.2	+1.4
COPN	Copaltepe	6.47	134	eP	Pn	23 44 59.1	-0.5
PYTN	Playitas	6.61	129	eP	Pn	23 45 00.9	-0.6
PYTN				i		23 47 18.1	
	comp=N,188nm,0.7s						
PPM	Popocatepetl	7.33	289	eP	Pn	23 45 11.1	-0.6
PPM				eS	Sn	23 46 39.0	+3.3
CONN	Concepcion	7.57	133	eP	Pn	23 45 16.0	+1.0
YAIG	Yautepec	7.67	287	eP	Pn	23 45 14.7	-1.8
YAIG				eS	Sn	23 46 41.2	-3.1
UNM	Universidad Na	7.90	290	eP	Pn	23 45 22.0	+2.3
UNM				eS	Sn	23 46 50.0	0.0
IIZ	Mezontepec	7.92	289	eP	Pn	23 45 24.0	+4.1
ACX	Acapulco	8.24	272	eP	P	23 45 18.8	-5.7
ACX				eS	Sn	23 46 51.9	-6.6
VCR	Vista de Mar	8.62	139	eP	P	23 45 30.9	+1.3
JTS	JuntasAbangare	8.94	135	Pn	P	23 45 31.6	-2.4
	comp=N,1.0nm,0.3s,baz=310,slow=12,SNR=13						
JTS				LR	LR	23 49 52.4	
	comp=N,2µm,18.6s,baz=329,slow=45						
JCR	Jicaral	9.16	138	eP	P	23 45 38.0	+0.9
TRTC	Tortuguero	9.62	129	eP	P	23 45 44.8	+1.1

LAJ	Bijagual	9.81	134	eP	P	23 45 44.1	-2.1
MOIG	Morelia	9.82	289	eP	P	23 45 45.5	-0.9
MOIG				i S	Sn	23 47 34.6	-3.1
MOIG	Morelia	9.82	289	eP	P	23 45 45.5	-0.9
MOIG				i S	Sn	23 47 43.4	+5.7
LCR2	La Lucha 2	9.98	134	eP	P	23 45 51.2	+2.6
URSC	Urasca	10.07	132	eP	P	23 45 51.0	+1.2
BUS	Buena Vista	10.28	133	eP	P	23 45 54.9	+2.2
SFJM	Santa Fe	11.71	290	eP	P	23 46 11.1	-1.2
SFJM				i S	S	23 48 27.3	+3.3
CGX	Ciudad Guzman	11.94	286	eP	P	23 46 15.0	-0.4
DWPF	Disney	14.50	37	ePn	P	23 46 47.4	-1.9
	comp=N,139nm,1.0s						
DWPF				eSn	S	23 49 27.8	-3.2
NATX	Nacogdoches	15.22	349	eP	P	23 46 56.4	-2.3
	comp=N,41nm,0.6s						
NATX				eS	S	23 49 34.8	-13
JCT	Junction City	15.69	332	eP	P	23 47 04.7	-0.1
	comp=N,55nm,0.8s						
JCT				eS	S	23 49 49.1	-10
TXAR	Lajitas Array	16.87	320	P	P	23 47 21.3	+1.4
	comp=N,0.2nm,0.3s,baz=145,slow=11,SNR=32						
TXAR				S	S	23 50 29.4	+3.0
	comp=N,0.3nm,0.3s,baz=103,slow=16,SNR=3.4						
OXF	Oxford	17.74	5	eP	P	23 47 29.9	-0.7
	comp=N,169nm,1.0s						
UALR	University of	17.94	357	eP	P	23 47 32.9	-0.3
	comp=N,277nm,1.6s						
SWET	Sewanee	18.98	14	eP	P	23 47 46.2	+0.2
WMOK	Wichita Mounta	19.09	341	⇓iP	P	23 47 47.5	+0.2
	comp=N,109nm,1.2s						
WMOK				eS	S	23 51 02.2	-15
NHSC	New Hope	19.11	30	eP	P	23 47 48.1	+0.6
	comp=N,328nm,1.1s						
HALT	Halls	19.13	5	eP	P	23 47 47.8	0.0
GNAR	Gosnell	19.14	3	eP	P	23 47 48.6	+0.7
GDL2	Guadalupe Moun	19.38	325	eP	P	23 47 51.2	+0.5
GLAT	Glass	19.49	5	eP	P	23 47 52.6	+0.6
WVT	Waverly	19.52	8	eP	P	23 47 52.0	-0.3
	comp=N,168nm,1.5s						
WVT				eS	S	23 51 20.5	-5.9
CPCT	Cooper Cave	19.55	17	P	P	23 47 51.3	-1.3
CPCT				e		23 47 56.2	
CPRX	Cap Rock	19.75	327	eP	P	23 47 54.6	-0.4
ROSC	El Rosal	20.44	124	P	P	23 48 02.3	0.0
	comp=N,31nm,0.6s,baz=122,slow=16,SNR=22						
ROSC				LR	LR	23 56 10.7	
	comp=N,2µm,19.9s,MS4.4,baz=124,slow=38						
OTAV	Otavalo	20.76	141	P	P	23 48 01.0	-4.7
	comp=N,35nm,1.0s						
CCM	Cathedral Cave	21.19	0	eP	P	23 48 10.1	+0.1
	comp=N,57nm,1.0s,mb4.9						
CCM				eS	S	23 52 07.5	+6.9
USIN	University of	21.34	8	eP	P	23 48 12.3	+0.9
	comp=N,382nm,1.0s,mb5.7						
SDV	Santo Domingo	21.62	109	⇑iP	P	23 48 14.9	+0.5
	comp=N,386nm,0.8s,mb5.9						
SDV				LR	LR		
	comp=Z,869nm,19.0s,MS4.2						
SLM	Saint Louis	21.79	2	eP	P	23 48 16.2	+0.3
	comp=Z,148nm,1.5s,mb5.2						
WCI	Wyandotte Cave	21.82	11	⇑iP	P	23 48 17.1	+0.9
	comp=Z,115nm,0.8s,mb5.4						
WCI				LR	LR		
	comp=Z,2µm,20.0s,MS4.6						
BNM	Barren Site	22.09	324	eP	P	23 48 20.5	+1.4
LPM	Los Pinos Moun	22.21	325	P	P	23 48 19.8	-0.4
LENM	Lemitar	22.30	324	eP	P	23 48 22.6	+1.5
PWV	Princeton	22.39	22	eP	P	23 48 23.1	+1.2
ELN	Prospectdale	22.40	23	eP	P	23 48 23.7	+1.6
BLA	Blacksburg	22.51	23	⇑eP	P	23 48 24.6	+1.5
	comp=Z,320nm,1.6s,mb5.5						
BLA				LR	LR		
	comp=Z,4µm,19.0s,MS4.8						
LAZ	Ladron	22.57	324	⇓eP	P	23 48 25.9	+2.1
ANMO	Albuquerque	22.60	326	d iP	P	23 48 25.7	+1.6
ANMO	Albuquerque	22.60	326	eP	P	23 48 25.1	+1.0
	comp=Z,31nm,1.1s,mb4.7						
FWV	Forest Hill	22.69	22	eP	P	23 48 27.1	+2.1
BLO	Bloomington	22.70	10	eP	P	23 48 25.5	+0.5
	comp=Z,1µm,2.3s,mb6.0						
KSU1	Kansas State U	22.71	349	⇑eP	P	23 48 24.7	-0.5
TUC	Tucson	23.45	315	⇑iP	P	23 48 34.0	+1.6
	comp=Z,36nm,0.9s,mb4.8						
SDCO	Great Sand Dun	24.34	332	eP	P	23 48 42.8	+1.8
	comp=Z,338nm,1.4s,mb5.6						
SDCO				LR	LR		
	comp=Z,546nm,19.0s,MS4.1						
ACSO	Alum Creek Sta	24.46	16	eP	P	23 48 43.3	+1.2
	comp=Z,181nm,1.0s,mb5.5						
MCWV	Mont Chateau	24.88	21	eP	P	23 48 48.0	+1.7
	comp=Z,299nm,2.0s,mb5.5						
WUAZ	Wupatki	25.84	320	⇑eP	P	23 48 56.5	+1.2
	comp=Z,43nm,1.0s,mb4.9						
JFWS	Jewell Farm	26.06	2	eP	P	23 48 56.7	-0.6
	comp=Z,20nm,0.7s,mb4.8						
ISCO	Idaho Springs	26.09	334	⇑eP	P	23 48 58.5	+0.9
	comp=Z,34nm,1.1s,mb4.8						
ISCO				LR	LR		
	comp=Z,733nm,22.0s,MS4.2						
PV01	Paradox Valley	26.12	328	eP	P	23 48 59.1	+1.2
PV10	Paradox Valley	26.54	328	eP	P	23 49 01.8	0.0
ALLY	Alegheny Colle	26.58	19	eP	P	23 49 03.6	+1.6
BAR	Barrett	27.84	309	eP	P	23 49 14.3	+0.6
SRU	San Rafael	27.86	327	eP	P	23 49 14.5	+0.7
NEN	Nelson	28.14	316	eP	P	23 49 16.8	+0.5
PFO	Pinyon Flat Ob	28.14	311	eP	P	23 49 17.3	+1.0
	comp=Z,14nm,0.9s,mb4.6						
MSU	Marysvale	28.34	324	eP	P	23 49 18.6	+0.5
MVU	Marysvale	28.35	324	eP	P	23 49 19.4	+1.2
	comp=Z,102nm,2.0s,mb5.1						
MVU				LR	LR		
	comp=Z,834nm,19.0s,MS4.3						
PAL	Palisades	28.43	28	eP	P	23 49 19.6	+0.7
	comp=Z,19nm,1.1s,mb4.6						
BINY	Binghamton	28.53	24	eP	P	23 49 20.5	+0.7
	comp=Z,38nm,1.2s,mb5.0						
ARUT	Antelope Range	28.58	321	eP	P	23 49 21.4	+1.2
MPU	Maple Canyon	29.11	327	eP	P	23 49 25.1	+0.1
DAU	Daniels Canyon	29.21	328	eP	P	23 49 26.2	+0.3
NLU	North Lily Min	29.30	326	eP	P	23 49 27.4	+0.6
JLU	Jordanelle	29.45	328	eP	P	23 49 28.7	+0.7
MWC	Mount Wilson	29.60	311	eP	P	23 49 30.0	+0.4
CTU	Camp Tracy	29.67	328	eP	P	23 49 30.3	+0.3
SADO	Sadowa	29.72	18	P	P	23 49 30.6	+0.1
	comp=Z,16nm,1.1s,mb4.7,baz=210,slow=6.6,SNR=8.0						
SADO				LR	LR	00 03 01.2	
	comp=Z,2µm,18.0s,MS4.8,baz=360,slow=39						
TPNV	Topopah Spring	29.82	317	eP	P	23 49 32.5	+1.1
	comp=Z,20nm,1.0s,mb4.8						
TPNV				LR	LR		
	comp=Z,876nm,20.0s,MS4.4						
NOQ	North Oquirrh	29.83	327	eP	P	23 49 32.0	+0.5
DUG	Dugway	29.87	326	eP	P	23 49 32.3	+0.4
	comp=Z,3.1nm,1.5s						
DUG				LR	LR		
	comp=Z,49nm,19.0s						
QUA2	Belchertown	30.15	29	eP	P	23 49 31.5	-2.8
	comp=Z,20nm,0.9s,mb4.8						
PDAR	Pinedale Array	30.22	333	P	P	23 49 35.0	0.0
	comp=Z,3.7nm,0.8s,mb4.2,baz=129,slow=9.5,SNR=5.4						
HWUT	Hardware Ranch	30.25	329	eP	P	23 49 35.0	-0.2
	comp=Z,22nm,1.1s,mb4.8						
ACCN	Adirondack Com	30.46	26	eP	P	23 49 37.5	+0.4
SPUT	South Promonto	30.48	328	⇑eP	P	23 49 37.1	-0.1
HRV	Harvard--Oak R	30.70	29	eP	P	23 49 39.8	+0.7
	comp=Z,11nm,0.8s,mb4.8						
NCB	Newcomb	30.72	25	eP	P	23 49 39.6	+0.3
	comp=Z,16nm,0.9s,mb4.9						
AHID	Auburn Hatcher	30.91	331	eP	P	23 49 41.1	0.0
	comp=Z,42nm,1.1s,mb5.2						
HVU	Hansel Valley	30.99	328	⇑eP	P	23 49 41.3	-0.4
TPH	Tonopah	31.10	318	eP	P	23 49 43.4	+0.7
	comp=Z,26nm,1.3s,mb4.9						
LOZ	Lake Ozonia	31.12	23	⇑iP	P	23 49 42.8	-0.1
REDW	Red Top Meadow	31.27	332	eP	P	23 49 44.5	+0.3
SNOW	Snow King Moun	31.30	332	eP	P	23 49 44.7	+0.3
WUWY	Wally Ulrich	31.36	332	eP	P	23 49 45.6	+0.6
TPAW	Teton Pass	31.41	332	⇑eP	P	23 49 45.8	+0.4
MOOW	Moose Ponds	31.52	333	⇑eP	P	23 49 46.5	+0.1
MTUM	Tungsten Hills	31.57	316	eP	P	23 49 47.2	+0.3
ELK	Elko	31.59	324	eP	P	23 49 47.3	+0.3
	comp=Z,118nm,2.0s,mb5.4						
ELK				LR	LR		
	comp=Z,566nm,21.0s,MS4.2						
IMW	Indian Meadow	31.73	332	eP	P	23 49 48.6	+0.4
MNV	Mina	31.91	318	eP	P	23 49 50.4	+0.6
	comp=Z,97nm,1.6s,mb5.4						
NVAR	Mina Array Bea	32.00	318	P	P	23 49 51.8	+1.1
	comp=Z,30nm,0.9s,mb5.1,baz=125,slow=11,SNR=38						
NVAR				LR	LR	00 05 31.8	
	comp=Z,2µm,18.1s,MS4.8,baz=150,slow=41						
OMM	Old Mammoth Mi	32.00	316	eP	P	23 49 52.0	+1.3
LAO	LASA Array	32.29	341	eP	P	23 49 52.1	-1.0
	comp=Z,234nm,2.3s,mb5.6						
YMR	Madison River	32.35	333	eP	P	23 49 54.3	+0.7
BMN	Battle Mountai	32.53	322	eP	P	23 49 56.0	+0.8
	comp=Z,64nm,1.5s,mb5.3						
QLMT	Earthquake Lak	32.68	333	eP	P	23 49 57.9	+1.4
GCMT	Greycliff	32.73	336	eP	P	23 49 57.3	+0.3
HLID	Hailey	33.12	329	eP	P	23 50 00.2	-0.1
	comp=Z,25nm,1.0s,mb5.1						
HLID				LR	LR		
	comp=Z,996nm,20.0s,MS4.5						
CMB	Columbia Colle	33.16	315	eP	P	23 50 01.2	+0.5
	comp=Z,24nm,1.0s,mb5.1						
WVL	Waterville	33.16	29	eP	P	23 50 01.9	+1.2
WVL				LR	LR		
	comp=Z,9µm,20.0s,MS5.5						
SAO	San Andreas Ge	33.25	313	eP	P	23 50 02.2	+0.7
	comp=Z,10.0nm,0.8s,mb4.8						
MCMT	McKenzie Canyo	33.31	332	eP	P	23 50 03.0	+1.0
DGMT	Dagmar	33.31	344	eP	P	23 50 01.2	-0.8
	comp=Z,54nm,0.9s,mb5.5						
BOZ	Bozeman (W)	33.42	334	eP	P	23 50 03.3	+0.4
	comp=Z,16nm,0.9s,mb5.0						
BOZ				LR	LR		
	comp=Z,1µm,22.0s,MS4.5						
WCN	Washoe City	33.43	318	eP	P	23 50 04.4	+1.3
ULM	Lac du Bonnet	33.59	355	P	P	23 50 02.0	-2.3
	comp=Z,3.2nm,0.6s,mb4.4,baz=164,slow=10,SNR=7.1						
ULM				PcP	PcP	23 52 42.8	-2.1
	comp=Z,3.8nm,0.6s,baz=217,slow=4.8,SNR=3.6						
ULM				LR	LR	00 07 14.7	
	comp=Z,505nm,18.4s,MS4.3,baz=177,slow=42						
ULM	Lac du Bonnet	33.59	355	eP	P	23 50 01.9	-2.4
	comp=Z,70nm,1.8s,mb5.3						
ULM				LR	LR		
	comp=Z,817nm,20.0s,MS4.4						
BEKR	Beckwourth	34.13	318	eP	P	23 50 10.2	+1.1
	comp=Z,13nm,0.9s,mb4.9						
EMMW	East Machias	34.32	31	eP	P	23 50 11.5	+0.8
HRY	Holter Researc	34.35	335	eP	P	23 50 11.5	+0.5
WVOR	Wild Horse Val	34.62	323	eP	P	23 50 13.7	+0.4
	comp=Z,34nm,1.0s,mb5.2						
WVOR				LR	LR		
	comp=Z,1µm,19.0s,MS4.7						
NSHM	Saint Helena R	34.91	315	eP	P	23 50 17.4	+1.6
CHMT	Chamberlain Mo	35.11	334	eP	P	23 50 17.2	-0.3
MOD	Modoc	35.27	321	eP	P	23 50 18.3	-0.6
	comp=Z,26nm,1.3s,mb5.0						
BUOR	Burton Butte	36.66	320	P	P	23 50 30.9	+0.2
LNOR	Lincton Mounta	36.70	328	eP	P	23 50 29.6	-1.3
VIPM	Ingram Point	37.05	324	P	P	23 50 33.4	-0.5
HAWA	Hanford	37.69	328	eP	P	23 50 38.3	-0.9
	comp=Z,1.3nm,0.8s						
VGB	Gordon Butte	37.77	326	eP	P	23 50 40.5	+0.5
SAML	Samuel	37.78	131	⇑eP	P	23 50 35.9	-4.4
	comp=Z,25nm,0.9s,mb4.9						
SAML				LR	LR		
	comp=Z,627nm,20.0s,MS4.4						
GBL	Gable Mountain	37.79	328	P	P	23 50 39.8	-0.3
SNIWA	Snively Ranch	37.80	328	P	P	23 50 39.4	-0.8
NEW	Newport	37.84	332	LR	LR	00 10 19.6	
	comp=Z,461nm,19.3s,MS4.3,baz=156,slow=43						
NEW	Newport	37.84	332	eP	P	23 50 39.8	-0.6
	comp=Z,20nm,1.3s,mb4.7						
BENWA	Benson Ranch	37.87	328	P	P	23 50 40.2	-0.5
GBB	Gable Butte	37.88	328	P	P	23 50 40.4	-0.5
OD2	Odessa Site #2	37.96	329	P	P	23 50 41.3	-0.2
DPW	Davenport	38.06	330	eP	P	23 50 42.5	+0.2
GL2	New Goldendale	38.08	326	P	P	23 50 42.7	+0.2
TDH	Tom, Dick, Har	38.18	325	P	P	23 50 44.5	+1.1
VLL	Laurance Lake	38.23	325	P	P	23 50 45.6	+1.8
SSOR	Sweet Springs	38.30	324	P	P	23 50 44.1	-0.2
EPH	Ephrata	38.37	329	P	P	23 50 44.8	-0.1
SAW	Saint Andrews	38.52	329	P	P	23 50 46.4	+0.2
EBG	Ellensburg	38.57	327	P	P	23 50 47.4	+0.8
NAC	Naches	38.58	327	P	P	23 50 47.1	+0.4
ASR	Mount Adams--S	38.61	326	P	P	23 50 48.0	+0.9
TBM	Table Mountain	38.75	328	P	P	23 50 47.6	-0.6
FFC	Flin Flon	38.75	350	P	P	23 50 47.6	-0.5
	comp=Z,78nm,1.0s,mb5.4,SNR=11						
WTV	Waterville	38.78	329	P	P	23 50 48.2	-0.2
ETW	Entiat	38.91	328	P	P	23 50 49.4	-0.1
SHW	Mount Saint He	38.99	325	eP	P	23 50 51.7	+1.5
LON	Longmire	39.11	326	eP	P	23 50 51.5	+0.3
SLFW	Sugar Loaf	39.11	329	P	P	23 50 51.9	+0.7
FMW	Mount Fremont	39.15	327	P	P	23 50 52.0	+0.5
NLW	Nelson Butte	39.23	329	P	P	23 50 52.4	+0.2
WRW	Wenatchee Ridg	39.35	328	P	P	23 50 53.1	0.0
BMW	Boistfort Moun	39.70	325	P	P	23 50 56.1	0.0
PNT	Penticton	39.74	331	P	P	23 50 56.6	+0.3
LPAZ	La Paz	40.03	144	P	P	23 50 57.0	-2.1
	comp=Z,6.3nm,0.5s,mb4.6,baz=317,slow=9.4,SNR=23						
LPAZ	La Paz	40.03	144	eP	P	23 50 57.6	-1.4
	comp=Z,12nm,0.8s,mb4.7						
LPAZ				LR	LR		
	comp=Z,459nm,20.0s,MS4.3						
RPW	Rockport	40.06	329	P	P	23 50 58.5	-0.6
GNW	Green Mountain	40.16	327	eP	P	23 50 58.7	-1.1
EDM	Edmonton	40.25	340	eP	P	23 50 59.9	-0.6
BLN	Blyn Mountain	40.52	327	P	P	23 51 02.8	+0.1
STW	Striped Peak	40.97	327	P	P	23 51 07.2	+0.8
OCWA	Octopus Mounta	40.99	326	eP	P	23 51 06.7	0.0
	comp=Z,33nm,0.8s,mb5.0						
SNB	Saturna Island	41.11	328	P	P	23 51 07.8	+0.2
PGC	Sidney	41.17	328	eP	P	23 51 07.8	-0.3
	comp=Z,85nm,0.8s,mb5.4						
SCHQ	Schefferville	42.40	21	P	P	23 51 18.9	+0.8
	comp=Z,22nm,0.9s,mb4.8,baz=224,slow=7.7						
SCHQ				PcP	PcP	23 53 10.3	-1.7
	comp=Z,6.3nm,0.7s,baz=240,slow=3.1,SNR=6.6						
SCHQ				LR	LR	00 09 57.1	
	comp=Z,3µm,18.7s,MS5.2,baz=147,slow=37						
SCHQ	Schefferville	42.40	21	eP	P	23 51 16.9	-1.2
	comp=Z,187nm,1.7s,mb5.4						
BBB	Bella Bella	45.70	329	LR	LR	00 15 24.5	
	comp=Z,782nm,18.5s,MS4.7,baz=26,slow=42						
YKA	Yellowknife Ar	48.49	346	P	P	23 52 05.9	-0.7
	comp=Z,5.5nm,0.6s,mb4.8,baz=149,slow=7.6,SNR=24						
YKA				LR	LR	00 18 16.4	
	comp=Z,555nm,18.5s,MS4.6,baz=150,slow=43						
YKW3	Yellowknife Ar	48.56	346	eP	P	23 52 05.0	-2.1
FRB	Frobisher Bay	49.47	13	LR	LR	00 14 50.6	
	comp=Z,1µm,18.3s,MS5.0,baz=197,slow=38						
DLBC	Dease Lake	50.42	335	LR	LR	00 14 48.4	
	comp=Z,735nm,20.8s,MS4.7,baz=143,slow=37						
DLBC	Dease Lake	50.42	335	eP	P	23 52 21.5	+0.1
BDFB	Brasilia	53.50	125	P	P	23 52 41.7	-3.5
	comp=Z,3.7nm,0.7s,mb4.5,baz=284,slow=10,SNR=6.8						
BDFB				LR	LR	00 15 59.6	
	comp=Z,472nm,19.6s,MS4.5,baz=304,slow=37						
CPUP	Villa Florida	54.11	142	P	P	23 52 44.8	-4.7
	comp=Z,4.4nm,1.0s,mb4.4,baz=342,slow=7.2,SNR=5.0						
CPUP				LR	LR	00 14 17.0	
	comp=Z,122nm,21.7s,MS3.9,baz=352,slow=34						
DAWY	Dawson	57.37	337	eP	P	23 53 10.6	-2.0
INK	Inuvik	57.98	343	P	P	23 53 15.9	-0.9
	comp=Z,10nm,0.8s,mb4.9,baz=124,slow=7.5,SNR=22						
INK				LR	LR	00 23 27.4	
	comp=Z,515nm,19.3s,MS4.7,baz=233,slow=41						
INK	Inuvik	57.98	343	eP	P	23 53 14.9	-1.8
	comp=Z,14nm,0.8s,mb5.0						
RCBR	Riachuelo	59.20	108	eP	P	23 53 23.5	-2.4
	comp=Z,34nm,0.8s,mb5.4						
PMR	Palmer	60.26	332	eP	P	23 53 31.1	-1.6
	comp=Z,35nm,1.4s,mb5.2						
PLCA	Paso Flores	60.38	162	P	P	23 53 30.8	-3.0
	comp=Z,12nm,0.9s,mb4.9,baz=345,slow=8.0,SNR=14						
PLCA				LR	LR	00 15 44.8	
	comp=Z,411nm,18.6s,MS4.6,baz=100,slow=32						
SLKM	Skilak Lake	60.39	331	eP	P	23 53 32.6	-0.9
ILAR	Eielson Array	60.57	336	P	P	23 53 33.4	-1.3
	comp=Z,14nm,1.1s,mb5.0,baz=109,slow=5.8,SNR=60						
MCK	McKinley	60.97	335	eP	P	23 53 36.1	-1.3
	comp=Z,5.6nm,0.8s,mb4.8						
COLA	College	60.99	336	⇓eP	P	23 53 36.3	-1.2
COLA	College	60.99	336	eP	P	23 53 36.2	-1.3
	comp=Z,19nm,0.8s,mb5.3						
SPU	Mount Spurr	61.45	331	eP	P	23 53 39.2	-1.5
CAM4	Nova Friburgo	61.56	128	(P)	P	23 53 39.1	-2.9
CAM4				i		23 53 47.2	
CAM4				i		23 54 00.1	
CAM4				i		23 54 10.5	
CAM4				i		23 54 18.4	
CAM4	Nova Friburgo	61.56	128	P	P	23 53 39.1	-2.9
CAM4				i		23 53 47.2	
CAM4				i		23 54 00.1	
CAM4				i		23 54 10.5	
CAM4				i		23 54 18.4	
RSO	Redoubt South	61.56	330	eP	P	23 53 40.7	-0.8
CAM3	Guarapari	62.23	125	eP	P	23 53 43.9	-2.7
CAM3				i	pP	23 53 46.3	-3.4
CAM3				i	pP	23 53 48.9	-0.8
CAM3				i		23 53 58.9	
CAM3	Guarapari	62.23	125	eP	P	23 53 43.9	-2.7
CAM3				i	pP	23 53 46.3	-3.4
CAM3				i	pP	23 53 48.9	-0.8
CAM3				i		23 53 58.9	
TTA	Tatalina	63.74	333	eP	P	23 53 54.5	-1.4
	comp=Z,4.4nm,0.3s,mb5.0						
BORG	Borgarnes	66.43	26	LR	LR	00 21 39.0	
	comp=Z,906nm,20.5s,MS5.0,baz=80,slow=34						
DCN	Croghan	73.18	39	eP	P	23 54 52.7	-2.0
EMAZ	Mazaricos	73.22	49	P	P	23 54 52.4	-2.8
	comp=Z,117nm,1.7s,mb5.5						
DMUB	Kingscourt	73.34	38	eP	P	23 54 53.9	-1.7
STS	Santiago	73.54	49	P	P	23 54 54.8	-2.2
	comp=Z,47nm,1.3s,mb5.3						
DLF	Lyons Farm	73.63	39	eP	P	23 54 54.2	-3.1
ELOB	Lobios	74.04	50	P	P	23 54 58.0	-1.9
	comp=Z,41nm,1.6s,mb5.1						
PVIS	Viseu	74.34	52	eP	P	23 55 01.4	-0.3
EPON	Pontenova	74.50	49	P	P	23 54 59.8	-2.7
	comp=Z,64nm,1.7s,mb5.3						
EVO	Evora	74.59	54	eP	P	23 55 01.1	-2.1
	comp=Z,23nm,1.0s,mb4.8						
EVO				eR			
	comp=Z,592nm,22.5s						
MTE	Manteigas	74.65	52	eP	P	23 55 03.1	-0.4
	comp=Z,26nm,2.0s,mb4.8						
PBEJ	Beja	74.79	54	eP	P	23 55 04.4	+0.1
	comp=Z,27nm,1.6s,mb4.9						
PCBR	Castelo Branco	74.79	52	eP	P	23 55 03.1	-1.2
	comp=Z,35nm,1.8s,mb5.0						
ECAL	Calabor	75.01	50	P	P	23 55 05.3	-0.2
	comp=Z,74nm,1.9s,mb5.3						
PBRG	Braganca	75.03	50	eP	P	23 55 05.5	-0.1
	comp=Z,46nm,1.6s,mb5.2						
PALC	Alcoutim	75.19	55	eP	P	23 55 06.1	-0.6
	comp=Z,47nm,1.6s,mb5.2						
EBAD	Badajoz	75.33	54	P	P	23 55 02.6	-4.8
	comp=Z,50nm,2.3s,mb5.0						
EMIN	Mina Concepcio	75.76	54	P	P	23 55 09.4	-0.5
	comp=Z,19nm,1.4s,mb4.8						
ROSF	Rostrenen	76.37	43	eP	P	23 55 11.5	-1.6
	comp=Z,218nm,1.3s,mb5.6						
QUIF	Quistinic	76.52	44	eP	P	23 55 13.4	-0.5
ESPR	Espera	76.57	55	P	P	23 55 11.7	-2.8
	comp=Z,62nm,1.9s,mb5.2						
SGMF	Saint Gilles	76.86	43	eP	P	23 55 15.0	-0.8
	comp=Z,324nm,1.7s,mb5.7						
ELAN	Lanestosa	77.19	49	P	P	23 55 15.3	-2.4
	comp=Z,55nm,1.6s,mb5.2						
EADA	Adamuz	77.31	54	P	P	23 55 16.4	-2.2
	comp=Z,47nm,1.4s,mb5.2						
EMIJ	Mijas	77.48	55	P	P	23 55 18.7	-0.9
	comp=Z,27nm,1.6s,mb4.9						
ESDC	Sonseca Array	77.49	52	P	P	23 55 18.5	-1.0
	comp=Z,3.0nm,0.6s,mb4.4,baz=287,slow=5.7,SNR=27						
ESDC				LR	LR	00 24 08.0	
	comp=Z,345nm,20.4s,MS4.7,baz=270,slow=32						
ESDC	Sonseca Array	77.49	52	P	P	23 55 16.6	-2.9
	comp=Z,22nm,1.6s,mb4.8						
ESLA	Sonseca Array	77.49	52	⇑iP	P	23 55 18.6	-0.9
	comp=Z,9.6nm,1.4s,mb4.5						
ELOJ	Sierra Loja	77.85	55	P	P	23 55 20.4	-1.1
	comp=Z,12nm,1.2s,mb4.7						
GRR	Gorron	77.94	43	eP	P	23 55 21.5	-0.3
	comp=Z,216nm,1.0s,mb5.7						
FLN	La Foliniere	78.11	43	eP	P	23 55 22.7	0.0
	comp=Z,130nm,0.9s,mb5.5						
FLN				eR			
	comp=Z,1µm,21.8s						
ERON	Agron	78.15	55	P	P	23 55 22.6	-0.6
	comp=Z,6.0nm,0.6s,mb4.7						
LDF	La Druitiere	78.38	43	eP	P	23 55 23.9	-0.3
	comp=Z,101nm,1.0s,mb5.4						
EQES	Quesada	78.55	54	P	P	23 55 23.4	-2.0
	comp=Z,40nm,1.5s,mb5.1						
EALK	Alkurruntz	78.57	48	P	P	23 55 23.7	-1.7
	comp=Z,106nm,1.8s,mb5.5						
ETOR	Torete	78.68	51	P	P	23 55 24.5	-1.5
	comp=Z,69nm,2.1s,mb5.2						
MFF	Saint Martin d	78.79	45	eP	P	23 55 26.1	-0.4
	comp=Z,67nm,1.2s,mb5.2						
SJPF	Ste Jean	78.79	48	eP	P	23 55 26.5	-0.1
	comp=Z,141nm,1.5s,mb5.4						
EVIA	Vianos	78.81	53	P	P	23 55 26.1	-0.7
	comp=Z,26nm,1.2s,mb5.0						
LARF	Larrau	78.98	48	eP	P	23 55 27.7	+0.1
ETSF	Etsaut	79.32	48	eP	P	23 55 29.4	-0.1
	comp=Z,55nm,1.0s,mb5.1						
FDAF	Les Forges d'A	79.33	48	eP	P	23 55 29.6	+0.1
REYF	Montagne du Re	79.40	48	eP	P	23 55 29.7	-0.2
ETOB	Tobarra	79.54	53	P	P	23 55 29.1	-1.7
	comp=Z,66nm,1.7s,mb5.3						
ESAC	San Caprasio	79.65	50	P	P	23 55 29.0	-2.3
	comp=Z,87nm,1.2s,mb5.6						
VIEF	Viey	79.74	48	eP	P	23 55 31.9	+0.2
LFF	La Frestale	79.77	46	eP	P	23 55 31.4	-0.5
	comp=Z,74nm,0.8s,mb5.3						
EPF	Esparros	79.93	48	eP	P	23 55 32.5	-0.3
EMOS	Mosqueruela	79.96	51	P	P	23 55 31.0	-2.0
	comp=Z,43nm,1.2s,mb5.3						
EMUR	La Murta	79.96	54	P	P	23 55 31.3	-1.8
	comp=Z,42nm,1.7s,mb5.1						
RESF	Ens	79.98	48	eP	P	23 55 33.0	0.0
RJF	Les Rejaudoux	80.21	46	eP	P	23 55 33.8	-0.4
RJF				eR			
	comp=Z,825nm,22.0s						
TCF	Toulx Ste Croi	80.45	45	eP	P	23 55 34.8	-0.7
	comp=Z,38nm,0.8s,mb5.1						
MLS	Moulis	80.48	48	eP	P	23 55 35.2	-0.5
HYF	Humbligny	80.49	44	eP	P	23 55 35.6	-0.1
EBR	Ebro Roquetas	80.56	50	eP	P	23 55 32.2	-4.0
SALF	Salau	80.60	48	eP	P	23 55 36.4	+0.1
CAF	Calviac	80.68	46	eP	P	23 55 36.0	-0.7
BAIF	Baives	80.79	41	eP	P	23 55 37.1	-0.1
BGF	Bois d'Agland	80.81	44	eP	P	23 55 36.8	-0.5
	comp=Z,64nm,0.7s,mb5.4						
EMIR	Miracle	81.05	49	P	P	23 55 38.7	-0.1
	comp=Z,292nm,2.9s,mb5.7						
AVF	Avril sur Loir	81.08	44	eP	P	23 55 37.8	-1.0
	comp=Z,25nm,0.8s,mb4.9						
SSF	Saint Saulge	81.12	44	eP	P	23 55 38.2	-0.8
	comp=Z,29nm,0.7s,mb5.0						
PYM	Petit Puy Mans	81.12	45	eP	P	23 55 38.5	-0.5
GIVF	Givet	81.16	40	eP	P	23 55 39.3	+0.2
MTLF	Montolieu	81.19	47	eP	P	23 55 38.9	-0.5
	comp=Z,109nm,1.5s,mb5.3						
LOR	Lormes	81.30	43	eP	P	23 55 39.6	-0.3
	comp=Z,114nm,1.3s,mb5.3						
LOR				eR			
	comp=Z,984nm,23.0s						
NB2	NORSAR Subarra	81.40	29	P	P	23 55 41.2	+1.1
	comp=Z,131nm,2.5s,mb5.4,baz=290,slow=5.3						
NB2	NORSAR Subarra	81.40	29	P	P	23 55 41.2	+1.1
	baz=290,slow=5.6						
NOA	NORSAR Array B	81.40	29	P	P	23 55 40.3	+0.2
	comp=Z,4.5nm,0.8s,mb4.5,baz=290,slow=5.2,SNR=15						
NOA				LR	LR	00 30 29.0	
	comp=Z,687nm,19.4s,MS5.0,baz=270,slow=35						
NOA	NORSAR Array B	81.40	29	P	P	23 55 40.3	+0.2
NOA				LR	LR	00 30 29.0	
LBL	Lubilhac	81.42	45	eP	P	23 55 40.4	-0.2
SMF	Signal de Mont	81.45	44	eP	P	23 55 39.8	-0.9
	comp=Z,46nm,0.9s,mb5.1						
FILF	Fillols	81.63	48	eP	P	23 55 40.4	-1.3
HGN	Heimansgroeve	81.66	40	⇑iP	P	23 55 42.1	+0.4
	comp=Z,20nm,1.0s,mb5.0						
MEZF	Maizieres J'vi	81.74	42	eP	P	23 55 42.1	-0.1
	comp=Z,70nm,1.0s,mb5.3						
WTSB	Winterswijk	81.85	38	eP	P	23 55 43.3	+0.6
	comp=Z,35nm,1.5s,mb5.1						

SJAF	Saint Jean de	81.88	48	eP	P	23 55 42.8	-0.2
EJON	La Jonquera	81.89	48	P	P	23 55 38.7	-4.4
	comp=Z,64nm,1.8s,mb5.2						
LASF	Ste Croix	82.14	46	eP	P	23 55 44.7	+0.3
THEF	They Montfort	82.41	42	eP	P	23 55 45.7	0.0
VIVF	Saint-Julien-l	82.49	46	eP	P	23 55 46.5	+0.3
	comp=Z,207nm,1.6s,mb5.5						
HAU	Haudompre	82.71	42	eP	P	23 55 47.2	0.0
	comp=Z,82nm,1.1s,mb5.3						
HAU				eR			
	comp=Z,856nm,22.2s						
HFS	Hagfors	82.86	29	P	P	23 55 48.6	+0.9
	comp=Z,5.1nm,0.7s,mb4.7,baz=243,slow=3.2,SNR=9.9						
CABF	La Chapelle	82.94	44	eP	P	23 55 48.5	0.0
HINF	Hinteralfeld	83.09	42	eP	P	23 55 49.0	-0.2
	comp=Z,34nm,1.0s,mb5.0						
PRAF	Pradon	83.13	46	eP	P	23 55 50.0	+0.5
ECH	Echery	83.17	42	eP	P	23 55 49.7	+0.1
CDF	Champ du Feu	83.18	42	eP	P	23 55 49.8	+0.1
LOMF	Lomont	83.21	43	eP	P	23 55 49.7	-0.1
MOF	Molkenrain	83.26	42	eP	P	23 55 49.9	-0.2
ORIF	Oris-en-Rattie	83.30	45	eP	P	23 55 50.5	+0.2
	comp=Z,56nm,1.3s,mb5.1						
ORIF				eR			
	comp=Z,946nm,22.5s						
ARCES	ARCESS Array B	83.30	18	P	P	23 55 50.8	+1.0
	comp=Z,3.5nm,0.7s,mb4.5,baz=326,slow=4.4,SNR=8.3						
ARCES				LR	LR	00 32 05.4	
	comp=Z,925nm,20.6s,MS5.1,baz=207,slow=35						
LANF	Langenberg	83.34	41	eP	P	23 55 50.9	+0.4
SMRF	Simiane la Rot	83.36	46	eP	P	23 55 51.3	+0.6
	comp=Z,14nm,0.7s,mb4.8						
GELF	Grande-Etoile	83.43	47	eP	P	23 55 50.7	-0.3
LIBD	Limburg	83.47	42	eP	P	23 55 51.3	+0.2
VILF	Villemus	83.49	46	eP	P	23 55 51.8	+0.5
RSL	Roselend	83.57	44	eP	P	23 55 52.1	+0.4
PUYF	Puyloubier	83.58	47	eP	P	23 55 50.7	-1.1
OG25	Le Caire	83.59	46	eP	P	23 55 52.4	+0.6
BERF	Bertagne	83.63	47	eP	P	23 55 51.8	-0.3
LPL	La Plagne	83.69	44	eP	P	23 55 53.2	+0.8
LPG	La Plagne	83.71	44	eP	P	23 55 53.3	+0.8
TAVF	Tavernes	83.80	46	eP	P	23 55 53.2	+0.3
FELD	Feldberg	83.81	42	eP	P	23 55 49.9	-3.0
BFO	Black Forest	83.88	41	eP	P	23 55 53.3	+0.1
BFO				pmax	pmax		
	comp=Z,56nm,1.7s,mb5.4						
BFO	Black Forest	83.88	41	eP	P	23 55 53.3	+0.1
	comp=Z,56nm,1.7s,mb5.4						
RRL	Cesana Torines	83.91	45	P	P	23 55 54.1	+0.6
MBDF	Montbardon	83.96	45	eP	P	23 55 54.1	+0.4
	comp=Z,25nm,0.7s,mb5.2						
CLZ	Clausthal	83.99	38	eP	P	23 55 54.9	+1.2
	comp=Z,77nm,1.7s,mb5.6						
LSD	Ceresole Reale	84.00	44	P	P	23 55 54.7	+0.8
FENE	Fenestrelle	84.06	45	P	P	23 55 54.5	+0.2
RSP	Reno Superiore	84.16	45	P	P	23 55 55.4	+0.6
LMR	La Mourre	84.20	47	eP	P	23 55 54.9	0.0
FRF	La Foret Royal	84.22	46	eP	P	23 55 55.1	0.0
PZZ	Prazzo	84.25	45	P	P	23 55 56.0	+0.8
BHB	Bricherasio	84.26	45	P	P	23 55 55.4	+0.2
TRAV		84.38	44	P	P	23 55 56.1	+0.4
MCGN	Macugnaga	84.40	44	⇑iP	P	23 55 57.1	+1.3
MVIF	Mont Vial	84.47	46	eP	P	23 55 56.4	+0.1
STV	Sta Anna Valdi	84.48	46	P	P	23 55 56.0	-0.4
STV2	Anna di Valdie	84.48	46	P	P	23 55 56.2	-0.1
ORO	Oropa	84.50	44	eP	P	23 55 57.1	+0.7
TOUF	Mont Tournerai	84.50	46	eP	P	23 55 56.6	+0.1
ENR	Entracque	84.55	46	P	P	23 55 57.6	+0.9
AURF	Auriere	84.59	46	eP	P	23 55 56.8	-0.1
AUTN	L’Aution	84.63	46	eP	P	23 55 57.3	+0.2
SBF	Sospel	84.68	46	eP	P	23 55 57.4	+0.1
	comp=Z,48nm,1.1s,mb5.3						
DBIC	Dimbokro	84.72	85	P	P	23 55 57.2	-1.0
	comp=Z,1.9nm,0.6s,mb4.4,baz=270,slow=9.7,SNR=3.7						
DBIC				LR	LR	00 27 20.7	
	comp=Z,295nm,21.8s,MS4.6,baz=269,slow=31						
DBIC	Dimbokro	84.72	85	P	P	23 55 57.2	-1.1
DBIC				LR	LR	00 27 20.7	
MONE	Monesi	84.83	46	P	P	23 55 57.8	-0.2
ROB	Roburent	84.84	45	P	P	23 55 58.0	-0.1
NEGI	Negi	84.86	46	P	P	23 55 57.6	-0.7
VAI	Varese	84.94	44	⇑iP	P	23 55 58.5	-0.1
IMI	Imperia	84.97	46	P	P	23 55 58.5	-0.3
RORO		85.03	46	P	P	23 55 58.4	-0.7
FIN	Finale Ligure	85.10	45	P	P	23 55 59.3	-0.1
MOX	Moxa	85.13	39	iP	P	23 56 00.3	+0.9
	comp=Z,logA/T=1.9,mb5.8						
MOX				L		00 31 57.0	
MOX	Moxa	85.13	39	eP	P	23 56 00.3	+0.9
MOX				pmax	pmax		
	comp=Z,175nm,2.5s,mb5.8						
MOX				MLR	MLR		
	comp=Z,500nm,22.0s,MS4.9						
MOX	Moxa	85.13	39	eP	P	23 56 00.3	+0.9
	comp=Z,175nm,2.5s,mb5.8						
MOX				LR	LR		
	comp=Z,500nm,22.0s,MS4.9						
PCP	Pian Castagno	85.22	45	P	P	23 55 59.8	-0.2
GRA1	Grafenberg Arr	85.23	40	eP	P	23 56 01.1	+1.2
	comp=Z,194nm,2.3s,mb5.8						
GRF	Grafenberg Arr	85.23	40	eP	P	23 56 01.1	+1.2
GRF				pmax	pmax		
	comp=Z,194nm,2.3s,mb5.8						
CLL	Collm	85.71	38	⇑P	P	23 56 02.9	+0.6
	comp=Z,logA/T=1.2,mb5.2						
CLL				e*PP	pP	23 56 11.0	+5.5
CLL				i		23 56 20.1	
CLL				e		23 56 37.0	
CLL	Collm	85.71	38	⇑iP	P	23 56 02.9	+0.6
CLL				e		23 56 11.0	
CLL				i		23 56 20.1	
CLL				pmax	pmax		
	comp=Z,15nm,1.0s,mb5.2						
CLL				MLR	MLR		
	comp=Z,800nm,20.1s,MS5.1						
CLL	Collm	85.71	38	⇑iP	P	23 56 02.9	+0.6
	comp=Z,15nm,1.0s,mb5.2						
CLL				e		23 56 11.0	
CLL				i		23 56 20.1	
CLL				LR	LR		
	comp=Z,800nm,20.1s,MS5.1						
NKC	Novy Kostel	85.78	39	eP	P	23 56 03.4	+0.7
BRMO	Bormio	85.79	43	eP	P	23 56 03.5	+0.7
CODM		86.15	45	P	P	23 56 04.0	-0.7
PGF	Pioggiola	86.18	47	eP	P	23 56 04.7	-0.2
	comp=Z,110nm,1.3s,mb5.6						
GRAM		86.26	45	P	P	23 56 05.0	-0.3
BACM		86.34	45	P	P	23 56 04.7	-0.9
BRG	Berggiesshubel	86.43	38	iP	P	23 56 07.2	+1.3
BRG				e		23 56 22.3	
BRG				pmax	pmax		
	comp=Z,194nm,2.6s,mb5.9						
BRG	Berggiesshubel	86.43	38	iP	P	23 56 07.2	+1.3
	comp=Z,194nm,2.6s,mb5.9						
BRG				e		23 56 22.3	
WET	Wettzell	86.43	40	eP	P	23 56 07.1	+1.2
WET				pmax	pmax		
	comp=Z,115nm,2.1s,mb5.7						
WET	Wettzell	86.43	40	eP	P	23 56 07.1	+1.2
	comp=Z,115nm,2.1s,mb5.7						
VALM		86.43	45	P	P	23 56 05.2	-0.8
VINC	Vinca	86.44	45	P	P	23 56 05.1	-1.0
ERBM	Eremo	86.52	45	eP	P	23 56 07.0	+0.5
KHC	Kasperske Hory	86.86	39	eP	P	23 56 08.5	+0.5
KHC				ex	x	23 56 24.0	
ZCCA	Zocca	86.92	45	⇑iP	P	23 56 09.1	+0.6
PVCC	Panska Ves	86.93	38	eP	P	23 56 08.9	+0.6
GEC2	GERESS Array S	87.05	40	eP	P	23 56 09.5	+0.6
GEC2				pmax	pmax		
	comp=Z,24nm,0.2s,mb6.1						
GEC2	GERESS Array S	87.05	40	eP	P	23 56 09.5	+0.6
	comp=Z,24nm,0.2s,mb6.1						
GERES	GERESS Array B	87.05	40	P	P	23 56 09.8	+0.9
	comp=Z,4.8nm,1.0s,mb4.7,baz=297,slow=3.0,SNR=15						
FNVD	Fontana Vidola	87.09	45	⇑iP	P	23 56 09.2	-0.1
PRU	Pruhonice	87.12	38	eP	P	23 56 08.0	-1.3
GRFL	Gerfalco	87.34	46	eP	P	23 56 10.8	+0.3
KAF	Kangasniemi	87.45	25	ep	P	23 56 07.6	-3.0
	comp=Z,3.1nm,0.8s,mb4.6						
KAF	Kangasniemi	87.45	25	eP	P	23 56 07.6	-3.0
KAF				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.6						
SFI	Santa Sofia	87.67	45	eP	P	23 56 12.6	+0.6
TIXI	Tiksi	87.69	348	⇓eP	P	23 56 11.1	-0.4
TIXI				pmax	pmax		
	comp=Z,28nm,2.1s,mb5.1						
FINES	FINESS Array B	87.71	25	P	P	23 56 12.2	+0.4
	comp=Z,4.7nm,0.6s,mb4.9,baz=305,slow=3.2,SNR=19						
FINES				LR	LR	00 34 04.5	
	comp=Z,372nm,18.3s,MS4.8,baz=118,slow=35						
PTCC	Patocco-Chiusa	87.75	42	eP	P	23 56 12.8	+0.5
UPC	Upice	87.78	38	eP	P	23 56 11.5	-0.9
DPC	Dobruska-Polom	88.03	38	eP	P	23 56 14.6	+1.0
OKC	Ostrava-Krasne	89.31	38	eP	P	23 56 18.9	-0.8
ZST	Bratislava	89.38	39	eP	P	23 56 20.6	+0.5
SMOL	Smolenice	89.44	39	eP	P	23 56 22.3	+1.9
VYHS	Vyhne	90.30	39	eP	P	23 56 25.0	+0.6
PSZ	Piszkesteto	91.19	39	P	P	23 56 28.9	+0.4
	comp=Z,7.8nm,1.5s,mb4.8						
MGR	Morigerati	91.65	47	eP	P	23 56 31.1	+0.3
KOLS	Kolonicke sedl	92.12	37	eP	P	23 56 30.5	-2.3
YAK	Yakutsk	95.04	342	c iP	P	23 56 47.7	+1.8
YAK				pmax	pmax		
	comp=Z,18nm,0.6s,mb5.7						
AKASG	Malin Array Be	95.05	33	P	P	23 56 47.3	+1.1
	comp=Z,0.3nm,0.3s,mb4.2,baz=296,slow=4.0,SNR=5.4						
AKASG				PP	PP	00 00 36.1	-1.7
	comp=Z,0.3nm,0.3s,baz=297,slow=6.4,SNR=4.2						
AKASG				LR	LR	00 39 46.0	
	comp=Z,330nm,19.2s,MS4.8,baz=295,slow=36						
OBN	Obninsk	95.92	27	eP	P	23 56 48.7	-1.4
OBN				e		00 07 17.8	
OBN				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb5.1						
OBN				MLR	MLR		
	comp=Z,900nm,18.0s,MS5.3						
MLR	Muntele Rosu	96.01	39	P	P	23 56 51.4	+0.7
	comp=Z,3.4nm,1.0s,mb4.7,baz=129,slow=14,SNR=4.9						
KIS	Kishinev	96.89	37	eP	Px	23 56 40.0	
ANN	Anapa	103.02	35	eP	Px	23 57 05.6	
ANN				pmax	pmax		
	comp=Z,17nm,1.0s						
CN2	Changchun	110.96	332	ePKP	PKPdf	00 01 58.3	-0.2
CN2				ePP	PP	00 02 41.0	+2.7
CN2				LR	LR		
	comp=N,310nm,16.0s,MS5.3						
CN2				LR	LR		
	comp=E,500nm,16.0s,MS5.3						
CN2				LR	LR		
	comp=Z,410nm,23.0s						
SONM	Songino Array	113.75	347	PKP	PKPdf	00 02 00.8	-3.1
	comp=Z,0.4nm,0.5s,SNR=5.9						
BJI	Beijing	117.94	336	PKP	PKPdf	00 02 13.0	+0.8
BJI				PP	PP	00 03 32.0	+3.7
BJI				LR	LR		
	comp=N,377nm,21.0s,MS5.1						
BJI				LR	LR		
	comp=E,262nm,20.1s,MS5.1						
BJI				LR	LR		
	comp=Z,234nm,23.2s,MS4.7						
HHC	Hu-ho-hao-te	118.85	340	ePKP	PKPdf	00 02 11.3	-2.7
AAK	Ala-Archa	119.45	12	ePKIKP	PKPdf	00 02 14.1	-0.9
WMQ	Urumqi	119.69	1	ePKP	PKPdf	00 02 13.1	-2.3
WMQ				LR	LR		
	comp=N,249nm,19.6s,MS5.1						
WMQ				LR	LR		
	comp=E,375nm,19.6s,MS5.1						
WMQ				LR	LR		
	comp=Z,486nm,19.6s,MS5.1						
NJ2	Nanjing	123.49	329	ePKP	PKPdf	00 02 18.0	-5.2
NJ2				PP	PP	00 04 05.0	-1.3
NJ2				PKS	PKS	00 05 53.0	-2.8
NJ2				PP	PP		
	comp=Z,40nm,6.5s						
NJ2				LR	LR		
	comp=N,200nm,18.8s,MS4.9						
NJ2				LR	LR		
	comp=E,180nm,20.4s,MS4.9						
NJ2				LR	LR		
	comp=Z,150nm,18.0s,MS4.7						
LZH	Lanzhou	125.50	345	ePKP	PKPdf	00 02 24.0	-3.0
LZH				XPKP		00 02 28.5	
LZH				ePP	PP	00 04 19.5	+0.2
LZH				PKS	PKS	00 05 59.3	-0.2
LZH				PP	PP		
	comp=Z,166nm,6.5s						
LZH				LR	LR		
	comp=N,265nm,18.3s						
LZH				LR	LR		
	comp=Z,498nm,20.2s,MS5.2						
MAW	Mawson	126.55	168	PKP	PKPdf	00 02 23.6	-4.5
	comp=Z,1.3nm,0.5s,baz=209,slow=5.8,SNR=15						
STKA	Stephens Creek	129.97	242	PKP	PKPdf	00 02 30.6	-5.1
	comp=Z,1.8nm,1.1s,baz=119,slow=18,SNR=2.0						
GYA	Guiyang	133.60	338	ePKP	PKPdf	00 02 39.1	-3.5
GYA				PKS	PKS	00 06 14.0	-0.8
GYA				SKKS		00 11 59.6	
GYA				PP	PP		
	comp=Z,160nm,7.6s						
GYA				LR	LR		
	comp=N,590nm,16.8s,MS5.4						
GYA				LR	LR		
	comp=E,430nm,19.8s,MS5.4						
GYA				LR	LR		
	comp=Z,230nm,17.6s,MS5.0						
GKN	Gorkha	135.31	5	eP	PKPdf	00 02 42.2	-3.6
KOLN	Koldanda	135.44	6	eP	PKPdf	00 02 43.0	-3.1
	comp=Z,23nm,1.3s						
KKN	Kakani	135.57	4	eP	PKPdf	00 02 42.7	-3.6
DMN	Daman	135.74	5	eP	PKPdf	00 02 42.9	-3.7
PKI	Pulchoki	135.80	4	eP	PKPdf	00 02 42.7	-4.0
	comp=Z,12nm,1.0s						
KMI	Kunming	136.16	341	ePKP	PKPdf	00 02 43.6	-3.8
KMI				PP	PP	00 05 28.8	+0.8
KMI				PP	PP		
	comp=Z,91nm,8.0s						
KMI				LR	LR		
	comp=N,337nm,19.7s,MS5.2						
KMI				LR	LR		
	comp=E,258nm,16.8s,MS5.2						
KMI				LR	LR		
	comp=Z,406nm,21.9s						
WRA	Warramunga Arr	136.66	259	PKP	PKPdf	00 02 44.6	-3.8
	comp=Z,2.6nm,1.1s,baz=84,slow=2.5,SNR=9.7						
ASAR	Alice Springs	137.16	253	PKhKP		00 02 40.1	
	comp=Z,0.5nm,0.8s,baz=108,slow=4.1,SNR=4.8						
ASAR				PKP	PKPdf	00 02 45.3	-3.9
	comp=Z,0.7nm,0.6s,baz=100,slow=2.3,SNR=8.2						
CMAR	Chiang Mai Arr	143.56	343	PKP	PKPdf	00 02 57.1	-3.7
	comp=Z,3.5nm,0.8s,baz=340,slow=3.4,SNR=11						
FITZ	Fitzroy Crossi	144.76	262	eP	PKPbc	00 02 58.7	-1.2
	comp=Z,8.4nm,0.9s						
KGD	Kothagudem	144.95	13	ePKiK		00 03 03.9	
KGD				ePP	PP	00 06 18.6	-3.5
KGD				eSS	SS	00 25 10.3	+1.7

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*LDG **17** 23:51:04.5±0.7, 42.86N×1.44W, h2^{km}, Md1.9/2, Ml1.5/2, Error ellipse: s-maj=12.3km s-min=7.0km az=55.0*
*MDD **17** 23:51:06.7±0.9, 43.30N×1.09W, mbLg0.6/2, Error ellipse: s-maj=6.9km s-min=3.4km az=9.0, PRXIMO*
ISC 17 23:51:02.7±1.9**, 42.83N**±0.09×**1.44W**±0.10**, h2^{km}, n7, σ1^{s}19**/11**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	Ste Jean	0.33	28	ePg	Pg	23 51 10.6	+1.4
SJPF				eSg	Sg	23 51 13.5	0.0
	8.6nm,0.3s						
EALK	Alkurruntz	0.40	352	Pg	Pg	23 51 11.9	+1.3
	4.3nm,0.7s,SNR=7.4						
EALK				Lg		23 51 17.4	
	3.7nm,0.3s,SNR=7.1						
ETSF	Etsaut	0.65	83	ePg	Pg	23 51 16.3	+0.7
ETSF				eSg	Sg	23 51 24.8	+0.5
	1.5nm,0.2s						
EPF	Esparros	1.32	80	ePg	Pg	23 51 29.4	+0.4
EPF				eSg	Sg	23 51 46.8	+0.2
	1.4nm,0.2s						
LFF	La Frestale	2.63	36	ePg	Pg	23 51 52.8	-2.5
MTLF	Montolieu	2.73	78	ePn	Pn	23 51 47.7	-0.5
CAF	Calviac	3.29	49	ePn	Pn	23 51 54.2	-2.0
CAF				eSn	Sn	23 52 32.5	-4.0
	0.1nm,0.2s						

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*MDD **18** 00:12:53.3±0.6, 42.89N×1.47W, h2^{km}±11^{km}, mbLg1.2/3, Error ellipse: s-maj=4.2km s-min=3.0km az=46.0, PRXIMO*
AftershockPLICA
*LDG **18** 00:12:54.2±0.8, 42.92N×1.43W, h3^{km}, Md2.1/2, Ml1.8/2, Error ellipse: s-maj=14.1km s-min=8.2km az=63.0*
ISC 18 00:12:51.2±0.8**, 42.84N**±0.05×**1.48W**±0.05**, h11^{km}**±7^{km}**, n10, σ1^{s}00**/17**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	Ste Jean	0.33	34	ePg	Pg	00 12 59.2	+1.2
SJPF				eSg	Sg	00 13 02.0	-0.6
	24nm,0.3s						
EALK	Alkurruntz	0.38	357	Pg	Pg	00 12 58.3	-0.7
	1.2nm,0.2s,SNR=7.2						
EALK				Lg		00 13 04.1	
	3.3nm,0.2s,SNR=12						
LARF	Larrau	0.41	61	P	Pg	00 13 00.8	+1.2
LARF				S	Sg	00 13 06.4	+1.1
ETSF	Etsaut	0.68	85	ePg	Pg	00 13 04.9	+0.1
ETSF				eSg	Sg	00 13 13.6	-0.4
	1.5nm,0.3s						
ESAC	San Caprasio	1.35	146	Pg	Pg	00 13 18.0	-0.1
	2.5nm,0.2s,SNR=4.0						
ESAC				Lg		00 13 35.6	
	4.7nm,0.2s,SNR=5.5						
EPF	Esparros	1.35	81	ePn	Pn	00 13 17.1	+1.1
EPF				ePg	Pg	00 13 19.3	+1.1
EPF				eSg	Sg	00 13 35.9	-0.3
	1.4nm,0.2s						
ELAN	Lanestosa	1.49	286	Pg	Pg	00 13 21.5	+0.6
	0.3nm,0.2s,SNR=7.9						
ELAN				Lg		00 13 39.7	
	0.5nm,0.2s,SNR=7.9						
ETOR	Torete	2.07	192	Pg	Pg	00 13 31.9	-0.6
	0.3nm,0.3s,SNR=7.9						
ETOR				Lg		00 13 54.9	
	0.5nm,0.3s,SNR=7.9						
LFF	La Frestale	2.64	37	ePg	Pg	00 13 41.8	-2.1
LFF				eSg	Sg	00 14 14.0	-5.1
	0.8nm,0.2s						
MTLF	Montolieu	2.75	78	ePg	Pg	00 13 44.1	-2.0
MTLF				eSn	Sn	00 14 09.4	-0.2

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*NEIC **18** 00:27:30.4, 38.75N×22.83E, h30^{km}, ML2.9(ATH), After ATH.*
*THE **18** 00:27:30.9, 38.77N×22.81E, h1^{km}, ML3.0*
*ATH **18** 00:27:30.4, 38.75N×22.83E, h29^{km}, MD2.8/7, ML2.9*
ISC 18 00:27:30.5±0.6**, 38.75N**±0.04×**22.77E**±0.06**, h27^{km}**±8^{km}**, n12, σ0^{s}68**/21**, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AGG	Agios Georgios	0.43	308	ePg	Pb	00 27 39.2	-0.6
AGG				eSg	Sb	00 27 46.3	+0.3
NEO	Neokhori	0.66	32	ePN	Pn	00 27 43.8	-0.2
NEO				eSN	Sn	00 27 52.5	-1.0
XOR	Xorichti	0.69	28	ePg	Pb	00 27 43.9	-0.1
XOR				eSg	Sb	00 27 53.1	0.0
EVR	Evrytania	0.77	283	ePN	Pn	00 27 46.5	+0.9
AOS	Alonnisos	0.96	64	ePg	Pn	00 27 48.4	0.0
AOS				eSg	Sb	00 28 01.6	+0.8
MPAR	Parnis Oros	0.97	128	ePN	Pn	00 27 48.5	0.0
MPAR				eSN	Sn	00 28 01.0	-0.4
NSAL	Nisos Salamina	1.01	147	ePN	Pn	00 27 47.5	-1.5
NSAL				eSN	Sn	00 28 03.0	+0.6
ATH	Athens Observa	1.08	136	ePN	Pn	00 27 50.0	-0.1
ATH				eSN	Sn	00 28 05.0	+0.8
PTL	Penteli	1.11	129	ePN	Pn	00 27 50.3	-0.2
PTL				eSN	Sn	00 28 05.9	+0.8
PTL	Penteli	1.11	129	ePn	Pn	00 27 50.3	-0.2
PTL				eSn	Sn	00 28 06.0	+0.9
NAIG	Nisos Aigina	1.14	150	ePB	Pb	00 27 50.5	-1.0
LIT	Litokhoron	1.36	351	ePb	Pb	00 27 56.0	+0.7

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*THE **18** 00:37:47.3, 38.68N×22.79E, h6^{km}*
*NEIC **18** 00:37:48.7, 38.72N×22.86E, h4^{km}, MD2.7(ATH), After ATH.*
*ATH **18** 00:37:48.7, 38.71N×22.87E, h4^{km}, MD2.7/6*
ISC 18 00:37:47.5±0.6**, 38.71N**±0.03×**22.80E**±0.05**, h9^{km}**±10^{km}**, n10, σ0^{s}72**/16**, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AGG	Agios Georgios	0.48	311	ePg	Pg	00 37 56.5	-0.9
AGG				eSg	Sg	00 38 04.0	+0.1
NEO	Neokhori	0.68	29	ePB	Pb	00 38 01.5	+0.3
NEO				eSG	Sg	00 38 10.0	-0.4
XOR	Xorichti	0.73	25	ePg	Pg	00 38 02.0	-0.1
XOR				eSg	Sg	00 38 12.7	+0.9
EVR	Evrytania	0.80	286	ePG	Pg	00 38 04.8	+1.2
MPAR	Parnis Oros	0.92	127	ePg	Pg	00 38 07.5	+1.6
MPAR				eSg	Sg	00 38 18.5	+0.3
NSAL	Nisos Salamina	0.95	147	ePG	Pg	00 38 05.5	-1.1
NSAL				eSG	Sg	00 38 19.0	-0.3
AOS	Alonnisos	0.96	61	ePg	Pg	00 38 06.0	-0.8
AOS				eSg	Sg	00 38 19.5	-0.1
PTL	Penteli	1.06	128	ePB	Pb	00 38 08.0	+0.4
NAIG	Nisos Aigina	1.09	150	ePG	Pg	00 38 09.0	-0.3
LIT	Litokhoron	1.41	350	ePb	Pb	00 38 13.0	-0.7

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*NIED **18** 00:48:00, 33.40N×136.80E, h8^{km}, Mw4.5 Best double couple: $M_0$7.38×10^{15} NP1:ϕ_s347°, δ88°, λ117°. NP2:ϕ_s81°, δ28°, λ5°.*
*JMA **18** 00:48:35.4±0.1, 33.39N×136.83E, h38^{km}, M3.8*
*IDC **18** 00:48:53.8±5.6, 33.00N×135.88E, h135^{km}±46^{km}, mb3.5/5, mb1 3.6/6, mb1mx3.4/23, MS3.8/6, Ms1 3.8/6, ms1mx3.4/25, Error ellipse: s-maj=58.8km s-min=19.9km az=67.0*
ISC 18 00:48:34.6±1.9**, 33.41N**±0.05×**136.85E**±0.04**, h12^{km}**±14^{km}**, n20, σ0^{s}77**/23**, mb3.8**/5**, MS4.0**/3**, 1C, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	Tokai 1	0.72	60	P	Pb	00 48 49.7	+1.2
TK01				S	Sb	00 48 58.8	+0.7
TK02	Tokai 2	0.93	54	P	Pb	00 48 52.2	0.0
TK02				S	Sb	00 49 04.5	+0.2
JWZ	Kozaga	0.95	278	P	Pb	00 48 52.3	-0.3
JWZ				S	Sb	00 49 04.4	-0.5
JKN	Kiinagashima	0.97	330	⇑P	Pb	00 48 52.4	-0.5
JKN				S	Sb	00 49 06.1	+0.7
JIE	Ise	0.99	353	P	Pb	00 48 53.1	-0.1
JIE				S	Sb	00 49 06.9	+0.9
TK03	Tokai 3	1.20	51	P	Pb	00 48 56.4	-0.4
TK03				S	Sb	00 49 11.4	-0.7
TK04	Tokai 4	1.30	41	P	Pb	00 48 57.9	-0.6
TK04				S	Sb	00 49 14.7	-0.2
JWY	Kouya	1.32	308	P	Pb	00 48 58.1	-0.8
MAT	Matsushiro	3.32	19	P	Pn	00 49 27.7	+0.2
MAT				S	Sn	00 50 05.5	-1.8
JNU	Nakatsue	5.01	268	P	Pn	00 49 56.6	+5.2
	1.5nm,0.3s,baz=178,slow=16,SNR=2.5						
CBIJ	Chichi jima	7.80	142	LR	LR	00 53 07.1	
	comp=Z,600nm,18.7s,baz=258,slow=32						
JOW	Kunigami	9.90	231	LR	LR	00 54 50.5	
	comp=Z,222nm,18.0s,baz=136,slow=40						
ASAJ	Asahikawa	11.59	21	LR	LR	00 57 03.3	
	comp=Z,277nm,18.3s,baz=178,slow=40						
SONM	Songino Array	27.03	311	P	P	00 54 19.1	+0.8
	1.1nm,0.7s,mb3.5,baz=120,slow=8.1,SNR=11						
MKAR	Makanchi Array	42.99	305	P	P	00 56 37.0	+1.7
	3.3nm,0.8s,mb4.1,baz=90,slow=9.3,SNR=14						
MKAR				LR	LR	01 15 37.3	
	comp=Z,194nm,18.1s,MS4.0,baz=94,slow=38						
WRA	Warramunga Arr	53.10	183	P	P	00 57 53.6	-0.7
	0.7nm,0.6s,mb3.8,baz=359,slow=7.6,SNR=8.1						
ASAR	Alice Springs	56.82	183	P	P	00 58 21.5	+0.1
	0.5nm,0.6s,mb3.7,baz=14,slow=7.4,SNR=3.9						
ARCES	ARCESS Array B	66.05	339	LR	LR	01 34 07.2	
	comp=Z,106nm,19.5s,MS4.1,baz=20,slow=41						
NOA	NORSAR Array B	76.02	336	LR	LR	01 34 56.8	
	comp=Z,73nm,18.9s,MS4.0,baz=280,slow=36						
TXAR	Lajitas Array	95.31	50	P	P	01 02 07.2	+7.3
	0.3nm,0.8s,mb3.8,baz=333,slow=2.8,SNR=3.8						

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*CASC **18** 00:57:58.4±1.8, 11.42N×86.40W, h60^{km}±21^{km}, MD3.6, ML3.6*
ISC 18 00:57:57.9±1.2**, 11.39N**±0.10×**86.40W**±0.10**, h62^{km}**±20^{km}**,**

n16,σ0^{s}53/30,2C-9D,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CRUN	El Crucero	0.60	10	⇓iP	P	00 58 11.4	+0.3
APON	Apoyo	0.62	32	⇓iP	P	00 58 11.0	-0.3
APON				eS	S	00 58 21.3	0.0
MASN	Masaya	0.64	23	⇓eP	P	00 58 11.3	-0.3
MASN				eS	S	00 58 24.5	+2.7
TICN	Ticuantepe	0.66	15	⇓eP	P	00 58 11.8	0.0
TICN				eS	S	00 58 22.4	+0.1
XAVN	Gruta Xavier	0.76	6	⇓eP	P	00 58 13.1	+0.1
XAVN				eS	S	00 58 24.3	+0.1
MGAN	Managua	0.77	12	⇓eP	P	00 58 13.2	+0.1
MGAN				eS	S	00 58 23.8	-0.6
MGAN				i		00 58 24.7	
	comp=E,2μm,0.2s						
CONN	Concepcion	0.78	77	⇓eP	P	00 58 12.4	-0.9
CONN				eS	S	00 58 24.9	+0.1
WILN	Americas 2	0.79	15	⇓iP	P	00 58 13.4	-0.1
WILN				eS	S	00 58 24.6	-0.5
COPN	Copaltepe	0.80	347	eP	P	00 58 13.7	+0.1
COPN				eS	S	00 58 25.0	-0.3
APYN	Apoyeque	0.84	4	eP	P	00 58 14.3	+0.2
APYN				eS	S	00 58 26.1	+0.1
MOMJ	Momotombo	1.02	353	⇑eP	P	00 58 16.5	0.0
MOMJ				eS	S	00 58 29.4	-0.8
MIRN	Miramar	1.08	344	eP	P	00 58 17.7	+0.4
MIRN				eS	S	00 58 31.6	-0.2
LEON	Leon	1.12	335	⇑eP	P	00 58 18.1	+0.2
LEON				eS	S	00 58 32.2	-0.5
CNGN	Cerro Negro	1.14	345	eP	P	00 58 18.2	+0.2
CNGN				eS	S	00 58 33.2	+0.1
PYTN	Playitas	1.19	17	⇓eP	P	00 58 18.6	-0.1
PYTN				eS	S	00 58 34.5	+0.2
TELN	Telica	1.27	341	eP	P	00 58 20.9	+0.9

JMA 18 00:59:43.3±0.1,33.40N×136.87E,h39^{km}±3^{km},M2.5, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TK01	Tokai 1	0.70	59	S	S	01 00 05.8	-0.8
TK02	Tokai 2	0.92	53	S	S	01 00 11.6	-0.5
JWZ	Kozaga	0.97	278	P	P	01 00 00.6	0.0
JWZ				S	S	01 00 13.2	-0.3
JKN	Kiinagashima	0.98	329	P	P	01 00 00.8	0.0
JKN				S	S	01 00 13.0	-0.8
JIE	Ise	1.00	352	P	P	01 00 01.4	+0.4
JWY	Kouya	1.34	308	P	P	01 00 06.7	+0.8
JWY				S	S	01 00 23.4	+0.6
JWM	Minabe	1.34	290	P	P	01 00 06.4	+0.4
JWM				S	S	01 00 23.0	+0.2

NIED ***18*** *01:00:00,33.40N×136.90E,h5^{km},Mw4.1 Best double couple: M₀1.47×10^{15} NP1:φₛ173°,δ86°,λ-143°. NP2: φₛ80°,δ53°,λ-5°.*

JMA ***18*** *01:00:52.6±0.1,33.38N×136.89E,h41^{km}±4^{km},M3.5*

IDC ***18*** *01:00:58.4±6.8,33.45N×135.68E,mb3.8/5,mb1 3.9/5, mb1mx3.6/23,Error ellipse: s-maj=286.0km s-min=22.3km az=64.0*

ISC 18 01:00:51.5±2.3,**33.41N**±0.07×**136.86E**±0.04,**h9**^{km}±17^{km}, **n13,**σ**0^{s}60**/20,**mb3.7**/5,**3C,Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TK01	Tokai 1	0.70	60	S	Sb	01 01 15.6	+0.6
TK02	Tokai 2	0.92	54	P	Pb	01 01 08.8	-0.4
TK02				S	Sb	01 01 21.3	0.0
JWZ	Kozaga	0.96	277	⇑P	Pb	01 01 10.3	+0.4
JWZ				S	Sb	01 01 23.0	+0.4
JKN	Kiinagashima	0.97	329	⇑P	Pb	01 01 10.5	+0.4
JKN				S	Sb	01 01 22.8	0.0
JIE	Ise	0.99	353	⇑P	Pb	01 01 11.2	+0.9
JIE				S	Sb	01 01 23.7	+0.5
TK04	Tokai 4	1.29	41	P	Pb	01 01 14.7	-0.8
TK04				S	Sb	01 01 31.3	-0.7
JWY	Kouya	1.33	308	P	Pb	01 01 16.2	+0.1
JWY				S	Sb	01 01 32.7	-0.4
JWM	Minabe	1.33	290	P	Pb	01 01 15.8	-0.4
JWM				S	Sb	01 01 32.4	-0.8
SONM	Songino Array	27.03	311	P	P	01 06 34.6	-1.2
	0.7nm,0.7s,mb3.3,baz=120,slow=9.6,SNR=7.2						
MKAR	Makanchi Array	43.00	305	P	P	01 08 53.0	+0.3
	1.5nm,0.6s,mb3.9,baz=94,slow=9.4,SNR=6.2						
BVAR	Borovoye Array	50.32	314	P	P	01 09 51.4	+1.1
	0.5nm,0.6s,mb3.8,baz=117,slow=9.7,SNR=2.4						
WRA	Warramunga Arr	53.11	183	P	P	01 10 17.1	+5.3
	1.4nm,0.7s,mb4.0,baz=0.4,slow=7.5,SNR=10						
ASAR	Alice Springs	56.83	183	P	P	01 10 45.2	+6.4
	0.7nm,0.8s,mb3.7,baz=14,slow=5.9,SNR=5.7						

MAN 18 01:18:18.7,8.91N×122.60E,h1^{km},mb4.2,ML3.0,MS2.7, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNPH	Sibulan	0.76	56	i P	Pg	01 18 34.5	+0.6
DCPH	Dipolog City	0.81	114	eP	Pg	01 18 34.0	-0.9
IPIL	Ipil	1.12	182	eP	Pb	01 18 40.5	-0.1
IPIL				eS	Sb	01 18 55.2	-0.3
PAGZ	Pagadian	1.31	144	eP	Pb	01 18 44.1	+0.3
PAGZ				eS	Sb	01 19 02.7	+1.6
GUIM	Jordan	1.70	360	eP	Pn	01 18 49.8	0.0
GUIM				eS	Sb	01 19 12.1	-0.2

LDG ***18*** *01:46:36.6±0.5,42.88N×1.48W,h2^{km},Md2.5/2,Ml1.8/3, Error ellipse: s-maj=8.2km s-min=5.5km az=56.0*

MDD ***18*** *01:46:37.3±0.5,42.87N×1.42W,h5^{km}±9^{km},mbLg1.4/6, Error ellipse: s-maj=4.0km s-min=2.7km az=32.0,PRXIMO AftershockPLICA*

ISC 18 01:46:34.8±0.7,**42.82N**±0.04×**1.46W**±0.05,**h12**^{km}±6^{km}, **n13,**σ**0^{s}77**/20,**1C,Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJPF	Ste Jean	0.34	31	ePg	Pg	01 46 42.7	+0.8
SJPF				eSg	Sg	01 46 45.5	-1.2
	37nm,0.3s						
EALK	Alkurruntz	0.40	355	⇑Pg	Pg	01 46 43.8	+0.7
	2.6nm,0.2s,SNR=18						
EALK				Lg		01 46 49.5	
	9.5nm,0.2s,SNR=9.0						
LARF	Larrau	0.41	58	P	Pg	01 46 43.9	+0.6
LARF				S	Sg	01 46 49.4	+0.4
OSSF	Osses	0.46	19	P	Pg	01 46 44.7	+0.5
OSSF				S	Sg	01 46 49.8	-0.7
ETSF	Etsaut	0.67	83	ePg	Pg	01 46 48.3	-0.1
ETSF				eSg	Sg	01 46 57.5	+0.1
	6.8nm,0.4s						
ESAC	San Caprasio	1.32	146	Pg	Pg	01 47 01.5	+0.1
	4.5nm,0.2s,SNR=5.8						
ESAC				Lg		01 47 19.8	
	12nm,0.3s,SNR=5.0						
EPF	Esparros	1.34	81	ePn	Pn	01 47 00.5	+1.1
EPF				ePg	Pg	01 47 03.0	+1.3
EPF				eSg	Sg	01 47 19.5	-0.1
	3.6nm,0.2s						
ELAN	Lanestosa	1.50	286	Pg	Pg	01 47 04.8	-0.1
	0.5nm,0.2s,SNR=4.6						
ELAN				Lg		01 47 25.8	
	1.5nm,0.2s,SNR=5.0						
ETOR	Torete	2.05	193	Pg	Pg	01 47 15.7	-0.1
	1.0nm,0.4s,SNR=6.5						
ETOR				Lg		01 47 39.7	
	0.8nm,0.2s,SNR=5.0						
EMOS	Mosqueruela	2.57	163	Pg	Pg	01 47 25.3	-0.8
	0.7nm,0.4s,SNR=7.9						
EMOS				Lg		01 47 56.3	
	0.4nm,0.2s,SNR=7.9						
LFF	La Frestale	2.65	36	eSg	Sg	01 47 57.7	-5.4
	1.0nm,0.3s						
MTLF	Montolieu	2.75	78	ePg	Pg	01 47 27.8	-1.9
MTLF				eSn	Sn	01 47 52.8	-0.1
	0.4nm,0.2s						
CAF	Calviac	3.30	49	ePn	Pn	01 47 26.7	-0.8

MAN 18 02:05:05.4,9.17N×122.81E,h7^{km},mb4.1,ML2.9,MS2.7, 1D,Negros

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNPH	Sibulan	0.45	68	eP	Pg	02 05 15.5	+0.9
SNPH				i S	Sg	02 05 21.5	+0.8
DCPH	Dipolog City	0.79	137	⇓iP	Pb	02 05 19.8	-1.3
DCPH				eS	Sb	02 05 30.2	-1.6
TBP	Tagbilaran	1.16	63	eP	Pb	02 05 27.4	0.0
TBP				eS	Sb	02 05 43.8	+1.3
IPIL	Ipil	1.39	190	eP	Pn	02 05 30.9	-0.5
IPIL				eS	Sb	02 05 49.0	-0.2
PAGZ	Pagadian	1.43	157	eP	Pn	02 05 31.1	-0.8
GUIM	Jordan	1.46	351	eP	Pn	02 05 31.3	-1.1
GUIM				eS	Sb	02 05 51.8	+0.5

IDC 18 02:11:01.6±10.0,**18.91S**×**176.89W,mb4.1**/3,**mb1 4.4**/3, **mb1mx3.9**/14,**Error ellipse: s-maj=327.0km s-min=92.3km az=133.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WB2	Warramunga Arr	45.87	260	eP	P	02 19 26.5	-1.2
WRA	Warramunga Arr	45.88	260	P	P	02 19 26.2	-1.6
	1.4nm,0.7s,baz=96,slow=7.6,SNR=35						
ASAR	Alice Springs	45.92	255	P	P	02 19 26.1	-1.9
	1.2nm,0.6s,baz=95,slow=7.5,SNR=17						
CMAR	Chiang Mai Arr	90.58	289	P	P	02 24 06.2	-1.4
	0.6nm,0.4s,baz=117,slow=4.0,SNR=4.1						

IDC 18 02:22:55.9±4.7,**5.39S**×**129.13E,h250**^{km}±51^{km},**mb3.3**/2, **mb1 3.5**/4,**mb1mx3.2**/12,**Error ellipse: s-maj=92.9km s-min=15.2km az=71.0,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	15.33	161	P	P	02 26 18.1	-3.4
	0.5nm,0.3s,baz=340,slow=11,SNR=33						
WRA				S	S	02 29 03.4	-1.2
	0.9nm,0.3s,baz=333,slow=21,SNR=7.0						
ASAR	Alice Springs	18.74	166	P	P	02 26 57.5	-0.7
	1.1nm,0.3s,baz=350,slow=11,SNR=122						
ASAR				S	S	02 30 17.5	+3.9
	0.5nm,0.3s,baz=349,slow=21,SNR=14						
STKA	Stephens Creek	28.82	158	P	P	02 28 30.9	-2.2
	0.8nm,0.4s,slow=8.1,SNR=5.4						
MKAR	Makanchi Array	66.41	327	P	P	02 33 18.2	-1.8
	0.7nm,0.7s,baz=136,slow=7.4,SNR=4.1						

GUC 18 02:45:50.3±0.5,**31.87S**×**71.54W,h49**^{km},**MD3.6,ML3.0, 1C-1D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMCH	Combarbala	0.83	34	⇓iP	P	02 46 06.2	+0.4
CMCH				i S	S	02 46 18.3	+1.0
CMCH				AMP		02 46 20.8	
	comp=N,2μm,0.7s						
JACH	Jahuel	1.14	136	⇑iP	P	02 46 10.8	+0.7
JACH				i S	S	02 46 26.1	+1.2
LCCH	Las Cruces	1.60	181	eP	P	02 46 16.6	-0.1
RCDM	Rinconada Maip	1.73	159	eP	P	02 46 18.8	+0.2
RCDM				eS	S	02 46 39.6	+0.1
RCDM				AMP		02 46 43.4	
	comp=E,295nm,0.2s						
CLCH	Cerro Calan	1.74	151	eP	P	02 46 18.9	+0.1
CLCH				i S	S	02 46 40.2	+0.4
CLCH				AMP		02 46 45.3	
	comp=E,144nm,0.3s						
FCH	Farellones	1.80	144	i P	P	02 46 19.2	-0.2
FCH				i S	S	02 46 42.0	+0.9
FCH				AMP		02 46 45.5	
	comp=E,167nm,0.3s						
TACH	Talagante	1.85	164	eP	P	02 46 20.1	-0.2
TACH				i S	S	02 46 42.5	0.0
LMEL	Las Melosas	2.27	151	eP	P	02 46 26.7	+0.5
LMEL				eS	S	02 46 53.3	+0.2
LMEL				AMP		02 46 58.8	
	comp=N,187nm,0.1s						

THE ***18*** *02:48:08.1,38.67N×22.80E,h3^{km},ML3.2*

NEIC ***18*** *02:48:09.4,38.71N×22.82E,h14^{km},ML2.8(ATH),After ATH.*

ATH ***18*** *02:48:09.4,38.71N×22.82E,h14^{km}±4^{km},MD3.0/8,ML2.8*

ISC 18 02:48:08.2±0.8,**38.71N**±0.03×**22.80E**±0.04,**h0**^{km}±9^{km}, **n13,**σ**0^{s}74**/20,**Greece**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AGG	Agios Georgios	0.48	311	ePg	Pg	02 48 17.7	-0.2
AGG				eSg	Sg	02 48 25.0	+0.6
NEO	Neokhori	0.68	29	ePB	Pb	02 48 21.5	-1.2
NEO				eSB	Sb	02 48 32.5	+0.1
XOR	Xorichti	0.72	25	ePg	Pg	02 48 22.3	-0.4
XOR				eSg	Sg	02 48 34.0	+1.7
EVR	Evrytania	0.81	285	ePB	Pb	02 48 25.0	+0.2
MPAR	Parnis Oros	0.92	127	ePB	Pb	02 48 27.0	+0.3
MPAR				eSB	Sb	02 48 40.0	+0.7
NSAL	Nisos Salamina	0.95	147	ePB	Pb	02 48 26.5	-0.8
NSAL				eSB	Sb	02 48 41.4	+1.1
NSAL	Nisos Salamina	0.95	147	ePb	Pb	02 48 26.5	-0.8
NSAL				eSb	Sb	02 48 41.5	+1.2
AOS	Alonnisos	0.96	61	ePg	Pg	02 48 27.0	-0.4
AOS				eSg	Sg	02 48 40.3	+0.2
ATH	Athens Observa	1.03	135	ePG	Pg	02 48 28.5	-0.2
PTL	Penteli	1.06	128	ePB	Pb	02 48 28.4	-0.8
NAIG	Nisos Aigina	1.09	150	ePB	Pb	02 48 29.0	-0.7
LIT	Litokhoron	1.41	350	ePb	Pb	02 48 34.3	-0.8
ITM	Ithomi	1.68	205	ePB	Pb	02 48 40.5	+0.8

NIED ***18*** *02:52:00,24.60N×122.90E,h65^{km},Mw4.6 Best double couple: M₀9.12×10^{15} NP1:φₛ348°,δ69°,λ96°. NP2:φₛ151°, δ22°,λ74°.*

BJI ***18*** *02:52:32.5,24.33N×122.86E,h80^{km},mB4.5,mb4.5, Ms4.2,Msz3.8*

TAP ***18*** *02:52:35.6,24.44N×122.89E,h33^{km}±1^{km},ML5.1*

TAP Felt I J at Suao, II J at Nanau, I J at Ilan, I J at Neicheng, I J at Nioudou, I J at Hualien, I J at Shilin, I J at Hungye, I J at Chenggung, I J at Mingjian.

IDC ***18*** *02:52:35.7±0.5,24.56N×122.89E,h72^{km}±4^{km},mb4.0/14, mb1 4.2/18,mb1mx4.1/25,MS3.6/6,Ms1 3.6/6, ms1mx3.4/21,Error ellipse: s-maj=11.9km s-min=10.0km az=80.0*

NEIC ***18*** *02:52:35.7±0.2,24.52N×122.86E,mb4.5/18,Error ellipse: s-maj=6.7km s-min=6.2km az=76.0*

NEIC Recorded [1 JMA] on Iriomote-jima, Ishigaki-jima and Yonaguni-jima, Ryukyu Islands.

JMA ***18*** *02:52:36.1±0.1,24.56N×122.90E,h63^{km}±1^{km},M5.0*

JMA Felt I J1.

ISC 18 02:52:34.7±0.2,**24.48N**±0.02×**122.88E**±0.01,**h77**^{km}±2^{km}, **h70**^{km}±1.2^{km}**:pP-P,n157,**σ**1^{s}07**/225,**mb4.3**/31,**29C-2D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	Yonaguni jima	0.13	100	P	P	02 52 45.7	-0.2
YOJ				S	S	02 52 52.5	-1.7
IRIF	Iriomote-Funau	0.79	101	P	P	02 52 51.6	+0.2
IRIF				S	S	02 53 03.4	-0.4
EGS		0.93	293	P	P	02 52 53.7	+0.7
EGS				S	S	02 53 06.0	-0.7
TWC	Suao	0.94	278	S	S	02 53 05.7	-1.2
HATJ	Hateruma jima	0.95	116	P	P	02 52 53.9	+0.7
HATJ				eS	S	02 53 07.6	+0.5
TWB1	Santiao Chiao	0.96	303	⇑iP	P	02 52 53.4	+0.1
TWB1				S	S	02 53 06.6	-0.7
ENA	Nanau	1.03	267	P	P	02 52 54.3	0.0
ENA				S	S	02 53 08.1	-0.8
ILA	Ilan	1.06	286	eP	P	02 52 55.1	+0.5
ILA				S	S	02 53 09.4	-0.1
JKRS	Kuro-shima	1.06	103	P	P	02 52 55.4	+0.8
JKRS				S	S	02 53 10.1	+0.6
TWE	Neicheng	1.12	282	⇑iP	P	02 52 55.8	+0.4
TWE				S	S	02 53 09.9	-1.0
NWF	Wu-fen Shan	1.15	301	⇑iP	P	02 52 56.4	+0.7
NWF				S	S	02 53 11.5	0.0
JIJ	Ishigaki jima	1.16	96	P	P	02 52 56.1	+0.2
JIJ				S	S	02 53 11.1	-0.6
ENTT	Nioudou	1.20	278	⇑P	P	02 52 56.9	+0.5
ENTT				S	S	02 53 13.2	+0.6
TWD	Chiawan	1.23	251	⇑iP	P	02 52 56.6	-0.3
TWD				S	S	02 53 11.8	-1.6
HWA	Hwalien	1.27	247	⇑P	P	02 52 57.1	-0.1
HWA				S	S	02 53 12.6	-1.5
TWA	Mucha	1.27	293	⇑P	P	02 52 58.1	+0.7
TWA				S	S	02 53 14.3	0.0
TAP1	Taipei	1.35	294	eP	P	02 52 58.7	+0.2
TAP1				S	S	02 53 15.0	-1.0
PCYT	Pengchaiyu	1.35	328	⇑iP	P	02 52 59.7	+1.2
PCYT				S	S	02 53 16.9	+0.7
TATO	Taipei	1.35	291	eP	P	02 52 58.6	+0.1
TAP	Taipei	1.36	294	eP	P	02 52 59.2	+0.5
TAP				S	S	02 53 16.3	0.0
NNS	Nan Shan	1.37	268	eP	P	02 52 59.2	+0.5
NNS				S	S	02 53 15.7	-0.8
TWY	Chenhua	1.40	304	⇑iP	P	02 53 00.1	+0.9
TWY				S	S	02 53 17.5	+0.3
TWS1	Kuangyinshan	1.46	295	eP	P	02 53 00.7	+0.7
TWS1				S	S	02 53 19.2	+0.7
ESL	Shilin	1.48	243	eP	P	02 52 59.1	-1.1
ESL				S	S	02 53 16.6	-2.3
NCU	National Centr	1.61	288	eP	P	02 53 02.2	+0.3
NCU				S	S	02 53 22.5	+0.6
JTJ	Tarama	1.67	84	P	P	02 53 03.3	+0.6
JTJ				S	S	02 53 23.8	+0.5
NSTT	Nanjuang	1.71	275	P	P	02 53 04.3	+1.0
NSTT				S	S	02 53 24.8	+0.5
EHY	Hungye	1.72	236	⇑iP	P	02 53 02.8	-0.6
EHY				S	S	02 53 22.5	-2.0
HSN	Hsinchu	1.76	281	eP	P	02 53 04.5	+0.5
HSN				S	S	02 53 26.0	+0.6
TWF1	Yuli	1.83	232	⇑iP	P	02 53 04.6	-0.3
TWF1				S	S	02 53 25.3	-1.8
SMLT	Sun Moon Lake	1.90	252	⇑P	P	02 53 06.5	+0.7
SMLT				S	S	02 53 28.6	-0.1
NSY	Sanyi	1.93	268	eP	P	02 53 07.4	+1.3
NSY				S	S	02 53 30.7	+1.4
TYC	Yuchr	1.93	253	⇑P	P	02 53 06.9	+0.7
TYC				S	S	02 53 30.1	+0.7
CHKT	Chengkung	1.95	225	eP	P	02 53 05.0	-1.5
CHKT				S	S	02 53 26.4	-3.5
TCU	Taichung	2.03	261	eP	P	02 53 08.7	+1.0
TCU				S	S	02 53 33.1	+1.2
WNT	Mingjian	2.09	254	eP	P	02 53 10.1	+1.7
WNT				S	S	02 53 34.3	+1.0
ALS	Alishan	2.13	243	eP	P	02 53 09.9	+0.9
ALS				S	S	02 53 34.0	-0.2
ELDTW	Lidau	2.13	233	⇑P	P	02 53 08.6	-0.5
ELDTW				S	S	02 53 32.8	-1.6
CHN5	Tsauling	2.19	247	⇑P	P	02 53 11.1	+1.2
CHN5				S	S	02 53 36.8	+0.9
JMJ	Miyako jima 2	2.23	81	P	P	02 53 11.2	+0.9
JMJ				eS	S	02 53 37.3	+0.6
WGK	Gukeng	2.26	250	eP	P	02 53 12.2	+1.4
WGK				S	S	02 53 38.3	+0.8
JOGS	Gusukube	2.32	83	P	P	02 53 12.8	+1.2
JOGS				eS	S	02 53 39.6	+0.5
TWG	Pinlang	2.34	225	⇑P	P	02 53 10.9	-1.0
TWG				S	S	02 53 37.1	-2.5
STYT	Tauyuan	2.34	236	⇑iP	P	02 53 12.7	+0.8
STYT				S	S	02 53 38.6	-1.0
CHN4	Tsaushan	2.37	242	eP	P	02 53 13.4	+1.0
CHN4				S	S	02 53 40.5	+0.1
CHN2	Minshiung	2.39	247	eP	P	02 53 13.9	+1.2
CHN2				S	S	02 53 41.4	+0.6
WTP	Ta-pu	2.41	240	⇑P	P	02 53 13.9	+1.0
WTP				S	S	02 53 41.6	+0.3
CHY	Chiayi	2.45	247	eP	P	02 53 14.4	+1.0
CHY				S	S	02 53 41.4	-0.9
WTCT	Ta-ch’eng	2.45	256	eP	P	02 53 13.8	+0.4
WTCT				S	S	02 53 42.0	-0.3
TWK	Hsinying	2.50	241	⇑P	P	02 53 15.2	+1.0
TWK				S	S	02 53 43.9	+0.4
CHN1	Nanshi	2.51	239	⇑P	P	02 53 15.3	+1.0
CHN1				S	S	02 53 44.2	+0.5
SGST	Jiashian	2.52	237	⇑iP	P	02 53 15.9	+1.5
SGST				S	S	02 53 44.1	0.0
WSF	Szhu	2.57	251	eP	P	02 53 15.8	+0.6
WSF				S	S	02 53 46.0	+0.7
ECL	Taimali	2.58	224	eP	P	02 53 13.8	-1.5
ECL				S	S	02 53 41.2	-4.2
CHN8	Yiju	2.69	246	eP	P	02 53 17.5	+0.7
CHN8				S	S	02 53 48.9	+0.6
SSD	Sandimen	2.69	230	eP	P	02 53 17.1	+0.2
SSD				S	S	02 53 48.5	+0.3
TAW	Tawu	2.79	221	eP	P	02 53 17.0	-1.2
TWM1	Shoushan	2.79	234	eP	P	02 53 20.7	+2.4
TWM1				S	S	02 53 54.9	+4.1
EAST	Anshuo	2.80	222	eP	P	02 53 17.2	-1.2
SGLT	Jiouru	2.80	232	eP	P	02 53 20.7	+2.3
SGLT				S	S	02 53 53.7	+2.6
SCZT	Fangliau	2.95	225	eP	P	02 53 20.7	+0.2
SCZT				S	S	02 53 54.2	-0.7
KAU	Kaohsiung	3.03	232	eP	P	02 53 23.5	+1.8
KAU				S	S	02 53 58.4	+1.5
HEN	Hengchun	3.15	219	eP	P	02 53 23.1	-0.2
HEN				S	S	02 53 58.4	-1.5
TWK1	Hengchun	3.17	217	eP	P	02 53 22.7	-0.7
TWK1				S	S	02 53 58.4	-1.9
PNG	Penghu	3.17	254	eP	P	02 53 22.6	-0.9
PNG				S	S	02 53 58.0	-2.4
WDGT	Dungji	3.19	248	⇑P	P	02 53 23.3	-0.5
WDGT				S	S	02 53 58.5	-2.2
QZH	Quanzhou	3.92	278	eP	P	02 53 32.3	-1.7
QZH				S	S	02 54 13.8	-5.3
JKE	Kume jima 2	3.98	62	P	P	02 53 34.7	-0.1
KNM	Kinmen	4.05	270	eP	P	02 53 36.1	+0.4
KNM				S	S	02 54 18.9	-3.4
JAGN	Aguni-jima	4.47	61	P	P	02 53 41.5	-0.1
NAH1	Naha	4.68	68	P	P	02 53 43.5	-1.0
JJT2	Tamagusuku 2	4.71	69	P	P	02 53 45.0	+0.1
JIH	Iheya	5.25	60	P	P	02 53 51.6	-0.7
JOW	Kunigami	5.40	63	P	P	02 53 52.8	-1.7
	73nm,0.3s,baz=123,slow=30,SNR=141						
JOW				S	S	02 54 53.6	-2.3
	4.5nm,0.3s,baz=153,slow=29,SNR=1.7						
JOW	Kunigami	5.40	63	P	P	02 53 53.0	-1.4
JTK	Tokunoshima	6.37	58	P	P	02 54 05.4	-2.5
JTK				eS	S	02 55 15.2	-4.7
SSE	Sheshan	6.75	348	P	P	02 54 12.9	-0.3
SSE				LR	LR		
	comp=N,486nm,6.1s						
SSE				LR	LR		
	comp=E,201nm,6.2s						
SSE				LR	LR		
	comp=Z,291nm,3.5s						
JAM	Amami Oshima	7.19	56	P	P	02 54 16.7	-2.5
JMZ	Minamidaito 2	7.68	78	P	P	02 54 21.2	-4.7
JMZ				eS	S	02 55 42.4	-10
NJ2	Nanjing	8.33	336	eP	P	02 54 34.3	-0.5
NJ2				AP		02 54 38.6	
NJ2				S	S	02 56 06.4	-1.8
NJ2				LR	LR		
	comp=N,820nm,10.3s						
NJ2				LR	LR		
	comp=E,1μm,11.5s						
NJ2				LR	LR		
	comp=Z,300nm,14.7s						
GZH	Guangzhou	8.84	263	P	P	02 54 36.8	-5.0
WHN	Wuhan	9.68	310	eP	P	02 54 52.5	-0.7
WHN				S	S	02 56 39.3	-1.8
WHN				LR	LR		
	comp=Z,740nm,5.7s						
JNU	Nakatsue	11.10	37	P	P	02 55 11.2	-1.2
	comp=Z,0.8nm,0.3s,baz=241,slow=10,SNR=2.3						
JNU				LR	LR	03 00 20.1	
	comp=Z,241nm,20.2s,baz=218,slow=42						
JTU	Tsushima	11.50	28	P	P	02 55 18.0	+0.2
ENH	Enshi	13.21	299	P	P	02 55 41.5	+1.0
	comp=Z,13nm,1.0s						
QIZ	Qiongzhong	13.27	248	P	P	02 55 42.3	+1.1
QIZ				S	S	02 58 03.4	-3.8
QIZ				LR	LR		
	comp=E,266nm,19.8s						
QIZ				LR	LR		
	comp=Z,320nm,20.7s						

QIZ	Qiongzhong	13.27	248	*e*P	P	02 55 41.4	+0.2
INCN	Inchon	13.35	13	*e*P	P	02 55 46.6	+4.3
	comp=Z,78nm,0.8s						
KS15	Wonju Array Si	13.61	17	*e*P	P	02 55 49.8	+4.1
GYA	Guiyang	14.78	281	P	P	02 56 04.0	+3.1
GYA				S	S	02 58 41.8	-1.2
GYA				AMB	AMB		
	comp=Z,10.0nm,0.7s						
GYA				LR	LR		
	comp=N,370nm,4.7s						
GYA				LR	LR		
	comp=E,170nm,3.8s						
GYA				LR	LR		
	comp=Z,330nm,4.8s						
XAN	Xi'an	15.44	311	P	P	02 56 12.0	+2.7
XAN				AP		02 56 21.8	
XAN				AMB	AMB		
	comp=Z,22nm,1.2s						
BJT	Baijiatuau	16.48	342	*e*P	P	02 56 26.9	+4.5
	comp=Z,13nm,1.1s						
BJI	Beijing	16.50	342	P	P	02 56 26.8	+4.2
BJI				S	S	02 59 31.8	+9.2
BJI				AMB	AMB		
	comp=Z,7.0nm,0.5s						
BJI				LR	LR		
	comp=N,182nm,16.6s						
BJI				LR	LR		
	comp=E,223nm,16.6s						
BJI				LR	LR		
	comp=Z,120nm,18.1s						
JHJ	Hachijo jima 2	17.12	56	P	P	02 56 31.0	+0.6
	comp=Z,4.5nm,0.3s,baz=227,slow=23,SNR=2.1						
JHJ				LR	LR	03 02 35.8	
	comp=Z,197nm,18.4s,baz=159,slow=35						
CBIJ	Chichi jima	17.58	77	P	P	02 56 36.1	-0.1
	comp=Z,9.3nm,0.3s,baz=116,slow=21,SNR=5.3						
CBIJ				LR	LR	03 02 23.6	
	comp=Z,267nm,20.0s,baz=191,slow=34						
MAT	Matsushiro	17.83	44	P	P	02 56 38.6	-0.6
MAT	Matsushiro	17.83	44	P	P	02 56 39.0	-0.2
CD2	Chengdu	18.09	295	*e*P	P	02 56 42.3	0.0
CD2				AMB	AMB		
	comp=Z,30nm,1.0s						
KMI	Kunming	18.29	276	*e*P	P	02 56 43.1	-1.7
KMI				AP		02 56 59.1	
KMI				XP		02 57 04.5	
KMI				S	S	03 00 01.8	-1.1
KMI				SS	SS	03 00 28.1	-1.4
KMI				AMB	AMB		
	comp=Z,11nm,0.5s						
KMI				AMB	AMB		
	comp=Z,125nm,4.3s						
KMI				LR	LR		
	comp=N,404nm,11.5s						
KMI				LR	LR		
	comp=E,305nm,13.7s						
KMI				LR	LR		
	comp=Z,307nm,14.9s						
HHC	Hu-ho-hao-te	18.86	333	*e*P	P	02 56 52.8	+1.5
HHC				AMB	AMB		
	comp=Z,13nm,1.1s						
HHC				AMB	AMB		
	comp=Z,115nm,5.9s						
HHC				LR	LR		
	comp=N,100nm,10.1s						
HHC				LR	LR		
	comp=E,114nm,10.1s						
HHC				LR	LR		
	comp=Z,102nm,8.2s						
CN2	Changchun	19.39	6	*e*P	P	02 56 57.8	+0.8
CN2				AMB	AMB		
	comp=Z,30nm,1.2s						
LZH	Lanzhou	20.05	310	⇑P	P	02 57 04.6	+0.5
LZH				AMB	AMB		
	comp=Z,32nm,1.3s						
LZH				AMB	AMB		
	comp=Z,153nm,4.2s						
LZH				LR	LR		
	comp=N,312nm,9.2s						
LZH				LR	LR		
	comp=Z,434nm,12.1s						
KKTK	Khon Kaen	20.45	250	P	P	02 57 10.0	+1.7
	comp=Z,494nm,0.7s						
MDJ	Mudanjiang	20.82	14	P	P	02 57 10.8	-1.1
MDJ				AMB	AMB		
	comp=Z,13nm,0.7s						
MDJ				AMB	AMB		
	comp=Z,28nm,5.4s						
MDJ	Mudanjiang	20.82	14	P	P	02 57 10.8	-1.1
	comp=Z,9.6nm,0.8s						
NANT	Nan	21.36	259	⇓P	P	02 57 17.5	0.0
CHG	Chiang Mai	22.93	260	⇑P	P	02 57 34.5	+1.5
	comp=Z,16nm,1.2s,mb4.2						
CMAR	Chiang Mai Arr	23.05	260	P	P	02 57 36.0	+1.9
	comp=Z,2.7nm,0.9s,mb3.6,baz=62,slow=7.2,SNR=9.3						
CMAR				pP		02 57 50.6	
	comp=Z,1.7nm,0.7s,baz=65,slow=9.4,SNR=3.1						
CMAR				LR	LR	03 06 42.0	
	comp=Z,93nm,19.9s,baz=75,slow=37						
GTA	Gaotai	24.49	313	*e*P	P	02 57 47.4	-0.5
GTA				AP		02 58 07.1	
GTA				XP		02 58 14.9	
GTA				PP	PP	02 58 30.3	+4.2
GTA				AMB	AMB		
	comp=Z,2.0nm,0.6s,mb3.6						
HIA	Hailar	24.86	355	*e*P	P	02 57 49.5	-1.9
HIA				*e*pP		02 58 07.1	
ASAJ	Asahikawa	25.36	35	P	P	02 57 54.8	-1.4
	comp=Z,6.3nm,0.4s,mb4.4,baz=242,slow=10,SNR=6.1						
ASAJ				LR	LR	03 07 20.0	
	comp=Z,104nm,20.3s,baz=151,slow=35						
SONM	Songino Array	26.72	335	P	P	02 58 07.7	-1.0
	comp=Z,4.0nm,0.8s,mb4.0,baz=146,slow=9.0,SNR=20						
SONM				pP	pP	02 58 24.5	-1.9
	comp=Z,8.4nm,1.0s,baz=149,slow=7.2,SNR=8.9						
SONM				ScP		03 05 02.2	
	comp=Z,0.7nm,0.9s,baz=180,slow=4.9,SNR=4.5						
SHL	Shillong	28.07	279	*e*P	P	02 58 20.7	-0.6
PKI	Pulchoki	33.73	283	*e*P	P	02 59 10.5	-0.4
	comp=Z,15nm,0.8s,mb4.9						
KKN	Kakani	33.83	284	*e*P	P	02 59 11.4	-0.4
DMN	Daman	33.99	284	*e*P	P	02 59 12.4	-0.8
GKN	Gorkha	34.38	284	*e*P	P	02 59 15.7	-0.8
	comp=Z,7.3nm,0.4s,mb4.9						
KOLN	Koldanda	35.31	284	*e*P	P	02 59 24.3	-0.1
	comp=Z,17nm,0.9s,mb4.8						
KAKA	Kakadu	38.11	165	*e*P	P	02 59 49.8	+1.8
	comp=Z,8.0nm,0.7s,mb4.7						
MKAR	Makanchi Array	39.21	315	P	P	02 59 55.9	-0.9
	comp=Z,2.4nm,0.7s,mb4.2,baz=105,slow=9.6,SNR=14						
MKAR				pP	pP	03 00 14.4	-1.2
	comp=Z,1.8nm,0.6s,baz=102,slow=10,SNR=4.5						
MKAR				PcP	PcP	03 02 04.0	-1.3
	comp=Z,0.7nm,0.6s,baz=98,slow=3.5,SNR=3.4						
MKAR				ScP		03 05 47.2	
	comp=Z,0.7nm,0.7s,baz=108,slow=3.8,SNR=4.3						
MKAR	Makanchi Array	39.21	315	P	P	02 59 55.9	-0.9
MKAR				pP	pP	03 00 14.3	-1.2
MKAR				PcP	PcP	03 02 04.0	-1.3
MKAR				ScP		03 05 47.2	
FITZ	Fitzroy Crossi	42.41	176	*e*P	P	03 00 22.7	-0.9
	comp=Z,14nm,1.0s,mb4.7						
FITZ	Fitzroy Crossi	42.41	176	P	P	03 00 22.7	-0.8
	comp=Z,24nm,1.1s,mb4.8,baz=356,slow=7.6,SNR=22						
FITZ				pP	pP	03 00 41.4	-1.0
	comp=Z,2.4nm,0.7s,baz=253,slow=3.3,SNR=2.7						
MBWA	Marble Bar	45.47	184	*e*P	P	03 00 46.7	-1.5
	comp=Z,34nm,1.2s,mb5.0						
MBWA				*e*pP	pP	03 01 03.4	-3.7
WRAB	Tennant Creek	45.54	165	*e*P	P	03 00 48.9	+0.1
	comp=Z,77nm,0.8s						
WRA	Warramunga Arr	45.55	165	P	P	03 00 48.9	+0.1
	comp=Z,41nm,0.7s,mb5.3,baz=347,slow=8.5,SNR=181						
WRA				pP	pP	03 01 06.0	-1.8
	comp=Z,3.4nm,0.7s,baz=348,slow=8.4,SNR=1.5						
WB2	Warramunga Arr	45.55	165	⇑*i*P	P	03 00 48.9	+0.1
ASAR	Alice Springs	49.05	167	P	P	03 01 16.4	+0.2
	comp=Z,23nm,1.0s,mb5.1,baz=345,slow=7.5,SNR=138						
ASAR				pP	pP	03 01 35.0	-0.2
	comp=Z,2.2nm,0.6s,baz=19,slow=12,SNR=3.0						
ASPA	Alice Springs	49.05	167	*e*P	P	03 01 16.5	+0.4
FORT	Forrest	55.17	175	*e*P	P	03 02 01.2	-0.7
	comp=Z,68nm,0.7s						
NWAO	Narrogin (SRO)	57.34	186	*e*P	P	03 02 15.9	-1.4
	comp=Z,22nm,0.6s,mb5.3						
NWAO				*e*pP	pP	03 02 33.6	-3.5
STKA	Stephens Creek	58.83	161	⇑*i*P	P	03 02 27.1	-0.6
	comp=Z,5.0nm,0.6s,mb4.7						
STKA	Stephens Creek	58.83	161	P	P	03 02 27.2	-0.5
	comp=Z,5.6nm,0.6s,mb4.8,baz=342,slow=7.5,SNR=19						
STKA				pP	pP	03 02 46.0	-1.4
	comp=Z,2.2nm,0.5s,baz=311,slow=6.3,SNR=3.2						
CNB	Canberra Magne	64.55	156	*e*P	P	03 03 06.5	+0.5
	comp=Z,14nm,0.8s,mb4.8						
TOO	Toolangi	65.29	160	*e*P	P	03 03 11.2	+0.4
	comp=Z,6.4nm,0.9s,mb4.5						
MCK	McKinley	67.55	29	P	P	03 03 25.5	+0.9
ILAR	Eielson Array	68.24	27	P	P	03 03 28.9	+0.1
	comp=Z,0.6nm,0.8s,mb3.5,baz=269,slow=5.0,SNR=9.0						
ILAR				pP	pP	03 03 46.5	-2.6
	comp=Z,0.3nm,0.5s,baz=272,slow=4.8,SNR=2.3						
KEV	Kevo	69.27	338	*e*p	P	03 03 35.4	+0.2
	comp=Z,0.3nm,0.3s,mb3.6						
MALT	Malatya	71.11	304	*e*P	P	03 03 47.2	+0.4
	comp=Z,3.1nm,0.9s,mb4.1						
MALT				*e*pP	pP	03 04 05.7	-1.6
KAF	Kangasniemi	71.66	331	*e*p	P	03 03 45.7	-4.0
	comp=Z,0.3nm,0.3s,mb3.6						
FINES	FINESS Array B	71.96	330	P	P	03 03 50.4	-1.1
	comp=Z,1.1nm,0.5s,mb4.0,baz=54,slow=5.2,SNR=21						
FINES	FINESS Array B	71.96	330	P	P	03 03 50.4	-1.1
INK	Inuvik	72.37	22	*e*P	P	03 03 52.1	-1.7
	comp=Z,1.1nm,0.7s,mb3.8						
BRTR	Keskin Array B	74.23	307	P	P	03 04 05.0	-0.2
	comp=Z,1.3nm,0.8s,mb3.7,baz=96,slow=6.4,SNR=7.9						
BRTR				pP	pP	03 04 24.8	-1.0
	comp=Z,2.0nm,0.9s,baz=117,slow=5.5,SNR=3.2						
NB2	NORSAR Subarra	78.68	333	P	P	03 04 28.6	-1.1
	comp=Z,1.0nm,0.6s,mb3.8,baz=57,slow=5.3						
NOA	NORSAR Array B	78.68	333	P	P	03 04 28.5	-1.2
	comp=Z,1.1nm,0.8s,mb3.8,baz=45,slow=2.3,SNR=5.3						
NOA				pP	pP	03 04 48.6	-1.8
	comp=Z,0.9nm,0.7s,baz=55,slow=5.4,SNR=2.4						
YKA	Yellowknife Ar	82.09	23	P	P	03 04 47.9	+0.1
	comp=Z,1.7nm,0.8s,mb3.9,baz=305,slow=5.3,SNR=4.8						
YKA				LR	LR	03 44 06.9	
	comp=Z,51nm,19.4s,baz=320,slow=38						
GERES	GERESS Array B	83.59	321	P	P	03 04 56.1	+0.5
	comp=Z,0.4nm,0.6s,mb3.4,baz=63,slow=6.0,SNR=7.1						
GERES				pP	pP	03 05 16.2	-0.4
	comp=Z,0.6nm,0.8s,baz=63,slow=6.0,SNR=2.7						
DPW	Davenport	89.54	36	*e*P	P	03 05 27.6	+3.0
HAWA	Hanford	89.69	38	*e*P	P	03 05 28.3	+3.0
	comp=Z,0.8nm,1.2s,mb3.7						
HAWA				*e*	pP	03 05 45.8	-0.9
NEW	Newport	89.88	35	*e*P	P	03 05 27.9	+1.7
	comp=Z,6.7nm,0.8s,mb4.8						
NEW				*e*	pP	03 05 46.5	-1.0
NVAR	Mina Array Bea	95.16	44	P	P	03 05 52.4	+1.6
	comp=Z,0.9nm,0.6s,mb4.4,baz=296,slow=6.8,SNR=5.8						
NVAR				pP	pP	03 06 10.9	-1.2
	comp=Z,1.3nm,0.7s,baz=300,slow=7.6,SNR=3.8						
QSPA	South Pole Qui	114.27	180	*e*PKPdf	PKPdf	03 11 04.0	-0.7
SNAA	Sanae	124.00	198	⇑*i*	PKPdf	03 11 23.3	-0.4
VNA2	Neumayer--Watz	125.65	198	⇓*i*	PKPdf	03 11 30.2	+3.5
VNA1	Neumayer--Stat	126.04	198	⇑*i*	PKPdf	03 11 30.2	+2.7
VNA3	Neumayer Olymp	126.11	197	⇑*i*	PKPdf	03 11 30.1	+2.5

PRE 18 03:02:33.1±1.5**,26.83S**×**26.75E,h2**^{km}**,ML3.5,South Africa**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSR	Koster	0.97	8	*e*P	Pb	03 02 51.4	-0.9
KSR				*e*S	Sb	03 03 03.9	-1.5
KSR				*e*		03 03 09.4	
	comp=Z,621nm,0.1s						
SLR	Silverton	1.76	52	*e*P	Pn	03 03 03.5	-1.4
SLR				*e*S	Sn	03 03 26.4	-1.7
SLR				*e*		03 03 28.8	
	comp=Z,347nm,0.3s						
BOSA	Boshof	2.21	216	*e*P	Pn	03 03 10.3	-1.0
BOSA				*e*S	Sn	03 03 36.5	-3.1
NWL	Newcastle	2.99	108	*e*P	Pn	03 03 21.1	-1.3
NWL				*e*S	Sn	03 03 56.2	-3.1
NWL				*e*		03 04 04.9	
	comp=Z,456nm,0.6s						
PKA	Prieska	4.51	230	*e*P	Pn	03 03 48.5	+4.4
PKA				*e*S	Sn	03 04 10.1	-28
PKA				*e*		03 04 16.0	
	comp=Z,43nm,0.2s						
UPI	Upington	5.11	251	*e*P	Pn	03 03 49.7	-2.8
CVNA	Calvinia	7.66	231	*e*S	Sn	03 05 45.8	-11

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*NEIC **18** 03:04:46.3,31.84S×68.48W,h145^{km},MD3.6(GUC),After GUC.*

GUC 18 03:04:46.3±0.5**,31.84S**×**68.48W,h145**^{km}**,MD3.6,ML3.6,2C-3D,San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MDZ	Mendoza	1.09	197	*e*P	P	03 05 10.4	-1.2
MDZ				*i* S	S	03 05 29.1	-2.0
FCH	Farellones	2.13	225	*e*P	P	03 05 23.6	+0.5
FCH				*i* P		03 05 24.0	
FCH				AMP		03 05 58.3	
	comp=N,93nm,0.5s						
FCH	Farellones	2.13	225	P	P	03 05 24.0	+0.9
CMCH	Combarbala	2.25	286	⇑*i*P	P	03 05 24.7	+0.1
CMCH				*i* S	S	03 05 53.9	0.0
CMCH				AMP		03 05 56.0	
	comp=N,1µm,0.7s						
CLCH	Cerro Calan	2.33	228	*e*P	P	03 05 25.8	+0.2
CLCH				*e*S	S	03 05 55.9	+0.3
CLCH				AMP		03 06 02.7	
	comp=E,161nm,0.6s						
PCH	Pirque	2.47	223	⇑*i*P	P	03 05 27.7	+0.3
LMEL	Las Melosas	2.47	215	*e*P	P	03 05 27.7	+0.3
LMEL				AMP		03 06 12.3	
	comp=N,82nm,0.2s						
RCDM	Rinconada Maip	2.56	229	⇓*i*P	P	03 05 28.6	0.0
RCDM				*e*S	S	03 06 00.7	-0.1
RCDM				AMP		03 06 03.8	
	comp=E,391nm,0.1s						
TLL	Tololo Astrono	2.60	309	*e*P	P	03 05 29.4	+0.3
TLL				*i* S	S	03 06 00.8	-0.9
TLL				AMP		03 06 07.6	
	comp=N,307nm,0.6s						
TACH	Talagante	2.75	228	⇓*i*P	P	03 05 30.6	-0.4
TACH				*i* S	S	03 06 04.3	-0.8
CHCH	Chadas Angostu	2.78	221	*e*P	P	03 05 31.1	-0.2
CACH	El Canelo	2.89	218	⇓*i*P	P	03 05 33.0	+0.2
CICH	Cipreses	2.96	213	*e*P	P	03 05 34.0	+0.3
LCCH	Las Cruces	3.08	237	*e*P	P	03 05 33.8	-1.3
LCCH				*e*S	S	03 06 10.9	-1.7

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*SOF **18** 03:14:22.6,44.20N×25.40E,h20^{km},MD3.1*
*BUC **18** 03:14:24.9±1.5,44.16N×25.56E,h6^{km}±10^{km},MD3.3, Error ellipse: s-maj=12.4km s-min=4.7km az=325.0*

ISC 18 03:14:24.7±0.4**,44.08N**±0.03×**25.50E**±0.04**,h6**^{km}**,n21,σ1^{s}12**/30**,5C-7D,Romania**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BUC1	Bucharest	0.47	54	⇓*i*P	Pg	03 14 32.9	-1.3
BUC1				*i* S	Sg	03 14 40.6	+0.1
PVL	Pavlikeni	0.87	188	*i* P	Pb	03 14 42.5	+0.8
SZH	Strazhica	0.87	158	*i* P	Pb	03 14 41.5	-0.2
MTUR	Matau	1.19	345	⇑*i*P	Pb	03 14 46.0	-1.3
MTUR				*i* S	Sb	03 15 02.6	-0.2
CRAR	CRAIOVA	1.25	282	⇓*i*P	Pb	03 14 47.2	-1.0
CRAR				S	Sb	03 15 04.4	+0.1
SNX	Sinaia	1.28	1	⇑*i*P	Pb	03 14 48.0	-0.8
ISR	Istrita	1.28	35	⇑*i*P	Pb	03 14 48.6	-0.3
ISR				*i* S	Sb	03 15 07.1	+1.7
MLR	Muntele Rosu	1.45	13	⇑*i*P	Pn	03 14 51.1	-0.4
MLR				*i* S	Sb	03 15 11.6	+1.3
PRD	Provadia	1.64	122	*i* P	Pn	03 14 53.0	-1.2
JMB	Yambol	1.79	153	*i* P	Pn	03 14 56.0	-0.4
PGB	Panagyurishte	1.81	213	*i* P	Pn	03 14 58.0	+1.4
BRD	Bordesti	1.84	36	⇑*i*P	Pn	03 14 59.2	+2.1
HARR	Harsova	1.85	70	⇓*i*P	Pn	03 14 56.1	-1.1
HARR				*i* S	Sn	03 15 20.9	-0.3
PSN	Preselentsi	1.98	100	*i* P	Pn	03 15 00.0	+0.9
VRI	Vrincioaia	1.99	26	⇓*i*P	Pn	03 14 59.8	+0.5
VRI				S	Sn	03 15 28.0	+3.2
TIRR	Tirgusor	2.13	79	⇓*i*P	Pn	03 15 00.6	-0.6
TIRR				*i* S	Sn	03 15 28.6	+0.3
VTS	Vitosha	2.23	229	*i* P	Pn	03 15 00.0	-2.7
VTS	Vitosha	2.23	229	⇓*i*P	Pn	03 15 04.4	+1.7
VTS				S	Sn	03 15 32.9	+2.0
MMB	Musomiste	2.80	208	*i* P	Pn	03 15 15.5	+4.6
KKB	Krupnik	2.83	220	*i* P	Pn	03 15 10.0	-1.2
BURAR	Bucovina Array	3.55	357	⇓*i*P	Pn	03 15 20.1	-1.3

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*IDC **18** 03:42:03.4±2.3,3.73N×126.45E,mb3.6/3,mb1 3.8/3, mb1mx3.5/16,Error ellipse: s-maj=197.0km s-min=26.7km az=65.0*

ISC 18 03:42:05.3±1.9**,3.9N**±0.3×**126.9E**±0.7**,h33**^{km}**,n5,σ0^{s}88**/5**,mb3.5**/4**,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	21.93	183	*e*P	P	03 46 57.6	-0.1
	3.1nm,1.2s,mb3.6						
WRA	Warramunga Arr	24.82	163	P	P	03 47 26.1	-0.1
	1.8nm,0.8s,mb3.7,baz=340,slow=11,SNR=10.0						
WB2	Warramunga Arr	24.82	163	*e*P	P	03 47 25.3	-0.9
ASAR	Alice Springs	28.26	166	P	P	03 47 59.0	+1.1
	0.2nm,0.4s,mb3.1,baz=349,slow=6.5,SNR=4.2						
MKAR	Makanchi Array	57.50	325	P	P	03 51 53.7	0.0
	0.3nm,0.5s,mb3.6,baz=118,slow=7.2,SNR=6.0						

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*IDC **18** 03:44:50.4±1.2,12.13N×46.46E,mb3.9/7,mb1 4.0/8, mb1mx3.9/17,ML2.9/1,MS3.3/2,Ms1 3.3/2,ms1mx2.9/20, Error ellipse: s-maj=34.1km s-min=27.4km az=44.0*
*DHMR **18** 03:44:53.3±0.5,12.39N×46.00E,h17^{km}±6^{km},ML3.6*

ISC 18 03:44:51.3±2.9**,12.24N**±0.07×**46.24E**±0.08**,h21**^{km}±22^{km}**,n15,σ0^{s}92**/18**,mb3.9**/7**,MS3.2**/2**,2C-3D,Western Gulf of Aden**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDHA	Al Bayda'	1.85	339	⇓*i*P	Pn	03 45 22.3	-0.1
BDHA				*i* S	Sn	03 45 44.8	-0.5
BDHA				AML	AML	03 45 45.7	
	comp=E,1µm,0.8s						
LBOS		1.89	329	⇓*i*P	Pn	03 45 22.3	-0.6
LBOS				*i* S	Sn	03 45 45.4	-1.0
TRBA	At Turbah	2.28	295	⇑*i*P	Pn	03 45 28.5	0.0
TRBA				*i* S	Sn	03 45 55.8	-0.5
TRBA				AML	AML	03 45 57.1	
	comp=N,437nm,0.2s						
DHBB	Dhamar BB	2.93	322	⇑*i*P	Pn	03 45 38.9	+1.1
DHBB				*i* S	Sn	03 46 14.6	+1.8
HAJJ	Hajjah	4.29	324	⇓*i*P	Pn	03 45 57.2	+0.1
HAJJ				*i* S	Sn	03 46 46.2	-1.0
KMBO	Kilima Mbogo	16.00	215	Pn	P	03 48 36.5	-0.6
	comp=N,0.1nm,0.3s,baz=32,slow=19,SNR=2.2						
ASF	Jabal al Asfar	21.62	338	LR	LR	03 57 26.4	
	comp=N,48nm,18.4s,MS2.9,baz=17,slow=35						
BRTR	Keskin Array B	29.56	340	P	P	03 50 59.6	+2.7
	comp=N,0.3nm,0.4s,mb3.4,baz=321,slow=33,SNR=1.7						
GERES	GERESS Array B	45.37	330	P	P	03 53 11.5	+1.5
	comp=N,0.9nm,0.8s,mb3.6,baz=141,slow=8.5,SNR=8.3						
MKAR	Makanchi Array	45.89	34	P	P	03 53 13.4	-0.7
	comp=N,1.3nm,0.9s,mb3.9,baz=236,slow=8.7,SNR=7.3						
MKAR				LR	LR	04 13 57.6	
	comp=N,57nm,20.0s,MS3.5,baz=78,slow=38						
CMAR	Chiang Mai Arr	51.05	76	P	P	03 53 54.4	-0.2
	comp=N,1.0nm,0.5s,mb4.0,baz=273,slow=8.2,SNR=8.6						
SONM	Songino Array	61.09	42	P	P	03 55 05.7	-0.6
	comp=N,0.6nm,0.6s,mb3.9,baz=270,slow=8.6,SNR=5.6						
WRA	Warramunga Arr	92.34	110	P	P	03 58 01.7	-0.4
	comp=N,0.8nm,0.7s,mb4.1,baz=293,slow=4.2,SNR=6.6						
ASAR	Alice Springs	92.72	113	P	P	03 58 04.2	+0.3
	comp=N,0.8nm,0.9s,mb4.2,baz=287,slow=3.9,SNR=6.2						
NVAR	Mina Array Bea	127.57	345	PKP	PKPdf	04 03 59.6	-0.2
	comp=N,0.7nm,0.7s,baz=236,slow=5.3,SNR=3.9						

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*IDC **18** 04:08:14.9±4.7,7.74S×122.91E,h316^{km}±53^{km},mb3.5/3, mb1 3.4/6,mb1mx3.2/15,Error ellipse: s-maj=43.6km s-min=23.4km az=59.0*

ISC 18 04:08:07.5±3.5**,7.6S**±0.2×**122.8E**±0.2**,h261**^{km}±35^{km}**,n10,σ0^{s}84**/13**,mb4.0**/4**,Flores Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	10.78	165	*e*P	P	04 10 36.4	-0.3
	3.7nm,0.6s						
FITZ				*e*S	S	04 12 35.3	+1.1
FITZ	Fitzroy Crossi	10.78	165	P	P	04 10 41.0	+4.3
	1.1nm,0.3s,baz=338,slow=14,SNR=30						
WRA	Warramunga Arr	16.61	139	P	P	04 11 46.0	-1.2
	0.4nm,0.3s,baz=316,slow=12,SNR=18						
WRA				S	S	04 14 43.2	+0.4
	0.0nm,0.3s,baz=318,slow=22,SNR=3.4						
WB2	Warramunga Arr	16.62	139	*e*P	P	04 11 46.3	-0.9
WB2				*e*S	S	04 14 51.9	+9.0
ASPA	Alice Springs	19.20	147	*e*P	P	04 12 14.1	+0.3
ASAR	Alice Springs	19.20	147	P	P	04 12 14.7	+0.8
	0.5nm,0.3s,baz=326,slow=11,SNR=32						
KLBR	Kellerberrin	24.30	190	*e*P	P	04 13 01.8	-1.2
	52nm,1.6s,mb4.6						
NWAO	Narrogin (SRO)	25.69	191	P	P	04 13 15.6	-0.2
	8.3nm,0.9s,mb4.1,baz=20,slow=11,SNR=6.0						
STKA	Stephens Creek	29.84	146	P	P	04 13 52.7	-0.2
	1.6nm,0.6s,mb3.8,baz=318,slow=9.9,SNR=6.8						
MKAR	Makanchi Array	65.02	331	P	P	04 18 22.9	+1.2
	0.8nm,0.6s,mb3.5,baz=131,slow=8.0,SNR=7.2						

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*IDC **18** 04:08:31.1±8.8,23.47S×179.85W,h531^{km}±98^{km},mb3.7/9, mb1 3.8/9,mb1mx3.6/16,Error ellipse: s-maj=46.6km s-min=36.2km az=135.0*
*NEIC **18** 04:08:35.4±0.5,23.23S×179.91W,h600^{km},mb4.2/12, Error ellipse: s-maj=22.7km s-min=11.0km az=161.0*

ISC 18 04:08:34.5±0.6**,23.3S**±0.2×**180.0W**±0.1**,h600**^{km}**,n29,σ0^{s}94**/28**,mb4.0**/17**,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CNB	Canberra Magne	29.20	239	*e*P	P	04 13 51.2	+0.5
	9.7nm,0.7s,mb4.5						
CTA	Charters Tower	31.49	269	*e*P	P	04 14 11.0	+0.6
	17nm,0.6s,mb4.8						
CTA	Charters Tower	31.49	269	P	P	04 14 11.1	+0.7
	15nm,0.3s,mb5.0,baz=97,slow=11,SNR=49						
CTAO	Charters Tower	31.49	269	*e*P	P	04 14 10.7	+0.4
	22nm,0.6s,mb5.0						
STKA	Stephens Creek	34.98	247	*e*P	P	04 14 39.6	+0.2
	5.4nm,0.6s,mb4.3						
STKA	Stephens Creek	34.98	247	P	P	04 14 39.7	+0.4
	6.4nm,0.6s,mb4.4,baz=88,slow=7.9,SNR=20						
ASAR	Alice Springs	42.16	260	P	P	04 15 37.5	0.0
	7.8nm,0.6s,mb4.4,baz=93,slow=8.1,SNR=70						
ASPA	Alice Springs	42.16	260	*e*P	P	04 15 37.4	-0.1
WB2	Warramunga Arr	42.46	265	*e*P	P	04 15 39.4	-0.5
WRA	Warramunga Arr	42.47	265	P	P	04 15 39.5	-0.5
	8.8nm,0.6s,mb4.5,baz=101,slow=8.3,SNR=26						
KAKA	Kakadu	46.31	275	*e*P	P	04 16 11.3	+1.6
	3.1nm,0.3s,mb4.3						
FORT	Forrest	46.55	249	*e*P	P	04 16 10.0	-1.3
	85nm,0.7s						
FITZ	Fitzroy Crossi	50.90	265	*e*P	P	04 16 44.3	+0.6
	4.9nm,0.8s,mb4.0						
FITZ	Fitzroy Crossi	50.90	265	P	P	04 16 44.3	+0.6
	7.3nm,0.9s,mb4.1,baz=160,slow=3.4,SNR=4.4						
KLBR	Kellerberrin	55.26	247	*e*P	P	04 17 13.6	-0.7
	14nm,0.8s,mb4.3						
MBWA	Marble Bar	55.50	260	*e*P	P	04 17 15.4	-0.7
	7.9nm,0.7s,mb4.0						
NWAO	Narrogin (SRO)	55.52	245	P	P	04 17 15.6	-0.5
	29nm,1.2s,mb4.4,baz=130,slow=4.0,SNR=3.8						
NWAO	Narrogin (SRO)	55.52	245	P	P	04 17 15.6	-0.5
QSPA	South Pole Qui	66.83	180	*e*P	P	04 18 29.1	+0.2
	1.9nm,0.6s,mb3.7						
MAW	Mawson	78.36	200	P	P	04 19 35.5	+0.9
	1.0nm,0.8s,mb3.3,baz=129,slow=13,SNR=1.7						
MNV	Mina	84.37	44	*e*P	P	04 20 04.8	-0.9
	0.7nm,0.8s,mb3.2						
SNAA	Sanae	85.32	179	*e*P	P	04 20 09.1	-0.4
TUC	Tucson	86.11	53	*e*P	P	04 20 14.1	-0.2
	2.1nm,0.9s,mb3.8						
ELK	Elko	87.54	43	P	P	04 20 18.1	-2.6
	0.4nm,0.4s,mb3.5						
CMAR	Chiang Mai Arr	89.31	290	P	P	04 20 33.2	+3.7
	0.8nm,0.4s,mb3.9,baz=132,slow=4.4,SNR=4.3						
TXAR	Lajitas Array	90.08	58	P	P	04 20 34.5	+1.6

	0.6nm,0.7s,mb3.5,baz=219,slow=6.9,SNR=10						
TXAR	Lajitas Array	90.08	58	P	P	04 20 34.5	+1.6
PV01	Paradox Valley	90.58	48	eP	P	04 20 35.9	+0.9
CLL	Collm	150.24	343	i PKP1	PKPdf	04 27 20.8	+8.6

MOS 18 04:20:11.7±0.8, 55.44N×112.58E, h19^{km}, mb4.2/1, 1C-1D, Error ellipse: s-maj=39.5km s-min=27.9km az=93.9, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOA	Uoyan	0.85	326	⇓iPG	Pb	04 20 27.2	-0.3
YOA				i		04 20 39.0	
YOA				pmax	pmax		
	comp=Z,180nm,0.3s						
YOA				smax			
	comp=N,2μm,0.5s						
YLYR	Ulyunkhan	0.99	236	⇑iPG	Pb	04 20 29.3	-0.7
YLYR				e		04 20 42.4	
YLYR				pmax	pmax		
	comp=Z,59nm,0.1s						
YLYR				smax			
	comp=E,2μm,0.1s						
NIZ	Nizh Angarsk	1.76	282	ePN	Pn	04 20 42.1	+0.5
NIZ				e		04 21 05.4	
NIZ				pmax	pmax		
	comp=Z,51nm,0.3s						
NIZ				smax			
	comp=N,281nm,0.3s						
BOD	Bodaibo	2.51	18	ePN	Pn	04 20 51.8	-0.6
BOD				e		04 20 55.5	
BOD				eS	Sn	04 21 23.1	+0.3
BOD				e		04 21 27.6	
BOD				pmax	pmax		
	comp=Z,11nm,0.4s						
BOD				smax			
	comp=E,210nm,0.4s						
TUP	Tupik	4.37	100	ePN	Pn	04 21 18.1	-0.8
TUP				e		04 21 30.7	
TUP				eS	Sn	04 22 07.6	-2.3
TUP				e		04 22 28.0	
TUP				pmax	pmax		
	comp=Z,10.0nm,0.6s						
TUP				smax			
	comp=E,80nm,0.6s						

IDC 18 04:48:48.7±3.6, 28.77N×140.70E, h76^{km}±34^{km}, mb3.5/8, mb1 3.8/9, mb1mx3.5/21, Error ellipse: s-maj=37.5km s-min=18.6km az=94.0

ISC 18 04:48:48.2±3.1, 28.7N±0.1×140.6E±0.3, h89^{km}±29^{km}, n12, σ0^{s}.62/12, mb3.7/9, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	Chichi jima	2.13	140	P	P	04 49 23.0	+0.3
	151nm,0.3s,baz=78,slow=8.7,SNR=104						
CBIJ				S	S	04 49 47.9	-0.3
	405nm,0.3s,baz=286,slow=22,SNR=14						
WRA	Warramunga Arr	48.77	188	P	P	04 57 26.1	-0.2
	0.4nm,0.2s,mb3.9,baz=6.7,slow=8.3,SNR=35						
ASAR	Alice Springs	52.50	188	P	P	04 57 55.5	+1.1
	0.1nm,0.4s,mb3.2,baz=11,slow=9.3,SNR=3.8						
ILAR	Eielson Array	56.95	29	P	P	04 58 26.4	+0.1
	0.3nm,1.0s,mb3.3,baz=244,slow=5.4,SNR=4.6						
STKA	Stephens Creek	60.28	179	P	P	04 58 49.1	-0.7
	0.8nm,0.7s,mb3.9,baz=354,slow=9.2,SNR=1.3						
KEV	Kevo	70.99	340	ep	PcP	05 00 16.5	-1.1
	0.3nm,0.3s						
ARCES	ARCESS Array B	71.55	340	P	P	05 00 01.7	+0.7
	2.3nm,0.8s,mb4.0,baz=60,slow=5.6,SNR=6.7						
KAF	Kangasniemi	75.41	334	ep	P	05 00 22.6	-0.9
	0.4nm,0.3s,mb3.6						
FINES	FINESS Array B	75.88	333	P	P	05 00 26.0	-0.1
	0.9nm,0.4s,mb3.9,baz=70,slow=4.4,SNR=20						
NVAR	Mina Array Bea	80.58	51	P	P	05 00 52.7	+0.3
	1.0nm,0.5s,mb3.9,baz=299,slow=5.3,SNR=9.0						
NB2	NORSAR Subarra	81.58	338	P	P	05 00 53.6	-3.6
	3.5nm,1.1s,mb4.1,baz=43,slow=5.3						
NOA	NORSAR Array B	81.58	338	P	P	05 00 57.0	-0.2
	1.6nm,0.9s,mb3.8,baz=41,slow=5.3,SNR=4.3						

DJA 18 05:06:48.4±0.9, 8.97S×115.24E, h93^{km}±5^{km}, MD4.6/4, ML4.6/2, 4C-4D, Error ellipse: s-maj=27.8km s-min=9.4km az=6.0, Bali region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
INGI	Ingas	0.17	328	⇑iPn	P	05 07 01.4	-0.3
	4μm,0.2s						
INGI				⇓iSn	S	05 07 10.4	-1.4
RATI	Rata	0.38	50	⇑iPn	P	05 07 02.7	0.0
	3μm,0.2s						
RATI				⇑iSn	S	05 07 13.1	-0.4
KEDI	Kedomdong	0.99	61	⇓iPn	P	05 07 07.5	-0.9
	1μm,0.2s						
KEDI				⇓iSn	S	05 07 21.9	-1.5
KELI	Kelakatan	1.05	315	⇑iPn	P	05 07 08.8	-0.4
	827nm,0.2s						
KELI				⇓iSn	S	05 07 23.5	-1.3

THE 18 05:09:12.2, 40.54N×23.56E, h4^{km}, ML3.0

SOF 18 05:09:12.2, 40.62N×23.50E, h5^{km}, MD2.5

ISC 18 05:09:11.8±1.1, 40.53N±0.04×23.52E±0.08, h6^{km}±11^{km}, n13, σ0^{s}.71/16, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SOH	Sokhos	0.32	337	ePg	Pg	05 09 18.6	+0.3
SOH				eSg	Sg	05 09 22.9	+0.3
THE	Thessaloniki	0.44	284	ePg	Pg	05 09 20.2	-0.4
SRS	Serrai	0.59	5	ePg	Pg	05 09 23.6	-0.1
SRS				eSg	Sg	05 09 31.3	-0.3
LIT	Litokhoron	0.90	242	ePg	Pg	05 09 29.9	+0.1
GRG	Griva	0.95	297	ePg	Pg	05 09 30.1	-0.7
GRG				eSg	Sg	05 09 44.9	+1.2
MMB	Musomiste	1.07	8	i P	Pb	05 09 31.0	-1.4
XOR	Xorichti	1.19	192	ePb	Pb	05 09 34.9	+0.5
KKB	Krupnik	1.38	346	i P	Pb	05 09 37.0	-0.6
AOS	Alonnisos	1.38	168	ePb	Pb	05 09 37.2	-0.5
RZN	Rozhen	1.47	37	i P	Pn	05 09 40.0	+1.0
FNA	Florina	1.65	280	ePb	Pb	05 09 41.7	-0.6
KDZ	Kurdzhali	1.82	51	i P	Pn	05 09 45.0	+1.0
VTS	Vitosha	2.08	354	eP	Pn	05 09 48.0	+0.3

NEIC 18 05:17:30.4±2.1, 43.71N×143.20E, h219^{km}±14^{km}, mb3.6/1, Error ellipse: s-maj=60.9km s-min=13.2km az=102.0

IDC 18 05:17:34.4±17.0, 43.77N×142.97E, h248^{km}±72^{km}, mb3.4/4, mb1 3.4/4, mb1mx3.0/22, Error ellipse: s-maj=519.0km s-min=46.8km az=157.0

JMA 18 05:17:37.3±0.1, 44.31N×142.27E, h226^{km}±2^{km}, M3.3

ISC 18 05:17:36.3±0.5, 44.27N±0.05×142.35E±0.07, h231^{km}±4^{km}, n29, σ0^{s}.88/42, mb3.6/5, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAJ	Asahikawa	0.23	131	P	P	05 18 07.2	+0.5
	57nm,0.3s,baz=244,slow=3.1,SNR=124						
ASAJ	Asahikawa	0.23	131	P	P	05 18 07.1	+0.5
ASAJ				eS	S	05 18 29.8	-0.3
JSS	Shosan	0.38	290	P	P	05 18 07.0	0.0
JSS				eS	S	05 18 30.1	-0.6
JKK2	Kamakawa 2	0.49	144	P	P	05 18 08.1	+0.8
JKK2				eS	S	05 18 31.8	+0.5
JYG	Yagishiri	0.68	284	P	P	05 18 07.8	-0.1
JHR	Hokuryu	0.70	221	P	P	05 18 08.6	+0.6
JHR				eS	S	05 18 33.4	+0.8
JSE	Soyaes	0.71	13	P	P	05 18 08.1	+0.1
JSE				eS	S	05 18 31.5	-1.2
JMP	Maruseppu	0.77	110	P	P	05 18 09.2	+0.9
JAB	Ashibetsu	0.77	187	P	P	05 18 09.0	+0.7
JWK2	Keihoku	1.09	343	P	P	05 18 10.1	0.0
JWK2				eS	S	05 18 35.5	-0.9
JFR	Furan	1.12	171	P	P	05 18 10.9	+0.6
JTKR	Abashiri--Toko	1.16	104	P	P	05 18 11.8	+1.2
JTKR				eS	S	05 18 38.1	+0.9
JAR	Ashorobuto	1.41	133	P	P	05 18 13.8	+1.3
JAR				eS	S	05 18 41.5	+1.0
JEW	Eniwo	1.57	205	eS	S	05 18 42.9	+0.1
JSK	Shakotan	1.64	237	P	P	05 18 14.7	+0.4
JCH	Churui	1.81	156	P	P	05 18 15.5	-0.3
JCH				eS	S	05 18 44.2	-2.1
JNBK	Urakawa-nobuka	2.01	172	P	P	05 18 18.5	+0.9
JNBK				eS	S	05 18 49.0	-0.6
JRA	Rausu	2.02	99	P	P	05 18 19.0	+1.3
JAK	Akkeshi	2.12	126	P	P	05 18 18.8	0.0
JAK				eS	S	05 18 50.8	-0.8
JKB	Kayabe	2.57	203	P	P	05 18 23.3	-0.1
JKB				eS	S	05 18 57.3	-2.6
NEM2	Nemuro 2	2.61	109	P	P	05 18 23.1	-0.8
NEM2				eS	S	05 18 58.7	-2.0
YSS	Yuzh-Sakhalins	2.70	6	eP	P	05 18 23.9	-0.9
JOSM	Okushiri--Mats	3.04	225	P	P	05 18 28.5	0.0
MAJO	Matsushiro	8.34	204	P	P	05 19 25.1	-10
SONM	Songino Array	25.07	291	P	P	05 22 41.5	+0.6
	2.4nm,0.7s,mb4.0,baz=88,slow=8.3,SNR=18						
MKAR	Makanchi Array	41.26	295	P	P	05 25 00.4	+0.2
	0.7nm,0.6s,mb3.3,baz=85,slow=8.0,SNR=8.9						
BVAR	Borovoye Array	46.47	308	P	P	05 25 41.4	0.0
	0.9nm,0.3s,mb3.5,baz=75,slow=8.9,SNR=9.1						
ZRNK	Zerenda	47.28	308	eP	P	05 25 47.5	-0.3
	1.6nm,0.6s,mb3.5						
FINES	FINESS Array B	62.79	331	P	P	05 27 37.3	-1.3
	1.0nm,0.5s,mb3.7,baz=61,slow=6.8,SNR=13						

NIED 18 05:28:00, 26.40N×126.30E, h107^{km}, Mw4.2 Best double couple: M$_0$1.91×10^{15} NP1:φ$_s$18°, δ89°, λ-62°. NP2:φ$_s$111°, δ28°, λ-177°.

NEIC 18 05:28:20.7±0.8, 26.48N×126.19E, h98^{km}±9^{km}, mb4.5/5, MW4.2(NIED), Error ellipse: s-maj=15.0km s-min=9.4km az=146.0

IDC 18 05:28:20.3±1.9, 26.62N×126.31E, h92^{km}±21^{km}, mb3.8/10, mb1 3.9/11, mb1mx3.7/24, Error ellipse: s-maj=22.2km s-min=20.5km az=36.0

JMA 18 05:28:21.1±0.2, 26.36N×126.34E, h102^{km}±2^{km}, M4.1

ISC 18 05:28:19.2±0.3, 26.47N±0.07×126.27E±0.06, h102^{km}±6^{km}, n40, σ0^{s}.87/57, mb4.2/15, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JKE	Kume jima 2	0.49	107	P	P	05 28 36.6	+1.3
JKE				eS	S	05 28 47.6	+0.3
JAGN	Aguni-jima	0.88	82	P	P	05 28 40.0	+1.2
JAGN				S	S	05 28 53.7	+0.2
NAH1	Naha	1.31	101	P	P	05 28 44.2	+0.6
NAH1				S	S	05 29 00.8	-1.1
JJT2	Tamagusuku 2	1.37	104	P	P	05 28 45.5	+1.1
JJT2				eS	S	05 29 03.1	-0.2
JIH	Iheya	1.62	69	P	P	05 28 48.9	+1.4
JIH				S	S	05 29 08.7	+0.1
JOW	Kunigami	1.83	78	P	P	05 28 50.9	+0.7
JOW				S	S	05 29 12.4	-0.8
JOW	Kunigami	1.83	78	P	P	05 28 50.9	+0.7
JOW				S	S	05 29 12.2	-1.0
JMJ	Miyako jima 2	1.87	208	P	P	05 28 51.4	+0.8
JMJ				S	S	05 29 13.8	-0.1
JOGS	Gusukube	1.87	205	P	P	05 28 51.5	+0.9
JOGS				eS	S	05 29 14.6	+0.6
JTJ	Tarama	2.30	218	P	P	05 28 57.0	+0.5
JTJ				S	S	05 29 23.2	-1.1
JTK	Tokunoshima	2.73	61	P	P	05 29 02.5	+0.2
JTK				eS	S	05 29 33.0	-1.7
JIJ	Ishigaki jima	2.84	223	P	P	05 29 03.4	-0.4
JIJ				eS	S	05 29 33.7	-3.7
JKRS	Kuro-shima	3.02	223	P	P	05 29 05.9	-0.3
IRIF	Iriomote-Funau	3.12	228	P	P	05 29 07.5	-0.2
IRIF				eS	S	05 29 42.5	-1.8
HATJ	Hateruma jima	3.27	223	P	P	05 29 09.2	-0.6
HATJ				eS	S	05 29 48.0	0.0
JAM	Amami Oshima	3.54	56	P	P	05 29 13.1	-0.3
JAM				eS	S	05 29 52.8	-1.7
YOJ	Yonaguni jima	3.56	237	P	P	05 29 14.2	+0.6
JZK	Kikaishima	3.77	60	P	P	05 29 16.4	-0.2
JZK				eS	S	05 29 59.5	-0.7
JMZ	Minamidaito 2	4.50	97	P	P	05 29 23.1	-3.4
JMZ				eS	S	05 30 09.9	-8.1
TATO	Taipei	4.56	252	eP	P	05 29 26.5	-0.8
JNN	Nakanoshima	4.63	43	P	P	05 29 29.1	+0.8
JTN	Tanegashima 3	5.88	44	P	P	05 29 45.4	+0.2
JNU	Nakatsue	7.75	30	P	P	05 30 12.4	+1.5
	4.0nm,0.3s,baz=300,slow=3.0,SNR=13						
SONM	Songino Array	26.42	329	P	P	05 33 48.5	+0.5
	2.0nm,0.8s,mb3.6,baz=135,slow=7.7,SNR=11						
CMAR	Chiang Mai Arr	26.44	258	P	P	05 33 49.4	+0.9
	1.7nm,0.7s,mb3.6,baz=55,slow=7.4,SNR=8.2						
PKI	Pulchoki	36.30	281	eP	P	05 35 14.4	-0.3
	4.8nm,0.4s,mb4.8						
KKN	Kakani	36.38	282	eP	P	05 35 14.7	-0.7
	5.3nm,0.3s,mb4.9						
DMN	Daman	36.56	281	eP	P	05 35 16.0	-0.9
	11nm,0.4s,mb5.1						
GKN	Gorkha	36.92	282	eP	P	05 35 19.9	0.0
KOLN	Koldanda	37.86	282	eP	P	05 35 27.8	0.0
	3.9nm,0.5s,mb4.5						
MKAR	Makanchi Array	40.07	312	P	P	05 35 45.7	-0.2
	1.1nm,0.3s,mb4.1,baz=95,slow=8.2,SNR=14						
MKAR				PcP	PcP	05 37 49.5	+0.1
	0.7nm,0.5s,baz=131,slow=1.3,SNR=7.0						
MKAR				ScP		05 41 31.9	
	0.2nm,0.5s,baz=135,slow=1.7,SNR=3.5						
MKAR	Makanchi Array	40.07	312	P	P	05 35 45.7	-0.2
MKAR				PcP	PcP	05 37 49.5	+0.1
MKAR				ScP		05 41 31.9	
FITZ	Fitzroy Crossi	44.31	181	P	P	05 36 22.1	+1.3
	0.9nm,0.7s,mb3.6,baz=12,slow=9.3,SNR=5.5						
BVAR	Borovoye Array	48.93	318	P	P	05 36 56.9	+0.3
	1.5nm,0.3s,mb4.4,baz=101,slow=8.6,SNR=11						
BVAR				PcP	PcP	05 38 19.0	-0.7
	2.9nm,0.7s,baz=90,slow=3.0,SNR=9.2						
ZRNK	Zerenda	49.74	318	eP	P	05 37 02.9	+0.1
	3.0nm,0.6s,mb4.4						
ARCES	ARCESS Array B	69.14	338	P	P	05 39 14.7	-1.3
	7.0nm,1.2s,mb4.4,baz=66,slow=8.7,SNR=14						
FINES	FINESS Array B	71.78	330	P	P	05 39 31.4	-0.7
	0.9nm,0.5s,mb3.9,baz=56,slow=6.4,SNR=14						
BRTR	Keskin Array B	75.49	307	P	P	05 39 54.3	+0.4
	1.7nm,0.6s,mb4.0,baz=114,slow=5.8,SNR=6.7						
NOA	NORSAR Array B	78.31	333	P	P	05 40 09.1	-0.1
	1.1nm,0.9s,mb3.6,baz=55,slow=5.5,SNR=3.3						
GERES	GERESS Array B	83.94	322	P	P	05 40 40.1	+1.2
	0.6nm,0.6s,mb3.6,baz=45,slow=5.7,SNR=6.7						

IDC 18 05:34:28.5±1.9, 5.77S×132.20E, mb4.1/4, mb1 4.4/6, mb1mx4.1/11, ML4.6/3, Error ellipse: s-maj=75.6km s-min=24.5km az=80.0

NEIC 18 05:34:34.8±0.8, 5.81S×132.17E, h45^{km}, mb4.3/2, Error ellipse: s-maj=25.0km s-min=12.3km az=79.0

ISC 18 05:34:35.3±2.9, 6.08S±0.07×132.0E±0.1, h74^{km}±30^{km}, n11, σ1^{s}.28/14, mb4.1/5, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	13.47	207	Pn	P	05 37 46.1	+1.6
	14nm,0.3s,baz=24,slow=9.9,SNR=170						
FITZ				Sn	S	05 40 11.9	-0.9
	7.6nm,0.3s,baz=188,slow=17,SNR=12						
WRAB	Tennant Creek	13.96	171	eP	P	05 37 49.9	-1.1
	8.5nm,0.4s						
WRA	Warramunga Arr	13.97	171	Pn	P	05 37 50.1	-1.0
	2.1nm,0.3s,baz=354,slow=13,SNR=47						
WRA				Sn	S	05 40 22.6	-2.1
	4.3nm,0.3s,baz=359,slow=23,SNR=9.7						
ASAR	Alice Springs	17.58	174	P	P	05 38 39.1	+2.2
	1.5nm,0.3s,baz=353,slow=10.0,SNR=41						
ASAR				S	S	05 41 49.2	+1.5
	1.9nm,0.3s,baz=355,slow=26,SNR=15						
MBWA	Marble Bar	19.13	217	eP	P	05 38 59.9	+4.8
	6.8nm,0.5s						
CTAO	Charters Tower	19.64	136	P	P	05 39 01.3	+0.7
CMAR	Chiang Mai Arr	40.71	307	P	P	05 42 11.6	+1.2
	0.9nm,0.4s,mb4.0,baz=137,slow=7.9,SNR=7.3						
ENH	Enshi	42.10	330	P	P	05 42 20.0	-1.8
	9.1nm,1.0s,mb4.5						
SONM	Songino Array	58.23	340	P	P	05 44 23.5	-0.7
	0.6nm,0.6s,mb3.8,baz=162,slow=7.8,SNR=4.1						
MKAR	Makanchi Array	68.57	326	P	P	05 45 32.4	+0.2
	2.4nm,0.3s,mb4.4,baz=114,slow=8.1,SNR=68						
BVAR	Borovoye Array	78.36	327	P	P	05 46 29.3	+0.2
	1.0nm,0.6s,mb3.8,baz=104,slow=5.9,SNR=5.5						

NEIC 18 05:52:49.8, 38.69N×22.80E, h5^{km}, MD2.7(ATH), After ATH.

ATH 18 05:52:49.8, 38.67N×22.80E, h5^{km}, MD2.7/5

THE 18 05:52:52.6, 38.87N×22.76E, h5^{km}

ISC 18 05:52:49.2±0.9, 38.72N±0.05×22.82E±0.06, h3^{km}±10^{km}, n8, σ0^{s}.75/12, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LKR	Lokris	0.15	115	ePG	Pg	05 52 52.7	+0.4
AGG	Agios Georgios	0.49	309	ePg	Pg	05 52 59.2	+0.2
AGG				eSg	Sg	05 53 05.4	-0.2
NEO	Neokhori	0.67	28	ePB	Pb	05 53 03.8	+0.6
XOR	Xorichti	0.71	24	ePg	Pg	05 53 04.3	+0.9
XOR				eSg	Sg	05 53 12.4	-0.5
EVR	Evrytania	0.82	285	ePB	Pb	05 53 05.5	-0.2
MPAR	Parnis Oros	0.91	128	ePn	Pn	05 53 08.0	-0.7
MPAR				eSb	Sb	05 53 18.5	-1.1
NSAL	Nisos Salamina	0.95	148	ePg	Pg	05 53 07.5	-0.7
NSAL				eSb	Sb	05 53 22.5	+1.7
LIT	Litokhoron	1.41	350	ePb	Pb	05 53 15.7	-0.1

WEL 18 05:58:07.7±0.2, 38.44S×177.88E, h21^{km}±3^{km}, ML3.5/5, 1C-2D, Error ellipse: s-maj=1.6km s-min=1.4km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MWZ	Matawai	0.30	290	⇓P*	Pb	05 58 14.1	-0.4
MWZ				S*	Sb	05 58 19.0	0.0
MWZ				S*	Sb	05 58 19.4	+0.5
PUZ	Puketiti	0.47	39	⇑P*	Pb	05 58 16.8	-0.4
PUZ				S*	Sb	05 58 24.1	+0.4
PUZ				S*	Sb	05 58 24.2	+0.5
KNZ	Kokohu	0.60	196	P*	Pb	05 58 19.6	+0.1
KNZ				S*	Sb	05 58 29.5	+1.9
KNZ				S*	Sb	05 58 29.5	+2.0
URZ	Urewera	0.63	286	⇓P*	Pb	05 58 19.8	-0.2
URZ				S*	Sb	05 58 28.8	+0.4
MXZ	Matakaoa Point	0.94	21	P*	Pb	05 58 24.5	-0.6
MXZ				S*	Sb	05 58 38.5	+1.5
MXZ				S*	Sb	05 58 38.6	+1.5
EDRZ	Edgecumbe	0.96	290	eP*	Pb	05 58 25.6	+0.1
MARZ	Manawahe	1.05	295	PN	Pn	05 58 28.1	+0.8
WIZ	White Island	1.06	329	ePN	Pn	05 58 25.9	-1.6
TAZ	Tarawera	1.10	280	PN	Pn	05 58 27.6	-0.4

NEIC 18 05:58:35.9, 35.19N×3.96W, MG3.9(MDD), After MDD.

MDD 18 05:58:35.4±1.4, 35.01N×3.95W, h18^{km}±20^{km}, mb3.9/10, Error ellipse: s-maj=30.2km s-min=6.9km az=172.0, PRXIMO

LDG 18 05:58:37.1±0.3, 34.98N×4.00W, h30^{km}, Ml3.1/3, Error ellipse: s-maj=6.6km s-min=3.6km az=178.0

ISC 18 05:58:34.2±0.9, 35.22N±0.06×3.99W±0.04, h10^{km}, n33, σ1^{s}.33/56, 5C, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EMEL	Melilla	0.85	84	Pg	Pg	05 58 51.1	-0.2
	SNR=18						
EMEL				Lg		05 59 02.3	
	1μm,0.2s,SNR=7.9						
EMIJ	Mijas	1.48	335	Pn	Pn	05 59 00.5	-0.6
	10nm,0.3s,SNR=7.9						
EMIJ				Sn	Sn	05 59 23.4	+2.8
	66nm,0.2s,SNR=7.9						
EMAL	Malaga-Limoner	1.58	347	Sn	Sn	05 59 23.5	+0.5
	SNR=7.9						
REAL	Reales	1.60	322	⇑P	Pn	05 59 03.1	+0.3
REAL				S	Sb	05 59 23.8	+0.1
ERON	Agron	1.80	5	Pn	Pn	05 59 05.6	-0.1
	6.2nm,0.2s,SNR=9.4						
ERON				Sn	Sn	05 59 28.5	-0.2
	10nm,0.2s,SNR=7.9						
ELOJ	Sierra Loja	1.93	356	Pn	Pn	05 59 09.3	+1.9
	4.3nm,0.3s,SNR=9.5						
ELOJ				Sn	Sn	05 59 35.0	+3.1
	14nm,0.4s,SNR=7.9						
LIJA	Lijar	2.03	326	⇑P	Pn	05 59 12.1	+3.1
LIJA				S	Sn	05 59 38.8	+4.1
ESPR	Espera	2.23	318	Pn	Pn	05 59 13.4	+1.6
	7.0nm,0.3s,SNR=7.9						
ESPR				Sn	Sn	05 59 40.1	+0.4
	30nm,0.4s,SNR=7.9						
ELUQ	Luque	2.34	355	⇑Pn	Pn	05 59 16.4	+2.9
	5.8nm,0.2s,SNR=18						
ELUQ				Sn	Sn	05 59 44.2	+1.7
	6.6nm,0.2s,SNR=7.9						
ELUQ	Luque	2.34	355	⇑Pn	Pn	05 59 16.4	+2.9
ELUQ				Sn	Sn	05 59 44.2	+1.7
EQES	Quesada	2.68	16	⇑Pn	Pn	05 59 20.6	+2.3
	5.6nm,0.2s,SNR=18						
EQES				Sn	Sn	05 59 52.6	+1.5
	44nm,0.3s,SNR=7.9						
EADA	Adamuz	2.98	351	Pn	Pn	05 59 23.8	+1.3
	1.1nm,0.2s,SNR=7.9						
EADA				Sn	Sn	05 59 58.8	+0.1
	7.7nm,0.3s,SNR=7.9						
EMIN	Mina Concepcio	3.33	320	Pn	Pn	05 59 27.6	0.0
	4.0nm,0.2s,SNR=18						
EMIN				Sn	Sn	06 00 06.2	-1.4
	5.8nm,0.3s,SNR=7.9						
EMUR	La Murta	3.43	39	Pn	Pn	05 59 30.2	+1.3
	2.6nm,0.3s,SNR=7.9						
EMUR				Sn	Sn	06 00 07.3	-2.7
	SNR=7.9						
EVIA	Vianos	3.61	19	Pn	Pn	05 59 34.8	+3.3
	13nm,0.5s,SNR=9.8						
EVIA				Sn	Sn	06 00 14.7	0.0
	SNR=7.9						
ETOB	Tobarra	3.94	29	Pn	Pn	05 59 37.5	+1.4
	9.6nm,0.2s,SNR=18						
ETOB				Sn	Sn	06 00 21.8	-1.1
	SNR=7.9						
EBAD	Badajoz	4.28	326	Pn	Pn	05 59 40.6	-0.3
	3.9nm,0.2s,SNR=18						
EBAD				Sn	Sn	06 00 28.9	-2.6
	SNR=7.9						
ESDC	Sonseca Array	4.45	0	Pn	Pn	05 59 44.1	+0.7
	1.9nm,0.3s,baz=179,slow=12,SNR=18						
EBEN	Beniarda	4.60	40	Sn	Sn	06 00 35.7	-4.1
	SNR=7.9						
EVO	Evora	4.62	317	ePn	Pn	05 59 46.0	+0.2
EVO				eSn	Sn	06 00 38.0	-2.1
	13nm,0.3s						
MOE	Montemor	4.80	315	eP	Pn	05 59 48.0	-0.4
MOE				eS	Sn	06 00 41.4	-3.4
EIBI	Ibiza	5.71	47	Pn	Pn	05 59 59.7	-1.5
	SNR=7.9						
EIBI				Sn	Sn	06 01 02.3	-5.2
	SNR=7.9						
ETOR	Torete	5.79	15	Pn	Pn	06 00 02.6	+0.2
	SNR=7.9						
ETOR				Sn	Sn	06 01 05.7	-4.0
	SNR=7.9						
ECAL	Calabor	7.05	343	Pn	Pn	06 00 19.7	-0.3
	12nm,0.4s,SNR=18						
ECAL				Sn	Sn	06 01 37.4	-3.6
	SNR=7.9						
ELOB	Lobios	7.36	336	Pn	Pn	06 00 23.6	-0.9
	SNR=7.9						
ELOB				Sn	Sn	06 01 42.9	-6.0
	SNR=7.9						
ERUA	La Rua	7.57	342	Pn	Pn	06 00 26.8	-0.6
	SNR=18						
ETSF	Etsaut	8.12	18	ePn	P	06 00 34.6	-0.4
ETSF				eSn	Sn	06 02 01.2	-6.6
	0.5nm,0.2s						
SJPF	Ste Jean	8.17	14	ePn	P	06 00 35.5	-0.2
SJPF				eSn	Sn	06 02 02.5	-6.5
	0.8nm,0.3s						
EALK	Alkurruntz	8.22	13	Pn	P	06 00 37.0	+0.6
	SNR=7.9						
EPON	Pontenova	8.46	344	Pn	P	06 00 39.1	-0.6
	SNR=7.9						
EPF	Esparros	8.49	22	ePn	P	06 00 38.8	-1.4
QUIF	Quistinic	12.70	3	ePn	P	06 01 36.3	-1.4
ROSF	Rostrenen	13.12	2	ePn	P	06 01 41.8	-1.4

MAN 18 06:04:38.8, 7.34N×126.24E, h63^{km}, mb4.5, ML3.4, MS3.3,

1C-2D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MATI	Mati	0.39	177	eP	P	06 04 52.0	+1.9
MATI				eS	S	06 05 01.8	+3.4
BIPH	Bislig	0.84	8	⇓iP	P	06 04 60.0	+4.8
KCP	Kidapawan	1.19	254	⇓iP	P	06 05 00.3	+0.6
KCP				i S	S	06 05 21.0	+5.7
BUKP	Musuan	1.28	295	eP	P	06 05 00.7	-0.4
BUKP				eS	S	06 05 19.0	+1.3
BUTP	Butuan	1.73	339	eP	P	06 05 07.4	+0.1
CTBH	Cotabato--PC H	1.98	267	eP	P	06 05 13.4	+2.7
CTBH				i S	S	06 05 39.2	+4.9
PAGZ	Pagadian	2.88	280	eP	P	06 05 25.0	+1.6
TBP	Tagbilaran	3.31	315	⇑eP	P	06 05 28.9	-0.7
TBP				eS	S	06 06 06.3	-1.6
BESP	Borongan	4.30	349	eP	P	06 05 43.6	+0.1

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*LDG **18** 06:12:15.7±0.0,42.93N×0.16E,h2^{km},Md1.7/2,Ml1.3/2, Error ellipse: s-maj=0.7km s-min=0.3km az=158.0*

*STR **18** 06:12:16.0±0.1,42.96N×0.06W,h2^{km}±1^{km},Ml2.2,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 18 06:12:13.9±1.1,**42.84N**±0.07×**0.22E**±0.04,**h2^{km},n6, σ0^{s}89**/12,**Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VIEF	Viey	0.15	287	Pg	Pg	06 12 18.2	+1.3
VIEF				Sg	Sg	06 12 19.8	+1.0
EPF	Esparros	0.21	26	ePg	Pg	06 12 19.2	+1.1
EPF				eSg	Sg	06 12 21.6	+0.6
	5.7nm,0.1s						
LABF	Labassere	0.23	334	Pg	Pg	06 12 18.7	+0.2
LABF				Sg	Sg	06 12 20.7	-1.0
ETSF	Etsaut	0.57	276	ePg	Pg	06 12 25.9	+0.6
ETSF				eSg	Sg	06 12 32.8	-0.2
	5.1nm,0.2s						
SJPF	Ste Jean	1.09	285	ePg	Pg	06 12 35.1	-0.6
SJPF				eSg	Sg	06 12 48.6	-1.6
	0.7nm,0.3s						
MTLF	Montolieu	1.55	70	ePg	Pg	06 12 43.9	-0.9
MTLF				eSg	Sg	06 13 05.0	-0.5
	0.3nm,0.2s						

MEX 18 06:16:39.4±0.7,**15.81N**×**93.76W,h8^{km}**±18^{km},**MD3.6, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCX	San Cristobal	1.42	49	eP	Pn	06 17 02.0	-3.6
SCX				i S	Sb	06 17 20.0	-3.8
CCIG	Comitan	1.63	73	i P	Pn	06 17 04.7	-3.9
CCIG				i S	Sb	06 17 25.0	-4.9
CMIG	Matias Romero	1.67	320	i P	Pn	06 17 05.7	-3.5
CMIG				i S	Sn	06 17 23.5	-7.6
OXX	Oaxaca	3.12	294	eP	Pn	06 17 27.5	-2.4
OXX				i S	Sn	06 18 03.5	-4.2

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*NEIC **18** 06:22:17.0,18.06N×99.61W,h68^{km},MD3.7(MEX),After MEX.*

MEX 18 06:22:17.4±0.7,**18.01N**×**99.53W,h62^{km}**±10^{km},**MD3.7,1C, Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLIG	Platanillo	0.38	4	⇑iP	P	06 22 27.4	-1.1
PLIG				i S	S	06 22 34.9	-1.8
YAIG	Yautepec	0.95	27	i P	P	06 22 33.6	-1.6
YAIG				i S	S	06 22 45.9	-2.5
ACX	Acapulco	1.19	198	eP	P	06 22 36.5	-1.9
ACX				i S	S	06 22 52.0	-2.0
PPM	Popocatepetl	1.36	39	i P	P	06 22 39.0	-1.8
PPM				i S	S	06 22 57.0	-1.0
IISM	Ciudad Serdan	2.26	64	eP	P	06 22 51.0	-2.3
IISM				i S	S	06 23 19.0	-1.0
VHO	Vista Hermosa	2.82	109	eP	P	06 23 01.0	-0.2
VHO				i S	S	06 23 30.1	-4.1
OXX	Oaxaca	2.83	109	eP	P	06 23 02.0	+0.7
OXX				i S	S	06 23 40.0	+5.7

MAN 18 06:43:03.5,8.94N×**126.16E,h38^{km},mb4.3,ML3.1,MS2.9, 1D,Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BUTP	Butuan	0.53	273	eP	P	06 43 16.4	+1.8
BIPH	Bislig	0.78	165	⇓iP	P	06 43 18.1	0.0
BIPH				eS	S	06 43 28.5	-0.2
SCPH	Surigao	1.06	322	i P	P	06 43 21.8	-0.2
SCPH				i S	S	06 43 36.9	+1.0
BUKP	Musuan	1.52	226	eP	P	06 43 31.8	+3.2
BUKP				eS	S	06 43 51.7	+4.5
MATI	Mati	1.99	177	eP	P	06 43 36.3	+1.0
TBP	Tagbilaran	2.38	288	eP	P	06 43 40.2	-0.8
TBP				eS	S	06 44 11.5	+2.3
BESP	Borongan	2.73	345	eP	P	06 43 46.1	+0.1
CNP	Catarman	3.84	338	eP	P	06 44 01.4	-0.2
CNP				eS	S	06 44 46.4	+0.4

IDC 18 06:53:53.1±50.0,**4.09S**×**106.25E,mb3.6**/3,**mb1 3.8**/3, **mb1mx3.4**/14,**Error ellipse: s-maj=888.0km s-min=243.4km az=143.0,Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	31.59	122	P	P	07 00 18.1	-1.8
	0.2nm,0.5s,baz=312,slow=9.2,SNR=10						
ASAR	Alice Springs	33.04	129	P	P	07 00 29.9	-2.6
	0.3nm,0.4s,baz=302,slow=8.2,SNR=6.1						
STKA	Stephens Creek	43.17	134	P	P	07 01 56.0	-1.5
	0.6nm,0.4s,baz=298,slow=10,SNR=3.1						

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*THE **18** 06:57:46.0,38.74N×22.81E,h1^{km},ML2.8*

*NEIC **18** 06:57:45.4,38.72N×22.75E,h4^{km},MD2.7(ATH),After ATH.*

*ATH **18** 06:57:45.5,38.72N×22.76E,h5^{km},MD2.7/7,ML2.9*

ISC 18 06:57:44.8±0.7,**38.71N**±0.03×**22.79E**±0.05,**h4^{km}**±7^{km}, **n11,σ0^{s}77**/20,**Greece**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AGG	Agios Georgios	0.47	311	ePg	Pg	06 57 54.2	-0.1
AGG				eSg	Sg	06 58 01.7	+1.0
MKIT	Kithairon Oros	0.64	145	ePB	Pb	06 57 57.0	-1.2
MKIT				eSB	Sb	06 58 07.0	-0.3
NEO	Neokhori	0.68	29	ePB	Pb	06 57 59.0	+0.1
NEO				eSB	Sb	06 58 08.0	-0.4
XOR	Xorichti	0.72	25	ePg	Pg	06 57 59.1	-0.2
XOR				eSg	Sg	06 58 08.9	0.0
MPAR	Parnis Oros	0.93	127	ePN	Pn	06 58 04.0	-0.5
MPAR				eSB	Sb	06 58 17.0	+1.4
NSAL	Nisos Salamina	0.96	146	ePg	Pg	06 58 03.5	-0.6
NSAL				eSg	Sg	06 58 16.5	-0.4
AOS	Alonnisos	0.96	61	ePg	Pg	06 58 03.7	-0.4
AOS				eSg	Sg	06 58 17.0	0.0
ATH	Athens Observa	1.04	135	ePb	Pb	06 58 03.5	-1.5
ATH				eSg	Sg	06 58 21.0	+1.6
PTL	Penteli	1.07	128	ePG	Pg	06 58 06.0	-0.3
PTL				eSB	Sb	06 58 21.0	+1.2
NAIG	Nisos Aigina	1.10	150	ePN	Pn	06 58 07.0	+0.1
LIT	Litokhoron	1.41	351	ePb	Pb	06 58 11.7	+0.4

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*NEIC **18** 07:07:10.8,38.01N×118.67W,h3^{km},ML3.8(REN),After REN.*

ISC 18 07:07:10.0±0.3,**37.99N**±0.03×**118.64W**±0.03,**h3^{km},n40, σ1^{s}34**/47,**2C-2D,California-Nevada border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OMM	Old Mammoth Mi	0.46	217	i P	Pg	07 07 19.8	+0.5
MNV	Mina	0.59	41	⇓iP	Pg	07 07 21.9	+0.1
MNV				i S	Sg	07 07 30.2	+0.7
MTUM	Tungsten Hills	0.64	175	⇓iP	Pg	07 07 23.1	+0.4
TPH	Tonopah	1.12	85	⇑iP	Pb	07 07 32.2	+0.5
TPH				eS	Sb	07 07 49.5	+2.9
CMB	Columbia Colle	1.38	273	⇑iPn	Pn	07 07 35.0	-1.2
CMB				eS	Sb	07 07 52.8	-1.4
WCN	Washoe City	1.58	327	ePn	Pn	07 07 39.4	+0.3
PAHR	Pah Rah Range	1.81	342	ePn	Pn	07 07 42.8	+0.3
DAC	Darwin (Calif)	1.90	154	ePn	Pn	07 07 44.4	+0.7
TPNV	Topopah Spring	2.17	118	ePn	Pn	07 07 48.0	+0.5
BEKR	Beckwourth	2.31	325	ePn	Pn	07 07 49.4	-0.1
LRV	Little Rabbit	2.46	231	Pn	Pn	07 07 52.5	+0.8
SAO	San Andreas Ge	2.55	242	ePn	Pn	07 07 55.2	+2.2
OHCM	Honcut	2.60	302	ePn	Pn	07 07 52.6	-1.2
OHCM				eS	Sn	07 08 29.6	+3.3
BMN	Battle Mountai	2.68	24	ePn	Pn	07 07 53.2	-1.6
LKC	Lake Chabot	2.72	266	ePn	Pn	07 07 56.0	+0.5
NSHM	Saint Helena R	3.17	281	ePn	Pn	07 08 01.1	-0.7
HOPS	Hopland	3.62	287	ePn	Pn	07 08 08.4	+0.1
MWC	Mount Wilson	3.79	173	ePn	Pn	07 08 11.8	+1.2
NEN	Nelson	3.84	126	Pn	Pn	07 08 13.0	+1.7
WDC	Whiskeytown Da	3.98	312	ePn	Pn	07 08 13.0	-0.4
LDFC	Landfair	4.06	135	ePg	Pg	07 08 27.1	-4.0
MOD	Modoc	4.12	342	ePn	Pn	07 08 17.1	+1.8
ARUT	Antelope Range	4.12	91	ePn	Pn	07 08 14.1	-1.2
WVOR	Wild Horse Val	4.44	0	ePn	Pn	07 08 22.8	+2.9
PFO	Pinyon Flat Ob	4.71	157	Pn	Pn	07 08 20.9	-2.8
PFO				ePg	Pg	07 08 38.6	-5.5
DUG	Dugway	5.04	62	ePn	Pn	07 08 23.2	-5.2
MVU	Marysvale	5.08	82	Pn	Pn	07 08 27.4	-1.6
MVU				ePg	Pg	07 08 45.4	-6.2
MSU	Marysvale	5.11	82	Pn	Pn	07 08 32.5	+3.1
NLU	North Lily Min	5.48	67	ePn	Pn	07 08 32.9	-1.7
BAR	Barrett	5.53	163	Pn	Pn	07 08 31.9	-3.5
HVU	Hansel Valley	5.89	48	Pn	Pn	07 08 40.3	-0.1
HVU				ePg	Pg	07 09 01.4	-6.2
WUAZ	Wupatki	6.33	111	ePn	Pn	07 08 44.8	-1.8
HLID	Hailey	6.43	29	Pn	Pn	07 08 48.2	+0.3
SRU	San Rafael	6.46	77	ePn	Pn	07 08 49.3	+0.9
HWUT	Hardware Ranch	6.54	54	Pn	Pn	07 08 47.5	-2.0
PV10	Paradox Valley	7.57	84	P	Pn	07 09 12.8	+8.8
PV01	Paradox Valley	7.95	86	ePg	Pg	07 09 37.6	-11
MCMT	McKenzie Canyo	8.10	31	P	P	07 09 14.7	+3.3
MOOW	Moose Ponds	8.30	44	Pn	P	07 09 08.8	-5.4
MOOW				ePg	P	07 09 45.5	+31
HAWA	Hanford	8.43	356	P	P	07 09 15.5	-0.4

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*IGIL **18** 07:07:46.2,23.30N×67.60W,h0^{km},MS5.3*

*MOS **18** 07:07:46.9±0.8,23.16N×67.58W,h10^{km},mb5.8/45, MS5.2/18,Error ellipse: s-maj=6.5km s-min=5.3km az=113.5*

*IDC **18** 07:07:46.7±0.3,23.11N×67.60W,mb5.4/31,mb1 5.5/32, mb1mx5.5/33,ML3.8/1,MS5.1/18,Ms1 5.1/18, ms1mx5.0/24,Error ellipse: s-maj=10.4km s-min=7.5km az=106.0*

*BJI **18** 07:07:48.4,23.10N×67.60W,h10^{km},mB5.7,Ms5.6, Msz5.3*

*BGS **18** 07:07:48.4±2.7,23.08N×67.60W,h10^{km},mb5.7*

*HRVD **18** 07:07:48.4±0.1,23.28N×67.56W,h13^{km},MW5.6/72, Centroid moment Tensor Solution. LP body waves: s64,c128;Mantle waves: s72,c157; Half duration: 1^{s}6 Moment tensor: Scale 10^{17}Nm; M$_{rr}$2.37±.04; M$_{\theta\theta}$-0.95±.03; M$_{\phi\phi}$-1.42±.04; M$_{r\theta}$-0.40±.09; M$_{\theta\phi}$1.71±.03; M$_{\phi r}$-1.13±.10; Best double couple: M$_0$2.94×10^{17} NP1: φ$_s$297°,δ43°,λ55°. NP2:φ$_s$161°,δ56°,λ119°. Principal axes: T 2.89, Plg66°, Azm126°; N .09, Plg23°, Azm324°; P -2.98, Plg7°, Azm231°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **18** 07:07:48.4±0.1,23.11N×67.61W,h10^{km},mb5.7/185, ME5.3,MS5.2/98,MW5.7 Error ellipse: s-maj=2.7km s-min=1.5km az=188.0 Broadband fault plane solution: P waves. NP1:φ$_s$160°,δ60°,λ90°. NP2:φ$_s$340°,δ30°,λ90°. Principal axes: T Plg75°, Azm70°; N Plg0°, Azm0°; P Plg15°, Azm250°; Moment Tensor Solution. s23 Moment tensor: Scale 10^{17} Nm; M$_{rr}$3.18; M$_{\theta\theta}$-1.03; M$_{\phi\phi}$-2.15; M$_{r\theta}$0.80; M$_{\theta\phi}$2.38; M$_{\phi r}$-1.94; Best double couple: M$_0$4.2×10^{17} NP1:φ$_s$309°,δ32°,λ71°. NP2:φ$_s$152°, δ60°,λ101°. Principal axes: T 3.82, Plg72°, Azm89°; N .75, Plg10°, Azm326°; P -4.57, Plg15°, Azm233°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

*LDG **18** 07:07:51.8,22.88N×67.32W,h49^{km}*

*CASC **18** 07:07:56.5±2.1,22.11N×67.61W,h10^{km},mb5.4, mb5.7(NEIC)*

ISC 18 07:07:47.0±0.1,**23.15N**±0.02×**67.57W**±0.01,**h10^{km}, (h13^{km}±.8^{km}:pP-P),n977,σ0^{s}91**/897,**mb5.7**/265, **MS5.2**/134,**245C-10D,North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STMA	St. Maarten, A	6.58	140	eP	Pn	07 09 23.3	-2.8
STMA				eS	Sn	07 10 32.3	-10
SABT	Saba	6.83	143	eP	Pn	07 09 26.3	-3.4
SABT				eS	Sn	07 10 39.8	-8.6
STAT	Sint Eustatius	7.08	142	eP	Pn	07 09 29.9	-3.4
STAT				eS	Sn	07 10 44.0	-11
CPB	Codrington	7.68	134	eP	Pn	07 09 36.2	-5.5
CPB				eS	Sn	07 10 59.5	-10
BPA	Boggy Peak	8.10	137	eP	P	07 09 37.0	-11
BPA	Boggy Peak	8.10	137	e	P	07 09 42.9	-4.6
BPA				eS	Sn	07 11 07.9	-12
BBL	Barber's Block	9.52	142	eP	P	07 10 03.7	-3.5
BBSR	BB Station	9.54	15	ePn	P	07 10 01.0	-6.4
	763nm,0.4s						
BBSR				eSn	Sn	07 11 28.8	-27
MDN	Morne-Daniel	9.73	142	eP	P	07 10 06.4	-3.7
MDN				eS	Sn	07 11 53.2	-7.3
DBCT	Belle View Cho	9.79	142	eP	P	07 10 07.5	-3.5
HOJ	Hope	10.00	241	⇑eP	P	07 10 10.3	-3.6
STH	Stony Hill	10.01	241	⇑eP	P	07 10 10.0	-4.0
STH				eS	S	07 11 54.3	-13
CVJ	Coleyville	10.53	244	⇑eP	P	07 10 17.1	-4.1
MCJ	Malvern	10.80	243	⇑eP	P	07 10 22.2	-2.7
MCJ				eS	S	07 12 13.4	-14
MCJ				eS	S	07 12 14.6	-12
SLB	Belfond	11.14	145	eP	P	07 10 25.4	-4.1
NEJ	Negril	11.18	246	⇑eP	P	07 10 26.2	-3.8
NEJ				eS	S	07 12 21.1	-15
MCLT	Moule a Chique	11.30	145	eP	P	07 10 27.2	-4.4
SVV	Soufriere Volc	11.49	147	eP	P	07 10 32.1	-2.1
DWPF	Disney	13.44	294	ePn	P	07 10 57.1	-3.3
	130nm,0.6s						
DWPF				eS	S	07 13 12.7	-18
TRN	Trinidad (W)	13.75	154	eP	P	07 11 03.5	-1.1
TPP	Pointe-a-Pierr	14.03	154	eP	P	07 11 08.6	+0.3
SDV	Santo Domingo	14.48	192	ePn	P	07 11 11.9	-2.2
	1µm,1.3s						
CSU	Charleston Sou	14.75	314	ePn	P	07 11 17.0	-0.5
CSU				eSn	S	07 13 42.6	-19
NHSC	New Hope	14.89	315	ePn	P	07 11 16.8	-2.6
	550nm,0.6s						
NHSC				eS	S	07 13 46.2	-19
HBF	Harts Bluff	14.92	314	eP	P	07 11 18.7	-1.0
HBF				eS	S	07 13 44.2	-22
CBN	Corbin	17.20	333	eP	P	07 11 47.2	-1.7
	29nm,0.6s						
BLA	Blacksburg	17.86	325	P	P	07 11 55.4	-1.8
BLA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BLA	Blacksburg	17.86	325	eP	P	07 11 55.2	-1.9
	comp=Z,1.1nm,0.4s						
UPA	Univ. de Panam	18.16	221	eP	P	07 12 00.8	-0.3
CPNY	Central Park	18.40	344	eP	P	07 12 03.9	0.0
BRNJ	Basking Ridge	18.45	343	eP	P	07 12 06.0	+1.4
PAL	Palisades	18.59	345	P	P	07 12 05.8	-0.4
PAL				pmax	pmax		
	comp=Z,92nm,0.6s						
PAL	Palisades	18.59	345	eP	P	07 12 05.5	-0.7
	comp=Z,92nm,0.6s						
BRYW	Bryant College	19.01	351	eP	P	07 12 10.7	-0.6
	comp=Z,291nm,0.6s						
CPCT	Cooper Cave	19.17	314	eP	P	07 12 15.4	+2.1
ROSC	El Rosal	19.32	201	P	P	07 12 15.3	+0.1
	comp=Z,5.7nm,0.3s,baz=25,slow=6.0,SNR=73						
ROSC				S	S	07 15 51.5	+4.3
	comp=Z,2.0nm,0.3s,baz=175,slow=23,SNR=3.1						
ROSC				LR	LR	07 20 22.3	
	comp=Z,4µm,18.7s,baz=12,slow=39						
WES	Weston	19.44	352	P	P	07 12 11.2	-5.1
WES				pmax	pmax		
	comp=Z,44nm,1.0s						
WES	Weston	19.44	352	eP	P	07 12 15.3	-1.0
	comp=Z,44nm,1.0s						
MCWV	Mont Chateau	19.48	331	eP	P	07 12 16.9	+0.2
	comp=Z,802nm,0.7s						
SSPA	Standing Stone	19.49	336	eP	P	07 12 15.9	-1.0
	comp=Z,160nm,0.8s						
QUA2	Belchertown	19.49	349	eP	P	07 12 20.1	+3.2
	comp=Z,208nm,0.6s						
AZU	Azuero	19.54	221	eP	P	07 12 15.1	-2.6
HRV	Harvard--Oak R	19.59	351	P	P	07 12 17.3	-0.7
HRV				pmax	pmax		
	comp=Z,170nm,0.6s						
HRV	Harvard--Oak R	19.59	351	eP	P	07 12 17.3	-0.7
	comp=Z,174nm,0.6s						
LRAL	Lakeview Retre	19.74	304	eP	P	07 12 19.1	-0.6
	comp=Z,1µm,0.9s						
SWET	Sewanee	20.00	311	eP	P	07 12 21.6	-1.0
BINY	Binghamton	20.26	342	eP	P	07 12 23.9	-1.3
	comp=Z,201nm,1.0s						
DVD	David	20.44	227	eP	P	07 12 26.2	-1.1
QUIN	Quiabu	20.47	244	eP	P	07 12 28.9	+1.3
SOMN	Somoto	20.48	245	eP	P	07 12 28.4	+0.6
PYTN	Playitas	20.49	242	eP	P	07 12 29.4	+1.5
SJS	Escuela Geolog	20.52	233	eP	P	07 12 28.5	+0.4
FFD	Franklin Falls	20.55	352	eP	P	07 12 29.9	+1.6
	comp=Z,17nm,0.5s						
PTP1	Petroterminal	20.59	226	eP	P	07 12 31.6	+2.7
CONN	Concepcion	20.70	239	eP	P	07 12 30.8	+0.8
ACCN	Adirondack Com	20.81	347	eP	P	07 12 31.4	+0.4
WILN	Americas 2	20.81	241	eP	P	07 12 32.3	+1.1
APON	Apoyo	20.85	241	eP	P	07 12 32.0	+0.5
MGAN	Managua	20.86	242	eP	P	07 12 33.6	+1.8
MGAN				AMP		07 12 40.2	
	comp=Z,436nm,2.0s						
HNH	Hanover	20.87	350	eP	P	07 12 31.9	+0.3
	comp=Z,5.5nm,0.3s						
APYN	Apoyeque	20.90	242	eP	P	07 12 34.8	+2.7
XAVN	Gruta Xavier	20.93	242	eP	P	07 12 33.9	+1.5
JTS	JuntasAbangare	20.96	235	P	P	07 12 32.9	+0.2
	comp=Z,207nm,1.0s,baz=39,slow=6.1,SNR=68						
JTS				S	S	07 16 27.4	+6.1
	comp=Z,1.2nm,0.3s,baz=359,slow=19,SNR=1.6						
JTS				LR	LR	07 20 38.8	
	comp=Z,7µm,18.7s,MS5.0,baz=49,slow=37						
JTS	JuntasAbangare	20.96	235	P	P	07 12 32.9	+0.2
JTS				S	S	07 16 27.4	+6.1
JTS				LR	LR	07 20 38.8	
MOMJ	Momotombo	20.96	243	eP	P	07 12 34.6	+1.9
CNGN	Cerro Negro	21.04	243	eP	P	07 12 35.4	+1.9
MIRN	Miramar	21.08	243	eP	P	07 12 36.5	+2.5
TELN	Telica	21.09	243	eP	P	07 12 35.3	+1.3
COPN	Copaltepe	21.12	242	eP	P	07 12 36.2	+1.8
LEON	Leon	21.24	243	eP	P	07 12 38.1	+2.5
ALLY	Alegheny Colle	21.24	333	eP	P	07 12 35.0	-0.4
GENY	Geneseo	21.34	339	eP	P	07 12 36.1	-0.3
WVL	Waterville	21.43	356	eP	P	07 12 37.5	+0.2
	comp=Z,154nm,2.0s,mb5.0						
WVL				LR	LR		
	comp=Z,23µm,20.0s,MS5.6						
ACSO	Alum Creek Sta	21.44	326	⇑eP	P	07 12 36.9	-0.5
	comp=Z,2.0nm,0.5s						
ACSO				LR	LR		
	comp=Z,6µm,20.0s,MS5.0						
NCB	Newcomb	21.48	347	eP	P	07 12 37.7	-0.1
	comp=Z,73nm,0.8s,mb5.1						
NCB				LR	LR		
	comp=Z,5µm,19.0s,MS4.9						
EMMW	East Machias	21.51	0	eP	P	07 12 37.8	-0.3
	comp=Z,103nm,1.7s,mb5.0						
EMMW				LR	LR		
	comp=Z,27µm,19.0s,MS5.7						
ERPA	Erie	21.57	334	eP	P	07 12 38.2	-0.6
	comp=Z,191nm,0.8s,mb5.6						
ERPA				LR	LR		
	comp=Z,7µm,19.0s,MS5.1						
WVT	Waverly	21.80	311	⇑eP	P	07 12 40.1	-0.9
	comp=Z,244nm,0.6s,mb5.8						
WVT				LR	LR		
	comp=Z,5µm,20.0s,MS5.0						
WCI	Wyandotte Cave	21.96	317	⇑eP	P	07 12 42.7	0.0
	comp=Z,501nm,1.1s,mb5.9						
WCI				LR	LR		
	comp=Z,1µm,21.0s,MS4.4						
LOZ	Lake Ozonia	22.18	347	eP	P	07 12 44.3	-0.5
OXF	Oxford	22.18	306	⇑eP	P	07 12 44.5	-0.4
	comp=Z,618nm,0.9s,mb6.0						
OXF				LR	LR		
	comp=Z,6µm,20.0s,MS5.0						
PTN	Potsdam (NY)	22.22	346	eP	P	07 12 45.5	+0.3
PTN				e		07 16 39.6	
MSNY	Massena	22.60	346	eP	P	07 12 50.0	+1.1
UTMT	University of	22.62	310	eP	P	07 12 50.6	+1.3
	comp=Z,989nm,0.9s,mb6.2						
USIN	University of	22.68	315	eP	P	07 12 50.4	+0.5
	comp=Z,888nm,1.3s,mb6.0						
BLO	Bloomington	22.69	319	⇑eP	P	07 12 49.9	0.0
	comp=Z,413nm,1.1s,mb5.8						
HALT	Halls	22.75	309	eP	P	07 12 50.7	+0.1
MET	Memphis--Engin	22.83	307	eP	P	07 12 53.3	+2.0
GLAT	Glass	22.89	310	eP	P	07 12 52.8	+0.9
PVMO	Portageville	23.25	310	eP	P	07 12 55.6	+0.2
GNAR	Gosnell	23.27	308	eP	P	07 12 56.4	+0.8
PQI	Presque Isle	23.47	359	eP	P	07 12 59.9	+2.4
	comp=Z,71nm,0.8s,mb5.2						
PQI				LR	LR		
	comp=Z,28µm,21.0s,MS5.7						
HBAR	Harrisburg	23.55	307	⇑eP	P	07 12 58.7	+0.4
SADO	Sadowa	23.56	339	P	P	07 12 58.7	+0.4
	comp=Z,39nm,0.6s,mb5.0,baz=173,slow=8.9,SNR=25						
SADO				S	S	07 17 16.7	+8.0
	comp=Z,72nm,0.5s,baz=214,slow=14,SNR=7.7						
SADO				LR	LR	07 22 07.3	
	comp=Z,7µm,18.9s,MS5.2,baz=158,slow=36						
SADO	Sadowa	23.56	339	P	P	07 12 58.7	+0.4
SADO				S	S	07 17 16.7	+8.0
SADO				LR	LR	07 22 07.3	
CCIG	Comitan	24.09	258	⇓iP	P	07 13 04.9	+1.1
UALR	University of	24.51	304	eP	P	07 13 08.1	+0.4
	comp=Z,192nm,0.9s,mb5.6						
FVM	French Village	24.53	312	eP	P	07 13 08.1	+0.2
	comp=Z,164nm,0.8s,mb5.6						
SLM	Saint Louis	24.74	314	eP	P	07 13 09.7	-0.2
	comp=Z,86nm,0.8s,mb5.3						
OTAV	Otavalo	25.11	206	eP	P	07 13 16.6	+2.9
	comp=Z,297nm,1.5s,mb5.6						
OTAV				LR	LR		
	comp=Z,3µm,20.0s,MS4.8						
CCM	Cathedral Cave	25.12	312	⇑eP	P	07 13 13.1	-0.4
	comp=Z,243nm,0.9s,mb5.7						
MIAR	Mount Ida	25.38	302	PFAKE		07 13 30.0	+14
MIAR				LR	LR		
	comp=Z,5µm,20.0s,MS5.0						
NATX	Nacogdoches	25.47	296	eP	P	07 13 18.1	+1.2
	comp=Z,197nm,0.8s,mb5.7						
NATX				LR	LR		
	comp=Z,5µm,20.0s,MS5.0						
CMIG	Matias Romero	26.32	262	i P	P	07 13 23.5	-1.4
EVV	El Vigia	26.36	265	eP	P	07 13 26.5	+1.2
JFWS	Jewell Farm	27.24	322	eP	P	07 13 31.9	-1.2
	comp=Z,6.7nm,0.2s,mb4.8						
JFWS				LR	LR		
	comp=Z,5µm,20.0s,MS5.1						
OXX	Oaxaca	28.00	263	eP	P	07 13 40.5	+0.3
PPM	Popocatepetl	29.23	268	eP	P	07 13 55.0	+3.7
KSU1	Kansas State U	29.34	310	eP	P	07 13 50.2	-2.0
WMOK	Wichita Mounta	29.54	300	P	P	07 13 52.9	-1.0
WMOK				pmax	pmax		
	comp=Z,11nm,0.3s,mb5.1						
WMOK	Wichita Mounta	29.54	300	eP	P	07 13 52.8	-1.1
	comp=Z,11nm,0.3s,mb5.1						
WMOK				LR	LR		
	comp=Z,4µm,20.0s,MS5.0						
JCT	Junction City	29.61	291	eP	P	07 13 53.6	-1.0
	comp=Z,70nm,1.2s,mb5.3						
SCHQ	Schefferville	31.65	1	P	P	07 14 12.2	-0.1
	comp=Z,15nm,0.8s,mb4.9,baz=180,slow=7.5,SNR=12						
SCHQ				LR	LR	07 25 50.5	
	comp=Z,3µm,19.1s,MS5.0,baz=51,slow=34						
SCHQ	Schefferville	31.65	1	eP	P	07 14 11.6	-0.8
	comp=Z,16nm,0.5s,mb5.1						
SCHQ				LR	LR		
	comp=Z,5µm,19.0s,MS5.2						
SAML	Samuel	32.18	172	⇑iP	P	07 14 16.2	-1.2
	comp=Z,255nm,1.0s,mb6.0						
SAML				LR	LR		

	comp=Z,3µm,19.0s,MS5.0						
PAYG	Puerto Ayora	32.39	226	PFAKE		07 14 30.0	+11
PAYG				LR	LR		
	comp=Z,2µm,20.0s,MS4.7						
LTX	Lajitas	32.87	289	PFAKE		07 14 30.0	+6.7
LTX				LR	LR		
	comp=Z,980nm,20.0s,MS4.5						
TXAR	Lajitas Array	32.87	289	P	P	07 14 22.9	-0.4
	comp=Z,28nm,0.7s,mb5.3,baz=104,slow=8.7,SNR=129						
TXAR				PcP	PcP	07 17 07.3	-0.7
	comp=Z,14nm,0.9s,baz=90,slow=2.5,SNR=5.6						
TXAR				LR	LR	07 28 10.5	
	comp=Z,932nm,20.8s,MS4.5,baz=350,slow=37						
TXAR				P3KPbc		07 45 43.6	
	comp=Z,1.0nm,1.1s,baz=270,slow=1.3,SNR=5.9						
TXAR	Lajitas Array	32.87	289	P	P	07 14 22.9	-0.4
TXAR				PcP	PcP	07 17 07.3	-0.7
TXAR				LR	LR	07 28 10.5	
TXAR				e		07 45 43.6	
SFJM	Santa Fe	32.99	272	eP	P	07 14 26.0	+1.6
CPRX	Cap Rock	33.36	295	eP	P	07 14 26.4	-1.1
GDL2	Guadalupe Moun	33.68	294	eP	P	07 14 29.5	-0.8
ULM	Lac du Bonnet	34.92	328	P	P	07 14 39.0	-1.8
	comp=Z,32nm,0.6s,mb5.4,baz=129,slow=8.4,SNR=27						
ULM				LR	LR	07 29 00.5	
	comp=Z,5µm,18.9s,MS5.2,baz=132,slow=36						
ULM	Lac du Bonnet	34.92	328	⇑iP	P	07 14 38.8	-2.0
	comp=Z,78nm,0.6s,mb5.8						
ULM				LR	LR		
	comp=Z,7µm,20.0s,MS5.4						
SDCO	Great Sand Dun	35.53	303	eP	P	07 14 46.3	+0.2
	comp=Z,787nm,0.7s						
SDCO				LR	LR		
	comp=Z,4µm,22.0s,MS5.1						
ANMO	Albuquerque	35.77	298	eP	P	07 14 48.8	+0.6
ANMO				pmax	pmax		
	comp=Z,67nm,1.0s						
ANMO	Albuquerque	35.77	298	eP	P	07 14 48.4	+0.3
	comp=Z,67nm,1.0s,mb5.5						
ANMO				LR	LR		
	comp=Z,4µm,20.0s,MS5.2						
BNM	Barren Site	35.79	297	eP	P	07 14 48.6	+0.2
LPM	Los Pinos Moun	35.82	297	eP	P	07 14 49.2	+0.6
LENM	Lemitar	36.08	297	eP	P	07 14 50.8	0.0
ISCO	Idaho Springs	36.13	306	eP	P	07 14 52.1	+0.9
ISCO				pmax	pmax		
	comp=Z,260nm,1.7s,mb5.9						
ISCO	Idaho Springs	36.13	306	eP	P	07 14 51.3	+0.1
	comp=Z,258nm,1.7s,mb5.9						
ISCO				LR	LR		
	comp=Z,4µm,20.0s,MS5.2						
LAZ	Ladron	36.24	297	eP	P	07 14 54.2	+2.1
RSSD	Black Hills	36.46	314	P	P	07 14 52.1	-1.8
RSSD				pmax	pmax		
	comp=Z,58nm,0.6s,mb5.7						
RSSD	Black Hills	36.46	314	eP	P	07 14 53.5	-0.4
	comp=Z,58nm,0.6s,mb5.7						
RSSD				LR	LR		
	comp=Z,1µm,20.0s,MS4.7						
ADH	Angra Heroismo	37.58	56	e-		07 25 26.0	
PV01	Paradox Valley	37.99	303	eP	P	07 15 08.2	+1.4
PV10	Paradox Valley	38.40	303	eP	P	07 15 10.2	-0.1
DGMT	Dagmar	38.43	320	eP	P	07 15 09.8	-0.7
	comp=Z,47nm,0.6s,mb5.4						
DGMT				LR	LR		
	comp=Z,4µm,19.0s,MS5.3						
PDA	Ponta Delgada	38.62	58	i -		07 21 20.0	
PDA				i -		07 25 38.0	
CML	Cha da Macela	38.72	58	eP	P	07 15 18.2	+5.2
PVER	Pico Vermelho	38.75	58	eP	P	07 15 18.5	+5.3
	comp=Z,102nm,0.9s,mb5.5						
PRCH	Ribeira Ch	38.76	58	eP	P	07 15 13.8	+0.5
	comp=Z,71nm,0.4s,mb5.8						
LFA	Lagoa do Fogo	38.77	58	eP	P	07 15 14.8	+1.4
PMAT	Coroa da Mata	38.78	58	eP	P	07 15 15.9	+2.4
VIF	Vila Franca	38.80	58	eP	P	07 15 14.8	+1.2
MESC	Monte Escuro	38.80	58	eP	P	07 15 16.5	+2.9
PCNG	Congro	38.83	58	eP	P	07 15 15.4	+1.5
	comp=Z,200nm,1.1s,mb5.8						
LAO	LASA Array	38.89	317	eP	P	07 15 13.3	-1.0
	comp=Z,104nm,1.1s,mb5.5						
LAO				LR	LR		
	comp=Z,5µm,19.0s,MS5.4						
PFAD	Fenais da Ajud	38.90	58	eP	P	07 15 15.7	+1.2
TUC	Tucson	39.11	293	eP	P	07 15 16.4	+0.1
	comp=Z,112nm,1.6s,mb5.3						
TUC				LR	LR		
	comp=Z,2µm,19.0s,MS5.0						
LPAZ	La Paz	39.20	181	P	P	07 15 17.0	-0.1
	comp=Z,14nm,0.8s,mb4.8,baz=4.4,slow=10,SNR=29						
LPAZ	La Paz	39.20	181	eP	P	07 15 16.5	-0.6
	comp=Z,26nm,0.9s,mb5.0						
LPAZ				LR	LR		
	comp=Z,2µm,20.0s,MS4.9						
ARE	Arequipa	39.55	186	⇓iP	P	07 15 18.8	-1.3
SRU	San Rafael	39.67	304	eP	P	07 15 20.7	-0.2
BW06	Boulder Array	39.80	310	⇑iP	P	07 15 21.5	-0.4
	comp=Z,86nm,1.1s,mb5.4						
BW06				ePcP	PcP	07 17 26.6	-2.0
BW06				LR	LR		
	comp=Z,3µm,19.0s,MS5.2						
PDAR	Pinedale Array	39.80	310	P	P	07 15 21.6	-0.3
	comp=Z,28nm,0.6s,mb5.1,baz=113,slow=12,SNR=44						
PDAR				PcP	PcP	07 17 27.6	-1.0
	comp=Z,22nm,0.8s,baz=104,slow=12,SNR=5.6						
PDAR				LR	LR	07 32 51.4	
	comp=Z,3µm,18.9s,MS5.2,baz=122,slow=38						
WUAZ	Wupatki	39.83	298	⇑eP	P	07 15 22.6	+0.4
	comp=Z,180nm,1.1s,mb5.7						
WUAZ				LR	LR		
	comp=Z,3µm,19.0s,MS5.2						
FCC	Fort Churchill	40.29	339	P	P	07 15 25.2	-0.5
FCC				pmax	pmax		
	comp=Z,89nm,0.8s,mb5.5						
FCC	Fort Churchill	40.29	339	eP	P	07 15 25.0	-0.7
	comp=Z,89nm,0.8s,mb5.5						
DAU	Daniels Canyon	40.48	306	eP	P	07 15 28.0	+0.5
DAU	Daniels Canyon	40.48	306	eP	P	07 15 27.9	+0.4
FRB	Frobisher Bay	40.59	359	P	P	07 15 27.5	-0.7
	comp=Z,67nm,0.7s,mb5.4,baz=170,slow=8.9,SNR=16						
FFC	Flin Flon	40.63	330	P	P	07 15 27.1	-1.5
	comp=Z,418nm,0.6s,mb6.2,SNR=15						
JLU	Jordanelle	40.66	306	⇑eP	P	07 15 29.4	+0.4
MPU	Maple Canyon	40.69	305	eP	P	07 15 29.3	+0.1
TCUT	Toone Canyon	40.74	307	eP	P	07 15 28.6	-1.0
GCMT	Greycliff	40.79	314	eP	P	07 15 30.1	+0.1
SNOW	Snow King Moun	40.84	310	⇑iP	P	07 15 30.8	+0.4
MSU	Marysvale	40.85	303	eP	P	07 15 31.2	+0.7
MSU						07 15 31.9	
MSU	Marysvale	40.85	303	eP	P	07 15 31.3	+0.8
WUWY	Wally Ulrich	40.85	310	eP	P	07 15 30.8	+0.3
MVU	Marysvale	40.87	303	eP	P	07 15 31.7	+0.9
	comp=Z,210nm,1.8s,mb5.5						
MVU				LR	LR		
	comp=Z,3µm,22.0s,MS5.2						
REDW	Red Top Meadow	40.88	310	eP	P	07 15 30.9	+0.2
AHID	Auburn Hatcher	40.90	309	eP	P	07 15 31.2	+0.3
	comp=Z,141nm,0.8s,mb5.7						
AHID				LR	LR		
	comp=Z,4µm,19.0s,MS5.3						
CTU	Camp Tracy	40.91	306	eP	P	07 15 31.1	+0.1
MOOW	Moose Ponds	40.91	311	⇑eP	P	07 15 30.8	-0.2
HWUT	Hardware Ranch	40.96	307	⇑eP	P	07 15 31.2	-0.2
	comp=Z,51nm,0.8s,mb5.2						
HWUT				LR	LR		
	comp=Z,4µm,19.0s,MS5.2						
TPAW	Teton Pass	40.98	310	eP	P	07 15 32.0	+0.5
NLU	North Lily Min	41.01	305	eP	P	07 15 32.1	+0.3
IMW	Indian Meadow	41.08	311	eP	P	07 15 32.3	-0.1
NOQ	North Oquirrh	41.17	306	eP	P	07 15 33.5	+0.3
YMR	Madison River	41.32	312	eP	P	07 15 35.2	+0.9
SPUT	South Promonto	41.55	307	eP	P	07 15 33.3	-3.0
DUG	Dugway	41.61	305	⇑eP	P	07 15 36.8	0.0
	comp=Z,3.8nm,0.9s						
DUG				LR	LR		
	comp=Z,248nm,20.0s,MS4.1						
QLMT	Earthquake Lak	41.68	312	eP	P	07 15 38.8	+1.5
ARUT	Antelope Range	41.73	301	eP	P	07 15 37.9	+0.1
ARUT				e		07 15 38.2	
ARUT	Antelope Range	41.73	301	eP	P	07 15 37.9	0.0
HVU	Hansel Valley	41.88	307	P	P	07 15 39.2	+0.2
HVU				e		07 15 39.5	
HVU	Hansel Valley	41.88	307	eP	P	07 15 39.0	0.0
BOZ	Bozeman (W)	42.05	313	eP	P	07 15 40.8	+0.5
BOZ				pmax	pmax		
	comp=Z,13nm,0.4s,mb4.9						
BOZ	Bozeman (W)	42.05	313	eP	P	07 15 40.2	-0.1
	comp=Z,13nm,0.4s,mb4.9						
BOZ				LR	LR		
	comp=Z,6µm,20.0s,MS5.5						
SACV	Santiago Islan	42.21	93	PFAKE		07 15 50.0	+8.0
SACV				LR	LR		
	comp=Z,434nm,20.0s,MS4.3						
RCBR	Riachuelo	42.27	129	eP	P	07 15 42.5	-0.1
RCBR				LR	LR		
	comp=Z,1µm,20.0s,MS4.8						
HRY	Holter Researc	42.51	315	eP	P	07 15 44.3	+0.3
MCMT	McKenzie Canyo	42.65	312	eP	P	07 15 46.5	+1.2
NEN	Nelson	42.66	298	eP	P	07 15 45.8	+0.3
LDFC	Landfair	42.84	297	eP	P	07 15 48.2	+1.2
BDFB	Brasilia	43.04	152	P	P	07 15 48.8	+0.1
	comp=Z,50nm,0.9s,mb5.3,baz=328,slow=8.9,SNR=75						
BDFB				LR	LR	07 35 40.3	
	comp=Z,3µm,19.0s,MS5.2,baz=327,slow=39						
BAO	Brasilia Array	43.04	152	eP	P	07 15 48.9	+0.1
BAO				e		07 16 01.0	
HLID	Hailey	43.44	310	⇑iP	P	07 15 52.4	+0.7
	comp=Z,94nm,1.1s,mb5.4						
HLID				LR	LR		
	comp=Z,3µm,19.0s,MS5.2						
CHMT	Chamberlain Mo	43.50	315	eP	P	07 15 52.1	0.0
ELK	Elko	43.52	305	PFAKE		07 16 00.0	+7.6
ELK				LR	LR		
	comp=Z,4µm,19.0s,MS5.4						
TPNV	Topopah Spring	43.88	300	eP	P	07 15 58.8	+3.4
TPNV				pmax	pmax		
	comp=Z,41nm,1.0s,mb5.1						
TPNV	Topopah Spring	43.88	300	eP	P	07 15 56.2	+0.9
	comp=Z,41nm,1.0s,mb5.1						
TPNV				LR	LR		
	comp=Z,3µm,20.0s,MS5.2						
PFO	Pinyon Flat Ob	43.91	295	P	P	07 15 56.5	+0.9
PFO				pmax	pmax		
	comp=Z,54nm,1.3s,mb5.1						
PFO	Pinyon Flat Ob	43.91	295	eP	P	07 15 56.4	+0.7
	comp=Z,54nm,1.3s,mb5.1						
PFO				LR	LR		
	comp=Z,407nm,21.0s,MS4.3						
MSO	Missoula	43.93	314	eP	P	07 15 55.4	-0.2
	comp=Z,22nm,1.1s,mb4.8						
MSO				LR	LR		
	comp=Z,4µm,20.0s,MS5.3						
BAR	Barrett	44.09	294	eP	P	07 15 57.3	+0.2
EHRO	Hierro	44.66	73	P	P	07 16 01.8	-0.1
	comp=Z,1µm,3.6s						
TPH	Tonopah	44.74	301	eP	P	07 16 03.0	+0.7
TPH				pmax	pmax		
	comp=Z,120nm,1.6s,mb5.5						
TPH	Tonopah	44.74	301	eP	P	07 16 02.4	+0.1
	comp=Z,118nm,1.7s,mb5.4						
TPH				LR	LR		
	comp=Z,3µm,22.0s,MS5.2						
CHIE	El Hierro	44.80	73	P	P	07 16 03.3	+0.3
	comp=Z,37nm,1.2s,mb5.1						
DAC	Darwin (Calif)	44.92	299	eP	P	07 16 04.5	+0.7
DAC				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.8						
DAC	Darwin (Calif)	44.92	299	eP	P	07 16 04.4	+0.6
	comp=Z,14nm,1.0s,mb4.8						
DAC				LR	LR		
	comp=Z,4µm,20.0s,MS5.3						
BMN	Battle Mountai	44.98	305	eP	P	07 16 04.3	+0.1
BMN				pmax	pmax		
	comp=Z,47nm,1.0s,mb5.3						
BMN	Battle Mountai	44.98	305	eP	P	07 16 04.0	-0.2
	comp=Z,47nm,0.9s,mb5.3						
BMN				LR	LR		
	comp=Z,4µm,19.0s,MS5.4						
MWC	Mount Wilson	45.24	296	eP	P	07 16 06.1	-0.3
EGOM	La Gomera	45.42	73	P	P	07 16 08.3	+0.5
	comp=Z,674nm,2.2s,mb6.1						
MNV	Mina	45.50	302	eP	P	07 16 08.5	+0.2
MNV				pmax	pmax		
	comp=Z,64nm,1.0s,mb5.4						
MNV	Mina	45.50	302	⇑eP	P	07 16 08.4	+0.1
	comp=Z,42nm,0.7s,mb5.4						
MNV				LR	LR		
	comp=Z,3µm,21.0s,MS5.2						
NVAR	Mina Array Bea	45.61	302	P	P	07 16 09.4	+0.2
	comp=Z,32nm,0.9s,mb5.3,baz=96,slow=8.4,SNR=15						
NVAR				LR	LR	07 35 16.8	
	comp=Z,2µm,21.5s,MS5.1,baz=110,slow=36						
EDM	Edmonton	45.71	323	eP	P	07 16 08.8	-1.0
EDM	Edmonton	45.71	323	⇑iP	P	07 16 08.7	-1.1
MTUM	Tungsten Hills	45.75	300	eP	P	07 16 10.6	+0.2
CCAN	Las Canadas	45.94	73	P	P	07 16 12.4	+0.4
	comp=Z,38nm,0.9s,mb5.3						
OMM	Old Mammoth Mi	46.10	301	eP	P	07 16 13.7	+0.6
EBAJ	Bajamar	46.14	72	P	P	07 16 14.0	+0.5
	comp=Z,868nm,2.9s,mb6.2						
WVOR	Wild Horse Val	46.29	307	⇑eP	P	07 16 14.4	-0.1
	comp=Z,1µm,1.8s,mb6.5						
WVOR				LR	LR		
	comp=Z,5µm,19.0s,MS5.5						
NEW	Newport	46.38	315	P	P	07 16 14.8	-0.5
	comp=Z,93nm,0.8s,mb5.8,baz=115,slow=7.5,SNR=34						
NEW				LR	LR	07 36 03.3	
	comp=Z,5µm,18.5s,MS5.5,baz=118,slow=37						
NEW	Newport	46.38	315	P	P	07 16 14.9	-0.3
NEW				pmax	pmax		
	comp=Z,93nm,0.8s						
LNOR	Lincton Mounta	46.62	312	eP	P	07 16 17.1	0.0
LNOR	Lincton Mounta	46.62	312	P	P	07 16 16.7	-0.4
DPW	Davenport	46.99	315	P	P	07 16 19.4	-0.6
DPW	Davenport	46.99	315	eP	P	07 16 19.3	-0.8
OD2	Odessa Site #2	47.22	314	P	P	07 16 21.6	-0.3
CMB	Columbia Colle	47.23	301	eP	P	07 16 22.2	+0.2
CMB				pmax	pmax		
	comp=Z,89nm,1.7s,mb5.4						
CMB	Columbia Colle	47.23	301	eP	P	07 16 21.7	-0.4
	comp=Z,89nm,1.7s,mb5.4						
CMB				LR	LR		
	comp=Z,3µm,20.0s,MS5.2						
BEKR	Beckwourth	47.31	304	eP	P	07 16 21.8	-0.9
	comp=Z,225nm,0.4s,mb6.5						
MOD	Modoc	47.46	306	eP	P	07 16 22.5	-1.3
	comp=Z,34nm,0.7s,mb5.4						
MOD				LR	LR		
	comp=Z,3µm,20.0s,MS5.3						
GBL	Gable Mountain	47.56	313	P	P	07 16 24.3	-0.2
HAWA	Hanford	47.57	312	eP	P	07 16 23.8	-0.8
	comp=Z,2.1nm,0.6s						
HAWA				LR	LR		
	comp=Z,154nm,19.0s						
JBO	Jordan Butte	47.62	311	P	P	07 16 24.5	-0.5
FHE	Frenchman Hill	47.66	313	P	P	07 16 25.5	+0.2
LRV	Little Rabbit	47.69	299	eP	P	07 16 26.1	+0.4
SAW	Saint Andrews	47.74	314	P	P	07 16 25.4	-0.5
EPH	Ephrata	47.80	314	P	P	07 16 25.7	-0.7
VIPM	Ingram Point	48.01	310	P	P	07 16 28.3	+0.1
SAO	San Andreas Ge	48.03	299	eP	P	07 16 28.3	-0.1
	comp=Z,41nm,1.1s,mb5.4						
SAO				LR	LR		
	comp=Z,3µm,19.0s,MS5.3						
DHW2	Dyer Hill 2	48.05	314	P	P	07 16 27.5	-0.8
WTV	Waterville	48.11	314	P	P	07 16 28.3	-0.5
OHCM	Honcut	48.15	303	eP	P	07 16 28.7	-0.6
VGB	Gordon Butte	48.28	311	P	P	07 16 30.7	+0.6
VGB	Gordon Butte	48.28	311	eP	P	07 16 30.1	0.0
TBM	Table Mountain	48.44	313	P	P	07 16 31.3	0.0
NLW	Nelson Butte	48.44	314	eP	P	07 16 30.1	-1.2
EFAM	Famara	48.53	71	P	P	07 16 32.5	+0.1
	comp=Z,924nm,2.8s,mb6.3						
TWW	Teanaway	48.61	313	P	P	07 16 32.8	+0.1
VBEM	Beaver Butte	48.77	310	P	P	07 16 34.7	+0.7
ASR	Mount Adams--S	48.94	312	P	P	07 16 35.5	+0.3
TDH	Tom, Dick, Har	48.95	311	P	P	07 16 35.5	+0.2
NSHM	Saint Helena R	48.99	302	eP	P	07 16 38.3	+2.5
WPW	White Pass	48.99	312	P	P	07 16 35.6	-0.1
WDC	Whiskeytown Da	49.03	304	PFAKE		07 16 50.0	+14
WDC				LR	LR		
	comp=Z,2µm,20.0s,MS5.1						
LON	Longmire	49.18	312	P	P	07 16 36.6	-0.5
LON	Longmire	49.18	312	eP	P	07 16 36.0	-1.1
YBH	Yreka Blue Hor	49.23	306	P	P	07 16 36.1	-1.5
	comp=Z,39nm,0.6s,mb5.6,baz=74,slow=3.5,SNR=59						
YBH	Yreka Blue Hor	49.23	306	P	P	07 16 36.3	-1.3
YBH				pmax	pmax		
	comp=Z,36nm,0.7s						
YBH	Yreka Blue Hor	49.23	306	eP	P	07 16 36.1	-1.5
	comp=Z,36nm,0.6s,mb5.6						
YBH				LR	LR		
	comp=Z,3µm,20.0s,MS5.2						
CDFW	Cedar Flats	49.24	312	P	P	07 16 37.0	-0.6
RPW	Rockport	49.28	315	eP	P	07 16 36.3	-1.6
RMW	Rattlesnake Mo	49.30	313	P	P	07 16 40.3	+2.3
RMW	Rattlesnake Mo	49.30	313	eP	P	07 16 39.6	+1.6
SSOR	Sweet Springs	49.36	310	P	P	07 16 39.5	+1.0
SSOR	Sweet Springs	49.36	310	eP	P	07 16 37.5	-1.0
HOPS	Hopland	49.37	302	eP	P	07 16 38.7	0.0
	comp=Z,373nm,1.8s,mb6.1						
HOPS				LR	LR		
	comp=Z,3µm,19.0s,MS5.2						
SHW	Mount Saint He	49.39	312	eP	P	07 16 38.0	-0.7
HUMO	Hull Mountain	49.48	307	eP	P	07 16 37.9	-1.6
	comp=Z,39nm,0.8s,mb5.5						
HUMO				LR	LR		
	comp=Z,3µm,20.0s,MS5.3						
HSO	Harness Mounta	49.66	308	P	P	07 16 42.6	+1.7
HSO	Harness Mounta	49.66	308	eP	P	07 16 39.9	-1.0
KHMM	Horse Mountain	49.95	305	eP	P	07 16 43.6	+0.5
GNW	Green Mountain	49.99	313	eP	P	07 16 40.5	-2.9
BMW	Boistfort Moun	50.11	312	P	P	07 16 44.2	0.0
BMW	Boistfort Moun	50.11	312	eP	P	07 16 44.1	-0.1
KRMB	Red Mountain	50.12	305	eP	P	07 16 43.4	-0.9
CPUP	Villa Florida	50.17	168	P	P	07 16 43.0	-2.0
	comp=Z,69nm,0.9s,mb5.7,baz=12,slow=7.3,SNR=152						
CPUP				LR	LR	07 39 17.5	
	comp=Z,2µm,19.6s,MS5.1,baz=282,slow=38						
CPUP	Villa Florida	50.17	168	P	P	07 16 42.9	-2.1
CPUP				sP	sP	07 16 55.0	+5.8
CPUP	Villa Florida	50.17	168	P	P	07 16 43.1	-1.9
CPUP				pmax	pmax		
	comp=Z,240nm,1.3s						
CPUP	Villa Florida	50.17	168	eP	P	07 16 42.6	-2.4
	comp=Z,236nm,1.4s,mb6.0						
CPUP				LR	LR		
	comp=Z,2µm,19.0s,MS5.2						
KBO	Bosley Butte	50.39	306	eP	P	07 16 46.1	-0.4
YKA	Yellowknife Ar	50.40	334	P	P	07 16 44.7	-1.5
	comp=Z,14nm,0.7s,mb5.1,baz=105,slow=7.3,SNR=35						
YKA				PcP	PcP	07 18 02.8	-2.1
	comp=Z,11nm,0.8s,baz=107,slow=4.1,SNR=4.0						
YKA				LR	LR	07 37 50.8	
	comp=Z,3µm,18.7s,MS5.3,baz=95,slow=36						
YKA	Yellowknife Ar	50.40	334	P	P	07 16 44.7	-1.5
YKA				PcP	PcP	07 18 02.8	-2.1
YKA				LR	LR	07 37 50.8	
YKW3	Yellowknife Ar	50.44	334	eP	P	07 16 45.0	-1.5
KEBM	Edson Butte	50.52	307	eP	P	07 16 47.5	+0.1
PGC	Sidney	50.59	315	eP	P	07 16 45.5	-2.4
	comp=Z,109nm,0.9s,mb5.8						
STW	Striped Peak	50.65	314	P	P	07 16 47.2	-1.1
OCWA	Octopus Mounta	50.93	313	eP	P	07 16 50.3	-0.2
	comp=Z,116nm,1.0s,mb5.8						
OCWA				LR	LR		
	comp=Z,4µm,20.0s,MS5.5						
CAM3	Guarapari	50.96	147	⇑iP	P	07 16 50.2	-0.8
CAM3				i		07 16 55.8	
CAM3				i		07 17 02.3	
CAM3				i		07 17 09.7	
CAM3	Guarapari	50.96	147	⇑iP	P	07 16 50.2	-0.8
CAM3				i		07 16 55.8	
CAM3				i		07 17 02.2	
CAM3				i		07 17 09.7	
CAM4	Nova Friburgo	51.36	150	eP	P	07 16 52.9	-1.1
CAM4				i	pP	07 16 56.1	-1.1
CAM4				i		07 17 03.8	
PLOU	Loures	51.64	58	eP	P	07 16 56.1	+0.1
	comp=Z,64nm,1.2s,mb5.4						
LIS	Lisbon	51.65	58	eP	P	07 16 54.1	-1.9
LIS				eS	S	07 24 17.0	+1.3
LIS				AMS	AMS	07 39 13.2	
	comp=Z,3µm,19.9s,MS5.3						
LIS	Lisbon	51.65	58	eP	P	07 16 54.1	-1.9
LIS				eS	S	07 24 17.0	+1.4
	comp=Z,3µm,19.9s						
EMAZ	Mazaricos	51.87	53	P	P	07 16 56.8	-0.8
	comp=Z,349nm,3.4s						
PTEO	Sao Teotonio	52.00	60	eP	P	07 16 58.9	+0.2
	comp=Z,108nm,0.9s,mb5.8						
EZAM	Zamans	52.04	54	P	P	07 16 59.1	+0.2
	comp=Z,53nm,1.3s,mb5.3						
SUMG	Summit	52.05	11	eP	P	07 16 59.0	+0.4
	comp=Z,219nm,1.0s,mb6.0						
VAL	Valentia	52.08	41	⇓iP	P	07 17 03.3	+4.2
STS	Santiago	52.17	53	P	P	07 16 59.3	-0.6
	comp=Z,27nm,1.0s,mb5.1						
PTOM	Tomar	52.22	57	eP	P	07 16 59.9	-0.4
	comp=Z,91nm,1.5s,mb5.5						
MOE	Montemor	52.27	58	eP	P	07 17 00.2	-0.6
ELOB	Lobios	52.50	54	P	P	07 17 02.3	-0.2
	comp=Z,440nm,2.0s,mb6.0						
EVO	Evora	52.54	58	eP	P	07 17 01.8	-0.9
	comp=Z,156nm,1.1s,mb5.6						
EVO				eR			
	comp=Z,2µm,17.8s						
PVIS	Viseu	52.61	56	eP	P	07 17 02.9	-0.4
	comp=Z,62nm,1.5s,mb5.3						
PBEJ	Beja	52.67	59	eP	P	07 17 03.3	-0.4
	comp=Z,77nm,1.7s,mb5.3						
PVRL	Vila Real	52.75	55	eP	P	07 17 04.0	-0.3
	comp=Z,95nm,1.6s,mb5.5						
MTE	Manteigas	52.88	56	eP	P	07 17 04.8	-0.5
	comp=Z,79nm,1.3s,mb5.5						
MTE	Manteigas	52.88	56	eP	P	07 17 04.8	-0.4
	comp=Z,50nm,1.1s,mb5.4						
PCBR	Castelo Branco	52.93	57	eP	P	07 17 05.0	-0.7
	comp=Z,83nm,1.8s,mb5.4						
PALC	Alcoutim	52.99	60	eP	P	07 17 06.5	+0.3
	comp=Z,149nm,0.9s,mb5.9						
ERUA	La Rua	53.20	54	P	P	07 17 06.3	-1.3
	comp=Z,44nm,1.6s,mb5.1						
EPON	Pontenova	53.22	52	P	P	07 17 07.3	-0.4
	comp=Z,792nm,2.3s,mb6.2						
EBAD	Badajoz	53.31	58	P	P	07 17 08.2	-0.3
	comp=Z,438nm,4.2s						
PBRG	Braganca	53.49	54	eP	P	07 17 09.4	-0.3
	comp=Z,71nm,1.5s,mb5.4						
ECAL	Calabor	53.49	54	P	P	07 17 09.8	+0.1
	comp=Z,434nm,2.4s,mb6.0						
EMIN	Mina Concepcio	53.62	59	P	P	07 17 10.3	-0.4
	comp=Z,447nm,2.7s,mb5.9						
SFS	San Fernando	54.06	61	P	P	07 17 15.2	+1.2
BBB	Bella Bella	54.08	319	P	P	07 17 13.6	-0.3
	comp=Z,17nm,0.7s,mb5.1,baz=119,slow=8.0,SNR=7.3						
BBB				ScP		07 22 19.7	
	comp=Z,12nm,1.0s,baz=304,slow=3.7,SNR=3.1						
DCN	Croghan	54.11	40	⇑iP	P	07 17 13.9	-0.2
CMCH	Combarbala	54.11	184	i P	P	07 17 12.7	-1.7
ESPR	Espera	54.32	60	P	P	07 17 16.5	+0.6
	comp=Z,341nm,2.8s,mb5.8						
DMUB	Kingscourt	54.41	39	⇑iP	P	07 17 16.2	-0.1
DLF	Lyons Farm	54.54	40	⇑iP	P	07 17 16.7	-0.6
EMIJ	Mijas	55.21	61	P	P	07 17 22.2	-0.3
	comp=Z,290nm,2.5s,mb5.9						
EADA	Adamuz	55.25	59	P	P	07 17 22.5	-0.2
	comp=Z,383nm,2.5s,mb6.0						
ELUQ	Luque	55.54	59	P	P	07 17 24.8	0.0
	comp=Z,13nm,0.8s,mb5.0						
ESDC	Sonseca Array	55.65	57	P	P	07 17 25.5	-0.1
	comp=Z,48nm,0.8s,mb5.5,baz=281,slow=7.0,SNR=154						
ESDC				LR	LR	07 38 09.5	
	comp=Z,2µm,18.2s,MS5.3,baz=280,slow=33						
ESDC				PKP2bc		07 47 40.2	
	comp=Z,0.5nm,0.5s,baz=27,slow=3.3,SNR=5.5						
ESDC	Sonseca Array	55.65	57	P	P	07 17 25.4	-0.1
	comp=Z,45nm,0.8s,mb5.5						
ESLA	Sonseca Array	55.65	57	eP	P	07 17 25.3	-0.3
	comp=Z,22nm,1.0s,mb5.2						
ESLA				LR	LR		
	comp=Z,14µm,19.0s,MS6.1						
ELOJ	Sierra Loja	55.66	60	P	P	07 17 25.9	+0.2
	comp=Z,16nm,0.7s,mb5.2						
MDZ	Mendoza	55.73	181	eP	P	07 17 26.1	-0.1
ELAN	Lanestosa	55.93	53	P	P	07 17 27.3	-0.2
	comp=Z,298nm,3.1s						
ERON	Agron	55.95	60	P	P	07 17 28.4	+0.6
	comp=Z,12nm,0.6s,mb5.1						
PMSU	Muirshiel	55.95	37	⇑eP	P	07 17 26.7	-0.8
ROSF	Rostrenen	56.12	46	eP	P	07 17 28.7	-0.1
	comp=Z,166nm,1.1s,mb5.7						
QUIF	Quistinic	56.17	47	eP	P	07 17 29.1	-0.1
	comp=Z,269nm,1.1s,mb5.9						
DLBC	Dease Lake	56.20	326	P	P	07 17 29.1	-0.1
	comp=Z,12nm,0.6s,mb5.1,baz=94,slow=7.7,SNR=15						

DLBC	Dease Lake	56.20	326	eP	P	07 17 28.6	-0.6
PCA1	Carrot	56.21	37⇑	eP	P	07 17 28.7	-0.6
CLCH	Cerro Calan	56.30	183	i P	P	07 17 28.3	-2.0
DSCH	Colegio Aleman	56.30	183	i P	P	07 17 29.2	-1.1
PCOU	Corrie	56.34	37⇑	eP	P	07 17 29.3	-0.9
PCOU				AMb	AMB	07 17 35.9	
	comp=Z,176nm,1.6s,mb5.8						
EQES	Quesada	56.47	59	P	P	07 17 31.5	+0.1
	comp=Z,541nm,3.4s						
SGMF	Saint Gilles	56.59	47	eP	P	07 17 31.8	-0.4
CSF	Scaffel	56.62	39	eP	P	07 17 32.6	+0.3
CSF				AMb	AMB	07 17 34.3	
	comp=Z,136nm,1.9s,mb5.7						
CDU1	Dunnerdale	56.64	39	eP	P	07 17 32.2	-0.3
CDU1				AMb	AMB	07 17 39.4	
	comp=Z,205nm,1.5s,mb5.9						
CKE	Keswick	56.72	39	eP	P	07 17 33.1	+0.1
CKE				AMb	AMB	07 17 39.2	
	comp=Z,138nm,1.4s,mb5.8						
LMEL	Las Melosas	56.73	183⇑	iP	P	07 17 32.6	-0.8
EVIA	Vianos	56.84	58	P	P	07 17 34.4	+0.2
	comp=Z,45nm,0.8s,mb5.5						
ETOR	Torete	57.04	55	P	P	07 17 35.9	+0.3
	comp=Z,46nm,0.8s,mb5.6						
LRYF	La Roche-sur-Y	57.25	49⇑	eP	P	07 17 36.8	-0.1
EALK	Alkurruntz	57.34	53	P	P	07 17 37.4	-0.2
	comp=Z,409nm,2.3s,mb6.0						
SJPF	Ste Jean	57.55	53	eP	P	07 17 39.3	+0.2
	comp=Z,268nm,1.0s,mb5.9						
ETOB	Tobarra	57.59	58	P	P	07 17 39.9	+0.5
	comp=Z,635nm,4.1s						
LARF	Larrau	57.73	53⇑	eP	P	07 17 40.8	+0.5
GRR	Gorron	57.73	46	eP	P	07 17 40.0	-0.3
	comp=Z,199nm,1.1s,mb5.8						
EMUR	La Murta	57.91	59	P	P	07 17 41.9	+0.3
	comp=Z,462nm,1.8s,mb6.2						
FLN	La Foliniere	57.98	46	eP	P	07 17 41.8	-0.2
	comp=Z,128nm,0.9s,mb5.7						
FLN				eR			
	comp=Z,3µm,19.0s						
FDAF	Les Forges d'A	58.04	53⇑	eP	P	07 17 42.9	+0.4
ETSF	Etsaut	58.05	53	eP	P	07 17 42.8	+0.3
	comp=Z,72nm,0.9s,mb5.4						
ESAC	San Caprasio	58.18	54	P	P	07 17 43.9	+0.4
	comp=Z,686nm,2.9s,mb6.2						
MFF	Saint Martin d	58.22	49	eP	P	07 17 43.7	0.0
	comp=Z,212nm,0.9s,mb5.9						
LDF	La Druitiere	58.22	46	eP	P	07 17 43.5	-0.2
	comp=Z,197nm,0.9s,mb5.9						
EMOS	Mosqueruela	58.28	56	P	P	07 17 45.0	+0.8
	comp=Z,55nm,0.8s,mb5.6						
JMIC	Jan Mayen	58.37	19	AMS	AMS	07 47 08.4	
	comp=Z,455nm,16.7s,MS4.7						
VIEF	Viey	58.47	53⇑	eP	P	07 17 45.9	+0.4
LABF	Labassere	58.50	53⇑	eP	P	07 17 45.8	+0.1
EBEN	Beniarda	58.62	58	P	P	07 17 47.5	+0.9
	comp=Z,43nm,0.9s,mb5.5						
EPF	Esparros	58.70	53	eP	P	07 17 47.4	+0.3
	comp=Z,280nm,1.1s,mb5.9						
RESF	Ens	58.71	53⇑	eP	P	07 17 47.8	+0.6
EGRA	Graus	58.73	54	P	P	07 17 47.9	+0.6
SIT	Sitka	58.82	324	PFAKE		07 18 00.0	+12
SIT				LR	LR		
	comp=Z,3µm,21.0s,MS5.4						
LFF	La Frestale	58.89	50	eP	P	07 17 48.2	-0.2
EBR	Ebro Roquetas	58.97	55	eP	P	07 17 49.5	+0.5
MELF	Melles	59.02	53⇑	eP	P	07 17 49.9	+0.6
SALF	Salau	59.34	53⇑	eP	P	07 17 52.0	+0.4
EPOB	Poblet	59.37	55	P	P	07 17 51.6	-0.1
	comp=Z,29nm,0.8s,mb5.4						
RJF	Les Rejaudoux	59.42	50	eP	P	07 17 51.6	-0.5
	comp=Z,195nm,1.0s,mb5.8						
RJF				eR			
	comp=Z,1µm,19.5s						
EMIR	Miracle	59.65	54	P	P	07 17 54.1	+0.3
	comp=Z,46nm,0.7s,mb5.6						
EIBI	Ibiza	59.80	57	P	P	07 17 54.9	+0.1
	comp=Z,29nm,0.8s,mb5.4						
CAF	Calviac	59.83	50	eP	P	07 17 54.6	-0.3
	comp=Z,214nm,1.0s,mb5.8						
INK	Inuvik	59.85	337	P	P	07 17 53.0	-1.8
	comp=Z,62nm,0.8s,mb5.7,baz=104,slow=8.1,SNR=99						
INK	Inuvik	59.85	337	P	P	07 17 52.9	-1.8
INK				pmax	pmax		
	comp=Z,87nm,0.9s						
INK	Inuvik	59.85	337	eP	P	07 17 52.7	-2.0
	comp=Z,87nm,0.9s,mb5.8						
TCF	Toulx Ste Croi	59.85	49	eP	P	07 17 54.5	-0.6
	comp=Z,156nm,1.0s,mb5.7						
VALF	Valcebollere	59.98	53⇑	eP	P	07 17 56.4	+0.4
MTLF	Montolieu	60.05	52	eP	P	07 17 56.0	-0.4
	comp=Z,210nm,1.2s,mb5.8						
VERF	Verneugheol	60.07	49⇑	eP	P	07 17 56.3	-0.3
HYF	Humbligny	60.10	48	eP	P	07 17 56.6	-0.2
FRNF	Fournols	60.15	50⇑	eP	P	07 17 57.1	0.0
BGF	Bois d'Agland	60.28	48	eP	P	07 17 57.3	-0.7
	comp=Z,95nm,0.8s,mb5.6						
LRDF	Laroque-de-Fa	60.31	53⇑	eP	P	07 17 57.8	-0.4
FILF	Fillols	60.36	53⇑	eP	P	07 17 57.9	-0.7
PYM	Petit Puy Mans	60.44	49	eP	P	07 17 58.7	-0.4
EJON	La Jonquera	60.61	53	P	P	07 18 00.6	+0.3
	comp=Z,57nm,0.8s,mb5.8						
AVF	Avril sur Loir	60.62	48	eP	P	07 17 59.5	-0.7
	comp=Z,214nm,1.2s,mb5.8						
AVF				epP	pP	07 18 12.6	+9.2
LBL	Lubilhac	60.64	50	eP	P	07 18 00.7	+0.2
SSF	Saint Saulge	60.70	48	eP	P	07 18 00.1	-0.7
LOR	Lormes	60.93	48	eP	P	07 18 01.7	-0.7
	comp=Z,127nm,0.9s,mb5.8						
LOR				eR			
	comp=Z,3µm,19.0s						
COLF	Collangettes	60.94	50⇑	eP	P	07 18 02.4	0.0
SMF	Signal de Mont	60.96	48	eP	P	07 18 01.8	-0.8
	comp=Z,312nm,1.4s,mb6.0						
BAIF	Baives	61.03	44	eP	P	07 18 02.3	-0.7
	comp=Z,310nm,1.7s,mb5.9						
TRQA	Tornquist	61.10	175	eP	P	07 18 02.0	-1.7
	comp=Z,131nm,1.9s,mb5.7						
TRQA				LR	LR		
	comp=Z,3µm,19.0s,MS5.4						
LASF	Ste Croix	61.17	51	eP	P	07 18 04.1	+0.1
	comp=Z,158nm,1.1s,mb5.8						
GIVF	Givet	61.43	44	eP	P	07 18 05.1	-0.6
	comp=Z,199nm,1.0s,mb5.9						
GIVF				epP	pP	07 18 19.9	+11
DAWY	Dawson	61.49	332	eP	P	07 18 05.1	-0.8
MEZF	Maizieres J'vi	61.66	46	eP	P	07 18 06.9	-0.4
	comp=Z,412nm,0.9s,mb6.2						
VIVF	Saint-Julien-l	61.68	50	eP	P	07 18 07.9	+0.4
	comp=Z,338nm,1.2s,mb6.0						
HGN	Heimansgroeve	62.10	44⇑	iP	P	07 18 09.7	-0.5
	comp=Z,69nm,0.6s,mb6.0						
HGN				ex	x	07 18 15.2	
HGN				i S	S	07 26 37.7	+4.2
HGN				eSS	SS	07 30 36.8	-1.3
HGN				ex	x	07 35 05.1	
PRAF	Pradon	62.14	51⇑	eP	P	07 18 11.4	+0.8
OCF	Saint Nazaire	62.15	51⇑	eP	P	07 18 11.3	+0.6
OG26	St.-Nazaire-De	62.15	51⇑	eP	P	07 18 11.3	+0.6
TIC	Toumodi	62.20	95	eP	P	07 18 10.3	-1.1
	comp=Z,527nm,1.1s,mb6.6						
BLS5	Blasjo	62.26	34	eP	P	07 18 11.4	+0.2
BLS5				AMb	AMB	07 18 14.0	
	comp=Z,40nm,1.4s,mb5.4						
BLS5				epP	pP	07 18 14.0	-0.3
BLS5	Blasjo	62.26	34	eP	P	07 18 11.4	+0.2
	comp=Z,40nm,1.4s,mb5.4						
THEF	They Montfort	62.30	46⇑	eP	P	07 18 11.4	-0.2
WLF	Walferdange	62.31	45	P	P	07 18 11.5	-0.2
WLF				pmax	pmax		
	comp=Z,30nm,0.7s,mb5.5						
WLF	Walferdange	62.31	45	eP	P	07 18 11.3	-0.3
	comp=Z,30nm,0.7s,mb5.5						
TREF	Trevaresse	62.31	52⇑	eP	P	07 18 12.4	+0.6
DBIC	Dimbokro	62.34	95	P	P	07 18 11.5	-0.8
	comp=Z,76nm,0.9s,mb5.8,baz=282,slow=8.3,SNR=83						
DBIC				LR	LR	07 41 12.3	
	comp=Z,2µm,18.2s,MS5.3,baz=269,slow=32						
DBIC				PKP2bc		07 47 21.8	
	comp=Z,4.3nm,1.0s,baz=64,slow=12,SNR=3.6						
DBIC	Dimbokro	62.34	95	P	P	07 18 11.5	-0.8
DBIC				S	S	07 26 36.5	-0.5
DBIC	Dimbokro	62.34	95	P	P	07 18 11.7	-0.6
DBIC				pmax	pmax		
	comp=Z,100nm,0.9s						
DBIC	Dimbokro	62.34	95	eP	P	07 18 11.5	-0.8
	comp=Z,101nm,0.9s,mb6.0						
DBIC				LR	LR		
	comp=Z,2µm,20.0s,MS5.3						
LIC	Lamto	62.35	95	eP	P	07 18 11.5	-0.9
	comp=Z,534nm,1.8s,mb6.4						
LIC	Lamto	62.35	95	eP	P	07 18 11.2	-1.2
	comp=Z,240nm,1.4s,mb6.1						
LIC				epP	pP	07 18 24.1	+8.5
GELF	Grande-Etoile	62.37	52⇑	eP	P	07 18 12.2	0.0
SMRF	Simiane la Rot	62.41	51	eP	P	07 18 12.8	+0.4
	comp=Z,200nm,1.5s,mb5.7						
CABF	La Chapelle	62.51	48	eP	P	07 18 12.5	-0.5
	comp=Z,83nm,0.9s,mb5.5						
CABF				epP	pP	07 18 25.5	+9.4
VILF	Villemus	62.53	51⇑	eP	P	07 18 13.7	+0.5
ORIF	Oris-en-Rattie	62.53	50	eP	P	07 18 13.4	+0.2
	comp=Z,125nm,1.2s,mb5.6						
ORIF				epP	pP	07 18 26.4	+10
ORIF				eR			
	comp=Z,1µm,19.0s						
PUYF	Puyloubier	62.55	52⇑	eP	P	07 18 13.5	+0.1
HAU	Haudompre	62.56	47	eP	P	07 18 12.7	-0.6
	comp=Z,103nm,1.0s,mb5.6						
HAU				eR			
	comp=Z,2µm,17.5s						
KIC	Kosan Boka	62.56	95	eP	P	07 18 13.1	-0.7
	comp=Z,613nm,1.3s,mb6.6						
BERF	Bertagne	62.57	52⇑	eP	P	07 18 13.8	+0.3
WTSB	Winterswijk	62.58	42⇑	iP	P	07 18 13.1	-0.3
	comp=Z,98nm,0.8s,mb6.0						
WTSB				ex	x	07 18 18.6	
GIMEL	Gimel	62.63	48⇑	iP	P	07 18 13.5	-0.4
	comp=Z,232nm,3.0s						
BRANT	Les Verrieres	62.74	48	eP	P	07 18 14.0	-0.5
	comp=Z,146nm,1.7s,mb5.8						
TAVF	Tavernes	62.80	52⇑	eP	P	07 18 15.3	+0.3
RUP	Ruppelstein	62.89	45⇑	eP	P	07 18 15.7	+0.2
HINF	Hinteralfeld	62.91	47	eP	P	07 18 14.6	-1.1
	comp=Z,47nm,1.1s,mb5.2						
LOMF	Lomont	62.94	47⇑	eP	P	07 18 16.1	+0.3
RSL	Roselend	62.97	49⇑	eP	P	07 18 15.9	-0.2
LPL	La Plagne	63.06	49	eP	P	07 18 17.1	+0.4
	comp=Z,78nm,0.8s,mb5.6						
LPL				epP	pP	07 18 29.2	+9.4
BNI	Bardonecchia	63.08	50	eP	P	07 18 17.2	+0.4
BNI				pmax	pmax		
	comp=Z,65nm,1.1s,mb5.7						
BNI	Bardonecchia	63.08	50	eP	P	07 18 17.0	+0.2
	comp=Z,65nm,1.1s,mb5.7						
LPG	La Plagne	63.08	49	eP	P	07 18 17.2	+0.4
	comp=Z,188nm,1.3s,mb5.8						
ECH	Echery	63.08	46⇑	eP	P	07 18 16.5	-0.3
TORNY	Torny	63.09	48⇑	iP	P	07 18 16.7	-0.1
	comp=Z,161nm,1.8s,mb5.9						
MOF	Molkenrain	63.10	47⇑	eP	P	07 18 19.1	+2.2
EMV	Vieux Emosson	63.12	49⇑	iP	P	07 18 16.8	-0.2
	comp=Z,114nm,1.8s,mb5.7						
AIGLE	Aigle	63.13	48⇑	iP	P	07 18 16.7	-0.4
	comp=Z,216nm,3.1s						
CDF	Champ du Feu	63.14	46	eP	P	07 18 16.5	-0.7
	comp=Z,99nm,1.1s,mb5.6						
CDF				epP	pP	07 18 30.8	+11
LMR	La Mourre	63.16	52	eP	P	07 18 16.8	-0.6
	comp=Z,82nm,1.1s,mb5.5						
SALAN	Lac Salanfe	63.16	49	eP	P	07 18 16.6	-0.7
	comp=Z,116nm,1.7s,mb5.7						
RRL	Cesana Torines	63.17	50	P	P	07 18 17.8	+0.4
MBDF	Montbardon	63.18	50	eP	P	07 18 17.9	+0.4
	comp=Z,156nm,1.2s,mb5.7						
ABH	Alteburg	63.19	44⇑	eP	P	07 18 17.5	0.0
WLS	Welschbruch	63.19	46⇑	eP	P	07 18 17.1	-0.4
BOURR	Bourrignon	63.21	47⇑	iP	P	07 18 17.1	-0.5
	comp=Z,340nm,2.3s,mb6.1						
FRF	La Foret Royal	63.23	52	eP	P	07 18 17.3	-0.5
	comp=Z,84nm,1.0s,mb5.5						
SURF	Saint Ours	63.24	51⇑	eP	P	07 18 18.7	+0.8
SURF	Saint Ours	63.24	51⇑	eP	P	07 18 18.7	+0.8
GRYON	Gryon	63.25	49⇑	iP	P	07 18 17.7	-0.2
	comp=Z,103nm,1.9s,mb5.6						
FENE	Fenestrelle	63.35	50	P	P	07 18 18.7	+0.1
SENIN	Lac Senin	63.36	48⇑	iP	P	07 18 18.9	+0.3
	comp=Z,185nm,1.9s,mb5.9						
LSD	Ceresole Reale	63.37	49	P	P	07 18 19.3	+0.6
CALN	Calern	63.38	51	eP	P	07 18 18.9	+0.1
LIBD	Limburg	63.38	46⇑	eP	P	07 18 18.7	-0.1
LIBD	Limburg	63.38	46⇑	eP	P	07 18 18.6	-0.2
BBS	Basel-Blauen	63.39	47⇑	eP	P	07 18 18.3	-0.5
PZZ	Prazzo	63.44	50	P	P	07 18 19.7	+0.5
DIX	Grande Dixence	63.47	49⇑	iP	P	07 18 19.7	+0.3
	comp=Z,159nm,1.8s,mb5.8						
RSP	Reno Superiore	63.47	50	P	P	07 18 19.7	+0.3
BHB	Bricherasio	63.51	50	P	P	07 18 19.1	-0.5
BALST	Balsthal	63.53	47⇑	iP	P	07 18 18.9	-0.8
	comp=Z,234nm,1.9s,mb5.9						
MVIF	Mont Vial	63.55	51⇑	eP	P	07 18 20.0	+0.1
WIMIS	Wimmis	63.55	48⇑	iP	P	07 18 19.7	-0.2
	comp=Z,125nm,2.3s,mb5.5						
LKBD	Leukerbad	63.59	48⇑	iP	P	07 18 20.4	+0.3
	comp=Z,142nm,0.9s,mb6.0						
KTD	Kalmit	63.59	45	eP	P	07 18 19.6	-0.5
TOUF	Mont Tournerai	63.61	51⇑	eP	P	07 18 20.5	+0.2
PLCA	Paso Flores	63.61	183	P	P	07 18 19.0	-1.3
	comp=Z,25nm,0.8s,mb5.3,baz=360,slow=8.0,SNR=32						
PLCA				LR	LR	07 49 33.3	
	comp=Z,663nm,18.2s,MS4.9,baz=229,slow=39						
PLCA	Paso Flores	63.61	183	P	P	07 18 18.9	-1.5
PLCA				sP	sP	07 18 31.2	+6.6
PLCA	Paso Flores	63.61	183	eP	P	07 18 18.7	-1.7
	comp=Z,67nm,1.1s,mb5.6						
PLCA				LR	LR		
	comp=Z,1µm,20.0s,MS5.0						
KIZ	Kirchzarten	63.62	47⇑	eP	P	07 18 19.7	-0.6
STV	Sta Anna Valdi	63.63	51	P	P	07 18 20.2	-0.3
STV2	Anna di Valdie	63.63	51	P	P	07 18 19.5	-1.0
AURF	Auriere	63.68	51⇑	eP	P	07 18 20.6	-0.2
FELD	Feldberg	63.68	47⇑	eP	P	07 18 20.2	-0.5
ENR	Entracque	63.70	51	P	P	07 18 19.9	-1.0
REVF	Revere	63.73	51	eP	P	07 18 20.9	-0.2
AUTN	L'Aution	63.74	51⇑	eP	P	07 18 21.3	+0.1
MUD	Monsted U'grnd	63.75	37⇑	iP	P	07 18 21.3	+0.3
	comp=Z,96nm,1.1s,mb5.7						
MUD				i S	S	07 26 57.3	+3.2
SBF	Sospel	63.76	51	eP	P	07 18 20.9	-0.4
	comp=Z,129nm,0.8s,mb5.7						
TRAV		63.77	49	P	P	07 18 20.7	-0.6
SULZ	Sulz-Cheisache	63.79	47⇑	iP	P	07 18 20.8	-0.7
	comp=Z,127nm,0.9s,mb5.9						
SAOF	Saorge	63.83	51	eP	P	07 18 21.5	-0.3
BFO	Black Forest	63.85	46	P	P	07 18 20.9	-0.9
	comp=Z,151nm,1.0s,mb6.0,SNR=13						
BFO	Black Forest	63.85	46	eP	P	07 18 20.8	-1.0
BFO				pmax	pmax		
	comp=Z,35nm,1.1s,mb5.3						
BFO	Black Forest	63.85	46	eP	P	07 18 20.8	-1.0
	comp=Z,35nm,1.1s,mb5.3						
MMK	Mattmark	63.86	49⇑	iP	P	07 18 22.4	+0.5
	comp=Z,153nm,1.7s,mb5.8						
KONO	Kongsberg	63.86	33	eP	PcP	07 19 09.5	+12
KONO				AMS	AMS	07 48 53.7	
	comp=Z,800nm,16.0s,MS5.0						
KONO	Kongsberg	63.86	33	PFAKE		07 18 30.0	+8.3
KONO				LR	LR		
	comp=Z,1µm,20.0s,MS5.0						
MCGN	Macugnaga	63.89	49⇑	iP	P	07 18 22.6	+0.5
HASLI	Hasliberg	63.90	48⇑	iP	P	07 18 22.1	-0.1
	comp=Z,210nm,1.6s,mb5.9						
ORO	Oropa	63.92	49⇑	iP	P	07 18 22.3	-0.1
NEGI	Negi	63.95	51	P	P	07 18 21.2	-1.4
MONE	Monesi	63.96	51	P	P	07 18 21.6	-1.0
SWS	Schriesheim	63.98	45⇑	eP	P	07 18 21.8	-0.8
ROB	Roburent	64.01	51	P	P	07 18 22.1	-0.9
SLE	Schleitheim	64.02	47⇑	iP	P	07 18 22.3	-0.7
	comp=Z,168nm,1.0s,mb6.0						
TOD	Tromm	64.03	45⇑	eP	P	07 18 22.4	-0.6
BNALP	Bannalp	64.08	48⇑	iP	P	07 18 23.5	+0.2
	comp=Z,122nm,1.3s,mb5.8						
IMI	Imperia	64.08	51	P	P	07 18 22.4	-1.0
FLACH	Flaach	64.09	47⇑	iP	P	07 18 22.9	-0.5
	comp=Z,139nm,1.2s,mb5.9						
LBG	Lerchenberg	64.12	46⇑	eP	P	07 18 22.9	-0.7
TRULL	Truellikon	64.16	47⇑	iP	P	07 18 23.6	-0.3
	comp=Z,291nm,1.4s,mb6.1						
RORO		64.18	51	P	P	07 18 22.1	-2.0
SPAK	Spaichingen	64.18	46⇑	eP	P	07 18 23.5	-0.5
MUO	Muotathal	64.21	48⇑	iP	P	07 18 24.6	+0.4
	comp=Z,269nm,1.4s,mb6.1						
FIN	Finale Ligure	64.27	51⇑	iP	P	07 18 23.9	-0.7
STEIN	Stein am Rhein	64.28	47⇑	iP	P	07 18 24.4	-0.3
	comp=Z,335nm,1.5s,mb6.2						
FUSIO	Fusio	64.29	48⇑	iP	P	07 18 25.4	+0.7
	comp=Z,250nm,1.8s,mb5.9						
DIV	Divide	64.34	328	eP	P	07 18 23.8	-0.9
	comp=Z,136nm,1.1s,mb5.9						
DIV				LR	LR		
	comp=Z,10µm,20.0s,MS6.0						
WILA	Wila	64.34	47⇑	iP	P	07 18 24.9	-0.1
	comp=Z,183nm,1.7s,mb5.8						
EYAK	Cordova Ski Ar	64.34	328	eP	P	07 18 24.6	-0.3
STU	Stuttgart	64.37	46	P	P	07 18 24.9	-0.3
STU				pmax	pmax		
	comp=Z,67nm,0.9s,mb5.7						
STU	Stuttgart	64.37	46	eP	P	07 18 24.7	-0.6
	comp=Z,67nm,0.8s,mb5.7						
WEIN	Weingarten	64.38	47⇑	iP	P	07 18 25.1	-0.2
	comp=Z,253nm,1.3s,mb6.1						
GUT	Gutenstein	64.40	46⇑	eP	P	07 18 24.8	-0.6
VAI	Varese	64.44	49⇑	iP	P	07 18 25.3	-0.4
PCP	Pian Castagno	64.46	50	P	P	07 18 25.4	-0.5
NAO01	NORSAR Array S	64.47	32	eP	P	07 18 25.6	-0.1
	comp=Z,45nm,0.7s,mb5.6						
LLS	Linth-Limmern	64.48	48⇑	iP	P	07 18 26.3	+0.3
	comp=Z,191nm,1.6s,mb5.9						
BUCH	Bad Urach	64.52	46⇑	eP	P	07 18 25.7	-0.5
BSEG	Bad Segeberg	64.57	40	eP	P	07 18 25.9	-0.5
BSEG				pmax	pmax		
	comp=Z,63nm,1.2s,mb5.5						
SIND	Sindeldorf	64.58	45	eP	P	07 18 25.8	-0.8
MUGIO	Muggio	64.62	49⇑	iP	P	07 18 26.3	-0.6
	comp=Z,203nm,2.4s,mb5.7						
NB2	NORSAR Subarra	64.62	32	P	P	07 18 26.5	-0.2
	comp=Z,4.9nm,0.7s,mb4.7,baz=275,slow=7.0						
NB2	NORSAR Subarra	64.62	32	P	P	07 18 26.5	-0.2
	baz=275,slow=6.9						
NOA	NORSAR Array B	64.62	32	P	P	07 18 26.8	+0.2
	comp=Z,37nm,0.8s,mb5.5,baz=274,slow=6.7,SNR=102						
NOA				LR	LR	07 43 04.4	
	comp=Z,787nm,18.8s,MS4.9,baz=270,slow=33						
PLONS	Plons	64.70	47⇑	iP	P	07 18 27.5	+0.1
	comp=Z,173nm,1.6s,mb5.8						
KAMOR	Kamor	64.75	47⇑	iP	P	07 18 27.7	0.0
	comp=Z,187nm,1.5s,mb5.9						
ILAR	Eielson Array	64.77	332	P	P	07 18 25.9	-1.6
	comp=Z,48nm,0.6s,mb5.7,baz=101,slow=4.6,SNR=580						
ILAR				PKPPKP		07 47 13.1	
	comp=Z,0.9nm,0.9s,baz=293,slow=3.2,SNR=6.9						
CLZ	Clausthal	64.80	42	eP	P	07 18 27.6	-0.3
	comp=Z,76nm,0.9s,mb5.7						
VDL	Val di Lei	64.84	48⇑	iP	P	07 18 28.6	+0.3
	comp=Z,175nm,2.5s,mb5.7						
NSS	Namsos	64.87	28	eP	P	07 18 26.8	-1.4
NSS				AMS	AMS	07 45 24.6	
	comp=Z,805nm,19.7s,MS4.9						
DAVA	Damuels	65.01	47⇑	iP	P	07 18 29.3	-0.1
	comp=Z,251nm,2.4s,mb5.8						
HDH	Heidenheim	65.06	46⇑	eP	P	07 18 29.3	-0.4
BOB	Bobbio (Coli)	65.06	50⇑	iP	P	07 18 29.7	-0.1
DAVOX	Davos	65.08	48	P	P	07 18 30.4	+0.6
	comp=Z,34nm,0.8s,mb5.4,baz=274,slow=6.2,SNR=40						
DAVOX	Davos	65.08	48⇑	iP	P	07 18 30.2	+0.4
	comp=Z,131nm,1.5s,mb5.8						
PGF	Pioggiola	65.08	52	eP	P	07 18 29.2	-0.8
	comp=Z,171nm,1.3s,mb5.6						
UBR	Uberruh	65.11	47⇑	eP	P	07 18 29.4	-0.6
COLA	College	65.18	332⇑	iP	P	07 18 29.2	-1.0
COLA	College	65.18	332	eP	P	07 18 28.8	-1.4
	comp=Z,207nm,1.1s,mb6.1						
COLA				LR	LR		
	comp=Z,3µm,19.0s,MS5.6						
BERNI	Berninapass	65.23	48⇑	iP	P	07 18 31.3	+0.5
	comp=Z,248nm,1.7s,mb6.0						
FUORN	Ofenpass	65.36	48⇑	iP	P	07 18 32.2	+0.5
	comp=Z,232nm,1.7s,mb6.0						
CODM		65.41	50	P	P	07 18 30.1	-1.9
KBS	Kingsbay	65.43	12	eP	P	07 18 32.4	+0.7
KBS				eS	S	07 27 15.8	+1.3
KBS				eSS	SS	07 31 32.2	+2.7
KBS				AMS	AMS	07 50 41.0	
	comp=Z,1µm,8.5s						
KBS	Kingsbay	65.43	12	PFAKE		07 18 40.0	+8.4
KBS				LR	LR		
	comp=Z,1µm,19.0s,MS5.1						
LOF	Lofoten	65.44	24	eP	P	07 18 34.0	+2.2
BRMO	Bormio	65.46	48	eP	P	07 18 32.3	0.0
GRAM		65.54	50	P	P	07 18 31.5	-1.3
BACM		65.58	50	P	P	07 18 31.1	-2.0
GRA1	Grafenberg Arr	65.58	44	eP	P	07 18 32.5	-0.5
	comp=Z,86nm,1.3s,mb5.6						
GRA1				epP	pP	07 18 38.0	+1.9
GRA1				eS	S	07 27 17.2	+0.4
GRA1				eSS	SS	07 31 38.0	+5.8
GRA1				LR	LR		
	comp=Z,3µm,18.4s,MS5.5						
GRF	Grafenberg Arr	65.58	44	eP	P	07 18 32.5	-0.5
GRF				e*PP	pP	07 18 38.0	+1.9
GRF				eS	S	07 27 17.2	+0.4
GRF				eSS	SS	07 31 38.0	+5.8
GRF				pmax	pmax		
	comp=Z,86nm,1.3s,mb5.6						
COP	Copenhagen	65.63	38	i P	P	07 18 33.2	0.0
	comp=Z,33nm,0.6s,mb5.5						
COP				i S	S	07 27 23.7	+6.4
	comp=Z,500nm,17.0s						
COP	Copenhagen	65.63	38	eP	P	07 18 33.2	0.0
	comp=Z,33nm,0.6s,mb5.5						
COP				i S	S	07 27 23.7	+6.4
COP				LR	LR		
	comp=Z,500nm,17.0s,MS4.8						
SAL	Salo	65.69	49⇑	iP	P	07 18 33.1	-0.7
VALM		65.69	50	P	P	07 18 31.9	-2.0
MCK	McKinley	65.70	331	P	P	07 18 32.8	-0.7
MCK				pmax	pmax		
	comp=Z,42nm,0.7s,mb5.6						
MCK	McKinley	65.70	331	eP	P	07 18 32.7	-0.8
	comp=Z,42nm,0.7s,mb5.6						
MCK				LR	LR		
	comp=Z,2µm,19.0s,MS5.4						
MOX	Moxa	65.71	43	i P	P	07 18 33.2	-0.6
	comp=Z,logA/T=1.7,mb5.5						
MOX				S	S	07 27 17.0	-1.3
MOX				SS	SS	07 31 32.0	-2.1
MOX				L		07 46 24.0	
MOX	Moxa	65.71	43	eP	P	07 18 33.2	-0.6
MOX				pmax	pmax		
	comp=Z,107nm,2.0s,mb5.5						
MOX				MLR	MLR		
	comp=Z,2µm,18.0s,MS5.4						
MOX	Moxa	65.71	43	eP	P	07 18 33.2	-0.6
	comp=Z,107nm,2.0s,mb5.5						
MOX				LR	LR		
	comp=Z,2µm,18.0s,MS5.4						
ERBM	Eremo	65.80	50⇑	iP	P	07 18 34.0	-0.5
VLC	Villacollemand	65.82	50	eP	P	07 18 33.1	-1.5
	comp=Z,24nm,0.4s,mb5.6						
FUR	Furstenfeldbru	65.83	46	eP	P	07 18 34.1	-0.5
FUR				pmax	pmax		
	comp=Z,375nm,2.1s,mb6.0						
FUR	Furstenfeldbru	65.83	46	eP	P	07 18 34.1	-0.5
	comp=Z,375nm,2.1s,mb6.0						
MOTA	Moosalm	65.83	47⇑	iP	P	07 18 34.5	-0.1
	comp=Z,179nm,1.6s,mb5.8						
SQTA	Sankt Quirin	65.92	47⇑	iP	P	07 18 35.3	+0.1
	comp=Z,118nm,1.4s,mb5.7						
PMR	Palmer	65.93	329	eP	P	07 18 34.0	-1.0
	comp=Z,104nm,1.2s,mb5.7						
PMR				LR	LR		
	comp=Z,4µm,19.0s,MS5.7						
GSCL	Gusciola	65.94	50	eP	P	07 18 35.9	+0.5
BDI	Bagni Di Lucca	65.99	51⇑	iP	P	07 18 33.6	-2.1
WATA	Walderalm	66.15	47⇑	iP	P	07 18 36.2	-0.5
	comp=Z,141nm,1.8s,mb5.7						
WTTA	Wattenberg	66.20	47⇑	iP	P	07 18 36.9	-0.1
	comp=Z,387nm,2.4s,mb6.0						
ZCCA	Zocca	66.21	50⇑	iP	P	07 18 36.7	-0.4
NKC	Novy Kostel	66.29	44⇑	iP	P	07 18 37.2	-0.3
NKC				LR		07 46 10.0	
	comp=Z,1.6nm,17.8s						
FNVD	Fontana Vidola	66.34	50⇑	iP	P	07 18 37.0	-0.9
CTI	Castel Tesino	66.40	48⇑	iP	P	07 18 37.3	-1.0
GRFL	Gerfalco	66.42	52⇑	iP	P	07 18 37.7	-0.8
FIB	Fire Island	66.47	328	PFAKE		07 18 50.0	+12

FIB				LR	LR		
	comp=Z,3µm,19.0s,MS5.5						
CLL	**Collm**	**66.49**	**42**	⇑P	**P**	**07 18 38.5**	**-0.3**
	comp=Z,logA/T=1.7,mb5.5						
CLL				*i* *PP	pP	07 18 42.6	+0.7
CLL				*e*		07 18 54.0	
CLL				*e*PCP	PcP	07 19 08.0	-0.3
CLL				*e*S	S	07 27 30.0	+2.2
CLL				*e*PS	PS	07 27 55.0	+3.9
CLL				*e*SS	SS	07 31 49.0	+2.7
CLL				*e*SSS	SSS	07 34 54.0	+12
CLL	**Collm**	**66.49**	**42**	⇑*i*P	**P**	**07 18 38.5**	**-0.3**
CLL				*i*	pP	07 18 42.6	+0.7
CLL				*e*S	S	07 27 30.0	+2.2
CLL				pmax	pmax		
	comp=Z,55nm,1.0s,mb5.5						
CLL				MLR	MLR		
	comp=Z,2µm,17.9s,MS5.3						
CLL	**Collm**	**66.49**	**42**	⇑*i*P	**P**	**07 18 38.5**	**-0.3**
	comp=Z,55nm,1.0s,mb5.5						
CLL				*i*	pP	07 18 42.6	+0.7
CLL				*e*S	S	07 27 30.0	+2.2
CLL				LR	LR		
	comp=Z,2µm,17.9s,MS5.3						
VMG	**Vicchio**	**66.68**	**51**	*e*P	**P**	**07 18 40.2**	**+0.1**
WET	**Wettzell**	**66.73**	**45**	*e*P	**P**	**07 18 40.0**	**-0.4**
WET				pmax	pmax		
	comp=Z,65nm,1.1s,mb5.6						
WET	**Wettzell**	**66.73**	**45**	*e*P	**P**	**07 18 40.0**	**-0.4**
	comp=Z,65nm,1.1s,mb5.6						
RUE	**Ruedersdorf**	**66.80**	**41**	*e*P	**P**	**07 18 40.3**	**-0.5**
	comp=Z,21nm,0.8s,mb5.2						
PGD	**Poggio Sodo**	**66.82**	**51**	*e*P	**P**	**07 18 39.8**	**-1.2**
BJO	**Bjornoya**	**67.02**	**17**	*e*P	**P**	**07 18 39.6**	**-2.2**
BJO				*e*S	S	07 27 34.4	+0.5
BJO				AMS	AMS	07 45 09.6	
	comp=Z,483nm,18.6s,MS4.8						
FVI	**Forni Avoltri**	**67.08**	**48**	⇑*i*P	**P**	**07 18 41.7**	**-1.0**
BSD	**Bornholm Skovb**	**67.10**	**38**	⇑*i*P	**P**	**07 18 42.3**	**-0.3**
	comp=Z,73nm,0.6s,mb5.9						
BSD				*i* S	S	07 27 37.8	+2.6
BSD				*i*		07 32 03.1	
	comp=Z,990nm,18.0s						
BRG	**Berggiesshubel**	**67.14**	**43**	⇑*i*P	**P**	**07 18 42.7**	**-0.3**
BRG				*i*		07 18 48.3	
BRG				*e*		07 19 11.6	
BRG				*e*		07 21 13.0	
BRG				*e*S	S	07 27 37.0	+1.3
BRG				pmax	pmax		
	comp=Z,54nm,1.0s,mb5.5						
BRG				MLR	MLR		
	comp=Z,2µm,15.4s,MS5.5						
BRG				MLR	MLR		
	comp=N,550nm,18.0s,MS5.3						
BRG				MLR	MLR		
	comp=E,2µm,18.0s,MS5.3						
BRG	**Berggiesshubel**	**67.14**	**43**	⇑*i*P	**P**	**07 18 42.7**	**-0.3**
	comp=E,54nm,1.0s,mb5.5						
BRG				*i*		07 18 48.3	
BRG				*e*		07 19 11.6	
BRG				*e*		07 21 13.0	
BRG				*e*S	S	07 27 37.0	+1.3
BRG				P’P’		07 47 12.4	
BRG				LR	LR		
	comp=Z,2µm,15.4s,MS5.5						
KHC	**Kasperske Hory**	**67.19**	**45**	⇑*i*P	**P**	**07 18 43.0**	**-0.3**
KHC				*e*pP	pP	07 18 48.5	+2.1
KHC				LR		07 44 30.0	
	comp=Z,2.8nm,18.0s						
TRO	**Tromso**	**67.31**	**22**	*e*P	**P**	**07 18 42.7**	**-1.0**
TRO				*e*S	S	07 27 38.0	+0.6
TRO				*e*SS	SS	07 31 58.1	-0.6
TRO				AMS	AMS	07 43 49.6	
	comp=Z,535nm,19.0s,MS4.8						
GEC2	**GERESS Array S**	**67.31**	**45**	*e*P	**P**	**07 18 43.5**	**-0.6**
GEC2				pmax	pmax		
	comp=Z,53nm,1.0s,mb5.5						
GEC2	**GERESS Array S**	**67.31**	**45**	*e*P	**P**	**07 18 43.5**	**-0.6**
	comp=Z,53nm,1.0s,mb5.5						
GERES	**GERESS Array B**	**67.31**	**45**	P	**P**	**07 18 43.8**	**-0.3**
	comp=Z,19nm,0.8s,mb5.2,baz=270,slow=6.7,SNR=120						
GERES				PKPPKP		07 47 08.3	
	comp=Z,1.1nm,0.9s,baz=135,slow=1.9,SNR=6.5						
KBA	**Koelnbreinsper**	**67.38**	**47**	⇑*i*P	**P**	**07 18 43.9**	**-0.6**
	comp=Z,592nm,4.4s						
GMNA	**Gemona**	**67.45**	**48**	⇑*i*P	**P**	**07 18 43.6**	**-1.4**
PTCC	**Patocco-Chiusa**	**67.50**	**48**	⇑*i*P	**P**	**07 18 44.2**	**-1.1**
IMA	**Indian Mountai**	**67.52**	**334**	*e*P	**P**	**07 18 45.0**	**-0.1**
	comp=Z,168nm,0.6s,mb6.2						
PVCC	**Panska Ves**	**67.59**	**43**	⇑*i*P	**P**	**07 18 45.6**	**-0.2**
PVCC				*e*pP	pP	07 18 49.8	+0.9
PVCC				LR		07 47 00.0	
	comp=Z,1.5nm,18.4s						
ROBS	**Robic**	**67.64**	**48**	⇑*e*P	**P**	**07 18 44.5**	**-1.6**
ROBS				*e*		07 18 50.2	
PRU	**Pruhonice**	**67.66**	**44**	⇑*i*P	**P**	**07 18 46.0**	**-0.3**
	comp=Z,120nm,1.6s,mb5.7						
PRU				*e*pP	pP	07 18 50.9	+1.5
PRU				L		07 47 20.0	
PRU	**Pruhonice**	**67.66**	**44**	⇑*i*P	**P**	**07 18 46.0**	**-0.3**
PRU				*e**PP	pP	07 18 50.9	+1.5
PRU				pmax	pmax		
	comp=Z,120nm,1.6s,mb5.7						
MNS	**Montasola**	**67.79**	**52**	⇑*i*P	**P**	**07 18 46.0**	**-1.2**
MOA	**Molln**	**67.86**	**46**	⇑*i*P	**P**	**07 18 46.9**	**-0.6**
	comp=Z,382nm,2.6s,mb6.0						
TRI	**Trieste**	**67.91**	**48**	⇑*i*P	**P**	**07 18 47.4**	**-0.5**
VOY	**Vojsko**	**67.94**	**48**	*e*P	**P**	**07 18 47.6**	**-0.5**
OBKA	**Obir**	**68.30**	**47**	⇓*i*P	**P**	**07 18 49.6**	**-0.7**
	comp=Z,350nm,2.4s,mb6.0						
AQU	**L’Aquila**	**68.32**	**52**	P	**P**	**07 18 50.1**	**-0.4**
AQU				pmax	pmax		
	comp=Z,31nm,0.8s,mb5.4						
AQU	**L’Aquila**	**68.32**	**52**	*e*P	**P**	**07 18 49.8**	**-0.8**
	comp=Z,31nm,0.8s,mb5.4						
CEY	**Cerknica**	**68.36**	**48**	⇑*i*P	**P**	**07 18 50.6**	**-0.1**
CEY				*i*		07 18 55.9	
KNDS	**Knezji Dol**	**68.37**	**48**	⇑*i*P	**P**	**07 18 50.7**	**-0.1**
LJU	**Ljubljana**	**68.37**	**48**	⇑*e*P	**P**	**07 18 50.0**	**-0.7**
LJU				*e*		07 18 55.8	
LJU				*e*PcP	PcP	07 19 20.5	+4.2
LJU				*e*S	S	07 27 34.0	-17
PTQR	**Pietraquaria**	**68.39**	**52**	*e*P	**P**	**07 18 50.5**	**-0.4**
UPC	**Upice**	**68.50**	**43**	⇑*i*P	**P**	**07 18 51.2**	**-0.3**
UPC				*e*pP	pP	07 18 55.5	+0.9
KSP	**Ksiaz**	**68.62**	**43**	*e*P	**P**	**07 18 51.5**	**-0.7**
KSP				*e*pP	pP	07 18 55.0	-0.3
KSP				*e*S	S	07 27 45.0	-8.3
KSP				*e*SS	SS	07 32 17.0	-2.3
KSP				*e*SSS	SSS	07 35 27.0	+6.5
KSP				LR	LR		
	comp=Z,4µm,18.0s,MS5.7						
PERS	**Pernice**	**68.66**	**47**	⇑*i*P	**P**	**07 18 51.2**	**-1.3**
DPC	**Dobruska-Polom**	**68.73**	**43**	⇑*i*P	**P**	**07 18 52.8**	**-0.1**
DPC				*e*pP	pP	07 18 57.0	+1.0
DPC				LR		07 47 40.0	
	comp=Z,1.8nm,17.6s						
GKP	**Gorka Klasztor**	**68.75**	**40**	*e*P	**P**	**07 18 53.4**	**+0.5**
ARSA	**Arzberg**	**68.81**	**46**	⇑*i*P	**P**	**07 18 52.7**	**-0.7**
	comp=Z,256nm,2.4s,mb5.7						
KTK1	**Kautokeino**	**68.91**	**23**	⇑*i*P	**P**	**07 18 54.9**	**+1.2**
KTK1				AMb	AMB	07 18 56.1	
	comp=Z,241nm,0.8s,mb6.2						
KTK1	**Kautokeino**	**68.91**	**23**	⇑*i*P	**P**	**07 18 54.9**	**+1.2**
	comp=Z,253nm,0.7s,mb6.3						
TTA	**Tatalina**	**68.96**	**331**	*e*P	**P**	**07 18 52.5**	**-1.6**
	comp=Z,27nm,0.7s,mb5.3						
BOJS	**Bojanci**	**68.98**	**48**	⇑*e*P	**P**	**07 18 53.4**	**-1.1**
CII	**Carovilli**	**69.11**	**52**	*e*P	**P**	**07 18 55.0**	**-0.4**
	comp=Z,192nm,1.7s,mb5.8						
VKA	**Vienna**	**69.13**	**45**	⇑*i*P	**P**	**07 18 54.9**	**-0.5**
	comp=Z,299nm,2.0s,mb5.9						
SGG	**Gregorio Mates**	**69.24**	**53**	⇑*i*P	**P**	**07 18 55.9**	**-0.3**
ARCES	**ARCESS Array B**	**69.61**	**22**	P	**P**	**07 18 57.8**	**-0.1**
	comp=Z,102nm,0.6s,mb5.9,baz=280,slow=4.7,SNR=439						
ARE0	**ARCESS Array S**	**69.61**	**22**	*e*P	**P**	**07 18 57.8**	**-0.1**
MORC	**Moravsky Berou**	**69.61**	**44**	*e*P	**P**	**07 18 58.1**	**-0.2**
	comp=Z,28nm,0.8s,mb5.2						
ZST	**Bratislava**	**69.66**	**45**	*i* P	**P**	**07 18 58.5**	**-0.1**
ZST				*e*		07 19 04.0	
ZST				*e*		07 19 20.3	
SISC	**Sisak**	**69.75**	**48**	*i* P	**P**	**07 18 59.1**	**-0.1**
SMOL	**Smolenice**	**69.80**	**45**	*i* P	**P**	**07 18 59.5**	**0.0**
SMOL				*e*sP	sP	07 19 04.6	+0.9
RAC	**Raciborz**	**69.96**	**43**	*e*P	**P**	**07 18 59.5**	**-0.9**
RAC				*e*S	S	07 28 03.5	-5.7
RAC				LR	LR		
	comp=Z,4µm,18.6s,MS5.6						
OKC	**Ostrava-Krasne**	**69.98**	**43**	⇑*i*P	**P**	**07 19 00.5**	**0.0**
OKC				L		07 52 30.0	
KEV	**Kevo**	**70.07**	**22**	*e*p	**P**	**07 19 00.0**	**-0.8**
	comp=Z,5.7nm,0.4s,mb4.8						
KEV	**Kevo**	**70.07**	**22**	*e*P	**P**	**07 19 00.0**	**-0.8**
KEV				pmax	pmax		
	comp=Z,6.0nm,0.4s,mb4.9						
SGO	**Sicignano**	**70.12**	**54**	⇑*i*P	**P**	**07 19 01.2**	**-0.4**
MRLC	**Muro Lucano**	**70.20**	**53**	⇑*i*P	**P**	**07 19 01.2**	**-0.9**
SLNA	**Salina**	**70.24**	**56**	*e*P	**P**	**07 19 01.5**	**-0.8**
SLCN	**Sala Consilina**	**70.40**	**54**	⇑*i*P	**P**	**07 19 02.5**	**-0.8**
MGR	**Morigerati**	**70.40**	**54**	⇑*i*P	**P**	**07 19 03.1**	**-0.2**
KOLL	**Kolacno**	**70.42**	**45**	*i* P	**P**	**07 19 03.5**	**+0.3**
KOLL				*e*		07 19 08.9	
VYHS	**Vyhne**	**70.72**	**45**	*i* P	**P**	**07 19 05.3**	**+0.2**
VYHS				*e*		07 19 10.7	
RHK1	**Bakonya**	**70.77**	**47**	⇑*e*P	**P**	**07 19 05.5**	**+0.1**
AGST	**Augusta-Monte**	**70.87**	**57**	⇑*i*P	**P**	**07 19 05.8**	**-0.4**
OJC	**Ojcow**	**70.93**	**43**	*e*P	**P**	**07 19 06.5**	**+0.1**
OJC				*e*S	S	07 28 19.4	-1.2
OJC				*e*SS	SS	07 32 52.9	-2.5
OJC				LR	LR		
	comp=Z,3µm,17.7s,MS5.6						
PKS8	**Sarbogard**	**70.99**	**46**	⇑*i*P	**P**	**07 19 05.7**	**-1.1**
TIP	**Timpagrande**	**71.54**	**55**	⇑*e*P	**P**	**07 19 08.1**	**-2.1**
PSZ	**Piszkesteto**	**71.54**	**45**	*e*Pc		07 19 10.5	
PSZ	**Piszkesteto**	**71.54**	**45**	⇑*e*P	**P**	**07 19 10.5**	**+0.4**
KAF	**Kangasniemi**	**71.60**	**30**	*e*p	**P**	**07 19 09.4**	**-0.8**
	comp=Z,4.1nm,0.4s,mb4.7,baz=291,slow=5.4						
KAF	**Kangasniemi**	**71.60**	**30**	*e*P	**P**	**07 19 09.4**	**-0.8**
KAF				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.7						
FINES	**FINESS Array B**	**71.66**	**30**	P	**P**	**07 19 10.6**	**+0.1**
	comp=Z,29nm,0.6s,mb5.4,baz=270,slow=3.7,SNR=126						
FINES				LR	LR	07 47 35.4	
	comp=Z,635nm,19.2s,MS4.9,baz=104,slow=33						
KECS	**Kecovo**	**71.79**	**44**	*e*P	**P**	**07 19 11.7**	**+0.2**
KECS				*e*		07 19 17.2	
BRY	**Bratogost**	**71.89**	**50**	⇑*i*P	**P**	**07 19 12.1**	**-0.2**
HCY	**Herceg Novi**	**71.97**	**51**	⇑*i*P	**P**	**07 19 12.5**	**-0.2**
SUW	**Suwalki**	**72.04**	**38**	*e*P	**P**	**07 19 12.7**	**-0.2**
UPM	**Unac-Piva**	**72.07**	**50**	⇑*i*P	**P**	**07 19 12.9**	**-0.3**
HOPOS	**Hopovo Monaste**	**72.21**	**48**	⇑*i*P	**P**	**07 19 15.4**	**+1.3**
NKY	**Niksic**	**72.23**	**50**	⇑*i*P	**P**	**07 19 13.9**	**-0.3**
LCI	**Lecce**	**72.25**	**53**	*e*P	**P**	**07 19 14.3**	**-0.1**
BUM	**Brajici-Budva**	**72.30**	**51**	⇑*i*P	**P**	**07 19 15.0**	**+0.4**
CRVS	**Cervenica-Dubn**	**72.31**	**44**	*e*P	**P**	**07 19 16.0**	**+1.4**
PLE	**Pljevlja**	**72.37**	**50**	⇑*i*P	**P**	**07 19 15.4**	**+0.3**
TTG	**Podgorica**	**72.52**	**51**	⇑*i*P	**P**	**07 19 15.5**	**-0.5**
NVSS	**Nova Varos 2**	**72.54**	**50**	⇑*i*P	**P**	**07 19 17.2**	**+1.1**
DIVS	**Divcibare**	**72.59**	**49**	⇓*i*P	**P**	**07 19 16.8**	**+0.4**
ANM	**Nome**	**72.63**	**333**	*e*P	**P**	**07 19 15.9**	**-0.3**
ULC	**Ulcinj**	**72.64**	**51**	⇑*i*P	**P**	**07 19 16.5**	**-0.2**
BEO	**Belgrade**	**72.72**	**48**	⇑*i*P	**P**	**07 19 17.7**	**+0.6**
VSU	**Vasula**	**72.77**	**33**	⇑*i*P	**P**	**07 19 16.7**	**-0.4**
KOLS	**Kolonicke sedl**	**72.81**	**44**	*i* P	**P**	**07 19 18.2**	**+0.6**
IVA	**Berane**	**72.85**	**50**	⇑*i*P	**P**	**07 19 17.9**	**-0.1**
KWP	**Kalwaria**	**72.90**	**43**	*e*P	**P**	**07 19 19.2**	**+1.1**
UZH	**Uzhgorod**	**72.91**	**44**	*e*P	**P**	**07 19 09.0**	**-9.1**
APA	**Apatity**	**72.92**	**23**	⇓*i*P	**P**	**07 19 17.2**	**-0.6**
APA				*i*	pP	07 19 21.4	+0.4
APA				*i*		07 19 28.4	
APA				*i* S	S	07 28 50.0	+7.0
APA				*e*		07 29 22.0	
APA				*i* SS	SS	07 33 33.0	+7.1
APA				pmax	pmax		
	comp=Z,86nm,1.0s,mb5.6						
PVY	**Plav**	**72.98**	**50**	⇑*i*P	**P**	**07 19 18.9**	**+0.2**
GRUS	**Gruza**	**73.15**	**49**	⇑*i*P	**P**	**07 19 20.1**	**+0.5**
LVZ	**Lovozero**	**73.26**	**23**	*e*P	**P**	**07 19 18.6**	**-1.2**
LVZ				*e*		07 28 41.4	
LVZ				MLR	MLR		
	comp=Z,564nm,15.0s,MS5.0						
LVZ				MLR	MLR		
	comp=E,358nm,19.0s						
TNA	**Tin City**	**73.35**	**335**	*e*P	**P**	**07 19 20.0**	**-0.3**
	comp=E,67nm,0.7s,mb5.7						
TNA				LR	LR		
	comp=Z,1µm,19.0s,MS5.3						
SVIS	**Svilajnac**	**73.39**	**49**	⇑*i*P	**P**	**07 19 21.4**	**+0.3**
LVV	**L’vov**	**73.67**	**42**	*e*P	**P**	**07 19 23.0**	**+0.4**
LVV				*e*S	S	07 28 50.0	-1.8
OHR	**Ohrid**	**73.99**	**52**	⇑*i*P	**P**	**07 19 25.6**	**+1.0**
BOLS	**Boljevac**	**74.03**	**49**	⇓*i*P	**P**	**07 19 25.0**	**+0.2**
PUL	**Pulkovo**	**74.15**	**31**	*e*Pr		07 19 25.7	
DJES	**Djerdap**	**74.18**	**48**	⇑*i*P	**P**	**07 19 25.8**	**+0.1**
SKO	**Skopje**	**74.20**	**51**	⇑*i*P	**P**	**07 19 26.1**	**+0.3**
	comp=Z,0.0nm,0.8s						
BARS	**Barje**	**74.23**	**50**	⇑*i*P	**P**	**07 19 26.1**	**+0.2**
VAY	**Valandovo**	**75.20**	**51**	⇑*i*P	**P**	**07 19 31.9**	**+0.3**
VTS	**Vitosha**	**75.27**	**50**	*i* P	**P**	**07 19 32.0**	**+0.1**
KKB	**Krupnik**	**75.40**	**51**	*i* P	**P**	**07 19 33.0**	**+0.3**
MMB	**Musomiste**	**75.95**	**51**	*i* P	**P**	**07 19 36.0**	**+0.2**
PGB	**Panagyurishte**	**75.95**	**50**	*i* P	**P**	**07 19 36.0**	**+0.2**
MLR	**Muntele Rosu**	**76.23**	**46**	⇑*i*P	**P**	**07 19 39.1**	**+1.8**
MLR	**Muntele Rosu**	**76.23**	**46**	⇑*i*P	**P**	**07 19 39.1**	**+1.8**
AKASG	**Malin Array Be**	**76.56**	**40**	P	**P**	**07 19 38.2**	**-0.9**
	comp=Z,8.9nm,0.7s,mb4.8,baz=283,slow=5.1,SNR=13						
AKASG				LR	LR	07 53 06.4	
	comp=Z,1µm,18.0s,MS5.3,baz=275,slow=36						
RZN	**Rozhen**	**76.62**	**50**	*i* P	**P**	**07 19 40.0**	**+0.4**
VRI	**Vrincioaia**	**76.62**	**46**	⇑*i*P	**P**	**07 19 40.4**	**+0.9**
VRI	**Vrincioaia**	**76.62**	**46**	⇑*i*P	**P**	**07 19 40.4**	**+0.9**
BUC1	**Bucharest**	**76.66**	**47**	⇑*i*P	**P**	**07 19 39.9**	**+0.2**
BUC1	**Bucharest**	**76.66**	**47**	⇑*i*P	**P**	**07 19 39.9**	**+0.1**
UNV	**Unalaska Valle**	**76.69**	**323**	*e*P	**P**	**07 19 39.4**	**-0.4**
	comp=Z,344nm,1.1s,mb6.2						
UNV				LR	LR		
	comp=Z,5µm,19.0s,MS5.8						
KIS	**Kishinev**	**77.59**	**44**	*e*P	**P**	**07 19 44.0**	**-0.9**
KIS				*e*		07 19 54.0	
KIS				*e*S	S	07 30 06.0	+31
KIS				MLR	MLR		
	comp=Z,2µm,17.0s,MS5.4						
KIS				MLR	MLR		
	comp=E,1µm,18.0s						
KIS				MLR	MLR		
	comp=Z,1µm,18.0s						
HARR	**Harsova**	**77.82**	**47**	⇑*i*P	**P**	**07 19 45.3**	**-0.9**
HARR	**Harsova**	**77.82**	**47**	⇑*i*P	**P**	**07 19 45.3**	**-0.8**
PRD	**Provadia**	**77.98**	**48**	*i* P	**P**	**07 19 48.0**	**+0.9**
OBN	**Obninsk**	**79.01**	**35**	P	**P**	**07 19 52.1**	**-0.4**
	comp=Z,798nm,1.1s,mb6.6,SNR=18						
OBN	**Obninsk**	**79.01**	**35**	α*i*P	**P**	**07 19 52.7**	**+0.2**
OBN				*i*	pP	07 19 56.6	+1.0
OBN				*e*		07 20 04.8	
OBN				*e*		07 22 59.7	
OBN				*e*S	S	07 29 49.4	-0.6
OBN				*i* PS	PS	07 30 34.5	-0.1
OBN				*i* SS	SS	07 35 00.9	+2.5
OBN				pmax	pmax		
	comp=Z,276nm,1.8s,mb5.9						
OBN				pmax	pmax		
	comp=Z,700nm,2.0s,mb6.2						
OBN	**Obninsk**	**79.01**	**35**	⇑*i*P	**P**	**07 19 52.7**	**+0.2**
OBN				LR	LR		
	comp=Z,2µm,23.0s,MS5.3						
MOS	**Moscow**	**79.29**	**34**	⇑*i*P	**P**	**07 19 54.5**	**+0.5**
MOS				*e*		07 20 01.1	
MOS				*e*S	S	07 29 52.9	0.0
MOS				*e*SS	SS	07 35 10.0	+7.4
MOS				pmax	pmax		
	comp=Z,192nm,1.9s,mb5.7						
IZM	**Izmir**	**79.58**	**53**	*e*P	**P**	**07 19 56.6**	**+0.7**
IZM	**Izmir**	**79.58**	**53**	P	**P**	**07 19 56.6**	**+0.7**
AKS	**Akhisar**	**79.81**	**52**	*i* P	**P**	**07 19 57.5**	**+0.3**
AKS	**Akhisar**	**79.81**	**52**	P	**P**	**07 19 57.5**	**+0.3**
ISK	**Istanbul-Kandi**	**79.90**	**50**	*e*P	**P**	**07 19 57.8**	**+0.2**
ULDT	**Uludag**	**80.30**	**51**	*i* P	**P**	**07 20 00.3**	**+0.6**
YLV	**Yalova**	**80.30**	**50**	*e*P	**P**	**07 19 59.5**	**-0.3**
EYL	**Eskiyayla**	**80.86**	**50**	*e*P	**P**	**07 19 57.3**	**-5.4**
EYL	**Eskiyayla**	**80.86**	**50**	P	**P**	**07 19 57.3**	**-5.4**
HENT	**Hendek**	**81.28**	**49**	*i* P	**P**	**07 19 59.0**	**-5.9**
ALT	**Altintas**	**81.40**	**51**	*i* P	**P**	**07 20 06.4**	**+0.8**
ALT	**Altintas**	**81.40**	**51**	P	**P**	**07 20 06.4**	**+0.8**
MDU	**Mudurnu**	**81.64**	**50**	P	**P**	**07 20 07.2**	**+0.4**
MDU	**Mudurnu**	**81.64**	**50**	P	**P**	**07 20 07.2**	**+0.4**
ESKT	**Eskisehir**	**81.75**	**51**	*i* P	**P**	**07 20 08.3**	**+0.9**
ESKT	**Eskisehir**	**81.75**	**51**	P	**P**	**07 20 08.3**	**+0.9**
ESKT	**Eskisehir**	**81.75**	**51**	P	**P**	**07 20 08.3**	**+0.9**
SIM	**Simferopol’**	**81.79**	**45**	⇑*e*P	**P**	**07 20 09.3**	**+1.8**
SIM				*e*		07 23 14.0	
SIM				*e*S	S	07 30 24.0	+4.8
SIM				*e*PS	PS	07 31 13.0	+3.7
SIM				pmax	pmax		
	comp=Z,38nm,0.9s,mb5.3						
SIM				MLR	MLR		
	comp=Z,1µm,15.0s,MS5.3						
VOR	**Voronezh**	**81.90**	**37**	*e*P	**P**	**07 20 07.8**	**-0.1**
VOR				pmax	pmax		
	comp=N,200nm,1.8s						
VOR				pmax	pmax		
	comp=Z,200nm,1.8s,mb5.8						
VOR				pmax	pmax		
	comp=E,130nm,1.6s						
ELL	**Elmali**	**82.15**	**54**	*i* P	**P**	**07 20 10.9**	**+1.4**
ELL	**Elmali**	**82.15**	**54**	P	**P**	**07 20 10.9**	**+1.4**
ISP	**Isparta**	**82.16**	**52**	*e*P	**P**	**07 20 10.2**	**+0.7**
ISP	**Isparta**	**82.16**	**52**	P	**P**	**07 20 10.2**	**+0.6**
SGKT	**Sivrigoynuk**	**82.19**	**49**	*i* P	**P**	**07 20 10.8**	**+1.2**
SAFT	**Safranbolu**	**82.36**	**48**	*i* P	**P**	**07 20 10.7**	**+0.2**
SAFT	**Safranbolu**	**82.36**	**48**	P	**P**	**07 20 10.7**	**+0.2**
BALT	**Daday**	**82.71**	**48**	*i* P	**P**	**07 20 13.3**	**+0.9**
KIZT	**Kizilcal**	**82.74**	**51**	*i* P	**P**	**07 20 13.5**	**+1.0**
KIZT	**Kizilcal**	**82.74**	**51**	P	**P**	**07 20 13.5**	**+1.0**
BZK	**Bozkurt**	**82.96**	**47**	*e*P	**P**	**07 20 08.3**	**-5.3**
BZK	**Bozkurt**	**82.96**	**47**	P	**P**	**07 20 08.3**	**-5.3**
LOD	**Lodumlu**	**82.96**	**50**	*i* P	**P**	**07 20 14.6**	**+1.0**
ANTO	**Ankara**	**82.99**	**50**	*i* P	**P**	**07 20 14.6**	**+0.8**
ELDT	**Eldivan**	**83.17**	**49**	*i* P	**P**	**07 20 15.8**	**+1.1**
CANT	**Cankiri**	**83.26**	**49**	P	**P**	**07 20 16.4**	**+1.2**
CANT	**Cankiri**	**83.26**	**49**	P	**P**	**07 20 16.4**	**+1.2**
TOS	**Tosya**	**83.36**	**48**	*e*P	**P**	**07 20 15.7**	**0.0**
TOS	**Tosya**	**83.36**	**48**	P	**P**	**07 20 15.7**	**0.0**
KONT	**Konya--Tatoy**	**83.47**	**52**	*i* P	**P**	**07 20 17.5**	**+1.2**
BRTR	**Keskin Array B**	**83.64**	**50**	P	**P**	**07 20 17.9**	**+0.7**
	comp=E,34nm,0.8s,mb5.5,baz=281,slow=4.0,SNR=111						
BRTR				PKKPbc		07 38 33.9	
	comp=E,2.6nm,1.0s,baz=158,slow=6.7,SNR=5.6						
BYBT	**Boyabat**	**83.68**	**48**	P	**P**	**07 20 19.1**	**+1.8**
BOYT	**Boyabat**	**83.80**	**48**	*i* P	**P**	**07 20 19.3**	**+1.4**
KAMT	**Kaman**	**83.84**	**50**	*i* P	**P**	**07 20 19.1**	**+0.9**
HDMB	**Hadim**	**83.96**	**52**	*e*P	**P**	**07 20 18.0**	**-0.8**
HDMB	**Hadim**	**83.96**	**52**	P	**P**	**07 20 18.0**	**-0.9**
ANN	**Anapa**	**83.98**	**44**	*c* *i*P	**P**	**07 20 19.0**	**+0.2**
ANN				*e*S	S	07 30 35.9	-5.5
ANN				pmax	pmax		
	comp=Z,66nm,0.8s,mb5.8						
ANN				MLR	MLR		
	comp=N,1µm,18.0s,MS5.5						
ANN				MLR	MLR		
	comp=Z,2µm,18.0s,MS5.5						
ANN				MLR	MLR		
	comp=E,1µm,17.0s,MS5.5						
ANN	**Anapa**	**83.98**	**44**	*e*P	**P**	**07 20 19.0**	**+0.2**
CTKT	**Corum**	**84.06**	**48**	*i* P	**P**	**07 20 20.3**	**+1.1**
KVT	**Kavak**	**84.72**	**48**	*e*P	**P**	**07 20 23.4**	**+0.9**
KVT	**Kavak**	**84.72**	**48**	P	**P**	**07 20 23.4**	**+0.9**
TIXI	**Tiksi**	**84.78**	**355**	⇑*e*P	**P**	**07 20 22.1**	**0.0**
TIXI				*e*	pP	07 20 25.5	+0.2
TIXI				*e*		07 23 38.0	
TIXI				*e*S	S	07 30 39.2	-9.4
TIXI				pmax	pmax		
	comp=Z,25nm,0.9s,mb5.3						
TIXI				MLR	MLR		
	comp=Z,800nm,21.0s,MS5.1						
TIXI	**Tiksi**	**84.78**	**355**	⇑*e*P	**P**	**07 20 22.2**	**+0.1**
TIXI				LR	LR		
	comp=Z,842nm,21.0s,MS5.1						
NIG	**Nigde**	**85.01**	**51**	*i* P	**P**	**07 20 24.8**	**+0.7**
NIG	**Nigde**	**85.01**	**51**	P	**P**	**07 20 24.8**	**+0.8**
LEF	**Lefka**	**85.02**	**54**	*i* P	**P**	**07 20 24.4**	**+0.2**
LEF	**Lefka**	**85.02**	**54**	P	**P**	**07 20 24.4**	**+0.2**
TOKT	**Tokat**	**85.40**	**48**	*e*P	**P**	**07 20 26.5**	**+0.6**
TOKT	**Tokat**	**85.40**	**48**	P	**P**	**07 20 26.5**	**+0.6**
CSS	**Prodhromos**	**85.41**	**54**	*e*P	**P**	**07 20 26.7**	**+0.5**
	comp=Z,62nm,1.1s,mb5.7						
BNN	**Bunyan**	**85.56**	**50**	P	**P**	**07 20 28.2**	**+1.4**
BNN	**Bunyan**	**85.56**	**50**	P	**P**	**07 20 28.1**	**+1.4**
SVSK	**Karacayir**	**85.89**	**48**	*e*P	**P**	**07 20 29.1**	**+0.7**
SVSK	**Karacayir**	**85.89**	**48**	P	**P**	**07 20 29.1**	**+0.7**
SOC	**Sochi**	**86.00**	**44**	*e*P	**P**	**07 20 30.5**	**+1.6**
SOC				*e*	pP	07 20 33.6	+1.5
SOC				*e*		07 23 51.2	
SOC				*e*PPP	PPP	07 25 44.2	-3.3
SOC				*e*S	S	07 30 55.5	-5.7
SOC				*e*SS	SS	07 36 38.9	-3.7
SOC				pmax	pmax		
	comp=Z,152nm,0.9s,mb6.2						
SOC				pmax	pmax		
	comp=N,19nm,0.7s						
SOC				pmax	pmax		
	comp=E,37nm,0.7s						
SOC				MLR	MLR		
	comp=Z,517nm,18.0s,MS5.0						
SOC				MLR	MLR		
	comp=N,541nm,19.0s,MS5.1						
SOC				MLR	MLR		
	comp=E,552nm,20.0s,MS5.1						
COBT	**Iskenderun**	**86.88**	**52**	*i* P	**P**	**07 20 34.6**	**+1.2**
GAZ	**Gaziantep**	**87.28**	**51**	P	**P**	**07 20 36.8**	**+1.5**
GAZ	**Gaziantep**	**87.28**	**51**	P	**P**	**07 20 36.8**	**+1.5**
GUMT	**Gumushane**	**87.32**	**47**	*i* P	**P**	**07 20 36.4**	**+1.0**
GUMT	**Gumushane**	**87.32**	**47**	P	**P**	**07 20 36.4**	**+1.0**
GOF	**Gofitskoye**	**87.36**	**42**	⇓*i*P	**P**	**07 20 37.0**	**+1.5**
GOF				pmax	pmax		
	comp=Z,92nm,1.6s,mb5.8						
GZT	**Gaziantep**	**87.44**	**50**	*i* P	**P**	**07 20 37.4**	**+1.4**
SMY	**Shemya**	**87.44**	**328**	PFAKE		07 20 50.0	+14
SMY				LR	LR		
	comp=Z,3µm,20.0s,MS5.7						
MYA	**Malataya**	**87.60**	**49**	*i* P	**P**	**07 20 38.6**	**+1.8**
MYA	**Malataya**	**87.60**	**49**	P	**P**	**07 20 38.6**	**+1.8**
HNTI	**Hanita**	**87.60**	**55**	P	**P**	**07 20 38.1**	**+1.2**
HNTI	**Hanita**	**87.60**	**55**	⇑P	**P**	**07 20 38.1**	**+1.2**
MALT	**Malatya**	**87.61**	**49**	*e*P	**P**	**07 20 38.3**	**+1.4**
	comp=Z,179nm,1.4s,mb6.1						
HAF	**Haifa**	**87.62**	**55**	P	**P**	**07 20 37.9**	**+0.9**
HAF	**Haifa**	**87.62**	**55**	⇑P	**P**	**07 20 37.9**	**+0.9**
OFRI	**‘Ofer**	**87.66**	**56**	P	**P**	**07 20 38.1**	**+0.9**
OFRI	**‘Ofer**	**87.66**	**56**	⇑P	**P**	**07 20 38.1**	**+0.9**
FX1	**Attu Island--F**	**87.81**	**328**	P	**P**	**07 20 36.9**	**-0.5**
	comp=Z,26nm,0.6s,mb5.7,baz=328,slow=18,SNR=15						
FX1	**Attu Island--F**	**87.81**	**328**	*e*P	**P**	**07 20 36.6**	**-0.8**
SLTI	**Sal’it**	**87.87**	**56**	P	**P**	**07 20 39.9**	**+1.7**
SLTI	**Sal’it**	**87.87**	**56**	⇑P	**P**	**07 20 39.9**	**+1.7**
EZC	**Erzincan**	**87.89**	**47**	*i* P	**P**	**07 20 38.7**	**+0.6**
EZC	**Erzincan**	**87.89**	**47**	P	**P**	**07 20 38.6**	**+0.5**
ELZG	**Elazig**	**87.91**	**49**	*i* P	**P**	**07 20 40.4**	**+2.1**
HRI	**Mount Hermon**	**87.94**	**55**	P	**P**	**07 20 39.8**	**+1.2**
HRI	**Mount Hermon**	**87.94**	**55**	⇑P	**P**	**07 20 39.8**	**+1.2**
KZIT	**Kziot**	**87.95**	**57**	P	**P**	**07 20 40.1**	**+1.4**
KZIT	**Kziot**	**87.95**	**57**	⇑P	**P**	**07 20 40.1**	**+1.4**
PTK	**Pertek**	**88.00**	**48**	*i* P	**P**	**07 20 40.9**	**+2.2**
MMLI	**Mount Malkishu**	**88.07**	**56**	P	**P**	**07 20 40.8**	**+1.6**
MMLI	**Mount Malkishu**	**88.07**	**56**	⇑P	**P**	**07 20 40.8**	**+1.6**
RTMM	**Retamin**	**88.11**	**57**	P	**P**	**07 20 40.7**	**+1.3**
KSHT	**Keshet**	**88.13**	**55**	P	**P**	**07 20 40.8**	**+1.4**
KSHT	**Keshet**	**88.13**	**55**	⇑P	**P**	**07 20 40.8**	**+1.4**
MASH	**Mash‘abbe Sade**	**88.22**	**57**	P	**P**	**07 20 41.2**	**+1.3**
MASH	**Mash‘abbe Sade**	**88.22**	**57**	⇑P	**P**	**07 20 41.2**	**+1.3**
HMDT	**Nahal Hemdat**	**88.23**	**56**	P	**P**	**07 20 41.2**	**+1.2**
HMDT	**Nahal Hemdat**	**88.23**	**56**	⇑P	**P**	**07 20 41.2**	**+1.2**
DRGI	**Dragot**	**88.42**	**56**	P	**P**	**07 20 42.2**	**+1.3**
DRGI	**Dragot**	**88.42**	**56**	⇑P	**P**	**07 20 42.2**	**+1.3**
MZDA	**Masada**	**88.52**	**57**	P	**P**	**07 20 42.6**	**+1.2**
MZDA	**Masada**	**88.52**	**57**	⇑P	**P**	**07 20 42.6**	**+1.2**
KMTI	**Karmit**	**88.56**	**58**	P	**P**	**07 20 42.7**	**+1.1**
KMTI	**Karmit**	**88.56**	**58**	⇑P	**P**	**07 20 42.7**	**+1.1**
SEY	**Seymchan**	**88.58**	**343**	*e*P	**P**	**07 20 41.7**	**+0.8**
SEY				*e*	pP	07 20 45.8	+1.7
SEY				*e*		07 31 02.9	
SEY				*e*		07 37 24.5	
SEY				pmax	pmax		
	comp=Z,180nm,0.9s,mb6.4						
SEY				pmax	pmax		
	comp=E,50nm,1.0s						
ARU	**Arti**	**88.66**	**27**	⇑*i*P	**P**	**07 20 42.2**	**+0.8**
ARU				*e*		07 24 12.4	
ARU				*e*S	S	07 31 04.5	-21

ARU				*e*PS	PS	07 32 37.0	+3.6
ARU				*e*SS	SS	07 37 18.7	-1.8
ARU				pmax	pmax		
	comp=Z,53nm,2.0s,mb5.5						
ARU				MLR	MLR		
	comp=Z,500nm,17.0s,MS5.0						
ARU				MLR	MLR		
	comp=N,400nm,16.5s,MS5.1						
ARU				MLR	MLR		
	comp=E,400nm,17.0s,MS5.1						
PRNI	**Paran**	**88.67**	**58**	P	**P**	**07 20 43.6**	**+1.5**
PRNI	**Paran**	**88.67**	**58**	⇑P	**P**	**07 20 43.6**	**+1.5**
ZFRI	**Zfri**	**88.71**	**57**	P	**P**	**07 20 43.5**	**+1.2**
ZFRI	**Zfri**	**88.71**	**57**	⇑P	**P**	**07 20 43.5**	**+1.2**
MBH	**Mount Berech**	**88.84**	**58**	P	**P**	**07 20 44.3**	**+1.4**
MBH	**Mount Berech**	**88.84**	**58**	⇑P	**P**	**07 20 44.3**	**+1.4**
EZM	**Erzurum**	**88.85**	**47**	*i* P	**P**	**07 20 45.5**	**+2.7**
ERZM	**Erzurum**	**88.86**	**47**	*i* P	**P**	**07 20 45.6**	**+2.8**
EIL	**Elat**	**88.92**	**58**	P	**P**	**07 20 44.8**	**+1.5**
EIL	**Elat**	**88.92**	**58**	⇑P	**P**	**07 20 44.8**	**+1.5**
AQBJ	**Aqaba**	**88.97**	**58**	P	**P**	**07 20 45.0**	**+1.4**
ZEI	**Tsey**	**89.06**	**43**	*c* *i*P	**P**	**07 20 44.0**	**+0.3**
ZEI				*e*		07 24 14.0	
ZEI				*e*		07 31 11.0	
ZEI				*e*S	S	07 31 26.0	-4.0
ZEI				*e*PS	PS	07 32 35.0	-3.5
ZEI				*i* SS	SS	07 37 30.0	+3.4
ZEI				pmax	pmax		
	comp=Z,400nm,8.0s						
ZEI				MLR	MLR		
	comp=Z,1μm,17.0s,MS5.3						
HAQS	**Haql**	**89.17**	**59**	P	**P**	**07 20 46.2**	**+1.7**
SVE	**Sverdlovsk**	**89.23**	**26**	⇑*i*P	**P**	**07 20 44.2**	**+0.1**
SVE				*e*PS	S	07 31 33.0	+1.8
SVE				pmax	pmax		
	comp=Z,160nm,2.2s,mb6.0						
JMOS	**Jabal al Moall**	**89.27**	**59**	P	**P**	**07 20 46.5**	**+1.5**
ASF	**Jabal al Asfar**	**89.31**	**55**	P	**P**	**07 20 46.8**	**+1.7**
	comp=Z,28nm,1.0s,mb5.5,baz=145,slow=2.0,SNR=46						
VRT	**Varto**	**89.35**	**47**	P	**P**	**07 20 48.2**	**+3.1**
VRT	**Varto**	**89.35**	**47**	P	**P**	**07 20 48.2**	**+3.1**
BDAS	**Al Bad‘**	**89.58**	**59**	P	**P**	**07 20 47.9**	**+1.4**
PPT	**Papeete**	**89.72**	**251**	*e*PP	PP	07 24 20.1	-1.7
PPT				*e*SS	SS	07 37 37.6	+0.6
PPT				*e*L		07 44 32.1	
PPT				*e*R		07 50 12.9	
	comp=Z,902nm,30.2s,baz=60						
AYUS	**‘Aynunah**	**89.82**	**59**	P	**P**	**07 20 48.9**	**+1.3**
JMQS	**Jabal Moqyreh**	**90.00**	**59**	P	**P**	**07 20 49.8**	**+1.4**
TI2	**Plekhanov**	**90.14**	**44**	*i* P	**P**	**07 20 50.0**	**+1.2**
TI2				*e*		07 31 20.0	
TI2				MLR	MLR		
	comp=N,1μm,16.0s						
DBAS	**Duba**	**90.82**	**60**	P	**P**	**07 20 54.0**	**+1.8**
VANB	**Van**	**90.87**	**47**	*e*P	**P**	**07 20 54.1**	**+1.9**
VANB	**Van**	**90.87**	**47**	P	**P**	**07 20 54.1**	**+1.9**
MAK	**Makhachkala**	**91.20**	**42**	*e*P	**P**	**07 20 49.0**	**-4.6**
MAK				*e*		07 24 30.0	
MAK				*i* PS	S	07 31 56.0	+6.7
MAK				pmax	pmax		
	comp=Z,1μm,8.0s						
MAK				pmax	pmax		
	comp=Z,1μm,8.0s						
MAK				MLR	MLR		
	comp=N,2μm,17.0s,MS5.7						
MAK				MLR	MLR		
	comp=E,2μm,17.0s,MS5.7						
MAK				MLR	MLR		
	comp=Z,1μm,17.0s,MS5.4						
MA2	**Magadan**	**91.78**	**342**	*e*P	**P**	**07 20 56.3**	**+0.5**
MA2				*e*		07 24 37.5	
MA2				*e*S	S	07 31 53.9	-0.1
MA2				*e*PS	PS	07 33 08.8	-0.9
MA2				*e*SS	SS	07 38 11.7	+6.6
MA2				pmax	pmax		
	comp=Z,30nm,0.8s,mb5.7						
MA2				MLR	MLR		
	comp=Z,2μm,24.0s,MS5.5						
MA2	**Magadan**	**91.78**	**342**	*e*P	**P**	**07 20 56.6**	**+0.7**
	comp=Z,39nm,0.8s,mb5.8						
MA2				LR	LR		
	comp=Z,1μm,19.0s,MS5.4						
TBI	**Tubuai**	**91.99**	**246**	*e*SP	SP	07 33 14.1	+2.5
TBI				*e*SS	SS	07 38 01.3	-7.6
TBI				*e*R		07 50 57.0	
	comp=Z,784nm,35.0s,baz=61						
UMJS	**Umm Lajj**	**92.78**	**61**	P	**P**	**07 21 03.2**	**+1.9**
TSUM	**Tsumeb**	**93.11**	**109**	*e*P	**P**	**07 21 03.1**	**+0.2**
	comp=Z,81nm,1.6s,mb5.9						
TSUM				LR	LR		
	comp=Z,951nm,19.0s,MS5.3						
YNBS	**Yanbu‘ al Bahr**	**93.73**	**62**	P	**P**	**07 21 07.6**	**+1.9**
YAK	**Yakutsk**	**94.00**	**352**	*e*P	**P**	**07 21 06.2**	**+0.2**
YAK				*e*		07 25 00.7	
YAK				*e*S	S	07 32 13.5	+0.1
YAK				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.5						
YAK				pmax	pmax		
	comp=N,7.0nm,1.3s						
YAK				pmax	pmax		
	comp=E,2.0nm,1.0s						
YAK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.9						
YAK				pmax	pmax		
	comp=N,4.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.1s						
YAK				smax			
	comp=N,84nm,10.2s						
YAK				smax			
	comp=Z,278nm,29.2s						
YAK				smax			
	comp=E,85nm,9.6s						
YAK	**Yakutsk**	**94.00**	**352**	⇑*i*P	**P**	**07 21 06.1**	**+0.1**
YAK				LR	LR		
	comp=Z,943nm,19.0s,MS5.3						
KBRS	**Khaybar**	**94.08**	**60**	P	**P**	**07 21 08.6**	**+1.3**
PET	**Petropavlovsk**	**94.20**	**334**	*e*P	**P**	**07 21 13.7**	**+6.6**
PET				*e*		07 24 57.7	
PET				*e*		07 31 47.3	
PET				*e*PS	PS	07 33 38.4	+1.7
PET				*e*SS	SS	07 38 46.2	+6.1
PET				pmax	pmax		
	comp=Z,100nm,16.0s						
PET				pmax	pmax		
	comp=Z,100nm,10.2s						
PET				MLR	MLR		
	comp=Z,900nm,21.0s,MS5.2						
PET				MLR	MLR		
	comp=Z,900nm,19.0s						
PET	**Petropavlovsk**	**94.20**	**334**	PFAKE		07 21 20.0	+13
PET				LR	LR		
	comp=Z,987nm,22.0s,MS5.2						
HILS	**Ha’il**	**95.31**	**57**	P	**P**	**07 21 14.2**	**+1.3**
BRVK	**Borovoye**	**95.76**	**24**	⇑*e*P	**P**	**07 21 14.9**	**+0.6**
BRVK				LR	LR		
	comp=Z,47nm,20.0s						
BVAR	**Borovoye Array**	**95.82**	**24**	P	**P**	**07 21 15.2**	**+0.6**
	comp=Z,1.7nm,0.4s,mb4.8,baz=333,slow=3.2,SNR=2.9						
BVAR				PKKPbc		07 38 02.3	
	comp=Z,1.9nm,0.8s,baz=225,slow=2.1,SNR=7.9						
ARSS	**Ar Rass**	**97.17**	**58**	P	**P**	**07 21 22.4**	**+1.0**
MBAR	**Mbarara**	**97.88**	**87**	PFAKE		07 21 40.0	+15
MBAR				LR	LR		
	comp=Z,120nm,19.0s,MS4.4						
RST	**Umm Al-Ruwaisa**	**98.17**	**53**	*e*P	**P**	**07 21 26.3**	**+0.5**
RST				AMb	AMB	07 21 27.6	
	comp=Z,20nm,0.8s,mb5.7						
MIB	**Mutribah**	**98.26**	**53**	*e*P	**P**	**07 21 27.1**	**+0.9**
MIB				AMb	AMB	07 21 28.5	
	comp=Z,40nm,0.8s,mb6.0						
KBD	**Kabd**	**98.86**	**53**	*e*P	**P**	**07 21 29.5**	**+0.6**
RDF	**Al-Radifah**	**98.89**	**53**	*e*P	**P**	**07 21 29.9**	**+0.9**
RDF				AMb	AMB	07 21 31.7	
	comp=Z,27nm,0.8s,mb5.8						
BOD	**Bodaibo**	**99.34**	**359**	*e*P	**P**	**07 21 29.4**	**-0.9**
MZLS	**Mizel**	**99.65**	**59**	P	**P**	**07 21 33.6**	**+1.0**
LSZ	**Lusaka**	**101.04**	**102**	PFAKE		07 21 50.0	+11
LSZ				LR	LR		
	comp=Z,766nm,20.0s,MS5.2						
VNA3	**Neumayer Olymp**	**102.22**	**164**	⇓*i*P	PP	07 25 54.4	-3.2
VNA3	**Neumayer Olymp**	**102.22**	**164**	*e*		07 26 02.3	
VNA1	**Neumayer--Stat**	**102.23**	**163**	⇓*i*P	PP	07 25 55.8	-1.9
VNA1	**Neumayer--Stat**	**102.23**	**163**	*e*		07 26 02.5	
VNA2	**Neumayer--Watz**	**102.63**	**163**	⇑*i*P	PP	07 25 57.6	-3.3
VNA2	**Neumayer--Watz**	**102.63**	**163**	*e*		07 26 04.5	
BOSA	**Boshof**	**103.07**	**116**	PFAKE		07 22 00.0	+12
BOSA				LR	LR		
	comp=Z,728nm,19.0s,MS5.2						
KMBO	**Kilima Mbogo**	**104.07**	**85**	PFAKE		07 22 00.0	+7.4
KMBO				LR	LR		
	comp=Z,2μm,19.0s,MS5.5						
SNAA	**Sanae**	**104.27**	**163**	⇑*i*P	PP	07 26 07.5	-5.5
SNAA	**Sanae**	**104.27**	**163**	*e*		07 26 14.3	
YSS	**Yuzh-Sakhalins**	**105.04**	**339**	P	Pdif	07 21 59.0	+2.9
YSS				*e*S	SKS	07 32 34.0	-5.7
YSS				*e*		07 35 29.0	
YSS				MLR	MLR		
	comp=Z,2μm,16.0s,MS5.7						
YSS				MLR	MLR		
	comp=N,600nm,18.0s						
YSS	**Yuzh-Sakhalins**	**105.04**	**339**	PFAKE		07 26 20.0	
YSS				LR	LR		
	comp=Z,660nm,22.0s,MS5.1						
MKAR	**Makanchi Array**	**105.25**	**21**	PKKPbc		07 37 35.2	
	comp=Z,1.8nm,1.1s,baz=180,slow=3.6,SNR=5.1						
SONM	**Songino Array**	**109.14**	**4**	Pdiff	Pdif	07 22 15.8	+1.6
	comp=Z,0.2nm,0.4s,baz=301,slow=22,SNR=2.5						
SONM				PKKPab		07 37 35.9	
	comp=Z,0.9nm,0.9s,baz=158,slow=2.6,SNR=4.3						
ULN	**Ulaanbaatar**	**109.16**	**4**	PFAKE		07 26 30.0	
ULN				LR	LR		
	comp=Z,899nm,19.0s,MS5.4						
WMQ	**Urumqi**	**109.60**	**19**	*e*PDIF	Pdif	07 22 17.3	+1.0
WMQ				PP	PP	07 26 54.9	+1.2
WMQ				PPP	PPP	07 29 14.1	+1.2
WMQ				PP	PP		
	comp=Z,100nm,10.0s						
WMQ				LR	LR		
	comp=N,602nm,18.4s,MS5.2						
WMQ				LR	LR		
	comp=E,180nm,19.5s,MS5.2						
WMQ				LR	LR		
	comp=Z,476nm,20.3s,MS5.1						
MDJ	**Mudanjiang**	**110.77**	**347**	PDIF	Pdif	07 22 19.6	-1.8
MDJ				PP	PP		
	comp=Z,141nm,10.5s						
MDJ				LR	LR		
	comp=N,431nm,20.5s,MS5.1						
MDJ				LR	LR		
	comp=E,279nm,21.9s,MS5.1						
MDJ				LR	LR		
	comp=Z,911nm,20.5s,MS5.3						
CN2	**Changchun**	**112.32**	**350**	*e*PKP	PKPdf	07 26 25.1	-0.9
CN2				*e*PP	PP	07 27 13.0	-0.1
CN2				*e*SS	SS	07 42 45.3	-3.8
CN2				PP	PP		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=Z,1μm,19.0s,MS5.4						
QSPA	**South Pole Qui**	**113.07**	**180**	*e*PKP	PKPdf	07 26 24.7	-2.1
QSPA				LR	LR		
	comp=Z,390nm,21.7s,MS5.0						
MAJO	**Matsushiro**	**115.84**	**337**	PFAKE		07 26 40.0	+6.8
MAJO				LR	LR		
	comp=Z,753nm,21.0s,MS5.3						
GTA	**Gaotai**	**116.66**	**11**	PKP	PKPdf	07 26 32.8	-1.9
GTA				PPP	PPP	07 30 10.3	-2.3
GTA				SKKS		07 34 34.8	
GTA				PP	PP		
	comp=Z,78nm,6.8s						
GTA				LR	LR		
	comp=N,280nm,21.3s,MS5.0						
GTA				LR	LR		
	comp=E,193nm,19.0s,MS5.0						
GTA				LR	LR		
	comp=Z,400nm,22.4s,MS5.0						
BJI	**Beijing**	**117.05**	**357**	PKP	PKPdf	07 26 33.1	-2.3
BJI				PP	PP		
	comp=Z,279nm,8.3s						
BJI				LR	LR		
	comp=Z,877nm,19.0s,MS5.4						
INCN	**Inchon**	**118.23**	**347**	PFAKE		07 26 50.0	+12
INCN				LR	LR		
	comp=Z,1μm,21.0s,MS5.4						
SBA	**Scott Base**	**119.71**	**191**	PFAKE		07 26 50.0	+10
SBA				LR	LR		
	comp=Z,622nm,21.0s,MS5.2						
LZH	**Lanzhou**	**120.53**	**8**	*e*PKP	PKPdf	07 26 40.3	-2.0
LZH				XPKP		07 26 44.5	
LZH				*e*PP	PP	07 28 10.0	-0.4
LZH				PKS	PKS	07 30 15.6	+0.7
LZH				SKKS		07 34 59.5	
LZH				PP	PP		
	comp=Z,116nm,7.1s						
LZH				LR	LR		
	comp=N,579nm,18.2s						
LZH				LR	LR		
	comp=Z,737nm,20.0s,MS5.3						
KOLN	**Koldanda**	**122.24**	**30**	*e*P	PKPdf	07 26 43.1	-2.6
	comp=Z,30nm,1.1s						
GKN	**Gorkha**	**122.51**	**29**	*e*P	PKPdf	07 26 43.9	-2.3
	comp=Z,53nm,0.7s						
KKN	**Kakani**	**122.98**	**29**	*e*P	PKPdf	07 26 44.6	-2.5
	comp=Z,26nm,0.6s						
DMN	**Daman**	**123.06**	**29**	*e*P	PKPdf	07 26 44.6	-2.7
	comp=Z,52nm,1.1s						
PKI	**Pulchoki**	**123.23**	**29**	*e*P	PKPdf	07 26 44.8	-2.8
	comp=Z,51nm,1.0s						
URZ	**Urewera**	**123.43**	**239**	PKP	PKPdf	07 26 45.4	-2.4
	comp=Z,14nm,0.7s,baz=346,slow=5.3,SNR=5.2						
SSE	**Sheshan**	**125.42**	**351**	*e*PKP	PKPdf	07 26 50.1	-1.8
SSE				PP	PP		
	comp=Z,92nm,6.1s						
SSE				LR	LR		
	comp=N,232nm,21.0s,MS5.0						
SSE				LR	LR		
	comp=E,264nm,20.4s,MS5.0						
SSE				LR	LR		
	comp=Z,486nm,20.3s,MS5.2						
CD2	**Chengdu**	**125.61**	**9**	*e*PKP	PKPdf	07 26 49.9	-2.4
MAW	**Mawson**	**126.14**	**159**	⇑*i*PKP	PKPdf	07 26 49.9	-2.3
	comp=Z,29nm,0.6s						
MAW				*i*		07 27 02.4	
MAW	**Mawson**	**126.14**	**159**	PKP	PKPdf	07 26 50.0	-2.2
	comp=Z,36nm,0.7s,baz=243,slow=2.3,SNR=144						
WHN	**Wuhan**	**126.59**	**358**	*e*PKP	PKPdf	07 26 49.8	-4.2
WHN				LR	LR		
	comp=N,831nm,17.0s						
ENH	**Enshi**	**126.81**	**3**	*e*PKPdf	PKPdf	07 26 52.0	-2.5
SHL	**Shillong**	**127.64**	**24**	*e*P	PKPdf	07 26 50.7	-5.6
HYB	**Hyderabad**	**127.83**	**42**	*i* P	PKPdf	07 26 54.0	-2.9
JOW	**Kunigami**	**128.01**	**342**	PKP	PKPdf	07 26 54.9	-2.1
	comp=N,15nm,0.8s,baz=62,slow=7.1,SNR=4.6						
RPZ	**Rata Peaks**	**128.07**	**232**	PKP	PKPdf	07 26 54.1	-2.6
	comp=N,13nm,0.8s,baz=198,slow=23,SNR=3.0						
GYA	**Guiyang**	**130.37**	**7**	⇑*i*PKP	PKPdf	07 26 58.8	-2.7
GYA				PP	PP	07 29 22.8	+6.2
GYA				PP	PP		
	comp=Z,160nm,5.4s						
GYA				LR	LR		
	comp=N,540nm,19.8s,MS5.3						
GYA				LR	LR		
	comp=E,420nm,20.4s,MS5.3						
GYA				LR	LR		
	comp=Z,640nm,19.8s,MS5.3						
KMI	**Kunming**	**131.11**	**12**	*e*PKP	PKPdf	07 27 00.4	-2.6
KMI				XPKP		07 27 05.3	
KMI				PKS	PKS	07 30 33.3	-1.8
KMI				SKS	SKS	07 34 09.1	-3.2
KMI				SKKS		07 36 10.3	
KMI				SS	SS	07 46 49.3	-0.2
KMI				PP	PP		
	comp=Z,263nm,7.9s						
KMI				LR	LR		
	comp=Z,666nm,19.1s,MS5.4						
TATO	**Taipei**	**131.37**	**349**	PFAKE		07 27 10.0	+6.6
TATO				LR	LR		
	comp=Z,507nm,20.0s,MS5.2						
GUMO	**Guam**	**131.61**	**316**	PFAKE		07 27 10.0	+5.9
GUMO				LR	LR		
	comp=Z,651nm,20.0s,MS5.3						
CM31	**Chiang Mai Arr**	**136.60**	**19**	PFAKE		07 27 20.0	+6.8
CM31				LR	LR		
	comp=Z,753nm,20.0s,MS5.4						
CMAR	**Chiang Mai Arr**	**136.60**	**19**	PKhKP		07 26 60.0	
	comp=Z,1.2nm,0.4s,baz=340,slow=5.0,SNR=5.1						
CMAR				PKP	PKPdf	07 27 11.1	-2.1
	comp=Z,9.8nm,1.0s,baz=325,slow=2.6,SNR=20						
CMAR	**Chiang Mai Arr**	**136.60**	**19**	PKP	PKPdf	07 27 11.1	-2.1
CASY	**Casey**	**136.85**	**179**	*e*PKP	PKPdf	07 27 10.6	-1.8
QIZ	**Qiongzhong**	**138.01**	**4**	PKP	PKPdf	07 27 10.0	-5.9
QIZ				LR	LR		
	comp=Z,769nm,17.4s,MS5.5						
SJMP	**San Jose**	**143.60**	**346**	*e*P	PKPbc	07 27 19.6	-2.0
GUIM	**Jordan**	**144.99**	**342**	*e*P	PKPbc	07 27 24.5	-1.0
ENPP	**El Nido**	**145.18**	**348**	*e*P	PKPbc	07 27 25.1	-0.9
CUYO	**Cuyo Island**	**145.18**	**345**	*e*P	PKPbc	07 27 25.1	-1.0
CNB	**Canberra Magne**	**145.75**	**241**	⇑*i*PKP	PKPdf	07 27 27.2	-1.9
	comp=Z,87nm,1.6s						
PPR	**Puerto Princes**	**146.71**	**349**	*e*P	PKPbc	07 27 30.4	+0.7
MATI	**Mati**	**147.18**	**334**	*e*P	PKPdf	07 27 29.6	-2.5
PAGZ	**Pagadian**	**147.39**	**340**	*e*P	PKPdf	07 27 29.8	-2.7
IPIL	**Ipil**	**147.69**	**341**	*e*P	PKPdf	07 27 32.8	-0.1
SNG	**Songkhla**	**147.72**	**22**	P	PKPdf	07 27 34.0	+1.0
	comp=Z,218nm,1.0s						
BATP	**Bataraza**	**147.82**	**350**	*e*P	PKPdf	07 27 31.6	-1.5
TOO	**Toolangi**	**148.24**	**235**	*e*PKP	PKPdf	07 27 31.9	-1.2
	comp=Z,28nm,0.8s						
CTA	**Charters Tower**	**148.45**	**269**	*e*PKP	PKPdf	07 27 32.1	-1.9
	comp=Z,23nm,0.8s						
CTA	**Charters Tower**	**148.45**	**269**	PKP	PKPdf	07 27 32.2	-1.7
	comp=Z,23nm,0.7s,baz=74,slow=2.0,SNR=39						
CTA				PKPbc	PKPdf	07 27 35.3	+1.3
	comp=Z,28nm,0.8s,baz=74,slow=2.0,SNR=41						
CTAO	**Charters Tower**	**148.45**	**269**	*e*PKPdf	PKPdf	07 27 32.0	-1.9
CTAO				*e*PKPbc	PKPdf	07 27 35.3	+1.3
CTAO				LR	LR		
	comp=Z,424nm,21.0s,MS5.2						
IPM	**Ipoh**	**150.28**	**23**	⇑*e*P	PKPdf	07 27 40.0	+2.9
	comp=Z,57nm,0.6s						
KKM	**Kota Kinabalu**	**150.75**	**352**	⇑*e*P	PKPdf	07 27 41.9	+4.1
	comp=Z,85nm,1.1s						
STKA	**Stephens Creek**	**152.78**	**245**	*e*PKP	PKPdf	07 27 38.3	-1.9
	comp=Z,41nm,0.8s						
STKA	**Stephens Creek**	**152.78**	**245**	PKP	PKPdf	07 27 38.4	-1.9
	comp=Z,8.0nm,0.9s,baz=15,slow=1.1,SNR=11						
STKA				PKPbc	PKPdf	07 27 45.5	+5.3
	comp=Z,66nm,1.0s,baz=82,slow=2.5,SNR=52						
STKA				PKPab	PKPab	07 27 57.4	-0.3
	comp=Z,30nm,0.7s,baz=56,slow=1.5,SNR=12						
ADE	**Adelaide**	**154.26**	**237**	P	PKPdf	07 27 49.1	+6.9
KAKA	**Kakadu**	**158.37**	**295**	*e*PKP	PKPdf	07 27 47.9	-0.2
	comp=Z,28nm,0.9s						
WRAB	**Tennant Creek**	**159.36**	**275**	*e*PKPdf	PKPdf	07 27 46.6	-2.5
WRAB				*e*PKPdif		07 27 58.9	
WRAB				LR	LR		
	comp=Z,204nm,20.0s,MS5.0						
WB2	**Warramunga Arr**	**159.36**	**275**	⇑*i*PKP	PKPdf	07 27 46.6	-2.5
WB2				*i*		07 28 37.2	
WRA	**Warramunga Arr**	**159.38**	**275**	PKP	PKPdf	07 27 46.8	-2.3
	comp=Z,18nm,0.9s,baz=53,slow=1.2,SNR=100						
WRA				PKPbc	PKPdf	07 27 58.8	+10
	comp=Z,14nm,0.7s,baz=41,slow=1.0,SNR=23						
WRA				PKPab	PKPab	07 28 24.8	-1.4
	comp=Z,9.2nm,0.8s,baz=75,slow=4.4,SNR=7.9						
ASAR	**Alice Springs**	**160.28**	**264**	PKP	PKPdf	07 27 47.6	-2.4
	comp=Z,7.0nm,1.0s,baz=72,slow=1.3,SNR=29						
ASAR				PKPab	PKPab	07 28 28.7	-1.3
	comp=Z,6.3nm,0.8s,baz=100,slow=3.8,SNR=11						
ASPA	**Alice Springs**	**160.29**	**264**	⇑*i*PKP	PKPdf	07 27 47.5	-2.5
FORT	**Forrest**	**164.14**	**238**	*e*PKP	PKPdf	07 27 50.8	-2.9
	comp=Z,58nm,0.8s						
FITZ	**Fitzroy Crossi**	**166.66**	**290**	*e*PKP	PKPdf	07 27 53.4	-2.8
	comp=Z,8.4nm,1.4s						
FITZ	**Fitzroy Crossi**	**166.66**	**290**	PKP	PKPdf	07 27 53.6	-2.7
	comp=Z,9.2nm,1.1s,baz=353,slow=1.9,SNR=9.1						
FITZ				PKPab	PKPab	07 28 57.1	-0.7
	comp=Z,12nm,0.9s,baz=93,slow=2.1,SNR=9.8						
NWAO	**Narrogin (SRO)**	**169.37**	**202**	PFAKE		07 28 10.0	+12
NWAO				LR	LR		
	comp=Z,802nm,19.0s						
MBWA	**Marble Bar**	**172.95**	**285**	PFAKE		07 28 10.0	+10
MBWA				LR	LR		
	comp=Z,803nm,20.0s						

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*BJI **18** 07:08:00.0, 38.00N×118.70W, h7^{km}, mB4.7, mb4.7, Ms4.5, Msz4.5*

*NEIC **18** 07:08:00.0, 38.00N×118.67W, h7^{km}, mb3.8/2, ML4.0(REN), MW4.1(BRK), After REN.*

NEIC Felt at Benton, Bishop, Coleville, Mammoth Lakes and Yosemite National Park.

*IDC **18** 07:08:02.5±1.4, 38.05N×118.61W, mb3.8/1, mb1 4.0/5, mb1mx3.8/23, ML3.7/4, MS3.3/1, Ms1 3.3/1, ms1mx3.0/26, Error ellipse: s-maj=12.9km s-min=9.6km az=140.0*

ISC 18 07:08:01.1±0.4, **37.93N**±0.03×**118.54W**±0.04, **h7**^{km}**, n72,** σ1^{s}**65**/70, **mb4.6**/2, **1D, California-Nevada border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OMM	**Old Mammoth Mi**	**0.47**	**230**	*i* P	**Pg**	**07 08 09.3**	**-1.4**
NVAR	**Mina Array Bea**	**0.54**	**20**	Pg	**Pg**	**07 08 09.5**	**-2.4**
	983nm,0.3s,baz=216,slow=20,SNR=22						
NVAR				Lg		07 08 16.8	
	2μm,0.3s,baz=231,slow=23,SNR=24						
NVAR	**Mina Array Bea**	**0.54**	**20**	Pg	**Pg**	**07 08 09.5**	**-2.4**
NVAR				Lg		07 08 16.8	
MTUM	**Tungsten Hills**	**0.57**	**182**	*i* P	**Pg**	**07 08 12.7**	**+0.1**
MNV	**Mina**	**0.59**	**31**	⇓*i*P	**Pg**	**07 08 11.3**	**-1.6**
MNV				*e*S	**Sg**	**07 08 19.6**	**-1.3**
TPH	**Tonopah**	**1.05**	**81**	*e*P	**Pb**	**07 08 21.9**	**+0.8**
TPH				*e*S	**Sb**	**07 08 38.9**	**+4.0**
CMB	**Columbia Colle**	**1.47**	**275**	*e*Pn	**Pn**	**07 08 24.5**	**-3.6**
CMB				*e*S	**Sb**	**07 08 43.1**	**-3.9**
WCN	**Washoe City**	**1.67**	**326**	Pn	**Pn**	**07 08 29.2**	**-1.8**
DAC	**Darwin (Calif)**	**1.81**	**155**	Pn	**Pn**	**07 08 35.5**	**+2.6**
PAHR	**Pah Rah Range**	**1.90**	**340**	*e*Pn	**Pn**	**07 08 32.8**	**-1.4**
TPNV	**Topopah Spring**	**2.06**	**117**	P	**Pn**	**07 08 42.3**	**+5.7**
BEKR	**Beckwourth**	**2.40**	**324**	*e*P	**Pn**	**07 08 41.6**	**+0.1**
SAO	**San Andreas Ge**	**2.59**	**244**	P	**Pn**	**07 08 43.7**	**-0.5**
BMN	**Battle Mountai**	**2.70**	**22**	Pg	**Pg**	**07 08 49.7**	**-5.4**
OHCM	**Honcut**	**2.70**	**302**	*e*P	**Pn**	**07 08 46.0**	**+0.2**
OHCM				*e*S	**Sn**	**07 09 19.6**	**+0.6**
MWC	**Mount Wilson**	**3.71**	**174**	*e*Pn	**Pn**	**07 09 03.2**	**+3.0**
HOPS	**Hopland**	**3.72**	**288**	*e*Pn	**Pn**	**07 09 01.4**	**+1.3**
LDFC	**Landfair**	**3.96**	**135**	*e*Pg	**Pg**	**07 09 17.0**	**-3.2**
MOD	**Modoc**	**4.20**	**342**	Pn	**Pn**	**07 09 09.2**	**+2.2**
PFO	**Pinyon Flat Ob**	**4.63**	**158**	*e*Pg	**Pg**	**07 09 27.4**	**-6.1**
YBH	**Yreka Blue Hor**	**4.98**	**321**	Pn	**Pn**	**07 09 17.8**	**-0.2**
	1.1nm,0.3s,baz=158,slow=8.1,SNR=5.4						
YBH				Lg		07 10 33.0	
	baz=228,slow=16,SNR=3.0						
YBH	**Yreka Blue Hor**	**4.98**	**321**	Pn	**Pn**	**07 09 15.4**	**-2.7**
KHMM	**Horse Mountain**	**4.99**	**308**	Pn	**Pn**	**07 09 12.2**	**-5.9**
DUG	**Dugway**	**5.00**	**61**	Pg	Px	07 09 34.0	
DUG				*e*Sg	Sx	07 10 39.2	
MVU	**Marysvale**	**5.01**	**81**	*e*Pg	**Pg**	**07 09 34.9**	**-6.3**
NOQ	**North Oquirrh**	**5.67**	**59**	*e*Pg	**Pg**	**07 09 52.7**	**-1.7**
MPU	**Maple Canyon**	**5.77**	**67**	*e*Pg	Px	07 09 49.4	
MPU				*e*Sg	Sx	07 11 05.6	
HVU	**Hansel Valley**	**5.87**	**47**	Pg	Px	07 09 46.3	
CTU	**Camp Tracy**	**5.94**	**60**	Pg	**Pg**	**07 09 53.5**	**-6.3**
JLU	**Jordanelle**	**6.11**	**62**	Pg	**Pg**	**07 09 58.4**	**-4.8**
JLU				*e*Sg	**Sg**	**07 11 16.9**	**-7.7**
DAU	**Daniels Canyon**	**6.18**	**64**	Pg	**Pg**	**07 09 57.4**	**-7.0**
TCUT	**Toone Canyon**	**6.37**	**58**	*e*Pn	**Pn**	**07 09 36.1**	**-1.6**
HLID	**Hailey**	**6.44**	**28**	Pg	Px	07 09 55.0	
HWUT	**Hardware Ranch**	**6.51**	**53**	*e*P	**Pn**	**07 09 40.4**	**+0.7**
HUOR	**Husband**	**6.67**	**339**	P	**Pn**	**07 09 43.0**	**+1.0**
VIPM	**Ingram Point**	**6.76**	**347**	P	**Pn**	**07 09 44.2**	**+1.0**
CROR	**Criterion Ridg**	**7.29**	**346**	P	**Pn**	**07 09 53.8**	**+3.1**
VTHM	**Trough**	**7.41**	**349**	P	**Pn**	**07 09 53.4**	**+1.2**
JBO	**Jordan Butte**	**7.59**	**353**	P	**Pn**	**07 09 56.7**	**+1.8**
VGB	**Gordon Butte**	**7.77**	**348**	Pn	**Pn**	**07 09 53.2**	**-4.1**
PV01	**Paradox Valley**	**7.87**	**85**	*e*Pg	Px	07 10 27.2	
LNOR	**Lincton Mounta**	**7.94**	**1**	*e*Pn	**Pn**	**07 09 53.0**	**-6.7**
REDW	**Red Top Meadow**	**7.97**	**45**	*e*Pg	Px	07 10 32.7	
TPAW	**Teton Pass**	**8.00**	**44**	Pg	Px	07 10 29.4	
SNOW	**Snow King Moun**	**8.09**	**44**	Pn	**P**	**07 10 01.0**	**-0.8**
SNOW				*e*Pg	rx	07 10 30.9	
SNOW				*e*Sg	rx	07 12 15.9	
MOOW	**Moose Ponds**	**8.29**	**43**	Pn	**P**	**07 10 04.9**	**+0.3**
MOOW				*e*Pg	rx	07 10 35.2	
MOOW				*e*Sg	rx	07 12 19.6	
PDAR	**Pinedale Array**	**8.39**	**52**	Pn	**P**	**07 10 08.2**	**+2.3**
	0.2nm,0.3s,baz=228,slow=12,SNR=14						
PDAR				Lg		07 12 26.1	
	0.4nm,0.3s,baz=228,slow=24,SNR=4.2						
TUC	**Tucson**	**8.47**	**129**	Pn	**P**	**07 10 08.2**	**+1.2**
HAWA	**Hanford**	**8.49**	**355**	*e*P	**P**	**07 10 08.5**	**+1.0**
RSW	**Rattlesnake Hi**	**8.50**	**355**	P	**P**	**07 10 09.2**	**+1.7**

ET3	Eltopia	8.65	358	P	P	07 10 11.6	+1.9
GBL	Gable Mountain	8.69	356	P	P	07 10 11.5	+1.2
MDW	Midway	8.73	354	P	P	07 10 12.6	+1.9
MXC	Moxie City	8.74	352	P	P	07 10 12.6	+1.7
BVW	Beverly	8.94	354	P	P	07 10 15.5	+2.0
BOZ	Bozeman (W)	9.28	32	*e*Pn	P	07 10 14.2	-4.1
DPW	Davenport	9.94	1	Pn	P	07 10 24.2	-3.3
WRW	Wenatchee Ridg	10.07	351	P	P	07 10 31.0	+1.8
ANMO	Albuquerque	10.17	103	*e*P	P	07 10 24.6	-6.0
SDCO	Great Sand Dun	10.31	87	Pn	P	07 10 32.0	-0.5
SDCO				*e*Pg	Px	07 11 15.1	
BNM	Barren Site	10.35	108	Pn	P	07 10 37.8	+4.7
BNM				*e*Pg	Px	07 11 15.9	
NEW	Newport	10.38	5	Pn	P	07 10 34.2	+0.7
	0.1nm,0.3s,baz=172,slow=9.3,SNR=10						
NEW				LR	LR	07 15 00.1	
	comp=Z,160nm,18.1s,baz=199,slow=41						
NEW	Newport	10.38	5	*e*Pn	P	07 10 28.9	-4.6
TXAR	Lajitas Array	15.05	120	Pn	P	07 11 40.7	+4.8
	0.0nm,0.3s,baz=300,slow=10,SNR=4.4						
EDM	Edmonton	15.71	12	P	P	07 11 44.0	-0.4
FFC	Flin Flon	20.24	29	P	P	07 12 36.6	-2.8
	2.2nm,0.7s						
ULM	Lac du Bonnet	20.32	45	P	P	07 12 39.5	-0.8
	3.8nm,0.7s,baz=251,slow=7.1,SNR=4.4						
ULM	Lac du Bonnet	20.32	45	*e*P	P	07 12 36.4	-3.9
	9.8nm,1.0s						
MDJ	Mudanjiang	77.41	317	P	P	07 19 54.8	-3.4
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,48nm,5.2s						
CN2	Changchun	80.15	319	*e*P	P	07 20 11.5	-1.7
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
WMQ	Urumqi	95.23	341	*e*P	P	07 21 26.3	-0.1
LZH	Lanzhou	96.56	327	*e*P	P	07 21 30.9	-1.8
LZH				PP	PP	07 25 25.9	-3.5
LZH				LR	LR		
	comp=N,175nm,15.0s						
LZH				LR	LR		
	comp=Z,247nm,18.2s						

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*NEIC **18** 07:16:15.1, 57.29N×154.28W, h3^{km}, ML3.5(AEIC), After AEIC.*

*IDC **18** 07:16:47.5±7.1, 62.38N×159.48W, mb3.9/4, mb1 4.0/5, mb1mx3.8/20, ML3.0/1, Error ellipse: s-maj=180.0km s-min=20.5km az=174.0*

ISC 18 07:16:14.3±0.9**, 57.20N**±0.07×**154.2W**±0.1**, h60^{km}**±12^{km}**, n39, σ0^{s}84**/42**, mb4.0**/4**, Kodiak Island region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KABR	Katmai Barrier	1.02	336	P	P	07 16 32.5	-0.4
CAHL	Cahill	1.04	325	P	P	07 16 32.9	-0.3
KJL	Kejulik	1.13	319	P	P	07 16 34.4	0.0
ACHA	Angle Creek He	1.18	329	P	P	07 16 34.9	-0.1
ACHA				S	S	07 16 48.7	-1.7
ANCK	Angle Creek	1.22	325	P	P	07 16 35.4	-0.2
ANCK				S	S	07 16 49.4	-2.0
KAHG	Katmai Hook Gl	1.31	352	P	P	07 16 37.6	+0.6
KAPH	Katmai Pasha	1.40	357	P	P	07 16 38.9	+0.6
KAPH				S	S	07 16 56.9	+1.0
MCNL	McNeil River	1.99	358	P	P	07 16 46.7	+0.4
ANPK	Aniakchak Peak	2.19	262	P	P	07 16 50.3	+1.2
AGU	Augustine-Summ	2.20	10	P	P	07 16 50.6	+1.4
AUW	Augustine West	2.21	10	P	P	07 16 50.8	+1.4
OPT	Oil Point	2.51	11	P	P	07 16 54.6	+0.9
CNPM	China Poot	2.80	32	P	P	07 16 58.7	+0.9
ILS	Iliamna Low So	2.82	11	P	P	07 16 58.8	+0.7
IVS	Iliamna South	2.87	11	P	P	07 16 59.8	+0.9
ILIM	Iliamna	2.96	12	P	P	07 17 00.9	+0.9
RSO	Redoubt South	3.35	12	P	P	07 17 05.5	-0.1
SEW	Seward	3.82	38	P	P	07 17 10.9	-1.2
SLKM	Skilak Lake	3.90	30	*e*P	P	07 17 13.1	-0.2
SDPT	Sand Point	3.97	245	P	P	07 17 14.3	0.0
BKG	Blockade Glaci	4.00	14	P	P	07 17 14.9	+0.2
CKL	Chakachamna La	4.12	13	P	P	07 17 16.6	+0.3
SPU	Mount Spurr	4.14	14	*e*P	P	07 17 17.2	+0.6
LTI	Latouche	4.36	47	P	P	07 17 18.9	-0.9
STLK	Strandline Lak	4.47	15	P	P	07 17 22.0	+0.7
RC01	Rabbit Creek A	4.52	29	P	P	07 17 21.6	-0.4
DOL	Dolgoi Island	4.76	248	P	P	07 17 24.9	-0.4
PMR	Palmer	5.10	28	*e*P	P	07 17 30.0	-0.1
SML	Sawmill	5.49	30	P	P	07 17 34.5	-1.0
EYAK	Cordova Ski Ar	5.51	49	P	P	07 17 33.6	-2.1
TT01	Tatalina	5.79	352	P	P	07 17 39.6	-0.1
SCM	Sheep Creek Mo	5.81	34	P	P	07 17 39.3	-0.5
KLU	Klutina	6.03	41	P	P	07 17 42.1	-0.8
ILAR	Eielson Array	8.37	22	Pn	P	07 18 14.6	-0.9
	0.2nm,0.3s,baz=216,slow=13,SNR=18						
SONM	Songino Array	55.95	307	P	P	07 25 48.0	-0.2
	0.8nm,0.6s,mb4.0,baz=25,slow=6.6,SNR=3.8						
SONM	Songino Array	55.95	307	P	P	07 25 48.0	-0.2
FINES	FINESS Array B	61.69	360	P	P	07 26 28.0	+0.2
	1.8nm,0.8s,mb4.2,slow=8.3,SNR=3.6						
GERES	GERESS Array B	73.84	8	P	P	07 27 55.9	+12
	1.2nm,0.7s,mb4.0,baz=346,slow=4.0,SNR=5.5						
BRTR	Keskin Array B	83.21	354	P	P	07 28 47.0	+12
	1.2nm,0.9s,mb3.9,baz=330,slow=20,SNR=3.6						

IDC 18 07:18:52.3±8.7**, 12.22N×141.09E, mb3.6**/3**, mb1 3.7**/3**, mb1mx3.5**/17**, Error ellipse: s-maj=353.0km s-min=31.0km az=77.0, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	32.65	192	P	P	07 25 26.0	-2.3
	0.9nm,0.7s,baz=13,slow=8.3,SNR=5.9						
ASAR	Alice Springs	36.35	191	P	P	07 25 58.3	-1.8
	0.1nm,0.4s,baz=16,slow=10,SNR=4.1						
MKAR	Makanchi Array	59.94	317	P	P	07 29 00.4	-2.2
	0.5nm,0.5s,baz=124,slow=4.7,SNR=5.0						

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*IDC **18** 07:35:48.4±1.6, 6.60S×130.03E, mb3.9/3, mb1 4.3/6, mb1mx4.0/12, ML4.1/3, Error ellipse: s-maj=68.4km s-min=21.1km az=68.0*

*NEIC **18** 07:35:50.3±1.0, 6.69S×129.81E, h10^{km}, mb3.5/1, Error ellipse: s-maj=24.4km s-min=11.3km az=67.0*

ISC 18 07:36:00.1±3.2**, 7.1S**±0.1×**129.7E**±0.2**, h121^{km}**±32^{km}**, n9, σ1^{s}25**/12**, mb3.7**/3**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	11.62	200	Pn	P	07 38 43.2	+0.1
	1.6nm,0.3s,baz=17,slow=10,SNR=57						
FITZ				Sn	S	07 40 44.7	-6.1
	3.7nm,0.3s,baz=188,slow=17,SNR=9.9						
WRAB	Tennant Creek	13.51	161	*e*P	P	07 39 06.8	-1.1
WRA	Warramunga Arr	13.52	161	Pn	P	07 39 07.2	-0.8
	0.9nm,0.3s,baz=348,slow=13,SNR=32						
WRA				Sn	S	07 41 30.0	-5.6
	3.2nm,0.3s,baz=332,slow=23,SNR=13						
ASAR	Alice Springs	16.94	167	P	P	07 39 53.5	+2.3
	0.9nm,0.3s,baz=342,slow=9.8,SNR=37						
ASAR				S	S	07 42 52.8	-1.2
	0.4nm,0.3s,baz=330,slow=17,SNR=3.9						
MBWA	Marble Bar	16.97	214	*e*P	P	07 39 52.0	+0.5
	3.5nm,0.9s						
STKA	Stephens Creek	27.01	157	P	P	07 41 35.2	+2.4
	1.4nm,0.5s,mb3.8,baz=343,slow=11,SNR=3.7						
STKA	Stephens Creek	27.01	157	P	P	07 41 35.2	+2.4
CMAR	Chiang Mai Arr	39.59	310	P	P	07 43 20.1	-1.2
	0.3nm,0.3s,mb3.5,baz=143,slow=8.2,SNR=4.1						
MKAR	Makanchi Array	68.17	327	P	P	07 46 49.4	+0.1
	0.6nm,0.3s,mb3.9,baz=116,slow=8.2,SNR=19						

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*NEIC **18** 07:59:56.1, 16.55N×98.47W, h20^{km}, MD3.8(MEX), After MEX.*

MEX 18 07:59:55.6±1.1**, 16.50N×98.46W, h17^{km}**±13^{km}**, MD3.8, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	Pinotepa	0.34	109	*i* P	Pb	08 00 01.5	-1.3
PNIG				*i* S	Sb	08 00 06.7	-1.1
ACX	Acapulco	1.44	285	*i* P	Pn	08 00 18.0	-3.1
ACX				*i* S	Sb	08 00 34.0	-5.5
VHO	Vista Hermosa	1.75	71	*i* P	Pn	08 00 21.9	-3.7
VHO				*i* S	Sn	08 00 42.4	-5.2
OXX	Oaxaca	1.76	71	*i* P	Pn	08 00 24.0	-1.8
OXX				*i* S	Sn	08 00 44.0	-3.9
OXX	Oaxaca	1.76	71	*i* P	Pn	08 00 24.0	-1.8
OXX				*i* S	Sn	08 00 45.0	-2.9
PPM	Popocatepetl	2.55	357	*e*P	Pn	08 00 34.0	-3.1
PPM				*i* S	Sn	08 01 05.0	-3.0
IISM	Ciudad Serdan	2.68	23	*e*P	Pn	08 00 37.0	-1.9
IISM				*i* S	Sn	08 01 10.0	-1.2

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*NEIC **18** 08:02:48.5, 16.62N×98.47W, h18^{km}, MD3.8(MEX), After MEX.*

MEX 18 08:02:46.4±1.1**, 16.53N×98.44W, h10^{km}**±14^{km}**, MD3.8, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	Pinotepa	0.33	115	*i* P	Pg	08 02 52.2	-0.9
PNIG				*i* S	Sg	08 02 57.3	-0.4
ACX	Acapulco	1.46	283	*i* P	Pn	08 03 10.0	-2.9
ACX				*i* S	Sb	08 03 26.0	-5.7
VHO	Vista Hermosa	1.72	72	*i* P	Pn	08 03 13.8	-2.9
VHO				*i* S	Sn	08 03 34.5	-4.4
VHO	Vista Hermosa	1.72	72	*i* P	Pn	08 03 15.2	-1.5
VHO				*i* S	Sn	08 03 34.5	-4.4
OXX	Oaxaca	1.73	71	*i* P	Pn	08 03 14.5	-2.3
OXX				*i* S	Sn	08 03 34.0	-5.1
OXX	Oaxaca	1.73	71	*i* P	Pn	08 03 15.0	-1.8
OXX				*i* S	Sn	08 03 34.0	-5.1
PPM	Popocatepetl	2.53	356	*e*P	Pn	08 03 26.0	-2.2
PPM				*i* S	Sn	08 03 55.0	-4.4
IISM	Ciudad Serdan	2.64	22	*e*P	Pn	08 03 28.0	-1.9
IISM				*i* S	Sn	08 03 59.0	-3.3

IDC 18 08:05:26.0±4.4**, 58.87S×148.62W, mb4.0**/2**, mb1 4.3**/2**, mb1mx3.8**/11**, 4C, Error ellipse: s-maj=1054.0km s-min=104.6km az=177.0, Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA3	Neumayer Olymp	47.02	163	⇑*i*	P	08 14 05.4	+5.4
SNAA	Sanae	47.58	166	⇑*i*	P	08 14 07.4	+3.0
VNA2	Neumayer--Watz	47.65	164	⇑*i*	P	08 14 08.4	+3.4
VNA1	Neumayer--Stat	47.76	163	⇑*i*	P	08 14 08.2	+2.3
ASAR	Alice Springs	63.62	268	P	P	08 15 58.5	-2.2
	1.4nm,0.8s,baz=141,slow=5.1,SNR=10						
WRA	Warramunga Arr	66.47	270	P	P	08 16 17.2	-2.0
	1.5nm,1.0s,baz=151,slow=5.8,SNR=7.2						
MKAR	Makanchi Array	147.77	271	PKPbc	PKPdf	08 25 11.0	+0.5
	2.4nm,0.7s,baz=117,slow=2.7,SNR=10						

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*BJI **18** 08:11:15.6, 25.40N×126.75E, h101^{km}, mb4.2*

*NEIC **18** 08:11:26.5±0.4, 26.14N×125.90E, mb4.5/5, Error ellipse: s-maj=11.1km s-min=10.3km az=112.0*

*IDC **18** 08:11:26.3±0.7, 26.22N×125.96E, h95^{km}±6^{km}, mb3.9/20, mb1 4.0/21, mb1mx4.0/28, Error ellipse: s-maj=15.9km s-min=10.9km az=81.0*

*JMA **18** 08:11:27.2±0.2, 26.25N×126.03E, h99^{km}±2^{km}, M3.9*

ISC 18 08:11:26.1±0.2**, 26.19N**±0.05×**126.10E**±0.04**, h110^{km}**±3^{km}**, h106^{km}**±5.6^{km}**:pP-P, n57, σ1^{s}05**/75**, mb4.1**/25**, 1C, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JKE	Kume jima 2	0.63	78	P	P	08 11 44.6	+0.6
JKE				S	S	08 11 57.4	-0.2
JAGN	Aguni-jima	1.10	69	P	P	08 11 49.3	+0.6
JAGN				S	S	08 12 05.5	-0.1
NAH1	Naha	1.43	89	P	P	08 11 53.8	+1.2
NAH1				S	S	08 12 12.2	-0.2
JJT2	Tamagusuku 2	1.48	92	P	P	08 11 54.5	+1.3
JJT2				S	S	08 12 14.4	+0.9
JMJ	Miyako jima 2	1.55	208	P	P	08 11 54.6	+0.6
JMJ				S	S	08 12 15.1	+0.2
JOGS	Gusukube	1.56	204	P	P	08 11 55.1	+1.1
JOGS				S	S	08 12 15.3	+0.3
JIH	Iheya	1.87	63	P	P	08 11 59.0	+1.1
JIH				S	S	08 12 21.5	-0.3
JTJ	Tarama	1.99	220	P	P	08 12 00.0	+0.5
JTJ				S	S	08 12 24.0	-0.5
JOW	Kunigami	2.05	71	P	P	08 12 00.6	+0.3
	baz=266,slow=13						
JOW				S	S	08 12 23.6	-2.2
	baz=143,slow=20						
JOW	Kunigami	2.05	71	P	P	08 12 00.6	+0.3
JOW				S	S	08 12 24.5	-1.3
JIJ	Ishigaki jima	2.54	225	P	P	08 12 06.5	-0.3
JIJ				S	S	08 12 35.5	-1.9
JKRS	Kuro-shima	2.71	225	P	P	08 12 08.9	-0.3
JKRS				S	S	08 12 40.9	-0.7
IRIF	Iriomote-Funau	2.83	230	P	P	08 12 10.5	-0.3
IRIF				S	S	08 12 43.4	-1.1
HATJ	Hateruma jima	2.97	225	*e*S	S	08 12 49.8	+1.9
JTK	Tokunoshima	3.00	57	P	P	08 12 13.0	-0.1
JTK				S	S	08 12 46.7	-1.9
YOJ	Yonaguni jima	3.28	239	P	P	08 12 18.3	+1.4
YOJ				*e*S	S	08 12 54.7	-0.7
JAM	Amami Oshima	3.83	54	P	P	08 12 23.6	-0.7
JAM				S	S	08 13 06.5	-2.1
JZK	Kikaishima	4.05	58	S	S	08 13 13.1	-0.9
TATO	Taipei	4.33	255	P	P	08 12 26.4	-4.8
JMZ	Minamidaito 2	4.62	93	P	P	08 12 33.1	-2.0
JMZ				S	S	08 13 20.9	-7.2
JNN	Nakanoshima	4.94	42	P	P	08 12 41.8	+2.4
JNN				*e*S	S	08 13 36.2	+0.5
JNU	Nakatsue	8.06	30	P	P	08 13 22.9	+1.0
	1.2nm,0.3s,baz=210,slow=14,SNR=4.4						
HHC	Hu-ho-hao-te	18.95	324	*e*P	P	08 15 43.8	+2.7
HHC				AMB	AMB		
	comp=Z,19nm,0.6s						
CD2	Chengdu	20.17	289	*e*P	P	08 15 53.5	-0.5
CD2				AMB	AMB		
	comp=Z,10.0nm,1.0s						
LZH	Lanzhou	21.41	303	⇑P	P	08 16 06.9	+0.5
LZH				XP		08 16 44.0	
LZH				AMB	AMB		
	comp=Z,27nm,1.3s,mb4.4						
ASAJ	Asahikawa	22.33	33	P	P	08 16 16.4	+1.0
	comp=Z,3.0nm,0.4s,mb4.0,baz=203,slow=7.7,SNR=4.1						
GTA	Gaotai	25.62	307	*e*P	P	08 16 47.0	+0.1
GTA				AP	pP	08 17 13.8	+3.3
GTA				AMB	AMB		
	comp=Z,2.0nm,0.8s,mb3.6						
SONM	Songino Array	26.58	329	P	P	08 16 54.6	-1.0
	comp=Z,2.2nm,0.6s,mb3.9,baz=135,slow=10,SNR=5.8						
SONM				sP	sP	08 17 26.3	-6.1
	comp=Z,2.4nm,0.8s,baz=146,slow=11,SNR=5.9						
SONM				PcP	PcP	08 20 17.9	+0.2
	comp=Z,0.2nm,0.3s,baz=135,slow=5.2,SNR=3.9						
MKAR	Makanchi Array	40.14	312	P	P	08 18 52.0	-0.6
	comp=Z,3.7nm,0.4s,mb4.5,baz=99,slow=10,SNR=95						
MKAR				PcP	PcP	08 20 55.5	-0.1
	comp=Z,1.0nm,0.6s,baz=74,slow=3.3,SNR=6.5						
FX1	Attu Island--F	43.94	40	P	P	08 19 25.0	+1.5
	comp=Z,14nm,0.5s,mb4.9,baz=252,slow=9.6,SNR=9.0						
FITZ	Fitzroy Crossi	44.03	181	P	P	08 19 25.0	+0.3
	comp=Z,2.2nm,0.5s,mb4.2,baz=357,slow=6.3,SNR=12						
WRA	Warramunga Arr	46.55	169	P	P	08 19 44.8	0.0
	comp=Z,0.8nm,0.7s,mb3.6,baz=351,slow=8.6,SNR=9.4						
WRA				pP	pP	08 20 07.7	-2.7
	comp=Z,0.9nm,0.5s,baz=351,slow=8.9,SNR=4.6						
BVAR	Borovoye Array	49.03	319	P	P	08 20 03.2	-0.3
	comp=Z,0.8nm,0.4s,mb4.0,baz=117,slow=6.6,SNR=7.0						
BVAR				PcP	PcP	08 21 25.8	-0.3
	comp=Z,8.0nm,0.8s,baz=90,slow=3.0,SNR=22						
ZRNK	Zerenda	49.84	318	*e*P	P	08 20 09.6	-0.3
	comp=Z,6.9nm,0.6s,mb4.8						
ZRNK				pP	pP	08 20 35.2	-0.7
ASAR	Alice Springs	50.13	171	P	P	08 20 11.8	-0.6
	comp=Z,0.5nm,0.8s,mb3.5,baz=353,slow=12,SNR=6.1						
ASAR				pP	pP	08 20 36.2	-2.3
	comp=Z,0.4nm,0.7s,baz=348,slow=6.5,SNR=2.7						
ASAR				PcP	PcP	08 21 30.5	0.0
	comp=Z,1.7nm,1.2s,baz=346,slow=3.7,SNR=4.1						
STKA	Stephens Creek	59.61	165	P	P	08 21 19.4	-1.5
	comp=Z,1.1nm,0.8s,mb3.9,baz=119,slow=22,SNR=3.1						
STKA	Stephens Creek	59.61	165	P	P	08 21 17.9	-3.0
ILAR	Eielson Array	65.38	28	P	P	08 21 57.5	-1.1
	comp=Z,2.3nm,0.7s,mb4.2,baz=252,slow=4.5,SNR=33						
DAWY	Dawson	68.70	28	*e*P	P	08 22 19.6	+0.1
KEV	Kevo	68.77	338	*e*p	P	08 22 18.4	-1.4
	comp=Z,0.4nm,0.3s,mb3.7						
ARCES	ARCESS Array B	69.34	338	P	P	08 22 22.2	-1.1
	comp=Z,3.3nm,1.1s,mb4.1,baz=71,slow=6.4,SNR=7.2						
ARCES	ARCESS Array B	69.34	338	P	P	08 22 22.2	-1.1
INK	Inuvik	69.68	23	P	P	08 22 25.8	+0.4
	comp=Z,11nm,0.7s,mb4.8,baz=293,slow=6.4,SNR=29						
INK	Inuvik	69.68	23	*e*P	P	08 22 25.5	+0.1
	comp=Z,8.3nm,0.6s,mb4.7						
KAF	Kangasniemi	71.61	331	*e*p	P	08 22 33.3	-3.7
	baz=60,slow=5.5						
FINES	FINESS Array B	71.95	330	P	P	08 22 38.4	-0.7
	comp=Z,1.6nm,0.4s,mb4.2,baz=67,slow=5.7,SNR=25						
AKASG	Malin Array Be	74.31	319	P	P	08 22 52.1	-0.9
	comp=Z,0.6nm,0.4s,mb3.7,baz=56,slow=6.3,SNR=6.6						
BRTR	Keskin Array B	75.54	307	P	P	08 23 00.3	0.0
	comp=Z,2.5nm,0.6s,mb4.2,baz=97,slow=5.0,SNR=9.5						
NB2	NORSAR Subarra	78.49	333	P	P	08 23 15.1	-1.1
	comp=Z,1.9nm,0.8s,mb3.9,baz=57,slow=5.3						
NOA	NORSAR Array B	78.49	333	P	P	08 23 15.7	-0.6
	comp=Z,1.1nm,0.6s,mb3.8,baz=55,slow=5.4,SNR=5.8						
YKA	Yellowknife Ar	79.36	24	P	P	08 23 21.3	+0.4
	comp=Z,7.0nm,0.9s,mb4.5,baz=306,slow=5.8,SNR=16						
CLL	Collm	83.08	324	P	P	08 23 41.0	+0.4
GERES	GERESS Array B	84.06	322	P	P	08 23 46.1	+0.5
	comp=Z,1.0nm,0.7s,mb3.7,baz=53,slow=6.7,SNR=3.6						
EDM	Edmonton	85.64	31	*e*P	P	08 23 55.3	+2.0
EKA	Eskdalemuir Ar	87.97	334	P	P	08 24 04.5	-0.1
	comp=Z,1.4nm,0.7s,mb4.1,baz=53,slow=4.9,SNR=3.9						
HLID	Hailey	91.15	39	*e*P	P	08 24 22.8	+3.0
	comp=Z,4.3nm,0.9s,mb4.6						
PDAR	Pinedale Array	94.38	38	P	P	08 24 36.1	+1.6
	comp=Z,0.5nm,0.9s,mb3.8,baz=63,slow=3.3,SNR=3.9						

WEL 18 08:15:24.9±0.3**, 37.03S×176.45E, h317^{km}**±4^{km}**, ML4.0**/1**, 1C, Error ellipse: s-maj=11.1km s-min=8.3km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	Urewera	1.33	157	⇑PN	P	08 16 08.9	-0.1
URZ				SN	S	08 16 42.8	-0.8
MWZ	Matawai	1.56	147	PN	P	08 16 10.2	-0.2
MWZ				SN	S	08 16 45.5	-0.4
KNZ	Kokohu	2.21	154	PN	P	08 16 14.9	-0.3
TUWZ	Tuamarina	4.80	203	PN	P	08 16 40.8	-0.6
NNZ	Nelson	4.81	209	SN	S	08 17 40.7	-0.8

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*IDC **18** 08:30:42.4±0.9, 10.53N×125.98E, mb3.9/7, mb1 4.1/7, mb1mx3.8/18, Error ellipse: s-maj=61.8km s-min=18.7km az=75.0*

*MAN **18** 08:30:48.7, 10.49N×125.80E, h1^{km}, mb4.5, ML3.4, MS3.3*

ISC 18 08:30:46.3±0.7**, 10.38N**±0.04×**126.22E**±0.05**, h33^{km}, n22, σ1^{s}14**/32**, mb3.9**/7**, 2C, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCPH	Surigao	0.93	230	*i* P	P	08 31 03.7	+0.7
SCPH				*i* S	S	08 31 15.7	+0.3
MSLP	Maasin	1.36	260	*e*P	P	08 31 09.4	+0.3
MSLP				*e*S	S	08 31 26.9	+0.7
BESP	Borongan	1.43	328	*e*P	P	08 31 11.2	+0.9
BESP				*e*S	S	08 31 29.5	+1.5
BUTP	Butuan	1.52	203	*e*P	P	08 31 17.0	+5.5
BUTP				*e*S	S	08 31 38.7	+8.4
OCLP	Ormoc	1.71	293	*e*P	P	08 31 15.6	+1.3
LLP	Lapu-Lapu	2.22	269	*e*P	P	08 31 20.5	-0.9
LLP				*e*S	S	08 31 45.0	-2.9
TBP	Tagbilaran	2.42	254	*e*P	P	08 31 25.1	+0.7
TBP				*e*S	S	08 31 52.5	-0.6
CNP	Catarman	2.61	324	*e*P	P	08 31 27.6	+0.6
CNP				*e*S	S	08 32 01.6	+3.7
BUKP	Musuan	2.74	205	*e*P	P	08 31 33.6	+4.8
BUKP				*e*S	S	08 32 07.3	+6.2
SNPH	Sibulan	3.11	251	*e*P	P	08 31 33.0	-1.2
DCPH	Dipolog City	3.34	238	⇑*e*P	P	08 31 38.2	+0.7
GUIM	Jordan	3.58	274	*e*P	P	08 31 40.9	+0.1
GUIM				*e*S	S	08 32 18.6	-3.8
RCP	Roxas	3.60	289	⇑*e*P	P	08 31 41.5	+0.3
PAGZ	Pagadian	3.77	228	*e*P	P	08 31 46.8	+3.3
PVCP	Virac	3.78	328	*e*P	P	08 31 43.1	-0.5
PVCP				*e*S	Sb	08 32 38.0	+0.1
FITZ	Fitzroy Crossi	28.31	181	P	P	08 36 39.3	0.0
	1.2nm,0.8s,mb3.6,baz=29,slow=10,SNR=3.2						
ASAR	Alice Springs	34.66	168	P	P	08 37 35.0	-0.1
	0.2nm,0.3s,mb3.5,baz=352,slow=6.9,SNR=3.4						
STKA	Stephens Creek	44.52	161	P	P	08 38 58.0	+1.2
	1.2nm,1.0s,mb3.7,baz=330,slow=8.1,SNR=2.1						
MKAR	Makanchi Array	51.91	323	P	P	08 39 51.7	-2.2
	1.2nm,0.7s,mb3.9,baz=117,slow=6.8,SNR=11						
ILAR	Eielson Array	79.36	26	P	P	08 42 50.1	-0.1
	0.3nm,0.7s,mb3.4,baz=236,slow=5.2,SNR=5.7						
ARCES	ARCESS Array B	84.07	340	P	P	08 43 13.2	-1.4
	3.9nm,0.9s,mb4.5,baz=90,slow=7.2,SNR=3.1						
FINES	FINESS Array B	85.77	332	P	P	08 43 21.3	-1.9
	3.5nm,1.1s,mb4.5,baz=90,slow=5.7,SNR=6.4						

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*NEIC **18** 08:42:57.9, 35.26N×4.08W, MG3.4(MDD), After MDD.*

MDD 18 08:42:57.9±1.4**, 35.26N×4.08W, mb3.6**/7**, Error ellipse: s-maj=15.3km s-min=5.8km az=26.0, PRXIMO, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EMEL	Melilla	0.92	87	Pg	Pg	08 43 14.7	-1.6
	183nm,0.1s,SNR=12						
EMEL				Lg		08 43 27.9	
	268nm,0.2s,SNR=7.9						
EMIJ	Mijas	1.42	337	Pn	Pn	08 43 21.9	-3.1
	0.5nm,0.1s,SNR=7.9						
EMIJ				Pg	Pg	08 43 22.9	-3.4
	1.7nm,0.1s,SNR=7.9						
EMIJ				Sn	Sn	08 43 42.1	-2.6
	16nm,0.2s,SNR=7.9						
ERON	Agron	1.77	7	Pn	Pn	08 43 28.3	-1.7
	2.1nm,0.1s,SNR=7.9						
ERON				Sn	Sn	08 43 50.7	-2.9
	SNR=7.9						
ELOJ	Sierra Loja	1.89	358	Pn	Pn	08 43 30.6	-1.1
	1.2nm,0.2s,SNR=7.9						
ELOJ				Sn	Sn	08 43 53.3	-3.3
	SNR=7.9						
ELOJ	Sierra Loja	1.89	358	Pn	Pn	08 43 30.6	-1.1
ELOJ				Sn	Sn	08 43 53.3	-3.3
ELUQ	Luque	2.30	356	Pn	Pn	08 43 38.0	+0.4
	3.6nm,0.2s,SNR=7.9						
ELUQ				Sn	Sn	08 44 05.1	-2.0
	SNR=7.9						
EQES	Quesada	2.67	17	Pn	Pn	08 43 42.4	-0.5
	4.9nm,0.1s,SNR=16						
EQES				Sn	Sn	08 44 14.2	-2.2
	10nm,0.4s,SNR=7.9						
EADA	Adamuz	2.93	352	Pn	Pn	08 43 45.2	-1.4
	1.1nm,0.1s,SNR=12						
EADA				Sn	Sn	08 44 19.9	-3.2
	2.7nm,0.2s,SNR=7.9						
EMIN	Mina Concepcio	3.26	321	Pn	Pn	08 43 48.6	-2.7
	0.3nm,0.1s,SNR=9.8						
EMIN				Sn	Sn	08 44 26.7	-4.7
	0.8nm,0.1s,SNR=7.9						
ETOB	Tobarra	3.94	30	Pn	Pn	08 44 00.1	-0.9
	2.2nm,0.2s,SNR=14						
ETOB				Sn	Sn	08 44 44.4	-4.3
	1.4nm,0.3s,SNR=7.9						
EBAD	Badajoz	4.21	327	Pn	Pn	08 44 01.5	-3.2
	0.3nm,0.1s,SNR=7.9						
EBAD				Sn	Sn	08 44 49.0	-6.4
	3.0nm,0.2s,SNR=7.9						
ESDC	Sonseca Array	4.41	1	Pn	Pn	08 44 05.4	-2.2
	1.1nm,0.1s,baz=177,slow=12,SNR=4.2						
EIBI	Ibiza	5.74	47	Pn	Pn	08 44 22.6	-3.8
	SNR=7.9						
EIBI				Sn	Sn	08 45 25.1	-8.8
	SNR=7.9						
EALK	Alkurruntz	8.20	13	Pn	P	08 44 58.4	-2.6
	SNR=7.9						

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*IDC **18** 08:49:49.6±2.5, 16.63N×46.85W, mb3.9/5, mb1 4.2/5, mb1mx3.8/21, Error ellipse: s-maj=91.1km s-min=29.0km az=80.0*

ISC 18 08:49:49.7±2.7**, 16.6N**±0.2×**47.0W**±0.7**, h10^{km}, n5, σ1^{s}38**/5,

mb3.8/5, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CPUP	**Villa Florida**	**43.84**	**193**	P	**P**	**08 57 57.8**	**-0.2**
	2.9nm,0.7s,mb4.1,baz=27,slow=6.3,SNR=8.4						
ULM	**Lac du Bonnet**	**51.50**	**322**	P	**P**	**08 58 55.6**	**-1.9**
	1.6nm,0.5s,mb4.2,baz=112,slow=9.1,SNR=4.0						
TXAR	**Lajitas Array**	**53.24**	**294**	P	**P**	**08 59 11.6**	**+0.6**
	0.4nm,0.8s,mb3.4,baz=90,slow=8.1,SNR=4.9						
PDAR	**Pinedale Array**	**58.84**	**310**	P	**P**	**08 59 51.3**	**+0.4**
	0.5nm,0.8s,mb3.6,baz=135,slow=5.1,SNR=4.7						
ILAR	**Eielson Array**	**79.28**	**335**	P	**P**	**09 01 57.5**	**+0.9**
	1.2nm,0.8s,mb3.9,baz=68,slow=4.7,SNR=15						

MAN 18 09:55:21.9, 18.28N×120.96E, h21^{km}, mb4.2, ML3.0, MS2.7, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PIP	**Pasuquin**	**0.33**	**279**	⇓*i*P	Pb	09 55 32.0	+2.8
PIP				*i*S	Sb	09 55 39.0	+5.0
APYP	**Conner**	**0.49**	**147**	*e*P	Pb	09 55 32.0	+0.2
APYP				*e*S	Sb	09 55 38.6	+0.1
ABRA	**Dolores**	**0.67**	**201**	*e*P	Pb	09 55 34.2	-0.5
ABRA				*e*S	Sb	09 55 42.5	-1.1
SGCP	**Mt. Cagua**	**1.03**	**92**	*e*P	Pb	09 55 41.2	+0.2
SGCP				*e*S	Sb	09 55 54.7	+0.7
CAUP	**Cauayan**	**1.56**	**148**	*e*P	Pn	09 55 49.4	+0.6
CAUP				*e*S	Sn	09 56 10.5	+1.9
BOLP	**Bolinao**	**2.13**	**208**	*e*P	Pn	09 55 55.5	-1.6
BALP	**Baler**	**2.59**	**167**	*e*P	Pn	09 56 03.8	+0.2

NAO ***18*** *10:07:28.4±4.1, 60.24N×25.22E, ML2.4*
HEL ***18*** *10:07:28.1±0.1, 60.13N×25.24E, ML2.0, ML2.1(UPP), ML2.4(NAO), Explosion*
IDC ***18*** *10:07:28.3±1.5, 60.18N×25.36E, mb1 3.2/3, mb1mx3.0/19, ML2.7/3, Error ellipse: s-maj=15.1km s-min=6.2km az=145.0*
BER ***18*** *10:07:28.1±2.9, 60.14N×25.38E, ML2.4(NAO), Suspected explosion*
ISC 18 10:07:27.0±0.7**, 60.23N**±0.05×**25.14E**±0.07**, n21, σ1^{s}24**/33**, Finland**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PVF	**Pernaja**	**0.48**	**48**	*e*P	**Pg**	**10 07 37.3**	**+0.7**
PVF				*e*S	**Sg**	**10 07 43.8**	**+0.7**
VJF	**Virojoki**	**1.24**	**74**	*e*P	**Pb**	**10 07 50.0**	**-0.9**
VJF				*e*S	**Sb**	**10 08 06.5**	**-0.9**
FIA0	**FINESS Array S**	**1.31**	**20**	*e*P	**Pb**	**10 07 52.8**	**+0.7**
FIA0				*e*SN	**Sn**	**10 08 14.7**	**+3.9**
FIA0	**FINESS Array S**	**1.31**	**20**	Pn	**Pn**	**10 07 52.6**	**+0.2**
	baz=190,slow=18						
FIA0				Lg		10 08 09.7	
	baz=194,slow=37						
FINES	**FINESS Array B**	**1.31**	**20**	Pg	**Pg**	**10 07 52.7**	**-0.3**
	4.8nm,0.3s,baz=200,slow=17,SNR=150						
FINES				Pn	**Pn**	**10 07 55.0**	**+2.6**
	4.8nm,0.3s,baz=198,slow=13,SNR=149						
FINES				Lg		10 08 09.8	
	2.4nm,0.3s,baz=191,slow=28,SNR=17						
FINES				Sn	**Sn**	**10 08 14.6**	**+3.8**
	14nm,0.3s,baz=197,slow=23,SNR=45						
FINES				Rg		10 08 18.1	
	48nm,0.9s,baz=190,slow=35,SNR=18						
KEF	**Keuruu**	**1.95**	**356**	*e*SG	**Sg**	**10 08 31.3**	**-0.7**
KEF				MSG		10 08 32.7	
	comp=Z,11nm,0.2s						
KAF	**Kangasniemi**	**1.98**	**16**	*e*SG	**Sg**	**10 08 31.9**	**-0.9**
KAF				MSG		10 08 33.3	
	comp=Z,5.8nm,0.1s						
SUF	**Sumiainen**	**2.55**	**11**	*e*SB	**Sb**	**10 08 47.0**	**+1.5**
AAL	**Aland**	**2.57**	**271**	*e*P	**Pn**	**10 08 12.2**	**+1.7**
GRAU	**Graesoe**	**3.29**	**275**	*e*P	**Pn**	**10 08 21.5**	**+0.8**
FLYU	**Flymyra**	**3.62**	**272**	*e*P	**Pn**	**10 08 26.1**	**+0.5**
IGGU	**Iggoen**	**3.92**	**283**	*e*P	**Pn**	**10 08 30.2**	**+0.5**
IGGU				*e*S	**Sn**	**10 09 17.0**	**-0.1**
OSTU	**Oestervaala**	**3.99**	**274**	*e*P	**Pn**	**10 08 31.4**	**+0.6**
FALU	**Falun**	**4.63**	**277**	*e*P	**Pn**	**10 08 40.1**	**+0.3**
HFS	**Hagfors**	**5.71**	**274**	Pn	**Pn**	**10 08 55.0**	**-0.1**
	baz=99,slow=12						
HFS				Sn	**Sn**	**10 09 58.9**	**-3.4**
	baz=79,slow=28						
HFS				Lg		10 10 26.6	
	baz=86,slow=28						
HFS	**Hagfors**	**5.71**	**274**	*e*P	**Pn**	**10 08 55.0**	**-0.1**
HFS				*e*S	**Sn**	**10 09 58.9**	**-3.4**
HFS				*e*SG	**Sg**	**10 10 26.6**	**-11**
HFS	**Hagfors**	**5.71**	**274**	Pn	**Pn**	**10 08 54.8**	**-0.3**
	comp=Z,0.0nm,0.3s,baz=118,slow=12,SNR=12						
HFS				Sn	**Sn**	**10 09 59.1**	**-3.2**
	comp=Z,0.1nm,0.3s,baz=79,slow=28,SNR=12						
HFS				Lg		10 10 30.3	
	comp=Z,0.1nm,0.3s,baz=90,slow=27,SNR=5.6						
NOA	**NORSAR Array B**	**6.90**	**283**	Pn	**Pn**	**10 09 09.4**	**-2.4**
	comp=Z,0.2nm,0.3s,baz=55,slow=15,SNR=2.6						
NOA				Sn	**Sn**	**10 10 26.3**	**-5.7**
	comp=Z,0.2nm,0.3s,baz=146,slow=16,SNR=3.0						
NOA				Lg		10 11 08.4	
	comp=Z,0.4nm,0.3s,baz=135,slow=4.4,SNR=2.9						
ARA0	**ARCESS Array S**	**9.35**	**1**	Pn	**P**	**10 09 42.6**	**-3.4**
	baz=172,slow=16						
ARA0	**ARCESS Array S**	**9.35**	**1**	*e*P	**P**	**10 09 42.6**	**-3.4**
ARCES	**ARCESS Array B**	**9.35**	**1**	Pn	**P**	**10 09 42.6**	**-3.4**
	comp=Z,0.1nm,0.3s,baz=183,slow=12,SNR=14						
ARCES				Sn	**Sn**	**10 11 25.4**	**-7.8**
	comp=Z,0.1nm,0.3s,baz=178,slow=24,SNR=2.6						

SKHL ***18*** *10:07:53.1±0.8, 47.50N×153.70E, h33^{km}, mb5.1/2*
BJI ***18*** *10:08:01.5, 47.70N×152.80E, h108^{km}, mB4.6, mb4.6*
NEIC ***18*** *10:08:01.6±0.4, 47.75N×152.76E, mb4.5/11, Error ellipse: s-maj=12.5km s-min=5.9km az=145.0*
IDC ***18*** *10:08:01.8±0.7, 47.79N×152.73E, h109^{km}±6^{km}, mb3.6/17, mb1 3.9/19, mb1mx3.8/27, Error ellipse: s-maj=16.7km s-min=11.7km az=147.0*
MOS ***18*** *10:08:02.7±1.9, 47.46N×152.94E, h146^{km}, mb3.8/13, Error ellipse: s-maj=15.4km s-min=10.5km az=66.2*
ISC 18 10:08:00.6±0.6**, 47.33N**±0.06×**152.94E**±0.08**, h128^{km}**±6^{km}**, h108^{km}**±2.8^{km}**:pP-P, n98, σ1^{s}25**/112**, mb4.0**/32**, 2C, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.96**	**31**	*e*PN	**P**	**10 09 03.9**	**+3.2**
SKR				*e*S	**S**	**10 09 46.0**	**-0.8**
SKR				pmax	pmax		
	comp=N,40nm,0.3s						
SKR				pmax	pmax		
	comp=Z,60nm,0.3s						
SKR				pmax	pmax		
	comp=E,30nm,0.5s						
SKR				smax			
	comp=N,80nm,0.5s						
SKR				smax			
	comp=E,160nm,0.6s						
SKR				smax			
	comp=Z,60nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**5.95**	**239**	*e*P	**P**	**10 09 28.5**	**+1.0**
YUK				AMB	AMB	10 09 34.9	
	comp=Z,280nm,0.2s						
YUK				*e*S	**S**	**10 10 39.5**	**+4.6**
YUK				A		10 10 43.0	
	comp=Z,200nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**5.95**	**239**	PN	**P**	**10 09 28.5**	**+1.0**
YUK				S	**S**	**10 10 39.5**	**+4.6**
YUK				pmax	pmax		
	comp=Z,280nm,0.3s						
YUK				smax			
	comp=N,200nm,0.5s						
NEM2	**Nemuro 2**	**6.43**	**235**	P	**P**	**10 09 32.9**	**-1.2**
NEM2				*e*S	**S**	**10 10 42.2**	**-4.4**
JRA	**Rausu**	**6.44**	**241**	P	**P**	**10 09 35.1**	**+0.9**
PET	**Petropavlovsk**	**6.78**	**31**	*e*PN	**P**	**10 09 37.9**	**-0.9**
PET	**Petropavlovsk**	**6.78**	**31**	*e*P	**P**	**10 09 33.4**	**-5.4**
YSS	**Yuzh-Sakhalins**	**6.96**	**271**	⇑*i*P	**P**	**10 09 42.2**	**+1.0**
YSS				AMB	AMB	10 09 43.0	
	comp=N,20nm,0.8s						
YSS				pP		10 09 52.0	
YSS				*e*S	**S**	**10 11 04.6**	**+5.3**
YSS				A		10 11 05.5	
	comp=N,30nm,1.0s						
YSS	**Yuzh-Sakhalins**	**6.96**	**271**	⇑*i*PN	**P**	**10 09 42.2**	**+1.0**
YSS				*e*S	**S**	**10 11 04.6**	**+5.3**
YSS				pmax	pmax		
	comp=E,20nm,0.8s						
YSS				pmax	pmax		
	comp=Z,20nm,0.8s						
YSS	**Yuzh-Sakhalins**	**6.96**	**271**	*e*P	**P**	**10 09 40.8**	**-0.4**
	comp=Z,20nm,0.8s						
JTKR	**Abashiri--Toko**	**7.16**	**245**	P	**P**	**10 09 46.1**	**+2.1**
JAK	**Akkeshi**	**7.26**	**236**	P	**P**	**10 09 44.2**	**-1.1**
JAK				*e*S	**S**	**10 11 02.5**	**-4.1**
UGL	**Uglegorsk**	**7.47**	**288**	*e*P	Px	10 11 09.0	
UGL				*i*S	**S**	**10 11 12.5**	**+0.7**
UGL				A		10 11 13.0	
	comp=Z,230nm,0.3s						
UGL				A		10 11 13.0	
	comp=Z,100nm,0.3s						
JMP	**Maruseppu**	**7.49**	**247**	P	**P**	**10 09 50.0**	**+1.7**
JSE	**Soyaes**	**7.57**	**256**	P	**P**	**10 09 53.2**	**+3.7**
JAR	**Ashorobuto**	**7.61**	**241**	P	**P**	**10 09 50.0**	**-0.1**
JOB	**Onbets**	**7.81**	**239**	P	**P**	**10 09 52.0**	**-0.7**
JOB				*e*S	**S**	**10 11 16.7**	**-3.3**
JWK2	**Keihoku**	**7.90**	**259**	P	**P**	**10 09 58.6**	**+4.6**
ASAJ	**Asahikawa**	**7.92**	**250**	P	**P**	**10 09 56.5**	**+2.4**
	comp=Z,4.5nm,0.3s,baz=82,slow=16,SNR=54						
ASAJ	**Asahikawa**	**7.92**	**250**	P	**P**	**10 09 56.7**	**+2.6**
ASAJ	**Asahikawa**	**7.92**	**250**	PN	**P**	**10 09 56.5**	**+2.4**
ASAJ				pmax	pmax		
	comp=Z,5.0nm,0.3s						
JKK2	**Kamakawa 2**	**7.94**	**248**	P	**P**	**10 09 56.4**	**+2.0**
JCH	**Churui**	**8.26**	**239**	P	**P**	**10 09 57.6**	**-1.1**
JCH				*e*S	**S**	**10 11 26.0**	**-4.9**
JFR	**Furan**	**8.40**	**244**	P	**P**	**10 10 02.3**	**+1.7**
JAB	**Ashibetsu**	**8.45**	**247**	P	**P**	**10 10 04.2**	**+2.9**
JBT2	**Biratori 2**	**8.76**	**243**	P	**P**	**10 10 05.5**	**+0.2**
JEM	**Erimo**	**8.76**	**236**	P	**P**	**10 10 05.0**	**-0.4**
JNBK	**Urakawa-nobuka**	**8.82**	**239**	P	**P**	**10 10 04.9**	**-1.3**
JNBK				*e*S	**S**	**10 11 37.9**	**-6.4**
JEW	**Eniwo**	**9.28**	**245**	P	**P**	**10 10 15.1**	**+2.8**
JNB	**Noboribetsu**	**9.74**	**244**	P	**P**	**10 10 18.3**	**0.0**
JNB				*e*S	**S**	**10 12 02.8**	**-3.4**
JKB	**Kayabe**	**10.08**	**242**	P	**P**	**10 10 21.3**	**-1.5**
JYM2	**Yakumo 2**	**10.35**	**244**	P	**P**	**10 10 25.4**	**-1.0**
JTM	**Tenmabayashi**	**10.75**	**237**	P	**P**	**10 10 29.2**	**-2.6**
JANG	**Nango**	**10.78**	**234**	P	**P**	**10 10 29.1**	**-3.0**
JANG				*e*S	**S**	**10 12 21.4**	**-10**
JRG	**Rokugo**	**11.95**	**233**	P	**P**	**10 10 45.1**	**-2.4**
FX1	**Attu Island--F**	**14.10**	**59**	P	**P**	**10 11 14.6**	**-0.6**
	comp=Z,1.3nm,0.3s,baz=101,slow=21,SNR=8.0						
FX1				S	**S**	**10 13 38.4**	**-10**
	comp=Z,2.8nm,0.3s,baz=332,slow=24,SNR=13						
FX1	**Attu Island--F**	**14.10**	**59**	P	**P**	**10 11 14.6**	**-0.6**
FX1				S	**S**	**10 13 38.4**	**-10**
FX1				pmax	pmax		
	comp=Z,1.0nm,0.3s						
FX1				smax			
	comp=N,3.0nm,0.3s						
KLR	**Kul'dur**	**14.23**	**285**	*e*P	**P**	**10 11 21.1**	**+4.1**
MAJO	**Matsushiro**	**15.34**	**231**	*e*P	**P**	**10 11 33.2**	**+2.1**
ZEA	**Zeya**	**17.48**	**301**	*e*P	**P**	**10 11 56.9**	**-0.6**
CN2	**Changchun**	**19.52**	**270**	*e*P	**P**	**10 12 18.9**	**-1.1**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
CLNS	**Chul'man**	**19.56**	**309**	*e*P	**P**	**10 12 20.0**	**-0.2**
CLNS				pmax	pmax		
	comp=N,11nm,0.9s						
CLNS				pmax	pmax		
	comp=E,13nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,23nm,0.9s						
KS15	**Wonju Array Si**	**20.90**	**251**	*e*P	**P**	**10 12 35.6**	**+1.7**
TIXI	**Tiksi**	**26.88**	**343**	*e*P	**P**	**10 13 32.5**	**+1.8**
TIXI				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.5						
SONM	**Songino Array**	**31.03**	**288**	P	**P**	**10 14 06.3**	**-1.7**
	comp=Z,0.5nm,0.9s,mb3.2,baz=74,slow=8.4,SNR=5.8						
SONM				ScP		10 20 33.1	
	comp=Z,0.6nm,1.1s,SNR=3.7						
COLA	**College**	**35.76**	**39**	*e*P	**P**	**10 14 48.5**	**+0.2**
	comp=Z,8.7nm,0.9s,mb4.4						
ILAR	**Eielson Array**	**36.17**	**39**	P	**P**	**10 14 51.2**	**-0.6**
	comp=Z,2.7nm,1.2s,mb3.8,baz=257,slow=7.7,SNR=16						
ILAR	**Eielson Array**	**36.17**	**39**	P	**P**	**10 14 51.2**	**-0.6**
ILAR				pmax	pmax		
	comp=Z,3.0nm,1.2s						
INK	**Inuvik**	**41.23**	**33**	P	**P**	**10 15 33.4**	**-0.4**
	comp=Z,2.1nm,0.6s,mb4.0,baz=301,slow=8.1,SNR=8.1						
INK	**Inuvik**	**41.23**	**33**	P	**P**	**10 15 33.4**	**-0.3**
INK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
INK	**Inuvik**	**41.23**	**33**	*e*P	**P**	**10 15 33.3**	**-0.4**
	comp=Z,2.2nm,0.6s,mb4.0						
GYA	**Guiyang**	**41.73**	**257**	*e*P	**P**	**10 15 39.3**	**+1.1**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.5						
KMI	**Kunming**	**45.23**	**259**	*e*P	**P**	**10 16 06.0**	**-0.5**
KMI				AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.3						
MKAR	**Makanchi Array**	**46.57**	**297**	P	**P**	**10 16 15.5**	**-1.3**
	comp=Z,1.2nm,0.8s,mb3.5,baz=68,slow=6.5,SNR=7.7						
MKAR				pP	pP	10 16 40.4	-5.9
	comp=Z,1.0nm,0.6s,baz=72,slow=7.7,SNR=4.4						
MKAR	**Makanchi Array**	**46.57**	**297**	P	**P**	**10 16 15.5**	**-1.3**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR				pmax	pmax		
	comp=N,1.0nm,0.6s						
BVAR	**Borovoye Array**	**50.40**	**309**	P	**P**	**10 16 45.0**	**-1.2**
	comp=N,0.8nm,0.4s,mb3.7,baz=72,slow=9.4,SNR=7.5						
BVAR				PcP	PcP	10 18 02.8	-0.2
	comp=N,0.5nm,0.3s,baz=69,slow=4.6,SNR=5.0						
YKA	**Yellowknife Ar**	**50.53**	**37**	P	**P**	**10 16 46.7**	**-0.4**
	comp=N,1.7nm,0.7s,mb3.8,baz=300,slow=6.8,SNR=5.7						
YKA	**Yellowknife Ar**	**50.53**	**37**	P	**P**	**10 16 46.7**	**-0.4**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
YKA	**Yellowknife Ar**	**50.53**	**37**	P	**P**	**10 16 46.7**	**-0.4**
ZRNK	**Zerenda**	**51.17**	**309**	*e*P	**P**	**10 16 50.6**	**-1.5**
	comp=Z,2.0nm,0.7s,mb3.9						
CMAR	**Chiang Mai Arr**	**52.39**	**256**	P	**P**	**10 17 03.6**	**+1.9**
	comp=Z,1.7nm,0.6s,mb3.9,baz=37,slow=7.0,SNR=10						
CMAR	**Chiang Mai Arr**	**52.39**	**256**	P	**P**	**10 17 03.6**	**+1.9**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
GUN	**Gumba**	**54.83**	**274**	*e*P	**P**	**10 17 19.9**	**+0.4**
	comp=Z,9.6nm,0.4s,mb4.9						
KKN	**Kakani**	**55.32**	**275**	*e*P	**P**	**10 17 23.2**	**+0.2**
	comp=Z,4.0nm,0.3s,mb4.7						
PKI	**Pulchoki**	**55.37**	**274**	*e*P	**P**	**10 17 22.1**	**-1.3**
DMN	**Daman**	**55.55**	**275**	*e*P	**P**	**10 17 23.8**	**-0.9**
	comp=Z,5.5nm,0.3s,mb4.8						
GKN	**Gorkha**	**55.62**	**275**	*e*P	**P**	**10 17 25.6**	**+0.4**
	comp=Z,10nm,0.5s,mb4.9						
KOLN	**Koldanda**	**56.47**	**276**	*e*P	**P**	**10 17 31.7**	**+0.5**
	comp=Z,3.6nm,0.5s,mb4.5						
FINES	**FINESS Array B**	**63.47**	**335**	P	**P**	**10 18 14.6**	**-3.9**
	comp=Z,1.2nm,0.5s,mb4.0,baz=34,slow=5.6,SNR=13						
FINES	**FINESS Array B**	**63.47**	**335**	P	**P**	**10 18 14.6**	**-3.9**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
PDAR	**Pinedale Array**	**64.50**	**54**	P	**P**	**10 18 25.4**	**0.0**
	comp=Z,0.2nm,0.5s,mb3.2,baz=256,slow=6.1,SNR=3.2						
PDAR				pP	pP	10 18 54.0	-2.7
	comp=Z,0.7nm,0.9s,baz=297,slow=3.3,SNR=3.9						
NOA	**NORSAR Array B**	**67.64**	**341**	P	**P**	**10 18 43.6**	**-1.4**
	comp=Z,0.9nm,0.8s,mb3.5,baz=107,slow=17,SNR=2.6						
NOA	**NORSAR Array B**	**67.64**	**341**	P	**P**	**10 18 43.6**	**-1.4**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRA	**Warramunga Arr**	**69.02**	**199**	P	**P**	**10 18 57.7**	**+3.5**
	comp=Z,0.5nm,0.7s,mb3.3,baz=21,slow=6.7,SNR=5.9						
WRA	**Warramunga Arr**	**69.02**	**199**	P	**P**	**10 18 57.7**	**+3.5**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AKASG	**Malin Array Be**	**71.00**	**326**	P	**P**	**10 19 04.1**	**-1.5**
	comp=Z,1.7nm,0.6s,mb4.0,baz=35,slow=6.6,SNR=5.9						
AKASG	**Malin Array Be**	**71.00**	**326**	P	**P**	**10 19 04.1**	**-1.5**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ASAR	**Alice Springs**	**72.72**	**198**	P	**P**	**10 19 19.9**	**+3.7**
	comp=Z,1.5nm,0.7s,mb3.8,baz=13,slow=5.4,SNR=22						
ASAR				pP	pP	10 19 47.2	-1.1
	comp=Z,0.5nm,0.6s,baz=12,slow=6.1,SNR=2.8						
EKA	**Eskdalemuir Ar**	**75.75**	**346**	P	**P**	**10 19 32.5**	**-0.4**
	comp=Z,1.2nm,0.8s,mb3.6,baz=31,slow=4.9,SNR=3.8						
EKA	**Eskdalemuir Ar**	**75.75**	**346**	P	**P**	**10 19 32.6**	**-0.4**
EKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MLR	**Muntele Rosu**	**76.52**	**325**	P	**P**	**10 19 38.5**	**+1.0**
	comp=Z,1.0nm,0.5s,mb3.8,baz=116,slow=17,SNR=3.4						
MLR	**Muntele Rosu**	**76.52**	**325**	P	**P**	**10 19 38.6**	**+1.0**
MLR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TXAR	**Lajitas Array**	**77.31**	**61**	P	**P**	**10 19 44.0**	**+1.7**
	comp=Z,0.6nm,0.6s,mb3.4,baz=299,slow=4.7,SNR=11						
TXAR				pP	pP	10 20 10.8	-3.9
	comp=Z,0.6nm,0.6s,baz=298,slow=4.8,SNR=4.1						
TXAR	**Lajitas Array**	**77.31**	**61**	P	**P**	**10 19 44.0**	**+1.7**
TXAR				pP	pP	10 20 10.8	-3.9
GERES	**GERESS Array B**	**77.89**	**334**	P	**P**	**10 19 45.2**	**+0.2**
	comp=Z,0.5nm,0.6s,mb3.3,baz=14,slow=4.0,SNR=2.1						
GERES	**GERESS Array B**	**77.89**	**334**	P	**P**	**10 19 45.2**	**+0.2**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CDF	**Champ du Feu**	**80.08**	**338**	*e*P	**P**	**10 19 57.0**	**+0.1**
LOR	**Lormes**	**81.99**	**339**	*e*P	**P**	**10 20 06.8**	**-0.2**
	comp=Z,7.1nm,0.6s,mb4.2						
SSF	**Saint Saulge**	**82.27**	**339**	*e*P	**P**	**10 20 08.8**	**+0.4**
AVF	**Avril sur Loir**	**82.56**	**339**	*e*P	**P**	**10 20 09.9**	**0.0**
	comp=Z,9.9nm,0.8s,mb4.3						
SMF	**Signal de Mont**	**82.58**	**339**	*e*P	**P**	**10 20 10.0**	**0.0**
LPL	**La Plagne**	**82.89**	**337**	*e*P	**P**	**10 20 12.3**	**+0.7**
	comp=Z,6.9nm,0.9s,mb4.1						
LPG	**La Plagne**	**82.91**	**337**	*e*P	**P**	**10 20 12.6**	**+0.9**
TCF	**Toulx Ste Croi**	**83.31**	**340**	*e*P	**P**	**10 20 14.2**	**+0.5**
	comp=Z,8.3nm,0.8s,mb4.2						
MBDF	**Montbardon**	**83.61**	**336**	*e*P	**P**	**10 20 15.6**	**+0.4**
ORIF	**Oris-en-Rattie**	**83.67**	**337**	*e*P	**P**	**10 20 16.5**	**+1.0**
	comp=Z,6.9nm,0.8s,mb4.2						
VIVF	**Saint-Julien-l**	**84.05**	**338**	*e*P	**P**	**10 20 17.5**	**+0.2**
PGF	**Pioggiola**	**84.98**	**334**	*e*P	**P**	**10 20 22.0**	**-0.1**

GUC 18 10:09:39.1±0.8**, 34.12S**×**70.04W, h5^{km}**±2^{km}**, MD3.5, ML2.3, 5C-4D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LMEL	**Las Melosas**	**0.30**	**334**	⇑*i*P	Pg	10 09 45.8	+0.6
LMEL				*i*S	Sg	10 09 50.6	+1.3
LMEL				AMP		10 09 51.6	
	comp=E,858nm,0.2s						
LMEL				AMP		10 09 52.2	
	comp=N,887nm,0.2s						
CICH	**Cipreses**	**0.37**	**238**	⇑*i*P	Pg	10 09 46.8	+0.3
CICH				*i*S	Sg	10 09 52.6	+1.1
CACH	**El Canelo**	**0.46**	**270**	⇑*i*P	Pg	10 09 48.6	+0.2
CACH				*i*S	Sg	10 09 55.4	+0.8
CHCH	**Chadas Angostu**	**0.54**	**290**	⇓*i*P	Pg	10 09 50.2	+0.3
SJCH	**San Jose de Ma**	**0.55**	**331**	*i*P	Pg	10 09 49.5	-0.5
SJCH				*i*S	Sg	10 09 57.9	+0.6
SJCH				AMP		10 09 59.1	
	comp=E,251nm,0.5s						
SJCH				AMP		10 09 59.6	
	comp=N,194nm,0.6s						
PCH	**Pirque**	**0.64**	**322**	⇓*i*P	Pg	10 09 52.0	+0.1
PCH				*i*S	Sg	10 10 01.8	+1.5
FCH	**Farellones**	**0.82**	**345**	*e*P	Pb	10 09 55.0	-0.4
FCH				⇓*i*P		10 09 55.2	
FCH				*i*S	Sg	10 10 07.9	+1.5
FCH				AMP		10 10 08.2	
	comp=N,241nm,0.2s						
FCH				AMP		10 10 08.3	
	comp=E,298nm,0.2s						
CLCH	**Cerro Calan**	**0.83**	**330**	⇑*i*P	Pb	10 09 55.5	-0.2
CLCH				*i*S	Sg	10 10 07.9	+1.0
CLCH				AMP		10 10 10.7	
	comp=N,210nm,0.5s						
CLCH				AMP		10 10 11.4	
	comp=E,338nm,0.5s						
DSCH	**Colegio Aleman**	**0.84**	**328**	⇑*i*P	Pb	10 09 56.0	+0.2
DSCH				*i*S	Sg	10 10 08.2	+1.0
DSCH				AMP		10 10 11.7	
	comp=N,207nm,0.4s						
DSCH				AMP		10 10 13.3	
	comp=E,244nm,0.9s						
TACH	**Talagante**	**0.88**	**302**	*e*P	Pb	10 09 55.9	-0.5
RCDM	**Rinconada Maip**	**0.90**	**314**	⇓*i*P	Pb	10 09 56.6	-0.2
RCDM				*i*S	Sb	10 10 09.8	+1.1
RCDM				AMP		10 10 10.6	
	comp=N,158nm,0.1s						
RCDM				AMP		10 10 10.8	
	comp=E,200nm,0.2s						
SFDO	**San Fernando**	**0.94**	**238**	*i*P	Pb	10 09 57.1	-0.5
SFDO				*i*S	Sb	10 10 10.4	+0.3
LNV	**Longovilo**	**1.15**	**278**	*i*P	Pb	10 10 00.5	-0.5
LNV				*i*S	Sb	10 10 16.3	+0.2

NAO ***18*** *10:14:49.2±1.7, 67.57N×30.34E, ML2.3*
HEL ***18*** *10:14:50.2±0.1, 67.60N×30.42E, ML1.9, ML1.8(UPP), ML2.3(NAO), Explosion*
BER ***18*** *10:14:50.1±3.0, 67.57N×30.40E, ML2.3(NAO), Suspected explosion*
ISC 18 10:14:48.7±0.6**, 67.57N**±0.05×**30.48E**±0.09**, n19, σ0^{s}49**/22**, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
APA0	**Apatity Array**	**0.96**	**87**	*e*P	**Pg**	**10 15 07.7**	**-0.3**
APA0				*e*S	**Sg**	**10 15 20.6**	**-0.2**
APA0	**Apatity Array**	**0.96**	**87**	Pg	**Pg**	**10 15 07.7**	**-0.3**
	baz=267,slow=16						
APA0				Lg		10 15 20.6	
	baz=265,slow=37						
SGF	**Sodankyl**	**1.53**	**267**	*e*P	**Pn**	**10 15 17.4**	**+0.1**
SGF				*e*S	**Sb**	**10 15 37.6**	**+0.1**
MSF	**Maaselka**	**1.76**	**200**	*e*P	**Pn**	**10 15 21.7**	**+1.0**
MSF				*e*S	**Sn**	**10 15 44.7**	**+0.6**
KEV	**Kevo**	**2.54**	**332**	*e*P	**Pn**	**10 15 32.8**	**+0.9**
KEV				*e*SG	**Sg**	**10 16 07.2**	**-6.1**
KEV				MSG		10 16 09.1	
	comp=Z,5.4nm,0.2s						
ARA0	**ARCESS Array S**	**2.69**	**319**	*e*P	**Pn**	**10 15 34.5**	**+0.4**
ARA0				*e*SG	**Sg**	**10 16 10.9**	**-7.4**
ARA0	**ARCESS Array S**	**2.69**	**319**	Pn	**Pn**	**10 15 34.5**	**+0.4**
	baz=140,slow=16						
ARA0				Lg		10 16 10.9	
	baz=143,slow=37						
PAJU	**Pajala**	**2.91**	**263**	*e*P	**Pn**	**10 15 37.1**	**-0.1**
OUL	**Oulu**	**3.10**	**219**	*e*SB	**Sb**	**10 16 22.9**	**-0.3**
MASU	**Masugnsbyn**	**3.26**	**272**	*e*P	**Pn**	**10 15 42.0**	**-0.1**
ERTU	**Ertsjaerv**	**3.40**	**256**	*e*P	**Pn**	**10 15 44.2**	**+0.1**
KJN	**Kajaani**	**3.68**	**199**	*e*SG	**Sg**	**10 16 44.4**	**-6.8**
KJN				MSG		10 16 46.1	
	comp=Z,1.8nm,0.2s						
DUNU	**Dundret**	**3.86**	**268**	*e*P	**Pn**	**10 15 50.2**	**-0.5**
DUNU				*e*S	**Sn**	**10 16 37.4**	**-0.1**
KUA	**Kurravaara**	**3.88**	**280**	*e*P	**Pn**	**10 15 50.5**	**-0.3**
SJUU	**Sjulsmark**	**4.11**	**244**	*e*P	**Pn**	**10 15 53.1**	**-1.1**
NIKU	**Nikkaluokta**	**4.37**	**279**	*e*P	**Pn**	**10 15 57.6**	**-0.3**
FIA0	**FINESS Array S**	**6.43**	**199**	Lg		10 18 08.3	
	baz=28,slow=37						
FIA0	**FINESS Array S**	**6.43**	**199**	*e*SG		10 18 08.3	
FIA0	**FINESS Array S**	**6.43**	**199**	Lg		10 18 08.3	
	baz=28,slow=37						

LDG ***18*** *10:26:39.2±0.3, 43.13N×0.39W, h2^{km}, Md1.9/2, Ml1.4/1, Error ellipse: s-maj=7.1km s-min=1.9km az=155.0*
STR ***18*** *10:26:39.8±0.3, 43.04N×0.34W, h10^{km}±1^{km}, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 18 10:26:37.9±2.0**, 43.18N**±0.10×**0.37W**±0.08**, h2^{km}, n5, σ0^{s}80**/9**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ETSF	**Etsaut**	**0.31**	**206**	*e*Pg	**Pg**	**10 26 44.6**	**+0.5**
ETSF				*e*Sg	**Sg**	**10 26 47.5**	**-0.8**
	12nm,0.5s						
FDAF	**Les Forges d'A**	**0.39**	**202**	Pg	**Pg**	**10 26 45.9**	**+0.3**
FDAF				Sg	**Sg**	**10 26 50.6**	**-0.2**
VIEF	**Viey**	**0.41**	**135**	Pg	**Pg**	**10 26 46.6**	**+0.4**
VIEF				Sg	**Sg**	**10 26 51.4**	**-0.3**
EPF	**Esparros**	**0.54**	**106**	*e*Pg	**Pg**	**10 26 49.2**	**+0.5**
EPF				*e*Sg	**Sg**	**10 26 57.2**	**+1.2**
	3.9nm,0.3s						
MTLF	**Montolieu**	**1.90**	**84**	*e*Sg	**Sg**	**10 27 39.4**	**-1.7**

0.4nm,0.2s

*ZUR **18** 10:26:46.2, 46.30N×7.52E, h6^{km}, ML1.9/7*
*LDG **18** 10:26:47.6±0.1, 46.30N×7.50E, h2^{km}, Ml2.3/16, Error ellipse: s-maj=2.5km s-min=1.1km az=95.0*
*STR **18** 10:26:49.4±0.5, 46.43N×7.66E, h10^{km}±1^{km}, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 18 10:26:45.8±0.3, **46.32N**±0.01×**7.49E**±0.03, **h6**^{km}±3^{km}, **n30**, σ**1^{s}11**/64, **7C-2D, Switzerland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LKBD	**Leukerbad**	**0.11**	**56**	⇑ *i*Pg	**Pg**	**10 26 49.2**	**+0.9**
	16nm,0.1s						
LKBD				*i* Sg	**Sg**	**10 26 50.8**	**+0.8**
	16nm,0.1s						
SENIN	**Lac Senin**	**0.14**	**287**	⇓ *i*Pg	**Pg**	**10 26 50.0**	**+1.2**
	16nm,0.3s						
SENIN				*i* Sg	**Sg**	**10 26 52.4**	**+1.6**
	16nm,0.3s						
DIX	**Grande Dixence**	**0.25**	**193**	⇑ *i*Pg	**Pg**	**10 26 51.6**	**+0.7**
	9.4nm,0.4s						
DIX				*i* Sg	**Sg**	**10 26 54.7**	**+0.4**
	9.4nm,0.4s						
GRYON	**Gryon**	**0.27**	**255**	*e*Pg	**Pg**	**10 26 52.2**	**+0.8**
	3.1nm,0.2s						
GRYON				*e*Sg	**Sg**	**10 26 56.4**	**+1.3**
	3.1nm,0.2s						
WIMIS	**Wimmis**	**0.35**	**15**	⇑ *i*Pg	**Pg**	**10 26 53.9**	**+1.0**
	2.6nm,0.2s						
WIMIS				*i* Sg	**Sg**	**10 26 59.1**	**+1.4**
	2.6nm,0.2s						
SALAN	**Lac Salanfe**	**0.40**	**244**	⇑ *i*Pg	**Pg**	**10 26 54.7**	**+0.8**
	2.1nm,0.3s						
SALAN				*i* Sg	**Sg**	**10 27 00.1**	**+0.8**
	2.1nm,0.3s						
MMK	**Mattmark**	**0.43**	**129**	⇓ *i*Pg	**Pg**	**10 26 54.3**	**-0.1**
	0.4nm,0.1s						
MMK				*e*Sg	**Sg**	**10 26 59.4**	**-0.7**
	0.4nm,0.1s						
EMV	**Vieux Emosson**	**0.49**	**238**	⇑ *i*Pg	**Pg**	**10 26 56.1**	**+0.5**
	1.5nm,0.2s						
EMV				*e*Sg	**Sg**	**10 27 02.5**	**+0.4**
	1.5nm,0.2s						
HASLI	**Hasliberg**	**0.63**	**46**	*e*Pg	**Pg**	**10 26 58.8**	**+0.4**
	1.0nm,0.4s						
FUSIO	**Fusio**	**0.82**	**80**	⇑ *i*Pg	**Pg**	**10 27 02.0**	**-0.2**
	0.5nm,0.3s						
BNALP	**Bannalp**	**0.84**	**49**	*e*Pg	**Pg**	**10 27 02.8**	**+0.1**
	0.8nm,0.2s						
LPL	**La Plagne**	**0.96**	**214**	*e*Pg	**Pg**	**10 27 04.9**	**-0.2**
LPL				*e*Sg	**Sg**	**10 27 18.1**	**+0.1**
LPL				*e*Sn	**Sn**	**10 27 19.8**	**+0.1**
	6.0nm,0.3s						
LPG	**La Plagne**	**0.97**	**212**	*e*Pg	**Pg**	**10 27 05.4**	**+0.1**
LPG				*e*Sg	**Sg**	**10 27 18.4**	**+0.1**
LPG				*e*Sn	**Sn**	**10 27 20.6**	**+0.6**
	18nm,0.5s						
CABF	**La Chapelle**	**1.01**	**287**	*e*Pg	**Pg**	**10 27 07.0**	**+1.0**
CABF				*e*Pn	**Pn**	**10 27 07.7**	**+1.4**
CABF				*e*Sg	**Sg**	**10 27 20.5**	**+1.0**
	12nm,0.4s						
LOMF	**Lomont**	**1.12**	**336**	Pg	**Pg**	**10 27 09.9**	**+1.7**
LOMF				Sg	**Sg**	**10 27 25.1**	**+1.9**
MUGIO	**Muggio**	**1.15**	**110**	⇑ *i*Pg	**Pg**	**10 27 08.0**	**-0.8**
	1.5nm,0.5s						
MUGIO				*e*Sg	**Sg**	**10 27 22.2**	**-2.0**
	1.5nm,0.5s						
MOF	**Molkenrain**	**1.55**	**351**	Pg	**Pg**	**10 27 16.7**	**0.0**
MOF				Sg	**Sg**	**10 27 37.4**	**0.0**
HINF	**Hinteralfeld**	**1.56**	**344**	*e*Pn	**Pn**	**10 27 15.0**	**+0.9**
HINF				*e*Pg	**Pg**	**10 27 17.0**	**+0.1**
HINF				*e*Sn	**Sn**	**10 27 34.8**	**+0.1**
HINF				*e*Sg	**Sg**	**10 27 36.9**	**-0.7**
	8.0nm,0.3s						
MBDF	**Montbardon**	**1.68**	**198**	*e*Pn	**Pn**	**10 27 16.8**	**+1.0**
MBDF				*e*Pg	**Pg**	**10 27 18.9**	**-0.3**
MBDF				*e*Sg	**Sg**	**10 27 39.9**	**-1.7**
	6.7nm,0.4s						
ORIF	**Oris-en-Rattie**	**1.80**	**219**	*e*Pg	**Pg**	**10 27 21.0**	**-0.8**
ORIF				*e*Sg	**Sg**	**10 27 43.1**	**-2.8**
	4.3nm,0.4s						
HAU	**Haudompre**	**1.85**	**336**	*e*Pn	**Pn**	**10 27 18.9**	**+0.5**
HAU				*e*Pg	**Pg**	**10 27 22.3**	**-0.5**
HAU				*e*Sn	**Sn**	**10 27 41.4**	**-0.9**
HAU				*e*Sg	**Sg**	**10 27 46.1**	**-1.4**
	9.7nm,0.3s						
CDF	**Champ du Feu**	**2.10**	**356**	*e*Pn	**Pn**	**10 27 22.1**	**+0.3**
CDF				*e*Pg	**Pg**	**10 27 26.9**	**-0.7**
CDF				*e*Sg	**Sg**	**10 27 54.2**	**-1.3**
	2.6nm,0.2s						
VIVF	**Saint-Julien-l**	**2.46**	**234**	*e*Pn	**Pn**	**10 27 27.0**	**-0.1**
VIVF				*e*Pg	**Pg**	**10 27 32.7**	**-2.3**
VIVF				*e*Sg	**Sg**	**10 28 03.2**	**-4.6**
	3.5nm,0.3s						
SMF	**Signal de Mont**	**2.54**	**279**	*e*Pn	**Pn**	**10 27 29.2**	**+1.0**
SMF				*e*Pg	**Pg**	**10 27 36.1**	**-0.4**
SMF				*e*Sg	**Sg**	**10 28 07.8**	**-2.6**
	2.0nm,0.2s						
LOR	**Lormes**	**2.67**	**292**	*e*Pg	**Pg**	**10 27 37.5**	**-1.5**
LOR				*e*Sg	**Sg**	**10 28 11.9**	**-2.7**
	1.6nm,0.3s						
RFYF	**Reffroy**	**2.68**	**330**	*e*Sg	**Sg**	**10 28 12.6**	**-2.5**
	2.5nm,0.3s						
MEZF	**Maizieres J'vi**	**2.74**	**324**	*e*Sg	**Sg**	**10 28 14.7**	**-2.2**
	3.4nm,0.3s						
SSF	**Saint Saulge**	**2.84**	**287**	*e*Sg	**Sg**	**10 28 17.4**	**-2.9**
	1.6nm,0.3s						
AVF	**Avril sur Loir**	**2.89**	**281**	*e*Pn	**Pn**	**10 27 33.6**	**+0.4**
AVF				*e*Sg	**Sg**	**10 28 18.5**	**-3.6**
	3.5nm,0.8s						
BGF	**Bois d'Agland**	**3.22**	**276**	*e*Pn	**Pn**	**10 27 38.6**	**+0.7**

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*LDG **18** 10:32:55.3±0.6, 42.90N×1.47W, h2^{km}, Md2.1/2, Ml2.0/3, Error ellipse: s-maj=10.5km s-min=7.1km az=41.0*
*MDD **18** 10:32:56.0±0.6, 42.87N×1.39W, h6^{km}±8^{km}, mbLg1.3/6, Error ellipse: s-maj=5.1km s-min=3.3km az=47.0, PRXIMO AftershockPLICA*
ISC 18 10:32:53.2±0.8, **42.83N**±0.04×**1.47W**±0.06, **h6**^{km}, **n14**, σ**1^{s}15**/22, **Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	**0.34**	**32**	*e*Pg	**Pg**	**10 33 01.3**	**+1.3**
SJPF				*e*Sg	**Sg**	**10 33 03.9**	**-0.6**
	13nm,0.3s						
EALK	**Alkurruntz**	**0.39**	**356**	Pg	**Pg**	**10 33 02.5**	**+1.4**
	1.4nm,0.1s,SNR=7.9						
EALK				Lg		10 33 08.3	
	5.1nm,0.1s,SNR=7.9						
LARF	**Larrau**	**0.41**	**59**	P	**Pg**	**10 33 02.2**	**+0.8**
LARF				S	**Sg**	**10 33 08.0**	**+1.0**
OSSF	**Osses**	**0.45**	**19**	P	**Pg**	**10 33 03.3**	**+1.0**
OSSF				S	**Sg**	**10 33 08.7**	**+0.3**
ETSF	**Etsaut**	**0.67**	**84**	*e*Pg	**Pg**	**10 33 06.9**	**+0.3**
ETSF				*e*Sg	**Sg**	**10 33 15.8**	**+0.2**
	2.9nm,0.2s						
ESAC	**San Caprasio**	**1.33**	**146**	Pg	**Pg**	**10 33 19.7**	**0.0**
	5.4nm,0.2s,SNR=4.0						
ESAC				Lg		10 33 37.9	
	9.8nm,0.3s,SNR=4.0						
EPF	**Esparros**	**1.34**	**81**	*e*Pn	**Pn**	**10 33 19.0**	**+0.6**
EPF				*e*Pg	**Pg**	**10 33 21.4**	**+1.4**
EPF				*e*Sg	**Sg**	**10 33 38.0**	**+0.1**
	4.0nm,0.2s						
ETOR	**Torete**	**2.05**	**193**	Pg	**Pg**	**10 33 34.6**	**+0.4**
	SNR=7.9						
ETOR				Lg		10 33 58.5	
	0.9nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**2.40**	**127**	Pg	**Pg**	**10 33 37.1**	**-4.0**
	SNR=4.0						
EPOB				Lg		10 34 09.2	
	SNR=4.0						
LFF	**La Frestale**	**2.65**	**36**	*e*Pg	**Pg**	**10 33 43.8**	**-2.2**
LFF				*e*Sg	**Sg**	**10 34 16.2**	**-5.1**
	3.7nm,0.3s						
MTLF	**Montolieu**	**2.75**	**78**	*e*Pg	**Pg**	**10 33 46.5**	**-1.5**
MTLF				*e*Sn	**Sn**	**10 34 11.5**	**-0.9**
	0.3nm,0.3s						
CAF	**Calviac**	**3.30**	**49**	*e*Pn	**Pn**	**10 33 45.1**	**-1.4**
MFF	**Saint Martin d**	**3.89**	**14**	*e*Pn	**Pn**	**10 33 53.1**	**-1.7**
BGF	**Bois d'Agland**	**4.83**	**38**	*e*Pn	**Pn**	**10 34 05.0**	**-3.2**

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*IDC **18** 11:03:57.8±9.9, 28.84N×55.68E, mb3.7/4, mb1 3.9/5, mb1mx3.6/20, ML4.1/1, Error ellipse: s-maj=203.0km s-min=35.2km az=176.0*
ISC 18 11:03:57.9±6.2, **28.9N**±0.9×**55.7E**±0.2, **h10**^{km}, **n6**, σ**0^{s}86**/6, **mb3.5**/4, **Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASF	**Jabal al Asfar**	**16.51**	**286**	Pn	**P**	**11 07 51.0**	**-0.2**
	0.7nm,0.3s,baz=206,slow=10,SNR=5.5						
BRTR	**Keskin Array B**	**21.12**	**307**	P	**P**	**11 08 45.9**	**+0.8**
	1.0nm,0.6s,mb3.3,baz=124,slow=14,SNR=4.4						
MKAR	**Makanchi Array**	**27.39**	**42**	P	**P**	**11 09 45.5**	**+0.2**
	0.4nm,0.7s,mb3.1,baz=234,slow=10,SNR=4.3						
FINES	**FINESS Array B**	**38.01**	**337**	P	**P**	**11 11 17.9**	**+0.2**
	4.2nm,1.1s,mb4.1,baz=149,slow=11,SNR=5.1						
NB2	**NORSAR Subarra**	**43.58**	**330**	P	**P**	**11 12 02.4**	**-1.0**
	0.8nm,0.5s,mb3.7,baz=120,slow=7.9						
NOA	**NORSAR Array B**	**43.58**	**330**	P	**P**	**11 12 02.4**	**-1.0**
	1.0nm,0.5s,mb3.8,baz=117,slow=7.9,SNR=5.0						

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*IDC **18** 11:09:51.4±1.7, 0.47S×134.28E, mb3.6/3, mb1 3.8/5, mb1mx3.6/16, ML3.4/2, Error ellipse: s-maj=60.2km s-min=23.0km az=72.0*
*NEIC **18** 11:09:53.7±1.5, 0.54S×134.12E, h10^{km}, mb3.8/2, Error ellipse: s-maj=35.9km s-min=20.1km az=70.0*
ISC 18 11:09:55.0±1.5, **0.6S**±0.2×**134.1E**±0.3, **h33**^{km}, **n9**, σ**1^{s}26**/9, **mb3.6**/3, **Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**19.24**	**179**	*e*P	**P**	**11 14 19.7**	**+0.3**
	4.3nm,0.8s						
WRA	**Warramunga Arr**	**19.25**	**179**	P	**P**	**11 14 17.1**	**-2.5**
	0.2nm,0.3s,baz=0.3,slow=11,SNR=14						
WB2	**Warramunga Arr**	**19.25**	**179**	*e*P	**P**	**11 14 17.8**	**-1.8**
FITZ	**Fitzroy Crossi**	**19.28**	**205**	P	**P**	**11 14 21.4**	**+1.5**
	0.1nm,0.3s,baz=319,slow=18,SNR=2.7						
CTA	**Charters Tower**	**22.78**	**149**	P	**P**	**11 14 56.9**	**+0.9**
	3.6nm,0.9s,mb3.8,baz=332,slow=10,SNR=4.4						
CTAO	**Charters Tower**	**22.78**	**149**	P	**P**	**11 14 57.5**	**+1.6**
	2.6nm,0.6s,mb3.8						
ASAR	**Alice Springs**	**22.95**	**180**	P	**P**	**11 14 57.5**	**-0.2**
	1.6nm,0.8s,mb3.5,baz=8.3,slow=10,SNR=15						
ASPA	**Alice Springs**	**22.96**	**180**	*e*P	**P**	**11 14 58.7**	**+1.0**
MKAR	**Makanchi Array**	**65.29**	**324**	P	**P**	**11 20 35.5**	**-0.3**
	0.3nm,0.5s,mb3.6,baz=115,slow=9.1,SNR=3.4						

IDC 18 11:13:41.8±22.0, **2.72N**×**99.57E**, **h237**^{km}±203^{km}, **mb3.4**/6, **mb1 3.5**/7, **mb1mx3.2**/18, **ML4.4**/1, **MS3.3**/2, **Ms1 3.4**/2, **ms1mx2.8**/18, **Error ellipse: s-maj=248.0km s-min=13.3km az=56.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**15.65**	**358**	P	P	11 17 09.5	-2.2
	0.6nm,0.3s,baz=193,slow=11,SNR=14						
CMAR				LR	LR	11 24 25.1	
	comp=Z,50nm,18.2s,baz=145,slow=41						
FITZ	**Fitzroy Crossi**	**32.98**	**130**	P	P	11 19 54.4	-2.2
	2.3nm,0.9s,baz=315,slow=4.3,SNR=4.6						
WRA	**Warramunga Arr**	**40.89**	**125**	P	P	11 21 00.9	-1.8
	0.7nm,0.5s,baz=313,slow=9.7,SNR=17						
ASAR	**Alice Springs**	**42.48**	**130**	P	P	11 21 14.8	-0.8
	0.4nm,0.6s,baz=300,slow=8.2,SNR=5.5						
MKAR	**Makanchi Array**	**46.40**	**344**	P	P	11 21 44.9	-1.5
	0.9nm,0.3s,baz=159,slow=8.5,SNR=15						
BVAR	**Borovoye Array**	**55.64**	**339**	P	P	11 22 52.9	-2.3
	0.9nm,0.5s,baz=143,slow=7.4,SNR=6.1						
BRTR	**Keskin Array B**	**69.87**	**311**	LR	LR	11 57 17.6	
	comp=Z,41nm,21.7s,baz=85,slow=37						
FINES	**FINESS Array B**	**79.76**	**332**	P	P	11 25 23.2	-1.4
	5.1nm,1.2s,baz=101,slow=7.1,SNR=3.2						

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*NIED **18** 11:15:00, 24.80N×122.20E, h113^{km}, Mw3.7 Best double couple: M$_0$4.42×10^{14} NP1:φ$_s$239°, δ56°, λ126°. NP2:φ$_s$7°, δ48°, λ49°.*
*IDC **18** 11:15:44.3±1.0, 24.59N×121.64E, mb3.8/7, mb1 4.0/8, mb1mx3.8/22, ML3.9/1, MS2.9/1, Ms1 2.9/1, ms1mx2.3/24, Error ellipse: s-maj=31.5km s-min=18.1km az=62.0*
*TAP **18** 11:15:56.8, 24.89N×122.26E, h107^{km}, ML4.1*
*NEIC **18** 11:15:56.1±0.7, 24.85N×122.26E, h109^{km}±7^{km}, mb4.3/1, Error ellipse: s-maj=13.1km s-min=10.6km az=54.0*
*JMA **18** 11:15:57.0±0.3, 24.81N×122.24E, h110^{km}, M3.6*
ISC 18 11:15:55.3±0.7, **24.88N**±0.06×**122.21E**±0.06, **h120**^{km}±5^{km}, **n28**, σ**0^{s}84**/38, **mb3.8**/8, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TATO	**Taipei**	**0.66**	**279**	*e*P	**P**	**11 16 14.6**	**+0.1**
YOJ	**Yonaguni jima**	**0.84**	**119**	P	**P**	**11 16 16.3**	**+0.2**
YOJ				S	**S**	**11 16 30.7**	**-1.0**
IRIF	**Iriomote-Funau**	**1.49**	**111**	P	**P**	**11 16 22.8**	**-0.3**
IRIF				S	**S**	**11 16 43.1**	**-1.0**
HATJ	**Hateruma jima**	**1.67**	**119**	P	**P**	**11 16 25.6**	**+0.4**
HATJ				S	**S**	**11 16 48.0**	**+0.2**
JKRS	**Kuro-shima**	**1.76**	**111**	P	**P**	**11 16 26.6**	**+0.3**
JKRS				S	**S**	**11 16 49.3**	**-0.4**
JIJ	**Ishigaki jima**	**1.83**	**106**	P	**P**	**11 16 27.5**	**+0.3**
JIJ				S	**S**	**11 16 50.3**	**-1.0**
JTJ	**Tarama**	**2.28**	**95**	P	**P**	**11 16 33.8**	**+0.9**
JTJ				S	**S**	**11 17 02.3**	**+1.0**
JMJ	**Miyako jima 2**	**2.81**	**91**	P	**P**	**11 16 41.9**	**+2.0**
JOGS	**Gusukube**	**2.91**	**92**	P	**P**	**11 16 42.3**	**+1.0**
JOGS				*e*S	**S**	**11 17 17.4**	**+1.3**
JKE	**Kume jima 2**	**4.38**	**70**	P	**P**	**11 17 01.4**	**+0.4**
JKE				*e*S	**S**	**11 17 52.4**	**+0.9**
JAGN	**Aguni-jima**	**4.85**	**68**	P	**P**	**11 17 07.8**	**+0.4**
JAGN				*e*S	**S**	**11 18 03.1**	**+0.2**
JIH	**Iheya**	**5.61**	**66**	P	**P**	**11 17 17.6**	**0.0**
JOW	**Kunigami**	**5.80**	**69**	Pn	**P**	**11 17 19.2**	**-1.0**
	6.4nm,0.3s,baz=229,slow=12,SNR=34						
JOW				Sn	**S**	**11 18 23.8**	**-2.2**
	1.0nm,0.3s,baz=145,slow=26,SNR=2.2						
JOW	**Kunigami**	**5.80**	**69**	P	**P**	**11 17 19.1**	**-1.1**
JOW				*e*S	**S**	**11 18 25.1**	**-0.9**
JTK	**Tokunoshima**	**6.71**	**63**	P	**P**	**11 17 30.9**	**-1.7**
JAM	**Amami Oshima**	**7.50**	**60**	P	**P**	**11 17 41.7**	**-1.6**
JMZ	**Minamidaito 2**	**8.21**	**82**	P	**P**	**11 17 49.0**	**-3.9**
JNU	**Nakatsue**	**11.18**	**41**	LR	LR	11 22 45.7	
	comp=Z,64nm,20.4s,baz=10,slow=36						
CMAR	**Chiang Mai Arr**	**22.53**	**258**	P	**P**	**11 20 38.8**	**-7.0**
	1.0nm,0.4s,mb3.5,baz=30,slow=17,SNR=5.0						
SONM	**Songino Array**	**26.11**	**335**	P	**P**	**11 21 20.1**	**+0.5**
	1.5nm,0.7s,mb3.5,baz=149,slow=9.7,SNR=8.8						
MKAR	**Makanchi Array**	**38.50**	**315**	P	**P**	**11 23 07.6**	**+0.3**
	0.3nm,0.5s,mb3.4,baz=99,slow=9.3,SNR=3.3						
MKAR	**Makanchi Array**	**38.50**	**315**	P	**P**	**11 23 07.6**	**+0.3**
FITZ	**Fitzroy Crossi**	**42.85**	**175**	P	**P**	**11 23 42.9**	**-0.4**
	1.4nm,0.8s,mb3.7,baz=101,slow=7.3,SNR=2.5						
WRAB	**Tennant Creek**	**46.08**	**164**	*e*P	**P**	**11 24 09.0**	**-0.1**
	4.3nm,0.8s,mb4.2						
WRA	**Warramunga Arr**	**46.09**	**164**	P	**P**	**11 24 09.2**	**0.0**
	2.9nm,0.6s,mb4.2,baz=347,slow=8.5,SNR=28						
WB2	**Warramunga Arr**	**46.09**	**164**	*e*P	**P**	**11 24 09.4**	**+0.2**
ASAR	**Alice Springs**	**49.57**	**166**	P	**P**	**11 24 36.4**	**+0.2**
	1.2nm,0.7s,mb4.0,baz=346,slow=6.9,SNR=14						
STKA	**Stephens Creek**	**59.40**	**161**	P	**P**	**11 25 46.8**	**-0.7**
	0.7nm,0.6s,mb3.9,baz=350,slow=13,SNR=3.2						

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*NIED **18** 11:41:00, 32.70N×140.70E, h68^{km}, Mw3.6 Best double couple: M$_0$2.9×10^{14} NP1:φ$_s$187°, δ63°, λ71°. NP2:φ$_s$44°, δ32°, λ123°.*
*IDC **18** 11:41:13.4±2.0, 32.71N×140.80E, h58^{km}±17^{km}, mb3.2/5, mb1 3.5/7, mb1mx3.4/21, Error ellipse: s-maj=31.9km s-min=17.2km az=64.0*
*NEIC **18** 11:41:14.8±1.9, 32.65N×140.87E, h74^{km}±17^{km}, Error ellipse: s-maj=22.6km s-min=14.1km az=103.0*
*JMA **18** 11:41:15.1±0.1, 32.70N×140.71E, h61^{km}±3^{km}, M3.5*
ISC 18 11:41:13.7±0.8, **32.62N**±0.05×**140.70E**±0.09, **h75**^{km}±8^{km}, **n26**, σ**0^{s}87**/35, **mb3.5**/5, **Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**0.90**	**304**	P	**P**	**11 41 31.7**	**+0.4**
JHJ2				S	**S**	**11 41 43.6**	**-0.9**
JHJ	**Hachijo jima 2**	**0.92**	**303**	P	**P**	**11 41 31.5**	**-0.2**
	254nm,0.3s,baz=150,slow=8.1,SNR=134						
JHJ				S	**S**	**11 41 43.0**	**-2.1**
	408nm,0.3s,baz=77,slow=17,SNR=39						
JMY	**Miyakejima3**	**1.75**	**326**	P	**P**	**11 41 42.7**	**0.0**
JKO	**Kozu shima**	**2.04**	**320**	P	**P**	**11 41 47.3**	**+0.7**
JKO				*e*S	**S**	**11 42 11.1**	**+0.2**
BSO1	**Boso 1**	**2.04**	**6**	P	**P**	**11 41 46.8**	**+0.2**
BSO1				*e*S	**S**	**11 42 11.7**	**+0.7**
NJJJ	**Nii jima 2**	**2.14**	**327**	P	**P**	**11 41 48.7**	**+0.7**
BSO3	**Boso 3**	**2.19**	**356**	P	**P**	**11 41 48.3**	**-0.3**
JIM2	**Oshima 3**	**2.35**	**333**	P	**P**	**11 41 50.9**	**0.0**
JIM2				*e*S	**S**	**11 42 17.4**	**-1.2**
JIZS	**Izushimoda**	**2.59**	**324**	P	**P**	**11 41 55.1**	**+0.8**
JIZS				S	**S**	**11 42 23.8**	**-0.9**
TK01	**Tokai 1**	**2.85**	**295**	P	**P**	**11 41 59.1**	**+1.1**
JOD2	**Odawara 2**	**2.96**	**333**	P	**P**	**11 41 59.6**	**+0.1**
JOD2				*e*S	**S**	**11 42 32.3**	**-1.7**
SHZ3	**Shizuoka 3**	**3.21**	**320**	P	**P**	**11 42 04.5**	**+1.6**
JYN	**Shimob**	**3.39**	**329**	P	**P**	**11 42 06.8**	**+1.4**
JRY	**Ryogami san**	**3.70**	**337**	P	**P**	**11 42 10.8**	**+0.9**
JIE	**Ise**	**3.78**	**299**	P	**P**	**11 42 11.8**	**+0.9**
JAG	**Ashikaga**	**3.94**	**345**	P	**P**	**11 42 12.3**	**-0.8**
MAJO	**Matsushiro**	**4.42**	**333**	*e*P	**P**	**11 42 20.3**	**+0.4**
MAT	**Matsushiro**	**4.42**	**333**	P	**P**	**11 42 20.2**	**+0.3**
MAT				S	**S**	**11 43 10.7**	**+0.2**
MAT	**Matsushiro**	**4.42**	**333**	*e*P	**P**	**11 42 20.0**	**+0.1**
MAT				*e*S	**S**	**11 43 11.0**	**+0.5**
CBIJ	**Chichi jima**	**5.65**	**166**	P	**P**	**11 42 36.2**	**-0.5**
	2.8nm,0.3s,baz=150,slow=22,SNR=6.0						
JNU	**Nakatsue**	**8.28**	**276**	P	**P**	**11 43 13.7**	**+0.6**
	0.7nm,0.3s,baz=65,slow=13,SNR=6.0						
SONM	**Songino Array**	**29.99**	**311**	P	**P**	**11 47 17.4**	**+0.2**
	0.3nm,0.5s,mb3.1,baz=114,slow=8.6,SNR=4.2						
MKAR	**Makanchi Array**	**46.09**	**306**	P	**P**	**11 49 31.7**	**-0.1**
	1.8nm,0.7s,mb3.9,baz=91,slow=9.7,SNR=19						
WRA	**Warramunga Arr**	**52.62**	**188**	P	**P**	**11 50 21.7**	**-0.6**
	0.2nm,0.4s,mb3.5,baz=6.3,slow=7.5,SNR=9.4						
ILAR	**Eielson Array**	**53.56**	**31**	P	**P**	**11 50 26.6**	**-2.0**
	0.3nm,0.6s,mb3.5,baz=265,slow=7.2,SNR=5.5						
ASAR	**Alice Springs**	**56.34**	**187**	P	**P**	**11 50 48.8**	**-0.6**
	0.3nm,0.9s,mb3.3,baz=5.6,slow=7.6,SNR=3.8						

JMA 18 11:42:09.2±0.3, **44.33N**×**148.03E**, **h57**^{km}, **M4.1**, **Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.92**	**241**	P	P	11 42 40.3	+0.2
NEM2				*e*S	S	11 43 02.5	-0.5
JRA	**Rausu**	**2.13**	**260**	P	P	11 42 43.1	0.0
JRA				*e*S	S	11 43 08.4	0.0
JNK	**Nakash**	**2.50**	**254**	P	P	11 42 48.4	-0.1
JNK				*e*S	S	11 43 18.0	+0.1
JAK	**Akkeshi**	**2.76**	**242**	P	P	11 42 51.5	-0.6
JAK				*e*S	S	11 43 23.3	-1.1
JTKR	**Abashiri--Toko**	**2.99**	**265**	P	P	11 42 54.3	-1.0
JAR	**Ashorobuto**	**3.25**	**253**	P	P	11 42 59.3	+0.3
JOB	**Onbets**	**3.36**	**246**	P	P	11 43 00.7	+0.1
JOB				*e*S	S	11 43 39.2	-0.4
JMP	**Maruseppu**	**3.38**	**266**	P	P	11 42 59.8	-1.0
JMP				*e*S	S	11 43 38.6	-1.3
JCH	**Churui**	**3.81**	**245**	P	P	11 43 06.9	+0.1
JKK2	**Kamakawa 2**	**3.83**	**265**	P	P	11 43 06.5	-0.7
JSE	**Soyaes**	**3.94**	**281**	P	P	11 43 06.5	-2.2
JFR	**Furan**	**4.11**	**255**	P	P	11 43 12.0	+0.9
JNBK	**Urakawa-nobuka**	**4.36**	**244**	P	P	11 43 13.5	-1.1

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*NEIC **18** 11:48:46.0, 30.45S×71.55W, h38^{km}, MD4.2(GUC), After GUC.*
GUC 18 11:48:46.0±0.7, **30.45S**×**71.55W**, **h38**^{km}±4^{km}, **MD4.2**, **ML3.4**, **2C-2D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OVCH	**Ovalle**	**0.34**	**118**	⇓ *i*P	P	11 48 54.3	-0.3
OVCH				*i* S	S	11 49 00.8	+0.2
OVCH				AMP		11 49 01.4	
	comp=N,7μm,0.2s						
LSCH	**La Serena**	**0.60**	**26**	*i* P	P	11 49 13.3	+15
LSCH				*i* S	S	11 49 22.1	+15
LSCH				AMP		11 49 22.8	
	comp=N,2μm,0.4s						
TLL	**Tololo Astrono**	**0.70**	**67**	⇓ *i*P	P	11 49 00.2	+0.7
TLL				*i* S	S	11 49 10.9	+1.6
TLL				AMP		11 49 12.7	
	comp=N,1μm,0.2s						
CMCH	**Combarbala**	**0.86**	**147**	⇑ *i*P	P	11 49 02.2	+0.4
CMCH				*i* S	S	11 49 15.0	+1.7
CMCH				AMP		11 49 16.7	
	comp=E,6μm,0.4s						
VACH	**Vallenar**	**1.99**	**21**	⇑ *i*P	P	11 49 07.5	-10
VACH				*i* S	S	11 49 32.6	-9.1
JACH	**Jahuel**	**2.37**	**160**	*e*P	P	11 49 24.3	+1.0
CLCH	**Cerro Calan**	**3.06**	**164**	*e*P	P	11 49 33.3	+0.1
CLCH				*e*S	S	11 50 08.8	-0.2
CLCH				AMP		11 50 30.1	
	comp=E,234nm,0.4s						
FCH	**Farellones**	**3.07**	**160**	*e*P	P	11 49 33.8	+0.6
FCH				*e*S	S	11 50 10.0	+1.0
FCH				AMP		11 50 31.5	
	comp=N,100nm,0.5s						
TACH	**Talagante**	**3.24**	**171**	*e*P	P	11 49 35.5	-0.2

MAN 18 11:54:46.8, 12.64N×**120.84E, h16**^{km}**, mb3.8, ML2.6, MS2.1, Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJMP	**San Jose**	**0.32**	**123**	*e*P	Pb	11 54 53.7	0.0
SJMP				*e*S	Sb	11 55 00.2	+1.9
BUSP	**Coron**	**0.89**	**225**	*e*P	Pb	11 55 04.5	+1.1
BUSP				*e*S	Sb	11 55 17.5	+2.7
OTRP	**Odiongan**	**1.18**	**103**	*e*P	Pb	11 55 08.1	-0.2
OTRP				*e*S	Sb	11 55 25.1	+1.9
LUBP	**Lubang**	**1.23**	**332**	*e*P	Pb	11 55 08.3	-1.0
LUBP				*e*S	Sb	11 55 25.9	+1.2
CUYO	**Cuyo Island**	**1.79**	**174**	*e*P	Pn	11 55 16.7	-0.7
CUYO				*e*S	Sn	11 55 42.1	+2.3
ENPP	**El Nido**	**1.99**	**224**	*e*P	Pn	11 55 26.1	+5.9

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*IDC **18** 12:12:02.1±0.8, 5.49S×103.12E, mb4.0/10, mb1 4.1/10, mb1mx4.1/16, MS3.8/1, Ms1 3.8/1, ms1mx2.9/20, Error ellipse: s-maj=35.2km s-min=14.5km az=56.0*
*NEIC **18** 12:12:03.7±0.6, 5.48S×103.20E, h10^{km}, mb4.4/5, Error ellipse: s-maj=28.0km s-min=10.2km az=53.0*
ISC 18 12:12:05.1±0.7, **5.5S**±0.1×**103.2E**±0.2, **h33**^{km}, **n16**, σ**0^{s}79**/16, **mb4.1**/13, **MS3.7**/1, **Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**22.36**	**136**	P	**P**	**12 17 07.8**	**+5.9**
	6.1nm,0.8s,mb4.1						
CMAR	**Chiang Mai Arr**	**24.14**	**350**	P	**P**	**12 17 19.6**	**+0.2**
	1.6nm,0.6s,mb3.6,baz=180,slow=9.0,SNR=15						
FITZ	**Fitzroy Crossi**	**25.25**	**122**	*e*P	**P**	**12 17 31.4**	**+1.3**
	4.3nm,0.9s,mb4.0						
FITZ	**Fitzroy Crossi**	**25.25**	**122**	P	**P**	**12 17 31.3**	**+1.2**
	3.1nm,0.6s,mb4.0,baz=171,slow=1.9,SNR=9.6						
WRA	**Warramunga Arr**	**33.51**	**118**	P	**P**	**12 18 43.5**	**-0.5**
	1.0nm,0.7s,mb3.9,baz=300,slow=9.3,SNR=13						
WRAB	**Tennant Creek**	**33.52**	**118**	*e*P	**P**	**12 18 41.7**	**-2.3**
	6.3nm,0.7s,mb4.7						
ASPA	**Alice Springs**	**34.64**	**125**	*e*P	**P**	**12 19 03.4**	**+10**
ASAR	**Alice Springs**	**34.65**	**125**	P	**P**	**12 18 53.6**	**-0.1**
	0.7nm,0.6s,mb3.8,baz=296,slow=7.0,SNR=15						
ASAR				LR	LR	12 34 02.7	
	comp=Z,126nm,18.3s,MS3.7,baz=199,slow=38						
STKA	**Stephens Creek**	**44.47**	**131**	*e*P	**P**	**12 20 16.4**	**+1.2**
	6.4nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**44.47**	**131**	P	**P**	**12 20 16.3**	**+1.1**
	3.8nm,0.6s,mb4.3,baz=303,slow=8.0,SNR=11						
SONM	**Songino Array**	**53.15**	**3**	P	**P**	**12 21 21.9**	**-0.1**
	1.5nm,0.8s,mb4.0,baz=184,slow=9.7,SNR=8.8						
MKAR	**Makanchi Array**	**55.24**	**343**	P	**P**	**12 21 37.4**	**0.0**
	2.8nm,0.6s,mb4.5,baz=146,slow=8.6,SNR=26						
BVAR	**Borovoye Array**	**64.54**	**339**	P	**P**	**12 22 40.8**	**-0.3**
	1.5nm,0.6s,mb4.2,baz=149,slow=8.6,SNR=9.4						
ZRNK	**Zerenda**	**64.99**	**338**	*e*P	**P**	**12 22 44.1**	**+0.1**
	3.2nm,1.1s,mb4.3						
MAW	**Mawson**	**67.78**	**196**	P	**P**	**12 23 01.0**	**-0.4**
	1.9nm,1.1s,mb4.0,baz=78,slow=9.3,SNR=3.2						

BRTR	Keskin Array B	78.01	312	P	P	12 24 02.5	+0.3
	0.6nm,0.5s,mb3.8,baz=140,slow=8.4,SNR=3.1						

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*NEIC **18** 12:17:06.0±1.0, 6.05S×148.73E, h49^{km}±10^{km}, mb4.5/3, Error ellipse: s-maj=20.5km s-min=7.9km az=140.0*

*IDC **18** 12:17:07.5±3.8, 6.13S×148.72E, h59^{km}±35^{km}, mb4.0/4, mb1 4.4/5, mb1mx3.9/12, ML4.7/1, MS3.0/1, Ms1 3.0/1, ms1mx2.6/12, Error ellipse: s-maj=52.3km s-min=16.1km az=127.0*

ISC 18 12:17:05.2±1.3, **6.1S**±0.2×**148.7E**±0.1, **h56**^{km}±13^{km}, **n16**, σ**0^{s}78**/18, **mb4.2**/5, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMBE	Kimbe	1.51	70	eP	P	12 17 30.1	-0.5
WAU	Wau	2.35	238	eP	P	12 17 42.8	+0.5
PMG	Port Moresby	3.64	205	eP	P	12 18 01.0	+0.5
CTA	Charters Tower	14.12	190	LR	LR	12 25 51.1	
	comp=Z,55nm,18.2s,baz=224,slow=37						
CTAO	Charters Tower	14.12	190	P	P	12 20 24.2	+0.3
	11nm,1.2s						
WRAB	Tennant Creek	19.61	224	eP	P	12 21 30.4	-1.3
	13nm,0.5s						
WB2	Warramunga Arr	19.61	224	eP	P	12 21 30.7	-1.1
WB2				eS	Sx	12 25 18.3	
WRA	Warramunga Arr	19.62	224	P	P	12 21 30.5	-1.4
	2.4nm,0.3s,baz=50,slow=11,SNR=40						
WRA				S	S	12 25 09.5	+4.6
	0.0nm,0.3s,baz=44,slow=17,SNR=3.2						
ASAR	Alice Springs	22.55	218	P	P	12 22 01.7	0.0
	4.0nm,0.4s,mb4.2,baz=59,slow=9.8,SNR=43						
ASAR				S	S	12 26 07.0	+6.5
	0.7nm,0.7s,baz=34,slow=24,SNR=4.8						
ASPA	Alice Springs	22.55	218	eP	P	12 22 02.4	+0.7
ASPA				eS	S	12 26 07.0	+6.5
FITZ	Fitzroy Crossi	25.50	240	eP	P	12 22 31.0	+0.8
	11nm,0.9s,mb4.4						
FITZ	Fitzroy Crossi	25.50	240	P	P	12 22 31.0	+0.9
	10nm,0.5s,mb4.6,baz=55,slow=4.3,SNR=40						
STKA	Stephens Creek	26.50	194	P	P	12 22 39.9	+0.5
	2.9nm,0.8s,mb3.8,baz=11,slow=13,SNR=3.6						
STKA	Stephens Creek	26.50	194	P	P	12 22 39.9	+0.5
KLBR	Kellerberrin	38.50	225	eP	P	12 24 23.7	-0.1
	7.8nm,0.5s,mb4.7						
ILAR	Eielson Array	84.90	23	P	P	12 29 35.6	+0.7
	1.0nm,0.7s,mb4.1,baz=251,slow=5.0,SNR=18						

TRN 18 12:24:18.8, 16.94N×61.15W, h35^{km}, MD3.5, 1D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DEG	La Desirade	0.63	172	eP	P	12 24 31.8	+0.6
SEG	Port Louis	0.64	213	⇓iP	P	12 24 33.0	+1.7
BPA	Boggy Peak	0.69	279	eP	P	12 24 34.1	+2.1
BPA				eS	S	12 24 43.8	+2.2
CPB	Codrington	0.95	317	eP	P	12 24 37.7	+1.9
CPB				eS	S	12 24 50.0	+1.7
MGG	Marie-Galante	1.03	189	eP	P	12 24 38.7	+1.8

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*IDC **18** 12:37:29.9±1.9, 23.83N×93.17E, mb4.0/4, mb1 4.1/5, mb1mx3.8/19, ML3.1/1, Error ellipse: s-maj=74.3km s-min=20.8km az=69.0*

*NEIC **18** 12:37:36.3±0.9, 23.87N×93.31E, h41^{km}±11^{km}, mb4.6/1, Error ellipse: s-maj=20.3km s-min=6.8km az=46.0*

ISC 18 12:37:36.6±1.4, **23.8N**±0.1×**93.02E**±0.07, **h74**^{km}±15^{km}, **n22**, σ**0^{s}96**/32, **mb4.0**/5, **2C**, **Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IMP	Imphal	1.25	41	⇑iPG	P	12 37 57.0	-1.9
AGT	Agartala	1.62	272	⇑iPG	Px	12 38 18.0	
AGT				i SG	Sx	12 38 47.0	
SHL	Shillong	2.00	329	eP	P	12 38 09.5	+0.5
SHL				eSG	S	12 38 37.0	+4.1
CMAR	Chiang Mai Arr	7.70	133	Pn	P	12 39 23.4	-4.8
	0.1nm,0.3s,baz=310,slow=14,SNR=5.2						
PKI	Pulchoki	7.80	300	ePn	P	12 39 30.9	+1.3
PKI				eSn	S	12 40 56.4	-0.7
	63nm,0.6s						
PKI	Pulchoki	7.80	300	ePn	P	12 39 30.9	+1.3
	31nm,0.6s						
PKI				eSn	S	12 40 56.4	-0.7
KKN	Kakani	8.01	301	ePn	P	12 39 33.2	+0.9
KKN				eSn	S	12 41 01.5	-0.6
	44nm,0.4s						
KKN	Kakani	8.01	301	ePn	P	12 39 33.2	+0.9
	22nm,0.4s						
KKN				eSn	S	12 41 01.5	-0.6
DMN	Daman	8.06	299	ePn	P	12 39 34.3	+1.2
DMN				eSn	S	12 41 03.7	+0.2
	56nm,0.5s						
DMN	Daman	8.06	299	ePn	P	12 39 34.3	+1.2
	28nm,0.5s						
DMN				eSn	S	12 41 03.7	+0.2
GKN	Gorkha	8.61	301	ePn	P	12 39 41.3	+0.7
GKN				eSn	S	12 41 16.2	-0.8
	66nm,0.3s						
GKN	Gorkha	8.61	301	ePn	P	12 39 41.3	+0.7
	33nm,0.3s						
GKN				eSn	S	12 41 16.2	-0.8
KOLN	Koldanda	9.34	297	ePn	P	12 39 50.4	-0.2
KOLN				eSn	S	12 41 33.0	-2.0
	42nm,0.5s						
KOLN	Koldanda	9.34	297	ePn	P	12 39 50.4	-0.2
	21nm,0.5s						
KOLN				eSn	S	12 41 33.0	-2.0
MKAR	Makanchi Array	24.47	342	P	P	12 42 51.2	+1.4
	0.3nm,0.4s,mb3.0,baz=148,slow=11,SNR=8.7						
MKAR	Makanchi Array	24.47	342	P	P	12 42 51.2	+1.4
SONM	Songino Array	26.21	21	P	P	12 43 06.1	0.0
	1.9nm,0.7s,mb3.6,baz=202,slow=8.3,SNR=16						
WRA	Warramunga Arr	59.29	134	P	P	12 47 32.9	-0.3
	1.7nm,0.5s,mb4.3,baz=323,slow=7.4,SNR=39						
WRAB	Tennant Creek	59.29	134	eP	P	12 47 32.9	-0.3
	3.3nm,0.7s,mb4.5						
WB2	Warramunga Arr	59.30	134	eP	P	12 47 33.0	-0.2
ASPA	Alice Springs	61.68	137	eP	P	12 47 49.8	+0.4
ASAR	Alice Springs	61.69	137	P	P	12 47 49.0	-0.4
	2.6nm,0.5s,mb4.5,baz=320,slow=6.9,SNR=45						

NEIC 18 12:39:20.8, 38.01N×118.68W, h6^{km}, ML3.4(REN), **MW3.5**(BRK), **1D, After REN., California-Nevada border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MNV	Mina	0.59	44	⇓iP	Pg	12 39 31.9	-0.7
MNV				eS	Sg	12 39 40.0	-0.6
MTUM	Tungsten Hills	0.66	172	eP	Pg	12 39 33.4	-0.5
MTUM				eS	Sg	12 39 42.3	-0.4
TPH	Tonopah	1.15	86	ePn	Pn	12 39 42.3	-1.1
CMB	Columbia Colle	1.35	272	ePn	Pn	12 39 45.2	-1.1
CMB				eS	Sb	12 40 02.7	-0.8
DAC	Darwin (Calif)	1.93	153	ePn	Pn	12 39 54.4	-0.1
DAC				ePg	Pg	12 39 57.0	-2.3
DAC				eSg	Sg	12 40 21.1	-3.9
TPNV	Topopah Spring	2.20	118	ePn	Pn	12 39 58.1	-0.3
TPNV				eSg	Sg	12 40 32.4	-1.7
LRV	Little Rabbit	2.44	231	eP	Pn	12 40 03.8	+1.9
SAO	San Andreas Ge	2.53	242	ePn	Pn	12 40 03.3	+0.2
SAO				eSg	Sg	12 40 38.8	-6.2
OHCM	Honcut	2.57	302	ePn	Pn	12 40 02.7	-0.9
OHCM				ePg	Pg	12 40 06.7	-5.3
BMN	Battle Mountai	2.67	25	ePn	Pn	12 40 05.1	-0.1
LKC	Lake Chabot	2.69	265	ePn	Pn	12 40 05.9	+0.4
NSHM	Saint Helena R	3.13	281	ePn	Pn	12 40 12.5	+0.8
HOPS	Hopland	3.59	287	Pn	Pn	12 40 18.6	+0.5
MWC	Mount Wilson	3.81	172	Pn	Pn	12 40 20.6	-0.6
MWC				ePg	Pg	12 40 30.7	-6.1
ELK	Elko	3.82	43	ePn	Pn	12 40 20.2	-1.2
WDC	Whiskeytown Da	3.95	312	Pn	Pn	12 40 23.1	-0.1
MOD	Modoc	4.09	343	Pn	Pn	12 40 25.8	+0.5
LDFC	Landfair	4.10	134	Pn	Pn	12 40 23.1	-2.3
ARUT	Antelope Range	4.15	91	Pn	Pn	12 40 25.3	-0.8
PFO	Pinyon Flat Ob	4.74	157	Pn	Pn	12 40 30.7	-3.9
YBH	Yreka Blue Hor	4.84	321	Pn	Pn	12 40 35.0	-1.0
DUG	Dugway	5.06	63	ePg	Pg	12 40 58.0	-3.8
DUG				eSg	Sg	12 41 59.6	-10
MSU	Marysvale	5.14	82	Pn	Pn	12 40 39.5	-0.7
MSU				ePg	Pg	12 40 57.8	-5.6
MSU				eSg	Sg	12 42 04.0	-8.0
NLU	North Lily Min	5.50	67	ePg	Pg	12 41 04.3	-6.3
BAR	Barrett	5.56	162	P	Pn	12 40 48.5	+2.4
WUAZ	Wupatki	6.37	111	Pn	Pn	12 40 55.8	-1.7
HLID	Hailey	6.42	29	Pn	Pn	12 40 57.5	-0.8
HLID				ePg	Pg	12 41 18.6	-10
PV01	Paradox Valley	7.97	86	ePg	Pg	12 41 48.4	-12
MCMT	McKenzie Canyo	8.10	31	Pn	P	12 41 19.4	-2.3
MCMT				ePg	P	12 41 46.6	+25

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*IDC **18** 12:44:23.4±7.5, 5.07S×149.60E, mb4.0/4, mb1 4.2/5, mb1mx3.8/13, ML3.6/1, Error ellipse: s-maj=115.0km s-min=59.1km az=43.0*

*NEIC **18** 12:44:34.0±1.3, 5.49S×149.56E, h64^{km}±20^{km}, mb3.9/2, Error ellipse: s-maj=30.8km s-min=13.1km az=122.0*

ISC 18 12:44:32.8±1.9, **5.5S**±0.2×**149.5E**±0.3, **h69**^{km}±26^{km}, **n13**, σ**0^{s}49**/13, **mb3.6**/3, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMBE	Kimbe	0.64	100	eP	P	12 44 47.2	+0.1
RAB	Rabaul	2.91	65	eP	P	12 45 17.8	-0.1
CTA	Charters Tower	14.89	192	Pn	P	12 48 01.6	+0.6
	0.2nm,0.3s,baz=10,slow=13,SNR=4.7						
CTAO	Charters Tower	14.89	192	eP	P	12 48 00.2	-0.8
	4.2nm,0.9s						
WRAB	Tennant Creek	20.62	224	eP	P	12 49 08.0	-0.8
	7.1nm,0.5s						
WB2	Warramunga Arr	20.62	224	eP	P	12 49 08.7	-0.1
WRA	Warramunga Arr	20.63	224	P	P	12 49 08.6	-0.3
	3.5nm,0.4s,baz=49,slow=10,SNR=26						
ASAR	Alice Springs	23.54	218	P	P	12 49 38.1	+0.4
	1.7nm,0.6s,mb3.6,baz=50,slow=8.7,SNR=27						
ASPA	Alice Springs	23.55	218	eP	P	12 49 38.6	+0.9
FITZ	Fitzroy Crossi	26.50	240	eP	P	12 50 06.4	+0.6
	1.2nm,0.6s,mb3.6						
FITZ	Fitzroy Crossi	26.50	240	P	P	12 50 05.7	-0.1
	3.3nm,1.0s,mb3.8,baz=55,slow=5.5,SNR=15						
STKA	Stephens Creek	27.32	195	P	P	12 50 13.0	-0.2
	1.9nm,0.8s,mb3.7,baz=32,slow=13,SNR=4.1						
STKA	Stephens Creek	27.32	195	P	P	12 50 13.0	-0.2

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*BGS **18** 12:51:49.1±2.0, 40.99N×0.27W, h13^{km}±148^{km}, mb5.3*

*BJI **18** 12:52:12.4, 42.90N×1.50W, h1^{km}, mB5.0, mb4.9, Ms4.4, Msz3.9*

*STR **18** 12:52:15.1±1.3, 42.78N×1.60W, h2^{km}±1^{km}, Ml5.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*IDC **18** 12:52:15.6±0.5, 42.91N×1.54W, mb4.4/17, mb1 4.6/25, mb1mx4.6/29, ML4.5/8, MS3.8/13, Ms1 3.8/13, ms1mx3.6/25, Error ellipse: s-maj=14.9km s-min=10.6km az=141.0*

*CSEM **18** 12:52:16.4, 42.81N×1.46W, h10^{km}, mb4.8*

*IAG **18** 12:52:16, 42.77N×1.49W, h12^{km}, Mw4.5, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-5.03; $M_{\theta\theta}$5.29; $M_{\phi\phi}$-0.26; $M_{r\theta}$-1.45; $M_{\theta\phi}$-2.26; $M_{\phi r}$3.44; Best double couple: $M_0$6.77×10^{15} NP1:ϕ_s266°, δ38°, λ230°. NP2:ϕ_s133°, δ62°, λ-62°. Principal axes: T 6.84, Plg13°, Azm204°; N -.15, Plg23°, Azm300°; P -6.69, Plg63°, Azm87°;*

*NEIC **18** 12:52:16.5±0.6, 42.88N×1.52W, h1^{km}±4^{km}, mb4.8/38, ML5.3(STR), ML5.2(LDG), MN4.6(MDD) Error ellipse: s-maj=3.4km s-min=2.4km az=151.0*

NEIC Felt [V] at Aoiz, Lizoain and Urroz; [IV] at Berriozar, Burlada, Monreal, Mutilva Baja, Noain, Olave, Pamplona, Sanguesa, Unciti and Zunzarren; [III] at Anso, Elizondo, Lodosa, Lumbier, Oroz-Betelu, Otano, Tafalla and Zubiri; [II] at Ainsa, Alagon, Barbastro, Calatayud, Caparroso, Donostia-San Sebastian, Graus, Huesca, Irun, Logrono, Renteria, Vitoria-Gasteiz and Zaragoza, Spain.

*MED_RC **18** 12:52:16.5±0.1, 42.93N×1.63W, h11^{km}, MW4.5/18, Moment Tensor Solution. Body waves: s18,c22; Duration: 1^{s}0 Moment tensor: Scale 10^{15}Nm; M_{rr}-7.28±.34; $M_{\theta\theta}$6.62±.19; $M_{\phi\phi}$0.66±.24; $M_{r\theta}$0.82±.55; $M_{\theta\phi}$-2.46±.26; $M_{\phi r}$1.65±.67; Best double couple: $M_0$7.62×10^{15} NP1:ϕ_s123°, δ46°, λ-71°. NP2:ϕ_s276°, δ47°, λ-109°. Principal axes: T 7.51, Plg1°, Azm20°; N .22, Plg14°, Azm289°; P -7.73, Plg76°, Azm113°; nsta1 refers to waves, cutoff=35s.*

*ZUR_RM **18** 12:52:16, 42.88N×1.52W, h9^{km}, Mw4.6/23, Moment Tensor Solution. s23 Moment tensor: Scale 10^{15}Nm; M_{rr}-7.43; $M_{\theta\theta}$6.41; $M_{\phi\phi}$1.03; $M_{r\theta}$5.69; $M_{\theta\phi}$-2.35; $M_{\phi r}$-1.79; Best double couple: $M_0$9.47×10^{15} NP1:ϕ_s289°, δ65°, λ-92°. NP2:ϕ_s112°, δ26°, λ-87°. Principal axes: T 9.394, Plg19°, Azm20°; N .154, Plg1°, Azm289°; P -9.548, Plg70°, Azm195°;*

*HRVD **18** 12:52:16.5±0.6, 42.96N×1.69W, h13^{km}±3^{km}, MW4.7/41, Centroid moment Tensor Solution. LP body waves: s4,c4; Mantle waves: s41,c50; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.16±.23; $M_{\theta\theta}$0.77±.14; $M_{\phi\phi}$0.39±.14; $M_{r\theta}$0.44±.50; $M_{\theta\phi}$-0.16±.08; $M_{\phi r}$1.01±.60; Best double couple: $M_0$1.34×10^{16} NP1:ϕ_s60°, δ20°, λ-66°. NP2:ϕ_s215°, δ72°, λ-98°. Principal axes: T .93, Plg27°, Azm311°; N .82, Plg8°, Azm218°; P -1.74, Plg62°, Azm113°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*MOS **18** 12:52:16.0±1.1, 42.98N×1.59W, h15^{km}, mb4.8/20 Error ellipse: s-maj=16.6km s-min=5.2km az=52.6*

*IGIL **18** 12:52:16.5, 42.80N×1.30W, h24^{km}, ML4.3*

*LDG **18** 12:52:17.8±0.1, 42.88N×1.52W, h2^{km}, Md4.7/3, Ml5.2/47, ms3.4/7, Error ellipse: s-maj=2.5km s-min=1.5km az=145.0*

*INMG **18** 12:52:17.9±1.3, 42.86N×1.44W, h7^{km}±4^{km}, ML4.5, Error ellipse: s-maj=2.9km s-min=2.5km az=34.0*

*MDD **18** 12:52:18.1±0.2, 42.85N×1.45W, h7^{km}±2^{km}, mbLg4.5/46, Error ellipse: s-maj=1.9km s-min=1.6km az=149.0, V ECAY RIZ IN URROZ IV-V RRAGA NAGORE IV BERRIOZAR S GORRAIZ IV LABIANO MENDILLORRI MUTILVA BAJA IV OTANO PAMPLONA UNCITI IV VILLABA ZUNZARREN III-IV AIN BURLADA HUARTE III-IV MONREAL III IN LUMBIER III IN OLAVE BETELU III ESA TAFALLA ZUBIRI II-III ANDOAIN BURGUETE ELIZONDO II-III ESTELLA LODOSA II NSA N BARBASTRO II CALATAYUD CAPARROSO GRAUS II HUESCA N LOGRO.LO II PUEBLA DE N A II DONOSTIA-SAN N TOLOSA II TUDELA GASTEIZ PRXIMO*

MDD EMS: V AGOITZ S BEORTEGUI.

ISC 18 12:52:14.1±0.3, **42.95N**±0.01×**1.60W**±0.01, **h2**^{km}±2^{km}, **n502**, σ**1^{s}33**/712, **mb4.7**/70, **MS3.9**/20, **38C-20D**, **Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EXPA	Pamplona	0.14	186	P	Pg	12 52 20.8	+3.9
EXPA				S	Sg	12 52 23.3	+4.5
EALK	Alkurruntz	0.27	15	⇑Pg	Pg	12 52 25.1	+5.6
	17µm,0.5s,SNR=18						
EALK				Lg		12 52 30.5	
	83µm,0.5s,SNR=10						
SJPF	Ste Jean	0.32	60	ePg	Pg	12 52 24.2	+3.7
SJPF				eSg	Sg	12 52 27.0	+2.3
	111µm,0.4s						
OSSF	Osses	0.39	40	P	Pg	12 52 26.0	+4.1
OSSF				S	Sg	12 52 31.9	+4.8
LARF	Larrau	0.46	79	Pg	Pg	12 52 24.9	+1.6
LARF	Larrau	0.46	79	P	Pg	12 52 25.3	+2.0
LARF				S	Sg	12 52 31.3	+2.0
ORDF	Ordiarp	0.55	62	Pg	Pg	12 52 27.7	+2.6
ORDF	Ordiarp	0.55	62	P	Pg	12 52 27.9	+2.7
ORDF				S	Sg	12 52 35.8	+3.3
ATE	Arette	0.68	78	P	Pg	12 52 28.8	+1.3
ATE				S	Sg	12 52 37.4	+0.9
ETSF	Etsaut	0.77	94	ePg	Pg	12 52 29.9	+0.5
ETSF				eSg	Sg	12 52 38.8	-0.9
	21µm,0.4s						
FDAF	Les Forges d'A	0.77	100	Pg	Pg	12 52 29.6	+0.1
FDAF				Sg	Sg	12 52 40.4	+0.6
FDAF	Les Forges d'A	0.77	100	P	Pg	12 52 29.7	+0.2
FDAF				S	Sg	12 52 39.1	-0.7
REYF	Montagne du Re	0.90	82	P	Pg	12 52 32.2	+0.2
REYF				S	Sg	12 52 43.6	-0.3
VIEF	Viey	1.20	93	Pg	Pg	12 52 36.9	-1.1
VIEF				Sg	Sg	12 52 55.3	+1.4
VIEF	Viey	1.20	93	P	Pb	12 52 37.2	0.0
VIEF				S	Sb	12 52 51.7	-1.3
LABF	Labassere	1.23	85	Pg	Pg	12 52 39.1	+0.4
LABF				Sg	Sg	12 52 55.3	+0.1
LABF	Labassere	1.23	85	P	Pb	12 52 37.9	+0.1
LABF				S	Sb	12 52 54.6	+0.6
LABF	Labassere	1.23	85	Pg	Pg	12 52 38.9	+0.2
ELAN	Lanestosa	1.37	282	⇓Pg	Pg	12 52 44.8	+3.4
	1µm,0.3s,SNR=18						
ELAN				Lg		12 53 06.1	
	3µm,0.3s,SNR=12						
ELAN	Lanestosa	1.37	282	Pg	Pg	12 52 45.1	+3.7
ELAN				Lg		12 53 06.1	
EPF	Esparros	1.43	86	ePn	Pn	12 52 42.0	+0.9
EPF				ePg	Pg	12 52 44.2	+1.6
EPF				eSg	Sg	12 53 00.9	-0.7
	22µm,0.4s						
RESF	Ens	1.44	95	Pn	Pn	12 52 41.1	-0.1
RESF				Pg	Pg	12 52 41.9	-0.8
RESF	Ens	1.44	95	P	Pn	12 52 41.5	+0.3
RESF				S	Sb	12 53 01.3	+1.4
ESAC	San Caprasio	1.49	145	⇑Pg	Pg	12 52 41.9	-1.9
	13µm,0.3s,SNR=18						
ESAC				Lg		12 53 00.9	
	69µm,0.3s,SNR=18						
ESAC	San Caprasio	1.49	145	Pg	Pg	12 52 41.9	-1.9
ESAC				Lg		12 53 01.2	
EGRA	Graus	1.61	118	Pg	Pg	12 52 44.3	-1.9
	66nm,0.2s,SNR=7.9						
MELF	Melles	1.74	92	Pn	Pn	12 52 46.7	+1.2
MELF	Melles	1.74	92	P	Pn	12 52 46.9	+1.3
MELF				S	Sn	12 53 09.3	+0.7
MLS	Moulis	1.98	89	P	Pn	12 52 50.6	+1.6
MLS				S	Sn	12 53 17.9	+3.1
SALF	Salau	2.06	94	Pn	Pn	12 52 52.4	+2.2
SALF	Salau	2.06	94	P	Pn	12 52 52.6	+2.4
SALF				S	Sn	12 53 19.8	+2.9
ETOR	Torete	2.16	189	⇑Pn	Pn	12 52 52.7	+1.1
	1µm,0.4s,SNR=18						
ETOR				Pg	Pg	12 52 56.6	-0.5
	6µm,0.6s,SNR=7.9						
ETOR				Sn	Sn	12 53 19.0	-0.4
	6µm,0.4s,SNR=11						
ETOR				Lg		12 53 24.6	
	6µm,0.4s,SNR=15						
ETOR	Torete	2.16	189	Pg	Pg	12 52 52.9	-4.3
ETOR				Lg		12 53 21.3	
GRBF	Gourbit	2.31	92	P	Pn	12 52 56.1	+2.4
EMIR	Miracle	2.54	113	⇓Pn	Pn	12 52 57.1	+0.1
	323nm,0.5s,SNR=18						
EMIR				Pg	Pg	12 53 01.6	-3.2
	288nm,0.2s,SNR=7.9						
EMIR				Sn	Sn	12 53 24.4	-4.5
	3µm,0.4s,SNR=4.6						
EMIR				Lg		12 53 33.8	
	7µm,0.5s,SNR=9.7						
EMIR	Miracle	2.54	113	Pn	Pn	12 52 57.1	+0.1
EMIR				Lg		12 53 35.1	
EPOB	Poblet	2.56	128	⇓Pn	Pn	12 52 56.4	-0.8
	213nm,0.8s,SNR=18						
EPOB				Pg	Pg	12 53 01.2	-4.0
	952nm,0.4s,SNR=7.9						
EPOB				Sn	Sn	12 53 25.5	-3.9
	3µm,0.5s,SNR=14						
EPOB				Lg		12 53 31.4	
	8µm,0.6s,SNR=14						
EPOB	Poblet	2.56	128	P	Pn	12 52 56.5	-0.8
EPOB				Lg		12 53 32.2	
LPEF	Le Peyrat	2.58	89	P	Pn	12 53 00.2	+2.6
LPEF				S	Sn	12 53 34.5	+4.6
LFF	La Frestale	2.61	40	ePn	Pn	12 52 59.3	+1.3
LFF				ePg	Pg	12 53 06.8	+0.7
LFF				eSn	Sn	12 53 30.3	-0.4
LFF				eSg	Sg	12 53 39.2	-1.7
	6µm,0.7s						
EBR	Ebro Roquetas	2.65	143	ePN	Pn	12 52 57.0	-1.5
EBR				i P*	Pb	12 53 02.0	0.0
EBR	Ebro Roquetas	2.65	143	ePG	Pg	12 53 04.0	-2.9
EBR	Ebro Roquetas	2.65	143	P	Pn	12 52 57.7	-0.8
EMOS	Mosqueruela	2.72	161	⇓Pn	Pn	12 52 59.4	-0.2
	2µm,0.6s,SNR=18						
EMOS				Pg	Pg	12 53 04.9	-3.5
	237nm,0.5s,SNR=114						
EMOS				Sn	Sn	12 53 29.1	-4.5
	1µm,0.7s,SNR=4.0						
EMOS				Lg		12 53 40.7	
	4µm,0.6s,SNR=6.6						
EMOS	Mosqueruela	2.72	161	⇓Pn	Pn	12 52 59.4	-0.3
EMOS				P		12 53 03.2	
EMOS				Pg	Pg	12 53 05.0	-3.5
EMOS				Sn	Sn	12 53 29.1	-4.5
EMOS				Lg		12 53 39.5	
EMOS				Lg		12 53 40.7	
VALF	Valcebollere	2.73	100	Pn	Pn	12 53 01.1	+1.4
VALF	Valcebollere	2.73	100	P	Pn	12 53 01.4	+1.7
VALF				S	Sn	12 53 37.5	+3.7
CARF	Carcanieres	2.74	94	P	Pn	12 53 02.3	+2.4
CARF				S	Sn	12 53 40.1	+6.1
MTLF	Montolieu	2.82	81	ePn	Pn	12 53 02.0	+0.9
MTLF				ePg	Pg	12 53 09.3	-1.1
MTLF				eSn	Sn	12 53 34.4	-1.8
	2µm,0.4s						
OLEF	Ile d'Oleron	3.00	3	Pn	Pn	12 53 06.2	+2.7
LRDF	Laroque-de-Fa	3.04	89	Pn	Pn	12 53 05.7	+1.5
LRDF				Sg	Sg	12 53 52.9	-2.4
LRDF	Laroque-de-Fa	3.04	89	P	Pn	12 53 05.4	+1.3
LRDF				S	Sn	12 53 44.5	+2.8
FILF	Fillols	3.09	96	Pn	Pn	12 53 04.6	-0.3
FILF				Pg	Pg	12 53 11.0	-4.8
FILF				Sg	Sg	12 53 52.3	-4.7
FILF	Fillols	3.09	96	P	Pn	12 53 04.9	0.0
FILF				S	Sn	12 53 47.0	+4.1
FILF	Fillols	3.09	96	Pn	Pn	12 53 05.1	+0.2
RJF	Les Rejaudoux	3.25	43	ePn	Pn	12 53 07.4	+0.3
RJF				eSn	Sn	12 53 45.5	-1.5
	3µm,0.5s						
RJF				eR			
	1µm,22.1s						
CAF	Calviac	3.30	52	ePn	Pn	12 53 08.1	+0.2
CAF				eSn	Sn	12 53 46.6	-1.7
	3µm,0.5s						
SJAF	Saint Jean de	3.34	97	P	Pn	12 53 08.9	+0.5
SJAF				S	Sn	12 53 57.3	+8.1
EJON	La Jonquera	3.35	97	⇓Pn	Pn	12 53 09.0	+0.4
	127nm,0.6s,SNR=18						
EJON				Pg	Pg	12 53 16.3	-4.6
	1µm,0.7s,SNR=14						
EJON				Lg		12 53 58.7	
	1µm,0.5s,SNR=16						
LRYF	La Roche-sur-Y	3.62	1	Pn	Pn	12 53 14.7	+2.2
LRYF	La Roche-sur-Y	3.62	1	Pn	Pn	12 53 15.5	+3.0
ESDC	Sonseca Array	3.73	209	Pn	Pn	12 53 13.9	0.0
	57nm,0.3s,baz=37,slow=14,SNR=366						
ESDC				Pg	Pg	12 53 25.9	-2.6
	134nm,0.3s,baz=31,slow=17,SNR=76						
ESDC				Lg		12 54 11.6	
	287nm,0.3s,baz=30,slow=27,SNR=5.0						
ESDC	Sonseca Array	3.73	209	Pn	Pn	12 53 13.9	0.0
	60nm,0.3s,baz=37,slow=14,SNR=630						
ESDC				Pg	Pg	12 53 25.3	-3.2
	86nm,0.4s,baz=32,slow=18,SNR=7.2						
ESDC				Lg		12 54 14.8	
	512nm,0.8s,baz=37,slow=29,SNR=7.5						
ESLA	Sonseca Array	3.73	209	ePn	Pn	12 53 14.1	+0.2
ESLA				ePg	Pg	12 53 26.3	-2.2
ESLA				eSg	Sg	12 54 14.7	-3.5
MFF	Saint Martin d	3.79	15	ePn	Pn	12 53 16.2	+1.4
MFF				ePg	Pg	12 53 28.7	-1.1
MFF				eSn	Sn	12 53 59.8	-0.9
MFF				eSg	Sg	12 54 18.8	-1.5
	714nm,0.4s						
FRNF	Fournols	3.86	50	Pn	Pn	12 53 15.3	-0.5
ECAL	Calabor	3.93	257	⇓Pn	Pn	12 53 19.3	+2.5
	386nm,0.3s,SNR=18						
ECAL				Pg	Pg	12 53 31.1	-1.4
	271nm,0.3s,SNR=7.9						
ECAL				Sn	Sn	12 54 03.5	-0.7
	932nm,0.6s,SNR=6.0						
ECAL				Lg		12 54 23.2	
	1µm,0.3s,SNR=5.6						
ECAL	Calabor	3.93	257	P	Pn	12 53 19.4	+2.6
PBRG	Braganca	3.98	255	ePn	Pn	12 53 19.8	+2.4

PBRG				*e*Sn	**Sn**	**12 54 04.4**	**-0.9**
PBRG				*e*Sg	**Sg**	**12 54 23.1**	**-3.3**
	1µm,0.5s						
PBRG	**Braganca**	**3.98**	**255**	Pn	**Pn**	**12 53 19.8**	**+2.4**
PBRG				Sn	**Sn**	**12 54 04.4**	**-0.9**
PBRG				Lg		12 54 23.1	
	513nm,0.5s						
VERF	**Verneugheol**	**4.05**	**45**	Pn	**Pn**	**12 53 17.9**	**-0.6**
EPON	**Pontenova**	**4.08**	**277**	Pn	**Pn**	**12 53 22.2**	**+3.3**
	221nm,0.3s,SNR=412						
EPON				Sn	**Sn**	**12 54 08.3**	**+0.4**
	304nm,0.4s,SNR=4.8						
EPON				Lg		12 54 29.4	
	436nm,0.3s,SNR=4.9						
ERUA	**La Rua**	**4.12**	**264**	⇓Pn	**Pn**	**12 53 22.3**	**+2.8**
	307nm,0.3s,SNR=18						
ERUA				Pg	**Pg**	**12 53 35.0**	**-1.3**
	161nm,0.3s,SNR=7.9						
ERUA				Sn	**Sn**	**12 54 09.8**	**+0.7**
	323nm,0.4s,SNR=7.9						
ERUA				Lg		12 54 32.0	
	1µm,0.8s,SNR=6.9						
ERUA	**La Rua**	**4.12**	**264**	P	**Pn**	**12 53 22.3**	**+2.8**
LASF	**Ste Croix**	**4.13**	**72**	*e*Pn	**Pn**	**12 53 19.3**	**-0.3**
LASF				*e*Sn	**Sn**	**12 54 05.5**	**-3.7**
	5µm,0.6s						
LASF				*e*Sg	**Sg**	**12 54 26.7**	**-4.8**
LBL	**Lubilhac**	**4.17**	**55**	Pn	**Pn**	**12 53 19.7**	**-0.5**
TCF	**Toulx Ste Croi**	**4.30**	**38**	*e*Pn	**Pn**	**12 53 21.3**	**-0.8**
TCF				*e*Sn	**Sn**	**12 54 10.9**	**-2.8**
	2µm,0.5s						
ETOB	**Tobarra**	**4.31**	**179**	Pn	**Pn**	**12 53 21.5**	**-0.6**
	123nm,0.3s,SNR=96						
ETOB				Pg	**Pg**	**12 53 34.7**	**-5.3**
	384nm,0.6s,SNR=29						
ETOB				Sn	**Sn**	**12 54 10.4**	**-3.3**
	741nm,0.6s,SNR=7.8						
ETOB				Lg		12 54 30.3	
	2µm,0.9s,SNR=6.1						
ETOB	**Tobarra**	**4.31**	**179**	P	**Pn**	**12 53 21.8**	**-0.4**
PYM	**Petit Puy Mans**	**4.33**	**48**	Pn	**Pn**	**12 53 22.5**	**0.0**
EVIA	**Vianos**	**4.37**	**189**	Pn	**Pn**	**12 53 21.6**	**-1.4**
	242nm,0.3s,SNR=356						
EBEN	**Beniarda**	**4.37**	**166**	Pn	**Pn**	**12 53 22.0**	**-1.1**
	95nm,0.6s,SNR=153						
EBEN				Pg	**Pg**	**12 53 34.8**	**-6.6**
	480nm,0.8s,SNR=14						
EBEN				Sn	**Sn**	**12 54 08.9**	**-6.5**
	357nm,0.5s,SNR=19						
EBEN				Lg		12 54 31.7	
	1µm,0.7s,SNR=13						
EBEN	**Beniarda**	**4.37**	**166**	P	**Pn**	**12 53 22.2**	**-0.9**
CFF	**Clermont-Ferra**	**4.39**	**49**	Pn	**Pn**	**12 53 23.9**	**+0.5**
EIBI	**Ibiza**	**4.51**	**149**	Pn	**Pn**	**12 53 22.7**	**-2.4**
	48nm,0.3s,SNR=139						
EIBI				Pg	**Pg**	**12 53 38.9**	**-5.2**
	231nm,0.5s,SNR=7.9						
EIBI				Sn	**Sn**	**12 54 11.0**	**-8.0**
	285nm,0.6s,SNR=5.2						
COLF	**Collangettes**	**4.59**	**54**	Pn	**Pn**	**12 53 25.4**	**-0.8**
BGF	**Bois d'Agland**	**4.80**	**40**	*e*Pn	**Pn**	**12 53 28.0**	**-1.1**
BGF				*e*Sn	**Sn**	**12 54 22.6**	**-3.6**
	4µm,0.5s						
BGF				*e*Sg	**Sg**	**12 54 49.3**	**-4.5**
PLDF	**La Plantade**	**4.80**	**49**	Pn	**Pn**	**12 53 28.5**	**-0.7**
PVRL	**Vila Real**	**4.85**	**252**	*e*Pn	**Pn**	**12 53 31.3**	**+1.5**
PVRL				*e*Sn	**Sn**	**12 54 25.4**	**-2.0**
PVRL				*e*Sg	**Sg**	**12 54 49.8**	**-5.6**
	1µm,0.5s						
PVRL	**Vila Real**	**4.85**	**252**	Pn	**Pn**	**12 53 31.3**	**+1.5**
PVRL				Sn	**Sn**	**12 54 25.4**	**-2.0**
PVRL				Lg		12 54 49.8	
	511nm,0.5s						
ELOB	**Lobios**	**4.90**	**259**	⇓Pn	**Pn**	**12 53 32.3**	**+1.7**
	80nm,0.3s,SNR=18						
ELOB				Sn	**Sn**	**12 54 26.2**	**-2.6**
	202nm,0.4s,SNR=7.9						
ELOB				Lg		12 54 49.9	
	760nm,0.5s,SNR=4.8						
VIVF	**Saint-Julien-l**	**4.92**	**65**	*e*Pn	**Pn**	**12 53 29.8**	**-1.0**
VIVF				*e*Sn	**Sn**	**12 54 24.2**	**-5.0**
	2µm,0.6s						
VIVF				*e*Sg	**Sg**	**12 54 51.6**	**-6.2**
PRAF	**Pradon**	**5.01**	**78**	Pn	**Pn**	**12 53 31.8**	**-0.3**
PRAF	**Pradon**	**5.01**	**78**	Pn	**Pn**	**12 53 32.2**	**+0.1**
QUIF	**Quistinic**	**5.08**	**348**	*e*Pn	**Pn**	**12 53 35.3**	**+2.1**
QUIF				*e*Sn	**Sn**	**12 54 31.5**	**-1.8**
	334nm,0.3s						
ARBF	**Arbois**	**5.10**	**82**	P	**Pn**	**12 53 34.2**	**+0.8**
STS	**Santiago**	**5.10**	**272**	Pn	**Pn**	**12 53 35.5**	**+2.0**
	59nm,0.5s,SNR=33						
STS				Sn	**Sn**	**12 54 32.8**	**-1.1**
	120nm,0.4s,SNR=8.1						
STS				Lg		12 55 05.2	
	297nm,0.7s,SNR=7.9						
EMUR	**La Murta**	**5.11**	**177**	Pn	**Pn**	**12 53 32.9**	**-0.7**
	53nm,0.3s,SNR=39						
EMUR				Pg	**Pg**	**12 53 48.5**	**-7.7**
	178nm,0.7s,SNR=21						
EMUR				Lg		12 54 56.6	
	164nm,0.6s,SNR=4.9						
EMUR	**La Murta**	**5.11**	**177**	P	**Pn**	**12 53 33.4**	**-0.2**
MTE	**Manteigas**	**5.13**	**242**	*e*Pn	**Pn**	**12 53 34.2**	**+0.4**
MTE				*e*Sn	**Sn**	**12 54 32.7**	**-1.8**
MTE				*e*Sg	**Sg**	**12 54 58.4**	**-6.4**
	828nm,0.6s						
MTE	**Manteigas**	**5.13**	**242**	Pn	**Pn**	**12 53 34.2**	**+0.4**
MTE				Sn	**Sn**	**12 54 32.7**	**-1.8**
MTE				Lg		12 54 58.4	
	414nm,0.6s						
MTE	**Manteigas**	**5.13**	**242**	*e*Pn	**Pn**	**12 53 34.0**	**+0.2**
TREF	**Trevaresse**	**5.14**	**80**	Pn	**Pn**	**12 53 34.2**	**+0.2**
GELF	**Grande-Etoile**	**5.16**	**83**	Pn	**Pn**	**12 53 33.1**	**-1.2**
PVIS	**Viseu**	**5.21**	**247**	*e*Pn	**Pn**	**12 53 35.6**	**+0.7**
PVIS				*e*Sn	**Sn**	**12 54 33.7**	**-2.7**
PVIS				*e*Sg	**Sg**	**12 55 00.9**	**-6.4**
	491nm,0.6s						
PVIS	**Viseu**	**5.21**	**247**	Pn	**Pn**	**12 53 35.6**	**+0.7**
PVIS				Sn	**Sn**	**12 54 33.7**	**-2.7**
PVIS				Lg		12 55 00.9	
	245nm,0.6s						
AVF	**Avril sur Loir**	**5.21**	**41**	*e*Pn	**Pn**	**12 53 33.7**	**-1.2**
AVF				*e*Sn	**Sn**	**12 54 31.4**	**-5.1**
	2µm,0.8s						
AVF				*e*Sg	**Sg**	**12 55 01.9**	**-5.5**
HYF	**Humbligny**	**5.25**	**33**	*e*Pn	**Pn**	**12 53 35.3**	**-0.3**
HYF				*e*Sn	**Sn**	**12 54 34.1**	**-3.6**
OCF	**Saint Nazaire**	**5.26**	**70**	Pn	**Pn**	**12 53 35.5**	**-0.1**
OG26	**St.-Nazaire-De**	**5.26**	**70**	Pn	**Pn**	**12 53 35.2**	**-0.4**
EQES	**Quesada**	**5.27**	**193**	Pn	**Pn**	**12 53 34.2**	**-1.5**
	96nm,0.3s,SNR=221						
EQES				Pg	**Pg**	**12 53 54.4**	**-4.8**
	492nm,0.4s,SNR=29						
EQES				Lg		12 55 01.4	
	SNR=7.9						
EADA	**Adamuz**	**5.29**	**206**	Pn	**Pn**	**12 53 35.0**	**-1.1**
	42nm,0.2s,SNR=333						
EADA				Pg	**Pg**	**12 53 54.2**	**-5.5**
	628nm,1.4s,SNR=20						
EADA				Sn	**Sn**	**12 54 32.0**	**-6.6**
	354nm,0.6s,SNR=7.9						
EADA				Lg		12 55 03.4	
	2µm,0.9s,SNR=7.9						
EZAM	**Zamans**	**5.30**	**264**	⇓Pn	**Pn**	**12 53 37.8**	**+1.6**
	44nm,0.3s,SNR=18						
EZAM				Pg	**Pg**	**12 53 55.3**	**-4.5**
	7.8nm,0.4s,SNR=6.7						
EZAM				Sn	**Sn**	**12 54 36.4**	**-2.4**
	70nm,0.3s,SNR=7.6						
EZAM				Lg		12 55 04.8	
	144nm,0.7s,SNR=5.9						
SMRF	**Simiane la Rot**	**5.32**	**76**	*e*Pn	**Pn**	**12 53 36.5**	**-0.1**
SMRF				*e*Sn	**Sn**	**12 54 33.9**	**-5.5**
	323nm,0.5s						
SMRF				*e*Sg	**Sg**	**12 55 02.9**	**-8.4**
	2µm,0.9s						
SGMF	**Saint Gilles**	**5.34**	**353**	*e*Pn	**Pn**	**12 53 38.2**	**+1.4**
SGMF				*e*Pg	**Pg**	**12 53 57.7**	**-3.0**
SGMF				*e*Sn	**Sn**	**12 54 37.1**	**-2.8**
SGMF				*e*Sg	**Sg**	**12 55 08.3**	**-3.6**
	461nm,0.6s						
BERF	**Bertagne**	**5.35**	**84**	Pn	**Pn**	**12 53 36.9**	**0.0**
SMF	**Signal de Mont**	**5.35**	**45**	*e*Pn	**Pn**	**12 53 35.4**	**-1.5**
SMF				*e*Sn	**Sn**	**12 54 35.0**	**-5.0**
	1µm,0.7s						
SMF				*e*Sg	**Sg**	**12 55 04.8**	**-7.4**
MAHO	**Mahon**	**5.37**	**123**	P	**Pn**	**12 53 35.0**	**-2.2**
MAHO				S	**Sn**	**12 54 32.1**	**-8.4**
MAHO	**Mahon**	**5.37**	**123**	P	**Pn**	**12 53 35.6**	**-1.6**
PUYF	**Puyloubier**	**5.37**	**81**	Pn	**Pn**	**12 53 37.0**	**-0.2**
PCBR	**Castelo Branco**	**5.40**	**237**	*e*Pn	**Pn**	**12 53 37.8**	**+0.1**
PCBR				*e*Sn	**Sn**	**12 54 37.9**	**-3.5**
PCBR				*e*Sg	**Sg**	**12 55 07.1**	**-6.8**
	490nm,0.6s						
PCBR	**Castelo Branco**	**5.40**	**237**	Pn	**Pn**	**12 53 37.8**	**+0.1**
PCBR				Sn	**Sn**	**12 54 37.9**	**-3.5**
PCBR				Lg		12 55 07.1	
	245nm,0.6s						
VILF	**Villemus**	**5.41**	**78**	Pn	**Pn**	**12 53 37.3**	**-0.4**
EMAZ	**Mazaricos**	**5.41**	**272**	⇑Pn	**Pn**	**12 53 39.7**	**+1.9**
	187nm,0.3s,SNR=18						
EMAZ				Sn	**Sn**	**12 54 39.0**	**-2.6**
	64nm,0.3s,SNR=4.8						
GRR	**Gorron**	**5.46**	**5**	*e*Pn	**Pn**	**12 53 38.7**	**+0.2**
GRR				*e*Sn	**Sn**	**12 54 39.4**	**-3.4**
	633nm,0.6s						
GRR				*e*Sg	**Sg**	**12 55 10.9**	**-4.9**
SSF	**Saint Saulge**	**5.47**	**40**	*e*Pn	**Pn**	**12 53 37.1**	**-1.6**
SSF				*e*Sn	**Sn**	**12 54 37.6**	**-5.6**
	1µm,0.7s						
SSF				*e*Sg	**Sg**	**12 55 09.9**	**-6.5**
ROSF	**Rostrenen**	**5.51**	**348**	*e*Pn	**Pn**	**12 53 39.8**	**+0.6**
ROSF				*e*Sn	**Sn**	**12 54 41.5**	**-2.5**
	294nm,0.3s						
ROSF				*e*Sg	**Sg**	**12 55 13.4**	**-4.1**
TAVF	**Tavernes**	**5.63**	**81**	Pn	**Pn**	**12 53 40.8**	**-0.1**
LDF	**La Druitiere**	**5.73**	**10**	*e*Sn	**Sn**	**12 54 46.2**	**-3.5**
LDF				*e*Sg	**Sg**	**12 55 18.5**	**-6.5**
	700nm,0.7s						
LDF				*e*Pn	Pn		
	63nm,0.2s						
OG25	**Le Caire**	**5.75**	**73**	Pn	**Pn**	**12 53 42.0**	**-0.5**
ORIF	**Oris-en-Rattie**	**5.75**	**67**	*e*Pn	**Pn**	**12 53 42.2**	**-0.4**
ORIF				*e*Sn	**Sn**	**12 54 43.0**	**-7.1**
	1µm,0.7s						
ORIF				*e*R			
	1µm,25.2s						
ELUQ	**Luque**	**5.76**	**202**	Pn	**Pn**	**12 53 41.6**	**-1.1**
	45nm,0.2s,SNR=104						
ELUQ				Lg		12 55 18.0	
	315nm,0.7s,SNR=7.7						
ELUQ	**Luque**	**5.76**	**202**	P	**Pn**	**12 53 42.7**	**0.0**
GRN	**Grenoble**	**5.76**	**64**	Pn	**Pn**	**12 53 41.8**	**-1.0**
GRN	**Grenoble**	**5.76**	**64**	Pn	**Pn**	**12 53 41.9**	**-0.9**
LOR	**Lormes**	**5.79**	**40**	*e*Pn	**Pn**	**12 53 41.1**	**-2.0**
	baz=220						
LOR				*e*Sn	**Sn**	**12 54 45.6**	**-5.5**
LOR				*e*Sg	**Sg**	**12 55 20.9**	**-6.0**
	2µm,0.8s						
LOR				*e*R			
	911nm,26.5s						
FLN	**La Foliniere**	**5.86**	**7**	*e*Pn	**Pn**	**12 53 43.9**	**-0.2**
FLN				*e*Sn	**Sn**	**12 54 48.7**	**-4.2**
FLN				*e*Sg	**Sg**	**12 55 23.9**	**-5.3**
	394nm,0.6s						
FLN				*e*R			
	1µm,18.8s						
EBAD	**Badajoz**	**5.87**	**226**	⇓Pn	**Pn**	**12 53 43.7**	**-0.5**
	41nm,0.3s,SNR=18						
EBAD				Lg		12 55 22.8	
	378nm,0.6s,SNR=7.9						
LMR	**La Mourre**	**5.95**	**84**	*e*Pn	**Pn**	**12 53 45.5**	**+0.1**
LMR				*e*Sn	**Sn**	**12 54 49.3**	**-5.7**
	303nm,0.6s						
GDM	**Grand'Maison**	**6.00**	**65**	Pn	**Pn**	**12 53 45.9**	**-0.2**
FRF	**La Foret Royal**	**6.05**	**81**	*e*Pn	**Pn**	**12 53 46.4**	**-0.5**
FRF				*e*Sn	**Sn**	**12 54 52.1**	**-5.6**
	521nm,0.7s						
FRF				*e*Sg	**Sg**	**12 55 29.3**	**-6.4**
PTOM	**Tomar**	**6.12**	**239**	*e*Pn	**Pn**	**12 53 47.9**	**+0.2**
PTOM				*e*Sn	**Sn**	**12 54 56.7**	**-2.5**
PTOM				*e*Sg	**Sg**	**12 55 29.3**	**-8.3**
	755nm,0.6s						
PTOM	**Tomar**	**6.12**	**239**	Pn	**Pn**	**12 53 47.9**	**+0.2**
PTOM				Sn	**Sn**	**12 54 56.7**	**-2.5**
PTOM				Lg		12 55 29.3	
	377nm,0.6s						
ELOJ	**Sierra Loja**	**6.12**	**199**	Pn	**Pn**	**12 53 47.3**	**-0.5**
	53nm,0.3s,SNR=131						
ELOJ				Pg	**Pg**	**12 54 07.8**	**-8.5**
	128nm,0.6s,SNR=7.9						
ELOJ				Lg		12 55 28.6	
	162nm,0.7s,SNR=5.7						
EBER	**Berja**	**6.13**	**190**	P	**Pn**	**12 54 06.9**	**+19**
ERON	**Agron**	**6.17**	**197**	Pn	**Pn**	**12 53 48.2**	**-0.2**
	66nm,0.4s,SNR=73						
ERON				Pg	**Pg**	**12 54 07.3**	**-10**
	119nm,0.6s,SNR=7.7						
ERON				Lg		12 55 29.8	
	149nm,0.5s,SNR=6.6						
CALN	**Calern**	**6.24**	**80**	Pn	**Pn**	**12 53 49.5**	**0.0**
JRS	**Jersey**	**6.25**	**357**	⇑*e*P	**Pn**	**12 53 49.6**	**0.0**
JQE	**Queens East**	**6.25**	**357**	⇑*e*P	**Pn**	**12 53 50.1**	**+0.4**
JVM	**Valle D.L. Mar**	**6.28**	**356**	⇑*e*P	**Pn**	**12 53 50.5**	**+0.5**
SURF	**Saint Ours**	**6.29**	**73**	Pn	**Pn**	**12 53 50.5**	**+0.4**
JLP	**Les Platons**	**6.30**	**357**	⇑*e*P	**Pn**	**12 53 50.9**	**+0.5**
MBDF	**Montbardon**	**6.31**	**71**	*e*Pn	**Pn**	**12 53 50.8**	**+0.3**
MBDF				*e*Sn	**Sn**	**12 54 56.2**	**-7.9**
	401nm,0.7s						
BNI	**Bardonecchia**	**6.33**	**68**	*e*Pn	**Pn**	**12 53 50.8**	**0.0**
	46nm,0.8s						
RRL	**Cesana Torines**	**6.37**	**69**	P	**Pn**	**12 53 51.6**	**+0.3**
MVIF	**Mont Vial**	**6.45**	**79**	Pn	**Pn**	**12 53 52.0**	**-0.4**
EMIN	**Mina Concepcio**	**6.47**	**218**	Pn	**Pn**	**12 53 51.6**	**-1.1**
	22nm,0.5s,SNR=147						
EMIN				Lg		12 55 42.3	
	324nm,0.8s,SNR=7.9						
ALMR	**Almeirim**	**6.49**	**237**	*e*P	**Pn**	**12 53 50.1**	**-3.0**
ALMR				*e*S	**Sn**	**12 54 57.9**	**-11**
ALMR				*e*S	**Sn**	**12 54 58.0**	**-11**
PZZ	**Prazzo**	**6.49**	**73**	P	**Pn**	**12 53 53.2**	**+0.2**
RSL	**Roselend**	**6.50**	**62**	Pn	**Pn**	**12 53 53.0**	**-0.2**
LPL	**La Plagne**	**6.51**	**64**	*e*Pn	**Pn**	**12 53 53.5**	**+0.2**
LPL				*e*Sn	**Sn**	**12 55 01.6**	**-7.6**
	586nm,0.9s						
LPG	**La Plagne**	**6.52**	**64**	*e*Pn	**Pn**	**12 53 53.7**	**+0.3**
LPG				*e*Sn	**Sn**	**12 55 01.9**	**-7.4**
	343nm,0.6s						
TOUF	**Mont Tournerai**	**6.53**	**78**	Pn	**Pn**	**12 53 53.4**	**-0.1**
AURF	**Auriere**	**6.57**	**79**	Pn	**Pn**	**12 53 53.4**	**-0.7**
EVO	**Evora**	**6.57**	**230**	*e*Pn	**Pn**	**12 53 54.2**	**0.0**
EVO				*e*Sn	**Sn**	**12 55 04.5**	**-6.1**
EVO				*e*Sg	**Sg**	**12 55 45.0**	**-7.9**
	1µm,0.8s						
EVO				*e*R			
	952nm,16.7s						
CABF	**La Chapelle**	**6.58**	**54**	*e*Pn	**Pn**	**12 53 53.1**	**-1.2**
CABF				*e*Sn	**Sn**	**12 55 04.7**	**-6.2**
CABF				*e*Sg	**Sg**	**12 55 45.6**	**-7.6**
	2µm,1.0s						
FENE	**Fenestrelle**	**6.59**	**69**	P	**Pn**	**12 53 54.4**	**0.0**
STV	**Sta Anna Valdi**	**6.61**	**76**	P	**Pn**	**12 53 54.5**	**-0.2**
STV2	**Anna di Valdie**	**6.61**	**76**	P	**Pn**	**12 53 54.4**	**-0.3**
SBF	**Sospel**	**6.65**	**79**	*e*Pn	**Pn**	**12 53 54.8**	**-0.4**
SBF				*e*Pg	**Pg**	**12 54 19.8**	**-6.9**
SBF				*e*Sn	**Sn**	**12 55 07.8**	**-4.7**
	502nm,0.6s						
AUTN	**L'Aution**	**6.65**	**78**	Pn	**Pn**	**12 53 55.4**	**+0.1**
ENR	**Entracque**	**6.67**	**76**	P	**Pn**	**12 53 55.5**	**-0.1**
BHB	**Bricherasio**	**6.68**	**71**	P	**Pn**	**12 53 55.9**	**+0.3**
LIJA	**Lijar**	**6.71**	**207**	P	**Pn**	**12 53 56.0**	**-0.1**
LIJA				S	**Sb**	**12 55 39.0**	**+6.0**
SAOF	**Saorge**	**6.74**	**78**	Pn	**Pn**	**12 53 56.0**	**-0.6**
SAOF	**Saorge**	**6.74**	**78**	P	**Pn**	**12 53 56.3**	**-0.3**
RSP	**Reno Superiore**	**6.75**	**68**	P	**Pn**	**12 53 57.2**	**+0.5**
MOE	**Montemor**	**6.77**	**231**	*e*Pn	**Pn**	**12 53 55.6**	**-1.4**
MOE				*e*Sn	**Sn**	**12 55 09.1**	**-6.5**
MOE				*e*Sg	**Sg**	**12 55 48.3**	**-11**
LSD	**Ceresole Reale**	**6.77**	**65**	P	**Pn**	**12 53 57.1**	**+0.1**
EMIJ	**Mijas**	**6.83**	**202**	Pn	**Pn**	**12 53 57.4**	**-0.5**
	34nm,0.3s,SNR=7.9						
EMIJ				Sn	**Sn**	**12 55 10.2**	**-7.0**
	SNR=7.9						
EMIJ				Lg		12 55 51.8	
	152nm,0.8s,SNR=7.9						
NEGI	**Negi**	**6.84**	**79**	P	**Pn**	**12 53 57.3**	**-0.6**
PBEJ	**Beja**	**6.86**	**226**	*e*Pn	**Pn**	**12 53 57.5**	**-0.7**
PBEJ				*e*Sn	**Sn**	**12 55 13.1**	**-4.6**
PBEJ				*e*Sg	**Sg**	**12 55 53.5**	**-8.8**
	198nm,0.7s						
PBEJ	**Beja**	**6.86**	**226**	Pn	**Pn**	**12 53 57.5**	**-0.7**
PBEJ				Sn	**Sn**	**12 55 13.1**	**-4.6**
PBEJ				Lg		12 55 53.5	
	99nm,0.7s						
MONE	**Monesi**	**6.90**	**77**	P	**Pn**	**12 53 58.5**	**-0.3**
ESPR	**Espera**	**6.90**	**210**	Pn	**Pn**	**12 53 58.7**	**-0.1**
	63nm,0.4s,SNR=44						
ESPR				Sn	**Sn**	**12 55 11.3**	**-7.6**
	SNR=7.9						
ESPR				Lg		12 55 54.7	
	136nm,0.9s,SNR=7.9						
ESPR	**Espera**	**6.90**	**210**	P	**Pn**	**12 53 58.8**	**0.0**
IMI	**Imperia**	**6.98**	**79**	*e*Pn	**Pn**	**12 53 59.9**	**0.0**
IMI				*e*Sn	**Sn**	**12 55 18.4**	**-2.4**
ROB	**Roburent**	**7.00**	**76**	P	**Pn**	**12 53 59.4**	**-0.8**
PLOU	**Loures**	**7.01**	**237**	*e*Pn	**Pn**	**12 54 00.8**	**+0.4**
PLOU				*e*Sn	**Sn**	**12 55 17.0**	**-4.7**
PLOU				*e*Sg	**Sg**	**12 55 59.5**	**-8.0**
SFTF	**Sexfontaines**	**7.02**	**39**	*e*Pn	**Pn**	**12 53 58.6**	**-1.8**
	baz=217						
SFTF				*e*Sn	**Sn**	**12 55 15.3**	**-6.5**
SFTF				*e*Sg	**Sg**	**12 55 59.5**	**-8.2**
	1µm,1.0s						
REAL	**Reales**	**7.03**	**204**	P	**Pn**	**12 54 01.0**	**+0.3**
REAL				S	**Sg**	**12 56 02.0**	**-6.2**
PALC	**Alcoutim**	**7.09**	**221**	*e*Pn	**Pn**	**12 54 00.2**	**-1.2**
PALC				*e*Sn	**Sn**	**12 55 17.1**	**-6.5**
PALC				*e*Sg	**Sg**	**12 55 59.4**	**-11**
	431nm,0.7s						
PALC	**Alcoutim**	**7.09**	**221**	Pn	**Pn**	**12 54 00.2**	**-1.2**
PALC				Sn	**Sn**	**12 55 17.1**	**-6.5**
PALC				Lg		12 55 59.4	
	215nm,0.7s						
LIS	**Lisbon**	**7.12**	**236**	*e*P	**Pn**	**12 53 58.5**	**-3.4**
LIS				*e*S	**Sn**	**12 55 10.9**	**-13**
LIS				*e*S	**Sn**	**12 55 10.9**	**-13**
LIS				AML	AML	12 55 21.1	
	comp=N,250nm,1.0s						
OKGL	**Djebel Kef Gue**	**7.12**	**165**	P	**Pn**	**12 54 04.0**	**+2.1**
RORO		**7.12**	**77**	P	**Pn**	**12 54 01.6**	**-0.3**
PMST	**Lisbon--Monsan**	**7.12**	**236**	P	**Pn**	**12 54 04.9**	**+3.0**
ECHF	**Ech Chlef**	**7.16**	**161**	P	**Pn**	**12 54 06.7**	**+4.3**
TRAV		**7.19**	**66**	P	**Pn**	**12 54 01.4**	**-1.4**
SCRT	**Cerro San Cris**	**7.22**	**211**	P	**Pn**	**12 54 03.5**	**+0.2**
SCRT				S	**Sg**	**12 56 07.5**	**-7.1**
FIN	**Finale Ligure**	**7.24**	**77**	*e*Pn	**Pn**	**12 54 04.4**	**+0.9**
FIN				*e*Sn	**Sn**	**12 55 26.6**	**-0.6**
MEZF	**Maizieres J'vi**	**7.24**	**38**	*e*Pn	**Pn**	**12 54 01.3**	**-2.3**
	baz=219						
MEZF				*e*Sn	**Sn**	**12 55 20.2**	**-7.2**
	comp=N,229nm,0.4s						
MEZF				*e*Sg	**Sg**	**12 56 03.7**	**-11**
	comp=N,820nm,0.7s						
EANR	**'Ain N'Sour**	**7.30**	**162**	P	**Pn**	**12 54 06.5**	**+2.1**
ORO	**Oropa**	**7.38**	**65**	*e*Pn	**Pn**	**12 54 06.9**	**+1.4**
ORO				*e*Sn	**Sn**	**12 55 29.1**	**-1.7**
SFS	**San Fernando**	**7.39**	**210**	P	**Pn**	**12 54 11.0**	**+5.4**
SFS				S	**Sg**	**12 56 21.0**	**+1.0**
LOMF	**Lomont**	**7.40**	**51**	P	**Pn**	**12 54 07.1**	**+1.2**
CNIL	**Conil**	**7.42**	**209**	P	**Pn**	**12 54 07.0**	**+1.0**
CNIL				S	**Sg**	**12 56 20.5**	**-0.5**
MCGN	**Macugnaga**	**7.49**	**63**	*e*Pn	**Pn**	**12 54 07.6**	**+0.6**
MCGN				*e*Sn	**Sn**	**12 55 31.6**	**-2.0**
MMK	**Mattmark**	**7.51**	**62**	⇑P	**Pn**	**12 54 08.1**	**+0.8**
OJBR	**Djebel Berber**	**7.51**	**168**	P	**Pn**	**12 54 09.0**	**+1.6**
PCP	**Pian Castagno**	**7.52**	**74**	P	**Pn**	**12 54 06.4**	**-1.1**
RFYF	**Reffroy**	**7.53**	**39**	*e*Pn	**Pn**	**12 54 07.2**	**-0.4**
	baz=218						
RFYF				*e*Sn	**Sn**	**12 55 26.7**	**-7.8**
RFYF				*e*Sg	**Sg**	**12 56 13.3**	**-11**
	comp=N,483nm,0.6s						
HAU	**Haudompre**	**7.53**	**45**	*e*Pn	**Pn**	**12 54 05.0**	**-2.6**
HAU				*e*Sn	**Sn**	**12 55 28.1**	**-6.5**
	comp=N,230nm,0.6s						
HAU				*e*Sg	**Sg**	**12 56 12.8**	**-12**
	comp=N,566nm,0.8s						
HAU				*e*R			
	comp=N,695nm,27.2s						
DCO	**Combe Farm**	**7.53**	**349**	⇑*e*P	**Pn**	**12 54 08.2**	**+0.5**
EMHD	**Djebel Mahouad**	**7.61**	**151**	P	**Pn**	**12 54 08.5**	**-0.2**
DYA	**Yadsworthy**	**7.65**	**349**	*e*P	**Pn**	**12 54 09.7**	**+0.3**
OJGS	**Djebel Guires**	**7.66**	**165**	P	**Pn**	**12 54 13.0**	**+3.6**
PTEO	**Sao Teotonio**	**7.67**	**228**	*e*Pn	**Pn**	**12 54 08.1**	**-1.5**
PTEO				*e*Sn	**Sn**	**12 55 35.6**	**-2.5**
PTEO				*e*Sg	**Sg**	**12 56 20.0**	**-9.4**
	comp=N,243nm,0.6s						
PTEO	**Sao Teotonio**	**7.67**	**228**	Pn	**Pn**	**12 54 08.1**	**-1.5**
PTEO				Sn	**Sn**	**12 55 35.6**	**-2.5**
PTEO				Lg		12 56 20.0	
	comp=N,121nm,0.6s						
HINF	**Hinteralfeld**	**7.68**	**48**	*e*Pn	**Pn**	**12 54 06.6**	**-3.2**
HINF				*e*Sn	**Sn**	**12 55 30.8**	**-7.7**
HINF				*e*Sg	**Sg**	**12 56 18.2**	**-12**
	comp=N,567nm,0.9s						
OTSS	**Djebel Tessala**	**7.69**	**175**	P	**Pn**	**12 54 08.0**	**-1.8**
GENL	**Genova Univers**	**7.80**	**76**	P	**Pn**	**12 54 08.1**	**-3.3**
PGF	**Pioggiola**	**7.81**	**89**	*e*Pn	**Pn**	**12 54 08.5**	**-3.1**
PGF				*e*Sn	**Sn**	**12 55 34.8**	**-6.9**
	comp=N,142nm,0.4s						
BBS	**Basel-Blauen**	**7.86**	**52**	P	**Pn**	**12 54 12.8**	**+0.6**
ETRT	**Tiaret**	**7.88**	**162**	P	**Pn**	**12 54 15.0**	**+2.5**
SBD	**Saint Breward**	**7.90**	**346**	⇑*e*P	**Pg**	**12 54 42.2**	**-10**
VAI	**Varese**	**7.98**	**65**	*e*Pn	**Pn**	**12 54 15.2**	**+1.3**
VAI				*e*Sn	**Sn**	**12 55 42.9**	**-2.8**
BAIF	**Baives**	**8.16**	**27**	*e*Pn	**P**	**12 54 14.4**	**-2.0**
BAIF				*e*Sn	**Sn**	**12 55 43.1**	**-7.2**
	comp=N,318nm,0.6s						
CDF	**Champ du Feu**	**8.27**	**46**	*e*Pn	**P**	**12 54 14.2**	**-3.7**
CDF				*e*Sn	**Sn**	**12 55 45.1**	**-8.0**
	comp=N,99nm,0.5s						
CDF				*e*Sg	**Sg**	**12 56 36.3**	**-13**
	comp=N,538nm,0.9s						
LIBD	**Limburg**	**8.29**	**48**	P	**P**	**12 54 18.6**	**+0.4**
SMD	**Mendips**	**8.39**	**355**	⇑*e*P	**P**	**12 54 18.8**	**-0.8**
GIVF	**Givet**	**8.41**	**30**	*e*Pn	**P**	**12 54 18.1**	**-1.8**
GIVF				*e*Sn	**Sn**	**12 55 49.5**	**-7.0**
	comp=N,1µm,0.8s						
CODM		**8.43**	**76**	P	**P**	**12 54 15.2**	**-4.9**
SWN1	**Swindon**	**8.56**	**359**	*e*P	**P**	**12 54 21.2**	**-0.9**
BACM		**8.57**	**77**	P	**P**	**12 54 16.5**	**-5.7**
WLF	**Walferdange**	**8.59**	**36**	*e*Pn	**P**	**12 54 20.1**	**-2.3**
GRAM		**8.59**	**76**	P	**P**	**12 54 17.6**	**-4.8**
VINC	**Vinca**	**8.62**	**78**	P	**P**	**12 54 16.8**	**-6.0**
VDL	**Val di Lei**	**8.64**	**62**	⇑P	**P**	**12 54 25.3**	**+2.2**
VALM		**8.71**	**77**	P	**P**	**12 54 19.0**	**-5.0**
HGH	**Gray Hill**	**8.73**	**355**	⇑*e*P	**P**	**12 54 23.5**	**-0.8**
HGH				AMb	AMB	12 54 41.5	
	comp=Z,140nm,1.8s						
SKP1	**Kophill**	**8.79**	**3**	⇑*e*P	**P**	**12 54 23.8**	**-1.4**
BFO	**Black Forest**	**8.79**	**49**	Pn	**P**	**12 54 24.9**	**-0.3**
	comp=Z,310nm,1.3s,SNR=10						
BFO	**Black Forest**	**8.79**	**49**	*e*P	**P**	**12 54 24.1**	**-1.1**
BFO				*e*		12 56 03.8	
BFO				MLR	MLR		
	comp=Z,400nm,19.1s						
VLC	**Villacollemand**	**8.79**	**78**	*e*Pn	**P**	**12 54 24.1**	**-1.1**
ERBM	**Eremo**	**8.83**	**76**	*e*Pn	**P**	**12 54 26.9**	**+1.2**
SPAK	**Spaichingen**	**8.92**	**51**	P	**P**	**12 54 28.3**	**+1.3**
BDI	**Bagni Di Lucca**	**8.94**	**79**	*e*Pn	**P**	**12 54 27.8**	**+0.6**
GSCL	**Gusciola**	**8.95**	**77**	*e*Pn	**P**	**12 54 27.7**	**+0.3**
CAEH	**'Ain El Ouahch**	**8.96**	**131**	P	**P**	**12 54 27.0**	**-0.5**
DAVOX	**Davos**	**9.01**	**61**	Pn	**P**	**12 54 27.6**	**-0.5**
	comp=Z,1.8nm,0.3s,baz=176,slow=11,SNR=43						
DAVOX				Sn	**Sn**	**12 56 08.8**	**-2.6**
	comp=Z,7.1nm,0.3s,baz=342,slow=16,SNR=5.8						
MCH1	**Michaelchurch**	**9.10**	**355**	⇑*e*P	**P**	**12 54 28.4**	**-1.0**
HAE	**Alders End**	**9.11**	**356**	⇑*e*P	**P**	**12 54 28.7**	**-1.0**
HAE				AMb	AMB	12 54 49.3	
	comp=Z,115nm,2.5s						
CASM	**Ain Smara**	**9.14**	**134**	P	**P**	**12 54 33.5**	**+3.4**
MABI	**Malga Bissina**	**9.20**	**66**	P	**P**	**12 54 33.3**	**+2.5**
HTR	**Trewern Hill**	**9.20**	**354**	⇑*e*P	**P**	**12 54 30.4**	**-0.4**
HTR				AMb	AMB	12 54 32.4	
	comp=Z,97nm,0.6s						
DAVA	**Damuels**	**9.20**	**58**	⇑*i*PN	**P**	**12 54 30.9**	**+0.1**
DAVA				*i* SN	**Sn**	**12 56 15.3**	**-0.9**
GRFL	**Gerfalco**	**9.21**	**85**	*e*Pn	**P**	**12 54 31.1**	**+0.1**
BRMO	**Bormio**	**9.22**	**63**	*e*Pn	**P**	**12 54 34.2**	**+3.0**
BRMO				*e*Sn	**Sn**	**12 56 13.9**	**-2.9**
LBG	**Lerchenberg**	**9.23**	**48**	P	**P**	**12 54 32.1**	**+0.8**
HGN	**Heimansgroeve**	**9.36**	**31**	*e*Pn	**P**	**12 54 31.4**	**-1.6**
	comp=Z,13nm,0.4s						

HGN				*i* x	x	12 54 32.9	
	comp=Z,38nm,0.4s						
HGN				*e*Sn	**Sn**	**12 56 11.0**	**-9.1**
HGN				*e*x	x	12 56 18.3	
CMAH	**Djebel Manchou**	**9.39**	**129**	P	**P**	**12 54 32.0**	**-1.4**
CSNT	**Castellina Chi**	**9.43**	**82**	*e*Pn	**P**	**12 54 34.0**	**-0.1**
UBR	**Uberruh**	**9.51**	**56**	P	**P**	**12 54 35.9**	**+0.9**
STU	**Stuttgart**	**9.51**	**49**	*e*P	**P**	**12 54 35.3**	**+0.2**
STU	**Stuttgart**	**9.51**	**49**	*e*Pn	**P**	**12 54 31.1**	**-4.0**
STU				*e*Pn	**P**	**12 54 35.3**	**+0.2**
STU				P		12 54 35.8	
SSP1	**Stoney Pound**	**9.52**	**354**	*e*P	**P**	**12 54 34.9**	**-0.4**
SSP1				AMb	AMB	12 54 47.4	
	comp=Z,85nm,1.5s						
HLM1	**Long Mynd**	**9.61**	**355⇑**	*e*P	**P**	**12 54 36.1**	**-0.2**
HLM1				AMb	AMB	12 54 39.6	
	comp=Z,84nm,1.7s						
VMG	**Vicchio**	**9.62**	**80**	*e*Pn	**P**	**12 54 37.2**	**+0.7**
PGD	**Poggio Sodo**	**9.74**	**80**	*e*Pn	**P**	**12 54 38.2**	**-0.1**
SFI	**Santa Sofia**	**9.83**	**80**	*e*Pn	**P**	**12 54 40.7**	**+1.2**
CRE	**Caprese Michel**	**9.91**	**82**	*e*Pn	**P**	**12 54 42.5**	**+1.9**
CTI	**Castel Tesino**	**9.96**	**67**	*e*Pn	**P**	**12 54 42.8**	**+1.5**
MOTA	**Moosalm**	**9.99**	**60⇑**	*i*PN	**P**	**12 54 41.3**	**-0.4**
MOTA				*i* SN	**Sn**	**12 56 33.1**	**-2.5**
SQTA	**Sankt Quirin**	**10.01**	**60⇑**	*i*PN	**P**	**12 54 42.2**	**+0.2**
SQTA				*i* SN	**S**	**12 56 34.7**	**-1.5**
SIND	**Sindeldorf**	**10.06**	**47**	P	**P**	**12 54 44.1**	**+1.4**
YRE	**Yr Eifl**	**10.21**	**350**	*e*P	**P**	**12 54 45.2**	**+0.5**
YRE				AMb	AMB	12 55 03.9	
	comp=Z,119nm,1.5s						
WATA	**Walderalm**	**10.29**	**60⇓**	*i*PN	**P**	**12 54 46.2**	**+0.4**
WATA				*i* SN	**S**	**12 56 42.1**	**-0.8**
WTTA	**Wattenberg**	**10.30**	**61⇑**	*i*PN	**P**	**12 54 46.0**	**+0.1**
WTTA				*i* SN	**S**	**12 56 42.9**	**-0.4**
BUG	**Bochum--Univer**	**10.41**	**32**	*e*Pn	**P**	**12 54 44.4**	**-3.0**
BUG				*e*Sn	**S**	**12 56 37.6**	**-8.3**
WPM1	**Penmaenmawr**	**10.42**	**352⇑**	*e*P	**P**	**12 54 47.3**	**-0.3**
WPM1				AMb	AMB	12 55 07.5	
	comp=Z,117nm,1.7s						
YRC	**Rhoscolyn**	**10.49**	**350**	*e*P	**P**	**12 54 49.8**	**+1.3**
YRC				AMb	AMB	12 54 54.3	
	comp=Z,100nm,1.7s						
MNS	**Montasola**	**10.54**	**88**	P	**P**	**12 54 49.9**	**+0.7**
WME	**Myndd Eilian**	**10.60**	**351⇑**	*e*P	**P**	**12 54 51.0**	**+1.0**
WME				AMb	AMB	12 55 04.9	
	comp=Z,78nm,1.7s						
WCB1	**Church Bay**	**10.61**	**350**	*e*P	**P**	**12 54 50.4**	**+0.2**
WCB1				AMb	AMB	12 54 52.1	
	comp=Z,117nm,1.5s						
ARV	**Arcevia**	**10.63**	**82**	*e*Pn	**P**	**12 54 52.3**	**+1.8**
WTSB	**Winterswijk**	**10.65**	**29**	*e*Pn	**P**	**12 54 47.7**	**-3.0**
	comp=Z,15nm,0.7s						
WTSB				*i* x	x	12 54 50.1	
WTSB				*e*Sn	**S**	**12 56 41.6**	**-10**
NRCA	**Norcia**	**10.80**	**86**	*e*Pn	**P**	**12 54 53.1**	**+0.3**
FVI	**Forni Avoltri**	**10.85**	**65**	P	**P**	**12 54 55.8**	**+2.3**
DLF	**Lyons Farm**	**10.86**	**344⇑**	*i*P	**P**	**12 54 54.2**	**+0.7**
DLF				*e*S	**S**	**12 56 47.9**	**-8.9**
HPK	**Haverah Park**	**11.01**	**360⇑**	*e*P	**P**	**12 54 54.3**	**-1.4**
DCN	**Croghan**	**11.06**	**342⇑**	*i*P	**P**	**12 54 57.1**	**+0.8**
DCN				*e*S	**S**	**12 56 52.3**	**-10**
AQU	**L'Aquila**	**11.07**	**88**	P	**P**	**12 54 56.1**	**-0.4**
GMNA	**Gemona**	**11.09**	**67**	*e*Pn	**P**	**12 54 58.9**	**+2.2**
GRA1	**Grafenberg Arr**	**11.13**	**48**	*e*Pn	**P**	**12 54 58.1**	**+0.8**
GRF	**Grafenberg Arr**	**11.13**	**48**	*e*P	**P**	**12 54 58.1**	**+0.8**
GRF				MLR	MLR		
	comp=Z,400nm,19.7s						
PTCC	**Patocco-Chiusa**	**11.19**	**67**	*e*Pn	**P**	**12 54 58.9**	**+0.8**
ROBS	**Robic**	**11.27**	**68**	*e*Pn	**P**	**12 54 59.9**	**+0.7**
IBBN	**Ibbenburen**	**11.28**	**31**	*e*Pn	**P**	**12 54 58.4**	**-0.9**
IBBN				*e*Sn	**S**	**12 56 56.1**	**-11**
TRI	**Trieste**	**11.35**	**71**	P	**P**	**12 55 01.4**	**+1.1**
KBA	**Koelnbreinsper**	**11.35**	**64⇑**	*i*Pn	**P**	**12 55 01.0**	**+0.7**
KBA				*i* Sn	**S**	**12 57 09.1**	**+0.1**
WIM	**Isle of Man**	**11.38**	**351**	*e*P	**P**	**12 55 01.0**	**+0.3**
WIM				AMb	AMB	12 55 21.5	
	comp=Z,130nm,1.8s						
CDU1	**Dunnerdale**	**11.44**	**355**	*e*P	**P**	**12 55 00.2**	**-1.3**
VOY	**Vojsko**	**11.49**	**69**	*e*Pn	**P**	**12 55 01.8**	**-0.4**
VOY				*e*Sn	**S**	**12 57 03.1**	**-9.2**
VOY				*e*		12 57 10.6	
INTR	**Introdacqua**	**11.49**	**89**	P	**P**	**12 55 02.1**	**-0.2**
DMUB	**Kingscourt**	**11.50**	**344**	*e*P	**P**	**12 55 01.9**	**-0.4**
CSF	**Scaffel**	**11.55**	**355⇑**	*e*P	**P**	**12 55 01.5**	**-1.5**
CKE	**Keswick**	**11.69**	**356**	*e*P	**P**	**12 55 03.9**	**-0.9**
LCP	**Cassop**	**11.79**	**0**	*e*P	**P**	**12 55 04.3**	**-2.0**
WET	**Wettzell**	**11.80**	**53**	*e*P	**P**	**12 55 07.2**	**+0.7**
WET				*e*		12 57 14.5	
WET				MLR	MLR		
	comp=Z,300nm,21.1s						
CEY	**Cerknica**	**11.81**	**71**	*e*Pn	**P**	**12 55 06.1**	**-0.5**
MOX	**Moxa**	**11.87**	**45**	*i* P	**P**	**12 55 07.1**	**-0.3**
MOX				S	**S**	**12 57 15.0**	**-6.6**
MOX				QM		12 59 10.0	
MOX				RM		13 00 12.0	
MOX	**Moxa**	**11.87**	**45**	*e*P	**P**	**12 55 07.1**	**-0.3**
MOX				*e*		12 57 15.5	
MOX				MLR	MLR		
	comp=Z,700nm,12.0s						
LJU	**Ljubljana**	**11.93**	**69**	*i* Pn	**P**	**12 55 07.8**	**-0.3**
CLZ	**Clausthal**	**12.02**	**38**	*e*Pn	**P**	**12 55 06.6**	**-2.8**
OBKA	**Obir**	**12.02**	**67⇑**	*i*Pn	**P**	**12 55 10.7**	**+1.3**
OBKA				*i* Sn	**S**	**12 57 25.2**	**-0.2**
NKC	**Novy Kostel**	**12.09**	**48**	*e*P	**P**	**12 55 10.8**	**+0.5**
GEC2	**GERESS Array S**	**12.17**	**56**	*e*Pn	**P**	**12 55 10.6**	**-0.8**
GEC2				*e*Sn	**S**	**12 57 23.6**	**-5.4**
GERES	**GERESS Array B**	**12.17**	**56**	Pn	**P**	**12 55 09.9**	**-1.5**
	comp=Z,3.2nm,0.3s,baz=256,slow=13,SNR=48						
GERES				Sn	**S**	**12 57 21.5**	**-7.4**
	comp=Z,11nm,0.3s,baz=263,slow=22,SNR=18						
GERES	**GERESS Array B**	**12.17**	**56**	P	**P**	**12 55 09.9**	**-1.5**
GERES						12 57 21.5	
GERES				pmax	pmax		
	comp=Z,3.0nm,0.3s						
GERES				smax			
	comp=N,11nm,0.3s						
MOA	**Molln**	**12.18**	**61⇑**	*i*Pn	**P**	**12 55 11.3**	**-0.2**
MOA				*i* Sn	**S**	**12 57 27.9**	**-1.1**
KHC	**Kasperske Hory**	**12.21**	**54**	*e*P	**P**	**12 55 11.0**	**-1.0**
KHC				*e*x	x	12 55 52.5	
KHC				*e*S	**S**	**12 57 24.6**	**-5.4**
KHC				L		12 59 10.0	
KHC				*e*x	x	12 59 16.5	
KHC	**Kasperske Hory**	**12.21**	**54**	*e*P	**P**	**12 55 11.0**	**-1.0**
KHC				*e*		12 57 24.6	
KHC	**Kasperske Hory**	**12.21**	**54**	*e*Pn	**P**	**12 55 11.0**	**-1.0**
KHC				*e*		12 55 52.5	
KHC				*e*Sn	**S**	**12 57 24.6**	**-5.4**
KHC				*e*		12 59 16.5	
BOJS	**Bojanci**	**12.36**	**72**	*e*Pn	**P**	**12 55 13.4**	**-0.5**
EKA	**Eskdalemuir Ar**	**12.43**	**356**	Pn	**P**	**12 55 13.0**	**-1.9**
	comp=N,2.6nm,0.3s,baz=178,slow=14,SNR=36						
EKA				Sn	**S**	**12 57 28.2**	**-7.0**
	comp=N,3.8nm,0.3s,baz=176,slow=25,SNR=6.7						
EKA	**Eskdalemuir Ar**	**12.43**	**356**	P	**P**	**12 55 13.0**	**-1.9**
EKA						12 57 28.3	
EKA				pmax	pmax		
	comp=Z,3.0nm,0.3s						
EKA				smax			
	comp=N,4.0nm,0.3s						
CRES	**Cresnjevec ost**	**12.54**	**71**	*e*Pn	**P**	**12 55 15.7**	**-0.7**
DOBS	**Dobrina**	**12.59**	**69**	P	**P**	**12 55 17.2**	**+0.2**
GROS	**Grobnik**	**12.66**	**68**	*e*Pn	**P**	**12 55 18.4**	**+0.3**
ARSA	**Arzberg**	**12.84**	**65⇑**	*i*Pn	**P**	**12 55 20.4**	**+0.1**
ARSA				*i* Sn	**S**	**12 57 45.5**	**+0.5**
CLL	**Collm**	**12.97**	**45**	P	**P**	**12 55 23.4**	**+1.3**
CLL				*e*S	**S**	**12 57 37.0**	**-11**
CLL				*e*SS	SS	12 58 02.0	-1.0
CLL				*e*		12 59 00.0	
CLL				*e*L		12 59 14.0	
CLL				*e*		12 59 38.0	
CLL	**Collm**	**12.97**	**45**	*i* P	**P**	**12 55 23.4**	**+1.3**
CLL				*e*S	**S**	**12 57 37.0**	**-11**
PRU	**Pruhonice**	**13.15**	**52**	*e*P	**P**	**12 55 24.7**	**+0.2**
PRU				*i* x	x	12 55 31.4	
PRU				L		13 00 00.0	
	comp=N,0.7nm,5.0s						
PRU	**Pruhonice**	**13.15**	**52**	*e*P	**P**	**12 55 24.7**	**+0.2**
PRU				MLR	MLR		
	comp=Z,700nm,5.0s						
BRG	**Berggiesshubel**	**13.23**	**48**	*e*P	**P**	**12 55 26.1**	**+0.5**
BRG				MLR	MLR		
	comp=Z,1µm,7.1s						
BRG				MLR	MLR		
	comp=N,1µm,6.6s						
BRG				MLR	MLR		
	comp=E,980nm,6.6s						
VAE	**Valguarnera**	**13.40**	**109**	LR	LR	13 00 53.3	
	comp=E,242nm,18.7s,baz=122,slow=39						
PVCC	**Panska Ves**	**13.41**	**50**	*e*P	**P**	**12 55 31.3**	**+3.4**
PVCC				L		13 00 40.0	
	comp=E,1.0nm,6.7s						
VKA	**Vienna**	**13.61**	**61⇓**	*i*Pn	**P**	**12 55 30.4**	**-0.1**
VKA				*i* Sn	**S**	**12 57 55.6**	**-8.0**
KRUC	**Moravsky**	**13.91**	**58**	P	**P**	**12 55 36.1**	**+1.7**
VRAC	**Vranov**	**14.11**	**57**	Pn	**P**	**12 55 36.3**	**-0.7**
	comp=E,0.4nm,0.3s,baz=265,slow=18,SNR=5.1						
VRAC				Sn	**S**	**12 58 06.3**	**-9.2**
	comp=E,4.4nm,0.3s,baz=254,slow=10.0,SNR=10						
DPC	**Dobruska-Polom**	**14.34**	**53**	*e*P	**P**	**12 55 39.8**	**-0.3**
TIP	**Timpagrande**	**14.36**	**99**	*e*Pn	**P**	**12 55 34.9**	**-5.5**
RHK1	**Bakonya**	**14.38**	**71**	*e*P	**P**	**12 55 42.0**	**+1.4**
KSP	**Ksiaz**	**14.53**	**51**	*e*P	**P**	**12 55 47.2**	**+4.6**
KSP				*e*PP	PP	12 55 56.8	+2.6
KSP				*e*S	**S**	**12 58 42.5**	**+17**
MORC	**Moravsky Berou**	**14.85**	**56**	*e*Pn	**P**	**12 55 47.1**	**+0.3**
	comp=E,62nm,1.4s						
OKC	**Ostrava-Krasne**	**15.24**	**56**	*e*P	**P**	**12 55 54.1**	**+2.2**
OKC				LR		13 01 20.0	
	comp=E,2.1nm,10.4s						
PSZ	**Piszkesteto**	**15.87**	**64⇑**	*e*P	**P**	**12 56 00.5**	**+0.5**
GRUS	**Gruza**	**16.24**	**79⇓**	*i*P	**P**	**12 56 03.7**	**-1.1**
OJC	**Ojcow**	**16.37**	**56**	*e*P	**P**	**12 56 11.5**	**+5.0**
SKO	**Skopje**	**17.03**	**85**	*i* P	**P**	**12 56 18.0**	**+3.2**
BLS5	**Blasjo**	**17.22**	**14**	*e*P	**P**	**12 56 17.8**	**+0.6**
BLS5				AMb	AMB	12 56 31.7	
	comp=Z,38nm,1.3s						
BLS5	**Blasjo**	**17.22**	**14**	*e*P	**P**	**12 56 17.8**	**+0.6**
	comp=Z,38nm,1.3s						
UZH	**Uzhgorod**	**17.57**	**63**	*e*P	**P**	**12 56 23.0**	**+1.4**
UZH				*e*S	**S**	**12 59 37.0**	**+0.9**
ODD1	**Odda**	**17.71**	**14**	*e*P	**P**	**12 56 22.3**	**-0.9**
ODD1				AMb	AMB	12 56 37.2	
	comp=Z,93nm,1.7s						
ODD1	**Odda**	**17.71**	**14**	*e*P	**P**	**12 56 22.8**	**-0.5**
	comp=Z,93nm,1.7s						
HYA	**Hoyanger**	**18.83**	**12**	*e*P	**P**	**12 56 39.5**	**+2.4**
HYA				*i* Pg	**P**	**12 56 39.5**	**+2.4**
HYA				AMb	AMB	12 56 47.9	
	comp=Z,75nm,1.1s						
HYA	**Hoyanger**	**18.83**	**12**	*e*P	**P**	**12 56 40.5**	**+3.4**
	comp=Z,75nm,1.1s						
FOO	**Floro**	**19.09**	**10**	*e*P	**P**	**12 56 41.0**	**+0.8**
FOO				AMb	AMB	12 56 50.4	
	comp=Z,95nm,2.0s						
FOO	**Floro**	**19.09**	**10**	*e*P	**P**	**12 56 40.8**	**+0.6**
	comp=Z,95nm,2.0s						
NAO01	**NORSAR Array S**	**19.44**	**19**	*e*P	**P**	**12 56 46.1**	**+1.8**
HFS	**Hagfors**	**19.57**	**23**	P	**P**	**12 56 46.3**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=207,slow=9.9,SNR=14						
HFS				S	**S**	**13 00 15.2**	**-6.1**
	comp=Z,0.2nm,0.3s,baz=214,slow=21,SNR=6.9						
NOA	**NORSAR Array B**	**19.69**	**19**	P	**P**	**12 56 45.2**	**-2.0**
	comp=Z,0.4nm,0.3s,baz=43,slow=13,SNR=7.8						
NOA				S	**S**	**13 00 19.8**	**-4.1**
	comp=Z,0.3nm,0.3s,baz=208,slow=24,SNR=4.2						
NOA				LR	LR	13 04 57.7	
	comp=Z,192nm,21.1s,baz=220,slow=39						
SUW	**Suwalki**	**19.70**	**47**	*e*P	**P**	**12 56 51.3**	**+4.0**
MLR	**Muntele Rosu**	**19.87**	**73**	P	**P**	**12 56 49.4**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=327,slow=11,SNR=4.8						
MLR				LR	LR	13 04 10.1	
	comp=Z,192nm,20.3s,baz=62,slow=36						
VRI	**Vrincioaia**	**20.40**	**72⇑**	*i*P	**P**	**12 56 55.0**	**+0.1**
KIS	**Kishinev**	**21.82**	**69**	*e*P	**P**	**12 57 07.0**	**-2.4**
KIS				*e*		12 57 28.0	
KIS				*e*		13 01 13.0	
IDI	**Anoyia**	**21.87**	**102**	P	**P**	**12 57 09.7**	**-0.4**
	comp=Z,20nm,0.9s,mb4.5,baz=28,slow=21,SNR=8.8						
AKASG	**Malin Array Be**	**22.35**	**59**	P	**P**	**12 57 13.2**	**-1.4**
	comp=Z,8.6nm,0.7s,mb4.3,baz=252,slow=11,SNR=21						
AKASG				PcP	PcP	13 01 09.8	-1.3
	comp=Z,0.8nm,0.6s,baz=272,slow=2.6,SNR=4.1						
AKASG	**Malin Array Be**	**22.35**	**59**	P	**P**	**12 57 13.2**	**-1.4**
AKASG						13 01 09.9	
AKASG				pmax	pmax		
	comp=Z,9.0nm,0.7s						
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ULDT	**Uludag**	**23.11**	**86**	P	**P**	**12 57 23.7**	**+1.5**
VSU	**Vasula**	**23.47**	**39**	*e*P	**P**	**12 57 26.9**	**+1.4**
BORG	**Borgarnes**	**24.53**	**340**	LR	LR	13 07 00.5	
	comp=Z,187nm,21.6s,MS3.5,baz=0.3,slow=36						
ESKT	**Eskisehir**	**24.56**	**87**	P	**P**	**12 57 38.5**	**+2.2**
FINES	**FINESS Array B**	**24.79**	**32**	P	**P**	**12 57 38.9**	**+0.6**
	comp=Z,13nm,0.9s,mb4.5,baz=231,slow=8.2,SNR=26						
FINES				LR	LR	13 07 04.9	
	comp=Z,135nm,21.9s,MS3.4,baz=319,slow=36						
FINES	**FINESS Array B**	**24.79**	**32**	P	**P**	**12 57 38.9**	**+0.6**
FINES				pmax	pmax		
	comp=Z,13nm,0.9s						
FINES				MLR	MLR		
	comp=Z,135nm,21.9s						
SGKT	**Sivrigoynuk**	**25.13**	**84**	P	**P**	**12 57 42.7**	**+1.0**
KAF	**Kangasniemi**	**25.27**	**31**	*e*p	**P**	**12 57 44.3**	**+1.4**
	comp=Z,9.7nm,0.9s,mb4.3						
KAF	**Kangasniemi**	**25.27**	**31**	*e*P	**P**	**12 57 44.3**	**+1.4**
KAF				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.3						
BALT	**Daday**	**25.83**	**81**	P	**P**	**12 57 51.1**	**+2.8**
ELDT	**Eldivan**	**26.15**	**83**	P	**P**	**12 57 51.3**	**0.0**
BRTR	**Keskin Array B**	**26.54**	**85**	P	**P**	**12 57 54.2**	**-0.6**
	comp=Z,9.1nm,0.9s,mb4.3,baz=280,slow=7.5,SNR=16						
BRTR				LR	LR	13 09 53.5	
	comp=Z,102nm,18.4s,MS3.4,baz=340,slow=40						
BRTR	**Keskin Array B**	**26.54**	**85**	P	**P**	**12 57 54.3**	**-0.6**
BRTR				pmax	pmax		
	comp=Z,9.0nm,0.9s						
BRTR				MLR	MLR		
	comp=Z,102nm,18.4s						
CTKT	**Corum**	**27.10**	**82**	P	**P**	**12 58 03.1**	**+3.1**
OBN	**Obninsk**	**27.46**	**50⇓**	*e*P	**P**	**12 58 03.6**	**+0.5**
OBN				*e*		12 58 50.8	
OBN						13 01 21.0	
OBN				S	**S**	**13 02 36.0**	**-6.9**
OBN				SSS	SSS	13 03 56.0	-22
OBN				pmax	pmax		
	comp=Z,43nm,1.8s,mb4.7						
OBN				MLR	MLR		
	comp=Z,100nm,16.0s,MS3.5						
OBN	**Obninsk**	**27.46**	**50⇓**	*i*P	**P**	**12 58 03.6**	**+0.5**
ANN	**Anapa**	**28.02**	**73**	*e*P	**P**	**12 58 03.3**	**-5.0**
ANN				*e*S	**S**	**13 02 42.7**	**-9.3**
ANN				pmax	pmax		
	comp=Z,27nm,1.0s,mb4.8						
CSS	**Prodhromos**	**28.16**	**95**	*e*P	**P**	**12 58 09.3**	**-0.4**
	comp=Z,24nm,0.9s,mb4.8						
MOS	**Moscow**	**28.17**	**49**	*e*P	**P**	**12 58 09.5**	**0.0**
MOS				pmax	pmax		
	comp=Z,49nm,0.6s,mb5.3						
JMIC	**Jan Mayen**	**28.32**	**355**	LR	LR	13 09 25.0	
	comp=Z,161nm,19.2s,MS3.6,baz=115,slow=36						
COBT	**Iskenderun**	**29.63**	**90**	P	**P**	**12 58 22.5**	**-0.4**
SOC	**Sochi**	**29.88**	**74**	*e*P	**P**	**12 58 24.7**	**-0.3**
SOC				*e*		13 01 29.0	
SOC				*e*S	**S**	**13 03 16.5**	**-5.2**
SOC				*e*SSS	SSS	13 05 11.5	-6.0
SOC				pmax	pmax		
	comp=Z,12nm,0.6s,mb4.8						
SOC				pmax	pmax		
	comp=N,10.0nm,0.5s						
SOC				pmax	pmax		
	comp=E,12nm,0.8s						
SOC				MLR	MLR		
	comp=Z,177nm,20.0s,MS3.7						
SOC				MLR	MLR		
	comp=N,203nm,19.0s,MS3.9						
SOC				MLR	MLR		
	comp=E,168nm,21.0s,MS3.9						
ARCES	**ARCESS Array B**	**30.07**	**19**	P	**P**	**12 58 24.6**	**-2.0**
	comp=E,7.0nm,0.6s,mb4.5,baz=214,slow=8.7,SNR=36						
ARCES				LR	LR	13 09 28.4	
	comp=E,157nm,20.7s,MS3.6,baz=120,slow=34						
ARCES	**ARCESS Array B**	**30.07**	**19**	P	**P**	**12 58 24.6**	**-1.9**
ARCES				pmax	pmax		
	comp=Z,7.0nm,0.6s						
ARCES				MLR	MLR		
	comp=Z,157nm,20.7s						
GZT	**Gaziantep**	**30.26**	**87**	P	**P**	**12 58 28.1**	**-0.4**
MALT	**Malatya**	**30.52**	**85**	*e*P	**P**	**12 58 29.8**	**-1.1**
	comp=Z,15nm,1.1s,mb4.8						
KEV	**Kevo**	**30.59**	**19**	*e*p	**P**	**12 58 29.1**	**-2.0**
	comp=Z,0.5nm,0.4s,mb3.7						
KEV	**Kevo**	**30.59**	**19**	*e*P	**P**	**12 58 29.1**	**-2.0**
KEV				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.0						
ELZG	**Elazig**	**30.86**	**84**	P	**P**	**12 58 33.7**	**-0.1**
ASF	**Jabal al Asfar**	**32.11**	**97**	P	**P**	**12 58 44.9**	**+0.1**
	comp=Z,5.3nm,0.7s,mb4.5,baz=126,slow=4.4,SNR=9.1						
ZEI	**Tsey**	**33.04**	**74**	*e*P	**P**	**12 58 53.0**	**+0.2**
ZEI				*e*		13 04 10.0	
ZEI				MLR	MLR		
	comp=Z,200nm,13.0s,MS4.0						
ZEI				MLR	MLR		
	comp=Z,200nm,18.0s						
DBIC	**Dimbokro**	**36.25**	**185**	P	**P**	**12 59 19.3**	**-1.4**
	comp=Z,5.5nm,0.5s,mb4.8,baz=349,slow=9.6,SNR=22						
DBIC				LR	LR	13 14 56.6	
	comp=Z,161nm,19.1s,MS3.8,baz=1.0,slow=38						
DBIC	**Dimbokro**	**36.25**	**185**	P	**P**	**12 59 19.3**	**-1.4**
DBIC				pmax	pmax		
	comp=Z,6.0nm,0.5s						
DBIC				MLR	MLR		
	comp=Z,161nm,19.1s						
DBIC	**Dimbokro**	**36.25**	**185**	*e*P	**P**	**12 59 18.9**	**-1.8**
	comp=Z,9.7nm,0.8s,mb4.8						
TIC	**Toumodi**	**36.29**	**186**	*e*P	**P**	**12 59 19.6**	**-1.4**
	comp=Z,51nm,0.8s,mb5.5						
KIC	**Kosan Boka**	**36.55**	**185**	*e*P	**P**	**12 59 21.8**	**-1.4**
	comp=Z,72nm,1.0s,mb5.5						
LIC	**Lamto**	**36.70**	**186**	*e*P	**P**	**12 59 22.7**	**-1.8**
	comp=Z,6.3nm,0.5s,mb4.4						
LIC	**Lamto**	**36.70**	**186**	*e*P	**P**	**12 59 23.0**	**-1.5**
	comp=Z,58nm,1.3s,mb5.2						
ARU	**Arti**	**39.87**	**49⇓**	*i*P	**P**	**12 59 51.0**	**+0.4**
ARU				*e*		13 01 22.2	
ARU				*e*PPP	PPP	13 01 46.6	-4.3
ARU				*e*		13 01 55.6	
ARU				*e*S	**S**	**13 05 54.4**	**-1.5**
ARU				*e*		13 09 59.0	
ARU				pmax	pmax		
	comp=Z,25nm,0.9s,mb4.9						
ARU	**Arti**	**39.87**	**49**	*e*P	**P**	**12 59 51.0**	**+0.5**
	comp=Z,31nm,1.0s,mb5.0						
SVE	**Sverdlovsk**	**40.96**	**48⇓**	*e*P	**P**	**13 00 02.7**	**+3.2**
SCHQ	**Schefferville**	**42.97**	**310**	P	**P**	**13 00 18.2**	**+2.3**
	comp=Z,3.3nm,0.6s,mb4.2,baz=39,slow=13,SNR=4.2						
ZRNK	**Zerenda**	**46.52**	**52**	*e*P	**P**	**13 00 45.4**	**+1.0**
	comp=Z,14nm,0.9s,mb4.9						
BRVK	**Borovoye**	**47.23**	**51**	*i* P	**P**	**13 00 51.4**	**+1.4**
KURK	**Kurchatov**	**52.89**	**52*d***	*i*P	**P**	**13 01 33.2**	**-0.2**
AAK	**Ala-Archa**	**53.96**	**62*c***	*i*P	**P**	**13 01 41.7**	**+0.4**
AAK				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.8						
AAK	**Ala-Archa**	**53.96**	**62⇑**	*i*P	**P**	**13 01 41.7**	**+0.4**
MKAR	**Makanchi Array**	**56.84**	**55**	P	**P**	**13 02 01.7**	**-0.5**
	comp=Z,4.9nm,0.7s,mb4.7,baz=298,slow=6.2,SNR=26						
MKAR				LR	LR	13 27 24.1	
	comp=Z,110nm,20.1s,MS4.0,baz=297,slow=37						
MKAR	**Makanchi Array**	**56.84**	**55**	P	**P**	**13 02 01.7**	**-0.5**
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MKAR				MLR	MLR		
	comp=Z,110nm,20.1s						
TIXI	**Tiksi**	**60.46**	**16**	*e*P	**P**	**13 02 27.2**	**+0.1**
TIXI				*e*		13 03 07.9	
TIXI				*e*		13 04 40.5	
TIXI				*e*S	**S**	**13 10 35.7**	**-5.8**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4						
ULM	**Lac du Bonnet**	**60.96**	**313**	P	**P**	**13 02 30.0**	**-0.7**
	comp=Z,2.4nm,0.6s,mb4.5,baz=21,slow=7.1,SNR=5.1						
WMQ	**Urumqi**	**61.64**	**55**	P	**P**	**13 02 36.6**	**+1.1**
WMQ				AMB	AMB		
	comp=Z,13nm,0.8s,mb5.1						
WMQ				LR	LR		
	comp=E,135nm,16.4s						
WMQ				LR	LR		
	comp=Z,93nm,18.4s,MS4.0						
YKA	**Yellowknife Ar**	**62.09**	**331**	P	**P**	**13 02 37.3**	**-0.9**
	comp=Z,6.6nm,0.8s,mb4.8,baz=52,slow=7.0,SNR=10						
YKA				LR	LR	13 27 55.2	
	comp=Z,84nm,19.2s,MS3.9,baz=75,slow=34						
CPCT	**Cooper Cave**	**62.23**	**294**	P	**P**	**13 02 42.8**	**+3.2**
INK	**Inuvik**	**63.39**	**342**	*e*P	**P**	**13 02 47.7**	**+1.0**
	comp=Z,7.2nm,1.2s,mb4.7						
WVT	**Waverly**	**64.04**	**296**	*e*P	**P**	**13 02 51.4**	**0.0**
TSUM	**Tsumeb**	**64.32**	**160**	LR	LR	13 29 59.3	
	comp=Z,75nm,19.4s,MS3.9,baz=154,slow=35						
CCM	**Cathedral Cave**	**65.14**	**300**	*e*P	**P**	**13 02 58.6**	**+0.1**
	comp=Z,4.6nm,0.8s,mb4.6						
BOD	**Bodaibo**	**66.19**	**32**	*e*P	**P**	**13 03 03.7**	**-1.2**
ZAK	**Zakamensk**	**66.37**	**42**	*e*P	**P**	**13 03 07.3**	**+1.1**
ZAK				*e*		13 03 39.3	
ZAK				*e*		13 05 35.9	
EDM	**Edmonton**	**67.73**	**323**	*e*P	**P**	**13 03 16.4**	**+1.6**
KSU1	**Kansas State U**	**67.88**	**303**	*e*P	**P**	**13 03 15.3**	**-0.6**
DAWY	**Dawson**	**68.24**	**341**	*e*P	**P**	**13 03 20.4**	**+2.6**
YAK	**Yakutsk**	**68.26**	**22*d***	*i*P	**P**	**13 03 18.7**	**+0.8**
YAK				pmax	pmax		
	comp=Z,16nm,0.8s,mb5.1						
YAK	**Yakutsk**	**68.26**	**22**	*e*P	**P**	**13 03 19.2**	**+1.3**
	comp=Z,17nm,0.8s,mb5.1						
KOLN	**Koldanda**	**68.34**	**72**	*e*P	**P**	**13 03 18.6**	**-0.4**
	comp=Z,19nm,1.2s,mb5.0						
LAO	**LASA Array**	**68.60**	**314**	*e*P	**P**	**13 03 22.2**	**+1.9**
	comp=Z,10nm,0.9s,mb4.8						
MIAR	**Mount Ida**	**68.75**	**298**	*e*P	**P**	**13 03 22.8**	**+1.3**
	comp=Z,12nm,0.9s,mb4.8						
GKN	**Gorkha**	**68.92**	**71**	*e*P	**P**	**13 03 22.1**	**-0.5**
	comp=Z,16nm,0.8s,mb5.0						
RSSD	**Black Hills**	**69.07**	**311**	*e*P	**P**	**13 03 24.7**	**+1.4**
	comp=Z,5.0nm,0.9s,mb4.4						
IMA	**Indian Mountai**	**69.19**	**348**	*e*P	**P**	**13 03 26.9**	**+3.2**
	comp=Z,21nm,0.8s,mb5.1						
COLA	**College**	**69.31**	**345**	*e*P	**P**	**13 03 27.0**	**+2.7**
DMN	**Daman**	**69.49**	**71**	*e*P	**P**	**13 03 25.4**	**-0.7**
	comp=Z,12nm,0.3s,mb5.3						
KKN	**Kakani**	**69.50**	**71**	*e*P	**P**	**13 03 25.6**	**-0.6**
	comp=Z,13nm,0.6s,mb5.0						
SONM	**Songino Array**	**69.58**	**43**	P	**P**	**13 03 27.3**	**+1.0**
	comp=Z,1.5nm,0.7s,mb4.0,baz=298,slow=6.9,SNR=15						
PKI	**Pulchoki**	**69.72**	**71**	*e*P	**P**	**13 03 27.1**	**-0.4**
	comp=Z,30nm,1.3s,mb5.1						
HRY	**Holter Researc**	**71.46**	**317**	*e*P	**P**	**13 03 37.2**	**-0.5**
GTA	**Gaotai**	**71.54**	**53**	*e*P	**P**	**13 03 39.3**	**+1.0**
GTA				PP	PP	13 06 18.4	-0.5
GTA				PPP	PPP	13 07 59.3	-1.1
GTA				S	S	13 12 56.3	-0.6
GTA				AMB	AMB		
	comp=Z,2.0nm,1.3s,mb3.9						
GTA				AMB	AMB		
	comp=Z,33nm,5.3s						
GTA				LR	LR		
	comp=N,81nm,20.1s,MS4.1						
GTA				LR	LR		
	comp=E,62nm,20.5s,MS4.1						
GTA				LR	LR		
	comp=Z,54nm,17.9s,MS3.9						
WMOK	**Wichita Mounta**	**71.97**	**301**	*e*P	**P**	**13 03 42.5**	**+1.5**
	comp=Z,9.1nm,1.0s,mb4.7						
BOZ	**Bozeman (W)**	**72.09**	**316**	*e*P	**P**	**13 03 44.2**	**+2.7**
	comp=Z,6.1nm,1.0s,mb4.5						
BDFB	**Brasilia**	**72.19**	**227**	P	**P**	**13 03 43.7**	**+1.1**
	comp=Z,1.4nm,0.4s,mb4.3,baz=31,slow=6.4,SNR=3.6						
BDFB	**Brasilia**	**72.19**	**227**	P	**P**	**13 03 43.7**	**+1.1**
BDFB				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MSO	**Missoula**	**72.42**	**318**	*e*P	**P**	**13 03 45.3**	**+1.8**
	comp=Z,5.0nm,1.1s,mb4.4						
ISCO	**Idaho Springs**	**72.79**	**309**	*e*P	**P**	**13 03 48.5**	**+2.9**
	comp=Z,11nm,1.3s,mb4.6						
NEW	**Newport**	**72.92**	**321**	*e*P	**P**	**13 03 48.4**	**+2.2**
	comp=Z,8.8nm,1.1s,mb4.6						
PDAR	**Pinedale Array**	**72.98**	**313**	P	**P**	**13 03 47.5**	**+0.7**
	comp=Z,1.7nm,0.9s,mb4.0,baz=45,slow=8.4,SNR=11						
MCMT	**McKenzie Canyo**	**73.28**	**316**	*e*P	**P**	**13 03 51.8**	**+3.3**
SDCO	**Great Sand Dun**	**74.09**	**307**	*e*P	**P**	**13 03 55.4**	**+2.0**
	comp=Z,4.3nm,0.8s,mb4.4						
NLW	**Nelson Butte**	**74.52**	**322**	*e*P	**P**	**13 03 57.4**	**+1.8**
HIA	**Hailar**	**74.76**	**35**	*e*P	**P**	**13 03 59.3**	**+2.4**
	comp=Z,10nm,1.4s,mb4.6						
HWUT	**Hardware Ranch**	**74.86**	**313**	*e*P	**P**	**13 04 00.2**	**+2.5**

	comp=Z,6.8nm,0.9s,mb4.6						
HLID	**Hailey**	**74.97**	**316**	*e*P	**P**	**13 04 01.6**	**+3.3**
	comp=Z,23nm,2.1s,mb4.8						
JCT	**Junction City**	**75.39**	**298**	*e*P	**P**	**13 04 02.4**	**+1.4**
	comp=Z,14nm,0.9s,mb4.9						
SHL	**Shillong**	**75.46**	**69**	*i*	**P**	**13 04 01.5**	**0.0**
JLU	**Jordanelle**	**75.50**	**312**	*e*P	**P**	**13 04 04.2**	**+2.8**
PV10	**Paradox Valley**	**75.71**	**309**	*e*P	**P**	**13 04 05.7**	**+3.1**
SRU	**San Rafael**	**76.03**	**311**	*e*P	**P**	**13 04 06.9**	**+2.5**
SAML	**Samuel**	**76.09**	**244**	*e*P	**P**	**13 04 06.6**	**+1.4**
	comp=Z,4.1nm,1.1s,mb4.3						
LZH	**Lanzhou**	**76.13**	**54**	⇑P	**P**	**13 04 06.5**	**+1.4**
LZH				PP	PP	13 06 58.6	+0.9
LZH				AMB	AMB		
	comp=Z,24nm,1.3s,mb5.0						
LZH				LR	LR		
	comp=N,263nm,15.0s						
LZH				LR	LR		
	comp=Z,305nm,17.8s,MS4.7						
NLU	**North Lily Min**	**76.30**	**312**	*e*P	**P**	**13 04 08.5**	**+2.6**
DUG	**Dugway**	**76.53**	**313**	*e*P	**P**	**13 04 09.7**	**+2.5**
	comp=Z,0.7nm,0.9s,mb3.6						
HHC	**Hu-ho-hao-te**	**77.10**	**46**	*e*P	**P**	**13 04 07.8**	**-2.6**
HHC				AMB	AMB		
	comp=Z,14nm,0.4s,mb5.2						
HHC				AMB	AMB		
	comp=Z,57nm,4.5s						
HHC				LR	LR		
	comp=N,104nm,20.2s,MS4.3						
HHC				LR	LR		
	comp=E,121nm,20.2s,MS4.3						
HHC				LR	LR		
	comp=Z,102nm,13.1s						
GDL2	**Guadalupe Moun**	**77.14**	**302**	*e*P	**P**	**13 04 12.6**	**+1.8**
ELK	**Elko**	**77.42**	**315**	*e*P	**P**	**13 04 15.9**	**+3.8**
	comp=Z,6.3nm,0.9s,mb4.5						
MOD	**Modoc**	**79.13**	**318**	*e*P	**P**	**13 04 24.9**	**+3.4**
XAN	**Xi’an**	**80.53**	**52**	P	**P**	**13 04 31.3**	**+2.1**
XAN				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.6						
NVAR	**Mina Array Bea**	**80.73**	**315**	P	**P**	**13 04 32.4**	**+2.3**
	comp=Z,1.9nm,0.7s,mb4.1,baz=40,slow=3.3,SNR=6.6						
NVAR	**Mina Array Bea**	**80.73**	**315**	P	**P**	**13 04 32.4**	**+2.3**
TPNV	**Topopah Spring**	**80.73**	**312**	*e*P	**P**	**13 04 32.9**	**+2.7**
	comp=Z,6.2nm,1.0s,mb4.5						
TUC	**Tucson**	**80.97**	**306**	*e*P	**P**	**13 04 35.0**	**+3.5**
	comp=Z,4.4nm,1.0s,mb4.3						
LDFC	**Landfair**	**81.47**	**310**	*e*P	**P**	**13 04 38.1**	**+3.9**
CN2	**Changchun**	**81.49**	**36**	*e*P	**P**	**13 04 36.0**	**+2.0**
CN2				*e*S	S	13 14 45.9	+0.7
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
OHCM	**Honcut**	**81.67**	**317**	*e*P	**P**	**13 04 37.8**	**+2.8**
DAC	**Darwin (Calif)**	**81.95**	**313**	*e*P	**P**	**13 04 40.8**	**+4.2**
CMB	**Columbia Colle**	**82.10**	**316**	*e*P	**P**	**13 04 40.6**	**+3.3**
MDJ	**Mudanjiang**	**82.54**	**33**	P	**P**	**13 04 38.6**	**-0.8**
MDJ				AMB	AMB		
	comp=Z,6.0nm,1.1s,mb4.5						
MDJ				LR	LR		
	comp=N,30nm,21.0s,MS3.9						
MDJ				LR	LR		
	comp=E,47nm,23.4s,MS3.9						
MDJ				LR	LR		
	comp=Z,55nm,21.0s,MS3.9						
KMI	**Kunming**	**83.00**	**62**	*e*P	**P**	**13 04 43.5**	**+1.2**
KMI				PP	PP	13 07 54.3	-0.6
KMI				S	S	13 15 00.6	-0.5
KMI				SS	SS	13 20 26.0	-1.8
KMI				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.7						
KMI				AMB	AMB		
	comp=Z,76nm,6.0s						
KMI				LR	LR		
	comp=N,91nm,15.7s,MS4.4						
KMI				LR	LR		
	comp=E,102nm,18.6s,MS4.4						
KMI				LR	LR		
	comp=Z,65nm,23.6s,MS3.9						
ENH	**Enshi**	**83.57**	**54**	*e*P	**P**	**13 04 46.9**	**+1.9**
GYA	**Guiyang**	**84.57**	**59**	P	**P**	**13 04 52.3**	**+2.1**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.9						
CMAR	**Chiang Mai Arr**	**85.06**	**69**	P	**P**	**13 04 53.0**	**+0.3**
	comp=Z,2.4nm,0.8s,mb4.4,baz=308,slow=7.3,SNR=16						
CMAR	**Chiang Mai Arr**	**85.06**	**69**	P	**P**	**13 04 53.1**	**+0.3**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
CPUP	**Villa Florida**	**85.90**	**228**	P	**P**	**13 04 57.2**	**+0.4**
	comp=Z,4.3nm,1.1s,mb4.6,baz=34,slow=1.8,SNR=6.0						
CPUP				LR	LR	13 39 37.1	
	comp=Z,123nm,19.4s,MS4.3,baz=90,slow=33						
NJ2	**Nanjing**	**87.56**	**47**	*e*P	**P**	**13 05 04.3**	**-0.5**
NJ2				AP	pP	13 05 14.4	+9.1
NJ2				PP	PP	13 08 30.0	-2.2
NJ2				SKS	SKS	13 15 26.0	-8.4
NJ2				S	S	13 15 40.0	-5.4
NJ2				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.5						
NJ2				LR	LR		
	comp=E,450nm,18.2s						
SSE	**Sheshan**	**89.55**	**46**	*e*P	**P**	**13 05 10.6**	**-3.7**
SSE				S	S	13 16 00.4	-3.5
SSE				AMB	AMB		
	comp=Z,16nm,0.6s,mb5.5						
SSE				AMB	AMB		
	comp=Z,54nm,4.8s						
SSE				LR	LR		
	comp=N,49nm,20.8s,MS4.0						
SSE				LR	LR		
	comp=E,37nm,20.5s,MS4.0						
SSE				LR	LR		
	comp=Z,43nm,19.2s,MS3.9						
MAW	**Mawson**	**120.39**	**156**	PKP	PKPdf	13 11 06.5	-1.7
	comp=Z,0.7nm,0.8s,baz=322,slow=5.0,SNR=4.0						
MAW	**Mawson**	**120.39**	**156**	PKIKP	PKPdf	13 11 06.5	-1.7
MAW				pmax	pmax		
	comp=Z,1.0nm,0.8s						
QSPA	**South Pole Qui**	**132.82**	**180**	*e*PKP	PKPdf	13 11 31.6	-0.2
QSPA				*e*		13 15 01.6	
ASAR	**Alice Springs**	**138.69**	**77**	PKhKP		13 11 32.1	
	comp=Z,0.3nm,0.8s,baz=326,slow=3.3,SNR=3.0						
SBA	**Scott Base**	**144.67**	**176**	*e*PKPdf	PKPdf	13 11 53.5	+0.6
CTAO	**Charters Tower**	**144.70**	**60**	*e*PKPdf	PKPdf	13 11 54.0	-0.6
STKA	**Stephens Creek**	**148.98**	**81**	PKPbc	PKPdf	13 12 04.4	+3.0
	comp=Z,4.6nm,0.8s,baz=326,slow=8.3,SNR=8.0						
STKA	**Stephens Creek**	**148.98**	**81**	*e*PKPbc	PKPdf	13 12 05.2	+3.8

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*LDG **18** 12:55:07.4±0.4, 42.90N×1.47W, h2^{km}, Md2.3/2, Ml4.0/5, Error ellipse: s-maj=6.6km s-min=4.5km az=53.0*

*NEIC **18** 12:55:07.5, 42.85N×1.42W, h6^{km}, ML4.0(LDG), MN3.4(MDD), After MDD.*

*MDD **18** 12:55:07.5±0.3, 42.86N×1.42W, h5^{km}±3^{km}, mbLg3.2/18, Error ellipse: s-maj=2.7km s-min=2.1km az=145.0, AftershockPLICA PRXIMO II-III GORRAIZ LABIANO II-III MUTILVA BAJA PAMPLONA II-III AIN BURLADA TUDELA*

MDD EMS: II-III AOIZ URROZ ANDOAIN.

ISC 18 12:55:05.3±0.4, **42.89N**±0.03×**1.46W**±0.03, **h15**^{km}±3^{km}, **n36,** σ**1§22**/62, **Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EXPA	**Pamplona**	**0.14**	**241**	Pg	**Pg**	**12 55 10.1**	**+0.9**
EXPA				Lg		12 55 13.0	
SJPF	**Ste Jean**	**0.28**	**36**	*e*Pg	**Pg**	**12 55 13.2**	**+1.7**
SJPF				*e*Sg	**Sg**	**12 55 15.9**	**+0.2**
	6µm,0.4s						
EALK	**Alkurruntz**	**0.34**	**354**	Pg	**Pg**	**12 55 14.5**	**+2.0**
	137nm,0.2s,SNR=7.9						
EALK				Lg		12 55 19.7	
	2µm,0.3s,SNR=7.9						
ETSF	**Etsaut**	**0.66**	**88**	*e*Pg	**Pg**	**12 55 18.8**	**+0.1**
ETSF				*e*Sg	**Sg**	**12 55 27.8**	**+0.1**
	855nm,0.3s						
EPF	**Esparros**	**1.33**	**83**	*e*Pn	**Pn**	**12 55 31.0**	**+1.6**
EPF				*e*Pg	**Pg**	**12 55 33.0**	**+1.1**
EPF				*e*Sg	**Sg**	**12 55 49.4**	**-0.3**
	752nm,0.3s						
ESAC	**San Caprasio**	**1.37**	**147**	Pg	**Pg**	**12 55 31.3**	**-1.5**
	307nm,0.2s,SNR=7.9						
ESAC				Lg		12 55 49.4	
	2µm,0.2s,SNR=7.9						
EGRA	**Graus**	**1.48**	**117**	Pg	**Pg**	**12 55 33.4**	**-1.5**
	129nm,0.3s,SNR=7.9						
EGRA				Lg		12 55 54.2	
	166nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**1.49**	**284**	Pg	**Pg**	**12 55 35.0**	**-0.1**
	26nm,0.2s,SNR=7.9						
ELAN				Lg		12 55 56.1	
	106nm,0.2s,SNR=7.9						
ETOR	**Torete**	**2.11**	**192**	Pn	**Pn**	**12 55 42.5**	**+1.9**
	32nm,0.1s,SNR=7.9						
ETOR				Pg	**Pg**	**12 55 45.9**	**-1.6**
	33nm,0.2s,SNR=7.9						
ETOR				S	**Sn**	**12 56 07.3**	**+0.5**
	110nm,0.2s,SNR=7.9						
ETOR				Lg		12 56 10.6	
	69nm,0.2s,SNR=7.9						
ETOR	**Torete**	**2.11**	**192**	Pn	**Pn**	**12 55 42.5**	**+1.9**
ETOR				Pg	**Pg**	**12 55 45.9**	**-1.6**
ETOR				Lg		12 56 10.6	
EMIR	**Miracle**	**2.41**	**113**	Pg	**Pg**	**12 55 50.8**	**-2.7**
	22nm,0.1s,SNR=7.9						
EMIR				Lg		12 56 22.8	
	76nm,0.2s,SNR=7.9						
EMIR	**Miracle**	**2.41**	**113**	Pg	**Pg**	**12 55 50.8**	**-2.7**
EMIR				Lg		12 56 22.8	
EPOB	**Poblet**	**2.43**	**128**	Pn	**Pn**	**12 55 45.8**	**+0.7**
	8.8nm,0.1s,SNR=7.9						
EPOB				S	**Sn**	**12 56 15.2**	**+0.4**
	35nm,0.2s,SNR=7.9						
EPOB				Lg		12 56 19.9	
	54nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**2.43**	**128**	Pn	**Pn**	**12 55 45.8**	**+0.7**
EPOB				Lg		12 56 19.9	
LFF	**La Frestale**	**2.60**	**37**	*e*Pg	**Pg**	**12 55 55.5**	**-1.7**
LFF				*e*Sn	**Sn**	**12 56 19.1**	**0.0**
LFF				*e*Sg	**Sg**	**12 56 28.1**	**-3.7**
	71nm,0.2s						
EMOS	**Mosqueruela**	**2.62**	**163**	Pn	**Pn**	**12 55 49.1**	**+1.2**
	4.6nm,0.1s,SNR=7.9						
EMOS				Pg	**Pg**	**12 55 54.2**	**-3.5**
	18nm,0.2s,SNR=7.9						
EMOS				Lg		12 56 30.4	
	28nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**2.62**	**163**	Pn	**Pn**	**12 55 49.1**	**+1.2**
EMOS				Pg	**Pg**	**12 55 54.2**	**-3.5**
EMOS				Lg		12 56 30.4	
CARF	**Carcanieres**	**2.63**	**92**	S	**Sn**	**12 56 29.4**	**+10**
MTLF	**Montolieu**	**2.73**	**79**	*e*Pn	**Pn**	**12 55 50.9**	**+1.5**
MTLF				*e*Pg	**Pg**	**12 55 58.3**	**-1.5**
MTLF				*e*Sn	**Sn**	**12 56 23.5**	**+1.1**
	106nm,0.3s						
RJF	**Les Rejaudoux**	**3.23**	**40**	*e*Pn	**Pn**	**12 55 57.1**	**+0.5**
RJF				*e*Sn	**Sn**	**12 56 34.6**	**-0.5**
	124nm,0.3s						
EJON	**La Jonquera**	**3.23**	**96**	Pn	**Pn**	**12 55 59.0**	**+2.4**
	SNR=4.0						
EJON				Pg	**Pg**	**12 56 06.6**	**-3.2**
	8.4nm,0.2s,SNR=7.9						
EJON				Lg		12 56 49.7	
	18nm,0.2s,SNR=7.9						
CAF	**Calviac**	**3.26**	**50**	*e*Pn	**Pn**	**12 55 57.3**	**+0.3**
CAF				*e*Sn	**Sn**	**12 56 35.7**	**-0.2**
	126nm,0.3s						
MFF	**Saint Martin d**	**3.83**	**14**	*e*Pn	**Pn**	**12 56 05.2**	**+0.1**
MFF				*e*Sn	**Sn**	**12 56 49.1**	**-1.3**
ECAL	**Calabor**	**4.02**	**258**	Pn	**Pn**	**12 56 08.8**	**+1.0**
	20nm,0.3s,SNR=7.9						
ECAL				Sn	**Sn**	**12 56 53.6**	**-1.6**
	16nm,0.2s,SNR=7.9						
ECAL				Lg		12 57 13.8	
	122nm,0.3s,SNR=7.9						
LASF	**Ste Croix**	**4.05**	**71**	*e*Pn	**Pn**	**12 56 08.2**	**0.0**
LASF				*e*Sn	**Sn**	**12 56 54.4**	**-1.4**
EPON	**Pontenova**	**4.19**	**278**	Pn	**Pn**	**12 56 12.2**	**+2.0**
	8.8nm,0.2s,SNR=7.9						
ERUA	**La Rua**	**4.22**	**265**	Pn	**Pn**	**12 56 11.6**	**+0.9**
	16nm,0.1s,SNR=7.9						
ERUA				Sn	**Sn**	**12 56 58.5**	**-1.8**
	11nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**4.24**	**181**	Pn	**Pn**	**12 56 10.8**	**-0.1**
	6.2nm,0.2s,SNR=7.9						
EBEN	**Beniarda**	**4.28**	**167**	Pn	**Pn**	**12 56 25.5**	**+14**
	4.0nm,0.3s,SNR=7.9						
EBEN				Lg		12 57 23.2	
	3.3nm,0.3s,SNR=7.9						
EVIA	**Vianos**	**4.32**	**191**	Pn	**Pn**	**12 56 12.9**	**+0.9**
	48nm,0.3s,SNR=7.9						
EVIA				Pg	**Pg**	**12 56 25.9**	**-5.6**
	12nm,0.3s,SNR=7.9						
EVIA				Lg		12 57 23.4	
	6.6nm,0.2s,SNR=7.9						
ELOB	**Lobios**	**5.00**	**260**	Pn	**Pn**	**12 56 21.7**	**0.0**
	5.3nm,0.2s,SNR=4.0						
ELOB				Sn	**Sn**	**12 57 15.5**	**-4.3**
	5.8nm,0.2s,SNR=7.9						
EQES	**Quesada**	**5.22**	**194**	Pn	**Pn**	**12 56 24.8**	**0.0**
	5.2nm,0.1s,SNR=7.9						
EQES				Pg	**Pg**	**12 56 43.5**	**-6.1**
	13nm,0.3s,SNR=7.9						
EQES				Lg		12 57 52.7	
	4.1nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**5.28**	**208**	Pn	**Pn**	**12 56 25.2**	**-0.4**
	21nm,0.1s,SNR=7.9						
EADA				Sn	**Sn**	**12 57 22.9**	**-4.0**
	3.7nm,0.2s,SNR=7.9						
EADA				Lg		12 57 54.9	
	6.0nm,0.2s,SNR=7.9						
EMAZ	**Mazaricos**	**5.52**	**273**	Pn	**Pn**	**12 56 28.9**	**-0.1**
	8.2nm,0.2s,SNR=7.9						
EMAZ				Sn	**Sn**	**12 57 29.0**	**-4.1**
	11nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**5.90**	**227**	Pn	**Pn**	**12 56 33.1**	**-1.2**
	3.7nm,0.1s,SNR=7.9						
MUD	**Monsted U’grnd**	**15.20**	**23**	*i* P	**P**	**12 58 39.7**	**-1.1**
	21nm,0.6s						

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*LDG **18** 12:59:32.2±0.4, 42.90N×1.54W, h2^{km}, Ml2.9/7, Error ellipse: s-maj=7.4km s-min=4.3km az=49.0*

*NEIC **18** 12:59:33.1, 42.84N×1.45W, ML2.9(LDG), MN2.3(MDD), After MDD.*

*MDD **18** 12:59:33.2±0.4, 42.87N×1.41W, h7^{km}±4^{km}, mbLg2.3/13, Error ellipse: s-maj=3.2km s-min=2.7km az=57.0, PRXIMO AftershockPLICA*

ISC 18 12:59:31.0±0.4, **42.88N**±0.02×**1.45W**±0.03, **h15**^{km}±2^{km}, **n29,** σ**1§21**/56, **Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJPF	**Ste Jean**	**0.28**	**35**	*e*Pg	**Pg**	**12 59 38.5**	**+1.2**
SJPF				*e*Sg	**Sg**	**12 59 41.3**	**-0.2**
	569nm,0.4s						
EALK	**Alkurruntz**	**0.34**	**352**	Pg	**Pg**	**12 59 39.8**	**+1.4**
	27nm,0.2s,SNR=7.9						
EALK				Lg		12 59 45.8	
	118nm,0.2s,SNR=7.9						
LARF	**Larrau**	**0.37**	**65**	P	**Pg**	**12 59 39.8**	**+0.9**
LARF				S	**Sg**	**12 59 44.4**	**+0.3**
OSSF	**Osses**	**0.40**	**20**	P	**Pg**	**12 59 40.5**	**+1.1**
OSSF				S	**Sg**	**12 59 46.5**	**+1.5**
ETSF	**Etsaut**	**0.65**	**88**	*e*Pg	**Pg**	**12 59 44.3**	**0.0**
ETSF				*e*Sg	**Sg**	**12 59 53.2**	**0.0**
	61nm,0.3s						
EPF	**Esparros**	**1.32**	**83**	*e*Pn	**Pn**	**12 59 56.3**	**+1.3**
EPF				*e*Pg	**Pg**	**12 59 58.6**	**+1.1**
EPF				*e*Sn	**Sn**	**13 00 14.2**	**+1.9**
EPF				*e*Sg	**Sg**	**13 00 15.9**	**+0.7**
	81nm,0.2s						
ESAC	**San Caprasio**	**1.37**	**148**	Pg	**Pg**	**12 59 58.7**	**+0.3**
	26nm,0.2s,SNR=7.9						
ESAC				Lg		13 00 15.6	
	69nm,0.2s,SNR=7.9						
EGRA	**Graus**	**1.47**	**117**	Pg	**Pg**	**12 59 58.9**	**-1.6**
	6.0nm,0.2s,SNR=7.9						
EGRA				Lg		13 00 20.1	
	6.3nm,0.1s,SNR=7.9						
ELAN	**Lanestosa**	**1.50**	**284**	Pg	**Pg**	**13 00 00.9**	**-0.2**
	5.5nm,0.2s,SNR=6.8						
ELAN				Lg		13 00 21.6	
	14nm,0.2s,SNR=7.9						
ETOR	**Torete**	**2.11**	**193**	Pn	**Pn**	**13 00 08.0**	**+1.7**
	2.4nm,0.2s,SNR=8.4						
ETOR				Pg	**Pg**	**13 00 10.5**	**-2.7**
	13nm,0.3s,SNR=7.9						
ETOR				Sn	**Sn**	**13 00 32.1**	**-0.3**
	6.5nm,0.2s,SNR=7.9						
ETOR	**Torete**	**2.11**	**193**	Pn	**Pn**	**13 00 08.0**	**+1.7**
ETOR				Pg	**Pg**	**13 00 10.5**	**-2.7**
ETOR				Sn	**Sn**	**13 00 32.1**	**-0.3**
EMIR	**Miracle**	**2.40**	**113**	Pg	**Pg**	**13 00 17.2**	**-1.8**
	3.4nm,0.1s,SNR=7.9						
EMIR				Lg		13 00 50.0	
	4.7nm,0.1s,SNR=7.9						
EPOB	**Poblet**	**2.42**	**128**	Pn	**Pn**	**13 00 11.0**	**+0.3**
	0.2nm,0.2s,SNR=7.9						
EPOB				Pg	**Pg**	**13 00 17.5**	**-1.9**
	1.5nm,0.1s,SNR=7.9						
EPOB				Sn	**Sn**	**13 00 39.7**	**-0.6**
	1.3nm,0.1s,SNR=4.0						
EPOB				Lg		13 00 49.8	
	5.8nm,0.2s,SNR=7.9						
EBR	**Ebro Roquetas**	**2.52**	**144**	*e*SG	**Sg**	**13 00 56.0**	**+1.1**
LFF	**La Frestale**	**2.59**	**37**	*e*Pn	**Pn**	**13 00 13.5**	**+0.3**
LFF				*e*Pg	**Pg**	**13 00 21.1**	**-1.8**
LFF				*e*Sn	**Sn**	**13 00 44.6**	**-0.1**
	10nm,0.2s						
EMOS	**Mosqueruela**	**2.62**	**164**	Pn	**Pn**	**13 00 16.7**	**+3.1**
	SNR=7.9						
EMOS				Pg	**Pg**	**13 00 21.8**	**-1.6**
	0.6nm,0.2s,SNR=7.9						
EMOS				Sn	**Sn**	**13 00 47.2**	**+1.8**
	SNR=7.9						
EMOS				Lg		13 00 52.8	
	1.7nm,0.2s,SNR=7.9						
MTLF	**Montolieu**	**2.72**	**79**	*e*Pn	**Pn**	**13 00 16.4**	**+1.3**
MTLF				*e*Pg	**Pg**	**13 00 23.8**	**-1.6**
MTLF				*e*Sn	**Sn**	**13 00 48.7**	**+0.8**
	5.4nm,0.2s						
EJON	**La Jonquera**	**3.23**	**96**	Pg	**Pg**	**13 00 32.1**	**-3.4**
	2.3nm,0.4s,SNR=7.9						
EJON				Lg		13 01 14.3	
	5.5nm,0.3s,SNR=7.9						
RJF	**Les Rejaudoux**	**3.23**	**40**	*e*Pn	**Pn**	**13 00 21.6**	**-0.7**
RJF				*e*Sn	**Sn**	**13 01 00.0**	**-0.8**
	7.4nm,0.2s						
CAF	**Calviac**	**3.26**	**50**	*e*Pn	**Pn**	**13 00 22.5**	**-0.2**
CAF				*e*Sn	**Sn**	**13 01 00.9**	**-0.6**
	4.8nm,0.2s						
MFF	**Saint Martin d**	**3.83**	**14**	*e*Pn	**Pn**	**13 00 30.4**	**-0.5**
MFF				*e*Pg	**Pg**	**13 00 43.1**	**-4.5**
MFF				*e*Sn	**Sn**	**13 01 14.2**	**-1.9**
	2.2nm,0.2s						
ECAL	**Calabor**	**4.03**	**258**	Pn	**Pn**	**13 00 33.9**	**+0.2**
	1.2nm,0.2s,SNR=7.9						
ECAL				Pg	**Pg**	**13 00 46.0**	**-5.5**
	1.6nm,0.2s,SNR=7.9						
ECAL				Sn	**Sn**	**13 01 20.3**	**-0.8**
	1.1nm,0.1s,SNR=7.9						
ECAL				Lg		13 01 40.4	
	2.2nm,0.2s,SNR=7.9						
LASF	**Ste Croix**	**4.04**	**71**	*e*Pn	**Pn**	**13 00 33.9**	**+0.1**
LASF				*e*Sn	**Sn**	**13 01 19.8**	**-1.5**
	3.4nm,0.3s						
EPON	**Pontenova**	**4.20**	**278**	Pn	**Pn**	**13 00 38.0**	**+1.9**
	0.6nm,0.2s,SNR=7.9						
TCF	**Toulx Ste Croi**	**4.29**	**36**	*e*Pn	**Pn**	**13 00 35.5**	**-1.9**
EVIA	**Vianos**	**4.31**	**191**	Pn	**Pn**	**13 00 38.4**	**+0.7**
	1.2nm,0.1s,SNR=7.9						
EVIA				Lg		13 01 48.7	
	4.4nm,0.4s,SNR=7.9						
EQES	**Quesada**	**5.22**	**194**	Pn	**Pn**	**13 00 50.5**	**-0.1**
	0.6nm,0.1s,SNR=4.0						
EQES				Pg	**Pg**	**13 01 09.2**	**-6.1**
	SNR=7.9						
SMRF	**Simiane la Rot**	**5.23**	**76**	*e*Pn	**Pn**	**13 00 50.8**	**+0.2**
EADA	**Adamuz**	**5.28**	**208**	Pn	**Pn**	**13 00 50.4**	**-1.0**
	1.1nm,0.2s,SNR=7.9						

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*LDG **18** 13:03:15.6±0.6, 42.90N×1.50W, h2^{km}, Md2.0/2, Ml2.4/5, Error ellipse: s-maj=10.2km s-min=7.9km az=65.0*

*MDD **18** 13:03:16.5±0.5, 42.87N×1.40W, h5^{km}±6^{km}, mbLg1.9/10, Error ellipse: s-maj=4.0km s-min=3.1km az=59.0, PRXIMO AftershockPLICA*

ISC 18 13:03:14.1±0.7, **42.90N**±0.04×**1.44W**±0.05, **h12**^{km}±4^{km}, **n16,** σ**1§25**/24, **Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJPF	**Ste Jean**	**0.26**	**37**	*e*Pg	**Pg**	**13 03 21.7**	**+1.9**
SJPF				*e*Sg	**Sg**	**13 03 24.5**	**+0.9**
	108nm,0.3s						
EALK	**Alkurruntz**	**0.32**	**351**	Pg	**Pg**	**13 03 23.4**	**+2.5**
	4.5nm,0.1s,SNR=7.9						
EALK				Lg		13 03 28.8	
	51nm,0.2s,SNR=7.9						
ETSF	**Etsaut**	**0.65**	**90**	*e*Pg	**Pg**	**13 03 27.4**	**+0.2**
ETSF				*e*Sg	**Sg**	**13 03 36.4**	**+0.4**
	29nm,0.3s						
EPF	**Esparros**	**1.31**	**84**	*e*Pn	**Pn**	**13 03 39.5**	**+1.1**
EPF				*e*Pg	**Pg**	**13 03 41.9**	**+1.5**
EPF				*e*Sg	**Sg**	**13 03 58.4**	**+0.4**
	16nm,0.2s						
ESAC	**San Caprasio**	**1.38**	**148**	Pg	**Pg**	**13 03 40.4**	**-1.5**
	16nm,0.2s,SNR=7.9						
ESAC				Lg		13 03 58.7	
	104nm,0.3s,SNR=7.9						
EGRA	**Graus**	**1.48**	**118**	Pg	**Pg**	**13 03 42.8**	**-0.9**
	7.5nm,0.3s,SNR=7.9						
ELAN	**Lanestosa**	**1.50**	**283**	Pg	**Pg**	**13 03 44.0**	**-0.1**
	1.7nm,0.2s,SNR=7.9						
ELAN				Lg		13 04 04.8	
	5.0nm,0.2s,SNR=7.9						
MELF	**Melles**	**1.62**	**90**	S	**Sn**	**13 04 08.5**	**+4.9**
SALF	**Salau**	**1.94**	**93**	S	**Sn**	**13 04 17.2**	**+5.4**
ETOR	**Torete**	**2.13**	**193**	Pg	**Pg**	**13 03 55.2**	**-1.5**
	4.1nm,0.4s,SNR=7.9						
ETOR				Sn	**Sn**	**13 04 18.3**	**+1.6**
	2.7nm,0.3s,SNR=4.0						
ETOR				Lg		13 04 21.9	
	7.8nm,0.3s,SNR=7.9						
EPOB	**Poblet**	**2.43**	**129**	Lg		13 04 30.5	
	2.2nm,0.2s,SNR=7.9						
LFF	**La Frestale**	**2.57**	**37**	*e*Pg	**Pg**	**13 04 04.0**	**-1.6**
LFF				*e*Sg	**Sg**	**13 04 36.8**	**-3.1**
	3.2nm,0.2s						
EMOS	**Mosqueruela**	**2.64**	**164**	Lg		13 04 39.1	
	2.5nm,0.3s,SNR=7.9						
MTLF	**Montolieu**	**2.71**	**79**	*e*Pn	**Pn**	**13 03 59.7**	**+1.3**
MTLF				*e*Pg	**Pg**	**13 04 06.6**	**-1.7**
MTLF				*e*Sn	**Sn**	**13 04 32.0**	**+0.6**
	2.5nm,0.3s						
RJF	**Les Rejaudoux**	**3.21**	**41**	*e*Pn	**Pn**	**13 04 04.7**	**-0.7**
RJF				*e*Sn	**Sn**	**13 04 43.0**	**-1.0**
	1.5nm,0.2s						
CAF	**Calviac**	**3.24**	**50**	*e*Pn	**Pn**	**13 04 05.6**	**-0.3**
CAF				*e*Sn	**Sn**	**13 04 44.2**	**-0.6**
	1.5nm,0.2s						

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*STR **18** 13:07:37.1±0.2, 42.87N×1.56W, h5^{km}±1^{km}, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LDG **18** 13:07:38.8±0.5, 42.91N×1.49W, h2^{km}, Md1.9/2, Ml2.1/5, Error ellipse: s-maj=8.6km s-min=6.8km az=31.0*

*MDD **18** 13:07:39.6±0.4, 42.87N×1.40W, h6^{km}±5^{km}, mbLg1.6/10, Error ellipse: s-maj=3.5km s-min=2.6km az=43.0, PRXIMO AftershockPLICA*

ISC 18 13:07:37.3±0.5, **42.84N**±0.03×**1.46W**±0.04, **h2**^{km}**, n24,** σ**1§18**/37, **Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJPF	**Ste Jean**	**0.32**	**32**	*e*Pg	**Pg**	**13 07 44.8**	**+1.1**
SJPF				*e*Sg	**Sg**	**13 07 47.6**	**-0.4**
	42nm,0.3s						
EALK	**Alkurruntz**	**0.38**	**354**	Pg	**Pg**	**13 07 46.1**	**+1.2**
	6.3nm,0.3s,SNR=11						
EALK				Lg		13 07 51.9	
	21nm,0.3s,SNR=7.9						
LARF	**Larrau**	**0.40**	**60**	Pg	**Pg**	**13 07 45.9**	**+0.7**
LARF				Sg	**Sg**	**13 07 52.2**	**+1.7**
LARF	**Larrau**	**0.40**	**60**	P	**Pg**	**13 07 46.0**	**+0.8**
LARF				S	**Sg**	**13 07 51.6**	**+1.0**
OSSF	**Osses**	**0.44**	**19**	P	**Pg**	**13 07 47.0**	**+1.0**
OSSF				S	**Sg**	**13 07 53.1**	**+1.2**
ATE	**Arette**	**0.61**	**66**	P	**Pg**	**13 07 49.9**	**+0.4**
ATE				S	**Sg**	**13 07 58.1**	**+0.6**
FDAF	**Les Forges d’A**	**0.66**	**92**	Pg	**Pg**	**13 07 51.0**	**+0.6**
FDAF				Sg	**Sg**	**13 08 01.3**	**+2.1**
FDAF	**Les Forges d’A**	**0.66**	**92**	P	**Pg**	**13 07 51.1**	**+0.7**
FDAF				S	**Sg**	**13 07 59.6**	**+0.5**

ETSF	Etsaut	0.66	85	ePg	Pg	13 07 50.4	-0.2
ETSF				eSg	Sg	13 07 59.4	0.0
	8.6nm,0.2s						
LABF	Labassere	1.14	79	S	Sb	13 08 14.7	0.0
EPF	Esparros	1.33	81	ePg	Pg	13 08 04.7	+0.7
EPF				eSg	Sg	13 08 21.5	-0.2
	6.9nm,0.3s						
ESAC	San Caprasio	1.34	147	Pg	Pg	13 08 03.8	-0.3
	4.0nm,0.3s,SNR=7.9						
ESAC				Lg		13 08 21.6	
	21nm,0.2s,SNR=7.7						
EGRA	Graus	1.46	116	Pg	Pg	13 08 05.8	-0.7
	1.8nm,0.2s,SNR=7.9						
EGRA				Lg		13 08 24.4	
	2.1nm,0.4s,SNR=7.9						
ELAN	Lanestosa	1.50	286	Pg	Pg	13 08 07.5	+0.2
	0.8nm,0.3s,SNR=5.6						
ELAN				Lg		13 08 28.2	
	1.5nm,0.2s,SNR=4.6						
ETOR	Torete	2.07	193	Pn	Pn	13 08 14.3	+0.8
	0.4nm,0.3s,SNR=6.6						
ETOR				Pg	Pg	13 08 18.0	-0.7
	1.8nm,0.3s,SNR=7.9						
ETOR				Sn	Sn	13 08 41.7	+1.4
	1.3nm,0.2s,SNR=7.9						
ETOR				Lg		13 08 46.2	
	3.0nm,0.3s,SNR=5.4						
EMIR	Miracle	2.40	112	Lg		13 08 54.5	
	4.6nm,0.3s,SNR=4.0						
EPOB	Poblet	2.40	127	Pn	Pn	13 08 18.9	+0.6
	SNR=7.9						
EPOB				Lg		13 08 54.9	
	0.1nm,0.3s,SNR=7.9						
LFF	La Frestale	2.63	36	eSg	Sg	13 08 59.7	-5.2
	3.2nm,0.2s						
MTLF	Montolieu	2.74	78	ePn	Pn	13 08 22.3	-0.8
MTLF				eSn	Sn	13 08 55.0	-2.2
	0.6nm,0.3s						
RJF	Les Rejaudoux	3.26	40	ePn	Pn	13 08 28.0	-2.5
RJF				eSn	Sn	13 09 05.7	-4.8
	1.1nm,0.2s						
CAF	Calviac	3.29	50	ePn	Pn	13 08 28.7	-2.2
CAF				eSn	Sn	13 09 07.1	-4.0
	1.4nm,0.2s						
MFF	Saint Martin d	3.87	14	ePn	Pn	13 08 36.7	-2.5
LASF	Ste Croix	4.06	71	ePn	Pn	13 08 39.9	-2.0
BGF	Bois d'Agland	4.82	38	ePn	Pn	13 08 48.4	-4.2

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*STR **18** 13:08:13.9±0.2, 42.85N×1.47W, h5^{km}±1^{km}, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **18** 13:08:14.1±1.0, 42.92N×1.51W, h2^{km}, Ml2.2/3, Error ellipse: s-maj=17.9km s-min=10.9km az=35.0*
*MDD **18** 13:08:15.5±0.5, 42.90N×1.40W, h6^{km}±6^{km}, mbLg1.7/7, Error ellipse: s-maj=3.8km s-min=2.7km az=38.0, PRXIMO AftershockPLICA*
ISC 18 13:08:13.7±0.6, **42.88N**±0.03×**1.44W**±0.04, **h12**^{km}±4^{km}, **n19**, σ**0^{s}94**/33, **Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJPF	Ste Jean	0.28	34	ePg	Pg	13 08 20.3	+0.6
SJPF				eSg	Sg	13 08 22.9	-0.8
	108nm,0.3s						
EALK	Alkurruntz	0.34	352	Pg	Pg	13 08 21.4	+0.6
	6.1nm,0.1s,SNR=7.9						
EALK				Lg		13 08 26.8	
	17nm,0.1s,SNR=7.9						
LARF	Larrau	0.37	65	Pg	Pg	13 08 21.7	+0.3
LARF				Sg	Sg	13 08 27.5	+1.0
LARF	Larrau	0.37	65	P	Pg	13 08 21.7	+0.4
LARF				S	Sg	13 08 27.0	+0.5
OSSF	Osses	0.40	19	P	Pg	13 08 22.4	+0.5
OSSF				S	Sg	13 08 28.1	+0.7
ORDF	Ordiarp	0.50	48	Pg	Pg	13 08 24.1	+0.2
ORDF				Sg	Sg	13 08 31.5	+0.9
ORDF	Ordiarp	0.50	48	P	Pb	13 08 24.2	+0.4
ORDF				S	Sg	13 08 31.3	+0.6
ATE	Arette	0.58	69	P	Pb	13 08 25.8	+0.5
ATE				S	Sb	13 08 33.8	+0.7
FDAF	Les Forges d'A	0.65	95	P	Pb	13 08 27.0	+0.6
FDAF				S	Sb	13 08 35.4	+0.4
ETSF	Etsaut	0.65	88	ePg	Pg	13 08 25.9	-0.9
ETSF				eSg	Sg	13 08 35.0	-0.6
	13nm,0.4s						
LABF	Labassere	1.12	81	P	Pb	13 08 36.0	+1.5
LABF				S	Sb	13 08 50.2	+1.3
EPF	Esparros	1.32	83	ePg	Pg	13 08 40.3	+0.2
EPF				eSg	Sg	13 08 57.1	-0.6
	8.4nm,0.3s						
ESAC	San Caprasio	1.36	148	Pg	Pg	13 08 40.9	-0.1
	9.5nm,0.2s,SNR=7.9						
ESAC				Lg		13 08 57.7	
	36nm,0.3s,SNR=7.9						
EGRA	Graus	1.47	117	Pg	Pg	13 08 41.6	-1.5
	2.6nm,0.2s,SNR=7.9						
EGRA				Lg		13 09 03.0	
	1.8nm,0.2s,SNR=7.9						
ELAN	Lanestosa	1.50	284	Pg	Pg	13 08 43.3	-0.5
	0.8nm,0.1s,SNR=7.9						
ELAN				Lg		13 09 03.8	
	1.9nm,0.1s,SNR=7.9						
ETOR	Torete	2.11	193	Pg	Pg	13 08 55.6	-0.3
	SNR=7.9						
ETOR				Sn	Sn	13 09 17.0	+1.3
	SNR=7.9						
ETOR				Lg		13 09 21.3	
	SNR=7.9						
MTLF	Montolieu	2.72	79	ePg	Pg	13 09 04.8	-3.2
MTLF				eSn	Sn	13 09 30.5	-0.5
	1.1nm,0.3s						
RJF	Les Rejaudoux	3.23	40	ePn	Pn	13 09 03.5	-1.7
CAF	Calviac	3.25	50	ePn	Pn	13 09 04.2	-1.4
CAF				eSn	Sn	13 09 42.7	-1.9
	1.1nm,0.2s						

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*LDG **18** 13:09:21.0±0.5, 42.90N×1.49W, h2^{km}, Ml2.3/5, Error ellipse: s-maj=8.9km s-min=7.4km az=59.0*
*MDD **18** 13:09:21.3±0.4, 42.86N×1.44W, h7^{km}±5^{km}, mbLg1.8/11, Error ellipse: s-maj=3.4km s-min=2.9km az=45.0, PRXIMO AftershockPLICA*
*STR **18** 13:09:22.5±2.5, 42.90N×1.44W, h2^{km}±1^{km}, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 18 13:09:19.4±0.6, **42.85N**±0.03×**1.50W**±0.04, **h13**^{km}±3^{km}, **n25**, σ**1^{s}13**/42, **Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJPF	Ste Jean	0.34	37	ePg	Pg	13 09 27.1	+0.7
SJPF				eSg	Sg	13 09 29.8	-1.4
	105nm,0.3s						
EALK	Alkurruntz	0.37	360	Pg	Pg	13 09 28.2	+1.1
	2.2nm,0.1s,SNR=10						
EALK				Lg		13 09 33.3	
	92nm,0.5s,SNR=4.5						
LARF	Larrau	0.42	63	P	Pg	13 09 28.5	+0.3
LARF				S	Sg	13 09 34.4	+0.4
OSSF	Osses	0.45	23	P	Pb	13 09 29.2	+0.6
OSSF				S	Sg	13 09 35.1	+0.4
ORDF	Ordiarp	0.55	48	Pg	Pg	13 09 30.8	+0.1
ORDF				Sg	Sg	13 09 38.8	+0.6
ORDF	Ordiarp	0.55	48	P	Pb	13 09 30.9	+0.5
ORDF				S	Sb	13 09 38.2	+0.3
ATE	Arette	0.64	68	P	Pb	13 09 32.3	+0.5
ATE				S	Sb	13 09 40.9	+0.6
FDAF	Les Forges d'A	0.69	92	Pg	Pg	13 09 35.5	+2.2
FDAF				Sg	Sg	13 09 43.3	+0.7
FDAF	Les Forges d'A	0.69	92	S	Sb	13 09 41.9	+0.1
ETSF	Etsaut	0.69	85	ePg	Pg	13 09 32.7	-0.7
ETSF				eSg	Sg	13 09 41.8	-1.0
	20nm,0.3s						
VIEF	Viey	1.12	88	S	Sb	13 09 56.0	+1.6
LABF	Labassere	1.18	80	S	Sb	13 09 58.1	+2.2
ESAC	San Caprasio	1.36	145	Pg	Pg	13 09 45.8	-0.9
	33nm,0.3s,SNR=7.8						
ESAC				Lg		13 10 03.1	
	19nm,0.6s,SNR=7.9						
EPF	Esparros	1.36	82	ePn	Pn	13 09 44.9	+0.7
EPF				ePg	Pg	13 09 47.1	+0.4
EPF				eSg	Sg	13 10 03.8	-1.2
	16nm,0.2s						
ELAN	Lanestosa	1.47	286	Pg	Pg	13 09 49.5	+0.7
	2.1nm,0.2s,SNR=7.9						
ELAN				Lg		13 10 09.7	
	0.2nm,0.4s,SNR=4.9						
EGRA	Graus	1.49	115	Pg	Pg	13 09 47.9	-1.4
	SNR=7.9						
EGRA				Lg		13 10 09.5	
	3.5nm,0.2s,SNR=7.9						
SALF	Salau	1.98	92	S	Sn	13 10 20.3	+2.4
ETOR	Torete	2.07	192	Pg	Pg	13 10 00.1	-0.7
	5.0nm,0.4s,SNR=7.9						
ETOR				Sn	Sn	13 10 20.7	+0.6
	SNR=7.9						
ETOR				Lg		13 10 27.8	
	7.5nm,0.6s,SNR=5.3						
EMIR	Miracle	2.43	112	Pg	Pg	13 10 04.2	-3.7
	1.8nm,0.4s,SNR=7.9						
EMIR				Lg		13 10 34.8	
	5.0nm,0.4s,SNR=7.9						
EPOB	Poblet	2.43	127	Pn	Pn	13 10 00.0	+0.5
	SNR=4.0						
EPOB				Sn	Sn	13 10 27.7	-1.6
	SNR=7.9						
EPOB				Lg		13 10 34.8	
	2.4nm,0.3s,SNR=7.9						
EMOS	Mosqueruela	2.60	162	Pg	Pg	13 10 06.9	-4.4
	0.1nm,0.1s,SNR=4.0						
EMOS				Lg		13 10 41.4	
	1.0nm,0.2s,SNR=7.9						
LFF	La Frestale	2.65	37	ePn	Pn	13 10 02.1	-0.4
LFF				ePg	Pg	13 10 09.2	-3.0
LFF				eSg	Sg	13 10 42.0	-5.5
	6.2nm,0.4s						
MTLF	Montolieu	2.77	78	ePn	Pn	13 10 04.8	+0.5
MTLF				eSn	Sn	13 10 37.3	-0.6
	1.1nm,0.3s						
RJF	Les Rejaudoux	3.28	41	ePn	Pn	13 10 10.2	-1.4
RJF				eSn	Sn	13 10 48.4	-2.4
	1.4nm,0.2s						
CAF	Calviac	3.31	50	ePn	Pn	13 10 11.0	-1.0
CAF				eSn	Sn	13 10 49.4	-2.2
	1.0nm,0.2s						

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*LDG **18** 13:12:46.0±0.6, 42.90N×1.56W, h2^{km}, Ml2.2/5, Error ellipse: s-maj=10.3km s-min=9.5km az=34.0*
*STR **18** 13:12:47.2±0.9, 42.80N×1.47W, h5^{km}±1^{km}, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*MDD **18** 13:12:49.0±0.4, 42.89N×1.39W, h20^{km}±5^{km}, mbLg1.8/10, Error ellipse: s-maj=4.9km s-min=2.6km az=29.0, AftershockPLICA PRXIMO*
ISC 18 13:12:46.4±0.6, **42.82N**±0.03×**1.46W**±0.04, **h2**^{km}, **n22**, σ**1^{s}35**/39, **Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJPF	Ste Jean	0.34	30	ePg	Pg	13 12 52.7	-0.6
SJPF				eSg	Sg	13 12 55.5	-2.4
	206nm,0.3s						
EALK	Alkurruntz	0.41	355	Pg	Pg	13 12 55.4	+0.9
	28nm,0.3s,SNR=5.0						
EALK				Lg		13 13 01.5	
	28nm,0.3s,SNR=15						
LARF	Larrau	0.41	57	Pg	Pg	13 12 55.2	+0.6
LARF				Sg	Sg	13 13 01.7	+1.6
LARF	Larrau	0.41	57	P	Pg	13 12 55.2	+0.6
LARF				S	Sg	13 13 01.2	+1.1
OSSF	Osses	0.46	18	P	Pg	13 12 56.0	+0.4
OSSF				S	Sg	13 13 02.0	+0.2
ORDF	Ordiarp	0.55	44	Pg	Pg	13 12 58.4	+1.0
ORDF				Sg	Sg	13 13 05.9	+1.1
ORDF	Ordiarp	0.55	44	P	Pg	13 12 58.4	+1.0
ORDF				S	Sg	13 13 06.1	+1.2
ATE	Arette	0.62	64	P	Pg	13 12 60.0	+1.2
ATE				S	Sg	13 13 08.2	+1.2
FDAF	Les Forges d'A	0.66	89	P	Pg	13 13 01.2	+1.7
FDAF				S	Sg	13 13 10.1	+1.8
ETSF	Etsaut	0.67	82	ePg	Pg	13 12 58.4	-1.3
ETSF				eSg	Sg	13 13 07.2	-1.4
	20nm,0.4s						
ESAC	San Caprasio	1.32	146	Pg	Pg	13 13 13.5	+0.9
	16nm,0.3s,SNR=7.4						
ESAC				Lg		13 13 31.4	
	48nm,0.3s,SNR=9.6						
ESAC	San Caprasio	1.32	146	Lg		13 13 58.6	
	46nm,0.3s,SNR=7.9						
EPF	Esparros	1.34	80	ePn	Pn	13 13 10.4	-1.7
EPF				ePg	Pg	13 13 12.6	-0.5
EPF				eSg	Sg	13 13 29.4	-1.6
	9.7nm,0.3s						
EGRA	Graus	1.45	115	Pg	Pg	13 13 16.0	+0.6
	3.0nm,0.2s,SNR=7.9						
EGRA				Lg		13 13 36.9	
	6.0nm,0.4s,SNR=5.0						
ELAN	Lanestosa	1.51	287	Pg	Pg	13 13 16.6	+0.1
	2.1nm,0.4s,SNR=7.7						
ELAN				Lg		13 13 38.0	
	4.8nm,0.3s,SNR=7.3						
ETOR	Torete	2.04	193	Pn	Pn	13 13 22.2	0.0
	SNR=7.9						
ETOR				Pg	Pg	13 13 27.7	+0.6
	3.3nm,0.3s,SNR=7.1						
ETOR				Lg		13 13 52.2	
	6.4nm,0.3s,SNR=5.0						
EPOB	Poblet	2.39	127	Pn	Pn	13 13 28.9	+1.8
	SNR=7.9						
EPOB				Pg	Pg	13 13 34.0	0.0
	SNR=7.9						
EPOB				Lg		13 14 02.2	
	2.1nm,0.2s,SNR=7.9						
EMOS	Mosqueruela	2.56	163	Pg	Pg	13 13 35.1	-2.3
	SNR=5.0						
EMOS				Lg		13 14 10.7	
	5.4nm,0.9s,SNR=4.0						
LFF	La Frestale	2.65	36	ePn	Pn	13 13 27.7	-3.2
LFF				eSg	Sg	13 14 07.3	-7.4
	6.3nm,0.3s						
MTLF	Montolieu	2.75	78	ePn	Pn	13 13 30.6	-1.6
MTLF				ePg	Pg	13 13 37.6	-3.6
MTLF				eSn	Sn	13 14 02.9	-3.5
	0.5nm,0.2s						
RJF	Les Rejaudoux	3.29	40	ePn	Pn	13 13 35.9	-4.0
RJF				eSn	Sn	13 14 14.0	-6.1
	1.7nm,0.2s						
CAF	Calviac	3.31	49	ePn	Pn	13 13 36.4	-3.8
CAF				eSn	Sn	13 14 15.1	-5.6
	1.1nm,0.2s						

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*STR **18** 13:13:15.4±0.6, 42.91N×1.48W, h2^{km}±1^{km}, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*MDD **18** 13:13:16.1±0.9, 42.86N×1.42W, mbLg1.9/4, Error ellipse: s-maj=6.3km s-min=3.6km az=26.0, PRXIMO AftershockPLICA*
ISC 18 13:13:15.0±1.4, **42.86N**±0.09×**1.46W**±0.06, **n9**, σ**0^{s}31**/14, **Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EALK	Alkurruntz	0.36	354	Pg	Pg	13 13 22.6	+0.4
	2.7nm,0.1s,SNR=7.9						
EALK				Lg		13 13 28.0	
	21nm,0.1s,SNR=7.9						
LARF	Larrau	0.39	63	Pg	Pg	13 13 22.7	0.0
LARF				Sg	Sg	13 13 28.4	+0.6
LARF	Larrau	0.39	63	P	Pg	13 13 21.8	-0.9
LARF				S	Sg	13 13 27.9	+0.1
OSSF	Osses	0.42	20	P	Pg	13 13 23.3	0.0
ORDF	Ordiarp	0.52	47	Pg	Pg	13 13 25.2	-0.1
ORDF				Sg	Sg	13 13 32.0	-0.2
ORDF	Ordiarp	0.52	47	P	Pg	13 13 25.3	0.0
ORDF				S	Sg	13 13 31.8	-0.4
ATE	Arette	0.60	68	P	Pg	13 13 27.1	+0.2
ATE				S	Sg	13 13 34.7	-0.2
FDAF	Les Forges d'A	0.66	94	S	Sg	13 13 37.0	+0.2
ELAN	Lanestosa	1.50	285	Pg	Pg	13 13 44.6	-0.2
	2.3nm,0.2s,SNR=4.0						
ELAN				Lg		13 14 04.7	
	2.0nm,0.2s,SNR=7.9						

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*IDC **18** 13:13:37.7±1.5, 12.22N×46.49E, mb3.7/6, mb1 3.8/7, mb1mx3.7/17, ML3.5/1, Error ellipse: s-maj=37.0km s-min=30.2km az=38.0*
*NEIC **18** 13:13:38.9±0.8, 12.17N×46.44E, h10^{km}, mb3.5/1, Error ellipse: s-maj=23.1km s-min=16.0km az=120.0*
*DHMR **18** 13:13:39.8±0.6, 12.37N×46.07E, h17^{km}±10^{km}, ML3.8*
ISC 18 13:13:37.4±2.3, **12.24N**±0.08×**46.30E**±0.07, **h14**^{km}±16^{km}, **n14**, σ**0^{s}96**/20, **mb3.7**/6, **5D**, **Western Gulf of Aden**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ADEN	Aden	1.40	293	i P	Pn	13 14 01.1	-1.6
ADEN				i S	Sb	13 14 16.8	-3.6
ADEN				AML	AML	13 14 22.8	
	comp=N,1μm,0.6s						
BDHA	Al Bayda'	1.87	338	⇓iP	Pn	13 14 09.3	-0.2
BDHA				i S	Sn	13 14 32.7	-0.3
BDHA				AML	AML	13 14 32.9	
	comp=E,2μm,0.6s						
LBOS		1.92	328	⇓iP	Pn	13 14 09.9	-0.3
LBOS				i S	Sn	13 14 33.1	-1.2
TRBA	At Turbah	2.33	295	⇓iP	Pn	13 14 15.8	-0.2
TRBA				i S	Sn	13 14 44.2	-0.5
UDYN	Al 'Udayn	2.83	308	⇓iP	Pn	13 14 23.6	+0.4
UDYN				i S	Sn	13 14 58.2	+0.8
DHBB	Dhamar BB	2.97	321	⇓iP	Pn	13 14 26.1	+1.0
DHBB				i S	Sn	13 15 02.3	+1.4
KMBO	Kilima Mbogo	16.03	215	Pn	P	13 17 28.1	+3.7
	comp=E,0.2nm,0.3s,baz=28,slow=18,SNR=3.3						
KMBO	Kilima Mbogo	16.03	215	eP	P	13 17 25.5	+1.1
	comp=E,4.6nm,1.1s						
BRTR	Keskin Array B	29.58	340	P	P	13 19 46.5	+2.2
	comp=E,0.4nm,0.7s,mb3.3,baz=168,slow=13,SNR=3.0						
GERES	GERESS Array B	45.40	330	P	P	13 21 57.4	0.0
	comp=E,0.4nm,0.3s,mb3.7,baz=140,slow=7.7,SNR=4.4						
MKAR	Makanchi Array	45.85	34	P	P	13 22 00.9	-0.1
	comp=E,0.9nm,0.9s,mb3.7,baz=225,slow=8.2,SNR=4.5						
CMAR	Chiang Mai Arr	51.00	76	P	P	13 22 41.5	+0.1
	comp=E,0.8nm,0.8s,mb3.7,baz=264,slow=9.1,SNR=4.8						
SONM	Songino Array	61.05	42	P	P	13 23 52.5	-0.7
	comp=E,0.7nm,0.9s,mb3.8,baz=243,slow=3.2,SNR=6.1						
ASAR	Alice Springs	92.67	113	P	P	13 26 50.0	-0.8
	comp=E,0.6nm,0.9s,mb4.0,baz=270,slow=5.4,SNR=4.8						

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*LDG **18** 13:17:56.8±0.3, 42.85N×1.50W, h2^{km}, Md2.3/2, Ml2.3/5, Error ellipse: s-maj=5.8km s-min=4.3km az=45.0*
*STR **18** 13:17:57.1±0.4, 42.85N×1.46W, h9^{km}±1^{km}, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*MDD **18** 13:17:58.4±0.3, 42.88N×1.42W, h7^{km}±4^{km}, mbLg1.8/12, Error ellipse: s-maj=3.1km s-min=2.1km az=32.0, AftershockPLICA PRXIMO*
ISC 18 13:17:55.8±0.5, **42.87N**±0.03×**1.50W**±0.04, **h11**^{km}±3^{km}, **n33**, σ**1^{s}26**/53, **Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJPF	Ste Jean	0.32	39	ePg	Pg	13 18 03.6	+1.2
SJPF				eSg	Sg	13 18 06.3	-0.5
	135nm,0.3s						
EALK	Alkurruntz	0.35	359	Pg	Pg	13 18 04.8	+1.7
	21nm,0.4s,SNR=19						
EALK				Lg		13 18 10.2	
	122nm,0.4s,SNR=5.9						
LARF	Larrau	0.41	65	Pg	Pg	13 18 04.9	+0.7
LARF				Sg	Sg	13 18 10.9	+1.0
LARF	Larrau	0.41	65	P	Pg	13 18 04.7	+0.5
LARF				S	Sg	13 18 10.7	+0.9
OSSF	Osses	0.43	24	P	Pg	13 18 05.6	+1.1
OSSF				S	Sg	13 18 11.6	+1.3
ORDF	Ordiarp	0.54	49	Pg	Pg	13 18 07.4	+0.7
ORDF				Sg	Sg	13 18 14.8	+0.8
ORDF	Ordiarp	0.54	49	P	Pg	13 18 07.5	+0.8
ORDF				S	Sg	13 18 14.1	+0.1
ATE	Arette	0.62	69	P	Pb	13 18 08.6	+0.3
ATE				S	Sb	13 18 17.1	+0.4
FDAF	Les Forges d'A	0.69	94	Pg	Pg	13 18 09.8	+0.2
FDAF	Les Forges d'A	0.69	94	P	Pb	13 18 09.8	+0.5
FDAF				S	Sb	13 18 19.1	+0.6
ETSF	Etsaut	0.69	87	ePg	Pg	13 18 09.3	-0.4
ETSF				eSg	Sg	13 18 18.2	-0.8
	24nm,0.3s						
REYF	Montagne du Re	0.84	75	S	Sb	13 18 23.1	+0.2
VIEF	Viey	1.12	89	S	Sb	13 18 32.0	+1.0
LABF	Labassere	1.17	80	Pg	Pg	13 18 18.4	-0.8
LABF	Labassere	1.17	80	P	Pb	13 18 19.4	+1.8
LABF				S	Sb	13 18 34.3	+1.8
RESF	Ens	1.35	92	S	Sb	13 18 40.2	+2.4
EPF	Esparros	1.36	82	ePn	Pn	13 18 21.0	+0.2
EPF				ePg	Pg	13 18 23.6	+0.6
EPF				eSg	Sg	13 18 40.4	-0.7
	28nm,0.4s						
ESAC	San Caprasio	1.37	146	Pg	Pg	13 18 22.0	-1.2
	32nm,0.3s,SNR=11						
ESAC				Lg		13 18 40.6	
	71nm,0.3s,SNR=10						
ELAN	Lanestosa	1.47	285	Pg	Pg	13 18 25.7	+0.5
	2.8nm,0.3s,SNR=11						
ELAN				Lg		13 18 47.5	
	2.6nm,0.4s,SNR=6.3						
EGRA	Graus	1.50	116	Pg	Pg	13 18 24.9	-0.9
	SNR=7.9						
EGRA				Lg		13 18 43.2	
	3.0nm,0.2s,SNR=7.9						
MELF	Melles	1.66	89	S	Sn	13 18 50.6	+4.1
SALF	Salau	1.98	92	S	Sn	13 18 58.1	+3.5
ETOR	Torete	2.09	192	Pn	Pn	13 18 33.3	+2.1
	7.8nm,0.4s,SNR=16						
ETOR				Pg	Pg	13 18 38.0	+0.5
	13nm,0.5s,SNR=7.9						
ETOR				Lg		13 19 00.9	
	6.5nm,0.2s,SNR=5.6						
EMIR	Miracle	2.43	112	Pg	Pg	13 18 42.3	-2.1
	SNR=5.0						
EMIR				Lg		13 19 13.1	
	1.4nm,0.6s,SNR=5.0						
EPOB	Poblet	2.44	127	Pn	Pn	13 18 36.2	-0.1
	SNR=7.9						
EPOB				Pg	Pg	13 18 43.6	-1.0
	0.9nm,0.2s,SNR=7.9						
EPOB				Lg		13 19 11.4	
	1.7nm,0.2s,SNR=5.0						
EMOS	Mosqueruela	2.61	163	Pn	Pn	13 18 40.3	+1.5
	2.6nm,0.3s,SNR=6.3						
EMOS				Pg	Pg	13 18 46.5	-1.5
	0.7nm,0.1s,SNR=7.9						
EMOS				Lg		13 19 22.4	
	4.1nm,0.6s,SNR=5.0						
LFF	La Frestale	2.63	37	ePn	Pn	13 18 38.7	-0.3
LFF				ePg	Pg	13 18 46.0	-2.3
LFF				eSg	Sg	13 19 18.6	-4.8
	2.9nm,0.2s						
VALF	Valcebollere	2.63	99	S	Sn	13 19 20.0	+8.7
MTLF	Montolieu	2.76	79	ePg	Pg	13 18 48.3	-2.6
MTLF				eSn	Sn	13 19 13.5	-1.0
	1.6nm,0.2s						
RJF	Les Rejaudoux	3.27	41	ePn	Pn	13 18 46.6	-1.4
RJF				eSn	Sn	13 19 24.8	-2.5
	1.3nm,0.2s						
CAF	Calviac	3.30	50	ePn	Pn	13 18 47.5	-1.0
CAF				eSn	Sn	13 19 26.1	-2.0
	1.3nm,0.2s						
MFF	Saint Martin d	3.86	14	ePn	Pn	13 18 55.5	-1.0
BGF	Bois d'Agland	4.82	38	ePn	Pn	13 19 07.4	-2.7

IDC 18 13:18:35.4±7.2, **21.18S**×**179.66W**, **mb3.6**/3, **mb1 3.9**/3, **mb1mx3.7**/12, **Error ellipse: s-maj=312.0km s-min=39.6km az=146.0**, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	Alice Springs	42.85	258	P	P	13 26 35.1	-2.1
	0.2nm,0.3s,baz=92,slow=7.1,SNR=11						
WRA	Warramunga Arr	42.97	263	P	P	13 26 37.0	-1.2
	0.2nm,0.2s,baz=97,slow=8.2,SNR=7.9						
ILAR	Eielson Array	89.32	13	P	P	13 31 33.2	-1.3
	0.4nm,0.7s,baz=214,slow=3.3,SNR=4.9						

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*STR **18** 13:19:25.2±0.9, 42.85N×1.60W, h5^{km}±1^{km}, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **18** 13:19:26.5±0.5, 42.89N×1.53W, h2^{km}, Md2.6/2, Ml2.8/6, Error ellipse: s-maj=7.9km s-min=5.9km az=46.0*
*NEIC **18** 13:19:27.5, 42.82N×1.37W, ML2.8(LDG), MN2.3(MDD), After MDD.*

*MDD **18** 13:19:27.6±0.4, 42.86N×1.41W, h4^{km}±4^{km}, mbLg2.3/13, Error ellipse: s-maj=3.2km s-min=2.1km az=37.0, AftershockPLICA PRXIMO*

ISC 18 13:19:25.1±0.6**, 42.84N**±0.03×**1.51W**±0.04**, h2**^{km}±4^{km}**, n41, σ1**^{s}**30**/62**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJPF	**Ste Jean**	**0.34**	**37**	*e*Pg	**Pg**	**13 19 33.0**	**+1.1**
SJPF				*e*Sg	**Sg**	**13 19 35.9**	**-0.6**
	474nm,0.4s						
EALK	**Alkurruntz**	**0.38**	**0**	Pg	**Pg**	**13 19 34.2**	**+1.6**
	161nm,0.3s,SNR=25						
EALK				Lg		13 19 40.5	
	138nm,0.3s,SNR=9.5						
EALK	**Alkurruntz**	**0.38**	**0**	Pg	**Pg**	**13 19 35.0**	**+2.4**
EALK				Lg		13 19 40.5	
LARF	**Larrau**	**0.43**	**63**	Pg	**Pg**	**13 19 34.3**	**+0.6**
LARF				Sg	**Sg**	**13 19 40.8**	**+1.4**
LARF	**Larrau**	**0.43**	**63**	P	**Pg**	**13 19 34.1**	**+0.5**
LARF				S	**Sg**	**13 19 39.8**	**+0.4**
OSSF	**Osses**	**0.45**	**24**	P	**Pg**	**13 19 35.1**	**+1.0**
OSSF				S	**Sg**	**13 19 41.0**	**+0.9**
ORDF	**Ordiarp**	**0.56**	**48**	Pg	**Pg**	**13 19 36.9**	**+0.6**
ORDF				Sg	**Sg**	**13 19 45.7**	**+1.9**
ORDF	**Ordiarp**	**0.56**	**48**	P	**Pg**	**13 19 37.0**	**+0.7**
ORDF				S	**Sg**	**13 19 43.5**	**-0.3**
ATE	**Arette**	**0.64**	**67**	P	**Pg**	**13 19 37.9**	**0.0**
ATE				S	**Sg**	**13 19 46.4**	**0.0**
FDAF	**Les Forges d'A**	**0.69**	**92**	Pg	**Pg**	**13 19 39.1**	**+0.2**
FDAF				Sg	**Sg**	**13 19 50.5**	**+2.3**
FDAF	**Les Forges d'A**	**0.69**	**92**	P	**Pg**	**13 19 39.4**	**+0.5**
FDAF				S	**Sg**	**13 19 48.4**	**+0.2**
ETSF	**Etsaut**	**0.70**	**85**	*e*Pg	**Pg**	**13 19 38.6**	**-0.5**
ETSF				*e*Sg	**Sg**	**13 19 47.6**	**-0.8**
	68nm,0.3s						
REYF	**Montagne du Re**	**0.85**	**74**	S	**Sg**	**13 19 52.3**	**-1.1**
LABF	**Labassere**	**1.18**	**79**	Pg	**Pg**	**13 19 49.5**	**+0.8**
LABF	**Labassere**	**1.18**	**79**	P	**Pb**	**13 19 47.7**	**-0.1**
LABF				S	**Sb**	**13 20 03.5**	**+0.1**
RESF	**Ens**	**1.36**	**91**	S	**Sb**	**13 20 10.4**	**+1.7**
ESAC	**San Caprasio**	**1.36**	**145**	Pg	**Pg**	**13 19 52.4**	**+0.2**
	66nm,0.3s,SNR=6.3						
ESAC				Lg		13 20 09.3	
	118nm,0.3s,SNR=6.6						
ESAC	**San Caprasio**	**1.36**	**145**	Pg	**Pg**	**13 19 51.1**	**-1.2**
ESAC				Lg		13 20 09.3	
EPF	**Esparros**	**1.37**	**81**	*e*Pn	**Pn**	**13 19 50.6**	**-0.7**
EPF				*e*Pg	**Pg**	**13 19 53.1**	**+0.6**
EPF				*e*Sg	**Sg**	**13 20 10.0**	**-0.7**
	54nm,0.3s						
ELAN	**Lanestosa**	**1.47**	**286**	Pn	**Pn**	**13 19 55.1**	**+2.5**
	5.3nm,0.3s,SNR=6.6						
ELAN				Lg		13 20 16.5	
	8.0nm,0.2s,SNR=6.6						
EGRA	**Graus**	**1.50**	**115**	Pn	**Pn**	**13 19 53.1**	**0.0**
	SNR=7.9						
EGRA				Lg		13 20 12.3	
	7.2nm,0.2s,SNR=5.0						
EGRA	**Graus**	**1.50**	**115**	Pn	**Pn**	**13 19 53.1**	**0.0**
EGRA				Lg		13 20 12.3	
MELF	**Melles**	**1.67**	**88**	S	**Sb**	**13 20 19.3**	**+1.7**
SALF	**Salau**	**1.99**	**91**	S	**Sn**	**13 20 27.5**	**+1.6**
ETOR	**Torete**	**2.06**	**192**	Pn	**Pn**	**13 20 01.2**	**0.0**
	21nm,0.4s,SNR=7.0						
ETOR				Pg	**Pg**	**13 20 05.9**	**-0.4**
	24nm,0.5s,SNR=7.9						
ETOR				Lg		13 20 31.5	
	18nm,0.4s,SNR=5.2						
ETOR	**Torete**	**2.06**	**192**	Pn	**Pn**	**13 20 01.9**	**+0.6**
ETOR				Lg		13 20 32.6	
EMIR	**Miracle**	**2.43**	**111**	Pg	**Pg**	**13 20 09.1**	**-4.6**
	SNR=5.0						
EMIR				Lg		13 20 42.9	
	12nm,0.4s,SNR=5.0						
EPOB	**Poblet**	**2.43**	**127**	Pn	**Pn**	**13 20 07.3**	**+0.8**
	SNR=7.9						
EPOB				Pg	**Pg**	**13 20 11.1**	**-2.6**
	SNR=7.9						
EPOB				Lg		13 20 41.3	
	4.1nm,0.3s,SNR=7.9						
EPOB	**Poblet**	**2.43**	**127**	Pg	**Pg**	**13 20 10.0**	**-3.7**
EPOB				Lg		13 20 40.0	
EBR	**Ebro Roquetas**	**2.51**	**143**	*e*SN	**Sn**	**13 20 41.5**	**+2.2**
EMOS	**Mosqueruela**	**2.60**	**162**	Pn	**Pn**	**13 20 08.6**	**-0.2**
	SNR=4.0						
EMOS				Pg	**Pg**	**13 20 14.8**	**-2.1**
	SNR=7.9						
EMOS				Lg		13 20 50.9	
	5.3nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**2.60**	**162**	Pn	**Pn**	**13 20 09.2**	**+0.4**
EMOS				Lg		13 20 49.8	
VALF	**Valcebollere**	**2.64**	**98**	S	**Sn**	**13 20 51.2**	**+8.7**
LFF	**La Frestale**	**2.65**	**37**	*e*Pg	**Pg**	**13 20 15.4**	**-2.7**
LFF				*e*Sg	**Sg**	**13 20 47.7**	**-5.7**
	10nm,0.3s						
MTLF	**Montolieu**	**2.77**	**78**	*e*Pn	**Pn**	**13 20 10.8**	**-0.6**
MTLF				*e*Sn	**Sn**	**13 20 43.2**	**-2.7**
	7.0nm,0.4s						
EJON	**La Jonquera**	**3.27**	**95**	Pg	**Pg**	**13 20 26.7**	**-3.7**
	SNR=5.0						
EJON				Lg		13 21 09.1	
	12nm,0.6s,SNR=7.9						
RJF	**Les Rejaudoux**	**3.29**	**40**	*e*Pn	**Pn**	**13 20 16.3**	**-2.4**
RJF				*e*Sn	**Sn**	**13 20 54.2**	**-4.7**
	5.8nm,0.3s						
CAF	**Calviac**	**3.32**	**50**	*e*Pn	**Pn**	**13 20 17.0**	**-2.1**
CAF				*e*Sn	**Sn**	**13 20 55.3**	**-4.4**
	6.2nm,0.2s						
ESDC	**Sonseca Array**	**3.67**	**211**	Pn	**Pn**	**13 20 24.5**	**+0.4**
	0.4nm,0.3s,baz=36,slow=13,SNR=3.7						
MFF	**Saint Martin d**	**3.88**	**14**	*e*Pn	**Pn**	**13 20 25.1**	**-2.0**
LASF	**Ste Croix**	**4.09**	**71**	*e*Pn	**Pn**	**13 20 28.2**	**-2.0**
LASF				*e*Sn	**Sn**	**13 21 14.3**	**-5.1**
	2.3nm,0.2s						

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*LDG **18** 13:23:23.6±0.4, 42.89N×1.53W, h2^{km}, Md2.5/2, Ml2.9/8, Error ellipse: s-maj=7.0km s-min=4.5km az=44.0*

*NEIC **18** 13:23:24.5, 42.85N×1.45W, h10^{km}, ML2.9(LDG), ML2.5(STR), After MDD.*

*MDD **18** 13:23:24.6±0.3, 42.87N×1.43W, h6^{km}±4^{km}, mbLg2.3/15, Error ellipse: s-maj=3.1km s-min=2.1km az=32.0, AftershockPLICA PRXIMO*

*STR **18** 13:23:24.2±1.1, 42.90N×1.47W, h5^{km}±1^{km}, Ml2.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 18 13:23:22.2±0.5**, 42.86N**±0.03×**1.52W**±0.03**, h12**^{km}±3^{km}**, n42, σ1**^{s}**32**/71**, 1C, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJPF	**Ste Jean**	**0.33**	**40**	*e*Pg	**Pg**	**13 23 30.1**	**+1.0**
SJPF				*e*Sg	**Sg**	**13 23 32.9**	**-0.8**
	386nm,0.3s						
EALK	**Alkurruntz**	**0.36**	**1**	⇑Pg	**Pg**	**13 23 31.2**	**+1.6**
	13nm,0.1s,SNR=18						
EALK				Lg		13 23 37.2	
	161nm,0.4s,SNR=7.9						
LARF	**Larrau**	**0.43**	**65**	Pg	**Pg**	**13 23 31.2**	**+0.3**
LARF				Sg	**Sg**	**13 23 37.5**	**+0.7**
LARF	**Larrau**	**0.43**	**65**	P	**Pg**	**13 23 31.3**	**+0.4**
LARF				S	**Sg**	**13 23 37.2**	**+0.5**
OSSF	**Osses**	**0.44**	**25**	P	**Pg**	**13 23 32.1**	**+1.0**
OSSF				S	**Sg**	**13 23 38.4**	**+1.3**
ORDF	**Ordiarp**	**0.55**	**50**	Pg	**Pg**	**13 23 34.0**	**+0.6**
ORDF	**Ordiarp**	**0.55**	**50**	P	**Pg**	**13 23 34.1**	**+0.7**
ORDF				S	**Sg**	**13 23 41.4**	**+0.5**
ATE	**Arette**	**0.64**	**69**	P	**Pb**	**13 23 35.0**	**+0.2**
ATE				S	**Sb**	**13 23 43.7**	**+0.2**
FDAF	**Les Forges d'A**	**0.70**	**93**	Pg	**Pg**	**13 23 35.9**	**-0.4**
FDAF				Sg	**Sg**	**13 23 46.9**	**+1.2**
FDAF	**Les Forges d'A**	**0.70**	**93**	P	**Pb**	**13 23 36.2**	**+0.4**
FDAF				S	**Sb**	**13 23 45.6**	**+0.4**
ETSF	**Etsaut**	**0.70**	**87**	*e*Pg	**Pg**	**13 23 35.8**	**-0.6**
ETSF				*e*Sg	**Sg**	**13 23 44.6**	**-1.2**
	63nm,0.3s						
REYF	**Montagne du Re**	**0.85**	**75**	P	**Pb**	**13 23 39.1**	**+0.7**
REYF				S	**Sb**	**13 23 50.4**	**+0.8**
VIEF	**Viey**	**1.13**	**88**	S	**Sb**	**13 23 59.1**	**+1.4**
LABF	**Labassere**	**1.18**	**80**	Pg	**Pg**	**13 23 45.3**	**-0.5**
LABF	**Labassere**	**1.18**	**80**	P	**Pb**	**13 23 45.4**	**+1.3**
LABF				S	**Sb**	**13 24 00.7**	**+1.5**
RESF	**Ens**	**1.36**	**92**	S	**Sb**	**13 24 07.4**	**+2.9**
EPF	**Esparros**	**1.37**	**82**	*e*Pn	**Pn**	**13 23 47.8**	**+0.5**
EPF				*e*Pg	**Pg**	**13 23 50.0**	**+0.3**
EPF				*e*Sg	**Sg**	**13 24 06.6**	**-1.4**
	40nm,0.3s						
ESAC	**San Caprasio**	**1.38**	**145**	Pg	**Pg**	**13 23 49.1**	**-0.6**
	50nm,0.3s,SNR=7.9						
ESAC				Lg		13 24 07.2	
	121nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**1.46**	**285**	Pg	**Pg**	**13 23 52.2**	**+0.9**
	6.8nm,0.2s,SNR=17						
ELAN				Lg		13 24 14.2	
	13nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**1.46**	**285**	Pg	**Pg**	**13 23 52.2**	**+0.9**
ELAN				Lg		13 24 13.2	
EGRA	**Graus**	**1.51**	**116**	Pg	**Pg**	**13 23 51.5**	**-0.8**
	22nm,0.4s,SNR=7.9						
EGRA				Lg		13 24 11.1	
	15nm,0.4s,SNR=5.0						
EGRA	**Graus**	**1.51**	**116**	Pg	**Pg**	**13 23 51.5**	**-0.8**
EGRA				Lg		13 24 11.4	
MELF	**Melles**	**1.67**	**89**	Pn	**Pn**	**13 23 53.7**	**+2.1**
MELF				Sg	**Sg**	**13 24 17.3**	**-0.6**
MELF	**Melles**	**1.67**	**89**	P	**Pn**	**13 23 54.9**	**+3.3**
MELF				S	**Sn**	**13 24 17.1**	**+4.0**
MLS	**Moulis**	**1.92**	**86**	S	**Sn**	**13 24 23.3**	**+3.9**
SALF	**Salau**	**1.99**	**92**	P	**Pn**	**13 23 59.2**	**+3.0**
SALF				S	**Sn**	**13 24 25.9**	**+4.7**
ETOR	**Torete**	**2.08**	**191**	Pn	**Pn**	**13 23 59.0**	**+1.6**
	SNR=7.9						
ETOR				Pg	**Pg**	**13 24 03.2**	**-0.5**
	9.8nm,0.2s,SNR=11						
ETOR				Lg		13 24 27.2	
	17nm,0.3s,SNR=7.9						
ETOR	**Torete**	**2.08**	**191**	Pg	**Pg**	**13 24 03.2**	**-0.5**
ETOR				Lg		13 24 29.8	
EMIR	**Miracle**	**2.44**	**112**	Pg	**Pg**	**13 24 08.8**	**-2.2**
	3.2nm,0.2s,SNR=5.0						
EMIR				Lg		13 24 40.5	
	9.9nm,0.4s,SNR=7.9						
EPOB	**Poblet**	**2.45**	**127**	Pn	**Pn**	**13 24 02.9**	**+0.2**
	0.6nm,0.2s,SNR=6.0						
EPOB				Sn	**Sn**	**13 24 32.1**	**-0.8**
	12nm,0.5s,SNR=5.0						
EPOB				Lg		13 24 37.5	
	2.7nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**2.45**	**127**	Pn	**Pn**	**13 24 02.7**	**0.0**
EPOB				Sn	**Sn**	**13 24 31.4**	**-1.4**
EPOB				Lg		13 24 40.5	
EMOS	**Mosqueruela**	**2.61**	**162**	Pn	**Pn**	**13 24 07.5**	**+2.5**
	SNR=7.9						
EMOS				Pg	**Pg**	**13 24 11.9**	**-2.5**
	1.3nm,0.3s,SNR=6.8						
EMOS				Lg		13 24 46.8	
	2.6nm,0.2s,SNR=5.0						
LFF	**La Frestale**	**2.64**	**37**	*e*Pn	**Pn**	**13 24 04.9**	**-0.6**
LFF				*e*Pg	**Pg**	**13 24 12.7**	**-2.2**
LFF				*e*Sg	**Sg**	**13 24 44.8**	**-5.4**
	9.8nm,0.3s						
VALF	**Valcebollere**	**2.65**	**99**	S	**Sn**	**13 24 47.4**	**+10**
MTLF	**Montolieu**	**2.77**	**79**	*e*Pn	**Pn**	**13 24 07.9**	**+0.5**
MTLF				*e*Pg	**Pg**	**13 24 15.2**	**-2.4**
MTLF				*e*Sn	**Sn**	**13 24 40.5**	**-0.6**
	9.0nm,0.4s						
RJF	**Les Rejaudoux**	**3.28**	**41**	*e*Pn	**Pn**	**13 24 13.2**	**-1.3**
RJF				*e*Sn	**Sn**	**13 24 51.5**	**-2.3**
	3.5nm,0.2s						
CAF	**Calviac**	**3.31**	**50**	*e*Pn	**Pn**	**13 24 13.4**	**-1.6**
CAF				*e*Sn	**Sn**	**13 24 52.5**	**-2.2**
	3.5nm,0.2s						
MFF	**Saint Martin d**	**3.87**	**14**	*e*Pn	**Pn**	**13 24 21.9**	**-1.0**
MFF				*e*Sg	**Sg**	**13 25 24.5**	**-6.4**
	4.0nm,0.3s						
ECAL	**Calabor**	**3.98**	**258**	Pn	**Pn**	**13 24 25.6**	**+1.2**
	1.2nm,0.2s,SNR=5.0						
ECAL				Lg		13 25 09.0	
	5.1nm,0.3s,SNR=7.9						
ECAL				Lg		13 25 28.7	
	8.4nm,0.4s,SNR=4.0						
ECAL	**Calabor**	**3.98**	**258**	Pn	**Pn**	**13 24 25.6**	**+1.2**
ECAL				Sn	**Sn**	**13 25 09.0**	**-2.5**
ECAL				Lg		13 25 32.8	
LASF	**Ste Croix**	**4.09**	**71**	*e*Pn	**Pn**	**13 24 25.2**	**-0.9**
LASF				*e*Sn	**Sn**	**13 25 11.4**	**-3.1**
	15nm,0.7s						
BGF	**Bois d'Agland**	**4.83**	**39**	*e*Sn	**Sn**	**13 25 28.4**	**-4.7**
	6.5nm,0.3s						

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*STR **18** 13:31:28.9±0.2, 42.88N×1.53W, h5^{km}±1^{km}, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*MDD **18** 13:31:30.7±0.8, 42.90N×1.41W, h14^{km}±29^{km}, mbLg1.6/4, Error ellipse: s-maj=8.0km s-min=3.9km az=20.0, AftershockPLICA PRXIMO*

ISC 18 13:31:27.9±0.8**, 42.84N**±0.04×**1.52W**±0.05**, h14**^{km}**, n11, σ0**^{s}**71**/16**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EALK	**Alkurruntz**	**0.38**	**2**	Pg	**Pg**	**13 31 36.9**	**+0.8**
	1.5nm,0.1s,SNR=7.9						
EALK				Lg		13 31 42.6	
	11nm,0.1s,SNR=7.9						
LARF	**Larrau**	**0.44**	**63**	Pg	**Pg**	**13 31 37.0**	**-0.1**
LARF				Sg	**Sg**	**13 31 43.3**	**0.0**
LARF	**Larrau**	**0.44**	**63**	P	**Pb**	**13 31 37.2**	**+0.2**
LARF				S	**Sb**	**13 31 42.2**	**-0.9**
OSSF	**Osses**	**0.46**	**25**	P	**Pb**	**13 31 37.8**	**+0.5**
OSSF				S	**Sb**	**13 31 41.7**	**-1.9**
ORDF	**Ordiarp**	**0.57**	**49**	Pg	**Pg**	**13 31 39.5**	**-0.2**
ORDF	**Ordiarp**	**0.57**	**49**	P	**Pb**	**13 31 39.6**	**+0.4**
ORDF				S	**Sb**	**13 31 47.0**	**+0.1**
FDAF	**Les Forges d'A**	**0.70**	**91**	Pg	**Pg**	**13 31 42.4**	**+0.2**
FDAF				Sg	**Sg**	**13 31 52.4**	**+0.6**
FDAF	**Les Forges d'A**	**0.70**	**91**	S	**Sb**	**13 31 51.5**	**+0.8**
ESAC	**San Caprasio**	**1.36**	**145**	Pg	**Pg**	**13 31 54.7**	**-0.6**
	4.9nm,0.2s,SNR=4.6						
ESAC				Lg		13 32 13.3	
	8.3nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**1.46**	**286**	Pg	**Pg**	**13 31 57.8**	**+0.7**
	0.5nm,0.2s,SNR=4.9						
ELAN				Lg		13 32 19.2	
	1.6nm,0.2s,SNR=7.9						
ETOR	**Torete**	**2.05**	**191**	Pg	**Pg**	**13 32 08.1**	**-1.0**
	0.3nm,0.2s,SNR=4.8						
ETOR				Lg		13 32 33.0	
	1.0nm,0.2s,SNR=5.0						

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*LDG **18** 13:35:39.4±0.4, 42.85N×1.57W, h2^{km}, Ml2.8/10, Error ellipse: s-maj=6.1km s-min=4.4km az=52.0*

*STR **18** 13:35:40.2±0.3, 42.84N×1.50W, h4^{km}±1^{km}, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*NEIC **18** 13:35:41.2, 42.84N×1.42W, ML2.8(LDG), ML2.4(STR), MN2.3(MDD), After MDD.*

*MDD **18** 13:35:41.6±0.3, 42.87N×1.43W, h6^{km}±3^{km}, mbLg2.2/16, Error ellipse: s-maj=2.8km s-min=2.0km az=30.0, AftershockPLICA PRXIMO*

ISC 18 13:35:39.6±0.4**, 42.88N**±0.02×**1.49W**±0.02**, h14**^{km}±2^{km}**, n61, σ1**^{s}**29**/116**, 3C, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJPF	**Ste Jean**	**0.31**	**39**	*e*Pg	**Pg**	**13 35 47.0**	**+0.8**
SJPF				*e*Sg	**Sg**	**13 35 49.9**	**-0.7**
	380nm,0.2s						
EALK	**Alkurruntz**	**0.34**	**358**	⇑Pg	**Pg**	**13 35 48.2**	**+1.3**
	SNR=18						
EALK				Lg		13 35 54.0	
	61nm,0.1s,SNR=7.9						
LARF	**Larrau**	**0.40**	**66**	Pg	**Pg**	**13 35 48.5**	**+0.5**
LARF				Sg	**Sg**	**13 35 54.3**	**+0.7**
LARF	**Larrau**	**0.40**	**66**	P	**Pg**	**13 35 48.6**	**+0.6**
LARF				S	**Sg**	**13 35 54.2**	**+0.6**
OSSF	**Osses**	**0.42**	**24**	P	**Pg**	**13 35 49.0**	**+0.8**
OSSF				S	**Sg**	**13 35 55.1**	**+1.0**
ORDF	**Ordiarp**	**0.53**	**50**	Pg	**Pg**	**13 35 51.0**	**+0.6**
ORDF				Sg	**Sg**	**13 35 58.6**	**+0.9**
ORDF	**Ordiarp**	**0.53**	**50**	P	**Pb**	**13 35 51.0**	**+0.9**
ORDF				S	**Sb**	**13 35 58.4**	**+1.1**
ATE	**Arette**	**0.62**	**70**	P	**Pb**	**13 35 52.2**	**+0.6**
ATE				S	**Sb**	**13 36 00.9**	**+1.0**
FDAF	**Les Forges d'A**	**0.68**	**94**	Pg	**Pg**	**13 35 53.4**	**0.0**
FDAF				Sg	**Sg**	**13 36 03.0**	**+0.4**
FDAF	**Les Forges d'A**	**0.68**	**94**	P	**Pb**	**13 35 53.1**	**+0.3**
FDAF				S	**Sb**	**13 36 03.1**	**+1.4**
ETSF	**Etsaut**	**0.69**	**88**	*e*Pg	**Pg**	**13 35 52.9**	**-0.6**
ETSF				*e*Sg	**Sg**	**13 36 02.3**	**-0.5**
	46nm,0.3s						
REYF	**Montagne du Re**	**0.83**	**76**	P	**Pb**	**13 35 55.8**	**+0.6**
REYF				S	**Sb**	**13 36 06.5**	**+0.5**
VIEF	**Viey**	**1.11**	**89**	P	**Pb**	**13 36 00.7**	**+0.6**
VIEF				S	**Sb**	**13 36 15.3**	**+1.1**
LABF	**Labassere**	**1.16**	**81**	Pg	**Pg**	**13 36 02.0**	**-0.9**
LABF	**Labassere**	**1.16**	**81**	P	**Pb**	**13 36 01.9**	**+1.0**
LABF				S	**Sb**	**13 36 17.4**	**+1.8**
RESF	**Ens**	**1.35**	**92**	Pn	**Pn**	**13 36 04.7**	**+0.6**
RESF	**Ens**	**1.35**	**92**	P	**Pn**	**13 36 04.9**	**+0.9**
RESF				S	**Sb**	**13 36 23.5**	**+2.4**
EPF	**Esparros**	**1.35**	**83**	*e*Pn	**Pn**	**13 36 04.9**	**+0.8**
EPF				*e*Pg	**Pg**	**13 36 07.1**	**+0.4**
EPF				*e*Sg	**Sg**	**13 36 24.4**	**-0.4**
	44nm,0.2s						
ESAC	**San Caprasio**	**1.38**	**146**	⇑Pg	**Pg**	**13 36 05.9**	**-1.4**
	58nm,0.2s,SNR=18						
ESAC				Lg		13 36 24.2	
	58nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**1.47**	**285**	Pn	**Pn**	**13 36 08.9**	**+3.1**
	6.1nm,0.2s,SNR=39						
ELAN				Pg	**Pg**	**13 36 09.4**	**+0.4**
	SNR=7.9						
ELAN				Lg		13 36 29.8	
	9.4nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**1.47**	**285**	Pg	**Pg**	**13 36 08.9**	**-0.1**
ELAN				Lg		13 36 29.8	
EGRA	**Graus**	**1.50**	**116**	⇑Pg	**Pg**	**13 36 07.5**	**-2.1**
	2.8nm,0.1s,SNR=18						
EGRA				Lg		13 36 29.2	
	6.7nm,0.2s,SNR=7.9						
EGRA	**Graus**	**1.50**	**116**	Pg	**Pg**	**13 36 07.6**	**-2.0**
EGRA				Lg		13 36 27.2	
MELF	**Melles**	**1.65**	**89**	P	**Pn**	**13 36 10.9**	**+2.5**
MELF				S	**Sn**	**13 36 32.8**	**+3.2**
SALF	**Salau**	**1.98**	**92**	P	**Pn**	**13 36 15.8**	**+2.8**
SALF				S	**Sn**	**13 36 42.9**	**+5.1**
ETOR	**Torete**	**2.10**	**192**	Pn	**Pn**	**13 36 16.4**	**+1.6**
	2.1nm,0.2s,SNR=16						
ETOR				Pg	**Pg**	**13 36 20.4**	**-1.2**
	3.3nm,0.2s,SNR=7.9						
ETOR				Sn	**Sn**	**13 36 42.2**	**+1.3**
	5.2nm,0.2s,SNR=7.9						
ETOR				Lg		13 36 44.0	
	3.5nm,0.1s,SNR=7.9						
ETOR	**Torete**	**2.10**	**192**	Pn	**Pn**	**13 36 16.4**	**+1.6**
ETOR				Pg	**Pg**	**13 36 20.4**	**-1.2**
ETOR				Sn	**Sn**	**13 36 42.2**	**+1.3**
ETOR				Lg		13 36 47.9	
GRBF	**Gourbit**	**2.23**	**90**	P	**Pn**	**13 36 20.2**	**+3.6**
EMIR	**Miracle**	**2.43**	**112**	Pn	**Pn**	**13 36 19.4**	**-0.2**
	0.8nm,0.1s,SNR=7.9						
EMIR				Pg	**Pg**	**13 36 24.6**	**-3.5**
	4.7nm,0.2s,SNR=7.9						
EMIR				Sn	**Sn**	**13 36 48.6**	**-0.7**
	3.5nm,0.2s,SNR=4.0						
EMIR				Lg		13 36 57.9	
	4.1nm,0.1s,SNR=7.9						
EMIR	**Miracle**	**2.43**	**112**	Pn	**Pn**	**13 36 19.4**	**-0.2**
EMIR				Pg	**Pg**	**13 36 24.6**	**-3.5**
EMIR				Sn	**Sn**	**13 36 48.1**	**-1.3**
EMIR				Lg		13 36 57.9	
EPOB	**Poblet**	**2.44**	**128**	Pn	**Pn**	**13 36 19.6**	**-0.2**
	1.1nm,0.1s,SNR=7.9						
EPOB				Pg	**Pg**	**13 36 24.4**	**-4.0**
	3.2nm,0.2s,SNR=7.9						
EPOB				Sn	**Sn**	**13 36 48.0**	**-1.6**
	3.1nm,0.2s,SNR=7.9						
EPOB				Lg		13 36 55.3	
	5.4nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**2.44**	**128**	Pn	**Pn**	**13 36 19.6**	**-0.2**
EPOB				Pg	**Pg**	**13 36 24.4**	**-4.0**
EPOB				Sn	**Sn**	**13 36 48.0**	**-1.6**
EPOB				Lg		13 36 57.6	
LFF	**La Frestale**	**2.62**	**37**	*e*Pn	**Pn**	**13 36 22.0**	**-0.3**
LFF				*e*Pg	**Pg**	**13 36 29.6**	**-2.3**
LFF				*e*Sg	**Sg**	**13 37 01.9**	**-5.0**
	8.5nm,0.3s						
EMOS	**Mosqueruela**	**2.62**	**163**	Pn	**Pn**	**13 36 23.2**	**+0.9**
	0.4nm,0.2s,SNR=7.9						
EMOS				Pg	**Pg**	**13 36 29.9**	**-2.1**
	2.7nm,0.3s,SNR=7.9						
EMOS				Sn	**Sn**	**13 36 53.5**	**-0.7**
	0.9nm,0.2s,SNR=4.0						
EMOS				Lg		13 37 02.6	
	2.3nm,0.1s,SNR=7.9						
EMOS	**Mosqueruela**	**2.62**	**163**	Pn	**Pn**	**13 36 23.2**	**+0.9**
EMOS				Pg	**Pg**	**13 36 28.8**	**-3.2**
EMOS				Sn	**Sn**	**13 36 53.5**	**-0.7**
EMOS				Lg		13 37 02.8	
VALF	**Valcebollere**	**2.63**	**99**	P	**Pn**	**13 36 26.9**	**+4.5**
VALF				S	**Sn**	**13 37 00.7**	**+6.3**
CARF	**Carcanieres**	**2.65**	**92**	P	**Pn**	**13 36 29.3**	**+6.6**
CARF				S	**Sn**	**13 37 02.2**	**+7.3**
MTLF	**Montolieu**	**2.75**	**79**	*e*Pn	**Pn**	**13 36 25.2**	**+1.0**
MTLF				*e*Pg	**Pg**	**13 36 32.2**	**-2.4**
MTLF				*e*Sn	**Sn**	**13 36 57.2**	**-0.3**
	4.3nm,0.3s						
RJF	**Les Rejaudoux**	**3.25**	**41**	*e*Pn	**Pn**	**13 36 30.2**	**-1.1**
RJF				*e*Sn	**Sn**	**13 37 08.4**	**-1.8**
	4.8nm,0.2s						
EJON	**La Jonquera**	**3.26**	**96**	Pg	**Pg**	**13 36 40.6**	**-4.1**
	0.9nm,0.2s,SNR=7.9						
EJON				Lg		13 37 24.1	
	8.7nm,0.4s,SNR=7.9						
CAF	**Calviac**	**3.29**	**50**	*e*Pn	**Pn**	**13 36 31.2**	**-0.6**
CAF				*e*Sn	**Sn**	**13 37 09.3**	**-1.7**
	4.5nm,0.2s						
MFF	**Saint Martin d**	**3.85**	**14**	*e*Pn	**Pn**	**13 36 39.3**	**-0.4**
MFF				*e*Sn	**Sn**	**13 37 22.6**	**-2.6**
	2.5nm,0.2s						
ECAL	**Calabor**	**4.00**	**258**	Pn	**Pn**	**13 36 42.4**	**+0.6**
	0.9nm,0.2s,SNR=7.9						
ECAL				Sn	**Sn**	**13 37 28.8**	**-0.1**
	0.6nm,0.1s,SNR=7.9						
ECAL				Lg		13 37 47.1	
	2.7nm,0.3s,SNR=4.0						
ECAL	**Calabor**	**4.00**	**258**	Pn	**Pn**	**13 36 42.4**	**+0.6**
ECAL				Sn	**Sn**	**13 37 28.8**	**-0.1**
ECAL				Lg		13 37 50.1	
LASF	**Ste Croix**	**4.07**	**71**	*e*Pn	**Pn**	**13 36 42.2**	**-0.7**
LASF				*e*Sn	**Sn**	**13 37 28.5**	**-2.4**
	1.4nm,0.2s						
EPON	**Pontenova**	**4.17**	**278**	Pn	**Pn**	**13 36 45.8**	**+1.5**
	0.3nm,0.1s,SNR=7.9						
EPON				Sn	**Sn**	**13 37 34.9**	**+1.6**
	0.5nm,0.1s,SNR=4.0						
EPON				Lg		13 37 53.5	
	1.1nm,0.2s,SNR=4.0						
EPON	**Pontenova**	**4.17**	**278**	Pn	**Pn**	**13 36 45.8**	**+1.5**
EPON				Sn	**Sn**	**13 37 32.3**	**-1.0**
ERUA	**La Rua**	**4.20**	**265**	Pn	**Pn**	**13 36 45.7**	**+1.0**
	1.0nm,0.1s,SNR=6.5						
ERUA				Sn	**Sn**	**13 37 34.6**	**+0.5**
	0.7nm,0.3s,SNR=7.9						
ERUA				Lg		13 37 58.1	
	1.4nm,0.3s,SNR=7.9						
ERUA	**La Rua**	**4.20**	**265**	Pn	**Pn**	**13 36 45.7**	**+1.0**
ERUA				Sn	**Sn**	**13 37 32.1**	**-1.9**
ETOB	**Tobarra**	**4.23**	**181**	Pn	**Pn**	**13 36 45.3**	**+0.2**
	0.3nm,0.1s,SNR=4.0						
ETOB	**Tobarra**	**4.23**	**181**	Pn	**Pn**	**13 36 45.0**	**-0.1**
EBEN	**Beniarda**	**4.28**	**167**	Pn	**Pn**	**13 36 45.6**	**-0.2**
	0.1nm,0.1s,SNR=7.9						
EVIA	**Vianos**	**4.30**	**191**	Pn	**Pn**	**13 36 47.1**	**+0.9**
	2.2nm,0.2s,SNR=7.7						
TCF	**Toulx Ste Croi**	**4.32**	**36**	*e*Pn	**Pn**	**13 36 44.1**	**-2.3**
TCF				*e*Sn	**Sn**	**13 37 33.7**	**-3.4**
	3.6nm,0.3s						
EIBI	**Ibiza**	**4.40**	**150**	Pn	**Pn**	**13 36 46.0**	**-1.6**
	0.4nm,0.1s,SNR=4.0						
BGF	**Bois d'Agland**	**4.81**	**39**	*e*Pn	**Pn**	**13 36 50.8**	**-2.5**
BGF				*e*Sn	**Sn**	**13 37 45.4**	**-4.1**
	3.7nm,0.2s						
VIVF	**Saint-Julien-l**	**4.88**	**64**	*e*Pn	**Pn**	**13 36 51.5**	**-2.8**
ELOB	**Lobios**	**4.97**	**261**	Pn	**Pn**	**13 36 55.4**	**-0.3**
	0.5nm,0.1s,SNR=7.9						
EQES	**Quesada**	**5.21**	**194**	Pn	**Pn**	**13 36 59.0**	**0.0**
	0.8nm,0.1s,SNR=7.9						
EQES				Pg	**Pg**	**13 37 17.5**	**-6.1**
	0.6nm,0.3s,SNR=7.9						

EADA	**Adamuz**	5.26	208	Pn	Pn	13 36 59.4	-0.3
	0.7nm,0.1s,SNR=7.7						
EADA				Sn	Sn	13 37 56.3	-4.5
	0.3nm,0.2s,SNR=7.9						
EADA				Lg		13 38 27.4	
	0.4nm,0.2s,SNR=4.0						
SSF	**Saint Saulge**	5.48	39	ePn	Pn	13 36 59.9	-3.0

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*TIR **18** 13:35:46.8, 41.38N×19.61E, h4^{km}, Ml2.2*
*PDG **18** 13:35:51.7±0.2, 41.56N×19.56E, h6^{km}*
ISC 18 13:35:46.7±1.1**, 41.37N**±0.05×**19.59E**±0.05**, h6**^{km}**, n13, σ0^{s}92**/25**, 1C, Albania**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TIR	**Tirane**	0.21	97	i Pg	Pg	13 35 50.9	-0.1
TIR				i Sg	Sg	13 35 54.3	+0.4
LACI	**Lac**	0.28	19	i Pg	Pg	13 35 52.1	-0.3
LACI				i Sg	Sg	13 35 56.3	+0.2
QSH	**Qafa e Shtames**	0.28	58	i Pg	Pg	13 35 52.0	-0.4
ULC	**Ulcinj**	0.64	337	ePg	Pg	13 36 00.2	+0.6
ULC				eSg	Sg	13 36 07.6	-0.6
BUM	**Brajici-Budva**	1.06	331	ePg	Pg	13 36 08.2	+0.2
BUM				eSg	Sg	13 36 22.9	+0.8
TTG	**Podgorica**	1.08	347	ePg	Pg	13 36 08.0	-0.4
TTG				eSg	Sg	13 36 22.5	-0.3
PVY	**Plav**	1.25	13	ePg	Pg	13 36 11.8	0.0
PVY				eSg	Sg	13 36 28.6	+0.1
HCY	**Herceg Novi**	1.35	323	⇑i Pg	Pg	13 36 13.6	0.0
HCY				eSg	Sg	13 36 32.1	+0.5
NKY	**Niksic**	1.50	343	ePg	Pg	13 36 15.5	-1.3
NKY				eSg	Sg	13 36 36.4	-0.5
IVA	**Berane**	1.52	9	ePg	Pg	13 36 15.8	-1.2
IVA				eSg	Sg	13 36 37.2	-0.1
BRY	**Bratogost**	1.71	333	ePg	Pg	13 36 19.8	-1.1
BRY				eSg	Sg	13 36 43.5	-0.3
UPM	**Unac-Piva**	1.90	345	ePn	Pn	13 36 23.1	+3.1
UPM				eSn	Sn	13 36 47.9	+3.4
PLE	**Pljevlja**	1.96	356	ePn	Pn	13 36 24.7	+3.7
PLE				eSn	Sn	13 36 48.9	+2.8

IDC 18 13:36:35.1±4.6**, 7.41S×100.10E, mb3.5**/4**, mb1 3.6**/4**, mb1mx3.5**/14**, Error ellipse: s-maj=170.0km s-min=30.5km az=56.0, Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	25.73	357	P	P	13 42 08.0	-1.1
	0.7nm,0.6s,baz=181,slow=9.8,SNR=4.7						
ASAR	**Alice Springs**	36.22	120	P	P	13 43 40.0	-1.8
	0.3nm,0.7s,baz=302,slow=8.0,SNR=3.5						
SONM	**Songino Array**	55.28	5	P	P	13 46 10.5	-2.1
	0.4nm,0.7s,baz=180,slow=7.2,SNR=3.2						
MKAR	**Makanchi Array**	56.24	345	P	P	13 46 16.5	-3.0
	0.4nm,0.5s,baz=151,slow=8.9,SNR=7.7						

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*LDG **18** 13:37:46.5±0.6, 42.93N×1.42W, h2^{km}, Md2.3/2, Ml2.0/5, Error ellipse: s-maj=10.0km s-min=6.0km az=64.0*
*MDD **18** 13:37:46.1±0.6, 42.88N×1.39W, h3^{km}±8^{km}, mbLg1.6/8, Error ellipse: s-maj=4.4km s-min=3.2km az=50.0, PRXIMO AftershockPLICA*
ISC 18 13:37:43.5±0.8**, 42.88N**±0.04×**1.43W**±0.05**, h3**^{km}**, n12, σ1^{s}46**/16**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJPF	**Ste Jean**	0.28	33	ePg	Pg	13 37 51.0	+2.0
SJPF				eSg	Sg	13 37 53.9	+1.1
	63nm,0.2s						
EALK	**Alkurruntz**	0.34	351	Pg	Pg	13 37 52.4	+2.1
	1.3nm,0.1s,SNR=7.9						
EALK				Lg		13 37 58.1	
	16nm,0.2s,SNR=7.9						
ETSF	**Etsaut**	0.64	88	ePg	Pg	13 37 56.7	+0.4
ETSF				eSg	Sg	13 38 05.6	+0.7
	8.7nm,0.3s						
EPF	**Esparros**	1.31	83	ePg	Pg	13 38 11.0	+1.4
EPF				eSg	Sg	13 38 27.8	+0.7
	7.7nm,0.2s						
ESAC	**San Caprasio**	1.36	148	Pg	Pg	13 38 11.3	+0.6
	6.2nm,0.1s,SNR=7.9						
ESAC				Lg		13 38 28.5	
	27nm,0.3s,SNR=7.9						
EGRA	**Graus**	1.46	117	Lg		13 38 34.4	
	2.1nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	1.51	284	Pg	Pg	13 38 13.7	+0.1
	0.3nm,0.1s,SNR=7.9						
ELAN				Lg		13 38 34.8	
	2.0nm,0.2s,SNR=7.9						
ETOR	**Torete**	2.11	193	Pg	Pg	13 38 24.2	-1.5
	SNR=7.9						
LFF	**La Frestale**	2.59	37	ePg	Pg	13 38 33.6	-1.6
LFF				eSg	Sg	13 39 05.9	-3.8
	4.9nm,0.3s						
MTLF	**Montolieu**	2.71	79	ePn	Pn	13 38 28.7	-0.1
MTLF				eSn	Sn	13 39 01.4	-1.2
	1.3nm,0.4s						
RJF	**Les Rejaudoux**	3.22	40	eSn	Sn	13 39 12.4	-3.1
	0.8nm,0.2s						
CAF	**Calviac**	3.25	50	eSn	Sn	13 39 13.4	-2.8
	0.4nm,0.2s						

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*LDG **18** 13:40:24.5±0.3, 42.87N×1.51W, h2^{km}, Md2.4/2, Ml2.8/8, Error ellipse: s-maj=5.6km s-min=3.9km az=49.0*
*NEIC **18** 13:40:24.6, 42.80N×1.46W, ML2.8(LDG), ML2.5(STR), MN1.8(MDD), After MDD.*
*STR **18** 13:40:24.3±0.6, 42.86N×1.50W, h5^{km}±1^{km}, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*MDD **18** 13:40:25.5±0.3, 42.86N×1.42W, h7^{km}±4^{km}, mbLg2.0/12, Error ellipse: s-maj=3.1km s-min=2.1km az=30.0, AftershockPLICA PRXIMO*
ISC 18 13:40:23.4±0.5**, 42.87N**±0.03×**1.49W**±0.03**, h14**^{km}±2^{km}**, n46, σ1^{s}19**/77**, 1C, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJPF	**Ste Jean**	0.32	39	ePg	Pg	13 40 31.1	+1.0
SJPF				eSg	Sg	13 40 33.8	-0.8
	152nm,0.2s						
EALK	**Alkurruntz**	0.35	358	⇑Pg	Pg	13 40 32.3	+1.5
	5.4nm,0.1s,SNR=18						
EALK				Lg		13 40 38.1	
	31nm,0.1s,SNR=7.9						
LARF	**Larrau**	0.41	65	Pg	Pg	13 40 32.1	+0.2
LARF				Sg	Sg	13 40 38.3	+0.7
LARF	**Larrau**	0.41	65	P	Pg	13 40 32.2	+0.3
LARF				S	Sg	13 40 38.2	+0.7
OSSF	**Osses**	0.42	24	P	Pb	13 40 33.2	+1.1
OSSF				S	Sg	13 40 39.4	+1.4
ORDF	**Ordiarp**	0.54	50	Pg	Pg	13 40 34.8	+0.5
ORDF				Sg	Sg	13 40 42.2	+0.6
ORDF	**Ordiarp**	0.54	50	P	Pb	13 40 35.0	+0.9
ORDF				S	Sb	13 40 42.2	+0.9
ATE	**Arette**	0.62	69	P	Pb	13 40 36.0	+0.5
ATE				S	Sb	13 40 44.4	+0.6
FDAF	**Les Forges d’A**	0.68	94	Pg	Pg	13 40 37.1	-0.1
FDAF				Sg	Sg	13 40 47.3	+0.8
FDAF	**Les Forges d’A**	0.68	94	P	Pb	13 40 36.6	+0.1
FDAF				S	Sb	13 40 46.3	+0.7
ETSF	**Etsaut**	0.69	87	ePg	Pg	13 40 36.7	-0.6
ETSF				eSg	Sg	13 40 45.7	-0.9
	37nm,0.2s						
REYF	**Montagne du Re**	0.83	76	P	Pb	13 40 40.0	+0.9
REYF				S	Sb	13 40 51.3	+1.3
VIEF	**Viey**	1.12	89	Pg	Pg	13 40 44.5	-1.3
VIEF	**Viey**	1.12	89	P	Pb	13 40 44.4	+0.4
VIEF				S	Sb	13 40 58.5	+0.3
LABF	**Labassere**	1.17	81	Pn	Pn	13 40 45.9	+0.6
LABF	**Labassere**	1.17	81	P	Pb	13 40 46.0	+1.2
LABF				S	Sb	13 41 01.6	+2.0
RESF	**Ens**	1.35	92	Pg	Pg	13 40 50.7	+0.3
RESF				Sg	Sg	13 41 08.0	-0.4
RESF	**Ens**	1.35	92	S	Sb	13 41 07.0	+2.0
EPF	**Esparros**	1.36	82	ePn	Pn	13 40 48.8	+0.8
EPF				ePg	Pg	13 40 51.1	+0.6
EPF				eSg	Sg	13 41 07.6	-1.1
	29nm,0.2s						
ESAC	**San Caprasio**	1.37	146	Pg	Pg	13 40 49.8	-1.1
	8.5nm,0.2s,SNR=7.9						
ESAC				Lg		13 41 07.4	
	44nm,0.2s,SNR=7.9						
ESAC	**San Caprasio**	1.37	146	Pg	Pg	13 40 48.3	-2.6
ESAC				Lg		13 41 07.4	
ELAN	**Lanestosa**	1.47	285	Pg	Pg	13 40 53.4	+0.6
	2.0nm,0.3s,SNR=16						
ELAN				Lg		13 41 14.3	
	5.0nm,0.3s,SNR=7.9						
ELAN	**Lanestosa**	1.47	285	Pg	Pg	13 40 52.7	0.0
ELAN				Lg		13 41 13.5	
EGRA	**Graus**	1.50	116	Pg	Pg	13 40 51.6	-1.7
	1.5nm,0.2s,SNR=7.9						
EGRA				Lg		13 41 11.8	
	3.2nm,0.2s,SNR=4.0						
EGRA	**Graus**	1.50	116	Pg	Pg	13 40 51.6	-1.7
EGRA				Lg		13 41 11.6	
MELF	**Melles**	1.66	89	P	Pn	13 40 55.3	+3.0
MELF				S	Sn	13 41 17.5	+4.0
MLS	**Moulis**	1.90	86	S	Sn	13 41 25.2	+5.4
SALF	**Salau**	1.98	92	S	Sn	13 41 26.5	+4.8
ETOR	**Torete**	2.09	192	Pn	Pn	13 41 00.8	+2.3
	0.8nm,0.2s,SNR=17						
ETOR				Pg	Pg	13 41 04.4	-0.8
	SNR=7.9						
ETOR				Lg		13 41 28.1	
	1.9nm,0.2s,SNR=7.9						
ETOR	**Torete**	2.09	192	Pg	Pn	13 41 00.8	+2.3
ETOR				Lg		13 41 29.4	
EPOB	**Poblet**	2.44	127	Pn	Pn	13 41 04.0	+0.5
	0.3nm,0.1s,SNR=4.0						
EPOB				Pg	Pg	13 41 08.8	-3.4
	SNR=7.9						
EPOB				Sn	Sn	13 41 32.8	-0.6
	1.3nm,0.3s,SNR=7.9						
EPOB				Lg		13 41 38.1	
	1.6nm,0.2s,SNR=7.9						
EPOB	**Poblet**	2.44	127	Pn	Pn	13 41 03.2	-0.3
EPOB				Sn	Sn	13 41 32.8	-0.6
EPOB				Lg		13 41 40.1	
EMOS	**Mosqueruela**	2.62	163	Pg	Pg	13 41 11.6	-4.0
	7.6nm,0.8s,SNR=6.8						
EMOS				Lg		13 41 44.1	
	1.0nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	2.62	163	Pg	Pg	13 41 11.3	-4.4
EMOS				Lg		13 41 44.7	
LFF	**La Frestale**	2.63	37	ePn	Pn	13 41 06.1	-0.1
LFF				ePg	Pg	13 41 13.9	-1.9
LFF				eSg	Sg	13 41 46.0	-4.9
	12nm,0.3s						
VALF	**Valcebollere**	2.63	99	S	Sn	13 41 47.5	+9.2
MTLF	**Montolieu**	2.76	79	ePn	Pn	13 41 08.7	+0.6
MTLF				ePg	Pg	13 41 16.2	-2.3
MTLF				eSn	Sn	13 41 41.3	-0.2
	5.3nm,0.2s						
RJF	**Les Rejaudoux**	3.26	41	ePn	Pn	13 41 14.3	-0.9
RJF				eSn	Sn	13 41 52.4	-1.8
	2.6nm,0.2s						
CAF	**Calviac**	3.29	50	ePn	Pn	13 41 15.1	-0.6
CAF				eSn	Sn	13 41 53.5	-1.5
	2.9nm,0.2s						
MFF	**Saint Martin d**	3.85	14	ePn	Pn	13 41 22.8	-0.9
MFF				eSn	Sn	13 42 06.6	-2.6
	2.0nm,0.2s						
ECAL	**Calabor**	3.99	258	Pn	Pn	13 41 26.9	+1.3
	SNR=7.9						
ECAL				Sn	Sn	13 42 12.1	-0.6
	SNR=4.0						
ECAL				Lg		13 42 29.8	
	4.7nm,0.3s,SNR=4.0						
LASF	**Ste Croix**	4.08	71	ePn	Pn	13 41 26.2	-0.6
LASF				eSn	Sn	13 42 12.4	-2.5
	3.1nm,0.3s						
ERUA	**La Rua**	4.20	265	Pn	Pn	13 41 29.6	+1.1
	0.6nm,0.2s,SNR=4.0						
ERUA	**La Rua**	4.20	265	Pn	Pn	13 41 29.2	+0.7
BGF	**Bois d’Agland**	4.81	38	ePn	Pn	13 41 35.0	-2.3
BGF				eSn	Sn	13 42 29.4	-4.1
	8.4nm,0.4s						
VIVF	**Saint-Julien-l**	4.88	64	ePn	Pn	13 41 36.5	-1.7

MAN 18 13:45:30.4, 10.51N×125.93E, h50^{km}**, mb4.2, ML3.0, MS2.7, Leyte**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSLP	**Maasin**	1.12	251	eP	P	13 45 50.0	0.0
MSLP				eS	S	13 46 06.0	+1.5
BESP	**Borongan**	1.19	336	eP	P	13 45 51.4	+0.5
BUTP	**Butuan**	1.56	191	eP	P	13 45 56.8	+0.5
CNP	**Catarman**	2.35	328	eP	P	13 46 08.0	+0.6
CNP				eS	S	13 46 41.0	+5.9
PVCP	**Virac**	3.53	331	eP	P	13 46 24.0	-0.1

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*DJA **18** 13:45:47.9±1.0, 8.23S×119.76E, h124^{km}±52^{km}, MD4.6/3, ML4.9/3, Error ellipse: s-maj=113.5km s-min=30.6km az=172.0*
*IDC **18** 13:45:52.3±5.7, 8.72S×119.70E, h172^{km}±55^{km}, mb3.3/2, mb1 3.4/4, mb1mx3.1/15, Error ellipse: s-maj=125.0km s-min=38.4km az=44.0*
ISC 18 13:45:49.9±2.2**, 8.7S**±0.2×**119.5E**±0.2**, h183**^{km}±28^{km}**, n11, σ1^{s}09**/18**, mb3.9**/1**, 3C-4D, Flores region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KEDI	**Kedomdong**	3.36	273	⇓ePn	P	13 46 43.6	-0.2
	267nm,0.2s						
KEDI				⇑eSn	S	13 47 24.4	-0.9
RATI	**Rata**	3.93	269	⇑ePn	P	13 46 51.5	+0.5
	160nm,0.2s						
RATI				⇓eSn	S	13 47 38.1	0.0
INGI	**Ingas**	4.32	268	⇓ePn	P	13 46 56.6	+0.7
	287nm,0.3s						
INGI				⇓eSn	S	13 47 46.7	-0.2
KELI	**Kelakatan**	4.99	275	⇑ePn	P	13 47 05.2	+0.7
FITZ	**Fitzroy Crossi**	11.12	148	eP	P	13 48 26.4	+1.6
	2.4nm,0.8s						
FITZ				eS	S	13 50 25.3	-0.9
FITZ	**Fitzroy Crossi**	11.12	148	P	P	13 48 25.6	+0.9
	0.4nm,0.3s,baz=348,slow=9.3,SNR=11						
FITZ				S	S	13 50 25.5	-0.7
	0.7nm,0.3s,baz=183,slow=19,SNR=6.3						
WRA	**Warramunga Arr**	18.21	130	P	P	13 49 49.8	-1.9
	0.5nm,0.3s,baz=302,slow=12,SNR=37						
WRA				S	S	13 53 09.4	+3.8
	0.2nm,0.3s,baz=307,slow=24,SNR=4.5						
WB2	**Warramunga Arr**	18.22	130	eP	P	13 49 50.0	-1.8
WB2				eS	S	13 53 09.5	+3.8
ASPA	**Alice Springs**	20.31	139	eP	P	13 50 14.0	+0.7
ASAR	**Alice Springs**	20.31	139	P	P	13 50 13.6	+0.3
	0.8nm,0.4s,baz=316,slow=9.6,SNR=19						
STKA	**Stephens Creek**	30.90	141	P	P	13 51 51.2	-0.4
	1.9nm,0.8s,mb3.9,baz=304,slow=11,SNR=3.2						

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*LDG **18** 13:58:05.6±0.4, 42.88N×1.52W, h2^{km}, Md2.3/2, Ml2.5/6, Error ellipse: s-maj=6.7km s-min=4.4km az=43.0*
*STR **18** 13:58:05.2±0.5, 42.90N×1.53W, h5^{km}±1^{km}, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **18** 13:58:06.2, 42.85N×1.48W, h3^{km}, ML2.5(LDG), ML2.4(STR), MN2.1(MDD), After MDD.*
*MDD **18** 13:58:06.7±0.5, 42.88N×1.43W, h6^{km}±5^{km}, mbLg2.0/11, Error ellipse: s-maj=3.7km s-min=2.3km az=48.0, AftershockPLICA PRXIMO*
ISC 18 13:58:04.2±0.6**, 42.85N**±0.03×**1.50W**±0.04**, h13**^{km}±3^{km}**, n33, σ1^{s}20**/50**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJPF	**Ste Jean**	0.33	37	ePg	Pg	13 58 12.0	+0.8
SJPF				eSg	Sg	13 58 14.8	-1.1
	151nm,0.3s						
EALK	**Alkurruntz**	0.37	359	Pg	Pg	13 58 13.1	+1.1
	33nm,0.5s,SNR=7.8						
EALK				Lg		13 58 18.2	
	62nm,0.3s,SNR=12						
LARF	**Larrau**	0.42	63	Pg	Pg	13 58 13.4	+0.5
LARF				Sg	Sg	13 58 19.4	+0.7
LARF	**Larrau**	0.42	63	P	Pg	13 58 13.5	+0.6
LARF				S	Sg	13 58 19.0	+0.3
OSSF	**Osses**	0.44	23	P	Pb	13 58 14.2	+0.9
OSSF				S	Sg	13 58 19.9	+0.5
ORDF	**Ordiarp**	0.55	48	Pg	Pg	13 58 15.9	+0.5
ORDF				Sg	Sg	13 58 23.0	+0.1
ORDF	**Ordiarp**	0.55	48	P	Pb	13 58 16.0	+0.9
ORDF				S	Sb	13 58 22.6	+0.1
ATE	**Arette**	0.63	68	P	Pb	13 58 17.5	+0.9
ATE				S	Sb	13 58 25.6	+0.7
FDAF	**Les Forges d’A**	0.68	92	Pg	Pg	13 58 18.5	+0.4
FDAF				Sg	Sg	13 58 29.0	+1.7
FDAF	**Les Forges d’A**	0.68	92	P	Pb	13 58 18.1	+0.7
FDAF				S	Sb	13 58 27.1	+0.5
ETSF	**Etsaut**	0.69	86	ePg	Pg	13 58 17.7	-0.5
ETSF				eSg	Sg	13 58 26.8	-0.8
	25nm,0.3s						
VIEF	**Viey**	1.12	88	S	Sb	13 58 41.0	+1.9
LABF	**Labassere**	1.17	80	S	Sb	13 58 42.8	+2.2
EPF	**Esparros**	1.36	82	ePn	Pn	13 58 29.9	+0.9
EPF				ePg	Pg	13 58 32.1	+0.6
EPF				eSg	Sg	13 58 49.0	-0.7
	22nm,0.2s						
ESAC	**San Caprasio**	1.36	146	Pg	Pg	13 58 31.5	0.0
	27nm,0.3s,SNR=7.6						
ESAC				Lg		13 58 49.4	
	65nm,0.3s,SNR=12						
ESAC	**San Caprasio**	1.36	146	Pg	Pg	13 58 31.5	0.0
ESAC				Lg		13 58 48.1	
ELAN	**Lanestosa**	1.47	286	Pg	Pg	13 58 34.3	+0.5
	SNR=7.9						
ELAN				Lg		13 58 55.5	
	6.1nm,0.3s,SNR=5.2						
ELAN	**Lanestosa**	1.47	286	Pn	Pn	13 58 32.4	+1.8
ELAN				Lg		13 58 53.5	
EGRA	**Graus**	1.49	116	Pg	Pg	13 58 33.8	-0.3
	5.7nm,0.2s,SNR=7.9						
EGRA				Lg		13 58 54.3	
	3.8nm,0.2s,SNR=7.9						
SALF	**Salau**	1.98	92	S	Sn	13 59 07.9	+5.4
ETOR	**Torete**	2.07	192	Pg	Pg	13 58 44.7	-1.0
	4.5nm,0.3s,SNR=7.2						
ETOR				Lg		13 59 09.8	
	16nm,0.5s,SNR=7.2						
ETOR	**Torete**	2.07	192	Pg	Pg	13 58 44.5	-1.2
ETOR				Lg		13 59 12.3	
EMIR	**Miracle**	2.43	112	Pg	Pg	13 58 50.2	-2.5
	2.1nm,0.2s,SNR=7.9						
EMIR				Lg		13 59 23.4	
	3.6nm,0.3s,SNR=4.0						
EPOB	**Poblet**	2.43	127	Pg	Pg	13 58 49.6	-3.2
	1.2nm,0.1s,SNR=7.9						
EPOB				Lg		13 59 19.9	
	6.5nm,0.4s,SNR=7.9						
EPOB	**Poblet**	2.43	127	Pg	Pg	13 58 49.0	-3.9
EPOB				Lg		13 59 19.0	
EMOS	**Mosqueruela**	2.60	163	Pg	Pg	13 58 56.8	+0.6
	0.9nm,0.5s,SNR=4.0						
EMOS				Lg		13 59 27.7	
	3.4nm,0.2s,SNR=4.0						
EMOS	**Mosqueruela**	2.60	163	Pg	Pg	13 58 53.7	-2.6
EMOS				Lg		13 59 29.0	
LFF	**La Frestale**	2.64	37	ePg	Pg	13 58 54.5	-2.5
MTLF	**Montolieu**	2.76	79	ePn	Pn	13 58 49.8	+0.8
MTLF				ePg	Pg	13 58 57.1	-2.4
MTLF				eSn	Sn	13 59 22.7	+0.2
	2.0nm,0.2s						
RJF	**Les Rejaudoux**	3.27	40	ePn	Pn	13 58 55.4	-0.9
RJF				eSn	Sn	13 59 33.6	-1.9
	4.9nm,0.2s						
CAF	**Calviac**	3.30	50	ePn	Pn	13 58 56.0	-0.7
CAF				eSn	Sn	13 59 34.5	-1.7
	3.2nm,0.3s						
MFF	**Saint Martin d**	3.87	14	ePn	Pn	13 59 04.0	-0.8
MFF				eSn	Sn	13 59 47.0	-3.6
	0.7nm,0.2s						
LASF	**Ste Croix**	4.08	71	eSn	Sn	13 59 53.3	-2.7
	1.6nm,0.2s						

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*STR **18** 14:00:47.6±0.5, 42.88N×1.54W, h5^{km}±1^{km}, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **18** 14:00:48.3±0.4, 42.89N×1.51W, h2^{km}, Md2.2/2, Ml2.4/5, Error ellipse: s-maj=6.7km s-min=4.8km az=47.0*
*MDD **18** 14:00:49.3±0.5, 42.88N×1.43W, h6^{km}±5^{km}, mbLg1.8/11, Error ellipse: s-maj=3.7km s-min=2.7km az=43.0, AftershockPLICA PRXIMO*
ISC 18 14:00:47.0±0.6**, 42.87N**±0.03×**1.50W**±0.04**, h14**^{km}±3^{km}**, n26, σ1^{s}02**/45**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJPF	**Ste Jean**	0.32	40	ePg	Pg	14 00 54.6	+0.8
SJPF				eSg	Sg	14 00 57.5	-0.8
	145nm,0.3s						
EALK	**Alkurruntz**	0.35	359	Pg	Pg	14 00 55.5	+1.1
	35nm,0.3s,SNR=6.8						
EALK				Lg		14 01 00.8	
	48nm,0.4s,SNR=8.7						
LARF	**Larrau**	0.41	66	Pg	Pg	14 00 55.9	+0.3
LARF				Sg	Sg	14 01 02.0	+0.7
LARF	**Larrau**	0.41	66	P	Pg	14 00 55.9	+0.3
LARF				S	Sb	14 01 01.2	-0.1
OSSF	**Osses**	0.42	24	P	Pb	14 00 56.7	+1.0
OSSF				S	Sb	14 01 02.3	+0.6
ORDF	**Ordiarp**	0.54	50	Pg	Pg	14 00 58.6	+0.6
ORDF				Sg	Sg	14 01 06.0	+0.6
ORDF	**Ordiarp**	0.54	50	P	Pg	14 00 58.6	+0.6
ORDF				S	Sb	14 01 05.2	+0.2
ATE	**Arette**	0.63	69	P	Pb	14 00 59.8	+0.6
ATE				S	Sb	14 01 08.1	+0.6
FDAF	**Les Forges d’A**	0.69	94	Pg	Pg	14 01 01.0	+0.1
FDAF				Sg	Sg	14 01 11.5	+1.2
FDAF	**Les Forges d’A**	0.69	94	P	Pb	14 01 00.9	+0.7
FDAF				S	Sb	14 01 09.7	+0.4
ETSF	**Etsaut**	0.69	87	ePg	Pg	14 01 00.3	-0.7
ETSF				eSg	Sg	14 01 09.4	-1.0
	14nm,0.2s						
LABF	**Labassere**	1.17	81	S	Sb	14 01 25.3	+2.0
RESF	**Ens**	1.35	92	S	Sb	14 01 29.8	+1.1
EPF	**Esparros**	1.36	83	ePn	Pn	14 01 12.6	+0.9
EPF				ePg	Pg	14 01 14.5	+0.3
EPF				eSg	Sg	14 01 31.4	-1.1
	12nm,0.2s						
ESAC	**San Caprasio**	1.38	146	Pg	Pg	14 01 14.0	-0.5
	18nm,0.3s,SNR=6.0						
ESAC				Lg		14 01 31.7	
	43nm,0.3s,SNR=8.8						
ELAN	**Lanestosa**	1.46	285	Pg	Pg	14 01 16.9	+0.7
	SNR=7.9						
ELAN				Lg		14 01 37.0	
	6.3nm,0.2s,SNR=5.8						
EGRA	**Graus**	1.50	116	Pg	Pg	14 01 16.3	-0.7
	SNR=7.9						
EGRA				Lg		14 01 36.8	
	2.7nm,0.2s,SNR=7.9						
SALF	**Salau**	1.98	92	S	Sn	14 01 50.8	+5.5
ETOR	**Torete**	2.09	192	Pn	Pn	14 01 25.1	+3.1
	SNR=7.9						
ETOR				Pg	Pg	14 01 27.2	-1.5
	4.0nm,0.4s,SNR=4.8						
ETOR				Lg		14 01 52.1	
	7.2nm,0.4s,SNR=6.2						
EPOB	**Poblet**	2.44	127	Pn	Pn	14 01 27.7	+0.5
	SNR=7.9						
EPOB				Sn	Sn	14 01 56.1	-0.9
	SNR=4.0						
EPOB				Lg		14 02 02.7	
	3.5nm,0.4s,SNR=7.9						
EMOS	**Mosqueruela**	2.62	163	Pg	Pg	14 01 39.5	+0.2
	SNR=7.9						
EMOS				Lg		14 02 10.2	
	1.8nm,0.3s,SNR=4.0						
LFF	**La Frestale**	2.63	37	ePg	Pg	14 01 37.0	-2.5
LFF				eSg	Sg	14 02 09.3	-5.3
	5.2nm,0.3s						
MTLF	**Montolieu**	2.76	79	ePn	Pn	14 01 32.3	+0.6
MTLF				ePg	Pg	14 01 40.0	-2.2
MTLF				eSn	Sn	14 02 05.0	-0.2
	1.8nm,0.2s						
RJF	**Les Rejaudoux**	3.27	41	ePn	Pn	14 01 37.9	-0.9
RJF				eSn	Sn	14 02 16.1	-1.8
	3.1nm,0.2s						
CAF	**Calviac**	3.30	50	ePn	Pn	14 01 38.4	-0.9
CAF				eSn	Sn	14 02 16.9	-1.8
	2.3nm,0.2s						
MFF	**Saint Martin d**	3.86	14	ePn	Pn	14 01 46.6	-0.6

*LDG **18** 14:05:35.4±0.5, 42.87N×1.52W, h2^{km}, Md2.1/2, Ml2.3/5, Error ellipse: s-maj=8.1km s-min=5.9km az=58.0*
*STR **18** 14:05:35.0±0.3, 42.85N×1.51W, h5^{km}±1^{km}, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*MDD **18** 14:05:36.6±0.5, 42.88N×1.43W, h5^{km}±5^{km}, mbLg1.9/11, Error ellipse: s-maj=3.6km s-min=2.8km az=37.0, AftershockPLICA PRXIMO*
ISC 18 14:05:34.0±0.6**, 42.87N**±0.03×**1.51W**±0.04**, h10**^{km}±4^{km}**, n23, σ1^{s}25**/36**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	**0.32**	**41**	*e*Pg	**Pg**	**14 05 42.0**	**+1.3**
SJPF				*e*Sg	**Sg**	**14 05 44.8**	**-0.4**
	116nm,0.3s						
EALK	**Alkurruntz**	**0.35**	**1**	Pg	**Pg**	**14 05 43.2**	**+2.0**
	30nm,0.3s,SNR=12						
EALK				Lg		14 05 48.0	
	54nm,0.3s,SNR=5.7						
LARF	**Larrau**	**0.42**	**66**	Pg	**Pg**	**14 05 43.1**	**+0.5**
LARF				Sg	**Sg**	**14 05 49.4**	**+1.0**
ORDF	**Ordiarp**	**0.55**	**51**	Pg	**Pg**	**14 05 45.8**	**+0.7**
ORDF				Sg	**Sg**	**14 05 53.3**	**+0.9**
ATE	**Arette**	**0.63**	**70**	P	**Pb**	**14 05 47.0**	**+0.3**
ATE				S	**Sg**	**14 05 55.4**	**0.0**
FDAF	**Les Forges d'A**	**0.70**	**94**	Pg	**Pg**	**14 05 48.1**	**0.0**
FDAF				Sg	**Sg**	**14 05 57.8**	**+0.3**
ETSF	**Etsaut**	**0.70**	**87**	*e*Pg	**Pg**	**14 05 47.7**	**-0.5**
ETSF				*e*Sg	**Sg**	**14 05 56.7**	**-0.9**
	25nm,0.3s						
VIEF	**Viey**	**1.13**	**89**	S	**Sb**	**14 06 09.8**	**+0.1**
LABF	**Labassere**	**1.18**	**81**	S	**Sb**	**14 06 12.6**	**+1.4**
RESF	**Ens**	**1.36**	**92**	S	**Sb**	**14 06 18.6**	**+2.1**
EPF	**Esparros**	**1.37**	**83**	*e*Pn	**Pn**	**14 05 59.9**	**+0.7**
EPF				*e*Pg	**Pg**	**14 06 02.0**	**+0.6**
EPF				*e*Sg	**Sg**	**14 06 18.8**	**-0.9**
	14nm,0.3s						
ESAC	**San Caprasio**	**1.38**	**146**	Pg	**Pg**	**14 06 01.0**	**-0.7**
	32nm,0.3s,SNR=4.8						
ESAC				Lg		14 06 18.7	
	46nm,0.2s,SNR=7.8						
ELAN	**Lanestosa**	**1.45**	**285**	Pg	**Pg**	**14 06 04.0**	**+0.9**
	2.0nm,0.3s,SNR=5.7						
ELAN				Lg		14 06 26.2	
	5.3nm,0.3s,SNR=4.8						
EGRA	**Graus**	**1.51**	**116**	Pg	**Pg**	**14 06 03.2**	**-1.1**
	1.1nm,0.6s,SNR=7.9						
EGRA				Lg		14 06 23.1	
	3.5nm,0.2s,SNR=4.0						
MELF	**Melles**	**1.67**	**89**	S	**Sn**	**14 06 28.8**	**+3.6**
SALF	**Salau**	**1.99**	**92**	S	**Sn**	**14 06 36.9**	**+3.6**
ETOR	**Torete**	**2.09**	**191**	Pg	**Pg**	**14 06 15.1**	**-0.7**
	4.2nm,0.4s,SNR=5.4						
ETOR				Lg		14 06 38.4	
	6.7nm,0.4s,SNR=5.7						
EPOB	**Poblet**	**2.45**	**127**	Pn	**Pn**	**14 06 16.1**	**+1.4**
	SNR=4.0						
EPOB				Lg		14 06 49.3	
	4.8nm,0.4s,SNR=7.9						
EMOS	**Mosqueruela**	**2.62**	**162**	Pn	**Pn**	**14 06 19.0**	**+1.8**
	SNR=4.0						
EMOS				Pg	**Pg**	**14 06 24.4**	**-2.0**
	1.4nm,0.4s,SNR=7.9						
EMOS				Lg		14 07 00.3	
	4.4nm,0.3s,SNR=4.0						
LFF	**La Frestale**	**2.63**	**37**	*e*Pg	**Pg**	**14 06 24.7**	**-1.9**
LFF				*e*Sg	**Sg**	**14 06 56.8**	**-4.9**
	4.1nm,0.3s						
MTLF	**Montolieu**	**2.77**	**79**	*e*Pg	**Pg**	**14 06 26.9**	**-2.5**
MTLF				*e*Sn	**Sn**	**14 06 52.2**	**-0.9**
	3.0nm,0.4s						
RJF	**Les Rejaudoux**	**3.27**	**41**	*e*Pn	**Pn**	**14 06 25.1**	**-1.3**
RJF				*e*Sn	**Sn**	**14 07 03.5**	**-2.2**
	1.7nm,0.3s						
CAF	**Calviac**	**3.30**	**50**	*e*Pn	**Pn**	**14 06 25.9**	**-0.9**
CAF				*e*Sn	**Sn**	**14 07 04.8**	**-1.8**
	1.3nm,0.2s						

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*IDC **18** 14:05:52.4±0.7, 55.54S×26.16W, mb4.5/6, mb1 4.6/6, mb1mx4.3/12, MS4.4/7, Ms1 4.3/7, ms1mx4.2/16, Error ellipse: s-maj=42.5km s-min=21.0km az=48.0*
*NEIC **18** 14:06:02.0±2.1, 55.57S×26.51W, h73^{km}±18^{km}, mb4.6/8, Error ellipse: s-maj=16.2km s-min=8.2km az=46.0*
ISC 18 14:06:01.5±3.4**, 55.51S**±0.09×**26.5W**±0.2**, h88**^{km}±33^{km}**, n40, σ0^{s}94**/26**, mb4.7**/13**, 6C-2D, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**17.16**	**159**	⇑*i*	**P**	**14 09 57.4**	**+0.9**
VNA3	**Neumayer Olymp**	**17.38**	**162**	⇓*i*	**P**	**14 09 58.6**	**-0.6**
VNA3	**Neumayer Olymp**	**17.38**	**162**	⇑*i*	**P**	**14 10 00.0**	**+0.8**
VNA2	**Neumayer--Watz**	**17.55**	**159**	⇑*i*	**P**	**14 10 01.1**	**-0.3**
VNA2	**Neumayer--Watz**	**17.55**	**159**	⇑*i*	**P**	**14 10 02.7**	**+1.3**
SNAA	**Sanae**	**19.08**	**157**	⇓*i*	**P**	**14 10 15.0**	**-4.1**
SNAA	**Sanae**	**19.08**	**157**	⇑*i*	**P**	**14 10 16.0**	**-3.1**
SNAA	**Sanae**	**19.08**	**157**	⇑*i*P	**P**	**14 10 16.0**	**-3.1**
PMSA	**Palmer Station**	**20.56**	**228**	*e*P	**P**	**14 10 33.7**	**-0.9**
	36nm,0.7s						
TRQA	**Tornquist**	**29.48**	**291**	*e*P	**P**	**14 11 58.9**	**-0.2**
	6.3nm,0.7s,mb4.3						
QSPA	**South Pole Qui**	**34.74**	**180**	*e*P	**P**	**14 12 43.4**	**-1.0**
	18nm,0.6s,mb5.1						
QSPA				LR	LR		
	comp=Z,670nm,19.3s						
CPUP	**Villa Florida**	**36.76**	**310**	P	**P**	**14 13 02.2**	**+0.3**
	comp=Z,3.9nm,0.7s,mb4.5,baz=168,slow=7.8,SNR=16						
CPUP				LR	LR	14 27 04.9	
	comp=Z,282nm,20.8s,baz=190,slow=34						
CPUP	**Villa Florida**	**36.76**	**310**	*e*P	**P**	**14 13 01.9**	**0.0**
	comp=Z,5.0nm,0.8s,mb4.5						
CPUP				LR	LR	14 27 04.9	
MAW	**Mawson**	**40.35**	**144**	P	**P**	**14 13 30.5**	**-0.8**
	comp=Z,1.9nm,0.6s,mb4.1,baz=208,slow=8.6,SNR=11						
MAW				LR	LR	14 28 51.2	
	comp=Z,380nm,19.2s,baz=241,slow=34						
BDFB	**Brasilia**	**43.10**	**329**	LR	LR	14 30 42.0	
	comp=Z,808nm,18.1s,baz=344,slow=34						
SBA	**Scott Base**	**46.65**	**184**	*e*P	**P**	**14 14 21.9**	**0.0**
	comp=Z,5.9nm,0.9s,mb4.3						
LPAZ	**La Paz**	**50.39**	**304**	P	**P**	**14 14 54.1**	**+2.5**
	comp=Z,9.6nm,0.7s,mb4.8,baz=124,slow=2.6,SNR=21						
LPAZ				LR	LR	14 34 09.6	
	comp=Z,162nm,19.0s,baz=16,slow=34						
LPAZ	**La Paz**	**50.39**	**304**	*e*P	**P**	**14 14 53.5**	**+1.8**
	comp=Z,10nm,0.7s,mb4.9						
LPAZ				LR	LR	14 34 09.6	
SAML	**Samuel**	**54.71**	**314**	*e*P	**P**	**14 15 23.1**	**-0.7**
	comp=Z,2.9nm,0.8s,mb4.4						
LIC	**Lamto**	**64.04**	**24**	*e*PKP2	**P**	**14 16 28.8**	**+0.8**
	comp=Z,44nm,1.3s,mb5.1						
KIC	**Kosan Boka**	**64.23**	**24**	*e*PKP2	**P**	**14 16 28.5**	**-0.8**
	comp=Z,64nm,1.2s,mb5.3						
TIC	**Toumodi**	**64.44**	**24**	*e*PKP2	**P**	**14 16 30.0**	**-0.6**
	comp=Z,55nm,1.0s,mb5.3						
DBIC	**Dimbokro**	**64.51**	**24**	P	**P**	**14 16 30.7**	**-0.3**
	comp=Z,3.6nm,0.8s,mb4.3,baz=182,slow=11,SNR=5.9						
DBIC				LR	LR	14 38 53.0	
	comp=Z,298nm,19.1s,baz=99,slow=31						
DBIC	**Dimbokro**	**64.51**	**24**	*e*P	**P**	**14 16 30.7**	**-0.3**
	comp=Z,6.0nm,0.8s,mb4.5						
DBIC				LR	LR	14 38 53.0	
ROSC	**El Rosal**	**71.86**	**309**	LR	LR	14 51 21.3	
	comp=Z,325nm,18.3s,baz=220,slow=38						
KMBO	**Kilima Mbogo**	**74.47**	**69**	LR	LR	14 49 39.9	
	comp=Z,256nm,18.8s,baz=98,slow=35						
STKA	**Stephens Creek**	**92.37**	**170**	P	**P**	**14 19 03.9**	**+1.1**
	comp=Z,1.6nm,0.8s,mb4.3,baz=291,slow=11,SNR=4.0						
STKA	**Stephens Creek**	**92.37**	**170**	P	**P**	**14 19 03.9**	**+1.1**
ASAR	**Alice Springs**	**99.39**	**162**	P	**P**	**14 19 35.8**	**+0.9**
	comp=Z,1.1nm,0.7s,mb4.5,baz=184,slow=3.7,SNR=11						
PDAR	**Pinedale Array**	**120.39**	**302**	PKP	PKPdf	14 24 44.1	+2.3
	comp=Z,0.4nm,0.4s,baz=180,slow=5.9,SNR=3.5						
FINES	**FINESS Array B**	**123.72**	**27**	PKP	PKPdf	14 24 49.4	+1.5
	comp=Z,2.3nm,0.8s,baz=180,slow=5.7,SNR=5.5						
ARCES	**ARCESS Array B**	**130.29**	**21**	PKP	PKPdf	14 25 02.5	+2.4
	comp=Z,2.5nm,0.7s,baz=180,slow=2.4,SNR=7.6						
ARCES	**ARCESS Array B**	**130.29**	**21**	PKP	PKPdf	14 25 02.5	+2.4
INK	**Inuvik**	**145.63**	**321**	PKPbc	PKPbc	14 25 31.2	+2.7
	comp=Z,8.6nm,0.8s,baz=78,slow=2.6,SNR=12						
INK	**Inuvik**	**145.63**	**321**	PKPbc	PKPbc	14 25 31.2	+2.7
DAWY	**Dawson**	**146.72**	**312**	*e*PKPbc	PKPbc	14 25 34.7	+3.5
ILAR	**Eielson Array**	**150.05**	**312**	PKPbc	PKPdf	14 25 43.4	+8.4
	comp=Z,6.8nm,0.6s,baz=130,slow=2.4,SNR=37						
SONM	**Songino Array**	**150.29**	**85**	PKPbc	PKPdf	14 25 43.9	+8.0
	comp=Z,1.7nm,0.8s,baz=232,slow=3.5,SNR=8.8						
COLA	**College**	**150.47**	**312**	*e*PKPbc	PKPdf	14 25 43.5	+7.8
MCK	**McKinley**	**150.73**	**310**	*e*PKPbc	PKPdf	14 25 44.5	+8.5

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*MDD **18** 14:06:17.2±0.6, 42.86N×1.39W, h1^{km}±10^{km}, mbLg1.7/11, Error ellipse: s-maj=4.7km s-min=3.1km az=54.0, AftershockPLICA PRXIMO*
*LDG **18** 14:06:18.9±0.9, 42.95N×1.39W, h2^{km}, Md2.0/2, Ml2.1/5, Error ellipse: s-maj=13.1km s-min=6.5km az=61.0*
ISC 18 14:06:14.7±0.8**, 42.78N**±0.05×**1.45W**±0.06**, h1**^{km}**, n14, σ1^{s}18**/16**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	**0.37**	**26**	*e*Pg	**Pg**	**14 06 22.8**	**+0.8**
SJPF				*e*Sg	**Sg**	**14 06 25.6**	**-1.3**
	61nm,0.3s						
EALK	**Alkurruntz**	**0.44**	**354**	Pg	**Pg**	**14 06 24.0**	**+0.6**
	5.8nm,0.4s,SNR=7.9						
EALK				Lg		14 06 29.5	
	58nm,0.4s,SNR=7.9						
ETSF	**Etsaut**	**0.66**	**80**	*e*Pg	**Pg**	**14 06 28.2**	**+0.3**
ETSF				*e*Sg	**Sg**	**14 06 37.5**	**+0.8**
	18nm,0.3s						
ESAC	**San Caprasio**	**1.28**	**145**	Pg	**Pg**	**14 06 40.8**	**+0.5**
	38nm,0.4s,SNR=7.9						
ESAC				Lg		14 06 59.4	
	32nm,0.3s,SNR=7.9						
EPF	**Esparros**	**1.33**	**79**	*e*Pg	**Pg**	**14 06 42.8**	**+1.5**
EPF				*e*Sg	**Sg**	**14 06 59.4**	**+0.3**
	10nm,0.3s						
EGRA	**Graus**	**1.43**	**114**	Pg	**Pg**	**14 06 43.8**	**+0.7**
	4.6nm,0.3s,SNR=4.0						
EGRA				Lg		14 07 05.2	
	7.2nm,0.4s,SNR=4.0						
ELAN	**Lanestosa**	**1.53**	**288**	Pg	**Pg**	**14 06 45.2**	**+0.1**
	3.3nm,0.3s						
ELAN				Lg		14 07 07.5	
	3.3nm,0.2s,SNR=7.9						
ETOR	**Torete**	**2.02**	**193**	Pg	**Pg**	**14 06 51.9**	**-3.0**
	0.0nm,0.1s,SNR=7.9						
ETOR				Lg		14 07 21.2	
	5.3nm,0.3s,SNR=4.0						
EPOB	**Poblet**	**2.36**	**126**	Pg	**Pg**	**14 06 59.9**	**-1.9**
	2.7nm,0.4s,SNR=7.9						
EPOB				Lg		14 07 32.1	
	1.0nm,0.2s,SNR=4.0						
EMOS	**Mosqueruela**	**2.53**	**163**	Lg		14 07 40.1	
	2.0nm,0.3s,SNR=7.9						
LFF	**La Frestale**	**2.67**	**36**	*e*Sg	**Sg**	**14 07 38.0**	**-5.6**
	2.8nm,0.3s						
MTLF	**Montolieu**	**2.74**	**77**	*e*Sn	**Sn**	**14 07 33.0**	**-1.7**
	1.4nm,0.3s						
RJF	**Les Rejaudoux**	**3.30**	**39**	*e*Sn	**Sn**	**14 07 44.3**	**-4.7**
	1.3nm,0.2s						
CAF	**Calviac**	**3.32**	**49**	*e*Sn	**Sn**	**14 07 45.2**	**-4.2**
	0.8nm,0.2s						

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*BJI **18** 14:13:09.2, 15.21N×147.14E, h60^{km}, mb4.7, Ms4.4, Msz4.6*
*MOS **18** 14:13:10.6±2.0, 15.58N×146.51E, h33^{km}, mb4.6/4, Error ellipse: s-maj=32.6km s-min=15.8km az=111.9*
*NEIC **18** 14:13:16.8±0.2, 15.52N×146.26E, mb4.7/24, Error ellipse: s-maj=8.5km s-min=5.9km az=106.0*
*IDC **18** 14:13:16.3±0.5, 15.53N×146.29E, h57^{km}±4^{km}, mb4.2/18, mb1 4.4/18, mb1mx4.3/23, MS3.7/5, Ms1 3.7/5, ms1mx3.3/29, Error ellipse: s-maj=20.5km s-min=10.1km az=105.0*
ISC 18 14:13:15.7±0.7**, 15.47N**±0.04×**146.29E**±0.06**, h65**^{km}±6^{km}**, h60**^{km}±1.2^{km}**:pP-P, n86, σ1^{s}07**/77**, mb4.5**/47**, 3C-7D, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SAPN	**Saipan**	**0.58**	**244**	⇓*i*P	**P**	**14 13 29.4**	**+0.3**
ANA2	**Anatahan**	**1.03**	**327**	⇓*e*P	**P**	**14 13 35.3**	**+0.7**
ANAT	**Anatahan**	**1.07**	**325**	*e*P	**P**	**14 13 35.6**	**+0.4**
SARN	**Sarigan**	**1.32**	**338**	⇓*e*P	**P**	**14 13 38.5**	**-0.3**
GUMO	**Guam**	**2.32**	**217**	*e*P	**P**	**14 13 51.4**	**-1.1**
CBIJ	**Chichi jima**	**12.18**	**342**	LR	LR	14 20 58.7	
	comp=Z,280nm,18.0s,baz=131,slow=38						
JOW	**Kunigami**	**20.23**	**307**	P	**P**	**14 17 50.0**	**+1.9**
	21nm,0.5s,baz=137,slow=11,SNR=10						
JOW				LR	LR	14 24 10.5	
	comp=Z,494nm,20.6s,baz=193,slow=32						
JNU	**Nakatsue**	**22.45**	**324**	LR	LR	14 25 53.1	
	comp=Z,100nm,19.5s,baz=162,slow=34						
ASAJ	**Asahikawa**	**28.73**	**354**	P	**P**	**14 19 07.2**	**-1.9**
	14nm,1.1s,mb4.5,baz=260,slow=8.4,SNR=3.8						
NJ2	**Nanjing**	**29.93**	**308**	*e*P	**P**	**14 19 20.4**	**+0.5**
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb4.9						
NJ2				LR	LR		
	comp=N,610nm,15.9s						
NJ2				LR	LR		
	comp=E,740nm,20.8s						
NJ2				LR	LR		
	comp=Z,5µm,14.5s						
KAKA	**Kakadu**	**31.18**	**207**	*e*P	**P**	**14 19 31.8**	**+0.7**
	comp=Z,6.6nm,0.6s,mb4.5						
CTA	**Charters Tower**	**35.33**	**180**	P	**P**	**14 20 07.0**	**+0.1**
	comp=Z,4.5nm,1.0s,mb4.2,baz=5.9,slow=11,SNR=2.6						
ENH	**Enshi**	**36.79**	**300**	*e*P	**P**	**14 20 20.2**	**+1.1**
	comp=Z,20nm,1.2s,mb4.9						
WRAB	**Tennant Creek**	**37.09**	**199**	*e*P	**P**	**14 20 21.3**	**-0.5**
	comp=Z,33nm,0.9s,mb5.3						
WB2	**Warramunga Arr**	**37.10**	**199**	*e*P	**P**	**14 20 21.3**	**-0.5**
WB2				*e*PCP	PcP	14 22 40.3	-1.3
WRA	**Warramunga Arr**	**37.10**	**199**	P	**P**	**14 20 21.3**	**-0.5**
	comp=Z,13nm,0.7s,mb5.0,baz=22,slow=9.8,SNR=107						
WRA				pP	pP	14 20 35.1	-3.0
	comp=Z,7.3nm,0.8s,baz=15,slow=9.1,SNR=6.6						
WRA				PcP	PcP	14 22 41.2	-0.3
	comp=Z,3.4nm,0.7s,baz=15,slow=3.3,SNR=9.7						
WRA				ScP		14 26 22.9	
	comp=Z,1.3nm,0.7s,baz=19,slow=3.9,SNR=9.3						
GYA	**Guiyang**	**38.45**	**293**	P	**P**	**14 20 34.9**	**+1.9**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
FITZ	**Fitzroy Crossi**	**39.08**	**212**	*e*P	**P**	**14 20 38.6**	**+0.3**
	comp=Z,2.5nm,0.9s,mb4.0						
FITZ				*e*PCP	PcP	14 22 50.4	+2.7
FITZ	**Fitzroy Crossi**	**39.08**	**212**	P	**P**	**14 20 38.1**	**-0.1**
	comp=Z,2.1nm,0.6s,mb4.2,baz=350,slow=4.5,SNR=11						
FITZ				PcP	PcP	14 22 47.7	0.0
	comp=Z,7.8nm,1.1s,baz=180,slow=0.6,SNR=4.1						
ASAR	**Alice Springs**	**40.74**	**198**	P	**P**	**14 20 51.8**	**-0.2**
	comp=Z,1.9nm,0.6s,mb4.1,baz=23,slow=10,SNR=28						
ASAR				pP	pP	14 21 07.4	-1.0
	comp=Z,1.3nm,0.6s,baz=22,slow=5.8,SNR=3.5						
ASAR				PP	PP	14 22 29.6	-0.2
	comp=Z,2.3nm,0.9s,baz=21,slow=12,SNR=4.5						
ASAR				PcP	PcP	14 22 53.0	-0.1
	comp=Z,1.1nm,0.7s,baz=34,slow=2.6,SNR=4.0						
ASAR				ScP		14 26 37.5	
	comp=Z,0.4nm,0.6s,baz=9.6,slow=3.7,SNR=5.3						
ASPA	**Alice Springs**	**40.74**	**198**	*e*P	**P**	**14 20 52.4**	**+0.4**
CD2	**Chengdu**	**41.74**	**299**	*e*P	**P**	**14 21 01.1**	**+0.9**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
KMI	**Kunming**	**41.81**	**290**	*e*P	**P**	**14 21 01.3**	**+0.4**
KMI				AP	pP	14 21 16.9	-0.3
KMI				XP	sP	14 21 25.1	+0.2
KMI				S	**S**	**14 27 15.1**	**+1.7**
KMI				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.4						
KMI				LR	LR		
	comp=N,130nm,16.3s						
KMI				LR	LR		
	comp=E,119nm,22.0s						
KMI				LR	LR		
	comp=Z,171nm,22.1s						
LZH	**Lanzhou**	**42.97**	**307**	*e*P	**P**	**14 21 14.3**	**+4.1**
LZH				AMB	AMB		
	comp=Z,21nm,1.3s,mb4.7						
CM31	**Chiang Mai Arr**	**45.29**	**281**	*e*P	**P**	**14 21 30.0**	**+0.8**
	comp=Z,4.9nm,0.8s,mb4.3						
CMAR	**Chiang Mai Arr**	**45.29**	**281**	P	**P**	**14 21 30.4**	**+1.2**
	comp=Z,7.0nm,1.1s,mb4.3,baz=79,slow=6.2,SNR=22						
CMAR				LR	LR	14 40 58.2	
	comp=Z,58nm,18.6s,baz=85,slow=37						
SONM	**Songino Array**	**46.03**	**323**	P	**P**	**14 21 34.1**	**-0.5**
	comp=Z,2.0nm,0.9s,mb3.8,baz=129,slow=7.9,SNR=10						
GTA	**Gaotai**	**47.00**	**310**	*e*P	**P**	**14 21 44.4**	**+2.0**
GTA				AMB	AMB		
	comp=Z,3.0nm,0.9s,mb4.0						
STKA	**Stephens Creek**	**47.29**	**185**	*e*P	**P**	**14 21 44.0**	**-0.8**
	comp=Z,6.1nm,0.8s,mb4.4						
STKA	**Stephens Creek**	**47.29**	**185**	P	**P**	**14 21 44.4**	**-0.4**
	comp=Z,7.5nm,0.8s,mb4.5,baz=353,slow=9.1,SNR=15						
ZAK	**Zakamensk**	**49.08**	**325**	*e*P	**P**	**14 22 00.6**	**+2.2**
FORT	**Forrest**	**49.21**	**201**	*e*P	**P**	**14 21 59.5**	**-0.2**
	comp=Z,71nm,0.5s						
TOO	**Toolangi**	**52.76**	**181**	*e*P	**P**	**14 22 27.1**	**+0.6**
	comp=Z,7.5nm,0.8s,mb4.8						
UNV	**Unalaska Valle**	**53.01**	**33**	*e*P	**P**	**14 22 27.3**	**-0.8**
MUN	**Mundaring**	**55.29**	**211**	*e*P	**P**	**14 22 44.1**	**-1.0**
	comp=Z,47nm,0.9s,mb5.5						
TIXI	**Tiksi**	**57.12**	**354**	*e*P	**P**	**14 22 56.9**	**-0.8**
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.1						
PKI	**Pulchoki**	**57.42**	**293**	*e*P	**P**	**14 22 59.1**	**-1.2**
	comp=Z,14nm,0.9s,mb5.0						
KKN	**Kakani**	**57.52**	**293**	*e*P	**P**	**14 23 00.7**	**-0.4**
	comp=Z,14nm,0.8s,mb5.0						
DMN	**Daman**	**57.68**	**293**	*e*P	**P**	**14 23 01.7**	**-0.5**
	comp=Z,12nm,0.5s,mb5.2						
GKN	**Gorkha**	**58.09**	**294**	*e*P	**P**	**14 23 04.4**	**-0.6**
	comp=Z,27nm,0.8s,mb5.3						
KOLN	**Koldanda**	**59.01**	**293**	*e*P	**P**	**14 23 10.5**	**-0.9**
	comp=Z,19nm,0.9s,mb5.1						
MKAR	**Makanchi Array**	**61.12**	**315**	P	**P**	**14 23 24.4**	**-1.1**
	comp=Z,10nm,0.9s,mb4.8,baz=90,slow=8.5,SNR=58						
MKAR				LR	LR	14 48 53.5	
	comp=Z,67nm,19.6s,baz=249,slow=35						
MKAR	**Makanchi Array**	**61.12**	**315**	*i* P	**P**	**14 23 24.4**	**-1.2**
MKAR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
MKAR	**Makanchi Array**	**61.12**	**315**	P	**P**	**14 23 24.4**	**-1.1**
MKAR				LR	LR	14 48 53.5	
KURK	**Kurchatov**	**64.06**	**319**	*d* *i*P	**P**	**14 23 43.0**	**-2.0**
HYB	**Hyderabad**	**64.69**	**282**	*i* P	**P**	**14 23 48.5**	**-1.1**
SML	**Sawmill**	**64.91**	**28**	*e*P	**P**	**14 23 49.5**	**-0.8**
COLA	**College**	**65.92**	**25**	*e*P	**P**	**14 23 55.1**	**-1.6**
	comp=Z,8.3nm,1.3s,mb4.4						
ILAR	**Eielson Array**	**66.29**	**25**	P	**P**	**14 23 56.9**	**-2.2**
	comp=Z,2.4nm,0.5s,mb4.3,baz=251,slow=5.9,SNR=46						
ILAR				pP	pP	14 24 13.6	-3.0
	comp=Z,3.6nm,0.6s,baz=257,slow=5.3,SNR=7.9						
AAK	**Ala-Archa**	**66.35**	**310**	⇓*e*P	**P**	**14 23 58.7**	**-1.2**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
DAWY	**Dawson**	**69.35**	**27**	*e*P	**P**	**14 24 17.7**	**-0.5**
ZRNK	**Zerenda**	**70.16**	**321**	*e*P	**P**	**14 24 20.2**	**-3.1**
	comp=Z,2.0nm,0.5s,mb4.2						
INK	**Inuvik**	**72.11**	**23**	P	**P**	**14 24 34.1**	**-0.7**
	comp=Z,4.2nm,0.9s,mb4.3,baz=237,slow=4.6,SNR=7.9						
INK				pP	pP	14 24 50.4	-2.2
	comp=Z,17nm,1.1s,baz=266,slow=5.8,SNR=11						
INK	**Inuvik**	**72.11**	**23**	*e*P	**P**	**14 24 33.9**	**-0.8**
	comp=Z,2.4nm,0.9s,mb4.0						
INK				*e*pP	pP	14 24 50.8	-1.7
DLBC	**Dease Lake**	**73.67**	**33**	P	**P**	**14 24 44.8**	**+0.8**
	comp=Z,7.1nm,0.7s,mb4.5,baz=275,slow=4.4,SNR=13						
DLBC				pP	pP	14 24 59.9	-1.9
	comp=Z,7.5nm,0.8s,baz=324,slow=6.1,SNR=6.4						
DLBC	**Dease Lake**	**73.67**	**33**	*e*P	**P**	**14 24 45.0**	**+1.0**
SVE	**Sverdlovsk**	**74.84**	**325**	⇑*e*P	pP	14 25 05.2	-3.4
ARU	**Arti**	**76.02**	**325**	⇓*i*P	**P**	**14 24 54.2**	**-3.3**
ARU				*e*		14 27 47.6	
ARU				*e*PPP	PPP	14 29 31.6	-6.2
ARU				*e*SSS	SSS	14 42 53.1	+6.5
ARU				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
ARU	**Arti**	**76.02**	**325**	*e*P	**P**	**14 24 56.0**	**-1.5**
	comp=Z,3.6nm,0.9s,mb4.1						
YKA	**Yellowknife Ar**	**80.57**	**28**	P	**P**	**14 25 22.0**	**-0.4**
	comp=Z,4.2nm,0.9s,mb4.3,baz=290,slow=5.5,SNR=5.1						
NEW	**Newport**	**82.92**	**42**	*e*P	**P**	**14 25 34.6**	**-0.2**
NEW				*e*pP	pP	14 25 52.5	-0.4
CMB	**Columbia Colle**	**83.19**	**53**	*e*P	**P**	**14 25 36.9**	**+0.5**
	comp=Z,4.9nm,1.0s,mb4.3						
CMB				*e*		14 25 47.9	
CMB				*e*pP	pP	14 25 55.0	+0.4
WVOR	**Wild Horse Val**	**83.39**	**48**	*e*P	**P**	**14 25 37.6**	**+0.2**
	comp=Z,11nm,1.4s,mb4.5						
NVAR	**Mina Array Bea**	**84.68**	**52**	P	**P**	**14 25 45.2**	**+1.3**
	comp=Z,2.5nm,0.7s,mb4.2,baz=272,slow=3.7,SNR=8.5						
MNV	**Mina**	**84.79**	**52**	*e*P	**P**	**14 25 45.0**	**+0.5**
	comp=Z,11nm,1.5s,mb4.6						
ARCES	**ARCESS Array B**	**85.73**	**342**	P	**P**	**14 25 46.8**	**-1.6**
	comp=Z,2.1nm,0.7s,mb4.2,baz=78,slow=6.6,SNR=7.8						
HLID	**Hailey**	**86.06**	**46**	*e*P	**P**	**14 25 51.6**	**+1.0**
	comp=Z,7.4nm,1.3s,mb4.5						
ELK	**Elko**	**86.31**	**49**	*e*P	**P**	**14 25 52.8**	**+0.9**
	comp=Z,9.0nm,1.2s,mb4.6						
MCMT	**McKenzie Canyo**	**86.73**	**44**	*e*P	**P**	**14 25 53.8**	**-0.1**
QLMT	**Earthquake Lak**	**87.69**	**44**	*e*P	**P**	**14 25 59.6**	**+1.0**
QLMT				*e*pP	pP	14 26 16.8	0.0
LDFC	**Landfair**	**88.09**	**54**	*e*P	**P**	**14 26 01.8**	**+1.2**
NEN	**Nelson**	**88.12**	**54**	*e*P	**P**	**14 26 00.8**	**0.0**
NEN				*e*pP	pP	14 26 18.8	-0.3
DUG	**Dugway**	**88.24**	**49**	*e*P	**P**	**14 26 02.3**	**+1.1**
	comp=Z,0.5nm,0.9s,mb3.5						
DUG				*e*pP	pP	14 26 19.4	-0.2
HWUT	**Hardware Ranch**	**88.67**	**47**	*e*P	**P**	**14 26 04.3**	**+1.1**
	comp=Z,12nm,1.3s,mb4.8						
HWUT				*e*pP	pP	14 26 21.3	-0.3
PDAR	**Pinedale Array**	**89.67**	**46**	P	**P**	**14 26 08.5**	**+0.5**
	comp=Z,0.7nm,0.6s,mb4.0,baz=297,slow=3.3,SNR=5.0						
PDAR				pP	pP	14 26 24.0	-2.3
	comp=Z,0.2nm,0.5s,baz=75,slow=29,SNR=2.6						
FINES	**FINESS Array B**	**90.04**	**335**	P	**P**	**14 26 07.3**	**-1.9**
	comp=Z,3.0nm,1.0s,mb4.4,baz=65,slow=4.7,SNR=6.9						
SOC	**Sochi**	**91.02**	**316**	*e*P	**P**	**14 26 09.3**	**-5.0**
SOC				*e*		14 26 18.7	
SOC				*e*	PP	14 29 45.2	-8.4
SOC				*e*PPP	PPP	14 31 46.7	-7.4
SOC				*e*S	SKS	14 36 43.6	+5.0
SOC				*e**SS		14 38 20.8	
SOC				*e*SS	SS	14 43 07.8	-4.4
PV10	**Paradox Valley**	**91.61**	**50**	*e*P	**P**	**14 26 19.0**	**+1.8**
SBA	**Scott Base**	**93.88**	**176**	P	**P**	**14 26 28.1**	**+1.4**
	comp=Z,6.8nm,1.4s,mb4.8						
SNAA	**Sanae**	**120.88**	**191**	*e*PKPdf	PKPdf	14 32 00.9	+0.6
VNA2	**Neumayer--Watz**	**122.31**	**190**	⇑*i*	PKPdf	14 32 07.4	+4.4
VNA3	**Neumayer Olymp**	**122.39**	**189**	⇑*i*	PKPdf	14 32 07.2	+4.0
VNA1	**Neumayer--Stat**	**122.69**	**190**	⇓*i*	PKPdf	14 32 08.0	+4.2
DBIC	**Dimbokro**	**143.93**	**305**	PKP	PKPdf	14 32 43.7	-1.0
	comp=Z,1.9nm,0.5s,baz=62,slow=5.6,SNR=6.7						
LPAZ	**La Paz**	**146.90**	**96**	PKPbc	PKPbc	14 32 54.2	+2.9
	comp=Z,2.1nm,0.3s,baz=299,slow=1.9,SNR=4.8						
SAML	**Samuel**	**150.50**	**81**	*e*PKPdf	PKPdf	14 32 55.8	+0.2
SAML				*e*PKPbc	PKPdf	14 33 02.6	+7.0

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*LDG **18** 14:19:45.7±0.3, 42.89N×1.50W, h2^{km}, Md2.9/2, Ml3.2/13, Error ellipse: s-maj=5.7km s-min=3.6km az=52.0*
*STR **18** 14:19:45.8±0.9, 42.90N×1.47W, h5^{km}±1^{km}, Ml3.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **18** 14:19:46.2, 42.86N×1.36W, ML3.2(LDG), ML3.1(STR), MN2.6(MDD), After MDD.*
*MDD **18** 14:19:46.5±0.3, 42.87N×1.43W, h6^{km}±3^{km}, mbLg2.6/21, Error ellipse: s-maj=2.6km s-min=1.9km az=36.0, AftershockPLICA PRXIMO*
ISC 18 14:19:44.4±0.4**, 42.91N**±0.02×**1.49W**±0.02**, h14**^{km}±2^{km}**, n71, σ1^{s}36**/131**, 1C, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	**0.28**	**43**	*e*Pg	**Pg**	**14 19 51.8**	**+1.2**
SJPF				*e*Sg	**Sg**	**14 19 54.8**	**+0.1**
	1µm,0.3s						
EALK	**Alkurruntz**	**0.32**	**358**	⇑Pg	**Pg**	**14 19 52.9**	**+1.8**
	110nm,0.4s,SNR=18						
EALK				Lg		14 19 58.8	
	147nm,0.4s,SNR=9.1						
OSSF	**Osses**	**0.39**	**25**	P	**Pg**	**14 19 53.8**	**+1.2**
OSSF				S	**Sg**	**14 20 00.2**	**+2.2**
LARF	**Larrau**	**0.39**	**70**	Pg	**Pg**	**14 19 53.0**	**+0.4**
LARF				Sg	**Sg**	**14 19 57.7**	**-0.4**
LARF	**Larrau**	**0.39**	**70**	P	**Pg**	**14 19 53.1**	**+0.5**
LARF				S	**Sg**	**14 19 59.0**	**+0.9**
ORDF	**Ordiarp**	**0.51**	**53**	Pg	**Pg**	**14 19 55.8**	**+0.9**
ORDF				Sg	**Sg**	**14 20 03.2**	**+1.3**

ORDF	Ordiarp	0.51	53	P	Pb	14 19 55.8	+1.2
ORDF				S	Sg	14 20 02.6	+0.8
ATE	Arette	0.61	72	P	Pb	14 19 56.9	+0.7
ATE				S	Sb	14 20 05.4	+1.0
ETSF	Etsaut	0.68	90	*e*Pg	Pg	14 19 57.6	-0.7
ETSF				*e*Sg	Sg	14 20 06.7	-0.8
	126nm,0.4s						
FDAF	Les Forges d'A	0.68	97	Pg	Pg	14 19 58.3	0.0
FDAF				Sg	Sg	14 20 08.4	+0.9
FDAF	Les Forges d'A	0.68	97	P	Pb	14 19 57.6	0.0
FDAF				S	Sb	14 20 08.3	+1.7
REYF	Montagne du Re	0.82	78	P	Pb	14 20 00.6	+0.7
REYF				S	Sb	14 20 11.9	+1.3
VIEF	Viey	1.11	91	Pg	Pg	14 20 06.2	-0.5
VIEF	Viey	1.11	91	P	Pb	14 20 05.4	+0.5
LABF	Labassere	1.16	82	P	Pb	14 20 06.9	+1.2
LABF				S	Sb	14 20 22.7	+2.4
RESF	Ens	1.35	94	Pg	Pg	14 20 11.7	+0.3
RESF	Ens	1.35	94	P	Pn	14 20 11.8	+2.9
RESF				S	Sb	14 20 29.0	+3.1
EPF	Esparros	1.35	84	*e*Pn	Pn	14 20 09.7	+0.8
EPF				*e*Pg	Pg	14 20 12.0	+0.6
EPF				*e*Sg	Sg	14 20 29.1	-0.4
	82nm,0.2s						
ESAC	San Caprasio	1.40	147	Pg	Pg	14 20 10.8	-1.7
	145nm,0.3s,SNR=68						
ESAC				Lg		14 20 28.6	
	259nm,0.3s,SNR=12						
ELAN	Lanestosa	1.46	284	Pn	Pn	14 20 13.7	+3.2
	11nm,0.3s,SNR=51						
ELAN				Lg		14 20 35.2	
	26nm,0.4s,SNR=8.1						
ELAN	Lanestosa	1.46	284	Pg	Pg	14 20 13.9	+0.2
ELAN				Lg		14 20 35.6	
EGRA	Graus	1.51	117	Pg	Pg	14 20 12.6	-2.1
	35nm,0.3s,SNR=7.9						
EGRA				Lg		14 20 32.4	
	18nm,0.2s,SNR=7.9						
EGRA	Graus	1.51	117	Pg	Pg	14 20 12.7	-1.9
EGRA				Lg		14 20 31.8	
MELF	Melles	1.65	90	Pg	Pg	14 20 16.4	-1.1
MELF	Melles	1.65	90	P	Pn	14 20 16.4	+3.2
MELF				S	Sn	14 20 37.9	+3.5
MLS	Moulis	1.90	88	S	Sn	14 20 45.0	+4.4
SALF	Salau	1.98	93	P	Pn	14 20 21.0	+3.1
SALF				S	Sn	14 20 47.7	+5.1
ETOR	Torete	2.13	192	Pn	Pn	14 20 21.4	+1.4
	24nm,0.4s,SNR=24						
ETOR				Pg	Pg	14 20 25.3	-1.7
	24nm,0.3s,SNR=12						
ETOR				Lg		14 20 49.3	
	78nm,0.4s,SNR=9.9						
ETOR	Torete	2.13	192	Pn	Pn	14 20 21.6	+1.5
ETOR				Pg	Pg	14 20 25.4	-1.5
ETOR				Sn	Sn	14 20 49.0	+2.6
ETOR				Lg		14 20 54.4	
EMIR	Miracle	2.44	113	Pn	Pn	14 20 25.6	+1.0
	8.5nm,0.3s,SNR=9.7						
EMIR				Pg	Pg	14 20 30.6	-2.6
	11nm,0.3s,SNR=6.6						
EMIR				Lg		14 21 03.9	
	23nm,0.3s,SNR=6.9						
EMIR	Miracle	2.44	113	Pn	Pn	14 20 25.1	+0.5
EMIR				Pg	Pg	14 20 29.8	-3.4
EMIR				Lg		14 21 01.2	
EPOB	Poblet	2.46	128	Pn	Pn	14 20 24.7	-0.1
	3.7nm,0.3s,SNR=9.7						
EPOB				Pg	Pg	14 20 30.2	-3.3
	7.8nm,0.2s,SNR=13						
EPOB				Lg		14 20 59.5	
	12nm,0.3s,SNR=6.4						
EPOB	Poblet	2.46	128	Pn	Pn	14 20 24.8	0.0
EPOB				Pg	Pg	14 20 30.3	-3.3
EPOB				Lg		14 21 02.2	
LFF	La Frestale	2.59	38	*e*Pn	Pn	14 20 27.0	+0.3
LFF				*e*Pg	Pg	14 20 34.3	-1.9
LFF				*e*Sg	Sg	14 21 06.8	-4.1
	26nm,0.3s						
VALF	Valcebollere	2.63	100	P	Pn	14 20 31.4	+4.0
VALF				S	Sn	14 21 08.6	+9.2
EMOS	Mosqueruela	2.65	163	Pn	Pn	14 20 28.1	+0.5
	8.5nm,0.4s,SNR=4.0						
EMOS				Pg	Pg	14 20 33.6	-3.7
	12nm,0.4s,SNR=16						
EMOS				Lg		14 21 09.2	
	23nm,0.5s,SNR=6.1						
EMOS	Mosqueruela	2.65	163	Pn	Pn	14 20 27.6	+0.1
EMOS				Pg	Pg	14 20 33.6	-3.7
EMOS				Lg		14 21 09.5	
CARF	Carcanieres	2.65	93	P	Pn	14 20 34.4	+6.9
CARF				S	Sn	14 21 07.9	+8.1
MTLF	Montolieu	2.75	80	*e*Pn	Pn	14 20 29.8	+0.9
MTLF				*e*Pg	Pg	14 20 36.8	-2.5
MTLF				*e*Sn	Sn	14 21 02.2	0.0
	21nm,0.5s						
FILF	Fillols	3.00	95	S	Sn	14 21 16.2	+7.5
RJF	Les Rejaudoux	3.23	41	*e*Pn	Pn	14 20 35.0	-0.8
RJF				*e*Sn	Sn	14 21 13.1	-1.3
	16nm,0.3s						
SJAF	Saint Jean de	3.25	96	S	Sn	14 21 25.6	+11
EJON	La Jonquera	3.26	97	Pn	Pn	14 20 36.0	-0.2
	2.4nm,0.3s,SNR=4.0						
EJON				Pg	Pg	14 20 45.7	-3.8
	8.2nm,0.9s,SNR=5.1						
EJON				Lg		14 21 28.1	
	14nm,0.6s,SNR=6.3						
EJON	La Jonquera	3.26	97	Pn	Pn	14 20 36.0	-0.2
EJON				Pg	Pg	14 20 45.7	-3.8
EJON				Lg		14 21 26.3	
CAF	Calviac	3.27	51	*e*Pn	Pn	14 20 35.4	-0.9
CAF				*e*Sn	Sn	14 21 14.2	-1.1
	14nm,0.3s						
ESDC	Sonseca Array	3.73	211	Pn	Pn	14 20 42.6	-0.2
	0.6nm,0.3s,baz=36,slow=13,SNR=10						
ESDC				Lg		14 21 46.0	
	4.0nm,0.4s,baz=36,slow=29,SNR=10						
MFF	Saint Martin d	3.82	14	*e*Pn	Pn	14 20 44.4	+0.3
MFF				*e*Pg	Pg	14 20 56.3	-4.4
MFF				*e*Sn	Sn	14 21 27.1	-2.2
	8.0nm,0.3s						
ECAL	Calabor	4.00	258	Pn	Pn	14 20 47.3	+0.6
	4.0nm,0.3s,SNR=8.3						
ECAL				Pg	Pg	14 21 00.7	-3.6
	3.3nm,0.3s,SNR=4.8						
ECAL				Sn	Sn	14 21 33.6	-0.3
	11nm,0.3s,SNR=4.0						
ECAL				Lg		14 21 49.8	
	33nm,0.4s,SNR=7.9						
ECAL	Calabor	4.00	258	Pn	Pn	14 20 47.3	+0.6
ECAL				Pg	Pg	14 21 00.7	-3.6
ECAL				Sn	Sn	14 21 33.6	-0.3
ECAL				Lg		14 21 51.0	
LASF	Ste Croix	4.06	71	*e*Pn	Pn	14 20 47.1	-0.5
LASF				*e*Sn	Sn	14 21 33.6	-1.9
	24nm,0.6s						
EPON	Pontenova	4.17	278	Pn	Pn	14 20 51.2	+2.1
	2.3nm,0.4s,SNR=7.2						
EPON				Sn	Sn	14 21 39.8	+1.7
	SNR=4.0						
EPON				Lg		14 22 00.8	
	2.7nm,0.3s,SNR=4.0						
ERUA	La Rua	4.20	265	Pn	Pn	14 20 50.6	+1.0
	2.5nm,0.3s,SNR=9.4						
ERUA				Sn	Sn	14 21 39.5	+0.5
	3.1nm,0.4s,SNR=7.9						
ETOB	Tobarra	4.26	181	Pn	Pn	14 20 51.1	+0.8
	3.2nm,0.7s,SNR=6.9						
ETOB				Pg	Pg	14 21 05.4	-4.0
	2.0nm,0.4s,SNR=7.9						
ETOB				Sn	Sn	14 21 38.4	-2.0
	SNR=4.0						
ETOB				Lg		14 21 58.6	
	7.3nm,0.5s,SNR=4.0						
ETOB	Tobarra	4.26	181	Pn	Pn	14 20 51.1	+0.8
ETOB				Sn	Sn	14 21 38.4	-2.0
TCF	Toulx Ste Croi	4.29	37	*e*Pn	Pn	14 20 49.6	-1.3
TCF				*e*Sn	Sn	14 21 39.2	-2.1
	11nm,0.3s						
EBEN	Beniarda	4.30	167	Pn	Pn	14 20 51.4	+0.3
	SNR=4.0						
EVIA	Vianos	4.33	191	Pn	Pn	14 20 52.1	+0.6
	3.7nm,0.3s,SNR=7.5						
EVIA				Lg		14 22 00.8	
	22nm,0.7s,SNR=4.0						
EIBI	Ibiza	4.43	150	Pn	Pn	14 20 51.9	-0.9
	SNR=7.9						
EIBI				Sn	Sn	14 21 38.5	-6.2
	2.0nm,0.2s,SNR=7.9						
EIBI	Ibiza	4.43	150	Pn	Pn	14 20 52.9	+0.1
BGF	Bois d'Agland	4.78	39	*e*Pn	Pn	14 20 57.0	-0.8
BGF				*e*Sn	Sn	14 21 50.8	-2.9
BGF				*e*Sg	Sg	14 22 15.9	-7.8
	22nm,0.4s						
VIVF	Saint-Julien-l	4.86	64	*e*Pn	Pn	14 20 57.5	-1.5
VIVF				*e*Sn	Sn	14 21 51.7	-4.0
	6.2nm,0.4s						
ELOB	Lobios	4.98	260	Pn	Pn	14 21 00.1	-0.5
	12nm,0.9s,SNR=4.9						
ELOB				Sn	Sn	14 21 58.3	-0.3
	4.1nm,0.5s,SNR=7.9						
ELOB				Lg		14 22 20.0	
	6.7nm,0.3s,SNR=7.9						
QUIF	Quistinic	5.15	347	*e*Pn	Pn	14 21 04.0	+1.0
AVF	Avril sur Loir	5.19	40	*e*Pn	Pn	14 21 02.5	-1.1
AVF				*e*Sn	Sn	14 22 02.8	-1.1
	4.7nm,0.4s						
EQES	Quesada	5.24	194	Pn	Pn	14 21 04.5	+0.2
	0.6nm,0.1s,SNR=7.9						
EQES				Pg	Pg	14 21 22.6	-6.3
	2.9nm,0.2s,SNR=7.9						
EQES				Sn	Sn	14 22 02.2	-2.9
	1.2nm,0.4s,SNR=7.9						
EQES				Lg		14 22 31.8	
	5.7nm,0.5s,SNR=7.9						
SMRF	Simiane la Rot	5.25	76	*e*Pn	Pn	14 21 04.2	-0.3
EADA	Adamuz	5.28	207	Pn	Pn	14 21 04.3	-0.6
	0.8nm,0.3s,SNR=8.8						
EADA				Sn	Sn	14 22 01.9	-4.4
	4.3nm,0.7s,SNR=5.9						
EADA				Lg		14 22 32.8	
	2.0nm,0.3s,SNR=4.0						
EADA	Adamuz	5.28	207	Pn	Pn	14 21 04.8	-0.1
EADA				Sn	Sn	14 22 02.3	-4.0
EADA				Lg		14 22 35.5	
SMF	Signal de Mont	5.33	44	*e*Pn	Pn	14 21 04.0	-1.5
SSF	Saint Saulge	5.46	39	*e*Pn	Pn	14 21 05.5	-1.9
SSF				*e*Sn	Sn	14 22 05.1	-5.6
	6.3nm,0.5s						
EMAZ	Mazaricos	5.50	273	Pn	Pn	14 21 07.5	-0.4
	SNR=4.0						

*IDC **18** 14:29:15.1±1.3, 2.99N×74.52W, mb4.2/5, mb1 4.5/5, mb1mx4.1/18, MS3.8/2, Ms1 3.8/2, ms1mx3.3/23, Error ellipse: s-maj=35.6km s-min=17.5km az=87.0*

ISC 18 14:29:18.3±1.2, **3.1N**±0.2×**74.4W**±0.2, **h33**$^{\mathrm{km}}$, **n7**, σ1§**41**/6, **mb4.2**/5, **MS4.0**/1, **Colombia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ROSC	El Rosal	1.72	2	Pn	Pn	14 29 46.4	-0.1
	73nm,0.3s,baz=158,slow=9.0,SNR=81						
ROSC				Lg		14 30 15.5	
	130nm,0.3s,baz=180,slow=18,SNR=7.4						
JTS	JuntasAbangare	12.68	305	LR	LR	14 36 38.7	
	comp=Z,261nm,19.6s,baz=153,slow=35						
BDFB	Brasilia	32.07	126	P	P	14 35 44.4	-0.3
	2.1nm,0.5s,mb4.2,baz=268,slow=14,SNR=4.9						
BDFB				LR	LR	14 49 10.5	
	comp=Z,304nm,21.4s,MS4.0,baz=105,slow=37						
PDAR	Pinedale Array	50.38	327	P	P	14 38 13.3	-1.2
	1.4nm,0.6s,mb4.2,baz=134,slow=7.7,SNR=7.1						
SCHQ	Schefferville	51.91	6	P	P	14 38 25.8	0.0
	4.8nm,0.8s,mb4.5,baz=243,slow=2.3,SNR=4.1						
NVAR	Mina Array Bea	53.24	317	P	P	14 38 35.9	-0.2
	3.0nm,0.9s,mb4.2,baz=121,slow=5.3,SNR=6.4						
ILAR	Eielson Array	79.77	335	P	P	14 41 26.9	+2.4
	1.0nm,0.6s,mb4.0,baz=114,slow=4.1,SNR=13						

GUC 18 14:29:34.3±0.8, **34.12S**×**70.06W**, **h6**$^{\mathrm{km}}$±1$^{\mathrm{km}}$, **MD3.9**, **ML3.0**, **8C-4D**, **Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LMEL	Las Melosas	0.29	336	⇑*i*P	Pg	14 29 40.7	+0.5
LMEL				*i* S	Sg	14 29 46.0	+1.8
LMEL				AMP		14 29 46.6	
	comp=N,4μm,0.6s						
CICH	Cipreses	0.36	236	⇑*i*P	Pg	14 29 41.8	+0.2
CICH				*i* S	Sg	14 29 47.2	+0.8
CACH	El Canelo	0.45	270	⇓*i*P	Pg	14 29 43.5	+0.2
CACH				*i* S	Sg	14 29 50.2	+0.9
CHCH	Chadas Angostu	0.52	290	⇓*i*P	Pg	14 29 45.1	+0.3
CHCH				*i* S	Sg	14 29 53.2	+1.4
SJCH	San Jose de Ma	0.53	333	⇑*i*P	Pg	14 29 44.3	-0.7
SJCH				*i* S	Sg	14 29 52.8	+0.6
SJCH				AMP		14 29 53.9	
	comp=E,958nm,0.3s						
PCH	Pirque	0.62	323	⇓*i*P	Pg	14 29 46.8	0.0
PCH				*i* S	Sg	14 29 56.2	+1.1
ANTU	Antumapu	0.72	319	⇑*i*P	Pg	14 29 48.7	-0.1
ANTU				*i* S	Sg	14 29 59.4	+0.9
ANTU				AMP		14 29 59.8	
	comp=E,1μm,0.4s						
FSR	Penalolen	0.75	328	*e*P	Pg	14 29 48.7	-0.6
FSR				*i* S	Sg	14 30 00.0	+0.8
FSR				AMP		14 30 03.3	
	comp=E,824nm,0.4s						
FCH	Farellones	0.81	346	⇑*i*P	Pb	14 29 49.9	-0.5
FCH				*i* S	Sg	14 30 02.4	+1.0
FCH				AMP		14 30 03.4	
	comp=E,1μm,0.2s						
CLCH	Cerro Calan	0.82	331	⇑*i*P	Pb	14 29 50.4	-0.2
CLCH				*i* S	Sb	14 30 02.5	+0.8
CLCH				AMP		14 30 09.3	
	comp=E,1μm,0.7s						
CLCH				AMP		14 30 09.9	
	comp=E,1μm,0.7s						
DSCH	Colegio Aleman	0.83	329	*e*P	Pb	14 29 50.3	-0.4
DSCH				*i* S	Sb	14 30 02.4	+0.4
DSCH				AMP		14 30 06.3	
	comp=E,1μm,0.5s						
TACH	Talagante	0.86	302	⇑*i*P	Pb	14 29 51.1	-0.2
TACH				*i* S	Sb	14 30 03.4	+0.5
RCDM	Rinconada Maip	0.88	315	*e*P	Pb	14 29 51.4	-0.3
RCDM				*i* S	Sb	14 30 04.2	+0.8
RCDM				AMP		14 30 05.3	
	comp=E,881nm,0.1s						
SFDO	San Fernando	0.93	238	⇑*i*P	Pb	14 29 52.0	-0.5
SFDO				*i* S	Sb	14 30 05.4	+0.5
PEL	Peldehue	1.10	332	*e*P	Pb	14 29 54.1	-1.3
PEL				*i* S	Sb	14 30 10.8	+1.0
LNV	Longovilo	1.13	278	⇓*i*P	Pb	14 29 55.4	-0.5
LNV				*i* S	Sb	14 30 11.2	+0.5
LCCH	Las Cruces	1.41	297	*e*P	Pn	14 30 00.3	-0.3
LCCH				*i* S	Sb	14 30 19.3	+0.5

*LDG **18** 14:31:08.9±0.4, 42.87N×1.50W, h2km, Md2.5/2, Ml2.3/6, Error ellipse: s-maj=6.0km s-min=4.4km az=51.0*

*STR **18** 14:31:08.1±0.5, 42.86N×1.54W, h5km±1km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*MDD **18** 14:31:09.8±0.4, 42.85N×1.42W, h7km±4km, mbLg1.9/11, Error ellipse: s-maj=3.1km s-min=1.9km az=43.0, AftershockPLICA PRXIMO*

ISC 18 14:31:07.7±0.5, **42.86N**±0.03×**1.50W**±0.04, **h13**$^{\mathrm{km}}$±3$^{\mathrm{km}}$, **n32**, σ1§**05**/52, **Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJPF	Ste Jean	0.32	38	*e*Pg	Pg	14 31 15.3	+0.7
SJPF				*e*Sg	Sg	14 31 18.2	-1.0
	158nm,0.4s						
EALK	Alkurruntz	0.36	359	Pg	Pg	14 31 16.5	+1.2
	20nm,0.3s,SNR=13						
EALK				Lg		14 31 22.2	
	74nm,0.3s,SNR=28						
LARF	Larrau	0.41	64	Pg	Pg	14 31 16.4	+0.1
LARF				Sg	Sg	14 31 22.7	+0.7
LARF	Larrau	0.41	64	P	Pg	14 31 16.4	+0.1
LARF				S	Sg	14 31 22.8	+0.7
OSSF	Osses	0.43	23	P	Pg	14 31 17.3	+0.6
OSSF				S	Sg	14 31 23.6	+0.9
ORDF	Ordiarp	0.54	49	Pg	Pg	14 31 19.2	+0.4
ORDF				Sg	Sg	14 31 26.9	+0.7
ORDF	Ordiarp	0.54	49	P	Pb	14 31 19.3	+0.8
ORDF				S	Sb	14 31 26.8	+0.9
ATE	Arette	0.63	68	P	Pb	14 31 20.4	+0.4
ATE				S	Sb	14 31 28.8	+0.4
FDAF	Les Forges d'A	0.68	93	Pg	Pg	14 31 21.6	+0.1
FDAF				Sg	Sg	14 31 31.9	+1.1
FDAF	Les Forges d'A	0.68	93	P	Pb	14 31 21.6	+0.6
FDAF				S	Sb	14 31 30.0	0.0
ETSF	Etsaut	0.69	86	*e*Pg	Pg	14 31 21.0	-0.7
ETSF				*e*Sg	Sg	14 31 29.8	-1.2
	32nm,0.3s						
REYF	Montagne du Re	0.84	75	S	Sb	14 31 35.6	+1.2
VIEF	Viey	1.12	88	S	Sb	14 31 43.1	+0.6
LABF	Labassere	1.17	80	S	Sb	14 31 43.6	-0.4
RESF	Ens	1.35	91	S	Sb	14 31 52.2	+2.9
EPF	Esparros	1.36	82	*e*Pn	Pn	14 31 33.0	+0.6
EPF				*e*Pg	Pg	14 31 35.4	+0.5
EPF				*e*Sg	Sg	14 31 52.2	-0.9
	18nm,0.2s						
ESAC	San Caprasio	1.37	146	Pg	Pg	14 31 34.3	-0.8
	24nm,0.3s,SNR=16						
ESAC				Lg		14 31 52.8	
	41nm,0.3s,SNR=6.3						
ELAN	Lanestosa	1.47	285	Pg	Pg	14 31 37.3	+0.2
	5.2nm,0.7s,SNR=14						
ELAN				Lg		14 31 58.5	
	7.5nm,0.4s,SNR=5.9						
EGRA	Graus	1.49	116	Pg	Pg	14 31 35.9	-1.7
	12nm,0.3s,SNR=7.9						
EGRA				Lg		14 31 55.8	
	12nm,0.3s,SNR=7.9						
MELF	Melles	1.66	89	S	Sn	14 32 01.7	+3.8
SALF	Salau	1.98	92	S	Sn	14 32 09.9	+3.9
ETOR	Torete	2.08	192	Pn	Pn	14 31 44.6	+1.8
	SNR=7.9						
ETOR				Pg	Pg	14 31 48.5	-0.8
	4.2nm,0.4s,SNR=13						
ETOR				Lg		14 32 12.1	
	5.8nm,0.3s,SNR=6.7						
EMIR	Miracle	2.43	112	Pg	Pg	14 31 51.9	-4.3
	3.6nm,0.6s,SNR=5.0						
EMIR				Lg		14 32 26.2	
	0.2nm,0.4s,SNR=7.9						
EPOB	Poblet	2.44	127	Pn	Pn	14 31 48.0	+0.2
	SNR=4.0						
EPOB				Pg	Pg	14 31 52.1	-4.2
	SNR=4.0						
EPOB				Lg		14 32 22.5	
	4.5nm,0.4s,SNR=7.9						
EMOS	Mosqueruela	2.61	163	Pg	Pg	14 31 58.5	-1.3
	1.2nm,0.5s,SNR=4.0						
EMOS				Lg		14 32 29.1	
	6.6nm,1.1s,SNR=7.9						
LFF	La Frestale	2.64	37	*e*Pn	Pn	14 31 50.6	-0.1
LFF				*e*Pg	Pg	14 31 57.8	-2.6
LFF				*e*Sg	Sg	14 32 30.2	-5.3
	7.0nm,0.3s						
MTLF	Montolieu	2.76	79	*e*Pn	Pn	14 31 53.1	+0.6
MTLF				*e*Sn	Sn	14 32 25.4	-0.6
	4.3nm,0.4s						
RJF	Les Rejaudoux	3.27	41	*e*Pn	Pn	14 31 58.5	-1.2
RJF				*e*Sn	Sn	14 32 36.5	-2.4
	1.1nm,0.2s						
CAF	Calviac	3.30	50	*e*Pn	Pn	14 31 59.1	-1.1
CAF				*e*Sn	Sn	14 32 37.8	-1.8
	0.8nm,0.2s						
ESDC	Sonseca Array	3.68	211	Pn	Pn	14 32 06.8	+1.2
	0.2nm,0.3s,baz=35,slow=17,SNR=4.3						
ESDC				Lg		14 33 05.9	
	0.3nm,0.3s,baz=26,slow=28,SNR=4.0						
MFF	Saint Martin d	3.87	14	*e*Pn	Pn	14 32 07.3	-0.9
MFF				*e*Sg	Sg	14 33 09.7	-6.8
	0.8nm,0.3s						
LASF	Ste Croix	4.08	71	*e*Pn	Pn	14 32 10.5	-0.8

*IDC **18** 14:37:01.3±0.6, 3.49S×135.63E, mb4.7/12, mb1 4.8/15, mb1mx4.8/17, ML4.5/1, MS4.2/9, Ms1 4.2/9, ms1mx3.9/19, Error ellipse: s-maj=31.3km s-min=13.1km az=79.0*

*MOS **18** 14:37:04.4±0.8, 3.43S×135.57E, h33km, mb5.1/7, Error ellipse: s-maj=27.6km s-min=12.4km az=106.9*

*BJI **18** 14:37:05.6, 3.83S×135.82E, h56km, mB5.2, mb5.1, Ms4.2, Msz4.0*

*NEIC **18** 14:37:06.1±0.3, 3.53S×135.59E, h35km, mb5.0/24, Error ellipse: s-maj=11.0km s-min=5.3km az=82.0*

*HRVD **18** 14:37:06.1±0.3, 3.58S×135.58E, h23km±2km, MW5.0/56, Centroid moment Tensor Solution. LP body waves: s28,c36;Mantle waves: s56,c96; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.64±.20; $M_{\theta\theta}$-1.55±.13; $M_{\phi\phi}$2.19±.17; $M_{r\theta}$-2.17±.31; $M_{\theta\phi}$-3.03±.13; $M_{\phi r}$0.72±.27; Best double couple: $M_0$4.25×10^{16} NP1:ϕ_s15°,δ56°,λ-6°. NP2:ϕ_s108°,δ85°,λ-146°. Principal axes: T 4.47, Plg19°, Azm237°; N -.45, Plg56°, Azm116°; P -4.03, Plg27°, Azm337°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 18 14:36:58.6±1.5, **3.59S**±0.03×**135.70E**±0.07, **h0**$^{\mathrm{km}}$±9$^{\mathrm{km}}$, **n129**, σ1§**05**/122, **mb4.9**/49, **MS4.2**/24, **18C-3D**, **Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	Kakadu	9.62	200	*e*P	P	14 39 21.8	+0.3
	160nm,0.5s						
KAKA				*e*S	Sn	14 41 04.6	-7.0
MATI	Mati	14.09	318	*e*P	P	14 40 22.7	+0.8
BUKP	Musuan	15.57	317	*e*P	P	14 40 49.6	+8.3
BUTP	Butuan	16.02	321	*e*P	P	14 40 54.0	+6.9
WRAB	Tennant Creek	16.30	185	*e*P	P	14 40 46.9	-3.7
	18nm,0.7s						
WB2	Warramunga Arr	16.31	185	*e*P	P	14 40 47.3	-3.4
WB2				*e*		14 40 55.2	
WB2				*e*S	S	14 43 39.6	-13
WRA	Warramunga Arr	16.31	185	Pn	P	14 40 47.0	-3.7
	0.0nm,0.3s,baz=3.3,slow=13,SNR=6.3						
WRA				Sn	S	14 43 41.9	-10
	2.7nm,0.3s,baz=3.7,slow=22,SNR=6.2						
WRA				Lg		14 45 42.1	
	0.8nm,0.3s,baz=360,slow=28,SNR=5.1						
PAGZ	Pagadian	16.74	313	*e*P	P	14 40 59.6	+3.3
IPIL	Ipil	17.30	311	*e*P	P	14 41 04.0	+0.7
MSLP	Maasin	17.39	322	*e*P	P	14 41 06.0	+1.5
FITZ	Fitzroy Crossi	17.47	214	*e*P	P	14 41 02.7	-2.7
	26nm,0.6s						
FITZ				*e*S	S	14 44 06.4	-13
FITZ	Fitzroy Crossi	17.47	214	P	P	14 41 01.6	-3.8
	4.5nm,0.3s,baz=23,slow=12,SNR=62						
FITZ				S	S	14 44 07.1	-12
	4.7nm,0.3s,baz=190,slow=11,SNR=8.1						
FITZ				Lg		14 46 18.7	
	baz=18,slow=18,SNR=2.3						
FITZ				LR	LR	14 48 28.3	
	comp=Z,421nm,18.9s,baz=64,slow=39						
BESP	Borongan	18.22	326	*e*P	P	14 41 13.4	-1.4
GUIM	Jordan	19.23	317	*e*P	P	14 41 26.9	-0.2
CTA	Charters Tower	19.36	149	*e*P	P	14 41 30.4	+1.9
	32nm,0.8s						
CTA				*e*S	Sx	14 45 25.0	
CTA	Charters Tower	19.36	149	P	P	14 41 30.1	+1.5
	1.0nm,0.3s,baz=336,slow=12,SNR=16						
CTA				Lg		14 47 21.5	
	0.5nm,0.3s,baz=268,slow=21,SNR=5.7						
CTA				LR	LR	14 49 27.5	
	comp=Z,868nm,21.5s,baz=340,slow=38						
CTAO	Charters Tower	19.36	149	*e*P	P	14 41 29.3	+0.7
	59nm,1.0s						
CNP	Catarman	19.39	326	*e*P	P	14 41 27.7	-1.3
ASAR	Alice Springs	20.04	185	P	P	14 41 36.1	0.0
	109nm,0.6s,baz=8.7,slow=11,SNR=812						
ASAR				S	S	14 45 17.3	+0.7
	13nm,0.8s,baz=11,slow=20,SNR=4.8						
ASPA	Alice Springs	20.04	185	*e*P	P	14 41 36.2	+0.1
ASPA				*e*		14 41 44.3	
ASPA				*e*S	S	14 45 14.0	-2.6
CUYO	Cuyo Island	20.48	315	*e*P	P	14 41 39.8	-1.0
PVCP	Virac	20.56	326	*e*P	P	14 41 40.6	-1.1
OTRP	Odiongan	20.88	320	*e*P	P	14 41 44.5	-0.5
SJMP	San Jose	21.55	318	*e*P	P	14 41 52.7	+0.9
BATP	Bataraza	21.68	305	*e*P	P	14 41 58.6	+5.5
KKM	Kota Kinabalu	21.69	296	*e*P	P	14 41 54.0	+0.8
BOAC	Boac	21.82	321	*e*P	P	14 41 55.9	+1.4
BUSP	Coron	21.85	315	*e*P	P	14 41 55.3	+0.4
ENPP	El Nido	21.87	312	*e*P	P	14 41 54.9	-0.2
LQP	Lukban	22.51	322	⇑*e*P	P	14 42 02.2	+0.7
POLP	Polilio Island	22.74	323	*e*P	P	14 42 02.9	-0.9

LUBP	Lubang	23.05	319	*e*P	P	14 42 07.6	+0.7
QVPH	Quezon City--P	23.22	322	⇑*e*P	P	14 42 09.5	+1.1
MBWA	Marble Bar	23.37	220	*e*P	P	14 42 10.2	+0.3
	74nm,1.0s,mb5.2						
MBWA				LR	LR		
	comp=Z,478nm,20.0s,MS4.0						
BALP	Baler	23.75	324	*e*P	P	14 42 13.9	+0.2
CAUP	Cauayan	24.58	326	*e*P	P	14 42 24.1	+2.5
SCZP	Santa Cruz	24.79	321	*e*P	P	14 42 19.7	-4.0
APYP	Conner	25.65	327	*e*P	P	14 42 31.2	-0.6
FORT	Forrest	27.99	194	*e*P	P	14 42 54.5	+1.3
	comp=Z,120nm,0.8s,mb5.8						
STKA	Stephens Creek	28.68	170	*e*P	P	14 42 59.3	-0.1
	comp=Z,7.9nm,0.6s,mb4.7						
STKA	Stephens Creek	28.68	170	P	P	14 42 59.2	-0.1
	comp=Z,6.9nm,0.6s,mb4.6,baz=343,slow=8.0,SNR=13						
STKA				LR	LR	14 55 05.6	
	comp=Z,645nm,21.1s,MS4.2,baz=153,slow=38						
STKA	Stephens Creek	28.68	170	*e*P	P	14 42 59.0	-0.4
JOW	Kunigami	31.08	347	P	P	14 43 19.7	-1.2
	comp=Z,10nm,0.9s,mb4.8,baz=132,slow=8.3,SNR=4.9						
JOW				LR	LR	14 53 47.7	
	comp=Z,412nm,19.5s,MS4.1,baz=124,slow=32						
CBIJ	Chichi jima	31.14	11	LR	LR	14 53 31.2	
	comp=Z,406nm,21.0s,MS4.1,baz=54,slow=32						
ADE	Adelaide	31.34	175	P	P	14 43 25.2	+2.1
KLBR	Kellerberrin	32.58	209	*e*P	P	14 43 33.7	-0.2
	comp=Z,29nm,0.7s,mb5.3						
NWAO	Narrogin (SRO)	33.92	209	P	P	14 43 46.1	+0.5
	comp=Z,9.8nm,0.7s,mb4.8,baz=37,slow=9.0,SNR=5.3						
NWAO				LR	LR	14 58 15.3	
	comp=Z,437nm,18.7s,MS4.2,baz=225,slow=38						
NWAO	Narrogin (SRO)	33.92	209	*e*P	P	14 43 45.4	-0.2
	comp=Z,17nm,0.9s,mb5.0						
NWAO				LR	LR	14 58 15.3	
QIZ	Qiongzhong	33.95	312	P	P	14 43 43.9	-2.1
QIZ				S	S	14 49 11.6	+0.8
QIZ				LR	LR		
	comp=N,175nm,15.9s						
QIZ				LR	LR		
	comp=Z,218nm,27.4s						
JHJ	Hachijo jima 2	36.71	6	LR	LR	14 57 51.5	
	comp=Z,454nm,18.6s,MS4.3,baz=149,slow=34						
JNU	Nakatsue	36.80	353	P	P	14 44 09.8	-0.3
	comp=Z,17nm,0.8s,mb4.9,baz=181,slow=5.8,SNR=8.2						
JNU				LR	LR	14 58 15.9	
	comp=Z,342nm,20.3s,MS4.1,baz=316,slow=35						
SSE	Sheshan	37.17	339	*e*P	P	14 44 13.3	+0.1
SSE				S	S	14 50 00.0	-0.3
SSE				AMB	AMB		
	comp=Z,39nm,0.6s,mb5.3						
SSE				AMB	AMB		
	comp=Z,55nm,5.1s						
SSE				LR	LR		
	comp=N,117nm,18.9s,MS3.9						
SSE				LR	LR		
	comp=E,117nm,18.9s,MS3.9						
SSE				LR	LR		
	comp=Z,200nm,14.9s,MS4.0						
NJ2	Nanjing	38.90	337	*e*P	P	14 44 28.4	+0.7
NJ2				PP	PP	14 46 02.3	+1.8
NJ2				S	S	14 50 27.0	+0.5
NJ2				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.0						
NJ2				LR	LR		
	comp=N,530nm,24.8s						
NJ2				LR	LR		
	comp=E,310nm,16.4s						
NJ2				LR	LR		
	comp=Z,380nm,22.2s,MS4.2						
WHN	Wuhan	39.60	330	⇑P	P	14 44 35.0	+1.4
MAJO	Matsushiro	39.99	3	*e*P	P	14 44 35.5	-1.3
	comp=Z,22nm,1.1s,mb4.7						
MAJO				LR	LR		
	comp=Z,428nm,20.0s,MS4.3						
MAT	Matsushiro	39.99	3	P	P	14 44 35.1	-1.7
MAT				S	S	14 50 37.0	-6.1
MAT	Matsushiro	39.99	3	*e*P	P	14 44 35.0	-1.8
	comp=Z,10nm,0.9s,mb4.5						
MAT				*e*S	S	14 50 37.0	-6.1
GYA	Guiyang	41.00	318	⇓P	P	14 44 45.8	+0.6
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5						
ENH	Enshi	41.98	325	*e*P	P	14 44 53.2	0.0
ENH				LR	LR		
	comp=Z,166nm,20.0s,MS3.9						
CM31	Chiang Mai Arr	42.32	302	*e*P	P	14 44 56.1	-0.1
CMAR	Chiang Mai Arr	42.32	302	P	P	14 44 56.2	+0.1
	comp=Z,2.1nm,0.8s,mb3.9,baz=117,slow=6.4,SNR=11						
KMI	Kunming	42.88	314	⇑*i*P	P	14 45 01.8	+1.2
KMI				AP	pP	14 45 19.4	+19
KMI				AMB	AMB		
	comp=Z,16nm,1.5s,mb4.5						
KMI				LR	LR		
	comp=N,154nm,18.4s						
KMI				LR	LR		
	comp=E,138nm,23.9s						
KMI				LR	LR		
	comp=Z,192nm,33.3s						
XAN	Xi’an	45.15	328	P	P	14 45 19.1	+0.2
XAN				AMB	AMB		
	comp=Z,33nm,1.4s,mb5.1						
CD2	Chengdu	45.88	321	*e*P	P	14 45 24.4	-0.4
CD2				AMB	AMB		
	comp=Z,20nm,1.2s,mb5.0						
BJT	Baijiatuau	46.96	339	*e*P	P	14 45 33.0	-0.2
	comp=Z,28nm,1.0s,mb5.3						
BJT				LR	LR		
	comp=Z,311nm,19.0s,MS4.3						
BJI	Beijing	46.98	339	P	P	14 45 32.3	-1.0
BJI				S	S	14 52 25.1	+0.2
BJI				LR	LR		
	comp=N,233nm,17.4s						
BJI				LR	LR		
	comp=Z,245nm,19.3s,MS4.2						
ASAJ	Asahikawa	47.89	7	P	P	14 45 40.9	+0.5
	comp=Z,6.5nm,0.6s,mb4.9,baz=274,slow=5.3,SNR=7.6						
ASAJ				LR	LR	15 04 56.5	
	comp=Z,222nm,19.8s,MS4.1,baz=348,slow=35						
CN2	Changchun	48.07	350	*e*P	P	14 45 41.3	-0.5
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb5.0						
CN2				LR	LR		
	comp=N,310nm,21.0s,MS4.3						
CN2				LR	LR		
	comp=E,220nm,21.0s,MS4.3						
CN2				LR	LR		
	comp=Z,280nm,18.0s,MS4.3						
MDJ	Mudanjiang	48.30	354	P	P	14 45 43.3	-0.3
MDJ				AMB	AMB		
	comp=Z,11nm,0.8s,mb5.0						
MDJ				AMB	AMB		
	comp=Z,75nm,4.3s						
MDJ				LR	LR		
	comp=N,86nm,20.7s,MS3.9						
MDJ				LR	LR		
	comp=E,93nm,19.5s,MS3.9						
MDJ				LR	LR		
	comp=Z,156nm,21.5s,MS4.0						
MDJ	Mudanjiang	48.30	354	*e*P	P	14 45 42.6	-1.0
	comp=Z,7.0nm,0.7s,mb4.9						
MDJ				LR	LR		
	comp=Z,233nm,20.0s,MS4.2						
HHC	Hu-ho-hao-te	49.43	336	*e*P	P	14 45 53.5	+1.2
HHC				SCS	ScS	14 55 39.3	-3.3
HHC				AMB	AMB		
	comp=Z,36nm,1.3s,mb5.2						
HHC				AMB	AMB		
	comp=Z,163nm,3.5s						
HHC				LR	LR		
	comp=N,119nm,20.8s,MS4.0						
HHC				LR	LR		
	comp=E,117nm,19.6s,MS4.0						
HHC				LR	LR		
	comp=Z,120nm,17.2s,MS4.0						
LZH	Lanzhou	49.45	326	⇓P	P	14 45 54.1	+1.6
LZH				AMB	AMB		
	comp=Z,157nm,4.3s						
LZH				LR	LR		
	comp=N,261nm,15.1s						
LZH				LR	LR		
	comp=Z,276nm,17.8s,MS4.3						
BTO	Baotou	49.87	334	*e*P	P	14 45 54.5	-1.3
YSS	Yuzh-Sakhalins	50.71	6	*e*P	P	14 46 02.0	-0.1
YSS				*e*		14 46 12.0	
SHL	Shillong	51.41	307	⇑*i*P	P	14 46 07.5	-0.2
KLR	Kul’dur	52.72	357	*e*P	P	14 46 17.7	+0.5
LSA	Lhasa	53.97	311	P	P	14 46 27.8	+1.1
GTA	Gaotai	54.05	326	P	P	14 46 28.3	+1.2
GTA				AMB	AMB		
	comp=Z,16nm,1.2s,mb4.9						
HIA	Hailar	54.44	347	*e*P	P	14 46 29.3	-0.5
	comp=Z,1.8nm,0.7s,mb4.2						
HIA				LR	LR		
	comp=Z,188nm,20.0s,MS4.2						
SONM	Songino Array	57.29	337	P	P	14 46 50.5	0.0
	comp=Z,2.1nm,0.8s,mb4.2,baz=154,slow=8.0,SNR=16						
PKI	Pulchoki	57.49	306	*e*P	P	14 46 51.5	-0.7
	comp=Z,29nm,1.1s,mb5.2						
KKN	Kakani	57.69	306	*e*P	P	14 46 52.4	-1.2
	comp=Z,24nm,0.8s,mb5.3						
DMN	Daman	57.76	306	*e*P	P	14 46 52.8	-1.2
	comp=Z,38nm,0.8s,mb5.5						
GKN	Gorkha	58.30	306	*e*P	P	14 46 57.2	-0.6
	comp=Z,24nm,0.7s,mb5.3						
KOLN	Koldanda	59.04	305	*e*P	P	14 47 02.5	-0.5
	comp=Z,55nm,1.2s,mb5.5						
ZAK	Zakamensk	60.55	337	*e*P	P	14 47 12.2	-0.9
BOD	Bodaibo	63.66	347	*e*P	P	14 47 32.4	-1.3
WMQ	Urumqi	63.87	323	P	P	14 47 35.6	+0.2
WMQ				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.4						
WMQ				LR	LR		
	comp=Z,85nm,22.0s,MS3.9						
YAK	Yakutsk	65.60	357	*de*P	P	14 47 45.7	-0.6
YAK				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb5.0						
YAK	Yakutsk	65.60	357	*e*P	P	14 47 45.9	-0.4
	comp=Z,11nm,0.7s,mb5.2						
MKAR	Makanchi Array	68.68	324	P	P	14 48 05.8	-0.2
	comp=Z,10nm,0.8s,mb5.1,baz=108,slow=6.9,SNR=39						
MKAR	Makanchi Array	68.68	324	*e*P	P	14 48 05.9	-0.1
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AAK	Ala-Archa	71.77	317	*e*P	P	14 48 25.1	+0.2
AAK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.4						
NVS	Novosibirsk	72.48	331	*e*P	P	14 48 27.7	-1.2
NVS				pmax	pmax		
	comp=Z,31nm,1.6s,mb5.2						
NVS				pmax	pmax		
	comp=N,28nm,1.7s						
NVS				pmax	pmax		
	comp=E,21nm,1.7s						
KURK	Kurchatov	72.73	326	*i* P	P	14 48 30.5	0.0
KURK				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
TIXI	Tiksi	75.23	358	⇑*e*P	P	14 48 43.5	-1.1
TIXI				*e*		14 48 54.9	
TIXI				*e*		14 51 33.7	
TIXI				*e*SS	SS	15 03 13.7	-1.2
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.4						
SBA	Scott Base	76.00	174	P	P	14 48 50.9	+2.0
	comp=Z,11nm,1.0s,mb4.9						
SBA				LR	LR		
	comp=Z,489nm,22.0s,MS4.8						
VOSK	Vostochnaya	77.89	326	P	P	14 48 58.3	-1.5
VOSK				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.9						
BVA0	Borovoye Array	78.33	326	*i* P	P	14 49 02.4	+0.2
BVA0				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.9						
BVAR	Borovoye Array	78.33	326	P	P	14 49 02.7	+0.5
	comp=Z,7.3nm,0.8s,mb4.9,baz=117,slow=6.6,SNR=32						
ZRNK	Zerenda	79.08	326	P	P	14 49 06.1	-0.2
ZRNK				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.9						
MAW	Mawson	80.19	202	P	P	14 49 14.9	+2.9
	comp=Z,14nm,0.8s,mb4.9,baz=74,slow=6.7,SNR=27						
SVE	Sverdlovsk	84.87	328	⇑*e*P	P	14 49 36.0	-0.3
SVE				*e*		14 54 52.0	
SVE				*e*		15 00 08.0	
SVE				pmax	pmax		
	comp=Z,40nm,2.2s,mb5.3						
IMA	Indian Mountai	85.51	23	*e*P	P	14 49 41.6	+2.3
	comp=Z,48nm,1.3s,mb5.5						
ARU	Arti	85.89	327	⇑*i*P	P	14 49 42.0	+0.6
ARU				*e*		14 53 04.2	
ARU				*e*PPP	PPP	14 54 55.4	-4.1
ARU				*e*S	S	15 00 05.4	-9.0
ARU				*e*SSS	SSS	15 09 24.0	+0.3
ARU				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
ARU	Arti	85.89	327	*e*P	P	14 49 40.7	-0.7
	comp=Z,10nm,1.0s,mb4.9						
QSPA	South Pole Qui	86.36	180	*e*P	P	14 49 50.7	+7.4
	comp=Z,22nm,1.0s,mb5.2						
QSPA				LR	LR		
	comp=Z,530nm,21.7s,MS4.9						
MCK	McKinley	86.76	26	*e*P	P	14 49 46.1	+0.6
	comp=Z,2.4nm,0.7s,mb4.5						
MCK				LR	LR		
	comp=Z,199nm,22.0s,MS4.5						
COLA	College	87.50	25	P	P	14 49 50.5	+1.3
ILAR	Eielson Array	87.88	25	P	P	14 49 51.3	+0.4
	comp=Z,1.8nm,0.5s,mb4.6,baz=266,slow=4.2,SNR=20						
SOC	Sochi	96.80	313	*e*P	P	14 50 31.8	-0.9
SOC				*e*		14 54 31.0	
SOC				*e*PPP	PPP	14 56 28.0	-8.0
SOC				*e*		15 00 58.1	
SOC				*e*S	S	15 01 48.8	-3.4
SOC				*e*SS	SS	15 08 30.5	-0.5
SOC				*e*SSS	SSS	15 12 08.9	-6.9
SOC				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb5.4						
SOC				pmax	pmax		
	comp=N,5.0nm,0.4s						
SOC				pmax	pmax		
	comp=E,2.0nm,0.3s						
SOC				MLR	MLR		
	comp=Z,84nm,17.0s,MS4.3						
SOC				MLR	MLR		
	comp=N,71nm,19.0s,MS4.3						
SOC				MLR	MLR		
	comp=E,57nm,16.0s,MS4.3						
SNAA	Sanae	100.23	192	⇑*i*P	P	14 51 01.8	+14
SNAA	Sanae	100.23	192	⇑*i*P	P	14 51 01.8	+14
ARCES	ARCESS Array B	100.34	340	P	P	14 50 48.2	+0.1
	comp=E,3.5nm,0.8s,baz=73,slow=5.6,SNR=12						
ARCES	ARCESS Array B	100.34	340	P	P	14 50 48.2	+0.1
VNA2	Neumayer--Watz	101.75	192	⇑*i*P	P	14 51 04.2	+10
VNA2	Neumayer--Watz	101.75	192	⇑*i*P	P	14 51 04.2	+10
VNA2	Neumayer--Watz	101.75	192			14 55 13.5	
VNA3	Neumayer Olymp	101.94	191	⇑*i*P	P	14 51 05.7	+10
VNA3	Neumayer Olymp	101.94	191	⇑*i*P	P	14 51 05.7	+10
VNA3	Neumayer Olymp	101.94	191	⇑*i*		14 55 12.6	
VNA1	Neumayer--Stat	102.15	192	⇑*i*P	Pdif	14 51 04.5	+8.3
VNA1	Neumayer--Stat	102.15	192	⇑*i*P	Pdif	14 51 04.5	+8.3
VNA1	Neumayer--Stat	102.15	192	⇑*i*		14 55 13.4	
OTAV	Otavalo	145.71	95	PKPdf	PKPdf	14 56 43.9	+1.8
CPUP	Villa Florida	147.69	158	PKPbc	PKPdf	14 56 49.2	+4.2
	comp=E,2.5nm,0.6s,baz=243,slow=2.8,SNR=8.0						
CPUP	Villa Florida	147.69	158	PKPbc	PKPdf	14 56 49.2	+4.2
LPAZ	La Paz	149.25	131	PKPbc	PKPdf	14 56 54.8	+7.1
	comp=E,16nm,0.8s,baz=221,slow=2.8,SNR=7.5						
LPAZ	La Paz	149.25	131	*e*PKPbc	PKPdf	14 56 54.1	+6.3
LPAZ				PKPbc	PKPdf	14 56 54.8	+7.1
LPAZ				*e*PKPab	PKPab	14 57 00.3	+3.5

LDG ***18*** *14:52:06.2±0.4, 42.87N×1.51W, h2km, Md2.4/2, Ml2.8/7, Error ellipse: s-maj=7.5km s-min=5.5km az=41.0*

STR ***18*** *14:52:06.2±0.6, 42.90N×1.52W, h5km±1km, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

NEIC ***18*** *14:52:07.4, 42.85N×1.38W, h5km, ML2.8(LDG), ML2.5(STR), MN2.2(MDD), After MDD.*

MDD ***18*** *14:52:07.4±0.3, 42.86N×1.42W, h6km±4km, mbLg2.2/15, Error ellipse: s-maj=2.9km s-min=1.8km az=40.0, AftershockPLICA PRXIMO*

ISC 18 14:52:05.5±0.4, **42.88N**±0.02×**1.48W**±0.03, **h14**km±2km, **n51,** σ**1ˢ30**/86, **1C, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	Ste Jean	0.30	38	*e*Pg	Pg	14 52 12.8	+0.8
SJPF				*e*Sg	Sg	14 52 15.7	-0.6
	297nm,0.3s						
EALK	Alkurruntz	0.34	357	⇑Pg	Pg	14 52 13.9	+1.1
	6.9nm,0.4s,SNR=18						
EALK				Lg		14 52 19.7	
	131nm,0.4s,SNR=16						
EALK	Alkurruntz	0.34	357	Pg	Pg	14 52 14.0	+1.2
EALK				Lg		14 52 19.7	
LARF	Larrau	0.40	66	Pg	Pg	14 52 14.2	+0.4
LARF				Sg	Sg	14 52 20.1	+0.8
LARF	Larrau	0.40	66	P	Pg	14 52 14.2	+0.5
LARF				S	Sg	14 52 19.7	+0.5
OSSF	Osses	0.41	23	P	Pb	14 52 14.8	+0.7
OSSF				S	Sg	14 52 21.1	+1.3
ORDF	Ordiarp	0.52	50	Pg	Pg	14 52 16.7	+0.5
ORDF				Sg	Sg	14 52 23.8	+0.4
ORDF	Ordiarp	0.52	50	P	Pb	14 52 16.8	+0.8
ORDF				S	Sb	14 52 23.9	+0.8
ATE	Arette	0.61	70	P	Pb	14 52 18.1	+0.7
ATE				S	Sb	14 52 26.1	+0.5
FDAF	Les Forges d’A	0.67	94	Pg	Pg	14 52 19.0	-0.1
FDAF				Sg	Sg	14 52 29.4	+1.1
FDAF	Les Forges d’A	0.67	94	P	Pb	14 52 18.8	+0.3
FDAF				S	Sb	14 52 28.1	+0.7
ETSF	Etsaut	0.68	88	*e*Pg	Pg	14 52 18.5	-0.7
ETSF				*e*Sg	Sg	14 52 27.4	-1.0
	92nm,0.4s						
REYF	Montagne du Re	0.82	76	P	Pb	14 52 21.9	+0.8
REYF				S	Sb	14 52 32.9	+1.1
VIEF	Viey	1.10	89	Pg	Pg	14 52 28.4	+0.7
VIEF				Sg	Sg	14 52 43.1	+0.6
VIEF	Viey	1.10	89	S	Sb	14 52 40.9	+0.9
LABF	Labassere	1.15	81	Pg	Pg	14 52 27.6	-1.0
LABF	Labassere	1.15	81	P	Pb	14 52 29.5	+2.7
LABF				S	Sb	14 52 43.1	+1.7
RESF	Ens	1.34	92	Pg	Pg	14 52 32.5	+0.2
RESF				Sg	Sg	14 52 51.7	+1.5
RESF	Ens	1.34	92	P	Pn	14 52 32.6	+2.7
RESF				S	Sb	14 52 46.4	-0.4
EPF	Esparros	1.34	83	*e*Pn	Pn	14 52 30.7	+0.7
EPF				*e*Pg	Pg	14 52 32.8	+0.4
EPF				*e*Sg	Sg	14 52 49.7	-0.7
	32nm,0.2s						
ESAC	San Caprasio	1.38	147	Pg	Pg	14 52 31.6	-1.4
	55nm,0.3s,SNR=16						
ESAC				Lg		14 52 49.6	
	74nm,0.3s,SNR=8.3						
ESAC	San Caprasio	1.38	147	Pg	Pg	14 52 31.6	-1.4
ESAC				Lg		14 52 50.3	
ELAN	Lanestosa	1.48	285	Pg	Pg	14 52 35.4	+0.3
	7.2nm,0.4s,SNR=24						
ELAN				Lg		14 52 56.6	
	12nm,0.3s,SNR=7.9						
ELAN	Lanestosa	1.48	285	Pg	Pg	14 52 35.4	+0.4
ELAN				Lg		14 52 57.2	
EGRA	Graus	1.49	117	Pg	Pg	14 52 33.5	-1.9
	8.6nm,0.3s,SNR=7.9						
EGRA				Lg		14 52 53.3	
	10.0nm,0.3s,SNR=7.9						
MELF	Melles	1.65	89	P	Pn	14 52 37.8	+3.5
MELF				S	Sn	14 52 59.4	+4.0
MLS	Moulis	1.89	87	S	Sn	14 53 06.9	+5.3
SALF	Salau	1.97	92	P	Pn	14 52 42.7	+3.8
SALF				S	Sn	14 53 07.8	+4.2
ETOR	Torete	2.10	192	Pn	Pn	14 52 42.3	+1.5
	2.9nm,0.4s,SNR=4.7						
ETOR				Pg	Pg	14 52 46.0	-1.5
	12nm,0.4s,SNR=18						
ETOR				Lg		14 53 10.0	
	16nm,0.4s,SNR=6.4						
ETOR	Torete	2.10	192	Pn	Pn	14 52 42.3	+1.5
ETOR				Pg	Pg	14 52 46.0	-1.5
ETOR				Sn	Sn	14 53 08.1	+1.2
ETOR				Lg		14 53 13.8	
EMIR	Miracle	2.42	112	Pg	Pg	14 52 52.4	-1.5
	6.6nm,0.3s,SNR=5.1						
EMIR				Lg		14 53 23.0	
	21nm,0.6s,SNR=5.5						
EMIR	Miracle	2.42	112	Pg	Pg	14 52 50.9	-3.1
EMIR				Lg		14 53 23.0	
EPOB	Poblet	2.44	128	Pn	Pn	14 52 45.8	+0.2
	SNR=7.9						
EPOB				Pg	Pg	14 52 50.6	-3.6
	SNR=7.9						
EPOB				Sn	Sn	14 53 13.3	-2.1
	SNR=7.9						
EPOB				Lg		14 53 19.8	
	6.0nm,0.3s,SNR=7.9						
EPOB	Poblet	2.44	128	Pn	Pn	14 52 46.4	+0.7
EPOB				Sn	Sn	14 53 13.3	-2.1
EPOB				Lg		14 53 19.8	
LFF	La Frestale	2.61	37	*e*Pn	Pn	14 52 47.8	-0.3
LFF				*e*Pg	Pg	14 52 55.3	-2.4
LFF				*e*Sg	Sg	14 53 28.1	-4.5
	8.3nm,0.3s						
EMOS	Mosqueruela	2.62	163	Pg	Pg	14 52 54.8	-3.1
	5.4nm,0.5s,SNR=8.7						
EMOS				Lg		14 53 27.9	
	4.9nm,0.5s,SNR=4.0						
EMOS	Mosqueruela	2.62	163	Pg	Pg	14 52 54.5	-3.4
EMOS				Lg		14 53 29.0	
VALF	Valcebollere	2.62	99	S	Sg	14 53 31.4	-1.5
CARF	Carcanieres	2.64	92	S	Sg	14 53 30.6	-3.0
MTLF	Montolieu	2.75	79	*e*Pn	Pn	14 52 50.7	+0.7
MTLF				*e*Sn	Sn	14 53 23.3	0.0
	6.6nm,0.3s						
RJF	Les Rejaudoux	3.25	41	*e*Pn	Pn	14 52 56.1	-1.1
RJF				*e*Sn	Sn	14 53 34.2	-1.8
	3.5nm,0.2s						
EJON	La Jonquera	3.25	96	Pg	Pg	14 53 06.4	-4.1
	0.4nm,0.2s,SNR=7.9						
EJON				Lg		14 53 49.2	
	11nm,1.1s,SNR=7.9						
CAF	Calviac	3.28	50	*e*Pn	Pn	14 52 56.9	-0.7
CAF				*e*Sn	Sn	14 53 35.1	-1.7
	4.1nm,0.2s						
ESDC	Sonseca Array	3.71	211	Pn	Pn	14 53 04.6	+0.9
	0.4nm,0.3s,baz=35,slow=13,SNR=5.4						
ESDC				Lg		14 54 02.7	
	0.7nm,0.3s,baz=30,slow=29,SNR=8.9						
MFF	Saint Martin d	3.85	14	*e*Pn	Pn	14 53 04.9	-0.8
MFF				*e*Pg	Pg	14 53 17.4	-4.9
MFF				*e*Sn	Sn	14 53 48.3	-2.8
	2.5nm,0.2s						
ECAL	Calabor	4.00	258	Pn	Pn	14 53 08.8	+0.9
	SNR=7.9						
ECAL				Sn	Sn	14 53 54.0	-1.1
	6.9nm,0.4s,SNR=4.7						
ECAL				Lg		14 54 10.2	
	6.9nm,0.4s,SNR=4.7						
ECAL	Calabor	4.00	258	Pn	Pn	14 53 08.8	+0.9
ECAL				Sn	Sn	14 53 52.3	-2.8
ECAL				Lg		14 54 10.2	
LASF	Ste Croix	4.07	71	*e*Pn	Pn	14 53 08.0	-0.8
EPON	Pontenova	4.18	278	Pn	Pn	14 53 12.3	+2.0
	0.7nm,0.1s,SNR=7.9						
TCF	Toulx Ste Croi	4.31	36	*e*Pn	Pn	14 53 10.1	-2.2
BGF	Bois d’Agland	4.80	38	*e*Pn	Pn	14 53 16.2	-3.0
BGF				*e*Sn	Sn	14 54 11.2	-4.1
	8.4nm,0.4s						

LDG ***18*** *14:55:36.3±0.2, 14.91S×166.11E, h10km, Mb5.4/4, Ms4.6/7, Error ellipse: s-maj=29.0km s-min=7.2km az=83.0*

IDC ***18*** *14:55:36.4±0.8, 13.64S×166.83E, mb4.8/14, mb1 4.9/14, mb1mx4.8/18, MS4.4/15, Ms1 4.4/15, ms1mx4.3/19, Error ellipse: s-maj=28.1km s-min=17.1km az=124.0*

MOS ***18*** *14:55:40.6±1.1, 13.48S×166.50E, h33km, mb5.6/4, Error ellipse: s-maj=20.8km s-min=19.8km az=85.3*

BJI ***18*** *14:55:43.8, 12.89S×166.93E, h50km, mb5.1, mb5.2, Ms4.6, Msz4.3*

NEIC ***18*** *14:55:45.7±1.8, 13.42S×166.65E, h63km±15km, mb5.0/34, Error ellipse: s-maj=9.7km s-min=8.6km az=104.0*

HRVD ***18*** *14:55:45.7±0.3, 13.42S×166.39E, h34km, MW5.1/46, Centroid moment Tensor Solution. LP body waves: s42,c61; Mantle waves: s46,c72; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}5.93±.25; $M_{\theta\theta}$-0.67±.18; $M_{\phi\phi}$-5.26±.16; $M_{r\theta}$1.26±.26; $M_{r\phi}$1.91±.14; $M_{\theta\phi}$1.82±.19; Best double couple: $M_0$6.33×10^{16} NP1: ϕ_s146°, δ41°, λ67°. NP2: ϕ_s355°, δ53°, λ109°. Principal axes: T6.56, Plg74°, Azm320°; N -.46, Plg15°, Azm164°; P -6.09, Plg6°, Azm72°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 18 14:55:41.6±1.4, **13.42S**±0.05×**166.61E**±0.07, **h39**km±12km,

h31^{km}±1.2^{km}:pP-P,n136,σ0^{s}99/97,mb5.1/54,MS4.4/25,
15C-2D,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BKM	Butte a Klehm	4.51	160	*i* P	P	14 56 50.2	+0.9
DZM	Mont Dzumac	8.61	181	*e*P	P	14 57 46.6	+0.1
DZM				*e*S	S	14 59 20.2	-3.2
DZM	Mont Dzumac	8.61	181	*e*P	P	14 57 46.6	0.0
DZM				*e*S	S	14 59 20.2	-3.2
NOUC	Port Laguerre	8.64	182	*e*P	P	14 57 47.0	0.0
CTA	Charters Tower	20.58	248	P	P	15 00 15.7	-4.2
	3.4nm,1.0s,baz=58,slow=15,SNR=3.0						
CTA				LR	LR	15 07 18.5	
	comp=Z,2µm,20.7s,MS4.5,baz=52,slow=34						
CTA	Charters Tower	20.58	248	*e*P	P	15 00 21.9	+2.0
	11nm,0.8s						
CTA				LR	LR	15 07 18.5	
CTAO	Charters Tower	20.58	248	*e*P	P	15 00 22.0	+2.1
	51nm,1.3s						
ARMA	Armidale	21.85	217	*e*P	P	15 00 34.0	+1.3
RIV	Riverview	24.70	212	*e*P	P	15 01 01.7	+1.1
URZ	Urewera	26.44	161	LR	LR	15 09 36.2	
	comp=Z,703nm,21.8s,MS4.2,baz=359,slow=32						
CNB	Canberra Magne	26.78	213	*e*P	P	15 01 20.9	+0.8
	41nm,1.4s,mb4.8						
STKA	Stephens Creek	29.38	227	*e*P	P	15 01 43.2	-0.2
	4.7nm,0.8s,mb4.3						
STKA	Stephens Creek	29.38	227	P	P	15 01 41.5	-2.0
	7.1nm,0.9s,mb4.4,baz=59,slow=4.8,SNR=12						
STKA				PcP	PcP	15 04 47.6	-1.5
	4.2nm,0.7s,baz=119,slow=5.0,SNR=3.5						
STKA				LR	LR	15 13 32.6	
	comp=Z,2µm,18.6s,MS4.7,baz=45,slow=37						
RPZ	Rata Peaks	30.43	174	LR	LR	15 12 31.3	
	comp=Z,1µm,20.5s,MS4.5,baz=234,slow=34						
TOO	Toolangi	30.54	214	*e*P	P	15 01 53.8	+0.1
	12nm,0.9s,mb4.7						
WB2	Warramunga Arr	31.54	254	*e*P	P	15 02 01.0	-1.7
WB2				*e*		15 04 54.0	
WB2				*e*		15 08 37.6	
WRAB	Tennant Creek	31.54	254	*e*P	P	15 02 00.9	-1.8
	14nm,1.0s,mb4.7						
WRA	Warramunga Arr	31.55	254	P	P	15 02 01.4	-1.3
	4.7nm,0.8s,mb4.4,baz=84,slow=8.9,SNR=31						
WRA				PcP	PcP	15 04 54.1	-0.8
	6.0nm,0.9s,baz=82,slow=2.5,SNR=14						
WRA				LR	LR	15 14 23.8	
	comp=Z,2µm,18.8s,MS4.9,baz=80,slow=36						
ASAR	Alice Springs	32.56	247	P	P	15 02 10.4	-1.2
	2.8nm,0.7s,mb4.3,baz=75,slow=9.4,SNR=54						
ASAR				PcP	PcP	15 04 56.3	-1.3
	4.7nm,0.7s,baz=80,slow=2.7,SNR=14						
ASAR				ScP		15 08 39.4	
	1.6nm,0.8s,baz=82,slow=3.3,SNR=8.3						
ASAR				LR	LR	15 14 54.6	
	comp=Z,950nm,19.3s,MS4.5,baz=71,slow=35						
ASAR	Alice Springs	32.56	247	P	P	15 02 10.4	-1.2
ASAR				PcP	PcP	15 04 56.3	-1.3
ASAR				ScP		15 08 39.4	
ASAR				LR	LR	15 14 54.6	
ASPA	Alice Springs	32.57	247	*e*P	P	15 02 10.1	-1.6
ASPA				*e*		15 04 56.4	
RAR	Rarotonga	32.96	108	LR	LR	15 12 21.6	
	comp=Z,643nm,20.7s,MS4.3,baz=259,slow=31						
KAKA	Kakadu	33.32	267	*e*P	P	15 02 19.9	+1.7
	14nm,0.8s,mb4.9						
FORT	Forrest	39.43	238	*e*P	P	15 03 08.9	-0.8
	50nm,0.7s,mb5.3						
FITZ	Fitzroy Crossi	39.65	258	*e*P	P	15 03 10.9	-0.7
	9.0nm,1.1s,mb4.4						
FITZ				*i*		15 05 18.6	
FITZ	Fitzroy Crossi	39.65	258	P	P	15 03 11.1	-0.5
	8.8nm,0.9s,mb4.5,baz=124,slow=4.9,SNR=9.8						
FITZ				PcP	PcP	15 05 18.7	0.0
	6.8nm,0.9s,baz=47,slow=3.1,SNR=3.8						
FITZ				LR	LR	15 18 49.3	
	comp=Z,549nm,19.7s,MS4.4,baz=90,slow=35						
PPT	Papeete	42.36	101	*e*S	S	15 09 50.4	-1.9
PPT				*e*L		15 13 53.4	
PPT				*e*R		15 15 37.0	
	1µm,26.5s,baz=268						
TBI	Tubuai	42.70	110	*e*L		15 13 48.3	
TBI				*e*R		15 15 45.5	
	1µm,26.2s,baz=284						
MBWA	Marble Bar	45.28	253	*e*P	P	15 03 57.6	-0.1
	36nm,1.3s,mb5.0						
NWAO	Narrogin (SRO)	48.88	238	P	P	15 04 25.1	-0.6
	12nm,0.9s,mb4.9,baz=103,slow=5.6,SNR=6.6						
NWAO				LR	LR	15 25 09.4	
	comp=Z,738nm,18.4s,MS4.7,baz=349,slow=36						
NWAO	Narrogin (SRO)	48.88	238	*e*P	P	15 04 24.6	-1.2
	14nm,0.9s,mb5.0						
NWAO				LR	LR	15 25 09.3	
MUN	Mundaring	49.56	239	*e*P	P	15 04 30.3	-0.7
	99nm,1.0s,mb5.8						
TGY	Tagaytay City	52.85	299	LR	LR	15 24 09.2	
	comp=Z,128nm,21.1s,MS3.9,baz=350,slow=32						
JOW	Kunigami	54.66	317	P	P	15 05 10.1	+0.9
	40nm,0.9s,mb5.4,baz=142,slow=6.9,SNR=12						
JOW				LR	LR	15 28 27.8	
	comp=Z,210nm,18.8s,MS4.2,baz=129,slow=36						
MAJO	Matsushiro	56.46	333	*e*P	P	15 05 21.0	-1.1
	17nm,0.8s,mb5.1						
MAT	Matsushiro	56.46	333	P	P	15 05 20.6	-1.5
MAT	Matsushiro	56.46	333	*e*P	P	15 05 21.0	-1.1
	6.7nm,0.9s,mb4.7						
JNU	Nakatsue	57.49	324	P	P	15 05 29.3	-0.2
	57nm,1.0s,mb5.6,baz=94,slow=6.7,SNR=17						
ASAJ	Asahikawa	61.30	340	P	P	15 05 56.1	+0.5
	5.8nm,0.5s,mb5.0,baz=190,slow=14,SNR=6.3						
SSE	Sheshan	62.14	316	P	P	15 06 00.6	-0.8
SSE				S	S	15 14 23.5	+1.3
SSE				XS		15 14 40.0	
SSE				SS	SS	15 18 26.9	-0.2
SSE				AMB	AMB		
	comp=Z,84nm,4.2s						
SSE				LR	LR		
	comp=N,140nm,18.4s,MS4.3						
SSE				LR	LR		
	comp=E,119nm,18.3s,MS4.3						
SSE				LR	LR		
	comp=Z,188nm,17.1s,MS4.3						
YSS	Yuzh-Sakhalins	63.79	342	*e*P	P	15 06 11.5	-0.6
NJ2	Nanjing	64.30	316	*e*P	P	15 06 15.3	-0.4
NJ2				AP	pP	15 06 24.8	-2.4
NJ2				XP	sP	15 06 29.0	-2.5
NJ2				PP	PP	15 08 38.3	-0.8
NJ2				S	S	15 14 49.0	-0.2
NJ2				XS		15 15 07.0	
NJ2				PS	PS	15 15 15.0	+0.8
NJ2				SCS	ScS	15 16 05.0	+2.2
NJ2				LR	LR		
	comp=E,1µm,19.6s						
SBA	Scott Base	64.44	180	*e*P	P	15 06 16.4	+0.6
	comp=E,14nm,1.0s,mb4.9						
MDJ	Mudanjiang	66.83	332	P	P	15 06 29.0	-2.6
MDJ				AMB	AMB		
	comp=Z,21nm,1.4s,mb5.0						
MDJ				AMB	AMB		
	comp=Z,80nm,5.4s						
MDJ				LR	LR		
	comp=N,72nm,32.1s						
MDJ				LR	LR		
	comp=E,59nm,24.9s						
MDJ				LR	LR		
	comp=Z,130nm,28.5s,MS4.0						
MDJ	Mudanjiang	66.83	332	*e*P	P	15 06 31.2	-0.4
	comp=Z,16nm,0.8s,mb5.1						
DL2	Dalian	66.87	323	P	P	15 06 32.8	+0.8
DL2				AMB	AMB		
	comp=Z,40nm,0.9s,mb5.5						
TIA	Tai'an	67.94	318	*e*P	P	15 06 38.5	-0.3
TIA				AMB	AMB		
	comp=Z,31nm,1.0s,mb5.3						
CN2	Changchun	68.20	329	*e*P	P	15 06 40.3	0.0
CN2				AMB	AMB		
	comp=Z,50nm,0.8s,mb5.6						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,210nm,20.0s,MS4.4						
CN2				LR	LR		
	comp=E,120nm,20.0s,MS4.4						
CN2				LR	LR		
	comp=Z,170nm,23.0s,MS4.2						
KLR	Kul'dur	69.56	336	*e*P	P	15 06 48.8	+0.3
KLR				pmax	pmax		
	comp=Z,30nm,1.6s,mb5.0						
ENH	Enshi	70.04	309	*e*P	P	15 06 51.8	0.0
	comp=Z,82nm,1.1s,mb5.6						
GYA	Guiyang	70.45	305	⇑*i*P	P	15 06 54.9	+0.6
GYA				AMB	AMB		
	comp=Z,30nm,1.3s,mb5.1						
BJT	Baijiatuau	70.84	321	*e*P	P	15 06 57.1	+0.6
	comp=Z,42nm,0.9s,mb5.4						
BJI	Beijing	70.85	321	P	P	15 06 55.5	-1.0
BJI				AMB	AMB		
	comp=Z,55nm,1.0s,mb5.4						
BJI				AMB	AMB		
	comp=Z,329nm,6.8s						
XAN	Xi'an	72.34	313	P	P	15 07 05.9	+0.4
XAN				AMB	AMB		
	comp=Z,38nm,1.5s,mb5.1						
KMI	Kunming	73.08	302	⇑*i*P	P	15 07 11.8	+1.7
KMI				AP	pP	15 07 22.6	+0.8
KMI				XP	sP	15 07 25.5	-0.5
KMI				XS		15 17 00.8	
KMI				AMB	AMB		
	comp=Z,46nm,1.4s,mb5.2						
KMI				AMB	AMB		
	comp=Z,235nm,4.5s						
KMI				LR	LR		
	comp=N,143nm,22.2s,MS4.4						
KMI				LR	LR		
	comp=E,126nm,19.4s,MS4.4						
KMI				LR	LR		
	comp=Z,159nm,16.4s,MS4.4						
CM31	Chiang Mai Arr	73.83	294	*e*P	P	15 07 15.2	+0.5
	comp=Z,42nm,1.0s,mb5.3						
CMAR	Chiang Mai Arr	73.83	294	P	P	15 07 15.8	+1.1
	comp=Z,19nm,0.8s,mb5.1,baz=121,slow=4.5,SNR=102						
CMAR				LR	LR	15 35 42.0	
	comp=Z,91nm,20.2s,MS4.0,baz=100,slow=32						
CHG	Chiang Mai	73.96	294	⇑P	P	15 07 16.3	+0.9
	comp=Z,27nm,0.9s,mb5.2						
HHC	Hu-ho-hao-te	74.18	320	*e*P	P	15 07 17.3	+1.1
HHC				PP	PP	15 09 57.0	-6.9
HHC				S	S	15 16 35.8	-10
HHC				AMB	AMB		
	comp=Z,45nm,1.3s,mb5.2						
HHC				AMB	AMB		
	comp=Z,148nm,5.6s						
HHC				LR	LR		
	comp=N,118nm,23.8s,MS4.2						
HHC				LR	LR		
	comp=E,89nm,24.4s,MS4.2						
HHC				LR	LR		
	comp=Z,85nm,20.2s,MS4.0						
CD2	Chengdu	74.71	308	*e*P	P	15 07 20.0	+0.5
HIA	Hailar	74.84	330	*e*P	P	15 07 19.6	-0.3
	comp=Z,21nm,1.0s,mb5.0						
BTO	Baotou	75.02	319	*e*P	P	15 07 21.5	+0.4
QSPA	South Pole Qui	76.60	180	*e*P	P	15 07 29.3	-0.1
	comp=Z,21nm,1.0s,mb5.0						
LZH	Lanzhou	76.97	312	⇑P	P	15 07 34.1	+1.8
LZH				AMB	AMB		
	comp=Z,174nm,4.5s						
LZH				LR	LR		
	comp=N,247nm,14.8s						
LZH				LR	LR		
	comp=Z,297nm,17.7s,MS4.7						
YAK	Yakutsk	80.60	343	*c i*P	P	15 07 50.6	-0.9
YAK				pmax	pmax		
	comp=Z,19nm,1.1s,mb4.9						
YAK				MLR	MLR		
	comp=Z,300nm,18.0s,MS4.7						
YAK	Yakutsk	80.60	343	*e*P	P	15 07 50.7	-0.8
	comp=Z,34nm,1.5s,mb5.1						
SONM	Songino Array	81.07	324	P	P	15 07 55.2	+0.9
	comp=Z,8.1nm,1.0s,mb4.6,baz=135,slow=5.2,SNR=52						
GTA	Gaotai	81.30	314	P	P	15 07 56.9	+1.2
GTA				AP	pP	15 08 06.6	-0.9
GTA				XP	sP	15 08 11.0	-0.7
GTA				AMB	AMB		
	comp=Z,21nm,1.2s,mb4.9						
SHL	Shillong	82.38	298	⇑*i*P	P	15 08 02.5	+0.9
PMR	Palmer	82.49	20	*e*P	P	15 08 00.2	-1.1
	comp=Z,7.3nm,0.8s,mb4.7						
MAW	Mawson	82.85	202	*e*P	P	15 08 02.5	-0.6
	comp=Z,3.1nm,0.8s,mb4.4						
MAW	Mawson	82.85	202	P	P	15 08 02.5	-0.6
	comp=Z,3.2nm,0.7s,mb4.5,baz=116,slow=6.8,SNR=13						
MAW				LR	LR	15 38 07.4	
	comp=Z,322nm,19.9s,MS4.7,baz=65,slow=31						
BOD	Bodaibo	83.03	335	*e*P	P	15 08 02.9	-1.2
MCK	McKinley	84.11	18	*e*P	P	15 08 08.5	-1.0
	comp=Z,4.2nm,0.8s,mb4.6						
ZAK	Zakamensk	84.12	325	⇑*i*P	P	15 08 09.7	-0.2
IMA	Indian Mountai	84.56	15	*e*P	P	15 08 10.7	-1.0
	comp=Z,27nm,1.1s,mb5.3						
YBH	Yreka Blue Hor	84.95	45	P	P	15 08 13.9	-0.4
	comp=Z,1.5nm,0.5s,mb4.4,baz=284,slow=20,SNR=5.1						
COLA	College	85.27	18	*e*P	P	15 08 13.9	-1.4
COLA	College	85.27	18	*e*P	P	15 08 14.0	-1.2
	comp=Z,25nm,1.1s,mb5.2						
ILAR	Eielson Array	85.49	18	P	P	15 08 15.8	-0.5
	comp=Z,7.3nm,0.5s,mb5.0,baz=240,slow=5.0,SNR=61						
MNV	Mina	87.02	50	*e*P	P	15 08 25.7	+1.2
	comp=Z,2.1nm,1.0s,mb4.3						
PKI	Pulchoki	88.51	299	*e*P	P	15 08 32.2	+0.3
	comp=Z,125nm,1.2s,mb6.1						
TIXI	Tiksi	88.57	349	⇓*e*P	P	15 08 30.6	-0.5
TIXI				*e*		15 11 58.8	
TIXI				*e*S	S	15 18 57.8	-15
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.6						
TIXI				MLR	MLR		
	comp=Z,100nm,20.0s,MS4.2						
KKN	Kakani	88.68	299	*e*P	P	15 08 33.0	+0.3
	comp=Z,75nm,1.0s,mb6.0						
DMN	Daman	88.78	299	*e*P	P	15 08 33.5	+0.3
	comp=Z,156nm,1.0s						
GKN	Gorkha	89.29	299	*e*P	P	15 08 35.2	-0.4
	comp=Z,104nm,1.1s,mb6.1						
ELK	Elko	89.89	48	*e*P	P	15 08 39.5	+1.4
	comp=Z,3.0nm,1.2s,mb4.5						
KOLN	Koldanda	90.11	298	*e*P	P	15 08 38.6	-0.8
	comp=Z,65nm,1.3s,mb5.8						
WMQ	Urumqi	91.36	315	P	P	15 08 45.0	+0.1
WMQ				AP	pP	15 08 55.0	-1.9
WMQ				XP	sP	15 08 59.0	-1.8
WMQ				AMB	AMB		
	comp=Z,17nm,1.2s,mb5.2						
WMQ				LR	LR		
	comp=Z,67nm,20.6s,MS4.1						
HYB	Hyderabad	92.13	287	*i* P	P	15 08 49.0	0.0
HYB	Hyderabad	92.13	287	*e*P	P	15 08 49.0	0.0
PDAR	Pinedale Array	94.53	47	LR	LR	15 42 03.1	
	comp=Z,204nm,20.8s,MS4.6,baz=248,slow=30						
SNAA	Sanae	94.81	183	⇑*i*P	P	15 08 58.5	-1.5
SNAA	Sanae	94.81	183	⇑*i*	pP	15 09 09.9	-2.1
VNA3	Neumayer Olymp	95.50	181	P	P	15 09 04.2	+1.0
VNA3	Neumayer Olymp	95.50	181	⇑*i*	pP	15 09 13.1	-2.1
VNA2	Neumayer--Watz	95.76	182	⇑*i*P	P	15 09 06.2	+1.9
VNA2	Neumayer--Watz	95.76	182	⇑*i*	pP	15 09 15.4	-0.9
MKAR	Makanchi Array	95.82	317	P	P	15 09 05.7	+0.6
	comp=Z,6.5nm,0.8s,mb5.1,baz=101,slow=6.6,SNR=44						
MKAR				LR	LR	15 52 22.6	
	comp=Z,70nm,18.6s,MS4.2,baz=99,slow=35						
MKAR	Makanchi Array	95.82	317	*i* P	P	15 09 05.4	+0.3
MKAR				pmax	pmax		
	comp=Z,28nm,1.2s						
MKAR	Makanchi Array	95.82	317	P	P	15 09 05.7	+0.6
MKAR				LR	LR	15 52 22.6	
VNA1	Neumayer--Stat	96.06	182	⇑*i*P	P	15 09 07.6	+1.9
VNA1	Neumayer--Stat	96.06	182	⇑*i*	pP	15 09 17.7	0.0
VNA1	Neumayer--Stat	96.06	182	⇑*i*	sP	15 09 22.3	+0.7
ARCES	ARCESS Array B	118.83	345	PKP	PKPdf	15 14 25.6	+0.1
	comp=Z,5.4nm,0.7s,baz=79,slow=1.2,SNR=32						
ARCES				PKKPbc		15 24 42.4	
	comp=Z,4.5nm,1.0s,baz=214,slow=3.3,SNR=6.6						
ZEI	Tsey	122.90	312	*i* PKIKP	PKPdf	15 14 28.0	-6.1
ZEI				pmax	pmax		
	comp=Z,100nm,6.0s						
ZEI				MLR	MLR		
	comp=Z,200nm,18.0s,MS4.8						
GOF	Gofitskoye	122.96	315	⇓*i*PKIKP	PKPdf	15 14 23.0	-11
GOF				pmax	pmax		
	comp=Z,20nm,1.0s						
FINES	FINESS Array B	124.28	338	PKP	PKPdf	15 14 37.9	+1.6
	comp=Z,1.8nm,0.7s,baz=45,slow=2.7,SNR=8.5						
BLJS	Baljurashi	127.11	285	P	PKPdf	15 14 44.9	+2.1
NOA	NORSAR Array B	129.20	345	PKP	PKPdf	15 14 46.5	+0.8
	comp=Z,0.8nm,0.6s,baz=37,slow=2.7,SNR=3.6						
NOA	NORSAR Array B	129.20	345	PKP	PKPdf	15 14 46.5	+0.8
AKASG	Malin Array Be	129.30	326	PKP	PKPdf	15 14 47.0	+0.8
	comp=Z,0.3nm,0.4s,baz=66,slow=1.7,SNR=8.6						
AKASG				PP	PP	15 16 56.8	-3.0
	comp=Z,1.0nm,0.6s,baz=57,slow=7.4,SNR=7.2						
BRTR	Keskin Array B	131.17	311	PKP	PKPdf	15 14 50.7	+0.6
	comp=Z,0.9nm,0.8s,slow=1.2,SNR=4.8						
BRTR				PP	PP	15 17 09.4	-3.0
	comp=Z,3.2nm,1.1s,baz=104,slow=5.1,SNR=9.0						
BDAS	Al Bad'	132.62	296	P	PKPdf	15 14 54.9	+1.7
HAQS	Haql	132.68	297	P	PKPdf	15 14 54.8	+1.6
GERES	GERESS Array B	138.19	333	PKP	PKPdf	15 15 04.6	+1.8
	comp=Z,1.0nm,0.8s,slow=2.7,SNR=5.6						
LPG	La Plagne	143.75	336	*e*PKIKP	PKPdf	15 15 12.9	+0.2
SGMF	Saint Gilles	144.12	348	*e*PKIKP	PKPdf	15 15 13.6	+0.4
	comp=Z,124nm,1.5s						
BNI	Bardonecchia	144.15	335	*e*PKPdf	PKPdf	15 15 12.7	-0.7
MBDF	Montbardon	144.38	335	*e*PKIKP	PKPdf	15 15 15.7	+1.9
ORIF	Oris-en-Rattie	144.58	336	*e*PKIKP	PKPdf	15 15 14.3	+0.1
	comp=Z,27nm,1.0s						
ORIF				*e*R			
	comp=Z,151nm,19.8s						
TCF	Toulx Ste Croi	144.69	341	*e*PKIKP	PKPdf	15 15 14.2	-0.1
	comp=Z,14nm,0.9s						
VIVF	Saint-Julien-l	145.09	337	*e*PKIKP	PKPdf	15 15 15.8	+0.7
MFF	Saint Martin d	145.09	344	*e*PKIKP	PKPdf	15 15 15.3	+0.3
	comp=Z,36nm,1.0s						
PGF	Pioggiola	145.11	331	*e*PKIKP	PKPdf	15 15 15.4	+0.2
FRF	La Foret Royal	145.38	334	*e*PKIKP	PKPdf	15 15 16.2	+0.6
	comp=Z,52nm,1.2s						
SMRF	Simiane la Rot	145.48	336	*e*PKIKP	PKPdf	15 15 17.1	+1.3
LMR	La Mourre	145.62	334	*e*PKIKP	PKPdf	15 15 17.1	+1.1
	comp=Z,24nm,1.0s						
RJF	Les Rejaudoux	145.79	341	*e*PKIKP	PKPdf	15 15 18.1	+1.9
RJF				*e*R			
	comp=Z,152nm,17.8s						
CAF	Calviac	145.95	340	*e*PKIKP	PKPdf	15 15 18.4	+1.9
LASF	Ste Croix	146.06	337	*e*PKIKP	PKPdf	15 15 18.8	+2.1
MTLF	Montolieu	147.29	339	*e*PKIKP	PKPdf	15 15 20.4	+1.6
	comp=Z,21nm,1.2s						
EPF	Esparros	148.20	341	*e*PKIKP	PKPdf	15 15 21.4	+1.1
ETSF	Etsaut	148.60	342	*e*PKIKP	PKPdf	15 15 22.8	+1.9
SJPF	Ste Jean	148.61	343	*e*PKIKP	PKPdf	15 15 22.7	+1.8
ESDC	Sonseca Array	152.56	344	PKPbc	PKPdf	15 15 35.8	+8.8
	comp=Z,4.8nm,0.9s,baz=19,slow=2.7,SNR=9.9						

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*LDG **18** 14:56:09.9±0.4, 42.87N×1.50W, h2^{km}, Md2.3/2, Ml2.4/8,*
Error ellipse: s-maj=5.8km s-min=4.3km az=49.0
*STR **18** 14:56:09.2±0.5, 42.86N×1.52W, h5^{km}±1^{km}, Ml2.4, Error*
ellipse: s-maj=0.0km s-min=0.0km az=1.0
*MDD **18** 14:56:10.7±0.4, 42.87N×1.42W, h6^{km}±4^{km}, mbLg1.8/10,*
Error ellipse: s-maj=3.2km s-min=2.2km az=34.0,
AftershockPLICA PRXIMO

ISC 18 14:56:08.2±0.5,**42.84N**±0.03×**1.49W**±0.04,**h6^{km},n30,**
σ**1^{s}23**/51,**1C,Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	Ste Jean	0.34	36	*e*Pg	Pg	14 56 16.3	+1.3
SJPF				*e*Sg	Sg	14 56 19.1	-0.4
	237nm,0.3s						
EALK	Alkurruntz	0.38	358	⇑Pg	Pg	14 56 17.3	+1.5
	4.4nm,0.1s,SNR=18						
EALK				Lg		14 56 23.1	
	20nm,0.2s,SNR=7.9						
LARF	Larrau	0.42	62	Pg	Pg	14 56 17.5	+0.9
LARF				Sg	Sg	14 56 23.4	+1.1
LARF	Larrau	0.42	62	P	Pg	14 56 17.7	+1.1
LARF				S	Sg	14 56 21.9	-0.4
OSSF	Osses	0.45	22	P	Pg	14 56 18.4	+1.2
OSSF				S	Sg	14 56 23.5	+0.4
ORDF	Ordiarp	0.55	48	Pg	Pg	14 56 20.2	+0.9
ORDF				Sg	Sg	14 56 27.5	+0.9
ORDF	Ordiarp	0.55	48	P	Pg	14 56 20.3	+1.0
ORDF				S	Sg	14 56 27.3	+0.7
ATE	Arette	0.63	67	P	Pg	14 56 21.5	+0.7
ATE				S	Sg	14 56 29.7	+0.5
FDAF	Les Forges d'A	0.68	92	Pg	Pg	14 56 22.2	+0.4
FDAF				Sg	Sg	14 56 32.5	+1.6
FDAF	Les Forges d'A	0.68	92	P	Pg	14 56 22.3	+0.5
FDAF				S	Sg	14 56 30.9	-0.1
ETSF	Etsaut	0.69	85	*e*Pg	Pg	14 56 22.1	+0.1
ETSF				*e*Sg	Sg	14 56 30.9	-0.3
	13nm,0.2s						
VIEF	Viey	1.12	87	S	Sb	14 56 44.2	+0.2
LABF	Labassere	1.17	79	S	Sb	14 56 45.8	+0.2
RESF	Ens	1.35	91	S	Sb	14 56 51.3	+0.6
ESAC	San Caprasio	1.35	146	Pg	Pg	14 56 35.1	-0.1
	7.7nm,0.2s,SNR=9.0						
ESAC				Lg		14 56 53.2	
	28nm,0.2s,SNR=7.9						
EPF	Esparros	1.36	81	*e*Pn	Pn	14 56 34.0	+0.3
EPF				*e*Pg	Pg	14 56 36.5	+1.2
EPF				*e*Sg	Sg	14 56 53.3	-0.2
	11nm,0.2s						
ELAN	Lanestosa	1.48	286	Pg	Pg	14 56 38.5	+0.9
	1.1nm,0.3s,SNR=10						
ELAN				Lg		14 56 59.3	
	2.5nm,0.2s,SNR=7.9						
EGRA	Graus	1.49	115	Pg	Pg	14 56 37.3	-0.6
	2.9nm,0.2s,SNR=7.9						
EGRA				Lg		14 56 59.3	
	2.1nm,0.1s,SNR=7.9						
MELF	Melles	1.66	88	S	Sn	14 57 02.4	+2.7
SALF	Salau	1.98	91	S	Sn	14 57 12.6	+4.7
ETOR	Torete	2.06	192	Pn	Pn	14 56 45.7	+1.9
	3.0nm,0.3s,SNR=10.0						
ETOR				Pg	Pg	14 56 49.5	+0.1
	0.3nm,0.1s,SNR=7.9						
ETOR				Lg		14 57 13.9	
	2.1nm,0.2s,SNR=7.9						
EPOB	Poblet	2.42	127	Pg	Pg	14 56 53.9	-2.7
	0.8nm,0.2s,SNR=7.9						
EPOB				Lg		14 57 24.2	
	1.2nm,0.2s,SNR=7.9						
EMOS	Mosqueruela	2.59	162	Pg	Pg	14 56 56.9	-3.0
	0.2nm,0.1s,SNR=7.9						
EMOS				Sn	Sn	14 57 23.4	-0.1
	0.6nm,0.2s,SNR=4.0						
EMOS				Lg		14 57 32.9	
	0.9nm,0.2s,SNR=4.0						
LFF	La Frestale	2.65	37	*e*Pg	Pg	14 56 58.8	-2.2
LFF				*e*Sg	Sg	14 57 31.2	-5.1
	4.0nm,0.2s						
MTLF	Montolieu	2.76	78	*e*Pn	Pn	14 56 54.0	+0.2
MTLF				*e*Sn	Sn	14 57 26.5	-1.3
	2.5nm,0.3s						
RJF	Les Rejaudoux	3.28	40	*e*Pn	Pn	14 56 59.8	-1.3
RJF				*e*Sn	Sn	14 57 37.7	-3.2
	2.6nm,0.3s						
CAF	Calviac	3.31	50	*e*Pn	Pn	14 57 00.1	-1.4
CAF				*e*Sn	Sn	14 57 38.3	-3.3
	0.9nm,0.2s						
MFF	Saint Martin d	3.88	14	*e*Pn	Pn	14 57 08.1	-1.5
MFF				*e*Sn	Sn	14 57 51.8	-4.3
	2.1nm,0.2s						
LASF	Ste Croix	4.08	71	*e*Pn	Pn	14 57 11.5	-1.1
LASF				*e*Sn	Sn	14 57 57.5	-3.8
	0.9nm,0.3s						
BGF	Bois d'Agland	4.83	38	*e*Pn	Pn	14 57 20.3	-2.9
BGF				*e*Sn	Sn	14 58 14.7	-5.5
	4.7nm,0.4s						

IDC 18 14:58:43.7±3.5,**21.43S**×**173.47W,mb4.0**/5,**mb1 4.2**/5,
mb1mx3.9/16,**Error ellipse: s-maj=166.0km**
s-min=46.0km az=151.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	37.62	265	P	P	15 05 59.9	-2.3
	2.7nm,0.4s,baz=96,slow=9.2,SNR=6.9						
STKA	Stephens Creek	41.24	246	P	P	15 06 30.2	-1.9
	1.2nm,0.6s,baz=82,slow=7.1,SNR=2.9						
ASAR	Alice Springs	48.43	257	P	P	15 07 27.8	-2.1
	1.2nm,0.8s,baz=87,slow=8.7,SNR=8.6						
WRA	Warramunga Arr	48.66	262	P	P	15 07 29.6	-2.2
	0.4nm,0.3s,baz=104,slow=8.3,SNR=26						
FITZ	Fitzroy Crossi	57.09	262	P	P	15 08 33.7	-0.9
	2.8nm,0.9s,baz=104,slow=12,SNR=3.1						
GERES	GERESS Array B	152.05	350	PKPbc	PKPdf	15 18 40.6	+4.7
	1.0nm,0.8s,baz=18,slow=3.1,SNR=4.7						

LDG ***18*** *15:03:11.9±0.5,42.89N×1.54W,h2^{km},Md2.2/2,Ml1.9/5, Error ellipse: s-maj=7.7km s-min=5.2km az=51.0*
STR ***18*** *15:03:11.7±0.2,42.86N×1.51W,h5^{km}±1^{km},Ml2.3,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD ***18*** *15:03:13.2±0.4,42.87N×1.41W,h8^{km}±6^{km},mbLg1.5/9, Error ellipse: s-maj=3.6km s-min=2.0km az=36.0, AftershockPLICA PRXIMO*
ISC 18 15:03:11.2±0.6**,42.88N**±0.03×**1.47W**±0.04**,h10**^{km}**,n23,** σ**1§04**/37**,1C,Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJPF	**Ste Jean**	**0.30**	**37**	*e*Pg	**Pg**	**15 03 18.4**	**+1.0**
SJPF				*e*Sg	**Sg**	**15 03 21.3**	**-0.2**
	68nm,0.3s						
EALK	**Alkurruntz**	**0.34**	**356**	⇑Pg	**Pg**	**15 03 19.6**	**+1.4**
	5.6nm,0.3s,SNR=18						
EALK				Lg		15 03 25.6	
	10nm,0.2s,SNR=17						
LARF	**Larrau**	**0.39**	**66**	Pg	**Pg**	**15 03 19.9**	**+0.7**
LARF				Sg	**Sg**	**15 03 25.7**	**+1.2**
LARF	**Larrau**	**0.39**	**66**	P	**Pg**	**15 03 19.8**	**+0.6**
LARF				S	**Sg**	**15 03 25.6**	**+1.1**
OSSF	**Osses**	**0.41**	**22**	P	**Pg**	**15 03 20.5**	**+1.0**
OSSF				S	**Sg**	**15 03 25.5**	**+0.4**
ORDF	**Ordiarp**	**0.52**	**49**	Pg	**Pg**	**15 03 22.3**	**+0.7**
ORDF				Sg	**Sg**	**15 03 30.0**	**+1.4**
ORDF	**Ordiarp**	**0.52**	**49**	P	**Pg**	**15 03 22.4**	**+0.8**
ORDF				S	**Sg**	**15 03 29.1**	**+0.5**
ATE	**Arette**	**0.60**	**70**	P	**Pb**	**15 03 23.8**	**+0.5**
ATE				S	**Sg**	**15 03 31.9**	**+0.4**
FDAF	**Les Forges d'A**	**0.67**	**95**	Pg	**Pg**	**15 03 24.8**	**+0.2**
FDAF				Sg	**Sg**	**15 03 34.7**	**+1.1**
FDAF	**Les Forges d'A**	**0.67**	**95**	P	**Pb**	**15 03 25.0**	**+0.5**
FDAF				S	**Sb**	**15 03 34.5**	**+1.0**
ETSF	**Etsaut**	**0.67**	**88**	*e*Pg	**Pg**	**15 03 24.2**	**-0.5**
ETSF				*e*Sg	**Sg**	**15 03 33.1**	**-0.6**
	6.8nm,0.3s						
EPF	**Esparros**	**1.34**	**83**	*e*Pg	**Pg**	**15 03 38.5**	**+0.5**
EPF				*e*Sg	**Sg**	**15 03 55.3**	**-0.5**
	5.7nm,0.2s						
ESAC	**San Caprasio**	**1.37**	**147**	Pg	**Pg**	**15 03 37.5**	**-1.2**
	1.9nm,0.2s,SNR=6.1						
ESAC				Lg		15 03 55.7	
	9.2nm,0.2s,SNR=7.2						
ELAN	**Lanestosa**	**1.48**	**284**	Pg	**Pg**	**15 03 41.0**	**+0.2**
	0.4nm,0.3s,SNR=7.9						
ELAN				Lg		15 04 02.1	
	1.4nm,0.3s,SNR=7.9						
EGRA	**Graus**	**1.49**	**117**	Pg	**Pg**	**15 03 40.2**	**-0.7**
	0.2nm,0.3s,SNR=7.9						
EGRA				Lg		15 04 00.4	
	1.2nm,0.2s,SNR=7.9						
ETOR	**Torete**	**2.10**	**192**	Pn	**Pn**	**15 03 48.0**	**+1.0**
	2.2nm,0.3s,SNR=6.4						
ETOR				Pg	**Pg**	**15 03 52.9**	**-0.3**
	SNR=7.9						
ETOR				Lg		15 04 15.6	
	4.4nm,0.3s,SNR=4.7						
EMIR	**Miracle**	**2.42**	**112**	Lg		15 04 29.2	
	1.8nm,0.2s,SNR=4.0						
EPOB	**Poblet**	**2.43**	**128**	Lg		15 04 26.2	
	0.8nm,0.2s,SNR=7.9						
LFF	**La Frestale**	**2.61**	**37**	*e*Pg	**Pg**	**15 04 00.9**	**-2.4**
LFF				*e*Sg	**Sg**	**15 04 33.4**	**-4.7**
	1.7nm,0.3s						
MTLF	**Montolieu**	**2.74**	**79**	*e*Pn	**Pn**	**15 03 56.3**	**+0.3**
MTLF				*e*Sn	**Sn**	**15 04 28.9**	**-0.7**
	0.3nm,0.2s						
RJF	**Les Rejaudoux**	**3.24**	**41**	*e*Pn	**Pn**	**15 04 01.6**	**-1.6**
RJF				*e*Sn	**Sn**	**15 04 39.7**	**-2.6**
	0.8nm,0.2s						
CAF	**Calviac**	**3.27**	**50**	*e*Pn	**Pn**	**15 04 02.2**	**-1.4**
CAF				*e*Sn	**Sn**	**15 04 40.9**	**-2.2**
	0.5nm,0.2s						
MFF	**Saint Martin d**	**3.84**	**14**	*e*Pg	**Pg**	**15 04 22.9**	**-5.0**

LDG ***18*** *15:05:16.5±0.7,42.93N×1.45W,h2^{km},Md2.2/2,Ml1.8/4, Error ellipse: s-maj=11.6km s-min=7.6km az=61.0*
MDD ***18*** *15:05:16.3±0.5,42.86N×1.42W,h4^{km}±8^{km},mbLg1.5/8, Error ellipse: s-maj=4.0km s-min=2.9km az=51.0, AftershockPLICA PRXIMO*
ISC 18 15:05:14.1±0.7**,42.84N**±0.04×**1.44W**±0.05**,h14**^{km}±5^{km}**, n14,** σ**1§01**/23**,Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJPF	**Ste Jean**	**0.31**	**30**	*e*Pg	**Pg**	**15 05 21.6**	**+0.7**
SJPF				*e*Sg	**Sg**	**15 05 24.4**	**-1.0**
	38nm,0.3s						
EALK	**Alkurruntz**	**0.38**	**353**	Pg	**Pg**	**15 05 22.7**	**+0.5**
	3.8nm,0.2s,SNR=4.5						
EALK				Lg		15 05 28.3	
	12nm,0.2s,SNR=10						
LARF	**Larrau**	**0.39**	**60**	P	**Pg**	**15 05 23.1**	**+0.8**
LARF				S	**Sg**	**15 05 28.8**	**+1.1**
OSSF	**Osses**	**0.43**	**18**	P	**Pg**	**15 05 23.7**	**+0.6**
OSSF				S	**Sg**	**15 05 29.8**	**+0.6**
ETSF	**Etsaut**	**0.65**	**85**	*e*Pg	**Pg**	**15 05 27.5**	**+0.1**
ETSF				*e*Sg	**Sg**	**15 05 36.1**	**-0.1**
	4.4nm,0.3s						
EPF	**Esparros**	**1.32**	**81**	*e*Pg	**Pg**	**15 05 41.7**	**+1.1**
EPF				*e*Sg	**Sg**	**15 05 58.3**	**0.0**
	1.7nm,0.2s						
ESAC	**San Caprasio**	**1.33**	**147**	Pg	**Pg**	**15 05 40.2**	**-0.7**
	3.5nm,0.2s,SNR=7.9						
ESAC				Lg		15 05 57.9	
	16nm,0.3s,SNR=7.9						
EGRA	**Graus**	**1.45**	**116**	Pg	**Pg**	**15 05 42.7**	**-0.5**
	3.0nm,0.4s,SNR=4.0						
EGRA				Lg		15 06 02.4	
	1.1nm,0.2s,SNR=4.0						
ELAN	**Lanestosa**	**1.51**	**286**	Pg	**Pg**	**15 05 43.8**	**-0.6**
	0.2nm,0.2s,SNR=7.9						
ELAN				Lg		15 06 04.7	
	1.6nm,0.2s,SNR=7.9						
ETOR	**Torete**	**2.07**	**193**	Pn	**Pn**	**15 05 51.1**	**+2.2**
	SNR=4.0						
ETOR				Pg	**Pg**	**15 05 54.8**	**-0.8**
	SNR=7.9						
ETOR				Lg		15 06 18.9	
	2.7nm,0.3s,SNR=7.9						
EPOB	**Poblet**	**2.40**	**128**	Lg		15 06 29.2	
	2.8nm,0.4s,SNR=7.9						
LFF	**La Frestale**	**2.62**	**36**	*e*Pg	**Pg**	**15 06 04.2**	**-2.3**
LFF				*e*Sg	**Sg**	**15 06 36.5**	**-5.0**
	1.1nm,0.2s						
MTLF	**Montolieu**	**2.73**	**78**	*e*Pn	**Pn**	**15 05 59.3**	**+1.0**
MTLF				*e*Pg	**Pg**	**15 06 06.7**	**-1.9**
MTLF				*e*Sn	**Sn**	**15 06 31.8**	**+0.5**
	0.3nm,0.2s						
CAF	**Calviac**	**3.28**	**49**	*e*Pn	**Pn**	**15 06 05.5**	**-0.7**
CAF				*e*Sn	**Sn**	**15 06 44.2**	**-1.1**
	0.6nm,0.2s						

LDG ***18*** *15:10:22.2±0.6,42.87N×1.51W,h2^{km},Md2.1/2,Ml1.8/4, Error ellipse: s-maj=9.1km s-min=7.2km az=30.0*
STR ***18*** *15:10:22.6±0.3,42.88N×1.50W,h5^{km}±1^{km},Ml2.3,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD ***18*** *15:10:23.8±0.5,42.86N×1.40W,h7^{km}±7^{km},mbLg1.4/7, Error ellipse: s-maj=3.8km s-min=2.2km az=42.0, AftershockPLICA PRXIMO*
ISC 18 15:10:21.1±0.6**,42.82N**±0.03×**1.46W**±0.05**,h13**^{km}±4^{km}**, n21,** σ**1§05**/33**,Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJPF	**Ste Jean**	**0.34**	**30**	*e*Pg	**Pg**	**15 10 28.9**	**+0.6**
SJPF				*e*Sg	**Sg**	**15 10 31.8**	**-1.3**
	45nm,0.3s						
EALK	**Alkurruntz**	**0.40**	**355**	Pg	**Pg**	**15 10 30.1**	**+0.7**
	1.2nm,0.2s,SNR=7.5						
EALK				Lg		15 10 36.0	
	8.3nm,0.2s,SNR=17						
LARF	**Larrau**	**0.41**	**58**	Pg	**Pg**	**15 10 30.4**	**+0.8**
LARF				Sg	**Sg**	**15 10 36.5**	**+1.2**
LARF	**Larrau**	**0.41**	**58**	P	**Pg**	**15 10 30.4**	**+0.8**
LARF				S	**Sg**	**15 10 35.4**	**+0.1**
OSSF	**Osses**	**0.46**	**18**	P	**Pb**	**15 10 31.1**	**+0.5**
OSSF				S	**Sg**	**15 10 37.0**	**+0.1**
ORDF	**Ordiarp**	**0.55**	**44**	Pg	**Pg**	**15 10 32.8**	**+0.5**
ORDF				Sg	**Sg**	**15 10 40.2**	**+0.4**
ORDF	**Ordiarp**	**0.55**	**44**	P	**Pb**	**15 10 33.0**	**+0.9**
ORDF				S	**Sb**	**15 10 40.3**	**+0.7**
ATE	**Arette**	**0.62**	**64**	P	**Pb**	**15 10 34.3**	**+1.0**
ATE				S	**Sb**	**15 10 42.4**	**+0.9**
ETSF	**Etsaut**	**0.67**	**83**	*e*Pg	**Pg**	**15 10 34.6**	**0.0**
ETSF				*e*Sg	**Sg**	**15 10 43.7**	**+0.1**
	4.5nm,0.3s						
ESAC	**San Caprasio**	**1.32**	**146**	Pg	**Pg**	**15 10 48.1**	**+0.5**
	3.5nm,0.2s,SNR=7.9						
ESAC				Lg		15 11 06.1	
	13nm,0.2s,SNR=10.0						
EPF	**Esparros**	**1.34**	**80**	*e*Pg	**Pg**	**15 10 48.9**	**+1.0**
EPF				*e*Sg	**Sg**	**15 11 05.5**	**-0.3**
	3.4nm,0.3s						
EGRA	**Graus**	**1.45**	**115**	Pg	**Pg**	**15 10 50.6**	**+0.4**
	2.4nm,0.3s,SNR=7.9						
EGRA				Lg		15 11 11.1	
	0.5nm,0.2s						
ELAN	**Lanestosa**	**1.51**	**287**	Pg	**Pg**	**15 10 51.2**	**-0.1**
	0.0nm,0.2s,SNR=7.9						
ELAN				Lg		15 11 11.8	
	0.9nm,0.2s,SNR=7.9						
ETOR	**Torete**	**2.05**	**193**	Pg	**Pg**	**15 11 02.7**	**+0.6**
	SNR=7.9						
ETOR				Lg		15 11 26.6	
	1.9nm,0.3s,SNR=7.9						
EMIR	**Miracle**	**2.39**	**111**	Pg	**Pg**	**15 11 07.2**	**-1.7**
	0.2nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**2.39**	**127**	Pn	**Pn**	**15 11 02.5**	**+1.8**
	SNR=7.9						
EPOB				Lg		15 11 36.7	
	1.0nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**2.56**	**163**	Pg	**Pg**	**15 11 10.5**	**-1.8**
	SNR=7.9						
EMOS				Lg		15 11 44.6	
	0.7nm,0.2s,SNR=7.9						
LFF	**La Frestale**	**2.65**	**36**	*e*Pg	**Pg**	**15 11 11.6**	**-2.5**
LFF				*e*Sg	**Sg**	**15 11 43.8**	**-5.6**
	1.7nm,0.3s						
MTLF	**Montolieu**	**2.74**	**78**	*e*Pg	**Pg**	**15 11 13.4**	**-2.5**
MTLF				*e*Sn	**Sn**	**15 11 39.0**	**0.0**
	0.3nm,0.3s						
RJF	**Les Rejaudoux**	**3.28**	**40**	*e*Pn	**Pn**	**15 11 12.0**	**-1.4**
CAF	**Calviac**	**3.30**	**49**	*e*Pn	**Pn**	**15 11 12.9**	**-0.8**
CAF				*e*Sn	**Sn**	**15 11 51.3**	**-1.9**
	0.6nm,0.2s						

BER ***18*** *15:25:25.3±2.6,76.32N×23.53E,h28^{km}±28^{km}, ML2.6(NAO)*
NAO 18 15:25:20.9±1.6**,76.41N×24.18E,ML2.6,Svalbard region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPA0	**Spitsbergen Ar**	**2.48**	**320**	Pn	Pn	15 26 02.1	-1.0
	baz=142,slow=18						
SPA0				Lg		15 26 40.7	
	baz=132,slow=37						
KBS	**Kingsbay**	**3.64**	**320**	Pn	Pn	15 26 17.7	-2.0
KBS				Sn	Sn	15 26 57.1	-6.8
KBS				Lg		15 27 16.1	
ARA0	**ARCESS Array S**	**6.92**	**176**	Pn	Pn	15 27 03.7	-2.4
	baz=5.5,slow=10						
ARA0				Sn	Sn	15 28 13.7	-13
	baz=3.5,slow=22						

LDG ***18*** *15:25:46.7±0.1,42.89N×1.51W,h2^{km},Md3.1/2,Ml3.2/20, Error ellipse: s-maj=2.9km s-min=2.5km az=9.0*
NEIC ***18*** *15:25:46.7,42.89N×1.51W,h2^{km},ML3.2(LDG), ML2.9(STR),MN2.5(MDD),After LDG.*
MDD ***18*** *15:25:47.7±0.3,42.89N×1.43W,h8^{km}±2^{km},mbLg2.5/25, Error ellipse: s-maj=2.5km s-min=1.9km az=33.0, AftershockPLICA PRXIMO*
STR ***18*** *15:25:47.7±1.1,42.92N×1.44W,h5^{km}±1^{km},Ml2.9,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 18 15:25:44.8±0.4**,42.97N**±0.02×**1.56W**±0.02**,h14**^{km}±2^{km}**, n79,** σ**1§39**/152**,1C,Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EALK	**Alkurruntz**	**0.25**	**8**	⇑Pg	**Sg**	**15 25 54.0**	**-0.2**
	38nm,0.1s,SNR=18						
EALK				Lg		15 25 58.0	
	158nm,0.2s,SNR=7.9						
SJPF	**Ste Jean**	**0.28**	**59**	*e*Pg	**Pg**	**15 25 53.0**	**+2.0**
SJPF				*e*Sg	**Sg**	**15 25 55.8**	**+0.6**
	1μm,0.3s						
OSSF	**Osses**	**0.36**	**37**	P	**Pg**	**15 25 55.0**	**+2.6**
OSSF				S	**Sg**	**15 26 01.1**	**+3.6**
LARF	**Larrau**	**0.42**	**80**	Pg	**Pg**	**15 25 54.3**	**+0.7**
LARF				Sg	**Sg**	**15 25 58.5**	**-1.0**
LARF	**Larrau**	**0.42**	**80**	P	**Pb**	**15 25 54.3**	**+0.8**
LARF				S	**Sb**	**15 26 00.3**	**+0.9**
ORDF	**Ordiarp**	**0.52**	**61**	Pg	**Pg**	**15 25 56.9**	**+1.5**
ORDF				Sg	**Sg**	**15 26 04.2**	**+1.7**
ORDF	**Ordiarp**	**0.52**	**61**	P	**Pb**	**15 25 57.0**	**+1.9**
ORDF				S	**Sb**	**15 26 03.7**	**+1.6**
ATE	**Arette**	**0.64**	**79**	P	**Pb**	**15 25 58.1**	**+0.9**
ATE				S	**Sb**	**15 26 06.5**	**+0.9**
ETSF	**Etsaut**	**0.74**	**95**	*e*Pg	**Pg**	**15 25 58.8**	**-0.9**
ETSF				*e*Sg	**Sg**	**15 26 07.6**	**-2.1**
	123nm,0.3s						
FDAF	**Les Forges d'A**	**0.74**	**101**	Pg	**Pg**	**15 25 59.6**	**-0.2**
FDAF				Sg	**Sg**	**15 26 09.6**	**-0.3**
FDAF	**Les Forges d'A**	**0.74**	**101**	P	**Pb**	**15 25 59.2**	**+0.3**
FDAF				S	**Sb**	**15 26 09.1**	**+0.5**
REYF	**Montagne du Re**	**0.86**	**83**	P	**Pb**	**15 26 01.7**	**+0.8**
REYF				S	**Sb**	**15 26 13.2**	**+1.1**
VIEF	**Viey**	**1.17**	**94**	P	**Pb**	**15 26 06.5**	**+0.4**
VIEF				S	**Sb**	**15 26 21.3**	**+0.4**
LABF	**Labassere**	**1.20**	**86**	Pg	**Pg**	**15 26 08.4**	**-0.4**
LABF	**Labassere**	**1.20**	**86**	P	**Pb**	**15 26 08.1**	**+1.3**
LABF				S	**Sb**	**15 26 23.8**	**+2.0**
EPF	**Esparros**	**1.39**	**87**	*e*Pn	**Pn**	**15 26 10.7**	**+0.8**
EPF				*e*Pg	**Pg**	**15 26 13.0**	**+0.3**
EPF				*e*Sg	**Sg**	**15 26 29.6**	**-1.8**
	90nm,0.3s						
ELAN	**Lanestosa**	**1.40**	**282**	Pn	**Pn**	**15 26 14.7**	**+4.8**
	4.9nm,0.2s,SNR=33						
ELAN				Lg		15 26 36.3	
	20nm,0.2s,SNR=7.9						
RESF	**Ens**	**1.40**	**96**	Pg	**Pg**	**15 26 13.0**	**+0.1**
RESF	**Ens**	**1.40**	**96**	P	**Pn**	**15 26 12.7**	**+2.7**
RESF				S	**Sb**	**15 26 27.9**	**+0.2**
ESAC	**San Caprasio**	**1.48**	**147**	Pg	**Pg**	**15 26 11.9**	**-2.6**
	24nm,0.2s,SNR=57						
ESAC				Lg		15 26 31.6	
	181nm,0.2s,SNR=7.9						
EGRA	**Graus**	**1.58**	**119**	Pn	**Pn**	**15 26 13.6**	**+1.1**
	2.2nm,0.2s,SNR=7.9						
EGRA				Pg	**Pg**	**15 26 14.8**	**-1.7**
	26nm,0.2s,SNR=7.9						
EGRA				Lg		15 26 35.2	
	14nm,0.2s,SNR=7.9						
EGRA	**Graus**	**1.58**	**119**	Pg	**Pn**	**15 26 13.6**	**+1.1**
EGRA				Lg		15 26 35.2	
MELF	**Melles**	**1.71**	**92**	P	**Pn**	**15 26 17.6**	**+3.3**
MELF				S	**Sn**	**15 26 39.9**	**+3.9**
MLS	**Moulis**	**1.95**	**89**	P	**Pn**	**15 26 21.4**	**+3.7**
MLS				S	**Sn**	**15 26 46.4**	**+4.3**
SALF	**Salau**	**2.03**	**95**	P	**Pn**	**15 26 22.3**	**+3.3**
SALF				S	**Sn**	**15 26 49.1**	**+4.9**
ETOR	**Torete**	**2.18**	**190**	Pn	**Pn**	**15 26 22.4**	**+1.3**
	23nm,0.3s,SNR=32						
ETOR				Pg	**Pg**	**15 26 26.4**	**-2.0**
	SNR=7.9						
ETOR				Lg		15 26 50.5	
	11nm,0.3s,SNR=7.9						
ETOR	**Torete**	**2.18**	**190**	Pn	**Pn**	**15 26 22.6**	**+1.5**
ETOR				Sn	**Sn**	**15 26 48.8**	**+0.8**
ETOR				Lg		15 26 54.4	
EMIR	**Miracle**	**2.51**	**114**	Pn	**Pn**	**15 26 26.9**	**+1.0**
	SNR=5.0						
EMIR				Pg	**Pg**	**15 26 31.9**	**-3.1**
	7.8nm,0.2s,SNR=7.9						
EMIR				Lg		15 27 02.9	
	9.0nm,0.2s,SNR=7.9						
EMIR	**Miracle**	**2.51**	**114**	Pg	**Pg**	**15 26 31.7**	**-3.3**
EMIR				Lg		15 27 02.9	
EPOB	**Poblet**	**2.54**	**129**	Pn	**Pn**	**15 26 26.0**	**-0.3**
	2.1nm,0.3s,SNR=25						
EPOB				Pg	**Pg**	**15 26 31.2**	**-4.3**
	4.0nm,0.2s,SNR=7.9						
EPOB				Sn	**Sn**	**15 26 54.8**	**-2.3**
	2.6nm,0.1s,SNR=5.0						
EPOB				Lg		15 27 00.8	
	8.3nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**2.54**	**129**	Pn	**Pn**	**15 26 26.1**	**-0.2**
EPOB				Pg	**Pg**	**15 26 31.2**	**-4.3**
EPOB				Sn	**Sn**	**15 26 54.8**	**-2.3**
EPOB				Lg		15 27 04.4	
LFF	**La Frestale**	**2.58**	**39**	*e*Pn	**Pn**	**15 26 28.3**	**+1.5**
LFF				*e*Pg	**Pg**	**15 26 35.6**	**-0.7**
LFF				*e*Sn	**Sn**	**15 26 59.3**	**+1.2**
LFF				*e*Sg	**Sg**	**15 27 07.9**	**-2.7**
	40nm,0.4s						
EBR	**Ebro Roquetas**	**2.64**	**144**	*e*PG	**Pg**	**15 26 35.0**	**-2.4**
EBR				*e*S*S*		15 27 10.0	
EBR				*e*Rs		15 38 49.0	
VALF	**Valcebollere**	**2.70**	**101**	P	**Pn**	**15 26 31.4**	**+2.9**
VALF				S	**Sn**	**15 27 09.8**	**+8.7**
CARF	**Carcanieres**	**2.71**	**94**	P	**Pn**	**15 26 35.6**	**+7.0**
CARF				S	**Sn**	**15 27 08.4**	**+7.1**
EMOS	**Mosqueruela**	**2.73**	**162**	Pn	**Pn**	**15 26 30.0**	**+1.1**
	0.3nm,0.2s,SNR=7.9						
EMOS				Pg	**Pg**	**15 26 35.1**	**-4.2**
	5.0nm,0.3s,SNR=7.9						
EMOS				Sn	**Sn**	**15 27 00.3**	**-1.6**
	2.6nm,0.1s,SNR=7.9						
EMOS				Lg		15 27 10.8	
	4.0nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**2.73**	**162**	Pn	**Pn**	**15 26 30.0**	**+1.1**
EMOS				Pg	**Pg**	**15 26 35.1**	**-4.2**
EMOS				Sn	**Sn**	**15 27 00.3**	**-1.6**
EMOS				Lg		15 27 11.6	
MTLF	**Montolieu**	**2.79**	**81**	*e*Pn	**Pn**	**15 26 30.3**	**+0.5**
MTLF				*e*Pg	**Pg**	**15 26 38.3**	**-2.2**
MTLF				*e*Sn	**Sn**	**15 27 03.3**	**-0.2**
	18nm,0.4s						
FILF	**Fillols**	**3.06**	**96**	P	**Pn**	**15 26 34.8**	**+1.1**
FILF				S	**Sn**	**15 27 17.4**	**+7.1**
RJF	**Les Rejaudoux**	**3.22**	**42**	*e*Pn	**Pn**	**15 26 36.7**	**+0.8**
RJF				*e*Sn	**Sn**	**15 27 14.3**	**0.0**
	15nm,0.2s						
CAF	**Calviac**	**3.27**	**52**	*e*Pn	**Pn**	**15 26 37.3**	**+0.7**
CAF				*e*Sn	**Sn**	**15 27 15.4**	**-0.2**
	15nm,0.2s						
SJAF	**Saint Jean de**	**3.31**	**97**	S	**Sg**	**15 27 29.2**	**-5.7**
EJON	**La Jonquera**	**3.32**	**97**	Pg	**Pg**	**15 26 44.9**	**-6.2**
	3.7nm,0.4s,SNR=7.9						
EJON				Lg		15 27 30.4	
	22nm,0.4s,SNR=7.9						
MFF	**Saint Martin d**	**3.77**	**15**	*e*Pn	**Pn**	**15 26 44.4**	**+0.6**
MFF				*e*Sn	**Sn**	**15 27 28.4**	**+0.1**
	20nm,0.6s						
ECAL	**Calabor**	**3.97**	**257**	Pn	**Pn**	**15 26 48.5**	**+1.9**
	2.5nm,0.1s,SNR=10						
ECAL				Sn	**Sn**	**15 27 33.4**	**+0.1**
	2.2nm,0.1s,SNR=4.0						
ECAL				Lg		15 27 50.9	
	6.2nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**3.97**	**257**	Pn	**Pn**	**15 26 48.5**	**+1.9**
ECAL				Sn	**Sn**	**15 27 34.1**	**+0.8**
ECAL				Lg		15 27 55.6	
LASF	**Ste Croix**	**4.09**	**72**	*e*Pn	**Pn**	**15 26 48.8**	**+0.5**
LASF				*e*Sn	**Sn**	**15 27 34.0**	**-2.5**
LASF				*e*Sg	**Sg**	**15 27 55.1**	**-5.9**
	14nm,0.5s						
EPON	**Pontenova**	**4.11**	**277**	Pn	**Pn**	**15 26 51.8**	**+3.3**
	1.7nm,0.2s,SNR=11						
EPON				Sn	**Sn**	**15 27 39.7**	**+2.8**
	2.5nm,0.2s,SNR=4.0						
EPON				Lg		15 27 58.1	
	1.6nm,0.2s,SNR=7.9						
EPON	**Pontenova**	**4.11**	**277**	Pn	**Pn**	**15 26 51.8**	**+3.3**
EPON				Sn	**Sn**	**15 27 39.1**	**+2.3**
EPON				Lg		15 28 01.2	
ERUA	**La Rua**	**4.16**	**264**	Pn	**Pn**	**15 26 51.6**	**+2.3**
	3.5nm,0.2s,SNR=14						
ERUA				Sn	**Sn**	**15 27 38.6**	**+0.4**
	1.4nm,0.2s,SNR=7.9						
ERUA				Lg		15 27 59.8	
	3.5nm,0.3s,SNR=4.0						
TCF	**Toulx Ste Croi**	**4.27**	**38**	*e*Pn	**Pn**	**15 26 49.4**	**-1.5**
TCF				*e*Sn	**Sn**	**15 27 39.6**	**-1.4**
	13nm,0.3s						
ETOB	**Tobarra**	**4.32**	**180**	Pn	**Pn**	**15 26 52.2**	**+0.7**
	1.2nm,0.2s,SNR=5.7						
ETOB				Pg	**Pg**	**15 27 06.4**	**-4.6**
	2.0nm,0.3s,SNR=7.9						
ETOB				Sn	**Sn**	**15 27 39.3**	**-2.9**
	0.6nm,0.2s,SNR=7.9						
ETOB				Lg		15 28 03.0	
	12nm,0.7s,SNR=7.9						
ETOB	**Tobarra**	**4.32**	**180**	Pn	**Pn**	**15 26 52.2**	**+0.7**
ETOB				Sn	**Sn**	**15 27 39.3**	**-2.9**
EBEN	**Beniarda**	**4.38**	**166**	Pn	**Pn**	**15 26 51.8**	**-0.5**
	0.4nm,0.2s,SNR=4.0						
EBEN				Sn	**Sn**	**15 27 38.5**	**-5.2**
	0.5nm,0.3s,SNR=7.9						
EBEN				Lg		15 28 00.4	
	0.6nm,0.3s,SNR=7.9						
EVIA	**Vianos**	**4.38**	**190**	Pn	**Pn**	**15 26 53.0**	**+0.5**
	2.0nm,0.2s,SNR=10						
EVIA				Lg		15 28 01.6	
	27nm,0.7s,SNR=7.9						
BGF	**Bois d'Agland**	**4.77**	**40**	*e*Pn	**Pn**	**15 26 56.9**	**-1.0**
BGF				*e*Sn	**Sn**	**15 27 51.5**	**-2.0**
	20nm,0.3s						
VIVF	**Saint-Julien-l**	**4.88**	**65**	*e*Pn	**Pn**	**15 26 59.1**	**-0.4**
ELOB	**Lobios**	**4.94**	**259**	Pn	**Pn**	**15 27 01.3**	**+1.0**
	0.6nm,0.1s,SNR=7.9						
ELOB				Pg	**Pg**	**15 27 20.9**	**-2.4**
	SNR=7.9						
ELOB				Sn	**Sn**	**15 27 58.1**	**+0.2**
	1.1nm,0.1s,SNR=7.9						
ELOB				Lg		15 28 22.6	
	4.5nm,0.2s,SNR=7.9						
QUIF	**Quistinic**	**5.08**	**348**	*e*Pn	**Pn**	**15 27 04.4**	**+2.1**
QUIF				*e*Sn	**Sn**	**15 28 00.2**	**-1.1**
	5.9nm,0.3s						
AVF	**Avril sur Loir**	**5.17**	**41**	*e*Pn	**Pn**	**15 27 02.9**	**-0.8**
AVF				*e*Sn	**Sn**	**15 28 00.0**	**-3.8**
	3.5nm,0.3s						
HYF	**Humbligny**	**5.23**	**33**	*e*Pn	**Pn**	**15 27 04.5**	**+0.1**
HYF				*e*Sn	**Sn**	**15 28 03.4**	**-1.7**
EQES	**Quesada**	**5.29**	**193**	Pn	**Pn**	**15 27 05.5**	**+0.2**
	0.6nm,0.1s,SNR=6.1						
EQES				Pg	**Pg**	**15 27 23.6**	**-6.7**
	SNR=7.9						
EQES				Sn	**Sn**	**15 28 03.3**	**-3.3**
	0.5nm,0.3s,SNR=7.9						
EQES				Lg		15 28 32.2	
	9.1nm,0.5s,SNR=7.9						
SMRF	**Simiane la Rot**	**5.29**	**77**	*e*Pn	**Pn**	**15 27 05.4**	**+0.1**
SMF	**Signal de Mont**	**5.32**	**44**	*e*Pn	**Pn**	**15 27 04.7**	**-1.0**
SMF				*e*Sn	**Sn**	**15 28 04.2**	**-3.2**
	4.5nm,0.4s						
EADA	**Adamuz**	**5.32**	**207**	Pn	**Pn**	**15 27 05.3**	**-0.4**
	0.5nm,0.1s,SNR=16						
EADA				Sn	**Sn**	**15 28 03.1**	**-4.2**
	0.4nm,0.1s,SNR=7.9						
EADA				Lg		15 28 33.9	
	1.1nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**5.32**	**207**	Pn	**Pn**	**15 27 05.3**	**-0.4**
EADA				Sn	**Sn**	**15 28 02.2**	**-5.2**
EADA				Lg		15 28 35.1	
SGMF	**Saint Gilles**	**5.33**	**353**	*e*Pn	**Pn**	**15 27 06.9**	**+1.0**
SGMF				*e*Sn	**Sn**	**15 28 05.8**	**-2.0**
	4.1nm,0.3s						
GRR	**Gorron**	**5.44**	**5**	*e*Pn	**Pn**	**15 27 07.6**	**+0.2**
GRR				*e*Sn	**Sn**	**15 28 08.4**	**-2.1**
	4.5nm,0.2s						
SSF	**Saint Saulge**	**5.44**	**40**	*e*Pn	**Pn**	**15 27 06.3**	**-1.1**
SSF				*e*Sn	**Sn**	**15 28 06.1**	**-4.5**
	4.2nm,0.3s						
EMAZ	**Mazaricos**	**5.45**	**272**	Pn	**Pn**	**15 27 09.5**	**+2.0**
	2.4nm,0.2s,SNR=6.2						
EMAZ				Sn	**Sn**	**15 28 08.8**	**-1.8**
	1.1nm,0.1s,SNR=7.9						
EMAZ				Lg		15 28 44.0	
	0.8nm,0.1s,SNR=4.0						
ROSF	**Rostrenen**	**5.50**	**348**	*e*Pn	**Pn**	**15 27 10.0**	**+1.7**
ROSF				*e*Sn	**Sn**	**15 28 09.6**	**-2.4**

	3.5nm,0.2s						
ORIF	Oris-en-Rattie	5.71	68	*e*Pn	Pn	15 27 11.5	+0.2
LDF	La Druitiere	5.71	10	*e*Pn	Pn	15 27 11.7	+0.4
LDF				*e*Sn	Sn	15 28 14.9	-2.5
	6.7nm,0.4s						
LOR	Lormes	5.76	40	*e*Pn	Pn	15 27 09.9	-2.0
LOR				*e*Sn	Sn	15 28 14.1	-4.4
	3.4nm,0.3s						
FLN	La Foliniere	5.84	7	*e*Pn	Pn	15 27 12.6	-0.5
EBAD	Badajoz	5.90	226	Pn	Pn	15 27 13.1	-0.7
	0.5nm,0.1s,SNR=7.9						
EBAD				Lg		15 28 56.6	
	3.0nm,0.4s,SNR=7.9						
FRF	La Foret Royal	6.02	82	*e*Pn	Pn	15 27 15.4	-0.2
EMIN	Mina Concepcio	6.50	219	Pn	Pn	15 27 21.2	-1.1
	0.3nm,0.2s,SNR=7.9						
EMIN				Lg		15 29 15.3	
	2.3nm,0.4s,SNR=7.9						
EVO	Evora	6.61	230	*e*Pn	Pn	15 27 23.0	-0.9
EVO				*e*Sg	Sg	15 29 14.4	-10
	11nm,0.6s						

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*STR **18** 15:33:47.2±1.2, 42.80N×1.55W, h5^{km}±1^{km}, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LDG **18** 15:33:49.3±0.9, 42.93N×1.48W, h2^{km}, Ml1.9/4, Error ellipse: s-maj=14.2km s-min=10.1km az=55.0*

*MDD **18** 15:33:50.1±0.5, 42.88N×1.40W, h6^{km}±8^{km}, mbLg1.5/8, Error ellipse: s-maj=3.8km s-min=2.0km az=40.0, AftershockPLICA PRXIMO*

ISC 18 15:33:48.0±0.6**, 42.87N**±0.03×**1.47W**±0.04**, h12**^{km}±4^{km}**, n20, σ0^{s}93**/33**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	Ste Jean	0.30	36	*e*Pg	Pg	15 33 54.9	+0.5
SJPF				*e*Sg	Sg	15 33 57.8	-0.9
	22nm,0.2s						
EALK	Alkurruntz	0.35	355	Pg	Pg	15 33 56.3	+0.9
	1.1nm,0.2s,SNR=5.0						
EALK				Lg		15 34 01.5	
	17nm,0.3s,SNR=33						
LARF	Larrau	0.39	64	Pg	Pg	15 33 56.0	-0.1
LARF				Sg	Sg	15 34 02.1	+0.6
LARF	Larrau	0.39	64	P	Pg	15 33 56.1	+0.1
LARF				S	Sg	15 34 01.9	+0.4
OSSF	Osses	0.42	21	P	Pg	15 33 57.3	+0.7
OSSF				S	Sg	15 34 02.4	+0.1
ORDF	Ordiarp	0.52	48	Pg	Pg	15 33 58.8	+0.2
ORDF				Sg	Sg	15 34 08.2	+2.5
ORDF	Ordiarp	0.52	48	P	Pb	15 33 58.9	+0.4
ORDF				S	Sg	15 34 06.0	+0.3
ATE	Arette	0.60	68	P	Pb	15 33 60.0	0.0
ATE				S	Sb	15 34 08.3	+0.2
FDAF	Les Forges d'A	0.66	94	Pg	Pg	15 34 01.3	-0.1
FDAF				Sg	Sg	15 34 11.2	+0.9
FDAF	Les Forges d'A	0.66	94	P	Pb	15 34 01.6	+0.6
FDAF				S	Sb	15 34 11.0	+1.1
ETSF	Etsaut	0.67	87	*e*Pg	Pg	15 34 00.6	-0.9
ETSF				*e*Sg	Sg	15 34 09.7	-0.8
	5.7nm,0.2s						
VIEF	Viey	1.09	89	S	Sb	15 34 24.0	+1.6
EPF	Esparros	1.34	82	*e*Pg	Pg	15 34 14.8	+0.1
EPF				*e*Sg	Sg	15 34 31.7	-0.9
	6.9nm,0.3s						
ESAC	San Caprasio	1.36	147	Pg	Pg	15 34 14.2	-1.0
	3.5nm,0.2s,SNR=7.9						
ESAC				Lg		15 34 33.5	
	13nm,0.2s,SNR=7.9						
EGRA	Graus	1.48	116	Pg	Pg	15 34 16.5	-1.1
	2.3nm,0.3s,SNR=7.9						
EGRA				Lg		15 34 38.0	
	1.6nm,0.2s,SNR=4.0						
ELAN	Lanestosa	1.49	285	Pg	Pg	15 34 17.2	-0.5
	0.6nm,0.2s,SNR=7.9						
ELAN				Lg		15 34 38.4	
	3.5nm,0.2s,SNR=4.7						
ETOR	Torete	2.09	192	Pn	Pn	15 34 25.1	+1.8
	1.3nm,0.3s,SNR=5.5						
ETOR				Pg	Pg	15 34 29.5	-0.3
	SNR=7.9						
ETOR				Lg		15 34 51.9	
	2.4nm,0.2s,SNR=5.6						
LFF	La Frestale	2.62	37	*e*Sg	Sg	15 35 09.9	-5.2
	1.4nm,0.2s						
MTLF	Montolieu	2.74	79	*e*Sn	Sn	15 35 05.1	-0.8
	0.3nm,0.2s						
CAF	Calviac	3.28	50	*e*Pn	Pn	15 34 38.7	-1.5
CAF				*e*Sn	Sn	15 35 17.1	-2.5
	0.4nm,0.2s						

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*STR **18** 15:37:28.8±0.6, 42.88N×1.56W, h5^{km}±1^{km}, Ml2.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LDG **18** 15:37:30.2±0.4, 42.86N×1.47W, h2^{km}, Md2.7/2, Ml2.8/10, Error ellipse: s-maj=6.3km s-min=4.1km az=63.0*

*NEIC **18** 15:37:30.2, 42.86N×1.47W, h2^{km}, ML2.8(LDG), ML2.8(STR), MN2.2(MDD), After LDG.*

*MDD **18** 15:37:30.9±0.3, 42.85N×1.41W, h4^{km}±3^{km}, mbLg2.2/15, Error ellipse: s-maj=2.7km s-min=1.9km az=40.0, AftershockPLICA PRXIMO*

ISC 18 15:37:28.9±0.4**, 42.87N**±0.02×**1.48W**±0.02**, h13**^{km}±2^{km}**, n62, σ1^{s}24**/104**, 2C, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	Ste Jean	0.31	37	*e*Pg	Pg	15 37 36.4	+0.8
SJPF				*e*Sg	Sg	15 37 39.2	-0.8
	551nm,0.3s						
EALK	Alkurruntz	0.35	357	⇑Pg	Pg	15 37 37.6	+1.2
	31nm,0.3s,SNR=18						
EALK				Lg		15 37 43.2	
	60nm,0.3s,SNR=13						
EALK	Alkurruntz	0.35	357	Pg	Pg	15 37 37.6	+1.2
EALK				Lg		15 37 43.4	
LARF	Larrau	0.40	64	Pg	Pg	15 37 37.4	+0.1
LARF				Sg	Sg	15 37 43.0	+0.1
LARF	Larrau	0.40	64	P	Pg	15 37 37.5	+0.3
LARF				S	Sg	15 37 42.9	+0.1
OSSF	Osses	0.42	22	P	Pg	15 37 38.5	+0.8
OSSF				S	Sg	15 37 44.9	+1.4
ORDF	Ordiarp	0.53	49	Pg	Pg	15 37 40.2	+0.4
ORDF				Sg	Sg	15 37 47.6	+0.6
ORDF	Ordiarp	0.53	49	P	Pb	15 37 40.3	+0.7
ORDF				S	Sb	15 37 47.7	+0.9
ATE	Arette	0.61	69	P	Pb	15 37 41.3	+0.3
ATE				S	Sb	15 37 49.8	+0.5
FDAF	Les Forges d'A	0.67	94	Pg	Pg	15 37 42.3	-0.3
FDAF				Sg	Sg	15 37 52.4	+0.7
FDAF	Les Forges d'A	0.67	94	P	Pb	15 37 42.1	0.0
FDAF				S	Sb	15 37 51.8	+0.8
ETSF	Etsaut	0.68	87	*e*Pg	Pg	15 37 42.1	-0.6
ETSF				*e*Sg	Sg	15 37 51.0	-0.9
	44nm,0.2s						
REYF	Montagne du Re	0.82	75	P	Pb	15 37 45.1	+0.4
REYF				S	Sb	15 37 56.2	+0.8
VIEF	Viey	1.11	89	Pn	Pn	15 37 49.7	-0.4
VIEF	Viey	1.11	89	P	Pb	15 37 49.8	+0.3
VIEF				S	Sb	15 38 05.4	+1.8
LABF	Labassere	1.16	80	Pn	Pn	15 37 50.9	+0.1
LABF	Labassere	1.16	80	P	Pb	15 37 51.0	+0.7
LABF				S	Sb	15 38 06.9	+1.9
RESF	Ens	1.34	92	Pn	Pn	15 37 53.4	0.0
RESF				Pg	Pg	15 37 56.1	+0.3
RESF				Sg	Sg	15 38 15.3	+1.6
RESF	Ens	1.34	92	P	Pb	15 37 54.0	+0.5
RESF				S	Sb	15 38 13.0	+2.7
EPF	Esparros	1.35	82	*e*Pn	Pn	15 37 54.3	+0.7
EPF				*e*Pg	Pg	15 37 56.5	+0.6
EPF				*e*Sg	Sg	15 38 13.6	-0.4
	32nm,0.2s						
ESAC	San Caprasio	1.37	146	⇑Pg	Pg	15 37 54.9	-1.4
	52nm,0.3s,SNR=18						
ESAC				Lg		15 38 13.1	
	144nm,0.2s,SNR=11						
ESAC	San Caprasio	1.37	146	Pg	Pg	15 37 55.1	-1.2
ESAC				Lg		15 38 13.6	
ELAN	Lanestosa	1.48	285	Pn	Pn	15 37 58.4	+2.9
	5.1nm,0.3s,SNR=26						
ELAN				Lg		15 38 20.6	
	11nm,0.4s,SNR=6.9						
ELAN	Lanestosa	1.48	285	Pg	Pg	15 37 58.6	0.0
ELAN				Lg		15 38 20.7	
EGRA	Graus	1.49	116	Pg	Pg	15 37 56.9	-1.8
	10nm,0.3s,SNR=7.9						
EGRA				Lg		15 38 17.5	
	12nm,0.3s,SNR=7.9						
MELF	Melles	1.65	89	Pg	Pg	15 38 01.1	-0.8
MELF	Melles	1.65	89	P	Pn	15 38 01.1	+3.3
MELF				S	Sn	15 38 22.6	+3.6
MLS	Moulis	1.89	86	S	Sn	15 38 29.2	+4.0
SALF	Salau	1.97	92	P	Pn	15 38 05.1	+2.7
SALF				S	Sn	15 38 32.9	+5.8
ETOR	Torete	2.09	192	Pn	Pn	15 38 05.2	+1.0
	7.9nm,0.3s,SNR=12						
ETOR				Pg	Pg	15 38 09.6	-1.1
	SNR=7.9						
ETOR				Lg		15 38 33.3	
	24nm,0.4s,SNR=8.2						
ETOR	Torete	2.09	192	Pn	Pn	15 38 05.8	+1.6
ETOR				Lg		15 38 37.0	
EMIR	Miracle	2.42	112	Pg	Pg	15 38 14.0	-3.3
	2.3nm,0.4s,SNR=7.9						
EMIR				Lg		15 38 45.1	
	16nm,0.5s,SNR=5.1						
EMIR	Miracle	2.42	112	Pg	Pg	15 38 13.0	-4.3
EMIR				Lg		15 38 44.9	
EPOB	Poblet	2.43	128	Pn	Pn	15 38 09.0	-0.1
	0.7nm,0.1s,SNR=8.5						
EPOB				Pg	Pg	15 38 13.9	-3.6
	1.4nm,0.1s,SNR=7.9						
EPOB				Lg		15 38 43.6	
	6.0nm,0.3s,SNR=7.9						
EPOB	Poblet	2.43	128	Pn	Pn	15 38 10.0	+0.9
EPOB				Lg		15 38 44.2	
EMOS	Mosqueruela	2.61	163	Pn	Pn	15 38 12.9	+1.3
	4.2nm,0.3s,SNR=14						
EMOS				Pg	Pg	15 38 17.4	-3.8
	SNR=7.9						
EMOS				Lg		15 38 51.4	
	3.7nm,0.4s,SNR=7.8						
EMOS	Mosqueruela	2.61	163	Pn	Pn	15 38 12.4	+0.8
EMOS				Lg		15 38 51.4	
LFF	La Frestale	2.62	37	*e*Pg	Pg	15 38 18.8	-2.5
LFF				*e*Sn	Sn	15 38 42.6	-1.2
LFF				*e*Sg	Sg	15 38 51.3	-5.0
	13nm,0.4s						
CARF	Carcanieres	2.64	92	S	Sn	15 38 53.5	+9.2
MTLF	Montolieu	2.75	79	*e*Pn	Pn	15 38 14.4	+0.8
MTLF				*e*Pg	Pg	15 38 21.4	-2.5
MTLF				*e*Sn	Sn	15 38 46.7	-0.3
	7.0nm,0.3s						
EJON	La Jonquera	3.25	96	Pg	Pg	15 38 29.8	-4.1
	0.0nm,0.1s,SNR=7.9						
EJON				Lg		15 39 12.2	
	2.6nm,0.3s,SNR=4.8						
RJF	Les Rejaudoux	3.26	40	*e*Pn	Pn	15 38 20.3	-0.5
RJF				*e*Sn	Sn	15 38 57.4	-2.4
	7.2nm,0.3s						
CAF	Calviac	3.29	50	*e*Pn	Pn	15 38 20.5	-0.8
CAF				*e*Sn	Sn	15 38 58.3	-2.3
	8.8nm,0.4s						
ESDC	Sonseca Array	3.70	211	Pn	Pn	15 38 26.4	-0.7
	0.2nm,0.2s,baz=37,slow=13,SNR=7.3						
ESDC				Lg		15 39 25.7	
	0.6nm,0.3s,baz=31,slow=29,SNR=7.4						
MFF	Saint Martin d	3.86	14	*e*Pn	Pn	15 38 28.7	-0.6
MFF				*e*Sn	Sn	15 39 12.1	-2.9
	2.4nm,0.3s						
ECAL	Calabor	4.00	258	Pn	Pn	15 38 31.5	+0.1
	SNR=7.9						
ECAL				Sn	Sn	15 39 19.7	+1.1
	SNR=4.0						
ECAL				Lg		15 39 35.9	
	6.8nm,0.5s,SNR=4.9						
ECAL	Calabor	4.00	258	Pn	Pn	15 38 31.5	+0.1
ECAL				Sn	Sn	15 39 19.7	+1.1
ECAL				Lg		15 39 39.5	
LASF	Ste Croix	4.07	71	*e*Pn	Pn	15 38 31.7	-0.7
LASF				*e*Sn	Sn	15 39 17.8	-2.6
	3.8nm,0.3s						
EPON	Pontenova	4.18	278	Pn	Pn	15 38 35.4	+1.5
	SNR=7.9						
EPON				Sn	Sn	15 39 23.7	+0.6
	SNR=7.9						
EPON	Pontenova	4.18	278	Pn	Pn	15 38 35.0	+1.1
EPON				Sn	Sn	15 39 23.7	+0.6
ERUA	La Rua	4.20	265	Pn	Pn	15 38 35.7	+1.4
	SNR=7.9						
ETOB	Tobarra	4.22	181	Pn	Pn	15 38 34.5	+0.1
	SNR=7.9						
ETOB				Sn	Sn	15 39 21.7	-2.4
	SNR=7.9						
EVIA	Vianos	4.29	191	Pn	Pn	15 38 35.8	+0.3
	SNR=7.9						
TCF	Toulx Ste Croi	4.32	36	*e*Pn	Pn	15 38 33.5	-2.4
TCF				*e*Sn	Sn	15 39 22.9	-3.9
	3.3nm,0.3s						
BGF	Bois d'Agland	4.81	38	*e*Pn	Pn	15 38 40.3	-2.6
BGF				*e*Sn	Sn	15 39 34.8	-4.3
	8.6nm,0.3s						
VIVF	Saint-Julien-l	4.87	64	*e*Pn	Pn	15 38 42.2	-1.6
QUIF	Quistinic	5.19	347	*e*Pn	Pn	15 38 48.7	+0.5
EQES	Quesada	5.20	194	Pn	Pn	15 38 47.8	-0.6
	SNR=7.9						
EQES				Pg	Pg	15 39 06.9	-5.9
	2.0nm,0.3s,SNR=8.0						
EQES				Lg		15 40 16.1	
	1.2nm,0.4s,SNR=7.9						
EQES	Quesada	5.20	194	Pn	Pn	15 38 47.0	-1.4
EQES				Pg	Pg	15 39 06.9	-5.9
EADA	Adamuz	5.25	208	Pn	Pn	15 38 48.5	-0.6
	0.7nm,0.5s,SNR=16						
EADA				Sn	Sn	15 39 45.7	-4.5
	SNR=7.9						
EADA				Lg		15 40 16.3	
	0.6nm,0.2s,SNR=7.9						
EADA	Adamuz	5.25	208	Pn	Pn	15 38 48.5	-0.6
EADA				Sn	Sn	15 39 44.9	-5.4
SMF	Signal de Mont	5.35	43	*e*Pn	Pn	15 38 49.7	-0.8

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*STR **18** 15:47:42.7±0.6, 42.85N×1.49W, h5^{km}±1^{km}, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LDG **18** 15:47:43.4±0.8, 42.92N×1.51W, h2^{km}, Md2.2/2, Ml2.1/5, Error ellipse: s-maj=12.3km s-min=9.8km az=59.0*

*MDD **18** 15:47:44.0±0.5, 42.88N×1.44W, h6^{km}±7^{km}, mbLg1.4/10, Error ellipse: s-maj=4.2km s-min=2.7km az=31.0, AftershockPLICA PRXIMO*

ISC 18 15:47:41.7±0.8**, 42.82N**±0.04×**1.46W**±0.05**, h6**^{km}**, n19, σ0^{s}98**/30**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	Ste Jean	0.34	30	*e*Pg	Pg	15 47 49.4	+0.8
SJPF				*e*Sg	Sg	15 47 52.2	-1.0
	28nm,0.3s						
EALK	Alkurruntz	0.40	355	Pg	Pg	15 47 50.4	+0.7
	0.1nm,0.2s,SNR=14						
EALK				Lg		15 47 55.0	
	14nm,0.2s,SNR=7.2						
LARF	Larrau	0.41	57	Pg	Pg	15 47 50.5	+0.6
LARF				Sg	Sg	15 47 56.8	+1.3
LARF	Larrau	0.41	57	P	Pg	15 47 50.6	+0.7
LARF				S	Sg	15 47 56.6	+1.1
OSSF	Osses	0.46	18	P	Pg	15 47 51.4	+0.5
OSSF				S	Sg	15 47 57.0	-0.1
ORDF	Ordiarp	0.55	44	Pg	Pg	15 47 53.3	+0.6
ORDF				Sg	Sg	15 48 00.6	+0.5
ORDF	Ordiarp	0.55	44	P	Pg	15 47 53.3	+0.6
ORDF				S	Sg	15 48 00.7	+0.6
ATE	Arette	0.62	64	P	Pg	15 47 54.5	+0.5
ATE				S	Sg	15 48 02.9	+0.5
ETSF	Etsaut	0.67	83	*e*Pg	Pg	15 47 55.2	+0.2
ETSF				*e*Sg	Sg	15 48 04.0	+0.1
	4.3nm,0.2s						
ESAC	San Caprasio	1.32	146	Pg	Pg	15 48 08.7	+0.7
	2.4nm,0.2s,SNR=7.9						
ESAC				Lg		15 48 27.0	
	23nm,0.3s,SNR=7.9						
EPF	Esparros	1.34	80	*e*Pg	Pg	15 48 09.5	+1.1
EPF				*e*Sg	Sg	15 48 26.5	+0.2
	7.4nm,0.3s						
EGRA	Graus	1.45	115	Pg	Pg	15 48 10.7	0.0
	1.7nm,0.3s,SNR=7.9						
EGRA				Lg		15 48 30.2	
	1.4nm,0.3s,SNR=4.0						
ELAN	Lanestosa	1.51	287	Pg	Pg	15 48 11.6	-0.1
	0.5nm,0.3s,SNR=7.9						
ELAN				Lg		15 48 32.3	
	1.8nm,0.3s,SNR=7.9						
ETOR	Torete	2.04	193	Lg		15 48 47.7	
	1.0nm,0.3s,SNR=6.7						
EMIR	Miracle	2.39	111	Pn	Pn	15 48 22.4	+0.4
	SNR=7.9						
EMIR				Lg		15 48 59.8	
	1.4nm,0.2s,SNR=7.9						
LFF	La Frestale	2.65	36	*e*Sg	Sg	15 49 04.5	-5.5
	3.8nm,0.3s						
MTLF	Montolieu	2.75	78	*e*Pg	Pg	15 48 34.3	-2.2
MTLF				*e*Sn	Sn	15 48 59.6	-1.4
	0.6nm,0.3s						
CAF	Calviac	3.31	49	*e*Pn	Pn	15 48 33.1	-2.0
CAF				*e*Sn	Sn	15 49 11.9	-3.4
	0.7nm,0.2s						
LASF	Ste Croix	4.07	70	*e*Pn	Pn	15 48 44.5	-1.4
LASF				*e*Sn	Sn	15 49 30.7	-3.9
	0.3nm,0.2s						

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*NEIC **18** 16:02:37.7, 34.11S×70.07W, h7^{km}, ML2.5(GUC), After GUC.*

GUC 18 16:02:37.7±0.9**, 34.11S**×**70.07W, h7**^{km}±2^{km}**, MD3.5, ML2.5, 5C-4D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LMEL	Las Melosas	0.29	336	⇑*i*P	Pg	16 02 44.1	+0.6
LMEL				*i* S	Sg	16 02 49.0	+1.6
LMEL				AMP		16 02 50.2	
	comp=N,2μm,0.2s						
CICH	Cipreses	0.36	235	⇑*i*P	Pg	16 02 45.2	+0.2
CICH				*i* S	Sg	16 02 50.7	+0.8
CACH	El Canelo	0.44	269	⇓*i*P	Pg	16 02 46.8	+0.2
CACH				*i* S	Sg	16 02 53.6	+1.0
CHCH	Chadas Angostu	0.52	290	⇑*i*P	Pg	16 02 48.5	+0.4
CHCH				*i* S	Sg	16 02 56.5	+1.4
SJCH	San Jose de Ma	0.53	333	*e*P	Pg	16 02 48.3	+0.1
SJCH				*i* S	Sg	16 02 56.0	+0.7
SJCH				AMP		16 02 56.6	
	comp=N,324nm,0.2s						
PCH	Pirque	0.61	322	⇓*i*P	Pg	16 02 50.3	+0.2
PCH				*e*S	Sg	16 02 59.6	+1.3
ANTU	Antumapu	0.72	319	*e*P	Pg	16 02 52.1	0.0
ANTU				*i* S	Sg	16 03 02.7	+1.0
ANTU				AMP		16 03 03.1	
	comp=E,634nm,0.3s						
FCH	Farellones	0.80	346	⇓*i*P	Pb	16 02 53.5	0.0
FCH				*i* S	Sb	16 03 05.4	+1.0
FCH				AMP		16 03 06.8	
	comp=E,523nm,0.3s						
CLCH	Cerro Calan	0.81	331	*i* P	Pb	16 02 53.9	+0.2
CLCH				*i* S	Sb	16 03 05.9	+1.2
CLCH				AMP		16 03 07.5	
	comp=N,369nm,0.7s						
TACH	Talagante	0.86	302	*e*P	Pb	16 02 54.1	-0.4
TACH				*i* S	Sb	16 03 06.5	+0.5
RCDM	Rinconada Maip	0.87	315	*e*P	Pb	16 02 54.8	0.0
RCDM				*i* S	Sb	16 03 07.6	+1.1
RCDM				AMP		16 03 08.2	
	comp=N,242nm,0.1s						
SFDO	San Fernando	0.93	237	⇑*i*P	Pb	16 02 55.4	-0.4
SFDO				*i* S	Sb	16 03 08.5	+0.4
LNV	Longovilo	1.13	277	⇓*i*P	Pb	16 02 58.8	-0.3
LCCH	Las Cruces	1.40	296	⇑*i*P	Pn	16 03 04.1	+0.3
LCCH				*i* S	Sb	16 03 22.6	+0.8
MDZ	Mendoza	1.59	40	*e*P	Pn	16 03 10.5	+4.0

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*IDC **18** 16:06:09.1±10.0, 18.04S×178.27W, h526^{km}±111^{km}, mb3.6/6, mb1 3.7/6, mb1mx3.3/17, Error ellipse: s-maj=76.4km s-min=24.6km az=36.0*

*NEIC **18** 16:06:14.0±6.2, 18.25S×178.38W, h585^{km}±64^{km}, mb3.9/3, Error ellipse: s-maj=54.2km s-min=18.3km az=221.0*

ISC 18 16:06:12.1±7.9**, 18.2S**±0.8×**178.2W**±1.0**, h600**^{km}**, n13, σ0^{s}49**/12**, mb4.1**/7**, 1D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	20.44	191	P	P	16 10 10.6	-0.5
	28nm,1.3s,baz=45,slow=10.0,SNR=3.5						
RPZ	Rata Peaks	27.05	197	P	P	16 11 10.4	+0.6
	21nm,1.1s,mb4.7,baz=270,slow=6.1,SNR=2.8						
CTA	Charters Tower	33.60	261	P	P	16 12 05.6	0.0
	6.0nm,1.1s,mb4.2,baz=83,slow=13,SNR=4.5						
CTAO	Charters Tower	33.60	261	*e*P	P	16 12 05.7	+0.1
	1.2nm,0.5s,mb3.8						
WB2	Warramunga Arr	44.77	260	*e*P	P	16 13 34.8	-0.7
WRA	Warramunga Arr	44.78	260	P	P	16 13 34.9	-0.8
	1.6nm,0.5s,mb3.8,baz=95,slow=7.1,SNR=52						
ASAR	Alice Springs	44.91	254	P	P	16 13 37.1	+0.5
	11nm,0.5s,mb4.6,baz=88,slow=8.3,SNR=287						
ASAR				PcP	PcP	16 15 06.8	+1.6
	0.3nm,0.5s,baz=104,slow=3.7,SNR=4.2						
ASAR	Alice Springs	44.91	254	P	P	16 13 37.1	+0.5
ASAR				PcP	PcP	16 15 06.8	+1.6
ASPA	Alice Springs	44.92	254	⇓*i*P	P	16 13 36.9	+0.3
FITZ	Fitzroy Crossi	53.18	261	P	P	16 14 38.2	+0.5
	1.5nm,0.8s,mb3.4,baz=129,slow=6.5,SNR=7.4						
MBWA	Marble Bar	58.20	256	P	P	16 15 12.4	+0.2
	1.6nm,0.6s,mb3.3						
CASY	Casey	65.99	205	P	P	16 16 01.6	-0.1
	33nm,1.1s,mb4.7						
GERES	GERESS Array B	147.90	345	PKPbc	PKPdf	16 24 54.4	+8.0
	0.5nm,0.4s,slow=4.9,SNR=7.0						

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*NEIC **18** 16:15:07.2, 36.51N×22.18E, h16^{km}, MD3.5(ATH), After ATH.*

ATH 18 16:15:04.5, 36.27N×**21.93E, h5**^{km}**, MD3.5**/5**, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KYTH	Kithira	0.89	89	*e*PB	Pb	16 15 21.5	-0.6
ITM	Ithomi	0.91	360	*e*PG	Pg	16 15 21.5	-1.1
VLI	Veliai	0.93	61	*e*Pn	Pn	16 15 22.7	-1.3
VLI				*e*Sn	Pg	16 15 25.5	+2.5
VLS	Valsamata	2.18	331	*e*Pn	Pn	16 15 37.5	-4.5
PTL	Penteli	2.35	40	*e*PN	Pn	16 15 45.5	+1.1
LKD	Levkas	2.64	338	*e*P	Pn	16 15 47.9	-0.5
EVR	Evrytania	2.64	358	*e*PN	Pn	16 15 51.5	+2.9
AGG	Agios Georgios	2.77	6	*e*P	Pn	16 15 52.3	+2.0
XOR	Xorichti	3.25	18	*e*P	Pn	16 15 59.2	+2.0
MEV	Metsovon	3.55	351	*e*P	Pn	16 16 01.9	+0.4
LIT	Litokhoron	3.85	6	*e*P	Pn	16 16 07.0	+1.2

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*NAO **18** 16:24:38.5±4.2, 68.99N×17.72E, ML1.7*

*BER **18** 16:24:38.6±4.2, 69.23N×17.28E, MD2.4, ML1.6, ML1.7(NAO)*

ISC 18 16:24:37.1±0.9**, 69.0N**±0.1×**17.5E**±0.2**, h10**^{km}**, n5, σ1^{s}48**/9**, Northern Norway**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TRO	Tromso	0.80	40	*e*P	Pb	16 24 50.7	-1.9
LOF	Lofoten	1.70	240	*e*P	Pn	16 25 07.8	+0.8
LOF				*e*S	Sn	16 25 30.1	+1.1
LOF				AML	AML	16 25 30.6	
	comp=Z,8.5nm,0.3s						
KTK1	Kautokeino	2.08	88	*e*P	Pn	16 25 15.7	+3.2
KTK1				*e*S	Sn	16 25 40.9	+2.2
KTK1				AML	AML	16 25 48.4	
	comp=Z,9.1nm,0.4s						
ARA0	ARCESS Array S	2.91	76	Pn	Pn	16 25 24.8	+0.4
	baz=252,slow=12						
ARA0				Sn	Sn	16 25 58.2	-1.5
	baz=252,slow=18						
ARA0				Lg		16 26 07.4	
	baz=268,slow=28						
MOR8	Moi Rana	3.10	203	*e*P	Pn	16 25 26.5	-0.6
MOR8				*e*S	Sn	16 26 02.8	-1.6

IDC 18 16:47:23.7±1.8**, 18.38S**×**175.66W, mb4.4**/7**, mb1 4.5**/7**, mb1mx4.2**/17**, 1D, Error ellipse: s-maj=40.4km s-min=32.8km az=99.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	**Urewera**	20.79	196	P	P	16 52 06.1	-3.0
	5.2nm,0.4s,baz=297,slow=3.6,SNR=7.4						
RPZ	**Rata Peaks**	27.63	201	P	P	16 53 13.9	-1.1
	20nm,1.1s,baz=30,slow=14,SNR=2.7						
CTA	**Charters Tower**	35.95	261	⇓*i*P	P	16 54 27.6	-0.6
	4.1nm,0.3s						
CTA	**Charters Tower**	35.95	261	P	P	16 54 27.8	-0.4
	5.3nm,0.3s,baz=92,slow=11,SNR=30						
STKA	**Stephens Creek**	40.71	242	P	P	16 55 05.4	-2.4
	1.6nm,0.8s,baz=63,slow=11,SNR=3.1						
WB2	**Warramunga Arr**	47.10	260	*e*P	P	16 55 56.9	-2.7
WRA	**Warramunga Arr**	47.12	260	P	P	16 55 57.1	-2.6
	1.3nm,0.3s,baz=96,slow=6.7,SNR=85						
ASAR	**Alice Springs**	47.18	254	P	P	16 55 57.4	-2.9
	7.1nm,0.6s,baz=92,slow=8.6,SNR=199						
ASPA	**Alice Springs**	47.18	254	*e*P	P	16 55 58.0	-2.2
KAKA	**Kakadu**	50.23	269	*e*P	P	16 56 24.2	+0.3
	4.7nm,0.3s						
FITZ	**Fitzroy Crossi**	55.53	260	P	P	16 57 01.6	-1.7
	1.2nm,0.6s,baz=130,slow=7.9,SNR=4.3						
ARCES	**ARCESS Array B**	127.22	351	PKP	PKPdf	17 06 28.8	-2.7
	1.0nm,0.5s,baz=45,slow=1.3,SNR=8.2						
BRTR	**Keskin Array B**	146.95	316	PKPbc	PKPbc	17 07 08.6	+0.6
	0.5nm,0.4s,baz=76,slow=5.1,SNR=3.8						

JMA ***18*** *16:48:29.9±0.2,23.95N×122.01E,h77^{km},M2.7*

TAP 18 16:48:28.6,23.84N×121.95E,h30^{km},ML3.3,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	1.15	57	P	Pn	16 48 49.6	+0.7
YOJ				S	Sn	16 49 03.8	+0.1
IRIF	**Iriomote-Funau**	1.70	73	P	Pn	16 48 57.0	+0.2
IRIF				S	Sn	16 49 17.8	+0.1
HATJ	**Hateruma jima**	1.71	82	P	Pn	16 48 57.2	+0.3
HATJ				S	Sn	16 49 18.4	+0.4
JKRS	**Kuro-shima**	1.92	78	P	Pn	16 49 00.4	+0.4
JKRS				S	Sn	16 49 24.0	+0.6
JIJ	**Ishigaki jima**	2.07	75	P	Pn	16 49 01.8	-0.3
JIJ				S	Sn	16 49 25.7	-1.4
JTJ	**Tarama**	2.64	72	P	Pn	16 49 09.7	-0.5
JTJ				S	Sn	16 49 39.9	-1.6
JOGS	**Gusukube**	3.28	73	P	Pn	16 49 19.4	0.0
JOGS				S	Sn	16 49 56.4	-1.5

SSNC 18 16:49:03.2±3.1,20.12N×72.90W,h50^{km}±89^{km},MD3.1, ML3.8,1D,Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MASC	**Masc**	1.26	273	*i* P	P	16 49 23.1	-1.6
MASC				*i* S	S	16 49 38.4	-2.4
	comp=N,23μm,0.2s						
	comp=E,25μm,0.2s						
MOAC	**Moa**	2.01	286	*e*P	P	16 49 33.5	-1.9
MOAC				*i* S	S	16 49 57.2	-2.1
	comp=N,8μm,0.2s						
	comp=E,9μm,0.1s						
RCC	**Rio Carpintero**	2.63	268	⇓*i*P	P	16 49 41.6	-2.7
RCC				*i* S	S	16 50 11.1	-4.1
	comp=N,2μm,0.0s						
	comp=E,2μm,0.0s						
HLGC	**Holguin**	3.06	285	*e*P	P	16 49 49.6	-0.8
HLGC				*e*S	S	16 50 25.6	-0.5
	comp=N,2μm,0.1s						
	comp=E,2μm,0.1s						
LMGC	**Las Mercedes**	3.86	270	*e*P	P	16 50 01.7	+0.1
LMGC				*e*S	S	16 50 40.5	-5.7
	comp=N,2μm,0.1s						
	comp=E,590nm,0.1s						

IDC 18 17:44:31.7±45.0,15.47S×163.31E,mb3.6/3,mb1 3.8/3, mb1mx3.6/12,Error ellipse: s-maj=759.0km s-min=99.0km az=66.0,Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	25.66	227	P	P	17 50 02.9	-2.0
	0.8nm,0.5s,baz=66,slow=13,SNR=4.3						
WRA	**Warramunga Arr**	27.94	257	P	P	17 50 24.6	-1.3
	0.3nm,0.5s,baz=85,slow=9.4,SNR=7.9						
ASAR	**Alice Springs**	28.84	249	P	P	17 50 31.9	-2.2
	0.3nm,0.4s,baz=78,slow=9.1,SNR=7.9						

IDC ***18*** *17:55:28.4±2.4,2.75S×129.22E,mb3.8/2,mb1 4.1/4, mb1mx3.8/15,ML3.9/2,Error ellipse: s-maj=144.0km s-min=25.5km az=72.0*

NEIC ***18*** *17:55:44.4±4.5,3.18S×128.91E,h150^{km}±46^{km},mb3.9/5, Error ellipse: s-maj=40.3km s-min=25.5km az=64.0*

ISC 18 17:55:42.8±4.6,3.2S±0.2×129.0E±0.3,h155^{km}±47^{km},n12, σ1^{s}37/12,mb3.5/2,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	**Kakadu**	10.06	161	*e*P	P	17 58 04.6	+0.2
	9.5nm,0.6s						
FITZ	**Fitzroy Crossi**	15.22	192	*e*P	P	17 59 12.9	+2.0
	2.5nm,0.9s						
FITZ	**Fitzroy Crossi**	15.22	192	Pn	P	17 59 12.0	+1.1
	0.2nm,0.3s,baz=14,slow=8.2,SNR=7.3						
WRAB	**Tennant Creek**	17.47	163	*e*P	P	17 59 37.6	-0.8
	5.5nm,0.7s						
WRA	**Warramunga Arr**	17.48	163	P	P	17 59 37.3	-1.2
	0.6nm,0.3s,baz=334,slow=13,SNR=66						
WB2	**Warramunga Arr**	17.48	163	*e*P	P	17 59 37.5	-1.0
MBWA	**Marble Bar**	20.05	206	*e*P	P	18 00 03.2	-2.5
	7.3nm,1.1s						
ASAR	**Alice Springs**	20.93	167	P	P	18 00 16.8	+2.2
	2.7nm,0.4s,baz=347,slow=11,SNR=30						
ASPA	**Alice Springs**	20.93	167	*e*P	P	18 00 16.4	+1.8
ASPA	**Alice Springs**	20.93	167	*e*P	P	18 00 17.7	+3.1
MKAR	**Makanchi Array**	64.49	326	P	P	18 06 05.6	+0.4
	0.5nm,0.6s,mb3.5,baz=118,slow=8.0,SNR=6.9						
ZRNK	**Zerenda**	75.02	327	P	P	18 07 08.5	-0.4
	1.4nm,0.9s,mb3.6						

ISK ***18*** *17:56:07.7,36.95N×27.96E,h17^{km},MD3.4*

ATH ***18*** *17:56:08.6,36.89N×27.89E,h20^{km}±4^{km},MD3.3/6*

NEIC ***18*** *17:56:09.2,36.85N×27.89E,h17^{km},MD3.3(ATH),After ATH.*

ISC 18 17:56:07.7±0.7,36.91N±0.03×27.96E±0.04,h11^{km}±5^{km}, n21,σ0^{s}91/28,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YER	**Yerkesik**	0.34	49	*i* PG	Pg	17 56 15.0	+0.3
MLSB	**Milas**	0.41	339	*i* PG	Pg	17 56 15.7	-0.4
MLSB				SG	Sg	17 56 21.8	+0.1
BDRM	**Kayabasi**	0.44	290	*i* P	Pg	17 56 16.7	-0.1
BDRM				*i* S	Sg	17 56 22.7	-0.1
DALT	**Dalyan (Mudla)**	0.56	105	PG	Pg	17 56 19.5	+0.5
ARG	**Arkhangelos**	0.71	169	*e*Pn	Pn	17 56 22.0	-1.4
ARG				*e*Sn	Sn	17 56 34.0	-0.2
NISR	**Nisiros**	0.74	246	*e*PN	Pn	17 56 22.5	-1.2
AYDN	**Tasoluk**	0.75	355	*i* P	Pb	17 56 22.2	0.0
AYDN				*i* S	Sb	17 56 32.4	+0.3
DNZL	**Cakiroluk**	1.16	48	*i* P	Pb	17 56 30.4	+1.1
DNZL				*i* S	Sb	17 56 49.9	+5.8
DENT	**Denizli**	1.20	45	PN	Pn	17 56 29.8	-0.5
SMG	**Samos**	1.20	312	*e*PN	Pn	17 56 30.5	+0.1
KARP	**Karpathos**	1.51	206	*e*PB	Pb	17 56 35.0	-0.3
KARP				*e*SN	Sn	17 56 55.5	+0.9
KSL	**Kastellorizon**	1.51	120	*e*PN	Pn	17 56 37.5	+2.7
IZM	**Izmir**	1.58	340	PN	Pn	17 56 35.5	-0.3
MANT	**Manisa**	1.64	16	*i* P	Pn	17 56 38.4	+1.7
MANT				*i* S	Sn	17 57 01.8	+3.9
KHL	**Karahalli**	1.87	41	*e*PN	Pn	17 56 39.1	-0.9
APE	**Apeiranthos**	1.96	275	*e*PN	Pn	17 56 43.0	+1.8
AKS	**Akhisar**	1.96	357	*e*PN	Pn	17 56 40.8	-0.5
BCK	**Bucak**	2.17	75	*e*PN	Pn	17 56 43.9	-0.3
ISP	**Isparta**	2.23	65	*e*PN	Pn	17 56 44.7	-0.4
ALT	**Altintas**	2.73	38	*e*PN	Pn	17 56 50.7	-1.5
ESKT	**Eskisehir**	3.45	40	*e*PN	Pn	17 57 02.2	-0.4

MEX 18 18:06:44.6±0.7,15.88N×97.60W,h16^{km}±45^{km},MD3.7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	0.72	315	*e*P	Pb	18 06 56.1	-2.2
PNIG				*i* S	Sb	18 07 04.8	-2.9
VHO	**Vista Hermosa**	1.44	35	*e*P	Pn	18 07 06.2	-4.0
VHO				*i* S	Sb	18 07 22.9	-5.7

MEX 18 18:09:51.2±0.4,16.13N×95.66W,h73^{km}±8^{km},MD3.5, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HUIG	**Huatulco**	0.56	230	*e*P	P	18 10 03.5	-1.6
HUIG				*e*S	S	18 10 13.1	-2.1
CMIG	**Matias Romero**	1.21	38	*i* P	P	18 10 11.0	-1.8
CMIG				*i* S	S	18 10 26.8	-2.1
VHO	**Vista Hermosa**	1.39	312	*e*P	P	18 10 23.9	+8.6
VHO				*i* S	S	18 10 41.1	+7.9

NEIC ***18*** *18:45:24.1,38.75N×22.82E,h32^{km},ML2.8(ATH),After ATH.*

ATH ***18*** *18:45:24.1,38.75N×22.82E,h32^{km}±9^{km},MD2.8/7,ML2.8*

THE ***18*** *18:45:25.5,38.78N×22.78E,h5^{km},ML2.8*

ISC 18 18:45:24.4±0.7,38.75N±0.05×22.77E±0.07,h30^{km}±10^{km}, n10,σ0^{s}66/16,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AGG	**Agios Georgios**	0.43	309	*e*Pg	Pb	18 45 33.1	-0.7
AGG				*e*Sg	Sb	18 45 40.2	0.0
NEO	**Neokhori**	0.66	33	*e*PN	Pn	18 45 37.8	+0.1
NEO				*e*SN	Sn	18 45 46.5	-0.6
XOR	**Xorichti**	0.70	28	*e*Pg	Pb	18 45 38.5	+0.5
XOR				*e*Sg	Sb	18 45 47.6	+0.2
EVR	**Evrytania**	0.77	283	*e*PN	Pn	18 45 40.0	+0.7
MPAR	**Parnis Oros**	0.97	128	*e*PN	Pn	18 45 42.0	-0.2
MPAR				*e*SN	Sn	18 45 55.0	0.0
NSAL	**Nisos Salamina**	1.01	147	*e*PN	Pn	18 45 41.5	-1.2
NSAL				*e*SN	Sn	18 45 57.0	+1.1
ATH	**Athens Observa**	1.08	136	*e*PN	Pn	18 45 42.4	-1.3
PTL	**Penteli**	1.11	129	*e*PN	Pn	18 45 44.0	-0.2
PTL				*e*SN	Sn	18 45 59.3	+0.7
NAIG	**Nisos Aigina**	1.14	150	*e*PN	Pn	18 45 45.0	+0.3
LIT	**Litokhoron**	1.36	351	*e*Pb	Pb	18 45 49.8	+0.6

LDG ***18*** *19:06:01.5±0.6,42.88N×1.49W,h2^{km},Md2.4/2,Ml1.7/3, Error ellipse: s-maj=11.0km s-min=7.7km az=56.0*

MDD ***18*** *19:06:02.3±0.5,42.86N×1.40W,h6^{km}±7^{km},mbLg1.2/5, Error ellipse: s-maj=4.2km s-min=2.7km az=41.0, AftershockPLICA PRXIMO*

ISC 18 19:05:59.9±0.7,42.82N±0.04×1.45W±0.05,h6^{km},n13, σ0^{s}96/20,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	0.34	29	*e*Pg	Pg	19 06 07.5	+0.8
SJPF				*e*Sg	Sg	19 06 10.4	-0.9
	24nm,0.4s						
EALK	**Alkurruntz**	0.40	354	Pg	Pg	19 06 08.8	+0.8
	4.1nm,0.4s,SNR=10						
EALK				Lg		19 06 14.9	
	9.2nm,0.3s,SNR=13						
LARF	**Larrau**	0.41	57	P	Pg	19 06 09.0	+1.0
LARF				S	Sg	19 06 14.8	+1.3
OSSF	**Osses**	0.46	18	P	Pg	19 06 09.7	+0.6
OSSF				S	Sg	19 06 15.7	+0.4
ETSF	**Etsaut**	0.66	83	*e*Pg	Pg	19 06 13.2	+0.1
ETSF				*e*Sg	Sg	19 06 22.3	+0.3
	4.9nm,0.3s						
ESAC	**San Caprasio**	1.32	146	Pg	Pg	19 06 26.9	+0.7
	4.4nm,0.3s,SNR=6.1						
ESAC				Lg		19 06 45.1	
	8.6nm,0.3s,SNR=11						
EPF	**Esparros**	1.33	80	*e*Pn	Pn	19 06 25.1	0.0
EPF				*e*Pg	Pg	19 06 26.8	+0.3
EPF				*e*Sg	Sg	19 06 44.4	+0.1
	3.9nm,0.3s						
ELAN	**Lanestosa**	1.51	287	Pg	Pg	19 06 30.1	0.0
	0.7nm,0.5s,SNR=7.9						
ELAN				Lg		19 06 51.1	
	0.7nm,0.4s,SNR=7.9						
ETOR	**Torete**	2.05	193	Pg	Pg	19 06 40.4	-0.4
	0.3nm,1.3s,SNR=7.9						
ETOR				Lg		19 07 05.6	
	0.2nm,0.4s,SNR=5.3						
EPOB	**Poblet**	2.39	127	Lg		19 07 15.6	
	0.9nm,0.3s,SNR=7.9						
LFF	**La Frestale**	2.65	36	*e*Pg	Pg	19 06 50.1	-2.6
MTLF	**Montolieu**	2.74	78	*e*Pn	Pn	19 06 45.2	0.0
MTLF				*e*Sn	Sn	19 07 17.6	-1.4
	0.2nm,0.2s						
CAF	**Calviac**	3.30	49	*e*Pn	Pn	19 06 51.5	-1.7
CAF				*e*Sn	Sn	19 07 29.8	-3.4
	0.5nm,0.2s						

WEL ***18*** *19:20:12.6±1.0,35.22S×178.94E,h228^{km}±10^{km}, ML5.0/11,Error ellipse: s-maj=9.1km s-min=8.6km az=0.0*

NEIC ***18*** *19:20:14.3,35.25S×178.88E,h208^{km},mb4.8/18,After WEL.*

IDC ***18*** *19:20:14.0±1.7,35.06S×178.78E,h189^{km}±15^{km},mb4.6/8, mb1 4.7/10,mb1mx4.6/13,MS3.4/1,Ms1 3.4/1, ms1mx2.9/18,Error ellipse: s-maj=19.7km s-min=13.6km az=177.0*

SYO ***18*** *19:20:14.3,35.25S×178.88E,h208^{km},MB4.5*

ISC 18 19:20:15.3±0.7,35.44S±0.05×178.69E±0.09,h219^{km}±5^{km}, n170,σ1^{s}62/161,mb4.6/24,15C-3D,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	2.14	188	PN	P	19 20 57.4	+0.4
MXZ				SN	S	19 21 30.0	+0.8
MXZ	**Matakaoa Point**	2.14	188	P	P	19 20 57.4	+0.4
MXZ				S	S	19 21 30.0	+0.8
WIZ	**White Island**	2.41	210	PN	P	19 21 02.0	+2.2
WIZ	**White Island**	2.41	210	P	P	19 21 02.0	+2.2
PUZ	**Puketiti**	2.65	187	PN	P	19 21 03.2	+0.8
PUZ				SN	S	19 21 40.7	+1.8
PUZ	**Puketiti**	2.65	187	P	P	19 21 03.3	+0.9
PUZ				S	S	19 21 40.7	+1.8
MYRZ	**Mayor Island**	2.70	226	PN	P	19 21 04.4	+1.5
KUZ	**Kuaotunu**	2.73	241	⇑PN	P	19 21 03.6	+0.2
KUZ	**Kuaotunu**	2.73	241	⇑*e*P	P	19 21 03.6	+0.3
MARZ	**Manawahe**	3.01	212	PN	P	19 21 08.8	+2.4
MARZ	**Manawahe**	3.01	212	*e*P	P	19 21 08.8	+2.3
MWZ	**Matawai**	3.04	197	PN	P	19 21 07.6	+0.9
MWZ				SN	S	19 21 51.1	+4.5
MWZ	**Matawai**	3.04	197	P	P	19 21 07.7	+0.9
URZ	**Urewera**	3.08	204	P	P	19 21 08.1	+0.8
	39nm,0.3s,baz=9.8,slow=4.0,SNR=259						
URZ				S	S	19 21 50.6	+2.9
	142nm,0.3s,baz=84,slow=22,SNR=19						
URZ				LR	LR	19 22 13.7	
	comp=Z,588nm,19.7s,baz=158,slow=35						
URZ	**Urewera**	3.08	204	*e*PN	P	19 21 07.3	0.0
URZ				SN	S	19 21 52.1	+4.4
URZ	**Urewera**	3.08	204	*e*P	P	19 21 07.3	0.0
EDRZ	**Edgecumbe**	3.09	210	*e*PN	P	19 21 09.1	+1.8
EDRZ	**Edgecumbe**	3.09	210	P	P	19 21 09.2	+1.8
TAZ	**Tarawera**	3.29	211	PN	P	19 21 12.2	+2.5
TAZ	**Tarawera**	3.29	211	*e*P	P	19 21 12.2	+2.4
MKAZ	**Moumakai**	3.30	239	⇑PN	P	19 21 10.9	+1.1
MKAZ	**Moumakai**	3.30	239	*e*P	P	19 21 10.9	+1.1
OTAZ	**Otara**	3.40	243	PN	P	19 21 11.9	+0.8
OTAZ	**Otara**	3.40	243	*e*P	P	19 21 11.9	+0.9
KAAZ	**Kauri Point**	3.51	246	PN	P	19 21 13.7	+1.3
KAAZ	**Kauri Point**	3.51	246	P	P	19 21 13.7	+1.4
PATZ	**Paeroa**	3.52	213	PN	P	19 21 14.9	+2.4
PATZ	**Paeroa**	3.52	213	P	P	19 21 14.9	+2.4
WCZ	**Waipu Caves**	3.57	261	⇑PN	P	19 21 12.1	-1.0
WCZ	**Waipu Caves**	3.57	261	⇑*e*P	P	19 21 12.1	-1.0
KNZ	**Kokohu**	3.66	192	PN	P	19 21 14.4	+0.2
KNZ				SN	S	19 22 01.7	+1.8
KNZ	**Kokohu**	3.66	192	P	P	19 21 14.4	+0.2
BKZ	**Black Stump Fm**	4.11	205	PN	P	19 21 20.3	+0.6
BKZ	**Black Stump Fm**	4.11	205	*e*P	P	19 21 20.3	+0.6
OUZ	**Omahuta**	4.17	272	⇑PN	P	19 21 18.5	-1.8
OUZ	**Omahuta**	4.17	272	⇓*e*P	P	19 21 18.5	-1.9
MGZ	**Maungaku**	4.35	214	PN	P	19 21 24.0	+1.4
MGZ	**Maungaku**	4.35	214	*e*P	P	19 21 24.0	+1.3
NGZ	**Ngauruhoe**	4.47	212	PN	P	19 21 25.3	+1.2
NGZ	**Ngauruhoe**	4.47	212	*e*P	P	19 21 25.3	+1.2
CNZ	**Chateau**	4.51	213	PN	P	19 21 26.2	+1.6
CNZ	**Chateau**	4.51	213	*e*P	P	19 21 26.3	+1.7
TUVZ	**Tukino**	4.52	211	*e*PN	P	19 21 25.7	+0.9
WNVZ	**Wahianoa**	4.59	211	*e*PN	P	19 21 26.4	+0.7
MOVZ	**Moawhango**	4.60	210	*e*PN	P	19 21 25.2	-0.5
MOVZ	**Moawhango**	4.60	210	*e*P	P	19 21 25.2	-0.5
PWZ	**Pawanui**	4.80	197	PN	P	19 21 27.6	-0.7
PWZ	**Pawanui**	4.80	197	P	P	19 21 27.6	-0.7
TSZ	**Takapari Road**	5.09	204	PN	P	19 21 30.9	-1.1
TSZ	**Takapari Road**	5.09	204	*e*P	P	19 21 30.9	-1.0
WAZ	**Wanganui**	5.21	213	PN	P	19 21 34.1	+0.6
WAZ	**Wanganui**	5.21	213	*e*P	P	19 21 34.1	+0.6
NEZ	**North Egmont**	5.29	222	PN	P	19 21 37.8	+3.3
NEZ	**North Egmont**	5.29	222	*e*P	P	19 21 37.8	+3.3
BFZ	**Birch Farm**	5.58	199	PN	P	19 21 36.9	-1.2
BFZ				SN	S	19 22 42.9	+0.3
BFZ	**Birch Farm**	5.58	199	P	P	19 21 36.9	-1.2
MRZ	**Mangatainoka R**	5.76	204	PN	P	19 21 39.0	-1.5
MRZ	**Mangatainoka R**	5.76	204	P	P	19 21 39.0	-1.4
KIW	**Kapiti Island**	6.18	208	*e*PN	P	19 21 43.8	-2.0
KIW				SN	S	19 22 55.9	-0.4
KIW	**Kapiti Island**	6.18	208	*e*P	P	19 21 43.8	-2.0
KIW				S	S	19 22 55.9	-0.4
MTW	**Mount Morrison**	6.23	203	*e*PN	P	19 21 44.6	-1.9
MTW	**Mount Morrison**	6.23	203	P	P	19 21 44.6	-1.9
CAW	**Cannon Point**	6.33	206	PN	P	19 21 45.6	-2.1
CAW	**Cannon Point**	6.33	206	*e*P	P	19 21 45.6	-2.2
PAWZ	**Paruwai Farm**	6.46	202	*e*PN	P	19 21 47.2	-2.2
MSWZ	**Moikau Station**	6.55	203	*e*PN	P	19 21 48.4	-2.1
MSWZ	**Moikau Station**	6.55	203	*e*P	P	19 21 48.4	-2.1
MRW	**Makara Radio**	6.57	207	*e*PN	P	19 21 48.8	-2.1
MRW	**Makara Radio**	6.57	207	*e*P	P	19 21 48.8	-2.1
WEL	**Wellington**	6.60	207	*e*PN	P	19 21 49.4	-1.8
SNZO	**South Karori**	6.64	207	*e*PN	P	19 21 49.1	-2.6
SNZO	**South Karori**	6.64	207	*e*P	P	19 21 49.1	-2.6
SNZO				*e*Pn	P	19 21 50.0	-1.7
SNZO				*e*Sn	S	19 23 03.5	-3.5
BHW	**Baring Head**	6.67	206	PN	P	19 21 50.2	-1.9
BHW	**Baring Head**	6.67	206	*e*P	P	19 21 50.2	-1.9
TUWZ	**Tuamarina**	7.04	210	PN	P	19 21 54.6	-2.3
NNZ	**Nelson**	7.12	214	PN	P	19 21 55.6	-2.2
NNZ	**Nelson**	7.12	214	*e*P	P	19 21 55.6	-2.3
CMWZ	**Cape Campbell**	7.21	208	*e*PN	P	19 21 58.1	-0.9
CMWZ	**Cape Campbell**	7.21	208	*e*P	P	19 21 58.3	-0.7
QRZ	**Quartz Range**	7.24	220	*e*PN	P	19 21 57.5	-2.0
QRZ	**Quartz Range**	7.24	220	*e*P	P	19 21 57.5	-2.0
BSWZ	**Blackbirch Sta**	7.31	210	*e*PN	P	19 21 58.3	-2.0
BSWZ	**Blackbirch Sta**	7.31	210	*e*P	P	19 21 58.5	-1.8
THZ	**Tophouse**	7.77	214	*e*PN	P	19 22 04.0	-2.2
THZ				SN	S	19 23 33.8	+0.7
THZ	**Tophouse**	7.77	214	*e*P	P	19 22 04.0	-2.3
THZ				S	S	19 23 33.8	+0.7
KHZ	**Kahutara**	8.04	208	PN	P	19 22 07.4	-2.4
KHZ	**Kahutara**	8.04	208	*e*P	P	19 22 07.4	-2.4
LTZ	**Lake Taylor**	8.86	212	*e*PN	P	19 22 18.1	-2.4
LTZ	**Lake Taylor**	8.86	212	*e*P	P	19 22 18.1	-2.4
CRLZ	**Canterbury Las**	9.38	208	PN	P	19 22 23.9	-3.1
MQZ	**McQueen's Vall**	9.48	208	*e*PN	P	19 22 24.6	-3.8
MQZ	**McQueen's Vall**	9.48	208	*e*P	P	19 22 24.6	-3.7
WVZ	**Waitaha Valley**	9.80	217	*e*PN	P	19 22 30.4	-2.0
RPZ	**Rata Peaks**	10.14	213	P	P	19 22 35.3	-1.6
	2.1nm,0.3s,baz=342,slow=13,SNR=15						
RPZ				S	S	19 24 27.4	-0.5
	4.1nm,0.3s,baz=56,slow=18,SNR=13						
RPZ	**Rata Peaks**	10.14	213	PN	P	19 22 34.0	-2.8
RPZ	**Rata Peaks**	10.14	213	P	P	19 22 35.3	-1.6
RPZ				S	S	19 24 27.4	-0.5
LBZ	**Lake Benmore**	11.06	214	PN	P	19 22 45.8	-2.8
WKZ	**Wanaka**	11.93	215	PN	P	19 22 56.6	-3.0
DZM	**Mont Dzumac**	17.09	318	*e*P	P	19 24 00.5	-2.0
DZM	**Mont Dzumac**	17.09	318	*e*P	P	19 24 00.5	-2.0
NOUC	**Port Laguerre**	17.14	318	*e*P	P	19 24 00.2	-3.0
MSVF	**Nonsavu**	17.65	358	P	P	19 24 04.4	-4.1
	519nm,0.4s,SNR=32						
CNB	**Canberra Magne**	23.87	262	*e*P	P	19 25 15.3	+5.2
	37nm,0.9s,mb5.0						
TOO	**Toolangi**	26.69	256	*e*P	P	19 25 40.3	+4.2
	5.3nm,1.3s,mb4.0						
STKA	**Stephens Creek**	30.96	266	*e*P	P	19 26 16.9	+2.9
	12nm,0.4s,mb4.9						
STKA	**Stephens Creek**	30.96	266	P	P	19 26 16.0	+2.0
	15nm,0.5s,mb4.9,baz=102,slow=10,SNR=103						
CTA	**Charters Tower**	32.34	290	*e*P	P	19 26 27.2	+1.1
	52nm,1.0s,mb5.0						
CTA	**Charters Tower**	32.34	290	P	P	19 26 26.6	+0.5
	78nm,1.0s,mb5.2,baz=114,slow=9.8,SNR=47						
CTAO	**Charters Tower**	32.34	290	*e*P	P	19 26 26.7	+0.7
	126nm,1.1s,mb5.4						
ASAR	**Alice Springs**	40.38	274	P	P	19 27 34.4	+1.0
	100nm,0.4s,mb5.6,baz=114,slow=7.9,SNR=1782						
ASAR				S	S	19 33 29.3	+4.6
	1.3nm,1.0s,baz=118,slow=13,SNR=2.8						
ASPA	**Alice Springs**	40.38	274	*e*P	P	19 27 34.6	+1.2
WB2	**Warramunga Arr**	41.83	280	*e*P	P	19 27 45.6	+0.3
WRAB	**Tennant Creek**	41.83	280	*e*P	P	19 27 45.6	+0.3
	156nm,0.5s,mb5.7						
WRA	**Warramunga Arr**	41.84	280	P	P	19 27 45.5	+0.1
	85nm,0.4s,mb5.5,baz=117,slow=7.9,SNR=1573						
WRA				S	S	19 33 46.7	+0.6
	0.7nm,0.8s,baz=117,slow=15,SNR=3.8						
FORT	**Forrest**	42.29	261	*e*P	P	19 27 50.8	+1.9
	57nm,0.5s,mb5.3						
SBA	**Scott Base**	42.83	184	*e*P	P	19 27 59.9	+7.2
	6.6nm,0.9s,mb4.1						
KAKA	**Kakadu**	47.41	287	*e*P	P	19 28 31.7	+2.1
	32nm,0.5s,mb4.9						
FITZ	**Fitzroy Crossi**	49.82	276	*e*P	P	19 28 48.9	+0.9
	8.6nm,0.5s,mb4.3						
FITZ	**Fitzroy Crossi**	49.82	276	P	P	19 28 48.9	+0.9
	9.7nm,0.5s,mb4.4,baz=153,slow=5.2,SNR=72						
NWAO	**Narrogin (SRO)**	50.17	254	*e*P	P	19 28 51.4	+0.9
	4.3nm,0.6s,mb4.0						
KLBR	**Kellerberrin**	50.25	256	*e*P	P	19 28 52.1	+1.1
	13nm,0.5s,mb4.5						
MUN	**Mundaring**	51.33	255	*e*P	P	19 29 00.4	+1.3
	43nm,0.5s,mb5.1						
MBWA	**Marble Bar**	53.12	269	*e*P	P	19 29 12.4	-0.1
	6.8nm,0.7s,mb4.2						
MBWA				*e*PcP	PcP	19 30 17.0	-0.7
QSPA	**South Pole Qui**	54.68	180	*e*P	P	19 29 28.8	+5.7
	13nm,0.5s,mb4.7						
MAW	**Mawson**	66.61	202	P	P	19 30 46.3	+2.8
	0.7nm,0.4s,mb3.6,baz=161,slow=5.6,SNR=5.8						
CBIJ	**Chichi jima**	71.12	326	P	P	19 31 09.0	-2.7
	43nm,0.4s,mb5.4,baz=278,slow=23,SNR=9.7						
SYO	**Syowa Base**	71.57	194	⇓P	P	19 31 16.0	+2.3
SYO	**Syowa Base**	71.57	194	⇑PcP	PcP	19 31 29.5	-2.5
SYO	**Syowa Base**	71.57	194	⇑pP	pP	19 32 02.3	-3.1
SNAA	**Sanae**	73.18	179	⇓*i*	P	19 31 22.8	-0.3
SNAA	**Sanae**	73.18	179	⇑*i*	P	19 31 27.0	+3.9
VNA3	**Neumayer Olymp**	73.45	177	⇑*i*	P	19 31 28.3	+3.6
VNA3	**Neumayer Olymp**	73.45	177	⇑*i*	P	19 31 32.0	+7.3
VNA2	**Neumayer--Watz**	73.85	178	⇑*i*	P	19 31 30.1	+3.1
VNA2	**Neumayer--Watz**	73.85	178	⇑*i*	P	19 31 34.6	+7.6
VNA1	**Neumayer--Stat**	74.09	178	⇑*i*	P	19 31 32.3	+3.9
VNA1	**Neumayer--Stat**	74.09	178	⇑*i*	P	19 31 36.3	+7.9
MAJO	**Matsushiro**	80.91	328	P	P	19 32 03.6	-2.7
	6.1nm,1.0s,mb4.2						
PLCA	**Paso Flores**	81.07	134	P	P	19 32 12.6	+5.5
	2.2nm,0.5s,mb4.0,baz=219,slow=2.8,SNR=6.6						
CMB	**Columbia Colle**	92.34	44	*e*P	P	19 33 00.6	-1.2
	5.9nm,1.1s,mb4.4						
CMAR	**Chiang Mai Arr**	92.50	291	P	P	19 33 04.2	+1.3
	1.0nm,0.6s,mb4.0,baz=134,slow=3.8,SNR=7.6						
MTUM	**Tungsten Hills**	92.91	45	P	P	19 32 59.2	-5.2
MTUM				*e*		19 33 08.9	
NVAR	**Mina Array Bea**	93.80	45	P	P	19 33 08.4	0.0
	1.7nm,0.8s,mb4.1,baz=207,slow=6.7,SNR=4.7						
TPH	**Tonopah**	94.18	45	P	P	19 33 04.0	-6.1
	5.6nm,1.1s,mb4.5						
MKAR	**Makanchi Array**	118.81	309	PKP	PKPdf	19 38 38.2	+1.1
	0.6nm,0.5s,baz=176,slow=1.4,SNR=12						
BVAR	**Borovoye Array**	127.94	313	PKP	PKPdf	19 38 56.0	+1.5
	1.0nm,0.4s,baz=158,slow=1.7,SNR=13						
KEV	**Kevo**	142.31	344	*e*pkp	PKPdf	19 39 17.0	-3.4
ARCES	**ARCESS Array B**	142.81	345	PKhKP		19 39 18.2	
	1.5nm,0.4s,baz=34,slow=2.2,SNR=26						
ARCES	**ARCESS Array B**	142.81	345	PKP	PKPdf	19 39 18.2	-3.1

KTK1	Kautokeino	143.72	345	eP	PKPbc	19 39 22.7	+0.8
KTK1				AMb	AMB	19 39 24.9	
	comp=Z,43nm,1.9s						
TRO	Tromso	143.99	348	eP	PKPbc	19 39 21.9	-0.9
TRO				AMb	AMB	19 39 33.5	
	comp=Z,59nm,1.9s						
TRO	Tromso	143.99	348	eP	PKPbc	19 39 21.0	-1.7
LOF	Lofoten	146.19	350	eP	PKPdf	19 39 30.8	+3.7
LOF				AMb	AMB	19 39 33.9	
	comp=Z,70nm,1.6s						
LOF	Lofoten	146.19	350	eP	PKPdf	19 39 32.5	+5.4
MOR8	Moi Rana	147.86	348	eP	PKPdf	19 39 33.8	+3.8
MOR8				AMb	AMB	19 39 35.9	
	comp=Z,30nm,2.0s						
KAF	Kangasniemi	148.18	336	epkp	PKPdf	19 39 34.3	+3.8
	baz=54,slow=3.8						
FINES	FINESS Array B	148.72	335	PKPbc	PKPdf	19 39 36.2	+4.8
	comp=Z,8.6nm,0.4s,baz=52,slow=3.9,SNR=64						
NSS	Namsos	149.79	349	eP	PKPdf	19 39 38.6	+5.6
NSS				AMb	AMB	19 39 40.1	
	comp=Z,59nm,1.6s						
LIC	Lamto	150.72	172	ePKP1	PKPdf	19 39 47.3	+11
	comp=Z,57nm,0.4s						
KIC	Kosan Boka	150.89	173	ePKP1	PKPdf	19 39 47.7	+11
	comp=Z,36nm,0.4s						
TIC	Toumodi	151.14	172	ePKP1	PKPdf	19 39 48.3	+12
	comp=Z,36nm,0.2s						
DBIC	Dimbokro	151.18	173	PKPbc	PKPdf	19 39 47.6	+11
	comp=Z,7.2nm,0.5s,baz=160,slow=3.6,SNR=32						
BRTR	Keskin Array B	152.08	289	PKPbc	PKPdf	19 39 45.6	+8.4
	comp=Z,3.7nm,0.5s,baz=153,slow=3.4,SNR=18						
MOL	Molde	152.29	351	eP	PKPdf	19 39 49.5	+13
MOL	Molde	152.29	351	eP	PKPdf	19 39 49.8	+13
NB2	NORSAR Subarra	153.16	346	PKPdf	PKPdf	19 39 46.6	+8.5
	comp=Z,1.6nm,0.8s,baz=31,slow=1.9						
NB2	NORSAR Subarra	153.16	346	PKPd		19 39 46.6	
	baz=31,slow=1.9						
NOA	NORSAR Array B	153.16	346	PKPbc	PKPdf	19 39 46.9	+8.8
	comp=Z,2.2nm,0.7s,baz=30,slow=2.0,SNR=6.9						
NOA	NORSAR Array B	153.16	346	PKPbc	PKPdf	19 39 46.9	+8.8
AKASG	Malin Array Be	153.22	314	PKPbc	PKPdf	19 39 47.8	+9.3
	comp=Z,2.4nm,0.4s,baz=50,slow=2.8,SNR=17						

IDC 18 19:31:47.7±15.0**, 17.78S**×**178.54W, h606**^{km}±144^{km}**, mb2.9**/4**, mb1 3.0**/4**, mb1mx2.9**/14**, Error ellipse: s-maj=128.0km s-min=75.7km az=117.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	38.59	241	P	P	19 38 20.6	-1.3
	1.0nm,0.6s,baz=85,slow=12,SNR=3.6						
WRA	Warramunga Arr	44.54	259	P	P	19 39 06.9	-2.2
	0.3nm,0.3s,baz=96,slow=7.2,SNR=16						
WRA				PcP	PcP	19 40 37.0	-2.0
	0.2nm,0.4s,baz=91,slow=3.8,SNR=5.6						
ASAR	Alice Springs	44.71	254	P	P	19 39 08.8	-1.5
	2.8nm,0.7s,baz=87,slow=8.4,SNR=32						
ASAR				PcP	PcP	19 40 37.3	-2.2
	0.4nm,0.5s,baz=117,slow=4.4,SNR=4.4						
FITZ	Fitzroy Crossi	52.93	260	P	P	19 40 09.7	-1.4
	1.1nm,0.8s,baz=85,slow=11,SNR=3.0						
GERES	GERESS Array B	147.46	345	PKPbc	PKPdf	19 50 24.2	+3.4
	0.5nm,0.5s,baz=27,slow=3.0,SNR=7.8						

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*NEIC **18** 19:37:46.8, 16.14N×98.23W, h14^{km}, MD3.9(MEX), After MEX.*
*MEX **18** 19:37:46.6±0.7, 16.18N×98.22W, h11^{km}±10^{km}, MD4.0*
ISC 18 19:37:42.8±0.8**, 16.16N**±0.06×**98.22W**±0.03**, h11**^{km}**, n13, σ1^{s}30**/24**, mb4.6**/1**, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VHO	Vista Hermosa	1.69	57	iP	Pn	19 38 12.6	+0.1
VHO				iS	Sn	19 38 32.9	-1.5
OXX	Oaxaca	1.71	57	eP	Pn	19 38 12.2	-0.5
OXX				iS	Sn	19 38 34.6	-0.1
ACX	Acapulco	1.77	294	eP	Pn	19 38 13.6	0.0
ACX				iS	Sn	19 38 34.8	-1.5
HUIG	Huatulco	2.07	101	eP	Pn	19 38 18.9	+0.9
HUIG				eS	Sn	19 38 40.9	-3.1
PLIG	Platanillo	2.53	331	eP	Pn	19 38 25.5	+0.9
PLIG				iS	Sn	19 38 54.5	-1.2
YAIG	Yautepec	2.80	343	eP	Pn	19 38 28.8	+0.3
YAIG				iS	Sn	19 39 00.5	-2.2
PPM	Popocatepetl	2.92	352	eP	Pn	19 38 31.8	+1.8
PPM				iS	Sn	19 39 07.1	+1.6
IISM	Ciudad Serdan	2.92	16	eP	Pn	19 38 30.4	+0.2
IISM				iS	Sn	19 39 07.9	+2.2
CMIG	Matias Romero	3.33	73	iP	Pn	19 38 36.2	+0.2
CMIG				iS	Sn	19 39 14.6	-1.4
ZIIG	Zihuatanejo	3.42	295	eP	Pn	19 38 37.8	+0.6
ZIIG				eS	Sn	19 39 17.3	-0.9
EVV	El Vigia	3.57	50	eP	Pn	19 38 42.4	+3.1
LVIG	Laguna Verde	3.94	26	eP	Pn	19 38 46.8	+2.2
LVIG				iS	Sn	19 39 29.7	-1.6
MVU	Marysvale	25.43	334	eP	P	19 43 12.5	+0.3
	16nm,0.8s,mb4.6						

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*NEIC **18** 19:37:47.4, 46.31N×13.64E, h5^{km}, MD2.8(ROM), ML2.2(VIE), ML2.2(LJU), After ROM.*
*ROM **18** 19:37:47.4±0.4, 46.31N×13.64E, h5^{km}±1^{km}, MD2.8/3, ML1.7/3, Error ellipse: s-maj=2.1km s-min=1.8km az=90.0*
*LJU **18** 19:37:48.7, 46.32N×13.62E, h9^{km}, ML2.1*
ISC 18 19:37:48.2±0.3**, 46.33N**±0.02×**13.63E**±0.02**, h14**^{km}±4^{km}**, n38, σ0^{s}79**/68**, 12C-2D, Austria**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ROBS	Robic	0.12	225	⇑iPg	Pg	19 37 51.3	-0.3
ROBS				iSg	Sg	19 37 53.0	-0.9
	comp=Z,1μm,0.1s						
CADS	Cadrg	0.13	145	iPg	Pg	19 37 51.8	+0.1
CADS				iSg	Sg	19 37 54.0	-0.1
	comp=Z,593nm,0.1s						
DRE	Drenchia	0.16	177	ePg	Pg	19 37 52.1	-0.1
DRE				eSg	Sg	19 37 54.4	-0.5
LSR	Lussari	0.16	333	ePg	Pg	19 37 52.6	+0.4
LSR				eSg	Sg	19 37 55.8	+0.8
PTCC	Patocco-Chiusa	0.21	291	ePG	Pg	19 37 52.9	-0.1
PTCC				SG	Sg	19 37 56.4	+0.2
	comp=Z,115nm,0.2s						
PTCC	Patocco-Chiusa	0.21	291	ePg	Pg	19 37 52.9	-0.1
PTCC				eSg	Sg	19 37 56.4	+0.1
COLI	Coloredo	0.27	222	⇑ePg	Pg	19 37 54.0	0.0
COLI				eSg	Sg	19 37 58.0	0.0
GMNA	Gemona	0.28	259	⇑iPG	Pg	19 37 55.2	+0.9
GMNA				SG	Sg	19 38 00.7	+2.3
	comp=Z,189nm,0.2s						
GMNA	Gemona	0.28	259	⇑iPg	Pg	19 37 55.2	+0.9
GMNA				eSg	Sg	19 38 00.7	+2.3
BAD	Bernadia	0.29	251	ePg	Pg	19 37 54.1	-0.3
BAD				eSg	Sg	19 37 58.8	+0.2
BOO	Bordano	0.37	268	⇑ePg	Pg	19 37 55.4	-0.6
BUA	Buia	0.37	252	ePg	Pg	19 37 55.8	-0.2
PLRO	Paularo	0.40	303	⇑ePg	Pg	19 37 57.1	+0.6
PLRO				eSg	Sg	19 38 03.0	+0.9
MPRI	Monte Prat	0.46	259	⇑ePg	Pg	19 37 57.3	-0.3
MPRI				eSg	Sg	19 38 04.6	+0.7
ZOU	Zoufplan	0.51	297	ePg	Pg	19 37 58.8	+0.2
ZOU				eSg	Sg	19 38 06.3	+0.7
JAVS	Javornik	0.53	145	iPg	Pg	19 37 58.8	-0.3
JAVS				iSg	Sg	19 38 07.3	+1.0
TRI	Trieste	0.63	172	⇓iPG	Pg	19 38 00.2	-0.8
TRI				SG	Sg	19 38 09.6	+0.1
	comp=Z,18nm,0.2s						
TRI	Trieste	0.63	172	⇓iPg	Pg	19 38 00.2	-0.8
TRI				eSg	Sg	19 38 09.7	+0.1
FVI	Forni Avoltri	0.65	295	ePG	Pg	19 38 00.9	-0.4
FVI				SG	Sg	19 38 11.0	+0.9
	comp=Z,30nm,0.3s						
FVI	Forni Avoltri	0.65	295	ePg	Pg	19 38 00.9	-0.4
FVI				eSg	Sg	19 38 11.0	+0.9
OBKA	Obir	0.66	74	⇑iPG	Pg	19 38 01.8	+0.3
OBKA				iSG	Sg	19 38 11.6	+1.1
	comp=Z,9.2nm,0.2s						
LJU	Ljubljana	0.69	115	iPg	Pg	19 38 02.5	+0.5
LJU				iSg	Sg	19 38 12.5	+1.2
	comp=Z,23nm,0.1s						
KBA	Koelnbreinsper	0.77	345	⇑iPG	Pg	19 38 03.8	0.0
KBA				iSG	Sg	19 38 14.6	+0.4
	comp=Z,8.3nm,0.3s						
CEY	Cerknica	0.81	137	ePg	Pg	19 38 03.8	-0.7
CEY				iSg	Sg	19 38 16.0	+0.6
	comp=Z,14nm,0.1s						
PDKS	Podkum	0.98	104	iPg	Pg	19 38 08.0	+0.1
	comp=Z,13nm,0.1s						
VISS	Visnje	0.99	122	iPg	Pg	19 38 07.8	-0.3
VISS				iSg	Sg	19 38 22.2	+0.8
LEGS	Legarje	1.23	107	iPg	Pg	19 38 12.5	-0.4
	comp=Z,9.0nm,0.1s						
DOBS	Dobrina	1.29	97	iPg	Pg	19 38 13.6	-0.4
CRES	Cresnjevec ost	1.37	111	iPg	Pg	19 38 14.8	-0.8
VBY	Vinica-Bojanci	1.40	126	ePg	Pg	19 38 17.2	+0.9
VBY				eSg	Sg	19 38 34.7	-0.4
CTI	Castel Tesino	1.41	259	ePN	Pn	19 38 13.5	0.0
CTI				SN	Sn	19 38 33.3	+1.4
	comp=Z,10.0nm,0.3s						
CTI	Castel Tesino	1.41	259	ePg	Pg	19 38 13.5	-2.8
CTI				eSg	Sg	19 38 33.2	-1.9
GOLS	Golise	1.42	102	iPg	Pg	19 38 15.8	-0.8
GCIS	Gornji Cirnik	1.45	108	iPg	Pg	19 38 17.0	-0.3
ARSA	Arzberg	1.59	54	⇑iPG	Pg	19 38 19.1	-0.9
ARSA				iSG	Sg	19 38 40.5	-0.8
	comp=Z,2.2nm,0.2s						
WTTA	Wattenberg	1.66	305	⇑iPG	Pg	19 38 20.2	-1.2
WTTA				iSG	Sg	19 38 42.9	-0.6
	comp=Z,6.0nm,0.5s						
WATA	Walderalm	1.73	306	⇑iPG	Pg	19 38 21.8	-1.0
WATA				iSG	Sg	19 38 45.4	-0.6
	comp=Z,2.3nm,0.3s						
NVLJ	Novalja	1.97	153	iPn	Pn	19 38 25.7	+4.2
NVLJ				iSn	Sn	19 38 50.2	+4.0

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*NAO **18** 19:57:47.7±7.4, 67.85N×20.63E, ML2.0*
BER 18 19:57:46.7±1.9**, 67.91N**×**19.78E, ML1.0, ML2.0**(NAO)**, Suspected explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KTK1	Kautokeino	1.69	47	eP	Pn	19 58 16.2	-1.5
KTK1				eSg	Sg	19 58 39.6	-3.4
KTK1				AML	AML	19 58 41.8	
	comp=Z,2.9nm,0.4s						
TRO	Tromso	1.76	350	eSg	Sg	19 58 41.2	-4.1
ARA0	ARCESS Array S	2.65	49	Pn	Pn	19 58 28.6	-2.8
	baz=226,slow=16						
ARA0				Sn	Sn	19 58 59.6	-5.2
	baz=230,slow=28						

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*LDG **18** 19:58:27.8±0.2, 42.90N×1.49W, h2^{km}, Md3.4/2, Ml3.5/28, Error ellipse: s-maj=3.8km s-min=3.2km az=28.0*
*NEIC **18** 19:58:27.8, 42.90N×1.49W, h2^{km}, ML3.6(STR), ML3.5(LDG), MN3.0(MDD), After LDG.*
*INMG **18** 19:58:27.8±1.4, 42.86N×1.35W, h0^{km}±6^{km}, ML3.1, Error ellipse: s-maj=3.4km s-min=3.2km az=72.0*
*MDD **18** 19:58:28.2±0.3, 42.89N×1.43W, h10^{km}, mbLg3.1/26, Error ellipse: s-maj=2.3km s-min=1.9km az=36.0, AftershockPLICA PRXIMO*
*STR **18** 19:58:29.6±0.7, 42.94N×1.34W, h5^{km}±1^{km}, Ml3.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 18 19:58:24.7±0.2**, 42.98N**±0.01×**1.59W**±0.02**, h10**^{km}**, n114, σ1^{s}39**/221**, 2C, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EALK	Alkurruntz	0.24	15	⇑Pg	Pg	19 58 34.4	+4.5
	50nm,0.2s,SNR=18						
EALK				Lg		19 58 40.1	
	362nm,0.2s,SNR=7.9						
EALK	Alkurruntz	0.24	15	Pg	Pg	19 58 34.5	+4.6
EALK				Lg		19 58 40.1	
SJPF	Ste Jean	0.30	64	ePg	Pg	19 58 33.6	+2.6
SJPF				eSg	Sg	19 58 36.4	+1.3
	2μm,0.3s						
OSSF	Osses	0.36	41	Pg	Pg	19 58 35.3	+3.1
OSSF				Sg	Sg	19 58 41.6	+4.4
OSSF	Osses	0.36	41	P	Pg	19 58 35.3	+3.1
OSSF				S	Sg	19 58 41.1	+3.9
LARF	Larrau	0.45	83	P	Pg	19 58 34.7	+0.8
LARF				S	Sg	19 58 40.6	+0.7
ORDF	Ordiarp	0.53	64	P	Pg	19 58 37.4	+1.8
ORDF				S	Sg	19 58 45.2	+2.5
ATE	Arette	0.66	81	P	Pb	19 58 38.4	+0.5
ATE				S	Sb	19 58 47.7	+0.8
ETSF	Etsaut	0.76	96	ePg	Pg	19 58 39.3	-0.8
ETSF				eSg	Sg	19 58 48.0	-2.3
	327nm,0.3s						
ETSF				eSn	Sn	19 58 49.0	-3.9
FDAF	Les Forges d'A	0.77	102	P	Pb	19 58 39.1	-0.6
FDAF				S	Sb	19 58 49.5	-0.5
REYF	Montagne du Re	0.88	84	Pg	Pg	19 58 42.4	-0.1
REYF				Sg	Sg	19 58 53.6	-0.7
REYF	Montagne du Re	0.88	84	P	Pb	19 58 41.8	+0.1
REYF				S	Sb	19 58 53.4	0.0
VIEF	Viey	1.19	94	P	Pb	19 58 46.8	-0.2
VIEF				S	Sb	19 59 03.8	+1.5
LABF	Labassere	1.22	86	P	Pb	19 58 48.0	+0.5
LABF				S	Sb	19 59 04.7	+1.5
ELAN	Lanestosa	1.37	281	Pn	Pn	19 58 55.4	+5.3
	1.7nm,0.1s,SNR=7.9						
ELAN				Lg		19 59 17.7	
	101nm,0.3s,SNR=7.9						
ELAN	Lanestosa	1.37	281	Pn	Pn	19 58 55.5	+5.5
ELAN				Lg		19 59 17.7	
EPF	Esparros	1.42	87	ePn	Pn	19 58 51.4	+0.7
EPF				ePg	Pg	19 58 53.7	+0.6
EPF				eSg	Sg	19 59 09.5	-2.5
	300nm,0.2s						
RESF	Ens	1.43	96	P	Pn	19 58 51.1	+0.2
RESF				S	Sb	19 59 09.5	+0.3
ESAC	San Caprasio	1.51	146	⇑Pg	Pg	19 58 51.9	-3.0
	9.4nm,0.2s,SNR=18						
ESAC				Lg		19 59 11.3	
	634nm,0.2s,SNR=7.9						
ESAC	San Caprasio	1.51	146	Pg	Pg	19 58 51.2	-3.7
ESAC				Lg		19 59 09.8	
MELF	Melles	1.73	93	P	Pn	19 58 56.2	+1.1
MELF				S	Sn	19 59 19.7	+2.2
MLS	Moulis	1.97	90	Pn	Pn	19 59 00.9	+2.3
MLS				Sg	Sg	19 59 27.3	-3.2
MLS	Moulis	1.97	90	P	Pn	19 59 00.9	+2.3
MLS				S	Sn	19 59 26.7	+3.2
SALF	Salau	2.06	95	P	Pn	19 59 02.5	+2.6
SALF				S	Sn	19 59 29.7	+4.0
ETOR	Torete	2.19	189	Pn	Pn	19 59 02.9	+1.2
	3.3nm,0.2s,SNR=38						
ETOR				Pg	Pg	19 59 08.2	-0.2
	31nm,0.3s,SNR=7.9						
ETOR				Sn	Sn	19 59 30.3	+1.2
	40nm,0.3s,SNR=7.9						
ETOR				Lg		19 59 33.7	
	111nm,0.4s,SNR=7.9						
ETOR	Torete	2.19	189	Pn	Pn	19 59 03.1	+1.4
ETOR				Sn	Sn	19 59 29.4	+0.3
GRBF	Gourbit	2.30	92	P	Pn	19 59 05.9	+2.5
EMIR	Miracle	2.54	114	Pn	Pn	19 59 06.9	+0.1
	SNR=7.9						
EMIR				Pg	Pg	19 59 11.4	-4.1
	26nm,0.1s,SNR=8.9						
EMIR				Lg		19 59 45.4	
	70nm,0.3s,SNR=7.9						
EMIR	Miracle	2.54	114	Pg	Pg	19 59 09.5	-6.1
EMIR				Lg		19 59 42.1	
EPOB	Poblet	2.57	128	Pn	Pn	19 59 06.1	-1.0
	0.9nm,0.1s,SNR=7.9						
EPOB				Pg	Pg	19 59 10.3	-5.8
	SNR=7.9						
EPOB				Sn	Sn	19 59 34.3	-4.5
	20nm,0.2s,SNR=4.0						
EPOB				Lg		19 59 41.5	
	36nm,0.2s,SNR=7.9						
EPOB	Poblet	2.57	128	Pn	Pn	19 59 06.1	-1.0
EPOB				Lg		19 59 41.2	
LPEF	Le Peyrat	2.57	90	P	Pn	19 59 10.0	+2.9
LPEF				S	Sn	19 59 39.7	+0.9
LFF	La Frestale	2.58	40	ePn	Pn	19 59 08.7	+1.4
LFF				eSn	Sn	19 59 39.3	+0.2
LFF				eSg	Sg	19 59 47.9	-2.8
	80nm,0.4s						
EBR	Ebro Roquetas	2.66	144	eP*P*		19 59 16.0	
EBR				eS*	Sb	19 59 44.0	-1.0
EBR				eS*S*		19 59 51.5	
VALF	Valcebollere	2.72	101	P	Pn	19 59 11.3	+1.9
VALF				S	Sn	19 59 47.8	+5.2
CARF	Carcanieres	2.73	94	P	Pn	19 59 12.9	+3.4
CARF				S	Sn	19 59 49.2	+6.3
EMOS	Mosqueruela	2.75	162	Pn	Pn	19 59 09.8	+0.1
	0.7nm,0.1s,SNR=14						
EMOS				Pg	Pg	19 59 15.7	-3.9
	SNR=7.9						
EMOS				Lg		19 59 51.8	
	63nm,0.3s,SNR=7.9						
EMOS	Mosqueruela	2.75	162	Pn	Pn	19 59 09.8	+0.1
EMOS				Pg	Pg	19 59 14.9	-4.8
EMOS				Lg		19 59 49.5	
MTLF	Montolieu	2.81	81	ePn	Pn	19 59 11.4	+0.8
MTLF				eSn	Sn	19 59 43.4	-1.5
	48nm,0.4s						
LRDF	Laroque-de-Fa	3.03	89	P	Pn	19 59 15.7	+1.9
LRDF				S	Sn	19 59 54.1	+3.6
FILF	Fillols	3.09	96	P	Pn	19 59 15.1	+0.5
FILF				S	Sn	20 00 00.2	+8.3
RJF	Les Rejaudoux	3.22	43	ePn	Pn	19 59 16.0	-0.5
RJF				eSn	Sn	19 59 54.6	-0.8
CAF	Calviac	3.28	52	ePn	Pn	19 59 17.6	+0.4
CAF				eSn	Sn	19 59 55.6	-1.1
	34nm,0.2s						
SJAF	Saint Jean de	3.33	97	Pn	Pn	19 59 18.9	+0.9
EJON	La Jonquera	3.34	98	Pn	Pn	19 59 19.2	+1.0
	1.6nm,0.2s,SNR=8.5						
EJON				Pg	Pg	19 59 26.5	-5.1
	114nm,1.0s,SNR=7.9						
EJON				Lg		20 00 08.7	
	10.0nm,0.3s,SNR=7.9						
EJON	La Jonquera	3.34	98	Pn	Pn	19 59 19.3	+1.1
EJON				Pg	Pg	19 59 26.2	-5.3
EJON				Lg		20 00 08.5	
ESDC	Sonseca Array	3.76	209	Pn	Pn	19 59 24.1	0.0
	2.3nm,0.2s,baz=40,slow=13,SNR=24						
ESDC				Pg	Pg	19 59 36.3	-3.4
	15nm,0.7s,baz=31,slow=17,SNR=7.9						
ESDC				Sn	Sn	20 00 06.0	-2.8
	baz=34,slow=24,SNR=7.9						
ESDC				Lg		20 00 21.7	
	6.8nm,0.2s,baz=30,slow=28,SNR=7.9						
ESDC	Sonseca Array	3.76	209	Pn	Pn	19 59 24.1	0.0
ESDC				Sn	Sn	20 00 06.8	-2.0
ESDC				Lg		20 00 21.7	
ESLA	Sonseca Array	3.76	209	eP	Pn	19 59 23.7	-0.3
MFF	Saint Martin d	3.76	15	ePn	Pn	19 59 26.0	+1.9
MFF				ePg	Pg	19 59 37.9	-2.0
MFF				eSn	Sn	20 00 09.3	+0.3
	30nm,0.4s						
MFF				eSg	Sg	20 00 28.2	-1.8
ECAL	Calabor	3.95	256	Pn	Pn	19 59 28.8	+2.1
	10nm,0.3s,SNR=18						
ECAL				Pg	Pg	19 59 43.1	-0.5
	13nm,0.3s,SNR=4.0						
ECAL				Sn	Sn	20 00 15.3	+1.6
	31nm,0.5s,SNR=4.0						
ECAL				Lg		20 00 32.2	
	130nm,0.5s,SNR=7.9						
EPON	Pontenova	4.08	277	Pn	Pn	19 59 32.0	+3.3
	SNR=7.9						
EPON				Pg	Pg	19 59 47.8	+1.6
	1.9nm,0.2s,SNR=7.9						
EPON				Sn	Sn	20 00 18.9	+1.9
	SNR=7.9						
EPON				Lg		20 00 39.1	
	27nm,0.5s,SNR=7.9						
EPON	Pontenova	4.08	277	Pn	Pn	19 59 32.0	+3.3
EPON				Sn	Sn	20 00 18.9	+1.9
LASF	Ste Croix	4.11	73	ePn	Pn	19 59 28.8	-0.3
LASF				eSn	Sn	20 00 14.4	-3.4
	76nm,0.6s						
ERUA	La Rua	4.13	264	Pn	Pn	19 59 31.9	+2.5
	8.5nm,0.3s,SNR=11						
ERUA				Pg	Pg	19 59 48.8	+1.5
	6.2nm,0.4s,SNR=7.9						
ERUA				Lg		20 00 39.9	
	24nm,0.6s,SNR=7.9						
ERUA	La Rua	4.13	264	Pn	Pn	19 59 31.9	+2.5
LBL	Lubilhac	4.15	56	Pn	Pn	19 59 29.8	+0.2
TCF	Toulx Ste Croi	4.28	38	ePn	Pn	19 59 30.7	-0.7
TCF				eSn	Sn	20 00 19.9	-2.1
	21nm,0.3s						
PYM	Petit Puy Mans	4.30	48	Pn	Pn	19 59 32.5	+0.7
ETOB	Tobarra	4.33	180	Pn	Pn	19 59 32.3	0.0
	2.1nm,0.2s,SNR=31						
ETOB				Pg	Pg	19 59 47.0	-4.3
	5.5nm,0.3s,SNR=4.0						
ETOB				Sn	Sn	20 00 19.9	-3.6
	SNR=4.0						
ETOB				Lg		20 00 39.0	
	37nm,0.9s,SNR=7.9						
ETOB	Tobarra	4.33	180	Pn	Pn	19 59 32.3	0.0
ETOB				Sn	Sn	20 00 19.2	-4.2
ETOB				Lg		20 00 42.4	
EVIA	Vianos	4.39	189	Pn	Pn	19 59 33.1	0.0
	8.1nm,0.2s,SNR=7.9						
EVIA				Pg	Pg	19 59 51.7	-0.8
	21nm,0.6s,SNR=7.9						
EVIA				Sn	Sn	20 00 21.1	-3.9
	20nm,0.6s,SNR=4.0						
EVIA				Lg		20 00 40.5	
	65nm,0.6s,SNR=7.9						
EBEN	Beniarda	4.40	166	Pn	Pn	19 59 32.2	-1.0
	8.0nm,0.7s,SNR=11						
EBEN				Sn	Sn	20 00 20.9	-4.2
	SNR=4.0						
EBEN				Lg		20 00 42.0	
	11nm,0.4s,SNR=4.0						
EBEN	Beniarda	4.40	166	Pn	Pn	19 59 32.2	-1.0
EBEN				Sn	Sn	20 00 22.8	-2.3
EIBI	Ibiza	4.53	150	Pn	Pn	19 59 33.2	-1.9
	12nm,0.7s,SNR=8.6						
EIBI				Sn	Sn	20 00 20.9	-7.6
	SNR=7.9						
EIBI	Ibiza	4.53	150	Pn	Pn	19 59 33.0	-2.1
EIBI				Sn	Sn	20 00 20.9	-7.6
BGF	Bois d'Agland	4.77	40	ePn	Pn	19 59 37.7	-0.8
BGF				eSn	Sn	20 00 31.3	-3.2
PLDF	La Plantade	4.78	50	Pn	Pn	19 59 38.4	-0.2
PVRL	Vila Real	4.86	252	ePn	Pn	19 59 41.2	+1.4
PVRL				eSn	Sn	20 00 38.0	+1.2
PVRL				eSg	Sg	20 01 03.7	-3.0
	56nm,0.6s						
VIVF	Saint-Julien-l	4.90	65	ePn	Pn	19 59 39.6	-0.6
VIVF				eSn	Sn	20 00 32.8	-4.9
	20nm,0.4s						
ELOB	Lobios	4.92	259	Pn	Pn	19 59 41.8	+1.3
	4.1nm,0.4s,SNR=15						
ELOB				Pg	Pg	19 59 60.0	-2.9
	2.3nm,0.3s,SNR=7.9						
ELOB				Sn	Sn	20 00 37.7	-0.5
	SNR=7.9						
ELOB				Lg		20 01 00.1	
	46nm,0.7s,SNR=7.9						
ELOB	Lobios	4.92	259	Pn	Pn	19 59 41.8	+1.3
ELOB				Sn	Sn	20 00 38.8	+0.6
QUIF	Quistinic	5.06	348	ePn	Pn	19 59 44.8	+2.3
QUIF				eSn	Sn	20 00 41.3	-0.4
	6.6nm,0.2s						
AVF	Avril sur Loir	5.18	41	ePn	Pn	19 59 43.2	-1.0
AVF				eSn	Sn	20 00 40.8	-4.0
	9.4nm,0.3s						
PVIS	Viseu	5.22	246	ePn	Pn	19 59 46.3	+1.5
PVIS				eSn	Sn	20 00 45.2	-0.7
PVIS				eSg	Sg	20 01 10.8	-7.9
	31nm,0.4s						
HYF	Humbligny	5.23	33	ePn	Pn	19 59 45.1	+0.2
HYF				eSn	Sn	20 00 43.5	-2.5
EQES	Quesada	5.30	193	Pn	Pn	19 59 45.9	+0.1
	2.7nm,0.4s,SNR=19						
EQES				Pg	Pg	20 00 04.1	-6.3
	6.1nm,0.3s,SNR=7.9						
EQES				Sn	Sn	20 00 42.5	-5.2
	SNR=7.9						
EQES				Lg		20 01 13.5	
	77nm,1.2s,SNR=7.9						
EQES	Quesada	5.30	193	Pn	Pn	19 59 45.9	+0.1
EQES				Sn	Sn	20 00 41.6	-6.1
SMRF	Simiane la Rot	5.31	77	ePn	Pn	19 59 46.1	+0.1
SMRF				eSn	Sn	20 00 43.2	-4.8

	7.2nm,0.4s						
SGMF	Saint Gilles	5.32	353	ePn	Pn	19 59 47.8	+1.7
SGMF				eSn	Sn	20 00 46.2	-2.0
	4.2nm,0.3s						
EADA	Adamuz	5.32	206	Pn	Pn	19 59 45.9	-0.3
	1.0nm,0.3s,SNR=21						
EADA				Pg	Pg	20 00 06.6	-4.4
	1.8nm,0.2s,SNR=7.9						
EADA				Sn	Sn	20 00 44.2	-4.1
	4.6nm,0.4s,SNR=7.9						
EADA				Lg		20 01 10.4	
	22nm,0.9s,SNR=7.9						
EADA	Adamuz	5.32	206	Pn	Pn	19 59 46.0	-0.3
EADA				Sn	Sn	20 00 46.8	-1.5
SMF	Signal de Mont	5.32	45	ePn	Pn	19 59 45.5	-0.8
SMF				eSn	Sn	20 00 44.8	-3.6
	18nm,0.6s						
EMAZ	Mazaricos	5.42	272	Pn	Pn	19 59 49.6	+2.0
	6.3nm,0.3s,SNR=18						
EMAZ				Sn	Sn	20 00 49.3	-1.5
	SNR=7.9						
EMAZ				Lg		20 01 24.6	
	5.8nm,0.4s,SNR=4.0						
EMAZ	Mazaricos	5.42	272	Pn	Pn	19 59 49.6	+2.0
EMAZ				Sn	Sn	20 00 51.3	+0.5
PCBR	Castelo Branco	5.42	237	ePn	Pn	19 59 48.1	+0.4
PCBR				eSg	Sg	20 01 18.9	-6.5
	24nm,0.5s						
GRR	Gorron	5.43	5	ePn	Pn	19 59 47.8	0.0
GRR				eSn	Sn	20 00 49.3	-1.8
	7.9nm,0.2s						
SSF	Saint Saulge	5.45	40	ePn	Pn	19 59 46.6	-1.4
SSF				eSn	Sn	20 00 46.7	-4.8
	14nm,0.3s						
ROSF	Rostrenen	5.48	348	ePn	Pn	19 59 50.6	+2.1
ROSF				eSn	Sn	20 00 51.0	-1.4
	7.6nm,0.4s						
LDF	La Druitiere	5.71	10	ePn	Pn	19 59 52.6	+1.0
LDF				eSn	Sn	20 00 56.3	-1.7
	6.3nm,0.2s						
ORIF	Oris-en-Rattie	5.73	68	ePn	Pn	19 59 52.2	+0.2
ORIF				eSn	Sn	20 00 52.2	-6.4
	9.8nm,0.4s						
LOR	Lormes	5.76	40	ePn	Pn	19 59 51.0	-1.5
LOR				eSn	Sn	20 00 55.2	-4.3
	14nm,0.4s						
FLN	La Foliniere	5.83	7	ePn	Pn	19 59 53.5	+0.1
FLN				eSn	Sn	20 00 58.4	-2.8
	8.4nm,0.3s						
EBAD	Badajoz	5.89	226	Pn	Pn	19 59 53.6	-0.7
	1.1nm,0.2s,SNR=6.8						
EBAD				Sn	Sn	20 00 59.4	-3.2
	1.4nm,0.2s,SNR=7.9						
EBAD				Lg		20 01 30.7	
	5.2nm,0.3s,SNR=7.9						
EBAD	Badajoz	5.89	226	Pn	Pn	19 59 54.2	-0.1
LMR	La Mourre	5.94	84	ePn	Pn	19 59 54.8	-0.1
LMR				eSn	Sn	20 00 58.3	-5.5
	2.7nm,0.3s						
FRF	La Foret Royal	6.04	82	ePn	Pn	19 59 55.7	-0.7
PTOM	Tomar	6.14	239	ePn	Pn	19 59 57.6	-0.1
PTOM				eSg	Sg	20 01 42.4	-6.7
	28nm,0.6s						
MBDF	Montbardon	6.29	71	ePn	Pn	20 00 00.0	+0.1
MBDF				eSn	Sn	20 01 05.5	-7.2
	4.2nm,0.5s						
LPL	La Plagne	6.49	64	ePn	Pn	20 00 02.9	+0.2
EMIN	Mina Concepcio	6.49	218	Pn	Pn	20 00 01.8	-0.9
	0.2nm,0.1s,SNR=7.9						
EMIN				Sn	Sn	20 01 11.4	-6.3
	0.8nm,0.3s,SNR=4.0						
EMIN				Lg		20 01 54.5	
	7.3nm,0.6s,SNR=4.0						
LPG	La Plagne	6.50	64	ePn	Pn	20 00 03.4	+0.6
CABF	La Chapelle	6.56	54	ePn	Pn	20 00 03.8	+0.1
EVO	Evora	6.60	230	ePn	Pn	20 00 03.7	-0.5
EVO				eSn	Sn	20 01 13.8	-6.5
EVO				eSg	Sg	20 01 53.0	-11
	31nm,0.6s						
SBF	Sospel	6.63	79	ePn	Pn	20 00 04.3	-0.4
SBF				eSn	Sn	20 01 16.6	-4.6
	1.7nm,0.2s						
EMIJ	Mijas	6.86	202	Pn	Pn	20 00 06.1	-1.9
	SNR=4.0						
EMIJ				Sn	Sn	20 01 19.1	-7.8
	4.7nm,0.5s,SNR=4.0						
EMIJ				Lg		20 02 05.2	
	7.9nm,0.5s,SNR=7.9						
EMIJ	Mijas	6.86	202	Pn	Pn	20 00 06.7	-1.3
PBEJ	Beja	6.88	226	ePn	Pn	20 00 08.9	+0.7
PBEJ				eSg	Sg	20 02 03.5	-10
ESPR	Espera	6.93	210	Pn	Pn	20 00 10.2	+1.3
	0.6nm,0.1s,SNR=4.0						
ESPR				Lg		20 02 08.7	
	6.5nm,0.4s,SNR=4.0						
PALC	Alcoutim	7.12	221	ePn	Pn	20 00 10.7	-0.8
PALC				eSn	Sn	20 01 27.0	-6.2
PALC				eSg	Sg	20 02 13.9	-7.7
	12nm,0.6s						
RFYF	Reffroy	7.50	39	ePn	Pn	20 00 16.4	-0.5
BAIF	Baives	8.13	27	ePn	P	20 00 24.2	-1.5
BAIF				eSn	Sn	20 01 52.6	-5.9
	7.0nm,0.3s						
CDF	Champ du Feu	8.24	46	eSn	Sn	20 01 54.3	-7.1
	1.4nm,0.3s						
GIVF	Givet	8.38	30	eSn	Sn	20 01 58.2	-6.6
	11nm,0.3s						

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*JMA **18** 20:11:40.9±0.1, 24.96N×122.37E, h32^{km}, M2.0*

TAP 18 20:11:41.1, 24.77N×122.25E, h4^{km}±1^{km}, ML2.9, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.76	114	P	Pg	20 11 55.1	-1.1
YOJ				S	Sg	20 12 05.3	-1.0
IRIF	Iriomote-Funau	1.42	108	P	Pn	20 12 04.4	-3.3
IRIF				eS	Sb	20 12 21.6	-4.4
HATJ	Hateruma jima	1.59	116	eS	Sb	20 12 27.0	-4.0
JKRS	Kuro-shima	1.69	108	P	Pn	20 12 08.7	-2.9
JKRS				eS	Sn	20 12 29.1	-4.8
JIJ	Ishigaki jima	1.77	103	eS	Sn	20 12 31.3	-4.7

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*WAR **18** 20:36:01.1, 50.37N×18.88E, ML2.4, Mining Induced*

*PRU **18** 20:36:02.4, 50.33N×18.82E*

ISC 18 20:36:00.2±0.7, **50.14N**±0.06×**18.72E**±0.04, **n8**, σ**0^{s}84**/12, **Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	Ostrava-Krasne	0.48	231	ePG	Sg	20 36 15.1	-0.9
OJC	Ojcow	0.70	83	ePG	Pg	20 36 14.0	-0.1
OJC				eSG	Sg	20 36 22.0	-1.4
NIE	Niedzica	1.26	124	ePG	Pg	20 36 25.0	-0.3
NIE				e(SG)	Sg	20 36 44.0	+1.9
DPC	Dobruska-Polom	1.55	279	ePG	Pg	20 36 32.3	+1.1
DPC				eSG	Sg	20 36 52.3	+0.4
KSP	Ksiaz	1.70	295	ePG	Pg	20 36 34.0	-0.2
KSP				e(SG)	Sg	20 36 57.0	+0.1
UPC	Upice	1.77	283	eSG	Sg	20 36 59.6	+0.4
PRU	Pruhonice	2.70	268	eSG	Sg	20 37 29.9	0.0
KHC	Kasperske Hory	3.49	255	eSG	Sg	20 37 55.5	-0.9

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*NIED **18** 20:39:00, 44.30N×151.40E, h62^{km}, Mw4.5 Best double couple: M$_0$7.1×10^{15} NP1:ϕ_s99°, δ64°, λ-59°. NP2:ϕ_s224°, δ39°, λ-137°.*

*IDC **18** 20:39:17.5±0.6, 43.93N×151.66E, mb4.1/15, mb1 4.3/16, mb1mx4.2/25, ML3.8/1, MS2.3/1, Ms1 2.4/1, ms1mx1.8/34, Error ellipse: s-maj=18.7km s-min=15.5km az=113.0*

*BJI **18** 20:39:20.5, 44.35N×151.27E, h7^{km}, mB4.7, mb4.5, Ms4.2, Msz4.1*

*SKHL **18** 20:39:23.6±1.3, 43.70N×151.00E, h80^{km}±19^{km}, mb4.8/3, ms4.1/3*

*NEIC **18** 20:39:23.5±0.3, 43.98N×151.63E, h40^{km}, mb4.5/21, Error ellipse: s-maj=9.4km s-min=7.4km az=163.0*

*MOS **18** 20:39:25.2±1.9, 44.04N×151.05E, h57^{km}, mb4.6/10, Error ellipse: s-maj=16.0km s-min=10.5km az=128.1*

ISC 18 20:39:21.2±0.4, **44.01N**±0.06×**151.36E**±0.06, **h33^{km}**, **(h40^{km}**±2.2^{km}**:pP-P)**, **n92**, σ**1^{s}39**/90, **mb4.4**/40, **MS4.0**/6,

6C-3D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	2.78	297	⇓iP	P	20 40 04.4	0.0
KUR				AMB	AMB	20 40 05.1	
	103nm,0.7s						
KUR				AMB	AMB	20 40 05.1	
	86nm,0.7s						
KUR				AMB	AMB	20 40 05.1	
	189nm,0.7s						
KUR				eS	S	20 40 36.0	-1.1
KUR				A		20 40 39.0	
	5µm,1.4s						
KUR				A		20 40 39.0	
	3µm,1.4s						
KUR				A		20 40 39.3	
	2µm,0.8s						
KUR				A		20 40 39.3	
	1µm,0.8s						
KUR	Kuril'sk	2.78	297	⇓iPN	P	20 40 04.4	0.0
KUR				eS	S	20 40 36.0	-1.1
KUR				pmax	pmax		
	comp=N,100nm,0.7s						
KUR				pmax	pmax		
	comp=E,90nm,0.7s						
KUR				pmax	pmax		
	comp=Z,190nm,0.7s						
KUR				smax			
	comp=N,2µm,0.8s						
KUR				smax			
	comp=E,1µm,0.8s						
KUR				smax			
	comp=N,5µm,1.4s						
KUR				smax			
	comp=E,3µm,1.4s						
YUK	Yuzh-Kuril'sk	3.97	272	eP	Pn	20 40 21.5	+0.1
YUK				AMB	AMB	20 40 21.7	
	comp=E,100nm,0.3s						
YUK				i S	S	20 41 04.0	-3.3
YUK				A		20 41 05.9	
	comp=E,2µm,0.6s						
YUK				A		20 41 05.9	
	comp=E,2µm,0.6s						
YUK				A		20 41 05.9	
	comp=E,680nm,0.5s						
YUK				A		20 41 05.9	
	comp=E,810nm,0.5s						
YUK	Yuzh-Kuril'sk	3.97	272	ePN	Pn	20 40 21.5	+0.1
YUK				i S	S	20 41 04.0	-3.3
YUK				pmax	pmax		
	comp=Z,100nm,0.3s						
YUK				smax			
	comp=N,680nm,0.5s						
YUK				smax			
	comp=E,810nm,0.5s						
YUK				smax			
	comp=N,2µm,0.6s						
YUK				smax			
	comp=E,2µm,0.6s						
ASAJ	Asahikawa	6.32	274	Pn	Pn	20 40 55.0	+0.4
	comp=E,1.7nm,0.3s,baz=60,slow=13,SNR=11						
ASAJ				Sn	Sn	20 42 13.3	+7.0
	comp=E,2.7nm,0.3s,baz=357,slow=18,SNR=3.6						
ASAJ	Asahikawa	6.32	274	PN	Pn	20 40 55.0	+0.4
ASAJ						20 42 13.3	
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				smax			
	comp=N,3.0nm,0.3s						
YSS	Yuzh-Sakhalins	6.73	299	eP	P	20 40 58.0	-2.2
YSS				eS	S	20 42 14.0	-2.6
YSS				A		20 42 18.0	
	comp=N,30nm,0.8s						
YSS				eLQ		20 42 54.0	
YSS				eLR	LR	20 44 57.0	
YSS				AMS	AMS	20 45 48.0	
	comp=N,500nm,14.0s						
YSS				AMS	AMS	20 45 48.0	
	comp=N,2µm,14.0s						
YSS	Yuzh-Sakhalins	6.73	299	ePN	P	20 40 58.0	-2.2
YSS				eS	S	20 42 14.0	-2.6
YSS				smax			
	comp=E,30nm,0.8s						
YSS				MLR	MLR		
	comp=E,500nm,14.0s						
YSS				MLR	MLR		
	comp=Z,2µm,14.0s						
YSS	Yuzh-Sakhalins	6.73	299	eP	P	20 40 59.4	-0.9
	comp=Z,28nm,0.8s						
SKR	Severo-Kuril's	7.42	24	eP	P	20 41 15.9	+6.0
SKR				AMB	AMB	20 41 17.0	
	comp=Z,110nm,1.0s						
SKR				A		20 42 33.8	
	comp=Z,110nm,1.0s						
SKR				AMS	AMS	20 44 06.0	
	comp=Z,900nm,12.0s						
SKR				AMS	AMS	20 44 06.0	
	comp=Z,1µm,12.0s						
UGL	Uglegorsk	8.17	312	eL		20 43 34.0	
UGL				AMS	AMS	20 46 48.0	
	comp=Z,650nm,14.0s						
UGL				AMS	AMS	20 46 48.0	
	comp=Z,500nm,14.0s						
UGL				AMS	AMS	20 46 48.0	
	comp=Z,900nm,14.0s						
TYV	Tymovskoe	9.04	322	AMS	AMS	20 47 30.0	
	comp=Z,1µm,16.0s						
OKH	Okha	11.04	333	eL		20 45 44.4	
MAJO	Matsushiro	12.50	238	eP	P	20 42 17.1	-2.4
	comp=Z,6.0nm,0.8s						
KLR	Kul'dur	14.44	298	eP	P	20 42 48.2	+3.2
MDJ	Mudanjiang	15.59	280	P	P	20 42 58.3	-1.7
MDJ				S	S	20 45 44.9	-6.9
MDJ				AMB	AMB		
	comp=Z,12nm,0.7s						
MDJ				AMB	AMB		
	comp=Z,42nm,7.4s						
MDJ				LR	LR		
	comp=N,198nm,16.2s						
MDJ				LR	LR		
	comp=E,99nm,10.9s						
MDJ				LR	LR		
	comp=Z,201nm,14.6s						
MDJ	Mudanjiang	15.59	280	eP	P	20 42 58.2	-1.8
	comp=Z,13nm,0.8s						
ZEA	Zeya	18.53	310	eP	P	20 43 35.4	-1.4
CN2	Changchun	18.66	278	eP	P	20 43 36.3	-2.2
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
SNY	Shenyang	20.43	274	eP	P	20 43 58.8	+0.7
SNY				LR	LR		
	comp=E,560nm,15.4s						
SNY				LR	LR		
	comp=Z,630nm,17.6s,MS4.0						
YAK	Yakutsk	22.08	332	eP	P	20 44 13.4	-1.2
YAK				e		20 44 30.3	
YAK				eS	S	20 48 10.8	-0.3
YAK				eSS	SS	20 48 34.9	-16
YAK				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.4						
YAK				pmax	pmax		
	comp=N,5.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,4.0nm,0.8s						
YAK				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.3						
YAK				pmax	pmax		
	comp=N,6.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,4.0nm,0.9s						
YAK				smax			
	comp=N,7.0nm,1.0s						
YAK				smax			
	comp=E,5.0nm,0.9s						
YAK				smax			
	comp=Z,4.0nm,0.9s						
YAK	Yakutsk	22.08	332	eP	P	20 44 12.0	-2.6
	comp=Z,38nm,0.8s,mb4.9						
HIA	Hailar	22.24	295	eP	P	20 44 14.1	-2.2
	comp=Z,12nm,1.0s,mb4.3						
JOW	Kunigami	25.31	235	P	P	20 44 48.4	+2.0
	comp=Z,13nm,1.0s,mb4.4,baz=45,slow=11,SNR=3.0						
BJT	Baijiatuau	26.32	274	P	P	20 44 56.8	+1.1
HHC	Hu-ho-hao-te	29.35	278	eP	P	20 45 30.4	+7.4
HHC				PCP	PcP	20 48 31.6	+2.6
HHC				PCS		20 52 15.5	
HHC				AMB	AMB		
	comp=Z,18nm,0.8s,mb4.8						
HHC				AMB	AMB		
	comp=Z,56nm,4.7s						
HHC				LR	LR		
	comp=N,183nm,20.8s,MS3.9						
HHC				LR	LR		
	comp=E,227nm,19.6s,MS3.9						
HHC				LR	LR		
	comp=Z,292nm,17.8s,MS4.0						
SONM	Songino Array	31.18	293	P	P	20 45 39.7	+0.5
	comp=Z,2.4nm,0.8s,mb4.1,baz=82,slow=8.7,SNR=4.3						
ZAK	Zakamensk	32.81	298	eP	P	20 45 53.6	+0.2
LZH	Lanzhou	36.80	274	eP	P	20 46 26.3	-1.3
LZH				AP	pP	20 46 37.8	+0.4
LZH				XP	sP	20 46 41.6	0.0
LZH				PP	PP	20 47 52.5	-1.0
LZH				AMB	AMB		
	comp=Z,25nm,1.3s,mb4.9						
LZH				AMB	AMB		
	comp=Z,113nm,5.5s						
LZH				LR	LR		
	comp=N,447nm,13.0s						
LZH				LR	LR		
	comp=Z,581nm,17.2s,MS4.4						
GTA	Gaotai	38.24	281	eP	P	20 46 41.9	+2.2
GTA				AMB	AMB		
	comp=Z,2.0nm,1.0s,mb3.8						
PMR	Palmer	38.45	42	P	P	20 46 38.7	-2.6
	comp=Z,14nm,1.5s,mb4.5						
ILAR	Eielson Array	39.48	36	P	P	20 46 48.9	-0.8
	comp=Z,1.1nm,1.1s,mb3.5,baz=259,slow=6.8,SNR=9.2						
ILAR				LR	LR	21 00 44.5	
	comp=Z,4.1nm,20.6s,baz=324,slow=33						
ILAR	Eielson Array	39.48	36	P	P	20 46 48.9	-0.8
ILAR				pmax	pmax		
	comp=Z,1.0nm,1.1s						
ILAR				MLR	MLR		
	comp=Z,4.0nm,20.6s						
GYA	Guiyang	39.95	259	⇑iP	P	20 46 55.0	+1.0
GYA				AP	pP	20 47 04.8	+1.0
GYA				XP	sP	20 47 08.9	+0.9
GYA				PP	PP	20 48 33.0	+3.3
GYA				S	S	20 52 59.3	+2.5
GYA				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.5						
GYA				LR	LR		
	comp=N,180nm,15.4s,MS4.4						
GYA				LR	LR		
	comp=E,340nm,15.4s,MS4.4						
GYA				LR	LR		
	comp=Z,280nm,14.8s,MS4.2						
KMI	Kunming	43.55	261	eP	P	20 47 23.3	-0.3
KMI				AP	pP	20 47 34.9	+1.4
KMI				XP	sP	20 47 40.3	+2.7
KMI				S	S	20 53 48.5	-1.6
KMI				AMB	AMB		
	comp=Z,4.0nm,1.3s,mb4.0						
KMI				AMB	AMB		
	comp=Z,54nm,4.5s						
KMI				LR	LR		
	comp=Z,25nm,23.3s,MS3.0						
NVS	Novosibirsk	43.93	309	eP	P	20 47 26.9	+0.7
NVS				pmax	pmax		
	comp=E,7.0nm,1.1s						
NVS				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.2						
INK	Inuvik	44.64	31	P	P	20 47 31.5	-0.2
	comp=Z,2.1nm,1.0s,mb3.9,baz=214,slow=3.6,SNR=2.6						
INK	Inuvik	44.64	31	P	P	20 47 31.5	-0.2
INK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
INK	Inuvik	44.64	31	eP	P	20 47 31.6	-0.2
	comp=Z,5.1nm,1.1s,mb4.3						
WMQ	Urumqi	44.82	293	eP	P	20 47 33.3	-0.2
WMQ				AP	pP	20 47 45.5	+2.1
WMQ				PP	PP	20 49 19.1	0.0
WMQ				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.6						
WMQ				LR	LR		
	comp=E,206nm,18.5s						
WMQ				LR	LR		
	comp=Z,240nm,19.0s,MS4.1						
MKAR	Makanchi Array	47.15	299	P	P	20 47 53.2	+1.3
	comp=Z,2.8nm,0.8s,mb4.2,baz=74,slow=7.8,SNR=19						
MKAR	Makanchi Array	47.15	299	P	P	20 47 53.2	+1.3
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KURK	Kurchatov	47.89	305	eP	P	20 47 58.5	+0.8
	comp=Z,19nm,0.8s,mb5.2						
BVAR	Borovoye Array	51.67	310	P	P	20 48 27.6	+1.0
	comp=Z,3.4nm,0.9s,mb4.3,baz=68,slow=8.0,SNR=18						
BRVK	Borovoye	51.72	311	eP	P	20 48 27.5	+0.5
	comp=Z,4.3nm,0.8s,mb4.4						
ZRNK	Zerenda	52.46	311	eP	P	20 48 32.7	+0.1
	comp=Z,3.7nm,0.7s,mb4.4						
KKN	Kakani	54.53	276	eP	P	20 48 50.8	+2.6
	comp=Z,12nm,0.9s,mb5.0						
PKI	Pulchoki	54.56	276	eP	P	20 48 50.8	+2.4
DMN	Daman	54.76	276	eP	P	20 48 52.3	+2.4
GKN	Gorkha	54.87	277	eP	P	20 48 52.8	+2.2
	comp=Z,4.8nm,0.4s,mb4.9						
KOLN	Koldanda	55.75	277	eP	P	20 48 56.9	-0.1
	comp=Z,12nm,0.8s,mb5.0						
ARU	Arti	56.22	318	eP	P	20 48 59.9	0.0
ARU	Arti	56.22	318	eP	P	20 48 59.6	-0.4
	comp=Z,6.7nm,0.8s,mb4.7						
SUMG	Summit	63.52	3	eP	P	20 49 52.0	+2.2
	comp=Z,18nm,1.0s,mb5.1						
HLID	Hailey	64.10	54	P	P	20 49 52.7	-1.3
	comp=Z,0.7nm,0.7s,mb3.8						
WRAB	Tennant Creek	65.51	198	eP	P	20 50 01.9	-1.6
	comp=Z,5.2nm,0.7s,mb4.7						
WB2	Warramunga Arr	65.52	198	eP	P	20 50 02.1	-1.4
WRA	Warramunga Arr	65.52	198	P	P	20 50 01.8	-1.7
	comp=Z,2.8nm,0.7s,mb4.4,baz=18,slow=6.8,SNR=23						
WRA	Warramunga Arr	65.52	198	P	P	20 50 01.8	-1.7
WRA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
FINES	FINESS Array B	65.99	335	P	P	20 50 06.4	+0.6
	comp=Z,5.4nm,0.8s,mb4.6,baz=40,slow=9.2,SNR=16						
FINES	FINESS Array B	65.99	335	P	P	20 50 06.4	+0.5
FINES				pmax	pmax		
	comp=Z,5.0nm,0.8s						
FITZ	Fitzroy Crossi	66.14	207	eP	P	20 50 07.4	-0.1
	comp=Z,4.8nm,0.8s,mb4.6						
FITZ	Fitzroy Crossi	66.14	207	P	P	20 50 07.4	-0.1
	comp=Z,6.0nm,0.8s,mb4.7,baz=16,slow=5.0,SNR=11						
HWUT	Hardware Ranch	66.96	54	P	P	20 50 12.2	-0.1
PDAR	Pinedale Array	67.39	52	P	P	20 50 14.2	-0.8
	comp=Z,1.0nm,1.0s,mb3.8,baz=333,slow=3.3,SNR=6.2						
ASAR	Alice Springs	69.22	197	P	P	20 50 25.9	-0.7
	comp=Z,1.7nm,0.9s,mb4.0,baz=14,slow=5.1,SNR=12						
NB2	NORSAR Subarra	70.42	341	P	P	20 50 34.2	+0.8
	comp=Z,1.7nm,0.7s,mb4.1,baz=28,slow=6.2						
NOA	NORSAR Array B	70.42	341	P	P	20 50 34.2	+0.8
	comp=Z,2.8nm,0.7s,mb4.3,baz=30,slow=6.4,SNR=7.4						
NOA	NORSAR Array B	70.42	341	P	P	20 50 34.2	+0.8
NOA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
GOF	Gofitskoye	70.88	315	⇑iP	P	20 50 38.5	+2.0
GOF				pmax	pmax		
	comp=Z,23nm,1.8s,mb4.8						
AKASG	Malin Array Be	73.13	326	P	P	20 50 49.5	-0.2
	comp=Z,2.9nm,0.8s,mb4.3,baz=36,slow=6.4,SNR=7.1						
AKASG	Malin Array Be	73.13	326	P	P	20 50 49.5	-0.2
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ANMO	Albuquerque	74.35	56	P	P	20 50 55.8	-1.3
	comp=Z,2.8nm,0.9s,mb4.2						
KWP	Kalwaria	76.53	329	eP	P	20 51 10.4	+1.1
	comp=Z,25nm,1.3s,mb5.0						
OJC	Ojcow	77.11	330	eP	pP	20 51 24.8	+1.9
CLL	Collm	78.44	335	⇑P	P	20 51 26.1	+6.3
	comp=Z,logA/T=0.8,mb4.5						
CLL	Collm	78.44	335	⇑iP	P	20 51 26.1	+6.3
CLL				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
CLL	Collm	78.44	335	⇑iP	P	20 51 26.1	+6.3
	comp=Z,6.0nm,0.9s,mb4.5						
BRTR	Keskin Array B	79.53	316	P	P	20 51 27.1	+1.2
	comp=Z,0.2nm,0.4s,mb3.4,SNR=4.1						
LTX	Lajitas	79.94	59	P	P	20 51 27.6	-0.8
	comp=Z,3.2nm,0.8s,mb4.3						
KHC	Kasperske Hory	80.16	333	eP	P	20 51 24.5	-4.7
KHC				ePCP	PcP	20 51 36.0	-0.7

GERES	GERESS Array B	80.36	333	P	P	20 51 30.8	+0.6
	comp=Z,0.3nm,0.5s,mb3.5,baz=63,slow=2.2,SNR=3.1						
SANT	Santorini	86.15	319	P	P	20 52 03.0	+3.1
	comp=Z,89nm,1.1s						
BDFB	Brasilia	147.28	36	PKPbc	PKPdf	20 59 02.2	+3.1
	comp=Z,2.3nm,0.7s,baz=167,slow=1.9,SNR=4.1						
BDFB	Brasilia	147.28	36	PKIKP	PKPdf	20 59 02.2	+3.1
BDFB				pmax	pmax		
	comp=Z,2.0nm,0.7s						
PLCA	Paso Flores	149.10	99	PKPbc	PKPdf	20 59 06.5	+5.2
	comp=Z,3.4nm,1.0s,baz=302,slow=3.5,SNR=4.2						
PLCA	Paso Flores	149.10	99	PKHKP		20 59 06.5	
PLCA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
CPUP	Villa Florida	150.87	62	PKPbc	PKPdf	20 59 10.9	+6.4
	comp=Z,0.6nm,0.4s,baz=256,slow=4.2,SNR=3.4						
CPUP	Villa Florida	150.87	62	PKIKP	PKPdf	20 59 10.9	+6.4
CPUP				pmax	pmax		
	comp=Z,1.0nm,0.4s						
VNA2	Neumayer--Watz	151.04	194	⇓i	PKPdf	20 59 14.3	+11
VNA3	Neumayer Olymp	151.14	193		PKPdf	20 59 13.6	+10
VNA1	Neumayer--Stat	151.42	194	⇑i	PKPdf	20 59 15.8	+12

NIED ***18*** *20:46:00, 40.80N×143.30E, h26km, Mw4.7 Best double couple: $M_0$1.08×10^{16} NP1:ϕ_s37°, δ74°, λ110°. NP2:ϕ_s164°, δ25°, λ40°.*

JMA ***18*** *20:46:41.0±0.1, 40.81N×143.25E, h16km, M4.8*

JMA Felt I J1.

MOS ***18*** *20:46:42.4±0.9, 40.80N×143.27E, h44km, mb4.5/15, Error ellipse: s-maj=15.8km s-min=7.9km az=103.4*

BJI ***18*** *20:46:43.2, 40.75N×142.87E, h34km, mB5.0, mb4.8, Ms4.4, Msz4.2*

IDC ***18*** *20:46:44.4±2.1, 40.81N×143.14E, h43km±19km, mb4.0/16, mb1 4.2/18, mb1mx4.1/25, ML3.8/2, MS4.0/11, Ms1 4.0/11, ms1mx3.6/38, Error ellipse: s-maj=20.3km s-min=12.2km az=97.0*

NEIC ***18*** *20:46:45.2±1.0, 40.82N×143.04E, h45km±8km, mb4.9/36, MS4.6/1, MW4.7(NIED), Error ellipse: s-maj=9.8km s-min=6.9km az=117.0*

NEIC Recorded [1 JMA] in Aomori, Iwate and Miyagi Prefectures.

HRVD ***18*** *20:46:45.2±1.2, 40.75N×143.27E, h39km±2km, MW4.8/29, Centroid moment Tensor Solution. LP body waves: s8,c9; Mantle waves: s29,c38; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.65±.27; $M_{\theta\theta}$-0.56±.16; $M_{\phi\phi}$-1.10±.17; $M_{r\theta}$0.35±.12; $M_{\theta\phi}$-0.42±.06; $M_{\phi r}$0.69±.10; Best double couple: $M_0$1.68×10^{16} NP1:ϕ_s209°, δ31°, λ91°. NP2:ϕ_s28°, δ59°, λ89°. Principal axes: T 1.84, Plg76°, Azm296°; N -.33, Plg0°, Azm28°; P -1.52, Plg14°, Azm118°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 18 20:46:42.2±0.5**, 40.79N**±0.03×**143.29E**±0.05**, h37**km±3km**, n154, σ1^{s}11**/167**, mb4.7**/58**, MS4.2**/18**, 14C-7D, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JEM	Erimo	1.23	355	P	P	20 47 03.4	+0.4
JEM				eS	S	20 47 20.1	+1.4
JTH	Tanohata	1.38	232	⇑P	P	20 47 05.7	+0.3
JTH				eS	S	20 47 23.0	+0.3
JANG	Nango	1.42	253	⇓P	P	20 47 05.7	-0.1
JANG				eS	S	20 47 23.3	-0.2
JNBK	Urakawa-nobuka	1.54	345	⇑P	P	20 47 07.8	+0.2
JTM	Tenmabayashi	1.69	270	⇓P	P	20 47 10.3	+0.6
JTM				eS	S	20 47 31.7	+1.4
JOT	Ohata	1.79	290	P	P	20 47 11.3	+0.1
JOT				eS	S	20 47 33.4	+0.4
JCH	Churui	1.82	2	P	P	20 47 11.7	+0.1
JKB	Kayabe	2.02	303	⇑P	P	20 47 14.8	+0.3
JKB				eS	S	20 47 39.8	+1.1
JOM	Ohasama	2.02	230	⇑P	P	20 47 15.8	+1.3
JFR	Furan	2.42	348	P	P	20 47 21.0	+0.8
JMK	Ichinoseki	2.43	222	⇑P	P	20 47 21.7	+1.3
JMK				eS	S	20 47 51.1	+1.9
JAK	Akkeshi	2.44	25	P	P	20 47 20.2	-0.3
JAK				eS	S	20 47 47.5	-1.8
JEW	Eniwo	2.46	327	⇓P	P	20 47 21.6	+0.8
JAR	Ashorobuto	2.53	8	⇑P	P	20 47 21.0	-0.7
JAR				S	S	20 47 50.5	-1.1
ASAJ	Asahikawa	3.36	351	P	P	20 47 33.9	+0.3
	3.8nm,0.3s,baz=250,slow=14,SNR=20						
ASAJ				S	S	20 48 12.7	-0.1
	23nm,0.3s,baz=196,slow=27,SNR=6.5						
ASAJ				LR	LR	20 48 58.9	
	comp=Z,554nm,20.9s,baz=147,slow=40						
ASAJ	Asahikawa	3.36	351	P	P	20 47 33.9	+0.3
ASAJ				S	S	20 48 12.7	-0.1
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ASAJ				smax			
	comp=N,23nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,554nm,20.9s						
YUK	Yuzh-Kuril'sk	3.76	30	eP	P	20 47 37.8	-1.4
YUK				i S	S	20 48 18.4	-4.4
YUK				pmax	pmax		
	comp=Z,360nm,0.3s						
YUK				pmax	pmax		
	comp=E,150nm,0.2s						
YUK				smax			
	comp=N,5µm,1.6s						
YUK				smax			
	comp=E,3µm,1.3s						
YUK				smax			
	comp=N,850nm,0.4s						
YUK				smax			
	comp=E,490nm,0.2s						
YUK				MLR	MLR		
	comp=N,4µm,16.0s						
YUK				MLR	MLR		
	comp=Z,3µm,16.0s						
YUK				MLR	MLR		
	comp=E,4µm,17.0s						
KUR	Kuril'sk	5.56	36	eP	P	20 48 04.0	-0.7
KUR				eS	S	20 49 04.4	-3.9
KUR				pmax	pmax		
	comp=N,40nm,0.7s						
KUR				pmax	pmax		
	comp=E,60nm,0.7s						
KUR				pmax	pmax		
	comp=Z,100nm,0.7s						
KUR				smax			
	comp=N,260nm,0.7s						
MAJO	Matsushiro	5.82	225	ePn	P	20 48 08.4	+0.2
	comp=N,55nm,0.7s						
MAT	Matsushiro	5.82	225	P	P	20 48 08.8	+0.6
MAT				eS	S	20 49 18.0	+3.4
MAT	Matsushiro	5.82	225	eP	P	20 48 09.0	+0.8
	comp=N,38nm,0.7s						
MAT				S	S	20 49 23.0	+8.4
YSS	Yuzh-Sakhalins	6.17	357	eP	P	20 48 13.0	-0.2
YSS				eS	S	20 49 17.0	-6.5
YSS				smax			
	comp=N,60nm,1.0s						
YSS				MLR	MLR		
	comp=N,600nm,14.0s						
YSS				MLR	MLR		
	comp=E,500nm,14.0s						
YSS				MLR	MLR		
	comp=Z,1µm,14.0s						
YSS	Yuzh-Sakhalins	6.17	357	ePn	P	20 48 11.6	-1.6
	comp=Z,8.7nm,0.6s						
JHJ	Hachijo jima 2	8.16	201	P	P	20 48 39.4	-1.6
	comp=Z,12nm,0.3s,baz=232,slow=19,SNR=13						
JHJ				S	S	20 50 05.8	-7.1
	comp=Z,7.8nm,0.3s,baz=248,slow=21,SNR=4.5						
JHJ				LR	LR	20 52 11.3	
	comp=Z,360nm,19.9s,baz=95,slow=40						
MDJ	Mudanjiang	10.78	295	P	P	20 49 15.4	-1.7
MDJ				S	S	20 51 04.6	-13
MDJ				AMB	AMB		
	comp=Z,32nm,0.9s						
MDJ				AMB	AMB		
	comp=Z,90nm,6.0s						
MDJ				LR	LR		
	comp=N,269nm,14.2s						
MDJ				LR	LR		
	comp=E,837nm,16.8s						
MDJ				LR	LR		
	comp=Z,1µm,18.0s						
MDJ	Mudanjiang	10.78	295	ePn	P	20 49 16.3	-0.8
	comp=Z,29nm,1.0s						
KLR	Kul'dur	11.73	320	eP	P	20 49 29.3	-0.6
KLR				MLR	MLR		
	comp=N,600nm,15.0s						
KLR				MLR	MLR		
	comp=E,400nm,15.0s						
KLR				MLR	MLR		
	comp=Z,1µm,14.0s						
KS15	Wonju Array Si	12.42	259	P	P	20 49 35.6	-3.7
JNU	Nakatsue	12.53	236	LR	LR	20 54 55.0	
	comp=Z,461nm,18.4s,baz=55,slow=39						
CN2	Changchun	13.54	289	eP	P	20 49 53.8	-0.2
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s						
CN2				LR	LR		
	comp=N,390nm,16.0s						
CN2				LR	LR		
	comp=E,640nm,16.0s						
CN2				LR	LR		
	comp=Z,690nm,17.0s						
DL2	Dalian	16.74	271	eP	P	20 50 33.8	-1.5
DL2				AMB	AMB		
	comp=Z,30nm,1.1s						
HIA	Hailar	18.62	305	eP	P	20 50 54.8	-3.9
	comp=Z,46nm,1.0s						
BJI	Beijing	20.63	277	P	P	20 51 17.3	-3.6
BJI				AMB	AMB		
	comp=Z,15nm,1.2s						
BJI				LR	LR		
	comp=N,210nm,17.4s,MS4.0						
BJI				LR	LR		
	comp=E,534nm,15.9s,MS4.0						
BJI				LR	LR		
	comp=Z,417nm,17.9s,MS3.9						
BJT	Baijiatuau	20.64	277	eP	P	20 51 16.7	-4.3
	comp=Z,14nm,0.8s						
TIA	Tai'an	20.95	266	eP	P	20 51 21.0	-3.2
TIA				AMB	AMB		
	comp=Z,29nm,1.2s						
NJ2	Nanjing	21.46	254	eP	P	20 51 27.4	-1.9
NJ2				AP		20 51 37.5	
NJ2				XP		20 51 41.1	
NJ2				AMB	AMB		
	comp=Z,100nm,1.0s,mb5.1						
NJ2				LR	LR		
	comp=N,1µm,19.0s,MS4.4						
NJ2				LR	LR		
	comp=E,1µm,21.8s,MS4.4						
YAK	Yakutsk	22.80	343	eP	P	20 51 39.2	-3.1
YAK				e		20 52 00.3	
YAK				eS	S	20 55 45.9	+1.4
YAK				eSS	SS	20 56 06.2	-23
YAK				pmax	pmax		
	comp=N,5.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,4.0nm,0.9s						
YAK				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.4						
YAK				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.2						
YAK				pmax	pmax		
	comp=N,6.0nm,1.3s						
YAK				pmax	pmax		
	comp=E,7.0nm,1.6s						
YAK				smax			
	comp=N,15nm,1.0s						
YAK				smax			
	comp=Z,5.0nm,0.9s						
YAK				smax			
	comp=E,6.0nm,1.0s						
YAK				MLR	MLR		
	comp=Z,491nm,24.0s,MS3.9						
YAK				MLR	MLR		
	comp=N,140nm,16.0s						
YAK				MLR	MLR		
	comp=E,201nm,15.0s						
YAK	Yakutsk	22.80	343	eP	P	20 51 39.0	-3.4
	comp=E,51nm,1.0s,mb4.9						
SONM	Songino Array	27.12	297	P	P	20 52 21.7	-1.9
	comp=E,8.4nm,1.0s,mb4.2,baz=90,slow=8.6,SNR=17						
ZAK	Zakamensk	29.28	303	eP	P	20 52 41.2	-1.7
ENH	Enshi	29.28	260	eP	P	20 52 40.1	-3.0
	comp=E,16nm,0.9s,mb4.8						
LZH	Lanzhou	31.07	274	eP	P	20 52 57.4	-1.5
LZH				AP	pP	20 53 10.9	+1.6
LZH				PP	PP	20 53 59.5	-2.3
LZH				eS	S	20 57 54.6	-5.8
LZH				XS		20 58 15.8	
LZH				SS	SS	20 59 38.4	-8.0
LZH				AMB	AMB		
	comp=Z,24nm,1.3s,mb4.9						
LZH				AMB	AMB		
	comp=Z,151nm,5.1s						
LZH				LR	LR		
	comp=N,638nm,13.2s						
LZH				LR	LR		
	comp=Z,982nm,17.0s,MS4.5						
GTA	Gaotai	33.03	282	eP	P	20 53 15.3	-0.8
GTA				XP	sP	20 53 27.0	-4.3
GTA				AMB	AMB		
	comp=Z,4.0nm,1.2s,mb4.2						
CD2	Chengdu	33.28	265	eP	P	20 53 16.3	-2.0
GYA	Guiyang	33.42	256	⇑iP	P	20 53 18.4	-1.2
GYA				AP	pP	20 53 32.8	+2.8
GYA				PP	PP	20 54 32.4	+0.4
GYA				S	S	20 58 35.8	-1.5
GYA				SS	SS	21 00 40.6	-1.0
GYA				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.3						
GYA				LR	LR		
	comp=N,990nm,16.8s,MS4.7						
GYA				LR	LR		
	comp=E,380nm,15.3s,MS4.7						
GYA				LR	LR		
	comp=Z,510nm,14.6s,MS4.4						
KMI	Kunming	37.08	258	eP	P	20 53 50.8	+0.1
KMI				PP	PP	20 55 16.5	-1.4
KMI				S	S	20 59 31.9	-1.9
KMI				SS	SS	21 02 02.0	-2.7
KMI				AMB	AMB		
	comp=Z,26nm,1.1s,mb5.0						
KMI				AMB	AMB		
	comp=Z,57nm,3.1s						
KMI				LR	LR		
	comp=N,231nm,16.7s,MS4.2						
KMI				LR	LR		
	comp=E,299nm,17.2s,MS4.2						
KMI				LR	LR		
	comp=Z,374nm,17.6s,MS4.2						
WMQ	Urumqi	40.57	293	P	P	20 54 19.4	-0.2
WMQ				AP	pP	20 54 24.4	-5.8
WMQ				PP	PP	20 55 54.6	-1.9
WMQ				eS	S	21 00 20.8	-5.5
WMQ				AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.3						
WMQ				LR	LR		
	comp=E,206nm,18.0s						
WMQ				LR	LR		
	comp=Z,240nm,19.0s,MS4.1						
NVS	Novosibirsk	41.40	311	eP	P	20 54 24.9	-1.4
NVS				pmax	pmax		
	comp=E,11nm,1.1s						
NVS				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.4						
NANT	Nan	42.44	252	⇓P	P	20 54 34.0	-1.2
IMA	Indian Mountai	42.72	32	eP	P	20 54 38.5	+1.6
	comp=Z,32nm,0.9s,mb5.0						
LSA	Lhasa	43.43	272	P	P	20 54 44.6	+1.4
MKAR	Makanchi Array	43.47	299	P	P	20 54 42.7	-0.6
	comp=Z,5.7nm,0.7s,mb4.4,baz=83,slow=9.2,SNR=44						
MKAR				PcP	PcP	20 56 31.0	-0.5
	comp=Z,1.8nm,0.9s,baz=72,slow=4.6,SNR=2.2						
MKAR	Makanchi Array	43.47	299	P	P	20 54 42.7	-0.5
MKAR						20 56 31.0	
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.7s						
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MKAR	Makanchi Array	43.47	299	P	P	20 54 42.7	-0.6
MKAR				PcP	PcP	20 56 31.0	-0.5
CHG	Chiang Mai	43.70	253	P	P	20 54 45.9	+0.4
CM31	Chiang Mai Arr	43.93	253	P	P	20 54 46.0	-1.3
	comp=Z,1.6nm,0.4s,mb4.1						
CMAR	Chiang Mai Arr	43.93	253	P	P	20 54 46.1	-1.2
	comp=Z,3.1nm,0.9s,mb4.0,baz=49,slow=6.1,SNR=17						
CMAR				LR	LR	21 12 52.5	
	comp=Z,126nm,19.1s,MS3.9,baz=35,slow=36						
CMAR	Chiang Mai Arr	43.93	253	P	P	20 54 46.1	-1.3
CMAR				pmax	pmax		
	comp=Z,3.0nm,1.0s						
CMAR				MLR	MLR		
	comp=Z,126nm,19.1s						
KURK	Kurchatov	44.86	305	i P	P	20 54 53.7	-0.6
KURK				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.7						
KURK	Kurchatov	44.86	305	eP	P	20 54 53.4	-1.0
	comp=Z,27nm,0.8s,mb5.1						
SHL	Shillong	45.00	267	eP	P	20 54 55.5	-0.3
ILAR	Eielson Array	45.55	34	P	P	20 55 00.7	+1.0
	comp=Z,1.5nm,0.7s,mb4.0,baz=273,slow=6.8,SNR=14						
ILAR	Eielson Array	45.55	34	P	P	20 55 00.7	+1.0
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KKN	Kakani	48.84	274	eP	P	20 55 25.8	-0.2
	comp=Z,27nm,0.7s,mb5.4						
PKI	Pulchoki	48.85	273	eP	P	20 55 25.5	-0.6
	comp=Z,29nm,1.1s,mb5.2						
VOSK	Vostochnaya	48.94	310	P	P	20 55 25.7	-0.6
VOSK				pmax	pmax		
	comp=Z,20nm,1.5s,mb4.9						
DMN	Daman	49.06	273	eP	P	20 55 27.4	-0.3
	comp=Z,38nm,1.3s,mb5.3						
BVA0	Borovoye Array	49.19	310	i P	P	20 55 27.9	-0.4
BVAR	Borovoye Array	49.19	310	P	P	20 55 27.9	-0.4
	comp=Z,5.3nm,0.8s,mb4.7,baz=80,slow=9.0,SNR=36						
GKN	Gorkha	49.22	274	eP	P	20 55 28.0	-0.9
	comp=Z,9.2nm,0.5s,mb5.1						
BRVK	Borovoye	49.24	310	eP	P	20 55 28.1	-0.6
	comp=Z,7.2nm,0.6s,mb4.9						
ZRNK	Zerenda	50.02	311	P	P	20 55 34.3	-0.4
ZRNK				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.7						
ZRNK	Zerenda	50.02	311	eP	P	20 55 34.0	-0.7
	comp=Z,16nm,0.6s,mb5.2						
KOLN	Koldanda	50.12	275	eP	P	20 55 35.5	-0.3
	comp=Z,30nm,1.0s,mb5.3						
INK	Inuvik	50.38	29	P	P	20 55 36.8	-0.5
	comp=Z,4.6nm,0.9s,mb4.5,baz=268,slow=6.3,SNR=9.0						
INK	Inuvik	50.38	29	P	P	20 55 36.8	-0.5
INK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
INK	Inuvik	50.38	29	eP	P	20 55 38.2	+0.9
	comp=Z,6.6nm,0.9s,mb4.7						
SVE	Sverdlovsk	53.34	317	⇑eP	P	20 55 59.0	-0.6
SVE				e		20 57 00.0	
SVE				MLR	MLR		
	comp=Z,500nm,17.0s,MS4.6						
SVE				MLR	MLR		
	comp=N,200nm,15.0s,MS4.6						
SVE				MLR	MLR		
	comp=E,400nm,15.0s,MS4.6						
ARU	Arti	54.56	317	⇑iP	P	20 56 07.8	-0.8
ARU				e		20 57 16.7	
ARU				i		20 58 08.3	
ARU				eS	S	21 03 35.3	-8.3
ARU				eSS	SS	21 07 26.4	+0.4
ARU				pmax	pmax		
	comp=Z,32nm,1.0s,mb5.3						
ARU				MLR	MLR		
	comp=Z,300nm,18.0s,MS4.4						
ARU				MLR	MLR		
	comp=N,80nm,21.0s,MS4.2						
ARU				MLR	MLR		
	comp=E,200nm,19.0s,MS4.2						
ARU	Arti	54.56	317	eP	P	20 56 07.5	-1.1
	comp=E,42nm,1.1s,mb5.4						
HYB	Hyderabad	59.80	267	i P	P	20 56 45.0	-1.2
YKA	Yellowknife Ar	59.84	32	LR	LR	21 26 56.3	
	comp=E,72nm,19.2s,MS3.8,baz=65,slow=40						
KEV	Kevo	60.46	339	ep	P	20 56 53.8	+3.8
	comp=E,0.3nm,0.4s,mb3.7						
WRAB	Tennant Creek	60.98	190	eP	P	20 56 52.8	-1.5
	comp=E,10nm,1.1s,mb4.9						
WRA	Warramunga Arr	60.99	190	P	P	20 56 52.6	-1.8
	comp=E,5.3nm,1.2s,mb4.5,baz=4.8,slow=7.0,SNR=13						
WRA	Warramunga Arr	60.99	190	P	P	20 56 52.6	-1.7
WRA				pmax	pmax		
	comp=Z,5.0nm,1.2s						
ARCES	ARCESS Array B	61.00	339	P	P	20 56 53.1	-0.6
	comp=Z,4.1nm,1.1s,mb4.5,baz=59,slow=5.3,SNR=2.6						
ARCES				LR	LR	21 26 03.4	
	comp=Z,185nm,19.6s,MS4.2,baz=208,slow=39						
ARCES	ARCESS Array B	61.00	339	P	P	20 56 53.2	-0.5
ARCES				pmax	pmax		
	comp=Z,4.0nm,1.2s						
ARCES				MLR	MLR		
	comp=Z,185nm,19.6s						
ASAR	Alice Springs	64.72	190	P	P	20 57 18.6	-0.3
	comp=Z,2.9nm,1.1s,mb4.2,baz=6.2,slow=6.1,SNR=10						
KAF	Kangasniemi	65.64	333	ep	P	20 57 26.4	+2.2
	comp=Z,0.5nm,0.4s,mb3.9						
KAF	Kangasniemi	65.64	333	eP	P	20 57 26.4	+2.2
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
OBN	Obninsk	65.97	323	⇓iP	P	20 57 26.1	-0.3
OBN						20 57 55.0	
OBN						20 59 49.0	
OBN				pmax	pmax		
	comp=Z,23nm,1.2s,mb5.1						
OBN				MLR	MLR		
	comp=Z,200nm,15.0s,MS4.5						
OBN	Obninsk	65.97	323	P	P	20 57 25.3	-1.1
	comp=Z,20nm,1.0s,mb5.1						
FINES	FINESS Array B	66.18	332	P	P	20 57 26.4	-1.2
	comp=Z,5.3nm,0.9s,mb4.6,baz=27,slow=6.0,SNR=19						
FINES				LR	LR	21 27 36.3	
	comp=Z,219nm,19.3s,MS4.4,baz=223,slow=37						
FINES	FINESS Array B	66.18	332	P	P	20 57 26.4	-1.2
FINES				pmax	pmax		
	comp=Z,5.0nm,0.9s						
FINES				MLR	MLR		
	comp=Z,219nm,19.3s						
SUMG	Summit	66.92	1	eP	P	20 57 32.5	+0.3
	comp=Z,9.1nm,0.9s,mb4.8						
GOF	Gofitskoye	68.70	312	⇓iP	P	20 57 44.0	+0.3
GOF				pmax	pmax		
	comp=Z,40nm,1.0s,mb5.3						
NB2	NORSAR Subarra	71.28	338	P	P	20 57 58.5	-0.7
	comp=Z,1.9nm,0.8s,mb4.1,baz=36,slow=5.8						
NOA	NORSAR Array B	71.28	338	P	P	20 57 57.4	-1.8
	comp=Z,3.5nm,0.8s,mb4.3,baz=37,slow=5.9,SNR=6.0						
NOA				LR	LR	21 32 25.2	
	comp=Z,176nm,19.0s,MS4.3,baz=15,slow=38						
NOA	NORSAR Array B	71.28	338	P	P	20 57 57.4	-1.8
NOA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
NOA				MLR	MLR		
	comp=Z,176nm,19.0s						
AKASG	Malin Array Be	72.22	322	P	P	20 58 03.4	-1.5
	comp=Z,3.3nm,0.7s,mb4.4,baz=42,slow=5.9,SNR=14						
AKASG	Malin Array Be	72.22	322	P	P	20 58 03.4	-1.5
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.7s						
PDAR	Pinedale Array	74.01	47	P	P	20 58 15.2	-0.3
	comp=Z,1.2nm,1.0s,mb3.8,baz=270,slow=3.6,SNR=3.6						
OJC	Ojcow	76.72	327	eP	P	20 58 31.2	+0.3
BRTR	Keskin Array B	77.44	312	P	P	20 58 34.2	-1.0
	comp=Z,1.2nm,0.9s,mb3.8,baz=108,slow=3.9,SNR=7.0						
BRTR				LR	LR	21 36 20.6	
	comp=Z,64nm,18.2s,MS4.0,baz=10.0,slow=38						
BRTR	Keskin Array B	77.44	312	P	P	20 58 34.3	-0.9
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
BRTR				MLR	MLR		
	comp=Z,64nm,18.2s						
PV01	Paradox Valley	77.66	50	P	P	20 58 39.9	+3.5
BRG	Berggiesshubel	78.55	330	eP	P	20 58 41.8	+0.8
BRG				pmax	pmax		
	comp=Z,6.0nm,1.4s,mb4.3						
BRG	Berggiesshubel	78.55	330	P	P	20 58 41.8	+0.8
	comp=Z,5.5nm,1.4s,mb4.3						
CLL	Collm	78.55	331	P	P	20 58 41.0	0.0
	comp=Z,logA/T=0.9,mb4.6						
CLL	Collm	78.55	331	i P	P	20 58 41.0	0.0
CLL				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
CLL	Collm	78.55	331	i P	P	20 58 41.0	0.0
	comp=Z,7.0nm,0.9s,mb4.6						
VRAC	Vranov	78.75	328	P	P	20 58 42.8	+0.7
	comp=Z,2.0nm,0.7s,mb4.1,baz=63,slow=8.8,SNR=3.7						
PRU	Pruhonice	79.03	329	eP	P	20 58 45.0	+1.3

KHC	Kasperske Hory	80.09	329	eP	P	20 58 50.0	+0.6
KHC				x	x	20 59 16.5	
KHC	Kasperske Hory	80.09	329	eP	P	20 58 50.0	+0.6
KHC				e		20 59 16.5	
GERES	GERESS Array B	80.27	329	P	P	20 58 50.4	0.0
	comp=Z,1.2nm,0.9s,mb3.8,baz=45,slow=5.7,SNR=8.8						
GERES	GERESS Array B	80.27	329	P	P	20 58 50.4	0.0
GERES				pmax	pmax		
	comp=Z,1.0nm,0.9s						
MZLS	Mizel	80.45	293	P	P	20 58 52.5	+0.6
GRA1	Grafenberg Arr	80.53	331	eP	P	20 58 52.9	+1.2
	comp=Z,12nm,1.0s,mb4.8						
HILS	Ha’il	80.61	298	P	P	20 58 53.4	+0.7
AFFS	‘Afif	82.05	295	P	P	20 59 00.8	+0.6
KBRS	Khaybar	83.36	298	P	P	20 59 08.2	+1.4
JMQS	Jabal Moqyreh	83.48	303	P	P	20 59 08.4	+1.0
TBKS	Tabuk	83.50	302	P	P	20 59 08.7	+1.2
BDAS	Al Bad‘	84.29	303	P	P	20 59 12.8	+1.2
AYUS	‘Aynunah	84.35	302	P	P	20 59 13.0	+1.2
CABF	La Chapelle	84.99	332	eP	P	20 59 14.3	-0.2
	comp=Z,43nm,1.3s,mb5.1						
UMJS	Umm Lajj	85.03	299	P	P	20 59 16.9	+1.6
YNBS	Yanbu‘ al Bahr	85.18	298	P	P	20 59 17.5	+1.5
LOR	Lormes	85.19	334	eP	P	20 59 16.1	+0.6
	comp=Z,10nm,1.0s,mb4.6						
LOR				eR			
	comp=Z,225nm,19.5s						
SSF	Saint Saulge	85.49	334	eP	P	20 59 17.9	+0.9
BLJS	Baljurashi	85.69	292	P	P	20 59 20.5	+1.9
LPL	La Plagne	85.69	331	eP	P	20 59 19.2	+1.2
	comp=Z,22nm,1.1s,mb5.0						
LPG	La Plagne	85.70	331	eP	P	20 59 19.3	+1.2
	comp=Z,13nm,1.0s,mb4.8						
SMF	Signal de Mont	85.74	333	eP	P	20 59 19.1	+0.9
	comp=Z,25nm,1.2s,mb5.0						
DJNS	Zahran al Janu	85.74	290	P	P	20 59 21.0	+2.1
AVF	Avril sur Loir	85.78	334	eP	P	20 59 19.3	+0.9
	comp=Z,32nm,1.1s,mb5.2						
BGF	Bois d’Agland	86.15	334	eP	P	20 59 21.2	+0.9
MBDF	Montbardon	86.35	331	eP	P	20 59 22.0	+0.7
	comp=Z,5.3nm,0.8s,mb4.5						
ORIF	Oris-en-Rattie	86.51	331	eP	P	20 59 23.0	+0.9
	comp=Z,13nm,1.1s,mb4.8						
ORIF				eR			
	comp=Z,158nm,22.0s						
TCF	Toulx Ste Croi	86.60	334	eP	P	20 59 22.7	+0.2
	comp=Z,14nm,1.2s,mb4.8						
VIVF	Saint-Julien-l	87.00	332	eP	P	20 59 25.4	+0.9
	comp=Z,24nm,1.3s,mb5.0						
MFF	Saint Martin d	87.08	336	eP	P	20 59 26.0	+1.2
	comp=Z,45nm,1.3s,mb5.2						
CAF	Calviac	87.85	334	eP	P	20 59 30.1	+1.6
	comp=Z,29nm,1.2s,mb5.1						
VAE	Valguarnera	89.13	322	LR	LR	21 43 36.5	
	comp=Z,151nm,20.0s,MS4.4,baz=134,slow=38						
ESDC	Sonseca Array	94.53	335	LR	LR	21 48 33.1	
	comp=Z,115nm,19.1s,MS4.4,baz=245,slow=39						
SNAA	Sanae	144.77	198		PKPbc	21 06 14.5	+0.7
SNAA	Sanae	144.77	198	⇓i	PKPbc	21 06 15.2	+1.4
SNAA	Sanae	144.77	198	⇑i	PKPbc	21 06 17.0	+3.2
VNA2	Neumayer--Watz	146.33	197	⇑i	PKPdf	21 06 21.8	+5.3
VNA2	Neumayer--Watz	146.33	197	⇑i	PKPdf	21 06 23.8	+7.3
VNA3	Neumayer Olymp	146.57	195	⇑i	PKPdf	21 06 23.0	+6.1
VNA1	Neumayer--Stat	146.73	197	⇑i	PKPdf	21 06 24.3	+7.1

NEIC 18 20:50:33.9,38.00N×118.68W,h6^{km},ML3.5(REN)**,1D, After REN.,California-Nevada border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OMM	Old Mammoth Mi	0.46	213	eP	Pg	20 50 42.9	-0.2
MNV	Mina	0.59	44	⇓iP	Pg	20 50 45.0	-0.8
MNV				eS	Sg	20 50 52.8	-1.0
MTUM	Tungsten Hills	0.66	172	eP	Pg	20 50 46.3	-0.7
TPH	Tonopah	1.15	86	eP	Pb	20 50 55.4	-0.4
CMB	Columbia Colle	1.35	272	eP	Pb	20 50 58.3	-1.0
WCN	Washoe City	1.55	327	eP	Pn	20 51 02.2	0.0
DAC	Darwin (Calif)	1.93	153	eP	Pn	20 51 07.3	-0.3
TPNV	Topopah Spring	2.20	118	ePn	Pn	20 51 11.5	0.0
BEKR	Beckwourth	2.28	325	ePn	Pn	20 51 12.3	-0.3
SAO	San Andreas Ge	2.53	242	ePn	Pn	20 51 15.9	-0.3
OHCM	Honcut	2.57	302	ePn	Pn	20 51 16.2	-0.6
BMN	Battle Mountai	2.67	25	ePn	Pn	20 51 18.0	-0.3
LKC	Lake Chabot	2.69	265	ePn	Pn	20 51 17.3	-1.2
NSHM	Saint Helena R	3.14	281	Pn	Pn	20 51 24.1	-0.8
ELK	Elko	3.82	43	ePn	Pn	20 51 33.1	-1.5
NEN	Nelson	3.87	126	ePn	Pn	20 51 31.9	-3.3
WDC	Whiskeytown Da	3.95	312	ePn	Pn	20 51 34.2	-2.2
MOD	Modoc	4.09	343	ePn	Pn	20 51 38.3	-0.1
ARUT	Antelope Range	4.15	91	ePn	Pn	20 51 38.3	-0.9
WVOR	Wild Horse Val	4.42	0	ePn	Pn	20 51 41.9	-1.3
DUG	Dugway	5.06	63	Pn	Pn	20 51 49.8	-2.4
MVU	Marysvale	5.11	82	Pn	Pn	20 51 50.1	-2.8
MSU	Marysvale	5.14	82	Pn	Pn	20 51 54.1	+0.8
NLU	North Lily Min	5.50	67	ePn	Pn	20 51 55.1	-3.3
HLID	Hailey	6.42	29	Pn	Pn	20 52 10.3	-1.1

*LDG **18** 20:56:34.9±0.6,42.90N×1.49W,h2^{km},Md2.1/2,Ml1.9/6, Error ellipse: s-maj=10.0km s-min=6.9km az=50.0*
*STR **18** 20:56:34.1±0.4,42.84N×1.49W,h5^{km}±1^{km},Ml2.3,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*MDD **18** 20:56:35.6±0.5,42.89N×1.42W,h7^{km}±5^{km},mbLg1.4/7, Error ellipse: s-maj=4.0km s-min=2.6km az=39.0, AftershockPLICA PRXIMO*
ISC 18 20:56:33.1±0.7**,42.84N**±0.04×**1.47W**±0.05**,h7^{km},n20, σ1^{s}15**/34**,Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJPF	Ste Jean	0.33	33	ePg	Pg	20 56 40.8	+1.1
SJPF				eSg	Sg	20 56 43.5	-0.7
	11nm,0.2s						
EALK	Alkurruntz	0.38	356	Pg	Pg	20 56 41.9	+1.1
	1.4nm,0.1s,SNR=7.6						
EALK				Lg		20 56 46.8	
	21nm,0.4s,SNR=13						
LARF	Larrau	0.40	60	Pg	Pg	20 56 42.4	+1.1
LARF				Sg	Sg	20 56 48.0	+1.3
LARF	Larrau	0.40	60	P	Pg	20 56 42.2	+1.0
LARF				S	Sg	20 56 48.1	+1.4
OSSF	Osses	0.44	20	Pg	Pg	20 56 42.7	+0.7
OSSF	Osses	0.44	20	P	Pg	20 56 42.9	+0.9
OSSF				S	Sg	20 56 48.6	+0.6
ORDF	Ordiarp	0.54	46	Pg	Pg	20 56 44.7	+0.8
ORDF				Sg	Sg	20 56 52.6	+1.4
ORDF	Ordiarp	0.54	46	P	Pg	20 56 44.8	+0.9
ORDF				S	Sg	20 56 51.9	+0.7
ATE	Arette	0.61	66	P	Pg	20 56 46.0	+0.6
ATE				S	Sg	20 56 54.3	+0.6
ETSF	Etsaut	0.67	85	ePg	Pg	20 56 46.6	+0.1
ETSF				eSg	Sg	20 56 55.3	-0.2
	4.5nm,0.2s						
ESAC	San Caprasio	1.34	146	Pg	Pg	20 57 00.4	+0.5
	1.7nm,0.1s,SNR=7.8						
ESAC				Lg		20 57 18.9	
	12nm,0.3s,SNR=9.2						
EPF	Esparros	1.34	81	ePn	Pn	20 56 58.6	+0.4
EPF				ePg	Pg	20 57 00.8	+0.9
EPF				eSg	Sg	20 57 17.5	-0.3
	3.8nm,0.2s						
ELAN	Lanestosa	1.50	286	Pg	Pg	20 57 03.8	+0.9
	SNR=7.9						
ELAN				Lg		20 57 24.5	
	2.5nm,0.2s,SNR=7.9						
ETOR	Torete	2.06	192	Pg	Pg	20 57 13.7	-0.6
	0.2nm,0.2s,SNR=4.6						
ETOR				Lg		20 57 38.8	
	1.3nm,0.2s,SNR=5.0						
EPOB	Poblet	2.41	127	Lg		20 57 48.8	
	0.5nm,0.1s,SNR=4.0						
LFF	La Frestale	2.64	36	ePg	Pg	20 57 23.4	-2.3
LFF				eSg	Sg	20 57 55.7	-5.2
	0.7nm,0.2s						
MTLF	Montolieu	2.75	78	ePn	Pn	20 57 18.7	+0.4
MTLF				eSn	Sn	20 57 51.0	-1.1
	0.5nm,0.2s						
RJF	Les Rejaudoux	3.27	40	ePn	Pn	20 57 23.9	-1.9
RJF				eSn	Sn	20 58 02.3	-3.1
	0.3nm,0.2s						
CAF	Calviac	3.30	50	ePn	Pn	20 57 24.6	-1.6
CAF				eSn	Sn	20 58 03.3	-2.8
	0.6nm,0.2s						
MFF	Saint Martin d	3.88	14	ePn	Pn	20 57 32.8	-1.6
MFF				eSn	Sn	20 58 16.4	-4.4
	0.7nm,0.2s						

*ATH **18** 21:00:00.6,36.99N×27.86E,h26^{km},MD2.9/3*
*ISK **18** 21:00:01.4,36.96N×27.98E,h19^{km},MD3.2*
ISC 18 21:00:01.7±0.8**,36.95N**±0.05×**27.96E**±0.08**,h20^{km}**±11^{km}**, n9,**σ**0^{s}75**/12**,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YER	Yerkesik	0.32	55	i PG	Pb	21 00 08.5	-0.2
MLSB	Milas	0.37	337	PG	Pb	21 00 09.4	-0.2
MLSB				SG	Sb	21 00 15.5	+0.6
DALT	Dalyan (Mudla)	0.57	108	ePG	Pb	21 00 13.1	+0.2
ARG	Arkhangelos	0.74	169	ePN	Pn	21 00 16.5	-0.5
ARG				eSN	Sn	21 00 28.0	+0.3
NISR	Nisiros	0.75	243	ePN	Pn	21 00 14.5	-2.5
DENT	Denizli	1.18	47	PN	Pn	21 00 22.8	-0.3
KARP	Karpathos	1.54	205	ePN	Pn	21 00 28.5	+0.1
KARP				eSN	Sn	21 00 49.0	+1.1
IZM	Izmir	1.55	339	ePN	Pn	21 00 28.8	+0.3
AKS	Akhisar	1.93	357	ePN	Pn	21 00 34.3	+0.4

IDC 18 21:02:04.1±1.6**,21.06S**×**173.52W,mb3.8**/3**,mb1 4.1**/4**, mb1mx3.9**/16**,ML4.1**/1**,Error ellipse: s-maj=99.5km s-min=31.7km az=171.0,Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAR	Rarotonga	12.83	93	Pn	P	21 05 05.7	-4.9
	1.1nm,0.3s,baz=258,slow=12,SNR=4.5						
CTA	Charters Tower	37.60	264	P	P	21 09 20.5	-1.9
	3.0nm,0.9s,baz=83,slow=8.1,SNR=3.2						
ASAR	Alice Springs	48.47	257	P	P	21 10 48.6	-2.0
	0.9nm,0.6s,baz=90,slow=8.1,SNR=10						
ASAR				PcP	PcP	21 12 16.9	-0.3
	0.6nm,0.7s,baz=100,slow=3.6,SNR=5.3						
WRA	Warramunga Arr	48.67	262	P	P	21 10 49.5	-2.8
	0.4nm,0.5s,baz=100,slow=9.2,SNR=13						
AKASG	Malin Array Be	145.43	334	PKPbc	PKPbc	21 21 43.2	-1.2
	1.0nm,0.4s,baz=39,slow=4.2,SNR=9.1						

*STR **18** 21:05:46.9±0.0,43.36N×0.72W,h10^{km}±1^{km},Ml2.2,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD 18 21:05:47.9±0.5**,42.85N**×**1.41W,mbLg1.5**/2**,1C,Error ellipse: s-maj=4.7km s-min=2.8km az=70.0, AftershockPLICA PRXIMO,Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LARF	Larrau	0.36	59	Pg	Pg	21 05 54.6	-0.5
LARF				Sg	Sg	21 06 00.4	+0.4
LARF	Larrau	0.36	59	P	Pg	21 05 54.7	-0.4
LARF				S	Sg	21 05 59.8	-0.2
EALK	Alkurruntz	0.37	349	⇑Pg	Pg	21 05 54.5	-0.8
	1.0nm,0.1s,SNR=18						
EALK				Lg		21 06 00.1	
	3.7nm,0.1s,SNR=17						
OSSF	Osses	0.42	15	Pg	Pg	21 05 55.2	-1.0
OSSF				Sg	Sg	21 06 01.2	-0.6
OSSF	Osses	0.42	15	P	Pg	21 05 55.3	-0.9
OSSF				S	Sg	21 06 01.3	-0.5
ESAC	San Caprasio	1.33	148	Pg	Pg	21 06 12.3	-2.1
	1.3nm,0.1s,SNR=7.9						
ESAC				Lg		21 06 30.7	
	9.7nm,0.3s,SNR=4.9						
ELAN	Lanestosa	1.53	285	Pg	Pg	21 06 16.4	-2.0
	SNR=4.0						
ELAN				Lg		21 06 37.4	
	0.5nm,0.1s,SNR=4.0						
ETOR	Torete	2.09	193	Pn	Pn	21 06 23.0	-1.5
	SNR=7.9						
ETOR				Pg	Pg	21 06 26.9	-2.7
	SNR=7.9						
ETOR				Lg		21 06 50.3	
	0.4nm,0.2s,SNR=7.9						

*BJI **18** 21:15:07.0,48.67N×154.61E,h64^{km},mB4.7,mb4.7*
*MOS **18** 21:15:07.7±1.6,49.06N×155.18E,h88^{km},mb4.0/14,Error ellipse: s-maj=13.6km s-min=7.3km az=84.7*
*KRSC **18** 21:15:07.7±4.1,48.58N×156.82E,h60^{km}±21^{km},ML4.4*
*IDC **18** 21:15:09.0±3.0,49.28N×154.92E,h73^{km}±30^{km},mb3.9/20, mb1 4.1/22,mb1mx4.0/31,MS3.1/2,Ms1 3.1/2, ms1mx2.7/31,Error ellipse: s-maj=32.0km s-min=13.0km az=168.0*
*NEIC **18** 21:15:10.5±1.3,49.26N×154.88E,h89^{km}±11^{km},mb4.3/22, Error ellipse: s-maj=13.4km s-min=6.7km az=155.0*
ISC 18 21:15:08.3±0.8**,49.03N**±0.06×**155.07E**±0.09**,h91^{km}**±5^{km}**, n144,**σ**1^{s}05**/163**,mb4.3**/58**,1C-3D,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	Severo-Kuril’s	1.79	22	i P	P	21 15 45.5	+7.2
SKR				i S	S	21 16 08.0	+7.7
SKR	Severo-Kuril’s	1.79	22	⇓iPN	P	21 15 45.5	+7.2
SKR				pmax	pmax		
	comp=Z,150nm,0.5s						
SKR				pmax	pmax		
	comp=N,110nm,0.3s						
SKR				pmax	pmax		
	comp=E,40nm,0.3s						
PAU	Pauzhetka	2.68	24	i P	P	21 15 50.8	+0.3
PAU				i S	S	21 16 23.0	+0.9
PAU				Smax			
	comp=E,2µm,0.5s						
MIPR	Malaya Ipel’ka	3.42	18	eP	P	21 16 01.3	+0.6
GRL	Gorelyy	4.01	27	eP	P	21 16 09.3	+0.5
GRL				eS	S	21 16 55.1	+0.3
RUS	Russkaya	4.05	31	P	P	21 16 07.9	-1.4
RUS				S	S	21 16 52.5	-3.3
RUS	Russkaya	4.05	31	eP	P	21 16 07.7	-1.6
RUS				eS	S	21 16 52.4	-3.4
APC	Apacha	4.12	18	eP	P	21 16 11.2	+0.9
APC				Smax			
	comp=E,40nm,0.7s						
PET	Petropavlovsk	4.59	28	P	P	21 16 16.6	-0.2
PET				S	S	21 17 08.4	-0.9
PET	Petropavlovsk	4.59	28	eP	P	21 16 16.3	-0.5
PET				eS	S	21 17 08.4	-0.9
PET	Petropavlovsk	4.59	28	ePN	P	21 16 16.2	-0.6
PET				eS	S	21 17 08.9	-0.4
PET				pmax	pmax		
	comp=Z,50nm,1.1s						
PET				smax			
	comp=N,137nm,0.5s						
PET	Petropavlovsk	4.59	28	ePn	P	21 16 15.3	-1.5
PET				eSn	S	21 17 08.0	-1.4
UGLR	Uglovaya	4.80	28	eP	P	21 16 19.8	0.0
KOK	Koryaka	4.82	26	eP	P	21 16 20.8	+0.8
KOK				eS	S	21 17 14.3	-0.7
AVH	Avacha	4.83	27	eP	P	21 16 20.7	+0.6
AVH				eS	S	21 17 16.6	+1.5
SMAR	Somma	4.84	28	eP	P	21 16 20.5	+0.2
SDLR	Sedlovina	4.88	28	eP	P	21 16 20.1	-0.7
SDLR				eS	S	21 17 15.9	-0.6
NLC	Nalytchevo	4.94	31	eP	P	21 16 19.1	-2.5
NLC				eS	S	21 17 12.8	-5.2
GNL	Ganaly	5.00	20	eP	P	21 16 23.5	+1.0
SPN	Mys Shipunski	5.13	36	P	P	21 16 22.7	-1.5
SPN				S	S	21 17 17.8	-4.8
SPN	Mys Shipunski	5.13	36	eP	P	21 16 22.3	-1.9
SPN				eS	S	21 17 17.7	-4.9
MKZ	Mys Kozlova	6.90	34	P	P	21 16 45.5	-3.1
MKZ				S	S	21 17 58.2	-8.0
MKZ	Mys Kozlova	6.90	34	eP	P	21 16 45.6	-3.0
MKZ				eS	S	21 17 59.4	-6.8
TUMR	Tumrok	6.99	25	eP	P	21 16 50.0	+0.1
KMNR	Kamenistaya	7.44	23	eP	P	21 16 56.3	+0.3
KPT	Kopyto	7.62	22	eP	P	21 16 58.0	-0.5
ZLN	Zelenaya	7.82	24	i P	P	21 17 01.7	+0.5
SRDR	Sredinnyy	7.82	19	eP	P	21 17 02.0	+0.8
LGNR	Loginova	7.85	24	eP	P	21 17 02.8	+1.3
CIRR	Tsirk	7.89	24	eP	P	21 17 03.0	+0.9
KRSR	Krestovskiy	7.93	23	eP	P	21 17 05.6	+2.9
YSS	Yuzh-Sakhalins	8.52	261	ePN	P	21 17 04.4	-6.3
KBTR	Krutoberegovo	8.59	30	P	P	21 17 09.6	-2.0
KBTR	Krutoberegovo	8.59	30	eP	P	21 17 09.7	-1.9
ASAJ	Asahikawa	9.89	245	P	P	21 17 29.8	+0.6
	comp=N,1.8nm,0.3s,baz=88,slow=21,SNR=13						
ASAJ				LR	LR	21 20 56.4	
	comp=N,57nm,18.5s,baz=290,slow=35						
ASAJ	Asahikawa	9.89	245	PN	P	21 17 29.8	+0.6
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,57nm,18.5s						
MA2	Magadan	10.86	348	ePN	P	21 17 43.1	+1.0
MA2				pmax	pmax		
	comp=Z,16nm,1.2s						
FX1	Attu Island--F	12.04	64	P	P	21 17 55.4	-2.4
	comp=Z,6.5nm,0.3s,baz=94,slow=20,SNR=12						
FX1				S	S	21 19 59.7	-11
	comp=Z,6.5nm,0.3s,baz=53,slow=22,SNR=8.7						
KLR	Kul’dur	15.26	280	eP	P	21 18 42.1	+2.5
MAJO	Matsushiro	17.53	231	eP	P	21 19 10.5	+2.4
	comp=Z,12nm,0.9s						
MDJ	Mudanjiang	17.95	265	eP	P	21 19 12.0	-1.1
	comp=Z,5.8nm,0.7s						
YAK	Yakutsk	19.22	322	eP	P	21 19 26.7	-0.6
YAK				pmax	pmax		
	comp=Z,18nm,0.8s						
YAK				pmax	pmax		
	comp=N,3.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,11nm,1.1s						
YAK	Yakutsk	19.22	322	eP	P	21 19 26.2	-1.1
	comp=E,46nm,0.7s						
CN2	Changchun	21.01	267	eP	P	21 19 42.5	-3.5
HIA	Hailar	22.99	284	eP	P	21 20 04.5	-0.8
	comp=E,8.3nm,0.6s,mb4.2						
TIXI	Tiksi	25.69	341	⇓eP	P	21 20 33.7	+2.8
TIXI				e*SP	sP	21 21 04.0	+1.7
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb3.5						
SSE	Sheshan	31.17	248	eP	P	21 21 16.4	-4.2
SSE				AMB	AMB		
	comp=Z,27nm,0.6s,mb5.2						
SSE				AMB	AMB		
	comp=Z,57nm,4.9s						
ZAK	Zakamensk	32.97	292	eP	P	21 21 34.4	-1.6
ILAR	Eielson Array	33.95	41	P	P	21 21 43.9	-0.5
	comp=Z,1.0nm,0.7s,mb3.8,baz=259,slow=7.3,SNR=5.9						
ILAR	Eielson Array	33.95	41	P	P	21 21 43.9	-0.4
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
INK	Inuvik	39.02	34	P	P	21 22 27.6	+0.7
	comp=Z,1.4nm,0.8s,mb3.8,baz=262,slow=5.8,SNR=3.2						
INK	Inuvik	39.02	34	P	P	21 22 27.6	+0.7
INK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ENH	Enshi	39.10	259	eP	P	21 22 27.6	-0.3
	comp=Z,5.7nm,0.5s,mb4.7						
GTA	Gaotai	39.95	277	P	P	21 22 35.3	+0.4
GTA				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.3						
DLBC	Dease Lake	43.07	48	P	P	21 23 02.0	+1.8
	comp=Z,1.3nm,0.6s,mb3.9,baz=322,slow=9.2,SNR=4.6						
DLBC	Dease Lake	43.07	48	eP	P	21 23 02.0	+1.8
GYA	Guiyang	43.51	257	P	P	21 23 04.0	-0.2
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
KMI	Kunming	46.96	259	⇑iP	P	21 23 31.8	+0.1
KMI				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.5						
KMI				AMB	AMB		
	comp=Z,88nm,6.9s						
MKAR	Makanchi Array	47.09	296	P	P	21 23 31.3	-1.1
	comp=Z,4.0nm,0.6s,mb4.3,baz=67,slow=8.2,SNR=39						
MKAR				LR	LR	21 43 20.5	
	comp=Z,32nm,18.0s,baz=248,slow=36						
MKAR	Makanchi Array	47.09	296	P	P	21 23 31.3	-1.1
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MKAR				MLR	MLR		
	comp=Z,32nm,18.0s						
KURK	Kurchatov	47.22	303	eP	P	21 23 32.3	-1.1
KURK	Kurchatov	47.22	303	eP	P	21 23 31.7	-1.7
	comp=Z,5.9nm,0.9s,mb4.3						
BVAR	Borovoye Array	50.45	309	P	P	21 23 56.9	-1.3
	comp=Z,1.9nm,0.4s,mb4.3,baz=60,slow=7.1,SNR=26						
BVAR				PcP	PcP	21 25 15.2	-0.1
	comp=Z,0.6nm,0.5s,baz=135,slow=4.2,SNR=4.0						
BRVK	Borovoye	50.48	309	eP	P	21 23 56.5	-2.0
	comp=Z,4.8nm,0.8s,mb4.5						
BRVK				e	pP	21 24 19.5	-1.3
ZRNK	Zerenda	51.19	309	eP	P	21 24 02.0	-1.8
	comp=Z,4.3nm,0.9s,mb4.5						
LSA	Lhasa	51.48	273	P	P	21 24 07.5	+1.2
CM31	Chiang Mai Arr	54.19	256	P	P	21 24 26.7	+0.1
	comp=Z,4.9nm,0.6s,mb4.7						
CM31				e		21 24 40.6	
CMAR	Chiang Mai Arr	54.19	256	P	P	21 24 26.7	+0.1
	comp=Z,3.5nm,0.6s,mb4.5,baz=34,slow=7.1,SNR=28						
CMAR	Chiang Mai Arr	54.19	256	P	P	21 24 26.7	+0.1
CMAR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ARU	Arti	54.23	317	⇓iP	P	21 24 25.0	-1.4
ARU				e		21 25 26.9	
ARU				ePPP	PPP	21 27 36.5	-6.3
ARU				eS	S	21 31 54.6	-0.2
ARU				eSS	SS	21 35 39.3	+1.9
ARU				pmax	pmax		
	comp=Z,19nm,0.7s,mb5.2						
ARU	Arti	54.23	317	eP	P	21 24 24.6	-1.7
	comp=Z,24nm,0.6s,mb5.4						
YBH	Yreka Blue Hor	55.53	64	P	P	21 24 36.3	+0.3
	comp=Z,1.8nm,0.6s,mb4.2,baz=352,slow=7.1,SNR=3.3						
YBH	Yreka Blue Hor	55.53	64	P	P	21 24 36.3	+0.3
YBH				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KEV	Kevo	55.63	341	ep	P	21 24 33.8	-2.6
	comp=Z,0.3nm,0.4s,mb3.7						
ARCES	ARCESS Array B	56.13	341	P	P	21 24 37.4	-2.6
	comp=Z,3.9nm,0.9s,mb4.4,baz=43,slow=8.6,SNR=10.0						
ARCES	ARCESS Array B	56.13	341	P	P	21 24 37.4	-2.5
ARCES				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KKN	Kakani	56.59	275	eP	P	21 24 43.2	-0.6
	comp=Z,18nm,0.8s,mb5.2						
PKI	Pulchoki	56.66	275	eP	P	21 24 43.8	-0.5
DMN	Daman	56.83	275	eP	P	21 24 45.2	-0.3
	comp=Z,34nm,0.9s,mb5.4						
GKN	Gorkha	56.87	276	eP	P	21 24 44.9	-0.9
	comp=Z,21nm,0.6s,mb5.3						
KOLN	Koldanda	57.71	276	eP	P	21 24 51.0	-0.7
	comp=Z,20nm,0.8s,mb5.2						
SUMG	Summit	58.33	5	eP	P	21 24 55.6	+0.3
	comp=Z,6.0nm,0.8s,mb4.7						
NVAR	Mina Array Bea	60.23	65	P	P	21 25 08.6	-0.4
	comp=Z,1.2nm,0.5s,mb4.2,baz=292,slow=4.9,SNR=2.1						
NVAR	Mina Array Bea	60.23	65	P	P	21 25 08.6	-0.4
KAF	Kangasniemi	61.92	335	ep	P	21 25 16.3	-3.7
	comp=Z,0.2nm,0.3s,mb3.6						
PDAR	Pinedale Array	62.35	56	P	P	21 25 23.2	+0.1
	comp=Z,1.1nm,0.9s,mb3.9,baz=310,slow=2.6,SNR=5.5						
FINES	FINESS Array B	62.53	335	P	P	21 25 22.3	-1.8
	comp=Z,1.1nm,0.5s,mb4.1,baz=28,slow=7.3,SNR=17						
FINES	FINESS Array B	62.53	335	P	P	21 25 22.3	-1.8
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
RSSD	Black Hills	64.36	52	eP	P	21 25 36.0	-0.3
	comp=Z,2.3nm,0.7s,mb4.1						
NB2	NORSAR Subarra	66.48	342	P	P	21 25 48.3	-1.3
	comp=Z,1.5nm,0.6s,mb4.0,baz=29,slow=6.2						
NB2	NORSAR Subarra	66.48	342	P	P	21 25 48.3	-1.3
	comp=Z,1.5nm,0.6s,mb4.0						
NOA	NORSAR Array B	66.48	342	P	P	21 25 48.5	-1.1
	comp=Z,1.0nm,0.8s,mb3.7,baz=35,slow=15,SNR=3.4						
NOA	NORSAR Array B	66.48	342	P	P	21 25 48.5	-1.1
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MAK	Makhachkala	68.57	311	eP	P	21 25 56.0	-6.8
AKASG	Malin Array Be	70.37	327	P	P	21 26 12.4	-1.3
	comp=Z,1.5nm,0.5s,mb4.1,baz=32,slow=6.3,SNR=5.9						
AKASG	Malin Array Be	70.37	327	P	P	21 26 12.4	-1.3
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
KIS	Kishinev	73.59	325	eP	P	21 26 37.0	+4.2
OKC	Ostrava-Krasne	74.78	333	eP	P	21 26 40.3	+0.7
UPC	Upice	74.81	334	eP	P	21 26 40.8	+1.1
DPC	Dobruska-Polom	74.87	334	eP	P	21 26 41.1	+1.1
CLL	Collm	74.92	336	P	P	21 26 41.0	+0.7

CLL	Collm	74.92	336	iP	P	21 26 41.0	+0.7
MORC	Moravsky Berou	75.02	333	eP	P	21 26 41.9	+1.0
	comp=Z,5.9nm,0.8s,mb4.4						
PRU	Pruhonice	75.70	335	eP	P	21 26 45.1	+0.3
VRAC	Vranov	75.72	333	P	P	21 26 45.7	+0.8
	comp=Z,1.9nm,1.0s,mb3.8,baz=36,slow=9.9,SNR=3.8						
MLR	Muntele Rosu	75.94	326	P	P	21 26 47.1	+0.9
	comp=Z,2.3nm,0.4s,mb4.2,baz=318,slow=5.4,SNR=7.7						
MLR	Muntele Rosu	75.94	326	P	P	21 26 47.1	+0.8
MLR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
NKC	Novy Kostel	76.04	336	eP	P	21 26 48.7	+2.0
MALT	Malatya	76.55	314	eP	P	21 26 51.4	+1.6
	comp=Z,4.7nm,1.1s,mb4.1						
KHC	Kasperske Hory	76.74	335	eP	P	21 26 51.9	+1.2
GRF	Grafenberg Arr	76.86	337	eP	P	21 26 52.4	+1.1
GERES	GERESS Array B	76.97	335	P	P	21 26 52.6	+0.7
	comp=Z,1.3nm,0.6s,mb3.9,baz=36,slow=5.7,SNR=18						
GERES	GERESS Array B	76.97	335	P	P	21 26 52.6	+0.7
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRTR	Keskin Array B	77.61	318	P	P	21 26 56.5	+0.8
	comp=Z,2.9nm,0.9s,mb4.0,baz=72,slow=3.9,SNR=12						
BRTR	Keskin Array B	77.61	318	P	P	21 26 56.5	+0.8
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
CDF	Champ du Feu	79.03	339	eP	P	21 27 02.6	-0.7
	comp=Z,9.1nm,0.9s,mb4.3						
MEZF	Maizieres J'vi	79.45	340	eP	P	21 27 05.3	-0.3
DAVOX	Davos	79.89	337	P	P	21 27 08.8	+0.8
	comp=Z,4.6nm,0.7s,mb4.4,baz=15,slow=3.2,SNR=6.0						
DAVOX	Davos	79.89	337	P	P	21 27 08.8	+0.8
GRR	Gorron	80.76	344	eP	P	21 27 12.8	+0.2
LOR	Lormes	80.88	341	eP	P	21 27 13.1	-0.2
	comp=Z,4.0nm,0.7s,mb4.1						
CABF	La Chapelle	81.00	339	eP	P	21 27 14.0	+0.1
SSF	Saint Saulge	81.16	341	eP	P	21 27 13.8	-0.9
AVF	Avril sur Loir	81.45	341	eP	P	21 27 16.1	-0.1
	comp=Z,6.2nm,0.8s,mb4.2						
SMF	Signal de Mont	81.48	340	eP	P	21 27 16.4	0.0
	comp=Z,6.7nm,0.7s,mb4.3						
LPL	La Plagne	81.87	338	eP	P	21 27 19.2	+0.8
	comp=Z,3.7nm,0.5s,mb4.2						
LPG	La Plagne	81.88	338	eP	P	21 27 19.2	+0.7
	comp=Z,5.0nm,0.5s,mb4.3						
TCF	Toulx Ste Croi	82.17	341	eP	P	21 27 20.0	0.0
ASF	Jabal al Asfar	82.22	311	P	P	21 27 20.8	+0.3
	comp=Z,4.9nm,0.8s,mb4.4,baz=230,slow=3.5,SNR=9.0						
MBDF	Montbardon	82.60	338	eP	P	21 27 22.8	+0.6
ORIF	Oris-en-Rattie	82.64	338	eP	P	21 27 23.1	+0.7
	comp=Z,5.5nm,0.7s,mb4.2						
VIVF	Saint-Julien-l	82.98	339	eP	P	21 27 24.6	+0.5
	comp=Z,4.4nm,0.7s,mb4.1						
SBF	Sospel	83.24	337	eP	P	21 27 26.0	+0.6
	comp=Z,8.3nm,0.6s,mb4.4						
RJF	Les Rejaudoux	83.25	342	eP	P	21 27 25.3	-0.2
CAF	Calviac	83.50	341	eP	P	21 27 26.4	-0.3
	comp=Z,9.9nm,1.0s,mb4.3						
SMRF	Simiane la Rot	83.60	338	eP	P	21 27 27.4	+0.2
	comp=Z,9.5nm,1.0s,mb4.3						
FRF	La Foret Royal	83.72	337	eP	P	21 27 27.9	+0.1
LFF	La Frestale	83.76	342	eP	P	21 27 27.7	-0.3
	comp=Z,21nm,0.9s,mb4.7						
LMR	La Mourre	83.97	338	eP	P	21 27 29.2	+0.2
	comp=Z,7.0nm,0.8s,mb4.2						
MTLF	Montolieu	84.98	340	eP	P	21 27 34.2	+0.1
	comp=Z,4.2nm,0.7s,mb4.2						
IDI	Anoyia	85.09	321	P	P	21 27 34.1	-0.8
	comp=Z,17nm,1.0s,mb4.9,baz=27,slow=9.0,SNR=3.6						
EPF	Esparros	85.67	342	eP	P	21 27 37.6	+0.1
	comp=Z,7.7nm,0.9s,mb4.3						
SJPF	Ste Jean	85.91	343	eP	P	21 27 38.5	-0.1
ETSF	Etsaut	85.98	342	eP	P	21 27 39.5	+0.5
	comp=Z,5.6nm,0.8s,mb4.3						

STR ***18*** *21:15:58.7±0.4, 42.85N×1.47W, h5^{km}±1^{km}, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

MDD 18 21:15:60.0±0.6**, 42.87N×1.44W, mbLg1.4**/4**, 1C, Error ellipse: s-maj=4.8km s-min=3.9km az=53.0, AftershockPLICA PRXIMO, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EALK	Alkurruntz	0.35	351	⇑Pg	Pg	21 16 06.3	-0.6
	1.3nm,0.1s,SNR=18						
EALK				Lg		21 16 12.0	
	7.8nm,0.2s,SNR=5.7						
LARF	Larrau	0.37	63	Pg	Pg	21 16 06.4	-0.9
LARF				Sg	Sg	21 16 12.4	+0.2
LARF	Larrau	0.37	63	P	Pg	21 16 06.5	-0.8
LARF				S	Sg	21 16 12.2	0.0
OSSF	Osses	0.41	18	Pg	Pg	21 16 07.2	-0.8
OSSF				Sg	Sg	21 16 13.2	-0.2
OSSF	Osses	0.41	18	P	Pg	21 16 07.4	-0.6
OSSF				S	Sg	21 16 13.1	-0.4
ESAC	San Caprasio	1.35	148	Pg	Pg	21 16 24.6	-2.4
	2.4nm,0.2s,SNR=5.7						
ESAC				Lg		21 16 42.8	
	8.1nm,0.2s,SNR=6.7						
ELAN	Lanestosa	1.51	284	Pg	Pg	21 16 27.2	-2.9
	0.8nm,0.2s,SNR=5.8						
ELAN				Lg		21 16 49.3	
	2.6nm,0.4s,SNR=5.0						
ETOR	Torete	2.10	193	Pg	Pg	21 16 39.6	-2.4
	0.2nm,0.2s,SNR=7.9						
ETOR				Lg		21 17 02.0	
	1.5nm,0.5s,SNR=7.9						

SYO ***18*** *21:17:07.6, 24.25S×179.74W, h473^{km}, MB4.7*
BJI ***18*** *21:17:11.2, 24.40S×179.70W, h515^{km}, mB4.9, mb4.5*
NEIC ***18*** *21:17:11.2±1.6, 24.41S×179.75W, h516^{km}±16^{km}, mb4.8/21, Error ellipse: s-maj=12.5km s-min=10.2km az=50.0*
IDC ***18*** *21:17:12.0±1.8, 24.51S×179.81W, h523^{km}±18^{km}, mb4.2/11, mb1 4.4/12, mb1mx4.3/15, Error ellipse: s-maj=16.7km s-min=10.1km az=169.0*

ISC 18 21:17:10.8±0.8**, 24.48S**±0.05×**179.87W**±0.07**, h517**^{km}±9^{km}**, n152,** σ1^{s}**16**/69**, mb4.6**/27**, 22C-2D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	Nonsavu	6.99	344	P	P	21 18 57.3	-1.1
	939nm,0.4s,SNR=90						
DZM	Mont Dzumac	12.80	278	eP	P	21 20 00.6	+2.2
NOUC	Port Laguerre	12.92	278	eP	P	21 20 02.3	+2.6
URZ	Urewera	13.97	190	P	P	21 20 10.6	+0.2
	8.2nm,0.3s,baz=21,slow=1.7,SNR=32						
URZ				S	S	21 22 36.9	+1.9
	6.7nm,0.3s,baz=15,slow=23,SNR=10						
URZ	Urewera	13.97	190	eP	P	21 20 10.0	-0.3
BKZ	Black Stump Fm	14.96	191	eP	P	21 20 20.7	+0.4
MGZ	Maungaku	14.99	194	P	P	21 20 22.7	+2.1
TUVZ	Tukino	15.22	193	eP	P	21 20 22.7	-0.2
MRZ	Mangatainoka R	16.58	192	P	P	21 20 34.9	-1.4
KIW	Kapiti Island	16.91	194	P	P	21 20 38.5	-1.0
SNZO	South Karori	17.38	194	P	P	21 20 43.3	-0.8
QRZ	Quartz Range	17.50	199	P	P	21 20 45.2	-0.1
NNZ	Nelson	17.61	197	P	P	21 20 45.4	-1.0
THZ	Tophouse	18.25	197	eP	P	21 20 52.2	-0.4
KHZ	Kahutara	18.70	195	eP	P	21 20 55.7	-1.2
LTZ	Lake Taylor	19.37	198	P	P	21 21 01.5	-1.8
RPZ	Rata Peaks	20.58	199	P	P	21 21 12.7	-1.8
	44nm,0.5s,baz=290,slow=1.9,SNR=23						
CNB	Canberra Magne	28.66	241	eP	P	21 22 28.1	+1.2
	11nm,0.5s,mb4.7						
CTA	Charters Tower	31.60	271	eP	P	21 22 53.1	+0.9
	34nm,0.4s,mb5.2						
CTA	Charters Tower	31.60	271	P	P	21 22 52.9	+0.7
	51nm,0.5s,mb5.3,baz=96,slow=10,SNR=117						
CTA				PcP	PcP	21 25 28.6	-0.9
	1.5nm,0.5s,baz=136,slow=3.0,SNR=2.2						
CTAO	Charters Tower	31.60	271	eP	P	21 22 52.9	+0.7
	49nm,0.5s,mb5.3						
TOO	Toolangi	32.23	238	eP	P	21 22 58.2	+0.8
	15nm,0.6s,mb4.7						
TAU	Tasmania Unive	32.62	228	P	P	21 23 00.3	-0.4
	371nm,0.5s,SNR=35						
TAU	Tasmania Unive	32.62	228	eP	P	21 23 00.9	+0.3
	34nm,0.5s,mb5.1						
STKA	Stephens Creek	34.62	249	eP	P	21 23 18.3	+0.8
	24nm,0.6s,mb4.9						
STKA				iPCP	PcP	21 25 38.3	+0.3
STKA				eS	S	21 28 10.3	-1.0
STKA	Stephens Creek	34.62	249	P	P	21 23 18.2	+0.7
	28nm,0.6s,mb5.0,baz=91,slow=9.2,SNR=116						
STKA				PcP	PcP	21 25 38.2	+0.2
	5.9nm,0.5s,baz=100,slow=6.7,SNR=5.5						
ADE	Adelaide	37.23	244	⇑iP	P	21 23 39.9	+0.9
ASAR	Alice Springs	42.06	261	P	P	21 24 18.4	+0.2
	22nm,0.7s,mb4.8,baz=94,slow=6.5,SNR=327						
ASAR				PcP	PcP	21 26 00.7	-1.0
	13nm,1.2s,baz=112,slow=3.7,SNR=6.3						
ASAR				S	S	21 30 00.1	-0.4
	1.9nm,0.7s,baz=100,slow=13,SNR=7.2						
ASPA	Alice Springs	42.06	261	eP	P	21 24 18.3	+0.1
ASPA				eS	S	21 29 59.7	-0.9
WB2	Warramunga Arr	42.48	267	⇑iP	P	21 24 21.2	-0.3
WB2				eS	S	21 30 04.0	-2.5
WRAB	Tennant Creek	42.48	267	eP	P	21 24 20.9	-0.6
	62nm,0.6s,mb5.3						
WRAB				eS	S	21 30 04.0	-2.5
WRA	Warramunga Arr	42.49	267	P	P	21 24 21.3	-0.3
	34nm,0.4s,mb5.2,baz=102,slow=8.3,SNR=449						
WRA				PcP	PcP	21 26 02.3	-0.9
	4.5nm,0.8s,baz=107,slow=3.6,SNR=6.5						
WRA				S	S	21 30 04.3	-2.4
	8.1nm,0.9s,baz=100,slow=15,SNR=20						
FORT	Forrest	46.22	250	eP	P	21 24 49.7	-0.9
	344nm,0.5s						
KAKA	Kakadu	46.52	276	⇑iP	P	21 24 54.6	+1.5
	11nm,0.3s,mb4.9						
KAKA				eS	S	21 31 04.6	+1.3
FITZ	Fitzroy Crossi	50.90	266	⇑iP	P	21 25 25.6	-0.2
	39nm,0.6s,mb4.9						
FITZ				eS	S	21 32 03.5	+0.4
FITZ	Fitzroy Crossi	50.90	266	P	P	21 25 25.5	-0.3
	50nm,0.8s,mb4.9,baz=158,slow=6.2,SNR=141						
FITZ				S	S	21 32 05.3	+2.2
	3.5nm,0.8s,baz=355,slow=21,SNR=8.8						
SBA	Scott Base	53.81	183	eP	P	21 25 47.0	+1.1
	31nm,0.9s,mb4.6						
SBA				ePcP	PcP	21 26 43.3	-0.3
KLBR	Kellerberrin	54.87	248	eP	P	21 25 53.2	-0.9
	32nm,0.5s,mb4.8						
NWAO	Narrogin (SRO)	55.10	246	eP	P	21 25 54.3	-1.4
	30nm,1.1s,mb4.4						
MBWA	Marble Bar	55.39	260	eP	P	21 25 56.7	-1.1
	27nm,0.7s,mb4.6						
MUN	Mundaring	56.11	247	eP	P	21 26 02.3	-0.4
	66nm,0.4s,mb5.2						
CASY	Casey	59.64	206	eP	P	21 26 25.0	-1.1
	24nm,0.9s,mb4.5						
QSPA	South Pole Qui	65.60	180	⇑eP	P	21 27 04.7	+0.5
	39nm,0.7s,mb5.0						
MAW	Mawson	77.25	200	eP	P	21 28 12.5	+0.6
	19nm,0.6s,mb4.7						
MAW	Mawson	77.25	200	P	P	21 28 12.6	+0.7
	24nm,0.6s,mb4.8,baz=128,slow=6.5,SNR=111						
SYO	Syowa Base	82.47	193	⇓PcP	PcP	21 28 45.9	+2.6
SYO	Syowa Base	82.47	193	⇓pP	Px	21 30 21.1	
SYO	Syowa Base	82.47	193	⇑PP	PP	21 31 57.7	-0.6
MDJ	Mudanjiang	82.81	326	P	P	21 28 41.6	+0.3
	20nm,1.6s,mb4.4						
SNAA	Sanae	84.09	179	⇑i	P	21 28 46.6	-0.4
MTUM	Tungsten Hills	84.28	45	P	P	21 28 46.1	-2.6
VNA3	Neumayer Olymp	84.29	177	⇑i	P	21 28 50.7	+2.7
VNA2	Neumayer--Watz	84.71	178	⇑i	P	21 28 52.3	+2.2
VNA1	Neumayer--Stat	84.95	177	⇑i	P	21 28 54.4	+3.2
NVAR	Mina Array Bea	85.09	44	P	P	21 28 52.5	-0.1
	0.7nm,0.3s,mb3.7,baz=221,slow=8.3,SNR=3.5						
TPNV	Topopah Spring	85.55	46	P	P	21 28 54.0	-0.9
	5.5nm,0.7s,mb4.3						
ENH	Enshi	86.87	305	eP	P	21 29 02.0	+0.6
	10nm,0.9s,mb4.5						
BJT	Baijiatuau	87.52	316	P	P	21 29 04.2	0.0
	5.1nm,0.7s,mb4.4						
PLCA	Paso Flores	87.78	134	P	P	21 29 06.0	+0.6
	1.7nm,0.7s,mb3.9,baz=247,slow=7.5,SNR=3.9						
KMI	Kunming	89.64	298	eP	P	21 29 15.8	+1.4
KMI				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.2						
CMAR	Chiang Mai Arr	89.84	290	P	P	21 29 15.9	+0.4
	comp=Z,3.6nm,0.8s,mb4.2,baz=133,slow=3.3,SNR=22						
CMAR				PKKPbc		21 46 44.4	
	comp=Z,0.6nm,0.7s,baz=272,slow=4.5,SNR=5.2						
PDAR	Pinedale Array	93.03	44	P	P	21 29 29.5	-0.1
	comp=Z,0.9nm,0.7s,mb3.9,baz=270,slow=4.4,SNR=7.4						
MKAR	Makanchi Array	112.63	312	PKiKP		21 34 47.5	
	comp=Z,1.3nm,0.5s,baz=230,slow=1.3,SNR=27						
MKAR				PKKPbc		21 45 36.0	
	comp=Z,1.3nm,0.8s,baz=288,slow=3.8,SNR=7.1						
BDFB	Brasilia	118.38	125	PKP	PKPdf	21 34 59.4	-0.2
	comp=Z,1.7nm,0.5s,baz=156,slow=6.0,SNR=3.9						
SUR	Sutherland	120.11	200	PKP	PKPdf	21 35 04.0	+1.3
	comp=Z,8.2nm,0.6s,baz=134,slow=23,SNR=8.3						
SUR	Sutherland	120.11	200	PKP	PKPdf	21 35 04.0	+1.3
BVAR	Borovoye Array	120.95	318	PKP	PKPdf	21 35 04.0	+0.3
	comp=Z,4.2nm,0.4s,baz=122,slow=2.0,SNR=30						
KEV	Kevo	132.01	348	ep	PKPdf	21 35 24.0	-0.5
	comp=Z,0.5nm,0.3s						
ARCES	ARCESS Array B	132.48	348	PKP	PKPdf	21 35 25.8	+0.4
	comp=Z,2.4nm,0.5s,baz=92,slow=3.4,SNR=20						
TSUM	Tsumeb	133.37	203	PKP	PKPdf	21 35 30.0	+1.6
	comp=Z,3.0nm,0.7s,baz=318,slow=22,SNR=8.6						
KMBO	Kilima Mbogo	135.91	240	PKP	PKPdf	21 35 35.5	+2.2
	comp=Z,1.6nm,0.8s,baz=56,slow=20,SNR=5.6						
KAF	Kangasniemi	138.43	342	ep	PKPdf	21 35 25.1	-11
FINES	FINESS Array B	139.03	341	PKhKP		21 35 28.3	
	comp=Z,5.2nm,1.1s,baz=90,slow=3.8,SNR=15						
TATS	Tathlith	139.63	272	P	PKPdf	21 35 37.6	-2.2
AFFS	‘Afif	141.01	278	P	PKPdf	21 35 46.8	+4.6
ERZM	Erzurum	142.22	304	P	PKPdf	21 35 43.1	-0.6
HILS	Ha’il	142.54	284	P	PKPdf	21 35 44.2	-0.5
LTHS	Al Lith	142.61	272	P	PKPdf	21 35 45.5	+0.5
NB2	NORSAR Subarra	142.67	351	PKP		21 35 41.4	
	comp=Z,2.2nm,0.7s,baz=12,slow=3.6						
NB2	NORSAR Subarra	142.67	351	⇑PKPab	PKPdf	21 35 41.4	-2.5
NOA	NORSAR Array B	142.67	351	PKhKP	PKPdf	21 35 41.4	-2.4
	comp=Z,2.8nm,0.7s,baz=13,slow=2.3,SNR=9.5						
NOA	NORSAR Array B	142.67	351	PKP	PKPdf	21 35 41.4	-2.4
HFS	Hagfors	143.14	349	PKP	PKPdf	21 35 43.1	-1.6
	comp=Z,15nm,0.4s,baz=63,slow=3.3,SNR=132						
ELZG	Elazig	144.31	302	P	PKPdf	21 35 50.2	+2.8
MALT	Malatya	144.78	302	ePKPdf	PKPdf	21 35 50.5	+2.3
AKASG	Malin Array Be	145.52	327	PKPbc	PKPbc	21 35 49.7	-0.6
	comp=Z,3.9nm,0.4s,baz=40,slow=4.0,SNR=26						
YNBS	Yanbu‘ al Bahr	145.59	278	P	PKPdf	21 35 54.1	+4.0
GZT	Gaziantep	145.64	301	P	PKPdf	21 35 53.4	+3.6
SUW	Suwalki	145.84	336	eP	PKPdf	21 35 52.2	+2.6
UMJS	Umm Lajj	146.32	279	P	PKPdf	21 35 56.3	+5.1
BOYT	Boyabat	146.56	309	P	PKPdf	21 35 55.9	+4.7
COBT	Iskenderun	146.82	300	P	PKPdf	21 35 56.7	+5.0
ASF	Jabal al Asfar	146.86	292	PKPbc	PKPbc	21 35 56.7	+2.6
	comp=Z,14nm,0.8s,baz=346,slow=2.4,SNR=26						
TBKS	Tabuk	147.23	285	P	PKPdf	21 35 58.3	+5.7
KSHT	Keshet	147.71	293	P	PKPdf	21 35 59.4	+6.1
KSHT	Keshet	147.71	293	⇑P	PKPdf	21 35 59.4	+6.1
HRI	Mount Hermon	147.74	294	P	PKPdf	21 35 59.3	+6.0
HRI	Mount Hermon	147.74	294	⇑P	PKPdf	21 35 59.3	+6.0
JMQS	Jabal Moqyreh	147.83	286	P	PKPdf	21 35 59.8	+6.2
GLH	Golan-Tel Qazi	147.87	293	P	PKPdf	21 35 59.9	+6.4
GLH	Golan-Tel Qazi	147.87	293	⇑P	PKPdf	21 35 59.9	+6.4
HMDT	Nahal Hemdat	148.01	292	P	PKPdf	21 36 00.1	+6.3
BRTR	Keskin Array B	148.02	306	PKPbc	PKPdf	21 35 58.5	+4.9
	comp=Z,5.1nm,0.8s,baz=333,slow=2.8,SNR=26						
MMLI	Mount Malkishu	148.09	292	P	PKPdf	21 36 00.4	+6.5
MMLI	Mount Malkishu	148.09	292	⇑P	PKPdf	21 36 00.4	+6.5
DRGI	Dragot	148.18	291	P	PKPdf	21 36 00.2	+6.1
HNTI	Hanita	148.23	294	P	PKPdf	21 36 00.2	+6.1
AYUS	‘Aynunah	148.36	284	P	PKPdf	21 36 00.7	+6.3
ZFRI	Zfri	148.42	289	P	PKPdf	21 36 01.0	+6.5
ZFRI	Zfri	148.42	289	⇑P	PKPdf	21 36 01.0	+6.5
SLTI	Sal’it	148.42	292	P	PKPdf	21 36 01.0	+6.6
SLTI	Sal’it	148.42	292	⇑P	PKPdf	21 36 01.0	+6.6
OFRI	‘Ofer	148.43	293	P	PKPdf	21 36 00.5	+6.1
OFRI	‘Ofer	148.43	293	⇑P	PKPdf	21 36 00.5	+6.1
GKP	Gorka Klasztor	148.49	340	eP	PKPdf	21 35 59.8	+6.0
JMOS	Jabal al Moall	148.51	286	P	PKPdf	21 36 01.3	+6.6
BDAS	Al Bad‘	148.51	285	P	PKPdf	21 36 01.1	+6.4
ALWS	Ilw as Safayha	148.55	287	P	PKPdf	21 36 01.4	+6.7
AQBJ	Aqaba	148.55	287	P	PKPdf	21 36 01.4	+6.7
PRNI	Paran	148.57	289	P	PKPdf	21 36 01.4	+6.7
PRNI	Paran	148.57	289	⇑P	PKPdf	21 36 01.4	+6.7
EIL	Elat	148.64	287	P	PKPdf	21 36 01.6	+6.7
HAQS	Haql	148.66	286	P	PKPdf	21 36 01.7	+6.8
MBH	Mount Berech	148.67	287	P	PKPdf	21 36 01.7	+6.8
MBH	Mount Berech	148.67	287	⇑P	PKPdf	21 36 01.7	+6.8
MASH	Mash‘abbe Sade	148.73	290	P	PKPdf	21 36 01.5	+6.5
KMTI	Karmit	148.83	288	P	PKPdf	21 36 01.7	+6.6
KZIT	Kziot	149.07	290	P	PKPdf	21 36 02.5	+7.0
EKA	Eskdalemuir Ar	149.09	4	PKPbc	PKPdf	21 36 00.2	+5.5
	comp=Z,1.9nm,0.4s,baz=346,slow=2.5,SNR=16						
KWP	Kalwaria	149.33	331	eP	PKPdf	21 36 02.2	+6.9
CSS	Prodhromos	149.46	298	ePKPbc	PKPdf	21 36 02.3	+6.3
BSEG	Bad Segeberg	149.61	348	ePKPbc	PKPdf	21 36 02.5	+6.9
MLR	Muntele Rosu	150.44	322	PKPbc	PKPdf	21 36 04.5	+7.3
	comp=Z,3.8nm,0.4s,baz=17,slow=11,SNR=18						
KSP	Ksiaz	150.87	339	ePKP	PKPdf	21 36 05.8	+8.1
OKC	Ostrava-Krasne	151.05	336	ePKPbc	PKPdf	21 36 06.0	+8.0
ULDT	Uludag	151.10	310	P	PKPdf	21 36 06.6	+8.3
UPC	Upice	151.25	339	ePKPbc	PKPdf	21 36 06.4	+8.2
DPC	Dobruska-Polom	151.28	338	ePKPbc	PKPdf	21 36 06.6	+8.3
CLL	Collm	151.44	343	⇑iPKP1	PKPdf	21 36 06.4	+7.9
CLL				e*PPKP		21 38 07.0	
BRG	Berggiesshubel	151.57	341	⇑iP	PKPdf	21 36 07.0	+8.3
CLZ	Clausthal	151.58	347	ePKPbc	PKPdf	21 36 07.4	+8.8
PVCC	Panska Ves	151.69	340	ePKPbc	PKPdf	21 36 07.6	+8.8
PRU	Pruhonice	152.17	340	ePKPbc	PKPdf	21 36 08.1	+8.6
KHC	Kasperske Hory	153.23	340	ePKPdf	PKPdf	21 36 02.0	+1.0
KHC				PKPbc	PKPdf	21 36 10.6	+10
KHC	Kasperske Hory	153.23	340	eP	PKPdf	21 36 02.0	+1.0
KHC				e		21 36 10.6	
GEC2	GERESS Array S	153.44	340	ePKPbc	PKPdf	21 36 11.1	+10
GERES	GERESS Array B	153.44	340	PKP	PKPdf	21 36 02.4	+1.1
	comp=Z,0.5nm,0.8s,baz=315,slow=1.9,SNR=5.3						
GERES				PKPbc	PKPdf	21 36 10.5	+9.2
	comp=Z,1.1nm,0.6s,baz=25,slow=2.6,SNR=13						
DAVOX	Davos	156.42	343	PKPab	PKPab	21 36 38.8	-0.6
	comp=Z,1.6nm,0.5s,baz=139,slow=3.1,SNR=7.6						
LIC	Lamto	161.18	164	eP	PKPab	21 36 59.6	-1.3
	comp=Z,53nm,1.2s						
KIC	Kosan Boka	161.38	165	eP	PKPab	21 37 00.7	-1.1
	comp=Z,33nm,0.8s						
TIC	Toumodi	161.59	164	eP	PKPab	21 37 02.0	-0.7
	comp=Z,85nm,1.1s						
DBIC	Dimbokro	161.66	164	PKP	PKPdf	21 36 12.8	+0.6
	comp=Z,4.8nm,1.0s,baz=334,slow=6.8,SNR=3.7						
DBIC				PKPab	PKPab	21 37 02.2	-0.8
	comp=Z,20nm,1.3s,baz=150,slow=7.5,SNR=5.0						

LDG ***18*** *21:30:27.4±0.4, 42.86N×1.51W, h2^{km}, Md2.4/2, Ml1.9/7, Error ellipse: s-maj=5.9km s-min=4.9km az=39.0*
STR ***18*** *21:30:27.5±0.1, 42.85N×1.48W, h5^{km}±1^{km}, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD ***18*** *21:30:28.7±0.4, 42.88N×1.42W, h8^{km}±4^{km}, mbLg1.4/7, Error ellipse: s-maj=3.5km s-min=2.6km az=27.0, AftershockPLICA PRXIMO*

ISC 18 21:30:26.6±0.5**, 42.86N**±0.03×**1.45W**±0.04**, h8**^{km}**, n22,** σ1^{s}**33**/39**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJPF	Ste Jean	0.30	33	ePg	Pg	21 30 34.0	+1.2
SJPF				eSg	Sg	21 30 36.9	0.0
	30nm,0.3s						
EALK	Alkurruntz	0.36	353	Pg	Pg	21 30 35.2	+1.3
	1.1nm,0.1s,SNR=21						
EALK				Lg		21 30 40.5	
	7.4nm,0.1s,SNR=5.0						
LARF	Larrau	0.38	63	Pg	Pg	21 30 35.5	+1.1
LARF				Sg	Sg	21 30 41.3	+1.8
LARF	Larrau	0.38	63	P	Pg	21 30 35.5	+1.1
LARF				S	Sg	21 30 41.2	+1.6
OSSF	Osses	0.41	19	Pg	Pg	21 30 35.9	+0.9
OSSF				Sg	Sg	21 30 42.1	+1.4
OSSF	Osses	0.41	19	P	Pg	21 30 36.1	+1.0
OSSF				S	Sg	21 30 42.1	+1.5
ORDF	Ordiarp	0.51	47	Pg	Pg	21 30 37.9	+0.9
ORDF				Sg	Sg	21 30 45.3	+1.4
ORDF	Ordiarp	0.51	47	P	Pg	21 30 37.9	+0.9
ORDF				S	Sg	21 30 45.4	+1.5
ATE	Arette	0.59	68	P	Pg	21 30 39.3	+0.8
ATE				S	Sg	21 30 47.5	+1.0
ETSF	Etsaut	0.65	87	ePg	Pg	21 30 39.8	0.0
ETSF				eSg	Sg	21 30 48.6	+0.1
	5.1nm,0.2s						
EPF	Esparros	1.32	82	ePg	Pg	21 30 54.0	+0.9
EPF				eSg	Sg	21 31 10.6	-0.1
	5.6nm,0.2s						
ESAC	San Caprasio	1.35	147	Pg	Pg	21 30 53.1	-0.6
	3.5nm,0.1s,SNR=9.3						
ESAC				Lg		21 31 11.1	
	3.5nm,0.1s,SNR=5.0						
ELAN	Lanestosa	1.50	285	Pg	Pg	21 30 56.3	-0.3
	0.6nm,0.1s,SNR=5.9						
ELAN				Lg		21 31 17.4	
	1.4nm,0.3s,SNR=5.0						
ETOR	Torete	2.09	193	Pn	Pn	21 31 04.0	+1.6
	SNR=7.9						
ETOR				Pg	Pg	21 31 07.2	-1.2
	0.5nm,0.3s,SNR=9.0						
ETOR				Sn	Sn	21 31 31.1	+2.2
	SNR=7.9						
ETOR				Lg		21 31 32.0	
	1.1nm,0.2s,SNR=5.0						
EPOB	Poblet	2.41	128	Lg		21 31 41.9	
	0.8nm,0.2s,SNR=7.9						
LFF	La Frestale	2.61	37	ePn	Pn	21 31 09.0	-0.8
LFF				eSg	Sg	21 31 49.0	-4.5
	0.6nm,0.2s						
MTLF	Montolieu	2.73	79	ePn	Pn	21 31 11.7	+0.2
MTLF				eSn	Sn	21 31 44.1	-0.8
	0.6nm,0.2s						
RJF	Les Rejaudoux	3.24	40	ePn	Pn	21 31 17.1	-1.7
RJF				eSn	Sn	21 31 55.3	-2.7
	0.5nm,0.2s						
CAF	Calviac	3.27	50	ePn	Pn	21 31 17.8	-1.4
CAF				eSn	Sn	21 31 56.3	-2.4
	0.4nm,0.2s						
MFF	Saint Martin d	3.85	13	ePn	Pn	21 31 25.9	-1.6
MFF				eSn	Sn	21 32 09.4	-4.0
	0.7nm,0.2s						
LASF	Ste Croix	4.05	71	ePn	Pn	21 31 28.8	-1.4
LASF				eSn	Sn	21 32 15.2	-3.2
	0.5nm,0.3s						
VIVF	Saint-Julien-l	4.85	64	ePn	Pn	21 31 39.4	-2.3

LDG ***18*** *21:35:59.3±0.3, 42.86N×1.53W, h2^{km}, Md2.6/2, Ml2.7/8, Error ellipse: s-maj=4.6km s-min=3.1km az=45.0*
NEIC ***18*** *21:35:59.3, 42.86N×1.53W, h2^{km}, ML2.7(LDG), ML2.6(STR), MN2.0(MDD), After LDG.*
STR ***18*** *21:35:59.8±0.5, 42.88N×1.47W, h5^{km}±1^{km}, Ml2.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD ***18*** *21:36:00.6±0.3, 42.86N×1.42W, h4^{km}±4^{km}, mbLg2.1/13, Error ellipse: s-maj=2.8km s-min=1.8km az=42.0, PRXIMO AftershockPLICA*

ISC 18 21:35:58.6±0.5**, 42.86N**±0.02×**1.47W**±0.03**, h11**^{km}±3^{km}**, n50,** σ1^{s}**39**/93**, 1C, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJPF	Ste Jean	0.31	35	ePg	Pg	21 36 06.0	+0.9
SJPF				eSg	Sg	21 36 08.7	-0.7
	362nm,0.3s						
EALK	Alkurruntz	0.36	356	⇑Pg	Pg	21 36 07.1	+1.0
	17nm,0.2s,SNR=18						
EALK				Lg		21 36 12.7	
	63nm,0.2s,SNR=16						
LARF	Larrau	0.40	63	Pg	Pg	21 36 07.1	+0.4
LARF				Sg	Sg	21 36 13.3	+1.2
LARF	Larrau	0.40	63	P	Pg	21 36 07.3	+0.6
LARF				S	Sg	21 36 12.8	+0.7
OSSF	Osses	0.42	21	Pg	Pg	21 36 07.9	+0.6
OSSF	Osses	0.42	21	P	Pg	21 36 08.0	+0.7
OSSF				S	Sg	21 36 14.2	+1.2
ORDF	Ordiarp	0.53	48	Pg	Pg	21 36 09.9	+0.6
ORDF				Sg	Sg	21 36 17.1	+0.7
ORDF	Ordiarp	0.53	48	P	Pg	21 36 10.0	+0.7
ORDF				S	Sg	21 36 17.2	+0.8
ATE	Arette	0.61	68	P	Pb	21 36 11.0	+0.3
ATE				S	Sg	21 36 19.3	+0.2
FDAF	Les Forges d’A	0.67	93	Pg	Pg	21 36 12.6	+0.6
FDAF				Sg	Sg	21 36 23.0	+2.1
FDAF	Les Forges d’A	0.67	93	P	Pb	21 36 11.9	+0.2
FDAF				S	Sb	21 36 21.2	+0.5
ETSF	Etsaut	0.67	86	ePg	Pg	21 36 11.7	-0.4

ETSF				*e*Sg	**Sg**	**21 36 20.6**	**-0.5**
	27nm,0.2s						
REYF	**Montagne du Re**	**0.82**	**75**	Pg	**Pg**	**21 36 15.1**	**+0.1**
REYF				Sg	**Sg**	**21 36 26.4**	**+0.4**
REYF	**Montagne du Re**	**0.82**	**75**	P	**Pb**	**21 36 15.2**	**+0.8**
REYF				S	**Sb**	**21 36 26.1**	**+0.9**
VIEF	**Viey**	**1.10**	**88**	Pg	**Pg**	**21 36 19.7**	**-0.9**
VIEF	**Viey**	**1.10**	**88**	P	**Pb**	**21 36 19.5**	**+0.3**
VIEF				S	**Sb**	**21 36 35.2**	**+1.9**
LABF	**Labassere**	**1.15**	**80**	P	**Pb**	**21 36 21.1**	**+1.1**
LABF				S	**Sb**	**21 36 36.2**	**+1.5**
RESF	**Ens**	**1.33**	**92**	Pn	**Pn**	**21 36 24.3**	**+1.1**
RESF	**Ens**	**1.33**	**92**	P	**Pb**	**21 36 25.1**	**+1.9**
RESF				S	**Sb**	**21 36 42.9**	**+2.9**
EPF	**Esparros**	**1.34**	**82**	*e*Pn	**Pn**	**21 36 24.0**	**+0.7**
EPF				*e*Pg	**Pg**	**21 36 26.0**	**+0.6**
EPF				*e*Sg	**Sg**	**21 36 42.8**	**-0.5**
	23nm,0.3s						
ESAC	**San Caprasio**	**1.36**	**147**	Pg	**Pg**	**21 36 24.3**	**-1.4**
	14nm,0.1s,SNR=31						
ESAC				Lg		21 36 42.5	
	81nm,0.3s,SNR=13						
ESAC	**San Caprasio**	**1.36**	**147**	Pg	**Pg**	**21 36 25.0**	**-0.8**
ESAC				Lg		21 36 42.5	
ELAN	**Lanestosa**	**1.49**	**285**	Pn	**Pn**	**21 36 28.1**	**+2.6**
	2.2nm,0.2s,SNR=26						
ELAN				Lg		21 36 49.3	
	11nm,0.4s,SNR=5.0						
ELAN	**Lanestosa**	**1.49**	**285**	Pn	**Pn**	**21 36 28.1**	**+2.6**
ELAN				Sn	**Sn**	**21 36 49.1**	**+4.1**
MELF	**Melles**	**1.64**	**89**	Pg	**Pg**	**21 36 31.0**	**-0.3**
MELF				Sg	**Sg**	**21 36 52.8**	**-0.4**
MELF	**Melles**	**1.64**	**89**	P	**Pn**	**21 36 30.9**	**+3.2**
MELF				S	**Sn**	**21 36 52.3**	**+3.5**
SALF	**Salau**	**1.96**	**92**	P	**Pn**	**21 36 36.4**	**+4.2**
SALF				S	**Sn**	**21 37 01.5**	**+4.5**
ETOR	**Torete**	**2.08**	**192**	Pn	**Pn**	**21 36 35.7**	**+1.7**
	0.2nm,0.1s,SNR=13						
ETOR				Pg	**Pg**	**21 36 39.8**	**-0.4**
	9.0nm,0.3s,SNR=22						
ETOR				Lg		21 37 03.6	
	25nm,0.3s,SNR=5.0						
EMIR	**Miracle**	**2.41**	**112**	Pn	**Pn**	**21 36 37.3**	**-1.4**
	0.5nm,0.2s,SNR=4.0						
EMIR				Pg	**Pg**	**21 36 44.9**	**-1.8**
	13nm,0.5s,SNR=7.9						
EMIR				Lg		21 37 16.8	
	3.9nm,0.3s,SNR=5.0						
EPOB	**Poblet**	**2.42**	**128**	Pn	**Pn**	**21 36 38.9**	**+0.1**
	0.3nm,0.1s,SNR=7.8						
EPOB				Pg	**Pg**	**21 36 44.3**	**-2.7**
	SNR=7.9						
EPOB				Lg		21 37 13.7	
	3.3nm,0.3s,SNR=5.0						
EPOB	**Poblet**	**2.42**	**128**	Pn	**Pn**	**21 36 38.9**	**+0.1**
EPOB				Pg	**Pg**	**21 36 44.5**	**-2.5**
EPOB				Lg		21 37 13.7	
EBR	**Ebro Roquetas**	**2.51**	**144**	*e*SG	**Sg**	**21 37 18.5**	**-3.7**
EBR				*e*S*S*		21 37 23.0	
EMOS	**Mosqueruela**	**2.60**	**163**	Pn	**Pn**	**21 36 44.1**	**+2.7**
	0.2nm,0.1s,SNR=6.7						
EMOS				Pg	**Pg**	**21 36 48.2**	**-2.4**
	SNR=4.0						
EMOS				Lg		21 37 20.3	
	1.9nm,0.2s,SNR=6.0						
EMOS	**Mosqueruela**	**2.60**	**163**	Pn	**Pn**	**21 36 43.4**	**+2.0**
EMOS				Pg	**Pg**	**21 36 48.2**	**-2.4**
EMOS				Lg		21 37 20.3	
LFF	**La Frestale**	**2.62**	**37**	*e*Pg	**Pg**	**21 36 48.5**	**-2.5**
LFF				*e*Sn	**Sn**	**21 37 12.1**	**-1.7**
CARF	**Carcanieres**	**2.63**	**92**	S	**Sn**	**21 37 23.1**	**+8.9**
MTLF	**Montolieu**	**2.74**	**79**	*e*Pn	**Pn**	**21 36 44.4**	**+1.0**
MTLF				*e*Pg	**Pg**	**21 36 51.0**	**-2.4**
MTLF				*e*Sn	**Sn**	**21 37 16.3**	**-0.6**
	5.5nm,0.4s						
EJON	**La Jonquera**	**3.24**	**96**	Pg	**Pg**	**21 36 58.6**	**-4.7**
	0.1nm,0.1s,SNR=7.9						
EJON				Lg		21 37 43.2	
	1.5nm,0.4s,SNR=7.9						
EJON	**La Jonquera**	**3.24**	**96**	Pn	**Pn**	**21 36 46.9**	**-3.6**
EJON				Lg		21 37 39.4	
RJF	**Les Rejaudoux**	**3.26**	**40**	*e*Pn	**Pn**	**21 36 49.2**	**-1.5**
RJF				*e*Sn	**Sn**	**21 37 27.1**	**-2.8**
	3.7nm,0.2s						
CAF	**Calviac**	**3.29**	**50**	*e*Pn	**Pn**	**21 36 50.1**	**-1.0**
CAF				*e*Sn	**Sn**	**21 37 28.7**	**-1.9**
	3.6nm,0.2s						
ESDC	**Sonseca Array**	**3.69**	**211**	Pn	**Pn**	**21 36 56.2**	**-0.7**
	0.2nm,0.3s,baz=38,slow=14,SNR=7.6						
ESDC				Pg	**Pg**	**21 37 08.9**	**-3.5**
	1.2nm,0.7s,baz=34,slow=17,SNR=6.9						
ESDC				Sn	**Sn**	**21 37 39.7**	**-1.3**
	0.4nm,0.3s,baz=36,slow=24,SNR=4.0						
ESDC				Lg		21 37 57.7	
	1.6nm,0.5s,baz=37,slow=29,SNR=8.9						
ESDC	**Sonseca Array**	**3.69**	**211**	Pn	**Pn**	**21 36 58.7**	**+1.8**
ESDC				Pg	**Pg**	**21 37 08.9**	**-3.5**
ESDC				Sn	**Sn**	**21 37 41.1**	**+0.1**
ESDC				Lg		21 37 57.7	
MFF	**Saint Martin d**	**3.86**	**14**	*e*Pn	**Pn**	**21 36 57.8**	**-1.5**
MFF				*e*Sn	**Sn**	**21 37 41.6**	**-3.6**
	3.3nm,0.3s						
ECAL	**Calabor**	**4.01**	**259**	Pn	**Pn**	**21 37 01.4**	**0.0**
	SNR=7.9						
ECAL				Sn	**Sn**	**21 37 49.4**	**+0.5**
	4.6nm,0.3s,SNR=4.9						
ECAL				Lg		21 38 05.1	
	11nm,0.5s,SNR=7.9						
ECAL	**Calabor**	**4.01**	**259**	Pn	**Pn**	**21 37 01.8**	**+0.4**
ECAL				Sn	**Sn**	**21 37 51.4**	**+2.5**
LASF	**Ste Croix**	**4.06**	**71**	*e*Pn	**Pn**	**21 37 01.0**	**-1.2**
LASF				*e*Sn	**Sn**	**21 37 47.5**	**-2.8**
LASF				*e*Sg	**Sg**	**21 38 08.9**	**-5.0**
	4.4nm,0.6s						
ETOB	**Tobarra**	**4.21**	**181**	Pn	**Pn**	**21 37 04.4**	**+0.1**
	0.2nm,0.2s,SNR=4.0						
TCF	**Toulx Ste Croi**	**4.32**	**36**	*e*Pn	**Pn**	**21 37 02.9**	**-2.9**
TCF				*e*Sn	**Sn**	**21 37 53.2**	**-3.6**
	2.4nm,0.3s						
BGF	**Bois d’Agland**	**4.81**	**38**	*e*Pn	**Pn**	**21 37 09.4**	**-3.4**
BGF				*e*Sn	**Sn**	**21 38 04.4**	**-4.8**
	3.8nm,0.4s						

SOF ***18*** *21:40:01.4, 40.36N×25.89E, h2^{km}, MD3.0*
ISK ***18*** *21:40:02.8, 40.40N×25.96E, h10^{km}, MD3.4, ML3.6*
THE ***18*** *21:40:03.2, 40.29N×26.17E, h24^{km}*
ATH ***18*** *21:40:04.0, 40.45N×26.04E, h45^{km}, MD3.5/3*
ISC 18 21:40:03.3±0.7**, 40.40N**±0.03×**25.98E**±0.03**, h8**^{km}±6^{km}**, n40, σ0^{s}71**/49**, 3C, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPK	**Lapseki**	**0.60**	**93**	*i* PG	**Pg**	**21 40 15.3**	**0.0**
EZN	**Ezine**	**0.63**	**155**	*i* PG	**Pg**	**21 40 15.5**	**-0.5**
EZN				SG	**Sg**	**21 40 25.0**	**+0.5**
RDO	**Rodhopi**	**0.81**	**336**	*e*P	**Pb**	**21 40 20.0**	**+0.7**
RDO				*e*S	**Sb**	**21 40 31.0**	**+0.8**
LOS	**Limnos**	**0.83**	**236**	*e*Pg	**Pg**	**21 40 19.9**	**-0.1**
LOS				*e*Sg	**Sg**	**21 40 32.0**	**+0.9**
MFT	**Murefte**	**1.06**	**68**	*i* PN	**Pn**	**21 40 23.9**	**-0.5**
PRK	**Paraskevi**	**1.18**	**169**	*e*P	**Pb**	**21 40 25.5**	**+0.1**
PRK				*e*S	**Sb**	**21 40 41.5**	**+0.8**
KDZ	**Kurdzhali**	**1.32**	**341**	*i* P	**Pb**	**21 40 27.5**	**-0.4**
EDC	**Edincik**	**1.44**	**92**	*i* PN	**Pn**	**21 40 29.7**	**-0.1**
BNT	**Bandirma**	**1.48**	**91**	*i* PN	**Pn**	**21 40 30.0**	**-0.4**
EDRB	**Edirne**	**1.56**	**22**	PN	**Pn**	**21 40 31.4**	**0.0**
RZN	**Rozhen**	**1.60**	**324**	*i* P	**Pn**	**21 40 32.0**	**-0.1**
BALB	**Balikesir**	**1.65**	**117**	*e*PN	**Pn**	**21 40 32.9**	**+0.2**
DIM	**Dimitrovgrad**	**1.68**	**349**	*i* P	**Pn**	**21 40 35.0**	**+1.8**
KCT	**Karacabey**	**1.82**	**94**	PN	**Pn**	**21 40 35.0**	**-0.2**
PLG	**Polygyros**	**1.94**	**270**	*e*P	**Pn**	**21 40 36.0**	**-0.9**
SRS	**Serrai**	**1.95**	**292**	*e*Pn	**Pn**	**21 40 36.4**	**-0.6**
SRS				*e*Sn	**Sn**	**21 41 02.4**	**+0.4**
PLD	**Plovdiv**	**1.95**	**331**	*i* P	**Pn**	**21 40 40.0**	**+2.9**
CTT	**Catalca**	**2.00**	**67**	PN	**Pn**	**21 40 36.9**	**-1.0**
SOH	**Sokhos**	**2.04**	**283**	*e*Pn	**Pn**	**21 40 37.5**	**-0.9**
MMB	**Musomiste**	**2.08**	**306**	*i* P	**Pn**	**21 40 38.0**	**-0.9**
AKS	**Akhisar**	**2.08**	**136**	*e*PN	**Pn**	**21 40 39.2**	**+0.3**
JMB	**Yambol**	**2.11**	**12**	*i* P	**Pn**	**21 40 40.0**	**+0.6**
DST	**Dursunbey**	**2.19**	**111**	PN	**Pn**	**21 40 40.5**	**+0.1**
ARMT	**Armutlu**	**2.21**	**85**	*e*PN	**Pn**	**21 40 40.6**	**-0.1**
KDAG	**Bornova**	**2.23**	**153**	⇑*i*P	**Pn**	**21 40 41.9**	**+0.8**
KDAG				S	**Sn**	**21 41 14.9**	**+5.8**
IZM	**Izmir**	**2.23**	**153**	PN	**Pn**	**21 40 41.1**	**-0.1**
ORLT	**Orhaneli**	**2.26**	**98**	*e*PN	**Pn**	**21 40 42.1**	**+0.6**
XOR	**Xorichti**	**2.38**	**245**	*e*Pn	**Pn**	**21 40 41.0**	**-2.2**
ULDT	**Uludag**	**2.43**	**95**	⇑*i*P	**Pn**	**21 40 48.0**	**+4.0**
ULDT				S	**Sn**	**21 41 20.4**	**+6.2**
BADT	**Buyukada**	**2.43**	**78**	*e*PN	**Pn**	**21 40 44.0**	**0.0**
ISK	**Istanbul-Kandi**	**2.43**	**73**	*e*PN	**Pn**	**21 40 44.0**	**0.0**
YLV	**Yalova**	**2.59**	**85**	*e*PN	**Pn**	**21 40 46.2**	**-0.1**
KKB	**Krupnik**	**2.63**	**305**	*i* P	**Pn**	**21 40 46.0**	**-0.8**
GRG	**Griva**	**2.78**	**283**	*e*Pn	**Pn**	**21 40 48.6**	**-0.3**
GRG				*e*Sn	**Sn**	**21 41 23.4**	**+0.5**
PVL	**Pavlikeni**	**2.85**	**350**	*i* P	**Pn**	**21 40 50.0**	**0.0**
VTS	**Vitosha**	**3.02**	**317**	*i* P	**Pn**	**21 40 52.0**	**-0.3**
ALT	**Altintas**	**3.46**	**112**	*e*PN	**Pn**	**21 40 58.6**	**0.0**
ESKT	**Eskisehir**	**3.85**	**102**	⇑*i*P	**Pn**	**21 41 03.9**	**-0.2**
ESKT				S	**Sg**	**21 42 06.0**	**-5.3**
ESKT	**Eskisehir**	**3.85**	**102**	*e*PN	**Pn**	**21 41 03.7**	**-0.4**
KIZT	**Kizilcal**	**4.80**	**107**	*e*PN	**Pn**	**21 41 17.4**	**-0.3**

LDG ***18*** *21:41:21.5±0.4, 42.88N×1.54W, h2^{km}, Md2.6/2, Ml2.3/9, Error ellipse: s-maj=5.7km s-min=3.8km az=61.0*
STR ***18*** *21:41:21.7±0.6, 42.87N×1.51W, h5^{km}±1^{km}, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD ***18*** *21:41:22.7±0.4, 42.87N×1.43W, h7^{km}±4^{km}, mbLg1.7/8, Error ellipse: s-maj=3.2km s-min=2.3km az=30.0, AftershockPLICA PRXIMO*
ISC 18 21:41:19.9±0.5**, 42.88N**±0.03×**1.52W**±0.04**, h7**^{km}**, n31, σ1^{s}40**/57**, 1C, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	**0.32**	**42**	*e*Pg	**Pg**	**21 41 28.1**	**+1.7**
SJPF				*e*Sg	**Sg**	**21 41 31.1**	**+0.3**
	61nm,0.3s						
EALK	**Alkurruntz**	**0.34**	**2**	⇑Pg	**Pg**	**21 41 29.2**	**+2.4**
	2.7nm,0.1s,SNR=18						
EALK				Lg		21 41 35.2	
	23nm,0.2s,SNR=5.0						
LARF	**Larrau**	**0.42**	**67**	Pg	**Pg**	**21 41 29.6**	**+1.2**
LARF				Sg	**Sg**	**21 41 35.4**	**+1.2**
LARF	**Larrau**	**0.42**	**67**	P	**Pg**	**21 41 29.4**	**+0.9**
LARF				S	**Sg**	**21 41 35.3**	**+1.2**
OSSF	**Osses**	**0.42**	**27**	Pg	**Pg**	**21 41 30.0**	**+1.5**
OSSF				Sg	**Sg**	**21 41 36.4**	**+2.2**
OSSF	**Osses**	**0.42**	**27**	P	**Pg**	**21 41 30.2**	**+1.7**
OSSF				S	**Sg**	**21 41 36.3**	**+2.1**
ORDF	**Ordiarp**	**0.55**	**52**	Pg	**Pg**	**21 41 32.0**	**+1.1**
ORDF				Sg	**Sg**	**21 41 39.5**	**+1.3**
ORDF	**Ordiarp**	**0.55**	**52**	P	**Pg**	**21 41 32.1**	**+1.3**
ORDF				S	**Sg**	**21 41 39.5**	**+1.4**
ATE	**Arette**	**0.64**	**71**	P	**Pg**	**21 41 33.2**	**+0.5**
ATE				S	**Sg**	**21 41 41.7**	**+0.5**
FDAF	**Les Forges d’A**	**0.70**	**94**	Pg	**Pg**	**21 41 34.3**	**+0.3**
FDAF	**Les Forges d’A**	**0.70**	**94**	P	**Pg**	**21 41 34.3**	**+0.3**
FDAF				S	**Sg**	**21 41 43.9**	**+0.5**
ETSF	**Etsaut**	**0.71**	**88**	*e*Pg	**Pg**	**21 41 33.9**	**-0.2**
ETSF				*e*Sg	**Sg**	**21 41 42.6**	**-0.9**
	11nm,0.2s						
VIEF	**Viey**	**1.14**	**89**	S	**Sb**	**21 41 57.3**	**+1.2**
LABF	**Labassere**	**1.18**	**81**	S	**Sb**	**21 41 56.5**	**-1.1**
RESF	**Ens**	**1.37**	**92**	Pg	**Pg**	**21 41 48.0**	**+0.7**
RESF				Sg	**Sg**	**21 42 06.8**	**+1.3**
RESF	**Ens**	**1.37**	**92**	P	**Pb**	**21 41 47.1**	**+1.7**
RESF				S	**Sb**	**21 42 05.8**	**+2.9**
EPF	**Esparros**	**1.38**	**83**	*e*Pn	**Pn**	**21 41 46.0**	**+0.5**
EPF				*e*Pg	**Pg**	**21 41 48.1**	**+0.7**
EPF				*e*Sg	**Sg**	**21 42 04.7**	**-1.0**
	18nm,0.4s						
ESAC	**San Caprasio**	**1.39**	**146**	Pg	**Pg**	**21 41 47.2**	**-0.5**
	14nm,0.2s,SNR=22						
ESAC				Lg		21 42 05.0	
	25nm,0.3s,SNR=5.0						
ELAN	**Lanestosa**	**1.45**	**285**	Pg	**Pg**	**21 41 50.5**	**+1.7**
	0.9nm,0.1s,SNR=12						
ELAN				Lg		21 42 11.6	
	2.0nm,0.2s,SNR=5.0						
SALF	**Salau**	**2.00**	**92**	S	**Sn**	**21 42 24.1**	**+4.2**
ETOR	**Torete**	**2.09**	**191**	Pn	**Pn**	**21 41 57.1**	**+1.3**
	0.1nm,0.2s,SNR=5.3						
ETOR				Pg	**Pg**	**21 42 01.6**	**-0.1**
	2.5nm,0.3s,SNR=16						
ETOR				Lg		21 42 26.0	
	2.5nm,0.2s,SNR=5.0						
EPOB	**Poblet**	**2.46**	**127**	Pn	**Pn**	**21 42 01.0**	**-0.1**
	0.2nm,0.1s,SNR=7.9						
EPOB				Pg	**Pg**	**21 42 06.6**	**-2.5**
	SNR=7.9						
EPOB				Lg		21 42 35.9	
	2.2nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**2.63**	**162**	Pn	**Pn**	**21 42 03.5**	**0.0**
	SNR=4.0						
EMOS				Pg	**Pg**	**21 42 11.8**	**-0.6**
	SNR=4.0						
EMOS				Lg		21 42 42.4	
	0.3nm,0.1s,SNR=7.9						
LFF	**La Frestale**	**2.63**	**38**	*e*Pg	**Pg**	**21 42 10.6**	**-1.8**
LFF				*e*Sg	**Sg**	**21 42 43.0**	**-4.5**
	1.7nm,0.2s						
MTLF	**Montolieu**	**2.78**	**79**	*e*Pn	**Pn**	**21 42 05.7**	**+0.1**
MTLF				*e*Pg	**Pg**	**21 42 13.2**	**-2.1**
MTLF				*e*Sn	**Sn**	**21 42 38.4**	**-1.3**
	2.2nm,0.4s						
RJF	**Les Rejaudoux**	**3.27**	**41**	*e*Pn	**Pn**	**21 42 11.3**	**-1.3**
RJF				*e*Sn	**Sn**	**21 42 49.5**	**-2.6**
	1.5nm,0.2s						
CAF	**Calviac**	**3.30**	**50**	*e*Pn	**Pn**	**21 42 12.2**	**-0.9**
CAF				*e*Sn	**Sn**	**21 42 50.3**	**-2.7**
	0.9nm,0.2s						
MFF	**Saint Martin d**	**3.85**	**14**	*e*Pn	**Pn**	**21 42 19.9**	**-1.0**
MFF				*e*Sn	**Sn**	**21 43 03.6**	**-3.3**
	1.5nm,0.2s						
LASF	**Ste Croix**	**4.09**	**71**	*e*Pn	**Pn**	**21 42 23.4**	**-0.9**
LASF				*e*Sn	**Sn**	**21 43 09.4**	**-3.6**
	0.8nm,0.2s						
TCF	**Toulx Ste Croi**	**4.33**	**37**	*e*Pn	**Pn**	**21 42 25.1**	**-2.5**
TCF				*e*Sn	**Sn**	**21 43 14.7**	**-4.3**
	0.7nm,0.2s						
BGF	**Bois d’Agland**	**4.82**	**39**	*e*Pn	**Pn**	**21 42 31.7**	**-2.9**
BGF				*e*Sn	**Sn**	**21 43 26.4**	**-5.0**
	0.9nm,0.2s						

IDC 18 21:48:52.3±5.2**, 22.26S**×**174.05E, mb4.0**/3**, mb1 4.2**/3**, mb1mx3.9**/12**, MS3.6**/6**, Ms1 3.6**/6**, ms1mx3.4**/20**, Error ellipse: s-maj=281.0km s-min=39.2km az=156.0, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**24.33**	**92**	LR	LR	22 01 17.2	
	comp=Z,132nm,21.4s,baz=172,slow=31						
CTA	**Charters Tower**	**26.00**	**270**	LR	LR	22 03 14.8	
	comp=Z,153nm,18.9s,baz=297,slow=33						
STKA	**Stephens Creek**	**30.35**	**245**	LR	LR	22 05 27.5	
	comp=Z,91nm,20.4s,baz=25,slow=33						
ASAR	**Alice Springs**	**36.91**	**260**	P	P	21 56 03.2	-1.6
	1.6nm,0.8s,baz=87,slow=8.5,SNR=14						
ASAR				LR	LR	22 10 18.8	
	comp=Z,77nm,19.5s,baz=51,slow=35						
WRA	**Warramunga Arr**	**37.05**	**266**	P	P	21 56 03.3	-2.7
	0.6nm,0.8s,baz=103,slow=7.2,SNR=4.2						
WRA				LR	LR	22 11 01.5	
	comp=Z,145nm,18.1s,baz=270,slow=36						
FITZ	**Fitzroy Crossi**	**45.48**	**266**	P	P	21 57 14.2	-1.2
	5.5nm,0.8s,baz=101,slow=10,SNR=7.9						
FITZ				LR	LR	22 15 43.2	
	comp=Z,50nm,20.8s,baz=110,slow=35						
GERES	**GERESS Array B**	**149.22**	**334**	PKPbc	PKPdf	22 08 42.1	+1.9
	0.7nm,0.7s,baz=45,slow=1.9,SNR=9.1						
DAVOX	**Davos**	**152.39**	**336**	PKPbc	PKPdf	22 08 51.0	+5.9
	2.2nm,0.6s,baz=56,slow=7.3,SNR=3.8						

IDC ***18*** *21:49:38.4±2.5, 4.86S×104.07E, mb3.7/7, mb1 3.9/7, mb1mx3.7/16, Error ellipse: s-maj=132.0km s-min=16.6km az=53.0*
NEIC ***18*** *21:49:40.4±2.2, 4.95S×103.96E, h15^{km}, Error ellipse: s-maj=118.0km s-min=12.5km az=53.0*
ISC 18 21:49:40.2±2.5**, 5.1S**±0.5×**103.7E**±0.7**, h33**^{km}**, n9, σ0^{s}76**/9**, mb3.7**/7**, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**23.91**	**349**	P	**P**	**21 54 52.4**	**+0.2**
	0.7nm,0.6s,mb3.3,baz=178,slow=8.6,SNR=7.5						
FITZ	**Fitzroy Crossi**	**25.01**	**123**	P	**P**	**21 55 04.0**	**+1.2**
	4.2nm,1.1s,mb3.9,baz=315,slow=14,SNR=3.2						
WRA	**Warramunga Arr**	**33.24**	**119**	P	**P**	**21 56 15.7**	**-1.0**
	0.5nm,0.8s,mb3.5,baz=295,slow=8.9,SNR=3.9						
ASAR	**Alice Springs**	**34.43**	**125**	P	**P**	**21 56 27.0**	**+0.1**
	0.4nm,0.4s,mb3.7,baz=305,slow=8.3,SNR=14						
STKA	**Stephens Creek**	**44.32**	**132**	P	**P**	**21 57 48.8**	**-0.2**
	3.0nm,0.5s,mb4.2,baz=297,slow=9.4,SNR=15						
STKA	**Stephens Creek**	**44.32**	**132**	*e*P	**P**	**21 57 48.7**	**-0.4**
MKAR	**Makanchi Array**	**55.08**	**342**	P	**P**	**21 59 10.3**	**-0.9**
	0.7nm,0.6s,mb3.9,baz=148,slow=8.4,SNR=7.6						
MKAR				pP	pP	21 59 18.8	-2.6
	1.7nm,0.5s,baz=153,slow=8.1,SNR=12						
MKAR	**Makanchi Array**	**55.08**	**342**	P	**P**	**21 59 10.3**	**-1.0**
MKAR				pP	pP	21 59 18.8	-2.6
BVAR	**Borovoye Array**	**64.41**	**338**	P	**P**	**22 00 16.1**	**+0.8**
	0.3nm,0.5s,mb3.6,baz=143,slow=7.2,SNR=3.5						

BJI ***18*** *22:09:36.5, 48.26N×154.70E, h61^{km}, mB4.5, mb5.1, Ms4.1, Msz4.0*
NEIC ***18*** *22:09:37.6±0.7, 48.30N×154.42E, h41^{km}±6^{km}, mb4.9/97, Error ellipse: s-maj=4.2km s-min=2.7km az=154.0*
HRVD ***18*** *22:09:37.6±1.0, 48.40N×154.51E, h54^{km}±3^{km}, MW4.8/31, Centroid moment Tensor Solution. LP body waves: s16,c17;Mantle waves: s31,c41; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M$_{rr}$-1.56±.19; M$_{\theta\theta}$0.28±.14; M$_{\phi\phi}$1.28±.12; M$_{r\theta}$0.62±.10; M$_{\theta\phi}$0.53±.08; M$_{\phi r}$0.28±.08; Best double couple: M$_0$1.68×10^{16} NP1:φ$_s$10°,δ37°,λ-113°. NP2:φ$_s$218°,δ56°,λ-74°. Principal axes: T 1.6, Plg9°, Azm296°; N .16, Plg13°, Azm29°; P -1.75, Plg73°, Azm172°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
IDC ***18*** *22:09:37.9±0.6, 48.32N×154.39E, h44^{km}±5^{km}, mb4.6/30, mb1 4.7/32, mb1mx4.7/33, ML4.8/2, MS4.1/12, Ms1 4.1/12, ms1mx3.9/23 Error ellipse: s-maj=12.7km s-min=9.4km az=125.0*
SYO ***18*** *22:09:37.0, 48.26N×154.43E, h37^{km}, MB5.0, MS4.9*
SKHL ***18*** *22:09:39.8±5.0, 48.00N×154.30E, h34^{km}±14^{km}, mb5.4/7, mbh5.4/1, mbv5.3/2, ms4.3/4, msh5.5/2*
MOS ***18*** *22:09:39.9±1.2, 48.20N×154.36E, h83^{km}, mb4.8/48, Error ellipse: s-maj=9.0km s-min=6.1km az=88.9*
ISC 18 22:09:36.0±0.7**, 48.26N**±0.03×**154.49E**±0.04**, h42**^{km}±6^{km}**, h41**^{km}±.6^{km}**:pP-P, n382, σ0^{s}95**/373**, mb4.9**/142**, MS4.2**/28**, 28C-11D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKR	**Severo-Kuril’s**	**2.65**	**23**	⇑*i*P	**P**	**22 10 25.2**	**+8.0**
SKR				AMB	AMB	22 10 27.0	
	1µm,1.0s						
SKR				AMB	AMB	22 10 27.0	
	800nm,2.0s						
SKR				AMB	AMB	22 10 27.0	
	700nm,2.0s						
SKR				AMB	AMB	22 10 27.0	
	80nm,0.4s						
SKR				AMB	AMB	22 10 27.0	
	110nm,0.4s						
SKR				AMB	AMB	22 10 27.0	
	230nm,0.4s						
SKR				*i* S	**S**	**22 10 55.5**	**+7.2**
SKR				A		22 11 05.4	
	2µm,0.4s						
SKR				A		22 11 05.4	
	3µm,0.5s						
SKR				A		22 11 05.4	
	770nm,0.5s						
SKR				A		22 11 10.0	
	6µm,1.0s						
SKR				A		22 11 10.0	
	2µm,1.0s						
SKR				A		22 11 10.0	
	6µm,1.0s						
SKR				A		22 11 10.0	
	4µm,1.0s						
SKR				A		22 11 10.0	
	2µm,1.5s						
SKR				AMS	AMS	22 11 45.0	
	4µm,12.0s						
SKR				AMS	AMS	22 11 45.0	
	4µm,10.0s						
SKR				AMS	AMS	22 11 45.0	
	3µm,10.0s						
SKR	**Severo-Kuril’s**	**2.65**	**23**	⇑*i*PN	**P**	**22 10 25.2**	**+8.0**
SKR				*i* S	**S**	**22 10 55.5**	**+7.2**
SKR				pmax	pmax		
	comp=N,80nm,0.4s						
SKR				pmax	pmax		
	comp=E,110nm,0.4s						
SKR				pmax	pmax		
	comp=Z,230nm,0.4s						
SKR				pmax	pmax		
	comp=Z,1µm,1.0s						
SKR				smax			
	comp=E,2µm,0.4s						
SKR				smax			
	comp=E,3µm,0.5s						
SKR				smax			
	comp=N,6µm,1.0s						
SKR				smax			
	comp=E,4µm,1.0s						
SKR				MLR	MLR		
	comp=N,4µm,10.0s						
SKR				MLR	MLR		
	comp=Z,3µm,10.0s						
SKR				MLR	MLR		
	comp=E,4µm,12.0s						
PET	**Petropavlovsk**	**5.45**	**27**	*e*PN	**P**	**22 10 56.2**	**-0.7**
PET				pmax	pmax		
	comp=Z,167nm,0.5s						
PET				MLR	MLR		
	comp=Z,400nm,21.0s						
PET	**Petropavlovsk**	**5.45**	**27**	*e*Pn	**P**	**22 10 55.7**	**-1.2**
	comp=Z,37nm,0.3s						
PET				*e*Sn	**S**	**22 11 52.0**	**-7.2**
KUR	**Kuril’sk**	**5.47**	**239**	*e*P	**P**	**22 10 58.8**	**+1.7**
KUR				AMB	AMB	22 11 02.7	
	comp=Z,243nm,0.6s						
KUR				AMB	AMB	22 11 02.7	
	comp=Z,152nm,0.6s						
KUR				AMB	AMB	22 11 02.7	
	comp=Z,722nm,0.6s						
KUR				AMB	AMB	22 11 03.0	
	comp=Z,3µm,1.6s						
KUR				A		22 12 10.0	
	comp=Z,9µm,2.0s						
KUR				A		22 12 10.0	
	comp=Z,8µm,2.0s						
KUR				A		22 12 16.3	
	comp=Z,1µm,0.8s						
KUR				A		22 12 16.3	
	comp=Z,1µm,0.8s						
YUK	**Yuzh-Kuril’sk**	**7.33**	**238**	*e*P	**P**	**22 11 23.2**	**0.0**
YUK				AMB	AMB	22 11 23.7	
	comp=Z,2µm,0.6s						
YUK				AMB	AMB	22 11 24.5	
	comp=Z,210nm,0.4s						
YUK				AMB	AMB	22 11 24.5	
	comp=Z,120nm,0.4s						
YUK				AMB	AMB	22 11 24.5	
	comp=Z,990nm,0.4s						
YUK				A		22 12 57.0	
	comp=Z,500nm,0.6s						
YUK				A		22 12 57.0	
	comp=Z,630nm,0.7s						
YUK				A		22 13 17.0	
	comp=Z,4µm,1.2s						
YUK				A		22 13 17.0	
	comp=Z,3µm,1.2s						
YUK				AMS	AMS	22 14 17.2	
	comp=Z,3µm,17.0s						
YUK				AMS	AMS	22 14 17.2	
	comp=Z,3µm,15.0s						
YUK	**Yuzh-Kuril’sk**	**7.33**	**238**	*e*PN	**P**	**22 11 23.2**	**0.0**
YUK				*i* S	**S**	**22 12 46.4**	**+0.4**
YUK				pmax	pmax		
	comp=Z,2µm,0.6s						
YUK				pmax	pmax		
	comp=N,210nm,0.4s						

YUK				pmax	pmax		
	comp=E,120nm,0.4s						
YUK				pmax	pmax		
	comp=Z,990nm,0.4s						
YUK				smax			
	comp=E,500nm,0.6s						
YUK				smax			
	comp=N,630nm,0.7s						
YUK				smax			
	comp=N,4µm,1.2s						
YUK				smax			
	comp=E,3µm,1.2s						
YUK				MLR	MLR		
	comp=Z,3µm,17.0s						
YUK				MLR	MLR		
	comp=E,3µm,15.0s						
YSS	**Yuzh-Sakhalins**	**8.04**	**265**	⇑*i*P	**P**	**22 11 35.0**	**+2.0**
YSS				AMB	AMB	22 11 35.7	
	comp=E,110nm,0.7s						
YSS				AMB	AMB	22 11 35.7	
	comp=E,70nm,0.6s						
YSS				AMB	AMB	22 11 35.7	
	comp=E,110nm,0.6s						
YSS				*e*S	**S**	**22 12 59.0**	**-4.6**
YSS				A		22 13 01.7	
	comp=E,70nm,0.6s						
YSS				*e*LQ		22 13 14.0	
YSS				*e*LR	LR	22 13 52.0	
YSS				AMS	AMS	22 14 28.0	
	comp=E,800nm,16.0s						
YSS				AMS	AMS	22 14 28.0	
	comp=E,1µm,17.0s						
YSS	**Yuzh-Sakhalins**	**8.04**	**265**	⇑*i*PN	**P**	**22 11 35.0**	**+2.0**
YSS				*i*		22 13 06.0	
YSS				pmax	pmax		
	comp=N,70nm,0.6s						
YSS				pmax	pmax		
	comp=Z,110nm,0.6s						
YSS				pmax	pmax		
	comp=E,110nm,0.7s						
YSS				pmax	pmax		
	comp=N,210nm,0.8s						
YSS				pmax	pmax		
	comp=E,230nm,0.8s						
YSS				MLR	MLR		
	comp=Z,1µm,17.0s						
YSS				MLR	MLR		
	comp=E,800nm,16.0s						
YSS	**Yuzh-Sakhalins**	**8.04**	**265**	*e*Pn	**P**	**22 11 35.4**	**+2.4**
YSS				*e*Sn	**S**	**22 13 00.8**	**-2.8**
TYV	**Tymovskoe**	**8.12**	**293**	⇑*i*P	**P**	**22 11 37.4**	**+3.3**
TYV				AMB	AMB	22 11 37.9	
	comp=E,36nm,0.7s						
TYV				*e*S	**S**	**22 13 04.0**	**-1.7**
TYV				AMS	AMS	22 15 00.0	
	comp=E,1µm,18.0s						
TYV				AMS	AMS	22 15 00.0	
	comp=E,2µm,18.0s						
UGL	**Uglegorsk**	**8.27**	**280**	*e*P	**P**	**22 11 36.2**	**+0.1**
UGL				⇓*i*P		22 11 36.2	
UGL				AMB	AMB	22 11 37.5	
	comp=E,180nm,0.6s						
UGL				AMB	AMB	22 11 38.0	
	comp=E,650nm,3.5s						
UGL				*e*S	**S**	**22 13 06.5**	**-2.7**
UGL				A		22 13 12.0	
	comp=E,150nm,0.5s						
UGL				A		22 13 12.0	
	comp=E,130nm,0.5s						
UGL				AMS	AMS	22 15 06.0	
	comp=E,1µm,16.0s						
UGL				AMS	AMS	22 15 06.0	
	comp=E,1µm,15.0s						
UGL				AMS	AMS	22 15 06.0	
	comp=E,2µm,15.0s						
UGL	**Uglegorsk**	**8.27**	**280**	⇓*i*PN	**P**	**22 11 36.2**	**+0.1**
UGL				pmax	pmax		
	comp=Z,650nm,3.5s						
UGL				MLR	MLR		
	comp=N,1µm,15.0s						
UGL				MLR	MLR		
	comp=Z,2µm,15.0s						
UGL				MLR	MLR		
	comp=E,1µm,16.0s						
JWK2	**Keihoku**	**9.13**	**256**	P	**P**	**22 11 52.8**	**+4.8**
ASAJ	**Asahikawa**	**9.23**	**248**	P	**P**	**22 11 52.5**	**+3.0**
	comp=E,14nm,0.3s,baz=82,slow=13,SNR=78						
ASAJ				LR	LR	22 15 07.2	
	comp=E,772nm,19.4s,baz=347,slow=36						
ASAJ	**Asahikawa**	**9.23**	**248**	P	**P**	**22 11 52.1**	**+2.6**
ASAJ	**Asahikawa**	**9.23**	**248**	PN	**P**	**22 11 52.5**	**+3.0**
ASAJ				pmax	pmax		
	comp=Z,14nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,772nm,19.4s						
JEM	**Erimo**	**10.15**	**236**	P	**P**	**22 12 01.3**	**-0.7**
JEW	**Eniwo**	**10.63**	**244**	P	**P**	**22 12 09.1**	**+0.6**
MA2	**Magadan**	**11.54**	**350**	*e*PN	**P**	**22 12 21.9**	**+1.0**
MA2				pmax	pmax		
	comp=Z,20nm,0.8s						
MA2	**Magadan**	**11.54**	**350**	*e*P	**P**	**22 12 16.3**	**-4.6**
JSH	**Shimam**	**11.59**	**246**	P	**P**	**22 12 21.9**	**+0.3**
JOT	**Ohata**	**11.76**	**239**	P	**P**	**22 12 24.5**	**+0.7**
JTM	**Tenmabayashi**	**12.14**	**237**	P	**P**	**22 12 25.0**	**-4.0**
TEY	**Ternei**	**12.71**	**262**	*e*rx	rx	22 12 45.0	
TEY				AMB	AMB	22 12 45.5	
	comp=Z,60nm,1.0s						
FX1	**Attu Island--F**	**12.73**	**62**	P	**P**	**22 12 34.1**	**-2.8**
	comp=Z,12nm,0.3s,baz=346,slow=1.6,SNR=24						
FX1				S	**S**	**22 14 44.3**	**-14**
	comp=Z,12nm,0.3s,baz=70,slow=22,SNR=8.1						
FX1	**Attu Island--F**	**12.73**	**62**	*e*P	**P**	**22 12 31.9**	**-5.0**
FX1				*e*S	S	22 14 37.6	-20
JOM	**Ohasama**	**12.94**	**232**	P	**P**	**22 12 34.3**	**-5.4**
SMY	**Shemya**	**13.25**	**63**	*e*P	**P**	**22 12 42.0**	**-1.7**
	comp=Z,193nm,0.5s						
JMM	**Marumori**	**14.40**	**229**	P	**P**	**22 12 54.5**	**-4.3**
JYA	**Atsumi**	**14.42**	**233**	P	**P**	**22 12 55.2**	**-3.8**
KLR	**Kul'dur**	**15.03**	**282**	*e*P	**P**	**22 13 10.5**	**+3.7**
KLR				pmax	pmax		
	comp=N,54nm,1.6s						
KLR				pmax	pmax		
	comp=Z,85nm,1.6s						
KLR				MLR	MLR		
	comp=Z,2µm,13.0s						
JSD	**Sado**	**15.61**	**235**	P	**P**	**22 13 07.0**	**-7.5**
MAJO	**Matsushiro**	**16.75**	**232**	*e*P	**P**	**22 13 27.3**	**-1.5**
MAJO				pmax	pmax		
	comp=Z,39nm,0.8s						
MAJO	**Matsushiro**	**16.75**	**232**	*e*P	**P**	**22 13 27.2**	**-1.6**
	comp=Z,39nm,0.8s						
MAT	**Matsushiro**	**16.75**	**232**	P	**P**	**22 13 26.2**	**-2.6**
MAT	**Matsushiro**	**16.75**	**232**	P	**P**	**22 13 26.6**	**-2.2**
MAT	**Matsushiro**	**16.75**	**232**	*e*P	**P**	**22 13 27.0**	**-1.8**
MAT				pmax	pmax		
	comp=Z,20nm,0.8s						
MAT	**Matsushiro**	**16.75**	**232**	*e*P	**P**	**22 13 27.0**	**-1.8**
	comp=Z,20nm,0.8s						
MAT				*e*S	**S**	**22 16 48.0**	**+16**
JRY	**Ryogami san**	**16.79**	**229**	P	**P**	**22 13 28.3**	**-1.1**
MDJ	**Mudanjiang**	**17.52**	**267**	P	**P**	**22 13 39.1**	**+0.6**
MDJ				AP		22 13 50.3	
MDJ				XP		22 13 55.1	
MDJ				S	**S**	**22 16 53.0**	**+3.1**
MDJ				PCP	PcP	22 18 16.5	-1.5
MDJ				SCP		22 21 48.3	
MDJ				PCS		22 21 52.9	
MDJ				SCS	ScS	22 25 28.6	+1.5
MDJ				AMB	AMB		
	comp=Z,43nm,0.7s						
MDJ				AMB	AMB		
	comp=Z,60nm,5.8s						
MDJ				LR	LR		
	comp=N,182nm,19.0s						
MDJ				LR	LR		
	comp=E,136nm,24.8s						
MDJ				LR	LR		
	comp=Z,296nm,22.4s						
MDJ	**Mudanjiang**	**17.52**	**267**	*e*P	**P**	**22 13 39.4**	**+0.9**
	comp=Z,42nm,0.7s						
JGF	**Kuroka**	**17.91**	**231**	P	**P**	**22 13 41.0**	**-2.4**
ZEA	**Zeya**	**17.94**	**298**	*e*P	**P**	**22 13 45.9**	**+2.3**
ZEA				AMB	AMB	22 13 49.3	
	comp=Z,50nm,1.2s						
ZEA				AMB	AMB	22 13 49.3	
	comp=Z,57nm,1.2s						
ZEA				AMB	AMB	22 13 49.3	
	comp=Z,56nm,1.4s						
ZEA				AMB	AMB	22 13 57.0	
	comp=Z,200nm,6.0s						
ZEA				A		22 17 17.0	
	comp=Z,200nm,5.0s						
JWT	**Wachi**	**19.19**	**234**	P	**P**	**22 13 57.9**	**-0.9**
YAK	**Yakutsk**	**19.60**	**324**	*e*P	**P**	**22 14 03.7**	**+0.6**
YAK				*e*S	**S**	**22 17 38.8**	**+2.2**
YAK				pmax	pmax		
	comp=Z,48nm,0.6s						
YAK				pmax	pmax		
	comp=N,27nm,1.4s						
YAK				pmax	pmax		
	comp=E,55nm,1.2s						
YAK				pmax	pmax		
	comp=Z,43nm,1.0s						
YAK				pmax	pmax		
	comp=N,24nm,1.7s						
YAK				pmax	pmax		
	comp=E,90nm,1.7s						
YAK				smax			
	comp=N,11nm,1.1s						
YAK				smax			
	comp=Z,3.0nm,0.6s						
YAK				smax			
	comp=E,31nm,1.0s						
YAK				MLR	MLR		
	comp=Z,650nm,30.0s						
YAK				MLR	MLR		
	comp=N,330nm,37.0s						
YAK				MLR	MLR		
	comp=E,374nm,30.0s						
YAK	**Yakutsk**	**19.60**	**324**	*e*P	**P**	**22 14 02.3**	**-0.8**
	comp=E,200nm,0.7s						
CLNS	**Chul'man**	**19.80**	**307**	*e*P	**P**	**22 14 08.2**	**+2.9**
CLNS				*e*S	**S**	**22 17 46.6**	**+5.7**
CLNS				pmax	pmax		
	comp=Z,172nm,0.7s						
CLNS				pmax	pmax		
	comp=N,151nm,0.9s						
CLNS				pmax	pmax		
	comp=E,147nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,57nm,1.0s						
CLNS				pmax	pmax		
	comp=N,68nm,0.9s						
CLNS				pmax	pmax		
	comp=E,45nm,0.8s						
CLNS				smax			
	comp=N,7.0nm,1.0s						
CLNS				smax			
	comp=Z,4.0nm,1.0s						
CLNS				smax			
	comp=E,11nm,1.1s						
CLNS				MLR	MLR		
	comp=Z,700nm,16.0s						
CLNS				MLR	MLR		
	comp=N,300nm,15.0s						
CLNS				MLR	MLR		
	comp=E,100nm,14.0s						
JAD	**Aida**	**20.12**	**236**	P	**P**	**22 14 08.7**	**-0.2**
JWZ	**Kozaga**	**20.36**	**231**	P	**P**	**22 14 11.6**	**+0.1**
CN2	**Changchun**	**20.59**	**268**	*e*P	**P**	**22 14 11.5**	**-2.2**
CN2				AMB	AMB		
	comp=Z,140nm,0.7s						
CN2				LR	LR		
	comp=N,230nm,17.0s,MS3.9						
CN2				LR	LR		
	comp=E,360nm,17.0s,MS3.9						
CN2				LR	LR		
	comp=Z,330nm,20.0s,MS3.7						
JHS	**Saijyo**	**20.67**	**238**	P	**P**	**22 14 14.6**	**0.0**
KS15	**Wonju Array Si**	**22.19**	**251**	*e*P	**P**	**22 14 30.4**	**+0.5**
SNY	**Shenyang**	**22.67**	**265**	⇓P	**P**	**22 14 34.8**	**+0.4**
SNY				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.5						
SNY				LR	LR		
	comp=E,240nm,14.9s						
SNY				LR	LR		
	comp=Z,280nm,16.2s,MS3.8						
HIA	**Hailar**	**22.81**	**286**	*e*P	**P**	**22 14 36.4**	**+0.6**
HIA				pmax	pmax		
	comp=Z,15nm,0.8s						
HIA	**Hailar**	**22.81**	**286**	*e*P	**P**	**22 14 36.4**	**+0.6**
	comp=Z,15nm,0.8s,mb4.5						
INCN	**Inchon**	**22.96**	**252**	*e*P	**P**	**22 14 39.4**	**+2.0**
	comp=Z,21nm,0.6s,mb4.8						
JNU	**Nakatsue**	**23.30**	**238**	P	**P**	**22 14 42.3**	**+1.6**
	comp=Z,0.8nm,0.3s,baz=37,slow=11,SNR=6.1						
JNU	**Nakatsue**	**23.30**	**238**	P	**P**	**22 14 42.2**	**+1.5**
JSU	**Suzuyama**	**24.75**	**236**	P	**P**	**22 14 55.1**	**+0.3**
DL2	**Dalian**	**25.41**	**261**	P	**P**	**22 15 02.3**	**+1.3**
DL2				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.7						
BOD	**Bodaibo**	**25.78**	**307**	*e*P	**P**	**22 15 02.7**	**-1.6**
TIXI	**Tiksi**	**26.30**	**342**	*e*P	**P**	**22 15 08.2**	**-0.7**
TIXI				*e**PP	pP	22 15 26.0	+5.9
TIXI				*e*		22 15 51.3	
TIXI				*e*		22 18 33.0	
TIXI				*e*S	**S**	**22 19 33.3**	**-3.3**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb3.9						
TIXI				MLR	MLR		
	comp=Z,200nm,16.0s,MS3.8						
BJI	**Beijing**	**28.45**	**268**	P	**P**	**22 15 29.1**	**+0.3**
BJI				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.1						
BJI				LR	LR		
	comp=N,231nm,15.5s,MS3.9						
BJI				LR	LR		
	comp=E,84nm,16.6s,MS3.9						
BJI				LR	LR		
	comp=Z,102nm,23.8s						
JOW	**Kunigami**	**29.58**	**233**	P	**P**	**22 15 38.9**	**-0.1**
	comp=Z,9.5nm,0.7s,mb4.6,slow=14,SNR=5.3						
JOW				LR	LR	22 27 37.2	
	comp=Z,205nm,21.6s,MS3.7,baz=85,slow=36						
TIA	**Tai'an**	**29.88**	**260**	*e*P	**P**	**22 15 42.8**	**+1.2**
SSE	**Sheshan**	**30.52**	**248**	*e*P	**P**	**22 15 45.3**	**-2.1**
SSE				AP	pP	22 15 58.3	-0.5
SSE				S	**S**	**22 20 41.9**	**-2.8**
SSE				AMB	AMB		
	comp=Z,15nm,0.5s,mb5.1						
SSE				AMB	AMB		
	comp=Z,47nm,8.4s						
SSE				LR	LR		
	comp=N,91nm,26.8s,MS3.5						
SSE				LR	LR		
	comp=E,91nm,26.8s,MS3.5						
SSE				LR	LR		
	comp=Z,96nm,17.4s						
TTA	**Tatalina**	**30.67**	**43**	*e*P	**P**	**22 15 48.1**	**-0.3**
	comp=Z,9.3nm,0.6s,mb4.8						
HHC	**Hu-ho-hao-te**	**31.14**	**272**	*e*P	**P**	**22 15 53.1**	**+0.4**
HHC				AP	pP	22 16 03.9	-0.3
HHC				XP	sP	22 16 09.9	+0.3
HHC				PP	PP	22 16 57.4	+1.3
HHC				PCP	PcP	22 18 49.3	+2.1
HHC				S	**S**	**22 20 52.0**	**-2.2**
HHC				SS	SS	22 22 39.9	-1.4
HHC				AMB	AMB		
	comp=Z,29nm,0.8s,mb5.2						
HHC				AMB	AMB		
	comp=Z,58nm,4.9s						
HHC				LR	LR		
	comp=N,239nm,16.6s,MS4.0						
HHC				LR	LR		
	comp=E,198nm,19.6s,MS4.0						
HHC				LR	LR		
	comp=Z,148nm,19.6s,MS3.7						
NJ2	**Nanjing**	**31.34**	**252**	*e*P	**P**	**22 15 53.9**	**-0.7**
NJ2				AP	pP	22 16 04.9	-1.2
NJ2				PP	PP	22 16 56.9	-1.9
NJ2				S	**S**	**22 20 55.0**	**-2.5**
NJ2				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.3						
NJ2				LR	LR		
	comp=N,750nm,13.5s,MS4.5						
NJ2				LR	LR		
	comp=E,360nm,15.8s,MS4.5						
SONM	**Songino Array**	**31.74**	**288**	P	**P**	**22 15 56.8**	**-1.1**
	comp=E,11nm,1.1s,mb4.6,baz=68,slow=9.2,SNR=18						
SONM				PcP	PcP	22 18 47.7	-1.1
	comp=E,4.7nm,1.0s,baz=103,slow=1.2,SNR=8.0						
SONM				ScP		22 22 25.6	
	comp=E,1.5nm,0.8s,baz=90,slow=3.7,SNR=4.8						
IMA	**Indian Mountai**	**32.04**	**37**	*e*P	**P**	**22 16 00.9**	**+0.6**
	comp=E,7.4nm,0.7s,mb4.6						
RSO	**Redoubt South**	**32.16**	**48**	*e*P	**P**	**22 16 01.5**	**+0.1**
SPU	**Mount Spurr**	**32.48**	**46**	*e*P	**P**	**22 16 04.7**	**+0.4**
SPU				*e*	pP	22 16 15.0	-0.8
ZAK	**Zakamensk**	**32.91**	**293**	⇑*i*P	**P**	**22 16 08.1**	**0.0**
MCK	**McKinley**	**33.90**	**42**	*e*P	**P**	**22 16 15.7**	**-0.7**
MCK				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.8						
MCK	**McKinley**	**33.90**	**42**	*e*P	**P**	**22 16 15.7**	**-0.8**
	comp=Z,14nm,1.1s,mb4.8						
SML	**Sawmill**	**34.24**	**45**	*e*P	**P**	**22 16 19.4**	**0.0**
SML	**Sawmill**	**34.24**	**45**	*e*P	**P**	**22 16 18.6**	**-0.7**
COLA	**College**	**34.38**	**40**	P	**P**	**22 16 21.1**	**+0.6**
COLA				pmax	pmax		
	comp=Z,12nm,0.7s,mb4.9						
COLA	**College**	**34.38**	**40**	*e*P	**P**	**22 16 20.8**	**+0.3**
	comp=Z,33nm,0.7s,mb5.4						
ILAR	**Eielson Array**	**34.79**	**40**	P	**P**	**22 16 23.7**	**-0.4**
	comp=Z,3.7nm,0.7s,mb4.4,baz=281,slow=7.3,SNR=20						
ILAR	**Eielson Array**	**34.79**	**40**	P	**P**	**22 16 23.7**	**-0.4**
ILAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
WHN	**Wuhan**	**35.22**	**255**	*e*P	**P**	**22 16 27.8**	**-0.4**
DIV	**Divide**	**35.52**	**46**	*e*P	**P**	**22 16 29.6**	**-0.7**
	comp=Z,66nm,0.8s,mb5.6						
XAN	**Xi'an**	**36.59**	**264**	P	**P**	**22 16 39.9**	**+0.3**
XAN				AMB	AMB		
	comp=Z,14nm,1.1s,mb4.7						
DAWY	**Dawson**	**38.08**	**41**	*e*P	**P**	**22 16 52.4**	**+0.5**
ENH	**Enshi**	**38.56**	**259**	*e*P	**P**	**22 16 55.5**	**-0.7**
	comp=Z,16nm,0.6s,mb4.9						
LZH	**Lanzhou**	**38.78**	**271**	⇑P	**P**	**22 16 58.8**	**+0.8**
LZH				AP	pP	22 17 10.8	+1.1
LZH				XP	sP	22 17 15.8	+0.8
LZH				PP	PP	22 18 31.5	+0.4
LZH				*e*S	**S**	**22 22 51.4**	**-0.9**
LZH				SS	SS	22 25 33.6	-2.4
LZH				AMB	AMB		
	comp=Z,53nm,1.3s,mb5.1						
LZH				AMB	AMB		
	comp=Z,237nm,5.4s						
LZH				LR	LR		
	comp=N,957nm,13.1s						
LZH				LR	LR		
	comp=Z,1µm,17.0s,MS4.9						
GTA	**Gaotai**	**39.67**	**278**	*e*P	**P**	**22 17 06.3**	**+1.0**
GTA				AMB	AMB		
	comp=Z,5.0nm,0.6s,mb4.4						
INK	**Inuvik**	**39.88**	**33**	P	**P**	**22 17 07.5**	**+0.7**
	comp=Z,5.3nm,0.5s,mb4.5,baz=279,slow=6.8,SNR=20						
INK	**Inuvik**	**39.88**	**33**	P	**P**	**22 17 07.6**	**+0.9**
INK				pmax	pmax		
	comp=Z,8.0nm,0.7s						
INK	**Inuvik**	**39.88**	**33**	*e*P	**P**	**22 17 07.1**	**+0.4**
	comp=Z,11nm,0.8s,mb4.6						
CD2	**Chengdu**	**41.94**	**265**	*e*P	**P**	**22 17 24.4**	**+0.3**
CD2				AMB	AMB		
	comp=Z,55nm,0.8s,mb5.2						
GYA	**Guiyang**	**42.96**	**257**	P	**P**	**22 17 32.6**	**+0.1**
GYA				AP	pP	22 17 45.0	+0.7
GYA				XP	sP	22 17 50.4	+1.0
GYA				PP	PP	22 19 12.6	-2.2
GYA				PPP	PPP	22 19 44.8	-5.0
GYA				S	**S**	**22 23 45.3**	**-9.0**
GYA				AMB	AMB		
	comp=Z,84nm,0.6s,mb5.7						
GYA				LR	LR		
	comp=N,290nm,15.9s,MS4.5						
GYA				LR	LR		
	comp=E,330nm,15.3s,MS4.5						
GYA				LR	LR		
	comp=Z,310nm,12.0s,MS4.4						
NVS	**Novosibirsk**	**43.02**	**307**	*e*P	**P**	**22 17 31.0**	**-1.6**
NVS				*e*		22 19 12.4	
NVS				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.2						
NVS				pmax	pmax		
	comp=E,2.0nm,0.5s						
DLBC	**Dease Lake**	**43.88**	**47**	*e*P	**P**	**22 17 41.3**	**+1.8**
DLBC				*e*	pP	22 17 52.4	+1.1
WMQ	**Urumqi**	**45.26**	**291**	P	**P**	**22 17 51.0**	**+0.2**
WMQ				AP	pP	22 18 03.4	+0.8
WMQ				XP	sP	22 18 08.8	+1.1
WMQ				PP	PP	22 19 37.8	+0.3
WMQ				AMB	AMB		
	comp=Z,13nm,0.8s,mb4.8						
WMQ				LR	LR		
	comp=E,136nm,21.0s						
WMQ				LR	LR		
	comp=Z,176nm,21.6s,MS4.0						
KMI	**Kunming**	**46.44**	**259**	⇓*e*P	**P**	**22 18 00.4**	**0.0**
KMI				S	**S**	**22 24 49.6**	**+5.2**
KMI				AMB	AMB		
	comp=Z,25nm,1.1s,mb5.1						
KMI				AMB	AMB		
	comp=Z,26nm,3.1s						
KMI				LR	LR		
	comp=N,129nm,21.4s,MS4.0						
KMI				LR	LR		
	comp=E,125nm,22.5s,MS4.0						
KMI				LR	LR		
	comp=Z,113nm,18.9s,MS3.8						
MKAR	**Makanchi Array**	**47.09**	**297**	P	**P**	**22 18 04.0**	**-1.1**
	comp=Z,7.4nm,0.6s,mb4.8,baz=68,slow=7.4,SNR=47						
MKAR				PcP	PcP	22 19 36.0	-1.0
	comp=Z,7.9nm,1.1s,baz=56,slow=4.4,SNR=4.4						
MKAR				LR	LR	22 39 25.3	
	comp=Z,310nm,19.4s,MS4.3,baz=47,slow=38						
MKAR	**Makanchi Array**	**47.09**	**297**	P	**P**	**22 18 04.0**	**-1.2**
MKAR						22 19 36.0	
MKAR				pmax	pmax		
	comp=Z,7.0nm,0.6s						
MKAR				pmax	pmax		
	comp=Z,8.0nm,1.1s						
MKAR				MLR	MLR		
	comp=Z,310nm,19.4s						
KURK	**Kurchatov**	**47.31**	**303**	*e*P	**P**	**22 18 05.5**	**-1.4**
KURK				pmax	pmax		
	comp=Z,23nm,0.6s,mb5.3						
KURK	**Kurchatov**	**47.31**	**303**	*e*P	**P**	**22 18 05.5**	**-1.4**
	comp=Z,23nm,0.6s,mb5.3						
POHA	**Pohakuloa**	**49.10**	**107**	*e*P	**P**	**22 18 22.8**	**+1.5**
	comp=Z,0.1nm,0.6s						
YKW3	**Yellowknife Ar**	**49.12**	**38**	*e*P	**P**	**22 18 20.7**	**0.0**
YKA	**Yellowknife Ar**	**49.16**	**38**	P	**P**	**22 18 21.2**	**+0.2**
	comp=Z,6.8nm,0.7s,mb4.8,baz=296,slow=7.7,SNR=11						
YKA	**Yellowknife Ar**	**49.16**	**38**	P	**P**	**22 18 21.2**	**+0.2**
YKA				pmax	pmax		
	comp=Z,7.0nm,0.7s						
BVAR	**Borovoye Array**	**50.63**	**309**	P	**P**	**22 18 30.2**	**-2.3**
	comp=Z,12nm,0.5s,mb5.1,baz=61,slow=8.1,SNR=128						
BVAR				PcP	PcP	22 19 48.6	-1.1
	comp=Z,3.5nm,0.6s,baz=74,slow=2.4,SNR=5.7						
BVAR				LR	LR	22 42 23.8	
	comp=Z,5.4nm,18.8s,baz=290,slow=39						
BRVK	**Borovoye**	**50.66**	**309**	*e*P	**P**	**22 18 30.3**	**-2.4**
BRVK				pmax	pmax		
	comp=Z,18nm,0.7s,mb5.1						
BRVK	**Borovoye**	**50.66**	**309**	*e*P	**P**	**22 18 30.3**	**-2.4**
	comp=Z,18nm,0.6s,mb5.2						
LSA	**Lhasa**	**51.13**	**273**	P	**P**	**22 18 38.8**	**+2.2**
NANT	**Nan**	**52.25**	**255**	⇓P	**P**	**22 18 45.0**	**-0.1**
SHL	**Shillong**	**53.34**	**268**	*e*P	**P**	**22 18 52.5**	**-0.7**
SVE	**Sverdlovsk**	**53.36**	**317**	⇑*e*P	**P**	**22 19 09.8**	**+17**
SVE				MLR	MLR		
	comp=Z,500nm,15.0s,MS4.7						
SVE				MLR	MLR		
	comp=N,300nm,14.0s,MS4.7						
SVE				MLR	MLR		
	comp=E,300nm,14.0s,MS4.7						
CHG	**Chiang Mai**	**53.38**	**257**	⇓P	**P**	**22 18 53.7**	**+0.2**
	comp=E,31nm,0.9s,mb5.2						
CM31	**Chiang Mai Arr**	**53.63**	**256**	*e*P	**P**	**22 18 55.3**	**-0.1**
	comp=E,23nm,0.8s,mb5.2						
CM31				*e*		22 19 12.3	
CMAR	**Chiang Mai Arr**	**53.63**	**256**	P	**P**	**22 18 55.6**	**+0.2**
	comp=E,12nm,0.8s,mb4.9,baz=33,slow=7.2,SNR=35						
CMAR				sP	sP	22 19 13.2	+0.8
	comp=E,4.8nm,0.8s,baz=32,slow=7.5,SNR=5.0						
CMAR				PcP	PcP	22 20 00.8	-0.5
	comp=E,2.7nm,0.7s,baz=23,slow=3.0,SNR=4.3						
CMAR				LR	LR	22 43 33.4	
	comp=E,122nm,18.4s,MS4.0,baz=60,slow=38						
CMAR	**Chiang Mai Arr**	**53.63**	**256**	P	**P**	**22 18 55.7**	**+0.3**

CMAR				*SP	sP	22 19 13.2	+0.8
CMAR						22 20 00.9	
CMAR				pmax	pmax		
	comp=Z,12nm,0.8s						
CMAR				pmax	pmax		
	comp=N,5.0nm,0.8s						
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
CMAR				MLR	MLR		
	comp=Z,122nm,18.4s						
NLW	Nelson Butte	53.87	56	eP	P	22 18 56.6	-0.2
NLW				e	pP	22 19 08.2	-0.7
ARU	Arti	54.53	317	⇓iP	P	22 18 58.8	-2.7
ARU				e		22 20 02.6	
ARU				e		22 20 59.1	
ARU				eS	S	22 26 34.6	-1.3
ARU				eSS	SS	22 30 14.1	-4.3
ARU				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.8						
ARU	Arti	54.53	317	eP	P	22 18 58.6	-2.9
	comp=Z,10nm,0.5s,mb5.1						
EDM	Edmonton	54.60	47	eP	P	22 19 01.4	-0.6
DPW	Davenport	55.17	55	eP	P	22 19 05.8	-0.4
DPW				e	pP	22 19 17.6	-0.8
HAWA	Hanford	55.29	57	eP	P	22 19 06.6	-0.5
	comp=Z,0.8nm,0.9s,mb3.8						
KEV	Kevo	56.23	341	ep	P	22 19 14.3	+0.7
	comp=Z,0.4nm,0.4s,mb3.8						
KKN	Kakani	56.28	275	eP	P	22 19 14.9	+0.4
	comp=Z,34nm,0.6s,mb5.5						
PKI	Pulchoki	56.34	275	eP	P	22 19 14.4	-0.5
	comp=Z,16nm,0.6s,mb5.2						
DMN	Daman	56.51	275	eP	P	22 19 16.2	0.0
	comp=Z,31nm,0.5s,mb5.5						
GKN	Gorkha	56.56	276	eP	P	22 19 16.4	-0.2
	comp=Z,21nm,0.4s,mb5.5						
ARCES	ARCESS Array B	56.73	341	P	P	22 19 15.4	-1.8
	comp=Z,5.7nm,1.0s,mb4.6,baz=31,slow=7.1,SNR=8.9						
ARCES				LR	LR	22 47 28.7	
	comp=Z,303nm,20.8s,MS4.4,baz=28,slow=40						
ARCES	ARCESS Array B	56.73	341	P	P	22 19 15.4	-1.8
ARCES				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ARCES				MLR	MLR		
	comp=Z,303nm,20.8s						
KOLN	Koldanda	57.41	276	eP	P	22 19 22.3	-0.3
	comp=Z,24nm,0.8s,mb5.3						
WVOR	Wild Horse Val	58.19	60	eP	P	22 19 27.7	-0.1
WVOR				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
WVOR	Wild Horse Val	58.19	60	eP	P	22 19 27.6	-0.2
	comp=Z,10.0nm,0.8s,mb4.9						
JOSI	Joshimath	58.25	282	e	P	22 19 21.3	-7.1
OHCM	Honcut	58.43	65	eP	P	22 19 28.8	-0.8
OHCM				e	pP	22 19 39.9	-1.8
CHMT	Chamberlain Mo	58.43	54	eP	P	22 19 29.1	-0.3
CHMT				e	pP	22 19 40.7	-0.9
KLP	Kalpa	58.47	283	eP	P	22 19 31.3	+1.3
KLP				AMb	AMB	22 19 31.8	
	comp=Z,12nm,0.8s,mb5.0						
SUMG	Summit	59.12	5	eP	P	22 19 33.1	-0.8
	comp=Z,12nm,0.6s,mb5.1						
HRY	Holter Researc	59.32	53	eP	P	22 19 36.1	+0.5
FCC	Fort Churchill	59.49	34	eP	P	22 19 35.8	-0.8
FCC				pmax	pmax		
	comp=Z,13nm,0.7s,mb5.1						
FCC	Fort Churchill	59.49	34	eP	P	22 19 35.8	-0.8
	comp=Z,13nm,0.6s,mb5.2						
HLID	Hailey	59.90	57	eP	P	22 19 40.1	+0.4
	comp=Z,13nm,1.2s,mb4.8						
HLID				e	pP	22 19 51.9	+0.1
CMB	Columbia Colle	59.91	65	eP	P	22 19 39.7	-0.1
CMB				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.7						
CMB	Columbia Colle	59.91	65	eP	P	22 19 39.6	-0.2
	comp=Z,7.1nm,0.9s,mb4.7						
MCMT	McKenzie Canyo	59.96	55	eP	P	22 19 40.0	0.0
MCMT				e	pP	22 19 51.7	-0.6
BOZ	Bozeman (W)	60.10	54	eP	P	22 19 40.6	-0.4
BOZ				pmax	pmax		
	comp=Z,15nm,0.7s,mb5.1						
BOZ	Bozeman (W)	60.10	54	eP	P	22 19 40.6	-0.5
	comp=Z,15nm,0.7s,mb5.1						
BOZ				e	pP	22 19 53.1	-0.1
QLMT	Earthquake Lak	60.73	54	eP	P	22 19 45.8	+0.5
QLMT				e	pP	22 19 57.7	+0.1
NVAR	Mina Array Bea	60.92	64	P	P	22 19 47.0	+0.3
	comp=Z,8.4nm,0.6s,mb5.0,baz=300,slow=7.0,SNR=35						
NVAR				pP	pP	22 19 58.7	-0.2
	comp=Z,5.4nm,0.8s,baz=290,slow=6.6,SNR=7.4						
NVAR				PcP	PcP	22 20 29.8	+0.2
	comp=Z,2.0nm,0.6s,baz=292,slow=4.9,SNR=4.0						
NVAR	Mina Array Bea	60.92	64	P	P	22 19 47.0	+0.3
NVAR				pP	pP	22 19 58.7	-0.2
NVAR				PcP	PcP	22 20 29.8	+0.2
MNV	Mina	61.01	64	eP	P	22 19 46.8	-0.5
MNV				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.8						
MNV	Mina	61.01	64	eP	P	22 19 46.8	-0.4
	comp=Z,5.5nm,0.7s,mb4.8						
AYAN	Aya Nagar	61.21	281	eP	P	22 19 47.6	-1.2
AYAN				AMb	AMB	22 19 50.5	
	comp=Z,7.7nm,0.3s,mb5.3						
ELK	Elko	61.23	60	eP	P	22 19 49.0	+0.2
ELK				pmax	pmax		
	comp=Z,7.0nm,0.9s						
ELK	Elko	61.23	60	eP	P	22 19 49.0	+0.2
	comp=Z,6.5nm,0.9s,mb4.8						
ELK				e	pP	22 20 00.8	-0.2
SONA	Sohna	61.39	281	eP	P	22 19 49.0	-1.0
SONA				AMb	AMB	22 19 51.9	
	comp=Z,10nm,0.4s,mb5.3						
TPH	Tonopah	61.80	64	eP	P	22 19 52.2	-0.4
TPH				pmax	pmax		
	comp=Z,13nm,0.7s,mb5.2						
TPH	Tonopah	61.80	64	eP	P	22 19 52.2	-0.4
	comp=Z,13nm,0.7s,mb5.2						
TPH				e	pP	22 20 04.5	-0.4
KUDL	Kundal	61.85	282	eP	P	22 19 52.1	-1.0
KUDL				AMb	AMB	22 19 55.2	
	comp=Z,9.2nm,0.6s,mb5.1						
TPAW	Teton Pass	61.87	55	eP	P	22 19 53.9	+0.9
TPAW				e	pP	22 20 06.4	+1.1
WUWY	Wally Ulrich	61.95	55	eP	P	22 19 53.6	+0.1
LAO	LASA Array	62.27	50	eP	P	22 19 55.9	+0.3
	comp=Z,18nm,0.8s,mb5.3						
LAO				e	pP	22 20 07.5	-0.4
KHET	Khetri	62.34	282	eP	P	22 19 53.9	-2.5
KAF	Kangasniemi	62.46	335	ep	P	22 19 52.3	-4.4
	comp=Z,0.3nm,0.3s,mb3.9						
HWUT	Hardware Ranch	62.76	57	eP	P	22 19 59.4	+0.4
	comp=Z,21nm,1.2s,mb5.2						
HWUT				e	pP	22 20 11.1	-0.2
DUG	Dugway	62.99	59	eP	P	22 20 00.8	+0.3
DUG				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.2						
DUG				MLR	MLR		
	comp=Z,190nm,22.0s,MS4.2						
DUG	Dugway	62.99	59	P	P	22 20 01.3	+0.8
DUG				pmax	pmax		
	comp=Z,20nm,1.1s,mb5.2						
DUG	Dugway	62.99	59	eP	P	22 20 00.8	+0.3
	comp=Z,1.5nm,1.0s,mb4.1						
DUG				e	pP	22 20 12.2	-0.7
FINES	FINESS Array B	63.07	335	P	P	22 19 58.5	-2.2
	comp=Z,2.3nm,0.4s,mb4.7,baz=34,slow=6.8,SNR=38						
FINES				LR	LR	22 49 46.2	
	comp=Z,192nm,19.7s,MS4.3,baz=10.0,slow=38						
FINES	FINESS Array B	63.07	335	P	P	22 19 58.6	-2.2
FINES				pmax	pmax		
	comp=Z,2.0nm,0.4s						
FINES				MLR	MLR		
	comp=Z,192nm,19.7s						
PDAR	Pinedale Array	63.11	55	P	P	22 20 01.4	+0.1
	comp=Z,7.9nm,0.8s,mb4.9,baz=312,slow=2.3,SNR=44						
PDAR				pP	pP	22 20 13.2	-0.5
	comp=Z,17nm,1.1s,baz=270,slow=7.4,SNR=16						
NLU	North Lily Min	63.57	59	eP	P	22 20 04.4	+0.1
NLU				e	pP	22 20 16.1	-0.5
KAKA	Kakadu	63.79	204	eP	P	22 20 07.5	+1.4
	comp=Z,11nm,0.5s,mb5.2						
BHPL	Bhopal	64.56	277	eP	P	22 20 09.8	-1.2
BHPL				e		22 20 11.6	
	comp=Z,13nm,0.3s						
ULM	Lac du Bonnet	64.77	42	P	P	22 20 11.5	-0.4
	comp=Z,8.4nm,0.7s,mb4.9,baz=296,slow=7.2,SNR=8.4						
RSSD	Black Hills	65.14	51	eP	P	22 20 14.1	-0.3
RSSD				pmax	pmax		
	comp=Z,15nm,0.7s,mb5.1						
RSSD	Black Hills	65.14	51	eP	P	22 20 14.1	-0.3
	comp=Z,15nm,0.6s,mb5.2						
RSSD				e	pP	22 20 26.0	-0.8
AKL	Akola	66.60	275	e	P	22 20 29.1	+5.1
AKL				AMb	AMB	22 20 31.4	
	comp=Z,29nm,1.4s,mb5.1						
NB2	NORSAR Subarra	67.09	342	P	P	22 20 25.9	-0.6
	comp=Z,2.9nm,0.6s,mb4.5,baz=25,slow=6.2						
NOA	NORSAR Array B	67.09	342	P	P	22 20 26.2	-0.3
	comp=Z,3.3nm,0.6s,mb4.6,baz=26,slow=6.4,SNR=14						
NOA				LR	LR	22 53 21.9	
	comp=Z,117nm,19.1s,MS4.1,baz=15,slow=39						
NOA	NORSAR Array B	67.09	342	P	P	22 20 26.2	-0.3
NOA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
NOA				MLR	MLR		
	comp=Z,117nm,19.1s						
ISCO	Idaho Springs	67.31	55	eP	P	22 20 28.8	+0.6
ISCO				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
ISCO	Idaho Springs	67.31	55	eP	P	22 20 28.8	+0.6
	comp=Z,9.6nm,0.9s,mb4.8						
ISCO				e	pP	22 20 40.7	0.0
HFS	Hagfors	67.36	340	P	P	22 20 27.5	-0.7
	comp=Z,6.3nm,0.5s,mb4.9,baz=56,slow=5.3,SNR=33						
HFS	Hagfors	67.36	340	P	P	22 20 27.5	-0.7
HFS				pmax	pmax		
	comp=Z,6.0nm,0.5s						
HYB	Hyderabad	67.89	272	i P	P	22 20 31.5	-0.7
HYB	Hyderabad	67.89	272	eP	P	22 20 31.5	-0.7
CTA	Charters Tower	68.43	188	eP	P	22 20 34.5	-1.0
	comp=Z,12nm,0.5s,mb5.2						
CTA	Charters Tower	68.43	188	P	P	22 20 34.5	-1.1
	comp=Z,16nm,0.6s,mb5.2,baz=355,slow=7.4,SNR=28						
CTA	Charters Tower	68.43	188	P	P	22 20 34.5	-1.0
CTA				pmax	pmax		
	comp=Z,16nm,0.6s						
CTAO	Charters Tower	68.43	188	eP	P	22 20 34.2	-1.3
CTAO				pmax	pmax		
	comp=Z,17nm,0.6s,mb5.2						
CTAO	Charters Tower	68.43	188	eP	P	22 20 34.2	-1.4
	comp=Z,17nm,0.6s,mb5.2						
WRAB	Tennant Creek	70.24	200	eP	P	22 20 45.8	-0.8
	comp=Z,66nm,0.9s,mb5.6						
WB2	Warramunga Arr	70.25	200	eP	P	22 20 45.8	-0.9
LAZ	Ladron	70.25	60	eP	P	22 20 47.5	+1.1
LAZ				e	pP	22 20 59.8	+0.9
WRA	Warramunga Arr	70.25	200	P	P	22 20 46.0	-0.7
	comp=Z,26nm,0.7s,mb5.3,baz=16,slow=6.5,SNR=62						
WRA	Warramunga Arr	70.25	200	P	P	22 20 46.0	-0.7
WRA				pmax	pmax		
	comp=Z,26nm,0.7s						
ANMO	Albuquerque	70.25	60	eP	P	22 20 46.8	+0.3
ANMO				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ANMO	Albuquerque	70.25	60	eP	P	22 20 46.8	+0.3
	comp=Z,2.7nm,0.7s,mb4.3						
ANMO				e	pP	22 20 59.3	+0.3
ZEI	Tsey	70.71	313	eP	P	22 20 46.0	-3.1
ZEI				e		22 21 12.0	
ZEI				e		22 29 46.0	
ZEI				MLR	MLR		
	comp=Z,400nm,18.0s,MS4.7						
AKASG	Malin Array Be	70.80	327	P	P	22 20 47.5	-2.0
	comp=Z,1.3nm,0.4s,mb4.2,baz=32,slow=6.0,SNR=11						
AKASG				LR	LR	22 57 17.1	
	comp=Z,118nm,18.3s,MS4.2,baz=310,slow=40						
AKASG	Malin Array Be	70.80	327	P	P	22 20 47.6	-1.9
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG				MLR	MLR		
	comp=Z,118nm,18.3s						
FITZ	Fitzroy Crossi	70.92	209	eP	P	22 20 50.7	-0.1
	comp=Z,14nm,0.8s,mb4.9						
FITZ	Fitzroy Crossi	70.92	209	P	P	22 20 50.8	+0.1
	comp=Z,16nm,0.8s,mb5.0,baz=5.2,slow=3.9,SNR=21						
SCHQ	Schefferville	71.55	24	P	P	22 20 53.9	0.0
	comp=Z,11nm,0.6s,mb5.0,baz=344,slow=6.0,SNR=27						
SCHQ	Schefferville	71.55	24	eP	P	22 20 53.4	-0.5
	comp=Z,24nm,0.8s,mb5.2						
SOC	Sochi	72.08	316	eP	P	22 20 53.9	-3.4
SOC				e		22 21 14.0	
SOC				eS	S	22 30 05.5	-9.4
SOC				e		22 31 01.4	
SOC				eSS	SS	22 34 52.2	-2.1
SOC				eSSS	SSS	22 37 54.0	-10
SOC				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.8						
SOC				pmax	pmax		
	comp=N,12nm,0.8s						
SOC				pmax	pmax		
	comp=E,3.0nm,0.6s						
SOC				MLR	MLR		
	comp=Z,246nm,17.0s,MS4.5						
SOC				MLR	MLR		
	comp=N,234nm,19.0s,MS4.6						
SOC				MLR	MLR		
	comp=E,76nm,14.0s,MS4.6						
GDL2	Guadalupe Moun	73.44	60	eP	P	22 21 05.8	+0.3
GDL2				e	pP	22 21 18.1	+0.1
PALK	Pallekele	73.82	263	eP	P	22 21 08.6	+0.6
	comp=E,27nm,1.2s,mb5.0						
ASAR	Alice Springs	73.94	200	P	P	22 21 08.6	+0.1
	comp=E,10nm,0.6s,mb5.0,baz=14,slow=5.4,SNR=58						
ASAR				LR	LR	22 53 11.1	
	comp=E,46nm,18.1s,MS3.8,baz=21,slow=35						
ASPA	Alice Springs	73.94	200	eP	P	22 21 08.8	+0.2
KWP	Kalwaria	74.00	330	eP	P	22 21 07.7	-0.6
KWP				pmax	pmax		
	comp=Z,26nm,1.3s,mb5.0						
KWP	Kalwaria	74.00	330	eP	P	22 21 07.7	-0.6
	comp=Z,26nm,1.3s,mb5.0						
OJC	Ojcow	74.44	332	eP	P	22 21 10.6	-0.3
WMOK	Wichita Mounta	74.72	55	eP	P	22 21 11.8	-1.0
WMOK				e	pP	22 21 24.7	-0.6
WMOK				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
WMOK				MLR	MLR		
	comp=Z,350nm,19.0s,MS4.7						
WMOK	Wichita Mounta	74.72	55	eP	P	22 21 11.8	-1.0
	comp=Z,7.5nm,0.9s,mb4.6						
WMOK				e	pP	22 21 24.7	-0.7
EKA	Eskdalemuir Ar	75.08	347	P	P	22 21 14.2	-0.3
	comp=Z,8.0nm,0.6s,mb4.8,baz=19,slow=5.5,SNR=34						
EKA	Eskdalemuir Ar	75.08	347	P	P	22 21 14.2	-0.3
EKA				pmax	pmax		
	comp=Z,8.0nm,0.6s						
ESK	Eskdalemuir	75.11	347	eP	P	22 21 13.6	-1.0
ESK				pmax	pmax		
	comp=Z,14nm,0.7s,mb5.0						
ESK	Eskdalemuir	75.11	347	eP	P	22 21 13.6	-1.0
	comp=Z,14nm,0.7s,mb5.0						
OKC	Ostrava-Krasne	75.29	332	eP	P	22 21 14.6	-1.2
UPC	Upice	75.34	334	eP	P	22 21 16.6	+0.6
DPC	Dobruska-Polom	75.39	334	eP	P	22 21 16.6	+0.3
DPC				ex	x	22 21 23.4	
CLL	Collm	75.47	336	P	P	22 21 16.2	-0.6
CLL				i *PP	pP	22 21 22.8	-6.5
CLL	Collm	75.47	336	i P	P	22 21 16.2	-0.6
CLL				i		22 21 22.8	
MORC	Moravsky Berou	75.53	333	eP	P	22 21 16.7	-0.4
MORC				e		22 21 24.2	
MORC				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
MORC	Moravsky Berou	75.53	333	eP	P	22 21 16.7	-0.4
	comp=Z,9.3nm,0.9s,mb4.7						
MORC				e		22 21 24.2	
BRG	Berggiesshubel	75.60	335	eP	P	22 21 17.0	-0.5
BRG				e		22 21 23.6	
BRG				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
BRG	Berggiesshubel	75.60	335	eP	P	22 21 17.0	-0.5
	comp=Z,4.6nm,0.9s,mb4.4						
BRG				e		22 21 23.6	
CLZ	Clausthal	75.67	338	eP	P	22 21 18.0	+0.1
PVCC	Panska Ves	75.74	335	eP	P	22 21 18.4	+0.1
LTX	Lajitas	75.95	62	eP	P	22 21 20.3	+0.3
LTX				e	pP	22 21 32.6	+0.1
LTX				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.8						
LTX				MLR	MLR		
	comp=Z,420nm,19.0s,MS4.8						
LTX	Lajitas	75.95	62	eP	P	22 21 20.3	+0.3
	comp=Z,11nm,0.8s,mb4.8						
LTX				e	pP	22 21 32.6	+0.1
BOYT	Boyabat	75.98	318	P	P	22 21 21.0	+1.0
PRU	Pruhonice	76.23	335	eP	P	22 21 20.9	-0.2
PRU				ex	x	22 21 27.7	
VRAC	Vranov	76.23	333	P	P	22 21 21.2	+0.1
	comp=Z,5.9nm,0.6s,mb4.7,baz=297,slow=23,SNR=3.6						
MLR	Muntele Rosu	76.36	326	P	P	22 21 22.1	+0.2
	comp=Z,9.5nm,0.8s,mb4.8,baz=232,slow=1.0,SNR=16						
MLR	Muntele Rosu	76.36	326	P	P	22 21 22.1	+0.2
MLR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PSZ	Piszkesteto	76.41	330	eP	P	22 21 22.5	+0.3
PSZ				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
PSZ	Piszkesteto	76.41	330	eP	P	22 21 22.5	+0.3
	comp=Z,6.0nm,1.1s,mb4.4						
MOX	Moxa	76.44	337	eP	P	22 21 22.0	-0.3
BALT	Daday	76.57	319	P	P	22 21 24.1	+0.9
NKC	Novy Kostel	76.59	336	eP	P	22 21 23.4	+0.2
CTKT	Corum	76.67	317	P	P	22 21 24.8	+0.9
MALT	Malatya	76.80	313	eP	P	22 21 25.4	+0.8
	comp=Z,5.3nm,0.7s,mb4.6						
KHC	Kasperske Hory	77.27	335	eP	P	22 21 27.1	+0.1
JCT	Junction City	77.33	58	eP	P	22 21 27.1	-0.7
JCT				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.7						
JCT	Junction City	77.33	58	eP	P	22 21 27.1	-0.6
	comp=Z,6.6nm,0.7s,mb4.7						
ELDT	Eldivan	77.39	318	P	P	22 21 28.5	+0.6
GRA1	Grafenberg Arr	77.41	337	eP	P	22 21 28.4	+0.6
	comp=Z,14nm,0.7s,mb5.0						
GRF	Grafenberg Arr	77.41	337	eP	P	22 21 28.4	+0.6
GRF				pmax	pmax		
	comp=Z,14nm,0.7s,mb5.0						
WET	Wettzell	77.46	335	eP	P	22 21 28.7	+0.6
WET				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.7						
WET	Wettzell	77.46	335	eP	P	22 21 28.7	+0.6
	comp=Z,7.0nm,0.7s,mb4.7						
GEC2	GERESS Array S	77.50	335	eP	P	22 21 28.3	0.0
GERES	GERESS Array B	77.50	335	P	P	22 21 27.8	-0.5
	comp=Z,3.4nm,0.5s,mb4.5,baz=34,slow=5.1,SNR=56						
GERES	GERESS Array B	77.50	335	P	P	22 21 27.8	-0.5
GERES				pmax	pmax		
	comp=Z,3.0nm,0.5s						
BRTR	Keskin Array B	77.92	317	P	P	22 21 30.9	+0.2
	comp=Z,4.3nm,0.7s,mb4.5,baz=40,slow=3.4,SNR=23						
BRTR				LR	LR	23 01 32.1	
	comp=Z,67nm,18.4s,MS4.0,baz=50,slow=40						
BRTR	Keskin Array B	77.92	317	P	P	22 21 31.0	+0.2
BRTR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BRTR				MLR	MLR		
	comp=Z,67nm,18.4s						
SGKT	Sivrigoynuk	77.94	319	P	P	22 21 23.7	-7.1
GZT	Gaziantep	77.97	313	P	P	22 21 31.8	+0.6
KAHT	Ahir Dag	78.09	314	P	P	22 21 32.5	+0.7
AVNT	Avonos	78.12	316	P	P	22 21 32.1	+0.2
MOA	Molln	78.23	334	⇑iP	P	22 21 32.5	+0.2
	comp=Z,5.1nm,0.7s,mb4.6						
WCI	Wyandotte Cave	78.37	45	eP	P	22 21 33.3	0.0
WCI				e	pP	22 21 45.0	-0.9
WCI				pmax	pmax		
	comp=Z,12nm,0.7s,mb4.9						
WCI	Wyandotte Cave	78.37	45	eP	P	22 21 33.3	0.0
	comp=Z,12nm,0.7s,mb4.9						
WCI				e	pP	22 21 45.0	-0.9
ARSA	Arzberg	78.39	333	⇑iP	P	22 21 33.9	+0.7
	comp=Z,8.9nm,1.7s,mb4.4						
GIVF	Givet	78.59	341	eP	P	22 21 34.1	-0.2
RHK1	Bakonya	78.61	331	⇓eP	P	22 21 33.7	-0.8
BAIF	Baives	78.77	341	eP	P	22 21 34.6	-0.6
STU	Stuttgart	78.79	337	eP	P	22 21 35.2	-0.2
STU				e		22 21 42.5	
STU				pmax	pmax		
	comp=Z,16nm,1.1s,mb4.9						
STU	Stuttgart	78.79	337	eP	P	22 21 35.2	-0.2
	comp=Z,16nm,1.2s,mb4.8						
STU				e		22 21 42.5	
PERS	Pernice	79.07	333	i P	P	22 21 37.0	+0.1
GROS	Grobnik	79.11	332	i P	P	22 21 36.9	-0.3
KBA	Koelnbreinsper	79.20	334	⇑iP	P	22 21 38.3	+0.7
	comp=Z,26nm,0.7s,mb5.3						
ESKT	Eskisehir	79.33	319	P	P	22 21 37.3	-1.3
BFO	Black Forest	79.42	338	eP	P	22 21 39.0	+0.2
WATA	Walderalm	79.47	335	⇑iP	P	22 21 39.4	+0.3
	comp=Z,9.8nm,1.1s,mb4.7						
WTTA	Wattenberg	79.52	335	⇑iP	P	22 21 39.9	+0.5
	comp=Z,20nm,0.6s,mb5.2						
MOTA	Moosalm	79.59	336	⇑iP	P	22 21 40.0	+0.2
	comp=Z,16nm,1.3s,mb4.8						
CDF	Champ du Feu	79.60	338	eP	P	22 21 39.8	0.0
	comp=Z,16nm,0.8s,mb4.7						
SQTA	Sankt Quirin	79.67	336	⇑iP	P	22 21 40.6	+0.4
	comp=Z,24nm,1.4s,mb4.9						
LJU	Ljubljana	79.78	333	i P	P	22 21 40.2	-0.6
ROBS	Robic	79.90	334	i P	P	22 21 40.6	-0.9
DAVA	Damuels	79.97	336	⇑iP	P	22 21 42.6	+0.8
	comp=Z,7.9nm,0.8s,mb4.7						
BOJS	Bojanci	80.04	332	i P	P	22 21 41.0	-1.2
MEZF	Maizieres J’vi	80.05	340	eP	P	22 21 42.3	+0.1
	comp=Z,23nm,0.8s,mb4.9						
JAVS	Javornik	80.05	333	i P	P	22 21 41.4	-0.9
JAVS				i		22 21 45.2	
HAU	Haudompre	80.21	339	eP	P	22 21 42.9	-0.1
	comp=Z,12nm,0.7s,mb4.6						
HAU				eR			
	comp=Z,209nm,19.8s						
DAVOX	Davos	80.44	336	P	P	22 21 45.0	+0.7
	comp=Z,10nm,0.7s,mb4.8,baz=11,slow=3.8,SNR=28						
BRMO	Bormio	80.59	336	eP	P	22 21 46.0	+0.9
STKA	Stephens Creek	80.61	191	eP	P	22 21 45.6	+0.1
	comp=Z,5.2nm,0.9s,mb4.5						
STKA	Stephens Creek	80.61	191	P	P	22 21 45.5	0.0
	comp=Z,5.6nm,0.6s,mb4.7,baz=338,slow=8.1,SNR=14						
STKA				LR	LR	22 56 48.2	
	comp=Z,97nm,20.0s,MS4.2,baz=26,slow=35						
FLN	La Foliniere	80.96	344	eP	P	22 21 46.4	-0.6
	comp=Z,24nm,0.9s,mb4.8						
FLN				eR			
	comp=Z,178nm,20.2s						
SWET	Sewanee	80.97	46	eP	P	22 21 46.2	-1.2
SWET				e	pP	22 21 58.5	-1.5
LDF	La Druitiere	81.05	343	eP	P	22 21 47.5	0.0
	comp=Z,14nm,0.8s,mb4.7						
GRR	Gorron	81.39	344	eP	P	22 21 49.0	-0.3
	comp=Z,19nm,0.7s,mb4.8						
LOR	Lormes	81.48	340	eP	P	22 21 49.9	+0.1
	comp=Z,29nm,0.8s,mb5.0						
LOR				eR			
	comp=Z,253nm,21.2s						
CABF	La Chapelle	81.57	339	eP	P	22 21 49.7	-0.6
	comp=Z,18nm,0.9s,mb4.7						
VAI	Varese	81.58	337	eP	P	22 21 49.9	-0.4
SSF	Saint Saulge	81.75	340	eP	P	22 21 51.4	+0.2
	comp=Z,17nm,0.8s,mb4.7						
SGMF	Saint Gilles	81.83	345	eP	P	22 21 51.2	-0.3
ROSF	Rostrenen	81.87	345	eP	P	22 21 51.5	-0.3
CSS	Prodhromos	81.93	315	eP	P	22 21 52.1	-0.3
	comp=Z,22nm,0.7s,mb5.2						
AVF	Avril sur Loir	82.04	340	eP	P	22 21 52.2	-0.5
	comp=Z,19nm,0.7s,mb4.8						
SMF	Signal de Mont	82.07	340	eP	P	22 21 51.5	-1.3
	comp=Z,36nm,1.1s,mb4.9						
FORT	Forrest	82.17	203	eP	P	22 21 54.1	+0.4
	comp=Z,215nm,0.7s						
RSM	Repubblica di	82.32	333	eP	P	22 21 56.0	+1.8
BGF	Bois d’Agland	82.38	341	eP	P	22 21 54.0	-0.4
	comp=Z,16nm,0.7s,mb4.8						
FSSB	Fossombrone	82.44	333	eP	P	22 21 54.7	-0.1
LPL	La Plagne	82.44	338	eP	P	22 21 55.5	+0.8
	comp=Z,25nm,0.7s,mb4.9						
LPG	La Plagne	82.45	338	eP	P	22 21 55.7	+0.9
	comp=Z,32nm,0.8s,mb5.0						
GSCL	Gusciola	82.48	335	eP	P	22 21 56.1	+1.1
SFI	Santa Sofia	82.52	334	eP	P	22 21 57.5	+2.2
VMG	Vicchio	82.56	334	eP	P	22 21 57.3	+1.9
ARV	Arcevia	82.56	333	eP	P	22 21 55.6	+0.2
PGD	Poggio Sodo	82.58	334	eP	P	22 21 57.0	+1.5
TCF	Toulx Ste Croi	82.77	341	eP	P	22 21 56.4	0.0
	comp=Z,23nm,0.9s,mb4.9						
BNI	Bardonecchia	82.88	338	eP	P	22 21 58.0	+1.0

BNI				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.9						
BNI	Bardonecchia	82.88	338	eP	P	22 21 58.0	+1.0
	comp=Z,8.4nm,0.7s,mb4.9						
MFF	Saint Martin d	82.96	343	eP	P	22 21 57.4	0.0
	comp=Z,20nm,0.8s,mb4.9						
NRCA	Norcia	83.11	332	eP	P	22 21 58.5	+0.3
MBDF	Montbardon	83.16	337	eP	P	22 21 58.5	+0.1
	comp=Z,12nm,0.6s,mb4.8						
ORIF	Oris-en-Rattie	83.21	338	eP	P	22 21 58.5	-0.2
	comp=Z,23nm,0.8s,mb5.0						
VIVF	Saint-Julien-l	83.56	339	eP	P	22 22 00.6	+0.2
	comp=Z,11nm,0.8s,mb4.7						
HILS	Ha'il	83.62	304	P	P	22 22 02.0	+0.8
SBF	Sospel	83.79	337	eP	P	22 22 02.0	+0.4
	comp=Z,21nm,0.7s,mb5.1						
RJF	Les Rejaudoux	83.86	341	eP	P	22 22 01.3	-0.6
RJF				eR			
	comp=Z,213nm,19.2s						
CAF	Calviac	84.10	341	eP	P	22 22 03.5	+0.4
	comp=Z,16nm,0.9s,mb4.8						
SMRF	Simiane la Rot	84.17	338	eP	P	22 22 04.2	+0.7
SANT	Santorini	84.28	321	eP	P	22 22 06.5	+2.2
	comp=Z,140nm,1.2s						
FRF	La Foret Royal	84.28	337	eP	P	22 22 04.4	+0.3
MZLS	Mizel	84.29	300	P	P	22 22 05.0	+0.4
LFF	La Frestale	84.37	342	eP	P	22 22 04.6	+0.1
	comp=Z,21nm,0.8s,mb5.0						
LASF	Ste Croix	84.49	339	eP	P	22 22 05.0	-0.1
LMR	La Mourre	84.53	337	eP	P	22 22 05.7	+0.4
	comp=Z,43nm,1.2s,mb5.2						
PGF	Pioggiola	84.59	335	eP	P	22 22 05.2	-0.4
	comp=Z,15nm,0.6s,mb5.0						
MTLF	Montolieu	85.57	340	eP	P	22 22 10.6	+0.1
	comp=Z,5.9nm,0.9s,mb4.5						
JMQS	Jabal Moqyreh	85.59	309	P	P	22 22 12.3	+1.4
AFFS	'Afif	85.64	301	P	P	22 22 12.1	+0.8
TBKS	Tabuk	85.77	309	P	P	22 22 13.7	+1.8
TOO	Toolangi	85.83	187	eP	P	22 22 13.0	+1.1
	comp=Z,4.2nm,0.6s,mb4.8						
HAQS	Haql	85.94	310	P	P	22 22 14.3	+1.7
KBRS	Khaybar	86.27	305	P	P	22 22 16.1	+1.8
EPF	Esparros	86.28	341	eP	P	22 22 14.1	+0.2
	comp=Z,4.9nm,0.6s,mb4.6						
AYUS	'Aynunah	86.47	309	P	P	22 22 16.8	+1.5
SJPF	Ste Jean	86.53	342	eP	P	22 22 15.7	+0.6
ETSF	Etsaut	86.60	342	eP	P	22 22 15.8	+0.3
	comp=Z,10nm,0.9s,mb4.8						
NWAO	Narrogin (SRO)	87.43	211	P	P	22 22 19.9	0.0
	comp=Z,14nm,0.9s,mb5.2,baz=40,slow=7.9,SNR=4.1						
NWAO	Narrogin (SRO)	87.43	211	P	P	22 22 19.9	+0.1
NWAO				pmax	pmax		
	comp=Z,14nm,0.9s						
KAMS	Al Khamasin	87.53	298	P	P	22 22 20.7	+0.2
ESDC	Sonseca Array	90.38	344	P	P	22 22 33.2	-0.4
	comp=Z,0.9nm,0.6s,mb4.2,baz=359,slow=3.6,SNR=6.5						
ESDC				LR	LR	23 07 59.9	
	comp=Z,119nm,19.7s,MS4.3,baz=35,slow=39						
EVO	Evora	92.19	346	eP	P	22 22 41.8	-0.3
	comp=Z,14nm,1.1s,mb4.9						
EVO				eR			
	comp=Z,131nm,20.2s						
DBIC	Dimbokro	122.36	335	PKP	PKPdf	22 28 27.5	+0.6
	comp=Z,6.8nm,1.0s,baz=345,slow=4.2,SNR=5.5						
DBIC	Dimbokro	122.36	335	PKIKP	PKPdf	22 28 27.5	+0.6
DBIC				pmax	pmax		
	comp=Z,7.0nm,1.0s						
MAW	Mawson	133.98	212	PKP	PKPdf	22 28 47.9	+0.2
	comp=Z,2.0nm,0.7s,baz=72,slow=2.7,SNR=9.3						
MAW	Mawson	133.98	212	PKIKP	PKPdf	22 28 47.9	+0.2
MAW				pmax	pmax		
	comp=Z,2.0nm,0.7s						
QSPA	South Pole Qui	138.00	180	ePKP	PKPdf	22 28 45.7	-9.1
BDFB	Brasilia	142.57	37	PKhKP		22 29 01.4	
	comp=Z,2.0nm,0.6s,baz=101,slow=0.6,SNR=3.9						
BDFB	Brasilia	142.57	37	i PKIKP	PKPdf	22 29 01.5	-3.0
BDFB				pmax	pmax		
	comp=Z,2.0nm,0.6s						
SYO	Syowa Base	142.69	213	⇓PKiKP		22 29 12.4	
SYO	Syowa Base	142.69	213	⇓pPKPdf		22 29 15.6	
SYO	Syowa Base	142.69	213	⇓pPKiKP		22 29 18.4	
CPUP	Villa Florida	146.91	60	PKPbc	PKPbc	22 29 14.7	+1.4
	comp=Z,5.5nm,0.7s,baz=16,slow=2.6,SNR=15						
CPUP	Villa Florida	146.91	60	PKP2	PKPab	22 29 14.7	-2.5
CPUP				pmax	pmax		
	comp=Z,6.0nm,0.7s						
PLCA	Paso Flores	147.39	94	PKPbc	PKPdf	22 29 14.6	+2.5
	comp=Z,8.7nm,0.8s,baz=296,slow=3.1,SNR=12						
PLCA	Paso Flores	147.39	94	PKP2	PKPab	22 29 14.6	-4.0
PLCA				pmax	pmax		
	comp=Z,9.0nm,0.9s						
PLCA	Paso Flores	147.39	94	PKPbc	PKPdf	22 29 14.6	+2.5
SNAA	Sanae	154.27	196	⇑iP	PKPdf	22 29 22.2	+0.8
SNAA	Sanae	154.27	196		PKPdf	22 29 29.5	+8.1
SNAA	Sanae	154.27	196	⇑i	PKPab	22 29 45.4	-0.8
SNAA	Sanae	154.27	196	⇑i		22 29 57.0	
SNAA	Sanae	154.27	196	ePKIKP	PKPdf	22 29 22.1	+0.7
SNAA				e		22 29 45.8	
VNA2	Neumayer--Watz	155.70	194	⇑iP	PKPdf	22 29 36.1	+13
VNA2	Neumayer--Watz	155.70	194	⇑i	PKPab	22 29 54.8	+2.5
VNA2	Neumayer--Watz	155.70	194	⇑i		22 30 07.2	
VNA3	Neumayer Olymp	155.77	192	⇑iP	PKPdf	22 29 37.0	+14
VNA3	Neumayer Olymp	155.77	192	⇑i	PKPab	22 29 54.8	+2.2
VNA3	Neumayer Olymp	155.77	192	⇑i		22 30 07.1	
VNA1	Neumayer--Stat	156.08	194	⇑iP	PKPdf	22 29 36.4	+13
VNA1	Neumayer--Stat	156.08	194	⇑i	PKPab	22 29 56.7	+2.8
VNA1	Neumayer--Stat	156.08	194	⇑i		22 30 08.9	

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*LDG **18** 22:18:59.2±0.3, 42.83N×1.53W, h2^{km}, Md2.3/2, Ml1.8/6, Error ellipse: s-maj=5.8km s-min=4.0km az=40.0*

*STR **18** 22:18:59.8±0.1, 43.36N×0.69W, h10^{km}±1^{km}, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*MDD **18** 22:19:01.0±0.4, 42.88N×1.41W, h8^{km}±3^{km}, mbLg1.4/8, Error ellipse: s-maj=3.6km s-min=2.7km az=38.0, AftershockPLICA PRXIMO*

ISC 18 22:18:58.6±0.6**, 42.84N**±0.03×**1.43W**±0.04**, h8^{km}, n21, σ1$\overset{s}{.}$27**/37**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	Ste Jean	0.31	29	ePg	Pg	22 19 06.3	+1.2
SJPF				eSg	Sg	22 19 09.0	-0.4
	36nm,0.2s						
LARF	Larrau	0.38	58	Pg	Pg	22 19 07.6	+1.2
LARF				Sg	Sg	22 19 13.5	+1.9
LARF	Larrau	0.38	58	P	Pg	22 19 07.8	+1.4
LARF				S	Sg	22 19 13.1	+1.5
EALK	Alkurruntz	0.39	352	Pg	Pg	22 19 07.7	+1.2
	1.2nm,0.1s,SNR=14						
EALK				Lg		22 19 13.1	
	19nm,0.3s,SNR=5.0						
OSSF	Osses	0.44	16	Pg	Pg	22 19 08.3	+0.8
OSSF				Sg	Sg	22 19 14.6	+1.3
OSSF	Osses	0.44	16	P	Pg	22 19 08.4	+0.9
OSSF				S	Sg	22 19 14.3	+1.0
ATE	Arette	0.59	65	P	Pg	22 19 11.7	+1.2
ATE				S	Sg	22 19 19.6	+1.2
ETSF	Etsaut	0.64	84	ePg	Pg	22 19 12.0	+0.4
ETSF				eSg	Sg	22 19 21.0	+0.8
	3.2nm,0.2s						
EPF	Esparros	1.31	81	ePn	Pn	22 19 24.0	+0.7
EPF				ePg	Pg	22 19 26.3	+1.4
EPF				eSg	Sg	22 19 43.0	+0.5
	3.5nm,0.2s						
ESAC	San Caprasio	1.32	147	Pg	Pg	22 19 25.1	0.0
	3.8nm,0.2s,SNR=7.3						
ESAC				Lg		22 19 42.3	
	25nm,0.4s,SNR=5.0						
ELAN	Lanestosa	1.52	286	Pg	Pg	22 19 28.9	-0.1
	0.4nm,0.1s,SNR=6.4						
ELAN				Lg		22 19 49.8	
	1.4nm,0.3s,SNR=5.0						
ETOR	Torete	2.07	193	Pn	Pn	22 19 35.7	+1.6
	0.5nm,0.5s,SNR=5.3						
ETOR				Pg	Pg	22 19 40.4	+0.4
	0.9nm,0.2s,SNR=7.9						
ETOR				Lg		22 20 03.7	
	1.2nm,0.3s,SNR=5.0						
EMIR	Miracle	2.38	112	Pg	Pg	22 19 43.7	-2.4
	0.5nm,0.1s,SNR=4.0						
EMIR				Lg		22 20 15.4	
	1.1nm,0.3s,SNR=4.0						
EPOB	Poblet	2.38	128	Pn	Pn	22 19 39.2	+0.5
	1.4nm,0.7s,SNR=4.0						
EPOB				Sn	Sn	22 20 07.2	-1.2
	SNR=4.0						
EPOB				Lg		22 20 13.3	
	0.4nm,0.2s,SNR=7.9						
LFF	La Frestale	2.62	36	ePn	Pn	22 19 41.5	-0.5
MTLF	Montolieu	2.72	78	ePn	Pn	22 19 43.6	+0.2
MTLF				eSn	Sn	22 20 16.6	-0.2
	0.2nm,0.2s						
RJF	Les Rejaudoux	3.25	40	ePn	Pn	22 19 49.4	-1.6
RJF				eSn	Sn	22 20 27.5	-2.9
	0.5nm,0.2s						
CAF	Calviac	3.28	49	ePn	Pn	22 19 50.1	-1.2
CAF				eSn	Sn	22 20 28.7	-2.2
	0.6nm,0.2s						
MFF	Saint Martin d	3.87	13	ePn	Pn	22 19 58.0	-1.8
MFF				eSn	Sn	22 20 42.0	-4.0
	0.4nm,0.2s						
LASF	Ste Croix	4.04	70	ePn	Pn	22 20 01.2	-1.0
LASF				eSn	Sn	22 20 47.5	-2.8
	0.4nm,0.3s						
VIVF	Saint-Julien-l	4.85	63	ePn	Pn	22 20 11.9	-1.8

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*IDC **18** 22:20:59.4±12.0, 6.19N×126.31E, h79^{km}±116^{km}, mb3.9/6, mb1 4.0/6, mb1mx3.7/18, Error ellipse: s-maj=71.8km s-min=22.5km az=65.0*

*MAN **18** 22:21:03.5, 5.97N×126.24E, h135^{km}, mb4.6, ML3.5, MS3.4*

*NEIC **18** 22:21:16.6±0.7, 6.02N×126.19E, h250^{km}, mb4.7/6, Error ellipse: s-maj=34.3km s-min=9.8km az=70.0*

ISC 18 22:21:04.5±0.6**, 6.08N**±0.07×**126.19E**±0.08**, h143^{km}**±6^{km}**, n26, σ0$\overset{s}{.}$95**/30**, mb4.4**/10**, 1C-1D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MATI	Mati	0.86	4	eP	P	22 21 27.1	-0.6
MATI				eS	S	22 21 45.0	-0.6
GSPH	General Santos	1.24	270	eP	P	22 21 30.0	-1.1
GSPH				i S	S	22 21 50.0	-1.6
KCP	Kidapawan	1.43	310	⇓iP	P	22 21 33.7	+0.5
KCP				i S	S	22 21 55.9	+0.7
BUKP	Musuan	2.11	328	eP	P	22 21 41.3	+0.4
BUKP				eS	S	22 22 10.0	+1.1
CTBH	Cotabato--PC H	2.24	300	⇑iP	P	22 21 42.8	+0.2
CTBH				i S	S	22 22 12.6	+0.8
PAGZ	Pagadian	3.30	302	eP	P	22 21 56.8	+0.5
IPIL	Ipil	3.98	295	eP	P	22 22 05.1	-0.1
KAKA	Kakadu	19.65	162	eP	P	22 25 27.1	+2.7
	13nm,0.6s						
FITZ	Fitzroy Crossi	24.03	181	eP	P	22 26 08.4	+0.8
	2.6nm,0.6s,mb3.9						
FITZ	Fitzroy Crossi	24.03	181	P	P	22 26 08.1	+0.4
	3.2nm,0.6s,mb4.1,baz=4.0,slow=9.3,SNR=19						
WRAB	Tennant Creek	27.07	163	P	P	22 26 34.7	-1.1
WRA	Warramunga Arr	27.07	163	P	P	22 26 35.1	-0.7
	1.4nm,0.3s,mb4.0,baz=345,slow=11,SNR=16						
WB2	Warramunga Arr	27.08	163	eP	P	22 26 38.0	+2.1
MBWA	Marble Bar	27.80	193	eP	P	22 26 41.5	-1.0
CMAR	Chiang Mai Arr	29.28	297	ScP		22 33 30.9	
	0.8nm,0.9s,baz=90,slow=0.9,SNR=4.6						
ASAR	Alice Springs	30.51	166	P	P	22 27 05.9	-0.7
	1.4nm,0.4s,mb4.0,baz=341,slow=6.9,SNR=32						
ASAR				PcP	PcP	22 30 02.5	+0.5
	0.4nm,0.4s,baz=349,slow=2.4,SNR=5.6						
ASPA	Alice Springs	30.51	166	eP	P	22 27 06.0	-0.6
FORT	Forrest	36.69	177	eP	P	22 28 00.0	+0.6
	30nm,0.3s,mb5.4						
KLBR	Kellerberrin	38.32	192	eP	P	22 28 13.1	+0.1
	51nm,1.5s,mb4.9						
MUN	Mundaring	39.02	194	eP	P	22 28 19.5	+0.6
	64nm,0.7s,mb5.4						
NWAO	Narrogin (SRO)	39.72	192	P	P	22 28 25.2	+0.7
	7.7nm,0.9s,mb4.3,baz=11,slow=9.7,SNR=8.3						
STKA	Stephens Creek	40.50	160	P	P	22 28 31.9	+0.9
	3.2nm,0.7s,mb4.1,baz=324,slow=9.4,SNR=6.2						
STKA	Stephens Creek	40.50	160	eP	P	22 28 31.4	+0.5
MKAR	Makanchi Array	55.34	325	P	P	22 30 25.0	-0.7
	0.3nm,0.3s,mb3.5,baz=115,slow=6.7,SNR=16						
KURK	Kurchatov	59.49	327	eP	P	22 30 53.7	-1.1
	1.0nm,0.5s,mb3.9						
ZRNK	Zerenda	65.81	326	eP	P	22 31 35.3	-1.2

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*PRU **18** 22:22:34.5, 51.46N×16.13E*

*WAR **18** 22:22:34.7, 51.50N×16.10E, ML2.6, Mining Induced*

ISC 18 22:22:34.4±1.6**, 51.42N**±0.07×**15.95E**±0.08**, n9, σ0$\overset{s}{.}$84**/17**, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	Ksiaz	0.61	159	ePG	Pg	22 22 47.0	+0.3
KSP				eSG	Sg	22 22 56.0	+1.1
UPC	Upice	0.91	178	ePG	Pg	22 22 52.4	-0.2
DPC	Dobruska-Polom	1.09	168	ePG	Pg	22 22 55.8	-0.5
DPC				eSG	Sg	22 23 10.4	-0.5
PVCC	Panska Ves	1.25	225	ePG	Pg	22 23 00.4	+1.1
PRU	Pruhonice	1.69	213	ePG	Pg	22 23 07.4	-0.7
PRU				eSG	Sg	22 23 30.9	+0.2
CLL	Collm	1.85	268	i PG	Pg	22 23 10.3	-1.1
CLL				eSG	Sg	22 23 37.0	+0.9
OKC	Ostrava-Krasne	2.11	138	eSG	Sg	22 23 40.3	-4.4
KHC	Kasperske Hory	2.75	215	ePG	Pn	22 23 24.5	+3.9
KHC				eSN	Sn	22 23 55.5	+0.5
KHC				eSG	Sg	22 24 04.8	-1.2
KHC	Kasperske Hory	2.75	215	e	Pn	22 23 24.5	+3.9
KHC				eSn	Sn	22 23 55.5	+0.5
KHC				eSg	Sg	22 24 04.8	-1.2

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*IDC **18** 22:36:03.9±3.5, 52.31S×28.48E, mb3.9/4, mb1 4.1/4, mb1mx3.8/14, Error ellipse: s-maj=199.0km s-min=27.2km az=59.0*

ISC 18 22:36:03.7±1.0**, 52.3S**±0.1×**28.3E**±0.3**, h10^{km}, n8, σ0$\overset{s}{.}$84**/8**, mb3.9**/4**, 4C, South of Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MAW	Mawson	22.66	146	P	P	22 41 05.6	-0.1
	1.6nm,0.8s,mb3.5,baz=301,slow=11,SNR=5.2						
SNAA	Sanae	23.76	204	⇑i	P	22 41 16.4	0.0
VNA2	Neumayer--Watz	24.55	207	⇑i	P	22 41 24.8	+0.7
VNA1	Neumayer--Stat	24.66	208	⇑i	P	22 41 26.2	+1.0
VNA3	Neumayer Olymp	25.35	208	⇑i	P	22 41 29.5	-2.2
TSUM	Tsumeb	34.10	342	P	P	22 42 50.4	-0.1
	2.0nm,0.6s,mb4.2,baz=144,slow=11,SNR=7.0						
ASAR	Alice Springs	80.60	117	P	P	22 48 17.9	+0.1
	0.9nm,0.6s,mb3.9,baz=214,slow=4.9,SNR=15						
WRA	Warramunga Arr	83.82	115	P	P	22 48 34.6	+0.1
	0.8nm,0.6s,mb4.0,baz=217,slow=3.6,SNR=5.4						

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*STR **18** 22:38:49.4±0.5, 43.37N×0.67W, h10^{km}±1^{km}, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LDG **18** 22:38:50.7±0.5, 42.90N×1.49W, h2^{km}, Md2.3/2, Ml1.9/7, Error ellipse: s-maj=7.3km s-min=5.1km az=46.0*

*MDD **18** 22:38:51.1±0.4, 42.86N×1.38W, h6^{km}±5^{km}, mbLg1.3/7, Error ellipse: s-maj=3.6km s-min=2.3km az=40.0, PRXIMO AftershockPLICA*

ISC 18 22:38:51.1±0.7**, 42.96N**±0.04×**1.39W**±0.05**, h23^{km}**±4^{km}**, n18, σ1$\overset{s}{.}$03**/32**, 1C, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	Ste Jean	0.20	38	ePg	Pb	22 38 56.5	0.0
SJPF				eSg	Sb	22 38 59.3	-0.8
	15nm,0.3s						
EALK	Alkurruntz	0.28	342	⇑Pg	Pb	22 38 57.7	+0.1
	2.3nm,0.1s,SNR=18						
EALK				Lg		22 39 03.5	
	14nm,0.2s,SNR=18						
LARF	Larrau	0.31	75	Pg	Pb	22 38 57.4	-0.6
LARF				Sg	Sb	22 39 03.7	+0.9
LARF	Larrau	0.31	75	P	Pb	22 38 57.6	-0.4
LARF				S	Sb	22 39 02.9	+0.1
OSSF	Osses	0.31	17	Pg	Pb	22 38 58.4	+0.2
OSSF				Sg	Sb	22 39 04.7	+1.7
OSSF	Osses	0.31	17	P	Pb	22 38 58.6	+0.4
OSSF				S	Sb	22 39 03.6	+0.6
ETSF	Etsaut	0.61	95	ePg	Pb	22 39 02.1	-0.9
ETSF				eSg	Sb	22 39 10.9	-0.4
	5.6nm,0.3s						
EPF	Esparros	1.27	86	ePg	Pn	22 39 16.5	+2.8
EPF				eSg	Sn	22 39 33.2	+3.0
	4.8nm,0.2s						
ESAC	San Caprasio	1.41	151	Pg	Pn	22 39 15.2	-0.5
	2.9nm,0.2s,SNR=5.0						
ESAC				Lg		22 39 32.8	
	5.7nm,0.2s,SNR=6.1						
ELAN	Lanestosa	1.52	281	Pg	Pn	22 39 19.5	+2.1
	SNR=7.9						
ELAN				Lg		22 39 40.9	
	1.4nm,0.2s,SNR=7.9						
ETOR	Torete	2.19	193	Pn	Pn	22 39 26.0	-0.9
	SNR=7.9						
ETOR				Pg	Pn	22 39 29.7	+2.8
	1.4nm,0.3s,SNR=7.1						
ETOR				Sn	Sn	22 39 52.9	-0.8
	SNR=7.9						
ETOR				Lg		22 39 54.0	
	0.5nm,0.2s,SNR=4.6						
EPOB	Poblet	2.44	130	Lg		22 40 02.4	
	1.3nm,0.2s,SNR=7.9						
LFF	La Frestale	2.51	37	ePn	Pn	22 39 31.6	+0.1
LFF				eSg	Sn	22 40 11.6	+10
	1.2nm,0.3s						
MTLF	Montolieu	2.67	81	ePn	Pn	22 39 34.2	+0.5
MTLF				eSn	Sn	22 40 06.7	+1.0
	0.5nm,0.3s						
RJF	Les Rejaudoux	3.14	41	ePn	Pn	22 39 39.6	-0.9
RJF				eSn	Sn	22 40 17.8	+0.1
	0.7nm,0.2s						
CAF	Calviac	3.18	51	ePn	Pn	22 39 40.4	-0.6
CAF				eSn	Sn	22 40 19.1	+0.5
	0.7nm,0.3s						
MFF	Saint Martin d	3.75	13	ePn	Pn	22 39 48.4	-0.7
MFF				eSn	Sn	22 40 31.4	-1.7
	0.5nm,0.3s						
LASF	Ste Croix	3.98	72	ePn	Pn	22 39 51.9	-0.4
LASF				eSn	Sn	22 40 37.8	-1.0
	0.3nm,0.3s						

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*BJI **18** 23:02:15.9, 38.00N×118.70W, h5^{km}, mB5.1, mb5.2, Ms5.3, Msz5.1*

*NEIC **18** 23:02:18.0, 38.00N×118.68W, h5^{km}, mb5.1/56, MS5.1/89, ML5.6(REN), MW5.5(BRK), After REN.*

NEIC Felt [IV] at Benton, Coleville, June Lake, Lee Vining and Mammoth Lakes; [III] at Bridgeport, Groveland, Sonora and Yosemite National Park; [II] at Bishop and South Lake Tahoe. Also felt [IV] at Gabbs and Hawthorne, Nevada. Felt at Las Vegas and Reno, Nevada.

*SYO **18** 23:02:17.0, 38.01N×118.68W, h8^{km}, MB5.2, MS4.9*

*HRVD **18** 23:02:18.0±0.1, 38.02N×118.69W, h12^{km}, MW5.4/67, Centroid moment Tensor Solution. LP body waves: s53,c101;Mantle waves: s67,c143; Half duration: 1$\overset{s}{.}$2 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.18±.02; $M_{\theta\theta}$-1.22±.02; $M_{\phi\phi}$1.41±.02; $M_{r\theta}$0.41±.06; $M_{\theta\phi}$0.70±.02; $M_{\phi r}$0.02±.05; Best double couple: $M_0$1.55×10^{17} NP1: ϕ_s330°, δ76°, λ-171°. NP2:ϕ_s238°, δ81°, λ-15°. Principal axes: T 1.59, Plg4°, Azm284°; N -.07, Plg73°, Azm27°; P -1.51, Plg17°, Azm193°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*IDC **18** 23:02:18.3±0.7, 37.99N×118.64W, mb4.4/18, mb1 4.7/21, mb1mx4.6/26, ML4.9/3, MS5.0/21, Ms1 5.0/21, ms1mx5.0/25 Error ellipse: s-maj=11.1km s-min=10.6km az=128.0*

*MOS **18** 23:02:20.6±1.4, 37.96N×118.60W, h22^{km}, mb5.3/19, MS5.3/23, Error ellipse: s-maj=6.1km s-min=4.2km az=90.8*

ISC 18 23:02:18.1±0.2**, 37.96N**±0.02×**118.68W**±0.02**, h5^{km}, (h19^{km}**±2.4^{km}**:pP-P), n367, σ1$\overset{s}{.}$16**/288**, mb4.9**/87**, MS5.1**/119**, 21C-14D, California-Nevada border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OMM	Old Mammoth Mi	0.42	217	⇓iP	Pg	23 02 26.8	+0.2
NVAR	Mina Array Bea	0.56	32	Pg	Pg	23 02 27.4	-1.9
	9μm,0.3s,baz=216,slow=21						
MTUM	Tungsten Hills	0.61	172	⇓iP	Pg	23 02 30.5	+0.3
MNV	Mina	0.63	41	⇓iP	Pg	23 02 29.0	-1.7
MNV				eS	Sg	23 02 37.4	-1.7
TPH	Tonopah	1.16	84	⇑eP	Pb	23 02 39.2	-1.0
CMB	Columbia Colle	1.35	274	Pn	Pn	23 02 42.0	-1.7
CMB				Sn	Sn	23 03 00.1	-2.1
CMB	Columbia Colle	1.35	274	⇑eP	Pb	23 02 42.0	-1.6
WCN	Washoe City	1.59	328	⇑iP	Pn	23 02 46.5	-0.5
PAHR	Pah Rah Range	1.83	343	⇓ePn	Pn	23 02 50.0	-0.5
DAC	Darwin (Calif)	1.89	152	⇓eP	Pn	23 02 51.8	+0.5
TPNV	Topopah Spring	2.18	117	⇑eP	Pn	23 02 55.3	-0.2
BEKR	Beckwourth	2.31	326	⇑iPn	Pn	23 02 56.7	-0.8
LRV	Little Rabbit	2.42	231	ePn	Pn	23 02 59.8	+0.9
SAO	San Andreas Ge	2.51	243	⇓eP	Pn	23 03 00.5	+0.3
OHCM	Honcut	2.59	303	⇓iPn	Pn	23 03 00.0	-1.4
LKC	Lake Chabot	2.69	266	ePn	Pn	23 03 02.5	-0.3
BMN	Battle Mountai	2.72	24	P	Pn	23 03 01.1	-2.1
BMN	Battle Mountai	2.72	24	⇓iPn	Pn	23 03 00.9	-2.3
SAC	San Andreas	2.99	264	P	Pn	23 03 06.9	-0.1
SAC	San Andreas	2.99	264	ePn	Pn	23 03 06.5	-0.6
NSHM	Saint Helena R	3.15	282	ePn	Pn	23 03 08.1	-1.2
HOPS	Hopland	3.60	288	ePn	Pn	23 03 14.4	-1.4
MWC	Mount Wilson	3.76	172	P	Pn	23 03 18.8	+0.8
MWC	Mount Wilson	3.76	172	ePn	Pn	23 03 18.7	+0.7
NEN	Nelson	3.84	126	ePn	Pn	23 03 18.3	-0.9
NEN				ePg	Pg	23 03 29.3	-5.5
ELK	Elko	3.85	43	P	Pn	23 03 17.3	-2.1
ELK	Elko	3.85	43	⇓iPn	Pn	23 03 16.5	-2.8
WDC	Whiskeytown Da	3.98	312	ePn	Pn	23 03 19.8	-1.4
LDFC	Landfair	4.06	134	ePn	Pn	23 03 20.6	-1.7
MOD	Modoc	4.13	343	ePn	Pn	23 03 23.4	0.0
ARUT	Antelope Range	4.15	91	P	Pn	23 03 21.7	-1.8
ARUT	Antelope Range	4.15	91	ePn	Pn	23 03 21.9	-1.7
ARUT				ePg	Pg	23 03 35.6	-5.3
WVOR	Wild Horse Val	4.47	0	eP	Pn	23 03 27.0	-1.2
PFO	Pinyon Flat Ob	4.70	157	P	Pn	23 03 31.6	+0.2
PFO	Pinyon Flat Ob	4.70	157	ePn	Pn	23 03 31.3	-0.1
PFO				ePg	Pg	23 03 45.7	-6.2
KHMM	Horse Mountain	4.88	308	ePn	Pn	23 03 33.5	-0.4
YBH	Yreka Blue Hor	4.88	322	Pn	Pn	23 03 33.8	-0.2
	12nm,0.3s,baz=144,slow=6.3,SNR=122						
YBH				Lg		23 04 49.6	
	7.6nm,0.3s,baz=43,slow=19,SNR=6.7						
YBH	Yreka Blue Hor	4.88	322	ePn	Pn	23 03 33.8	-0.2
YBH				ePg	Pg	23 03 49.5	-6.1
DUG	Dugway	5.08	62	P	Pn	23 03 35.7	-1.1
DUG				pmax	pmax		
	comp=Z,190nm,1.2s						
DUG	Dugway	5.08	62	ePn	Pn	23 03 35.6	-1.2
	comp=Z,14nm,1.3s						
MVU	Marysvale	5.12	82	ePn	Pn	23 03 36.3	-1.0
	comp=Z,122nm,1.0s						
MSU	Marysvale	5.15	82	ePn	Pn	23 03 36.6	-1.1
KRMB	Red Mountain	5.38	313	ePn	Pn	23 03 39.9	-1.1
KRMB				ePg	Pg	23 03 57.0	-8.5
BAR	Barrett	5.51	162	ePn	Pn	23 03 43.1	+0.3
NLU	North Lily Min	5.52	67	ePn	Pn	23 03 43.5	+0.6
NLU				ePg	Pg	23 04 01.8	-6.5
HUMO	Hull Mountain	5.68	326	ePn	Pn	23 03 45.7	+0.5
	comp=Z,677nm,1.3s						
NOQ	North Oquirrh	5.75	60	ePn	Pn	23 03 46.2	0.0
SPUT	South Promonto	5.86	53	ePn	Pn	23 03 46.9	-0.8
SPUT				eSg	Sx	23 05 20.1	
MPU	Maple Canyon	5.86	67	ePn	Pn	23 03 48.5	+0.8
MPU				ePg	Pg	23 04 06.8	-8.3
HVU	Hansel Valley	5.93	48	P	Pn	23 03 47.9	-0.9
HVU	Hansel Valley	5.93	48	ePn	Pn	23 03 47.3	-1.4
KBO	Bosley Butte	6.01	317	eP	Pn	23 03 54.8	+4.9
CTU	Camp Tracy	6.03	61	ePn	Pn	23 03 50.3	+0.3
JLU	Jordanelle	6.20	63	ePn	Pn	23 03 52.8	+0.3
JLU				ePg	Pg	23 04 16.4	-5.4
DAU	Daniels Canyon	6.26	65	eP	Pn	23 03 55.4	+1.9
DAU	Daniels Canyon	6.26	65	Pn	Pn	23 03 50.4	-3.1
WUAZ	Wupatki	6.35	110	ePn	Pn	23 03 54.2	-0.5
	comp=Z,72nm,0.8s						
TCUT	Toone Canyon	6.44	58	eP	Pn	23 03 56.3	+0.4
HLID	Hailey	6.47	29	ePn	Pn	23 03 53.8	-2.6
	comp=Z,122nm,1.1s						
HSO	Harness Mounta	6.49	330	P	Pn	23 03 58.4	+1.7
HSO	Harness Mounta	6.49	330	eP	Pn	23 03 58.2	+1.5
SRU	San Rafael	6.50	77	P	Pn	23 03 57.6	+0.9
SRU	San Rafael	6.50	77	eP	Pn	23 03 57.1	+0.4
KEBM	Edson Butte	6.54	320	eP	Pn	23 04 00.4	+3.1

HWUT	**Hardware Ranch**	**6.58**	**54**	*e*P	**Pn**	**23 03 57.6**	**-0.3**
	comp=Z,343nm,1.2s						
SSOR	**Sweet Springs**	**7.46**	**339**	P	**Pn**	**23 04 12.5**	**+2.3**
SSOR	**Sweet Springs**	**7.46**	**339**	*e*P	**Pn**	**23 04 12.2**	**+2.0**
COR	**Corvallis**	**7.48**	**334**	P	**Pn**	**23 04 12.6**	**+2.0**
COR				pmax	pmax		
	comp=Z,860nm,1.6s						
COR	**Corvallis**	**7.48**	**334**	*e*P	**Pn**	**23 04 12.0**	**+1.4**
	comp=Z,859nm,1.6s						
AHID	**Auburn Hatcher**	**7.52**	**48**	*e*P	**Pn**	**23 04 10.0**	**-1.1**
	comp=Z,180nm,1.1s						
PV10	**Paradox Valley**	**7.61**	**84**	*e*P	**Pn**	**23 04 11.7**	**-0.6**
VGB	**Gordon Butte**	**7.71**	**349**	P	**Pn**	**23 04 15.2**	**+1.4**
VGB	**Gordon Butte**	**7.71**	**349**	*e*P	**Pn**	**23 04 15.0**	**+1.2**
LNOR	**Lincton Mounta**	**7.91**	**2**	P	**Pn**	**23 04 18.5**	**+1.9**
LNOR	**Lincton Mounta**	**7.91**	**2**	*e*P	**Pn**	**23 04 18.6**	**+2.0**
PV01	**Paradox Valley**	**7.98**	**86**	*e*P	**Pn**	**23 04 16.1**	**-1.4**
REDW	**Red Top Meadow**	**8.03**	**45**	*e*P	**P**	**23 04 19.0**	**+0.8**
TPAW	**Teton Pass**	**8.06**	**44**	*e*P	**P**	**23 04 19.6**	**+1.0**
MCMT	**McKenzie Canyo**	**8.14**	**31**	*e*P	**P**	**23 04 21.0**	**+1.2**
SNOW	**Snow King Moun**	**8.15**	**45**	*e*P	**P**	**23 04 20.9**	**+1.0**
WUWY	**Wally Ulrich**	**8.21**	**45**	*e*P	**P**	**23 04 21.6**	**+0.9**
IMW	**Indian Meadow**	**8.34**	**42**	*e*Pn	**P**	**23 04 22.5**	**0.0**
MOOW	**Moose Ponds**	**8.34**	**44**	*e*P	**P**	**23 04 23.5**	**+0.9**
HAWA	**Hanford**	**8.45**	**356**	*e*P	**P**	**23 04 25.7**	**+1.5**
BW06	**Boulder Array**	**8.46**	**53**	*e*P	**P**	**23 04 24.7**	**+0.5**
PDAR	**Pinedale Array**	**8.46**	**53**	Pn	**P**	**23 04 24.4**	**+0.2**
	comp=Z,3.7nm,0.3s,baz=230,slow=12,SNR=181						
PDAR				Lg		23 06 43.7	
	comp=Z,7.5nm,0.3s,baz=239,slow=33,SNR=7.4						
PDAR				LR	LR	23 07 36.0	
	comp=Z,11µm,18.8s,baz=248,slow=38						
PDAR	**Pinedale Array**	**8.46**	**53**	Pn	**P**	**23 04 24.4**	**+0.2**
PDAR				Lg		23 06 43.7	
PDAR				LR	LR	23 07 36.0	
SHW	**Mount Saint He**	**8.64**	**343**	P	**P**	**23 04 30.2**	**+3.4**
SHW	**Mount Saint He**	**8.64**	**343**	*e*P	**P**	**23 04 29.6**	**+2.8**
QLMT	**Earthquake Lak**	**8.76**	**36**	*e*Pn	**P**	**23 04 30.4**	**+2.0**
YMR	**Madison River**	**8.86**	**38**	*e*P	**P**	**23 04 30.8**	**+0.9**
LON	**Longmire**	**9.09**	**346**	P	**P**	**23 04 35.6**	**+2.7**
LON	**Longmire**	**9.09**	**346**	*e*P	**P**	**23 04 34.5**	**+1.6**
BMW	**Boistfort Moun**	**9.16**	**340**	P	**P**	**23 04 35.9**	**+2.0**
BMW	**Boistfort Moun**	**9.16**	**340**	*e*P	**P**	**23 04 35.2**	**+1.3**
BOZ	**Bozeman (W)**	**9.31**	**32**	P	**P**	**23 04 35.9**	**-0.1**
BOZ				pmax	pmax		
	comp=Z,230nm,1.1s						
BOZ	**Bozeman (W)**	**9.31**	**32**	*e*P	**P**	**23 04 35.8**	**-0.2**
MSO	**Missoula**	**9.53**	**20**	*e*P	**P**	**23 04 39.0**	**0.0**
RMW	**Rattlesnake Mo**	**9.77**	**347**	P	Px	23 04 57.9	
CHMT	**Chamberlain Mo**	**9.81**	**22**	*e*P	**P**	**23 04 42.5**	**-0.3**
DPW	**Davenport**	**9.91**	**2**	P	**P**	**23 04 45.3**	**+1.0**
DPW	**Davenport**	**9.91**	**2**	*e*P	**P**	**23 04 44.9**	**+0.6**
LAZ	**Ladron**	**9.98**	**107**	*e*P	**P**	**23 04 45.8**	**+0.6**
GNW	**Green Mountain**	**10.07**	**344**	*e*P	**P**	**23 04 47.0**	**+0.6**
HRY	**Holter Researc**	**10.11**	**28**	*e*P	**P**	**23 04 46.1**	**-0.8**
NLW	**Nelson Butte**	**10.19**	**354**	*e*P	**P**	**23 04 49.8**	**+1.8**
LENM	**Lemitar**	**10.20**	**108**	*e*P	**P**	**23 04 50.6**	**+2.3**
ANMO	**Albuquerque**	**10.29**	**103**	*e*P	**P**	**23 04 48.3**	**-1.1**
GCMT	**Greycliff**	**10.31**	**38**	*e*P	**P**	**23 04 51.4**	**+1.7**
ISCO	**Idaho Springs**	**10.35**	**76**	*e*P	**P**	**23 04 49.8**	**-0.5**
NEW	**Newport**	**10.37**	**6**	Pn	**P**	**23 04 49.9**	**-0.5**
	comp=Z,0.8nm,0.3s,baz=178,slow=14,SNR=48						
NEW				Lg		23 07 44.2	
	comp=Z,0.4nm,0.3s,baz=101,slow=4.4,SNR=3.8						
NEW				LR	LR	23 09 09.2	
	comp=Z,14µm,18.3s,baz=208,slow=40						
NEW	**Newport**	**10.37**	**6**	P	**P**	**23 04 50.6**	**+0.1**
NEW	**Newport**	**10.37**	**6**	*e*P	**P**	**23 04 50.1**	**-0.3**
LPM	**Los Pinos Moun**	**10.40**	**107**	*e*P	**P**	**23 04 51.5**	**+0.6**
SDCO	**Great Sand Dun**	**10.42**	**87**	*e*P	**P**	**23 04 49.8**	**-1.5**
BNM	**Barren Site**	**10.47**	**108**	*e*P	**P**	**23 04 53.9**	**+2.0**
OCWA	**Octopus Mounta**	**10.58**	**339**	Pn	**P**	**23 04 53.5**	**0.0**
RPW	**Rockport**	**10.69**	**350**	*e*P	**P**	**23 04 56.9**	**+2.0**
PGC	**Sidney**	**11.24**	**344**	*e*P	**P**	**23 05 02.6**	**+0.3**
RSSD	**Black Hills**	**12.65**	**56**	P	**P**	**23 05 19.6**	**-1.8**
RSSD	**Black Hills**	**12.65**	**56**	*e*P	**P**	**23 05 19.5**	**-1.9**
LAO	**LASA Array**	**12.68**	**43**	*e*P	**P**	**23 05 21.1**	**-0.7**
CPRX	**Cap Rock**	**13.03**	**108**	*e*P	**P**	**23 05 29.6**	**+3.1**
GDL2	**Guadalupe Moun**	**13.05**	**112**	*e*P	**P**	**23 05 30.2**	**+3.4**
DGMT	**Dagmar**	**14.87**	**40**	*e*P	**P**	**23 05 49.9**	**-0.8**
BBB	**Bella Bella**	**15.69**	**338**	LR	LR	23 13 02.9	
	comp=Z,4µm,20.6s,baz=159,slow=41						
EDM	**Edmonton**	**15.71**	**12**	*e*P	**P**	**23 06 00.4**	**-1.2**
WMOK	**Wichita Mounta**	**16.35**	**95**	*e*P	**P**	**23 06 10.1**	**+0.2**
WMOK				pmax	pmax		
	comp=Z,73nm,0.3s						
WMOK	**Wichita Mounta**	**16.35**	**95**	*e*P	**P**	**23 06 10.1**	**+0.2**
	comp=Z,73nm,0.3s						
KSU1	**Kansas State U**	**17.30**	**79**	*e*P	**P**	**23 06 22.2**	**+0.2**
FFC	**Flin Flon**	**20.26**	**29**	Pn	**P**	**23 06 54.4**	**-2.6**
	comp=Z,434nm,1.4s,SNR=30						
ULM	**Lac du Bonnet**	**20.38**	**46**	P	**P**	**23 06 55.8**	**-2.4**
	comp=Z,78nm,1.0s,baz=242,slow=10,SNR=24						
ULM				LR	LR	23 13 54.6	
	comp=Z,2µm,20.8s,MS4.5,baz=53,slow=34						
ULM	**Lac du Bonnet**	**20.38**	**46**	PFAKE		23 07 10.0	+12
ULM				LR	LR		
	comp=Z,9µm,19.0s,MS5.1						
MIAR	**Mount Ida**	**20.51**	**92**	PFAKE		23 07 10.0	+10
MIAR				LR	LR		
	comp=Z,17µm,20.0s,MS5.4						
CCM	**Cathedral Cave**	**21.59**	**81**	PFAKE		23 07 20.0	+9.3
CCM				LR	LR		
	comp=Z,8µm,19.0s,MS5.2						
DLBC	**Dease Lake**	**21.79**	**344**	P	**P**	**23 07 13.1**	**+0.5**
	comp=Z,6.8nm,0.9s,mb4.1,baz=141,slow=15,SNR=11						
DLBC				LR	LR	23 16 42.5	
	comp=Z,12µm,18.4s,MS5.3,baz=158,slow=40						
SIT	**Sitka**	**22.06**	**335**	PFAKE		23 07 20.0	+4.7
SIT				LR	LR		
	comp=Z,5µm,21.0s,MS4.9						
JFWS	**Jewell Farm**	**22.14**	**68**	PFAKE		23 07 30.0	+14
JFWS				LR	LR		
	comp=Z,2µm,21.0s,MS4.5						
OXF	**Oxford**	**23.81**	**89**	PFAKE		23 07 40.0	+7.4
OXF				LR	LR		
	comp=Z,7µm,22.0s,MS5.1						
WVT	**Waverly**	**24.64**	**85**	PFAKE		23 07 50.0	+9.4
WVT				LR	LR		
	comp=Z,2µm,20.0s,MS4.6						
YKA	**Yellowknife Ar**	**24.69**	**5**	P	**P**	**23 07 41.7**	**+0.9**
	comp=Z,7.6nm,0.9s,mb4.2,baz=183,slow=9.1,SNR=16						
YKA				LR	LR	23 17 37.2	
	comp=Z,4µm,20.1s,MS4.9,baz=185,slow=37						
YKA	**Yellowknife Ar**	**24.69**	**5**	P	**P**	**23 07 41.7**	**+0.8**
YKA				LR	LR	23 17 37.2	
BLO	**Bloomington**	**25.11**	**77**	*e*P	**P**	**23 07 47.1**	**+2.0**
BLO				pmax	pmax		
	comp=Z,71nm,1.1s,mb5.1						
BLO	**Bloomington**	**25.11**	**77**	*e*P	**P**	**23 07 47.1**	**+2.0**
	comp=Z,71nm,1.2s,mb5.1						
WCI	**Wyandotte Cave**	**25.42**	**79**	*e*P	**P**	**23 07 49.6**	**+1.5**
	comp=Z,46nm,1.0s,mb5.0						
WCI				LR	LR		
	comp=Z,6µm,19.0s,MS5.1						
LRAL	**Lakeview Retre**	**26.18**	**91**	PFAKE		23 08 10.0	+15
LRAL				LR	LR		
	comp=Z,11µm,20.0s,MS5.4						
ACSO	**Alum Creek Sta**	**27.68**	**74**	PFAKE		23 08 20.0	+11
ACSO				LR	LR		
	comp=Z,3µm,20.0s,MS4.8						
MYNC	**Murphy**	**27.82**	**85**	PFAKE		23 08 20.0	+10
MYNC				LR	LR		
	comp=Z,9µm,20.0s,MS5.3						
DIV	**Divide**	**28.71**	**333**	PFAKE		23 08 30.0	+12
DIV				LR	LR		
	comp=Z,16µm,19.0s,MS5.7						
KDAK	**Kodiak Island**	**29.70**	**323**	PFAKE		23 08 40.0	+13
KDAK				LR	LR		
	comp=Z,1µm,21.0s,MS4.5						
ERPA	**Erie**	**29.74**	**70**	PFAKE		23 08 40.0	+13
ERPA				LR	LR		
	comp=Z,2µm,19.0s,MS4.7						
MCWV	**Mont Chateau**	**30.15**	**75**	PFAKE		23 08 40.0	+8.9
MCWV				LR	LR		
	comp=Z,5µm,19.0s,MS5.2						
BLA	**Blacksburg**	**30.19**	**79**	PFAKE		23 08 40.0	+8.6
BLA				LR	LR		
	comp=Z,7µm,19.0s,MS5.3						
PMR	**Palmer**	**30.26**	**331**	PFAKE		23 08 40.0	+8.2
PMR				LR	LR		
	comp=Z,2µm,19.0s,MS4.8						
FIB	**Fire Island**	**30.41**	**330**	PFAKE		23 08 40.0	+6.9
FIB				LR	LR		
	comp=Z,761nm,21.0s,MS4.3						
MCK	**McKinley**	**31.54**	**335**	PFAKE		23 08 50.0	+7.0
MCK				LR	LR		
	comp=Z,1µm,21.0s,MS4.6						
NHSC	**New Hope**	**31.55**	**87**	PFAKE		23 08 50.0	+6.5
NHSC				LR	LR		
	comp=Z,4µm,22.0s,MS5.1						
ILAR	**Eielson Array**	**31.58**	**337**	P	**P**	**23 08 43.2**	**-0.1**
	comp=Z,3.7nm,0.8s,mb4.3,baz=154,slow=6.9,SNR=16						
COLA	**College**	**31.95**	**337**	*de*P	**P**	**23 08 44.9**	**-1.7**
COLA	**College**	**31.95**	**337**	PFAKE		23 09 00.0	+13
COLA				LR	LR		
	comp=Z,3µm,20.0s,MS4.9						
CBN	**Corbin**	**32.32**	**77**	PFAKE		23 09 00.0	+10
CBN				LR	LR		
	comp=Z,4µm,20.0s,MS5.1						
DWPF	**Disney**	**32.55**	**96**	PFAKE		23 09 00.0	+7.8
DWPF				LR	LR		
	comp=Z,3µm,21.0s,MS4.9						
NCB	**Newcomb**	**33.78**	**65**	PFAKE		23 09 10.0	+7.2
NCB				LR	LR		
	comp=Z,1µm,22.0s,MS4.6						
IMA	**Indian Mountai**	**34.58**	**336**	*e*P	**P**	**23 09 10.2**	**+0.7**
	comp=Z,7.5nm,1.0s,mb4.6						
HRV	**Harvard--Oak R**	**35.90**	**68**	PFAKE		23 09 30.0	+9.1
HRV				LR	LR		
	comp=Z,4µm,21.0s,MS5.2						
WES	**Weston**	**36.09**	**68**	PFAKE		23 09 30.0	+7.4
WES				LR	LR		
	comp=Z,4µm,22.0s,MS5.1						
UNV	**Unalaska Valle**	**36.11**	**312**	PFAKE		23 09 30.0	+7.4
UNV				LR	LR		
	comp=Z,4µm,20.0s,MS5.2						
WVL	**Waterville**	**36.98**	**64**	PFAKE		23 09 40.0	+10
WVL				LR	LR		
	comp=Z,11µm,20.0s,MS5.7						
PQI	**Presque Isle**	**37.89**	**60**	PFAKE		23 09 50.0	+12
PQI				LR	LR		
	comp=Z,14µm,20.0s,MS5.8						
EMMW	**East Machias**	**38.51**	**63**	PFAKE		23 09 50.0	+7.1
EMMW				LR	LR		
	comp=Z,15µm,19.0s,MS5.8						
SCHQ	**Schefferville**	**38.55**	**47**	P	**P**	**23 09 41.1**	**-2.0**
	comp=Z,14nm,1.0s,mb4.7,baz=277,slow=10.0,SNR=4.5						
SCHQ				LR	LR	23 25 12.3	
	comp=Z,2µm,18.4s,MS5.0,baz=85,slow=36						
SCHQ	**Schefferville**	**38.55**	**47**	⇓*e*P	**P**	**23 09 40.5**	**-2.6**
	comp=Z,44nm,1.0s,mb5.1						
SCHQ				LR	LR		
	comp=Z,2µm,20.0s,MS5.0						
TNA	**Tin City**	**39.50**	**330**	PFAKE		23 10 00.0	+9.1
TNA				LR	LR		
	comp=Z,953nm,21.0s,MS4.6						
JTS	**JuntasAbangare**	**40.91**	**123**	LR	LR	23 28 14.3	
	comp=Z,3µm,19.4s,MS5.2,baz=310,slow=38						
JTS	**JuntasAbangare**	**40.91**	**123**	P	**P**	**23 10 04.1**	**+1.0**
	comp=Z,5.7nm,0.7s,mb4.3						
JTS				LR	LR		
	comp=Z,790nm,20.0s,MS4.6						
BBSR	**BB Station**	**43.97**	**80**	PFAKE		23 10 40.0	+12
BBSR				LR	LR		
	comp=Z,3µm,19.0s,MS5.3						
PAYG	**Puerto Ayora**	**46.51**	**139**	PFAKE		23 11 00.0	+12
PAYG				LR	LR		
	comp=Z,988nm,19.0s,MS4.8						
SMY	**Shemya**	**47.76**	**311**	PFAKE		23 11 10.0	+12
SMY				LR	LR		
	comp=Z,3µm,20.0s,MS5.3						
MIDW	**Midway**	**49.42**	**277**	PFAKE		23 11 20.0	+9.1
MIDW				LR	LR		
	comp=Z,836nm,19.0s,MS4.8						
SUMG	**Summit**	**51.36**	**22**	*e*P	**P**	**23 11 21.6**	**-3.5**
	comp=Z,41nm,1.4s,mb5.2						
SDV	**Santo Domingo**	**51.96**	**111**	*e*P	**P**	**23 11 29.3**	**-1.2**
	comp=Z,7.4nm,1.0s,mb4.6						
SDV				LR	LR		
	comp=Z,356nm,21.0s,MS4.4						
ROSC	**El Rosal**	**52.06**	**118**	LR	LR	23 35 03.7	
	comp=Z,1µm,19.1s,MS5.0,baz=328,slow=38						
OTAV	**Otavalo**	**52.70**	**126**	P	**P**	**23 11 45.0**	**+9.0**
SEY	**Seymchan**	**56.54**	**327**	*e*P	**P**	**23 12 02.6**	**-0.8**
SEY				*e*PPP	PPP	23 15 22.2	-5.9
SEY				*e*S	**S**	**23 19 54.9**	**+1.2**
SEY						23 21 54.3	
SEY				pmax	pmax		
	comp=Z,60nm,1.3s,mb5.5						
SEY				smax			
	comp=N,2µm,24.4s						
SEY				smax			
	comp=E,800nm,26.5s						
SEY				MLR	MLR		
	comp=N,3µm,22.0s						
SEY				MLR	MLR		
	comp=Z,3µm,22.0s,MS5.4						
PET	**Petropavlovsk**	**56.70**	**314**	*e*P	**P**	**23 12 07.7**	**+3.1**
PET				*e*S	**S**	**23 20 01.0**	**+5.1**
PET				pmax	pmax		
	comp=Z,31nm,1.0s,mb5.3						
PET				smax			
	comp=E,300nm,13.5s						
PET				smax			
	comp=N,300nm,17.0s						
PET	**Petropavlovsk**	**56.70**	**314**	PFAKE		23 12 10.0	+5.4
PET				LR	LR		
	comp=Z,843nm,22.0s,MS4.8						
MA2	**Magadan**	**58.45**	**323**	P	**P**	**23 12 15.7**	**-1.1**
MA2				*e*S	**S**	**23 20 16.2**	**-2.6**
MA2				pmax	pmax		
	comp=Z,30nm,1.5s,mb5.1						
MA2				MLR	MLR		
	comp=Z,1µm,22.5s,MS4.9						
MA2	**Magadan**	**58.45**	**323**	PFAKE		23 12 30.0	+13
MA2				LR	LR		
	comp=Z,736nm,22.0s,MS4.8						
BORG	**Borgarnes**	**59.34**	**30**	PFAKE		23 12 30.0	+7.0
BORG				LR	LR		
	comp=Z,971nm,21.0s,MS4.9						
KBS	**Kingsbay**	**59.91**	**10**	*e*P	**P**	**23 12 24.7**	**-2.1**
KBS				*e*S	**S**	**23 20 36.6**	**-0.9**
KBS				AMS	AMS	23 39 56.8	
	comp=Z,2µm,14.6s,MS5.4						
KBS	**Kingsbay**	**59.91**	**10**	PFAKE		23 12 40.0	+13
KBS				LR	LR		
	comp=Z,2µm,20.0s,MS5.3						
JMIC	**Jan Mayen**	**60.70**	**21**	AMS	AMS	23 39 51.4	
	comp=Z,2µm,18.5s,MS5.3						
TIXI	**Tiksi**	**60.97**	**340**	*e*P	**P**	**23 12 32.1**	**-2.0**
TIXI				*e*		23 13 17.2	
TIXI				*e*		23 14 45.7	
TIXI				*e*S	**S**	**23 20 52.4**	**+1.2**
TIXI				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.9						
TIXI	**Tiksi**	**60.97**	**340**	PFAKE		23 12 40.0	+5.9
TIXI				LR	LR		
	comp=Z,464nm,21.0s,MS4.6						
PPT	**Papeete**	**62.40**	**214**	*e*SS	SS	23 25 00.3	-15
PPT				*e*L		23 28 10.7	
PPT				*e*R		23 30 54.7	
	comp=Z,2µm,27.0s,baz=22						
RKT	**Rikitea**	**62.65**	**197**	*e*L		23 28 31.4	
RKT				*e*R		23 30 56.9	
	comp=Z,4µm,31.5s,baz=12						
BJO	**Bjornoya**	**64.38**	**12**	AMS	AMS	23 41 54.6	
	comp=Z,764nm,19.8s,MS4.9						
YAK	**Yakutsk**	**66.25**	**331**	*c i*P	**P**	**23 13 11.4**	**+2.6**
YAK				*e**PP	pP	23 13 19.0	+8.6
YAK				*e*		23 13 37.1	
YAK				*e*		23 15 35.8	
YAK				*e*S	S	23 21 59.7	+2.6
YAK				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.9						
YAK				pmax	pmax		
	comp=N,5.0nm,1.3s						
YAK				pmax	pmax		
	comp=E,6.0nm,1.1s						
YAK				pmax	pmax		
	comp=N,1.0nm,0.8s						
YAK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
YAK				pmax	pmax		
	comp=E,2.0nm,1.1s						
YAK				smax			
	comp=E,96nm,16.1s						
YAK				smax			
	comp=Z,138nm,26.2s						
YAK				smax			
	comp=N,107nm,21.3s						
YAK	**Yakutsk**	**66.25**	**331**	PFAKE		23 13 20.0	+11
YAK				LR	LR		
	comp=Z,716nm,19.0s,MS4.9						
TBI	**Tubuai**	**67.49**	**211**	*e*L		23 30 21.0	
TBI				*e*R		23 33 25.4	
	comp=Z,1µm,28.8s,baz=22						
TRO	**Tromso**	**68.33**	**15**	AMS	AMS	23 44 53.7	
	comp=Z,1µm,19.1s,MS5.1						
YSS	**Yuzh-Sakhalins**	**68.56**	**313**	P	**P**	**23 13 26.0**	**+2.4**
YSS				*e*S	S	23 22 27.0	+2.0
YSS				pmax	pmax		
	comp=Z,50nm,1.3s,mb5.3						
YSS				MLR	MLR		
	comp=Z,500nm,18.0s,MS4.8						
YSS	**Yuzh-Sakhalins**	**68.56**	**313**	PFAKE		23 13 30.0	+6.4
YSS				LR	LR		
	comp=Z,500nm,20.0s,MS4.8						
ARCES	**ARCESS Array B**	**69.64**	**13**	P	**P**	**23 13 29.1**	**-0.8**
	comp=Z,2.1nm,0.7s,mb4.2,baz=342,slow=3.8,SNR=6.1						
ARCES				LR	LR	23 44 56.6	
	comp=Z,846nm,20.4s,MS5.0,baz=342,slow=37						
SAML	**Samuel**	**69.65**	**120**	PFAKE		23 13 40.0	+9.2
SAML				LR	LR		
	comp=Z,933nm,21.0s,MS5.0						
NSS	**Namsos**	**70.75**	**20**	AMS	AMS	23 45 04.5	
	comp=Z,2µm,16.3s,MS5.4						
LPAZ	**La Paz**	**71.84**	**129**	P	**P**	**23 13 43.2**	**-0.8**
	comp=Z,2.1nm,0.3s,mb4.5,baz=350,slow=5.2,SNR=7.7						
LPAZ				LR	LR	23 47 54.9	
	comp=Z,506nm,18.1s,MS4.8,baz=80,slow=38						
LPAZ	**La Paz**	**71.84**	**129**	P	**P**	**23 13 43.7**	**-0.3**
LPAZ				*e*		23 14 04.3	
LPAZ				pmax	pmax		
	comp=Z,4.0nm,0.6s						
LPAZ	**La Paz**	**71.84**	**129**	*e*P	**P**	**23 13 42.9**	**-1.2**
	comp=Z,3.9nm,0.8s,mb4.4						
LPAZ				LR	LR		
	comp=Z,787nm,21.0s,MS5.0						
KLR	**Kul'dur**	**73.21**	**320**	*e*P	**P**	**23 13 49.7**	**-1.8**
NOA	**NORSAR Array B**	**73.24**	**23**	P	**P**	**23 13 50.4**	**-1.1**
	comp=Z,1.2nm,0.9s,mb3.8,baz=298,slow=22,SNR=3.0						
NOA				LR	LR	23 46 19.4	
	comp=Z,727nm,21.1s,MS4.9,baz=310,slow=36						
NOA	**NORSAR Array B**	**73.24**	**23**	P	**P**	**23 13 50.4**	**-1.1**
NOA				LR	LR	23 46 19.4	
KONO	**Kongsberg**	**73.80**	**25**	AMS	AMS	23 47 49.1	
	comp=Z,2µm,18.8s,MS5.3						
KONO	**Kongsberg**	**73.80**	**25**	PFAKE		23 14 00.0	+5.2
KONO				LR	LR		
	comp=Z,1µm,19.0s,MS5.2						
HFS	**Hagfors**	**74.72**	**23**	P	**P**	**23 13 59.2**	**-0.8**
	comp=Z,5.9nm,0.8s,mb4.6,baz=45,slow=4.2,SNR=5.6						
BOD	**Bodaibo**	**74.88**	**334**	*e*P	**P**	**23 13 58.5**	**-2.5**
KAF	**Kangasniemi**	**76.34**	**16**	*e*p	**P**	**23 14 08.9**	**-0.4**
	comp=Z,0.8nm,0.5s,mb3.9						
KAF	**Kangasniemi**	**76.34**	**16**	*e*P	**P**	**23 14 08.9**	**-0.4**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
FINES	**FINESS Array B**	**76.88**	**17**	P	**P**	**23 14 11.3**	**-1.0**
	comp=Z,3.6nm,0.8s,mb4.4,baz=339,slow=5.4,SNR=16						
FINES				LR	LR	23 47 13.5	
	comp=Z,920nm,19.3s,MS5.1,baz=136,slow=35						
MDJ	**Mudanjiang**	**77.31**	**317**	P	**P**	**23 14 10.9**	**-4.1**
MDJ				S	S	23 24 04.5	+0.2
MDJ				SKS	SKS	23 24 23.3	-4.1
MDJ				SCS	ScS	23 24 28.8	-1.3
MDJ				SS	SS	23 28 59.6	-5.7
MDJ				AMB	AMB		
	comp=Z,67nm,5.2s						
MDJ				LR	LR		
	comp=N,604nm,33.1s,MS4.8						
MDJ				LR	LR		
	comp=E,537nm,33.8s,MS4.8						
MDJ				LR	LR		
	comp=Z,894nm,33.1s,MS4.9						
MDJ	**Mudanjiang**	**77.31**	**317**	PFAKE		23 14 20.0	+5.0
MDJ				LR	LR		
	comp=Z,756nm,20.0s,MS5.0						
MAJO	**Matsushiro**	**77.37**	**307**	P	**P**	**23 14 17.6**	**+2.0**
MAJO	**Matsushiro**	**77.37**	**307**	*e*P	**P**	**23 14 15.3**	**-0.2**
	comp=Z,23nm,1.1s,mb5.0						
MAJO				LR	LR		
	comp=Z,692nm,22.0s,MS4.9						
MAT	**Matsushiro**	**77.37**	**307**	P	**P**	**23 14 16.4**	**+0.8**
MAT				S	S	23 24 04.0	-1.1
MAT	**Matsushiro**	**77.37**	**307**	*e*P	**P**	**23 14 16.0**	**+0.4**
	comp=Z,20nm,1.1s,mb5.0						
MAT				*e*S	S	23 24 05.0	-0.1
MAT				LR	LR		
	comp=Z,720nm,21.0s,MS5.0						
FLN	**La Foliniere**	**77.75**	**37**	*e*P	**P**	**23 14 17.1**	**-0.3**
	comp=Z,156nm,1.6s,mb5.4						
FLN				*e*R			
	comp=Z,1µm,17.8s						
GRR	**Gorron**	**77.84**	**37**	*e*P	**P**	**23 14 18.3**	**+0.4**
LDF	**La Druitiere**	**78.04**	**37**	*e*P	**P**	**23 14 18.9**	**-0.1**
	comp=Z,67nm,1.4s,mb5.1						
BAIF	**Baives**	**78.95**	**33**	*e*P	**P**	**23 14 23.9**	**0.0**
	comp=Z,30nm,1.1s,mb4.8						
HIA	**Hailar**	**78.95**	**325**	*e*P	**P**	**23 14 22.4**	**-1.5**
	comp=Z,20nm,1.4s,mb4.8						
HIA				LR	LR		
	comp=Z,1µm,20.0s,MS5.3						
GIVF	**Givet**	**79.19**	**33**	*e*P	**P**	**23 14 25.3**	**+0.1**
MFF	**Saint Martin d**	**79.44**	**38**	*e*P	**P**	**23 14 26.6**	**-0.1**
CN2	**Changchun**	**80.06**	**319**	*e*P	**P**	**23 14 33.0**	**+3.0**
CN2				*e*S	S	23 24 31.3	-2.2
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,430nm,19.0s,MS5.2						
CN2				LR	LR		
	comp=E,940nm,19.0s,MS5.2						
CN2				LR	LR		
	comp=Z,580nm,19.0s,MS4.9						
MEZF	**Maizieres J'vi**	**80.48**	**34**	*e*P	**P**	**23 14 31.9**	**-0.3**
	comp=Z,55nm,1.3s,mb5.0						
EVO	**Evora**	**80.72**	**48**	*e*P	**P**	**23 14 34.5**	**+0.8**
	comp=Z,54nm,1.6s,mb4.9						
EVO				*e*R			
	comp=Z,2µm,21.0s						
TCF	**Toulx Ste Croi**	**80.80**	**37**	*e*P	**P**	**23 14 33.8**	**-0.1**
	comp=Z,27nm,1.3s,mb4.7						
SSF	**Saint Saulge**	**80.84**	**36**	*e*P	**P**	**23 14 34.0**	**-0.1**
	comp=Z,46nm,1.3s,mb5.0						
LOR	**Lormes**	**80.85**	**36**	*e*P	**P**	**23 14 33.0**	**-1.2**
	comp=Z,86nm,1.3s,mb5.2						
LOR				*e*R			
	comp=Z,2µm,20.0s						
BGF	**Bois d'Agland**	**80.91**	**37**	*e*P	**P**	**23 14 34.3**	**-0.2**
	comp=Z,46nm,1.2s,mb5.0						
AVF	**Avril sur Loir**	**80.97**	**36**	*e*P	**P**	**23 14 34.5**	**-0.3**
	comp=Z,84nm,1.6s,mb5.1						
LFF	**La Frestale**	**81.06**	**39**	*e*P	**P**	**23 14 35.2**	**-0.1**
RJF	**Les Rejaudoux**	**81.18**	**38**	*e*P	**P**	**23 14 35.8**	**-0.1**
	comp=Z,20nm,1.0s,mb4.7						
RJF				*e*R			
	comp=Z,2µm,20.0s						
SMF	**Signal de Mont**	**81.31**	**36**	*e*P	**P**	**23 14 36.1**	**-0.5**
	comp=Z,44nm,1.2s,mb5.0						
SJPF	**Ste Jean**	**81.36**	**41**	*e*P	**P**	**23 14 36.8**	**-0.1**
	comp=Z,30nm,1.3s,mb4.8						
HAU	**Haudompre**	**81.42**	**34**	*e*P	**P**	**23 14 37.2**	**+0.1**
	comp=Z,40nm,1.1s,mb5.0						
HAU				*e*R			
	comp=Z,3µm,22.2s						
GKP	**Gorka Klasztor**	**81.45**	**25**	*e*P	**P**	**23 14 39.7**	**+2.5**
GKP				MLR	MLR		
	comp=Z,2µm,20.0s,MS5.5						
CDF	**Champ du Feu**	**81.52**	**33**	*e*P	**P**	**23 14 37.8**	**+0.2**
	comp=Z,57nm,1.3s,mb5.0						
CLL	**Collm**	**81.56**	**28**	P	**P**	**23 14 37.9**	**+0.1**
	comp=Z,logA/T=1.1,mb4.8						
CLL				*i*		23 14 42.8	
CLL	**Collm**	**81.56**	**28**	*i* P	**P**	**23 14 37.9**	**+0.1**
CLL				pmax	pmax		
	comp=Z,14nm,1.2s,mb4.8						
CLL	**Collm**	**81.56**	**28**	*i* P	**P**	**23 14 37.9**	**+0.1**
	comp=Z,14nm,1.2s,mb4.8						
MOX	**Moxa**	**81.56**	**29**	*i* P	**P**	**23 14 39.0**	**+1.2**
	comp=Z,logA/T=1.1,mb4.8						
MOX				L		23 52 09.0	
MOX	**Moxa**	**81.56**	**29**	*e*P	**P**	**23 14 39.0**	**+1.2**

MOX				pmax	pmax		
	comp=Z,19nm,1.4s,mb4.8						
MOX				MLR	MLR		
	comp=Z,2µm,19.0s,MS5.5						
MOX	Moxa	81.56	29	*e*P	P	23 14 39.0	+1.2
	comp=Z,19nm,1.4s,mb4.8						
MOX				LR	LR		
	comp=Z,2µm,19.0s,MS5.5						
CAF	Calviac	81.72	38	*e*P	P	23 14 38.5	-0.3
	comp=Z,23nm,1.1s,mb4.7						
HINF	Hinteralfeld	81.79	34	*e*P	P	23 14 39.0	0.0
	comp=Z,14nm,0.8s,mb4.6						
ETSF	Etsaut	81.86	41	*e*P	P	23 14 39.8	+0.3
	comp=Z,9.5nm,1.1s,mb4.3						
GRA1	Grafenberg Arr	82.16	30	*e*P	P	23 14 41.7	+0.8
	comp=Z,22nm,1.0s,mb5.0						
GRA1				LR	LR		
	comp=Z,3µm,18.0s,MS5.7						
GRF	Grafenberg Arr	82.16	30	*e*P	P	23 14 41.7	+0.8
GRF				pmax	pmax		
	comp=Z,22nm,1.0s,mb5.0						
GRF				MLR	MLR		
	comp=Z,3µm,18.0s,MS5.7						
NKC	Novy Kostel	82.21	29	*e*P	P	23 14 41.7	+0.5
NKC				LR		23 51 40.0	
	comp=Z,1.0nm,20.1s						
BRG	Berggiesshubel	82.26	28	⇑*i*P	P	23 14 41.8	+0.4
BRG				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.8						
BRG				MLR	MLR		
	comp=Z,2µm,16.2s,MS5.5						
BRG				MLR	MLR		
	comp=N,3µm,21.5s						
BRG				MLR	MLR		
	comp=E,2µm,21.5s						
BRG	Berggiesshubel	82.26	28	⇑*i*P	P	23 14 41.8	+0.4
	comp=E,14nm,1.1s,mb4.8						
BRG				LR	LR		
	comp=Z,2µm,16.2s,MS5.5						
ESDC	Sonseca Array	82.28	45	P	P	23 14 41.5	-0.3
	comp=Z,0.9nm,0.7s,mb3.8,baz=311,slow=5.7,SNR=6.9						
ESDC				LR	LR	23 46 16.2	
	comp=Z,855nm,20.4s,MS5.1,baz=305,slow=32						
CABF	La Chapelle	82.36	35	*e*P	P	23 14 42.4	+0.4
	comp=Z,64nm,1.5s,mb5.0						
SUW	Suwalki	82.67	22	*e*P	P	23 14 43.4	-0.1
SUW				MLR	MLR		
	comp=Z,1µm,21.3s,MS5.3						
PVCC	Panska Ves	82.77	28	*e*P	P	23 14 44.5	+0.4
PVCC				LR		23 53 10.0	
	comp=Z,1.0nm,16.9s						
MTLF	Montolieu	82.95	39	*e*P	P	23 14 45.4	+0.2
	comp=Z,19nm,1.2s,mb4.7						
VIVF	Saint-Julien-l	83.03	37	*e*P	P	23 14 45.7	+0.2
	comp=Z,30nm,1.3s,mb4.9						
KSP	Ksiaz	83.14	27	*e*P	P	23 14 46.0	0.0
KSP				MLR	MLR		
	comp=Z,3µm,20.4s,MS5.7						
PRU	Pruhonice	83.20	28	*e*P	P	23 14 46.5	+0.2
	comp=Z,8.2nm,1.0s,mb4.7						
PRU				LR		23 49 40.0	
	comp=Z,1.1nm,12.0s						
PRU	Pruhonice	83.20	28	*e*P	P	23 14 46.5	+0.2
PRU				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.7						
PRU				MLR	MLR		
	comp=Z,1µm,12.0s,MS5.5						
LASF	Ste Croix	83.21	38	*e*P	P	23 14 46.6	+0.1
UPC	Upice	83.32	27	*e*P	P	23 14 46.8	-0.1
LPL	La Plagne	83.48	35	*e*P	P	23 14 47.8	-0.1
	comp=Z,20nm,1.2s,mb4.7						
LPG	La Plagne	83.51	35	*e*P	P	23 14 47.9	0.0
	comp=Z,64nm,1.4s,mb5.2						
KHC	Kasperske Hory	83.53	29	*e*P	P	23 14 48.4	+0.4
KHC				LR		23 52 30.0	
	comp=Z,3.2nm,20.4s						
ORIF	Oris-en-Rattie	83.54	36	*e*P	P	23 14 48.6	+0.4
	comp=Z,19nm,1.0s,mb4.9						
ORIF				*e*R			
	comp=Z,2µm,20.0s						
WAR	Warsaw	83.55	24	*e*P	P	23 14 44.8	-3.2
WAR				MLR	MLR		
	comp=Z,1µm,19.7s,MS5.3						
DPC	Dobruska-Polom	83.56	27	*e*P	P	23 14 48.8	+0.7
DPC				LR		23 54 10.0	
	comp=Z,0.8nm,18.8s						
INCN	Inchon	83.77	313	PFAKE		23 15 00.0	+10
INCN				LR	LR		
	comp=Z,438nm,20.0s,MS4.8						
GERES	GERESS Array B	83.81	29	P	P	23 14 49.4	0.0
	comp=Z,1.2nm,0.7s,mb4.1,baz=342,slow=4.2,SNR=13						
DAVOX	Davos	83.90	33	P	P	23 14 50.7	+0.8
	comp=Z,2.8nm,0.8s,mb4.4,baz=344,slow=15,SNR=7.2						
ORO	Oropa	83.96	34	*e*P	P	23 14 51.4	+1.1
MOTA	Moosalm	83.97	32	⇑*i*P	P	23 14 51.2	+1.0
	comp=Z,36nm,1.6s,mb5.2						
MBDF	Montbardon	84.10	36	*e*P	P	23 14 51.7	+0.7
	comp=Z,36nm,1.2s,mb5.1						
SQTA	Sankt Quirin	84.11	32	⇑*i*P	P	23 14 52.2	+1.2
	comp=Z,21nm,1.2s,mb5.1						
SMRF	Simiane la Rot	84.11	37	*e*P	P	23 14 51.7	+0.6
	comp=Z,40nm,1.4s,mb5.1						
VAI	Varese	84.13	34	*e*P	P	23 14 52.1	+1.0
WATA	Walderalm	84.17	31	⇑*i*P	P	23 14 52.2	+0.9
	comp=Z,24nm,1.3s,mb5.2						
WTTA	Wattenberg	84.25	31	⇑*i*P	P	23 14 53.0	+1.3
	comp=Z,28nm,1.4s,mb5.2						
BRMO	Bormio	84.35	33	*e*P	P	23 14 54.5	+2.3
MORC	Moravsky Berou	84.47	27	P	P	23 14 53.3	+0.6
MORC				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.9						
MORC	Moravsky Berou	84.47	27	*e*P	P	23 14 52.3	-0.4
	comp=Z,12nm,1.2s,mb4.9						
MOS	Moscow	84.51	13	*e*P	P	23 14 49.2	-3.5
MOS				*e*S	S	23 25 07.8	-11
MOS				MLR	MLR		
	comp=Z,500nm,18.3s,MS4.9						
MOS				MLR	MLR		
	comp=N,700nm,17.9s						
VRAC	Vranov	84.52	28	P	P	23 14 53.1	+0.1
	comp=N,7.7nm,0.9s,mb4.8,baz=342,slow=5.3,SNR=10						
ZAK	Zakamensk	84.60	335	*e*P	P	23 14 56.1	+2.8
OKC	Ostrava-Krasne	84.64	26	*e*P	P	23 14 53.7	+0.2
OKC				LR		23 53 50.0	
	comp=N,2.4nm,16.6s						
MOA	Molln	84.84	30	⇑*i*P	P	23 14 55.4	+0.8
	comp=N,27nm,1.4s,mb5.2						
SACV	Santiago Islan	84.85	75	PFAKE		23 15 10.0	+15
SACV				LR	LR		
	comp=Z,391nm,21.0s,MS4.8						
OJC	Ojcow	84.88	25	*e*P	P	23 14 55.1	+0.4
OJC				*e*S	S	23 25 17.2	-5.2
OJC				MLR	MLR		
	comp=Z,1µm,19.6s,MS5.4						
OBN	Obninsk	84.90	14	⇑*i*P	P	23 14 55.0	+0.3
OBN				pmax	pmax		
	comp=Z,53nm,1.3s,mb5.5						
OBN				MLR	MLR		
	comp=Z,800nm,17.0s,MS5.2						
OBN	Obninsk	84.90	14	PFAKE		23 15 00.0	+5.3
OBN				LR	LR		
	comp=Z,308nm,19.0s,MS4.7						
FRF	La Foret Royal	84.93	37	*e*P	P	23 14 53.7	-1.5
	comp=Z,28nm,1.1s,mb5.0						
BDFB	Brasilia	84.95	114	LR	LR	23 57 47.7	
	comp=Z,2µm,19.4s,MS5.4,baz=309,slow=39						
LMR	La Mourre	85.04	37	*e*P	P	23 14 55.6	-0.1
	comp=Z,29nm,1.3s,mb5.0						
KBA	Koelnbreinsper	85.10	31	⇑*i*P	P	23 14 57.2	+1.3
	comp=Z,15nm,1.1s,mb5.0						
ULN	Ulaanbaatar	85.34	331	PFAKE		23 15 10.0	+13
ULN				LR	LR		
	comp=Z,160nm,22.0s,MS4.4						
SVE	Sverdlovsk	85.58	0	⇓*e*P	P	23 14 58.5	+0.4
SVE				*e*		23 20 14.0	
SVE				*e*		23 25 23.0	
SVE				*e*		23 31 09.0	
SVE				MLR	MLR		
	comp=N,500nm,14.0s,MS5.2						
SVE				MLR	MLR		
	comp=E,600nm,14.0s,MS5.2						
SVE				MLR	MLR		
	comp=Z,1µm,14.0s,MS5.4						
SONM	Songino Array	85.61	331	P	P	23 14 58.9	+0.4
	comp=Z,4.1nm,0.9s,mb4.6,baz=34,slow=4.5,SNR=13						
NVS	Novosibirsk	85.68	347	*e*P	P	23 14 58.2	-0.4
NVS				pmax	pmax		
	comp=Z,15nm,1.6s,mb5.0						
NVS				pmax	pmax		
	comp=N,14nm,1.8s						
NVS				pmax	pmax		
	comp=E,9.0nm,1.5s						
ARSA	Arzberg	85.82	29	⇑*i*P	P	23 15 00.3	+0.8
	comp=E,17nm,1.4s,mb5.1						
ARU	Arti	85.95	2	⇓*i*P	P	23 15 01.9	+2.0
ARU				*e*		23 18 24.4	
ARU				*e*S	S	23 25 28.8	-3.8
ARU				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.8						
ARU				MLR	MLR		
	comp=N,1µm,20.0s,MS5.2						
ARU				MLR	MLR		
	comp=Z,1µm,20.0s,MS5.3						
ARU				MLR	MLR		
	comp=E,400nm,23.0s,MS5.2						
ARU	Arti	85.95	2	PFAKE		23 15 10.0	+10
ARU				LR	LR		
	comp=Z,111nm,19.0s,MS4.3						
CPUP	Villa Florida	85.99	128	P	P	23 15 00.2	-0.7
	comp=Z,2.3nm,0.9s,mb4.4,baz=310,slow=0.6,SNR=3.8						
CPUP				LR	LR	23 55 34.9	
	comp=Z,633nm,18.1s,MS5.1,baz=348,slow=37						
OBKA	Obir	86.04	30	⇑*i*P	P	23 14 59.6	-1.0
	comp=Z,24nm,1.3s,mb5.3						
KWP	Kalwaria	86.35	24	*e*P	P	23 15 03.2	+1.1
KWP				MLR	MLR		
	comp=Z,2µm,22.2s,MS5.4						
PSZ	Piszkesteto	86.88	26	⇑*e*PcP	PcP	23 15 06.1	-1.3
PSZ	Piszkesteto	86.88	26	P	P	23 15 06.2	+1.5
PSZ				pmax	pmax		
	comp=Z,78nm,1.8s,mb5.6						
AKASG	Malin Array Be	87.31	20	P	P	23 15 05.4	-1.3
	comp=Z,2.6nm,0.9s,mb4.5,baz=321,slow=4.1,SNR=12						
AKASG				LR	LR	23 54 54.1	
	comp=Z,639nm,18.9s,MS5.0,baz=260,slow=36						
BJT	Baijiatuau	87.55	321	PFAKE		23 15 20.0	+12
BJT				LR	LR		
	comp=Z,767nm,19.0s,MS5.1						
RCBR	Riachuelo	87.87	99	PFAKE		23 15 20.0	+10
RCBR				LR	LR		
	comp=Z,626nm,19.0s,MS5.0						
BRVK	Borovoye	89.03	355	P	P	23 15 15.3	+0.4
BRVK				pmax	pmax		
	comp=Z,13nm,1.0s,mb5.2						
BRVK	Borovoye	89.03	355	*e*P	P	23 15 14.8	-0.1
	comp=Z,12nm,0.9s,mb5.2						
BRVK				LR	LR		
	comp=Z,253nm,19.0s,MS4.7						
BVAR	Borovoye Array	89.05	355	LR	LR	23 59 58.1	
	comp=Z,12nm,19.0s,baz=125,slow=39						
HHC	Hu-ho-hao-te	89.11	324	*e*P	P	23 15 12.8	-2.8
HHC				PP	PP	23 18 44.0	-4.0
HHC				SKS	SKS	23 25 39.6	-8.2
HHC				S	S	23 25 57.9	-4.9
HHC				SS	SS	23 31 55.5	-3.8
HHC				AMB	AMB		
	comp=Z,13nm,0.4s,mb5.6						
HHC				AMB	AMB		
	comp=Z,60nm,4.0s						
HHC				LR	LR		
	comp=N,232nm,22.6s,MS4.8						
HHC				LR	LR		
	comp=E,251nm,19.6s,MS4.8						
ZRNK	Zerenda	89.22	355	*e*P	P	23 15 15.3	-0.5
	comp=E,14nm,0.9s,mb5.3						
PLCA	Paso Flores	89.84	146	LR	LR	23 49 30.6	
	comp=E,646nm,19.9s,MS5.0,baz=323,slow=32						
PLCA	Paso Flores	89.84	146	PFAKE		23 15 30.0	+11
PLCA				LR	LR		
	comp=Z,1µm,19.0s,MS5.3						
DIVS	Divcibare	90.17	28	⇑*i*P	P	23 15 21.1	+0.6
KURK	Kurchatov	90.40	349	*e*P	P	23 15 21.0	-0.4
KURK	Kurchatov	90.40	349	P	P	23 15 20.6	-0.8
	comp=Z,14nm,1.2s,mb5.2						
KIS	Kishinev	90.56	22	*e*P	P	23 15 16.0	-6.2
KIS				*e*		23 21 00.0	
KIS				MLR	MLR		
	comp=Z,600nm,17.0s,MS5.1						
KIS				MLR	MLR		
	comp=Z,700nm,16.0s						
MLR	Muntele Rosu	91.03	24	LR	LR	23 59 32.1	
	comp=Z,1µm,18.9s,MS5.3,baz=173,slow=38						
SSE	Sheshan	91.47	312	*e*P	P	23 15 22.8	-4.0
SSE				AMB	AMB		
	comp=Z,14nm,0.5s,mb5.5						
SSE				AMB	AMB		
	comp=Z,38nm,3.6s						
SSE				LR	LR		
	comp=N,425nm,22.7s,MS4.9						
SSE				LR	LR		
	comp=E,226nm,22.9s,MS4.9						
NJ2	Nanjing	92.11	314	*e*P	P	23 15 26.1	-3.6
NJ2				AP	pP	23 15 31.5	+0.2
NJ2				XP	sP	23 15 34.4	+2.6
NJ2				PP	PP	23 19 09.0	-3.3
NJ2				SKS	SKS	23 25 58.0	-7.7
NJ2				S	S	23 26 24.0	-6.0
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.6						
SKO	Skopje	92.54	29	*e*P	P	23 15 28.0	-3.4
VAE	Valguarnera	93.36	36	LR	LR	23 58 13.3	
	comp=Z,895nm,18.0s,MS5.3,baz=154,slow=36						
MKAR	Makanchi Array	93.56	346	P	P	23 15 37.4	+1.4
	comp=Z,3.2nm,1.0s,mb4.7,baz=11,slow=6.2,SNR=10						
MKAR				LR	LR	00 03 21.4	
	comp=Z,1µm,19.1s,MS5.3,baz=16,slow=39						
MKAR	Makanchi Array	93.56	346	*i* P	P	23 15 39.5	+3.5
MKAR				pmax	pmax		
	comp=Z,3.0nm,1.0s						
WMQ	Urumqi	95.17	341	*e*P	P	23 15 42.4	-1.0
WMQ				AP	pP	23 15 47.3	+2.2
WMQ				XP	sP	23 15 49.4	+3.8
WMQ				PP	PP	23 19 34.0	-1.4
WMQ				*e*S	S	23 26 53.6	-2.4
WMQ				SS	SS	23 33 22.6	-3.3
WMQ				LR	LR		
	comp=N,673nm,21.6s,MS5.3						
WMQ				LR	LR		
	comp=E,1µm,22.3s,MS5.3						
WMQ				LR	LR		
	comp=Z,964nm,21.8s,MS5.2						
GTA	Gaotai	95.28	331	*e*P	P	23 15 40.9	-3.2
GTA				XP	sP	23 15 49.4	+3.2
GTA				PP	PP	23 19 32.5	-3.9
GTA				S	S	23 26 49.0	-8.1
GTA				AMB	AMB		
	comp=Z,65nm,8.4s						
GTA				LR	LR		
	comp=N,315nm,23.7s,MS4.8						
GTA				LR	LR		
	comp=E,279nm,21.8s,MS4.8						
GTA				LR	LR		
	comp=Z,361nm,23.7s,MS4.8						
TATO	Taipei	95.72	308	PFAKE		23 16 00.0	+14
TATO				LR	LR		
	comp=Z,373nm,19.0s,MS4.9						
LZH	Lanzhou	96.47	327	*e*P	P	23 15 46.5	-3.1
LZH				PP	PP	23 19 41.6	-4.5
LZH				SKS	SKS	23 26 20.5	-9.0
LZH				*e*S	S	23 27 01.4	-5.9
LZH				LR	LR		
	comp=N,614nm,15.0s						
LZH				LR	LR		
	comp=Z,995nm,18.3s,MS5.3						
SOC	Sochi	96.51	16	*e*P	P	23 15 48.2	-1.4
SOC				*e*		23 15 59.7	
SOC				*e*		23 19 39.9	
SOC				*e*S	S	23 27 06.0	-1.4
SOC				pmax	pmax		
	comp=N,6.0nm,0.7s						
SOC				pmax	pmax		
	comp=E,15nm,0.7s						
SOC				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb5.3						
SOC				MLR	MLR		
	comp=Z,1µm,18.0s,MS5.4						
SOC				MLR	MLR		
	comp=N,632nm,16.0s,MS5.2						
SOC				MLR	MLR		
	comp=E,424nm,20.0s,MS5.2						
ZEI	Tsey	98.11	13	*e*P	P	23 15 58.0	+1.2
ZEI				MLR	MLR		
	comp=Z,800nm,18.0s,MS5.2						
DBIC	Dimbokro	104.27	70	PFAKE		23 16 30.0	+4.9
DBIC				LR	LR		
	comp=Z,1µm,21.0s,MS5.5						
CTAO	Charters Tower	105.95	257	PFAKE		23 20 50.0	
CTAO				LR	LR		
	comp=Z,821nm,20.0s,MS5.3						
KMI	Kunming	106.19	321	*e*PKP		23 20 40.5	
KMI				PP		23 20 54.6	
KMI				S	Sx	23 28 23.8	
KMI				SS	SS	23 35 56.0	-3.5
KMI				PP	PP		
	comp=Z,36nm,5.1s						
KMI				LR	LR		
	comp=N,269nm,26.9s,MS5.0						
KMI				LR	LR		
	comp=E,441nm,23.2s,MS5.0						
KMI				LR	LR		
	comp=Z,486nm,41.1s						
QIZ	Qiongzhong	107.27	312	PFAKE		23 21 00.0	
QIZ				LR	LR		
	comp=Z,341nm,19.0s,MS4.9						
CM31	Chiang Mai Arr	113.68	321	PFAKE		23 21 10.0	+10
CM31				LR	LR		
	comp=Z,391nm,21.0s,MS5.0						
WRAB	Tennant Creek	115.13	264	PFAKE		23 21 10.0	+6.9
WRAB				LR	LR		
	comp=Z,137nm,20.0s,MS4.6						
ASAR	Alice Springs	117.48	260	PKP	PKPdf	23 21 05.5	-2.1
	comp=Z,0.4nm,0.8s,baz=71,slow=2.3,SNR=4.0						
SBA	Scott Base	123.64	194	PFAKE		23 21 30.0	+12
SBA				LR	LR		
	comp=Z,436nm,20.0s,MS5.1						
MBWA	Marble Bar	127.32	271	PFAKE		23 21 40.0	+13
MBWA				LR	LR		
	comp=Z,594nm,19.0s,MS5.3						
QSPA	South Pole Qui	127.78	180	PFAKE		23 21 40.0	+14
QSPA				LR	LR		
	comp=Z,581nm,19.0s,MS5.3						
PALK	Pallekele	131.51	334	PFAKE		23 21 40.0	+5.0
PALK				LR	LR		
	comp=Z,122nm,19.0s,MS4.6						
MBAR	Mbarara	133.38	44	PFAKE		23 21 50.0	+12
MBAR				LR	LR		
	comp=Z,116nm,20.0s,MS4.6						
NWAO	Narrogin (SRO)	134.75	259	PFAKE		23 21 50.0	+9.4
NWAO				LR	LR		
	comp=Z,562nm,19.0s,MS5.3						
KMBO	Kilima Mbogo	137.19	37	PFAKE		23 21 50.0	+4.6
KMBO				LR	LR		
	comp=Z,464nm,19.0s,MS5.2						
TSUM	Tsumeb	137.73	76	PFAKE		23 22 00.0	+14
TSUM				LR	LR		
	comp=Z,971nm,20.0s,MS5.5						
CASY	Casey	140.27	209	PFAKE		23 22 00.0	+10
CASY				LR	LR		
	comp=Z,528nm,20.0s,MS5.3						
LSZ	Lusaka	143.06	61	PFAKE		23 22 10.0	+19
LSZ				LR	LR		
	comp=Z,865nm,19.0s,MS5.5						
SYO	Syowa Base	146.71	166	⇑PKPbc	PKPbc	23 22 00.7	+1.1
SYO	Syowa Base	146.71	166	⇑PKPab	PKPab	23 22 03.7	+0.5
SYO	Syowa Base	146.71	166	⇓P	PKPbc	23 22 10.2	+11
DGAR	Diego Garcia	147.96	339	PFAKE		23 22 10.0	+5.7
DGAR				LR	LR		
	comp=Z,137nm,20.0s,MS4.7						
MAW	Mawson	150.29	181	PKIKP	PKPdf	23 22 10.6	+4.2
MAW	Mawson	150.29	181	*e*PKPbc	PKPdf	23 22 10.4	+4.0
MAW				LR	LR		
	comp=Z,762nm,21.0s,MS5.5						

ISK ***18*** *23:16:39.2, 39.89N×40.18E, h5km, MD3.5*

ISC 18 23:16:40.8±0.5**, 39.92N**±0.04×**40.20E**±0.04**, h5**km**, n19, σ1^{s}.11**/26**, 3C, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EZC	Erzincan	0.34	240	*i* PG	Sg	23 16 53.1	+1.0
KELT	Kelkit	0.76	288	*i* P	Pg	23 16 55.2	-0.6
KELT				*i* S	Sg	23 17 05.6	-0.4
GUMT	Gumushane	0.77	315	*i* PG	Pg	23 16 55.3	-0.8
GUMT				SG	Sg	23 17 07.7	+1.3
EZM	Erzurum	0.90	91	*i* PG	Pg	23 16 57.8	-0.9
ERZM	Erzurum	0.90	91	⇑*i*P	Pb	23 16 57.8	-0.7
ERZM				*i* S	Sb	23 17 12.4	+1.8
BINT	Bingol	1.07	168	*i* PG	Pg	23 16 59.9	-2.2
PTK	Pertek	1.20	211	*i* PN	Pn	23 17 02.6	-1.6
ELZG	Elazig	1.70	214	⇑*i*P	Pn	23 17 10.6	-0.8
ELZG				*i* S	Sn	23 17 36.5	+2.7
ELZG	Elazig	1.70	214	⇑*i*P	Pn	23 17 10.6	-0.8
ELZG				*i* S	Sn	23 17 36.5	+2.7
BCA	Borcka	1.87	35	PN	Pn	23 17 13.9	+0.1
BTMT	Batman	2.00	149	*e*PN	Pn	23 17 15.9	+0.3
DIY	Diyarbakir	2.02	179	*e*PN	Pn	23 17 15.8	-0.1
MYA	Malataya	2.10	221	*e*PN	Pn	23 17 16.7	-0.4
MALT	Malatya	2.11	221	*e*PN	Pn	23 17 16.8	-0.4
AGRT	Agri	2.17	97	*e*PN	Pn	23 17 18.4	+0.3
BEST	Besiri	2.19	157	*i* P	Pn	23 17 19.9	+1.5
BEST				*i* S	Sn	23 17 50.9	+4.7
SVSK	Karacayir	2.46	271	*e*PN	Pn	23 17 22.3	+0.1
SVST	Sivas	2.50	268	*i* P	Pn	23 17 26.7	+4.0
SVST				*i* S	Sn	23 18 03.0	+9.0
KAHT	Ahir Dag	3.46	230	*i* P	Pn	23 17 45.2	+8.8

NEIC 18 23:25:37.2±0.9**, 43.47N**×**128.36W, h10**km**, mb4.0**/6**, Error ellipse: s-maj=9.9km s-min=4.8km az=66.0, Off coast of Oregon**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEBM	Edson Butte	3.00	100	P	Pn	23 26 24.1	-1.7
COR	Corvallis	3.81	71	*e*Pn	Pn	23 26 35.3	-2.0
HSO	Harness Mounta	3.83	87	*e*Pn	Pn	23 26 35.7	-1.9
HSO				*e*Sn	Sn	23 27 20.9	-2.3
HUMO	Hull Mountain	4.05	100	*e*Pn	Pn	23 26 39.2	-1.5
HUMO				*e*Sn	Sn	23 27 17.4	-11
KMOR	Kings Mountain	4.09	56	P	Pn	23 26 38.6	-2.8
BBOR	Butler Butte	4.19	96	P	Pn	23 26 42.2	-0.5
NLO	Nicolai Mounta	4.36	51	P	Pn	23 26 43.0	-2.2
HBO	Huckleberry Mo	4.40	83	P	Pn	23 26 44.8	-0.9
SSOR	Sweet Springs	4.46	70	P	Pn	23 26 45.1	-1.5
PGO	Gresham	4.67	63	P	Pn	23 26 47.3	-2.2
BMW	Boistfort Moun	4.72	49	*e*Pn	Pn	23 26 47.0	-3.2
BMW				*e*Sn	Sn	23 27 36.8	-8.9
HUOR	Husband	4.75	80	P	Pn	23 26 49.5	-1.2
RVW	Rose Valley	4.81	54	P	Pn	23 26 49.5	-1.9
LVP	Lakeview Peak	4.97	56	P	Pn	23 26 51.9	-1.9
VLMM	Larch Mountain	4.97	63	P	Pn	23 26 52.4	-1.3
TDH	Tom, Dick, Har	5.04	67	P	Pn	23 26 52.6	-2.2
FL2	Flat Top 2	5.07	55	P	Pn	23 26 53.3	-1.8
MTMW	Mount Mitchell	5.07	58	P	Pn	23 26 53.6	-1.5
CPW	Capitol Peak	5.08	45	P	Pn	23 26 52.1	-3.2
VBEM	Beaver Butte	5.11	70	P	Pn	23 26 54.6	-1.2
LCW	Lucas Creek	5.12	49	P	Pn	23 26 53.4	-2.5
ERK	Elk Rock	5.13	54	P	Pn	23 26 53.8	-2.2
SHW	Mount Saint He	5.13	56	*e*Pn	Pn	23 26 54.5	-1.5
HSR	South Ridge	5.15	56	P	Pn	23 26 55.0	-1.4
JLK	June Lake	5.16	57	P	Pn	23 26 54.7	-1.7
OOW	Octopus West	5.17	33	P	Pn	23 26 54.3	-2.3
YEL	Yellow Rock	5.17	56	P	Pn	23 26 55.3	-1.2
VLL	Laurance Lake	5.18	65	P	Pn	23 26 55.6	-1.1
OCWA	Octopus Mounta	5.18	33	*e*Pn	Pn	23 26 54.0	-2.7
ESD	East Dome	5.19	56	P	Pn	23 26 55.6	-1.2
CDFW	Cedar Flats	5.21	57	P	Pn	23 26 55.6	-1.6
VFP	Flag Point	5.27	67	P	Pn	23 26 56.7	-1.3
APM	Augspurger Mou	5.28	62	P	Pn	23 26 56.4	-1.6
KOSW	Kosmos	5.30	54	P	Pn	23 26 56.5	-1.9
GULW	Guler Mountain	5.41	61	P	Pn	23 26 58.5	-1.4
OSD	Olympics--Snow	5.43	35	P	Pn	23 26 58.0	-2.3
OBC	Olympics--Boni	5.46	32	P	Pn	23 26 58.5	-2.1
MEW	McNeil Island	5.49	45	P	Pn	23 26 58.8	-2.3
ASR	Mount Adams--S	5.51	59	P	Pn	23 26 59.9	-1.5
GHW	Garrison Hill	5.58	48	P	Pn	23 27 00.3	-2.1
GNW	Green Mountain	5.64	42	*e*Pn	Pn	23 26 59.9	-3.3
GNW				*e*Sn	Sn	23 27 57.6	-11
LON	Longmire	5.67	52	*e*Pn	Pn	23 27 01.4	-2.3
VIPM	Ingram Point	5.68	77	P	Pn	23 27 02.0	-1.8
GLK	Glacier Lake	5.69	55	P	Pn	23 27 02.5	-1.4
REMR	Mount Rainier-	5.69	52	P	Pn	23 27 02.0	-2.0
RCS	Mount Rainier-	5.79	52	P	Pn	23 27 03.2	-2.1
VGB	Gordon Butte	5.79	67	*e*Pn	Pn	23 27 03.4	-1.9

WPW	White Pass	5.80	54	P	Pn	23 27 03.8	-1.7
FMW	Mount Fremont	5.85	51	P	Pn	23 27 04.2	-2.0
BLN	Blyn Mountain	5.89	38	P	Pn	23 27 05.1	-1.7
GL2	New Goldendale	5.92	63	P	Pn	23 27 05.1	-2.0
GSM	Grass Mountain	5.94	49	P	Pn	23 27 05.4	-2.1
RMW	Rattlesnake Mo	6.09	47	ePn	Pn	23 27 07.3	-2.3
PGC	Sidney	6.20	32	ePn	Pn	23 27 06.7	-4.4
PGC				eSn	Sn	23 28 13.1	-10
NAC	Naches	6.25	56	P	Pn	23 27 10.0	-1.8
TTW	Tolt Reservoir	6.30	46	P	Pn	23 27 10.4	-2.1
HTW	Haystack Looko	6.33	45	P	Pn	23 27 10.3	-2.6
JBO	Jordan Butte	6.41	69	P	Pn	23 27 12.0	-2.1
TWW	Teanaway	6.43	53	P	Pn	23 27 12.9	-1.4
EBG	Ellensburg	6.49	55	P	Pn	23 27 13.4	-1.7
TBM	Table Mountain	6.60	53	P	Pn	23 27 15.1	-1.7
WRW	Wenatchee Ridg	6.83	47	P	Pn	23 27 17.7	-2.3
RSW	Rattlesnake Hi	6.87	62	P	Pn	23 27 18.8	-1.7
RPW	Rockport	6.89	41	ePn	Pn	23 27 18.0	-2.8
RPW				eSn	Sn	23 28 32.6	-7.5
HAWA	Hanford	6.91	62	P	Pn	23 27 19.1	-2.0
SLFW	Sugar Loaf	6.96	49	P	Pn	23 27 19.6	-2.2
WAH2	Wahluke Slope	7.03	59	P	Pn	23 27 21.4	-1.4
VDB	Vedder Mountai	7.04	36	P	Pn	23 27 21.1	-1.9
FHE	Frenchman Hill	7.16	58	P	Pn	23 27 22.9	-1.7
CRF	Corfu	7.17	59	P	Pn	23 27 22.7	-2.1
WTV	Waterville	7.25	51	P	Pn	23 27 23.3	-2.6
NLW	Nelson Butte	7.25	48	ePn	Pn	23 27 22.7	-3.3
EPH	Ephrata	7.28	55	P	Pn	23 27 24.1	-2.2
LNOR	Lincton Mounta	7.57	68	ePn	Pn	23 27 26.7	-3.6
SAW	Saint Andrews	7.57	53	P	Pn	23 27 27.9	-2.5
PAHR	Pah Rah Range	7.71	116	Pn	Pn	23 27 28.4	-3.8
CMB	Columbia Colle	8.13	129	eP	P	23 27 41.7	+3.5
DPW	Davenport	8.36	55	ePn	P	23 27 38.1	-3.3
PNT	Penticton	8.40	43	P	P	23 27 39.0	-3.0
NEW	Newport	9.18	55	ePn	P	23 27 49.1	-3.7
TPH	Tonopah	10.02	119	ePn	P	23 27 59.5	-4.8
ELK	Elko	10.12	101	eP	P	23 28 03.6	-2.1
HLID	Hailey	10.13	85	eP	P	23 28 04.4	-1.4
MSO	Missoula	10.72	67	eP	P	23 28 10.4	-3.5
CHMT	Chamberlain Mo	11.20	67	eP	P	23 28 17.7	-2.7
MCMT	McKenzie Canyo	11.23	78	eP	P	23 28 20.5	-0.3
QLMT	Earthquake Lak	12.24	78	eP	P	23 28 34.3	-0.2
HWUT	Hardware Ranch	12.53	93	eP	P	23 28 36.0	-2.3
GCMT	Greycliff	13.51	74	eP	P	23 28 47.4	-3.9
ISCO	Idaho Springs	17.38	94	eP	P	23 29 40.3	-1.1
	3.4nm,1.0s						
RSSD	Black Hills	17.56	79	P	P	23 29 40.9	-2.7
	2.0nm,0.7s						
SDCO	Great Sand Dun	18.25	100	eP	P	23 29 53.7	+1.5
	12nm,1.4s						
SML	Sawmill	21.84	334	eP	P	23 30 31.1	-0.2
WMOK	Wichita Mounta	24.45	101	eP	P	23 30 57.3	+0.1
	3.1nm,0.9s						
FCC	Fort Churchill	26.02	42	eP	P	23 31 08.0	-3.8
	14nm,0.9s						
SUMG	Summit	49.15	23	P	P	23 34 26.0	-0.5
	8.6nm,1.1s						

*IDC **18** 23:27:38.4±1.2, 7.51S×129.66E, mb3.9/3, mb1 4.4/6, mb1mx4.1/13, ML4.4/3, Error ellipse: s-maj=54.1km s-min=21.2km az=61.0*

*NEIC **18** 23:27:42.7±1.9, 7.61S×129.88E, h39^{km}±19^{km}, mb4.1/4, Error ellipse: s-maj=16.7km s-min=15.4km az=91.0*

ISC 18 23:27:54.7±2.7**, 8.3S**±0.1×**129.6E**±0.1**, h189^{km}**±30^{km}**, n13, σ1^{s}17**/17**, mb3.9**/4**, Timor Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	10.48	201	Pn	P	23 30 21.3	+0.1
	2.4nm,0.3s,baz=22,slow=9.4,SNR=46						
FITZ				Sn	S	23 32 15.8	-0.2
	5.4nm,0.3s,baz=166,slow=17,SNR=6.7						
WRAB	Tennant Creek	12.45	159	eP	P	23 30 44.5	-1.9
	19nm,0.5s						
WRAB				eSn	S	23 32 53.9	-7.7
WRA	Warramunga Arr	12.45	159	Pn	P	23 30 45.2	-1.3
	3.0nm,0.3s,baz=335,slow=14,SNR=63						
WRA				Sn	S	23 33 02.4	+0.7
	5.4nm,0.3s,baz=331,slow=23,SNR=17						
ASAR	Alice Springs	15.83	165	Pn	P	23 31 30.9	+2.1
	1.1nm,0.3s,baz=349,slow=10,SNR=41						
ASAR				Sn	S	23 34 26.6	+8.3
	0.9nm,0.3s,baz=347,slow=25,SNR=5.3						
MBWA	Marble Bar	15.94	216	eP	P	23 31 32.4	+2.2
	20nm,1.2s						
MBWA				eS	S	23 34 19.9	-1.0
CTA	Charters Tower	19.93	128	P	P	23 32 18.3	+4.6
	3.2nm,0.8s,baz=302,slow=11,SNR=6.5						
CTAO	Charters Tower	19.93	128	P	P	23 32 18.0	+4.3
	8.2nm,0.9s						
GUMO	Guam	26.51	35	P	P	23 33 10.5	-6.3
CMAR	Chiang Mai Arr	40.27	312	P	P	23 35 15.2	+0.2
	0.6nm,0.3s,mb3.6,baz=141,slow=9.2,SNR=4.2						
MKAR	Makanchi Array	69.09	327	P	P	23 38 41.6	-0.5
	0.6nm,0.4s,mb3.7,baz=113,slow=8.1,SNR=21						
QSPA	South Pole Qui	81.69	180	P	P	23 40 00.5	+7.8
	1.1nm,0.6s,mb3.7						
COLA	College	94.29	25	eP	P	23 40 53.2	0.0
	2.9nm,0.6s,mb4.6						
CPUP	Villa Florida	144.93	169	PKPbc	PKPbc	23 47 18.6	+8.4
	0.9nm,0.6s,baz=198,slow=3.2,SNR=4.2						

*MOS **18** 23:41:37.6±1.8, 49.15N×157.04E, h79^{km}, mb4.4/1, Error ellipse: s-maj=97.1km s-min=18.1km az=80.0*

*KRSC **18** 23:41:39.6±3.5, 49.03N×157.71E, h40^{km}±11^{km}, ML4.4*

ISC 18 23:41:42.9±1.2**, 49.28N**±0.07×**157.4E**±0.1**, h100^{km}, n29, σ1^{s}28**/45**, 1D, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	Severo-Kuril's	1.64	330	iP	P	23 42 12.6	+1.3
SKR				iS	S	23 42 32.9	+0.5
SKR	Severo-Kuril's	1.64	330	⇓iPN	P	23 42 12.6	+1.3
SKR				pmax	pmax		
	comp=N,90nm,0.4s						
SKR				pmax	pmax		
	comp=E,50nm,0.4s						
SKR				pmax	pmax		
	comp=Z,240nm,0.4s						
PAU	Pauzhetka	2.22	350	eP	P	23 42 17.0	-2.0
PAU				iS	S	23 42 44.9	-1.0
PAU				Smax			
	comp=Z,1μm,0.5s						
MIPR	Malaya Ipel'ka	3.03	352	eP	P	23 42 27.4	-2.7
MIPR				eS	S	23 43 03.9	-1.7
RUS	Russkaya	3.23	12	P	P	23 42 31.0	-1.8
RUS				S	S	23 43 10.6	+0.1
RUS	Russkaya	3.23	12	eP	P	23 42 31.0	-1.8
RUS				eS	S	23 43 10.9	+0.4
GRL	Gorelyy	3.30	7	eP	P	23 42 32.7	-1.1
GRL				eS	S	23 43 12.4	+0.1
APC	Apacha	3.65	358	eP	P	23 42 39.4	+0.8
APC				Smax			
	comp=Z,60nm,0.7s						
PET	Petropavlovsk	3.83	11	P	P	23 42 41.1	+0.1
PET				S	S	23 43 26.5	+1.3
PET	Petropavlovsk	3.83	11	eP	P	23 42 41.8	+0.8
PET				eS	S	23 43 26.7	+1.5
UGLR	Uglovaya	4.03	12	eP	P	23 42 43.9	+0.1
UGLR				eS	S	23 43 32.7	+2.5
AVH	Avacha	4.07	11	eP	P	23 42 44.5	+0.1
NLC	Nalytchevo	4.08	17	eP	P	23 42 43.1	-1.3
NLC				eS	S	23 43 30.6	-0.7
SMAR	Somma	4.08	12	eP	P	23 42 44.3	-0.2
KOK	Koryaka	4.09	10	eP	P	23 42 44.9	+0.3
KOK				eS	S	23 43 32.8	+1.2
SDLR	Sedlovina	4.11	12	eP	P	23 42 43.9	-0.9
SPN	Mys Shipunski	4.16	22	P	P	23 42 45.2	-0.3
SPN				S	S	23 43 34.5	+1.2
SPN	Mys Shipunski	4.16	22	eP	P	23 42 45.1	-0.4
SPN				eS	S	23 43 34.9	+1.6
GNL	Ganaly	4.43	4	eP	P	23 42 48.9	-0.4
MKZ	Mys Kozlova	5.92	25	P	P	23 43 08.5	-1.0
MKZ				S	S	23 44 14.8	-1.7
MKZ	Mys Kozlova	5.92	25	eP	P	23 43 08.0	-1.5
MKZ				eS	S	23 44 15.3	-1.2
TUMR	Tumrok	6.24	15	eP	P	23 43 14.8	+0.9
KMNR	Kamenistaya	6.71	14	eP	P	23 43 22.7	+2.2
ZLN	Zelenaya	7.05	16	eP	P	23 43 25.6	+0.4
LGNR	Loginova	7.10	15	eP	P	23 43 27.8	+2.0
CIRR	Tsirk	7.14	15	eP	P	23 43 28.2	+1.9
SRDR	Sredinnyy	7.18	10	P	P	23 43 28.6	+1.6
KBTR	Krutoberegovo	7.67	23	P	P	23 43 32.7	-0.9
KBTR	Krutoberegovo	7.67	23	eP	P	23 43 32.8	-0.8
KBTR				eS	S	23 44 57.3	-2.2

*NEIC **18** 23:43:41.9, 38.02N×118.66W, h6^{km}, mb5.2/72, MS5.2/11, ML5.4(REN), MW5.4(BRK), After REN.*

NEIC Felt [III] at Bishop, June Lake, Mammoth Lakes and Yosemite National Park. Also felt [III] at Hawthorne, Nevada.

*HRVD **18** 23:43:41.9±0.1, 38.02N×118.70W, h12^{km}, MW5.4/68, Centroid moment Tensor Solution. LP body waves: s49,c89;Mantle waves: s68,c139; Half duration: 1^{s}2 Moment tensor: Scale 10^{17}Nm; M$_{rr}$-0.26±.02; M$_{\theta\theta}$-1.25±.02; M$_{\phi\phi}$1.51±.02; M$_{r\theta}$0.17±.05; M$_{\theta\phi}$0.30±.02; M$_{\phi r}$-0.01±.05; Best double couple: M$_0$1.42×10^{17} NP1: ϕ_s321°,δ83°,λ-174°. NP2:ϕ_s231°,δ84°,λ-7°. Principal axes: T 1.54, Plg0°, Azm276°; N -.23, Plg81°, Azm8°; P -1.31, Plg9°, Azm186°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*SYO **18** 23:43:41.0, 38.02N×118.66W, h11^{km}, MB5.2, MS4.8*

*IDC **18** 23:43:42.9±0.6, 37.99N×118.59W, mb4.7/24, mb1 4.8/28, mb1mx4.8/32, ML4.6/4, MS5.0/24, Ms1 5.0/24, ms1mx4.9/29, Error ellipse: s-maj=11.0km s-min=10.6km az=80.0*

*BJI **18** 23:43:43.5, 38.77N×118.79W, h5^{km}, mB5.2, mb5.2, Ms5.4, Msz5.1*

*MOS **18** 23:43:46.1±1.0, 37.94N×118.64W, h33^{km}, mb5.4/13, MS5.2/14, Error ellipse: s-maj=20.5km s-min=11.0km az=98.0*

ISC 18 23:43:41.5±0.6**, 37.96N**±0.02×**118.62W**±0.02**, h2^{km}**±3^{km}**, n297, σ1^{s}03**/283**, mb5.0**/101**, MS5.0**/39**, 21C-27D, California-Nevada border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OMM	Old Mammoth Mi	0.45	221	⇓iP	Pg	23 43 51.3	+0.8
NVAR	Mina Array Bea	0.53	28	Pg	Pg	23 43 51.5	-0.6
	10μm,0.3s,baz=217,slow=19,SNR=3947						
MNV	Mina	0.60	38	ePn	Pg	23 43 52.6	-0.8
MNV				eS	Sg	23 44 00.8	-0.6
MTUM	Tungsten Hills	0.61	176	⇓eP	Pg	23 43 54.6	+1.0
TPH	Tonopah	1.11	84	⇑iPn	Pn	23 44 03.1	-0.8
CMB	Columbia Colle	1.40	274	Pn	Pn	23 44 06.4	-1.6
CMB	Columbia Colle	1.40	274	⇑iP	Pb	23 44 06.5	-1.5
WCN	Washoe City	1.61	327	⇓iPn	Pn	23 44 10.5	-0.5
PAHR	Pah Rah Range	1.84	341	⇓iPn	Pn	23 44 13.5	-0.9
DAC	Darwin (Calif)	1.87	154	⇓ePn	Pn	23 44 15.8	+0.9
TPNV	Topopah Spring	2.14	117	⇑iPn	Pn	23 44 19.1	+0.4
BEKR	Beckwourth	2.34	325	⇓iPn	Pn	23 44 20.9	-0.6
LRV	Little Rabbit	2.45	232	ePn	Pn	23 44 23.5	+0.3
SAO	San Andreas Ge	2.55	243	⇓ePn	Pn	23 44 24.9	+0.3
OHCM	Honcut	2.63	302	ePn	Pn	23 44 23.8	-1.9
BMN	Battle Mountai	2.69	23	⇓ePn	Pn	23 44 24.9	-1.7
LKC	Lake Chabot	2.73	266	ePn	Pn	23 44 26.8	-0.4
SAC	San Andreas	3.03	264	ePn	Pn	23 44 31.1	-0.3
NSHM	Saint Helena R	3.19	281	ePn	Pn	23 44 32.3	-1.3
HOPS	Hopland	3.64	288	ePn	Pn	23 44 38.6	-1.4
MWC	Mount Wilson	3.76	173	ePn	Pn	23 44 42.0	+0.3
NEN	Nelson	3.81	126	ePn	Pn	23 44 42.3	-0.2
ELK	Elko	3.82	42	ePn	Pn	23 44 40.8	-1.8
WDC	Whiskeytown Da	4.01	312	ePn	Pn	23 44 43.9	-1.4
LDFC	Landfair	4.04	134	ePn	Pn	23 44 46.3	+0.6
ARUT	Antelope Range	4.10	91	ePn	Pn	23 44 45.4	-1.2
MOD	Modoc	4.14	342	ePn	Pn	23 44 47.7	+0.5
WVOR	Wild Horse Val	4.47	360	⇓ePn	Pn	23 44 50.6	-1.2
PFO	Pinyon Flat Ob	4.69	157	⇓ePn	Pn	23 44 55.1	+0.2
YBH	Yreka Blue Hor	4.91	321	Pn	Pn	23 44 58.2	+0.2
	9.0nm,0.3s,baz=133,slow=9.3,SNR=82						
YBH				Lg		23 46 17.8	
	7.3nm,0.3s,baz=242,slow=23,SNR=6.9						
YBH	Yreka Blue Hor	4.91	321	ePn	Pn	23 44 58.0	0.0
KHMM	Horse Mountain	4.91	308	ePn	Pn	23 44 57.1	-1.0
DUG	Dugway	5.04	62	⇑ePn	Pn	23 44 59.0	-0.9
MVU	Marysvale	5.08	82	ePn	Pn	23 44 59.2	-1.2
MSU	Marysvale	5.10	82	eP	Pn	23 45 00.2	-0.6
KRMB	Red Mountain	5.41	313	ePn	Pn	23 45 03.5	-1.6
NLU	North Lily Min	5.48	67	ePn	Pn	23 45 06.9	+0.8
NLU				ePg	Pg	23 45 23.9	-6.9
BAR	Barrett	5.50	163	⇓ePn	Pn	23 45 07.1	+0.6
HUMO	Hull Mountain	5.70	326	ePn	Pn	23 45 10.3	+1.0
NOQ	North Oquirrh	5.71	60	ePn	Pn	23 45 09.0	-0.4
MPU	Maple Canyon	5.82	67	ePn	Pn	23 45 11.5	+0.6
SPUT	South Promonto	5.82	53	ePn	Pn	23 45 10.9	0.0
HVU	Hansel Valley	5.89	48	⇑ePn	Pn	23 45 11.3	-0.6
CTU	Camp Tracy	5.98	61	Pn	Pn	23 45 12.9	-0.4
KBO	Bosley Butte	6.04	316	P	Pn	23 45 19.6	+5.6
JLU	Jordanelle	6.16	62	⇑ePn	Pn	23 45 16.1	+0.5
DAU	Daniels Canyon	6.22	65	ePn	Pn	23 45 17.8	+1.2
WUAZ	Wupatki	6.31	111	⇑ePn	Pn	23 45 17.5	-0.3
TCUT	Toone Canyon	6.40	58	ePn	Pn	23 45 18.0	-1.2
HLID	Hailey	6.44	28	ePn	Pn	23 45 18.0	-1.7
SRU	San Rafael	6.45	77	⇑ePn	Pn	23 45 20.6	+0.7
HSO	Harness Mounta	6.51	330	eP	Pn	23 45 22.3	+1.6
HWUT	Hardware Ranch	6.54	54	ePn	Pn	23 45 20.7	-0.4
KEBM	Edson Butte	6.56	320	Pn	Pn	23 45 14.7	-6.7
SSOR	Sweet Springs	7.47	339	eP	Pn	23 45 35.7	+1.6
AHID	Auburn Hatcher	7.48	48	ePn	Pn	23 45 35.0	+0.7
COR	Corvallis	7.50	333	eP	Pn	23 45 36.9	+2.3
PV10	Paradox Valley	7.56	84	eP	Pn	23 45 35.2	-0.2
VGB	Gordon Butte	7.72	349	eP	Pn	23 45 40.1	+2.5
LNOR	Lincton Mounta	7.91	2	eP	Pn	23 45 42.0	+1.7
PV01	Paradox Valley	7.93	86	eP	Pn	23 45 40.2	-0.5
TPAW	Teton Pass	8.02	44	eP	P	23 45 43.3	+1.4
MCMT	McKenzie Canyo	8.11	30	eP	P	23 45 44.3	+1.2
SNOW	Snow King Moun	8.11	45	eP	P	23 45 44.4	+1.2
IMW	Indian Meadow	8.30	42	eP	P	23 45 47.2	+1.4
MOOW	Moose Ponds	8.31	43	eP	P	23 45 46.8	+1.0
BW06	Boulder Array	8.42	52	⇑ePn	P	23 45 47.5	+0.2
PDAR	Pinedale Array	8.42	52	Pn	P	23 45 48.1	+0.7
	1.9nm,0.3s,baz=231,slow=10,SNR=227						
PDAR				Lg		23 48 06.2	
	7.6nm,0.3s,baz=224,slow=25,SNR=8.6						
PDAR				LR	LR	23 49 08.6	
	comp=Z,9μm,20.8s,baz=61,slow=39						
HAWA	Hanford	8.45	356	ePn	P	23 45 49.1	+1.3
SHW	Mount Saint He	8.65	343	eP	P	23 45 53.2	+2.6
QLMT	Earthquake Lak	8.73	36	eP	P	23 45 55.2	+3.4
YMR	Madison River	8.83	38	ePn	P	23 45 55.2	+2.0
LON	Longmire	9.09	346	ePn	P	23 45 57.3	+0.6
BOZ	Bozeman (W)	9.28	32	⇑ePn	P	23 45 58.0	-1.4
MSO	Missoula	9.51	20	⇓iPn	P	23 46 02.9	+0.4
CHMT	Chamberlain Mo	9.78	22	eP	P	23 46 06.2	-0.1
DPW	Davenport	9.91	2	eP	P	23 46 09.0	+1.1
GNW	Green Mountain	10.08	344	eP	P	23 46 12.0	+1.7
ANMO	Albuquerque	10.25	103	eP	P	23 46 12.9	+0.3
ISCO	Idaho Springs	10.31	76	eP	P	23 46 14.0	+0.5
NEW	Newport	10.36	6	Pn	P	23 46 15.0	+1.0
	1.1nm,0.3s,baz=180,slow=13,SNR=48						
NEW				Lg		23 49 15.6	
	0.4nm,0.3s,baz=104,slow=16,SNR=2.8						
NEW				LR	LR	23 51 03.0	
	comp=Z,3μm,20.3s,baz=204,slow=43						
NEW	Newport	10.36	6	eP	P	23 46 15.0	+0.9
SDCO	Great Sand Dun	10.38	87	eP	P	23 46 12.6	-1.9
OCWA	Octopus Mounta	10.59	339	P	P	23 46 19.7	+2.4
RSSD	Black Hills	12.61	56	eP	P	23 46 43.0	-1.7
LAO	LASA Array	12.64	42	eP	P	23 46 43.2	-1.9
GDL2	Guadalupe Moun	13.01	112	eP	P	23 46 54.2	+4.1
DGMT	Dagmar	14.84	40	eP	P	23 47 14.6	+0.6
BBB	Bella Bella	15.70	338	Pn	P	23 47 33.1	+7.9
	0.3nm,0.3s,baz=115,slow=15,SNR=3.2						
BBB				LR	LR	23 54 01.8	
	comp=Z,5μm,21.4s,baz=162,slow=39						
WMOK	Wichita Mounta	16.30	95	eP	P	23 47 34.2	+1.1
	8.5nm,0.3s						
JCT	Junction City	17.24	110	eP	P	23 47 46.2	+1.2
	78nm,1.2s						
KSU1	Kansas State U	17.26	79	eP	P	23 47 45.7	+0.5
FFC	Flin Flon	20.24	29	Pn	P	23 48 18.9	-1.6
	432nm,1.5s,SNR=28						
FFC	Flin Flon	20.24	29	eP	P	23 48 17.6	-2.9
	220nm,1.5s						
ULM	Lac du Bonnet	20.34	46	P	P	23 48 19.4	-2.3
	85nm,1.0s,baz=242,slow=10,SNR=27						
ULM				LR	LR	23 55 17.6	
	comp=Z,3μm,21.9s,MS4.5,baz=240,slow=34						
ULM	Lac du Bonnet	20.34	46	⇓eP	P	23 48 19.3	-2.4
	158nm,1.0s						
NATX	Nacogdoches	20.59	100	⇓eP	P	23 48 23.9	-0.4
	532nm,1.5s						
UALR	University of	21.37	91	eP	P	23 48 30.7	-1.7
	32nm,1.0s,mb4.6						
CCM	Cathedral Cave	21.55	81	eP	P	23 48 32.7	-1.4
	59nm,1.0s,mb5.0						
DLBC	Dease Lake	21.79	344	P	P	23 48 35.7	-0.8
	11nm,0.9s,mb4.3,baz=129,slow=10.0,SNR=12						
DLBC				LR	LR	23 57 57.8	
	comp=Z,13μm,18.2s,MS5.4,baz=0.1,slow=39						
DLBC	Dease Lake	21.79	344	eP	P	23 48 37.4	+0.9
SIT	Sitka	22.07	335	eP	P	23 48 37.6	-1.7
	84nm,1.5s,mb5.0						
JFWS	Jewell Farm	22.10	68	eP	P	23 48 38.4	-1.2
	79nm,1.0s,mb5.1						
SLM	Saint Louis	22.25	79	eP	P	23 48 39.2	-2.0
	115nm,1.0s,mb5.3						
HBAR	Harrisburg	22.50	88	P	P	23 48 42.0	-1.7
UTMT	University of	23.73	85	P	P	23 48 59.2	+3.6
OXF	Oxford	23.77	89	eP	P	23 48 56.4	+0.4
	120nm,1.1s,mb5.2						
WVT	Waverly	24.59	85	eP	P	23 49 03.4	-0.7
	33nm,0.8s,mb4.9						
YKA	Yellowknife Ar	24.68	4	P	P	23 49 05.1	+0.5
	11nm,0.9s,mb4.4,baz=182,slow=9.3,SNR=21						
YKA				LR	LR	23 59 14.2	
	comp=Z,5μm,20.4s,MS5.0,baz=205,slow=38						
YKA	Yellowknife Ar	24.68	4	P	P	23 49 05.1	+0.4
YKA				LR	LR	23 59 14.2	
BLO	Bloomington	25.06	77	eP	P	23 49 07.1	-1.4
	23nm,0.8s,mb4.8						
WCI	Wyandotte Cave	25.38	79	eP	P	23 49 13.1	+1.6
	18nm,1.3s,mb4.5						
LRAL	Lakeview Retre	26.14	91	eP	P	23 49 20.1	+1.5
	70nm,1.7s,mb4.9						
SWET	Sewanee	26.32	86	P	P	23 49 16.4	-3.9
ACSO	Alum Creek Sta	27.64	74	eP	P	23 49 30.6	-1.8
	40nm,1.1s,mb5.0						
PWV	Princeton	29.63	79	eP	P	23 49 50.6	+0.3
ELN	Prospectdale	29.88	80	eP	P	23 49 52.1	-0.5
SADO	Sadowa	30.17	64	P	P	23 49 54.8	-0.3
	7.8nm,0.8s,mb4.5,baz=297,slow=11,SNR=5.5						
SADO				LR	LR	00 01 10.4	
	comp=Z,2μm,19.7s,MS4.8,baz=360,slow=35						
PMR	Palmer	30.27	331	eP	P	23 49 56.4	+0.6
	6.9nm,0.6s,mb4.6						
SPU	Mount Spurr	31.19	329	eP	P	23 50 00.9	-2.9
INK	Inuvik	31.50	349	P	P	23 50 06.0	-0.6
	14nm,1.1s,mb4.7,baz=159,slow=9.8,SNR=14						
INK				LR	LR	00 03 55.4	
	comp=Z,6μm,20.6s,MS5.3,baz=180,slow=38						
INK	Inuvik	31.50	349	eP	P	23 50 05.9	-0.6
	32nm,1.4s,mb5.0						
MCK	McKinley	31.55	335	eP	P	23 50 07.5	+0.5
	16nm,1.3s,mb4.7						
ILAR	Eielson Array	31.59	337	P	P	23 50 07.7	+0.3
	5.3nm,0.9s,mb4.4,baz=154,slow=7.5,SNR=33						
COLA	College	31.96	337	eP	P	23 50 09.7	-0.9
IMA	Indian Mountai	34.59	336	eP	P	23 50 34.5	+1.1
	9.0nm,0.9s,mb4.7						
SCHQ	Schefferville	38.51	47	P	P	23 51 06.9	+0.2
	27nm,1.0s,mb4.9,baz=290,slow=8.8,SNR=9.7						
SCHQ				LR	LR	00 08 56.6	
	comp=Z,869nm,19.8s,MS4.6,baz=85,slow=39						
SCHQ	Schefferville	38.51	47	eP	P	23 51 05.0	-1.7
	78nm,1.3s,mb5.3						
SCHQ				LR	LR		
	comp=Z,4μm,19.0s,MS5.2						
FRB	Frobisher Bay	39.26	33	P	P	23 51 12.8	0.0
	comp=Z,40nm,1.0s,mb5.1,baz=271,slow=7.8,SNR=5.4						
FRB				LR	LR	00 07 26.8	
	comp=Z,2μm,21.6s,MS5.0,slow=36						
FRB	Frobisher Bay	39.26	33	P	P	23 51 12.8	0.0
FRB				LR	LR	00 07 26.8	
SUMG	Summit	51.34	22	eP	P	23 52 48.5	-0.3
	comp=Z,42nm,1.2s,mb5.2						
SDV	Santo Domingo	51.92	111	eP	P	23 52 52.4	-1.6
	comp=Z,11nm,1.1s,mb4.7						
SDV				LR	LR		
	comp=Z,2μm,22.0s,MS5.0						
ROSC	El Rosal	52.03	118	LR	LR	00 18 36.2	
	comp=Z,1μm,19.5s,MS4.9,baz=328,slow=40						
SEY	Seymchan	56.56	327	eP	P	23 53 26.9	-0.5
SEY				pmax	pmax		
	comp=Z,40nm,1.1s,mb5.4						
PET	Petropavlovsk	56.73	314	eP	P	23 53 30.6	+1.9
PET				eS	S	00 01 21.3	+0.8
PET				ePS	PS	00 01 33.7	+1.5
PET				pmax	pmax		
	comp=Z,33nm,1.4s,mb5.2						
PET				MLR	MLR		
	comp=Z,600nm,18.0s,MS4.7						
MA2	Magadan	58.47	323	eP	P	23 53 41.1	+0.2
MA2				eS	S	00 01 41.6	-1.7
MA2				pmax	pmax		
	comp=Z,30nm,1.2s,mb5.2						
MA2				pmax	pmax		
	comp=E,20nm,1.5s						
MA2				pmax	pmax		
	comp=N,40nm,1.6s						
MA2				MLR	MLR		
	comp=Z,900nm,24.0s,MS4.8						
SKR	Severo-Kuril's	59.06	312	eP	P	23 53 50.5	+5.4
BORG	Borgarnes	59.32	30	LR	LR	00 19 00.3	
	comp=Z,2μm,18.8s,MS5.3,baz=100,slow=36						
JMIC	Jan Mayen	60.68	21	LR	LR	00 20 40.0	
	comp=Z,2μm,18.3s,MS5.2,baz=85,slow=37						
TIXI	Tiksi	60.98	340	⇑eP	P	23 53 56.3	-1.7
TIXI				e		23 54 41.2	
TIXI				e		23 56 12.4	
TIXI				iS	S	00 02 13.5	-2.0
TIXI				iSS	SS	00 06 12.3	-3.8
TIXI				pmax	pmax		
	comp=Z,15nm,1.2s,mb5.0						
TIXI				MLR	MLR		
	comp=Z,400nm,17.0s,MS4.6						
PPT	Papeete	62.43	214	eL		00 09 32.2	
PPT				eR		00 12 16.6	
	comp=Z,888nm,26.8s,baz=18						
RKT	Rikitea	62.67	197	eL		00 09 52.9	
RKT				eR		00 12 11.0	
	comp=Z,2μm,41.2s						
YAK	Yakutsk	66.27	331	eP	P	23 54 32.3	-0.5
YAK				eS	S	00 03 20.5	-1.0
YAK				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.8						
YAK				pmax	pmax		
	comp=N,3.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,6.0nm,1.4s						
YAK				smax			
	comp=E,67nm,14.1s						
YAK				smax			
	comp=Z,123nm,20.6s						
YAK				smax			
	comp=N,90nm,15.1s						
TBI	Tubuai	67.52	211	eL		00 11 45.4	
TBI				eR		00 14 48.0	
	comp=N,990nm,26.2s,baz=24						
YSS	Yuzh-Sakhalins	68.59	313	P	P	23 54 49.0	+1.3
YSS				eS	S	00 03 54.0	+4.4
YSS				MLR	MLR		
	comp=Z,400nm,16.0s,MS4.8						
ARCES	ARCESS Array B	69.63	13	P	P	23 54 52.4	-1.3
	comp=Z,3.1nm,0.8s,mb4.3,slow=6.1,SNR=5.9						
ARCES				LR	LR	00 28 09.5	
	comp=Z,776nm,18.0s,MS5.0,baz=339,slow=38						
RAR	Rarotonga	70.43	221	LR	LR	00 23 09.1	
	comp=Z,468nm,18.1s,MS4.8,baz=33,slow=34						
LPAZ	La Paz	71.81	129	P	P	23 55 08.1	+0.3
	comp=Z,1.4nm,0.5s,mb4.2,baz=328,slow=0.3,SNR=6.1						
LPAZ				LR	LR	00 26 53.1	
	comp=Z,514nm,19.5s,MS4.8,baz=330,slow=36						
NB2	NORSAR Subarra	73.22	23	P	P	23 55 12.8	-2.5
	comp=Z,33nm,1.7s,mb5.0,baz=319,slow=5.6						
NB2	NORSAR Subarra	73.22	23	P	P	23 55 12.8	-2.5
	comp=Z,33nm,1.7s,mb5.0,baz=319,slow=5.9						
NOA	NORSAR Array B	73.22	23	P	P	23 55 16.0	+0.7
	comp=Z,3.2nm,0.9s,mb4.2,baz=320,slow=6.0,SNR=4.8						
NOA				LR	LR	00 27 43.2	
	comp=Z,696nm,20.9s,MS4.9,baz=300,slow=36						
KLR	Kul'dur	73.23	320	eP	P	23 55 14.5	-1.1
HFS	Hagfors	74.69	23	P	P	23 55 23.4	-0.4
	comp=Z,8.6nm,0.7s,mb4.8,baz=333,slow=3.3,SNR=9.5						
BOD	Bodaibo	74.89	334	eP	P	23 55 22.7	-2.3

KAF	Kangasniemi	76.32	16	ep	P	23 55 33.2	+0.1
	comp=Z,0.6nm,0.5s						
KAF	Kangasniemi	76.32	16	eP	P	23 55 33.2	+0.1
KAF				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
FINES	FINESS Array B	76.87	17	P	P	23 55 35.6	-0.5
	comp=Z,5.3nm,0.8s,mb4.5,baz=334,slow=3.1,SNR=14						
FINES				LR	LR	00 28 37.0	
	comp=Z,921nm,18.8s,MS5.1,baz=138,slow=35						
QUIF	Quistinic	77.02	39	eP	P	23 55 36.6	-0.6
SGMF	Saint Gilles	77.08	38	eP	P	23 55 37.0	-0.6
MDJ	Mudanjiang	77.34	317	P	P	23 55 34.0	-5.1
MDJ				AMB	AMB		
	comp=Z,173nm,10.7s						
MDJ				LR	LR		
	comp=E,531nm,36.6s						
MDJ				LR	LR		
	comp=N,521nm,28.2s						
MDJ				LR	LR		
	comp=Z,780nm,32.8s,MS4.8						
MAJO	Matsushiro	77.40	307	P	P	23 55 38.4	-1.2
MAT	Matsushiro	77.40	307	P	P	23 55 38.6	-1.0
MAT	Matsushiro	77.40	307	eP	P	23 55 41.0	+1.4
	comp=Z,13nm,1.0s,mb4.8						
GRR	Gorron	77.81	37	eP	P	23 55 40.4	-1.2
LDF	La Druitiere	78.01	37	eP	P	23 55 42.2	-0.5
	comp=Z,104nm,1.6s,mb5.2						
JHJ	Hachijo jima 2	78.48	303	LR	LR	00 31 27.1	
	comp=Z,310nm,18.1s,MS4.7,baz=40,slow=36						
BAIF	Baives	78.92	33	eP	P	23 55 47.7	0.0
	comp=Z,78nm,1.4s,mb5.2						
GIVF	Givet	79.16	33	eP	P	23 55 49.0	+0.1
MFF	Saint Martin d	79.41	38	eP	P	23 55 50.1	-0.3
	comp=Z,73nm,1.4s,mb5.1						
MEZF	Maizieres J'vi	80.45	34	eP	P	23 55 55.9	0.0
	comp=Z,110nm,1.6s,mb5.2						
TCF	Toulx Ste Croi	80.77	37	eP	P	23 55 57.3	-0.4
	comp=Z,52nm,1.3s,mb5.0						
SSF	Saint Saulge	80.81	36	eP	P	23 55 57.6	-0.3
	comp=Z,94nm,1.5s,mb5.2						
LOR	Lormes	80.82	36	eP	P	23 55 57.9	0.0
	comp=Z,100nm,1.4s,mb5.3						
LOR				eR			
	comp=Z,2µm,18.8s						
BGF	Bois d'Agland	80.87	37	eP	P	23 55 57.8	-0.4
	comp=Z,69nm,1.3s,mb5.1						
AVF	Avril sur Loir	80.94	36	eP	P	23 55 58.0	-0.5
	comp=Z,60nm,1.3s,mb5.0						
LFF	La Frestale	81.03	39	eP	P	23 55 58.8	-0.2
	comp=Z,53nm,1.2s,mb5.0						
RJF	Les Rejaudoux	81.15	38	eP	P	23 55 59.4	-0.3
	comp=Z,83nm,1.6s,mb5.1						
RJF				eR			
	comp=Z,3µm,20.2s						
SMF	Signal de Mont	81.28	36	eP	P	23 55 58.5	-1.8
	comp=Z,77nm,1.4s,mb5.1						
HAU	Haudompre	81.39	34	eP	P	23 56 00.8	-0.1
	comp=Z,69nm,1.4s,mb5.1						
HAU				eR			
	comp=Z,2µm,21.8s						
CDF	Champ du Feu	81.49	33	eP	P	23 56 01.3	-0.1
	comp=Z,52nm,1.3s,mb5.0						
MOX	Moxa	81.53	29	eP	P	23 56 01.0	-0.5
MOX				LR	LR		
	comp=Z,1µm,20.0s,MS5.2						
CLL	Collm	81.53	28	P	P	23 56 01.6	+0.1
	comp=Z,logA/T=1.2,mb4.9						
CLL				i		23 56 04.9	
CLL				i		23 56 22.5	
CLL	Collm	81.53	28	i P	P	23 56 01.6	+0.1
	comp=Z,22nm,1.3s,mb4.9						
CLL				i		23 56 04.9	
CAF	Calviac	81.69	38	eP	P	23 56 02.1	-0.4
	comp=Z,64nm,1.3s,mb5.1						
HINF	Hinteralfeld	81.76	34	eP	P	23 56 02.6	-0.2
	comp=Z,60nm,1.5s,mb5.0						
ETSF	Etsaut	81.82	41	eP	P	23 56 02.7	-0.5
	comp=Z,29nm,1.1s,mb4.8						
GRA1	Grafenberg Arr	82.13	30	eP	P	23 56 05.5	+0.8
	comp=Z,40nm,1.3s,mb5.2						
GRF	Grafenberg Arr	82.13	30	eP	P	23 56 05.5	+0.8
GRF				pmax	pmax		
	comp=Z,40nm,1.3s,mb5.2						
GRF				MLR	MLR		
	comp=Z,2µm,18.4s,MS5.6						
NKC	Novy Kostel	82.18	29	eP	P	23 56 04.8	-0.1
NKC				LR		00 34 20.0	
	comp=Z,1.4nm,17.0s						
BRG	Berggiesshubel	82.23	28	i P	P	23 56 05.8	+0.6
BRG				pmax	pmax		
	comp=Z,46nm,1.6s,mb5.2						
BRG				MLR	MLR		
	comp=Z,2µm,17.1s,MS5.4						
BRG				MLR	MLR		
	comp=N,2µm,19.6s,MS5.7						
BRG				MLR	MLR		
	comp=E,2µm,19.6s,MS5.7						
BRG	Berggiesshubel	82.23	28	i P	P	23 56 05.8	+0.6
	comp=E,46nm,1.6s,mb5.2						
BRG				LR	LR		
	comp=Z,2µm,17.1s,MS5.4						
ESDC	Sonseca Array	82.24	45	P	P	23 56 05.4	0.0
	comp=Z,1.1nm,0.7s,mb3.9,baz=305,slow=4.7,SNR=10						
ESDC				LR	LR	00 29 31.0	
	comp=Z,740nm,18.2s,MS5.1,baz=305,slow=33						
CABF	La Chapelle	82.33	35	eP	P	23 56 05.1	-0.7
	comp=Z,71nm,1.5s,mb5.1						
SUW	Suwalki	82.65	22	eP	P	23 56 07.1	-0.2
	comp=Z,48nm,1.0s,mb5.5						
PVCC	Panska Ves	82.75	28	eP	P	23 56 08.9	+1.1
PVCC				LR		00 34 30.0	
	comp=Z,1.4nm,17.2s						
MTLF	Montolieu	82.92	39	eP	P	23 56 08.9	0.0
	comp=Z,35nm,1.5s,mb4.9						
VIVF	Saint-Julien-l	82.99	37	eP	P	23 56 08.6	-0.7
	comp=Z,32nm,1.4s,mb4.9						
KSP	Ksiaz	83.11	27	eP	P	23 56 09.9	+0.1
PRU	Pruhonice	83.17	28	eP	P	23 56 10.6	+0.5
	comp=Z,53nm,1.8s,mb5.3						
PRU				LR		00 30 50.0	
	comp=Z,1.1nm,12.0s						
PRU	Pruhonice	83.17	28	eP	P	23 56 10.6	+0.5
PRU				pmax	pmax		
	comp=Z,53nm,1.8s,mb5.3						
PRU				MLR	MLR		
	comp=Z,1µm,12.0s,MS5.5						
LASF	Ste Croix	83.18	38	eP	P	23 56 10.7	+0.4
	comp=Z,76nm,1.5s,mb5.2						
UPC	Upice	83.29	27	eP	P	23 56 11.1	+0.4
LPL	La Plagne	83.45	35	eP	P	23 56 11.1	-0.5
	comp=Z,45nm,1.4s,mb5.0						
DAVA	Damuels	83.47	32	⇑iP	P	23 56 13.0	+1.3
	comp=Z,14nm,1.3s,mb4.8						
LPG	La Plagne	83.48	35	eP	P	23 56 11.7	0.0
	comp=Z,43nm,1.3s,mb5.0						
KHC	Kasperske Hory	83.50	29	eP	P	23 56 12.4	+0.7
KHC				LR		00 33 50.0	
	comp=Z,1.7nm,19.6s						
ORIF	Oris-en-Rattie	83.51	36	eP	P	23 56 12.3	+0.4
	comp=Z,41nm,1.3s,mb5.1						
ORIF				eR			
	comp=Z,2µm,19.5s						
DPC	Dobruska-Polom	83.53	27	eP	P	23 56 12.5	+0.7
DPC				LR		00 34 00.0	
	comp=Z,1.2nm,20.1s						
MCGN	Macugnaga	83.68	34	eP	P	23 56 14.6	+1.9
LSD	Ceresole Reale	83.69	35	P	P	23 56 13.9	+1.1
GERES	GERESS Array B	83.78	29	P	P	23 56 13.9	+0.7
	comp=Z,5.1nm,0.9s,mb4.6,baz=333,slow=3.0,SNR=22						
DAVOX	Davos	83.87	33	P	P	23 56 15.7	+2.0
	comp=Z,5.4nm,1.0s,mb4.6,baz=348,slow=11,SNR=7.4						
TRAV		83.92	35	P	P	23 56 14.5	+0.6
RRL	Cesana Torines	83.93	36	P	P	23 56 14.9	+0.9
ORO	Oropa	83.93	35	eP	P	23 56 15.4	+1.4
MOTA	Moosalm	83.94	32	⇑iP	P	23 56 14.4	+0.4
	comp=Z,27nm,1.2s,mb5.3						
RSP	Reno Superiore	83.97	35	P	P	23 56 15.4	+1.2
FENE	Fenestrelle	83.97	35	P	P	23 56 14.9	+0.7
MBDF	Montbardon	84.07	36	eP	P	23 56 15.1	+0.4
	comp=Z,37nm,1.1s,mb5.1						
SMRF	Simiane la Rot	84.08	37	eP	P	23 56 14.3	-0.5
	comp=Z,63nm,1.5s,mb5.2						
SQTA	Sankt Quirin	84.08	32	⇓iP	P	23 56 15.8	+1.1
	comp=Z,48nm,1.5s,mb5.4						
VAI	Varese	84.10	34	eP	P	23 56 15.8	+0.9
WATA	Walderalm	84.14	31	⇓iP	P	23 56 15.9	+0.9
	comp=Z,44nm,1.4s,mb5.4						
BHB	Bricherasio	84.21	35	P	P	23 56 15.8	+0.4
WTTA	Wattenberg	84.22	31	⇓iP	P	23 56 16.7	+1.3
	comp=Z,41nm,1.3s,mb5.4						
BRMO	Bormio	84.32	33	eP	P	23 56 17.4	+1.5
PZZ	Prazzo	84.39	36	P	P	23 56 16.9	+0.6
MORC	Moravsky Berou	84.45	27	eP	P	23 56 16.2	-0.3
	comp=Z,32nm,1.4s,mb5.3						
MOS	Moscow	84.49	13	eP	P	23 56 15.2	-1.3
MOS				e		23 56 31.7	
MOS				pmax	pmax		
	comp=Z,1.0nm,17.9s						
VRAC	Vranov	84.50	28	P	P	23 56 17.9	+1.1
	comp=Z,14nm,1.0s,mb5.1,baz=323,slow=5.4,SNR=19						
OKC	Ostrava-Krasne	84.61	26	eP	P	23 56 17.9	+0.6
OKC				LR		00 35 10.0	
	comp=Z,1.1nm,19.5s						
ZAK	Zakamensk	84.61	335	⇓iP	P	23 56 17.8	+0.5
STV2	Anna di Valdie	84.70	36	P	P	23 56 17.6	-0.3
ENR	Entracque	84.75	36	P	P	23 56 17.0	-1.1
MOA	Molln	84.81	30	⇑iP	P	23 56 19.3	+1.0
	comp=Z,41nm,1.2s,mb5.4						
OJC	Ojcow	84.86	25	eP	P	23 56 18.5	0.0
OBN	Obninsk	84.89	14	κ iP	P	23 56 18.6	+0.1
OBN				pmax	pmax		
	comp=Z,46nm,1.3s,mb5.5						
OBN				MLR	MLR		
	comp=Z,900nm,19.0s,MS5.2						
OBN	Obninsk	84.89	14	⇓eP	P	23 56 18.7	+0.1
	comp=Z,40nm,1.1s,mb5.5						
OBN				LR	LR		
	comp=Z,284nm,21.0s,MS4.6						
FRF	La Foret Royal	84.90	37	eP	P	23 56 18.7	-0.2
	comp=Z,88nm,1.4s,mb5.4						
BDFB	Brasilia	84.91	114	LR	LR	00 39 10.9	
	comp=Z,2µm,18.7s,MS5.5,baz=308,slow=39						
ROB	Roburent	84.91	35	P	P	23 56 18.6	-0.3
LMR	La Mourre	85.01	37	eP	P	23 56 19.5	+0.1
	comp=Z,72nm,1.4s,mb5.3						
MONE	Monesi	85.02	36	P	P	23 56 19.0	-0.5
PCP	Pian Castagno	85.03	35	P	P	23 56 19.2	-0.3
SBF	Sospel	85.04	36	eP	P	23 56 18.1	-1.5
SAL	Salo	85.07	33	eP	P	23 56 20.8	+1.1
KBA	Koelnbreinsper	85.07	31	⇑iP	P	23 56 20.9	+1.2
	comp=Z,27nm,1.5s,mb5.2						
FIN	Finale Ligure	85.13	35	P	P	23 56 19.2	-0.8
RORO		85.14	35	P	P	23 56 19.1	-1.0
CTI	Castel Tesino	85.20	32	eP	P	23 56 21.1	+0.8
IMI	Imperia	85.21	36	P	P	23 56 19.3	-1.1
FVI	Forni Avoltri	85.23	31	eP	P	23 56 24.2	+3.8
SVE	Sverdlovsk	85.57	0	⇑eP	P	23 56 23.0	+1.1
SVE				pmax	pmax		
	comp=Z,60nm,2.6s,mb5.4						
SVE				MLR	MLR		
	comp=N,500nm,14.0s,MS5.2						
SVE				MLR	MLR		
	comp=E,500nm,14.0s,MS5.2						
SVE				MLR	MLR		
	comp=Z,1µm,14.0s,MS5.4						
PTCC	Patocco-Chiusa	85.62	31	eP	P	23 56 22.5	+0.1
SONM	Songino Array	85.63	331	P	P	23 56 23.8	+1.4
	comp=Z,4.6nm,0.9s,mb4.7,baz=27,slow=2.8,SNR=15						
GMNA	Gemona	85.68	31	eP	P	23 56 23.1	+0.4
NVS	Novosibirsk	85.68	348	eP	P	23 56 20.5	-2.0
NVS				pmax	pmax		
	comp=Z,40nm,2.2s,mb5.3						
NVS				pmax	pmax		
	comp=N,20nm,2.0s						
GRAM		85.75	34	P	P	23 56 22.2	-0.9
ARSA	Arzberg	85.79	29	⇑iP	P	23 56 24.2	+0.9
	comp=N,23nm,1.2s,mb5.3						
VALM		85.94	34	P	P	23 56 23.3	-0.8
ARU	Arti	85.94	2	⇑iP	P	23 56 24.1	+0.3
ARU				e		23 59 44.1	
ARU				eS	S	00 06 49.6	-7.2
ARU				eSS	SS	00 12 31.4	-6.2
ARU				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb5.0						
ARU				MLR	MLR		
	comp=N,800nm,21.0s,MS5.1						
ARU				MLR	MLR		
	comp=Z,900nm,21.0s,MS5.1						
ARU				MLR	MLR		
	comp=E,300nm,19.0s,MS5.1						
ARU	Arti	85.94	2	eP	P	23 56 23.8	0.0
	comp=E,19nm,1.4s,mb5.1						
ARU				LR	LR		
	comp=Z,258nm,19.0s,MS4.6						
CPUP	Villa Florida	85.96	128	P	P	23 56 24.8	+0.2
	comp=Z,1.9nm,0.8s,mb4.3,baz=322,slow=12,SNR=3.6						
CPUP				LR	LR	00 36 59.1	
	comp=Z,573nm,18.2s,MS5.0,baz=349,slow=37						
CPUP	Villa Florida	85.96	128	P	P	23 56 24.8	+0.2
CPUP				LR	LR	00 36 59.1	
OBKA	Obir	86.02	30	⇑iP	P	23 56 24.9	+0.5
	comp=Z,37nm,1.1s,mb5.5						
GSCL	Gusciola	86.09	34	eP	P	23 56 26.0	+1.2
ZCCA	Zocca	86.26	34	eP	P	23 56 27.3	+1.6
KWP	Kalwaria	86.33	24	eP	P	23 56 26.9	+1.1
	comp=Z,30nm,1.1s,mb5.4						
PSZ	Piszkesteto	86.85	27	⇑ePcP	PcP	23 56 30.1	-1.0
SFI	Santa Sofia	86.99	33	eP	P	23 56 30.4	+1.1
AKASG	Malin Array Be	87.30	20	P	P	23 56 30.4	-0.1
	comp=Z,3.3nm,0.8s,mb4.6,baz=319,slow=3.6,SNR=18						
BJI	Beijing	87.55	321	P	P	23 56 35.1	+3.0
BJI				LR	LR		
	comp=N,237nm,22.7s,MS5.0						
BJI				LR	LR		
	comp=E,713nm,22.7s,MS5.0						
BJI				LR	LR		
	comp=Z,658nm,26.1s,MS4.9						
VOR	Voronezh	88.60	14	P	P	23 56 37.0	+0.3
VOR				pmax	pmax		
	comp=Z,60nm,1.7s,mb5.7						
BRVK	Borovoye	89.02	355	⇓eP	P	23 56 39.0	+0.3
	comp=Z,18nm,0.9s,mb5.4						
BVAR	Borovoye Array	89.05	355	P	P	23 56 39.7	+0.8
	comp=Z,8.1nm,0.8s,mb5.1,slow=3.0,SNR=30						
HHC	Hu-ho-hao-te	89.13	324	eP	P	23 56 36.1	-3.5
HHC				XP	sP	23 56 42.5	+2.1
HHC				LR	LR		
	comp=N,179nm,19.0s						
HHC				LR	LR		
	comp=E,197nm,24.4s						
ZRNK	Zerenda	89.22	355	⇓eP	P	23 56 40.1	+0.4
	comp=E,23nm,1.3s,mb5.3						
DIVS	Divcibare	90.14	28	⇑iP	P	23 56 44.3	0.0
KURK	Kurchatov	90.41	349	deP	P	23 56 44.9	-0.4
KURK	Kurchatov	90.41	349	eP	P	23 56 44.9	-0.4
	comp=E,23nm,1.4s,mb5.3						
MLR	Muntele Rosu	91.01	24	P	P	23 56 49.1	+0.9
	comp=E,14nm,1.4s,mb5.1,baz=218,slow=7.7,SNR=3.2						
NJ2	Nanjing	92.14	314	eP	P	23 56 51.6	-2.1
NJ2				AP	pP	23 56 55.8	+1.5
NJ2				XP	sP	23 56 59.6	+5.1
NJ2				LR	LR		
	comp=N,1µm,21.0s,MS5.5						
NJ2				LR	LR		
	comp=E,1µm,19.6s,MS5.5						
NJ2				LR	LR		
	comp=Z,2µm,16.4s,MS5.7						
MKAR	Makanchi Array	93.57	346	P	P	23 56 59.5	-0.4
	comp=Z,2.3nm,0.9s,mb4.6,baz=354,slow=11,SNR=9.7						
MKAR				LR	LR	00 44 45.7	
	comp=Z,795nm,19.3s,MS5.2,baz=123,slow=39						
MKAR	Makanchi Array	93.57	346	i P	P	23 56 59.5	-0.4
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
WMQ	Urumqi	95.17	341	eP	P	23 57 06.1	-1.3
WMQ				AP	pP	23 57 10.9	+2.9
WMQ				AMB	AMB		
	comp=Z,23nm,1.1s,mb5.5						
WMQ				LR	LR		
	comp=E,797nm,22.3s						
WMQ				LR	LR		
	comp=Z,771nm,24.6s,MS5.1						
SOC	Sochi	96.49	16	eP	P	23 57 12.8	-0.6
SOC				pmax	pmax		
	comp=Z,12nm,0.7s,mb5.4						
SOC				pmax	pmax		
	comp=N,14nm,1.2s						
SOC				pmax	pmax		
	comp=E,10.0nm,0.9s						
LZH	Lanzhou	96.49	327	eP	P	23 57 09.3	-4.3
LZH				AMB	AMB		
	comp=Z,26nm,1.4s,mb5.5						
LZH				LR	LR		
	comp=N,526nm,15.1s						
LZH				LR	LR		
	comp=Z,886nm,18.4s,MS5.3						
BRTR	Keskin Array B	98.61	21	P	P	23 57 23.7	+0.7
	comp=Z,1.5nm,1.0s,mb4.5,baz=346,slow=5.1,SNR=4.6						
BRTR				LR	LR	00 46 51.6	
	comp=Z,577nm,19.1s,MS5.1,baz=10.0,slow=38						
WRA	Warramunga Arr	115.19	264	PKP	PKPdf	00 02 27.2	+0.4
	comp=Z,1.0nm,0.8s,baz=46,slow=1.7,SNR=5.7						
ASAR	Alice Springs	117.52	260	PKP	PKPdf	00 02 31.6	+0.4
	comp=Z,1.0nm,0.9s,baz=122,slow=2.9,SNR=6.9						
HYB	Hyderabad	122.60	340	i PKP	PKPdf	00 02 58.0	+17
QSPA	South Pole Qui	127.78	180	eP	PKPdf	00 02 50.0	+0.3
QSPA				LR	LR		
	comp=Z,370nm,22.0s,MS5.0						
SYO	Syowa Base	146.71	166	⇓PKPdf	PKPdf	00 03 24.5	+0.3
SYO	Syowa Base	146.71	166	⇓PKPab	PKPab	00 03 26.9	-0.1
SYO	Syowa Base	146.71	166	⇓P	PKPbc	00 03 41.1	+18
MAW	Mawson	150.29	181	PKPbc	PKPdf	00 03 34.1	+4.2
	comp=Z,4.6nm,0.7s,baz=220,slow=2.7,SNR=13						
MAW	Mawson	150.29	181	eP	PKPdf	00 03 33.6	+3.6

STR ***18*** *23:45:30.0±0.3, 43.37N×0.68W, $h10^{km}\pm1^{km}$, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG ***18*** *23:45:31.2±0.7, 42.89N×1.49W, $h2^{km}$, Md2.1/2, Ml1.7/4, Error ellipse: s-maj=10.5km s-min=6.9km az=53.0*
MDD ***18*** *23:45:31.9±0.5, 42.86N×1.40W, $h5^{km}\pm7^{km}$, mbLg1.3/6, Error ellipse: s-maj=4.0km s-min=2.3km az=43.0, AftershockPLICA PRXIMO*

ISC 18 23:45:29.7±0.7**, 42.83N**±0.04×**1.45W**±0.05**, $h5^{km}$, n15, $\sigma0\overset{s}{.}94$**/24**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	Ste Jean	0.32	30	ePg	Pg	23 45 37.0	+0.8
SJPF				eSg	Sg	23 45 39.8	-0.8
	33nm,0.3s						
EALK	Alkurruntz	0.39	354	Pg	Pg	23 45 38.2	+0.7
	1.6nm,0.1s,SNR=10						
EALK				Lg		23 45 44.0	
	17nm,0.3s,SNR=22						
LARF	Larrau	0.40	59	Pg	Pg	23 45 38.0	+0.4
LARF				Sg	Sg	23 45 44.2	+1.3
LARF	Larrau	0.40	59	P	Pg	23 45 38.6	+0.9
LARF				S	Sg	23 45 44.4	+1.4
OSSF	Osses	0.44	18	Pg	Pg	23 45 38.9	+0.3
OSSF				Sg	Sg	23 45 45.2	+0.6
OSSF	Osses	0.44	18	P	Pg	23 45 39.1	+0.5
OSSF				S	Sg	23 45 44.1	-0.4
ETSF	Etsaut	0.66	84	ePg	Pg	23 45 42.8	-0.1
ETSF				eSg	Sg	23 45 51.9	+0.3
	6.1nm,0.3s						
EPF	Esparros	1.33	81	ePg	Pg	23 45 57.0	+0.8
EPF				eSg	Sg	23 46 14.1	+0.2
	3.3nm,0.2s						
ESAC	San Caprasio	1.33	147	Pg	Pg	23 45 56.1	-0.2
	2.8nm,0.2s,SNR=8.8						
ESAC				Lg		23 46 13.8	
	8.2nm,0.3s,SNR=5.5						
ELAN	Lanestosa	1.51	286	Pg	Pg	23 45 59.5	-0.4
	SNR=7.9						
ELAN				Lg		23 46 21.3	
	0.8nm,0.2s,SNR=7.9						
ETOR	Torete	2.06	193	Pn	Pn	23 46 06.7	+1.2
	SNR=7.9						
ETOR				Pg	Pg	23 46 10.3	-0.6
	0.4nm,0.2s,SNR=5.1						
ETOR				Lg		23 46 34.5	
	1.4nm,0.3s,SNR=4.8						
EPOB	Poblet	2.39	127	Lg		23 46 44.5	
	0.3nm,0.1s,SNR=7.9						
MTLF	Montolieu	2.73	78	ePn	Pn	23 46 14.8	-0.2
MTLF				eSn	Sn	23 46 47.2	-1.6
	0.6nm,0.3s						
RJF	Les Rejaudoux	3.27	40	eSn	Sn	23 46 58.3	-4.0
	0.4nm,0.2s						
CAF	Calviac	3.29	49	ePn	Pn	23 46 20.9	-2.0
CAF				eSn	Sn	23 46 59.4	-3.5
	0.4nm,0.2s						

BJI ***18*** *23:47:53.7, 38.00N×118.60W, $h6^{km}$, mb5.0, Ms5.5, Msz5.3*
NEIC ***18*** *23:47:58.7, 38.02N×118.65W, $h7^{km}$, ML4.0(REN), After REN.*

ISC 18 23:47:58.2±0.9**, 37.97N**±0.05×**118.60W**±0.07**, $h8^{km}\pm7^{km}$, n13, $\sigma1\overset{s}{.}05$**/16**, 1D, California-Nevada border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OMM	Old Mammoth Mi	0.47	222	eP	Pg	23 48 08.2	+0.5
MNV	Mina	0.57	37	eP	Pg	23 48 09.2	-0.5
MNV				i S	Sg	23 48 17.1	-0.4
MTUM	Tungsten Hills	0.62	178	⇓iP	Pg	23 48 11.3	+0.6
TPH	Tonopah	1.09	84	eP	Pb	23 48 19.6	+0.7
CMB	Columbia Colle	1.42	273	ePn	Pn	23 48 23.2	-1.2
WCN	Washoe City	1.61	326	ePn	Pn	23 48 27.5	+0.4
PAHR	Pah Rah Range	1.84	341	eP	Pn	23 48 30.9	+0.5
PAHR				eS	Sn	23 48 56.0	+1.9
ELK	Elko	3.80	42	ePn	Pn	23 48 57.6	-0.8
ELK				eSg	Sg	23 49 57.9	-6.8
ARUT	Antelope Range	4.08	91	ePn	Pn	23 49 03.1	+0.6
MDJ	Mudanjiang	77.34	317	P	P	23 59 52.8	-2.1
MDJ				AMB	AMB		
	comp=Z,5.0nm,0.7s						
CN2	Changchun	80.09	319	eP	P	00 00 10.0	+0.1
CN2				eS	S	00 10 12.3	-0.9
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
WMQ	Urumqi	95.17	341	eP	P	00 01 24.4	+1.3
LZH	Lanzhou	96.49	327	eP	P	00 01 27.5	-1.9
LZH				AMB	AMB		
	comp=Z,23nm,1.5s						
LZH				LR	LR		
	comp=N,787nm,15.1s						
LZH				LR	LR		
	comp=Z,986nm,17.8s						

KRSC ***19*** *00:08:14.0±3.3, 49.01N×157.66E, $h19^{km}\pm17^{km}$, ML4.6*
NEIC ***19*** *00:08:22.0±1.3, 49.93N×155.75E, $h52^{km}\pm14^{km}$, mb4.0/3, Error ellipse: s-maj=16.0km s-min=12.2km az=151.0*
IDC ***19*** *00:08:23.3±4.9, 49.75N×155.80E, $h70^{km}\pm53^{km}$, mb3.5/6, mb1 3.7/7, mb1mx3.4/22, ML4.2/1, Error ellipse: s-maj=74.2km s-min=26.0km az=155.0*
MOS ***19*** *00:08:24.1±1.8, 49.88N×156.87E, $h126^{km}$, mb3.5/5, Error ellipse: s-maj=41.6km s-min=11.4km az=75.3*

ISC 19 00:08:15.2±1.1**, 49.06N**±0.06×**157.0E**±0.1**, $h74^{km}\pm11^{km}$, n50, $\sigma1\overset{s}{.}33$**/72**, mb3.8**/8**, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.73	340	ePN	P	00 08 48.5	+4.6
SKR				i S	S	00 09 09.2	+4.2
SKR				pmax	pmax		
	comp=N,110nm,0.4s						
SKR				pmax	pmax		
	comp=E,40nm,0.4s						
SKR				pmax	pmax		
	comp=Z,190nm,0.4s						
SKR				pmax	pmax		
	comp=Z,800nm,2.0s						
SKR				smax			
	comp=N,2µm,2.0s						
SKR				smax			
	comp=E,2µm,2.0s						
SKR				smax			
	comp=N,2µm,0.6s						
SKR				smax			
	comp=E,5µm,0.9s						
PAU	Pauzhetka	2.41	357	eP	P	00 08 52.1	-1.3
PAU				eS	S	00 09 21.6	-0.2
PAU				Smax			
	comp=E,1µm,0.5s						
MIPR	Malaya Ipel'ka	3.22	357	eP	P	00 09 03.7	-1.0
MIPR				eS	S	00 09 42.5	+0.4
RUS	Russkaya	3.50	15	P	P	00 09 07.4	-1.2
RUS				S	S	00 09 46.3	-2.8
RUS	Russkaya	3.50	15	eP	P	00 09 07.4	-1.2
RUS				eS	S	00 09 47.2	-1.9
GRL	Gorelyy	3.56	10	eP	P	00 09 09.1	-0.3

GRL				eS	S	00 09 49.1	-1.3
APC	Apacha	3.87	1	eP	P	00 09 14.8	+1.1
APC				eS	S	00 10 00.8	+2.6
APC				Smax			
	comp=E,60nm,0.8s						
PET	Petropavlovsk	4.10	14	P	P	00 09 16.1	-0.8
PET				S	S	00 10 02.1	-1.8
PET	Petropavlovsk	4.10	14	eP	P	00 09 16.3	-0.6
PET				eS	S	00 10 03.0	-0.9
PET	Petropavlovsk	4.10	14	ePn	P	00 09 15.8	-1.1
PET				eSn	S	00 10 03.2	-0.7
UGLR	Uglovaya	4.30	14	eP	P	00 09 20.5	+0.7
UGLR				eS	S	00 10 10.5	+1.4
AVH	Avacha	4.34	14	eP	P	00 09 20.8	+0.5
AVH				eS	S	00 10 10.4	+0.3
SMAR	Somma	4.35	14	eP	P	00 09 21.7	+1.3
SMAR				eS	S	00 10 11.4	+1.1
KOK	Koryaka	4.35	13	eP	P	00 09 21.3	+0.8
KOK				eS	S	00 10 11.1	+0.8
NLC	Nalytchevo	4.36	19	P	P	00 09 19.2	-1.4
NLC	Nalytchevo	4.36	19	eP	P	00 09 19.1	-1.5
NLC				eS	S	00 10 07.6	-3.0
SDLR	Sedlovina	4.38	15	eP	P	00 09 20.3	-0.5
SDLR				eS	S	00 10 08.4	-2.6
SPN	Mys Shipunski	4.46	24	P	P	00 09 21.9	0.0
SPN				S	S	00 10 11.0	-2.0
SPN	Mys Shipunski	4.46	24	eP	P	00 09 21.4	-0.5
SPN				eS	S	00 10 12.3	-0.7
GNL	Ganaly	4.67	7	eP	P	00 09 25.2	+0.3
GNL				eS	S	00 10 19.6	+1.3
MKZ	Mys Kozlova	6.22	26	P	P	00 09 44.9	-1.4
MKZ				S	S	00 10 51.2	-5.6
MKZ	Mys Kozlova	6.22	26	eP	P	00 09 44.7	-1.6
MKZ				eS	S	00 10 50.4	-6.4
TUMR	Tumrok	6.52	16	eP	P	00 09 51.9	+1.5
KMNR	Kamenistaya	6.98	15	eP	P	00 09 58.9	+1.9
KOZ	Kozyrevsk	7.22	13	P	P	00 10 00.4	+0.2
ZLN	Zelenaya	7.33	17	eP	P	00 10 02.8	+1.0
LGNR	Loginova	7.38	16	P	P	00 10 03.2	+0.9
CIRR	Tsirk	7.42	16	eP	P	00 10 04.3	+1.4
SRDR	Sredinnyy	7.45	12	P	P	00 10 06.1	+2.8
KBTR	Krutoberegovo	7.97	24	P	P	00 10 09.6	-0.9
KBTR	Krutoberegovo	7.97	24	eP	P	00 10 09.4	-1.1
KBTR				eS	S	00 11 34.5	-5.4
FX1	Attu Island--F	10.86	63	P	P	00 10 59.5	+10
ASAJ	Asahikawa	11.10	249	P	P	00 10 52.5	-0.4
	comp=E,2.0nm,0.3s,baz=76,slow=15,SNR=7.2						
ASAJ	Asahikawa	11.10	249	PN	P	00 10 52.5	-0.3
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MA2	Magadan	11.14	343	Pn	P	00 10 43.5	-10
MAJO	Matsushiro	18.58	235	P	P	00 12 33.8	+5.2
	comp=Z,2.9nm,0.6s						
ILAR	Eielson Array	33.08	41	P	P	00 14 52.1	+6.6
	comp=Z,0.6nm,0.9s,mb3.4,baz=262,slow=6.4,SNR=2.8						
ILAR	Eielson Array	33.08	41	P	P	00 14 52.1	+6.6
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
MKAR	Makanchi Array	48.23	297	P	P	00 16 48.5	-1.5
	comp=Z,0.6nm,0.7s,mb3.6,baz=45,slow=8.2,SNR=6.6						
MKAR	Makanchi Array	48.23	297	P	P	00 16 48.5	-1.4
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	Makanchi Array	48.23	297	P	P	00 16 48.5	-1.5
KURK	Kurchatov	48.29	303	eP	P	00 16 48.5	-1.8
	comp=Z,2.0nm,0.8s,mb4.0						
BVAR	Borovoye Array	51.43	310	P	P	00 17 13.1	-1.2
	comp=Z,1.1nm,0.5s,mb4.1,baz=59,slow=8.6,SNR=9.2						
BRVK	Borovoye	51.46	310	eP	P	00 17 12.0	-2.6
	comp=Z,2.3nm,0.8s,mb4.3						
CMAR	Chiang Mai Arr	55.46	258	P	P	00 17 46.1	+1.6
	comp=Z,1.6nm,1.1s,mb4.0,baz=23,slow=6.1,SNR=4.1						
CMAR	Chiang Mai Arr	55.46	258	P	P	00 17 46.2	+1.7
CMAR				pmax	pmax		
	comp=Z,2.0nm,1.1s						
GERES	GERESS Array B	77.47	336	P	P	00 20 04.7	+1.1
	comp=Z,0.6nm,0.8s,mb3.4,baz=27,slow=6.0,SNR=6.1						
GERES	GERESS Array B	77.47	336	P	P	00 20 04.7	+1.1
GERES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BRTR	Keskin Array B	78.45	319	P	P	00 20 11.1	+1.9
	comp=Z,1.0nm,0.8s,mb3.6,baz=34,slow=5.2,SNR=6.4						
BRTR	Keskin Array B	78.45	319	P	P	00 20 11.1	+1.9
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						

MAN 19 00:09:20.8, 11.47N×122.14E, h93^{km}, mb3.7, ML2.4, MS1.9, 1C-1D, Panay

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KALP	Kalibo	0.28	43⇑	eP	P	00 09 35.8	+1.3
RCP	Roxas	0.60	82⇓	eP	P	00 09 34.5	-2.3
OTRP	Odiongan	0.89	352	eP	P	00 09 39.6	-0.1
OTRP				eS	S	00 09 55.0	+1.2
GUIM	Jordan	0.95	152	eP	P	00 09 39.9	-0.4
GUIM				eS	S	00 09 56.4	+1.5
CUYO	Cuyo Island	1.27	241	eP	P	00 09 44.5	+0.3
CUYO				eS	S	00 10 01.6	-0.1
SJMP	San Jose	1.40	315	eP	P	00 09 48.0	+2.1

*NEIC **19** 00:14:24.7±0.2, 19.59N×77.96W, h15^{km}, mb4.7/31, MS4.5/5, Error ellipse: s-maj=4.8km s-min=4.1km az=34.0*

NEIC Felt [III] at Bartolome Maso, Cabo Cruz, Las Mercedes, Las Vegas, Manzanillo, Niquero, Pilon and Santo Domingo.

*JSN **19** 00:14:25.9±1.0, 19.55N×77.91W, h31^{km}±999^{km}, MD4.3, MW4.5*

*IDC **19** 00:14:28.1±3.1, 19.48N×78.04W, h42^{km}±29^{km}, mb3.9/16, mb1 4.1/18, mb1mx4.1/23, ML3.2/3, MS4.2/5, Ms1 4.2/5, ms1mx3.9/24, Error ellipse: s-maj=21.5km s-min=13.4km az=79.0*

ISC 19 00:14:22.8±0.2, **19.57N**±0.03×**77.95W**±0.04, **h15^{km}, n96, σ1^{s}00**/89, **mb4.5**/42, **MS4.2**/7, **4D, Cuba region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NEJ	Negril	1.36	196⇓	iP	Pn	00 14 47.4	+0.1
MCJ	Malvern	1.65	171⇓	iP	Pn	00 14 52.4	+0.9
STH	Stony Hill	1.83	144⇓	eP	Pn	00 14 53.8	-0.3
STH				eS	Sn	00 15 14.9	-2.3
HOJ	Hope	1.93	144⇓	eP	Pn	00 14 55.3	-0.1
DWPF	Disney	9.08	340	ePn	P	00 16 33.1	-3.2
	44nm,0.6s						
TEIG	Tepich	9.74	276	P	P	00 16 43.6	-1.9
	0.0nm,0.3s,baz=278,slow=24,SNR=127						
TEIG				S	Sn	00 18 25.0	-11
	0.0nm,0.3s,slow=20,SNR=7.9						
TEIG	Tepich	9.74	276	ePn	P	00 16 44.3	-1.2
MGP	Maguayo	10.40	97	ePn	P	00 16 51.9	-2.7
AOPR	Arecibo Observ	10.66	95	ePn	P	00 16 54.5	-3.7
JTS	JuntasAbangare	11.44	217	P	P	00 17 08.7	0.0
	1.2nm,0.3s,baz=357,slow=19,SNR=6.1						
JTS	JuntasAbangare	11.44	217	ePn	P	00 17 08.7	0.0
CBYP	Canovanas	11.52	94	eP	P	00 17 06.1	-3.7
SDV	Santo Domingo	12.76	145	ePn	P	00 17 24.8	-1.8
	13nm,0.4s						
SDV				eSn	S	00 19 36.9	-12
ROSC	El Rosal	15.04	166	P	P	00 17 58.2	+1.6
	2.9nm,0.3s,baz=319,slow=22,SNR=8.9						
LRAL	Lakeview Retre	15.66	331	eP	P	00 18 01.5	-3.1
	8.4nm,0.8s						
CMIG	Matias Romero	16.27	264	i P	P	00 18 10.7	-1.8
SWET	Sewanee	17.11	337	eP	P	00 18 22.4	-0.7
LVIG	Laguna Verde	17.40	274	i P	P	00 18 26.3	-0.4
ELN	Prospectdale	17.77	353	eP	P	00 18 29.0	-2.2
OXX	Oaxaca	18.00	265	i P	P	00 18 36.0	+1.8
VHO	Vista Hermosa	18.01	265	i P	P	00 18 35.9	+1.6
OXF	Oxford	18.03	328	eP	P	00 18 34.8	+0.3
	46nm,0.9s						
WVT	Waverly	18.65	334	eP	P	00 18 41.7	-0.4
	3.6nm,0.6s						
OTAV	Otavalo	19.21	182	eP	P	00 18 50.9	+1.9
	37nm,1.3s						
UALR	University of	19.80	323	P	P	00 18 52.8	-2.8
	4.9nm,0.6s						
WCI	Wyandotte Cave	19.96	340	eP	P	00 18 56.7	-0.6
	22nm,1.1s						
FVM	French Village	21.32	332	eP	P	00 19 11.1	-0.3
	23nm,1.1s,mb4.4						
CCM	Cathedral Cave	21.75	331	eP	P	00 19 15.4	-0.3
	33nm,1.3s,mb4.6						
CCM				LR	LR		
	comp=Z,607nm,20.0s,MS4.0						
JCT	Junction City	22.55	303	eP	P	00 19 23.7	0.0
	comp=Z,9.1nm,0.7s,mb4.3						
WMOK	Wichita Mounta	23.84	314	eP	P	00 19 36.8	+0.5
	comp=Z,9.3nm,1.1s,mb4.1						
SADO	Sadowa	25.15	358	P	P	00 19 50.8	+1.9
	comp=Z,2.5nm,0.6s,mb3.9,baz=190,slow=12,SNR=3.5						
KSU1	Kansas State U	25.28	324	eP	P	00 19 50.2	+0.2
CPRX	Cap Rock	26.74	305	eP	P	00 20 03.5	-0.2
BNM	Barren Site	29.30	306	eP	P	00 20 28.3	+1.5
LAZ	Ladron	29.78	306	eP	P	00 20 32.1	+0.9
SAML	Samuel	31.85	152	eP	P	00 20 49.7	+0.1
	comp=Z,17nm,0.6s,mb5.0						
SAML				LR	LR		
	comp=Z,624nm,19.0s,MS4.3						
ULM	Lac du Bonnet	33.77	339	LR	LR	00 35 54.7	
	comp=Z,260nm,21.0s,MS3.9,baz=159,slow=38						
PDAR	Pinedale Array	35.25	318	P	P	00 21 18.6	-0.3
	comp=Z,0.5nm,0.5s,mb3.8,baz=122,slow=9.6,SNR=5.9						
PDAR				LR	LR	00 36 12.8	
	comp=Z,240nm,20.2s,MS3.9,baz=290,slow=37						
SCHQ	Schefferville	36.21	11	LR	LR	00 36 17.8	
	comp=Z,314nm,18.4s,MS4.1,baz=196,slow=36						
LPAZ	La Paz	36.91	164	P	P	00 21 33.4	+0.3
	comp=Z,1.8nm,0.5s,mb4.2,baz=340,slow=1.9,SNR=9.1						
GCMT	Greycliff	36.96	322	P	P	00 21 32.8	-0.4
HRY	Holter Researc	38.72	322	eP	P	00 21 47.5	-0.4
NVAR	Mina Array Bea	39.61	307	LR	LR	00 39 29.1	
	comp=Z,341nm,19.8s,MS4.2,baz=230,slow=38						
BDFB	Brasilia	45.73	138	P	P	00 22 45.4	-0.1
	comp=Z,2.9nm,0.8s,mb4.3,baz=335,slow=8.6,SNR=5.6						
YKA	Yellowknife Ar	49.75	339	P	P	00 23 16.2	-0.1
	comp=Z,3.3nm,1.0s,mb4.3,baz=130,slow=8.8,SNR=3.2						
YKA				LR	LR	00 45 09.7	
	comp=Z,616nm,19.0s,MS4.6,baz=110,slow=37						
CPUP	Villa Florida	49.82	156	P	P	00 23 15.3	-2.1
	comp=Z,4.4nm,1.1s,mb4.4,baz=32,slow=4.1,SNR=5.0						
DLBC	Dease Lake	53.99	329	eP	P	00 23 46.6	-1.5
BORG	Borgarnes	58.45	25	P	P	00 24 19.6	-0.5
	comp=Z,9.7nm,0.9s,mb4.8,baz=235,slow=16,SNR=1.6						
PLCA	Paso Flores	60.38	174	P	P	00 24 32.4	-1.4
	comp=Z,2.4nm,0.9s,mb4.2,baz=8.1,slow=19,SNR=4.6						
EVO	Evora	62.60	56	eP	P	00 24 47.5	-1.3
	comp=Z,12nm,0.9s,mb4.7						
EVO				eR			
	comp=Z,634nm,18.8s						
ILAR	Eielson Array	63.51	333	P	P	00 24 54.1	-0.3
	comp=Z,0.5nm,0.7s,mb3.7,baz=112,slow=4.9,SNR=3.4						
QUIF	Quistinic	65.62	45	eP	P	00 25 08.7	+0.4
	comp=Z,22nm,0.9s,mb4.9						
ESDC	Sonseca Array	65.64	55	P	P	00 25 09.2	+0.5
	comp=Z,3.4nm,0.9s,mb4.4,baz=284,slow=6.1,SNR=14						
SGMF	Saint Gilles	66.01	45	eP	P	00 25 10.2	-0.6
FLN	La Foliniere	67.36	44	eP	P	00 25 18.9	-0.5
	comp=Z,8.9nm,0.6s,mb4.7						
FLN				eR			
	comp=Z,355nm,21.0s						
LDF	La Druitiere	67.61	45	eP	P	00 25 21.2	+0.2
	comp=Z,84nm,1.2s,mb5.3						
EPF	Esparros	68.49	51	eP	P	00 25 26.8	+0.2
LFF	La Frestale	68.55	48	eP	P	00 25 27.1	+0.2
	comp=Z,33nm,0.9s,mb5.0						
RJF	Les Rejaudoux	69.05	48	eP	P	00 25 30.4	+0.4
	comp=Z,12nm,0.9s,mb4.5						
RJF				eR			
	comp=Z,632nm,19.5s						
TCF	Toulx Ste Croi	69.41	47	eP	P	00 25 32.1	-0.1
	comp=Z,25nm,1.1s,mb4.8						
CAF	Calviac	69.48	48	eP	P	00 25 32.1	-0.6
	comp=Z,17nm,0.8s,mb4.7						
MTLF	Montolieu	69.81	50	eP	P	00 25 34.7	0.0
	comp=Z,24nm,1.3s,mb4.7						
BGF	Bois d’Agland	69.82	47	eP	P	00 25 35.3	+0.6
	comp=Z,8.2nm,0.8s,mb4.4						
AVF	Avril sur Loir	70.13	46	eP	P	00 25 36.9	+0.3
	comp=Z,9.7nm,1.0s,mb4.4						
SSF	Saint Saulge	70.20	46	eP	P	00 25 36.8	-0.2
	comp=Z,18nm,0.9s,mb4.7						
LOR	Lormes	70.41	46	eP	P	00 25 37.2	-1.1
	comp=Z,16nm,1.1s,mb4.6						
LOR				eR			
	comp=Z,430nm,20.8s						
SMF	Signal de Mont	70.48	46	eP	P	00 25 38.3	-0.4
	comp=Z,14nm,0.9s,mb4.6						
LASF	Ste Croix	70.87	49	eP	P	00 25 41.2	0.0
MEZF	Maizieres J’vi	71.03	44	eP	P	00 25 42.3	+0.3
	comp=Z,51nm,1.3s,mb5.0						
VIVF	Saint-Julien-l	71.33	48	eP	P	00 25 44.9	+1.0
	comp=Z,17nm,0.9s,mb4.7						
HAU	Haudompre	71.97	45	eP	P	00 25 48.2	+0.6
HAU				eR			
	comp=Z,394nm,17.8s						
CABF	La Chapelle	72.02	46	eP	P	00 25 48.0	0.0
SMRF	Simiane la Rot	72.11	49	eP	P	00 25 48.4	-0.2
ORIF	Oris-en-Rattie	72.16	48	eP	P	00 25 49.7	+0.8
ORIF				eR			
	comp=Z,456nm,19.0s						
HINF	Hinteralfeld	72.33	45	eP	P	00 25 49.9	+0.1
LPL	La Plagne	72.65	47	eP	P	00 25 52.7	+1.0
	comp=Z,18nm,1.1s,mb4.6						
LPG	La Plagne	72.67	47	eP	P	00 25 52.9	+1.1
NOA	NORSAR Array B	72.69	31	P	P	00 25 52.0	+0.4
	comp=Z,1.7nm,0.8s,mb4.0,baz=281,slow=5.9,SNR=3.5						
MBDF	Montbardon	72.82	48	eP	P	00 25 53.3	+0.5
LMR	La Mourre	72.90	49	eP	P	00 25 53.4	+0.2
	comp=Z,24nm,1.3s,mb4.7						
FRF	La Foret Royal	72.95	49	eP	P	00 25 53.7	+0.1
	comp=Z,9.0nm,0.9s,mb4.4						
SBF	Sospel	73.45	49	eP	P	00 25 57.0	+0.5
	comp=Z,17nm,1.0s,mb4.6						
GRA1	Grafenberg Arr	74.81	42	eP	P	00 26 05.3	+1.1
	comp=Z,6.0nm,1.0s,mb4.5						
KHC	Kasperske Hory	76.44	42	eP	P	00 26 14.5	+1.0
ARCES	ARCESS Array B	76.44	21	P	P	00 26 13.7	+0.6
	comp=Z,3.9nm,0.5s,mb4.6,baz=284,slow=4.3,SNR=36						
GERES	GERESS Array B	76.59	43	P	P	00 26 15.2	+0.9
	comp=Z,1.6nm,0.9s,mb4.0,baz=270,slow=4.0,SNR=14						
FINES	FINESS Array B	79.50	28	P	P	00 26 31.1	+1.0
	comp=Z,2.2nm,1.0s,mb4.1,baz=270,slow=5.7,SNR=6.8						
AKASG	Malin Array Be	85.42	38	P	P	00 27 01.3	+0.5
	comp=Z,0.2nm,0.2s,mb3.8,baz=299,slow=4.2,SNR=4.1						
BRTR	Keskin Array B	93.19	46	P	P	00 27 39.7	+1.8
	comp=Z,0.4nm,0.5s,mb4.1,baz=315,slow=8.2,SNR=2.9						
STKA	Stephens Creek	142.52	243	PKP	PKPdf	00 33 56.6	-2.7
	comp=Z,1.1nm,0.6s,baz=96,slow=18,SNR=3.2						
STKA	Stephens Creek	142.52	243	ePKPdf	PKPdf	00 33 57.1	-2.1
WB2	Warramunga Arr	149.62	264	eP	PKPdf	00 34 13.5	+2.0
WRAB	Tennant Creek	149.62	264	ePKPbc	PKPdf	00 34 13.5	+2.0
WRA	Warramunga Arr	149.63	264	PKP	PKPdf	00 34 08.8	-2.7
	comp=Z,1.8nm,0.8s,baz=85,slow=2.1,SNR=4.3						
WRA				PKPbc	PKPdf	00 34 13.6	+2.1
	comp=Z,2.5nm,0.8s,baz=87,slow=2.3,SNR=13						
ASAR	Alice Springs	150.14	256	PKP	PKPdf	00 34 09.9	-2.3
	comp=Z,1.8nm,0.7s,baz=88,slow=1.1,SNR=4.1						
ASAR				PKPbc	PKPdf	00 34 14.3	+2.1
	comp=Z,2.2nm,0.7s,baz=96,slow=1.7,SNR=9.5						
ASPA	Alice Springs	150.15	256	eP	PKPdf	00 34 12.3	+0.1

*LDG **19** 00:16:58.8±0.2, 42.85N×1.51W, h2^{km}, Md2.5/2, Ml2.4/10, Error ellipse: s-maj=3.7km s-min=2.8km az=53.0*

*STR **19** 00:16:58.4±0.1, 42.84N×1.50W, h5^{km}±1^{km}, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*MDD **19** 00:16:59.8±0.3, 42.86N×1.45W, h7^{km}±4^{km}, mbLg1.7/10, Error ellipse: s-maj=3.0km s-min=2.4km az=35.0, AftershockPLICA PRXIMO*

ISC 19 00:16:57.9±0.5, **42.87N**±0.02×**1.48W**±0.04, **h13^{km}**±2^{km}, **n33, σ1^{s}28**/58, **1C, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJPF	Ste Jean	0.31	37	ePg	Pg	00 17 05.3	+0.8
SJPF				eSg	Sg	00 17 09.5	+0.5
	99nm,0.3s						
EALK	Alkurruntz	0.35	357	⇑Pg	Pg	00 17 06.5	+1.1
	6.2nm,0.1s,SNR=18						
EALK				Lg		00 17 12.5	
	40nm,0.2s,SNR=5.0						
LARF	Larrau	0.40	65	Pg	Pg	00 17 06.6	+0.3
LARF				Sg	Sg	00 17 12.9	+1.1
LARF	Larrau	0.40	65	P	Pb	00 17 06.8	+0.5
LARF				S	Sg	00 17 12.7	+0.9
OSSF	Osses	0.42	22	Pg	Pg	00 17 07.2	+0.6
OSSF				Sg	Sg	00 17 13.4	+0.9
OSSF	Osses	0.42	22	P	Pb	00 17 07.4	+0.8
OSSF				S	Sg	00 17 13.3	+0.8
ORDF	Ordiarp	0.53	49	Pg	Pg	00 17 09.2	+0.5
ORDF				Sg	Sg	00 17 16.8	+0.8
ORDF	Ordiarp	0.53	49	P	Pb	00 17 09.3	+0.8
ORDF				S	Sb	00 17 16.8	+1.1
ATE	Arette	0.61	69	P	Pb	00 17 10.8	+0.9
ATE				S	Sb	00 17 19.0	+0.9
FDAF	Les Forges d’A	0.67	94	Pg	Pg	00 17 11.4	-0.2
FDAF				Sg	Sg	00 17 21.2	+0.5
FDAF	Les Forges d’A	0.67	94	P	Pb	00 17 11.5	+0.5
FDAF				S	Sb	00 17 20.6	+0.7
ETSF	Etsaut	0.68	87	ePg	Pg	00 17 11.0	-0.7
ETSF				eSg	Sg	00 17 20.6	-0.2
	21nm,0.4s						
VIEF	Viey	1.11	89	S	Sb	00 17 34.2	+1.8
LABF	Labassere	1.16	81	S	Sb	00 17 36.1	+2.2
RESF	Ens	1.34	92	S	Sb	00 17 41.9	+2.7
EPF	Esparros	1.35	82	ePn	Pn	00 17 23.1	+0.6
EPF				ePg	Pg	00 17 25.8	+0.9
EPF				eSg	Sg	00 17 42.4	-0.5
	13nm,0.3s						
ESAC	San Caprasio	1.37	146	Pg	Pg	00 17 24.1	-1.3
	14nm,0.2s,SNR=21						
ESAC				Lg		00 17 42.2	
	15nm,0.2s,SNR=5.0						
ELAN	Lanestosa	1.48	285	Pg	Pg	00 17 27.3	-0.2
	1.7nm,0.1s,SNR=20						
ELAN				Lg		00 17 48.5	
	3.4nm,0.2s,SNR=5.0						
SALF	Salau	1.97	92	S	Sn	00 17 59.5	+3.5
ETOR	Torete	2.09	192	Pn	Pn	00 17 34.7	+1.6
	4.0nm,0.5s,SNR=6.5						
ETOR				Pg	Pg	00 17 38.6	-1.1
	1.6nm,0.2s,SNR=15						
ETOR				Sn	Sn	00 18 00.3	+1.2
	5.2nm,0.4s,SNR=5.0						
ETOR				Lg		00 18 04.8	
	11nm,0.4s,SNR=5.0						
EMIR	Miracle	2.42	112	Pg	Pg	00 17 44.7	-1.7
	0.4nm,0.1s,SNR=5.0						
EMIR				Lg		00 18 17.1	
	1.1nm,0.2s,SNR=5.3						
EPOB	Poblet	2.43	128	Pg	Pg	00 17 43.9	-2.6
	0.6nm,0.2s,SNR=7.9						
EPOB				Lg		00 18 13.9	
	1.6nm,0.2s,SNR=7.9						
EMOS	Mosqueruela	2.61	163	Pg	Pg	00 17 48.1	-2.1
	SNR=5.0						
EMOS				Lg		00 18 22.1	
	1.0nm,0.3s,SNR=7.9						
LFF	La Frestale	2.62	37	ePn	Pn	00 17 40.7	0.0
LFF				ePg	Pg	00 17 47.9	-2.4
LFF				eSn	Sn	00 18 11.7	-0.9
	4.6nm,0.4s						
MTLF	Montolieu	2.75	79	ePn	Pn	00 17 43.1	+0.6
MTLF				eSn	Sn	00 18 14.7	-1.2
MTLF				eSg	Sg	00 18 26.8	-2.7
	1.7nm,0.4s						
RJF	Les Rejaudoux	3.26	41	ePn	Pn	00 17 48.9	-0.8
RJF				eSn	Sn	00 18 26.8	-1.9
	2.5nm,0.3s						
CAF	Calviac	3.29	50	ePn	Pn	00 17 50.0	-0.1
CAF				eSn	Sn	00 18 27.7	-1.7
	1.6nm,0.2s						
ESDC	Sonseca Array	3.70	211	Sn	Sn	00 18 42.1	+2.3
	0.2nm,0.5s,baz=35,slow=24,SNR=3.5						
MFF	Saint Martin d	3.85	14	ePn	Pn	00 17 59.2	+1.0
LASF	Ste Croix	4.07	71	ePn	Pn	00 18 00.5	-0.8
LASF				eSn	Sn	00 18 46.9	-2.3
	1.3nm,0.3s						
TCF	Toulx Ste Croi	4.32	36	ePn	Pn	00 18 02.5	-2.3
TCF				eSn	Sn	00 18 51.9	-3.7
	0.8nm,0.3s						
BGF	Bois d’Agland	4.81	38	ePn	Pn	00 18 09.5	-2.3
BGF				eSn	Sn	00 19 03.7	-4.2
	5.0nm,0.5s						
SSF	Saint Saulge	5.49	38	ePn	Pn	00 18 20.2	-1.1
SSF				eSn	Sn	00 19 19.8	-5.2
	0.8nm,0.3s						

*LDG **19** 00:35:41.2±0.4, 42.82N×1.54W, h2^{km}, Md2.1/2, Ml1.9/4, Error ellipse: s-maj=6.3km s-min=5.1km az=25.0*

*MDD **19** 00:35:43.0±0.6, 42.86N×1.42W, h9^{km}±5^{km}, mbLg1.4/6, Error ellipse: s-maj=4.4km s-min=3.6km az=36.0, AftershockPLICA PRXIMO*

*STR **19** 00:35:42.1±0.1, 42.85N×1.50W, h5^{km}±1^{km}, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 19 00:35:40.8±0.7, **42.83N**±0.04×**1.47W**±0.05, **h9^{km}, n18, σ1^{s}12**/30, **Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJPF	Ste Jean	0.34	32	ePg	Pg	00 35 48.6	+0.9
SJPF				eSg	Sg	00 35 52.1	-0.2
	29nm,0.3s						
EALK	Alkurruntz	0.39	356	Pg	Pg	00 35 49.9	+1.1
	1.0nm,0.1s,SNR=7.8						
EALK				Lg		00 35 55.7	
	9.2nm,0.1s,SNR=5.0						
LARF	Larrau	0.41	59	Pg	Pg	00 35 50.2	+1.0
LARF				Sg	Sg	00 35 56.3	+1.5
LARF	Larrau	0.41	59	P	Pg	00 35 50.2	+1.0
LARF				S	Sg	00 35 56.2	+1.4
OSSF	Osses	0.45	20	Pg	Pg	00 35 50.5	+0.5
OSSF				Sg	Sg	00 35 56.9	+0.8
OSSF	Osses	0.45	20	P	Pg	00 35 50.8	+0.8
OSSF				S	Sg	00 35 56.6	+0.5
ORDF	Ordiarp	0.55	45	Pg	Pg	00 35 52.6	+0.7
ORDF				Sg	Sg	00 36 00.2	+0.9
ORDF	Ordiarp	0.55	45	P	Pg	00 35 52.7	+0.8
ORDF				S	Sg	00 35 60.0	+0.7
ETSF	Etsaut	0.68	84	ePg	Pg	00 35 53.9	-0.4
ETSF				eSg	Sg	00 36 03.1	-0.3
ESAC	San Caprasio	1.33	146	Pg	Pg	00 36 07.6	+0.2
	3.4nm,0.1s,SNR=5.6						
ESAC				Lg		00 36 26.1	
	11nm,0.2s,SNR=5.0						
EPF	Esparros	1.35	81	ePn	Pn	00 36 06.4	+0.6
EPF				ePg	Pg	00 36 09.0	+1.3
EPF				eSg	Sg	00 36 25.4	-0.3
	4.8nm,0.3s						
ELAN	Lanestosa	1.49	286	Pg	Pg	00 36 11.1	+0.5
	0.6nm,0.2s,SNR=5.0						
ELAN				Lg		00 36 32.1	
	1.0nm,0.2s,SNR=5.0						
ETOR	Torete	2.05	192	Pg	Pg	00 36 21.7	-0.1
	1.0nm,0.4s,SNR=5.0						
ETOR				Lg		00 36 49.0	
	2.6nm,0.5s,SNR=5.0						
EMIR	Miracle	2.40	111	Lg		00 36 59.9	
	0.4nm,0.1s,SNR=7.9						
LFF	La Frestale	2.65	36	ePn	Pn	00 36 23.7	-0.7
RJF	Les Rejaudoux	3.28	40	ePn	Pn	00 36 31.7	-1.7
RJF				eSn	Sn	00 37 10.0	-2.9
	0.8nm,0.3s						
CAF	Calviac	3.31	49	ePn	Pn	00 36 32.5	-1.2
CAF				eSn	Sn	00 37 11.3	-2.3
	0.5nm,0.2s						
MFF	Saint Martin d	3.89	14	ePn	Pn	00 36 39.5	-2.5
MFF				eSn	Sn	00 37 24.4	-3.9
	0.4nm,0.2s						

*LDG **19** 00:37:41.2±0.8, 42.85N×1.45W, h2^{km}, Md1.9/2, Ml1.9/1, Error ellipse: s-maj=14.3km s-min=9.0km az=49.0*

*MDD **19** 00:37:42.5±0.6, 42.87N×1.39W, h5^{km}±14^{km}, mbLg1.2/5, Error ellipse: s-maj=5.5km s-min=3.6km az=35.0, PRXIMO AftershockPLICA*

ISC 19 00:37:40.5±1.0, **42.86N**±0.07×**1.43W**±0.06, **h15^{km}**±9^{km}, **n7, σ0^{s}77**/11, **Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJPF	Ste Jean	0.30	31	ePg	Pg	00 37 47.8	+0.8
SJPF				eSg	Sg	00 37 50.7	-0.7
	31nm,0.3s						
EALK	Alkurruntz	0.36	351	Pg	Pg	00 37 49.1	+0.8
	0.7nm,0.1s,SNR=7.9						
EALK				Lg		00 37 54.9	
	6.9nm,0.1s,SNR=7.3						
ETSF	Etsaut	0.64	86	ePg	Pg	00 37 53.3	-0.3

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ETSF				eSg	Sg	00 38 02.4	0.0
	3.6nm,0.3s						
EPF	Esparros	1.31	82	ePn	Pn	00 38 05.4	+1.0
EPF				ePg	Pg	00 38 08.1	+1.2
EPF				eSg	Sg	00 38 23.7	-0.7
	1.9nm,0.2s						
ESAC	San Caprasio	1.34	148	Pg	Pg	00 38 07.1	-0.4
	1.6nm,0.2s,SNR=7.9						
ESAC				Lg		00 38 24.6	
	3.7nm,0.2s,SNR=7.9						
ELAN	Lanestosa	1.52	285	Pg	Pg	00 38 10.2	-0.7
	SNR=7.9						
ELAN				Lg		00 38 31.3	
	1.0nm,0.2s,SNR=5.0						
RJF	Les Rejaudoux	3.24	40	ePn	Pn	00 38 30.9	-1.0

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*FUNV **19** 00:38:58.6, 10.88N×62.27W, h94^{km}, MW3.6*
*TRN **19** 00:39:01.4, 11.03N×62.02W, h96^{km}, MD4.0*
ISC 19 00:38:57.2±0.6**, 10.80N**±0.04×**62.36W**±0.03**, h102**^{km}±6^{km}**, n21, σ1^{s}11**/36**, 2C-3D, Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUIV	Guiria	0.20	140	⇓eP	P	00 39 12.0	+0.2
GUIV				eS	S	00 39 21.7	-1.1
GUNV	Guanoco	0.86	222	eP	P	00 39 18.2	+1.5
GUNV				eS	S	00 39 32.6	+1.5
CRUV	Carupano	0.88	262	eP	P	00 39 17.7	+0.9
CRUV				eS	S	00 39 31.8	+0.4
ALNG	Atlantic LNG	0.90	133	eS	S	00 39 36.1	+4.1
ITEV	Isla Los Testi	0.94	306	⇓eP	P	00 39 17.7	+0.3
ITEV				eS	S	00 39 31.9	-0.7
TRN	Trinidad (W)	0.95	99	⇑iP	P	00 39 17.8	+0.3
TRN				eS	S	00 39 30.7	-2.1
BUAY	Buenos Aires	0.96	136	eP	P	00 39 21.8	+4.2
TPP	Pointe-a-Pierr	1.01	118	eP	P	00 39 19.7	+1.4
TPP				eS	S	00 39 34.3	+0.3
SIPA	Siparia	1.06	128	eP	P	00 39 21.9	+3.1
SIPA				eS	S	00 39 36.2	+1.2
TBH	Brigand Hill	1.31	104	eP	P	00 39 22.1	+0.4
TBH				eS	S	00 39 38.6	-1.4
TPR	Prospect	1.60	76	⇑iP	P	00 39 24.5	-0.7
TPR				eS	S	00 39 41.5	-4.5
BOT	Bacolet	1.65	77	eP	P	00 39 24.9	-1.0
RIOV	Rio Grande	2.77	169	eP	P	00 39 41.2	+0.3
RIOV				eS	S	00 40 12.7	-1.0
GURV	El Guri	3.11	193	eP	P	00 39 46.2	+0.6
GURV				eS	S	00 40 21.1	-0.8
CUPV	Cœpira	3.46	258	eP	P	00 39 50.8	+0.5
CUPV				eS	S	00 40 29.5	-1.0
MERV	Las Mercedes	4.18	249	eP	P	00 40 00.4	+0.3
MERV				eS	S	00 40 46.0	-2.1
MGG	Marie-Galante	5.18	11	eP	P	00 40 13.9	+0.1
CAOV	Caicara del Or	5.22	229	eP	P	00 40 14.3	0.0
CAOV				eS	S	00 41 09.9	-3.9
DEG	La Desirade	5.62	13	eP	P	00 40 18.5	-1.2
SEG	Port Louis	5.63	8	eP	P	00 40 22.0	+2.3
BAUV	El Baul	5.90	252	⇓eP	P	00 40 23.0	-0.5
BAUV				eS	S	00 41 25.4	-5.0

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*LDG **19** 00:39:46.4±0.5, 42.85N×1.45W, h2^{km}, Md2.0/2, Ml1.9/4, Error ellipse: s-maj=7.4km s-min=4.5km az=56.0*
*STR **19** 00:39:46.3±0.2, 43.37N×0.68W, h5^{km}±1^{km}, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*MDD **19** 00:39:47.4±0.7, 42.88N×1.40W, h11^{km}±1^{km}, mbLg1.3/6, Error ellipse: s-maj=5.5km s-min=3.2km az=34.0, PRXIMO AftershockPLICA*
ISC 19 00:39:45.1±0.9**, 42.82N**±0.05×**1.44W**±0.05**, h11**^{km}**, n13, σ0^{s}80**/22**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	Ste Jean	0.34	28	ePg	Pg	00 39 52.6	+0.5
SJPF				eSg	Sg	00 39 55.5	-1.2
	42nm,0.3s						
LARF	Larrau	0.40	56	Pg	Pg	00 39 54.1	+0.8
LARF				Sg	Sg	00 40 00.0	+1.2
LARF	Larrau	0.40	56	P	Pg	00 39 54.2	+0.9
LARF				S	Sg	00 39 59.3	+0.5
EALK	Alkurruntz	0.41	353	Pg	Pg	00 39 54.0	+0.6
	1.0nm,0.1s,SNR=7.9						
EALK				Lg		00 39 59.7	
	16nm,0.3s,SNR=7.9						
OSSF	Osses	0.46	17	Pg	Pg	00 39 54.9	+0.5
OSSF				Sg	Sg	00 40 01.1	+0.5
OSSF	Osses	0.46	17	P	Pg	00 39 54.9	+0.5
OSSF				S	Sg	00 40 00.8	+0.2
ETSF	Etsaut	0.65	83	ePg	Pg	00 39 58.4	+0.1
ETSF				eSg	Sg	00 40 07.3	+0.2
	3.5nm,0.3s						
ESAC	San Caprasio	1.31	146	Pg	Pg	00 40 11.5	+0.1
	5.9nm,0.4s,SNR=7.9						
ESAC				Lg		00 40 29.5	
	5.4nm,0.2s,SNR=7.9						
EPF	Esparros	1.33	80	ePn	Pn	00 40 10.4	+0.7
EPF				ePg	Pg	00 40 11.4	-0.2
EPF				eSg	Sg	00 40 29.4	+0.1
	3.2nm,0.2s						
ELAN	Lanestosa	1.52	286	Pg	Pg	00 40 14.9	-0.6
	0.4nm,0.1s,SNR=7.9						
ELAN				Lg		00 40 36.6	
	2.1nm,0.2s,SNR=7.9						
LFF	La Frestale	2.64	36	ePn	Pn	00 40 27.5	-1.0
LFF				eSg	Sg	00 41 07.9	-5.2
	1.7nm,0.3s						
MTLF	Montolieu	2.73	78	eSn	Sn	00 41 01.2	-1.9
	0.4nm,0.3s						
CAF	Calviac	3.30	49	eSn	Sn	00 41 13.5	-3.9
	0.5nm,0.2s						

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*LDG **19** 00:43:41.6±0.4, 42.88N×1.50W, h2^{km}, Md2.1/2, Ml2.0/7, Error ellipse: s-maj=6.8km s-min=4.4km az=48.0*
*STR **19** 00:43:41.6±0.1, 42.85N×1.47W, h5^{km}±1^{km}, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*MDD **19** 00:43:42.8±0.5, 42.87N×1.40W, mbLg1.5/4, Error ellipse: s-maj=10.2km s-min=2.7km az=81.0, AftershockPLICA PRXIMO*
ISC 19 00:43:39.5±0.6**, 43.01N**±0.03×**1.53W**±0.05**, h2**^{km}**, n15, σ1^{s}63**/30**, 1D, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EALK	Alkurruntz	0.21	5	⇓Pg	Pg	00 43 49.1	+5.4
	1.5nm,0.1s,SNR=18						
EALK				Lg		00 43 54.3	
	13nm,0.2s,SNR=19						
SJPF	Ste Jean	0.25	65	ePg	Pg	00 43 48.0	+3.5
SJPF				eSg	Sg	00 43 50.8	+3.0
	57nm,0.3s						
OSSF	Osses	0.32	39	Pg	Pg	00 43 49.9	+4.1
LARF	Larrau	0.40	86	Pg	Pg	00 43 49.4	+1.9
LARF				Sg	Sg	00 43 55.1	+2.3
ORDF	Ordiarp	0.48	65	Pg	Pg	00 43 51.9	+2.8
ORDF				Sg	Sg	00 43 59.2	+3.6
ETSF	Etsaut	0.72	98	ePg	Pg	00 43 54.1	+0.2
ETSF				eSg	Sg	00 44 03.0	-0.6
	4.1nm,0.2s						
EPF	Esparros	1.37	88	ePn	Pn	00 44 06.0	+0.3
EPF				ePg	Pg	00 44 08.6	+1.7
EPF				eSg	Sg	00 44 23.9	-1.3
	6.7nm,0.3s						
ELAN	Lanestosa	1.41	280	Pg	Pg	00 44 10.7	+3.0
	1.7nm,0.4s,SNR=5.7						
ELAN				Lg		00 44 31.0	
	1.6nm,0.2s,SNR=5.0						
ESAC	San Caprasio	1.51	148	Pg	Pg	00 44 07.7	-1.9
	6.0nm,0.2s,SNR=7.2						
ESAC				Lg		00 44 25.3	
	4.5nm,0.2s,SNR=5.0						
ETOR	Torete	2.22	190	Pn	Pn	00 44 17.7	-0.2
	SNR=7.9						
ETOR				Pg	Pg	00 44 22.9	-1.0
	0.5nm,0.3s,SNR=6.4						
ETOR				Sn	Sn	00 44 46.4	+0.1
	0.3nm,0.2s,SNR=7.9						
ETOR				Lg		00 44 48.5	
	2.2nm,0.4s,SNR=5.0						
MTLF	Montolieu	2.76	82	ePn	Pn	00 44 25.7	+0.1
MTLF				eSn	Sn	00 44 57.6	-2.4
	1.1nm,0.3s						
RJF	Les Rejaudoux	3.17	43	ePn	Pn	00 44 30.9	-0.6
RJF				eSn	Sn	00 45 09.4	-1.0
	1.4nm,0.2s						
CAF	Calviac	3.23	52	ePn	Pn	00 44 31.8	-0.4
CAF				eSn	Sn	00 45 10.5	-1.3
	0.9nm,0.3s						
MFF	Saint Martin d	3.73	15	ePn	Pn	00 44 40.1	+0.8
MFF				ePg	Pg	00 44 52.1	-1.8
MFF				eSn	Sn	00 45 23.5	-0.9
MFF				eSg	Sg	00 45 41.1	-2.5
	0.3nm,0.2s						
TCF	Toulx Ste Croi	4.23	38	ePn	Pn	00 44 45.1	-1.3
TCF				eSn	Sn	00 45 34.6	-2.5
	0.4nm,0.2s						

MDD 19 00:45:22.7±0.6**, 42.88N**×**1.40W, h1**^{km}±13^{km}**, mbLg1.3**/5**, Error ellipse: s-maj=4.4km s-min=3.5km az=47.0, PRXIMO AftershockPLICA, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EALK	Alkurruntz	0.35	347	Pg	Pg	00 45 29.0	-0.7
	0.8nm,0.1s,SNR=7.9						
EALK				Lg		00 45 35.1	
	14nm,0.2s,SNR=6.4						
ESAC	San Caprasio	1.34	149	Pg	Pg	00 45 46.8	-2.7
	5.5nm,0.2s,SNR=7.5						
ESAC				Lg		00 46 05.0	
	8.8nm,0.3s,SNR=7.1						
ELAN	Lanestosa	1.54	284	Pg	Pg	00 45 50.2	-3.2
	SNR=7.9						
ELAN				Lg		00 46 11.4	
	0.5nm,0.1s,SNR=5.0						
ETOR	Torete	2.11	194	Pn	Pn	00 45 58.5	-1.1
	SNR=7.9						
ETOR				Pg	Pg	00 46 01.3	-3.6
	SNR=7.9						
ETOR				Lg		00 46 28.0	
	0.4nm,0.2s,SNR=4.0						

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*LDG **19** 00:46:12.5±0.3, 42.85N×1.54W, h2^{km}, Md2.5/2, Ml2.5/12, Error ellipse: s-maj=5.6km s-min=4.1km az=38.0*
*NEIC **19** 00:46:13.1, 42.85N×1.48W, h5^{km}, ML2.5(LDG), ML2.3(STR), MN1.9(MDD), After STR.*
*STR **19** 00:46:13.1±0.2, 42.85N×1.48W, h5^{km}±1^{km}, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD 19 00:46:14.4±0.4**, 42.89N**×**1.42W, h9**^{km}±3^{km}**, mbLg1.9**/12**, Error ellipse: s-maj=3.2km s-min=2.3km az=27.0, AftershockPLICA PRXIMO, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	Ste Jean	0.27	32	ePg	Pg	00 46 19.7	-0.3
SJPF				eSg	Sg	00 46 22.6	-1.2
	150nm,0.3s						
EALK	Alkurruntz	0.34	349	Pg	Pg	00 46 21.0	-0.4
	45nm,0.3s,SNR=24						
EALK				Lg		00 46 25.4	
	66nm,0.4s,SNR=5.0						
LARF	Larrau	0.35	64	Pg	Pg	00 46 20.8	-0.8
LARF				Sg	Sg	00 46 27.1	+0.6
LARF	Larrau	0.35	64	P	Pg	00 46 20.9	-0.8
LARF				S	Sg	00 46 27.0	+0.6
OSSF	Osses	0.39	17	Pg	Pg	00 46 21.7	-0.6
OSSF				Sg	Sg	00 46 27.9	+0.3
OSSF	Osses	0.39	17	P	Pg	00 46 21.8	-0.5
OSSF				S	Sg	00 46 26.8	-0.9
ORDF	Ordiarp	0.48	47	Pg	Pg	00 46 23.6	-0.6
ORDF				Sg	Sg	00 46 31.0	+0.3
ORDF	Ordiarp	0.48	47	P	Pg	00 46 23.4	-0.8
ORDF				S	Sg	00 46 30.9	+0.2
ATE	Arette	0.56	69	P	Pg	00 46 24.7	-1.1
ATE				S	Sg	00 46 33.1	-0.3
FDAF	Les Forges d’A	0.63	96	Pg	Pg	00 46 25.9	-1.2
FDAF				Sg	Sg	00 46 35.5	-0.1
FDAF	Les Forges d’A	0.63	96	P	Pg	00 46 25.8	-1.3
FDAF				S	Sg	00 46 34.4	-1.2
ETSF	Etsaut	0.63	88	ePg	Pg	00 46 25.4	-1.7
ETSF				eSg	Sg	00 46 34.3	-1.3
	32nm,0.3s						
REYF	Montagne du Re	0.78	76	S	Sb	00 46 40.0	0.0
VIEF	Viey	1.06	90	S	Sb	00 46 49.1	+0.8
LABF	Labassere	1.11	81	S	Sb	00 46 48.9	-0.8
RESF	Ens	1.30	93	S	Sb	00 46 55.4	+0.3
EPF	Esparros	1.30	83	ePn	Pn	00 46 37.7	-1.1
EPF				ePg	Pg	00 46 40.1	-0.3
EPF				eSg	Sg	00 46 56.2	-1.6
	18nm,0.2s						
ESAC	San Caprasio	1.36	148	Pg	Pg	00 46 38.7	-2.9
	17nm,0.3s,SNR=7.0						
ESAC				Lg		00 46 57.0	
	72nm,0.3s,SNR=5.0						
ESAC	San Caprasio	1.36	148	Pg	Pg	00 46 38.9	-2.7
ESAC				Lg		00 46 57.0	
ELAN	Lanestosa	1.52	284	Pg	Pg	00 46 41.9	-2.8
	17nm,1.2s,SNR=6.2						
ELAN				Lg		00 47 03.6	
	5.1nm,0.3s,SNR=5.0						
SALF	Salau	1.92	93	S	Sn	00 47 12.1	-0.1
ETOR	Torete	2.12	193	Pn	Pn	00 46 49.2	-1.3
	SNR=7.9						
ETOR				Pg	Pg	00 46 53.1	-3.6
	4.0nm,0.3s,SNR=9.3						
ETOR				Lg		00 47 17.2	
	12nm,0.6s,SNR=6.1						
ETOR	Torete	2.12	193	Pn	Pn	00 46 49.8	-0.7
ETOR				Pg	Pg	00 46 53.1	-3.6
ETOR				Sn	Sn	00 47 16.7	-0.5
ETOR				Lg		00 47 20.6	
EMIR	Miracle	2.39	113	Pn	Pn	00 46 55.5	+1.1
	SNR=5.0						
EMIR				Lg		00 47 28.6	
	1.3nm,0.2s,SNR=4.7						
EMIR	Miracle	2.39	113	Pg	Pg	00 46 56.0	-6.1
EMIR				Lg		00 47 27.6	
EPOB	Poblet	2.41	129	Pn	Pn	00 46 52.5	-2.1
	SNR=5.0						
EPOB				Lg		00 47 28.6	
	2.1nm,0.2s,SNR=5.0						
EBR	Ebro Roquetas	2.51	145	eRs		00 47 41.0	
LFF	La Frestale	2.58	36	ePn	Pn	00 46 55.0	-2.1
LFF				eSn	Sn	00 47 25.6	-3.3
	3.5nm,0.3s						
EMOS	Mosqueruela	2.62	164	Pg	Pg	00 47 03.6	-3.1
	SNR=7.9						
EMOS				Lg		00 47 32.7	
	2.3nm,0.3s,SNR=5.0						
MTLF	Montolieu	2.70	79	ePn	Pn	00 46 57.3	-1.5
MTLF				eSn	Sn	00 47 30.1	-1.9
MTLF				eSg	Sg	00 47 40.8	-3.6
	2.3nm,0.3s						
EJON	La Jonquera	3.21	96	Pn	Pn	00 47 07.0	+1.0
	SNR=5.0						
EJON				Pg	Pg	00 47 15.5	-3.0
	SNR=5.0						
EJON				Lg		00 47 55.9	
	3.8nm,0.4s,SNR=4.7						
RJF	Les Rejaudoux	3.21	40	ePn	Pn	00 47 02.4	-3.7
RJF				eSn	Sn	00 47 41.0	-4.0
	2.8nm,0.2s						
CAF	Calviac	3.24	50	ePn	Pn	00 47 03.3	-3.2
CAF				eSn	Sn	00 47 42.0	-3.6
	2.6nm,0.3s						
ESDC	Sonseca Array	3.74	212	Pn	Pn	00 47 10.4	-3.2
	0.1nm,0.3s,baz=38,slow=14,SNR=5.2						
ESDC				Lg		00 48 11.4	
	0.9nm,0.6s,baz=27,slow=28,SNR=5.1						
MFF	Saint Martin d	3.83	13	ePn	Pn	00 47 11.7	-3.1
MFF				eSn	Sn	00 47 54.3	-6.2
	1.8nm,0.3s						
LASF	Ste Croix	4.02	71	ePn	Pn	00 47 14.5	-3.1
LASF				eSn	Sn	00 47 59.9	-5.5
	1.6nm,0.3s						
TCF	Toulx Ste Croi	4.28	36	ePn	Pn	00 47 17.1	-4.1
TCF				eSn	Sn	00 48 06.1	-5.8
	2.5nm,0.4s						
BGF	Bois d’Agland	4.77	38	ePn	Pn	00 47 24.2	-4.0
BGF				eSn	Sn	00 48 17.9	-6.4
	3.8nm,0.4s						
VIVF	Saint-Julien-l	4.83	64	eSn	Sn	00 48 19.4	-6.3
	1.0nm,0.3s						
AVF	Avril sur Loir	5.17	39	ePn	Pn	00 47 29.5	-4.4
SMRF	Simiane la Rot	5.21	76	ePn	Pn	00 47 32.2	-2.2
SSF	Saint Saulge	5.45	38	ePn	Pn	00 47 32.5	-5.2
SSF				eSn	Sn	00 48 31.5	-10
	0.9nm,0.4s						

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*IDC **19** 00:50:34.2±6.7, 14.33N×94.12E, h81^{km}±60^{km}, mb3.3/6, mb1 3.5/7, mb1mx3.4/17, ML4.2/1, Error ellipse: s-maj=44.7km s-min=19.2km az=52.0*
*NEIC **19** 00:50:35.6±1.9, 14.35N×94.15E, h94^{km}±18^{km}, mb4.0/3, Error ellipse: s-maj=21.0km s-min=10.7km az=204.0*
ISC 19 00:50:35.5±1.9**, 14.4N**±0.1×**94.23E**±0.07**, h111**^{km}±18^{km}**, n17, σ0^{s}93**/19**, mb3.6**/6**, 1C, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDT	Bhumibol Dam	5.39	58	P	P	00 51 55.8	+1.0
	13nm,0.6s						
CM31	Chiang Mai Arr	6.06	48	ePn	P	00 52 03.8	-0.1
CMAR	Chiang Mai Arr	6.06	48	P	P	00 52 04.0	+0.2
	1.5nm,0.3s,baz=239,slow=15,SNR=56						
CMAR				S	S	00 53 11.4	-1.0
	baz=230,slow=29,SNR=2.1						
CHG	Chiang Mai	6.29	45	⇑P	P	00 52 07.2	0.0
	13nm,0.8s						
HYB	Hyderabad	15.38	283	iP	P	00 54 07.5	-0.2
HYB				eS	S	00 56 46.0	-8.9
HYB	Hyderabad	15.38	283	eP	P	00 54 07.5	-0.2
PKI	Pulchoki	15.47	329	eP	P	00 54 10.1	+1.3
	6.9nm,0.3s						
DMN	Daman	15.65	329	eP	P	00 54 11.8	+0.8
	4.8nm,0.3s						
KKN	Kakani	15.71	329	eP	P	00 54 11.7	-0.1
GKN	Gorkha	16.21	328	eP	P	00 54 15.5	-2.5
KOLN	Koldanda	16.58	325	eP	P	00 54 18.5	-4.1
	11nm,0.6s						
MKAR	Makanchi Array	33.80	345	P	P	00 57 09.4	+0.5
	0.4nm,0.5s,mb3.5,baz=172,slow=8.6,SNR=7.4						
SONM	Songino Array	34.83	14	P	P	00 57 18.6	+1.0
	3.8nm,1.2s,mb4.1,baz=196,slow=9.0,SNR=8.4						
WRA	Warramunga Arr	52.16	130	P	P	00 59 36.4	-0.8
	0.3nm,0.4s,mb3.7,baz=288,slow=15,SNR=5.1						
ASAR	Alice Springs	54.18	134	P	P	00 59 52.4	+0.4
	0.3nm,0.6s,mb3.5,baz=308,slow=6.7,SNR=5.9						
BRTR	Keskin Array B	58.38	308	P	P	01 00 20.4	-1.3
	0.5nm,1.0s,mb3.5,baz=90,slow=5.8,SNR=2.5						
GERES	GERESS Array B	73.09	317	P	P	01 01 55.7	+0.3
	0.4nm,0.8s,mb3.3,baz=79,slow=6.8,SNR=4.8						

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*NEIC **19** 01:05:53.9±0.3, 19.65S×69.15W, mb4.2/9, Error ellipse: s-maj=10.7km s-min=6.6km az=64.0*
*IDC **19** 01:05:54.1±0.5, 19.69S×69.21W, h103^{km}±4^{km}, mb4.2/10, mb1 4.3/12, mb1mx4.2/16, MS3.1/1, Ms1 3.3/1, ms1mx3.1/17, Error ellipse: s-maj=19.1km s-min=14.7km az=77.0*
ISC 19 01:05:52.1±0.3**, 19.69S**±0.04×**69.16W**±0.07**, h101**^{km}**, h101**^{km}±1.4^{km}**:pP-P, n50, σ1^{s}14**/45**, mb4.5**/19**, 5C, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPAZ	La Paz	3.52	16	P	P	01 06 50.9	+5.0
	5.0nm,0.3s,baz=22,slow=0.2,SNR=47						
LPAZ				S	S	01 07 25.8	-1.1
	6.5nm,0.3s,baz=204,slow=15,SNR=6.5						
LPAZ				LR	LR	01 08 31.5	
	comp=Z,266nm,18.4s,baz=220,slow=44						
LPAZ	La Paz	3.52	16	ePn	P	01 06 52.0	+6.1
LPAZ				S	S	01 07 25.8	-1.1
LPAZ				LR	LR	01 08 31.5	
ARE	Arequipa	3.90	325	⇑iP	P	01 06 51.6	+0.5
ARE				eS	S	01 07 36.0	-0.1
ANCH	Antofagasta	4.14	196	eP	P	01 06 48.8	-5.6
ANCH				iS	S	01 07 29.0	-13
CPN1	Cerro Paranal	5.04	193	eP	P	01 07 03.1	-3.6
CPN1				iS	S	01 07 52.2	-12
NNA	Nana	10.64	315	ePn	P	01 08 22.4	-0.4
SAML	Samuel	12.14	29	ePn	P	01 08 42.0	-0.9
	3.8nm,0.8s						
CPUP	Villa Florida	12.74	123	P	P	01 08 50.3	-0.4
	1.2nm,0.3s,baz=324,slow=12,SNR=48						
CPUP	Villa Florida	12.74	123	ePn	P	01 08 50.2	-0.4
TRQA	Tornquist	19.34	163	eP	P	01 10 10.4	-1.5
	8.9nm,0.8s						
BDFB	Brasilia	20.54	82	P	P	01 10 23.2	-1.3
	30nm,0.5s,baz=251,slow=12,SNR=33						
BAO	Brasilia Array	20.57	82	eP	P	01 10 25.0	+0.2
BAO				e		01 10 26.8	
BAO				i		01 10 29.2	
BAO				e		01 10 31.8	
PLCA	Paso Flores	21.01	183	P	P	01 10 28.4	-0.7
	22nm,0.7s,mb4.6,baz=2.8,slow=11,SNR=28						
PLCA				pP		01 10 50.5	
	12nm,0.8s,baz=360,slow=9.5,SNR=5.6						
PLCA	Paso Flores	21.01	183	eP	P	01 10 28.4	-0.7
PLCA				epP		01 10 50.6	
OTAV	Otavalo	21.80	334	P	P	01 10 36.8	-0.4
	6.4nm,0.7s,mb4.1						
SDV	Santo Domingo	28.43	357	P	P	01 11 38.8	-0.9
	2.8nm,0.6s,mb4.0						
USHA	Ushuaia	35.09	179	P	P	01 12 36.7	-0.5
	19nm,1.0s,mb4.9,baz=349,slow=5.2,SNR=3.4						
RCBR	Riachuelo	35.15	71	eP	P	01 12 39.3	+1.1
	35nm,0.6s,mb5.4						
CBYP	Canovanas	37.86	5	eP	P	01 12 59.7	-1.2
VNA3	Neumayer Olymp	61.86	162	⇑i	P	01 16 03.5	+0.9
VNA1	Neumayer--Stat	62.06	161	⇑i	P	01 16 05.3	+1.4
VNA2	Neumayer--Watz	62.43	161	⇑i	P	01 16 07.7	+1.3
SNAA	Sanae	64.06	161	⇑i	P	01 16 14.4	-2.6
SDCO	Great Sand Dun	66.58	329	eP	P	01 16 34.4	+0.6
	8.9nm,0.9s,mb4.6						
SDCO				epP	pP	01 16 59.4	+0.2
WUAZ	Wupatki	67.94	324	eP	P	01 16 43.7	+1.4
	6.9nm,0.8s,mb4.5						
WUAZ				epP	pP	01 17 08.6	+0.8
LIC	Lamto	68.12	75	ePKP2	P	01 16 44.2	+0.5
	122nm,1.8s,mb5.4						
ISCO	Idaho Springs	68.26	330	eP	P	01 16 44.8	+0.6
	3.2nm,1.0s,mb4.1						
ISCO				epP	pP	01 17 09.7	0.0
TIC	Toumodi	68.30	74	ePKP2	P	01 16 45.3	+0.5
	16nm,0.2s,mb5.5						
KIC	Kosan Boka	68.44	75	ePKP2	P	01 16 45.4	-0.3
	18nm,0.3s,mb5.4						
DBIC	Dimbokro	68.46	74	P	P	01 16 46.0	+0.1
	3.9nm,0.3s,mb4.7,baz=213,slow=4.6,SNR=59						
DBIC				pP	pP	01 17 12.4	+1.0
	4.5nm,0.5s,baz=214,slow=8.0,SNR=3.1						
DBIC				sP	sP	01 17 22.9	+0.7
	5.9nm,0.7s,baz=227,slow=5.5,SNR=2.8						
DBIC	Dimbokro	68.46	74	P	P	01 16 46.0	+0.1
DBIC				pP	pP	01 17 12.4	+1.0
DBIC				sP	sP	01 17 22.9	+0.7
QSPA	South Pole Qui	70.49	180	eP	P	01 16 58.0	+0.8
	15nm,1.1s,mb4.7						
QSPA				e	pP	01 17 22.7	-0.2
PDAR	Pinedale Array	72.43	330	P	P	01 17 07.9	-1.4
	0.9nm,1.1s,mb3.5,baz=146,slow=6.5,SNR=2.5						
PDAR				pP	pP	01 17 35.4	+0.2
	0.4nm,0.5s,baz=117,slow=8.1,SNR=2.9						
PDAR				sP	sP	01 17 48.1	+2.2
	0.9nm,0.6s,baz=129,slow=6.7,SNR=4.9						
ULM	Lac du Bonnet	73.53	342	P	P	01 17 15.2	-0.4
	2.9nm,0.6s,mb4.2,baz=138,slow=4.6,SNR=3.1						
ULM				pP	pP	01 17 40.8	-0.7
	3.9nm,0.6s,baz=139,slow=8.3,SNR=2.8						
HLID	Hailey	75.39	328	epP	pP	01 17 53.3	+0.8
	4.3nm,1.1s						
MCMT	McKenzie Canyo	75.55	329	eP	P	01 17 27.6	+0.3
MCMT				epP	pP	01 17 54.3	+1.0
TSUM	Tsumeb	80.79	107	P	P	01 17 57.7	+1.2
	5.5nm,0.8s,mb4.5,baz=263,slow=9.2,SNR=6.4						
EDM	Edmonton	82.03	335	epP	pP	01 18 27.9	-0.7
ESDC	Sonseca Array	84.72	45	P	P	01 18 17.5	+1.4
	1.3nm,0.9s,mb3.9,baz=247,slow=4.6,SNR=6.6						
ESDC				pP	pP	01 18 45.0	+2.3
	2.5nm,0.9s,baz=244,slow=5.2,SNR=4.9						
MAW	Mawson	86.12	163	P	P	01 18 24.3	+1.9
	1.3nm,0.7s,mb4.0,baz=176,slow=22,SNR=7.3						
YKA	Yellowknife Ar	89.41	341	P	P	01 18 39.3	+1.1
	2.3nm,0.6s,mb4.4,baz=131,slow=5.1,SNR=6.9						
YKA				pP	pP	01 19 05.2	+0.1
	1.9nm,0.6s,baz=132,slow=4.8,SNR=3.0						

YKA	**Yellowknife Ar**	**89.41**	**341**	P	**P**	**01 18 39.3**	**+1.0**
YKA				pP	pP	01 19 05.2	+0.1
GERES	**GERESS Array B**	**100.03**	**42**	P	P	01 19 29.1	+2.0
	0.1nm,0.6s,baz=284,slow=12,SNR=2.4						
ASAR	**Alice Springs**	**131.39**	**209**	PKP	PKPdf	01 24 54.9	+1.4
	0.8nm,0.5s,baz=133,slow=1.9,SNR=18						
ASAR				pPKP		01 25 22.1	
	0.7nm,0.8s,baz=185,slow=3.8,SNR=3.4						
WRA	**Warramunga Arr**	**134.38**	**212**	PKP	PKPdf	01 25 00.8	+1.7
	0.8nm,0.4s,baz=158,slow=1.7,SNR=11						
WRA				pPKP		01 25 27.6	
	0.6nm,0.7s,baz=155,slow=1.9,SNR=2.7						
WRAB	**Tennant Creek**	**134.38**	**212**	ePKPdf	PKPdf	01 25 00.6	+1.5
FITZ	**Fitzroy Crossi**	**139.73**	**202**	PKP	PKPdf	01 25 11.2	+2.2
	1.6nm,0.7s,baz=270,slow=5.6,SNR=3.6						
MKAR	**Makanchi Array**	**144.29**	**34**	PKP	PKPdf	01 25 17.1	+1.0
	1.5nm,0.8s,baz=291,slow=2.6,SNR=8.7						
MKAR				pPKP		01 25 45.7	
	2.3nm,0.8s,baz=296,slow=1.5,SNR=6.4						
MKAR	**Makanchi Array**	**144.29**	**34**	PKP	PKPdf	01 25 17.1	+1.0
MKAR				pPKP		01 25 45.7	
SONM	**Songino Array**	**151.69**	**6**	PKPbc	PKPdf	01 25 37.4	+9.3
	0.6nm,0.5s,baz=156,slow=0.1,SNR=4.6						
SONM				pPKP		01 25 58.0	
	2.1nm,0.5s,baz=291,slow=1.4,SNR=7.7						
SONM				pPKPbc		01 26 04.8	
	2.1nm,0.7s,baz=304,slow=0.8,SNR=4.5						

IDC 19 01:20:39.1±1.7**, 0.96N**×**123.93E, mb3.7**/3**, mb1 3.9**/3**, mb1mx3.6**/15**, Error ellipse: s-maj=179.0km s-min=24.9km az=63.0, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.14**	**154**	P	P	01 25 47.4	-0.9
	3.4nm,0.6s,baz=332,slow=11,SNR=21						
WB2	**Warramunga Arr**	**23.15**	**154**	eP	P	01 25 47.3	-1.0
ASAR	**Alice Springs**	**26.33**	**159**	P	P	01 26 16.8	-1.9
	0.2nm,0.3s,baz=342,slow=7.8,SNR=6.3						
MKAR	**Makanchi Array**	**58.30**	**328**	P	P	01 30 35.9	-2.3
	0.2nm,0.3s,baz=126,slow=8.9,SNR=6.5						

*LDG **19** 01:24:54.1±0.3, 42.83N×1.50W, h2^{km}, Md2.0/2, Ml2.0/4, Error ellipse: s-maj=4.3km s-min=3.2km az=48.0*
*STR **19** 01:24:54.4±0.1, 43.39N×0.70W, h5^{km}±1^{km}, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*MDD **19** 01:24:55.5±0.5, 42.87N×1.40W, h6^{km}±6^{km}, mbLg1.3/7, Error ellipse: s-maj=4.1km s-min=3.3km az=42.0, AftershockPLICA PRXIMO*
ISC 19 01:24:53.7±0.6**, 42.86N**±0.03×**1.44W**±0.05**, h6**^{km}**, n14, σ1ˢ29**/23**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	**0.30**	**32**	ePg	**Pg**	**01 25 00.9**	**+1.1**
SJPF				eSg	**Sg**	**01 25 03.7**	**-0.1**
	24nm,0.2s						
EALK	**Alkurruntz**	**0.36**	**352**	Pg	**Pg**	**01 25 02.1**	**+1.0**
	11nm,0.3s,SNR=13						
EALK				Lg		01 25 07.9	
	8.6nm,0.2s,SNR=5.3						
LARF	**Larrau**	**0.38**	**62**	Pg	**Pg**	**01 25 02.5**	**+1.2**
LARF				Sg	**Sg**	**01 25 08.4**	**+2.0**
OSSF	**Osses**	**0.42**	**18**	Pg	**Pg**	**01 25 02.8**	**+0.7**
OSSF				Sg	**Sg**	**01 25 09.1**	**+1.4**
ETSF	**Etsaut**	**0.65**	**86**	ePg	**Pg**	**01 25 06.7**	**0.0**
ETSF				eSg	**Sg**	**01 25 15.5**	**+0.1**
	6.3nm,0.3s						
EPF	**Esparros**	**1.32**	**82**	ePn	**Pn**	**01 25 18.5**	**-0.2**
EPF				ePg	**Pg**	**01 25 21.2**	**+1.1**
EPF				eSg	**Sg**	**01 25 37.5**	**-0.1**
	4.2nm,0.2s						
ESAC	**San Caprasio**	**1.34**	**147**	Pg	**Pg**	**01 25 19.9**	**-0.7**
	SNR=7.9						
ESAC				Lg		01 25 38.4	
	9.9nm,0.3s,SNR=7.9						
ELAN	**Lanestosa**	**1.51**	**285**	Pg	**Pg**	**01 25 23.2**	**-0.6**
	0.3nm,0.1s,SNR=7.9						
ELAN				Lg		01 25 43.7	
	2.0nm,0.2s,SNR=7.9						
ETOR	**Torete**	**2.09**	**193**	Pn	**Pn**	**01 25 30.6**	**+0.9**
	SNR=7.9						
ETOR				Pg	**Pg**	**01 25 33.7**	**-1.7**
	SNR=7.9						
ETOR				Sn	**Sn**	**01 25 58.5**	**+2.2**
	SNR=7.9						
ETOR				Lg		01 25 59.1	
	1.2nm,0.3s,SNR=7.9						
EPOB	**Poblet**	**2.40**	**128**	Lg		01 26 11.4	
	0.7nm,0.2s,SNR=7.9						
LFF	**La Frestale**	**2.61**	**36**	ePn	**Pn**	**01 25 36.1**	**-1.1**
LFF				eSn	**Sn**	**01 26 07.2**	**-2.4**
	1.3nm,0.2s						
RJF	**Les Rejaudoux**	**3.24**	**40**	eSn	**Sn**	**01 26 22.0**	**-3.6**
	1.1nm,0.3s						
CAF	**Calviac**	**3.27**	**50**	ePn	**Pn**	**01 25 44.9**	**-1.7**
CAF				eSn	**Sn**	**01 26 23.2**	**-3.1**
	0.7nm,0.2s						
LASF	**Ste Croix**	**4.04**	**71**	ePn	**Pn**	**01 25 56.1**	**-1.5**

*STR **19** 01:26:27.7±1.5, 42.81N×1.61W, h5^{km}±1^{km}, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **19** 01:26:29.8±0.3, 42.85N×1.57W, h2^{km}, Md2.4/2, Ml2.3/11, Error ellipse: s-maj=4.3km s-min=3.2km az=51.0*
*MDD **19** 01:26:32.4±0.5, 42.89N×1.41W, h10^{km}±1^{km}, mbLg1.8/12, Error ellipse: s-maj=3.9km s-min=2.5km az=25.0, AftershockPLICA PRXIMO*
ISC 19 01:26:29.4±0.6**, 42.91N**±0.03×**1.52W**±0.04**, h13**^{km}±3^{km}**, n34, σ1ˢ42**/58**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	**0.29**	**47**	ePg	**Pg**	**01 26 37.5**	**+1.8**
SJPF				eSg	**Sg**	**01 26 40.4**	**+0.4**
	114nm,0.3s						
EALK	**Alkurruntz**	**0.30**	**1**	Pg	**Pg**	**01 26 38.9**	**+2.9**
	44nm,0.3s,SNR=16						
EALK				Lg		01 26 43.6	
	76nm,0.4s,SNR=6.7						
OSSF	**Osses**	**0.39**	**29**	Pg	**Pg**	**01 26 36.7**	**-0.9**
OSSF				Sg	**Sg**	**01 26 45.6**	**+2.6**
OSSF	**Osses**	**0.39**	**29**	P	**Pb**	**01 26 39.3**	**+1.6**
OSSF				S	**Sg**	**01 26 44.6**	**+1.6**
LARF	**Larrau**	**0.41**	**72**	Pg	**Pg**	**01 26 35.9**	**-2.0**
LARF				Sg	**Sg**	**01 26 44.5**	**+0.9**
LARF	**Larrau**	**0.41**	**72**	S	**Sg**	**01 26 43.9**	**+0.3**
ORDF	**Ordiarp**	**0.52**	**55**	Pg	**Pg**	**01 26 41.0**	**+0.9**
ORDF				Sg	**Sg**	**01 26 48.8**	**+1.6**
ORDF	**Ordiarp**	**0.52**	**55**	P	**Pb**	**01 26 41.5**	**+1.6**
ORDF				S	**Sb**	**01 26 48.1**	**+1.1**
ATE	**Arette**	**0.62**	**74**	P	**Pb**	**01 26 42.5**	**+0.8**
ATE				S	**Sb**	**01 26 51.0**	**+1.1**
ETSF	**Etsaut**	**0.70**	**91**	ePg	**Pg**	**01 26 43.2**	**-0.5**
ETSF				eSg	**Sg**	**01 26 52.2**	**-1.0**
	16nm,0.3s						
FDAF	**Les Forges d'A**	**0.70**	**97**	Pg	**Pg**	**01 26 43.4**	**-0.3**
FDAF				Sg	**Sg**	**01 26 53.0**	**-0.3**
FDAF	**Les Forges d'A**	**0.70**	**97**	P	**Pb**	**01 26 44.0**	**+1.0**
VIEF	**Viey**	**1.13**	**91**	S	**Sb**	**01 27 06.9**	**+2.2**
LABF	**Labassere**	**1.18**	**83**	S	**Sb**	**01 27 07.8**	**+1.8**
EPF	**Esparros**	**1.37**	**84**	ePn	**Pn**	**01 26 55.1**	**+0.8**
EPF				ePg	**Pg**	**01 26 57.8**	**+0.9**
EPF				eSg	**Sg**	**01 27 14.2**	**-1.0**
	12nm,0.2s						
RESF	**Ens**	**1.37**	**94**	S	**Sb**	**01 27 13.4**	**+1.8**
ESAC	**San Caprasio**	**1.42**	**147**	Pg	**Pg**	**01 26 56.2**	**-1.7**
	16nm,0.3s,SNR=4.8						
ESAC				Lg		01 27 14.6	
	28nm,0.3s,SNR=5.4						
ELAN	**Lanestosa**	**1.44**	**283**	Pg	**Pg**	**01 26 59.6**	**+1.4**
	6.6nm,0.5s,SNR=5.4						
ELAN				Lg		01 27 20.5	
	1.9nm,0.3s,SNR=5.0						
MELF	**Melles**	**1.67**	**91**	S	**Sn**	**01 27 23.4**	**+3.3**
SALF	**Salau**	**2.00**	**94**	S	**Sn**	**01 27 33.2**	**+4.9**
ETOR	**Torete**	**2.13**	**191**	Pn	**Pn**	**01 27 07.0**	**+1.8**
	3.6nm,0.4s,SNR=4.8						
ETOR				Lg		01 27 34.5	
	10nm,0.4s,SNR=5.0						
EMIR	**Miracle**	**2.46**	**113**	Pg	**Pg**	**01 27 16.2**	**-2.5**
	SNR=5.0						
EMIR				Lg		01 27 47.8	
	2.5nm,0.3s,SNR=5.0						
EPOB	**Poblet**	**2.48**	**128**	Pn	**Pn**	**01 27 10.4**	**+0.2**
	SNR=5.0						
EPOB				Pg	**Pg**	**01 27 17.0**	**-2.0**
	SNR=5.0						
EPOB				Lg		01 27 44.7	
	1.7nm,0.3s,SNR=7.9						
LFF	**La Frestale**	**2.60**	**38**	ePn	**Pn**	**01 27 12.1**	**+0.2**
LFF				ePg	**Pg**	**01 27 19.4**	**-2.0**
LFF				eSg	**Sg**	**01 27 53.7**	**-2.4**
	2.8nm,0.3s						
EMOS	**Mosqueruela**	**2.67**	**163**	Pg	**Pg**	**01 27 21.7**	**-1.0**
	2.9nm,0.5s,SNR=5.0						
EMOS				Lg		01 27 55.2	
	4.8nm,0.5s,SNR=5.0						
MTLF	**Montolieu**	**2.77**	**80**	ePn	**Pn**	**01 27 14.3**	**0.0**
MTLF				eSn	**Sn**	**01 27 47.0**	**-0.8**
	2.0nm,0.3s						
RJF	**Les Rejaudoux**	**3.24**	**41**	ePn	**Pn**	**01 27 20.8**	**-0.2**
RJF				eSn	**Sn**	**01 27 58.9**	**-0.8**
	1.3nm,0.2s						
CAF	**Calviac**	**3.28**	**51**	ePn	**Pn**	**01 27 21.5**	**0.0**
CAF				eSn	**Sn**	**01 27 59.9**	**-0.8**
	1.1nm,0.2s						
EJON	**La Jonquera**	**3.28**	**97**	Pn	**Pn**	**01 27 23.6**	**+2.0**
	SNR=5.0						
EJON				Pg	**Pg**	**01 27 30.9**	**-4.1**
	SNR=5.0						
EJON				Lg		01 28 14.3	
	2.0nm,0.3s,SNR=5.0						
MFF	**Saint Martin d**	**3.81**	**14**	ePn	**Pn**	**01 27 28.4**	**-0.8**
MFF				ePg	**Pg**	**01 27 41.9**	**-3.7**
MFF				eSg	**Sg**	**01 28 31.7**	**-4.8**
	0.4nm,0.2s						
LASF	**Ste Croix**	**4.08**	**72**	ePn	**Pn**	**01 27 33.1**	**+0.2**
LASF				eSn	**Sn**	**01 28 18.2**	**-2.8**
	0.9nm,0.3s						
TCF	**Toulx Ste Croi**	**4.30**	**37**	ePn	**Pn**	**01 27 34.7**	**-1.3**
TCF				eSn	**Sn**	**01 28 24.2**	**-2.3**
	0.7nm,0.3s						
BGF	**Bois d'Agland**	**4.79**	**39**	ePn	**Pn**	**01 27 41.3**	**-1.7**
BGF				eSn	**Sn**	**01 28 35.2**	**-3.8**
	2.4nm,0.3s						
VIVF	**Saint-Julien-l**	**4.88**	**64**	ePn	**Pn**	**01 27 43.3**	**-1.0**
VIVF				eSn	**Sn**	**01 28 37.5**	**-3.7**
	0.8nm,0.3s						

NEIC 19 01:27:06.0, 38.02N×**118.65W, h11**^{km}**, ML3.5**(NCEDC)**, 2C-3D, After NCEDC., California-Nevada border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OMM	**Old Mammoth Mi**	**0.48**	**214**	⇓iP	Pg	01 27 15.6	-0.3
MNV	**Mina**	**0.57**	**44**	⇓iP	Pb	01 27 16.5	-1.0
MNV				i S	Sg	01 27 24.3	-0.8
MTUM	**Tungsten Hills**	**0.67**	**174**	⇓iP	Pb	01 27 18.9	-0.4
MTUM				i S	Sb	01 27 27.9	-0.5
TPH	**Tonopah**	**1.13**	**87**	⇑eP	Pb	01 27 27.1	0.0
CMB	**Columbia Colle**	**1.37**	**271**	⇑eP	Pn	01 27 30.9	-0.3
WCN	**Washoe City**	**1.54**	**326**	eP	Pn	01 27 34.8	+1.2
PAHR	**Pah Rah Range**	**1.77**	**341**	ePn	Pn	01 27 37.7	+0.8
DAC	**Darwin (Calif)**	**1.94**	**154**	ePn	Pn	01 27 41.6	+2.3
DAC				eS	Sn	01 28 07.1	+3.3
TPNV	**Topopah Spring**	**2.19**	**119**	ePn	Pn	01 27 43.4	+0.4
BEKR	**Beckwourth**	**2.27**	**325**	ePn	Pn	01 27 45.8	+1.7
LRV	**Little Rabbit**	**2.47**	**231**	Pn	Pn	01 27 50.7	+3.7
SAO	**San Andreas Ge**	**2.56**	**241**	ePn	Pn	01 27 51.0	+2.9
OHCM	**Honcut**	**2.57**	**301**	ePn	Pn	01 27 50.5	+2.1
BMN	**Battle Mountai**	**2.65**	**24**	Pn	Pn	01 27 48.9	-0.6
LKC	**Lake Chabot**	**2.71**	**265**	ePn	Pn	01 27 52.7	+2.3
NSHM	**Saint Helena R**	**3.15**	**280**	ePn	Pn	01 27 59.1	+2.4
ELK	**Elko**	**3.79**	**43**	ePn	Pn	01 28 04.8	-0.9
MWC	**Mount Wilson**	**3.82**	**173**	ePn	Pn	01 28 09.5	+3.3
NEN	**Nelson**	**3.87**	**127**	ePn	Pn	01 28 06.9	+0.2
WDC	**Whiskeytown Da**	**3.95**	**311**	ePn	Pn	01 28 08.7	+0.7
MOD	**Modoc**	**4.08**	**342**	ePn	Pn	01 28 12.4	+2.6
ARUT	**Antelope Range**	**4.13**	**92**	P	Pn	01 28 10.3	-0.2
WVOR	**Wild Horse Val**	**4.41**	**0**	ePg	Pg	01 28 27.2	-6.7
PFO	**Pinyon Flat Ob**	**4.75**	**157**	ePg	Pg	01 28 36.2	-4.7
DUG	**Dugway**	**5.03**	**63**	ePg	Pg	01 28 43.1	-3.4
	0.8nm,0.7s						
WUAZ	**Wupatki**	**6.36**	**111**	ePg	Pg	01 29 04.0	-8.9
HLID	**Hailey**	**6.40**	**29**	ePg	Pg	01 28 58.3	-15
MCMT	**McKenzie Canyo**	**8.07**	**31**	ePg	P	01 29 31.2	+25

*LDG **19** 01:33:17.7±0.3, 42.87N×1.49W, h2^{km}, Md2.1/2, Ml2.1/10, Error ellipse: s-maj=5.1km s-min=4.0km az=47.0*
*STR **19** 01:33:17.8±0.2, 42.86N×1.49W, h5^{km}±1^{km}, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*MDD **19** 01:33:19.1±0.4, 42.89N×1.41W, h8^{km}±4^{km}, mbLg1.6/9, Error ellipse: s-maj=3.5km s-min=2.9km az=35.0, PRXIMO AftershockPLICA*
ISC 19 01:33:16.4±0.5**, 42.89N**±0.02×**1.46W**±0.04**, h8**^{km}**, n27, σ1ˢ42**/52**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	**0.29**	**37**	ePg	**Pg**	**01 33 24.2**	**+1.9**
SJPF				eSg	**Sg**	**01 33 27.0**	**+0.7**
	78nm,0.3s						
EALK	**Alkurruntz**	**0.34**	**354**	Pg	**Pg**	**01 33 25.4**	**+2.1**
	5.1nm,0.4s,SNR=10						
EALK				Lg		01 33 30.7	
	15nm,0.2s,SNR=5.0						
LARF	**Larrau**	**0.38**	**66**	Pg	**Pg**	**01 33 25.6**	**+1.4**
LARF				Sg	**Sg**	**01 33 31.7**	**+2.4**
LARF	**Larrau**	**0.38**	**66**	P	**Pg**	**01 33 25.8**	**+1.6**
LARF				S	**Sg**	**01 33 31.0**	**+1.7**
OSSF	**Osses**	**0.40**	**21**	Pg	**Pg**	**01 33 26.1**	**+1.6**
OSSF				Sg	**Sg**	**01 33 32.2**	**+2.3**
OSSF	**Osses**	**0.40**	**21**	P	**Pg**	**01 33 26.4**	**+1.8**
OSSF				S	**Sg**	**01 33 31.7**	**+1.8**
ORDF	**Ordiarp**	**0.51**	**49**	Pg	**Pg**	**01 33 28.2**	**+1.6**
ORDF				Sg	**Sg**	**01 33 35.6**	**+2.1**
ORDF	**Ordiarp**	**0.51**	**49**	P	**Pg**	**01 33 28.2**	**+1.6**
ORDF				S	**Sg**	**01 33 35.2**	**+1.7**
ATE	**Arette**	**0.59**	**70**	P	**Pg**	**01 33 29.7**	**+1.3**
ATE				S	**Sg**	**01 33 37.6**	**+1.3**
FDAF	**Les Forges d'A**	**0.66**	**96**	S	**Sg**	**01 33 38.5**	**-0.1**
ETSF	**Etsaut**	**0.66**	**89**	ePg	**Pg**	**01 33 29.9**	**+0.1**
ETSF				eSg	**Sg**	**01 33 38.7**	**0.0**
ETSF				eSn	**Sn**	**01 33 40.6**	**-1.8**
	8.0nm,0.2s						
VIEF	**Viey**	**1.09**	**90**	S	**Sb**	**01 33 53.1**	**+1.8**
EPF	**Esparros**	**1.33**	**83**	ePn	**Pn**	**01 33 42.1**	**+0.7**
EPF				ePg	**Pg**	**01 33 44.2**	**+1.2**
EPF				eSg	**Sg**	**01 34 00.1**	**-0.7**
	9.4nm,0.3s						
ESAC	**San Caprasio**	**1.38**	**147**	Pg	**Pg**	**01 33 43.3**	**-0.7**
	12nm,0.2s,SNR=8.2						
ESAC				Lg		01 34 00.4	
	37nm,0.3s,SNR=5.0						
ELAN	**Lanestosa**	**1.49**	**284**	Pg	**Pg**	**01 33 46.3**	**+0.2**
	6.1nm,0.8s,SNR=5.9						
ELAN				Lg		01 34 07.2	
	2.3nm,0.2s,SNR=5.0						
ETOR	**Torete**	**2.11**	**192**	Pn	**Pn**	**01 33 53.5**	**+1.0**
	SNR=5.0						
ETOR				Pg	**Pg**	**01 33 58.3**	**-0.3**
	1.5nm,0.3s,SNR=6.5						
ETOR				Sn	**Sn**	**01 34 20.7**	**+1.5**
	SNR=7.9						
ETOR				Lg		01 34 23.4	
	1.8nm,0.2s,SNR=5.0						
EMIR	**Miracle**	**2.42**	**113**	Pg	**Pg**	**01 34 03.2**	**-1.5**
	0.3nm,0.1s,SNR=7.9						
EMIR				Lg		01 34 34.1	
	1.0nm,0.2s,SNR=5.0						
EPOB	**Poblet**	**2.43**	**128**	Lg		01 34 32.6	
	0.7nm,0.2s,SNR=7.9						
LFF	**La Frestale**	**2.60**	**37**	ePn	**Pn**	**01 33 59.3**	**-0.2**
LFF				eSn	**Sn**	**01 34 30.0**	**-1.6**
LFF				eSg	**Sg**	**01 34 38.6**	**-4.4**
	2.2nm,0.3s						
EMOS	**Mosqueruela**	**2.63**	**163**	Pg	**Pg**	**01 34 07.3**	**-1.6**
	SNR=5.0						
EMOS				Sn	**Sn**	**01 34 32.8**	**+0.4**
	SNR=5.0						
EMOS				Lg		01 34 43.3	
	0.4nm,0.2s,SNR=5.0						
MTLF	**Montolieu**	**2.73**	**79**	ePn	**Pn**	**01 34 02.0**	**+0.6**
MTLF				eSn	**Sn**	**01 34 34.0**	**-1.0**
	0.9nm,0.3s						
RJF	**Les Rejaudoux**	**3.23**	**41**	ePn	**Pn**	**01 34 07.6**	**-0.9**
RJF				eSn	**Sn**	**01 34 45.2**	**-2.5**
	0.6nm,0.2s						
CAF	**Calviac**	**3.26**	**50**	ePn	**Pn**	**01 34 08.2**	**-0.8**
CAF				eSn	**Sn**	**01 34 46.2**	**-2.3**
	0.6nm,0.2s						
MFF	**Saint Martin d**	**3.83**	**14**	ePn	**Pn**	**01 34 16.6**	**-0.5**
MFF				ePg	**Pg**	**01 34 28.5**	**-4.5**
MFF				eSn	**Sn**	**01 35 00.0**	**-2.9**
MFF				eSg	**Sg**	**01 35 18.8**	**-5.3**
	2.3nm,0.5s						
LASF	**Ste Croix**	**4.05**	**71**	ePn	**Pn**	**01 34 19.5**	**-0.6**
LASF				eSn	**Sn**	**01 35 04.9**	**-3.4**
	0.8nm,0.3s						
VIVF	**Saint-Julien-l**	**4.85**	**64**	ePn	**Pn**	**01 34 30.0**	**-1.5**
VIVF				eSn	**Sn**	**01 35 23.4**	**-5.3**
	0.4nm,0.3s						
AVF	**Avril sur Loir**	**5.19**	**40**	ePn	**Pn**	**01 34 33.9**	**-2.4**
AVF				eSn	**Sn**	**01 35 31.5**	**-5.7**
	0.5nm,0.3s						

*LDG **19** 01:36:38.8±0.5, 42.89N×1.44W, h2^{km}, Md2.1/2, Ml1.9/6, Error ellipse: s-maj=8.8km s-min=6.5km az=63.0*
*MDD **19** 01:36:39.2±0.8, 42.86N×1.37W, h5^{km}±5^{km}, mbLg1.3/5, Error ellipse: s-maj=6.2km s-min=2.9km az=49.0, PRXIMO AftershockPLICA*
ISC 19 01:36:37.8±1.1**, 42.92N**±0.05×**1.33W**±0.07**, h5**^{km}**, n11, σ1ˢ55**/21**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	**0.21**	**22**	ePg	**Pg**	**01 36 44.6**	**+2.5**
SJPF				eSg	**Sg**	**01 36 47.4**	**+2.5**
	21nm,0.4s						
EALK	**Alkurruntz**	**0.33**	**337**	Pg	**Pg**	**01 36 46.0**	**+1.6**
	0.7nm,0.1s,SNR=7.9						
EALK				Lg		01 36 51.7	
	7.0nm,0.1s,SNR=12						
ETSF	**Etsaut**	**0.57**	**92**	ePg	**Pg**	**01 36 50.3**	**+1.1**
ETSF				eSg	**Sg**	**01 36 59.0**	**+2.2**
ETSF				eSn	**Sn**	**01 37 00.9**	**-1.0**
	2.2nm,0.2s						
EPF	**Esparros**	**1.23**	**84**	ePn	**Pn**	**01 37 02.4**	**+0.8**
EPF				ePg	**Pg**	**01 37 04.7**	**+2.3**
EPF				eSg	**Sg**	**01 37 20.5**	**+1.6**
	3.1nm,0.2s						
ESAC	**San Caprasio**	**1.36**	**152**	Pg	**Pg**	**01 37 02.6**	**-2.4**
	SNR=7.9						
ESAC				Lg		01 37 21.2	
	2.5nm,0.1s,SNR=7.9						
EPOB	**Poblet**	**2.38**	**130**	Lg		01 37 51.6	
	0.1nm,0.1s,SNR=4.0						
LFF	**La Frestale**	**2.51**	**36**	ePn	**Pn**	**01 37 19.7**	**-0.3**
LFF				eSn	**Sn**	**01 37 50.3**	**-1.0**
LFF				eSg	**Sg**	**01 37 59.0**	**-2.5**
	2.2nm,0.3s						
MTLF	**Montolieu**	**2.63**	**80**	ePn	**Pn**	**01 37 22.4**	**+0.7**
MTLF				eSn	**Sn**	**01 37 54.3**	**0.0**
	1.5nm,0.5s						
RJF	**Les Rejaudoux**	**3.14**	**40**	ePn	**Pn**	**01 37 28.0**	**-1.0**
RJF				eSn	**Sn**	**01 38 05.5**	**-1.8**
	0.9nm,0.2s						
CAF	**Calviac**	**3.17**	**50**	ePn	**Pn**	**01 37 28.4**	**-0.9**
CAF				eSn	**Sn**	**01 38 06.6**	**-1.3**
	0.5nm,0.3s						
LASF	**Ste Croix**	**3.95**	**71**	ePn	**Pn**	**01 37 39.8**	**-0.6**
LASF				eSn	**Sn**	**01 38 25.4**	**-2.3**
	0.5nm,0.3s						

*IDC **19** 01:47:04.0±2.5, 5.49S×151.66E, h38^{km}±19^{km}, mb4.6/11, mb1 4.7/12, mb1mx4.7/14, ML3.8/1, MS4.3/11, Ms1 4.3/11, ms1mx4.3/12, Error ellipse: s-maj=22.6km s-min=11.9km az=121.0*
*BJI **19** 01:47:05.3, 5.42S×152.35E, h88^{km}, mB4.9, mb5.0, Ms4.6, Msz4.4*
*NEIC **19** 01:47:07.7±0.7, 5.46S×151.63E, h66^{km}±5^{km}, mb5.0/34, Error ellipse: s-maj=7.1km s-min=4.2km az=124.0*
*HRVD **19** 01:47:07.7±0.3, 5.72S×151.90E, h29^{km}±1^{km}, MW5.1/45, Centroid moment Tensor Solution. LP body waves: s35,c52;Mantle waves: s45,c71; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.76±.23; $M_{\theta\theta}$-4.20±.15; $M_{\phi\phi}$0.44±.16; $M_{r\theta}$2.40±.25; $M_{\theta\phi}$-1.31±.13; $M_{\phi r}$0.23±.32; Best double couple: $M_0$4.81×10^{16} NP1:ϕ_s248°,δ30°,λ79°. NP2:ϕ_s81°,δ60°,λ96°. Principal axes: T 4.43, Plg74°, Azm7°; N .75, Plg5°, Azm258°; P -5.18, Plg15°, Azm166°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 19 01:47:06.0±1.2**, 5.49S**±0.05×**151.60E**±0.06**, h63**^{km}±10^{km}**, n142, σ0ˢ85**/93**, mb5.0**/44**, 6C-4D, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAB	**Rabaul**	**1.40**	**24**	⇑iP	**P**	**01 47 29.2**	**-0.7**
PMG	**Port Moresby**	**5.88**	**228**	eP	**P**	**01 48 33.5**	**+1.1**
CTA	**Charters Tower**	**15.42**	**199**	eP	**P**	**01 50 43.1**	**+1.9**
	9.8nm,0.9s						
CTA				eS	**S**	**01 53 47.2**	**+17**
CTA	**Charters Tower**	**15.42**	**199**	Pn	**P**	**01 50 40.8**	**-0.4**
	0.3nm,0.3s,baz=27,slow=13,SNR=9.1						
CTA				LR	LR	01 55 57.0	
	comp=Z,1µm,21.3s,baz=26,slow=34						
CTAO	**Charters Tower**	**15.42**	**199**	eP	**P**	**01 50 43.6**	**+2.4**
	40nm,1.5s						
GUMO	**Guam**	**20.09**	**341**	eP	**P**	**01 51 37.8**	**+0.6**
GUMO				e		01 51 45.9	
KAKA	**Kakadu**	**20.26**	**248**	⇑iP	**P**	**01 51 40.3**	**+1.4**
	35nm,0.3s						
WRAB	**Tennant Creek**	**22.09**	**228**	eP	**P**	**01 51 57.2**	**-0.1**
	34nm,0.6s,mb5.0						
WB2	**Warramunga Arr**	**22.09**	**228**	eP	**P**	**01 51 56.6**	**-0.7**
WB2				eS	**S**	**01 55 56.6**	**+4.8**
WB2				eSCS		01 59 32.3	
WRA	**Warramunga Arr**	**22.10**	**228**	P	**P**	**01 51 57.6**	**+0.2**
	19nm,0.7s,mb4.7,baz=52,slow=10.0,SNR=90						
WRA				S	**S**	**01 55 57.2**	**+5.2**
	22nm,1.2s,baz=53,slow=18,SNR=10						
WRA				ScP		01 59 29.2	
	2.2nm,0.8s,baz=47,slow=2.7,SNR=7.3						
WRA				LR	LR	02 01 16.7	
	comp=Z,589nm,19.5s,baz=55,slow=38						
ARMA	**Armidale**	**24.80**	**180**	eP	**P**	**01 52 29.7**	**+6.0**
ASAR	**Alice Springs**	**24.84**	**222**	P	**P**	**01 52 24.1**	**-0.1**
	26nm,0.8s,mb4.8,baz=58,slow=8.4,SNR=106						
ASAR				ScP		01 59 37.2	
	0.7nm,0.9s,baz=38,slow=2.7,SNR=4.6						
ASAR				LR	LR	02 02 57.3	
	comp=Z,283nm,18.9s,baz=50,slow=38						
ASPA	**Alice Springs**	**24.85**	**222**	eP	**P**	**01 52 24.8**	**+0.6**
ASPA				eS	**S**	**01 56 50.6**	**+11**
STKA	**Stephens Creek**	**27.88**	**198**	eP	**P**	**01 52 50.7**	**-1.4**
	5.0nm,0.6s,mb4.3						
STKA				eS	**S**	**01 57 36.3**	**+6.9**
STKA	**Stephens Creek**	**27.88**	**198**	P	**P**	**01 52 50.7**	**-1.4**
	2.8nm,0.5s,mb4.1,baz=7.5,slow=9.9,SNR=8.6						
STKA				LR	LR	02 04 08.7	
	comp=Z,645nm,18.8s,baz=116,slow=37						
FITZ	**Fitzroy Crossi**	**28.29**	**241**	⇑iP	**P**	**01 52 55.1**	**-0.8**
	11nm,0.4s,mb4.8						
FITZ				i		01 52 58.2	
FITZ	**Fitzroy Crossi**	**28.29**	**241**	P	**P**	**01 52 55.1**	**-0.8**
	59nm,0.7s,mb5.3,baz=78,slow=4.3,SNR=104						
FITZ				LR	LR	02 06 23.3	
	comp=Z,194nm,18.4s,baz=81,slow=41						
FORT	**Forrest**	**33.51**	**219**	eP	**P**	**01 53 39.7**	**-2.0**
	37nm,0.6s,mb5.5						
MBWA	**Marble Bar**	**34.60**	**240**	eP	**P**	**01 53 50.0**	**-1.1**
	40nm,1.1s,mb5.3						
JOW	**Kunigami**	**39.27**	**326**	P	**P**	**01 54 30.6**	**+0.3**
	52nm,1.0s,mb5.2,baz=132,slow=8.4						
URZ	**Urewera**	**40.02**	**148**	LR	LR	02 09 12.7	
	comp=Z,665nm,18.2s,baz=294,slow=33						
WHN	**Wuhan**	**50.54**	**317**	eP	**P**	**01 56 01.5**	**+1.2**
ENH	**Enshi**	**53.76**	**314**	eP	**P**	**01 56 24.0**	**-0.5**
	25nm,1.2s,mb5.0						
BJT	**Baijiatuau**	**55.80**	**327**	eP	**P**	**01 56 38.2**	**-1.0**
	12nm,1.1s,mb4.8						
XAN	**Xi'an**	**56.30**	**317**	P	**P**	**01 56 42.1**	**-0.7**
XAN				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.7						

KMI	Kunming	56.39	305	eP	P	01 56 43.8	+0.2
KMI				S	S	02 04 33.3	+5.7
KMI				SS	SS	02 08 22.5	+6.7
KMI				AMB	AMB		
	comp=Z,15nm,1.2s,mb4.9						
KMI				AMB	AMB		
	comp=Z,79nm,5.5s						
KMI				LR	LR		
	comp=N,147nm,18.3s						
KMI				LR	LR		
	comp=E,178nm,16.8s						
KMI				LR	LR		
	comp=Z,280nm,17.8s						
CMAR	Chiang Mai Arr	57.09	296	P	P	01 56 48.4	-0.3
	comp=Z,2.9nm,0.6s,mb4.5,baz=121,slow=5.1,SNR=18						
CMAR				LR	LR	02 21 32.2	
	comp=Z,152nm,18.7s,baz=95,slow=36						
HHC	Hu-ho-hao-te	58.91	325	eP	P	01 57 01.3	+0.2
HHC				AMB	AMB		
	comp=Z,15nm,0.8s,mb5.1						
HHC				AMB	AMB		
	comp=Z,63nm,5.7s						
HHC				LR	LR		
	comp=N,175nm,19.0s						
HHC				LR	LR		
	comp=E,148nm,19.0s						
HHC				LR	LR		
	comp=Z,237nm,19.0s						
LZH	Lanzhou	60.90	317	⇑P	P	01 57 14.9	+0.2
LZH				AMB	AMB		
	comp=Z,41nm,1.3s,mb5.4						
LZH				LR	LR		
	comp=N,193nm,12.9s						
LZH				LR	LR		
	comp=Z,294nm,16.8s						
HIA	Hailar	61.18	337	eP	P	01 57 15.2	-1.2
GTA	Gaotai	65.36	318	P	P	01 57 44.6	+0.5
SONM	Songino Array	66.27	329	P	P	01 57 48.8	-1.0
	comp=Z,7.0nm,0.7s,mb4.8,baz=138,slow=6.7,SNR=38						
PKI	Pulchoki	71.76	301	eP	P	01 58 23.8	-0.1
	comp=Z,63nm,1.6s,mb5.3						
KKN	Kakani	71.93	301	eP	P	01 58 24.5	-0.4
	comp=Z,25nm,1.1s,mb5.0						
DMN	Daman	72.03	301	eP	P	01 58 25.6	+0.1
	comp=Z,21nm,0.8s,mb5.1						
GKN	Gorkha	72.54	301	eP	P	01 58 28.2	-0.4
	comp=Z,44nm,1.3s,mb5.2						
SBA	Scott Base	72.76	177	P	P	01 58 28.3	-0.6
	comp=Z,10nm,1.3s,mb4.6						
KOLN	Koldanda	73.36	301	eP	P	01 58 33.0	-0.4
	comp=Z,18nm,1.0s,mb5.0						
HYB	Hyderabad	75.59	289	i P	P	01 58 47.0	+0.6
HYB	Hyderabad	75.59	289	eP	P	01 58 47.0	+0.6
SLKM	Skilak Lake	79.79	25	eP	P	01 59 07.8	-1.0
MKAR	Makanchi Array	80.06	319	P	P	01 59 09.8	-0.8
	comp=Z,11nm,1.0s,mb4.7,baz=99,slow=6.4,SNR=32						
MKAR				LR	LR	02 34 52.3	
	comp=Z,192nm,18.6s,baz=286,slow=36						
SML	Sawmill	81.24	25	eP	P	01 59 16.2	-0.3
IMA	Indian Mountai	81.50	20	eP	P	01 59 19.2	+1.5
	comp=Z,18nm,0.8s,mb5.0						
MCK	McKinley	81.95	23	eP	P	01 59 18.4	-1.7
	comp=Z,5.9nm,0.8s,mb4.6						
DIV	Divide	82.00	26	eP	P	01 59 20.7	+0.2
	comp=Z,23nm,0.8s,mb5.2						
COLA	College	82.93	22	eP	P	01 59 25.1	0.0
	comp=Z,6.0nm,0.8s,mb4.7						
ILAR	Eielson Array	83.24	22	P	P	01 59 24.9	-1.8
	comp=Z,4.6nm,0.6s,mb4.7,baz=256,slow=4.6,SNR=53						
TKM2	Tokmak 2	83.55	314	P	P	01 59 29.6	+0.8
	SNR=7.2						
KURK	Kurchatov	83.57	322	eP	P	01 59 27.4	-1.3
	comp=Z,22nm,1.1s,mb5.2						
CHMS	Chumysh	84.17	314	P	P	01 59 32.9	+1.0
	SNR=8.4						
UCH	Uchtor	84.17	313	P	P	01 59 33.6	+1.7
	SNR=11						
AAK	Ala-Archa	84.27	314	P	P	01 59 33.8	+1.4
	SNR=5.2						
USP	Ospenovka	84.41	314	P	P	01 59 34.2	+1.1
	SNR=10						
QSPA	South Pole Qui	84.48	180	eP	P	01 59 32.5	-0.1
	comp=Z,11nm,1.1s,mb4.9						
MAW	Mawson	84.48	203	eP	P	01 59 28.2	-4.7
	comp=Z,3.3nm,1.0s,mb4.4						
MAW	Mawson	84.48	203	P	P	01 59 32.7	-0.1
	comp=Z,1.4nm,0.6s,mb4.3,baz=133,slow=5.1,SNR=7.2						
MAW				LR	LR	02 34 15.6	
	comp=Z,225nm,20.1s,baz=56,slow=34						
AML	Almayashu	84.74	313	P	P	01 59 36.5	+1.7
	SNR=20						
EKS2	Erkin-Say	84.79	314	P	P	01 59 36.3	+1.3
	SNR=13						
DAWY	Dawson	85.90	24	eP	P	01 59 40.7	+0.8
BVAR	Borovoye Array	89.07	323	P	P	01 59 53.8	-1.7
	comp=Z,8.9nm,0.8s,mb5.2,baz=108,slow=4.7,SNR=43						
BRVK	Borovoye	89.14	323	eP	P	01 59 54.4	-1.4
	comp=Z,11nm,1.0s,mb5.1						
INK	Inuvik	89.52	21	eP	P	01 59 56.6	-0.6
	comp=Z,12nm,1.3s,mb5.0						
ZRNK	Zerenda	89.89	323	eP	P	01 59 58.0	-1.2
	comp=Z,7.8nm,0.9s,mb5.0						
HUMO	Hull Mountain	90.32	47	eP	P	02 00 02.1	+0.5
	comp=Z,22nm,0.9s,mb5.5						
PGC	Sidney	90.74	41	eP	P	02 00 02.9	-0.6
	comp=Z,36nm,0.8s,mb5.8						
BUOR	Burton Butte	90.81	48	P	P	02 00 04.9	+1.0
FMW	Mount Fremont	91.73	43	P	P	02 00 08.6	+0.6
RPW	Rockport	92.00	42	eP	P	02 00 08.2	-1.0
MOD	Modoc	92.20	48	eP	P	02 00 10.8	+0.5
	comp=Z,19nm,1.3s,mb5.3						
WRW	Wenatchee Ridg	92.36	42	P	P	02 00 11.2	+0.4
TBM	Table Mountain	92.48	43	P	P	02 00 12.0	+0.5
SLFW	Sugar Loaf	92.59	42	P	P	02 00 12.5	+0.5
ETW	Entiat	92.70	43	P	P	02 00 12.9	+0.4
CBSW	Chelan Butte S	92.92	42	P	P	02 00 13.6	+0.1
WTV	Waterville	92.97	43	P	P	02 00 13.9	+0.2
EPH	Ephrata	93.18	43	P	P	02 00 15.1	+0.4
NVAR	Mina Array Bea	93.44	52	P	P	02 00 15.9	-0.2
	comp=Z,6.9nm,0.9s,mb5.1,baz=258,slow=4.0,SNR=16						
NVAR				LR	LR	02 37 21.0	
	comp=Z,462nm,19.3s,baz=310,slow=32						
WVOR	Wild Horse Val	93.48	48	eP	P	02 00 16.3	+0.1
	comp=Z,14nm,1.0s,mb5.3						
MNV	Mina	93.56	52	eP	P	02 00 16.6	-0.1
	comp=Z,18nm,1.3s,mb5.3						
OD2	Odessa Site #2	93.78	43	P	P	02 00 17.2	-0.1
DPW	Davenport	94.16	42	eP	P	02 00 19.4	+0.4
NEW	Newport	94.90	42	eP	P	02 00 22.1	-0.4
	comp=Z,11nm,1.0s,mb5.2						
TPNV	Topopah Spring	94.97	53	eP	P	02 00 23.6	+0.5
	comp=Z,15nm,1.3s,mb5.3						
YKA	Yellowknife Ar	96.58	28	LR	LR	02 38 04.4	
	comp=Z,202nm,20.9s,baz=70,slow=32						
HLID	Hailey	96.63	47	eP	P	02 00 30.8	+0.3
	comp=Z,3.7nm,0.9s,mb4.8						
MCMT	McKenzie Canyo	97.77	46	eP	P	02 00 36.2	+0.6
IMW	Indian Meadow	99.15	47	eP	P	02 00 42.3	+0.4
MOOW	Moose Ponds	99.29	47	eP	P	02 00 42.7	+0.2
PDAR	Pinedale Array	100.19	48	P	P	02 00 45.4	-1.3
	comp=Z,3.4nm,0.8s,baz=270,slow=3.0,SNR=22						
AKASG	Malin Array Be	114.35	324	PKP	PKPdf	02 05 39.4	+0.7
	comp=Z,0.8nm,0.4s,baz=49,slow=1.8,SNR=5.1						
BRTR	Keskin Array B	114.86	311	PKP	PKPdf	02 05 41.0	+1.0
	comp=Z,0.9nm,0.7s,baz=136,slow=1.5,SNR=6.3						
NOA	NORSAR Array B	117.14	340	PKP	PKPdf	02 05 44.2	+0.4
	comp=Z,1.2nm,0.7s,baz=47,slow=1.7,SNR=3.9						
MLR	Muntele Rosu	118.41	319	PKP	PKPdf	02 05 47.9	+1.3
	comp=Z,2.6nm,0.7s,baz=315,slow=4.3						
PSZ	Piszkesteto	121.05	324	ePKPdf	PKPdf	02 05 52.2	+0.4
VRAC	Vranov	122.18	327	PKP	PKPdf	02 05 55.2	+1.3
	comp=Z,0.7nm,0.4s,baz=66,slow=4.7,SNR=4.0						
BRG	Berggiesshubel	122.66	330	i P	PKPdf	02 05 56.5	+1.7
DIVS	Divcibare	122.83	320	⇑iP	PKPdf	02 05 56.8	+1.5
CLL	Collm	122.86	330	i PKIKP	PKPdf	02 05 56.5	+1.4
KHC	Kasperske Hory	123.90	328	ePKPDF	PKPdf	02 05 58.0	+0.8
GERES	GERESS Array B	124.00	328	PKP	PKPdf	02 05 58.4	+0.9
	comp=Z,4.9nm,0.7s,baz=74,slow=1.6,SNR=51						
GRA1	Grafenberg Arr	124.77	330	ePKP	PKPdf	02 06 00.6	+1.7
WATA	Walderalm	126.05	327	⇓iP	PKPdf	02 06 02.4	+1.0
WTTA	Wattenberg	126.06	327	⇓iP	PKPdf	02 06 03.1	+1.7
MOTA	Moosalm	126.30	328	⇓iP	PKPdf	02 06 03.2	+1.3
SQTA	Sankt Quirin	126.32	327	⇓iP	PKPdf	02 06 03.4	+1.5
EKA	Eskdalemuir Ar	126.33	342	PKP	PKPdf	02 06 01.1	-0.6
	comp=Z,2.3nm,0.8s,baz=8.4,slow=2.3,SNR=5.7						
DAVA	Damuels	126.98	328	⇑iP	PKPdf	02 06 05.0	+1.8
DAVOX	Davos	127.30	328	PKP	PKPdf	02 06 05.2	+1.4
	comp=Z,6.2nm,0.7s,baz=117,slow=2.3						
DAVOX	Davos	127.30	328	PKP	PKPdf	02 06 05.2	+1.4
GIVF	Givet	127.51	334	ePKIKP	PKPdf	02 06 05.7	+1.5
HINF	Hinteralfeld	128.18	330	ePKIKP	PKPdf	02 06 06.5	+1.0
	comp=Z,14nm,0.9s						
HAU	Haudompre	128.29	331	ePKIKP	PKPdf	02 06 06.9	+1.2
	comp=Z,16nm,0.8s						
HAU				eR			
	comp=Z,147nm,19.2s						
MEZF	Maizieres J'vi	128.56	332	ePKIKP	PKPdf	02 06 07.8	+1.6
	comp=Z,26nm,0.9s						
LPL	La Plagne	129.79	328	ePKIKP	PKPdf	02 06 10.5	+1.9
	comp=Z,9.7nm,0.8s						
LPG	La Plagne	129.79	328	ePKIKP	PKPdf	02 06 10.5	+1.8
	comp=Z,7.0nm,0.8s						
LOR	Lormes	130.00	332	ePKIKP	PKPdf	02 06 10.5	+1.5
	comp=Z,9.5nm,0.9s						
LOR				eR			
	comp=Z,235nm,22.5s						
SSF	Saint Saulge	130.32	332	ePKIKP	PKPdf	02 06 12.0	+2.4
	comp=Z,23nm,1.1s						
PGF	Pioggiola	130.42	324	ePKIKP	PKPdf	02 06 10.8	+0.9
	comp=Z,16nm,0.9s						
SMF	Signal de Mont	130.46	331	ePKIKP	PKPdf	02 06 11.2	+1.3
SBF	Sospel	130.49	326	ePKIKP	PKPdf	02 06 11.9	+1.9
	comp=Z,19nm,1.0s						
AVF	Avril sur Loir	130.59	332	ePKIKP	PKPdf	02 06 11.4	+1.3
ORIF	Oris-en-Rattie	130.64	328	ePKIKP	PKPdf	02 06 11.8	+1.5
	comp=Z,8.5nm,0.7s						
ORIF				eR			
	comp=Z,296nm,20.5s						
BGF	Bois d'Agland	131.00	332	ePKIKP	PKPdf	02 06 12.6	+1.7
	comp=Z,21nm,0.9s						
FRF	La Foret Royal	131.12	326	ePKIKP	PKPdf	02 06 11.4	+0.2
VIVF	Saint-Julien-l	131.31	329	ePKIKP	PKPdf	02 06 13.2	+1.6
	comp=Z,11nm,0.9s						
LMR	La Mourre	131.35	326	ePKIKP	PKPdf	02 06 13.0	+1.3
TCF	Toulx Ste Croi	131.50	332	ePKIKP	PKPdf	02 06 13.6	+1.7
	comp=Z,14nm,0.8s						
LASF	Ste Croix	132.27	329	ePKIKP	PKPdf	02 06 15.3	+1.9
	comp=Z,5.3nm,0.7s						
LFF	La Frestale	133.19	332	ePKIKP	PKPdf	02 06 17.2	+2.1
MTLF	Montolieu	133.63	329	ePKIKP	PKPdf	02 06 17.7	+1.7
EPF	Esparros	134.80	330	ePKIKP	PKPdf	02 06 18.5	+0.3
ETSF	Etsaut	135.34	331	ePKIKP	PKPdf	02 06 21.0	+1.9
	comp=Z,6.4nm,0.7s						
CPUP	Villa Florida	137.73	140	PKP	PKPdf	02 06 25.8	+1.8
	comp=Z,3.6nm,1.1s,baz=268,slow=4.2,SNR=4.6						
SDV	Santo Domingo	137.98	83	ePKPdf	PKPdf	02 06 26.2	+1.4
ESDC	Sonseca Array	139.45	331	PKP	PKPdf	02 06 28.6	+1.8
	comp=Z,0.5nm,0.8s,baz=20,slow=2.7,SNR=4.1						
TRN	Trinidad (W)	146.94	79	eP	PKPdf	02 06 43.0	+2.5
BDFB	Brasilia	151.40	137	PKPbc	PKPdf	02 06 55.0	+7.5
	comp=Z,13nm,0.7s,baz=228,slow=1.8,SNR=22						
BAO	Brasilia Array	151.42	138	eP	PKPdf	02 06 54.6	+7.2
BAO				e		02 07 02.8	
BAO				e		02 07 09.6	
BAO				e		02 07 14.7	
BAO				e		02 07 20.1	
BAO				e		02 07 29.8	
KIC	Kosan Boka	156.46	273	ePKP2	PKPab	02 07 25.4	-0.4
	comp=Z,346nm,1.7s						
TIC	Toumodi	156.73	274	ePKP2	PKPab	02 07 26.5	-0.5
	comp=Z,124nm,1.5s						
LIC	Lamto	156.74	273	ePKP2	PKPab	02 07 26.6	-0.4
	comp=Z,67nm,1.4s						

IDC 19 01:47:12.5±8.0**, 36.86N×72.20E, mb4.1**/2**, mb1 3.9**/4**, mb1mx3.5**/20**, ML3.5**/2**, Error ellipse: s-maj=130.0km s-min=44.8km az=157.0, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MKAR	Makanchi Array	12.44	34	Pn	P	01 50 12.4	-1.3
	0.1nm,0.3s,baz=223,slow=15,SNR=5.2						
BVAR	Borovoye Array	16.21	356	Pn	P	01 50 57.4	-5.7
	0.4nm,0.3s,baz=172,slow=11,SNR=4.4						
FINES	FINESS Array B	37.73	326	P	P	01 54 29.8	-1.5
	3.0nm,1.1s,baz=113,slow=11,SNR=4.2						
ARCES	ARCESS Array B	41.19	337	P	P	01 54 57.9	-2.0
	3.1nm,1.0s,baz=112,slow=9.7,SNR=4.3						

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*JMA **19** 01:50:50.6±0.1, 24.55N×122.89E, h64^{km}±1^{km}, M2.2*

TAP 19 01:50:52.5, 24.47N×122.76E, h37^{km}±1^{km}**, ML2.5, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.23	92	P	P	01 51 00.2	+0.4
YOJ				S	S	01 51 07.1	+2.3
IRIF	Iriomote-Funau	0.90	98	P	P	01 51 06.1	-2.6
IRIF				S	S	01 51 18.2	-2.4
HATJ	Hateruma jima	1.04	113	eS	S	01 51 22.0	-2.3
JKRS	Kuro-shima	1.16	101	P	P	01 51 09.9	-2.6
JKRS				S	S	01 51 24.5	-3.0
JIJ	Ishigaki jima	1.27	95	P	P	01 51 10.8	-3.2
JIJ				S	S	01 51 25.9	-4.2
JTJ	Tarama	1.78	84	P	P	01 51 18.3	-3.0
JTJ				eS	S	01 51 38.4	-4.5

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*ROM **19** 01:58:40.7±0.2, 40.23N×12.79E, h481^{km}±2^{km}, ML3.3, Error ellipse: s-maj=3.4km s-min=3.2km az=90.0*

*IDC **19** 01:58:45.6±0.6, 40.30N×12.88E, h446^{km}±7^{km}, mb3.5/13, mb1 3.6/24, mb1mx3.5/34, Error ellipse: s-maj=10.8km s-min=7.9km az=79.0*

*BGS **19** 01:58:46.2±2.9, 40.32N×12.96E, h460^{km}, mb4.2*

*NEIC **19** 01:58:46.8±0.2, 40.32N×12.95E, h460^{km}±2^{km}, mb4.5/75, Error ellipse: s-maj=3.2km s-min=2.5km az=201.0*

*THE **19** 02:00:15.4, 40.09N×21.91E, h4^{km}*

ISC 19 01:58:45.9±0.2**, 40.33N**±0.02×**12.91E**±0.02**, h464**^{km}±2^{km}**, n308, σ0^{s}94**/324**, mb3.8**/14**, 14C-54D, Tyrrhenian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSC	Monte Massico	1.18	43	eP	P	01 59 44.5	0.0
MSC	Monte Massico	1.18	43	ePg	P	01 59 44.5	0.0
SGG	Gregorio Mates	1.53	46	⇓iP	P	01 59 46.4	+0.5
CERT	Cerreto	1.61	2	eP	P	01 59 46.5	+0.2
CERT				S	S	02 00 33.9	-0.1
CERT	Cerreto	1.61	2	ePg	P	01 59 46.5	+0.2
CERT				eSg	S	02 00 33.9	-0.1
VVLD	Villa Vallelon	1.63	19	⇓iP	P	01 59 46.4	+0.1
VVLD				S	S	02 00 34.4	+0.3
VVLD	Villa Vallelon	1.63	19	⇓iPg	P	01 59 46.4	0.0
VVLD				eSg	S	02 00 34.4	+0.2
CPI2	Carpinone	1.64	40	eP	P	01 59 46.9	+0.5
MIDA	Miranda	1.66	37	⇓iP	P	01 59 46.7	+0.3
MIDA	Miranda	1.66	37	⇓iPg	P	01 59 46.7	+0.2
RNI2	Rionero Sannit	1.66	34	eP	P	01 59 47.1	+0.6
RNI2	Rionero Sannit	1.66	34	ePg	P	01 59 47.1	+0.7
CSSN	Cassano Irpino	1.69	71	⇓iP	P	01 59 47.0	+0.4
PTQR	Pietraquaria	1.73	12	⇓iP	P	01 59 47.4	+0.6
CII	Carovilli	1.74	37	⇑iP	P	01 59 47.7	+0.8
CII	Carovilli	1.74	37	⇑iPg	P	01 59 47.7	+0.8
INTR	Introdacqua	1.84	24	⇓iP	P	01 59 47.3	0.0
INTR	Introdacqua	1.84	24	⇓iPg	P	01 59 47.3	0.0
SGO	Sicignano	1.84	82	⇓iP	P	01 59 47.5	+0.2
SGO	Sicignano	1.84	82	⇓iPg	P	01 59 47.5	+0.2
TOLF	Tolfa	1.86	339	eP	P	01 59 48.0	+0.6
TOLF				S	S	02 00 36.4	+0.3
TOLF	Tolfa	1.86	339	ePg	P	01 59 48.0	+0.6
TOLF				eSg	S	02 00 36.4	+0.3
FIAM	Fiamignano	1.94	5	⇓iP	P	01 59 48.5	+0.7
FIAM				S	S	02 00 38.5	+1.7
FIAM	Fiamignano	1.94	5	⇓iPg	P	01 59 48.5	+0.7
FIAM				eSg	S	02 00 38.5	+1.7
FAGN	Fagnano	2.00	14	eP	P	01 59 48.2	+0.1
MRLC	Muro Lucano	2.01	77	eP	P	01 59 48.6	+0.4
	5.0nm,0.4s						
MRLC	Muro Lucano	2.01	77	ePg	P	01 59 48.6	+0.4
MGR	Morigerati	2.03	95	eP	P	01 59 48.8	+0.5
	8.0nm,0.2s						
MGR	Morigerati	2.03	95	ePg	P	01 59 48.8	+0.5
AQU	L'Aquila	2.05	10	⇓iP	P	01 59 49.0	+0.6
AQU				S	S	02 00 39.9	+2.0
	29nm,0.6s						
AQU	L'Aquila	2.05	10	⇓iPg	P	01 59 49.0	+0.6
AQU				eSg	S	02 00 39.9	+2.0
MNS	Montasola	2.06	355	⇓iP	P	01 59 48.7	+0.2
MNS	Montasola	2.06	355	⇓iPg	P	01 59 48.7	+0.2
SLCN	Sala Consilina	2.08	88	eP	P	01 59 50.5	+1.9
	9.0nm,0.2s						
SLCN	Sala Consilina	2.08	88	ePg	P	01 59 50.5	+1.9
CAMP	Campotosto	2.23	9	eP	P	01 59 49.4	-0.1
CUC	Castrocucco	2.25	98	ePg	P	01 59 49.3	-0.4
LNSS	Leonessa	2.27	2	⇓iP	P	01 59 50.3	+0.6
SLNA	Salina	2.31	139	eP	P	01 59 49.4	-0.6
	244nm,0.5s						
SLNA	Salina	2.31	139	ePg	P	01 59 49.4	-0.6
TERO	Teramo	2.35	13	⇓iP	P	01 59 50.3	+0.1
TERO				S	S	02 00 42.1	+1.1
TERO	Teramo	2.35	13	⇓iPg	P	01 59 50.3	+0.1
TERO				eSg	S	02 00 42.1	+1.1
MAON	Monte Argentar	2.48	328	⇑iP	P	01 59 51.3	+0.2
MAON	Monte Argentar	2.48	328	⇑iPg	P	01 59 51.3	+0.3
GIB	Gibilmanna	2.50	159	⇓iP	P	01 59 50.3	-0.9
	22nm,0.3s						
GIB	Gibilmanna	2.50	159	⇓iPg	P	01 59 50.3	-0.9
NRCA	Norcia	2.50	3	⇓iP	P	01 59 51.4	+0.2
	37nm,0.4s						
NRCA	Norcia	2.50	3	⇓iPg	P	01 59 51.4	+0.2
DGI	Dorgali Grotta	2.53	271	⇑iP	P	01 59 51.6	+0.3
DGI	Dorgali Grotta	2.53	271	⇑iPg	P	01 59 51.6	+0.3
CSLB	Castelbuono	2.55	159	⇓iP	P	01 59 50.4	-1.1
	43nm,0.3s						
CSLB	Castelbuono	2.55	159	⇓iPg	P	01 59 50.4	-1.1
TDS	Terranova Siba	2.72	103	eP	P	01 59 53.0	+0.4
	47nm,0.3s						
TDS	Terranova Siba	2.72	103	ePg	P	01 59 53.0	+0.4
ORI	Oriolo Calabro	2.72	95	ePg	P	01 59 53.5	+0.8
MSRU	Castanea	2.89	135	eP	P	01 59 52.4	-1.4
MURB	Monte Urbino	2.94	354	⇓iPn	P	01 59 54.3	+0.1
SCLL	Scilla	3.01	133	eP	P	01 59 53.1	-1.5
	32nm,0.4s						
SCLL	Scilla	3.01	133	ePg	P	01 59 53.1	-1.5
CING	Cingoli	3.05	4	⇓iPn	P	01 59 54.2	-0.8
VAE	Valguarnera	3.08	157	P	P	01 59 54.4	-0.8
	2.0nm,0.3s,baz=292,slow=17,SNR=27						
VAE				S	S	02 00 46.0	-3.9
	1.4nm,0.3s,baz=59,slow=19,SNR=2.5						
GRI	Girifalco	3.10	118	ePn	P	01 59 54.1	-1.3
FAVR	Favara	3.12	169	⇓iPn	P	01 59 55.5	0.0
ARV	Arcevia	3.16	0	⇓iPn	P	01 59 55.3	-0.5
GRFL	Gerfalco	3.16	333	⇓iPn	P	01 59 56.6	+0.8
MTTG	Motta San Giov	3.18	136	ePn	P	01 59 54.9	-1.1
TIP	Timpagrande	3.18	110	ePn	P	01 59 55.4	-0.6
AOI	Ancona	3.25	9	⇓iPn	P	01 59 55.2	-1.3
SOI	Samo	3.33	132	⇓iPn	P	01 59 55.2	-1.9
FSSB	Fossombrone	3.36	358	⇓iPn	P	01 59 56.8	-0.5
CSNT	Castellina Chi	3.36	339	⇓iPn	P	01 59 57.5	+0.2
AGST	Augusta-Monte	3.57	149	ePn	P	01 59 56.6	-2.3
RSM	Repubblica di	3.61	355	⇓iPn	P	01 59 59.1	-0.2
PZI	Palazzolo	3.64	153	⇓iPn	P	01 59 58.3	-1.3
PGD	Poggio Sodo	3.65	346	ePn	P	01 59 59.3	-0.3
SFI	Santa Sofia	3.66	348	ePn	P	01 59 59.3	-0.3
PGF	Pioggiola	3.68	308	eP	P	02 00 00.1	+0.2
	18nm,0.4s						
VMG	Vicchio	3.77	345	ePn	P	02 00 00.2	-0.4
SEI	Scarperia	3.89	343	⇓iPn	P	02 00 01.1	-0.6
LCI	Lecce	3.98	88	ePn	P	02 00 01.9	-0.5
FNVD	Fontana Vidola	4.05	341	⇓iPn	P	02 00 02.8	-0.3
VLC	Villacollemand	4.26	335	⇓eP	P	02 00 04.1	-0.8
ZCCA	Zocca	4.26	341	ePn	P	02 00 05.8	+0.9
VINC	Vinca	4.32	333	P	P	02 00 05.5	0.0
GSCL	Gusciola	4.37	338	ePn	P	02 00 06.1	+0.3
BACM		4.47	333	P	P	02 00 06.7	-0.1
NVLJ	Novalja	4.47	18	i P	P	02 00 05.5	-1.3
VALM		4.47	335	P	P	02 00 06.8	0.0
ERBM	Eremo	4.48	336	ePn	P	02 00 07.5	+0.6
CODM		4.64	332	P	P	02 00 08.1	-0.3
GRAM		4.66	334	P	P	02 00 08.6	+0.1
GENL	Genova Univers	5.01	326	P	P	02 00 12.0	+0.2
BOB	Bobbio (Coli)	5.12	331	ePn	P	02 00 12.9	0.0
IMI	Imperia	5.17	315	ePn	P	02 00 14.1	+0.7
FIN	Finale Ligure	5.21	320	⇓iPn	P	02 00 14.2	+0.3
NEGI	Negi	5.23	314	P	P	02 00 14.4	+0.4
PCP	Pian Castagno	5.30	324	P	P	02 00 14.8	+0.1
REVF	Revere	5.35	311	eP	P	02 00 17.5	+2.3
MONE	Monesi	5.35	316	P	P	02 00 15.9	+0.7
SBF	Sospel	5.39	313	eP	P	02 00 16.3	+0.8
	38nm,0.5s						
SAOF	Saorge	5.40	314	eP	P	02 00 16.3	+0.6
ROB	Roburent	5.44	318	P	P	02 00 16.7	+0.6
BOJS	Bojanci	5.45	18	i P	P	02 00 15.6	-0.5
VBY	Vinica-Bojanci	5.45	18	e	P	02 00 31.4	+15
AURF	Auriere	5.46	312	eP	P	02 00 17.5	+1.2
AUTN	L'Aution	5.48	314	eP	P	02 00 18.0	+1.6
SAL	Salo	5.55	342	ePn	P	02 00 15.9	-1.3
MVIF	Mont Vial	5.57	312	eP	P	02 00 19.1	+1.8
ENR	Entracque	5.63	315	P	P	02 00 19.4	+1.4
CALN	Calern	5.64	309	eP	P	02 00 19.6	+1.6
LMR	La Mourre	5.64	304	eP	P	02 00 18.6	+0.5
	37nm,0.4s						
VISS	Visnje	5.65	14	eP	P	02 00 17.8	-0.4
FRF	La Foret Royal	5.67	307	eP	P	02 00 19.0	+0.6
	38nm,0.5s						
STV	Sta Anna Valdi	5.70	315	P	P	02 00 19.9	+1.4
STV2	Anna di Valdie	5.70	315	P	P	02 00 19.3	+0.7
SISC	Sisak	5.73	25	i P	P	02 00 18.6	-0.3
CTI	Castel Tesino	5.79	351	⇓iPn	P	02 00 18.1	-1.4
CRES	Cresnjevec ost	5.80	18	eP	P	02 00 19.2	-0.4
LJU	Ljubljana	5.83	11	i P	P	02 00 19.5	-0.4
LJU				e		02 01 34.5	
PDKS	Podkum	5.94	14	i P	P	02 00 20.3	-0.8
GMNA	Gemona	5.94	2	⇓iPn	P	02 00 20.1	-1.0
MABI	Malga Bissina	5.98	344	ePn	P	02 00 20.3	-1.2
PZZ	Prazzo	5.99	316	P	P	02 00 21.6	0.0
TAVF	Tavernes	6.07	305	eP	P	02 00 23.4	+1.0
PTCC	Patocco-Chiusa	6.08	3	⇓iPn	P	02 00 21.5	-1.0
SURF	Saint Ours	6.13	315	eP	P	02 00 24.9	+1.9
BHB	Bricherasio	6.14	319	P	P	02 00 22.4	-0.7
PUYF	Puyloubier	6.25	303	eP	P	02 00 25.0	+0.7
FVI	Forni Avoltri	6.26	359	ePn	P	02 00 23.9	-0.5
OBKA	Obir	6.29	10	⇑iP	P	02 00 24.2	-0.4
	18nm,0.4s						
VAI	Varese	6.31	333	ePn	P	02 00 22.9	-1.9
MBDF	Montbardon	6.31	316	eP	P	02 00 26.4	+1.5
	296nm,0.6s						
GELF	Grande-Etoile	6.36	301	eP	P	02 00 25.8	+0.4
RSP	Reno Superiore	6.36	321	P	P	02 00 24.5	-0.9
FENE	Fenestrelle	6.37	319	P	P	02 00 25.2	-0.3
VILF	Villemus	6.40	306	eP	P	02 00 27.4	+1.6
MEV	Metsovon	6.41	92	ePg	P	02 00 26.9	+1.1
MEV				eSg	rx	02 00 35.3	
ORO	Oropa	6.41	327	ePn	P	02 00 24.4	-1.5
GROS	Grobnik	6.41	16	i P	P	02 00 25.5	-0.3
TRAV		6.41	325	P	P	02 00 24.6	-1.3
RRL	Cesana Torines	6.43	317	P	P	02 00 26.6	+0.5
SMRF	Simiane la Rot	6.55	306	eP	P	02 00 28.6	+1.2
	3.8nm,0.3s						
BNI	Bardonecchia	6.58	318	eP	P	02 00 28.3	+0.6
	41nm,0.4s						
LSD	Ceresole Reale	6.64	322	P	P	02 00 28.2	0.0
MCGN	Macugnaga	6.67	329	ePn	P	02 00 26.6	-2.0
KBA	Koelnbreinsper	6.75	3	⇑iP	P	02 00 29.4	0.0
	16nm,0.6s						
RHK3	Tenkes	6.79	33	⇓iP	P	02 00 29.9	+0.1
DAVOX	Davos	6.81	342	P	P	02 00 29.5	-0.5
	3.6nm,0.3s,baz=205,slow=5.2,SNR=41						
DAVOX				S	S	02 01 55.9	+3.5
	0.8nm,0.3s,baz=139,slow=20,SNR=4.0						
LPG	La Plagne	6.86	321	eP	P	02 00 31.0	+0.4
	63nm,0.5s						
RHK1	Bakonya	6.88	31	⇓iP	P	02 00 31.1	+0.3
LPL	La Plagne	6.88	321	eP	P	02 00 31.0	+0.2
	54nm,0.3s						
ORIF	Oris-en-Rattie	6.92	314	eP	P	02 00 31.6	+0.4
	58nm,0.6s						
GDM	Grand'Maison	6.98	316	eP	P	02 00 32.8	+1.0
WTTA	Wattenberg	6.99	353	⇓iP	P	02 00 32.2	+0.3
	32nm,0.5s						
SQTA	Sankt Quirin	6.99	350	⇑iP	P	02 00 32.0	0.0
	14nm,0.5s						
WATA	Walderalm	7.07	353	⇑iP	P	02 00 32.7	0.0
	22nm,0.6s						
MOTA	Moosalm	7.13	350	⇑iP	P	02 00 32.9	-0.5
	9.5nm,0.5s						
ARSA	Arzberg	7.17	14	⇓iP	P	02 00 34.1	+0.3
	44nm,0.5s						
GRN	Grenoble	7.20	315	eP	P	02 00 34.9	+0.7

GRG	Griva	7.24	82	ePg	P	02 00 33.2	-1.5
DAVA	Damuels	7.29	344	⇑iP	P	02 00 34.2	-0.9
	22nm,0.5s						
AGG	Agios Georgios	7.38	97	ePg	P	02 00 36.2	+0.1
OG01	Vacheresse	7.52	325	eP	P	02 00 36.6	-1.0
OG01	Vacheresse	7.52	325	eP	P	02 00 36.7	-0.9
VIVF	Saint-Julien-l	7.57	309	eP	P	02 00 38.3	+0.1
	15nm,0.4s						
MOA	Molln	7.58	7	⇑iP	P	02 00 38.3	+0.1
	71nm,0.6s						
LASF	Ste Croix	7.69	302	eP	P	02 00 39.3	-0.1
	4.6nm,0.6s						
EJON	La Jonquera	7.83	289	P	P	02 00 39.6	-1.3
	5.6nm,0.5s						
SJAF	Saint Jean de	7.84	289	eP	P	02 00 40.4	-0.6
OG05	Jujurieux	7.88	319	eP	P	02 00 39.8	-1.7
FUR	Furstenfeldbru	7.92	352	eP	P	02 00 40.9	-1.0
SOH	Sokhos	7.96	83	ePb	P	02 00 40.2	-2.2
XOR	Xorichti	7.97	94	ePb	P	02 00 38.2	-4.3
CABF	La Chapelle	8.00	324	eP	P	02 00 41.2	-1.5
	87nm,0.6s						
PKSG		8.09	27	⇓eP	P	02 00 44.5	+0.8
SRS	Serrai	8.15	81	ePb	P	02 00 43.8	-0.6
LOMF	Lomont	8.28	330	eP	P	02 00 43.9	-1.9
VKA	Vienna	8.30	16	⇓iP	P	02 00 48.3	+2.3
FELD	Feldberg	8.32	337	eP	P	02 00 44.4	-1.9
VALF	Valcebollere	8.45	288	eP	P	02 00 48.1	+0.4
GEC2	GERESS Array S	8.53	4	eP	P	02 00 48.1	-0.5
	46nm,0.8s						
GERES	GERESS Array B	8.53	4	P	P	02 00 48.3	-0.3
	9.2nm,0.3s,baz=179,slow=11,SNR=254						
GERES				S	S	02 02 27.3	+1.5
	baz=180,slow=17,SNR=2.8						
MTLF	Montolieu	8.53	294	eP	P	02 00 48.4	-0.2
	7.8nm,0.6s						
MOF	Molkenrain	8.59	333	eP	P	02 00 47.6	-1.6
BFO	Black Forest	8.64	339	P	P	02 00 48.3	-1.5
	150nm,0.5s,SNR=43						
BFO	Black Forest	8.64	339	eP	P	02 00 48.0	-1.8
HINF	Hinteralfeld	8.66	332	eP	P	02 00 48.4	-1.5
	76nm,0.5s						
EMIR	Miracle	8.74	284	P	P	02 00 50.0	-0.9
	3.0nm,0.3s						
KHC	Kasperske Hory	8.81	3	eP	P	02 00 51.4	-0.2
WET	Wettzell	8.81	360	eP	P	02 00 51.1	-0.5
	45nm,0.6s						
STU	Stuttgart	8.84	344	eP	P	02 00 50.8	-1.2
	14nm,0.4s						
ECH	Echery	8.89	334	eP	P	02 00 51.3	-1.2
HAU	Haudompre	9.00	331	eP	P	02 00 52.2	-1.5
	25nm,0.4s						
WLS	Welschbruch	9.00	336	eP	P	02 00 52.6	-1.1
CDF	Champ du Feu	9.03	335	eP	P	02 00 52.7	-1.3
	15nm,0.3s						
EPOB	Poblet	9.03	280	P	P	02 00 53.8	-0.2
	14nm,0.5s						
PYM	Petit Puy Mans	9.05	310	eP	P	02 00 52.3	-1.9
PSZ	Piszkesteto	9.09	31	⇓eP	P	02 00 55.1	+0.4
SMF	Signal de Mont	9.12	317	eP	P	02 00 54.1	-0.9
	30nm,0.5s						
CAF	Calviac	9.22	303	eP	P	02 00 55.7	-0.3
THEF	They Montfort	9.32	330	eP	P	02 00 56.6	-0.6
VRAC	Vranov	9.35	15	P	P	02 00 58.0	+0.6
	4.9nm,0.3s,baz=204,slow=12,SNR=22						
LANF	Langenberg	9.38	339	eP	P	02 00 57.6	-0.2
GRA1	Grafenberg Arr	9.43	353	eP	P	02 00 58.2	-0.2
	96nm,0.7s						
AVF	Avril sur Loir	9.47	316	eP	P	02 00 58.1	-0.7
LOR	Lormes	9.53	320	eP	P	02 00 58.2	-1.2
	48nm,0.4s						
SSF	Saint Saulge	9.57	318	eP	P	02 00 58.7	-1.1
	62nm,0.5s						
BGF	Bois d'Agland	9.60	314	eP	P	02 00 59.2	-1.0
	20nm,0.4s						
PRU	Pruhonice	9.72	6	P	P	02 01 01.5	0.0
	11nm,0.4s						
RJF	Les Rejaudoux	9.73	304	eP	P	02 01 01.4	-0.2
	5.9nm,0.8s						
EPF	Esparros	9.78	290	eP	P	02 01 00.6	-1.5
TCF	Toulx Ste Croi	9.81	311	eP	P	02 01 02.4	0.0
	11nm,0.6s						
NKC	Novy Kostel	9.90	358	eP	P	02 01 03.8	+0.4
MEZF	Maizieres J'vi	9.91	328	eP	P	02 01 03.4	-0.1
	37nm,0.7s						
MORC	Moravsky Berou	9.99	18	eP	P	02 01 04.5	+0.1
	30nm,0.6s						
LFF	La Frestale	10.08	301	eP	P	02 01 06.2	+0.9
HYF	Humbligny	10.15	316	eP	P	02 01 05.8	-0.3
OKC	Ostrava-Krasne	10.20	20	eP	P	02 01 06.9	+0.3
ESAC	San Caprasio	10.21	282	P	P	02 01 06.6	-0.2
	39nm,0.3s						
EMOS	Mosqueruela	10.22	274	P	P	02 01 08.0	+1.1
	9.1nm,0.5s						
PVCC	Panska Ves	10.26	6	eP	P	02 01 07.5	+0.2
EBEN	Beniarda	10.28	265	P	P	02 01 08.6	+1.1
	13nm,0.7s						
DPC	Dobruska-Polom	10.30	12	eP	P	02 01 08.0	+0.3
MOX	Moxa	10.35	355	i P	P	02 01 08.9	+0.6
	logA/T=1.9						
MOX	Moxa	10.35	355	eP	P	02 01 08.9	+0.6
	69nm,0.9s						
UPC	Upice	10.40	11	eP	P	02 01 09.3	+0.4
ETSF	Etsaut	10.41	289	eP	P	02 01 08.7	-0.2
	7.2nm,0.4s						
GVD	Gavdhos	10.42	118	eP	P	02 01 08.2	-0.9
	23nm,0.5s						
BRG	Berggiesshubel	10.56	4	⇓iP	P	02 01 11.2	+0.6
	16nm,0.6s						
IDI	Anoyia	10.73	114	P	P	02 01 10.9	-1.6
	2.2nm,0.3s,baz=12,slow=23,SNR=47						
IDI				S	S	02 03 06.3	-3.1
	0.8nm,0.3s,baz=219,slow=13,SNR=4.2						
KSP	Ksiaz	10.77	12	eP	P	02 01 12.8	0.0
KSP				e		02 01 16.5	
MLR	Muntele Rosu	10.86	57	P	P	02 01 13.4	-0.3
	0.9nm,0.3s,baz=132,slow=21,SNR=38						
MLR				S	S	02 03 14.3	+2.4
	0.2nm,0.3s,baz=224,slow=12,SNR=3.5						
SJPF	Ste Jean	10.93	289	eP	P	02 01 15.3	+0.8
	5.0nm,0.4s						
CLL	Collm	10.98	0	⇓P	P	02 01 15.9	+0.9
	logA/T=1.8						
CLL				i		02 01 26.9	
CLL	Collm	10.98	0	⇓iP	P	02 01 15.9	+0.9
	56nm,0.8s						
CLL				i		02 01 26.9	
OJC	Ojcow	11.01	24	eP	P	02 01 16.1	+0.7
ETOB	Tobarra	11.30	266	P	P	02 01 20.0	+1.4
	3.8nm,0.6s						
GIVF	Givet	11.30	332	eP	P	02 01 16.4	-2.2
	10nm,0.3s						
MFF	Saint Martin d	11.36	308	eP	P	02 01 19.2	0.0
	16nm,0.5s						
ETOR	Torete	11.40	277	P	P	02 01 19.7	+0.1
	7.0nm,0.3s						
BAIF	Baives	11.49	331	eP	P	02 01 19.3	-1.3
	16nm,0.4s						
VRI	Vrincioaia	11.51	57	⇑iP	P	02 01 22.0	+1.2
HGN	Heimansgroeve	11.51	337	eP	P	02 01 21.5	+0.7
	5.5nm,0.7s						
KWP	Kalwaria	11.59	33	eP	P	02 01 23.6	+2.0
CLZ	Clausthal	11.64	352	eP	P	02 01 22.7	+0.5
BDRM	Kayabasi	11.81	101	i P	P	02 01 22.7	-1.4
EVIA	Vianos	12.03	267	P	P	02 01 28.5	+2.1
	18nm,0.6s						
RUE	Ruedersdorf	12.16	3	eP	P	02 01 28.4	+0.6
	77nm,1.0s						
WTSB	Winterswijk	12.38	342	eP	P	02 01 31.3	+1.3
	38nm,0.8s						
ULDT	Uludag	12.40	86	i P	P	02 01 31.3	+0.9
LDF	La Druitiere	12.43	316	eP	P	02 01 29.8	-0.9
	21nm,0.5s						
EQES	Quesada	12.68	264	P	P	02 01 34.8	+1.4
	10nm,0.5s						
GRR	Gorron	12.71	314	eP	P	02 01 32.8	-0.8
FLN	La Foliniere	12.72	316	eP	P	02 01 33.0	-0.8
	24nm,0.5s						
DNZL	Cakiroluk	12.83	97	i P	P	02 01 35.8	+0.9
ESDC	Sonseca Array	12.96	273	P	P	02 01 36.3	0.0
	6.8nm,0.3s,baz=76,slow=11,SNR=198						
ESDC	Sonseca Array	12.96	273	P	P	02 01 36.7	+0.4
	5.8nm,0.3s						
ESLA	Sonseca Array	12.96	273	eP	P	02 01 36.1	-0.2
	3.9nm,0.6s						
GKP	Gorka Klasztor	13.27	11	eP	P	02 01 40.7	+1.1
SGMF	Saint Gilles	13.60	311	eP	P	02 01 42.4	-0.6
	22nm,0.8s						
ELUQ	Luque	13.65	264	P	P	02 01 44.3	+0.7
	19nm,0.4s						
ELOJ	Sierra Loja	13.70	262	P	P	02 01 44.5	+0.5
	1.4nm,0.3s						
EADA	Adamuz	13.73	267	P	P	02 01 45.9	+1.5
	2.0nm,0.4s						
ESKT	Eskisehir	13.79	88	i P	P	02 01 45.7	+0.6
QUIF	Quistinic	13.80	309	eP	P	02 01 44.5	-0.5
	23nm,0.8s						
EMIJ	Mijas	14.36	260	P	P	02 01 49.8	-1.0
ESPR	Espera	15.08	263	P	P	02 01 59.0	+0.8
	3.3nm,0.4s						
AKASG	Malin Array Be	15.40	42	P	P	02 02 01.2	-0.2
	4.6nm,0.3s,baz=234,slow=8.1,SNR=16						
AKASG				S	S	02 04 38.3	-1.3
	4.5nm,0.3s,baz=235,slow=20,SNR=16						
EMIN	Mina Concepcio	15.43	267	P	P	02 02 02.4	+0.6
	3.4nm,0.6s						
ELDT	Eldivan	15.63	83	i P	P	02 02 03.7	-0.1
BRTR	Keskin Array B	15.89	85	P	P	02 02 07.0	+0.6
	0.6nm,0.3s,baz=268,slow=8.9,SNR=17						
LHO	Holmfirth	16.58	328	eP	P	02 02 14.0	+0.8
LHO				AMb	AMB	02 02 14.8	
	comp=Z,72nm,0.6s						
CTKT	Corum	16.65	82	i P	P	02 02 15.5	+1.5
BOYT	Boyabat	16.67	79	i P	P	02 02 15.3	+1.0
LWH	Whinny Nab	16.72	331	eP	P	02 02 15.3	+0.7
HPK	Haverah Park	16.79	329	eP	P	02 02 16.3	+0.9
HPK				AMb	AMB	02 02 17.2	
	comp=Z,96nm,0.6s						
AVNT	Avonos	16.99	88	i P	P	02 02 18.6	+1.1
CSS	Prodhromos	17.03	102	eP	P	02 02 17.9	0.0
	comp=Z,13nm,0.6s						
LCP	Cassop	17.32	331	eP	P	02 02 21.0	+0.3
LCP				AMb	AMB	02 02 24.0	
	comp=Z,58nm,1.4s						
EKA	Eskdalemuir Ar	18.41	330	P	P	02 02 32.0	+0.6
	comp=Z,0.8nm,0.3s,baz=143,slow=11,SNR=17						
COBT	Iskenderun	18.67	94	i P	P	02 02 35.0	+0.9
GZT	Gaziantep	19.42	91	i P	P	02 02 43.0	+1.7
MALT	Malatya	19.83	88	eP	P	02 02 46.8	+1.7
	comp=Z,18nm,1.5s						
HFS	Hagfors	19.83	1	P	P	02 02 45.2	+0.2
	comp=Z,0.4nm,0.3s,baz=177,slow=10,SNR=71						
NAO01	NORSAR Array S	20.57	357	eP	P	02 02 51.8	-0.2
NB2	NORSAR Subarra	20.76	358	P	P	02 02 53.7	-0.1
	comp=Z,2.1nm,0.4s,baz=179,slow=11						
NOA	NORSAR Array B	20.76	358	P	P	02 02 53.4	-0.4
	comp=Z,3.5nm,0.5s,baz=185,slow=10,SNR=14						
EIL	Elat	20.90	114	P	P	02 02 57.1	+1.7
	comp=Z,4.5nm,0.6s,baz=335,slow=31,SNR=5.5						
ASF	Jabal al Asfar	20.94	105	P	P	02 02 57.8	+2.1
	comp=Z,8.2nm,0.5s,baz=172,slow=5.1,SNR=22						
FINES	FINESS Array B	22.62	17	P	P	02 03 11.1	+0.2
	comp=Z,5.0nm,0.4s,mb4.3,baz=185,slow=8.6,SNR=78						
KAF	Kangasniemi	23.27	16	ep	P	02 03 14.2	-2.6
	comp=Z,0.8nm,0.4s,mb3.5						
RST	Umm Al-Ruwaisa	29.80	101	eP	P	02 04 14.9	0.0
MIB	Mutribah	29.91	100	eP	P	02 04 16.6	+0.8
ARCES	ARCESS Array B	30.01	9	P	P	02 04 15.6	-0.8
	comp=Z,1.6nm,0.5s,mb3.8,baz=200,slow=9.0,SNR=31						
KEV	Kevo	30.41	10	ep	P	02 04 17.7	-2.1
	comp=Z,0.7nm,0.3s,mb3.6						
DBIC	Dimbokro	37.11	210	P	P	02 05 16.3	-0.4
	comp=Z,4.9nm,0.9s,mb4.0,baz=255,slow=17,SNR=14						
DBIC				PcP	PcP	02 07 25.3	-0.6
	comp=Z,4.5nm,0.6s,baz=102,slow=4.1,SNR=7.9						
BRVK	Borovoye	40.29	52	eP	P	02 05 42.8	+0.5
	comp=Z,0.7nm,0.3s,mb3.6						
BVAR	Borovoye Array	40.35	52	P	P	02 05 42.9	+0.1
	comp=Z,1.9nm,0.5s,mb3.8,baz=296,slow=8.4,SNR=15						
KURK	Kurchatov	45.77	54	eP	P	02 06 25.2	-0.3
	comp=Z,6.6nm,0.8s,mb4.1						
MKAR	Makanchi Array	49.20	58	P	P	02 06 50.9	-0.8
	comp=Z,4.9nm,0.4s,mb4.2,baz=286,slow=6.6,SNR=78						
MKAR				PcP	PcP	02 08 06.2	-0.6
	comp=Z,0.6nm,0.4s,baz=288,slow=3.8,SNR=3.7						
MKAR	Makanchi Array	49.20	58	P	P	02 06 50.9	-0.8
MKAR				PcP	PcP	02 08 06.2	-0.6
SCHQ	Schefferville	52.80	314	P	P	02 07 16.7	-1.4
	comp=Z,3.9nm,0.9s,mb3.7,baz=66,slow=16,SNR=5.8						
TSUM	Tsumeb	59.39	175	P	P	02 08 04.1	0.0
	comp=Z,5.4nm,1.1s,mb3.8,baz=335,slow=12,SNR=4.6						
SONM	Songino Array	63.57	49	P	P	02 08 31.3	+0.1
	comp=Z,2.5nm,0.6s,mb3.9,baz=290,slow=7.5,SNR=9.2						
SADO	Sadowa	64.34	308	P	P	02 08 36.4	+0.2
	comp=Z,2.9nm,0.8s,mb3.9,baz=340,slow=12,SNR=3.2						
CMAR	Chiang Mai Arr	75.34	78	P	P	02 09 42.0	0.0
	comp=Z,1.0nm,0.4s,mb3.7,baz=302,slow=6.9,SNR=6.1						
WRA	Warramunga Arr	126.41	86	PKP	PKPdf	02 16 56.6	+1.4
	comp=Z,0.6nm,1.0s,baz=308,slow=1.9,SNR=3.7						
ASAR	Alice Springs	128.19	90	PKP	PKPdf	02 16 59.4	+0.8
	comp=Z,0.2nm,0.8s,baz=318,slow=1.8,SNR=4.4						

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*IDC **19** 02:22:07.2±2.4, 4.91S×154.35E, mb4.2/6, mb1 4.3/6, mb1mx4.1/13, Error ellipse: s-maj=63.2km s-min=35.1km az=99.0*

*NEIC **19** 02:22:25.5±4.3, 5.07S×153.96E, h139^{km}±26^{km}, mb4.4/3, Error ellipse: s-maj=45.9km s-min=23.3km az=88.0*

ISC 19 02:22:26.6±4.2, **5.1S**±0.2×**153.8E**±0.3, **h156**^{km}±30^{km}, **n14**, σ**0^{s}79**/15, **mb3.9**/7, **2D, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WAU	Wau	7.40	252	P	P	02 24 12.5	-0.5
PMG	Port Moresby	7.86	237	ePn	P	02 24 19.7	+0.6
	26nm,0.5s						
PMG				eSn	S	02 25 46.6	-0.3
WRAB	Tennant Creek	24.00	230	eP	P	02 27 29.3	+1.0
WB2	Warramunga Arr	24.00	230	⇓iP	P	02 27 29.5	+1.1
WRA	Warramunga Arr	24.01	230	P	P	02 27 29.6	+1.2
	3.6nm,0.5s,mb4.2,baz=56,slow=9.9,SNR=29						
ASAR	Alice Springs	26.62	224	P	P	02 27 52.5	-0.2
	1.9nm,0.8s,mb3.8,baz=56,slow=8.3,SNR=19						
STKA	Stephens Creek	28.98	202	P	P	02 28 12.6	-1.4
	1.5nm,0.5s,mb3.9,baz=42,slow=12,SNR=4.8						
STKA	Stephens Creek	28.98	202	eP	P	02 28 12.4	-1.5
FITZ	Fitzroy Crossi	30.41	243	⇓iP	P	02 28 26.0	-0.7
	3.7nm,0.5s,mb4.4						
FITZ	Fitzroy Crossi	30.41	243	P	P	02 28 26.1	-0.6
	5.5nm,0.7s,mb4.4,baz=48,slow=7.3,SNR=30						
MBWA	Marble Bar	36.70	241	eP	P	02 29 19.6	-0.9
	0.9nm,0.4s,mb3.8						
MKAR	Makanchi Array	81.23	319	P	P	02 34 26.5	-0.1
	0.5nm,0.6s,mb3.4,baz=94,slow=7.2,SNR=5.5						
MKAR	Makanchi Array	81.23	319	P	P	02 34 26.5	-0.1
MAW	Mawson	85.67	203	P	P	02 34 48.8	+0.2
	1.3nm,0.5s,mb3.9,baz=99,slow=9.5,SNR=9.1						

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*IDC **19** 02:57:29.3±7.4, 0.50N×122.39E, h178^{km}±74^{km}, mb3.9/5, mb1 3.9/6, mb1mx3.6/16, Error ellipse: s-maj=92.8km s-min=16.1km az=63.0*

*NEIC **19** 02:57:31.4±5.1, 0.31N×122.13E, h198^{km}±53^{km}, mb4.1/9, Error ellipse: s-maj=32.7km s-min=8.4km az=56.0*

ISC 19 02:57:34.8±4.7, **0.1N**±0.2×**121.8E**±0.3, **h243**^{km}±52^{km}, **n20**, σ**0^{s}78**/20, **mb4.1**/11, **Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	Kakadu	16.45	141	eP	P	03 01 15.3	+1.5
	5.2nm,0.6s						
FITZ	Fitzroy Crossi	18.42	168	eP	P	03 01 34.6	+0.1
	1.0nm,0.4s						
FITZ	Fitzroy Crossi	18.42	168	P	P	03 01 34.0	-0.6
	0.4nm,0.3s,baz=355,slow=8.3,SNR=16						
WRAB	Tennant Creek	23.35	149	eP	P	03 02 22.6	-0.5
	6.0nm,0.5s,mb4.4						
WRA	Warramunga Arr	23.35	149	P	P	03 02 22.6	-0.5
	5.2nm,0.5s,mb4.3,baz=326,slow=11,SNR=50						
WB2	Warramunga Arr	23.36	149	eP	P	03 02 22.6	-0.6
ASPA	Alice Springs	26.34	154	eP	P	03 02 50.3	-0.3
ASAR	Alice Springs	26.34	154	P	P	03 02 50.3	-0.3
	1.9nm,0.5s,mb4.0,baz=342,slow=11,SNR=38						
ASAR				PcP	PcP	03 06 09.6	-0.6
	0.4nm,0.3s,baz=352,slow=2.1,SNR=8.7						
NWAO	Narrogin (SRO)	33.08	187	eP	P	03 03 49.2	-0.7
	1.1nm,0.6s,mb3.6						
STKA	Stephens Creek	36.86	151	eP	P	03 04 22.3	+0.5
	2.0nm,0.3s,mb4.1						
STKA	Stephens Creek	36.86	151	P	P	03 04 22.3	+0.5
	2.9nm,0.3s,mb4.2,baz=327,slow=8.2,SNR=15						
GUN	Gumba	44.19	312	eP	P	03 05 22.4	+0.6
	13nm,0.3s,mb4.7						
PKI	Pulchoki	44.37	311	eP	P	03 05 22.9	-0.3
KKN	Kakani	44.58	311	eP	P	03 05 25.1	+0.3
DMN	Daman	44.62	311	eP	P	03 05 25.5	+0.4
GKN	Gorkha	45.17	311	eP	P	03 05 29.6	+0.1
	6.8nm,0.3s,mb4.5						
KOLN	Koldanda	45.84	310	eP	P	03 05 34.9	+0.1
	12nm,0.7s,mb4.3						
SONM	Songino Array	49.45	346	P	P	03 05 58.1	-4.2
	1.6nm,0.5s,mb3.6,baz=164,slow=9.0,SNR=3.9						
MKAR	Makanchi Array	57.95	329	P	P	03 07 03.1	-0.9
	2.0nm,0.3s,mb4.2,baz=122,slow=7.1,SNR=23						
SBA	Scott Base	81.42	171	eP	P	03 09 27.1	+1.5
	1.1nm,0.6s,mb3.7						

CASC 19 03:02:01.8±2.2, **13.19N**×**89.41W**, **h55**^{km}±18^{km}, **MD3.7, ML3.5, 1C-10D, El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNET	Serv Nac Est T	0.53	19	⇑eP	P	03 02 13.7	-0.1
SNET				eS	S	03 02 23.1	+0.6
SNET				i		03 02 27.1	
	comp=Z,2µm,0.2s						
LFRS	El Faro	0.55	38	⇓iP	P	03 02 14.0	0.0
LFRS				eS	S	03 02 26.1	+3.2
BOQS	Boqueron	0.56	13	⇓iP	P	03 02 14.3	+0.2
BOQS				eS	S	03 02 24.0	+0.8
LCBS	La Ceiba	0.63	42	⇓eP	P	03 02 14.8	-0.1
LCBS				eS	S	03 02 24.4	-0.2
LFU	La Fuente	0.63	27	⇓eP	P	03 02 15.2	+0.2
LBRS	Las Brisas	0.65	33	⇓eP	P	03 02 15.5	+0.3
LBRS				eS	S	03 02 26.1	+0.8
SBLS	San Blas	0.68	342	⇓eP	P	03 02 15.7	+0.1
SBLS				eS	S	03 02 27.3	+1.4
SNVI	San Vicente	0.70	52	⇓eP	P	03 02 15.6	-0.2
SNVI				eP		03 02 15.7	
SNVI				eS	S	03 02 26.8	+0.5
SNJE	San Jose	0.70	344	⇓eP	P	03 02 16.0	+0.1
SNJE				eS	S	03 02 27.7	+1.3
RTR	El Retiro	0.74	342	⇓eP	P	03 02 16.7	+0.3
RTR				eS	S	03 02 29.2	+1.9
CUSS	Cusmapa	0.89	324	eP	P	03 02 17.9	-0.4
CUSS				eS	S	03 02 30.3	-0.5
VSM	San Miguel	1.13	78	eP	P	03 02 21.8	+0.1
VSM				eS	S	03 02 37.8	+1.4
BLLM	Bellamira	1.17	77	eP	P	03 02 22.4	+0.2
BLLM				eS	S	03 02 38.4	+1.1
MTO2	Montecristo 2	1.21	2	⇓eP	P	03 02 22.6	-0.1
MTO2				eS	S	03 02 38.5	+0.1
CAHU	Cacacuatique	1.30	63	eP	P	03 02 23.9	-0.3
IXG	Ixpaco	1.42	314	eP	P	03 02 24.9	-0.9
IXG				eS	S	03 02 42.9	-0.6
IXG				AML	AML	03 02 51.4	
	comp=E,2µm,0.4s						
CNCH	Conchagua	1.54	86	eP	P	03 02 26.9	-0.5
CNCH				eS	S	03 02 47.4	+1.0
NBG	Las Nubes	1.67	327	eP	P	03 02 30.1	+0.8
NBG				eS	S	03 02 51.6	+2.1
NBG				AML	AML	03 02 55.9	
	comp=E,618nm,0.5s						
MRL	Marmol	1.89	352	eP	P	03 02 31.3	-1.0
TP2	Tecpan 2	2.23	316	eP	P	03 02 39.1	+2.0
TP2				eS	S	03 03 06.8	+3.3
TP2				AML	AML	03 03 10.2	
	comp=E,150nm,0.4s						

IDC 19 03:02:26.7±47.0, **15.94S**×**176.00W**, **mb3.9**/3, **mb1 4.1**/3, **mb1mx3.9**/13, **Error ellipse: s-maj=876.0km s-min=174.7km az=78.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	41.60	240	P	P	03 10 16.3	-1.9
	0.5nm,0.4s,baz=75,slow=12,SNR=3.5						
WRA	Warramunga Arr	47.28	257	P	P	03 11 02.3	-1.8
	0.4nm,0.5s,baz=91,slow=7.6,SNR=6.7						
ASAR	Alice Springs	47.56	252	P	P	03 11 04.4	-1.8
	2.9nm,0.5s,baz=89,slow=8.0,SNR=62						

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*NAO **19** 03:09:53.2±3.5, 67.12N×20.49E, ML2.1*

*HEL **19** 03:09:53.8±0.1, 67.18N×20.64E, ML1.9, ML2.6(UPP), ML1.7(BER), Explosion*

*BER **19** 03:09:55.6±4.0, 67.14N×20.73E, ML1.7, ML2.1(NAO), Suspected explosion*

ISC 19 03:09:50.9±0.4, **67.01N**±0.03×**20.53E**±0.07, **n28**, σ**1^{s}17**/36, **Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DUNU	Dundret	0.12	9	i P	Pg	03 09 54.6	+1.4
DUNU				i S	Sg	03 09 56.0	+1.2
MASU	Masugnsbyn	0.73	51	i P	Pg	03 10 04.2	-1.2
ERTU	Ertsjaerv	0.80	124	i P	Pg	03 10 08.7	+1.8
SALU	Saltoluokta	0.87	296	i P	Pg	03 10 09.2	+0.9
KUA	Kurravaara	0.95	356	i P	Pg	03 10 07.7	-2.2
PAJU	Pajala	1.02	88	eP	Pb	03 10 10.9	-0.2
NIKU	Nikkaluokta	1.04	327	eP	Pb	03 10 10.3	-1.0
SJUU	Sjulsmark	1.57	163	eP	Pn	03 10 24.2	+4.1
LILU	Lilltraesk	1.75	189	eP	Pn	03 10 27.9	+5.1
KIF	Kilpisjarvi	2.01	3	eP	Pn	03 10 26.6	+0.2
KIF				eS	Sn	03 10 51.6	-0.9
KTK1	Kautokeino	2.26	26	eP	Pn	03 10 31.2	+1.3
KTK1				eSG	Sg	03 10 59.9	-6.1
KTK1				AML	AML	03 11 03.2	
	comp=Z,14nm,0.5s						
SGF	Sodankyl	2.38	77	eP	Pn	03 10 32.8	+1.1
SGF				eS	Sn	03 11 01.2	-0.8
SGF				MSG		03 11 06.8	
	comp=Z,5.5nm,0.3s						
MOR8	Moi Rana	2.57	254	eSG	Sg	03 11 12.8	-3.7
MOR8				AML	AML	03 11 13.4	
	comp=Z,7.8nm,0.4s						
TRO	Tromso	2.70	348	AML	AML	03 11 15.0	
	comp=Z,4.9nm,0.6s						
TRO	Tromso	2.70	348	AML	AML	03 11 15.0	
	comp=Z,4.9nm,0.6s						
LOF	Lofoten	2.91	296	e	Sg	03 11 28.9	+1.3
LOF				AML	AML	03 11 35.0	
	comp=Z,7.5nm,1.0s						
LOF	Lofoten	2.91	296	eSg	Sg	03 11 28.9	+1.3
LOF				AML	AML	03 11 35.0	
	comp=Z,7.5nm,1.0s						
OUL	Oulu	2.92	129	ePG	Pg	03 10 49.6	+0.4
OUL				eSG	Sg	03 11 27.3	-0.8
OUL				MSG		03 11 28.7	
	comp=Z,3.2nm,0.4s						
ARA0	ARCESS Array S	3.14	34	Pn	Pn	03 10 41.2	-1.4
	baz=214,slow=14						
ARA0				Sn	Sn	03 11 20.4	-1.0
	baz=214,slow=28						
ARA0	ARCESS Array S	3.14	34	eP	Pn	03 10 41.2	-1.4
ARA0				eSB	Sn	03 11 20.4	-1.0
MSF	Maaselka	3.59	104	eP	Pn	03 10 51.9	+2.9
MSF				eS	Sn	03 11 32.8	+0.1
MSF				MSG		03 11 45.9	
	comp=Z,3.8nm,0.5s						
KEV	Kevo	3.66	38	eP	Pn	03 10 50.0	+0.2
KEV				eS	Sn	03 11 30.3	-4.1
KEV				MSG		03 11 49.1	
	comp=Z,1.7nm,0.3s						
NSS	Namsos	4.32	239	eSG	Sg	03 12 13.5	-1.0
NSS				AML	AML	03 12 15.4	
	comp=Z,5.1nm,0.5s						
APA0	Apatity Array	4.87	77	eP	Pn	03 11 07.0	0.0
FIA0	FINESS Array S	6.09	154	eS	Sn	03 12 36.2	+0.6
FIA0				eSG	Sg	03 13 06.3	-7.2
FIA0	FINESS Array S	6.09	154	Sn	Sn	03 12 36.2	+0.6
	baz=346,slow=28						
FIA0				Lg		03 13 06.3	
	baz=340,slow=37						
HFS	Hagfors	7.54	207	eS	Sn	03 13 10.8	-1.1
HFS	Hagfors	7.54	207	Sn	Sn	03 13 10.8	-1.1
	baz=8.5,slow=28						

IDC 19 03:21:05.5±54.0, **20.83S**×**175.81W**, **mb3.9**/3, **mb1 4.1**/3, **mb1mx3.8**/13, **Error ellipse: s-maj=1016.0km s-min=166.9km az=84.0, Tonga Islands**

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

STKA	Stephens Creek	39.50	245	P	P	03 28 37.8	-1.8
	1.1nm,0.4s,baz=100,slow=12,SNR=5.1						
ASAR	Alice Springs	46.44	257	P	P	03 29 34.2	-1.8
	2.3nm,1.1s,baz=105,slow=7.2,SNR=13						
WRA	Warramunga Arr	46.59	262	P	P	03 29 35.6	-1.7
	0.3nm,0.3s,baz=96,slow=8.2,SNR=16						

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*LDG **19** 03:29:16.5±0.4, 42.86N×1.46W, h2^{km}, Md2.3/2, Ml2.0/9, Error ellipse: s-maj=6.1km s-min=4.1km az=52.0*

*STR **19** 03:29:16.5±0.1, 42.86N×1.48W, h5^{km}±1^{km}, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*MDD **19** 03:29:17.6±0.5, 42.90N×1.43W, h11^{km}±1^{km}, mbLg1.6/5, Error ellipse: s-maj=3.6km s-min=2.1km az=40.0, PRXIMO AftershockPLICA*

ISC 19 03:29:14.9±0.6**, 42.86N**±0.03×**1.48W**±0.05**, h11^{km}, n24, σ1^{s}35**/46**, 1C, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	Ste Jean	0.31	36	ePg	Pg	03 29 22.8	+1.4
SJPF				eSg	Sg	03 29 25.7	0.0
	42nm,0.2s						
EALK	Alkurruntz	0.36	356	⇑Pg	Pg	03 29 24.0	+1.8
	4.6nm,0.1s,SNR=18						
EALK				Lg		03 29 28.5	
	7.7nm,0.1s,SNR=17						
LARF	Larrau	0.40	64	Pg	Pg	03 29 24.3	+1.2
LARF				Sg	Sg	03 29 30.2	+1.7
LARF	Larrau	0.40	64	P	Pg	03 29 24.4	+1.3
LARF				S	Sg	03 29 30.1	+1.5
OSSF	Osses	0.42	22	Pg	Pg	03 29 24.8	+1.3
OSSF				Sg	Sg	03 29 30.8	+1.5
OSSF	Osses	0.42	22	P	Pg	03 29 25.0	+1.4
OSSF				S	Sg	03 29 30.9	+1.6
ORDF	Ordiarp	0.53	48	P	Pg	03 29 26.8	+1.2
ORDF				S	Sg	03 29 34.0	+1.2
ATE	Arette	0.61	68	P	Pb	03 29 28.4	+1.3
ATE				S	Sb	03 29 36.5	+1.1
ETSF	Etsaut	0.67	87	ePg	Pg	03 29 28.6	+0.1
ETSF				eSg	Sg	03 29 37.2	-0.4
ETSF				eSn	Sn	03 29 39.1	-1.5
	7.2nm,0.3s						
VIEF	Viey	1.10	88	S	Sb	03 29 52.0	+2.3
EPF	Esparros	1.34	82	ePn	Pn	03 29 40.8	+1.1
EPF				ePg	Pg	03 29 42.6	+0.8
EPF				eSg	Sg	03 29 58.4	-1.3
	5.2nm,0.2s						
ESAC	San Caprasio	1.36	146	Pg	Pg	03 29 41.8	-0.4
	11nm,0.3s,SNR=9.4						
ESAC				Lg		03 29 59.7	
	17nm,0.2s,SNR=10						
ETOR	Torete	2.09	192	Pn	Pn	03 29 51.2	+0.8
	1.9nm,0.4s,SNR=5.0						
ETOR				Pg	Pg	03 29 56.4	-0.2
	3.6nm,0.8s,SNR=4.9						
ETOR				Lg		03 30 20.1	
	1.5nm,0.2s,SNR=5.9						
EMIR	Miracle	2.42	112	Pg	Pg	03 29 59.4	-3.8
	SNR=4.0						
EMIR				Lg		03 30 30.2	
	0.5nm,0.2s,SNR=4.0						
EPOB	Poblet	2.43	128	Lg		03 30 30.8	
	1.1nm,0.3s,SNR=5.0						
EMOS	Mosqueruela	2.61	163	Pg	Pg	03 30 06.1	-0.9
	SNR=7.9						
LFF	La Frestale	2.62	37	ePn	Pn	03 29 58.1	+0.1
LFF				eSn	Sn	03 30 28.7	-1.4
LFF				eSg	Sg	03 30 37.0	-5.2
	1.2nm,0.3s						
MTLF	Montolieu	2.75	79	ePn	Pn	03 30 01.1	+1.4
MTLF				eSn	Sn	03 30 32.5	-0.7
	0.4nm,0.3s						
RJF	Les Rejaudoux	3.26	40	ePn	Pn	03 30 06.7	-0.3
RJF				eSn	Sn	03 30 43.8	-2.3
	1.6nm,0.3s						
CAF	Calviac	3.29	50	ePn	Pn	03 30 06.9	-0.5
CAF				eSn	Sn	03 30 45.1	-1.8
	1.3nm,0.4s						
MFF	Saint Martin d	3.86	14	ePn	Pn	03 30 15.4	-0.1
MFF				ePg	Pg	03 30 27.3	-4.6
MFF				eSn	Sn	03 30 58.7	-2.6
MFF				eSg	Sg	03 31 17.3	-6.0
	0.3nm,0.3s						
LASF	Ste Croix	4.07	71	ePn	Pn	03 30 18.1	-0.4
LASF				eSn	Sn	03 31 03.6	-3.0
TCF	Toulx Ste Croi	4.32	36	ePn	Pn	03 30 20.0	-2.1
TCF				eSn	Sn	03 31 09.2	-3.9
	2.2nm,0.5s						
BGF	Bois d’Agland	4.81	38	ePn	Pn	03 30 27.0	-2.0
BGF				eSn	Sn	03 31 20.5	-4.9
	1.5nm,0.4s						

SVSA 19 03:30:53.5±0.5**, 38.42N×30.49W, h10^{km}, MD3.6, ML3.2, Error ellipse: s-maj=25.9km s-min=4.6km az=171.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CALA	Caldeira	1.41	83	eP	Pn	03 31 15.0	-4.3
CALA				eS	Sb	03 31 30.3	-7.0
PICO	Pico	1.62	87	eP	Pn	03 31 17.6	-4.7
PICO				eS	Sn	03 31 35.5	-7.9
ROSA	Rosais	1.78	80	eP	Pn	03 31 19.6	-5.1
ROSA				eS	Sn	03 31 39.3	-8.3
PID	Ribeirinha	1.86	89	e-		03 31 43.1	
PPAD	Pico dos Padre	2.52	83	eP	Pn	03 31 29.9	-5.4
PPAD				eS	Sn	03 31 57.6	-8.7
	20nm,0.2s						
ADH	Angra Heroismo	2.56	84	eS	Sn	03 31 58.5	-8.8
RIB2	Ribeirinha	2.61	84	eP	Pn	03 31 31.0	-5.5
RIB2				eS	Sn	03 31 59.6	-8.9

WEL 19 03:40:01.1±0.2**, 39.62S×176.80E, h46^{km}**±4^{km}**, ML3.5**/5**, 1C-1D, Error ellipse: s-maj=2.4km s-min=1.1km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PWZ	Pawanui	0.41	173	⇓PN	P	03 40 11.1	-0.1
PWZ				SN	S	03 40 18.6	+0.4
BKZ	Black Stump Fm	0.51	332	⇑PN	P	03 40 11.7	-0.5
BKZ				SN	S	03 40 19.2	-0.9
TSZ	Takapari Road	0.78	235	PN	P	03 40 15.8	-0.1
TSZ				SN	S	03 40 27.2	+0.5
MOVZ	Moawhango	0.83	284	PN	P	03 40 16.9	+0.3
MOVZ				SN	S	03 40 28.4	+0.4
KNZ	Kokohu	0.90	49	PN	P	03 40 16.9	-0.7
TUVZ	Tukino	0.95	291	PN	P	03 40 19.3	+1.1
TUVZ				SN	S	03 40 31.6	+0.7
WNVZ	Wahianoa	0.97	287	PN	P	03 40 19.5	+1.0
WNVZ				SN	S	03 40 32.1	+0.7
DRZ	Dome Shelter	1.01	289	PN	P	03 40 20.5	+1.4
DRZ				SN	S	03 40 32.9	+0.4
NGZ	Ngauruhoe	1.03	295	PN	P	03 40 20.1	+0.8
NGZ				SN	S	03 40 33.9	+1.1
KAVZ	Karewarewa	1.03	300	PN	P	03 40 20.3	+1.0
KAVZ				SN	S	03 40 34.4	+1.4
CNZ	Chateau	1.05	293	PN	P	03 40 20.4	+0.7
CNZ				SN	S	03 40 34.6	+1.2
WPVZ	Whakapapa	1.05	293	PN	P	03 40 21.1	+1.4
WPVZ				SN	S	03 40 34.6	+1.1
WTVZ	West Tongariro	1.06	298	PN	P	03 40 20.5	+0.7
WTVZ				SN	S	03 40 35.4	+1.7
RATZ	Rangitukua	1.09	313	PN	P	03 40 20.7	+0.4
BFZ	Birch Farm	1.14	201	PN	P	03 40 20.6	-0.3
BFZ				SN	S	03 40 36.2	+0.5
MGZ	Maungaku	1.15	302	PN	P	03 40 21.9	+0.8
TWVZ	Taurewa	1.19	297	PN	P	03 40 21.8	+0.2
PATZ	Paeroa	1.30	341	PN	P	03 40 24.3	+0.9
URZ	Urewera	1.38	10	PN	P	03 40 23.8	-0.6
URZ				SN	S	03 40 40.8	-0.9
MRZ	Mangatainoka R	1.40	221	PN	P	03 40 23.6	-1.1
MWZ	Matawai	1.40	24	PN	P	03 40 23.9	-0.9
MWZ				SN	S	03 40 41.9	-0.3
TAZ	Tarawera	1.40	351	PN	P	03 40 24.5	-0.2
WAZ	Wanganui	1.41	264	PN	P	03 40 26.1	+1.3
MTW	Mount Morrison	1.83	212	PN	P	03 40 28.9	-1.9
MTW				SN	S	03 40 50.7	-2.1
KIW	Kapiti Island	1.91	229	PN	P	03 40 30.5	-1.3
CAW	Cannon Point	1.99	221	PN	P	03 40 31.0	-2.0
PAWZ	Paruwai Farm	2.05	210	PN	P	03 40 32.2	-1.7
PAWZ				SN	S	03 40 56.6	-1.7
MSWZ	Moikau Station	2.15	213	PN	P	03 40 33.3	-1.9
MSWZ				SN	S	03 40 58.4	-2.4
MRW	Makara Radio	2.27	224	PN	P	03 40 35.0	-2.0
MRW				SN	S	03 41 02.2	-1.7
SNZO	South Karori	2.33	223	PN	P	03 40 35.1	-2.7
SNZO				SN	S	03 41 03.1	-2.2
TUWZ	Tuamarina	2.83	229	PN	P	03 40 42.0	-3.0
NNZ	Nelson	3.06	237	SN	S	03 41 21.8	-2.2
KHZ	Kahutara	3.73	220	SN	S	03 41 34.3	-6.5
MQZ	McQueen’s Vall	5.13	216	SN	S	03 42 05.0	-11
RPZ	Rata Peaks	5.94	225	SN	S	03 42 25.2	-11

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*BJI **19** 03:49:17.2, 5.70S×149.90E, h102^{km}, mB5.1, mb5.0*

*IDC **19** 03:49:19.6±0.9, 5.66S×149.76E, h91^{km}±6^{km}, mb4.4/13, mb1 4.4/14, mb1mx4.4/17, MS3.3/4, Ms1 3.3/4, ms1mx3.1/14, Error ellipse: s-maj=16.8km s-min=10.2km az=115.0*

*NEIC **19** 03:49:21.3±0.6, 5.74S×149.90E, h102^{km}±5^{km}, mb4.7/26, Error ellipse: s-maj=8.8km s-min=5.9km az=109.0*

ISC 19 03:49:20.3±0.7**, 5.73S**±0.05×**149.86E**±0.07**, h107^{km}**±6^{km}**, n60, σ0^{s}90**/60**, mb4.6**/33**, 2C-1D, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KMBE	Kimbe	0.34	60	i P	P	03 49 37.0	+0.9
RAB	Rabaul	2.76	56	eP	P	03 50 02.8	-1.1
WAU	Wau	3.51	243	eP	P	03 50 12.8	-1.3
PMG	Port Moresby	4.53	216	⇑iP	P	03 50 27.5	-0.5
CTA	Charters Tower	14.70	193	eP	P	03 52 49.5	+5.5
	49nm,0.8s						
CTA	Charters Tower	14.70	193	P	P	03 52 44.1	+0.1
	0.2nm,0.3s,baz=14,slow=11,SNR=5.2						
CTA				LR	LR	03 57 39.5	
	comp=Z,101nm,19.2s,baz=47,slow=34						
CTA	Charters Tower	14.70	193	eP	P	03 52 49.5	+5.5
CTA				LR	LR	03 57 39.5	
CTAO	Charters Tower	14.70	193	ePn	P	03 52 43.7	-0.3
	70nm,0.8s						
KAKA	Kakadu	18.56	247	eP	P	03 53 32.5	+1.1
	138nm,0.6s						
KAKA				eS	Sx	03 57 13.3	
WRAB	Tennant Creek	20.66	225	eP	P	03 53 53.4	0.0
	39nm,0.5s						
WB2	Warramunga Arr	20.66	225	⇑iP	P	03 53 53.5	0.0
WB2				eS	S	03 57 37.8	+4.7
WB2				eSCS	ScS	04 05 13.2	+5.9
WRA	Warramunga Arr	20.67	225	P	P	03 53 53.4	-0.2
	9.7nm,0.4s,baz=52,slow=11,SNR=36						
WRA				S	S	03 57 37.9	+4.6
	12nm,0.9s,baz=48,slow=20,SNR=14						
WRA				ScP		04 01 27.9	
	1.9nm,0.8s,baz=50,slow=2.8,SNR=5.4						
WRA				LR	LR	04 02 26.2	
	comp=Z,66nm,18.4s,baz=100,slow=38						
DZM	Mont Dzumac	22.83	137	eP	P	03 54 15.3	+0.4
ASAR	Alice Springs	23.54	219	P	P	03 54 23.1	+1.4
	18nm,0.6s,mb4.6,baz=50,slow=8.8,SNR=254						
ASAR				pP		03 54 41.2	
	13nm,0.8s,baz=49,slow=9.6,SNR=4.1						
ASAR				S	S	03 58 28.4	+4.0
	0.8nm,0.6s,baz=45,slow=14,SNR=3.7						
ASAR				ScP		04 01 36.2	
	4.2nm,0.9s,baz=65,slow=2.6,SNR=13						
ASAR				LR	LR	04 03 35.8	
	comp=Z,88nm,18.8s,baz=133,slow=36						
ASAR	Alice Springs	23.54	219	P	P	03 54 23.1	+1.4
ASAR				pP		03 54 41.2	
ASAR				S	S	03 58 28.4	+4.0
ASAR				ScP		04 01 36.2	
ASAR				LR	LR	04 03 35.8	
ASPA	Alice Springs	23.54	219	eP	P	03 54 23.0	+1.3
ASPA				eS	S	03 58 29.4	+5.0
ASPA				eSCS	ScS	04 05 24.1	+6.2
FITZ	Fitzroy Crossi	26.65	240	⇓iP	P	03 54 51.1	0.0
	30nm,0.6s,mb5.0						
FITZ	Fitzroy Crossi	26.65	240	P	P	03 54 51.2	0.0
	47nm,0.8s,mb5.1,baz=59,slow=3.8,SNR=101						
STKA	Stephens Creek	27.14	196	eP	P	03 54 54.7	-0.8
	19nm,0.8s,mb4.7						
STKA	Stephens Creek	27.14	196	P	P	03 54 54.4	-1.1
	24nm,0.8s,mb4.8,baz=357,slow=9.0,SNR=13						
STKA				ScP		04 01 46.5	
	1.1nm,0.3s,baz=82,slow=4.9,SNR=3.6						
STKA				LR	LR	04 07 21.4	
	comp=Z,75nm,18.4s,baz=24,slow=40						
CNB	Canberra Magne	29.44	181	eP	P	03 55 15.7	-0.4
	14nm,0.9s,mb4.6						
TOO	Toolangi	31.94	187	eP	P	03 55 38.0	-0.1
	5.7nm,0.7s,mb4.4						
FORT	Forrest	32.26	217	eP	P	03 55 40.8	-0.1
	129nm,0.7s						
MBWA	Marble Bar	32.98	239	eP	P	03 55 46.8	-0.4
	18nm,0.6s,mb5.1						
JOW	Kunigami	38.53	328	P	P	03 56 36.6	+2.6
	64nm,0.6s,mb5.6,baz=154,slow=10,SNR=34						
KLBR	Kellerberrin	39.55	225	eP	P	03 56 42.0	-0.5
	11nm,0.5s,mb4.9						
NWAO	Narrogin (SRO)	40.67	224	eP	P	03 56 51.9	+0.2
	2.0nm,0.5s,mb4.2						
URZ	Urewera	40.75	146	P	P	03 56 52.3	+0.1
	9.9nm,0.6s,mb4.8,baz=253,slow=3.1,SNR=7.8						
MUN	Mundaring	40.87	226	eP	P	03 56 53.8	+0.5
	20nm,1.4s,mb4.7						
RPZ	Rata Peaks	42.18	157	P	P	03 57 04.6	+0.6
	38nm,0.8s,mb5.2,baz=307,slow=2.6,SNR=19						
MAT	Matsushiro	43.44	346	P	P	03 57 14.8	+0.5
MAT	Matsushiro	43.44	346	eP	P	03 57 15.0	+0.7
	5.6nm,0.5s,mb4.5						
KS15	Wonju Array Si	47.59	336	eP	P	03 57 49.0	+1.8
MDJ	Mudanjiang	53.33	342	eP	P	03 58 32.1	+1.4
	8.1nm,0.8s,mb4.8						
XAN	Xi’an	55.32	319	P	P	03 58 46.0	+0.6
XAN				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.8						
CMAR	Chiang Mai Arr	55.65	297	P	P	03 58 46.3	-1.6
	comp=Z,0.9nm,0.4s,mb4.1,baz=124,slow=5.9,SNR=6.1						
HIA	Hailar	60.73	338	eP	P	03 59 23.9	+1.0
	comp=Z,9.8nm,0.7s,mb5.0						
SONM	Songino Array	65.59	329	P	P	03 59 55.0	+0.1
	comp=Z,2.3nm,0.4s,mb4.3,baz=148,slow=4.4,SNR=7.8						
SONM				pP	pP	04 00 16.4	-5.3
	comp=Z,4.6nm,0.8s,baz=135,slow=7.0,SNR=5.2						
CASY	Casey	66.29	196	eP	P	03 59 58.4	-0.7
	comp=Z,8.4nm,0.7s,mb4.7						
GUN	Gumba	70.11	302	eP	P	04 00 23.5	+0.2
	comp=Z,17nm,0.4s,mb5.2						
PKI	Pulchoki	70.41	302	eP	P	04 00 24.9	-0.2
	comp=Z,6.5nm,0.6s,mb4.7						
KKN	Kakani	70.58	302	eP	P	04 00 26.0	-0.2
	comp=Z,14nm,0.6s,mb5.0						
DMN	Daman	70.68	302	eP	P	04 00 26.3	-0.4
	comp=Z,17nm,0.5s,mb5.1						
GKN	Gorkha	71.19	302	eP	P	04 00 29.6	-0.2
	comp=Z,15nm,0.6s,mb5.0						
KOLN	Koldanda	72.00	301	eP	P	04 00 33.3	-1.3
	comp=Z,15nm,0.7s,mb4.9						
SBA	Scott Base	72.63	176	eP	P	04 00 36.9	-0.5
	comp=Z,2.5nm,0.7s,mb4.2						
MKAR	Makanchi Array	79.12	320	P	P	04 01 12.9	-1.7
	comp=Z,1.1nm,0.7s,mb3.8,baz=96,slow=8.0,SNR=7.6						
KURK	Kurchatov	82.71	323	P	P	04 01 32.7	-0.7
	comp=Z,2.0nm,0.8s,mb4.0						
MCK	McKinley	82.85	23	eP	P	04 01 33.9	0.0
	comp=Z,1.0nm,0.4s,mb4.0						
MAW	Mawson	83.59	203	P	P	04 01 37.9	+0.4
	comp=Z,2.1nm,0.7s,mb4.1,baz=92,slow=9.1,SNR=8.6						
MAW	Mawson	83.59	203	eP	P	04 01 38.1	+0.7
	comp=Z,1.9nm,0.6s,mb4.1						
ILAR	Eielson Array	84.13	23	P	P	04 01 39.0	-1.3
	comp=Z,1.1nm,0.9s,mb3.7,baz=260,slow=4.8,SNR=11						
QSPA	South Pole Qui	84.24	180	eP	P	04 01 41.9	+1.4
	comp=Z,7.5nm,0.6s,mb4.7						
QSPA				e		04 02 02.3	
BVAR	Borovoye Array	88.23	324	P	P	04 01 58.9	-1.7
	comp=Z,1.4nm,0.7s,mb4.1,baz=108,slow=4.7,SNR=7.6						
BVAR				pP	pP	04 02 23.2	-5.7
	comp=Z,1.4nm,0.8s,baz=104,slow=6.1,SNR=3.4						
INK	Inuvik	90.37	21	P	P	04 02 10.0	-0.2
	baz=162,slow=3.2						
GERES	GERESS Array B	123.27	327	PKP	PKPdf	04 08 03.5	-1.2
	comp=Z,0.4nm,0.5s,baz=74,slow=3.2,SNR=10.0						
EKA	Eskdalemuir Ar	126.02	341	PKP	PKPdf	04 08 11.2	+1.3
	comp=Z,1.3nm,0.9s,baz=13,slow=3.8,SNR=3.6						
SAML	Samuel	143.98	114	ePKPdf	PKPdf	04 08 43.3	-0.8
BDFB	Brasilia	152.36	140	PKPbc	PKPdf	04 09 06.8	+9.3
	comp=Z,6.8nm,0.7s,baz=260,slow=1.0,SNR=14						
BAO	Brasilia Array	152.38	140	eP	PKPdf	04 09 06.8	+9.2
BAO				e		04 09 09.0	
BAO				e		04 09 13.2	
BAO				i		04 09 17.4	
BAO				e		04 09 27.4	

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*NIED **19** 03:52:00, 24.30N×123.00E, h47^{km}, Mw3.7 Best double couple: $M_0$4.41×10^{14} NP1:ϕ_s94°, δ61°, λ89°. NP2:ϕ_s276°, δ29°, λ92°.*

*JMA **19** 03:52:02.7±0.1, 24.34N×123.01E, h47^{km}±1^{km}, M3.7*

*TAP **19** 03:52:03.0, 24.35N×122.86E, h24^{km}, ML4.0*

ISC 19 03:52:03.1±1.7**, 24.34N**±0.10×**123.02E**±0.09**, h44^{km}**±11^{km}**, n10, σ0^{s}45**/19**, Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.12	356	P	P	03 52 10.1	-0.1
YOJ				S	S	03 52 15.3	+0.1
IRIF	Iriomote-Funau	0.65	91	P	P	03 52 15.7	-0.2
IRIF				S	S	03 52 25.4	+0.1
HATJ	Hateruma jima	0.77	112	P	P	03 52 17.3	-0.3
HATJ				S	S	03 52 28.6	+0.3
JKRS	Kuro-shima	0.91	96	P	P	03 52 19.6	0.0
JKRS				S	S	03 52 32.4	+0.7
JIJ	Ishigaki jima	1.02	89	P	P	03 52 20.5	-0.7
JIJ				S	S	03 52 33.8	-0.8
JTJ	Tarama	1.56	79	P	P	03 52 28.7	-0.2
JTJ				S	S	03 52 48.2	+0.1
JMJ	Miyako jima 2	2.12	77	P	P	03 52 36.9	+0.1
JMJ				S	S	03 53 01.5	-0.6
JOGS	Gusukube	2.21	79	P	P	03 52 39.3	+1.2
JOGS				eS	S	03 53 04.7	+0.3
JKE	Kume jima 2	3.94	59	P	P	03 53 02.7	+0.1
JAGN	Aguni-jima	4.42	59	P	P	03 53 09.7	+0.2
JAGN				S	S	03 54 00.4	0.0

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*LDG **19** 03:53:11.1±0.6, 42.87N×1.44W, h2^{km}, Md2.2/2, Ml1.7/5, Error ellipse: s-maj=11.0km s-min=7.4km az=53.0*

*MDD **19** 03:53:11.5±0.6, 42.88N×1.38W, h4^{km}±6^{km}, mbLg1.1/4, Error ellipse: s-maj=5.4km s-min=3.1km az=37.0, PRXIMO AftershockPLICA*

ISC 19 03:53:10.0±1.1**, 42.90N**±0.05×**1.37W**±0.07**, h4^{km}, n10, σ1^{s}42**/18**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	Ste Jean	0.24	26	ePg	Pg	03 53 17.0	+2.2
SJPF				eSg	Sg	03 53 19.7	+1.7
	10nm,0.3s						
EALK	Alkurruntz	0.34	342	Pg	Pg	03 53 18.0	+1.3
	8.7nm,0.3s,SNR=17						
EALK				Lg		03 53 23.6	
	6.7nm,0.4s,SNR=6.0						
ETSF	Etsaut	0.59	90	ePg	Pg	03 53 22.7	+0.9
ETSF				eSg	Sg	03 53 30.8	+1.1
ETSF				eSn	Sn	03 53 32.6	-2.3
	4.5nm,0.3s						
EPF	Esparros	1.26	83	ePn	Pn	03 53 34.9	+0.6
EPF				ePg	Pg	03 53 37.3	+2.2
EPF				eSg	Sg	03 53 53.1	+1.2
	3.5nm,0.4s						
ESAC	San Caprasio	1.35	150	Pg	Pg	03 53 36.1	-0.9
	4.6nm,0.3s,SNR=4.9						
ESAC				Lg		03 53 54.7	
	6.3nm,0.3s,SNR=7.8						
EPOB	Poblet	2.39	130	Lg		03 54 24.6	
	0.3nm,0.2s,SNR=4.0						
LFF	La Frestale	2.54	36	ePn	Pn	03 53 52.1	-0.6
LFF				eSn	Sn	03 54 23.0	-1.5
	1.6nm,0.4s						
MTLF	Montolieu	2.66	79	ePn	Pn	03 53 54.7	+0.4
MTLF				eSn	Sn	03 54 27.1	-0.3
	1.1nm,0.5s						
RJF	Les Rejaudoux	3.18	40	ePn	Pn	03 54 00.5	-1.2
RJF				eSn	Sn	03 54 38.0	-2.5
	0.6nm,0.4s						
CAF	Calviac	3.20	50	ePn	Pn	03 54 01.0	-1.0
CAF				eSn	Sn	03 54 38.9	-2.2
	1.3nm,0.6s						

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*NEIC **19** 03:53:54.9, 32.99S×70.37W, h99^{km}, MD3.1(GUC), After GUC.*

GUC 19 03:53:54.9±0.4**, 32.99S×70.37W, h99^{km}**±1^{km}**, MD3.1, ML3.5, 8C-6D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PEL	Peldehue	0.31	240	⇓iP	P	03 54 09.7	+0.2
PEL				i S	S	03 54 20.8	+0.4
FCH	Farellones	0.34	170	⇓iP	P	03 54 09.8	+0.2
FCH				i S	S	03 54 21.5	+0.7
FCH				AMP		03 54 22.9	
	comp=E,4µm,0.2s						
JACH	Jahuel	0.36	328	⇓iP	P	03 54 10.1	+0.4
JACH				i S	S	03 54 21.7	+0.8
CLCH	Cerro Calan	0.43	199	⇑iP	P	03 54 10.3	+0.1
CLCH				i S	S	03 54 22.2	+0.5
CLCH				AMP		03 54 23.3	
	comp=E,2µm,0.5s						
CLCH				AMP		03 54 28.7	
	comp=E,2µm,0.3s						
DSCH	Colegio Aleman	0.45	203	i P	P	03 54 10.5	+0.2
DSCH				i S	S	03 54 22.2	+0.3
DSCH				AMP		03 54 23.2	
	comp=N,3µm,0.2s						
SAN	Santiago	0.53	208	i S	S	03 54 23.0	+0.2
SAN				AMP		03 54 24.1	
	comp=N,2µm,0.2s						
PUEX	Pudahuel	0.56	216	i P	P	03 54 11.5	+0.3
PUEX				i S	S	03 54 23.8	+0.5
PUEX				AMP		03 54 25.1	
	comp=E,2µm,0.3s						
ANTU	Antumapu	0.62	201	⇑iP	P	03 54 11.7	0.0
ANTU				i S	S	03 54 24.4	+0.2
ANTU				AMP		03 54 24.8	
	comp=N,5µm,0.3s						
RCDM	Rinconada Maip	0.62	216	⇑iP	P	03 54 11.7	0.0
RCDM				i S	S	03 54 24.6	+0.3
RCDM				AMP		03 54 25.1	
	comp=N,4µm,0.2s						
PCH	Pirque	0.64	191	⇑iP	P	03 54 12.1	+0.2
PCH				i S	S	03 54 24.9	+0.4
TACH	Talagante	0.82	216	⇓iP	P	03 54 13.4	-0.1
TACH				i S	S	03 54 27.5	+0.1
LMEL	Las Melosas	0.87	171	AMP		03 54 35.5	
	comp=N,1µm,0.1s						
CHCH	Chadas Angostu	0.97	194	⇑iP	P	03 54 15.2	0.0
CHCH				i S	S	03 54 30.6	+0.2
IHA	Instituto Hidr	1.07	268	⇑iP	P	03 54 16.1	-0.2
IHA				i S	S	03 54 32.3	-0.1
LCCH	Las Cruces	1.12	244	⇓iP	P	03 54 16.9	-0.1
LCCH				i S	S	03 54 33.4	0.0
CICH	Cipreses	1.33	182	⇑iP	P	03 54 19.6	+0.1
CICH				i S	S	03 54 38.5	+0.9
SFDO	San Fernando	1.71	198	⇑iP	P	03 54 24.0	-0.1
SFDO				i S	S	03 54 46.5	+0.6
CMCH	Combarbala	1.89	343	⇓iP	P	03 54 26.5	0.0
CMCH				i S	S	03 54 50.3	+0.6
CMCH				AMP		03 54 53.8	
	comp=N,594nm,0.3s						

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*STR **19** 03:58:09.7±0.2, 42.84N×1.50W, h5^{km}±1^{km}, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LDG **19** 03:58:10.2±0.4, 42.87N×1.47W, h2^{km}, Md2.3/2, Ml2.1/10, Error ellipse: s-maj=6.7km s-min=4.6km az=55.0*

*MDD **19** 03:58:11.1±0.4, 42.88N×1.42W, h7^{km}±4^{km}, mbLg1.6/7, Error ellipse: s-maj=3.6km s-min=2.6km az=40.0, AftershockPLICA PRXIMO*

ISC 19 03:58:08.4±0.6**, 42.87N**±0.03×**1.46W**±0.05**, h7^{km}, n23, σ1^{s}55**/45**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	Ste Jean	0.30	35	ePg	Pg	03 58 16.6	+2.1

SJPF				*e*Sg	Sg	03 58 19.4	+0.8
	105nm,0.4s						
EALK	**Alkurruntz**	0.35	355	Pg	Pg	03 58 17.7	+2.1
	7.0nm,0.3s,SNR=22						
EALK				Lg		03 58 21.7	
	22nm,0.3s,SNR=4.8						
LARF	**Larrau**	0.39	64	Pg	Pg	03 58 17.9	+1.6
LARF				Sg	Sg	03 58 24.0	+2.5
LARF	**Larrau**	0.39	64	P	Pg	03 58 18.0	+1.7
LARF				S	Sg	03 58 23.4	+1.9
OSSF	**Osses**	0.41	21	Pg	Pg	03 58 18.5	+1.7
OSSF				Sg	Sg	03 58 24.8	+2.4
OSSF	**Osses**	0.41	21	P	Pg	03 58 18.6	+1.9
OSSF				S	Sg	03 58 24.7	+2.3
ORDF	**Ordiarp**	0.52	48	P	Pg	03 58 20.5	+1.7
ORDF				S	Sg	03 58 28.0	+2.2
ATE	**Arette**	0.60	69	P	Pg	03 58 21.9	+1.5
ETSF	**Etsaut**	0.66	87	*e*Pg	Pg	03 58 22.3	+0.6
ETSF				*e*Sg	Sg	03 58 31.0	+0.4
ETSF				*e*Sn	Sn	03 58 32.7	-1.9
	9.6nm,0.3s						
EPF	**Esparros**	1.33	82	*e*Pn	Pn	03 58 34.6	+1.2
EPF				*e*Pg	Pg	03 58 37.0	+1.9
EPF				*e*Sg	Sg	03 58 52.4	-0.4
	6.7nm,0.3s						
ESAC	**San Caprasio**	1.36	147	Pg	Pg	03 58 35.6	-0.1
	8.6nm,0.3s,SNR=12						
ESAC				Lg		03 58 52.8	
	15nm,0.2s,SNR=7.9						
ETOR	**Torete**	2.10	192	Pn	Pn	03 58 46.0	+1.6
	SNR=7.9						
ETOR				Pg	Pg	03 58 49.8	-0.4
	1.1nm,0.3s,SNR=7.3						
ETOR				Lg		03 59 13.7	
	2.4nm,0.3s,SNR=6.6						
EMIR	**Miracle**	2.41	112	Pg	Pg	03 58 54.8	-1.7
	SNR=7.9						
EMIR				Lg		03 59 27.0	
	2.5nm,0.3s,SNR=7.9						
EPOB	**Poblet**	2.42	128	Pn	Pn	03 58 49.7	+0.7
	SNR=5.0						
EPOB				Lg		03 59 23.7	
	2.0nm,0.5s,SNR=7.9						
LFF	**La Frestale**	2.61	37	*e*Pn	Pn	03 58 51.9	+0.2
LFF				*e*Sn	Sn	03 59 22.4	-1.6
	2.3nm,0.3s						
LFF				*e*Sg	Sg	03 59 31.0	-4.4
EMOS	**Mosqueruela**	2.61	163	Pg	Pg	03 58 59.4	-1.2
	SNR=4.0						
EMOS				Lg		03 59 35.2	
	0.5nm,0.2s,SNR=5.0						
MTLF	**Montolieu**	2.73	79	*e*Pn	Pn	03 58 54.4	+0.9
MTLF				*e*Sn	Sn	03 59 26.5	-0.7
	1.4nm,0.3s						
RJF	**Les Rejaudoux**	3.25	40	*e*Pn	Pn	03 59 00.1	-0.7
RJF				*e*Sn	Sn	03 59 37.6	-2.5
	0.9nm,0.2s						
CAF	**Calviac**	3.27	50	*e*Pn	Pn	03 59 00.5	-0.7
CAF				*e*Sn	Sn	03 59 38.4	-2.4
	0.9nm,0.2s						
MFF	**Saint Martin d**	3.85	14	*e*Pn	Pn	03 59 09.2	-0.1
MFF				*e*Pg	Pg	03 59 20.9	-4.4
MFF				*e*Sn	Sn	03 59 52.7	-2.6
MFF				*e*Sg	Sg	04 00 11.5	-5.1
	1.8nm,0.5s						
LASF	**Ste Croix**	4.05	71	*e*Pn	Pn	03 59 11.9	-0.4
LASF				*e*Sn	Sn	03 59 57.4	-3.2
	2.2nm,0.6s						
TCF	**Toulx Ste Croi**	4.31	36	*e*Pn	Pn	03 59 13.9	-2.0
TCF				*e*Sn	Sn	04 00 02.8	-4.2
	0.7nm,0.3s						
BGF	**Bois d'Agland**	4.80	38	*e*Pn	Pn	03 59 20.9	-1.9
BGF				*e*Sn	Sn	04 00 14.2	-5.2
	1.8nm,0.5s						

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*LDG **19** 04:03:38.5±0.4, 42.86N×1.48W, h2^{km}, Md2.2/2, Ml1.9/11, Error ellipse: s-maj=5.9km s-min=4.0km az=52.0*

*STR **19** 04:03:38.6±0.1, 42.85N×1.48W, h5^{km}±1^{km}, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

MDD 19 04:03:39.5±0.6**, 42.86N×1.40W, h8^{km}**±4^{km}**, mbLg1.3**/6**, Error ellipse: s-maj=4.5km s-min=3.2km az=60.0, AftershockPLICA PRXIMO, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	0.28	27	*e*Pg	Pg	04 03 45.1	-0.2
SJPF				*e*Sg	Sg	04 03 47.7	-1.4
	26nm,0.3s						
LARF	**Larrau**	0.35	60	Pg	Pg	04 03 46.5	-0.1
LARF				Sg	Sg	04 03 52.4	+1.0
LARF	**Larrau**	0.35	60	P	Pg	04 03 46.3	-0.4
LARF				S	Sg	04 03 52.3	+0.9
EALK	**Alkurruntz**	0.36	348	Pg	Pg	04 03 46.3	-0.6
	1.2nm,0.1s,SNR=7.9						
EALK				Lg		04 03 51.9	
	6.2nm,0.3s,SNR=7.9						
OSSF	**Osses**	0.41	15	Pg	Pg	04 03 47.1	-0.6
OSSF				Sg	Sg	04 03 53.2	0.0
OSSF	**Osses**	0.41	15	P	Pg	04 03 47.2	-0.5
OSSF				S	Sg	04 03 53.3	+0.1
ETSF	**Etsaut**	0.62	87	*e*Pg	Pg	04 03 50.8	-1.2
ETSF				*e*Sg	Sg	04 03 59.3	-1.0
ETSF				*e*Sn	Sn	04 04 01.5	-3.0
	4.9nm,0.3s						
EPF	**Esparros**	1.29	82	*e*Pn	Pn	04 04 02.7	-1.2
EPF				*e*Pg	Pg	04 04 05.3	0.0
EPF				*e*Sg	Sg	04 04 21.1	-1.4
	3.2nm,0.2s						
ESAC	**San Caprasio**	1.33	148	Pg	Pg	04 04 03.0	-3.2
	1.4nm,0.2s,SNR=7.9						
ESAC				Lg		04 04 22.1	
	5.1nm,0.2s,SNR=7.9						
ETOR	**Torete**	2.10	194	Pg	Pg	04 04 18.7	-2.7
	0.4nm,0.3s,SNR=7.9						
ETOR				S	Sn	04 04 42.6	+0.5
	0.6nm,0.2s,SNR=7.9						
ETOR				Lg		04 04 45.3	
	0.6nm,0.2s,SNR=7.9						
LFF	**La Frestale**	2.59	36	*e*Pn	Pn	04 04 20.0	-2.5
LFF				*e*Sn	Sn	04 04 50.8	-3.7
	0.4nm,0.3s						
LFF				*e*Sg	Sg	04 04 59.2	-6.5
	3.0nm,0.5s						
MTLF	**Montolieu**	2.69	79	*e*Pn	Pn	04 04 23.0	-1.0
MTLF				*e*Sn	Sn	04 04 54.9	-2.2
	0.4nm,0.4s						
RJF	**Les Rejaudoux**	3.22	40	*e*Pn	Pn	04 04 28.4	-3.1
RJF				*e*Sn	Sn	04 05 06.0	-4.5
	0.6nm,0.3s						
CAF	**Calviac**	3.24	49	*e*Pn	Pn	04 04 29.2	-2.6
CAF				*e*Sn	Sn	04 05 06.7	-4.4
	0.6nm,0.3s						
MFF	**Saint Martin d**	3.84	13	*e*Pn	Pn	04 04 37.5	-2.8
MFF				*e*Pg	Pg	04 04 49.4	-6.9
MFF				*e*Sn	Sn	04 05 20.6	-5.7
MFF				*e*Sg	Sg	04 05 39.5	-8.0
	2.0nm,0.6s						
LASF	**Ste Croix**	4.01	71	*e*Pn	Pn	04 04 40.2	-2.6
LASF				*e*Sn	Sn	04 05 25.9	-4.7
	0.7nm,0.3s						
TCF	**Toulx Ste Croi**	4.29	36	*e*Pn	Pn	04 04 42.0	-4.6
TCF				*e*Sn	Sn	04 05 31.4	-6.1
	0.3nm,0.3s						
BGF	**Bois d'Agland**	4.78	38	*e*Pn	Pn	04 04 49.3	-4.3
BGF				*e*Sn	Sn	04 05 42.7	-7.1
	2.5nm,0.5s						

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*ORF **19** 04:09:19.1, 38.03S×175.59W, h30^{km}, mb6.2*

*CSEM **19** 04:09:25.8, 32.42S×179.94W, h33^{km}, mb5.8*

*BJI **19** 04:09:36.8, 32.21S×179.03W, h141^{km}, mB5.5, mb5.5*

*MOS **19** 04:09:37.8±1.0, 32.46S×179.84W, h135^{km}, mb5.8/24, Error ellipse: s-maj=15.7km s-min=9.1km az=64.3*

*NEIC **19** 04:09:38.2±0.1, 32.74S×179.72W, mb5.6/68, MW5.6, Error ellipse: s-maj=6.0km s-min=3.4km az=139.0, Moment Tensor Solution. s13 Moment tensor: Scale 10^{17} Nm; M$_{rr}$-2.39; M$_{\theta\theta}$-0.49; M$_{\phi\phi}$2.88; M$_{r\theta}$-1.72; M$_{\theta\phi}$0.60; M$_{\phi r}$-0.17; Best double couple: M$_0$3.2×10^{17} NP1:ϕ_s163°, δ47°, λ-133°. NP2:ϕ_s37°, δ57°, λ-53°. Principal axes: T 3.02, Plg6°, Azm102°; N .39, Plg30°, Azm196°; P -3.41, Plg59°, Azm3°;*

*HRVD **19** 04:09:38.2±0.2, 32.55S×179.47W, h129^{km}±1^{km}, MW5.6/74, Centroid moment Tensor Solution. LP body waves: s62,c119;Mantle waves: s74,c157; Half duration: 1^{s}5 Moment tensor: Scale 10^{17}Nm; M$_{rr}$-1.67±.04; M$_{\theta\theta}$-0.97±.05; M$_{\phi\phi}$2.64±.04; M$_{r\theta}$-1.48±.03; M$_{\theta\phi}$-0.15±.05; M$_{\phi r}$-0.38±.04; Best double couple: M$_0$2.77×10^{17} NP1: ϕ_s146°, δ52°, λ-141°. NP2:ϕ_s30°, δ60°, λ-45°. Principal axes: T 2.67, Plg5°, Azm90°; N .19, Plg38°, Azm183°; P -2.87, Plg52°, Azm354°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*SYO **19** 04:09:39.0, 32.79S×179.76W, h147^{km}, MB5.7*

*IDC **19** 04:09:40.8±1.1, 32.53S×179.70W, h159^{km}±8^{km}, mb5.1/19, mb1 5.1/21, mb1mx5.1/21, MS4.3/8, Ms1 4.3/8, ms1mx4.2/18, Error ellipse: s-maj=13.1km s-min=7.9km az=176.0*

ISC 19 04:09:35.0±0.7**, 32.71S**±0.04×**179.79W**±0.04**, h116^{km}**±6^{km}**, h126^{km}**±2.8^{km}**:pP-P, n858, σ1^{s}11**/394**, mb5.6**/92**, 36C-30D, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	**Raoul Island**	3.80	26	*e*P	P	04 10 29.8	-3.1
MXZ	**Matakaoa Point**	5.09	197	P	P	04 10 50.1	-0.2
MXZ				S	S	04 11 51.6	+3.3
MXZ	**Matakaoa Point**	5.09	197	*e*P	P	04 10 50.6	+0.3
MXZ				S	S	04 11 51.6	+3.3
WIZ	**White Island**	5.41	206	P	P	04 10 56.6	+2.0
WIZ	**White Island**	5.41	206	*e*P	P	04 10 56.6	+2.0
KUZ	**Kuaotunu**	5.47	221	P	P	04 11 01.9	+6.5
KUZ	**Kuaotunu**	5.47	221	*e*P	P	04 11 01.9	+6.5
PUZ	**Puketiti**	5.59	196	P	P	04 10 57.0	+0.1
PUZ				S	S	04 11 58.9	-1.5
PUZ	**Puketiti**	5.59	196	P	P	04 10 57.0	+0.1
PUZ				S	S	04 12 00.3	-0.1
WCZ	**Waipu Caves**	5.83	235	P	P	04 11 07.7	+7.5
WCZ	**Waipu Caves**	5.83	235	*e*P	P	04 11 07.7	+7.5
MARZ	**Manawahe**	6.01	208	P	P	04 11 05.0	+2.3
MARZ	**Manawahe**	6.01	208	*e*P	P	04 11 05.0	+2.3
MWZ	**Matawai**	6.03	201	P	P	04 11 02.9	0.0
MWZ				S	S	04 12 12.7	+1.5
MWZ	**Matawai**	6.03	201	*e*P	P	04 11 02.9	0.0
MWZ				S	S	04 12 12.7	+1.5
OUZ	**Omahuta**	6.04	244	P	P	04 11 10.2	+7.1
OUZ	**Omahuta**	6.04	244	*e*P	P	04 11 10.2	+7.1
EDRZ	**Edgecumbe**	6.09	207	P	P	04 11 05.4	+1.6
EDRZ	**Edgecumbe**	6.09	207	*e*P	P	04 11 05.4	+1.6
URZ	**Urewera**	6.09	204	P	P	04 11 04.2	+0.4
	25nm,0.3s,baz=4.1,slow=1.7,SNR=82						
URZ				S	S	04 12 12.3	-0.5
	120nm,0.3s,baz=145,slow=23,SNR=4.4						
URZ	**Urewera**	6.09	204	P	P	04 11 03.6	-0.2
URZ	**Urewera**	6.09	204	*e*P	P	04 11 03.6	-0.2
PATZ	**Paeroa**	6.51	209	P	P	04 11 10.7	+1.1
PATZ	**Paeroa**	6.51	209	*e*P	P	04 11 11.7	+2.1
KNZ	**Kokohu**	6.63	197	P	P	04 11 08.8	-2.4
KNZ	**Kokohu**	6.63	197	*e*P	P	04 11 08.8	-2.4
WATZ	**Wairara**	7.01	210	*e*P	P	04 11 19.1	+2.7
BKZ	**Black Stump Fm**	7.12	204	P	P	04 11 16.2	-1.7
BKZ				S	S	04 12 38.9	+1.2
BKZ	**Black Stump Fm**	7.12	204	*e*P	P	04 11 16.2	-1.7
RATZ	**Rangitukua**	7.13	209	P	P	04 11 20.5	+2.5
RATZ	**Rangitukua**	7.13	209	*e*P	P	04 11 20.7	+2.7
MGZ	**Maungaku**	7.34	210	P	P	04 11 23.0	+2.1
MGZ	**Maungaku**	7.34	210	*e*P	P	04 11 23.0	+2.1
NGZ	**Ngauruhoe**	7.46	209	P	P	04 11 22.3	-0.2
NGZ	**Ngauruhoe**	7.46	209	*e*P	P	04 11 22.9	+0.4
WPVZ	**Whakapapa**	7.50	209	*e*P	P	04 11 24.7	+1.5
TUVZ	**Tukino**	7.52	208	P	P	04 11 26.0	+2.7
WNVZ	**Wahianoa**	7.59	208	*e*P	P	04 11 24.1	-0.2
MOVZ	**Moawhango**	7.60	207	*e*P	P	04 11 22.7	-1.7
VRZ	**Vera Road**	7.78	213	P	P	04 11 30.3	+3.4
PWZ	**Pawanui**	7.79	199	P	P	04 11 27.3	+0.3
PWZ				S	S	04 12 48.4	-5.7
RAEZ	**Rainy Point**	8.08	214	P	P	04 11 36.0	+5.1
TSZ	**Takapari Road**	8.10	204	P	P	04 11 31.6	+0.5
WAZ	**Wanganui**	8.20	209	P	P	04 11 32.7	+0.2
NEZ	**North Egmont**	8.21	215	P	P	04 11 38.1	+5.4
NEZ	**North Egmont**	8.21	215	*e*P	P	04 11 38.1	+5.4
DFE	**Dawson Falls**	8.25	215	P	P	04 11 37.8	+4.6
DFE	**Dawson Falls**	8.25	215	*e*P	P	04 11 37.8	+4.6
BFZ	**Birch Farm**	8.57	201	*e*P	P	04 11 33.4	-4.1
BFZ				S	S	04 13 07.6	-5.4
MRZ	**Mangatainoka R**	8.77	204	P	P	04 11 35.5	-4.6
MRZ	**Mangatainoka R**	8.77	204	*e*P	P	04 11 35.5	-4.6
KIW	**Kapiti Island**	9.18	206	P	P	04 11 40.7	-4.9
KIW				S	S	04 13 22.9	-4.8
KIW	**Kapiti Island**	9.18	206	*e*P	P	04 11 40.7	-4.9
MTW	**Mount Morrison**	9.24	203	P	P	04 11 41.6	-4.8
MTW				S	S	04 13 24.1	-5.0
MTW	**Mount Morrison**	9.24	203	*e*P	P	04 11 41.6	-4.8
CAW	**Cannon Point**	9.34	205	*e*P	P	04 11 42.2	-5.6
MSWZ	**Moikau Station**	9.55	203	*e*P	P	04 11 45.9	-4.7
MRW	**Makara Radio**	9.58	206	P	P	04 11 45.9	-5.0
MRW				S	S	04 13 32.6	-4.6
MRW	**Makara Radio**	9.58	206	*e*P	P	04 11 45.9	-5.0
WEL	**Wellington**	9.60	205	P	P	04 11 47.4	-3.9
WEL	**Wellington**	9.60	205	*e*P	P	04 11 47.4	-3.9
SNZO	**South Karori**	9.65	206	P	P	04 11 46.6	-5.3
SNZO				S	S	04 13 33.8	-5.1
SNZO	**South Karori**	9.65	206	*e*P	P	04 11 46.6	-5.3
BHW	**Baring Head**	9.67	205	P	P	04 11 47.0	-5.2
BHW	**Baring Head**	9.67	205	*e*P	P	04 11 47.0	-5.2
NNZ	**Nelson**	10.10	211	P	P	04 11 54.0	-3.9
NNZ				S	S	04 13 45.3	-4.3
NNZ	**Nelson**	10.10	211	*e*P	P	04 11 54.0	-3.9
QRZ	**Quartz Range**	10.18	215	P	P	04 11 57.5	-1.4
CMWZ	**Cape Campbell**	10.21	206	*e*P	P	04 11 57.4	-2.0
BSWZ	**Blackbirch Sta**	10.31	207	*e*P	P	04 11 55.9	-4.8
THZ	**Tophouse**	10.75	211	P	P	04 12 02.4	-4.1
THZ				S	S	04 14 01.1	-4.0
THZ	**Tophouse**	10.75	211	*e*P	P	04 12 02.4	-4.1
KHZ	**Kahutara**	11.04	207	*e*P	P	04 12 05.4	-5.0
DSZ	**Denniston Nort**	11.23	214	P	P	04 12 08.3	-4.7
DSZ				S	S	04 14 11.2	-5.5
DSZ	**Denniston Nort**	11.23	214	*e*P	P	04 12 08.6	-4.4
LTZ	**Lake Taylor**	11.85	210	P	P	04 12 15.5	-5.7
LTZ	**Lake Taylor**	11.85	210	*e*P	P	04 12 15.5	-5.7
MQZ	**McQueen's Vall**	12.48	206	P	P	04 12 23.1	-6.3
MQZ				S	S	04 14 35.6	-11
MQZ	**McQueen's Vall**	12.48	206	*e*P	P	04 12 23.1	-6.3
WVZ	**Waitaha Valley**	12.76	213	P	P	04 12 29.1	-4.0
WVZ				S	S	04 14 43.6	-9.3
WVZ	**Waitaha Valley**	12.76	213	*e*P	P	04 12 29.1	-4.0
RPZ	**Rata Peaks**	13.13	211	P	P	04 12 33.6	-4.2
	13nm,0.3s,baz=291,slow=2.0,SNR=26						
RPZ				S	S	04 14 51.9	-10
	36nm,0.3s,baz=31,slow=19,SNR=14						
RPZ				LR	LR	04 18 13.4	
	comp=Z,868nm,19.7s,baz=27,slow=38						
RPZ				ScP		04 21 19.2	
	1.1nm,0.3s,baz=50,slow=6.0,SNR=6.0						
RPZ	**Rata Peaks**	13.13	211	P	P	04 12 33.0	-4.9
RPZ	**Rata Peaks**	13.13	211	*e*P	P	04 12 33.0	-4.9
LBZ	**Lake Benmore**	14.04	211	P	P	04 12 46.8	-2.8
LBZ	**Lake Benmore**	14.04	211	*e*P	P	04 12 46.8	-2.8
ODZ	**Otahua Downs**	14.38	208	*e*P	P	04 12 48.6	-5.4
WKZ	**Wanaka**	14.90	212	P	P	04 12 56.1	-4.5
WKZ	**Wanaka**	14.90	212	*e*P	P	04 12 56.1	-4.5
MSVF	**Nonsavu**	15.04	352	P	P	04 13 02.6	+0.1
	5µm,0.6s,SNR=82						
MSZ	**Milford Sound**	15.30	215	P	P	04 13 02.3	-3.3
TUZ	**Tuapeka**	15.54	209	P	P	04 13 06.5	-2.1
TUZ	**Tuapeka**	15.54	209	*e*P	P	04 13 06.5	-2.1
MLZ	**Mavora Lakes**	15.69	213	P	P	04 13 08.4	-2.1
MLZ	**Mavora Lakes**	15.69	213	*e*P	P	04 13 08.4	-2.1
DZM	**Mont Dzumac**	16.16	308⇓	*e*P	P	04 13 21.7	+5.2
DZM	**Mont Dzumac**	16.16	308⇓	*e*P	P	04 13 21.7	+5.2
NOUC	**Port Laguerre**	16.23	307	*e*P	P	04 13 22.3	+4.9
BKM	**Butte a Klehm**	18.46	321	*i* P	P	04 13 44.6	+0.5
RAR	**Rarotonga**	21.16	62	P	P	04 14 11.1	-1.1
	191nm,0.9s,mb5.4,baz=232,slow=6.8,SNR=13						
RAR				S	S	04 17 51.6	-4.0
	232nm,1.2s,baz=67,slow=16,SNR=6.8						
RAR				ScP		04 21 35.4	
	27nm,0.8s,baz=234,slow=6.2,SNR=5.2						
RAR	**Rarotonga**	21.16	62	*e*P	P	04 14 11.3	-0.9
RAR				pmax	pmax		
	comp=Z,480nm,1.2s						
RAR	**Rarotonga**	21.16	62	*e*Pn	P	04 14 11.3	-0.9
	comp=Z,478nm,1.3s,mb5.7						
CNB	**Canberra Magne**	25.65	256	*e*P	P	04 15 00.6	+5.2
	comp=Z,19nm,0.5s,mb4.8						
CNB				*e*		04 15 34.3	
TAU	**Tasmania Unive**	27.75	239	*e*P	P	04 15 16.2	+1.6
TAU				pmax	pmax		
	comp=Z,37nm,1.0s,mb4.9						
TAU	**Tasmania Unive**	27.75	239	*e*P	P	04 15 16.0	+1.4
	comp=Z,37nm,0.9s,mb4.9						
TBI	**Tubuai**	28.27	79	*e*L		04 21 00.4	
TBI				*e*R		04 21 49.8	
	comp=Z,2µm,37.0s						
TOO	**Toolangi**	28.70	250	*e*P	P	04 15 26.3	+3.2
	comp=Z,4.1nm,0.4s						
TOO				*e*PCP	PcP	04 18 29.7	-1.2
TOO				*e*SCP		04 21 54.0	
PAE	**Paea**	31.04	69	*e*P	P	04 15 43.0	-1.0
	comp=Z,82nm,1.1s,mb5.4						
PPT	**Papeete**	31.09	68	P	P	04 15 43.0	-1.5
	comp=Z,25nm,0.8s,mb5.0,baz=254,slow=7.4,SNR=3.5						
PPT	**Papeete**	31.09	68	*e*P	P	04 15 42.9	-1.6
	comp=Z,55nm,1.4s,mb5.1						
PPT	**Papeete**	31.09	68	*e*L		04 22 00.8	
PPT				*e*R		04 23 20.8	
	comp=Z,3µm,34.0s						
TIAR	**Tiarei**	31.28	69	*e*P	P	04 15 44.5	-1.6
	comp=Z,228nm,0.7s,mb6.0						
TIAR				*e*pP	sP	04 16 22.4	-3.1
	comp=Z,199nm,0.9s						
STKA	**Stephens Creek**	32.53	261	*e*P	P	04 15 59.0	+2.1
	comp=Z,16nm,0.6s,mb5.0						
STKA				*e*PCP	PcP	04 18 39.2	-1.8
STKA				*e*SCP		04 22 07.8	
STKA				*e*PCS		04 22 23.5	
STKA				*e*SCS	ScS	04 26 03.2	-7.8
STKA	**Stephens Creek**	32.53	261	P	P	04 15 58.4	+1.5
	comp=Z,18nm,0.9s,mb4.9,baz=98,slow=9.1,SNR=13						
STKA				PcP	PcP	04 18 39.3	-1.6
	comp=Z,13nm,0.6s,baz=114,slow=7.6,SNR=3.1						
STKA				ScP		04 22 07.9	
	comp=Z,6.4nm,0.6s,baz=105,slow=5.8,SNR=4.4						
STKA				PKiKP		04 26 05.0	
	comp=Z,1.7nm,0.6s,baz=16,slow=16,SNR=4.1						
CTA	**Charters Tower**	32.77	284	*e*P	P	04 16 01.0	+2.0
	comp=Z,66nm,0.5s,mb5.7						
CTA				*e*S	S	04 21 09.9	+3.8
CTA	**Charters Tower**	32.77	284	P	P	04 16 00.2	+1.2
	comp=Z,79nm,0.5s,mb5.8,baz=116,slow=9.7,SNR=42						
CTA				S	S	04 21 08.3	+2.2
	comp=Z,22nm,1.0s,baz=284,slow=19,SNR=12						
CTA				ScP		04 22 08.9	
	comp=Z,12nm,0.8s,baz=133,slow=2.9,SNR=4.8						
CTA				LR	LR	04 26 34.2	
	comp=Z,761nm,19.3s,baz=234,slow=31						
CTAO	**Charters Tower**	32.77	284	*e*P	P	04 16 00.9	+1.9
CTAO				pmax	pmax		
	comp=Z,82nm,0.6s,mb5.7						
CTAO	**Charters Tower**	32.77	284	*e*P	P	04 16 00.9	+1.9
	comp=Z,82nm,0.6s,mb5.7						
PMOR	**Pomariorio Ree**	33.90	66	*e*P	P	04 16 07.0	-1.7
	comp=Z,170nm,1.4s,mb5.7						
ADE	**Adelaide**	34.37	255	P	P	04 16 16.1	+3.5
PMG	**Port Moresby**	38.32	300	P	P	04 16 47.9	+1.9
PMG				pmax	pmax		
	comp=Z,49nm,1.0s						
PMG	**Port Moresby**	38.32	300	*e*P	P	04 16 47.1	+1.1
	comp=Z,49nm,0.9s,mb5.3						
RAB	**Rabaul**	38.63	311	*e*P	P	04 16 49.9	+1.3
WAU	**Wau**	40.03	302	*e*P	P	04 17 01.7	+1.5
RKT	**Rikitea**	40.49	88	*e*L		04 25 39.6	
RKT				*e*R		04 27 41.1	
	comp=Z,1µm,37.8s						
ASAR	**Alice Springs**	41.53	270	P	P	04 17 13.4	+1.0
	comp=Z,89nm,0.6s,mb5.7,baz=109,slow=7.8,SNR=285						
ASAR				pP	pP	04 17 44.3	+5.2
	comp=Z,36nm,0.8s,baz=118,slow=7.9,SNR=1.9						
ASAR				PcP	PcP	04 19 07.8	-0.6
	comp=Z,16nm,0.6s,baz=119,slow=3.7,SNR=5.0						
ASAR				ScP		04 22 42.4	
	comp=Z,4.0nm,0.7s,baz=123,slow=3.5,SNR=4.2						
ASAR				S	S	04 23 17.5	-1.5
	comp=Z,25nm,0.8s,baz=116,slow=14,SNR=14						
ASAR				PKiKP		04 26 12.8	
	comp=Z,1.6nm,0.6s,baz=106,slow=1.5,SNR=5.6						
ASPA	**Alice Springs**	41.53	270⇑	*i*P	P	04 17 13.5	+1.1
ASPA				*e*S	S	04 23 18.2	-0.8
ASPA				*e*SCS	ScS	04 26 54.8	-6.6
WB2	**Warramunga Arr**	42.72	276	*e*P	P	04 17 22.9	+0.7
WB2				*e*S	S	04 23 34.9	-1.6
WB2				*e*SCS	ScS	04 27 02.2	-6.5
WRAB	**Tennant Creek**	42.72	276⇑	*e*P	P	04 17 22.8	+0.6
	comp=Z,202nm,0.8s,mb5.9						
WRAB				*e*ScP		04 22 45.9	
WRAB				*e*S	S	04 23 33.6	-3.0
WRA	**Warramunga Arr**	42.73	276	P	P	04 17 22.7	+0.5
	comp=Z,205nm,0.9s,mb5.8,baz=115,slow=7.5,SNR=169						
WRA				pP	pP	04 17 54.1	+5.0
	comp=Z,50nm,0.9s,baz=114,slow=7.7,SNR=2.6						
WRA				PcP	PcP	04 19 11.7	-0.7
	comp=Z,9.9nm,0.7s,baz=122,slow=3.1,SNR=2.9						
WRA				ScP		04 22 46.0	
	comp=Z,10.0nm,0.8s,baz=121,slow=4.2,SNR=6.4						
WRA				S	S	04 23 33.8	-2.8
	comp=Z,29nm,0.9s,baz=115,slow=14,SNR=18						
WRA				PKiKP		04 26 13.9	
	comp=Z,2.3nm,0.6s,baz=116,slow=0.3,SNR=7.4						
KWAJ	**Kwajalein Atol**	42.99	342	P	P	04 17 21.4	-3.1
	comp=Z,3µm,0.6s,SNR=11						
KWAJ	**Kwajalein Atol**	42.99	342⇓	*i*P	P	04 17 22.7	-1.8
	comp=Z,208nm,0.6s,mb6.0						
FORT	**Forrest**	44.02	258	*e*P	P	04 17 32.5	-0.1
	comp=Z,717nm,0.6s,mb6.6						
FORT				*e*PP	PP	04 19 14.8	-3.6
FORT				*e*SCP		04 22 50.4	
FORT				*e*S	S	04 23 54.8	-0.5
SBA	**Scott Base**	45.63	184⇑	*i*P	P	04 17 49.1	+4.3
SBA				*e*	pP	04 18 17.5	+5.6
SBA				*i*		04 19 22.6	
SBA				pmax	pmax		
	comp=Z,130nm,1.0s,mb5.6						
SBA	**Scott Base**	45.63	184⇑	*i*P	P	04 17 49.1	+4.3
	comp=Z,125nm,1.0s,mb5.6						
SBA				*e*	pP	04 18 17.5	+5.6
SBA				*i* PcP	PcP	04 19 22.6	+1.0
SBA				*e*ScP		04 23 00.2	
KAKA	**Kakadu**	47.93	283	*e*P	P	04 18 06.1	+2.4
	comp=Z,44nm,0.5s,mb5.5						
KAKA				*e*S	S	04 24 50.7	-0.3
FITZ	**Fitzroy Crossi**	50.88	273	*e*P	P	04 18 26.2	0.0
	comp=Z,48nm,0.8s,mb5.6						
FITZ				*e*pP	Px	04 18 40.2	
FITZ				*e*PP	sP	04 19 02.7	-3.9
FITZ				*e*S	S	04 25 28.6	-3.4
FITZ	**Fitzroy Crossi**	50.88	273	P	P	04 18 26.5	+0.3
	comp=Z,76nm,0.9s,mb5.7,baz=160,slow=6.3,SNR=86						
FITZ				ScP		04 23 20.4	
	comp=Z,7.3nm,0.8s,baz=135,slow=5.2,SNR=3.3						
FITZ				S	S	04 25 31.3	-0.7
	comp=Z,2.8nm,0.8s,baz=24,slow=22,SNR=4.2						
FITZ				LR	LR	04 38 43.9	
	comp=Z,298nm,19.6s,baz=98,slow=34						
NWAO	**Narrogin (SRO)**	52.19	252	P	P	04 18 35.9	+0.1
	comp=Z,12nm,0.6s,mb5.1						
NWAO				PcP	PcP	04 19 44.5	-1.5
	comp=Z,14nm,0.7s,baz=90,slow=7.1,SNR=3.0						
NWAO				ScP		04 23 27.1	
	comp=Z,15nm,0.9s,baz=135,slow=4.3,SNR=3.5						
NWAO	**Narrogin (SRO)**	52.19	252	*e*P	P	04 18 36.1	+0.2
	comp=Z,10nm,0.6s,mb5.0						
KLBR	**Kellerberrin**	52.19	253	*e*P	P	04 18 36.4	+0.5
	comp=Z,40nm,0.4s,mb5.8						
CASY	**Casey**	52.39	209	*e*P	P	04 18 36.3	-0.6
	comp=Z,38nm,0.5s,mb5.7						
MUN	**Mundaring**	53.31	252	*e*P	P	04 18 44.7	+0.5
	comp=Z,14nm,0.5s,mb5.2						
MUN				*e*PCP	PcP	04 19 48.9	-1.2
MBWA	**Marble Bar**	54.50	266	*e*P	P	04 18 52.8	-0.2
	comp=Z,70nm,0.7s,mb5.8						
MBWA				*e*PcP	PcP	04 19 52.8	-1.9
GUMO	**Guam**	57.10	318	*e*P	P	04 19 09.5	-2.2
QSPA	**South Pole Qui**	57.41	180	*e*P	P	04 19 15.3	+2.3
	comp=Z,220nm,0.8s,mb6.2						
QSPA				*e*	pP	04 19 44.4	+3.2
QSPA				*e*		04 20 40.0	
QSPA				*e*		04 23 51.2	
QSPA				*e*		04 27 02.8	

QSPA				LR	LR		
	comp=Z,200nm,19.7s						
HKL	**Haleakala**	**57.69**	**26**	P	**P**	**04 19 13.6**	**-2.1**
KIP	**Kipapa**	**57.71**	**24**	*e*P	**P**	**04 19 14.4**	**-1.5**
KIP				pmax	pmax		
	comp=Z,63nm,0.7s,mb5.8						
KIP	**Kipapa**	**57.71**	**24**	*e*P	**P**	**04 19 14.4**	**-1.5**
	comp=Z,63nm,0.6s,mb5.8						
BUNI	**Buntu Taipa**	**62.86**	**284**	⇑*e*P	**P**	**04 19 50.1**	**-1.0**
	comp=Z,16nm,0.5s,mb5.2						
NINI	**Niniconang**	**62.89**	**283**	*e*P	**P**	**04 19 52.0**	**+0.7**
KEDI	**Kedomdong**	**63.69**	**277**	⇑*e*P	**P**	**04 19 56.8**	**+0.2**
	comp=Z,57nm,0.6s,mb5.6						
TANI	**Tanete Lipujan**	**63.75**	**284**	⇓*e*P	**P**	**04 19 55.6**	**-1.4**
RATI	**Rata**	**64.06**	**276**	⇑*e*P	**P**	**04 19 58.5**	**-0.4**
INGI	**Ingas**	**64.33**	**276**	⇑*e*P	**P**	**04 20 00.8**	**+0.1**
KELI	**Kelakatan**	**65.19**	**276**	⇑*e*P	**P**	**04 20 05.4**	**-0.9**
	comp=Z,140nm,0.6s,mb6.0						
BUKP	**Musuan**	**66.17**	**297**	*e*P	**P**	**04 20 12.5**	**-0.1**
BUTP	**Butuan**	**66.46**	**299**	*e*P	**P**	**04 20 13.0**	**-1.4**
PAGZ	**Pagadian**	**67.41**	**296**	*e*P	**P**	**04 20 19.8**	**-0.6**
MSLP	**Maasin**	**67.79**	**299**	*e*P	**P**	**04 20 22.2**	**-0.5**
TBP	**Tagbilaran**	**68.24**	**298**	*e*P	**P**	**04 20 24.2**	**-1.3**
TBP				*e*S	pP	04 20 57.4	+2.9
CBIJ	**Chichi jima**	**69.61**	**324**	P	**P**	**04 20 31.8**	**-1.9**
	comp=Z,202nm,0.7s,mb6.1,baz=177,slow=2.9,SNR=13						
MAW	**Mawson**	**69.61**	**201**	*e*P	**P**	**04 20 33.2**	**+0.2**
	comp=Z,26nm,0.7s,mb5.2						
MAW				*e*S	S	04 29 27.8	-2.5
MAW	**Mawson**	**69.61**	**201**	P	**P**	**04 20 33.4**	**+0.4**
	comp=Z,26nm,0.6s,mb5.2,baz=129,slow=8.2,SNR=123						
MAW				ScP		04 24 42.5	
	comp=Z,3.9nm,1.1s,baz=254,slow=8.5,SNR=3.0						
MAW				S	S	04 29 27.4	-2.9
	comp=Z,0.6nm,0.5s,baz=213,slow=22,SNR=1.4						
MAW				LR	LR	04 48 35.9	
	comp=Z,230nm,18.9s,baz=291,slow=34						
MAW	**Mawson**	**69.61**	**201**	⇓*e*P	**P**	**04 20 33.2**	**+0.2**
MAW				pmax	pmax		
	comp=Z,31nm,0.7s						
KKM	**Kota Kinabalu**	**71.86**	**290**	*e*P	**P**	**04 20 47.0**	**-0.4**
SYO	**Syowa Base**	**74.52**	**194**	⇑P	**P**	**04 21 01.3**	**-0.6**
SYO	**Syowa Base**	**74.52**	**194**	⇓PcP	PcP	04 21 11.0	-5.0
SYO	**Syowa Base**	**74.52**	**194**	⇓pP	pP	04 21 36.7	+5.3
JHJ	**Hachijo jima 2**	**75.75**	**326**	P	**P**	**04 21 07.5**	**-2.0**
	comp=Z,147nm,0.9s,mb5.7,baz=197,slow=11,SNR=5.1						
SNAA	**Sanae**	**75.89**	**179**	*e*	PcP	04 21 18.7	-3.2
SNAA	**Sanae**	**75.89**	**179**	*e*	Px	04 21 27.4	
SNAA	**Sanae**	**75.89**	**179**	*e*	pP	04 21 36.2	-3.0
SNAA	**Sanae**	**75.89**	**179**	*e*	sP	04 21 51.3	-0.6
SNAA	**Sanae**	**75.89**	**179**	*e*S	S	04 30 41.3	+0.3
SNAA	**Sanae**	**75.89**	**179**	P	**P**	**04 21 10.6**	**+1.0**
SNAA				pmax	pmax		
	comp=Z,180nm,1.1s						
SNAA	**Sanae**	**75.89**	**179**	⇓*i*P	**P**	**04 21 10.4**	**+0.8**
SNAA				*e*		04 21 18.7	
SNAA				*e*		04 21 27.4	
SNAA				*e*	pP	04 21 36.2	-3.0
SNAA				*e*		04 21 51.3	
SNAA				*e*		04 23 58.1	
SNAA				*e*		04 26 49.6	
SNAA				*e*S	S	04 30 41.3	+0.3
VNA3	**Neumayer Olymp**	**76.11**	**177**	*e*	PcP	04 21 21.5	-1.3
VNA3	**Neumayer Olymp**	**76.11**	**177**	*e*	pP	04 21 39.7	-0.8
VNA3	**Neumayer Olymp**	**76.11**	**177**	*e*	sP	04 21 54.4	+1.2
VNA3	**Neumayer Olymp**	**76.11**	**177**	*e*S	S	04 30 46.2	+2.9
VNA3	**Neumayer Olymp**	**76.11**	**177**	⇑*i*P	**P**	**04 21 13.5**	**+2.7**
VNA3				*e*		04 21 21.5	
VNA3				*e*		04 21 30.9	
VNA3				*e*	pP	04 21 39.7	-0.8
VNA3				*e*		04 21 54.4	
VNA3				*e*		04 24 01.9	
VNA3				*e*		04 26 54.5	
VNA3				*e*S	S	04 30 46.2	+2.9
MAIT	**Maitri**	**76.48**	**184**	*e*P	**P**	**04 21 13.1**	**+0.2**
VNA2	**Neumayer--Watz**	**76.52**	**177**	*e*	PcP	04 21 24.7	+0.1
VNA2	**Neumayer--Watz**	**76.52**	**177**	*e*	Px	04 21 33.4	
VNA2	**Neumayer--Watz**	**76.52**	**177**	*e*	pP	04 21 42.1	-0.7
VNA2	**Neumayer--Watz**	**76.52**	**177**	*e*	sP	04 21 57.4	+1.9
VNA2	**Neumayer--Watz**	**76.52**	**177**	*e*S	S	04 30 49.8	+2.0
VNA2	**Neumayer--Watz**	**76.52**	**177**	⇓*i*P	**P**	**04 21 16.5**	**+3.4**
VNA2				*e*		04 21 24.7	
VNA2				*e*		04 21 33.4	
VNA2				*e*	pP	04 21 42.1	-0.7
VNA2				*e*		04 21 57.4	
VNA2				*e*		04 24 05.2	
VNA2				*e*		04 26 57.9	
VNA2				*e*S	S	04 30 49.8	+2.0
VNA1	**Neumayer--Stat**	**76.76**	**177**	*e*	PcP	04 21 26.2	+0.6
VNA1	**Neumayer--Stat**	**76.76**	**177**	*e*	Px	04 21 34.8	
VNA1	**Neumayer--Stat**	**76.76**	**177**	*e*	pP	04 21 43.6	-0.6
VNA1	**Neumayer--Stat**	**76.76**	**177**	*e*	sP	04 21 59.3	+2.4
VNA1	**Neumayer--Stat**	**76.76**	**177**	*e*S	S	04 30 51.2	+0.8
VNA1	**Neumayer--Stat**	**76.76**	**177**	⇓*i*P	**P**	**04 21 18.0**	**+3.5**
VNA1				*e*		04 21 26.2	
VNA1				*e*		04 21 34.8	
VNA1				*e*	pP	04 21 43.6	-0.6
VNA1				*e*		04 21 59.3	
VNA1				*e*		04 24 06.6	
VNA1				*e*		04 26 58.1	
VNA1				*e*S	S	04 30 51.2	+0.8
JOW	**Kunigami**	**77.11**	**314**	P	**P**	**04 21 16.9**	**-0.4**
	comp=Z,44nm,0.6s,mb5.4,baz=150,slow=5.3,SNR=13						
MAJO	**Matsushiro**	**79.30**	**327**	*e*P	**P**	**04 21 27.6**	**-1.5**
MAJO				pmax	pmax		
	comp=Z,26nm,0.7s,mb5.2						
MAJO	**Matsushiro**	**79.30**	**327**	*e*P	**P**	**04 21 27.6**	**-1.5**
	comp=Z,26nm,0.7s,mb5.2						
MAT	**Matsushiro**	**79.30**	**327**	P	**P**	**04 21 26.7**	**-2.4**
MAT				S	S	04 31 20.0	+1.8
MAT	**Matsushiro**	**79.30**	**327**	*e*P	**P**	**04 21 27.0**	**-2.1**
	comp=Z,27nm,0.9s,mb5.1						
MAT				*e*S	S	04 31 20.0	+1.8
PLCA	**Paso Flores**	**82.04**	**134**	P	**P**	**04 21 44.2**	**+0.7**
	comp=Z,9.6nm,0.8s,mb4.7,baz=222,slow=5.0,SNR=16						
PLCA				PKKPbc		04 40 11.4	
	comp=Z,2.8nm,0.8s,baz=23,slow=2.6,SNR=5.0						
PLCA	**Paso Flores**	**82.04**	**134**	P	**P**	**04 21 44.2**	**+0.7**
PLCA				PKKPbc		04 40 11.4	
ASAJ	**Asahikawa**	**83.80**	**334**	LR	LR	04 52 14.1	
	comp=Z,249nm,20.1s,baz=169,slow=30						
KIWB	**Kanaga Island**	**84.23**	**2**	*e*P	**P**	**04 21 53.0**	**-1.2**
SSE	**Sheshan**	**84.50**	**312**	P	**P**	**04 21 56.1**	**0.0**
SSE				PP	PP	04 25 11.3	-2.9
SSE				S	S	04 32 07.9	-3.4
SSE				AMB	AMB		
	comp=Z,21nm,0.7s,mb5.1						
SSE				AMB	AMB		
	comp=Z,189nm,5.3s						
QIZ	**Qiongzhong**	**84.62**	**296**	P	**P**	**04 21 57.5**	**+0.5**
QIZ				*e*S	S	04 32 16.3	+3.6
QIZ				XS		04 33 11.5	
KS15	**Wonju Array Si**	**85.15**	**321**	*e*P	**P**	**04 21 59.5**	**+0.3**
SMY	**Shemya**	**85.24**	**356**	*e*P	**P**	**04 21 59.5**	**+0.2**
	comp=Z,321nm,1.0s,mb6.2						
FX1	**Attu Island--F**	**85.45**	**356**	P	**P**	**04 21 58.6**	**-1.7**
SKR	**Severo-Kuril’s**	**85.72**	**345**	*e*P	**P**	**04 22 11.0**	**+9.4**
SKR				pmax	pmax		
	comp=Z,1µm,1.0s						
SKR				pmax	pmax		
	comp=N,1.0nm,1.0s						
SKR				pmax	pmax		
	comp=E,1.0nm,1.0s						
SKR				pmax	pmax		
	comp=Z,220nm,1.0s,mb6.0						
NIKO	**Nikolski**	**85.85**	**7**	*e*P	**P**	**04 22 00.7**	**-1.6**
YSS	**Yuzh-Sakhalins**	**86.17**	**335**	κ*e*P	**P**	**04 22 03.8**	**-0.2**
YSS				*e*	pP	04 22 33.6	-0.7
YSS				pmax	pmax		
	comp=Z,220nm,0.8s,mb6.1						
YSS				pmax	pmax		
	comp=N,70nm,0.6s						
YSS				pmax	pmax		
	comp=Z,1µm,4.0s						
YSS	**Yuzh-Sakhalins**	**86.17**	**335**	*e*P	**P**	**04 22 03.7**	**-0.3**
	comp=Z,175nm,0.6s,mb6.2						
NJ2	**Nanjing**	**86.61**	**312**	*e*P	**P**	**04 22 08.4**	**+2.0**
NJ2				AP	pP	04 22 40.5	+3.7
NJ2				XP	sP	04 22 54.3	+4.8
NJ2				PP	PP	04 25 34.5	+2.8
NJ2				S	S	04 32 34.0	+2.4
NJ2				XS		04 33 30.0	
NJ2				AMB	AMB		
	comp=Z,90nm,0.7s,mb5.8						
UNV	**Unalaska Valle**	**86.96**	**8**	*e*P	**P**	**04 22 06.3**	**-1.3**
	comp=Z,327nm,1.0s,mb6.2						
PET	**Petropavlovsk**	**87.42**	**347**	*i* P	**P**	**04 22 08.8**	**-1.0**
PET				*e**PP	pP	04 22 44.8	+4.6
PET				*e*S	S	04 32 34.2	-4.5
PET				*e*SP	SP	04 33 38.0	-4.6
PET				pmax	pmax		
	comp=Z,900nm,2.6s,mb6.2						
PET				pmax	pmax		
	comp=Z,154nm,1.5s,mb5.7						
PET				pmax	pmax		
	comp=N,48nm,1.3s						
PET				pmax	pmax		
	comp=Z,200nm,17.4s						
PET				pmax	pmax		
	comp=Z,100nm,14.9s						
PET	**Petropavlovsk**	**87.42**	**347**	*e*P	**P**	**04 22 08.8**	**-1.1**
	comp=Z,369nm,1.4s,mb6.1						
SAO	**San Andreas Ge**	**88.00**	**43**	P	**P**	**04 22 13.5**	**+0.4**
SAO				pmax	pmax		
	comp=Z,98nm,1.3s,mb5.7						
SAO	**San Andreas Ge**	**88.00**	**43**	*e*P	**P**	**04 22 12.9**	**-0.1**
	comp=Z,98nm,1.3s,mb5.7						
LRV	**Little Rabbit**	**88.02**	**44**	*e*P	**P**	**04 22 13.6**	**+0.5**
BAR	**Barrett**	**88.14**	**49**	*e*P	**P**	**04 22 14.0**	**+0.2**
MWC	**Mount Wilson**	**88.29**	**47**	P	**P**	**04 22 15.1**	**+0.6**
MWC	**Mount Wilson**	**88.29**	**47**	*e*P	**P**	**04 22 14.5**	**0.0**
LKC	**Lake Chabot**	**88.33**	**42**	*e*P	**P**	**04 22 14.6**	**0.0**
KKTK	**Khon Kaen**	**88.49**	**290**	P	**P**	**04 22 17.0**	**+1.2**
	comp=Z,556nm,0.6s						
WHN	**Wuhan**	**88.54**	**308**	⇑P	**P**	**04 22 17.0**	**+1.3**
NSHM	**Saint Helena R**	**88.57**	**41**	*e*P	**P**	**04 22 15.9**	**+0.2**
HOPS	**Hopland**	**88.65**	**41**	*e*P	**P**	**04 22 16.3**	**+0.3**
	comp=Z,193nm,1.4s,mb5.9						
PFO	**Pinyon Flat Ob**	**88.88**	**48**	P	**P**	**04 22 18.2**	**+0.9**
PFO				pmax	pmax		
	comp=Z,140nm,1.2s,mb5.9						
PFO	**Pinyon Flat Ob**	**88.88**	**48**	*e*P	**P**	**04 22 17.9**	**+0.7**
	comp=Z,137nm,1.3s,mb5.8						
SDPT	**Sand Point**	**89.25**	**11**	*e*P	**P**	**04 22 18.2**	**-0.3**
	comp=Z,627nm,1.1s,mb6.6						
CMB	**Columbia Colle**	**89.49**	**43**	P	**P**	**04 22 19.9**	**-0.1**
CMB	**Columbia Colle**	**89.49**	**43**	P	**P**	**04 22 19.7**	**-0.3**
CMB				pmax	pmax		
	comp=Z,110nm,1.0s,mb5.8						
CMB	**Columbia Colle**	**89.49**	**43**	*e*P	**P**	**04 22 19.1**	**-0.9**
	comp=Z,110nm,1.0s,mb5.8						
DL2	**Dalian**	**89.62**	**318**	PR		04 22 20.5	
DL2				S	S	04 32 55.9	-3.6
DL2				AMB	AMB		
	comp=Z,50nm,1.2s,mb5.5						
KHMM	**Horse Mountain**	**89.63**	**39**	*e*P	**P**	**04 22 21.6**	**+1.0**
MDJ	**Mudanjiang**	**89.68**	**326**	P	**P**	**04 22 20.8**	**+0.1**
MDJ				AP	pP	04 22 51.3	0.0
MDJ				PP	PP	04 25 56.8	+0.5
MDJ				S	S	04 33 01.8	+1.9
MDJ				XS		04 33 57.8	
MDJ				AMB	AMB		
	comp=Z,49nm,1.3s,mb5.5						
MDJ				AMB	AMB		
	comp=Z,275nm,9.3s						
MDJ				LR	LR		
	comp=N,154nm,21.5s						
MDJ				LR	LR		
	comp=E,201nm,40.2s						
MDJ				LR	LR		
	comp=Z,226nm,23.0s						
MDJ	**Mudanjiang**	**89.68**	**326**	*e*P	**P**	**04 22 20.2**	**-0.5**
	comp=Z,99nm,1.4s,mb5.8						
OHCM	**Honcut**	**89.77**	**41**	*e*P	**P**	**04 22 20.9**	**-0.4**
DAC	**Darwin (Calif)**	**89.94**	**46**	P	**P**	**04 22 22.7**	**+0.5**
DAC				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb5.0						
DAC	**Darwin (Calif)**	**89.94**	**46**	*e*P	**P**	**04 22 22.4**	**+0.3**
	comp=Z,9.2nm,0.7s,mb5.0						
KRMB	**Red Mountain**	**90.00**	**38**	*e*P	**P**	**04 22 22.8**	**+0.4**
OMM	**Old Mammoth Mi**	**90.01**	**44**	*e*P	**P**	**04 22 22.9**	**+0.4**
WDC	**Whiskeytown Da**	**90.06**	**40**	P	**P**	**04 22 22.9**	**+0.3**
WDC				pmax	pmax		
	comp=Z,170nm,1.2s,mb6.0						
WDC	**Whiskeytown Da**	**90.06**	**40**	⇓*i*P	**P**	**04 22 22.8**	**+0.1**
	comp=Z,166nm,1.3s,mb6.0						
MTUM	**Tungsten Hills**	**90.09**	**44**	*e*P	**P**	**04 22 23.3**	**+0.4**
SFJM	**Santa Fe**	**90.34**	**66**	*e*P	**P**	**04 22 26.0**	**+1.6**
TIA	**Tai’an**	**90.44**	**314**	*e*P	**P**	**04 22 25.3**	**+0.8**
SNY	**Shenyang**	**90.61**	**321**	⇓P	**P**	**04 22 24.1**	**-1.1**
LDFC	**Landfair**	**90.68**	**48**	*e*P	**P**	**04 22 27.0**	**+1.3**
WCN	**Washoe City**	**90.72**	**42**	*e*P	**P**	**04 22 26.2**	**+0.5**
WCN				pmax	pmax		
	comp=Z,81nm,1.1s,mb5.8						
WCN	**Washoe City**	**90.72**	**42**	*e*P	**P**	**04 22 25.8**	**0.0**
	comp=Z,81nm,1.1s,mb5.8						
KEBM	**Edson Butte**	**90.75**	**37**	*e*P	**P**	**04 22 26.6**	**+0.8**
BEKR	**Beckwourth**	**90.76**	**42**	*e*P	**P**	**04 22 25.7**	**-0.3**
	comp=Z,56nm,1.1s,mb5.6						
YBH	**Yreka Blue Hor**	**90.78**	**39**	P	**P**	**04 22 26.4**	**+0.4**
	comp=Z,67nm,1.0s,mb5.7,baz=158,slow=3.4,SNR=44						
YBH	**Yreka Blue Hor**	**90.78**	**39**	P	**P**	**04 22 26.9**	**+0.9**
YBH				pmax	pmax		
	comp=Z,88nm,1.1s						
YBH	**Yreka Blue Hor**	**90.78**	**39**	*e*P	**P**	**04 22 26.6**	**+0.6**
	comp=Z,88nm,1.1s,mb5.8						
NVAR	**Mina Array Bea**	**90.96**	**44**	P	**P**	**04 22 26.8**	**-0.1**
	comp=Z,32nm,0.7s,mb5.6,baz=206,slow=6.2,SNR=115						
MNV	**Mina**	**91.05**	**44**	⇓*i*P	**P**	**04 22 26.9**	**-0.4**
MNV				pmax	pmax		
	comp=Z,49nm,1.0s,mb5.6						
MNV	**Mina**	**91.05**	**44**	⇓*i*P	**P**	**04 22 26.9**	**-0.5**
	comp=Z,49nm,1.0s,mb5.6						
CN2	**Changchun**	**91.07**	**324**	*e*P	**P**	**04 22 26.5**	**-0.8**
CN2				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.2						
TPNV	**Topopah Spring**	**91.20**	**46**	P	**P**	**04 22 28.8**	**+0.7**
TPNV				pmax	pmax		
	comp=Z,41nm,0.8s,mb5.6						
TPNV	**Topopah Spring**	**91.20**	**46**	*e*P	**P**	**04 22 28.7**	**+0.6**
	comp=Z,41nm,0.8s,mb5.6						
TPNV				*e*PcP	PcP	04 22 32.6	+3.5
PAHR	**Pah Rah Range**	**91.20**	**42**	*e*P	**P**	**04 22 27.9**	**-0.1**
	comp=Z,25nm,0.9s,mb5.3						
NEN	**Nelson**	**91.22**	**48**	*e*P	**P**	**04 22 28.6**	**+0.4**
HUMO	**Hull Mountain**	**91.27**	**38**	*e*P	**P**	**04 22 28.7**	**+0.4**
	comp=Z,283nm,1.5s,mb6.2						
MOIG	**Morelia**	**91.32**	**68**	*e*P	**P**	**04 22 30.2**	**+1.2**
TPH	**Tonopah**	**91.36**	**44**	*e*P	**P**	**04 22 29.0**	**+0.2**
TPH				pmax	pmax		
	comp=Z,120nm,1.0s,mb6.0						
TPH	**Tonopah**	**91.36**	**44**	⇓*e*P	**P**	**04 22 28.9**	**+0.1**
	comp=Z,120nm,1.1s,mb5.9						
GYA	**Guiyang**	**91.39**	**301**	⇓*i*P	**P**	**04 22 31.1**	**+1.9**
GYA				AP	pP	04 23 04.8	+5.0
GYA				XP	sP	04 23 16.4	+4.0
GYA				PP	PP	04 26 09.3	-1.1
GYA				S	S	04 33 12.6	-3.0
GYA				AMB	AMB		
	comp=Z,80nm,0.8s,mb5.9						
NANT	**Nan**	**91.54**	**291**	P	**P**	**04 22 31.0**	**+1.0**
ENH	**Enshi**	**91.66**	**305**	*e*P	**P**	**04 22 29.8**	**-0.5**
	comp=Z,98nm,0.8s,mb6.1						
HSO	**Harness Mounta**	**91.85**	**37**	P	**P**	**04 22 31.9**	**+1.0**
HSO	**Harness Mounta**	**91.85**	**37**	*e*P	**P**	**04 22 31.8**	**+0.8**
MOD	**Modoc**	**92.19**	**40**	⇓*e*P	**P**	**04 22 32.3**	**-0.2**
	comp=Z,60nm,0.7s,mb5.9						
KLR	**Kul’dur**	**92.27**	**331**	⇑*e*P	**P**	**04 22 30.2**	**-2.5**
KLR				*e*	pP	04 23 05.0	+1.7
KLR				*e*		04 26 09.5	
KLR				*e*S	S	04 33 20.5	-2.2
KLR				pmax	pmax		
	comp=N,35nm,1.8s						
KLR				pmax	pmax		
	comp=Z,70nm,1.8s,mb5.6						
CM31	**Chiang Mai Arr**	**92.74**	**290**	*e*P	**P**	**04 22 36.1**	**+0.6**
	comp=Z,13nm,1.1s,mb5.2						
CMAR	**Chiang Mai Arr**	**92.74**	**290**	P	**P**	**04 22 35.9**	**+0.4**
	comp=Z,4.5nm,0.7s,mb4.9,baz=139,slow=3.5,SNR=23						
CMAR				PP	PP	04 26 16.2	-5.1
	comp=Z,2.0nm,1.0s,baz=124,slow=6.5,SNR=3.4						
CMAR				PKKPbc		04 39 45.1	
	comp=Z,4.9nm,1.1s,baz=289,slow=3.8,SNR=6.4						
BMN	**Battle Mountai**	**92.92**	**43**	P	**P**	**04 22 36.1**	**+0.2**
BMN				pmax	pmax		
	comp=Z,38nm,0.8s,mb5.8						
BMN	**Battle Mountai**	**92.92**	**43**	*e*P	**P**	**04 22 35.9**	**0.0**
	comp=Z,38nm,0.8s,mb5.8						
CHG	**Chiang Mai**	**92.93**	**290**	⇑P	**P**	**04 22 37.3**	**+0.9**
	comp=Z,13nm,0.7s,mb5.4						
NCOR	**Newberry Crate**	**92.99**	**38**	P	**P**	**04 22 36.8**	**+0.6**
KDAK	**Kodiak Island**	**93.00**	**14**	*e*P	**P**	**04 22 34.6**	**-1.2**
	comp=Z,19nm,0.9s,mb5.4						
SSOR	**Sweet Springs**	**93.11**	**37**	P	**P**	**04 22 37.0**	**+0.4**
SSOR	**Sweet Springs**	**93.11**	**37**	*e*P	**P**	**04 22 36.5**	**-0.2**
PINOR	**Pine Mountain**	**93.20**	**38**	P	**P**	**04 22 37.8**	**+0.7**
WUAZ	**Wupatki**	**93.33**	**49**	*e*P	**P**	**04 22 38.6**	**+0.7**
	comp=Z,14nm,0.8s,mb5.3						
GT2	**Goat Mountain**	**93.42**	**37**	P	**P**	**04 22 38.2**	**+0.2**
ARUT	**Antelope Range**	**93.45**	**47**	*e*P	**P**	**04 22 38.8**	**+0.5**
ARUT	**Antelope Range**	**93.45**	**47**	*e*P	**P**	**04 22 39.1**	**+0.7**
WVOR	**Wild Horse Val**	**93.46**	**41**	P	**P**	**04 22 34.9**	**-3.4**
WVOR				pmax	pmax		
	comp=Z,51nm,1.2s,mb5.7						
WVOR	**Wild Horse Val**	**93.46**	**41**	*e*P	**P**	**04 22 38.3**	**0.0**
	comp=Z,50nm,1.2s,mb5.7						
BJT	**Baijiatuau**	**93.50**	**316**	P	**P**	**04 22 39.6**	**+1.1**
BJT				pmax	pmax		
	comp=Z,13nm,0.7s						
BJT	**Baijiatuau**	**93.50**	**316**	*e*P	**P**	**04 22 39.3**	**+0.8**
	comp=Z,13nm,0.7s,mb5.4						
BJI	**Beijing**	**93.51**	**316**	P	**P**	**04 22 38.5**	**-0.1**
BJI				S	S	04 33 21.9	-12
BJI				AMB	AMB		
	comp=Z,25nm,1.1s,mb5.5						
KMI	**Kunming**	**93.51**	**298**	*e*P	**P**	**04 22 40.3**	**+1.4**
KMI				AP	pP	04 23 14.5	+4.9
KMI				XP	sP	04 23 27.8	+5.7
KMI				PP	PP	04 26 25.6	-1.8
KMI				PPP	PPP	04 28 36.3	+5.3
KMI				SKS	SKS	04 33 02.0	+1.2
KMI				S	S	04 33 37.8	+3.7
KMI				XS		04 34 36.8	
KMI				PS	PS	04 35 18.6	+10
KMI				SS	SS	04 40 02.0	+4.2
KMI				AMB	AMB		
	comp=Z,26nm,1.5s,mb5.3						
KMI				AMB	AMB		
	comp=Z,72nm,4.8s						
GMO	**Grizzlie Mount**	**93.59**	**38**	P	**P**	**04 22 39.1**	**+0.3**
VBEM	**Beaver Butte**	**93.70**	**37**	P	**P**	**04 22 39.5**	**+0.2**
VIPM	**Ingram Point**	**93.81**	**38**	P	**P**	**04 22 40.2**	**+0.4**
BMW	**Boistfort Moun**	**93.88**	**35**	P	**P**	**04 22 40.9**	**+0.9**
BMW	**Boistfort Moun**	**93.88**	**35**	*e*P	**P**	**04 22 40.6**	**+0.6**
VFP	**Flag Point**	**93.94**	**37**	P	**P**	**04 22 40.5**	**+0.2**
SHW	**Mount Saint He**	**94.16**	**36**	P	**P**	**04 22 42.2**	**+0.9**
SHW	**Mount Saint He**	**94.16**	**36**	P	**P**	**04 22 42.3**	**+1.0**
HSR	**South Ridge**	**94.18**	**36**	P	**P**	**04 22 42.1**	**+0.7**
ERK	**Elk Rock**	**94.19**	**36**	P	**P**	**04 22 42.0**	**+0.6**
ELK	**Elko**	**94.27**	**43**	P	**P**	**04 22 42.1**	**+0.2**
ELK				pmax	pmax		
	comp=Z,36nm,1.1s						
ELK	**Elko**	**94.27**	**43**	*e*P	**P**	**04 22 42.0**	**+0.1**
	comp=Z,36nm,1.1s,mb5.6						
CPW	**Capitol Peak**	**94.27**	**35**	P	**P**	**04 22 42.2**	**+0.4**
TDL	**Tradedollar La**	**94.28**	**36**	P	**P**	**04 22 42.5**	**+0.6**
XAN	**Xi’an**	**94.30**	**308**	P	**P**	**04 22 43.3**	**+1.0**
VTHM	**Trough**	**94.31**	**38**	P	**P**	**04 22 42.2**	**+0.1**
OCWA	**Octopus Mounta**	**94.33**	**34**	*e*P	**P**	**04 22 43.1**	**+1.0**
	comp=Z,33nm,0.7s,mb5.8						
VGB	**Gordon Butte**	**94.43**	**37**	P	**P**	**04 22 42.9**	**+0.3**
VGB	**Gordon Butte**	**94.43**	**37**	*e*P	**P**	**04 22 42.8**	**+0.2**
MVU	**Marysvale**	**94.65**	**47**	*e*P	**P**	**04 22 44.9**	**+1.1**
	comp=Z,11nm,0.9s,mb5.3						
MSU	**Marysvale**	**94.68**	**47**	P	**P**	**04 22 45.1**	**+1.2**
MSU	**Marysvale**	**94.68**	**47**	*e*P	**P**	**04 22 44.7**	**+0.8**
GL2	**New Goldendale**	**94.71**	**37**	P	**P**	**04 22 44.1**	**+0.2**
LON	**Longmire**	**94.77**	**36**	P	**P**	**04 22 44.1**	**0.0**
LON	**Longmire**	**94.77**	**36**	*e*P	**P**	**04 22 43.8**	**-0.3**
HDW	**Hoodsport**	**94.79**	**35**	P	**P**	**04 22 44.8**	**+0.7**
GNW	**Green Mountain**	**94.84**	**35**	*e*P	**P**	**04 22 44.6**	**+0.2**
RCS	**Mount Rainier-**	**94.89**	**36**	P	**P**	**04 22 45.3**	**+0.6**
FMW	**Mount Fremont**	**94.96**	**36**	P	**P**	**04 22 45.0**	**+0.1**
GSM	**Grass Mountain**	**95.09**	**35**	P	**P**	**04 22 46.0**	**+0.4**
MA2	**Magadan**	**95.12**	**345**	P	**P**	**04 22 42.6**	**-2.8**
MA2				pmax	pmax		
	comp=Z,20nm,1.8s,mb5.2						
MA2	**Magadan**	**95.12**	**345**	*e*P	**P**	**04 22 42.8**	**-2.6**
PGC	**Sidney**	**95.31**	**34**	*e*P	**P**	**04 22 46.2**	**-0.3**
	comp=Z,47nm,0.8s,mb6.0						
RSO	**Redoubt South**	**95.45**	**13**	*e*P	**P**	**04 22 45.5**	**-1.4**
BNM	**Barren Site**	**95.62**	**53**	*e*P	**P**	**04 22 48.8**	**+0.5**
HAWA	**Hanford**	**95.66**	**37**	*e*P	**P**	**04 22 48.1**	**0.0**
	comp=Z,1.6nm,0.9s						
MDW	**Midway**	**95.69**	**37**	P	**P**	**04 22 48.6**	**+0.3**
GBL	**Gable Mountain**	**95.84**	**37**	P	**P**	**04 22 49.0**	**0.0**
LOCW	**Locke Island**	**95.93**	**37**	P	**P**	**04 22 49.6**	**+0.2**
LNOR	**Lincton Mounta**	**95.95**	**38**	P	**P**	**04 22 49.3**	**-0.2**
LNOR	**Lincton Mounta**	**95.95**	**38**	*e*P	**P**	**04 22 49.0**	**-0.5**
SLKM	**Skilak Lake**	**96.00**	**14**	P	**P**	**04 22 49.1**	**-0.2**
SLKM	**Skilak Lake**	**96.00**	**14**	*e*P	**P**	**04 22 48.2**	**-1.1**
CD2	**Chengdu**	**96.03**	**303**	P	**P**	**04 22 52.0**	**+1.8**
GDL2	**Guadalupe Moun**	**96.05**	**56**	*e*P	**P**	**04 22 50.5**	**+0.2**
SRU	**San Rafael**	**96.06**	**47**	P	**P**	**04 22 50.8**	**+0.6**
SRU	**San Rafael**	**96.06**	**47**	*e*P	**P**	**04 22 50.2**	**0.0**
ETW	**Entiat**	**96.08**	**36**	P	**P**	**04 22 50.0**	**-0.1**
RPW	**Rockport**	**96.09**	**35**	P	**P**	**04 22 49.8**	**-0.2**
ANMO	**Albuquerque**	**96.20**	**52**	*de*P	**P**	**04 22 50.9**	**0.0**
SPU	**Mount Spurr**	**96.25**	**13**	*e*P	**P**	**04 22 48.4**	**-2.1**
WTV	**Waterville**	**96.34**	**36**	P	**P**	**04 22 50.7**	**-0.5**
HVU	**Hansel Valley**	**96.36**	**44**	P	**P**	**04 22 52.2**	**+0.8**
HVU	**Hansel Valley**	**96.36**	**44**	*e*P	**P**	**04 22 51.8**	**+0.4**
NLW	**Nelson Butte**	**96.41**	**36**	*e*P	**P**	**04 22 51.0**	**-0.5**
HLID	**Hailey**	**96.54**	**42**	*e*P	**P**	**04 22 52.5**	**+0.3**
	comp=Z,25nm,1.0s,mb5.6						
PV10	**Paradox Valley**	**96.55**	**48**	*e*P	**P**	**04 22 52.3**	**-0.1**
PV01	**Paradox Valley**	**96.70**	**49**	*e*P	**P**	**04 22 52.7**	**-0.4**
HHC	**Hu-ho-hao-te**	**96.75**	**315**	*e*P	**P**	**04 22 57.9**	**+4.6**
HHC				AP	pP	04 23 29.8	+5.9
HHC				XP	sP	04 23 42.9	+6.4
HHC				S	S	04 34 07.8	+6.6
HHC				XS		04 35 06.3	
HHC				PS	PS	04 35 51.5	+8.3
HHC				SS	SS	04 40 45.1	+2.4
HHC				AMB	AMB		
	comp=Z,15nm,0.5s,mb5.7						
HHC				AMB	AMB		
	comp=Z,71nm,5.1s						
TCUT	**Toone Canyon**	**96.75**	**45**	*e*P	**P**	**04 22 52.8**	**-0.5**
CPRX	**Cap Rock**	**96.86**	**55**	*e*P	**P**	**04 22 53.6**	**-0.3**
HWUT	**Hardware Ranch**	**96.96**	**45**	*e*P	**P**	**04 22 54.1**	**-0.1**
	comp=Z,6.2nm,0.6s,mb5.2						
EYAK	**Cordova Ski Ar**	**97.02**	**16**	*e*P	**P**	**04 22 53.9**	**-0.1**
DPW	**Davenport**	**97.33**	**37**	*e*P	**P**	**04 22 55.1**	**-0.6**
DIV	**Divide**	**97.53**	**16**	*e*P	**P**	**04 22 55.4**	**-1.0**
	comp=Z,58nm,0.9s,mb6.1						
SML	**Sawmill**	**97.57**	**14**	P	**P**	**04 22 57.0**	**+0.5**
SML	**Sawmill**	**97.57**	**14**	*e*P	**P**	**04 22 56.1**	**-0.4**
NEW	**Newport**	**98.13**	**37**	P	**P**	**04 22 58.3**	**-1.0**
	comp=Z,3.4nm,0.6s,mb5.0,baz=242,slow=5.1,SNR=5.8						
NEW				PP	PP	04 26 50.9	-12
	comp=Z,1.5nm,0.7s,baz=217,slow=10,SNR=2.2						
NEW	**Newport**	**98.13**	**37**	P	**P**	**04 22 58.9**	**-0.4**
NEW				pmax	pmax		
	comp=Z,12nm,1.2s						
NEW	**Newport**	**98.13**	**37**	*e*P	**P**	**04 22 58.3**	**-1.0**
	comp=Z,12nm,1.2s,mb5.3						
MCMT	**McKenzie Canyo**	**98.21**	**41**	*e*P	**P**	**04 23 00.1**	**+0.3**
REDW	**Red Top Meadow**	**98.45**	**43**	*e*P	**P**	**04 23 01.1**	**+0.2**
TPAW	**Teton Pass**	**98.47**	**43**	*e*P	**P**	**04 23 01.2**	**+0.2**
LPAZ	**La Paz**	**98.57**	**115**	P	**P**	**04 23 02.5**	**+0.4**
	comp=Z,1.5nm,0.2s,mb5.1,baz=335,slow=0.4,SNR=2.3						
LPAZ				S		04 33 29.6	
	comp=Z,1.4nm,0.2s,baz=317,slow=0.4,SNR=4.1						
LPAZ				LR	LR	04 58 54.1	
	comp=Z,83nm,19.6s,baz=340,slow=30						
SNOW	**Snow King Moun**	**98.57**	**43**	*e*P	**P**	**04 23 01.4**	**-0.1**
WUWY	**Wally Ulrich**	**98.62**	**43**	*e*P	**P**	**04 23 01.4**	**-0.3**
IMW	**Indian Meadow**	**98.72**	**43**	*e*P	**P**	**04 23 02.0**	**-0.2**
MOOW	**Moose Ponds**	**98.75**	**43**	*e*P	**P**	**04 23 02.5**	**+0.2**
PDAR	**Pinedale Array**	**98.85**	**45**	P	**P**	**04 23 01.9**	**-0.9**
	comp=Z,3.8nm,0.8s,mb5.0,baz=212,slow=2.5,SNR=27						
PDAR				PP	Px	04 26 50.7	
	comp=Z,0.5nm,0.9s,baz=255,slow=10,SNR=4.1						
PDAR				PKiKP		04 27 32.8	
	comp=Z,0.4nm,0.9s,baz=18,slow=9.4,SNR=2.2						
PDAR				PKKPbc		04 39 29.4	
	comp=Z,1.0nm,0.6s,baz=71,slow=4.9,SNR=8.0						
PDAR				LR	LR	05 00 00.4	
	comp=Z,108nm,21.3s,baz=68,slow=31						
MSO	**Missoula**	**98.86**	**39**	*e*P	**P**	**04 23 01.6**	**-1.2**

	comp=Z,2.1nm,0.8s,mb4.7						
LZH	**Lanzhou**	**98.88**	**307**	⇑P	**P**	**04 23 04.0**	**+0.9**
LZH				AP	pP	04 23 36.9	+3.1
LZH				XP	sP	04 23 50.4	+4.1
LZH				PP	PP	04 27 09.5	+1.5
LZH				*e*SKS	SKS	04 33 29.3	+0.3
LZH				*e*S	S	04 34 20.1	+0.8
LZH				SS	SS	04 41 14.3	+1.7
LZH				AMB	AMB		
	comp=Z,41nm,1.4s,mb5.8						
LZH				AMB	AMB		
	comp=Z,157nm,6.4s						
QLMT	**Earthquake Lak**	**99.01**	**42**	*e*P	**P**	**04 23 04.2**	**+0.7**
MCK	**McKinley**	**99.18**	**13**	P	**P**	**04 23 04.8**	**+1.0**
MCK				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.6						
MCK	**McKinley**	**99.18**	**13**	*e*P	**P**	**04 23 03.3**	**-0.5**
	comp=Z,20nm,1.0s,mb5.6						
CHMT	**Chamberlain Mo**	**99.29**	**40**	*e*P	**P**	**04 23 03.8**	**-0.9**
BOZ	**Bozeman (W)**	**99.39**	**41**	P	**P**	**04 23 04.8**	**-0.4**
BOZ				pmax	pmax		
	comp=Z,48nm,1.4s,mb5.8						
BOZ	**Bozeman (W)**	**99.39**	**41**	*e*P	**P**	**04 23 04.7**	**-0.5**
	comp=Z,48nm,1.4s,mb5.8						
THY	**Trims Highway**	**99.55**	**15**	Pdif	**P**	**04 23 04.0**	**-1.5**
CPUP	**Villa Florida**	**99.72**	**130**	PKKPbc		04 39 25.6	
	comp=Z,5.4nm,0.8s,baz=72,slow=2.7,SNR=16						
CPUP				LR	LR	05 01 41.7	
	comp=Z,185nm,18.1s,baz=252,slow=31						
DLBC	**Dease Lake**	**99.84**	**24**	P	**P**	**04 23 05.8**	**-1.1**
	comp=Z,2.6nm,0.7s,mb5.0,baz=254,slow=16,SNR=3.7						
DLBC	**Dease Lake**	**99.84**	**24**	P	**P**	**04 23 05.8**	**-1.1**
DLBC				*e*Pdif	**P**	**04 23 09.4**	**+2.5**
HRY	**Holter Researc**	**99.93**	**40**	*e*P	**P**	**04 23 07.3**	**-0.3**
COLA	**College**	**100.42**	**13**	*e*P	P	04 23 09.5	+0.2
COLA				pmax	pmax		
	comp=Z,18nm,0.9s						
COLA	**College**	**100.42**	**13**	*e*P	P	04 23 09.5	+0.2
	comp=Z,18nm,0.9s						
IMA	**Indian Mountai**	**100.50**	**11**	*e*Pdif	P	04 23 09.4	-0.2
	comp=Z,48nm,1.3s						
ILAR	**Eielson Array**	**100.52**	**14**	P	P	04 23 08.6	-1.1
	comp=Z,5.4nm,0.8s,baz=221,slow=3.8,SNR=28						
ILAR				PP	Px	04 27 06.4	
	comp=Z,1.1nm,0.9s,baz=223,slow=7.1,SNR=3.0						
ILAR				PKiKP		04 27 34.0	
	comp=Z,2.1nm,0.8s,baz=301,slow=3.0,SNR=10.0						
ILAR				PKKPab		04 39 48.0	
	comp=Z,0.6nm,0.7s,baz=1.5,slow=3.6,SNR=4.3						
DAWY	**Dawson**	**101.58**	**17**	*e*Pdif	P	04 23 14.0	-0.5
YAK	**Yakutsk**	**102.80**	**338**	*e*P	Pdif	04 23 19.3	-0.7
YAK				pmax	pmax		
	comp=Z,11nm,1.1s						
YAK				pmax	pmax		
	comp=N,5.0nm,1.5s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.2s						
RSSD	**Black Hills**	**102.92**	**46**	P	Pdif	04 23 20.8	-0.1
RSSD				pmax	pmax		
	comp=Z,10.0nm,0.8s						
RSSD	**Black Hills**	**102.92**	**46**	*e*Pdif	Pdif	04 23 19.7	-1.3
	comp=Z,9.6nm,0.8s						
EDM	**Edmonton**	**103.12**	**34**	P	Pdif	04 23 22.2	+0.6
EDM	**Edmonton**	**103.12**	**34**	*e*P	Pdif	04 23 20.8	-0.8
SONM	**Songino Array**	**103.83**	**318**	Pdiff	Pdif	04 23 24.2	-0.6
	comp=Z,0.5nm,0.5s,baz=185,slow=27,SNR=2.8						
SONM				PP	PP	04 27 37.3	-8.0
	comp=Z,1.9nm,0.8s,baz=135,slow=4.1,SNR=2.4						
SONM				PKKPbc		04 39 16.1	
	comp=Z,2.6nm,0.7s,baz=315,slow=1.7,SNR=5.1						
INK	**Inuvik**	**106.41**	**16**	Pdiff	Pdif	04 23 33.4	-2.4
	comp=Z,1.6nm,0.7s,baz=224,slow=7.0,SNR=4.0						
INK				PKiKP		04 27 44.2	
	comp=Z,6.1nm,0.8s,baz=196,slow=2.8,SNR=8.0						
INK				PKKPbc		04 39 07.7	
	comp=Z,0.8nm,0.5s,baz=310,slow=20,SNR=5.7						
INK				PKKP	PKKP	04 39 19.7	+17
	comp=Z,1.7nm,0.7s,baz=31,slow=12,SNR=5.3						
INK	**Inuvik**	**106.41**	**16**	Pdif	Pdif	04 23 33.2	-2.6
INK				PKPdf		04 27 44.2	
INK				*e*PKPdf		04 27 44.4	
INK				PKKPbc		04 39 07.7	
INK				PKKP	PKKP	04 39 19.7	+17
ZAK	**Zakamensk**	**106.92**	**319**	*e*P	Pdif	04 23 42.5	+4.1
PKI	**Pulchoki**	**108.07**	**291**	*e*P		04 27 50.1	
	comp=Z,12nm,0.6s						
YKA	**Yellowknife Ar**	**108.18**	**26**	PKiKP		04 27 48.1	
	comp=Z,2.3nm,0.5s,baz=251,slow=1.6,SNR=14						
YKA				PKKPbc		04 39 00.9	
	comp=Z,2.2nm,0.6s,baz=29,slow=3.3,SNR=5.5						
YKA	**Yellowknife Ar**	**108.18**	**26**	PKPdf		04 27 48.1	
YKA				PKKPbc		04 39 00.9	
KKN	**Kakani**	**108.28**	**292**	*e*P		04 27 49.4	
	comp=Z,9.4nm,0.5s						
DMN	**Daman**	**108.33**	**291**	*e*P		04 27 50.1	
GKN	**Gorkha**	**108.88**	**292**	*e*P		04 27 49.3	
	comp=Z,4.7nm,0.4s						
KOLN	**Koldanda**	**109.59**	**291**	*e*P		04 27 52.0	
	comp=Z,20nm,0.9s						
TIXI	**Tiksi**	**110.08**	**345**	P	Pdif	04 23 49.0	-2.8
TIXI				*e*		04 28 24.9	
TIXI				*e*		04 34 18.7	
TIXI				*e*SS	SS	04 43 42.0	-3.4
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ULM	**Lac du Bonnet**	**110.79**	**43**	PKiKP		04 27 53.0	
	comp=Z,3.4nm,0.5s,baz=285,slow=2.4,SNR=4.8						
WCI	**Wyandotte Cave**	**111.83**	**58**	*e*PKIKP	PKPdf	04 27 56.1	+0.3
BDFB	**Brasilia**	**113.39**	**128**	PKiKP		04 28 00.6	
	comp=Z,1.0nm,0.4s,baz=276,slow=6.9,SNR=4.7						
BDFB				PKKPbc		04 38 45.0	
	comp=Z,6.0nm,0.8s,baz=90,slow=3.9,SNR=10						
BDFB				PKKPab		04 38 54.4	
	comp=Z,1.7nm,0.6s,baz=68,slow=5.2,SNR=3.3						
WMQ	**Urumqi**	**113.44**	**308**	*e*PKP	PKPdf	04 28 00.6	+1.7
WMQ				PP	PP	04 28 57.9	+1.2
WMQ				SS	SS	04 44 33.0	+2.6
WMQ				LR	LR		
	comp=Z,100nm,26.0s						
FCC	**Fort Churchill**	**115.22**	**35**	*e*PKIKP	PKPdf	04 28 00.9	-1.2
FWV	**Forest Hill**	**115.54**	**60**	PKPdf	PKPdf	04 28 03.4	+0.2
MKAR	**Makanchi Array**	**118.07**	**310**	Pdiff	Pdif	04 24 29.3	+1.8
	comp=Z,0.3nm,0.6s,baz=81,slow=6.5,SNR=2.4						
MKAR				PKP	PKPdf	04 28 06.8	-1.0
	comp=Z,23nm,0.6s,baz=100,slow=1.0,SNR=111						
MKAR				PKKPbc		04 38 28.9	
	comp=Z,1.7nm,0.6s,baz=326,slow=3.5,SNR=11						
MKAR	**Makanchi Array**	**118.07**	**310**	*i* PKIKP	PKPdf	04 28 06.7	-1.1
MKAR				pmax	pmax		
	comp=Z,15nm,0.6s						
AOPR	**Arecibo Observ**	**118.79**	**86**	*e*PKPdf	PKPdf	04 28 10.6	+0.7
GENY	**Geneseo**	**119.51**	**56**	*e*PKPdf	PKPdf	04 28 10.7	0.0
NVS	**Novosibirsk**	**119.86**	**319**	*i* PKIKP	PKPdf	04 28 09.3	-1.8
NVS				*e*		04 34 51.4	
NVS				pmax	pmax		
	comp=Z,80nm,1.4s						
KSH	**Kashi**	**120.08**	**300**	PKP	PKPdf	04 28 14.3	+2.4
KSH				*e*PKS	PKS	04 31 48.0	+0.3
KSH				LR	LR		
	comp=N,230nm,6.2s						
KSH				LR	LR		
	comp=E,270nm,5.0s						
ULHL	**Ulahol**	**120.75**	**303**	P	PKPdf	04 28 15.0	+1.9
	SNR=8.1						
TKM2	**Tokmak 2**	**121.41**	**304**	P	PKPdf	04 28 14.2	-0.2
	SNR=48						
KURK	**Kurchatov**	**121.52**	**313**	PKIKP	PKPdf	04 28 13.6	-0.8
KURK	**Kurchatov**	**121.52**	**313**	*e*PKPdf	PKPdf	04 28 13.3	-1.1
KBK	**Karagaybulak**	**121.79**	**303**	P	PKPdf	04 28 15.5	+0.4
	SNR=15						
UCH	**Uchtor**	**121.97**	**303**	P	PKPdf	04 28 16.7	+1.2
	SNR=59						
PTN	**Potsdam (NY)**	**122.01**	**55**	PKIKP	PKPdf	04 28 15.4	-0.1
CHMS	**Chumysh**	**122.03**	**303**	P	PKPdf	04 28 15.3	-0.3
	SNR=42						
FRU	**Bishkek**	**122.07**	**303**	⇑*i*PKIKP	PKPdf	04 28 16.5	+0.8
FRU				pmax	pmax		
	comp=Z,100nm,2.0s						
AAK	**Ala-Archa**	**122.10**	**303**	P	PKPdf	04 28 17.3	+1.6
	SNR=19						
USP	**Ospenovka**	**122.28**	**304**	P	PKPdf	04 28 15.9	-0.2
	SNR=31						
LOZ	**Lake Ozonia**	**122.30**	**55**	*e*PKPdf	PKPdf	04 28 15.3	-0.7
NCB	**Newcomb**	**122.37**	**55**	*e*PKPdf	PKPdf	04 28 16.5	+0.3
AML	**Almayashu**	**122.53**	**302**	P	PKPdf	04 28 17.6	+1.0
	SNR=66						
EKS2	**Erkin-Say**	**122.62**	**303**	P	PKPdf	04 28 17.3	+0.6
	SNR=32						
LSZ	**Lusaka**	**125.29**	**214**	PKIKP	PKPdf	04 28 23.6	+1.0
LSZ	**Lusaka**	**125.29**	**214**	*e*PKPdf	PKPdf	04 28 23.8	+1.3
TSUM	**Tsumeb**	**125.78**	**200**	PKPdf	PKPdf	04 28 24.4	+1.0
VOSK	**Vostochnaya**	**126.57**	**314**	PKIKP	PKPdf	04 28 23.0	-1.0
VOSK				pmax	pmax		
	comp=Z,64nm,0.8s						
VOSK	**Vostochnaya**	**126.57**	**314**	*i* P	PKPdf	04 28 23.0	-1.0
BVA0	**Borovoye Array**	**126.96**	**315**	PKIKP	PKPdf	04 28 24.3	-0.5
BVAR	**Borovoye Array**	**126.96**	**315**	PKP	PKPdf	04 28 23.8	-1.0
	comp=Z,55nm,0.6s,baz=90,slow=1.5,SNR=162						
BVAR				SKPab		04 31 29.7	
	comp=Z,6.5nm,0.8s,baz=135,slow=2.0,SNR=5.5						
BRVK	**Borovoye**	**127.03**	**315**	PKIKP	PKPdf	04 28 24.3	-0.6
BRVK	**Borovoye**	**127.03**	**315**	*e*PKPdf	PKPdf	04 28 24.4	-0.5
ZRNK	**Zerenda**	**127.78**	**314**	PKIKP	PKPdf	04 28 25.3	-1.1
ZRNK				pmax	pmax		
	comp=Z,34nm,0.7s						
ZRNK	**Zerenda**	**127.78**	**314**	*e*PKPdf	PKPdf	04 28 25.6	-0.8
SCHQ	**Schefferville**	**128.97**	**43**	PKP	PKPdf	04 28 28.3	-0.3
	comp=Z,46nm,1.2s,baz=315,slow=1.6,SNR=11						
SCHQ				SKPbc		04 31 36.9	
	comp=Z,39nm,0.8s,baz=291,slow=2.8,SNR=15						
SCHQ				SKP		04 31 47.9	
	comp=Z,21nm,0.9s,baz=208,slow=7.1,SNR=3.9						
SCHQ	**Schefferville**	**128.97**	**43**	*e*PKPdf	PKPdf	04 28 28.1	-0.5
KMBO	**Kilima Mbogo**	**131.48**	**234**	PKP	PKPdf	04 28 36.3	+1.8
	comp=Z,4.7nm,0.7s,baz=76,slow=3.5,SNR=15						
KMBO				SKPbc		04 31 45.5	
	comp=Z,39nm,0.8s,baz=102,slow=3.5,SNR=34						
KMBO	**Kilima Mbogo**	**131.48**	**234**	*e*PKPdf	PKPdf	04 28 36.7	+2.1
SVE	**Sverdlovsk**	**132.69**	**319**	⇓*i*PKIKP	PKPdf	04 28 34.0	-1.6
SVE				pmax	pmax		
	comp=Z,180nm,2.0s						
ARU	**Arti**	**133.86**	**319**	*i* PKIKP	PKPdf	04 28 35.9	-1.9
ARU	**Arti**	**133.86**	**319**	*e*PKPpre		04 28 25.1	
ARU				*e*PKPr		04 28 35.7	
ARU				*e*PKPdf	PKPdf	04 28 38.4	+0.6
SUMG	**Summit**	**135.33**	**16**	*e*PKPdf	PKPdf	04 28 42.7	+2.5
DJNS	**Zahran al Janu**	**138.34**	**260**	P	PKPdf	04 28 49.5	+2.4
QRN	**Al-Qurain**	**139.07**	**278**	*e*P	PKPdf	04 28 49.5	+1.4
QRN				AMb	AMB	04 28 52.8	
	comp=Z,186nm,0.9s						
RDF	**Al-Radifah**	**139.43**	**278**	*e*P	PKPdf	04 28 49.9	+1.1
RDF				AMb	AMB	04 28 53.4	
	comp=Z,152nm,0.8s						
LVZ	**Lovozero**	**139.54**	**341**	*i* PKIKP	PKPdf	04 28 45.6	-2.3
LVZ	**Lovozero**	**139.54**	**341**	*e*PKP	PKPdf	04 28 45.7	-2.2
KEV	**Kevo**	**140.00**	**346**	*e*p	PKPdf	04 28 40.2	-8.5
RST	**Umm Al-Ruwaisa**	**140.06**	**278**	*e*P	PKPdf	04 28 50.4	+0.5
RST				AMb	AMB	04 28 54.2	
	comp=Z,103nm,0.7s						
APA	**Apatity**	**140.12**	**341**	⇑*i*PKHKP		04 28 42.5	
APA				*i*		04 28 51.5	
APA				pmax	pmax		
	comp=Z,20nm,0.8s						
ARCES	**ARCESS Array B**	**140.49**	**346**	PKhKP		04 28 41.8	
	comp=Z,23nm,0.6s,baz=33,slow=2.7,SNR=67						
ARCES				SKPbc		04 32 11.7	
	comp=Z,18nm,0.6s,baz=45,slow=1.7,SNR=10						
ARE0	**ARCESS Array S**	**140.49**	**346**	*e*PKPpre		04 28 44.9	
BLJS	**Baljurashi**	**140.99**	**261**	P	PKPdf	04 28 54.6	+2.7
KTK1	**Kautokeino**	**141.37**	**347**	AMb	AMB	04 28 55.2	
	comp=Z,56nm,1.3s						
KTK1	**Kautokeino**	**141.37**	**347**	*e*P	PKPdf	04 28 46.8	-4.3
TRO	**Tromso**	**141.56**	**350**	*e*	PKPdf	04 28 46.5	-4.8
TRO				AMb	AMB	04 28 57.3	
	comp=Z,86nm,1.6s						
ZEI	**Tsey**	**144.37**	**299**	⇓*i*PKIKP	PKPdf	04 28 56.0	-1.0
ZEI				*e*PPP	PPP	04 35 30.0	-1.8
ZEI				pmax	pmax		
	comp=Z,300nm,2.0s						
TVAN	**Van**	**144.65**	**292**	*i* P	PKPbc	04 28 57.9	+0.3
GOF	**Gofitskoye**	**144.85**	**303**	⇑*i*PKIKP	PKPdf	04 28 57.5	-0.3
GOF				pmax	pmax		
	comp=Z,540nm,1.2s						
KARS	**Kars**	**144.99**	**295**	*i* P	PKPdf	04 28 59.3	+1.1
KARS	**Kars**	**144.99**	**295**	P	PKPdf	04 28 59.3	+1.1
BORG	**Borgarnes**	**145.30**	**16**	PKPbc	PKPbc	04 28 59.2	+0.7
	comp=Z,230nm,0.7s,baz=307,slow=2.0,SNR=45						
BORG	**Borgarnes**	**145.30**	**16**	*e*PKPdf	PKPdf	04 28 59.1	+1.1
MOS	**Moscow**	**145.31**	**323**	κ *i*PKP2	PKPab	04 28 58.4	-2.3
MOS				pmax	pmax		
	comp=Z,1μm,1.2s						
MOS				pmax	pmax		
	comp=N,209nm,1.0s						
MOS				pmax	pmax		
	comp=E,353nm,1.2s						
MOR8	**Moi Rana**	**145.43**	**350**	*e*	PKPdf	04 28 57.2	-0.9
MOR8				AMb	AMB	04 29 01.1	
	comp=Z,586nm,1.3s						
VOR	**Voronezh**	**145.96**	**316**	*e*PKIKP	PKPdf	04 29 00.0	+0.5
VOR				pmax	pmax		
	comp=Z,900nm,1.2s						
VOR				pmax	pmax		
	comp=N,190nm,1.3s						
VOR				pmax	pmax		
	comp=E,260nm,1.3s						
BCA	**Borcka**	**146.09**	**297**	P	PKPdf	04 29 01.3	+1.3
BCA	**Borcka**	**146.09**	**297**	P	PKPdf	04 29 01.3	+1.3
OBN	**Obninsk**	**146.12**	**322**	*i* PKIKP	PKPdf	04 29 00.1	+0.5
OBN				pmax	pmax		
	comp=Z,246nm,1.0s						
OBN	**Obninsk**	**146.12**	**322**	*e*PKPdf	PKPdf	04 29 01.0	+1.4
BTMT	**Batman**	**146.14**	**291**	*i* P	PKPdf	04 29 01.7	+1.5
KAF	**Kangasniemi**	**146.16**	**338**	*e*p	PKPdf	04 28 59.5	0.0
	comp=Z,248nm,0.5s						
KAF	**Kangasniemi**	**146.16**	**338**	*e*PKIKP	PKPdf	04 28 59.5	0.0
KAF				pmax	pmax		
	comp=Z,248nm,0.5s						
BEST	**Besiri**	**146.29**	**291**	*i* P	PKPdf	04 29 02.5	+2.0
ERZM	**Erzurum**	**146.30**	**294**	*i* P	PKPdf	04 29 02.9	+2.5
EZM	**Erzurum**	**146.30**	**294**	*i* P	PKPdf	04 29 03.0	+2.6
FINES	**FINESS Array B**	**146.74**	**338**	PKPbc	PKPbc	04 29 01.4	-0.7
	comp=Z,355nm,0.6s,baz=68,slow=3.7,SNR=714						
FINES				SKPbc		04 32 25.8	
	comp=Z,5.8nm,0.8s,baz=90,slow=2.8,SNR=4.4						
FINES	**FINESS Array B**	**146.74**	**338**	*i* PKIKP	PKPdf	04 29 01.4	+1.0
FINES				pmax	pmax		
	comp=Z,355nm,0.6s						
UMJS	**Umm Lajj**	**146.82**	**267**	P	PKPdf	04 29 05.2	+3.4
NSS	**Namsos**	**147.33**	**351**	*e*	PKPdf	04 29 02.5	+1.2
NSS				AMb	AMB	04 29 08.0	
	comp=Z,678nm,1.3s						
EZC	**Erzincan**	**147.49**	**294**	*e*P	PKPdf	04 29 04.8	+2.4
EZC	**Erzincan**	**147.49**	**294**	P	PKPdf	04 29 04.8	+2.4
GUMT	**Gumushane**	**147.74**	**295**	P	PKPdf	04 29 05.0	+2.2
GUMT	**Gumushane**	**147.74**	**295**	P	PKPdf	04 29 05.0	+2.2
PTK	**Pertek**	**147.81**	**292**	P	PKPdf	04 29 03.9	+1.0
KELT	**Kelkit**	**147.92**	**295**	*i* P	PKPdf	04 29 08.9	+5.8
ELZG	**Elazig**	**148.12**	**292**	*i* P	PKPdf	04 29 08.7	+5.2
TBKS	**Tabuk**	**148.46**	**272**	P	PKPdf	04 29 09.6	+5.2
MALT	**Malatya**	**148.55**	**291**	*e*P	PKPdf	04 29 03.9	-0.3
MALT	**Malatya**	**148.55**	**291**	P	PKPdf	04 29 03.9	-0.3
MYA	**Malataya**	**148.55**	**291**	*e*P	PKPdf	04 29 06.2	+2.0
MYA	**Malataya**	**148.55**	**291**	P	PKPdf	04 29 06.2	+2.0
TRON	**Trondheim**	**148.56**	**351**	*e*P	PKPdf	04 29 09.6	+6.2
VSU	**Vasula**	**148.65**	**333**	*e*PKPr		04 29 06.1	
ANN	**Anapa**	**148.83**	**304**	*d* *i*PKIKP	PKPdf	04 29 08.2	+3.8
ANN				*e*		04 29 14.4	
ANN				pmax	pmax		
	comp=Z,278nm,0.7s						
ASF	**Jabal al Asfar**	**149.13**	**279**	PKP	PKPdf	04 29 05.8	+0.5
	comp=Z,30nm,0.8s,baz=245,slow=0.3,SNR=11						
ASF				PKPbc	PKPdf	04 29 10.4	+5.2
	comp=Z,43nm,0.8s,baz=10,slow=1.9,SNR=46						
GZT	**Gaziantep**	**149.20**	**289**	*i* P	PKPdf	04 29 11.3	+6.1
JMQS	**Jabal Moqyreh**	**149.22**	**272**	P	PKPdf	04 29 11.5	+6.0
GAZ	**Gaziantep**	**149.47**	**289**	*e*P	PKPdf	04 29 07.4	+1.7
GAZ	**Gaziantep**	**149.47**	**289**	P	PKPdf	04 29 07.4	+1.8
SVSK	**Karacayir**	**149.66**	**294**	*e*P	PKPdf	04 29 12.0	+6.2
SVST	**Sivas**	**149.69**	**294**	*i* P	PKPdf	04 29 12.7	+6.8
BDAS	**Al Bad‘**	**149.74**	**271**	P	PKPdf	04 29 12.3	+5.9
KAHT	**Ahir Dag**	**149.76**	**290**	*i* P	PKPdf	04 29 09.5	+3.4
JMOS	**Jabal al Moall**	**149.94**	**273**	P	PKPdf	04 29 12.7	+6.0
TAYS	**Tayyib Ism**	**149.97**	**271**	P	PKPdf	04 29 12.8	+6.1
ALWS	**Ilw as Safayha**	**150.01**	**273**	P	PKPdf	04 29 13.3	+6.5
HAQS	**Haql**	**150.06**	**272**	P	PKPdf	04 29 13.1	+6.3
DOMB	**Dombas**	**150.10**	**352**	*e*P	PKPdf	04 29 11.5	+5.6
DOMB				AMb	AMB	04 29 20.8	
	comp=Z,267nm,1.6s						
KSHT	**Keshet**	**150.17**	**280**	P	PKPdf	04 29 08.2	+1.3
COBT	**Iskenderun**	**150.20**	**287**	*i* P	PKPdf	04 29 12.9	+6.1
EIL	**Elat**	**150.20**	**274**	P	PKPdf	04 29 07.9	+0.9
ZFRI	**Zfri**	**150.23**	**275**	P	PKPdf	04 29 07.9	+0.9
MZDA	**Masada**	**150.24**	**277**	P	PKPdf	04 29 07.9	+0.9
GLH	**Golan-Tel Qazi**	**150.26**	**280**	P	PKPdf	04 29 08.5	+1.5
MBH	**Mount Berech**	**150.26**	**274**	P	PKPdf	04 29 09.3	+2.2
HTY	**Hatay**	**150.27**	**287**	P	PKPdf	04 29 13.0	+6.1
DRGI	**Dragot**	**150.27**	**277**	P	PKPdf	04 29 07.9	+0.8
HRI	**Mount Hermon**	**150.28**	**281**	P	PKPdf	04 29 08.5	+1.5
HMDT	**Nahal Hemdat**	**150.29**	**279**	P	PKPdf	04 29 08.3	+1.2
KVT	**Kavak**	**150.31**	**297**	P	PKPdf	04 29 13.5	+6.7
PRNI	**Paran**	**150.33**	**275**	P	PKPdf	04 29 08.3	+1.1
MMLI	**Mount Malkishu**	**150.41**	**279**	P	PKPdf	04 29 08.8	+1.6
KMTI	**Karmit**	**150.50**	**274**	P	PKPdf	04 29 08.4	+1.0
BNN	**Bunyan**	**150.57**	**292**	*e*P	PKPdf	04 29 14.1	+6.8
CEYT	**Ceyhan**	**150.63**	**288**	*i* P	PKPdf	04 29 14.4	+7.0
IZAR	**Zarasai**	**150.68**	**330**	*e*P	PKPdf	04 29 13.3	+6.4
IZAR				AMPb	AMB	04 29 16.2	
	comp=Z,111nm,1.2s						
HNTI	**Hanita**	**150.72**	**280**	P	PKPdf	04 29 08.9	+1.2
IDID	**Didziasalis**	**150.75**	**329**	*e*P	PKPdf	04 29 13.3	+6.4
IDID				AMPb	AMB	04 29 16.3	
	comp=Z,117nm,0.9s						
MNK	**Minsk**	**150.75**	**326**	*e*PKIKP	PKPdf	04 29 10.0	+3.0
MNK				pmax	pmax		
	comp=Z,2μm,1.0s						
MNK				pmax	pmax		
	comp=N,460nm,1.0s						
MNK				pmax	pmax		
	comp=E,610nm,1.5s						
NB2	**NORSAR Subarra**	**150.76**	**349**	PKPbc	PKPdf	04 29 12.2	+5.4
	comp=E,135nm,0.8s,baz=27,slow=2.3						
NB2	**NORSAR Subarra**	**150.76**	**349**	PKPb		04 29 12.2	
	baz=27,slow=2.4						
NOA	**NORSAR Array B**	**150.76**	**349**	PKP	PKPdf	04 29 06.4	-0.4
	comp=E,73nm,0.6s,baz=16,slow=4.1,SNR=98						
NOA				PKPbc	PKPdf	04 29 12.8	+5.9
	comp=E,76nm,0.6s,baz=17,slow=4.1,SNR=123						
NOA				PKPab	PKPab	04 29 20.8	-1.5
	comp=E,101nm,0.8s,baz=22,slow=2.4,SNR=34						
ISAL	**Salakas**	**150.85**	**329**	*e*P	PKPdf	04 29 13.7	+6.5
ISAL				AMPb	AMB	04 29 16.6	
	comp=Z,84nm,1.2s						
FOO	**Floro**	**150.93**	**355**	⇑*i*P	PKPdf	04 29 13.5	+6.4
FOO				AMb	AMB	04 29 15.7	
	comp=Z,343nm,1.4s						
IIGN	**Ignalina**	**150.95**	**329**	*e*P	PKPdf	04 29 14.0	+6.7
IIGN				AMPb	AMB	04 29 16.9	
	comp=Z,136nm,1.2s						
NAO01	**NORSAR Array S**	**151.00**	**349**	*e*PKPdf	PKPdf	04 29 07.9	+0.7
NAO01				*e*PKPbc	PKPdf	04 29 13.5	+6.3
NAO01				*e*PKPab	PKPab	04 29 22.1	-1.2
SIM	**Simferopol’**	**151.11**	**305**	*e*PKIKP	PKPdf	04 29 16.0	+8.1
BOYT	**Boyabat**	**151.14**	**298**	*i* P	PKPdf	04 29 15.1	+7.1
HFS	**Hagfors**	**151.15**	**346**	PKP	PKPdf	04 29 07.5	0.0
	comp=Z,170nm,1.1s,baz=225,slow=2.1,SNR=31						
HFS				PKPbc	PKPdf	04 29 12.8	+5.3
	comp=Z,109nm,0.6s,baz=90,slow=1.5,SNR=140						
HFS				PKPab	PKPab	04 29 21.2	-2.8
	comp=Z,75nm,0.6s,baz=77,slow=2.8,SNR=15						
HFS	**Hagfors**	**151.15**	**346**	PKP	PKPdf	04 29 07.5	0.0
HFS				PKPbc	PKPdf	04 29 12.8	+5.3
HFS				PKPab	PKPab	04 29 21.2	-2.8
BYBT	**Boyabat**	**151.23**	**298**	*e*P	PKPdf	04 29 16.1	+7.9
BYBT	**Boyabat**	**151.23**	**298**	P	PKPdf	04 29 16.1	+7.9
CTKT	**Corum**	**151.30**	**296**	*i* P	PKPdf	04 29 15.1	+6.8
AVNT	**Avonos**	**151.35**	**292**	*i* P	PKPdf	04 29 14.8	+6.4
NIG	**Nigde**	**151.55**	**291**	P	PKPdf	04 29 16.8	+8.0
BZK	**Bozkurt**	**151.74**	**299**	P	PKPdf	04 29 16.5	+7.6
BZK	**Bozkurt**	**151.74**	**299**	P	PKPdf	04 29 16.5	+7.6
TOS	**Tosya**	**151.84**	**297**	*i* P	PKPdf	04 29 16.6	+7.5
TOS	**Tosya**	**151.84**	**297**	P	PKPdf	04 29 16.6	+7.5
OSL	**Oslo**	**151.88**	**349**	*e*P	PKPdf	04 29 15.3	+6.8
PHNC	**Paralimni**	**151.89**	**284**	P	PKPdf	04 29 16.7	+7.3
MEST	**Erdemli**	**151.90**	**287**	*i* P	PKPdf	04 29 16.6	+7.3
SACV	**Santiago Islan**	**152.06**	**124**	*e*PKPdf	PKPdf	04 29 10.9	+0.8
SACV				*e*PKPbc	PKPdf	04 29 18.1	+8.0
SACV				*e*PKPab	PKPab	04 29 28.7	-0.4
BER	**Bergen**	**152.11**	**355**	*e*P	PKPdf	04 29 16.3	+7.4
AKASG	**Malin Array Be**	**152.11**	**319**	PKP	PKPdf	04 29 09.0	-0.2
	comp=Z,6.2nm,0.7s,baz=50,slow=1.5,SNR=20						
AKASG				PKPbc	PKPdf	04 29 15.2	+6.0
	comp=Z,108nm,0.7s,baz=55,slow=2.4,SNR=131						
AKASG				PKPab	PKPab	04 29 25.4	-2.9
	comp=Z,7.9nm,0.5s,baz=46,slow=3.8,SNR=8.9						
CANT	**Cankiri**	**152.19**	**296**	P	PKPdf	04 29 17.9	+8.3
CANT	**Cankiri**	**152.19**	**296**	P	PKPdf	04 29 17.9	+8.3
KAMT	**Kaman**	**152.21**	**293**	P	PKPdf	04 29 17.3	+7.6
EGD	**Espegrend**	**152.23**	**355**	*e*P	PKPdf	04 29 17.6	+8.6
BRTR	**Keskin Array B**	**152.25**	**294**	PKP	PKPdf	04 29 09.3	-0.4
	comp=Z,3.2nm,0.8s,baz=135,slow=1.7,SNR=18						
BRTR				PKPbc	PKPdf	04 29 16.6	+6.8
	comp=Z,52nm,0.6s,baz=137,slow=3.1,SNR=148						
BRTR				PKPab	PKPab	04 29 26.4	-2.9
	comp=Z,9.9nm,0.7s,baz=138,slow=30,SNR=12						
BALT	**Daday**	**152.25**	**298**	*i* P	PKPdf	04 29 17.0	+7.3
IKL	**Isikli**	**152.26**	**287**	P	PKPdf	04 29 17.1	+7.2
IKL	**Isikli**	**152.26**	**287**	P	PKPdf	04 29 17.1	+7.2
KONO	**Kongsberg**	**152.34**	**350**	*e*P	Px	04 30 00.5	
ELDT	**Eldivan**	**152.34**	**296**	*i* P	PKPdf	04 29 10.5	+0.7
CSS	**Prodhromos**	**152.46**	**284**	P	PKPdf	04 29 17.8	+7.6
	comp=Z,1.0nm,0.8s						
CSS	**Prodhromos**	**152.46**	**284**	*e*PKPdf	PKPdf	04 29 11.2	+1.0
CSS				*e*PKPbc	PKPdf	04 29 17.7	+7.5
MAMC	**Mammari**	**152.57**	**284**	P	PKPdf	04 29 19.4	+9.1
SZAC	**Souni-Zanaja**	**152.81**	**283**	P	PKPdf	04 29 18.5	+7.8
SAFT	**Safranbolu**	**152.81**	**298**	P	PKPdf	04 29 18.2	+7.7
SAFT	**Safranbolu**	**152.81**	**298**	P	PKPdf	04 29 18.2	+7.7
LEF	**Lefka**	**152.84**	**284**	P	PKPdf	04 29 18.8	+8.1
LEF	**Lefka**	**152.84**	**284**	P	PKPdf	04 29 18.8	+8.0
ANTO	**Ankara**	**152.89**	**295**	*e*P	PKPdf	04 29 17.9	+7.3
LOD	**Lodumlu**	**152.91**	**295**	*e*P	PKPdf	04 29 17.0	+6.3
BLS5	**Blasjo**	**152.95**	**353**	*e*P	PKPdf	04 29 18.6	+8.5
ALFC	**Alevga**	**153.08**	**284**	P	PKPdf	04 29 17.8	+6.8
	comp=Z,1.5nm,0.9s						
SUW	**Suwalki**	**153.16**	**329**	*e*PKIKP	PKPdf	04 29 11.4	+0.9
LIC	**Lamto**	**153.20**	**168**	*e*PKIKP	PKPdf	04 29 11.9	+0.1
	comp=Z,119nm,1.2s						
LIC	**Lamto**	**153.20**	**168**	*e*PKIKP	PKPdf	04 29 14.0	+2.2
	comp=Z,169nm,0.6s						
PPCY	**Paphos**	**153.26**	**284**	P	PKPdf	04 29 19.3	+8.0
SGKT	**Sivrigoynuk**	**153.38**	**296**	*i* P	PKPdf	04 29 11.9	+0.6
KIC	**Kosan Boka**	**153.38**	**169**	*e*PKIKP	PKPdf	04 29 14.3	+2.2
	comp=Z,289nm,0.8s						
TIC	**Toumodi**	**153.62**	**168**	*e*PKIKP	PKPdf	04 29 13.6	+1.2
	comp=Z,368nm,1.2s						
DBIC	**Dimbokro**	**153.67**	**169**	PKP	PKPdf	04 29 14.1	+1.6
	comp=Z,21nm,0.8s,baz=153,slow=3.1,SNR=26						
DBIC				PKPbc	PKPdf	04 29 22.1	+10
	comp=Z,18nm,0.5s,baz=164,slow=3.1,SNR=26						
DBIC				PKPab	PKPab	04 29 35.7	-0.3
	comp=Z,29nm,0.6s,baz=155,slow=5.9,SNR=8.5						
DBIC	**Dimbokro**	**153.67**	**169**	PKPdf	PKPdf	04 29 14.3	+1.9
DBIC				PKPbc	PKPdf	04 29 22.0	+10
DBIC				PKPab	PKPab	04 29 35.9	-0.2
DBIC	**Dimbokro**	**153.67**	**169**	PKIKP	PKPdf	04 29 14.8	+2.3
DBIC	**Dimbokro**	**153.67**	**169**	*e*PKPdf	PKPdf	04 29 14.3	+1.8
DBIC				*e*PKPbc	PKPdf	04 29 22.0	+10
KIZT	**Kizilcal**	**153.67**	**293**	P	PKPdf	04 29 20.4	+8.7
KIS	**Kishinev**	**153.99**	**312**	⇑*i*PKIKP	PKPdf	04 29 20.5	+8.6
KIS				*e*		04 29 58.0	
KIS				pmax	pmax		
	comp=Z,420nm,1.3s						
KIS				pmax	pmax		
	comp=Z,350nm,1.6s						
MDU	**Mudurnu**	**154.03**	**296**	*e*P	PKPdf	04 29 20.5	+8.4
HENT	**Hendek**	**154.21**	**297**	*e*P	PKPdf	04 29 20.8	+8.4
ESKT	**Eskisehir**	**154.41**	**294**	*i* P	PKPdf	04 29 12.8	+0.1
ISP	**Isparta**	**154.80**	**290**	PKIKP	PKPdf	04 29 14.6	+1.3
ISP				*e*		04 29 22.4	
ISP				*e*		04 29 38.9	
BSD	**Bornholm Skovb**	**155.32**	**340**	⇑*i*P	PKPdf	04 29 24.3	+11
	comp=Z,29nm,0.5s						
BSD				*i*		04 29 28.6	
BSD				*i*		04 29 40.3	
WAR	**Warsaw**	**155.32**	**328**	*e*PKP	PKPdf	04 29 14.7	+1.2
WAR				*e*PKPdf	Px	04 29 25.6	
MUD	**Monsted U’grnd**	**155.46**	**348**	⇓*i*P	PKPdf	04 29 13.6	+0.1
	comp=Z,18nm,0.9s						
MUD				*e*		04 29 32.7	
MUD				*i*		04 29 42.7	
COP	**Copenhagen**	**155.49**	**343**	*i* P	PKPdf	04 28 55.7	-18
	comp=Z,43nm,1.0s						

COP				*i*		04 29 41.2	
COP	Copenhagen	155.49	343	*e*P	PKPdf	04 28 55.7	-18
COP				*i*		04 29 41.2	
ULDT	Uludag	155.64	296	*i* P	PKPdf	04 29 15.6	+1.3
BRD	Bordesti	155.69	310	⇑*i*P	PKPab	04 29 45.8	+2.2
VRI	Vrincioaia	155.76	311	⇓*i*P	PKPab	04 29 44.5	+0.6
VRI	Vrincioaia	155.76	311	⇓*i*P	PKPab	04 29 44.5	+0.6
GKP	Gorka Klasztor	156.09	334	*e*PKP	PKPdf	04 29 16.8	+2.4
GKP				*e*PKPdf	Px	04 29 26.4	
ISR	Istrita	156.17	309	⇑*i*P	PKPab	04 29 46.9	+1.2
KWP	Kalwaria	156.21	322	*e*PKP	PKPdf	04 29 15.9	+1.2
KWP				*e*PKPdf	Px	04 29 26.7	
PRD	Provadia	156.24	304	*e*P	PKPdf	04 29 10.0	-5.0
MLR	Muntele Rosu	156.41	310	PKP	PKPdf	04 29 15.6	+0.5
	comp=Z,9.8nm,1.1s,baz=1.9,slow=3.1,SNR=7.8						
MLR				PKPbc	Px	04 29 26.9	
	comp=Z,17nm,0.9s,baz=166,slow=8.1,SNR=16						
MLR				PKPab	PKPab	04 29 46.0	-0.8
	comp=Z,39nm,0.6s,baz=30,slow=2.6,SNR=36						
SZH	Strazhica	157.23	305	*e*P	PKPdf	04 29 16.0	-0.3
EKA	Eskdalemuir Ar	157.26	5	PKP	PKPdf	04 29 15.8	-0.2
	comp=Z,3.4nm,0.8s,baz=330,slow=0.9,SNR=7.0						
EKA				PKPab	PKPab	04 29 46.8	-3.3
	comp=Z,24nm,0.8s,baz=4.5,slow=2.3,SNR=6.2						
OJC	Ojcow	157.28	326	*e*PKP	PKPdf	04 29 17.4	+1.2
OJC				*e*P		04 29 28.6	
OJC				*i*		04 29 49.2	
KDAG	Bornova	157.31	292	*e*P	PKPdf	04 29 17.3	+0.7
BSEG	Bad Segeberg	157.59	344	*e*PKPdf	PKPdf	04 29 18.2	+1.8
BSEG				*e*PKPab	PKPab	04 29 50.1	-1.4
PVL	Pavlikeni	157.66	305	*e*P	PKPdf	04 29 18.0	+1.1
RAC	Raciborz	158.11	328	*e*PKIKP	PKPdf	04 29 20.4	+3.2
RAC				*e*		04 29 51.1	
DMUB	Kingscourt	158.21	11	*e*P	PKPab	04 29 53.3	-0.9
OKC	Ostrava-Krasne	158.31	327	*e*PKPDF	PKPdf	04 29 18.1	+0.6
OKC				*e*PKPAB	PKPab	04 29 53.1	-1.6
OKC				*e*x	x	05 02 10.1	
KSP	Ksiaz	158.35	332	*e*PKP2	PKPab	04 29 54.1	-0.8
KSP	Ksiaz	158.35	332	*e*PKPdf	PKPdf	04 29 18.4	+0.9
KSP				*e*PKPab	PKPab	04 29 54.1	-0.8
KSP				*e*pPKPab		04 30 25.0	
KSP				*e*PP	PP	04 33 21.0	-15
RZN	Rozhen	158.58	302	*e*P	PKPdf	04 29 17.5	-0.6
MORC	Moravsky Berou	158.62	328	PKIKP	PKPdf	04 29 18.5	+0.6
MORC	Moravsky Berou	158.62	328	*e*PKPdf	PKPdf	04 29 18.2	+0.3
DCN	Croghan	158.68	12	*e*P	PKPab	04 29 55.4	-0.8
PGB	Panagyurishte	158.69	304	*e*P	PKPdf	04 29 18.3	+0.1
DPC	Dobruska-Polom	158.72	331	*e*PKPDF	PKPdf	04 29 19.9	+1.9
DPC				*e*PKPAB	PKPab	04 29 54.8	-1.7
DPC				*e*x	x	05 01 57.5	
UPC	Upice	158.73	331	*e*PKPDF	PKPdf	04 29 19.3	+1.3
UPC				*e*PKPAB	PKPab	04 29 55.0	-1.5
PSZ	Piszkesteto	158.73	321	*e*PKP/F		04 29 19.1	
PSZ	Piszkesteto	158.73	321	PKIKP	PKPdf	04 29 19.4	+1.3
DLF	Lyons Farm	158.86	11	*e*P	PKPab	04 29 54.4	-2.6
DJES	Djerdap	158.97	311	⇑*i*P	PKPab	04 29 56.3	-1.5
CLL	Collm	159.18	337	*i* PKIKP	PKPdf	04 29 18.7	+0.2
CLL				*i*		04 29 32.8	
CLL				*i* PKP2	PKPab	04 29 57.6	-0.8
CLL				*e**PPKP2		04 30 32.0	
CLL				*e*PP	PP	04 33 32.0	-8.2
CLL	Collm	159.18	337	*i* PKIKP	PKPdf	04 29 18.7	+0.2
CLL				*i*		04 29 57.6	
BRG	Berggiesshubel	159.22	335	*i* PKIKP	PKPdf	04 29 18.0	-0.5
BRG				*i*		04 29 57.9	
BRG				pmax	pmax		
	comp=Z,26nm,1.5s						
BRG	Berggiesshubel	159.22	335	*i* PKP	PKPdf	04 29 18.0	-0.5
BRG				*i*		04 29 57.9	
BRG				*e*		04 30 14.4	
PVCC	Panska Ves	159.27	333	*e*PKPDF	PKPdf	04 29 20.2	+1.6
PVCC				*e*PKPAB	PKPab	04 29 57.5	-1.4
PVCC				*e*x	x	05 02 02.9	
MMB	Musomiste	159.31	302	*e*P	PKPdf	04 29 19.0	+0.1
VTS	Vitosha	159.34	305	*e*P	PKPdf	04 29 19.0	+0.1
WIT	Witteveen	159.37	349	*e*P	PKPab	04 29 58.8	-0.3
	comp=Z,327nm,1.2s						
IDI	Anoyia	159.39	284	PKP	PKPdf	04 29 20.1	+0.8
	comp=Z,19nm,0.9s,baz=233,slow=0.8,SNR=5.5						
IDI				PKPab	PKPab	04 29 58.5	-1.4
	comp=Z,11nm,0.5s,baz=68,slow=11,SNR=14						
VRAC	Vranov	159.39	328	PKP	PKPdf	04 29 18.7	0.0
	comp=Z,6.9nm,0.8s,baz=346,slow=3.4,SNR=10						
VRAC				PKPab	PKPab	04 29 57.0	-2.4
	comp=Z,21nm,0.8s,baz=43,slow=4.9,SNR=21						
KKB	Krupnik	159.68	303	*e*P	PKPdf	04 29 22.5	+3.2
BOLS	Boljevac	159.69	309	⇓*i*P	PKPab	04 30 01.1	+0.2
PRU	Pruhonice	159.72	333	*e*PKPDF	PKPdf	04 29 20.6	+1.5
PRU				*e*PKPAB	PKPab	04 29 59.0	-1.8
PRU				*e*x	x	05 01 38.4	
WTSB	Winterswijk	160.16	348	*e*P	PKPab	04 30 00.6	-2.1
	comp=Z,45nm,1.0s						
BEO	Belgrade	160.17	313	⇑*i*P	PKPab	04 30 02.6	-0.3
MOX	Moxa	160.20	338	*i* P	PKPdf	04 29 21.2	+1.6
MOX				PKP2	PKPab	04 30 02.0	-0.8
MOX				PP	PP	04 33 41.0	-4.5
MOX	Moxa	160.20	338	*e*PKIKP	PKPdf	04 29 21.2	+1.6
MOX				*e*		04 30 02.2	
MOX				*e*		04 33 40.9	
MOX				pmax	pmax		
	comp=Z,231nm,1.8s						
VAY	Valandovo	160.22	302	⇑*i*	PKPab	04 30 01.6	-1.6
NKC	Novy Kostel	160.28	336	*e*PKPDF	PKPdf	04 29 19.7	0.0
NKC				*e*PKPAB	PKPab	04 30 01.6	-1.6
NKC				*e*x	x	05 01 22.0	
HOPOS	Hopovo Monaste	160.38	315	⇑*i*P	PKPab	04 30 05.9	+2.1
GRUS	Gruza	160.47	311	⇑*i*P	PKPab	04 30 04.5	+0.3
KHC	Kasperske Hory	160.78	333	*e*PKPDF	PKPdf	04 29 20.8	+0.6
KHC				*e*PKPAB	PKPab	04 30 03.8	-1.6
KHC				*e*x	x	05 01 35.9	
SKO	Skopje	160.79	305	*i* PKP	PKPdf	04 29 21.0	+0.5
DIVS	Divcibare	160.82	312	⇑*i*P	PKPdf	04 29 20.0	-0.4
GEC2	GERESS Array S	160.96	332	*e*PKPdf	PKPdf	04 29 20.3	-0.1
GEC2				*e*PKPab	PKPab	04 30 04.4	-1.8
GERES	GERESS Array B	160.96	332	PKP	PKPdf	04 29 20.2	-0.2
	comp=Z,2.3nm,0.8s,baz=90,slow=1.3,SNR=20						
GERES				PKPab	PKPab	04 30 03.9	-2.3
	comp=Z,12nm,0.8s,baz=41,slow=5.2,SNR=20						
GERES				PP	PP	04 33 48.2	-1.9
	comp=Z,0.9nm,0.9s,baz=61,slow=10,SNR=3.4						
WET	Wettzell	161.04	334	*e*PKPdf	PKPdf	04 29 21.8	+1.3
WET				*e*PKPab	PKPab	04 30 05.2	-1.3
GRA1	Grafenberg Arr	161.15	337	*e*PKPdf	PKPdf	04 29 21.3	+0.7
GRA1				*e*PKPab	PKPab	04 30 05.8	-1.2
GRA1				*e*PP	PP	04 33 45.8	-5.3
GRF	Grafenberg Arr	161.15	337	*e*PKP2	PKPab	04 30 05.8	-1.2
GRF				*e*		04 33 45.8	
NVSS	Nova Varos 2	161.30	311	⇑*i*P	PKPab	04 30 08.2	+0.4
ARSA	Arzberg	161.38	326	⇑*i*P	PKPdf	04 29 20.8	-0.1
ARSA				*i*		04 30 07.2	
HGN	Heimansgroeve	161.47	349	*e*P	PKPab	04 30 06.1	-2.2
	comp=Z,106nm,1.0s						
MOA	Molln	161.51	329	⇑*i*P	PKPdf	04 29 20.8	-0.2
MOA				*i*		04 30 06.9	
TOD	Tromm	161.94	342	*e*P	PKPab	04 30 08.3	-2.2
SIND	Sindeldorf	161.95	340	*e*P	PKPab	04 30 08.6	-1.9
ABH	Alteburg	161.99	344	*e*P	PKPab	04 30 08.6	-2.1
SWS	Schriesheim	162.08	342	*e*P	PKPab	04 30 08.7	-2.4
RUP	Ruppelstein	162.27	345	*e*P	PKPab	04 30 09.8	-2.1
KTD	Kalmit	162.39	343	*e*P	PKPab	04 30 10.3	-2.1
BAIF	Baives	162.41	351	*e*PKIKP	PKPdf	04 29 23.1	+1.3
	comp=Z,55nm,1.4s						
FUR	Furstenfeldbru	162.44	335	*e*PKPdf	PKPdf	04 29 23.1	+1.2
FUR				*e*PKPab	PKPab	04 30 11.4	-1.3
HDH	Heidenheim	162.44	338	*e*P	PKPab	04 30 10.9	-1.8
STU	Stuttgart	162.59	340	PKIKP	PKPdf	04 29 23.0	+1.0
STU	Stuttgart	162.59	340	*e*PKPdf	PKPdf	04 29 22.0	-0.1
STU				*e*PKPab	PKPab	04 30 12.0	-1.3
LJU	Ljubljana	162.72	325	*e*PKPdf	PKPdf	04 29 22.4	+0.1
LJU				*e*PKPab	PKPab	04 30 11.9	-2.0
BOJS	Bojanci	162.73	322	*e*PKPdf	PKPdf	04 29 22.7	+0.4
BOJS				*e*PKPab	PKPab	04 30 12.7	-1.3
LBG	Lerchenberg	162.80	340	*e*P	PKPab	04 30 12.6	-1.6
BUCH	Bad Urach	162.83	339	*e*P	PKPab	04 30 13.1	-1.2
PTCC	Patocco-Chiusa	163.01	327	*e*PKP	PKPdf	04 29 21.7	-0.8
WATA	Walderalm	163.02	333	⇑*i*P	PKPdf	04 29 22.6	+0.1
WATA				*i*		04 30 14.6	
VOY	Vojsko	163.03	326	*e*PKPab	PKPab	04 30 13.2	-2.1
JAVS	Javornik	163.05	325	*e*PKPdf	PKPdf	04 29 22.5	-0.1
JAVS				*e*PKPab	PKPab	04 30 12.9	-2.4
WTTA	Wattenberg	163.06	332	⇓*i*P	PKPdf	04 29 22.8	+0.3
WTTA				*i*		04 30 13.6	
GMNA	Gemona	163.16	327	*e*PKP	PKPdf	04 29 22.7	0.0
MOTA	Moosalm	163.19	334	⇑*i*P	PKPdf	04 29 22.8	+0.1
MOTA				*i*		04 30 14.4	
GUT	Gutenstein	163.24	339	*e*P	PKPab	04 30 14.6	-1.5
SQTA	Sankt Quirin	163.26	333	⇑*i*P	PKPdf	04 29 23.1	+0.4
SQTA				*i*		04 30 14.9	
UBR	Uberruh	163.26	336	*e*P	PKPab	04 30 14.7	-1.5
SPAK	Spaichingen	163.31	340	*e*P	PKPab	04 30 14.9	-1.5
CDF	Champ du Feu	163.43	343	*e*PKIKP	PKPdf	04 29 23.2	+0.3
LIBD	Limburg	163.59	342	*e*P	PKPab	04 30 15.8	-1.9
DAVA	Damuels	163.68	336	⇑*i*P	PKPdf	04 29 23.4	+0.2
KIZ	Kirchzarten	163.69	341	*e*P	PKPab	04 30 15.9	-2.2
FELD	Feldberg	163.74	341	*e*P	PKPab	04 30 16.4	-1.9
MEZF	Maizieres J'vi	163.81	348	*e*PKIKP	PKPdf	04 29 23.2	0.0
	comp=Z,55nm,1.0s						
FLN	La Foliniere	163.95	2	*e*PKIKP	PKPdf	04 29 24.3	+0.9
	comp=Z,98nm,1.0s						
MOF	Molkenrain	163.99	343	PKP	PKPab	04 30 18.4	-1.0
HAU	Haudompre	164.03	345	*e*PKIKP	PKPdf	04 29 23.8	+0.3
CTI	Castel Tesino	164.03	330	*e*PKP	PKPdf	04 29 24.8	+1.2
HINF	Hinteralfeld	164.09	343	*e*PKIKP	PKPdf	04 29 23.8	+0.2
	comp=Z,20nm,0.9s						
DAVOX	Davos	164.12	335	PKP	PKPdf	04 29 23.9	+0.3
	comp=Z,14nm,0.8s,baz=207,slow=2.3,SNR=19						
DAVOX				PKPab	PKPab	04 30 18.3	-1.7
	comp=Z,36nm,0.7s,baz=26,slow=3.1,SNR=22						
LDF	La Druitiere	164.13	1	*e*PKIKP	PKPdf	04 29 24.1	+0.5
	comp=Z,65nm,1.0s						
BRMO	Bormio	164.19	333	*e*PKP	PKPdf	04 29 23.9	+0.2
BBS	Basel-Blauen	164.25	341	*e*P	PKPab	04 30 18.8	-1.8
GRR	Gorron	164.31	3	*e*PKIKP	PKPdf	04 29 24.7	+0.9
	comp=Z,84nm,1.1s						
SGMF	Saint Gilles	164.33	7	*e*PKIKP	PKPdf	04 29 24.7	+0.9
LOMF	Lomont	164.53	343	PKP	PKPab	04 30 21.2	-0.6
QUIF	Quistinic	164.59	9	*e*PKIKP	PKPdf	04 29 25.3	+1.2
CCAN	Las Canadas	164.83	103	PKP	PKPdf	04 29 28.0	+3.1
TIP	Timpagrande	165.13	300	*e*PKPdf	PKPdf	04 29 26.7	+1.8
TIP				*e*PKPab	PKPab	04 30 24.9	+0.2
LOR	Lormes	165.19	350	*e*PKIKP	PKPdf	04 29 25.6	+0.9
	comp=Z,52nm,1.2s						
TDS	Terranova Siba	165.25	303	*e*PKP	PKPdf	04 29 26.5	+1.5
FSSB	Fossombrone	165.26	322	*e*PKP	PKPdf	04 29 26.0	+1.2
VAI	Varese	165.30	336	*e*PKP	PKPdf	04 29 24.5	-0.3
ARV	Arcevia	165.31	321	*e*PKP	PKPdf	04 29 25.2	+0.3
HYF	Humbligny	165.34	353	*e*PKIKP	PKPdf	04 29 25.4	+0.6
MRLC	Muro Lucano	165.36	308	*e*PKP	PKPdf	04 29 25.7	+0.7
CABF	La Chapelle	165.40	344	*e*PKIKP	PKPdf	04 29 24.2	-0.7
	comp=Z,32nm,1.0s						
SSF	Saint Saulge	165.44	351	*e*PKIKP	PKPdf	04 29 25.1	+0.2
	comp=Z,24nm,0.9s						
MCGN	Macugnaga	165.47	338	*e*PKP	PKPdf	04 29 25.4	+0.4
OG01	Vacheresse	165.52	342	PKP	PKPab	04 30 25.5	-0.6
SGO	Sicignano	165.58	307	*e*PKP	PKPdf	04 29 25.7	+0.5
SFI	Santa Sofia	165.58	324	*e*PKP	PKPdf	04 29 25.3	+0.2
NRCA	Norcia	165.65	318	*e*PKP	PKPdf	04 29 25.0	-0.2
VMG	Vicchio	165.69	325	*e*PKP	PKPdf	04 29 26.3	+1.1
CPI2	Carpinone	165.69	312	*e*PKP	PKPdf	04 29 26.8	+1.5
SEI	Scarperia	165.71	326	*e*PKP	PKPdf	04 29 27.9	+2.7
AVF	Avril sur Loir	165.73	351	*e*PKIKP	PKPdf	04 29 24.6	-0.5
	comp=Z,61nm,1.6s						
FNVD	Fontana Vidola	165.73	326	*e*PKP	PKPdf	04 29 25.2	0.0
SGG	Gregorio Mates	165.76	311	*e*PKP	PKPdf	04 29 27.3	+1.9
AQU	L'Aquila	165.79	316	PKIKP	PKPdf	04 29 27.4	+2.1
AQU	L'Aquila	165.79	316	*e*PKPdf	PKPdf	04 29 27.2	+1.9
AQU				*e*PKPab	PKPab	04 30 25.9	-1.5
SMF	Signal de Mont	165.81	350	*e*PKIKP	PKPdf	04 29 25.9	+0.7
	comp=Z,34nm,1.1s						
GSCL	Gusciola	165.83	328	*e*PKP	PKPdf	04 29 26.4	+1.1
ERBM	Eremo	165.86	329	*e*PKP	PKPdf	04 29 27.2	+1.9
TRAV		165.95	338	P	PKPdf	04 29 25.2	-0.2
TRAV				P		04 30 26.6	
GRAM		165.95	330	P	PKPdf	04 29 21.9	-3.5
GRAM				P		04 30 26.6	
VALM		165.99	329	P	PKPdf	04 29 22.3	-3.2
VALM				P		04 30 27.1	
BGF	Bois d'Agland	166.02	352	*e*PKIKP	PKPdf	04 29 25.7	+0.3
	comp=Z,62nm,1.2s						
BACM		166.12	329	P	PKPdf	04 29 21.8	-3.7
BACM				P		04 30 28.1	
MFF	Saint Martin d	166.12	1	*e*PKIKP	PKPdf	04 29 25.9	+0.4
	comp=Z,71nm,1.0s						
CODM		166.12	330	P	PKPdf	04 29 22.1	-3.4
CODM				P		04 30 27.4	
LSD	Ceresole Reale	166.18	339	P	PKPdf	04 29 26.3	+0.8
LSD				P		04 30 28.4	
MNS	Montasola	166.19	318	*e*PKP	PKPdf	04 29 26.0	+0.3
VINC	Vinca	166.19	329	P	PKPab	04 30 27.4	-1.7
LPL	La Plagne	166.25	340	*e*PKIKP	PKPdf	04 29 26.1	+0.5
LPG	La Plagne	166.26	340	*e*PKIKP	PKPdf	04 29 26.3	+0.7
	comp=Z,18nm,0.9s						
TCF	Toulx Ste Croi	166.35	354	*e*PKIKP	PKPdf	04 29 25.9	+0.3
	comp=Z,24nm,0.9s						
RSP	Reno Superiore	166.43	338	P	PKPdf	04 29 26.2	+0.5
RSP				P		04 30 30.1	
PCP	Pian Castagno	166.52	334	P	PKPdf	04 29 24.6	-1.2
PCP				P		04 30 28.9	
GRFL	Gerfalco	166.57	324	*e*PKP	PKPdf	04 29 25.2	-0.7
FENE	Fenestrelle	166.59	339	P	PKPdf	04 29 26.0	+0.1
FENE				P		04 30 30.0	
BNI	Bardonecchia	166.69	340	PKIKP	PKPdf	04 29 26.5	+0.6
BNI	Bardonecchia	166.69	340	*e*PKPdf	PKPdf	04 29 26.4	+0.5
BHB	Bricherasio	166.70	338	P	PKPdf	04 29 26.3	+0.4
BHB				P		04 30 29.0	
GDM	Grand'Maison	166.71	342	PKP	PKPab	04 30 31.5	+0.2
GRN	Grenoble	166.77	343	PKP	PKPab	04 30 31.6	0.0
RRL	Cesana Torines	166.78	339	P	PKPdf	04 29 28.3	+2.4
RRL				P		04 30 31.0	
TOLF	Tolfa	166.78	318	*e*PKP	PKPdf	04 29 27.2	+1.1
PYM	Petit Puy Mans	166.80	351	PKP	PKPab	04 30 30.8	-0.9
COLF	Collangettes	166.93	349	PKP	PKPab	04 30 31.4	-0.8
FIN	Finale Ligure	166.93	334	P	PKPdf	04 29 25.2	-0.9
FIN				P		04 30 29.6	
MBDF	Montbardon	166.96	339	*e*PKIKP	PKPdf	04 29 26.4	+0.3
	comp=Z,55nm,1.1s						
ROB	Roburent	166.98	335	P	PKPdf	04 29 25.6	-0.5
ROB				P		04 30 29.8	
ORIF	Oris-en-Rattie	167.04	342	*e*PKIKP	PKPdf	04 29 26.5	+0.4
	comp=Z,27nm,1.0s						
PZZ	Prazzo	167.05	337	P	PKPdf	04 29 27.4	+1.2
PZZ				P		04 30 30.6	
RORO		167.06	334	P	PKPdf	04 29 26.2	0.0
RORO				P		04 30 30.4	
ENR	Entracque	167.19	336	P	PKPdf	04 29 26.4	+0.1
ENR				P		04 30 30.6	
MONE	Monesi	167.21	335	P	PKPdf	04 29 26.8	+0.5
MONE				P		04 30 31.8	
FRNF	Fournols	167.21	352	PKP	PKPab	04 30 33.0	-0.5
STV2	Anna di Valdie	167.21	336	P	PKPdf	04 29 26.6	+0.4
STV2				P		04 30 30.5	
STV	Sta Anna Valdi	167.21	336	P	PKPdf	04 29 26.9	+0.6
STV				P		04 30 30.5	
LBL	Lubilhac	167.27	350	PKP	PKPab	04 30 33.5	-0.3
IMI	Imperia	167.30	334	P	PKPdf	04 29 26.2	-0.2
IMI				P		04 30 31.4	
SAOF	Saorge	167.36	335	PKP	PKPab	04 30 32.9	-1.3
RJF	Les Rejaudoux	167.38	356	*e*PKIKP	PKPdf	04 29 27.1	+0.7
	comp=Z,39nm,1.1s						
VIVF	Saint-Julien-l	167.38	345	*e*PKIKP	PKPdf	04 29 26.5	+0.1
	comp=Z,35nm,1.0s						
AUTN	L'Aution	167.39	335	PKP	PKPab	04 30 33.1	-1.2
NEGI	Negi	167.42	334	P	PKPab	04 30 32.3	-2.2
VAE	Valguarnera	167.44	296	PKPab	PKPab	04 30 33.7	-1.0
	comp=Z,10nm,0.9s,baz=255,slow=14,SNR=3.5						
TOUF	Mont Tournerai	167.44	336	PKP	PKPab	04 30 34.0	-0.5
EMAZ	Mazaricos	167.47	33	PKP	PKPdf	04 29 27.0	+0.5
OCF	Saint Nazaire	167.50	343	PKP	PKPab	04 30 34.9	+0.1
OG26	St.-Nazaire-De	167.50	343	PKP	PKPab	04 30 34.9	+0.1
SBF	Sospel	167.51	335	*e*PKIKP	PKPdf	04 29 26.2	-0.3
	comp=Z,52nm,0.8s						
AURF	Auriere	167.52	336	PKP	PKPab	04 30 33.9	-1.0
MVIF	Mont Vial	167.58	336	PKP	PKPab	04 30 34.2	-0.9
REVF	Revere	167.64	335	PKP	PKPab	04 30 34.2	-1.2
STS	Santiago	167.71	32	PKP	PKPdf	04 29 28.7	+2.1
CAF	Calviac	167.72	354	*e*PKIKP	PKPdf	04 29 26.9	+0.3
	comp=Z,58nm,1.5s						
LFF	La Frestale	167.78	358	*e*PKIKP	PKPdf	04 29 27.6	+1.0
	comp=Z,32nm,0.9s						
CALN	Calern	167.79	337	PKP	PKPab	04 30 35.0	-1.1
EPON	Pontenova	167.92	27	PKP	PKPdf	04 29 28.9	+2.1
PGF	Pioggiola	167.97	327	*e*PKIKP	PKPdf	04 29 26.7	-0.1
	comp=Z,48nm,1.1s						
SMRF	Simiane la Rot	167.99	341	*e*PKIKP	PKPdf	04 29 27.2	+0.4
	comp=Z,72nm,1.4s						
FRF	La Foret Royal	168.04	337	*e*PKIKP	PKPdf	04 29 26.9	+0.1
	comp=Z,39nm,0.9s						
VILF	Villemus	168.07	340	PKP	PKPab	04 30 37.5	+0.2
TAVF	Tavernes	168.18	339	PKP	PKPab	04 30 37.5	-0.3
EZAM	Zamans	168.22	34	PKP	PKPdf	04 29 29.7	+2.7
PRAF	Pradon	168.26	342	PKP	PKPab	04 30 38.4	+0.3
LMR	La Mourre	168.29	337	*e*PKIKP	PKPdf	04 29 27.2	+0.2
	comp=Z,46nm,1.1s						
LASF	Ste Croix	168.30	347	*e*PKIKP	PKPdf	04 29 27.6	+0.6
	comp=Z,51nm,1.3s						
PUYF	Puyloubier	168.36	340	PKP	PKPab	04 30 38.5	-0.1
TREF	Trevaresse	168.37	341	PKP	PKPab	04 30 39.0	+0.4
BERF	Bertagne	168.57	339	PKP	PKPab	04 30 39.1	-0.4
GELF	Grande-Etoile	168.58	340	PKP	PKPab	04 30 39.6	0.0
ERUA	La Rua	168.71	29	PKP	PKPdf	04 29 29.6	+2.3
ELOB	Lobios	168.74	33	PKP	PKPdf	04 29 30.1	+2.8
ECAL	Calabor	169.26	29	PKP	PKPdf	04 29 31.4	+3.8
MTLF	Montolieu	169.27	352	*e*PKIKP	PKPdf	04 29 28.1	+0.5
	comp=Z,18nm,1.0s						
PVRL	Vila Real	169.36	34	*e*PKPdf	PKPdf	04 29 29.9	+2.2
PVRL				*e*PKPab	PKPab	04 30 41.6	-1.5
PBRG	Braganca	169.37	29	*e*PKPdf	PKPdf	04 29 29.5	+1.8
PBRG				*e*PKPab	PKPab	04 30 41.6	-1.5
SJPF	Ste Jean	169.55	6	*e*PKIKP	PKPdf	04 29 28.2	+0.4
	comp=Z,48nm,0.9s						
EPF	Esparros	169.69	359	*e*PKIKP	PKPdf	04 29 28.4	+0.5
	comp=Z,33nm,1.0s						
PVIS	Viseu	169.70	37	*e*PKPdf	PKPdf	04 29 30.0	+2.1
PVIS				*e*PKPab	PKPab	04 30 43.0	-1.6
ETSF	Etsaut	169.81	3	*e*PKIKP	PKPdf	04 29 28.7	+0.8
	comp=Z,27nm,1.0s						
EJON	La Jonquera	170.05	348	PKP	PKPdf	04 29 30.8	+2.7
MTE	Manteigas	170.11	37	*e*PKPdf	PKPdf	04 29 29.5	+1.3
MTE				*e*pPKPdf		04 30 06.8	
MTE				*e*PKPab	PKPab	04 30 42.9	-3.5
MTE	Manteigas	170.11	37	*e*PKPdf	PKPdf	04 29 29.2	+1.0
MTE				*e*PKPab	PKPab	04 30 44.4	-2.0
PTOM	Tomar	170.20	43	*e*PKPdf	PKPdf	04 29 29.6	+1.3
PTOM				*e*PKPab	PKPab	04 30 45.0	-1.8
PCBR	Castelo Branco	170.56	39	*e*PKPdf	PKPdf	04 29 30.3	+1.8
PCBR				*e*PKPab	PKPab	04 30 46.5	-2.0
EMIR	Miracle	170.75	354	PKP	PKPdf	04 29 31.2	+2.7
ESAC	San Caprasio	170.99	3	PKP	PKPdf	04 29 31.0	+2.4
EVO	Evora	171.14	47	*e*PKIKP	PKPdf	04 29 29.0	+0.1
	comp=Z,120nm,1.0s						
EVO				*e*R			
	comp=Z,221nm,22.0s						
PTEO	Sao Teotonio	171.24	54	*e*PKPdf	PKPdf	04 29 31.2	+2.2
PTEO				*e*PKPab	PKPab	04 30 50.2	-1.3
EPOB	Poblet	171.34	356	PKP	PKPdf	04 29 29.8	+0.9
EBAD	Badajoz	171.58	42	PKP	PKPdf	04 29 29.8	+0.7
ETOR	Torete	171.70	12	PKP	PKPdf	04 29 30.2	+1.1
PALC	Alcoutim	172.11	51	*e*PKPdf	PKPdf	04 29 31.5	+2.1
PALC				*e*PKPab	PKPab	04 30 54.0	-1.4
ESDC	Sonseca Array	172.27	25	PKP	PKPdf	04 29 30.4	+0.9
	comp=Z,14nm,0.9s,baz=352,slow=2.3,SNR=45						
ESDC				PKPab	PKPab	04 30 54.1	-2.0
	comp=Z,16nm,0.9s,baz=332,slow=4.0,SNR=22						
ESDC				PP	PP	04 34 45.1	-3.0
	comp=Z,3.0nm,1.1s,baz=328,slow=5.2,SNR=5.9						
ESDC	Sonseca Array	172.27	25	PKP	PKPdf	04 29 31.2	+1.7
ESLA	Sonseca Array	172.27	25	*e*PKPdf	PKPdf	04 29 30.7	+1.3
ESLA				*e*PKPab	PKPab	04 30 54.3	-1.8
EMOS	Mosqueruela	172.34	4	PKP	PKPdf	04 29 32.7	+3.3
EMIN	Mina Concepcio	172.44	46	PKP	PKPdf	04 29 31.2	+1.6
EADA	Adamuz	173.30	34	PKP	PKPdf	04 29 32.4	+2.4
ESPR	Espera	173.51	49	PKP	PKPdf	04 29 31.7	+1.7
EVIA	Vianos	173.68	20	PKP	PKPdf	04 29 32.6	+2.5
ETOB	Tobarra	173.91	13	PKP	PKPdf	04 29 31.2	+1.1
ELUQ	Luque	173.93	36	PKP	PKPdf	04 29 32.2	+2.1
EQES	Quesada	174.25	27	PKP	PKPdf	04 29 31.0	+0.7
ELOJ	Sierra Loja	174.30	38	PKP	PKPdf	04 29 31.8	+1.6
EMIJ	Mijas	174.37	45	PKP	PKPdf	04 29 30.5	+0.2
ERON	Agron	174.58	36	PKP	PKPdf	04 29 32.3	+2.0

NEIC ***19*** *04:22:35.0, 44.19N×10.25E, h0^{km}, MD2.6(ROM), ML2.4(LDG), ML2.3(GEN), After GEN.*

ROM ***19*** *04:22:34.7±0.3, 44.17N×10.27E, h6^{km}±2^{km}, MD2.6/6, ML1.7/7, Error ellipse: s-maj=1.5km s-min=1.5km az=0.0*

LDG ***19*** *04:22:37.5±0.4, 44.02N×10.27E, h10^{km}, Ml2.4/11, Error ellipse: s-maj=7.4km s-min=4.6km az=100.0*

ISC 19 04:22:34.5±0.3**, 44.14N**±0.02×**10.21E**±0.03**, h10**^{km}±2^{km}**,**
n42, σ**0**^{s}**96**/71**, 6C, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VINC	Vinca	0.04	274	P	Pg	04 22 36.9	+0.5
VINC				S	Sg	04 22 38.3	+0.6
VLC	Villacollemand	0.13	81	*e*Pg	Pg	04 22 37.0	-0.7
VLC				*e*Sg	Sg	04 22 38.4	-1.4
BACM		0.17	326	P	Pg	04 22 38.5	+0.2
BACM				S	Sg	04 22 40.9	0.0
VALM		0.21	8	P	Pg	04 22 38.6	-0.5
VALM				S	Sg	04 22 41.1	-1.1
BDI	Bagni Di Lucca	0.29	105	*e*PG	Pg	04 22 40.2	-0.4
BDI				SG	Sg	04 22 44.7	+0.1
	82nm,0.2s						
BDI	Bagni Di Lucca	0.29	105	*e*Pg	Pg	04 22 40.2	-0.4
BDI				*e*Sg	Sg	04 22 44.7	+0.1
ERBM	Eremo	0.32	28	⇑*i*PG	Pg	04 22 40.8	-0.2
ERBM				SG	Sg	04 22 46.1	+0.6
	115nm,0.2s						
ERBM	Eremo	0.32	28	⇑*i*Pg	Pg	04 22 40.8	-0.3
ERBM				*e*Sg	Sg	04 22 46.1	+0.6
GSCL	Gusciola	0.35	52	⇑*i*PG	Pg	04 22 41.2	-0.4
GSCL				SG	Sg	04 22 46.1	-0.3
	90nm,0.2s						
GSCL	Gusciola	0.35	52	⇑*i*Pg	Pg	04 22 41.2	-0.4
GSCL				*e*Sg	Sg	04 22 46.1	-0.3
CODM		0.36	315	P	Pg	04 22 42.0	+0.1
CODM				S	Sg	04 22 46.8	+0.1
GRAM		0.37	344	P	Pg	04 22 42.0	0.0
GRAM				S	Sg	04 22 46.9	-0.1
ZCCA	Zocca	0.59	69	⇑*i*PG	Pg	04 22 47.0	+0.6
	45nm,0.3s						
ZCCA	Zocca	0.59	69	⇑*i*Pg	Pg	04 22 47.0	+0.5
FNVD	Fontana Vidola	0.66	87	*e*PG	Pg	04 22 47.5	-0.3
FNVD				SG	Sg	04 22 56.3	-0.4
FNVD	Fontana Vidola	0.66	87	*e*Pg	Pg	04 22 47.5	-0.3
FNVD				*e*Sg	Sg	04 22 56.3	-0.3
SEI	Scarperia	0.83	95	*e*PG	Pg	04 22 50.6	-0.6
SEI				SG	Sg	04 23 01.4	-1.0
	117nm,0.5s						
SEI	Scarperia	0.83	95	*e*Pg	Pg	04 22 50.6	-0.6
SEI				*e*Sg	Sg	04 23 01.4	-0.9
CSNT	Castellina Chi	1.03	130	*e*PG	Pg	04 22 56.0	+0.9
CSNT				SG	Sg	04 23 09.5	+0.6
	19nm,0.4s						
CSNT	Castellina Chi	1.03	130	*e*Pn	Pn	04 22 56.0	+1.1
CSNT				*e*Sn	Sn	04 23 09.5	+0.1
SFI	Santa Sofia	1.21	101	*e*PN	Pn	04 22 57.7	+0.3
	6.0nm,0.4s						
SFI	Santa Sofia	1.21	101	*e*Pn	Pn	04 22 57.6	+0.3
FIN	Finale Ligure	1.44	274	*e*PN	Pn	04 23 01.1	+0.4
	10.0nm,0.3s						
FIN	Finale Ligure	1.44	274	*e*Pg	Pg	04 23 01.1	-2.1
IMI	Imperia	1.69	263	*e*PN	Pn	04 23 05.0	+0.8
	11nm,0.4s						
IMI	Imperia	1.69	263	*e*Pn	Pn	04 23 05.0	+0.8
PGF	Pioggiola	1.82	209	*e*Pn	Pn	04 23 06.1	0.0
PGF				*e*Sn	Sn	04 23 28.0	-1.3
	6.8nm,0.3s						
SBF	Sospel	2.02	263	*e*Pn	Pn	04 23 09.1	+0.1
SBF				*e*Sn	Sn	04 23 34.6	+0.1
	8.9nm,0.2s						
MBDF	Montbardon	2.53	285	*e*Pn	Pn	04 23 16.6	+0.3
MBDF				*e*Sn	Sn	04 23 47.2	-0.3
	5.7nm,0.5s						
FRF	La Foret Royal	2.64	259	*e*Pn	Pn	04 23 17.8	-0.1
FRF				*e*Sn	Sn	04 23 48.3	-1.9
	3.1nm,0.2s						
LMR	La Mourre	2.80	255	*e*Pn	Pn	04 23 19.5	-0.6
LMR				*e*Sn	Sn	04 23 51.4	-2.9
	3.7nm,0.3s						
LPG	La Plagne	2.81	300	*e*Pn	Pn	04 23 22.6	+2.3
LPL	La Plagne	2.83	300	*e*Pn	Pn	04 23 23.1	+2.5
LPL				*e*Sn	Sn	04 23 55.3	+0.2
	1.5nm,0.3s						
ORIF	Oris-en-Rattie	3.19	286	*e*Pn	Pn	04 23 27.5	+1.8

ORIF				*e*Sn	**Sn**	**04 24 03.8**	**-0.4**
	1.9nm,0.3s						
SMRF	**Simiane la Rot**	**3.34**	**269**	*e*Pn	**Pn**	**04 23 28.7**	**+0.8**
SMRF				*e*Sn	**Sn**	**04 24 06.5**	**-1.6**
	0.9nm,0.3s						
CABF	**La Chapelle**	**3.81**	**312**	*e*Pn	**Pn**	**04 23 36.3**	**+1.8**
CABF				*e*Sn	**Sn**	**04 24 19.1**	**-0.8**
	1.1nm,0.4s						
HINF	**Hinteralfeld**	**4.36**	**329**	*e*Pn	**Pn**	**04 23 43.4**	**+1.1**
HAU	**Haudompre**	**4.71**	**327**	*e*Pn	**Pn**	**04 23 47.4**	**+0.1**
HAU				*e*Sn	**Sn**	**04 24 41.1**	**-1.5**
	3.4nm,0.3s						
CDF	**Champ du Feu**	**4.73**	**336**	*e*Pn	**Pn**	**04 23 47.8**	**+0.2**
SMF	**Signal de Mont**	**5.14**	**301**	*e*Pn	**Pn**	**04 23 54.4**	**+1.1**
SMF				*e*Sn	**Sn**	**04 24 50.4**	**-3.0**
	0.6nm,0.2s						
AVF	**Avril sur Loir**	**5.50**	**301**	*e*Pn	**Pn**	**04 23 59.2**	**+0.7**
BGF	**Bois d’Agland**	**5.72**	**298**	*e*Pn	**Pn**	**04 24 02.8**	**+1.2**

DHMR 19 05:09:09.9±0.8, 12.24N×44.41E, h12^{km}±3^{km}, ML3.6, 1C-5D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ADEN	**Aden**	**0.77**	**47**	⇓*i*P	Pb	05 09 24.2	-0.6
ADEN				*i* S	Sb	05 09 35.6	+0.6
ADEN				AML	AML	05 09 42.4	
	comp=E,2μm,0.4s						
TRBA	**At Turbah**	**1.00**	**344**	⇓*i*P	Pb	05 09 28.5	-0.1
TRBA				*i* S	Sb	05 09 43.5	+2.0
TRBA				AML	AML	05 09 49.5	
	comp=E,855nm,0.6s						
UDYN	**Al ‘Udayn**	**1.76**	**347**	⇓*i*P	Pn	05 09 41.6	+1.1
UDYN				*i* S	Sn	05 10 06.0	+3.0
LBOS		**1.81**	**27**	⇑*i*P	Pn	05 09 42.0	+0.7
LBOS				*i* S	Sn	05 10 07.3	+3.0
BDHA	**Al Bayda’**	**2.06**	**33**	⇓*i*P	Pn	05 09 46.3	+1.5
BDHA				*i* S	Sn	05 10 13.9	+3.3
BDHA				AML	AML	05 10 20.9	
	comp=E,784nm,0.5s						
HAJJ	**Hajjah**	**3.52**	**347**	⇓*i*P	Pn	05 10 07.1	+1.5
HAJJ				*i* S	Sn	05 10 51.9	+4.2

LDG ***19*** *05:21:35.9±0.3, 42.86N×1.50W, h2^{km}, Md2.6/2, Ml2.6/11, Error ellipse: s-maj=6.0km s-min=3.6km az=60.0*
NEIC ***19*** *05:21:35.2, 42.85N×1.56W, h5^{km}, ML2.6(STR), ML2.6(LDG), MN1.9(MDD), After STR.*
STR ***19*** *05:21:35.2±0.5, 42.85N×1.56W, h5^{km}±1^{km}, Ml2.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD ***19*** *05:21:37.1±0.4, 42.86N×1.44W, h7^{km}±3^{km}, mbLg1.9/11, Error ellipse: s-maj=3.2km s-min=2.3km az=36.0, AftershockPLICA PRXIMO*
ISC 19 05:21:34.2±0.5**, 42.87N**±0.02×**1.57W**±0.03**, h14**^{km}±3^{km}**, n49,** σ1^{s}**35**/85**, 1C, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJPF	**Ste Jean**	**0.35**	**46**	*e*Pg	**Pg**	**05 21 42.6**	**+0.9**
SJPF				*e*Sg	**Sg**	**05 21 45.4**	**-1.3**
	158nm,0.3s						
EALK	**Alkurruntz**	**0.35**	**8**	⇑Pg	**Pg**	**05 21 43.8**	**+2.1**
	20nm,0.3s,SNR=18						
EALK				Lg		05 21 49.8	
	37nm,0.1s,SNR=7.9						
EALK	**Alkurruntz**	**0.35**	**8**	Pg	**Pg**	**05 21 43.8**	**+2.1**
EALK				Lg		05 21 49.9	
OSSF	**Osses**	**0.45**	**30**	Pg	**Pg**	**05 21 44.5**	**+1.0**
OSSF				Sg	**Sg**	**05 21 50.7**	**+1.0**
OSSF	**Osses**	**0.45**	**30**	P	**Pb**	**05 21 44.6**	**+1.3**
OSSF				S	**Sb**	**05 21 50.8**	**+1.2**
LARF	**Larrau**	**0.46**	**68**	Pg	**Pg**	**05 21 43.9**	**+0.2**
LARF				Sg	**Sg**	**05 21 50.1**	**0.0**
LARF	**Larrau**	**0.46**	**68**	P	**Pb**	**05 21 43.9**	**+0.3**
LARF				S	**Sb**	**05 21 50.1**	**+0.2**
ORDF	**Ordiarp**	**0.58**	**53**	P	**Pb**	**05 21 46.6**	**+1.0**
ORDF				S	**Sb**	**05 21 54.3**	**+0.9**
ATE	**Arette**	**0.68**	**71**	P	**Pb**	**05 21 47.6**	**+0.4**
ATE				S	**Sb**	**05 21 56.7**	**+0.5**
FDAF	**Les Forges d’A**	**0.74**	**94**	Pg	**Pg**	**05 21 48.9**	**-0.3**
FDAF				Sg	**Sg**	**05 22 00.0**	**+0.8**
FDAF	**Les Forges d’A**	**0.74**	**94**	P	**Pb**	**05 21 48.7**	**+0.3**
FDAF				S	**Sb**	**05 21 58.4**	**+0.3**
ETSF	**Etsaut**	**0.74**	**87**	*e*Pg	**Pg**	**05 21 48.3**	**-1.0**
ETSF				*e*Sg	**Sg**	**05 21 56.8**	**-2.6**
	22nm,0.3s						
ETSF				*e*Sn	**Sn**	**05 21 59.0**	**-2.1**
	28nm,0.3s						
REYF	**Montagne du Re**	**0.89**	**77**	S	**Sb**	**05 22 03.0**	**+0.6**
VIEF	**Viey**	**1.17**	**89**	Pn	**Pn**	**05 21 56.4**	**+0.2**
VIEF				P		05 21 56.4	
VIEF	**Viey**	**1.17**	**89**	P	**Pb**	**05 21 56.5**	**+0.8**
VIEF				S	**Sb**	**05 22 12.1**	**+1.5**
LABF	**Labassere**	**1.22**	**81**	Pn	**Pn**	**05 21 57.6**	**+0.7**
LABF	**Labassere**	**1.22**	**81**	P	**Pb**	**05 21 57.8**	**+1.2**
LABF				S	**Sb**	**05 22 14.2**	**+2.2**
RESF	**Ens**	**1.41**	**92**	Pn	**Pn**	**05 22 00.7**	**+1.1**
RESF	**Ens**	**1.41**	**92**	P	**Pn**	**05 22 02.3**	**+2.7**
RESF				S	**Sb**	**05 22 19.6**	**+2.2**
ESAC	**San Caprasio**	**1.41**	**144**	Pg	**Pg**	**05 22 01.2**	**-1.2**
	32nm,0.3s						
ESAC				Lg		05 22 19.0	
	32nm,0.3s,SNR=7.9						
EPF	**Esparros**	**1.41**	**83**	*e*Pn	**Pn**	**05 22 00.6**	**+0.9**
EPF				*e*Pg	**Pg**	**05 22 02.8**	**+0.3**
EPF				*e*Sg	**Sg**	**05 22 18.4**	**-3.0**
	20nm,0.4s						
MELF	**Melles**	**1.71**	**89**	Pn	**Pn**	**05 22 05.0**	**+1.1**
MELF	**Melles**	**1.71**	**89**	P	**Pn**	**05 22 08.1**	**+4.1**
MELF				S	**Sn**	**05 22 29.1**	**+3.4**
SALF	**Salau**	**2.04**	**92**	S	**Sn**	**05 22 36.9**	**+3.0**
ETOR	**Torete**	**2.08**	**190**	Pn	**Pn**	**05 22 11.6**	**+2.4**
	4.9nm,0.3s						
ETOR				Pg	**Pg**	**05 22 15.8**	**0.0**
	SNR=7.9						
ETOR				Lg		05 22 40.4	
	2.0nm,0.2s,SNR=7.9						
ETOR	**Torete**	**2.08**	**190**	Pg	**Pg**	**05 22 11.6**	**-4.2**
ETOR				Lg		05 22 40.4	
EPOB	**Poblet**	**2.49**	**127**	Pn	**Pn**	**05 22 15.3**	**+0.2**
	0.7nm,0.1s,SNR=7.9						
EPOB				Pg	**Pg**	**05 22 21.8**	**-2.1**
	2.0nm,0.3s,SNR=7.9						
EPOB				Sn	**Sn**	**05 22 44.4**	**-1.0**
	1.8nm,0.2s,SNR=5.0						
EPOB				Lg		05 22 52.3	
	1.2nm,0.2s,SNR=5.0						
EPOB	**Poblet**	**2.49**	**127**	Pn	**Pn**	**05 22 15.2**	**+0.2**
EPOB				Sn	**Sn**	**05 22 45.3**	**-0.1**
EPOB				Lg		05 22 53.0	
EBR	**Ebro Roquetas**	**2.56**	**142**	*e*SG	**Sg**	**05 22 58.0**	**-1.6**
EMOS	**Mosqueruela**	**2.63**	**161**	Pn	**Pn**	**05 22 18.9**	**+1.8**
	SNR=7.9						
EMOS				Pg	**Pg**	**05 22 24.8**	**-2.1**
	0.3nm,0.2s,SNR=7.9						
EMOS				Lg		05 22 58.1	
	0.8nm,0.2s,SNR=5.0						
EMOS	**Mosqueruela**	**2.63**	**161**	Pg	**Pg**	**05 22 22.3**	**-4.6**
EMOS				Lg		05 22 56.9	
LFF	**La Frestale**	**2.66**	**38**	*e*Pn	**Pn**	**05 22 17.7**	**+0.2**
LFF				*e*Sn	**Sn**	**05 22 48.5**	**-1.3**
LFF				*e*Sg	**Sg**	**05 22 56.8**	**-6.1**
	10nm,0.4s						
MTLF	**Montolieu**	**2.81**	**79**	*e*Pn	**Pn**	**05 22 20.5**	**+0.8**
	5.3nm,0.5s						
MTLF				*e*Sn	**Sn**	**05 22 52.3**	**-1.4**
	61nm,1.7s						
RJF	**Les Rejaudoux**	**3.30**	**41**	*e*Pn	**Pn**	**05 22 26.0**	**-0.6**
RJF				*e*Sn	**Sn**	**05 23 03.7**	**-2.2**
	3.4nm,0.3s						
EJON	**La Jonquera**	**3.32**	**96**	Pg	**Pg**	**05 22 36.6**	**-3.9**
	0.4nm,0.2s,SNR=7.9						
EJON				Lg		05 23 19.4	
	1.2nm,0.2s,SNR=7.9						
CAF	**Calviac**	**3.34**	**51**	*e*Pn	**Pn**	**05 22 26.6**	**-0.5**
CAF				*e*Sn	**Sn**	**05 23 05.1**	**-1.8**
	1.9nm,0.2s						
MFF	**Saint Martin d**	**3.87**	**15**	*e*Pn	**Pn**	**05 22 35.1**	**+0.4**
MFF				*e*Pg	**Pg**	**05 22 46.9**	**-4.6**
MFF				*e*Sn	**Sn**	**05 23 18.3**	**-2.1**
MFF				*e*Sg	**Sg**	**05 23 37.3**	**-5.8**
	3.2nm,0.4s						
ECAL	**Calabor**	**3.94**	**258**	Pn	**Pn**	**05 22 36.9**	**+1.3**
	0.6nm,0.2s,SNR=7.9						
ECAL				Sn	**Sn**	**05 23 22.5**	**+0.4**
	0.4nm,0.2s,SNR=5.0						
ECAL				Lg		05 23 44.9	
	1.3nm,0.2s,SNR=5.0						
ECAL	**Calabor**	**3.94**	**258**	Pn	**Pn**	**05 22 37.0**	**+1.3**
ECAL				Sn	**Sn**	**05 23 21.8**	**-0.3**
ECAL				Lg		05 23 42.0	
EPON	**Pontenova**	**4.11**	**278**	Pg	**Pn**	**05 22 39.5**	**+1.4**
	0.6nm,0.2s,SNR=7.9						
EPON				Sn	**Sn**	**05 23 25.5**	**-1.0**
	0.5nm,0.2s,SNR=7.9						
EPON				Lg		05 23 48.3	
	0.6nm,0.2s,SNR=7.9						
LASF	**Ste Croix**	**4.13**	**71**	*e*Pn	**Pn**	**05 22 37.8**	**-0.6**
LASF				*e*Sn	**Sn**	**05 23 23.3**	**-3.8**
	6.0nm,0.7s						
ETOB	**Tobarra**	**4.22**	**180**	Pn	**Pn**	**05 22 41.1**	**+1.4**
	0.6nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**4.22**	**180**	Pn	**Pn**	**05 22 39.3**	**-0.3**
TCF	**Toulx Ste Croi**	**4.36**	**37**	*e*Pn	**Pn**	**05 22 39.8**	**-1.8**
TCF				*e*Sn	**Sn**	**05 23 28.7**	**-4.1**
	3.4nm,0.5s						
BGF	**Bois d’Agland**	**4.85**	**39**	*e*Pn	**Pn**	**05 22 46.7**	**-1.9**
BGF				*e*Sn	**Sn**	**05 23 40.3**	**-4.9**
	6.8nm,0.4s						
EQES	**Quesada**	**5.19**	**193**	Pn	**Pn**	**05 22 51.7**	**-1.7**
EADA	**Adamuz**	**5.22**	**207**	Pn	**Pn**	**05 22 52.7**	**-1.2**
SMRF	**Simiane la Rot**	**5.32**	**76**	*e*Pn	**Pn**	**05 22 52.0**	**-3.3**
SSF	**Saint Saulge**	**5.53**	**39**	*e*Pn	**Pn**	**05 22 56.6**	**-1.5**

MDD 19 05:22:07.8±3.1**, 35.49N×4.41W, h3**^{km}±19^{km}**, mb3.3**/4**, Error ellipse: s-maj=30.2km s-min=7.3km az=37.0, PRXIMO SIN SOLUCIN, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EMIJ	**Mijas**	**1.11**	**345**	P	Pb	05 22 28.0	-1.2
	0.9nm,0.1s,SNR=7.9						
EMIJ				S	Sb	05 22 43.3	-0.7
	22nm,0.2s,SNR=7.9						
EMEL	**Melilla**	**1.20**	**99**	P	Pb	05 22 29.9	-1.0
	14nm,0.1s,SNR=5.0						
EMEL				S	Sb	05 22 45.9	-0.7
	34nm,0.1s,SNR=7.9						
EQES	**Quesada**	**2.55**	**25**	P	Pn	05 22 54.1	+3.5
	0.9nm,0.2s,SNR=5.0						
EQES				S	Sn	05 23 27.0	+4.4
	0.7nm,0.1s,SNR=5.0						
EQES	**Quesada**	**2.55**	**25**	Sn	Sn	05 23 26.0	+3.4
EADA	**Adamuz**	**2.68**	**357**	P	Pn	05 22 53.4	+0.9
	0.4nm,0.1s,SNR=7.9						
EADA				S	Sn	05 23 27.3	+1.4
	1.1nm,0.1s,SNR=5.0						
EADA	**Adamuz**	**2.68**	**357**	Sn	Sn	05 23 27.3	+1.4
EMIN	**Mina Concepcio**	**2.91**	**322**	P	Pn	05 22 53.5	-2.3
	0.7nm,0.3s,SNR=7.9						
EMIN				S	Sn	05 23 27.1	-4.8
	0.4nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**3.87**	**328**	P	Pn	05 23 07.1	-2.3
	0.5nm,0.1s,SNR=7.9						
EBAD				S	Sn	05 23 52.0	-4.0
	1.7nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**3.87**	**328**	Pn	Pn	05 23 07.1	-2.3
EBAD				Sn	Px	05 23 49.3	

LDG ***19*** *05:22:48.3±0.6, 42.87N×1.45W, h2^{km}, Md2.2/2, Ml1.9/5, Error ellipse: s-maj=9.9km s-min=6.8km az=53.0*
MDD 19 05:22:49.1±0.6**, 42.88N×1.37W, h6**^{km}±5^{km}**, mbLg1.6**/4**, Error ellipse: s-maj=5.2km s-min=3.3km az=56.0, PRXIMO AftershockPLICA, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJPF	**Ste Jean**	**0.26**	**25**	*e*Pg	Pg	05 22 54.3	-0.1
SJPF				*e*Sg	Sg	05 22 57.1	-0.8
	58nm,0.3s						
EALK	**Alkurruntz**	**0.35**	**344**	Pg	Pg	05 22 55.4	-0.8
	4.5nm,0.2s,SNR=7.9						
EALK				Lg		05 23 01.1	
	26nm,0.2s,SNR=7.9						
ETSF	**Etsaut**	**0.60**	**88**	*e*Pg	Pg	05 23 00.0	-1.2
ETSF				*e*Sg	Sg	05 23 08.6	-0.6
ETSF				*e*Sn	Sn	05 23 10.6	-3.3
	9.4nm,0.4s						
EPF	**Esparros**	**1.27**	**83**	*e*Pn	Pn	05 23 12.2	-1.2
EPF				*e*Pg	Pg	05 23 14.4	-0.1
EPF				*e*Sg	Sg	05 23 30.3	-1.1
	13nm,0.6s						
ESAC	**San Caprasio**	**1.34**	**150**	Pg	Pg	05 23 13.7	-2.1
	10nm,0.3s,SNR=4.0						
ESAC				Lg		05 23 31.4	
	10nm,0.2s,SNR=7.9						
ETOR	**Torete**	**2.12**	**194**	Pg	Pg	05 23 27.7	-3.8
	SNR=7.9						
ETOR				Lg		05 23 53.9	
	0.6nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**2.38**	**129**	Lg		05 24 04.2	
	0.2nm,0.1s,SNR=4.0						
LFF	**La Frestale**	**2.56**	**36**	*e*Pn	Pn	05 23 29.3	-2.6
LFF				*e*Sn	Sn	05 24 00.1	-3.7
	1.2nm,0.3s						
EMOS	**Mosqueruela**	**2.60**	**165**	Lg		05 24 13.3	
	SNR=7.9						
MTLF	**Montolieu**	**2.67**	**79**	*e*Pn	Pn	05 23 32.0	-1.5
MTLF				*e*Sn	Sn	05 24 03.9	-2.6
	0.5nm,0.3s						
RJF	**Les Rejaudoux**	**3.19**	**40**	*e*Pn	Pn	05 23 37.7	-3.2
RJF				*e*Sn	Sn	05 24 15.3	-4.5
	0.9nm,0.2s						
CAF	**Calviac**	**3.22**	**49**	*e*Pn	Pn	05 23 38.3	-2.9
CAF				*e*Sn	Sn	05 24 16.3	-4.1
	1.7nm,0.4s						

LDG ***19*** *05:26:02.8±0.4, 42.87N×1.47W, h2^{km}, Md2.3/2, Ml2.3/7, Error ellipse: s-maj=6.9km s-min=4.2km az=57.0*
STR ***19*** *05:26:03.8±1.4, 43.37N×0.79W, h10^{km}±1^{km}, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD 19 05:26:03.7±0.5**, 42.88N×1.43W, h8**^{km}±4^{km}**, mbLg1.8**/8**, Error ellipse: s-maj=3.7km s-min=2.8km az=60.0, PRXIMO AftershockPLICA, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJPF	**Ste Jean**	**0.28**	**32**	*e*Pg	Pg	05 26 09.0	-0.4
SJPF				*e*Sg	Sg	05 26 11.7	-1.6
	95nm,0.3s						
EALK	**Alkurruntz**	**0.35**	**351**	Pg	Pg	05 26 10.1	-0.6
	3.6nm,0.1s,SNR=7.9						
EALK				Lg		05 26 15.3	
	32nm,0.2s,SNR=7.9						
LARF	**Larrau**	**0.36**	**63**	Pg	Pg	05 26 10.4	-0.6
LARF				Sg	Sg	05 26 16.7	+0.7
LARF	**Larrau**	**0.36**	**63**	P	Pg	05 26 10.5	-0.5
LARF				S	Sg	05 26 16.6	+0.6
OSSF	**Osses**	**0.40**	**18**	Pg	Pg	05 26 11.0	-0.8
OSSF				Sg	Sg	05 26 17.5	+0.3
OSSF	**Osses**	**0.40**	**18**	P	Pg	05 26 11.1	-0.7
OSSF				S	Sg	05 26 17.4	+0.3
ORDF	**Ordiarp**	**0.49**	**47**	P	Pg	05 26 13.3	-0.3
ORDF				S	Sg	05 26 20.8	+0.4
ATE	**Arette**	**0.57**	**68**	P	Pg	05 26 14.5	-0.7
ATE				S	Sg	05 26 22.8	-0.2
FDAF	**Les Forges d’A**	**0.64**	**95**	Pg	Pg	05 26 15.6	-0.9
FDAF	**Les Forges d’A**	**0.64**	**95**	P	Pg	05 26 15.3	-1.1
FDAF				S	Sg	05 26 23.9	-1.1
ETSF	**Etsaut**	**0.64**	**88**	*e*Pg	Pg	05 26 14.7	-1.8
ETSF				*e*Sg	Sg	05 26 23.6	-1.5
ETSF				*e*Sn	Sn	05 26 25.4	-3.7
	20nm,0.3s						
VIEF	**Viey**	**1.07**	**89**	S	Sb	05 26 38.0	+0.1
LABF	**Labassere**	**1.12**	**81**	S	Sb	05 26 39.4	0.0
RESF	**Ens**	**1.30**	**92**	S	Sb	05 26 47.4	+2.7
EPF	**Esparros**	**1.31**	**83**	*e*Pn	Pn	05 26 27.0	-1.3
EPF				*e*Pg	Pg	05 26 29.3	-0.5
EPF				*e*Sg	Sg	05 26 45.0	-2.3
	14nm,0.3s						
ESAC	**San Caprasio**	**1.36**	**148**	Pg	Pg	05 26 27.8	-3.0
	13nm,0.2s,SNR=7.9						
ESAC				Lg		05 26 46.7	
	37nm,0.5s,SNR=7.9						
MELF	**Melles**	**1.61**	**89**	S	Sb	05 26 55.8	+2.2
ETOR	**Torete**	**2.11**	**193**	Pn	Pn	05 26 38.7	-1.0
	SNR=7.9						
ETOR				Pg	Pg	05 26 42.3	-3.4
	SNR=7.9						
ETOR				Sn	Sn	05 27 04.2	-2.1
	SNR=7.9						
ETOR				Lg		05 27 06.3	
	4.8nm,0.4s,SNR=7.9						
EPOB	**Poblet**	**2.41**	**128**	Pn	Pn	05 26 42.1	-1.9
	SNR=5.0						
EPOB				Pg	Pg	05 26 46.8	-4.9
	SNR=5.0						
EPOB				Sn	Sn	05 27 10.4	-3.6
	0.6nm,0.2s,SNR=5.0						
EPOB				Lg		05 27 19.1	
	1.8nm,0.3s,SNR=4.0						
LFF	**La Frestale**	**2.59**	**37**	*e*Pn	Pn	05 26 44.1	-2.5
LFF				*e*Sn	Sn	05 27 14.6	-4.1
LFF				*e*Sg	Sg	05 27 23.1	-6.9
	1.7nm,0.3s						
EMOS	**Mosqueruela**	**2.61**	**164**	Pn	Pn	05 26 46.4	-0.6
	SNR=5.0						
EMOS				Pg	Pg	05 26 52.2	-3.6
	SNR=7.9						
EMOS				Sn	Sn	05 27 19.5	+0.3
	0.3nm,0.3s,SNR=7.9						
EMOS				Lg		05 27 25.9	
	1.5nm,0.3s,SNR=4.0						
MTLF	**Montolieu**	**2.71**	**79**	*e*Pn	Pn	05 26 46.9	-1.5
MTLF				*e*Sn	Sn	05 27 18.9	-2.8
	1.9nm,0.3s						
RJF	**Les Rejaudoux**	**3.23**	**40**	*e*Pn	Pn	05 26 52.6	-3.1
RJF				*e*Sn	Sn	05 27 30.1	-4.6
	1.8nm,0.2s						
CAF	**Calviac**	**3.25**	**50**	*e*Pn	Pn	05 26 53.2	-2.9
CAF				*e*Sn	Sn	05 27 31.1	-4.3
	1.4nm,0.2s						
MFF	**Saint Martin d**	**3.84**	**13**	*e*Pn	Pn	05 27 01.5	-2.8
	2.5nm,0.6s						
MFF				*e*Pg	Pg	05 27 13.6	-6.7
MFF				*e*Sn	Sn	05 27 44.7	-5.5
MFF				*e*Sg	Sg	05 28 03.8	-7.6
LASF	**Ste Croix**	**4.03**	**71**	*e*Pn	Pn	05 27 04.3	-2.8
TCF	**Toulx Ste Croi**	**4.29**	**36**	*e*Pn	Pn	05 27 06.2	-4.6
BGF	**Bois d’Agland**	**4.78**	**38**	*e*Pn	Pn	05 27 13.3	-4.4

LDG ***19*** *05:28:07.3±0.3, 42.87N×1.49W, h2^{km}, Md2.4/2, Ml2.3/12, Error ellipse: s-maj=6.0km s-min=4.0km az=57.0*
STR ***19*** *05:28:07.2±0.8, 42.84N×1.49W, h5^{km}±1^{km}, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD ***19*** *05:28:08.5±0.5, 42.88N×1.43W, h9^{km}±3^{km}, mbLg2.0/8, Error ellipse: s-maj=3.6km s-min=2.7km az=68.0, PRXIMO AftershockPLICA*
ISC 19 05:28:05.5±0.5**, 42.92N**±0.03×**1.51W**±0.04**, h9**^{km}**, n30,** σ1^{s}**47**/57**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJPF	**Ste Jean**	**0.29**	**46**	*e*Pg	**Pg**	**05 28 13.9**	**+2.4**
SJPF				*e*Sg	**Sg**	**05 28 16.6**	**+1.2**
	95nm,0.3s						
EALK	**Alkurruntz**	**0.30**	**360**	Pg	**Pg**	**05 28 15.1**	**+3.2**
	3.4nm,0.1s,SNR=7.9						
EALK				Lg		05 28 20.1	
	94nm,0.3s,SNR=7.9						
OSSF	**Osses**	**0.39**	**28**	Sg	**Sg**	**05 28 22.4**	**+3.8**
OSSF	**Osses**	**0.39**	**28**	P	**Pg**	**05 28 16.0**	**+2.6**
OSSF				S	**Sg**	**05 28 22.2**	**+3.6**
LARF	**Larrau**	**0.40**	**72**	Pg	**Pg**	**05 28 15.1**	**+1.4**
LARF				Sg	**Sg**	**05 28 21.4**	**+2.3**
LARF	**Larrau**	**0.40**	**72**	P	**Pg**	**05 28 15.5**	**+1.8**
LARF				S	**Sg**	**05 28 21.5**	**+2.4**
ORDF	**Ordiarp**	**0.51**	**54**	P	**Pg**	**05 28 17.9**	**+2.0**
ORDF				S	**Sg**	**05 28 25.6**	**+2.7**
ATE	**Arette**	**0.62**	**74**	P	**Pg**	**05 28 19.3**	**+1.4**
ATE				S	**Sg**	**05 28 27.0**	**+0.8**
ETSF	**Etsaut**	**0.70**	**91**	*e*Pg	**Pg**	**05 28 19.6**	**+0.1**
ETSF				*e*Sg	**Sg**	**05 28 28.2**	**-0.7**
ETSF				*e*Sn	**Sn**	**05 28 30.2**	**-2.0**
	23nm,0.5s						
FDAF	**Les Forges d’A**	**0.70**	**98**	Pg	**Pg**	**05 28 20.3**	**+0.7**
FDAF	**Les Forges d’A**	**0.70**	**98**	P	**Pb**	**05 28 20.4**	**+1.0**
FDAF				S	**Sg**	**05 28 28.9**	**0.0**
VIEF	**Viey**	**1.12**	**91**	S	**Sb**	**05 28 43.3**	**+2.0**
EPF	**Esparros**	**1.36**	**84**	*e*Pn	**Pn**	**05 28 31.7**	**+0.9**
EPF				*e*Pg	**Pg**	**05 28 34.1**	**+1.4**
EPF				*e*Sg	**Sg**	**05 28 49.8**	**-1.1**
	7.7nm,0.2s						
ESAC	**San Caprasio**	**1.42**	**147**	Pg	**Pg**	**05 28 33.0**	**-0.9**
	8.8nm,0.2s,SNR=7.9						
ESAC				Lg		05 28 51.3	
	63nm,0.4s,SNR=7.9						
SALF	**Salau**	**1.99**	**94**	S	**Sn**	**05 29 08.8**	**+3.7**
ETOR	**Torete**	**2.13**	**191**	Pn	**Pn**	**05 28 43.6**	**+1.7**
	0.5nm,0.1s,SNR=7.9						
ETOR				Pg	**Pg**	**05 28 47.3**	**-0.9**
	1.9nm,0.3s,SNR=7.9						
ETOR				Lg		05 29 13.2	
	8.1nm,0.4s,SNR=7.9						
EPOB	**Poblet**	**2.48**	**128**	Pn	**Pn**	**05 28 46.7**	**-0.1**
	0.3nm,0.1s,SNR=7.9						
EPOB				Pg	**Pg**	**05 28 51.4**	**-3.6**
	1.0nm,0.2s,SNR=7.9						
EPOB				Lg		05 29 22.5	
	1.4nm,0.2s,SNR=5.0						
EBR	**Ebro Roquetas**	**2.57**	**144**	*e*SG	**Sg**	**05 29 30.3**	**-0.9**
EBR				*e*PNPN		05 41 12.0	
EBR				*e*S*S*		05 41 45.0	
EBR				*e*SNSN		05 41 49.5	
LFF	**La Frestale**	**2.59**	**38**	*e*Pn	**Pn**	**05 28 49.0**	**+0.5**
LFF				*e*Sn	**Sn**	**05 29 19.7**	**-0.7**
LFF				*e*Sg	**Sg**	**05 29 28.3**	**-3.7**
	5.4nm,0.4s						
EMOS	**Mosqueruela**	**2.66**	**163**	Pn	**Pn**	**05 28 49.9**	**+0.5**
	SNR=5.0						
EMOS				Pg	**Pg**	**05 28 56.4**	**-2.3**
	SNR=7.9						
EMOS				Lg		05 29 33.2	
	0.8nm,0.1s,SNR=7.9						
MTLF	**Montolieu**	**2.76**	**80**	*e*Pn	**Pn**	**05 28 51.4**	**+0.6**
MTLF				*e*Sn	**Sn**	**05 29 23.6**	**-1.0**
	1.1nm,0.4s						
RJF	**Les Rejaudoux**	**3.23**	**41**	*e*Pn	**Pn**	**05 28 57.4**	**-0.1**
RJF				*e*Sn	**Sn**	**05 29 34.7**	**-1.9**
	1.8nm,0.2s						
CAF	**Calviac**	**3.27**	**51**	*e*Pn	**Pn**	**05 28 57.9**	**-0.2**
CAF				*e*Sn	**Sn**	**05 29 35.9**	**-1.7**
	1.2nm,0.1s						
MFF	**Saint Martin d**	**3.81**	**14**	*e*Pn	**Pn**	**05 29 06.4**	**+0.6**
MFF				*e*Pg	**Pg**	**05 29 18.2**	**-3.5**
MFF				*e*Sn	**Sn**	**05 29 49.7**	**-1.6**
MFF				*e*Sg	**Sg**	**05 30 08.5**	**-4.0**
	1.1nm,0.2s						
ECAL	**Calabor**	**3.99**	**258**	Pn	**Pn**	**05 29 09.5**	**+1.2**
	SNR=7.9						
ECAL				Lg		05 30 14.6	
	2.9nm,0.3s,SNR=7.9						
LASF	**Ste Croix**	**4.07**	**72**	*e*Pn	**Pn**	**05 29 09.1**	**-0.4**
LASF				*e*Sn	**Sn**	**05 29 54.7**	**-3.1**
	0.4nm,0.2s						
TCF	**Toulx Ste Croi**	**4.29**	**37**	*e*Pn	**Pn**	**05 29 11.1**	**-1.5**
TCF				*e*Sn	**Sn**	**05 30 00.1**	**-3.3**
	1.1nm,0.3s						
BGF	**Bois d’Agland**	**4.78**	**39**	*e*Pn	**Pn**	**05 29 18.1**	**-1.5**
BGF				*e*Sn	**Sn**	**05 30 11.7**	**-4.2**
	3.1nm,0.4s						
VIVF	**Saint-Julien-l**	**4.87**	**64**	*e*Pn	**Pn**	**05 29 20.0**	**-0.8**
VIVF				*e*Sn	**Sn**	**05 30 13.1**	**-4.9**
	0.4nm,0.2s						
AVF	**Avril sur Loir**	**5.19**	**40**	*e*Pn	**Pn**	**05 29 23.5**	**-1.8**
AVF				*e*Sn	**Sn**	**05 30 21.2**	**-4.9**
	1.1nm,0.5s						

NEIC ***19*** *05:40:22.5, 42.84N×1.50W, h5^{km}, ML3.2(LDG), ML2.9(STR), MN2.7(MDD), After STR.*
STR ***19*** *05:40:22.5±0.5, 42.84N×1.50W, h5^{km}±1^{km}, Ml2.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG ***19*** *05:40:23.6±0.2, 42.88N×1.45W, h2^{km}, Md2.7/2, Ml3.2/26, Error ellipse: s-maj=4.4km s-min=2.3km az=35.0*
MDD ***19*** *05:40:23.8±0.2, 42.86N×1.42W, h6^{km}±2^{km}, mbLg2.8/19,*

Error ellipse: s-maj=2.1km s-min=1.9km az=163.0,
PRXIMO AftershockPLICA

ISC 19 05:40:21.1±0.3**,43.00N**±0.02×**1.54W**±0.02**,h13**^{km}±2^{km}**,**
n89,σ1^{s}39/169**,2C,Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EXPA	**Pamplona**	**0.19**	**199**	P	**Pg**	**05 40 26.1**	**+0.5**
EXPA				S	**Sg**	**05 40 28.9**	**+0.3**
EALK	**Alkurruntz**	**0.23**	**6**	⇑Pg	**Pg**	**05 40 30.5**	**+4.4**
	66nm,0.3s,SNR=18						
EALK				Lg		05 40 36.3	
	416nm,0.3s,SNR=7.9						
SJPF	**Ste Jean**	**0.26**	**63**	*e*Pg	**Pg**	**05 40 29.5**	**+2.7**
SJPF				*e*Sg	**Sg**	**05 40 32.2**	**+1.6**
	1µm,0.3s						
OSSF	**Osses**	**0.33**	**38**	Pg	**Pg**	**05 40 31.4**	**+3.3**
OSSF				Sg	**Sg**	**05 40 37.6**	**+4.8**
OSSF	**Osses**	**0.33**	**38**	P	**Pg**	**05 40 31.4**	**+3.3**
OSSF				S	**Sg**	**05 40 36.9**	**+4.1**
LARF	**Larrau**	**0.41**	**84**	Pg	**Pg**	**05 40 30.7**	**+1.1**
LARF				Sg	**Sg**	**05 40 36.5**	**+1.2**
LARF	**Larrau**	**0.41**	**84**	P	**Pg**	**05 40 30.7**	**+1.1**
LARF				S	**Sg**	**05 40 36.7**	**+1.4**
ORDF	**Ordiarp**	**0.49**	**64**	P	**Pb**	**05 40 33.5**	**+2.3**
ORDF				S	**Sb**	**05 40 40.1**	**+2.1**
ATE	**Arette**	**0.62**	**81**	P	**Pb**	**05 40 34.5**	**+1.1**
ATE				S	**Sb**	**05 40 43.0**	**+1.2**
ETSF	**Etsaut**	**0.73**	**97**	*e*Pg	**Pg**	**05 40 35.2**	**-0.6**
ETSF				*e*Sg	**Sg**	**05 40 44.0**	**-1.7**
ETSF				*e*Sn	**Sn**	**05 40 45.9**	**-1.9**
	153nm,0.4s						
FDAF	**Les Forges d'A**	**0.74**	**104**	Pg	**Pg**	**05 40 35.3**	**-0.7**
FDAF				Sg	**Sg**	**05 40 45.9**	**-0.1**
FDAF	**Les Forges d'A**	**0.74**	**104**	P	**Pb**	**05 40 35.3**	**0.0**
FDAF				S	**Sb**	**05 40 44.9**	**-0.2**
REYF	**Montagne du Re**	**0.85**	**85**	Pg	**Pg**	**05 40 38.3**	**+0.1**
REYF				Sg	**Sg**	**05 40 49.8**	**+0.2**
REYF	**Montagne du Re**	**0.85**	**85**	P	**Pb**	**05 40 38.4**	**+1.2**
REYF				S	**Sb**	**05 40 49.8**	**+1.6**
VIEF	**Viey**	**1.16**	**95**	Pg	**Pg**	**05 40 43.0**	**-1.3**
VIEF	**Viey**	**1.16**	**95**	P	**Pb**	**05 40 42.9**	**+0.4**
VIEF				S	**Sb**	**05 40 58.7**	**+1.5**
LABF	**Labassere**	**1.19**	**87**	Pg	**Pg**	**05 40 44.3**	**-0.6**
LABF	**Labassere**	**1.19**	**87**	P	**Pb**	**05 40 44.5**	**+1.4**
LABF				S	**Sb**	**05 41 00.1**	**+2.1**
EPF	**Esparros**	**1.38**	**88**	*e*Pn	**Pn**	**05 40 47.3**	**+1.1**
EPF				*e*Pg	**Pg**	**05 40 49.7**	**+0.9**
EPF				*e*Sg	**Sg**	**05 41 05.4**	**-1.9**
	57nm,0.2s						
ESAC	**San Caprasio**	**1.50**	**148**	⇑Pg	**Pg**	**05 40 48.5**	**-2.7**
	52nm,0.2s,SNR=18						
ESAC				Lg		05 41 05.7	
	360nm,0.3s,SNR=7.9						
MELF	**Melles**	**1.69**	**93**	Pg	**Pg**	**05 40 54.1**	**-0.9**
MELF				Sg	**Sg**	**05 41 16.7**	**-1.0**
MELF	**Melles**	**1.69**	**93**	P	**Pn**	**05 40 54.3**	**+3.6**
MELF				S	**Sn**	**05 41 16.0**	**+3.6**
MLS	**Moulis**	**1.94**	**90**	S	**Sn**	**05 41 22.8**	**+4.3**
SALF	**Salau**	**2.02**	**96**	P	**Pn**	**05 40 58.8**	**+3.3**
SALF				S	**Sn**	**05 41 25.5**	**+4.8**
ETOR	**Torete**	**2.21**	**190**	Pn	**Pn**	**05 40 58.5**	**+0.4**
	22nm,0.3s,SNR=7.9						
ETOR				Pg	**Pg**	**05 41 02.7**	**-2.6**
	22nm,0.3s,SNR=7.9						
ETOR				Lg		05 41 26.9	
	62nm,0.3s,SNR=7.9						
ETOR	**Torete**	**2.21**	**190**	Pn	**Pn**	**05 40 59.1**	**+1.0**
ETOR				Sn	**Sn**	**05 41 25.8**	**+0.3**
GRBF	**Gourbit**	**2.27**	**93**	P	**Pn**	**05 41 04.4**	**+5.5**
EMIR	**Miracle**	**2.51**	**114**	Pn	**Pn**	**05 41 03.2**	**+0.7**
	4.3nm,0.2s,SNR=15						
EMIR				Pg	**Pg**	**05 41 08.2**	**-3.1**
	2.2nm,0.1s,SNR=7.9						
EMIR				Lg		05 41 39.5	
	45nm,0.5s,SNR=5.0						
EMIR	**Miracle**	**2.51**	**114**	Pn	**Pn**	**05 41 03.2**	**+0.7**
EMIR				Lg		05 41 38.8	
EPOB	**Poblet**	**2.55**	**129**	Pn	**Pn**	**05 41 02.2**	**-0.7**
	2.5nm,0.2s,SNR=9.8						
EPOB				Pg	**Pg**	**05 41 07.8**	**-4.2**
	4.7nm,0.2s,SNR=7.9						
EPOB				Lg		05 41 37.4	
	11nm,0.3s,SNR=7.9						
EPOB	**Poblet**	**2.55**	**129**	Pn	**Pn**	**05 41 02.2**	**-0.7**
EPOB				Lg		05 41 37.6	
LFF	**La Frestale**	**2.55**	**40**	*e*Pn	**Pn**	**05 41 04.6**	**+1.7**
LFF				*e*Sn	**Sn**	**05 41 35.5**	**+1.4**
LFF				*e*Sg	**Sg**	**05 41 44.0**	**-2.0**
	37nm,0.3s						
VALF	**Valcebollere**	**2.69**	**102**	P	**Pn**	**05 41 08.7**	**+3.8**
VALF				S	**Sn**	**05 41 46.5**	**+8.9**
CARF	**Carcanieres**	**2.70**	**95**	P	**Pn**	**05 41 12.2**	**+7.1**
CARF				S	**Sg**	**05 41 47.5**	**-3.4**
EMOS	**Mosqueruela**	**2.75**	**163**	Pn	**Pn**	**05 41 03.5**	**-2.3**
	1.0nm,0.2s,SNR=5.0						
EMOS				Pg	**Pg**	**05 41 13.8**	**-2.3**
	7.7nm,0.3s,SNR=7.9						
EMOS				Lg		05 41 46.2	
	18nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**2.75**	**163**	Pn	**Pn**	**05 41 06.4**	**+0.6**
EMOS				Lg		05 41 45.5	
MTLF	**Montolieu**	**2.77**	**82**	*e*Pn	**Pn**	**05 41 07.3**	**+1.2**
MTLF				*e*Sn	**Sn**	**05 41 39.4**	**-0.3**
	18nm,0.3s						
RJF	**Les Rejaudoux**	**3.19**	**43**	*e*Pn	**Pn**	**05 41 13.0**	**+0.9**
RJF				*e*Sn	**Sn**	**05 41 50.7**	**+0.4**
	14nm,0.2s						
CAF	**Calviac**	**3.24**	**52**	*e*Pn	**Pn**	**05 41 13.3**	**+0.5**
CAF				*e*Sn	**Sn**	**05 41 51.6**	**0.0**
	9.6nm,0.2s						
EJON	**La Jonquera**	**3.31**	**98**	Pn	**Pn**	**05 41 15.6**	**+1.9**
	7.6nm,0.9s,SNR=5.0						
EJON				Lg		05 42 06.7	
	42nm,0.6s,SNR=7.9						
EJON	**La Jonquera**	**3.31**	**98**	Pn	**Pn**	**05 41 15.9**	**+2.1**
EJON				Lg		05 42 05.6	
MFF	**Saint Martin d**	**3.74**	**15**	*e*Pn	**Pn**	**05 41 21.8**	**+1.9**
MFF				*e*Pg	**Pg**	**05 41 33.8**	**-2.0**
MFF				*e*Sn	**Sn**	**05 42 05.4**	**+1.1**
MFF				*e*Sg	**Sg**	**05 42 23.9**	**-1.8**
	9.0nm,0.3s						
ESDC	**Sonseca Array**	**3.79**	**210**	Pn	**Pn**	**05 41 19.8**	**-0.8**
	2.6nm,0.2s,baz=36,slow=13,SNR=15						
ESDC				Pg	**Pg**	**05 41 33.2**	**-3.6**
	SNR=7.9						
ESDC				Lg		05 42 21.5	
	5.0nm,0.4s,baz=34,slow=29,SNR=11						
ESDC	**Sonseca Array**	**3.79**	**210**	Pn	**Pn**	**05 41 19.8**	**-0.8**
ESDC				Pg	**Pg**	**05 41 33.1**	**-3.6**
ESDC				Lg		05 42 21.5	
ESLA	**Sonseca Array**	**3.79**	**210**	*e*Pn	**Pn**	**05 41 19.9**	**-0.6**
ESLA				*e*Pg	**Pg**	**05 41 32.2**	**-4.5**
ECAL	**Calabor**	**3.99**	**256**	Pn	**Pn**	**05 41 24.9**	**+1.5**
	5.4nm,0.2s,SNR=33						
ECAL				Sn	**Sn**	**05 42 10.9**	**+0.5**
	SNR=7.9						
ECAL				Lg		05 42 28.7	
	25nm,0.4s,SNR=7.9						
ECAL	**Calabor**	**3.99**	**256**	Pn	**Pn**	**05 41 24.9**	**+1.5**
ECAL				Sn	**Sn**	**05 42 10.7**	**+0.2**
ECAL				Lg		05 42 30.1	
LASF	**Ste Croix**	**4.07**	**73**	*e*Pn	**Pn**	**05 41 24.9**	**+0.3**
LASF				*e*Pg	**Pg**	**05 41 38.4**	**-4.0**
LASF				*e*Sn	**Sn**	**05 42 10.5**	**-2.1**
	19nm,0.6s						
EPON	**Pontenova**	**4.12**	**277**	Pn	**Pn**	**05 41 28.9**	**+3.6**
	2.3nm,0.2s,SNR=11						
EPON				Sn	**Sn**	**05 42 15.7**	**+1.9**
	2.7nm,0.2s,SNR=7.9						
EPON				Lg		05 42 35.7	
	3.1nm,0.2s,SNR=7.9						
ERUA	**La Rua**	**4.17**	**264**	Pn	**Pn**	**05 41 27.9**	**+1.9**
	4.2nm,0.2s,SNR=10						
ERUA				Sn	**Sn**	**05 42 16.3**	**+1.1**
	SNR=7.9						
ERUA				Lg		05 42 38.2	
	6.3nm,0.5s,SNR=5.0						
ERUA	**La Rua**	**4.17**	**264**	Pn	**Pn**	**05 41 27.9**	**+1.9**
ERUA				Sn	**Sn**	**05 42 16.3**	**+1.1**
ERUA				Lg		05 42 38.5	
TCF	**Toulx Ste Croi**	**4.24**	**38**	*e*Pn	**Pn**	**05 41 26.9**	**-0.1**
TCF				*e*Sn	**Sn**	**05 42 15.8**	**-1.2**
	10nm,0.4s						
ETOB	**Tobarra**	**4.35**	**180**	Pn	**Pn**	**05 41 28.2**	**-0.3**
	0.8nm,0.2s,SNR=7.8						
ETOB				Pg	**Pg**	**05 41 42.2**	**-5.8**
	5.7nm,0.5s,SNR=7.9						
ETOB				Sn	**Sn**	**05 42 15.9**	**-3.7**
	SNR=7.9						
ETOB				Lg		05 42 37.8	
	23nm,0.8s,SNR=7.9						
ETOB	**Tobarra**	**4.35**	**180**	Pn	**Pn**	**05 41 28.2**	**-0.3**
ETOB				Sn	**Sn**	**05 42 15.9**	**-3.7**
ETOB				Lg		05 42 38.4	
EBEN	**Beniarda**	**4.40**	**166**	Pn	**Pn**	**05 41 29.1**	**-0.2**
	0.4nm,0.1s,SNR=7.0						
EBEN				Pg	**Pg**	**05 41 44.0**	**-5.0**
	1.8nm,0.3s,SNR=5.0						
EVIA	**Vianos**	**4.41**	**190**	Pn	**Pn**	**05 41 29.6**	**+0.2**
	4.2nm,0.2s,SNR=6.5						
EVIA				Lg		05 42 39.1	
	12nm,0.4s,SNR=7.9						
EVIA	**Vianos**	**4.41**	**190**	Pn	**Pn**	**05 41 29.7**	**+0.3**
EVIA				Lg		05 42 39.1	
BGF	**Bois d'Agland**	**4.74**	**40**	*e*Pn	**Pn**	**05 41 33.7**	**-0.3**
BGF				*e*Sn	**Sn**	**05 42 27.0**	**-2.5**
	16nm,0.3s						
VIVF	**Saint-Julien-l**	**4.86**	**65**	*e*Pn	**Pn**	**05 41 35.5**	**-0.3**
VIVF				*e*Sn	**Sn**	**05 42 28.8**	**-3.8**
	3.4nm,0.3s						
ELOB	**Lobios**	**4.96**	**259**	Pn	**Pn**	**05 41 37.7**	**+0.6**
	1.6nm,0.2s,SNR=8.4						
ELOB				Sn	**Sn**	**05 42 34.3**	**-0.7**
	0.5nm,0.1s,SNR=5.0						
ELOB				Lg		05 42 58.5	
	8.3nm,0.3s,SNR=7.9						
ELOB	**Lobios**	**4.96**	**259**	Pn	**Pn**	**05 41 37.9**	**+0.8**
ELOB				Sn	**Sn**	**05 42 34.3**	**-0.7**
ELOB				Lg		05 42 59.3	
QUIF	**Quistinic**	**5.05**	**347**	*e*Pn	**Pn**	**05 41 40.7**	**+2.2**
QUIF				*e*Pg	**Pg**	**05 42 00.0**	**-2.0**
QUIF				*e*Sn	**Sn**	**05 42 37.3**	**-0.1**
	4.3nm,0.2s						
AVF	**Avril sur Loir**	**5.15**	**41**	*e*Pn	**Pn**	**05 41 39.3**	**-0.5**
AVF				*e*Sn	**Sn**	**05 42 36.7**	**-3.1**
	3.2nm,0.4s						
HYF	**Humbligny**	**5.20**	**33**	*e*Pn	**Pn**	**05 41 41.0**	**+0.5**
HYF				*e*Sn	**Sn**	**05 42 39.3**	**-1.7**
	63nm,0.4s						
SMRF	**Simiane la Rot**	**5.27**	**77**	*e*Pn	**Pn**	**05 41 42.1**	**+0.5**
SMRF				*e*Sn	**Sn**	**05 42 39.2**	**-3.7**
	1.8nm,0.5s						
SMF	**Signal de Mont**	**5.29**	**45**	*e*Pn	**Pn**	**05 41 41.5**	**-0.3**
SMF				*e*Sn	**Sn**	**05 42 40.8**	**-2.6**
	3.4nm,0.4s						
SGMF	**Saint Gilles**	**5.31**	**353**	*e*Pn	**Pn**	**05 41 43.7**	**+1.6**
SGMF				*e*Sn	**Sn**	**05 42 41.9**	**-1.9**
	6.2nm,0.4s						
EQES	**Quesada**	**5.32**	**193**	Pn	**Pn**	**05 41 41.8**	**-0.4**
	0.8nm,0.2s,SNR=8.6						
EQES				Pg	**Pg**	**05 41 59.7**	**-7.6**
	3.2nm,0.4s,SNR=7.9						
EQES				Sn	**Sn**	**05 42 39.3**	**-4.8**
	2.9nm,0.4s,SNR=5.0						
EQES				Lg		05 43 07.8	
	15nm,0.5s,SNR=5.0						
EQES	**Quesada**	**5.32**	**193**	Pn	**Pn**	**05 41 41.8**	**-0.4**
EQES				Pg	**Pg**	**05 41 59.4**	**-7.9**
EQES				Sn	**Sn**	**05 42 39.3**	**-4.8**
EQES				Lg		05 43 09.2	
EADA	**Adamuz**	**5.35**	**207**	Pn	**Pn**	**05 41 42.1**	**-0.6**
	0.8nm,0.2s,SNR=11						
EADA				Pg	**Pg**	**05 42 03.0**	**-4.9**
	0.5nm,0.2s,SNR=7.9						
EADA				Sn	**Sn**	**05 42 40.0**	**-4.9**
	2.6nm,0.3s,SNR=7.9						
EADA				Lg		05 43 11.2	
	2.9nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**5.35**	**207**	Pn	**Pn**	**05 41 42.2**	**-0.5**
EADA				Sn	**Sn**	**05 42 40.0**	**-4.9**
EADA				Lg		05 43 11.2	
GRR	**Gorron**	**5.41**	**5**	*e*Pn	**Pn**	**05 41 43.8**	**+0.2**
GRR				*e*Sn	**Sn**	**05 42 45.2**	**-1.3**
	4.1nm,0.2s						
SSF	**Saint Saulge**	**5.41**	**40**	*e*Pn	**Pn**	**05 41 42.6**	**-1.0**
SSF				*e*Sn	**Sn**	**05 42 42.6**	**-3.9**
	2.0nm,0.2s						
EMAZ	**Mazaricos**	**5.46**	**272**	Pn	**Pn**	**05 41 46.2**	**+2.0**
	2.2nm,0.2s,SNR=6.6						
EMAZ				Sn	**Sn**	**05 42 45.7**	**-1.9**
	2.1nm,0.2s,SNR=7.9						
ROSF	**Rostrenen**	**5.48**	**348**	*e*Pn	**Pn**	**05 41 46.4**	**+1.9**
ROSF				*e*Sn	**Sn**	**05 42 47.0**	**-1.1**
	4.0nm,0.3s						
LDF	**La Druitiere**	**5.69**	**10**	*e*Pn	**Pn**	**05 41 48.7**	**+1.3**
LDF				*e*Sn	**Sn**	**05 42 52.2**	**-1.1**
	5.0nm,0.3s						
ORIF	**Oris-en-Rattie**	**5.69**	**68**	*e*Pn	**Pn**	**05 41 48.2**	**+0.7**
ORIF				*e*Sn	**Sn**	**05 42 48.1**	**-5.4**
	4.6nm,0.6s						
LOR	**Lormes**	**5.73**	**40**	*e*Pn	**Pn**	**05 41 46.9**	**-1.2**
LOR				*e*Sn	**Sn**	**05 42 51.4**	**-3.0**
	3.8nm,0.4s						
FLN	**La Foliniere**	**5.81**	**7**	*e*Pn	**Pn**	**05 41 49.5**	**+0.2**
FLN				*e*Sn	**Sn**	**05 42 54.4**	**-2.2**
	8.6nm,0.6s						
EBAD	**Badajoz**	**5.93**	**226**	Pn	**Pn**	**05 41 49.7**	**-1.2**
	0.3nm,0.1s,SNR=7.9						
EBAD				Lg		05 43 31.9	
	2.3nm,0.2s,SNR=4.0						
EBAD	**Badajoz**	**5.93**	**226**	Pn	**Pn**	**05 41 49.7**	**-1.2**
EBAD				Lg		05 43 31.9	
FRF	**La Foret Royal**	**6.00**	**82**	*e*Pn	**Pn**	**05 41 51.6**	**-0.3**
MBDF	**Montbardon**	**6.25**	**71**	*e*Pn	**Pn**	**05 41 56.0**	**+0.5**
LPL	**La Plagne**	**6.45**	**64**	*e*Pn	**Pn**	**05 41 59.0**	**+0.7**
LPG	**La Plagne**	**6.46**	**64**	*e*Pn	**Pn**	**05 41 59.4**	**+1.0**
EMIN	**Mina Concepcio**	**6.53**	**219**	Pn	**Pn**	**05 41 58.0**	**-1.3**
	0.3nm,0.2s,SNR=7.9						
EMIN				Sn	**Sn**	**05 43 07.6**	**-6.8**
	0.1nm,0.1s,SNR=7.9						
EMIN				Lg		05 43 47.7	
	0.6nm,0.3s,SNR=5.0						
EMIN	**Mina Concepcio**	**6.53**	**219**	Pn	**Pn**	**05 41 58.0**	**-1.3**
EMIN				Sn	**Sn**	**05 43 07.6**	**-6.8**
EMIN				Lg		05 43 49.5	
BAIF	**Baives**	**8.10**	**27**	*e*Pn	**P**	**05 42 20.2**	**-1.1**
BAIF				*e*Sn	**Sn**	**05 43 48.5**	**-5.2**
	3.4nm,0.6s						
GIVF	**Givet**	**8.35**	**29**	*e*Sn	**Sn**	**05 43 54.1**	**-5.8**
	5.0nm,0.3s						

LDG ***19*** *05:41:46.6±0.5, 42.91N×1.47W, h2^{km}, Md2.4/2, Ml2.5/6,*
Error ellipse: s-maj=8.9km s-min=5.4km az=58.0
NEIC ***19*** *05:41:46.6, 42.91N×1.47W, h2^{km}, ML2.5(LDG), After*
LDG.

MDD 19 05:41:47.4±0.6**,42.89N**×**1.37W,h6**^{km}±5^{km}**,mbLg2.1**/7**,**
Error ellipse: s-maj=5.3km s-min=3.3km az=53.0,
PRXIMO AftershockPLICA,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJPF	**Ste Jean**	**0.25**	**25**	*e*Pg	Pg	05 41 52.3	-0.2
SJPF				*e*Sg	Sg	05 41 55.1	-0.8
	322nm,0.3s						
EALK	**Alkurruntz**	**0.35**	**343**	Pg	Pg	05 41 53.7	-0.7
	7.2nm,0.1s,SNR=7.9						
EALK				Lg		05 41 59.1	
	25nm,0.2s,SNR=7.9						
EALK	**Alkurruntz**	**0.35**	**343**	Pg	Pg	05 41 53.7	-0.7
EALK				Lg		05 41 59.4	
ETSF	**Etsaut**	**0.60**	**89**	*e*Pg	Pg	05 41 58.0	-1.4
ETSF				*e*Sg	Sg	05 42 06.6	-0.8
ETSF				*e*Sn	Sn	05 42 08.7	-3.3
	25nm,0.3s						
EPF	**Esparros**	**1.26**	**83**	*e*Pn	Pn	05 42 10.2	-1.3
EPF				*e*Pg	Pg	05 42 12.4	-0.3
EPF				*e*Sg	Sg	05 42 28.3	-1.2
	18nm,0.3s						
ESAC	**San Caprasio**	**1.34**	**150**	Pg	Pg	05 42 11.8	-2.4
	50nm,0.3s,SNR=7.9						
ESAC				Lg		05 42 29.5	
	79nm,0.3s,SNR=7.9						
ESAC	**San Caprasio**	**1.34**	**150**	Pg	Pg	05 42 12.1	-2.1
ESAC				Lg		05 42 29.7	
ETOR	**Torete**	**2.13**	**194**	Pg	Pg	05 42 25.9	-4.0
	SNR=5.0						
ETOR				Lg		05 42 50.0	
	12nm,0.3s,SNR=7.9						
ETOR	**Torete**	**2.13**	**194**	Pn	Pn	05 42 25.9	+2.0
ETOR				Sn	Sn	05 42 54.0	+3.1
EMIR	**Miracle**	**2.36**	**113**	Sn	Sn	05 42 59.5	+2.9
	SNR=7.9						
EPOB	**Poblet**	**2.38**	**129**	Lg		05 43 00.3	
	2.1nm,0.2s,SNR=7.9						
EBR	**Ebro Roquetas**	**2.49**	**145**	*e*SN	Sn	05 43 00.0	-0.1
LFF	**La Frestale**	**2.56**	**36**	*e*Pn	Pn	05 42 27.4	-2.6
LFF				*e*Sn	Sn	05 42 58.1	-3.7
LFF				*e*Sg	Sg	05 43 06.7	-5.8
	8.4nm,0.4s						
EMOS	**Mosqueruela**	**2.61**	**165**	Sn	Sn	05 43 12.3	+9.2
	SNR=7.9						
MTLF	**Montolieu**	**2.67**	**79**	*e*Pn	Pn	05 42 30.2	-1.4
MTLF				*e*Sn	Sn	05 43 02.1	-2.5
	3.4nm,0.3s						
EJON	**La Jonquera**	**3.17**	**97**	Lg		05 43 27.6	
	SNR=7.9						
RJF	**Les Rejaudoux**	**3.19**	**40**	*e*Pn	Pn	05 42 35.8	-3.2
RJF				*e*Sn	Sn	05 43 13.3	-4.5
	7.7nm,0.5s						
CAF	**Calviac**	**3.21**	**49**	*e*Pn	Pn	05 42 36.3	-3.1
CAF				*e*Sn	Sn	05 43 14.3	-4.1
	2.9nm,0.3s						
MFF	**Saint Martin d**	**3.82**	**13**	*e*Pg	Pg	05 42 56.6	-7.0
MFF				*e*Sn	Sn	05 43 28.1	-5.6
MFF				*e*Sg	Sg	05 43 46.9	-7.5
	1.4nm,0.3s						
ECAL	**Calabor**	**4.08**	**258**	Lg		05 43 51.0	
	SNR=7.9						
MTE	**Manteigas**	**5.25**	**244**	Pn	Pn	05 43 04.5	-3.8
	11nm,0.5s						

LDG ***19*** *05:47:57.1±0.5, 42.91N×1.45W, h2^{km}, Md2.4/2, Ml2.0/5,*
Error ellipse: s-maj=9.0km s-min=7.4km az=65.0

MDD 19 05:47:57.5±0.6**,42.88N**×**1.39W,h7**^{km}±5^{km}**,mbLg1.4**/6**,**
Error ellipse: s-maj=4.8km s-min=3.3km az=53.0,
PRXIMO AftershockPLICA,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJPF	**Ste Jean**	**0.26**	**27**	*e*Pg	Pg	05 48 02.8	-0.1
SJPF				*e*Sg	Sg	05 48 05.4	-1.1
	27nm,0.3s						
LARF	**Larrau**	**0.33**	**61**	P	Pg	05 48 04.2	-0.1
LARF				S	Sg	05 48 09.7	+0.9
EALK	**Alkurruntz**	**0.35**	**345**	Pg	Pg	05 48 04.0	-0.6
	1.7nm,0.1s,SNR=7.9						
EALK				Lg		05 48 09.8	
	13nm,0.2s,SNR=7.9						
ORDF	**Ordiarp**	**0.47**	**45**	P	Pg	05 48 04.3	-2.7
ORDF				S	Sg	05 48 08.6	-4.7
ETSF	**Etsaut**	**0.61**	**88**	*e*Pg	Pg	05 48 08.3	-1.4
ETSF				*e*Sg	Sg	05 48 17.2	-0.7
ETSF				*e*Sn	Sn	05 48 19.5	-2.8
	5.9nm,0.2s						
EPF	**Esparros**	**1.28**	**83**	*e*Pn	Pn	05 48 20.7	-1.1
EPF				*e*Pg	Pg	05 48 23.1	+0.1
EPF				*e*Sg	Sg	05 48 38.7	-1.4
	6.2nm,0.3s						
ESAC	**San Caprasio**	**1.34**	**149**	Pg	Pg	05 48 22.4	-2.0
	6.4nm,0.2s,SNR=7.9						
ESAC				Lg		05 48 40.4	
	2.2nm,0.1s,SNR=7.9						
ETOR	**Torete**	**2.12**	**194**	Pg	Pg	05 48 35.5	-4.3
	SNR=7.9						
ETOR				Lg		05 49 00.9	
	1.6nm,0.2s,SNR=5.0						
EPOB	**Poblet**	**2.38**	**129**	Lg		05 49 10.6	
	0.7nm,0.2s,SNR=7.9						
LFF	**La Frestale**	**2.57**	**36**	*e*Pn	Pn	05 48 37.9	-2.4
LFF				*e*Sn	Sn	05 49 08.6	-3.6
LFF				*e*Sg	Sg	05 49 17.1	-6.0
	3.2nm,0.3s						
EMOS	**Mosqueruela**	**2.60**	**164**	Lg		05 49 22.5	
	SNR=7.9						
MTLF	**Montolieu**	**2.68**	**79**	*e*Pn	Pn	05 48 40.7	-1.2
MTLF				*e*Sn	Sn	05 49 12.4	-2.5
	1.2nm,0.4s						
RJF	**Les Rejaudoux**	**3.20**	**40**	*e*Pn	Pn	05 48 46.0	-3.3
RJF				*e*Sn	Sn	05 49 23.8	-4.4
	0.9nm,0.3s						
CAF	**Calviac**	**3.23**	**49**	*e*Pn	Pn	05 48 46.6	-3.0
CAF				*e*Sn	Sn	05 49 24.8	-4.0
	0.5nm,0.2s						

LDG ***19*** *05:50:56.9±0.4, 42.86N×1.46W, h2^{km}, Md2.5/2, Ml2.1/9,*
Error ellipse: s-maj=6.6km s-min=4.5km az=52.0

MDD 19 05:50:58.2±0.7**,42.89N**×**1.42W,h11**^{km}±1^{km}**,mbLg1.6**/6**,**
Error ellipse: s-maj=5.1km s-min=3.4km az=49.0,
PRXIMO SIN SOLUCIN AftershockPLICA,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJPF	**Ste Jean**	**0.26**	**32**	*e*Pg	Pg	05 51 03.5	-0.3
SJPF				*e*Sg	Sg	05 51 06.4	-1.1
	56nm,0.3s						
EALK	**Alkurruntz**	**0.33**	**348**	Pg	Pg	05 51 04.8	-0.4
	0.9nm,0.1s,SNR=7.9						
EALK				Lg		05 51 09.4	
	21nm,0.3s,SNR=7.9						
LARF	**Larrau**	**0.35**	**65**	P	Pg	05 51 05.0	-0.4
LARF				S	Sg	05 51 10.6	+0.4
ETSF	**Etsaut**	**0.63**	**89**	*e*Pg	Pg	05 51 09.2	-1.7
ETSF				*e*Sg	Sg	05 51 17.8	-1.6
ETSF				*e*Sn	Sn	05 51 20.0	-2.8
	9.6nm,0.5s						
EPF	**Esparros**	**1.30**	**83**	*e*Pn	Pn	05 51 21.3	-1.1
EPF				*e*Pg	Pg	05 51 23.6	-0.6
EPF				*e*Sg	Sg	05 51 39.5	-2.0
	5.1nm,0.3s						
ESAC	**San Caprasio**	**1.36**	**149**	Pg	Pg	05 51 23.2	-2.4
	9.5nm,0.3s,SNR=7.9						
ESAC				Lg		05 51 40.4	
	11nm,0.2s,SNR=7.9						
ETOR	**Torete**	**2.13**	**193**	Pg	Pg	05 51 36.0	-4.7
	SNR=7.9						
ETOR				Lg		05 52 01.3	
	2.3nm,0.4s,SNR=7.9						
EPOB	**Poblet**	**2.41**	**129**	Lg		05 52 11.4	
	0.2nm,0.2s,SNR=7.9						
LFF	**La Frestale**	**2.57**	**37**	*e*Pn	Pn	05 51 38.5	-2.1
LFF				*e*Sn	Sn	05 52 09.0	-3.2
LFF				*e*Sg	Sg	05 52 17.9	-6.0
	5.7nm,0.3s						
MTLF	**Montolieu**	**2.70**	**79**	*e*Pn	Pn	05 51 41.3	-1.1
MTLF				*e*Sn	Sn	05 52 13.3	-2.1
	0.7nm,0.3s						
RJF	**Les Rejaudoux**	**3.20**	**40**	*e*Pn	Pn	05 51 46.9	-2.7
RJF				*e*Sn	Sn	05 52 24.6	-3.6
	2.8nm,0.3s						
CAF	**Calviac**	**3.23**	**50**	*e*Pn	Pn	05 51 47.5	-2.5
CAF				*e*Sn	Sn	05 52 25.3	-3.6
	0.7nm,0.3s						
MFF	**Saint Martin d**	**3.82**	**13**	*e*Pn	Pn	05 51 55.8	-2.5
MFF				*e*Pg	Pg	05 52 07.8	-6.7
MFF				*e*Sn	Sn	05 52 39.3	-4.4
MFF				*e*Sg	Sg	05 52 58.0	-7.4
	0.8nm,0.3s						
TCF	**Toulx Ste Croi**	**4.27**	**36**	*e*Pn	Pn	05 52 00.6	-4.2
TCF				*e*Sn	Sn	05 52 49.9	-5.3
	0.4nm,0.3s						
BGF	**Bois d'Agland**	**4.76**	**38**	*e*Pn	Pn	05 52 07.5	-4.2
BGF				*e*Sn	Sn	05 53 01.2	-6.3
	2.0nm,0.3s						

IDC 19 05:52:27.9±2.1**,6.04S**×**130.34E,mb4.1**/1**,mb1 3.9**/4**,**
mb1mx3.7/12**,ML3.5**/3**,Error ellipse: s-maj=91.3km**
s-min=27.0km az=77.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.83**	**201**	Pn	P	05 55 31.5	-3.0
	0.1nm,0.3s,baz=27,slow=11,SNR=7.4						
FITZ				Sn	S	05 57 38.3	-21
	0.5nm,0.3s,baz=326,slow=11,SNR=4.1						
WRA	**Warramunga Arr**	**14.35**	**165**	Pn	P	05 55 53.5	-1.2
	0.4nm,0.3s,baz=348,slow=14,SNR=14						
WRA				Sn	S	05 58 18.8	-17
	0.8nm,0.3s,baz=331,slow=23,SNR=7.7						
ASAR	**Alice Springs**	**17.85**	**169**	P	P	05 56 37.5	-1.9

	0.1nm,0.3s,baz=350,slow=12,SNR=11						
ASAR				S	S	05 59 43.6	-13
	0.1nm,0.3s,baz=348,slow=26,SNR=3.4						
MKAR	**Makanchi Array**	**67.62**	**326**	P	P	06 03 26.6	-2.1
	0.9nm,0.4s,baz=128,slow=7.3,SNR=16						

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*STR **19** 06:07:40.9±0.0, 42.84N×1.48W, h5^{km}±1^{km}, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LDG **19** 06:07:41.1±0.3, 42.86N×1.47W, h2^{km}, Md2.5/2, Ml2.2/12, Error ellipse: s-maj=5.6km s-min=3.9km az=53.0*

MDD 19 06:07:42.1±0.4, 42.88N×1.43W, h8^{km}±3^{km}, mbLg1.7/9, Error ellipse: s-maj=3.4km s-min=2.6km az=55.0, PRXIMO AftershockPLICA, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	**0.28**	**33**	*e*Pg	Pg	06 07 47.6	-0.3
SJPF				*e*Sg	Sg	06 07 50.5	-1.3
	136nm,0.3s						
EALK	**Alkurruntz**	**0.35**	**351**	Pg	Pg	06 07 48.7	-0.5
	0.6nm,0.2s,SNR=13						
EALK				Lg		06 07 53.3	
	32nm,0.2s,SNR=7.9						
LARF	**Larrau**	**0.36**	**63**	Pg	Pg	06 07 48.9	-0.6
LARF				Sg	Sg	06 07 54.8	+0.3
LARF	**Larrau**	**0.36**	**63**	P	Pg	06 07 49.0	-0.5
LARF				S	Sg	06 07 54.7	+0.2
OSSF	**Osses**	**0.40**	**18**	Pg	Pg	06 07 49.5	-0.7
OSSF				Sg	Sg	06 07 55.7	+0.1
OSSF	**Osses**	**0.40**	**18**	P	Pg	06 07 49.6	-0.6
OSSF				S	Sg	06 07 55.8	+0.2
ORDF	**Ordiarp**	**0.50**	**47**	P	Pg	06 07 51.6	-0.5
ORDF				S	Sg	06 07 59.0	+0.2
ATE	**Arette**	**0.58**	**68**	P	Pg	06 07 52.9	-0.8
ATE				S	Sg	06 08 01.0	-0.5
FDAF	**Les Forges d’A**	**0.64**	**95**	S	Sg	06 08 03.6	+0.1
ETSF	**Etsaut**	**0.64**	**88**	*e*Pg	Pg	06 07 53.2	-1.8
ETSF				*e*Sg	Sg	06 08 01.9	-1.7
	12nm,0.3s						
ETSF				*e*Sn	Sn	06 08 04.0	-3.5
LABF	**Labassere**	**1.12**	**81**	S	Sb	06 08 17.3	-0.5
RESF	**Ens**	**1.30**	**92**	S	Sb	06 08 22.5	-0.7
EPF	**Esparros**	**1.31**	**83**	*e*Pn	Pn	06 08 05.4	-1.3
EPF				*e*Pg	Pg	06 08 07.7	-0.6
EPF				*e*Sg	Sg	06 08 23.4	-2.4
	8.9nm,0.3s						
ESAC	**San Caprasio**	**1.36**	**148**	Pg	Pg	06 08 06.2	-3.0
	16nm,0.2s,SNR=8.3						
ESAC				Lg		06 08 23.8	
	23nm,0.3s,SNR=7.9						
SALF	**Salau**	**1.93**	**93**	S	Sn	06 08 41.8	+1.5
ETOR	**Torete**	**2.11**	**193**	Pn	Pn	06 08 16.7	-1.4
	2.0nm,0.3s,SNR=6.3						
ETOR				Pg	Pg	06 08 20.8	-3.4
	SNR=7.9						
ETOR				Lg		06 08 44.3	
	4.9nm,0.4s,SNR=7.9						
EPOB	**Poblet**	**2.41**	**128**	Pn	Pn	06 08 19.5	-3.0
	SNR=7.9						
EPOB				Sn	Sn	06 08 49.0	-3.4
	0.5nm,0.2s,SNR=7.9						
EPOB				Lg		06 08 54.9	
	1.2nm,0.2s,SNR=7.9						
LFF	**La Frestale**	**2.59**	**37**	*e*Pn	Pn	06 08 22.7	-2.4
LFF				*e*Sn	Sn	06 08 53.5	-3.6
LFF				*e*Sg	Sg	06 09 01.6	-6.8
	2.4nm,0.3s						
EMOS	**Mosqueruela**	**2.61**	**164**	Pn	Pn	06 08 25.3	0.0
	SNR=5.0						
EMOS				Pg	Pg	06 08 30.3	-3.9
	SNR=7.9						
EMOS				Lg		06 09 04.5	
	0.5nm,0.2s,SNR=5.0						
MTLF	**Montolieu**	**2.71**	**79**	*e*Pn	Pn	06 08 25.4	-1.4
MTLF				*e*Sn	Sn	06 08 57.5	-2.6
	2.4nm,0.5s						
RJF	**Les Rejaudoux**	**3.23**	**40**	*e*Pn	Pn	06 08 31.0	-3.1
RJF				*e*Sn	Sn	06 09 08.9	-4.2
	1.4nm,0.2s						
CAF	**Calviac**	**3.25**	**50**	*e*Pn	Pn	06 08 31.6	-2.9
CAF				*e*Sn	Sn	06 09 09.6	-4.2
	1.5nm,0.2s						
MFF	**Saint Martin d**	**3.84**	**13**	*e*Pn	Pn	06 08 40.1	-2.7
MFF				*e*Pg	Pg	06 08 52.0	-6.7
MFF				*e*Sn	Sn	06 09 23.3	-5.3
MFF				*e*Sg	Sg	06 09 42.2	-7.7
	0.8nm,0.3s						
LASF	**Ste Croix**	**4.03**	**71**	*e*Pn	Pn	06 08 42.8	-2.7
LASF				*e*Sn	Sn	06 09 28.2	-5.3
	0.6nm,0.3s						
ECAL	**Calabor**	**4.04**	**258**	Sn	Sn	06 09 28.4	-5.3
	SNR=5.0						
ECAL				Lg		06 09 47.7	
	1.4nm,0.3s,SNR=5.0						
TCF	**Toulx Ste Croi**	**4.29**	**36**	*e*Pn	Pn	06 08 44.8	-4.4
TCF				*e*Sn	Sn	06 09 33.9	-6.2
	1.7nm,0.5s						
BGF	**Bois d’Agland**	**4.78**	**38**	*e*Sn	Sn	06 09 45.3	-7.2
	4.9nm,0.5s						
VIVF	**Saint-Julien-l**	**4.84**	**64**	*e*Pn	Pn	06 08 53.6	-3.4
VIVF				*e*Sn	Sn	06 09 46.8	-7.1
	0.4nm,0.2s						
AVF	**Avril sur Loir**	**5.19**	**39**	*e*Pn	Pn	06 08 57.2	-4.7
AVF				*e*Sn	Sn	06 09 54.9	-7.8
	0.4nm,0.3s						

NEIC 19 06:09:43.8±0.5, 38.85N×107.36W, h1^{km}, ML3.5, 3D, Error ellipse: s-maj=6.5km s-min=5.4km az=84.0, Colorado

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PV01	**Paradox Valley**	**1.19**	**233**	⇓*i*P	Pb	06 10 04.9	-1.9
PV01				*e*S	Sb	06 10 20.7	-2.0
PV10	**Paradox Valley**	**1.40**	**251**	⇓*e*P	Pb	06 10 09.1	-1.3
ISCO	**Idaho Springs**	**1.65**	**55**	*e*Pn	Pn	06 10 13.9	-0.2
ISCO				*e*Pg	Pg	06 10 16.3	-0.5
SDCO	**Great Sand Dun**	**1.83**	**127**	⇓*e*Pn	Pn	06 10 17.5	+0.9
SDCO				*e*Pg	Pg	06 10 19.6	-0.7
SRU	**San Rafael**	**2.48**	**277**	*e*Pn	Pn	06 10 25.9	0.0
DAU	**Daniels Canyon**	**3.39**	**299**	*e*Pn	Pn	06 10 38.9	0.0
MPU	**Maple Canyon**	**3.51**	**291**	*e*Pn	Pn	06 10 39.1	-1.5
JLU	**Jordanelle**	**3.61**	**300**	*e*Pn	Pn	06 10 41.5	-0.5
JLU				*e*Pg	Pg	06 10 51.7	-4.1
MSU	**Marysvale**	**3.79**	**266**	Pn	Pn	06 10 44.7	+0.1
MVU	**Marysvale**	**3.81**	**266**	*e*Pn	Pn	06 10 45.1	+0.1
NLU	**North Lily Min**	**3.82**	**288**	*e*Pn	Pn	06 10 43.0	-2.0
TCUT	**Toone Canyon**	**3.85**	**307**	*e*Pn	Pn	06 10 43.5	-1.9
CTU	**Camp Tracy**	**3.85**	**300**	*e*Pn	Pn	06 10 45.3	-0.2
ANMO	**Albuquerque**	**3.96**	**169**	Pn	Pn	06 10 44.4	-2.6
ANMO				*e*Pb	Pb	06 10 56.8	+2.5
ANMO				*e*Pg	Pg	06 11 00.6	-2.3
NOQ	**North Oquirrh**	**4.09**	**298**	Pn	Pn	06 10 48.0	-0.8
HWUT	**Hardware Ranch**	**4.24**	**312**	*e*Pn	Pn	06 10 49.2	-1.7
HWUT				*e*Pb	Pb	06 10 58.7	-0.2
HWUT				*e*Pg	Pg	06 11 02.1	-6.2
BW06	**Boulder Array**	**4.25**	**338**	*e*Pn	Pn	06 10 49.0	-2.2
BW06				*e*Pg	Pg	06 11 00.6	-8.1
BW06				*e*Sg	Sg	06 11 56.8	-8.6
DUG	**Dugway**	**4.43**	**289**	*e*Pn	Pn	06 10 50.8	-2.8
DUG				*e*Pg	Pg	06 11 07.4	-4.8
LAZ	**Ladron**	**4.45**	**178**	*e*Pn	Pn	06 10 53.3	-0.6
LAZ				*e*Pb	Pb	06 11 03.9	+1.4
SPUT	**South Promonto**	**4.61**	**304**	Pn	Pn	06 10 55.0	-1.3
WUAZ	**Wupatki**	**4.62**	**225**	*e*Pn	Pn	06 10 56.7	+0.3
WUAZ				*e*Pg	Pg	06 11 08.1	-7.9
LENM	**Lemitar**	**4.69**	**176**	*e*Pg	Pg	06 11 12.0	-5.4
BNM	**Barren Site**	**4.73**	**173**	*e*Pg	Pg	06 11 13.2	-5.0
AHID	**Auburn Hatcher**	**4.83**	**325**	*e*Pn	Pn	06 10 58.2	-1.2
AHID				*e*Sg	Sg	06 12 12.8	-12
ARUT	**Antelope Range**	**4.90**	**259**	*e*Pn	Pn	06 10 59.2	-1.1
ARUT				*e*Pb	Pb	06 11 10.5	+0.2
ARUT				*e*Pg	Pg	06 11 14.6	-7.0
HVU	**Hansel Valley**	**5.07**	**307**	*e*Pb	Pb	06 11 12.5	-0.7
REDW	**Red Top Meadow**	**5.22**	**331**	*e*Pn	Pn	06 11 01.4	-3.5
REDW				*e*Sg	Sg	06 12 26.9	-11
REDW				*e*Lg		06 12 52.1	
SNOW	**Snow King Moun**	**5.27**	**332**	*e*Pn	Pn	06 11 04.3	-1.3
WUWY	**Wally Ulrich**	**5.33**	**332**	*e*Pn	Pn	06 11 04.6	-1.9
WUWY				*e*Pb	Pb	06 11 18.4	+0.7
WUWY				*e*Pg	Pg	06 11 25.2	-5.0
TPAW	**Teton Pass**	**5.37**	**331**	*e*Pn	Pn	06 11 05.2	-1.8
TPAW				*e*Pg	Pg	06 11 24.8	-6.2
MOOW	**Moose Ponds**	**5.52**	**334**	Pn	Pn	06 11 07.3	-1.8
IMW	**Indian Meadow**	**5.71**	**333**	*e*Pn	Pn	06 11 10.5	-1.3
IMW				*e*Pg	Pg	06 11 30.4	-7.4
RSSD	**Black Hills**	**5.82**	**24**	*e*Pn	Pn	06 11 10.9	-2.5
ELK	**Elko**	**6.36**	**290**	Pn	Pn	06 11 19.8	-1.1
QLMT	**Earthquake Lak**	**6.70**	**334**	*e*Pn	Pn	06 11 25.4	-0.4
NEN	**Nelson**	**6.77**	**244**	*e*Pg	Pg	06 11 48.1	-11
NEN				*e*Sg	Sg	06 13 15.9	-13
GDL2	**Guadalupe Moun**	**7.07**	**159**	*e*Pg	Pg	06 11 58.1	-6.8
HLID	**Hailey**	**7.10**	**314**	*e*Pn	Pn	06 11 29.1	-2.3
HLID				*e*Pg	Pg	06 11 52.8	-13
HLID				*e*Sg	Sg	06 13 26.1	-14
GCMT	**Greycliff**	**7.14**	**347**	*e*Pg	Pg	06 11 54.3	-12
GCMT				*e*Sg	Sg	06 13 21.7	-20
MCMT	**McKenzie Canyo**	**7.24**	**327**	*e*Pn	Pn	06 11 33.3	-0.1
TPNV	**Topopah Spring**	**7.28**	**258**	Pn	Pn	06 11 31.5	-2.4
TPNV				*e*Pg	Pg	06 11 58.9	-10
TPH	**Tonopah**	**7.78**	**267**	*e*P	Pn	06 11 40.3	-0.6
CHMT	**Chamberlain Mo**	**9.14**	**334**	*e*Pn	P	06 11 58.2	-1.7

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*STR **19** 06:17:38.4±0.2, 42.84N×1.48W, h5^{km}±1^{km}, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LDG **19** 06:17:39.0±0.4, 42.87N×1.45W, h2^{km}, Md2.4/2, Ml1.9/5, Error ellipse: s-maj=7.5km s-min=4.6km az=54.0*

MDD 19 06:17:39.9±0.6, 42.88N×1.40W, h7^{km}±5^{km}, mbLg1.2/6, Error ellipse: s-maj=4.6km s-min=3.2km az=55.0, PRXIMO AftershockPLICA, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	**0.27**	**28**	*e*Pg	Pg	06 17 45.0	-0.4
SJPF				*e*Sg	Sg	06 17 48.0	-1.1
	37nm,0.3s						
LARF	**Larrau**	**0.34**	**62**	Pg	Pg	06 17 46.4	-0.4
LARF				Sg	Sg	06 17 52.4	+0.9
EALK	**Alkurruntz**	**0.35**	**347**	Pg	Pg	06 17 46.0	-1.0
	1.3nm,0.2s,SNR=7.9						
EALK				Lg		06 17 51.9	
	6.2nm,0.3s,SNR=7.9						
OSSF	**Osses**	**0.39**	**15**	Pg	Pg	06 17 47.1	-0.7
OSSF				Sg	Sg	06 17 53.3	+0.2
ETSF	**Etsaut**	**0.62**	**88**	*e*Pg	Pg	06 17 50.7	-1.6
ETSF				*e*Sg	Sg	06 17 59.3	-1.3
ETSF				*e*Sn	Sn	06 18 01.5	-3.4
	2.1nm,0.2s						
EPF	**Esparros**	**1.28**	**83**	*e*Pn	Pn	06 18 03.0	-1.3
EPF				*e*Pg	Pg	06 18 05.2	-0.4
EPF				*e*Sg	Sg	06 18 20.7	-2.0
	5.6nm,0.6s						
ESAC	**San Caprasio**	**1.34**	**149**	Pg	Pg	06 18 04.0	-2.8
	0.9nm,0.1s,SNR=7.9						
ESAC				Lg		06 18 22.0	
	5.6nm,0.4s,SNR=7.9						
ETOR	**Torete**	**2.11**	**194**	Pn	Pn	06 18 16.4	+0.3
	0.1nm,0.1s,SNR=5.0						
ETOR				Pg	Pg	06 18 18.4	-3.8
	0.3nm,0.2s,SNR=7.9						
ETOR				Lg		06 18 45.1	
	1.1nm,0.3s,SNR=7.9						
LFF	**La Frestale**	**2.58**	**36**	*e*Pn	Pn	06 18 20.0	-2.7
LFF				*e*Sn	Sn	06 18 50.7	-4.0
LFF				*e*Sg	Sg	06 18 59.4	-6.3
	2.4nm,0.4s						
MTLF	**Montolieu**	**2.69**	**79**	*e*Pn	Pn	06 18 22.9	-1.4
MTLF				*e*Sn	Sn	06 18 54.8	-2.7
	1.4nm,0.4s						
RJF	**Les Rejaudoux**	**3.21**	**40**	*e*Pn	Pn	06 18 28.5	-3.2
RJF				*e*Sn	Sn	06 19 06.0	-4.7
	1.0nm,0.3s						
CAF	**Calviac**	**3.23**	**50**	*e*Pn	Pn	06 18 29.0	-3.1
MFF	**Saint Martin d**	**3.83**	**13**	*e*Pn	Pn	06 18 37.4	-3.2
MFF				*e*Pg	Pg	06 18 49.2	-7.2
MFF				*e*Sn	Sn	06 19 20.6	-5.8
MFF				*e*Sg	Sg	06 19 39.6	-7.8
	0.6nm,0.2s						

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*NEIC **19** 06:18:50.1, 15.79N×98.10W, h10^{km}, MD3.9(MEX), After MEX.*

MEX 19 06:18:50.8±0.9, 15.94N×98.24W, h21^{km}±33^{km}, MD3.9, 1D, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.46**	**14**	⇓*i*P	Pb	06 18 58.8	-1.4
PNIG				*i* S	Sb	06 19 04.3	-2.3
VHO	**Vista Hermosa**	**1.83**	**52**	*i* P	Pn	06 19 18.0	-3.6
VHO				*i* S	Sn	06 19 40.4	-4.1
OXX	**Oaxaca**	**1.85**	**52**	*i* P	Pn	06 19 19.0	-2.8
OXX				*e*S	Sn	06 19 41.4	-3.4
PPM	**Popocatepetl**	**3.13**	**353**	*e*P	Pn	06 19 40.0	-0.1
PPM				*i* S	Sn	06 20 19.0	+1.7
IISM	**Ciudad Serdan**	**3.14**	**15**	*e*P	Pn	06 19 37.0	-3.3
IISM				*i* S	Sn	06 20 15.0	-2.6
CMIG	**Matias Romero**	**3.42**	**70**	*i* P	Pn	06 19 40.2	-4.0
CMIG				*i* S	Sn	06 20 17.5	-7.2

DJA 19 06:19:11.5±0.9, 9.55S×115.55E, h9^{km}±4^{km}, MD5.1/4, ML4.5/2, 3C-4D, Error ellipse: s-maj=16.5km s-min=10.3km az=175.0, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RATI	**Rata**	**0.82**	**359**	⇓*e*Pg	Pg	06 19 26.1	-1.9
	1μm,0.2s						
RATI				⇓*e*Sg	Sg	06 19 36.7	-2.3
INGI	**Ingas**	**0.83**	**331**	*e*Pg	Pg	06 19 26.0	-2.2
	1μm,0.2s						
INGI				⇓*e*Sg	Sg	06 19 36.3	-3.0
KEDI	**Kedomdong**	**1.19**	**28**	⇑*e*Pn	Pn	06 19 31.4	-3.0
	946nm,0.2s						
KEDI				⇓*e*Sn	Sn	06 19 46.3	-4.5
KELI	**Kelakatan**	**1.69**	**322**	⇑*e*Pn	Pn	06 19 38.9	-2.6
	252nm,0.2s						
KELI				⇑*e*Sn	Sn	06 19 58.6	-4.8

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*LDG **19** 06:23:25.8±0.4, 42.90N×1.45W, h2^{km}, Md2.5/2, Ml2.0/7, Error ellipse: s-maj=7.0km s-min=4.7km az=54.0*

MDD 19 06:23:26.0±0.6, 42.89N×1.39W, h3^{km}±5^{km}, mbLg1.3/6, Error ellipse: s-maj=4.7km s-min=3.2km az=61.0, PRXIMO AftershockPLICA, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	**0.25**	**29**	*e*Pg	Pg	06 23 31.4	+0.3
SJPF				*e*Sg	Sg	06 23 34.1	-0.4
	40nm,0.4s						
EALK	**Alkurruntz**	**0.34**	**346**	Pg	Pg	06 23 31.5	-1.4
	0.1nm,0.0s,SNR=7.9						
EALK				Lg		06 23 37.3	
	3.7nm,0.2s,SNR=7.9						
ETSF	**Etsaut**	**0.61**	**89**	*e*Pg	Pg	06 23 36.9	-1.4
ETSF				*e*Sg	Sg	06 23 45.8	-0.6
ETSF				*e*Sn	Sn	06 23 47.9	-3.8
	2.9nm,0.2s						
EPF	**Esparros**	**1.28**	**83**	*e*Pn	Pn	06 23 49.4	-1.4
EPF				*e*Pg	Pg	06 23 51.5	-0.1
EPF				*e*Sg	Sg	06 24 07.4	-1.2
	4.1nm,0.4s						
ESAC	**San Caprasio**	**1.35**	**149**	Pg	Pg	06 23 49.9	-3.2
	3.4nm,0.2s,SNR=7.9						
ESAC				Lg		06 24 08.0	
	5.3nm,0.2s,SNR=7.9						
ETOR	**Torete**	**2.13**	**194**	Pn	Pn	06 24 02.9	0.0
	SNR=7.9						
ETOR				Pg	Pg	06 24 05.6	-2.9
	1.1nm,0.4s,SNR=7.9						
ETOR				Lg		06 24 28.4	
	1.1nm,0.3s,SNR=5.0						
EPOB	**Poblet**	**2.40**	**129**	Lg		06 24 38.8	
	SNR=7.9						
LFF	**La Frestale**	**2.56**	**36**	*e*Pn	Pn	06 24 06.6	-2.5
LFF				*e*Sn	Sn	06 24 37.3	-3.9
LFF				*e*Sg	Sg	06 24 45.8	-5.5
	3.0nm,0.3s						
MTLF	**Montolieu**	**2.68**	**79**	*e*Pn	Pn	06 24 09.3	-1.5
MTLF				*e*Sn	Sn	06 24 41.2	-3.0
	0.9nm,0.4s						
RJF	**Les Rejaudoux**	**3.19**	**40**	*e*Pn	Pn	06 24 14.8	-3.3
RJF				*e*Sn	Sn	06 24 52.4	-4.9
	1.5nm,0.4s						
CAF	**Calviac**	**3.22**	**50**	*e*Pn	Pn	06 24 15.5	-3.0
CAF				*e*Sn	Sn	06 24 53.5	-4.4
	0.5nm,0.2s						
MFF	**Saint Martin d**	**3.81**	**13**	*e*Pn	Pn	06 24 23.9	-3.1
MFF				*e*Pg	Pg	06 24 35.8	-6.4
MFF				*e*Sn	Sn	06 25 07.3	-5.6
MFF				*e*Sg	Sg	06 25 26.1	-6.9
	1.8nm,0.5s						
LASF	**Ste Croix**	**4.00**	**71**	*e*Pn	Pn	06 24 26.7	-2.9
LASF				*e*Sn	Sn	06 25 12.4	-5.2
	0.8nm,0.3s						

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*NEIC **19** 06:33:03.2±3.2, 18.63S×177.73W, h569^{km}±38^{km}, mb4.2/9, Error ellipse: s-maj=24.7km s-min=17.0km az=171.0*

*IDC **19** 06:33:07.5±2.7, 18.78S×177.87W, h614^{km}±36^{km}, mb3.5/7, mb1 3.7/8, mb1mx3.5/15, Error ellipse: s-maj=36.3km s-min=12.6km az=153.0*

ISC 19 06:33:04.0±1.2, 18.7S±0.2×177.8W±0.1, h595^{km}±13^{km}, n27, σ0^{s}92/23, mb4.0/15, 1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.03**	**283**	P	**P**	**06 34 29.3**	**-0.5**
	1μm,0.6s,SNR=62						
URZ	**Urewera**	**19.99**	**192**	P	**P**	**06 36 58.8**	**-0.4**
	0.8nm,0.3s,baz=339,slow=16,SNR=4.2						
CTA	**Charters Tower**	**33.86**	**262**	*e*P	**P**	**06 39 00.4**	**+0.3**
	2.8nm,0.4s,mb4.2						
CTAO	**Charters Tower**	**33.86**	**262**	*e*P	**P**	**06 38 60.0**	**-0.1**
	3.7nm,0.4s,mb4.4						
PMG	**Port Moresby**	**35.13**	**280**	P	**P**	**06 39 11.0**	**+0.4**
	4.1nm,0.5s,mb4.3						
STKA	**Stephens Creek**	**38.74**	**242**	P	**P**	**06 39 41.6**	**+1.6**
	2.1nm,0.4s,mb4.0,baz=77,slow=8.4,SNR=9.2						
STKA	**Stephens Creek**	**38.74**	**242**	*e*P	**P**	**06 39 41.5**	**+1.6**
WB2	**Warramunga Arr**	**45.02**	**260**	*e*P	**P**	**06 40 29.1**	**-0.6**
WRAB	**Tennant Creek**	**45.02**	**260**	*e*P	**P**	**06 40 29.1**	**-0.6**
	5.6nm,0.4s,mb4.5						
WRA	**Warramunga Arr**	**45.03**	**260**	P	**P**	**06 40 29.4**	**-0.3**
	2.9nm,0.4s,mb4.2,baz=98,slow=6.9,SNR=65						
WRA				S	**S**	**06 46 24.5**	**-2.0**
	0.6nm,1.0s,baz=92,slow=12,SNR=2.8						
ASAR	**Alice Springs**	**45.11**	**255**	P	**P**	**06 40 30.6**	**+0.3**
	6.2nm,0.5s,mb4.4,baz=92,slow=7.7,SNR=105						
ASAR				PcP	PcP	06 41 58.9	+0.6
	0.7nm,0.5s,baz=100,slow=3.7,SNR=4.9						
ASAR				S	**S**	**06 46 26.6**	**-1.0**
	0.8nm,0.9s,baz=84,slow=17,SNR=6.1						
ASPA	**Alice Springs**	**45.11**	**255**	*e*P	**P**	**06 40 30.7**	**+0.3**
KAKA	**Kakadu**	**48.16**	**270**	*e*P	**P**	**06 40 55.3**	**+1.8**
	4.1nm,0.3s,mb4.4						
FITZ	**Fitzroy Crossi**	**53.44**	**261**	*e*P	**P**	**06 41 31.7**	**0.0**
	1.9nm,1.2s,mb3.3						
MBWA	**Marble Bar**	**58.42**	**256**	*e*P	**P**	**06 42 05.1**	**-0.8**
	2.2nm,0.3s,mb3.8						
YBH	**Yreka Blue Hor**	**78.79**	**39**	P	**P**	**06 44 08.7**	**+1.3**
	1.1nm,0.6s,mb3.4,baz=243,slow=2.3,SNR=3.9						
MCK	**McKinley**	**85.18**	**12**	P	**P**	**06 44 38.6**	**-0.4**
	1.1nm,0.8s,mb3.5						
COLA	**College**	**86.42**	**12**	*e*P	**P**	**06 44 44.2**	**-0.7**
	1.9nm,0.6s,mb3.9						
ILAR	**Eielson Array**	**86.52**	**13**	P	**P**	**06 44 44.9**	**-0.5**
	0.6nm,0.4s,mb3.6,baz=219,slow=4.9,SNR=35						
CMAR	**Chiang Mai Arr**	**89.66**	**290**	P	**P**	**06 45 03.1**	**+1.9**
	0.8nm,0.7s,mb3.7,baz=128,slow=3.5,SNR=6.0						
ULM	**Lac du Bonnet**	**99.16**	**40**	P	**P**	**06 45 42.5**	**-0.9**
	1.1nm,0.3s,mb4.6,baz=252,slow=3.2,SNR=3.0						
MKAR	**Makanchi Array**	**110.07**	**314**	PKiKP		06 50 29.9	
	0.2nm,0.4s,baz=190,slow=1.2,SNR=3.9						
ARCES	**ARCESS Array B**	**127.18**	**350**	PKP	PKPdf	06 51 02.9	+1.8
	2.1nm,0.9s,baz=90,slow=1.2,SNR=4.6						
AKASG	**Malin Array Be**	**141.50**	**332**	PKhKP		06 51 23.9	
	0.4nm,0.4s,baz=44,slow=4.1,SNR=5.2						
BRTR	**Keskin Array B**	**145.72**	**314**	PKPbc	PKPbc	06 51 39.1	+2.2
	0.8nm,0.5s,baz=180,slow=2.5,SNR=4.5						
CLL	**Collm**	**146.34**	**348**	⇓*i*PKP1	PKPbc	06 51 40.7	+2.6
GERES	**GERESS Array B**	**148.50**	**345**	PKPbc	PKPdf	06 51 46.9	+7.2
	0.9nm,0.7s,baz=27,slow=3.0,SNR=8.8						

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*INMG **19** 06:41:46.8±1.1, 36.72N×7.67W, h18^{km}±4^{km}, ML1.9, Error ellipse: s-maj=6.4km s-min=4.6km az=105.0*

MDD 19 06:41:46.2±1.3, 36.68N×7.58W, h28^{km}±8^{km}, mbLg2.2/12, 1D, Error ellipse: s-maj=10.1km s-min=6.3km az=29.0, PRXIMO, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ERIP	**Rio Piedras**	**0.74**	**20**	⇓P	Pb	06 41 59.8	-0.7
	20nm,0.1s,SNR=18						
ERIP				S	Sb	06 42 09.8	-0.4
	36nm,0.1s,SNR=7.9						
PALC	**Alcoutim**	**0.79**	**6**	*e*Pg	Pb	06 42 00.7	-0.5
PALC				*e*Sg	Sb	06 42 11.2	-0.4
	48nm,0.3s						
PALC	**Alcoutim**	**0.79**	**6**	Pg	Pb	06 42 00.7	-0.5
PALC				Lg		06 42 11.2	
	24nm,0.3s						
PTEO	**Sao Teotonio**	**1.26**	**314**	*e*P	Pn	06 42 06.8	-1.4
PTEO				*e*S	Sn	06 42 21.8	-2.6
	5.5nm,0.2s						
PTEO	**Sao Teotonio**	**1.26**	**314**	P	Pn	06 42 06.8	-1.4
PTEO				S	Sn	06 42 21.8	-2.6
	2.8nm,0.2s						
EMIN	**Mina Concepcio**	**1.31**	**33**	P	Pn	06 42 07.2	-1.7
	0.2nm,0.0s,SNR=7.9						
EMIN				S	Sn	06 42 22.6	-2.9
	2.4nm,0.1s,SNR=7.9						
PBEJ	**Beja**	**1.37**	**350**	*e*P	Pn	06 42 08.4	-1.3
PBEJ				*e*S	Sn	06 42 24.8	-2.2
	5.2nm,0.1s						
PBEJ	**Beja**	**1.37**	**350**	P	Pn	06 42 08.4	-1.3
PBEJ				S	Sn	06 42 24.8	-2.2
	2.6nm,0.1s						
ESPR	**Espera**	**1.40**	**82**	P	Pn	06 42 08.4	-1.8
	0.7nm,0.1s,SNR=7.9						
ESPR				S	Sn	06 42 25.5	-2.3
	27nm,0.3s,SNR=7.9						
MOE	**Montemor**	**1.94**	**342**	*e*Sn	Sn	06 42 38.8	-2.8
EBAD	**Badajoz**	**2.12**	**12**	P	Pn	06 42 18.5	-2.0
	0.4nm,0.1s,SNR=7.9						
EBAD				S	Sn	06 42 43.6	-2.6
	2.5nm,0.1s,SNR=7.9						
EMIJ	**Mijas**	**2.26**	**92**	S	Sn	06 42 46.0	-3.7
	0.6nm,0.2s,SNR=5.0						
ELUQ	**Luque**	**2.79**	**71**	S	Sn	06 42 59.9	-3.3
	1.1nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**2.81**	**57**	P	Pn	06 42 28.3	-2.1
	0.1nm,0.1s,SNR=7.9						
EADA				S	Sn	06 42 58.7	-5.1
	2.1nm,0.1s,SNR=7.9						
PTOM	**Tomar**	**3.01**	**348**	*e*Pn	Pn	06 42 31.3	-1.9
PTOM				*e*Sn	Sn	06 43 04.0	-4.7
	4.0nm,0.1s						
PTOM	**Tomar**	**3.01**	**348**	Pn	Pn	06 42 31.3	-1.9
PTOM				Sn	Sn	06 43 04.0	-4.7
	2.0nm,0.1s						
PCBR	**Castelo Branco**	**3.16**	**1**	*e*Pn	Pn	06 42 33.1	-2.2
PCBR				*e*Sn	Sn	06 43 08.4	-4.1
	3.2nm,0.1s						
PCBR	**Castelo Branco**	**3.16**	**1**	Pn	Pn	06 42 33.1	-2.2
PCBR				Sn	Sn	06 43 08.4	-4.1
	1.6nm,0.1s						
MTE	**Manteigas**	**3.72**	**0**	*e*Pn	Pn	06 42 40.7	-2.5
MTE				*e*Sn	Sn	06 43 21.5	-5.1
	3.5nm,0.2s						
MTE	**Manteigas**	**3.72**	**0**	Pn	Pn	06 42 40.7	-2.5
MTE				Sn	Sn	06 43 21.5	-5.1
	1.8nm,0.2s						
EQES	**Quesada**	**3.77**	**71**	P	Pn	06 42 43.1	-0.8
	SNR=7.9						
EQES				S	Sn	06 43 22.5	-5.4
	0.2nm,0.1s,SNR=7.9						
EVIA	**Vianos**	**4.48**	**63**	S	Sn	06 43 39.4	-6.5
	1.1nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**5.17**	**66**	S	Sn	06 43 55.3	-8.1
	0.4nm,0.1s,SNR=5.0						
ELOB	**Lobios**	**5.20**	**356**	P	Pn	06 43 01.1	-3.1
	0.4nm,0.2s,SNR=7.9						
ELOB				S	Sn	06 43 58.0	-6.0
	1.7nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**5.30**	**7**	P	Pn	06 43 02.3	-3.3
	0.3nm,0.1s,SNR=7.9						

ECAL				S	Sn	06 43 60.0	-6.5
	1.6nm,0.2s,SNR=7.9						
ETOR	**Torete**	**5.98**	**45**	S	Sn	06 44 17.7	-5.9
	SNR=7.9						

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*BJI **19** 06:53:34.3,40.87N×87.87E,h15^{km},mB4.3,mb4.2,ML3.8*

NNC 19 06:53:39.9±1.6,**41.43N×87.44E,mpv4.1,2C-1D,Error ellipse: s-maj=120.5km s-min=12.7km az=57.0, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WMQ	**Urumqi**	**2.40**	**4**	P	Pn	06 54 25.8	+4.8
WMQ				S	Sn	06 55 01.6	+10
WMQ				Smax			
	comp=N,136nm,0.6s						
WMQ				Smax			
	comp=E,228nm,0.4s						
MK31	**Makanchi Array**	**6.52**	**327**	⇓Pn	Pn	06 55 19.8	+0.3
	comp=E,4.5nm,0.3s,baz=144,slow=14,SNR=281						
MK31				⇑Sn	Sn	06 56 38.7	+3.1
	comp=E,5.2nm,0.6s,baz=141,slow=25,SNR=4.7						
MK31				⇑Lg		06 57 05.4	
	comp=E,4.4nm,0.5s,baz=153,slow=29,SNR=4.2						
GTA	**Gaotai**	**9.65**	**98**	*e*P	P	06 55 47.3	-16
GTA				S	Sn	06 57 31.3	-22
GTA				AMB	AMB		
	comp=Z,2.0nm,0.8s						
GTA				AMB	AMB		
	comp=Z,46nm,4.6s						

NEIC 19 06:58:04.2,38.01N×118.68W,h7^{km},MW3.9(BRK)**,2C-1D, After NCEDC.,California-Nevada border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OMM	**Old Mammoth Mi**	**0.46**	**212**	⇓*i*P	Pg	06 58 13.4	-0.1
MNV	**Mina**	**0.59**	**44**	*e*P	Pg	06 58 15.0	-1.1
MTUM	**Tungsten Hills**	**0.66**	**172**	*e*P	Pg	06 58 16.9	-0.5
TPH	**Tonopah**	**1.15**	**86**	*e*Pn	Pn	06 58 25.9	-0.8
CMB	**Columbia Colle**	**1.35**	**272**	⇑*i*Pn	Pn	06 58 28.6	-0.9
CMB				*e*S	Sb	06 58 47.0	+0.3
WCN	**Washoe City**	**1.54**	**327**	⇑*e*Pn	Pn	06 58 32.8	+0.5
PAHR	**Pah Rah Range**	**1.78**	**342**	*e*P	Pn	06 58 35.9	+0.2
DAC	**Darwin (Calif)**	**1.93**	**153**	*e*P	Pn	06 58 37.9	-0.1
TPNV	**Topopah Spring**	**2.21**	**118**	*e*Pn	Pn	06 58 41.5	-0.3
BEKR	**Beckwourth**	**2.27**	**325**	*e*Pn	Pn	06 58 42.6	-0.1
LRV	**Little Rabbit**	**2.44**	**230**	*e*Pn	Pn	06 58 45.2	-0.1
SAO	**San Andreas Ge**	**2.53**	**241**	*e*Pn	Pn	06 58 45.9	-0.5
OHCM	**Honcut**	**2.56**	**302**	*e*Pn	Pn	06 58 46.1	-0.8
BMN	**Battle Mountai**	**2.67**	**25**	*e*Pn	Pn	06 58 47.2	-1.2
LKC	**Lake Chabot**	**2.69**	**265**	*e*Pn	Pn	06 58 48.1	-0.7
SAC	**San Andreas**	**2.99**	**263**	*e*Pn	Pn	06 58 51.2	-1.8
NSHM	**Saint Helena R**	**3.13**	**281**	Pn	Pn	06 58 53.5	-1.6
HOPS	**Hopland**	**3.58**	**287**	Pn	Pn	06 59 00.1	-1.3
MWC	**Mount Wilson**	**3.81**	**172**	Pn	Pn	06 59 03.1	-1.5
ELK	**Elko**	**3.82**	**43**	*e*Pn	Pn	06 59 03.2	-1.6
NEN	**Nelson**	**3.88**	**126**	Pn	Pn	06 59 04.9	-0.7
WDC	**Whiskeytown Da**	**3.94**	**312**	*e*Pn	Pn	06 59 04.7	-1.8
MOD	**Modoc**	**4.08**	**343**	Pn	Pn	06 59 07.8	-0.8
LDFC	**Landfair**	**4.10**	**134**	Pn	Pn	06 59 08.8	0.0
ARUT	**Antelope Range**	**4.15**	**91**	*e*Pn	Pn	06 59 08.5	-1.0
ARUT				*e*Pg	Pg	06 59 21.5	-5.6
WVOR	**Wild Horse Val**	**4.42**	**0**	*e*Pn	Pn	06 59 12.3	-1.1
PFO	**Pinyon Flat Ob**	**4.75**	**157**	Pn	Pn	06 59 16.2	-1.8
YBH	**Yreka Blue Hor**	**4.84**	**321**	Pn	Pn	06 59 18.1	-1.2
DUG	**Dugway**	**5.06**	**63**	*e*Pn	Pn	06 59 19.6	-2.8
MVU	**Marysvale**	**5.12**	**82**	*e*Pn	Pn	06 59 20.3	-2.9
MSU	**Marysvale**	**5.14**	**82**	Pn	Pn	06 59 21.2	-2.4
NLU	**North Lily Min**	**5.50**	**67**	*e*Pg	Pg	06 59 46.8	-7.2
BAR	**Barrett**	**5.56**	**162**	Pn	Pn	06 59 26.5	-3.0
HUMO	**Hull Mountain**	**5.64**	**326**	Pn	Pn	06 59 29.8	-0.7
SPUT	**South Promonto**	**5.83**	**54**	*e*Pg	Pg	06 59 53.9	-6.6
MPU	**Maple Canyon**	**5.84**	**68**	*e*Pg	Pg	06 59 56.3	-4.5
HVU	**Hansel Valley**	**5.90**	**48**	*e*Pn	Pn	06 59 31.0	-3.2
HVU				*e*Pg	Pg	06 59 54.0	-8.0
CTU	**Camp Tracy**	**6.00**	**61**	Pn	Pn	06 59 41.7	+6.0
CTU				*e*Pg	Pg	06 59 59.8	-4.2
JLU	**Jordanelle**	**6.18**	**63**	Pn	Pn	06 59 35.2	-2.9
WUAZ	**Wupatki**	**6.37**	**111**	*e*Pn	Pn	06 59 40.5	-0.4
TCUT	**Toone Canyon**	**6.42**	**59**	Pn	Pn	06 59 39.6	-2.0
HLID	**Hailey**	**6.42**	**29**	*e*Pn	Pn	06 59 38.9	-2.8
SRU	**San Rafael**	**6.49**	**78**	*e*Pn	Pn	06 59 38.9	-3.6
HWUT	**Hardware Ranch**	**6.55**	**55**	*e*Pn	Pn	06 59 41.7	-1.8
PV10	**Paradox Valley**	**7.60**	**84**	*e*Pn	Pn	06 59 59.0	+0.8
PV01	**Paradox Valley**	**7.98**	**86**	Pn	Pn	07 00 03.1	-0.3
PV01				*e*Pg	Pg	07 00 35.0	-8.5
REDW	**Red Top Meadow**	**8.00**	**46**	Pn	Pn	07 00 06.3	+2.7
REDW				*e*Pg	Pg	07 00 35.8	-8.1
TPAW	**Teton Pass**	**8.02**	**45**	Pn	P	07 00 05.2	+1.1
MCMT	**McKenzie Canyo**	**8.10**	**31**	Pn	P	07 00 07.1	+2.0
IMW	**Indian Meadow**	**8.30**	**42**	*e*Pg	P	07 00 33.6	+26
HAWA	**Hanford**	**8.40**	**356**	Pn	P	07 00 08.1	-1.2

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*STR **19** 07:04:47.6±0.7,42.83N×1.57W,h5^{km}±1^{km},Ml2.4,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LDG **19** 07:04:48.5±0.3,42.86N×1.50W,h2^{km},Md2.5/2,Ml2.4/11, Error ellipse: s-maj=5.9km s-min=3.7km az=51.0*

MDD 19 07:04:50.1±0.4,**42.87N×1.41W,h8^{km}**±2^{km}**,mbLg1.8**/11**, Error ellipse: s-maj=3.5km s-min=2.6km az=64.0, AftershockPLICA PRXIMO,Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJPF	**Ste Jean**	**0.27**	**29**	*e*Pg	Pg	07 04 55.2	-0.6
SJPF				*e*Sg	Sg	07 04 58.1	-1.5
	124nm,0.4s						
LARF	**Larrau**	**0.35**	**62**	Pg	Pg	07 04 56.3	-1.0
LARF				Sg	Sg	07 05 03.0	+1.0
LARF	**Larrau**	**0.35**	**62**	P	Pg	07 04 56.4	-0.9
LARF				S	Sg	07 05 02.4	+0.3
EALK	**Alkurruntz**	**0.35**	**348**	Pg	Pg	07 04 56.5	-0.8
	4.0nm,0.1s,SNR=7.9						
EALK				Lg		07 05 02.6	
	22nm,0.1s,SNR=7.9						
OSSF	**Osses**	**0.40**	**16**	Pg	Pg	07 04 57.2	-1.0
OSSF				Sg	Sg	07 05 03.8	+0.3
OSSF	**Osses**	**0.40**	**16**	P	Pg	07 04 57.4	-0.8
OSSF				S	Sg	07 05 03.6	+0.1
ORDF	**Ordiarp**	**0.48**	**46**	P	Pg	07 04 59.2	-0.7
ORDF				S	Sg	07 05 07.0	+0.5
ATE	**Arette**	**0.56**	**68**	P	Pg	07 05 00.1	-1.4
ATE				S	Sg	07 05 09.1	+0.1
FDAF	**Les Forges d'A**	**0.62**	**95**	Pg	Pg	07 05 01.4	-1.2
FDAF				Sg	Sg	07 05 12.3	+1.4
FDAF	**Les Forges d'A**	**0.62**	**95**	P	Pg	07 05 01.1	-1.5
FDAF				S	Sg	07 05 11.2	+0.2
ETSF	**Etsaut**	**0.62**	**87**	*e*Pg	Pg	07 05 00.9	-1.8
ETSF				*e*Sg	Sg	07 05 09.8	-1.3
ETSF				*e*Sn	Sn	07 05 11.6	-3.4
	33nm,0.4s						
VIEF	**Viey**	**1.05**	**89**	S	Sb	07 05 24.1	+0.3
LABF	**Labassere**	**1.10**	**80**	S	Sb	07 05 25.9	+0.7
RESF	**Ens**	**1.29**	**92**	S	Sb	07 05 31.9	+1.3
EPF	**Esparros**	**1.29**	**82**	*e*Pn	Pn	07 05 13.2	-1.2
EPF				*e*Pg	Pg	07 05 15.4	-0.6
EPF				*e*Sg	Sg	07 05 31.2	-2.0
	12nm,0.2s						
ESAC	**San Caprasio**	**1.35**	**148**	Pg	Pg	07 05 13.8	-3.3
	5.6nm,0.1s,SNR=7.9						
ESAC				Lg		07 05 31.8	
	26nm,0.3s,SNR=7.9						
EGRA	**Graus**	**1.44**	**117**	Pg	Pg	07 05 16.5	-2.5
	1.2nm,0.2s,SNR=7.9						
EGRA				Lg		07 05 36.6	
	1.9nm,0.2s,SNR=4.0						
MELF	**Melles**	**1.59**	**89**	S	Sb	07 05 41.9	+2.4
SALF	**Salau**	**1.92**	**93**	S	Sn	07 05 49.8	+2.0
ETOR	**Torete**	**2.11**	**193**	Pn	Pn	07 05 25.2	-0.9
	SNR=7.9						
ETOR				Pg	Pg	07 05 30.1	-2.2
	0.9nm,0.1s,SNR=14						
ETOR				S	Sn	07 05 50.1	-2.7
	1.5nm,0.2s,SNR=7.9						
ETOR				Lg		07 05 53.4	
	5.1nm,0.5s,SNR=7.9						
EPOB	**Poblet**	**2.40**	**129**	Pn	Pn	07 05 28.6	-1.6
	0.3nm,0.2s,SNR=5.0						
EPOB				Sn	Sn	07 05 56.9	-3.1
	SNR=4.0						
EPOB				Lg		07 06 04.2	
	1.6nm,0.2s,SNR=5.0						
LFF	**La Frestale**	**2.58**	**36**	*e*Pn	Pn	07 05 30.3	-2.6
LFF				*e*Sn	Sn	07 06 00.9	-3.9
LFF				*e*Sg	Sg	07 06 09.6	-6.5
	7.2nm,0.3s						
EMOS	**Mosqueruela**	**2.60**	**164**	Pg	Pg	07 05 38.5	-3.6
	0.8nm,0.2s,SNR=5.0						
EMOS				Sn	Sn	07 06 01.8	-3.5
	0.4nm,0.2s,SNR=7.9						
EMOS				Lg		07 06 08.4	
	0.6nm,0.2s,SNR=5.0						
MTLF	**Montolieu**	**2.70**	**79**	*e*Pn	Pn	07 05 33.1	-1.4
MTLF				*e*Sn	Sn	07 06 05.0	-2.6
	5.7nm,0.4s						
EJON	**La Jonquera**	**3.20**	**96**	Pg	Pg	07 05 51.8	-2.1
	0.5nm,0.1s,SNR=7.9						
EJON				Lg		07 06 31.5	
	1.0nm,0.2s,SNR=7.9						
RJF	**Les Rejaudoux**	**3.22**	**40**	*e*Pn	Pn	07 05 38.8	-3.1
RJF				*e*Sn	Sn	07 06 16.4	-4.4
	1.9nm,0.2s						
CAF	**Calviac**	**3.24**	**50**	*e*Pn	Pn	07 05 39.3	-3.0
CAF				*e*Sn	Sn	07 06 17.3	-4.2
	1.2nm,0.2s						
MFF	**Saint Martin d**	**3.83**	**13**	*e*Pn	Pn	07 05 47.7	-3.0
MFF				*e*Pg	Pg	07 05 59.5	-7.2
MFF				*e*Sn	Sn	07 06 30.9	-5.6
MFF				*e*Sg	Sg	07 06 49.8	-8.0
	0.8nm,0.3s						
LASF	**Ste Croix**	**4.02**	**71**	*e*Pn	Pn	07 05 50.5	-2.8
LASF				*e*Sn	Sn	07 06 36.1	-5.0
	1.1nm,0.3s						
ECAL	**Calabor**	**4.05**	**259**	Pn	Pn	07 05 51.1	-2.7
	SNR=5.0						
ECAL				Sn	Sn	07 06 38.6	-3.4
	0.2nm,0.1s,SNR=7.9						
ECAL				Lg		07 06 56.0	
	2.6nm,0.3s,SNR=7.9						
TCF	**Toulx Ste Croi**	**4.28**	**36**	*e*Pn	Pn	07 05 52.3	-4.7
TCF				*e*Sn	Sn	07 06 41.6	-6.2
	1.1nm,0.2s						
BGF	**Bois d'Agland**	**4.77**	**38**	*e*Pn	Pn	07 05 59.5	-4.5
BGF				*e*Sn	Sn	07 06 53.0	-7.1
	4.5nm,0.4s						
VIVF	**Saint-Julien-l**	**4.82**	**64**	*e*Pn	Pn	07 06 01.2	-3.5
VIVF				*e*Sn	Sn	07 06 54.4	-7.1
	0.4nm,0.3s						
AVF	**Avril sur Loir**	**5.18**	**39**	*e*Pn	Pn	07 06 04.9	-4.8
AVF				*e*Sn	Sn	07 07 02.4	-8.0
	0.8nm,0.4s						

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*STR **19** 07:07:15.7±0.1,43.37N×0.69W,h10^{km}±1^{km},Ml2.3,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LDG **19** 07:07:16.0±0.4,42.87N×1.48W,h2^{km},Md2.4/2,Ml2.3/12, Error ellipse: s-maj=6.2km s-min=4.3km az=56.0*

MDD 19 07:07:17.4±0.6,**42.88N×1.41W,h11^{km}**±1^{km}**,mbLg1.7**/9**, Error ellipse: s-maj=4.3km s-min=2.9km az=51.0, AftershockPLICA PRXIMO,Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJPF	**Ste Jean**	**0.27**	**30**	*e*Pg	Pg	07 07 22.5	-0.5
SJPF				*e*Sg	Sg	07 07 25.2	-1.6
	118nm,0.4s						
EALK	**Alkurruntz**	**0.34**	**348**	Pg	Pg	07 07 23.8	-0.7
	3.6nm,0.1s,SNR=7.9						
EALK				Lg		07 07 29.7	
	25nm,0.2s,SNR=7.9						
LARF	**Larrau**	**0.34**	**63**	Pg	Pg	07 07 23.8	-0.7
LARF				Sg	Sg	07 07 29.8	+0.5
LARF	**Larrau**	**0.34**	**63**	P	Pg	07 07 24.0	-0.6
LARF				S	Sg	07 07 29.8	+0.4
OSSF	**Osses**	**0.39**	**16**	Pg	Pg	07 07 24.4	-0.9
OSSF				Sg	Sg	07 07 30.8	+0.1
OSSF	**Osses**	**0.39**	**16**	P	Pg	07 07 24.5	-0.8
OSSF				S	Sg	07 07 30.5	-0.2
ATE	**Arette**	**0.56**	**69**	P	Pg	07 07 27.6	-1.1
ATE				S	Sg	07 07 35.9	-0.4
FDAF	**Les Forges d'A**	**0.62**	**96**	S	Sb	07 07 38.5	+0.2
ETSF	**Etsaut**	**0.62**	**88**	*e*Pg	Pg	07 07 28.2	-1.8
ETSF				*e*Sg	Sg	07 07 36.9	-1.5
ETSF				*e*Sn	Sn	07 07 38.8	-3.0
	17nm,0.3s						
LABF	**Labassere**	**1.10**	**81**	S	Sb	07 07 53.2	+1.1
EPF	**Esparros**	**1.29**	**83**	*e*Pn	Pn	07 07 40.3	-1.1
EPF				*e*Pg	Pg	07 07 42.6	-0.6
EPF				*e*Sg	Sg	07 07 58.4	-2.1
	14nm,0.4s						
ESAC	**San Caprasio**	**1.35**	**149**	Pg	Pg	07 07 41.3	-3.2
	5.3nm,0.2s,SNR=7.9						
ESAC				Lg		07 07 58.7	
	21nm,0.2s,SNR=7.9						
EGRA	**Graus**	**1.45**	**118**	Pg	Pg	07 07 43.1	-3.3
	2.3nm,0.3s,SNR=5.0						
EGRA				Lg		07 08 03.7	
	2.0nm,0.2s,SNR=4.0						
ETOR	**Torete**	**2.12**	**193**	Pn	Pn	07 07 52.1	-1.2
	SNR=7.9						
ETOR				Pg	Pg	07 07 55.7	-4.0
	0.2nm,0.2s,SNR=7.9						
ETOR				Lg		07 08 18.6	
	1.0nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**2.40**	**129**	Pg	Pg	07 07 59.9	-5.5
	0.6nm,0.2s,SNR=7.9						
EPOB				S	Sn	07 08 25.4	-1.5
	0.4nm,0.2s,SNR=7.9						
EPOB				Lg		07 08 29.9	
	1.1nm,0.2s,SNR=7.9						
LFF	**La Frestale**	**2.58**	**36**	*e*Pn	Pn	07 07 57.6	-2.2
LFF				*e*Sn	Sn	07 08 28.3	-3.1
LFF				*e*Sg	Sg	07 08 36.7	-6.5
	6.1nm,0.3s						
EMOS	**Mosqueruela**	**2.61**	**164**	Lg		07 08 35.7	
	0.6nm,0.2s,SNR=7.9						
MTLF	**Montolieu**	**2.69**	**79**	*e*Pn	Pn	07 08 00.2	-1.3
MTLF				*e*Sn	Sn	07 08 32.2	-2.2
	1.6nm,0.4s						
RJF	**Les Rejaudoux**	**3.21**	**40**	*e*Pn	Pn	07 08 05.9	-2.9
RJF				*e*Sn	Sn	07 08 43.5	-3.9
	1.5nm,0.3s						
CAF	**Calviac**	**3.23**	**50**	*e*Pn	Pn	07 08 06.5	-2.7
CAF				*e*Sn	Sn	07 08 44.5	-3.6
	1.3nm,0.3s						
MFF	**Saint Martin d**	**3.83**	**13**	*e*Pn	Pn	07 08 15.0	-2.5
MFF				*e*Pg	Pg	07 08 26.7	-7.1
MFF				*e*Sn	Sn	07 08 58.3	-4.7
MFF				*e*Sg	Sg	07 09 17.0	-7.8
	1.7nm,0.4s						
LASF	**Ste Croix**	**4.01**	**71**	*e*Pn	Pn	07 08 17.7	-2.5
LASF				*e*Sn	Sn	07 09 03.2	-4.6
	1.4nm,0.3s						
TCF	**Toulx Ste Croi**	**4.27**	**36**	*e*Pn	Pn	07 08 19.4	-4.5
TCF				*e*Sn	Sn	07 09 08.8	-5.6
	0.9nm,0.3s						
BGF	**Bois d'Agland**	**4.76**	**38**	*e*Pn	Pn	07 08 26.6	-4.3
BGF				*e*Sn	Sn	07 09 20.2	-6.5
	3.4nm,0.5s						
VIVF	**Saint-Julien-l**	**4.82**	**64**	*e*Pn	Pn	07 08 28.5	-3.2
VIVF				*e*Sn	Sn	07 09 21.8	-6.4
	0.8nm,0.3s						
AVF	**Avril sur Loir**	**5.17**	**39**	*e*Pn	Pn	07 08 31.8	-4.8
AVF				*e*Sn	Sn	07 09 29.7	-7.3
	0.4nm,0.3s						

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*STR **19** 07:11:17.1±1.5,42.88N×1.59W,h5^{km}±1^{km},Ml2.3,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LDG **19** 07:11:18.6±0.3,42.88N×1.44W,h2^{km},Ml2.4/13,Error ellipse: s-maj=5.8km s-min=3.5km az=44.0*

MDD 19 07:11:19.0±0.5,**42.87N×1.39W,h8^{km}**±3^{km}**,mbLg1.9**/9**, Error ellipse: s-maj=4.4km s-min=2.9km az=69.0, AftershockPLICA PRXIMO,Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJPF	**Ste Jean**	**0.27**	**27**	*e*Pg	Pg	07 11 24.4	-0.3
SJPF				*e*Sg	Sg	07 11 27.3	-1.1
	120nm,0.3s						
LARF	**Larrau**	**0.34**	**60**	Pg	Pg	07 11 25.9	-0.1
LARF				Sg	Sg	07 11 32.2	+1.6
EALK	**Alkurruntz**	**0.36**	**346**	Pg	Pg	07 11 25.6	-0.8
	3.1nm,0.1s,SNR=7.9						
EALK				Lg		07 11 31.8	
	55nm,0.2s,SNR=7.9						
OSSF	**Osses**	**0.40**	**14**	Pg	Pg	07 11 26.3	-0.8
FDAF	**Les Forges d'A**	**0.61**	**95**	Pg	Pg	07 11 30.9	-0.4
FDAF				Sg	Sg	07 11 42.7	+3.3
ETSF	**Etsaut**	**0.61**	**87**	*e*Pg	Pg	07 11 30.3	-1.0
ETSF				*e*Sg	Sg	07 11 38.8	-0.8
ETSF				*e*Sn	Sn	07 11 40.9	-2.8
	26nm,0.3s						
EPF	**Esparros**	**1.28**	**82**	*e*Pn	Pn	07 11 42.3	-0.9
EPF				*e*Pg	Pg	07 11 44.6	-0.1
EPF				*e*Sg	Sg	07 12 00.3	-1.5
	17nm,0.3s						
ESAC	**San Caprasio**	**1.34**	**149**	Pg	Pg	07 11 43.4	-2.3
	7.5nm,0.3s,SNR=7.9						
ESAC				Lg		07 12 02.4	
	27nm,0.2s,SNR=7.9						
EGRA	**Graus**	**1.43**	**118**	Pg	Pg	07 11 45.9	-1.7
	SNR=7.9						
ETOR	**Torete**	**2.11**	**194**	Pn	Pn	07 11 53.5	-1.6
	SNR=7.9						
ETOR				Pg	Pg	07 11 57.2	-4.0
	0.5nm,0.3s,SNR=7.9						
ETOR				Lg		07 12 25.0	
	2.4nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**2.38**	**129**	Pn	Pn	07 11 57.8	-1.2
	SNR=5.0						
EPOB				Pg	Pg	07 12 02.3	-4.3
	SNR=5.0						
EPOB				Lg		07 12 38.4	
	2.5nm,0.2s,SNR=4.0						
LFF	**La Frestale**	**2.58**	**36**	*e*Pn	Pn	07 11 59.6	-2.2
LFF				*e*Sn	Sn	07 12 29.8	-3.9
LFF				*e*Sg	Sg	07 12 38.3	-6.6
	7.0nm,0.4s						
EMOS	**Mosqueruela**	**2.60**	**164**	Pn	Pn	07 12 04.2	+2.1
	0.1nm,0.1s,SNR=5.0						
EMOS				Pg	Pg	07 12 14.6	+3.7
	SNR=7.9						
EMOS				Lg		07 12 46.0	
	1.0nm,0.2s,SNR=5.0						
MTLF	**Montolieu**	**2.68**	**79**	*e*Pn	Pn	07 12 02.2	-1.1
MTLF				*e*Sn	Sn	07 12 34.4	-2.0
	4.2nm,0.3s						
RJF	**Les Rejaudoux**	**3.21**	**40**	*e*Pn	Pn	07 12 07.9	-2.9
RJF				*e*Sn	Sn	07 12 45.4	-4.3
	2.1nm,0.3s						
CAF	**Calviac**	**3.23**	**49**	*e*Pn	Pn	07 12 08.5	-2.6
CAF				*e*Sn	Sn	07 12 46.5	-3.8
	2.8nm,0.3s						
MFF	**Saint Martin d**	**3.84**	**13**	*e*Pn	Pn	07 12 16.9	-2.8
MFF				*e*Pg	Pg	07 12 28.8	-6.8
MFF				*e*Sn	Sn	07 12 59.9	-5.6
MFF				*e*Sg	Sg	07 13 19.0	-7.8
	2.7nm,0.4s						
LASF	**Ste Croix**	**4.00**	**71**	*e*Pn	Pn	07 12 19.7	-2.4
LASF				*e*Sn	Sn	07 13 05.4	-4.4
	0.7nm,0.3s						
ECAL	**Calabor**	**4.07**	**259**	Pn	Pn	07 12 19.4	-3.6
	SNR=7.9						
ECAL				Lg		07 13 22.0	
	SNR=7.9						
TCF	**Toulx Ste Croi**	**4.28**	**36**	*e*Pn	Pn	07 12 21.5	-4.5
TCF				*e*Sn	Sn	07 13 10.7	-6.0
	2.0nm,0.3s						
BGF	**Bois d'Agland**	**4.77**	**38**	*e*Pn	Pn	07 12 28.5	-4.4
BGF				*e*Sn	Sn	07 13 22.2	-6.8
	5.8nm,0.4s						
AVF	**Avril sur Loir**	**5.17**	**39**	*e*Pn	Pn	07 12 34.1	-4.5
AVF				*e*Sn	Sn	07 13 31.5	-7.8
	0.8nm,0.4s						
QUIF	**Quistinic**	**5.20**	**347**	*e*Pn	Pn	07 12 35.5	-3.5
QUIF				*e*Sn	Sn	07 13 32.3	-7.7
	0.8nm,0.2s						
LDF	**La Druitiere**	**5.79**	**8**	*e*Pn	Pn	07 12 43.4	-4.0
LDF				*e*Sn	Sn	07 13 46.8	-8.0
	0.7nm,0.3s						

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*LDG **19** 07:12:32.7±0.4,42.90N×1.47W,h2^{km},Ml2.4/8,Error ellipse: s-maj=6.9km s-min=4.8km az=54.0*

MDD 19 07:12:33.0±0.6,**42.88N×1.40W,h5^{km}**±5^{km}**,mbLg1.9**/12**, Error ellipse: s-maj=5.3km s-min=3.1km az=59.0, PRXIMO AftershockPLICA,Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJPF	**Ste Jean**	**0.27**	**28**	*e*Pg	Pg	07 12 38.5	+0.1
SJPF				*e*Sg	Sg	07 12 41.3	-0.8
	174nm,0.3s						
EALK	**Alkurruntz**	**0.35**	**347**	Pg	Pg	07 12 39.5	-0.6
	7.7nm,0.1s,SNR=7.9						
EALK				Lg		07 12 44.6	
	28nm,0.2s,SNR=7.9						
ETSF	**Etsaut**	**0.62**	**88**	*e*Pg	Pg	07 12 43.9	-1.5
ETSF				*e*Sg	Sg	07 12 52.9	-0.7
ETSF				*e*Sn	Sn	07 12 55.0	-3.4
	28nm,0.3s						
EPF	**Esparros**	**1.29**	**83**	*e*Pn	Pn	07 12 56.4	-1.2
EPF				*e*Pg	Pg	07 12 58.9	+0.2
EPF				*e*Sg	Sg	07 13 14.6	-1.2
	22nm,0.4s						
ESAC	**San Caprasio**	**1.34**	**149**	Pg	Pg	07 12 56.4	-3.4
	47nm,0.4s,SNR=5.0						
ESAC				Lg		07 13 15.5	
	37nm,0.2s,SNR=7.9						
EGRA	**Graus**	**1.44**	**118**	Pg	Pg	07 12 59.8	-2.0
	6.0nm,0.3s,SNR=7.9						
EGRA				Lg		07 13 20.4	
	6.0nm,0.4s,SNR=4.0						
ETOR	**Torete**	**2.11**	**194**	Pg	Pg	07 13 11.9	-3.3
	SNR=5.0						
ETOR				Lg		07 13 38.1	
	8.1nm,0.3s,SNR=4.0						
EPOB	**Poblet**	**2.39**	**129**	Lg		07 13 45.8	
	1.0nm,0.2s,SNR=7.9						
EBR	**Ebro Roquetas**	**2.49**	**145**	*e*Rs		07 12 50.0	
EBR	**Ebro Roquetas**	**2.49**	**145**	*e*SG	Sg	07 13 55.0	-1.1
LFF	**La Frestale**	**2.58**	**36**	*e*Pn	Pn	07 13 13.8	-2.3
LFF				*e*Sn	Sn	07 13 44.2	-4.0
LFF				*e*Sg	Sg	07 13 52.8	-6.0
	4.9nm,0.3s						
EMOS	**Mosqueruela**	**2.60**	**164**	Lg		07 13 56.3	
	2.5nm,0.3s,SNR=5.0						
MTLF	**Montolieu**	**2.69**	**79**	*e*Pn	Pn	07 13 16.4	-1.3
MTLF				*e*Sn	Sn	07 13 48.4	-2.6
	1.7nm,0.4s						
EJON	**La Jonquera**	**3.19**	**96**	Lg		07 14 14.7	
	2.4nm,0.3s,SNR=7.9						
RJF	**Les Rejaudoux**	**3.21**	**40**	*e*Pn	Pn	07 13 22.0	-3.1
RJF				*e*Sn	Sn	07 13 59.5	-4.7
	2.2nm,0.2s						
CAF	**Calviac**	**3.23**	**50**	*e*Pn	Pn	07 13 22.7	-2.7
CAF				*e*Sn	Sn	07 14 00.5	-4.3
	2.0nm,0.2s						
MFF	**Saint Martin d**	**3.83**	**13**	*e*Pn	Pn	07 13 30.8	-3.1
MFF				*e*Pg	Pg	07 13 42.9	-6.6
MFF				*e*Sn	Sn	07 14 14.2	-5.7
MFF				*e*Sg	Sg	07 14 33.1	-7.4
	1.2nm,0.2s						
LASF	**Ste Croix**	**4.01**	**71**	*e*Pn	Pn	07 13 33.6	-2.8
LASF				*e*Sn	Sn	07 14 19.4	-5.0
	2.5nm,0.5s						
ECAL	**Calabor**	**4.06**	**258**	Lg		07 14 37.9	
	4.7nm,0.4s,SNR=4.0						

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*NEIC **19** 07:15:30.7,42.84N×1.52W,h5^{km},ML2.5(LDG), ML2.3(STR),MN2.0(MDD),After STR.*

*STR **19** 07:15:30.7±0.3,42.84N×1.52W,h5^{km}±1^{km},Ml2.3,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LDG **19** 07:15:31.2±0.3,42.86N×1.49W,h2^{km},Md2.5/2,Ml2.5/16, Error ellipse: s-maj=4.8km s-min=2.9km az=45.0*

MDD 19 07:15:32.4±0.4,**42.87N×1.44W,h8^{km}**±3^{km}**,mbLg2.0**/12**, Error ellipse: s-maj=3.1km s-min=2.5km az=53.0, AftershockPLICA PRXIMO,Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJPF	**Ste Jean**	**0.29**	**32**	*e*Pg	Pg	07 15 37.9	-0.4
SJPF				*e*Sg	Sg	07 15 40.7	-1.6
	264nm,0.3s						
EALK	**Alkurruntz**	**0.35**	**352**	Pg	Pg	07 15 39.0	-0.6
	5.6nm,0.1s,SNR=7.9						
EALK				Lg		07 15 45.0	

	39nm,0.2s,SNR=7.9						
LARF	**Larrau**	**0.37**	**63**	Pg	Pg	07 15 39.2	-0.7
LARF				Sg	Sg	07 15 45.4	+0.5
LARF	**Larrau**	**0.37**	**63**	P	Pg	07 15 39.5	-0.4
LARF				S	Sg	07 15 44.7	-0.2
OSSF	**Osses**	**0.41**	**18**	Pg	Pg	07 15 39.8	-0.8
OSSF				Sg	Sg	07 15 45.8	-0.3
OSSF	**Osses**	**0.41**	**18**	P	Pg	07 15 40.0	-0.7
OSSF				S	Sg	07 15 45.6	-0.5
ORDF	**Ordiarp**	**0.50**	**47**	P	Pg	07 15 41.9	-0.6
ORDF				S	Sg	07 15 49.1	-0.2
ATE	**Arette**	**0.58**	**68**	P	Pg	07 15 43.3	-0.8
ATE				S	Sg	07 15 51.5	-0.4
FDAF	**Les Forges d’A**	**0.64**	**94**	Pg	Pg	07 15 44.1	-1.1
FDAF				Sg	Sg	07 15 53.9	+0.1
FDAF	**Les Forges d’A**	**0.64**	**94**	P	Pg	07 15 44.3	-0.9
FDAF				S	Sg	07 15 54.2	+0.4
ETSF	**Etsaut**	**0.65**	**87**	*e*Pg	Pg	07 15 43.6	-1.7
ETSF				*e*Sg	Sg	07 15 52.4	-1.5
ETSF				*e*Sn	Sn	07 15 54.0	-3.9
	27nm,0.3s						
REYF	**Montagne du Re**	**0.79**	**75**	S	Sb	07 15 58.1	-0.4
VIEF	**Viey**	**1.07**	**89**	S	Sb	07 16 07.4	+0.6
LABF	**Labassere**	**1.12**	**80**	Pn	Pn	07 15 52.5	-1.8
LABF	**Labassere**	**1.12**	**80**	S	Sb	07 16 09.0	+0.8
RESF	**Ens**	**1.31**	**92**	S	Sb	07 16 14.7	+1.2
EPF	**Esparros**	**1.31**	**82**	*e*Pn	Pn	07 15 55.8	-1.3
EPF				*e*Pg	Pg	07 15 58.2	-0.4
EPF				*e*Sg	Sg	07 16 14.0	-2.2
	32nm,0.3s						
ESAC	**San Caprasio**	**1.35**	**148**	Pg	Pg	07 15 56.5	-2.8
	19nm,0.3s,SNR=7.9						
ESAC				Lg		07 16 13.7	
	57nm,0.3s,SNR=7.9						
ESAC	**San Caprasio**	**1.35**	**148**	Pg	Pg	07 15 56.5	-2.8
ESAC				Lg		07 16 14.2	
EGRA	**Graus**	**1.46**	**117**	Pg	Pg	07 15 58.6	-2.9
	1.6nm,0.1s,SNR=7.9						
EGRA				Lg		07 16 18.4	
	2.3nm,0.1s,SNR=7.9						
ELAN	**Lanestosa**	**1.51**	**285**	Pg	Pg	07 15 59.7	-2.8
	1.0nm,0.1s,SNR=7.9						
ELAN				Lg		07 16 20.5	
	2.8nm,0.2s,SNR=7.9						
MELF	**Melles**	**1.61**	**89**	S	Sb	07 16 24.5	+2.1
SALF	**Salau**	**1.93**	**92**	S	Sn	07 16 32.8	+2.1
ETOR	**Torete**	**2.10**	**193**	Pn	Pn	07 16 07.4	-0.9
	0.6nm,0.1s,SNR=7.9						
ETOR				Pg	Pg	07 16 10.8	-3.4
	SNR=7.9						
ETOR				Sn	Sn	07 16 33.5	-1.4
	1.3nm,0.2s,SNR=7.9						
ETOR				Lg		07 16 34.9	
	3.3nm,0.2s,SNR=7.9						
ETOR	**Torete**	**2.10**	**193**	Pn	Pn	07 16 07.4	-0.9
ETOR				Sn	Sn	07 16 33.5	-1.4
ETOR				Lg		07 16 38.4	
EMIR	**Miracle**	**2.39**	**112**	Pn	Pn	07 16 11.2	-1.3
	SNR=7.9						
EMIR				Pg	Pg	07 16 16.3	-3.8
	SNR=7.9						
EMIR				Lg		07 16 47.2	
	3.1nm,0.2s,SNR=4.0						
EMIR	**Miracle**	**2.39**	**112**	Pg	Pg	07 16 16.6	-3.5
EMIR				Lg		07 16 49.0	
EPOB	**Poblet**	**2.41**	**128**	Pn	Pn	07 16 10.6	-2.1
	0.7nm,0.2s,SNR=7.9						
EPOB				Pg	Pg	07 16 16.4	-4.0
	SNR=7.9						
EPOB				Sn	Sn	07 16 39.4	-3.2
	SNR=7.9						
EPOB				Lg		07 16 46.9	
	3.1nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**2.41**	**128**	Pn	Pn	07 16 10.6	-2.1
EPOB				Sn	Sn	07 16 39.5	-3.2
EPOB				Lg		07 16 48.0	
EBR	**Ebro Roquetas**	**2.50**	**144**	*e*S*	Sb	07 16 49.5	+1.2
LFF	**La Frestale**	**2.60**	**36**	*e*Pn	Pn	07 16 13.1	-2.4
LFF				*e*Sn	Sn	07 16 43.8	-3.8
	4.0nm,0.3s						
LFF				*e*Sg	Sg	07 16 52.3	-6.6
EMOS	**Mosqueruela**	**2.60**	**164**	Pn	Pn	07 16 13.0	-2.6
	SNR=7.9						
EMOS				Pg	Pg	07 16 19.7	-4.6
	0.5nm,0.1s,SNR=7.9						
EMOS				Lg		07 16 52.9	
	1.4nm,0.2s,SNR=4.0						
EMOS	**Mosqueruela**	**2.60**	**164**	Pg	Pg	07 16 19.7	-4.6
EMOS				Lg		07 16 52.9	
MTLF	**Montolieu**	**2.72**	**79**	*e*Pn	Pn	07 16 15.8	-1.3
MTLF				*e*Sn	Sn	07 16 47.7	-2.9
	5.1nm,0.5s						
EJON	**La Jonquera**	**3.22**	**96**	Pg	Pg	07 16 31.4	-5.1
	SNR=7.9						
EJON				Lg		07 17 14.7	
	2.4nm,0.4s,SNR=7.9						
RJF	**Les Rejaudoux**	**3.23**	**40**	*e*Pn	Pn	07 16 21.3	-3.2
RJF				*e*Sn	Sn	07 16 58.9	-4.7
	3.0nm,0.2s						
CAF	**Calviac**	**3.26**	**50**	*e*Pn	Pn	07 16 22.0	-2.9
	1.3nm,0.1s						
CAF				*e*Sn	Sn	07 16 59.9	-4.4
	28nm,1.3s						
MFF	**Saint Martin d**	**3.84**	**13**	*e*Pn	Pn	07 16 30.4	-2.8
MFF				*e*Pg	Pg	07 16 42.2	-6.9
MFF				*e*Sn	Sn	07 17 13.8	-5.3
MFF				*e*Sg	Sg	07 17 32.3	-8.1
ECAL	**Calabor**	**4.03**	**259**	Pn	Pn	07 16 32.7	-3.1
	SNR=7.9						
ECAL				Sn	Sn	07 17 20.0	-3.9
	SNR=7.9						
ECAL				Lg		07 17 36.8	
	8.1nm,0.5s,SNR=7.9						
LASF	**Ste Croix**	**4.04**	**71**	*e*Pn	Pn	07 16 33.2	-2.7
LASF				*e*Sn	Sn	07 17 18.8	-5.2
	1.2nm,0.2s						
TCF	**Toulx Ste Croi**	**4.30**	**36**	*e*Pn	Pn	07 16 35.0	-4.6
TCF				*e*Sn	Sn	07 17 24.3	-6.3
	3.1nm,0.4s						
BGF	**Bois d’Agland**	**4.79**	**38**	*e*Pn	Pn	07 16 42.3	-4.2
BGF				*e*Sn	Sn	07 17 35.6	-7.4
	5.1nm,0.4s						
VIVF	**Saint-Julien-l**	**4.84**	**64**	*e*Pn	Pn	07 16 43.9	-3.4
VIVF				*e*Sn	Sn	07 17 37.1	-7.3
	0.8nm,0.3s						
AVF	**Avril sur Loir**	**5.19**	**39**	*e*Pn	Pn	07 16 47.7	-4.6
AVF				*e*Sn	Sn	07 17 45.2	-8.0
	0.4nm,0.3s						
SSF	**Saint Saulge**	**5.46**	**38**	*e*Pn	Pn	07 16 51.0	-5.1
SSF				*e*Sn	Sn	07 17 50.9	-9.1
	1.8nm,0.5s						
GRR	**Gorron**	**5.54**	**4**	*e*Pn	Pn	07 16 52.0	-5.1
GRR				*e*Sn	Sn	07 17 53.7	-8.1
	2.6nm,0.5s						
LDF	**La Druitiere**	**5.80**	**9**	*e*Pn	Pn	07 16 56.8	-4.0
LDF				*e*Sn	Sn	07 18 00.3	-8.1
	0.7nm,0.3s						
FLN	**La Foliniere**	**5.93**	**6**	*e*Pn	Pn	07 16 57.9	-4.8
FLN				*e*Sn	Sn	07 18 02.7	-9.0
	0.8nm,0.2s						

IDC 19 07:16:54.8±21.0**, 60.46S×161.72E, mb3.8**/3**, mb1 4.0**/3**, mb1mx3.9**/9**, MS3.6**/3**, Ms1 3.5**/3**, ms1mx3.3**/12**, Error ellipse: s-maj=613.0km s-min=31.5km az=90.0, Macquarie Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**17.69**	**23**	LR	LR	07 27 10.2	
	comp=Z,243nm,20.7s,baz=142,slow=35						
MAW	**Mawson**	**39.37**	**217**	P	P	07 24 25.2	-1.8
	1.5nm,0.8s,baz=190,slow=19,SNR=5.1						
MAW				LR	LR	07 40 05.0	
	comp=Z,72nm,18.6s,baz=48,slow=35						
ASAR	**Alice Springs**	**41.53**	**320**	P	P	07 24 45.0	-0.3
	1.4nm,0.8s,baz=164,slow=7.8,SNR=11						
CTA	**Charters Tower**	**41.80**	**338**	LR	LR	07 39 44.3	
	comp=Z,51nm,20.4s,baz=226,slow=33						
WRA	**Warramunga Arr**	**44.89**	**322**	P	P	07 25 09.2	-3.4
	0.7nm,0.8s,baz=166,slow=6.7,SNR=3.2						

LDG ***19*** *07:18:54.0±0.4, 42.89N×1.47W, h2^{km}, Md2.4/2, Ml2.1/10, Error ellipse: s-maj=6.7km s-min=4.4km az=54.0*

MDD 19 07:18:54.7±0.5**, 42.89N×1.43W, h8**^{km}±3^{km}**, mbLg1.5**/7**, Error ellipse: s-maj=3.8km s-min=3.0km az=52.0, PRXIMO AftershockPLICA, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	**0.27**	**33**	*e*Pg	Pg	07 19 00.1	-0.3
SJPF				*e*Sg	Sg	07 19 02.8	-1.3
	25nm,0.2s						
EALK	**Alkurruntz**	**0.34**	**350**	Pg	Pg	07 19 01.2	-0.5
	1.5nm,0.1s,SNR=7.9						
EALK				Lg		07 19 06.1	
	24nm,0.3s,SNR=7.9						
LARF	**Larrau**	**0.36**	**65**	P	Pg	07 19 01.4	-0.6
LARF				S	Sg	07 19 07.5	+0.6
ORDF	**Ordiarp**	**0.49**	**48**	P	Pg	07 19 04.1	-0.5
ORDF				S	Sg	07 19 11.4	+0.3
ETSF	**Etsaut**	**0.64**	**89**	*e*Pg	Pg	07 19 05.9	-1.7
ETSF				*e*Sg	Sg	07 19 14.5	-1.6
ETSF				*e*Sn	Sn	07 19 16.5	-3.5
	9.3nm,0.2s						
EPF	**Esparros**	**1.30**	**83**	*e*Pn	Pn	07 19 18.1	-1.1
EPF				*e*Pg	Pg	07 19 20.3	-0.5
EPF				*e*Sg	Sg	07 19 36.0	-2.3
	8.0nm,0.3s						
ESAC	**San Caprasio**	**1.36**	**148**	Pg	Pg	07 19 19.6	-2.4
	3.5nm,0.2s,SNR=7.9						
ESAC				Lg		07 19 37.8	
	16nm,0.2s,SNR=7.9						
EGRA	**Graus**	**1.46**	**118**	Pg	Pg	07 19 21.7	-2.3
	0.1nm,0.0s,SNR=7.9						
EGRA				Lg		07 19 42.9	
	1.3nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**1.51**	**284**	Pg	Pg	07 19 22.7	-2.2
	0.6nm,0.2s,SNR=7.9						
ELAN				Lg		07 19 43.6	
	2.5nm,0.3s,SNR=7.9						
SALF	**Salau**	**1.93**	**93**	S	Sn	07 19 56.3	+3.5
ETOR	**Torete**	**2.12**	**193**	Pg	Pg	07 19 32.8	-4.2
	0.2nm,0.2s,SNR=7.9						
ETOR				Lg		07 19 59.1	
	1.5nm,0.2s,SNR=7.9						
LFF	**La Frestale**	**2.58**	**37**	*e*Pn	Pn	07 19 35.3	-2.2
LFF				*e*Sn	Sn	07 20 05.8	-3.6
	5.0nm,0.4s						
LFF				*e*Sg	Sg	07 20 14.4	-6.3
EMOS	**Mosqueruela**	**2.62**	**164**	Lg		07 20 18.1	
	SNR=7.9						
MTLF	**Montolieu**	**2.71**	**79**	*e*Pn	Pn	07 19 37.8	-1.5
MTLF				*e*Sn	Sn	07 20 09.9	-2.6
	0.4nm,0.2s						
RJF	**Les Rejaudoux**	**3.22**	**40**	*e*Pn	Pn	07 19 43.4	-3.1
RJF				*e*Sn	Sn	07 20 21.2	-4.2
	1.8nm,0.3s						
CAF	**Calviac**	**3.24**	**50**	*e*Pn	Pn	07 19 44.2	-2.7
CAF				*e*Sn	Sn	07 20 22.2	-3.9
	0.8nm,0.2s						
MFF	**Saint Martin d**	**3.83**	**13**	*e*Pn	Pn	07 19 52.4	-2.8
MFF				*e*Pg	Pg	07 20 04.3	-6.8
MFF				*e*Sn	Sn	07 20 35.9	-5.0
MFF				*e*Sg	Sg	07 20 54.9	-7.2
	1.3nm,0.4s						
LASF	**Ste Croix**	**4.03**	**71**	*e*Pn	Pn	07 19 55.3	-2.7
LASF				*e*Sn	Sn	07 20 41.0	-4.9
	0.4nm,0.2s						
BGF	**Bois d’Agland**	**4.77**	**38**	*e*Pn	Pn	07 20 04.4	-4.2
BGF				*e*Sn	Sn	07 20 57.8	-7.0
	1.4nm,0.3s						
VIVF	**Saint-Julien-l**	**4.83**	**64**	*e*Pn	Pn	07 20 06.0	-3.4
VIVF				*e*Sn	Sn	07 20 59.3	-7.0
	0.7nm,0.3s						
AVF	**Avril sur Loir**	**5.18**	**39**	*e*Pn	Pn	07 20 09.8	-4.5
AVF				*e*Sn	Sn	07 21 07.4	-7.6
	1.2nm,0.4s						

LDG ***19*** *07:21:29.8±0.3, 42.86N×1.44W, h2^{km}, Md2.4/2, Ml2.1/9, Error ellipse: s-maj=5.5km s-min=3.7km az=50.0*

STR ***19*** *07:21:29.3±0.0, 42.85N×1.48W, h5^{km}±1^{km}, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

MDD 19 07:21:30.3±0.5**, 42.86N×1.42W, h8**^{km}±3^{km}**, mbLg1.5**/6**, Error ellipse: s-maj=3.8km s-min=2.9km az=64.0, AftershockPLICA PRXIMO, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	**0.29**	**29**	*e*Pg	Pg	07 21 35.9	-0.3
SJPF				*e*Sg	Sg	07 21 38.7	-1.5
	78nm,0.3s						
LARF	**Larrau**	**0.36**	**60**	Pg	Pg	07 21 37.3	-0.4
LARF				Sg	Sg	07 21 43.1	+0.5
LARF	**Larrau**	**0.36**	**60**	P	Pg	07 21 37.4	-0.3
LARF				S	Sg	07 21 42.9	+0.3
EALK	**Alkurruntz**	**0.36**	**350**	Pg	Pg	07 21 37.0	-0.7
	2.0nm,0.2s,SNR=7.9						
EALK				Lg		07 21 43.0	
	6.6nm,0.1s,SNR=7.9						
OSSF	**Osses**	**0.41**	**16**	Pg	Pg	07 21 37.8	-0.8
OSSF				Sg	Sg	07 21 44.0	-0.2
OSSF	**Osses**	**0.41**	**16**	P	Pg	07 21 37.9	-0.7
OSSF				S	Sg	07 21 44.1	-0.1
ETSF	**Etsaut**	**0.63**	**86**	*e*Pg	Pg	07 21 41.6	-1.4
ETSF				*e*Sg	Sg	07 21 50.5	-1.0
ETSF				*e*Sn	Sn	07 21 52.3	-3.1
	6.1nm,0.3s						
EPF	**Esparros**	**1.30**	**82**	*e*Sg	Sg	07 22 11.8	-1.9
	4.9nm,0.2s						
ESAC	**San Caprasio**	**1.34**	**148**	Pg	Pg	07 21 55.1	-1.9
	5.9nm,0.3s,SNR=4.9						
ESAC				Lg		07 22 13.0	
	8.4nm,0.2s,SNR=7.9						
EGRA	**Graus**	**1.44**	**117**	Pg	Pg	07 21 57.1	-2.0
	1.1nm,0.3s,SNR=7.9						
EGRA				Lg		07 22 18.1	
	0.9nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**1.52**	**285**	Pg	Pg	07 21 58.0	-2.8
	0.6nm,0.2s,SNR=4.9						
ELAN				Lg		07 22 18.7	
	1.3nm,0.3s,SNR=7.9						
ETOR	**Torete**	**2.09**	**193**	Pn	Pn	07 22 04.1	-2.0
	SNR=7.9						
ETOR				Pg	Pg	07 22 08.6	-3.5
	0.3nm,0.2s,SNR=7.9						
ETOR				Lg		07 22 35.7	
	0.8nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**2.39**	**128**	Lg		07 22 43.2	
	0.4nm,0.1s,SNR=7.9						
EMOS	**Mosqueruela**	**2.59**	**164**	Lg		07 22 47.1	
	SNR=7.9						
LFF	**La Frestale**	**2.60**	**36**	*e*Pn	Pn	07 22 11.1	-2.2
LFF				*e*Sn	Sn	07 22 41.6	-3.8
LFF				*e*Sg	Sg	07 22 50.2	-6.6
	3.9nm,0.4s						
MTLF	**Montolieu**	**2.71**	**79**	*e*Pn	Pn	07 22 13.6	-1.2
MTLF				*e*Sn	Sn	07 22 45.8	-2.3
	0.8nm,0.3s						
RJF	**Les Rejaudoux**	**3.23**	**40**	*e*Pn	Pn	07 22 19.3	-3.0
RJF				*e*Sn	Sn	07 22 56.9	-4.5
	1.6nm,0.3s						
CAF	**Calviac**	**3.25**	**49**	*e*Pn	Pn	07 22 19.9	-2.8
CAF				*e*Sn	Sn	07 22 57.9	-4.1
	0.7nm,0.2s						
MFF	**Saint Martin d**	**3.85**	**13**	*e*Pn	Pn	07 22 28.4	-2.7
MFF				*e*Pg	Pg	07 22 40.2	-6.9
MFF				*e*Sn	Sn	07 23 11.5	-5.6
MFF				*e*Sg	Sg	07 23 30.4	-8.1
	0.8nm,0.3s						
LASF	**Ste Croix**	**4.03**	**71**	*e*Pn	Pn	07 22 31.0	-2.6
LASF				*e*Sn	Sn	07 23 16.6	-5.0
	0.7nm,0.3s						
VIVF	**Saint-Julien-l**	**4.83**	**64**	*e*Pn	Pn	07 22 41.8	-3.3
VIVF				*e*Sn	Sn	07 23 35.1	-6.9
	0.5nm,0.3s						
AVF	**Avril sur Loir**	**5.19**	**39**	*e*Pn	Pn	07 22 45.5	-4.6
AVF				*e*Sn	Sn	07 23 43.2	-7.7
	0.8nm,0.4s						

MAN 19 07:39:50.4, 9.11N×126.12E, h1^{km}**, mb4.4, ML3.2, MS3.0, 1C-1D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.51**	**255**	*e*P	Pg	07 40 00.6	+0.2
SCPH	**Surigao**	**0.91**	**317**⇑	*e*P	Pg	07 40 07.1	-1.5
SCPH				*e*S	Sg	07 40 19.0	-1.7
BIPH	**Bislig**	**0.95**	**165**⇓	*e*P	Pb	07 40 07.9	-1.3
BIPH				*i* S	Sg	07 40 20.4	-1.5
BUKP	**Musuan**	**1.60**	**221**	*e*P	Pn	07 40 19.2	-0.8
MSLP	**Maasin**	**1.61**	**310**	*e*P	Pn	07 40 19.8	-0.2
MATI	**Mati**	**2.15**	**176**	*e*P	Pn	07 40 27.7	-0.1

LDG ***19*** *08:01:10.8±0.3, 42.86N×1.48W, h2^{km}, Md2.3/2, Ml2.1/11, Error ellipse: s-maj=5.6km s-min=3.8km az=52.0*

STR ***19*** *08:01:10.9±0.2, 42.85N×1.48W, h5^{km}±1^{km}, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

MDD 19 08:01:11.8±0.6**, 42.87N×1.41W, h11**^{km}±1^{km}**, mbLg1.5**/5**, Error ellipse: s-maj=4.7km s-min=3.2km az=41.0, AftershockPLICA PRXIMO, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	**0.28**	**30**	*e*Pg	Pg	08 01 17.3	-0.4
SJPF				*e*Sg	Sg	08 01 20.1	-1.5
	52nm,0.3s						
LARF	**Larrau**	**0.35**	**62**	Pg	Pg	08 01 18.9	-0.2
LARF				Sg	Sg	08 01 24.6	+0.6
LARF	**Larrau**	**0.35**	**62**	P	Pg	08 01 18.7	-0.4
LARF				S	Sg	08 01 24.3	+0.3
EALK	**Alkurruntz**	**0.35**	**349**	Pg	Pg	08 01 18.4	-0.7
	1.2nm,0.1s,SNR=7.9						
EALK				Lg		08 01 24.1	
	6.7nm,0.1s,SNR=7.9						
OSSF	**Osses**	**0.40**	**16**	Pg	Pg	08 01 19.2	-0.8
OSSF				Sg	Sg	08 01 25.5	0.0
OSSF	**Osses**	**0.40**	**16**	P	Pg	08 01 19.4	-0.6
OSSF				S	Sg	08 01 25.4	0.0
ETSF	**Etsaut**	**0.63**	**87**	*e*Pg	Pg	08 01 23.0	-1.5
ETSF				*e*Sg	Sg	08 01 31.7	-1.3
ETSF				*e*Sn	Sn	08 01 33.7	-2.7
	3.9nm,0.3s						
EPF	**Esparros**	**1.29**	**82**	*e*Pn	Pn	08 01 35.2	-0.8
EPF				*e*Pg	Pg	08 01 37.5	-0.3
EPF				*e*Sg	Sg	08 01 53.3	-1.8
	2.6nm,0.2s						
ESAC	**San Caprasio**	**1.35**	**148**	Pg	Pg	08 01 36.4	-2.4
	3.6nm,0.2s,SNR=7.9						
ESAC				Lg		08 01 54.2	
	3.1nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**1.52**	**284**	Pg	Pg	08 01 38.7	-3.7
	0.3nm,0.2s,SNR=7.9						
ELAN				Lg		08 02 00.9	
	0.7nm,0.2s,SNR=7.9						
ETOR	**Torete**	**2.11**	**193**	Pg	Pg	08 01 50.1	-3.8
	SNR=7.9						
ETOR				Lg		08 02 14.3	
	0.7nm,0.2s,SNR=7.9						
LFF	**La Frestale**	**2.58**	**36**	*e*Pn	Pn	08 01 52.4	-2.0
LFF				*e*Sn	Sn	08 02 23.1	-3.1
LFF				*e*Sg	Sg	08 02 31.6	-6.4
	5.8nm,0.4s						
MTLF	**Montolieu**	**2.70**	**79**	*e*Pn	Pn	08 01 55.1	-0.9
MTLF				*e*Sn	Sn	08 02 27.1	-1.9
	0.7nm,0.3s						
RJF	**Les Rejaudoux**	**3.22**	**40**	*e*Pn	Pn	08 02 00.7	-2.7
RJF				*e*Sn	Sn	08 02 38.3	-3.9
	0.8nm,0.2s						
CAF	**Calviac**	**3.24**	**50**	*e*Pn	Pn	08 02 01.2	-2.6
CAF				*e*Sn	Sn	08 02 39.5	-3.3
	0.9nm,0.2s						
MFF	**Saint Martin d**	**3.84**	**13**	*e*Pn	Pn	08 02 09.8	-2.4
MFF				*e*Pg	Pg	08 02 21.7	-6.7
MFF				*e*Sn	Sn	08 02 53.0	-4.8
MFF				*e*Sg	Sg	08 03 11.8	-7.8
	1.3nm,0.4s						
LASF	**Ste Croix**	**4.02**	**71**	*e*Pn	Pn	08 02 12.6	-2.2
LASF				*e*Sn	Sn	08 02 58.1	-4.4
	1.1nm,0.4s						
BGF	**Bois d’Agland**	**4.77**	**38**	*e*Pn	Pn	08 02 21.6	-3.9
BGF				*e*Sn	Sn	08 03 15.1	-6.4
	2.7nm,0.5s						
VIVF	**Saint-Julien-l**	**4.83**	**64**	*e*Pn	Pn	08 02 23.1	-3.2
VIVF				*e*Sn	Sn	08 03 16.4	-6.5
	1.0nm,0.3s						
AVF	**Avril sur Loir**	**5.18**	**39**	*e*Pn	Pn	08 02 27.0	-4.2
AVF				*e*Sn	Sn	08 03 24.6	-7.1
	0.5nm,0.3s						

LDG ***19*** *08:10:33.8±0.3, 42.86N×1.48W, h2^{km}, Md2.4/2, Ml2.0/11, Error ellipse: s-maj=5.8km s-min=4.0km az=52.0*

STR ***19*** *08:10:33.8±0.1, 43.36N×0.70W, h10^{km}±1^{km}, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

MDD 19 08:10:35.1±0.6**, 42.89N×1.40W, h8**^{km}±4^{km}**, mbLg1.4**/6**, Error ellipse: s-maj=5.0km s-min=3.3km az=40.0, PRXIMO AftershockPLICA, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	**0.26**	**29**	*e*Pg	Pg	08 10 40.4	-0.1
SJPF				*e*Sg	Sg	08 10 43.1	-1.0
	87nm,0.3s						
LARF	**Larrau**	**0.34**	**63**	Pg	Pg	08 10 41.7	-0.3
LARF				Sg	Sg	08 10 47.5	+0.9
EALK	**Alkurruntz**	**0.34**	**347**	Pg	Pg	08 10 41.6	-0.5
	6.3nm,0.1s,SNR=7.9						
EALK				Lg		08 10 46.8	
	8.2nm,0.2s,SNR=7.9						
OSSF	**Osses**	**0.38**	**15**	Pg	Pg	08 10 42.3	-0.6
OSSF				Sg	Sg	08 10 48.5	+0.4
ETSF	**Etsaut**	**0.62**	**89**	*e*Pg	Pg	08 10 46.0	-1.5
ETSF				*e*Sg	Sg	08 10 54.8	-1.0
ETSF				*e*Sn	Sn	08 10 56.8	-3.2
	3.8nm,0.3s						
EPF	**Esparros**	**1.28**	**83**	*e*Pn	Pn	08 10 58.2	-1.2
EPF				*e*Pg	Pg	08 11 00.5	-0.3
EPF				*e*Sg	Sg	08 11 16.3	-1.6
	2.2nm,0.3s						
ESAC	**San Caprasio**	**1.35**	**149**	Pg	Pg	08 11 00.0	-2.2
	1.3nm,0.5s,SNR=5.0						
ESAC				Lg		08 11 17.9	
	7.7nm,0.4s,SNR=7.9						
ELAN	**Lanestosa**	**1.53**	**284**	Pg	Pg	08 11 02.5	-3.2
	SNR=7.9						
ELAN				Lg		08 11 23.3	
	0.6nm,0.2s,SNR=7.9						
ETOR	**Torete**	**2.12**	**194**	Lg		08 11 37.8	
	1.9nm,0.3s,SNR=7.9						
LFF	**La Frestale**	**2.57**	**36**	*e*Pn	Pn	08 11 15.5	-2.3
LFF				*e*Sn	Sn	08 11 46.1	-3.5
LFF				*e*Sg	Sg	08 11 54.5	-6.2
	3.5nm,0.3s						
MTLF	**Montolieu**	**2.69**	**79**	*e*Pn	Pn	08 11 18.2	-1.3
MTLF				*e*Sn	Sn	08 11 50.2	-2.4
	0.6nm,0.4s						
RJF	**Les Rejaudoux**	**3.20**	**40**	*e*Pn	Pn	08 11 23.7	-3.1
RJF				*e*Sn	Sn	08 12 01.4	-4.2
	1.2nm,0.2s						
CAF	**Calviac**	**3.23**	**50**	*e*Pn	Pn	08 11 24.4	-2.8
CAF				*e*Sn	Sn	08 12 02.3	-4.0
	0.4nm,0.2s						
MFF	**Saint Martin d**	**3.82**	**13**	*e*Pn	Pn	08 11 32.8	-2.8
MFF				*e*Pg	Pg	08 11 44.7	-6.7
MFF				*e*Sn	Sn	08 12 16.1	-5.2
MFF				*e*Sg	Sg	08 12 34.8	-7.5
	0.7nm,0.3s						
LASF	**Ste Croix**	**4.00**	**71**	*e*Pn	Pn	08 11 35.5	-2.7
LASF				*e*Sn	Sn	08 12 21.2	-4.7
	0.5nm,0.3s						
BGF	**Bois d’Agland**	**4.75**	**38**	*e*Pn	Pn	08 11 44.4	-4.5
BGF				*e*Sn	Sn	08 12 37.9	-7.0
	3.3nm,0.4s						
VIVF	**Saint-Julien-l**	**4.81**	**64**	*e*Pn	Pn	08 11 46.4	-3.3
VIVF				*e*Sn	Sn	08 12 39.6	-6.7
	0.8nm,0.3s						
AVF	**Avril sur Loir**	**5.16**	**39**	*e*Pn	Pn	08 11 50.0	-4.6
AVF				*e*Sn	Sn	08 12 47.7	-7.4
	0.2nm,0.2s						

STR ***19*** *08:14:38.6±0.2, 43.36N×0.66W, h10^{km}±1^{km}, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG ***19*** *08:14:39.2±0.4, 42.86N×1.46W, h2^{km}, Md2.2/2, Ml2.2/9, Error ellipse: s-maj=6.2km s-min=4.2km az=53.0*

MDD 19 08:14:40.1±0.5**, 42.86N×1.40W, h7**^{km}±4^{km}**, mbLg1.5**/6**, Error ellipse: s-maj=3.8km s-min=3.0km az=52.0,**

AftershockPLICA PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	**0.28**	**27**	*e*Pg	Pg	08 14 45.6	-0.3
SJPF				*e*Sg	Sg	08 14 48.3	-1.5
	22nm,0.3s						
LARF	**Larrau**	**0.35**	**60**	Pg	Pg	08 14 46.7	-0.6
LARF				Sg	Sg	08 14 52.8	+0.8
LARF	**Larrau**	**0.35**	**60**	P	Pg	08 14 46.7	-0.5
LARF				S	Sg	08 14 52.8	+0.8
EALK	**Alkurruntz**	**0.37**	**348**	Pg	Pg	08 14 46.9	-0.7
	3.9nm,0.2s,SNR=7.9						
EALK				Lg		08 14 52.7	
	9.4nm,0.2s,SNR=7.9						
OSSF	**Osses**	**0.41**	**14**	Pg	Pg	08 14 47.5	-0.9
OSSF				Sg	Sg	08 14 54.0	+0.1
OSSF	**Osses**	**0.41**	**14**	P	Pg	08 14 47.6	-0.7
OSSF				S	Sg	08 14 54.1	+0.2
ETSF	**Etsaut**	**0.62**	**86**	*e*Pg	Pg	08 14 51.3	-1.3
ETSF				*e*Sg	Sg	08 15 00.0	-0.8
ETSF				*e*Sn	Sn	08 15 02.0	-3.1
	8.0nm,0.3s						
EPF	**Esparros**	**1.29**	**82**	*e*Pn	Pn	08 15 03.5	-1.0
EPF				*e*Pg	Pg	08 15 05.8	-0.1
EPF				*e*Sg	Sg	08 15 21.5	-1.6
	6.4nm,0.2s						
ESAC	**San Caprasio**	**1.33**	**149**	Pg	Pg	08 15 04.3	-2.5
	3.4nm,0.2s,SNR=7.2						
ESAC				Lg		08 15 21.6	
	6.6nm,0.2s,SNR=7.9						
EGRA	**Graus**	**1.43**	**117**	Pg	Pg	08 15 06.2	-2.6
	SNR=7.9						
EGRA				Lg		08 15 26.9	
	1.3nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**1.54**	**285**	Pg	Pg	08 15 08.0	-2.8
	0.2nm,0.1s,SNR=7.9						
ELAN				Lg		08 15 29.3	
	0.6nm,0.2s,SNR=7.9						
ETOR	**Torete**	**2.10**	**194**	Pn	Pn	08 15 15.0	-1.1
	SNR=7.9						
ETOR				Pg	Pg	08 15 18.6	-3.5
	0.6nm,0.4s,SNR=7.9						
ETOR				Lg		08 15 42.6	
	0.8nm,0.2s,SNR=7.9						
LFF	**La Frestale**	**2.59**	**36**	*e*Pn	Pn	08 15 20.7	-2.5
LFF				*e*Sn	Sn	08 15 51.4	-3.8
LFF				*e*Sg	Sg	08 15 59.8	-6.6
	5.0nm,0.3s						
MTLF	**Montolieu**	**2.69**	**79**	*e*Pn	Pn	08 15 23.5	-1.1
MTLF				*e*Sn	Sn	08 15 55.3	-2.5
	0.9nm,0.3s						
RJF	**Les Rejaudoux**	**3.22**	**40**	*e*Pn	Pn	08 15 29.1	-3.0
RJF				*e*Sn	Sn	08 16 06.6	-4.6
	0.8nm,0.2s						
CAF	**Calviac**	**3.24**	**49**	*e*Pn	Pn	08 15 29.6	-2.9
CAF				*e*Sn	Sn	08 16 07.7	-4.1
	0.6nm,0.2s						
MFF	**Saint Martin d**	**3.84**	**13**	*e*Pn	Pn	08 15 38.1	-2.9
MFF				*e*Pg	Pg	08 15 49.8	-7.1
MFF				*e*Sn	Sn	08 16 21.3	-5.7
MFF				*e*Sg	Sg	08 16 40.2	-8.0
	0.5nm,0.2s						
LASF	**Ste Croix**	**4.01**	**71**	*e*Pn	Pn	08 15 40.9	-2.5
BGF	**Bois d'Agland**	**4.78**	**38**	*e*Pn	Pn	08 15 49.7	-4.5
BGF				*e*Sn	Sn	08 16 43.2	-7.3
	4.2nm,0.4s						
VIVF	**Saint-Julien-l**	**4.82**	**64**	*e*Pn	Pn	08 15 51.7	-3.2
VIVF				*e*Sn	Sn	08 16 44.7	-7.0
	0.6nm,0.2s						

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*LDG **19** 08:15:26.6±0.3, 42.86N×1.48W, h2^{km}, Ml2.5/13, Error ellipse: s-maj=5.1km s-min=3.2km az=49.0*

*NEIC **19** 08:15:26.2, 42.84N×1.51W, h5^{km}, ML2.5(LDG), MN1.9(MDD), After STR.*

*STR **19** 08:15:26.2±0.3, 42.84N×1.51W, h5^{km}±1^{km}, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

MDD 19 08:15:27.7±0.4**, 42.89N×1.44W, h8**^{km}±2^{km}**, mbLg1.9**/12**, Error ellipse: s-maj=3.1km s-min=2.1km az=40.0, AftershockPLICA PRXIMO, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	**0.28**	**35**	*e*Pg	Pg	08 15 33.2	-0.2
SJPF				*e*Sg	Sg	08 15 36.0	-1.2
	69nm,0.2s						
EALK	**Alkurruntz**	**0.34**	**352**	Pg	Pg	08 15 33.9	-0.6
	2.4nm,0.1s,SNR=24						
EALK				Lg		08 15 39.2	
	47nm,0.2s,SNR=7.9						
LARF	**Larrau**	**0.37**	**66**	Pg	Pg	08 15 34.9	-0.3
LARF				Sg	Sg	08 15 40.7	+0.5
LARF	**Larrau**	**0.37**	**66**	P	Pg	08 15 35.0	-0.2
LARF				S	Sg	08 15 40.4	+0.2
OSSF	**Osses**	**0.39**	**20**	Pg	Pg	08 15 34.8	-0.9
OSSF				Sg	Sg	08 15 41.5	+0.5
OSSF	**Osses**	**0.39**	**20**	P	Pg	08 15 35.0	-0.7
OSSF				S	Sg	08 15 40.9	0.0
ORDF	**Ordiarp**	**0.49**	**49**	P	Pg	08 15 37.4	-0.3
ORDF				S	Sg	08 15 45.0	+0.6
ATE	**Arette**	**0.58**	**70**	P	Pg	08 15 38.7	-0.6
ATE				S	Sg	08 15 47.0	-0.2
FDAF	**Les Forges d'A**	**0.65**	**96**	Pg	Pg	08 15 39.4	-1.3
FDAF				Sg	Sg	08 15 49.1	-0.3
FDAF	**Les Forges d'A**	**0.65**	**96**	P	Pg	08 15 39.5	-1.2
FDAF				S	Sg	08 15 48.4	-1.0
ETSF	**Etsaut**	**0.65**	**89**	*e*Pg	Pg	08 15 39.0	-1.8
ETSF				*e*Sg	Sg	08 15 47.5	-2.0
ETSF				*e*Sn	Sn	08 15 49.6	-3.7
	31nm,0.3s						
REYF	**Montagne du Re**	**0.79**	**76**	S	Sb	08 15 53.3	-0.6
VIEF	**Viey**	**1.08**	**90**	S	Sb	08 16 02.5	+0.3
LABF	**Labassere**	**1.12**	**81**	S	Sb	08 16 03.7	+0.2
RESF	**Ens**	**1.31**	**93**	S	Sb	08 16 11.6	+2.6
EPF	**Esparros**	**1.32**	**83**	*e*Pn	Pn	08 15 51.3	-1.1
EPF				*e*Pg	Pg	08 15 53.4	-0.6
EPF				*e*Sg	Sg	08 16 09.2	-2.4
	24nm,0.3s						
ESAC	**San Caprasio**	**1.37**	**148**	Pg	Pg	08 15 52.6	-2.5
	19nm,0.2s,SNR=7.9						
ESAC				Lg		08 16 10.7	
	30nm,0.2s,SNR=7.9						
ESAC	**San Caprasio**	**1.37**	**148**	Pg	Pg	08 15 52.6	-2.5
ESAC				Lg		08 16 11.1	
EGRA	**Graus**	**1.47**	**117**	Pg	Pg	08 15 53.9	-3.2
	5.3nm,0.2s,SNR=7.9						
EGRA				Lg		08 16 15.3	
	1.6nm,0.1s,SNR=4.0						
EGRA	**Graus**	**1.47**	**117**	Pg	Pg	08 15 53.9	-3.2
EGRA				Lg		08 16 14.4	
ELAN	**Lanestosa**	**1.50**	**284**	Pg	Pg	08 15 55.4	-2.3
	2.9nm,0.2s,SNR=13						
ELAN				Lg		08 16 17.1	
	5.6nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**1.50**	**284**	Pg	Pg	08 15 55.4	-2.3
ELAN				Lg		08 16 15.6	
MELF	**Melles**	**1.62**	**90**	S	Sb	08 16 19.1	+1.2
SALF	**Salau**	**1.94**	**93**	S	Sn	08 16 29.5	+3.4
ETOR	**Torete**	**2.12**	**193**	Pn	Pn	08 16 03.3	-0.6
	SNR=7.9						
ETOR				Pg	Pg	08 16 06.6	-3.4
	2.0nm,0.2s,SNR=7.9						
ETOR				Lg		08 16 30.8	
	2.3nm,0.2s,SNR=7.9						
ETOR	**Torete**	**2.12**	**193**	Pg	Pg	08 16 06.6	-3.4
ETOR				Sn	Sn	08 16 29.6	-1.0
ETOR				Lg		08 16 34.6	
EPOB	**Poblet**	**2.42**	**128**	Pn	Pn	08 16 06.5	-1.8
	SNR=7.9						
EPOB				Pg	Pg	08 16 11.6	-4.5
	0.7nm,0.1s,SNR=7.9						
EPOB				Sn	Sn	08 16 35.1	-3.3
	0.4nm,0.1s,SNR=7.9						
EPOB				Lg		08 16 42.4	
	1.7nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**2.42**	**128**	Pg	Pg	08 16 11.6	-4.5
EPOB				Sn	Sn	08 16 34.9	-3.4
EPOB				Lg		08 16 44.5	
EBR	**Ebro Roquetas**	**2.52**	**144**	*e*S*	Sb	08 16 47.0	+2.9
LFF	**La Frestale**	**2.59**	**37**	*e*Pn	Pn	08 16 08.2	-2.4
LFF				*e*Sn	Sn	08 16 39.0	-3.5
LFF				*e*Sg	Sg	08 16 47.7	-6.2
	4.9nm,0.3s						
CARF	**Carcanieres**	**2.62**	**93**	S	Sn	08 16 50.1	+6.8
EMOS	**Mosqueruela**	**2.62**	**164**	Pg	Pg	08 16 16.4	-3.7
	0.4nm,0.1s,SNR=5.0						
EMOS				Sn	Sn	08 16 40.4	-3.0
	0.4nm,0.2s,SNR=7.9						
EMOS				Lg		08 16 48.2	
	1.0nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**2.62**	**164**	Pg	Pg	08 16 15.8	-4.3
EMOS				Sn	Sn	08 16 40.4	-3.0
EMOS				Lg		08 16 50.2	
MTLF	**Montolieu**	**2.72**	**79**	*e*Pn	Pn	08 16 11.0	-1.4
MTLF				*e*Sn	Sn	08 16 42.9	-2.9
	4.9nm,0.4s						
RJF	**Les Rejaudoux**	**3.22**	**40**	*e*Pn	Pn	08 16 16.5	-3.1
RJF				*e*Sn	Sn	08 16 54.2	-4.4
	3.9nm,0.2s						
EJON	**La Jonquera**	**3.22**	**96**	Pg	Pg	08 16 27.0	-5.0
	SNR=5.0						
EJON				Lg		08 17 09.3	
	2.8nm,0.2s,SNR=7.9						
CAF	**Calviac**	**3.25**	**50**	*e*Pn	Pn	08 16 17.0	-3.0
CAF				*e*Sn	Sn	08 16 55.1	-4.2
	2.9nm,0.2s						
MFF	**Saint Martin d**	**3.83**	**14**	*e*Pn	Pn	08 16 25.6	-2.6
MFF				*e*Pg	Pg	08 16 37.6	-6.5
MFF				*e*Sn	Sn	08 17 08.9	-5.0
MFF				*e*Sg	Sg	08 17 27.7	-7.4
	2.6nm,0.4s						
LASF	**Ste Croix**	**4.04**	**71**	*e*Pn	Pn	08 16 28.4	-2.8
LASF				*e*Sn	Sn	08 17 14.0	-5.2
	1.2nm,0.2s						
TCF	**Toulx Ste Croi**	**4.29**	**36**	*e*Pn	Pn	08 16 30.3	-4.4
TCF				*e*Sn	Sn	08 17 19.4	-6.1
	0.8nm,0.3s						
BGF	**Bois d'Agland**	**4.78**	**38**	*e*Pn	Pn	08 16 37.4	-4.3
BGF				*e*Sn	Sn	08 17 30.9	-7.0
	5.9nm,0.5s						
VIVF	**Saint-Julien-l**	**4.84**	**64**	*e*Pn	Pn	08 16 39.2	-3.4
VIVF				*e*Sn	Sn	08 17 32.3	-7.2
	1.3nm,0.4s						
AVF	**Avril sur Loir**	**5.18**	**39**	*e*Pn	Pn	08 16 42.8	-4.6
AVF				*e*Sn	Sn	08 17 40.4	-7.7
	0.4nm,0.3s						
LDF	**La Druitiere**	**5.78**	**9**	*e*Pn	Pn	08 16 52.1	-3.8
LDF				*e*Sn	Sn	08 17 55.2	-8.0
	1.4nm,0.4s						

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*LDG **19** 08:16:04.0±0.5, 42.83N×1.51W, h2^{km}, Md2.3/2, Ml2.6/4, Error ellipse: s-maj=8.6km s-min=6.2km az=51.0*

*NEIC **19** 08:16:04.7, 42.85N×1.50W, h5^{km}, ML2.6(LDG), MN1.8(MDD), After STR.*

*STR **19** 08:16:04.7±0.1, 42.85N×1.50W, h5^{km}±1^{km}, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*MDD **19** 08:16:06.1±0.5, 42.87N×1.42W, h3^{km}±8^{km}, mbLg1.8/8, Error ellipse: s-maj=3.6km s-min=2.7km az=48.0, AftershockPLICA PRXIMO*

ISC 19 08:16:03.8±0.7**, 42.85N**±0.03×**1.49W**±0.04**, h9**^{km}±4^{km}**, n28, σ1^{s}08**/41**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	**0.33**	**36**	*e*Pg	**Pg**	**08 16 11.3**	**+0.7**
SJPF				*e*Sg	**Sg**	**08 16 14.2**	**-1.0**
	78nm,0.2s						
EALK	**Alkurruntz**	**0.37**	**358**	Pg	**Pg**	**08 16 12.4**	**+1.0**
	5.4nm,0.1s,SNR=6.0						
EALK				Lg		08 16 18.3	
	34nm,0.1s,SNR=7.9						
EALK	**Alkurruntz**	**0.37**	**358**	Pg	**Pg**	**08 16 12.4**	**+1.0**
EALK				Lg		08 16 17.3	
LARF	**Larrau**	**0.42**	**62**	Pg	**Pg**	**08 16 12.9**	**+0.6**
LARF				Sg	**Sg**	**08 16 18.9**	**+0.9**
LARF	**Larrau**	**0.42**	**62**	P	**Pg**	**08 16 12.8**	**+0.5**
LARF				S	**Sg**	**08 16 18.3**	**+0.3**
OSSF	**Osses**	**0.44**	**22**	Pg	**Pg**	**08 16 13.2**	**+0.4**
OSSF				Sg	**Sg**	**08 16 19.4**	**+0.6**
OSSF	**Osses**	**0.44**	**22**	P	**Pg**	**08 16 13.5**	**+0.6**
OSSF				S	**Sg**	**08 16 19.4**	**+0.5**
ORDF	**Ordiarp**	**0.55**	**48**	P	**Pg**	**08 16 15.4**	**+0.5**
ORDF				S	**Sg**	**08 16 22.8**	**+0.5**
ATE	**Arette**	**0.63**	**67**	P	**Pb**	**08 16 16.6**	**+0.1**
ATE				S	**Sg**	**08 16 25.0**	**+0.1**
FDAF	**Les Forges d'A**	**0.68**	**92**	P	**Pb**	**08 16 17.6**	**+0.2**
FDAF				S	**Sb**	**08 16 26.1**	**-0.5**
ETSF	**Etsaut**	**0.69**	**85**	*e*Pg	**Pg**	**08 16 17.0**	**-0.6**
ETSF				*e*Sg	**Sg**	**08 16 25.7**	**-1.2**
ETSF				*e*Sn	**Sn**	**08 16 27.9**	**-2.4**
	19nm,0.2s						
REYF	**Montagne du Re**	**0.84**	**74**	S	**Sb**	**08 16 31.3**	**+0.1**
VIEF	**Viey**	**1.11**	**88**	S	**Sb**	**08 16 39.8**	**+0.5**
LABF	**Labassere**	**1.17**	**80**	S	**Sb**	**08 16 41.3**	**+0.5**
RESF	**Ens**	**1.35**	**91**	S	**Sb**	**08 16 48.6**	**+2.6**
ESAC	**San Caprasio**	**1.35**	**146**	Pg	**Pg**	**08 16 31.0**	**+0.1**
	8.5nm,0.1s,SNR=7.9						
ESAC				Lg		08 16 48.5	
	25nm,0.4s,SNR=7.9						
EPF	**Esparros**	**1.36**	**82**	*e*Pn	**Pn**	**08 16 29.2**	**+0.2**
EPF				*e*Pg	**Pg**	**08 16 31.5**	**+0.5**
EPF				*e*Sg	**Sg**	**08 16 47.1**	**-2.0**
	11nm,0.2s						
ELAN	**Lanestosa**	**1.48**	**286**	Pg	**Pg**	**08 16 33.5**	**+0.2**
	2.5nm,0.1s,SNR=7.9						
ELAN				Lg		08 16 54.9	
	3.7nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**1.48**	**286**	Pg	**Pg**	**08 16 32.9**	**-0.4**
ELAN				Lg		08 16 53.9	
EGRA	**Graus**	**1.49**	**115**	Pg	**Pg**	**08 16 32.9**	**-0.7**
	3.3nm,0.2s,SNR=7.9						
EGRA				Lg		08 16 53.2	
	2.3nm,0.2s,SNR=7.9						
MELF	**Melles**	**1.66**	**88**	S	**Sn**	**08 16 57.4**	**+2.5**
ETOR	**Torete**	**2.07**	**192**	Pg	**Pg**	**08 16 43.9**	**-1.2**
	2.0nm,0.2s,SNR=7.9						
ETOR				Lg		08 17 10.1	
	1.4nm,0.2s,SNR=7.9						
ETOR	**Torete**	**2.07**	**192**	Pg	**Pg**	**08 16 44.2**	**-1.0**
ETOR				Lg		08 17 12.5	
EPOB	**Poblet**	**2.43**	**127**	Lg		08 17 21.5	
	6.0nm,0.4s,SNR=4.0						
EBR	**Ebro Roquetas**	**2.51**	**143**	*e*SG	**Sg**	**08 17 28.2**	**+0.8**
EMOS	**Mosqueruela**	**2.59**	**163**	Sn	**Sn**	**08 17 19.4**	**+0.7**
	0.3nm,0.1s,SNR=7.9						
EMOS				Lg		08 17 28.3	
	0.6nm,0.2s,SNR=7.9						
TCF	**Toulx Ste Croi**	**4.34**	**36**	*e*Pn	**Pn**	**08 17 08.4**	**-3.2**
TCF				*e*Sn	**Sn**	**08 17 57.7**	**-5.2**
	0.8nm,0.2s						
BGF	**Bois d'Agland**	**4.83**	**38**	*e*Pn	**Pn**	**08 17 15.6**	**-2.9**
BGF				*e*Sn	**Sn**	**08 18 09.1**	**-6.2**
	6.7nm,0.4s						

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*TAP **19** 08:16:52.0, 24.37N×122.86E, h17^{km}±1^{km}, ML2.9*

JMA 19 08:16:52.7±0.2**, 24.66N×122.90E, h65**^{km}±2^{km}**, M2.3, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.22**	**153**	P	P	08 17 02.9	+0.1
YOJ				*e*S	S	08 17 10.3	-0.1
IRIF	**Iriomote-Funau**	**0.82**	**113**	P	P	08 17 08.6	-0.3
IRIF				S	S	08 17 20.6	-0.3
HATJ	**Hateruma jima**	**1.02**	**126**	P	P	08 17 11.7	+0.2
HATJ				*e*S	S	08 17 24.3	-1.1
JKRS	**Kuro-shima**	**1.09**	**112**	P	P	08 17 12.4	-0.1
JKRS				S	S	08 17 27.2	+0.1
JIJ	**Ishigaki jima**	**1.17**	**104**	P	P	08 17 13.3	-0.1
JIJ				S	S	08 17 28.3	-0.6

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*IDC **19** 08:30:47.2±14.0, 4.55S×130.12E, h102^{km}±154^{km}, mb3.9/6, mb1 4.0/9, mb1mx3.8/16, ML4.0/3, MS3.4/1, Ms1 3.6/1, ms1mx2.8/11, Error ellipse: s-maj=93.6km s-min=25.5km az=32.0*

*NEIC **19** 08:31:03.9±2.8, 5.15S×129.49E, h274^{km}±30^{km}, mb4.2/5, Error ellipse: s-maj=25.6km s-min=19.4km az=63.0*

ISC 19 08:30:58.3±1.8**, 5.02S**±0.07×**129.3E**±0.1**, h226**^{km}±17^{km}**, n16, σ1^{s}14**/23**, mb3.9**/6**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**8.22**	**158**	*e*P	**P**	**08 32 58.0**	**+2.9**
	10nm,0.2s						
KAKA				*e*S	**S**	**08 34 18.7**	**-7.9**
FITZ	**Fitzroy Crossi**	**13.50**	**195**	*e*P	**P**	**08 34 03.9**	**+1.8**
	4.8nm,0.6s						
FITZ				*e*S	**S**	**08 36 26.2**	**-1.1**
FITZ	**Fitzroy Crossi**	**13.50**	**195**	P	**P**	**08 34 04.1**	**+2.0**
	0.9nm,0.3s,baz=18,slow=9.4,SNR=32						
FITZ				S	**S**	**08 36 25.4**	**-1.9**
	0.7nm,0.3s,baz=169,slow=21,SNR=2.2						
WRAB	**Tennant Creek**	**15.62**	**162**	*e*P	**P**	**08 34 27.7**	**-0.6**
	3.7nm,0.3s						
WRA	**Warramunga Arr**	**15.62**	**162**	P	**P**	**08 34 24.6**	**-3.8**
	0.6nm,0.3s,baz=342,slow=13,SNR=24						
WRA				S	**S**	**08 37 14.8**	**-0.1**
	2.1nm,0.3s,baz=333,slow=22,SNR=10.0						
WB2	**Warramunga Arr**	**15.63**	**162**	*e*P	**P**	**08 34 27.5**	**-0.9**
WB2				*e*S	**S**	**08 37 15.9**	**+0.9**
MBWA	**Marble Bar**	**18.55**	**209**	*e*P	**P**	**08 34 59.6**	**-0.9**
	8.7nm,0.7s						
ASAR	**Alice Springs**	**19.06**	**167**	P	**P**	**08 35 06.1**	**+0.4**
	0.6nm,0.3s,baz=352,slow=11,SNR=28						
ASAR				S	**S**	**08 38 25.6**	**+0.5**
	0.6nm,0.3s,baz=350,slow=25,SNR=7.9						
ASPA	**Alice Springs**	**19.06**	**167**	*e*P	**P**	**08 35 06.2**	**+0.5**
ASPA				*e*S	**S**	**08 38 25.6**	**+0.4**
CTA	**Charters Tower**	**22.27**	**134**	P	**P**	**08 35 32.1**	**-5.4**
	1.7nm,0.7s,mb3.7,baz=90,slow=22,SNR=8.7						
NWAO	**Narrogin (SRO)**	**29.97**	**201**	P	**P**	**08 36 47.5**	**-0.5**
	5.4nm,0.5s,mb4.5,baz=47,slow=8.5,SNR=6.0						
NWAO	**Narrogin (SRO)**	**29.97**	**201**	*e*P	**P**	**08 36 47.2**	**-0.8**
	2.0nm,0.4s,mb4.1						
CMAR	**Chiang Mai Arr**	**37.96**	**309**	P	**P**	**08 37 57.9**	**+1.8**
	1.7nm,0.4s,mb3.9,baz=132,slow=6.9,SNR=5.8						
CMAR				LR	LR	08 54 35.9	
	comp=Z,50nm,18.5s,baz=160,slow=37						
MKAR	**Makanchi Array**	**66.20**	**327**	P	**P**	**08 41 24.4**	**+0.6**
	0.5nm,0.4s,mb3.5,baz=116,slow=7.1,SNR=7.3						
ILAR	**Eielson Array**	**91.85**	**25**	P	**P**	**08 43 39.8**	**-1.8**
	1.1nm,1.2s,mb3.7,baz=243,slow=4.0,SNR=4.7						
INK	**Inuvik**	**97.28**	**22**	P	**P**	**08 44 05.9**	**-0.4**
	1.3nm,0.8s,mb4.2,baz=280,slow=12,SNR=4.1						

JSN 19 08:31:09.2±1.3**, 19.47N×77.90W, h30**^{km}±999^{km}**, MD4.5, MW4.1, 3C-2D, Cuba region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NEJ	**Negril**	**1.28**	**199**	⇓*i*P	Pn	08 31 29.3	-2.0
NEJ				*i* S	Sn	08 31 45.4	-2.2
CVJ	**Coleyville**	**1.29**	**164**	⇑*i*P	Pn	08 31 30.6	-0.8
MCJ	**Malvern**	**1.55**	**173**	⇓*e*P	Pn	08 31 34.4	-0.8
MCJ				*e*S	Sn	08 31 53.0	-1.4
STH	**Stony Hill**	**1.73**	**143**	⇑*i*P	Pn	08 31 36.2	-1.5
STH				*e*S	Sn	08 31 56.0	-3.0
HOJ	**Hope**	**1.82**	**143**	⇑*e*P	Pn	08 31 37.6	-1.4

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*IDC **19** 09:10:41.8±1.1, 6.37S×154.68E, mb4.0/8, mb1 4.2/8, mb1mx4.2/12, MS3.7/4, Ms1 3.8/4, ms1mx3.3/15, Error ellipse: s-maj=49.0km s-min=21.3km az=120.0*

*NEIC **19** 09:10:50.9±1.9, 6.07S×154.23E, h70^{km}±14^{km}, mb4.6/5, Error ellipse: s-maj=21.5km s-min=10.7km az=104.0*

ISC 19 09:10:48.9±2.9**, 6.1S**±0.1×**154.3E**±0.2**, h62**^{km}±21^{km}**, n22, σ0^{s}97**/19**, mb4.2**/13**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAB	**Rabaul**	**2.83**	**312**	*e*P	**P**	**09 11 32.2**	**-0.6**
WAU	**Wau**	**7.59**	**260**	*e*P	**P**	**09 12 40.1**	**+1.0**
PMG	**Port Moresby**	**7.75**	**245**	*e*P	**P**	**09 12 41.1**	**-0.3**
	20nm,0.4s						
CTA	**Charters Tower**	**15.91**	**209**	LR	LR	09 19 54.2	
	comp=Z,138nm,18.8s,baz=221,slow=35						
WRAB	**Tennant Creek**	**23.72**	**233**	*e*P	**P**	**09 15 56.8**	**+0.6**
	5.7nm,0.8s,mb4.0						
WB2	**Warramunga Arr**	**23.72**	**233**	*e*P	**P**	**09 15 56.5**	**+0.2**
WRA	**Warramunga Arr**	**23.73**	**233**	P	**P**	**09 15 57.5**	**+1.1**
	1.8nm,0.7s,mb3.6,baz=55,slow=9.8,SNR=29						
ASAR	**Alice Springs**	**26.22**	**226**	P	**P**	**09 16 19.7**	**-0.4**
	1.1nm,0.7s,mb3.5,baz=56,slow=9.3,SNR=18						
ASAR				PcP	PcP	09 19 44.2	-1.7
	1.0nm,0.7s,baz=75,slow=2.4,SNR=8.9						
STKA	**Stephens Creek**	**28.23**	**203**	P	**P**	**09 16 37.2**	**-1.0**
	2.8nm,1.1s,mb3.8,baz=25,slow=11,SNR=3.4						
CMAR	**Chiang Mai Arr**	**59.75**	**295**	P	**P**	**09 20 59.5**	**+9.3**
	1.5nm,0.9s,mb4.0,baz=112,slow=5.4,SNR=6.9						
CMAR				LR	LR	09 48 18.4	
	comp=Z,50nm,18.5s,baz=340,slow=38						
SONM	**Songino Array**	**68.21**	**327**	P	**P**	**09 21 47.3**	**+2.3**
	0.9nm,0.4s,mb4.1,baz=140,slow=6.0,SNR=5.3						
PKI	**Pulchoki**	**74.35**	**301**	*e*P	**P**	**09 22 21.6**	**-0.6**
KKN	**Kakani**	**74.52**	**301**	*e*P	**P**	**09 22 23.0**	**-0.2**
DMN	**Daman**	**74.62**	**301**	*e*P	**P**	**09 22 23.5**	**-0.3**
	21nm,0.8s,mb5.1						
GKN	**Gorkha**	**75.12**	**301**	*e*P	**P**	**09 22 25.4**	**-1.2**
	15nm,0.9s,mb4.9						
KOLN	**Koldanda**	**75.95**	**300**	*e*P	**P**	**09 22 30.4**	**-1.0**
	12nm,0.8s,mb4.9						
MKAR	**Makanchi Array**	**82.27**	**319**	P	**P**	**09 23 08.7**	**+3.5**
	0.4nm,0.4s,mb3.7,baz=90,slow=5.8,SNR=9.7						
ILAR	**Eielson Array**	**82.84**	**22**	P	**P**	**09 23 07.1**	**-0.6**
	1.0nm,0.9s,mb3.9,baz=248,slow=5.0,SNR=15						
QSPA	**South Pole Qui**	**83.85**	**180**	*e*P	**P**	**09 23 11.9**	**-0.6**
	5.9nm,1.0s,mb4.7						
NVAR	**Mina Array Bea**	**91.76**	**52**	P	**P**	**09 23 52.9**	**+1.5**
	1.4nm,1.1s,mb4.2,baz=254,slow=6.6,SNR=4.0						
YKA	**Yellowknife Ar**	**95.91**	**28**	LR	LR	10 01 58.3	
	comp=Z,33nm,18.7s,baz=275,slow=32						
PDAR	**Pinedale Array**	**98.66**	**48**	LR	LR	09 59 58.0	
	comp=Z,74nm,21.0s,baz=64,slow=30						

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*LDG **19** 09:31:30.3±0.4, 42.87N×1.47W, h2^{km}, Md2.4/2, Ml2.1/12, Error ellipse: s-maj=6.2km s-min=4.3km az=53.0*

MDD 19 09:31:31.6±0.6**, 42.89N×1.40W, h11**^{km}±1^{km}**, mbLg1.3**/5**, Error ellipse: s-maj=4.6km s-min=3.2km az=39.0, PRXIMO AftershockPLICA, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	**0.26**	**30**	*e*Pg	Pg	09 31 36.8	-0.3
SJPF				*e*Sg	Sg	09 31 39.5	-1.2
	49nm,0.4s						
EALK	**Alkurruntz**	**0.34**	**347**	Pg	Pg	09 31 38.0	-0.6
	0.7nm,0.1s,SNR=7.9						
EALK				Lg		09 31 43.2	
	7.0nm,0.2s,SNR=7.9						
LARF	**Larrau**	**0.34**	**64**	P	Pg	09 31 38.2	-0.4
LARF				S	Sg	09 31 43.5	+0.3
ETSF	**Etsaut**	**0.62**	**89**	*e*Pg	Pg	09 31 42.5	-1.6
ETSF				*e*Sg	Sg	09 31 51.2	-1.3
ETSF				*e*Sn	Sn	09 31 53.2	-2.8
	2.6nm,0.2s						
EPF	**Esparros**	**1.29**	**83**	*e*Pn	Pn	09 31 54.6	-1.0
EPF				*e*Pg	Pg	09 31 56.9	-0.5
EPF				*e*Sg	Sg	09 32 12.5	-2.0
	2.5nm,0.3s						
ESAC	**San Caprasio**	**1.36**	**149**	Pg	Pg	09 31 55.5	-3.3
	3.9nm,0.2s,SNR=7.9						
ESAC				Lg		09 32 13.7	
	8.9nm,0.5s,SNR=7.9						
ELAN	**Lanestosa**	**1.53**	**284**	Pg	Pg	09 31 59.1	-3.1
	SNR=5.0						
ELAN				Lg		09 32 20.7	
	0.4nm,0.1s,SNR=7.9						
ETOR	**Torete**	**2.13**	**193**	Pg	Pg	09 32 10.4	-3.7
	SNR=7.9						
ETOR				Lg		09 32 34.5	
	SNR=7.9						
LFF	**La Frestale**	**2.57**	**36**	*e*Pn	Pn	09 32 11.9	-2.0
LFF				*e*Sn	Sn	09 32 42.4	-3.1
LFF				*e*Sg	Sg	09 32 51.0	-6.1
	2.1nm,0.2s						
MTLF	**Montolieu**	**2.69**	**79**	*e*Pn	Pn	09 32 14.6	-1.1
MTLF				*e*Sn	Sn	09 32 46.5	-2.0
	0.9nm,0.4s						
RJF	**Les Rejaudoux**	**3.20**	**40**	*e*Pn	Pn	09 32 20.1	-2.8
RJF				*e*Sn	Sn	09 32 57.8	-3.7
	0.6nm,0.2s						
CAF	**Calviac**	**3.23**	**50**	*e*Pn	Pn	09 32 20.7	-2.6
CAF				*e*Sn	Sn	09 32 58.9	-3.3
	0.6nm,0.2s						
MFF	**Saint Martin d**	**3.82**	**13**	*e*Pn	Pn	09 32 29.2	-2.5
MFF				*e*Pg	Pg	09 32 41.0	-6.8

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MFF				*e*Sn	Sn	09 33 12.5	-4.6
MFF				*e*Sg	Sg	09 33 31.5	-7.2
	0.6nm,0.3s						
LASF	**Ste Croix**	**4.00**	**71**	*e*Pn	Pn	09 32 31.9	-2.5
LASF				*e*Sn	Sn	09 33 17.6	-4.3
	0.9nm,0.3s						
TCF	**Toulx Ste Croi**	**4.26**	**36**	*e*Pn	Pn	09 32 33.8	-4.3
TCF				*e*Sn	Sn	09 33 23.1	-5.4
	0.5nm,0.2s						
BGF	**Bois d'Agland**	**4.75**	**38**	*e*Pn	Pn	09 32 41.0	-4.0
BGF				*e*Sn	Sn	09 33 34.5	-6.3
	1.7nm,0.4s						
VIVF	**Saint-Julien-l**	**4.81**	**64**	*e*Pn	Pn	09 32 42.8	-3.0
VIVF				*e*Sn	Sn	09 33 36.0	-6.3
	0.6nm,0.3s						
AVF	**Avril sur Loir**	**5.16**	**39**	*e*Pn	Pn	09 32 46.4	-4.3
AVF				*e*Sn	Sn	09 33 44.1	-6.9
	2.6nm,0.3s						

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*NIED **19** 09:35:00,30.70N×132.70E,h5^{km},Mw4.0 Best double couple: $M_0 1.03\times10^{15}$ NP1:ϕ_s192°,δ51°,λ-79°. NP2: ϕ_s355°,δ41°,λ-103°.*
*JMA **19** 09:35:18.8±0.1,30.69N×132.67E,h62^{km},M3.6*
*IDC **19** 09:35:18.5±0.9,30.40N×131.90E,mb3.8/11,mb1 4.0/12, mb1mx3.9/23,ML4.4/2,MS3.1/1,Ms1 3.1/1,ms1mx2.5/32, Error ellipse: s-maj=44.6km s-min=15.4km az=71.0*
*NEIC **19** 09:35:20.9±0.5,30.68N×132.65E,h30^{km},mb4.3/2,Error ellipse: s-maj=11.4km s-min=8.1km az=96.0*
ISC 19 09:35:19.2±0.5**,30.69N**±0.04×**132.67E**±0.05**,h33^{km},n27, σ0^s.92**/34**,mb3.9**/13**,Southeast of Shikoku**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**1.46**	**269**	P	**P**	**09 35 43.3**	**-0.1**
JTN				S	**S**	**09 36 01.5**	**0.0**
JNAR	**Kushima--Naru**	**1.46**	**305**	P	**P**	**09 35 43.6**	**+0.2**
JNAR				S	**S**	**09 36 02.1**	**+0.5**
JTSR	**Tashiro 2**	**1.57**	**288**	P	**P**	**09 35 45.0**	**-0.1**
JTSR				S	**S**	**09 36 04.2**	**-0.3**
JTZ	**Takazaki**	**1.81**	**312**	P	**P**	**09 35 48.4**	**-0.1**
JTZ				S	**S**	**09 36 10.3**	**-0.2**
JTO	**Tosashimizu**	**2.16**	**3**	P	**P**	**09 35 51.9**	**-1.6**
JTO				S	**S**	**09 36 14.7**	**-4.7**
JNN	**Nakanoshima**	**2.56**	**251**	P	**P**	**09 35 59.1**	**-0.1**
JNN				S	**S**	**09 36 28.7**	**-0.9**
JNU	**Nakatsue**	**2.86**	**328**	Pn	**Pn**	**09 36 04.4**	**+0.8**
	144nm,0.3s,baz=310,slow=0.1,SNR=44						
JNU				Sn	**Sn**	**09 36 36.8**	**-0.5**
	baz=22,slow=16,SNR=9.6						
JOW	**Kunigami**	**5.45**	**226**	Pn	**Pn**	**09 36 38.0**	**-2.2**
	17nm,0.3s,baz=73,slow=12,SNR=72						
JOW				Sn	**Sn**	**09 37 36.9**	**-5.7**
MAJO	**Matsushiro**	**7.44**	**37**	*e*Pn	**Pn**	**09 37 07.0**	**-1.3**
	11nm,0.8s						
MAT	**Matsushiro**	**7.44**	**37**	P	**P**	**09 37 07.2**	**-0.9**
MAT	**Matsushiro**	**7.44**	**37**	*e*P	**P**	**09 37 07.0**	**-1.1**
	7.5nm,0.7s						
TGY	**Tagaytay City**	**19.73**	**216**	LR	LR	09 47 20.9	
	comp=Z,55nm,18.6s,baz=295,slow=38						
SONM	**Songino Array**	**26.40**	**318**	P	**P**	**09 40 54.5**	**+0.2**
	0.8nm,0.7s,mb3.4,baz=144,slow=11,SNR=5.1						
MKAR	**Makanchi Array**	**41.72**	**307**	P	**P**	**09 43 07.5**	**+1.0**
	0.3nm,0.6s,mb3.1,baz=91,slow=10.0,SNR=4.9						
MKAR				PcP	PcP	09 45 03.1	-0.1
	0.6nm,0.8s,baz=63,slow=3.2,SNR=4.1						
KURK	**Kurchatov**	**44.48**	**313**	P	**P**	**09 43 27.8**	**-1.0**
BVAR	**Borovoye Array**	**49.70**	**315**	P	**P**	**09 44 10.1**	**+0.3**
	1.6nm,0.6s,mb4.3,baz=102,slow=10,SNR=7.5						
BRVK	**Borovoye**	**49.76**	**316**	*e*P	**P**	**09 44 10.8**	**+0.5**
	1.9nm,0.6s,mb4.3						
WRA	**Warramunga Arr**	**50.37**	**178**	P	**P**	**09 44 15.3**	**0.0**
	2.0nm,0.7s,mb4.2,baz=352,slow=8.1,SNR=13						
CTAO	**Charters Tower**	**52.15**	**164**	*e*P	**P**	**09 44 28.8**	**0.0**
	4.1nm,1.0s,mb4.3						
ASAR	**Alice Springs**	**54.06**	**179**	P	**P**	**09 44 43.1**	**+0.2**
	1.2nm,0.6s,mb4.0,baz=9.8,slow=12,SNR=19						
ILAR	**Eielson Array**	**58.66**	**30**	P	**P**	**09 45 22.2**	**+7.0**
	0.2nm,0.8s,mb3.2,baz=294,slow=5.8,SNR=3.5						
STKA	**Stephens Creek**	**62.80**	**171**	P	**P**	**09 45 44.2**	**+0.3**
	1.3nm,0.6s,mb4.2,baz=82,slow=2.3,SNR=8.1						
STKA	**Stephens Creek**	**62.80**	**171**	P	**P**	**09 45 44.2**	**+0.3**
FINES	**FINESS Array B**	**70.90**	**331**	P	**P**	**09 46 35.3**	**+0.8**
	1.4nm,0.7s,mb4.0,baz=72,slow=6.0,SNR=8.2						
AKASG	**Malin Array Be**	**74.66**	**320**	P	**P**	**09 46 59.9**	**+3.2**
	0.4nm,0.5s,mb3.6,baz=53,slow=6.6,SNR=4.4						
BRTR	**Keskin Array B**	**77.35**	**309**	P	**P**	**09 47 13.5**	**+1.2**
	1.1nm,0.7s,mb3.9,baz=117,slow=5.5,SNR=5.4						
GERES	**GERESS Array B**	**83.93**	**324**	P	**P**	**09 47 49.4**	**+2.5**
	0.4nm,0.7s,mb3.6,baz=180,slow=1.3,SNR=3.9						

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*NAO **19** 09:50:17.4±2.5,67.68N×33.77E,ML2.5*
HEL 19 09:50:17.8±0.3**,67.71N×33.78E,ML2.4,ML2.5**(BER)**, ML2.5**(NAO)**,Explosion,Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA0	**Apatity Array**	**0.32**	**252**	*i* P	Pg	09 50 23.3	-0.8
APA0				*i* S	Sg	09 50 27.5	-0.8
APA0				*e*RG		09 50 28.7	
APA0	**Apatity Array**	**0.32**	**252**	Pg	Pg	09 50 23.3	-0.8
	baz=78,slow=14						
APA0				Lg		09 50 27.5	
	baz=56,slow=37						
APA0				Rg		09 50 28.7	
	baz=78,slow=37						
MSF	**Maaselka**	**2.60**	**228**	*e*P	Pn	09 51 01.8	0.0
MSF				*e*S	Sn	09 51 33.2	-1.4
MSF				MSG		09 51 40.5	
	comp=Z,9.8nm,0.3s						
SGF	**Sodankyl**	**2.79**	**268**	*e*P	Pn	09 51 03.6	-1.0
SGF				*e*S	Sn	09 51 38.0	-1.5
SGF				MSG		09 51 53.4	
	comp=Z,5.9nm,0.2s						
KEV	**Kevo**	**3.21**	**313**	*e*P	Pn	09 51 10.2	-0.4
KEV				*e*S	Sn	09 51 47.3	-2.8
KEV				MSG		09 52 04.3	
	comp=Z,26nm,0.3s						
ARA0	**ARCESS Array S**	**3.54**	**305**	*e*P	Pn	09 51 14.0	-1.2
ARA0				*e*PG	Pg	09 51 22.6	-5.9
ARA0				*e*S	Sn	09 51 54.9	-3.6
ARA0				*e*SG	Sg	09 52 06.1	-10
ARA0	**ARCESS Array S**	**3.54**	**305**	Pn	Pn	09 51 14.0	-1.2
	baz=122,slow=14						
ARA0				Pg	Pg	09 51 22.6	-5.9
	baz=119,slow=16						
ARA0				Sn	Sn	09 51 54.9	-3.6
	baz=123,slow=28						
ARA0				Lg		09 52 06.1	
	baz=114,slow=37						
OUL	**Oulu**	**4.12**	**234**	*e*P	Pn	09 51 22.1	-1.3
OUL				*e*SG	Sg	09 52 24.7	-10
OUL				MSG		09 52 28.8	
	comp=Z,14nm,0.3s						
KTK1	**Kautokeino**	**4.12**	**293**	*e*P	Pn	09 51 22.4	-1.0
KTK1				*e*S	Sn	09 52 08.8	-4.2
KTK1				AML	AML	09 52 28.3	
	comp=Z,25nm,0.6s						
KJN	**Kajaani**	**4.40**	**217**	*e*P	Pn	09 51 25.5	-1.9
KJN				*e*S	Sn	09 52 15.6	-4.6
KJN				MSG		09 52 38.1	
	comp=Z,7.8nm,0.3s						
KIF	**Kilpisjarvi**	**4.98**	**291**	*e*P	Pn	09 51 33.5	-2.1
KIF				*e*S	Sn	09 52 29.1	-5.6
FIA0	**FINESS Array S**	**7.10**	**211**	Pn	Pn	09 52 01.2	-4.3
	baz=37,slow=14						
FIA0				Sn	Sn	09 53 19.5	-8.4
	baz=28,slow=22						
FIA0				Lg		09 53 51.6	
	baz=34,slow=28						
FIA0	**FINESS Array S**	**7.10**	**211**	*e*P	Pn	09 52 01.2	-4.3
FIA0				*e*S	Sn	09 53 19.5	-8.4

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*PRU **19** 10:19:56.2,51.45N×16.13E*
*WAR **19** 10:19:56.1,51.50N×16.11E,ML2.6,Mining Induced*
ISC 19 10:19:52.9±1.0**,51.51N**±0.05×**16.13E**±0.04**,n10,σ1^s.23**/23**, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.68**	**171**	*e*PG	**Pg**	**10 20 08.0**	**+1.5**
KSP				*e*SG	**Sg**	**10 20 17.0**	**+1.4**
UPC	**Upice**	**1.01**	**184**	*e*PG	**Pg**	**10 20 14.2**	**+1.1**
UPC				*e*SG	**Sg**	**10 20 27.5**	**+0.9**
DPC	**Dobruska-Polom**	**1.17**	**174**	*e*PG	**Pg**	**10 20 16.9**	**+0.6**
DPC				*e*SG	**Sg**	**10 20 31.7**	**-0.2**
PVCC	**Panska Ves**	**1.39**	**226**	*e*PG	**Pg**	**10 20 21.5**	**+0.8**
PVCC				*e*SG	**Sg**	**10 20 39.6**	**+0.3**
PRU	**Pruhonice**	**1.83**	**214**	*e*PN	**Pn**	**10 20 28.5**	**+2.6**
PRU				*e*PG	**Pg**	**10 20 30.6**	**+1.2**
PRU				*i* x	x	10 20 32.9	
PRU				SG	**Sg**	**10 20 53.0**	**-0.8**
	4.7nm,0.4s						
CLL	**Collm**	**1.97**	**265**	*e*PG	**Pg**	**10 20 32.0**	**-0.2**
CLL				*e*SG	**Sg**	**10 20 58.0**	**-0.4**
OKC	**Ostrava-Krasne**	**2.11**	**142**	*e*PG	**Pg**	**10 20 35.6**	**+0.5**
OKC				*e*SG	**Sg**	**10 21 01.5**	**-1.8**
NKC	**Novy Kostel**	**2.66**	**243**	*e*PG	**Pg**	**10 20 46.3**	**+0.3**
NKC				*e*SG	**Sg**	**10 21 19.6**	**-1.9**
OJC	**Ojcow**	**2.66**	**118**	*e*PG	**Pg**	**10 20 45.0**	**-1.1**
OJC				*e*SG	**Sg**	**10 21 20.0**	**-1.6**
KHC	**Kasperske Hory**	**2.89**	**215**	*e*PN	**Pn**	**10 20 41.8**	**+0.7**
KHC				*e*PG	**Pg**	**10 20 47.3**	**-3.3**
KHC				*e*SN	**Sn**	**10 21 16.1**	**-1.0**
KHC				*e*SG	**Sg**	**10 21 26.2**	**-3.0**

IDC 19 10:35:11.6±49.0**,17.57S×175.08W,mb4.0**/3**,mb1 4.2**/3**, mb1mx3.9**/13**,Error ellipse: s-maj=916.0km s-min=165.6km az=80.0,Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.58**	**242**	P	P	10 43 01.2	-1.7
	1.1nm,0.8s,baz=84,slow=6.9,SNR=5.0						
WRA	**Warramunga Arr**	**47.81**	**259**	P	P	10 43 51.1	-2.0
	0.8nm,0.5s,baz=96,slow=7.0,SNR=30						
ASAR	**Alice Springs**	**47.94**	**254**	P	P	10 43 52.2	-1.9
	3.7nm,0.6s,baz=88,slow=8.7,SNR=85						

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*BJI **19** 10:44:10.1,56.40N×162.30W,h196^{km},mB4.7,mb4.4*
*NEIC **19** 10:44:10.2±0.1,56.43N×162.31W,h197^{km}±1^{km},mb4.6/55, Error ellipse: s-maj=3.2km s-min=2.2km az=149.0*
*IDC **19** 10:44:12.2±1.4,56.51N×162.26W,h213^{km}±11^{km}, mb4.1/25,mb1 4.3/29,mb1mx4.3/33,Error ellipse: s-maj=16.4km s-min=8.3km az=20.0*
ISC 19 10:44:09.3±0.2**,56.40N**±0.02×**162.28W**±0.03**, h202^{km}**±1^{km}**,h188^{km}**±1.6^{km}**:pP-P,n296,σ0^s.96**/307**, mb4.4**/82**,9C-3D,Bristol Bay**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLHA	**Black Hill**	**0.71**	**170**	P	**P**	**10 44 38.6**	**+0.8**
BLHA				S	**S**	**10 44 60.0**	**+0.2**
PN7A	**Pavlof North-7**	**0.98**	**171**	P	**P**	**10 44 40.1**	**+0.8**
PN7A				S	**S**	**10 45 03.1**	**+0.7**
PVV	**Pavlof Volcano**	**1.06**	**165**	P	**P**	**10 44 39.9**	**+0.1**
PVV				S	**S**	**10 45 03.9**	**+0.3**
HAG	**Hague Volcano**	**1.11**	**169**	P	**P**	**10 44 40.4**	**+0.2**
BALA	**Baldy Mountain**	**1.25**	**194**	P	**P**	**10 44 42.0**	**+0.7**
DTNA	**Dutton South F**	**1.25**	**179**	P	**P**	**10 44 41.5**	**+0.1**
DTNA				S	**S**	**10 45 04.8**	**-1.5**
DRIA	**Deer Island**	**1.44**	**180**	P	**P**	**10 44 42.3**	**-0.6**
SDPT	**Sand Point**	**1.46**	**135**	P	**P**	**10 44 41.9**	**-1.3**
SDPT				S	**S**	**10 45 06.5**	**-2.8**
FALS	**False Pass**	**1.68**	**203**	P	**P**	**10 44 44.8**	**-0.3**
FALS				S	**S**	**10 45 11.1**	**-1.6**
SSLW	**Shishaldin Wes**	**1.94**	**213**	P	**P**	**10 44 47.8**	**+0.1**
WTUG	**Tugumak**	**1.96**	**218**	P	**P**	**10 44 48.4**	**+0.5**
ANPB	**Aniakchak Plen**	**2.25**	**78**	P	**P**	**10 44 51.2**	**+0.3**
WESN	**West Dahl Nort**	**2.26**	**217**	P	**P**	**10 44 51.6**	**+0.5**
WESE	**West Dahl East**	**2.34**	**215**	P	**P**	**10 44 52.4**	**+0.4**
WESS	**West Dahl Sout**	**2.38**	**217**	P	**P**	**10 44 52.9**	**+0.5**
WESS				S	**S**	**10 45 27.2**	**+1.6**
AKGG	**Akutan Green G**	**3.06**	**225**	P	**P**	**10 45 00.7**	**+0.4**
AKLV	**Akutan Long Va**	**3.08**	**225**	P	**P**	**10 45 00.6**	**+0.1**
AKLV				S	**S**	**10 45 39.2**	**-0.7**
MTBL	**Makushin Table**	**3.51**	**228**	P	**P**	**10 45 05.7**	**0.0**
UNV	**Unalaska Valle**	**3.53**	**225**	P	**P**	**10 45 05.3**	**-0.6**
UNV				S	**S**	**10 45 46.9**	**-2.8**
MNAT	**Makushin Natee**	**3.57**	**227**	P	**P**	**10 45 06.4**	**-0.1**
MCIR	**Makushin Cirqu**	**3.61**	**229**	P	**P**	**10 45 07.2**	**+0.3**
KJL	**Kejulik**	**4.00**	**63**	P	**P**	**10 45 12.5**	**+0.7**
ANCK	**Angle Creek**	**4.10**	**61**	P	**P**	**10 45 14.1**	**+1.2**
ANCK				S	**S**	**10 46 02.3**	**+0.1**
CAHL	**Cahill**	**4.14**	**64**	P	**P**	**10 45 14.2**	**+0.7**
KABR	**Katmai Barrier**	**4.33**	**63**	P	**P**	**10 45 16.1**	**+0.2**
SPIA	**Saint Paul Isl**	**4.45**	**283**	P	**P**	**10 45 20.2**	**+2.8**
OKCD	**Okmok Cone D**	**4.50**	**231**	P	**P**	**10 45 17.5**	**-0.5**
OKCE	**Okmok Cone E**	**4.52**	**231**	P	**P**	**10 45 18.0**	**-0.3**
OKCE				S	**S**	**10 46 11.3**	**-0.4**
KAHG	**Katmai Hook Gl**	**4.67**	**60**	P	**P**	**10 45 21.3**	**+1.0**
NIKO	**Nikolski**	**5.13**	**231**	P	**P**	**10 45 25.6**	**-0.5**
NIKO				S	**S**	**10 46 23.0**	**-2.7**
KDAK	**Kodiak Island**	**5.46**	**71**	P	**P**	**10 45 29.0**	**-1.4**
KDAK				S	**S**	**10 46 27.9**	**-5.5**
AGU	**Augustine-Summ**	**5.57**	**54**	P	**P**	**10 45 32.9**	**+1.1**
AUE	**Augustine Isla**	**5.60**	**54**	P	**P**	**10 45 33.3**	**+1.2**
OPT	**Oil Point**	**5.81**	**52**	P	**P**	**10 45 35.8**	**+1.0**
ILS	**Iliamna Low So**	**6.03**	**50**	P	**P**	**10 45 38.6**	**+0.9**
IVS	**Iliamna South**	**6.06**	**50**	P	**P**	**10 45 39.1**	**+1.0**
ILIM	**Iliamna**	**6.15**	**49**	P	**P**	**10 45 40.2**	**+1.0**
XLV	**Seldovia**	**6.40**	**57**	P	**P**	**10 45 42.0**	**-0.5**
RSO	**Redoubt South**	**6.45**	**47**	P	**P**	**10 45 44.5**	**+1.4**
REF	**Redoubt East F**	**6.48**	**47**	P	**P**	**10 45 44.7**	**+1.2**
RDT	**Redoubt**	**6.65**	**47**	P	**P**	**10 45 46.6**	**+0.9**
CNPM	**China Poot**	**6.66**	**57**	P	**P**	**10 45 45.0**	**-0.8**
BRLK	**Bradley Lake**	**6.91**	**56**	P	**P**	**10 45 48.0**	**-1.2**
BKG	**Blockade Glaci**	**7.00**	**44**	P	**P**	**10 45 51.8**	**+1.5**
CKL	**Chakachamna La**	**7.05**	**43**	P	**P**	**10 45 53.0**	**+2.0**
SPU	**Mount Spurr**	**7.15**	**44**	P	**P**	**10 45 54.0**	**+1.8**
TT01	**Tatalina**	**7.25**	**23**	P	**P**	**10 45 56.1**	**+2.5**
TTA	**Tatalina**	**7.27**	**23**	*e*P	**P**	**10 45 56.3**	**+2.4**
STLK	**Strandline Lak**	**7.43**	**42**	P	**P**	**10 45 57.2**	**+1.3**
SLKM	**Skilak Lake**	**7.54**	**52**	P	**P**	**10 45 57.5**	**+0.1**
SEW	**Seward**	**7.71**	**56**	P	**P**	**10 45 58.3**	**-1.3**
SUA	**Susitna One**	**7.83**	**45**	P	**P**	**10 46 01.3**	**+0.3**
FIB	**Fire Island**	**7.89**	**48**	P	**P**	**10 46 01.8**	**-0.1**
RC01	**Rabbit Creek A**	**8.03**	**49**	P	**P**	**10 46 02.6**	**-1.1**
ATKA	**Atka Island**	**8.14**	**244**	P	**P**	**10 46 04.6**	**-0.6**
ANM	**Nome**	**8.33**	**351**	P	**P**	**10 46 11.2**	**+3.5**
LTI	**Latouche**	**8.44**	**58**	P	**P**	**10 46 07.1**	**-1.9**
PMR	**Palmer**	**8.54**	**47**	*e*P	**P**	**10 46 08.6**	**-1.8**
GCSA	**Galena City Sc**	**8.78**	**15**	P	**P**	**10 46 16.4**	**+2.8**
SML	**Sawmill**	**8.98**	**47**	*e*P	**P**	**10 46 13.1**	**-3.0**
MID	**Middleton Isla**	**9.01**	**64**	P	**P**	**10 46 14.4**	**-2.1**
GSIG	**Igitkin Island**	**9.14**	**247**	P	**P**	**10 46 18.2**	**+0.1**
KTH	**Kantishna Hill**	**9.14**	**34**	P	**P**	**10 46 19.4**	**+1.2**
GSTR	**Great Sitkin T**	**9.15**	**248**	P	**P**	**10 46 18.6**	**+0.4**
GSMY	**Great Sitkin M**	**9.17**	**247**	P	**P**	**10 46 18.5**	**-0.1**
HIN	**Hinchinbrook I**	**9.19**	**58**	P	**P**	**10 46 17.1**	**-1.8**
GSTD	**Great Sitkin T**	**9.21**	**248**	P	**P**	**10 46 18.9**	**-0.2**
TRF	**Thorofare Moun**	**9.27**	**35**	P	**P**	**10 46 20.4**	**+0.5**
FID	**Port Fidalgo**	**9.32**	**56**	P	**P**	**10 46 17.9**	**-2.6**
SCM	**Sheep Creek Mo**	**9.41**	**48**	P	**P**	**10 46 19.4**	**-2.2**
VLZ	**Valdez**	**9.53**	**54**	P	**P**	**10 46 21.6**	**-1.5**
TNA	**Tin City**	**9.59**	**346**	P	**P**	**10 46 26.7**	**+3.0**
EYAK	**Cordova Ski Ar**	**9.59**	**58**	P	**P**	**10 46 21.9**	**-2.0**
DIV	**Divide**	**9.78**	**54**	P	**P**	**10 46 24.9**	**-1.4**
KIKV	**Kanaga Island**	**9.84**	**249**	P	**P**	**10 46 27.4**	**+0.4**
KIWB	**Kanaga Island**	**9.84**	**249**	P	**P**	**10 46 27.6**	**+0.5**
KLU	**Klutina**	**9.86**	**52**	P	**P**	**10 46 25.8**	**-1.5**
MCK	**McKinley**	**9.90**	**37**	P	**P**	**10 46 28.0**	**+0.1**
KIMD	**Kanaga Island**	**9.94**	**248**	P	**P**	**10 46 28.4**	**+0.1**
BMRM	**Bremner River**	**10.26**	**56**	P	**P**	**10 46 30.9**	**-1.6**
IM3	**Indian Mountai**	**10.44**	**20**	P	**P**	**10 46 36.9**	**+2.1**
IMA	**Indian Mountai**	**10.53**	**19**	*e*P	**P**	**10 46 38.5**	**+2.5**
	24nm,1.3s						
PAX	**Paxson**	**10.72**	**45**	P	**P**	**10 46 37.4**	**-1.0**
GLB	**Gilahina Butte**	**10.78**	**54**	P	**P**	**10 46 37.9**	**-1.3**
WAX	**Waxell Ridge**	**10.95**	**60**	P	**P**	**10 46 40.6**	**-0.8**
COLA	**College**	**11.03**	**34**	P	**P**	**10 46 41.4**	**-1.0**
IL1	**Eielson Array**	**11.27**	**36**	P	**P**	**10 46 44.2**	**-1.2**
ILAR	**Eielson Array**	**11.27**	**36**	P	**P**	**10 46 44.8**	**-0.6**
	0.9nm,0.3s,baz=231,slow=10,SNR=103						
ILAR				ScP		10 55 31.6	
	0.2nm,0.3s,baz=275,slow=3.0,SNR=23						
BALM	**Baldy**	**11.33**	**58**	P	**P**	**10 46 45.6**	**-0.7**
YAH	**Yahtse**	**11.46**	**61**	P	**P**	**10 46 47.8**	**-0.1**
DOT	**Dot Lake**	**11.61**	**44**	P	**P**	**10 46 48.6**	**-1.2**
PCA	**Pinnacle**	**12.15**	**63**	P	**P**	**10 46 56.4**	**-0.3**
COLD	**Coldfoot**	**12.24**	**23**	P	**P**	**10 47 00.3**	**+2.6**
BCA3	**Beaver Creek A**	**12.26**	**49**	P	**P**	**10 46 56.8**	**-1.3**
PNL	**Peninsula**	**12.53**	**65**	P	**P**	**10 47 00.7**	**-0.8**
DAWY	**Dawson**	**13.65**	**46**	*e*P	**P**	**10 47 14.4**	**-0.9**
FX1	**Attu Island--F**	**14.62**	**266**	P	**P**	**10 47 28.3**	**+0.8**
	30nm,0.3s,baz=281,slow=22,SNR=68						
FX1	**Attu Island--F**	**14.62**	**266**	*e*P	**P**	**10 47 27.6**	**+0.2**
SIT	**Sitka**	**14.77**	**76**	*e*P	**P**	**10 47 28.5**	**-0.8**
	127nm,0.8s						
VIB	**Van Inlet**	**17.35**	**88**	P	**P**	**10 48 00.1**	**0.0**
	SNR=24						
DLBC	**Dease Lake**	**17.40**	**70**	P	**P**	**10 48 01.2**	**+0.7**
	3.7nm,0.3s,baz=277,slow=10,SNR=395						
DLBC				ScP		10 55 43.6	
	0.1nm,0.3s,baz=288,slow=1.9,SNR=5.1						
DLBC	**Dease Lake**	**17.40**	**70**	*e*P	**P**	**10 48 01.0**	**+0.5**
INK	**Inuvik**	**17.67**	**36**	P	**P**	**10 48 00.8**	**-2.6**
	5.3nm,0.3s,baz=232,slow=12,SNR=158						
INK				ScP		10 55 44.4	
	0.4nm,0.3s,baz=338,slow=2.1,SNR=15						
INK	**Inuvik**	**17.67**	**36**	*e*P	**P**	**10 48 00.5**	**-2.9**
	119nm,0.8s						
BBB	**Bella Bella**	**20.25**	**88**	P	**P**	**10 48 31.8**	**+1.7**
	17nm,0.9s,baz=303,slow=5.4,SNR=7.4						
YKA	**Yellowknife Ar**	**24.49**	**56**	P	**P**	**10 49 10.1**	**-0.7**
	20nm,0.5s,mb5.0,baz=278,slow=9.8,SNR=55						
YKA				ScP		10 56 00.5	
	4.0nm,0.6s,baz=285,slow=3.2,SNR=9.7						
OBC	**Olympics--Boni**	**24.57**	**94**	P	**P**	**10 49 13.5**	**+1.8**
PGC	**Sidney**	**24.58**	**92**	*e*P	**P**	**10 49 12.4**	**+0.7**
	28nm,0.9s,mb4.9						
VDB	**Vedder Mountai**	**25.13**	**90**	P	**P**	**10 49 17.3**	**+0.5**
HDW	**Hoodsport**	**25.36**	**93**	P	**P**	**10 49 20.2**	**+1.2**
GNW	**Green Mountain**	**25.54**	**93**	*e*P	**P**	**10 49 21.4**	**+0.7**
RPW	**Rockport**	**25.77**	**91**	P	**P**	**10 49 23.3**	**+0.6**
BMW	**Boistfort Moun**	**25.95**	**96**	*e*P	**P**	**10 49 25.1**	**+0.6**
HTW	**Haystack Looko**	**25.99**	**92**	P	**P**	**10 49 25.6**	**+0.8**
GSM	**Grass Mountain**	**26.32**	**93**	P	**P**	**10 49 28.6**	**+0.8**
RVC	**Mount Rainier-**	**26.37**	**94**	P	**P**	**10 49 29.4**	**+1.1**
WRW	**Wenatchee Ridg**	**26.45**	**91**	P	**P**	**10 49 29.5**	**+0.5**
LON	**Longmire**	**26.57**	**94**	*e*P	**P**	**10 49 30.5**	**+0.4**
TDL	**Tradedollar La**	**26.59**	**95**	P	**P**	**10 49 31.2**	**+0.9**
FL2	**Flat Top 2**	**26.61**	**95**	P	**P**	**10 49 31.4**	**+0.9**
NLW	**Nelson Butte**	**26.63**	**90**	P	**P**	**10 49 31.4**	**+0.7**
SHW	**Mount Saint He**	**26.67**	**95**	P	**P**	**10 49 33.0**	**+1.9**
HSR	**South Ridge**	**26.71**	**95**	P	**P**	**10 49 33.1**	**+1.7**
ESD	**East Dome**	**26.72**	**95**	P	**P**	**10 49 33.3**	**+1.8**
WPW	**White Pass**	**26.75**	**94**	P	**P**	**10 49 32.6**	**+0.9**
TWW	**Teanaway**	**26.87**	**92**	P	**P**	**10 49 33.8**	**+1.0**
ETW	**Entiat**	**26.90**	**91**	P	**P**	**10 49 33.6**	**+0.5**
TBM	**Table Mountain**	**27.00**	**92**	P	**P**	**10 49 34.5**	**+0.5**
ASR	**Mount Adams--S**	**27.05**	**95**	P	**P**	**10 49 35.0**	**+0.5**
WTV	**Waterville**	**27.05**	**91**	P	**P**	**10 49 34.7**	**+0.2**
NAC	**Naches**	**27.13**	**93**	P	**P**	**10 49 35.9**	**+0.7**
EBG	**Ellensburg**	**27.17**	**93**	P	**P**	**10 49 36.3**	**+0.7**
VLMM	**Larch Mountain**	**27.18**	**96**	P	**P**	**10 49 36.3**	**+0.6**
VLL	**Laurance Lake**	**27.43**	**96**	P	**P**	**10 49 38.4**	**+0.5**
EPH	**Ephrata**	**27.45**	**91**	P	**P**	**10 49 38.2**	**+0.1**
GL2	**New Goldendale**	**27.59**	**94**	P	**P**	**10 49 40.1**	**+0.7**
VFP	**Flag Point**	**27.63**	**96**	P	**P**	**10 49 40.4**	**+0.6**
VBEM	**Beaver Butte**	**27.73**	**97**	P	**P**	**10 49 41.2**	**+0.6**
BRVW	**Black Rock Val**	**27.74**	**93**	P	**P**	**10 49 41.4**	**+0.7**
FHE	**Frenchman Hill**	**27.74**	**92**	P	**P**	**10 49 40.6**	**-0.1**
MDW	**Midway**	**27.79**	**92**	P	**P**	**10 49 41.7**	**+0.5**
WAH2	**Wahluke Slope**	**27.82**	**92**	P	**P**	**10 49 41.7**	**+0.3**
CRF	**Corfu**	**27.88**	**92**	P	**P**	**10 49 41.8**	**-0.1**
EDM	**Edmonton**	**27.90**	**76**	*e*P	**P**	**10 49 41.4**	**-0.6**
OD2	**Odessa Site #2**	**27.92**	**90**	P	**P**	**10 49 42.3**	**0.0**
DPW	**Davenport**	**27.93**	**89**	*e*P	**P**	**10 49 42.0**	**-0.4**
GBL	**Gable Mountain**	**27.97**	**92**	P	**P**	**10 49 42.9**	**+0.1**
RSW	**Rattlesnake Hi**	**28.02**	**93**	P	**P**	**10 49 43.7**	**+0.5**
HAWA	**Hanford**	**28.05**	**93**	*e*P	**P**	**10 49 43.4**	**-0.1**
	3.0nm,0.8s,mb4.0						
CROR	**Criterion Ridg**	**28.11**	**96**	P	**P**	**10 49 44.5**	**+0.5**
NEW	**Newport**	**28.31**	**87**	P	**P**	**10 49 45.8**	**0.0**
	30nm,0.7s,mb5.0,baz=308,slow=7.5,SNR=73						
NEW				ScP		10 56 12.7	
	2.6nm,0.8s,baz=357,slow=3.6,SNR=5.4						
NEW	**Newport**	**28.31**	**87**	*e*P	**P**	**10 49 45.4**	**-0.5**
	29nm,0.8s,mb5.0						
VIPM	**Ingram Point**	**28.61**	**97**	P	**P**	**10 49 48.9**	**+0.4**
LNOR	**Lincton Mounta**	**29.06**	**92**	*e*P	**P**	**10 49 51.8**	**-0.7**
YBH	**Yreka Blue Hor**	**29.31**	**103**	P	**P**	**10 49 55.4**	**+0.7**
	9.1nm,1.0s,mb4.3,baz=319,slow=3.1,SNR=12						
BSMT	**Bassoo Peak**	**29.84**	**86**	P	**P**	**10 49 59.5**	**+0.2**
MOD	**Modoc**	**30.50**	**100**	*e*P	**P**	**10 50 05.3**	**+0.1**
	20nm,0.7s,mb4.9						
MSO	**Missoula**	**30.90**	**87**	*e*P	**P**	**10 50 07.8**	**-0.8**
	11nm,0.9s,mb4.5						
WVOR	**Wild Horse Val**	**31.06**	**98**	*e*P	**P**	**10 50 10.2**	**+0.1**
	27nm,0.8s,mb4.9						
CHMT	**Chamberlain Mo**	**31.23**	**87**	P	**P**	**10 50 11.1**	**-0.4**
BEKR	**Beckwourth**	**31.89**	**103**	*e*P	**P**	**10 50 16.7**	**-0.6**
	8.9nm,1.0s,mb4.2						
HRY	**Holter Researc**	**32.14**	**86**	*e*P	**P**	**10 50 19.2**	**-0.2**
WCN	**Washoe City**	**32.62**	**103**	*e*P	**P**	**10 50 23.6**	**0.0**
	26nm,1.0s,mb4.7						
HLID	**Hailey**	**32.65**	**93**	*e*P	**P**	**10 50 23.5**	**-0.3**
	14nm,0.8s,mb4.5						
MCMT	**McKenzie Canyo**	**32.72**	**89**	*e*P	**P**	**10 50 24.4**	**-0.1**
BOZ	**Bozeman (W)**	**32.89**	**87**	*e*P	**P**	**10 50 25.7**	**-0.2**
	9.0nm,0.7s,mb4.4						
FFC	**Flin Flon**	**33.19**	**67**	*e*P	**P**	**10 50 26.8**	**-1.5**
	6.7nm,0.7s,mb4.3						
CMB	**Columbia Colle**	**33.20**	**106**	*e*P	**P**	**10 50 27.8**	**-0.7**
	13nm,1.0s,mb4.4						
QLMT	**Earthquake Lak**	**33.51**	**88**	*e*P	**P**	**10 50 31.2**	**+0.1**
YAK	**Yakutsk**	**33.80**	**308**	*e*P	**P**	**10 50 32.4**	**-1.0**
	46nm,0.8s,mb5.1						
YMR	**Madison River**	**33.87**	**88**	*e*P	**P**	**10 50 34.5**	**+0.3**
GCMT	**Greycliff**	**33.89**	**85**	*e*P	**P**	**10 50 34.9**	**+0.4**
NVAR	**Mina Array Bea**	**34.03**	**103**	P	**P**	**10 50 36.2**	**+0.6**
	13nm,0.7s,mb4.6,baz=312,slow=7.0,SNR=45						
NVAR				ScP		10 56 32.9	
	1.5nm,0.7s,baz=343,slow=1.6,SNR=5.5						
NVAR	**Mina Array Bea**	**34.03**	**103**	P	**P**	**10 50 36.2**	**+0.6**
NVAR				ScP		10 56 32.9	
ELK	**Elko**	**34.07**	**97**	*e*P	**P**	**10 50 36.0**	**0.0**
	20nm,0.8s,mb4.7						
MNV	**Mina**	**34.11**	**103**	*e*P	**P**	**10 50 36.2**	**-0.1**
	16nm,1.3s,mb4.4						
OMM	**Old Mammoth Mi**	**34.25**	**105**	*e*P	**P**	**10 50 38.3**	**+0.7**
IMW	**Indian Meadow**	**34.37**	**89**	*e*P	**P**	**10 50 39.0**	**+0.5**
MOOW	**Moose Ponds**	**34.57**	**89**	*e*P	**P**	**10 50 40.2**	**0.0**
TPAW	**Teton Pass**	**34.62**	**90**	*e*P	**P**	**10 50 41.2**	**+0.5**
MTUM	**Tungsten Hills**	**34.67**	**105**	*e*P	**P**	**10 50 41.9**	**+0.7**
HVU	**Hansel Valley**	**34.74**	**93**	*e*P	**P**	**10 50 42.0**	**+0.4**
SNOW	**Snow King Moun**	**34.75**	**90**	*e*P	**P**	**10 50 42.1**	**+0.3**
TPH	**Tonopah**	**34.87**	**102**	*e*P	**P**	**10 50 43.0**	**+0.1**
	31nm,0.9s,mb4.8						
DGMT	**Dagmar**	**35.31**	**78**	*e*P	**P**	**10 50 45.8**	**-0.6**
	26nm,0.7s,mb4.9						
HWUT	**Hardware Ranch**	**35.52**	**93**	*e*P	**P**	**10 50 48.2**	**0.0**
	23nm,1.0s,mb4.7						
DUG	**Dugway**	**35.79**	**96**	*e*P	**P**	**10 50 50.6**	**0.0**
	1.1nm,0.9s,mb3.4						
BW06	**Boulder Array**	**35.87**	**89**	*e*P	**P**	**10 50 50.9**	**-0.3**
	6.7nm,0.5s,mb4.4						
PDAR	**Pinedale Array**	**35.87**	**89**	P	**P**	**10 50 51.4**	**+0.2**
	6.7nm,0.5s,mb4.5,baz=310,slow=3.8,SNR=76						
PDAR				ScP		10 56 38.6	
	1.0nm,0.8s,baz=315,slow=2.1,SNR=6.5						
DAC	**Darwin (Calif)**	**35.99**	**105**	*e*P	**P**	**10 50 52.5**	**+0.2**
	14nm,0.9s,mb4.5						
CTU	**Camp Tracy**	**36.04**	**94**	*e*P	**P**	**10 50 52.1**	**-0.5**
TPNV	**Topopah Spring**	**36.22**	**103**	*e*P	**P**	**10 50 54.1**	**-0.1**
	32nm,0.8s,mb4.9						
JLU	**Jordanelle**	**36.27**	**94**	*e*P	**P**	**10 50 54.4**	**-0.2**
NLU	**North Lily Min**	**36.37**	**95**	*e*P	**P**	**10 50 55.4**	**0.0**
DAU	**Daniels Canyon**	**36.51**	**94**	P	**P**	**10 50 56.3**	**-0.3**
MPU	**Maple Canyon**	**36.57**	**95**	*e*P	**P**	**10 50 57.0**	**0.0**
ARUT	**Antelope Range**	**37.15**	**99**	*e*P	**P**	**10 51 02.0**	**0.0**
MSU	**Marysvale**	**37.32**	**97**	*e*P	**P**	**10 51 04.2**	**+0.8**
SRU	**San Rafael**	**37.81**	**95**	*e*P	**P**	**10 51 08.0**	**+0.5**
NEN	**Nelson**	**37.95**	**103**	*e*P	**P**	**10 51 08.9**	**+0.3**
RSSD	**Black Hills**	**38.06**	**83**	⇑*i*P	**P**	**10 51 09.6**	**+0.2**
	26nm,0.8s,mb4.8						
RSSD				*i* PcP	PcP	10 53 19.6	-1.2
ULM	**Lac du Bonnet**	**38.72**	**70**	P	**P**	**10 51 14.3**	**-0.6**
	15nm,0.5s,mb4.8,baz=305,slow=8.5,SNR=13						
ULM				PcP	PcP	10 53 20.3	-2.5
	4.5nm,0.4s,baz=310,slow=3.7,SNR=4.9						
ULM	**Lac du Bonnet**	**38.72**	**70**	⇑*e*P	**P**	**10 51 14.2**	**-0.7**

	50nm,1.2s,mb4.9						
ULM				i PcP	PcP	10 53 20.9	-2.0
PV10	Paradox Valley	39.16	94	eP	P	10 51 19.2	+0.5
PV01	Paradox Valley	39.59	94	eP	P	10 51 21.9	-0.2
WUAZ	Wupatki	39.94	100	eP	P	10 51 25.2	+0.1
	27nm,1.3s,mb4.5						
SDCO	Great Sand Dun	41.57	92	⇓iP	P	10 51 38.9	+0.6
	13nm,0.8s,mb4.4						
ANMO	Albuquerque	43.06	96	⇑iP	P	10 51 50.5	0.0
	11nm,1.3s,mb4.1						
LAZ	Ladron	43.09	97	eP	P	10 51 51.0	+0.3
LENM	Lemitar	43.36	97	eP	P	10 51 53.2	+0.4
BNM	Barren Site	43.56	97	eP	P	10 51 54.7	+0.3
KSU1	Kansas State U	45.54	83	eP	P	10 52 08.6	-1.6
SUMG	Summit	45.62	20	eP	P	10 52 10.8	+0.5
	11nm,0.4s,mb4.5						
CN2	Changchun	45.91	286	eP	P	10 52 15.9	+3.0
CN2				eAP	pP	10 52 57.1	+0.2
CN2				eS	S	10 58 45.4	+4.5
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.2						
CN2				AMB	AMB		
	comp=Z,300nm,3.0s						
CPRX	Cap Rock	45.92	95	eP	P	10 52 12.8	-0.5
GDL2	Guadalupe Moun	46.28	96	eP	P	10 52 15.5	-0.4
WMOK	Wichita Mounta	47.48	89	eP	P	10 52 24.0	-1.2
	comp=Z,18nm,0.7s,mb4.5						
CCM	Cathedral Cave	49.24	80	eP	P	10 52 36.1	-2.6
	comp=Z,4.0nm,0.5s,mb4.0						
SCHQ	Schefferville	49.65	49	P	P	10 52 40.2	-1.4
	comp=Z,12nm,0.9s,mb4.2,baz=314,slow=7.6,SNR=11						
FVM	French Village	49.74	80	eP	P	10 52 40.2	-2.3
	comp=Z,12nm,0.8s,mb4.3						
JCT	Junction City	50.11	94	eP	P	10 52 43.6	-1.8
	comp=Z,24nm,0.8s,mb4.6						
WVT	Waverly	52.51	79	eP	P	10 53 01.1	-2.2
	comp=Z,5.0nm,0.4s,mb4.3						
SONM	Songino Array	52.73	302	P	P	10 53 04.9	+0.1
	comp=Z,3.4nm,0.8s,mb3.8,baz=44,slow=7.2,SNR=24						
SONM				PP	PP	10 55 04.6	-2.5
	comp=Z,1.5nm,0.7s,baz=65,slow=2.1,SNR=5.4						
OXF	Oxford	52.84	82	eP	P	10 53 03.7	-2.0
	comp=Z,38nm,0.5s,mb5.1						
ARCES	ARCESS Array B	54.24	357	P	P	10 53 14.9	-0.6
	comp=Z,21nm,1.3s,mb4.5,slow=7.3,SNR=4.6						
ARCES				PcP	PcP	10 54 15.8	-1.4
	comp=Z,30nm,1.4s,slow=3.6,SNR=5.8						
BINY	Binghamton	54.34	66	eP	P	10 53 15.0	-1.5
	comp=Z,50nm,0.9s,mb5.0						
PWV	Princeton	55.28	73	eP	P	10 53 21.4	-2.0
CPNY	Central Park	56.40	66	eP	P	10 53 29.6	-1.7
SSE	Sheshan	57.44	278	P	P	10 53 38.1	-0.7
SSE				AMB	AMB		
	comp=Z,32nm,0.7s,mb5.1						
SSE				AMB	AMB		
	comp=Z,43nm,4.6s						
SSE				LR	LR		
	comp=N,73nm,20.9s						
SSE				LR	LR		
	comp=E,92nm,21.0s						
SSE				LR	LR		
	comp=Z,127nm,19.6s						
NJ2	Nanjing	57.99	281	eP	P	10 53 43.4	+0.8
NJ2				AP	pP	10 54 27.0	-1.6
NJ2				XP	sP	10 54 47.9	-2.7
NJ2				PP	PP	10 55 55.5	+0.5
NJ2				S	S	11 01 26.0	+0.8
NJ2				XS		11 02 41.0	
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.0						
NJ2				LR	LR		
	comp=N,60nm,10.6s						
NJ2				LR	LR		
	comp=E,70nm,10.9s						
NJ2				LR	LR		
	comp=Z,20nm,10.4s						
KURK	Kurchatov	61.98	321	⇑eP	P	10 54 08.9	-0.6
	comp=Z,4.9nm,0.7s,mb4.2						
GTA	Gaotai	62.20	300	eP	P	10 54 10.3	-0.8
GTA				AMB	AMB		
	comp=Z,3.0nm,1.0s,mb3.9						
FINES	FINESS Array B	62.31	355	P	P	10 54 10.4	-1.1
	comp=Z,5.1nm,0.7s,mb4.3,baz=14,slow=7.6,SNR=49						
BVAR	Borovoye Array	62.69	327	P	P	10 54 13.8	-0.3
	comp=Z,11nm,0.8s,mb4.6,baz=53,slow=7.4,SNR=48						
NB2	NORSAR Subarra	62.79	4	P	P	10 54 13.4	-1.2
	comp=Z,2.6nm,0.5s,mb4.1,baz=358,slow=6.5						
NOA	NORSAR Array B	62.79	4	P	P	10 54 13.8	-0.8
	comp=Z,2.4nm,0.5s,mb4.1,baz=357,slow=6.5,SNR=12						
LZH	Lanzhou	62.81	295	eP	P	10 54 15.0	-0.1
LZH				AP	pP	10 54 59.5	-2.5
LZH				XP	sP	10 55 19.8	-3.8
LZH				PP	PP	10 56 36.8	-0.4
LZH				AMB	AMB		
	comp=Z,26nm,1.3s,mb4.7						
LZH				LR	LR		
	comp=N,265nm,15.2s						
LZH				LR	LR		
	comp=Z,334nm,17.9s						
ZRNK	Zerenda	63.17	328	eP	P	10 54 16.6	-0.6
	comp=Z,14nm,1.0s,mb4.5						
HFS	Hagfors	63.77	2	P	P	10 54 19.9	-1.0
	comp=Z,12nm,0.4s,mb4.9,baz=27,slow=3.3,SNR=97						
MKAR	Makanchi Array	63.90	316	P	P	10 54 20.7	-1.3
	comp=Z,2.2nm,0.5s,mb4.0,baz=44,slow=5.9,SNR=33						
MKAR				PP	PP	10 56 42.5	-3.9
	comp=Z,1.9nm,1.0s,baz=34,slow=8.7,SNR=4.3						
MKAR	Makanchi Array	63.90	316	P	P	10 54 20.7	-1.3
MKAR				PP	PP	10 56 42.5	-3.9
WMQ	Urumqi	64.17	311	eP	P	10 54 25.8	+2.0
WMQ				AP	pP	10 55 08.9	-2.0
WMQ				XP	sP	10 55 30.0	-2.4
WMQ				AMB	AMB		
	comp=Z,8.0nm,1.2s,mb4.2						
WMQ				LR	LR		
	comp=Z,22nm,18.0s						
EKA	Eskdalemuir Ar	67.33	13	P	P	10 54 43.5	-0.2
	comp=Z,5.6nm,0.5s,mb4.4,baz=339,slow=4.8,SNR=10						
KMI	Kunming	72.11	288	eP	P	10 55 14.3	+1.1
KMI				XP	sP	10 56 20.8	-1.8
KMI				S	S	11 04 17.6	+0.3
KMI				XS		11 05 37.8	
KMI				SS	SS	11 09 00.3	-0.7
KMI				AMB	AMB		
	comp=Z,5.0nm,1.2s,mb4.0						
KMI				AMB	AMB		
	comp=Z,94nm,5.7s						
CLL	Collm	72.59	3	P	P	10 55 15.4	0.0
CLL	Collm	72.59	3	i P	P	10 55 15.4	0.0
AKASG	Malin Array Be	72.84	352	P	P	10 55 16.0	-0.9
	comp=Z,9.7nm,0.5s,mb4.7,baz=8.6,slow=5.8,SNR=39						
BRG	Berggiesshubel	73.05	3	eP	P	10 55 18.2	+0.1
	comp=Z,4.1nm,0.9s,mb4.1						
BAIF	Baives	73.31	9	eP	P	10 55 18.9	-0.8
	comp=Z,4.0nm,0.4s,mb4.1						
PVCC	Panska Ves	73.41	2	eP	P	10 55 20.5	+0.3
UPC	Upice	73.45	1	eP	P	10 55 21.1	+0.6
DPC	Dobruska-Polom	73.61	1	eP	P	10 55 21.7	+0.3
NKC	Novy Kostel	73.64	4	eP	P	10 55 21.9	+0.3
PRU	Pruhonice	73.95	2	eP	P	10 55 23.4	+0.1
OKC	Ostrava-Krasne	74.13	360	eP	P	10 55 24.6	+0.2
GRA1	Grafenberg Arr	74.14	4	eP	P	10 55 24.6	+0.2
	comp=Z,5.0nm,0.5s,mb4.4						
GRR	Gorron	74.44	13	eP	P	10 55 24.8	-1.4
VRAC	Vranov	74.66	1	P	P	10 55 28.3	+0.9
	comp=Z,3.5nm,0.5s,mb4.3,baz=1.5,slow=6.2,SNR=7.0						
KHC	Kasperske Hory	74.78	3	eP	P	10 55 28.7	+0.6
GERES	GERESS Array B	75.07	3	P	P	10 55 29.7	0.0
	comp=Z,3.2nm,0.8s,mb4.0,baz=14,slow=5.5,SNR=18						
CDF	Champ du Feu	75.19	7	eP	P	10 55 29.7	-0.8
	comp=Z,4.2nm,0.7s,mb3.9						
HAU	Haudompre	75.53	8	eP	P	10 55 31.6	-0.8
HINF	Hinteralfeld	75.75	8	eP	P	10 55 32.7	-0.9
SSF	Saint Saulge	76.22	10	eP	P	10 55 35.6	-0.6
	comp=Z,13nm,0.4s,mb4.6						
MFF	Saint Martin d	76.28	13	eP	P	10 55 36.1	-0.5
	comp=Z,13nm,0.7s,mb4.4						
AVF	Avril sur Loir	76.48	10	eP	P	10 55 36.8	-0.8
	comp=Z,11nm,0.4s,mb4.5						
WTTA	Wattenberg	76.58	4	⇑iP	P	10 55 38.4	+0.2
	comp=Z,5.8nm,0.5s,mb4.5						
BGF	Bois d'Agland	76.66	10	eP	P	10 55 38.0	-0.6
SMF	Signal de Mont	76.67	10	eP	P	10 55 37.8	-0.9
	comp=Z,5.1nm,0.4s,mb4.2						
KBA	Koelnbreinsper	76.83	3	⇑iP	P	10 55 40.9	+1.3
	comp=Z,5.6nm,0.6s,mb4.4						
TCF	Toulx Ste Croi	76.86	11	eP	P	10 55 38.9	-0.9
CABF	La Chapelle	76.90	8	eP	P	10 55 39.7	-0.3
	comp=Z,4.9nm,0.6s,mb4.0						
DAVOX	Davos	76.98	6	P	P	10 55 41.5	+1.1
	comp=Z,6.9nm,0.9s,mb4.3,baz=356,slow=5.5,SNR=9.0						
PERS	Pernice	77.31	2	eP	P	10 55 43.1	+0.8
OBKA	Obir	77.43	2	⇓iP	P	10 55 43.5	+0.6
	comp=Z,20nm,0.4s,mb5.1						
GROS	Grobnik	77.49	2	i P	P	10 55 43.8	+0.5
CADS	Cadrg	77.69	3	i P	P	10 55 44.1	-0.2
RJF	Les Rejaudoux	77.75	12	eP	P	10 55 43.9	-0.8
LPL	La Plagne	78.03	8	eP	P	10 55 46.7	+0.5
LPG	La Plagne	78.05	8	eP	P	10 55 46.3	-0.1
MLR	Muntele Rosu	78.24	354	P	P	10 55 48.2	+0.8
	comp=Z,0.9nm,0.4s,mb3.8,baz=175,slow=19,SNR=3.8						
VIVF	Saint-Julien-l	78.52	9	eP	P	10 55 48.5	-0.4
ORIF	Oris-en-Rattie	78.56	9	eP	P	10 55 49.1	0.0
	comp=Z,8.1nm,0.8s,mb4.1						
MBDF	Montbardon	78.82	8	eP	P	10 55 50.0	-0.5
	comp=Z,12nm,0.8s,mb4.3						
CMAR	Chiang Mai Arr	79.57	287	P	P	10 55 54.3	-0.8
	comp=Z,2.0nm,0.8s,mb3.8,baz=14,slow=6.3,SNR=12						
MTLF	Montolieu	79.77	11	eP	P	10 55 55.2	-0.4
	comp=Z,6.6nm,0.8s,mb4.0						
ETSF	Etsaut	79.87	14	eP	P	10 55 56.0	-0.2
PGF	Pioggiola	81.15	7	eP	P	10 56 02.8	-0.1
	comp=Z,11nm,0.8s,mb4.3						
ESDC	Sonseca Array	82.54	17	P	P	10 56 11.0	+0.8
	comp=Z,0.9nm,0.5s,mb3.8,baz=351,slow=3.7,SNR=10						
BRTR	Keskin Array B	83.30	348	P	P	10 56 14.9	+0.9
	comp=Z,2.7nm,1.0s,mb3.9,baz=41,slow=3.7,SNR=5.1						
CTA	Charters Tower	87.61	227	P	P	10 56 37.0	+1.5
	comp=Z,4.7nm,0.8s,mb4.3,baz=84,slow=3.1,SNR=4.6						
CTA	Charters Tower	87.61	227	P	P	10 56 37.0	+1.5
VNA3	Neumayer Olymp	161.12	153	⇑iPKPdf	PKPdf	11 03 44.3	+1.3
VNA3				e		11 04 28.2	
VNA3				e		11 08 15.6	
VNA1	Neumayer--Stat	161.85	152	⇓iPKPdf	PKPdf	11 03 43.9	+0.1
VNA1				e		11 04 27.8	
VNA1				e		11 08 15.1	
VNA2	Neumayer--Watz	161.90	153	⇑iPKPdf	PKPdf	11 03 47.1	+3.3
VNA2				e		11 04 30.8	
VNA2				e		11 08 18.2	
SNAA	Sanae	162.40	158	⇑iPKPdf	PKPdf	11 03 53.4	+9.1
SNAA				e		11 04 36.6	
SNAA				e		11 08 24.5	

*ISK **19** 10:52:31.3, 38.93N×35.70E, h5^{km}, MD3.5*

ISC 19 10:52:32.8±0.4**, 38.89N**±0.03×**35.68E**±0.03**, h5^{km}, n28, σ1^{s}10**/38**, 6C, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BNN	Bunyan	0.14	108	i PG	Pg	10 52 34.7	-1.0
AVNT	Avonos	0.65	260	⇑iP	Pg	10 52 44.5	-1.4
AVNT				i S	Sg	10 52 54.7	+0.1
YOZ	Yozgat	0.80	340	i PG	Pg	10 52 47.0	-1.7
NIG	Nigde	1.15	227	i PN	Pn	10 52 54.3	-1.2
SVST	Sivas	1.32	48	i P	Pb	10 52 56.1	-1.6
SVST				i S	Sb	10 53 17.3	+2.5
SVSK	Karacayir	1.45	45	i PN	Pn	10 52 58.4	-1.3
SVSK				i SN	Sn	10 53 18.9	-0.4
KAMT	Kaman	1.60	288	i PN	Pn	10 53 02.2	+0.2
CTKT	Corum	1.86	339	⇑iP	Pn	10 53 06.9	+1.3
CTKT				i S	Sn	10 53 34.4	+4.6
CEYT	Ceyhan	1.88	178	PN	Pn	10 53 06.9	+0.9
GAZ	Gaziantep	2.10	144	PN	Pn	10 53 08.9	-0.2
GZT	Gaziantep	2.14	135	i P	Pn	10 53 12.9	+3.3
GZT				i S	Sn	10 53 41.6	+4.7
KVT	Kavak	2.20	7	PN	Pn	10 53 10.3	-0.3
MALT	Malatya	2.23	104	i PN	Pn	10 53 11.2	+0.2
CANT	Cankiri	2.33	318	ePN	Pn	10 53 12.1	-0.4
ELDT	Eldivan	2.36	313	⇑iP	Pn	10 53 13.1	+0.3
ELDT				i S	Sn	10 53 44.8	+2.3
COBT	Iskenderun	2.41	169	⇑iP	Pn	10 53 13.1	-0.5
COBT				i S	Sn	10 53 47.4	+3.6
ANTO	Ankara	2.44	294	ePN	Pn	10 53 14.4	+0.4
LOD	Lodumlu	2.47	295	ePN	Pn	10 53 14.6	+0.2
TOS	Tosya	2.49	330	ePN	Pn	10 53 13.8	-0.9
BOYT	Boyabat	2.59	347	⇑iP	Pn	10 53 18.1	+1.9
BOYT				i S	Sn	10 53 55.6	+7.1
MEST	Erdemli	2.60	208	⇑iP	Sn	10 53 55.6	+6.9
ELZG	Elazig	2.62	98	i P	Pn	10 53 16.2	-0.3
ELZG				i S	Sn	10 54 01.1	+12
KIZT	Kizilcal	2.96	271	ePN	Pn	10 53 21.1	-0.4
KELT	Kelkit	3.04	64	i P	Pn	10 53 22.3	-0.2
IKL	Isikli	3.09	211	ePN	Pn	10 53 23.6	+0.4
SGKT	Sivrigoynuk	3.26	302	i P	Pn	10 53 26.2	+0.5
SGKT				i S	Sn	10 54 04.6	-0.7
EZC	Erzincan	3.32	74	ePN	Pn	10 53 20.7	-5.8
GUMT	Gumushane	3.32	61	ePN	Pn	10 53 26.6	0.0

*BJI **19** 11:06:27.8, 5.17S×151.95E, h65^{km}, mB4.7, mb4.6, Ms4.0, Msz3.8*

*NEIC **19** 11:06:29.9±0.2, 5.42S×151.64E, mb4.8/28, Error ellipse: s-maj=9.7km s-min=5.2km az=124.0*

*IDC **19** 11:06:29.4±0.7, 5.55S×151.70E, h60^{km}±4^{km}, mb4.5/11, mb1 4.6/12, mb1mx4.6/14, MS3.9/6, Ms1 3.9/6, ms1mx3.7/16, Error ellipse: s-maj=19.5km s-min=10.9km az=120.0*

ISC 19 11:06:27.9±1.1**, 5.49S**±0.06×**151.66E**±0.08**, h60^{km}**±9^{km}**, h63^{km}**±2.9^{km}**:pP-P, n94, σ0^{s}96**/63**, mb4.8**/35**, 3C-1D, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAB	Rabaul	1.38	21	⇑iP	P	11 06 51.3	-0.2
KMBE	Kimbe	1.50	267	eP	P	11 06 52.7	-0.4
PMG	Port Moresby	5.92	229	eP	P	11 07 55.9	+1.0
CTA	Charters Tower	15.43	199	eP	P	11 10 07.0	+3.6
	8.8nm,0.7s						
CTA	Charters Tower	15.43	199	P	P	11 10 03.4	0.0
	0.4nm,0.3s,baz=24,slow=14,SNR=14						
CTA				LR	LR	11 15 39.1	
	comp=Z,709nm,18.8s,baz=33,slow=36						
CTA	Charters Tower	15.43	199	eP	P	11 10 07.0	+3.6
CTA				LR	LR	11 15 39.1	
CTAO	Charters Tower	15.43	199	eP	P	11 10 07.1	+3.8
	9.8nm,0.7s						
KAKA	Kakadu	20.31	248	⇑iP	P	11 11 02.7	+1.2
	40nm,0.6s						
KAKA				eS	S	11 14 56.8	+16
WRAB	Tennant Creek	22.12	228	eP	P	11 11 19.3	-0.4
	43nm,0.8s,mb4.9						
WB2	Warramunga Arr	22.13	228	eP	P	11 11 20.6	+0.8
WB2				eS	S	11 15 19.0	+4.2
WRA	Warramunga Arr	22.14	228	P	P	11 11 19.7	-0.2
	21nm,0.7s,mb4.7,baz=52,slow=9.9,SNR=67						
WRA				pP		11 11 34.3	
	27nm,0.7s,baz=51,slow=10.0,SNR=14						
WRA				S	S	11 15 20.3	+5.3
	12nm,1.1s,baz=53,slow=18,SNR=9.4						
WRA				ScP		11 18 49.2	
	2.3nm,1.1s,baz=48,slow=2.8,SNR=9.6						
WRA				LR	LR	11 20 18.6	
	comp=Z,262nm,19.9s,baz=50,slow=38						
ASAR	Alice Springs	24.88	222	P	P	11 11 46.8	+0.1
	38nm,0.7s,mb5.0,baz=57,slow=8.9,SNR=206						
ASAR				pP		11 12 02.5	
	42nm,0.8s,baz=61,slow=8.3,SNR=14						
ASAR				ScP		11 18 56.5	
	0.3nm,0.5s,baz=57,slow=2.7,SNR=4.7						
ASAR				LR	LR	11 21 08.1	
	comp=Z,187nm,19.9s,baz=264,slow=35						
ASPA	Alice Springs	24.88	222	eP	P	11 11 47.2	+0.6
ASPA				eS	S	11 16 14.8	+12
STKA	Stephens Creek	27.89	199	eP	P	11 12 12.8	-1.6
	4.5nm,0.6s,mb4.3						
STKA	Stephens Creek	27.89	199	P	P	11 12 13.4	-1.0
	4.4nm,0.7s,mb4.2,baz=17,slow=8.1,SNR=12						
STKA				pP	pP	11 12 28.4	-0.7
	6.8nm,0.8s,baz=22,slow=7.7,SNR=5.9						
STKA				LR	LR	11 23 50.6	
	comp=Z,235nm,18.9s,baz=25,slow=37						
FITZ	Fitzroy Crossi	28.33	242	⇑iP	P	11 12 17.4	-1.0
	42nm,0.9s,mb5.1						
FITZ	Fitzroy Crossi	28.33	242	P	P	11 12 17.8	-0.6
	58nm,0.8s,mb5.3,baz=73,slow=4.2,SNR=41						
FITZ				LR	LR	11 24 28.3	
	comp=Z,46nm,19.1s,baz=81,slow=38						
FORT	Forrest	33.54	219	eP	P	11 13 02.9	-1.2
	32nm,0.6s,mb5.4						
MBWA	Marble Bar	34.64	240	eP	P	11 13 12.4	-1.3
	20nm,1.0s,mb5.0						
JOW	Kunigami	39.31	326	P	P	11 13 54.1	+1.4
	25nm,0.9s,mb5.0,baz=118,slow=10.0,SNR=7.2						
KLBR	Kellerberrin	41.01	227	eP	P	11 14 10.4	+3.6
	29nm,1.4s,mb4.7						
RPZ	Rata Peaks	41.73	159	LR	LR	11 28 46.6	
	comp=Z,529nm,20.9s,baz=0.6,slow=32						
MUN	Mundaring	42.33	227	eP	P	11 14 22.2	+4.5
	10nm,0.8s,mb4.5						
ENH	Enshi	53.80	314	eP	P	11 15 46.9	0.0
	18nm,1.1s,mb4.9						
CMAR	Chiang Mai Arr	57.15	296	P	P	11 16 11.8	+0.6
	1.3nm,0.5s,mb4.3,baz=126,slow=6.2,SNR=9.5						
CMAR				pP	pP	11 16 27.2	-0.1
	0.8nm,0.4s,baz=88,slow=37,SNR=2.3						
CMAR				sP	sP	11 16 32.9	-1.4
	1.5nm,0.8s,baz=106,slow=6.6,SNR=2.2						
HIA	Hailar	61.20	337	eP	P	11 16 37.2	-1.5
	9.5nm,1.6s,mb4.7						
GTA	Gaotai	65.40	318	eP	P	11 17 06.6	0.0
GTA				AMB	AMB		
	comp=Z,3.0nm,0.5s,mb4.6						
SONM	Songino Array	66.31	328	P	P	11 17 12.5	+0.3
	comp=Z,6.9nm,0.8s,mb4.8,baz=138,slow=5.0,SNR=38						
CASY	Casey	67.03	197	eP	P	11 17 15.5	-0.9
	comp=Z,2.3nm,0.7s,mb4.3						
PKI	Pulchoki	71.81	301	eP	P	11 17 46.0	-0.4
	comp=Z,7.7nm,0.6s,mb4.8						
KKN	Kakani	71.98	301	eP	P	11 17 47.0	-0.4
	comp=Z,19nm,0.9s,mb5.0						
DMN	Daman	72.08	301	eP	P	11 17 47.9	-0.1
	comp=Z,32nm,1.0s,mb5.2						
GKN	Gorkha	72.59	301	eP	P	11 17 50.5	-0.5
	comp=Z,20nm,0.8s,mb5.1						
KOLN	Koldanda	73.41	301	eP	P	11 17 54.9	-1.0
	comp=Z,14nm,0.8s,mb5.0						
HYB	Hyderabad	75.65	289	i P	P	11 18 08.0	-0.9
MKAR	Makanchi Array	80.10	319	P	P	11 18 33.1	+0.1
	comp=Z,9.5nm,1.1s,mb4.7,baz=103,slow=5.9,SNR=31						
SML	Sawmill	81.22	25	eP	P	11 18 38.2	-0.4
IMA	Indian Mountai	81.48	20	eP	P	11 18 41.0	+1.1
MCK	McKinley	81.93	23	eP	P	11 18 41.0	-1.3
	comp=Z,3.7nm,0.9s,mb4.3						
COLA	College	82.91	22	eP	P	11 18 46.3	-0.9
ILAR	Eielson Array	83.22	22	P	P	11 18 47.4	-1.4
	comp=Z,3.2nm,0.7s,mb4.5,baz=247,slow=4.8,SNR=39						
ILAR				pP	pP	11 19 06.2	+0.5
	comp=Z,1.9nm,0.9s,baz=263,slow=4.4,SNR=3.4						
ILAR				sP	sP	11 19 11.6	-0.8
	comp=Z,2.1nm,0.9s,baz=251,slow=5.2,SNR=3.6						
TKM2	Tokmak 2	83.59	314	P	P	11 18 52.3	+1.2
	SNR=6.8						
KURK	Kurchatov	83.61	322	eP	P	11 18 49.8	-1.2
	comp=Z,15nm,1.1s,mb5.0						
UCH	Uchtor	84.21	313	P	P	11 18 56.3	+2.0
	SNR=8.8						
USP	Ospenovka	84.45	314	P	P	11 18 56.4	+0.9
	SNR=10						
QSPA	South Pole Qui	84.47	180	eP	P	11 18 54.8	0.0
	comp=Z,6.4nm,0.9s,mb4.8						
MAW	Mawson	84.50	203	P	P	11 18 55.1	-0.1
	comp=Z,2.0nm,0.9s,mb4.2,baz=56,slow=3.9,SNR=3.9						
AML	Almayashu	84.79	313	P	P	11 18 59.0	+1.9
	SNR=7.7						
EKS2	Erkin-Say	84.84	314	P	P	11 18 58.2	+0.8
	SNR=12						
BRVK	Borovoye	89.18	323	P	P	11 19 17.4	-0.8
	comp=Z,9.6nm,1.2s,mb5.0						
INK	Inuvik	89.50	21	eP	P	11 19 19.1	-0.3
	comp=Z,0.4nm,0.5s,mb4.0						
ZRNK	Zerenda	89.92	323	eP	P	11 19 20.3	-1.3
	comp=Z,4.8nm,0.9s,mb4.8						
HUMO	Hull Mountain	90.28	47	eP	P	11 19 24.3	+0.7
	comp=Z,12nm,0.9s,mb5.2						
NVAR	Mina Array Bea	93.40	52	P	P	11 19 39.5	+1.3
	comp=Z,3.6nm,0.7s,mb4.9,baz=253,slow=3.3,SNR=18						
MNV	Mina	93.52	52	eP	P	11 19 38.6	0.0
	comp=Z,6.1nm,0.9s,mb5.0						
TPH	Tonopah	94.23	52	eP	P	11 19 42.8	+1.0
	comp=Z,4.2nm,1.0s,mb4.8						
TPNV	Topopah Spring	94.93	53	eP	P	11 19 45.7	+0.6
	comp=Z,6.0nm,0.9s,mb5.0						
ELK	Elko	95.90	50	eP	P	11 19 50.3	+0.9
EDM	Edmonton	97.36	37	eP	P	11 19 56.1	+0.4
TCUT	Toone Canyon	98.80	49	eP	P	11 20 01.9	-0.7
PDAR	Pinedale Array	100.15	48	P	P	11 20 08.7	0.0
	comp=Z,2.3nm,0.8s,baz=278,slow=2.1,SNR=18						
BRTR	Keskin Array B	114.91	311	PKP	PKPdf	11 25 02.8	+0.5
	comp=Z,0.9nm,0.8s,baz=45,slow=1.7,SNR=4.1						
BRG	Berggiesshubel	122.69	330	eP	PKPdf	11 25 17.7	+0.7
CLL	Collm	122.90	330	⇓iPKIKP	PKPdf	11 25 18.9	+1.5
	comp=Z,logA/T=0.9						
KHC	Kasperske Hory	123.93	328	ePKPDF	PKPdf	11 25 20.5	+1.0
GERES	GERESS Array B	124.04	328	PKP	PKPdf	11 25 21.2	+1.5
	comp=Z,3.4nm,0.6s,baz=74,slow=1.5,SNR=29						
CRES	Cresnjevec ost	124.78	324	ePKP	PKPdf	11 25 22.6	+1.4
GRA1	Grafenberg Arr	124.80	330	ePKPdf	PKPdf	11 25 22.7	+1.6
LJU	Ljubljana	125.20	325	ePKP	PKPdf	11 25 23.6	+1.6
CEY	Cerknica	125.43	324	ePKP	PKPdf	11 25 23.8	+1.4
CDF	Champ du Feu	127.59	331	ePKIKP	PKPdf	11 25 28.3	+1.7
HINF	Hinteralfeld	128.21	330	ePKIKP	PKPdf	11 25 28.8	+1.0
HAU	Haudompre	128.32	331	ePKIKP	PKPdf	11 25 29.4	+1.4
	comp=Z,11nm,0.7s						
MEZF	Maizieres J'vi	128.59	332	ePKIKP	PKPdf	11 25 30.4	+1.9
LPL	La Plagne	129.82	328	ePKIKP	PKPdf	11 25 32.4	+1.5
	comp=Z,4.6nm,0.7s						
LPG	La Plagne	129.83	328	ePKIKP	PKPdf	11 25 32.5	+1.6
	comp=Z,6.0nm,0.7s						
LOR	Lormes	130.04	332	ePKIKP	PKPdf	11 25 33.8	+2.5
	comp=Z,7.7nm,0.9s						
MBDF	Montbardon	130.33	327	ePKIKP	PKPdf	11 25 33.9	+2.0
	comp=Z,3.7nm,0.7s						
SSF	Saint Saulge	130.35	332	ePKIKP	PKPdf	11 25 34.5	+2.6
	comp=Z,7.6nm,0.8s						
PGF	Pioggiola	130.46	324	ePKIKP	PKPdf	11 25 33.8	+1.6
	comp=Z,17nm,0.9s						
AVF	Avril sur Loir	130.62	332	ePKIKP	PKPdf	11 25 33.9	+1.5
ORIF	Oris-en-Rattie	130.67	328	ePKIKP	PKPdf	11 25 34.2	+1.6
	comp=Z,10nm,0.8s						
BGF	Bois d'Agland	131.03	332	ePKIKP	PKPdf	11 25 35.1	+1.9
FRF	La Foret Royal	131.16	326	ePKIKP	PKPdf	11 25 35.1	+1.6
VIVF	Saint-Julien-l	131.34	329	ePKIKP	PKPdf	11 25 34.5	+0.7
	comp=Z,5.2nm,0.7s						
TCF	Toulx Ste Croi	131.53	332	ePKIKP	PKPdf	11 25 36.0	+1.9
	comp=Z,9.6nm,0.7s						
SGMF	Saint Gilles	132.05	337	ePKIKP	PKPdf	11 25 36.8	+1.7
	comp=Z,40nm,1.1s						
LASF	Ste Croix	132.30	329	ePKIKP	PKPdf	11 25 36.2	+0.5
	comp=Z,16nm,1.1s						
LPAZ	La Paz	135.08	119	PKP	PKPdf	11 25 44.7	+3.2
	comp=Z,1.5nm,0.3s,baz=299,slow=0.6,SNR=4.2						
LPAZ	La Paz	135.08	119	PKP	PKPdf	11 25 44.7	+3.2
EVO	Evora	142.29	334	ePKIKP	PKPdf	11 25 55.4	+1.4
	comp=Z,37nm,1.4s						
BDFB	Brasilia	151.36	137	PKPbc	PKPdf	11 26 17.2	+7.6
	comp=Z,7.8nm,0.8s,baz=229,slow=2.7,SNR=12						
BDFB				PKPab	PKPab	11 26 25.7	-0.6
	comp=Z,3.6nm,0.7s,baz=181,slow=8.9,SNR=4.5						
BAO	Brasilia Array	151.38	137	eP	PKPdf	11 26 17.3	+7.7
DBIC	Dimbokro	156.62	274	PKPab	PKPab	11 26 47.8	-0.9
	comp=Z,14nm,1.2s,baz=91,slow=7.1,SNR=4.4						

IDC 19 11:14:04.0±17.0**, 22.63S**×**175.17W, mb4.1**/5**, mb1 4.2**/5**, mb1mx3.9**/15**, Error ellipse: s-maj=321.0km s-min=149.1km az=80.0, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	35.95	267	P	P	11 21 07.8	-0.7
	4.5nm,0.5s,baz=104,slow=11,SNR=17						
STKA	Stephens Creek	39.31	247	P	P	11 21 33.8	-2.8
	0.8nm,0.6s,baz=100,slow=18,SNR=3.1						
ASAR	Alice Springs	46.63	258	P	P	11 22 33.8	-2.4
	0.5nm,0.4s,baz=96,slow=7.3,SNR=16						
WB2	Warramunga Arr	46.93	263	eP	P	11 22 35.8	-2.7
WRA	Warramunga Arr	46.94	263	P	P	11 22 36.2	-2.5
	1.5nm,0.3s,baz=96,slow=8.4,SNR=89						
FITZ	Fitzroy Crossi	55.37	263	P	P	11 23 41.0	-1.5
	1.2nm,0.8s,baz=106,slow=7.4,SNR=4.0						

*LDG **19** 11:20:40.1±0.4, 42.89N×1.48W, h2^{km}, Md2.4/2, Ml2.0/11, Error ellipse: s-maj=6.3km s-min=4.7km az=49.0*

MDD 19 11:20:40.6±0.7, 42.86N×1.43W, h8^{km}±3^{km}, mbLg1.4/5, Error ellipse: s-maj=5.3km s-min=3.6km az=38.0, PRXIMO AftershockPLICA, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJPF	Ste Jean	0.30	31	ePg	Pg	11 20 46.4	-0.3
SJPF				eSg	Sg	11 20 49.1	-1.7
	21nm,0.3s						
EALK	Alkurruntz	0.36	351	Pg	Pg	11 20 44.1	-3.9
	SNR=7.9						
EALK				Lg		11 20 53.6	
	11nm,0.2s,SNR=7.9						
LARF	Larrau	0.37	61	P	Pg	11 20 47.7	-0.4
LARF				S	Sg	11 20 53.9	+0.7
ETSF	Etsaut	0.64	86	ePg	Pg	11 20 52.0	-1.5
ETSF				eSg	Sg	11 21 00.7	-1.4
ETSF				eSn	Sn	11 21 02.8	-3.2
	2.5nm,0.3s						
EPF	Esparros	1.31	82	ePn	Pn	11 21 04.2	-1.0
EPF				ePg	Pg	11 21 06.5	-0.3
EPF				eSg	Sg	11 21 22.3	-2.0
	2.9nm,0.4s						
ESAC	San Caprasio	1.34	148	Pg	Pg	11 21 09.7	+2.2
	SNR=7.9						
ESAC				Lg		11 21 23.8	
	6.7nm,0.2s,SNR=7.9						
ELAN	Lanestosa	1.52	285	Pg	Pg	11 21 06.6	-4.3
	1.0nm,0.2s,SNR=7.9						
ELAN				Lg		11 21 30.0	
	SNR=4.0						
LFF	La Frestale	2.61	36	ePn	Pn	11 21 21.5	-2.3
LFF				eSn	Sn	11 21 52.0	-3.9
LFF				eSg	Sg	11 22 00.7	-6.7
	3.1nm,0.3s						
MTLF	Montolieu	2.72	79	ePn	Pn	11 21 24.3	-1.0
MTLF				eSn	Sn	11 21 56.1	-2.6
	0.4nm,0.3s						
RJF	Les Rejaudoux	3.24	40	ePn	Pn	11 21 29.8	-3.0
RJF				eSn	Sn	11 22 07.6	-4.4
	0.6nm,0.3s						
CAF	Calviac	3.26	50	ePn	Pn	11 21 30.3	-2.8
CAF				eSn	Sn	11 22 08.5	-4.1
	0.5nm,0.2s						
MFF	Saint Martin d	3.85	13	ePn	Pn	11 21 38.8	-2.7
MFF				ePg	Pg	11 21 50.4	-7.1
MFF				eSn	Sn	11 22 21.9	-5.6
	1.0nm,0.3s						
MFF				eSg	Sg	11 22 41.0	-7.9
LASF	Ste Croix	4.04	71	ePn	Pn	11 21 41.7	-2.4
LASF				eSn	Sn	11 22 27.2	-5.0
	0.6nm,0.4s						
BGF	Bois d'Agland	4.79	38	ePn	Pn	11 21 50.5	-4.3
BGF				eSn	Sn	11 22 44.0	-7.3
	5.4nm,0.5s						
VIVF	Saint-Julien-l	4.84	64	ePn	Pn	11 21 52.5	-3.1
VIVF				eSn	Sn	11 22 45.6	-7.0
	1.1nm,0.4s						
AVF	Avril sur Loir	5.20	39	ePn	Pn	11 21 56.1	-4.5
AVF				eSn	Sn	11 22 53.7	-7.8
	0.7nm,0.4s						

*SYO **19** 11:32:14.8, 9.55S×118.02E, h37^{km}, MB4.9*

*DJA **19** 11:32:14.8±1.0, 9.79S×117.87E, h2^{km}, MD5.3/6, Error ellipse: s-maj=29.1km s-min=6.0km az=156.0*

*BJI **19** 11:32:15.5, 9.50S×118.00E, h38^{km}, mB5.0, mb5.0, Ms4.5, Msz4.2*

*NEIC **19** 11:32:15.5±0.8, 9.46S×118.00E, h39^{km}±8^{km}, mb4.9/22, MS4.4/1, Error ellipse: s-maj=10.7km s-min=5.2km az=46.0*

*HRVD **19** 11:32:15.5±0.5, 9.80S×117.96E, h38^{km}±2^{km}, MW5.0/38, Centroid moment Tensor Solution. LP body waves: s20,c27;Mantle waves: s38,c58; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.58±.22; $M_{\theta\theta}$2.42±.14; $M_{\phi\phi}$-0.84±.20; $M_{r\theta}$-0.98±.14; $M_{\theta\phi}$-0.92±.10; $M_{\phi r}$2.27±.23; Best double couple: $M_0$3.38×10^{16} NP1:ϕ_s253°, δ38°, λ-151°. NP2:ϕ_s140°, δ73°, λ-56°. Principal axes: T 3.25, Plg21°, Azm205°; N .26, Plg32°, Azm308°; P -3.52, Plg50°, Azm88°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*IDC **19** 11:32:15.2±3.8, 9.55S×118.01E, h32^{km}±28^{km}, mb4.4/14, mb1 4.4/16, mb1mx4.4/19, ML4.3/2, MS4.0/7, Ms1 4.0/7, ms1mx3.8/17 Error ellipse: s-maj=23.3km s-min=13.6km az=62.0*

*MOS **19** 11:32:19.2±0.5, 8.47S×117.90E, h49^{km}, mb5.0/7, Error ellipse: s-maj=58.6km s-min=17.6km az=106.8*

ISC 19 11:32:14.4±0.8, 9.52S±0.05×118.00E±0.04, h47^{km}±7^{km}, h46^{km}±4.5^{km}:pP-P, n85, σ1^{s}28/93, mb4.8/40, MS4.0/7, 4C-9D, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KEDI	Kedomdong	2.13	299	⇓ePn	P	11 32 50.2	+2.0
RATI	Rata	2.56	288	⇓ePn	P	11 32 54.8	+0.3
INGI	Ingas	2.91	284	⇓ePn	P	11 32 59.0	-0.3
KELI	Kelakatan	3.70	290	ePn	P	11 33 11.2	+0.6
KELI				eSn	S	11 33 52.2	-1.2
NINI	Niniconang	5.35	19	⇓ePn	P	11 33 39.5	+5.7
NINI				eSn	S	11 34 41.4	+6.4
TANI	Tanete Lipujan	6.20	13	⇓ePn	P	11 33 49.7	+4.1
BUNI	Buntu Taipa	6.26	22	⇓ePn	P	11 33 52.7	+6.2
FITZ	Fitzroy Crossi	11.30	140	eP	P	11 34 51.5	-4.6
	20nm,1.0s						
FITZ				eS	S	11 36 46.9	-15
FITZ	Fitzroy Crossi	11.30	140	Pn	P	11 34 53.5	-2.6
	1.3nm,0.3s,baz=343,slow=7.3,SNR=41						
FITZ				Sn	S	11 36 49.2	-13
	13nm,0.3s,baz=182,slow=18,SNR=20						
FITZ				LR	LR	11 39 14.5	
	comp=Z,308nm,19.3s,baz=302,slow=37						
MBWA	Marble Bar	11.69	172	ePn	P	11 34 53.6	-7.7
	42nm,0.4s						
MBWA				eSn	Sx	11 36 49.2	
KAKA	Kakadu	14.48	104	eP	P	11 35 39.7	+1.4
	24nm,0.6s						
KAKA				eS	S	11 38 19.0	+0.8
WRA	Warramunga Arr	18.88	125	P	P	11 36 32.1	-1.5
	1.2nm,0.3s,baz=298,slow=14,SNR=79						
WRA				S	S	11 39 47.8	-11
	0.8nm,0.3s,baz=299,slow=24,SNR=7.5						
WRA				LR	LR	11 44 28.6	
	comp=Z,290nm,19.4s,baz=285,slow=39						
WRAB	Tennant Creek	18.88	125	eP	P	11 36 32.5	-1.1
	29nm,0.9s						
WRAB				eS	Sx	11 39 35.2	
WB2	Warramunga Arr	18.89	125	⇑iP	P	11 36 31.9	-1.8
WB2				eS	S	11 39 45.3	-14
ASPA	Alice Springs	20.71	135	⇑iP	P	11 36 52.6	-0.7
ASPA				eS	S	11 40 32.0	-5.0
ASAR	Alice Springs	20.71	135	P	P	11 36 52.6	-0.7
	18nm,0.6s,baz=310,slow=10.0,SNR=336						
ASAR				S	S	11 40 31.8	-5.2
	4.2nm,0.7s,baz=309,slow=24,SNR=7.3						
KLBR	Kellerberrin	21.97	181	eP	P	11 37 08.3	+2.4
	68nm,1.0s,mb5.0						
KLBR				eS	S	11 40 48.7	-12
MUN	Mundaring	22.41	184	eP	P	11 37 13.3	+3.0
	17nm,0.4s,mb4.8						
MUN				eS	S	11 41 01.7	-6.8
FORT	Forrest	23.14	158	eP	P	11 37 18.8	+1.3
	64nm,0.7s,mb5.2						
FORT				eS	S	11 41 23.8	+2.2
NWAO	Narrogin (SRO)	23.31	182	P	P	11 37 19.4	+0.3
	58nm,1.2s,mb4.9,baz=2.8,slow=9.6,SNR=6.9						
NWAO				S	S	11 41 24.4	-0.2
	51nm,0.4s,baz=266,slow=9.4,SNR=9.7						
NWAO				LR	LR	11 46 15.8	
	comp=Z,659nm,21.2s,MS4.1,baz=334,slow=36						
NWAO	Narrogin (SRO)	23.31	182	eP	P	11 37 18.0	-1.0
	95nm,1.4s,mb5.0						
CTA	Charters Tower	29.22	114	P	P	11 38 13.7	-0.4
	3.1nm,0.7s,mb4.2,baz=298,slow=11,SNR=3.8						
CTAO	Charters Tower	29.22	114	P	P	11 38 14.1	-0.1
	1.3nm,0.6s,mb3.8						
STKA	Stephens Creek	31.20	139	eP	P	11 38 31.6	0.0
	4.0nm,0.9s,mb4.2						
STKA	Stephens Creek	31.20	139	P	P	11 38 31.7	+0.1
	4.5nm,0.9s,mb4.3,baz=318,slow=9.1,SNR=9.4						
STKA				LR	LR	11 51 24.5	
	comp=Z,439nm,21.8s,MS4.1,baz=302,slow=37						
CM31	Chiang Mai Arr	33.56	326	eP	P	11 38 52.3	0.0
	7.5nm,0.9s,mb4.6						
CMAR	Chiang Mai Arr	33.56	326	P	P	11 38 53.1	+0.8
	4.7nm,1.0s,mb4.4,baz=152,slow=6.8,SNR=22						
CMAR				PcP	PcP	11 41 32.6	+0.4
	1.8nm,1.0s,baz=194,slow=2.2,SNR=4.3						
CMAR				LR	LR	11 54 32.9	
	comp=Z,167nm,19.3s,MS3.8,baz=155,slow=40						
TOO	Toolangi	37.34	143	eP	P	11 39 26.2	+2.0
	3.3nm,0.8s,mb4.2						
ENH	Enshi	40.40	349	eP	P	11 39 50.3	+0.6
	14nm,0.9s,mb4.7						
SSE	Sheshan	40.49	4	P	P	11 39 50.3	-0.2
SSE				XP	sP	11 40 06.3	-2.5
SSE				S	S	11 45 58.1	+2.2
SSE				AMB	AMB		
	comp=Z,29nm,0.7s,mb5.1						
SSE				AMB	AMB		
	comp=Z,68nm,5.1s						
SSE				LR	LR		
	comp=N,88nm,25.1s,MS3.6						
SSE				LR	LR		
	comp=E,50nm,25.1s,MS3.6						
SSE				LR	LR		
	comp=Z,96nm,20.1s,MS3.6						
NJ2	Nanjing	41.34	1	eP	P	11 39 59.8	+2.3
NJ2				PP	PP	11 41 39.5	+3.2
NJ2				S	S	11 46 04.0	-4.4
NJ2				AMB	AMB		
	comp=Z,50nm,1.1s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,220nm,7.3s						
NJ2				LR	LR		
	comp=N,200nm,13.3s						
NJ2				LR	LR		
	comp=E,150nm,18.7s						
NJ2				LR	LR		
	comp=Z,280nm,19.8s						
CD2	Chengdu	42.46	342	eP	P	11 40 07.3	+0.6
SHL	Shillong	43.16	324	eP	P	11 40 12.5	0.0
CBIJ	Chichi jima	43.30	32	P	P	11 40 14.3	+0.7
	comp=Z,69nm,0.9s,mb5.4,baz=295,slow=21,SNR=6.9						
JNU	Nakatsue	44.14	16	P	P	11 40 21.1	+0.7
	comp=Z,315nm,0.4s,baz=162,slow=0.1,SNR=6.6						
XAN	Xi'an	44.16	349	P	P	11 40 21.0	+0.4
XAN				AMB	AMB		
	comp=Z,6.0nm,1.3s,mb4.2						
LSA	Lhasa	46.78	327	P	P	11 40 43.3	+1.9
PKI	Pulchoki	48.54	320	eP	P	11 40 53.3	-1.8
	comp=Z,34nm,1.1s,mb5.3						
DMN	Daman	48.76	320	eP	P	11 40 55.3	-1.5
	comp=Z,37nm,1.1s,mb5.3						
KKN	Kakani	48.77	320	eP	P	11 40 55.9	-1.0
GKN	Gorkha	49.33	320	eP	P	11 40 59.8	-1.4
	comp=Z,14nm,0.5s,mb5.2						
MAJO	Matsushiro	49.60	21	eP	P	11 41 02.3	-0.9
	comp=Z,6.3nm,0.5s,mb4.9						
MAT	Matsushiro	49.60	21	P	P	11 41 02.2	-1.0
MAT				S	S	11 48 09.0	+2.2
KOLN	Koldanda	49.83	319	eP	P	11 41 03.2	-1.9
	comp=Z,13nm,0.7s,mb5.1						
GTA	Gaotai	51.53	342	eP	P	11 41 18.6	+0.8
GTA				XP	sP	11 41 32.4	-3.7
GTA				AMB	AMB		
	comp=Z,4.0nm,1.2s,mb4.2						
MDJ	Mudanjiang	54.89	10	P	P	11 41 43.0	+0.4
MDJ				AMB	AMB		
	comp=Z,27nm,0.8s,mb5.3						
MDJ				AMB	AMB		
	comp=Z,61nm,5.4s						
MDJ	Mudanjiang	54.89	10	eP	P	11 41 42.8	+0.1
	comp=Z,21nm,0.8s,mb5.2						
MDJ				e	pP	11 41 55.2	-0.4
RPZ	Rata Peaks	57.11	136	P	P	11 41 58.9	+0.3
	comp=Z,13nm,0.9s,mb5.0,baz=292,slow=5.4,SNR=4.1						
SONM	Songino Array	58.02	351	P	P	11 42 04.9	-0.1
	comp=Z,2.5nm,0.5s,mb4.5,baz=171,slow=8.3,SNR=31						
SONM				ScP		11 46 53.7	
	comp=Z,0.8nm,0.9s,baz=191,slow=6.3,SNR=3.7						
KLR	Kul'dur	59.73	10	eP	P	11 42 14.6	-2.2
ZAK	Zakamensk	61.01	349	eP	P	11 42 20.8	-4.7
MKAR	Makanchi Array	64.47	334	P	P	11 42 47.8	-0.7
	comp=Z,2.0nm,0.4s,mb4.5,baz=145,slow=6.3,SNR=44						
MKAR	Makanchi Array	64.47	334	eP	P	11 42 47.4	-1.1
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BOD	Bodaibo	67.18	358	eP	P	11 43 04.0	-1.5
MAW	Mawson	68.42	200	P	P	11 43 12.8	-0.3
	comp=Z,1.2nm,0.6s,mb4.1,baz=56,slow=8.8,SNR=4.0						
MAW				LR	LR	12 07 11.2	
	comp=Z,232nm,21.4s,MS4.4,baz=50,slow=31						
KURK	Kurchatov	69.03	334	i P	P	11 43 16.1	-1.1
KURK				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
KURK	Kurchatov	69.03	334	eP	P	11 43 16.9	-0.3
	comp=Z,9.5nm,1.0s,mb4.7						
YAK	Yakutsk	71.91	6	eP	P	11 43 32.2	-2.2
YAK				pmax	pmax		
	comp=Z,23nm,1.2s,mb5.0						
VOSK	Vostochnaya	73.82	332	P	P	11 43 45.2	-0.6
VOSK				pmax	pmax		
	comp=Z,12nm,1.3s,mb4.7						
BVA0	Borovoye Array	74.29	332	eP	P	11 43 47.2	-1.3
BRVK	Borovoye	74.36	332	eP	P	11 43 48.8	-0.1
	comp=Z,14nm,1.3s,mb4.8						
ZRNK	Zerenda	74.88	332	P	P	11 43 50.1	-1.8
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
ZRNK	Zerenda	74.88	332	eP	P	11 43 50.7	-1.2
	comp=Z,12nm,1.0s,mb4.8						
SYO	Syowa Base	77.02	201	⇑P	P	11 44 03.7	-0.1
SYO	Syowa Base	77.02	201	⇓PcP	PcP	11 44 17.7	+2.8
SYO	Syowa Base	77.02	201	⇓pP	pP	11 44 19.0	+1.6
KBD	Kabd	77.82	303	eP	P	11 44 08.6	-0.5
RDF	Al-Radifah	77.86	302	eP	P	11 44 09.6	+0.3
RDF				AMb	AMB	11 44 11.7	
	comp=Z,29nm,1.1s,mb5.1						
RST	Umm Al-Ruwaisa	78.50	303	eP	P	11 44 11.0	-1.7
RST				AMb	AMB	11 44 13.2	
	comp=Z,35nm,0.5s,mb5.5						
QSPA	South Pole Qui	80.48	180	eP	P	11 44 24.1	+1.6
	comp=Z,6.4nm,0.9s,mb4.5						
QSPA				LR	LR		
	comp=Z,160nm,19.5s,MS4.4						
KMBO	Kilima Mbogo	80.69	270	P	P	11 44 26.8	+1.9
	comp=Z,2.9nm,0.9s,mb4.2,baz=72,slow=11,SNR=5.8						
SVE	Sverdlovsk	81.07	332	⇓eP	P	11 44 25.2	-0.8
TIXI	Tiksi	81.31	3	⇑eP	P	11 44 26.1	-0.9
TIXI				i *PP	pP	11 44 43.4	+2.7
TIXI				eS	S	11 54 27.3	-5.3
TIXI				pmax	pmax		
	comp=Z,21nm,1.1s,mb5.0						
GOF	Gofitskoye	86.25	317	eP	P	11 44 53.0	+0.6
MBAR	Mbarara	87.20	270	eP	P	11 44 58.8	+1.0
	comp=Z,16nm,1.3s,mb5.1						
MBAR				e	pP	11 45 11.8	+0.1
ASF	Jabal al Asfar	87.58	303	P	P	11 45 01.0	+1.8
	comp=Z,7.1nm,0.9s,mb4.9,baz=358,slow=1.7,SNR=6.9						
MALT	Malatya	87.77	309	eP	P	11 45 02.0	+2.0
	comp=Z,11nm,1.0s,mb5.0						
MALT				e	pP	11 45 14.0	+0.1
BRTR	Keskin Array B	91.71	310	P	P	11 45 20.1	+1.6
	comp=Z,1.1nm,0.8s,mb4.2,baz=129,slow=7.9,SNR=5.8						
BRTR				LR	LR	12 28 28.3	
	comp=Z,69nm,21.1s,MS4.1,baz=110,slow=37						
AKASG	Malin Array Be	96.51	320	P	P	11 45 42.4	+2.4
	comp=Z,0.3nm,0.3s,mb4.2,baz=22,slow=10,SNR=4.5						
YKA	Yellowknife Ar	115.06	24	PKP	PKPdf	11 50 52.3	+2.0
	comp=Z,0.7nm,0.3s,baz=291,slow=2.1,SNR=14						
YKA	Yellowknife Ar	115.06	24	PKP	PKPdf	11 50 52.3	+2.0
PDAR	Pinedale Array	126.96	43	PKP	PKPdf	11 51 17.1	+3.3
	comp=Z,0.2nm,0.5s,baz=135,slow=1.3,SNR=4.1						
LRAL	Lakeview Retre	147.15	41	ePKPdf	PKPdf	11 51 52.2	+1.4
LRAL				ePKPbc	PKPdf	11 51 55.4	+4.7
PWV	Princeton	147.39	29	PKPdf	PKPdf	11 51 51.6	+0.6
ELN	Prospectdale	147.62	29	ePKPbc	PKPdf	11 51 56.0	+4.6

ISC 19 11:32:17.8±2.5, 37.4N±0.1×38.9E±0.1, h10^{km}, n7, σ1^{s}25/11, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MALT	Malatya	1.01	340	ePG	Pg	11 32 36.0	-2.0
MYA	Malataya	1.02	340	i PG	Pg	11 32 35.9	-2.3
GZT	Gaziantep	1.04	270	i P	Pb	11 32 37.4	+0.1
GZT				i S	Sb	11 32 51.2	+0.4
ELZG	Elazig	1.14	5	i P	Pb	11 32 39.6	+0.6
ELZG				i S	Sb	11 32 56.1	+2.5
GAZ	Gaziantep	1.33	262	ePN	Pn	11 32 42.3	-0.2
KAHT	Ahir Dag	1.61	280	i P	Pn	11 32 47.3	+0.9
KAHT				i S	Sn	11 33 07.5	+0.1
COBT	Iskenderun	2.25	249	i P	Pn	11 33 01.6	+5.9
COBT				i S	Sn	11 33 29.4	+5.6

*THE **19** 11:54:05.9, 39.74N×20.26E, h4^{km}, ML3.5*

*NEIC **19** 11:54:06.2, 39.80N×20.49E, h5^{km}, MD3.4(ATH), After ATH.*

*ATH **19** 11:54:06.2, 39.80N×20.49E, h5^{km}, MD3.4/6*

ISC 19 11:54:06.8±0.5, 39.69N±0.03×20.44E±0.04, h5^{km}, n14, σ1^{s}30/22, 1C, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IGT	Igoumenitsa	0.18	207	ePg	Pg	11 54 09.9	-0.6
IGT				eSg	Sg	11 54 13.3	+0.3
JAN	Janina	0.32	96	⇑iPG	Pg	11 54 11.8	-1.5
JAN				eSB	Sb	11 54 17.0	-2.8
KEK	Kerkira	0.49	272	ePB	Pb	11 54 16.0	-1.5
KEK				eSB	Sb	11 54 25.0	+0.2
KZN	Kozani	1.19	59	ePB	Pb	11 54 27.5	-2.0
FNA	Florina	1.30	33	ePb	Pb	11 54 30.0	-1.5
FNA				eSb	Sb	11 54 49.3	+1.0
EVR	Evrytania	1.32	126	ePB	Pb	11 54 31.7	+0.1
OHR	Ohrid	1.44	11	i Sg	Sg	11 54 57.5	+2.6
VLS	Valsamata	1.52	175	ePB	Pb	11 54 37.3	+2.2
AGG	Agios Georgios	1.61	114	ePb	Pb	11 54 36.5	-0.2
AGG				eSb	Sb	11 54 59.2	+1.9
GRG	Griva	1.96	49	ePn	Pn	11 54 40.8	-0.3
GRG				eSn	Sn	11 55 06.4	+0.1
XOR	Xorichti	2.16	98	ePn	Pn	11 54 44.4	+0.6
XOR				eSn	Sn	11 55 12.4	+1.1
SKO	Skopje	2.40	18	ePn	Pn	11 54 49.4	+2.0
PLG	Polygyros	2.41	73	ePG	Pg	11 54 48.8	-6.1
SRS	Serrai	2.80	58	ePn	Pn	11 54 52.4	-0.6
SRS				eSn	Sn	11 55 26.9	-0.7

*LDG **19** 12:05:31.2±0.4, 42.86N×1.48W, h2^{km}, Md2.3/2, Ml2.1/8, Error ellipse: s-maj=7.8km s-min=4.7km az=50.0*

MDD 19 12:05:32.2±0.5, 42.87N×1.40W, h7^{km}±5^{km}, mbLg1.3/3, Error ellipse: s-maj=4.2km s-min=3.3km az=56.0, AftershockPLICA PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJPF	Ste Jean	0.27	28	ePg	Pg	12 05 37.8	0.0
SJPF				eSg	Sg	12 05 40.6	-0.9
	37nm,0.3s						
EALK	Alkurruntz	0.35	347	Pg	Pg	12 05 39.1	-0.3
	1.1nm,0.1s,SNR=5.9						
EALK				Lg		12 05 43.8	
	0.8nm,0.1s,SNR=8.2						
ETSF	Etsaut	0.62	87	ePg	Pg	12 05 43.5	-1.1
ETSF				eSg	Sg	12 05 52.3	-0.6
ETSF				eSn	Sn	12 05 54.0	-3.4
	1.9nm,0.2s						
EPF	Esparros	1.29	82	ePn	Pn	12 05 55.6	-1.1
EPF				ePg	Pg	12 05 57.9	0.0
EPF				eSg	Sg	12 06 13.7	-1.4
	3.4nm,0.3s						
ESAC	San Caprasio	1.34	149	Pg	Pg	12 05 56.9	-2.2
	3.0nm,0.3s,SNR=7.9						
ESAC				Lg		12 06 14.5	
	5.9nm,0.3s,SNR=7.9						
ELAN	Lanestosa	1.53	284	Pg	Pg	12 06 00.5	-2.3
	0.9nm,0.2s,SNR=7.9						
ELAN				Lg		12 06 21.9	
	0.1nm,0.1s,SNR=7.9						
ETOR	Torete	2.11	194	Pg	Pg	12 06 10.1	-4.3
	SNR=7.9						
ETOR				Lg		12 06 38.3	
	SNR=7.9						
MTLF	Montolieu	2.69	79	ePn	Pn	12 06 15.7	-1.1
MTLF				eSn	Sn	12 06 47.5	-2.5
	0.5nm,0.3s						
RJF	Les Rejaudoux	3.21	40	ePn	Pn	12 06 21.1	-3.1
RJF				eSn	Sn	12 06 58.9	-4.3
	1.4nm,0.4s						
MFF	Saint Martin d	3.83	13	ePn	Pn	12 06 30.2	-2.8
MFF				ePg	Pg	12 06 42.0	-6.8
MFF				eSn	Sn	12 07 13.5	-5.4
	0.8nm,0.4s						
MFF				eSg	Sg	12 07 32.4	-7.5
LASF	Ste Croix	4.01	71	ePn	Pn	12 06 32.9	-2.6
BGF	Bois d'Agland	4.77	38	ePn	Pn	12 06 41.8	-4.5
BGF				eSn	Sn	12 07 35.5	-7.0
	1.2nm,0.4s						
VIVF	Saint-Julien-l	4.82	64	ePn	Pn	12 06 43.8	-3.2
VIVF				eSn	Sn	12 07 36.9	-6.9
	1.0nm,0.3s						
AVF	Avril sur Loir	5.17	39	ePn	Pn	12 06 47.4	-4.6
AVF				eSn	Sn	12 07 45.0	-7.8
	0.9nm,0.4s						

IDC 19 12:18:40.6±13.0, 22.62S×176.73W, h623^{km}±149^{km}, mb2.9/5, mb1 3.1/6, mb1mx3.0/15, Error ellipse: s-maj=124.0km s-min=32.8km az=38.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	Urewera	16.47	197	P	P	12 22 01.4	-0.8
	5.2nm,0.3s,baz=268,slow=3.9,SNR=26						
RPZ	Rata Peaks	23.35	203	P	P	12 23 03.4	-1.5
	8.6nm,0.5s,baz=4.3,slow=21,SNR=6.5						
CTA	Charters Tower	34.52	267	P	P	12 24 39.0	-1.6
	1.4nm,0.3s,baz=111,slow=8.6,SNR=5.8						
STKA	Stephens Creek	37.99	247	P	P	12 25 05.7	-3.3
	0.8nm,0.5s,baz=101,slow=10,SNR=2.7						
ASAR	Alice Springs	45.23	259	P	P	12 26 04.9	-1.2
	0.6nm,0.8s,baz=101,slow=6.5,SNR=16						
WRA	Warramunga Arr	45.52	264	P	P	12 26 07.9	-0.5
	0.4nm,0.4s,baz=96,slow=8.3,SNR=22						
BVAR	Borovoye Array	121.45	319	PKP	PKPdf	12 36 23.6	-0.7
	0.8nm,0.5s,baz=90,slow=5.9,SNR=4.5						

*HEL **19** 12:24:22.3±0.1, 67.18N×20.69E, ML2.2, ML2.6(UPP), ML2.0(BER), Explosion*

*BER **19** 12:24:24.7±3.9, 67.16N×20.66E, ML2.0, ML2.3(NAO), Suspected explosion*

*NAO **19** 12:24:25.2±2.2, 67.18N×21.62E, ML2.3*

ISC 19 12:24:21.1±0.4, 67.19N±0.02×20.74E±0.06, n25, σ1^{s}09/37, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DUNU	Dundret	0.09	226	i P	Pg	12 24 23.2	+0.3
DUNU				i S	Sg	12 24 24.9	+0.7
MASU	Masugnsbyn	0.56	60	i P	Pg	12 24 32.4	+0.2
MASU				i S	Sg	12 24 40.7	+1.0
KUA	Kurravaara	0.79	349	i P	Pg	12 24 36.1	-0.7
ERTU	Ertsjaerv	0.85	137	i P	Pg	12 24 37.2	-0.9
PAJU	Pajala	0.94	99	eP	Pg	12 24 39.4	-0.5
NIKU	Nikkaluokta	0.95	317	eP	Pg	12 24 38.7	-1.3
SJUU	Sjulsmark	1.72	168	eP	Pn	12 24 52.6	+0.1
KIF	Kilpisjarvi	1.83	1	eP	Pn	12 24 54.9	+0.9
KIF				eS	Sn	12 25 20.2	+2.0
LILU	Lilltraesk	1.94	191	eP	Pn	12 24 56.1	+0.4
KTK1	Kautokeino	2.06	26	eP	Pn	12 24 59.6	+2.3
KTK1				eSG	Sg	12 25 27.8	-1.8
KTK1				AML	AML	12 25 28.7	
	comp=Z,31nm,0.3s						
SGF	Sodankyl	2.26	81	eP	Pn	12 25 01.8	+1.6
SGF				eS	Sn	12 25 29.2	+0.1
SGF				MSG		12 25 34.1	
	comp=Z,11nm,0.3s						
TRO	Tromso	2.55	346	eS	Sn	12 25 38.0	+1.5
TRO				AML	AML	12 25 42.5	
	comp=Z,14nm,0.3s						
BURU	Burvik	2.63	174	eP	Pn	12 25 06.1	+0.6
MOR8	Moi Rana	2.71	251	eP	Pn	12 25 05.6	-1.0
MOR8				eSG	Sn	12 25 40.8	+0.3
MOR8				AML	AML	12 25 42.6	
	comp=Z,17nm,0.5s						
SVAU	Svanoeiden	2.75	191	eP	Pn	12 25 07.5	+0.3
LOF	Lofoten	2.91	292	e	Sg	12 25 56.0	-1.9

LOF				AML	AML	12 26 02.2	
	comp=Z,8.1nm,0.4s						
LOF	**Lofoten**	**2.91**	**292**	*e*Sg	**Sg**	**12 25 56.0**	**-1.9**
LOF				AML	AML	12 26 02.2	
	comp=Z,8.1nm,0.4s						
ARA0	**ARCESS Array S**	**2.95**	**35**	Pn	**Pn**	**12 25 10.2**	**+0.2**
	baz=214,slow=16						
ARA0				Sn	**Sn**	**12 25 46.0**	**-0.7**
	baz=213,slow=22						
ARA0				Lg		12 25 51.0	
	baz=216,slow=37						
ARA0	**ARCESS Array S**	**2.95**	**35**	*e*P	**Pn**	**12 25 10.2**	**+0.2**
ARA0				*e*S	**Sn**	**12 25 46.0**	**-0.7**
ARA0				*e*SB	**Sb**	**12 25 51.0**	**-0.1**
OUL	**Oulu**	**2.97**	**133**	*e*P	**Pn**	**12 25 10.9**	**+0.5**
OUL				*e*S	**Sn**	**12 25 45.5**	**-1.9**
OUL				MSG		12 25 55.0	
	comp=Z,5.3nm,0.4s						
KEV	**Kevo**	**3.46**	**39**	*e*P	**Pn**	**12 25 17.4**	**+0.1**
KEV				*e*S	**Sn**	**12 25 57.9**	**-1.8**
KEV				MSG		12 26 15.6	
	comp=Z,7.4nm,0.4s						
MSF	**Maaselka**	**3.56**	**107**	*e*PG	**Pg**	**12 25 26.8**	**-5.3**
MSF				*e*SG	**Sg**	**12 26 11.8**	**-7.7**
MSF				MSG		12 26 14.6	
	comp=Z,6.0nm,0.4s						
NSS	**Namsos**	**4.48**	**238**	*e*SG	**Sg**	**12 26 42.0**	**-8.3**
NSS				AML	AML	12 26 43.4	
	comp=Z,7.7nm,0.3s						
FIA0	**FINESS Array S**	**6.21**	**156**	*e*S	**Sn**	**12 27 05.2**	**-3.8**
FIA0				*e*SG		12 27 35.4	
FIA0	**FINESS Array S**	**6.21**	**156**	Sn	**Sn**	**12 27 05.2**	**-3.8**
	baz=345,slow=28						
FIA0				Lg		12 27 35.4	
	baz=344,slow=28						

*MOS **19** 12:31:16.9±1.1, 56.00N×161.57E, h105^{km}, mb4.2/6, Error ellipse: s-maj=20.4km s-min=8.9km az=81.2*
*KRSC **19** 12:31:17.3±0.8, 55.93N×161.64E, h101^{km}±2^{km}, ML4.5*
*NEIC **19** 12:31:18.4±0.4, 55.94N×161.45E, mb4.0/6, Error ellipse: s-maj=12.4km s-min=8.5km az=148.0*
*IDC **19** 12:31:18.5±0.6, 55.92N×161.27E, h101^{km}±4^{km}, mb3.7/13, mb1 4.0/15, mb1mx3.8/24, Error ellipse: s-maj=15.9km s-min=11.8km az=154.0*
ISC 19 12:31:17.3±0.3**, 55.96N**±0.02×**161.64E**±0.05**, h104**^{km}±2^{km}**, h101**^{km}±3.4^{km}**:pP-P, n77, σ0**^{s}**99**/116**, mb4.0**/17**, 2C, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZLN	**Zelenaya**	**0.47**	**277**	*i* P	**P**	**12 31 33.9**	**+0.3**
ZLN				*i* S	**S**	**12 31 46.3**	**+0.6**
CIRR	**Tsirk**	**0.53**	**287**	*i* P	**P**	**12 31 34.2**	**+0.3**
CIRR				*i* S	**S**	**12 31 46.4**	**+0.1**
LGNR	**Loginova**	**0.55**	**283**	*i* P	**P**	**12 31 34.7**	**+0.6**
LGNR				*i* S	**S**	**12 31 47.2**	**+0.5**
KRSR	**Krestovskiy**	**0.66**	**293**	*e*P	**P**	**12 31 34.8**	**-0.1**
KRSR				*e*S	**S**	**12 31 47.3**	**-0.9**
KLY	**Klyuchi**	**0.66**	**303**	*i* P	**P**	**12 31 34.1**	**-0.8**
KLY				*i* S	**S**	**12 31 46.4**	**-1.8**
SVLR	**Shiveluch**	**0.66**	**339**	*i* P	**P**	**12 31 35.4**	**+0.4**
SVLR				*e*S	**S**	**12 31 49.0**	**+0.8**
KBG	**Krutoberegovo**	**0.66**	**63**	*i* P	**P**	**12 31 35.2**	**+0.2**
KBG				*e*S	**S**	**12 31 48.2**	**-0.1**
KBG				Smax			
	15μm,0.5s						
KBTR	**Krutoberegovo**	**0.70**	**69**	P	**P**	**12 31 35.4**	**0.0**
KBTR				S	**S**	**12 31 48.8**	**-0.1**
KBTR	**Krutoberegovo**	**0.70**	**69**	*i* P	**P**	**12 31 35.3**	**-0.1**
KBTR				*i* S	**S**	**12 31 48.8**	**-0.1**
KPT	**Kopyto**	**0.80**	**271**	*i* P	**P**	**12 31 36.2**	**-0.1**
KPT				*e*S	**S**	**12 31 50.3**	**-0.1**
KMNR	**Kamenistaya**	**0.82**	**256**	*e*P	**P**	**12 31 36.3**	**-0.2**
KMNR				*e*S	**S**	**12 31 51.0**	**+0.2**
KOZR	**Kozyr**	**0.99**	**277**	PN	**P**	**12 31 38.6**	**+0.4**
KOZR				S	**S**	**12 31 54.3**	**+0.4**
KOZ	**Kozyrevsk**	**1.00**	**276**	*i* P	**P**	**12 31 38.6**	**+0.3**
KOZ				*i* S	**S**	**12 31 54.3**	**+0.2**
TUMR	**Tumrok**	**1.09**	**232**	*i* P	**P**	**12 31 39.6**	**+0.2**
TUMR				*e*S	**S**	**12 31 55.1**	**-0.8**
SRDR	**Sredinnyy**	**1.14**	**289**	*i* P	**P**	**12 31 40.0**	**+0.1**
SRDR				*i* S	**S**	**12 31 56.2**	**-0.7**
MKZ	**Mys Kozlova**	**1.41**	**178**	P	**P**	**12 31 42.3**	**-0.9**
MKZ				S	**S**	**12 32 01.3**	**-1.2**
MKZ	**Mys Kozlova**	**1.41**	**178**	*e*P	**P**	**12 31 42.3**	**-0.9**
MKZ				*e*S	**S**	**12 32 01.4**	**-1.1**
ESO	**Esso**	**1.66**	**270**	*i* P	**P**	**12 31 46.0**	**-0.2**
ESO				*e*S	**S**	**12 32 07.0**	**-0.7**
ESO				Smax			
	2μm,1.0s						
KII	**Karymskiy**	**2.31**	**214**	P	**P**	**12 31 55.7**	**+0.9**
KII				S	**S**	**12 32 23.6**	**+0.9**
KII	**Karymskiy**	**2.31**	**214**	*e*S	**S**	**12 32 24.8**	**+2.1**
BKI	**Bering**	**2.57**	**105**	*i* P	**P**	**12 31 58.1**	**-0.3**
BKI				*i* S	**S**	**12 32 27.9**	**-1.2**
BKI				Smax			
	1μm,0.7s						
SPN	**Mys Shipunski**	**3.02**	**199**	P	**P**	**12 32 03.0**	**-1.5**
SPN				S	**S**	**12 32 35.6**	**-4.4**
SPN	**Mys Shipunski**	**3.02**	**199**	*e*P	**P**	**12 32 03.0**	**-1.5**
SPN				*e*S	**S**	**12 32 35.7**	**-4.3**
NLC	**Nalytchevo**	**3.10**	**206**	P	**P**	**12 32 05.3**	**-0.3**
NLC				S	**S**	**12 32 39.8**	**-2.2**
NLC	**Nalytchevo**	**3.10**	**206**	*i* P	**P**	**12 32 05.4**	**-0.2**
NLC				*e*S	**S**	**12 32 40.2**	**-1.8**
GNL	**Ganaly**	**3.12**	**225**	*e*P	**P**	**12 32 06.0**	**+0.2**
GNL				*e*S	**S**	**12 32 42.5**	**0.0**
SDLR	**Sedlovina**	**3.13**	**212**	*i* P	**P**	**12 32 06.7**	**+0.7**
SDLR				*e*S	**S**	**12 32 41.6**	**-1.1**
SMAR	**Somma**	**3.17**	**213**	*e*P	**P**	**12 32 07.3**	**+0.8**
SMAR				*e*S	**S**	**12 32 43.3**	**-0.3**
AVH	**Avacha**	**3.19**	**213**	*e*P	**P**	**12 32 07.8**	**+1.1**
AVH				*e*S	**S**	**12 32 44.6**	**+0.5**
KOK	**Koryaka**	**3.20**	**214**	*e*P	**P**	**12 32 08.0**	**+1.1**
UGLR	**Uglovaya**	**3.21**	**212**	*e*P	**P**	**12 32 07.6**	**+0.6**
UGLR				*e*S	**S**	**12 32 44.9**	**+0.3**
PET	**Petropavlovsk**	**3.42**	**212**	P	**P**	**12 32 10.4**	**+0.5**
PET				S	**S**	**12 32 49.0**	**-0.8**
PET	**Petropavlovsk**	**3.42**	**212**	*e*P	**P**	**12 32 10.5**	**+0.6**
PET				*e*S	**S**	**12 32 49.8**	**0.0**
PET	**Petropavlovsk**	**3.42**	**212**	*e*PN	**P**	**12 32 10.0**	**+0.1**
PET				*e*S	**S**	**12 32 49.7**	**-0.1**
PET				pmax	pmax		
	comp=Z,108nm,0.5s						
PET				smax			
	comp=E,300nm,0.5s						
PET				smax			
	comp=N,275nm,0.6s						
PET				MLR	MLR		
	comp=Z,200nm,5.0s						
PET	**Petropavlovsk**	**3.42**	**212**	*e*Pn	**P**	**12 32 09.9**	**0.0**
RUS	**Russkaya**	**3.98**	**209**	P	**P**	**12 32 17.7**	**+0.1**
RUS				S	**S**	**12 33 01.9**	**-1.7**
RUS	**Russkaya**	**3.98**	**209**	*e*P	**P**	**12 32 16.7**	**-0.9**
RUS				*e*S	**S**	**12 33 02.5**	**-1.1**
GRL	**Gorelyy**	**4.01**	**213**	*e*P	**P**	**12 32 19.6**	**+1.7**
APC	**Apacha**	**4.01**	**223**	*e*P	**P**	**12 32 19.3**	**+1.3**
APC				*e*S	**S**	**12 33 06.3**	**+2.0**
APC				Smax			
	comp=Z,60nm,1.1s						
MIPR	**Malaya Ipel'ka**	**4.68**	**220**	*e*P	**P**	**12 32 28.0**	**+0.9**
KAMR	**Kamenskoye**	**6.92**	**18**	*e*P	**P**	**12 32 59.6**	**+1.9**
KAMR				*e*S	**S**	**12 34 13.3**	**-2.2**
KAMR				Smax			
	comp=Z,20nm,1.5s						
FX1	**Attu Island--F**	**7.40**	**110**	P	**P**	**12 33 06.2**	**+2.0**
	comp=Z,2.3nm,0.3s,baz=140,slow=20,SNR=15						
FX1				S	**S**	**12 34 22.2**	**-4.8**
	comp=Z,8.9nm,0.3s,baz=143,slow=22,SNR=9.7						
FX1	**Attu Island--F**	**7.40**	**110**	*e*Pn	**P**	**12 33 02.9**	**-1.4**
FX1				*e*Sn	**S**	**12 34 19.4**	**-7.7**
YSS	**Yuzh-Sakhalins**	**14.79**	**240**	*e*P	**P**	**12 34 46.5**	**+4.6**
YSS	**Yuzh-Sakhalins**	**14.79**	**240**	P	**P**	**12 34 46.0**	**+4.1**
	comp=Z,12nm,0.6s						
ASAJ	**Asahikawa**	**16.96**	**234**	P	**P**	**12 35 09.6**	**+0.4**
	comp=Z,2.6nm,0.3s,baz=52,slow=7.9,SNR=20						
ASAJ	**Asahikawa**	**16.96**	**234**	P	**P**	**12 35 09.6**	**+0.4**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
YAK	**Yakutsk**	**17.41**	**303**⇑	*e*P	**P**	**12 35 15.8**	**+1.1**
YAK				pmax	pmax		
	comp=Z,21nm,1.7s						
TIXI	**Tiksi**	**20.92**	**331**	*e*P	**P**	**12 35 55.7**	**+3.0**
TIXI				*e*S	**S**	**12 39 42.5**	**+7.7**
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.0s						
TIXI				MLR	MLR		
	comp=Z,100nm,20.0s						
MAJO	**Matsushiro**	**25.08**	**229**	*e*P	**P**	**12 36 31.5**	**-1.9**
	comp=Z,6.1nm,0.7s,mb4.1						
MAT	**Matsushiro**	**25.08**	**229**	P	**P**	**12 36 32.1**	**-1.2**
MAT	**Matsushiro**	**25.08**	**229**	*e*P	**P**	**12 36 32.0**	**-1.3**
	comp=Z,3.4nm,0.7s,mb3.9						
MCK	**McKinley**	**25.41**	**52**	*e*P	**P**	**12 36 36.2**	**+0.2**
	comp=Z,1.9nm,0.9s,mb3.5						
ILAR	**Eielson Array**	**26.20**	**49**	P	**P**	**12 36 43.5**	**+0.1**
	comp=Z,1.2nm,0.5s,mb3.6,baz=263,slow=7.7,SNR=36						
ILAR				pP	pP	12 37 07.5	+1.4
	comp=Z,2.7nm,1.1s,baz=265,slow=6.6,SNR=5.5						
ILAR	**Eielson Array**	**26.20**	**49**	P	**P**	**12 36 43.5**	**+0.1**
ILAR				*PP	pP	12 37 07.5	+1.3
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ILAR				pmax	pmax		
	comp=N,3.0nm,1.1s						
INK	**Inuvik**	**31.07**	**41**	P	**P**	**12 37 27.5**	**+0.4**
	comp=N,1.2nm,0.4s,mb4.0,baz=287,slow=7.0,SNR=14						
INK				pP	pP	12 37 49.6	-0.9
	comp=N,3.0nm,1.1s,baz=16,slow=10.0,SNR=2.2						
INK	**Inuvik**	**31.07**	**41**	P	**P**	**12 37 27.5**	**+0.4**
INK				*PP	pP	12 37 49.6	-0.9
INK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
INK				pmax	pmax		
	comp=N,3.0nm,1.1s						
INK	**Inuvik**	**31.07**	**41**	*e*P	**P**	**12 37 25.9**	**-1.1**
	comp=N,1.4nm,0.5s,mb4.0						
INK				pP	pP	12 37 49.6	-0.9
SONM	**Songino Array**	**34.21**	**280**	P	**P**	**12 37 53.0**	**-1.4**
	comp=N,0.7nm,0.8s,mb3.5,baz=56,slow=8.9,SNR=5.6						
SONM				pP	pP	12 38 15.5	-2.7
	comp=N,0.2nm,0.3s,baz=312,slow=4.6,SNR=2.8						
DLBC	**Dease Lake**	**35.66**	**57**	P	**P**	**12 38 09.2**	**+2.6**
	comp=N,2.5nm,0.6s,mb4.3,baz=289,slow=15,SNR=9.2						
KURK	**Kurchatov**	**47.02**	**300**⇑	*e*P	**P**	**12 39 38.8**	**-0.6**
KURK	**Kurchatov**	**47.02**	**300**	*e*P	**P**	**12 39 38.4**	**-1.0**
	comp=N,1.3nm,0.5s,mb3.9						
MKAR	**Makanchi Array**	**47.76**	**294**	P	**P**	**12 39 43.8**	**-1.5**
	comp=N,0.3nm,0.5s,mb3.4,baz=53,slow=6.1,SNR=5.6						
ARCES	**ARCESS Array B**	**50.84**	**342**	P	**P**	**12 40 07.7**	**-0.8**
	comp=N,3.5nm,0.8s,mb4.4,baz=21,slow=10,SNR=5.7						
ARCES	**ARCESS Array B**	**50.84**	**342**	P	**P**	**12 40 07.7**	**-0.8**
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ARCES	**ARCESS Array B**	**50.84**	**342**	P	**P**	**12 40 07.7**	**-0.8**
NVAR	**Mina Array Bea**	**53.98**	**73**	P	**P**	**12 40 34.4**	**+2.1**
	comp=Z,1.3nm,0.5s,mb4.2,baz=314,slow=6.2,SNR=8.8						
PDAR	**Pinedale Array**	**55.38**	**63**	P	**P**	**12 40 43.6**	**+1.2**
	comp=Z,1.7nm,0.5s,mb4.3,baz=336,slow=3.1,SNR=19						
PDAR				pP	pP	12 41 08.9	+1.1
	comp=Z,0.2nm,0.4s,baz=102,slow=41,SNR=1.9						
ULM	**Lac du Bonnet**	**56.22**	**49**	P	**P**	**12 40 48.6**	**+0.3**
	comp=Z,2.2nm,0.4s,mb4.6,baz=329,slow=5.1,SNR=4.6						
FINES	**FINESS Array B**	**57.84**	**337**	P	**P**	**12 40 58.1**	**-1.5**
	comp=Z,1.6nm,0.6s,mb4.3,baz=29,slow=7.7,SNR=14						
FINES				pP	pP	12 41 24.9	-0.3
	comp=Z,1.0nm,0.7s,baz=315,slow=27,SNR=1.8						
FINES	**FINESS Array B**	**57.84**	**337**	P	**P**	**12 40 58.1**	**-1.5**
FINES				*PP	pP	12 41 24.9	-0.3
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
FINES				pmax	pmax		
	comp=N,1.0nm,0.7s						
NB2	**NORSAR Subarra**	**61.03**	**344**	P	**P**	**12 41 20.3**	**-1.2**
	comp=N,1.4nm,0.5s,mb4.2,baz=19,slow=6.5						
NOA	**NORSAR Array B**	**61.03**	**344**	P	**P**	**12 41 20.4**	**-1.2**
	comp=N,1.5nm,0.5s,mb4.3,baz=19,slow=6.9,SNR=6.7						
NOA				pP	pP	12 41 45.7	-1.7
	comp=N,1.0nm,0.8s,baz=238,slow=16,SNR=1.1						
NOA				sP	sP	12 41 57.6	-1.5
	comp=N,1.1nm,0.8s,baz=328,slow=4.7,SNR=1.9						
NOA	**NORSAR Array B**	**61.03**	**344**	P	**P**	**12 41 20.4**	**-1.1**
NOA				*PP	pP	12 41 45.7	-1.7
NOA				*SP	sP	12 41 57.6	-1.5
NOA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
NOA				pmax	pmax		
	comp=N,1.0nm,0.8s						
NOA				pmax	pmax		
	comp=N,1.0nm,0.8s						
WRA	**Warramunga Arr**	**79.06**	**206**	P	**P**	**12 43 10.6**	**-0.8**
	comp=N,0.8nm,0.7s,mb3.6,baz=13,slow=5.9,SNR=17						
WRA				pP	pP	12 43 34.9	-3.5
	comp=N,1.1nm,1.0s,baz=17,slow=5.8,SNR=4.8						
WRA	**Warramunga Arr**	**79.06**	**206**	P	**P**	**12 43 10.6**	**-0.8**
WRA				*PP	pP	12 43 34.9	-3.6
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRA				pmax	pmax		
	comp=N,1.0nm,1.0s						
ASAR	**Alice Springs**	**82.75**	**205**	P	**P**	**12 43 30.9**	**+0.2**
	comp=N,1.0nm,0.7s,mb3.8,baz=17,slow=4.6,SNR=28						
ASAR				pP	pP	12 43 55.6	-2.4
	comp=N,0.8nm,1.0s,baz=13,slow=5.1,SNR=3.4						

*LDG **19** 13:01:58.7±0.4, 42.86N×1.50W, h2^{km}, Md2.3/2, Ml2.1/10, Error ellipse: s-maj=6.2km s-min=3.9km az=50.0*
*STR **19** 13:01:58.2±0.9, 42.83N×1.54W, h5^{km}±1^{km}, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD 19 13:02:00.1±0.4**, 42.88N**×**1.42W, h8**^{km}±4^{km}**, mbLg1.6**/8**, Error ellipse: s-maj=3.3km s-min=2.2km az=42.0, AftershockPLICA PRXIMO, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	**0.28**	**31**	*e*Pg	Pg	13 02 05.5	-0.3
SJPF				*e*Sg	Sg	13 02 08.3	-1.3
	68nm,0.4s						
EALK	**Alkurruntz**	**0.35**	**349**	Pg	Pg	13 02 06.7	-0.5
	7.0nm,0.3s,SNR=17						
EALK				Lg		13 02 11.3	
	25nm,0.3s,SNR=7.9						
LARF	**Larrau**	**0.35**	**63**	Pg	Pg	13 02 06.8	-0.6
LARF				Sg	Sg	13 02 12.7	+0.5
LARF	**Larrau**	**0.35**	**63**	P	Pg	13 02 06.7	-0.7
LARF				S	Sg	13 02 12.9	+0.7
OSSF	**Osses**	**0.39**	**17**	Pg	Pg	13 02 07.3	-0.8
OSSF				Sg	Sg	13 02 14.4	+0.9
OSSF	**Osses**	**0.39**	**17**	P	Pg	13 02 07.6	-0.5
OSSF				S	Sg	13 02 13.7	+0.3
ATE	**Arette**	**0.57**	**68**	P	Pg	13 02 11.0	-0.6
ATE				S	Sg	13 02 19.0	-0.2
FDAF	**Les Forges d'A**	**0.63**	**95**	Pg	Pg	13 02 11.6	-1.2
FDAF				Sg	Sg	13 02 22.3	+1.0
FDAF	**Les Forges d'A**	**0.63**	**95**	P	Pg	13 02 11.7	-1.1
FDAF				S	Sg	13 02 20.1	-1.1
ETSF	**Etsaut**	**0.63**	**88**	*e*Pg	Pg	13 02 11.2	-1.7
ETSF				*e*Sg	Sg	13 02 19.8	-1.6
ETSF				*e*Sn	Sn	13 02 21.8	-3.7
	11nm,0.3s						
LABF	**Labassere**	**1.11**	**81**	S	Sb	13 02 36.2	+0.5
RESF	**Ens**	**1.30**	**93**	S	Sb	13 02 42.9	+1.9
EPF	**Esparros**	**1.30**	**83**	*e*Pn	Pn	13 02 23.4	-1.3
EPF				*e*Pg	Pg	13 02 25.5	-0.7
EPF				*e*Sg	Sg	13 02 41.4	-2.1
	5.8nm,0.2s						
ESAC	**San Caprasio**	**1.35**	**148**	Pg	Pg	13 02 24.4	-2.8
	11nm,0.3s,SNR=14						
ESAC				Lg		13 02 42.2	
	21nm,0.2s,SNR=7.9						
EGRA	**Graus**	**1.45**	**117**	Pg	Pg	13 02 26.7	-2.5
	SNR=7.9						
EGRA				Lg		13 02 46.8	
	1.9nm,0.4s,SNR=7.9						
ELAN	**Lanestosa**	**1.52**	**284**	Pg	Pg	13 02 28.0	-2.4
	4.2nm,0.7s,SNR=6.6						
ELAN				Lg		13 02 49.2	
	0.7nm,0.5s,SNR=7.9						
ETOR	**Torete**	**2.11**	**193**	Pg	Pg	13 02 38.7	-3.7
	2.0nm,0.4s,SNR=8.8						
ETOR				Lg		13 03 06.7	
	3.4nm,0.5s,SNR=7.9						
EMIR	**Miracle**	**2.39**	**113**	Pg	Pg	13 02 44.9	-2.9
	0.8nm,0.2s,SNR=7.9						
EMIR				Lg		13 03 16.5	
	SNR=7.9						
EPOB	**Poblet**	**2.41**	**129**	Pn	Pn	13 02 40.5	0.0
	SNR=4.0						
EPOB				Pg	Pg	13 02 43.1	-5.0
	SNR=7.9						
EPOB				Lg		13 03 13.1	
	0.3nm,0.1s,SNR=7.9						
LFF	**La Frestale**	**2.58**	**36**	*e*Pn	Pn	13 02 40.6	-2.5
LFF				*e*Sn	Sn	13 03 11.2	-3.8
LFF				*e*Sg	Sg	13 03 19.9	-6.3
	5.3nm,0.3s						
EMOS	**Mosqueruela**	**2.61**	**164**	Pg	Pg	13 02 48.1	-4.2
	SNR=4.0						
EMOS				Lg		13 03 24.3	
	1.0nm,0.3s,SNR=5.0						
MTLF	**Montolieu**	**2.70**	**79**	*e*Pn	Pn	13 02 43.3	-1.5
MTLF				*e*Sn	Sn	13 03 15.2	-2.9
	1.8nm,0.4s						
RJF	**Les Rejaudoux**	**3.22**	**40**	*e*Pn	Pn	13 02 48.9	-3.2
RJF				*e*Sn	Sn	13 03 26.6	-4.5
	2.7nm,0.4s						
CAF	**Calviac**	**3.25**	**50**	*e*Pn	Pn	13 02 49.6	-2.9
CAF				*e*Sn	Sn	13 03 27.5	-4.3
	0.7nm,0.2s						
MFF	**Saint Martin d**	**3.83**	**13**	*e*Pn	Pn	13 02 57.9	-2.9
MFF				*e*Pg	Pg	13 03 09.6	-7.0
MFF				*e*Sn	Sn	13 03 41.2	-5.4
MFF				*e*Sg	Sg	13 04 00.1	-7.6
	0.3nm,0.2s						
LASF	**Ste Croix**	**4.02**	**71**	*e*Pn	Pn	13 03 00.7	-2.8
LASF				*e*Sn	Sn	13 03 46.3	-5.2
	1.1nm,0.4s						
BGF	**Bois d'Agland**	**4.77**	**38**	*e*Pn	Pn	13 03 09.7	-4.4
VIVF	**Saint-Julien-l**	**4.83**	**64**	*e*Pn	Pn	13 03 11.5	-3.4
VIVF				*e*Sn	Sn	13 04 04.8	-7.0
	0.4nm,0.2s						
AVF	**Avril sur Loir**	**5.18**	**39**	*e*Pn	Pn	13 03 15.1	-4.8
AVF				*e*Sn	Sn	13 04 12.7	-7.9
	1.1nm,0.2s						

*LDG **19** 13:03:51.3±0.3, 42.87N×1.49W, h2^{km}, Md2.4/2, Ml2.2/12, Error ellipse: s-maj=5.3km s-min=4.0km az=50.0*
*STR **19** 13:03:51.3±0.1, 43.37N×0.71W, h10^{km}±1^{km}, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD 19 13:03:52.2±0.5**, 42.88N**×**1.40W, h7**^{km}±4^{km}**, mbLg1.6**/9**, Error ellipse: s-maj=4.2km s-min=3.0km az=55.0, AftershockPLICA PRXIMO, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	**0.27**	**29**	*e*Pg	Pg	13 03 57.7	0.0
SJPF				*e*Sg	Sg	13 04 00.4	-0.9
	92nm,0.3s						
LARF	**Larrau**	**0.34**	**62**	Pg	Pg	13 03 59.2	0.0
LARF				Sg	Sg	13 04 05.0	+1.2
EALK	**Alkurruntz**	**0.35**	**347**	Pg	Pg	13 03 58.8	-0.4
	1.3nm,0.1s,SNR=7.9						
EALK				Lg		13 04 03.9	
	18nm,0.1s,SNR=7.9						
OSSF	**Osses**	**0.39**	**15**	Pg	Pg	13 03 59.6	-0.5
OSSF				Sg	Sg	13 04 05.8	+0.4
ETSF	**Etsaut**	**0.62**	**88**	*e*Pg	Pg	13 04 03.4	-1.2
ETSF				*e*Sg	Sg	13 04 12.1	-0.8
ETSF				*e*Sn	Sn	13 04 14.2	-3.0
	8.3nm,0.3s						
EPF	**Esparros**	**1.29**	**83**	*e*Pn	Pn	13 04 15.6	-1.0
EPF				*e*Pg	Pg	13 04 17.9	0.0
EPF				*e*Sg	Sg	13 04 33.7	-1.4
	7.3nm,0.3s						
ESAC	**San Caprasio**	**1.35**	**149**	Pg	Pg	13 04 16.1	-3.1
	SNR=7.9						
ESAC				Lg		13 04 34.4	
	13nm,0.2s,SNR=7.9						
EGRA	**Graus**	**1.44**	**118**	Pg	Pg	13 04 18.9	-2.2
	SNR=7.9						
EGRA				Lg		13 04 39.5	
	1.7nm,0.3s,SNR=7.9						
ELAN	**Lanestosa**	**1.53**	**284**	Pg	Pg	13 04 19.9	-2.9
	SNR=7.9						
ELAN				Lg		13 04 41.0	
	3.5nm,0.4s,SNR=7.9						
ETOR	**Torete**	**2.12**	**194**	Pn	Pn	13 04 26.4	-2.0
	SNR=7.9						
ETOR				Lg		13 04 57.8	
	2.1nm,0.3s,SNR=7.9						
EMIR	**Miracle**	**2.37**	**113**	Lg		13 05 08.3	
	2.2nm,0.4s,SNR=7.9						
EPOB	**Poblet**	**2.40**	**129**	Pn	Pn	13 04 35.6	+3.1
	SNR=7.9						
EPOB				Lg		13 05 09.6	
	0.9nm,0.3s,SNR=7.9						
LFF	**La Frestale**	**2.58**	**36**	*e*Pn	Pn	13 04 32.8	-2.2
LFF				*e*Sn	Sn	13 05 03.3	-3.6
LFF				*e*Sg	Sg	13 05 12.0	-6.0
	3.5nm,0.2s						
EMOS	**Mosqueruela**	**2.61**	**164**	Pg	Pg	13 04 41.2	-3.2
	SNR=5.0						
EMOS				Lg		13 05 15.6	
	0.6nm,0.2s,SNR=7.9						
MTLF	**Montolieu**	**2.69**	**79**	*e*Pn	Pn	13 04 35.5	-1.2
MTLF				*e*Sn	Sn	13 05 07.5	-2.3
	1.2nm,0.4s						
RJF	**Les Rejaudoux**	**3.21**	**40**	*e*Pn	Pn	13 04 41.2	-2.8
RJF				*e*Sn	Sn	13 05 18.8	-4.2
	1.2nm,0.3s						
CAF	**Calviac**	**3.23**	**50**	*e*Pn	Pn	13 04 41.8	-2.6
CAF				*e*Sn	Sn	13 05 19.8	-3.8
	0.9nm,0.2s						
MFF	**Saint Martin d**	**3.83**	**13**	*e*Pn	Pn	13 04 50.1	-2.7
MFF				*e*Pg	Pg	13 05 02.0	-6.6
MFF				*e*Sn	Sn	13 05 33.4	-5.2
MFF				*e*Sg	Sg	13 05 52.4	-7.3
	0.6nm,0.3s						
LASF	**Ste Croix**	**4.01**	**71**	*e*Pn	Pn	13 04 53.0	-2.4
LASF				*e*Sn	Sn	13 05 38.5	-4.7
	1.3nm,0.4s						
TCF	**Toulx Ste Croi**	**4.27**	**36**	*e*Pn	Pn	13 04 54.8	-4.4
TCF				*e*Sn	Sn	13 05 44.0	-5.9
	0.6nm,0.4s						
BGF	**Bois d'Agland**	**4.76**	**38**	*e*Pn	Pn	13 05 01.9	-4.2
BGF				*e*Sn	Sn	13 05 55.4	-6.9
	4.6nm,0.5s						
VIVF	**Saint-Julien-l**	**4.81**	**64**	*e*Pn	Pn	13 05 03.8	-3.1
VIVF				*e*Sn	Sn	13 05 57.0	-6.6
	1.5nm,0.4s						
AVF	**Avril sur Loir**	**5.17**	**39**	*e*Pn	Pn	13 05 07.4	-4.4
AVF				*e*Sn	Sn	13 06 04.9	-7.6
	1.0nm,0.3s						

*IDC **19** 13:19:51.8±10.0, 5.05S×151.82E, h70^{km}±98^{km}, mb3.7/7, mb1 3.8/8, mb1mx3.7/14, MS3.0/1, Ms1 3.0/1, ms1mx2.5/20, Error ellipse: s-maj=48.4km s-min=34.5km az=100.0*
*NEIC **19** 13:19:58.2±1.0, 5.26S×151.77E, h128^{km}±8^{km}, mb4.0/4, Error ellipse: s-maj=23.5km s-min=10.0km az=118.0*
ISC 19 13:19:57.9±1.1**, 5.2S**±0.1×**151.7E**±0.2**, h137**^{km}±9^{km}**, n19, σ1**^{s}**01**/18**, mb3.8**/9**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAB	**Rabaul**	**1.07**	**27**	*e*P	**P**	**13 20 23.0**	**+0.6**
WAU	**Wau**	**5.39**	**246**	*e*P	**P**	**13 21 15.7**	**-1.5**
PMG	**Port Moresby**	**6.16**	**226**	*e*P	**P**	**13 21 27.9**	**+0.4**
CTA	**Charters Tower**	**15.75**	**199**	P	**P**	**13 23 30.7**	**-2.7**
	baz=73,slow=11,SNR=2.0						
CTA				LR	LR	13 28 05.8	
	comp=Z,52nm,21.4s,baz=228,slow=31						
CTA	**Charters Tower**	**15.75**	**199**	P	**P**	**13 23 30.7**	**-2.7**
CTA				LR	LR	13 28 05.8	
CTAO	**Charters Tower**	**15.75**	**199**	P	**P**	**13 23 31.3**	**-2.1**
KAKA	**Kakadu**	**20.45**	**247**	*e*P	**P**	**13 24 27.7**	**+1.3**
	13nm,0.4s						
WRAB	**Tennant Creek**	**22.36**	**227**	*e*P	**P**	**13 24 46.0**	**+0.8**
	8.9nm,1.0s,mb4.2						
WB2	**Warramunga Arr**	**22.36**	**227**	*e*P	**P**	**13 24 46.3**	**+1.0**
WRA	**Warramunga Arr**	**22.37**	**227**	P	**P**	**13 24 46.4**	**+1.1**
	0.8nm,0.4s,mb3.5,baz=51,slow=10,SNR=17						
ASAR	**Alice Springs**	**25.14**	**221**	P	**P**	**13 25 12.5**	**+0.6**
	1.7nm,0.9s,mb3.6,baz=53,slow=9.0,SNR=25						
STKA	**Stephens Creek**	**28.21**	**198**	P	**P**	**13 25 40.5**	**+0.5**
	0.9nm,0.3s,mb3.9,baz=9.7,slow=12,SNR=3.7						
FITZ	**Fitzroy Crossi**	**28.51**	**241**	*e*P	**P**	**13 25 41.5**	**-1.2**
	1.3nm,0.6s,mb3.8						

FITZ	Fitzroy Crossi	28.51	241	P	P	13 25 41.2	-1.5
	1.1nm,0.5s,mb3.9,baz=66,slow=8.6,SNR=7.0						
MBWA	Marble Bar	34.82	240	*e*P	P	13 26 37.0	-0.7
	0.8nm,0.4s,mb3.7						
SONM	Songino Array	66.03	328	P	P	13 30 32.1	0.0
	1.3nm,0.5s,mb4.0,baz=147,slow=4.9,SNR=18						
MKAR	Makanchi Array	79.86	319	P	P	13 31 52.6	-0.1
	0.4nm,0.6s,mb3.2,baz=99,slow=7.6,SNR=3.9						
ILAR	Eielson Array	82.91	22	P	P	13 32 07.2	-1.1
	1.1nm,0.4s,mb3.9,baz=256,slow=4.8,SNR=36						
GERES	GERESS Array B	123.77	328	PKP	PKPdf	13 38 41.6	+2.0
	0.4nm,0.4s,baz=72,slow=4.2,SNR=4.3						

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*IDC **19** 13:20:11.5±2.8, 32.59S×178.48W, mb4.2/3, mb1 4.4/4, mb1mx4.1/13, ML4.0/1, MS3.5/1, Ms1 3.5/1, ms1mx3.0/20, Error ellipse: s-maj=59.5km s-min=35.3km az=114.0*

*NEIC **19** 13:20:38.7±2.7, 33.80S×179.45E, h128^{km}±17^{km}, mb3.9/4, Error ellipse: s-maj=32.7km s-min=12.1km az=46.0*

ISC 19 13:20:21.5±1.8**, 33.43S**±0.09×**178.3W**±0.2**, h122**^{km}±14^{km}**,**
n38, σ**1**^{s}**04**/48**, mb4.1**/6**, 2C, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	4.97	213	P	P	13 21 36.9	+1.7
MXZ				S	S	13 22 40.4	+8.5
MXZ	Matakaoa Point	4.97	213	*e*P	P	13 21 36.3	+1.1
MXZ				S	S	13 22 40.4	+8.5
PUZ	Puketiti	5.41	210	S	S	13 22 51.6	+8.8
MWZ	Matawai	5.95	213	P	P	13 21 48.4	0.0
MWZ				S	S	13 23 03.9	+8.0
MWZ	Matawai	5.95	213	*e*P	P	13 21 48.4	0.0
MWZ				S	S	13 23 03.9	+8.0
URZ	Urewera	6.09	216	Pn	P	13 21 52.1	+1.8
	2.8nm,0.3s,baz=225,slow=2.6,SNR=33						
URZ				Sn	S	13 23 07.7	+8.4
	5.8nm,0.3s,baz=210,slow=22,SNR=9.1						
URZ	Urewera	6.09	216	P	P	13 21 50.4	0.0
URZ	Urewera	6.09	216	*e*P	P	13 21 50.4	0.0
KNZ	Kokohu	6.46	209	P	P	13 21 57.3	+1.9
KNZ	Kokohu	6.46	209	*e*P	P	13 21 57.3	+1.9
WCZ	Waipu Caves	6.55	245	P	P	13 21 57.2	+0.5
WCZ	Waipu Caves	6.55	245	*e*P	P	13 21 57.2	+0.5
OUZ	Omahuta	6.94	253	P	P	13 22 01.0	-0.9
OUZ	Omahuta	6.94	253	*e*P	P	13 22 01.0	-0.9
BKZ	Black Stump Fm	7.10	215	P	P	13 22 03.8	-0.4
BKZ				S	S	13 23 28.2	+4.4
BKZ	Black Stump Fm	7.10	215	*e*P	P	13 22 03.8	-0.4
MRZ	Mangatainoka R	8.72	212	P	P	13 22 23.4	-2.5
MRZ				S	S	13 24 04.9	+1.9
MRZ	Mangatainoka R	8.72	212	*e*P	P	13 22 23.6	-2.3
MRZ				S	S	13 24 05.1	+2.1
NNZ	Nelson	10.21	218	P	P	13 22 45.5	-0.3
NNZ				S	S	13 24 38.8	+0.2
THZ	Tophouse	10.85	217	P	P	13 22 52.7	-1.6
THZ				S	S	13 24 52.8	-1.1
THZ	Tophouse	10.85	217	*e*P	P	13 22 52.7	-1.6
THZ				S	S	13 24 53.8	-0.1
KHZ	Kahutara	11.04	213	P	P	13 22 55.2	-1.6
KHZ				S	S	13 24 57.9	-0.5
KHZ	Kahutara	11.04	213	*e*P	P	13 22 55.2	-1.6
MQZ	McQueen's Vall	12.46	212	S	S	13 25 28.0	-3.9
CTA	Charters Tower	34.15	284	P	P	13 26 56.4	-0.5
	3.4nm,0.8s,mb4.2,baz=92,slow=10.0,SNR=5.6						
CTA				LR	LR	13 38 29.3	
	comp=Z,66nm,18.3s,baz=225,slow=32						
CTAO	Charters Tower	34.15	284	*e*P	P	13 26 57.6	+0.7
	1.9nm,0.5s,mb4.2						
ASAR	Alice Springs	42.78	270	P	P	13 28 09.4	+0.7
	3.3nm,1.0s,mb4.0,baz=106,slow=7.5,SNR=17						
ASPA	Alice Springs	42.78	270	*e*P	P	13 28 09.4	+0.7
WB2	Warramunga Arr	44.03	275	*e*P	P	13 28 18.8	0.0
WRAB	Tennant Creek	44.03	275	*e*P	P	13 28 18.5	-0.4
	5.2nm,0.6s,mb4.4						
WRA	Warramunga Arr	44.04	275	P	P	13 28 18.9	+0.1
	1.3nm,0.3s,mb4.2,baz=124,slow=5.0,SNR=31						
CASY	Casey	52.36	209	P	P	13 29 28.5	+5.8
	0.6nm,0.4s,mb4.0						
MBWA	Marble Bar	55.69	266	*e*P	P	13 29 47.8	+0.1
	0.5nm,0.4s,mb3.9						
SNAA	Sanae	75.14	179		P	13 32 06.3	+15
VNA3	Neumayer Olymp	75.31	176	⇑*i*	P	13 32 05.6	+13
VNA2	Neumayer--Watz	75.74	177	⇑*i*	P	13 32 06.7	+12
FINES	FINESS Array B	147.87	338	PKPbc	PKPdf	13 39 54.6	+6.4
	2.8nm,0.7s,baz=29,slow=3.6,SNR=11						
NAO01	NORSAR Array S	151.93	350	PKPbc	PKPdf	13 40 18.1	+24

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*NEIC **19** 13:29:12.7±1.7, 23.37N×142.14E, h60^{km}±15^{km}, mb4.3/7, Error ellipse: s-maj=17.1km s-min=8.5km az=96.0*

*IDC **19** 13:29:19.9±1.8, 23.35N×142.05E, h123^{km}±15^{km}, mb3.8/15, mb1 4.0/17, mb1mx3.9/24, Error ellipse: s-maj=21.2km s-min=11.0km az=97.0*

*JMA **19** 13:29:21.8±0.2, 23.54N×141.80E, h157^{km}, M5.0*

ISC 19 13:29:19.6±1.0**, 23.44N**±0.05×**141.8E**±0.1**, h139**^{km}±9^{km}**,**
n43, σ**1**^{s}**18**/48**, mb3.9**/20**, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHHJ	Haha-jima-NKT	3.19	6	P	P	13 30 10.9	+1.0
JHHJ				S	S	13 30 48.9	+0.6
CBIJ	Chichi jima	3.66	5	P	P	13 30 17.3	+1.3
	155nm,0.3s,baz=148,slow=4.7,SNR=389						
CBIJ				S	S	13 30 59.5	+0.3
	192nm,0.3s,baz=275,slow=21,SNR=14						
CBIJ	Chichi jima	3.66	5	P	P	13 30 17.2	+1.2
CBIJ				S	S	13 31 00.1	+0.9
JHJ2	Mitsune	9.79	350	P	P	13 31 38.7	+0.7
JHJ2				S	S	13 33 23.5	-2.7
JHJ	Hachijo jima 2	9.80	350	P	P	13 31 38.4	+0.2
	21nm,0.3s,baz=78,slow=22,SNR=38						
JKO	Kozu shima	10.96	348	P	P	13 31 54.1	+0.7
BSO1	Boso 1	11.20	357	P	P	13 31 55.5	-1.0
JOD2	Odawara 2	12.02	349	P	P	13 32 06.4	-0.8
JOD2				S	S	13 34 17.7	-1.0
JRY	Ryogami san	12.78	349	P	P	13 32 15.6	-1.6
JRY				S	S	13 34 34.2	-2.5
MAJO	Matsushiro	13.42	347	*e*Pn	P	13 32 21.7	-3.7
	5.5nm,0.4s						
MAT	Matsushiro	13.42	347	P	P	13 32 21.8	-3.6
MAT				S	S	13 34 47.3	-4.3
MAT	Matsushiro	13.42	347	P	P	13 32 22.0	-3.4
MAT				*e*S	S	13 34 40.0	-12
JHS	Saijyo	13.78	329	P	P	13 32 38.8	+8.8
JMK	Ichinoseki	15.47	358	P	P	13 32 51.1	-0.3
SONM	Songino Array	37.19	320	P	P	13 36 22.3	+3.6
	0.4nm,0.4s,mb3.4,baz=118,slow=6.5,SNR=5.8						
WRAB	Tennant Creek	43.72	190	*e*P	P	13 37 11.7	-1.1
	6.6nm,0.5s,mb4.5						
WB2	Warramunga Arr	43.73	190	*e*P	P	13 37 11.8	-1.0
WRA	Warramunga Arr	43.73	190	P	P	13 37 12.1	-0.8
	2.8nm,0.5s,mb4.2,baz=9.3,slow=8.0,SNR=71						
FITZ	Fitzroy Crossi	44.20	202	*e*P	P	13 37 16.7	0.0
	3.4nm,1.5s,mb3.8						
FITZ	Fitzroy Crossi	44.20	202	P	P	13 37 16.7	0.0
	1.5nm,0.6s,mb3.8,baz=29,slow=7.4,SNR=9.5						
ASAR	Alice Springs	47.45	190	P	P	13 37 41.9	-0.4
	0.8nm,0.5s,mb3.6,baz=17,slow=14,SNR=27						
ASPA	Alice Springs	47.45	190	*e*P	P	13 37 42.0	-0.2
MKAR	Makanchi Array	52.58	312	P	P	13 38 23.5	+2.5
	0.9nm,0.4s,mb3.9,baz=87,slow=9.8,SNR=20						
MKAR				PcP	PcP	13 39 30.1	+0.8
	0.6nm,0.7s,baz=76,slow=5.9,SNR=4.2						
STKA	Stephens Creek	55.00	180	P	P	13 38 37.1	-1.9
	2.2nm,0.8s,mb4.0,baz=333,slow=12,SNR=5.0						
KURK	Kurchatov	55.33	316	*e*P	P	13 38 42.9	+1.8
	1.7nm,0.5s,mb4.0						
MCK	McKinley	60.07	29	*e*P	P	13 39 13.0	-1.0
	1.5nm,0.8s,mb3.9						
SML	Sawmill	60.12	31	*e*P	P	13 39 13.7	-0.7
BRVK	Borovoye	60.58	319	*e*P	P	13 39 19.2	+1.6
	7.7nm,0.7s,mb4.6						
ILAR	Eielson Array	61.09	28	P	P	13 39 19.8	-1.1
	1.3nm,0.7s,mb3.9,baz=259,slow=5.5,SNR=24						
INK	Inuvik	66.50	24	P	P	13 39 55.8	-0.2
	1.3nm,0.5s,mb4.0,baz=284,slow=12,SNR=12						
INK	Inuvik	66.50	24	*e*P	P	13 39 55.2	-0.9
	1.3nm,0.5s,mb4.0						
YKA	Yellowknife Ar	75.52	28	P	P	13 40 50.1	+0.2
	1.9nm,0.6s,mb3.9,baz=294,slow=5.9,SNR=6.7						
ARCES	ARCESS Array B	76.87	341	P	P	13 40 59.1	+1.7
	2.6nm,0.6s,mb4.0,baz=27,slow=5.4,SNR=9.0						
YBH	Yreka Blue Hor	78.67	49	P	P	13 41 08.7	+0.9
	1.1nm,0.5s,mb3.8,baz=130,slow=6.3,SNR=4.0						
KAF	Kangasniemi	80.61	335	*e*p	P	13 41 17.4	-0.4
	0.7nm,0.4s,mb3.6,baz=56,slow=5.0						
FINES	FINESS Array B	81.06	334	P	P	13 41 21.1	+0.9
	3.5nm,0.4s,mb4.3,baz=67,slow=5.3,SNR=24						
NVAR	Mina Array Bea	83.06	51	P	P	13 41 32.1	+1.1
	1.1nm,0.5s,mb3.8,baz=265,slow=3.0,SNR=4.5						
ELK	Elko	84.23	48	*e*P	P	13 41 37.6	+0.8
AKASG	Malin Array Be	85.35	324	P	P	13 41 42.9	+0.8
	0.3nm,0.3s,mb3.5,baz=34,slow=3.4,SNR=5.8						
GERES	GERESS Array B	94.44	329	P	P	13 42 25.3	+0.5
	0.4nm,0.7s,mb3.7,baz=34,slow=3.5,SNR=5.3						
PLCA	Paso Flores	147.86	130	PKPbc	PKPdf	13 48 51.3	+6.2
	1.7nm,0.9s,baz=238,slow=2.4,SNR=3.4						
LPAZ	La Paz	151.01	81	PKPbc	PKPdf	13 48 59.4	+8.7
	2.1nm,0.3s,baz=185,slow=0.4,SNR=2.8						
SAML	Samuel	152.09	63	*e*PKPbc	PKPdf	13 49 00.0	+7.7
SAML				*e*PKPab	PKPab	13 49 09.0	-2.6

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*NEIC **19** 14:08:14.9, 28.92S×70.25W, h103^{km}, MD3.8(GUC), After GUC.*

GUC 19 14:08:14.9±0.8**, 28.92S**×**70.25W, h103**^{km}±15^{km}**, MD3.8,**
ML4.1, 1C-4D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VACH	Vallenar	0.56	308	⇓*i*P	P	14 08 21.8	-10
VACH				*i* S	S	14 08 34.8	-9.5
VACH				AMP		14 08 36.0	
	comp=N,21μm,0.1s						
LSCH	La Serena	1.31	221	⇓*i*P	P	14 09 14.4	+35
LSCH				*i* S	S	14 09 32.6	+35
LSCH				AMP		14 09 39.1	
	comp=N,2μm,0.3s						
TLL	Tololo Astrono	1.33	201	⇑*i*P	P	14 08 40.7	+0.9
TLL				*i* S	S	14 08 59.4	+1.1
TLL				AMP		14 09 01.3	
	comp=N,2μm,0.2s						
CPCH	Copiapo	1.56	357	⇓*i*P	P	14 08 42.2	-0.4
CPCH				*i* S	S	14 09 03.0	-0.1
CMCH	Combarbala	2.34	196	⇓*i*P	P	14 08 52.5	-0.1
CMCH				*i* S	S	14 09 20.7	-0.2
CMCH				AMP		14 09 27.0	
	comp=N,2μm,0.5s						
JACH	Jahuel	3.76	184	*e*P	P	14 09 11.6	-0.5
MDZ	Mendoza	4.13	163	*e*P	P	14 09 17.3	+0.2
FCH	Farellones	4.39	180	*e*P	P	14 09 20.9	+0.2
FCH				*i* S	S	14 10 11.0	-0.1
CLCH	Cerro Calan	4.47	183	*e*P	P	14 09 21.6	-0.2
CLCH				*i* S	S	14 10 11.2	-1.7
RCDM	Rinconada Maip	4.58	186	*e*P	P	14 09 22.8	-0.4
CACH	El Canelo	5.19	183	*e*P	P	14 09 32.0	+0.5

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*BJI **19** 14:24:31.8, 2.03S×67.74E, h10^{km}, mB4.8, mb4.6, Ms4.3, Msz3.9*

*IDC **19** 14:24:31.5±1.1, 2.27S×67.82E, mb4.0/8, mb1 4.1/8, mb1mx3.9/17, MS4.0/3, Ms1 4.0/3, ms1mx3.6/16, Error ellipse: s-maj=31.2km s-min=22.3km az=42.0*

*NEIC **19** 14:24:33.2±0.6, 2.25S×67.83E, h10^{km}, mb4.9/7, Error ellipse: s-maj=12.6km s-min=11.8km az=80.0*

*HRVD **19** 14:24:33.2±0.8, 2.10S×68.04E, h12^{km}, MW4.8/33, Centroid moment Tensor Solution. LP body waves: s18,c19;Mantle waves: s33,c51; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.81±.14; $M_{\theta\theta}$1.23±.12; $M_{\phi\phi}$0.59±.12; $M_{r\theta}$0.82±.40; $M_{\theta\phi}$-0.60±.12; $M_{\phi r}$0.23±.44; Best double couple: $M_0$1.88×10^{16} NP1:ϕ_s133°,δ37°,λ-66°. NP2:ϕ_s285°,δ57°,λ-107°. Principal axes: T 1.69, Plg10°, Azm27°; N .38, Plg14°, Azm294°; P -2.07, Plg73°, Azm152°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 19 14:24:31.2±0.8**, 2.3S**±0.1×**67.8E**±0.1**, h10**^{km}**, n33,**
σ**1**^{s}**03**/30**, mb4.5**/19**, MS4.1**/5**, 1D, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TRD	Trivandrum	14.12	40	⇓*i*P	Px	14 28 07.1	
TRD				*i* S	Sx	14 30 56.1	
HYB	Hyderabad	22.30	28	*i* P	P	14 29 30.0	-0.5
HYB	Hyderabad	22.30	28	*e*P	P	14 29 30.0	-0.5
KMBO	Kilima Mbogo	30.55	272	P	P	14 30 48.1	+0.7
	0.8nm,0.8s,mb3.6,baz=200,slow=23,SNR=2.4						
DMN	Daman	34.11	28	*e*P	P	14 31 19.0	+0.6
	80nm,1.1s,mb5.5						
PKI	Pulchoki	34.22	29	*e*P	P	14 31 19.7	+0.3
	14nm,0.8s,mb5.0						
GKN	Gorkha	34.23	27	*e*P	P	14 31 18.9	-0.5
	83nm,1.2s,mb5.5						
KKN	Kakani	34.35	28	*e*P	P	14 31 19.3	-1.1
	57nm,1.2s,mb5.4						
CMAR	Chiang Mai Arr	36.97	55	P	P	14 31 43.0	+0.3
	3.8nm,1.1s,mb4.1,baz=244,slow=9.7,SNR=16						
CMAR				LR	LR	14 45 07.3	
	comp=Z,192nm,18.9s,MS3.9,baz=245,slow=34						
LSA	Lhasa	38.90	33	P	P	14 32 00.0	+1.1
KMI	Kunming	43.50	49	*e*P	P	14 32 36.8	0.0
KMI				AP	pP	14 32 46.6	+6.8
KMI				XP	sP	14 32 50.4	+9.4
KMI				S	S	14 39 11.3	+6.3
KMI				AMB	AMB		
	comp=Z,7.0nm,1.4s,mb4.2						
KMI				AMB	AMB		
	comp=Z,74nm,4.4s						
KMI				LR	LR		
	comp=N,151nm,16.4s,MS4.2						
KMI				LR	LR		
	comp=E,187nm,15.5s,MS4.2						
KMI				LR	LR		
	comp=Z,228nm,17.1s,MS4.1						
KZA	Kyzart	44.71	8	P	P	14 32 47.0	+0.6
	SNR=24						
UCH	Uchtor	44.76	7	P	P	14 32 48.8	+2.0
	SNR=6.5						
EKS2	Erkin-Say	45.10	6	P	P	14 32 51.0	+1.5
	SNR=18						
KBK	Karagaybulak	45.24	7	P	P	14 32 51.4	+0.9
	SNR=10.0						
TKM2	Tokmak 2	45.58	8	P	P	14 32 53.6	+0.3
	SNR=15						
MKAR	Makanchi Array	50.55	13	P	P	14 33 30.2	-1.7
	comp=Z,3.2nm,1.0s,mb4.2,baz=191,slow=6.2,SNR=14						
GTA	Gaotai	50.89	32	*e*P	P	14 33 34.9	+0.3
XAN	Xi'an	52.95	43	P	P	14 33 48.1	-2.1
XAN				AP	pP	14 33 54.5	+1.2
XAN				AMB	AMB		
	comp=Z,14nm,1.4s,mb4.7						
KURK	Kurchatov	53.64	9	*e*P	P	14 33 53.4	-1.7
	comp=Z,9.7nm,1.0s,mb4.7						
ZRNK	Zerenda	55.08	1	*e*P	P	14 34 04.3	-1.3
	comp=Z,9.0nm,1.1s,mb4.7						
BVAR	Borovoye Array	55.19	2	P	P	14 34 05.9	-0.5
	comp=Z,0.5nm,0.7s,mb3.6,baz=180,slow=10,SNR=7.0						
BRVK	Borovoye	55.22	2	*e*P	P	14 34 05.8	-0.8
	comp=Z,4.5nm,1.1s,mb4.4						
HHC	Hu-ho-hao-te	58.59	38	*e*P	P	14 34 32.3	+1.6
HHC				AMB	AMB		
	comp=Z,13nm,0.7s,mb5.1						
SONM	Songino Array	60.24	29	P	P	14 34 41.4	-0.7
	comp=Z,2.7nm,0.8s,mb4.3,baz=221,slow=6.3,SNR=24						
BJI	Beijing	61.08	41	P	P	14 34 49.5	+1.7
BJI				AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.8						
BJI				LR	LR		
	comp=N,76nm,17.2s,MS4.2						
BJI				LR	LR		
	comp=E,94nm,13.9s,MS4.2						
BJI				LR	LR		
	comp=Z,90nm,30.7s						
AKASG	Malin Array Be	62.24	333	P	P	14 34 54.5	-1.0
	comp=Z,0.3nm,0.5s,mb3.7,baz=142,slow=5.6,SNR=4.6						
MAW	Mawson	65.25	182	LR	LR	14 57 28.4	
	comp=Z,56nm,18.0s,MS3.8,baz=164,slow=30						
WRA	Warramunga Arr	67.19	111	P	P	14 35 28.1	0.0
	comp=Z,1.7nm,0.6s,mb4.2,baz=287,slow=6.0,SNR=17						
WB2	Warramunga Arr	67.20	111	*e*P	P	14 35 28.2	0.0
ASAR	Alice Springs	67.23	115	P	P	14 35 27.9	-0.5
	comp=Z,2.8nm,1.1s,mb4.2,baz=281,slow=6.3,SNR=13						
CTA	Charters Tower	78.37	110	LR	LR	15 04 28.9	
	comp=Z,237nm,21.5s,MS4.5,baz=18,slow=31						
WMOK	Wichita Mounta	145.41	340	*e*PKPbc	PKPbc	14 44 12.3	+1.7

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*IDC **19** 14:27:48.1±0.9, 1.56N×66.86E, mb4.0/9, mb1 4.2/9, mb1mx4.0/17, Error ellipse: s-maj=26.9km s-min=19.9km az=22.0*

*NEIC **19** 14:27:49.7±0.7, 1.58N×66.84E, h10^{km}, mb4.5/1, Error ellipse: s-maj=21.9km s-min=15.3km az=184.0*

ISC 19 14:27:47.9±0.9**, 1.6N**±0.2×**66.9E**±0.1**, h10**^{km}**, n11,**
σ**0**^{s}**80**/10**, mb4.1**/10**, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KMBO	Kilima Mbogo	29.72	265	P	P	14 33 58.4	+1.5
	3.9nm,0.2s,mb4.8,baz=247,slow=24,SNR=13						
CM31	Chiang Mai Arr	35.65	60	P	P	14 34 48.5	+0.2
	9.3nm,1.4s,mb4.5						
CMAR	Chiang Mai Arr	35.65	60	P	P	14 34 49.6	+1.2
	2.7nm,1.2s,mb4.1,baz=247,slow=9.2,SNR=7.5						
MKAR	Makanchi Array	46.98	14	P	P	14 36 21.4	+0.3
	0.3nm,0.6s,mb3.4,baz=190,slow=8.8,SNR=3.1						
BRTR	Keskin Array B	48.49	326	P	P	14 36 31.9	-1.1
	0.9nm,0.8s,mb3.9,baz=152,slow=10.0,SNR=4.1						
BVAR	Borovoye Array	51.33	3	P	P	14 36 54.6	+0.1
	0.5nm,0.4s,mb3.8,baz=224,slow=44,SNR=3.2						
SONM	Songino Array	57.32	31	P	P	14 37 38.3	-0.2
	0.9nm,0.6s,mb4.0,baz=220,slow=7.4,SNR=8.3						
WRA	Warramunga Arr	69.47	112	P	P	14 38 58.6	-0.5
	3.9nm,0.9s,mb4.3,baz=287,slow=5.9,SNR=17						
ASAR	Alice Springs	69.74	116	P	P	14 39 00.1	-0.6
	2.3nm,0.8s,mb4.2,baz=285,slow=5.8,SNR=20						
ESDC	Sonseca Array	74.27	311	P	P	14 39 26.5	-0.9
	0.7nm,0.7s,mb3.7,baz=76,slow=5.9,SNR=5.3						
PDAR	Pinedale Array	135.71	356	PKP	PKPdf	14 47 10.5	-1.8
	0.2nm,0.4s,baz=124,slow=5.3,SNR=3.8						

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*IDC **19** 14:28:01.1±1.3, 44.51S×82.07W, mb4.2/5, mb1 4.4/6, mb1mx4.3/13, ML3.9/1, MS4.5/8, Ms1 4.5/8, ms1mx4.2/14, Error ellipse: s-maj=45.5km s-min=26.9km az=121.0*

*NEIC **19** 14:28:02.9±0.9, 44.40S×82.30W, h10^{km}, mb4.2/4, Error ellipse: s-maj=26.7km s-min=13.4km az=106.0*

ISC 19 14:28:01.4±0.9**, 44.40S**±0.10×**82.3W**±0.2**, h10**^{km}**, n22,**
σ**1**^{s}**17**/16**, mb4.2**/8**, MS4.4**/7**, 3C, West Chile Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLCA	Paso Flores	9.40	71	Pn	P	14 30 15.1	-4.9
	0.3nm,0.3s,baz=238,slow=15,SNR=12						
PLCA				LR	LR	14 33 21.5	
	comp=Z,3μm,19.4s,baz=322,slow=34						
PLCA	Paso Flores	9.40	71	*e*P	P	14 30 13.9	-6.0
	23nm,1.4s						
PLCA				LR	LR	14 33 21.5	
USHA	Ushuaia	13.74	144	LR	LR	14 36 04.7	
	comp=Z,626nm,18.6s,baz=286,slow=36						
TRQA	Tornquist	16.52	74	*e*P	P	14 31 54.6	0.0
	14nm,0.9s						
CPUP	Villa Florida	27.02	56	P	P	14 33 44.6	-0.8
	1.1nm,0.6s,mb3.6,baz=237,slow=11,SNR=2.7						
CPUP				LR	LR	14 44 30.2	
	comp=Z,2μm,19.1s,MS4.6,baz=241,slow=37						
LPAZ	La Paz	30.47	28	P	P	14 34 16.9	+0.3
	1.7nm,0.3s,mb4.2,baz=205,slow=4.8,SNR=3.6						
SAML	Samuel	39.01	31	*e*P	P	14 35 30.7	+0.8
	6.7nm,1.4s,mb4.2						
BDFB	Brasilia	40.75	56	P	P	14 35 43.4	-0.7
	6.4nm,1.2s,mb4.1,baz=202,slow=4.0,SNR=3.8						
BDFB				LR	LR	14 52 58.7	
	comp=Z,971nm,18.4s,MS4.7,baz=229,slow=37						
VNA3	Neumayer Olymp	43.20	153	⇑*i*	P	14 36 04.7	+1.2
VNA1	Neumayer--Stat	43.69	152	⇑*i*	P	14 36 09.3	+1.8
VNA2	Neumayer--Watz	43.95	153	⇑*i*	P	14 36 11.2	+1.6
SNAA	Sanae	45.34	154		P	14 36 19.4	-1.3
SNAA	Sanae	45.34	154	*e*P	P	14 36 18.4	-2.4
	22nm,1.4s,mb4.8						
QSPA	South Pole Qui	45.84	180	*e*P	P	14 36 24.0	-0.7
	4.3nm,1.0s,mb4.3						
QSPA				LR	LR		
	comp=Z,70nm,21.8s,MS3.6						
ROSC	El Rosal	49.55	10	LR	LR	14 55 04.3	
	comp=Z,518nm,18.6s,MS4.6,baz=220,slow=33						
PPT	Papeete	61.76	273	*e*S	S	14 46 27.6	-16
PPT				*e*SS	SS	14 50 42.2	-5.0
PPT				*e*R		14 56 07.2	
	comp=Z,358nm,26.0s,baz=142						
MAW	Mawson	65.26	166	P	P	14 38 42.8	-1.9
	comp=Z,2.6nm,0.8s,mb4.3,baz=309,slow=9.5,SNR=4.7						
RPZ	Rata Peaks	70.66	227	LR	LR	15 02 05.6	
	comp=Z,488nm,21.7s,MS4.7,baz=295,slow=29						
URZ	Urewera	70.97	235	LR	LR	15 03 55.9	
	comp=Z,215nm,20.1s,MS4.4,baz=219,slow=30						
DBIC	Dimbokro	85.72	76	LR	LR	15 11 41.7	
	comp=Z,133nm,20.0s,MS4.3,baz=170,slow=31						
PDAR	Pinedale Array	90.14	340	P	P	14 41 03.0	+0.3
	comp=Z,1.1nm,1.0s,mb4.2,baz=135,slow=2.1,SNR=4.7						
CMAR	Chiang Mai Arr	154.12	183	PKPbc	PKPdf	14 48 03.4	+7.2
	comp=Z,0.9nm,1.0s,baz=260,slow=1.6,SNR=4.9						

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*IDC **19** 14:55:54.8±4.0, 6.08S×147.17E, h35^{km}±30^{km}, mb4.3/9, mb1 4.4/11, mb1mx4.4/14, ML4.0/2, MS3.2/4, Ms1 3.2/4, ms1mx3.1/15, Error ellipse: s-maj=21.8km s-min=11.2km az=119.0*

*NEIC **19** 14:55:56.6±0.9, 6.08S×147.24E, h54^{km}±8^{km}, mb4.6/8, Error ellipse: s-maj=11.1km s-min=7.1km az=121.0*

ISC 19 14:55:55.5±1.2**, 6.04S**±0.08×**147.25E**±0.09**, h61**^{km}±12^{km}**,**
n37, σ**0**^{s}**89**/27**, mb4.5**/16**, 1D, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WAU	Wau	1.40	202	⇓*i*P	P	14 56 20.4	+1.0
KMBE	Kimbe	2.93	81	*e*P	P	14 56 40.2	-0.6
PMG	Port Moresby	3.35	181	*e*P	P	14 56 47.5	+0.8
CTA	Charters Tower	14.00	184	Pn	P	14 59 09.1	-3.3
	0.1nm,0.3s,baz=261,slow=17,SNR=1.8						
CTAO	Charters Tower	14.00	184	*e*Pn	P	14 59 12.8	+0.4
WRAB	Tennant Creek	18.65	221	*e*P	P	15 00 09.2	-1.8
	23nm,0.7s						
WRA	Warramunga Arr	18.66	221	P	P	15 00 09.5	-1.7
	1.5nm,0.3s,baz=43,slow=11,SNR=46						
WRA				S	S	15 03 36.7	+3.0
	0.3nm,0.3s,baz=37,slow=21,SNR=4.0						
WRA				PcP	PcP	15 04 38.4	+1.0
	0.7nm,0.3s,baz=25,slow=1.5,SNR=10.0						
ASAR	Alice Springs	21.73	215	P	P	15 00 43.0	-0.3
	11nm,0.7s,mb4.4,baz=55,slow=8.6,SNR=61						
ASAR				S	S	15 04 41.0	+6.1
	2.2nm,0.7s,baz=27,slow=22,SNR=6.8						
ASAR				LR	LR	15 09 52.8	
	comp=Z,146nm,20.5s,baz=36,slow=39						
FITZ	Fitzroy Crossi	24.26	238	P	P	15 01 08.1	0.0
	46nm,0.8s,mb4.9,baz=74,slow=4.8,SNR=58						
FITZ				LR	LR	15 11 32.3	
	comp=Z,55nm,20.2s,baz=85,slow=39						
STKA	Stephens Creek	26.24	191	P	P	15 01 26.5	-0.3
	4.6nm,0.5s,mb4.3,baz=4.8,slow=8.1,SNR=19						
STKA	Stephens Creek	26.24	191	*e*P	P	15 01 26.1	-0.8
MBWA	Marble Bar	30.59	238	*e*P	P	15 02 05.1	-0.9
	5.2nm,0.5s,mb4.6						
JHJ	Hachijo jima 2	39.58	350	LR	LR	15 19 29.4	
	comp=Z,12nm,18.1s,baz=249,slow=36						
MAJO	Matsushiro	43.19	349	*e*P	P	15 03 52.7	+0.4
	14nm,1.1s,mb4.6						
MAT	Matsushiro	43.19	349	P	P	15 03 52.8	+0.5
MAT	Matsushiro	43.19	349	*e*P	P	15 03 53.0	+0.7
	14nm,1.2s,mb4.6						
ASAJ	Asahikawa	50.10	356	LR	LR	15 24 14.4	
	comp=Z,46nm,20.6s,baz=10,slow=34						
RAR	Rarotonga	53.40	112	P	P	15 05 11.9	+0.4
	12nm,0.8s,mb4.9,baz=358,slow=3.5,SNR=3.1						
CMAR	Chiang Mai Arr	53.48	298	P	P	15 05 12.8	+0.5
	1.7nm,1.0s,mb3.9,baz=124,slow=6.1,SNR=6.3						
HIA	Hailar	60.07	340	*e*P	P	15 05 58.2	-0.4
	7.8nm,1.1s,mb4.7						
SONM	Songino Array	64.56	331	P	P	15 06 28.6	+0.1
	2.5nm,0.7s,mb4.3,baz=149,slow=5.0,SNR=19						
CASY	Casey	65.28	195	*e*P	P	15 06 32.2	-0.7
	5.7nm,0.8s,mb4.7						
MKAR	Makanchi Array	77.68	320	P	P	15 07 47.1	-0.2
	1.0nm,0.4s,mb4.1,baz=95,slow=7.7,SNR=23						
MAW	Mawson	82.31	203	P	P	15 08 12.0	+0.4
	3.8nm,0.8s,mb4.4,baz=98,slow=5.6,SNR=5.1						
QSPA	South Pole Qui	83.93	180	*e*P	P	15 08 20.6	+1.0
	13nm,0.6s,mb5.2						
MCK	McKinley	84.17	24	*e*P	P	15 08 21.3	+0.3
	2.4nm,0.9s,mb4.3						
ILAR	Eielson Array	85.42	23	P	P	15 08 27.4	+0.2
	2.6nm,0.6s,mb4.5,baz=254,slow=4.9,SNR=33						

PLCA	**Paso Flores**	121.96	147	PKP	PKPdf	15 14 45.6	+2.2
	0.7nm,0.4s,baz=240,slow=7.4,SNR=4.6						
GERES	**GERESS Array B**	122.08	326	PKP	PKPdf	15 14 45.5	+2.1
	0.4nm,0.5s,baz=45,slow=1.9,SNR=5.7						
CPUP	**Villa Florida**	139.96	145	PKP	PKPdf	15 15 19.1	+1.4
	1.4nm,0.7s,baz=305,slow=2.4,SNR=4.6						
SAML	**Samuel**	146.21	116	*e*PKPdf	PKPdf	15 15 31.3	+2.3
KIC	**Kosan Boka**	152.15	272	*e*PKP1	PKPdf	15 15 47.5	+9.1
	71nm,1.2s						
DBIC	**Dimbokro**	152.27	273	PKPbc	PKPdf	15 15 47.2	+8.7
	5.1nm,0.7s,baz=55,slow=2.9,SNR=15						
DBIC	**Dimbokro**	152.27	273	*e*PKPbc	PKPdf	15 15 48.2	+10
TIC	**Toumodi**	152.43	273	*e*PKP1	PKPdf	15 15 48.4	+10
	12nm,0.3s						
LIC	**Lamto**	152.43	272	*e*PKP1	PKPdf	15 15 47.3	+8.5
	91nm,2.0s						
BDFB	**Brasilia**	153.69	145	PKP	PKPdf	15 15 44.4	+4.0
	5.2nm,0.8s,baz=185,slow=2.9,SNR=7.5						
BDFB				PKPbc	PKPdf	15 15 50.7	+10
	5.5nm,0.4s,baz=107,slow=2.0,SNR=8.8						

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*IDC **19** 15:14:26.8±2.9, 35.45N×142.03E, mb3.4/3, mb1 3.6/4, mb1mx3.3/21, ML2.7/1, Error ellipse: s-maj=75.6km s-min=34.5km az=71.0*

*JMA **19** 15:14:37.8±0.1, 33.41N×137.23E, h42^{km}±2^{km}, M2.9*

ISC 19 15:14:39.8±0.9**, 33.52N**±0.06×**137.20E**±0.04**, h33**^{km}±30^{km}**, n19, σ0^{s}69**/30**, mb3.4**/3**, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	**Tokai 1**	0.41	53	P	P	15 14 47.9	-1.2
TK01				S	S	15 14 56.4	+0.8
TK02	**Tokai 2**	0.63	47	P	P	15 14 51.5	-0.7
TK02				S	S	15 15 01.7	+0.5
TK03	**Tokai 3**	0.91	44	S	S	15 15 09.2	+1.0
JIE	**Ise**	0.96	335	P	P	15 14 56.9	-0.1
JIE				S	S	15 15 10.2	+0.5
TK04	**Tokai 4**	1.03	33	S	S	15 15 10.8	-0.6
JKN	**Kiinagashima**	1.07	313	P	P	15 14 58.0	-0.5
JKN				S	S	15 15 11.3	-1.0
JAA	**Atsumi**	1.11	358	P	P	15 14 58.9	-0.2
JAA				S	S	15 15 13.5	0.0
JWZ	**Kozaga**	1.24	271	P	P	15 15 00.8	-0.1
JWZ				S	S	15 15 16.7	0.0
TSUJ	**Tsu 2**	1.36	332	P	P	15 15 02.7	+0.1
TSUJ				S	S	15 15 20.0	+0.4
JWY	**Kouya**	1.51	298	P	P	15 15 04.8	0.0
JWY				S	S	15 15 23.6	+0.1
JWM	**Minabe**	1.57	283	S	S	15 15 26.0	+0.9
JHE	**Heguri**	1.69	313	P	P	15 15 07.5	+0.1
JHE				S	S	15 15 28.2	+0.1
SHZ3	**Shizuoka 3**	1.76	28	P	P	15 15 07.5	-0.9
SHZ3				S	S	15 15 28.5	-1.3
JIZS	**Izushimoda**	1.84	49	P	P	15 15 10.0	+0.5
JHJ	**Hachijo jima 2**	2.20	100	Pn	P	15 15 15.2	+0.5
	2.6nm,0.3s,baz=231,slow=22,SNR=2.7						
MAT	**Matsushiro**	3.13	15	P	P	15 15 28.0	0.0
MAT				*e*S	S	15 16 07.9	+3.2
MKAR	**Makanchi Array**	43.17	305	P	P	15 22 46.9	+7.9
	0.4nm,0.7s,mb3.2,baz=82,slow=8.6,SNR=4.2						
WRA	**Warramunga Arr**	53.23	183	P	P	15 24 02.9	+5.4
	0.4nm,0.9s,mb3.3,baz=2.9,slow=8.6,SNR=4.6						
ASAR	**Alice Springs**	56.95	184	P	P	15 24 31.4	+7.0
	0.4nm,0.8s,mb3.5,baz=14,slow=7.4,SNR=4.2						

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*NEIC **19** 15:22:05.2, 47.10N×9.10E, h1^{km}, ML2.2(SZGRF), ML2.0(ZUR), ML2.7(VIE), ML2.5(LDG), After ZUR.*

*ZUR **19** 15:22:05.2, 47.14N×9.06E, h1^{km}, ML2.0/11*

*LDG **19** 15:22:06.3±0.2, 47.12N×9.12E, h10^{km}, Ml2.5/7, Error ellipse: s-maj=5.4km s-min=3.6km az=123.0*

*BGR **19** 15:22:08.0±2.0, 47.15N×9.05E, h10^{km}, ML2.2, Error ellipse: s-maj=21.1km s-min=8.9km az=12.0*

ISC 19 15:22:05.5±0.3**, 47.15N**±0.02×**9.03E**±0.02**, h4**^{km}±4^{km}**, n53, σ1^{s}05**/79**, 10C-7D, Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLONS	**Plons**	0.26	111	⇓*i*Pg	Pg	15 22 10.7	-0.1
	8.2nm,0.3s						
PLONS				*e*Sg	Sg	15 22 14.9	+0.6
	8.2nm,0.3s						
WILA	**Wila**	0.28	343	⇑*i*Pg	Pg	15 22 12.5	+1.3
	49nm,1.0s						
LLS	**Linth-Limmern**	0.30	182	*e*Pg	Pg	15 22 11.7	+0.2
	10nm,0.3s						
LLS				*e*Sg	Sg	15 22 16.5	+1.0
	10nm,0.3s						
MUO	**Muotathal**	0.32	236	⇓*i*Pg	Pg	15 22 12.9	+1.0
	21nm,0.6s						
MUO				*e*Sg	Sg	15 22 19.4	+3.2
	21nm,0.6s						
KAMOR	**Kamor**	0.35	65	*e*Pg	Pg	15 22 12.9	+0.4
	18nm,0.8s						
ZUR	**Zurich**	0.38	307	*e*Pg	Pg	15 22 14.6	+1.5
	10.0nm,0.3s						
ZUR				*i* Sg	Sg	15 22 21.2	+3.1
	10.0nm,0.3s						
WEIN	**Weingarten**	0.39	356	⇑*i*Pg	Pg	15 22 14.4	+1.2
	26nm,0.5s						
BNALP	**Bannalp**	0.49	236	*e*Pg	Pg	15 22 16.7	+1.3
	2.5nm,0.5s						
FLACH	**Flaach**	0.53	324	*e*P*P		15 22 17.4	
	5.8nm,0.4s						
STEIN	**Stein am Rhein**	0.54	349	*e*P*P		15 22 17.5	
	5.0nm,0.4s						
SISB	**Singen-Sch Ber**	0.54	356	⇓*e*Pg	Pg	15 22 17.2	+0.8
TRULL	**Truellikon**	0.56	335	⇑*i*P*P		15 22 17.9	
	3.0nm,0.3s						
DAVA	**Damuels**	0.60	76	⇑*i*PG	Pg	15 22 17.8	+0.3
DAVA				*i* SG	Sg	15 22 26.2	+0.7
	38nm,0.3s						
DAVOX	**Davos**	0.69	122	*e*P*P		15 22 18.7	
	1.7nm,0.4s						
DAVOX				*e*S*S		15 22 28.5	
	1.7nm,0.4s						
SLE	**Schleitheim**	0.72	330	⇑*i*P*P		15 22 20.5	
	3.4nm,0.3s						
VDL	**Val di Lei**	0.73	155	*e*P*P		15 22 19.5	
	0.4nm,0.3s						
VDL	**Val di Lei**	0.73	155	*e*P	Pg	15 22 19.6	-0.4
SULZ	**Sulz-Cheisache**	0.73	302	⇑*i*P*P		15 22 21.1	
	3.4nm,0.2s						
UBR	**Uberruh**	0.91	54	⇓*e*Pg	Pg	15 22 23.9	+0.2
UBR				Sg	Sg	15 22 37.1	+1.2
UBR				SmS		15 22 40.4	
GUT	**Gutenstein**	0.93	4	⇑*e*Pg	Pg	15 22 24.1	0.0
GUT				Sg	Sg	15 22 37.9	+1.5
GUT				SmS		15 22 40.1	
SPAK	**Spaichingen**	0.97	350	Pg	Pg	15 22 25.6	+0.7
FUORN	**Ofenpass**	1.00	121	*e*P*P		15 22 24.5	
	2.6nm,0.6s						
FELD	**Feldberg**	1.01	317	Pg	Pg	15 22 26.0	+0.3
BBS	**Basel-Blauen**	1.08	288	Pg	Pg	15 22 28.5	+1.4
KIZ	**Kirchzarten**	1.10	318	⇓*i*Pg	Pg	15 22 28.1	+0.5
KIZ				Sg	Sg	15 22 42.7	+0.3
BRMO	**Bormio**	1.14	125	*e*Pn	Pn	15 22 30.4	+2.2
BRMO				*e*Sn	Sn	15 22 48.4	+4.0
BFO	**Black Forest**	1.27	339	*e*Pg	Pg	15 22 31.0	0.0
BFO				*e*Sg	Sg	15 22 48.5	+0.5
BFO	**Black Forest**	1.27	339	*e*Pg	Pg	15 22 31.0	0.0
BFO				*e*Sg	Sg	15 22 48.5	+0.5
VAI	**Varese**	1.29	188	*e*Pn	Pn	15 22 31.4	+1.1
VAI				*e*Sn	Sn	15 22 51.3	+3.1
BUCH	**Bad Urach**	1.32	9	Pn	Pn	15 22 30.4	-0.4
BUCH				Pg	Pg	15 22 31.8	-0.1
BUCH				Sn	Sn	15 22 49.5	+0.4
BUCH	**Bad Urach**	1.32	9	S	Sn	15 22 49.5	+0.4
BUCH	**Bad Urach**	1.32	9	P	Pb	15 22 30.4	-0.2
BUCH				Pg	Pg	15 22 31.8	-0.2
BUCH				S	Sn	15 22 49.5	+0.4
TUBL	**Tuebingen Lnz**	1.38	2	Sg	Sg	15 22 52.5	+1.1
MCGN	**Macugnaga**	1.39	211	*e*Pn	Pn	15 22 33.3	+1.6
MCGN				*e*Sn	Sn	15 22 54.1	+3.5
MOTA	**Moosalm**	1.43	81	⇑*i*PG	Pg	15 22 33.2	-0.9
MOTA				*i* SG	Sg	15 22 53.1	0.0
	14nm,0.2s						
SQTA	**Sankt Quirin**	1.49	86	⇓*i*PG	Pg	15 22 34.9	-0.4
SQTA				*i* SG	Sg	15 22 55.2	0.0
	19nm,0.2s						
LBG	**Lerchenberg**	1.53	354	*e*Pn	Pn	15 22 33.4	-0.4
LBG				Pg	Pg	15 22 35.1	-1.0
LBG				Sg	Sg	15 22 55.9	-0.5
HINF	**Hinteralfeld**	1.62	295	*e*Pn	Pn	15 22 34.9	-0.1
HINF				*e*Sg	Sg	15 22 58.6	-0.9
	6.4nm,0.2s						
STU	**Stuttgart**	1.63	4	*e*Sg	Sg	15 22 59.8	0.0
HDH	**Heidenheim**	1.65	28	Pn	Pn	15 22 34.2	-1.2
HDH				Sg	Sg	15 22 59.2	-1.1
HDH	**Heidenheim**	1.65	28	P	Pn	15 22 34.2	-1.2
HDH				Sg	Sg	15 22 59.2	-1.1
CDF	**Champ du Feu**	1.73	318	*e*Pn	Pn	15 22 36.9	+0.3
CDF				*e*Sg	Sg	15 23 02.3	-0.9
	11nm,0.4s						
WATA	**Walderalm**	1.75	83	⇑*i*PG	Pg	15 22 39.0	-1.4
WATA				*i* SG	Sg	15 23 03.5	-0.2
	7.5nm,0.2s						
WTTA	**Wattenberg**	1.78	85	⇑*i*PG	Pg	15 22 39.8	-1.3
WTTA				*i* SG	Sg	15 23 04.7	-0.2
	4.6nm,0.2s						
FUR	**Furstenfeldbru**	1.83	55	*e*Sg	Sg	15 23 05.6	-0.9
SCE	**Schlegeis**	1.84	92	⇓*i*Pg	Pg	15 22 40.9	-1.3
SCE				*i* Sg	Sg	15 23 06.7	0.0
HAU	**Haudompre**	2.01	296	*e*Pn	Pn	15 22 40.6	0.0
HAU				*e*Sg	Sg	15 23 11.2	-1.1
	12nm,0.3s						
CABF	**La Chapelle**	2.08	256	*e*Pn	Pn	15 22 41.0	-0.7
CABF				*e*Pg	Pg	15 22 46.5	-0.7
CABF				*e*Sg	Sg	15 23 14.2	-0.7
	7.1nm,0.4s						
SIND	**Sindeldorf**	2.24	10	Pn	Pn	15 22 42.0	-1.9
SIND				Pg	Pg	15 22 48.7	-1.6
LPL	**La Plagne**	2.28	225	*e*Pg	Pg	15 22 49.8	-1.2
LPL				*e*Sg	Sg	15 23 19.7	-1.6
	3.6nm,0.4s						
LPG	**La Plagne**	2.28	225	*e*Pg	Pg	15 22 49.9	-1.1
LPG				*e*Sg	Sg	15 23 19.7	-1.7
	3.9nm,0.4s						
LOR	**Lormes**	3.52	274	*e*Sg	Sg	15 23 58.9	-4.0
	2.6nm,0.3s						
AVF	**Avril sur Loir**	3.90	267	*e*Pn	Pn	15 23 05.6	-1.9

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*NIED **19** 15:30:00, 33.10N×137.00E, h14^{km}, Mw3.5 Best double couple: $M_0$2.1×10^{14} NP1:ϕ_s107°, δ47°, λ108°. NP2:ϕ_s261°, δ46°, λ72°.*

*JMA **19** 15:30:22.4±0.1, 33.15N×137.04E, h40^{km}±3^{km}, M3.5*

ISC 19 15:30:22.6±0.8**, 33.16N**±0.05×**137.04E**±0.03**, h45**^{km}±21^{km}**, n17, σ0^{s}55**/33**, 8D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	**Tokai 1**	0.76	37	P	P	15 30 36.8	-0.1
TK01				*e*S	S	15 30 47.0	-0.4
TK02	**Tokai 2**	0.98	37	⇓P	P	15 30 40.2	+0.1
TK02				S	S	15 30 53.4	+0.3
JWZ	**Kozaga**	1.17	289	P	P	15 30 42.7	-0.1
JWZ				S	S	15 30 56.7	-1.1
JIE	**Ise**	1.26	347	⇓P	P	15 30 44.6	+0.5
JIE				S	S	15 31 00.4	+0.3
TK03	**Tokai 3**	1.26	37	P	P	15 30 44.2	+0.1
TK03				S	S	15 31 00.3	+0.1
JKN	**Kiinagashima**	1.26	329	P	P	15 30 44.4	+0.3
JKN				S	S	15 30 59.2	-1.0
TK04	**Tokai 4**	1.40	29	⇓P	P	15 30 46.4	+0.2
TK04				S	S	15 31 04.1	+0.4
JWM	**Minabe**	1.57	296	⇓P	P	15 30 48.5	0.0
JWM				S	S	15 31 07.6	-0.2
JWY	**Kouya**	1.60	311	⇓P	P	15 30 49.8	+0.8
JWY				S	S	15 31 08.6	-0.1
TSUJ	**Tsu 2**	1.63	342	⇓P	P	15 30 49.8	+0.4
TSUJ				S	S	15 31 09.0	-0.3
JHE	**Heguri**	1.87	323	⇓P	P	15 30 53.3	+0.6
JHE				S	S	15 31 15.4	+0.2
SHZ3	**Shizuoka 3**	2.13	27	⇓P	P	15 30 56.3	-0.2
SHZ3				S	S	15 31 20.7	-1.1
JIZS	**Izushimoda**	2.18	44	P	P	15 30 58.0	+0.9
JAJ2	**Tsuna**	2.19	305	P	P	15 30 58.0	+0.7
JAJ2				*e*S	S	15 31 23.6	+0.2
JAI	**Aioi**	2.26	287	P	P	15 30 58.7	+0.4
JAI				S	S	15 31 24.2	-0.8
JHJ2	**Mitsune**	2.33	90	P	P	15 30 58.2	-1.1
JHJ2				*e*S	S	15 31 26.3	-0.5
MAT	**Matsushiro**	3.51	16	P	P	15 31 16.8	+0.8
MAT				S	S	15 31 56.3	-0.4

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*NNC **19** 15:49:09.9±6.0, 40.79N×78.79E, mpv2.9, Error ellipse: s-maj=148.8km s-min=58.9km az=98.0*

BJI 19 15:49:13.1, 40.86N×78.96E, h6^{km}, ML3.6, 2C-1D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ULHL	**Ulahol**	2.46	305	P	Pn	15 49 56.0	+1.5
	SNR=144						
KSH	**Kashi**	2.65	241	P	Pn	15 49 58.1	+0.9
KSH				S	Sn	15 50 32.8	+2.8
KSH				Smax			
	comp=N,130nm,0.7s						
KSH				Smax			
	comp=E,150nm,0.7s						
KZA	**Kyzart**	3.04	295	P	Pn	15 50 06.9	+4.2
	SNR=38						
TKM2	**Tokmak 2**	3.25	310	P	Pn	15 50 07.0	+1.3
	SNR=10						
KBK	**Karagaybulak**	3.50	302	P	Pn	15 50 09.9	+0.7
	SNR=17						
UCH	**Uchtor**	3.61	294	P	Pn	15 50 16.8	+6.1
	SNR=6.2						
AAK	**Ala-Archa**	3.78	299	P	Pn	15 50 19.9	+6.6
	SNR=16						
CHMS	**Chumysh**	3.80	306	P	Sn	15 51 13.9	+15
	SNR=5.2						
USP	**Ospenovka**	4.10	307	P	Pn	15 50 25.7	+7.9
	SNR=10.0						
AML	**Almayashu**	4.15	290	P	Pn	15 50 26.7	+8.2
	SNR=12						
EKS2	**Erkin-Say**	4.27	297	P	Pn	15 50 28.9	+8.7
	SNR=23						
MK31	**Makanchi Array**	6.40	21	⇑Pn	Pn	15 50 49.7	-0.6
	comp=E,0.3nm,0.3s,baz=202,slow=14,SNR=7.3						
MK31				⇓Lg		15 52 34.9	
	comp=E,3.7nm,0.6s,baz=199,slow=26,SNR=4.0						
KURK	**Kurchatov**	9.86	359	⇑Lg		15 54 23.6	
	comp=E,16nm,0.9s,baz=344,slow=0.8,SNR=8.3						

WEL 19 15:59:17.8±0.5**, 35.68S**×**179.19E, h229**^{km}±14^{km}**, ML3.7**/3**, Error ellipse: s-maj=28.8km s-min=27.3km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	2.01	201	PN	P	15 59 59.0	+0.1
MXZ				SN	S	16 00 30.3	-0.4
MXZ				SN	S	16 00 30.8	+0.2
MWZ	**Matawai**	2.97	206	PN	P	16 00 08.8	-0.2
MWZ				SN	S	16 00 48.2	-0.6
MWZ				SN	S	16 00 49.2	+0.5
URZ	**Urewera**	3.07	212	PN	P	16 00 08.8	-1.4
URZ				SN	S	16 00 48.9	-1.9
URZ				SN	S	16 00 50.6	-0.2
BKZ	**Black Stump Fm**	4.09	211	PN	P	16 00 21.0	-1.3
MRZ	**Mangatainoka R**	5.73	209	PN	P	16 00 39.3	-3.4
KIW	**Kapiti Island**	6.17	212	PN	P	16 00 44.3	-4.1
CAW	**Cannon Point**	6.31	210	PN	P	16 00 46.2	-3.9
TUWZ	**Tuamarina**	7.06	214	PN	P	16 00 54.9	-4.8
KHZ	**Kahutara**	8.04	211	PN	P	16 01 07.7	-4.5

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*IDC **19** 16:01:57.2±1.1, 3.50S×131.84E, mb3.8/7, mb1 4.0/9, mb1mx3.9/15, ML3.8/2, Error ellipse: s-maj=69.3km s-min=17.9km az=62.0*

*NEIC **19** 16:02:03.3±3.7, 3.74S×131.49E, h41^{km}±37^{km}, mb3.6/3, Error ellipse: s-maj=31.2km s-min=16.8km az=53.0*

ISC 19 16:02:00.2±3.5**, 4.05S**±0.07×**131.1E**±0.1**, h23**^{km}±26^{km}**, n18, σ1^{s}59**/23**, mb3.7**/6**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	**Kakadu**	8.69	172	*e*P	P	16 04 10.4	+2.8
	6.7nm,0.6s						
KAKA				*e*S	Sn	16 05 50.6	+4.7
FITZ	**Fitzroy Crossi**	14.96	201	*e*P	P	16 05 30.7	-1.5
	7.2nm,2.0s						
FITZ	**Fitzroy Crossi**	14.96	201	Pn	P	16 05 30.8	-1.4
	0.7nm,0.3s,baz=356,slow=8.4,SNR=24						
FITZ				Sn	S	16 08 16.8	-1.2
	0.2nm,0.3s,baz=3.2,slow=18,SNR=3.7						
WRAB	**Tennant Creek**	16.10	169	*e*P	P	16 05 37.9	-9.1
WRAB				*e*Sn	S	16 08 38.0	-6.6
WRA	**Warramunga Arr**	16.11	169	Pn	P	16 05 44.4	-2.6
	0.2nm,0.3s,baz=358,slow=13,SNR=17						
WRA				Sn	S	16 08 36.7	-8.2
	0.2nm,0.3s,baz=359,slow=23,SNR=6.2						
WB2	**Warramunga Arr**	16.11	169	*e*P	P	16 05 44.5	-2.6
ASAR	**Alice Springs**	19.69	172	P	P	16 06 32.1	+1.2
	3.3nm,0.5s,baz=353,slow=10,SNR=77						
ASPA	**Alice Springs**	19.69	172	*e*P	P	16 06 32.7	+1.8
ASPA				*e*S	S	16 10 06.6	+0.6
MBWA	**Marble Bar**	20.29	212	*e*P	P	16 06 39.1	+1.9
CTA	**Charters Tower**	21.72	138	P	P	16 06 51.0	-1.0
	2.4nm,0.7s,mb3.7,baz=328,slow=13,SNR=3.6						
CTA	**Charters Tower**	21.72	138	P	P	16 06 51.0	-1.0
CTAO	**Charters Tower**	21.72	138	P	P	16 06 50.5	-1.4
	0.9nm,0.6s,mb3.4						
STKA	**Stephens Creek**	29.38	162	*e*P	P	16 08 05.0	+0.9
	2.3nm,0.9s,mb3.9						
STKA	**Stephens Creek**	29.38	162	P	P	16 08 04.5	+0.4
	3.4nm,1.1s,mb4.0,baz=354,slow=13,SNR=5.2						
CMAR	**Chiang Mai Arr**	38.79	306	P	P	16 09 26.4	+1.2
	2.3nm,1.1s,mb3.8,baz=128,slow=6.6,SNR=7.9						
SONM	**Songino Array**	56.03	340	P	P	16 11 34.4	-5.2
	0.7nm,1.1s,mb3.6,baz=162,slow=4.6,SNR=3.0						
MKAR	**Makanchi Array**	66.40	326	P	P	16 12 49.8	+0.1
	0.3nm,0.5s,mb3.6,baz=119,slow=7.0,SNR=4.9						
BVAR	**Borovoye Array**	76.19	327	P	P	16 13 46.2	-2.1
	1.3nm,1.1s,mb3.8,baz=124,slow=10,SNR=3.6						

MAN 19 16:09:09, 9.26N×122.18E, h32^{km}, mb4.6, ML3.4, MS3.4, 1C, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DCPH	**Dipolog City**	1.34	120	⇑*i*P	Pn	16 09 30.1	-1.7
DCPH				*e*S	Sn	16 09 48.4	-0.2
GUIM	**Jordan**	1.41	16	*e*P	Pn	16 09 32.1	-0.7
GUIM				*e*S	Sn	16 09 50.2	-0.3
IPIL	**Ipil**	1.52	165	*e*P	Pn	16 09 34.0	-0.4
IPIL				*e*S	Sn	16 09 52.0	-1.1
TBP	**Tagbilaran**	1.71	75	*e*P	Pn	16 09 36.9	-0.2
TBP				*e*S	Sn	16 09 59.3	+1.2
PAGZ	**Pagadian**	1.84	140	*e*P	Pn	16 09 39.4	+0.5
PAGZ				*e*S	Sn	16 10 01.6	+0.3
CUYO	**Cuyo Island**	1.95	324	*e*P	Pn	16 09 40.7	+0.1
LLP	**Lapu-Lapu**	2.05	59	*e*P	Pn	16 09 42.0	+0.1
LLP				*e*S	Sn	16 10 06.0	-0.6
MSLP	**Maasin**	2.78	72	*e*P	Pn	16 09 54.0	+1.6
OCLP	**Ormoc**	2.98	53	*e*P	Pn	16 09 51.7	-3.5
BUKP	**Musuan**	3.16	116	*e*P	Pn	16 10 00.1	+2.3
ENPP	**El Nido**	3.33	306	*e*P	Pn	16 09 59.9	-0.3

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*NEIC **19** 16:14:43.5, 34.96S×70.50W, h1^{km}, mb4.8/5, ML4.1(GUC), After GUC.*

NEIC Felt [III] at Los Quenes and [II] at Curico and Talca.

*GUC **19** 16:14:43.5±1.0, 34.96S×70.50W, h1^{km}±3^{km}, MD4.4, ML4.1*

*SYO **19** 16:14:43.5, 34.96S×70.50W, h1^{km}, MB4.7*

*IDC **19** 16:14:50.5±3.3, 35.03S×70.28W, h60^{km}±29^{km}, mb4.1/5, mb1 4.2/9, mb1mx4.1/14, ML4.0/3, MS3.8/5, Ms1 3.8/5, ms1mx3.5/18, Error ellipse: s-maj=32.2km s-min=18.8km az=104.0*

ISC 19 16:14:42.5±0.9**, 35.02S**±0.02×**70.39W**±0.06**, h5**^{km}±6^{km}**, n59, σ0^{s}95**/62**, mb4.8**/11**, MS3.9**/3**, 7C-6D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFDO	**San Fernando**	0.65	308	*e*P	Pg	16 14 54.5	-1.0
CICH	**Cipreses**	0.70	358	⇓*i*P	Pg	16 14 56.3	-0.2
CICH				*i* S	Sg	16 15 06.6	+0.7
LMEL	**Las Melosas**	1.18	8	*e*P	Pb	16 15 05.0	0.0
LMEL				*i* S	Sb	16 15 21.4	+1.0
LMEL				AMP		16 15 26.3	
	comp=E,3µm,0.7s						
LNV	**Longovilo**	1.36	321	*e*P	Pb	16 15 06.8	-1.2
LNV				*i* S	Sb	16 15 24.6	-0.9
PCH	**Pirque**	1.40	356	*e*P	Pn	16 15 08.9	+0.1
PCH				*i* S	Sb	16 15 27.0	+0.1
TACH	**Talagante**	1.44	342	⇓*i*P	Pn	16 15 08.9	-0.3
TACH				*i* S	Sb	16 15 26.9	-1.0
ANTU	**Antumapu**	1.47	352	*e*P	Pn	16 15 09.9	+0.2
ANTU				*i* S	Sb	16 15 28.8	+0.2
ANTU				AMP		16 15 32.0	
	comp=N,4µm,0.6s						
RCDM	**Rinconada Maip**	1.57	347	*e*P	Pn	16 15 11.2	+0.1
RCDM				*i* S	Sb	16 15 31.8	+0.2
RCDM				AMP		16 15 34.3	
	comp=E,3µm,0.4s						
PUEX	**Pudahuel**	1.61	349	*i* S	Sb	16 15 32.4	-0.3
PUEX				AMP		16 15 48.7	
	comp=E,8µm,0.6s						
CLCH	**Cerro Calan**	1.63	356	*e*P	Pn	16 15 12.7	+0.7
CLCH				*i* S	Sb	16 15 34.5	+1.2
CLCH				AMP		16 15 37.1	
	comp=N,5µm,0.7s						
FCH	**Farellones**	1.69	3	*e*P	Pn	16 15 14.2	+1.2
FCH				*i* S	Sn	16 15 37.0	+1.8
FCH				AMP		16 15 40.5	
	comp=E,3µm,0.6s						
LCCH	**Las Cruces**	1.83	327	*i* P	Pn	16 15 15.0	+0.2
LCCH				*i* S	Sn	16 15 38.2	-0.4
CCHI	**Chillan**	2.09	220	⇓*i*P	Pn	16 15 19.7	+1.2
CCHI				*i* S	Sn	16 15 47.1	+1.9
CCHI				AMP		16 15 50.8	
	comp=E,6µm,0.7s						
IHA	**Instituto Hidr**	2.25	332	*i* P	Pn	16 15 21.0	+0.2
IHA				*i* S	Sn	16 15 49.0	-0.2
PLCA	**Paso Flores**	5.70	181	P	Pn	16 16 12.2	+2.4
	comp=E,1.4nm,0.3s,baz=338,slow=13,SNR=41						
PLCA				LR	LR	16 18 37.4	
	comp=E,521nm,21.8s,baz=6.5,slow=40						
PLCA	**Paso Flores**	5.70	181	*e*Pn	Pn	16 16 13.2	+3.3
	comp=E,13nm,0.8s						
TRQA	**Tornquist**	7.42	117	*e*Pn	Pn	16 16 34.4	+0.4
	comp=E,13nm,0.3s						
TRQA				*e*Sg	Sg	16 18 31.8	-18
CPUP	**Villa Florida**	14.18	56	P	P	16 18 07.0	+0.8
	comp=E,0.1nm,0.3s,baz=260,slow=9.0,SNR=3.2						
CPUP	**Villa Florida**	14.18	56	*e*Pn	P	16 18 04.9	-1.3
LPAZ	**La Paz**	18.77	7	P	P	16 19 04.8	+0.2
	baz=160,slow=7.5,SNR=4.2						
LPAZ	**La Paz**	18.77	7	*e*P	P	16 19 05.3	+0.7
	comp=E,20nm,1.3s						
USHA	**Ushuaia**	19.85	177	P	P	16 19 16.5	-0.5
	comp=E,0.3nm,0.3s,baz=348,slow=14,SNR=2.2						
USHA				LR	LR	16 26 26.9	
	comp=E,302nm,19.5s,baz=225,slow=35						
USHA	**Ushuaia**	19.85	177	P	P	16 19 16.5	-0.5
USHA				LR	LR	16 26 26.9	
BDFB	**Brasilia**	27.84	52	P	P	16 20 33.7	-1.2
	comp=E,5.6nm,0.8s,mb4.2,baz=234,slow=7.7,SNR=7.5						
BDFB				LR	LR	16 32 59.3	
	comp=E,377nm,18.8s,MS4.0,baz=185,slow=39						
VNA3	**Neumayer Olymp**	47.90	158	⇑*i*	P	16 23 25.8	+2.8
VNA3	**Neumayer Olymp**	47.90	158	⇑*i*	P	16 23 27.0	+4.0
VNA1	**Neumayer--Stat**	48.20	157	⇑*i*	P	16 23 29.5	+4.2
VNA1	**Neumayer--Stat**	48.20	157	⇑*i*	P	16 23 31.0	+5.7
VNA2	**Neumayer--Watz**	48.54	157	⇑*i*	P	16 23 30.6	+2.6
VNA2	**Neumayer--Watz**	48.54	157	⇑*i*	P	16 23 32.0	+4.0
SNAA	**Sanae**	50.12	158	⇓*i*	P	16 23 38.8	-1.3
SNAA	**Sanae**	50.12	158	⇓*i*	P	16 23 40.0	-0.1
SNAA	**Sanae**	50.12	158	⇓*i*P	P	16 23 40.0	-0.1
QSPA	**South Pole Qui**	55.22	180	*e*P	P	16 24 18.0	-0.1
	comp=E,12nm,1.1s,mb4.8						
SYO	**Syowa Base**	64.41	158	⇑P	P	16 25 19.8	-1.5
MAW	**Mawson**	71.81	163	P	P	16 26 06.7	-0.8
	comp=E,2.1nm,0.6s,mb4.3,baz=223,slow=9.6,SNR=6.7						
WVT	**Waverly**	72.63	345	*e*P	P	16 26 11.1	-1.7
	comp=E,31nm,1.0s,mb5.2						
LIC	**Lamto**	73.82	70	*e*P	P	16 26 19.5	-0.7
	comp=E,82nm,1.8s,mb5.4						
GDL2	**Guadalupe Moun**	74.09	330	*e*P	P	16 26 20.9	-0.5
TIC	**Toumodi**	74.09	70	*e*P	P	16 26 17.7	-4.1

	comp=E,135nm,1.5s,mb5.7						
KIC	**Kosan Boka**	74.13	70	*e*P	P	16 26 20.9	-1.1
	comp=E,49nm,0.9s,mb5.4						
DBIC	**Dimbokro**	74.23	70	P	P	16 26 21.6	-1.0
	comp=E,3.9nm,0.6s,mb4.5,baz=198,slow=7.2,SNR=8.8						
DBIC				LR	LR	16 56 01.7	
	comp=E,50nm,19.0s,MS3.8,baz=237,slow=33						
DBIC	**Dimbokro**	74.23	70	*e*P	P	16 26 21.4	-1.2
	comp=E,5.7nm,0.7s,mb4.6						
CPRX	**Cap Rock**	74.62	331	*e*P	P	16 26 23.3	-1.2
TSUM	**Tsumeb**	77.63	105	LR	LR	16 55 24.2	
	comp=E,53nm,19.2s,MS3.9,baz=309,slow=31						
DUG	**Dugway**	84.44	329	*e*P	P	16 27 16.8	-0.4
PDAR	**Pinedale Array**	85.29	332	P	P	16 27 21.5	+0.1
	comp=E,1.1nm,0.7s,mb4.1,baz=138,slow=4.8,SNR=11						
NVAR	**Mina Array Bea**	85.50	324	P	P	16 27 23.0	+0.4
	comp=E,1.5nm,0.7s,mb4.3,baz=150,slow=6.4,SNR=6.5						
HLID	**Hailey**	87.90	330	*e*P	P	16 27 34.9	+0.8
	comp=E,7.6nm,1.4s,mb4.7						
MCMT	**McKenzie Canyo**	88.31	331	*e*P	P	16 27 37.0	+0.9
ASAR	**Alice Springs**	117.25	205	PKP	PKPdf	16 33 28.0	-3.6
	comp=E,0.3nm,0.9s,baz=121,slow=1.3,SNR=4.1						
WRA	**Warramunga Arr**	120.50	207	PKP	PKPdf	16 33 35.3	-2.7
	comp=E,1.2nm,1.1s,baz=167,slow=1.6,SNR=10						
ZRNK	**Zerenda**	146.29	45	*e*PKPdf	PKPdf	16 34 24.5	-0.3
BRVK	**Borovoye**	147.01	45	*e*PKPdf	PKPdf	16 34 25.4	-0.6
BVAR	**Borovoye Array**	147.08	45	PKPbc	PKPdf	16 34 24.0	-2.2
	comp=E,1.7nm,0.5s,baz=342,slow=1.7,SNR=10.0						
YAK	**Yakutsk**	150.14	341	*e*PKPbc	PKPdf	16 34 34.2	+3.4
MKAR	**Makanchi Array**	156.37	52	PKP	PKPdf	16 34 38.8	-1.2
	comp=E,0.1nm,0.4s,baz=313,slow=3.8,SNR=2.5						
CMAR	**Chiang Mai Arr**	160.97	147	PKP	PKPdf	16 34 41.3	-4.9
	comp=E,0.4nm,0.8s,baz=198,slow=14,SNR=2.9						
SONM	**Songino Array**	166.98	10	PKPab	PKPab	16 35 45.1	-9.2
	comp=E,0.5nm,0.6s,baz=331,slow=2.1,SNR=4.2						

BJI 19 16:16:13.2, 29.29N×96.67E, h16^{km}, ML3.5, Msz3.4, Eastern Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LSA	**Lhasa**	4.83	276	PG	Pn	16 17 39.6	+13
SHL	**Shillong**	5.64	230	*e*P	Pn	16 17 48.0	+9.4
SHL				*e*S	Sn	16 18 58.0	+14
PKI	**Pulchoki**	10.06	263	*e*P	P	16 18 47.2	+7.0
	35nm,0.5s						
KKN	**Kakani**	10.13	264	*e*P	P	16 18 47.3	+6.2
	18nm,0.4s						
DMN	**Daman**	10.31	263	*e*P	P	16 18 49.0	+5.3
	17nm,0.7s						
GKN	**Gorkha**	10.65	266	*e*P	P	16 18 53.9	+5.6
	7.2nm,0.3s						
KOLN	**Koldanda**	11.59	266	*e*P	P	16 19 03.3	+2.1
	4.1nm,0.2s						

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*NEIC **19** 16:23:16.6, 34.95S×70.52W, h2^{km}, ML2.6(GUC), After GUC.*

GUC 19 16:23:16.6±0.8**, 34.95S×70.52W, h2^{km}±5^{km}, MD3.6, ML2.6, 5C-1D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFDO	**San Fernando**	0.53	309	*e*P	Pg	16 23 27.3	+0.1
SFDO				*i* S	Sg	16 23 35.7	+1.5
CICH	**Cipreses**	0.63	7	⇑*i*P	Pg	16 23 28.9	-0.4
CICH				*i* S	Sg	16 23 39.0	+1.2
CACH	**El Canelo**	0.83	355	⇑*i*P	Pg	16 23 32.7	-0.6
CACH				*i* S	Sg	16 23 45.5	+1.1
CHCH	**Chadas Angostu**	1.02	354	⇓*i*P	Pb	16 23 36.4	-0.3
CHCH				*i* S	Sb	16 23 50.8	+0.4
LMEL	**Las Melosas**	1.13	13	⇑*i*P	Pb	16 23 37.8	-0.8
LMEL				*i* S	Sb	16 23 54.4	+0.8
LMEL				AMP		16 23 55.4	
	comp=N,169nm,0.2s						
LNV	**Longovilo**	1.24	323	⇑*i*P	Pb	16 23 39.6	-0.8
LNV				*i* S	Sb	16 23 56.7	0.0
PCH	**Pirque**	1.33	0	*e*P	Pb	16 23 41.8	-0.1
PCH				*i* S	Sb	16 24 00.5	+1.2
TACH	**Talagante**	1.34	345	*e*P	Pb	16 23 41.7	-0.4
TACH				*i* S	Sb	16 24 00.4	+0.7
RCDM	**Rinconada Maip**	1.48	351	⇑*i*P	Pn	16 23 43.2	-1.1
RCDM				*i* S	Sb	16 24 03.6	0.0
RCDM				AMP		16 24 05.4	
	comp=E,260nm,0.1s						
CLCH	**Cerro Calan**	1.55	359	*e*P	Pn	16 23 45.2	-0.2
CLCH				*i* S	Sb	16 24 07.3	+1.5
CLCH				AMP		16 24 20.3	
	comp=N,120nm,0.6s						
FCH	**Farellones**	1.63	7	*e*P	Pn	16 23 46.9	+0.4
FCH				*i* S	Sb	16 24 09.5	+1.5
FCH				AMP		16 24 12.4	
	comp=E,113nm,0.2s						
LCCH	**Las Cruces**	1.71	329	*e*P	Pn	16 23 47.8	+0.1

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*JMA **19** 16:25:39.3±0.2, 24.03N×121.73E, h64^{km}, M2.7*

TAP 19 16:25:39.1, 23.96N×121.69E, h34^{km}, ML3.4, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	1.30	67	P	P	16 26 00.9	-0.3
YOJ				S	S	16 26 17.2	-0.5
IRIF	**Iriomote-Funau**	1.90	78	P	P	16 26 09.3	-0.4
IRIF				*e*S	S	16 26 31.9	-0.8
HATJ	**Hateruma jima**	1.94	87	P	P	16 26 10.1	-0.1
HATJ				*e*S	S	16 26 32.9	-0.7
JKRS	**Kuro-shima**	2.14	82	P	P	16 26 12.9	-0.2
JKRS				S	S	16 26 37.6	-1.1
JIJ	**Ishigaki jima**	2.28	79	P	P	16 26 14.3	-0.8
JIJ				S	S	16 26 39.8	-2.4
JTJ	**Tarama**	2.83	76	P	P	16 26 22.4	-0.6
JTJ				*e*S	S	16 26 54.3	-2.0
JOGS	**Gusukube**	3.48	76	*e*S	S	16 27 11.4	-1.5

MAN 19 16:55:10.9, 17.57N×121.76E, h19^{km}, mb4.5, ML3.4, MS3.3, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CVP	**Callao Caves**	0.14	24	*e*P	Pb	16 55 15.0	-0.3
APYP	**Conner**	0.57	301	*e*P	Pb	16 55 22.3	+0.1
APYP				*e*S	Sb	16 55 31.3	+1.5
CAUP	**Cauayan**	0.62	175	*e*P	Pb	16 55 24.4	+1.4
SGCP	**Mt. Cagua**	0.72	22	*e*P	Pb	16 55 25.1	+0.5
PALP	**Palanan**	0.81	128	*e*P	Pb	16 55 25.4	-0.8
ABRA	**Dolores**	1.00	275	*e*P	Pb	16 55 29.1	-0.4
BALP	**Baler**	1.83	186	*e*P	Pn	16 55 41.3	-0.6

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*LDG **19** 17:55:03.9±0.4, 42.90N×1.46W, h2^{km}, Md2.3/2, Ml1.9/8, Error ellipse: s-maj=6.9km s-min=4.7km az=54.0*

MDD 19 17:55:04.5±0.5**, 42.87N×1.40W, h8^{km}±4^{km}, mbLg1.4**/4**, Error ellipse: s-maj=4.2km s-min=2.7km az=41.0, AftershockPLICA PRXIMO, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJPF	**Ste Jean**	0.28	28	*e*Pg	Pg	17 55 09.8	-0.4
SJPF				*e*Sg	Sg	17 55 12.5	-1.5
	15nm,0.3s						
LARF	**Larrau**	0.35	61	P	Pg	17 55 11.2	-0.4
LARF				S	Sg	17 55 16.8	+0.4
EALK	**Alkurruntz**	0.36	348	Pg	Pg	17 55 11.1	-0.7
	0.1nm,0.1s,SNR=12						
EALK				Lg		17 55 16.7	
	3.7nm,0.2s,SNR=12						
ETSF	**Etsaut**	0.62	87	*e*Pg	Pg	17 55 15.4	-1.6
ETSF				*e*Sg	Sg	17 55 24.2	-1.1
ETSF				*e*Sn	Sn	17 55 26.1	-3.4
	1.3nm,0.2s						
EPF	**Esparros**	1.29	82	*e*Pn	Pn	17 55 27.6	-1.3
EPF				*e*Pg	Pg	17 55 29.9	-0.4
EPF				*e*Sg	Sg	17 55 45.7	-1.8
	1.5nm,0.2s						
ESAC	**San Caprasio**	1.34	149	Pg	Pg	17 55 29.0	-2.3
	3.8nm,0.4s,SNR=7.9						
ESAC				Lg		17 55 48.6	
	12nm,0.3s,SNR=5.7						
ELAN	**Lanestosa**	1.53	284	Pg	Pg	17 55 31.6	-3.5
	0.9nm,0.3s,SNR=5.0						
ELAN				Lg		17 55 53.6	
	0.3nm,0.1s,SNR=4.0						
ETOR	**Torete**	2.10	194	Pg	Pg	17 55 41.9	-4.6
	SNR=7.9						
ETOR				Lg		17 56 08.3	
	SNR=7.9						
EPOB	**Poblet**	2.39	129	Pn	Pn	17 55 43.8	-0.8
	0.2nm,0.1s,SNR=7.9						
LFF	**La Frestale**	2.58	36	*e*Pn	Pn	17 55 44.7	-2.7
LFF				*e*Sn	Sn	17 56 15.6	-3.8
LFF				*e*Sg	Sg	17 56 24.1	-6.5
	7.8nm,0.6s						
MTLF	**Montolieu**	2.69	79	*e*Pn	Pn	17 55 47.5	-1.5
MTLF				*e*Sn	Sn	17 56 19.5	-2.6
	1.6nm,0.6s						
RJF	**Les Rejaudoux**	3.22	40	*e*Pn	Pn	17 55 53.1	-3.3
RJF				*e*Sn	Sn	17 56 30.8	-4.6
	0.7nm,0.3s						
CAF	**Calviac**	3.24	49	*e*Pn	Pn	17 55 53.9	-2.9
MFF	**Saint Martin d**	3.84	13	*e*Pn	Pn	17 56 02.2	-3.1
MFF				*e*Pg	Pg	17 56 14.0	-7.2
MFF				*e*Sn	Sn	17 56 45.6	-5.5
MFF				*e*Sg	Sg	17 57 04.4	-7.9
	1.3nm,0.4s						
LASF	**Ste Croix**	4.01	71	*e*Pn	Pn	17 56 05.1	-2.6
LASF				*e*Sn	Sn	17 56 50.5	-5.1
	0.4nm,0.3s						
VIVF	**Saint-Julien-l**	4.82	64	*e*Pn	Pn	17 56 15.7	-3.5
VIVF				*e*Sn	Sn	17 57 09.0	-7.0
	0.3nm,0.2s						

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*LDG **19** 17:59:04.7±0.1, 48.26N×9.07E, h4^{km}, Md2.4/2, Ml2.4/8, Error ellipse: s-maj=2.0km s-min=1.7km az=71.0*

*LEDBW **19** 17:59:04.9±0.1, 48.28N×9.02E, h4^{km}±2^{km}, ML1.8, Error ellipse: s-maj=1.2km s-min=0.8km az=106.0*

*STR **19** 17:59:04.9±0.6, 48.28N×9.05E, h5^{km}±1^{km}, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*BGR **19** 17:59:05.4±0.5, 48.32N×9.04E, h10^{km}, ML1.8/3, Error ellipse: s-maj=6.7km s-min=2.2km az=149.0*

ISC 19 17:59:04.3±0.3**, 48.29N**±0.02×**8.99E**±0.02**, h11^{km}**±2^{km}**, n34, σ1§02**/68**, 3C-4D, Germany**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSS	**Messtetten**	0.11	188	⇑*e*P	Pg	17 59 07.5	+0.2
MSS				⇓*e*P		17 59 07.5	
MSS				*e*S	Sg	17 59 09.4	+0.1
SPAK	**Spaichingen**	0.23	216	⇑*i*P	Pg	17 59 10.0	+0.7
SPAK				S	Sg	17 59 13.0	+0.3
GUT	**Gutenstein**	0.23	159	⇓*i*P	Pg	17 59 09.4	0.0
GUT				*i* S	Sg	17 59 12.7	0.0
TUBL	**Tuebingen Lnz**	0.24	15	⇓*i*P	Pg	17 59 10.2	+0.6
TUBL				*i* S	Sg	17 59 13.6	+0.5
BUCH	**Bad Urach**	0.29	56	⇑*i*P	Pg	17 59 10.6	+0.1
BUCH				*i* S	Sg	17 59 14.7	+0.1
LBG	**Lerchenberg**	0.40	341	⇓*i*P	Pg	17 59 13.0	+0.5
LBG				*e*S	Sg	17 59 18.7	+0.6
BFO	**Black Forest**	0.44	276	*e*Pg	Pg	17 59 13.9	+0.6
	SNR=3.7						
BFO				*e*Sg	Sg	17 59 20.1	+0.6
	SNR=15						
STU	**Stuttgart**	0.50	16	*e*Sg	Sg	17 59 20.9	-0.5
	SNR=5.5						
SISB	**Singen-Sch Ber**	0.60	182	P	Pb	17 59 16.6	+0.3
SISB				*e*S	Sb	17 59 24.6	+0.1
FELD	**Feldberg**	0.78	238	*e*Sg	Sg	17 59 32.8	+2.4
	SNR=6.1						
FELD	**Feldberg**	0.78	238	⇑*i*P	Pb	17 59 20.1	+0.8
FELD				P		17 59 21.5	
KIZ	**Kirchzarten**	0.79	246	⇑*e*P	Pb	17 59 20.2	+0.7
KIZ				P		17 59 21.2	
KIZ				S	Sb	17 59 31.0	+1.0
HDH	**Heidenheim**	0.86	69	P	Pb	17 59 21.4	+0.6
HDH				S	Sb	17 59 32.8	+0.7
HDH				S	Sb	17 59 34.9	+2.8
LIBD	**Limburg**	0.94	262	*e*Pg	Pg	17 59 24.0	+0.8
	SNR=1.6						
LIBD				*e*Sg	Sg	17 59 37.1	+1.4
	SNR=2.2						
UBR	**Uberruh**	0.97	128	P	Pb	17 59 23.3	+0.8
UBR				P		17 59 24.2	
UBR				S	Sb	17 59 36.3	+1.2
UBR				S	Sb	17 59 38.1	+3.1
LANF	**Langenberg**	1.05	312	*e*Sg	Sg	17 59 39.9	+0.5
	SNR=1.8						
LANF	**Langenberg**	1.05	312	Pg	Pg	17 59 25.6	+0.3
LANF				Sg	Sg	17 59 40.4	+1.0
WLS	**Welschbruch**	1.10	277	*e*Pg	Pg	17 59 26.5	+0.2
	SNR=4.2						
WLS				*e*Sg	Sg	17 59 41.3	+0.2
	SNR=4.5						
WLS	**Welschbruch**	1.10	277	P	Pb	17 59 26.7	+1.9
WLS	**Welschbruch**	1.10	277	Pg	Pg	17 59 26.6	+0.3
WLS				Sg	Sg	17 59 41.9	+0.9
SIND	**Sindeldorf**	1.14	21	P	Pb	17 59 24.1	-1.4
SIND				S	Sb	17 59 40.4	+0.3
CDF	**Champ du Feu**	1.15	277	*e*Pn	Pn	17 59 26.8	+0.5
CDF				*e*Pg	Pg	17 59 27.2	-0.1
CDF				*e*Sg	Sg	17 59 42.8	+0.1
	16nm,0.2s						
CDF	**Champ du Feu**	1.15	277	*e*Pg	Pg	17 59 27.4	0.0
	SNR=7.7						
CDF				*e*Sg	Sg	17 59 43.0	+0.2
	SNR=11						
DAVA	**Damuels**	1.17	149	⇑*i*PG	Pg	17 59 27.6	-0.1
DAVA				*i* SG	Sg	17 59 43.8	+0.5
	4.1nm,0.2s						
ECH	**Echery**	1.23	267	*e*Pg	Pg	17 59 29.0	+0.1
	SNR=1.4						
ECH				*e*Sg	Sg	17 59 45.0	-0.3
	SNR=5.9						
ECH	**Echery**	1.23	267	Pg	Pg	17 59 28.5	-0.4
HINF	**Hinteralfeld**	1.51	253	*e*Pn	Pn	17 59 30.9	-0.5
HINF				*e*Pg	Pg	17 59 33.7	-0.8
HINF				*e*Sn	Sn	17 59 50.6	-0.5
HINF				*e*Sg	Sg	17 59 53.8	-0.8
	6.3nm,0.3s						
MOTA	**Moosalm**	1.71	123	⇑*i*PG	Pg	17 59 36.4	-2.1
MOTA				*i* SG	Sg	17 59 59.2	-2.1
	1.0nm,0.1s						
HAU	**Haudompre**	1.79	262	*e*Pg	Pg	17 59 38.8	-1.3
HAU				*e*Sn	Sn	17 59 57.8	-0.5
HAU				*e*Sg	Sg	18 00 02.4	-1.6
	6.1nm,0.3s						
GRF	**Grafenberg Arr**	2.03	45	*e*Pg	Pg	17 59 43.2	-1.8
	SNR=1.7						
GRF				*e*Sg	Sg	18 00 08.2	-3.9
	SNR=2.7						
RFYF	**Reffroy**	2.36	280	*e*Pn	Pn	17 59 43.4	-0.2
RFYF				*e*Sn	Sn	18 00 11.7	-1.2
RFYF				*e*Sg	Sg	18 00 20.6	-2.5
	3.6nm,0.3s						
CABF	**La Chapelle**	2.59	231	*e*Pn	Pn	17 59 46.0	-0.8
CABF				*e*Pg	Pg	17 59 53.3	-2.7
SFTF	**Sexfontaines**	2.64	270	*e*Sg	Sg	18 00 29.1	-3.2
	1.9nm,0.2s						
LOR	**Lormes**	3.61	255	*e*Pg	Pg	18 00 12.3	-4.0
LOR				*e*Sg	Sg	18 00 59.1	-5.3
	1.1nm,0.3s						

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*IDC **19** 18:06:30.1±2.1, 43.33N×105.18W, mb4.2/1, mb1 4.1/4, mb1mx3.6/21, ML3.8/3, Error ellipse: s-maj=46.5km s-min=7.3km az=153.0*

*NEIC **19** 18:06:33.8±0.7, 43.71N×105.21W, ML3.3, Error ellipse: s-maj=12.0km s-min=6.6km az=151.0, Suspected Mining explosion.*

NEIC 70 km [45 miles] SSE of Gillette.

ISC 19 18:06:32.4±0.6**, 43.70N**±0.05×**105.24W**±0.07**, n29, σ1§26**/31**, mb4.4**/1**, 1C, Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	0.97	64	⇑*i*P	Pg	18 06 52.8	+1.1
LAO	**LASA Array**	3.07	347	*e*Pn	Pn	18 07 24.2	+1.2
PDAR	**Pinedale Array**	3.29	255	Pn	Pn	18 07 26.3	+0.2
	5.2nm,0.3s,baz=72,slow=14,SNR=76						
PDAR				Pg	Pg	18 07 32.2	-5.8
	10nm,0.3s,baz=79,slow=19,SNR=57						
PDAR				Lg		18 08 11.9	
	13nm,0.3s,baz=83,slow=34,SNR=13						
BW06	**Boulder Array**	3.29	255	*e*Pn	Pn	18 07 26.6	+0.4
GCMT	**Greycliff**	3.78	305	*e*Pn	Pn	18 07 32.8	-0.3
ISCO	**Idaho Springs**	3.91	184	*e*Pn	Pn	18 07 35.9	+0.9
MOOW	**Moose Ponds**	3.99	273	*e*Pn	Pn	18 07 36.6	+0.5
SNOW	**Snow King Moun**	4.01	268	*e*Pn	Pn	18 07 38.2	+1.7
REDW	**Red Top Meadow**	4.09	267	*e*Pn	Pn	18 07 38.8	+1.2
IMW	**Indian Meadow**	4.13	275	*e*Pn	Pn	18 07 39.9	+1.8
TPAW	**Teton Pass**	4.15	269	*e*Pn	Pn	18 07 39.3	+0.9
YMR	**Madison River**	4.23	285	Pn	Pn	18 07 39.9	+0.4
AHID	**Auburn Hatcher**	4.38	260	Pn	Pn	18 07 41.0	-0.6
QLMT	**Earthquake Lak**	4.58	286	Pn	Pn	18 07 45.6	+1.0
DGMT	**Dagmar**	4.83	8	*e*Pn	Pn	18 07 49.1	+1.1
BOZ	**Bozeman (W)**	4.95	295	*e*Pn	Pn	18 07 48.3	-1.5
HWUT	**Hardware Ranch**	5.11	248	*e*Pn	Pn	18 07 51.5	-0.6
HRY	**Holter Researc**	5.54	305	*e*Pn	Pn	18 07 57.3	-0.8
MCMT	**McKenzie Canyo**	5.58	284	Pn	Pn	18 07 59.4	+0.8
MPU	**Maple Canyon**	6.03	235	Pn	Pn	18 08 04.9	0.0
PV10	**Paradox Valley**	6.04	210	*e*Pn	Pn	18 08 06.5	+1.4
SRU	**San Rafael**	6.06	223	*e*Pn	Pn	18 08 04.0	-1.5
PV01	**Paradox Valley**	6.10	205	*e*Pn	Pn	18 08 06.3	+0.3
NLU	**North Lily Min**	6.33	236	*e*Pn	Pn	18 08 08.0	-1.2
CHMT	**Chamberlain Mo**	6.50	302	*e*Pn	Pn	18 08 10.4	-1.2
DUG	**Dugway**	6.64	241	*e*Pn	Pn	18 08 11.6	-2.0
ULM	**Lac du Bonnet**	9.16	41	Pn	P	18 08 45.1	-3.6
	2.6nm,0.3s,baz=228,slow=13,SNR=11						
ULM				Sn	Sn	18 10 25.7	-8.0
	0.2nm,0.3s,baz=240,slow=7.7,SNR=3.6						
ULM				Lg		18 11 21.0	
	0.6nm,0.3s,baz=179,slow=18,SNR=2.4						
YBH	**Yreka Blue Hor**	13.00	267	Pn	P	18 09 38.9	-2.1
	0.1nm,0.3s,baz=71,slow=18,SNR=1.7						
ARCES	**ARCESS Array B**	61.45	18	P	P	18 16 49.4	-3.0
	3.0nm,0.9s,mb4.4,baz=352,slow=6.4,SNR=4.5						

IDC 19 18:08:54.2±2.1**, 5.55S×150.75E, mb3.4**/3**, mb1 3.8**/3**, mb1mx3.5**/11**, Error ellipse: s-maj=135.0km s-min=30.3km az=126.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	21.43	227	P	P	18 13 44.3	-1.9
	0.6nm,0.8s,baz=52,slow=10,SNR=5.6						
ASAR	**Alice Springs**	24.24	220	P	P	18 14 12.9	-1.1
	1.2nm,0.8s,baz=57,slow=8.8,SNR=12						
ILAR	**Eielson Array**	83.62	22	P	P	18 21 24.4	-1.2
	0.4nm,0.9s,baz=248,slow=4.8,SNR=4.5						

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*NEIC **19** 18:09:59.3±2.7, 31.51S×178.47W, h525^{km}±30^{km}, mb3.7/2, Error ellipse: s-maj=86.0km s-min=13.7km az=97.0*

*IDC **19** 18:10:02.0±5.8, 31.28S×180.00E, h410^{km}±64^{km}, mb3.4/5, mb1 3.5/5, mb1mx3.4/13, Error ellipse: s-maj=64.7km s-min=26.0km az=13.0*

ISC 19 18:10:02.7±1.1**, 31.49S**±0.10×**179.7W**±0.3**, h465^{km}**±20^{km}**, n49, σ1§16**/52**, mb3.7**/6**, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	2.72	36	*e*P	P	18 11 08.2	-1.4
MXZ	**Matakaoa Point**	6.28	194	P	P	18 11 41.3	-0.1
MXZ				S	S	18 12 55.6	-3.7
MXZ	**Matakaoa Point**	6.28	194	*e*P	P	18 11 41.4	+0.1
MXZ				S	S	18 12 58.3	-1.0
PUZ	**Puketiti**	6.78	194	P	P	18 11 47.3	+0.8
PUZ	**Puketiti**	6.78	194	*e*P	P	18 11 47.3	+0.8
MWZ	**Matawai**	7.19	197	P	P	18 11 51.6	+0.6
MWZ				S	S	18 13 15.0	-1.7
MWZ	**Matawai**	7.19	197	*e*P	P	18 11 51.6	+0.6
MWZ				S	S	18 13 15.0	-1.7
EDRZ	**Edgecumbe**	7.21	203	P	P	18 11 53.6	+2.4
URZ	**Urewera**	7.24	200	P	P	18 11 50.5	-0.9
	74nm,0.3s,baz=1.5,slow=2.3,SNR=208						
URZ				S	S	18 13 16.4	-1.2
	17nm,0.3s,baz=85,slow=22,SNR=17						
URZ	**Urewera**	7.24	200	*e*P	P	18 11 50.5	-0.9
TAZ	**Tarawera**	7.41	204	*e*P	P	18 11 56.0	+2.8
UTU	**Utuhina**	7.47	206	*e*P	P	18 11 57.8	+3.9
PATZ	**Paeroa**	7.63	204	P	P	18 11 58.3	+2.7
PATZ	**Paeroa**	7.63	204	P	P	18 11 58.7	+3.1
KNZ	**Kokohu**	7.81	195	P	P	18 11 59.4	+1.8
KNZ				S	S	18 13 28.2	-0.4
KNZ	**Kokohu**	7.81	195	*e*P	P	18 11 59.4	+1.8
KNZ				S	S	18 13 28.5	-0.1
BKZ	**Black Stump Fm**	8.26	201	P	P	18 12 02.5	0.0
BKZ	**Black Stump Fm**	8.26	201	*e*P	P	18 12 02.5	0.0
MGZ	**Maungaku**	8.44	206	P	P	18 12 05.9	+1.5
NGZ	**Ngauruhoe**	8.57	205	P	P	18 12 06.0	+0.2
NGZ	**Ngauruhoe**	8.57	205	*e*P	P	18 12 06.3	+0.5
TUVZ	**Tukino**	8.63	205	P	P	18 12 07.7	+1.2
TUVZ	**Tukino**	8.63	205	*e*P	P	18 12 07.7	+1.2
BFZ	**Birch Farm**	9.73	198	P	P	18 12 19.1	+0.6
BFZ	**Birch Farm**	9.73	198	*e*P	P	18 12 19.1	+0.6
MRZ	**Mangatainoka R**	9.91	201	P	P	18 12 18.5	-1.9
MRZ	**Mangatainoka R**	9.91	201	*e*P	P	18 12 18.5	-1.9
KIW	**Kapiti Island**	10.31	203	P	P	18 12 23.7	-1.0
KIW	**Kapiti Island**	10.31	203	*e*P	P	18 12 23.7	-1.0
CAW	**Cannon Point**	10.48	202	P	P	18 12 26.2	-0.3
CAW	**Cannon Point**	10.48	202	*e*P	P	18 12 26.2	-0.3
SNZO	**South Karori**	10.78	203	P	P	18 12 28.7	-1.1
THZ	**Tophouse**	11.84	208	P	P	18 12 39.8	-1.3
THZ	**Tophouse**	11.84	208	*e*P	P	18 12 40.0	-1.1
KHZ	**Kahutara**	12.16	204	P	P	18 12 44.7	+0.1
KHZ	**Kahutara**	12.16	204	*e*P	P	18 12 44.7	+0.1
CTA	**Charters Tower**	32.54	282	P	P	18 15 55.3	+0.1
	4.0nm,1.1s,mb3.8,baz=114,slow=10.0,SNR=2.1						
STKA	**Stephens Creek**	32.80	259	P	P	18 15 58.6	+1.2
	1.0nm,0.4s,mb3.6,baz=88,slow=9.9,SNR=10.0						
STKA	**Stephens Creek**	32.80	259	*e*P	P	18 15 58.6	+1.3
ASAR	**Alice Springs**	41.58	269	P	P	18 17 09.8	-0.2
	2.6nm,1.0s,mb3.6,baz=105,slow=7.4,SNR=25						
WB2	**Warramunga Arr**	42.66	274	*e*P	P	18 17 17.6	-0.9
WRAB	**Tennant Creek**	42.67	274	*e*P	P	18 17 18.0	-0.6
	2.4nm,0.5s,mb3.9						
WRA	**Warramunga Arr**	42.67	274	P	P	18 17 18.2	-0.4
	2.5nm,0.5s,mb3.9,baz=112,slow=8.0,SNR=43						
FITZ	**Fitzroy Crossi**	50.89	272	*e*P	P	18 18 21.7	+0.2
	3.3nm,1.6s,mb3.4						
FITZ	**Fitzroy Crossi**	50.89	272	P	P	18 18 21.7	+0.2
	2.7nm,0.7s,mb3.7,baz=106,slow=7.4,SNR=8.2						
KAF	**Kangasniemi**	145.05	339	*e*p	PKPdf	18 28 47.6	+2.6
	0.5nm,0.3s						
FINES	**FINESS Array B**	145.63	338	PKPbc	PKPbc	18 28 51.6	+4.3
	2.8nm,0.6s,baz=47,slow=4.1,SNR=32						
HFS	**Hagfors**	149.98	347	PKPbc	PKPdf	18 29 02.7	+10
	2.0nm,0.9s,baz=37,slow=7.2,SNR=6.1						
AKASG	**Malin Array Be**	151.22	320	PKPbc	PKPdf	18 29 05.9	+11
	0.1nm,0.3s,baz=48,slow=3.2,SNR=4.4						

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*STR **19** 18:26:52.7±0.0, 42.83N×1.49W, h2^{km}±1^{km}, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LDG **19** 18:26:53.0±0.3, 42.87N×1.48W, h2^{km}, Md2.5/2, Ml2.1/11, Error ellipse: s-maj=5.6km s-min=3.8km az=48.0*

MDD 19 18:26:54.1±0.5**, 42.88N×1.42W, h11^{km}**±1^{km}**, mbLg1.6**/5**, Error ellipse: s-maj=4.1km s-min=2.5km az=26.0, AftershockPLICA PRXIMO, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJPF	**Ste Jean**	0.27	31	*e*Pg	Pg	18 26 59.5	-0.4
SJPF				*e*Sg	Sg	18 27 02.3	-1.4
	56nm,0.3s						
EALK	**Alkurruntz**	0.34	349	Pg	Pg	18 27 00.6	-0.7
	7.1nm,0.4s,SNR=25						
EALK				Lg		18 27 06.4	
	SNR=7.9						
LARF	**Larrau**	0.35	63	Pg	Pg	18 27 00.8	-0.6
LARF				Sg	Sg	18 27 06.7	+0.4
LARF	**Larrau**	0.35	63	P	Pg	18 27 00.9	-0.6
LARF				S	Sg	18 27 06.5	+0.3
OSSF	**Osses**	0.39	17	Pg	Pg	18 27 01.4	-0.8
OSSF				Sg	Sg	18 27 07.9	+0.3
OSSF	**Osses**	0.39	17	P	Pg	18 27 01.6	-0.6
OSSF				S	Sg	18 27 07.4	-0.2
ATE	**Arette**	0.56	68	P	Pg	18 27 05.0	-0.6
ATE				S	Sg	18 27 13.1	-0.1
ETSF	**Etsaut**	0.63	88	*e*Pg	Pg	18 27 05.4	-1.5
ETSF				*e*Sg	Sg	18 27 14.0	-1.4
ETSF				*e*Sn	Sn	18 27 15.8	-3.0
	4.8nm,0.3s						
EPF	**Esparros**	1.30	83	*e*Pn	Pn	18 27 17.5	-0.8
EPF				*e*Pg	Pg	18 27 19.6	-0.5
EPF				*e*Sg	Sg	18 27 35.5	-2.0

	3.8nm,0.2s						
ESAC	**San Caprasio**	**1.35**	**148**	Pg	Pg	18 27 18.4	-2.8
	8.8nm,0.3s,SNR=8.5						
ESAC				Lg		18 27 35.6	
	12nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**1.52**	**284**	Pg	Pg	18 27 22.1	-2.4
	2.5nm,0.5s,SNR=6.7						
ELAN				Lg		18 27 43.5	
	1.2nm,0.2s,SNR=7.9						
ETOR	**Torete**	**2.11**	**193**	Pg	Pg	18 27 33.0	-3.4
	1.3nm,0.3s,SNR=6.8						
ETOR				Lg		18 28 00.3	
	3.3nm,0.4s,SNR=7.9						
EPOB	**Poblet**	**2.40**	**129**	Lg		18 28 09.6	
	0.7nm,0.2s,SNR=7.9						
LFF	**La Frestale**	**2.58**	**36**	*e*Pn	Pn	18 27 34.6	-2.1
LFF				*e*Sn	Sn	18 28 05.2	-3.2
	1.5nm,0.2s						
LFF				*e*Sg	Sg	18 28 14.0	-6.2
EMOS	**Mosqueruela**	**2.61**	**164**	Lg		18 28 16.8	
	0.2nm,0.2s,SNR=4.0						
MTLF	**Montolieu**	**2.70**	**79**	*e*Pn	Pn	18 27 37.3	-1.1
MTLF				*e*Sn	Sn	18 28 09.2	-2.2
	1.8nm,0.4s						
RJF	**Les Rejaudoux**	**3.21**	**40**	*e*Pn	Pn	18 27 42.9	-2.8
RJF				*e*Sn	Sn	18 28 20.6	-3.8
	1.2nm,0.3s						
MFF	**Saint Martin d**	**3.83**	**13**	*e*Pn	Pn	18 27 51.9	-2.5
MFF				*e*Pg	Pg	18 28 03.8	-6.8
MFF				*e*Sn	Sn	18 28 35.2	-4.8
MFF				*e*Sg	Sg	18 28 54.1	-7.6
	0.9nm,0.3s						
LASF	**Ste Croix**	**4.02**	**71**	*e*Pn	Pn	18 27 54.6	-2.5
LASF				*e*Sn	Sn	18 28 40.3	-4.5
	0.7nm,0.2s						
TCF	**Toulx Ste Croi**	**4.28**	**36**	*e*Pn	Pn	18 27 56.6	-4.2
TCF				*e*Sn	Sn	18 28 45.8	-5.6
	1.2nm,0.4s						
BGF	**Bois d'Agland**	**4.77**	**38**	*e*Pn	Pn	18 28 03.6	-4.2
BGF				*e*Sn	Sn	18 28 57.1	-6.6
	1.4nm,0.3s						
VIVF	**Saint-Julien-l**	**4.83**	**64**	*e*Pn	Pn	18 28 05.5	-3.1
VIVF				*e*Sn	Sn	18 28 58.6	-6.6
	1.0nm,0.4s						
AVF	**Avril sur Loir**	**5.17**	**39**	*e*Pn	Pn	18 28 09.2	-4.3
AVF				*e*Sn	Sn	18 29 06.8	-7.2
	0.3nm,0.3s						

IDC 19 18:30:32.3±22.0,20.42S×178.49W,h572^{km}±218^{km}, mb3.1/5,mb1 3.3/5,mb1mx3.0/13,Error ellipse: s-maj=152.0km s-min=97.3km az=74.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**33.04**	**264**	P	P	18 36 21.9	-0.8
	2.0nm,0.4s,baz=90,slow=13,SNR=7.0						
STKA	**Stephens Creek**	**37.41**	**244**	P	P	18 36 57.4	-1.4
	0.7nm,0.4s,baz=93,slow=13,SNR=6.6						
ASAR	**Alice Springs**	**44.09**	**257**	P	P	18 37 50.6	-1.5
	2.1nm,0.4s,baz=92,slow=8.3,SNR=98						
ASPA	**Alice Springs**	**44.09**	**257**	*e*P	P	18 37 50.7	-1.5
WB2	**Warramunga Arr**	**44.15**	**262**	*e*P	P	18 37 50.9	-1.7
WRA	**Warramunga Arr**	**44.16**	**262**	P	P	18 37 50.6	-2.1
	1.0nm,0.3s,baz=97,slow=7.3,SNR=76						
FITZ	**Fitzroy Crossi**	**52.58**	**262**	*e*P	P	18 38 54.3	-1.2
	2.3nm,1.2s						
FITZ	**Fitzroy Crossi**	**52.58**	**262**	P	P	18 38 54.2	-1.4
	0.9nm,0.3s,baz=106,slow=6.2,SNR=15						
AKASG	**Malin Array Be**	**142.72**	**331**	PKP	PKPdf	18 49 00.1	-0.3
	0.8nm,0.4s,baz=43,slow=4.0,SNR=6.8						

*NIED **19** 18:36:00,33.10N×137.20E,h20^{km},Mw3.8 Best double couple: M$_0$6.14×10^{14} NP1:ϕ_s236°,δ63°,λ64°. NP2:ϕ_s104°,δ36°,λ131°.*

*JMA **19** 18:36:17.9±0.1,33.12N×137.16E,h34^{km}±3^{km},M3.9*

*IDC **19** 18:36:25.2±2.8,34.33N×140.12E,h181^{km}±10^{km},mb3.0/5, mb1 3.2/5,mb1mx3.0/20,Error ellipse: s-maj=65.7km s-min=19.3km az=63.0*

*NEIC **19** 18:36:26.9±1.7,34.18N×139.88E,h188^{km}±19^{km},Error ellipse: s-maj=69.9km s-min=20.8km az=61.0*

ISC 19 18:36:18.3±0.6,33.12N±0.04×137.16E±0.03,h36^{km}±10^{km}, n28,σ0$\overset{s}{.}$76/49,mb3.4/4,1C-9D,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TK01	**Tokai 1**	**0.74**	**29**	P	**P**	**18 36 31.8**	**-0.4**
TK01				S	**S**	**18 36 42.0**	**-0.4**
TK02	**Tokai 2**	**0.97**	**31**	⇓P	**P**	**18 36 35.6**	**+0.1**
TK02				S	**S**	**18 36 48.5**	**+0.3**
TK03	**Tokai 3**	**1.24**	**33**	P	**P**	**18 36 39.1**	**-0.3**
TK03				S	**S**	**18 36 55.3**	**+0.1**
JWZ	**Kozaga**	**1.27**	**289**	⇑P	**P**	**18 36 39.9**	**+0.1**
JWZ				S	**S**	**18 36 54.9**	**-1.1**
JIE	**Ise**	**1.32**	**344**	⇓P	**P**	**18 36 41.2**	**+0.6**
JIE				S	**S**	**18 36 57.9**	**+0.6**
JKN	**Kiinagashima**	**1.35**	**327**	⇓P	**P**	**18 36 41.2**	**+0.2**
JKN				S	**S**	**18 36 56.8**	**-1.1**
TK04	**Tokai 4**	**1.40**	**25**	⇓P	**P**	**18 36 42.0**	**+0.3**
TK04				S	**S**	**18 36 59.1**	**0.0**
JWM	**Minabe**	**1.67**	**296**	⇓P	**P**	**18 36 45.7**	**+0.1**
JWM				S	**S**	**18 37 05.5**	**-0.5**
TSUJ	**Tsu 2**	**1.70**	**339**	⇓P	**P**	**18 36 46.3**	**+0.3**
TSUJ				*e*S	**S**	**18 37 06.7**	**0.0**
JWY	**Kouya**	**1.70**	**310**	⇓P	**P**	**18 36 46.8**	**+0.8**
JWY				S	**S**	**18 37 06.6**	**-0.2**
JHE	**Heguri**	**1.96**	**322**	⇓P	**P**	**18 36 50.3**	**+0.6**
JHE				S	**S**	**18 37 13.2**	**-0.1**
SHZ3	**Shizuoka 3**	**2.13**	**24**	⇓P	**P**	**18 36 52.0**	**-0.1**
SHZ3				S	**S**	**18 37 16.3**	**-1.3**
JIZS	**Izushimoda**	**2.14**	**41**	P	**P**	**18 36 53.9**	**+1.6**
JIZS				*e*S	**S**	**18 37 17.7**	**-0.2**
JHJ	**Hachijo jima 2**	**2.21**	**89**	P	**P**	**18 36 53.6**	**+0.4**
	29nm,0.3s,baz=56,slow=18,SNR=20						
JHJ				S	**S**	**18 37 18.2**	**-1.3**
	31nm,0.3s,baz=85,slow=22,SNR=5.6						
JHJ2	**Mitsune**	**2.23**	**89**	P	**P**	**18 36 53.4**	**-0.2**
JHJ2				S	**S**	**18 37 19.4**	**-0.8**
JAI	**Aioi**	**2.36**	**287**	P	**P**	**18 36 55.6**	**+0.2**
JAI				S	**S**	**18 37 21.6**	**-1.8**
JGM	**Miyama**	**2.60**	**352**	P	**P**	**18 36 59.2**	**+0.4**
JGM				S	**S**	**18 37 29.4**	**-0.1**
JWT	**Wachi**	**2.60**	**327**	P	**P**	**18 36 59.5**	**+0.6**
JWT				S	**S**	**18 37 29.2**	**-0.4**
JYN	**Shimob**	**2.64**	**25**	P	**P**	**18 36 59.5**	**+0.1**
JYN				*e*S	**S**	**18 37 30.6**	**+0.1**
JOD2	**Odawara 2**	**2.67**	**36**	P	**P**	**18 37 01.3**	**+1.4**
JOD2				*e*S	**S**	**18 37 30.7**	**-0.7**
MAJO	**Matsushiro**	**3.52**	**14**	*e*Pn	**P**	**18 37 12.5**	**+0.5**
MAT	**Matsushiro**	**3.52**	**14**	P	**P**	**18 37 12.8**	**+0.8**
MAT				S	**S**	**18 37 52.4**	**-0.6**
MAT	**Matsushiro**	**3.52**	**14**	*e*P	**P**	**18 37 13.0**	**+1.0**
MAT				*e*S	**S**	**18 37 52.0**	**-1.0**
SONM	**Songino Array**	**27.41**	**312**	P	**P**	**18 42 03.5**	**+1.0**
	0.7nm,1.0s,mb3.2,baz=111,slow=8.8,SNR=5.6						
CMAR	**Chiang Mai Arr**	**37.15**	**256**	P	pP	18 43 40.4	+2.4
	0.6nm,0.8s,baz=48,slow=7.2,SNR=4.1						
MKAR	**Makanchi Array**	**43.37**	**305**	P	**P**	**18 44 20.9**	**+2.2**
	0.6nm,0.7s,mb3.4,baz=97,slow=9.6,SNR=5.4						
WRA	**Warramunga Arr**	**52.83**	**183**	P	**P**	**18 45 31.1**	**-1.5**
	0.6nm,0.7s,mb3.6,baz=360,slow=7.9,SNR=5.1						
ASAR	**Alice Springs**	**56.55**	**184**	P	**P**	**18 45 59.7**	**0.0**
	0.3nm,0.8s,mb3.4,baz=3.4,slow=6.1,SNR=4.1						

*NEIC **19** 18:51:26.3,42.87N×1.54W,h5^{km},ML2.8(STR), ML2.8(LDG),MN2.6(MDD),After STR.*

*STR **19** 18:51:26.3±0.6,42.87N×1.54W,h5^{km}±1^{km},Ml2.8,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LDG **19** 18:51:28.1±0.3,42.91N×1.46W,h2^{km},Md3.1/2,Ml2.8/29, Error ellipse: s-maj=5.1km s-min=2.8km az=38.0*

MDD 19 18:51:28.0±0.3,42.85N×1.42W,h6^{km}±2^{km},mbLg2.6/18, 1C,Error ellipse: s-maj=2.6km s-min=1.7km az=42.0, AftershockPLICA PRXIMO,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJPF	**Ste Jean**	**0.30**	**29**	*e*Pg	Pg	18 51 33.6	-0.4
SJPF				*e*Sg	Sg	18 51 36.3	-1.7
	472nm,0.4s						
LARF	**Larrau**	**0.37**	**60**	Pg	Pg	18 51 34.6	-0.8
LARF				Sg	Sg	18 51 41.0	+0.6
LARF	**Larrau**	**0.37**	**60**	P	Pg	18 51 34.7	-0.7
LARF				S	Sg	18 51 40.7	+0.4
EALK	**Alkurruntz**	**0.37**	**350**	⇑Pg	Pg	18 51 34.6	-0.9
	72nm,0.4s,SNR=18						
EALK				Lg		18 51 40.3	
	328nm,0.4s,SNR=31						
OSSF	**Osses**	**0.42**	**16**	Pg	Pg	18 51 35.5	-0.9
OSSF	**Osses**	**0.42**	**16**	P	Pg	18 51 35.5	-0.9
OSSF				S	Sg	18 51 42.5	+0.4
ORDF	**Ordiarp**	**0.51**	**44**	P	Pg	18 51 37.5	-0.6
ORDF				S	Sg	18 51 45.0	+0.1
ATE	**Arette**	**0.58**	**66**	P	Pg	18 51 38.5	-1.1
ATE				S	Sg	18 51 47.0	-0.3
FDAF	**Les Forges d'A**	**0.63**	**93**	Pg	Pg	18 51 39.3	-1.3
FDAF				Sg	Sg	18 51 50.4	+1.4
FDAF	**Les Forges d'A**	**0.63**	**93**	P	Pg	18 51 39.6	-1.0
FDAF				S	Sg	18 51 49.0	0.0
ETSF	**Etsaut**	**0.64**	**86**	*e*Pg	Pg	18 51 39.2	-1.5
ETSF				*e*Sg	Sg	18 51 48.0	-1.2
ETSF				*e*Sn	Sn	18 51 49.9	-3.7
	31nm,0.2s						
REYF	**Montagne du Re**	**0.79**	**74**	Pg	Pg	18 51 42.2	-1.5
REYF				Sg	Sg	18 51 53.9	-0.3
REYF	**Montagne du Re**	**0.79**	**74**	P	Pb	18 51 42.3	-1.3
REYF				S	Sg	18 51 53.7	-0.5
VIEF	**Viey**	**1.06**	**88**	P	Pb	18 51 46.9	-1.4
VIEF				S	Sb	18 52 02.0	-0.2
LABF	**Labassere**	**1.11**	**79**	Pg	Pg	18 51 48.3	-1.9
LABF	**Labassere**	**1.11**	**79**	P	Pb	18 51 48.2	-1.0
LABF				S	Sb	18 52 04.2	+0.4
RESF	**Ens**	**1.29**	**91**	Pg	Pg	18 51 52.6	-1.3
RESF				Sg	Sg	18 52 12.0	+0.9
RESF	**Ens**	**1.29**	**91**	P	Pb	18 51 52.8	+0.4
RESF				S	Sb	18 52 12.1	+3.1
EPF	**Esparros**	**1.30**	**82**	*e*Pn	Pn	18 51 51.4	-1.3
EPF				*e*Pg	Pg	18 51 53.7	-0.4
EPF				*e*Sg	Sg	18 52 09.5	-2.0
	58nm,0.3s						
ESAC	**San Caprasio**	**1.33**	**148**	Pg	Pg	18 51 52.0	-2.7
	70nm,0.3s,SNR=32						
ESAC				Lg		18 52 10.4	
	116nm,0.5s,SNR=11						
ELAN	**Lanestosa**	**1.52**	**285**	Pn	Pn	18 51 55.4	-0.4
	12nm,0.3s,SNR=75						
ELAN				Lg		18 52 17.0	
	44nm,0.3s,SNR=5.9						
ELAN	**Lanestosa**	**1.52**	**285**	Pg	Pg	18 51 55.4	-3.0
ELAN				Lg		18 52 16.1	
MELF	**Melles**	**1.60**	**89**	Pg	Pg	18 51 58.2	-1.8
MELF	**Melles**	**1.60**	**89**	P	Pn	18 51 57.9	+0.9
MELF				S	Sb	18 52 20.6	+2.7
MLS	**Moulis**	**1.85**	**86**	S	Sn	18 52 27.8	+3.3
SALF	**Salau**	**1.92**	**92**	P	Pn	18 52 03.7	+2.1
SALF				S	Sn	18 52 29.4	+3.1
ETOR	**Torete**	**2.09**	**193**	Pn	Pn	18 52 03.3	-0.6
	22nm,0.3s,SNR=14						
ETOR				Lg		18 52 28.8	
	70nm,0.4s,SNR=9.2						
ETOR	**Torete**	**2.09**	**193**	Pn	Pn	18 52 03.3	-0.6
ETOR				Sn	Sn	18 52 28.7	-1.8
ETOR				Lg		18 52 34.0	
EMIR	**Miracle**	**2.38**	**112**	Pn	Pn	18 52 06.9	-1.2
	3.4nm,0.3s,SNR=8.1						
EMIR				Pg	Pg	18 52 10.8	-4.7
	6.2nm,0.3s,SNR=6.8						
EMIR				Lg		18 52 44.1	
	12nm,0.2s,SNR=6.5						
EMIR	**Miracle**	**2.38**	**112**	Pn	Pn	18 52 06.9	-1.2
EMIR				Pg	Pg	18 52 10.8	-4.7
EMIR				Lg		18 52 44.1	
EPOB	**Poblet**	**2.39**	**128**	Pn	Pn	18 52 06.3	-2.0
	3.0nm,0.3s,SNR=10						
EPOB				Pg	Pg	18 52 11.3	-4.3
	11nm,0.6s,SNR=7.9						
EPOB				Sn	Sn	18 52 34.7	-3.4
	16nm,0.5s,SNR=6.0						
EPOB				Lg		18 52 44.1	
	24nm,0.4s,SNR=6.6						
EBR	**Ebro Roquetas**	**2.48**	**144**	*e*Rs		18 52 22.5	
EBR	**Ebro Roquetas**	**2.48**	**144**	*e*SG	Sg	18 52 48.0	-2.7
EBR				*e*SNSN		18 52 53.5	
VALF	**Valcebollere**	**2.58**	**99**	S	Sn	18 52 51.6	+8.6
EMOS	**Mosqueruela**	**2.59**	**164**	Pn	Pn	18 52 09.7	-1.3
	6.6nm,0.3s,SNR=5.0						
EMOS				Pg	Pg	18 52 15.1	-4.6
	7.8nm,0.4s,SNR=8.7						
EMOS				Lg		18 52 51.7	
	13nm,0.3s,SNR=6.0						
EMOS	**Mosqueruela**	**2.59**	**164**	Pn	Pn	18 52 09.6	-1.5
EMOS				Pg	Pg	18 52 15.1	-4.6
EMOS				Lg		18 52 50.4	
CARF	**Carcanieres**	**2.60**	**92**	P	Pn	18 52 16.3	+5.0
CARF				S	Sn	18 52 51.4	+7.9
LFF	**La Frestale**	**2.60**	**36**	*e*Pn	Pn	18 52 08.7	-2.6
LFF				*e*Sn	Sn	18 52 39.4	-4.2
LFF				*e*Sg	Sg	18 52 48.1	-6.6
	19nm,0.3s						
MTLF	**Montolieu**	**2.71**	**78**	*e*Pn	Pn	18 52 11.5	-1.3
MTLF				*e*Sn	Sn	18 52 43.5	-2.8
	12nm,0.5s						
EJON	**La Jonquera**	**3.20**	**96**	Pg	Pg	18 52 27.1	-4.9
	SNR=7.9						
EJON				Lg		18 53 09.8	
	17nm,0.5s,SNR=5.0						
EJON	**La Jonquera**	**3.20**	**96**	Pg	Pg	18 52 26.7	-5.2
EJON				Lg		18 53 09.8	
RJF	**Les Rejaudoux**	**3.24**	**40**	*e*Pn	Pn	18 52 16.9	-3.4
RJF				*e*Sn	Sn	18 52 55.1	-4.6
RJF				*e*Sg	Sg	18 53 10.1	-5.7
	14nm,0.4s						
CAF	**Calviac**	**3.26**	**49**	*e*Pn	Pn	18 52 17.6	-3.1
CAF				*e*Sn	Sn	18 52 55.6	-4.7
	21nm,0.5s						
ESDC	**Sonseca Array**	**3.71**	**212**	Pn	Pn	18 52 25.0	-2.1
	1.0nm,0.4s,baz=36,slow=16,SNR=4.3						
ESDC				Sn	Sn	18 53 06.7	-4.9
	2.2nm,0.4s,baz=33,slow=18,SNR=13						
ESDC				Lg		18 53 24.9	
	3.9nm,0.4s,baz=33,slow=30,SNR=9.9						
MFF	**Saint Martin d**	**3.86**	**13**	*e*Pn	Pn	18 52 25.5	-3.6
MFF				*e*Pg	Pg	18 52 37.8	-7.2
MFF				*e*Sn	Sn	18 53 09.4	-5.9
MFF				*e*Sg	Sg	18 53 28.1	-8.3
	6.6nm,0.4s						
LASF	**Ste Croix**	**4.03**	**71**	*e*Pn	Pn	18 52 28.9	-2.7
LASF				*e*Sn	Sn	18 53 14.5	-5.3
	14nm,0.5s						
ECAL	**Calabor**	**4.04**	**259**	Pn	Pn	18 52 28.8	-2.9
	4.1nm,0.4s,SNR=5.3						
ECAL				Pg	Pg	18 52 41.3	-7.4
	6.8nm,0.3s,SNR=6.9						
ECAL				Sn	Sn	18 53 15.1	-4.9
	SNR=7.9						
ECAL				Lg		18 53 33.5	
	37nm,0.5s,SNR=7.9						
ECAL	**Calabor**	**4.04**	**259**	Pn	Pn	18 52 29.5	-2.3
ECAL				Pg	Pg	18 52 41.3	-7.4
ECAL				Sn	Sn	18 53 15.1	-4.9
ETOB	**Tobarra**	**4.21**	**181**	Pn	Pn	18 52 32.0	-2.1
	5.6nm,0.7s,SNR=4.9						
EPON	**Pontenova**	**4.22**	**278**	Pn	Pn	18 52 31.9	-2.4
	6.6nm,0.6s,SNR=4.8						
EPON				Sn	Sn	18 53 18.5	-6.1
	SNR=7.9						
ERUA	**La Rua**	**4.25**	**266**	Pn	Pn	18 52 32.1	-2.6
	SNR=7.9						
ERUA				Sn	Sn	18 53 19.3	-6.0
	3.4nm,0.3s,SNR=7.9						
ERUA				Lg		18 53 41.8	
	8.9nm,0.6s,SNR=5.0						
EVIA	**Vianos**	**4.29**	**191**	Pn	Pn	18 52 32.2	-3.1
	7.0nm,0.4s,SNR=5.0						
EVIA				Lg		18 53 39.7	
	8.6nm,0.4s,SNR=4.0						
TCF	**Toulx Ste Croi**	**4.30**	**36**	*e*Pn	Pn	18 52 30.6	-4.9
TCF				*e*Sn	Sn	18 53 20.2	-6.4
	11nm,0.5s						
BGF	**Bois d'Agland**	**4.79**	**38**	*e*Pn	Pn	18 52 37.7	-4.7
BGF				*e*Sn	Sn	18 53 31.3	-7.7
	22nm,0.4s						
VIVF	**Saint-Julien-l**	**4.84**	**63**	*e*Pn	Pn	18 52 39.5	-3.6
VIVF				*e*Sn	Sn	18 53 32.7	-7.5
	2.2nm,0.3s						
ELOB	**Lobios**	**5.02**	**261**	Pn	Pn	18 52 42.4	-3.2
	SNR=7.9						
ELOB				Sn	Sn	18 53 37.4	-7.3
	SNR=4.0						
ELOB				Lg		18 54 03.2	
	11nm,0.5s,SNR=7.9						
ELOB	**Lobios**	**5.02**	**261**	Pn	Pn	18 52 41.6	-4.0
ELOB				Sn	Sn	18 53 37.4	-7.3
ELOB				Lg		18 54 07.7	
AVF	**Avril sur Loir**	**5.20**	**39**	*e*Pn	Pn	18 52 43.4	-4.7
AVF				*e*Sn	Sn	18 53 40.8	-8.4
	0.9nm,0.2s						
EQES	**Quesada**	**5.20**	**195**	Pg	Pg	18 53 01.4	-10
	5.9nm,0.5s,SNR=7.7						
EQES				Lg		18 54 11.9	
	SNR=7.9						
QUIF	**Quistinic**	**5.21**	**347**	*e*Pn	Pn	18 52 44.8	-3.5
QUIF				*e*Sn	Sn	18 53 41.3	-8.2
	6.3nm,0.3s						
SMRF	**Simiane la Rot**	**5.22**	**75**	*e*Pn	Pn	18 52 46.1	-2.3
SMRF				*e*Sn	Sn	18 53 43.2	-6.5
	0.3nm,0.3s						
EADA	**Adamuz**	**5.26**	**208**	Pn	Pn	18 52 45.8	-3.3
	SNR=7.9						
EADA				Pg	Pg	18 53 06.4	-6.6
	SNR=7.9						
EADA				Sn	Sn	18 53 43.1	-7.7
	SNR=7.9						
EADA				Lg		18 54 14.0	
	2.5nm,0.4s,SNR=7.9						
EADA	**Adamuz**	**5.26**	**208**	Pn	Pn	18 52 45.8	-3.2
EADA				Sn	Sn	18 53 40.0	-11
EADA				Lg		18 54 14.0	
SMF	**Signal de Mont**	**5.33**	**43**	*e*Pn	Pn	18 52 45.4	-4.6
SMF				*e*Sn	Sn	18 53 44.8	-7.7
	1.7nm,0.3s						
SGMF	**Saint Gilles**	**5.46**	**352**	*e*Pn	Pn	18 52 47.9	-3.9
SGMF				*e*Sn	Sn	18 53 46.1	-10
	1.4nm,0.3s						
SSF	**Saint Saulge**	**5.47**	**38**	*e*Pn	Pn	18 52 46.6	-5.4
SSF				*e*Sn	Sn	18 53 46.8	-9.2
	1.6nm,0.2s						
GRR	**Gorron**	**5.55**	**4**	*e*Pn	Pn	18 52 47.7	-5.4
GRR				*e*Sn	Sn	18 53 49.3	-8.7
	3.0nm,0.3s						
ROSF	**Rostrenen**	**5.63**	**347**	*e*Pn	Pn	18 52 50.5	-3.8
ROSF				*e*Sn	Sn	18 53 51.1	-9.1
	2.1nm,0.3s						
ORIF	**Oris-en-Rattie**	**5.67**	**66**	*e*Pn	Pn	18 52 52.2	-2.5
ORIF				*e*Sn	Sn	18 53 52.2	-8.7
	3.3nm,0.6s						
LOR	**Lormes**	**5.78**	**38**	*e*Pn	Pn	18 52 50.9	-5.5
LOR				*e*Sn	Sn	18 53 55.2	-8.7
	1.8nm,0.3s						
LDF	**La Druitiere**	**5.81**	**9**	*e*Pn	Pn	18 52 52.6	-4.2
LDF				*e*Sn	Sn	18 53 56.3	-8.3
	1.9nm,0.3s						
LMR	**La Mourre**	**5.83**	**83**	*e*Pn	Pn	18 52 54.9	-2.1
LMR				*e*Sn	Sn	18 53 58.2	-6.8
	3.4nm,0.7s						
FRF	**La Foret Royal**	**5.94**	**80**	*e*Pn	Pn	18 52 55.7	-2.9
FLN	**La Foliniere**	**5.95**	**6**	*e*Pn	Pn	18 52 53.6	-5.1
FLN				*e*Sn	Sn	18 53 58.3	-10
	2.3nm,0.4s						
MBDF	**Montbardon**	**6.22**	**70**	*e*Pn	Pn	18 52 59.9	-2.6
MBDF				*e*Sn	Sn	18 54 05.5	-9.3
	0.1nm,0.2s						
LPL	**La Plagne**	**6.44**	**63**	*e*Pn	Pn	18 53 02.9	-2.7
LPG	**La Plagne**	**6.44**	**63**	*e*Pn	Pn	18 53 03.4	-2.3
CABF	**La Chapelle**	**6.53**	**52**	*e*Pn	Pn	18 53 03.9	-3.1
SBF	**Sospel**	**6.53**	**78**	*e*Pn	Pn	18 53 04.2	-2.8
SBF				*e*Sn	Sn	18 54 16.6	-6.1
	1.1nm,0.2s						
BAIF	**Baives**	**8.19**	**26**	*e*Pn	P	18 53 24.3	-5.8
BAIF				*e*Sn	Sn	18 54 52.5	-11
	1.0nm,0.3s						
CDF	**Champ du Feu**	**8.24**	**45**	*e*Sn	Sn	18 54 54.2	-11
	0.3nm,0.2s						
GIVF	**Givet**	**8.43**	**29**	*e*Sn	Sn	18 54 58.3	-12
	2.9nm,0.3s						

*NIED **19** 18:55:00,33.10N×137.10E,h20^{km},Mw3.8 Best double couple: M$_0$4.77×10^{14} NP1:ϕ_s285°,δ86°,λ154°. NP2:ϕ_s17°,δ64°,λ5°.*

*JMA **19** 18:55:36.8±0.1,33.10N×137.09E,h38^{km}±3^{km},M3.8*

ISC 19 18:55:36.8±0.8,33.09N±0.05×137.10E±0.03,h46^{km}±25^{km}, n17,σ0$\overset{s}{.}$65/33,2C-9D,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TK01	**Tokai 1**	**0.79**	**31**	P	**P**	**18 55 51.4**	**-0.2**
TK01				*e*S	**S**	**18 56 02.2**	**-0.3**
TK02	**Tokai 2**	**1.01**	**33**	⇑P	**P**	**18 55 54.9**	**+0.1**
TK02				S	**S**	**18 56 08.2**	**0.0**
JWZ	**Kozaga**	**1.24**	**291**	⇓P	**P**	**18 55 57.9**	**-0.1**
JWZ				S	**S**	**18 56 12.6**	**-1.2**
TK03	**Tokai 3**	**1.29**	**34**	P	**P**	**18 55 58.8**	**0.0**
TK03				S	**S**	**18 56 15.1**	**-0.1**
JIE	**Ise**	**1.34**	**346**	⇓P	**P**	**18 56 00.0**	**+0.5**
JIE				S	**S**	**18 56 16.8**	**+0.5**
JKN	**Kiinagashima**	**1.35**	**329**	⇓P	**P**	**18 55 59.8**	**+0.2**
JKN				S	**S**	**18 56 15.2**	**-1.4**
TK04	**Tokai 4**	**1.44**	**27**	⇑P	**P**	**18 56 01.2**	**+0.2**
TK04				S	**S**	**18 56 18.7**	**-0.2**
JWM	**Minabe**	**1.64**	**298**	⇓P	**P**	**18 56 03.9**	**+0.2**
JWM				S	**S**	**18 56 23.1**	**-0.6**
JWY	**Kouya**	**1.68**	**312**	⇓P	**P**	**18 56 05.2**	**+0.9**
JWY				S	**S**	**18 56 24.5**	**-0.3**
TSUJ	**Tsu 2**	**1.71**	**341**	⇓P	**P**	**18 56 05.2**	**+0.5**
TSUJ				S	**S**	**18 56 25.1**	**-0.3**
JHE	**Heguri**	**1.95**	**323**	⇓P	**P**	**18 56 08.8**	**+0.7**
JHE				S	**S**	**18 56 31.4**	**0.0**
JHJ2	**Mitsune**	**2.28**	**89**	P	**P**	**18 56 12.8**	**0.0**
JHJ2				S	**S**	**18 56 38.1**	**-1.8**
JAI	**Aioi**	**2.32**	**288**	P	**P**	**18 56 13.8**	**+0.4**
JAI				S	**S**	**18 56 39.8**	**-1.0**
JIM2	**Oshima 3**	**2.53**	**50**	P	**P**	**18 56 17.1**	**+0.7**
JWT	**Wachi**	**2.60**	**328**	⇓P	**P**	**18 56 18.1**	**+0.8**
JWT				*e*S	**S**	**18 56 48.7**	**+0.9**
JGM	**Miyama**	**2.62**	**353**	⇓P	**P**	**18 56 18.3**	**+0.7**
JGM				S	**S**	**18 56 48.1**	**-0.3**
MAT	**Matsushiro**	**3.56**	**15**	P	**P**	**18 56 31.8**	**+0.8**
MAT				S	**S**	**18 57 11.5**	**-0.8**

*NEIC **19** 18:59:34.4±1.0,19.09S×177.60W,h600^{km},mb4.5/12, Error ellipse: s-maj=23.5km s-min=19.8km az=142.0*

*IDC **19** 18:59:34.2±2.4,18.99S×177.67W,h592^{km}±41^{km},mb3.6/7, mb1 3.8/7,mb1mx3.6/14,Error ellipse: s-maj=84.3km s-min=21.0km az=148.0*

ISC 19 18:59:33.4±1.3,19.1S±0.2×177.7W±0.1,h602^{km}±13^{km}, n22,σ0$\overset{s}{.}$76/26,mb4.5/14,1D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.28**	**287**	P	**P**	**19 01 01.5**	**0.0**
	303nm,0.7s,SNR=38						
CNB	**Canberra Magne**	**33.30**	**234**	*e*P	**P**	**19 05 24.6**	**+0.3**
	67nm,2.0s,mb4.9						
CTA	**Charters Tower**	**33.97**	**262**	*e*P	**P**	**19 05 30.6**	**+0.6**
	5.5nm,0.5s,mb4.4						
CTA	**Charters Tower**	**33.97**	**262**	P	**P**	**19 05 30.2**	**+0.3**
	10nm,0.7s,mb4.6,baz=90,slow=11,SNR=13						
CTAO	**Charters Tower**	**33.97**	**262**	⇓*e*P	**P**	**19 05 30.4**	**+0.5**
	11nm,0.8s,mb4.5						
PMG	**Port Moresby**	**35.36**	**281**	*e*P	**P**	**19 05 40.9**	**-0.6**
	25nm,0.9s,mb4.8						
TOO	**Toolangi**	**37.01**	**232**	*e*P	**P**	**19 05 55.1**	**+0.3**
	7.0nm,0.7s,mb4.3						
STKA	**Stephens Creek**	**38.71**	**243**	*e*P	**P**	**19 06 09.2**	**+0.5**
	13nm,1.0s,mb4.4						
STKA	**Stephens Creek**	**38.71**	**243**	P	**P**	**19 06 09.2**	**+0.5**
	14nm,0.7s,mb4.6,baz=89,slow=9.3,SNR=33						
WB2	**Warramunga Arr**	**45.12**	**261**	*e*P	**P**	**19 06 59.1**	**-0.3**
WB2				*e*S	**S**	**19 12 55.1**	**-1.2**
WRAB	**Tennant Creek**	**45.12**	**261**	*e*P	**P**	**19 06 58.7**	**-0.8**
	12nm,0.7s,mb4.5						
WRA	**Warramunga Arr**	**45.13**	**261**	P	**P**	**19 06 58.9**	**-0.6**
	11nm,0.7s,mb4.5,baz=98,slow=7.9,SNR=192						

WRA				S	S	19 12 57.8	+1.3
	3.0nm,1.5s,baz=95,slow=13,SNR=3.0						
ASAR	Alice Springs	45.17	255	P	P	19 06 59.6	-0.2
	22nm,0.7s,mb4.8,baz=88,slow=7.9,SNR=267						
ASAR				S	S	19 12 57.3	+0.3
	1.8nm,0.8s,baz=92,slow=14,SNR=8.9						
ASPA	Alice Springs	45.17	255	*e*P	P	19 06 59.6	-0.2
ASPA				*e*S	S	19 12 56.6	-0.5
KAKA	Kakadu	48.32	270	*e*P	P	19 07 26.0	+2.3
	20nm,0.5s,mb4.9						
FORT	Forrest	50.16	246	*e*P	P	19 07 36.0	-1.1
	37nm,0.6s,mb5.0						
FITZ	Fitzroy Crossi	53.55	261	*e*P	P	19 08 01.2	-0.1
	5.7nm,0.6s,mb4.1						
FITZ	Fitzroy Crossi	53.55	261	P	P	19 08 01.3	-0.1
	5.8nm,0.6s,mb4.1,baz=150,slow=3.0,SNR=43						
MBWA	Marble Bar	58.48	256	*e*P	P	19 08 34.7	-0.6
	5.5nm,0.6s,mb3.9						
QSPA	South Pole Qui	70.99	180	*e*P	P	19 09 52.5	+0.1
	3.1nm,0.6s,mb4.0						
ILAR	Eielson Array	86.86	13	P	P	19 11 15.3	-0.5
	0.3nm,0.8s,baz=198,slow=5.7,SNR=5.4						
CMAR	Chiang Mai Arr	89.94	289	P	P	19 11 32.6	+1.4
	0.6nm,0.5s,mb3.7,baz=115,slow=4.3,SNR=5.9						

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*NIED **19** 18:59:00,29.70N×129.20E,h190^{km},Mw4.0 Best double couple: M$_0$9.69×10^{14} NP1:φ$_s$184°,δ71°,λ-55°. NP2: φ$_s$298°,δ39°,λ-149°.*

*NEIC **19** 18:59:47.0±1.4,29.66N×129.07E,h202^{km}±13^{km},mb4.1/3, Error ellipse: s-maj=23.3km s-min=11.4km az=63.0*

*JMA **19** 18:59:47.9±0.2,29.71N×129.19E,h217^{km}±3^{km},M3.9*

*IDC **19** 18:59:47.0±1.3,29.64N×128.90E,h201^{km}±11^{km},mb3.4/5, mb1 3.6/7,mb1mx3.3/23,MS3.4/1,Ms1 3.4/1,ms1mx2.3/21, Error ellipse: s-maj=29.5km s-min=14.5km az=97.0*

ISC 19 18:59:46.3±0.4,**29.67N**±0.04×**128.91E**±0.09,**h213**^{km}±4^{km}, **n24**,σ**0**^{s}**99**/35,**mb3.6**/7,**Northwest of Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JNN	Nakanoshima	0.85	78	P	P	19 00 17.5	+0.8
JNN				S	S	19 00 40.0	-0.3
JKC	Kuchinoerabu	1.36	54	P	P	19 00 20.6	+0.2
JKC				*e*S	S	19 00 46.2	-0.5
JAM	Amami Oshima	1.40	154	P	P	19 00 21.6	+0.9
JAM				S	S	19 00 46.8	-0.4
JZK	Kikaishima	1.64	145	P	P	19 00 24.8	+2.0
JZK				S	S	19 00 52.9	+2.0
JTK	Tokunoshima	1.88	179	P	P	19 00 26.1	+1.1
JTK				S	S	19 00 54.7	-0.1
JTN	Tanegashima 3	2.04	61	P	P	19 00 26.1	-0.5
JTN				S	S	19 00 54.3	-3.3
JSJ	Shimokoshiki	2.12	19	P	P	19 00 28.1	+0.8
JSJ				*e*S	S	19 00 59.5	+0.5
JIH	Iheya	2.76	198	P	P	19 00 34.6	+0.3
JIH				*e*S	S	19 01 10.4	-1.1
JOW	Kunigami	2.89	191	P	P	19 00 35.7	-0.1
	7.6nm,0.3s,baz=109,slow=18,SNR=46						
JOW				S	S	19 01 12.5	-1.6
	48nm,0.3s,baz=136,slow=27,SNR=59						
JOW	Kunigami	2.89	191	P	P	19 00 35.7	-0.1
JOW				S	S	19 01 12.6	-1.5
JTZ	Takazaki	2.91	40	P	P	19 00 35.9	-0.1
JTZ				S	S	19 01 12.0	-2.5
JIU2	Izumi 2	3.29	29	P	P	19 00 41.3	+0.7
JIU2				S	S	19 01 21.7	-0.9
JAGN	Aguni-jima	3.41	206	P	P	19 00 41.5	-0.4
JKE	Kume jima 2	3.83	210	P	P	19 00 46.4	-0.6
JHJ	Hachijo jima 2	9.91	67	P	P	19 02 06.9	+2.0
	5.9nm,0.3s,baz=114,slow=21,SNR=3.6						
ENH	Enshi	16.84	277	*e*P	P	19 03 31.4	+0.2
	18nm,1.0s						
TGY	Tagaytay City	17.16	207	LR	LR	19 10 54.8	
	comp=Z,108nm,18.6s,baz=153,slow=39						
SONM	Songino Array	25.09	323	P	P	19 04 54.0	+1.2
	0.3nm,0.7s,mb3.1,baz=140,slow=9.6,SNR=4.2						
WRAB	Tennant Creek	49.59	173	P	P	19 08 17.3	-0.6
	3.2nm,0.7s,mb3.8						
WRA	Warramunga Arr	49.60	173	P	P	19 08 17.4	-0.6
	2.0nm,0.6s,mb3.6,baz=353,slow=8.1,SNR=8.3						
CTAO	Charters Tower	52.22	159	*e*P	P	19 08 37.6	+0.1
	3.3nm,0.6s,mb3.9						
ASAR	Alice Springs	53.25	174	P	P	19 08 45.0	-0.1
	1.9nm,0.4s,mb3.9,baz=360,slow=6.3,SNR=17						
ILAR	Eielson Array	61.14	29	P	P	19 09 38.9	-0.9
	0.3nm,0.6s,mb3.1,baz=286,slow=7.7,SNR=6.1						
STKA	Stephens Creek	62.39	168	P	P	19 09 48.2	-0.4
	1.5nm,0.4s,mb4.0,baz=352,slow=8.3,SNR=6.2						

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*IDC **19** 19:01:07.8±1.6,37.44S×179.90E,mb4.2/3,mb1 4.4/4, mb1mx4.1/11,ML4.0/1,MS3.3/1,Ms1 3.3/1,ms1mx2.7/12, Error ellipse: s-maj=67.6km s-min=33.9km az=174.0*

*WEL **19** 19:01:11.4±0.4,37.90S×179.74E,h5^{km},ML4.4/8,Error ellipse: s-maj=3.2km s-min=2.2km az=90.0*

*NEIC **19** 19:01:17.6±2.6,37.78S×179.32E,h48^{km}±18^{km},mb4.2/1, ML4.5(WEL),Error ellipse: s-maj=29.5km s-min=12.5km az=70.0*

ISC 19 19:01:10.7±1.1,**37.99S**±0.06×**179.85E**±0.06,**h25**^{km}±7^{km}, **n93**,σ**0**^{s}**98**/69,**mb4.1**/4,**MS3.3**/1,**1C-2D,Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PUZ	Puketiti	1.26	266	P*	Pb	19 01 33.7	+0.1
PUZ				S*	Sb	19 01 50.2	+0.7
PUZ	Puketiti	1.26	266	P	Pn	19 01 33.7	+0.7
PUZ				S	Sn	19 01 50.6	+1.4
MXZ	Matakaoa Point	1.29	289	P*	Pb	19 01 33.2	-1.1
MXZ				S*	Sb	19 01 49.5	-1.0
MXZ	Matakaoa Point	1.29	289	P	Pn	19 01 33.2	-0.3
MXZ				S	Sn	19 01 49.8	-0.3
MWZ	Matawai	1.86	259	PN	Pn	19 01 42.1	+0.5
MWZ				SN	Sn	19 02 04.3	-0.2
MWZ	Matawai	1.86	259	P	Pn	19 01 42.2	+0.6
KNZ	Kokohu	1.99	238	PN	Pn	19 01 44.7	+1.2
KNZ				SN	Sn	19 02 09.0	+1.2
KNZ	Kokohu	1.99	238	P	Pn	19 01 44.7	+1.2
URZ	Urewera	2.18	262	Pn	Pn	19 01 47.2	+1.1
	41nm,0.3s,baz=214,slow=1.7,SNR=193						
URZ				Sn	Sn	19 02 14.6	+2.1
	112nm,0.3s,baz=243,slow=20,SNR=61						
MARZ	Manawahe	2.51	269	PN	Pn	19 01 51.4	+0.6
MARZ	Manawahe	2.51	269	*e*P	Pn	19 01 51.4	+0.6
TAZ	Tarawera	2.65	264	PN	Pn	19 01 53.5	+0.7
TAZ				SN	Sn	19 02 24.5	0.0
TAZ	Tarawera	2.65	264	P	Pn	19 01 53.5	+0.7
PATZ	Paeroa	2.85	261	PN	Pn	19 01 56.4	+0.6
PATZ	Paeroa	2.85	261	P	Pn	19 01 56.4	+0.6
BKZ	Black Stump Fm	2.88	245	PN	Pn	19 01 56.8	+0.7
BKZ				SN	Sn	19 02 30.4	0.0
BKZ	Black Stump Fm	2.88	245	P	Pn	19 01 56.8	+0.6
BKZ				S	Sn	19 02 30.6	+0.2
UTU	Utuhina	2.89	265	PN	Pn	19 01 57.0	+0.7
UTU	Utuhina	2.89	265	*e*P	Pn	19 01 57.0	+0.7
PWZ	Pawanui	3.09	228	PN	Pn	19 01 58.4	-0.7
PWZ				SN	Sn	19 02 35.3	-0.4
PWZ	Pawanui	3.09	228	*e*P	Pn	19 01 58.4	-0.7
KAVZ	Karewarewa	3.48	250	PN	Pn	19 02 04.9	+0.3
KAVZ	Karewarewa	3.48	250	P	Pn	19 02 05.1	+0.5
MOVZ	Moawhango	3.50	245	PN	Pn	19 02 05.3	+0.4
MOVZ	Moawhango	3.50	245	P	Pn	19 02 05.1	+0.1
KUZ	Kuaotunu	3.52	289	PN	Pn	19 02 03.4	-1.7
KUZ	Kuaotunu	3.52	289	P	Pn	19 02 03.4	-1.8
WTVZ	West Tongariro	3.52	250	PN	Pn	19 02 05.5	+0.3
WTVZ	West Tongariro	3.52	250	*e*P	Pn	19 02 05.6	+0.3
TUVZ	Tukino	3.52	247	PN	Pn	19 02 06.3	+1.1
TUVZ				SN	Sn	19 02 46.2	-0.4
TUVZ	Tukino	3.52	247	*e*P	Pn	19 02 06.1	+0.8
NGZ	Ngauruhoe	3.53	249	PN	Pn	19 02 05.7	+0.3
NGZ				SN	Sn	19 02 45.6	-1.3
NGZ	Ngauruhoe	3.53	249	*e*P	Pn	19 02 05.6	+0.2
CNZ	Chateau	3.58	249	PN	Pn	19 02 06.5	+0.5
CNZ	Chateau	3.58	249	*e*P	Pn	19 02 06.3	+0.2
WPVZ	Whakapapa	3.58	249	PN	Pn	19 02 06.3	+0.2
WPVZ				SN	Sn	19 02 47.9	-0.2
WPVZ	Whakapapa	3.58	249	*e*P	Pn	19 02 06.3	+0.2
WNVZ	Wahianoa	3.58	247	PN	Pn	19 02 06.4	+0.3
WNVZ				SN	Sn	19 02 47.8	-0.4
WNVZ	Wahianoa	3.58	247	*e*P	Pn	19 02 06.3	+0.2
TSZ	Takapari Road	3.67	234	PN	Pn	19 02 05.9	-1.4
TSZ				SN	Sn	19 02 48.9	-1.3
TSZ	Takapari Road	3.67	234	*e*P	Pn	19 02 06.1	-1.2
BFZ	Birch Farm	3.88	225	PN	Pn	19 02 08.4	-1.9
BFZ				SN	Sn	19 02 52.6	-2.9
BFZ	Birch Farm	3.88	225	P	Pn	19 02 08.4	-1.9
BFZ				S	Sn	19 02 53.8	-1.7
WAZ	Wanganui	4.18	244	PN	Px	19 02 15.2	
WAZ				SN	Sx	19 03 04.3	
WAZ	Wanganui	4.18	244	*e*P	Px	19 02 15.2	
MRZ	Mangatainoka R	4.25	230	PN	Px	19 02 13.9	
MRZ				SN	Sx	19 03 02.5	
MRZ	Mangatainoka R	4.25	230	P	Px	19 02 13.9	
RAEZ	Rainy Point	4.46	251	PN	Px	19 02 19.4	
RAEZ	Rainy Point	4.46	251	*e*P	Px	19 02 19.4	
MTW	Mount Morrison	4.61	225	PN	Px	19 02 17.7	
MTW				SN	Sx	19 03 10.2	
MTW	Mount Morrison	4.61	225	*e*P	Px	19 02 17.7	
NEZ	North Egmont	4.68	252	PN	Px	19 02 21.6	
NEZ	North Egmont	4.68	252	*e*P	Px	19 02 22.5	
KIW	Kapiti Island	4.78	232	PN	Px	19 02 21.3	
KIW				SN	Sx	19 03 15.3	
KIW	Kapiti Island	4.78	232	*e*P	Px	19 02 21.3	
PAWZ	Paruwai Farm	4.81	224	PN	Px	19 02 20.5	
PAWZ				SN	Sx	19 03 14.9	
CAW	Cannon Point	4.83	228	PN	Px	19 02 21.3	
CAW	Cannon Point	4.83	228	*e*P	Px	19 02 21.3	
MSWZ	Moikau Station	4.93	225	PN	Px	19 02 21.3	
MSWZ				SN	Sx	19 03 18.3	
MSWZ	Moikau Station	4.93	225	*e*P	Px	19 02 21.3	
MRW	Makara Radio	5.12	229	PN	Px	19 02 25.0	
MRW				SN	Sx	19 03 22.9	
MRW	Makara Radio	5.12	229	*e*P	Px	19 02 25.0	
SNZO	South Karori	5.17	229	PN	Px	19 02 25.6	
SNZO				SN	Sx	19 03 23.6	
SNZO	South Karori	5.17	229	*e*P	Px	19 02 25.6	
NNZ	Nelson	5.94	235	PN	Px	19 02 36.8	
NNZ	Nelson	5.94	235	*e*P	Px	19 02 36.7	
QRZ	Quartz Range	6.33	241	PN	Px	19 02 41.3	
QRZ				SN	Sx	19 03 51.3	
QRZ	Quartz Range	6.33	241	*e*P	Px	19 02 41.3	
THZ	Tophouse	6.54	233	PN	Px	19 02 44.0	
KHZ	Kahutara	6.55	226	PN	Px	19 02 43.3	
KHZ				SN	Sx	19 03 55.3	
KHZ	Kahutara	6.55	226	*e*P	Px	19 02 43.3	
DSZ	Denniston Nort	7.24	236	SN	Px	19 04 12.0	
LTZ	Lake Taylor	7.51	228	PN	Px	19 02 58.4	
LTZ				SN	Sx	19 04 17.7	
LTZ	Lake Taylor	7.51	228	*e*P	Px	19 02 57.6	
MQZ	McQueen's Vall	7.89	221	SN	Px	19 04 25.0	
WVZ	Waitaha Valley	8.60	231	SN	Px	19 04 43.4	
RPZ	Rata Peaks	8.78	227	SN	Px	19 04 47.5	
ODZ	Otahua Downs	9.86	221	PN	Px	19 03 29.0	
ODZ	Otahua Downs	9.86	221	*e*P	Px	19 03 29.0	
CTA	Charters Tower	34.12	292	LR	LR	19 20 19.2	
	comp=Z,60nm,21.9s,MS3.3,baz=48,slow=34						
ASAR	Alice Springs	41.55	277	P	P	19 08 56.9	-1.0
	2.4nm,0.6s,mb4.0,baz=126,slow=8.0,SNR=8.0						
WRA	Warramunga Arr	43.22	281	P	P	19 09 10.3	-1.3
	2.9nm,0.9s,mb4.0,baz=124,slow=7.5,SNR=6.5						
FITZ	Fitzroy Crossi	51.04	277	P	P	19 10 11.8	-1.2
	2.4nm,0.8s,mb4.2,baz=145,slow=12,SNR=2.5						
QSPA	South Pole Qui	52.14	180	*e*P	P	19 10 25.1	+4.5
	2.2nm,0.8s,mb4.1						
SNAA	Sanae	70.62	179		P	19 12 28.0	+2.6
VNA3	Neumayer Olymp	70.86	177	⇓*i*	P	19 12 32.4	+5.6
VNA2	Neumayer--Watz	71.27	177	⇓*i*	P	19 12 35.2	+5.9
VNA1	Neumayer--Stat	71.51	177	⇑*i*	P	19 12 37.3	+6.6
ARCES	ARCESS Array B	145.52	344	PKP	PKPdf	19 20 47.4	-2.7
	7.5nm,1.1s,baz=27,slow=2.0,SNR=6.0						
ARCES	ARCESS Array B	145.52	344	PKP	PKPdf	19 20 47.4	-2.7
DBIC	Dimbokro	148.53	171	PKPbc	PKPdf	19 20 57.9	+1.1
	2.8nm,0.8s,baz=124,slow=7.0,SNR=3.9						
DBIC	Dimbokro	148.53	171	PKPbc	PKPdf	19 20 57.9	+1.1
FINES	FINESS Array B	151.42	334	PKPbc	PKPdf	19 20 59.6	-0.2
	6.4nm,1.1s,baz=63,slow=4.3,SNR=4.5						

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*NEIC **19** 19:01:15.5,34.95S×70.53W,h3^{km},ML3.8(GUC),After GUC.*

*GUC **19** 19:01:15.5±0.8,34.95S×70.53W,h3^{km},MD4.2,ML3.8*

ISC 19 19:01:14.4±0.5,**34.99S**±0.02×**70.47W**±0.07,**h3**^{km},**n25**, σ**0**^{s}**86**/40,**11C-6D,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFDO	San Fernando	0.58	310	⇑*i*P	Pg	19 01 25.7	-0.3
CICH	Cipreses	0.67	4	⇓*i*P	Pg	19 01 27.4	-0.4
CACH	El Canelo	0.88	353	⇑*i*P	Pg	19 01 31.0	-0.9
CACH				*i* S	Sg	19 01 43.5	-0.1
CHCH	Chadas Angostu	1.06	352	⇓*i*P	Pb	19 01 34.5	-0.6
CHCH				*i* S	Sb	19 01 49.6	+0.4
LMEL	Las Melosas	1.16	11	⇑*i*P	Pb	19 01 36.1	-0.6
LMEL				*i* S	Sb	19 01 52.7	+0.7
LMEL				AMP		19 01 54.8	
	comp=E,1μm,0.5s						
LNV	Longovilo	1.29	323	⇑*i*P	Pb	19 01 38.0	-1.0
LNV				*i* S	Sb	19 01 55.6	-0.2
SJCH	San Jose de Ma	1.35	4	*e*P	Pb	19 01 39.0	-0.9
SJCH				*i* S	Sb	19 01 58.0	+0.5
SJCH				AMP		19 02 04.0	
	comp=E,2μm,0.6s						
PCH	Pirque	1.37	359	⇓*i*P	Pb	19 01 39.6	-0.6
PCH				*i* S	Sb	19 01 58.4	+0.4
TACH	Talagante	1.39	344	⇓*i*P	Pb	19 01 39.8	-0.8
TACH				*i* S	Sb	19 01 58.2	-0.4
ANTU	Antumapu	1.42	355	⇑*i*P	Pn	19 01 41.0	-0.2
ANTU				*i* S	Sb	19 02 00.7	+1.1
ANTU				AMP		19 02 02.4	
	comp=E,4μm,0.5s						
RCDM	Rinconada Maip	1.52	349	*e*P	Pn	19 01 42.2	-0.4
RCDM				*e*S	Sb	19 02 02.4	-0.1
RCDM				AMP		19 02 05.6	
	comp=E,2μm,0.5s						
SAN	Santiago	1.54	354	⇑*i*P	Pn	19 01 43.0	+0.1
SAN				*i* S	Sb	19 02 04.1	+1.0
SAN				AMP		19 02 06.8	
	comp=E,3μm,0.5s						
STL	Santa Lucia	1.56	355	⇓*i*P	Pn	19 01 43.0	-0.1
STL				*i* S	Sb	19 02 03.3	-0.2
STL				AMP		19 02 05.9	
	comp=E,1μm,0.3s						
DSCH	Colegio Aleman	1.59	357	*e*P	Pn	19 01 43.6	0.0
DSCH				AMP		19 02 07.4	
	comp=E,4μm,0.5s						
CLCH	Cerro Calan	1.59	358	⇑*i*P	Pn	19 01 43.7	+0.1
CLCH				*i* S	Sb	19 02 04.5	0.0
CLCH				AMP		19 02 11.3	
	comp=E,4μm,0.6s						
CLCH				AMP		19 02 11.8	
	comp=E,5μm,0.6s						
FCH	Farellones	1.67	5	⇑*i*P	Pn	19 01 45.0	+0.4
FCH				*i* S	Sb	19 02 07.5	+0.9
FCH				AMP		19 02 11.3	
	comp=E,2μm,0.5s						
LCCH	Las Cruces	1.76	329	*e*P	Pn	19 01 45.9	-0.2
CCHI	Chillan	2.07	219	⇓*i*P	Pn	19 01 50.6	+0.1
CCHI				*i* S	Sn	19 02 18.3	+1.2
CCHI				AMP		19 02 29.9	
	comp=N,1μm,0.7s						
CCHI				AMP		19 02 30.1	
	comp=N,2μm,0.8s						
IHA	Instituto Hidr	2.19	333	*e*P	Pn	19 01 52.5	+0.4
MDZ	Mendoza	2.50	33	*e*P	Pn	19 02 02.3	+5.8
MDZ				*e*		19 02 52.3	
TRQA	Tornquist	7.49	117	*e*Pn	Pn	19 03 05.0	-2.3
TRQA				S	Sb	19 05 00.2	+4.4
VNA3	Neumayer Olymp	47.96	158		P	19 09 57.8	+2.1
VNA1	Neumayer--Stat	48.26	157	⇑*i*	P	19 09 55.3	-2.7
VNA2	Neumayer--Watz	48.60	157	⇑*i*	P	19 10 04.1	+3.5
SNAA	Sanae	50.18	158	⇑*i*	P	19 10 12.5	-0.3

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*STR **19** 19:23:54.7±0.2,43.04N×0.15W,h10^{km}±1^{km},Ml2.0,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LDG **19** 19:23:55.7±0.1,43.02N×0.15W,h2^{km},Md1.8/2,Ml1.7/2, Error ellipse: s-maj=2.4km s-min=1.1km az=3.0*

ISC 19 19:23:54.9±0.5,**43.10N**±0.04×**0.13W**±0.03,**h2**^{km},**n9**, σ**0**^{s}**72**/17,**Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LABF	Labassere	0.16	109	Pg	Pg	19 23 59.1	+1.0
LABF				Sg	Sg	19 24 01.8	+1.5
REYF	Montagne du Re	0.19	261	Pg	Pg	19 23 59.4	+0.6
REYF				Sg	Sg	19 24 02.6	+1.3
VIEF	Viey	0.24	152	Pg	Pg	19 23 59.7	-0.1
VIEF				Sg	Sg	19 24 02.6	-0.4
EPF	Esparros	0.35	101	*e*Pg	Pg	19 24 02.4	+0.4
EPF				*e*Sg	Sg	19 24 06.7	0.0
	5.0nm,0.2s						
ETSF	Etsaut	0.37	238	*e*Pg	Pg	19 24 02.2	-0.1
ETSF				*e*Sg	Sg	19 24 06.8	-0.5
	11nm,0.3s						
RESF	Ens	0.45	130	Pg	Pg	19 24 03.9	0.0
RESF				Sg	Sg	19 24 09.5	-0.5
SJPF	Ste Jean	0.80	271	*e*Pg	Pg	19 24 10.4	-0.5
SJPF				*e*Sg	Sg	19 24 20.7	-0.8
	0.9nm,0.2s						
MTLF	Montolieu	1.73	81	*e*Pg	Pg	19 24 28.8	-0.8
MTLF				*e*Sg	Sg	19 24 51.5	-1.2
	0.6nm,0.2s						
LFF	La Frestale	1.94	19	*e*Sg	Sg	19 24 59.8	+0.1
	1.9nm,0.3s						

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*NEIC **19** 19:32:05.0,18.13N×103.47W,h10^{km},MD4.2(MEX),After MEX.*

MEX 19 19:32:04.7±1.1,**18.12N**×**103.47W**,**h9**^{km}±17^{km},**MD4.2**, **Near coast of Michoacan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CGX	Ciudad Guzman	1.56	359	*i* P	Pn	19 32 29.5	-3.3
CGX				*i* S	Sb	19 32 48.0	-5.1
ZIIG	Zihuatanejo	1.98	105	*e*P	Pn	19 32 34.1	-4.7
ZIIG				*i* S	Sn	19 32 59.6	-4.3
ZIIG	Zihuatanejo	1.98	105	*e*P	Pn	19 32 34.1	-4.7
ZIIG				*i* S	Sn	19 33 00.7	-3.2
CJM	Chamela	2.02	313	*i* P	Pn	19 32 35.7	-3.7
CJM				*i* S	Sn	19 33 00.1	-4.9
SFJM	Santa Fe	2.39	10	*i* P	Pn	19 32 41.0	-3.6
SFJM				*i* S	Sn	19 33 09.0	-5.3
MOIG	Morelia	2.66	54	*i* P	Pn	19 32 46.9	-1.6
MOIG				*i* S	Sn	19 33 14.8	-6.4
ACX	Acapulco	3.62	110	*e*P	Pn	19 33 00.0	-2.1
PLIG	Platanillo	3.78	85	*e*P	Pn	19 33 02.2	-2.2
PLIG				*i* S	Sn	19 33 44.4	-5.2
UNM	Universidad Na	4.25	73	*e*P	Pn	19 33 08.0	-3.0
PPM	Popocatepetl	4.69	78	*e*P	Pn	19 33 20.0	+2.6
PPM				*i* S	Sn	19 34 10.0	-2.6
IISM	Ciudad Serdan	5.85	81	*e*P	Pn	19 33 40.0	+6.3
VHO	Vista Hermosa	6.51	98	*e*S	Sn	19 34 58.9	+0.6
OXX	Oaxaca	6.52	98	*e*P	Pn	19 33 40.0	-3.2

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*LDG **19** 19:35:19.7±0.3,42.88N×1.48W,h2^{km},Ml1.8/11,Error ellipse: s-maj=5.9km s-min=4.5km az=45.0*

MDD 19 19:35:20.5±0.6,**42.86N**×**1.40W**,**h6**^{km}±4^{km},**mbLg1.2**/4, **Error ellipse: s-maj=4.4km s-min=3.4km az=56.0, AftershockPLICA PRXIMO,Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	Ste Jean	0.28	27	*e*Pg	Pg	19 35 26.1	-0.1
SJPF				*e*Sg	Sg	19 35 29.0	-1.0
	20nm,0.3s						
EALK	Alkurruntz	0.36	347	Pg	Pg	19 35 27.3	-0.6
	1.2nm,0.2s,SNR=5.4						
EALK				Lg		19 35 33.0	
	12nm,0.3s,SNR=7.2						
ETSF	Etsaut	0.62	87	*e*Pg	Pg	19 35 31.8	-1.1
ETSF				*e*Sg	Sg	19 35 40.6	-0.5
ETSF				*e*Sn	Sn	19 35 42.6	-3.1
	2.2nm,0.2s						
EPF	Esparros	1.29	82	*e*Pn	Pn	19 35 44.0	-1.0
EPF				*e*Pg	Pg	19 35 46.3	+0.1
EPF				*e*Sg	Sg	19 36 02.0	-1.4
	3.1nm,0.4s						
ESAC	San Caprasio	1.33	149	Pg	Pg	19 35 44.6	-2.5
	0.8nm,0.1s,SNR=7.9						
ESAC				Lg		19 36 02.6	
	6.4nm,0.2s,SNR=7.9						
ELAN	Lanestosa	1.54	285	Pg	Pg	19 35 48.2	-3.1
	0.3nm,0.2s,SNR=7.9						
ELAN				Lg		19 36 09.5	
	0.8nm,0.2s,SNR=4.0						
ETOR	Torete	2.10	194	Pn	Pn	19 35 55.5	-1.2
	SNR=7.9						
ETOR				Lg		19 36 23.6	
	SNR=7.9						
LFF	La Frestale	2.59	36	*e*Pn	Pn	19 36 01.3	-2.3
LFF				*e*Sn	Sn	19 36 32.0	-3.7
LFF				*e*Sg	Sg	19 36 40.4	-6.2
	1.6nm,0.4s						
EMOS	Mosqueruela	2.59	164	Pg	Pg	19 36 07.3	-5.0
	0.1nm,0.2s,SNR=7.9						
EMOS				Lg		19 36 41.3	
	0.9nm,0.3s,SNR=5.0						
MTLF	Montolieu	2.69	79	*e*Pn	Pn	19 36 04.0	-1.1
MTLF				*e*Sn	Sn	19 36 35.8	-2.5
	0.3nm,0.3s						
RJF	Les Rejaudoux	3.22	40	*e*Pn	Pn	19 36 09.6	-3.0
RJF				*e*Sn	Sn	19 36 47.1	-4.6
	0.6nm,0.3s						
CAF	Calviac	3.24	49	*e*Pn	Pn	19 36 10.3	-2.6
CAF				*e*Sn	Sn	19 36 48.2	-4.1
	0.5nm,0.2s						
MFF	Saint Martin d	3.84	13	*e*Pn	Pn	19 36 18.5	-3.0
MFF				*e*Pg	Pg	19 36 30.5	-6.7
MFF				*e*Sn	Sn	19 37 01.9	-5.6
	0.2nm,0.2s						
MFF				*e*Sg	Sg	19 37 20.7	-7.8
LASF	Ste Croix	4.01	71	*e*Sn	Sn	19 37 07.0	-4.8
	1.3nm,0.4s						
BGF	Bois d'Agland	4.77	38	*e*Pn	Pn	19 36 30.3	-4.4
BGF				*e*Sn	Sn	19 37 23.9	-7.2
	0.2nm,0.2s						
VIVF	Saint-Julien-l	4.82	64	*e*Pn	Pn	19 36 32.2	-3.2
VIVF				*e*Sn	Sn	19 37 25.4	-6.8
	0.6nm,0.3s						
AVF	Avril sur Loir	5.18	39	*e*Pn	Pn	19 36 35.8	-4.6
AVF				*e*Sn	Sn	19 37 33.3	-8.0
	0.2nm,0.2s						

MDD 19 19:35:58.7±0.8,**42.85N**×**1.45W**,**mbLg1.2**/1,**Error ellipse: s-maj=11.1km s-min=4.8km az=74.0,PRXIMO AftershockPLICA,Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EALK	Alkurruntz	0.37	353	Pg	Pg	19 36 05.1	-1.0
	0.8nm,0.1s,SNR=7.9						
EALK				Lg		19 36 10.9	
	6.5nm,0.2s,SNR=7.9						
ESAC	San Caprasio	1.34	147	Pg	Pg	19 36 23.8	-1.8
	SNR=7.9						
ESAC				Lg		19 36 41.3	
	SNR=7.9						
ELAN	Lanestosa	1.51	285	Pg	Pg	19 36 26.3	-2.5
	SNR=4.0						
ELAN				Lg		19 36 47.1	
	0.6nm,0.1s,SNR=5.0						

IDC 19 19:42:18.9±8.0,**10.97S**×**123.76E**,**h127**^{km}±96^{km},**mb3.2**/2, **mb1 3.2**/5,**mb1mx3.2**/12,**ML3.4**/3,**Error ellipse: s-maj=68.4km s-min=46.2km az=27.0,Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	7.32	166	P	P	19 44 02.4	-2.1
	0.6nm,0.3s,baz=359,slow=12,SNR=10						
FITZ				S	S	19 45 28.1	+1.5
	2.1nm,0.3s,baz=131,slow=5.1,SNR=7.8						
WRA	Warramunga Arr	13.54	132	P	P	19 45 24.3	-2.7
	0.3nm,0.3s,baz=301,slow=13,SNR=9.3						
WRA				S	S	19 47 52.8	-1.8
	0.5nm,0.3s,baz=310,slow=25,SNR=8.2						
ASAR	Alice Springs	15.90	144	P	P	19 45 57.0	+0.2
	0.2nm,0.3s,baz=316,slow=11,SNR=17						
ASAR				S	S	19 48 50.5	+1.6
	0.1nm,0.3s,baz=312,slow=21,SNR=4.9						
SONM	Songino Array	60.54	347	P	P	19 52 16.8	-1.4
	0.1nm,0.3s,baz=166,slow=5.7,SNR=3.0						
MKAR	Makanchi Array	68.40	331	P	P	19 53 06.3	-2.6
	0.7nm,0.5s,baz=138,slow=7.1,SNR=15						

*NEIC **19** 19:47:57.9, 18.30N×103.35W, h34^{km}, MD4.0(MEX), After MEX.*
*MEX **19** 19:47:57.7±1.0, 18.29N×103.36W, h17^{km}±17^{km}, MD4.0*
ISC 19 19:47:54.1±1.0**, 18.33N**±0.06×**103.36W**±0.06**, h17^{km}, n8, σ1^{s}19**/14**, Near coast of Michoacan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CGX	**Ciudad Guzman**	**1.36**	**354**	*i*P	**Pn**	**19 48 20.0**	**+1.5**
CGX				*i*S	**Sb**	**19 48 35.0**	**-0.8**
ZIIG	**Zihuatanejo**	**1.94**	**111**	*e*P	**Pn**	**19 48 26.3**	**-0.4**
ZIIG				*i*S	**Sn**	**19 48 49.1**	**-1.8**
CJM	**Chamela**	**1.98**	**306**	*i*P	**Pn**	**19 48 27.1**	**-0.1**
CJM				*i*S	**Sn**	**19 48 50.9**	**-0.9**
SFJM	**Santa Fe**	**2.17**	**8**	*i*P	**Pn**	**19 48 31.5**	**+1.5**
SFJM				*i*S	**Sn**	**19 48 56.0**	**-0.7**
MOIG	**Morelia**	**2.45**	**56**	*i*P	**Pn**	**19 48 34.2**	**+0.1**
MOIG				*i*S	**Sn**	**19 49 03.5**	**-0.4**
MOIG	**Morelia**	**2.45**	**56**	*i*P	**Pn**	**19 48 32.6**	**-1.5**
MOIG				*i*S	**Sn**	**19 49 03.5**	**-0.4**
UNM	**Universidad Na**	**4.08**	**75**	*e*P	**Pn**	**19 49 00.0**	**+2.7**
PPM	**Popocatepetl**	**4.54**	**80**	*e*P	**Pn**	**19 49 05.0**	**+1.2**

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*LDG **19** 19:56:26.4±0.3, 42.87N×1.49W, h2^{km}, Md2.4/2, Ml2.1/12, Error ellipse: s-maj=5.6km s-min=3.6km az=46.0*
*STR **19** 19:56:26.4±1.0, 42.88N×1.50W, h5^{km}±1^{km}, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD 19 19:56:27.7±0.5**, 42.88N×1.41W, h7^{km}**±3^{km}**, mbLg1.6**/7**, Error ellipse: s-maj=3.5km s-min=2.7km az=49.0, AftershockPLICA PRXIMO, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJPF	**Ste Jean**	**0.27**	**30**	*e*Pg	Pg	19 56 32.9	-0.4
SJPF				*e*Sg	Sg	19 56 35.6	-1.4
	57nm,0.3s						
EALK	**Alkurruntz**	**0.35**	**348**	Pg	Pg	19 56 34.2	-0.6
	1.7nm,0.1s,SNR=7.9						
EALK				Lg		19 56 40.0	
	27nm,0.3s,SNR=7.9						
LARF	**Larrau**	**0.35**	**62**	Pg	Pg	19 56 34.2	-0.6
LARF				Sg	Sg	19 56 39.9	+0.4
LARF	**Larrau**	**0.35**	**62**	P	Pg	19 56 34.0	-0.8
LARF				S	Sg	19 56 39.9	+0.4
OSSF	**Osses**	**0.40**	**16**	Pg	Pg	19 56 34.9	-0.8
OSSF	**Osses**	**0.40**	**16**	P	Pg	19 56 34.9	-0.7
OSSF				S	Sg	19 56 41.0	0.0
ATE	**Arette**	**0.56**	**68**	P	Pg	19 56 38.0	-0.9
ATE				S	Sg	19 56 46.2	-0.3
FDAF	**Les Forges d’A**	**0.62**	**95**	Pg	Pg	19 56 39.2	-1.0
FDAF				Sg	Sg	19 56 49.7	+1.2
FDAF	**Les Forges d’A**	**0.62**	**95**	P	Pg	19 56 39.3	-0.9
FDAF				S	Sg	19 56 48.2	-0.3
ETSF	**Etsaut**	**0.63**	**88**	*e*Pg	Pg	19 56 38.6	-1.6
ETSF				*e*Sg	Sg	19 56 47.2	-1.4
ETSF				*e*Sn	Sn	19 56 49.3	-3.6
	7.8nm,0.2s						
VIEF	**Viey**	**1.05**	**89**	S	Sb	19 57 03.1	+1.5
RESF	**Ens**	**1.29**	**92**	S	Sb	19 57 09.0	+0.6
EPF	**Esparros**	**1.29**	**83**	*e*Pn	Pn	19 56 50.8	-1.4
EPF				*e*Pg	Pg	19 56 53.0	-0.6
EPF				*e*Sg	Sg	19 57 08.9	-1.9
	6.6nm,0.2s						
ESAC	**San Caprasio**	**1.35**	**148**	Pg	Pg	19 56 52.1	-2.5
	4.8nm,0.2s,SNR=7.9						
ESAC				Lg		19 57 10.1	
	19nm,0.3s,SNR=7.9						
ELAN	**Lanestosa**	**1.52**	**284**	Pg	Pg	19 56 55.3	-2.9
	0.6nm,0.1s,SNR=7.9						
ELAN				Lg		19 57 16.1	
	1.3nm,0.2s,SNR=7.9						
SALF	**Salau**	**1.92**	**93**	S	Sn	19 57 28.1	+2.5
ETOR	**Torete**	**2.11**	**193**	Pg	Pg	19 57 06.8	-3.1
	2.2nm,0.4s,SNR=9.0						
ETOR				Lg		19 57 33.6	
	2.8nm,0.5s,SNR=5.0						
EPOB	**Poblet**	**2.40**	**129**	Pn	Pn	19 57 07.1	-0.8
	SNR=7.9						
EPOB				Lg		19 57 44.2	
	1.6nm,0.2s,SNR=7.9						
LFF	**La Frestale**	**2.58**	**36**	*e*Pn	Pn	19 57 08.0	-2.6
LFF				*e*Sn	Sn	19 57 38.7	-3.9
	1.6nm,0.3s						
LFF				*e*Sg	Sg	19 57 47.3	-6.4
EMOS	**Mosqueruela**	**2.61**	**164**	Pn	Pn	19 57 09.7	-1.2
	SNR=4.0						
EMOS				Pg	Pg	19 57 19.8	0.0
	SNR=7.9						
EMOS				Lg		19 57 49.8	
	0.4nm,0.1s,SNR=4.0						
MTLF	**Montolieu**	**2.70**	**79**	*e*Pn	Pn	19 57 10.7	-1.5
MTLF				*e*Sn	Sn	19 57 42.7	-2.8
	1.3nm,0.3s						
RJF	**Les Rejaudoux**	**3.22**	**40**	*e*Pn	Pn	19 57 16.3	-3.3
RJF				*e*Sn	Sn	19 57 53.9	-4.7
	1.4nm,0.3s						
CAF	**Calviac**	**3.24**	**50**	*e*Pn	Pn	19 57 16.9	-3.1
CAF				*e*Sn	Sn	19 57 54.9	-4.4
	0.8nm,0.2s						
MFF	**Saint Martin d**	**3.83**	**13**	*e*Pn	Pn	19 57 25.4	-3.0
MFF				*e*Pg	Pg	19 57 37.2	-7.0
MFF				*e*Sn	Sn	19 58 08.7	-5.5
MFF				*e*Sg	Sg	19 58 27.5	-7.8
	0.4nm,0.3s						
LASF	**Ste Croix**	**4.02**	**71**	*e*Pn	Pn	19 57 28.1	-2.9
LASF				*e*Sn	Sn	19 58 13.7	-5.2
	0.7nm,0.3s						
TCF	**Toulx Ste Croi**	**4.28**	**36**	*e*Sn	Sn	19 58 19.3	-6.3
	0.7nm,0.3s						
BGF	**Bois d’Agland**	**4.77**	**38**	*e*Pn	Pn	19 57 37.1	-4.6
BGF				*e*Sn	Sn	19 58 30.6	-7.3
	1.7nm,0.3s						
VIVF	**Saint-Julien-l**	**4.82**	**64**	*e*Sn	Sn	19 58 32.1	-7.2
	0.3nm,0.2s						
AVF	**Avril sur Loir**	**5.18**	**39**	*e*Pn	Pn	19 57 42.6	-4.8
AVF				*e*Sn	Sn	19 58 40.1	-8.1
	0.3nm,0.2s						

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*NEIC **19** 19:57:54.8, 35.01S×70.58W, h5^{km}, ML3.4(GUC), After GUC.*
GUC 19 19:57:54.8±0.7**, 35.01S×70.58W, h5^{km}, MD3.9, ML3.4, 6C-5D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFDO	**San Fernando**	**0.53**	**318**	⇓*i*P	Pg	19 58 05.4	0.0
SFDO				*i*S	Sg	19 58 13.6	+1.1
CICH	**Cipreses**	**0.70**	**11**	⇓*i*P	Pg	19 58 07.1	-1.7
CICH				*i*S	Sg	19 58 17.3	-0.9
CACH	**El Canelo**	**0.89**	**359**	⇑*i*P	Pb	19 58 10.7	-1.6
CACH				*i*S	Sb	19 58 23.4	-0.9
CHCH	**Chadas Angostu**	**1.08**	**357**	⇓*i*P	Pb	19 58 14.3	-1.2
CHCH				*i*S	Sb	19 58 30.1	+0.4
LMEL	**Las Melosas**	**1.20**	**15**	⇑*i*P	Pb	19 58 15.9	-1.8
LMEL				*i*S	Sb	19 58 32.7	-0.6
LMEL				AMP		19 58 38.8	
	comp=N,707nm,0.2s						
LNV	**Longovilo**	**1.25**	**327**	⇑*i*P	Pb	19 58 17.6	-0.9
LNV				*i*S	Sb	19 58 35.3	+0.4
TACH	**Talagante**	**1.39**	**348**	⇓*i*P	Pb	19 58 19.5	-1.3
TACH				*i*S	Sb	19 58 38.8	+0.1
PCH	**Pirque**	**1.39**	**2**	⇑*i*P	Pb	19 58 19.8	-1.1
PCH				*i*S	Sb	19 58 38.9	+0.2
ANTU	**Antumapu**	**1.44**	**358**	*e*P	Pn	19 58 20.6	-1.0
ANTU				*i*S	Sb	19 58 40.2	0.0
ANTU				AMP		19 58 42.0	
	comp=E,1µm,0.7s						
FSR	**Penalolen**	**1.53**	**2**	*e*P	Pn	19 58 22.1	-0.8
FSR				*i*S	Sb	19 58 43.3	+0.5
FSR				AMP		19 58 44.6	
	comp=E,800nm,0.2s						
RCDM	**Rinconada Maip**	**1.53**	**353**	*e*P	Pn	19 58 22.1	-0.8
RCDM				*i*S	Sb	19 58 43.0	+0.1
RCDM				AMP		19 58 44.8	
	comp=E,887nm,0.1s						
DSCH	**Colegio Aleman**	**1.61**	**0**	*e*P	Pn	19 58 23.2	-0.8
DSCH				*i*S	Sb	19 58 46.0	+0.8
DSCH				AMP		19 58 58.4	
	comp=N,2µm,0.5s						
CLCH	**Cerro Calan**	**1.61**	**1**	⇑*i*P	Pn	19 58 23.6	-0.5
CLCH				*i*S	Sb	19 58 45.7	+0.5
CLCH				AMP		19 58 47.7	
	comp=E,1µm,0.4s						
FCH	**Farellones**	**1.70**	**8**	*e*P	Pn	19 58 24.8	-0.5
FCH				*i*S	Sn	19 58 48.4	+0.8
LCCH	**Las Cruces**	**1.73**	**332**	⇓*i*P	Pn	19 58 25.6	-0.2
PEL	**Peldehue**	**1.86**	**357**	*e*P	Pn	19 58 27.9	+0.2
JACH	**Jahuel**	**2.32**	**360**	⇑*i*P	Pn	19 58 35.0	+0.8
MDZ	**Mendoza**	**2.56**	**35**	*e*P	Pn	19 58 41.3	+3.6

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*STR **19** 19:58:25.8±0.6, 42.85N×1.48W, h5^{km}±1^{km}, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **19** 19:58:26.1±0.3, 42.86N×1.47W, h2^{km}, Md2.4/2, Ml2.2/12, Error ellipse: s-maj=5.6km s-min=3.5km az=49.0*
MDD 19 19:58:27.1±0.5**, 42.88N×1.43W, h7^{km}**±3^{km}**, mbLg1.9**/9**, Error ellipse: s-maj=3.6km s-min=3.2km az=86.0, AftershockPLICA PRXIMO, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJPF	**Ste Jean**	**0.27**	**33**	*e*Pg	Pg	19 58 32.6	-0.2
SJPF				*e*Sg	Sg	19 58 35.5	-1.0
	106nm,0.3s						
LARF	**Larrau**	**0.36**	**65**	Pg	Pg	19 58 33.5	-0.9
LARF				Sg	Sg	19 58 39.6	+0.3
LARF	**Larrau**	**0.36**	**65**	P	Pg	19 58 34.0	-0.4
LARF				S	Sg	19 58 39.6	+0.3
OSSF	**Osses**	**0.39**	**18**	Pg	Pg	19 58 34.6	-0.5
OSSF	**Osses**	**0.39**	**18**	P	Pg	19 58 34.6	-0.4
OSSF				S	Sg	19 58 40.0	-0.3
ORDF	**Ordiarp**	**0.49**	**48**	P	Pg	19 58 36.5	-0.5
ATE	**Arette**	**0.57**	**69**	P	Pg	19 58 37.9	-0.8
ATE				S	Sg	19 58 45.9	-0.4
FDAF	**Les Forges d’A**	**0.64**	**96**	Pg	Pg	19 58 38.6	-1.3
FDAF				Sg	Sg	19 58 48.3	-0.2
FDAF	**Les Forges d’A**	**0.64**	**96**	P	Pg	19 58 38.7	-1.2
FDAF				S	Sg	19 58 48.2	-0.2
ETSF	**Etsaut**	**0.64**	**88**	*e*Pg	Pg	19 58 38.3	-1.7
ETSF				*e*Sg	Sg	19 58 47.0	-1.6
ETSF				*e*Sn	Sn	19 58 49.0	-3.7
	12nm,0.2s						
VIEF	**Viey**	**1.07**	**90**	S	Sb	19 59 01.5	0.0
RESF	**Ens**	**1.30**	**93**	S	Sb	19 59 08.7	+0.4
EPF	**Esparros**	**1.31**	**83**	*e*Pn	Pn	19 58 50.5	-1.3
EPF				*e*Pg	Pg	19 58 52.8	-0.5
EPF				*e*Sg	Sg	19 59 08.6	-2.1
	12nm,0.2s						
ESAC	**San Caprasio**	**1.36**	**148**	Pg	Pg	19 58 51.0	-3.3
	5.2nm,0.2s,SNR=7.9						
ESAC				Lg		19 59 09.4	
	34nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**1.51**	**284**	Pg	Pg	19 58 54.7	-2.6
	0.3nm,0.1s,SNR=7.9						
ELAN				Lg		19 59 15.6	
	4.1nm,0.2s,SNR=7.9						
MELF	**Melles**	**1.61**	**90**	S	Sb	19 59 19.1	+1.9
SALF	**Salau**	**1.93**	**93**	S	Sn	19 59 26.6	+1.1
ETOR	**Torete**	**2.12**	**193**	Pn	Pn	19 59 02.9	-0.5
	3.9nm,0.3s,SNR=8.5						
ETOR				Lg		19 59 33.5	
	6.0nm,0.4s,SNR=4.9						
EMIR	**Miracle**	**2.39**	**113**	Pg	Pg	19 59 09.8	-5.1
	1.1nm,0.1s,SNR=7.9						
EMIR				Lg		19 59 43.8	
	0.9nm,0.1s,SNR=4.7						
EPOB	**Poblet**	**2.41**	**129**	Pn	Pn	19 59 04.8	-2.9
	0.1nm,0.3s,SNR=7.9						
EPOB				Lg		19 59 44.3	
	1.0nm,0.2s,SNR=7.9						
LFF	**La Frestale**	**2.58**	**37**	*e*Pn	Pn	19 59 07.7	-2.4
LFF				*e*Sn	Sn	19 59 38.4	-3.7
LFF				*e*Sg	Sg	19 59 46.9	-6.3
	2.5nm,0.3s						
EMOS	**Mosqueruela**	**2.62**	**164**	Pn	Pn	19 59 09.8	-0.8
	SNR=7.9						
EMOS				Pg	Pg	19 59 15.9	-3.5
	SNR=7.9						
EMOS				Sn	Sn	19 59 42.9	-0.1
	SNR=4.0						
EMOS				Lg		19 59 50.6	
	1.8nm,0.3s,SNR=5.0						
MTLF	**Montolieu**	**2.71**	**79**	*e*Pn	Pn	19 59 10.4	-1.5
MTLF				*e*Sn	Sn	19 59 42.3	-3.0
	3.1nm,0.4s						
EJON	**La Jonquera**	**3.21**	**96**	Pg	Pg	19 59 25.5	-5.9
	SNR=7.9						
RJF	**Les Rejaudoux**	**3.22**	**40**	*e*Pn	Pn	19 59 16.0	-3.1
RJF				*e*Sn	Sn	19 59 53.7	-4.5
	1.1nm,0.2s						
CAF	**Calviac**	**3.25**	**50**	*e*Sn	Sn	19 59 54.8	-4.1
	1.3nm,0.2s						
MFF	**Saint Martin d**	**3.83**	**13**	*e*Pn	Pn	19 59 25.1	-2.7
MFF				*e*Pg	Pg	19 59 37.0	-6.6
MFF				*e*Sn	Sn	20 00 08.4	-5.2
MFF				*e*Sg	Sg	20 00 27.2	-7.4
	0.6nm,0.3s						
LASF	**Ste Croix**	**4.03**	**71**	*e*Pn	Pn	19 59 27.9	-2.7
LASF				*e*Sn	Sn	20 00 13.4	-5.2
	1.8nm,0.3s						
ECAL	**Calabor**	**4.04**	**258**	Pn	Pn	19 59 27.9	-2.9
	SNR=7.9						
ECAL				Lg		20 00 31.4	
	3.2nm,0.5s,SNR=4.0						
ETOB	**Tobarra**	**4.24**	**181**	Pn	Pn	19 59 31.9	-1.7
	SNR=7.9						
TCF	**Toulx Ste Croi**	**4.28**	**36**	*e*Pn	Pn	19 59 29.7	-4.5
TCF				*e*Sn	Sn	20 00 19.0	-6.1
	1.0nm,0.2s						
BGF	**Bois d’Agland**	**4.77**	**38**	*e*Pn	Pn	19 59 36.8	-4.4
BGF				*e*Sn	Sn	20 00 30.3	-7.2
	0.8nm,0.3s						
VIVF	**Saint-Julien-l**	**4.83**	**64**	*e*Pn	Pn	19 59 38.6	-3.4
VIVF				*e*Sn	Sn	20 00 31.8	-7.2
	0.6nm,0.2s						
AVF	**Avril sur Loir**	**5.18**	**39**	*e*Pn	Pn	19 59 42.2	-4.7
AVF				*e*Sn	Sn	20 00 39.8	-7.9
	0.5nm,0.2s						

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*LDG **19** 19:59:52.6±0.3, 42.93N×1.45W, h2^{km}, Md3.1/2, Ml2.8/26, Error ellipse: s-maj=5.3km s-min=2.9km az=39.0*
*NEIC **19** 19:59:52.6, 42.93N×1.45W, h2^{km}, ML2.9(STR), ML2.8(LDG), After LDG.*
*STR **19** 19:59:53.5±1.0, 42.85N×1.37W, h5^{km}±1^{km}, Ml2.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD 19 19:59:52.0±0.3**, 42.87N×1.42W, h7^{km}**±3^{km}**, mbLg2.3**/13**, Error ellipse: s-maj=2.7km s-min=2.4km az=69.0, AftershockPLICA PRXIMO, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJPF	**Ste Jean**	**0.28**	**31**	*e*Pg	Pg	19 59 57.6	-0.2
SJPF				*e*Sg	Sg	20 00 00.5	-1.1
	738nm,0.4s						
EALK	**Alkurruntz**	**0.35**	**350**	Pg	Pg	19 59 58.8	-0.3
	16nm,0.3s,SNR=7.9						
EALK				Lg		20 00 03.1	
	93nm,0.2s,SNR=7.9						
LARF	**Larrau**	**0.36**	**63**	Pg	Pg	19 59 58.6	-0.7
LARF				Sg	Sg	20 00 05.0	+0.8
OSSF	**Osses**	**0.40**	**17**	Pg	Pg	19 59 59.6	-0.5
OSSF				Sg	Sg	20 00 05.7	+0.2
ORDF	**Ordiarp**	**0.49**	**46**	P	Pg	20 00 01.5	-0.4
ATE	**Arette**	**0.57**	**68**	P	Pg	20 00 02.5	-0.9
FDAF	**Les Forges d’A**	**0.63**	**95**	Pg	Pg	20 00 03.3	-1.4
FDAF				Sg	Sg	20 00 13.1	0.0
FDAF	**Les Forges d’A**	**0.63**	**95**	P	Pg	20 00 03.6	-1.1
ETSF	**Etsaut**	**0.64**	**87**	*e*Pg	Pg	20 00 03.2	-1.6
ETSF				*e*Sg	Sg	20 00 12.0	-1.3
ETSF				*e*Sn	Sn	20 00 13.9	-3.5
	60nm,0.4s						
REYF	**Montagne du Re**	**0.78**	**75**	Pg	Pg	20 00 06.4	-1.3
REYF				Sg	Sg	20 00 18.6	+0.5
REYF	**Montagne du Re**	**0.78**	**75**	P	Pb	20 00 06.5	-1.0
VIEF	**Viey**	**1.06**	**89**	P	Pb	20 00 11.0	-1.3
LABF	**Labassere**	**1.11**	**80**	Pg	Pg	20 00 14.6	+0.3
LABF	**Labassere**	**1.11**	**80**	P	Pb	20 00 12.3	-0.8
RESF	**Ens**	**1.30**	**92**	Pn	Pn	20 00 16.1	-0.5
RESF				Sg	Sg	20 00 34.7	-0.5
EPF	**Esparros**	**1.30**	**82**	*e*Pn	Pn	20 00 15.5	-1.1
EPF				*e*Pg	Pg	20 00 17.7	-0.4
EPF				*e*Sg	Sg	20 00 33.6	-1.9
	71nm,0.4s						
ESAC	**San Caprasio**	**1.35**	**148**	Pg	Pg	20 00 16.3	-2.8
	44nm,0.3s,SNR=7.9						
ESAC				Lg		20 00 34.5	
	78nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**1.52**	**284**	Pg	Pg	20 00 19.7	-2.6
	8.1nm,0.2s,SNR=14						
ELAN				Lg		20 00 41.2	
	4.1nm,0.5s,SNR=7.9						
MELF	**Melles**	**1.60**	**89**	Pn	Pn	20 00 21.4	+0.5
MELF				Sg	Sg	20 00 44.5	-0.9
ETOR	**Torete**	**2.11**	**193**	Pn	Pn	20 00 26.9	-1.2
	19nm,0.4s,SNR=14						
ETOR				Pg	Pg	20 00 30.2	-3.9
	8.3nm,0.3s,SNR=7.9						
ETOR				Sn	Sn	20 00 52.6	-2.2
	SNR=7.9						
ETOR				Lg		20 00 52.6	
	13nm,0.3s,SNR=7.9						
EMIR	**Miracle**	**2.38**	**113**	Pg	Pg	20 00 35.7	-3.9
	2.6nm,0.2s,SNR=5.7						
EMIR				Lg		20 01 07.0	
	2.8nm,0.6s,SNR=7.9						
EPOB	**Poblet**	**2.40**	**128**	Pg	Pg	20 00 34.1	-5.9
	1.8nm,0.2s,SNR=7.9						
EPOB				Sn	Sn	20 00 58.9	-3.4
	SNR=7.9						
EPOB				Lg		20 01 08.6	
	0.2nm,0.4s,SNR=7.9						
EBR	**Ebro Roquetas**	**2.50**	**144**	*e*Rs	Pg	20 00 43.7	+1.7
EBR	**Ebro Roquetas**	**2.50**	**144**	*e*SG	Sg	20 01 13.5	-1.8
LFF	**La Frestale**	**2.59**	**36**	*e*Pn	Pn	20 00 32.7	-2.4
LFF				*e*Sn	Sn	20 01 03.4	-3.7
LFF				*e*Sg	Sg	20 01 12.0	-6.3
	13nm,0.3s						
EMOS	**Mosqueruela**	**2.61**	**164**	Pn	Pn	20 00 33.3	-2.0
	5.1nm,0.5s,SNR=4.0						
EMOS				Pg	Pg	20 00 40.5	-3.5
	1.2nm,0.2s,SNR=7.9						
EMOS				Sn	Sn	20 01 04.7	-2.8
	SNR=7.9						
EMOS				Lg		20 01 14.0	
	1.8nm,0.3s,SNR=7.9						
MTLF	**Montolieu**	**2.71**	**79**	*e*Pn	Pn	20 00 35.7	-1.0
MTLF				*e*Sn	Sn	20 01 07.4	-2.7
	10nm,0.3s						
EJON	**La Jonquera**	**3.21**	**96**	Pg	Pg	20 00 51.6	-4.4
	0.5nm,0.6s,SNR=4.8						
EJON				Lg		20 01 33.0	
	1.9nm,0.2s,SNR=7.9						
RJF	**Les Rejaudoux**	**3.22**	**40**	*e*Pn	Pn	20 00 41.2	-2.9
RJF				*e*Sn	Sn	20 01 18.9	-4.3
	8.2nm,0.2s						
CAF	**Calviac**	**3.25**	**50**	*e*Pn	Pn	20 00 41.7	-2.7
CAF				*e*Sn	Sn	20 01 19.7	-4.1
	9.3nm,0.4s						
ESDC	**Sonseca Array**	**3.73**	**212**	Pn	Pn	20 00 47.8	-3.4
	0.4nm,0.4s,baz=36,slow=13,SNR=6.0						
ESDC				Lg		20 01 50.2	
	1.9nm,0.3s,baz=31,slow=30,SNR=9.9						
MFF	**Saint Martin d**	**3.84**	**13**	*e*Pn	Pn	20 00 50.0	-2.8
MFF				*e*Pg	Pg	20 01 01.9	-6.7
MFF				*e*Sn	Sn	20 01 33.4	-5.3
MFF				*e*Sg	Sg	20 01 52.2	-7.6
	3.2nm,0.2s						
LASF	**Ste Croix**	**4.03**	**71**	*e*Pn	Pn	20 00 53.0	-2.5
LASF				*e*Sn	Sn	20 01 38.6	-4.9
	8.6nm,0.4s						
ECAL	**Calabor**	**4.04**	**258**	Pn	Pn	20 00 53.2	-2.6
	2.1nm,0.2s,SNR=9.6						
ECAL				Sn	Sn	20 01 39.5	-4.5
	SNR=7.9						
ECAL				Lg		20 01 56.4	
	4.7nm,0.2s,SNR=7.9						
EPON	**Pontenova**	**4.22**	**278**	Pn	Pn	20 00 57.0	-1.2
	1.1nm,0.2s,SNR=5.8						
EPON				Sn	Sn	20 01 44.0	-4.3
	SNR=7.9						
ERUA	**La Rua**	**4.25**	**265**	Pn	Pn	20 00 56.3	-2.3
	1.4nm,0.2s,SNR=7.4						
ERUA				Sn	Sn	20 01 45.2	-3.9
	SNR=7.9						
ERUA				Lg		20 02 02.7	
	2.7nm,0.4s,SNR=5.0						
TCF	**Toulx Ste Croi**	**4.29**	**36**	*e*Pn	Pn	20 00 54.6	-4.6
TCF				*e*Sn	Sn	20 01 44.1	-6.0
	6.6nm,0.4s						
EVIA	**Vianos**	**4.31**	**191**	Pn	Pn	20 00 57.6	-1.9
	1.7nm,0.2s,SNR=7.9						
EVIA				Pg	Pg	20 01 11.5	-6.5
	SNR=7.9						
EVIA				Sn	Sn	20 01 45.5	-5.2
	SNR=5.0						
EVIA				Lg		20 02 05.6	
	0.1nm,0.6s,SNR=5.0						
BGF	**Bois d’Agland**	**4.78**	**38**	*e*Pn	Pn	20 01 01.8	-4.3
BGF				*e*Sn	Sn	20 01 55.4	-7.1
	11nm,0.3s						
VIVF	**Saint-Julien-l**	**4.83**	**64**	*e*Pn	Pn	20 01 03.7	-3.2
VIVF				*e*Sn	Sn	20 01 56.9	-7.0
	8.9nm,0.6s						
ELOB	**Lobios**	**5.02**	**261**	Pn	Pn	20 01 06.3	-3.3
	0.2nm,0.4s,SNR=5.0						
ELOB				Sn	Sn	20 02 00.4	-8.2
	SNR=7.9						
ELOB				Lg		20 02 26.1	
	0.5nm,0.6s,SNR=7.9						
AVF	**Avril sur Loir**	**5.18**	**39**	*e*Pn	Pn	20 01 07.3	-4.6
AVF				*e*Sn	Sn	20 02 05.1	-7.6
	3.6nm,0.6s						
QUIF	**Quistinic**	**5.19**	**347**	*e*Pn	Pn	20 01 08.9	-3.1
QUIF				*e*Sn	Sn	20 02 05.4	-7.5
	2.6nm,0.3s						
SMRF	**Simiane la Rot**	**5.21**	**75**	*e*Pn	Pn	20 01 10.2	-2.1
SMRF				*e*Sn	Sn	20 02 06.9	-6.6
	0.8nm,0.3s						
EQES	**Quesada**	**5.22**	**195**	Pn	Pn	20 01 10.0	-2.4
	SNR=7.9						
EQES				Pg	Pg	20 01 27.9	-8.3
	SNR=7.9						
EQES				Sn	Sn	20 02 05.9	-7.8
	SNR=7.9						
EQES				Lg		20 02 37.7	
	0.6nm,0.3s,SNR=7.9						
HYF	**Humbligny**	**5.25**	**32**	*e*Pn	Pn	20 01 09.1	-3.7
HYF				*e*Sn	Sn	20 02 07.4	-7.0
	31nm,0.4s						
EADA	**Adamuz**	**5.28**	**208**	Pn	Pn	20 01 09.5	-3.8
	2.7nm,1.1s,SNR=5.6						
EADA				Sn	Sn	20 02 07.1	-8.0
	SNR=7.9						
EADA				Lg		20 02 37.2	
	0.7nm,0.3s,SNR=5.0						
SMF	**Signal de Mont**	**5.32**	**43**	*e*Pn	Pn	20 01 09.5	-4.3
SMF				*e*Sn	Sn	20 02 08.9	-7.1
	2.4nm,0.4s						
SGMF	**Saint Gilles**	**5.44**	**352**	*e*Pn	Pn	20 01 11.9	-3.6
SGMF				*e*Sn	Sn	20 02 10.3	-8.9
	1.8nm,0.3s						
SSF	**Saint Saulge**	**5.46**	**38**	*e*Pn	Pn	20 01 10.8	-4.9
SSF				*e*Sn	Sn	20 02 10.8	-8.7
	2.1nm,0.3s						
GRR	**Gorron**	**5.53**	**4**	*e*Pn	Pn	20 01 11.9	-4.9
ROSF	**Rostrenen**	**5.62**	**347**	*e*Pn	Pn	20 01 14.7	-3.3
ROSF				*e*Sn	Sn	20 02 15.2	-8.4
	0.8nm,0.2s						
ORIF	**Oris-en-Rattie**	**5.66**	**66**	*e*Pn	Pn	20 01 16.3	-2.3
ORIF				*e*Sn	Sn	20 02 16.3	-8.3
	4.1nm,0.7s						
LOR	**Lormes**	**5.77**	**39**	*e*Pn	Pn	20 01 15.1	-5.0
LOR				*e*Sn	Sn	20 02 19.3	-8.1
	1.1nm,0.3s						
LDF	**La Druitiere**	**5.79**	**9**	*e*Pn	Pn	20 01 16.7	-3.8
LDF				*e*Sn	Sn	20 02 20.3	-7.7
	3.3nm,0.4s						
LMR	**La Mourre**	**5.83**	**83**	*e*Pn	Pn	20 01 18.8	-2.1
LMR				*e*Sn	Sn	20 02 22.4	-6.4
	0.4nm,0.3s						
EBAD	**Badajoz**	**5.91**	**228**	Pn	Pn	20 01 17.2	-4.9
	SNR=7.9						
EBAD				Lg		20 02 58.0	
	2.7nm,0.3s,SNR=5.0						
FLN	**La Foliniere**	**5.93**	**6**	*e*Pn	Pn	20 01 17.6	-4.8
FLN				*e*Sn	Sn	20 02 22.4	-9.0
	1.0nm,0.3s						
FRF	**La Foret Royal**	**5.94**	**81**	*e*Pn	Pn	20 01 19.7	-2.8
MBDF	**Montbardon**	**6.21**	**70**	*e*Pn	Pn	20 01 24.1	-2.3

MBDF				*e*Sn	Sn	20 02 29.4	-9.1
	1.0nm,0.4s						
LPL	**La Plagne**	**6.43**	**63**	*e*Pn	Pn	20 01 27.0	-2.5
LPG	**La Plagne**	**6.43**	**63**	*e*Pn	Pn	20 01 27.4	-2.1
CABF	**La Chapelle**	**6.52**	**52**	*e*Pn	Pn	20 01 27.8	-3.0
SBF	**Sospel**	**6.53**	**78**	*e*Pn	Pn	20 01 28.3	-2.6
SBF				*e*Sn	Sn	20 02 40.7	-5.8
	1.2nm,0.3s						
BAIF	**Baives**	**8.17**	**26**	*e*Pn	P	20 01 48.3	-5.5

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*IDC **19** 20:00:36.9±2.7, 21.76N×143.77E, h290^{km}±20^{km}, mb3.1/6, mb1 3.3/7, mb1mx3.0/21, Error ellipse: s-maj=72.0km s-min=20.7km az=82.0*

ISC 19 20:00:37.2±2.5**, 21.7N**±0.2×**143.5E**±0.6**, h299**^{km}±19^{km}**, n7, σ1^{s}19**/8**, mb3.4**/6**, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.47**	**348**	P	**P**	**20 02 01.9**	**+1.2**
	11nm,0.3s,baz=120,slow=22,SNR=13						
CBIJ				S	**S**	**20 03 05.2**	**-1.0**
	9.8nm,0.3s,baz=273,slow=23,SNR=6.6						
SONM	**Songino Array**	**39.49**	**320**	P	**P**	**20 07 41.7**	**+1.2**
	0.2nm,0.6s,mb2.7,baz=130,slow=8.1,SNR=3.8						
WRA	**Warramunga Arr**	**42.36**	**193**	P	**P**	**20 08 03.8**	**-0.5**
	0.2nm,0.4s,mb2.7,baz=17,slow=9.4,SNR=5.3						
MKAR	**Makanchi Array**	**54.88**	**313**	P	**P**	**20 09 38.3**	**-0.6**
	0.2nm,0.3s,mb3.0,baz=96,slow=8.9,SNR=4.3						
ARCES	**ARCESS Array B**	**78.98**	**342**	P	**P**	**20 12 09.4**	**+0.5**
	3.1nm,0.9s,mb4.0,baz=67,slow=9.2,SNR=5.2						
FINES	**FINESS Array B**	**83.27**	**335**	P	**P**	**20 12 31.6**	**+0.3**
	1.4nm,0.7s,mb3.9,baz=63,slow=4.3,SNR=9.5						
HFS	**Hagfors**	**88.81**	**337**	P	**P**	**20 12 57.1**	**-1.0**
	1.4nm,0.8s,mb3.8,baz=162,slow=4.6,SNR=4.3						

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*NEIC **19** 20:05:24.5, 15.64N×98.95W, h16^{km}, MD4.1(MEX), After MEX.*

MEX 19 20:05:24.3±1.4**, 15.64N×98.93W, h16**^{km}±36^{km}**, MD4.1, 1C, Off coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**1.08**	**46**	⇑*i*P	Pb	20 05 40.0	-4.1
PNIG				*i* S	Sb	20 05 53.6	-4.1
ACX	**Acapulco**	**1.55**	**322**	*e*P	Pn	20 05 48.0	-3.4
ACX				*i* S	Sn	20 06 05.0	-6.2
VHO	**Vista Hermosa**	**2.55**	**56**	*i* P	Pn	20 06 02.5	-3.2
VHO				*i* S	Sn	20 06 32.6	-4.1
OXX	**Oaxaca**	**2.56**	**56**	*i* P	Pn	20 06 03.0	-3.0
OXX				*i* S	Sn	20 06 32.0	-5.0
PLIG	**Platanillo**	**2.79**	**349**	*e*P	Pn	20 06 07.0	-2.3
PLIG				*i* S	Sn	20 06 38.7	-4.2
YAIG	**Yautepec**	**3.21**	**358**	*e*P	Pn	20 06 13.4	-1.8
YAIG				*i* S	Sn	20 06 47.1	-6.3
PPM	**Popocatepetl**	**3.42**	**5**	*e*P	Pn	20 06 15.0	-3.2
PPM				*i* S	Sn	20 06 59.0	+0.2
IISM	**Ciudad Serdan**	**3.65**	**24**	*e*P	Pn	20 06 21.0	-0.4
UNM	**Universidad Na**	**3.68**	**356**	*e*P	Pn	20 06 20.0	-1.8
CMIG	**Matias Romero**	**4.15**	**69**	*i* P	Pn	20 06 24.7	-3.7
CMIG				*i* S	Sn	20 07 11.0	-6.1
MOIG	**Morelia**	**4.56**	**332**	*e*P	Pn	20 06 34.4	0.0
MOIG				*i* S	Sn	20 07 25.9	-1.7
SFJM	**Santa Fe**	**6.21**	**322**	*e*P	Pn	20 06 58.0	+0.4

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*NIED **19** 20:17:00, 33.40N×137.20E, h8^{km}, Mw4.7 Best double couple: $M_0$1.24×10^{16} NP1:ϕ_s340°, δ89°, λ-66°. NP2:ϕ_s72°, δ24°, λ-178°.*

*IDC **19** 20:17:48.8±0.7, 33.26N×137.18E, mb3.6/9, mb1 3.9/10, mb1mx3.8/22, ML3.5/1, MS4.2/2, Ms1 4.2/2, ms1mx3.7/34, Error ellipse: s-maj=21.0km s-min=19.5km az=2.0*

*JMA **19** 20:17:49.9±0.1, 33.40N×137.23E, h40^{km}±1^{km}, M4.8*

*NEIC **19** 20:17:51.8±0.7, 33.41N×137.21E, h20^{km}, Error ellipse: s-maj=20.3km s-min=13.0km az=118.0*

*BJI **19** 20:17:53.8, 33.40N×137.20E, h20^{km}, mB4.7, mb4.4, Ms4.9, Msz4.5*

*MOS **19** 20:17:59.4±0.4, 33.74N×135.99E, h33^{km}, mb4.3/5, Error ellipse: s-maj=68.7km s-min=42.3km az=127.1*

ISC 19 20:17:49.9±0.8**, 33.42N**±0.04×**137.18E**±0.03**, h17**^{km}±6^{km}**, n46, σ1^{s}03**/61**, mb3.9**/17**, MS4.7**/5**, 2C-9D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK01	**Tokai 1**	**0.49**	**45**	P	**Pb**	**20 18 00.1**	**+0.5**
TK01				S	**Sb**	**20 18 07.9**	**+1.7**
TK02	**Tokai 2**	**0.71**	**43**	⇑P	**Pb**	**20 18 03.4**	**-0.1**
TK02				S	**Sb**	**20 18 14.0**	**+1.2**
TK03	**Tokai 3**	**0.99**	**41**	P	**Pb**	**20 18 07.9**	**-0.3**
TK03				S	**Sb**	**20 18 21.4**	**+0.6**
JIE	**Ise**	**1.04**	**338**	⇓P	**Pb**	**20 18 09.1**	**0.0**
JIE				S	**Sb**	**20 18 23.2**	**+0.9**
JKN	**Kiinagashima**	**1.12**	**318**	⇓P	**Pb**	**20 18 10.1**	**-0.3**
JKN				S	**Sb**	**20 18 25.1**	**+0.5**
TK04	**Tokai 4**	**1.12**	**31**	⇑P	**Pb**	**20 18 09.6**	**-0.9**
TK04				S	**Sb**	**20 18 24.3**	**-0.4**
JAA	**Atsumi**	**1.21**	**359**	⇓P	**Pb**	**20 18 11.1**	**-0.8**
JWZ	**Kozaga**	**1.23**	**275**	⇓P	**Pb**	**20 18 11.9**	**-0.3**
JWZ				S	**Sb**	**20 18 28.2**	**+0.5**
TSUJ	**Tsu 2**	**1.43**	**334**	⇓P	**Pn**	**20 18 14.9**	**-0.4**
TSUJ				S	**Sb**	**20 18 33.0**	**-0.5**
JWY	**Kouya**	**1.54**	**301**	⇓P	**Pn**	**20 18 16.7**	**-0.1**
JWY				S	**Sn**	**20 18 36.2**	**-0.3**
JWM	**Minabe**	**1.58**	**286**	⇓P	**Pn**	**20 18 17.1**	**-0.3**
JWM				S	**Sn**	**20 18 36.8**	**-0.7**
JHE	**Heguri**	**1.74**	**315**	⇓P	**Pn**	**20 18 19.3**	**-0.5**
JHE				S	**Sn**	**20 18 40.3**	**-1.4**
SHZ3	**Shizuoka 3**	**1.85**	**27**	P	**Pn**	**20 18 19.7**	**-1.6**
JAJ2	**Tsuna**	**2.15**	**298**	⇓P	**Pn**	**20 18 25.8**	**+0.2**
JHJ	**Hachijo jima 2**	**2.21**	**97**	Pn	**Pn**	**20 18 25.9**	**-0.5**
	28nm,0.3s,baz=207,slow=23,SNR=15						
JHJ				Sn	**Sn**	**20 18 53.2**	**-0.3**
	26nm,0.3s,baz=75,slow=20,SNR=5.8						
JHJ2	**Mitsune**	**2.23**	**97**	P	**Pn**	**20 18 26.1**	**-0.7**
MAJO	**Matsushiro**	**3.23**	**15**	*e*Pn	**Pn**	**20 18 40.0**	**-0.9**
MAJO				*e*		20 18 56.7	
MAT	**Matsushiro**	**3.23**	**15**	P	**Pn**	**20 18 39.8**	**-1.1**
MAT				S	**Sn**	**20 19 18.9**	**-0.4**
MAT	**Matsushiro**	**3.23**	**15**	*e*P	**Pn**	**20 18 40.0**	**-0.9**
MAT				*e*S	**Sn**	**20 19 19.0**	**-0.3**
JNU	**Nakatsue**	**5.28**	**268**	LR	LR	20 21 04.6	
	comp=Z,6µm,21.8s,baz=144,slow=37						
ASAJ	**Asahikawa**	**11.48**	**20**	LR	LR	20 25 21.4	
	comp=Z,668nm,20.0s,baz=328,slow=39						
CN2	**Changchun**	**13.82**	**322**	*e*P	**P**	**20 21 15.0**	**+7.6**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,3µm,13.0s						
CN2				LR	LR		
	comp=E,3µm,13.0s						
CN2				LR	LR		
	comp=Z,2µm,12.0s						
BJI	**Beijing**	**18.06**	**297**	P	**P**	**20 22 02.8**	**+1.0**
BJI				AMB	AMB		
	comp=Z,157nm,1.9s						
WHN	**Wuhan**	**19.57**	**268**	P	**P**	**20 22 25.4**	**+5.6**
WHN				LR	LR		
	comp=N,1µm,9.3s						
WHN				LR	LR		
	comp=E,5µm,10.1s						
WHN				LR	LR		
	comp=Z,5µm,10.2s						
HHC	**Hu-ho-hao-te**	**21.67**	**297**	*e*P	**P**	**20 22 46.3**	**+4.6**
HHC				AP		20 22 49.8	
HHC				XP		20 22 51.9	
HHC				PP	PP	20 23 10.6	+4.0
HHC				S	**S**	**20 26 40.5**	**+4.6**
HHC				PCP	PcP	20 26 50.0	+6.7
HHC				SS	SS	20 27 17.4	+4.8
HHC				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.3						
HHC				AMB	AMB		
	comp=Z,93nm,4.9s						
HHC				LR	LR		
	comp=N,1µm,14.3s,MS4.7						
HHC				LR	LR		
	comp=E,1µm,11.9s,MS4.7						
HHC				LR	LR		
	comp=Z,2µm,16.1s,MS4.7						
BTO	**Baotou**	**22.78**	**296**	*e*P	**P**	**20 23 00.3**	**+7.6**
BTO				S	**S**	**20 27 06.3**	**+10**
BTO				AMB	AMB		
	comp=Z,18nm,1.4s,mb4.3						
BTO				LR	LR		
	comp=N,3µm,12.9s,MS5.0						
BTO				LR	LR		
	comp=E,3µm,15.1s,MS5.0						
XAN	**Xi'an**	**23.48**	**279**	P	**P**	**20 23 02.3**	**+2.8**
XAN				AMB	AMB		
	comp=Z,5.0nm,1.4s,mb3.8						
XAN				LR	LR		
	comp=N,840nm,13.6s						
XAN				LR	LR		
	comp=Z,952nm,11.4s,MS4.5						
ENH	**Enshi**	**23.70**	**270**	P	**P**	**20 23 02.5**	**+0.7**
	comp=Z,20nm,0.8s,mb4.6						
SONM	**Songino Array**	**27.22**	**311**	P	**P**	**20 23 33.8**	**-1.0**
	comp=Z,0.3nm,0.6s,mb3.0,baz=113,slow=9.4,SNR=3.1						
GYA	**Guiyang**	**27.27**	**263**	P	**P**	**20 23 37.9**	**+2.5**
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.6						
GYA				AMB	AMB		
	comp=Z,180nm,4.9s						
GYA				LR	LR		
	comp=N,1µm,12.3s,MS4.7						
GYA				LR	LR		
	comp=E,940nm,13.5s,MS4.7						
GYA				LR	LR		
	comp=Z,670nm,12.9s,MS4.4						
LZH	**Lanzhou**	**27.44**	**285**	*e*P	**P**	**20 23 37.3**	**+0.5**
LZH				AP	pP	20 23 43.5	+1.6
LZH				AMB	AMB		
	comp=Z,27nm,1.4s,mb4.6						
LZH				AMB	AMB		
	comp=Z,112nm,6.3s						
LZH				LR	LR		
	comp=N,1µm,15.0s						
LZH				LR	LR		
	comp=Z,2µm,17.6s,MS4.6						
CMAR	**Chiang Mai Arr**	**37.24**	**256**	P	**P**	**20 25 02.5**	**0.0**
	comp=Z,0.6nm,0.8s,mb3.5,baz=50,slow=5.5,SNR=5.3						
CMAR	**Chiang Mai Arr**	**37.24**	**256**	P	**P**	**20 25 02.6**	**+0.1**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TIXI	**Tiksi**	**38.54**	**356**	*e*P	**P**	**20 25 17.2**	**+4.2**
TIXI				*e*S	**S**	**20 31 12.4**	**+4.8**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.3						
NVS	**Novosibirsk**	**42.95**	**317**	*e*P	**P**	**20 25 49.0**	**-0.3**
NVS				pmax	pmax		
	comp=Z,11nm,1.5s,mb4.4						
NVS				pmax	pmax		
	comp=N,12nm,2.0s						
NVS				pmax	pmax		
	comp=E,11nm,1.5s						
MKAR	**Makanchi Array**	**43.21**	**305**	P	**P**	**20 25 52.7**	**+1.1**
	comp=E,1.4nm,0.7s,mb3.8,baz=94,slow=9.8,SNR=12						
MKAR	**Makanchi Array**	**43.21**	**305**	P	**P**	**20 25 52.7**	**+1.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**43.21**	**305**	P	**P**	**20 25 52.7**	**+1.1**
WRA	**Warramunga Arr**	**53.13**	**183**	P	**P**	**20 27 06.5**	**-2.7**
	comp=Z,1.0nm,0.9s,mb3.7,baz=359,slow=7.7,SNR=10.0						
WRA	**Warramunga Arr**	**53.13**	**183**	P	**P**	**20 27 06.5**	**-2.7**
WRA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
ILAR	**Eielson Array**	**54.38**	**31**	P	**P**	**20 27 17.2**	**-0.4**
	comp=Z,1.2nm,1.0s,mb3.8,baz=272,slow=6.2,SNR=10						
ILAR	**Eielson Array**	**54.38**	**31**	P	**P**	**20 27 17.3**	**-0.4**
ILAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
ASAR	**Alice Springs**	**56.86**	**184**	P	**P**	**20 27 34.2**	**-2.0**
	comp=Z,0.3nm,0.7s,mb3.5,baz=14,slow=7.4,SNR=4.2						
BRTR	**Keskin Array B**	**78.58**	**310**	P	**P**	**20 29 53.5**	**+1.4**
	comp=Z,0.3nm,0.4s,mb3.6,baz=108,slow=4.6,SNR=2.3						
NVAR	**Mina Array Bea**	**79.94**	**51**	P	**P**	**20 30 01.6**	**+2.1**
	comp=Z,0.5nm,0.8s,mb3.5,baz=292,slow=4.9,SNR=3.4						
PDAR	**Pinedale Array**	**82.67**	**43**	P	**P**	**20 30 15.8**	**+2.0**
	comp=Z,0.6nm,0.9s,mb3.6,baz=284,slow=3.7,SNR=2.9						

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*IGIL **19** 20:25:58.9, 52.30N×173.90E, h45^{km}, MS5.9*

*BJI **19** 20:26:01.2, 52.54N×174.13E, h26^{km}, mB6.0, mb5.7, Ms6.1, Msz5.9*

*MOS **19** 20:26:03.9±1.2, 52.23N×173.97E, h34^{km}, mb5.9/68, MS6.0/67, Error ellipse: s-maj=7.1km s-min=4.7km az=94.3*

*NEIC **19** 20:26:04.1±0.1, 52.21N×174.03E, h25^{km}, mb5.6/205, ME5.8, MS6.0/125, MW6.1, ML6.1(AEIC), Error ellipse: s-maj=4.2km s-min=2.1km az=9.0 Broadband fault plane solution: P waves. NP1:ϕ_s55°, δ75°, λ75°. NP2:ϕ_s281°, δ21°, λ134°. Principal axes: T Plg57°, Azm305°; N Plg0°, Azm0°; P Plg28°, Azm157°; Moment Tensor Solution. s51 Moment tensor: Scale 10^{18} Nm; M_{rr}0.71; $M_{\theta\theta}$-0.62; $M_{\phi\phi}$-0.09; $M_{r\theta}$1.40; $M_{\theta\phi}$0.10; $M_{\phi r}$0.86; Best double couple: $M_0$1.8×10^{18} NP1:ϕ_s288°, δ13°, λ134°. NP2:ϕ_s63°, δ80°, λ80°. Principal axes: T 1.91, Plg54°, Azm321°; N -.3, Plg9°, Azm64°; P -1.61, Plg35°, Azm161°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt [IV] on Shemya. Also felt on Attu.

*HRVD **19** 20:26:04.1±0.1, 52.30N×174.12E, h28^{km}, MW6.2/75, Centroid moment Tensor Solution. LP body waves: s75,c176;Mantle waves: s58,c89; Half duration: 3^{s}0 Moment tensor: Scale 10^{18}Nm; M_{rr}1.20±.01; $M_{\theta\theta}$-1.64±.02; $M_{\phi\phi}$0.44±.01; $M_{r\theta}$1.74±.04; $M_{\theta\phi}$-0.29±.01; $M_{\phi r}$1.20±.03; Best double couple: $M_0$2.59×10^{18} NP1: ϕ_s289°, δ23°, λ138°. NP2:ϕ_s59°, δ75°, λ72°. Principal axes: T 2.5, Plg57°, Azm306°; N .17, Plg17°, Azm64°; P -2.67, Plg27°, Azm163°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to mantle waves, cutoff=125s.*

*BGS **19** 20:26:05.9, 52.31N×174.95E, h33^{km}, mb5.8*

*IDC **19** 20:26:07.7±4.7, 52.29N×174.03E, h56^{km}±41^{km}, mb5.2/23, mb1 5.3/23, mb1mx5.3/25, MS5.8/26, Ms1 5.8/26, ms1mx5.8/29, Error ellipse: s-maj=16.3km s-min=11.2km az=146.0*

ISC 19 20:26:03.3±0.1**, 52.19N**±0.03×**174.08E**±0.02**, h29**^{km}**, h29**^{km}±1.4^{km}**:pP-P, n1225, σ1^{s}06**/1176**, mb5.7**/336**, MS5.9**/197**, 173C-33D, Near Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	**Shemya**	**0.55**	**1**	P	**Pb**	**20 26 15.2**	**+0.8**
SMY				S	**Sb**	**20 26 26.0**	**+4.0**
FX1	**Attu Island--F**	**0.89**	**322**	P	**Pn**	**20 26 19.1**	**-0.8**
KIMD	**Kanaga Island**	**5.39**	**91**	P	**Pn**	**20 27 24.5**	**+0.6**
KIKV	**Kanaga Island**	**5.41**	**90**	P	**Pn**	**20 27 24.9**	**+0.6**
KIWB	**Kanaga Island**	**5.43**	**90**	P	**Pn**	**20 27 25.1**	**+0.6**
KINC	**Kanaga Island**	**5.43**	**89**	P	**Pn**	**20 27 25.2**	**+0.7**
GSTD	**Great Sitkin T**	**6.03**	**87**	P	**Pn**	**20 27 33.6**	**+0.7**
GSTR	**Great Sitkin T**	**6.08**	**87**	P	**Pn**	**20 27 34.5**	**+0.9**
GSMY	**Great Sitkin M**	**6.08**	**87**	P	**Pn**	**20 27 34.0**	**+0.3**
GSIG	**Igitkin Island**	**6.17**	**88**	P	**Pn**	**20 27 35.4**	**+0.5**
ATKA	**Atka Island**	**7.21**	**85**	P	**Pn**	**20 27 49.7**	**+0.1**
PET	**Petropavlovsk**	**9.43**	**281**	*c i*P	**P**	**20 28 17.2**	**-3.1**
PET				*e*S	**Sn**	**20 30 00.7**	**-5.7**
PET				pmax	pmax		
	comp=Z,6µm,5.4s						
PET				pmax	pmax		
	comp=Z,558nm,1.3s						
PET				pmax	pmax		
	comp=Z,15µm,22.7s						
PET				smax			
	comp=N,2µm,0.8s						
PET				smax			
	comp=E,1µm,0.7s						
PET				smax			
	comp=N,62µm,24.0s						
PET				smax			
	comp=N,32µm,24.2s						
PET				MLR	MLR		
	comp=Z,50µm,16.0s						
PET				MLR	MLR		
	comp=Z,50µm,16.0s						
PET	**Petropavlovsk**	**9.43**	**281**	*e*Pn	**P**	**20 28 18.8**	**-1.6**
	comp=Z,401nm,0.9s						
PET				*e*Sn	**Sn**	**20 29 54.4**	**-12**
SPIA	**Saint Paul Isl**	**10.36**	**55**	P	**P**	**20 28 32.8**	**-0.1**
NIKO	**Nikolski**	**10.42**	**79**	P	**P**	**20 28 33.8**	**-0.1**
UNV	**Unalaska Valle**	**11.81**	**74**	*e*Pn	**P**	**20 28 53.2**	**+0.4**
	comp=Z,560nm,0.9s						
MA2	**Magadan**	**14.97**	**309**	d*e*P	**P**	**20 29 34.6**	**+0.3**
MA2				*e*S	**S**	**20 32 19.9**	**+0.2**
MA2				pmax	pmax		
	comp=Z,750nm,1.2s						
MA2				MLR	MLR		
	comp=Z,297µm,16.0s						
MA2	**Magadan**	**14.97**	**309**	⇑*e*P	**P**	**20 29 33.6**	**-0.7**
	comp=Z,1µm,1.1s						
SEY	**Seymchan**	**15.76**	**321**	*e*P	**P**	**20 29 46.3**	**+1.7**
SEY				*e*S	**S**	**20 32 41.4**	**+3.0**
SEY				pmax	pmax		
	comp=E,800nm,1.2s						
SEY				pmax	pmax		
	comp=Z,1µm,1.2s						
SEY				pmax	pmax		
	comp=N,400nm,1.1s						
TNA	**Tin City**	**16.23**	**27**	⇑*e*P	**P**	**20 29 52.4**	**+1.9**
	comp=N,330nm,1.2s						
ANM	**Nome**	**16.32**	**33**	*e*P	**P**	**20 29 54.7**	**+3.0**
TTA	**Tatalina**	**19.12**	**44**	*e*P	**P**	**20 30 26.2**	**-0.1**
	comp=N,44nm,1.0s						
KDAK	**Kodiak Island**	**19.79**	**60**	*e*P	**P**	**20 30 31.8**	**-2.2**
	comp=N,141nm,0.8s						
YUK	**Yuzh-Kuril'sk**	**20.43**	**258**	⇑*i*P	**P**	**20 30 38.5**	**-2.2**
YUK				*i* S	**S**	**20 34 26.3**	**+3.5**
YUK				pmax	pmax		
	comp=Z,1µm,1.0s						
YUK				pmax	pmax		
	comp=N,8µm,7.0s						
YUK				pmax	pmax		
	comp=Z,19µm,7.0s						
YUK				pmax	pmax		
	comp=E,14µm,6.0s						
YUK				smax			
	comp=N,22µm,5.0s						
YUK				smax			
	comp=E,11µm,5.0s						
YUK				MLR	MLR		
	comp=Z,16µm,15.0s,MS5.5						
YUK				MLR	MLR		
	comp=N,10µm,13.0s,MS5.4						
YUK				MLR	MLR		
	comp=E,8µm,18.0s,MS5.4						
YSS	**Yuzh-Sakhalins**	**20.88**	**268**	α *i*P	**P**	**20 30 45.0**	**-0.3**
YSS				*e**SP		20 31 04.0	
YSS				*i*		20 31 16.0	
YSS				*i* S	**S**	**20 34 36.0**	**+4.3**
YSS				pmax	pmax		
	comp=Z,490nm,1.3s						
YSS				pmax	pmax		
	comp=N,390nm,1.2s						
YSS				pmax	pmax		
	comp=E,1µm,1.3s						
YSS				pmax	pmax		
	comp=N,8µm,18.0s						
YSS				pmax	pmax		
	comp=E,11µm,18.0s						
YSS				pmax	pmax		
	comp=Z,14µm,18.0s						
YSS				smax			
	comp=N,28µm,18.0s						
YSS				smax			
	comp=E,17µm,15.0s						
YSS	**Yuzh-Sakhalins**	**20.88**	**268**	*e*P	**P**	**20 30 45.3**	**+0.1**
	comp=E,306nm,1.1s						
YSS				LR	LR		
	comp=Z,30µm,20.0s,MS5.7						
SLKM	**Skilak Lake**	**21.23**	**53**	*e*P	**P**	**20 30 49.4**	**+0.6**
IMA	**Indian Mountai**	**21.27**	**37**	*e*P	**P**	**20 30 49.0**	**-0.2**
	comp=Z,323nm,1.2s,mb5.5						
FIB	**Fire Island**	**21.34**	**51**	PFAKE		20 31 00.0	+10
FIB				LR	LR		
	comp=Z,26µm,19.0s,MS5.6						
PMR	**Palmer**	**21.90**	**50**	P	**P**	**20 30 54.3**	**-1.2**
PMR				pmax	pmax		
	comp=Z,64nm,0.6s,mb5.2						
PMR				MLR	MLR		
	comp=Z,40µm,19.0s,MS5.8						
PMR	**Palmer**	**21.90**	**50**	*e*P	**P**	**20 30 54.7**	**-0.8**
	comp=Z,31nm,0.9s,mb4.7						
SML	**Sawmill**	**22.31**	**50**	P	**P**	**20 30 59.0**	**-0.6**
SML	**Sawmill**	**22.31**	**50**	*e*P	**P**	**20 30 58.8**	**-0.8**
ASAJ	**Asahikawa**	**22.36**	**261**	P	**P**	**20 31 00.3**	**+0.2**
	comp=Z,174nm,0.8s,mb5.5,baz=33,slow=1.2,SNR=39						
ASAJ				S	**S**	**20 34 55.5**	**-3.7**
	comp=Z,9.9nm,0.8s,baz=42,slow=10,SNR=1.6						
ASAJ				LR	LR	20 39 09.4	
	comp=Z,28µm,19.7s,MS5.7,baz=71,slow=35						
ASAJ	**Asahikawa**	**22.36**	**261**	P	**P**	**20 31 00.4**	**+0.2**
ASAJ				S	**S**	**20 34 55.6**	**-3.7**
ASAJ				pmax	pmax		
	comp=Z,174nm,0.8s						
ASAJ				smax			
	comp=N,10.0nm,0.8s						
ASAJ				MLR	MLR		
	comp=Z,28µm,19.7s						
MCK	**McKinley**	**22.41**	**45**	P	**P**	**20 31 00.0**	**-0.5**
MCK				pmax	pmax		
	comp=Z,210nm,0.6s,mb5.7						
MCK				MLR	MLR		
	comp=Z,14µm,19.0s,MS5.4						
MCK	**McKinley**	**22.41**	**45**	*e*P	**P**	**20 30 59.4**	**-1.1**
	comp=Z,213nm,0.6s,mb5.8						
MCK				LR	LR		
	comp=Z,14µm,19.0s,MS5.4						
MID	**Middleton Isla**	**23.10**	**56**	*e*P	**P**	**20 31 09.8**	**+2.6**
COLA	**College**	**23.15**	**42**	*e*P	**P**	**20 31 08.1**	**+0.5**
COLA				pmax	pmax		
	comp=Z,520nm,1.0s,mb5.9						
COLA				MLR	MLR		
	comp=Z,20µm,20.0s,MS5.6						
COLA	**College**	**23.15**	**42**	*e*P	**P**	**20 31 07.6**	**0.0**
	comp=Z,971nm,1.4s,mb6.0						
EYAK	**Cordova Ski Ar**	**23.43**	**53**	*e*P	**P**	**20 31 10.1**	**-0.4**
DIV	**Divide**	**23.46**	**52**	PFAKE		20 31 20.0	+9.4
DIV				LR	LR		
	comp=Z,105µm,21.0s,MS6.3						
ILAR	**Eielson Array**	**23.52**	**43**	P	**P**	**20 31 11.2**	**-0.1**
	comp=Z,46nm,1.0s,mb4.9,baz=254,slow=9.1,SNR=158						
ILAR	**Eielson Array**	**23.52**	**43**	P	**P**	**20 31 11.2**	**0.0**
ILAR				pmax	pmax		
	comp=Z,46nm,1.0s						
MIDW	**Midway**	**24.78**	**162**	⇓*e*P	**P**	**20 31 24.3**	**+0.4**
	comp=Z,185nm,1.0s,mb5.6						
MIDW				LR	LR		
	comp=Z,13µm,19.0s,MS5.4						
YAK	**Yakutsk**	**25.53**	**310**	*e*P	**P**	**20 31 30.7**	**+0.1**
YAK				*e**PP	pP	20 31 42.9	+3.8
YAK				*e*S	**S**	**20 35 59.3**	**+5.6**
YAK				*e*SS	SS	20 37 01.0	+3.7
YAK				pmax	pmax		
	comp=Z,3µm,1.1s,mb6.7						
YAK				pmax	pmax		
	comp=N,457nm,1.0s						
YAK				pmax	pmax		
	comp=E,3µm,1.3s						
YAK				smax			
	comp=E,225nm,1.1s						
YAK				smax			
	comp=Z,53nm,1.2s						
YAK				smax			
	comp=N,211nm,1.1s						
YAK				MLR	MLR		
	comp=Z,33µm,23.0s,MS5.8						
YAK				MLR	MLR		
	comp=N,35µm,19.0s,MS6.0						
YAK				MLR	MLR		
	comp=E,26µm,23.0s,MS6.0						
YAK				pmax	pmax		
	comp=N,158nm,1.0s						
YAK				pmax	pmax		
	comp=Z,148nm,1.0s,mb5.5						
YAK	**Yakutsk**	**25.53**	**310**	⇑*i*P	**P**	**20 31 28.4**	**-2.2**
	comp=Z,3µm,1.0s,mb6.7						
DAWY	**Dawson**	**26.62**	**45**	*e*P	**P**	**20 31 40.2**	**-0.5**
KLR	**Kul'dur**	**26.69**	**281**	⇓*i*P	**P**	**20 31 40.0**	**-1.4**
KLR				*e*		20 32 20.0	
KLR				pmax	pmax		
	comp=N,270nm,1.8s						
KLR				pmax	pmax		
	comp=Z,420nm,1.8s,mb5.7						
KLR				pmax	pmax		
	comp=N,2µm,11.0s						
KLR				pmax	pmax		

	comp=E,3µm,11.0s						
KLR				pmax	pmax		
	comp=Z,8µm,11.0s						
TIXI	**Tiksi**	**27.77**	**331**⇓	*e*P	**P**	**20 31 50.3**	**-0.8**
TIXI				*e*	pP	20 31 59.3	-0.3
TIXI				*i* *PP	pP	20 32 01.8	+2.2
TIXI				*e*		20 32 38.7	
TIXI				*e*		20 35 02.2	
TIXI				*e*S	**S**	**20 36 28.2**	**-2.0**
TIXI				pmax	pmax		
	comp=Z,358nm,1.6s,mb5.8						
TIXI				MLR	MLR		
	comp=Z,25µm,15.0s,MS5.9						
TIXI				MLR	MLR		
	comp=Z,27µm,15.0s						
TIXI	**Tiksi**	**27.77**	**331**⇓	*e*P	**P**	**20 31 50.3**	**-0.8**
TIXI				LR	LR		
	comp=Z,20µm,19.0s,MS5.7						
CLNS	**Chul'man**	**28.42**	**299**⇑	*i*P	**P**	**20 31 57.3**	**+0.3**
CLNS				*e*		20 32 46.6	
CLNS				*e*PPP	PPP	20 32 58.4	-2.8
CLNS				*e*S	**S**	**20 36 48.7**	**+7.9**
CLNS				*e*SS	SS	20 38 28.4	+22
CLNS				pmax	pmax		
	comp=N,15nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,35nm,0.9s,mb5.0						
CLNS				pmax	pmax		
	comp=E,29nm,1.1s						
CLNS				pmax	pmax		
	comp=N,157nm,1.3s						
CLNS				pmax	pmax		
	comp=Z,104nm,1.3s,mb5.3						
CLNS				pmax	pmax		
	comp=E,121nm,0.9s						
CLNS				smax			
	comp=N,63nm,1.0s						
CLNS				smax			
	comp=Z,38nm,1.0s						
CLNS				smax			
	comp=E,18nm,0.9s						
CLNS				MLR	MLR		
	comp=Z,78µm,20.0s,MS6.3						
CLNS				MLR	MLR		
	comp=N,32µm,17.0s,MS6.0						
CLNS				MLR	MLR		
	comp=E,6µm,19.0s,MS6.0						
SIT	**Sitka**	**29.13**	**60**	P	**P**	**20 32 04.0**	**+0.6**
SIT				pmax	pmax		
	comp=Z,140nm,1.1s,mb5.6						
SIT				MLR	MLR		
	comp=Z,25µm,21.0s,MS5.8						
SIT	**Sitka**	**29.13**	**60**	*e*P	**P**	**20 32 04.1**	**+0.7**
	comp=Z,74nm,1.5s,mb5.2						
INK	**Inuvik**	**29.41**	**37**	P	**P**	**20 32 04.4**	**-1.4**
	comp=Z,12nm,0.4s,mb5.0,baz=250,slow=6.6,SNR=46						
INK				PcP	PcP	20 35 10.8	-0.7
	comp=Z,26nm,0.8s,baz=250,slow=6.3,SNR=3.1						
INK				S	**S**	**20 36 54.6**	**-1.8**
	comp=Z,20nm,1.2s,baz=92,slow=7.9,SNR=2.1						
INK				LR	LR	20 45 07.1	
	comp=Z,21µm,18.0s,MS5.8,baz=252,slow=39						
INK	**Inuvik**	**29.41**	**37**	P	**P**	**20 32 04.4**	**-1.4**
INK						20 35 10.8	
INK				S	**S**	**20 36 54.7**	**-1.8**
INK				pmax	pmax		
	comp=Z,12nm,0.4s						
INK				pmax	pmax		
	comp=Z,26nm,0.8s						
INK				smax			
	comp=N,21nm,1.2s						
INK				MLR	MLR		
	comp=Z,21µm,18.0s						
INK	**Inuvik**	**29.41**	**37**	P	**P**	**20 32 04.4**	**-1.4**
INK				PcP	PcP	20 35 10.8	-0.7
INK				S	**S**	**20 36 54.6**	**-1.8**
INK				LR	LR	20 45 07.2	
VLA	**Vladivostok**	**29.46**	**269**⇓	*i*P	**P**	**20 32 05.0**	**-1.5**
VLA				*i*		20 33 05.0	
VLA				*e*		20 35 11.0	
VLA				*i* SS	SS	20 38 45.0	+14
VLA				pmax	pmax		
	comp=N,2µm,13.0s						
VLA				pmax	pmax		
	comp=E,3µm,13.0s						
VLA				pmax	pmax		
	comp=Z,4µm,13.0s						
VLA				pmax	pmax		
	comp=Z,2µm,10.0s						
VLA				pmax	pmax		
	comp=N,1µm,11.0s						
VLA				pmax	pmax		
	comp=E,3µm,10.0s						
VLA				MLR	MLR		
	comp=N,8µm,15.0s,MS5.7						
VLA				MLR	MLR		
	comp=E,10µm,15.0s,MS5.7						
VLA				MLR	MLR		
	comp=Z,6µm,15.0s,MS5.4						
MAJO	**Matsushiro**	**29.66**	**252**	*e*P	**P**	**20 32 08.1**	**-0.4**
MAJO				pmax	pmax		
	comp=Z,100nm,0.9s,mb5.5						
MAJO				MLR	MLR		
	comp=Z,17µm,22.0s,MS5.6						
MAJO	**Matsushiro**	**29.66**	**252**⇑	*e*P	**P**	**20 32 07.8**	**-0.6**
	comp=Z,100nm,0.8s,mb5.6						
MAJO				LR	LR		
	comp=Z,17µm,22.0s,MS5.6						
MAT	**Matsushiro**	**29.66**	**252**	P	**P**	**20 32 07.4**	**-1.1**
MAT				S	**S**	**20 37 01.0**	**+0.1**
MAT	**Matsushiro**	**29.66**	**252**	*e*P	**P**	**20 32 07.0**	**-1.5**
	comp=Z,120nm,1.0s,mb5.6						
MAT				*e*S	**S**	**20 37 02.0**	**+1.1**
MAT				LR	LR		
	comp=Z,10µm,20.0s,MS5.5						
MDJ	**Mudanjiang**	**30.09**	**273**	P	**P**	**20 32 11.8**	**-0.3**
MDJ				AP	pP	20 32 17.5	-3.2
MDJ				XP	sP	20 32 20.3	-4.2
MDJ				PP	PP	20 33 14.3	+3.7
MDJ				S	**S**	**20 37 06.4**	**-1.1**
MDJ				XS		20 37 20.9	
MDJ				AMB	AMB		
	comp=Z,74nm,1.1s,mb5.3						
MDJ				LR	LR		
	comp=N,20µm,16.4s,MS5.9						
MDJ				LR	LR		
	comp=E,17µm,19.2s,MS5.9						
MDJ				LR	LR		
	comp=Z,23µm,21.9s,MS5.8						
MDJ	**Mudanjiang**	**30.09**	**273**	*e*P	**P**	**20 32 09.6**	**-2.5**
	comp=Z,90nm,1.0s,mb5.5						
DLBC	**Dease Lake**	**31.60**	**56**	S	**S**	**20 37 25.0**	**-6.1**
	comp=Z,7.3nm,1.0s,baz=49,slow=20,SNR=1.9						
DLBC				LR	LR	20 46 13.3	
	comp=Z,19µm,18.3s,MS5.8,baz=283,slow=38						
DLBC	**Dease Lake**	**31.60**	**56**⇑	*e*P	**P**	**20 32 25.8**	**+0.5**
CN2	**Changchun**	**33.05**	**275**	*e*P	**P**	**20 32 35.9**	**-2.2**
CN2				*e*AP	pP	20 32 47.8	+1.0
CN2				*e*XP	sP	20 32 53.3	+2.8
CN2				*e*S	**S**	**20 37 44.6**	**-9.3**
CN2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.2						
CN2				LR	LR		
	comp=N,15µm,18.0s,MS5.9						
CN2				LR	LR		
	comp=E,17µm,18.0s,MS5.9						
CN2				LR	LR		
	comp=Z,26µm,20.0s,MS5.9						
HIA	**Hailar**	**33.85**	**287**	*e*P	**P**	**20 32 42.6**	**-2.4**
	comp=Z,160nm,1.0s,mb5.9						
BOD	**Bodaibo**	**33.90**	**304**	*e*P	**P**	**20 32 42.8**	**-2.5**
BBB	**Bella Bella**	**34.63**	**66**	LR	LR	20 45 29.2	
	comp=Z,8µm,20.0s,MS5.5,baz=296,slow=34						
KS15	**Wonju Array Si**	**35.29**	**264**	*e*P	**P**	**20 32 57.1**	**-0.4**
SNY	**Shenyang**	**35.29**	**273**	⇑P	**P**	**20 32 55.0**	**-2.4**
SNY				PP	PP	20 34 21.0	+4.0
SNY				S	**S**	**20 38 31.8**	**+3.2**
SNY				LR	LR		
	comp=N,19µm,18.9s						
SNY				LR	LR		
	comp=Z,12µm,20.1s,MS5.7						
INCN	**Inchon**	**36.03**	**265**	P	**P**	**20 33 04.0**	**+0.3**
INCN				PP	PP	20 34 35.3	+9.4
INCN				S	**S**	**20 38 44.5**	**+4.4**
INCN	**Inchon**	**36.03**	**265**	*e*P	**P**	**20 33 03.5**	**-0.2**
	comp=Z,495nm,1.3s,mb6.3						
INCN				LR	LR		
	comp=Z,5µm,19.0s,MS5.3						
KIP	**Kipapa**	**37.53**	**134**	P	**P**	**20 33 18.2**	**+1.8**
KIP				pmax	pmax		
	comp=Z,99nm,0.8s,mb5.6						
KIP				MLR	MLR		
	comp=Z,21µm,21.0s,MS5.9						
KIP	**Kipapa**	**37.53**	**134**	*e*P	**P**	**20 33 17.9**	**+1.5**
	comp=Z,99nm,0.8s,mb5.6						
KIP				LR	LR		
	comp=Z,21µm,21.0s,MS5.9						
YKW3	**Yellowknife Ar**	**37.84**	**46**⇑	*e*P	**P**	**20 33 17.2**	**-1.4**
YKA	**Yellowknife Ar**	**37.86**	**46**	P	**P**	**20 33 18.3**	**-0.6**
	comp=Z,14nm,0.5s,mb5.0,baz=288,slow=7.5,SNR=25						
YKA				S	**S**	**20 38 55.8**	**-12**
	comp=Z,3.0nm,0.8s,baz=220,slow=47,SNR=2.7						
DL2	**Dalian**	**38.22**	**271**	P	**P**	**20 33 21.9**	**-0.2**
DL2				XP	sP	20 33 33.8	-0.7
DL2				PP	PP	20 34 54.8	+1.7
DL2				S	**S**	**20 39 14.8**	**+1.3**
DL2				AMB	AMB		
	comp=Z,300nm,1.0s,mb6.0						
DL2				AMB	AMB		
	comp=Z,1µm,7.8s						
DL2				LR	LR		
	comp=N,7µm,19.2s,MS5.6						
DL2				LR	LR		
	comp=E,4µm,16.7s,MS5.6						
DL2				LR	LR		
	comp=Z,7µm,16.2s,MS5.6						
PGC	**Sidney**	**38.88**	**70**	*e*P	**P**	**20 33 27.3**	**-0.2**
	comp=Z,32nm,0.6s,mb5.2						
OCWA	**Octopus Mounta**	**38.91**	**71**	*e*P	**P**	**20 33 28.8**	**+1.0**
	comp=Z,32nm,0.7s,mb5.2						
OCWA				LR	LR		
	comp=Z,22µm,19.0s,MS6.0						
HDW	**Hoodsport**	**39.61**	**71**	P	**P**	**20 33 33.6**	**0.0**
GNW	**Green Mountain**	**39.79**	**71**	*e*P	**P**	**20 33 35.3**	**+0.2**
CPW	**Capitol Peak**	**39.91**	**72**	P	**P**	**20 33 37.1**	**+1.0**
BMW	**Boistfort Moun**	**40.12**	**72**	P	**P**	**20 33 41.7**	**+3.9**
BMW	**Boistfort Moun**	**40.12**	**72**	*e*P	**P**	**20 33 39.1**	**+1.3**
HTW	**Haystack Looko**	**40.28**	**70**	P	**P**	**20 33 39.8**	**+0.7**
RMW	**Rattlesnake Mo**	**40.43**	**70**	P	**P**	**20 33 42.1**	**+1.7**
RMW				*e*		20 33 57.6	
RMW	**Rattlesnake Mo**	**40.43**	**70**	*e*P	**P**	**20 33 41.6**	**+1.2**
GSM	**Grass Mountain**	**40.57**	**71**	P	**P**	**20 33 41.5**	**0.0**
PNT	**Penticton**	**40.73**	**67**	P	**P**	**20 33 42.5**	**-0.3**
RCS	**Mount Rainier-**	**40.78**	**71**	P	**P**	**20 33 43.9**	**+0.7**
FMW	**Mount Fremont**	**40.79**	**71**	P	**P**	**20 33 42.9**	**-0.4**
LON	**Longmire**	**40.80**	**71**	P	**P**	**20 33 44.4**	**+1.0**
RES	**Resolute Bay**	**40.82**	**24**	P	**P**	**20 33 44.1**	**+0.8**
RES				pmax	pmax		
	comp=Z,86nm,1.0s,mb5.3						
RES	**Resolute Bay**	**40.82**	**24**	*e*P	**P**	**20 33 43.2**	**-0.1**
	comp=Z,86nm,1.0s,mb5.3						
SHW	**Mount Saint He**	**40.85**	**72**	P	**P**	**20 33 45.8**	**+2.0**
SHW	**Mount Saint He**	**40.85**	**72**	*e*P	**P**	**20 33 44.2**	**+0.4**
BJI	**Beijing**	**40.88**	**276**	P	**P**	**20 33 43.3**	**-0.8**
BJI				S	**S**	**20 39 53.4**	**0.0**
BJI				AMB	AMB		
	comp=Z,157nm,1.9s,mb5.3						
BJI				LR	LR		
	comp=N,15µm,19.2s,MS6.0						
BJI				LR	LR		
	comp=E,13µm,20.6s,MS6.0						
BJI				LR	LR		
	comp=Z,7µm,21.1s,MS5.5						
BJT	**Baijiatuau**	**40.90**	**276**	*e*P	**P**	**20 33 43.8**	**-0.5**
	comp=Z,273nm,1.3s,mb5.7						
NLW	**Nelson Butte**	**40.96**	**69**	P	**P**	**20 33 44.4**	**-0.2**
COR	**Corvallis**	**41.10**	**75**	P	**P**	**20 33 47.4**	**+1.5**
COR				pmax	pmax		
	comp=Z,110nm,1.2s,mb5.4						
COR				MLR	MLR		
	comp=Z,3µm,22.0s,MS5.1						
COR	**Corvallis**	**41.10**	**75**	*e*P	**P**	**20 33 46.1**	**+0.2**
	comp=Z,114nm,1.3s,mb5.3						
COR				LR	LR		
	comp=Z,3µm,22.0s,MS5.1						
TWW	**Teanaway**	**41.15**	**70**	P	**P**	**20 33 46.7**	**+0.5**
ETW	**Entiat**	**41.21**	**69**	P	**P**	**20 33 46.5**	**-0.2**
IRK	**Irkutsk**	**41.23**	**299**	*e*P	**P**	**20 33 46.7**	**-0.1**
TBM	**Table Mountain**	**41.28**	**70**	P	**P**	**20 33 46.8**	**-0.6**
WTV	**Waterville**	**41.38**	**69**	P	**P**	**20 33 47.7**	**-0.4**
SSOR	**Sweet Springs**	**41.45**	**74**	P	**P**	**20 33 49.8**	**+1.1**
SSOR	**Sweet Springs**	**41.45**	**74**	*e*P	**P**	**20 33 48.6**	**-0.1**
TDH	**Tom, Dick, Har**	**41.60**	**73**	P	**P**	**20 33 51.2**	**+1.3**
SAW	**Saint Andrews**	**41.69**	**69**	P	**P**	**20 33 50.3**	**-0.3**
VFP	**Flag Point**	**41.78**	**73**	P	**P**	**20 33 51.2**	**-0.2**
HSO	**Harness Mounta**	**41.82**	**76**	P	**P**	**20 33 54.3**	**+2.6**
HSO	**Harness Mounta**	**41.82**	**76**	P	**P**	**20 33 52.3**	**+0.6**
ULN	**Ulaanbaatar**	**41.89**	**292**	PFAKE		20 34 00.0	+7.8
ULN				LR	LR		
	comp=Z,21µm,20.0s,MS6.0						
VGB	**Gordon Butte**	**42.08**	**72**	P	**P**	**20 33 55.1**	**+1.3**
EDM	**Edmonton**	**42.23**	**59**	P	**P**	**20 33 54.9**	**0.0**
EDM	**Edmonton**	**42.23**	**59**⇑	*e*P	**P**	**20 33 54.8**	**-0.2**
SONM	**Songino Array**	**42.28**	**292**	P	**P**	**20 33 55.4**	**-0.1**
	comp=Z,40nm,0.6s,mb5.2,baz=58,slow=6.3,SNR=188						
SONM				PKPPKP		21 05 56.3	
	comp=Z,0.4nm,0.8s,SNR=3.5						
DPW	**Davenport**	**42.29**	**68**	P	**P**	**20 33 55.3**	**-0.2**
HAWA	**Hanford**	**42.32**	**70**	PFAKE		20 34 10.0	+14
HAWA				LR	LR		
	comp=Z,683nm,19.0s						
HUMO	**Hull Mountain**	**42.43**	**77**	*e*P	**P**	**20 33 56.6**	**-0.1**
	comp=Z,18nm,1.0s,mb4.7						
HUMO				LR	LR		
	comp=Z,21µm,22.0s,MS6.0						
KRMB	**Red Mountain**	**42.49**	**79**	*e*P	**P**	**20 33 55.3**	**-2.0**
TIA	**Tai'an**	**42.69**	**271**	⇑P	**P**	**20 33 59.8**	**+0.8**
TIA				AP	pP	20 34 11.5	+3.8
TIA				S	**S**	**20 40 22.6**	**+2.4**
TIA				AMB	AMB		
	comp=Z,572nm,1.8s,mb6.0						
TIA				AMB	AMB		
	comp=Z,2µm,10.0s						
TIA				LR	LR		
	comp=N,9µm,18.3s,MS5.8						
TIA				LR	LR		
	comp=E,9µm,17.8s,MS5.8						
NEW	**Newport**	**42.69**	**67**	LR	LR	20 53 16.6	
	comp=E,9µm,19.0s,MS5.7,baz=302,slow=38						
NEW	**Newport**	**42.69**	**67**	P	**P**	**20 33 58.0**	**-0.8**
NEW				pmax	pmax		
	comp=Z,91nm,0.8s						
NEW				MLR	MLR		
	comp=Z,10µm,20.0s						
NEW	**Newport**	**42.69**	**67**⇑	*i*P	**P**	**20 33 58.1**	**-0.7**
	comp=Z,91nm,0.8s,mb5.6						
NEW			⇓	*e*pP	pP	20 34 04.9	-2.7
NEW				LR	LR		
	comp=Z,10µm,20.0s,MS5.7						
ZAK	**Zakamensk**	**42.69**	**297**⇑	*i*P	**P**	**20 33 58.2**	**-0.6**
KHMM	**Horse Mountain**	**42.99**	**80**	*e*P	**P**	**20 34 01.1**	**-0.2**
YBH	**Yreka Blue Hor**	**43.09**	**78**	P	**P**	**20 34 03.3**	**+1.1**
YBH				pmax	pmax		
	comp=Z,35nm,1.0s						
YBH				MLR	MLR		
	comp=Z,25µm,22.0s						
YBH	**Yreka Blue Hor**	**43.09**	**78**	*e*P	**P**	**20 34 02.4**	**+0.2**
	comp=Z,35nm,1.1s,mb5.0						
YBH				LR	LR		
	comp=Z,25µm,22.0s,MS6.1						
HHC	**Hu-ho-hao-te**	**43.20**	**281**	*e*P	**P**	**20 34 03.1**	**+0.1**
HHC				AP	pP	20 34 10.5	-1.3
HHC				XP	sP	20 34 13.9	-1.5
HHC				PP	PP	20 35 46.1	+0.6
HHC				PCP	PcP	20 35 55.0	+2.4
HHC				PCS		20 39 46.4	
HHC				S	**S**	**20 40 27.0**	**-0.5**
HHC				XS		20 40 38.8	
HHC				SS	SS	20 43 37.3	+3.2
HHC				SCS	ScS	20 44 01.1	+2.4
HHC				AMB	AMB		
	comp=Z,168nm,2.1s,mb5.4						
HHC				LR	LR		
	comp=N,7µm,20.8s,MS5.7						
HHC				LR	LR		
	comp=E,6µm,20.2s,MS5.7						
MOY	**Mondy**	**43.27**	**300**	*e*P	**P**	**20 34 03.0**	**-0.5**
LNOR	**Lincton Mounta**	**43.33**	**70**	P	**P**	**20 34 04.3**	**+0.3**
KWAJ	**Kwajalein Atol**	**43.58**	**189**	PFAKE		20 34 20.0	+14
KWAJ				LR	LR		
	comp=Z,5µm,21.0s,MS5.4						
SSE	**Sheshan**	**43.65**	**262**	P	**P**	**20 34 07.3**	**+0.5**
SSE				AP	pP	20 34 16.1	+0.6
SSE				PCP	PcP	20 35 52.6	-1.7
SSE				S	**S**	**20 40 36.4**	**+2.3**
SSE				XS		20 40 48.8	
SSE				AMB	AMB		
	comp=Z,193nm,1.2s,mb5.7						
SSE				AMB	AMB		
	comp=Z,2µm,8.1s						
SSE				LR	LR		
	comp=N,9µm,22.7s,MS5.7						
SSE				LR	LR		
	comp=E,4µm,22.7s,MS5.7						
SSE				LR	LR		
	comp=Z,9µm,24.5s,MS5.6						
WDC	**Whiskeytown Da**	**43.89**	**79**	P	**P**	**20 34 10.0**	**+1.4**
WDC				pmax	pmax		
	comp=Z,48nm,1.1s,mb5.1						
WDC	**Whiskeytown Da**	**43.89**	**79**	*e*P	**P**	**20 34 09.1**	**+0.5**
	comp=Z,48nm,1.1s,mb5.1						
WDC				LR	LR		
	comp=Z,9µm,20.0s,MS5.7						
BTO	**Baotou**	**44.28**	**281**	*e*P	**P**	**20 34 12.6**	**+0.8**
BTO				S	**S**	**20 40 48.3**	**+5.1**
NJ2	**Nanjing**	**44.41**	**265**	*e*P	**P**	**20 34 12.5**	**-0.5**
NJ2				S	**S**	**20 40 43.0**	**-2.2**
NJ2				XS		20 41 05.0	
NJ2				AMB	AMB		
	comp=Z,740nm,5.3s						
NJ2				LR	LR		
	comp=N,22µm,17.7s,MS6.2						
NJ2				LR	LR		
	comp=E,17µm,17.9s,MS6.2						
NJ2				LR	LR		
	comp=Z,26µm,17.7s,MS6.2						
MOD	**Modoc**	**44.44**	**76**	*e*P	**P**	**20 34 13.2**	**+0.1**
	comp=Z,56nm,1.1s,mb5.2						
MOD				LR	LR		
	comp=Z,18µm,22.0s,MS6.0						
HOPS	**Hopland**	**44.54**	**81**	*e*P	**P**	**20 34 14.3**	**+0.3**
	comp=Z,52nm,0.9s,mb5.4						
HOPS				LR	LR		
	comp=Z,34µm,21.0s,MS6.2						
WVOR	**Wild Horse Val**	**45.11**	**75**	*e*P	**P**	**20 34 19.7**	**+1.3**
WVOR				pmax	pmax		
	comp=Z,39nm,1.0s,mb5.2						
WVOR	**Wild Horse Val**	**45.11**	**75**⇑	*e*P	**P**	**20 34 18.3**	**-0.2**
	comp=Z,39nm,1.0s,mb5.2						
WVOR			⇓	*e*pP	pP	20 34 24.6	-2.6
WVOR				LR	LR		
	comp=Z,13µm,20.0s,MS5.9						
NSHM	**Saint Helena R**	**45.12**	**82**	*e*P	**P**	**20 34 19.2**	**+0.6**
MSO	**Missoula**	**45.28**	**67**	*e*P	**P**	**20 34 18.8**	**-0.9**
	comp=Z,35nm,0.9s,mb5.2						
MSO				LR	LR		
	comp=Z,6µm,22.0s,MS5.5						
OHCM	**Honcut**	**45.29**	**80**	*e*P	**P**	**20 34 20.2**	**+0.2**
CHMT	**Chamberlain Mo**	**45.62**	**66**	*e*P	**P**	**20 34 21.1**	**-1.3**
BEKR	**Beckwourth**	**45.64**	**79**	*e*P	**P**	**20 34 22.1**	**-0.6**
	comp=Z,62nm,0.3s,mb6.0						
WCN	**Washoe City**	**46.36**	**79**	P	**P**	**20 34 30.2**	**+1.9**
WCN				pmax	pmax		
	comp=Z,99nm,1.5s,mb5.5						
WCN	**Washoe City**	**46.36**	**79**	*e*P	**P**	**20 34 28.9**	**+0.6**
	comp=Z,99nm,1.6s,mb5.5						
HRY	**Holter Researc**	**46.54**	**66**	*e*P	**P**	**20 34 28.9**	**-0.7**
CMB	**Columbia Colle**	**46.78**	**81**	P	**P**	**20 34 32.3**	**+0.6**
CMB				pmax	pmax		
	comp=Z,29nm,1.1s,mb5.1						
CMB				MLR	MLR		
	comp=Z,37µm,22.0s,MS6.3						
CMB	**Columbia Colle**	**46.78**	**81**	*e*P	**P**	**20 34 31.6**	**0.0**
	comp=Z,28nm,1.1s,mb5.1						
CMB				LR	LR		
	comp=Z,37µm,22.0s,MS6.3						
HLID	**Hailey**	**46.92**	**71**	*e*P	**P**	**20 34 32.2**	**-0.5**
	comp=Z,29nm,1.0s,mb5.2						
HLID				LR	LR		
	comp=Z,10µm,20.0s,MS5.8						
SAO	**San Andreas Ge**	**46.95**	**83**	P	**P**	**20 34 43.1**	**+10**
SAO				pmax	pmax		
	comp=Z,51nm,1.1s,mb5.4						
SAO				MLR	MLR		
	comp=Z,14µm,20.0s,MS5.9						
SAO	**San Andreas Ge**	**46.95**	**83**	P	**P**	**20 34 32.5**	**-0.6**
	comp=Z,51nm,1.1s,mb5.4						
SAO				LR	LR		
	comp=Z,14µm,20.0s,MS5.9						
MCMT	**McKenzie Canyo**	**47.06**	**68**	*e*P	**P**	**20 34 32.8**	**-1.1**
BMN	**Battle Mountai**	**47.18**	**76**	P	**P**	**20 34 35.1**	**+0.3**
BMN				pmax	pmax		
	comp=Z,43nm,1.0s,mb5.3						
BMN				MLR	MLR		
	comp=Z,20µm,22.0s,MS6.0						
BMN	**Battle Mountai**	**47.18**	**76**	*e*P	**P**	**20 34 34.0**	**-0.8**
	comp=Z,43nm,1.0s,mb5.3						
BMN				LR	LR		
	comp=Z,20µm,22.0s,MS6.0						
FFC	**Flin Flon**	**47.19**	**52**	PFAKE		20 34 50.0	+15
FFC				LR	LR		
	comp=Z,6µm,22.0s,MS5.5						
BOZ	**Bozeman (W)**	**47.27**	**67**	P	**P**	**20 34 34.6**	**-0.9**
BOZ				pmax	pmax		
	comp=Z,36nm,0.7s,mb5.4						
BOZ	**Bozeman (W)**	**47.27**	**67**	*e*P	**P**	**20 34 34.4**	**-1.1**
	comp=Z,36nm,0.7s,mb5.4						
BOZ				LR	LR		
	comp=Z,10µm,21.0s,MS5.7						
LRV	**Little Rabbit**	**47.43**	**83**	P	**P**	**20 34 38.3**	**+1.4**
NVAR	**Mina Array Bea**	**47.79**	**79**	P	**P**	**20 34 39.8**	**+0.1**
	comp=Z,15nm,0.9s,mb5.0,baz=294,slow=7.2,SNR=17						
NVAR				LR	LR	20 51 37.6	
	comp=Z,16µm,21.4s,MS6.0,baz=325,slow=32						
QLMT	**Earthquake Lak**	**47.87**	**68**	*e*P	**P**	**20 34 39.1**	**-1.1**
MNV	**Mina**	**47.88**	**79**	*e*P	**P**	**20 34 41.2**	**+0.9**
MNV				pmax	pmax		
	comp=Z,28nm,1.0s,mb5.2						
MNV	**Mina**	**47.88**	**79**	*e*P	**P**	**20 34 39.9**	**-0.4**
	comp=Z,28nm,1.1s,mb5.2						
MNV				LR	LR		
	comp=Z,18µm,22.0s,MS6.0						
OMM	**Old Mammoth Mi**	**47.89**	**80**	*e*P	**P**	**20 34 41.4**	**+1.0**
TATO	**Taipei**	**47.91**	**256**	*e*P	**P**	**20 34 38.5**	**-2.3**
	comp=Z,36nm,0.7s,mb5.5						
TATO				LR	LR		
	comp=Z,9µm,21.0s,MS5.7						
ELK	**Elko**	**48.16**	**74**	PFAKE		20 34 50.0	+7.5
ELK				LR	LR		
	comp=Z,3µm,19.0s,MS5.2						
WHN	**Wuhan**	**48.22**	**268**	⇑P	**P**	**20 34 42.8**	**-0.3**
WHN				LR	LR		
	comp=N,2µm,14.9s,MS6.1						
WHN				LR	LR		
	comp=E,14µm,16.4s,MS6.1						
WHN				LR	LR		
	comp=Z,15µm,20.8s,MS5.9						
YMR	**Madison River**	**48.23**	**68**	*e*P	**P**	**20 34 43.5**	**+0.5**
GCMT	**Greycliff**	**48.29**	**66**	*e*P	**P**	**20 34 43.3**	**-0.1**
MTUM	**Tungsten Hills**	**48.32**	**80**	*e*P	**P**	**20 34 43.6**	**-0.2**
FCC	**Fort Churchill**	**48.53**	**44**	P	**P**	**20 34 44.5**	**-0.6**
FCC				pmax	pmax		
	comp=Z,70nm,0.8s,mb5.7						
FCC	**Fort Churchill**	**48.53**	**44**	*e*P	**P**	**20 34 43.8**	**-1.2**
	comp=Z,70nm,0.8s,mb5.7						
TPH	**Tonopah**	**48.67**	**78**	P	**P**	**20 34 47.6**	**+1.2**
TPH				pmax	pmax		
	comp=Z,40nm,1.0s,mb5.4						
TPH				MLR	MLR		
	comp=Z,24µm,22.0s,MS6.1						
TPH	**Tonopah**	**48.67**	**78**	*e*P	**P**	**20 34 46.8**	**+0.3**
	comp=Z,40nm,1.0s,mb5.4						
TPH				LR	LR		
	comp=Z,24µm,22.0s,MS6.1						
KBS	**Kingsbay**	**48.71**	**355**	*e*P	**P**	**20 34 46.8**	**+0.5**
KBS				AMb	AMB	20 34 54.0	
	comp=Z,218nm,1.8s,mb5.9						
KBS				*e*PP	PP	20 36 36.9	-2.3
KBS				*e*S	**S**	**20 41 40.5**	**-5.3**
KBS				*e*SS	SS	20 45 17.4	+5.9
KBS				AMS	AMS	20 55 00.6	
	comp=Z,11µm,21.1s,MS5.8						
KBS	**Kingsbay**	**48.71**	**355**	P	**P**	**20 34 46.1**	**-0.2**
KBS				pmax	pmax		
	comp=Z,190nm,1.2s,mb6.0						
KBS	**Kingsbay**	**48.71**	**355**	*e*P	**P**	**20 34 46.8**	**+0.5**
	comp=Z,218nm,1.8s,mb5.9						

KBS				LR	LR		
	comp=Z,11190µm,21.1s						
IMW	**Indian Meadow**	**48.72**	**68**	*e*P	**P**	**20 34 46.8**	**+0.1**
MOOW	**Moose Ponds**	**48.92**	**68**	*e*P	**P**	**20 34 48.1**	**-0.2**
TPAW	**Teton Pass**	**48.96**	**69**	*e*P	**P**	**20 34 49.0**	**+0.4**
HVU	**Hansel Valley**	**48.96**	**72**	P	**P**	**20 34 48.6**	**-0.1**
HVU	**Hansel Valley**	**48.96**	**72**	*e*P	**P**	**20 34 48.1**	**-0.6**
WUWY	**Wally Ulrich**	**49.05**	**69**	*e*P	**P**	**20 34 47.9**	**-1.4**
SNOW	**Snow King Moun**	**49.09**	**69**	*e*P	**P**	**20 34 49.4**	**-0.3**
REDW	**Red Top Meadow**	**49.10**	**69**	*e*P	**P**	**20 34 50.3**	**+0.7**
XAN	**Xi'an**	**49.17**	**275**	P	**P**	**20 34 49.5**	**-0.8**
XAN				AP	pP	20 34 58.9	-0.4
XAN				PP	PP	20 36 47.8	+3.5
XAN				S	**S**	**20 41 49.8**	**-2.9**
XAN				AMB	AMB		
	comp=Z,150nm,1.5s,mb5.8						
XAN				LR	LR		
	comp=N,6µm,22.2s,MS5.8						
XAN				LR	LR		
	comp=E,8µm,21.0s,MS5.8						
XAN				LR	LR		
	comp=Z,15µm,21.9s,MS6.0						
AHID	**Auburn Hatcher**	**49.32**	**70**	*e*P	**P**	**20 34 51.5**	**+0.1**
	comp=Z,32nm,1.0s,mb5.3						
AHID				LR	LR		
	comp=Z,16µm,19.0s,MS6.0						
SPUT	**South Promonto**	**49.45**	**72**	P	**P**	**20 34 51.5**	**-0.9**
DAC	**Darwin (Calif)**	**49.62**	**80**	P	**P**	**20 34 54.7**	**+0.9**
DAC				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
DAC	**Darwin (Calif)**	**49.62**	**80**	*e*P	**P**	**20 34 54.1**	**+0.3**
	comp=Z,8.7nm,0.9s,mb4.8						
DAC				LR	LR		
	comp=Z,22µm,22.0s,MS6.1						
LAO	**LASA Array**	**49.66**	**63**	*e*P	**P**	**20 34 53.3**	**-0.6**
	comp=Z,65nm,0.8s,mb5.7						
LAO				LR	LR		
	comp=Z,12µm,19.0s,MS5.9						
QZH	**Quanzhou**	**49.67**	**259**	⇑*i*P	**P**	**20 34 53.8**	**-0.5**
QZH				PP	PP	20 36 49.0	-0.5
QZH				S	**S**	**20 42 03.0**	**+3.2**
QZH				LR	LR		
	comp=N,13µm,21.0s,MS6.0						
QZH				LR	LR		
	comp=E,10µm,18.2s,MS6.0						
QZH				LR	LR		
	comp=Z,11µm,20.0s,MS5.9						
DGMT	**Dagmar**	**49.68**	**60**	*e*P	**P**	**20 34 52.5**	**-1.5**
	comp=Z,70nm,0.7s,mb5.8						
DGMT				LR	LR		
	comp=Z,12µm,19.0s,MS5.9						
HWUT	**Hardware Ranch**	**49.78**	**71**	*e*P	**P**	**20 34 55.0**	**+0.1**
	comp=Z,26nm,1.1s,mb5.2						
HWUT				LR	LR		
	comp=Z,10µm,20.0s,MS5.8						
DUG	**Dugway**	**49.94**	**73**	P	**P**	**20 34 56.1**	**-0.1**
DUG				pmax	pmax		
	comp=Z,85nm,1.3s,mb5.6						
DUG				MLR	MLR		
	comp=Z,8µm,22.0s,MS5.7						
DUG	**Dugway**	**49.94**	**73**	*e*P	**P**	**20 34 55.1**	**-1.1**
	comp=Z,6.4nm,1.3s						
DUG				LR	LR		
	comp=Z,497nm,22.0s						
TPNV	**Topopah Spring**	**49.99**	**79**	P	**P**	**20 34 56.3**	**-0.3**
TPNV				pmax	pmax		
	comp=Z,55nm,1.1s,mb5.5						
TPNV				MLR	MLR		
	comp=Z,28µm,20.0s,MS6.3						
TPNV	**Topopah Spring**	**49.99**	**79**	*e*P	**P**	**20 34 55.8**	**-0.8**
	comp=Z,55nm,1.1s,mb5.5						
TPNV				LR	LR		
	comp=Z,28µm,20.0s,MS6.3						
TCUT	**Toone Canyon**	**50.18**	**71**	*e*P	**P**	**20 34 57.5**	**-0.5**
BW06	**Boulder Array**	**50.21**	**69**	*e*P	**P**	**20 34 57.2**	**-1.0**
	comp=Z,24nm,0.8s,mb5.3						
BW06				LR	LR		
	comp=Z,8µm,21.0s,MS5.7						
PDAR	**Pinedale Array**	**50.21**	**69**	P	**P**	**20 34 58.5**	**+0.2**
	comp=Z,21nm,0.8s,mb5.2,baz=312,slow=3.0,SNR=104						
PDAR				LR	LR	20 54 47.4	
	comp=Z,6µm,21.1s,MS5.6,baz=321,slow=34						
NVS	**Novosibirsk**	**50.39**	**311**	⇑*i*P	**P**	**20 34 56.7**	**-2.7**
NVS				*i*		20 36 54.3	
NVS				*i* S	**S**	**20 42 05.6**	**-3.8**
NVS				*i*		20 44 47.1	
NVS				pmax	pmax		
	comp=N,344nm,1.6s						
NVS				pmax	pmax		
	comp=E,377nm,1.6s						
NVS				pmax	pmax		
	comp=Z,559nm,1.6s,mb6.3						
NVS				pmax	pmax		
	comp=N,79nm,1.5s						
NVS				pmax	pmax		
	comp=E,87nm,1.5s						
NVS				pmax	pmax		
	comp=Z,114nm,1.5s,mb5.7						
NVS				smax			
	comp=N,336nm,2.2s						
NVS				smax			
	comp=E,113nm,1.8s						
JLU	**Jordanelle**	**50.48**	**72**	*e*P	**P**	**20 35 00.3**	**0.0**
NLU	**North Lily Min**	**50.53**	**73**	*e*P	**P**	**20 35 00.1**	**-0.6**
MWC	**Mount Wilson**	**50.70**	**83**	P	**P**	**20 35 02.6**	**+0.5**
MWC	**Mount Wilson**	**50.70**	**83**	*e*P	**P**	**20 35 02.2**	**+0.1**
DAU	**Daniels Canyon**	**50.72**	**72**	*e*P	**P**	**20 35 03.7**	**+1.6**
DAU	**Daniels Canyon**	**50.72**	**72**	*e*P	**P**	**20 35 02.8**	**+0.7**
MPU	**Maple Canyon**	**50.75**	**73**	*e*P	**P**	**20 35 01.7**	**-0.7**
LZH	**Lanzhou**	**50.89**	**281**	⇑P	**P**	**20 35 03.8**	**+0.3**
LZH				AP	pP	20 35 09.6	-2.8
LZH				XP	sP	20 35 12.5	-3.4
LZH				PP	PP	20 37 00.8	+0.1
LZH				*e*S	**S**	**20 42 16.5**	**-0.1**
LZH				SS	SS	20 45 48.5	-0.7
LZH				LR	LR		
	comp=E,13µm,15.1s						
LZH				LR	LR		
	comp=Z,19µm,17.5s,MS6.2						
DAG	**Danmarks Havn**	**51.06**	**4** *j*	*i*P	**P**	**20 35 04.2**	**-0.1**
	comp=Z,32nm,0.7s,mb5.3						
	comp=Z,22µm,22.0s						
DAG	**Danmarks Havn**	**51.06**	**4**	*i* Pdu		20 35 04.2	
	comp=Z,32nm,0.7s						
DAG				LR	LR		
	comp=Z,22µm,22.0s,MS6.1						
BBP	**Basco**	**51.09**	**252**	*e*P	**P**	**20 35 05.1**	**0.0**
GTA	**Gaotai**	**51.12**	**287**	P	**P**	**20 35 04.3**	**-0.9**
GTA				AP	pP	20 35 10.8	-3.3
GTA				XP	sP	20 35 13.5	-4.1
GTA				PCP	PcP	20 36 20.4	-0.4
GTA				PP	PP	20 37 04.0	+1.3
GTA				PPP	PPP	20 38 08.8	+5.7
GTA				SCP		20 40 15.0	
GTA				SCS	ScS	20 44 52.5	+2.1
GTA				AMB	AMB		
	comp=Z,128nm,1.3s,mb5.7						
GTA				LR	LR		
	comp=N,8µm,17.9s,MS5.9						
GTA				LR	LR		
	comp=E,8µm,18.2s,MS5.9						
GTA				LR	LR		
	comp=Z,10µm,20.5s,MS5.8						
ARUT	**Antelope Range**	**51.13**	**76**	P	**P**	**20 35 10.9**	**+5.7**
ARUT	**Antelope Range**	**51.13**	**76**	P	**P**	**20 35 04.2**	**-1.1**
ENH	**Enshi**	**51.41**	**271**	*e*P	**P**	**20 35 05.5**	**-1.9**
	comp=Z,283nm,1.4s,mb6.0						
NEN	**Nelson**	**51.70**	**79**	*e*P	**P**	**20 35 09.4**	**-0.2**
LDFC	**Landfair**	**51.92**	**80**	*e*P	**P**	**20 35 10.6**	**-0.7**
SRU	**San Rafael**	**51.99**	**73**	P	**P**	**20 35 11.6**	**-0.2**
SRU	**San Rafael**	**51.99**	**73**	*e*P	**P**	**20 35 11.0**	**-0.8**
PFO	**Pinyon Flat Ob**	**52.10**	**82**	P	**P**	**20 35 12.2**	**-0.5**
PFO				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
PFO	**Pinyon Flat Ob**	**52.10**	**82**	*e*P	**P**	**20 35 11.3**	**-1.4**
	comp=Z,10nm,0.9s,mb4.8						
RSSD	**Black Hills**	**52.47**	**64**	P	**P**	**20 35 14.2**	**-1.1**
RSSD				pmax	pmax		
	comp=Z,25nm,0.8s,mb5.2						
RSSD	**Black Hills**	**52.47**	**64**	*e*P	**P**	**20 35 13.6**	**-1.7**
	comp=Z,25nm,0.8s,mb5.2						
RSSD				LR	LR		
	comp=Z,2µm,19.0s,MS5.3						
BJO	**Bjornoya**	**52.48**	**352**	*e*P	**P**	**20 35 15.3**	**+0.3**
BJO				*e*PP	PP	20 37 09.8	-5.0
BJO				*e*S	**S**	**20 42 40.1**	**+2.3**
BJO				*e*SS	SS	20 46 17.1	+2.5
BJO				AMS	AMS	20 56 49.6	
	comp=Z,6µm,24.2s,MS5.5						
BAR	**Barrett**	**52.60**	**83**	*e*P	**P**	**20 35 16.1**	**-0.4**
ULM	**Lac du Bonnet**	**52.86**	**54**	P	**P**	**20 35 16.7**	**-1.4**
	comp=Z,76nm,1.0s,mb5.6,baz=306,slow=8.0,SNR=32						
ULM				LR	LR	20 58 44.3	
	comp=Z,14µm,18.2s,MS6.0,baz=314,slow=37						
ULM	**Lac du Bonnet**	**52.86**	**54**	⇑*e*P	**P**	**20 35 16.5**	**-1.6**
	comp=Z,84nm,0.9s,mb5.7						
ULM				LR	LR		
	comp=Z,21µm,20.0s,MS6.2						
CVP	**Callao Caves**	**53.31**	**250**	*e*P	**P**	**20 35 22.5**	**+0.6**
	comp=Z,22µm,1.0s						
PV10	**Paradox Valley**	**53.35**	**73**	*e*P	**P**	**20 35 21.0**	**-0.9**
PALP	**Palanan**	**53.47**	**249**	*e*P	**P**	**20 35 24.6**	**+1.6**
SUMG	**Summit**	**53.49**	**12**	⇑*e*P	**P**	**20 35 21.7**	**-0.8**
	comp=Z,115nm,0.6s,mb6.0						
APYP	**Conner**	**53.52**	**251**	*e*P	**P**	**20 35 22.4**	**-1.1**
PV01	**Paradox Valley**	**53.78**	**73**	*e*P	**P**	**20 35 24.8**	**-0.3**
CAUP	**Cauayan**	**53.91**	**249**	*e*P	**P**	**20 35 27.6**	**+1.3**
ABRA	**Dolores**	**54.00**	**251**	*e*P	**P**	**20 35 27.6**	**+0.7**
GZH	**Guangzhou**	**54.24**	**262**	P	**P**	**20 35 23.8**	**-4.8**
GZH				S	**S**	**20 42 55.4**	**-7.0**
GZH				AMB	AMB		
	comp=Z,3µm,11.6s						
GZH				LR	LR		
	comp=N,7µm,17.8s,MS5.9						
GZH				LR	LR		
	comp=E,6µm,16.5s,MS5.9						
GZH				LR	LR		
	comp=Z,8µm,27.0s						
ISCO	**Idaho Springs**	**54.39**	**69**	P	**P**	**20 35 31.1**	**+1.6**
ISCO				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.8						
ISCO				MLR	MLR		
	comp=Z,15µm,19.0s,MS6.1						
ISCO	**Idaho Springs**	**54.39**	**69**	⇑*e*P	**P**	**20 35 29.3**	**-0.2**
	comp=Z,12nm,1.0s,mb4.8						
ISCO				⇓*e*pP	pP	20 35 35.4	-3.1
ISCO				LR	LR		
	comp=Z,15µm,19.0s,MS6.1						
CD2	**Chengdu**	**54.48**	**276**	P	**P**	**20 35 29.4**	**-0.9**
CD2				AP	pP	20 35 42.3	+3.1
CD2				S	**S**	**20 43 01.3**	**-4.2**
CD2				XS		20 43 21.1	
CD2				SS	SS	20 46 45.5	-2.2
CD2				AMB	AMB		
	comp=Z,80nm,1.2s,mb5.5						
CD2				LR	LR		
	comp=E,12µm,21.6s						
CD2				LR	LR		
	comp=Z,13µm,19.8s,MS6.0						
BALP	**Baler**	**55.01**	**249**	*e*P	**P**	**20 35 35.3**	**+0.9**
WMQ	**Urumqi**	**55.12**	**298**	P	**P**	**20 35 34.5**	**-0.4**
WMQ				AP	pP	20 35 40.6	-3.2
WMQ				XP	sP	20 35 43.4	-3.8
WMQ				PP	PP	20 37 39.1	-0.5
WMQ				S	**S**	**20 43 14.5**	**+0.6**
WMQ				SS	SS	20 46 57.3	-0.5
WMQ				AMB	AMB		
	comp=Z,2µm,10.0s						
WMQ				LR	LR		
	comp=N,17µm,21.8s,MS6.3						
WMQ				LR	LR		
	comp=E,27µm,24.2s,MS6.3						
WMQ				LR	LR		
	comp=Z,22µm,25.6s,MS6.1						
KURK	**Kurchatov**	**55.18**	**310**	P	**P**	**20 35 32.7**	**-2.4**
KURK				pmax	pmax		
	comp=Z,597nm,1.1s,mb6.5						
KURK	**Kurchatov**	**55.18**	**310**	*e*P	**P**	**20 35 33.2**	**-1.9**
	comp=Z,40nm,2.1s,mb5.1						
KURK				LR	LR		
	comp=Z,9µm,19.0s,MS5.9						
PVCP	**Virac**	**55.28**	**245**	*e*P	**P**	**20 35 38.3**	**+1.9**
BOLP	**Bolinao**	**55.47**	**251**	*e*P	**P**	**20 35 28.6**	**-9.1**
SDCO	**Great Sand Dun**	**55.84**	**71**	*e*P	**P**	**20 35 40.4**	**+0.4**
	comp=Z,39nm,1.3s,mb5.3						
SDCO				LR	LR		
	comp=Z,11µm,20.0s,MS5.9						
GYA	**Guiyang**	**55.86**	**270**	⇓*i*P	**P**	**20 35 39.5**	**-0.9**
GYA				PP	PP	20 37 41.8	-4.7
GYA				S	**S**	**20 43 26.4**	**+2.3**
GYA				AMB	AMB		
	comp=Z,110nm,1.3s,mb5.7						
GYA				LR	LR		
	comp=N,7µm,18.5s,MS5.9						
GYA				LR	LR		
	comp=E,4µm,16.5s,MS5.9						
GYA				LR	LR		
	comp=Z,7µm,18.2s,MS5.8						
SCZP	**Santa Cruz**	**55.95**	**250**	*e*P	**P**	**20 35 41.2**	**+0.1**
MKAR	**Makanchi Array**	**55.99**	**304**	P	**P**	**20 35 39.3**	**-1.7**
	comp=Z,130nm,0.5s,mb6.2,baz=54,slow=6.3,SNR=520						
MKAR				LR	LR	21 00 50.5	
	comp=Z,32µm,20.6s,MS6.4,baz=40,slow=37						
MKAR				PKPPKP		21 05 38.9	
	comp=Z,1.0nm,1.0s,baz=180,slow=2.4,SNR=4.7						
MKAR				PKP2bc		21 05 50.3	
	comp=Z,1.7nm,1.1s,baz=180,slow=2.4,SNR=4.4						
MKAR	**Makanchi Array**	**55.99**	**304**	P	**P**	**20 35 39.3**	**-1.7**
MKAR				pmax	pmax		
	comp=Z,130nm,0.5s						
MKAR				MLR	MLR		
	comp=Z,32µm,20.6s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
MKAR				pmax	pmax		
	comp=Z,2.0nm,1.1s						
MKAR	**Makanchi Array**	**55.99**	**304**	P	**P**	**20 35 39.3**	**-1.7**
MKAR				LR	LR	21 00 50.5	
MKAR				P'P'		21 05 38.9	
MKAR				⇑*e*		21 05 50.3	
KEV	**Kevo**	**56.02**	**347**	*e*p	**P**	**20 35 38.0**	**-3.0**
ARCES	**ARCESS Array B**	**56.44**	**347**	P	**P**	**20 35 41.7**	**-2.3**
	comp=Z,43nm,0.5s,mb5.7,baz=36,slow=7.8,SNR=87						
ARCES				LR	LR	21 01 58.9	
	comp=Z,15µm,18.6s,MS6.1,baz=15,slow=38						
ARCES	**ARCESS Array B**	**56.44**	**347**	P	**P**	**20 35 41.7**	**-2.2**
ARCES				pmax	pmax		
	comp=Z,43nm,0.5s						
ARCES				MLR	MLR		
	comp=Z,15µm,18.6s						
ARCES	**ARCESS Array B**	**56.44**	**347**	P	**P**	**20 35 41.7**	**-2.3**
ARCES				LR	LR	21 01 58.9	
ARE0	**ARCESS Array S**	**56.44**	**347**	*e*P	**P**	**20 35 41.0**	**-3.0**
LVZ	**Lovozero**	**56.47**	**343**	P	**P**	**20 35 41.9**	**-2.3**
	comp=Z,1µm,0.5s,SNR=27						
LVZ	**Lovozero**	**56.47**	**343**	*e*P	**P**	**20 35 41.8**	**-2.4**
LVZ				*e*		20 39 03.4	
LVZ				*e*S	**S**	**20 43 23.3**	**-8.2**
LVZ				pmax	pmax		
	comp=Z,239nm,1.1s,mb6.1						
LVZ				pmax	pmax		
	comp=N,112nm,1.2s						
LVZ				pmax	pmax		
	comp=E,31nm,0.7s						
LVZ				pmax	pmax		
	comp=Z,418nm,1.4s,mb6.3						
LVZ				pmax	pmax		
	comp=N,223nm,1.5s						
LVZ				pmax	pmax		
	comp=E,90nm,1.3s						
LVZ				smax			
	comp=N,2µm,10.0s						
LVZ				smax			
	comp=Z,1µm,4.3s						
LVZ				smax			
	comp=E,632nm,4.4s						
LVZ				MLR	MLR		
	comp=Z,12µm,18.0s,MS6.0						
LVZ				MLR	MLR		
	comp=N,11µm,17.0s,MS6.0						
LVZ				MLR	MLR		
	comp=E,4µm,19.0s,MS6.0						
LVZ	**Lovozero**	**56.47**	**343**	⇑*i*P	**P**	**20 35 41.9**	**-2.3**
BOAC	**Boac**	**56.70**	**247**	*e*P	**P**	**20 35 46.7**	**+0.1**
APA	**Apatity**	**56.98**	**343**	⇑*e*P	**P**	**20 35 47.0**	**-0.9**
APA				*i*		20 36 43.9	
APA				*e*S	**S**	**20 43 36.0**	**-2.3**
APA				*i*		20 44 02.0	
APA				*e*SS	SS	20 47 29.0	+0.8
APA				pmax	pmax		
	comp=Z,260nm,1.5s,mb6.0						
APA				pmax	pmax		
	comp=Z,2µm,8.0s						
APA				MLR	MLR		
	comp=Z,4µm,15.0s,MS5.6						
JMIC	**Jan Mayen**	**57.12**	**1**	*e*P	**P**	**20 35 50.6**	**+1.7**
JMIC				*e*PP	PP	20 37 50.8	-6.4
JMIC				*e*		20 39 34.1	
JMIC				*e*S	**S**	**20 43 42.8**	**+2.7**
JMIC				*e*SS	SS	20 47 29.4	-1.0
JMIC				AMS	AMS	21 01 06.7	
	comp=Z,7µm,16.2s,MS5.9						
TRO	**Tromso**	**57.15**	**350**	*e*P	**P**	**20 35 45.6**	**-3.4**
TRO				*e*PP	PP	20 37 50.8	-6.6
TRO				*e*S	**S**	**20 43 35.6**	**-4.9**
TRO				*e*SS	SS	20 47 29.4	-1.4
TRO				AMS	AMS	20 59 20.7	
	comp=Z,6µm,21.6s,MS5.7						
LAZ	**Ladron**	**57.17**	**75**	*e*P	**P**	**20 35 50.0**	**+0.4**
ANMO	**Albuquerque**	**57.19**	**74**	P	**P**	**20 35 50.7**	**+0.9**
ANMO				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ANMO				MLR	MLR		
	comp=Z,8µm,20.0s						
ANMO	**Albuquerque**	**57.19**	**74**	*e*P	**P**	**20 35 49.7**	**-0.1**
	comp=Z,5.1nm,1.0s						
ANMO				LR	LR		
	comp=Z,7µm,20.0s						
KTK1	**Kautokeino**	**57.22**	**348**	*e*P	**P**	**20 35 48.3**	**-1.3**
KTK1				AMb	AMB	20 35 52.5	
	comp=Z,382nm,1.5s,mb6.2						
KTK1				*e*sP	sP	20 35 59.9	-2.1
KTK1	**Kautokeino**	**57.22**	**348**	*e*P	**P**	**20 35 48.3**	**-1.3**
	comp=Z,382nm,1.5s,mb6.2						
VOSK	**Vostochnaya**	**57.27**	**315**	P	**P**	**20 35 48.2**	**-1.9**
VOSK				pmax	pmax		
	comp=Z,496nm,1.6s,mb6.3						
VOSK	**Vostochnaya**	**57.27**	**315**	*i* P	**P**	**20 35 48.2**	**-1.9**
BVA0	**Borovoye Array**	**57.32**	**316**	*i* P	**P**	**20 35 48.2**	**-2.2**
BVA0				pmax	pmax		
	comp=Z,2.0nm,0.5s						
BVAR	**Borovoye Array**	**57.32**	**316**	LR	LR	21 02 02.7	
	comp=Z,234nm,21.2s,baz=295,slow=38						
BVAR				PKPPKP		21 05 28.2	
	comp=Z,0.5nm,0.7s,baz=146,slow=5.3,SNR=4.0						
BVAR				PKP2bc		21 05 44.1	
	comp=Z,1.0nm,0.8s,baz=180,slow=3.0,SNR=3.7						
BVAR				PKP2ab		21 06 03.6	
	comp=Z,0.8nm,0.8s,baz=270,slow=4.4,SNR=3.6						
BRVK	**Borovoye**	**57.34**	**316**	P	**P**	**20 35 48.0**	**-2.6**
BRVK				pmax	pmax		
	comp=Z,38nm,2.1s,mb5.1						
BRVK	**Borovoye**	**57.34**	**316**	⇑*i*P	**P**	**20 35 48.4**	**-2.2**
LENM	**Lemitar**	**57.43**	**75**	*e*P	**P**	**20 35 50.0**	**-1.5**
LPM	**Los Pinos Moun**	**57.53**	**75**	*e*P	**P**	**20 35 53.4**	**+1.1**
BNM	**Barren Site**	**57.65**	**75**	*e*P	**P**	**20 35 52.2**	**-0.8**
SJMP	**San Jose**	**57.91**	**247**	*e*P	**P**	**20 35 56.2**	**+1.1**
ZRNK	**Zerenda**	**57.96**	**316**	P	**P**	**20 35 53.1**	**-1.8**
ZRNK				pmax	pmax		
	comp=Z,138nm,0.7s,mb6.1						
ZRNK	**Zerenda**	**57.96**	**316**	*i* P	**P**	**20 35 53.2**	**-1.7**
SVE	**Sverdlovsk**	**58.43**	**324**	α*i*P	**P**	**20 35 57.0**	**-1.1**
SVE				*e*PPP	PPP	20 39 36.0	+3.3
SVE				*e*S	**S**	**20 43 53.0**	**-4.5**
SVE				*e*		20 45 44.0	
SVE				*e*SSS	SSS	20 50 12.0	-1.6
SVE				pmax	pmax		
	comp=Z,720nm,2.1s,mb6.3						
SVE				pmax	pmax		
	comp=N,1µm,15.0s						
SVE				pmax	pmax		
	comp=E,2µm,15.0s						
SVE				pmax	pmax		
	comp=Z,3µm,15.0s						
SVE				MLR	MLR		
	comp=N,10µm,17.0s,MS6.2						
SVE				MLR	MLR		
	comp=E,12µm,17.0s,MS6.2						
SVE				MLR	MLR		
	comp=Z,25µm,17.0s,MS6.4						
LOF	**Lofoten**	**59.13**	**352**	*e*P	**P**	**20 36 02.9**	**0.0**
LOF				AMb	AMB	20 36 07.0	
	comp=Z,335nm,1.4s,mb6.2						
LOF	**Lofoten**	**59.13**	**352**	*e*P	**P**	**20 36 05.0**	**+2.2**
	comp=Z,335nm,1.4s,mb6.2						
KMI	**Kunming**	**59.25**	**272**	*e*P	**P**	**20 36 03.0**	**-1.3**
KMI				XP	sP	20 36 14.6	-2.1
KMI				PP	PP	20 38 17.8	+0.8
KMI				S	**S**	**20 44 09.3**	**+0.7**
KMI				XS		20 44 23.0	
KMI				AMB	AMB		
	comp=Z,107nm,1.6s,mb5.6						
KMI				AMB	AMB		
	comp=Z,2µm,8.4s						
KMI				LR	LR		
	comp=N,7µm,15.8s,MS6.0						
KMI				LR	LR		
	comp=E,4µm,15.8s,MS6.0						
KMI				LR	LR		
	comp=Z,6µm,20.6s,MS5.7						
CUYO	**Cuyo Island**	**59.28**	**246**	*e*P	**P**	**20 36 06.3**	**+1.7**
QIZ	**Qiongzhong**	**59.43**	**262**	P	**P**	**20 36 06.4**	**+0.8**
QIZ				XP	sP	20 36 19.5	+1.5
QIZ				S	**S**	**20 44 14.3**	**+3.3**
QIZ				PS	PS	20 44 34.8	+5.2
QIZ				SS	SS	20 48 08.4	+0.8
QIZ				AMB	AMB		
	comp=Z,101nm,1.5s,mb5.6						
QIZ				LR	LR		
	comp=E,4µm,21.8s						
QIZ				LR	LR		
	comp=Z,5µm,26.0s,MS5.5						
QIZ	**Qiongzhong**	**59.43**	**262**	*e*P	**P**	**20 36 03.4**	**-2.2**
	comp=Z,150nm,1.3s,mb5.9						
ARU	**Arti**	**59.48**	**324**	*i* P	**P**	**20 36 04.0**	**-1.4**
ARU				*i*		20 36 49.1	
ARU				*i*		20 38 14.8	
ARU				*i* PPP	PPP	20 39 40.7	-3.1
ARU				*i* S	**S**	**20 44 10.6**	**-0.5**
ARU				*i*		20 45 49.0	
ARU				*i* SS	SS	20 48 05.3	-2.5
ARU				*i* SSS	SSS	20 50 42.0	+5.7
ARU				MLR	MLR		
	comp=Z,17µm,17.0s,MS6.2						
ARU				MLR	MLR		
	comp=N,11µm,18.0s,MS6.2						
ARU				MLR	MLR		
	comp=E,9µm,16.5s,MS6.2						
ARU	**Arti**	**59.48**	**324**	⇑*i*P	**P**	**20 36 03.9**	**-1.5**
ENPP	**El Nido**	**59.89**	**248**	*e*P	**P**	**20 36 09.2**	**+0.4**
DAV	**Davao City (W)**	**59.92**	**239**	*e*P	**P**	**20 36 06.0**	**-3.0**
KSU1	**Kansas State U**	**59.95**	**64**	*e*P	**P**	**20 36 06.7**	**-2.3**
CPRX	**Cap Rock**	**60.07**	**74**	*e*P	**P**	**20 36 10.1**	**+0.3**
GDL2	**Guadalupe Moun**	**60.36**	**75**	*e*P	**P**	**20 36 11.6**	**-0.3**
JFWS	**Jewell Farm**	**60.67**	**57**	P	**P**	**20 36 11.9**	**-1.9**
JFWS				pmax	pmax		
	comp=Z,78nm,0.7s,mb6.0						
JFWS				MLR	MLR		
	comp=Z,16µm,20.0s,MS6.2						
JFWS	**Jewell Farm**	**60.67**	**57**	*e*P	**P**	**20 36 11.2**	**-2.6**
	comp=Z,78nm,0.7s,mb6.0						
JFWS				LR	LR		
	comp=Z,16µm,20.0s,MS6.2						
STOK	**Stokkvaagen**	**60.93**	**351**	*e*P	**P**	**20 36 13.1**	**-2.1**
STOK				AMb	AMB	20 36 17.4	
	comp=Z,388nm,1.6s,mb6.3						
STOK				*e*pP	pP	20 36 22.6	-1.8
STOK	**Stokkvaagen**	**60.93**	**351**	*e*P	**P**	**20 36 13.1**	**-2.1**
	comp=Z,388nm,1.6s,mb6.3						
MOR8	**Moi Rana**	**60.95**	**351**	*e*P	**P**	**20 36 12.1**	**-3.3**
MOR8				AMb	AMB	20 36 16.4	
	comp=Z,162nm,1.2s,mb6.0						
MOR8	**Moi Rana**	**60.95**	**351**	*e*P	**P**	**20 36 12.1**	**-3.3**
	comp=Z,162nm,1.2s,mb6.0						
AAA	**Alma-Ata**	**61.16**	**304**	*i* P	**P**	**20 36 16.0**	**-1.1**
AAA				pmax	pmax		
	comp=Z,2µm,7.0s						
AAA				MLR	MLR		
	comp=Z,15µm,17.0s,MS6.2						
PPR	**Puerto Princes**	**61.45**	**247**	⇓*i*P	**P**	**20 36 18.6**	**-0.8**
WMOK	**Wichita Mounta**	**61.82**	**69**	P	**P**	**20 36 21.1**	**-0.6**
WMOK				pmax	pmax		
	comp=Z,58nm,1.3s,mb5.5						
WMOK	**Wichita Mounta**	**61.82**	**69**	*e*P	**P**	**20 36 20.8**	**-0.9**
	comp=Z,58nm,1.3s,mb5.5						

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WMOK                              LR        LR
      comp=Z,11µm,20.0s,MS6.0
SCHQ  Schefferville     62.00  35  P        P         20 36 21.0 -1.6
      comp=Z,228nm,0.7s,mb6.4,baz=330,slow=6.7,SNR=110
SCHQ                               LR       LR        21 05 59.7
      comp=Z,23µm,19.3s,MS6.3,baz=324,slow=39
TKM2  Tokmak 2          62.10 305  P        P         20 36 21.8 -1.6
      SNR=64
ULHL  Ulahol            62.26 304  P        P         20 36 23.6 -0.9
      SNR=17
USP   Ospenovka         62.40 306  P        P         20 36 24.2 -1.2
      SNR=113
CHMS  Chumysh           62.47 305  P        P         20 36 24.7 -1.2
      SNR=109
KBK   Karagaybulak      62.62 305  P        P         20 36 25.8 -1.1
      SNR=99
FRU   Bishkek           62.66 305⇑eP        P         20 36 26.0 -1.1
FRU                               i                   20 36 39.0
FRU                               e                   20 44 43.0
FRU                                pmax     pmax
      comp=Z,700nm,1.8s,mb6.5
FRU                                pmax     pmax
      comp=Z,4µm,8.0s
FRU                                MLR      MLR
      comp=Z,15µm,20.0s,MS6.2
NRS   Narsarsuaq        62.69  20 i P       P         20 36 24.4 -2.7
BATP  Bataraza          62.77 248 eP        P         20 36 27.4 -0.9
BORG  Borgarnes         62.80   7  LR       LR        21 02 27.2
      comp=Z,9µm,21.5s,MS5.9,baz=341,slow=35
BORG  Borgarnes         62.80   7 eP        P         20 36 24.4 -3.3
      comp=Z,256nm,1.5s,mb6.1
BORG                               LR       LR
      comp=Z,2µm,20.0s,MS5.3
NSS   Namsos            62.80 351 eP        P         20 36 25.3 -2.5
NSS                               eS        S         20 44 55.1 +1.9
NSS                                AMS      AMS       21 08 48.6
      comp=Z,6µm,17.5s,MS5.8
LTX   Lajitas           62.84  77  PFAKE              20 36 40.0  +11
LTX                                LR       LR
      comp=Z,9µm,21.0s,MS5.9
AAK   Ala-Archa         62.86 305  P        P         20 36 27.6 -0.9
      SNR=122
KZA   Kyzart            62.89 304  P        P         20 36 28.3 -0.3
      SNR=14
LSA   Lhasa             62.97 284  P        P         20 36 29.5 +0.1
LSA                                PP       PP        20 38 50.3 +0.8
LSA                                AMB      AMB
      comp=Z,130nm,1.0s,mb6.0
LSA                                LR       LR
      comp=N,5µm,16.7s,MS6.0
LSA                                LR       LR
      comp=E,7µm,18.1s,MS6.0
UCH   Uchtor            63.15 305  P        P         20 36 29.9 -0.5
      SNR=74
EKS2  Erkin-Say         63.20 306  P        P         20 36 29.9 -0.8
      SNR=8.0
KAF   Kangasniemi       63.22 344 ep        P         20 36 27.7 -2.9
      comp=E,57nm,0.5s,mb6.0
KAF   Kangasniemi       63.22 344 eP        P         20 36 27.7 -2.9
KAF                                pmax     pmax
      comp=Z,57nm,0.5s,mb6.0
AML   Almayashu         63.63 305  P        P         20 36 33.3 -0.2
      SNR=6.9
CCM   Cathedral Cave    63.64  61  P        P         20 36 31.5 -2.1
CCM                                pmax     pmax
      comp=Z,32nm,0.9s,mb5.3
CCM                                MLR      MLR
      comp=Z,3µm,19.0s,MS5.4
CCM   Cathedral Cave    63.64  61 eP        P         20 36 31.0 -2.6
      comp=Z,32nm,0.8s,mb5.4
CCM                                LR       LR
      comp=Z,3µm,19.0s,MS5.4
WAU   Wau               63.75 211 eP        P         20 36 38.0 +3.3
SLM   Saint Louis       63.76  60  P        P         20 36 32.7 -1.7
SLM                                pmax     pmax
      comp=Z,26nm,0.6s,mb5.4
SLM   Saint Louis       63.76  60 eP        P         20 36 31.9 -2.5
      comp=Z,26nm,0.6s,mb5.5
FINES FINESS Array B    63.89 344  P        P         20 36 33.0 -1.8
      comp=Z,60nm,0.7s,mb5.8,baz=22,slow=7.5,SNR=128
FINES                              LR       LR        21 06 08.9
      comp=Z,14µm,21.5s,MS6.1,baz=20,slow=38
FINES FINESS Array B    63.89 344  P        P         20 36 33.0 -1.8
FINES                              pmax     pmax
      comp=Z,60nm,0.7s
FINES                              MLR      MLR
      comp=Z,14µm,21.5s
TRON  Trondheim         63.99 352 eP        P         20 36 36.9 +1.4
TRON                              esP       sP        20 36 45.8 -2.1
PECR  Pechory           64.29 332 eP        P         20 36 38.8 +1.3
PECR                              i S       S         20 45 15.0 +3.2
PECR                               pmax     pmax
      comp=N,2µm,5.0s
PECR                               pmax     pmax
      comp=E,800nm,5.0s
PECR                               smax
      comp=N,3µm,13.0s
PECR                               smax
      comp=E,3µm,13.0s
PECR                               MLR      MLR
      comp=N,6µm,19.0s,MS6.1
PECR                               MLR      MLR
      comp=E,8µm,16.0s,MS6.1
PECR                               MLR      MLR
      comp=N,4µm,17.0s
PECR                               MLR      MLR
      comp=E,8µm,17.0s
JCT   Junction City     64.30  73  P        P         20 36 38.3 +0.2
JCT                                pmax     pmax
      comp=Z,21nm,0.6s,mb5.3
JCT                                MLR      MLR
      comp=Z,17µm,21.0s,MS6.2
JCT   Junction City     64.30  73 eP        P         20 36 37.5 -0.6
      comp=Z,21nm,0.6s,mb5.3
JCT                                LR       LR
      comp=Z,17µm,21.0s,MS6.2
KSH   Kashi             64.39 302 ⇑P        P         20 36 38.0 -0.5
KSH                               eAP       pP        20 36 44.4 -3.2
KSH                               eXP       sP        20 36 47.8 -3.1
KSH                               ePCP      PcP       20 37 13.0 +0.4
KSH                               ePP       PP        20 39 00.0 -2.0
KSH                               ePPP      PPP       20 40 31.4 -3.4
KSH                               eSCP                20 41 14.4
KSH                               ePCS                20 41 17.0
KSH                               eS        S         20 45 12.0 -1.4
KSH                               eSCS      ScS       20 46 26.0 -0.7
KSH                               eSS       SS        20 49 22.4 -2.7
KSH                                AMB      AMB
      comp=Z,200nm,0.9s,mb6.2
KSH                                AMB      AMB
      comp=Z,470nm,4.1s
PUL   Pulkovo           64.64 341 eP        P         20 36 39.4 -0.3
PUL                               e                   20 40 35.5
PUL                               eS        S         20 45 08.6 -7.4
PUL                                pmax     pmax
      comp=Z,184nm,0.7s,mb6.2
PUL                                pmax     pmax
      comp=Z,324nm,0.8s,mb6.4
PUL                                MLR      MLR
      comp=Z,14µm,17.0s,MS6.2
PUL                                MLR      MLR
      comp=N,9µm,17.0s,MS6.1
PUL                                MLR      MLR
      comp=E,6µm,17.0s,MS6.1
SADO  Sadowa            64.76  49  LR       LR        21 08 40.2
      comp=E,10µm,19.3s,MS6.0,baz=346,slow=39
IMP   Imphal            64.89 279 eP        P         20 36 42.0  0.0
MIAR  Mount Ida         64.92  66  PFAKE              20 36 50.0 +8.0
MIAR                               LR       LR
      comp=Z,7µm,22.0s,MS5.8
CHRT  Chiangrai         64.97 270 ⇓P        P         20 36 42.5 -0.1
      comp=Z,542nm,0.6s
MOL   Molde             65.10 353 eP        P         20 36 42.9 +0.3
MOL                                AMb      AMB       20 36 46.9
      comp=Z,362nm,1.3s,mb6.2
MOL   Molde             65.10 353 eP        P         20 36 42.9 +0.3
      comp=Z,362nm,1.3s,mb6.2
NANT  Nan               65.21 269  P        P         20 36 42.7 -1.4
      comp=Z,694nm,1.0s,mb6.6
UBT   Ubonrachathani    65.27 263  P        P         20 36 45.5 +0.9
BLO   Bloomington       65.32  58  P        P         20 36 43.0 -1.5
BLO                                pmax     pmax
      comp=Z,48nm,0.7s,mb5.6
BLO   Bloomington       65.32  58 eP        P         20 36 42.4 -2.2
      comp=Z,48nm,0.7s,mb5.6
UALR  University of     65.43  65 eP        P         20 36 44.4 -1.0
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      comp=Z,12nm,0.8s,mb5.0
DOMB  Dombas            65.50 352⇑iP        P         20 36 43.9 -1.4
DOMB                               AMb      AMB       20 36 48.0
      comp=Z,307nm,1.4s,mb6.1
DOMB                              esP       sP        20 36 55.3 -2.4
DOMB  Dombas            65.50 352⇑iP        P         20 36 43.9 -1.4
      comp=Z,307nm,1.4s,mb6.1
PMG   Port Moresby      65.56 209  P        P         20 36 54.5 +8.1
PMG                                pmax     pmax
      comp=Z,99nm,1.4s
PMG                                MLR      MLR
      comp=Z,6µm,21.0s
PMG   Port Moresby      65.56 209  PFAKE              20 37 00.0  +14
PMG                                LR       LR
      comp=Z,6µm,21.0s,MS5.8
SHL   Shillong          65.56 281⇑iP        P         20 36 45.5 -0.8
SHL                               eS        S         20 45 29.5 +1.5
KKM   Kota Kinabalu     65.91 247 eP        P         20 36 48.0 -0.7
GLAT  Glass             66.01  61 eP        P         20 36 48.0 -0.9
WCI   Wyandotte Cave    66.14  58  P        P         20 36 48.1 -1.7
WCI                                pmax     pmax
      comp=Z,64nm,0.7s,mb5.8
WCI                                MLR      MLR
      comp=Z,4µm,19.0s,MS5.7
WCI   Wyandotte Cave    66.14  58 eP        P         20 36 47.7 -2.1
      comp=Z,64nm,0.7s,mb5.8
WCI                                LR       LR
      comp=Z,4µm,19.0s,MS5.7
UTMT  University of     66.18  61 eP        P         20 36 48.6 -1.5
      comp=Z,280nm,1.0s,mb6.2
FOO   Floro             66.23 354 eP        P         20 36 48.7 -1.2
CHG   Chiang Mai        66.28 270 ⇑P        P         20 36 49.9 -1.1
      comp=Z,139nm,1.0s,mb5.9
NB2   NORSAR Subarra    66.30 351  P        P         20 36 49.0 -1.4
      comp=Z,110nm,0.7s,mb6.0,baz=11,slow=6.2
NB2   NORSAR Subarra    66.30 351  P        P         20 36 49.0 -1.4
      baz=11,slow=6.5
NOA   NORSAR Array B    66.30 351  P        P         20 36 49.0 -1.4
      comp=Z,61nm,0.6s,mb5.8,baz=12,slow=6.4,SNR=137
NOA                                LR       LR        21 05 14.9
      comp=Z,5µm,21.3s,MS5.7,slow=36
NOA                                PKP2bc             21 05 26.0
      comp=Z,2.7nm,0.9s,baz=155,slow=3.3,SNR=3.8
NOA   NORSAR Array B    66.30 351  P        P         20 36 49.0 -1.4
NOA                                pmax     pmax
      comp=Z,61nm,0.6s
NOA                                MLR      MLR
      comp=Z,5µm,21.3s
NOA                                pmax     pmax
      comp=Z,3.0nm,0.9s
NOA   NORSAR Array B    66.30 351  P        P         20 36 49.0 -1.4
NOA                                LR       LR        21 05 14.9
NOA                              ⇑e                   21 05 26.0
ACSO  Alum Creek Sta    66.34  55 eP        P         20 36 48.9 -2.1
      comp=Z,22nm,0.6s,mb5.4
ACSO                               LR       LR
      comp=Z,13µm,20.0s,MS6.1
NATX  Nacogdoches       66.35  68 eP        P         20 36 50.0 -1.3
      comp=Z,30nm,0.7s,mb5.4
NATX                               LR       LR
      comp=Z,11µm,21.0s,MS6.0
MET   Memphis--Engin    66.51  63  P        P         20 36 50.5 -1.7
NAO01 NORSAR Array S    66.52 351 eP        P         20 36 49.5 -2.3
      comp=Z,28nm,0.6s,mb5.5
NAO01                              LR       LR
      comp=Z,6µm,19.0s,MS5.8
MSNY  Massena           66.53  46 eP        P         20 36 48.9 -3.2
CM31  Chiang Mai Arr    66.55 270 eP        P         20 36 51.4 -1.3
      comp=Z,88nm,0.7s,mb5.9
CM31                               LR       LR
      comp=Z,5µm,19.0s,MS5.8
CMAR  Chiang Mai Arr    66.55 270  P        P         20 36 52.1 -0.6
      comp=Z,82nm,0.8s,mb5.8,baz=28,slow=7.2,SNR=132
CMAR                               PKPPKP             21 05 19.4
      comp=Z,0.5nm,0.8s,baz=256,slow=4.3,SNR=4.2
CMAR                               PKP2ab             21 05 29.1
      comp=Z,3.2nm,1.1s,baz=240,slow=4.2,SNR=7.3
CMAR                               LR       LR        21 09 32.0
      comp=Z,4µm,19.4s,MS5.7,baz=45,slow=39
CMAR  Chiang Mai Arr    66.55 270  P        P         20 36 52.1 -0.6
CMAR                               pmax     pmax
      comp=Z,82nm,0.8s
CMAR                               pmax     pmax
      comp=Z,1.0nm,0.8s
CMAR                               pmax     pmax
      comp=Z,3.0nm,1.1s
CMAR                               MLR      MLR
      comp=Z,4µm,19.4s
VSU   Vasula            66.55 342⇑iP        P         20 36 51.0 -1.0
MOS   Moscow            66.58 335αiP        P         20 36 53.5 +1.2
MOS                               e                   20 37 04.9
MOS                               e                   20 39 17.2
MOS                               eS        S         20 45 40.1 +0.2
MOS                               e                   20 46 45.0
MOS                                pmax     pmax
      comp=Z,2µm,3.4s
MOS                                pmax     pmax
      comp=Z,532nm,1.6s,mb6.3
MOS                                pmax     pmax
      comp=N,253nm,1.3s
MOS                                smax
      comp=E,3µm,5.2s
MOS                                smax
      comp=N,2µm,4.4s
MOS                                MLR      MLR
      comp=N,21µm,19.4s,MS6.4
MOS                                MLR      MLR
      comp=Z,28µm,19.4s,MS6.5
MOS                                MLR      MLR
      comp=E,13µm,19.6s,MS6.4
HYA   Hoyanger          66.59 354 eP        P         20 36 52.2  0.0
HYA                                AMb      AMB       20 36 59.1
      comp=Z,302nm,1.5s,mb6.1
HYA   Hoyanger          66.59 354 eP        P         20 36 52.2  0.0
      comp=Z,302nm,1.5s,mb6.1
ALLY  Alegheny Colle    66.66  52 eP        P         20 36 51.2 -1.8
SUE   Sulen             66.79 354 eP        P         20 36 51.9 -1.6
WVT   Waverly           66.90  61  P        P         20 36 53.1 -1.6
WVT                                pmax     pmax
      comp=Z,62nm,1.0s,mb5.6
WVT                                MLR      MLR
      comp=Z,10µm,21.0s,MS6.0
WVT   Waverly           66.90  61 eP        P         20 36 52.6 -2.1
      comp=Z,62nm,0.9s,mb5.6
WVT                                LR       LR
      comp=Z,10µm,21.0s,MS6.0
GENY  Geneseo           66.91  50 eP        P         20 36 51.7 -2.9
LOZ   Lake Ozonia       66.95  46 eP        P         20 36 50.9 -4.0
AGT   Agartala          67.19 280⇑i         P         20 37 07.0  +10
AGT                               i                   20 38 15.0
OXF   Oxford            67.25  63  P        P         20 36 55.7 -1.2
OXF                                pmax     pmax
      comp=Z,320nm,1.1s,mb6.3
OXF                                MLR      MLR
      comp=Z,6µm,20.0s,MS5.8
OXF   Oxford            67.25  63 eP        P         20 36 55.3 -1.6
      comp=Z,322nm,1.2s,mb6.2
OXF                                LR       LR
      comp=Z,6µm,20.0s,MS5.8
RUND  Rundenannen       67.39 354 eP        P         20 36 58.5 +1.1
OBN   Obninsk           67.41 335  P        P         20 36 56.1 -1.5
      comp=Z,1µm,1.5s,mb6.7,SNR=33
OBN   Obninsk           67.41 335 eP        P         20 36 56.7 -0.9
OBN                               e         pP        20 37 05.7 -1.0
OBN                               e                   20 37 22.4
OBN                               e                   20 39 28.2
OBN                               eS        S         20 45 42.9 -7.0
OBN                                pmax     pmax
      comp=Z,412nm,1.4s,mb6.3
OBN                                MLR      MLR
      comp=Z,27µm,22.0s,MS6.4
OBN   Obninsk           67.41 335⇓eP        P         20 36 56.7 -0.9
OBN                                LR       LR
      comp=Z,27µm,22.0s,MS6.4
OSL   Oslo              67.43 351 eP        P         20 36 56.7 -0.9
OSL                                AMb      AMB       20 37 00.3
      comp=Z,277nm,1.3s,mb6.1
OSL                               esP       sP        20 37 08.0 -2.0
OSL   Oslo              67.43 351 eP        P         20 36 56.7 -0.9
      comp=Z,55nm,1.3s,mb5.4
BDT   Bhumibol Dam      67.44 269  P        P         20 36 58.0 -0.3
      comp=Z,33nm,0.9s,mb5.4
YEL1  Yell              67.55 357 eP        P         20 36 55.8 -2.6
NCB   Newcomb           67.62  47 eP        P         20 36 56.2 -2.9
      comp=Z,30nm,0.9s,mb5.3
NCB                                LR       LR
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      comp=Z,12µm,21.0s,MS6.1
ODD1  Odda              67.80 353 eP        P         20 36 58.4 -1.5
ODD1                               AMb      AMB       20 37 02.2
      comp=Z,243nm,1.6s,mb6.0
ODD1                              esP       sP        20 37 11.0 -1.3
ODD1  Odda              67.80 353 eP        P         20 36 58.4 -1.5
      comp=Z,243nm,1.6s,mb6.0
KONO  Kongsberg         67.82 352⇑iP        PcP       20 37 43.9  +17
KONO                               AMb      AMB       20 37 48.2
      comp=Z,213nm,1.9s,mb5.8
KONO                              e                   20 40 26.1
KONO                              e                   20 46 30.0
KONO                              e                   20 51 23.1
KONO                               AMS      AMS       21 07 05.2
      comp=Z,6µm,20.8s,MS5.8
KONO  Kongsberg         67.82 352  PFAKE              20 37 10.0  +10
KONO                               LR       LR
      comp=Z,9µm,22.0s,MS5.9
KKN   Kakani            67.86 287 eP        P         20 37 00.3 -0.5
      comp=Z,849nm,1.3s,mb6.6
WAL1  Walls             67.86 358 eP        P         20 37 00.6 +0.3
NST   Nakhon Sawan      67.94 267  P        P         20 37 02.0 +0.5
PKI   Pulchoki          67.94 287 eP        P         20 37 00.8 -0.6
      comp=Z,1µm,1.4s
GKN   Gorkha            68.08 288 eP        P         20 37 01.4 -0.8
      comp=Z,1µm,1.3s,mb6.7
SAN1  Sandwick          68.09 357 eP        P         20 37 01.0 -0.8
DMN   Daman             68.09 287 eP        P         20 37 01.8 -0.5
      comp=Z,1µm,1.6s,mb6.7
PQI   Presque Isle      68.10  41  PFAKE              20 37 10.0 +8.0
PQI                                LR       LR
      comp=Z,101µm,19.0s
BINY  Binghamton        68.20  49 eP        P         20 37 00.1 -2.7
      comp=Z,26nm,0.6s,mb5.4
BINY                               LR       LR
      comp=Z,10µm,21.0s,MS6.0
BLS5  Blasjo            68.30 353 eP        P         20 37 02.7 -0.3
BLS5                               AMb      AMB       20 37 06.9
      comp=Z,60nm,1.1s,mb5.5
BLS5                              epP       pP        20 37 10.8 -1.4
BLS5  Blasjo            68.30 353 eP        P         20 37 02.7 -0.3
      comp=Z,60nm,1.1s,mb5.5
ACCN  Adirondack Com    68.33  47 eP        P         20 37 00.5 -3.0
SSPA  Standing Stone    68.52  51 eP        P         20 37 03.0 -1.8
      comp=Z,101nm,0.8s,mb5.8
SSPA                               LR       LR
      comp=Z,2µm,20.0s,MS5.4
KMY   Karmoy            68.59 354 eP        P         20 37 05.7 +0.8
KMY                                AMb      AMB       20 37 07.9
      comp=Z,168nm,1.4s,mb5.8
KMY   Karmoy            68.59 354 eP        P         20 37 05.7 +0.8
      comp=Z,168nm,1.4s,mb5.8
SWET  Sewanee           68.60  60 eP        P         20 37 03.1 -2.3
STAV  Stavanger         68.84 354 eP        P         20 37 06.0 -0.4
STAV                               AMb      AMB       20 37 09.6
      comp=Z,212nm,1.2s,mb5.9
STAV  Stavanger         68.84 354 eP        P         20 37 06.0 -0.4
      comp=Z,212nm,1.3s,mb5.9
KOLN  Koldanda          68.86 288 eP        P         20 37 06.2 -0.9
      comp=Z,563nm,1.4s,mb6.3
JOSI  Joshimath         69.10 293 eP        P         20 37 08.7 +0.2
JOSI                              e                   20 37 11.3
      comp=Z,434nm,1.1s
KLP   Kalpa             69.10 295 eP        P         20 37 07.6 -0.9
WVL   Waterville        69.13  43  PFAKE              20 37 20.0  +12
WVL                                LR       LR
      comp=Z,57µm,19.0s,MS6.8
FFD   Franklin Falls    69.15  45 eP        P         20 37 06.8 -1.8
      comp=Z,29nm,0.6s,mb5.4
CPCT  Cooper Cave       69.17  59 eP        P         20 37 09.3 +0.5
IZAR  Zarasai           69.19 341 i P       P         20 37 07.3 -1.2
IZAR                               AMPb     AMB       20 37 11.3
      comp=Z,40nm,0.8s,mb5.4
IZAR                              e                   20 37 50.5
SNART Snartemo          69.32 353 eP        P         20 37 10.4 +1.1
OHO   Hoy               69.32 359⇑eP        P         20 37 08.2 -1.1
ISAL  Salakas           69.38 341 eP        P         20 37 08.3 -1.5
ISAL                               AMPb     AMB       20 37 13.7
      comp=Z,46nm,1.8s,mb5.1
PTH   Pithoragarh       69.48 292 eP        P         20 37 10.0 -0.8
PTH                               e                   20 39 44.0
IDID  Didziasalis       69.50 341 eP        P         20 37 09.2 -1.3
IDID                               AMPb     AMB       20 37 14.3
      comp=Z,72nm,1.3s,mb5.4
IDID                              e                   20 37 54.0
IIGN  Ignalina          69.57 341 i P       P         20 37 09.9 -1.0
IIGN                               AMPb     AMB       20 37 14.0
      comp=Z,60nm,1.2s,mb5.4
IIGN                              e                   20 37 56.4
LRAL  Lakeview Retre    69.68  62 eP        P         20 37 09.3 -2.6
      comp=Z,20nm,0.6s,mb5.2
LRAL                               LR       LR
      comp=Z,10µm,19.0s,MS6.1
VOR   Voronezh          69.70 332 eP        P         20 37 11.0 -0.8
VOR                               e*PP      pP        20 37 20.0 -0.9
VOR                                pmax     pmax
      comp=Z,420nm,1.6s,mb6.1
VOR                                pmax     pmax
      comp=N,240nm,1.3s
SFJM  Santa Fe          69.78  82 i P       P         20 37 13.0 +0.2
EMMW  East Machias      69.93  42 eP        P         20 37 10.6 -2.7
      comp=N,327nm,0.7s,mb6.4
EMMW                               LR       LR
      comp=Z,47µm,19.0s,MS6.8
BLA   Blacksburg        69.93  55  P        P         20 37 12.4 -1.1
BLA                                pmax     pmax
      comp=Z,36nm,0.7s,mb5.4
BLA                                MLR      MLR
      comp=Z,11µm,20.0s,MS6.1
BLA   Blacksburg        69.93  55  PFAKE              20 37 30.0  +17
BLA                                LR       LR
      comp=Z,11µm,20.0s,MS6.1
HRV   Harvard--Oak R    69.96  46  PFAKE              20 37 30.0  +16
HRV                                LR       LR
      comp=Z,14µm,19.0s,MS6.2
CAL   Calcutta          69.97 281 i P       P         20 37 15.6 +1.7
CAL                               i                   20 46 53.0
MNK   Minsk             70.03 340⇓eP        P         20 37 11.0 -2.7
MNK                               e                   20 39 52.0
MNK                               eS        S         20 46 20.0 -1.0
MNK                                pmax     pmax
      comp=Z,1µm,1.2s,mb6.7
MNK                                pmax     pmax
      comp=N,2µm,1.8s
MNK                                pmax     pmax
      comp=E,740nm,1.8s
MNK                                MLR      MLR
      comp=N,9µm,16.0s
MNK                                MLR      MLR
      comp=Z,15µm,16.0s,MS6.3
PAL   Palisades         70.10  48  P        P         20 37 13.0 -1.4
PAL                                pmax     pmax
      comp=Z,42nm,0.8s,mb5.4
WES   Weston            70.16  46  P        P         20 37 13.4 -1.4
WES                                pmax     pmax
      comp=Z,40nm,0.7s,mb5.5
WES                                MLR      MLR
      comp=Z,16µm,19.0s,MS6.3
WES   Weston            70.16  46 eP        P         20 37 11.7 -3.0
      comp=Z,40nm,0.6s,mb5.5
WES                                LR       LR
      comp=Z,16µm,19.0s,MS6.3
BHK   Bhakra            70.21 296 eP        P         20 37 21.6 +6.4
NIL   Nilore            70.24 299  P        P         20 37 15.9 +0.5
      comp=Z,410nm,1.6s,mb6.1,SNR=30
CPNY  Central Park      70.25  48 eP        P         20 37 13.9 -1.4
CBN   Corbin            70.67  52 eP        P         20 37 16.5 -1.4
      comp=Z,65nm,0.9s,mb5.6
CBN                                LR       LR
      comp=Z,15µm,20.0s,MS6.2
MUD   Monsted U'grnd    71.01 351⇑iP        P         20 37 19.4 -0.3
      comp=Z,142nm,1.1s,mb5.8
MUD                               i                   20 37 34.3
MUD                               i                   20 40 01.5
MUD                               i S       S         20 46 38.2 +5.8
MUD                               i                   20 47 22.1
      comp=Z,3µm,18.0s
KKR   Kurukshetra       71.09 294 eP        P         20 37 19.5 -1.1
SUW   Suwalki           71.42 342 eP        P         20 37 20.5 -1.7
SUW                               e*PP      pP        20 37 29.9 -1.4
SUW                               e                   20 37 37.2
SUW                               eS        S         20 46 33.7 -3.5
SUW                               e                   20 47 12.8
SUW                                pmax     pmax
      comp=Z,1µm,3.1s
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SUW				MLR	MLR		
	comp=Z,16µm,17.9s,MS6.3						
SUW	**Suwalki**	**71.42**	**342**	*e*P	**P**	**20 37 20.5**	**-1.7**
SUW				*e*pP	pP	20 37 29.9	-1.4
SUW				*e*PcP	PcP	20 37 37.2	-4.6
SUW				*e*S	S	20 46 33.7	-3.5
SUW				*e*SS		20 46 52.1	
SUW				*e*SKS	SKS	20 47 12.8	-14
COP	**Copenhagen**	**71.43**	**349**⇓	*i*P	**P**	**20 37 22.6**	**+0.4**
	comp=Z,43nm,0.8s,mb5.4						
COP				*e*		20 37 35.1	
COP				*i*		20 39 58.2	
COP				*i* S	S	20 46 39.8	+2.6
COP				*i*		20 47 14.7	
COP				*i*		20 51 25.9	
	comp=Z,5µm,19.0s						
ASOR	**Ausora**	**71.47**	**293**	*e*P	**P**	**20 37 21.8**	**-1.1**
ASOR				*e*		20 37 23.5	
	comp=Z,132nm,0.4s						
MOIG	**Morelia**	**71.52**	**82**	*i* P	**P**	**20 37 25.1**	**+1.8**
BSD	**Bornholm Skovb**	**71.68**	**348**⇑	*i*P	**P**	**20 37 23.1**	**-0.6**
	comp=Z,59nm,0.6s,mb5.7						
BSD				*i* S	S	20 47 15.0	+35
BSD				*i*		20 51 33.5	
	comp=Z,8µm,21.0s						
BISR	**Bishrakh**	**71.80**	**293**	*e*P	**P**	**20 37 26.2**	**+1.3**
NDI	**New Delhi**	**71.84**	**293**	*e*P	**P**	**20 37 28.0**	**+2.8**
EAB	**Aberfoyle**	**71.98**	**359**⇑	*e*P	**P**	**20 37 24.6**	**-0.9**
EAB				AMb	AMB	20 37 43.1	
	comp=Z,201nm,1.3s,mb5.9						
BHGR	**Bahadurgarh**	**72.00**	**294**	*e*P	**P**	**20 37 26.4**	**+0.3**
BHGR				*e*		20 37 27.8	
RTK	**Rohtak**	**72.03**	**294**	*e*P	**P**	**20 37 24.9**	**-1.3**
AYAN	**Aya Nagar**	**72.05**	**293**	*e*P	**P**	**20 37 26.3**	**-0.1**
PCOU	**Corrie**	**72.18**	**359**	*e*P	**P**	**20 37 25.7**	**-0.9**
ESY	**Stoneypath**	**72.23**	**358**⇑	*e*P	**P**	**20 37 25.5**	**-1.5**
ESY				AMb	AMB	20 37 30.9	
	comp=Z,150nm,1.6s,mb5.7						
EDI	**Edinburgh**	**72.23**	**358**	*e*P	**P**	**20 37 22.8**	**-4.2**
EDI				AMb	AMB	20 37 30.1	
	comp=Z,179nm,1.5s,mb5.8						
SONA	**Sohna**	**72.25**	**293**	*e*P	**P**	**20 37 26.4**	**-1.2**
EAU	**Auchinoon**	**72.32**	**359**⇑	*e*P	**P**	**20 37 26.6**	**-0.9**
EAU				AMb	AMB	20 37 45.3	
	comp=Z,398nm,1.2s,mb6.2						
RGN	**Rugen**	**72.44**	**348**	*e*P	**P**	**20 37 27.1**	**-1.1**
	comp=Z,210nm,1.1s,mb6.0						
PCA1	**Carrot**	**72.47**	**359**⇑	*e*P	**P**	**20 37 28.4**	**0.0**
AGRA	**Agra**	**72.54**	**292**	*e*P	**P**	**20 37 28.2**	**-1.0**
AGRA				*e*		20 37 30.9	
KUDL	**Kundal**	**72.67**	**294**	*e*P	**P**	**20 37 28.4**	**-1.6**
KUDL				*e*		20 37 33.3	
	comp=Z,328nm,1.4s						
ESK	**Eskdalemuir**	**72.84**	**358**⇑	*e*P	**P**	**20 37 30.6**	**+0.2**
ESK				AMb	AMB	20 37 48.3	
	comp=Z,161nm,1.2s,mb5.8						
ESK	**Eskdalemuir**	**72.84**	**358**	PFAKE		20 37 40.0	+10
ESK				LR	LR		
	comp=Z,1µm,19.0s,MS5.2						
BWH	**Wardlaw**	**72.99**	**359**	*e*P	**P**	**20 37 31.1**	**-0.2**
BBH	**Bruntsheil**	**73.02**	**358**⇑	*e*P	**P**	**20 37 30.5**	**-1.0**
BHH	**Howats Hill**	**73.07**	**358**⇑	*e*P	**P**	**20 37 31.1**	**-0.7**
KHET	**Khetri**	**73.10**	**294**	*e*P	**P**	**20 37 31.3**	**-1.3**
GKP	**Gorka Klasztor**	**73.14**	**346**	*e*P	**P**	**20 37 31.5**	**-0.7**
GKP				*e**PP	pP	20 37 40.8	-0.6
GKP				*e*		20 37 46.3	
GKP				*e*S	S	20 46 54.6	-2.0
GKP				*e*		20 47 26.0	
GKP				pmax	pmax		
	comp=Z,2µm,3.6s						
GKP				MLR	MLR		
	comp=Z,18µm,21.5s,MS6.3						
GKP	**Gorka Klasztor**	**73.14**	**346**	*e*P	**P**	**20 37 31.5**	**-0.7**
	comp=Z,1.6nm,3.6s						
GKP				*e*pP	pP	20 37 40.8	-0.6
GKP				*e*PcP	PcP	20 37 46.3	-2.6
GKP				*e*S	S	20 46 54.6	-2.0
GKP				*e*SS		20 47 13.0	
GKP				*e*SKS	SKS	20 47 26.0	-13
GKP				LR	LR		
	comp=Z,18µm,21.5s,MS6.3						
NHSC	**New Hope**	**73.25**	**58**	*e*P	**P**	**20 37 33.4**	**0.0**
	comp=Z,106nm,1.0s,mb5.7						
NHSC				LR	LR		
	comp=Z,11µm,19.0s,MS6.2						
AKASG	**Malin Array Be**	**73.26**	**338**	P	**P**	**20 37 31.6**	**-1.4**
	comp=Z,52nm,0.5s,mb5.7,baz=23,slow=6.2,SNR=181						
AKASG				LR	LR	21 12 33.2	
	comp=Z,13µm,21.5s,MS6.2,slow=38						
AKASG	**Malin Array Be**	**73.26**	**338**	P	**P**	**20 37 31.6**	**-1.4**
AKASG				pmax	pmax		
	comp=Z,52nm,0.5s						
AKASG				MLR	MLR		
	comp=Z,13µm,21.5s						
GAL1	**Galloway**	**73.31**	**359**⇑	*e*P	**P**	**20 37 33.3**	**+0.1**
BDL	**Dobcross Hall**	**73.35**	**358**⇑	*e*P	**P**	**20 37 32.6**	**-0.8**
LCP	**Cassop**	**73.38**	**357**	*e*P	**P**	**20 37 32.2**	**-1.4**
BSEG	**Bad Segeberg**	**73.38**	**350**	*e*P	**P**	**20 37 33.0**	**-0.6**
RGRS	**Roger Stewart**	**73.40**	**58**	*e*P	**P**	**20 37 34.3**	**+0.1**
BBO1	**Bothel**	**73.42**	**358**⇑	*e*P	**P**	**20 37 33.1**	**-0.8**
WAR	**Warsaw**	**73.51**	**343**	*e*P	**P**	**20 37 34.6**	**+0.2**
WAR				*e**PP	pP	20 37 44.1	+0.5
WAR				*e*S	S	20 47 01.2	+0.4
WAR				*e*		20 47 31.2	
WAR				pmax	pmax		
	comp=Z,2µm,1.7s,mb6.7						
WAR				MLR	MLR		
	comp=Z,14µm,19.9s,MS6.2						
WAR	**Warsaw**	**73.51**	**343**	*e*P	**P**	**20 37 34.6**	**+0.2**
	comp=Z,1.8nm,1.7s,mb3.7						
WAR				*e*pP	pP	20 37 44.1	+0.5
WAR				*e*S	S	20 47 01.2	+0.4
WAR				*e*SS		20 47 17.3	
WAR				*e*SKS	SKS	20 47 31.2	-11
WAR				LR	LR		
	comp=Z,14µm,19.9s,MS6.2						
PPM	**Popocatepetl**	**73.54**	**80**	*i* P	**P**	**20 37 34.0**	**-1.3**
LWH	**Whinny Nab**	**73.76**	**357**	*e*P	**P**	**20 37 36.8**	**+0.9**
KAKA	**Kakadu**	**73.94**	**222**⇑	*i*P	**P**	**20 37 38.9**	**+1.3**
	comp=Z,62nm,0.9s,mb5.5						
GMM	**Mts of Mourne**	**73.95**	**0**	*e*P	**P**	**20 37 37.6**	**+0.7**
BLSP	**Bilaspur**	**73.99**	**285**	*e*P	**P**	**20 37 37.0**	**-0.8**
WIM	**Isle of Man**	**74.03**	**359**⇑	*e*P	**P**	**20 37 36.5**	**-0.8**
WIM				AMb	AMB	20 37 55.3	
	comp=Z,281nm,1.1s,mb6.1						
HPK	**Haverah Park**	**74.17**	**357**⇑	*e*P	**P**	**20 37 37.8**	**-0.3**
SNG	**Songkhla**	**74.23**	**261**	P	**P**	**20 37 39.0**	**-0.4**
	comp=Z,198nm,0.9s,mb6.0						
DZM	**Mont Dzumac**	**74.24**	**187**	*e*P	**P**	**20 37 42.8**	**+3.6**
NOUC	**Port Laguerre**	**74.28**	**187**	*e*P	**P**	**20 37 42.2**	**+2.8**
IISM	**Ciudad Serdan**	**74.36**	**79**	*e*P	**P**	**20 37 40.0**	**0.0**
GOF	**Gofitskoye**	**74.38**	**326**⇓	*i*P	**P**	**20 37 39.0**	**-0.6**
GOF				*i* S	S	20 47 17.0	+6.4
GOF				pmax	pmax		
	comp=Z,600nm,1.2s,mb6.4						
GOF				smax			
	comp=N,860nm,2.4s						
RUE	**Ruedersdorf**	**74.40**	**348**	*e*P	**P**	**20 37 38.6**	**-0.9**
	comp=N,112nm,1.2s,mb5.7						
PMOR	**Pomariorio Ree**	**74.58**	**142**	*e*P	**P**	**20 37 44.8**	**+3.5**
	comp=N,239nm,1.3s,mb6.0						
LHO	**Holmfirth**	**74.59**	**357**⇑	*e*P	**P**	**20 37 40.5**	**-0.1**
MAK	**Makhachkala**	**74.59**	**322**	*e*P	**P**	**20 37 41.0**	**+0.2**
MAK				*e*		20 37 55.0	
MAK				*e*PPP	PPP	20 42 16.0	+1.4
MAK				*i* S	S	20 47 14.0	+0.9
MAK				*i* PS	PS	20 47 52.0	+0.1
MAK				pmax	pmax		
	comp=Z,680nm,1.5s,mb6.4						
MAK				pmax	pmax		
	comp=Z,7µm,6.5s						
MAK				pmax	pmax		
	comp=N,2µm,8.0s						
MAK				pmax	pmax		
	comp=Z,2µm,8.0s						
MAK				smax			
	comp=N,3µm,12.0s						
MAK				smax			
	comp=E,3µm,12.0s						
MAK				MLR	MLR		
	comp=Z,12µm,16.0s,MS6.3						
MAK				MLR	MLR		
	comp=N,20µm,16.0s,MS6.6						
MAK				MLR	MLR		
	comp=E,10µm,16.0s,MS6.6						
WCB1	**Church Bay**	**74.80**	**359**	*e*P	**P**	**20 37 40.9**	**-1.0**
WCB1				AMb	AMB	20 37 44.9	
	comp=Z,188nm,2.0s,mb5.7						
DCN	**Croghan**	**74.84**	**1**	*e*P	**P**	**20 37 41.7**	**-0.4**
WIT	**Witteveen**	**74.84**	**352**	*e*P	**P**	**20 37 43.6**	**+1.5**
	comp=Z,416nm,1.3s,mb6.2						
KBI1	**Birley Grange**	**74.87**	**357**⇑	*e*P	**P**	**20 37 41.5**	**-0.7**
WLF1	**Llynfaes**	**74.89**	**359**	*e*P	**P**	**20 37 40.9**	**-1.5**
WLF1				AMb	AMB	20 37 46.4	
	comp=Z,151nm,1.3s,mb5.8						
DLF	**Lyons Farm**	**74.89**	**0**	*e*P	**P**	**20 37 42.1**	**-0.3**
DSB	**Dublin**	**74.94**	**0**	*e*P	**P**	**20 37 41.9**	**-0.8**
	comp=Z,165nm,1.3s,mb5.8						
AJM	**Ajmer**	**74.99**	**294**⇑	*i*P	**P**	**20 37 42.0**	**-1.5**
KWE	**Weaver Farm**	**75.12**	**357**⇑	*e*P	**P**	**20 37 44.8**	**+1.1**
KSY	**Syston**	**75.13**	**357**⇑	*e*P	**P**	**20 37 43.9**	**+0.2**
LVV	**L'vov**	**75.24**	**340**	*e*P	**P**	**20 37 45.9**	**+1.5**
LVV				*e*S	S	20 47 12.2	-7.9
LVV				MLR	MLR		
	comp=Z,4µm,16.0s,MS5.8						
CLZ	**Clausthal**	**75.44**	**350**	*e*P	**P**	**20 37 45.1**	**-0.5**
	comp=Z,158nm,1.3s,mb5.8						
HLM1	**Long Mynd**	**75.64**	**358**⇑	*e*P	**P**	**20 37 45.2**	**-1.4**
HLM1				AMb	AMB	20 37 50.2	
	comp=Z,200nm,2.0s,mb5.7						
KSP	**Ksiaz**	**75.64**	**346**	*e*P	**P**	**20 37 45.7**	**-1.0**
KSP				*e*		20 38 01.0	
KSP				*e*S	S	20 47 18.5	-6.0
KSP				*e*		20 47 42.5	
KSP				*e*SS	SS	20 52 14.0	-4.8
KSP				MLR	MLR		
	comp=Z,27µm,24.2s,MS6.5						
KSP	**Ksiaz**	**75.64**	**346**	*e*P	**P**	**20 37 45.7**	**-1.0**
KSP				*e*pP	pP	20 37 47.8	-8.1
KSP				*e*PcP	PcP	20 38 01.0	+1.3
KSP				*e*PP	PP	20 40 30.0	-8.3
KSP				*e*S	S	20 47 18.5	-6.0
KSP				*e*SKS	SKS	20 47 42.5	-15
KSP				*e*SS	SS	20 52 14.0	-4.8
KSP				*e*SSS	SSS	20 56 06.0	+33
KSP				LR	LR		
	comp=Z,27µm,24.2s,MS6.5						
CLL	**Collm**	**75.65**	**348**	⇑P	**P**	**20 37 46.0**	**-0.8**
	comp=Z,logA/T=2.1,mb5.8						
CLL				*e**SP	sP	20 37 58.0	-1.2
CLL				*e*PP	PP	20 40 30.0	-8.3
CLL				*e*PPP	PPP	20 42 13.0	-12
CLL				*e*S	S	20 47 19.0	-5.6
CLL				*e*PS	PS	20 47 59.0	-6.5
CLL				*e*PPS	PPS	20 48 18.0	-3.1
CLL				*e*SS	SS	20 52 25.0	+6.1
CLL				*e*L		20 56 21.0	
CLL	**Collm**	**75.65**	**348**⇑	*i*P	**P**	**20 37 47.6**	**+0.8**
CLL				*e*S	S	20 47 19.0	-5.6
CLL				pmax	pmax		
	comp=Z,224nm,1.8s,mb5.8						
CLL				MLR	MLR		
	comp=Z,11µm,22.4s,MS6.1						
CLL	**Collm**	**75.65**	**348**⇑	*i*P	**P**	**20 37 47.6**	**+0.8**
	comp=Z,224nm,1.8s,mb5.8						
CLL				*e*S	S	20 47 19.0	-5.6
CLL				LR	LR		
	comp=Z,11µm,22.4s,MS6.1						
OJC	**Ojcow**	**75.67**	**343**	*e*P	**P**	**20 37 46.9**	**0.0**
OJC				*e*		20 40 33.0	
OJC				*e*S	S	20 47 20.2	-4.6
OJC				MLR	MLR		
	comp=N,9µm,20.9s						
OJC	**Ojcow**	**75.67**	**343**	*e*P	**P**	**20 37 46.9**	**0.0**
OJC				*e*PP	PP	20 40 33.0	-5.5
OJC				*e*S	S	20 47 20.2	-4.6
OJC				*e*SS	SS	20 52 07.2	-12
WTSB	**Winterswijk**	**75.67**	**352**	*e*P	**P**	**20 37 46.2**	**-0.7**
	comp=N,64nm,1.1s,mb5.5						
KWP	**Kalwaria**	**75.68**	**341**	*e*P	**P**	**20 37 47.4**	**+0.4**
KWP				*e**PP	pP	20 37 55.4	-0.8
KWP				*e*S	S	20 47 25.3	+0.3
KWP				*e*		20 47 48.7	
KWP				pmax	pmax		
	comp=Z,2µm,1.9s						
KWP	**Kalwaria**	**75.68**	**341**	*e*P	**P**	**20 37 47.4**	**+0.4**
KWP				*e*pP	pP	20 37 55.4	-0.8
KWP				*e*S	S	20 47 25.3	+0.3
KWP				*e*SS		20 47 36.0	
KWP				*e*SKS	SKS	20 47 48.7	-9.5
SSP1	**Stoney Pound**	**75.75**	**358**⇑	*e*P	**P**	**20 37 46.6**	**-0.7**
BHPL	**Bhopal**	**75.90**	**290**	*e*P	**P**	**20 37 49.0**	**+0.2**
BRG	**Berggiesshubel**	**75.95**	**347**	*i* P	**P**	**20 37 47.6**	**-0.9**
BRG				*e*		20 38 04.7	
BRG						20 40 39.0	
BRG						20 47 28.0	
BRG				S	S	20 48 09.0	+41
BRG				pmax	pmax		
	comp=Z,159nm,1.7s,mb5.7						
BRG				MLR	MLR		
	comp=Z,9µm,17.7s,MS6.1						
BRG				MLR	MLR		
	comp=N,9µm,18.0s,MS6.2						
BRG				MLR	MLR		
	comp=E,6µm,18.0s,MS6.2						
BRG	**Berggiesshubel**	**75.95**	**347**	*i* P	**P**	**20 37 47.6**	**-0.9**
	comp=E,159nm,1.7s,mb5.7						
BRG				*e*		20 38 04.7	
BRG				*e*		20 38 27.5	
BRG				PP	PP	20 40 39.0	-1.8
BRG				SKS	SKS	20 47 28.0	-32
BRG				S	S	20 48 09.0	+41
BRG				SS	SS	20 52 36.0	+12
BRG				*i*		20 56 28.0	
BRG				LR	LR		
	comp=Z,9µm,17.7s,MS6.1						
CTA	**Charters Tower**	**75.95**	**207**	*e*P	**P**	**20 37 50.0**	**+0.9**
	comp=Z,38nm,0.9s,mb5.3						
CTA				*e*S	S	20 47 30.1	+1.5
CTA	**Charters Tower**	**75.95**	**207**	P	**P**	**20 37 48.8**	**-0.3**
	comp=Z,18nm,0.8s,mb5.1,baz=22,slow=7.2,SNR=10						
CTA	**Charters Tower**	**75.95**	**207**	P	**P**	**20 37 48.8**	**-0.3**
CTA				pmax	pmax		
	comp=Z,18nm,0.8s						
CTAO	**Charters Tower**	**75.95**	**207**	PFAKE		20 38 00.0	+11
CTAO				LR	LR		
	comp=Z,10µm,20.0s,MS6.1						
EVV	**El Vigia**	**75.99**	**78**	*i* P	**P**	**20 37 50.0**	**+0.7**
UPC	**Upice**	**76.01**	**346**	*e*P	**P**	**20 37 48.8**	**0.0**
UPC				*e*x	x	20 38 03.9	
IPM	**Ipoh**	**76.03**	**259**⇓	*e*P	**P**	**20 37 48.0**	**-1.7**
	comp=Z,47nm,0.8s,mb5.5						
RAC	**Raciborz**	**76.07**	**344**	*e*P	**P**	**20 37 49.2**	**0.0**
RAC				*e*		20 40 39.5	
RAC				*e*S	S	20 47 27.8	-1.5
RAC				MLR	MLR		
	comp=E,9µm,23.5s,MS6.5						
RAC				MLR	MLR		
	comp=N,21µm,19.2s,MS6.5						
RAC				MLR	MLR		
	comp=Z,20µm,19.5s,MS6.4						
HTR	**Trewern Hill**	**76.09**	**358**⇑	*e*P	**P**	**20 37 48.6**	**-0.6**
HTR				AMb	AMB	20 38 07.3	
	comp=Z,367nm,1.1s,mb6.2						
HAE	**Alders End**	**76.11**	**358**⇑	*e*P	**P**	**20 37 48.8**	**-0.5**
HAE				AMb	AMB	20 38 06.5	
	comp=Z,293nm,1.8s,mb5.9						
DPC	**Dobruska-Polom**	**76.11**	**346**	*e*P	**P**	**20 37 49.3**	**-0.1**
DPC				*e*x	x	20 38 04.7	
DPC				*e*PP	PP	20 40 41.6	-0.5
DPC				*e*x	x	20 42 20.0	
DPC				*e*S	S	20 47 31.2	+1.5
DPC				*e*x	x	20 48 19.5	
DPC				*e*x	x	20 52 41.8	
DPC				*e*PKKP	PKKP	20 56 52.8	+10
DPC				LR		21 10 40.0	
	comp=Z,11nm,22.1s						
DPC	**Dobruska-Polom**	**76.11**	**346**	*e*P	**P**	**20 37 49.3**	**-0.1**
DPC				*e*		20 38 04.7	
DPC				*e*		20 40 41.6	
DPC				*e*S	S	20 47 31.2	+1.5
DPC				*e*		20 48 19.5	
DPC				MLR	MLR		
	comp=Z,11µm,22.1s,MS6.1						
MCH1	**Michaelchurch**	**76.16**	**358**⇑	*e*P	**P**	**20 37 49.0**	**-0.6**
PVCC	**Panska Ves**	**76.20**	**347**	*e*P	**P**	**20 37 49.4**	**-0.5**
PVCC				*e*x	x	20 38 04.4	
PVCC				*e*PP	PP	20 40 35.2	-7.6
PVCC				*e*x	x	20 42 34.8	
PVCC				*e*S	S	20 47 31.9	+1.2
PVCC				*e*x	x	20 48 20.5	
PVCC				*e*SS	SS	20 52 34.9	+7.4
PVCC				*e*x	x	20 56 38.2	
PVCC				LR		21 16 10.0	
	comp=Z,10nm,18.5s						
PVCC	**Panska Ves**	**76.20**	**347**	*e*P	**P**	**20 37 49.4**	**-0.5**
PVCC				*e*		20 38 04.4	
PVCC				*e*		20 42 34.8	
PVCC				*e*S	S	20 47 31.9	+1.2
PVCC				*e*		20 48 20.5	
PVCC				MLR	MLR		
	comp=Z,10µm,18.5s,MS6.2						
OXX	**Oaxaca**	**76.22**	**80**	*i* P	**P**	**20 37 51.0**	**+0.4**
HPE	**Pembroke**	**76.25**	**359**⇑	*e*P	**P**	**20 37 50.0**	**-0.1**
PPT	**Papeete**	**76.31**	**144**	*e*P	**P**	**20 37 54.5**	**+3.3**
	comp=Z,75nm,1.4s,mb5.4						
PPT	**Papeete**	**76.31**	**144**	*e*SS	SS	20 52 15.8	-14
PPT				*e*L		20 57 12.9	
PPT				*e*R		21 00 44.1	
	comp=Z,37µm,24.2s,baz=342						
OKC	**Ostrava-Krasne**	**76.32**	**344**	*e*P	**P**	**20 37 50.4**	**-0.2**
OKC				*e*x	x	20 38 06.3	
OKC				*e*PP	PP	20 40 42.5	-1.2
OKC				*e*x	x	20 42 45.8	
OKC				*e*S	S	20 47 41.1	+9.1
OKC				*e*x	x	20 48 25.7	
OKC				*e*x	x	20 52 53.6	
OKC				*e*x	x	20 56 24.7	
OKC				LR		21 14 20.0	
	comp=Z,14nm,18.6s						
OKC	**Ostrava-Krasne**	**76.32**	**344**	*e*P	**P**	**20 37 50.4**	**-0.2**
OKC				*e*		20 38 06.3	
OKC				*e*		20 40 42.5	
OKC				*e*		20 48 25.7	
OKC				MLR	MLR		
	comp=Z,14µm,18.6s,MS6.3						
TIAR	**Tiarei**	**76.38**	**144**	*e*P	**P**	**20 37 54.8**	**+3.2**
	comp=Z,179nm,1.1s,mb5.9						
PAE	**Paea**	**76.39**	**144**	*e*P	**P**	**20 37 54.8**	**+3.2**
	comp=Z,240nm,1.3s,mb6.0						
ANN	**Anapa**	**76.43**	**330***c*	*i*P	**P**	**20 37 50.4**	**-0.9**
ANN				*e*	pP	20 38 01.2	+0.7
ANN				*e*		20 40 43.7	
ANN				*e*S	S	20 47 36.1	+2.8
ANN				*e*PS	PS	20 48 11.5	-3.8
ANN				pmax	pmax		
	comp=Z,288nm,1.8s,mb5.9						
KOLS	**Kolonicke sedl**	**76.44**	**341**	*i* P	**P**	**20 37 51.6**	**+0.4**
KOLS				*e*sP	sP	20 38 03.4	-0.2
MOX	**Moxa**	**76.47**	**349**	*i* P	**P**	**20 37 50.8**	**-0.6**
	comp=Z,logA/T=1.9,mb5.6						
MOX				pP	pP	20 38 02.0	+1.3
MOX				PP	PP	20 40 40.0	-5.0
MOX				PPP	PPP	20 42 50.0	+18
MOX				S	S	20 47 35.0	+1.3
MOX				PPS	PPS	20 48 30.0	-2.2
MOX				SS	SS	20 52 30.0	-1.6
MOX				SSS	SSS	20 55 50.0	+2.9
MOX				*e*		20 56 50.0	
MOX				L		21 14 43.0	
MOX	**Moxa**	**76.47**	**349**	*e*P	**P**	**20 37 50.8**	**-0.6**
MOX				pmax	pmax		
	comp=Z,161nm,1.8s,mb5.7						
MOX				MLR	MLR		
	comp=Z,4µm,21.0s,MS5.7						
MOX	**Moxa**	**76.47**	**349**	*e*P	**P**	**20 37 50.8**	**-0.6**
	comp=Z,161nm,1.8s,mb5.7						
MOX				*e*pP	pP	20 38 02.0	+1.3
MOX				*e*S	S	20 47 35.0	+1.3
MOX				LR	LR		
	comp=Z,4µm,21.0s,MS5.7						
MORC	**Moravsky Berou**	**76.48**	**345**	P	**P**	**20 37 50.8**	**-0.7**
MORC				pmax	pmax		
	comp=Z,220nm,1.5s,mb5.9						
MORC	**Moravsky Berou**	**76.48**	**345**	*e*P	**P**	**20 37 50.6**	**-0.8**
	comp=Z,224nm,1.5s,mb5.9						
DWPF	**Disney**	**76.51**	**62**	PFAKE		20 38 00.0	+7.9
DWPF				LR	LR		
	comp=Z,3µm,20.0s,MS5.5						
HGH	**Gray Hill**	**76.52**	**358**⇑	*e*P	**P**	**20 37 51.2**	**-0.5**
HGH				AMb	AMB	20 37 55.2	
	comp=Z,281nm,1.8s,mb5.9						
NGP	**Nagpur**	**76.57**	**287**	*e*P	**P**	**20 37 50.7**	**-1.8**
NGP				*e*		20 47 33.7	
RAR	**Rarotonga**	**76.57**	**155**	PFAKE		20 38 00.0	+7.4
RAR				LR	LR		
	comp=Z,13µm,20.0s,MS6.2						
CRVS	**Cervenica-Dubn**	**76.62**	**342**	*e*P	**P**	**20 37 54.4**	**+2.1**
CRVS				*e*S	S	20 47 37.4	+2.1
CRVS				*e*		20 48 26.6	
CRVS				*e*		20 52 56.8	
TVO	**Taravao**	**76.62**	**144**	*e*P	**P**	**20 37 56.5**	**+3.6**
	comp=Z,100nm,0.9s,mb5.8						
VIS	**Vishakhapatnam**	**76.66**	**282**	*e*P	**P**	**20 37 52.7**	**-0.4**
TI2	**Plekhanov**	**76.67**	**323***c*	*i*P	**P**	**20 37 54.0**	**+1.3**
TI2				*i*		20 40 48.0	
TI2				*e*PPP	PPP	20 42 28.0	-6.4
TI2				*i* S	S	20 47 40.0	+4.0
TI2				MLR	MLR		
	comp=N,14µm,18.0s,MS6.4						
TI2				MLR	MLR		
	comp=E,8µm,18.0s,MS6.4						
TI2				MLR	MLR		
	comp=Z,17µm,18.0s,MS6.4						
UZH	**Uzhgorod**	**76.72**	**341**	*e*P	**P**	**20 37 54.0**	**+1.2**
UZH				*e*S	S	20 47 30.0	-6.4
JASL	**Jaisalmer**	**76.72**	**297**	*e*P	**P**	**20 37 52.0**	**-1.3**
JASL				*e*		20 37 55.9	
PRU	**Pruhonice**	**76.73**	**347**	*e*P	**P**	**20 37 52.5**	**-0.4**
	comp=Z,109nm,1.3s,mb5.6						
PRU				*e*x	x	20 38 08.0	
PRU				*e*PP	PP	20 40 45.9	-1.1
PRU				*e*x	x	20 42 41.2	
PRU				*e*S	S	20 47 34.5	-2.0
PRU				*e*x	x	20 48 30.5	
PRU				*e*SS	SS	20 52 35.9	+0.4
PRU				*e*PKKP	PKKP	20 56 45.8	+3.9
PRU				LR		21 16 30.0	
	comp=Z,9.0nm,19.0s						
PRU	**Pruhonice**	**76.73**	**347**	*e*P	**P**	**20 37 52.5**	**-0.4**
PRU				*e*		20 38 08.0	
PRU				*e*		20 40 45.9	
PRU				*e*		20 42 41.2	
PRU				*e*S	S	20 47 34.5	-2.0
PRU				*e*		20 48 30.5	
PRU				*e*SS	SS	20 52 35.9	+0.4
PRU				pmax	pmax		
	comp=Z,109nm,1.3s,mb5.6						
PRU				MLR	MLR		
	comp=Z,9µm,19.0s,MS6.1						
NKC	**Novy Kostel**	**76.78**	**348**	*e*P	**P**	**20 37 53.0**	**-0.1**
NKC				*e*x	x	20 38 07.8	
NKC				*e*PP	PP	20 40 39.6	-7.8
NKC				*e*x	x	20 42 23.5	
NKC				*e*S	S	20 47 38.0	+1.1
NKC				*e*x	x	20 48 25.7	
NKC				*e*SS	SS	20 52 51.0	+15
NKC				*e*x	x	20 56 44.1	
NKC				LR		21 08 30.0	
	comp=Z,8.3nm,23.5s						
NKC	**Novy Kostel**	**76.78**	**348**	*e*P	**P**	**20 37 53.0**	**-0.1**
NKC				*e*		20 38 07.8	
NKC				*e*S	S	20 47 38.0	+1.1
NKC				*e*		20 48 25.7	
NKC				MLR	MLR		
	comp=Z,8µm,23.5s,MS6.0						
SOC	**Sochi**	**76.79**	**328**	*i* P	**P**	**20 37 51.5**	**-1.8**
SOC				*e*	pP	20 38 01.7	-0.9
SOC				*e*		20 40 42.0	
SOC				*e*PPP	PPP	20 42 28.8	-6.6
SOC				*e*S	S	20 47 34.6	-2.7
SOC				*e*		20 47 55.8	
SOC				*e*SSS	SSS	20 55 50.9	-1.4
SOC				pmax	pmax		
	comp=Z,179nm,1.2s,mb5.9						
SOC				pmax	pmax		
	comp=N,29nm,1.0s						
SOC				pmax	pmax		
	comp=E,9.0nm,0.7s						
SOC				pmax	pmax		

	comp=Z,1µm,2.3s,mb6.4						
SOC				pmax	pmax		
	comp=N,474nm,2.2s						
SOC				pmax	pmax		
	comp=E,316nm,2.0s						
SOC				smax			
	comp=N,991nm,7.2s						
SOC				smax			
	comp=E,1µm,7.0s						
SOC				MLR	MLR		
	comp=Z,15µm,18.0s,MS6.4						
SOC				MLR	MLR		
	comp=N,10µm,20.0s,MS6.2						
SOC				MLR	MLR		
	comp=E,5µm,17.0s,MS6.2						
KIS	**Kishinev**	**76.81**	**336**	*ce*P	**P**	**20 37 50.0**	**-3.4**
KIS				*e*		20 40 45.0	
KIS				*e*PPP	PPP	20 42 34.0	-1.5
KIS				*e*S	S	20 47 37.0	-0.4
KIS				*e*		20 47 55.0	
KIS				*e*PS	PS	20 48 20.0	+0.1
KIS				pmax	pmax		
	comp=Z,470nm,1.7s,mb6.1						
KIS				pmax	pmax		
	comp=Z,2µm,8.5s						
KIS				pmax	pmax		
	comp=Z,2µm,18.0s						
KIS				smax			
	comp=E,2µm,7.0s						
KIS				MLR	MLR		
	comp=Z,25µm,18.0s,MS6.6						
KIS				MLR	MLR		
	comp=N,25µm,18.0s,MS6.7						
KIS				MLR	MLR		
	comp=Z,26µm,18.0s						
KIS				MLR	MLR		
	comp=E,11µm,15.0s,MS6.7						
LIKS	**Likavka**	**76.92**	**343**	*e*P	**P**	**20 37 56.0**	**+2.1**
IAS	**Iasi**	**76.93**	**337**	⇑*i*P	**P**	**20 37 55.2**	**+1.2**
IAS	**Iasi**	**76.93**	**337**	⇑*i*P	**P**	**20 37 55.2**	**+1.1**
HGN	**Heimansgroeve**	**76.94**	**352**	⇑*e*P	**P**	**20 37 53.5**	**-0.5**
	comp=E,72nm,1.5s,mb5.4						
HGN				*e*x	pP	20 38 09.5	+6.2
HGN				*e*PP	x	20 42 46.0	
HGN				*i* S	S	20 47 41.2	+2.5
HGN				*e*PPS	PPS	20 48 38.4	+0.2
HGN				*e*SS	SS	20 52 48.8	+10
VRAC	**Vranov**	**77.08**	**345**	LR	LR	21 12 25.9	
	comp=E,12µm,21.4s,MS6.2,baz=328,slow=36						
HEX	**Exmoor**	**77.11**	**359**	⇑*e*P	**P**	**20 37 54.5**	**-0.5**
KECS	**Kecovo**	**77.21**	**342**	*e*P	**P**	**20 37 55.7**	**+0.1**
KECS				*e*		20 38 12.4	
SIM	**Simferopol’**	**77.29**	**332**	*e*P	**P**	**20 37 58.9**	**+2.8**
SIM				*e*		20 40 53.0	
SIM				*e*S	S	20 47 46.0	+3.4
SIM				*e*PS	PS	20 48 40.0	+14
SIM				pmax	pmax		
	comp=Z,63nm,1.0s,mb5.5						
SIM				pmax	pmax		
	comp=Z,800nm,10.6s						
SIM				MLR	MLR		
	comp=Z,19µm,19.0s,MS6.4						
CMIG	**Matias Romero**	**77.32**	**79**	⇑*i*P	**P**	**20 37 56.9**	**+0.1**
GRA1	**Grafenberg Arr**	**77.46**	**349**	*e*P	**P**	**20 37 56.7**	**-0.2**
	comp=Z,181nm,1.4s,mb5.8						
GRA1				*e*pP	pP	20 38 08.6	+2.4
GRA1				*e*S	S	20 47 44.2	-0.2
GRA1				LR	LR		
	comp=Z,7µm,21.1s,MS6.0						
GRF	**Grafenberg Arr**	**77.46**	**349**	*e*P	**P**	**20 37 56.7**	**-0.2**
GRF				*e**PP	pP	20 38 08.6	+2.4
GRF				*e*S	S	20 47 44.2	-0.2
GRF				pmax	pmax		
	comp=Z,181nm,1.4s,mb5.8						
GRF				MLR	MLR		
	comp=Z,7µm,21.1s,MS6.0						
KOLL	**Kolacno**	**77.49**	**344**	*i* P	**P**	**20 37 57.6**	**+0.5**
KOLL				*e*		20 38 13.2	
VYHS	**Vyhne**	**77.50**	**343**	*e*P	**P**	**20 37 57.7**	**+0.6**
VYHS				*e*PP	PP	20 40 49.1	-4.6
VYHS				*e*S	S	20 47 46.3	+1.5
VYHS				*e*		20 53 01.6	
SBD	**Saint Breward**	**77.62**	**359**	⇑*e*P	**P**	**20 37 44.0**	**-14**
ABH	**Alteburg**	**77.67**	**351**	*e*P	**P**	**20 37 57.5**	**-0.5**
GIVF	**Givet**	**77.68**	**353**	*e*P	**P**	**20 37 57.6**	**-0.5**
	comp=Z,128nm,1.0s,mb5.5						
KHC	**Kasperske Hory**	**77.70**	**347**	*e*P	**P**	**20 37 58.3**	**0.0**
KHC				*e*x	x	20 38 13.8	
KHC				*e*x	x	20 38 24.0	
KHC				*e*x	x	20 41 07.8	
KHC				*e*x	x	20 42 56.6	
KHC				*e*S	S	20 47 48.9	+1.9
KHC				*e*x	x	20 48 45.4	
KHC				*e*SS	SS	20 52 53.6	+3.5
KHC				*e*x	x	20 57 05.0	
KHC				LR		21 17 00.0	
	comp=Z,10.0nm,19.2s						
KHC	**Kasperske Hory**	**77.70**	**347**	*e*P	**P**	**20 37 58.3**	**0.0**
KHC				*e*		20 38 13.8	
KHC				*e*S	S	20 47 48.9	+1.9
KHC				*e*		20 48 45.4	
KHC				*e*SS	SS	20 52 53.6	+3.5
KHC				MLR	MLR		
	comp=Z,10µm,19.2s,MS6.2						
SMOL	**Smolenice**	**77.72**	**344**	*i* P	**P**	**20 37 59.2**	**+0.8**
SMOL				*e*		20 38 15.9	
BAIF	**Baives**	**77.77**	**353**	*e*P	**P**	**20 37 58.3**	**-0.3**
	comp=Z,98nm,0.9s,mb5.4						
WET	**Wettzell**	**77.79**	**347**	*e*P	**P**	**20 37 58.5**	**-0.2**
WET				pmax	pmax		
	comp=Z,163nm,1.7s,mb5.7						
WET	**Wettzell**	**77.79**	**347**	*e*P	**P**	**20 37 58.5**	**-0.2**
	comp=Z,163nm,1.7s,mb5.7						
TOD	**Tromm**	**77.82**	**350**	*e*P	**P**	**20 37 58.3**	**-0.6**
PSZ	**Piszkesteto**	**77.86**	**343**	⇑*e*P	**P**	**20 38 01.9**	**+2.7**
PSZ	**Piszkesteto**	**77.86**	**343**	P	**P**	**20 38 00.0**	**+0.8**
PSZ				pmax	pmax		
	comp=Z,360nm,1.4s,mb6.1						
RUP	**Ruppelstein**	**77.89**	**351**	*e*P	**P**	**20 37 58.6**	**-0.7**
SWS	**Schriesheim**	**77.95**	**350**	*e*P	**P**	**20 37 59.6**	**0.0**
GEC2	**GERESS Array S**	**77.97**	**347**	*e*P	**P**	**20 37 59.3**	**-0.4**
GEC2				pmax	pmax		
	comp=Z,174nm,1.8s,mb5.7						
GEC2	**GERESS Array S**	**77.97**	**347**	*e*P	**P**	**20 37 59.3**	**-0.4**
	comp=Z,174nm,1.8s,mb5.7						
GERES	**GERESS Array B**	**77.97**	**347**	P	**P**	**20 37 59.5**	**-0.2**
	comp=Z,14nm,0.8s,mb5.0,baz=25,slow=3.9,SNR=105						
GERES				PKPPKP		21 05 05.6	
	comp=Z,0.5nm,0.7s,baz=90,slow=1.3,SNR=4.1						
GERES	**GERESS Array B**	**77.97**	**347**	P	**P**	**20 37 59.5**	**-0.2**
GERES				pmax	pmax		
	comp=Z,14nm,0.8s						
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SIND	**Sindeldorf**	**77.98**	**350**	*e*P	**P**	**20 37 59.3**	**-0.5**
WLF	**Walferdange**	**78.01**	**352**	P	**P**	**20 37 59.8**	**-0.1**
WLF				pmax	pmax		
	comp=Z,140nm,1.4s,mb5.7						
WLF	**Walferdange**	**78.01**	**352**	*e*P	**P**	**20 37 59.1**	**-0.8**
	comp=Z,138nm,1.4s,mb5.7						
BCA	**Borcka**	**78.05**	**325**	P	**P**	**20 38 00.0**	**-0.3**
BCA	**Borcka**	**78.05**	**325**	P	**P**	**20 37 60.0**	**-0.3**
ZST	**Bratislava**	**78.08**	**344**	*i* P	**P**	**20 38 01.3**	**+0.9**
ZST				*e*		20 38 16.8	
ZST				*e*PP	PP	20 40 53.1	-5.8
ZST				*e*		20 48 46.7	
AKL	**Akola**	**78.11**	**288**	*i* P	**P**	**20 38 00.2**	**-0.8**
	comp=Z,301nm,1.2s,mb6.1						
AKL				*i*		20 40 06.9	
VKA	**Vienna**	**78.14**	**345**	⇑*i*P	**P**	**20 38 01.0**	**+0.3**
	comp=Z,2µm,5.0s						
VKA				MLRZ		21 18 00.0	
	comp=Z,5.7nm,19.0s						
KTD	**Kalmit**	**78.17**	**351**	*e*P	**P**	**20 38 00.4**	**-0.4**
SRO	**Srobarova**	**78.25**	**344**	*e*P	**P**	**20 38 02.5**	**+1.2**
SRO				*e*		20 38 17.6	
KARS	**Kars**	**78.26**	**324**	P	**P**	**20 38 02.8**	**+1.3**
KARS	**Kars**	**78.26**	**324**	P	**P**	**20 38 02.8**	**+1.3**
KGD	**Kothagudem**	**78.38**	**284**	⇑*e*P	**P**	**20 38 01.1**	**-1.5**
KGD				*e*S	S	20 47 49.8	-5.0
VRI	**Vrincioaia**	**78.38**	**337**	⇑*i*P	**P**	**20 38 02.1**	**+0.1**
VRI	**Vrincioaia**	**78.38**	**337**	⇑*i*P	**P**	**20 38 02.1**	**+0.1**
BUD	**Budapest**	**78.44**	**343**	*e*Pc		20 38 04.9	
BUD	**Budapest**	**78.44**	**343**	⇑*e*P	**P**	**20 38 04.9**	**+2.6**
LANF	**Langenberg**	**78.54**	**351**	*e*P	**P**	**20 38 02.6**	**-0.2**
BRD	**Bordesti**	**78.60**	**337**	⇑*i*P	**P**	**20 38 04.5**	**+1.2**
BRD	**Bordesti**	**78.60**	**337**	⇑*i*P	**P**	**20 38 04.5**	**+1.2**
STU	**Stuttgart**	**78.60**	**350**	P	**P**	**20 38 04.2**	**+1.0**
STU				pmax	pmax		
	comp=Z,51nm,1.1s,mb5.4						
STU	**Stuttgart**	**78.60**	**350**	*e*P	**P**	**20 38 02.8**	**-0.3**
	comp=Z,51nm,1.1s,mb5.4						
PKSG		**78.64**	**343**	⇑*e*P	**P**	**20 38 04.3**	**+0.9**
SOP	**Sopron**	**78.67**	**345**	⇑*e*P	**P**	**20 38 04.3**	**+0.7**
HDH	**Heidenheim**	**78.67**	**349**	*e*P	**P**	**20 38 03.1**	**-0.5**
LBG	**Lerchenberg**	**78.75**	**350**	*e*P	**P**	**20 38 03.6**	**-0.4**
PKSN	**Nyarlorinc**	**78.85**	**342**	⇑*e*P	**P**	**20 38 07.5**	**+2.9**
MOA	**Molln**	**78.86**	**346**	⇑*i*P	**P**	**20 38 04.6**	**0.0**
	comp=Z,72nm,1.7s,mb5.3						
BUCH	**Bad Urach**	**78.90**	**350**	*e*P	**P**	**20 38 04.6**	**-0.2**
MLR	**Muntele Rosu**	**78.92**	**338**	⇑*i*P	**P**	**20 37 54.9**	**-10**
MLR	**Muntele Rosu**	**78.92**	**338**	⇑*i*P	**P**	**20 37 54.9**	**-10**
FUR	**Furstenfeldbru**	**78.95**	**348**	*e*P	**P**	**20 38 04.8**	**-0.3**
FUR				pmax	pmax		
	comp=Z,304nm,1.8s,mb5.9						
FUR	**Furstenfeldbru**	**78.95**	**348**	*e*P	**P**	**20 38 04.8**	**-0.3**
	comp=Z,304nm,1.8s,mb5.9						
ISR	**Istrita**	**79.12**	**337**	⇓*i*P	**P**	**20 38 06.4**	**+0.3**
BFO	**Black Forest**	**79.13**	**350**	P	**P**	**20 38 05.3**	**-0.8**
	comp=Z,289nm,0.7s,mb6.3,SNR=29						
BFO	**Black Forest**	**79.13**	**350**	*e*P	**P**	**20 38 05.4**	**-0.7**
BFO				pmax	pmax		
	comp=Z,198nm,1.8s,mb5.7						
BFO	**Black Forest**	**79.13**	**350**	*e*P	**P**	**20 38 05.4**	**-0.7**
	comp=Z,198nm,1.8s,mb5.7						
WLS	**Welschbruch**	**79.14**	**351**	*e*P	**P**	**20 38 07.0**	**+0.8**
CDF	**Champ du Feu**	**79.15**	**351**	*e*P	**P**	**20 38 05.7**	**-0.5**
	comp=Z,110nm,1.0s,mb5.4						
ARSA	**Arzberg**	**79.25**	**345**	⇑*i*P	**P**	**20 38 07.5**	**+0.7**
	comp=Z,142nm,1.8s,mb5.6						
MEZF	**Maizieres J’vi**	**79.26**	**353**	*e*P	**P**	**20 38 06.6**	**-0.2**
	comp=Z,350nm,1.3s,mb5.8						
GUT	**Gutenstein**	**79.30**	**350**	*e*P	**P**	**20 38 06.7**	**-0.3**
SPAK	**Spaichingen**	**79.31**	**350**	*e*P	**P**	**20 38 06.7**	**-0.3**
FLN	**La Foliniere**	**79.32**	**356**	*e*P	**P**	**20 38 06.4**	**-0.7**
	comp=Z,178nm,0.9s,mb5.7						
FLN				*e*R			
	comp=Z,7µm,21.2s						
ECH	**Echery**	**79.36**	**351**	*e*P	**P**	**20 38 07.1**	**-0.2**
LIBD	**Limburg**	**79.38**	**351**	*e*P	**P**	**20 38 07.1**	**-0.3**
THEF	**They Montfort**	**79.45**	**352**	*e*P	**P**	**20 38 07.6**	**-0.2**
LDF	**La Druitiere**	**79.48**	**356**	*e*P	**P**	**20 38 07.1**	**-0.9**
	comp=Z,151nm,0.9s,mb5.6						
ERZM	**Erzurum**	**79.50**	**325**	*i* P	**P**	**20 38 10.0**	**+1.7**
EZM	**Erzurum**	**79.50**	**325**	P	**P**	**20 38 10.0**	**+1.7**
KIZ	**Kirchzarten**	**79.54**	**351**	*e*P	**P**	**20 38 07.6**	**-0.7**
UBR	**Uberruh**	**79.57**	**349**	*e*P	**P**	**20 38 08.2**	**-0.3**
FELD	**Feldberg**	**79.61**	**351**	*e*P	**P**	**20 38 08.1**	**-0.6**
HAU	**Haudompre**	**79.64**	**352**	*e*P	**P**	**20 38 08.3**	**-0.6**
	comp=Z,182nm,1.2s,mb5.6						
HAU				*e*R			
	comp=Z,11µm,20.8s						
GUMT	**Gumushane**	**79.66**	**326**	P	**P**	**20 38 10.3**	**+1.2**
GUMT	**Gumushane**	**79.66**	**326**	P	**P**	**20 38 10.2**	**+1.1**
SLE	**Schleitheim**	**79.67**	**350**	⇑*i*P	**P**	**20 38 08.3**	**-0.7**
	comp=Z,162nm,1.6s,mb5.7						
GRR	**Gorron**	**79.71**	**357**	*e*P	**P**	**20 38 08.7**	**-0.5**
	comp=Z,197nm,0.8s,mb5.8						
MOF	**Molkenrain**	**79.72**	**351**	*e*P	**P**	**20 38 08.9**	**-0.4**
WRAB	**Tennant Creek**	**79.72**	**218**	PFAKE		20 38 20.0	+10
WRAB				LR	LR		
	comp=Z,2µm,20.0s,MS5.5						
STEIN	**Stein am Rhein**	**79.72**	**350**	⇑*i*P	**P**	**20 38 08.9**	**-0.4**
	comp=Z,317nm,1.9s,mb5.9						
WB2	**Warramunga Arr**	**79.73**	**218**	*e*P	**P**	**20 38 09.3**	**-0.6**
WB2				*e*S	S	20 48 08.2	-0.9
WB2				*e*PKKP	PKKP	20 56 55.8	+18
WATA	**Walderalm**	**79.73**	**348**	⇑*i*P	**P**	**20 38 09.6**	**+0.2**
	comp=Z,127nm,1.4s,mb5.7						
WRA	**Warramunga Arr**	**79.73**	**218**	P	**P**	**20 38 09.2**	**-0.8**
	comp=Z,28nm,0.8s,mb5.2,baz=30,slow=6.4,SNR=98						
WRA				PKKPbc		20 56 55.8	
	comp=Z,0.7nm,0.6s,baz=215,slow=2.1,SNR=12						
WRA				LR	LR	21 11 06.8	
	comp=Z,6µm,20.5s,MS5.9,baz=35,slow=34						
WRA	**Warramunga Arr**	**79.73**	**218**	P	**P**	**20 38 09.2**	**-0.7**
WRA				pmax	pmax		
	comp=Z,28nm,0.8s						
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA				MLR	MLR		
	comp=Z,6µm,20.5s						
KBA	**Koelnbreinsper**	**79.75**	**347**	*i* CP		20 38 10.5	
	comp=Z,411nm,1.3s						
KBA	**Koelnbreinsper**	**79.75**	**347**	⇑*i*P	**P**	**20 38 10.5**	**+1.0**
	comp=Z,411nm,1.3s,mb6.2						
HYB	**Hyderabad**	**79.76**	**285**	*i* P	**P**	**20 38 09.5**	**-0.6**
	comp=Z,260nm,1.0s,mb6.1						
HYB				*e*PP	PP	20 41 12.0	-0.9
HYB				*e*S	S	20 48 10.0	+0.6
HYB				*e*SS	SS	20 53 24.0	+2.5
HYB				LR	LR	21 17 56.0	
	comp=Z,12nm,18.0s						
HYB	**Hyderabad**	**79.76**	**285**	*e*P	**P**	**20 38 09.5**	**-0.6**
	comp=Z,260nm,1.0s,mb6.1						
HYB				*e*S	S	20 48 10.0	+0.6
TRULL	**Truellikon**	**79.76**	**350**	⇑*i*P	**P**	**20 38 09.0**	**-0.5**
	comp=Z,174nm,1.7s,mb5.7						
HINF	**Hinteralfeld**	**79.78**	**351**	*e*P	**P**	**20 38 08.9**	**-0.7**
	comp=Z,34nm,0.6s,mb5.1						
MOTA	**Moosalm**	**79.78**	**348**	⇓*i*P	**P**	**20 38 09.6**	**0.0**
	comp=Z,238nm,1.9s,mb5.8						
WTTA	**Wattenberg**	**79.80**	**348**	⇑*i*P	**P**	**20 38 10.2**	**+0.5**
	comp=Z,207nm,1.5s,mb5.8						
ROSF	**Rostrenen**	**79.83**	**358**	*e*P	**P**	**20 38 09.5**	**-0.4**
	comp=Z,92nm,0.8s,mb5.4						
WEIN	**Weingarten**	**79.85**	**350**	⇑*i*P	**P**	**20 38 09.6**	**-0.4**
	comp=Z,205nm,1.8s,mb5.8						
SQTA	**Sankt Quirin**	**79.89**	**348**	⇑*i*P	**P**	**20 38 10.7**	**+0.5**
	comp=Z,101nm,1.2s,mb5.6						
SGMF	**Saint Gilles**	**79.90**	**358**	*e*P	**P**	**20 38 09.9**	**-0.3**
	comp=Z,141nm,0.8s,mb5.7						
PERS	**Pernice**	**79.92**	**345**	*e*P	**P**	**20 38 10.9**	**+0.5**
PERS				*e*		20 38 12.8	
PERS				*e*		20 48 11.9	
VANB	**Van**	**79.92**	**323**	P	**P**	**20 38 11.1**	**+0.5**
VANB	**Van**	**79.92**	**323**	P	**P**	**20 38 11.1**	**+0.6**
SULZ	**Sulz-Cheisache**	**79.94**	**350**	⇑*i*P	**P**	**20 38 10.0**	**-0.5**
	comp=Z,212nm,1.4s,mb5.9						
RHK1	**Bakonya**	**79.95**	**343**	⇑*e*P	**P**	**20 38 10.7**	**+0.1**
WILA	**Wila**	**79.97**	**350**	⇑*i*P	**P**	**20 38 10.3**	**-0.3**
	comp=Z,295nm,1.8s,mb5.9						
BUC1	**Bucharest**	**79.97**	**337**	⇑*i*P	**P**	**20 38 12.5**	**+1.8**
BUC1	**Bucharest**	**79.97**	**337**	⇑*i*P	**P**	**20 38 12.5**	**+1.7**
TVAN	**Van**	**79.97**	**323**	*i* P	**P**	**20 38 11.8**	**+1.0**
DAVA	**Damuels**	**79.99**	**349**	⇑*i*P	**P**	**20 38 11.8**	**+1.1**
	comp=Z,67nm,1.6s,mb5.3						
KELT	**Kelkit**	**80.01**	**326**	*i* P	**P**	**20 38 13.2**	**+2.2**
KAMOR	**Kamor**	**80.03**	**349**	⇑*i*P	**P**	**20 38 11.0**	**0.0**
	comp=Z,220nm,2.0s,mb5.8						
ZUR	**Zurich**	**80.05**	**350**	⇑*i*P	**P**	**20 38 10.8**	**-0.3**
	comp=Z,221nm,1.5s,mb5.9						
BZK	**Bozkurt**	**80.05**	**331**	P	**P**	**20 38 13.1**	**+1.9**
BZK	**Bozkurt**	**80.05**	**331**	P	**P**	**20 38 13.1**	**+1.9**
PSN	**Preselentsi**	**80.07**	**336**	*i* P	**P**	**20 38 12.3**	**+1.0**
OBKA	**Obir**	**80.13**	**346**	⇑*i*P	**P**	**20 38 12.4**	**+0.9**
	comp=Z,129nm,1.0s,mb5.8						
LATR	**Latur**	**80.16**	**287**	*e*P	**P**	**20 38 12.2**	**0.0**
	comp=Z,340nm,1.3s,mb6.1						
BOURR	**Bourrignon**	**80.16**	**351**	⇑*i*P	**P**	**20 38 11.3**	**-0.4**
	comp=Z,240nm,2.2s,mb5.7						
BALST	**Balsthal**	**80.17**	**351**	⇑*i*P	**P**	**20 38 11.5**	**-0.2**
	comp=Z,320nm,1.7s,mb6.0						
EZC	**Erzincan**	**80.18**	**326**	P	**P**	**20 38 14.3**	**+2.4**
KVT	**Kavak**	**80.23**	**329**	P	**P**	**20 38 13.1**	**+1.0**
KVT	**Kavak**	**80.23**	**329**	P	**P**	**20 38 13.1**	**+0.9**
LOMF	**Lomont**	**80.24**	**351**	*e*P	**P**	**20 38 12.0**	**-0.1**
QUIF	**Quistinic**	**80.25**	**358**	*e*P	**P**	**20 38 11.7**	**-0.4**
BYBT	**Boyabat**	**80.27**	**330**	P	**P**	**20 38 15.2**	**+2.8**
BYBT	**Boyabat**	**80.27**	**330**	P	**P**	**20 38 15.2**	**+2.8**
BOYT	**Boyabat**	**80.27**	**330**	*i* P	**P**	**20 38 13.3**	**+0.9**
PLONS	**Plons**	**80.28**	**349**	⇑*i*P	**P**	**20 38 12.0**	**-0.3**
	comp=Z,207nm,1.8s,mb5.8						
FVI	**Forni Avoltri**	**80.30**	**347**	*e*P	**P**	**20 38 12.2**	**-0.2**
PTCC	**Patocco-Chiusa**	**80.41**	**347**	*e*P	**P**	**20 38 12.4**	**-0.6**
MUO	**Muotathal**	**80.44**	**350**	⇑*i*P	**P**	**20 38 13.2**	**0.0**
	comp=Z,205nm,1.5s,mb5.8						
DAVOX	**Davos**	**80.49**	**349**	⇑*i*P	**P**	**20 38 13.8**	**+0.4**
	comp=Z,216nm,1.5s,mb5.8						
DJES	**Djerdap**	**80.49**	**340**	⇑*i*P	**P**	**20 38 12.4**	**-1.1**
LLS	**Linth-Limmern**	**80.52**	**350**	⇑*i*P	**P**	**20 38 13.6**	**0.0**
	comp=Z,187nm,2.3s,mb5.6						
GMNA	**Gemona**	**80.55**	**347**	*e*P	**P**	**20 38 13.2**	**-0.6**
HOPOS	**Hopovo Monaste**	**80.55**	**342**	*e*P	**P**	**20 38 22.4**	**+8.6**
BNALP	**Bannalp**	**80.56**	**350**	⇑*i*P	**P**	**20 38 13.8**	**0.0**
	comp=Z,142nm,1.3s,mb5.8						
LOR	**Lormes**	**80.57**	**353**	*e*P	**P**	**20 38 13.5**	**-0.3**
	comp=Z,87nm,0.8s,mb5.4						
LOR				*e*R			
	comp=Z,8µm,19.5s						
LJU	**Ljubljana**	**80.58**	**346**	*e*P	**P**	**20 38 13.6**	**-0.3**
LJU				*e*PP	PP	20 41 19.1	-0.4
LJU				*e*		20 44 46.0	
LJU				*e*S	S	20 48 17.7	+0.2
LJU				*e*		20 49 29.3	
LJU				*e*		20 53 45.1	
LJU				*e*		21 00 01.2	
FUORN	**Ofenpass**	**80.60**	**349**	⇑*i*P	**P**	**20 38 14.6**	**+0.6**
	comp=Z,315nm,2.0s,mb5.9						
BALT	**Daday**	**80.63**	**331**	*i* P	**P**	**20 38 15.3**	**+1.1**
HYF	**Humbligny**	**80.66**	**354**	*e*P	**P**	**20 38 14.3**	**0.0**
HKR	**Hakkari**	**80.68**	**322**	*e*P	**P**	**20 38 16.5**	**+1.9**
VOY	**Vojsko**	**80.69**	**346**	*e*P	**P**	**20 38 14.0**	**-0.5**
HASLI	**Hasliberg**	**80.70**	**350**	⇑*i*P	**P**	**20 38 14.5**	**0.0**
	comp=Z,142nm,1.0s,mb5.8						
PRD	**Provadia**	**80.72**	**336**	*i* P	**P**	**20 38 15.0**	**+0.3**
BINT	**Bingol**	**80.72**	**325**	P	**P**	**20 38 17.4**	**+2.6**
BINT	**Bingol**	**80.72**	**325**	P	**P**	**20 38 17.4**	**+2.5**
BRMO	**Bormio**	**80.73**	**349**	⇑*i*P	**P**	**20 38 15.3**	**+0.6**
BEO	**Belgrade**	**80.73**	**341**	⇑*i*P	**P**	**20 38 17.0**	**+2.2**
TOKT	**Tokat**	**80.76**	**328**	*e*P	**P**	**20 38 16.8**	**+1.8**
TOKT	**Tokat**	**80.76**	**328**	P	**P**	**20 38 16.8**	**+1.8**
VISS	**Visnje**	**80.77**	**345**	*e*P	**P**	**20 38 14.6**	**-0.3**
VISS				*e*PP	PP	20 41 20.4	-0.8
VISS				*e*		20 44 47.0	
VISS				*e*S	S	20 48 21.2	+1.8
VISS				*e*		20 53 46.5	
VISS				*e*		21 00 06.8	
SSF	**Saint Saulge**	**80.80**	**353**	*e*P	**P**	**20 38 14.8**	**-0.3**
	comp=Z,84nm,0.8s,mb5.4						
TORNY	**Torny**	**80.80**	**351**	⇑*i*P	**P**	**20 38 15.3**	**+0.2**
	comp=Z,285nm,1.7s,mb5.9						
VDL	**Val di Lei**	**80.82**	**349**	⇑*i*P	**P**	**20 38 15.6**	**+0.4**
	comp=Z,273nm,2.0s,mb5.8						
BERNI	**Berninapass**	**80.83**	**349**	⇑*i*P	**P**	**20 38 15.7**	**+0.5**
	comp=Z,168nm,1.4s,mb5.8						
WIMIS	**Wimmis**	**80.85**	**351**	⇑*i*P	**P**	**20 38 15.1**	**-0.2**
	comp=Z,105nm,1.5s,mb5.6						
SISC	**Sisak**	**80.85**	**344**	*i* P	**P**	**20 38 15.8**	**+0.5**
TOS	**Tosya**	**80.89**	**331**	*e*P	**P**	**20 38 17.0**	**+1.3**
TOS	**Tosya**	**80.89**	**331**	P	**P**	**20 38 17.0**	**+1.3**
CEY	**Cerknica**	**80.90**	**346**	*e*P	**P**	**20 38 15.3**	**-0.3**
CEY				*e*		20 38 17.4	
FUSIO	**Fusio**	**80.94**	**350**	⇑*i*P	**P**	**20 38 16.1**	**+0.3**
	comp=Z,300nm,2.0s,mb5.9						
BTMT	**Batman**	**80.97**	**324**	P	**P**	**20 38 17.4**	**+1.2**
SVSK	**Karacayir**	**80.97**	**328**	P	**P**	**20 38 17.2**	**+1.1**
SVSK	**Karacayir**	**80.97**	**328**	P	**P**	**20 38 17.2**	**+1.1**
CTI	**Castel Tesino**	**80.99**	**348**	*e*P	**P**	**20 38 15.5**	**-0.6**
BOJS	**Bojanci**	**81.00**	**345**	*e*P	**P**	**20 38 16.4**	**+0.2**
BOJS				*e*		20 38 18.2	
SZH	**Strazhica**	**81.02**	**337**	*i* P	**P**	**20 38 16.0**	**-0.3**
TRI	**Trieste**	**81.03**	**346**	*e*P	**P**	**20 38 16.9**	**+0.7**
CTKT	**Corum**	**81.04**	**330**	*i* P	**P**	**20 38 17.4**	**+1.0**
AVF	**Avril sur Loir**	**81.08**	**354**	*e*P	**P**	**20 38 16.3**	**-0.2**
	comp=Z,113nm,0.9s,mb5.5						
SVIS	**Svilajnac**	**81.08**	**341**	⇑*i*P	**P**	**20 38 16.4**	**-0.2**
PTK	**Pertek**	**81.09**	**326**	P	**P**	**20 38 18.5**	**+1.7**
SAFT	**Safranbolu**	**81.10**	**332**	P	**P**	**20 38 18.0**	**+1.2**
SAFT	**Safranbolu**	**81.10**	**332**	P	**P**	**20 38 18.0**	**+1.3**
SVST	**Sivas**	**81.12**	**328**	*i* P	**P**	**20 38 19.0**	**+2.1**
LKBD	**Leukerbad**	**81.12**	**351**	⇑*i*P	**P**	**20 38 16.8**	**+0.1**
	comp=Z,186nm,2.3s,mb5.6						
MABI	**Malga Bissina**	**81.12**	**348**	⇑*i*P	**P**	**20 38 18.4**	**+1.6**
SENIN	**Lac Senin**	**81.18**	**351**	⇑*i*P	**P**	**20 38 17.4**	**+0.4**
	comp=Z,205nm,2.4s,mb5.6						
SMF	**Signal de Mont**	**81.19**	**353**	*e*P	**P**	**20 38 16.9**	**-0.2**
PVL	**Pavlikeni**	**81.21**	**337**	*e*P	**P**	**20 38 18.5**	**+1.2**
AIGLE	**Aigle**	**81.23**	**351**	⇑*i*P	**P**	**20 38 17.1**	**-0.2**
	comp=Z,132nm,1.4s,mb5.7						
GRYON	**Gryon**	**81.31**	**351**	⇑*i*P	**P**	**20 38 17.8**	**+0.1**
	comp=Z,75nm,1.5s,mb5.4						
BEST	**Besiri**	**81.32**	**324**	*i* P	**P**	**20 38 19.0**	**+1.1**
BGF	**Bois d’Agland**	**81.35**	**354**	*e*P	**P**	**20 38 17.7**	**-0.2**
BOLS	**Boljevac**	**81.38**	**340**	⇓*i*P	**P**	**20 38 17.4**	**-0.7**
BBSR	**BB Station**	**81.39**	**47**	PFAKE		20 38 30.0	+12
BBSR				LR	LR		
	comp=Z,12µm,19.0s,MS6.3						
CANT	**Cankiri**	**81.41**	**331**	*e*P	**P**	**20 38 19.7**	**+1.3**
CANT	**Cankiri**	**81.41**	**331**	P	**P**	**20 38 19.7**	**+1.3**
MMK	**Mattmark**	**81.42**	**350**	⇑*i*P	**P**	**20 38 19.1**	**+0.8**
	comp=Z,184nm,1.4s,mb5.8						
MUGIO	**Muggio**	**81.43**	**349**	⇑*i*P	**P**	**20 38 17.9**	**-0.5**
	comp=Z,212nm,1.2s,mb6.0						
DIX	**Grande Dixence**	**81.45**	**351**	⇑*i*P	**P**	**20 38 19.2**	**+0.8**
	comp=Z,372nm,2.0s,mb6.0						
MFF	**Saint Martin d**	**81.47**	**356**	*e*P	**P**	**20 38 18.4**	**-0.2**
	comp=Z,60nm,0.7s,mb5.3						
MCGN	**Macugnaga**	**81.51**	**350**	*e*P	**P**	**20 38 19.4**	**+0.7**
VAI	**Varese**	**81.51**	**350**	*e*P	**P**	**20 38 18.6**	**-0.3**
DIVS	**Divcibare**	**81.52**	**341**	⇓*i*P	**P**	**20 38 18.8**	**0.0**
LRYF	**La Roche-sur-Y**	**81.55**	**357**	*e*P	**P**	**20 38 18.9**	**-0.1**
SAL	**Salo**	**81.56**	**348**	*e*P	**P**	**20 38 19.0**	**-0.1**
ELDT	**Eldivan**	**81.57**	**331**	*i* P	**P**	**20 38 20.3**	**+1.0**
GRUS	**Gruza**	**81.58**	**341**	⇓*i*P	**P**	**20 38 19.3**	**+0.1**
ELZG	**Elazig**	**81.59**	**326**	*i* P	**P**	**20 38 20.8**	**+1.5**
JMB	**Yambol**	**81.61**	**336**	*i* P	**P**	**20 38 20.0**	**+0.6**
POO	**Poona**	**81.65**	**289**	*i* P	**P**	**20 38 19.0**	**-1.1**
POO				*i*		20 48 36.0	
POO	**Poona**	**81.65**	**289**	⇑*i*P	**P**	**20 38 19.0**	**-1.1**
	comp=Z,1µm,1.0s,mb6.7						
FITZ	**Fitzroy Crossi**	**81.65**	**226**	*e*S	S	20 48 31.9	+2.8
FITZ	**Fitzroy Crossi**	**81.65**	**226**	P	**P**	**20 38 20.3**	**+0.2**
	comp=Z,25nm,0.5s,mb5.4,baz=14,slow=5.3,SNR=93						
FITZ	**Fitzroy Crossi**	**81.65**	**226**	*e*P	**P**	**20 38 19.6**	**-0.5**
	comp=Z,43nm,0.8s,mb5.4						
FITZ				*e*S	S	20 48 31.9	+2.8
TCF	**Toulx Ste Croi**	**81.66**	**354**	*e*P	**P**	**20 38 19.4**	**-0.1**
	comp=Z,66nm,0.8s,mb5.3						
OG05	**Jujurieux**	**81.67**	**352**	*e*P	**P**	**20 38 19.7**	**+0.1**
TBI	**Tubuai**	**81.69**	**146**	*e*SS	SS	20 53 33.7	-17
TBI				*e*L		20 59 31.4	
TBI				*e*R		21 03 18.6	
	comp=Z,32µm,30.2s,baz=334						
DIY	**Diyarbakir**	**81.69**	**325**	*e*P	**P**	**20 38 20.4**	**+0.5**
DIY	**Diyarbakir**	**81.69**	**325**	P	**P**	**20 38 20.4**	**+0.5**
YOZ	**Yozgat**	**81.77**	**329**	*e*P	**P**	**20 38 21.2**	**+0.9**
YOZ	**Yozgat**	**81.77**	**329**	P	**P**	**20 38 21.2**	**+1.0**
ORO	**Oropa**	**81.84**	**350**	*e*P	**P**	**20 38 20.8**	**+0.3**
SGKT	**Sivrigoynuk**	**81.90**	**332**	*i* P	**P**	**20 38 22.0**	**+1.0**
CUD	**Cuddapah**	**81.92**	**283**	*e*P	**P**	**20 38 21.1**	**-0.4**
CUD				*e*		20 41 30.0	
CUD				*e*		20 44 53.7	
CUD				*e*S	S	20 48 32.9	+1.0
CUD				*e*		20 48 48.6	
CUD				*e*		20 53 53.0	
CUD				*e*		20 57 57.6	
CUD				*e*		21 06 22.9	
MYA	**Malataya**	**81.93**	**326**	*e*P	**P**	**20 38 23.5**	**+2.4**
MYA	**Malataya**	**81.93**	**326**	P	**P**	**20 38 23.5**	**+2.4**
MALT	**Malatya**	**81.94**	**326**	P	**P**	**20 38 21.1**	**-0.1**
MALT	**Malatya**	**81.94**	**326**	P	**P**	**20 38 21.1**	**-0.1**
BOM	**Bombay**	**81.96**	**290**	*e*P	**P**	**20 38 21.1**	**-0.6**
BOM				*e*		20 48 28.0	
TRAV		**81.97**	**350**	P	**P**	**20 38 21.2**	**0.0**
NVLJ	**Novalja**	**81.98**	**345**	*i* P	**P**	**20 38 18.8**	**-2.4**
HENT	**Hendek**	**82.00**	**333**	*i* P	**P**	**20 38 22.9**	**+1.4**
LPL	**La Plagne**	**82.07**	**351**	*e*P	**P**	**20 38 22.6**	**+0.9**
LPG	**La Plagne**	**82.09**	**351**	*e*P	**P**	**20 38 22.9**	**+1.1**
LSD	**Ceresole Reale**	**82.09**	**351**	P	**P**	**20 38 23.0**	**+1.2**
PGB	**Panagyurishte**	**82.11**	**338**	*i* P	**P**	**20 38 22.5**	**+0.5**
PYM	**Petit Puy Mans**	**82.14**	**354**	*e*P	**P**	**20 38 22.3**	**+0.2**
NVSS	**Nova Varos 2**	**82.15**	**341**	⇓*i*P	**P**	**20 38 24.0**	**+1.9**
EDRB	**Edirne**	**82.16**	**336**	P	**P**	**20 38 22.2**	**0.0**
EDRB	**Edirne**	**82.16**	**336**	P	**P**	**20 38 22.2**	**-0.1**
VERF	**Verneugheol**	**82.18**	**354**	*e*P	**P**	**20 38 23.2**	**+0.9**
BRTR	**Keskin Array B**	**82.21**	**330**	P	**P**	**20 38 22.6**	**0.0**
	comp=Z,52nm,0.6s,mb5.6,baz=43,slow=2.7,SNR=177						
BRTR				PP	PP	20 41 32.9	-0.2
	comp=Z,8.4nm,0.8s,baz=37,slow=6.2,SNR=3.6						
BRTR				PKPPKP		21 04 49.7	

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          comp=Z,0.8nm,1.0s,baz=180,slow=4.9,SNR=4.4
BRTR                               LR       LR        21 20 41.7
          comp=Z,7µm,19.5s,MS6.0,baz=45,slow=40
BRTR Keskin Array B    82.21 330   P        P         20 38 22.6  0.0
BRTR                                                  20 41 32.9
BRTR                               pmax     pmax
          comp=Z,52nm,0.6s
BRTR                               pmax     pmax
          comp=Z,8.0nm,0.8s
BRTR                               pmax     pmax
          comp=Z,1.0nm,1.0s
BRTR                               MLR      MLR
          comp=Z,7µm,19.5s
MDU  Mudurnu           82.25 332   P        P         20 38 24.6 +1.9
MDU  Mudurnu           82.25 332   P        P         20 38 24.6 +1.8
DIM  Dimitrovgrad      82.26 337  eP        P         20 38 24.5 +1.7
ISK  Istanbul-Kandi    82.29 334   P        P         20 38 23.5 +0.6
VTS  Vitosha           82.29 339  i P       P         20 38 23.0 +0.1
BNN  Bunyan            82.31 328   P        P         20 38 23.9 +0.8
LOD  Lodumlu           82.33 331  eP        P         20 38 24.0 +0.9
LOD  Lodumlu           82.33 331   P        P         20 38 24.0 +0.8
COLF Collangettes      82.33 353  eP        P         20 38 23.4 +0.4
ANTO Ankara            82.33 331  i P       P         20 38 22.9 -0.3
ANTO Ankara            82.33 331   P        P         20 38 22.9 -0.3
BARS Barje             82.37 340⇑iP         P         20 38 22.7 -0.7
PLE  Pljevlja          82.38 342⇑iP         P         20 38 23.4  0.0
RSP  Reno Superiore    82.38 351   P        P         20 38 23.9 +0.6
PLD  Plovdiv           82.41 338  eP        P         20 38 25.5 +2.0
KAD  Karad             82.42 288  eP        P         20 38 23.5 -0.6
KAD                               e                   20 38 27.1
          comp=Z,343nm,1.4s
GRN  Grenoble          82.43 352  eP        P         20 38 24.2 +0.6
GDM  Grand'Maison      82.44 351  eP        P         20 38 24.7 +1.1
KAMT Kaman             82.52 330   P        P         20 38 24.5 +0.4
KAMT Kaman             82.52 330   P        P         20 38 24.5 +0.4
FENE Fenestrelle       82.52 351   P        P         20 38 24.7 +0.7
BOB  Bobbio (Coli)     82.52 349⇑iP         P         20 38 24.9 +0.8
FRNF Fournols          82.53 354  eP        P         20 38 24.7 +0.6
BNI  Bardonecchia      82.54 351   P        P         20 38 25.4 +1.3
BNI                                pmax     pmax
          comp=Z,150nm,1.2s,mb5.9
BNI  Bardonecchia      82.54 351  eP        P         20 38 25.1 +1.0
          comp=Z,153nm,1.2s,mb5.9
UPM  Unac-Piva         82.59 342⇑iP         P         20 38 24.1 -0.3
LBL  Lubilhac          82.64 353  eP        P         20 38 25.3 +0.6
RRL  Cesana Torines    82.66 351   P        P         20 38 26.2 +1.5
KDZ  Kurdzhali         82.67 337  eP        P         20 38 26.5 +1.6
RJF  Les Rejaudoux     82.68 355  eP        P         20 38 24.6 -0.3
RJF                               eR
          comp=Z,9µm,20.2s
BHB  Bricherasio       82.69 351   P        P         20 38 24.3 -0.7
AVNT Avonos            82.70 329  i P       P         20 38 25.3 +0.2
IVA  Berane            82.72 341⇑iP         P         20 38 24.8 -0.4
GRAM                   82.72 349   P        P         20 38 25.3 +0.2
ORIF Oris-en-Rattie    82.74 352  eP        P         20 38 26.0 +0.8
          comp=Z,144nm,0.8s,mb5.7
ORIF                              eR
          comp=Z,9µm,22.8s
ZCCA Zocca             82.74 348⇑iP         P         20 38 27.1 +1.9
ERBM Eremo             82.75 348  eP        P         20 38 27.1 +1.9
GSCL Gusciola          82.79 348  eP        P         20 38 26.5 +1.0
RZN  Rozhen            82.80 337  eP        P         20 38 25.5 -0.1
VALM                   82.84 348   P        P         20 38 25.6 -0.1
CODM                   82.85 349   P        P         20 38 25.9 +0.1
PCP  Pian Castagno     82.85 350   P        P         20 38 25.4 -0.4
MBDF Montbardon        82.85 351  eP        P         20 38 26.5 +0.7
          comp=Z,125nm,0.7s,mb5.8
FNVD Fontana Vidola    82.91 348  eP        P         20 38 29.7 +3.7
VIVF Saint-Julien-l    82.91 352  eP        P         20 38 26.4 +0.3
          comp=Z,56nm,0.8s,mb5.3
BACM                   82.93 348   P        P         20 38 26.4 +0.2
GENL Genova Univers    82.94 349   P        P         20 38 26.0 -0.2
NKY  Niksic            82.95 342⇑iP         P         20 38 24.3 -2.0
BRY  Bratogost         82.95 342⇑iP         P         20 38 24.7 -1.7
PVY  Plav              82.97 341⇑iP         P         20 38 25.6 -0.8
KKB  Krupnik           83.01 339  i P       P         20 38 27.0 +0.4
VLC  Villacollemand    83.01 348  eP        P         20 38 26.6  0.0
          comp=Z,75nm,0.7s,mb5.8
MFT  Murefte           83.02 335   P        P         20 38 25.9 -0.8
MFT  Murefte           83.02 335  eP        P         20 38 28.7 +2.0
MFT  Murefte           83.02 335   P        P         20 38 28.7 +2.0
CAF  Calviac           83.03 354  eP        P         20 38 27.0 +0.3
          comp=Z,154nm,1.0s,mb5.7
PZZ  Prazzo            83.04 351   P        P         20 38 26.8  0.0
VINC Vinca             83.06 348   P        P         20 38 26.3 -0.5
SFI  Santa Sofia       83.07 347⇑iP         P         20 38 28.1 +1.2
BDI  Bagni Di Lucca    83.08 348  eP        P         20 38 28.1 +1.2
KAHT Ahir Dag          83.08 327  i P       P         20 38 28.4 +1.3
LFF  La Frestale       83.08 355  eP        P         20 38 27.0  0.0
          comp=Z,79nm,0.8s,mb5.5
SURF Saint Ours        83.09 351  eP        P         20 38 28.4 +1.4
GZT  Gaziantep         83.10 326  i P       P         20 38 28.2 +1.0
PGD  Poggio Sodo       83.11 347⇑iP         P         20 38 28.7 +1.6
RDO  Rodhopi           83.12 337  eP        P         20 38 27.5 +0.3
MMB  Musomiste         83.12 338  i P       P         20 38 27.5 +0.2
ULDT Uludag            83.13 334  i P       P         20 38 28.0 +0.7
OCF  Saint Nazaire     83.13 352  eP        P         20 38 28.3 +1.1
OG26 St.-Nazaire-De    83.13 352  eP        P         20 38 28.3 +1.1
STON Ston              83.14 343  i P       P         20 38 25.5 -1.8
FSSB Fossombrone       83.14 346  eP        P         20 38 28.1 +0.8
ROB  Roburent          83.17 350   P        P         20 38 26.6 -0.9
FIN  Finale Ligure     83.21 350  eP        P         20 38 28.2 +0.6
ESKT Eskisehir         83.23 332  i P       P         20 38 27.9 +0.1
ESKT Eskisehir         83.23 332   P        P         20 38 27.7 -0.1
ESKT Eskisehir         83.23 332   P        P         20 38 27.7 -0.1
BNT  Bandirma          83.25 335  eP        P         20 38 28.4 +0.5
BNT  Bandirma          83.25 335   P        P         20 38 28.4 +0.5
SKO  Skopje            83.27 340⇑iP         P         20 38 28.2 +0.2
SKO                             ⇑i                    20 38 30.2
          comp=Z,0.1nm,1.1s
SKO  Skopje            83.27 340⇑iP         P         20 38 28.2 +0.2
          comp=Z,133nm,1.1s,mb5.9
SKO                               i                   20 38 30.2
STV2 Anna di Valdie    83.27 350   P        P         20 38 26.9 -1.1
TTG  Podgorica         83.27 342⇑iP         P         20 38 26.0 -1.9
STV  Sta Anna Valdi    83.27 350   P        P         20 38 26.9 -1.1
ENR  Entracque         83.28 350   P        P         20 38 26.4 -1.6
ASAR Alice Springs     83.29 217   P        P         20 38 28.4 -0.1
          comp=Z,10nm,0.6s,mb5.0,baz=24,slow=5.0,SNR=59
ASAR                               PKKPbc             20 56 47.6
          comp=Z,0.9nm,0.6s,baz=194,slow=1.9,SNR=9.7
ASAR                               LR       LR        21 12 39.2
          comp=Z,3µm,20.6s,MS5.7,baz=14,slow=34
ASPA Alice Springs     83.29 217  eP        P         20 38 28.1 -0.4
ASPA                              eS        S         20 48 45.9 +0.2
ARV  Arcevia           83.31 346  eP        P         20 38 28.9 +0.7
RORO                   83.33 350   P        P         20 38 27.1 -1.1
GAZ  Gaziantep         83.39 327   P        P         20 38 29.9 +1.2
GAZ  Gaziantep         83.39 327   P        P         20 38 29.9 +1.2
NIG  Nigde             83.39 329   P        P         20 38 29.6 +0.9
NIG  Nigde             83.39 329   P        P         20 38 29.6 +0.9
MONE Monesi            83.39 350   P        P         20 38 27.4 -1.2
CING Cingoli           83.39 346  eP        P         20 38 30.9 +2.4
HCY  Herceg Novi       83.40 342⇑iP         P         20 38 27.9 -0.8
BUM  Brajici-Budva     83.47 342  eP        P         20 38 27.7 -1.3
SAOF Saorge            83.50 350  eP        P         20 38 29.4 +0.4
AUTN L'Aution          83.51 350  eP        P         20 38 29.7 +0.6
TOUF Mont Tournerai    83.51 350  eP        P         20 38 30.9 +1.8
KIZT Kizilcal          83.52 331  eP        P         20 38 29.8 +0.5
KIZT Kizilcal          83.52 331   P        P         20 38 29.8 +0.5
LPK  Lapseki           83.54 335  eP        P         20 38 30.9 +1.6
LPK  Lapseki           83.54 335   P        P         20 38 30.9 +1.5
IMI  Imperia           83.54 350  eP        P         20 38 29.5 +0.2
CSNT Castellina Chi    83.57 347  eP        P         20 38 29.2 -0.1
MURB Monte Urbino      83.60 347⇑iP         P         20 38 31.5 +1.9
AURF Auriere           83.62 350  eP        P         20 38 30.7 +1.0
NEGI Negi              83.62 350   P        P         20 38 29.1 -0.6
MVIF Mont Vial         83.63 351  eP        P         20 38 30.3 +0.6
SBF  Sospel            83.64 350  eP        P         20 38 29.9 +0.2
          comp=Z,242nm,1.1s,mb6.0
VAY  Valandovo         83.64 339⇑iP         P         20 38 30.3 +0.5
VAY                               i                   20 38 32.3
SMRF Simiane la Rot    83.70 352  eP        P         20 38 31.3 +1.2
          comp=Z,111nm,0.8s,mb5.7
ULC  Ulcinj            83.72 341⇑iP         P         20 38 28.8 -1.4
LASF Ste Croix         83.75 353  eP        P         20 38 30.8 +0.5
          comp=Z,54nm,0.8s,mb5.4
REVF Revere            83.77 350  eP        P         20 38 30.8 +0.4
ALT  Altintas          83.87 333   P        P         20 38 32.5 +1.5
ALT  Altintas          83.87 333   P        P         20 38 32.5 +1.4
PRAF Pradon            83.91 352  eP        P         20 38 32.7 +1.6
BALB Balikesir         83.94 334  i P       P         20 38 30.8 -0.6
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BALB Balikesir         83.94 334   P        P         20 38 30.8 -0.6
NRCA Norcia            83.94 346  eP        P         20 38 32.2 +1.0
FRF  La Foret Royal    84.02 351  eP        P         20 38 31.7  0.0
          comp=Z,102nm,1.0s,mb5.6
TAVF Tavernes          84.02 351  eP        P         20 38 32.5 +0.8
CEYT Ceyhan            84.02 328   P        P         20 38 33.3 +1.4
CEYT Ceyhan            84.02 328   P        P         20 38 33.3 +1.5
GOA  Goa               84.06 287  eP        P         20 38 33.0 +0.5
GOA                               eS        S         20 48 51.0 -2.4
TERO Teramo            84.07 346  eP        P         20 38 32.8 +0.9
TREF Trevaresse        84.07 352  eP        P         20 38 33.5 +1.6
PUYF Puyloubier        84.13 352  eP        P         20 38 33.5 +1.3
OHR  Ohrid             84.23 340⇑iP         P         20 38 32.6 -0.2
OHR                             ⇑i                    20 38 34.5
KONT Konya--Tatoy      84.24 331  eP        P         20 38 34.5 +1.6
KONT Konya--Tatoy      84.24 331   P        P         20 38 34.5 +1.6
LMR  La Mourre         84.25 351  eP        P         20 38 33.1 +0.2
          comp=Z,72nm,0.8s,mb5.6
COBT Iskenderun        84.30 327  i P       P         20 38 34.4 +1.2
GELF Grande-Etoile     84.31 352  eP        P         20 38 34.4 +1.3
AQU  L'Aquila          84.36 346   P        P         20 38 34.7 +1.3
AQU                                pmax     pmax
          comp=Z,58nm,0.7s,mb5.8
AQU  L'Aquila          84.36 346  eP        P         20 38 34.7 +1.3
MNS  Montasola         84.44 346  eP        P         20 38 33.6 -0.2
AYVA Ayvalik           84.56 335  eP        P         20 38 34.4 -0.1
FGMS Monte Sant'Ang    84.58 344  eP        P         20 38 36.0 +1.5
MTLF Montolieu         84.59 354  eP        P         20 38 35.3 +0.7
          comp=Z,110nm,0.9s,mb5.7
MAON Monte Argentar    84.61 347⇑iP         P         20 38 36.5 +1.8
FG2  Serracapriola     84.62 344  eP        P         20 38 37.4 +2.7
INTR Introdacqua       84.62 345⇑iP         P         20 38 36.5 +1.8
AKS  Akhisar           84.67 334   P        P         20 38 34.8 -0.2
AKS  Akhisar           84.67 334   P        P         20 38 34.8 -0.2
RGNG Rignano Grg       84.67 344  eP        P         20 38 36.3 +1.3
PTQR Pietraquaria      84.69 346  eP        P         20 38 36.1 +1.0
HTY  Hatay             84.70 327  eP        P         20 38 36.8 +1.5
HTY  Hatay             84.70 327   P        P         20 38 36.8 +1.5
KHL  Karahalli         84.72 333   P        P         20 38 37.3 +2.0
KHL  Karahalli         84.72 333   P        P         20 38 37.3 +2.0
PRK  Paraskevi         84.73 335  eP        P         20 38 36.5 +1.2
PGF  Pioggiola         84.76 349  eP        P         20 38 35.9 +0.5
          comp=Z,206nm,0.8s,mb6.0
KZN  Kozani            84.79 339  eP        P         20 38 35.5 -0.1
CERT Cerreto           84.82 346⇑iP         P         20 38 35.2 -0.5
MANT Manisa            84.83 334  i P       P         20 38 35.8  0.0
CII  Carovilli         84.84 345  eP        P         20 38 38.9 +3.1
TOLF Tolfa             84.85 347⇑iP         P         20 38 35.8  0.0
OSSF Osses             84.85 357  eP        P         20 38 35.7 -0.1
EPON Pontenova         84.86   1   P        P         20 38 36.7 +0.8
          comp=Z,308nm,1.5s,mb6.2
ISP  Isparta           84.88 332   P        P         20 38 35.6 -0.5
ISP  Isparta           84.88 332   P        P         20 38 36.1  0.0
ISP                                pmax     pmax
          comp=Z,230nm,1.3s,mb6.2
ISP  Isparta           84.88 332   P        P         20 38 35.6 -0.5
EALK Alkurruntz        84.90 357   P        P         20 38 35.9 -0.1
          comp=Z,25nm,0.7s,mb5.5
MEST Erdemli           84.93 329  i P       P         20 38 36.2 -0.2
ELAN Lanestosa         84.94 358   P        P         20 38 36.5 +0.2
          comp=Z,109nm,0.8s,mb6.0
CPI2 Carpinone         84.97 345  eP        P         20 38 38.5 +2.1
LRDF Laroque-de-Fa     84.97 354  eP        P         20 38 37.4 +0.9
SJPF Ste Jean          84.99 357  eP        P         20 38 36.8 +0.3
          comp=Z,77nm,0.7s,mb5.7
LPEF Le Peyrat         85.00 354  eP        P         20 38 37.6 +1.0
REYF Montagne du Re    85.00 356  eP        P         20 38 36.2 -0.4
LABF Labassere         85.00 356  eP        P         20 38 37.1 +0.5
EPF  Esparros          85.01 355  eP        P         20 38 36.4 -0.2
          comp=Z,130nm,1.0s,mb5.7
MLS  Moulis            85.04 355  eP        P         20 38 37.4 +0.6
LARF Larrau            85.06 356  eP        P         20 38 37.8 +0.9
HDMB Hadim             85.10 330   P        P         20 38 39.2 +1.9
FG5  Orsara di Pugl    85.11 344  eP        P         20 38 38.7 +1.5
SGG  Gregorio Mates    85.15 345  eP        P         20 38 37.7 +0.3
VIEF Viey              85.17 356  eP        P         20 38 38.3 +0.9
ETSF Etsaut            85.18 356  eP        P         20 38 38.3 +0.8
          comp=Z,121nm,0.6s,mb5.9
EMAZ Mazaricos         85.21   2   P        P         20 38 38.0 +0.4
          comp=Z,71nm,1.1s,mb5.7
BCK  Bucak             85.21 332   P        P         20 38 37.9 +0.1
BCK  Bucak             85.21 332   P        P         20 38 37.9 +0.1
FG4  Candela           85.21 344  eP        P         20 38 39.8 +2.1
RESF Ens               85.23 355  eP        P         20 38 39.0 +1.3
SALF Salau             85.23 355  eP        P         20 38 39.4 +1.6
KDAG Bornova           85.26 334  i P       P         20 38 38.4 +0.4
FDAF Les Forges d'A    85.26 356  eP        P         20 38 38.7 +0.8
IZM  Izmir             85.27 334  eP        P         20 38 38.4 +0.4
IZM  Izmir             85.27 334   P        P         20 38 38.4 +0.4
STS  Santiago          85.28   2   P        P         20 38 38.3 +0.3
          comp=Z,12nm,0.5s,mb5.3
FILF Fillols           85.35 354  eP        P         20 38 39.2 +0.9
DENT Denizli           85.39 333   P        P         20 38 40.0 +1.4
DENT Denizli           85.39 333   P        P         20 38 40.0 +1.3
IKL  Isikli            85.39 329   P        P         20 38 38.3 -0.4
IKL  Isikli            85.39 329   P        P         20 38 38.3 -0.4
SJAF Saint Jean de     85.40 353  eP        P         20 38 39.1 +0.5
EJON La Jonquera       85.44 353   P        P         20 38 39.3 +0.5
          comp=Z,17nm,0.6s,mb5.3
DNZL Cakiroluk         85.44 333  i P       P         20 38 39.6 +0.7
LCI  Lecce             85.52 342  eP        P         20 38 39.5 +0.2
VALF Valcebollere      85.54 354  eP        P         20 38 40.3 +1.0
CSSN Cassano Irpino    85.56 344  eP        P         20 38 39.4  0.0
MRLC Muro Lucano       85.58 344  eP        P         20 38 35.7 -3.9
JAN  Janina            85.61 340  eP        P         20 38 40.0 +0.3
KEK  Kerkira           85.78 340  eP        P         20 38 41.5 +0.9
AYDN Tasoluk           85.79 334  i P       P         20 38 41.0 +0.3
ERUA La Rua            85.80   1   P        P         20 38 43.0 +2.4
          comp=Z,7.2nm,0.6s,mb5.1
SGO  Sicignano         85.81 344  eP        P         20 38 40.4 -0.3
SLCN Sala Consilina    85.92 344  eP        P         20 38 42.2 +1.0
MIB  Mutribah          86.01 316  eP        P         20 38 41.6 -0.4
MIB                                AMb      AMB       20 38 46.4
          comp=Z,418nm,1.1s,mb6.6
EZAM Zamans            86.02   2   P        P         20 38 42.5 +0.8
          comp=Z,9.8nm,0.8s,mb5.1
EMIR Miracle           86.06 354   P        P         20 38 42.0 +0.1
          comp=Z,43nm,1.0s,mb5.6
UMR  Umm Al-Rimmam     86.07 315  eP        P         20 38 42.2  0.0
UMR                                AMb      AMB       20 38 47.1
          comp=Z,210nm,1.4s,mb6.2
ELL  Elmali            86.07 332   P        P         20 38 43.4 +1.3
ELL  Elmali            86.07 332   P        P         20 38 43.4 +1.3
ORI  Oriolo Calabro    86.09 343  eP        P         20 38 41.8 -0.3
EVR  Evrytania         86.11 339  eP        P         20 38 44.0 +1.8
MLSB Milas             86.16 334  eP        P         20 38 40.4 -2.1
MLSB Milas             86.16 334   P        P         20 38 40.4 -2.1
YER  Yerkesik          86.17 333  eP        P         20 38 43.3 +0.7
YER  Yerkesik          86.17 333   P        P         20 38 43.3 +0.7
MGR  Morigerati        86.17 344  eP        P         20 38 42.2 -0.3
ECAL Calabor           86.25   1   P        P         20 38 44.8 +2.0
          comp=Z,8.8nm,0.7s,mb5.1
ELOB Lobios            86.31   2   P        P         20 38 44.8 +1.7
          comp=Z,12nm,0.6s,mb5.3
ESAC San Caprasio      86.35 356   P        P         20 38 44.5 +1.1
          comp=Z,51nm,0.6s,mb5.9
PALK Pallekele         86.38 277  eP        P         20 38 44.4 +0.3
          comp=Z,83nm,1.2s,mb5.8
PALK                               LR       LR
          comp=Z,785nm,20.0s,MS5.1
PBRG Braganca          86.39   1  eP        P         20 38 45.3 +1.8
          comp=Z,68nm,1.7s,mb5.6
KBD  Kabd              86.40 315  eP        P         20 38 43.1 -0.8
DALT Dalyan (Mudla)    86.42 333   P        P         20 38 41.6 -2.2
DALT Dalyan (Mudla)    86.42 333   P        P         20 38 41.6 -2.1
RST  Umm Al-Ruwaisa    86.42 316  eP        P         20 38 42.9 -1.1
RST                                AMb      AMB       20 38 47.6
          comp=Z,343nm,1.1s,mb6.5
BDRM Kayabasi          86.47 334  i P       P         20 38 43.6 -0.4
TDS  Terranova Siba    86.50 343  eP        P         20 38 44.5 +0.4
EPOB Poblet            86.64 355   P        P         20 38 45.7 +0.9
          comp=Z,29nm,0.7s,mb5.6
LEF  Lefka             86.67 329   P        P         20 38 46.2 +1.1
LEF  Lefka             86.67 329   P        P         20 38 46.1 +1.1
QRN  Al-Qurain         86.68 315  eP        P         20 38 44.7 -0.5
QRN                                AMb      AMB       20 38 49.8
          comp=Z,338nm,1.5s,mb6.4
RDF  Al-Radifah        86.68 315  eP        P         20 38 45.4 +0.1
RDF                                AMb      AMB       20 38 48.8
          comp=Z,506nm,1.2s,mb6.6
CSS  Prodhromos        86.68 329⇑eP         P         20 38 44.3 -0.8
          comp=Z,99nm,0.8s,mb6.1
KSL  Kastellorizon     86.72 332  eP        P         20 38 46.5 +1.2
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TIP  Timpagrande       86.89 343  eP        P         20 38 45.8 -0.3
PVRL Vila Real         86.91   1  eP        P         20 38 47.4 +1.3
          comp=Z,69nm,1.9s,mb5.6
MBWA Marble Bar        87.01 229  eP        P         20 38 45.2 -1.8
          comp=Z,17nm,0.8s,mb5.3
MBWA                               LR       LR
          comp=Z,2µm,19.0s,MS5.5
DUSS Damascus Unive    87.02 326  i P       P         20 38 46.0 -0.8
DUSS                              i P                 20 38 46.4
DUSS                              i P                 20 38 47.4
ARG  Arkhangelos       87.08 333  eP        P         20 38 47.0  0.0
VLS  Valsamata         87.09 339  eP        P         20 38 49.5 +2.5
RKT  Rikitea           87.17 134  eP        P         20 38 51.3 +3.6
          comp=Z,179nm,1.3s,mb6.1
RKT  Rikitea           87.17 134  eSS       SS        20 54 49.9  -21
RKT                               eL                  21 02 19.5
RKT                               eR                  21 05 22.7
          comp=Z,15µm,32.5s,baz=330
GRI  Girifalco         87.30 343  eP        P         20 38 47.3 -0.7
ETOR Torete            87.31 357   P        P         20 38 49.1 +1.1
          comp=Z,14nm,0.7s,mb5.3
HRI  Mount Hermon      87.43 326   P        P         20 38 49.0 +0.2
PVIS Viseu             87.46   1  eP        P         20 38 50.0 +1.2
          comp=Z,51nm,2.5s,mb5.3
KSHT Keshet            87.66 326   P        P         20 38 50.1 +0.2
TRD  Trivandrum        87.69 281  e         P         20 38 57.1 +6.7
EMOS Mosqueruela       87.71 356   P        P         20 38 51.5 +1.6
          comp=Z,18nm,0.8s,mb5.3
MTE  Manteigas         87.78   1  eP        P         20 38 50.7 +0.4
          comp=Z,44nm,1.1s,mb5.6
MTE  Manteigas         87.78   1  eP        P         20 38 50.4 +0.1
          comp=Z,13nm,0.8s,mb5.2
HNTI Hanita            87.79 326   P        P         20 38 50.4 -0.1
KARP Karpathos         87.97 334  eP        P         20 38 50.0 -1.3
OFRI 'Ofer             88.28 326   P        P         20 38 52.5 -0.4
MMLI Mount Malkishu    88.29 326   P        P         20 38 53.1 +0.2
VCR  Vista de Mar      88.32  76  eP        P         20 38 54.0 +0.5
PCBR Castelo Branco    88.34   1  eP        P         20 38 54.3 +1.3
          comp=Z,44nm,1.4s,mb5.5
STKA Stephens Creek    88.41 207  eS        S         20 49 13.5  -21
STKA Stephens Creek    88.41 207   P        P         20 38 53.7 +0.2
          comp=Z,12nm,0.8s,mb5.2,baz=337,slow=4.6,SNR=15
STKA                               LR       LR        21 17 38.0
          comp=Z,8µm,19.5s,MS6.1,baz=14,slow=35
STKA Stephens Creek    88.41 207  eP        P         20 38 53.8 +0.3
          comp=Z,23nm,0.9s,mb5.4
STKA                              eS        S         20 49 13.5  -21
HMDT Nahal Hemdat      88.43 326   P        P         20 38 53.6  0.0
ESDC Sonseca Array     88.50 358   P        P         20 38 53.1 -0.6
          comp=Z,6.2nm,0.6s,mb5.1,baz=355,slow=4.4,SNR=34
ESDC                               PKPPKP             21 04 53.3
          comp=Z,1.2nm,0.9s,baz=176,slow=2.6,SNR=4.9
ESDC Sonseca Array     88.50 358   P        P         20 38 53.0 -0.8
          comp=Z,19nm,1.0s,mb5.4
ESLA Sonseca Array     88.50 358  eP        P         20 38 53.9 +0.1
          comp=Z,4.4nm,1.0s,mb4.7
ESLA                               LR       LR
          comp=Z,46µm,20.0s,MS6.9
JTS  JuntasAbangare    88.59  75   LR       LR        21 14 52.1
          comp=Z,4µm,21.3s,MS5.8,baz=96,slow=33
JTS  JuntasAbangare    88.59  75   PFAKE              20 39 10.0  +15
JTS                                LR       LR
          comp=Z,1µm,21.0s,MS5.2
ERC  Erice             88.71 345  eP        P         20 38 54.7 -0.1
CRJA Costa Raja        88.88 345  eP        P         20 38 56.8 +1.2
VAM  Vamos             88.88 336  eP        P         20 38 55.0 -0.7
MFNL Monte Finestre    88.90 345  eP        P         20 38 59.1 +3.4
EIBI Ibiza             88.94 354   P        P         20 38 54.1 -1.8
          comp=Z,15nm,0.8s,mb5.4
VAE  Valguarnera       88.96 344   LR       LR        21 24 00.9
          comp=Z,6µm,18.1s,MS6.1,baz=75,slow=39
XRY  Khrisi            89.00 334  eP        P         20 38 56.0 -0.3
MMGO Monte Magaggia    89.02 345  eP        P         20 38 56.6 +0.3
DRGI Dragot            89.07 326   P        P         20 38 56.3 -0.4
TRTC Tortuguero        89.10  74  eP        P         20 38 57.1 -0.1
MZDA Masada            89.34 326   P        P         20 38 57.6 -0.4
EBEN Beniarda          89.35 356   P        P         20 38 56.7 -1.2
          comp=Z,23nm,1.2s,mb5.4
LAJ  Bijagual          89.43  75  eP        P         20 38 58.7  0.0
LIS  Lisbon            89.43   3  eP        P         20 38 50.0 -8.2
LIS                               eSS       SS        20 55 33.0  -10
LIS                                AMS      AMS       21 20 12.0
          comp=Z,6µm,22.4s,MS6.0
GVD  Gavdhos           89.45 336  eP        P         20 38 56.8 -1.6
          comp=Z,122nm,1.5s,mb6.0
ETOB Tobarra           89.47 357   P        P         20 38 56.7 -1.7
          comp=Z,18nm,0.9s,mb5.4
EVIA Vianos            89.50 357   P        P         20 38 58.5  0.0
          comp=Z,14nm,0.7s,mb5.4
LCR2 La Lucha 2        89.59  75  eP        P         20 39 00.6 +1.1
EVO  Evora             89.64   2  eP        P         20 38 58.7 -0.5
          comp=Z,65nm,1.2s,mb5.5
EVO                               eR
          comp=Z,11µm,22.2s
URSC Urasca            89.65  74  eP        P         20 38 58.9 -0.9
CNB  Canberra Magne    89.77 200  eP        P         20 39 09.8  +10
          comp=Z,25nm,0.9s,mb5.5
EADA Adamuz            90.02 359   P        P         20 39 00.1 -0.8
          comp=Z,18nm,0.8s,mb5.4
EMUR La Murta          90.25 356   P        P         20 39 00.2 -1.8
          comp=Z,6.7nm,0.7s,mb5.1
PRNI Paran             90.34 326   P        P         20 39 02.3 -0.3
EQES Quesada           90.35 358   P        P         20 39 01.1 -1.4
          comp=Z,7.1nm,0.8s,mb5.0
EMIN Mina Concepcio    90.42   1   P        P         20 39 03.7 +0.8
          comp=Z,9.4nm,0.8s,mb5.2
HILS Ha'il             90.45 319   P        P         20 39 03.3 +0.1
PTEO Sao Teotonio      90.61   2  eP        P         20 39 05.3 +1.6
          comp=Z,73nm,1.8s,mb5.7
ELUQ Luque             90.62 359   P        P         20 39 04.9 +1.2
          comp=Z,12nm,1.0s,mb5.2
PALC Alcoutim          90.71   1  eP        P         20 39 04.8 +0.6
          comp=Z,74nm,1.8s,mb5.7
EIL  Elat              90.98 325  eP        P         20 39 05.0 -0.6
          comp=Z,26nm,1.1s,mb5.5
ELOJ Sierra Loja       91.03 359   P        P         20 39 05.1 -0.5
          comp=Z,11nm,0.8s,mb5.2
PTCN Pitcairn Islan    91.06 131   PFAKE              20 39 20.0  +14
PTCN                               LR       LR
          comp=Z,12µm,21.0s,MS6.3
RYDS Riyadh            91.19 314   P        P         20 39 06.3 -0.3
ALWS Ilw as Safayha    91.27 325   P        P         20 39 08.5 +1.5
ESPR Espera            91.32 360   P        P         20 39 08.1 +1.1
          comp=Z,18nm,0.9s,mb5.4
JMQS Jabal Moqyreh     91.36 324   P        P         20 39 09.2 +1.9
JMOS Jabal al Moall    91.38 325   P        P         20 39 09.1 +1.6
HAQS Haql              91.55 325   P        P         20 39 10.1 +1.9
EMIJ Mijas             91.62 359   P        P         20 39 08.1 -0.3
TBKS Tabuk             91.72 323   P        P         20 39 09.2 +0.2
FORT Forrest           91.91 218  eP        P         20 39 10.0 +0.2
          comp=Z,131nm,0.7s,mb6.4
FORT                              eS        S         20 50 10.7 +4.2
MZLS Mizel             91.96 315   P        P         20 39 09.7 -0.5
TAYS Tayyib Ism        92.03 325   P        P         20 39 11.9 +1.5
BDAS Al Bad'           92.06 325   P        P         20 39 11.8 +1.2
AOPR Arecibo Observ    92.21  56  eP        P         20 39 11.5 +0.1
AYUS 'Aynunah          92.22 324   P        P         20 39 12.8 +1.5
MGP  Maguayo           92.32  57   P        P         20 39 15.1 +3.1
MGP  Maguayo           92.32  57  eP        P         20 39 12.3 +0.3
CBYP Canovanas         92.73  55  eP        P         20 39 12.4 -1.5
TOO  Toolangi          92.80 202  eP        P         20 39 18.0 +4.2
          comp=Z,4.8nm,0.8s,mb5.0
TOO                               eS        S         20 50 21.0 +6.8
KBRS Khaybar           92.88 320   P        P         20 39 14.6 +0.2
AFFS 'Afif             93.00 316   P        P         20 39 14.7 -0.3
SNZO South Karori      93.12 180   PFAKE              20 39 30.0  +15
SNZO                               LR       LR
          comp=Z,15µm,22.0s,MS6.4
PAYG Puerto Ayora      94.00  86   PFAKE              20 39 30.0  +10
PAYG                               LR       LR
          comp=Z,7µm,22.0s,MS6.1
UMJS Umm Lajj          94.14 322   P        P         20 39 20.7 +0.5
KAMS Al Khamasin       95.49 313   P        P         20 39 26.6  0.0
TATS Tathlith          96.65 314   P        P         20 39 33.1 +1.3
BLJS Baljurashi        97.18 316   P        P         20 39 36.2 +2.1
LTHS Al Lith           97.33 317   P        P         20 39 36.6 +1.8
TAU  Tasmania Unive    97.51 199   PFAKE              20 39 50.0  +15
TAU                                LR       LR
          comp=Z,1µm,20.0s,MS5.5
SDV  Santo Domingo     97.99  64   PFAKE              20 39 50.0  +12
SDV                                LR       LR
          comp=Z,6µm,22.0s,MS6.0
NWAO Narrogin (SRO)    98.23 225   PFAKE              20 39 50.0  +11
NWAO                               LR       LR
          comp=Z,3µm,20.0s,MS5.8
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DJNS	Zahran al Janu	98.23	313	P	P	20 39 40.5	+1.5
ROSC	El Rosal	99.18	70	LR	LR	21 28 43.4	
	comp=Z,3µm,19.0s,MS5.8,baz=341,slow=38						
OTAV	Otavalo	100.46	76	PFAKE		20 40 00.0	+11
OTAV				LR	LR		
	comp=Z,2µm,19.0s,MS5.6						
DGAR	Diego Garcia	102.94	275	PFAKE		20 40 10.0	+10
DGAR				LR	LR		
	comp=Z,847nm,20.0s,MS5.3						
RPN	Rapa Nui	103.30	117	PFAKE		20 40 10.0	+8.5
RPN				LR	LR		
	comp=Z,1µm,19.0s,MS5.4						
NNA	Nana	111.07	82	PFAKE		20 44 50.0	+11
NNA				LR	LR		
	comp=Z,1µm,21.0s,MS5.5						
SACV	Santiago Islan	111.39	18	PFAKE		20 44 50.0	+11
SACV				LR	LR		
	comp=Z,815nm,19.0s,MS5.3						
SAML	Samuel	116.79	69	PFAKE		20 45 00.0	+10
SAML				LR	LR		
	comp=Z,3µm,22.0s,MS5.9						
KMBO	Kilima Mbogo	117.67	309	PKP	PKPdf	20 44 49.1	-2.6
	comp=Z,2.1nm,0.9s,baz=163,slow=3.2,SNR=6.4						
KMBO	Kilima Mbogo	117.67	309	*e*PKP	PKPdf	20 44 48.6	-3.2
KMBO				PKP	PKPdf	20 44 49.1	-2.6
KMBO				LR	LR		
	comp=Z,6µm,19.0s,MS6.2						
LPAZ	La Paz	119.69	78	PFAKE		20 45 00.0	+4.4
LPAZ				LR	LR		
	comp=Z,5µm,21.0s,MS6.1						
MBAR	Mbarara	120.14	316	PFAKE		20 45 00.0	+3.4
MBAR				LR	LR		
	comp=Z,2µm,21.0s,MS5.8						
DBIC	Dimbokro	121.37	359	PKP	PKPdf	20 44 53.2	-5.8
	comp=Z,2.7nm,0.5s,baz=229,slow=14,SNR=8.6						
DBIC	Dimbokro	121.37	359	PKP	PKPdf	20 44 53.2	-5.8
DBIC				LR	LR		
	comp=Z,3µm,20.0s,MS6.0						
TIC	Toumodi	121.40	359	*e*PKIKP	PKPdf	20 44 53.5	-5.5
	comp=Z,113nm,1.2s						
KIC	Kosan Boka	121.67	359	*e*PKIKP	PKPdf	20 44 54.1	-5.5
	comp=Z,94nm,1.3s						
LIC	Lamto	121.81	359	*e*PKIKP	PKPdf	20 44 53.5	-6.3
	comp=Z,16nm,0.7s						
LIC	Lamto	121.81	359	*e*PKIKP	PKPdf	20 44 54.2	-5.6
	comp=Z,57nm,1.2s						
CASY	Casey	127.56	207	*e*PKPdf	PKPdf	20 45 04.7	-4.8
CASY				LR	LR		
	comp=Z,5µm,22.0s,MS6.2						
RCBR	Riachuelo	127.59	39	PFAKE		20 45 20.0	+9.0
RCBR				LR	LR		
	comp=Z,6µm,22.0s,MS6.3						
BDFB	Brasilia	130.64	58	PKP	PKPdf	20 45 09.9	-6.8
	comp=Z,5.0nm,0.9s,baz=94,slow=7.1,SNR=3.4						
BDFB	Brasilia	130.64	58	PKIKP	PKPdf	20 45 09.9	-6.8
BDFB				pmax	pmax		
	comp=Z,5.0nm,0.9s						
BAO	Brasilia Array	130.65	58	*e*P	PKPdf	20 45 12.4	-4.3
BAO				*i*		20 45 27.0	
MDZ	Mendoza	131.42	92	*e*P	PKPdf	20 45 23.3	+5.5
CPUP	Villa Florida	133.81	76	PKP	PKPdf	20 45 17.6	-4.8
	comp=Z,3.7nm,0.8s,baz=276,slow=2.9,SNR=5.8						
CPUP	Villa Florida	133.81	76	*e*PKPdf	PKPdf	20 45 18.3	-4.1
CPUP				LR	LR		
	comp=Z,4µm,20.0s,MS6.1						
LSZ	Lusaka	134.29	311	PFAKE		20 45 30.0	+6.5
LSZ				LR	LR		
	comp=Z,5µm,19.0s,MS6.3						
TRQA	Tornquist	139.03	93	PFAKE		20 45 40.0	+8.3
TRQA				LR	LR		
	comp=Z,5µm,19.0s,MS6.2						
QSPA	South Pole Qui	141.93	180	*e*PKP	PKPdf	20 45 27.5	-8.1
QSPA				LR	LR		
	comp=Z,3µm,21.8s,MS6.1						
TSUM	Tsumeb	142.30	322	*e*PKPdf	PKPdf	20 45 31.8	-6.1
TSUM				LR	LR		
	comp=Z,4µm,20.0s,MS6.2						
USHA	Ushuaia	143.82	120	PKP	PKPdf	20 45 34.6	-4.9
	comp=Z,50nm,1.1s,baz=326,slow=7.1,SNR=4.4						
MAW	Mawson	144.41	218	*e*PKP	PKPdf	20 45 34.3	-5.8
	comp=Z,97nm,0.9s						
MAW				*e*PP	PP	20 48 59.3	+4.5
MAW	Mawson	144.41	218	PKP	PKPdf	20 45 34.4	-5.7
	comp=Z,50nm,0.6s,baz=88,slow=4.0,SNR=49						
MAW	Mawson	144.41	218	PKIKP	PKPdf	20 45 34.4	-5.7
MAW				pmax	pmax		
	comp=Z,50nm,0.6s						
BOSA	Boshof	146.99	303	*e*PKPbc	PKPbc	20 45 43.3	+1.0
BOSA				LR	LR		
	comp=Z,6µm,22.0s,MS6.3						
PMSA	Palmer Station	148.35	136	*e*PKPbc	PKPdf	20 45 46.5	-0.3
PMSA				LR	LR		
	comp=Z,6µm,21.0s,MS6.4						
EFI	East Falkland	148.42	110	PFAKE		20 46 00.0	+13
EFI				LR	LR		
	comp=Z,2µm,20.0s,MS5.9						
SUR	Sutherland	152.28	305	PFAKE		20 46 00.0	+6.1
SUR				LR	LR		
	comp=Z,2µm,22.0s,MS5.8						
SNAA	Sanae	160.40	183		PKPdf	20 46 13.1	+10
SNAA	Sanae	160.40	183		PKPdf	20 46 18.7	+16
SNAA	Sanae	160.40	183		PKPab	20 46 40.6	-0.7
SNAA	Sanae	160.40	183	*e*PKIKP	PKPdf	20 45 58.1	-5.0
SNAA	Sanae	160.40	183	PKPdf	PKPdf	20 45 59.2	-3.9
SNAA				P		20 46 13.1	
SNAA				P		20 46 18.7	
VNA3	Neumayer Olymp	160.80	176	⇓*i*	PKPdf	20 46 14.5	+11
VNA3	Neumayer Olymp	160.80	176	⇓*i*	PKPdf	20 46 19.3	+16
VNA3	Neumayer Olymp	160.80	176		PKPab	20 46 43.5	+0.4
VNA3	Neumayer Olymp	160.80	176	PKPdf	PKPdf	20 46 00.3	-3.2
VNA3				⇓*i*P		20 46 14.5	
VNA3				⇓*i*P		20 46 19.3	
VNA2	Neumayer--Watz	161.18	179	⇓*i*	PKPdf	20 46 14.3	+10
VNA2	Neumayer--Watz	161.18	179	⇓*i*	PKPdf	20 46 20.1	+16
VNA2	Neumayer--Watz	161.18	179	⇑*i*	PKPab	20 46 45.0	+0.2
VNA2	Neumayer--Watz	161.18	179	⇑*i*PKPdf	PKPdf	20 46 01.3	-2.6
VNA2				⇓*i*P		20 46 14.3	
VNA2				⇓*i*P		20 46 20.1	
VNA1	Neumayer--Stat	161.44	178	⇑*i*	PKPdf	20 46 14.4	+10
VNA1	Neumayer--Stat	161.44	178	⇑*i*	PKPdf	20 46 19.3	+15
VNA1	Neumayer--Stat	161.44	178	⇑*i*	PKPab	20 46 46.0	+0.1
VNA1	Neumayer--Stat	161.44	178	⇓*i*PKPdf	PKPdf	20 46 01.0	-3.1
VNA1				⇑*i*P		20 46 14.4	
VNA1				⇑*i*P		20 46 19.3	
TRIS	Tristan da Cun	164.23	19	PFAKE		20 46 20.0	+12
TRIS				LR	LR		
	comp=Z,3µm,19.0s						

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*IDC **19** 20:37:05.4±1.3,52.02N×173.76E,mb3.7/5,mb1 4.0/5, mb1mx3.7/21,Error ellipse: s-maj=26.0km s-min=15.5km az=67.0*

ISC 19 20:37:05.6±6.1,52.0N±0.1×173.8E±0.2,h15^{km}±40^{km},n6, σ1^{s}70/7,mb3.7/5,Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FX1	Attu Island--F	0.99	337	Pn	Pn	20 37 24.7	-0.2
	412nm,0.3s,baz=202,slow=8.6,SNR=73						
FX1				Sn	Sn	20 37 38.5	0.0
	662nm,0.3s,baz=282,slow=22,SNR=26						
YKA	Yellowknife Ar	38.14	46	P	P	20 44 27.4	+1.9
	1.3nm,0.7s,mb3.8,baz=292,slow=5.3,SNR=2.6						
SONM	Songino Array	42.20	292	P	P	20 45 00.0	+0.9
	0.2nm,0.4s,mb3.1,baz=60,slow=6.8,SNR=5.0						
PDAR	Pinedale Array	50.45	68	P	P	20 46 02.9	-1.5
	0.4nm,0.4s,mb3.8,SNR=2.2						
MKAR	Makanchi Array	55.96	304	P	P	20 46 43.3	-1.9
	0.6nm,0.4s,mb4.0,baz=53,slow=6.7,SNR=12						
CMAR	Chiang Mai Arr	66.38	270	P	P	20 47 56.6	+0.6
	1.1nm,0.9s,mb3.9,baz=25,slow=7.0,SNR=5.1						

CASC 19 20:56:59.3±2.8,14.37N×91.75W,h62^{km}±12^{km},MD3.8, ML4.1,3C-4D,Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAT	Jato	0.12	117	⇑*e*P	P	20 57 08.1	-0.5
JAT				*e*S	S	20 57 17.0	+1.5
JAT				AML	AML	20 57 17.6	
	comp=E,27µm,0.3s						
TP2	Tecpan 2	0.81	60	⇑*e*P	P	20 57 16.1	+0.9
TP2				*e*S	S	20 57 30.1	+3.2
TP2				AML	AML	20 57 37.6	
	comp=E,1µm,0.4s						
FUG	Fuego 3	0.88	85	⇓*e*P	P	20 57 15.7	-0.3
PCG	Pacaya	1.10	89	⇑*e*P	P	20 57 19.2	+0.1
PCG				*e*S	S	20 57 35.4	+1.7
IXG	Ixpaco	1.27	99	⇓*e*P	P	20 57 21.0	-0.4
IXG				*e*S	S	20 57 39.2	+1.5
IXG				AML	AML	20 57 42.5	
	comp=E,11µm,0.4s						
NBG	Las Nubes	1.37	81	⇓*e*P	P	20 57 23.3	+0.4
NBG				*e*S	S	20 57 45.3	+5.0
NBG				AML	AML	20 57 50.2	
	comp=E,3µm,0.4s						
CUSS	Cusmapa	1.81	105	*e*P	P	20 57 28.1	-0.6
CUSS				*e*S	S	20 57 50.0	-0.6
RTR	El Retiro	2.09	103	*e*P	P	20 57 32.5	-0.3
RTR				*e*S	S	20 57 57.9	+0.3
MRL	Marmol	2.10	71	⇓*i*P	P	20 57 32.7	-0.2
SBLS	San Blas	2.13	104	*e*P	P	20 57 32.7	-0.6
SBLS				*e*S	S	20 57 58.2	-0.3
SNJE	San Jose	2.14	103	*e*P	P	20 57 32.8	-0.6
SNJE				*e*S	S	20 58 01.8	+3.1
BOQS	Boqueron	2.48	105	*e*P	P	20 57 37.6	-0.6
BOQS				*e*S	S	20 58 07.1	-0.2
LFRS	El Faro	2.71	106	*e*P	P	20 57 41.4	-0.1
LFRS				*e*S	S	20 58 12.1	-1.2
LCBS	La Ceiba	2.78	105	*e*P	P	20 57 43.3	+0.8
SNVI	San Vicente	2.92	105	*e*P	P	20 57 46.8	+2.3
SNVI				*e*S	S	20 58 19.6	+1.0

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*JMA **19** 21:00:21.1±0.2,23.53N×121.87E,h78^{km},M2.7*

TAP 19 21:00:18.6,23.52N×121.77E,h15^{km}±1^{km},ML3.5, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	1.47	50	P	Pn	21 00 45.3	+0.6
YOJ				S	Sb	21 01 03.4	0.0
HATJ	Hateruma jima	1.94	74	P	Pn	21 00 51.3	-0.1
HATJ				S	Sn	21 01 14.2	-1.4
IRIF	Iriomote-Funau	1.97	65	P	Pn	21 00 51.9	+0.1
IRIF				*e*S	Sn	21 01 15.3	-1.1
JKRS	Kuro-shima	2.17	70	P	Pn	21 00 54.9	+0.2
JKRS				S	Sn	21 01 20.0	-1.5
JIJ	Ishigaki jima	2.33	68	P	Pn	21 00 56.5	-0.5
JIJ				S	Sn	21 01 23.3	-2.2
JTJ	Tarama	2.90	67	P	Pn	21 01 04.7	-0.5
JTJ				*e*S	Sn	21 01 37.8	-2.3

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*NEIC **19** 21:08:46.3,37.51S×176.53E,h203^{km},After WEL.*

WEL 19 21:08:45.6±0.5,37.50S×176.53E,h210^{km}±4^{km},ML4.3/10, 6C-3D,Error ellipse: s-maj=1.6km s-min=1.6km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MYRZ	Mayor Island	0.32	314	PN	P	21 09 13.2	-0.4
MARZ	Manawahe	0.50	167	PN	P	21 09 14.1	0.0
MARZ	Manawahe	0.50	167	P	P	21 09 14.1	-0.1
TAZ	Tarawera	0.73	181	PN	P	21 09 13.8	-1.3
TAZ	Tarawera	0.73	181	P	P	21 09 15.7	+0.6
URZ	Urewera	0.89	149	PN	P	21 09 15.2	-0.6
URZ				SN	S	21 09 37.1	-2.3
URZ	Urewera	0.89	149	P	P	21 09 15.3	-0.6
PATZ	Paeroa	0.90	194	PN	P	21 09 16.5	+0.5
PATZ	Paeroa	0.90	194	P	P	21 09 16.5	+0.5
MWZ	Matawai	1.15	137	PN	P	21 09 17.0	-0.7
MWZ				SN	S	21 09 41.1	-1.4
MWZ	Matawai	1.15	137	P	P	21 09 17.0	-0.7
MWZ				S	S	21 09 40.7	-1.8
MKAZ	Moumakai	1.15	289	⇓PN	P	21 09 17.5	-0.3
MKAZ	Moumakai	1.15	289	P	P	21 09 17.5	-0.2
WATZ	Wairara	1.36	207	PN	P	21 09 19.5	+0.2
WATZ	Wairara	1.36	207	P	P	21 09 19.6	+0.2
OTAZ	Otara	1.39	293	PN	P	21 09 19.0	-0.6
OTAZ	Otara	1.39	293	P	P	21 09 19.1	-0.6
MXZ	Matakaoa Point	1.42	93	PN	P	21 09 19.4	-0.4
MXZ				SN	S	21 09 45.8	-0.5
MXZ	Matakaoa Point	1.42	93	*e*P	P	21 09 19.4	-0.4
MXZ				S	S	21 09 46.0	-0.3
MTAZ	Motutapu	1.48	298	⇓PN	P	21 09 20.0	-0.3
MTAZ	Motutapu	1.48	298	⇓P	P	21 09 20.0	-0.4
PUZ	Puketiti	1.48	113	PN	P	21 09 20.2	-0.2
PUZ				SN	S	21 09 45.9	-1.4
PUZ	Puketiti	1.48	113	P	P	21 09 20.2	-0.2
RATZ	Rangitukua	1.49	203	⇑PN	P	21 09 20.4	0.0
RATZ	Rangitukua	1.49	203	P	P	21 09 20.5	0.0
KAAZ	Kauri Point	1.61	294	PN	P	21 09 20.4	-1.1
WTAZ	Waiatarua	1.66	289	PN	P	21 09 21.6	-0.4
WTAZ	Waiatarua	1.66	289	P	P	21 09 21.6	-0.4
BKZ	Black Stump Fm	1.66	181	PN	P	21 09 21.3	-0.7
BKZ	Black Stump Fm	1.66	181	P	P	21 09 21.3	-0.7
HIZ	Hauiti	1.66	232	PN	P	21 09 21.6	-0.4
HIZ	Hauiti	1.66	232	P	P	21 09 21.9	-0.1
MGZ	Maungaku	1.69	207	PN	P	21 09 22.3	0.0
MGZ	Maungaku	1.69	207	P	P	21 09 22.3	+0.1
KAVZ	Karewarewa	1.74	203	PN	P	21 09 22.4	-0.3
KAVZ	Karewarewa	1.74	203	P	P	21 09 22.4	-0.3
KNZ	Kokohu	1.77	150	⇑PN	P	21 09 22.9	0.0
KNZ				SN	S	21 09 50.0	-1.7
WTVZ	West Tongariro	1.77	204	PN	P	21 09 22.7	-0.4
WTVZ	West Tongariro	1.77	204	P	P	21 09 22.7	-0.3
TWVZ	Taurewa	1.79	208	PN	P	21 09 23.0	-0.1
TWVZ	Taurewa	1.79	208	P	P	21 09 22.9	-0.3
NGZ	Ngauruhoe	1.82	203	PN	P	21 09 23.5	0.0
NGZ	Ngauruhoe	1.82	203	P	P	21 09 23.4	-0.1
CNZ	Chateau	1.86	204	PN	P	21 09 23.6	-0.3
CNZ	Chateau	1.86	204	P	P	21 09 23.6	-0.3
WPVZ	Whakapapa	1.87	204	PN	P	21 09 23.6	-0.3
WPVZ	Whakapapa	1.87	204	P	P	21 09 23.6	-0.3
TUVZ	Tukino	1.89	201	PN	P	21 09 23.9	-0.2
TUVZ				SN	S	21 09 53.5	-0.3
TUVZ	Tukino	1.89	201	P	P	21 09 23.9	-0.3
WNVZ	Wahianoa	1.96	202	PN	P	21 09 24.4	-0.4
WNVZ				SN	S	21 09 54.3	-0.8
WNVZ	Wahianoa	1.96	202	P	P	21 09 24.4	-0.5
MOVZ	Moawhango	2.00	198	PN	P	21 09 24.2	-1.0
VRZ	Vera Road	2.14	220	PN	P	21 09 26.9	+0.3
VRZ	Vera Road	2.14	220	P	P	21 09 26.9	+0.2
RAEZ	Rainy Point	2.45	223	PN	P	21 09 30.7	+0.7
PWZ	Pawanui	2.54	174	PN	P	21 09 29.9	-1.1
PWZ	Pawanui	2.54	174	P	P	21 09 29.9	-1.1
WAZ	Wanganui	2.56	208	PN	P	21 09 30.4	-0.8
WAZ				SN	S	21 10 05.2	-1.2
WAZ	Wanganui	2.56	208	P	P	21 09 30.4	-0.8
TSZ	Takapari Road	2.59	190	⇑PN	P	21 09 30.2	-1.4
TSZ	Takapari Road	2.59	190	⇑P	P	21 09 30.2	-1.4
NEZ	North Egmont	2.60	226	PN	P	21 09 32.3	+0.6
NEZ	North Egmont	2.60	226	P	P	21 09 32.3	+0.6
DFE	Dawson Falls	2.64	226	PN	P	21 09 32.7	+0.7
DFE	Dawson Falls	2.64	226	P	P	21 09 32.7	+0.6
NWEZ	Newall Road	2.74	229	PN	P	21 09 33.8	+0.6
NWEZ	Newall Road	2.74	229	P	P	21 09 33.8	+0.5
NRZ	Ngariki Road	2.74	227	PN	P	21 09 33.7	+0.4
BFZ	Birch Farm	3.18	184	PN	P	21 09 36.5	-1.9
BFZ	Birch Farm	3.18	184	P	P	21 09 36.4	-2.0
MRZ	Mangatainoka R	3.24	193	⇑PN	P	21 09 36.7	-2.4
MRZ				SN	S	21 10 17.0	-3.5
MRZ	Mangatainoka R	3.24	193	⇑P	P	21 09 36.7	-2.4
KIW	Kapiti Island	3.58	200	PN	P	21 09 40.4	-2.9
KIW	Kapiti Island	3.58	200	P	P	21 09 40.4	-2.8
MTW	Mount Morrison	3.74	192	PN	P	21 09 41.8	-3.3
MTW	Mount Morrison	3.74	192	P	P	21 09 41.8	-3.3
CAW	Cannon Point	3.78	197	PN	P	21 09 42.5	-3.1
CAW				SN	S	21 10 27.0	-5.0
CAW	Cannon Point	3.78	197	P	P	21 09 42.5	-3.1
PAWZ	Paruwai Farm	3.97	192	PN	P	21 09 44.7	-3.3
PAWZ				SN	S	21 10 30.7	-5.5
MRW	Makara Radio	3.98	200	PN	P	21 09 44.7	-3.4
MRW	Makara Radio	3.98	200	P	P	21 09 44.5	-3.6
WEL	Wellington	4.02	199	PN	P	21 09 45.5	-3.0
WEL	Wellington	4.02	199	P	P	21 09 45.5	-3.1
MSWZ	Moikau Station	4.03	194	PN	P	21 09 45.4	-3.4
MSWZ	Moikau Station	4.03	194	P	P	21 09 45.4	-3.3
SNZO	South Karori	4.06	200	PN	P	21 09 45.4	-3.7
SNZO	South Karori	4.06	200	P	P	21 09 45.4	-3.6
BHW	Baring Head	4.11	198	PN	P	21 09 45.8	-3.8
BHW	Baring Head	4.11	198	P	P	21 09 46.1	-3.6
TUWZ	Tuamarina	4.41	206	PN	P	21 09 49.6	-3.8
TUWZ				SN	S	21 10 40.7	-5.2
NNZ	Nelson	4.44	212	PN	P	21 09 49.6	-4.2
NNZ	Nelson	4.44	212	*e*P	P	21 09 49.6	-4.3
QRZ	Quartz Range	4.55	222	PN	P	21 09 51.4	-3.8
QRZ	Quartz Range	4.55	222	*e*P	P	21 09 51.5	-3.7
CMWZ	Cape Campbell	4.60	202	PN	P	21 09 52.6	-3.3
CMWZ	Cape Campbell	4.60	202	*e*P	P	21 09 52.6	-3.3
BSWZ	Blackbirch Sta	4.68	205	PN	P	21 09 53.0	-3.9
THZ	Tophouse	5.09	212	PN	P	21 09 58.1	-4.0
THZ				SN	S	21 10 56.6	-4.9
THZ	Tophouse	5.09	212	*e*P	P	21 09 58.1	-4.0
KHZ	Kahutara	5.42	204	PN	P	21 10 02.3	-3.9
KHZ	Kahutara	5.42	204	P	P	21 10 02.3	-4.0
DSZ	Denniston Nort	5.59	219	PN	P	21 10 03.8	-4.7
DSZ				SN	S	21 11 05.8	-7.1
DSZ	Denniston Nort	5.59	219	*e*P	P	21 10 03.7	-4.8
LTZ	Lake Taylor	6.20	210	PN	P	21 10 11.8	-4.5
LTZ	Lake Taylor	6.20	210	*e*P	P	21 10 11.8	-4.5
MQZ	McQueen’s Vall	6.86	204	PN	P	21 10 19.2	-5.7
MQZ				SN	S	21 11 32.9	-9.5
MQZ	McQueen’s Vall	6.86	204	*e*P	P	21 10 19.2	-5.7
ODZ	Otahua Downs	8.74	209	PN	P	21 10 44.5	-4.7
ODZ	Otahua Downs	8.74	209	*e*P	P	21 10 44.5	-4.7

WEL 19 21:09:42.2±0.9,37.79S×179.87E,h33^{km},ML3.8/7,Error ellipse: s-maj=8.2km s-min=6.3km az=90.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.26	280	PN	Pn	21 10 02.1	-1.7
MXZ				SN	Sn	21 10 18.8	-0.9
PUZ	Puketiti	1.31	257	SN	Sn	21 10 19.7	-1.2
MWZ	Matawai	1.93	253	PN	Pn	21 10 11.7	-1.7
MWZ				SN	Sn	21 10 34.3	-2.4
KNZ	Kokohu	2.12	234	SN	Sn	21 10 38.1	-3.5
URZ	Urewera	2.23	257	PN	Pn	21 10 16.9	-0.8
URZ				SN	Sn	21 10 42.7	-1.7
BKZ	Black Stump Fm	2.99	242	PN	Pn	21 10 26.4	-2.1
BKZ				SN	Sn	21 11 00.5	-3.1
MOVZ	Moawhango	3.61	242	SN	Sn	21 11 14.5	-4.7
TUVZ	Tukino	3.62	245	SN	Sn	21 11 15.1	-4.5
NGZ	Ngauruhoe	3.62	246	SN	Sn	21 11 14.8	-4.8
WNVZ	Wahianoa	3.69	244	SN	Sn	21 11 17.7	-3.5
MRZ	Mangatainoka R	4.40	228	SN	Sn	21 11 31.4	-7.8
KIW	Kapiti Island	4.92	230	SN	Sn	21 11 45.3	-7.1
MRW	Makara Radio	5.27	228	SN	Sn	21 11 53.1	-8.1
TUWZ	Tuamarina	5.84	230	SN	Sn	21 12 05.2	-10
QRZ	Quartz Range	6.45	240	SN	Sn	21 12 20.6	-10
THZ	Tophouse	6.67	231	SN	Sn	21 12 27.1	-9.1
KHZ	Kahutara	6.70	224	SN	Sn	21 12 25.2	-12

IDC 19 21:15:45.1±2.5,11.11N×92.11E,mb3.5/3,mb1 3.6/4, mb1mx3.4/17,ML3.4/1,Error ellipse: s-maj=70.8km s-min=28.0km az=68.0,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PBA	Port Blair	0.82	49	*e*P	Pg	21 15 30.0	-31
PBA				*e*S	Sg	21 15 36.0	-36
PBA				*e*		21 16 30.0	
CMAR	Chiang Mai Arr	9.84	41	Pn	P	21 18 08.1	-3.0
	0.1nm,0.3s,baz=229,slow=14,SNR=3.9						
BWNR	Bhubaneshwar	10.96	327	*e*P	P	21 18 28.9	+2.5
BWNR				*e*S	S	21 20 20.0	-11
BWNR				*e*		21 20 23.3	
	comp=E,17nm,0.3s						
BWNR				*e*		21 20 23.4	
	comp=N,16nm,0.3s						
MKAR	Makanchi Array	36.53	349	P	P	21 22 52.1	-2.0
	comp=N,0.5nm,0.6s,baz=162,slow=7.7,SNR=4.4						
SONM	Songino Array	38.52	15	P	P	21 23 08.9	-2.1
	comp=N,0.3nm,0.8s,baz=188,slow=10,SNR=2.1						
WRA	Warramunga Arr	51.77	126	P	P	21 24 55.2	-1.8
	comp=N,0.5nm,0.4s,baz=300,slow=10.0,SNR=13						

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*NEIC **19** 21:24:44.9,44.62N×6.72E,ML2.6(GEN),ML2.4(LDG), ML2.1(STR),After GEN.*

*STR **19** 21:24:45.9±0.2,44.63N×6.77E,h5^{km}±1^{km},Ml2.1,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LDG **19** 21:24:46.0±0.1,44.64N×6.80E,h2^{km},Md2.6/1,Ml2.4/11, Error ellipse: s-maj=1.7km s-min=0.9km az=64.0*

ISC 19 21:24:45.0±0.2,44.62N±0.01×6.75E±0.02,h10^{km}±2^{km}, n43,σ0^{s}63/81,1D,France

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MBDF	Montbardon	0.11	10	*e*Pg	Pg	21 24 47.7	0.0
MBDF				*e*Sg	Sg	21 24 49.6	+0.1
	132nm,0.2s						
SURF	Saint Ours	0.15	161	Pg	Pg	21 24 48.6	+0.2
SURF				Sg	Sg	21 24 51.5	+0.8
PZZ	Prazzo	0.28	115	P	Pg	21 24 51.3	+0.4
PZZ				S	Sg	21 24 55.7	+1.0
RRL	Cesana Torines	0.30	5	P	Pg	21 24 51.5	+0.3
RRL				S	Sg	21 24 55.8	+0.5
BHB	Bricherasio	0.43	59	P	Pg	21 24 53.9	+0.2
BHB				S	Sg	21 24 59.9	+0.3
BNI	Bardonecchia	0.43	354	*e*Pg	Pg	21 24 53.6	-0.2
BNI				*e*Sg	Sg	21 24 59.1	-0.5
FENE	Fenestrelle	0.47	29	P	Pg	21 24 54.4	0.0
FENE				S	Sg	21 25 01.1	+0.4
OG25	Le Caire	0.54	242	Pg	Pg	21 24 56.7	+0.8
STV	Sta Anna Valdi	0.56	132	P	Pg	21 24 56.1	-0.2
STV				S	Sg	21 25 03.9	+0.1
STV2	Anna di Valdie	0.56	132	P	Pg	21 24 56.1	-0.2
STV2				S	Sg	21 25 03.8	-0.1
ENR	Entracque	0.62	129	P	Pb	21 24 57.2	-0.3
ENR				S	Sg	21 25 05.7	-0.3
RSP	Reno Superiore	0.64	34	P	Pb	21 24 57.7	-0.1
RSP				S	Sg	21 25 06.5	0.0
ORIF	Oris-en-Rattie	0.68	296	*e*Pg	Pg	21 24 58.4	-0.3
ORIF				*e*Sg	Sg	21 25 07.2	-0.7
	23nm,0.2s						
TOUF	Mont Tournerai	0.71	149	Pg	Pg	21 24 59.4	+0.2
AUTN	L’Aution	0.80	142	Pg	Pg	21 25 01.6	+0.7
AUTN				Sg	Sg	21 25 11.8	+0.2
AURF	Auriere	0.85	150	Pg	Pg	21 25 02.0	+0.1
SAOF	Saorge	0.86	137	Pg	Pg	21 25 02.2	-0.1
SAOF				Sg	Sg	21 25 14.2	+0.4
ROB	Roburent	0.87	112	P	Pb	21 25 01.9	+0.1
ROB				S	Sb	21 25 13.3	+0.1
LPG	La Plagne	0.88	0	*e*Pg	Pg	21 25 02.2	-0.3
LPG				*e*Sg	Sg	21 25 13.8	-0.4
	5.5nm,0.2s						
CALN	Calern	0.88	173	Pg	Pg	21 25 02.9	+0.4
CALN				Sg	Sg	21 25 15.4	+1.1
LSD	Ceresole Reale	0.88	19	P	Pb	21 25 01.9	-0.1
LSD				S	Sb	21 25 13.6	0.0
LPL	La Plagne	0.89	359	*e*Pg	Pg	21 25 02.6	-0.3
LPL				*e*Sg	Sg	21 25 14.3	-0.6
	14nm,0.4s						
MONE	Monesi	0.91	127	P	Pb	21 25 02.5	+0.1
MONE				S	Sb	21 25 14.4	+0.2
SBF	Sospel	0.91	147	*e*Pg	Pg	21 25 02.9	-0.3
SBF				*e*Sg	Sg	21 25 13.0	-2.3
	22nm,0.3s						
SBF				*e*Sn	Sn	21 25 16.5	-0.3
GRN	Grenoble	0.94	311	Pg	Pg	21 25 04.1	+0.2
GRN				Sg	Sg	21 25 16.8	+0.3
REVF	Revere	0.99	153	Pg	Pg	21 25 04.2	-0.6
NEGI	Negi	1.04	138	P	Pb	21 25 04.6	0.0
NEGI				S	Sb	21 25 18.1	+0.1
SMRF	Simiane la Rot	1.06	233	*e*Pn	Pn	21 25 06.9	+1.1
SMRF				*e*Sg	Sg	21 25 21.1	+0.7
	6.3nm,0.2s						
FRF	La Foret Royal	1.06	184	*e*Pg	Pg	21 25 05.9	-0.4
FRF				*e*Sg	Sg	21 25 19.9	-0.6
	9.7nm,0.2s						
RORO		1.08	118	P	Pb	21 25 05.3	0.0
RORO				S	Sb	21 25 19.1	-0.1
IMI	Imperia	1.09	131	⇓*i*Pg	Pg	21 25 06.2	-0.6
IMI				*e*Sg	Sg	21 25 20.9	-0.4
FIN	Finale Ligure	1.13	111	P	Pb	21 25 06.0	-0.2
TRAV		1.14	38	P	Pb	21 25 06.6	+0.3
PCP	Pian Castagno	1.29	93	P	Pb	21 25 09.1	+0.2
LMR	La Mourre	1.30	188	*e*Pn	Pn	21 25 10.0	+0.7
LMR				*e*Pg	Pg	21 25 10.6	-0.4

LMR				*e*Sn	Sn	21 25 26.7	-0.1
LMR				*e*Sg	Sg	21 25 27.6	-0.7
	5.8nm,0.2s						
VIVF	Saint-Julien-l	1.50	280	*e*Pn	Pn	21 25 13.2	+1.1
VIVF				*e*Pg	Pg	21 25 14.8	-0.1
VIVF				*e*Sg	Sg	21 25 34.6	-0.2
	5.3nm,0.4s						
CABF	La Chapelle	2.04	347	*e*P	Pn	21 25 21.9	+2.0
LASF	Ste Croix	2.14	256	*e*Pn	Pn	21 25 21.3	0.0
LASF				*e*Pg	Pg	21 25 27.1	-0.7
LASF				*e*Sn	Sn	21 25 47.8	-0.4
	1.8nm,0.3s						
PGF	Pioggiola	2.64	141	*e*Pn	Pn	21 25 29.1	+0.6
PGF				*e*Sn	Sn	21 25 59.7	-1.2
	8.1nm,1.0s						
SMF	Signal de Mont	2.87	316	*e*Pn	Pn	21 25 32.6	+0.9
SMF				*e*Pg	Pg	21 25 39.6	-2.7
SMF				*e*Sg	Sg	21 26 16.3	-4.3
	2.9nm,0.2s						
LOR	Lormes	3.33	324	*e*Sg	Sg	21 26 30.6	-5.1
	1.1nm,0.2s						
BGF	Bois d'Agland	3.35	307	*e*Pn	Pn	21 25 39.1	+0.5
CDF	Champ du Feu	3.81	5	*e*Pn	Pn	21 25 43.4	-1.6

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*IDC **19** 21:26:30.1±20.0, 31.02S×179.69E, h285^{km}±233^{km}, mb2.8/2, mb1 3.2/3, mb1mx3.1/11, Error ellipse: s-maj=266.0km s-min=40.0km az=3.0*

ISC 19 21:26:41.8±5.4**, 32.4S**±0.3×**179.1E**±0.8**, h400^{km}, n8, σ0^{s}.85**/7**, mb3.0**/2**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	5.18	187	P	P	21 28 05.3	-1.0
MWZ	Matawai	6.05	192	P	P	21 28 15.7	+0.1
URZ	Urewera	6.06	195	P	P	21 28 17.5	+1.9
	3.0nm,0.3s,baz=344,slow=9.1,SNR=44						
KIW	Kapiti Island	9.09	201	P	P	21 28 50.1	0.0
THZ	Tophouse	10.57	206	P	P	21 29 06.6	-0.9
ASAR	Alice Springs	40.60	271	P	P	21 33 46.2	+0.3
	0.2nm,0.5s,mb2.7,baz=102,slow=7.8,SNR=4.3						
WRA	Warramunga Arr	41.78	276	P	P	21 33 55.2	-0.2
	0.4nm,0.3s,mb3.2,baz=112,slow=8.0,SNR=14						
FINES	FINESS Array B	146.10	337	PKPbc	PKPbc	21 45 31.8	-2.7
	0.9nm,0.4s,baz=27,slow=4.3,SNR=12						

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*LDG **19** 21:31:56.5±0.3, 42.87N×1.48W, h2^{km}, Md2.4/2, Ml2.0/12, Error ellipse: s-maj=5.3km s-min=4.1km az=50.0*

*STR **19** 21:31:56.1±0.2, 42.84N×1.49W, h5^{km}±1^{km}, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

MDD 19 21:31:57.7±0.5**, 42.89N×1.42W, h11^{km}±1^{km}, mbLg1.5**/7**, Error ellipse: s-maj=4.3km s-min=2.6km az=30.0, AftershockPLICA PRXIMO, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJPF	Ste Jean	0.27	33	*e*Pg	Pg	21 32 03.0	-0.3
SJPF				*e*Sg	Sg	21 32 05.8	-1.3
	18nm,0.2s						
EALK	Alkurruntz	0.33	349	Pg	Pg	21 32 04.1	-0.6
	1.3nm,0.1s,SNR=16						
EALK				Lg		21 32 09.4	
	11nm,0.2s,SNR=5.0						
LARF	Larrau	0.35	65	Pg	Pg	21 32 04.1	-0.9
LARF				Sg	Sg	21 32 10.2	+0.4
LARF	Larrau	0.35	65	P	Pg	21 32 04.4	-0.6
LARF				S	Sg	21 32 10.3	+0.5
OSSF	Osses	0.38	18	Pg	Pg	21 32 04.8	-0.8
OSSF				Sg	Sg	21 32 11.0	+0.1
OSSF	Osses	0.38	18	P	Pg	21 32 05.0	-0.5
OSSF				S	Sg	21 32 10.4	-0.4
FDAF	Les Forges d'A	0.63	96	P	Pb	21 32 09.3	-1.0
FDAF				S	Sb	21 32 19.1	+0.3
ETSF	Etsaut	0.64	89	*e*Pg	Pg	21 32 08.6	-1.9
ETSF				*e*Sg	Sg	21 32 17.5	-1.6
ETSF				*e*Sn	Sn	21 32 19.5	-2.9
	6.4nm,0.3s						
EPF	Esparros	1.30	83	*e*Pn	Pn	21 32 20.9	-1.0
EPF				*e*Pg	Pg	21 32 23.1	-0.6
EPF				*e*Sg	Sg	21 32 38.8	-2.3
	7.0nm,0.3s						
ESAC	San Caprasio	1.37	148	Pg	Pg	21 32 22.1	-2.9
	5.1nm,0.2s,SNR=5.1						
ESAC				Lg		21 32 40.2	
	14nm,0.3s,SNR=5.0						
ELAN	Lanestosa	1.51	284	Pg	Pg	21 32 24.9	-3.1
	1.5nm,0.2s,SNR=14						
ELAN				Lg		21 32 46.4	
	1.2nm,0.2s,SNR=5.0						
ETOR	Torete	2.12	193	Pg	Pg	21 32 35.9	-4.2
	0.1nm,0.2s,SNR=5.5						
ETOR				Lg		21 32 59.4	
	1.7nm,0.3s,SNR=7.9						
EMIR	Miracle	2.39	113	Pg	Pg	21 32 39.8	-5.7
	0.7nm,0.3s,SNR=7.9						
EMIR				Sn	Sn	21 33 03.5	-3.6
	SNR=7.9						
EMIR				Lg		21 33 15.8	
	1.8nm,0.3s,SNR=7.9						
LFF	La Frestale	2.58	37	*e*Pn	Pn	21 32 38.1	-2.0
LFF				*e*Sn	Sn	21 33 08.8	-2.9
LFF				*e*Sg	Sg	21 33 17.3	-6.2
	1.7nm,0.3s						
MTLF	Montolieu	2.70	79	*e*Pn	Pn	21 32 40.9	-1.0
MTLF				*e*Sn	Sn	21 33 12.7	-2.3
	0.8nm,0.4s						
RJF	Les Rejaudoux	3.21	40	*e*Pn	Pn	21 32 46.5	-2.6
RJF				*e*Sn	Sn	21 33 24.1	-3.7
	1.7nm,0.3s						
CAF	Calviac	3.24	50	*e*Pn	Pn	21 32 47.1	-2.4
CAF				*e*Sn	Sn	21 33 24.9	-3.6
	1.0nm,0.3s						
MFF	Saint Martin d	3.82	13	*e*Pn	Pn	21 32 55.5	-2.3
MFF				*e*Pg	Pg	21 33 07.2	-6.8
MFF				*e*Sn	Sn	21 33 38.8	-4.4
MFF				*e*Sg	Sg	21 33 57.6	-7.3
	0.3nm,0.2s						
LASF	Ste Croix	4.02	71	*e*Pn	Pn	21 32 58.3	-2.4
LASF				*e*Sn	Sn	21 33 43.9	-4.4
	0.4nm,0.3s						
TCF	Toulx Ste Croi	4.27	36	*e*Pn	Pn	21 33 00.1	-4.2
TCF				*e*Sn	Sn	21 33 49.3	-5.4
	0.5nm,0.3s						
BGF	Bois d'Agland	4.76	38	*e*Pn	Pn	21 33 07.2	-4.0
BGF				*e*Sn	Sn	21 34 00.7	-6.4
	3.6nm,0.5s						
VIVF	Saint-Julien-l	4.83	64	*e*Pn	Pn	21 33 08.9	-3.2
VIVF				*e*Sn	Sn	21 34 02.2	-6.4
	0.3nm,0.2s						
AVF	Avril sur Loir	5.17	39	*e*Pn	Pn	21 33 12.6	-4.3
AVF				*e*Sn	Sn	21 34 10.2	-7.1
	0.4nm,0.3s						

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*NEIC **19** 21:37:15.0±0.8, 31.51S×69.40W, h105^{km}±9^{km}, mb4.4/1, MD4.1(GUC), Error ellipse: s-maj=14.0km s-min=7.8km az=67.0*

*GUC **19** 21:37:14.6±0.8, 31.51S×69.69W, h138^{km}±9^{km}, MD4.1, ML4.5*

ISC 19 21:37:14.9±0.7**, 31.51S**±0.03×**69.57W**±0.09**, h125^{km}±7^{km}, n30, σ0^{s}.78**/49**, mb4.4**/1**, 16C-7D, San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	Combarbala	1.27	285	⇓*i*P	P	21 37 40.6	+0.1
CMCH				*i* S	S	21 38 00.2	+0.4
CMCH				AMP		21 38 04.2	
	comp=N,19μm,0.7s						
JACH	Jahuel	1.46	216	⇑*i*P	P	21 37 42.5	0.0
JACH				*i* S	S	21 38 03.8	+0.3
MDZ	Mendoza	1.50	156	⇓*i*P	P	21 37 42.1	-0.9
MDZ				*i* S	S	21 38 03.4	-1.0
OVCH	Ovalle	1.67	302	⇓*i*P	P	21 37 44.8	-0.2
OVCH				*i* S	S	21 38 07.2	-0.6
OVCH				AMP		21 38 08.2	
	comp=E,4μm,0.3s						
TLL	Tololo Astrono	1.71	321	⇑*i*P	P	21 37 45.9	+0.4
TLL				*i* S	S	21 38 09.3	+0.6
TLL				AMP		21 38 11.9	
	comp=N,3μm,0.3s						
FCH	Farellones	1.91	198	⇑*i*P	P	21 37 48.7	+0.8
FCH				*i* S	S	21 38 14.6	+1.7
FCH				AMP		21 38 18.8	
	comp=E,3μm,0.2s						
CLCH	Cerro Calan	2.05	203	⇑*i*P	P	21 37 49.7	+0.1
CLCH				*i* S	S	21 38 16.8	+0.8
CLCH				AMP		21 38 23.2	
	comp=E,4μm,0.4s						
CLCH				AMP		21 38 23.8	
	comp=E,5μm,0.4s						
FSR	Penalolen	2.12	202	⇑*i*P	P	21 37 51.1	+0.5
FSR				*i* S	S	21 38 18.4	+0.8
FSR				AMP		21 38 19.9	
	comp=E,3μm,0.6s						
STL	Santa Lucia	2.12	205	*e*P	P	21 37 50.6	+0.1
STL				*i* S	S	21 38 18.2	+0.5
STL				AMP		21 38 22.1	
	comp=N,1μm,0.4s						
SAN	Santiago	2.15	205	*i* S	S	21 38 18.2	0.0
SAN				AMP		21 38 20.6	
	comp=E,2μm,0.5s						
LSCH	La Serena	2.15	317	⇓*i*P	Px	21 38 30.1	
LSCH				*i* S	Sx	21 38 56.8	
LSCH				AMP		21 38 57.2	
	comp=N,4μm,0.4s						
SJCH	San Jose de Ma	2.22	197	*e*P	P	21 37 51.9	0.0
SJCH				*i* S	S	21 38 20.6	+0.6
SJCH				AMP		21 38 27.0	
	comp=N,1μm,0.3s						
RCDM	Rinconada Maip	2.23	208	⇑*i*P	P	21 37 51.0	-1.0
RCDM				*i* S	S	21 38 19.3	-0.8
RCDM				AMP		21 38 20.9	
	comp=E,4μm,0.4s						
ANTU	Antumapu	2.24	203	⇑*i*P	P	21 37 52.2	0.0
ANTU				*i* S	S	21 38 20.3	-0.1
ANTU				AMP		21 38 22.6	
	comp=E,4μm,0.4s						
PCH	Pirque	2.25	201	⇑*i*P	P	21 37 52.7	+0.4
PCH				*i* S	S	21 38 21.4	+0.8
IHA	Instituto Hidr	2.31	229	*e*P	P	21 37 52.2	-0.9
LMEL	Las Melosas	2.39	193	⇑*i*P	P	21 37 54.2	+0.1
LMEL				*i* S	S	21 38 24.9	+1.0
LMEL				AMP		21 38 32.3	
	comp=N,2μm,0.3s						
TACH	Talagante	2.43	208	⇑*i*P	P	21 37 53.7	-0.9
TACH				*i* S	S	21 38 24.4	-0.3
CHCH	Chadas Angostu	2.58	200	⇑*i*P	P	21 37 56.3	-0.4
CHCH				*i* S	S	21 38 28.0	-0.3
LCCH	Las Cruces	2.59	220	⇑*i*P	P	21 37 55.9	-0.9
LCCH				*i* S	S	21 38 27.3	-1.1
CACH	El Canelo	2.74	198	*e*P	P	21 37 58.9	+0.2
CACH				*i* S	S	21 38 32.4	+0.4
CICH	Cipreses	2.89	194	⇑*i*P	P	21 38 01.1	+0.3
VACH	Vallenar	3.10	340	⇓*i*P	P	21 37 51.8	-12
VACH				*i* S	S	21 38 28.2	-12
SFDO	San Fernando	3.32	201	⇑*i*P	P	21 38 04.7	-1.8
SFDO				*i* S	S	21 38 44.2	-1.6
TRQA	Tornquist	9.03	138	*e*Pn	P	21 39 19.4	-4.0
VNA3	Neumayer Olymp	50.90	159	⇓*i*	P	21 46 13.7	+9.0
VNA1	Neumayer--Stat	51.17	158	⇑*i*	P	21 46 15.7	+9.0
VNA2	Neumayer--Watz	51.52	158	⇑*i*	P	21 46 12.8	+3.4
SNAA	Sanae	53.12	159	⇓*i*	P	21 46 21.3	0.0
QSPA	South Pole Qui	58.72	180	*e*P	P	21 47 02.1	+0.9
	comp=N,3.7nm,1.0s,mb4.4						

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*IDC **19** 21:43:01.0±1.5, 36.14N×60.18E, mb3.7/4, mb1 3.8/6, mb1mx3.6/19, ML3.6/2, Error ellipse: s-maj=23.6km s-min=18.5km az=126.0*

*NEIC **19** 21:43:02.2±1.2, 36.10N×60.14E, h10^{km}, mb3.4/3, Error ellipse: s-maj=21.7km s-min=15.4km az=175.0*

ISC 19 21:42:55.9±1.4**, 35.6N**±0.1×**60.5E**±0.1**, h10^{km}, n14, σ0^{s}.48**/15**, mb3.6**/4**, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	12.16	54	P	P	21 45 51.8	-0.4
	SNR=8.9						
EKS2	Erkin-Say	12.47	52	P	P	21 45 56.2	-0.1
	SNR=15						
UCH	Uchtor	12.74	55	P	P	21 45 59.6	-0.3
	SNR=10						
AAK	Ala-Archa	12.92	53	P	P	21 46 02.4	+0.1
	SNR=6.0						
KBK	Karagaybulak	13.22	54	P	P	21 46 06.5	+0.2
	SNR=14						
ZRNK	Zerenda	18.33	17	P	P	21 47 10.8	-1.0
	3.0nm,1.1s						
BVAR	Borovoye Array	18.74	19	P	P	21 47 17.6	+0.7
	0.3nm,0.3s,baz=200,slow=12,SNR=8.3						
BVAR				S	S	21 50 42.8	+0.1
	0.2nm,0.3s,baz=238,slow=33,SNR=4.2						
BRVK	Borovoye	18.75	19	*e*P	P	21 47 16.8	-0.2
	1.2nm,0.5s						
MKAR	Makanchi Array	19.77	49	P	P	21 47 33.0	+4.2
	0.1nm,0.3s,baz=235,slow=10,SNR=7.4						
KURK	Kurchatov	19.97	35	*e*P	P	21 47 31.9	+0.8
	1.7nm,0.8s						
BRTR	Keskin Array B	21.61	289	P	P	21 47 48.0	0.0
	0.9nm,0.9s,mb3.2,baz=108,slow=12,SNR=4.0						
AKASG	Malin Array Be	27.07	314	P	P	21 48 40.3	0.0
	2.2nm,0.6s,mb3.9,baz=102,slow=7.5,SNR=9.1						
FINES	FINESS Array B	33.74	331	P	P	21 49 39.2	-0.1
	2.0nm,1.0s,mb4.0,baz=117,slow=8.5,SNR=5.6						
CMAR	Chiang Mai Arr	38.00	106	P	P	21 50 23.3	+7.4
	0.6nm,0.6s,mb3.5,baz=297,slow=8.1,SNR=5.3						

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*NEIC **19** 21:48:42.2±1.6, 8.83S×124.05E, h43^{km}±17^{km}, mb4.6/5, Error ellipse: s-maj=17.1km s-min=9.9km az=222.0*

*IDC **19** 21:48:44.4±4.9, 8.92S×123.95E, h64^{km}±48^{km}, mb3.6/4, mb1 4.0/7, mb1mx3.9/14, ML4.4/3, Error ellipse: s-maj=55.0km s-min=23.7km az=71.0*

ISC 19 21:48:38.9±0.6**, 9.03S**±0.08×**123.95E**±0.10**, h33^{km}, n20, σ1^{s}.60**/26**, mb4.3**/8**, Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	9.06	114	*e*P	P	21 50 56.8	+6.4
	20nm,0.4s						
KAKA				*e*S	S	21 52 31.9	-0.5
FITZ	Fitzroy Crossi	9.17	170	*e*P	P	21 50 55.3	+3.5
	4.4nm,0.2s						
FITZ				*e*S	S	21 52 28.5	-6.4
FITZ	Fitzroy Crossi	9.17	170	P	P	21 50 56.1	+4.2
	2.3nm,0.3s,baz=7.7,slow=8.9,SNR=45						
FITZ				S	S	21 52 32.1	-2.9
	10nm,0.3s,baz=0.9,slow=9.1,SNR=17						
MBWA	Marble Bar	12.73	198	*e*Pn	P	21 51 43.4	+3.0
MBWA				*e*Sn	S	21 53 55.8	-6.0
WRA	Warramunga Arr	14.78	138	P	P	21 52 09.6	+2.0
	4.1nm,0.3s,baz=315,slow=15,SNR=96						
WRA				S	S	21 54 42.8	-8.2
	0.9nm,0.3s,baz=308,slow=23,SNR=6.2						
WRAB	Tennant Creek	14.79	138	*e*Pn	P	21 52 08.6	+1.0
	14nm,0.4s						
WB2	Warramunga Arr	14.79	138	*e*P	P	21 52 09.0	+1.4
WB2				*e*S	S	21 54 42.2	-8.9
ASPA	Alice Springs	17.39	148	*e*P	P	21 52 43.9	+3.2
ASPA				*e*S	S	21 55 48.3	-3.0
ASAR	Alice Springs	17.39	148	P	P	21 52 43.5	+2.8
	1.0nm,0.3s,baz=319,slow=11,SNR=63						
ASAR				S	S	21 55 49.0	-2.3
	0.4nm,0.3s,baz=317,slow=21,SNR=8.9						
NWAO	Narrogin (SRO)	24.58	194	P	P	21 53 59.3	+2.0
	9.0nm,0.9s,mb4.3,baz=156,slow=14,SNR=6.0						
NWAO	Narrogin (SRO)	24.58	194	*e*P	P	21 53 59.6	+2.4
	1.3nm,0.3s,mb3.9						
STKA	Stephens Creek	28.02	147	P	P	21 54 30.9	+1.7
	1.2nm,0.8s,mb3.6,baz=315,slow=13,SNR=2.9						
PKI	Pulchoki	52.12	316	*e*P	P	21 57 47.7	-0.7
	13nm,0.5s,mb5.1						
KKN	Kakani	52.34	316	*e*P	P	21 57 49.6	-0.4
	5.3nm,0.5s,mb4.7						
DMN	Daman	52.35	315	*e*P	P	21 57 49.8	-0.3
	8.4nm,0.6s,mb4.8						
GKN	Gorkha	52.92	315	*e*P	P	21 57 53.8	-0.6
	9.1nm,0.4s,mb5.1						
SONM	Songino Array	58.71	346	P	P	21 58 34.9	-0.9
	0.2nm,0.4s,mb3.5,baz=162,slow=7.4,SNR=4.4						
MKAR	Makanchi Array	66.81	330	P	P	21 59 28.7	-0.8
	0.8nm,0.6s,mb4.0,baz=135,slow=7.6,SNR=13						
CPUP	Villa Florida	144.83	178	PKP	PKPdf	22 08 14.3	+1.0
	1.8nm,0.4s,baz=217,slow=3.0,SNR=6.9						
CPUP	Villa Florida	144.83	178	*e*PKPdf	PKPdf	22 08 15.2	+1.9

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*LDG **19** 22:10:15.9±0.3, 42.87N×1.49W, h2^{km}, Md2.6/2, Ml2.5/12, Error ellipse: s-maj=5.9km s-min=3.5km az=55.0*

*NEIC **19** 22:10:15.0, 42.85N×1.56W, h5^{km}, ML2.5(LDG), ML2.4(STR), MN2.1(MDD), After STR.*

*STR **19** 22:10:15.0±0.8, 42.85N×1.56W, h5^{km}±1^{km}, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

MDD 19 22:10:17.0±0.3**, 42.87N×1.43W, h6^{km}±3^{km}, mbLg2.1**/12**, Error ellipse: s-maj=2.8km s-min=2.1km az=33.0, AftershockPLICA PRXIMO, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJPF	Ste Jean	0.28	32	*e*Pg	Pg	22 10 22.4	-0.3
SJPF				*e*Sg	Sg	22 10 25.3	-1.3
	331nm,0.4s						
EALK	Alkurruntz	0.35	350	Pg	Pg	22 10 23.6	-0.5
	2.3nm,0.1s,SNR=56						
EALK				Lg		22 10 27.8	
	29nm,0.2s,SNR=7.8						
LARF	Larrau	0.36	63	Pg	Pg	22 10 23.6	-0.7
LARF				Sg	Sg	22 10 29.9	+0.7
LARF	Larrau	0.36	63	P	Pg	22 10 23.6	-0.7
LARF				S	Sg	22 10 29.8	+0.6
OSSF	Osses	0.40	18	Pg	Pg	22 10 24.4	-0.7
OSSF				Sg	Sg	22 10 30.8	+0.3
OSSF	Osses	0.40	18	P	Pg	22 10 24.4	-0.6
OSSF				S	Sg	22 10 30.8	+0.3
ORDF	Ordiarp	0.50	46	P	Pg	22 10 26.4	-0.5
ORDF				S	Sg	22 10 33.9	+0.3
ATE	Arette	0.57	68	P	Pg	22 10 27.4	-1.0
ATE				S	Sg	22 10 35.9	-0.3
FDAF	Les Forges d'A	0.64	95	Pg	Pg	22 10 29.0	-0.7
FDAF				Sg	Sg	22 10 39.8	+1.6
FDAF	Les Forges d'A	0.64	95	P	Pg	22 10 28.8	-0.9
FDAF				S	Sg	22 10 37.4	-0.8
ETSF	Etsaut	0.64	87	*e*Pg	Pg	22 10 28.3	-1.5
ETSF				*e*Sg	Sg	22 10 36.8	-1.5
ETSF				*e*Sn	Sn	22 10 38.8	-3.8
	31nm,0.4s						
REYF	Montagne du Re	0.79	75	S	Sg	22 10 42.2	-0.9
VIEF	Viey	1.07	89	Pg	Pg	22 10 36.1	-2.2
VIEF	Viey	1.07	89	P	Pb	22 10 36.1	-1.3
VIEF				S	Sb	22 10 51.4	0.0
LABF	Labassere	1.12	80	Pg	Pg	22 10 37.4	-1.9
LABF	Labassere	1.12	80	P	Pb	22 10 37.3	-1.0
LABF				S	Sb	22 10 53.2	+0.4
RESF	Ens	1.30	92	Pg	Pg	22 10 42.2	-0.8
RESF				Sg	Sg	22 11 00.8	+0.5
RESF	Ens	1.30	92	S	Sb	22 10 59.0	+0.8
EPF	Esparros	1.31	82	*e*Pn	Pn	22 10 40.2	-1.5
EPF				*e*Pg	Pg	22 10 42.5	-0.6
EPF				*e*Sg	Sg	22 10 57.9	-2.6
	23nm,0.3s						
ESAC	San Caprasio	1.35	148	Pg	Pg	22 10 41.3	-2.6
	11nm,0.2s,SNR=18						
ESAC				Lg		22 10 59.0	
	43nm,0.3s,SNR=9.9						
ELAN	Lanestosa	1.51	284	Pg	Pg	22 10 44.6	-2.7
	2.6nm,0.3s,SNR=17						
ELAN				Lg		22 11 05.6	
	6.0nm,0.3s,SNR=9.4						
MELF	Melles	1.61	89	P	Pn	22 10 47.5	+1.5
MELF				S	Sb	22 11 08.6	+1.5
SALF	Salau	1.93	92	S	Sn	22 11 17.7	+2.3
ETOR	Torete	2.10	193	Pn	Pn	22 10 51.3	-1.9
	0.7nm,0.2s,SNR=9.9						
ETOR				Pg	Pg	22 10 55.2	-3.8
	4.2nm,0.4s,SNR=7.9						
ETOR				Sn	Sn	22 11 18.2	-1.7
	SNR=7.9						
ETOR				Lg		22 11 22.8	
	23nm,0.5s,SNR=16						
EMIR	Miracle	2.39	113	Pn	Pn	22 10 55.8	-1.4
	SNR=7.9						
EMIR				Pg	Pg	22 11 00.9	-3.7
	2.4nm,0.4s,SNR=7.8						
EMIR				Lg		22 11 31.5	
	7.6nm,0.4s,SNR=5.5						
EPOB	Poblet	2.41	128	Pn	Pn	22 10 55.3	-2.1
	SNR=7.9						
EPOB				Pg	Pg	22 10 59.0	-6.0
	SNR=7.9						
EPOB				Sn	Sn	22 11 23.7	-3.8
	SNR=7.9						
EPOB				Lg		22 11 30.9	
	2.1nm,0.2s,SNR=7.9						
EBR	Ebro Roquetas	2.50	144	*e*SG	Sg	22 11 38.5	-1.8
LFF	La Frestale	2.59	36	*e*Pn	Pn	22 10 57.5	-2.6
LFF				*e*Sn	Sn	22 11 28.3	-4.0
	2.8nm,0.2s						
LFF				*e*Sg	Sg	22 11 36.7	-6.6
EMOS	Mosqueruela	2.61	164	Pn	Pn	22 11 00.1	-0.3
	0.1nm,0.1s,SNR=11						
EMOS				Pg	Pg	22 11 05.2	-3.8
	3.1nm,0.5s,SNR=7.2						
EMOS				Lg		22 11 39.6	
	3.8nm,0.3s,SNR=7.9						
MTLF	Montolieu	2.71	79	*e*Pn	Pn	22 11 00.2	-1.6
MTLF				*e*Sn	Sn	22 11 32.2	-3.0
	4.3nm,0.4s						
EJON	La Jonquera	3.21	96	Lg		22 11 57.6	
	3.6nm,0.5s,SNR=7.9						
RJF	Les Rejaudoux	3.23	40	*e*Pn	Pn	22 11 05.9	-3.2
RJF				*e*Sn	Sn	22 11 43.4	-4.9
	4.0nm,0.3s						
CAF	Calviac	3.25	50	*e*Pn	Pn	22 11 06.4	-3.1
CAF				*e*Sn	Sn	22 11 44.6	-4.4
	2.5nm,0.2s						
ESDC	Sonseca Array	3.72	212	Pn	Pn	22 11 14.1	-2.1
	0.3nm,0.4s,baz=38,slow=13,SNR=5.1						
ESDC				Sn	Sn	22 11 57.2	-3.7
	0.3nm,0.3s,baz=37,slow=24,SNR=4.6						
ESDC				Lg		22 12 11.4	
	0.6nm,0.4s,baz=31,slow=28,SNR=19						
MFF	Saint Martin d	3.84	13	*e*Pn	Pn	22 11 14.9	-2.9
MFF				*e*Pg	Pg	22 11 26.7	-6.9
MFF				*e*Sn	Sn	22 11 58.1	-5.7
MFF				*e*Sg	Sg	22 12 17.0	-7.8
	2.2nm,0.3s						
LASF	Ste Croix	4.03	71	*e*Pn	Pn	22 11 17.6	-3.0
LASF				*e*Sn	Sn	22 12 03.2	-5.5
	1.6nm,0.3s						
ECAL	Calabor	4.04	258	Pn	Pn	22 11 18.4	-2.4
	0.7nm,0.2s,SNR=7.9						
ECAL				Sn	Sn	22 12 03.5	-5.4
	SNR=7.9						
ECAL				Lg		22 12 22.5	
	6.2nm,0.5s,SNR=60						
ECAL	Calabor	4.04	258	Pn	Pn	22 11 18.8	-2.0
ECAL				Sn	Sn	22 12 03.5	-5.4
ECAL				Lg		22 12 22.5	
TCF	Toulx Ste Croi	4.29	36	*e*Pn	Pn	22 11 19.5	-4.8
TCF				*e*Sn	Sn	22 12 08.6	-6.7
	2.7nm,0.6s						
BGF	Bois d'Agland	4.78	38	*e*Pn	Pn	22 11 26.6	-4.6
BGF				*e*Sn	Sn	22 12 20.3	-7.3
	5.6nm,0.5s						
VIVF	Saint-Julien-l	4.84	64	*e*Pn	Pn	22 11 28.4	-3.6
VIVF				*e*Sn	Sn	22 12 21.6	-7.5
	2.2nm,0.5s						
AVF	Avril sur Loir	5.19	39	*e*Pn	Pn	22 11 32.1	-4.8
AVF				*e*Sn	Sn	22 12 29.6	-8.3
	1.6nm,0.5s						

IDC 19 22:11:14.7±11.0**, 8.06S×125.89E, mb4.3**/1**, mb1 3.7**/3**, mb1mx3.4**/11**, ML3.4**/1**, Error ellipse: s-maj=251.0km s-min=156.8km az=61.0, Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.37	146	Pn	P	22 14 39.0	-2.8
	0.2nm,0.3s,baz=322,slow=15,SNR=5.1						
ASAR	Alice Springs	17.32	155	P	P	22 15 19.1	-0.6
	baz=334,slow=14,SNR=2.4						
STKA	Stephens Creek	27.85	150	P	P	22 17 06.0	-2.1
	2.7nm,0.7s,baz=331,slow=9.7,SNR=7.4						

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*NEIC **19** 22:23:27.6±0.3, 6.49S×154.99E, mb4.8/8, Error ellipse: s-maj=12.4km s-min=7.4km az=130.0*

*IDC **19** 22:23:27.4±0.8, 6.44S×154.92E, h32^{km}±5^{km}, mb4.1/12, mb1 4.3/13, mb1mx4.3/15, ML3.3/1, MS3.8/1, Ms1 3.8/1,* *ms1mx3.3/16, Error ellipse: s-maj=27.0km s-min=14.9km az=121.0*

ISC 19 22:23:26.4±0.5**, 6.46S**±0.09×**154.9E**±0.1**, h33^{km}, h33^{km}**±2.0^{km}**:pP-P, n29, σ0^{s}62**/27**, mb4.5**/20**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	8.19	249	ePn	P	22 25 26.1	+0.3
	46nm,0.7s						
CTA	Charters Tower	15.93	211	Pn	P	22 27 10.7	+0.9
	0.1nm,0.3s,baz=37,slow=16,SNR=2.4						
CTA				LR	LR	22 31 56.5	
	comp=Z,395nm,21.1s,baz=79,slow=32						
WRAB	Tennant Creek	24.02	234	eP	P	22 28 28.6	-11
WB2	Warramunga Arr	24.02	234	eP	P	22 28 39.7	+0.2
WB2				e		22 32 21.0	
WRA	Warramunga Arr	24.03	234	P	P	22 28 39.7	+0.2
	6.7nm,0.9s,mb4.1,baz=58,slow=9.7,SNR=21						
WRA				PcP	PcP	22 32 21.1	-1.3
	1.9nm,0.5s,baz=60,slow=2.3,SNR=8.0						
ASAR	Alice Springs	26.45	227	P	P	22 29 01.4	-1.1
	1.5nm,0.7s,mb3.6,baz=60,slow=8.7,SNR=12						
ASAR				pP	pP	22 29 12.2	+0.3
	1.9nm,0.4s,baz=58,slow=9.4,SNR=9.8						
ASAR				PcP	PcP	22 32 26.1	-1.5
	2.1nm,0.9s,baz=62,slow=3.1,SNR=9.0						
STKA	Stephens Creek	28.17	204	P	P	22 29 18.3	+0.2
	3.8nm,1.1s,mb3.9,baz=29,slow=13,SNR=2.7						
STKA				PcP	PcP	22 32 29.9	-1.7
	1.3nm,0.7s,baz=349,slow=9.3,SNR=2.9						
STKA	Stephens Creek	28.17	204	P	P	22 29 18.3	+0.2
STKA				PcP	PcP	22 32 29.9	-1.7
FITZ	Fitzroy Crossi	30.77	245	eP	P	22 29 40.8	-0.5
	2.5nm,0.8s,mb4.1						
FITZ				e		22 32 37.6	
CM31	Chiang Mai Arr	60.46	295	eP	P	22 33 36.0	+0.3
	16nm,1.0s,mb5.0						
CMAR	Chiang Mai Arr	60.46	295	P	P	22 33 35.5	-0.1
	8.0nm,0.7s,mb4.8,baz=116,slow=5.4,SNR=51						
SONM	Songino Array	68.83	327	P	P	22 34 28.5	-1.0
	3.6nm,1.1s,mb4.2,baz=142,slow=6.9,SNR=15						
SHL	Shillong	68.93	300	eP	P	22 34 32.0	+1.4
PKI	Pulchoki	75.06	301	eP	P	22 35 07.0	-0.1
	9.3nm,0.7s,mb4.8						
KKN	Kakani	75.23	301	eP	P	22 35 08.2	+0.1
	19nm,0.8s,mb5.1						
DMN	Daman	75.33	301	eP	P	22 35 08.8	+0.2
	26nm,0.9s,mb5.2						
GKN	Gorkha	75.83	301	eP	P	22 35 11.2	-0.3
	23nm,1.0s,mb5.1						
ILAR	Eielson Array	82.92	22	P	P	22 35 48.0	-1.0
	0.7nm,0.7s,mb3.8,baz=257,slow=4.7,SNR=6.2						
ILAR				pP	pP	22 35 58.6	-0.9
	2.0nm,1.1s,baz=253,slow=5.0,SNR=5.1						
MKAR	Makanchi Array	82.94	319	P	P	22 35 49.0	-0.5
	2.9nm,0.9s,mb4.3,baz=126,slow=4.7,SNR=17						
MKAR				pP	pP	22 35 59.0	-1.0
	8.9nm,1.2s,baz=101,slow=6.2,SNR=9.2						
QSPA	South Pole Qui	83.51	180	eP	P	22 35 51.3	-0.4
	8.0nm,1.1s,mb4.8						
MAW	Mawson	84.84	203	P	P	22 35 57.7	-0.9
	3.9nm,0.9s,mb4.5,baz=302,slow=5.7,SNR=4.0						
DLBC	Dease Lake	87.74	31	P	P	22 36 13.5	+0.5
	2.7nm,1.1s,mb4.4,baz=238,slow=13,SNR=4.4						
DLBC				pP	pP	22 36 23.4	-0.1
	2.0nm,0.8s,baz=168,slow=6.5,SNR=2.9						
DLBC	Dease Lake	87.74	31	P	P	22 36 13.5	+0.5
DLBC				pP	pP	22 36 23.4	-0.2
INK	Inuvik	89.26	21	P	P	22 36 20.9	+0.9
	2.2nm,0.9s,mb4.5,baz=233,slow=3.9,SNR=3.4						
NVAR	Mina Array Bea	91.48	52	P	P	22 36 31.8	+0.6
	1.3nm,0.8s,mb4.3,baz=251,slow=4.6,SNR=4.1						
MNV	Mina	91.59	52	eP	P	22 36 31.5	-0.1
	4.9nm,1.1s,mb4.8						
PDAR	Pinedale Array	98.42	48	P	P	22 37 02.7	+0.1
	0.5nm,1.0s,mb4.0,baz=254,slow=6.6,SNR=3.0						
GERES	GERESS Array B	126.54	329	PKP	PKPdf	22 42 26.6	+0.1
	0.4nm,0.8s,baz=72,slow=4.2,SNR=4.6						
BDFB	Brasilia	148.43	134	PKPbc	PKPdf	22 43 10.4	+3.4
	2.5nm,0.5s,baz=256,slow=4.8,SNR=4.8						

LDG ***19*** *22:59:38.1±0.3, 14.08S×166.40E, h10^{km}, Mb5.3/4, Error ellipse: s-maj=36.9km s-min=8.7km az=83.0*

BJI ***19*** *22:59:52.9, 12.66S×166.82E, h104^{km}, mB5.2, mb5.0*

NEIC ***19*** *22:59:54.4±0.2, 12.93S×166.79E, mb5.1/27, Error ellipse: s-maj=8.1km s-min=5.9km az=127.0*

HRVD ***19*** *22:59:54.4±0.2, 13.01S×166.62E, h129^{km}± 1^{km}, MW5.4/65, Centroid moment Tensor Solution. LP body waves: s50,c74;Mantle waves: s65,c128; Half duration: 1^{s}3 Moment tensor: Scale 10^{17}Nm; M$_{rr}$1.53±.03; M$_{\theta\theta}$-0.09±.04; M$_{\phi\phi}$-1.44±.04; M$_{r\theta}$-0.01±.03; M$_{\theta\phi}$0.66±.04; M$_{\phi r}$-0.33±.03; Best double couple: M$_0$1.66×10^{17} NP1: φ$_s$332°, δ40°, λ82°. NP2:φ$_s$163°, δ51°, λ97°. Principal axes: T 1.57, Plg82°, Azm113°; N .17, Plg5°, Azm339°; P -1.74, Plg5°, Azm248°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

IDC ***19*** *22:59:54.6±0.7, 13.00S×166.73E, h115^{km}±5^{km}, mb4.5/14, mb1 4.7/14, mb1mx4.6/15, MS4.6/8, Ms1 4.6/8, ms1mx4.4/17 Error ellipse: s-maj=16.3km s-min=10.9km az=141.0*

ISC 19 22:59:53.6±0.3**, 12.92S**±0.05×**166.68E**±0.06**, h114^{km}, h114^{km}**±2.7^{km}**:pP-P, n160, σ1^{s}12**/72**, mb4.9**/43**, 15C-3D, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BKM	Butte a Klehm	4.95	162	⇓iP	P	23 01 08.8	+1.8
DZM	Mont Dzumac	9.10	181	⇑iP	P	23 02 04.6	+1.3
DZM				eS	S	23 03 38.2	-6.3
DZM	Mont Dzumac	9.10	181	⇑iP	P	23 02 04.5	+1.3
DZM				eS	S	23 03 38.2	-6.3
PMG	Port Moresby	19.46	278	P	P	23 04 12.7	-1.1
	28nm,0.9s						
CTA	Charters Tower	20.82	247	⇑iP	P	23 04 29.1	+1.3
	28nm,1.0s						
CTA				eS	S	23 08 12.5	+4.1
CTA	Charters Tower	20.82	247	P	P	23 04 29.3	+1.5
	25nm,0.7s,baz=80,slow=12,SNR=33						
CTA				S	S	23 08 11.7	+3.3
	2.1nm,0.9s,baz=11,slow=9.0,SNR=1.7						
CTAO	Charters Tower	20.82	247	eP	P	23 04 29.1	+1.3
	86nm,1.3s						
ARMA	Armidale	22.29	216	eP	P	23 04 44.0	+1.8
URZ	Urewera	26.89	162	P	P	23 05 23.3	-2.4
	3.3nm,0.3s,mb4.3,baz=285,slow=19,SNR=4.1						
STKA	Stephens Creek	29.77	227	⇑iP	P	23 05 51.4	-0.2
	15nm,0.6s,mb4.8						
STKA				i		23 08 51.5	
STKA	Stephens Creek	29.77	227	P	P	23 05 51.5	-0.2
	17nm,0.6s,mb4.8,baz=45,slow=7.6,SNR=68						
STKA				PcP	PcP	23 08 51.1	-1.6
	16nm,0.6s,baz=87,slow=2.2,SNR=14						
STKA				ScP		23 12 23.6	
	1.6nm,0.6s,baz=64,slow=3.9,SNR=3.8						
STKA				LR	LR	23 17 53.5	
	comp=Z,2µm,18.1s,baz=48,slow=36						
RPZ	Rata Peaks	30.91	174	P	P	23 06 00.0	-1.6
	39nm,0.6s,mb5.3,baz=111,slow=2.5,SNR=21						
WB2	Warramunga Arr	31.74	253	⇑iP	P	23 06 07.8	-1.3
WRAB	Tennant Creek	31.74	253	eP	P	23 06 07.7	-1.4
	4.7nm,0.4s,mb4.6						
WRAB				ePcP	PcP	23 08 56.8	-1.2
WRA	Warramunga Arr	31.75	253	P	P	23 06 08.0	-1.2
	9.6nm,0.6s,mb4.7,baz=85,slow=9.3,SNR=44						
WRA				pP	pP	23 06 34.8	+0.2
	4.4nm,0.7s,baz=85,slow=9.5,SNR=4.8						
WRA				PcP	PcP	23 08 56.8	-1.2
	4.0nm,0.9s,baz=78,slow=4.0,SNR=6.5						
WRA				ScP		23 12 30.1	
	1.7nm,0.8s,baz=86,slow=3.7,SNR=7.3						
WRA				LR	LR	23 15 56.1	
	comp=Z,663nm,21.0s,baz=90,slow=30						
ASAR	Alice Springs	32.82	246	P	P	23 06 17.2	-1.2
	22nm,0.8s,mb5.1,baz=72,slow=9.7,SNR=151						
ASAR				pP	pP	23 06 42.5	-1.5
	4.2nm,0.8s,baz=72,slow=9.7,SNR=2.1						
ASAR				PcP	PcP	23 08 59.7	-1.1
	3.5nm,0.5s,baz=77,slow=1.5,SNR=12						
ASAR				ScP		23 12 33.9	
	2.1nm,0.8s,baz=79,slow=3.8,SNR=7.9						
ASAR				LR	LR	23 18 38.0	
	comp=Z,1µm,20.5s,baz=69,slow=34						
ASPA	Alice Springs	32.83	246	eP	P	23 06 17.1	-1.4
KAKA	Kakadu	33.41	266	⇑iP	P	23 06 26.0	+2.4
	50nm,0.6s,mb5.5						
FORT	Forrest	39.76	237	⇑iP	P	23 07 16.7	0.0
	122nm,0.6s,mb5.9						
FITZ	Fitzroy Crossi	39.82	257	eP	P	23 07 17.5	+0.2
	7.0nm,1.5s,mb4.3						
FITZ	Fitzroy Crossi	39.82	257	LR	LR	23 21 30.5	
	comp=Z,252nm,20.2s,baz=79,slow=32						
PPT	Papeete	42.39	102	eL		23 17 28.8	
PPT				eR		23 19 29.9	
	2µm,34.5s						
TBI	Tubuai	42.80	110	eL		23 17 41.9	
TBI				eR		23 19 25.8	
	601nm,41.5s						
MBWA	Marble Bar	45.49	253	eP	P	23 08 03.9	+0.4
	16nm,0.6s,mb4.9						
KLBR	Kellerberrin	48.51	239	⇑iP	P	23 08 25.9	-1.0
	11nm,0.6s,mb5.0						
NWAO	Narrogin (SRO)	49.20	238	LR	LR	23 29 38.6	
	comp=Z,807nm,18.7s,baz=78,slow=36						
MAJO	Matsushiro	56.05	332	eP	P	23 09 21.6	-1.4
	43nm,1.3s,mb5.3						
MAT	Matsushiro	56.05	332	P	P	23 09 21.2	-1.9
MAT	Matsushiro	56.05	332	eP	P	23 09 21.0	-2.1
	56nm,1.5s,mb5.4						
RKT	Rikitea	56.10	109	eL		23 23 15.8	
RKT				eR		23 25 39.3	
	558nm,32.5s						
CASY	Casey	64.98	202	⇑iP	P	23 10 20.9	-2.3
MDJ	Mudanjiang	66.42	332	eP	P	23 10 33.3	+0.5
	64nm,1.5s,mb5.2						
SNY	Shenyang	67.39	326	⇑P	P	23 10 38.8	-0.1
CN2	Changchun	67.81	329	eP	P	23 10 41.4	0.0
CN2				AMB	AMB		
	comp=Z,40nm,1.3s,mb5.1						
ENH	Enshi	69.78	309	eP	P	23 10 53.3	-0.5
	comp=Z,134nm,1.6s,mb5.5						
GYA	Guiyang	70.22	304	⇑iP	P	23 10 56.9	+0.4
GYA				AMB	AMB		
	comp=Z,20nm,1.6s,mb4.7						
BJT	Baijiatuau	70.50	321	eP	P	23 10 58.5	+0.6
	comp=Z,25nm,1.1s,mb5.0						
BJI	Beijing	70.51	321	P	P	23 10 58.5	+0.5
BJI				AMB	AMB		
	comp=Z,24nm,1.4s,mb4.8						
XAN	Xi’an	72.05	312	P	P	23 11 07.9	+0.6
XAN				AMB	AMB		
	comp=Z,28nm,1.5s,mb4.9						
CMAR	Chiang Mai Arr	73.70	294	P	P	23 11 18.2	+1.0
	comp=Z,4.7nm,0.8s,mb4.2,baz=122,slow=3.9,SNR=22						
HHC	Hu-ho-hao-te	73.84	320	eP	P	23 11 18.8	+1.1
HHC				SCS	ScS	23 21 14.8	+1.6
HHC				AMB	AMB		
	comp=Z,25nm,1.4s,mb4.8						
HIA	Hailar	74.44	330	eP	P	23 11 20.7	-0.3
	comp=Z,71nm,1.6s,mb5.2						
LZH	Lanzhou	76.69	312	⇑P	P	23 11 35.8	+1.9
LZH				AMB	AMB		
	comp=Z,25nm,1.5s,mb4.7						
QSPA	South Pole Qui	77.09	180	⇑eP	P	23 11 35.1	-0.2
	comp=Z,76nm,0.9s,mb5.4						
SONM	Songino Array	80.71	324	P	P	23 11 56.3	+0.7
	comp=Z,6.6nm,1.0s,mb4.4,baz=135,slow=5.2,SNR=45						
SONM				pP	pP	23 12 23.7	-1.2
	comp=Z,1.8nm,0.9s,baz=149,slow=8.4,SNR=2.5						
GTA	Gaotai	81.01	314	P	P	23 11 58.5	+1.2
GTA				AMB	AMB		
	comp=Z,19nm,1.6s,mb4.7						
MAW	Mawson	83.33	202	eP	P	23 12 08.1	-0.6
	comp=Z,7.3nm,0.6s,mb4.7						
MAW	Mawson	83.33	202	P	P	23 12 08.2	-0.5
	comp=Z,7.9nm,0.6s,mb4.7,baz=110,slow=7.2,SNR=18						
MCK	McKinley	83.62	18	eP	P	23 12 09.8	-0.4
	comp=Z,28nm,1.4s,mb4.9						
IMA	Indian Mountai	84.07	15	eP	P	23 12 11.9	-0.4
	comp=Z,278nm,2.1s,mb5.7						
LSA	Lhasa	84.12	302	P	P	23 12 15.3	+1.8
ILAR	Eielson Array	85.00	18	P	P	23 12 15.8	-1.2
	comp=Z,7.2nm,0.7s,mb4.7,baz=235,slow=4.9,SNR=62						
ILAR				PKKPbc		23 30 21.2	
	comp=Z,0.7nm,0.5s,baz=348,slow=2.7,SNR=13						
NVAR	Mina Array Bea	86.54	49	P	P	23 12 24.8	-0.3
	comp=Z,1.3nm,0.6s,mb4.0,baz=230,slow=5.1,SNR=7.7						
NVAR				pP	pP	23 12 56.5	+1.5
	comp=Z,4.7nm,1.2s,baz=194,slow=3.7,SNR=2.7						
NVAR				LR	LR	23 45 01.9	
	comp=Z,494nm,21.3s,baz=275,slow=31						
TPNV	Topopah Spring	87.61	51	P	P	23 12 29.9	-0.4
	comp=Z,1.3nm,0.5s,mb4.2						
RPW	Rockport	87.89	39	eP	P	23 12 31.3	-0.1
PKI	Pulchoki	88.33	299	eP	P	23 12 34.3	+0.2
	comp=Z,52nm,1.1s,mb5.5						
NLW	Nelson Butte	88.48	40	eP	P	23 12 34.1	-0.1
KKN	Kakani	88.50	299	eP	P	23 12 34.4	-0.4
	comp=Z,40nm,0.9s,mb5.4						
DMN	Daman	88.60	299	eP	P	23 12 35.4	+0.1
	comp=Z,75nm,1.0s,mb5.7						
GKN	Gorkha	89.11	299	eP	P	23 12 36.8	-0.9
	comp=Z,45nm,1.0s,mb5.4						
ELK	Elko	89.51	48	eP	P	23 12 39.5	+0.3
	comp=Z,3.0nm,0.8s,mb4.5						
ELK				epP	pP	23 13 10.5	+1.2
SYO	Syowa Base	90.26	197	⇓P	P	23 12 41.1	-1.0
SYO	Syowa Base	90.26	197	⇓P	P	23 12 46.0	+3.9
HLID	Hailey	90.93	46	eP	P	23 12 45.6	-0.2
	comp=Z,1.3nm,0.6s,mb4.2						
HLID				pP	pP	23 13 15.9	-0.1
WMQ	Urumqi	91.06	315	P	P	23 12 47.0	+0.5
WMQ				AMB	AMB		
	comp=Z,16nm,1.2s,mb5.0						
INK	Inuvik	91.37	19	LR	LR	23 53 06.2	
	comp=Z,253nm,19.4s,baz=238,slow=35						
PDAR	Pinedale Array	94.15	47	P	P	23 13 01.8	+1.2
	comp=Z,0.5nm,0.7s,mb4.0,baz=172,slow=3.3,SNR=4.3						
PDAR				PKKPbc		23 30 00.5	
	comp=Z,0.9nm,0.7s,baz=86,slow=5.3,SNR=9.5						
SNAA	Sanae	95.31	183	⇑i	P	23 13 03.8	-1.4
MKAR	Makanchi Array	95.51	317	P	P	23 13 07.3	+0.6
	comp=Z,7.7nm,0.9s,mb5.1,baz=101,slow=5.8,SNR=40						
MKAR				pP	pP	23 13 35.2	-1.6
	comp=Z,1.6nm,0.6s,baz=108,slow=4.6,SNR=3.1						
MKAR				PKKPbc		23 29 56.1	
	comp=Z,0.6nm,0.6s,baz=274,slow=4.9,SNR=4.2						
VNA3	Neumayer Olymp	96.00	181	⇑i	P	23 13 09.9	+1.6
YKA	Yellowknife Ar	96.21	27	P	P	23 13 08.7	-0.8
	comp=Z,1.4nm,0.7s,mb4.5,baz=258,slow=4.8,SNR=4.7						
YKA				LR	LR	23 56 20.3	
	comp=Z,248nm,19.3s,baz=255,slow=35						
YKA	Yellowknife Ar	96.21	27	P	P	23 13 08.7	-0.8
YKA				LR	LR	23 56 20.3	
VNA2	Neumayer--Watz	96.26	182	⇑i	P	23 13 11.3	+1.8
VNA1	Neumayer--Stat	96.56	182		P	23 13 13.6	+2.7
ARCES	ARCESS Array B	118.37	345	PKP	PKPdf	23 18 27.1	0.0
	comp=Z,2.6nm,0.4s,baz=76,slow=1.8,SNR=67						
ARCES				PKKPbc		23 28 45.0	
	comp=Z,13nm,1.2s,baz=225,slow=1.7,SNR=8.1						
SCHQ	Schefferville	121.11	33	PKP	PKPdf	23 18 32.7	-0.1
	comp=Z,2.7nm,0.7s,baz=248,slow=12,SNR=5.7						
SCHQ	Schefferville	121.11	33	PKP	PKPdf	23 18 32.7	-0.1
CPUP	Villa Florida	122.09	133	PKP	PKPdf	23 18 35.2	-0.2
	comp=Z,2.3nm,0.9s,baz=320,slow=5.0,SNR=5.9						
KAF	Kangasniemi	123.31	339	ep	PKPdf	23 18 36.4	-0.4
	comp=Z,0.5nm,0.3s						
FINES	FINESS Array B	123.84	338	PKP	PKPdf	23 18 38.1	+0.2
	comp=Z,0.8nm,0.4s,baz=100,slow=4.2,SNR=12						
KMBO	Kilima Mbogo	127.93	258	PKP	PKPdf	23 18 49.0	+1.9
	comp=Z,1.1nm,0.6s,baz=89,slow=6.2,SNR=7.9						
NB2	NORSAR Subarra	128.74	345	PKPdf	PKPdf	23 18 48.1	+0.8
	comp=Z,2.7nm,1.2s,baz=31,slow=1.9						
NOA	NORSAR Array B	128.74	345	PKP	PKPdf	23 18 48.1	+0.8
	comp=Z,1.0nm,0.7s,baz=81,slow=1.8,SNR=3.7						
AKASG	Malin Array Be	128.92	326	PKP	PKPdf	23 18 47.8	-0.1
	comp=Z,0.3nm,0.5s,baz=30,slow=2.4,SNR=9.4						
BRTR	Keskin Array B	130.89	312	PKP	PKPdf	23 18 51.2	-0.8
	comp=Z,0.6nm,0.6s,baz=135,slow=1.7,SNR=4.7						
BRTR				PP	PP	23 21 08.5	-5.6
	comp=Z,0.4nm,0.8s,baz=51,slow=9.2,SNR=3.5						
BDFB	Brasilia	135.47	129	PKP	PKPdf	23 19 01.7	+0.6
	comp=Z,1.9nm,0.7s,baz=206,slow=7.9,SNR=3.4						
KHC	Kasperske Hory	137.62	334	ePKPDF	PKPdf	23 19 05.0	+0.8
GERES	GERESS Array B	137.78	333	PKhKP		23 18 54.6	
	comp=Z,0.2nm,0.5s,baz=315,slow=5.6,SNR=3.3						
GERES				SKP		23 22 30.0	
	comp=Z,1.0nm,0.7s,baz=27,slow=3.0,SNR=7.8						
ARV	Arcevia	142.06	328	ePKP	PKPdf	23 19 09.8	-2.6
VAI	Varese	142.21	335	ePKP	PKPdf	23 19 09.3	-3.2
PGD	Poggio Sodo	142.40	330	ePKP	PKPdf	23 19 10.9	-2.0
ZCCA	Zocca	142.40	331	ePKP	PKPdf	23 19 11.6	-1.3
MCGN	Macugnaga	142.46	335	ePKP	PKPdf	23 19 10.7	-2.2
GSCL	Gusciola	142.59	331	ePKP	PKPdf	23 19 10.7	-2.5
GRAM		142.72	332	P	PKPdf	23 19 11.6	-1.9
VALM		142.75	332	P	PKPdf	23 19 11.1	-2.4
LOR	Lormes	142.85	341	ePKP1	PKPdf	23 19 11.4	-2.2
	comp=Z,4.1nm,0.5s						
BACM		142.88	332	P	PKPdf	23 19 11.5	-2.2
CODM		142.90	332	P	PKPdf	23 19 11.0	-2.7
TRAV		142.91	335	P	PKPdf	23 19 10.8	-2.9
VINC	Vinca	142.95	332	P	PKPdf	23 19 11.7	-2.2
SSF	Saint Saulge	143.15	341	ePKP1	PKPbc	23 19 12.5	+0.2
	comp=Z,7.1nm,0.6s						
LSD	Ceresole Reale	143.20	336	P	PKPbc	23 19 12.7	+0.2
LPL	La Plagne	143.32	336	ePKP1	PKPbc	23 19 13.6	+0.8
	comp=Z,8.0nm,0.6s						
LPG	La Plagne	143.33	336	ePKP1	PKPbc	23 19 13.6	+0.7
	comp=Z,12nm,0.7s						
PCP	Pian Castagno	143.36	333	P	PKPbc	23 19 12.2	-0.8
RSP	Reno Superiore	143.41	335	P	PKPbc	23 19 12.7	-0.5
FENE	Fenestrelle	143.59	335	P	PKPbc	23 19 13.3	-0.4
SGMF	Saint Gilles	143.65	348	ePKP1	PKPbc	23 19 13.6	-0.2
	comp=Z,28nm,0.6s						
BHB	Bricherasio	143.66	335	P	PKPbc	23 19 12.3	-1.6
ROSF	Rostrenen	143.72	349	ePKP1	PKPbc	23 19 13.8	-0.1
BNI	Bardonecchia	143.72	336	ePKPdf	PKPdf	23 19 14.7	-0.4
FIN	Finale Ligure	143.77	333	P	PKPbc	23 19 13.4	-0.8
RRL	Cesana Torines	143.79	336	P	PKPbc	23 19 14.0	-0.3
BGF	Bois d’Agland	143.81	341	ePKP1	PKPbc	23 19 14.5	+0.2
	comp=Z,15nm,0.6s						
ROB	Roburent	143.85	334	P	PKPbc	23 19 13.2	-1.3
RORO		143.91	334	P	PKPbc	23 19 13.8	-0.9
MBDF	Montbardon	143.96	335	ePKP1	PKPbc	23 19 15.1	+0.3
	comp=Z,19nm,0.8s						
PZZ	Prazzo	144.00	335	P	PKPbc	23 19 13.3	-1.7
MONE	Monesi	144.07	334	P	PKPbc	23 19 14.3	-0.9
ENR	Entracque	144.09	334	P	PKPbc	23 19 13.4	-1.8
QUIF	Quistinic	144.10	348	ePKP1	PKPbc	23 19 14.9	-0.2
STV2	Anna di Valdie	144.12	334	P	PKPbc	23 19 13.7	-1.6
STV	Sta Anna Valdi	144.12	334	P	PKPbc	23 19 13.3	-1.9
IMI	Imperia	144.15	333	P	PKPbc	23 19 14.8	-0.6
ORIF	Oris-en-Rattie	144.15	336	ePKP1	PKPbc	23 19 16.1	+0.8
	comp=Z,47nm,0.6s						
SAOF	Saorge	144.23	334	PKP	PKPdf	23 19 16.0	0.0
TCF	Toulx Ste Croi	144.25	341	ePKP1	PKPbc	23 19 15.8	+0.2
	comp=Z,70nm,1.1s						
NEGI	Negi	144.28	334	P	PKPbc	23 19 14.8	-0.9
AUTN	L’Aution	144.28	334	PKP	PKPdf	23 19 16.3	+0.2
TOUF	Mont Tournerai	144.34	334	PKP	PKPdf	23 19 16.6	+0.4
SBF	Sospel	144.38	334	ePKP1	PKPbc	23 19 16.3	+0.3
	comp=Z,100nm,0.9s						
AURF	Auriere	144.41	334	PKP	PKPdf	23 19 16.6	+0.2
PYM	Petit Puy Mans	144.47	340	PKP	PKPdf	23 19 17.3	+0.9
MVIF	Mont Vial	144.47	334	PKP	PKPdf	23 19 16.7	+0.2
REVF	Revere	144.51	334	PKP	PKPdf	23 19 16.8	+0.2
OG25	Le Caire	144.53	336	PKP	PKPdf	23 19 17.2	+0.6
MFF	Saint Martin d	144.64	344	ePKP1	PKPbc	23 19 17.2	+0.6
	comp=Z,76nm,0.6s						
OCF	Saint Nazaire	144.66	337	PKP	PKPdf	23 19 18.1	+1.3
OG26	St.-Nazaire-De	144.66	337	PKP	PKPdf	23 19 18.1	+1.3
VIVF	Saint-Julien-l	144.66	338	ePKP1	PKPbc	23 19 17.1	+0.3
	comp=Z,114nm,1.1s						
CALN	Calern	144.70	334	PKP	PKPdf	23 19 17.2	+0.3
PGF	Pioggiola	144.71	331	ePKP1	PKPbc	23 19 17.3	+0.3
	comp=Z,133nm,1.2s						
LBL	Lubilhac	144.84	340	PKP	PKPdf	23 19 18.9	+1.8
FRF	La Foret Royal	144.96	334	ePKP1	PKPbc	23 19 18.0	+0.4
	comp=Z,141nm,1.2s						
SMRF	Simiane la Rot	145.06	336	ePKP1	PKPbc	23 19 18.4	+0.5
	comp=Z,84nm,1.3s						
VILF	Villemus	145.10	336	PKP	PKPdf	23 19 19.5	+1.9
TAVF	Tavernes	145.16	335	PKP	PKPdf	23 19 19.3	+1.6
LMR	La Mourre	145.20	334	ePKP1	PKPbc	23 19 18.6	+0.3
	comp=Z,44nm,0.7s						
RJF	Les Rejaudoux	145.34	341	ePKP1	PKPbc	23 19 19.8	+1.2
PRAF	Pradon	145.36	336	PKP	PKPdf	23 19 20.3	+2.2
PUYF	Puyloubier	145.38	335	PKP	PKPdf	23 19 20.0	+1.9
TREF	Trevaresse	145.43	336	PKP	PKPdf	23 19 20.4	+2.2
CAF	Calviac	145.51	341	ePKP1	PKPbc	23 19 19.6	+0.6
	comp=Z,100nm,1.4s						
GELF	Grande-Etoile	145.61	335	PKP	PKPdf	23 19 20.5	+2.0
LASF	Ste Croix	145.63	338	ePKP1	PKPbc	23 19 20.0	+0.7
	comp=Z,37nm,0.9s						
LFF	La Frestale	145.91	342	ePKP1	PKPbc	23 19 20.7	+0.7
	comp=Z,21nm,0.7s						
MTLF	Montolieu	146.86	339	ePKP1	PKPbc	23 19 23.3	+1.1
	comp=Z,66nm,1.1s						
ESDC	Sonseca Array	152.10	344	PKPbc	PKPdf	23 19 36.9	+8.0
	comp=Z,2.7nm,0.8s,baz=18,slow=2.7,SNR=12						
ESDC				PKPab	PKPab	23 19 47.4	-0.6
	comp=Z,4.3nm,0.5s,baz=14,slow=3.9,SNR=35						
EVO	Evora	154.06	350	ePKP2	PKPab	23 19 55.1	-1.2
	comp=Z,38nm,1.2s						

MEX 19 23:10:29.7±0.8**, 16.26N**×**98.05W, h10^{km}, MD3.7, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	Pinotepa	0.16	331	i P	Pg	23 10 32.4	-0.9
PNIG				i S	Sg	23 10 35.5	-0.3
VHO	Vista Hermosa	1.50	57	i P	Pn	23 10 54.0	-2.8
VHO				i S	Sb	23 11 11.5	-4.7
OXX	Oaxaca	1.51	57	i P	Pn	23 10 53.0	-4.0
OXX				i S	Sb	23 11 11.0	-5.5
IISM	Ciudad Serdan	2.79	13	eP	Pn	23 11 14.0	-1.3
IISM				i S	Sn	23 11 53.0	+3.6
PPM	Popocatepetl	2.85	349	eP	Pn	23 11 15.0	-1.1
PPM				i S	Sn	23 11 50.0	-0.9

IDC 19 23:20:13.6±5.6**, 6.84S**×**148.37E, mb4.1**/3**, mb1 4.2**/4**, mb1mx3.8**/12**, ML3.8**/1**, 1D, Error ellipse: s-maj=85.7km s-min=59.3km az=33.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	18.85	225	P	P	23 24 35.6	-1.9
	0.3nm,0.3s,baz=51,slow=11,SNR=7.1						
ASAR	Alice Springs	21.75	218	P	P	23 25 06.8	-2.0
	1.5nm,0.5s,baz=54,slow=9.4,SNR=22						
FITZ	Fitzroy Crossi	24.82	241	⇓iP	P	23 25 38.3	-0.8
	4.2nm,0.4s						
FITZ	Fitzroy Crossi	24.82	241	P	P	23 25 37.4	-1.6
	6.4nm,0.5s,baz=40,slow=6.1,SNR=26						
STKA	Stephens Creek	25.70	193	P	P	23 25 45.9	-1.4
	1.3nm,0.4s,baz=359,slow=11,SNR=6.5						

BJI ***19*** *23:24:17.2, 17.64S×64.56E, h11^{km}, mB5.5, mb5.2, Ms5.2, Msz4.8*

IDC ***19*** *23:24:18.5±0.5, 17.57S×64.84E, mb4.9/19, mb1 5.0/19, mb1mx5.0/20, MS4.7/17, Ms1 4.7/17, ms1mx4.7/18, Error ellipse: s-maj=19.3km s-min=12.9km az=35.0*

NEIC ***19*** *23:24:19.9±0.1, 17.71S×64.73E, h10^{km}, mb5.3/78, MS5.1/83, Error ellipse: s-maj=6.0km s-min=3.8km az=217.0*

SYO ***19*** *23:24:19.9, 17.67S×64.72E, h10^{km}, MB5.4, MS5.1*

MOS ***19*** *23:24:19.2±0.8, 17.55S×64.95E, h15^{km}, mb5.7/21, Error ellipse: s-maj=27.9km s-min=8.0km az=107.1*

HRVD ***19*** *23:24:19.9±0.2, 17.67S×64.79E, h12^{km}, MW5.3/62, Centroid moment Tensor Solution. LP body waves: s36,c64;Mantle waves: s62,c124; Half duration: 1^{s}1 Moment tensor: Scale 10^{17}Nm; M$_{rr}$-0.69±.03; M$_{\theta\theta}$-0.29±.03; M$_{\phi\phi}$0.98±.03; M$_{r\theta}$-0.37±.09; M$_{\theta\phi}$-0.72±.03; M$_{\phi r}$0.39±.08; Best double couple: M$_0$1.17×10^{17} NP1:φ$_s$7°, δ40°, λ-42°. NP2:φ$_s$132°, δ64°, λ-122°. Principal axes: T 1.43, Plg14°, Azm245°; N -.51, Plg29°, Azm147°; P -.91, Plg58°, Azm357°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 19 23:24:19.4±0.2**, 17.73S**±0.04×**64.80E**±0.04**, h18^{km}, h18^{km}**±1.2^{km}**:pP-P, n424, σ0^{s}82**/302**, mb5.3**/123**, MS5.0**/112**, 33C-39D, Mauritius - Reunion region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PALK	Pallekele	29.39	34	PFAKE		23 30 40.0	+16
PALK				LR	LR		
	comp=Z,587nm,20.0s,MS4.2						

KMBO	**Kilima Mbogo**	**31.70**	**298**	P	**P**	**23 30 44.5**	**-0.1**
	comp=Z,2.7nm,0.9s,baz=95,slow=7.8,SNR=7.9						
KMBO				PcP	PcP	23 33 36.9	+0.5
	comp=Z,4.4nm,1.1s,baz=58,slow=3.3,SNR=5.6						
KMBO				LR	LR	23 41 09.4	
	comp=Z,1µm,19.4s,MS4.6,baz=119,slow=32						
GOA	**Goa**	**34.19**	**16**	*e*P	**P**	**23 31 06.7**	**+0.5**
GOA				AMb	AMB	23 31 11.0	
	comp=Z,149nm,1.4s,mb5.7						
LSZ	**Lusaka**	**35.15**	**268**	*e*P	**P**	**23 31 16.2**	**+1.7**
	comp=Z,117nm,1.8s,mb5.5						
LSZ				LR	LR		
	comp=Z,2µm,19.0s,MS4.8						
KAD	**Karad**	**36.02**	**15**	*e*P	**P**	**23 31 21.9**	**+0.1**
KAD				*e*	pP	23 31 25.9	-1.2
	comp=Z,60nm,1.6s						
POO	**Poona**	**37.11**	**14**	*e*P	**P**	**23 31 31.0**	**0.0**
HYB	**Hyderabad**	**37.45**	**22**	*i* P	**P**	**23 31 34.5**	**+0.6**
HYB				*e*S	**S**	**23 37 24.0**	**+2.9**
HYB				LR	LR	23 43 48.0	
	comp=Z,4.0nm,16.0s						
HYB	**Hyderabad**	**37.45**	**22**	*e*P	**P**	**23 31 34.5**	**+0.6**
HYB				*e*S	**S**	**23 37 24.0**	**+2.9**
MBAR	**Mbarara**	**37.56**	**293**	*e*P	**P**	**23 31 35.2**	**+0.4**
	comp=Z,13nm,1.2s,mb4.5						
MBAR				LR	LR		
	comp=Z,367nm,19.0s,MS4.2						
LATR	**Latur**	**37.73**	**18**	*e*P	**P**	**23 31 36.1**	**-0.1**
LATR				AMb	AMB	23 31 40.8	
	comp=Z,124nm,1.1s,mb5.5						
BOSA	**Boshof**	**37.78**	**246**	PFAKE		23 31 50.0	+13
BOSA				LR	LR		
	comp=Z,2µm,21.0s,MS4.8						
KGD	**Kothagudem**	**38.40**	**25**	*e*P	**P**	**23 31 41.0**	**-0.8**
KGD				*e*PP	PP	23 33 08.0	-5.2
KGD				*e*S	**S**	**23 37 35.9**	**+0.5**
KGD				*e*SS	SS	23 40 24.9	+10
KGD				*e*ScS	ScS	23 41 51.5	+1.3
AKL	**Akola**	**40.02**	**18**	*e*P	**P**	**23 32 00.9**	**+5.6**
AKL				AMb	AMB	23 32 05.0	
	comp=Z,50nm,1.1s,mb5.2						
DJNS	**Zahran al Janu**	**40.95**	**328**	P	**P**	**23 32 05.6**	**+2.7**
IPM	**Ipoh**	**42.06**	**62**	⇓*e*P	**P**	**23 32 14.0**	**+1.8**
SUR	**Sutherland**	**42.14**	**241**	P	**P**	**23 32 14.3**	**+1.7**
	comp=Z,50nm,1.2s,mb5.0,baz=89,slow=2.9,SNR=4.4						
SUR	**Sutherland**	**42.14**	**241**	P	**P**	**23 32 12.9**	**+0.3**
	comp=Z,80nm,1.3s,mb5.2						
SUR				LR	LR		
	comp=Z,531nm,20.0s,MS4.4						
TATS	**Tathlith**	**42.54**	**330**	D		23 32 17.9	
BHPL	**Bhopal**	**42.54**	**17**	*i* P	**P**	**23 32 17.0**	**+0.9**
BHPL				*e*		23 32 20.3	
	comp=Z,71nm,1.8s						
BLJS	**Baljurashi**	**43.76**	**328**	P	**P**	**23 32 29.0**	**+3.0**
TSUM	**Tsumeb**	**44.70**	**260**	PFAKE		23 32 40.0	+6.4
TSUM				LR	LR		
	comp=Z,2µm,21.0s,MS5.0						
LTHS	**Al Lith**	**44.71**	**327**	D		23 32 35.8	
AJM	**Ajmer**	**44.97**	**13**	*i* P	**P**	**23 32 36.5**	**+0.8**
AJM				*e*	pP	23 32 40.2	-0.7
	comp=Z,70nm,1.9s						
RYDS	**Riyadh**	**45.27**	**336**	P	**P**	**23 32 42.6**	**+4.4**
MZLS	**Mizel**	**45.69**	**335**	P	**P**	**23 32 41.9**	**+0.4**
AFFS	**‘Afif**	**46.55**	**332**	P	**P**	**23 32 49.5**	**+1.4**
NDI	**New Delhi**	**47.67**	**15**	*e*P	**P**	**23 32 56.6**	**-0.5**
NDI				⇓*e*P		23 32 57.0	
NDI				AMb	AMB	23 33 01.0	
	comp=Z,75nm,1.8s,mb5.4						
KOLN	**Koldanda**	**48.76**	**22**	*e*P	**P**	**23 33 05.9**	**+0.5**
	comp=Z,244nm,1.2s,mb6.1						
QRN	**Al-Qurain**	**48.99**	**340**	*e*P	**P**	**23 33 06.6**	**-0.6**
QRN				AMb	AMB	23 33 09.0	
	comp=Z,97nm,1.2s,mb5.7						
DMN	**Daman**	**49.18**	**24**	*e*P	**P**	**23 33 09.8**	**+1.1**
	comp=Z,228nm,1.1s,mb6.1						
CM31	**Chiang Mai Arr**	**49.19**	**45**	*e*P	**P**	**23 33 09.7**	**+0.8**
	comp=Z,20nm,0.9s,mb5.2						
CM31				LR	LR		
	comp=Z,2µm,19.0s,MS5.0						
CMAR	**Chiang Mai Arr**	**49.19**	**45**	P	**P**	**23 33 08.4**	**-0.5**
	comp=Z,15nm,0.9s,mb5.0,baz=234,slow=8.0,SNR=55						
CMAR				LR	LR	23 52 38.4	
	comp=Z,1µm,18.6s,MS5.0,baz=230,slow=35						
PKI	**Pulchoki**	**49.26**	**24**	*e*P	**P**	**23 33 10.0**	**+0.7**
	comp=Z,171nm,1.2s,mb5.9						
NWAO	**Narrogin (SRO)**	**49.28**	**118**	P	**P**	**23 33 09.7**	**+0.3**
	comp=Z,18nm,1.0s,mb5.1,baz=257,slow=9.5,SNR=3.4						
NWAO	**Narrogin (SRO)**	**49.28**	**118**	*e*P	**P**	**23 33 09.5**	**+0.1**
	comp=Z,57nm,1.4s,mb5.4						
NWAO				LR	LR		
	comp=Z,750nm,20.0s,MS4.7						
RDF	**Al-Radifah**	**49.28**	**340**	*e*P	**P**	**23 33 09.6**	**+0.1**
RDF				AMb	AMB	23 33 11.5	
	comp=Z,90nm,1.1s,mb5.7						
YNBS	**Yanbu‘ al Bahr**	**49.31**	**327**	P	**P**	**23 33 11.5**	**+1.7**
GKN	**Gorkha**	**49.35**	**23**	*e*P	**P**	**23 33 10.4**	**+0.4**
	comp=Z,360nm,1.2s,mb6.3						
KKN	**Kakani**	**49.41**	**24**	*e*P	**P**	**23 33 10.7**	**+0.2**
	comp=Z,234nm,1.1s,mb6.1						
KBD	**Kabd**	**49.47**	**340**	*e*P	**P**	**23 33 09.9**	**-1.0**
KLBR	**Kellerberrin**	**49.63**	**117**	*e*P	**P**	**23 33 13.0**	**+0.9**
	comp=Z,36nm,1.1s,mb5.3						
UMR	**Umm Al-Rimmam**	**49.81**	**340**	*e*P	**P**	**23 33 13.1**	**-0.4**
UMR				AMb	AMB	23 33 15.3	
	comp=Z,126nm,1.2s,mb5.8						
MAW	**Mawson**	**49.87**	**181**	*e*P	**P**	**23 33 15.0**	**+1.5**
	comp=Z,19nm,1.4s,mb4.9						
MAW	**Mawson**	**49.87**	**181**	P	**P**	**23 33 14.9**	**+1.4**
	comp=Z,137nm,1.5s,mb5.8,baz=22,slow=10,SNR=15						
MAW				LR	LR	23 48 28.5	
	comp=Z,464nm,20.4s,MS4.5,baz=184,slow=29						
KBRS	**Khaybar**	**49.88**	**329**	P	**P**	**23 33 15.2**	**+1.1**
RST	**Umm Al-Ruwaisa**	**49.99**	**340**	*e*P	**P**	**23 33 13.8**	**-1.1**
RST				AMb	AMB	23 33 16.1	
	comp=Z,108nm,1.0s,mb5.8						
HILS	**Ha’il**	**50.08**	**333**	P	**P**	**23 33 17.2**	**+1.6**
MIB	**Mutribah**	**50.16**	**340**	*e*P	**P**	**23 33 15.9**	**-0.3**
MIB				AMb	AMB	23 33 17.9	
	comp=Z,129nm,1.2s,mb5.8						
UMJS	**Umm Lajj**	**50.40**	**327**	P	**P**	**23 33 19.8**	**+1.7**
SHL	**Shillong**	**50.46**	**32**	⇓*i*	Px	23 32 20.0	
SHL				*e*P		23 33 18.8	
SHL				AMb	AMB	23 33 21.4	
	comp=Z,148nm,1.4s,mb5.8						
MBWA	**Marble Bar**	**51.71**	**103**	⇑*e*P	**P**	**23 33 29.1**	**+1.0**
	comp=Z,57nm,1.5s,mb5.3						
MBWA				LR	LR		
	comp=Z,1µm,19.0s,MS4.9						
TBKS	**Tabuk**	**53.24**	**329**	P	**P**	**23 33 41.1**	**+1.7**
LSA	**Lhasa**	**53.56**	**29**	P	**P**	**23 33 42.4**	**+0.6**
LSA				PCP	PcP	23 34 47.8	-0.6
LSA				PP	PP	23 35 44.4	+0.3
LSA				SCP		23 38 43.4	
LSA				PCS		23 38 47.1	
LSA				S	**S**	**23 41 11.6**	**-0.9**
LSA				SCS	ScS	23 43 29.9	+2.7
LSA				LR	LR		
	comp=N,620nm,20.9s,MS5.0						
LSA				LR	LR		
	comp=E,1µm,22.5s,MS5.0						
LSA				LR	LR		
	comp=Z,700nm,23.3s,MS4.7						
SYO	**Syowa Base**	**53.63**	**191**	⇓P	**P**	**23 33 41.3**	**-0.4**
SYO	**Syowa Base**	**53.63**	**191**	⇓pP	pP	23 33 44.1	-3.0
BDAS	**Al Bad‘**	**54.14**	**327**	P	**P**	**23 33 47.4**	**+1.4**
TAYS	**Tayyib Ism**	**54.35**	**327**	P	**P**	**23 33 48.9**	**+1.3**
HAQS	**Haql**	**54.73**	**328**	P	**P**	**23 33 51.7**	**+1.4**
JMOS	**Jabal al Moall**	**54.73**	**328**	P	**P**	**23 33 51.7**	**+1.4**
KMI	**Kunming**	**56.39**	**42**	*e*P	**P**	**23 34 03.0**	**+0.6**
KMI				PP	PP	23 36 08.0	-1.6
KMI				S	**S**	**23 41 54.9**	**+4.6**
KMI				AMB	AMB		
	comp=Z,183nm,5.1s						
KMI				LR	LR		
	comp=N,530nm,16.4s,MS4.8						
KMI				LR	LR		
	comp=E,505nm,20.0s,MS4.8						
CASY	**Casey**	**56.92**	**160**	*e*P	**P**	**23 34 05.1**	**-0.6**
FITZ	**Fitzroy Crossi**	**57.65**	**101**	*e*P	**P**	**23 34 10.9**	**-0.5**
	comp=E,18nm,1.2s,mb5.0						
FITZ	**Fitzroy Crossi**	**57.65**	**101**	P	**P**	**23 34 10.6**	**-0.8**
	comp=E,5.9nm,0.8s,mb4.7,baz=220,slow=6.1,SNR=9.5						
FITZ				LR	LR	23 56 39.4	
	comp=E,631nm,18.1s,MS4.8,baz=272,slow=34						
KSH	**Kashi**	**57.89**	**10**	*e*P	**P**	**23 34 12.1**	**-0.8**
KSH				*e*AP	pP	23 34 17.1	-1.2
KSH				*e*XP	sP	23 34 20.3	0.0
KSH				*e*PCP	PcP	23 35 04.1	-0.9
KSH				*e*PP	PP	23 36 22.4	-0.5
KSH				*e*PPP	PPP	23 37 43.6	-1.5
KSH				*e*SCP		23 39 02.1	
KSH				*e*PCS		23 39 07.4	
KSH				*e*S	**S**	**23 42 08.0**	**-2.0**
KSH				*e*SCS	ScS	23 43 56.8	-1.3
KSH				*e*SS	SS	23 46 01.3	-1.3
KSH				LR	LR		
	comp=N,760nm,11.8s,MS5.2						
KSH				LR	LR		
	comp=E,700nm,11.5s,MS5.2						
FORT	**Forrest**	**58.46**	**116**	*e*P	**P**	**23 34 15.9**	**-1.0**
	comp=E,178nm,0.8s,mb6.2						
BEST	**Besiri**	**59.58**	**339**	*i* P	**P**	**23 34 25.1**	**+0.5**
GYA	**Guiyang**	**59.85**	**44**	⇑*i*P	**P**	**23 34 26.8**	**+0.1**
GYA				AP	pP	23 34 32.0	-0.2
GYA				XP	sP	23 34 33.9	-0.3
GYA				PP	PP	23 36 41.3	+0.5
GYA				S	**S**	**23 42 38.4**	**+2.7**
GYA				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.2						
GYA				LR	LR		
	comp=N,530nm,18.6s,MS4.9						
GYA				LR	LR		
	comp=E,640nm,18.3s,MS4.9						
GYA				LR	LR		
	comp=Z,860nm,20.7s,MS4.9						
AML	**Almayashu**	**60.12**	**8**	P	**P**	**23 34 28.4**	**+0.1**
	SNR=16						
COBT	**Iskenderun**	**60.32**	**334**	*i* P	**P**	**23 34 30.5**	**+0.8**
UCH	**Uchtor**	**60.32**	**8**	P	**P**	**23 34 29.5**	**-0.1**
	SNR=10						
CSS	**Prodhromos**	**60.32**	**330**	⇓P	**P**	**23 34 29.8**	**0.0**
	comp=Z,0.6nm,1.2s						
CSS	**Prodhromos**	**60.32**	**330**	⇓*e*P	**P**	**23 34 29.8**	**0.0**
	comp=Z,0.6nm,1.2s						
SZAC	**Souni-Zanaja**	**60.37**	**330**	P	**P**	**23 34 31.0**	**+0.9**
GZT	**Gaziantep**	**60.50**	**335**	*i* P	**P**	**23 34 31.5**	**+0.6**
MAMC	**Mammari**	**60.55**	**330**	P	**P**	**23 34 32.1**	**+0.8**
ULHL	**Ulahol**	**60.60**	**10**	P	**P**	**23 34 31.7**	**+0.2**
	SNR=5.1						
EKS2	**Erkin-Say**	**60.65**	**8**	P	**P**	**23 34 32.3**	**+0.4**
	SNR=31						
AAK	**Ala-Archa**	**60.72**	**8**	P	**P**	**23 34 32.9**	**+0.5**
	SNR=17						
PPCY	**Paphos**	**60.73**	**330**	⇓P	**P**	**23 34 32.5**	**0.0**
PPCY	**Paphos**	**60.73**	**330**	⇓*e*P	**P**	**23 34 32.5**	**0.0**
KBK	**Karagaybulak**	**60.80**	**9**	P	**P**	**23 34 32.9**	**-0.1**
	SNR=15						
ALFC	**Alevga**	**60.83**	**330**	⇓P	**P**	**23 34 33.1**	**-0.1**
	comp=Z,0.3nm,0.7s						
ALFC	**Alevga**	**60.83**	**330**	⇓*e*P	**P**	**23 34 33.1**	**-0.1**
ELZG	**Elazig**	**60.94**	**337**	*i* P	**P**	**23 34 35.0**	**+1.1**
MALT	**Malatya**	**60.99**	**336**	*e*P	**P**	**23 34 34.3**	**+0.1**
	comp=Z,42nm,1.5s,mb5.3						
KAHT	**Ahir Dag**	**61.01**	**335**	*i* P	**P**	**23 34 35.0**	**+0.6**
TKM2	**Tokmak 2**	**61.16**	**9**	P	**P**	**23 34 34.8**	**-0.5**
	SNR=23						
CD2	**Chengdu**	**61.16**	**38**	⇑*i*P	**P**	**23 34 35.3**	**-0.2**
CD2				AP	pP	23 34 40.5	-0.5
CD2				XP	sP	23 34 42.3	-0.7
CD2				S	**S**	**23 42 52.9**	**+0.5**
CD2				XS		23 43 03.5	
CD2				SS	SS	23 46 55.9	+1.9
CD2				AMB	AMB		
	comp=Z,80nm,1.2s,mb5.7						
CD2				AMB	AMB		
	comp=Z,360nm,6.3s						
CD2				LR	LR		
	comp=N,500nm,18.6s						
MEST	**Erdemli**	**61.29**	**332**	*i* P	**P**	**23 34 35.4**	**-0.9**
USP	**Ospenovka**	**61.34**	**8**	P	**P**	**23 34 36.2**	**-0.4**
	SNR=25						
ERZM	**Erzurum**	**61.36**	**340**	*i* P	**P**	**23 34 38.1**	**+1.4**
MAIT	**Maitri**	**61.62**	**198**	*e*P	**P**	**23 34 38.7**	**+0.6**
AVNT	**Avonos**	**62.82**	**334**	*i* P	**P**	**23 34 46.2**	**-0.3**
ISP	**Isparta**	**63.99**	**330**	*e*P	**P**	**23 34 53.0**	**-1.3**
	comp=N,17nm,1.1s,mb5.0						
BRTR	**Keskin Array B**	**64.12**	**334**	P	**P**	**23 34 53.9**	**-1.2**
	comp=N,17nm,1.1s,mb5.0,baz=162,slow=7.8,SNR=52						
BRTR				PcP	PcP	23 35 28.3	-1.8
	comp=N,2.2nm,0.9s,baz=117,slow=3.2,SNR=3.9						
BRTR				LR	LR	00 02 29.7	
	comp=N,380nm,18.2s,MS4.6,baz=120,slow=36						
ENH	**Enshi**	**64.25**	**42**	*e*P	**P**	**23 34 55.5**	**-0.6**
	comp=N,56nm,1.2s,mb5.5						
ASPA	**Alice Springs**	**64.38**	**108**	⇑*i*P	**P**	**23 34 56.1**	**-0.9**
ASAR	**Alice Springs**	**64.38**	**108**	P	**P**	**23 34 55.8**	**-1.2**
	comp=N,8.8nm,0.7s,mb4.9,baz=271,slow=5.4,SNR=75						
ASAR				LR	LR	23 58 45.6	
	comp=N,2µm,19.9s,MS5.2,baz=259,slow=32						
CTKT	**Corum**	**64.41**	**335**	*i* P	**P**	**23 34 57.0**	**0.0**
WMQ	**Urumqi**	**64.74**	**18**	P	**P**	**23 34 59.0**	**0.0**
WMQ				AP	pP	23 35 04.0	-0.6
WMQ				XP	sP	23 35 06.0	-0.5
WMQ				PP	PP	23 37 23.0	-0.5
WMQ				*e*S	**S**	**23 43 37.3**	**+0.3**
WMQ				SS	SS	23 47 49.5	-0.6
WMQ				AMB	AMB		
	comp=Z,38nm,1.2s,mb5.3						
WMQ				LR	LR		
	comp=N,402nm,19.6s,MS4.7						
WMQ				LR	LR		
	comp=E,318nm,19.0s,MS4.7						
WMQ				LR	LR		
	comp=Z,472nm,18.0s,MS4.7						
ELDT	**Eldivan**	**64.85**	**334**	*i* P	**P**	**23 34 57.0**	**-2.9**
LZH	**Lanzhou**	**65.03**	**34**	⇓P	**P**	**23 35 01.1**	**0.0**
LZH				AP	pP	23 35 04.3	-2.3
LZH				PP	PP	23 37 26.5	+0.2
LZH				*e*S	S	23 43 42.1	+1.4
LZH				AMB	AMB		
	comp=Z,42nm,1.5s,mb5.2						
LZH				AMB	AMB		
	comp=Z,165nm,6.3s						
LZH				LR	LR		
	comp=N,889nm,15.2s						
LZH				LR	LR		
	comp=Z,1µm,17.9s,MS5.2						
KAKA	**Kakadu**	**65.14**	**96**	⇑*i*P	**P**	**23 35 04.5**	**+2.4**
	comp=Z,32nm,0.8s,mb5.4						
ESKT	**Eskisehir**	**65.18**	**332**	*i* P	**P**	**23 35 01.8**	**-0.1**
SOC	**Sochi**	**65.20**	**340**	*i* P	**P**	**23 35 01.2**	**-0.8**
SOC				*e*		23 35 29.5	
SOC				*e*S	S	23 43 37.9	-4.8
SOC				pmax	pmax		
	comp=Z,47nm,1.4s,mb5.3						
SOC				pmax	pmax		
	comp=N,24nm,1.2s						
SOC				pmax	pmax		
	comp=E,15nm,0.9s						
SOC				pmax	pmax		
	comp=Z,119nm,1.9s,mb5.6						
SOC				pmax	pmax		
	comp=N,41nm,1.2s						
SOC				pmax	pmax		
	comp=E,39nm,1.3s						
WRA	**Warramunga Arr**	**65.42**	**104**	P	**P**	**23 35 03.4**	**-0.4**
	comp=E,11nm,0.8s,mb4.9,baz=263,slow=5.8,SNR=44						
WRA				LR	LR	00 01 59.3	
	comp=E,963nm,18.7s,MS5.0,baz=260,slow=35						
WB2	**Warramunga Arr**	**65.43**	**104**	⇑*i*P	**P**	**23 35 03.3**	**-0.6**
WRAB	**Tennant Creek**	**65.43**	**104**	*e*P	**P**	**23 35 03.5**	**-0.4**
	comp=E,96nm,1.0s,mb5.8						
WRAB				LR	LR		
	comp=Z,432nm,20.0s,MS4.7						
MANT	**Manisa**	**65.44**	**329**	*i* P	**P**	**23 35 03.6**	**0.0**
SGKT	**Sivrigoynuk**	**65.50**	**333**	*i* P	**P**	**23 35 03.9**	**-0.2**
GOF	**Gofitskoye**	**65.55**	**343**	⇓*i*P	**P**	**23 35 04.0**	**-0.2**
GOF				pmax	pmax		
	comp=Z,90nm,1.8s,mb5.5						
GTA	**Gaotai**	**65.58**	**29**	P	**P**	**23 35 04.4**	**-0.1**
GTA				AP	pP	23 35 07.9	-2.2
GTA				XP	sP	23 35 10.3	-1.7
GTA				PCP	PcP	23 35 37.3	+1.2
GTA				PP	PP	23 37 29.9	-1.3
GTA				S	S	23 43 47.4	-0.1
GTA				SCS	ScS	23 44 54.4	-1.3
GTA				SS	SS	23 48 06.8	+3.7
GTA				AMB	AMB		
	comp=Z,29nm,1.1s,mb5.2						
GTA				AMB	AMB		
	comp=Z,176nm,5.7s						
BALT	**Daday**	**65.74**	**335**	*i* P	**P**	**23 35 05.5**	**0.0**
MKAR	**Makanchi Array**	**66.13**	**13**	P	**P**	**23 35 06.4**	**-1.5**
	comp=Z,9.5nm,0.9s,mb4.8,baz=198,slow=7.7,SNR=48						
MKAR				LR	LR	00 03 11.8	
	comp=Z,355nm,18.3s,MS4.6,baz=194,slow=35						
MKAR	**Makanchi Array**	**66.13**	**13**	*i* P	**P**	**23 35 06.8**	**-1.1**
MKAR				pmax	pmax		
	comp=Z,89nm,1.4s						
SNAA	**Sanae**	**66.31**	**199**	⇑*i*P	**P**	**23 35 08.9**	**+0.2**
SNAA	**Sanae**	**66.31**	**199**	⇓*i*	**P**	**23 35 11.3**	**+2.6**
SNAA	**Sanae**	**66.31**	**199**	⇑*i*	**P**	**23 35 13.3**	**+4.7**
SNAA	**Sanae**	**66.31**	**199**		PcP	23 35 37.7	-0.8
XAN	**Xi’an**	**66.45**	**39**	P	**P**	**23 35 08.8**	**-1.4**
XAN				AMB	AMB		
	comp=Z,45nm,1.5s,mb5.3						
ULDT	**Uludag**	**66.46**	**331**	*i* P	**P**	**23 35 10.0**	**-0.2**
ANN	**Anapa**	**67.04**	**339**	*d i*P	**P**	**23 35 12.6**	**-1.1**
ANN				*e*		23 35 47.5	
ANN				*e*S	S	23 44 06.0	+1.0
ANN				pmax	pmax		
	comp=Z,45nm,1.1s,mb5.4						
ANN				MLR	MLR		
	comp=Z,165nm,12.0s,MS4.5						
ANN				MLR	MLR		
	comp=N,182nm,16.0s,MS4.7						
ANN				MLR	MLR		
	comp=E,343nm,21.0s,MS4.7						
ADE	**Adelaide**	**67.07**	**121**	P	**P**	**23 35 14.2**	**+0.1**
VNA2	**Neumayer--Watz**	**67.56**	**200**	⇑*i*P	**P**	**23 35 20.2**	**+3.5**
VNA2	**Neumayer--Watz**	**67.56**	**200**	⇑*i*	**P**	**23 35 23.0**	**+6.3**
VNA2	**Neumayer--Watz**	**67.56**	**200**	⇓*i*	**P**	**23 35 24.9**	**+8.2**
VNA2	**Neumayer--Watz**	**67.56**	**200**	⇑*i*	PcP	23 35 43.2	-0.6
VNA2	**Neumayer--Watz**	**67.56**	**200**	⇑*i*	PP	23 37 49.7	+2.2
WHN	**Wuhan**	**67.64**	**45**	⇑P	**P**	**23 35 18.0**	**+0.2**
VNA1	**Neumayer--Stat**	**67.80**	**200**	⇑*i*P	**P**	**23 35 22.2**	**+4.1**
VNA1	**Neumayer--Stat**	**67.80**	**200**	⇑*i*	**P**	**23 35 25.7**	**+7.6**
VNA1	**Neumayer--Stat**	**67.80**	**200**	⇑*i*	**P**	**23 35 26.1**	**+8.0**
SIM	**Simferopol’**	**68.34**	**337**	*e*P	**P**	**23 35 21.9**	**0.0**
SIM				*e*		23 37 56.0	
SIM				pmax	pmax		
	comp=Z,20nm,1.1s,mb5.1						
VNA3	**Neumayer Olymp**	**68.35**	**200**	⇑*i*P	**P**	**23 35 24.9**	**+3.3**
VNA3	**Neumayer Olymp**	**68.35**	**200**	⇑*i*	**P**	**23 35 27.3**	**+5.7**
VNA3	**Neumayer Olymp**	**68.35**	**200**	⇓*i*	**P**	**23 35 29.9**	**+8.3**
VNA3	**Neumayer Olymp**	**68.35**	**200**	⇑*i*	PcP	23 35 51.7	+4.6
KURK	**Kurchatov**	**69.22**	**9**	*d i*P	**P**	**23 35 26.4**	**-0.8**
KURK				*i*		23 35 26.5	
KURK				pmax	pmax		
	comp=Z,24nm,1.4s,mb4.9						
KURK	**Kurchatov**	**69.22**	**9**	⇓*i*P	**P**	**23 35 26.5**	**-0.7**
	comp=Z,72nm,1.6s,mb5.3						
KURK				LR	LR		
	comp=Z,168nm,22.0s,MS4.2						
TATO	**Taipei**	**69.64**	**54**	PFAKE		23 35 40.0	+10
TATO				LR	LR		
	comp=Z,579nm,20.0s,MS4.8						
STKA	**Stephens Creek**	**69.87**	**118**	*e*P	**P**	**23 35 30.6**	**-0.9**
	comp=Z,16nm,0.9s,mb4.9						
STKA	**Stephens Creek**	**69.87**	**118**	P	**P**	**23 35 31.0**	**-0.5**
	comp=Z,23nm,1.2s,mb5.0,baz=273,slow=6.3,SNR=13						
STKA				LR	LR	00 00 52.0	
	comp=Z,722nm,21.4s,MS4.9,baz=59,slow=31						
VOSK	**Vostochnaya**	**70.36**	**4**	P	**P**	**23 35 32.9**	**-1.2**
VOSK				pmax	pmax		
	comp=Z,54nm,1.5s,mb5.3						
VOSK	**Vostochnaya**	**70.36**	**4**	*i* P	**P**	**23 35 32.0**	**-2.1**
ZRNK	**Zerenda**	**70.47**	**3**	P	**P**	**23 35 34.0**	**-0.8**
ZRNK				pmax	pmax		
	comp=Z,79nm,1.3s,mb5.5						
ZRNK	**Zerenda**	**70.47**	**3**	*e*P	**P**	**23 35 33.9**	**-0.9**
	comp=Z,75nm,1.3s,mb5.5						
BVA0	**Borovoye Array**	**70.62**	**4**	*i* P	**P**	**23 35 34.8**	**-0.9**
BVA0				pmax	pmax		
	comp=Z,2.0nm,1.0s						
BRVK	**Borovoye**	**70.65**	**4**	⇓*i*P	**P**	**23 35 34.8**	**-1.0**
	comp=Z,60nm,1.4s,mb5.3						
BRVK				LR	LR		
	comp=Z,117nm,20.0s,MS4.1						
BUC1	**Bucharest**	**71.19**	**332**	⇑*i*P	**P**	**23 35 40.5**	**+1.1**
BUC1	**Bucharest**	**71.19**	**332**	⇑*i*P	**P**	**23 35 40.5**	**+1.2**
ISR	**Istrita**	**71.56**	**332**	⇑*i*P	**P**	**23 35 43.2**	**+1.6**
ISR	**Istrita**	**71.56**	**332**	⇑*i*P	**P**	**23 35 43.2**	**+1.6**
NJ2	**Nanjing**	**71.62**	**46**	*e*P	**P**	**23 35 44.5**	**+2.3**
NJ2				AP	pP	23 35 49.1	+1.4
NJ2				XP	sP	23 35 51.0	+1.3
NJ2				PP	PP	23 38 24.0	+1.0
NJ2				S	S	23 45 00.0	+0.6
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.2						
NJ2				LR	LR		
	comp=N,520nm,19.1s						
NJ2				LR	LR		
	comp=E,990nm,24.2s						
NJ2				LR	LR		
	comp=Z,260nm,16.7s,MS4.6						
SKO	**Skopje**	**71.63**	**327**	*i* P	**P**	**23 35 41.7**	**-0.3**
BTO	**Baotou**	**71.64**	**35**	*e*P	**P**	**23 35 42.3**	**+0.2**
BTO				AMB	AMB		
	comp=Z,81nm,1.6s,mb5.4						
VRI	**Vrincioaia**	**72.07**	**333**	⇑*i*P	**P**	**23 35 45.6**	**+1.0**
KIS	**Kishinev**	**72.10**	**335**	*e*P	**P**	**23 35 43.0**	**-1.7**
KIS				pmax	pmax		
	comp=Z,110nm,1.6s,mb5.5						
TOO	**Toolangi**	**72.17**	**125**	*e*P	**P**	**23 35 46.1**	**+0.8**
	comp=Z,16nm,1.3s,mb4.8						
QSPA	**South Pole Qui**	**72.37**	**180**	*e*P	**P**	**23 35 45.8**	**-0.1**
	comp=Z,75nm,1.2s,mb5.5						
HHC	**Hu-ho-hao-te**	**72.66**	**35**	*e*P	**P**	**23 35 48.8**	**+0.6**
HHC				AP	pP	23 35 52.0	-1.7
HHC				XP	sP	23 35 54.1	-1.6
HHC				PCP	PcP	23 36 06.0	+0.2
HHC				PP	PP	23 38 31.6	-0.2
HHC				S	S	23 45 12.4	+1.4
HHC				SCS	ScS	23 45 52.8	+1.7
HHC				AMB	AMB		
	comp=Z,35nm,1.6s,mb5.0						
HHC				AMB	AMB		
	comp=Z,261nm,4.6s						
HHC				LR	LR		
	comp=N,203nm,21.4s,MS4.7						
HHC				LR	LR		
	comp=E,381nm,22.0s,MS4.7						
KIC	**Kosan Boka**	**72.67**	**283**	*e*P	**P**	**23 35 48.1**	**-0.7**
	comp=E,218nm,1.3s,mb5.9						
VOR	**Voronezh**	**72.69**	**344**	*e*P	**P**	**23 35 47.7**	**-0.4**
VOR				*e**PP	pP	23 35 55.0	+1.4
VOR				pmax	pmax		
	comp=N,60nm,1.6s						
VOR				pmax	pmax		
	comp=Z,120nm,1.6s,mb5.6						
TAU	**Tasmania Unive**	**72.76**	**130**	PFAKE		23 36 00.0	+11
TAU				LR	LR		
	comp=Z,109nm,21.0s,MS4.1						
DBIC	**Dimbokro**	**72.89**	**283**	P	**P**	**23 35 49.9**	**-0.1**
	comp=Z,17nm,0.9s,mb5.0,baz=91,slow=7.3,SNR=11						
DBIC				LR	LR	00 06 58.1	
	comp=Z,741nm,19.3s,MS5.0,baz=94,slow=35						
DBIC	**Dimbokro**	**72.89**	**283**	⇓*e*P	**P**	**23 35 49.3**	**-0.7**
	comp=Z,43nm,1.2s,mb5.2						
DBIC				LR	LR		
	comp=Z,805nm,20.0s,MS5.0						
LIC	**Lamto**	**72.89**	**282**	*e*P	**P**	**23 35 49.7**	**-0.4**
	comp=Z,154nm,1.5s,mb5.7						
LIC	**Lamto**	**72.89**	**282**	*e*P	**P**	**23 35 49.2**	**-0.9**
	comp=Z,37nm,1.0s,mb5.3						
TIA	**Tai’an**	**72.96**	**42**	*e*P	**P**	**23 35 48.9**	**-1.1**
TIC	**Toumodi**	**73.03**	**283**	*e*P	**P**	**23 35 50.3**	**-0.6**
	comp=Z,224nm,1.4s,mb5.9						
GRUS	**Gruza**	**73.38**	**328**	⇓*i*P	**P**	**23 35 51.9**	**-0.4**
DIVS	**Divcibare**	**73.90**	**328**	⇑*i*P	**P**	**23 35 55.4**	**+0.1**
NVS	**Novosibirsk**	**73.97**	**11**	*i* P	**P**	**23 35 54.3**	**-1.2**
NVS				pmax	pmax		
	comp=Z,59nm,1.8s,mb5.2						
NVS				pmax	pmax		
	comp=N,56nm,1.6s						
NVS				pmax	pmax		
	comp=E,8.0nm,1.0s						
ARU	**Arti**	**74.05**	**356**	⇓*i*P	**P**	**23 35 55.2**	**-0.7**
ARU				*i*		23 36 11.8	
ARU				*i*		23 38 40.0	
ARU				*e*PPP	PPP	23 40 25.8	-2.3
ARU				*e*S	S	23 45 26.2	-0.2
ARU				pmax	pmax		
	comp=Z,78nm,1.2s,mb5.5						

ARU	Arti	74.05	356	⇓eP	P	23 35 55.2	-0.8
	comp=Z,109nm,1.3s,mb5.6						
BEO	Belgrade	74.19	329	⇓iP	P	23 35 57.2	+0.3
SVE	Sverdlovsk	74.35	358	⇓iP	P	23 35 57.0	-0.6
SVE				e		23 36 12.0	
SVE				pmax	pmax		
	comp=Z,220nm,1.6s,mb5.8						
SVE				MLR	MLR		
	comp=Z,500nm,17.0s,MS4.9						
SVE				MLR	MLR		
	comp=N,400nm,16.0s,MS4.9						
SVE				MLR	MLR		
	comp=E,300nm,16.0s,MS4.9						
AKASG	Malin Array Be	74.96	337	P	P	23 36 00.3	-1.1
	comp=E,16nm,1.1s,mb4.9,baz=138,slow=4.6,SNR=47						
AKASG				LR	LR	00 09 29.2	
	comp=E,156nm,19.5s,MS4.3,baz=150,slow=36						
SONM	Songino Array	75.13	28	P	P	23 36 02.1	-0.3
	comp=E,21nm,0.9s,mb5.0,baz=218,slow=5.7,SNR=122						
ZAK	Zakamensk	75.81	24	eP	P	23 36 05.8	-0.4
ZAK				e		23 38 52.2	
PTQR	Pietraquaria	76.04	323	eP	P	23 36 07.5	-0.1
AQU	L'Aquila	76.25	323	eP	P	23 36 08.6	-0.3
CTA	Charters Tower	76.33	107	eP	P	23 36 11.7	+2.0
	comp=E,20nm,1.1s,mb5.0						
CTA	Charters Tower	76.33	107	P	P	23 36 11.8	+2.1
	comp=E,24nm,1.0s,mb5.1,baz=252,slow=3.8,SNR=10						
CTA				LR	LR	00 08 13.6	
	comp=E,969nm,19.4s,MS5.1,baz=243,slow=34						
CTAO	Charters Tower	76.33	107	eP	P	23 36 10.2	+0.5
	comp=E,36nm,1.1s,mb5.2						
CTAO				LR	LR		
	comp=Z,1µm,20.0s,MS5.1						
KOLS	Kolonicke sedl	76.36	333	iP	P	23 36 10.4	+1.1
KOLS				e	pP	23 36 16.8	+1.9
OBN	Obninsk	76.42	344	P	P	23 36 09.4	-0.1
	comp=Z,326nm,1.5s,mb6.0,SNR=10						
OBN	Obninsk	76.42	344	d iP	P	23 36 09.4	-0.1
OBN				e		23 36 17.3	
OBN				pmax	pmax		
	comp=Z,129nm,1.5s,mb5.6						
OBN				MLR	MLR		
	comp=Z,200nm,19.0s,MS4.5						
OBN	Obninsk	76.42	344	eP	P	23 36 09.1	-0.4
	comp=Z,176nm,1.6s,mb5.7						
OBN				LR	LR		
	comp=Z,117nm,19.0s,MS4.2						
MNS	Montasola	76.68	323	eP	P	23 36 10.2	-1.1
PSZ	Piszkesteto	76.69	331	⇑iP	P	23 36 11.0	-0.2
CRVS	Cervenica-Dubn	76.70	332	eP	P	23 36 13.0	+1.8
SISC	Sisak	76.70	327	iP	P	23 36 11.8	+0.5
KWP	Kalwaria	76.70	333	eP	P	23 36 10.1	-1.1
MOS	Moscow	76.70	345	eP	P	23 36 11.0	-0.1
MOS				i	pP	23 36 17.7	+1.0
MOS				pmax	pmax		
	comp=Z,224nm,1.7s,mb5.8						
NRCA	Norcia	76.72	324	eP	P	23 36 10.7	-0.7
ARV	Arcevia	77.24	324	eP	P	23 36 13.3	-1.1
BOJS	Bojanci	77.30	327	eP	P	23 36 14.7	+0.1
SRO	Srobarova	77.36	330	eP	P	23 36 14.9	0.0
SRO				e		23 36 23.0	
CRES	Cresnjevec ost	77.41	327	eP	P	23 36 15.3	+0.1
VYHS	Vyhne	77.60	331	iP	P	23 36 16.6	+0.4
VISS	Visnje	77.72	327	eP	P	23 36 16.8	-0.1
LJU	Ljubljana	78.04	327	eP	P	23 36 18.7	0.0
SMOL	Smolenice	78.27	330	eP	P	23 36 19.8	-0.1
SMOL				e	pP	23 36 26.9	+1.4
ARSA	Arzberg	78.34	328	⇓iP	P	23 36 20.8	+0.5
	comp=Z,33nm,1.4s,mb5.1						
OBKA	Obir	78.34	327	⇑iP	P	23 36 21.1	+0.8
	comp=Z,30nm,1.7s,mb5.0						
OJC	Ojcow	78.40	332	⇓iP	P	23 36 20.0	-0.6
OJC				e		23 36 32.7	
ARMA	Armidale	78.58	118	eP	P	23 36 22.7	+0.7
GMNA	Gemona	78.87	326	eP	P	23 36 23.4	+0.2
OKC	Ostrava-Krasne	78.87	331	eP	P	23 36 23.0	-0.2
OKC				ex	x	23 36 30.2	
ZCCA	Zocca	78.88	324	eP	P	23 36 24.1	+0.8
PTCC	Patocco-Chiusa	78.89	327	eP	P	23 36 23.2	-0.2
PGF	Pioggiola	78.93	321	eP	P	23 36 22.7	-0.9
MORC	Moravsky Berou	79.11	331	⇓eP	P	23 36 23.8	-0.6
	comp=Z,75nm,1.9s,mb5.3						
FVI	Forni Avoltri	79.32	326	eP	P	23 36 25.8	+0.1
KBA	Koelnbreinsper	79.34	327	⇑iP	P	23 36 26.3	+0.5
	comp=Z,27nm,1.8s,mb4.9						
WAR	Warsaw	79.36	334	eP	P	23 36 26.8	+1.0
MOA	Molln	79.37	328	⇑iP	P	23 36 26.2	+0.3
	comp=Z,40nm,1.8s,mb5.0						
SUW	Suwalki	79.85	337	eP	P	23 36 28.0	-0.3
INCN	Inchon	79.95	45	PFAKE		23 36 40.0	+11
INCN				LR	LR		
	comp=Z,529nm,20.0s,MS4.9						
PMG	Port Moresby	79.97	97	PFAKE		23 36 40.0	+10
PMG				LR	LR		
	comp=Z,552nm,19.0s,MS4.9						
DPC	Dobruska-Polom	80.07	331	eP	P	23 36 30.1	+0.5
DPC				ex	x	23 36 37.1	
GEC2	GERESS Array S	80.31	329	eP	P	23 36 30.1	-0.9
GEC2				pmax	pmax		
	comp=Z,33nm,1.7s,mb5.0						
GEC2	GERESS Array S	80.31	329	eP	P	23 36 30.1	-0.9
	comp=Z,33nm,1.7s,mb5.0						
GERES	GERESS Array B	80.31	329	P	P	23 36 30.3	-0.7
	comp=Z,1.8nm,0.9s,baz=135,slow=5.7,SNR=17						
SNY	Shenyang	80.32	40	⇓P	P	23 36 30.9	-0.2
SNY				AMB	AMB		
	comp=Z,30nm,1.2s,mb5.1						
UPC	Upice	80.32	331	eP	P	23 36 32.0	+1.0
UPC				ex	x	23 36 37.6	
WTTA	Wattenberg	80.35	326	⇓iP	P	23 36 31.3	+0.1
	comp=Z,27nm,2.0s,mb4.8						
KSP	Ksiaz	80.42	331	⇓eP	P	23 36 31.9	+0.4
KSP				e		23 36 46.1	
WATA	Walderalm	80.43	326	⇑iP	P	23 36 31.2	-0.4
	comp=Z,6.7nm,1.0s,mb4.5						
SQTA	Sankt Quirin	80.55	326	⇑iP	P	23 36 32.1	-0.1
	comp=Z,11nm,1.2s,mb4.7						
KHC	Kasperske Hory	80.56	329	eP	P	23 36 31.6	-0.7
KHC				epP	pP	23 36 38.7	+0.8
SBF	Sospel	80.63	322	eP	P	23 36 32.3	-0.4
	comp=Z,62nm,1.2s,mb5.1						
PRU	Pruhonice	80.66	330	P	P	23 36 32.7	-0.1
	comp=Z,67nm,1.9s,mb5.2						
PRU				ex	x	23 36 39.9	
PRU	Pruhonice	80.66	330	P	P	23 36 32.7	-0.1
PRU				e	pP	23 36 39.9	+1.5
PRU				pmax	pmax		
	comp=Z,67nm,1.9s,mb5.2						
MOTA	Moosalm	80.68	326	⇑iP	P	23 36 32.5	-0.4
	comp=Z,7.7nm,1.0s,mb4.6						
KS15	Wonju Array Si	80.78	46	eP	P	23 36 33.8	+0.1
LMR	La Mourre	80.87	321	eP	P	23 36 33.7	-0.3
	comp=Z,77nm,1.6s,mb5.1						
FRF	La Foret Royal	80.92	321	eP	P	23 36 34.0	-0.3
	comp=Z,52nm,1.3s,mb5.0						
WET	Wettzell	80.92	328	eP	P	23 36 32.8	-1.3
WET				pmax	pmax		
	comp=Z,14nm,1.4s,mb4.7						
WET	Wettzell	80.92	328	eP	P	23 36 32.8	-1.3
	comp=Z,14nm,1.4s,mb4.7						
PVCC	Panska Ves	81.01	330	eP	P	23 36 35.2	+0.6
PVCC				epP	pP	23 36 42.4	+2.2
VAI	Varese	81.05	324	eP	P	23 36 34.8	-0.1
FUR	Furstenfeldbru	81.11	327	eP	P	23 36 34.4	-0.8
FUR				pmax	pmax		
	comp=Z,265nm,2.1s,mb5.8						
FUR	Furstenfeldbru	81.11	327	eP	P	23 36 34.4	-0.8
	comp=Z,265nm,2.1s,mb5.8						
DAVA	Damuels	81.30	326	⇑iP	P	23 36 36.8	+0.6
	comp=Z,14nm,0.9s,mb4.9						
MBDF	Montbardon	81.52	322	eP	P	23 36 37.5	+0.1
	comp=Z,21nm,0.9s,mb4.7						
BRG	Berggiesshubel	81.54	330	⇓iP	P	23 36 37.9	+0.6
BRG				pmax	pmax		
	comp=Z,40nm,1.7s,mb5.1						
BRG	Berggiesshubel	81.54	330	⇓iP	P	23 36 37.9	+0.6
	comp=Z,40nm,1.7s,mb5.1						
GKP	Gorka Klasztor	81.70	333	eP	P	23 36 35.6	-2.5
SMRF	Simiane la Rot	81.79	321	eP	P	23 36 38.1	-0.7
NKC	Novy Kostel	81.84	329	eP	P	23 36 39.5	+0.6
NKC				epP	pP	23 36 46.8	+2.3
LPG	La Plagne	81.97	323	eP	P	23 36 39.0	-0.7
LPL	La Plagne	81.99	323	eP	P	23 36 39.0	-0.8
GRA1	Grafenberg Arr	82.10	328	eP	P	23 36 39.4	-0.9
	comp=Z,89nm,1.7s,mb5.4						
GRF	Grafenberg Arr	82.10	328	eP	P	23 36 39.4	-0.9
GRF				pmax	pmax		
	comp=Z,89nm,1.7s,mb5.4						
ORIF	Oris-en-Rattie	82.14	322	eP	P	23 36 40.7	+0.1
	comp=Z,136nm,1.8s,mb5.3						
CLL	Collm	82.27	330	⇓P	P	23 36 41.8	+0.7
	comp=Z,logA/T=1.6,mb5.3						
CLL				e		23 36 51.0	
CLL	Collm	82.27	330	⇓iP	P	23 36 41.8	+0.7
CLL				pmax	pmax		
	comp=Z,83nm,2.0s,mb5.3						
CLL	Collm	82.27	330	⇓iP	P	23 36 41.8	+0.7
	comp=Z,83nm,2.0s,mb5.3						
CLL				e		23 37 01.0	
CLL				e		23 37 16.0	
MOX	Moxa	82.51	329	iP	P	23 36 43.1	+0.7
	comp=Z,logA/T=1.3,mb5.1						
MOX	Moxa	82.51	329	eP	P	23 36 43.1	+0.7
MOX				pmax	pmax		
	comp=Z,41nm,1.9s,mb5.1						
MOX	Moxa	82.51	329	eP	P	23 36 43.1	+0.7
	comp=Z,41nm,1.9s,mb5.1						
HIA	Hailar	82.53	33	eP	P	23 36 42.5	0.0
	comp=Z,7.3nm,0.3s,mb5.2						
CN2	Changchun	82.56	40	eP	P	23 36 42.3	-0.5
CN2				eS	S	23 46 58.1	+0.6
CN2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.3						
CN2				LR	LR		
	comp=N,200nm,15.0s,MS4.9						
CN2				LR	LR		
	comp=E,300nm,15.0s,MS4.9						
CN2				LR	LR		
	comp=Z,300nm,17.0s,MS4.7						
RUE	Ruedersdorf	82.69	331	eP	P	23 36 43.8	+0.6
	comp=Z,72nm,1.8s,mb5.4						
BFO	Black Forest	82.76	326	eP	P	23 36 43.2	-0.5
BFO				pmax	pmax		
	comp=Z,72nm,1.9s,mb5.4						
BFO	Black Forest	82.76	326	eP	P	23 36 43.2	-0.5
	comp=Z,72nm,1.9s,mb5.4						
VIVF	Saint-Julien-l	82.82	322	eP	P	23 36 44.0	-0.1
	comp=Z,79nm,1.7s,mb5.2						
CABF	La Chapelle	82.99	324	eP	P	23 36 44.9	-0.1
	comp=Z,38nm,1.3s,mb5.0						
HINF	Hinteralfeld	83.26	325	eP	P	23 36 45.6	-0.7
	comp=Z,29nm,1.1s,mb4.9						
CDF	Champ du Feu	83.38	326	eP	P	23 36 46.4	-0.5
	comp=Z,56nm,1.4s,mb5.1						
MTLF	Montolieu	83.50	319	eP	P	23 36 47.5	-0.1
	comp=Z,90nm,1.4s,mb5.3						
HAU	Haudompre	83.64	325	eP	P	23 36 47.8	-0.5
	comp=Z,58nm,1.4s,mb5.2						
CLZ	Clausthal	83.88	330	eP	P	23 36 49.1	-0.3
	comp=Z,50nm,1.4s,mb5.5						
SMF	Signal de Mont	84.29	323	eP	P	23 36 50.9	-0.7
CAF	Calviac	84.42	321	eP	P	23 36 51.1	-1.2
	comp=Z,33nm,1.4s,mb5.0						
EPF	Esparros	84.51	318	eP	P	23 36 52.7	-0.1
LOR	Lormes	84.62	323	eP	P	23 36 52.0	-1.2
	comp=Z,75nm,1.6s,mb5.3						
MEZF	Maizieres J'vi	84.64	325	eP	P	23 36 53.2	-0.1
SSF	Saint Saulge	84.71	323	eP	P	23 36 53.3	-0.4
	comp=Z,50nm,1.4s,mb5.2						
FINES	FINESS Array B	84.72	342	P	P	23 36 54.0	+0.6
	comp=Z,66nm,1.4s,mb5.6,baz=146,slow=6.9,SNR=15						
FINES				LR	LR	00 12 43.2	
	comp=Z,224nm,21.5s,MS4.5,baz=105,slow=34						
FINES	FINESS Array B	84.72	342	iP	P	23 36 54.0	+0.6
FINES				pmax	pmax		
	comp=Z,67nm,1.4s						
BGF	Bois d'Agland	84.82	322	eP	P	23 36 54.4	+0.2
	comp=Z,65nm,1.4s,mb5.3						
RJF	Les Rejaudoux	84.95	321	eP	P	23 36 55.0	+0.1
	comp=Z,104nm,1.6s,mb5.4						
ETSF	Etsaut	85.02	318	eP	P	23 36 55.2	-0.1
TCF	Toulx Ste Croi	85.05	322	eP	P	23 36 55.3	-0.1
KAF	Kangasniemi	85.20	343	ep	P	23 36 55.4	-0.3
BSEG	Bad Segeberg	85.22	331	eP	P	23 36 56.0	0.0
BSEG				pmax	pmax		
	comp=Z,96nm,2.4s,mb5.5						
LFF	La Frestale	85.23	320	eP	P	23 36 56.0	-0.3
	comp=Z,82nm,1.4s,mb5.4						
MDJ	Mudanjiang	85.52	40	P	P	23 36 59.0	+1.2
MDJ				AMB	AMB		
	comp=Z,118nm,6.0s						
BOD	Bodaibo	85.55	24	eP	P	23 36 56.3	-1.3
SJPF	Ste Jean	85.55	318	eP	P	23 36 56.6	-1.4
GIVF	Givet	85.66	326	eP	P	23 36 58.4	+0.1
ESDC	Sonseca Array	85.75	314	P	P	23 36 59.2	+0.1
	comp=Z,11nm,1.1s,mb5.0,baz=103,slow=4.1,SNR=27						
ESDC				LR	LR	00 17 17.2	
	comp=Z,286nm,18.0s,MS4.7,baz=130,slow=37						
ESLA	Sonseca Array	85.75	314	eP	P	23 36 59.8	+0.7
	comp=Z,9.1nm,1.3s,mb4.8						
ESLA				LR	LR		
	comp=Z,3µm,19.0s,MS5.7						
BAIF	Baives	85.97	326	eP	P	23 37 00.0	+0.1
	comp=Z,126nm,1.6s,mb5.6						
MFF	Saint Martin d	86.61	321	eP	P	23 37 03.0	-0.1
	comp=Z,82nm,1.4s,mb5.5						
LDF	La Druitiere	87.60	323	eP	P	23 37 07.6	-0.2
	comp=Z,107nm,1.6s,mb5.5						
MAJO	Matsushiro	87.72	51	⇓eP	P	23 37 08.8	+0.1
	comp=Z,84nm,1.5s,mb5.8						
MAJO				LR	LR		
	comp=Z,433nm,20.0s,MS4.9						
MAT	Matsushiro	87.72	51	P	P	23 37 08.5	-0.2
MAT				S	S	23 47 50.0	+1.8
MAT	Matsushiro	87.72	51	eP	P	23 37 09.0	+0.3
	comp=Z,86nm,1.5s,mb5.8						
MAT				eS	S	23 47 51.0	+2.8
FLN	La Foliniere	87.89	323	eP	P	23 37 09.1	-0.1
	comp=Z,107nm,1.6s,mb5.5						
GRR	Gorron	87.92	323	eP	P	23 37 09.2	-0.2
EVO	Evora	88.10	311	eP	P	23 37 09.4	-1.1
	comp=Z,76nm,1.4s,mb5.5						
EVO				eR			
	comp=Z,496nm,20.0s						
PMSA	Palmer Station	89.01	200	PFAKE		23 37 30.0	+16
PMSA				LR	LR		
	comp=Z,665nm,19.0s,MS5.1						
KLR	Kul'dur	89.08	37	eP	P	23 37 13.8	-1.1
NOA	NORSAR Array B	89.37	337	LR	LR	00 20 36.8	
	comp=Z,110nm,18.8s,MS4.3,baz=80,slow=38						
ARCES	ARCESS Array B	91.36	347	P	P	23 37 25.0	0.0
	comp=Z,5.6nm,0.9s,mb4.9,SNR=5.9						
ARCES				LR	LR	00 15 08.0	
	comp=Z,185nm,21.0s,MS4.5,baz=200,slow=33						
ARCES	ARCESS Array B	91.36	347	P	P	23 37 25.0	0.0
ARCES				LR	LR	00 15 08.0	
SACV	Santiago Islan	92.98	285	PFAKE		23 37 50.0	+16
SACV				LR	LR		
	comp=Z,137nm,20.0s,MS4.4						
ERM	Erimo	93.35	47	PFAKE		23 37 50.0	+15
ERM				LR	LR		
	comp=Z,98nm,22.0s,MS4.2						
YAK	Yakutsk	94.37	25	PFAKE		23 37 50.0	+11
YAK				LR	LR		
	comp=Z,352nm,22.0s,MS4.8						
YSS	Yuzh-Sakhalins	94.83	42	PFAKE		23 37 50.0	+8.5
YSS				LR	LR		
	comp=Z,332nm,19.0s,MS4.8						
URZ	Urewera	95.64	133	LR	LR	00 14 05.8	
	comp=Z,204nm,19.9s,MS4.6,baz=196,slow=31						
RCBR	Riachuelo	98.37	261	PFAKE		23 38 10.0	+12
RCBR				LR	LR		
	comp=Z,1µm,21.0s,MS5.4						
TIXI	Tiksi	98.92	17	eP	P	23 37 59.3	-0.2
TIXI				i		23 38 10.4	
TIXI				e	x	23 41 58.9	
TIXI				eS	SKS	23 48 34.7	-7.4
TIXI				eSS	SS	23 56 13.4	-3.1
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.8						
TIXI				MLR	MLR		
	comp=Z,500nm,20.0s,MS5.0						
TIXI	Tiksi	98.92	17	PFAKE		23 38 10.0	+11
TIXI				LR	LR		
	comp=Z,546nm,20.0s,MS5.0						
KBS	Kingsbay	100.70	351	PFAKE		23 38 20.0	+13
KBS				LR	LR		
	comp=Z,252nm,20.0s,MS4.7						
PET	Petropavlovsk	106.25	39	PFAKE		23 43 00.0	
PET				LR	LR		
	comp=Z,445nm,20.0s,MS5.0						
WAKE	Wake Island	106.52	75	PFAKE		23 43 00.0	
WAKE				LR	LR		
	comp=Z,38µm,21.0s						
CPUP	Villa Florida	108.75	233	PFAKE		23 43 00.0	
CPUP				LR	LR		
	comp=Z,612nm,19.0s,MS5.2						
SMY	Shemya	115.58	40	PFAKE		23 43 10.0	+5.6
SMY				LR	LR		
	comp=Z,411nm,22.0s,MS5.0						
TNA	Tin City	121.02	23	PFAKE		23 43 20.0	+5.3
TNA				LR	LR		
	comp=Z,194nm,20.0s,MS4.7						
SAML	Samuel	122.19	247	PFAKE		23 43 30.0	+12
SAML				LR	LR		
	comp=Z,642nm,20.0s,MS5.3						
LPAZ	La Paz	122.62	237	PKP	PKPdf	23 43 17.6	-1.2
	comp=Z,1.5nm,0.2s,baz=79,slow=2.2,SNR=4.7						
IMA	Indian Mountai	125.50	18	ePKPdf	PKPdf	23 43 20.9	-2.4
SCHQ	Schefferville	127.82	327	PFAKE		23 43 40.0	+12
SCHQ				LR	LR		
	comp=Z,872nm,21.0s,MS5.4						
COLA	College	128.04	17	PFAKE		23 43 40.0	+12
COLA				LR	LR		
	comp=Z,255nm,22.0s,MS4.9						
INK	Inuvik	128.12	9	PKP	PKPdf	23 43 24.9	-3.4
	comp=Z,4.3nm,1.1s,baz=228,slow=3.2,SNR=4.6						
INK				PP	PP	23 45 29.5	-2.6
	comp=Z,7.5nm,1.2s,baz=336,slow=6.2,SNR=4.6						
ILAR	Eielson Array	128.39	17	PKP	PKPdf	23 43 25.1	-3.8
	comp=Z,0.9nm,0.5s,baz=315,slow=2.6,SNR=12						
MCK	McKinley	128.59	18	PFAKE		23 43 40.0	+11
MCK				LR	LR		
	comp=Z,197nm,21.0s,MS4.8						
PMR	Palmer	130.09	20	PFAKE		23 43 40.0	+7.8
PMR				LR	LR		
	comp=Z,333nm,20.0s,MS5.0						
PQI	Presque Isle	131.72	317	PFAKE		23 43 40.0	+4.3
PQI				LR	LR		
	comp=Z,4µm,21.0s,MS6.1						
EMMW	East Machias	132.00	315	PFAKE		23 43 50.0	+14
EMMW				LR	LR		
	comp=Z,3µm,22.0s,MS5.9						
WVL	Waterville	133.53	315	PFAKE		23 43 50.0	+11
WVL				LR	LR		
	comp=Z,5µm,20.0s,MS6.2						
WES	Weston	135.42	313	PFAKE		23 43 50.0	+7.3
WES				LR	LR		
	comp=Z,1µm,21.0s,MS5.6						
HRV	Harvard--Oak R	135.54	313	PFAKE		23 43 50.0	+7.1
HRV				LR	LR		
	comp=Z,373nm,21.0s,MS5.1						
SDV	Santo Domingo	135.84	265	PFAKE		23 43 50.0	+5.8
SDV				LR	LR		
	comp=Z,633nm,21.0s,MS5.3						
NCB	Newcomb	136.79	316	PFAKE		23 43 50.0	+4.9
NCB				LR	LR		
	comp=Z,304nm,21.0s,MS5.0						
SIT	Sitka	137.94	16	PFAKE		23 44 00.0	+13
SIT				LR	LR		
	comp=Z,332nm,21.0s,MS5.0						
ROSC	El Rosal	138.04	257	PKP	PKPdf	23 43 47.7	-0.6
	comp=Z,3.5nm,0.5s,baz=127,slow=18,SNR=5.7						
BINY	Binghamton	138.69	315	PFAKE		23 44 00.0	+11
BINY				LR	LR		
	comp=Z,1µm,22.0s,MS5.5						
OTAV	Otavalo	139.90	248	PFAKE		23 44 00.0	+8.4
OTAV				LR	LR		
	comp=Z,336nm,19.0s,MS5.1						
SSPA	Standing Stone	140.64	313	PFAKE		23 44 00.0	+7.7
SSPA				LR	LR		
	comp=Z,74nm,20.0s,MS4.4						
CBN	Corbin	141.21	310	PFAKE		23 44 00.0	+6.6
CBN				LR	LR		
	comp=Z,454nm,21.0s,MS5.2						
FFC	Flin Flon	141.69	348	PFAKE		23 44 00.0	+6.4
FFC				LR	LR		
	comp=Z,91nm,19.0s,MS4.5						
POHA	Pohakuloa	141.82	80	PFAKE		23 44 00.0	+5.1
POHA				LR	LR		
	comp=Z,2.0nm,21.0s						
BLA	Blacksburg	143.82	310	PFAKE		23 44 10.0	+17
BLA				LR	LR		
	comp=Z,494nm,19.0s,MS5.3						
ULM	Lac du Bonnet	144.04	339	PKhKP		23 43 52.4	
	comp=Z,18nm,0.9s,baz=51,slow=4.3,SNR=11						
ULM	Lac du Bonnet	144.04	339	ePKP		23 43 52.5	
ULM				LR	LR		
	comp=Z,466nm,19.0s,MS5.3						
ELN	Prospectdale	144.06	310	ePKPdf	PKPdf	23 43 56.6	-1.7
ACSO	Alum Creek Sta	144.29	316	PFAKE		23 44 10.0	+16
ACSO				LR	LR		
	comp=Z,462nm,20.0s,MS5.2						
EDM	Edmonton	144.55	358	ePKPdf	PKPdf	23 43 55.2	-3.4
EDM				ePP	PP	23 47 10.3	-4.6
NHSC	New Hope	145.04	303	PFAKE		23 44 10.0	+13
NHSC				LR	LR		
	comp=Z,640nm,21.0s,MS5.4						
JFWS	Jewell Farm	147.16	325	ePKPdf	PKPdf	23 44 00.8	-2.6
JFWS				ePKPbc	PKPdf	23 44 03.1	-0.3
JFWS				LR	LR		
	comp=Z,431nm,21.0s,MS5.2						
BLO	Bloomington	147.18	317	ePKPbc	PKPdf	23 44 03.0	-0.6
MYNC	Murphy	147.42	308	ePKPdf	PKPdf	23 44 02.0	-2.0
MYNC				LR	LR		
	comp=Z,514nm,19.0s,MS5.3						
WCI	Wyandotte Cave	147.52	315	ePKPdf	PKPdf	23 44 01.2	-2.9
WCI				ePKPbc	PKPdf	23 44 03.9	-0.2
WCI				LR	LR		
	comp=Z,125nm,19.0s,MS4.7						
DGMT	Dagmar	148.05	346	ePKPdf	PKPdf	23 44 02.9	-1.8
DGMT				ePKPbc	PKPdf	23 44 06.2	+1.5
SWET	Sewanee	148.70	310	ePKPbc	PKPdf	23 44 07.4	+1.3
RPW	Rockport	148.93	8	ePKPbc	PKPdf	23 44 07.5	+1.4
OCWA	Octopus Mounta	149.17	12	PFAKE		23 44 20.0	+14
OCWA				LR	LR		
	comp=Z,392nm,20.0s,MS5.2						
NLW	Nelson Butte	149.44	7	ePKPbc	PKPdf	23 44 09.4	+2.5
NEW	Newport	149.50	3	PKP	PKPdf	23 44 04.5	-2.5
	comp=Z,5.3nm,0.9s,baz=15,slow=4.3,SNR=3.6						
NEW				PKPbc	PKPdf	23 44 09.8	+2.8
	comp=Z,22nm,1.1s,baz=357,slow=5.6,SNR=12						
NEW	Newport	149.50	3	ePKPdf	PKPdf	23 44 04.6	-2.4
NEW				ePKPbc	PKPdf	23 44 09.7	+2.7
NEW				LR	LR		
	comp=Z,406nm,22.0s,MS5.2						
GNW	Green Mountain	149.59	10	ePKPbc	PKPdf	23 44 10.1	+3.0
WVT	Waverly	149.64	313	ePKPbc	PKPdf	23 44 09.2	+1.6
WVT				LR	LR		
	comp=Z,385nm,20.0s,MS5.2						
JTS	JuntasAbangare	149.76	260	PFAKE		23 44 20.0	+12
JTS				LR	LR		
	comp=Z,274nm,21.0s,MS5.0						
DPW	Davenport	149.84	4	ePKPdf	PKPdf	23 44 05.7	-1.9
DPW				ePKPbc	PKPdf	23 44 10.6	+3.0
SLM	Saint Louis	149.87	319	ePKPbc	PKPdf	23 44 10.8	+2.9
LAO	LASA Array	150.18	348	ePKPdf	PKPdf	23 44 06.8	-1.3
LAO				ePKPbc	PKPdf	23 44 11.9	+3.8
LAO				ePP	PP	23 47 43.7	-4.2
LAO				LR	LR		
	comp=Z,426nm,19.0s,MS5.3						
UTMT	University of	150.25	314	ePKPbc	PKPdf	23 44 11.4	+2.8
FVM	French Village	150.37	318	PKPdf	PKPdf	23 44 05.7	-3.0
FVM				ePKPbc	PKPdf	23 44 11.6	+2.9
LRAL	Lakeview Retre	150.43	306	ePKPdf	PKPdf	23 44 06.8	-2.2
LRAL				ePKPbc	PKPdf	23 44 12.3	+3.3
LRAL				LR	LR		
	comp=Z,465nm,21.0s,MS5.3						
LON	Longmire	150.55	9	ePKPdf	PKPdf	23 44 06.3	-2.4
LON				ePKPbc	PKPdf	23 44 12.1	+3.5
BMW	Boistfort Moun	150.57	11	ePKPab	PKPab	23 44 19.8	+0.5
CHMT	Chamberlain Mo	150.85	357	ePKPdf	PKPdf	23 44 07.1	-2.0
CHMT				ePKPbc	PKPdf	23 44 12.8	+3.7
CHMT				ePKPab	PKPab	23 44 19.3	-1.2
CCM	Cathedral Cave	150.85	319	ePKPdf	PKPdf	23 44 07.2	-2.1
CCM				ePKPbc	PKPdf	23 44 12.9	+3.5
CCM				LR	LR		
	comp=Z,120nm,20.0s,MS4.7						
MSO	Missoula	150.96	358	PFAKE		23 44 20.0	+11
MSO				LR	LR		
	comp=Z,264nm,20.0s,MS5.0						
HRY	Holter Researc	150.96	355	ePKPbc	PKPdf	23 44 13.4	+4.1
HRY				ePKPab	PKPab	23 44 20.1	-0.8
SHW	Mount Saint He	151.02	10	ePKPbc	PKPdf	23 44 14.2	+4.8

SHW				ePKPab	PKPab	23 44 21.1	-0.1
HAWA	**Hanford**	151.19	6	ePKPbc	PKPdf	23 44 13.8	+4.1
LNOR	**Lincton Mounta**	151.82	5	ePKPbc	PKPdf	23 44 15.0	+4.4
HBAR	**Harrisburg**	151.90	314	ePKPbc	PKPdf	23 44 16.2	+5.2
BOZ	**Bozeman (W)**	152.00	355	ePKPdf	PKPdf	23 44 09.3	-1.5
BOZ				ePKPbc	PKPdf	23 44 15.8	+4.9
BOZ				ePKPab	PKPab	23 44 24.2	-1.1
BOZ				LR	LR		
	comp=Z,289nm,20.0s,MS5.1						
RSSD	**Black Hills**	152.05	343	ePKPdf	PKPdf	23 44 08.8	-2.2
RSSD				ePKPbc	PKPdf	23 44 16.1	+5.1
RSSD				ePKPab	PKPab	23 44 24.6	-1.0
RSSD				ePP	PP	23 47 55.2	-3.0
QLMT	**Earthquake Lak**	152.79	354	ePKPdf	PKPdf	23 44 11.3	-0.7
QLMT				ePKPbc	PKPdf	23 44 19.2	+7.2
MCMT	**McKenzie Canyo**	152.91	356	PKPdf	PKPdf	23 44 11.1	-1.1
MCMT				ePKPbc	PKPdf	23 44 18.2	+6.1
MCMT				ePKPab	PKPab	23 44 29.4	+0.2
KSU1	**Kansas State U**	153.25	327	ePKPbc	PKPdf	23 44 18.2	+5.4
UALR	**University of**	153.48	314	ePKPbc	PKPdf	23 44 19.4	+6.1
IMW	**Indian Meadow**	153.66	353	ePKPdf	PKPdf	23 44 11.9	-1.3
IMW				ePKPbc	PKPdf	23 44 20.2	+7.0
IMW				ePKPab	PKPab	23 44 33.8	+1.4
MOOW	**Moose Ponds**	153.79	353	ePKPdf	PKPdf	23 44 11.4	-2.0
MOOW				ePKPbc	PKPdf	23 44 20.1	+6.7
MOOW				ePP	PP	23 48 04.5	-4.1
TPAW	**Teton Pass**	154.07	353	ePKPdf	PKPdf	23 44 12.8	-1.0
HLID	**Hailey**	154.24	359	ePKPdf	PKPdf	23 44 12.2	-1.8
HLID				LR	LR		
	comp=Z,427nm,20.0s,MS5.3						
HUMO	**Hull Mountain**	154.34	13	PFAKE		23 44 20.0	+5.8
HUMO				LR	LR		
	comp=Z,248nm,20.0s,MS5.0						
MIAR	**Mount Ida**	154.44	315	PFAKE		23 44 20.0	+5.4
MIAR				LR	LR		
	comp=Z,294nm,19.0s,MS5.1						
BW06	**Boulder Array**	154.58	350	PFAKE		23 44 20.0	+5.5
BW06				LR	LR		
	comp=Z,611nm,19.0s,MS5.4						
PDAR	**Pinedale Array**	154.58	350	PKP	PKPdf	23 44 12.3	-2.2
	comp=Z,4.2nm,1.3s,baz=27,slow=3.3,SNR=6.7						
PDAR				PKPbc	PKPdf	23 44 19.6	+5.0
	comp=Z,2.3nm,0.8s,baz=64,slow=1.0,SNR=12						
PDAR				PP	PP	23 48 07.3	-5.5
	comp=Z,2.5nm,1.2s,baz=27,slow=3.3,SNR=5.1						
AHID	**Auburn Hatcher**	154.80	353	ePKPab	PKPab	23 44 37.7	+0.5
AHID				LR	LR		
	comp=Z,479nm,19.0s,MS5.3						
WVOR	**Wild Horse Val**	155.20	6	ePKPbc	PKPdf	23 44 23.9	+8.5
WVOR				ePKPab	PKPab	23 44 39.2	+0.3
WVOR				LR	LR		
	comp=Z,675nm,20.0s,MS5.5						
YBH	**Yreka Blue Hor**	155.22	13	PFAKE		23 44 20.0	+4.6
YBH				LR	LR		
	comp=Z,322nm,19.0s,MS5.2						
MOD	**Modoc**	155.51	9	ePP	PP	23 48 16.3	-1.8
MOD				LR	LR		
	comp=Z,315nm,21.0s,MS5.1						
HWUT	**Hardware Ranch**	156.00	353	ePKPdf	PKPdf	23 44 14.6	-1.8
HWUT				ePKPdif		23 44 24.9	
HWUT				ePKPab	PKPab	23 44 42.8	+0.5
HWUT				ePP	PP	23 48 16.9	-4.1
HWUT				LR	LR		
	comp=Z,719nm,19.0s,MS5.5						
WDC	**Whiskeytown Da**	156.36	14	PFAKE		23 44 30.0	+13
WDC				LR	LR		
	comp=Z,283nm,20.0s,MS5.1						
ISCO	**Idaho Springs**	156.48	341	ePKPab	PKPab	23 44 44.2	-0.3
ISCO				LR	LR		
	comp=Z,446nm,20.0s,MS5.3						
NATX	**Nacogdoches**	156.75	311	PFAKE		23 44 30.0	+12
NATX				LR	LR		
	comp=Z,389nm,19.0s,MS5.3						
ELK	**Elko**	157.06	0	PKPdf	PKPdf	23 44 16.4	-1.5
ELK				ePKPab	PKPab	23 44 47.1	+0.2
ELK				ePP	PP	23 48 21.5	-4.9
ELK				LR	LR		
	comp=Z,602nm,19.0s,MS5.5						
DAU	**Daniels Canyon**	157.14	352	ePKPab	PKPab	23 44 49.3	+2.0
BMN	**Battle Mountai**	157.31	4	PFAKE		23 44 30.0	+12
BMN				LR	LR		
	comp=Z,339nm,19.0s,MS5.2						
DUG	**Dugway**	157.51	355	ePKPab	PKPab	23 44 49.5	+0.6
DUG				LR	LR		
	comp=Z,23nm,20.0s,MS4.0						
MPU	**Maple Canyon**	157.57	353	ePKPab	PKPab	23 44 49.0	-0.2
WMOK	**Wichita Mounta**	157.60	322	ePKPab	PKPab	23 44 49.1	-0.4
SDCO	**Great Sand Dun**	158.31	339	ePKPdf	PKPdf	23 44 18.1	-1.5
SDCO				ePKPdif		23 44 29.7	
SDCO				ePKPab	PKPab	23 44 52.3	-0.2
SDCO				ePP	PP	23 48 29.6	-4.1
SDCO				LR	LR		
	comp=Z,546nm,19.0s,MS5.4						
NVAR	**Mina Array Bea**	159.19	7	PKP	PKPdf	23 44 19.7	-0.9
	comp=Z,0.6nm,0.6s,baz=85,slow=0.6,SNR=7.1						
NVAR				PKPab	PKPab	23 44 56.0	-0.2
	comp=Z,6.1nm,1.0s,baz=18,slow=3.6,SNR=14						
MNV	**Mina**	159.21	7	PFAKE		23 44 30.0	+9.4
MNV				LR	LR		
	comp=Z,481nm,21.0s,MS5.3						
CMB	**Columbia Colle**	159.26	12	PFAKE		23 44 30.0	+9.3
CMB				LR	LR		
	comp=Z,604nm,22.0s,MS5.4						
TPH	**Tonopah**	159.65	5	PFAKE		23 44 30.0	+8.9
TPH				LR	LR		
	comp=Z,327nm,20.0s,MS5.2						
SAO	**San Andreas Ge**	160.25	15	PFAKE		23 44 30.0	+8.2
SAO				LR	LR		
	comp=Z,365nm,20.0s						
TPNV	**Topopah Spring**	160.83	3	PFAKE		23 44 30.0	+7.6
TPNV				LR	LR		
	comp=Z,387nm,20.0s						
JCT	**Junction City**	161.09	315	PFAKE		23 44 30.0	+7.2
JCT				LR	LR		
	comp=Z,347nm,20.0s						
ANMO	**Albuquerque**	161.16	337	PFAKE		23 44 30.0	+7.2
ANMO				LR	LR		
	comp=Z,457nm,20.0s						
DAC	**Darwin (Calif)**	161.40	6	ePKPdf	PKPdf	23 44 22.1	-0.9
DAC				ePKPab	PKPab	23 45 05.5	-0.3
DAC				LR	LR		
	comp=Z,522nm,21.0s						
LAZ	**Ladron**	161.90	338	ePKPdf	PKPdf	23 44 23.1	-0.4
LAZ				ePKPab	PKPab	23 45 09.2	+1.2
LAZ				ePP	PP	23 48 51.4	-1.4
LTX	**Lajitas**	164.35	320	PFAKE		23 44 40.0	+14
LTX				LR	LR		
	comp=Z,433nm,20.0s						

*IDC **19** 23:37:39.9±3.7, 6.37S×150.57E, h37^{km}±30^{km}, mb4.0/6, mb1 4.2/6, mb1mx4.0/12, Error ellipse: s-maj=51.5km s-min=16.7km az=119.0*

*NEIC **19** 23:37:42.0±3.1, 6.33S×150.40E, h51^{km}±25^{km}, mb4.4/4, Error ellipse: s-maj=33.9km s-min=17.8km az=108.0*

ISC 19 23:37:40.6±3.9**, 6.3S**±0.2×**150.3E**±0.3**, h53**^{km}±31^{km}**, n14, σ0^{s}82**/14**, mb4.0**/6**, 2D, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	4.41	225	eP	P	23 38 47.1	+0.4
WRAB	**Tennant Creek**	20.61	227	⇓eP	P	23 42 17.4	-0.6
	32nm,0.8s						
WB2	**Warramunga Arr**	20.61	227	⇓iP	P	23 42 17.5	-0.5
WB2				e		23 42 26.3	
WRA	**Warramunga Arr**	20.62	227	P	P	23 42 17.7	-0.4
	20nm,0.7s,baz=52,slow=11,SNR=36						
ASAR	**Alice Springs**	23.41	221	P	P	23 42 46.2	+0.5
	3.6nm,0.8s,mb3.9,baz=58,slow=8.9,SNR=20						
ASAR				S	S	23 46 58.9	+7.3
	1.1nm,1.1s,baz=43,slow=17,SNR=4.5						
ASPA	**Alice Springs**	23.41	221	eP	P	23 42 46.1	+0.3
STKA	**Stephens Creek**	26.74	197	eP	P	23 43 16.2	-1.1
	4.5nm,0.9s,mb4.0						
STKA	**Stephens Creek**	26.74	197	P	P	23 43 16.1	-1.3
	5.2nm,0.8s,mb4.1,baz=15,slow=8.0,SNR=9.0						
FITZ	**Fitzroy Crossi**	26.79	242	eP	P	23 43 18.4	+0.5
	6.0nm,1.0s,mb4.1						
FITZ	**Fitzroy Crossi**	26.79	242	P	P	23 43 18.2	+0.3
	2.2nm,0.6s,mb3.9,baz=74,slow=2.4,SNR=8.5						
SONM	**Songino Array**	66.29	329	P	P	23 48 26.0	+0.3
	0.9nm,1.0s,mb3.8,baz=152,slow=5.6,SNR=5.4						
QSPA	**South Pole Qui**	83.69	180	P	P	23 50 06.8	+2.3
	2.4nm,0.8s,mb4.4						
ILAR	**Eielson Array**	84.46	23	P	P	23 50 07.8	-0.8
	1.0nm,0.8s,mb4.0,baz=257,slow=5.1,SNR=9.1						
GERES	**GERESS Array B**	123.97	327	PKP	PKPdf	23 56 35.2	+2.0
	0.8nm,0.6s,baz=64,slow=1.6,SNR=12						

*NEIC **19** 23:59:57.8, 36.89N×9.22W, MG3.8(MDD), After MDD.*

*MDD **19** 23:59:58.5±1.5, 36.77N×9.40W, h30^{km}, mbLg2.5/12, Error ellipse: s-maj=14.1km s-min=8.7km az=48.0, PRXIMO*

*INMG **19** 23:59:59.2±0.9, 36.82N×9.34W, h19^{km}±3^{km}, ML2.2, Error ellipse: s-maj=4.9km s-min=2.9km az=68.0*

ISC 19 23:59:59.0±1.1**, 37.03N**±0.05×**9.04W**±0.07**, h10**^{km}**, n34, σ1^{s}06**/67**, 1C, Portugal**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PTEO	**Sao Teotonio**	0.58	26	eP	Pg	00 00 14.9	+4.2
PTEO				eS	Sg	00 00 27.0	+8.6
	30nm,0.1s						
PTEO	**Sao Teotonio**	0.58	26	P	Pg	00 00 14.9	+4.2
PTEO				S	Sg	00 00 27.0	+8.6
	15nm,0.1s						
PALC	**Alcoutim**	1.32	70	eP	Pb	00 00 25.2	+1.7
PALC				eS	Sb	00 00 44.7	+4.4
	13nm,0.3s						
PALC	**Alcoutim**	1.32	70	P	Pb	00 00 25.2	+1.7
PALC				S	Sb	00 00 44.7	+4.4
	6.4nm,0.3s						
PBEJ	**Beja**	1.37	43	ePn	Pn	00 00 25.8	+1.6
PBEJ				eSn	Sn	00 00 46.2	+3.7
	6.8nm,0.1s						
PBEJ	**Beja**	1.37	43	Pn	Pn	00 00 25.8	+1.6
PBEJ				Sn	Sn	00 00 46.2	+3.7
	3.4nm,0.1s						
MOE	**Montemor**	1.59	20	ePn	Pn	00 00 28.1	+0.7
MOE				eSn	Sn	00 00 50.2	+2.0
PLOU	**Loures**	1.86	357	ePn	Pn	00 00 31.6	+0.3
PLOU				eSn	Sn	00 00 55.3	+0.3
	17nm,0.2s						
PLOU	**Loures**	1.86	357	Pn	Pn	00 00 31.6	+0.3
PLOU				Sn	Sn	00 00 55.3	+0.3
	8.5nm,0.2s						
EMIN	**Mina Concepcio**	2.02	68	P	Pn	00 00 34.5	+0.8
	0.8nm,0.1s,SNR=20						
EMIN				S	Sn	00 01 01.5	+2.3
	1.6nm,0.1s,SNR=10						
EBAD	**Badajoz**	2.35	42	P	Pn	00 00 39.1	+0.7
	2.1nm,0.1s,SNR=19						
EBAD				S	Sn	00 01 09.8	+2.2
	10nm,0.2s,SNR=13						
ESPR	**Espera**	2.55	93	⇑P	Pn	00 00 41.2	-0.1
	2.6nm,0.1s,SNR=18						
ESPR				S	Sn	00 01 12.8	+0.2
	32nm,0.2s,SNR=5.0						
PTOM	**Tomar**	2.63	11	ePn	Pn	00 00 43.2	+0.8
PTOM				eSn	Sn	00 01 14.4	-0.3
	18nm,0.1s						
PTOM	**Tomar**	2.63	11	Pn	Pn	00 00 43.2	+0.8
PTOM				Sn	Sn	00 01 14.4	-0.3
	9.2nm,0.1s						
PCBR	**Castelo Branco**	3.07	23	ePn	Pn	00 00 48.8	+0.3
PCBR				eSn	Sn	00 01 26.2	+0.6
	3.1nm,0.2s						
PCBR	**Castelo Branco**	3.07	23	Pn	Pn	00 00 48.8	+0.3
PCBR				Sn	Sn	00 01 26.2	+0.6
	1.6nm,0.2s						
EMIJ	**Mijas**	3.45	96	S	Sn	00 01 34.6	-0.9
	0.9nm,0.2s,SNR=4.0						
MTE	**Manteigas**	3.57	19	ePn	Pn	00 00 55.5	-0.1
MTE				eSn	Sn	00 01 37.4	-0.9
	6.2nm,0.2s						
MTE	**Manteigas**	3.57	19	Pn	Pn	00 00 55.5	-0.1
MTE				Sn	Sn	00 01 37.4	-0.9
	3.1nm,0.2s						
EADA	**Adamuz**	3.72	71	P	Pn	00 00 58.0	+0.2
	0.9nm,0.1s,SNR=13						
EADA				S	Sn	00 01 41.6	-0.6
	1.6nm,0.1s,SNR=5.0						
EADA	**Adamuz**	3.72	71	Pn	Pn	00 00 58.0	+0.2
EADA				Sn	Sn	00 01 41.6	-0.6
PVIS	**Viseu**	3.79	13	ePn	Pn	00 00 58.5	-0.3
PVIS				eSn	Sn	00 01 42.7	-1.3
	5.9nm,0.1s						
PVIS	**Viseu**	3.79	13	Pn	Pn	00 00 58.5	-0.3
PVIS				Sn	Sn	00 01 42.7	-1.3
	3.0nm,0.1s						
ELUQ	**Luque**	3.84	81	P	Pn	00 00 58.8	-0.8
	0.5nm,0.2s,SNR=7.4						
ELUQ				S	Sn	00 01 44.9	-0.4
	1.2nm,0.1s,SNR=7.9						
ESDC	**Sonseca Array**	4.79	55	P	Pn	00 01 12.9	-0.1
	0.9nm,0.2s,baz=240,slow=13,SNR=38						
ESDC				S	Sn	00 02 08.4	-0.7
	1.1nm,0.3s,baz=240,slow=24,SNR=24						
EQES	**Quesada**	4.81	79	P	Pn	00 01 12.7	-0.6
	2.0nm,0.4s,SNR=14						
EQES				S	Sn	00 02 08.3	-1.6
	1.2nm,0.2s,SNR=5.0						
EQES	**Quesada**	4.81	79	Pn	Pn	00 01 12.2	-1.1
EQES				Sn	Sn	00 02 08.3	-1.6
ELOB	**Lobios**	4.89	9	P	Pn	00 01 13.2	-1.3
	0.9nm,0.1s,SNR=11						
ELOB				S	Sn	00 02 07.7	-4.2
	1.2nm,0.1s,SNR=5.0						
ELOB	**Lobios**	4.89	9	Pn	Pn	00 01 13.2	-1.3
ELOB				Sn	Sn	00 02 07.7	-4.2
PBRG	**Braganca**	5.09	20	ePn	Pn	00 01 17.2	-0.1
PBRG				eSn	Sn	00 02 15.3	-1.6
	2.1nm,0.1s						
PBRG	**Braganca**	5.09	20	Pn	Pn	00 01 17.2	-0.1
PBRG				Sn	Sn	00 02 15.3	-1.6
	1.1nm,0.1s						
ECAL	**Calabor**	5.22	19	P	Pn	00 01 18.7	-0.4
	1.3nm,0.2s,SNR=6.4						
ECAL				S	Sn	00 02 18.7	-1.4
	5.6nm,0.3s,SNR=7.9						
ETOR	**Torete**	6.63	53	P	Pn	00 01 38.6	-0.4
	2.4nm,0.9s,SNR=4.5						
ETOR				S	Sn	00 02 52.0	-3.4
	8.4nm,1.0s,SNR=5.0						
ETOR	**Torete**	6.63	53	Pn	Pn	00 01 38.6	-0.4
ETOR				Sn	Sn	00 02 51.2	-4.2

DHMR 20 00:18:59.4±1.5**, 12.39N**×**46.13E, h28**^{km}±11^{km}**, MD4.0, ML3.7, 1C-4D, Western Gulf of Aden**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ADEN	**Aden**	1.19	289	⇑eP	Pn	00 19 20.1	-0.3
ADEN				i S	Sn	00 19 36.4	+0.7
ADEN				AML	AML	00 19 37.6	
	comp=E,933nm,0.3s						
BDHA	**Al Bayda'**	1.67	341	⇓iP	Pn	00 19 28.7	+1.3
BDHA				i S	Sn	00 19 50.0	+2.0
BDHA				AML	AML	00 19 52.3	
	comp=E,2μm,0.3s						
LBOS		1.71	330	⇓iP	Pn	00 19 29.2	+1.4
LBOS				i S	Sn	00 19 52.1	+3.1
TRBA	**At Turbah**	2.12	293	⇓iP	Pn	00 19 35.0	+1.3
TRBA				i S	Sn	00 20 03.0	+3.6
TRBA				AML	AML	00 20 03.2	
	comp=N,403nm,0.6s						
DHBB	**Dhamar BB**	2.75	322	i P	Pn	00 19 44.8	+2.1
DHBB				i S	Sn	00 20 20.3	+4.9
MUKL	**Al Mukalla**	3.38	56	i P	Pn	00 19 55.0	+3.3
MUKL				i S	Sn	00 20 36.8	+5.3
HAJJ	**Hajjah**	4.11	324	⇓iP	Pn	00 20 03.5	+1.4
HAJJ				i S	Sn	00 20 53.0	+3.2

*NEIC **20** 00:31:49.7±0.9, 20.24S×177.83W, h500^{km}, mb3.6/1, Error ellipse: s-maj=35.1km s-min=23.2km az=142.0*

*IDC **20** 00:31:58.2±14.0, 20.35S×178.06W, h598^{km}±154^{km}, mb2.7/4, mb1 3.0/4, mb1mx2.9/11, Error ellipse: s-maj=152.0km s-min=68.1km az=134.0*

ISC 20 00:31:57.2±1.4**, 20.3S**±0.3×**178.1W**±0.3**, h600**^{km}**, n9, σ0^{s}78**/6**, mb3.4**/5**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	37.77	244	P	P	00 38 25.0	0.0
	0.7nm,0.5s,mb3.5,baz=80,slow=10,SNR=5.3						
STKA	**Stephens Creek**	37.77	244	eP	P	00 38 24.8	-0.2
ASAR	**Alice Springs**	44.45	257	P	P	00 39 19.0	+0.9
	0.6nm,0.7s,mb3.2,baz=95,slow=7.1,SNR=4.2						
WRA	**Warramunga Arr**	44.51	262	P	P	00 39 17.8	-0.8
	0.3nm,0.3s,mb3.3,baz=96,slow=7.5,SNR=6.4						
QSPA	**South Pole Qui**	69.79	180	eP	P	00 42 09.3	0.0
	1.0nm,0.6s,mb3.4						
ILAR	**Eielson Array**	88.13	13	P	P	00 43 45.7	0.0
	0.6nm,0.9s,mb3.3,baz=227,slow=6.1,SNR=4.8						
AKASG	**Malin Array Be**	142.76	331	PKP	PKPdf	00 50 21.6	-1.0
	0.2nm,0.3s,baz=44,slow=4.1,SNR=4.6						
CLL	**Collm**	147.82	347	ePKP1	PKPdf	00 50 38.0	+6.8
GERES	**GERESS Array B**	149.96	344	PKPbc	PKPdf	00 50 43.4	+8.8
	0.2nm,0.5s,baz=14,slow=4.0,SNR=3.6						

*MEX **20** 00:34:29.0±0.5, 14.34N×92.81W, h100^{km}±13^{km}, MD4.6*

*CASC **20** 00:34:29.3±2.4, 14.62N×92.71W, h26^{km}±248^{km}, MD4.4, ML5.0, mb4.3(NEIC)*

*BJI **20** 00:34:30.8, 14.50N×92.50W, h59^{km}, mB4.4, Ms4.8, Msz4.5*

*NEIC **20** 00:34:30.8±1.0, 14.55N×92.54W, h60^{km}±8^{km}, mb4.3/18, MD4.6(MEX), Error ellipse: s-maj=11.9km s-min=7.1km az=46.0*

*IDC **20** 00:34:38.0±2.6, 14.91N×92.23W, h110^{km}±21^{km}, mb4.0/20, mb1 4.1/21, mb1mx4.0/26, MS3.9/2, Ms1 3.9/2, ms1mx3.2/21, Error ellipse: s-maj=22.0km s-min=10.5km az=55.0*

ISC 20 00:34:28.7±0.4**, 14.45N**±0.04×**92.79W**±0.03**, h60**^{km}±4^{km}**, h53**^{km}±1.1^{km}**:pP-P, n130, σ1^{s}28**/139**, mb4.3**/29**, 10C-6D, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAT	**Jato**	1.13	96	⇓eP	P	00 34 48.5	-0.2
JAT				eS	S	00 35 04.1	+0.5
JAT				AML	AML	00 35 05.1	
	comp=E,62μm,0.3s						
TP2	**Tecpan 2**	1.75	79	⇓eP	P	00 34 57.5	+0.2
TP2				eS	S	00 35 18.6	+0.2
TP2				AML	AML	00 35 23.4	
	comp=E,8μm,0.5s						
FUG	**Fuego 3**	1.89	90	eP	P	00 34 58.6	-0.7
CCIG	**Comitan**	1.93	19	⇓iP	P	00 35 00.9	+1.1
CCIG				i S	S	00 35 25.5	+2.6
PCG	**Pacaya**	2.12	91	eP	P	00 35 02.8	+0.3
SCX	**San Cristobal**	2.28	4	i P	P	00 35 06.0	+1.2
SCX				i S	S	00 35 35.0	+3.3
IXG	**Ixpaco**	2.28	97	⇑eP	P	00 35 04.3	-0.6
IXG				eS	S	00 35 32.5	+0.7
IXG				AML	AML	00 35 40.8	
	comp=E,36μm,0.4s						
NBG	**Las Nubes**	2.37	86	⇓iP	P	00 35 07.4	+1.3
NBG				eS	S	00 35 34.6	+0.6
CUSS	**Cusmapa**	2.81	101	eP	P	00 35 12.2	-0.2
CUSS				eS	S	00 35 44.6	-0.5
MRL	**Marmol**	3.06	78	⇓eP	P	00 35 15.7	-0.3
RTR	**El Retiro**	3.10	100	⇑eP	P	00 35 16.4	-0.1
SBLS	**San Blas**	3.13	101	eP	P	00 35 16.7	-0.2
SBLS				eS	S	00 35 52.4	-0.9
SNJE	**San Jose**	3.15	100	⇓eP	P	00 35 17.4	+0.3
CMIG	**Matias Romero**	3.31	323	i P	P	00 35 19.0	-0.3
CMIG				eS	S	00 35 58.6	+0.9
CMIG	**Matias Romero**	3.31	323	i P	P	00 35 19.0	-0.3
CMIG				eS	S	00 35 59.1	+1.4
HUIG	**Huatulco**	3.46	293	i S	S	00 35 58.5	-3.1
BOQS	**Boqueron**	3.48	101	⇑eP	P	00 35 21.5	-0.3
SNET	**Serv Nac Est T**	3.54	102	eP	P	00 35 22.9	+0.4
LFU	**La Fuente**	3.64	101	eP	P	00 35 23.9	0.0
LBRS	**Las Brisas**	3.71	101	⇑eP	P	00 35 24.7	-0.2
LBRS				eS	S	00 36 09.7	+2.0
LFRS	**El Faro**	3.71	102	⇑eP	P	00 35 24.4	-0.6
LCBS	**La Ceiba**	3.79	102	⇑eP	P	00 35 25.6	-0.4
TUIG	**Tuzandepetl**	3.89	337	eP	P	00 35 27.3	-0.3
TUIG				eS	S	00 36 11.9	-0.5
SNVI	**San Vicente**	3.93	102	eP	P	00 35 28.1	+0.1
SNVI				eS	S	00 36 11.7	-1.6
VSM	**San Miguel**	4.50	102	eP	P	00 35 36.1	0.0
BLLM	**Bellamira**	4.53	102	eS	S	00 36 31.2	+2.7
OXX	**Oaxaca**	4.60	305	i P	P	00 35 36.0	-1.5
OXX				i S	S	00 36 29.0	-1.2
VHO	**Vista Hermosa**	4.60	305	eP	P	00 35 36.5	-1.0
VHO				i S	S	00 36 28.7	-1.5
EVV	**El Vigia**	4.68	329	eP	P	00 35 39.0	+0.4
EVV				i S	S	00 36 30.0	-2.1
SCIG		4.75	19	i P	P	00 35 38.3	-1.3
SCIG				i S	S	00 36 33.3	-0.6
CNCH	**Conchagua**	4.96	103	eP	P	00 35 42.3	-0.1
PNIG	**Pinotepa**	5.50	291	i P	P	00 35 49.4	-0.5
PNIG				i S	S	00 36 47.7	-4.8
CNGN	**Cerro Negro**	6.24	107	⇑eP	P	00 36 01.2	+1.0
MIRN	**Miramar**	6.24	108	eP	P	00 35 59.5	-0.8
IISM	**Ciudad Serdan**	6.30	316	eP	P	00 36 02.0	+0.9
IISM				i S	S	00 37 07.0	-5.4
QUIN	**Quiabu**	6.33	101	eP	P	00 36 00.1	-1.5
MOMJ	**Momotombo**	6.41	108	eP	P	00 36 01.8	-0.9
COPN	**Copaltepe**	6.44	110	eP	P	00 36 01.7	-1.5
APYN	**Apoyeque**	6.65	109	eP	P	00 36 06.0	0.0
TICN	**Ticuantepe**	6.82	110	eP	P	00 36 10.4	+1.9
TEIG	**Tepich**	7.18	36	P	P	00 36 11.2	-2.3
	comp=E,0.0nm,0.3s,baz=230,slow=24,SNR=43						
TEIG				S	S	00 37 24.9	-9.5
	comp=E,0.0nm,0.3s,baz=270,slow=20,SNR=2.5						
TEIG	**Tepich**	7.18	36	P	P	00 36 12.8	-0.6
PPM	**Popocatepetl**	7.23	310	eP	P	00 36 15.0	+0.9
PPM				i S	S	00 37 37.0	+1.4
UNM	**Universidad Na**	7.80	309	eP	P	00 36 20.0	-2.0
CRZC	**La Cruz**	7.83	116	eP	P	00 36 24.6	+2.2
VCR	**Vista de Mar**	8.21	121	eP	P	00 36 27.4	-0.2
JTS	**JuntasAbangare**	8.70	117	P	P	00 36 36.3	+2.0
	comp=E,2.5nm,0.3s,baz=327,slow=13,SNR=12						
JTS				S	S	00 38 14.9	+3.0
	comp=E,0.4nm,0.3s,baz=162,slow=20,SNR=1.6						
JTS	**JuntasAbangare**	8.70	117	ePn	P	00 36 35.2	+0.8
	comp=E,13nm,0.6s						
JTS				eSn	S	00 38 18.9	+7.0
JCR	**Jicaral**	8.79	120	eP	P	00 36 35.3	-0.2
CGA2	**Cerro Gallo 2**	9.25	117	eP	P	00 36 41.1	-0.8
LAJ	**Bijagual**	9.62	117	eP	P	00 36 46.3	-0.8
URSC	**Urasca**	9.93	116	eP	P	00 36 51.4	+0.1
BUS	**Buena Vista**	10.09	118	eP	P	00 36 54.2	+0.8
BUS				eS	S	00 38 49.9	+3.9
JCT	**Junction City**	17.21	339	ePn	P	00 38 29.1	+2.5
	comp=E,4.5nm,0.2s						
LTX	**Lajitas**	17.90	328	eP	P	00 38 37.8	+2.6
	comp=E,8.7nm,0.8s						
LRAL	**Lakeview Retre**	19.24	15	eP	P	00 38 49.8	-1.0
	comp=E,9.8nm,0.6s						
OTAV	**Otavalo**	20.02	134	eP	P	00 38 59.3	+0.1
MIAR	**Mount Ida**	20.02	358	eP	P	00 38 57.6	-1.6
	comp=E,23nm,0.9s						
OXF	**Oxford**	20.21	8	eP	P	00 39 00.4	-0.8
	comp=E,59nm,1.3s						
UALR	**University of**	20.24	1	eP	P	00 39 02.2	+0.7
	comp=E,14nm,0.8s						
ROSC	**El Rosal**	20.53	116	P	P	00 39 05.9	+1.3
	comp=E,8.8nm,0.6s,baz=96,slow=20,SNR=7.0						
GDL2	**Guadalupe Moun**	20.59	331	eP	P	00 39 06.8	+1.7
WMOK	**Wichita Mounta**	20.91	346	eP	P	00 39 07.9	-0.5
	comp=E,2.0nm,0.5s						
CPRX	**Cap Rock**	21.06	333	eP	P	00 39 10.6	+0.7
SWET	**Sewanee**	21.58	15	eP	P	00 39 12.9	-2.2
MYNC	**Murphy**	21.97	19	eP	P	00 39 18.1	-0.8
	comp=E,9.0nm,0.4s,mb4.5						
WVT	**Waverly**	22.04	11	eP	P	00 39 17.4	-2.3
	comp=E,5.1nm,0.9s,mb4.0						
CPCT	**Cooper Cave**	22.20	18	eP	P	00 39 22.8	+1.7
CPCT				e		00 39 38.2	
SDV	**Santo Domingo**	22.39	102	eP	P	00 39 22.1	-1.1
	comp=E,12nm,0.7s,mb4.4						
BNM	**Barren Site**	23.27	330	eP	P	00 39 35.1	+3.4
LPM	**Los Pinos Moun**	23.40	330	eP	P	00 39 35.3	+2.3
LENM	**Lemitar**	23.45	329	eP	P	00 39 37.4	+4.0
CCM	**Cathedral Cave**	23.55	3	eP	P	00 39 33.5	-0.9
	comp=E,4.1nm,0.8s,mb3.9						
LAZ	**Ladron**	23.72	329	eP	P	00 39 39.1	+3.0
ANMO	**Albuquerque**	23.84	331	eP	P	00 39 39.3	+2.1
	comp=E,4.6nm,0.6s,mb4.1						
WCI	**Wyandotte Cave**	24.38	12	eP	P	00 39 41.6	-0.8
	comp=E,13nm,0.6s,mb4.5						
WCI				e		00 39 55.6	
ELN	**Prospectdale**	25.09	23	eP	P	00 39 47.8	-1.6

SDCO	**Great Sand Dun**	**25.80**	**336**	*e*P	**P**	**00 39 57.7**	**+1.7**
	comp=E,2.2nm,0.6s,mb3.9						
SDCO				*e*	pP	00 40 11.3	+0.8
HWUT	**Hardware Ranch**	**31.58**	**333**	*e*P	**P**	**00 40 49.0**	**+1.2**
	comp=E,5.1nm,1.0s,mb4.3						
PDAR	**Pinedale Array**	**31.70**	**336**	P	**P**	**00 40 49.4**	**+0.6**
	comp=E,1.3nm,0.6s,mb3.9,baz=141,slow=9.5,SNR=11						
PDAR				PcP	PcP	00 43 41.5	+2.0
	comp=E,0.7nm,0.8s,baz=141,slow=5.8,SNR=3.4						
PDAR	**Pinedale Array**	**31.70**	**336**	P	**P**	**00 40 49.4**	**+0.6**
PDAR				PcP	PcP	00 43 41.5	+2.0
SADO	**Sadowa**	**32.37**	**18**	P	**P**	**00 40 51.9**	**-2.8**
	comp=E,1.8nm,0.4s,mb4.2,baz=242,slow=11,SNR=2.7						
REDW	**Red Top Meadow**	**32.71**	**335**	*e*P	**P**	**00 40 59.1**	**+1.4**
SNOW	**Snow King Moun**	**32.76**	**335**	*e*P	**P**	**00 40 59.2**	**+1.2**
SNOW				*e*	pP	00 41 12.5	-0.6
WUWY	**Wally Ulrich**	**32.82**	**336**	*e*P	**P**	**00 40 59.2**	**+0.6**
NVAR	**Mina Array Bea**	**32.84**	**321**	P	**P**	**00 41 01.8**	**+3.0**
	comp=E,5.1nm,0.6s,mb4.6,baz=126,slow=9.1,SNR=7.7						
NVAR				PcP	PcP	00 43 44.4	+1.8
	comp=E,0.9nm,0.7s,baz=143,slow=4.5,SNR=4.2						
TPAW	**Teton Pass**	**32.86**	**335**	*e*P	**P**	**00 40 58.5**	**-0.5**
MOOW	**Moose Ponds**	**32.99**	**336**	*e*P	**P**	**00 40 59.2**	**-0.8**
MOOW				*e*	pP	00 41 12.9	-2.3
HLID	**Hailey**	**34.42**	**332**	*e*P	**P**	**00 41 13.7**	**+1.4**
	comp=E,6.3nm,0.9s,mb4.5						
MCMT	**McKenzie Canyo**	**34.74**	**335**	*e*P	**P**	**00 41 17.6**	**+2.5**
BOZ	**Bozeman (W)**	**34.93**	**337**	*e*P	**P**	**00 41 17.3**	**+0.7**
ULM	**Lac du Bonnet**	**35.79**	**357**	P	**P**	**00 41 22.2**	**-1.7**
	comp=E,3.7nm,0.6s,mb4.5,baz=158,slow=7.6,SNR=5.6						
SAML	**Samuel**	**37.45**	**127**	P	**P**	**00 41 36.6**	**-1.7**
	comp=E,2.6nm,0.8s,mb4.1						
YBH	**Yreka Blue Hor**	**37.54**	**322**	P	**P**	**00 41 39.5**	**+0.8**
	comp=E,0.9nm,0.7s,mb3.6,baz=233,slow=5.6,SNR=2.5						
LNOR	**Lincton Mounta**	**37.97**	**331**	P	**P**	**00 41 42.2**	**-0.1**
NEW	**Newport**	**39.26**	**334**	P	**P**	**00 41 53.4**	**+0.5**
	comp=E,2.2nm,0.7s,mb4.0,baz=136,slow=12,SNR=5.5						
DPW	**Davenport**	**39.42**	**333**	*e*P	**P**	**00 41 55.9**	**+1.6**
SCHQ	**Schefferville**	**45.08**	**21**	P	**P**	**00 42 37.3**	**-3.1**
	comp=E,4.2nm,0.9s,mb4.2,baz=236,slow=16,SNR=4.8						
SCHQ				PcP	PcP	00 44 20.6	-0.2
	comp=E,3.1nm,0.9s,baz=212,slow=18,SNR=5.0						
SCHQ				LR	LR	01 02 05.5	
	comp=E,217nm,20.5s,baz=41,slow=37						
YKA	**Yellowknife Ar**	**50.42**	**347**	P	**P**	**00 43 22.1**	**+0.2**
	comp=E,9.9nm,0.7s,mb5.0,baz=149,slow=7.2,SNR=16						
YKA	**Yellowknife Ar**	**50.42**	**347**	P	**P**	**00 43 22.1**	**+0.2**
DLBC	**Dease Lake**	**51.93**	**336**	P	**P**	**00 43 35.9**	**+2.5**
	comp=E,9.3nm,0.7s,mb4.8,baz=140,slow=6.5,SNR=32						
DLBC	**Dease Lake**	**51.93**	**336**	*e*P	**P**	**00 43 34.4**	**+1.0**
FRB	**Frobisher Bay**	**52.05**	**13**	P	**P**	**00 43 32.2**	**-2.0**
	comp=E,12nm,1.1s,mb4.8,baz=205,slow=6.4,SNR=2.9						
FRB	**Frobisher Bay**	**52.05**	**13**	P	**P**	**00 43 32.2**	**-2.0**
CPUP	**Villa Florida**	**53.22**	**139**	P	**P**	**00 43 46.4**	**+2.9**
	comp=E,2.0nm,0.9s,mb4.0,baz=48,slow=2.9,SNR=3.1						
CPUP				PcP	PcP	00 44 51.0	+0.4
	comp=E,0.6nm,0.5s,baz=33,slow=8.9,SNR=2.6						
BDFB	**Brasilia**	**53.41**	**122**	P	**P**	**00 43 44.0**	**-1.1**
	comp=E,3.0nm,0.9s,mb4.2,baz=334,slow=7.3,SNR=3.7						
INK	**Inuvik**	**59.79**	**344**	P	**P**	**00 44 29.6**	**-0.1**
	comp=E,6.6nm,0.5s,mb4.9,baz=120,slow=7.7,SNR=32						
INK				PcP	PcP	00 45 16.8	+1.2
	comp=E,1.7nm,0.5s,baz=81,slow=5.7,SNR=4.3						
INK	**Inuvik**	**59.79**	**344**	*e*P	**P**	**00 44 27.5**	**-2.2**
	comp=E,13nm,0.9s,mb5.0						
RCBR	**Riachuelo**	**59.90**	**106**	P	**P**	**00 44 30.5**	**-0.7**
ILAR	**Eielson Array**	**62.13**	**337**	P	**P**	**00 44 45.8**	**+0.2**
	comp=E,3.8nm,1.0s,mb4.5,baz=124,slow=4.8,SNR=36						
EKA	**Eskdalemuir Ar**	**78.05**	**36**	P	**P**	**00 46 20.1**	**-2.3**
	comp=E,2.7nm,0.7s,mb4.3,baz=284,slow=6.9,SNR=5.0						
ESDC	**Sonseca Array**	**80.04**	**52**	P	**P**	**00 46 30.6**	**-3.0**
	comp=E,0.9nm,0.8s,mb3.7,baz=280,slow=5.3,SNR=5.5						
NOA	**NORSAR Array B**	**84.12**	**28**	LR	LR	01 27 48.2	
	comp=E,33nm,18.4s,baz=295,slow=38						
ARCES	**ARCESS Array B**	**85.95**	**18**	P	**P**	**00 47 02.2**	**-0.8**
	comp=E,2.1nm,0.8s,mb4.4,baz=281,slow=6.2,SNR=5.0						
DBIC	**Dimbokro**	**86.37**	**84**	P	**P**	**00 47 06.5**	**+0.1**
	comp=E,1.8nm,0.7s,mb4.4,baz=176,slow=9.8,SNR=2.8						
FINES	**FINESS Array B**	**90.42**	**25**	P	**P**	**00 47 22.4**	**-2.1**
	comp=E,1.0nm,0.7s,mb4.2,baz=197,slow=20,SNR=5.1						
VNA3	**Neumayer Olymp**	**101.37**	**161**	⇑*i*Pdif	P	00 48 18.6	+4.4
VNA3				*e*		00 52 30.7	
VNA3				*e*		00 52 39.5	
VNA1	**Neumayer--Stat**	**101.71**	**160**	⇑*i*Pdif	P	00 48 13.3	-2.4
VNA1				*e*		00 52 26.2	
VNA1				*e*		00 52 34.3	
VNA2	**Neumayer--Watz**	**102.04**	**160**	*e*Pdif	Pdif	00 48 17.7	+0.5
VNA2				*e*		00 52 29.9	
VNA2				*e*		00 52 38.6	
SNAA	**Sanae**	**103.59**	**161**	⇑*i*Pdif	Pdif	00 48 34.2	+10
SNAA				*e*		00 52 45.4	
SNAA				*e*		00 52 55.0	
SONM	**Songino Array**	**115.67**	**346**	PKP	PKPdf	00 53 08.2	+3.9
	comp=E,0.5nm,0.8s,baz=276,slow=0.2,SNR=4.4						
BJI	**Beijing**	**119.46**	**335**	PKP	PKPdf	00 53 15.9	+4.1
WMQ	**Urumqi**	**122.01**	**360**	*e*PKP	PKPdf	00 53 21.0	+4.3
NJ2	**Nanjing**	**124.71**	**327**	*e*PKP	PKPdf	00 53 26.3	+4.1
CASY	**Casey**	**125.92**	**191**	*e*PKPdf	PKPdf	00 53 24.3	+0.7
LZH	**Lanzhou**	**127.33**	**343**	*e*PKP	PKPdf	00 53 29.5	+2.3
LZH				XPKP		00 53 49.4	
LZH				LR	LR		
	comp=N,216nm,18.0s						
LZH				LR	LR		
	comp=Z,345nm,20.1s						
STKA	**Stephens Creek**	**127.61**	**241**	PKP	PKPdf	00 53 30.2	+2.4
	comp=Z,2.5nm,0.7s,baz=217,slow=3.4,SNR=6.8						
WRA	**Warramunga Arr**	**134.76**	**256**	PKP	PKPdf	00 53 43.8	+2.2
	comp=Z,0.9nm,0.5s,baz=85,slow=2.4,SNR=5.6						
ASAR	**Alice Springs**	**135.09**	**251**	PKP	PKPdf	00 53 45.0	+2.9
	comp=Z,0.7nm,0.6s,baz=74,slow=2.0,SNR=5.3						
CMAR	**Chiang Mai Arr**	**145.32**	**340**	PKPbc	PKPbc	00 54 02.5	+1.4
	comp=Z,4.6nm,0.9s,baz=344,slow=3.6,SNR=19						

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*IDC **20** 00:51:10.0±60.0, 14.54S×167.15E, mb4.4/3, mb1 4.6/3, mb1mx4.1/12, Error ellipse: s-maj=1021.0km s-min=105.9km az=65.0*

ISC 20 00:51:24.2±4.1**, 15.4S**±0.2×**166.6E**±0.3**, h81**^{km}±61^{km}**, n5, σ**$1\overset{s}{.}$**36**/7**, mb4.2**/3**, 1C, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BKM	**Butte a Klehm**	**2.77**	**146**	⇑*i*P	**P**	**00 52 06.3**	**-1.1**
BKM				S	**S**	**00 52 40.3**	**+0.5**
DZM	**Mont Dzumac**	**6.69**	**182**	⇑*e*P	**P**	**00 53 03.4**	**+1.7**
DZM				*e*S	**S**	**00 54 16.1**	**-0.9**
STKA	**Stephens Creek**	**28.13**	**230**	P	**P**	**00 57 11.7**	**+0.9**
	5.3nm,0.4s,mb4.4,baz=46,slow=8.1,SNR=31						
WRA	**Warramunga Arr**	**31.09**	**257**	P	**P**	**00 57 36.5**	**-0.6**
	1.2nm,0.7s,mb3.8,baz=85,slow=9.3,SNR=6.9						
ASAR	**Alice Springs**	**31.88**	**250**	P	**P**	**00 57 43.6**	**-0.4**
	3.9nm,0.5s,mb4.4,baz=79,slow=9.0,SNR=44						

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*NEIC **20** 00:58:52.4, 34.59N×4.22W, MG3.5(MDD), After MDD.*

MDD 20 00:58:52.4±2.4**, 34.59N**×**4.22W, mb3.3**/9**, Error ellipse: s-maj=23.0km s-min=10.1km az=4.0, PRXIMO, Morocco**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EMEL	**Melilla**	**1.25**	**55**	P	Pb	00 59 15.2	-1.5
	SNR=7.9						
EMEL				S	Sb	00 59 31.5	-1.7
	35nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**2.02**	**347**	P	Pn	00 59 23.1	-5.0
	0.6nm,0.1s,SNR=7.9						
EMIJ				S	Sn	00 59 47.1	-7.3
	8.4nm,0.3s,SNR=7.9						
ELOJ	**Sierra Loja**	**2.55**	**1**	P	Pn	00 59 34.6	-1.1
	1.0nm,0.2s,SNR=8.7						
ELOJ				S	Sn	01 00 04.6	-3.3
	0.8nm,0.2s						
ESPR	**Espera**	**2.63**	**330**	P	Pn	00 59 35.1	-1.8
	0.7nm,0.3s,SNR=5.1						
ESPR				S	Sn	01 00 05.5	-4.6
	0.8nm,0.1s						
ESPR	**Espera**	**2.63**	**330**	P	Pn	00 59 35.1	-1.8
ESPR				S	Sn	01 00 05.5	-4.6
ELUQ	**Luque**	**2.96**	**359**	P	Pn	00 59 40.3	-1.3
	1.0nm,0.2s,SNR=6.9						
ELUQ				S	Sn	01 00 15.1	-3.3
	0.9nm,0.2s						
EQES	**Quesada**	**3.34**	**16**	P	Pn	00 59 45.7	-1.2
	0.6nm,0.1s,SNR=5.9						
EQES				S	Sn	01 00 25.7	-2.1
	3.5nm,0.4s						
EADA	**Adamuz**	**3.58**	**355**	P	Pn	00 59 48.0	-2.3
	1.4nm,0.1s,SNR=19						
EADA				S	Sn	01 00 29.6	-4.4
	1.5nm,0.2s,SNR=6.1						
EMIN	**Mina Concepcio**	**3.74**	**329**	P	Pn	00 59 48.5	-4.2
	1.4nm,0.6s,SNR=11						
EMIN				S	Sn	01 00 29.3	-8.8
	0.8nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**4.58**	**27**	P	Pn	01 00 03.1	-1.5
	0.7nm,0.3s,SNR=7.9						
ETOB				S	Sn	01 00 54.9	-4.4
	0.6nm,0.3s,SNR=7.9						
EBAD	**Badajoz**	**4.72**	**332**	P	Pn	01 00 02.7	-3.9
	0.7nm,0.2s,SNR=7.9						
EBAD				S	Sn	01 00 53.6	-9.4
	4.9nm,0.2s,SNR=7.9						
ESDC	**Sonseca Array**	**5.08**	**2**	P	Pn	01 00 08.3	-3.3
	0.2nm,0.3s,baz=181,slow=12,SNR=6.7						
ESDC				S	Sn	01 01 04.2	-7.6
	0.4nm,0.3s,baz=189,slow=23,SNR=5.5						

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*NEIC **20** 00:59:54.3±1.1, 21.53N×93.62E, h92^{km}±13^{km}, mb4.5/1, Error ellipse: s-maj=34.2km s-min=10.2km az=220.0*

*IDC **20** 00:59:54.4±5.1, 21.96N×94.02E, h88^{km}±46^{km}, mb3.3/4, mb1 3.5/5, mb1mx3.2/17, Error ellipse: s-maj=90.8km s-min=20.0km az=55.0*

ISC 20 00:59:53.1±1.3**, 21.8N**±0.2×**93.7E**±0.2**, h100**^{km}±16^{km}**, n16, σ**$1\overset{s}{.}$**34**/23**, mb3.7**/5**, Myanmar**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHL	**Shillong**	**4.11**	**336**	*e*P	**P**	**01 00 55.0**	**0.0**
SHL				*e*S	**S**	**01 01 34.0**	**-8.2**
CMAR	**Chiang Mai Arr**	**5.92**	**123**	P	**P**	**01 01 18.0**	**-1.7**
	0.2nm,0.3s,baz=299,slow=13,SNR=3.8						
LSA	**Lhasa**	**8.20**	**344**	Pn	**P**	**01 01 55.7**	**+4.8**
	11nm,0.4s						
PKI	**Pulchoki**	**9.49**	**309**	*e*Pn	**P**	**01 02 10.1**	**+1.7**
KKN	**Kakani**	**9.71**	**310**	*e*Pn	**P**	**01 02 12.6**	**+1.2**
KKN				*e*Sn	**S**	**01 03 57.9**	**-1.4**
	24nm,0.2s						
KKN	**Kakani**	**9.71**	**310**	*e*Pn	**P**	**01 02 12.6**	**+1.2**
	12nm,0.2s						
KKN				*e*Sn	**S**	**01 03 57.9**	**-1.4**
DMN	**Daman**	**9.74**	**308**	*e*Pn	**P**	**01 02 12.4**	**+0.7**
GKN	**Gorkha**	**10.30**	**309**	*e*Pn	**P**	**01 02 21.3**	**+2.0**
GKN				*e*Sn	**S**	**01 04 11.6**	**-1.8**
	47nm,0.3s						
GKN	**Gorkha**	**10.30**	**309**	*e*Pn	**P**	**01 02 21.3**	**+2.0**
	24nm,0.3s						
GKN				*e*Sn	**S**	**01 04 11.6**	**-1.8**
KOLN	**Koldanda**	**10.95**	**305**	*e*Pn	**P**	**01 02 28.4**	**+0.5**
KOLN				*e*Sn	**S**	**01 04 26.5**	**-2.4**
	30nm,0.4s						
KOLN	**Koldanda**	**10.95**	**305**	*e*Pn	**P**	**01 02 28.4**	**+0.5**
	15nm,0.4s						
KOLN				*e*Sn	**S**	**01 04 26.5**	**-2.4**
MKAR	**Makanchi Array**	**26.60**	**342**	P	**P**	**01 05 23.4**	**-0.3**
	0.4nm,0.4s,mb3.3,baz=149,slow=10,SNR=8.0						
WRA	**Warramunga Arr**	**57.42**	**133**	P	**P**	**01 09 33.1**	**-0.8**
	0.3nm,0.3s,mb3.8,baz=322,slow=7.4,SNR=4.6						
WRAB	**Tennant Creek**	**57.42**	**133**	P	**P**	**01 09 26.2**	**-7.7**
	3.7nm,0.9s,mb4.4						
ASAR	**Alice Springs**	**59.76**	**137**	P	**P**	**01 09 50.0**	**0.0**
	0.4nm,0.5s,mb3.7,baz=321,slow=7.1,SNR=8.0						
GERES	**GERESS Array B**	**67.45**	**315**	P	**P**	**01 10 41.8**	**+1.7**
	0.2nm,0.3s,mb3.4,baz=76,slow=5.5,SNR=4.4						

IDC 20 01:50:54.2±6.1**, 7.95S**×**120.55E, h152**^{km}±60^{km}**, mb3.4**/2**, mb1 3.3**/4**, mb1mx3.1**/14**, Error ellipse: s-maj=119.0km s-min=38.0km az=48.0, Flores Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.24**	**154**	P	P	01 53 30.7	-0.6
	0.1nm,0.3s,baz=329,slow=5.9,SNR=2.4						
FITZ				S	S	01 55 34.2	-0.3
	0.3nm,0.3s,baz=191,slow=20,SNR=4.2						
WRA	**Warramunga Arr**	**17.90**	**133**	P	P	01 54 52.9	-2.1
	0.2nm,0.3s,baz=307,slow=12,SNR=4.7						
WRA				S	S	01 58 11.0	+4.3
	0.1nm,0.3s,baz=312,slow=31,SNR=2.5						
ASAR	**Alice Springs**	**20.20**	**142**	P	P	01 55 17.5	-1.4
	1.4nm,0.4s,baz=318,slow=9.1,SNR=16						
STKA	**Stephens Creek**	**30.83**	**143**	P	P	01 56 55.5	-2.6
	1.5nm,0.6s,baz=321,slow=8.8,SNR=6.3						

GUC 20 02:00:58.2±1.0**, 27.52S**×**69.33W, h120**^{km}**, MD3.7, ML4.4, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CPCH	**Copiapo**	**0.92**	**280**	*e*P	P	02 01 20.1	+0.3
CPCH				*i* S	S	02 01 35.8	-0.1
CPCH				AMP		02 01 38.0	
	comp=N,30μm,0.1s						
VACH	**Vallenar**	**1.65**	**230**	*e*P	P	02 01 17.7	-10
VACH				*i* S	S	02 01 40.4	-10
VACH				AMP		02 01 42.2	
	comp=N,4μm,0.1s						
TLL	**Tololo Astrono**	**2.94**	**206**	*e*P	P	02 01 46.1	+1.5
TLL				*i* S	S	02 02 20.8	+1.0
TLL				AMP		02 02 30.9	
	comp=N,292nm,0.6s						
CPN1	**Cerro Paranal**	**3.04**	**341**	*e*P	P	02 01 45.9	0.0
CMCH	**Combarbala**	**3.93**	**201**	*e*P	P	02 01 57.4	-0.4
CMCH				*i* S	S	02 02 42.9	-0.5

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*IDC **20** 02:24:08.9±1.6, 3.99N×125.47E, mb4.1/5, mb1 4.3/5, mb1mx3.9/16, Error ellipse: s-maj=104.0km s-min=21.9km az=67.0*

ISC 20 02:24:11.8±1.5**, 3.9N**±0.3×**125.3E**±0.7**, h33**^{km}**, n7, σ**$0\overset{s}{.}$**38**/7**, mb4.0**/5**, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.90**	**179**	*e*P	**P**	**02 29 03.8**	**-0.2**
	4.0nm,0.4s,mb4.2						
FITZ	**Fitzroy Crossi**	**21.90**	**179**	P	**P**	**02 29 04.5**	**+0.5**
	4.5nm,0.4s,mb4.3,baz=7.0,slow=10,SNR=37						
WRA	**Warramunga Arr**	**25.34**	**160**	P	**P**	**02 29 37.7**	**+0.1**
	3.2nm,0.3s,mb4.3,baz=340,slow=9.0,SNR=43						
WB2	**Warramunga Arr**	**25.34**	**160**	*e*P	**P**	**02 29 37.6**	**0.0**
ASAR	**Alice Springs**	**28.69**	**163**	P	**P**	**02 30 07.5**	**-0.7**
	0.7nm,0.4s,mb3.7,baz=340,slow=7.4,SNR=6.8						
STKA	**Stephens Creek**	**38.84**	**158**	P	**P**	**02 31 36.1**	**+0.4**
	1.1nm,0.4s,mb3.9,baz=338,slow=12,SNR=7.0						
MKAR	**Makanchi Array**	**56.58**	**326**	P	**P**	**02 33 53.7**	**0.0**
	0.5nm,0.4s,mb3.9,baz=125,slow=8.2,SNR=11						

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*NIED **20** 02:37:00, 33.00N×136.70E, h5^{km}, Mw4.0 Best double couple: $M_0$9.48×10^{14} NP1:ϕ_s352°, δ86°, λ143°. NP2:ϕ_s85°, δ53°, λ5°.*

*JMA **20** 02:37:27.0±0.1, 33.01N×136.72E, h38^{km}±4^{km}, M3.5*

ISC 20 02:37:27.6±1.1**, 33.04N**±0.06×**136.71E**±0.04**, h37**^{km}±33^{km}**, n15, σ**$0\overset{s}{.}$**61**/28**, 7C-1D, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JWZ	**Kozaga**	**0.97**	**301**	⇑P	**P**	**02 37 44.7**	**-0.1**
JWZ				S	**S**	**02 37 57.3**	**-0.3**
TK01	**Tokai 1**	**1.04**	**45**	P	**P**	**02 37 45.1**	**-0.7**
TK02	**Tokai 2**	**1.26**	**44**	P	**P**	**02 37 48.6**	**-0.4**
JKN	**Kiinagashima**	**1.26**	**343**	P	**P**	**02 37 49.3**	**+0.2**
JKN				*e*S	**S**	**02 38 04.4**	**-0.7**
JIE	**Ise**	**1.35**	**360**	⇑P	**P**	**02 37 50.8**	**+0.4**
JIE				*e*S	**S**	**02 38 06.6**	**-0.8**
JWM	**Minabe**	**1.39**	**306**	⇑P	**P**	**02 37 51.0**	**0.0**
JWM				S	**S**	**02 38 08.1**	**-0.2**
JWY	**Kouya**	**1.50**	**322**	⇑P	**P**	**02 37 53.1**	**+0.6**
JWY				S	**S**	**02 38 11.7**	**+0.6**
TK04	**Tokai 4**	**1.66**	**36**	⇓P	**P**	**02 37 54.6**	**-0.2**
TK04				*e*S	**S**	**02 38 14.8**	**-0.3**
TSUJ	**Tsu 2**	**1.69**	**352**	P	**P**	**02 37 55.7**	**+0.6**
TSUJ				*e*S	**S**	**02 38 15.5**	**-0.2**
JHE	**Heguri**	**1.82**	**332**	⇑P	**P**	**02 37 57.8**	**+0.7**
JHE				*e*S	**S**	**02 38 19.4**	**+0.2**
JAI	**Aioi**	**2.03**	**292**	⇑P	**P**	**02 38 00.2**	**+0.1**
JAI				*e*S	**S**	**02 38 23.4**	**-1.0**
JAJ2	**Tsuna**	**2.05**	**313**	P	**P**	**02 38 01.2**	**+0.8**
JAJ2				*e*S	**S**	**02 38 26.2**	**+1.3**
JMN	**Monobe**	**2.46**	**287**	P	**P**	**02 38 06.4**	**+0.1**
JMN				*e*S	**S**	**02 38 33.8**	**-1.6**
JWT	**Wachi**	**2.49**	**335**	⇑P	**P**	**02 38 07.1**	**+0.5**
JWT				*e*S	**S**	**02 38 36.2**	**+0.2**
MAT	**Matsushiro**	**3.71**	**19**	P	**P**	**02 38 24.4**	**+0.4**
MAT				S	**S**	**02 39 06.9**	**-0.2**

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*STR **20** 03:01:02.6±0.3, 42.84N×1.48W, h5^{km}±1^{km}, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LDG **20** 03:01:03.7±0.4, 42.89N×1.45W, h2^{km}, Md2.6/2, Ml2.3/7, Error ellipse: s-maj=6.7km s-min=4.9km az=36.0*

*MDD **20** 03:01:04.0±0.4, 42.88N×1.43W, h6^{km}±4^{km}, mbLg1.7/8, Error ellipse: s-maj=3.2km s-min=2.2km az=39.0, AftershockPLICA PRXIMO*

ISC 20 03:01:01.9±0.7**, 42.89N**±0.03×**1.51W**±0.05**, h11**^{km}±3^{km}**, n28, σ**$1\overset{s}{.}$**39**/46**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJPF	**Ste Jean**	**0.30**	**43**	*e*Pg	**Pg**	**03 01 09.2**	**+0.9**
SJPF				*e*Sg	**Sg**	**03 01 12.1**	**-0.4**
	58nm,0.2s						
EALK	**Alkurruntz**	**0.33**	**360**	Pg	**Pg**	**03 01 10.5**	**+1.8**
	7.9nm,0.3s,SNR=63						
EALK				Lg		03 01 15.1	
	4.8nm,0.1s,SNR=9.1						
OSSF	**Osses**	**0.41**	**26**	Pg	**Pg**	**03 01 11.2**	**+1.0**
OSSF				Sg	**Sg**	**03 01 17.8**	**+2.0**
OSSF	**Osses**	**0.41**	**26**	P	**Pg**	**03 01 11.4**	**+1.2**
OSSF				S	**Sg**	**03 01 17.4**	**+1.5**
LARF	**Larrau**	**0.41**	**69**	Pg	**Pg**	**03 01 10.6**	**+0.3**
LARF				Sg	**Sg**	**03 01 16.7**	**+0.8**
LARF	**Larrau**	**0.41**	**69**	P	**Pg**	**03 01 10.4**	**+0.1**
LARF				S	**Sg**	**03 01 16.0**	**+0.1**
ORDF	**Ordiarp**	**0.53**	**52**	Pg	**Pg**	**03 01 13.2**	**+0.6**
ORDF				Sg	**Sg**	**03 01 20.6**	**+0.8**
ORDF	**Ordiarp**	**0.53**	**52**	P	**Pg**	**03 01 13.2**	**+0.6**
ORDF				S	**Sg**	**03 01 20.6**	**+0.9**
ATE	**Arette**	**0.62**	**71**	P	**Pb**	**03 01 14.7**	**+0.4**
ATE				S	**Sb**	**03 01 23.0**	**+0.3**
FDAF	**Les Forges d’A**	**0.69**	**96**	P	**Pb**	**03 01 15.6**	**+0.2**
FDAF				S	**Sb**	**03 01 25.4**	**+0.7**
ETSF	**Etsaut**	**0.70**	**89**	*e*Pg	**Pg**	**03 01 14.9**	**-1.0**
ETSF				*e*Sg	**Sg**	**03 01 23.8**	**-1.5**
	14nm,0.2s						
VIEF	**Viey**	**1.12**	**90**	S	**Sb**	**03 01 38.5**	**+1.2**
LABF	**Labassere**	**1.17**	**82**	S	**Sb**	**03 01 40.0**	**+1.4**
RESF	**Ens**	**1.36**	**93**	S	**Sb**	**03 01 45.7**	**+1.6**
EPF	**Esparros**	**1.36**	**83**	*e*Pg	**Pg**	**03 01 29.4**	**+0.3**
EPF				*e*Sg	**Sg**	**03 01 45.6**	**-1.8**
	11nm,0.3s						
ESAC	**San Caprasio**	**1.40**	**146**	Pg	**Pg**	**03 01 28.2**	**-1.6**
	16nm,0.3s,SNR=11						
ESAC				Lg		03 01 46.0	
	43nm,0.2s,SNR=5.0						
MELF	**Melles**	**1.67**	**90**	S	**Sn**	**03 01 55.7**	**+3.0**
SALF	**Salau**	**1.99**	**93**	S	**Sn**	**03 02 02.9**	**+2.0**
ETOR	**Torete**	**2.11**	**191**	Pn	**Pn**	**03 01 38.9**	**+1.3**
	SNR=7.9						
ETOR				Pg	**Pg**	**03 01 43.1**	**-0.9**
	1.6nm,0.3s,SNR=16						
ETOR				Sn	**Sn**	**03 02 05.6**	**+1.7**
	2.5nm,0.2s,SNR=4.6						
ETOR				Lg		03 02 10.4	
	3.0nm,0.2s,SNR=5.0						
EMIR	**Miracle**	**2.45**	**112**	Pg	**Pg**	**03 01 47.7**	**-3.1**
	SNR=7.9						
EMIR				Lg		03 02 18.7	
	0.7nm,0.1s,SNR=7.9						
EPOB	**Poblet**	**2.46**	**128**	Pg	**Pg**	**03 01 47.3**	**-3.7**
	SNR=7.9						
EPOB				Lg		03 02 16.3	
	0.7nm,0.2s,SNR=7.9						
LFF	**La Frestale**	**2.61**	**38**	*e*Pn	**Pn**	**03 01 44.4**	**-0.4**
LFF				*e*Sg	**Sg**	**03 02 23.6**	**-5.3**
	2.6nm,0.2s						
EMOS	**Mosqueruela**	**2.64**	**163**	Pg	**Pg**	**03 01 51.2**	**-3.4**
	SNR=7.9						
EMOS				Lg		03 02 23.8	
	1.0nm,0.3s,SNR=7.9						
MTLF	**Montolieu**	**2.76**	**79**	*e*Pn	**Pn**	**03 01 47.1**	**+0.2**
MTLF				*e*Sn	**Sn**	**03 02 19.0**	**-1.6**
	1.2nm,0.3s						
RJF	**Les Rejaudoux**	**3.25**	**41**	*e*Pn	**Pn**	**03 01 52.4**	**-1.4**
RJF				*e*Sn	**Sn**	**03 02 30.3**	**-2.6**
	2.5nm,0.2s						
CAF	**Calviac**	**3.29**	**51**	*e*Pn	**Pn**	**03 01 53.3**	**-1.0**
CAF				*e*Sn	**Sn**	**03 02 31.5**	**-2.3**
	1.0nm,0.2s						
MFF	**Saint Martin d**	**3.84**	**14**	*e*Pn	**Pn**	**03 02 02.0**	**-0.2**
MFF				*e*Sn	**Sn**	**03 02 44.9**	**-2.8**
	1.7nm,0.3s						
LASF	**Ste Croix**	**4.08**	**71**	*e*Sn	**Sn**	**03 02 50.1**	**-3.8**
	1.4nm,0.2s						

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*LDG **20** 03:16:47.9±0.4, 42.86N×1.49W, h2^{km}, Md2.5/2, Ml2.0/5, Error ellipse: s-maj=6.2km s-min=4.4km az=53.0*

*STR **20** 03:16:47.7±0.2, 42.85N×1.49W, h5^{km}±1^{km}, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*MDD **20** 03:16:49.1±0.4, 42.87N×1.42W, h6^{km}±5^{km}, mbLg1.7/7, Error ellipse: s-maj=3.3km s-min=1.9km az=45.0, AftershockPLICA PRXIMO*

ISC 20 03:16:46.3±0.8**, 42.83N**±0.03×**1.51W**±0.05**, h9**^{km}±4^{km}**, n26, σ**$1\overset{s}{.}$**20**/44**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJPF	**Ste Jean**	**0.35**	**37**	*e*Pg	**Pg**	**03 16 54.4**	**+0.8**
SJPF				*e*Sg	**Sg**	**03 16 57.3**	**-1.1**
	65nm,0.3s						
EALK	**Alkurruntz**	**0.39**	**1**	Pg	**Pg**	**03 16 55.7**	**+1.4**
	9.2nm,0.4s,SNR=27						
EALK				Lg		03 17 00.6	
	13nm,0.2s,SNR=18						
LARF	**Larrau**	**0.44**	**61**	Pg	**Pg**	**03 16 55.5**	**+0.3**
LARF				Sg	**Sg**	**03 17 01.9**	**+0.8**
LARF	**Larrau**	**0.44**	**61**	P	**Pg**	**03 16 55.6**	**+0.4**
LARF				S	**Sg**	**03 17 01.1**	**0.0**
OSSF	**Osses**	**0.46**	**23**	Pg	**Pg**	**03 16 56.4**	**+0.7**
OSSF				Sg	**Sg**	**03 17 02.6**	**+0.6**
OSSF	**Osses**	**0.46**	**23**	P	**Pg**	**03 16 56.6**	**+0.9**
OSSF				S	**Sg**	**03 17 02.5**	**+0.5**
ORDF	**Ordiarp**	**0.57**	**48**	Pg	**Pg**	**03 16 58.3**	**+0.5**
ORDF				Sg	**Sg**	**03 17 05.7**	**+0.2**
ORDF	**Ordiarp**	**0.57**	**48**	P	**Pg**	**03 16 58.4**	**+0.6**
ORDF				S	**Sg**	**03 17 05.7**	**+0.2**
ATE	**Arette**	**0.65**	**66**	P	**Pb**	**03 16 59.9**	**+0.5**
ATE				S	**Sg**	**03 17 08.0**	**-0.1**
FDAF	**Les Forges d’A**	**0.69**	**91**	Pg	**Pg**	**03 17 00.7**	**+0.4**
FDAF				Sg	**Sg**	**03 17 10.3**	**+0.7**
FDAF	**Les Forges d’A**	**0.69**	**91**	P	**Pb**	**03 17 00.7**	**+0.5**
FDAF				S	**Sb**	**03 17 10.4**	**+0.8**
ETSF	**Etsaut**	**0.70**	**84**	*e*Pg	**Pg**	**03 17 00.1**	**-0.4**
ETSF				*e*Sg	**Sg**	**03 17 08.7**	**-1.2**
	8.5nm,0.2s						
VIEF	**Viey**	**1.13**	**87**	S	**Sb**	**03 17 23.5**	**+1.3**
LABF	**Labassere**	**1.19**	**79**	S	**Sb**	**03 17 25.1**	**+1.3**
ESAC	**San Caprasio**	**1.35**	**145**	Pg	**Pg**	**03 17 13.4**	**+0.1**
	5.8nm,0.3s,SNR=8.3						
ESAC				Lg		03 17 32.2	
	39nm,0.3s,SNR=9.6						
RESF	**Ens**	**1.36**	**90**	S	**Sb**	**03 17 30.5**	**+1.5**
EPF	**Esparros**	**1.38**	**81**	*e*Pn	**Pn**	**03 17 12.3**	**+0.5**
EPF				*e*Pg	**Pg**	**03 17 14.5**	**+0.7**
EPF				*e*Sg	**Sg**	**03 17 30.8**	**-1.4**
	8.9nm,0.4s						
SALF	**Salau**	**1.99**	**91**	S	**Sn**	**03 17 48.8**	**+3.0**
ETOR	**Torete**	**2.05**	**192**	Pg	**Pg**	**03 17 27.7**	**+0.5**
	2.5nm,0.4s,SNR=10						
ETOR				Sn	**Sn**	**03 17 51.2**	**+3.8**
	SNR=7.9						
ETOR				Lg		03 17 55.7	
	3.9nm,0.3s,SNR=5.8						
EPOB	**Poblet**	**2.43**	**127**	Pg	**Pg**	**03 17 32.8**	**-2.0**
	SNR=7.9						
EMIR	**Miracle**	**2.43**	**111**	Pg	**Pg**	**03 17 32.5**	**-2.3**
	SNR=7.9						
EMIR				Lg		03 18 04.9	
	3.2nm,0.4s,SNR=7.9						

EMOS	Mosqueruela	2.58	162	Pg	Pg	03 17 35.0	-2.9
	SNR=7.9						
EMOS				Lg		03 18 07.9	
	0.6nm,0.2s,SNR=7.9						
LFF	La Frestale	2.67	37	*e*Pn	Pn	03 17 29.4	-0.9
LFF				*e*Sg	Sg	03 18 08.6	-6.5
	1.3nm,0.2s						
MTLF	Montolieu	2.78	78	*e*Pn	Pn	03 17 32.2	+0.3
MTLF				*e*Sn	Sn	03 18 04.1	-1.8
	0.5nm,0.2s						
RJF	Les Rejaudoux	3.30	40	*e*Pn	Pn	03 17 37.9	-1.4
RJF				*e*Sn	Sn	03 18 15.7	-3.4
	1.1nm,0.2s						
CAF	Calviac	3.33	50	*e*Pn	Pn	03 17 38.3	-1.4
CAF				*e*Sn	Sn	03 18 16.6	-3.2
	1.1nm,0.3s						

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*STR **20** 05:08:10.7±0.4, 42.84N×1.52W, h5^{km}±1^{km}, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **20** 05:08:11.2±0.4, 42.88N×1.51W, h2^{km}, Md2.5/2, Ml2.4/7, Error ellipse: s-maj=6.2km s-min=4.4km az=51.0*
*MDD **20** 05:08:12.3±0.4, 42.87N×1.42W, h6^{km}±4^{km}, mbLg1.9/8, Error ellipse: s-maj=3.4km s-min=2.3km az=33.0, PRXIMO AftershockPLICA*
ISC 20 05:08:10.2±0.6**, 42.87N**±0.03×**1.50W**±0.04**, h13**^{km}±3^{km}**, n34,** σ1^{s}**27**/55**, 1C, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJPF	Ste Jean	0.32	39	*e*Pg	Pg	05 08 17.7	+0.8
SJPF				*e*Sg	Sg	05 08 20.6	-0.8
	156nm,0.3s						
EALK	Alkurruntz	0.35	359	⇑Pg	Pg	05 08 18.9	+1.3
	4.7nm,0.1s,SNR=18						
EALK				Lg		05 08 25.5	
	33nm,0.2s,SNR=5.0						
LARF	Larrau	0.41	66	Pg	Pg	05 08 18.8	+0.1
LARF				Sg	Sg	05 08 25.1	+0.7
LARF	Larrau	0.41	66	P	Pg	05 08 18.9	+0.2
LARF				S	Sg	05 08 24.8	+0.5
OSSF	Osses	0.42	24	Pg	Pg	05 08 19.7	+0.8
OSSF				Sg	Sg	05 08 26.0	+1.2
OSSF	Osses	0.42	24	P	Pb	05 08 19.9	+0.9
OSSF				S	Sg	05 08 25.8	+1.0
ORDF	Ordiarp	0.54	50	Pg	Pg	05 08 21.7	+0.6
ORDF				Sg	Sg	05 08 29.4	+0.9
ORDF	Ordiarp	0.54	50	P	Pb	05 08 21.7	+0.8
ORDF				S	Sb	05 08 28.8	+0.6
ATE	Arette	0.62	69	P	Pb	05 08 22.7	+0.3
ATE				S	Sb	05 08 31.2	+0.4
FDAF	Les Forges d'A	0.69	94	Pg	Pg	05 08 23.9	-0.2
FDAF				Sg	Sg	05 08 34.3	+1.0
FDAF	Les Forges d'A	0.69	94	P	Pb	05 08 24.1	+0.6
FDAF				S	Sb	05 08 33.1	+0.6
ETSF	Etsaut	0.69	87	*e*Pg	Pg	05 08 23.4	-0.7
ETSF				*e*Sg	Sg	05 08 32.2	-1.3
	14nm,0.3s						
REYF	Montagne du Re	0.83	76	S	Sb	05 08 37.5	+0.6
VIEF	Viey	1.12	89	S	Sb	05 08 46.3	+1.2
LABF	Labassere	1.17	81	P	Pb	05 08 33.0	+1.3
LABF				S	Sb	05 08 46.8	+0.3
RESF	Ens	1.35	92	S	Sb	05 08 54.1	+2.2
EPF	Esparros	1.36	83	*e*Pn	Pn	05 08 35.6	+0.7
EPF				*e*Pg	Pg	05 08 37.9	+0.5
EPF				*e*Sg	Sg	05 08 53.9	-1.7
	16nm,0.3s						
ESAC	San Caprasio	1.38	146	Pg	Pg	05 08 36.5	-1.3
	8.6nm,0.2s,SNR=11						
ESAC				Lg		05 08 55.0	
	77nm,0.3s,SNR=5.0						
MELF	Melles	1.66	89	S	Sn	05 09 04.2	+3.8
SALF	Salau	1.98	92	S	Sn	05 09 11.8	+3.2
ETOR	Torete	2.09	192	Pn	Pn	05 08 47.2	+1.9
	SNR=5.0						
ETOR				Pg	Pg	05 08 50.7	-1.3
	4.5nm,0.4s,SNR=14						
ETOR				Sn	Sn	05 09 14.0	+2.6
	SNR=5.0						
ETOR				Lg		05 09 18.6	
	6.9nm,0.3s,SNR=5.0						
EMIR	Miracle	2.43	112	Pg	Pg	05 08 56.3	-2.5
	0.7nm,0.1s,SNR=5.0						
EMIR				Lg		05 09 28.8	
	SNR=7.9						
EPOB	Poblet	2.44	127	Pg	Pg	05 08 56.4	-2.6
	0.3nm,0.1s,SNR=5.0						
EPOB				Lg		05 09 25.1	
	3.9nm,0.3s,SNR=7.9						
EBR	Ebro Roquetas	2.53	143	*e*SG	Sg	05 09 34.5	0.0
LFF	La Frestale	2.63	37	*e*Pn	Pn	05 08 53.1	+0.1
LFF				*e*Sg	Sg	05 09 32.2	-5.5
	4.3nm,0.3s						
MTLF	Montolieu	2.76	79	*e*Pn	Pn	05 08 55.5	+0.5
MTLF				*e*Sn	Sn	05 09 27.3	-1.1
	1.4nm,0.2s						
RJF	Les Rejaudoux	3.26	41	*e*Pn	Pn	05 09 01.2	-0.9
RJF				*e*Sn	Sn	05 09 38.6	-2.5
	2.2nm,0.2s						
CAF	Calviac	3.29	50	*e*Pn	Pn	05 09 02.1	-0.4
CAF				*e*Sn	Sn	05 09 39.8	-2.1
	1.7nm,0.2s						
MFF	Saint Martin d	3.85	14	*e*Pg	Pg	05 09 21.9	-5.3
LASF	Ste Croix	4.08	71	*e*Pn	Pn	05 09 12.9	-0.8
LASF				*e*Sn	Sn	05 09 58.6	-3.2
	1.2nm,0.2s						
TCF	Toulx Ste Croi	4.32	36	*e*Pn	Pn	05 09 14.8	-2.4
BGF	Bois d'Agland	4.81	39	*e*Sn	Sn	05 10 15.5	-4.9
	2.5nm,0.2s						
VIVF	Saint-Julien-l	4.88	64	*e*Pn	Pn	05 09 23.9	-1.2
SSF	Saint Saulge	5.49	39	*e*Pn	Pn	05 09 31.2	-2.5

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*LDG **20** 05:11:08.9±0.4, 42.88N×1.46W, h2^{km}, Md2.5/2, Ml2.4/6, Error ellipse: s-maj=6.7km s-min=5.2km az=35.0*
*STR **20** 05:11:08.1±0.1, 42.85N×1.49W, h5^{km}±1^{km}, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*MDD **20** 05:11:09.4±0.5, 42.86N×1.41W, h7^{km}±5^{km}, mbLg1.9/9, Error ellipse: s-maj=3.9km s-min=2.3km az=51.0, PRXIMO AftershockPLICA*
ISC 20 05:11:06.5±0.7**, 42.83N**±0.03×**1.52W**±0.05**, h13**^{km}±3^{km}**, n26,** σ1^{s}**17**/42**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJPF	Ste Jean	0.35	37	*e*Pg	Pg	05 11 14.7	+0.8
SJPF				*e*Sg	Sg	05 11 17.4	-1.5
	121nm,0.3s						
EALK	Alkurruntz	0.39	1	Pg	Pg	05 11 15.9	+1.3
	11nm,0.2s,SNR=7.2						
EALK				Lg		05 11 21.8	
	78nm,0.3s,SNR=14						
LARF	Larrau	0.44	62	Pg	Pg	05 11 16.1	+0.5
LARF				Sg	Sg	05 11 22.1	+0.5
LARF	Larrau	0.44	62	P	Pb	05 11 16.2	+0.6
LARF				S	Sg	05 11 22.0	+0.3
OSSF	Osses	0.46	24	Pg	Pg	05 11 16.7	+0.7
OSSF				Sg	Sg	05 11 22.9	+0.5
OSSF	Osses	0.46	24	P	Pb	05 11 16.8	+0.8
OSSF				S	Sb	05 11 22.8	+0.4
ORDF	Ordiarp	0.57	48	Pg	Pg	05 11 18.6	+0.5
ORDF				Sg	Sg	05 11 26.1	+0.2
ORDF	Ordiarp	0.57	48	P	Pb	05 11 18.7	+0.8
ORDF				S	Sg	05 11 26.1	+0.2
ATE	Arette	0.65	67	P	Pb	05 11 20.2	+1.0
ATE				S	Sb	05 11 28.3	+0.4
FDAF	Les Forges d'A	0.70	91	S	Sb	05 11 30.2	+0.9
ETSF	Etsaut	0.71	84	*e*Pg	Pg	05 11 20.5	-0.3
ETSF				*e*Sg	Sg	05 11 29.1	-1.2
	21nm,0.3s						
VIEF	Viey	1.13	87	S	Sb	05 11 43.0	+1.0
LABF	Labassere	1.19	79	S	Sb	05 11 44.7	+1.3
ESAC	San Caprasio	1.35	145	Pg	Pg	05 11 33.4	-0.2
	17nm,0.2s,SNR=6.9						
ESAC				Lg		05 11 51.9	
	65nm,0.4s,SNR=6.7						
RESF	Ens	1.36	90	S	Sb	05 11 51.2	+2.6
EPF	Esparros	1.38	81	*e*Pg	Pg	05 11 34.8	+0.7
EPF				*e*Sg	Sg	05 11 50.9	-1.6
	17nm,0.2s						
SALF	Salau	1.99	91	S	Sn	05 12 10.5	+5.2
ETOR	Torete	2.05	191	Pg	Pg	05 11 47.5	0.0
	3.2nm,0.3s,SNR=5.0						
ETOR				Lg		05 12 15.2	
	7.1nm,0.3s,SNR=5.0						
EPOB	Poblet	2.43	127	Pn	Pn	05 11 48.1	+1.4
	SNR=4.0						
EPOB				Pg	Pg	05 11 52.9	-2.2
	1.2nm,0.2s,SNR=7.9						
EPOB				Lg		05 12 23.6	
	1.8nm,0.2s,SNR=5.0						
EMIR	Miracle	2.43	111	Pg	Pg	05 11 52.3	-2.9
	1.7nm,0.2s,SNR=7.9						
EMIR				Lg		05 12 26.7	
	SNR=7.9						
EMOS	Mosqueruela	2.59	162	Pg	Pg	05 11 57.2	-1.0
	SNR=7.9						
EMOS				Lg		05 12 34.1	
	2.2nm,0.3s,SNR=5.0						
LFF	La Frestale	2.66	37	*e*Pn	Pn	05 11 49.8	-0.1
LFF				*e*Sg	Sg	05 12 29.3	-6.0
	3.9nm,0.4s						
MTLF	Montolieu	2.78	78	*e*Pn	Pn	05 11 52.6	+1.0
MTLF				*e*Sn	Sn	05 12 24.5	-0.9
	2.1nm,0.3s						
RJF	Les Rejaudoux	3.30	40	*e*Pn	Pn	05 11 58.2	-0.8
RJF				*e*Sn	Sn	05 12 35.8	-2.6
	2.8nm,0.3s						
CAF	Calviac	3.33	50	*e*Pn	Pn	05 11 58.8	-0.6
CAF				*e*Sn	Sn	05 12 36.8	-2.4
	1.7nm,0.2s						
MFF	Saint Martin d	3.89	14	*e*Pn	Pn	05 12 07.1	-0.3
MFF				*e*Sn	Sn	05 12 50.5	-3.0
	1.4nm,0.3s						

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*PRU **20** 05:12:56.3, 51.39N×16.19E*
*WAR **20** 05:12:56.0, 51.45N×16.16E, ML2.7, Mining Induced*
ISC 20 05:12:52.3±1.0**, 51.48N**±0.05×**16.17E**±0.04**, n10,** σ1^{s}**16**/21**, Poland**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	Ksiaz	0.64	173	*e*PG	Pg	05 13 07.0	+1.9
KSP				*e*SG	Sg	05 13 15.0	+1.3
UPC	Upice	0.98	186	*e*PG	Pg	05 13 13.4	+1.6
UPC				*e*SG	Sg	05 13 25.7	+0.8
DPC	Dobruska-Polom	1.14	175	*e*PG	Pg	05 13 15.8	+0.8
DPC				*e*SG	Sg	05 13 30.5	+0.4
	16nm,0.3s						
PVCC	Panska Ves	1.39	227	*e*PG	Pg	05 13 21.4	+1.4
PVCC				*e*SG	Sg	05 13 38.9	+0.4
PRU	Pruhonice	1.81	215	PG	Pg	05 13 28.1	-0.4
PRU				*i* x	x	05 13 46.3	
PRU				SG	Sg	05 13 51.6	-1.1
	18nm,0.4s						
CLL	Collm	1.99	266	*e*PG	Pg	05 13 32.0	0.0
CLL				*e*SG	Sg	05 13 59.0	+0.5
OKC	Ostrava-Krasne	2.07	142	*e*PG	Pg	05 13 34.0	+0.3
OKC				*e*SG	Sg	05 13 59.0	-2.3
OJC	Ojcow	2.63	117	*e*PG	Pg	05 13 44.0	-0.7
OJC				*e*SG	Sg	05 14 19.0	-0.7
NKC	Novy Kostel	2.67	244	*e*PG	Pg	05 13 45.6	+0.1
NKC				*e*SG	Sg	05 14 20.1	-1.0
KHC	Kasperske Hory	2.88	216	*e*PG	Pg	05 13 46.8	-3.0
KHC				*e*SN	Sn	05 14 15.8	-0.3
KHC				*e*SG	Sg	05 14 25.5	-2.6

KRSC 20 05:14:34.3±1.2**, 55.61N×166.22E, h39**^{km}±13^{km}**, ML3.8, Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BKI	Bering	0.43	199	*i* P	P	05 14 43.7	-0.4
BKI				*i* S	S	05 14 49.5	-1.4
BKI				Smax			
	1μm,0.6s						
KBTR	Krutoberegovo	2.01	289	*i* P	P	05 15 04.9	-1.5
KBTR				*e*S	S	05 15 28.0	-2.4
KBG	Krutoberegovo	2.08	290	S	S	05 15 30.0	-2.3
KBG				Smax			
	340nm,1.0s						
MKZ	Mys Kozlova	2.79	250	*e*P	P	05 15 17.2	-0.4
MKZ				*e*S	S	05 15 48.3	-2.0
SVLR	Shiveluch	2.96	291	P	P	05 15 20.6	+0.5
ZLN	Zelenaya	3.08	280	*i* P	P	05 15 22.4	+0.6
ZLN				*e*S	S	05 15 58.1	+0.3
CIRR	Tsirk	3.12	282	*e*P	P	05 15 22.7	+0.3
CIRR				*e*S	S	05 15 57.5	-1.4
LGNR	Loginova	3.15	281	*e*P	P	05 15 23.1	+0.3
LGNR				*e*S	S	05 15 59.4	-0.2
KLY	Klyuchi	3.21	285	P	P	05 15 21.5	-2.0
KRSR	Krestovskiy	3.24	283	*e*P	P	05 15 24.1	+0.1
KRSR				*e*S	S	05 16 00.6	-1.2
KMNR	Kamenistaya	3.39	275	*e*P	P	05 15 25.7	-0.4
KMNR				*e*S	S	05 16 04.0	-1.6
KPT	Kopyto	3.41	278	*e*P	P	05 15 26.8	+0.5
KPT				*e*S	S	05 16 04.8	-1.2
TUMR	Tumrok	3.48	267	*e*P	P	05 15 28.0	+0.7
TUMR				*e*S	S	05 16 06.6	-1.2
KOZ	Kozyrevsk	3.61	280	*e*P	P	05 15 30.4	+1.2
KOZ				*e*S	S	05 16 12.0	+0.9
SRDR	Sredinnyy	3.72	284	*i* P	P	05 15 31.3	+0.5
SRDR				*e*S	S	05 16 13.7	-0.3
SPN	Mys Shipunski	4.41	238	P	P	05 15 40.0	-0.6
SPN				*e*S	S	05 16 27.9	-3.6
NLC	Nalytchevo	4.70	242	P	P	05 15 45.5	+0.8
NLC				*e*S	S	05 16 36.2	-2.5
SDLR	Sedlovina	4.88	244	P	P	05 15 48.4	+1.2
SDLR				*e*S	S	05 16 40.7	-2.4
SMAR	Somma	4.93	245	*e*P	P	05 15 48.3	+0.4
UGLR	Uglovaya	4.95	244	P	P	05 15 50.1	+2.0
AVH	Avacha	4.96	245	*e*P	P	05 15 48.4	+0.1
KOK	Koryaka	5.00	245	*e*P	P	05 15 49.5	+0.6
GNL	Ganaly	5.17	252	*e*P	P	05 15 51.9	+0.6
RUS	Russkaya	5.55	238	*e*P	P	05 15 56.0	-0.5
RUS				*e*S	S	05 16 57.3	-2.6
APC	Apacha	5.95	247	*e*P	P	05 16 04.8	+2.6

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*STR **20** 05:27:52.7±0.1, 42.84N×1.51W, h5^{km}±1^{km}, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **20** 05:27:53.3±0.4, 42.86N×1.48W, h2^{km}, Md2.6/2, Ml2.2/6, Error ellipse: s-maj=6.4km s-min=4.9km az=42.0*
*MDD **20** 05:27:54.1±0.4, 42.87N×1.42W, h7^{km}±5^{km}, mbLg1.7/6, Error ellipse: s-maj=3.5km s-min=2.6km az=31.0, PRXIMO AftershockPLICA*
ISC 20 05:27:52.1±0.6**, 42.85N**±0.03×**1.48W**±0.05**, h14**^{km}±3^{km}**, n23,** σ1^{s}**09**/41**, 1C, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJPF	Ste Jean	0.32	36	*e*Pg	Pg	05 27 59.5	+0.5
SJPF				*e*Sg	Sg	05 28 02.2	-1.4
	47nm,0.3s						
EALK	Alkurruntz	0.37	357	⇑Pg	Pg	05 28 00.7	+0.9
	4.7nm,0.1s,SNR=18						
EALK				Lg		05 28 06.9	
	36nm,0.2s,SNR=5.0						
LARF	Larrau	0.41	63	Pg	Pg	05 28 00.9	+0.3
LARF				Sg	Sg	05 28 07.2	+0.9
LARF	Larrau	0.41	63	P	Pb	05 28 01.1	+0.6
LARF				S	Sb	05 28 06.8	+0.6
OSSF	Osses	0.43	22	Pg	Pg	05 28 01.4	+0.3
OSSF				Sg	Sg	05 28 07.7	+0.5
OSSF	Osses	0.43	22	P	Pb	05 28 01.6	+0.7
OSSF				S	Sb	05 28 07.6	+0.7
ORDF	Ordiarp	0.54	48	Pg	Pg	05 28 03.5	+0.4
ORDF				Sg	Sg	05 28 11.2	+0.7
ORDF	Ordiarp	0.54	48	P	Pb	05 28 03.5	+0.8
ORDF				S	Sb	05 28 10.6	+0.6
ATE	Arette	0.62	68	P	Pb	05 28 04.9	+0.8
ATE				S	Sb	05 28 12.9	+0.6
ETSF	Etsaut	0.68	86	*e*Pg	Pg	05 28 05.2	-0.7
ETSF				*e*Sg	Sg	05 28 14.1	-1.0
	8.7nm,0.2s						
VIEF	Viey	1.11	88	S	Sb	05 28 27.7	+1.2
LABF	Labassere	1.16	80	S	Sb	05 28 30.4	+2.4
EPF	Esparros	1.35	82	*e*Pn	Pn	05 28 17.2	+0.6
EPF				*e*Pg	Pg	05 28 19.6	+0.5
EPF				*e*Sg	Sg	05 28 35.6	-1.6
	9.9nm,0.2s						
ESAC	San Caprasio	1.36	146	Pg	Pg	05 28 18.3	-1.0
	12nm,0.2s,SNR=11						
ESAC				Lg		05 28 36.5	
	25nm,0.3s,SNR=5.0						
SALF	Salau	1.97	92	S	Sn	05 28 55.4	+5.4
ETOR	Torete	2.08	192	Pn	Pn	05 28 28.8	+1.8
	SNR=5.0						
ETOR				Pg	Pg	05 28 32.7	-1.0
	1.9nm,0.3s,SNR=11						
ETOR				Sn	Sn	05 28 56.9	+4.1
	SNR=7.9						
ETOR				Lg		05 29 00.2	
	2.3nm,0.2s,SNR=5.0						
EMIR	Miracle	2.42	112	Pg	Pg	05 28 39.8	-0.6
	3.1nm,0.2s,SNR=4.0						
EMOS	Mosqueruela	2.60	163	Pg	Pg	05 28 43.0	-1.0
	SNR=5.0						
EMOS				Lg		05 29 15.0	
	0.2nm,0.1s,SNR=5.0						
LFF	La Frestale	2.63	37	*e*Pn	Pn	05 28 34.5	-0.4
LFF				*e*Sg	Sg	05 29 13.8	-6.0
	0.8nm,0.2s						
MTLF	Montolieu	2.75	79	*e*Pn	Pn	05 28 37.4	+0.8
MTLF				*e*Sn	Sn	05 29 09.3	-0.6
	1.8nm,0.3s						
RJF	Les Rejaudoux	3.27	40	*e*Pn	Pn	05 28 42.9	-1.0
RJF				*e*Sn	Sn	05 29 20.6	-2.3
	1.7nm,0.2s						
CAF	Calviac	3.29	50	*e*Pn	Pn	05 28 43.6	-0.7
CAF				*e*Sn	Sn	05 29 21.4	-2.2
	0.8nm,0.2s						
MFF	Saint Martin d	3.87	14	*e*Pn	Pn	05 28 52.0	-0.5
MFF				*e*Sn	Sn	05 29 35.2	-2.9
	1.0nm,0.3s						

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*NEIC **20** 05:29:05.9±0.2, 60.91N×151.87W, h89^{km}±2^{km}, mb4.1/5, Error ellipse: s-maj=3.3km s-min=2.5km az=131.0*
NEIC Felt [II] at Anchorage, Chugiak and Seward.
*IDC **20** 05:29:08.9±2.5, 61.20N×151.94W, h108^{km}±21^{km}, mb3.8/13, mb1 3.9/18, mb1mx3.9/23, Error ellipse: s-maj=18.2km s-min=15.1km az=17.0*
ISC 20 05:29:04.8±0.2**, 60.90N**±0.02×**151.84W**±0.04**, h98**^{km}±2^{km}**, n114,** σ0^{s}**97**/138**, mb4.0**/17**, Kenai Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BKG	Blockade Glaci	0.27	309	P	P	05 29 19.0	0.0
SPU	Mount Spurr	0.30	340	P	P	05 29 19.3	+0.1
CKL	Chakachamna La	0.38	321	P	P	05 29 19.7	0.0
CRP	Crater Peak	0.40	337	P	P	05 29 20.2	+0.4
CRP				S	S	05 29 31.6	+0.5
RDT	Redoubt	0.43	221	P	P	05 29 19.8	-0.3
RDT				S	S	05 29 30.5	-1.0
REF	Redoubt East F	0.59	226	P	P	05 29 21.0	-0.3
REF				S	S	05 29 32.6	-0.9
STLK	Strandline Lak	0.60	0	P	P	05 29 21.8	+0.4
RSO	Redoubt South	0.63	226	P	P	05 29 21.5	-0.1
SUA	Susitna One	0.78	43	P	P	05 29 24.3	+1.4
FIB	Fire Island	0.85	71	P	P	05 29 25.9	+2.2
SLKM	Skilak Lake	0.89	116	P	P	05 29 25.1	+1.0
NNL	Ninilchik	0.90	162	P	P	05 29 26.0	+1.8
ILIM	Iliamna	0.99	214	P	P	05 29 24.9	-0.4
RC01	Rabbit Creek A	1.04	79	P	P	05 29 27.1	+1.3
RC01				S	S	05 29 43.4	+1.8
IVE	Iliamna Volcan	1.06	214	P	P	05 29 25.6	-0.4
IVE				S	S	05 29 40.6	-1.4
IVS	Iliamna South	1.09	215	P	P	05 29 26.2	-0.2
SKT	Skwentna	1.09	8	P	P	05 29 26.9	+0.5
SKT				S	S	05 29 43.1	+0.5
ILS	Iliamna Low So	1.13	213	P	P	05 29 26.6	-0.3
BRLK	Bradley Lake	1.23	157	P	P	05 29 28.7	+0.5
HOM	Homer	1.25	175	P	P	05 29 29.2	+0.9
MPA	Moose Pass	1.29	108	P	P	05 29 29.7	+0.9
CNPM	China Poot	1.41	167	P	P	05 29 30.7	+0.5
SEW	Seward	1.43	123	P	P	05 29 30.7	+0.3
SEW				S	S	05 29 49.3	-0.2
OPT	Oil Point	1.43	210	P	P	05 29 30.8	+0.3
XLV	Seldovia	1.45	178	P	P	05 29 31.1	+0.3
PMR	Palmer	1.48	61	P	P	05 29 31.6	+0.5
PMR				S	S	05 29 51.3	+0.7
GHO	Glory Hole Cre	1.65	57	P	P	05 29 34.2	+0.9
CUT	Chulitna	1.68	26	P	P	05 29 35.0	+1.3
PWL	Port Wells	1.71	90	P	P	05 29 34.4	+0.4
AUE	Augustine Isla	1.73	207	P	P	05 29 34.3	+0.1
AGU	Augustine-Summ	1.74	208	P	P	05 29 34.8	+0.4
AUI	Augustine Isla	1.76	208	P	P	05 29 34.7	0.0
AUI				S	S	05 29 56.5	-0.2
SML	Sawmill	1.92	60	P	P	05 29 37.3	+0.6
SML				S	S	05 30 01.3	+1.0
CFI	College Fiord	2.00	80	P	P	05 29 37.8	+0.1
MCNL	McNeil River	2.13	217	P	P	05 29 39.5	0.0
LTI	Latouche	2.15	112	P	P	05 29 39.4	-0.5
SYI	Shuyak Island	2.32	187	P	P	05 29 42.3	+0.2
GLI	Glacier Island	2.32	88	P	P	05 29 41.2	-0.9
GLI				S	S	05 30 08.6	-1.3
SCM	Sheep Creek Mo	2.36	65	P	P	05 29 43.1	+0.4
JPK	Jack Peak	2.56	84	P	P	05 29 45.0	-0.5
JPK				S	S	05 30 15.5	-0.3
FID	Port Fidalgo	2.63	91	P	P	05 29 44.9	-1.5
KAPH	Katmai Pasha	2.64	210	P	P	05 29 46.6	+0.1
TRF	Thorofare Moun	2.66	15	P	P	05 29 47.2	+0.4
TRF				S	S	05 30 18.2	-0.1
VLZ	Valdez	2.69	83	P	P	05 29 46.8	-0.4
VLZ				S	S	05 30 18.5	-0.6
KTH	Kantishna Hill	2.70	9	P	P	05 29 47.6	+0.3
KTH				S	S	05 30 19.4	+0.2
KAHG	Katmai Hook Gl	2.78	211	P	P	05 29 48.4	0.0
TTA	Tatalina	2.84	318	P	P	05 29 48.8	-0.4
KLU	Klutina	2.93	76	P	P	05 29 50.1	-0.3
DIV	Divide	2.96	83	P	P	05 29 50.4	-0.6
DIV				S	S	05 30 25.0	-0.7
EYAK	Cordova Ski Ar	3.01	94	P	P	05 29 50.6	-1.0
DHY	Denali Highway	3.03	42	P	P	05 29 52.5	+0.6
MID	Middleton Isla	3.12	116	*e*P	P	05 29 53.8	+0.7
MCK	McKinley	3.15	24	P	P	05 29 54.0	+0.5
KDAK	Kodiak Island	3.15	187	P	P	05 29 52.2	-1.4
KDAK				S	S	05 30 28.2	-2.1
KABR	Katmai Barrier	3.20	211	P	P	05 29 54.1	-0.2
TZL	Tazlina	3.28	67	P	P	05 29 55.8	+0.4
ANCK	Angle Creek	3.29	216	P	P	05 29 55.3	-0.1
CAHL	Cahill	3.36	213	P	P	05 29 56.7	+0.3
SDG	Sourdough	3.41	59	P	P	05 29 57.8	+0.7
KJL	Kejulik	3.43	215	P	P	05 29 57.6	+0.2
BMRM	Bremner River	3.53	86	P	P	05 29 57.5	-1.2
BMRM				S	S	05 30 38.2	-1.5
PAX	Paxson	3.66	53	P	P	05 30 01.4	+0.9
PAX				S	S	05 30 42.8	0.0
NEA	Nenana	3.90	18	P	P	05 30 03.0	-0.9
GLB	Gilahina Butte	3.93	79	P	P	05 30 03.5	-0.6
GLB				S	S	05 30 48.9	-0.5
HDA	Harding Lake	4.18	31	P	P	05 30 07.4	-0.2
CCB	Clear Creek Bu	4.19	24	P	P	05 30 07.0	-0.8
COLA	College	4.38	23	P	P	05 30 09.9	-0.5
TGL	Tana Glacier	4.41	88	P	P	05 30 09.7	-1.2
WAX	Waxell Ridge	4.44	92	P	P	05 30 09.7	-1.6
GCSA	Galena City Sc	4.50	331	P	P	05 30 11.6	-0.4
ILAR	Eielson Array	4.50	28	P	P	05 30 11.3	-0.7
	18nm,0.3s,baz=217,slow=13,SNR=622						
ILAR				S	S	05 31 01.5	-2.0
	25nm,0.3s,baz=217,slow=23,SNR=7.7						
SNH	Sunshine Point	4.50	95	P	P	05 30 12.7	+0.6
DOT	Dot Lake	4.56	49	P	P	05 30 13.0	+0.2
BALM	Baldy	4.63	84	P	P	05 30 12.8	-0.9
CTGM	Chitina Glacie	5.12	85	P	P	05 30 20.3	-0.2
ANPK	Aniakchak Peak	5.22	221	P	P	05 30 22.6	+0.9
IMA	Indian Mountai	5.25	352	P	P	05 30 21.9	-0.3
PRP	Porcupine Dome	5.44	29	P	P	05 30 25.3	+0.4
PCA	Pinnacle	5.78	93	P	P	05 30 28.2	-1.3
PNL	Peninsula	6.31	96	P	P	05 30 35.9	-0.9
COLD	Coldfoot	6.39	6	P	P	05 30 37.9	0.0
DAWY	Dawson	6.58	56	P	P	05 30 40.8	+0.2
WHY	Whitehorse	8.30	84	P	P	05 31 03.0	-1.0
TNA	Tin City	8.62	310	P	P	05 31 08.6	+0.3
SIT	Sitka	9.35	107	P	P	05 31 16.5	-1.6
INK	Inuvik	10.77	39	P	P	05 31 35.1	-2.0
	1.2nm,0.3s,baz=235,slow=15,SNR=36						
INK				S	S	05 33 32.5	-3.7
	0.4nm,0.3s,baz=2.3,slow=32,SNR=3.0						
INK	Inuvik	10.77	39	*e*P	P	05 31 35.1	-1.9
DLBC	Dease Lake	11.29	93	P	P	05 31 44.8	+0.9
	0.4nm,0.3s,baz=288,slow=15,SNR=14						
DLBC				S	S	05 33 45.1	-3.4

	0.2nm,0.3s,baz=175,slow=14,SNR=2.6						
DLBC	**Dease Lake**	**11.29**	**93**	eP	**P**	**05 31 43.8**	**-0.1**
BBB	**Bella Bella**	**15.64**	**113**	P	**P**	**05 32 45.0**	**+4.6**
	0.4nm,0.3s,baz=63,slow=12,SNR=9.5						
BBB				S	**S**	**05 35 31.9**	**+1.1**
	0.1nm,0.3s,baz=5.8,slow=22,SNR=2.6						
YKA	**Yellowknife Ar**	**17.57**	**69**	P	**P**	**05 33 05.8**	**+1.5**
	0.3nm,0.3s,baz=281,slow=10.0,SNR=6.3						
YKA	**Yellowknife Ar**	**17.57**	**69**	P	**P**	**05 33 05.8**	**+1.5**
FX1	**Attu Island--F**	**20.51**	**263**	P	**P**	**05 33 37.9**	**+1.3**
	16nm,0.6s,baz=266,slow=14,SNR=7.9						
EDM	**Edmonton**	**22.01**	**93**	eP	**P**	**05 33 53.8**	**+2.2**
NEW	**Newport**	**23.43**	**107**	P	**P**	**05 34 09.3**	**+4.1**
HLID	**Hailey**	**28.20**	**111**	eP	**P**	**05 34 52.2**	**+2.4**
	5.6nm,1.6s,mb3.8						
NVAR	**Mina Array Bea**	**30.68**	**122**	P	**P**	**05 35 14.8**	**+2.9**
	0.4nm,0.6s,mb3.4,baz=307,slow=11,SNR=4.1						
PDAR	**Pinedale Array**	**31.07**	**106**	P	**P**	**05 35 17.6**	**+2.4**
	0.2nm,0.4s,mb3.2,baz=329,slow=4.9,SNR=5.0						
TPNV	**Topopah Spring**	**32.80**	**121**	P	**P**	**05 35 32.6**	**+2.2**
	0.9nm,0.7s,mb3.7						
FRB	**Frobisher Bay**	**36.22**	**48**	P	**P**	**05 36 00.4**	**+1.1**
	21nm,1.2s,mb4.9,baz=301,slow=10,SNR=2.6						
WMOK	**Wichita Mounta**	**42.54**	**103**	eP	**P**	**05 36 53.3**	**+1.5**
	3.2nm,1.3s,mb3.9						
SCHQ	**Schefferville**	**42.59**	**58**	P	**P**	**05 36 52.9**	**+1.0**
	4.8nm,0.9s,mb4.2,baz=311,slow=9.3,SNR=4.3						
KEV	**Kevo**	**49.63**	**1**	ep	**P**	**05 37 45.6**	**-1.7**
	1.0nm,0.3s,mb4.2						
ARCES	**ARCESS Array B**	**49.84**	**1**	P	**P**	**05 37 47.5**	**-1.4**
	3.6nm,0.5s,mb4.6,baz=352,slow=6.8,SNR=27						
SONM	**Songino Array**	**54.73**	**306**	P	**P**	**05 38 26.4**	**+0.8**
	2.5nm,0.6s,mb4.4,baz=40,slow=7.2,SNR=23						
KAF	**Kangasniemi**	**57.30**	**1**	ep	**P**	**05 38 42.2**	**-1.6**
	1.6nm,0.3s,mb4.5,baz=357,slow=6.7						
NOA	**NORSAR Array B**	**57.69**	**10**	P	**P**	**05 38 45.0**	**-1.5**
	1.9nm,0.8s,mb4.2,baz=352,slow=7.0,SNR=5.3						
FINES	**FINESS Array B**	**57.97**	**1**	P	**P**	**05 38 47.0**	**-1.6**
	2.9nm,0.6s,mb4.5,baz=354,slow=9.7,SNR=19						
FINES	**FINESS Array B**	**57.97**	**1**	P	**P**	**05 38 47.0**	**-1.6**
MKAR	**Makanchi Array**	**64.08**	**322**	P	**P**	**05 39 28.7**	**-1.1**
	0.7nm,0.5s,mb3.7,baz=33,slow=6.8,SNR=8.7						
MOX	**Moxa**	**68.01**	**11**	eP	**P**	**05 39 56.0**	**+1.3**
AKASG	**Malin Array Be**	**68.75**	**359**	P	**P**	**05 39 58.2**	**-1.1**
	2.3nm,0.5s,mb4.3,baz=1.3,slow=6.0,SNR=22						
GERES	**GERESS Array B**	**69.99**	**10**	P	**P**	**05 40 06.9**	**+0.1**
	0.4nm,0.7s,mb3.4,slow=5.3,SNR=4.0						
CMAR	**Chiang Mai Arr**	**83.00**	**295**	P	**P**	**05 41 20.4**	**+0.2**
	1.3nm,1.0s,mb3.7,baz=1.5,slow=5.3,SNR=4.8						

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*STR **20** 05:30:26.5±0.1, 42.79N×1.49W, h5^{km}±1^{km}, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LDG **20** 05:30:27.8±0.4, 42.88N×1.46W, h2^{km}, Md2.2/2, Ml2.2/7, Error ellipse: s-maj=7.4km s-min=5.2km az=40.0*

MDD 20 05:30:28.7±0.5**, 42.86N×1.39W, h9^{km}±4^{km}, mbLg1.7**/6**, Error ellipse: s-maj=4.2km s-min=2.2km az=44.0, PRXIMO AftershockPLICA, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	**0.28**	**25**	ePg	Pg	05 30 33.9	-0.6
SJPF				eSg	Sg	05 30 36.7	-1.6
	55nm,0.3s						
LARF	**Larrau**	**0.34**	**59**	Pg	Pg	05 30 35.1	-0.6
LARF				Sg	Sg	05 30 41.4	+1.0
LARF	**Larrau**	**0.34**	**59**	P	Pg	05 30 35.1	-0.6
LARF				S	Sg	05 30 40.7	+0.3
EALK	**Alkurruntz**	**0.37**	**346**	Pg	Pg	05 30 35.2	-1.0
	1.4nm,0.1s,SNR=12						
EALK				Lg		05 30 41.0	
	22nm,0.2s,SNR=27						
OSSF	**Osses**	**0.40**	**13**	Pg	Pg	05 30 35.9	-1.0
OSSF				Sg	Sg	05 30 42.9	+0.5
OSSF	**Osses**	**0.40**	**13**	P	Pg	05 30 36.1	-0.8
OSSF				S	Sg	05 30 41.4	-1.0
ORDF	**Ordiarp**	**0.48**	**43**	Pg	Pg	05 30 37.8	-0.7
ORDF	**Ordiarp**	**0.48**	**43**	P	Pg	05 30 37.9	-0.6
ORDF				S	Sg	05 30 45.3	+0.3
ETSF	**Etsaut**	**0.61**	**86**	ePg	Pg	05 30 39.5	-1.5
ETSF				eSg	Sg	05 30 48.5	-0.7
	11nm,0.3s						
RESF	**Ens**	**1.27**	**92**	S	Sb	05 31 10.7	+2.0
EPF	**Esparros**	**1.28**	**82**	ePg	Pg	05 30 53.8	-0.5
EPF				eSg	Sg	05 31 09.8	-1.6
	8.6nm,0.3s						
ESAC	**San Caprasio**	**1.33**	**149**	Pg	Pg	05 30 53.0	-2.2
	7.3nm,0.2s,SNR=7.2						
ESAC				Lg		05 31 11.5	
	36nm,0.3s,SNR=6.8						
ETOR	**Torete**	**2.10**	**194**	Pn	Pn	05 31 03.6	-0.9
	SNR=5.0						
ETOR				Pg	Pg	05 31 06.9	-3.8
	2.3nm,0.3s,SNR=5.0						
ETOR				Lg		05 31 31.4	
	1.6nm,0.2s,SNR=5.0						
LFF	**La Frestale**	**2.58**	**36**	ePn	Pn	05 31 08.9	-2.5
LFF				eSg	Sg	05 31 48.1	-6.6
	1.3nm,0.2s						
EMOS	**Mosqueruela**	**2.59**	**164**	Lg		05 31 49.1	
	0.7nm,0.1s,SNR=4.0						
MTLF	**Montolieu**	**2.68**	**79**	ePn	Pn	05 31 11.5	-1.4
MTLF				eSn	Sn	05 31 43.7	-2.1
	1.3nm,0.3s						
RJF	**Les Rejaudoux**	**3.21**	**40**	ePn	Pn	05 31 17.1	-3.3
RJF				eSn	Sn	05 31 54.9	-4.4
	1.0nm,0.2s						
CAF	**Calviac**	**3.24**	**49**	ePn	Pn	05 31 17.8	-2.9
CAF				eSn	Sn	05 31 55.9	-3.9
	0.7nm,0.2s						
MFF	**Saint Martin d**	**3.84**	**13**	ePn	Pn	05 31 25.7	-3.6
LASF	**Ste Croix**	**4.00**	**71**	ePn	Pn	05 31 29.0	-2.7
BGF	**Bois d'Agland**	**4.77**	**38**	ePn	Pn	05 31 37.6	-4.9
BGF				eSn	Sn	05 32 31.4	-7.2
	3.7nm,0.4s						
VIVF	**Saint-Julien-l**	**4.81**	**63**	eSn	Sn	05 32 32.7	-7.0
	1.0nm,0.3s						

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*STR **20** 05:32:18.3±1.3, 42.62N×1.80W, h5^{km}±1^{km}, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LDG **20** 05:32:28.8±0.6, 42.92N×1.51W, h2^{km}, Md2.0/2, Ml2.1/4, Error ellipse: s-maj=10.8km s-min=7.6km az=24.0*

MDD 20 05:32:29.3±0.6**, 42.87N×1.43W, h9^{km}±5^{km}, mbLg1.7**/6**, Error ellipse: s-maj=4.6km s-min=3.3km az=58.0, PRXIMO AftershockPLICA, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	**0.29**	**31**	ePg	Pg	05 32 34.9	-0.4
SJPF				eSg	Sg	05 32 37.9	-1.4
	91nm,0.3s						
EALK	**Alkurruntz**	**0.36**	**350**	Pg	Pg	05 32 36.5	-0.2
	1.4nm,0.1s,SNR=7.9						
EALK				Lg		05 32 42.0	
	19nm,0.1s,SNR=7.9						
LARF	**Larrau**	**0.36**	**62**	Pg	Pg	05 32 31.9	-4.9
LARF				Sg	Sg	05 32 42.3	+0.5
LARF	**Larrau**	**0.36**	**62**	P	Pg	05 32 35.3	-1.5
LARF				S	Sg	05 32 41.8	0.0
OSSF	**Osses**	**0.41**	**17**	Pg	Pg	05 32 31.6	-6.0
OSSF				Sg	Sg	05 32 43.3	+0.1
OSSF	**Osses**	**0.41**	**17**	P	Pg	05 32 36.0	-1.6
OSSF				S	Sg	05 32 42.8	-0.4
ORDF	**Ordiarp**	**0.50**	**46**	Pg	Pg	05 32 35.7	-3.7
ORDF				Sg	Sg	05 32 46.3	+0.1
ORDF	**Ordiarp**	**0.50**	**46**	P	Pg	05 32 37.9	-1.5
ORDF				S	Sg	05 32 46.4	+0.3
ETSF	**Etsaut**	**0.64**	**87**	ePg	Pg	05 32 40.7	-1.4
ETSF				eSg	Sg	05 32 51.0	+0.3
	9.7nm,0.3s						
EPF	**Esparros**	**1.31**	**82**	ePg	Pg	05 32 55.0	-0.5
EPF				eSg	Sg	05 33 10.9	-2.0
	8.0nm,0.2s						
ESAC	**San Caprasio**	**1.35**	**148**	Pg	Pg	05 32 53.8	-2.4
	5.3nm,0.2s,SNR=7.9						
ESAC				Lg		05 33 12.5	
	15nm,0.2s,SNR=7.9						
ETOR	**Torete**	**2.10**	**193**	Pg	Pg	05 33 08.1	-3.1
	SNR=5.0						
ETOR				Lg		05 33 35.6	
	1.4nm,0.2s,SNR=7.9						
LFF	**La Frestale**	**2.60**	**36**	ePn	Pn	05 33 09.9	-2.3
MTLF	**Montolieu**	**2.71**	**79**	ePn	Pn	05 33 12.7	-1.1
MTLF				eSn	Sn	05 33 44.6	-2.5
	1.0nm,0.3s						
RJF	**Les Rejaudoux**	**3.23**	**40**	ePn	Pn	05 33 18.2	-3.0
RJF				eSn	Sn	05 33 55.9	-4.3
	1.2nm,0.2s						
CAF	**Calviac**	**3.26**	**50**	ePn	Pn	05 33 18.6	-3.0
CAF				eSn	Sn	05 33 56.9	-4.0
	0.5nm,0.2s						

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*THE **20** 05:41:17.3, 38.62N×22.80E, h7^{km}, ML2.7*

*NEIC **20** 05:41:19.3, 38.69N×22.83E, h8^{km}, ML2.9(ATH), After ATH.*

*ATH **20** 05:41:19.3, 38.69N×22.83E, h8^{km}±4^{km}, MD2.9/7, ML2.9*

ISC 20 05:41:18.4±0.7**, 38.69N**±0.04×**22.81E**±0.05**, h5^{km}**±9^{km}**, n11, σ0^{s}79**/15**, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LKR	**Lokris**	**0.15**	**105**	ePG	**Pg**	**05 41 21.8**	**+0.2**
LKR				eSG	**Sg**	**05 41 24.6**	**+0.9**
AGG	**Agios Georgios**	**0.50**	**312**	ePg	**Pg**	**05 41 27.7**	**-0.7**
AGG				eSg	**Sg**	**05 41 35.2**	**+0.1**
MKIT	**Kithairon Oros**	**0.62**	**145**	ePB	**Pb**	**05 41 30.5**	**-0.8**
NEO	**Neokhori**	**0.69**	**28**	ePB	**Pb**	**05 41 32.5**	**-0.1**
XOR	**Xorichti**	**0.74**	**24**	ePg	**Pg**	**05 41 32.5**	**-0.7**
XOR				eSg	**Sg**	**05 41 44.6**	**+1.6**
EVR	**Evrytania**	**0.81**	**286**	ePB	**Pb**	**05 41 35.0**	**+0.3**
AOS	**Alonnisos**	**0.96**	**60**	ePg	**Pg**	**05 41 36.4**	**-1.3**
AOS				eSg	**Sg**	**05 41 50.1**	**-0.4**
ATH	**Athens Observa**	**1.01**	**135**	ePN	**Pn**	**05 41 38.7**	**-0.5**
PTL	**Penteli**	**1.05**	**127**	ePG	**Pg**	**05 41 39.0**	**-0.4**
NAIG	**Nisos Aigina**	**1.07**	**150**	ePN	**Pn**	**05 41 40.2**	**+0.2**
VLI	**Veliai**	**1.97**	**177**	ePN	**Pn**	**05 41 54.5**	**+1.6**

DJA 20 05:43:46.9±1.3**, 8.94S×115.25E, h96^{km}**±10^{km}**, MD4.8**/3**, ML4.8**/2**, 5C-1D, Error ellipse: s-maj=31.2km s-min=10.4km az=7.0, Bali region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
INGI	**Ingas**	**0.16**	**319**	⇑ePn	P	05 44 00.1	-0.5
RATI	**Rata**	**0.35**	**52**	⇑ePn	P	05 44 01.3	-0.1
KEDI	**Kedomdong**	**0.96**	**62**	⇑ePn	P	05 44 06.2	-0.7
	2µm,0.2s						
KEDI				⇑eSn	S	05 44 20.0	-1.9
KELI	**Kelakatan**	**1.04**	**314**	⇓ePn	P	05 44 07.3	-0.5
	1µm,0.1s						
KELI				⇑eSn	S	05 44 22.6	-0.9

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*STR **20** 05:56:34.8±0.4, 42.87N×1.51W, h5^{km}±1^{km}, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LDG **20** 05:56:35.5±0.4, 42.88N×1.46W, h2^{km}, Md2.2/2, Ml2.1/6, Error ellipse: s-maj=6.5km s-min=4.3km az=41.0*

*MDD **20** 05:56:35.9±0.4, 42.84N×1.41W, h9^{km}±5^{km}, mbLg1.7/9, Error ellipse: s-maj=3.5km s-min=2.2km az=43.0, PRXIMO AftershockPLICA*

ISC 20 05:56:33.8±0.7**, 42.87N**±0.03×**1.51W**±0.05**, h14^{km}**±3^{km}**, n25, σ1^{s}21**/42**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	**0.32**	**41**	ePg	**Pg**	**05 56 41.4**	**+0.8**
SJPF				eSg	**Sg**	**05 56 44.2**	**-1.0**
	81nm,0.3s						
EALK	**Alkurruntz**	**0.35**	**0**	Pg	**Pg**	**05 56 42.7**	**+1.5**
	1.9nm,0.1s,SNR=21						
EALK				Lg		05 56 49.3	
	35nm,0.2s,SNR=18						
LARF	**Larrau**	**0.42**	**67**	Pg	**Pg**	**05 56 42.8**	**+0.3**
LARF				Sg	**Sg**	**05 56 48.8**	**+0.5**
LARF	**Larrau**	**0.42**	**67**	P	**Pb**	**05 56 42.9**	**+0.5**
LARF				S	**Sg**	**05 56 48.7**	**+0.4**
OSSF	**Osses**	**0.42**	**25**	Pg	**Pg**	**05 56 43.4**	**+0.8**
OSSF	**Osses**	**0.42**	**25**	P	**Pb**	**05 56 43.6**	**+1.0**
OSSF				S	**Sg**	**05 56 49.4**	**+0.9**
ORDF	**Ordiarp**	**0.54**	**51**	Pg	**Pg**	**05 56 45.4**	**+0.5**
ORDF				Sg	**Sg**	**05 56 52.7**	**+0.4**
ORDF	**Ordiarp**	**0.54**	**51**	P	**Pb**	**05 56 45.4**	**+0.8**
ORDF				S	**Sb**	**05 56 52.7**	**+0.8**
ATE	**Arette**	**0.63**	**70**	P	**Pb**	**05 56 46.4**	**+0.3**
ATE				S	**Sb**	**05 56 55.0**	**+0.5**
FDAF	**Les Forges d'A**	**0.69**	**94**	Pg	**Pg**	**05 56 47.6**	**-0.3**
FDAF				Sg	**Sg**	**05 56 58.0**	**+0.7**
FDAF	**Les Forges d'A**	**0.69**	**94**	P	**Pb**	**05 56 48.1**	**+0.8**
FDAF				S	**Sb**	**05 56 56.8**	**+0.4**
ETSF	**Etsaut**	**0.70**	**88**	ePg	**Pg**	**05 56 47.1**	**-0.9**
ETSF				eSg	**Sg**	**05 56 56.1**	**-1.3**
	8.1nm,0.2s						
RESF	**Ens**	**1.36**	**92**	S	**Sb**	**05 57 17.5**	**+1.7**
EPF	**Esparros**	**1.37**	**83**	ePg	**Pg**	**05 57 01.6**	**+0.4**
EPF				eSg	**Sg**	**05 57 17.4**	**-2.1**
	12nm,0.4s						
ESAC	**San Caprasio**	**1.39**	**146**	Pg	**Pg**	**05 57 00.2**	**-1.4**
	12nm,0.3s,SNR=9.2						
ESAC				Lg		05 57 18.2	
	32nm,0.3s,SNR=7.4						
MELF	**Melles**	**1.67**	**89**	S	**Sn**	**05 57 27.5**	**+3.3**
SALF	**Salau**	**1.99**	**92**	S	**Sn**	**05 57 35.2**	**+2.8**
ETOR	**Torete**	**2.09**	**191**	Pn	**Pn**	**05 57 10.0**	**+1.0**
	SNR=4.0						
ETOR				Pg	**Pg**	**05 57 14.6**	**-1.1**
	2.9nm,0.4s,SNR=8.1						
ETOR				Sn	**Sn**	**05 57 38.4**	**+3.3**
	5.6nm,0.3s,SNR=5.0						
ETOR				Lg		05 57 41.9	
	3.8nm,0.2s,SNR=5.8						
EPOB	**Poblet**	**2.45**	**127**	Lg		05 57 48.7	
	1.3nm,0.2s,SNR=4.0						
EMOS	**Mosqueruela**	**2.62**	**162**	Pg	**Pg**	**05 57 24.0**	**-2.3**
	SNR=5.0						
EMOS				Lg		05 57 59.3	
	2.1nm,0.3s,SNR=5.0						
LFF	**La Frestale**	**2.63**	**37**	ePn	**Pn**	**05 57 16.4**	**-0.3**
LFF				eSg	**Sg**	**05 57 55.7**	**-5.7**
	4.5nm,0.3s						
MTLF	**Montolieu**	**2.77**	**79**	ePn	**Pn**	**05 57 19.2**	**+0.5**
MTLF				eSn	**Sn**	**05 57 51.1**	**-1.1**
	0.4nm,0.2s						
RJF	**Les Rejaudoux**	**3.26**	**41**	ePn	**Pn**	**05 57 25.0**	**-0.7**
RJF				eSn	**Sn**	**05 58 02.3**	**-2.5**
	1.7nm,0.4s						
CAF	**Calviac**	**3.30**	**50**	ePn	**Pn**	**05 57 25.4**	**-0.8**
CAF				eSn	**Sn**	**05 58 03.1**	**-2.5**
	1.4nm,0.3s						
MFF	**Saint Martin d**	**3.85**	**14**	ePn	**Pn**	**05 57 33.9**	**-0.2**
MFF				eSn	**Sn**	**05 58 17.2**	**-2.5**
	1.1nm,0.2s						

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*IDC **20** 05:57:41.5±13.0, 3.32N×96.13E, h249^{km}±123^{km}, mb3.1/5, mb1 3.3/6, mb1mx3.2/16, Error ellipse: s-maj=115.0km s-min=16.4km az=62.0*

ISC 20 05:57:17.3±1.4**, 3.2N**±0.2×**95.9E**±0.2**, h33^{km}, n8, σ0^{s}29**/8**, mb3.7**/5**, 1C, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.32**	**75**	⇑eP	**P**	**05 58 36.5**	**+0.1**
CMAR	**Chiang Mai Arr**	**15.45**	**11**	P	**P**	**06 01 05.0**	**+10**
	0.5nm,0.3s,baz=196,slow=13,SNR=3.2						
FITZ	**Fitzroy Crossi**	**36.18**	**127**	P	**P**	**06 04 18.4**	**-0.5**
	1.5nm,1.0s,mb3.9,baz=203,slow=5.5,SNR=1.3						
WRA	**Warramunga Arr**	**44.22**	**123**	P	**P**	**06 05 25.4**	**-0.1**
	1.8nm,0.6s,mb4.0,baz=300,slow=9.3,SNR=7.2						
WB2	**Warramunga Arr**	**44.23**	**123**	eP	**P**	**06 05 25.8**	**+0.2**
MKAR	**Makanchi Array**	**44.99**	**347**	P	**P**	**06 05 31.6**	**+0.2**
	0.5nm,0.5s,mb3.6,baz=162,slow=8.1,SNR=5.5						
SONM	**Songino Array**	**45.38**	**10**	P	**P**	**06 05 34.1**	**-0.3**
	0.2nm,0.4s,mb3.3,baz=192,slow=13,SNR=2.5						
ASAR	**Alice Springs**	**45.66**	**128**	P	**P**	**06 05 37.4**	**+0.4**
	0.7nm,0.6s,mb3.8,baz=306,slow=8.4,SNR=7.6						

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*STR **20** 06:06:46.6±0.3, 42.84N×1.48W, h5^{km}±1^{km}, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LDG **20** 06:06:47.4±0.4, 42.88N×1.46W, h2^{km}, Md2.3/2, Ml2.0/4, Error ellipse: s-maj=7.3km s-min=5.9km az=42.0*

MDD 20 06:06:48.0±0.6**, 42.85N×1.41W, h8^{km}±4^{km}, mbLg1.6**/6**, Error ellipse: s-maj=4.1km s-min=2.3km az=45.0, PRXIMO AftershockPLICA, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	**0.29**	**27**	ePg	Pg	06 06 53.3	-0.7
SJPF				eSg	Sg	06 06 56.1	-1.9
	64nm,0.3s						
LARF	**Larrau**	**0.36**	**59**	Pg	Pg	06 06 54.4	-0.9
LARF				Sg	Sg	06 07 00.7	+0.5
LARF	**Larrau**	**0.36**	**59**	P	Pg	06 06 54.5	-0.7
LARF				S	Sg	06 07 00.5	+0.4
EALK	**Alkurruntz**	**0.38**	**349**	Pg	Pg	06 06 54.5	-1.1
	2.5nm,0.1s,SNR=13						
EALK				Lg		06 07 00.7	
	13nm,0.2s,SNR=15						
OSSF	**Osses**	**0.42**	**15**	Pg	Pg	06 06 55.3	-1.1
OSSF				Sg	Sg	06 07 01.6	-0.5
OSSF	**Osses**	**0.42**	**15**	P	Pg	06 06 55.5	-1.0
OSSF				S	Sg	06 07 01.6	-0.4
ORDF	**Ordiarp**	**0.50**	**43**	Pg	Pg	06 06 57.2	-0.8
ORDF				Sg	Sg	06 07 04.7	-0.1
ORDF	**Ordiarp**	**0.50**	**43**	P	Pg	06 06 57.4	-0.7
ORDF				S	Sg	06 07 04.6	-0.1
ATE	**Arette**	**0.57**	**65**	P	Pg	06 06 58.8	-0.6
ATE				S	Sg	06 07 06.8	-0.2
FDAF	**Les Forges d'A**	**0.62**	**93**	S	Sg	06 07 08.6	-0.1
ETSF	**Etsaut**	**0.62**	**85**	ePg	Pg	06 06 58.9	-1.6
ETSF				eSg	Sg	06 07 07.7	-1.2
	5.9nm,0.2s						
EPF	**Esparros**	**1.29**	**81**	ePn	Pn	06 07 11.3	-1.0
EPF				ePg	Pg	06 07 13.4	-0.4
EPF				eSg	Sg	06 07 29.6	-1.5
	7.3nm,0.3s						
ESAC	**San Caprasio**	**1.33**	**148**	Pg	Pg	06 07 12.4	-2.1
	6.0nm,0.2s,SNR=5.0						
ESAC				Lg		06 07 30.8	
	38nm,0.3s,SNR=6.2						
ETOR	**Torete**	**2.09**	**194**	Pg	Pg	06 07 26.5	-3.2
	1.0nm,0.2s,SNR=5.0						
ETOR				Lg		06 07 54.3	
	1.9nm,0.2s,SNR=5.0						
LFF	**La Frestale**	**2.60**	**36**	ePn	Pn	06 07 28.5	-2.5
LFF				eSg	Sg	06 08 07.5	-7.0
	1.7nm,0.3s						
MTLF	**Montolieu**	**2.70**	**78**	ePn	Pn	06 07 31.2	-1.2
MTLF				eSn	Sn	06 08 03.1	-2.4
	0.6nm,0.2s						
RJF	**Les Rejaudoux**	**3.23**	**40**	ePn	Pn	06 07 36.6	-3.4
CAF	**Calviac**	**3.25**	**49**	ePn	Pn	06 07 37.2	-3.1
CAF				eSn	Sn	06 08 15.4	-4.2
	0.8nm,0.2s						
MFF	**Saint Martin d**	**3.85**	**13**	ePn	Pn	06 07 45.7	-3.1

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*NEIC **20** 06:06:52.5±1.0, 23.27S×177.68W, h250^{km}, mb4.3/6, Error ellipse: s-maj=32.8km s-min=20.4km az=167.0*

*IDC **20** 06:06:59.0±17.0, 23.07S×177.82W, h307^{km}±147^{km}, mb3.7/6, mb1 3.9/6, mb1mx3.7/13, Error ellipse: s-maj=113.0km s-min=47.9km az=131.0*

ISC 20 06:06:51.6±1.3**, 23.1S**±0.3×**177.8W**±0.2**, h250^{km}, n19, σ0^{s}79**/16**, mb4.0**/9**, 1D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.54**	**268**	eP	**P**	**06 13 10.9**	**+0.9**
	8.6nm,0.4s,mb4.6						
CTA	**Charters Tower**	**33.54**	**268**	P	**P**	**06 13 10.9**	**+0.9**
	9.7nm,0.4s,mb4.7,baz=97,slow=10,SNR=29						
CTAO	**Charters Tower**	**33.54**	**268**	eP	**P**	**06 13 10.4**	**+0.5**
	12nm,0.5s,mb4.7						
PMG	**Port Moresby**	**36.22**	**286**	P	**P**	**06 13 33.1**	**+0.4**
	7.7nm,0.7s,mb4.3						
STKA	**Stephens Creek**	**36.91**	**247**	P	**P**	**06 13 39.0**	**+0.8**
	1.1nm,0.4s,mb3.7,baz=98,slow=9.7,SNR=5.7						
STKA	**Stephens Creek**	**36.91**	**247**	eP	**P**	**06 13 35.6**	**-2.6**
ASAR	**Alice Springs**	**44.19**	**259**	P	**P**	**06 14 37.6**	**-0.2**
	2.6nm,0.5s,mb3.8,baz=99,slow=7.3,SNR=35						
ASAR				PcP	PcP	06 16 17.2	-1.1
	0.4nm,0.6s,baz=103,slow=4.4,SNR=4.6						
ASPA	**Alice Springs**	**44.20**	**259**	eP	**P**	**06 14 37.8**	**0.0**
WB2	**Warramunga Arr**	**44.51**	**265**	eP	**P**	**06 14 39.5**	**-0.8**
WRAB	**Tennant Creek**	**44.51**	**265**	eP	**P**	**06 14 39.6**	**-0.8**
	6.4nm,0.7s,mb4.1						
WRA	**Warramunga Arr**	**44.52**	**265**	P	**P**	**06 14 39.8**	**-0.6**
	1.7nm,0.3s,mb3.9,baz=91,slow=5.8,SNR=61						
KAKA	**Kakadu**	**48.34**	**273**	eP	**P**	**06 15 11.7**	**+1.5**
	3.3nm,0.5s,mb3.9						
FITZ	**Fitzroy Crossi**	**52.95**	**264**	eP	**P**	**06 15 44.6**	**+0.1**
	3.1nm,0.4s,mb4.1						
FITZ	**Fitzroy Crossi**	**52.95**	**264**	P	**P**	**06 15 44.6**	**+0.1**
	3.5nm,0.4s,mb4.1,baz=117,slow=3.5,SNR=30						
SNAA	**Sanae**	**85.38**	**178**	⇓i	**P**	**06 19 01.8**	**+0.5**
ILAR	**Eielson Array**	**90.83**	**13**	P	**P**	**06 19 26.7**	**-0.4**
	0.4nm,0.8s,mb3.4,baz=230,slow=5.7,SNR=5.9						
ARCES	**ARCESS Array B**	**131.54**	**349**	PKP	PKPdf	06 25 34.8	+0.8
	2.5nm,0.8s,slow=1.2,SNR=5.2						
AKASG	**Malin Array Be**	**145.41**	**329**	PKPbc	PKPbc	06 25 59.5	-0.6
	0.4nm,0.3s,baz=44,slow=4.0,SNR=6.1						
CLL	**Collm**	**150.67**	**346**	ePKP1	PKPdf	06 26 15.0	+7.3

WEL 20 06:15:31.8±0.2**, 37.69S×179.49W, h33^{km}, ML3.9**/1**, Error ellipse: s-maj=1.8km s-min=1.5km az=90.0, East of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.75**	**273**	PN	Pn	06 15 59.4	-1.1
MXZ				SN	Sn	06 16 19.7	-2.1
PUZ	**Puketiti**	**1.82**	**257**	PN	Pn	06 16 00.3	-1.2
PUZ				SN	Sn	06 16 21.9	-1.8
MWZ	**Matawai**	**2.44**	**254**	PN	Pn	06 16 08.7	-1.6
MWZ				SN	Sn	06 16 36.2	-3.2
KNZ	**Kokohu**	**2.60**	**238**	PN	Pn	06 16 10.9	-1.7
KNZ				SN	Sn	06 16 40.5	-2.8
BKZ	**Black Stump Fm**	**3.48**	**244**	PN	Pn	06 16 22.7	-2.5
BKZ				SN	Sn	06 17 01.6	-4.2
PWZ	**Pawanui**	**3.69**	**229**	PN	Pn	06 16 24.4	-3.6
PWZ				SN	Sn	06 17 05.3	-5.6
KUZ	**Kuaotunu**	**3.94**	**282**	PN	Pn	06 16 29.6	-2.0
NGZ	**Ngauruhoe**	**4.13**	**247**	SN	Sn	06 17 16.8	-5.4
TSZ	**Takapari Road**	**4.27**	**235**	PN	Pn	06 16 33.5	-2.9
MRZ	**Mangatainoka R**	**4.85**	**231**	PN	Pn	06 16 39.7	-4.8
MRZ				SN	Sn	06 17 31.6	-8.7

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*STR **20** 06:20:57.9±0.6, 42.86N×1.51W, h5^{km}±1^{km}, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LDG **20** 06:20:58.5±0.5, 42.88N×1.47W, h2^{km}, Md2.4/2, Ml2.4/4, Error ellipse: s-maj=7.2km s-min=4.9km az=46.0*

*MDD **20** 06:20:59.2±0.4, 42.87N×1.42W, h6^{km}±5^{km}, mbLg2.0/7, Error ellipse: s-maj=3.3km s-min=2.0km az=43.0, PRXIMO AftershockPLICA*

ISC 20 06:20:56.8±0.7**, 42.84N**±0.03×**1.50W**±0.05**, h6^{km}**±4^{km}**, n26, σ1^{s}11**/41**, 1C-1D, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	**0.34**	**36**	ePg	**Pg**	**06 21 04.6**	**+0.9**
SJPF				eSg	**Sg**	**06 21 07.5**	**-0.8**
	231nm,0.3s						
EALK	**Alkurruntz**	**0.38**	**359**	⇑Pg	**Pg**	**06 21 05.8**	**+1.3**
	13nm,0.3s,SNR=18						
EALK				Lg		06 21 10.7	
	55nm,0.2s,SNR=24						
LARF	**Larrau**	**0.43**	**62**	Pg	**Pg**	**06 21 05.9**	**+0.5**
LARF				Sg	**Sg**	**06 21 11.6**	**+0.5**
LARF	**Larrau**	**0.43**	**62**	P	**Pg**	**06 21 05.8**	**+0.5**
LARF				S	**Sg**	**06 21 10.8**	**-0.2**
OSSF	**Osses**	**0.45**	**23**	Pg	**Pg**	**06 21 06.5**	**+0.6**
OSSF				Sg	**Sg**	**06 21 12.8**	**+0.8**
OSSF	**Osses**	**0.45**	**23**	P	**Pg**	**06 21 06.6**	**+0.7**
OSSF				S	**Sg**	**06 21 12.6**	**+0.7**
ORDF	**Ordiarp**	**0.56**	**48**	Pg	**Pg**	**06 21 08.4**	**+0.4**
ORDF				Sg	**Sg**	**06 21 15.8**	**+0.3**
ORDF	**Ordiarp**	**0.56**	**48**	P	**Pg**	**06 21 08.5**	**+0.5**
ORDF				S	**Sg**	**06 21 14.3**	**-1.2**
ATE	**Arette**	**0.64**	**67**	P	**Pg**	**06 21 09.8**	**+0.2**
ATE				S	**Sg**	**06 21 17.9**	**-0.2**
FDAF	**Les Forges d'A**	**0.69**	**91**	Pg	**Pg**	**06 21 10.6**	**+0.1**
FDAF				Sg	**Sg**	**06 21 21.4**	**+1.7**
FDAF	**Les Forges d'A**	**0.69**	**91**	P	**Pg**	**06 21 10.6**	**+0.1**
FDAF				S	**Sg**	**06 21 19.8**	**+0.1**
ETSF	**Etsaut**	**0.69**	**85**	ePg	**Pg**	**06 21 10.4**	**-0.3**

ETSF				eSg	Sg	06 21 19.3	-0.7
	22nm,0.4s						
VIEF	Viey	1.12	87	S	Sb	06 21 33.2	+0.4
LABF	Labassere	1.17	79	S	Sb	06 21 35.1	+0.7
RESF	Ens	1.35	91	S	Sb	06 21 40.2	+0.7
ESAC	San Caprasio	1.35	145	⇓Pg	Pg	06 21 23.3	-0.6
	19nm,0.3s,SNR=18						
ESAC				Lg		06 21 41.4	
	60nm,0.4s,SNR=8.1						
EPF	Esparros	1.36	81	ePg	Pg	06 21 24.8	+0.7
EPF				eSg	Sg	06 21 40.8	-1.5
	7.7nm,0.2s						
MELF	Melles	1.66	88	S	Sn	06 21 50.8	+2.3
SALF	Salau	1.98	91	S	Sn	06 21 59.5	+3.0
ETOR	Torete	2.06	192	Pn	Pn	06 21 33.8	+1.4
	SNR=7.9						
ETOR				Pg	Pg	06 21 38.0	+0.1
	5.8nm,0.3s,SNR=13						
ETOR				Lg		06 22 05.3	
	6.2nm,0.2s,SNR=7.9						
EMOS	Mosqueruela	2.59	162	Pg	Pg	06 21 46.6	-2.0
	SNR=7.9						
EMOS				Lg		06 22 22.6	
	SNR=4.0						
LFF	La Frestale	2.65	37	eSg	Sg	06 22 19.0	-6.1
	4.8nm,0.3s						
MTLF	Montolieu	2.77	78	ePn	Pn	06 21 42.4	-0.1
MTLF				eSn	Sn	06 22 14.4	-2.2
	2.5nm,0.3s						
RJF	Les Rejaudoux	3.29	40	ePn	Pn	06 21 48.1	-1.7
CAF	Calviac	3.31	50	ePn	Pn	06 21 48.6	-1.6
CAF				eSn	Sn	06 22 26.4	-4.0
	1.7nm,0.2s						
MFF	Saint Martin d	3.88	14	ePn	Pn	06 21 56.8	-1.5

*NAO **20** 06:20:57.5±2.4,61.48N×17.42E,ML1.9*
*HEL **20** 06:20:57.2±0.0,61.82N×17.18E,h8^{km},ML1.8,*
ML1.8(UPP)
ISC 20 06:20:56.7±0.6,**61.82N**±0.02×**17.22E**±0.05,**h14**^{km}±4^{km},
n24,σ0^{s}85/45,**4C,Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARNU	Arnoeviken	0.14	148	⇑iP	Pg	06 21 00.2	-0.3
ARNU				i S	Sg	06 21 02.5	-0.6
HASU	Hassela	0.44	320	⇑iP	Pb	06 21 05.1	-0.7
HASU				i S	Sb	06 21 10.9	-1.0
ROTU	Roteberg	0.78	240	⇑iP	Pb	06 21 11.0	-0.5
ROTU				i S	Sb	06 21 20.8	-0.8
HEMU	Hemsoen	0.94	24	⇑eP	Pb	06 21 14.0	-0.3
HEMU				eS	Sb	06 21 26.0	-0.4
IGGU	Iggoen	0.95	177	eP	Pb	06 21 14.1	-0.2
IGGU				eS	Sb	06 21 25.9	-0.5
SOLU	Sollefteaa	1.44	1	eP	Pn	06 21 22.5	+0.1
SOLU				eS	Sb	06 21 40.3	-0.4
FALU	Falun	1.49	208	eP	Pn	06 21 23.2	+0.1
FALU				eS	Sb	06 21 41.5	-0.6
OSTU	Oestervaala	1.59	182	eP	Pn	06 21 25.5	+0.8
OSTU				eS	Sn	06 21 45.0	-0.1
GRAU	Graesoe	1.62	156	eP	Pn	06 21 25.6	+0.6
GRAU				eS	Sn	06 21 46.2	+0.4
FLYU	Flymyra	1.72	169	eP	Pn	06 21 27.5	+0.9
FLYU				eS	Sn	06 21 48.7	+0.3
HUSU	Husum	1.79	30	eP	Pn	06 21 28.1	+0.6
HUSU				eS	Sn	06 21 51.6	+1.5
NOD	Norderasen	1.96	327	eP	Pn	06 21 30.7	+0.7
NOD				eS	Sn	06 21 54.7	+0.2
BACU	Backbrunna	1.97	182	eP	Pn	06 21 31.3	+1.2
BACU				eS	Sn	06 21 54.9	+0.3
HFS	Hagfors	2.41	227	Pn	Pn	06 21 37.4	+1.0
	baz=45,slow=14						
HFS				Lg		06 22 08.2	
	baz=43,slow=28						
KEF	Keuruu	3.63	81	eP	Pn	06 21 54.4	+0.7
KEF				eS	Sn	06 22 37.3	+0.6
KEF				eSB	Sb	06 22 45.1	+0.8
KEF				MSG		06 22 52.2	
	comp=Z,1.0nm,0.2s						
FIA0	FINESS Array S	4.24	91	Pn	Pn	06 22 02.6	+0.2
	baz=281,slow=12						
FIA0				Sn	Sn	06 22 51.0	-1.4
	baz=277,slow=22						
FIA0				Lg		06 23 06.7	
	baz=277,slow=28						
FIA0	FINESS Array S	4.24	91	eS	Sn	06 22 50.9	-1.4
FIA0				eSG	Sg	06 23 08.0	-10
FIA0				MSG		06 23 10.5	
	comp=Z,2.1nm,0.3s						
SUF	Sumiainen	4.27	74	eS	Sn	06 22 51.6	-1.5
SUF				eSG	Sg	06 23 07.9	-11
SUF				MSG		06 23 11.2	
	comp=Z,1.2nm,0.2s						
KAF	Kangasniemi	4.30	82	eS	Sn	06 22 53.0	-0.8
KAF				eSG	Sg	06 23 08.6	-11
KAF				MSG		06 23 11.3	
	comp=Z,1.0nm,0.2s						
PVF	Pernaja	4.37	103	eS	Sn	06 22 54.2	-1.4
PVF				eSG	Sg	06 23 10.4	-12
PVF				MSG		06 23 12.4	
	comp=Z,0.9nm,0.2s						
OUL	Oulu	5.09	46	eSB	Sb	06 23 28.8	+2.0
OUL				MSG		06 23 34.9	
	comp=Z,1.2nm,0.2s						
VJF	Virojoki	5.16	100	eSG	Sg	06 23 36.7	-12
KJN	Kajaani	5.30	60	eS	Sn	06 23 15.8	-3.2
KJN				eSG	Sg	06 23 37.8	-15
KJN				MSG		06 23 44.9	
	comp=Z,1.6nm,0.3s						
ARA0	ARCESS Array S	8.46	20	Pn	P	06 23 01.8	0.0
	baz=211,slow=16						

*IDC **20** 06:34:03.0±0.7,32.67N×84.00E,mb4.1/14,mb1 4.3/16,*
mb1mx4.2/23,ML4.0/2,MS3.4/3,Ms1 3.4/3,ms1mx2.9/22,
Error ellipse: s-maj=37.4km s-min=14.3km az=48.0
*BJI **20** 06:34:05.2,32.70N×83.87E,h16^{km},mB4.3,mb4.2,Ms4.3,*
Msz3.6
*NEIC **20** 06:34:05.6±8.0,32.67N×83.98E,h18^{km}±50^{km},mb4.3/3,*
Error ellipse: s-maj=30.1km s-min=9.4km az=47.0
*NDI **20** 06:34:05.8±4.5,32.33N×83.98E,h10^{km},ML3.9,*
mb4.3(NEIC)
*MOS **20** 06:34:06.3±2.2,32.70N×84.04E,h33^{km},mb4.4/7,Error*
ellipse: s-maj=41.5km s-min=15.6km az=115.4
ISC 20 06:34:01.7±1.9,**32.32N**±0.05×**83.68E**±0.04,**h5**^{km}±12^{km},
n52,σ1^{s}36/55,**mb4.1**/16,**MS3.4**/2,**1C-2D,Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KLP	Kalpa	4.69	262	eP	Pg	06 35 31.7	-3.5
KLP				eS	Sb	06 36 27.8	+6.4
KLP				AML	AML	06 36 35.6	
	comp=N,192nm,1.1s						
KLP				AML	AML	06 36 40.5	
	comp=E,298nm,0.6s						
BHK	Bhakra	6.25	264	eS	Sn	06 36 51.5	+2.0
NDI	New Delhi	6.65	239	eP	Pn	06 35 48.0	+5.5
NDI				eS	Sn	06 36 59.0	-0.6
AYAN	Aya Nagar	6.83	238	eP	Pn	06 35 45.8	+0.7
SONA	Sohna	7.00	236	eP	Pn	06 35 49.2	+1.8
SONA				eS	Sn	06 37 07.4	-0.8
AGRA	Agra	7.11	226	eP	Pn	06 35 54.4	+5.5
AGRA				eS	Sn	06 37 08.4	-2.7
KHET	Khetri	8.02	240	eP	P	06 36 03.0	+1.2
KHET				eS	Sn	06 37 33.6	-0.2
CHCP	Chirah Chowk	8.86	281	⇓P	P	06 36 12.6	-0.7
KSH	Kashi	9.52	321	eP	P	06 36 22.9	+0.4
SHL	Shillong	9.84	131	eP	P	06 36 25.5	-1.4
SHL				e		06 38 13.0	
CEP	Cherat	9.99	282	⇓P	P	06 36 27.6	-1.5
CEP				S	Sn	06 38 25.0	+2.2
THW	Thamme Wali	10.09	276	⇑P	P	06 36 29.1	-1.3
SBDP	Sheikh Budin	10.90	273	P	P	06 36 43.0	+1.6
JASL	Jaisalmer	12.35	247	eS	S	06 39 15.1	-5.1
MKAR	Makanchi Array	14.50	356	Pn	P	06 37 25.2	-4.3
	comp=E,0.1nm,0.3s,baz=178,slow=14,SNR=11						
CD2	Chengdu	17.16	89	eP	P	06 38 05.3	+1.5
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s						
KMI	Kunming	18.17	108	eP	P	06 38 16.3	-0.2
KMI				XP		06 38 26.5	
KMI				AMB	AMB		
	comp=Z,17nm,1.0s						
KMI				AMB	AMB		
	comp=Z,58nm,4.2s						
KMI				LR	LR		
	comp=N,238nm,11.7s						
KMI				LR	LR		
	comp=E,122nm,12.3s						
KMI				LR	LR		
	comp=Z,122nm,11.7s						
KURK	Kurchatov	18.76	350	P	P	06 38 17.5	-6.1
	comp=Z,6.7nm,0.8s						
CMAR	Chiang Mai Arr	19.47	131	P	P	06 38 31.8	-0.4
	comp=Z,0.6nm,0.3s,baz=310,slow=12,SNR=18						
CMAR				LR	LR	06 46 18.6	
	comp=Z,83nm,19.3s,baz=305,slow=38						
CMAR	Chiang Mai Arr	19.47	131	P	P	06 38 31.8	-0.4
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR				MLR	MLR		
	comp=Z,83nm,19.3s						
CMAR	Chiang Mai Arr	19.47	131	P	P	06 38 31.8	-0.5
CMAR				LR	LR	06 46 18.6	
XAN	Xi'an	21.18	78	P	P	06 38 52.4	+2.2
XAN				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb3.9						
BVAR	Borovoye Array	22.82	339	P	P	06 39 04.5	-1.9
	comp=Z,1.5nm,0.9s,mb3.4,baz=153,slow=13,SNR=4.8						
BRVK	Borovoye	22.88	339	eP	P	06 39 05.1	-1.9
SONM	Songino Array	23.16	41	P	P	06 39 11.1	+1.2
	comp=Z,2.0nm,1.1s,mb3.5,baz=239,slow=7.2,SNR=7.6						
MLR	Muntele Rosu	45.89	304	P	P	06 42 28.1	+1.4
	comp=Z,3.9nm,0.8s,mb4.4,baz=157,slow=5.9,SNR=10						
MLR	Muntele Rosu	45.89	304	P	P	06 42 28.1	+1.4
MLR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
FINES	FINESS Array B	46.80	326	P	P	06 42 32.0	-1.7
	comp=Z,1.6nm,0.6s,mb4.1,baz=117,slow=9.1,SNR=7.1						
FINES	FINESS Array B	46.80	326	P	P	06 42 32.0	-1.7
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ASAJ	Asahikawa	46.85	58	LR	LR	07 03 23.3	
	comp=Z,52nm,18.4s,MS3.5,baz=107,slow=38						
IDI	Anoyia	48.33	290	P	P	06 42 46.3	+0.3
	comp=Z,1.7nm,0.4s,mb4.4,baz=11,slow=14,SNR=2.4						
ARCES	ARCESS Array B	49.08	337	P	P	06 42 50.3	-1.1
	comp=Z,7.9nm,1.1s,mb4.7,baz=59,slow=7.1,SNR=4.7						
ARCES				LR	LR	07 03 40.8	
	comp=Z,33nm,18.7s,MS3.4,baz=79,slow=36						
ARCES	ARCESS Array B	49.08	337	P	P	06 42 50.3	-1.1
ARCES				pmax	pmax		
	comp=Z,8.0nm,1.1s						
ARCES				MLR	MLR		
	comp=Z,33nm,18.7s						
HFS	Hagfors	52.73	324	P	P	06 43 19.2	0.0
	comp=Z,18nm,1.2s,mb4.9,baz=90,slow=10,SNR=5.0						
HFS	Hagfors	52.73	324	P	P	06 43 19.2	-0.1
HFS				pmax	pmax		
	comp=Z,18nm,1.2s						
GERES	GERESS Array B	53.78	310	P	P	06 43 28.2	+1.0
	comp=Z,0.8nm,0.7s,mb3.8,baz=79,slow=6.8,SNR=4.3						
GERES	GERESS Array B	53.78	310	P	P	06 43 28.2	+1.0
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NB2	NORSAR Subarra	53.92	325	P	P	06 43 24.8	-3.2
	comp=Z,2.3nm,0.7s,mb4.2,baz=86,slow=7.4						
NOA	NORSAR Array B	53.92	325	P	P	06 43 25.2	-2.8
	comp=Z,1.6nm,0.6s,mb4.1,baz=87,slow=7.4,SNR=5.7						
NOA	NORSAR Array B	53.92	325	P	P	06 43 25.2	-2.8
NOA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
WRA	Warramunga Arr	71.06	130	P	P	06 45 23.0	0.0
	comp=Z,3.5nm,1.1s,mb4.2,baz=326,slow=6.2,SNR=14						
WRA	Warramunga Arr	71.06	130	P	P	06 45 23.0	0.0
WRA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
WRAB	Tennant Creek	71.06	130	eP	P	06 45 23.1	+0.1
	comp=Z,4.5nm,0.6s,mb4.6						
WB2	Warramunga Arr	71.06	130	eP	P	06 45 22.8	-0.2
ASAR	Alice Springs	73.48	133	P	P	06 45 39.0	+1.7
	comp=Z,0.8nm,0.6s,mb3.8,baz=314,slow=5.9,SNR=14						
ILAR	Eielson Array	75.51	20	P	P	06 45 46.3	-1.9
	comp=Z,0.7nm,0.8s,mb3.6,baz=310,slow=5.2,SNR=7.3						
ILAR	Eielson Array	75.51	20	P	P	06 45 46.3	-1.9
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
INK	Inuvik	75.93	13	P	P	06 45 52.5	+1.9
	comp=Z,2.2nm,1.1s,mb4.0,baz=342,slow=6.8,SNR=3.7						
INK	Inuvik	75.93	13	P	P	06 45 52.5	+2.0
INK				pmax	pmax		
	comp=Z,2.0nm,1.1s						
STKA	Stephens Creek	84.08	134	P	P	06 46 34.1	-0.9
	comp=Z,1.1nm,0.6s,mb4.2,baz=320,slow=13,SNR=2.9						
CPUP	Villa Florida	145.62	270	PKPbc	PKPbc	06 53 44.0	+1.9
	comp=Z,1.5nm,1.0s,baz=77,slow=10,SNR=2.7						
CPUP	Villa Florida	145.62	270	PKP2	PKPab	06 53 44.1	+0.1
CPUP				pmax	pmax		
	comp=Z,2.0nm,1.0s						

JMA 20 07:23:56.9±0.3,**32.37N**×**142.03E,h59**^{km}**,M3.6,**
Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHJ2	Mitsune	2.01	292	P	P	07 24 29.2	+0.1
JHJ2				S	S	07 24 53.5	+0.5
BSO1	Boso 1	2.44	339	P	P	07 24 35.6	+0.3
BSO1				S	S	07 25 03.8	-0.2
JYN	Shimob	4.26	318	S	S	07 25 51.9	+2.1
JHO	Hitachi	4.40	344	P	P	07 25 02.6	-0.2
JHO				S	S	07 25 51.9	-1.4
JAG	Ashikaga	4.57	333	P	P	07 25 06.4	+1.1
JAG				S	S	07 25 57.7	+0.1
JFT	Otama	5.32	345	P	P	07 25 15.7	0.0
JFT				S	S	07 26 14.4	-2.0
JMM	Marumori	5.58	350	P	P	07 25 19.2	0.0
JMM				S	S	07 26 19.4	-3.4
JMK	Ichinoseki	6.60	354	P	P	07 25 34.7	+1.1
JMK				S	S	07 26 43.9	-4.3

MAN 20 07:50:36.8,10.93N×124.82E,h1^{km}**,mb4.2,ML3.0,MS2.8,**
1C,Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OCLP	Ormoc	0.24	299	eP	Pg	07 50 41.7	+0.2
PLP	Palo	0.28	34	i P	Pg	07 50 43.0	+0.8
PLP				i S	Sg	07 50 48.0	+2.0
MSLP	Maasin	0.80	177	eP	Pg	07 50 52.9	+0.3
BESP	Borongan	0.90	42	eP	Pg	07 50 53.9	-0.8
BESP				eS	Sg	07 51 06.5	-0.2
LLP	Lapu-Lapu	1.04	234	eP	Pb	07 50 54.5	-2.7
LLP				eS	Sb	07 51 09.0	-2.2
TBP	Tagbilaran	1.55	217	eP	Pn	07 51 05.7	0.0
TBP				i S	Sb	07 51 27.1	+1.0
CNP	Catarman	1.57	354	eP	Pn	07 51 05.5	-0.5
RCP	Roxas	2.13	287	⇑eP	Pn	07 51 13.8	-0.1
RCP				eS	Sn	07 51 40.4	-1.0
GUIM	Jordan	2.21	262	eP	Pn	07 51 14.5	-0.6

*IDC **20** 08:02:22.0±6.7,2.66N×128.53E,h249^{km}±66^{km},mb3.6/10,*
mb1 3.7/10,mb1mx3.6/17,Error ellipse: s-maj=48.4km
s-min=13.4km az=64.0
*NEIC **20** 08:02:22.3±0.6,2.68N×128.47E,h250^{km},mb4.1/5,Error*
ellipse: s-maj=36.0km s-min=8.0km az=70.0
ISC 20 08:02:25.2±0.7,**2.6N**±0.1×**128.5E**±0.3,**h300**^{km}**,n18,**
σ0^{s}55/18,**mb3.9**/11,**Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	Kakadu	15.71	166	eP	P	08 05 52.8	0.0
	8.1nm,0.6s						
FITZ	Fitzroy Crossi	20.79	188	eP	P	08 06 44.3	-0.2
	1.9nm,0.4s						
FITZ	Fitzroy Crossi	20.79	188	P	P	08 06 44.7	+0.2
	3.3nm,0.7s,baz=11,slow=9.7,SNR=16						
WRAB	Tennant Creek	23.14	166	eP	P	08 07 07.7	+0.6
	5.5nm,0.3s,mb4.4						
WRA	Warramunga Arr	23.15	166	P	P	08 07 07.7	+0.5
	2.0nm,0.3s,mb3.9,baz=343,slow=10,SNR=61						
WB2	Warramunga Arr	23.15	166	eP	P	08 07 07.7	+0.5
ASAR	Alice Springs	26.66	169	P	P	08 07 38.6	-0.6
	1.0nm,0.3s,mb3.7,baz=350,slow=7.2,SNR=27						
ASAR				PcP	PcP	08 10 55.8	+1.0
	0.4nm,0.4s,baz=350,slow=2.1,SNR=4.9						
ASPA	Alice Springs	26.66	169	eP	P	08 07 38.9	-0.2
CMAR	Chiang Mai Arr	32.96	301	P	P	08 08 35.0	+0.7
	2.2nm,1.0s,mb3.7,baz=117,slow=6.6,SNR=5.0						
STKA	Stephens Creek	36.49	161	eP	P	08 09 04.0	0.0
	1.2nm,0.5s,mb3.7						
STKA	Stephens Creek	36.49	161	P	P	08 09 03.8	-0.3
	1.7nm,0.6s,mb3.8,baz=334,slow=7.5,SNR=9.5						
NWAO	Narrogin (SRO)	36.93	196	P	P	08 09 06.6	-1.1
	9.7nm,1.0s,mb4.2,baz=20,slow=4.6,SNR=2.6						
SONM	Songino Array	48.91	340	P	P	08 10 42.0	-1.3
	0.7nm,0.6s,mb3.1,baz=157,slow=9.4,SNR=4.5						
MKAR	Makanchi Array	59.47	325	P	P	08 11 59.0	0.0
	1.3nm,0.3s,mb3.8,baz=117,slow=8.6,SNR=21						
MKAR				PcP	PcP	08 12 44.1	+0.8
	1.1nm,1.0s,baz=135,slow=3.4,SNR=4.0						
KURK	Kurchatov	63.62	327	eP	P	08 12 26.4	0.0
BVAR	Borovoye Array	69.21	327	P	P	08 13 01.6	+0.3
	1.1nm,0.4s,mb3.9,baz=124,slow=5.3,SNR=8.6						
BRVK	Borovoye	69.28	327	eP	P	08 13 01.9	+0.2
	2.0nm,0.6s,mb4.0						
ARCES	ARCESS Array B	92.09	340	P	P	08 15 01.7	+0.4
	3.0nm,0.8s,mb4.3,baz=62,slow=5.3,SNR=6.1						

*NEIC **20** 08:02:35.8±0.9,12.50N×92.49E,h40^{km},mb4.1/2,Error*
ellipse: s-maj=25.0km s-min=10.3km az=57.0
*IDC **20** 08:02:40.1±8.6,12.70N×92.98E,h62^{km}±74^{km},mb3.5/6,*
mb1 3.6/7,mb1mx3.5/18,ML3.8/1,Error ellipse:
s-maj=58.3km s-min=17.1km az=60.0
ISC 20 08:02:30.9±2.6,**12.4N**±0.1×**92.5E**±0.1,**h33**^{km}±26^{km}**,n15,**
σ0^{s}87/18,**mb3.8**/7,**Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PBA	Port Blair	0.77	164	eP	P	08 02 55.0	+10
PBA				eS	S	08 02 57.0	+1.1
CMAR	Chiang Mai Arr	8.63	45	P	P	08 04 37.1	+0.8
	0.3nm,0.3s,baz=242,slow=14,SNR=5.9						
CMAR				S	S	08 06 03.0	-11
	0.4nm,0.3s,baz=237,slow=18,SNR=2.7						
VIS	Vishakhapatnam	10.34	302	eP	P	08 05 01.0	+1.0
VIS				eS	S	08 06 45.0	-11
PKI	Pulchoki	16.50	337	eP	P	08 06 24.2	+2.8
DMN	Daman	16.65	336	eP	P	08 06 25.7	+2.4
	6.6nm,0.4s						
KKN	Kakani	16.74	337	eP	P	08 06 25.0	+0.5
GKN	Gorkha	17.18	336	eP	P	08 06 31.8	+1.8
	12nm,0.4s						
KOLN	Koldanda	17.42	333	eP	P	08 06 33.2	+0.2
	16nm,0.8s						
MKAR	Makanchi Array	35.35	348	P	P	08 09 27.9	+2.7
	1.0nm,0.6s,mb3.9,baz=164,slow=8.8,SNR=11						
SONM	Songino Array	37.18	16	P	P	08 09 43.0	+2.4
	0.3nm,0.4s,mb3.4,baz=202,slow=7.8,SNR=3.0						
BVAR	Borovoye Array	44.22	341	P	P	08 10 41.3	+2.7
	0.2nm,0.3s,mb3.3,baz=180,slow=7.2,SNR=2.9						
FITZ	Fitzroy Crossi	44.57	132	P	P	08 10 44.7	+2.8
	2.7nm,0.9s,mb4.1,baz=3.1,slow=9.8,SNR=7.4						
WRA	Warramunga Arr	52.22	127	P	P	08 11 43.7	+2.6
	0.9nm,0.5s,mb3.9,baz=306,slow=8.3,SNR=11						
WRAB	Tennant Creek	52.22	127	eP	P	08 11 43.5	+2.3
	2.2nm,0.6s,mb4.3						
ASAR	Alice Springs	54.06	132	P	P	08 11 57.5	+2.8
	0.6nm,0.6s,mb3.7,baz=310,slow=7.3,SNR=7.5						

*IDC **20** 08:30:47.0±9.0,20.17S×178.16W,h672^{km}±125^{km},*
mb3.3/6,mb1 3.5/6,mb1mx3.3/12,Error ellipse:
s-maj=131.0km s-min=38.9km az=156.0
ISC 20 08:30:46.8±1.8,**20.8S**±0.7×**177.9W**±0.4,**h700**^{km}**,n11,**
σ0^{s}76/10,**mb3.8**/8,**1C,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	37.73	244	P	P	08 37 09.6	+0.5
	3.0nm,0.6s,mb4.0,baz=78,slow=9.6,SNR=6.5						
ASAR	Alice Springs	44.52	257	P	P	08 38 02.4	-0.1
	12nm,0.8s,mb4.4,baz=98,slow=7.4,SNR=102						
ASPA	Alice Springs	44.52	257	eP	P	08 38 02.3	-0.2
WB2	Warramunga Arr	44.61	262	eP	P	08 38 02.1	-1.1
WRA	Warramunga Arr	44.62	262	P	P	08 38 02.2	-1.1
	3.4nm,0.3s,mb4.2,baz=96,slow=7.6,SNR=28						
KAKA	Kakadu	48.08	271	⇑iP	P	08 38 30.8	+1.5
	6.2nm,0.5s,mb4.3						
FITZ	Fitzroy Crossi	53.05	263	eP	P	08 39 05.4	+0.5
	1.9nm,0.5s,mb3.7						
YBH	Yreka Blue Hor	80.46	39	P	P	08 41 49.7	-0.6
	1.3nm,0.6s,mb3.5,baz=223,slow=2.9,SNR=4.7						
NVAR	Mina Array Bea	81.18	43	P	P	08 41 54.1	0.0
	0.7nm,0.7s,mb3.2,baz=217,slow=6.0,SNR=5.8						
PDAR	Pinedale Array	89.12	43	P	P	08 42 32.5	+0.5
	0.6nm,0.8s,mb3.2,baz=243,slow=3.3,SNR=5.6						
AKASG	Malin Array Be	143.28	331	PKP	PKPdf	08 49 04.9	+1.1
	0.2nm,0.3s,baz=35,slow=4.6,SNR=4.6						

*NEIC **20** 08:59:31.6,34.10S×70.11W,h6^{km},ML2.7(GUC),After*
GUC.
*GUC **20** 08:59:31.6±0.8,34.10S×70.11W,h6^{km}±1^{km},MD4.0,*
ML2.7
ISC 20 08:59:31.3±1.0,**34.13S**±0.03×**70.06W**±0.06,**h8**^{km}±4^{km},
n17,σ0^{s}50/32,**9C-2D,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LMEL	Las Melosas	0.30	337	⇑iP	Pg	08 59 37.5	0.0
LMEL				i S	Sg	08 59 42.0	+0.3
LMEL				AMP		08 59 44.7	
	comp=N,2µm,0.5s						
CICH	Cipreses	0.35	237	⇑iP	Pg	08 59 38.6	+0.2
CICH				i S	Sg	08 59 43.8	+0.6
CACH	El Canelo	0.45	271	⇓iP	Pg	08 59 40.2	0.0
CACH				i S	Sg	08 59 46.1	-0.1
CHCH	Chadas Angostu	0.53	292	⇑iP	Pg	08 59 41.8	-0.1
CHCH				i S	Sg	08 59 49.3	+0.3
PCH	Pirque	0.63	323	i P	Pg	08 59 43.5	-0.4
PCH				i S	Sg	08 59 52.5	+0.1
ANTU	Antumapu	0.73	320	⇑iP	Pb	08 59 45.2	-0.7
ANTU				eS	Sb	08 59 55.6	-0.1
ANTU				i S	Sb	08 59 56.1	+0.3
ANTU				AMP		08 59 56.5	
	comp=N,1µm,0.2s						
ANTU	Antumapu	0.73	320	⇑iP	Pb	08 59 45.2	-0.7
ANTU				i S	Sb	08 59 56.1	+0.3
FCH	Farellones	0.82	347	⇑iP	Pb	08 59 46.7	-0.7
FCH				i S	Sb	08 59 58.6	+0.2
FCH				AMP		09 00 00.8	
	comp=E,406nm,0.2s						
CLCH	Cerro Calan	0.83	332	eP	Pb	08 59 47.1	-0.4
CLCH				i S	Sb	08 59 58.9	+0.3
CLCH				AMP		09 00 06.3	
	comp=E,500nm,0.5s						
DSCH	Colegio Aleman	0.84	330	eP	Pb	08 59 47.3	-0.4
DSCH				i S	Sb	08 59 59.1	+0.1
DSCH				AMP		09 00 00.6	
	comp=N,524nm,0.4s						
TACH	Talagante	0.87	303	⇑iP	Pb	08 59 47.8	-0.4
TACH				i S	Sb	08 59 59.6	-0.1
RCDM	Rinconada Maip	0.89	316	eP	Pb	08 59 47.8	-0.7
RCDM				i S	Sb	09 00 00.8	+0.5
RCDM				AMP		09 00 01.4	
	comp=E,391nm,0.2s						
PUEX	Pudahuel	0.90	320	i S	Sb	09 00 01.1	+0.6
PUEX				AMP		09 00 02.3	
	comp=E,1µm,0.1s						
SFDO	San Fernando	0.92	238	⇑iP	Pb	08 59 48.9	-0.2
SFDO				i S	Sb	09 00 01.8	+0.5
LNV	Longovilo	1.13	278	⇓iP	Pb	08 59 52.2	-0.5
LNV				i S	Sb	09 00 07.3	0.0
LCCH	Las Cruces	1.41	297	⇑iP	Pn	08 59 56.7	-0.7
MDZ	Mendoza	1.60	40	eP	Pn	09 00 01.8	+1.7

*IDC **20** 09:09:08.9±4.1,34.59N×24.99E,h22^{km}±22^{km},mb3.7/3,*
mb1 3.9/8,mb1mx3.7/23,ML4.0/4,Error ellipse:
s-maj=37.0km s-min=19.9km az=50.0
*NEIC **20** 09:09:11.1,34.79N×25.06E,h21^{km},MD4.0(ATH),After*
ATH.
*ATH **20** 09:09:11.1,34.86N×25.03E,h18^{km}±5^{km},MD3.9/11*
ISC 20 09:09:07.1±1.0,**34.28N**±0.08×**25.14E**±0.06,**h41**^{km}±11^{km},
n51,σ1^{s}34/57,**mb3.8**/3,**Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	Khrisi	0.75	38	*e*PN	P	09 09 22.4	+1.2
XRY	Khrisi	0.75	38	*e*Pn	P	09 09 22.0	+0.8
IDI	Anoyia	1.02	349	Pg	P	09 09 22.5	-2.6
	102nm,0.3s,baz=168,slow=17,SNR=369						
IDI				Lg		09 09 31.7	
	536nm,0.3s,baz=279,slow=14,SNR=96						
GVD	Gavdhos	1.03	303	*e*PB	P	09 09 25.4	+0.1
GVD	Gavdhos	1.03	303	*e*Pn	P	09 09 25.3	+0.1
VAM	Vamos	1.36	326	*e*Pn	P	09 09 28.7	-1.4
VAM				*e*Sn	S	09 09 43.5	-3.7
THR6	Thira Island,	2.08	6	*e*P	P	09 09 41.0	+0.8
KARP	Karpathos	2.09	52	*e*PN	P	09 09 45.0	+4.7
THR1	Thera Island	2.10	7	*e*P	P	09 09 40.6	+0.1
SANT	Santorini	2.10	7	*e*Pn	P	09 09 40.4	-0.1
THR3	Thira Island,	2.13	6	*e*P	P	09 09 41.8	+0.8
THR5	Thira Island,	2.14	5	*e*P	P	09 09 40.1	-1.0
KYTH	Kithira	2.63	320	*e*PN	P	09 09 49.7	+1.6
KYTH	Kithira	2.63	320	*e*Pb	P	09 09 51.0	+2.9
APE	Apeiranthos	2.80	6	*e*PB	P	09 09 48.5	-2.0
APE	Apeiranthos	2.80	6	*e*Pn	P	09 09 48.2	-2.3
VLI	Veliai	3.02	324	*e*PN	P	09 09 53.6	-0.1
ARG	Arkhangelos	3.11	51	*e*PN	P	09 09 58.4	+3.4
ARG	Arkhangelos	3.11	51	*e*Pn	P	09 09 58.0	+3.0
BDRM	Kayabasi	3.35	33	*i* P	P	09 09 59.4	+1.0
NSAL	Nisos Salamina	3.86	340	*e*PN	P	09 10 05.5	-0.1
ITM	Ithomi	3.90	319	*e*PB	P	09 10 08.5	+2.4
PTL	Penteli	3.90	345	*e*PN	P	09 10 04.3	-1.8
MPAR	Parnis Oros	4.02	344	*e*PB	P	09 10 08.5	+0.6
AYDN	Tasoluk	4.04	33	*i* P	P	09 10 09.6	+1.6
MKIT	Kithairon Oros	4.18	339	*e*Pn	P	09 10 08.5	-1.6
KDAG	Bornova	4.46	22	*i* P	P	09 10 13.9	-0.1
DNZL	Cakiroluk	4.65	42	*i* P	P	09 10 17.9	+1.2
MANT	Manisa	5.02	32	*i* P	P	09 10 23.6	+1.6
XOR	Xorichti	5.31	343	*e*P	P	09 10 24.1	-1.8
EVR	Evrytania	5.34	331	*e*Pn	P	09 10 28.0	+1.5
ESKT	Eskisehir	6.95	40	*i* P	P	09 10 56.1	+7.1
MEST	Erdemli	7.70	70	*i* P	P	09 11 02.8	+3.4
TIP	Timpagrande	8.31	308	*e*Pn	P	09 11 01.1	-6.8
SGKT	Sivrigoynuk	8.35	39	*i* P	P	09 11 14.8	+6.4
HMDT	Nahal Hemdat	8.93	100	Sn	S	09 12 56.0	-0.8
DRGI	Dragot	9.02	104	Sn	S	09 12 58.4	-0.8
MZDA	Masada	9.10	106	Sn	S	09 13 00.1	-1.0
PRNI	Paran	9.22	112	Sn	S	09 13 03.2	-0.8
COBT	Iskenderun	9.35	73	*i* P	P	09 11 20.9	-1.3
MBH	Mount Berech	9.43	116	Sn	S	09 13 09.5	+0.4
EIL	Elat	9.52	116	Pn	P	09 11 27.5	+3.0
	1.2nm,0.3s,baz=343,slow=14,SNR=6.5						
EIL				Sn	S	09 13 10.9	-0.5
	1.3nm,0.3s,baz=330,slow=25,SNR=4.8						
EIL	Elat	9.52	116	Pn	P	09 11 27.5	+3.0
EIL				*e*Pn	P	09 11 27.9	+3.3
EIL				*e*Sn	S	09 13 01.8	-10
EIL				Sn	S	09 13 10.9	-0.5
ASF	Jabal al Asfar	10.07	99	Pn	P	09 11 35.7	+3.5
	0.4nm,0.3s,baz=180,slow=5.1,SNR=3.3						
ASF				Sn	S	09 13 24.8	-0.1
	0.5nm,0.3s,baz=239,slow=15,SNR=3.7						
MLR	Muntele Rosu	11.21	3	Pn	P	09 11 45.4	-2.3
	0.2nm,0.3s,baz=153,slow=14,SNR=2.7						
AKASG	Malin Array Be	16.68	9	Pn	P	09 12 57.5	-1.7
	0.8nm,0.3s,baz=202,slow=11,SNR=6.7						
GERES	GERESS Array B	16.85	333	Pn	P	09 13 01.8	+0.5
	baz=139,slow=12,SNR=4.8						
MKAR	Makanchi Array	44.28	56	P	P	09 17 16.1	+1.9
	0.5nm,0.4s,mb3.6,baz=277,slow=6.9,SNR=5.0						
SONM	Songino Array	60.06	50	P	P	09 19 12.7	+0.6
	0.3nm,0.4s,mb3.6,baz=306,slow=5.9,SNR=2.8						
SCHQ	Schefferville	63.84	320	P	P	09 19 37.0	-0.3
	2.6nm,0.8s,mb4.3,baz=78,slow=15,SNR=2.6						
SCHQ	Schefferville	63.84	320	P	P	09 19 37.0	-0.3

CASC 20 09:14:48.1±1.8, 12.69N×88.34W, h45^{km}±149^{km}, MD3.5, 6C-2D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLLM	Bellamira	0.75	7	⇓*e*P	P	09 15 03.2	+0.8
BLLM				*e*P		09 15 03.6	
BLLM				*e*S	S	09 15 14.1	+1.2
BLLM				*e*S	S	09 15 14.7	+1.8
CNCH	Conchagua	0.76	40	*e*P	P	09 15 03.2	+0.7
CNCH				*e*S	S	09 15 14.6	+1.5
SNVI	San Vicente	1.04	332	*e*P	P	09 15 06.6	+0.1
SNVI				*e*S	S	09 15 20.4	+0.3
LCBS	La Ceiba	1.15	327	⇑*e*P	P	09 15 08.2	+0.3
LCBS				*e*S	S	09 15 22.5	-0.2
LFRS	El Faro	1.17	323	⇑*e*P	P	09 15 08.3	+0.1
LFRS				*e*S	S	09 15 22.7	-0.6
LBRS	Las Brisas	1.25	327	*e*P	P	09 15 09.9	+0.5
LBRS				*e*S	S	09 15 24.5	-0.9
LFU	La Fuente	1.30	324	⇑*e*P	P	09 15 10.5	+0.4
LFU				*e*S	S	09 15 26.1	-0.5
BOQS	Boqueron	1.39	319	*e*P	P	09 15 11.9	+0.4
BOQS				*e*S	S	09 15 29.5	+0.6
LEON	Leon	1.44	101	*e*P	P	09 15 11.5	-0.7
LEON				*e*S	S	09 15 29.4	-0.7
MIRN	Miramar	1.60	99	⇓*e*P	P	09 15 14.4	-0.1
MIRN				*e*S	S	09 15 34.6	+0.4
SBLS	San Blas	1.70	312	*e*P	P	09 15 16.4	+0.6
SBLS				*e*S	S	09 15 37.5	+1.0
SNJE	San Jose	1.70	314	*e*P	P	09 15 16.1	+0.2
SNJE				*e*S	S	09 15 36.9	+0.3
RTR	El Retiro	1.75	313	*e*P	P	09 15 16.8	+0.2
RTR				*e*S	S	09 15 38.0	+0.2
MOMJ	Momotombo	1.77	99	⇑*e*P	P	09 15 16.9	0.0
MOMJ				*e*S	S	09 15 38.4	0.0
COPN	Copaltepe	1.78	106	*e*P	P	09 15 16.6	-0.4
COPN				*e*S	S	09 15 37.7	-0.7
APYN	Apoyeque	1.99	103	⇑*e*P	P	09 15 20.2	+0.2
APYN				*e*S	S	09 15 42.9	-0.8
MGAN	Managua	2.11	105	⇑*e*P	P	09 15 21.4	-0.3
MGAN				*e*S	S	09 15 45.5	-1.3
TICN	Ticuantepe	2.16	107	*e*P	P	09 15 22.4	0.0
TICN				*e*S	S	09 15 46.8	-1.2
WILN	Americas 2	2.16	104	*e*P	P	09 15 22.8	+0.4
WILN				*e*S	S	09 15 47.4	-0.7

IDC 20 09:15:22.6±16.0, 18.55S×174.08W, mb4.1/5, mb1 4.2/5, mb1mx4.0/15, Error ellipse: s-maj=316.0km s-min=144.4km az=80.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	37.41	261	P	P	09 22 38.5	-0.8
	1.2nm,0.5s,baz=69,slow=8.6,SNR=2.5						
STKA	Stephens Creek	41.97	243	P	P	09 23 15.3	-1.8
	2.4nm,1.2s,baz=103,slow=14,SNR=5.3						
WB2	Warramunga Arr	48.56	259	*e*P	P	09 24 07.6	-2.3
WRA	Warramunga Arr	48.57	259	P	P	09 24 07.7	-2.3
	0.8nm,0.3s,baz=96,slow=7.6,SNR=68						
ASAR	Alice Springs	48.59	255	P	P	09 24 07.7	-2.4
	2.9nm,1.0s,baz=93,slow=7.6,SNR=22						
FITZ	Fitzroy Crossi	56.98	260	P	P	09 25 10.5	-2.2
	2.2nm,0.9s,baz=101,slow=3.0,SNR=2.8						

IDC 20 09:21:56.8±9.8, 13.36S×167.99E, h683^{km}±50^{km}, mb2.9/5, mb1 3.0/5, mb1mx2.9/14, Error ellipse: s-maj=151.0km s-min=26.1km az=36.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	Rata Peaks	30.36	176	P	P	09 27 17.5	-1.6
	16nm,0.9s,baz=12,slow=14,SNR=2.5						
STKA	Stephens Creek	30.41	228	P	P	09 27 18.4	-1.2
	0.6nm,0.6s,baz=73,slow=11,SNR=2.8						
WB2	Warramunga Arr	32.84	254	*e*P	P	09 27 38.4	-1.7
WRA	Warramunga Arr	32.85	254	P	P	09 27 38.5	-1.6
	1.6nm,0.5s,baz=84,slow=8.5,SNR=42						
WRA				ScP		09 32 42.6	
	0.5nm,0.8s,baz=83,slow=4.0,SNR=5.1						
ASAR	Alice Springs	33.82	247	P	P	09 27 47.2	-1.0
	1.9nm,0.4s,baz=76,slow=9.9,SNR=51						
ASPA	Alice Springs	33.83	247	*e*P	P	09 27 47.2	-1.0
FITZ	Fitzroy Crossi	40.97	258	*e*P	P	09 28 44.4	-1.5
	1.4nm,0.8s						
FITZ	Fitzroy Crossi	40.97	258	P	P	09 28 44.4	-1.6
	1.0nm,0.5s,baz=115,slow=2.7,SNR=4.1						

IDC 20 09:22:08.6±45.0, 17.00S×174.65W, mb4.1/3, mb1 4.2/3, mb1mx3.9/12, Error ellipse: s-maj=846.0km s-min=169.5km az=79.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	42.20	241	P	P	09 30 03.7	-1.3
	2.2nm,1.2s,baz=50,slow=7.9,SNR=4.8						
WB2	Warramunga Arr	48.31	258	*e*P	P	09 30 52.3	-1.7
WRA	Warramunga Arr	48.32	258	P	P	09 30 51.9	-2.2
	0.7nm,0.6s,baz=96,slow=7.0,SNR=14						
ASAR	Alice Springs	48.49	253	P	P	09 30 53.4	-1.9
	3.9nm,0.6s,baz=88,slow=8.6,SNR=68						
ASPA	Alice Springs	48.49	253	*e*P	P	09 30 53.3	-2.0

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*MOS **20** 09:43:17.7±1.0, 53.69N×160.65E, h27^{km}, mb4.4/1, Error ellipse: s-maj=27.5km s-min=10.4km az=71.9*

*KRSC **20** 09:43:17.6±0.9, 53.67N×160.66E, h35^{km}±4^{km}, ML4.3*

ISC 20 09:43:17.9±0.5, 53.67N±0.03×160.68E±0.06, h38^{km}±22^{km}, n42, σ0^{s}.77/82, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.70	215	P	P	09 43 30.9	-0.4
SPN				S	S	09 43 40.7	-0.3
SPN	Mys Shipunski	0.70	215	*e*P	P	09 43 30.9	-0.4
SPN				*i* S	S	09 43 40.8	-0.2
KII	Karymskiy	0.82	297	P	P	09 43 32.8	-0.2
KII				S	S	09 43 43.9	-0.1
KII	Karymskiy	0.82	297	*i* P	P	09 43 32.8	-0.2
KII				*e*S	S	09 43 44.3	+0.3
NLC	Nalytchevo	0.94	238	P	P	09 43 34.5	-0.3
NLC				S	S	09 43 46.7	-0.6
NLC	Nalytchevo	0.94	238	*e*P	P	09 43 34.5	-0.3
NLC				*e*S	S	09 43 46.4	-0.9
MKZ	Mys Kozlova	1.08	34	P	P	09 43 36.2	-0.5
MKZ				S	S	09 43 49.7	-1.0
MKZ	Mys Kozlova	1.08	34	*i* P	P	09 43 36.1	-0.6
MKZ				*i* S	S	09 43 49.6	-1.1
SDLR	Sedlovina	1.14	251	*e*P	P	09 43 37.9	+0.3
SDLR				*e*S	S	09 43 53.0	+0.7
SMAR	Somma	1.20	251	*e*P	P	09 43 38.4	+0.1
SMAR				*e*S	S	09 43 53.9	+0.2
UGLR	Uglovaya	1.20	248	*e*P	P	09 43 38.7	+0.2
UGLR				*e*S	S	09 43 53.4	-0.5
AVH	Avacha	1.23	251	*e*P	P	09 43 39.2	+0.3
AVH				*e*S	S	09 43 54.8	+0.2
KOK	Koryaka	1.28	254	*i* P	P	09 43 39.7	+0.1
KOK				*e*S	S	09 43 55.3	-0.5
PET	Petropavlovsk	1.38	243	*i* P	P	09 43 41.0	0.0
PET				*e*S	S	09 43 58.2	-0.1
GNL	Ganaly	1.63	272	*e*P	P	09 43 44.6	0.0
GNL				*e*S	S	09 44 04.4	-0.2
TUMR	Tumrok	1.65	349	*i* P	P	09 43 45.1	+0.3
TUMR				*i* S	S	09 44 05.5	+0.5
RUS	Russkaya	1.80	227	P	P	09 43 47.3	+0.2
RUS				S	S	09 44 08.6	-0.3
RUS	Russkaya	1.80	227	*e*P	P	09 43 46.4	-0.7
RUS				*e*S	S	09 44 07.0	-1.9
GRL	Gorelyy	1.93	236	*e*P	P	09 43 50.2	+1.3
GRL				*e*S	S	09 44 13.8	+1.7
KMNR	Kamenistaya	2.10	353	*e*P	P	09 43 51.8	+0.4
KMNR				*e*S	S	09 44 17.6	+1.0
APC	Apacha	2.24	252	*e*P	P	09 43 54.8	+1.4
APC				*e*S	S	09 44 20.4	+0.4
APC				Smax			
	140nm,0.8s						
KPT	Kopyto	2.31	354	*e*P	P	09 43 54.6	+0.2
KPT				*e*S	S	09 44 20.8	-1.1
ZLN	Zelenaya	2.35	2	*i* P	P	09 43 55.7	+0.8
ZLN				*e*S	S	09 44 23.2	+0.4
LGNR	Loginova	2.42	0	*e*P	P	09 43 57.0	+1.1
LGNR				*e*S	S	09 44 25.8	+1.3
KOZ	Kozyrevsk	2.44	349	P	P	09 43 56.1	-0.1
KOZ				S	S	09 44 24.4	-0.6
KOZ	Kozyrevsk	2.44	349	*i* P	P	09 43 56.1	-0.1
KOZ				*e*S	S	09 44 23.0	-2.0
KOZR	Kozyr	2.44	350	PN	P	09 43 56.1	-0.1
KOZR				S	S	09 44 24.4	-0.7
CIRR	Tsirk	2.45	1	*e*P	P	09 43 57.1	+0.8
CIRR				*e*S	S	09 44 26.5	+1.2
ESO	Esso	2.53	334	*i* P	P	09 43 56.8	-0.7
ESO				*e*S	S	09 44 25.8	-1.6
ESO				Smax			
	170nm,0.7s						
KRSR	Krestovskiy	2.55	359	P	P	09 43 57.8	0.0
KRSR				*e*S	S	09 44 27.0	-0.9
KLY	Klyuchi	2.65	360	P	P	09 43 59.3	+0.1
KLY				S	S	09 44 30.1	-0.3
KLY	Klyuchi	2.65	360	*i* P	P	09 43 59.3	+0.1
KLY				*e*S	S	09 44 30.0	-0.4
SRDR	Sredinnyy	2.71	349	*e*P	P	09 43 59.8	-0.2
SRDR				*e*S	S	09 44 31.1	-0.8
MIPR	Malaya Ipel’ka	2.75	241	*e*P	P	09 44 01.0	+0.3
KBTR	Krutoberegovo	2.83	25	P	P	09 44 01.5	-0.2
KBTR				S	S	09 44 34.0	-0.9
KBTR	Krutoberegovo	2.83	25	*e*P	P	09 44 01.6	-0.1
KBTR				*e*S	S	09 44 34.5	-0.4
KBG	Krutoberegovo	2.84	23	P	P	09 44 03.4	+1.5
KBG				*e*S	S	09 44 36.6	+1.3
KBG				Smax			
	1µm,0.9s						
SVLR	Shiveluch	2.93	6	*e*P	P	09 44 03.4	+0.2
SVLR				*e*S	S	09 44 37.4	-0.1
PAU	Pauzhetka	3.23	228	P	P	09 44 07.5	0.0
PAU				*e*S	S	09 44 44.5	-0.7
PAU				Smax			
	300nm,1.0s						
BKI	Bering	3.45	61	*e*P	P	09 44 09.5	-1.1
BKI				*e*S	S	09 44 46.2	-4.6
SKR	Severo-Kuril’s	4.10	225	*e*P	P	09 44 18.0	-1.8
SKR				*e*S	S	09 45 02.5	-4.8
SKR	Severo-Kuril’s	4.10	225	*e*PN	P	09 44 18.0	-1.8
SKR				pmax	pmax		
	comp=Z,60nm,0.5s						

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*NEIC **20** 09:48:30.7, 36.42N×9.89W, MG3.8(MDD), After MDD.*

MDD 20 09:48:31.3±3.5, 36.46N×9.94W, h9^{km}±106^{km}, mbLg2.2/2, Error ellipse: s-maj=136.0km s-min=23.3km az=57.0, PRXIMO, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTEO	Sao Teotonio	1.46	41	*e*S	Sg	09 49 15.6	-4.4
	16nm,0.1s						
PTEO	Sao Teotonio	1.46	41	S	Sg	09 49 15.6	-4.4
	7.8nm,0.1s						
PALC	Alcoutim	2.22	62	*e*Sn	Sn	09 49 32.8	-3.8
	6.5nm,0.1s						
PALC	Alcoutim	2.22	62	Sn	Sn	09 49 32.8	-3.8
	3.2nm,0.1s						
PBEJ	Beja	2.28	46	*e*Sn	Sn	09 49 34.7	-3.5
	5.9nm,0.2s						
PBEJ	Beja	2.28	46	Sn	Sn	09 49 34.7	-3.5
	3.0nm,0.2s						
MOE	Montemor	2.42	31	*e*Sn	Sn	09 49 38.3	-3.4
EMIN	Mina Concepcio	2.92	62	P	Pn	09 49 16.2	-2.7
	SNR=7.9						
EMIN				S	Sn	09 49 50.9	-3.5
	SNR=7.9						
EBAD	Badajoz	3.27	44	P	Pn	09 49 22.8	-1.0
	1.1nm,0.1s,SNR=7.9						
EBAD				S	Sn	09 49 59.0	-4.2
	2.3nm,0.3s,SNR=6.6						
ESPR	Espera	3.31	82	P	Pn	09 49 22.5	-1.9
	3.8nm,0.2s,SNR=7.9						
ESPR				S	Sn	09 50 00.1	-4.2
	SNR=7.9						
PCBR	Castelo Branco	3.90	29	*e*Sn	Sn	09 50 13.6	-5.5
	1.8nm,0.2s						
PCBR	Castelo Branco	3.90	29	Sn	Sn	09 50 13.6	-5.5
	0.9nm,0.2s						
EADA	Adamuz	4.61	67	P	Pn	09 49 38.5	-4.3
	SNR=4.0						
EADA				S	Sn	09 50 32.0	-5.0
	SNR=7.9						

IDC 20 10:27:04.3±11.0, 23.18S×179.71E, h417^{km}±110^{km}, mb3.5/4, mb1 3.7/5, mb1mx3.4/14, Error ellipse: s-maj=96.1km s-min=28.8km az=41.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	15.19	188	P	P	10 30 17.3	-2.9
	2.2nm,0.3s,baz=62,slow=15,SNR=10.0						
URZ				S	S	10 32 46.5	-11
	0.5nm,0.3s,baz=167,slow=23,SNR=4.9						
RPZ	Rata Peaks	21.69	197	P	P	10 31 23.2	-0.9
	11nm,0.8s,baz=32,slow=15,SNR=2.5						
CTA	Charters Tower	31.21	269	*e*P	P	10 32 49.1	+0.1
	2.7nm,0.3s						
CTA	Charters Tower	31.21	269	P	P	10 32 49.2	+0.2
	3.8nm,0.3s,baz=95,slow=12,SNR=22						
ASAR	Alice Springs	41.89	260	P	P	10 34 15.6	-2.1
	2.2nm,0.9s,baz=94,slow=8.1,SNR=28						
ASPA	Alice Springs	41.89	260	*e*P	P	10 34 16.0	-1.7
WB2	Warramunga Arr	42.18	265	*e*P	P	10 34 17.6	-2.4
WRA	Warramunga Arr	42.19	265	P	P	10 34 18.1	-2.1
	0.8nm,0.3s,baz=95,slow=8.2,SNR=87						
AKASG	Malin Array Be	144.22	328	PKP	PKPdf	10 45 51.1	+0.2
	0.2nm,0.3s,baz=47,slow=4.2,SNR=4.9						

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*NEIC **20** 10:42:45.6±4.8, 13.20S×167.16E, h197^{km}±41^{km}, mb4.5/15, Error ellipse: s-maj=21.0km s-min=11.0km az=56.0*

*IDC **20** 10:42:45.2±0.8, 13.27S×167.13E, h187^{km}±6^{km}, mb4.1/13, mb1 4.2/13, mb1mx4.1/17, Error ellipse: s-maj=16.6km s-min=12.7km az=116.0*

ISC 20 10:42:44.3±3.2, 13.3S±0.1×167.1E±0.1, h194^{km}±29^{km}, h191^{km}±1.6^{km}:pP-P, n62, σ0^{s}.95/36, mb4.4/25, 1C-1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	21.06	248	P	P	10 47 14.8	+0.6
	5.5nm,0.8s,mb4.2,baz=86,slow=15,SNR=4.9						
CTAO	Charters Tower	21.06	248	*e*P	P	10 47 15.6	+1.4
	3.9nm,0.6s,mb4.1						
URZ	Urewera	26.44	162	P	P	10 48 04.0	-1.1
	6.8nm,0.3s,mb4.7,baz=122,slow=2.7,SNR=10.0						
CNB	Canberra Magne	27.16	213	*e*P	P	10 48 12.3	+0.6
	24nm,0.8s,mb4.9						
STKA	Stephens Creek	29.82	227	*e*P	P	10 48 35.6	+0.2
	14nm,0.4s,mb4.9						
STKA	Stephens Creek	29.82	227	P	P	10 48 35.9	+0.4
	22nm,0.6s,mb5.0,baz=49,slow=8.8,SNR=59						
STKA				PcP	PcP	10 51 33.5	-0.4
	5.9nm,0.5s,baz=70,slow=3.8,SNR=15						
STKA				ScP		10 54 58.6	
	1.2nm,0.6s,baz=56,slow=3.3,SNR=4.0						
RPZ	Rata Peaks	30.53	174	P	P	10 48 41.5	0.0
	23nm,0.8s,mb4.9,baz=188,slow=2.1,SNR=11						
TOO	Toolangi	30.92	215	*e*P	P	10 48 45.4	+0.3
	11nm,0.7s,mb4.6						
WB2	Warramunga Arr	32.02	254	*e*P	P	10 48 54.2	-0.6
WRAB	Tennant Creek	32.02	254	*e*P	P	10 48 53.7	-1.1
	16nm,1.3s,mb4.4						
WRA	Warramunga Arr	32.03	254	P	P	10 48 53.9	-0.9
	2.8nm,0.8s,mb3.8,baz=83,slow=8.5,SNR=37						
WRA				PcP	PcP	10 51 39.4	-0.5
	0.8nm,0.7s,baz=86,slow=3.5,SNR=4.1						
WRA				ScP		10 55 05.6	
	1.2nm,0.8s,baz=76,slow=3.4,SNR=8.2						
ASAR	Alice Springs	33.04	247	P	P	10 49 02.5	-1.0
	5.1nm,0.7s,mb4.2,baz=77,slow=9.5,SNR=163						
ASAR				PcP	PcP	10 51 41.9	-0.7
	1.7nm,0.6s,baz=71,slow=2.4,SNR=9.7						
ASAR				ScP		10 55 09.2	
	1.5nm,0.7s,baz=82,slow=3.4,SNR=12						
ASPA	Alice Springs	33.05	247	*e*P	P	10 49 02.8	-0.8
ASPA				*e*S	S	10 54 06.5	-0.4
KAKA	Kakadu	33.78	267	*e*P	P	10 49 12.6	+2.7
	3.7nm,0.4s,mb4.3						
FORT	Forrest	39.90	238	*e*P	P	10 50 01.2	+0.3
	105nm,0.6s,mb5.4						
FITZ	Fitzroy Crossi	40.12	258	*e*P	P	10 50 03.8	+0.9
	6.3nm,1.9s,mb3.7						
FITZ	Fitzroy Crossi	40.12	258	P	P	10 50 03.7	+0.8
	2.1nm,0.8s,mb3.6,baz=114,slow=5.4,SNR=8.3						
MBWA	Marble Bar	45.77	253	*e*P	P	10 50 48.6	+0.2
	6.7nm,0.4s,mb4.3						
KLBR	Kellerberrin	48.66	240	*e*P	P	10 51 10.2	-0.6
	36nm,1.8s,mb4.4						
NWAO	Narrogin (SRO)	49.35	238	P	P	10 51 15.4	-0.5
	7.8nm,0.6s,mb4.2,baz=77,slow=5.1,SNR=14						
NWAO	Narrogin (SRO)	49.35	238	*e*P	P	10 51 15.2	-0.8
	5.6nm,0.4s,mb4.2						
SBA	Scott Base	64.58	180	*e*P	P	10 53 02.9	+0.5
	7.6nm,0.8s,mb4.4						
CASY	Casey	64.80	202	*e*P	P	10 53 02.8	-1.2
	5.0nm,0.6s,mb4.3						
CMAR	Chiang Mai Arr	74.19	294	P	P	10 54 03.0	+1.0
	2.2nm,0.7s,mb3.9,baz=139,slow=4.2,SNR=13						
QSPA	South Pole Qui	76.75	180	*e*P	P	10 54 15.5	+0.3
	22nm,0.8s,mb4.8						
SONM	Songino Array	81.22	324	P	P	10 54 40.5	+0.6
	1.2nm,0.9s,mb3.5,baz=132,slow=5.1,SNR=6.1						
SONM				pP	pP	10 55 26.7	-0.6
	0.2nm,0.3s,baz=180,slow=33,SNR=1.7						
MAW	Mawson	83.16	202	P	P	10 54 49.9	+0.4
	6.9nm,0.8s,mb4.4,baz=110,slow=6.2,SNR=6.7						
ILAR	Eielson Array	85.20	18	P	P	10 54 58.7	-1.0
	3.0nm,0.5s,mb4.2,baz=242,slow=5.0,SNR=78						
ILAR				pP	pP	10 55 46.7	-0.7
	4.7nm,0.8s,baz=233,slow=6.1,SNR=12						
NVAR	Mina Array Bea	86.47	49	pP	pP	10 55 54.0	-0.3
	0.5nm,0.6s,baz=225,slow=6.4,SNR=3.4						
SNAA	Sanae	94.98	183	⇓*i*	P	10 55 43.7	-1.6
SNAA	Sanae	94.98	183	*e*P	P	10 55 44.7	-0.6
	1.6nm,0.6s,mb4.3						
VNA3	Neumayer Olymp	95.66	181	⇑*i*	P	10 55 49.8	+1.4
VNA2	Neumayer--Watz	95.92	182		P	10 55 51.7	+2.1
MKAR	Makanchi Array	96.03	317	P	P	10 55 51.0	+0.4
	2.0nm,0.6s,mb4.6,baz=92,slow=6.3,SNR=18						
MKAR				pP	pP	10 56 38.6	-0.3
	1.1nm,0.7s,baz=89,slow=7.0,SNR=4.3						
MKAR	Makanchi Array	96.03	317	P	P	10 55 51.0	+0.4
MKAR				pP	pP	10 56 38.6	-0.2
KURK	Kurchatov	99.17	320	*e*P	P	10 56 03.5	-1.3
	0.8nm,0.5s,mb4.3						
KEV	Kevo	118.28	345	*e*p	PKPdf	11 01 08.2	+0.2
ARCES	ARCESS Array B	118.80	346	PKP	PKPdf	11 01 09.5	+0.5
	3.2nm,0.3s,baz=79,slow=2.3,SNR=53						
KAF	Kangasniemi	123.78	339	*e*p	PKPdf	11 01 18.4	-0.4
FINES	FINESS Array B	124.31	339	PKP	PKPdf	11 01 20.9	+1.0
	1.2nm,0.5s,baz=51,slow=2.1,SNR=12						
NB2	NORSAR Subarra	129.18	345	PKPdf	PKPdf	11 01 29.9	+0.7
	2.7nm,1.0s,baz=31,slow=1.9						
NOA	NORSAR Array B	129.18	345	PKP	PKPdf	11 01 30.6	+1.4
	2.2nm,0.8s,baz=32,slow=2.0,SNR=4.4						
GERES	GERESS Array B	138.27	334	PKP	PKPdf	11 01 48.9	+2.4
	1.1nm,0.3s,baz=45,slow=1.4,SNR=5.5						
GERES				SKP		11 05 06.0	
	3.4nm,1.0s,baz=45,slow=1.9,SNR=8.7						
DAVOX	Davos	141.50	335	PKP	PKPdf	11 01 53.6	+1.3
	5.2nm,0.8s,baz=358,slow=9.8,SNR=3.8						
GRR	Gorron	143.58	346	*e*PKP1	PKPbc	11 01 54.5	-0.1
SGMF	Saint Gilles	144.07	348	*e*PKP1	PKPbc	11 01 55.8	-0.3
MBDF	Montbardon	144.43	336	*e*PKP1	PKPbc	11 01 57.3	+0.1
	12nm,0.8s						
QUIF	Quistinic	144.52	349	*e*PKP1	PKPbc	11 01 56.9	-0.5
ORIF	Oris-en-Rattie	144.62	337	*e*PKP1	PKPbc	11 01 58.4	+0.6
	34nm,0.8s						
TCF	Toulx Ste Croi	144.70	342	*e*PKP1	PKPbc	11 01 58.2	+0.3
	14nm,0.8s						
SBF	Sospel	144.86	334	*e*PKP1	PKPbc	11 01 58.5	0.0
	47nm,0.8s						
MFF	Saint Martin d	145.08	345	*e*PKP1	PKPbc	11 01 59.3	+0.4
	44nm,0.8s						
VIVF	Saint-Julien-l	145.13	338	*e*PKP1	PKPbc	11 02 00.1	+1.0
	13nm,0.7s						
PGF	Pioggiola	145.20	331	*e*PKP1	PKPbc	11 01 59.8	+0.4
	9.2nm,0.6s						
FRF	La Foret Royal	145.44	335	*e*PKP1	PKPbc	11 02 00.3	+0.3
SMRF	Simiane la Rot	145.53	336	*e*PKP1	PKPbc	11 02 01.3	+1.1
	24nm,0.9s						
LMR	La Mourre	145.69	334	*e*PKP1	PKPbc	11 02 01.2	+0.6
	15nm,0.7s						
LASF	Ste Croix	146.10	338	*e*PKP1	PKPbc	11 02 02.9	+1.3
	19nm,0.9s						
MTLF	Montolieu	147.32	339	*e*PKP1	PKPdf	11 02 06.3	+4.0
	20nm,0.8s						
SJPF	Ste Jean	148.60	343	*e*PKP1	PKPdf	11 02 09.0	+4.6

	12nm,0.8s						
ETSF	Etsaut	148.60	342	ePKP1	PKPdf	11 02 09.1	+4.7
	7.2nm,0.5s						
ESDC	Sonseca Array	152.54	345	PKPbc	PKPdf	11 02 19.5	+9.1
	4.4nm,0.9s,baz=12,slow=2.7,SNR=8.1						
ESDC				PKPab	PKPab	11 02 31.0	-0.3
	0.4nm,0.3s,baz=348,slow=4.0,SNR=3.2						

PDG ***20*** *10:46:59.3±0.2, 41.55N×20.02E, h10^{km}±1^{km}*
NEIC ***20*** *10:46:59.3, 41.55N×20.02E, h10^{km}, MD3.6(PDG), After PDG.*
TIR ***20*** *10:46:59.1, 41.64N×20.02E, h15^{km}, Ml2.5*
ISC 20 10:46:59.0±0.4**, 41.59N**±0.03×**20.14E**±0.04**, h10^{km}, n16, σ1^{s}.46**/30**, 6C-4D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
QSH	Qafa e Shtames	0.19	249	i Pg	Pg	10 47 04.0	+0.8
TIR	Tirane	0.32	220	i Pg	Pg	10 47 05.4	-0.2
TIR				i Sg	Sg	10 47 11.4	+1.4
OHR	Ohrid	0.69	133	⇓iPg	Pg	10 47 11.4	-1.5
OHR				i Sg	Sg	10 47 22.6	+0.4
ULC	Ulcinj	0.76	300	⇑iPg	Pg	10 47 12.7	-1.7
ULC				eSg	Sg	10 47 24.0	-0.6
PVY	Plav	1.01	353	ePg	Pg	10 47 18.4	-1.0
PVY				eSg	Sg	10 47 35.2	+2.2
SKO	Skopje	1.05	68	⇑iPg	Pg	10 47 19.8	-0.2
SKO				⇓iSg	Sg	10 47 32.2	-1.9
SKO				Lg		10 47 33.5	
	comp=Z,0.2nm,0.4s						
TTG	Podgorica	1.06	322	⇓iPg	Pg	10 47 18.4	-2.0
TTG				eSg	Sg	10 47 35.0	+0.4
BUM	Brajici-Budva	1.17	308	⇑iPg	Pg	10 47 20.5	-1.9
BUM				eSg	Sg	10 47 37.6	-0.4
FNA	Florina	1.23	130	eP	Pb	10 47 21.1	-0.9
FNA				eS	Sb	10 47 39.7	+2.0
IVA	Berane	1.29	352	ePg	Pg	10 47 23.8	-1.1
IVA				eSg	Sg	10 47 44.5	+2.2
NKY	Niksic	1.49	326	⇑iPg	Pg	10 47 26.0	-2.8
NKY				eSg	Sg	10 47 49.6	+0.9
HCY	Herceg Novi	1.49	306	ePg	Pg	10 47 25.8	-3.1
HCY				eSg	Sg	10 47 48.7	-0.2
BRY	Bratogost	1.77	319	⇑iPn	Pn	10 47 30.8	+0.8
BRY				eSn	Sn	10 47 56.6	+4.0
GRG	Griva	1.82	110	eP	Pn	10 47 31.6	+0.9
PLE	Pljevlja	1.83	343	⇓iPn	Pn	10 47 33.3	+2.6
PLE				eSn	Sn	10 47 58.8	+4.7
UPM	Unac-Piva	1.85	331	⇑iPn	Pn	10 47 33.2	+2.1
UPM				eSn	Sn	10 47 59.5	+4.7

NEIC ***20*** *11:14:34.6, 42.86N×1.49W, h5^{km}, ML2.6(STR), ML2.5(LDG), MN2.3(MDD), After STR.*
STR ***20*** *11:14:34.6±0.2, 42.86N×1.49W, h5^{km}±1^{km}, Ml2.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG ***20*** *11:14:35.3±0.4, 42.89N×1.48W, h2^{km}, Md2.6/2, Ml2.5/7, Error ellipse: s-maj=6.2km s-min=3.8km az=50.0*
MDD ***20*** *11:14:35.7±0.3, 42.87N×1.44W, h6^{km}±4^{km}, mbLg2.1/12, Error ellipse: s-maj=3.0km s-min=2.2km az=34.0, PRXIMO AftershockPLICA*
ISC 20 11:14:33.6±0.5**, 42.88N**±0.02×**1.50W**±0.03**, h12^{km}**±3^{km}**, n38, σ1^{s}.25**/68**, 1C, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJPF	Ste Jean	0.31	41	ePg	Pg	11 14 41.2	+1.1
SJPF				eSg	Sg	11 14 44.1	-0.4
	330nm,0.3s						
EALK	Alkurruntz	0.34	359	⇑Pg	Pg	11 14 42.2	+1.6
	18nm,0.1s,SNR=18						
EALK				Lg		11 14 48.1	
	83nm,0.3s,SNR=5.0						
LARF	Larrau	0.41	67	Pg	Pg	11 14 42.5	+0.4
LARF				Sg	Sg	11 14 48.5	+0.8
LARF	Larrau	0.41	67	P	Pg	11 14 42.6	+0.5
LARF				S	Sg	11 14 48.4	+0.7
OSSF	Osses	0.41	25	Pg	Pg	11 14 43.1	+1.0
OSSF				Sg	Sg	11 14 49.2	+1.4
OSSF	Osses	0.41	25	P	Pg	11 14 43.2	+1.1
OSSF				S	Sg	11 14 48.6	+0.8
ORDF	Ordiarp	0.53	51	Pg	Pg	11 14 45.1	+0.7
ORDF				Sg	Sg	11 14 52.3	+0.6
ORDF	Ordiarp	0.53	51	P	Pb	11 14 45.2	+0.9
ORDF				S	Sb	11 14 51.9	+0.3
ATE	Arette	0.62	71	P	Pb	11 14 46.6	+0.7
ATE				S	Sb	11 14 54.7	+0.4
FDAF	Les Forges d’A	0.69	95	Pg	Pg	11 14 47.3	-0.3
FDAF				Sg	Sg	11 14 57.3	+0.4
FDAF	Les Forges d’A	0.69	95	P	Pb	11 14 47.6	+0.5
FDAF				S	Sb	11 14 57.3	+1.1
ETSF	Etsaut	0.69	88	ePg	Pg	11 14 47.0	-0.6
ETSF				eSg	Sg	11 14 55.6	-1.4
	19nm,0.2s						
REYF	Montagne du Re	0.83	77	S	Sb	11 15 01.4	+1.0
VIEF	Viey	1.12	89	P	Pb	11 14 54.8	+0.3
VIEF				S	Sb	11 15 09.7	+0.9
LABF	Labassere	1.17	81	P	Pb	11 14 56.2	+1.0
LABF				S	Sb	11 15 11.0	+0.9
RESF	Ens	1.36	93	P	Pn	11 15 00.4	+2.0
RESF				S	Sb	11 15 19.3	+3.8
EPF	Esparros	1.36	83	ePg	Pg	11 15 01.3	+0.4
EPF				eSg	Sg	11 15 17.3	-1.7
	13nm,0.2s						
ESAC	San Caprasio	1.39	146	Pg	Pg	11 14 60.0	-1.5
	28nm,0.2s,SNR=23						
ESAC				Lg		11 15 17.4	
	139nm,0.3s,SNR=5.0						
ELAN	Lanestosa	1.46	284	Pg	Pg	11 15 02.8	0.0
	2.9nm,0.2s,SNR=9.7						
ELAN				Lg		11 15 23.3	
	7.2nm,0.2s,SNR=5.0						
EGRA	Graus	1.51	116	Pn	Pn	11 15 01.8	+1.2
	0.1nm,0.2s,SNR=7.9						
EGRA				Pg	Pg	11 15 02.7	-1.1
	3.9nm,0.2s,SNR=7.9						
EGRA				Lg		11 15 23.4	
	7.5nm,0.2s,SNR=7.9						
MELF	Melles	1.66	90	Pg	Pg	11 15 05.7	-1.2
MELF	Melles	1.66	90	P	Pn	11 15 05.8	+3.0
MELF				S	Sn	11 15 27.2	+3.0
SALF	Salau	1.98	93	S	Sn	11 15 37.0	+4.7
ETOR	Torete	2.10	192	Pn	Pn	11 15 10.7	+1.6
	0.8nm,0.1s,SNR=7.9						
ETOR				Pg	Pg	11 15 14.1	-1.5
	3.0nm,0.2s,SNR=10.0						
ETOR				Sn	Sn	11 15 37.2	+1.9
	3.1nm,0.2s,SNR=5.0						
ETOR				Lg		11 15 42.1	
	17nm,0.4s,SNR=5.0						
EPOB	Poblet	2.45	128	Pn	Pn	11 15 13.9	-0.2
	0.4nm,0.1s,SNR=5.0						
EPOB				Pg	Pg	11 15 18.9	-3.8
	1.9nm,0.2s,SNR=9.4						
EPOB				Sn	Sn	11 15 42.2	-2.1
	1.1nm,0.1s,SNR=7.9						
EPOB				Lg		11 15 49.0	
	2.3nm,0.1s,SNR=7.9						
EBR	Ebro Roquetas	2.54	143	eSG	Sg	11 15 57.5	-0.9
LFF	La Frestale	2.62	37	ePn	Pn	11 15 16.4	-0.1
LFF				eSg	Sg	11 15 55.5	-5.3
	2.7nm,0.2s						
EMOS	Mosqueruela	2.63	163	Pn	Pn	11 15 17.9	+1.2
	SNR=5.0						
EMOS				Pg	Pg	11 15 24.2	-2.0
	0.8nm,0.1s,SNR=5.0						
EMOS				Lg		11 15 59.4	
	5.5nm,0.3s,SNR=5.0						
MTLF	Montolieu	2.76	79	ePn	Pn	11 15 19.2	+0.7
MTLF				eSn	Sn	11 15 51.2	-0.9
	4.4nm,0.3s						
RJF	Les Rejaudoux	3.25	41	ePn	Pn	11 15 25.3	-0.2
RJF				eSn	Sn	11 16 02.4	-2.1
	3.5nm,0.2s						
CAF	Calviac	3.29	50	ePn	Pn	11 15 25.4	-0.6
CAF				eSn	Sn	11 16 03.4	-2.0
	1.2nm,0.2s						
MFF	Saint Martin d	3.84	14	ePn	Pn	11 15 33.2	-0.7
MFF				ePg	Pg	11 15 45.6	-4.7
MFF				eSn	Sn	11 16 17.1	-2.3
	0.8nm,0.2s						
ECAL	Calabor	3.99	258	Pn	Pn	11 15 36.4	+0.5
	SNR=7.9						
ECAL				Sn	Sn	11 16 17.6	-5.5
	1.5nm,0.3s,SNR=5.0						
ECAL				Lg		11 16 40.2	
	2.0nm,0.2s,SNR=5.0						
LASF	Ste Croix	4.08	71	ePn	Pn	11 15 36.6	-0.6
TCF	Toulx Ste Croi	4.32	37	ePn	Pn	11 15 38.3	-2.3
BGF	Bois d’Agland	4.81	39	ePn	Pn	11 15 45.1	-2.5
BGF				eSn	Sn	11 16 39.0	-4.8
	2.8nm,0.3s						
VIVF	Saint-Julien-l	4.88	64	ePn	Pn	11 15 47.8	-0.8
SSF	Saint Saulge	5.48	39	ePn	Pn	11 15 53.5	-3.6

IDC ***20*** *11:18:12.8±0.7, 13.21N×144.76E, mb3.9/8, mb1 4.1/8, mb1mx4.1/19, MS3.4/4, Ms1 3.4/4, ms1mx3.1/22, Error ellipse: s-maj=32.6km s-min=17.0km az=102.0*
NEIC ***20*** *11:18:19.1±0.9, 13.15N×144.72E, h43^{km}±9^{km}, mb4.6/2, Error ellipse: s-maj=22.0km s-min=8.4km az=108.0*
NEIC Felt at Tamuning.
ISC 20 11:18:18.1±0.8**, 13.17N**±0.09×**144.7E**±0.2**, h52^{km}**±8^{km}**, n20, σ0^{s}.86**/18**, mb4.0**/11**, MS3.3**/4**, 2D, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	Guam	0.45	22	ePg	P	11 18 29.0	+0.1
GUMO				eSg	S	11 18 36.9	+0.3
SAPN	Saipan	2.27	27	⇓iP	P	11 18 54.0	-0.1
SAPN				eS	S	11 19 19.4	-1.4
SARN	Sarigan	3.66	16	⇓eP	P	11 19 14.6	+1.0
JOW	Kunigami	20.53	314	LR	LR	11 29 08.9	
	comp=Z,70nm,20.5s,MS3.0,baz=32,slow=32						
WRAB	Tennant Creek	34.44	197	eP	P	11 25 02.4	-0.6
	8.3nm,0.9s,mb4.7						
WB2	Warramunga Arr	34.45	197	eP	P	11 25 02.5	-0.6
WRA	Warramunga Arr	34.45	197	P	P	11 25 02.2	-0.9
	2.4nm,0.8s,mb4.2,baz=22,slow=9.7,SNR=15						
ASAR	Alice Springs	38.10	196	P	P	11 25 33.5	-0.4
	1.4nm,0.5s,mb3.9,baz=21,slow=13,SNR=19						
ASAR				LR	LR	11 41 30.1	
	comp=Z,60nm,21.9s,MS3.4,baz=15,slow=37						
ASPA	Alice Springs	38.11	196	eP	P	11 25 34.6	+0.7
MBWA	Marble Bar	42.02	216	eP	P	11 26 06.1	-0.3
	13nm,1.3s,mb4.4						
CMAR	Chiang Mai Arr	44.25	283	LR	LR	11 44 51.7	
	comp=Z,29nm,21.6s,MS3.2,baz=160,slow=36						
STKA	Stephens Creek	44.89	184	P	P	11 26 30.4	+0.8
	1.0nm,0.6s,mb3.8,baz=13,slow=14,SNR=2.3						
SONM	Songino Array	46.97	325	P	P	11 26 46.1	+0.3
	0.2nm,0.4s,mb3.4,baz=124,slow=5.2,SNR=2.9						
MKAR	Makanchi Array	61.67	316	P	P	11 28 33.2	+0.1
	0.6nm,0.5s,mb4.0,baz=88,slow=8.7,SNR=8.1						
ILAR	Eielson Array	69.01	25	P	P	11 29 18.0	-1.9
	0.3nm,0.4s,mb3.5,baz=252,slow=5.8,SNR=12						
DLBC	Dease Lake	76.42	33	P	P	11 30 03.9	+0.2
	0.9nm,0.6s,mb3.9,baz=225,slow=14,SNR=3.5						
YBH	Yreka Blue Hor	83.27	49	P	P	11 30 42.5	+1.7
	1.3nm,0.8s,mb4.0						
NEW	Newport	85.65	42	P	P	11 30 53.6	+1.1
	2.2nm,0.8s,mb4.5,baz=191,slow=6.5,SNR=3.2						
NOA	NORSAR Array B	97.38	339	LR	LR	12 21 11.6	
	comp=Z,26nm,19.1s,MS3.7,baz=155,slow=39						
LPAZ	La Paz	148.12	100	PKPbc	PKPdf	11 38 02.3	+6.5
	2.5nm,0.8s,baz=354,slow=3.5,SNR=5.1						

STR ***20*** *11:22:42.3±0.3, 42.82N×1.49W, h5^{km}±1^{km}, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
NEIC ***20*** *11:22:42.3, 42.82N×1.49W, h5^{km}, ML2.7(LDG), ML2.5(STR), MN2.2(MDD), After STR.*
LDG ***20*** *11:22:43.2±0.4, 42.87N×1.47W, h2^{km}, Md2.8/2, Ml2.7/7, Error ellipse: s-maj=6.9km s-min=4.2km az=43.0*
MDD ***20*** *11:22:44.0±0.4, 42.87N×1.43W, h5^{km}±4^{km}, mbLg2.1/11, Error ellipse: s-maj=3.2km s-min=2.1km az=37.0, PRXIMO AftershockPLICA*
ISC 20 11:22:41.3±0.6**, 42.85N**±0.03×**1.53W**±0.04**, h13^{km}**±3^{km}**, n38, σ1^{s}.20**/59**, 2C, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJPF	Ste Jean	0.34	40	ePg	Pg	11 22 49.4	+0.9
SJPF				eSg	Sg	11 22 52.3	-1.0
	436nm,0.4s						
EALK	Alkurruntz	0.37	2	⇑Pg	Pg	11 22 50.5	+1.5
	22nm,0.3s,SNR=18						
EALK				Lg		11 22 56.3	
	121nm,0.4s,SNR=7.9						
LARF	Larrau	0.44	65	Pg	Pg	11 22 50.5	+0.2
LARF				Sg	Sg	11 22 56.7	+0.4
LARF	Larrau	0.44	65	P	Pg	11 22 50.6	+0.3
LARF				S	Sg	11 22 56.4	+0.1
OSSF	Osses	0.45	26	Pg	Pg	11 22 51.3	+0.8
OSSF	Osses	0.45	26	P	Pg	11 22 51.5	+1.0
OSSF				S	Sg	11 22 56.9	+0.2
ORDF	Ordiarp	0.56	50	Pg	Pg	11 22 53.3	+0.5
ORDF				Sg	Sg	11 23 01.1	+0.7
ORDF	Ordiarp	0.56	50	P	Pb	11 22 53.4	+0.9
ORDF				S	Sb	11 23 00.8	+0.7
ATE	Arette	0.65	69	P	Pb	11 22 54.7	+0.8
ATE				S	Sb	11 23 03.0	+0.4
FDAF	Les Forges d’A	0.71	92	Pg	Pg	11 22 55.6	0.0
FDAF				Sg	Sg	11 23 04.9	-0.2
FDAF	Les Forges d’A	0.71	92	P	Pb	11 22 55.8	+0.8
FDAF				S	Sb	11 23 04.2	-0.1
ETSF	Etsaut	0.71	86	ePg	Pg	11 22 55.2	-0.5
ETSF				eSg	Sg	11 23 04.0	-1.3
	34nm,0.3s						
REYF	Montagne du Re	0.86	75	S	Sb	11 23 09.3	+0.6
VIEF	Viey	1.14	88	Pg	Pg	11 23 02.9	-1.3
VIEF	Viey	1.14	88	P	Pb	11 23 02.8	+0.5
VIEF				S	Sb	11 23 17.2	+0.3
LABF	Labassere	1.19	80	P	Pb	11 23 04.9	+1.7
LABF				S	Sb	11 23 20.2	+1.9
RESF	Ens	1.37	91	P	Pn	11 23 08.7	+2.4
RESF				S	Sb	11 23 26.2	+2.6
ESAC	San Caprasio	1.38	145	Pg	Pg	11 23 08.3	-0.5
	26nm,0.3s,SNR=10						
ESAC				Lg		11 23 26.7	
	77nm,0.3s,SNR=7.9						
EPF	Esparros	1.38	82	ePg	Pg	11 23 09.6	+0.6
EPF				eSg	Sg	11 23 25.5	-1.9
	32nm,0.3s						
ELAN	Lanestosa	1.45	286	Pg	Pg	11 23 11.3	+1.0
	4.9nm,0.4s,SNR=13						
ELAN				Lg		11 23 33.3	
	7.7nm,0.2s,SNR=6.6						
EGRA	Graus	1.51	115	⇑Pg	Pg	11 23 10.9	-0.7
	SNR=18						
EGRA				Lg		11 23 32.2	
	9.4nm,0.3s,SNR=7.9						
MELF	Melles	1.68	89	S	Sn	11 23 36.0	+3.8
SALF	Salau	2.00	92	S	Sn	11 23 44.8	+4.5
ETOR	Torete	2.07	191	Pg	Pg	11 23 22.4	-0.2
	8.1nm,0.3s,SNR=6.4						
ETOR				Lg		11 23 49.3	
	20nm,0.5s,SNR=7.9						
EMIR	Miracle	2.45	112	Pg	Pg	11 23 27.2	-3.0
	SNR=7.9						
EMIR				Lg		11 24 02.3	
	SNR=7.9						
EPOB	Poblet	2.45	127	Pn	Pn	11 23 22.2	+0.5
	SNR=7.9						
EPOB				Lg		11 24 02.0	
	10nm,0.4s,SNR=7.9						
EBR	Ebro Roquetas	2.53	143	eSG	Sg	11 24 06.0	+0.4
EMOS	Mosqueruela	2.61	162	Pg	Pg	11 23 31.3	-2.2
	5.0nm,0.5s,SNR=4.0						
EMOS				Lg		11 24 08.4	
	3.9nm,0.3s,SNR=4.0						
LFF	La Frestale	2.65	37	ePn	Pn	11 23 24.7	+0.2
LFF				eSg	Sg	11 24 03.5	-6.2
	8.2nm,0.4s						
VALF	Valcebollere	2.65	99	S	Sn	11 24 06.1	+9.2
MTLF	Montolieu	2.79	79	ePn	Pn	11 23 27.8	+1.4
MTLF				eSn	Sn	11 23 59.5	-0.7
	6.1nm,0.5s						
RJF	Les Rejaudoux	3.29	41	ePn	Pn	11 23 33.9	+0.3
RJF				eSn	Sn	11 24 10.5	-2.4
	6.6nm,0.4s						
CAF	Calviac	3.32	50	ePn	Pn	11 23 33.7	-0.4
CAF				eSn	Sn	11 24 11.1	-2.7
	3.1nm,0.3s						
MFF	Saint Martin d	3.88	14	ePn	Pn	11 23 41.7	-0.2
MFF				ePg	Pg	11 23 53.7	-5.0
MFF				eSn	Sn	11 24 25.0	-2.8
	3.3nm,0.4s						
LASF	Ste Croix	4.10	71	ePn	Pn	11 23 44.8	-0.4
TCF	Toulx Ste Croi	4.35	37	ePn	Pn	11 23 46.3	-2.4
BGF	Bois d’Agland	4.84	39	ePn	Pn	11 23 53.4	-2.2
BGF				eSn	Sn	11 24 47.2	-5.0
	10nm,0.4s						
VIVF	Saint-Julien-l	4.91	64	ePn	Pn	11 23 55.3	-1.3

NEIC ***20*** *11:54:06.3±0.2, 56.42N×157.40W, mb4.3/10, ML4.5(AEIC), Error ellipse: s-maj=5.3km s-min=3.2km az=147.0*
IDC ***20*** *11:54:06.0±0.6, 56.57N×157.58W, h63^{km}±3^{km}, mb3.8/18, mb1 4.1/23, mb1mx4.1/26, MS3.3/4, Ms1 3.3/4, ms1mx2.8/24, Error ellipse: s-maj=16.1km s-min=11.3km az=10.0*
ISC 20 11:54:04.5±0.2**, 56.43N**±0.03×**157.41W**±0.04**, h62^{km}, h62^{km}**±.8^{km}**:pP-P, n122, σ1^{s}.41**/128**, mb4.1**/26**, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ANPK	Aniakchak Peak	0.57	316	P	P	11 54 19.8	+2.3
ANPB	Aniakchak Plen	0.61	308	P	P	11 54 20.2	+2.2
KJL	Kejulik	1.91	31	P	P	11 54 37.5	+2.1
CAHL	Cahill	1.99	34	P	P	11 54 38.5	+2.1
SDPT	Sand Point	2.04	239	P	P	11 54 37.4	+0.1
SDPT				S	S	11 55 01.3	-0.2
ANCK	Angle Creek	2.05	30	P	P	11 54 39.7	+2.3
ACHA	Angle Creek He	2.11	31	P	P	11 54 40.4	+2.2
ACHA				S	S	11 55 06.5	+3.3
KABR	Katmai Barrier	2.16	37	P	P	11 54 40.5	+1.6
KAHG	Katmai Hook Gl	2.58	36	P	P	11 54 46.7	+1.8
PVV	Pavlof Volcano	2.69	249	P	P	11 54 46.9	+0.4
BLHA	Black Hill	2.71	256	P	P	11 54 47.0	+0.1
HAG	Hague Volcano	2.77	248	P	P	11 54 48.4	+0.8
PN7A	Pavlof North-7	2.77	251	P	P	11 54 48.8	+1.2
KDAK	Kodiak Island	2.96	61	P	P	11 54 50.4	+0.1
KDAK				S	S	11 55 23.9	-0.8
MCNL	McNeil River	3.21	29	P	P	11 54 55.3	+1.5
AUI	Augustine Isla	3.60	34	P	P	11 55 01.0	+1.7
AGU	Augustine-Summ	3.62	34	P	P	11 55 01.6	+2.0
AUE	Augustine Isla	3.64	35	P	P	11 55 01.8	+2.0
FALS	False Pass	3.75	248	P	P	11 55 01.6	+0.2
OPT	Oil Point	3.92	33	P	P	11 55 05.5	+1.8
SSLN	Shishaldin Nor	4.07	249	P	P	11 55 06.2	+0.3
ILS	Iliamna Low So	4.21	31	P	P	11 55 09.5	+1.7
IVS	Iliamna South	4.25	31	P	P	11 55 10.2	+1.8
XLV	Seldovia	4.28	43	P	P	11 55 09.7	+0.9
ILIM	Iliamna	4.35	31	P	P	11 55 11.4	+1.7
CNPM	China Poot	4.52	44	P	P	11 55 12.3	+0.3
WESE	West Dahl East	4.54	247	P	P	11 55 13.0	+0.7
RSO	Redoubt South	4.72	29	P	P	11 55 16.7	+1.8
REF	Redoubt East F	4.76	29	P	P	11 55 17.1	+1.6
RDT	Redoubt	4.91	30	P	P	11 55 19.5	+2.0
BKG	Blockade Glaci	5.36	28	P	P	11 55 25.0	+1.2
AKGG	Akutan Green G	5.39	249	P	P	11 55 23.8	-0.4
CKL	Chakachamna La	5.45	27	P	P	11 55 26.6	+1.6
SPU	Mount Spurr	5.51	28	P	P	11 55 27.0	+1.1
SLKM	Skilak Lake	5.56	40	P	P	11 55 26.2	-0.3
SEW	Seward	5.58	45	P	P	11 55 25.3	-1.5
UNV	Unalaska Valle	5.83	247	P	P	11 55 28.7	-1.5
STLK	Strandline Lak	5.84	27	P	P	11 55 31.8	+1.4
SUA	Susitna One	6.11	32	P	P	11 55 34.8	+0.6
RC01	Rabbit Creek A	6.14	37	P	P	11 55 33.8	-0.8
TTA	Tatalina	6.55	6	P	P	11 55 40.8	+0.4
MID	Middleton Isla	6.61	58	eP	P	11 55 40.3	-1.0
PMR	Palmer	6.71	36	P	P	11 55 40.9	-1.7
CFI	College Fiord	6.91	42	P	P	11 55 43.5	-1.9
GHO	Glory Hole Cre	6.91	36	P	P	11 55 43.7	-1.7
SPIA	Saint Paul Isl	7.09	281	P	P	11 55 48.9	+0.9
SML	Sawmill	7.13	37	P	P	11 55 47.0	-1.4
EYAK	Cordova Ski Ar	7.37	51	P	P	11 55 49.8	-2.0
VLZ	Valdez	7.43	46	P	P	11 55 50.8	-1.9
NIKO	Nikolski	7.48	247	P	P	11 55 52.0	-1.3
SCM	Sheep Creek Mo	7.49	40	P	P	11 55 52.1	-1.3
DIV	Divide	7.66	47	P	P	11 55 54.1	-1.6
KTH	Kantishna Hill	7.84	22	P	P	11 55 58.2	-0.1
TRF	Thorofare Moun	7.89	24	P	P	11 55 58.3	-0.6
BMRM	Bremner River	8.06	50	P	P	11 55 59.3	-2.0
GCSA	Galena City Sc	8.35	2	P	P	11 56 05.5	+0.3
DHY	Denali Highway	8.36	33	P	P	11 56 03.0	-2.3
MCK	McKinley	8.45	26	P	P	11 56 05.4	-1.2
GLB	Gilahina Butte	8.63	49	P	P	11 56 07.2	-1.9
TGL	Tana Glacier	8.75	54	P	P	11 56 08.9	-1.9
PAX	Paxson	8.90	38	P	P	11 56 10.8	-2.0
ANM	Nome	9.05	338	P	P	11 56 16.7	+1.9
BALM	Baldy	9.08	53	P	P	11 56 13.6	-1.6
CCB	Clear Creek Bu	9.49	26	P	P	11 56 17.9	-2.9
HDA	Harding Lake	9.51	28	P	P	11 56 18.5	-2.4
CTGM	Chitina Glacie	9.51	55	P	P	11 56 19.7	-1.2
COLA	College	9.67	25	P	P	11 56 20.7	-2.4
PCA	Pinnacle	9.74	61	P	P	11 56 22.7	-1.4
ILAR	Eielson Array	9.82	27	P	P	11 56 22.1	-3.0
	9.8nm,0.3s,baz=214,slow=13,SNR=608						
ILAR				S	S	11 58 09.7	-5.1
	0.9nm,0.3s,baz=216,slow=23,SNR=4.1						
IMA	Indian Mountai	9.83	9	eP	P	11 56 26.2	+0.9
	12nm,0.7s						
PNL	Peninsula	10.07	64	P	P	11 56 26.9	-1.8
GAMB	Gambell	10.23	322	P	P	11 56 31.9	+1.1
TNA	Tin City	10.46	335	P	P	11 56 35.7	+1.7
ATKA	Atka Island	10.68	254	P	P	11 56 34.8	-2.1
COLD	Coldfoot	11.34	14	P	P	11 56 43.7	-2.1
DAWY	Dawson	11.73	42	eP	P	11 56 50.1	-1.0
DLBC	Dease Lake	14.84	71	P	P	11 57 32.5	+0.8
	1.4nm,0.3s,baz=272,slow=14,SNR=28						
DLBC				S	S	12 00 09.8	-5.1
	0.2nm,0.3s,baz=265,slow=26,SNR=3.1						
DLBC	Dease Lake	14.84	71	eP	P	11 57 32.4	+0.7
INK	Inuvik	16.11	33	P	P	11 57 45.6	-2.2
	1.7nm,0.3s,baz=230,slow=11,SNR=50						
INK				S	S	12 00 49.9	+5.8
	0.2nm,0.3s,baz=224,slow=32,SNR=8.2						
INK				LR	LR	12 04 33.4	
	comp=Z,104nm,19.9s,baz=95,slow=39						
INK	Inuvik	16.11	33	eP	P	11 57 45.2	-2.6
	17nm,0.5s						
FX1	Attu Island--F	17.32	271	P	P	11 58 01.4	-1.8
	2.0nm,0.3s,baz=271,slow=7.1,SNR=4.3						
BBB	Bella Bella	17.54	92	P	P	11 58 09.9	+3.9
	0.2nm,0.3s,baz=291,slow=14,SNR=4.8						
BBB				LR	LR	12 03 58.3	
	comp=Z,58nm,21.2s,baz=332,slow=34						
YKA	Yellowknife Ar	22.23	57	P	P	11 58 56.6	0.0
	2.9nm,0.4s,mb4.1,baz=273,slow=10,SNR=17						
YKA				LR	LR	12 07 36.9	
	comp=Z,57nm,20.9s,baz=290,slow=36						
NLW	Nelson Butte	23.93	95	P	P	11 59 15.4	+2.4
EDM	Edmonton	25.25	79	eP	P	11 59 26.4	+0.6
HAWA	Hanford	25.36	97	eP	P	11 59 28.3	+1.4
	0.6nm,0.8s,mb3.2						
NEW	Newport	25.61	91	P	P	11 59 29.6	+0.4
	6.0nm,0.9s,mb4.1,baz=302,slow=7.3,SNR=10						
NEW	Newport	25.61	91	eP	P	11 59 29.6	+0.4
	6.4nm,0.9s,mb4.2						
LNOR	Lincton Mounta	26.36	97	eP	P	11 59 37.5	+1.2
YBH	Yreka Blue Hor	26.71	109	P	P	11 59 41.0	+1.5
	0.6nm,0.5s,mb3.4,baz=260,slow=9.8,SNR=3.9						
WVOR	Wild Horse Val	28.40	103	eP	P	11 59 55.7	+0.8
	7.6nm,1.0s,mb4.3						
HLID	Hailey	29.96	97	eP	P	12 00 08.9	+0.2
	3.8nm,0.9s,mb4.1						
MCMT	McKenzie Canyo	30.02	94	eP	P	12 00 09.6	+0.5
NVAR	Mina Array Bea	31.43	108	P	P	12 00 22.8	+1.1
	1.2nm,0.7s,mb3.9,baz=311,slow=7.9,SNR=8.7						
NVAR				pP	pP	12 00 38.5	+1.4
	1.5nm,0.7s,baz=301,slow=7.2,SNR=3.7						
NVAR				PcP	PcP	12 03 13.0	-0.9
	0.7nm,0.7s,baz=331,slow=2.1,SNR=4.9						
IMW	Indian Meadow	31.67	93	eP	P	12 00 24.6	+0.9
HWUT	Hardware Ranch	32.83	97	eP	P	12 00 34.7	+0.8
	3.0nm,0.6s,mb4.4						
DUG	Dugway	33.12	100	eP	P	12 00 36.9	+0.6
	0.4nm,1.0s,mb3.3						
PDAR	Pinedale Array	33.17	94	P	P	12 00 37.1	+0.3
	2.1nm,0.6s,mb4.2,baz=320,slow=5.1,SNR=20						
PDAR				PcP	PcP	12 03 17.8	-0.8
	0.4nm,0.7s,baz=180,slow=0.9,SNR=3.3						
MSU	Marysvale	34.66	102	eP	P	12 00 51.0	+1.4
SRU	San Rafael	35.13	99	eP	P	12 00 54.9	+1.2

RSSD	Black Hills	35.36	87	*e*P	P	12 00 55.6	+0.1
	3.4nm,0.7s,mb4.4						
ULM	Lac du Bonnet	36.15	73	P	P	12 01 02.1	-0.1
	3.4nm,0.5s,mb4.6,baz=90,slow=20,SNR=2.9						
LAZ	Ladron	40.43	101	*e*P	P	12 01 39.0	+1.0
WMOK	Wichita Mounta	44.78	93	*e*P	P	12 02 13.2	-0.1
	7.7nm,0.8s,mb4.6						
JCT	Junction City	47.42	98	*e*P	P	12 02 33.8	-0.5
	4.1nm,0.3s,mb4.8						
SCHQ	Schefferville	47.55	52	P	P	12 02 34.4	-0.5
	3.4nm,0.6s,mb4.5,baz=338,slow=8.5,SNR=8.3						
SCHQ	Schefferville	47.55	52	P	P	12 02 34.4	-0.5
WVT	Waverly	49.83	83	*e*P	P	12 02 51.6	-1.3
ARCES	ARCESS Array B	54.32	359	P	P	12 03 23.8	-2.2
	6.2nm,1.0s,mb4.5,baz=17,slow=6.8,SNR=7.8						
ARCES				pP	pP	12 03 41.0	-1.4
	5.4nm,0.8s,baz=9.5,slow=7.4,SNR=2.1						
BORG	Borgarnes	54.59	21	P	P	12 03 26.2	-1.8
	79nm,1.2s,baz=252,slow=6.4,SNR=2.9						
SONM	Songino Array	54.97	305	P	P	12 03 29.9	-1.1
	1.3nm,0.9s,mb4.0,baz=45,slow=6.7,SNR=6.0						
SONM				pP	pP	12 03 46.2	-1.3
	0.8nm,0.6s,baz=42,slow=6.1,SNR=4.0						
SONM				PcP	PcP	12 04 31.4	-0.5
	1.1nm,0.5s,baz=73,slow=1.7,SNR=4.6						
FINES	FINESS Array B	62.43	358	P	P	12 04 20.8	-1.9
	0.9nm,0.5s,mb4.2,slow=7.6,SNR=4.0						
FINES				pP	pP	12 04 37.3	-2.1
	3.4nm,0.9s,baz=288,slow=6.0,SNR=3.1						
FINES	FINESS Array B	62.43	358	P	P	12 04 20.8	-1.9
FINES				pP	pP	12 04 37.3	-2.1
NOA	NORSAR Array B	62.53	6	P	P	12 04 21.7	-1.5
	1.0nm,0.8s,mb4.0,baz=279,slow=11,SNR=2.8						
NOA				pP	pP	12 04 37.9	-2.1
	1.6nm,0.7s,baz=352,slow=6.8,SNR=3.3						
NOA	NORSAR Array B	62.53	6	P	P	12 04 21.7	-1.5
NOA				pP	pP	12 04 37.9	-2.2
BVAR	Borovoye Array	64.07	330	P	P	12 04 31.4	-2.0
	0.5nm,0.4s,mb3.9,baz=53,slow=7.4,SNR=3.7						
BVAR				pP	pP	12 04 48.5	-1.8
	2.0nm,0.9s,baz=45,slow=6.3,SNR=4.9						
MKAR	Makanchi Array	65.69	319	P	P	12 04 42.5	-1.5
	0.3nm,0.3s,mb3.7,baz=37,slow=5.6,SNR=6.6						
MKAR				pP	pP	12 04 59.1	-1.9
	0.5nm,0.5s,baz=33,slow=5.4,SNR=3.6						
MKAR				sP	sP	12 05 07.0	-0.9
	0.6nm,0.7s,baz=31,slow=8.4,SNR=2.8						
MKAR				LR	LR	12 36 00.7	
	comp=Z,39nm,18.1s,baz=197,slow=38						
AKASG	Malin Array Be	73.09	356	P	P	12 05 28.1	-0.9
	0.8nm,0.5s,mb3.9,baz=4.2,slow=5.6,SNR=3.9						
AKASG				pP	pP	12 05 45.1	-1.1
	1.4nm,0.4s,baz=6.8,slow=5.6,SNR=6.2						
GERES	GERESS Array B	74.83	6	P	P	12 05 39.4	+0.2
	0.8nm,0.6s,mb3.8,baz=326,slow=4.8,SNR=4.0						
ESDC	Sonseca Array	81.65	20	P	P	12 06 17.6	+0.8
	0.4nm,0.4s,mb3.7,baz=338,slow=5.1,SNR=3.5						
ESDC				pP	pP	12 06 34.4	+0.2
	1.2nm,0.5s,baz=339,slow=5.0,SNR=4.2						
CMAR	Chiang Mai Arr	82.11	291	P	P	12 06 18.8	-0.8
	2.4nm,1.0s,mb4.1,baz=7.3,slow=4.7,SNR=8.7						
CMAR				pP	pP	12 06 36.3	-0.8
	1.8nm,0.6s,baz=13,slow=5.4,SNR=5.7						
CMAR				sP	sP	12 06 44.0	0.0
	2.5nm,0.7s,baz=9.2,slow=5.5,SNR=6.5						
WRA	Warramunga Arr	95.07	241	P	P	12 07 19.8	-1.6
	1.1nm,1.0s,mb4.3,baz=40,slow=5.9,SNR=5.6						
WRA				pP	pP	12 07 38.7	-0.6
	0.3nm,0.8s,baz=34,slow=5.8,SNR=1.4						

DJA 20 11:54:21.6±0.2, 8.50S×115.41E, h80^{km}, MD4.8/4, ML3.2/1, 5C-4D, Error ellipse: s-maj=13.4km s-min=7.2km az=16.0, Bali region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RATI	Rata	0.26	151	⇑*e*Pn	P	11 54 34.1	+0.4
	167nm,0.2s						
RATI	Rata	0.26	151	⇓*i*P	P	11 54 34.4	+0.7
RATI				⇓*i*Sn	S	11 54 46.9	+4.1
INGI	Ingas	0.41	219	⇑*i*Pn	P	11 54 34.5	-0.2
	285nm,0.2s						
INGI				⇓*i*Sn	S	11 54 43.6	-0.9
KEDI	Kedomdong	0.70	89	⇑*i*Pn	P	11 54 36.5	-1.0
	54nm,0.2s						
KEDI				⇑*i*Sn	S	11 54 47.5	-1.8
KELI	Kelakatan	0.95	287	⇓*i*Pn	P	11 54 39.8	-0.4
	39nm,0.2s						
KELI				⇑*i*Sn	S	11 54 51.6	-2.6

*NEIC **20** 12:31:03.9, 34.11S×70.06W, h8^{km}, ML2.6(GUC), After GUC.*

GUC 20 12:31:03.9±0.7, 34.11S×70.06W, h8^{km}±1^{km}, MD3.9, ML2.6, 2C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LMEL	Las Melosas	0.29	336	*e*P	Pg	12 31 10.4	+0.6
LMEL				*i* S	Sg	12 31 15.1	+1.3
LMEL				AMP		12 31 17.1	
	comp=N,1μm,0.1s						
CICH	Cipreses	0.36	235	⇑*i*P	Pg	12 31 11.6	+0.3
CICH				*i* S	Sg	12 31 17.2	+0.9
CACH	El Canelo	0.45	269	⇓*i*P	Pg	12 31 13.1	+0.1
CACH				*i* S	Sg	12 31 20.0	+1.0
CHCH	Chadas Angostu	0.52	289	⇑*i*P	Pg	12 31 14.8	+0.4
CHCH				*i* S	Sg	12 31 22.7	+1.3
PCH	Pirque	0.62	322	*e*P	Pg	12 31 16.1	-0.2
PCH				*i* S	Sg	12 31 25.7	+1.2
ANTU	Antumapu	0.72	318	*i* S	Sg	12 31 28.9	+1.0
ANTU				AMP		12 31 29.4	
	comp=N,635nm,0.2s						
FCH	Farellones	0.80	346	*e*P	Pb	12 31 19.8	+0.1
FCH				*i* S	Sb	12 31 31.8	+1.4
FCH				AMP		12 31 34.0	
	comp=N,352nm,0.2s						
CLCH	Cerro Calan	0.81	331	*e*P	Pb	12 31 19.7	-0.2
CLCH				*i* S	Sb	12 31 31.6	+0.8
CLCH				AMP		12 31 34.4	
	comp=E,599nm,0.6s						
TACH	Talagante	0.86	302	*e*P	Pb	12 31 20.4	-0.2
TACH				*i* S	Sb	12 31 32.5	+0.5
RCDM	Rinconada Maip	0.88	315	*e*P	Pb	12 31 20.7	-0.2
RCDM				*i* S	Sb	12 31 33.5	+0.9
RCDM				AMP		12 31 35.0	
	comp=E,276nm,0.2s						
SFDO	San Fernando	0.94	237	*i* P	Pb	12 31 21.6	-0.3
SFDO				*i* S	Sb	12 31 35.0	+0.7
LNV	Longovilo	1.13	277	*e*P	Pb	12 31 24.6	-0.7
LNV				*i* S	Sb	12 31 39.5	-0.5

IDC 20 12:41:23.4±14.0, 19.64S×177.58W, mb3.8/5, mb1 3.9/6, mb1mx3.8/16, ML4.1/1, Error ellipse: s-maj=265.0km s-min=48.4km az=62.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	19.12	193	P	P	12 45 47.8	-2.6
	0.5nm,0.3s,baz=65,slow=14,SNR=3.0						
CTA	Charters Tower	33.97	263	P	P	12 48 10.8	-0.2
	3.8nm,1.0s,baz=84,slow=10,SNR=3.5						
STKA	Stephens Creek	38.52	243	P	P	12 48 47.9	-1.4
	0.6nm,0.8s,baz=359,slow=17,SNR=2.8						
ASAR	Alice Springs	45.10	256	P	P	12 49 40.0	-3.5
	0.3nm,0.4s,baz=90,slow=8.7,SNR=12						
WRA	Warramunga Arr	45.11	261	P	P	12 49 40.5	-3.1
	0.1nm,0.3s,baz=96,slow=7.5,SNR=9.5						
FITZ	Fitzroy Crossi	53.53	262	P	P	12 50 47.8	-0.6
	3.3nm,1.2s,baz=341,slow=23,SNR=2.8						

*STR **20** 12:43:48.9±0.1, 42.85N×1.49W, h5^{km}±1^{km}, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LDG **20** 12:43:49.5±0.4, 42.86N×1.47W, h2^{km}, Md2.4/2, Ml2.3/3, Error ellipse: s-maj=6.9km s-min=5.0km az=30.0*

*MDD **20** 12:43:50.1±0.4, 42.86N×1.42W, h6^{km}±6^{km}, mbLg1.6/5, Error ellipse: s-maj=3.4km s-min=3.0km az=56.0, PRXIMO AftershockPLICA*

ISC 20 12:43:48.1±0.6, 42.84N±0.03×1.46W±0.05, h12^{km}±4^{km}, n20, σ1^{s}.02/33, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	Ste Jean	0.33	31	*e*Pg	Pg	12 43 55.5	+0.6
SJPF				*e*Sg	Sg	12 43 58.3	-1.2
	40nm,0.3s						
EALK	Alkurruntz	0.39	354	Pg	Pg	12 43 56.7	+0.7
	2.6nm,0.1s,SNR=7.9						
EALK				Lg		12 44 02.6	
	34nm,0.2s,SNR=7.9						
LARF	Larrau	0.40	59	Pg	Pg	12 43 57.0	+0.7
LARF				Sg	Sg	12 44 02.8	+1.0
LARF	Larrau	0.40	59	P	Pg	12 43 57.1	+0.8
LARF				S	Sg	12 44 02.5	+0.7
OSSF	Osses	0.44	19	Pg	Pg	12 43 57.5	+0.3
OSSF				Sg	Sg	12 44 03.7	+0.4
OSSF	Osses	0.44	19	P	Pg	12 43 57.7	+0.5
OSSF				S	Sg	12 44 03.8	+0.5
ORDF	Ordiarp	0.54	45	Pg	Pg	12 43 59.4	+0.4
ORDF				Sg	Sg	12 44 07.1	+0.8
ORDF	Ordiarp	0.54	45	P	Pb	12 43 59.5	+0.6
ORDF				S	Sg	12 44 07.1	+0.8
ATE	Arette	0.61	65	P	Pb	12 44 01.0	+0.9
ATE				S	Sb	12 44 09.3	+0.9
ETSF	Etsaut	0.66	84	*e*Pg	Pg	12 44 01.4	-0.1
ETSF				*e*Sg	Sg	12 44 09.9	-0.5
	13nm,0.4s						
EPF	Esparros	1.33	81	*e*Pg	Pg	12 44 15.7	+0.9
EPF				*e*Sg	Sg	12 44 31.5	-1.1
	11nm,0.3s						
ESAC	San Caprasio	1.33	146	Pg	Pg	12 44 14.4	-0.4
	8.2nm,0.2s,SNR=7.9						
ESAC				Lg		12 44 32.4	
	14nm,0.3s,SNR=7.9						
ELAN	Lanestosa	1.50	286	Pg	Pg	12 44 16.9	-1.3
	0.7nm,0.2s,SNR=7.9						
ELAN				Lg		12 44 39.3	
	SNR=7.9						
ETOR	Torete	2.06	193	Pn	Pn	12 44 24.6	+1.5
	SNR=7.9						
ETOR				Pg	Pg	12 44 28.5	-0.8
	SNR=7.9						
ETOR				Sn	Sn	12 44 51.6	+2.7
	SNR=7.9						
ETOR				Lg		12 44 55.5	
	SNR=7.9						
EBR	Ebro Roquetas	2.48	143	*e*Rs		13 00 14.5	
EMOS	Mosqueruela	2.58	163	Pg	Pg	12 44 37.4	-2.2
	SNR=7.9						
EMOS				Lg		12 45 14.2	
	SNR=7.9						
LFF	La Frestale	2.63	36	*e*Pn	Pn	12 44 30.8	-0.4
MTLF	Montolieu	2.74	78	*e*Pn	Pn	12 44 33.0	+0.3
MTLF				*e*Sn	Sn	12 45 05.6	-0.4
	2.2nm,0.3s						
CAF	Calviac	3.29	49	*e*Pn	Pn	12 44 39.5	-1.0
CAF				*e*Sn	Sn	12 45 17.8	-2.2
	1.2nm,0.2s						
MFF	Saint Martin d	3.88	13	*e*Pn	Pn	12 44 47.8	-1.1

IDC 20 13:45:42.2±4.8, 32.50N×83.94E, mb3.5/2, mb1 3.6/4, mb1mx3.5/17, ML3.3/2, Error ellipse: s-maj=207.0km s-min=39.5km az=69.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MKAR	Makanchi Array	14.33	355	Pn	P	13 49 05.5	-2.9
	0.1nm,0.3s,baz=180,slow=13,SNR=3.4						
CMAR	Chiang Mai Arr	19.43	132	P	P	13 50 10.2	-2.7
	0.1nm,0.3s,baz=306,slow=12,SNR=4.9						
SONM	Songino Array	22.88	41	tx	tx	13 51 01.2	
	0.4nm,0.7s,baz=243,slow=9.7,SNR=3.4						
WRA	Warramunga Arr	71.01	130	P	P	13 57 01.7	-2.4
	0.6nm,0.9s,baz=325,slow=6.1,SNR=7.1						
ASAR	Alice Springs	73.44	133	P	P	13 57 17.1	-1.4
	0.3nm,0.9s,baz=308,slow=5.7,SNR=6.9						

*NEIC **20** 13:58:10.1, 34.95S×70.54W, h2^{km}, ML3.0(GUC), After GUC.*

NEIC Felt [II] at Los Quenes.

GUC 20 13:58:10.1±0.6, 34.95S×70.54W, h2^{km}, MD4.0, ML3.0, 3C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFDO	San Fernando	0.52	311	⇑*i*P	Pg	13 58 20.8	+0.3
SFDO				*i* S	Sg	13 58 28.6	+1.2
CICH	Cipreses	0.64	9	⇓*i*P	Pg	13 58 23.2	+0.4
CICH				*i* S	Sg	13 58 32.8	+1.4
CACH	El Canelo	0.84	356	⇑*i*P	Pg	13 58 26.5	-0.2
CACH				*i* S	Sg	13 58 38.8	+0.9
CHCH	Chadas Angostu	1.02	355	⇓*i*P	Pb	13 58 29.8	-0.4
CHCH				*i* S	Sb	13 58 44.7	+0.8
LMEL	Las Melosas	1.14	14	⇑*i*P	Pb	13 58 31.8	-0.3
LMEL				*i* S	Sb	13 58 48.5	+1.3
LMEL				AMP		13 58 49.2	
	comp=N,511nm,0.2s						
LNV	Longovilo	1.23	324	*i* P	Pb	13 58 33.0	-0.7
LNV				*i* S	Sb	13 58 50.0	+0.1
PCH	Pirque	1.33	1	*e*P	Pb	13 58 34.8	-0.6
TACH	Talagante	1.34	346	*e*P	Pb	13 58 34.5	-1.0
TACH				*i* S	Sb	13 58 53.4	+0.3
RCDM	Rinconada Maip	1.48	351	*e*P	Pn	13 58 37.8	0.0
RCDM				*i* S	Sb	13 58 58.5	+1.4
RCDM				AMP		13 58 59.4	
	comp=E,612nm,0.2s						
CLCH	Cerro Calan	1.55	360	*e*P	Pn	13 58 37.6	-1.3
CLCH				AMP		13 59 02.9	
	comp=E,272nm,0.4s						
FCH	Farellones	1.63	7	*e*P	Pn	13 58 40.6	+0.6
FCH				*i* S	Sb	13 59 03.6	+2.0
FCH				AMP		13 59 04.5	
	comp=E,276nm,0.2s						
LCCH	Las Cruces	1.71	330	*e*P	Pn	13 58 40.7	-0.4
LCCH				*i* S	Sb	13 59 03.5	-0.2

IDC 20 14:04:34.4±6.7, 8.10S×129.73E, mb3.7/1, mb1 3.5/4, mb1mx3.3/11, ML3.0/3, Error ellipse: s-maj=84.2km s-min=53.4km az=146.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	10.71	201	Pn	P	14 07 09.8	-2.4
	0.1nm,0.3s,baz=22,slow=9.5,SNR=6.9						
FITZ				Sn	S	14 09 11.8	-2.3
	0.1nm,0.3s,baz=204,slow=20,SNR=4.2						
WRA	Warramunga Arr	12.59	160	Pn	P	14 07 34.6	-3.1
	0.1nm,0.3s,baz=344,slow=14,SNR=14						
WRA				Sn	S	14 09 58.0	-1.9
	0.1nm,0.3s,baz=332,slow=21,SNR=5.2						
ASAR	Alice Springs	15.99	166	Pn	P	14 08 19.6	-2.9
	0.0nm,0.3s,baz=349,slow=9.2,SNR=4.2						
STKA	Stephens Creek	26.11	157	P	P	14 10 10.2	-1.7
	0.9nm,0.7s,baz=310,slow=12,SNR=3.1						

IDC 20 14:08:38.4±14.0, 0.29N×127.21E, h117^{km}±147^{km}, mb3.5/4, mb1 3.6/5, mb1mx3.5/13, ML3.5/1, Error ellipse: s-maj=88.0km s-min=28.4km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	18.34	185	P	P	14 12 43.7	-2.7
	0.1nm,0.3s,baz=17,slow=19,SNR=3.7						
WRA	Warramunga Arr	21.29	161	P	P	14 13 15.7	-1.3
	1.5nm,0.5s,baz=341,slow=12,SNR=28						
WB2	Warramunga Arr	21.29	161	*e*P	P	14 13 15.7	-1.3
ASAR	Alice Springs	24.68	165	P	P	14 13 48.5	-1.5
	1.4nm,0.5s,baz=352,slow=15,SNR=29						
STKA	Stephens Creek	34.77	158	P	P	14 15 17.9	-1.7
	0.4nm,0.3s,baz=339,slow=8.6,SNR=3.9						
SONM	Songino Array	50.69	342	P	P	14 17 26.2	-1.7
	baz=159,slow=7.4						
MKAR	Makanchi Array	60.65	326	P	P	14 18 36.9	-2.5
	0.9nm,0.3s,baz=116,slow=7.9,SNR=19						

*IDC **20** 14:10:15.0±11.0, 14.83S×167.50E, h94^{km}±104^{km}, mb3.7/10, mb1 3.8/10, mb1mx3.8/16, Error ellipse: s-maj=41.3km s-min=28.2km az=39.0*

*NEIC **20** 14:10:16.6±2.2, 14.85S×167.41E, h104^{km}±19^{km}, mb4.2/3, Error ellipse: s-maj=16.1km s-min=13.2km az=183.0*

ISC 20 14:10:17.5±2.1, 15.0S±0.1×167.4E±0.1, h127^{km}±20^{km}, n34, σ0^{s}.73/19, mb3.9/11, 1C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BKM	Butte a Klehm	2.83	163	⇑*i*P	P	14 11 02.9	+0.3
DZM	Mont Dzumac	7.14	187	*e*P	P	14 12 00.1	-0.6
DZM				*e*S	S	14 13 20.9	+0.2
DZM	Mont Dzumac	7.14	187	*e*P	P	14 12 00.1	-0.6
DZM				*e*S	S	14 13 20.9	+0.2
CTA	Charters Tower	20.78	253	P	P	14 14 50.8	+0.6
	2.9nm,0.7s,baz=80,slow=11,SNR=2.9						
RPZ	Rata Peaks	28.84	174	P	P	14 16 05.6	-0.4
	7.6nm,0.8s,mb4.4,baz=140,slow=15,SNR=2.8						
STKA	Stephens Creek	28.94	230	*e*P	P	14 16 07.7	+0.7
	2.1nm,0.4s,mb4.1						
STKA	Stephens Creek	28.94	230	P	P	14 16 07.8	+0.8
	2.8nm,0.5s,mb4.2,baz=44,slow=9.5,SNR=14						
WRA	Warramunga Arr	31.88	256	P	P	14 16 31.8	-1.2
	0.2nm,0.3s,mb3.3,baz=85,slow=9.0,SNR=6.5						
ASAR	Alice Springs	32.70	249	P	P	14 16 38.8	-1.3
	0.5nm,0.4s,mb3.7,baz=77,slow=9.3,SNR=16						
ASAR				PcP	PcP	14 19 22.1	-0.8
	3.3nm,1.4s,baz=73,slow=2.3,SNR=4.4						
FITZ	Fitzroy Crossi	40.08	260	P	P	14 17 43.0	+0.8
	1.6nm,0.9s,mb3.9,baz=118,slow=4.3,SNR=3.6						
NWAO	Narrogin (SRO)	48.73	239	P	P	14 18 50.7	-0.5
	11nm,1.0s,mb4.7						
SBA	Scott Base	62.92	180	*e*P	P	14 20 32.8	+0.5
	1.5nm,0.7s,mb4.0						
CMAR	Chiang Mai Arr	75.14	294	P	P	14 21 48.7	+0.7
	0.5nm,0.9s,mb3.2,baz=131,slow=3.7,SNR=5.0						
SONM	Songino Array	82.74	324	P	P	14 22 29.2	+0.7
	0.4nm,0.4s,mb3.6,baz=139,slow=6.6,SNR=4.9						
ILAR	Eielson Array	86.70	18	P	P	14 22 46.8	-1.0
	0.7nm,0.6s,mb3.8,baz=236,slow=4.5,SNR=14						
MKAR	Makanchi Array	97.44	316	P	P	14 23 38.2	+0.3
	1.0nm,0.8s,mb4.3,baz=80,slow=5.4,SNR=6.7						
MKAR	Makanchi Array	97.44	316	P	P	14 23 38.2	+0.3
ARCES	ARCESS Array B	120.49	345	PKP	PKPdf	14 28 54.6	+1.0
	6.4nm,1.1s,baz=76,slow=2.6,SNR=14						
CABF	La Chapelle	144.77	337	*e*PKP1	PKPbc	14 29 41.0	+1.7
	18nm,0.9s						
LOR	Lormes	144.98	340	*e*PKP1	PKPbc	14 29 41.1	+1.2
GRR	Gorron	145.27	346	*e*PKP1	PKPbc	14 29 41.7	+1.1
	14nm,0.4s						
SSF	Saint Saulge	145.28	341	*e*PKP1	PKPbc	14 29 42.2	+1.5
	18nm,0.6s						
LPG	La Plagne	145.45	336	*e*PKP1	PKPbc	14 29 43.3	+2.2
	11nm,0.6s						
SMF	Signal de Mont	145.53	340	*e*PKP1	PKPbc	14 29 42.8	+1.5
BNI	Bardonecchia	145.84	335	*e*PKPdf	PKPdf	14 29 43.0	+1.9
MBDF	Montbardon	146.07	335	*e*PKP1	PKPbc	14 29 44.6	+1.9
	6.2nm,0.6s						
ORIF	Oris-en-Rattie	146.27	336	*e*PKP1	PKPbc	14 29 45.4	+2.2
	17nm,0.7s						
SBF	Sospel	146.49	333	*e*PKP1	PKPbc	14 29 46.1	+2.4
	20nm,0.7s						
VIVF	Saint-Julien-l	146.78	337	*e*PKP1	PKPbc	14 29 46.6	+2.3
LMR	La Mourre	147.31	334	*e*PKP1	PKPdf	14 29 47.8	+4.2
	7.3nm,0.6s						
LASF	Ste Croix	147.75	337	*e*PKP1	PKPdf	14 29 49.4	+5.0
	4.6nm,0.5s						
MTLF	Montolieu	148.98	339	*e*PKP1	PKPdf	14 29 52.5	+6.1
	6.5nm,0.5s						
SJPF	Ste Jean	150.28	343	*e*PKP1	PKPdf	14 29 56.3	+8.0
ETSF	Etsaut	150.28	342	*e*PKP1	PKPdf	14 29 56.2	+7.8
	4.5nm,0.5s						

MAN 20 14:17:03.3, 10.37N×126.22E, h75^{km}, mb3.6, ML2.3, MS1.8, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCPH	Surigao	0.92	231	⇓*e*P	P	14 17 22.1	+0.7
SCPH				*i* S	S	14 17 36.7	+1.9
MSLP	Maasin	1.36	260	*e*P	P	14 17 27.0	-0.1
BESP	Borongan	1.45	328	*e*P	P	14 17 29.1	+0.8
BESP				*e*S	S	14 17 47.5	+0.8
PLP	Palo	1.45	303	*e*P	P	14 17 28.0	-0.4
PLP				*e*S	S	14 17 41.1	-5.7
OCLP	Ormoc	1.72	293	*e*P	P	14 17 33.3	+1.4
CNP	Catarman	2.62	325	*e*P	P	14 17 45.1	+0.7
GUIM	Jordan	3.58	274	*e*P	P	14 17 58.3	+0.5
PVCP	Virac	3.79	328	*e*P	P	14 18 00.5	-0.3

*KNET **20** 14:25:21.9±0.3, 42.52N×75.22E, h21^{km}±5^{km}, ml2.7, Error ellipse: s-maj=2.5km s-min=1.6km az=34.0*

*NNC **20** 14:25:28.8±3.6, 42.19N×76.34E, mpv3.1, Error ellipse: s-maj=27.7km s-min=27.5km az=130.0*

ISC 20 14:25:23.1±0.5, 42.54N±0.04×75.23E±0.05, h20^{km}±11^{km}, n9, σ0^{s}.43/17, 8C-7D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KBK	Karagaybulak	0.24	300	⇑P	Pb	14 25 28.5	-0.3
	334nm,0.1s,SNR=717						
KBK				⇑S	Sb	14 25 32.4	-0.2
	3μm,0.2s						
KZA	Kyzart	0.46	178	P	Pb	14 25 32.3	0.0
	304nm,0.1s,SNR=175						
KZA				⇓S	Sb	14 25 38.9	+0.2
	542nm,0.2s						
TKM2	Tokmak 2	0.47	35	⇓P	Pb	14 25 32.4	-0.2
	167nm,0.1s,SNR=670						
AAK	Ala-Archa	0.55	280	P	Pb	14 25 33.7	-0.2
	28nm,0.1s,SNR=96						
AAK				⇑S	Sb	14 25 41.2	-0.1
	293nm,0.2s						
CHMS	Chumysh	0.58	323	⇓P	Pb	14 25 34.3	-0.1
	53nm,0.1s,SNR=274						
CHMS				⇑S	Sb	14 25 42.2	+0.1
	360nm,0.1s						
UCH	Uchtor	0.61	240	⇓P	Pb	14 25 34.7	-0.3
	41nm,0.3s,SNR=72						
UCH				⇑S	Sb	14 25 43.1	0.0
	40nm,0.1s						
ULHL	Ulahol	0.81	111	⇑P	Pb	14 25 37.9	-0.3
	39nm,0.2s,SNR=113						
ULHL				⇓S	Sb	14 25 49.0	+0.4
	72nm,0.2s						
USP	Ospenovka	0.90	324	P	Pb	14 25 40.0	+0.1
	91nm,0.1s,SNR=269						
USP				⇓S	Sb	14 25 52.1	+0.7
	81nm,0.1s						
MK31	Makanchi Array	6.59	47	⇑Pn	Pn	14 27 02.6	+1.1
	0.7nm,0.4s,baz=224,slow=14,SNR=25						
MK31				⇑Sn	Sn	14 28 15.8	-1.0
	1.8nm,0.8s,baz=225,slow=26,SNR=6.0						
MK31				⇓Lg		14 28 49.0	
	1.6nm,0.6s,baz=272,slow=37,SNR=4.7						

*BER **20** 14:25:52.8±2.2, 61.13N×14.55E, ML2.0(NAO), Suspected explosion*

NAO 20 14:25:51.1±2.2, 61.17N×14.61E, ML2.0, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HFS	Hagfors	1.13	204	Pg	Pg	14 26 12.2	-1.6
	baz=18,slow=18						
HFS				Lg		14 26 25.4	
	baz=15,slow=28						
NC6	NORSAR Subarra	1.59	256	Pn	Pn	14 26 19.9	-0.7
NC6				Lg		14 26 40.9	
NB2	NORSAR Subarra	1.65	267	Pn	Pn	14 26 21.3	-0.2
NB2				Lg		14 26 42.7	
FIA0	FINESS Array S	5.54	82	Lg		14 28 44.1	
	baz=283,slow=28						
FIA0	FINESS Array S	5.54	82	Lg		14 28 44.1	
	baz=283,slow=28						

*IDC **20** 14:36:50.1±1.3, 5.49S×103.12E, mb4.4/10, mb1 4.4/10, mb1mx4.3/16, Error ellipse: s-maj=53.7km s-min=14.6km az=55.0*

*NEIC **20** 14:36:53.1±0.7, 5.49S×103.15E, h20^{km}, mb4.7/8, Error ellipse: s-maj=25.6km s-min=6.2km az=54.0*

ISC 20 14:36:53.0±0.8, 5.5S±0.1×103.2E±0.2, h33^{km}, n24, σ0^{s}.77/23, mb4.4/15, 1C-3D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KELI	Kelakatan	11.58	104	⇓*i*P	P	14 39 40.2	+1.2

RATI	Rata	12.69	105	⇓iP	P	14 39 52.5	-1.6
MBWA	Marble Bar	22.39	136	eP	P	14 41 50.8	+0.8
	13nm,1.2s,mb4.2						
CMAR	Chiang Mai Arr	24.14	350	P	P	14 42 07.0	-0.2
	2.3nm,0.4s,mb3.9,baz=184,slow=9.9,SNR=13						
FITZ	Fitzroy Crossi	25.29	122	⇓iP	P	14 42 18.2	-0.1
	17nm,0.8s,mb4.6						
FITZ	Fitzroy Crossi	25.29	122	P	P	14 42 18.0	-0.3
	4.2nm,0.6s,mb4.1,baz=342,slow=3.9,SNR=9.9						
WRA	Warramunga Arr	33.55	118	P	P	14 43 31.6	-0.6
	3.3nm,0.8s,mb4.3,baz=298,slow=10,SNR=28						
WRAB	Tennant Creek	33.56	118	eP	P	14 43 31.4	-0.8
	9.1nm,1.0s,mb4.7						
WB2	Warramunga Arr	33.56	118	eP	P	14 43 31.7	-0.6
ASPA	Alice Springs	34.68	125	eP	P	14 43 41.8	-0.1
ASAR	Alice Springs	34.68	125	P	P	14 43 42.0	+0.1
	2.9nm,0.8s,mb4.3,baz=302,slow=8.1,SNR=44						
ASAR				PcP	PcP	14 46 16.4	+0.7
	0.7nm,0.7s,baz=270,slow=3.3,SNR=4.4						
ENH	Enshi	36.05	9	P	P	14 43 53.2	-0.3
JOW	Kunigami	40.28	36	P	P	14 44 29.9	+1.1
	4.9nm,0.8s,mb4.3,baz=138,slow=12,SNR=5.6						
CTA	Charters Tower	44.31	113	eP	P	14 45 02.2	+0.3
	8.6nm,0.8s,mb4.5						
CTAO	Charters Tower	44.31	113	eP	P	14 45 01.8	-0.1
	13nm,0.8s,mb4.7						
STKA	Stephens Creek	44.50	131	⇑iP	P	14 45 04.3	+1.0
	12nm,0.6s,mb4.9						
STKA	Stephens Creek	44.50	131	P	P	14 45 04.4	+1.0
	21nm,0.8s,mb5.0,baz=304,slow=7.9,SNR=54						
SONM	Songino Array	53.16	3	P	P	14 46 10.7	+0.7
	1.6nm,0.6s,mb4.2,baz=181,slow=9.2,SNR=17						
SONM				PcP	PcP	14 47 17.9	+0.1
	0.7nm,0.5s,baz=196,slow=4.3,SNR=5.7						
MKAR	Makanchi Array	55.23	343	P	P	14 46 25.1	-0.1
	3.3nm,0.5s,mb4.7,baz=149,slow=9.0,SNR=38						
BVAR	Borovoye Array	64.53	339	P	P	14 47 28.3	-0.5
	2.7nm,0.5s,mb4.6,baz=139,slow=9.0,SNR=15						
BRVK	Borovoye	64.59	339	eP	P	14 47 28.7	-0.6
	2.3nm,0.4s,mb4.6						
ZRNK	Zerenda	64.97	338	eP	P	14 47 30.8	-0.9
	1.6nm,0.4s,mb4.4						
FINES	FINESS Array B	88.63	332	P	P	14 49 45.2	+1.4
	0.8nm,0.5s,mb4.3,baz=90,slow=3.8,SNR=4.1						
TXAR	Lajitas Array	145.27	44	PKPbc	PKPbc	14 56 30.4	+2.0
	2.7nm,0.5s,baz=266,slow=1.0,SNR=25						

*JMA **20** 14:49:48.5±0.2, 24.84N×122.00E, h38^{km}, M2.8*
*TAP **20** 14:49:49.1, 24.79N×122.05E, h6^{km}±1^{km}, ML3.4*
TAP Felt II J at Nanau.
ISC 20 14:49:48.9±0.4**, 24.80N**±0.03×**122.13E**±0.02**, h6^{km}, n41, σ1^{s}20**/49**, 3C-2D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TWB1	Santiao Chiao	0.24	328	⇓iP	Pg	14 49 54.0	+0.1
TWB1				S	Sg	14 49 57.4	+0.1
TWC	Suao	0.32	233	⇓iP	Pg	14 49 54.5	-0.8
TWC				S	Sg	14 49 57.7	-2.0
ILA	Ilan	0.35	264	eP	Pg	14 49 55.2	-0.8
NWF	Wu-fen Shan	0.42	310	eP	Pg	14 49 57.4	+0.1
TWE	Neicheng	0.43	259	⇑iP	Pg	14 49 56.5	-1.1
ENA	Nanau	0.51	224	P	Pg	14 49 58.1	-1.2
TWA	Mucha	0.53	290	⇑iP	Pg	14 49 59.0	-0.5
ENTT	Nioudou	0.54	253	eP	Pg	14 49 58.3	-1.4
TAP1	Taipei	0.60	293	eP	Pg	14 50 00.9	-0.1
TWY	Chenhua	0.68	315	eP	Pg	14 50 02.8	+0.3
TWS1	Kuangyinshan	0.71	295	eP	Pg	14 50 03.1	-0.1
NSK	Sanguang	0.71	260	⇑P	Pg	14 50 01.4	-1.8
NNS	Nan Shan	0.78	243	eP	Pb	14 50 02.9	-1.6
PCYT	Pengchaiyu	0.83	356	P	Pb	14 50 05.6	+0.4
TWD	Chiawan	0.87	214	eP	Pb	14 50 04.6	-1.4
YOJ	Yonaguni jima	0.87	113	P	Pb	14 50 06.4	+0.4
YOJ				S	Sb	14 50 19.1	+1.5
HWA	Hwalien	0.95	210	eP	Pb	14 50 06.4	-1.0
NSTT	Nanjuang	1.04	261	eP	Pb	14 50 08.0	-1.0
NSTT				S	Sb	14 50 24.2	+1.5
ESL	Shilin	1.17	213	eP	Pb	14 50 10.0	-1.1
NSY	Sanyi	1.30	253	eP	Pb	14 50 13.7	+0.3
SMLT	Sun Moon Lake	1.45	231	eP	Pn	14 50 15.4	-0.4
TYC	Yuchr	1.47	233	eP	Pn	14 50 16.0	0.0
TCU	Taichung	1.48	244	eP	Pn	14 50 17.7	+1.6
EHY	Hungye	1.49	210	eP	Pn	14 50 15.9	-0.4
IRIF	Iriomote-Funau	1.53	107	P	Pn	14 50 15.8	-1.1
IRIF				eS	Sb	14 50 36.6	-0.2
ALS	Alishan	1.77	224	eP	Pn	14 50 22.0	+1.7
CHN5	Tsauling	1.79	228	eP	Pn	14 50 22.5	+1.9
CHN5				S	Sn	14 50 47.0	+3.1
JKRS	Kuro-shima	1.80	108	P	Pn	14 50 20.1	-0.7
JKRS				eS	Sn	14 50 43.9	-0.2
WGK	Gukeng	1.81	233	eP	Pn	14 50 23.2	+2.3
CHKT	Chengkung	1.83	203	eP	Pn	14 50 20.1	-1.2
JIJ	Ishigaki jima	1.88	103	P	Pn	14 50 21.2	-0.7
JIJ				S	Sn	14 50 45.4	-0.8
ELDTW	Lidau	1.90	213	eP	Pn	14 50 22.7	+0.5
CHN4	Tsaushan	2.02	225	eP	Pn	14 50 27.3	+3.5
STYT	Tauyuan	2.06	218	eP	Pn	14 50 25.8	+1.4
WTP	Ta-pu	2.08	222	eP	Pn	14 50 26.0	+1.2
TWK	Hsinying	2.14	225	eP	Pn	14 50 27.4	+1.8
CHN1	Nanshi	2.18	223	eP	Pn	14 50 29.0	+2.8
TWG	Pinlang	2.20	206	eP	Pn	14 50 25.8	-0.6
SGST	Jiashian	2.22	220	eP	Pn	14 50 29.7	+2.9
SSD	Sandimen	2.46	214	eP	Pn	14 50 32.2	+2.0
EAST	Anshuo	2.68	206	eP	Pn	14 50 32.5	-0.8

GUC 20 14:58:52.1±0.8**, 34.78S×70.27W, h3^{km}, MD3.6, ML2.8, 10C-1D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CICH	Cipreses	0.47	345	⇓iP	Pg	14 59 01.6	0.0
CICH				i S	Sg	14 59 09.2	+1.3
SFDO	San Fernando	0.64	285	⇑iP	Pg	14 59 05.0	+0.2
SFDO				i S	Sg	14 59 14.7	+1.5
CACH	El Canelo	0.71	337	⇑iP	Pg	14 59 05.8	-0.5
CACH				i S	Sg	14 59 16.6	+0.6
CHCH	Chadas Angostu	0.90	339	⇑iP	Pb	14 59 09.3	-0.7
CHCH				i S	Sg	14 59 22.4	+0.3
LMEL	Las Melosas	0.93	3	⇑iP	Pb	14 59 09.4	-1.1
LMEL				i S	Sb	14 59 23.0	-0.1
LMEL				AMP		14 59 24.1	
	comp=N,339nm,0.3s						
PCH	Pirque	1.17	350	⇑iP	Pb	14 59 14.1	-0.6
PCH				i S	Sb	14 59 31.1	+1.0
LNV	Longovilo	1.25	311	⇑iP	Pb	14 59 15.3	-0.7
LNV				i S	Sb	14 59 32.7	+0.4
TACH	Talagante	1.25	334	eP	Pb	14 59 15.4	-0.6
TACH				i S	Sb	14 59 33.3	+0.9
RCDM	Rinconada Maip	1.36	341	eP	Pb	14 59 17.0	-0.9
RCDM				eS	Sb	14 59 36.0	+0.5
RCDM				AMP		14 59 36.8	
	comp=N,615nm,0.3s						
CLCH	Cerro Calan	1.40	351	⇑iP	Pb	14 59 17.9	-0.6
CLCH				i S	Sb	14 59 37.2	+0.6
CLCH				AMP		14 59 40.6	
	comp=N,362nm,0.3s						
FCH	Farellones	1.45	359	⇑iP	Pn	14 59 18.8	-0.5
FCH				i S	Sb	14 59 39.6	+1.5
FCH				AMP		14 59 42.4	
	comp=E,143nm,0.2s						
PEL	Peldehue	1.67	348	⇑iP	Pn	14 59 23.4	+1.0
PEL				eS	Sb	14 59 46.0	+1.5
LCCH	Las Cruces	1.69	320	⇑iP	Pn	14 59 22.9	+0.2
LCCH				i S	Sb	14 59 46.2	+1.1

IDC 20 15:00:55.2±61.0**, 17.69S×177.44E, mb3.9**/3**, mb1 4.0**/3**, mb1mx3.7**/12**, Error ellipse: s-maj=1090.0km s-min=147.6km az=77.0, Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	Stephens Creek	35.30	240	P	P	15 07 53.2	-0.9
	0.7nm,0.8s,baz=88,slow=14,SNR=3.4						
WRA	Warramunga Arr	40.78	260	P	P	15 08 38.3	-1.8
	0.4nm,0.5s,baz=96,slow=7.9,SNR=15						
ASAR	Alice Springs	41.05	254	P	P	15 08 40.2	-2.0
	1.9nm,0.3s,baz=90,slow=7.6,SNR=133						

*NEIC **20** 15:15:05.7, 15.47N×95.82W, h31^{km}, MD3.7(MEX), After MEX.*
MEX 20 15:15:05.7±0.7**, 15.46N×95.81W, h29^{km}**±12^{km}**, MD3.8, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HUIG	Huatulco	0.42	317	i P	Pb	15 15 13.6	-1.2
HUIG				i S	Sb	15 15 18.7	-2.2
VHO	Vista Hermosa	1.83	331	i P	Pn	15 15 33.1	-2.7
VHO				i S	Sn	15 15 54.5	-3.7
OXX	Oaxaca	1.83	332	i P	Pn	15 15 33.0	-2.8
OXX				i S	Sn	15 15 55.0	-3.3
CMIG	Matias Romero	1.85	29	i P	Pn	15 15 32.7	-3.3
CMIG				i S	Sn	15 15 55.9	-2.8

MEX 20 15:18:14.3±0.5**, 15.58N×95.92W, h44^{km}**±6^{km}**, MD3.7, 1C, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HUIG	Huatulco	0.26	315	⇑iP	P	15 18 21.3	-1.2
HUIG				i S	S	15 18 26.3	-2.0
VHO	Vista Hermosa	1.68	332	i P	P	15 18 39.7	-2.1
VHO				i S	S	15 19 00.1	-2.0
OXX	Oaxaca	1.68	333	i P	P	15 18 36.0	-5.8
OXX				i S	S	15 19 03.0	+0.7
CMIG	Matias Romero	1.80	33	i P	P	15 18 41.6	-1.9
CMIG				i S	S	15 19 01.8	-3.4

*STR **20** 15:32:13.0±0.0, 43.35N×0.70W, h10^{km}±1^{km}, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **20** 15:32:14.3±0.3, 42.92N×1.44W, h2^{km}, Md2.3/2, Ml2.1/6, Error ellipse: s-maj=5.5km s-min=4.1km az=33.0*
MDD 20 15:32:14.4±0.7**, 42.89N×1.38W, h7^{km}**±6^{km}**, mbLg1.6**/5**, Error ellipse: s-maj=6.1km s-min=4.5km az=77.0, PRXIMO AftershockPLICA, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJPF	Ste Jean	0.25	27	ePg	Pg	15 32 19.4	-0.1
SJPF				eSg	Sg	15 32 22.2	-0.7
	46nm,0.4s						
LARF	Larrau	0.32	63	Pg	Pg	15 32 20.7	-0.2
LARF				Sg	Sg	15 32 26.4	+1.1
EALK	Alkurruntz	0.34	344	Pg	Pg	15 32 20.8	-0.5
	0.7nm,0.1s,SNR=7.9						
EALK				Lg		15 32 25.7	
	10nm,0.2s,SNR=7.9						
OSSF	Osses	0.37	13	Pg	Pg	15 32 21.4	-0.6
OSSF				Sg	Sg	15 32 27.6	+0.6
EPF	Esparros	1.27	83	ePg	Pg	15 32 39.8	0.0
EPF				eSg	Sg	15 32 55.5	-1.2
	2.7nm,0.2s						
ESAC	San Caprasio	1.35	150	Pg	Pg	15 32 38.9	-2.5
	SNR=4.0						
ESAC				Lg		15 32 57.9	
	13nm,0.3s,SNR=4.0						
ETOR	Torete	2.13	194	Pg	Pg	15 32 53.0	-4.0
	SNR=7.9						
ETOR				Lg		15 33 17.8	
	SNR=7.9						
LFF	La Frestale	2.56	36	ePn	Pn	15 32 54.9	-2.1
LFF				eSg	Sg	15 33 33.8	-5.7
	7.4nm,0.2s						
MTLF	Montolieu	2.67	79	ePn	Pn	15 32 57.2	-1.5
MTLF				eSn	Sn	15 33 29.0	-2.7
	1.0nm,0.2s						
RJF	Les Rejaudoux	3.19	40	ePn	Pn	15 33 02.7	-3.3
RJF				eSn	Sn	15 33 40.2	-4.5
	0.7nm,0.2s						
CAF	Calviac	3.21	50	ePn	Pn	15 33 03.5	-2.9
CAF				eSn	Sn	15 33 41.4	-4.0
	0.9nm,0.3s						
MFF	Saint Martin d	3.81	13	ePn	Pn	15 33 11.8	-3.1
LASF	Ste Croix	3.99	71	ePn	Pn	15 33 14.9	-2.5
LASF				eSn	Sn	15 34 00.2	-4.8
	0.6nm,0.3s						

*BER **20** 15:43:01.1±1.4, 59.70N×13.02E, ML2.1(NAO), Suspected explosion*
NAO 20 15:43:00.2±2.9**, 59.68N×12.97E, ML2.1, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HFS	Hagfors	0.58	39	Pg	Pg	15 43 11.4	-0.4
	baz=215,slow=18						
HFS				Lg		15 43 17.7	
	baz=216,slow=37						
HFS				Rg		15 43 22.0	
	baz=222,slow=56						
NC6	NORSAR Subarra	1.31	325	Pn	Pn	15 43 23.9	-1.8
NC6				Lg		15 43 42.2	
NB2	NORSAR Subarra	1.62	328	Pn	Pn	15 43 29.7	-0.4
NB2				Lg		15 43 50.4	

*IDC **20** 15:44:02.8±12.0, 36.22N×70.95E, h154^{km}±114^{km}, mb3.5/7, mb1 3.5/9, mb1mx3.4/19, ML3.5/2, Error ellipse: s-maj=83.6km s-min=19.1km az=33.0*
*MOS **20** 15:44:02.0±0.7, 36.13N×70.79E, h165^{km}, mb3.9/5, Error ellipse: s-maj=38.2km s-min=17.8km az=109.2*
*NEIC **20** 15:44:13.3±2.5, 36.69N×71.38E, h248^{km}±26^{km}, mb3.9/5, Error ellipse: s-maj=31.6km s-min=7.4km az=59.0*
ISC 20 15:44:10.1±2.1**, 36.7N**±0.1×**71.2E**±0.2**, h228^{km}**±21^{km}**, n32, σ0^{s}74**/32**, mb3.6**/7**, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	Almayashu	5.77	19	P	P	15 45 35.1	-0.5
	SNR=240						
UCH	Uchtor	6.10	24	P	P	15 45 39.7	-0.1
	SNR=23						
EKS2	Erkin-Say	6.29	18	P	P	15 45 41.7	-0.5
	SNR=20						
AAK	Ala-Archa	6.46	22	P	P	15 45 44.3	0.0
	SNR=18						
KBK	Karagaybulak	6.63	25	P	P	15 45 46.8	+0.3
	SNR=17						
ULHL	Ulahol	6.79	34	P	P	15 45 49.0	+0.5
	SNR=6.8						
CHMS	Chumysh	6.87	22	P	P	15 45 49.7	+0.1
	SNR=15						
USP	Ospenovka	7.04	20	P	P	15 45 51.4	-0.4
	SNR=7.6						
TKM2	Tokmak 2	7.09	27	P	P	15 45 52.6	+0.3
	SNR=6.3						
MKAR	Makanchi Array	13.05	36	P	P	15 47 08.3	+0.2
	0.2nm,0.3s,baz=231,slow=16,SNR=11						
KOLN	Koldanda	13.75	127	eP	P	15 47 17.7	+0.8
GKN	Gorkha	14.27	124	eP	P	15 47 23.8	+0.4
	4.3nm,0.2s						
DMN	Daman	14.84	124	eP	P	15 47 28.7	-1.7
	5.2nm,0.4s						
KKN	Kakani	14.84	123	eP	P	15 47 31.3	+0.9
	6.1nm,0.5s						
ZRNK	Zerenda	16.34	355	eP	P	15 47 47.9	-0.2
	1.3nm,0.4s						
BVAR	Borovoye Array	16.35	358	P	P	15 47 48.9	+0.7
	0.2nm,0.3s,baz=160,slow=11,SNR=3.8						
BRVK	Borovoye	16.38	358	P	P	15 47 46.8	-1.8
	3.2nm,0.9s						
AKASG	Malin Array Be	32.95	309	P	P	15 50 23.8	-1.1
	1.0nm,0.6s,mb3.5,baz=79,slow=7.1,SNR=3.3						
AKASG	Malin Array Be	32.95	309	P	P	15 50 23.8	-1.1
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	FINESS Array B	37.42	326	P	P	15 51 02.8	+0.3
	comp=Z,0.6nm,0.3s,mb3.6,baz=123,slow=9.4,SNR=11						
FINES	FINESS Array B	37.42	326	P	P	15 51 02.8	+0.3
FINES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KAF	Kangasniemi	37.55	327	ep	P	15 51 04.7	+1.1
KEV	Kevo	40.69	338	ep	P	15 51 30.1	+0.7
ARCES	ARCESS Array B	41.03	337	P	P	15 51 33.4	+1.1
	comp=Z,2.8nm,0.7s,mb3.8,baz=113,slow=8.6,SNR=13						
ARCES	ARCESS Array B	41.03	337	P	P	15 51 33.4	+1.2
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
HFS	Hagfors	43.02	322	P	P	15 51 48.3	0.0
	comp=Z,1.9nm,0.5s,mb3.8,baz=108,slow=9.4,SNR=8.2						
HFS	Hagfors	43.02	322	P	P	15 51 48.3	0.0
HFS				pmax	pmax		
	comp=Z,2.0nm,0.5s						
NB2	NORSAR Subarra	44.33	323	P	P	15 51 58.1	-0.6
	comp=Z,6.2nm,1.2s,mb3.8,baz=96,slow=7.4						
NOA	NORSAR Array B	44.33	323	P	P	15 51 58.6	0.0
	comp=Z,1.4nm,0.7s,mb3.4,baz=100,slow=7.7,SNR=4.3						
NOA	NORSAR Array B	44.33	323	P	P	15 51 58.7	0.0
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRA	Warramunga Arr	81.96	122	P	P	15 56 04.9	-0.9
	comp=Z,0.4nm,0.5s,mb3.3,baz=322,slow=4.9,SNR=9.9						
ASAR	Alice Springs	84.23	125	P	P	15 56 16.8	-0.5
	comp=Z,0.3nm,0.5s,mb3.3,baz=306,slow=4.9,SNR=6.7						

*NEIC **20** 16:02:54.1±4.0, 1.15N×124.51E, h133^{km}±40^{km}, mb4.1/6, Error ellipse: s-maj=17.3km s-min=7.6km az=77.0*
*IDC **20** 16:02:56.5±2.9, 1.16N×124.52E, h157^{km}±27^{km}, mb4.0/8, mb1 3.9/9, mb1mx3.7/17, Error ellipse: s-maj=30.9km s-min=10.6km az=76.0*
ISC 20 16:02:55.0±5.5**, 1.17N**±0.08×**124.5E**±0.2**, h162^{km}**±55^{km}**, n21, σ0^{s}35**/21**, mb4.3**/14**, 1C, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	19.18	177	⇑iP	P	16 07 07.8	-0.8
	5.0nm,0.8s						
FITZ	Fitzroy Crossi	19.18	177	P	P	16 07 07.9	-0.7
	1.3nm,0.3s,baz=6.7,slow=8.7,SNR=43						
MBWA	Marble Bar	22.67	192	eP	P	16 07 43.8	+0.4
	2.8nm,0.6s,mb3.9						
WRAB	Tennant Creek	23.09	156	eP	P	16 07 47.8	+0.3
	33nm,0.4s,mb5.1						
WRA	Warramunga Arr	23.10	156	P	P	16 07 47.6	+0.1
	22nm,0.4s,mb5.0,baz=333,slow=11,SNR=357						
WB2	Warramunga Arr	23.10	156	eP	P	16 07 47.6	+0.1
JOW	Kunigami	25.77	8	P	P	16 08 12.8	+0.1
	4.9nm,0.7s,mb4.2,baz=169,slow=16,SNR=3.0						
ASPA	Alice Springs	26.33	160	eP	P	16 08 17.5	-0.3
ASAR	Alice Springs	26.33	160	P	P	16 08 17.6	-0.2
	2.1nm,0.6s,mb4.0,baz=342,slow=7.6,SNR=65						
ASAR				PcP	PcP	16 11 40.0	+0.1
	0.5nm,0.4s,baz=350,slow=2.4,SNR=8.1						
ASAR				ScP		16 15 04.2	
	0.3nm,0.7s,baz=339,slow=2.2,SNR=5.4						
CTA	Charters Tower	30.02	136	P	P	16 08 50.7	-0.4
	4.3nm,0.9s,mb4.2,baz=320,slow=16,SNR=2.5						
FORT	Forrest	31.95	174	eP	P	16 09 07.9	+0.1
	66nm,0.6s						
KLBR	Kellerberrin	33.20	191	eP	P	16 09 18.2	-0.3
	55nm,2.0s,mb4.9						
NWAO	Narrogin (SRO)	34.60	191	P	P	16 09 30.9	+0.5
	5.7nm,0.8s,mb4.2,baz=23,slow=4.4,SNR=7.6						
STKA	Stephens Creek	36.65	155	eP	P	16 09 47.9	+0.2
	3.6nm,0.4s,mb4.3						
STKA	Stephens Creek	36.65	155	P	P	16 09 48.0	+0.3
	4.1nm,0.3s,mb4.5,baz=329,slow=8.1,SNR=40						
ASAJ	Asahikawa	45.69	18	P	P	16 11 01.3	-0.1
	8.2nm,1.0s,mb4.3,baz=312,slow=20,SNR=6.5						
SONM	Songino Array	49.06	344	P	P	16 11 28.1	+0.6
	0.3nm,0.6s,baz=162,slow=9.1,SNR=2.8						
MKAR	Makanchi Array	58.42	327	P	P	16 12 35.7	-0.3
	0.5nm,0.4s,mb3.7,baz=126,slow=7.4,SNR=16						
RPZ	Rata Peaks	61.02	143	P	P	16 12 53.9	+0.2
	12nm,0.8s,mb4.8,baz=300,slow=8.1,SNR=2.2						
KURK	Kurchatov	62.73	329	P	P	16 13 04.5	-0.5
	0.8nm,0.6s,mb3.7						
CASY	Casey	68.03	186	eP	P	16 13 38.8	+0.1
	1.0nm,0.6s,mb3.7						

*PRU **20** 16:20:28.0, 51.56N×16.03E*
*WAR **20** 16:20:28.5, 51.56N×16.01E, ML2.8, Mining Induced*
ISC 20 16:20:26.0±1.1**, 51.55N**±0.05×**15.99E**±0.06**, n9, σ1^{s}34**/22**, Poland**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	Ksiaz	0.73	165	ePG	Pg	16 20 42.0	+1.3
KSP				eSG	Sg	16 20 52.0	+1.6
UPC	Upice	1.04	179	ePG	Pg	16 20 48.3	+1.4
UPC				eSG	Sg	16 21 01.7	+0.9
DPC	Dobruska-Polom	1.22	170	ePG	Pg	16 20 51.1	+0.7
DPC				eSG	Sg	16 21 06.7	+0.1
	18nm,0.2s						
PVCC	Panska Ves	1.36	222	ePG	Pg	16 20 54.2	+1.0
PVCC				eSG	Sg	16 21 13.3	+2.0
PRU	Pruhonice	1.81	211	ePG	Pg	16 21 00.0	-2.2
PRU				eSG	Sg	16 21 24.5	-1.9
	17nm,0.3s						
CLL	Collm	1.89	264	i PN	Pn	16 21 00.3	+0.5
CLL				i PG	Pg	16 21 03.3	-0.4
CLL				i		16 21 07.0	
CLL				eSG	Sg	16 21 29.0	+0.2
OKC	Ostrava-Krasne	2.19	140	ePG	Pg	16 21 08.1	-1.8
OKC				eSG	Sg	16 21 37.0	-2.1
NKC	Novy Kostel	2.60	241	ePN	Pn	16 21 11.2	+1.2
NKC				ePG	Pg	16 21 16.5	-1.5
NKC				eSG	Sg	16 21 52.6	0.0
KHC	Kasperske Hory	2.87	213	ePN	Pn	16 21 15.5	+1.6
KHC				ePG	Pg	16 21 21.1	-2.3
KHC				eSN	Sn	16 21 49.4	-0.3
KHC				eSG	Sg	16 22 00.3	-1.3

*NEIC **20** 16:41:01.0±0.9, 12.33S×167.26E, h155^{km}, mb4.1/1, Error ellipse: s-maj=31.7km s-min=16.8km az=130.0*
*IDC **20** 16:41:02.3±17.0, 12.47S×167.34E, h172^{km}±164^{km}, mb3.3/7, mb1 3.4/7, mb1mx3.4/14, Error ellipse: s-maj=81.2km s-min=49.8km az=150.0*
ISC 20 16:40:58.9±1.4**, 12.4S**±0.2×**167.3E**±0.3**, h150^{km}, n9, σ0^{s}43**/8**, mb3.5**/8**, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	32.44	252	P	P	16 47 16.6	-0.5
	0.4nm,0.8s,mb3.2,baz=83,slow=8.6,SNR=4.0						
ASAR	Alice Springs	33.54	246	P	P	16 47 26.1	-0.4
	0.2nm,0.7s,mb3.0,baz=70,slow=9.3,SNR=7.3						
FITZ	Fitzroy Crossi	40.48	257	P	P	16 48 25.5	+0.9
	0.6nm,0.5s,mb3.5,baz=354,slow=20,SNR=4.2						
CASY	Casey	65.67	202	P	P	16 51 29.2	+0.1
	1.2nm,0.5s,mb4.0						
CMAR	Chiang Mai Arr	74.00	293	P	P	16 52 20.6	+0.2
	0.6nm,0.7s,mb3.4,baz=119,slow=5.9,SNR=4.8						
SONM	Songino Array	80.62	323	P	P	16 52 56.5	+0.1
	0.2nm,0.4s,mb3.1,baz=121,slow=3.9,SNR=3.0						
ILAR	Eielson Array	84.33	18	P	P	16 53 14.9	0.0
	1.4nm,0.6s,mb3.9,baz=246,slow=5.2,SNR=11						
MKAR	Makanchi Array	95.51	317	P	P	16 54 07.5	-0.4
	0.6nm,0.5s,mb4.2,baz=85,slow=8.0,SNR=6.5						
ARCES	ARCESS Array B	118.00	346	PKP	PKPdf	16 59 28.1	+0.8
	7.6nm,1.1s,baz=63,slow=4.0,SNR=7.8						

*BJI **20** 16:51:01.5, 37.76N×119.12W, h4^{km}, mB4.9, mb5.0, Ms4.8, Msz4.4*
*IDC **20** 16:51:05.5±0.7, 37.97N×118.61W, mb4.1/14, mb1 4.4/19, mb1mx4.3/26, ML4.2/5, MS4.0/17, Ms1 4.0/17, ms1mx3.8/28, Error ellipse: s-maj=10.2km s-min=6.2km az=118.0*
*NEIC **20** 16:51:05.0, 38.02N×118.65W, h5^{km}, mb4.7/9, ML5.0(REN), MW4.8(BRK), After REN.*
ISC 20 16:51:04.8±0.7**, 37.99N**±0.02×**118.64W**±0.03**, h3^{km}**±5^{km}**, n136, σ1^{s}33**/134**, mb4.5**/25**, MS4.2**/19**, 5C-5D, California-Nevada border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OMM	Old Mammoth Mi	0.47	217	⇓iPg	Pg	16 51 14.6	+0.5
NVAR	Mina Array Bea	0.51	31	Pg	Pg	16 51 14.0	-1.0
	8µm,0.3s,baz=215,slow=20						
NVAR				Lg		16 51 22.1	
	8µm,0.3s,baz=206,slow=37,SNR=31						
NVAR	Mina Array Bea	0.51	31	Pg	Pg	16 51 14.0	-1.0
NVAR				Lg		16 51 22.1	
MNV	Mina	0.58	41	⇓iPg	Pg	16 51 15.6	-0.9
MNV				eSg	Sg	16 51 23.8	-0.5
MTUM	Tungsten Hills	0.64	175	⇓iPg	Pg	16 51 17.9	+0.3
TPH	Tonopah	1.12	85	⇑iPg	Pg	16 51 26.1	-1.1
TPH				eSg	Sg	16 51 42.5	+0.4
CMB	Columbia Colle	1.38	272	⇑iP	Pb	16 51 29.8	-1.2
WCN	Washoe City	1.57	327	⇑iP	Pn	16 51 33.5	-0.3

PAHR	Pah Rah Range	1.81	341	⇓eP	Pn	16 51 36.8	-0.4
DAC	Darwin (Calif)	1.90	154	eP	Pn	16 51 38.8	+0.3
TPNV	Topopah Spring	2.17	118	⇑iP	Pn	16 51 42.1	-0.2
BEKR	Beckwourth	2.31	325	⇑iPn	Pn	16 51 43.8	-0.5
LRV	Little Rabbit	2.46	231	eP	Pn	16 51 47.1	+0.6
SAO	San Andreas Ge	2.55	242	ePn	Pn	16 51 48.1	+0.3
OHCM	Honcut	2.60	302	ePn	Pn	16 51 47.2	-1.3
BMN	Battle Mountai	2.67	24	⇓iPn	Pn	16 51 47.7	-1.8
BMN				ePg	Pg	16 51 54.5	-3.7
LKC	Lake Chabot	2.72	266	ePn	Pn	16 51 50.7	+0.4
SAC	San Andreas	3.02	263	ePn	Pn	16 51 54.5	0.0
NSHM	Saint Helena R	3.17	281	ePn	Pn	16 51 55.8	-0.8
HOPS	Hopland	3.62	287	ePn	Pn	16 52 02.0	-1.0
MWC	Mount Wilson	3.79	173	ePn	Pn	16 52 06.7	+1.3
NEN	Nelson	3.84	126	ePn	Pn	16 52 05.3	-0.8
WDC	Whiskeytown Da	3.98	312	ePn	Pn	16 52 07.1	-1.0
LDFC	Landfair	4.06	135	ePn	Pn	16 52 07.6	-1.7
MOD	Modoc	4.11	342	ePn	Pn	16 52 10.6	+0.6
ARUT	Antelope Range	4.12	91	ePn	Pn	16 52 08.8	-1.3
ARUT				ePg	Pg	16 52 21.8	-5.2
WVOR	Wild Horse Val	4.44	0	ePn	Pn	16 52 13.8	-0.8
PFO	Pinyon Flat Ob	4.72	157	ePn	Pn	16 52 18.9	+0.3
YBH	Yreka Blue Hor	4.88	321	Pn	Pn	16 52 21.2	+0.4
	2.6nm,0.3s,baz=133,slow=9.8,SNR=46						
YBH				Lg		16 53 38.1	
	3.1nm,0.3s,baz=261,slow=16,SNR=2.2						
YBH	Yreka Blue Hor	4.88	321	ePn	Pn	16 52 21.2	+0.3
KHMM	Horse Mountain	4.88	308	Pn	Pn	16 52 20.6	-0.3
DUG	Dugway	5.04	62	ePn	Pn	16 52 22.7	-0.4
DUG				ePg	Pg	16 52 41.5	-3.9
DUG				eSg	Sg	16 53 41.7	-11
MSU	Marysvale	5.11	82	ePn	Pn	16 52 22.9	-1.3
KRMB	Red Mountain	5.38	313	ePn	Pn	16 52 26.1	-1.8
NLU	North Lily Min	5.48	67	ePn	Pn	16 52 29.0	-0.3
BAR	Barrett	5.54	163	Pn	Pn	16 52 30.5	+0.3
HUMO	Hull Mountain	5.67	326	ePn	Pn	16 52 33.5	+1.5
NOQ	North Oquirrh	5.71	60	Pn	Pn	16 52 36.3	+3.7
SPUT	South Promonto	5.81	53	ePn	Pn	16 52 31.6	-2.5
MPU	Maple Canyon	5.82	67	P	Pn	16 52 36.9	+2.8
HVU	Hansel Valley	5.89	48	ePn	Pn	16 52 33.8	-1.2
CTU	Camp Tracy	5.98	61	ePn	Pn	16 52 34.3	-2.1
KBO	Bosley Butte	6.01	316	eP	Pn	16 52 38.8	+1.9
JLU	Jordanelle	6.16	63	ePn	Pn	16 52 39.4	+0.5
DAU	Daniels Canyon	6.22	65	ePn	Pn	16 52 38.0	-1.8
TCUT	Toone Canyon	6.40	59	eP	Pn	16 52 42.0	-0.3
HLID	Hailey	6.42	29	ePn	Pn	16 52 40.7	-2.0
SRU	San Rafael	6.46	78	eP	Pn	16 52 43.6	+0.5
HSO	Harness Mounta	6.48	330	Pn	Pn	16 52 40.3	-3.2
KEBM	Edson Butte	6.53	320	eP	Pn	16 52 48.5	+4.3
HWUT	Hardware Ranch	6.53	54	eP	Pn	16 52 43.6	-0.6
SSOR	Sweet Springs	7.44	339	eP	Pn	16 52 58.8	+1.9
COR	Corvallis	7.47	333	P	Pn	16 52 53.8	-3.6
AHID	Auburn Hatcher	7.47	48	Pn	Pn	16 52 58.0	+0.6
VGB	Gordon Butte	7.69	349	eP	Pn	16 53 02.5	+2.1
LNOR	Lincton Mounta	7.88	2	eP	Pn	16 53 06.1	+3.0
REDW	Red Top Meadow	7.99	45	eP	Pn	16 53 05.6	+1.0
TPAW	Teton Pass	8.01	44	eP	P	16 53 05.9	+0.9
MCMT	McKenzie Canyo	8.10	31	eP	P	16 53 07.4	+1.3
SNOW	Snow King Moun	8.10	45	eP	P	16 53 07.7	+1.5
WUWY	Wally Ulrich	8.16	45	eP	P	16 53 08.4	+1.4
IMW	Indian Meadow	8.29	42	eP	P	16 53 10.5	+1.7
MOOW	Moose Ponds	8.29	44	eP	P	16 53 10.0	+1.1
PDAR	Pinedale Array	8.41	53	Pn	P	16 53 11.2	+0.7
	1.9nm,0.3s,baz=231,slow=12,SNR=183						
PDAR				Lg		16 55 24.6	
	1.3nm,0.3s,baz=75,slow=23,SNR=3.8						
PDAR				LR	LR	16 56 21.8	
	comp=Z,800nm,18.8s,baz=249,slow=38						
HAWA	Hanford	8.42	356	eP	P	16 53 12.8	+2.1
SHW	Mount Saint He	8.62	343	P	P	16 53 17.2	+3.8
QLMT	Earthquake Lak	8.72	36	eP	P	16 53 13.8	-0.9
YMR	Madison River	8.82	38	ePn	P	16 53 18.2	+2.0
LON	Longmire	9.06	346	eP	P	16 53 19.8	+0.3
BMW	Boistfort Moun	9.13	340	P	P	16 53 22.6	+2.1
MSO	Missoula	9.49	20	eP	P	16 53 25.7	+0.3
RMW	Rattlesnake Mo	9.75	347	eP	P	16 53 32.2	+3.3
CHMT	Chamberlain Mo	9.76	22	eP	P	16 53 29.3	+0.1
DPW	Davenport	9.88	2	eP	P	16 53 32.0	+1.2
LAZ	Ladron	9.96	108	eP	P	16 53 33.1	+1.2
GNW	Green Mountain	10.05	344	eP	P	16 53 38.3	+5.2
HRY	Holter Researc	10.06	28	eP	P	16 53 33.4	+0.1
NLW	Nelson Butte	10.16	354	eP	P	16 53 36.3	+1.7
LENM	Lemitar	10.18	108	ePn	P	16 53 34.9	-0.1
ANMO	Albuquerque	10.27	103	eP	P	16 53 38.0	+1.9
ISCO	Idaho Springs	10.31	76	ePn	P	16 53 34.0	-2.8
NEW	Newport	10.33	6	Pn	P	16 53 37.7	+0.7
	0.4nm,0.3s,baz=179,slow=13,SNR=14						
NEW				Lg		16 56 36.0	
	0.3nm,0.3s,baz=92,slow=18,SNR=3.5						
NEW				LR	LR	16 57 47.6	
	comp=Z,1μm,19.2s,baz=202,slow=39						
NEW	Newport	10.33	6	eP	P	16 53 37.9	+0.9
LPM	Los Pinos Moun	10.38	107	Pn	P	16 53 40.7	+3.1
SDCO	Great Sand Dun	10.39	87	Pn	P	16 53 34.8	-3.1
RPW	Rockport	10.66	350	eP	P	16 53 44.1	+2.6
RSSD	Black Hills	12.60	56	ePn	P	16 54 05.1	-2.7
GDL2	Guadalupe Moun	13.03	112	eP	P	16 54 16.8	+3.2
DGMT	Dagmar	14.82	40	eP	P	16 54 36.8	-0.3
TXAR	Lajitas Array	15.15	120	Pn	P	16 54 44.0	+2.6
	0.1nm,0.3s,baz=302,slow=12,SNR=32						
TXAR				Lg		16 59 02.6	
	0.0nm,0.3s,baz=84,slow=22,SNR=2.9						
TXAR				LR	LR	17 01 33.9	
	comp=Z,610nm,19.1s,baz=315,slow=42						
EDM	Edmonton	15.67	12	eP	P	16 54 47.9	-0.1
BBB	Bella Bella	15.67	338	Pn	P	16 54 52.6	+4.6
	0.1nm,0.3s,baz=132,slow=12,SNR=1.9						
BBB				LR	LR	17 01 49.1	
	comp=Z,301nm,21.1s,baz=96,slow=41						
WMOK	Wichita Mounta	16.32	95	eP	P	16 54 58.5	+2.0
	23nm,1.4s						
JCT	Junction City	17.27	110	eP	P	16 55 09.3	+0.8
	12nm,0.9s						
KSU1	Kansas State U	17.27	79	eP	P	16 55 10.1	+1.7
ULM	Lac du Bonnet	20.33	46	P	P	16 55 42.2	-2.5
	19nm,0.9s,baz=252,slow=9.5,SNR=10.0						
ULM				LR	LR	17 02 50.0	
	comp=Z,123nm,18.8s,MS3.3,baz=23,slow=35						
ULM	Lac du Bonnet	20.33	46	eP	P	16 55 41.9	-2.8
	41nm,1.1s						
NATX	Nacogdoches	20.60	100	eP	P	16 55 47.1	-0.7
	169nm,1.6s						
DLBC	Dease Lake	21.76	344	P	P	16 55 59.8	+0.4
	4.1nm,0.9s,mb3.9,baz=157,slow=13,SNR=3.8						
DLBC				LR	LR	17 05 20.9	
	comp=Z,998nm,18.3s,MS4.3,baz=156,slow=39						
DLBC	Dease Lake	21.76	344	P	P	16 55 59.8	+0.4
DLBC				LR	LR	17 05 20.9	
JFWS	Jewell Farm	22.10	68	eP	P	16 56 02.9	+0.1
	18nm,0.7s,mb4.6						
FVM	French Village	22.21	81	P	P	16 56 01.6	-2.3
	19nm,1.0s,mb4.5						
WVT	Waverly	24.60	85	eP	P	16 56 28.6	+1.2
	18nm,1.1s,mb4.5						
YKA	Yellowknife Ar	24.66	4	P	P	16 56 27.0	-0.6
	1.4nm,0.7s,mb3.6,baz=252,slow=34,SNR=3.3						
YKA				LR	LR	17 06 23.3	
	comp=Z,380nm,18.3s,MS3.9,baz=180,slow=37						
INK	Inuvik	31.47	349	P	P	16 57 28.9	-0.5
	3.5nm,0.9s,mb4.2,baz=175,slow=11,SNR=3.2						
INK				LR	LR	17 11 25.9	
	comp=Z,695nm,18.9s,MS4.3,baz=335,slow=39						
INK	Inuvik	31.47	349	P	P	16 57 28.9	-0.5
INK				LR	LR	17 11 25.9	
ILAR	Eielson Array	31.56	337	P	P	16 57 30.7	+0.4
	0.8nm,0.7s,mb3.7,baz=153,slow=5.9,SNR=5.8						
SCHQ	Schefferville	38.50	47	P	P	16 58 26.2	-3.5
	6.8nm,0.8s,mb4.5,baz=274,slow=8.0,SNR=4.5						
SCHQ				LR	LR	17 15 12.7	
	comp=Z,204nm,19.1s,MS4.0,baz=248,slow=38						
FRB	Frobisher Bay	39.25	33	P	P	16 58 35.6	-0.3
	9.6nm,0.8s,mb4.6,baz=216,slow=8.7,SNR=3.9						
FRB				LR	LR	17 15 39.4	
	comp=Z,362nm,18.6s,MS4.2,baz=258,slow=38						
ROSC	El Rosal	52.05	118	LR	LR	17 27 01.9	
	comp=Z,44nm,18.4s,MS3.5,baz=239,slow=41						
ARCES	ARCESS Array B	69.60	13	LR	LR	17 31 52.3	
	comp=Z,97nm,18.7s,MS4.1,baz=129,slow=35						
LPAZ	La Paz	71.83	129	P	P	17 02 30.2	-0.9
	0.7nm,0.2s,mb4.2,baz=4.0,slow=1.8,SNR=2.3						
NOA	NORSAR Array B	73.20	23	P	P	17 02 37.9	-0.5
	0.5nm,0.5s,mb3.7,baz=324,slow=6.2,SNR=3.1						
NOA				LR	LR	17 34 55.1	
	comp=Z,71nm,19.2s,MS4.0,baz=260,slow=36						
FINES	FINESS Array B	76.84	17	P	P	17 02 58.4	-0.7
	1.8nm,0.6s,mb4.2,baz=333,slow=4.3,SNR=13						
FINES				LR	LR	17 35 50.5	
	comp=Z,88nm,21.3s,MS4.0,baz=146,slow=35						
FINES	FINESS Array B	76.84	17	P	P	17 02 58.4	-0.7
FINES				LR	LR	17 35 50.5	
MDJ	Mudanjiang	77.31	317	P	P	17 02 59.3	-2.8
MDJ				PP	PP	17 05 52.8	-5.1
MDJ				S	S	17 12 49.0	-2.6
MDJ				SKS	SKS	17 13 08.3	-5.9
MDJ				PS	PS	17 13 31.8	+0.6
MDJ				SS	SS	17 17 46.6	-5.9
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,25nm,3.6s						
MDJ				LR	LR		
	comp=E,75nm,25.5s						
MDJ				LR	LR		
	comp=Z,98nm,18.9s						
CN2	Changchun	80.05	319	eP	P	17 03 12.8	-4.3
CLL	Collm	81.51	28	P	P	17 03 24.1	-0.5
	comp=Z,logA/T=1.1,mb4.8						
CLL	Collm	81.51	28	i P	P	17 03 24.1	-0.5
	comp=Z,15nm,1.3s,mb4.8						
BRG	Berggiesshubel	82.21	28	eP	P	17 03 28.9	+0.6
	comp=Z,12nm,1.4s,mb4.6						
GERES	GERESS Array B	83.77	29	P	P	17 03 35.8	-0.4
	comp=Z,1.8nm,1.0s,mb4.2,baz=333,slow=6.6,SNR=3.4						
BDFB	Brasilia	84.93	114	LR	LR	17 44 17.9	
	comp=Z,108nm,20.4s,MS4.2,baz=305,slow=38						
SONM	Songino Array	85.60	331	P	P	17 03 46.6	+1.2
	comp=Z,1.3nm,0.9s,mb4.2,baz=63,slow=2.8,SNR=5.4						
CPUP	Villa Florida	85.98	128	LR	LR	17 48 02.2	
	comp=Z,51nm,19.2s,MS3.9,baz=215,slow=40						
AKASG	Malin Array Be	87.27	20	P	P	17 03 53.4	-0.2
	comp=Z,0.2nm,0.3s,mb3.8,baz=320,slow=4.2,SNR=5.0						
BJI	Beijing	87.52	321	P	P	17 03 50.8	-4.3
BJI				S	S	17 14 25.9	-9.5
BJI				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.9						
BJI				LR	LR		
	comp=N,128nm,18.6s						
BJI				LR	LR		
	comp=E,148nm,12.4s						
BJI				LR	LR		
	comp=Z,149nm,18.3s,MS4.4						
BVAR	Borovoye Array	89.02	355	P	P	17 04 02.5	+0.6
	comp=Z,1.3nm,0.7s,mb4.4,baz=18,slow=4.7,SNR=3.9						
HHC	Hu-ho-hao-te	89.10	324	eP	P	17 04 00.3	-2.3
HHC				PP	PP	17 07 30.8	-4.2
HHC				SKS	SKS	17 14 28.4	-6.2
HHC				S	S	17 14 46.1	-3.9
HHC				SCS	ScS	17 14 52.8	-1.4
HHC				PS	PS	17 15 51.8	-5.6
HHC				SS	SS	17 20 43.8	-2.6
HHC				AMB	AMB		
	comp=Z,11nm,0.5s,mb5.4						
HHC				AMB	AMB		
	comp=Z,69nm,7.7s						
HHC				LR	LR		
	comp=N,87nm,14.3s,MS4.5						
HHC				LR	LR		
	comp=E,130nm,17.8s,MS4.5						
HHC				LR	LR		
	comp=Z,95nm,16.1s,MS4.3						
SSE	Sheshan	91.47	312	P	P	17 04 11.8	-2.1
SSE				S	S	17 15 09.8	-1.8
SSE				XS		17 15 14.4	
SSE				SS	SS	17 21 12.6	-8.2
SSE				AMB	AMB		
	comp=Z,28nm,0.8s,mb5.6						
SSE				AMB	AMB		
	comp=Z,16nm,12.0s						
SSE				LR	LR		
	comp=N,109nm,18.2s,MS4.3						
SSE				LR	LR		
	comp=E,20nm,18.2s,MS4.3						
SSE				LR	LR		
	comp=Z,33nm,19.7s,MS3.8						
NJ2	Nanjing	92.11	314	eP	P	17 04 12.6	-4.2
NJ2				AP	pP	17 04 17.6	-0.1
NJ2				XP	sP	17 04 19.8	+1.8
NJ2				PP	PP	17 07 54.1	-5.2
NJ2				SKS	SKS	17 14 42.0	-11
NJ2				S	S	17 15 11.0	-6.3
NJ2				XS		17 15 18.0	
NJ2				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.7						
NJ2				AMB	AMB		
	comp=Z,200nm,6.1s						
NJ2				LR	LR		
	comp=N,290nm,22.0s,MS4.8						
NJ2				LR	LR		
	comp=E,240nm,21.2s,MS4.8						
NJ2				LR	LR		
	comp=Z,280nm,27.1s						
MKAR	Makanchi Array	93.54	346	LR	LR	17 53 53.9	
	comp=Z,101nm,18.3s,MS4.3,baz=117,slow=40						
WMQ	Urumqi	95.14	341	eP	P	17 04 30.0	-0.4
WMQ				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb5.0						
WMQ				LR	LR		
	comp=Z,103nm,21.0s,MS4.3						
LZH	Lanzhou	96.46	327	eP	P	17 04 33.9	-2.8
LZH				PP	PP	17 08 29.1	-3.9
LZH				AMB	AMB		
	comp=Z,25nm,1.4s,mb5.5						
LZH				AMB	AMB		
	comp=Z,107nm,6.5s						
LZH				LR	LR		
	comp=N,335nm,15.0s						
LZH				LR	LR		
	comp=Z,443nm,17.7s,MS5.0						
ASAR	Alice Springs	117.52	260	PKP	PKPdf	17 09 54.2	-0.3
	comp=Z,0.3nm,0.7s,baz=71,slow=2.3,SNR=5.4						
SUR	Sutherland	146.58	93	PKPbc	PKPbc	17 10 48.9	+1.4
	comp=Z,7.3nm,0.9s,baz=200,slow=5.4,SNR=2.9						
MAW	Mawson	150.32	181	PKPbc	PKPdf	17 10 59.9	+6.7
	comp=Z,2.9nm,0.8s,baz=139,slow=2.3,SNR=3.5						

IDC ***20*** *16:51:38.4±8.5, 1.72N×127.29E, h120km±83km, mb4.3/9, mb1 4.4/10, mb1mx4.2/17, ML4.5/1, Error ellipse: s-maj=32.6km s-min=15.5km az=64.0*

BJI ***20*** *16:51:41.2, 1.70N×127.20E, h150km, mb4.6*

NEIC ***20*** *16:51:41.3±2.5, 1.66N×127.22E, h150km±25km, mb4.5/18, Error ellipse: s-maj=17.8km s-min=6.1km az=65.0*

ISC 20 16:51:36.0±0.9**, 1.75N**±0.06×**127.2E**±0.1**, h114**km±9km**, n45, σ0s65**/46**, mb4.6**/25**, 3C-1D, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GSPH	General Santos	4.86	332	i P	P	16 52 48.0	-0.3
GSPH				i S	S	16 53 43.0	-0.9
MATI	Mati	5.25	349	eP	P	16 52 53.7	+0.3
KCP	Kidapawan	5.63	338	⇓eP	P	16 52 59.0	+0.4
BUKP	Musuan	6.45	341	eP	P	16 53 10.1	+0.2
PAGZ	Pagadian	7.16	328	eP	P	16 53 19.2	-0.4
IPIL	Ipil	7.57	322	eP	P	16 53 25.0	-0.2
KAKA	Kakadu	15.25	160	eP	P	16 55 08.1	+1.6
	17nm,0.6s						
FITZ	Fitzroy Crossi	19.79	184	eP	P	16 55 58.4	-1.3
	9.7nm,0.6s						
FITZ	Fitzroy Crossi	19.79	184	P	P	16 55 58.8	-0.9
	1.2nm,0.3s,baz=14,slow=8.0,SNR=54						
WRAB	Tennant Creek	22.66	162	⇑eP	P	16 56 28.7	+0.3
	60nm,0.8s,mb5.0						
WRA	Warramunga Arr	22.66	162	P	P	16 56 28.8	+0.3
	34nm,0.6s,mb4.9,baz=343,slow=11,SNR=256						
WB2	Warramunga Arr	22.67	162	⇑iP	P	16 56 28.7	+0.2
MBWA	Marble Bar	23.92	197	eP	P	16 56 40.9	+0.3
	8.4nm,0.8s,mb4.1						
ASAR	Alice Springs	26.09	166	P	P	16 57 00.3	-0.7
	3.1nm,0.7s,mb3.9,baz=348,slow=8.0,SNR=51						
ASPA	Alice Springs	26.09	166	eP	P	16 57 00.3	-0.7
CMAR	Chiang Mai Arr	32.32	303	P	P	16 57 57.1	+0.5
	4.0nm,1.2s,mb4.0,baz=116,slow=6.7,SNR=13						
CMAR				PcP	PcP	17 00 41.5	-0.5
	0.6nm,0.9s,baz=122,slow=1.2,SNR=4.1						
FORT	Forrest	32.36	179	eP	P	16 57 55.4	-1.5
	41nm,0.8s,mb5.2						
ENH	Enshi	32.98	331	eP	P	16 58 02.4	+0.2
	5.9nm,0.7s,mb4.5						
MUN	Mundaring	35.13	196	eP	P	16 58 20.6	0.0
	4.9nm,0.8s,mb4.4						
NWAO	Narrogin (SRO)	35.76	194	P	P	16 58 26.2	+0.3
	5.4nm,0.8s,mb4.6,baz=28,slow=7.9,SNR=4.6						
NWAO	Narrogin (SRO)	35.76	194	eP	P	16 58 24.7	-1.2
	30nm,1.3s,mb5.1						
STKA	Stephens Creek	36.12	159	⇑iP	P	16 58 28.7	-0.2
	22nm,0.7s,mb5.2						
STKA	Stephens Creek	36.12	159	P	P	16 58 28.8	-0.2
	27nm,0.7s,mb5.3,baz=333,slow=8.1,SNR=67						
XAN	Xi’an	36.39	334	P	P	16 58 31.3	+0.1
XAN				AMB	AMB		
	comp=Z,15nm,1.1s,mb4.8						
SHL	Shillong	41.45	308	eP	P	16 59 14.0	+0.8
TOO	Toolangi	42.63	158	eP	P	16 59 23.9	+1.1
	comp=Z,1.3nm,0.6s,mb3.8						
GTA	Gaotai	45.03	330	eP	P	16 59 42.9	+0.8
GTA				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.2						
KKN	Kakani	47.72	307	eP	P	17 00 04.0	+0.6
	comp=Z,17nm,0.9s,mb4.9						
DMN	Daman	47.78	307	eP	P	17 00 04.6	+0.7
	comp=Z,24nm,1.1s,mb5.0						
GKN	Gorkha	48.32	307	eP	P	17 00 08.0	-0.1
	comp=Z,18nm,1.1s,mb4.8						
KOLN	Koldanda	49.06	306	eP	P	17 00 14.7	+1.0
	comp=Z,22nm,0.7s,mb5.2						
SONM	Songino Array	49.31	342	P	P	17 00 15.8	+0.4
	comp=Z,2.5nm,0.7s,mb4.3,baz=156,slow=8.3,SNR=20						
HYB	Hyderabad	50.26	291	i P	P	17 00 23.0	0.0
HYB	Hyderabad	50.26	291	eP	P	17 00 23.0	0.0
MKAR	Makanchi Array	59.45	326	P	P	17 01 29.4	+0.2
	comp=Z,32nm,1.0s,mb5.3,baz=116,slow=7.7,SNR=117						
FX1	Attu Island--F	63.55	29	P	P	17 01 56.1	-0.5
	comp=Z,32nm,0.9s,mb5.2,baz=72,slow=20,SNR=3.6						
KURK	Kurchatov	63.66	328	eP	P	17 01 56.8	-0.6
	comp=Z,19nm,0.6s,mb5.1						
BVAR	Borovoye Array	69.23	327	P	P	17 02 32.1	-0.4
	comp=Z,2.5nm,0.6s,mb4.2,baz=135,slow=8.4,SNR=20						
BRVK	Borovoye	69.31	327	eP	P	17 02 32.6	-0.4
	comp=Z,3.5nm,0.6s,mb4.4						
ZRNK	Zerenda	69.95	327	eP	P	17 02 36.3	-0.7
	comp=Z,4.8nm,0.5s,mb4.6						
ARU	Arti	76.86	328	eP	P	17 03 16.0	-0.9
	comp=Z,5.1nm,0.8s,mb4.3						
THR1	Thera Island	98.42	307	eP	P	17 04 55.2	-7.5
THR3	Thira Island,	98.46	307	eP	P	17 04 55.0	-7.9
THR6	Thira Island,	98.47	307	eP	P	17 04 55.9	-7.0
THR5	Thira Island,	98.50	307	eP	P	17 04 55.4	-7.8

IDC ***20*** *16:59:19.2±3.1, 44.07N×151.73E, mb3.8/6, mb1 3.8/7, mb1mx3.7/22, ML3.8/1, Error ellipse: s-maj=100.0km s-min=25.3km az=179.0*

NEIC ***20*** *16:59:28.2±1.9, 44.79N×151.72E, h45km, mb4.3/3, Error ellipse: s-maj=52.9km s-min=26.3km az=187.0*

ISC 20 16:59:25.2±2.1**, 44.7N**±0.3×**151.6E**±0.2**, h33**km**, n10, σ0s96**/11**, mb3.9**/9**, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAJ	Asahikawa	6.49	268	Pn	Pn	17 00 56.2	-4.8
	1.7nm,0.3s,baz=106,slow=11,SNR=8.0						
ASAJ				Sn	Sn	17 02 14.8	0.0
	0.3nm,0.3s,baz=238,slow=27,SNR=1.8						
YAK	Yakutsk	21.53	331	eP	P	17 04 12.3	-0.9
	5.5nm,0.5s,mb4.2						
SONM	Songino Array	31.07	292	P	P	17 05 41.4	-0.8
	0.7nm,0.4s,mb3.8,baz=83,slow=7.7,SNR=5.9						
MKAR	Makanchi Array	46.97	298	P	P	17 07 53.9	-0.6
	0.8nm,0.7s,mb3.8,baz=72,slow=7.7,SNR=6.4						
KURK	Kurchatov	47.64	305	eP	P	17 07 59.2	-0.5
	4.2nm,0.6s,mb4.7						
BVAR	Borovoye Array	51.35	310	P	P	17 08 30.2	+2.0
	0.4nm,0.4s,mb3.7,baz=72,slow=4.6,SNR=3.8						
ZRNK	Zerenda	52.14	311	eP	P	17 08 34.2	+0.2
	1.3nm,0.6s,mb4.0						
FINES	FINESS Array B	65.42	335	P	P	17 10 06.0	-0.1
	0.8nm,0.5s,mb4.0,baz=9.5,slow=8.5,SNR=8.6						
AKASG	Malin Array Be	72.64	326	P	P	17 10 52.5	+1.8
	0.5nm,0.4s,mb3.8,baz=39,slow=6.1,SNR=5.0						
TXAR	Lajitas Array	79.41	59	P	P	17 11 29.0	-0.6
	0.2nm,0.3s,mb3.5,baz=288,slow=2.9,SNR=3.3						

WAR ***20*** *17:24:36.2, 50.26N×18.92E, ML2.9, Mining Induced*

NEIC ***20*** *17:24:36.3±0.8, 50.32N×18.86E, h5km, ML3.0(VIE), Error ellipse: s-maj=10.7km s-min=4.6km az=204.0*

PRU ***20*** *17:24:37.1, 50.30N×18.87E*

IDC ***20*** *17:24:38.4±1.8, 50.01N×18.95E, h7km±13km, mb1 3.6/6, mb1mx3.4/20, ML2.9/5, Error ellipse: s-maj=15.3km s-min=8.5km az=146.0*

MOS ***20*** *17:24:39.5±1.4, 50.08N×18.63E, h10km, mb4.0/1, Error ellipse: s-maj=11.7km s-min=9.5km az=115.2*

ISC 20 17:24:34.2±0.4**, 50.36N**±0.03×**18.82E**±0.03**, n40, σ1s25**/68**, 4D, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAC	Raciborz	0.49	236	ePG	Pg	17 24 47.0	+3.0
RAC				eSG	Sg	17 24 55.0	+4.5
RAC	Raciborz	0.49	236	ePg	Pg	17 24 47.1	+3.1
RAC				eSg	Sg	17 24 54.7	+4.2
OJC	Ojcow	0.64	102	⇓iPG	Pg	17 24 48.0	+1.0
OJC				⇓iSG	Sg	17 24 56.2	+0.6
OKC	Ostrava-Krasne	0.68	220	ePG	Pg	17 24 49.1	+1.3
OKC				eSG	Sg	17 24 58.5	+1.7
MORC	Moravsky Berou	1.01	235	ePg	Pg	17 24 55.3	+0.9
MORC				eSg	Sg	17 25 08.5	+0.7
LIKS	Likavka	1.32	172	ePN	Pn	17 25 00.2	+0.2
LIKS				eSN	Sn	17 25 17.2	-1.3
NIE	Niedzica	1.35	134	ePG	Pg	17 24 59.0	-2.1
NIE				eSG	Sg	17 25 17.0	-2.1
DPC	Dobruska-Polom	1.60	271	ePG	Pg	17 25 06.3	+0.1
DPC				eSG	Sg	17 25 28.5	+1.0
	92nm,0.8s						
DPC	Dobruska-Polom	1.60	271	eP	Pg	17 25 06.3	+0.1
DPC				e		17 25 28.5	
DPC				smax			
	comp=N,92nm,0.8s						
KSP	Ksiaz	1.68	288	e(PN)	Pn	17 25 09.0	+3.9
KSP				i PG	Pg	17 25 09.9	+2.1
KSP				eSG	Sg	17 25 33.9	+3.7
KSP	Ksiaz	1.68	288	eP	Pn	17 25 08.8	+3.7
KSP				e		17 25 33.0	
KSP	Ksiaz	1.68	288	ePn	Pn	17 25 08.8	+3.7
KSP				i Pg	Pg	17 25 09.9	+2.1
KSP				eSg	Sg	17 25 33.0	+2.8
VRAC	Vranov	1.79	235	Pn	Pn	17 25 07.8	+1.3
	comp=N,3.4nm,0.3s,baz=57,slow=15,SNR=36						
VRAC				Lg		17 25 31.8	
	comp=N,8.2nm,0.3s,baz=150,slow=21,SNR=13						
KOLL	Kolacno	1.80	189	ePB	Pb	17 25 09.2	+1.3
UPC	Upice	1.80	276	ePG	Pg	17 25 11.9	+1.7
UPC				eSG	Sg	17 25 34.9	+0.7
VYHS	Vyhne	1.87	180	ePN	Pn	17 25 07.7	0.0
VYHS				ePG	Pg	17 25 10.6	-0.9
VYHS				eSN	Sn	17 25 32.6	+0.2
VYHS	Vyhne	1.87	180	eP	Pn	17 25 07.7	0.0
VYHS				e		17 25 32.6	
KECS	Kecovo	2.17	149	ePB	Pb	17 25 14.9	+0.8
CRVS	Cervenica-Dubn	2.25	129	ePN	Pn	17 25 13.7	+0.5
CRVS				ePB	Pb	17 25 16.7	+1.2
PSZ	Piszkesteto	2.54	164	⇓ePg	Pg	17 25 23.7	-1.3
PSZ				eSB	Sb	17 25 52.1	-0.3
PSZ	Piszkesteto	2.54	164	ePn	Pn	17 25 17.3	-0.1
PSZ				ePg	Pg	17 25 23.6	-1.3
KWP	Kalwaria	2.61	105	ePG	Pg	17 25 26.0	-0.4
KOLS	Kolonicke sedl	2.66	121	ePB	Pb	17 25 24.2	+1.7
PVCC	Panska Ves	2.72	275	ePG	Pg	17 25 28.1	-0.5
PVCC				eSG	Sg	17 26 05.0	+0.1
PRU	Pruhonice	2.78	264	PG	Pg	17 25 29.1	-0.6
PRU				SG	Sg	17 26 05.4	-1.3
	comp=N,22nm,0.9s						
PRU	Pruhonice	2.78	264	P	Pg	17 25 29.1	-0.6
PRU						17 26 05.4	
PRU				smax			
	comp=N,22nm,0.9s						
BRG	Berggiesshubel	3.15	281	ePg	Pg	17 25 36.5	-0.6
BRG				eSg	Sg	17 26 19.1	0.0
KHC	Kasperske Hory	3.62	252	ePN	Pn	17 25 33.2	+0.5
KHC				ePG	Pg	17 25 43.1	-3.3
KHC				eSG	Sg	17 26 32.1	-2.5

GERES	GERESS Array B	3.66	247	Pn	Pn	17 25 34.3	+1.0
	comp=N,0.2nm,0.3s,baz=67,slow=13,SNR=6.2						
GERES				Pg	Pg	17 25 43.9	-3.4
	comp=N,1.1nm,0.3s,baz=64,slow=16,SNR=23						
GERES				Lg		17 26 31.1	
	comp=N,2.2nm,0.3s,baz=70,slow=27,SNR=13						
CLL	Collm	3.81	287	*e*PG	Pg	17 25 49.0	-1.3
CLL				*e*SG	Sg	17 26 40.0	-1.0
MOA	Molln	3.91	232	⇓*i*PN	Pn	17 25 36.7	-0.1
MOA				*i* SG	Sg	17 26 42.7	-1.6
	comp=N,13nm,0.6s						
NKC	Novy Kostel	4.09	271	*e*SG	Sg	17 26 47.9	-2.4
AKASG	Malin Array Be	6.64	83	Pg	Pg	17 26 33.3	-14
	comp=N,0.5nm,0.3s,baz=271,slow=14,SNR=4.1						
AKASG				Sn	Sn	17 27 26.4	-6.5
	comp=N,0.5nm,0.3s,baz=269,slow=23,SNR=4.6						
AKASG				Lg		17 28 04.3	
	comp=N,0.6nm,0.3s,baz=264,slow=25,SNR=2.7						
DAVOX	Davos	6.93	242	Pn	Pn	17 26 19.8	+0.3
	comp=N,0.2nm,0.3s,baz=128,slow=6.3,SNR=2.1						
DAVOX				Lg		17 28 17.4	
	comp=N,0.3nm,0.3s,baz=170,slow=22,SNR=3.8						
DAVOS	Davos	6.94	243	P	Pn	17 26 19.8	+0.1
HFS	Hagfors	10.22	345	Pn	P	17 27 05.3	+0.2
	comp=N,0.0nm,0.3s,baz=157,slow=19,SNR=3.0						
NOA	NORSAR Array B	11.52	341	Pn	P	17 27 21.9	-1.0
	comp=N,0.1nm,0.3s,baz=180,slow=12,SNR=2.6						
FINES	FINESS Array B	11.82	17	Pn	P	17 27 24.2	-2.7
	comp=N,0.2nm,0.3s,baz=196,slow=14,SNR=6.6						
FINES	FINESS Array B	11.82	17	P	P	17 27 24.2	-2.8
VAE	Valguarnera	13.26	195	Pn	P	17 27 42.9	-3.4
	comp=N,2.2nm,0.3s,baz=10.0,slow=17,SNR=3.0						
VAE				Sn	S	17 30 09.7	-5.9
	comp=N,1.1nm,0.3s,baz=74,slow=20,SNR=3.3						

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*WAR **20** 17:26:39.0,50.26N×18.92E,ML2.8,Mining Induced*
*PRU **20** 17:26:40.4,50.27N×18.86E*
*NEIC **20** 17:26:40.3±0.7,50.25N×18.89E,h5^{km},ML3.0(VIE),Error ellipse: s-maj=11.2km s-min=5.3km az=190.0*
ISC 20 17:26:37.8±0.5,**50.30N**±0.04×**18.81E**±0.03,**n22**,σ1^{s}**35**/43,**1C-2D,Poland**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAC	Raciborz	0.45	242	*e*PG	Pg	17 26 50.0	+3.2
RAC				*e*SG	Sg	17 26 58.0	+5.1
RAC	Raciborz	0.45	242	*e*Pg	Pg	17 26 50.4	+3.6
RAC				*e*Sg	Sg	17 26 57.7	+4.8
OKC	Ostrava-Krasne	0.63	223	*e*PG	Pg	17 26 52.1	+1.7
OKC				*e*SG	Sg	17 27 01.3	+2.5
OJC	Ojcow	0.64	97	⇓*i*PG	Pg	17 26 50.8	+0.3
OJC				⇓*i*SG	Sg	17 26 59.1	+0.1
MORC	Moravsky Berou	0.97	238	*e*Pg	Pg	17 26 58.9	+1.7
MORC				*e*Sg	Sg	17 27 11.8	+1.7
NIE	Niedzica	1.31	132	*e*PG	Pg	17 27 02.0	-2.0
NIE				*e*SG	Sg	17 27 19.0	-2.4
DPC	Dobruska-Polom	1.60	273	*e*PG	Pg	17 27 09.2	-0.5
DPC				*e*SG	Sg	17 27 31.0	0.0
	58nm,0.7s						
KSP	Ksiaz	1.70	290	*e*PG	Pg	17 27 13.0	+1.3
KSP				*e*SG	Sg	17 27 36.0	+1.7
KSP	Ksiaz	1.70	290	*e*Pg	Pg	17 27 12.7	+1.0
KSP				*e*Sg	Sg	17 27 35.9	+1.6
UPC	Upice	1.80	278	*e*PG	Pg	17 27 14.7	+0.9
UPC				*e*SG	Sg	17 27 37.9	0.0
VYHS	Vyhne	1.81	180	*e*PN	Pn	17 27 10.8	+0.4
VYHS				*e*PG	Pg	17 27 13.4	-0.5
VYHS				*e*SN	Sn	17 27 34.1	-0.3
CRVS	Cervenica-Dubn	2.22	128	*e*PN	Pn	17 27 18.3	+2.0
PSZ	Piszkesteto	2.49	163	*e*Pn	Pn	17 27 20.2	0.0
PSZ				*e*Pg	Pg	17 27 26.7	-0.7
KWP	Kalwaria	2.60	103	*e*Pg	Pg	17 27 29.0	-0.7
KWP				*e*Sg	Sg	17 28 08.4	+4.0
KOLS	Kolonicke sedl	2.63	120	*e*PB	Pb	17 27 27.1	+1.5
PVCC	Panska Ves	2.73	276	*e*PG	Pg	17 27 30.1	-2.1
PRU	Pruhonice	2.77	265	PG	Pg	17 27 31.8	-1.2
PRU				SG	Sg	17 28 08.4	-1.5
	16nm,0.8s						
BRG	Berggiesshubel	3.16	282	*e*Pg	Pg	17 27 41.6	+0.8
BRG				*e*Sg	Sg	17 28 22.4	-0.5
KHC	Kasperske Hory	3.59	253	*e*PN	Pn	17 27 36.3	+0.4
KHC				*e*PG	Pg	17 27 45.9	-3.6
KHC				*e*SG	Sg	17 28 35.3	-2.1
CLL	Collm	3.82	288	*e*PG	Pg	17 27 53.0	-1.1
CLL				*e*SG	Sg	17 28 45.0	0.0
MOA	Molln	3.87	232	⇑*i*PN	Pn	17 27 41.5	+1.7
MOA				*i* PG	Pg	17 27 53.1	-1.9
MOA				*i* SG	Sg	17 28 45.7	-0.8
	9.5nm,0.6s						
NKC	Novy Kostel	4.08	272	*e*SG	Sg	17 28 50.8	-3.0

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*NEIC **20** 17:36:46.2,18.12N×103.48W,h13^{km},MD4.0(MEX),After MEX.*
MEX 20 17:36:46.2±0.8,**18.12N×103.48W,h13**^{km}±48^{km},**MD4.0,Near coast of Michoacan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CGX	Ciudad Guzman	1.57	359	*i* P	Pn	17 37 11.0	-2.9
CGX				*i* S	Sb	17 37 28.5	-5.7
SFJM	Santa Fe	2.39	10	*i* P	Pn	17 37 21.5	-4.3
SFJM				*i* S	Sn	17 37 51.0	-4.2
MOIG	Morelia	2.66	54	*i* P	Pn	17 37 25.9	-3.7
MOIG				*i* S	Sn	17 37 57.7	-4.4
PLIG	Platanillo	3.79	85	*e*P	Pn	17 37 41.5	-4.1
PLIG				*i* S	Sn	17 38 26.1	-4.4

IDC 20 17:57:44.2±47.0,**15.39S×174.30W,mb4.4**/3,**mb1 4.6**/3,**mb1mx4.0**/13,**Error ellipse: s-maj=903.0km s-min=181.8km az=78.0,Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	Stephens Creek	43.29	240	P	P	18 05 48.1	-1.5
	1.7nm,0.7s,baz=105,slow=9.4,SNR=4.3						
WRA	Warramunga Arr	49.00	257	P	P	18 06 33.1	-1.9
	2.9nm,0.8s,baz=93,slow=7.5,SNR=15						
ASAR	Alice Springs	49.29	252	P	P	18 06 35.0	-2.2
	8.2nm,0.5s,baz=88,slow=8.0,SNR=91						

IDC 20 18:01:32.8±1.6,**6.55S×130.41E,mb3.9**/2,**mb1 4.1**/5,**mb1mx3.8**/10,**ML3.9**/3,**Error ellipse: s-maj=73.4km s-min=23.0km az=71.0,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	12.39	202	Pn	P	18 04 29.4	-4.1
	0.4nm,0.3s,baz=23,slow=9.2,SNR=35						
FITZ				Sn	S	18 06 32.1	-21
	2.4nm,0.3s,baz=190,slow=11,SNR=11						
WRA	Warramunga Arr	13.85	164	Pn	P	18 04 51.5	-1.5
	0.8nm,0.3s,baz=349,slow=13,SNR=47						
WRA				Sn	S	18 07 14.9	-14
	1.0nm,0.3s,baz=325,slow=23,SNR=6.0						
ASAR	Alice Springs	17.35	169	P	P	18 05 37.0	-1.1
	0.6nm,0.3s,baz=343,slow=9.2,SNR=54						
ASAR				S	S	18 08 39.3	-11
	0.2nm,0.3s,baz=350,slow=27,SNR=5.1						
STKA	Stephens Creek	27.28	159	P	P	18 07 19.1	-2.0
	1.6nm,0.8s,baz=324,slow=9.9,SNR=3.6						
MKAR	Makanchi Array	68.07	327	P	P	18 12 34.5	-2.1
	0.5nm,0.3s,baz=119,slow=8.1,SNR=15						

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*IDC **20** 18:02:59.2±2.1,6.85S×125.35E,h549^{km}±27^{km},mb2.9/5,mb1 3.0/8,mb1mx3.0/13,Error ellipse: s-maj=41.9km s-min=13.9km az=66.0*
*NEIC **20** 18:02:59.2±1.9,6.88S×125.40E,h555^{km}±31^{km},mb3.6/4,Error ellipse: s-maj=23.4km s-min=16.1km az=220.0*
ISC 20 18:02:59.5±2.6,**6.9S**±0.2×**125.4E**±0.2,**h580**^{km}±44^{km},**n14**,σ0^{s}**79**/14,**mb3.7**/9,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	11.15	179	P	P	18 05 30.7	+0.9
	0.3nm,0.3s,baz=103,slow=3.8,SNR=3.0						
MBWA	Marble Bar	15.22	201	*e*P	P	18 06 09.0	-1.2
	1.8nm,0.6s						
WRA	Warramunga Arr	15.60	147	P	P	18 06 14.6	+0.7
	0.2nm,0.3s,baz=334,slow=9.1,SNR=3.5						
ASAR	Alice Springs	18.57	155	P	P	18 06 42.6	+0.5
	0.4nm,0.3s,baz=338,slow=9.6,SNR=4.0						
ASAR				ScP		18 13 27.8	
	0.0nm,0.3s,baz=348,slow=1.6,SNR=4.3						
ASAR	Alice Springs	18.57	155	P	P	18 06 42.6	+0.5
ASAR				ScP		18 13 27.8	
PMG	Port Moresby	21.67	98	P	P	18 07 09.4	-1.3
	25nm,1.1s,mb4.8						
NWAO	Narrogin (SRO)	27.00	195	P	P	18 07 56.8	-1.2
	9.1nm,0.9s,mb4.4,baz=33,slow=12,SNR=4.2						
STKA	Stephens Creek	29.09	151	P	P	18 08 16.8	+0.8
	0.8nm,0.6s,mb3.5,baz=329,slow=12,SNR=3.3						
CMAR	Chiang Mai Arr	36.28	314	P	P	18 09 16.8	+0.4
	1.0nm,0.8s,mb3.4,baz=138,slow=6.4,SNR=7.1						
SONM	Songino Array	57.02	345	P	P	18 11 51.8	-0.9
	0.3nm,0.4s,mb2.9,baz=162,slow=8.3,SNR=5.9						
MKAR	Makanchi Array	65.71	329	P	P	18 12 49.5	+0.2
	0.9nm,0.6s,mb3.4,baz=121,slow=7.6,SNR=14						
KURK	Kurchatov	70.11	330	*e*P	P	18 13 15.7	0.0
	1.6nm,0.8s,mb3.5						
BRVK	Borovoye	75.66	329	*e*P	P	18 13 47.8	+0.6
	1.0nm,0.4s,mb3.6						
ZRNK	Zerenda	76.26	329	*e*P	P	18 13 50.9	+0.4
	0.7nm,0.4s,mb3.4						

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*IDC **20** 18:03:12.7±0.9,44.08N×105.75W,mb4.3/2,mb1 4.0/7,mb1mx3.8/20,ML3.6/4,Error ellipse: s-maj=24.5km s-min=8.8km az=146.0*
*NEIC **20** 18:03:12.0±0.4,43.75N×105.23W,ML3.4,Error ellipse: s-maj=6.0km s-min=4.1km az=139.0,Suspected Mining explosion.*
NEIC 65 km [40 miles] SSE of Gillette.
ISC 20 18:03:10.8±0.5,**43.77N**±0.03×**105.31W**±0.04,**n35**,σ1^{s}**25**/65,**mb4.3**/2,**Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RSSD	Black Hills	0.98	69	*e*Pg	Pg	18 03 30.3	-0.2
RSSD				*e*Sg	Sg	18 03 52.2	+8.6
LAO	LASA Array	2.98	348	*e*P	Pn	18 04 02.5	+2.2
LAO				*e*Sn	Sn	18 04 28.5	-8.8
LAO				*e*Sg	Sg	18 04 36.4	-14
BW06	Boulder Array	3.26	253	*e*Pn	Pn	18 04 04.6	+0.4
BW06				*e*Pb	Pb	18 04 12.8	+3.4
BW06				*e*Pg	Pg	18 04 15.9	+0.1
BW06				*e*Sn	Sn	18 04 45.9	+1.6
BW06				*e*		18 04 52.8	
PDAR	Pinedale Array	3.26	253	Pn	Pn	18 04 04.8	+0.6
	3.9nm,0.3s,baz=70,slow=15,SNR=73						
PDAR				Lg		18 04 49.0	
	12nm,0.3s,baz=76,slow=31,SNR=9.5						
MOOW	Moose Ponds	3.94	271	*e*Pn	Pn	18 04 15.2	+1.4
MOOW				*e*Pb	Pb	18 04 23.9	+2.9
MOOW				*e*Pg	Pg	18 04 28.5	-0.9
MOOW				*e*Sg	Sg	18 05 20.7	-1.1
WUWY	Wally Ulrich	3.95	268	*e*Pn	Pn	18 04 15.6	+1.6
WUWY				*e*Pb	Pb	18 04 23.3	+2.2
WUWY				*e*Pg	Pg	18 04 28.8	-0.8
WUWY				*e*Sn	Sn	18 05 01.2	-0.5
SNOW	Snow King Moun	3.96	267	*e*Pn	Pn	18 04 14.4	+0.2
SNOW				*e*Pb	Pb	18 04 22.1	+0.7
ISCO	Idaho Springs	3.98	183	*e*Pn	Pn	18 04 14.9	+0.5
ISCO				*e*Pg	Pg	18 04 29.3	-0.9
ISCO				*e*Sb	Sb	18 05 13.7	+3.0
REDW	Red Top Meadow	4.05	266	*e*Pn	Pn	18 04 15.7	+0.3
REDW				*e*Pb	Pb	18 04 23.8	+0.9
REDW				*e*Pg	Pg	18 04 29.7	-1.9
REDW				*e*Sg	Sg	18 05 24.1	-1.5
IMW	Indian Meadow	4.07	274	*e*Pn	Pn	18 04 17.4	+1.6
IMW				*e*Pb	Pb	18 04 25.6	+2.3
IMW				*e*Pg	Pg	18 04 31.2	-0.9
TPAW	Teton Pass	4.10	268	*e*Pn	Pn	18 04 16.9	+0.8
TPAW				*e*Pg	Pg	18 04 31.4	-1.3
YMR	Madison River	4.16	284	*e*Pn	Pn	18 04 18.2	+1.2
YMR				*e*Pg	Pg	18 04 32.9	-1.0
QLMT	Earthquake Lak	4.52	286	*e*Pn	Pn	18 04 22.4	+0.3
QLMT				*e*Pb	Pb	18 04 33.1	+2.2
QLMT				*e*Pg	Pg	18 04 39.5	-1.5
DGMT	Dagmar	4.76	9	*e*Pn	Pn	18 04 25.5	0.0
DGMT				*e*Pb	Pb	18 04 36.1	+1.1
DGMT				*e*Pg	Pg	18 04 42.4	-3.5
HWUT	Hardware Ranch	5.09	247	*e*Pn	Pn	18 04 29.6	-0.6
	7.5nm,0.4s						
HWUT				*e*Pb	Pb	18 04 41.4	+0.7
HWUT				*e*Pg	Pg	18 04 50.0	-2.5
TCUT	Toone Canyon	5.23	242	*e*Pn	Pn	18 04 30.4	-1.8
HRY	Holter Researc	5.46	305	*e*Pn	Pn	18 04 35.1	-0.3
MCMT	McKenzie Canyo	5.51	284	*e*Pn	Pn	18 04 36.2	+0.1
DAU	Daniels Canyon	5.55	235	*e*Pn	Pn	18 04 37.2	+0.5
JLU	Jordanelle	5.55	237	*e*Pn	Pn	18 04 37.0	+0.3
JLU				*e*Sg	Sg	18 06 08.6	-7.0
CTU	Camp Tracy	5.68	239	*e*Pn	Pn	18 04 38.4	-0.2
HVU	Hansel Valley	5.84	253	*e*Pn	Pn	18 04 40.4	-0.3
SDCO	Great Sand Dun	6.02	181	*e*Pn	Pn	18 04 42.9	-0.5
	2.6nm,0.5s						
SRU	San Rafael	6.08	222	*e*Pn	Pn	18 04 42.7	-1.5
CHMT	Chamberlain Mo	6.42	302	*e*Pn	Pn	18 04 48.3	-0.5
DUG	Dugway	6.63	240	*e*Pn	Pn	18 04 50.9	-1.1
	6.7nm,0.5s						
MSU	Marysvale	7.38	227	*e*Pn	Pn	18 05 01.2	-1.2
ULM	Lac du Bonnet	9.13	42	Pn	P	18 05 23.8	-3.1
	1.1nm,0.3s,baz=237,slow=14,SNR=5.4						
ULM				Pg	P	18 05 58.9	+32
	1.7nm,0.3s,baz=225,slow=16,SNR=6.0						
ULM				Lg		18 07 59.2	
	0.9nm,0.3s,baz=123,slow=22,SNR=3.1						
ULM	Lac du Bonnet	9.13	42	Pn	P	18 05 23.8	-3.1
ULM				Pg	P	18 05 58.9	+32
ULM				Lg		18 07 59.2	
NVAR	Mina Array Bea	11.16	246	Pn	P	18 05 54.9	+0.2
	baz=51,slow=12,SNR=0.7						
YBH	Yreka Blue Hor	12.95	267	Pn	P	18 06 22.4	+3.6
	0.2nm,0.3s,baz=61,slow=14,SNR=3.0						
YBH				Sn	S	18 08 32.0	-13
	0.1nm,0.3s,baz=70,slow=21,SNR=4.1						
TXAR	Lajitas Array	14.47	174	Pn	P	18 06 44.8	+5.9
	0.0nm,0.3s,baz=346,slow=9.9,SNR=3.6						
TXAR				Lg		18 10 52.4	
	0.0nm,0.3s,baz=228,slow=52,SNR=2.9						
TXAR	Lajitas Array	14.47	174	Pn	P	18 06 44.8	+5.9
TXAR				Lg		18 10 52.4	
ARCES	ARCESS Array B	61.39	18	P	P	18 13 28.4	-2.0
	7.1nm,0.9s,mb4.8,baz=338,slow=6.5,SNR=9.5						
MKAR	Makanchi Array	89.57	355	P	P	18 16 10.5	-0.5
	0.5nm,0.7s,mb3.9,baz=12,slow=4.1,SNR=7.0						

IDC 20 18:11:41.2±28.0,**17.36S×175.07W,mb4.0**/4,**mb1 4.2**/4,**mb1mx3.9**/14,**Error ellipse: s-maj=548.0km s-min=156.8km az=86.0,Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	Stephens Creek	41.68	241	P	P	18 19 33.1	-0.3
	1.5nm,1.1s,baz=67,slow=13,SNR=2.8						
WB2	Warramunga Arr	47.85	259	*e*P	P	18 20 21.1	-2.0
WRA	Warramunga Arr	47.86	259	P	P	18 20 21.1	-2.0
	0.7nm,0.5s,baz=97,slow=7.1,SNR=33						
ASAR	Alice Springs	48.00	254	P	P	18 20 21.1	-3.1
	3.6nm,0.6s,baz=89,slow=8.4,SNR=81						
ASPA	Alice Springs	48.00	254	*e*P	P	18 20 22.4	-1.8
FITZ	Fitzroy Crossi	56.26	260	P	P	18 21 24.3	-1.8
	1.3nm,0.8s,baz=201,slow=6.3,SNR=2.7						

DJA 20 18:15:50.5±0.9,**7.80S×113.78E,h33**^{km},**MD5.0**/4,**ML4.0**/3,**3C-5D,Error ellipse: s-maj=34.8km s-min=19.7km az=24.0,Jawa**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KELI	Kelakatan	0.82	121	⇓*i*Pn	Pn	18 16 03.3	-2.5
	584nm,0.3s						
KELI	Kelakatan	0.82	121	⇓*i*P	P	18 16 04.1	-1.4
INGI	Ingas	1.69	127	⇓*i*Pn	Pn	18 16 18.8	+0.6
	100nm,0.3s						
INGI				⇓*i*Sn	Sn	18 16 34.4	-4.5
RATI	Rata	1.96	118	⇓*i*Pn	Pn	18 16 21.5	-0.7
	134nm,0.2s						
RATI				⇑*i*Sn	Sn	18 16 43.6	-2.3
KEDI	Kedomdong	2.41	107	⇑*i*Pn	Pn	18 16 27.1	-1.4
	54nm,0.3s						
KEDI				⇑*i*Sn	Sn	18 16 53.4	-3.8

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*NEIC **20** 18:41:29.6±0.5,8.05S×121.38E,mb4.4/9,Error ellipse: s-maj=23.1km s-min=7.6km az=60.0*
*IDC **20** 18:41:30.5±0.7,7.96S×121.30E,h56^{km}±6^{km},mb4.0/6,mb1 4.1/9,mb1mx4.0/15,Error ellipse: s-maj=50.6km s-min=13.4km az=62.0*
*DJA **20** 18:41:31.6±1.0,7.82S×121.20E,h68^{km}±24^{km},MD4.6/4,ML4.2/2,Error ellipse: s-maj=35.9km s-min=8.4km az=134.0*
ISC 20 18:41:27.8±0.4,**8.05S**±0.05×**121.27E**±0.04,**h54**^{km},**h54**^{km}±1.1^{km}**:pP-P,n32**,σ1^{s}**35**/35,**mb4.3**/14,**2C-6D,Flores region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BUNI	Buntu Taipa	4.46	348	⇓*i*Pn	P	18 42 34.3	-0.4
	46nm,0.2s						
KEDI	Kedomdong	5.12	265	⇓*i*Pn	P	18 42 46.6	+2.7
	35nm,0.2s						
KEDI				⇓*i*Sn	S	18 43 42.2	-0.3
RATI	Rata	5.72	263	⇑*i*Pn	P	18 42 55.3	+3.2
RATI				⇓*i*Sn	S	18 43 56.0	-1.3
INGI	Ingas	6.11	262	⇑*i*Pn	P	18 43 00.3	+2.7
INGI	Ingas	6.11	262	⇓*i*P	P	18 43 00.7	+3.1
INGI				⇓*i*Sn	S	18 44 05.3	-1.7
FITZ	Fitzroy Crossi	10.86	157	*e*P	P	18 44 01.4	-1.8
	6.0nm,0.4s						
FITZ	Fitzroy Crossi	10.86	157	P	P	18 44 01.9	-1.4
	1.5nm,0.3s,baz=1.3,slow=8.0,SNR=47						
KAKA	Kakadu	11.88	114	*e*P	P	18 44 20.5	+3.5
	11nm,0.5s						
MBWA	Marble Bar	13.12	186	P	P	18 44 30.9	-2.5
	5.1nm,0.9s						
WRA	Warramunga Arr	17.32	134	P	P	18 45 25.0	-2.5
	0.4nm,0.3s,baz=309,slow=12,SNR=30						
WRAB	Tennant Creek	17.32	134	*e*P	P	18 45 25.0	-2.6
	4.9nm,0.3s						
WB2	Warramunga Arr	17.33	134	*e*P	P	18 45 25.0	-2.6
ASPA	Alice Springs	19.69	143	*e*P	P	18 45 56.2	+0.8
ASAR	Alice Springs	19.69	143	P	P	18 45 55.6	+0.2
	1.1nm,0.3s,baz=330,slow=13,SNR=87						
FORT	Forrest	23.49	165	*e*P	P	18 46 35.4	+1.9
	45nm,0.6s,mb5.1						
KLBR	Kellerberrin	23.65	187	*e*P	P	18 46 36.4	+1.3
	2.9nm,0.3s,mb4.2						
NWAO	Narrogin (SRO)	25.04	188	P	P	18 46 50.3	+1.7
	3.9nm,0.6s,mb4.1,baz=5.2,slow=12,SNR=5.6						
STKA	Stephens Creek	30.33	144	*e*P	P	18 47 37.4	+0.8
	3.8nm,0.4s,mb4.5						
STKA	Stephens Creek	30.33	144	P	P	18 47 37.6	+1.0
	5.7nm,0.6s,mb4.5,baz=314,slow=9.5,SNR=25						
STKA				pP	pP	18 47 51.5	+1.1
	4.6nm,0.5s,baz=317,slow=10,SNR=6.8						
STKA	Stephens Creek	30.33	144	*e*P	P	18 47 37.0	+0.4
STKA				*e*pP	pP	18 47 51.3	+0.9
CMAR	Chiang Mai Arr	34.34	320	P	P	18 48 11.4	-0.2
	0.8nm,0.8s,mb3.7,baz=145,slow=6.8,SNR=7.8						
CMAR				pP	pP	18 48 26.6	+1.0
	0.5nm,0.7s,baz=148,slow=6.9,SNR=3.4						
PKI	Pulchoki	49.58	317	*e*P	P	18 50 15.8	0.0
	8.8nm,0.6s,mb5.0						
KKN	Kakani	49.81	317	*e*P	P	18 50 17.1	-0.5
DMN	Daman	49.81	317	*e*P	P	18 50 18.1	+0.5
	12nm,1.0s,mb4.9						
GKN	Gorkha	50.38	317	*e*P	P	18 50 22.2	+0.3
SONM	Songino Array	57.18	348	P	P	18 51 11.4	-0.3
	0.7nm,0.7s,mb3.8,baz=168,slow=8.0,SNR=6.7						
SONM				pP	pP	18 51 26.6	+0.2
	0.7nm,0.7s,baz=164,slow=8.4,SNR=5.2						
MKAR	Makanchi Array	64.67	331	P	P	18 52 02.3	0.0
	11nm,1.2s,mb4.8,baz=140,slow=8.0,SNR=20						
MKAR				pP	pP	18 52 17.9	+0.5
	1.6nm,0.6s,baz=135,slow=6.9,SNR=7.4						
KURK	Kurchatov	69.17	333	*e*P	P	18 52 30.4	-0.2
	3.9nm,0.8s,mb4.4						
KURK				*e*pP	pP	18 52 45.0	-0.8
BVAR	Borovoye Array	74.54	331	P	P	18 53 02.4	-0.2
	1.6nm,0.7s,mb4.1,baz=127,slow=7.4,SNR=13						
BVAR				pP	pP	18 53 17.5	-0.4
	2.0nm,0.8s,baz=135,slow=8.4,SNR=8.1						
BRVK	Borovoye	74.61	331	P	P	18 53 03.0	+0.1
	1.2nm,0.6s,mb4.0						
BRVK				*e*	pP	18 53 17.4	-0.9
ZRNK	Zerenda	75.17	330	*e*P	P	18 53 05.5	-0.6
	5.5nm,1.0s,mb4.4						
ZRNK				*e*	pP	18 53 20.5	-1.0
QSPA	South Pole Qui	81.94	180	*e*P	P	18 53 52.2	+10
	1.2nm,0.8s,mb3.9						

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*LDG **20** 18:49:44.7±0.3,42.89N×1.53W,h2^{km},Md2.8/2,Ml2.7/11,Error ellipse: s-maj=5.3km s-min=3.4km az=41.0*
*STR **20** 18:49:44.3±0.3,42.85N×1.50W,h5^{km}±1^{km},Ml2.7,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **20** 18:49:44.3,42.85N×1.50W,h5^{km},ML2.7(STR),ML2.7(LDG),MN2.1(MDD),After STR.*
*MDD **20** 18:49:45.8±0.3,42.87N×1.42W,h4^{km}±3^{km},mbLg2.1/10,Error ellipse: s-maj=2.8km s-min=2.2km az=25.0,AftershockPLICA PRXIMO*
ISC 20 18:49:43.2±0.5,**42.91N**±0.02×**1.55W**±0.03,**h14**^{km}±3^{km},**n52**,σ1^{s}**42**/95,**Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EALK	Alkurruntz	0.32	5	Pg	Pg	18 49 52.3	+2.3
	35nm,0.3s,SNR=57						
EALK				Lg		18 49 58.9	
	40nm,0.2s,SNR=7.9						
SJPF	Ste Jean	0.32	49	*e*Pg	Pg	18 49 51.1	+1.1
SJPF				*e*Sg	Sg	18 49 53.9	-0.6
	261nm,0.3s						
OSSF	Osses	0.41	31	Pg	Pg	18 49 53.0	+1.3
OSSF				Sg	Sg	18 49 59.3	+1.9
OSSF	Osses	0.41	31	P	Pg	18 49 53.1	+1.4
OSSF				S	Sg	18 49 59.5	+2.0
LARF	Larrau	0.43	72	Pg	Pg	18 49 52.2	0.0
LARF				Sg	Sg	18 49 58.3	+0.1
LARF	Larrau	0.43	72	P	Pg	18 49 52.3	+0.1
LARF				S	Sg	18 49 58.0	-0.2
ORDF	Ordiarp	0.54	55	Pg	Pg	18 49 54.9	+0.5
ORDF				Sg	Sg	18 50 02.4	+0.6
ORDF	Ordiarp	0.54	55	P	Pb	18 49 55.1	+1.1
ORDF				S	Sb	18 50 02.5	+1.1
ATE	Arette	0.65	74	P	Pb	18 49 56.1	+0.3
ATE				S	Sb	18 50 04.5	+0.1
FDAF	Les Forges d’A	0.73	97	Pg	Pg	18 49 57.3	-0.6
FDAF				Sg	Sg	18 50 07.4	-0.4
FDAF	Les Forges d’A	0.73	97	P	Pb	18 49 57.1	0.0
FDAF				S	Sb	18 50 06.8	+0.2
REYF	Montagne du Re	0.86	79	P	Pb	18 50 00.1	+0.6
REYF				S	Sb	18 50 11.7	+1.0
VIEF	Viey	1.16	91	P	Pb	18 50 04.5	0.0
VIEF				S	Sb	18 50 20.1	+0.9
LABF	Labassere	1.20	83	P	Pb	18 50 06.2	+1.0
LABF				S	Sb	18 50 21.8	+1.4
EPF	Esparros	1.39	84	*e*Pn	Pn	18 50 09.1	+0.8
EPF				*e*Pg	Pg	18 50 11.2	+0.1
EPF				*e*Sg	Sg	18 50 26.9	-2.8
	36nm,0.3s						
RESF	Ens	1.39	93	P	Pn	18 50 10.2	+1.9
RESF				S	Sb	18 50 27.9	+2.0
ELAN	Lanestosa	1.42	284	Pn	Pn	18 50 13.2	+4.4
	5.3nm,0.3s,SNR=22						
ELAN				Lg		18 50 35.1	
	3.9nm,0.2s,SNR=7.9						
ESAC	San Caprasio	1.43	146	Pn	Pn	18 50 10.0	+1.1
	42nm,0.2s,SNR=22						
ESAC				Lg		18 50 27.7	
	39nm,0.2s,SNR=7.9						
MELF	Melles	1.70	90	Pg	Pg	18 50 15.3	-1.9
MELF	Melles	1.70	90	P	Pn	18 50 15.8	+3.1
MELF				S	Sn	18 50 37.7	+3.4
MLS	Moulis	1.94	88	S	Sn	18 50 45.3	+4.8
SALF	Salau	2.02	93	P	Pn	18 50 20.0	+2.7
SALF				S	Sn	18 50 46.0	+3.5
ETOR	Torete	2.12	190	Pn	Pn	18 50 20.6	+1.8
	6.2nm,0.3s,SNR=20						
ETOR				Lg		18 50 52.1	
	13nm,0.3s,SNR=7.9						
EMIR	Miracle	2.48	112	Pg	Pg	18 50 28.5	-4.3
	SNR=7.9						
EMIR				Lg		18 51 01.2	
	2.5nm,0.2s,SNR=7.9						

EPOB	Poblet	2.50	128	Pn	Pn	18 50 24.4	+0.3
	SNR=7.9						
EPOB				Lg		18 51 02.0	
	1.9nm,0.2s,SNR=7.9						
EBR	Ebro Roquetas	2.58	143	*e*SG	Sg	18 51 06.5	-2.8
EBR				*e*Rs		18 52 36.5	
LFF	La Frestale	2.62	38	*e*Pn	Pn	18 50 26.2	+0.3
LFF				*e*Sg	Sg	18 51 04.7	-5.9
	4.9nm,0.2s						
EMOS	Mosqueruela	2.67	162	Pn	Pn	18 50 29.1	+2.6
	SNR=7.9						
EMOS				Pg	Pg	18 50 33.9	-2.6
	SNR=7.9						
EMOS				Lg		18 51 08.4	
	1.4nm,0.2s,SNR=7.9						
CARF	Carcanieres	2.69	93	S	Sn	18 51 07.2	+7.5
MTLF	Montolieu	2.79	80	*e*Pn	Pn	18 50 29.0	+0.6
MTLF				*e*Sn	Sn	18 51 00.5	-1.6
	5.6nm,0.4s						
RJF	Les Rejaudoux	3.26	42	*e*Pn	Pn	18 50 34.8	-0.2
RJF				*e*Sn	Sn	18 51 12.1	-1.8
	5.1nm,0.2s						
CAF	Calviac	3.30	51	*e*Pn	Pn	18 50 35.1	-0.5
CAF				*e*Sn	Sn	18 51 13.4	-1.6
	3.0nm,0.2s						
EJON	La Jonquera	3.30	96	Pn	Pn	18 50 36.7	+1.1
	SNR=7.9						
EJON				Pg	Pg	18 50 45.4	-3.8
	SNR=7.9						
EJON				Sn	Sn	18 51 12.8	-2.2
	SNR=7.9						
EJON				Lg		18 51 28.6	
	0.6nm,0.2s,SNR=7.9						
EJON	La Jonquera	3.30	96	Pn	Pn	18 50 36.7	+1.1
EJON				Pg	Pg	18 50 45.4	-3.8
EJON				Sn	Sn	18 51 12.8	-2.2
EJON				Lg		18 51 28.6	
ESDC	Sonseca Array	3.71	210	Pg	Pg	18 50 52.4	-4.9
	SNR=7.9						
ESDC				Sn	Sn	18 51 25.8	+0.6
	SNR=7.9						
ESDC				Lg		18 51 44.0	
	0.6nm,0.2s,SNR=7.9						
MFF	Saint Martin d	3.83	15	*e*Pn	Pn	18 50 43.2	+0.1
MFF				*e*Pg	Pg	18 50 55.3	-4.4
MFF				*e*Sn	Sn	18 51 27.0	-1.3
	1.9nm,0.2s						
ECAL	Calabor	3.96	258	Pn	Pn	18 50 47.0	+2.0
	SNR=7.9						
ECAL				Pg	Pg	18 50 59.4	-3.0
	SNR=7.9						
ECAL				Sn	Sn	18 51 31.5	-0.2
	SNR=7.9						
ECAL				Lg		18 51 54.7	
	0.9nm,0.2s,SNR=7.9						
LASF	Ste Croix	4.10	72	*e*Pn	Pn	18 50 46.5	-0.5
LASF				*e*Sn	Sn	18 51 32.2	-3.1
	4.4nm,0.3s						
EPON	Pontenova	4.12	278	Pn	Pn	18 50 50.9	+3.6
	SNR=7.9						
EPON				Pg	Pg	18 51 02.2	-3.3
	SNR=7.9						
EPON				Sn	Sn	18 51 38.6	+2.8
	SNR=7.9						
EPON				Lg		18 52 01.7	
	0.4nm,0.2s,SNR=7.9						
EPON	Pontenova	4.12	278	Pn	Pn	18 50 50.9	+3.6
EPON				Pg	Pg	18 51 02.2	-3.3
EPON				Sn	Sn	18 51 38.6	+2.8
EPON				Lg		18 52 01.7	
TCF	Toulx Ste Croi	4.32	37	*e*Pn	Pn	18 50 48.2	-1.8
TCF				*e*Sn	Sn	18 51 37.4	-3.3
	1.1nm,0.2s						
EVIA	Vianos	4.32	190	Pn	Pn	18 50 50.3	+0.1
	SNR=7.9						
EVIA				Pg	Pg	18 51 04.0	-5.6
	SNR=7.9						
EVIA				Lg		18 52 03.2	
	SNR=7.9						
BGF	Bois d’Agland	4.81	39	*e*Pn	Pn	18 50 55.1	-1.9
BGF				*e*Sn	Sn	18 51 49.0	-4.2
	5.4nm,0.3s						
VIVF	Saint-Julien-l	4.90	64	*e*Pn	Pn	18 50 57.4	-0.9
VIVF				*e*Sn	Sn	18 51 50.5	-5.0
	0.8nm,0.3s						
QUIF	Quistinic	5.14	348	*e*Pn	Pn	18 51 01.9	+0.2
EQES	Quesada	5.23	193	Pn	Pn	18 51 02.8	-0.2
	SNR=7.9						
EQES				Pg	Pg	18 51 20.7	-6.9
	SNR=7.9						
EQES				Sn	Sn	18 52 01.0	-2.7
	SNR=7.9						
EADA	Adamuz	5.27	207	Pn	Pn	18 51 03.4	-0.1
	SNR=7.9						
SMRF	Simiane la Rot	5.30	76	*e*Pn	Pn	18 51 03.6	-0.3
GRR	Gorron	5.50	5	*e*Pn	Pn	18 51 05.3	-1.5
FLN	La Foliniere	5.91	7	*e*Pn	Pn	18 51 10.6	-1.9
LMR	La Mourre	5.91	83	*e*Pn	Pn	18 51 12.1	-0.5
FRF	La Foret Royal	6.02	81	*e*Pn	Pn	18 51 13.0	-1.1

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*STR **20** 18:51:44.1±0.6, 42.82N×1.47W, h10^{km}±1^{km}, Ml3.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*NEIC **20** 18:51:44.1, 42.82N×1.47W, h10^{km}, ML3.0(STR), ML3.0(LDG), MN2.4(MDD), After STR.*

*LDG **20** 18:51:45.7±0.5, 42.94N×1.48W, h2^{km}, Md2.9/2, Ml3.0/8, Error ellipse: s-maj=9.5km s-min=5.8km az=40.0*

*MDD **20** 18:51:45.9±0.4, 42.86N×1.42W, h4^{km}±4^{km}, mbLg2.3/13, Error ellipse: s-maj=2.9km s-min=2.5km az=57.0, AftershockPLICA PRXIMO*

ISC 20 18:51:43.8±0.4**, 42.88N**±0.02×**1.48W**±0.03**, h13**^{km}±2^{km}**, n61,** $\sigma 1^{s}37$/100**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	Ste Jean	0.29	39	*e*Pg	Pg	18 51 51.2	+1.0
SJPF				*e*Sg	Sg	18 51 54.1	-0.3
	526nm,0.4s						
EALK	Alkurruntz	0.34	356	Pg	Pg	18 51 52.2	+1.3
	7.2nm,0.1s,SNR=7.9						
EALK				Lg		18 51 58.1	
	212nm,0.4s,SNR=7.9						
LARF	Larrau	0.39	67	Pg	Pg	18 51 52.2	+0.2
LARF				Sg	Sg	18 51 58.6	+1.2
LARF	Larrau	0.39	67	P	Pg	18 51 52.3	+0.3
LARF				S	Sg	18 51 58.5	+1.1
OSSF	Osses	0.41	23	Pg	Pg	18 51 53.2	+1.0
OSSF				Sg	Sg	18 51 59.6	+1.7
OSSF	Osses	0.41	23	P	Pg	18 51 53.2	+0.9
OSSF				S	Sg	18 51 59.7	+1.8
ORDF	Ordiarp	0.52	50	Pg	Pg	18 51 55.1	+0.7
ORDF				Sg	Sg	18 52 02.8	+1.3
ORDF	Ordiarp	0.52	50	P	Pb	18 51 55.1	+0.9
ORDF				S	Sg	18 52 02.7	+1.3
ATE	Arette	0.60	70	P	Pb	18 51 56.2	+0.5
ATE				S	Sb	18 52 04.9	+1.1
FDAF	Les Forges d’A	0.67	95	Pg	Pg	18 51 57.1	-0.3
FDAF				Sg	Sg	18 52 07.2	+0.6
FDAF	Les Forges d’A	0.67	95	P	Pb	18 51 56.9	0.0
FDAF				S	Sb	18 52 06.9	+1.1
REYF	Montagne du Re	0.82	76	Pg	Pg	18 51 59.8	-0.5
REYF	Montagne du Re	0.82	76	P	Pb	18 52 00.1	+0.8
REYF				S	Sb	18 52 10.6	+0.6
VIEF	Viey	1.10	89	Pg	Pg	18 52 04.5	-1.5
VIEF				Sg	Sg	18 52 20.4	-0.4
VIEF	Viey	1.10	89	P	Pb	18 52 04.5	+0.2
VIEF				S	Sb	18 52 20.2	+2.0
LABF	Labassere	1.15	81	P	Pb	18 52 06.2	+1.1
LABF				S	Sb	18 52 21.8	+2.1
RESF	Ens	1.34	93	Pg	Pg	18 52 10.8	+0.2
RESF	Ens	1.34	93	P	Pb	18 52 10.6	+2.3
RESF				S	Sb	18 52 27.5	+2.4
EPF	Esparros	1.34	83	*e*Pn	Pn	18 52 09.1	+0.8
EPF				*e*Pg	Pg	18 52 11.4	+0.7
EPF				*e*Sg	Sg	18 52 27.3	-1.4
	62nm,0.3s						
ESAC	San Caprasio	1.38	147	Pn	Pn	18 52 09.5	+0.6
	74nm,0.2s,SNR=7.9						
ESAC				Lg		18 52 28.1	
	105nm,0.2s,SNR=7.9						
ELAN	Lanestosa	1.48	284	Pn	Pn	18 52 13.5	+3.3
	6.5nm,0.2s,SNR=9.2						
ELAN				Lg		18 52 34.5	
	5.5nm,0.2s,SNR=7.9						
MELF	Melles	1.64	90	Pg	Pg	18 52 15.3	-1.4
MELF				Sg	Sg	18 52 37.8	-0.9
MELF	Melles	1.64	90	P	Pn	18 52 15.2	+2.5
MELF				S	Sn	18 52 37.9	+4.2
MLS	Moulis	1.89	87	S	Sn	18 52 44.6	+4.7
SALF	Salau	1.97	93	Pg	Pg	18 52 19.8	-3.3
SALF				Sg	Sg	18 52 47.2	-2.2
SALF	Salau	1.97	93	P	Pn	18 52 20.3	+3.1
SALF				S	Sn	18 52 46.3	+4.5
ETOR	Torete	2.11	192	Pn	Pn	18 52 21.2	+1.9
	1.2nm,0.2s,SNR=7.9						
ETOR				Pg	Pg	18 52 24.5	-1.4
	20nm,0.4s,SNR=10						
ETOR				Lg		18 52 48.8	
	33nm,0.4s,SNR=7.9						
ETOR	Torete	2.11	192	Pn	Pn	18 52 21.2	+1.9
ETOR				Pg	Pg	18 52 24.5	-1.5
ETOR				Lg		18 52 48.8	
EMIR	Miracle	2.43	113	Pg	Pg	18 52 29.5	-2.8
	SNR=7.9						
EMIR				Sn	Sn	18 52 53.5	-0.1
	SNR=7.9						
EMIR				Lg		18 53 01.9	
	7.6nm,0.2s,SNR=7.9						
EPOB	Poblet	2.44	128	Pn	Pn	18 52 23.9	-0.1
	0.3nm,0.1s,SNR=7.9						
EPOB				Pg	Pg	18 52 29.6	-3.0
	SNR=7.9						
EPOB				Lg		18 53 00.7	
	3.2nm,0.2s,SNR=7.9						
EBR	Ebro Roquetas	2.53	144	*e*Rs		18 51 01.5	
EBR	Ebro Roquetas	2.53	144	*e*SG	Sg	18 53 07.0	-1.2
LFF	La Frestale	2.61	37	*e*Pn	Pn	18 52 26.5	+0.1
LFF				*e*Sg	Sg	18 53 05.5	-5.2
	16nm,0.4s						
VALF	Valcebollere	2.62	99	S	Sn	18 53 07.9	+9.3
EMOS	Mosqueruela	2.63	163	Pn	Pn	18 52 27.5	+0.8
	0.2nm,0.2s,SNR=7.9						
EMOS				Pg	Pg	18 52 32.8	-3.6
	SNR=7.9						
EMOS				Sn	Sn	18 52 57.9	-0.8
	SNR=7.9						
EMOS				Lg		18 53 08.3	
	2.7nm,0.2s,SNR=7.9						
CARF	Carcanieres	2.64	92	S	Sn	18 53 07.1	+8.0
MTLF	Montolieu	2.74	79	*e*Pn	Pn	18 52 29.4	+1.0
MTLF				*e*Sn	Sn	18 53 01.1	-0.5
	8.4nm,0.2s						
RJF	Les Rejaudoux	3.24	41	*e*Pn	Pn	18 52 35.1	-0.3
RJF				*e*Sn	Sn	18 53 12.5	-1.7
	7.1nm,0.3s						
EJON	La Jonquera	3.25	96	Pn	Pn	18 52 35.8	+0.3
	SNR=7.9						
EJON				Pg	Pg	18 52 43.9	-4.9
	SNR=7.9						
EJON				Lg		18 53 27.7	
	1.2nm,0.2s,SNR=7.9						
CAF	Calviac	3.27	50	*e*Pn	Pn	18 52 35.6	-0.3
ESDC	Sonseca Array	3.71	211	Lg		18 53 43.3	
	0.3nm,0.2s,SNR=7.9						
MFF	Saint Martin d	3.84	14	*e*Pn	Pn	18 52 43.6	-0.3
MFF				*e*Pg	Pg	18 52 55.5	-5.0
MFF				*e*Sn	Sn	18 53 27.1	-2.2
	4.7nm,0.2s						
ECAL	Calabor	4.01	258	Pn	Pn	18 52 47.4	+1.1
	0.6nm,0.2s,SNR=7.9						
ECAL				Sn	Sn	18 53 33.2	-0.4
	SNR=7.9						
ECAL				Lg		18 53 54.8	
	1.8nm,0.2s,SNR=7.9						
LASF	Ste Croix	4.06	71	*e*Pn	Pn	18 52 47.0	-0.1
LASF				*e*Sn	Sn	18 53 31.9	-3.1
	13nm,0.5s						
EPON	Pontenova	4.18	278	Pn	Pn	18 52 50.4	+1.7
	0.2nm,0.2s,SNR=7.9						
EPON				Sn	Sn	18 53 38.1	+0.1
	SNR=7.9						
ERUA	La Rua	4.21	265	Pn	Pn	18 52 50.7	+1.5
	SNR=7.9						
EBEN	Beniarda	4.28	167	Pn	Pn	18 52 52.0	+1.8
	0.2nm,0.1s,SNR=7.9						
TCF	Toulx Ste Croi	4.30	36	*e*Pn	Pn	18 52 48.3	-2.2
TCF				*e*Sn	Sn	18 53 39.1	-2.0
	5.3nm,0.3s						
EVIA	Vianos	4.31	191	Pn	Pn	18 52 51.4	+0.8
	SNR=7.9						
EVIA				Pg	Pg	18 53 04.6	-5.3
	SNR=7.9						
EVIA				Lg		18 54 02.3	
	5.9nm,1.0s,SNR=7.9						
BGF	Bois d’Agland	4.79	38	*e*Pn	Pn	18 52 55.5	-2.0
BGF				*e*Sn	Sn	18 53 51.2	-2.3
	14nm,0.4s						
VIVF	Saint-Julien-l	4.86	64	*e*Pn	Pn	18 52 57.2	-1.3
QUIF	Quistinic	5.17	347	*e*Pn	Pn	18 53 02.8	0.0
AVF	Avril sur Loir	5.20	40	*e*Pn	Pn	18 53 00.6	-2.6
EQES	Quesada	5.22	194	Pn	Pn	18 53 02.4	-1.1
	SNR=7.9						
EQES				Pg	Pg	18 53 21.1	-7.0
	SNR=7.9						
EQES				Lg		18 54 30.1	
	SNR=7.9						
SMRF	Simiane la Rot	5.25	76	*e*Pn	Pn	18 53 03.8	-0.1
EADA	Adamuz	5.27	208	Pn	Pn	18 53 03.5	-0.7
	SNR=7.9						
EADA				Sn	Sn	18 54 01.7	-3.8
	SNR=7.9						
EADA				Lg		18 54 33.5	
	SNR=7.9						
SMF	Signal de Mont	5.34	43	*e*Pn	Pn	18 53 03.2	-1.9
SGMF	Saint Gilles	5.42	352	*e*Pn	Pn	18 53 05.6	-0.8
SSF	Saint Saulge	5.47	39	*e*Pn	Pn	18 53 04.5	-2.5
ORIF	Oris-en-Rattie	5.69	67	*e*Pn	Pn	18 53 10.7	+0.6
FLN	La Foliniere	5.92	6	*e*Pn	Pn	18 53 10.9	-2.5

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*LDG **20** 18:55:37.5±0.5, 42.95N×1.47W, h2^{km}, Md2.2/1, Ml1.7/4, Error ellipse: s-maj=8.7km s-min=6.8km az=43.0*

MDD 20 18:55:37.8±0.7**, 42.89N×1.38W, h6**^{km}±6^{km}**, mbLg1.3**/4**, Error ellipse: s-maj=5.6km s-min=4.6km az=44.0, PRXIMO AftershockPLICA, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	Ste Jean	0.25	27	*e*Pg	Pg	18 55 42.6	-0.3
SJPF				*e*Sg	Sg	18 55 45.4	-0.9
	38nm,0.3s						
EALK	Alkurruntz	0.34	345	Pg	Pg	18 55 44.1	-0.6
	SNR=7.9						
EALK				Lg		18 55 49.4	
	9.3nm,0.2s,SNR=7.9						
EPF	Esparros	1.27	83	*e*Pn	Pn	18 56 00.4	-1.6
EPF				*e*Pg	Pg	18 56 02.6	-0.6
EPF				*e*Sg	Sg	18 56 18.7	-1.4
	2.5nm,0.2s						
ESAC	San Caprasio	1.35	150	Pg	Pg	18 56 01.5	-3.2
	SNR=4.0						
ESAC				Lg		18 56 20.7	
	1.5nm,0.1s,SNR=4.0						
ELAN	Lanestosa	1.54	284	Pg	Pg	18 56 05.9	-2.7
	SNR=4.0						
ELAN				Lg		18 56 25.8	
	0.3nm,0.2s,SNR=4.0						
LFF	La Frestale	2.56	36	*e*Pn	Pn	18 56 18.3	-2.2
MTLF	Montolieu	2.67	79	*e*Pn	Pn	18 56 20.6	-1.5
MTLF				*e*Sn	Sn	18 56 52.3	-2.9
	0.3nm,0.2s						
RJF	Les Rejaudoux	3.19	40	*e*Pn	Pn	18 56 26.2	-3.3
RJF				*e*Sn	Sn	18 57 03.8	-4.5
	0.2nm,0.2s						
CAF	Calviac	3.22	50	*e*Pn	Pn	18 56 27.0	-2.8
CAF				*e*Sn	Sn	18 57 04.5	-4.4
	0.4nm,0.2s						

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*NAO **20** 18:59:53.2±9.8, 59.96N×4.39E, h10^{km}±48^{km}, ML2.4*

*BER **20** 18:59:56.3±4.4, 60.03N×4.54E, MD1.9, ML1.9, ML2.4(NAO)*

ISC 20 18:59:55.0±1.4**, 59.98N**±0.04×**4.8E**±0.2**, h5**^{km}±8^{km}**, n14,** $\sigma 0^{s}85$/22**, 2C, Southern Norway**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EGD	Espegrend	0.37	37	⇑*i*P	Pg	19 00 02.1	-0.3
BER	Bergen	0.49	34	*e*P	Pg	19 00 04.3	-0.5
BER				*e*S	Sg	19 00 11.4	-0.1
RUND	Rundenannen	0.53	34	⇑*i*P	Pg	19 00 05.1	-0.4
RUND				*e*S	Sg	19 00 13.2	+0.6
KMY	Karmoy	0.80	163	*e*P	Pg	19 00 12.4	+1.4
KMY				*e*S	Sg	19 00 27.4	+5.6
KMY				AML	AML	19 00 30.9	
	comp=Z,38nm,0.4s						
BLS5	Blasjo	1.01	122	*e*P	Pb	19 00 15.9	+1.3
SUE	Sulen	1.08	360	*e*P	Pb	19 00 15.2	-0.6
SUE				*e*S	Sb	19 00 30.6	+0.5
SUE				AML	AML	19 00 33.0	
	comp=Z,46nm,0.6s						
HYA	Hoyanger	1.38	30	*e*P	Pb	19 00 20.7	-0.2
HYA				*e*S	Sb	19 00 40.4	+1.7
HYA				AML	AML	19 00 42.9	
	comp=Z,34nm,0.5s						
FOO	Floro	1.63	4	*e*P	Pn	19 00 24.3	-0.2
FOO				*e*S	Sb	19 00 46.2	+0.2
FOO				AML	AML	19 00 49.9	
	comp=Z,18nm,0.3s						
KONO	Kongsberg	2.46	96	*e*P	Sg	19 01 23.6	+6.9
MOL	Molde	2.92	26	*e*P	Pn	19 00 43.3	+0.3
DOMB	Dombas	2.94	43	*e*P	Pn	19 00 42.7	-0.6
NB2	NORSAR Subarra	3.36	69	Pn	Pn	19 00 48.5	-0.6
NB2				Pg	Pg	19 00 57.0	-5.0
NB2				Lg		19 01 43.8	
NC6	NORSAR Subarra	3.41	74	Pn	Pn	19 00 49.1	-0.7
NC6				Lg		19 01 45.7	
HFS	Hagfors	4.47	84	Pn	Pn	19 01 02.9	-2.1
	baz=270,slow=14						
HFS				Pg	Pg	19 01 16.5	-7.7
	baz=272,slow=18						
HFS				Lg		19 02 21.5	
	baz=274,slow=37						

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*STR **20** 19:04:38.4±0.3, 42.81N×1.51W, h5^{km}±1^{km}, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LDG **20** 19:04:39.0±0.6, 42.89N×1.55W, h2^{km}, Md2.3/2, Ml1.9/4, Error ellipse: s-maj=9.5km s-min=6.6km az=50.0*

MDD 20 19:04:40.7±0.7**, 42.88N×1.39W, h10**^{km}±1^{km}**, mbLg1.5**/6**, Error ellipse: s-maj=4.9km s-min=3.7km az=36.0, PRXIMO AftershockPLICA, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	Ste Jean	0.26	28	*e*Pg	Pg	19 04 45.7	-0.5
SJPF				*e*Sg	Sg	19 04 48.6	-1.3
	46nm,0.3s						
LARF	Larrau	0.33	62	Pg	Pg	19 04 46.9	-0.7
LARF				Sg	Sg	19 04 53.4	+1.1
LARF	Larrau	0.33	62	P	Pg	19 04 47.0	-0.7
LARF				S	Sg	19 04 52.9	+0.6
EALK	Alkurruntz	0.35	346	Pg	Pg	19 04 47.3	-0.6
	3.4nm,0.2s,SNR=7.9						
EALK				Lg		19 04 53.3	
	17nm,0.2s,SNR=7.9						
OSSF	Osses	0.38	14	Pg	Pg	19 04 47.7	-0.9
OSSF				Sg	Sg	19 04 54.3	+0.4
OSSF	Osses	0.38	14	P	Pg	19 04 47.9	-0.8
OSSF				S	Sg	19 04 52.2	-1.7
EPF	Esparros	1.28	83	*e*Pn	Pn	19 05 03.6	-1.0
EPF				*e*Pg	Pg	19 05 05.9	-0.4
EPF				*e*Sg	Sg	19 05 21.6	-1.8
	3.7nm,0.2s						
ESAC	San Caprasio	1.35	149	Pg	Pg	19 05 04.8	-2.9
	4.8nm,0.2s,SNR=6.0						
ESAC				Lg		19 05 23.1	
	8.8nm,0.5s						
ELAN	Lanestosa	1.54	284	Pg	Pg	19 05 08.7	-2.8
	0.5nm,0.2s,SNR=7.9						
ELAN				Lg		19 05 29.9	
	1.5nm,0.2s,SNR=7.9						
ETOR	Torete	2.12	194	Pn	Pn	19 05 14.8	-1.9
	0.1nm,0.2s,SNR=4.5						
ETOR				Pg	Pg	19 05 19.0	-4.1
	SNR=7.9						
ETOR				Lg		19 05 46.6	
	47nm,1.8s						
LFF	La Frestale	2.57	36	*e*Pn	Pn	19 05 20.8	-2.3
MTLF	Montolieu	2.68	79	*e*Pn	Pn	19 05 23.6	-1.1
MTLF				*e*Sn	Sn	19 05 55.5	-2.0
	0.5nm,0.2s						
RJF	Les Rejaudoux	3.20	40	*e*Sn	Sn	19 06 06.6	-4.1
	1.0nm,0.2s						
CAF	Calviac	3.23	50	*e*Pn	Pn	19 05 29.7	-2.7
CAF				*e*Sn	Sn	19 06 07.7	-3.6
	0.5nm,0.2s						
MFF	Saint Martin d	3.82	13	*e*Pn	Pn	19 05 38.1	-2.8
MFF				*e*Pg	Pg	19 05 50.0	-7.1
TCF	Toulx Ste Croi	4.26	36	*e*Pn	Pn	19 05 42.7	-4.5
BGF	Bois d’Agland	4.75	38	*e*Pn	Pn	19 05 49.8	-4.4

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*STR **20** 19:14:36.5±0.0, 42.84N×1.48W, h5^{km}±1^{km}, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LDG **20** 19:14:37.2±0.5, 42.89N×1.49W, h2^{km}, Md2.3/2, Ml1.8/4, Error ellipse: s-maj=8.6km s-min=5.7km az=51.0*

MDD 20 19:14:37.9±0.6**, 42.88N×1.41W, h8**^{km}±4^{km}**, mbLg1.3**/4**, Error ellipse: s-maj=4.2km s-min=3.5km az=66.0, PRXIMO AftershockPLICA, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	Ste Jean	0.27	30	*e*Pg	Pg	19 14 43.0	-0.5
SJPF				*e*Sg	Sg	19 14 45.9	-1.3
	16nm,0.3s						
EALK	Alkurruntz	0.35	348	Pg	Pg	19 14 44.3	-0.7
	0.3nm,0.1s,SNR=7.9						
EALK				Lg		19 14 50.1	
	4.5nm,0.1s,SNR=7.9						
LARF	Larrau	0.35	63	Pg	Pg	19 14 44.5	-0.5
LARF				Sg	Sg	19 14 50.3	+0.6
LARF	Larrau	0.35	63	P	Pg	19 14 44.4	-0.6
LARF				S	Sg	19 14 50.2	+0.5
OSSF	Osses	0.39	16	Pg	Pg	19 14 45.0	-0.8
OSSF				Sg	Sg	19 14 51.3	+0.1
OSSF	Osses	0.39	16	P	Pg	19 14 45.2	-0.6
OSSF				S	Sg	19 14 50.1	-1.0
EPF	Esparros	1.29	83	*e*Pn	Pn	19 15 00.9	-1.4
EPF				*e*Pg	Pg	19 15 03.2	-0.5
EPF				*e*Sg	Sg	19 15 19.0	-2.0
	3.7nm,0.2s						
ESAC	San Caprasio	1.35	149	Pg	Pg	19 15 02.6	-2.2
	3.4nm,0.2s,SNR=7.9						
ESAC				Lg		19 15 21.0	
	8.8nm,0.2s,SNR=7.9						
ELAN	Lanestosa	1.52	284	Pg	Pg	19 15 05.9	-2.5
	0.6nm,0.2s,SNR=7.9						
ELAN				Lg		19 15 27.5	
	SNR=7.9						
ETOR	Torete	2.11	193	Pg	Pg	19 15 14.9	-5.2
	SNR=7.9						
ETOR				Lg		19 15 42.8	
	SNR=7.9						
LFF	La Frestale	2.58	36	*e*Pn	Pn	19 15 18.2	-2.5
MTLF	Montolieu	2.70	79	*e*Pn	Pn	19 15 21.1	-1.2
MTLF				*e*Sn	Sn	19 15 53.1	-2.4
	0.4nm,0.2s						
CAF	Calviac	3.24	50	*e*Pn	Pn	19 15 27.0	-3.0
CAF				*e*Sn	Sn	19 16 05.2	-4.0
	0.4nm,0.2s						
MFF	Saint Martin d	3.83	13	*e*Pn	Pn	19 15 35.4	-3.0
MFF				*e*Sn	Sn	19 16 18.6	-5.6
	0.3nm,0.2s						
TCF	Toulx Ste Croi	4.28	36	*e*Pn	Pn	19 15 40.2	-4.6

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*ATH **20** 19:53:27.9, 36.21N×29.29E, h40^{km}, MD2.9/3*

*NEIC **20** 19:53:34.8±0.8, 36.27N×28.73E, h54^{km}±33^{km}, MD2.9(ATH), Error ellipse: s-maj=19.8km s-min=8.4km az=200.0*

*NIC **20** 19:53:35.5±0.3, 36.80N×29.10E, h25^{km}, ML3.2, MW2.8*

*ISK **20** 19:53:41.4, 36.81N×28.95E, h19^{km}, MD3.1*

ISC 20 19:53:33.7±0.8**, 36.20N**±0.05×**28.73E**±0.07**, h73**^{km}±20^{km}**, n21,** $\sigma 0^{s}96$/27**, 5D, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARG	Arkhangelos	0.49	272	*e*P	P	19 53 46.2	-0.5
DALT	Dalyan (Mudla)	0.57	353	*i* PG	P	19 53 47.7	0.0
KSL	Kastellorizon	0.69	94	*e*P	P	19 53 36.0	-13
YER	Yerkesik	1.00	339	*i* PG	P	19 53 53.6	+1.0

YER				SG	**S**	**19 54 03.5**	**-3.2**
ELL	**Elmali**	**1.10**	**60**	*e*PG	**P**	**19 53 56.7**	**+2.9**
BDRM	**Kayabasi**	**1.35**	**310**	*i* P	**P**	**19 53 57.0**	**-0.3**
KARP	**Karpathos**	**1.43**	**243**	*e*P	**P**	**19 53 58.8**	**+0.5**
DNZL	**Cakiroluk**	**1.51**	**10**	*i* P	**P**	**19 54 00.3**	**+0.9**
DNZL				*i* S	**S**	**19 54 18.6**	**+0.2**
DENT	**Denizli**	**1.57**	**9**	PG	**P**	**19 54 00.5**	**+0.3**
AYDN	**Tasoluk**	**1.61**	**335**	*i* P	**P**	**19 54 01.3**	**+0.5**
AYDN				*i* S	**S**	**19 54 20.6**	**-0.1**
BCK	**Bucak**	**1.95**	**49**	*e*PN	**P**	**19 54 07.4**	**+2.0**
SMG	**Samos**	**2.13**	**315**	*e*P	**P**	**19 54 07.5**	**-0.4**
MANT	**Manisa**	**2.29**	**357**	*i* P	**P**	**19 54 10.0**	**-0.1**
MANT				*i* S	**S**	**19 54 35.5**	**-1.7**
AKMC	**Akamas**	**3.16**	**111**	P	**P**	**19 54 22.8**	**+0.5**
PPCY	**Paphos**	**3.23**	**113**	⇓P	**P**	**19 54 23.7**	**+0.4**
PPCY	**Paphos**	**3.23**	**113**	⇓*e*P	**P**	**19 54 23.7**	**+0.4**
ALFC	**Alevga**	**3.32**	**107**	P	**P**	**19 54 23.9**	**-0.7**
	1.8nm,0.2s						
ALFC				S	**S**	**19 55 02.8**	**-0.2**
SZAC	**Souni-Zanaja**	**3.69**	**112**	⇓P	**P**	**19 54 29.9**	**+0.3**
SZAC	**Souni-Zanaja**	**3.69**	**112**	⇓*e*P	**P**	**19 54 29.9**	**+0.3**
MAMC	**Mammari**	**3.80**	**104**	⇓P	**P**	**19 54 30.5**	**-0.7**
CSS	**Prodhromos**	**3.95**	**107**	P	**P**	**19 54 32.9**	**-0.4**
	0.3nm,0.2s						
CSS				S	**S**	**19 55 17.2**	**-1.5**

IDC 20 20:17:14.2±5.7**, 8.09S**×**131.29E, mb3.5**/1**, mb1 3.5**/4**, mb1mx3.3**/10**, ML3.1**/3**, Error ellipse: s-maj=70.0km s-min=59.7km az=158.0, Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.36**	**208**	Pn	P	20 19 56.6	-4.4
	0.3nm,0.3s,baz=22,slow=12,SNR=11						
FITZ				Sn	S	20 21 58.6	-11
	0.4nm,0.3s,baz=200,slow=16,SNR=7.1						
WRA	**Warramunga Arr**	**12.14**	**166**	Pn	P	20 20 09.4	-2.1
	0.1nm,0.3s,baz=349,slow=13,SNR=11						
WRA				Sn	S	20 22 25.9	-3.0
	0.1nm,0.3s,baz=350,slow=23,SNR=3.9						
ASAR	**Alice Springs**	**15.69**	**171**	Pn	P	20 20 57.5	-0.9
	0.1nm,0.3s,baz=356,slow=14,SNR=5.5						
ASAR				Sn	S	20 23 51.8	-1.7
	0.0nm,0.3s,baz=2.0,slow=26,SNR=3.1						
STKA	**Stephens Creek**	**25.54**	**159**	P	P	20 22 44.8	-1.5
	0.5nm,0.6s,baz=346,slow=17,SNR=2.3						

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*NEIC **20** 20:21:01.9±1.2, 7.14S×126.77E, h439^{km}±17^{km}, mb4.2/8, Error ellipse: s-maj=17.0km s-min=11.0km az=57.0*

*IDC **20** 20:21:02.2±2.7, 7.13S×126.85E, h443^{km}±35^{km}, mb3.3/6, mb1 3.6/9, mb1mx3.6/12, Error ellipse: s-maj=32.8km s-min=12.3km az=61.0*

ISC 20 20:21:01.7±1.5**, 7.17S**±0.10×**126.8E**±0.1**, h459**^{km}±21^{km}**, n22,** σ0^s**72**/24**, mb4.0**/12**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**7.80**	**135**	*e*P	**P**	**20 22 57.3**	**+1.0**
	3.6nm,0.1s						
FITZ	**Fitzroy Crossi**	**10.92**	**186**	*e*P	**P**	**20 23 29.6**	**-1.0**
	8.6nm,0.3s						
FITZ	**Fitzroy Crossi**	**10.92**	**186**	P	**P**	**20 23 29.6**	**-0.9**
	3.9nm,0.3s,baz=14,slow=8.3,SNR=29						
WRAB	**Tennant Creek**	**14.66**	**151**	*e*P	**P**	**20 24 08.8**	**-1.4**
	20nm,0.7s						
WRA	**Warramunga Arr**	**14.66**	**151**	P	**P**	**20 24 09.2**	**-1.1**
	4.7nm,0.3s,baz=324,slow=11,SNR=92						
WRA				S	**S**	**20 26 42.2**	**-0.1**
	0.8nm,0.3s,baz=327,slow=17,SNR=16						
WB2	**Warramunga Arr**	**14.67**	**151**	*e*P	**P**	**20 24 09.2**	**-1.1**
WB2				*e*S	**S**	**20 26 42.3**	**-0.1**
MBWA	**Marble Bar**	**15.49**	**205**	*e*P	**P**	**20 24 18.8**	**+0.1**
	7.9nm,0.4s						
ASAR	**Alice Springs**	**17.77**	**158**	P	**P**	**20 24 42.7**	**+1.1**
	7.1nm,0.3s,baz=332,slow=10,SNR=92						
ASAR				S	**S**	**20 27 44.1**	**+4.9**
	0.2nm,0.3s,baz=339,slow=20,SNR=3.0						
CTA	**Charters Tower**	**22.83**	**126**	P	**P**	**20 25 29.9**	**+0.3**
	5.9nm,1.0s,mb4.0,baz=168,slow=20,SNR=2.8						
FORT	**Forrest**	**23.52**	**177**	*e*P	**P**	**20 25 36.7**	**+0.9**
	34nm,0.8s,mb4.8						
NWAO	**Narrogin (SRO)**	**27.12**	**198**	P	**P**	**20 26 08.9**	**+0.9**
	8.9nm,1.1s,mb4.1,baz=360,slow=13,SNR=3.7						
STKA	**Stephens Creek**	**28.20**	**153**	*e*P	**P**	**20 26 18.2**	**+0.8**
	2.1nm,0.4s,mb3.9						
STKA	**Stephens Creek**	**28.20**	**153**	P	**P**	**20 26 18.0**	**+0.6**
	2.3nm,0.4s,mb4.0,baz=328,slow=8.1,SNR=12						
CMAR	**Chiang Mai Arr**	**37.45**	**313**	P	**P**	**20 27 36.4**	**+0.5**
	1.7nm,0.6s,mb3.7,baz=143,slow=6.4,SNR=18						
KKN	**Kakani**	**53.07**	**313**	*e*P	**P**	**20 29 36.4**	**-0.6**
	7.3nm,0.6s,mb4.2						
DMN	**Daman**	**53.09**	**312**	*e*P	**P**	**20 29 36.8**	**-0.4**
	5.6nm,0.5s,mb4.2						
GKN	**Gorkha**	**53.66**	**313**	*e*P	**P**	**20 29 40.7**	**-0.5**
	7.4nm,0.3s,mb4.5						
KOLN	**Koldanda**	**54.29**	**312**	*e*P	**P**	**20 29 45.5**	**-0.2**
	18nm,0.7s,mb4.5						
SONM	**Songino Array**	**57.65**	**344**	P	**P**	**20 30 08.8**	**+0.1**
	0.5nm,0.3s,mb3.2,baz=170,slow=7.5,SNR=6.2						
MKAR	**Makanchi Array**	**66.66**	**328**	P	**P**	**20 31 07.7**	**+0.4**
	0.6nm,0.5s,mb3.5,baz=124,slow=7.3,SNR=8.7						
MKAR				PcP	PcP	20 31 31.9	-0.6
	0.5nm,0.4s,baz=117,slow=6.4,SNR=6.3						
KURK	**Kurchatov**	**71.03**	**330**	*e*P	**P**	**20 31 33.6**	**+0.1**
	1.7nm,0.6s,mb3.8						
DBIC	**Dimbokro**	**132.01**	**273**	PKP	PKPdf	20 39 26.1	+2.9
	0.9nm,0.6s,baz=251,slow=17,SNR=2.5						

IDC 20 20:32:40.7±4.7**, 6.41S**×**128.99E, h258**^{km}±62^{km}**, mb3.0**/1**, mb1 3.1**/4**, mb1mx2.9**/10**, Error ellipse: s-maj=71.9km s-min=38.1km az=98.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**7.10**	**152**	*e*P	P	20 34 33.4	+10
	52nm,1.8s						
FITZ	**Fitzroy Crossi**	**12.07**	**195**	P	P	20 35 23.1	-2.9
	0.1nm,0.3s,baz=27,slow=14,SNR=2.9						
FITZ				S	S	20 37 43.8	+7.3
	0.0nm,0.3s,baz=38,slow=18,SNR=1.8						
WRA	**Warramunga Arr**	**14.42**	**159**	P	P	20 35 53.9	-1.2
	0.6nm,0.3s,baz=340,slow=11,SNR=53						
WRA				S	S	20 38 33.4	+4.6
	0.1nm,0.3s,baz=337,slow=22,SNR=4.6						
WB2	**Warramunga Arr**	**14.43**	**159**	*e*P	P	20 35 54.0	-1.1
WB2				*e*S	S	20 38 33.4	+4.5
ASAR	**Alice Springs**	**17.80**	**165**	P	P	20 36 30.0	-2.9
	0.2nm,0.3s,baz=343,slow=12,SNR=9.9						
ASAR				S	S	20 39 41.3	+1.8
	0.1nm,0.3s,baz=332,slow=17,SNR=3.1						
STKA	**Stephens Creek**	**27.94**	**157**	P	P	20 38 08.2	-1.3
	0.6nm,0.7s,baz=324,slow=19,SNR=1.9						

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*LDG **20** 20:39:26.7±0.4, 42.89N×1.49W, h2^{km}, Md2.2/2, Ml2.0/5, Error ellipse: s-maj=6.9km s-min=4.9km az=38.0*

*STR **20** 20:39:26.0±0.2, 42.84N×1.48W, h5^{km}±1^{km}, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

MDD 20 20:39:27.3±0.4**, 42.88N**×**1.43W, h8**^{km}±5^{km}**, mbLg1.5**/5**, Error ellipse: s-maj=3.4km s-min=2.7km az=44.0, AftershockPLICA PRXIMO, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	**0.28**	**33**	*e*Pg	Pg	20 39 32.7	-0.4
SJPF				*e*Sg	Sg	20 39 35.6	-1.3
	48nm,0.3s						
EALK	**Alkurruntz**	**0.34**	**351**	Pg	Pg	20 39 33.8	-0.5
	5.3nm,0.4s,SNR=32						
EALK				Lg		20 39 38.7	
	14nm,0.2s,SNR=24						
LARF	**Larrau**	**0.36**	**64**	Pg	Pg	20 39 34.1	-0.6
LARF				Sg	Sg	20 39 39.9	+0.3
LARF	**Larrau**	**0.36**	**64**	P	Pg	20 39 34.1	-0.6
LARF				S	Sg	20 39 39.9	+0.3
OSSF	**Osses**	**0.40**	**18**	Pg	Pg	20 39 34.6	-0.8
OSSF	**Osses**	**0.40**	**18**	P	Pg	20 39 34.7	-0.7
OSSF				S	Sg	20 39 41.0	+0.3
ORDF	**Ordiarp**	**0.49**	**47**	Pg	Pg	20 39 36.6	-0.7
ORDF				Sg	Sg	20 39 44.3	+0.4
ORDF	**Ordiarp**	**0.49**	**47**	P	Pg	20 39 36.7	-0.6
ORDF				S	Sg	20 39 43.5	-0.5
EPF	**Esparros**	**1.31**	**83**	*e*Pn	Pn	20 39 50.7	-1.3
EPF				*e*Pg	Pg	20 39 52.8	-0.7
EPF				*e*Sg	Sg	20 40 08.4	-2.6
	6.7nm,0.4s						
ESAC	**San Caprasio**	**1.36**	**148**	Pg	Pg	20 39 51.6	-2.9
	0.1nm,0.2s,SNR=6.6						
ESAC				Lg		20 40 08.9	
	14nm,0.3s,SNR=7.9						
ELAN	**Lanestosa**	**1.51**	**284**	Pg	Pg	20 39 54.9	-2.6
	1.0nm,0.2s,SNR=6.4						
ELAN				Lg		20 40 15.5	
	1.2nm,0.2s,SNR=7.9						
ETOR	**Torete**	**2.11**	**193**	Pn	Pn	20 40 02.4	-1.1
	2.1nm,0.4s,SNR=5.7						
ETOR				Pg	Pg	20 40 05.8	-3.7
	0.0nm,0.1s,SNR=7.9						
ETOR				Sn	Sn	20 40 28.8	-1.3
	SNR=7.9						
ETOR				Lg		20 40 34.7	
	0.7nm,0.1s,SNR=5.3						
EPOB	**Poblet**	**2.41**	**128**	Pn	Pn	20 40 05.2	-2.5
	SNR=7.9						
LFF	**La Frestale**	**2.59**	**37**	*e*Pn	Pn	20 40 07.8	-2.5
MTLF	**Montolieu**	**2.71**	**79**	*e*Pn	Pn	20 40 10.5	-1.6
MTLF				*e*Sn	Sn	20 40 42.7	-2.8
	1.3nm,0.3s						
RJF	**Les Rejaudoux**	**3.22**	**40**	*e*Pn	Pn	20 40 15.8	-3.5
RJF				*e*Sn	Sn	20 40 53.6	-4.8
	0.3nm,0.2s						
CAF	**Calviac**	**3.25**	**50**	*e*Pn	Pn	20 40 16.6	-3.1
CAF				*e*Sn	Sn	20 40 54.6	-4.5
	0.7nm,0.2s						
MFF	**Saint Martin d**	**3.83**	**13**	*e*Pn	Pn	20 40 25.1	-2.9
MFF				*e*Pg	Pg	20 40 36.9	-7.0
MFF				*e*Sn	Sn	20 41 08.4	-5.5
	0.6nm,0.2s						

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*MOS **20** 20:48:15.8±1.1, 20.04N×146.24E, h34^{km}, mb5.0/10, Error ellipse: s-maj=33.7km s-min=11.5km az=109.7*

*IDC **20** 20:48:17.8±6.1, 20.11N×146.36E, h33^{km}±47^{km}, mb4.5/27, mb1 4.6/29, mb1mx4.5/32, ML4.6/2, MS4.2/15, Ms1 4.3/15, ms1mx4.2/20, Error ellipse: s-maj=17.2km s-min=10.2km az=95.0*

*NEIC **20** 20:48:19.8±0.8, 20.06N×146.33E, h51^{km}±7^{km}, mb4.8/44, Error ellipse: s-maj=4.8km s-min=3.6km az=89.0*

*BJI **20** 20:48:20.1, 20.18N×146.38E, h51^{km}, mB4.9, mb4.8, Ms4.5, Msz4.3*

ISC 20 20:48:17.2±0.9**, 20.04N**±0.03×**146.32E**±0.04**, h42**^{km}±8^{km}**, h43**^{km}±2.5^{km}**:pP-P, n178,** σ0^s**97**/182**, mb4.8**/79**, MS4.3**/34**, 12C-2D, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAPN	**Saipan**	**4.82**	**187**	*e*P	**P**	**20 49 30.1**	**+0.8**
GUMO	**Guam**	**6.56**	**192**	P	**P**	**20 49 54.6**	**+0.9**
CBIJ	**Chichi jima**	**7.98**	**332**	Pn	**P**	**20 50 09.5**	**-4.0**
	33nm,0.3s,baz=248,slow=11,SNR=19						
CBIJ				Sn	**S**	**20 51 33.5**	**-10**
	baz=271,slow=21,SNR=1.4						
JOW	**Kunigami**	**17.88**	**296**	P	**P**	**20 52 25.2**	**+0.8**
	2.2nm,0.3s,baz=134,slow=12,SNR=12						
JOW				LR	LR	20 58 45.7	
	comp=Z,2µm,18.4s,baz=309,slow=35						
MAJO	**Matsushiro**	**17.92**	**338**	*e*P	**P**	**20 52 26.5**	**+1.6**
	23nm,0.8s						
MAT	**Matsushiro**	**17.92**	**338**	P	**P**	**20 52 22.8**	**-2.1**
MAT				S	**S**	**20 55 44.0**	**+3.6**
MAT	**Matsushiro**	**17.92**	**338**	*e*P	**P**	**20 52 23.0**	**-1.9**
MAT				*e*S	**S**	**20 55 44.0**	**+3.6**
KS15	**Wonju Array Si**	**23.63**	**321**	*e*P	**P**	**20 53 25.9**	**+0.5**
CGP	**Cagayan de Oro**	**23.88**	**244**	*e*P	**P**	**20 53 30.1**	**+2.2**
ASAJ	**Asahikawa**	**24.21**	**353**	P	**P**	**20 53 31.6**	**+0.7**
	8.9nm,0.5s,mb4.4,baz=222,slow=8.7,SNR=5.7						
ASAJ				LR	LR	21 01 26.4	
	comp=Z,542nm,21.3s,MS4.0,baz=17,slow=33						
INCN	**Inchon**	**24.41**	**320**	P	**P**	**20 53 34.5**	**+1.5**
	63nm,1.1s,mb5.0						
SSE	**Sheshan**	**25.14**	**301**	P	**P**	**20 53 38.6**	**-1.5**
SSE				S	**S**	**20 57 57.8**	**-1.7**
SSE				AMB	AMB		
	comp=Z,25nm,0.8s,mb4.8						
SSE				LR	LR		
	comp=N,636nm,18.1s,MS4.3						
SSE				LR	LR		
	comp=E,455nm,17.9s,MS4.3						
SSE				LR	LR		
	comp=Z,844nm,19.3s,MS4.3						
YSS	**Yuzh-Sakhalins**	**27.01**	**355**	*e*P	**P**	**20 53 58.6**	**+1.4**
YSS				*e*		20 54 42.0	
YSS				S	**S**	**20 58 36.0**	**+6.1**
YSS				*e*SSS	SSS	21 00 08.0	+3.5
YSS				MLR	MLR		
	comp=N,400nm,13.0s,MS4.3						
YSS				MLR	MLR		
	comp=Z,400nm,13.0s,MS4.2						
YSS				MLR	MLR		
	comp=E,500nm,17.0s,MS4.3						
WAU	**Wau**	**27.21**	**179**	*e*P	**P**	**20 53 58.1**	**-1.3**
NJ2	**Nanjing**	**27.34**	**301**	*e*P	**P**	**20 54 01.5**	**+1.1**
NJ2				PP	PP	20 54 51.3	+2.9
NJ2				S	**S**	**20 58 36.0**	**+0.5**
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,300nm,6.0s						
NJ2				LR	LR		
	comp=N,1µm,23.2s,MS4.7						
NJ2				LR	LR		
	comp=E,2µm,20.2s,MS4.7						
NJ2				LR	LR		
	comp=Z,2µm,19.2s,MS4.7						
MDJ	**Mudanjiang**	**28.18**	**334**	P	**P**	**20 54 08.3**	**+0.4**
MDJ				AP	pP	20 54 21.0	+1.8
MDJ				S	**S**	**20 58 50.8**	**+1.9**
MDJ				AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,149nm,5.9s						
MDJ				LR	LR		
	comp=N,602nm,13.9s,MS4.4						
MDJ				LR	LR		
	comp=E,354nm,16.1s,MS4.4						
MDJ				LR	LR		
	comp=Z,627nm,15.0s,MS4.3						
MDJ	**Mudanjiang**	**28.18**	**334**	P	**P**	**20 54 07.0**	**-0.8**
	comp=Z,5.0nm,0.8s,mb4.2						
SNY	**Shenyang**	**29.03**	**323**	⇓P	**P**	**20 54 16.3**	**+0.8**
SNY				LR	LR		
	comp=N,660nm,15.9s						
SNY				LR	LR		
	comp=Z,600nm,23.5s						
PMG	**Port Moresby**	**29.27**	**178**	*e*P	**P**	**20 54 19.0**	**+1.2**
	comp=Z,88nm,1.3s,mb5.3						
CN2	**Changchun**	**29.42**	**328**	*e*P	**P**	**20 54 19.8**	**+0.8**
CN2				*e*S	**S**	**20 59 08.1**	**-0.6**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.8						
CN2				AMB	AMB		
	comp=Z,100nm,5.0s						
CN2				LR	LR		
	comp=N,600nm,18.0s,MS4.5						
CN2				LR	LR		
	comp=E,700nm,18.0s,MS4.5						
CN2				LR	LR		
	comp=Z,600nm,19.0s,MS4.2						
KLR	**Kul'dur**	**31.38**	**342**	*e*P	**P**	**20 54 35.0**	**-1.3**
KLR				*e*		21 01 56.0	
KLR				MLR	MLR		
	comp=N,500nm,13.0s,MS4.5						
KLR				MLR	MLR		
	comp=E,500nm,13.0s,MS4.5						
KLR				MLR	MLR		
	comp=Z,1µm,13.0s,MS4.7						
BJT	**Baijiatuau**	**32.59**	**314**	*e*P	**P**	**20 54 44.6**	**-2.4**
BJI	**Beijing**	**32.60**	**314**	P	**P**	**20 54 53.8**	**+6.8**
BJI				S	**S**	**21 00 05.0**	**+6.3**
BJI				AMB	AMB		
	comp=Z,10.0nm,1.4s,mb4.5						
BJI				LR	LR		
	comp=N,638nm,15.1s,MS4.5						
BJI				LR	LR		
	comp=E,663nm,18.4s,MS4.5						
BJI				LR	LR		
	comp=Z,484nm,19.0s,MS4.2						
PET	**Petropavlovsk**	**34.28**	**13**	*e*P	**P**	**20 55 06.0**	**+4.6**
QIZ	**Qiongzhong**	**34.35**	**275**	*e*P	**P**	**20 55 03.6**	**+1.3**
QIZ				PP	PP	20 56 21.5	+3.0
QIZ				S	**S**	**21 00 25.0**	**-1.0**
QIZ				LR	LR		
	comp=E,273nm,17.4s						
QIZ				LR	LR		
	comp=Z,418nm,17.6s,MS4.2						
ENH	**Enshi**	**34.73**	**294**	*e*P	**P**	**20 55 04.9**	**-0.6**
	comp=Z,4.3nm,0.7s,mb4.5						
XAN	**Xi'an**	**35.90**	**301**	P	**P**	**20 55 14.0**	**-1.4**
XAN				S	**S**	**21 00 52.6**	**+2.8**
XAN				AMB	AMB		
	comp=Z,4.0nm,0.6s,mb4.5						
XAN				LR	LR		
	comp=N,294nm,21.6s,MS4.0						
XAN				LR	LR		
	comp=E,176nm,25.1s,MS4.0						
XAN				LR	LR		
	comp=Z,475nm,18.0s						
HIA	**Hailar**	**36.08**	**330**	*e*P	**P**	**20 55 16.0**	**-0.8**
	comp=Z,12nm,0.8s,mb4.9						
HHC	**Hu-ho-hao-te**	**36.11**	**313**	*e*P	**P**	**20 55 21.8**	**+4.7**
HHC				PP	PP	20 56 36.0	-4.1
HHC				S	**S**	**21 00 57.1**	**+4.2**
HHC				PCS		21 01 32.3	
HHC				SCS	ScS	21 05 28.6	0.0
HHC				AMB	AMB		
	comp=Z,14nm,0.9s,mb4.9						
HHC				AMB	AMB		
	comp=Z,57nm,4.0s						
HHC				LR	LR		
	comp=N,233nm,16.1s,MS4.2						
HHC				LR	LR		
	comp=E,172nm,14.3s,MS4.2						
HHC				LR	LR		
	comp=Z,146nm,20.2s						
FX1	**Attu Island--F**	**38.80**	**26**	*e*P	**P**	**20 55 39.3**	**-0.2**
CTA	**Charters Tower**	**39.88**	**180**	*e*P	**P**	**20 55 48.8**	**+0.1**
	comp=Z,8.6nm,0.8s,mb4.5						
CTA	**Charters Tower**	**39.88**	**180**	P	**P**	**20 55 48.7**	**-0.1**
	comp=Z,12nm,0.8s,mb4.7,baz=351,slow=8.0,SNR=8.5						
CTAO	**Charters Tower**	**39.88**	**180**	*e*P	**P**	**20 55 48.7**	**-0.1**
	comp=Z,11nm,0.8s,mb4.7						
CLNS	**Chul'man**	**40.04**	**342**	*e*P	pP	20 56 07.8	+6.3
CLNS				*e**PP	sP	20 56 14.3	+7.6
CLNS				*e*PPP	PPP	20 57 51.7	-0.5
CLNS				*e*S	**S**	**21 01 54.2**	**+1.7**
CLNS				*e*SS	SS	21 04 39.8	-5.1
CLNS				pmax	pmax		
	comp=Z,17nm,0.9s,mb4.8						
CLNS				pmax	pmax		
	comp=N,13nm,0.7s						
CLNS				pmax	pmax		
	comp=E,7.0nm,0.8s						
CLNS				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.5						
CLNS				pmax	pmax		
	comp=N,7.0nm,0.7s						
CLNS				pmax	pmax		
	comp=E,4.0nm,0.6s						
CLNS				smax			
	comp=N,14nm,0.9s						
CLNS				smax			
	comp=E,8.0nm,0.8s						
CLNS				smax			
	comp=Z,9.0nm,0.8s						
CLNS				MLR	MLR		
	comp=Z,400nm,17.0s,MS4.3						
CLNS				MLR	MLR		
	comp=N,100nm,14.0s						
CLNS				MLR	MLR		
	comp=E,100nm,25.0s						
LZH	**Lanzhou**	**40.41**	**302**	⇑P	**P**	**20 55 53.6**	**+0.6**
LZH				*e*S	**S**	**21 01 58.3**	**+0.2**
LZH				AMB	AMB		
	comp=Z,26nm,1.2s,mb4.8						
LZH				AMB	AMB		
	comp=Z,118nm,5.2s						
LZH				LR	LR		
	comp=E,456nm,13.1s						
LZH				LR	LR		
	comp=Z,984nm,17.0s,MS4.7						
KMI	**Kunming**	**40.43**	**286**	*e*P	**P**	**20 55 56.3**	**+3.0**
KMI				PP	PP	20 57 32.8	+2.8
KMI				S	**S**	**21 01 59.5**	**+1.0**
KMI				SS	SS	21 04 51.8	-1.7
KMI				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.5						
KMI				AMB	AMB		
	comp=Z,108nm,7.0s						
KMI				LR	LR		
	comp=N,326nm,14.2s,MS4.4						
KMI				LR	LR		
	comp=E,248nm,19.2s,MS4.4						
KMI				LR	LR		
	comp=Z,408nm,33.1s						
WRAB	**Tennant Creek**	**41.41**	**197**	⇑*e*P	**P**	**20 56 01.5**	**0.0**
	comp=Z,12nm,0.6s,mb4.7						
WB2	**Warramunga Arr**	**41.42**	**197**	*e*P	**P**	**20 56 01.5**	**0.0**
WRA	**Warramunga Arr**	**41.43**	**197**	P	**P**	**20 56 01.7**	**+0.1**
	comp=Z,5.0nm,0.6s,mb4.3,baz=18,slow=8.4,SNR=54						
WRA				PcP	PcP	20 57 58.9	-0.7
	comp=Z,1.7nm,0.7s,baz=12,slow=3.3,SNR=4.5						
SONM	**Songino Array**	**42.48**	**320**	P	**P**	**20 56 09.5**	**-0.4**
	comp=Z,2.0nm,0.5s,mb4.0,baz=135,slow=7.2,SNR=31						
SONM				PcP	PcP	20 58 02.3	-0.5
	comp=Z,1.2nm,0.7s,baz=147,slow=3.0,SNR=4.6						
FITZ	**Fitzroy Crossi**	**42.99**	**210**	*e*P	**P**	**20 56 14.9**	**+0.4**
	comp=Z,6.0nm,0.6s,mb4.5						
FITZ	**Fitzroy Crossi**	**42.99**	**210**	P	**P**	**20 56 14.9**	**+0.4**
	comp=Z,6.7nm,0.5s,mb4.6,baz=26,slow=8.3,SNR=29						
SEY	**Seymchan**	**43.07**	**4**	*e*P	**P**	**20 56 14.4**	**-0.1**
SEY				*e*		21 05 44.8	
YAK	**Yakutsk**	**43.53**	**349**	*e*P	**P**	**20 56 17.3**	**-1.0**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.7						
YAK				MLR	MLR		
	comp=Z,200nm,15.0s,MS4.2						
YAK	**Yakutsk**	**43.53**	**349**	P	**P**	**20 56 17.2**	**-1.1**
	comp=Z,14nm,0.8s,mb4.8						
GTA	**Gaotai**	**44.22**	**306**	*e*P	**P**	**20 56 26.3**	**+2.2**
GTA				AMB	AMB		
	comp=Z,2.0nm,1.2s,mb3.7						
GTA				AMB	AMB		
	comp=Z,49nm,6.5s						
GTA				LR	LR		
	comp=N,169nm,20.9s,MS4.1						
GTA				LR	LR		
	comp=E,183nm,17.5s,MS4.1						
GTA				LR	LR		
	comp=Z,171nm,17.9s,MS4.0						
BOD	**Bodaibo**	**44.52**	**336**	*e*P	**P**	**20 56 23.8**	**-2.5**
CM31	**Chiang Mai Arr**	**44.64**	**276**	*e*P	**P**	**20 56 28.4**	**+0.6**
	comp=Z,4.5nm,0.6s,mb4.5						
CMAR	**Chiang Mai Arr**	**44.64**	**276**	P	**P**	**20 56 28.9**	**+1.1**
	comp=Z,3.3nm,0.6s,mb4.4,baz=98,slow=4.5,SNR=24						
CMAR				LR	LR	21 14 22.0	
	comp=Z,150nm,18.0s,MS4.0,baz=73,slow=35						
ASAR	**Alice Springs**	**45.09**	**196**	P	**P**	**20 56 30.8**	**-0.6**
	comp=Z,2.9nm,0.5s,mb4.3,baz=20,slow=6.7,SNR=32						
ASAR				PcP	PcP	20 58 11.9	-0.1
	comp=Z,1.7nm,0.6s,baz=22,slow=4.0,SNR=4.6						
ASAR				LR	LR	21 13 35.5	
	comp=Z,137nm,20.9s,MS3.9,baz=129,slow=34						
ASPA	**Alice Springs**	**45.09**	**196**	*e*P	**P**	**20 56 31.0**	**-0.3**
ZAK	**Zakamensk**	**45.45**	**322**	⇑*e*P	**P**	**20 56 32.8**	**-1.0**
DZM	**Mont Dzumac**	**46.24**	**154**	*e*P	**P**	**20 56 38.4**	**-2.0**
DZM	**Mont Dzumac**	**46.24**	**154**	*e*P	**P**	**20 56 38.4**	**-2.0**
MBWA	**Marble Bar**	**48.50**	**214**	*e*P	**P**	**20 56 57.8**	**-0.4**
	comp=Z,4.1nm,0.5s,mb4.7						
SHL	**Shillong**	**50.20**	**287**	*e*P	**P**	**20 57 11.5**	**+0.3**
STKA	**Stephens Creek**	**51.81**	**185**	*e*P	**P**	**20 57 22.0**	**-1.3**
	comp=Z,2.0nm,0.3s,mb4.5						
STKA	**Stephens Creek**	**51.81**	**185**	P	**P**	**20 57 23.6**	**+0.2**
	comp=Z,2.7nm,0.4s,mb4.6,baz=340,slow=8.1,SNR=6.4						
STKA				LR	LR	21 18 46.5	
	comp=Z,356nm,21.9s,MS4.4,baz=17,slow=35						
TIXI	**Tiksi**	**52.62**	**353**	*e*P	**P**	**20 57 27.5**	**-1.3**
TIXI				*e*		20 58 32.3	
TIXI				*e*SS	SS	21 08 30.5	+1.7
TIXI				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.9						
TIXI				MLR	MLR		
	comp=Z,100nm,18.0s,MS3.9						
FORT	**Forrest**	**53.48**	**200**	*e*P	**P**	**20 57 35.8**	**0.0**

	comp=Z,37nm,0.9s,mb5.3						
WMQ	Urumqi	53.89	310	P	P	20 57 39.4	+0.8
WMQ				PP	PP	20 59 42.6	+1.2
WMQ				*e*S	S	21 05 08.5	-0.6
WMQ				SS	SS	21 08 49.4	-0.6
WMQ				AMB	AMB		
	comp=Z,12nm,0.8s,mb4.9						
WMQ				LR	LR		
	comp=N,209nm,22.5s,MS4.3						
WMQ				LR	LR		
	comp=E,189nm,19.2s,MS4.3						
WMQ				LR	LR		
	comp=Z,285nm,24.0s,MS4.2						
PKI	Pulchoki	55.76	290	*e*P	P	20 57 52.7	+0.3
KKN	Kakani	55.85	291	*e*P	P	20 57 53.3	+0.2
	comp=Z,47nm,0.8s,mb5.6						
DMN	Daman	56.03	290	*e*P	P	20 57 54.4	+0.1
	comp=Z,39nm,0.8s,mb5.5						
GKN	Gorkha	56.40	291	*e*P	P	20 57 57.3	+0.3
	comp=Z,75nm,0.8s,mb5.8						
TOO	Toolangi	57.30	181	*e*P	P	20 58 03.0	-0.3
	comp=Z,6.9nm,0.7s,mb4.8						
KOLN	Koldanda	57.33	291	*e*P	P	20 58 03.7	0.0
	comp=Z,52nm,0.8s,mb5.6						
MKAR	Makanchi Array	57.97	313	P	P	20 58 07.2	-0.6
	comp=Z,6.8nm,0.8s,mb4.8,baz=92,slow=8.9,SNR=51						
MKAR				LR	LR	21 23 40.9	
	comp=Z,156nm,18.9s,MS4.1,baz=277,slow=37						
MKAR	Makanchi Array	57.97	313	*i* P	P	20 58 07.2	-0.6
MKAR				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KLBR	Kellerberrin	58.19	209	*e*P	P	20 58 08.9	-0.7
	comp=Z,34nm,1.5s,mb5.2						
NVS	Novosibirsk	58.40	323⇑	*i*P	P	20 58 08.6	-2.1
NVS				pmax	pmax		
	comp=N,23nm,2.0s						
NVS				pmax	pmax		
	comp=Z,33nm,2.0s,mb5.0						
NVS				pmax	pmax		
	comp=E,48nm,2.4s						
NWAO	Narrogin (SRO)	59.55	208	P	P	20 58 19.0	0.0
	comp=E,16nm,1.1s,mb5.0,baz=188,slow=10,SNR=3.7						
NWAO	Narrogin (SRO)	59.55	208	P	P	20 58 18.6	-0.5
IMA	Indian Mountai	59.82	24	*e*P	P	20 58 19.7	-0.7
	comp=E,21nm,1.0s,mb5.1						
FIB	Fire Island	59.92	30	Pn	P	20 58 20.3	-0.9
KURK	Kurchatov	60.68	318	*e*P	P	20 58 25.4	-1.1
KURK	Kurchatov	60.68	318	*e*P	P	20 58 25.2	-1.3
	comp=E,22nm,0.8s,mb5.3						
SML	Sawmill	60.93	30	P	P	20 58 27.3	-0.7
COLA	College	61.82	26	*e*P	P	20 58 32.6	-1.4
ILAR	Eielson Array	62.20	26	P	P	20 58 34.3	-2.2
	comp=E,7.1nm,0.7s,mb4.9,baz=260,slow=5.3,SNR=42						
THY	Trims Highway	62.41	28	*e*P	P	20 58 35.1	-2.9
URZ	Urewera	64.80	154	P	P	20 58 53.4	-0.6
	comp=E,148nm,0.7s,baz=48,slow=21,SNR=0.5						
DAWY	Dawson	65.30	28⇑	*e*P	P	20 58 55.7	-1.1
BVAR	Borovoye Array	65.83	320	P	P	20 58 59.7	-0.6
	comp=E,17nm,0.7s,mb5.2,baz=90,slow=7.4,SNR=92						
BRVK	Borovoye	65.89	320⇑	*e*P	P	20 59 00.2	-0.5
	comp=E,16nm,0.8s,mb5.1						
SNZO	South Karori	66.47	157	*e*P	P	20 59 03.6	-1.1
ZRNK	Zerenda	66.67	320⇑	*i*P	P	20 59 04.7	-0.9
	comp=E,18nm,1.2s,mb5.0						
RPZ	Rata Peaks	67.38	161	P	P	20 59 08.7	-1.6
	comp=E,8.1nm,0.5s,mb5.0,baz=74,slow=24,SNR=3.3						
INK	Inuvik	67.92	23	P	P	20 59 12.1	-1.2
	comp=E,8.9nm,0.9s,mb4.8,baz=296,slow=6.3,SNR=8.2						
INK	Inuvik	67.92	23	*e*P	P	20 59 11.8	-1.5
	comp=E,13nm,1.0s,mb4.9						
DLBC	Dease Lake	69.86	34	P	P	20 59 26.1	+0.7
	comp=E,12nm,0.9s,mb4.8,baz=299,slow=6.9,SNR=13						
DLBC	Dease Lake	69.86	34⇑	*e*P	P	20 59 25.3	-0.1
BBB	Bella Bella	71.76	40	P	P	20 59 36.7	-0.2
	comp=E,7.1nm,0.8s,mb4.7,baz=282,slow=5.8,SNR=5.3						
BBB	Bella Bella	71.76	40	P	P	20 59 36.7	-0.2
ARU	Arti	72.32	324⇓	*i*P	P	20 59 39.0	-1.2
ARU				*e*	pP	20 59 51.3	-1.4
ARU				*e*		21 02 14.6	
ARU				*e*S	S	21 09 01.2	+2.1
ARU				*e*		21 09 44.6	
ARU				*e*SS	SS	21 13 35.8	-3.8
ARU				pmax	pmax		
	comp=Z,13nm,1.4s,mb4.7						
ARU				MLR	MLR		
	comp=Z,100nm,17.0s,MS4.2						
ARU				MLR	MLR		
	comp=N,100nm,16.0s,MS4.3						
ARU				MLR	MLR		
	comp=E,100nm,20.0s,MS4.3						
ARU	Arti	72.32	324	*e*P	P	20 59 39.9	-0.3
	comp=E,5.7nm,0.7s,mb4.6						
OSD	Olympics--Snow	75.42	44	P	P	20 59 59.4	+1.1
HDW	Hoodsport	75.88	44	P	P	21 00 02.2	+1.2
CPW	Capitol Peak	75.99	45	P	P	21 00 02.5	+0.9
GNW	Green Mountain	76.05	44	P	P	21 00 02.8	+0.8
YKA	Yellowknife Ar	76.54	28	P	P	21 00 03.3	-1.2
	comp=E,4.2nm,0.6s,mb4.5,baz=293,slow=5.4,SNR=6.7						
YKA				LR	LR	21 32 47.2	
	comp=E,179nm,18.5s,MS4.4,baz=250,slow=35						
RPW	Rockport	76.68	43	*e*P	P	21 00 05.1	-0.5
HTW	Haystack Looko	76.68	44	P	P	21 00 05.8	+0.2
TDL	Tradedollar La	76.77	45	P	P	21 00 07.0	+0.9
FMW	Mount Fremont	76.97	45	P	P	21 00 07.8	+0.5
SSOR	Sweet Springs	76.99	47	*e*P	P	21 00 07.5	+0.2
HUMO	Hull Mountain	77.24	49	*e*P	P	21 00 10.3	+1.5
	comp=E,6.7nm,0.6s,mb4.8						
TDH	Tom, Dick, Har	77.33	46	P	P	21 00 09.7	+0.5
LTY	Liberty	77.55	44	P	P	21 00 10.6	+0.2
YBH	Yreka Blue Hor	77.65	50	P	P	21 00 11.5	+0.4
	comp=E,7.8nm,0.7s,mb4.8,baz=313,slow=2.4,SNR=24						
YBH	Yreka Blue Hor	77.65	50	*e*P	P	21 00 11.3	+0.2
	comp=E,6.9nm,0.7s,mb4.7						
ETW	Entiat	77.67	44	P	P	21 00 11.5	+0.4
CROR	Criterion Ridg	77.96	46	P	P	21 00 13.1	+0.4
WDC	Whiskeytown Da	78.09	51	*e*P	P	21 00 13.2	-0.3
	comp=E,3.8nm,0.6s,mb4.5						
EPH	Ephrata	78.22	44	P	P	21 00 13.8	-0.3
SAW	Saint Andrews	78.25	43	P	P	21 00 14.2	0.0
MOD	Modoc	79.33	49	*e*P	P	21 00 19.4	-0.9
	comp=E,6.1nm,0.9s,mb4.5						
LNOR	Lincton Mounta	79.52	45	*e*P	P	21 00 22.6	+1.4
NEW	Newport	79.54	42	P	P	21 00 21.2	-0.1
	comp=E,4.2nm,0.7s,mb4.5,baz=266,slow=3.7,SNR=4.3						
NEW	Newport	79.54	42	*e*P	P	21 00 20.3	-1.0
	comp=E,6.8nm,0.9s,mb4.6						
BEKR	Beckwourth	79.89	51	*e*P	P	21 00 23.4	0.0
	comp=E,9.9nm,0.8s,mb4.8						
WVOR	Wild Horse Val	80.34	48	*e*P	P	21 00 25.8	+0.1
	comp=E,8.9nm,0.8s,mb4.8						
CMB	Columbia Colle	80.43	53	*e*P	P	21 00 26.0	-0.3
	comp=E,7.2nm,0.7s,mb4.7						
KEV	Kevo	80.85	342	*e*p	P	21 00 27.5	-0.3
ARCES	ARCESS Array B	81.41	342	P	P	21 00 30.4	-0.3
	comp=E,4.7nm,0.7s,mb4.5,baz=63,slow=8.1,SNR=13						
ARCES				LR	LR	21 40 19.8	
	comp=E,266nm,18.0s,MS4.6,baz=300,slow=38						
NVAR	Mina Array Bea	81.86	52	P	P	21 00 34.1	+0.4
	comp=E,9.5nm,0.6s,mb4.9,baz=273,slow=4.2,SNR=74						
NVAR				LR	LR	21 32 12.8	
	comp=E,189nm,19.9s,MS4.5,baz=265,slow=32						
NVAR	Mina Array Bea	81.86	52	P	P	21 00 34.1	+0.4
NVAR				LR	LR	21 32 12.8	
MNV	Mina	81.97	52	*e*P	P	21 00 34.4	+0.1
	comp=E,5.3nm,0.6s,mb4.7						
MSO	Missoula	82.05	43	*e*P	P	21 00 35.5	+0.9
	comp=E,2.3nm,0.8s,mb4.2						
TPH	Tonopah	82.78	52	*e*P	P	21 00 38.8	+0.3
	comp=E,7.2nm,0.6s,mb4.9						
ELK	Elko	83.31	49⇑	*e*P	P	21 00 41.7	+0.6
	comp=E,8.0nm,0.6s,mb4.9						
HRY	Holter Researc	83.44	43	*e*P	P	21 00 42.2	+0.5
MCMT	McKenzie Canyo	83.48	45	*e*P	P	21 00 42.3	+0.4
MOS	Moscow	83.66	327	*e*P	P	21 00 41.0	-1.5
MOS				pmax	pmax		
	comp=Z,44nm,1.0s,mb5.5						
LCCM	Lewis and Clar	83.74	44	P	P	21 00 43.7	+0.5
TPNV	Topopah Spring	83.89	53	*e*P	P	21 00 44.4	+0.2
	comp=Z,6.6nm,0.6s,mb4.9						
QLMT	Earthquake Lak	84.42	44	*e*P	P	21 00 47.6	+1.0
OBN	Obninsk	84.48	327	*e*P	P	21 00 46.9	+0.2
OBN				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.9						
OBN				MLR	MLR		
	comp=Z,200nm,21.0s,MS4.5						
OBN	Obninsk	84.48	327	P	P	21 00 46.8	+0.2
IMW	Indian Meadow	85.10	45	*e*P	P	21 00 51.3	+1.3
GCMT	Greycliff	85.18	43	*e*P	P	21 00 51.3	+0.9
DUG	Dugway	85.23	49	*e*P	P	21 00 51.3	+0.5
	comp=Z,0.3nm,0.7s						
MOOW	Moose Ponds	85.29	45	*e*P	P	21 00 52.0	+1.0
NEN	Nelson	85.42	54	*e*P	P	21 00 52.3	+0.5
LDFC	Landfair	85.42	54	*e*P	P	21 00 52.3	+0.4
KAF	Kangasniemi	85.44	336	*e*p	P	21 00 50.5	-0.8
HWUT	Hardware Ranch	85.57	47	*e*P	P	21 00 52.9	+0.5
	comp=Z,7.2nm,0.7s,mb5.0						
FFC	Flin Flon	85.66	33	*e*P	P	21 00 53.2	+0.7
	comp=Z,13nm,0.9s,mb5.2						
ARUT	Antelope Range	85.68	51	*e*P	P	21 00 53.8	+0.8
NLU	North Lily Min	85.85	49	*e*P	P	21 00 54.5	+0.7
TCUT	Toone Canyon	85.87	48	*e*P	P	21 00 53.6	-0.3
FINES	FINESS Array B	85.92	335	P	P	21 00 53.1	-0.5
	comp=Z,2.8nm,0.4s,mb4.8,baz=77,slow=4.7,SNR=42						
FINES				LR	LR	21 41 43.2	
	comp=Z,117nm,19.6s,MS4.3,baz=234,slow=37						
FINES	FINESS Array B	85.92	335	*i* P	P	21 00 53.4	-0.2
FINES				pmax	pmax		
	comp=Z,3.0nm,0.4s						
JLU	Jordanelle	86.04	48	*e*P	P	21 00 55.3	+0.6
DAU	Daniels Canyon	86.25	48	*e*P	P	21 00 56.5	+0.8
PDAR	Pinedale Array	86.48	46	P	P	21 00 56.8	-0.1
	comp=Z,3.3nm,0.7s,mb4.7,baz=269,slow=2.3,SNR=17						
PDAR				LR	LR	21 33 05.9	
	comp=Z,120nm,20.1s,MS4.3,baz=303,slow=31						
SRU	San Rafael	87.28	49	*e*P	P	21 01 01.2	+0.4
SOC	Sochi	87.78	316	*i* P	P	21 01 04.2	+1.1
SOC				*e*	pP	21 01 16.3	+0.4
SOC				*e*PPP	PPP	21 06 27.3	-2.2
SOC				*e*		21 11 18.9	
SOC				*e*S	S	21 11 40.4	-0.1
SOC				*e*SS	SS	21 17 31.2	-0.1
SOC				*e*SSS	SSS	21 21 01.0	-2.2
SOC				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.8						
SOC				pmax	pmax		
	comp=N,7.0nm,0.7s						
SOC				pmax	pmax		
	comp=E,4.0nm,0.5s						
SOC				MLR	MLR		
	comp=E,218nm,20.0s,MS4.6						
SOC				MLR	MLR		
	comp=N,117nm,18.0s,MS4.6						
SOC				MLR	MLR		
	comp=E,66nm,18.0s						
ISCO	Idaho Springs	90.43	47	*e*P	P	21 01 16.8	+1.0
	comp=E,2.5nm,0.6s,mb4.7						
AKASG	Malin Array Be	90.54	326	LR	LR	21 47 06.1	
	comp=E,148nm,18.3s,MS4.5,baz=65,slow=39						
MALT	Malatya	90.97	312	*e*P	P	21 01 19.0	+0.6
	comp=E,3.3nm,1.0s,mb4.6						
ULM	Lac du Bonnet	91.17	35	P	P	21 01 19.4	+0.4
	comp=E,5.7nm,0.8s,mb4.9,baz=289,slow=3.7,SNR=3.8						
ULM				LR	LR	21 40 23.1	
	comp=E,114nm,20.3s,MS4.3,baz=22,slow=34						
HFS	Hagfors	91.37	338	P	P	21 01 18.4	-1.2
	comp=E,1.6nm,0.5s,mb4.6,baz=72,slow=4.6,SNR=6.0						
SDCO	Great Sand Dun	91.43	49	*e*P	P	21 01 18.3	-2.2
NOA	NORSAR Array B	91.53	340	P	P	21 01 18.8	-1.6
	comp=E,0.8nm,0.8s,mb4.1,baz=56,slow=4.0,SNR=2.8						
NOA				LR	LR	21 46 21.3	
	comp=E,132nm,18.1s,MS4.4,baz=215,slow=38						
NOA	NORSAR Array B	91.53	340	P	P	21 01 18.8	-1.6
NOA				LR	LR	21 46 21.3	
ANMO	Albuquerque	91.98	52	*e*P	P	21 01 22.2	-0.9
TXAR	Lajitas Array	96.61	56	P	P	21 01 45.0	+0.7
	comp=E,0.6nm,0.9s,mb4.0,baz=346,slow=3.7,SNR=3.6						
TXAR				LR	LR	21 37 33.5	
	comp=E,119nm,21.9s,MS4.3,baz=145,slow=31						
QSPA	South Pole Qui	109.84	180	*e*PKiKP		21 06 45.7	
LSZ	Lusaka	121.13	264	*e*PKPdf	PKPdf	21 07 08.5	+2.1
SNAA	Sanae	125.34	191	*e*PKPdf	PKPdf	21 07 14.7	+1.6
VNA2	Neumayer--Watz	126.78	190⇑	*i*	PKPdf	21 07 29.0	+13
VNA3	Neumayer Olymp	126.88	189⇑	*i*	PKPdf	21 07 31.9	+16
DBIC	Dimbokro	141.16	310	PKhKP		21 07 39.3	
	comp=E,5.4nm,1.1s,baz=334,slow=12,SNR=3.0						
LPAZ	La Paz	147.09	89	PKPbc	PKPdf	21 07 59.8	+5.5
	comp=E,12nm,0.7s,baz=295,slow=3.0,SNR=38						
LPAZ	La Paz	147.09	89	*e*PKPbc	PKPdf	21 07 58.9	+4.6
SAML	Samuel	149.44	73⇑	*e*PKPbc	PKPdf	21 08 04.0	+5.8
TRQA	Tornquist	149.61	132	*e*PKPbc	PKPdf	21 08 02.9	+5.1

STR ***20*** *20:48:53.0±0.4, 42.82N×1.52W, h5km±1km, Ml2.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

INMG ***20*** *20:48:54.7±1.1, 42.87N×1.39W, h8km±4km, ML2.6, Error ellipse: s-maj=3.0km s-min=2.5km az=57.0*

LDG ***20*** *20:48:55.2±0.3, 42.91N×1.45W, h2km, Md3.3/2, Ml3.2/18, Error ellipse: s-maj=4.9km s-min=3.3km az=44.0*

NEIC ***20*** *20:48:55.2, 42.91N×1.45W, h2km, ML3.2(LDG), ML2.6(STR), After LDG.*

MDD ***20*** *20:48:55.0±0.3, 42.86N×1.42W, h6km±2km, mbLg2.6/24, Error ellipse: s-maj=2.3km s-min=2.1km az=21.0, AftershockPLICA PRXIMO*

ISC 20 20:48:53.0±0.4**, 42.97N**±0.02×**1.55W**±0.02**, h15**km±2km**, n89, σ1§32**/136**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EALK	Alkurruntz	0.26	7	Pg	Sg	20 49 01.7	-0.9
	170nm,0.4s,SNR=190						
EALK				Lg		20 49 08.0	
	154nm,0.4s,SNR=5.1						
SJPF	Ste Jean	0.28	58	*e*Pg	Pg	20 49 00.5	+1.3
SJPF				*e*Sg	Sg	20 49 03.3	0.0
	499nm,0.2s						
OSSF	Osses	0.36	36	Pg	Pg	20 49 02.4	+1.8
OSSF				Sg	Sg	20 49 08.8	+3.1
OSSF	Osses	0.36	36	P	Pb	20 49 02.5	+2.0
OSSF				S	Sb	20 49 08.8	+3.2
LARF	Larrau	0.42	80	Pg	Pg	20 49 01.5	-0.3
LARF				Sg	Sg	20 49 07.8	+0.2
LARF	Larrau	0.42	80	P	Pb	20 49 01.6	0.0
LARF				S	Sb	20 49 07.8	+0.4
ORDF	Ordiarp	0.51	61	Pg	Pg	20 49 04.4	+0.8
ORDF				Sg	Sg	20 49 12.1	+1.4
ORDF	Ordiarp	0.51	61	P	Pb	20 49 04.4	+1.3
ORDF				S	Sb	20 49 11.3	+1.2
ATE	Arette	0.63	79	P	Pb	20 49 05.4	+0.2
ATE				S	Sb	20 49 13.7	+0.1
FDAF	Les Forges d'A	0.74	101	Pg	Pg	20 49 06.0	-1.9
FDAF				Sg	Sg	20 49 16.7	-1.2
FDAF	Les Forges d'A	0.74	101	P	Pb	20 49 06.1	-0.9
FDAF				S	Sb	20 49 16.3	-0.2
REYF	Montagne du Re	0.85	83	Pg	Pg	20 49 09.4	-0.9
REYF	Montagne du Re	0.85	83	P	Pb	20 49 09.5	+0.5
REYF				S	Sb	20 49 20.2	+0.2
VIEF	Viey	1.16	94	P	Pb	20 49 13.7	-0.5
VIEF				S	Sb	20 49 29.4	+0.6
LABF	Labassere	1.19	86	P	Pb	20 49 15.5	+0.7
LABF				S	Sb	20 49 30.9	+1.1
EPF	Esparros	1.39	87	*e*Pn	Pn	20 49 18.2	+0.3
EPF				*e*Pg	Pg	20 49 20.6	-0.2
EPF				*e*Sg	Sg	20 49 36.7	-2.7
	70nm,0.2s						
RESF	Ens	1.40	96	P	Pn	20 49 18.8	+0.7
RESF				S	Sb	20 49 37.8	+2.1
ELAN	Lanestosa	1.41	282	Pg	Pg	20 49 22.7	+1.5
	15nm,0.3s,SNR=106						
ELAN				Lg		20 49 43.8	
	32nm,0.3s,SNR=9.7						
ESAC	San Caprasio	1.48	147	Pg	Pg	20 49 18.9	-3.7
	75nm,0.3s,SNR=38						
ESAC				Lg		20 49 38.0	
	215nm,0.3s,SNR=11						
MELF	Melles	1.70	92	P	Pn	20 49 24.7	+2.3
MELF				S	Sn	20 49 47.2	+3.3
MLS	Moulis	1.94	89	S	Sn	20 49 54.3	+4.2
SALF	Salau	2.02	95	P	Pn	20 49 29.2	+2.1
SALF				S	Sn	20 49 55.0	+2.8
ETOR	Torete	2.18	190	Pn	Pn	20 49 30.1	+0.8
	18nm,0.4s,SNR=25						
ETOR				Pg	Pg	20 49 33.3	-3.3
	38nm,0.4s,SNR=12						
ETOR				Lg		20 50 01.7	
	44nm,0.3s,SNR=7.4						
EMIR	Miracle	2.51	114	Pn	Pn	20 49 33.8	-0.2
	9.3nm,0.3s,SNR=14						
EMIR				Pg	Pg	20 49 38.1	-5.0
	14nm,0.4s,SNR=11						
EMIR				Lg		20 50 11.2	
	50nm,0.5s,SNR=9.7						
EMIR	Miracle	2.51	114	Pn	Pn	20 49 33.8	-0.2
EMIR				Pg	Pg	20 49 38.1	-5.0
EMIR				Lg		20 50 11.2	
EPOB	Poblet	2.53	129	Pn	Pn	20 49 32.6	-1.7
	5.6nm,0.3s,SNR=10						
EPOB				Pg	Pg	20 49 38.0	-5.6
	13nm,0.7s,SNR=6.3						
EPOB				Lg		20 50 06.7	
	39nm,0.9s,SNR=7.8						
LFF	La Frestale	2.57	39	*e*Pn	Pn	20 49 35.8	+0.9
LFF				*e*Sn	Sn	20 50 06.2	0.0
LFF				*e*Sg	Sg	20 50 14.8	-4.0
	33nm,0.5s						
EBR	Ebro Roquetas	2.63	144	*e*P*P*		20 49 42.5	
EBR	Ebro Roquetas	2.63	144	*e*SG	Sg	20 50 16.0	-4.7
VALF	Valcebollere	2.69	101	P	Pn	20 49 39.6	+3.1
VALF				S	Sn	20 50 17.6	+8.5
CARF	Carcanieres	2.70	94	P	Pn	20 49 42.8	+6.1
CARF				S	Sn	20 50 16.0	+6.6
EMOS	Mosqueruela	2.72	162	Pn	Pn	20 49 36.1	-1.0
	11nm,0.5s,SNR=26						
EMOS				Pg	Pg	20 49 42.7	-4.7
	5.8nm,0.5s,SNR=7.9						
EMOS				Lg		20 50 17.3	
	29nm,0.7s,SNR=7.6						
MTLF	Montolieu	2.78	81	*e*Pn	Pn	20 49 38.3	+0.4
MTLF				*e*Sn	Sn	20 50 10.4	-1.0
	24nm,0.5s						
FILF	Fillols	3.05	96	S	Sn	20 50 23.1	+4.8
RJF	Les Rejaudoux	3.21	42	*e*Pn	Pn	20 49 45.0	+1.0
RJF				*e*Sn	Sn	20 50 21.7	-0.7
	19nm,0.4s						
CAF	Calviac	3.26	52	*e*Pn	Pn	20 49 44.5	-0.2
CAF				*e*Sn	Sn	20 50 22.6	-1.0
	22nm,0.4s						
SJAF	Saint Jean de	3.30	97	S	Sn	20 50 33.2	+8.6
EJON	La Jonquera	3.31	97	Pn	Pn	20 49 45.4	0.0
	2.5nm,0.3s,SNR=5.6						
EJON				Pg	Pg	20 49 52.4	-6.8
	2.6nm,0.3s,SNR=5.4						
EJON				Lg		20 50 37.1	
	9.7nm,0.5s,SNR=5.5						
ESDC	Sonseca Array	3.76	210	Pn	Pn	20 49 52.2	+0.4
	0.6nm,0.2s,baz=36,slow=13,SNR=7.8						
ESDC				Pg	Pg	20 50 02.9	-5.1
	2.0nm,0.4s,baz=34,slow=18,SNR=8.3						
ESDC				Lg		20 50 52.6	
	3.4nm,0.4s,baz=30,slow=29,SNR=8.3						
MFF	Saint Martin d	3.77	15	*e*Pn	Pn	20 49 53.0	+1.1
MFF				*e*Pg	Pg	20 50 04.8	-3.5
MFF				*e*Sn	Sn	20 50 36.2	-0.3
	12nm,0.4s						
ECAL	Calabor	3.97	257	Pn	Pn	20 49 55.9	+1.1
	5.3nm,0.4s,SNR=16						
ECAL				Pg	Pg	20 50 08.8	-3.5
	4.6nm,0.3s,SNR=5.7						
ECAL				Sn	Sn	20 50 41.9	+0.3
	21nm,0.4s,SNR=6.5						
ECAL				Lg		20 51 05.2	
	26nm,0.4s,SNR=5.5						
PBRG	Braganca	4.02	255	*e*Pn	Pn	20 49 56.5	+1.1
PBRG				*e*Sn	Sn	20 50 43.6	+0.9
PBRG				*e*Sg		20 50 59.0	
	10.0nm,0.3s						
PBRG	Braganca	4.02	255	Pn	Pn	20 49 56.5	+1.1
PBRG				Sn	Sn	20 50 43.6	+0.9
PBRG				Lg		20 50 59.0	
	5.0nm,0.3s						
LASF	Ste Croix	4.09	72	*e*Pn	Pn	20 49 56.1	-0.3
LASF				*e*Sn	Sn	20 50 41.5	-2.9
	27nm,0.6s						
ERUA	La Rua	4.16	264	Pn	Pn	20 49 59.2	+1.7
	2.8nm,0.3s,SNR=9.7						
ERUA				Sn	Sn	20 50 48.4	+2.0
	SNR=7.9						
ERUA				Lg		20 51 11.4	
	5.2nm,0.4s,SNR=7.9						
TCF	Toulx Ste Croi	4.27	38	*e*Pn	Pn	20 49 58.4	-0.6
TCF				*e*Sn	Sn	20 50 47.0	-2.1
	20nm,0.5s						
ETOB	Tobarra	4.32	180	Pn	Pn	20 49 59.4	-0.3
	6.6nm,1.0s,SNR=7.9						
ETOB				Sn	Sn	20 50 46.3	-4.0
	SNR=7.9						
ETOB				Lg		20 51 09.0	
	9.8nm,0.7s,SNR=7.9						
EVIA	Vianos	4.38	190	Pn	Pn	20 50 01.1	+0.5
	22nm,0.9s,SNR=6.9						
EVIA				Lg		20 51 10.2	
	16nm,0.6s,SNR=7.9						
BGF	Bois d'Agland	4.76	40	*e*Pn	Pn	20 50 05.6	-0.4
BGF				*e*Sn	Sn	20 50 58.2	-3.4
	39nm,0.4s						
VIVF	Saint-Julien-l	4.88	65	*e*Pn	Pn	20 50 06.0	-1.6
VIVF				*e*Sn	Sn	20 51 00.2	-4.2
	4.5nm,0.3s						
PVRL	Vila Real	4.89	252	*e*Pn	Pn	20 50 08.7	+0.9
PVRL				*e*Sn	Sn	20 51 02.7	-2.0
PVRL				*e*Sg		20 51 25.9	
	11nm,0.4s						
PVRL	Vila Real	4.89	252	Pn	Pn	20 50 08.7	+0.9
PVRL				Sn	Sn	20 51 02.7	-2.0
PVRL				Lg		20 51 25.9	
	5.3nm,0.4s						
ELOB	Lobios	4.94	259	Pn	Pn	20 50 09.4	+0.8
	4.5nm,0.7s,SNR=5.9						
ELOB				Lg		20 51 29.4	
	5.9nm,0.4s,SNR=5.1						
QUIF	Quistinic	5.08	348	*e*Pn	Pn	20 50 11.7	+1.2
QUIF				*e*Sn	Sn	20 51 08.7	-0.8
	12nm,0.7s						
EMUR	La Murta	5.12	177	Pg	Pg	20 50 26.5	-8.8
	SNR=7.9						
EMUR				Sn	Sn	20 51 04.4	-6.2
	SNR=7.9						
MTE	Manteigas	5.17	242	*e*Sg		20 51 35.5	
	12nm,0.4s						
MTE	Manteigas	5.17	242	Lg		20 51 35.5	
	5.9nm,0.4s						
AVF	Avril sur Loir	5.17	41	*e*Pn	Pn	20 50 11.7	-0.1
AVF				*e*Sn	Sn	20 51 08.4	-3.5
	14nm,0.7s						
HYF	Humbligny	5.22	33	*e*Pn	Pn	20 50 11.8	-0.7
HYF				*e*Sn	Sn	20 51 10.9	-2.3
PVIS	Viseu	5.25	247	*e*Sn	Sn	20 51 10.6	-3.1
PVIS				*e*Sg		20 51 37.6	
	6.5nm,0.3s						
PVIS	Viseu	5.25	247	Sn	Sn	20 51 10.6	-3.1
PVIS				Lg		20 51 37.6	
	3.2nm,0.3s						
SMRF	Simiane la Rot	5.28	77	*e*Pn	Pn	20 50 13.3	0.0
EQES	Quesada	5.29	193	Pn	Pn	20 50 12.7	-0.7
	2.3nm,0.5s,SNR=6.7						
EQES				Pg	Pg	20 50 30.5	-8.1
	9.6nm,0.7s,SNR=11						
EQES				Lg		20 51 36.9	
	9.1nm,0.7s,SNR=4.7						
SMF	Signal de Mont	5.31	44	*e*Pn	Pn	20 50 13.9	+0.1
SMF				*e*Sn	Sn	20 51 12.0	-3.4
	3.6nm,0.4s						
EADA	Adamuz	5.32	207	Pn	Pn	20 50 13.2	-0.6
	1.0nm,0.4s,SNR=10						
EADA				Pg	Pg	20 50 31.9	-7.3
	1.0nm,0.3s,SNR=4.6						
EADA				Lg		20 51 38.9	
	4.6nm,0.5s,SNR=4.8						
SGMF	Saint Gilles	5.34	353	*e*Pn	Pn	20 50 15.0	+0.9
SSF	Saint Saulge	5.44	39	*e*Pn	Pn	20 50 15.0	-0.6
SSF				*e*Sn	Sn	20 51 14.2	-4.4
	4.4nm,0.4s						
PCBR	Castelo Branco	5.44	237	*e*Sn	Sn	20 51 16.3	-2.3
PCBR				*e*Sg		20 51 44.3	
	6.2nm,0.4s						
PCBR	Castelo Branco	5.44	237	Sn	Sn	20 51 16.3	-2.3
PCBR				Lg		20 51 44.3	
	3.1nm,0.4s						
GRR	Gorron	5.45	5	*e*Pn	Pn	20 50 14.3	-1.3
GRR				*e*Sn	Sn	20 51 16.2	-2.5
	4.7nm,0.3s						
ROSF	Rostrenen	5.50	348	*e*Pn	Pn	20 50 17.8	+1.3
ORIF	Oris-en-Rattie	5.71	67	*e*Pn	Pn	20 50 18.9	-0.4
ORIF				*e*Sn	Sn	20 51 19.2	-6.1
	5.0nm,0.5s						
LDF	La Druitiere	5.72	10	*e*Pn	Pn	20 50 18.1	-1.4

LOR	Lormes	5.76	40	ePn	Pn	20 50 18.5	-1.5
LOR				eSn	Sn	20 51 22.6	-3.9
	3.8nm,0.3s						
FLN	La Foliniere	5.84	7	ePn	Pn	20 50 19.8	-1.5
LMR	La Mourre	5.91	84	ePn	Pn	20 50 20.8	-1.3
FRF	La Foret Royal	6.01	82	ePn	Pn	20 50 22.2	-1.5
PTOM	Tomar	6.16	239	eSg		20 52 08.7	
	10nm,0.4s						
PTOM	Tomar	6.16	239	Lg		20 52 08.7	
	5.2nm,0.4s						
MBDF	Montbardon	6.27	71	ePn	Pn	20 50 26.7	-0.6
LPL	La Plagne	6.47	64	ePn	Pn	20 50 29.5	-0.6
LPG	La Plagne	6.48	64	ePn	Pn	20 50 29.8	-0.4
CABF	La Chapelle	6.54	54	ePn	Pn	20 50 31.3	+0.2
SBF	Sospel	6.61	79	ePn	Pn	20 50 31.0	-1.0
MOE	Montemor	6.81	232	Sg		20 52 23.6	
PBEJ	Beja	6.89	226	eSg		20 52 28.6	
	2.8nm,0.6s						
PBEJ	Beja	6.89	226	Lg		20 52 28.6	
	1.4nm,0.6s						
PALC	Alcoutim	7.12	221	eSg		20 52 40.6	
	4.4nm,0.7s						
PALC	Alcoutim	7.12	221	Lg		20 52 40.6	
	2.2nm,0.7s						

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*NEIC **20** 20:57:47.1, 38.40S×178.07E, h27^{km}, ML3.9(WEL), After WEL.*

WEL 20 20:57:47.2±0.2**, 38.39S×178.06E, h27^{km}±1^{km}, ML3.9**/6**, 3C-1D, Error ellipse: s-maj=1.7km s-min=1.5km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PUZ	Puketiti	0.35	26	⇓P*	Pb	20 57 55.0	-0.2
PUZ				S*	Sb	20 58 01.5	+0.9
PUZ	Puketiti	0.35	26	P	Pb	20 57 55.0	-0.2
PUZ				S	Sb	20 58 01.4	+0.8
MWZ	Matawai	0.42	277	⇑P*	Pb	20 57 56.0	-0.3
MWZ				S*	Sb	20 58 02.9	+0.5
MWZ	Matawai	0.42	277	P	Pb	20 57 56.0	-0.2
MWZ				S	Sb	20 58 02.9	+0.5
KNZ	Kokohu	0.70	206	⇑P*	Pb	20 58 00.3	-0.4
KNZ				S*	Sb	20 58 10.8	+0.9
KNZ	Kokohu	0.70	206	P	Pb	20 58 00.3	-0.4
URZ	Urewera	0.76	280	⇑P*	Pb	20 58 01.1	-0.6
URZ				S*	Sb	20 58 11.4	-0.3
MXZ	Matakaoa Point	0.85	13	PN	Pn	20 58 02.3	-1.2
MXZ				SN	Sn	20 58 14.5	-0.5
MXZ	Matakaoa Point	0.85	13	P	Pb	20 58 02.6	-0.6
EDRZ	Edgecumbe	1.08	285	PN	Pn	20 58 06.5	-0.2
EDRZ	Edgecumbe	1.08	285	P	Pn	20 58 06.7	-0.1
WIZ	White Island	1.10	321	PN	Pn	20 58 05.7	-1.4
WIZ	White Island	1.10	321	P	Pn	20 58 05.8	-1.3
MARZ	Manawahe	1.17	290	PN	Pn	20 58 06.9	-1.1
TAZ	Tarawera	1.23	277	PN	Pn	20 58 08.6	-0.3
TAZ	Tarawera	1.23	277	P	Pn	20 58 08.7	-0.2
PATZ	Paeroa	1.42	270	PN	Pn	20 58 11.2	-0.4
PATZ	Paeroa	1.42	270	P	Pn	20 58 11.5	-0.1
BKZ	Black Stump Fm	1.45	237	PN	Pn	20 58 10.9	-1.1
BKZ	Black Stump Fm	1.45	237	P	Pn	20 58 10.9	-1.1
TGRZ	Tauranga	1.57	294	PN	Pn	20 58 13.0	-0.7
PWZ	Pawanui	1.88	209	PN	Pn	20 58 14.9	-3.3
PWZ	Pawanui	1.88	209	eP	Pn	20 58 15.3	-2.9
MOVZ	Moawhango	2.07	240	PN	Pn	20 58 19.6	-1.3
TUVZ	Tukino	2.07	244	PN	Pn	20 58 19.9	-1.1
NGZ	Ngauruhoe	2.08	247	ePN	Pn	20 58 19.5	-1.5
NGZ	Ngauruhoe	2.08	247	P	Pn	20 58 19.8	-1.2
CNZ	Chateau	2.12	247	PN	Pn	20 58 21.0	-0.7
WNVZ	Wahianoa	2.14	243	PN	Pn	20 58 21.0	-0.9
WNVZ	Wahianoa	2.14	243	P	Pn	20 58 21.0	-0.9
TSZ	Takapari Road	2.33	224	PN	Pn	20 58 21.1	-3.5
BFZ	Birch Farm	2.68	211	PN	Pn	20 58 25.2	-4.5
BFZ				SN	Sn	20 58 56.2	-5.4
WAZ	Wanganui	2.75	239	PN	Pn	20 58 28.2	-2.5
MRZ	Mangatainoka R	2.97	219	PN	Pn	20 58 29.1	-4.7
MRZ				SN	Sn	20 59 03.5	-5.4
RAEZ	Rainy Point	3.00	252	PN	Pn	20 58 33.7	-0.5
MTW	Mount Morrison	3.40	215	PN	Pn	20 58 34.5	-5.2
MTW				SN	Sn	20 59 12.4	-7.2
KIW	Kapiti Island	3.46	224	PN	Pn	20 58 35.8	-5.0
CAW	Cannon Point	3.56	219	ePN	Pn	20 58 36.9	-5.3
PAWZ	Paruwai Farm	3.61	213	PN	Pn	20 58 37.3	-5.6
MRW	Makara Radio	3.84	221	ePN	Pn	20 58 40.8	-5.3
NNZ	Nelson	4.58	230	PN	Pn	20 58 50.9	-5.7
NNZ				SN	Sn	20 59 42.8	-6.9
QRZ	Quartz Range	4.92	239	PN	Pn	20 58 55.4	-5.9
THZ	Tophouse	5.19	228	PN	Pn	20 58 59.0	-6.3
KHZ	Kahutara	5.30	219	PN	Pn	20 59 00.9	-5.9
LTZ	Lake Taylor	6.22	223	PN	Pn	20 59 13.0	-6.8
MQZ	McQueen's Vall	6.70	216	PN	Pn	20 59 20.1	-6.4

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*NIED **20** 21:11:00, 37.80N×139.70E, h5^{km}, Mw3.6 Best double couple: M$_0$2.61×10^{14} NP1:φ$_s$47°, δ84°, λ-145°. NP2: φ$_s$313°, δ55°, λ-8°.*

*JMA **20** 21:11:03.1±0.1, 37.80N×139.63E, h2^{km}±2^{km}, M3.7 Broadband fault plane solution: P waves. NP1:φ$_s$311°, δ63°, λ-22°. NP2:φ$_s$51°, δ70°, λ-151°. Principal axes: T Plg5°, Azm180°; N Plg56°, Azm83°; P Plg34°, Azm273°;*

JMA Felt II J1.

ISC 20 21:11:02.8±0.7**, 37.81N**±0.04×**139.64E**±0.05**, h8^{km}±6^{km}, n11, σ0^{s}29**/14**, 6C-4D, Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JNS	Sasagawa	0.26	273	⇓P	Pg	21 11 08.1	0.0
JNS				S	Sg	21 11 11.7	0.0
JFY	Yanaizu	0.40	173	⇑P	Pg	21 11 11.0	0.0
JFY				S	Sg	21 11 16.5	+0.1
JYS	Shirataka	0.53	39	⇑P	Pg	21 11 13.6	+0.1
JFT	Otama	0.62	117	⇓P	Pg	21 11 15.3	0.0
JAW	Awa shima	0.72	335	⇑P	Pb	21 11 17.2	+0.1
JHK	Hiroka	0.75	222	⇑P	Pb	21 11 16.8	-0.8
JYA	Atsumi	0.79	4	⇑P	Pb	21 11 18.1	-0.2
JIZZ	Izumozaki	0.79	250	⇓P	Pb	21 11 19.0	+0.7
JSB	Shiboa	0.87	165	⇑P	Pb	21 11 19.8	+0.1
JMM	Marumori	0.91	86	⇓P	Pb	21 11 20.5	0.0
MAT	Matsushiro	1.70	223	P	Pn	21 11 33.0	-0.1
MAT				S	Sn	21 11 55.3	+0.1

MAN 20 21:15:03.4, 16.38N×119.50E, mb4.3, ML3.1, MS2.8, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOLP	Bolinao	0.40	90	eP	Pg	21 15 11.2	-0.1
SCZP	Santa Cruz	0.72	147	eP	Pg	21 15 17.7	-0.1
ABRA	Dolores	1.71	42	eP	Pn	21 15 34.9	+0.2
BALP	Baler	2.09	107	eP	Pn	21 15 39.9	-0.3
APYP	Conner	2.22	48	eP	Pn	21 15 41.1	-0.9
APYP				eS	Sn	21 16 06.2	-4.5
CAUP	Cauayan	2.29	75	eP	Pn	21 15 43.6	+0.5

IDC 20 21:32:44.3±3.4**, 4.99S×133.00E, mb3.4**/1**, mb1 3.6**/3**, mb1mx3.4**/9**, ML2.9**/2**, Error ellipse: s-maj=186.0km s-min=29.0km az=76.0, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	14.92	175	Pn	P	21 36 14.7	-3.7
	0.0nm,0.3s,baz=350,slow=14,SNR=4.1						
WRA				Sn	S	21 39 04.6	-0.9
	0.1nm,0.3s,baz=356,slow=23,SNR=3.6						
ASAR	Alice Springs	18.59	177	P	P	21 37 04.0	-1.0
	0.1nm,0.3s,baz=4.2,slow=13,SNR=7.1						
MKAR	Makanchi Array	68.24	325	P	P	21 43 46.9	-2.1
	0.2nm,0.5s,baz=128,slow=6.7,SNR=6.2						

DJA 20 21:46:36.3±0.9**, 9.73S×114.21E, h87^{km}±15^{km}, MD4.8**/4**, ML4.2**/4**, 5C-4D, Error ellipse: s-maj=30.1km s-min=13.0km az=28.0, South of Bali**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
INGI	Ingas	1.29	46	⇓iPn	P	21 46 58.7	-1.0
	316nm,0.2s						
INGI				⇑iSn	S	21 47 15.1	-2.2
KELI	Kelakatan	1.53	10	⇓ePn	P	21 47 02.6	-0.1
	490nm,0.2s						
KELI	Kelakatan	1.53	10	⇓iP	P	21 47 02.7	0.0
KELI				⇑iSn	S	21 47 21.6	-0.7
RATI	Rata	1.64	53	⇑ePn	P	21 47 03.7	-0.5
	279nm,0.2s						
RATI				⇓iSn	S	21 47 23.8	-1.0
KEDI	Kedomdong	2.25	57	⇑iPn	P	21 47 11.8	-0.6
	42nm,0.3s						
KEDI				⇑iSn	S	21 47 37.1	-2.0

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*STR **20** 22:07:59.4±0.3, 42.83N×1.49W, h5^{km}±1^{km}, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LDG **20** 22:08:00.0±0.4, 42.86N×1.48W, h2^{km}, Md2.5/2, Ml2.2/5, Error ellipse: s-maj=6.0km s-min=5.0km az=46.0*

*MDD **20** 22:08:01.0±0.4, 42.87N×1.42W, h6^{km}±4^{km}, mbLg1.7/8, Error ellipse: s-maj=3.3km s-min=2.4km az=25.0, AftershockPLICA PRXIMO*

ISC 20 22:07:59.3±0.5**, 42.89N**±0.03×**1.49W**±0.03**, h14^{km}±3^{km}, n30, σ1^{s}04**/50**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJPF	Ste Jean	0.29	41	ePg	Pg	22 08 06.4	+0.6
SJPF				eSg	Sg	22 08 09.2	-0.9
	92nm,0.3s						
EALK	Alkurruntz	0.33	358	Pg	Pg	22 08 07.6	+1.2
	4.8nm,0.1s,SNR=40						
EALK				Lg		22 08 13.1	
	47nm,0.3s,SNR=7.9						
LARF	Larrau	0.40	68	Pg	Pg	22 08 07.4	-0.3
LARF				Sg	Sg	22 08 13.2	0.0
LARF	Larrau	0.40	68	P	Pb	22 08 07.6	0.0
LARF				S	Sb	22 08 13.3	+0.1
OSSF	Osses	0.40	25	Pg	Pg	22 08 08.3	+0.5
OSSF				Sg	Sg	22 08 14.7	+1.3
OSSF	Osses	0.40	25	P	Pb	22 08 08.4	+0.7
OSSF				S	Sb	22 08 13.7	+0.4
ORDF	Ordiarp	0.52	51	Pg	Pg	22 08 10.2	+0.2
ORDF				Sg	Sg	22 08 18.0	+0.9
ORDF	Ordiarp	0.52	51	P	Pb	22 08 10.3	+0.6
ORDF				S	Sb	22 08 16.5	-0.2
ATE	Arette	0.61	71	P	Pb	22 08 11.7	+0.4
ATE				S	Sb	22 08 19.7	+0.3
FDAF	Les Forges d'A	0.68	96	Pg	Pg	22 08 12.2	-1.0
FDAF				Sg	Sg	22 08 22.0	-0.5
FDAF	Les Forges d'A	0.68	96	P	Pb	22 08 12.4	-0.1
FDAF				S	Sb	22 08 22.1	+0.6
VIEF	Viey	1.11	90	S	Sb	22 08 35.7	+1.8
LABF	Labassere	1.16	82	S	Sb	22 08 37.0	+1.7
RESF	Ens	1.35	93	S	Sb	22 08 42.4	+1.6
EPF	Esparros	1.35	83	ePn	Pn	22 08 24.3	+0.4
EPF				ePg	Pg	22 08 26.5	+0.1
EPF				eSg	Sg	22 08 42.6	-1.9
	10.0nm,0.2s						
ESAC	San Caprasio	1.39	147	Pg	Pg	22 08 25.5	-1.8
	8.2nm,0.1s,SNR=7.8						
ESAC				Lg		22 08 43.1	
	15nm,0.2s,SNR=7.9						
ELAN	Lanestosa	1.46	284	Pg	Pg	22 08 28.5	-0.2
	1.3nm,0.2s,SNR=12						
ELAN				Lg		22 08 49.6	
	1.8nm,0.2s,SNR=7.9						
MELF	Melles	1.65	90	S	Sn	22 08 51.7	+2.4
ETOR	Torete	2.11	192	Pn	Pn	22 08 35.8	+1.1
	0.3nm,0.1s,SNR=11						
ETOR				Sn	Sn	22 09 02.3	+1.4
	0.7nm,0.2s,SNR=7.9						
ETOR				Lg		22 09 07.5	
	1.5nm,0.2s,SNR=7.9						
EMIR	Miracle	2.44	113	Pg	Pg	22 08 43.5	-4.6
	0.6nm,0.1s,SNR=7.9						
EMIR				Lg		22 09 15.8	
	1.0nm,0.1s,SNR=7.9						
EPOB	Poblet	2.45	128	Pn	Pn	22 08 38.7	-1.0
	0.3nm,0.1s,SNR=7.9						
EPOB				Sn	Sn	22 09 07.7	-1.8
	0.3nm,0.1s,SNR=7.9						
EPOB				Lg		22 09 16.9	
	0.7nm,0.2s,SNR=7.9						
LFF	La Frestale	2.61	37	ePn	Pn	22 08 41.5	-0.3
LFF				eSg	Sg	22 09 20.7	-5.5
	3.2nm,0.3s						
EMOS	Mosqueruela	2.64	163	Pn	Pn	22 08 43.0	+0.7
	0.2nm,0.2s,SNR=7.9						
EMOS				Sn	Sn	22 09 14.3	0.0
	0.3nm,0.2s,SNR=7.9						
EMOS				Lg		22 09 23.1	
	0.5nm,0.1s,SNR=7.9						
MTLF	Montolieu	2.75	79	ePn	Pn	22 08 45.2	+1.3
MTLF				eSn	Sn	22 09 16.7	-0.5
	1.6nm,0.3s						
RJF	Les Rejaudoux	3.24	41	ePn	Pn	22 08 49.7	-1.2
RJF				eSn	Sn	22 09 27.6	-2.0
	2.0nm,0.3s						
CAF	Calviac	3.28	50	ePn	Pn	22 08 50.3	-1.0
CAF				eSn	Sn	22 09 28.4	-2.1
	0.9nm,0.2s						
MFF	Saint Martin d	3.83	14	ePn	Pn	22 08 58.8	-0.4
ECAL	Calabor	4.00	258	Pn	Pn	22 09 01.8	+0.2
	0.5nm,0.1s,SNR=7.9						
ECAL				Sn	Sn	22 09 48.2	-0.5
	0.3nm,0.1s,SNR=7.9						
ECAL				Lg		22 10 10.0	
	0.6nm,0.2s,SNR=7.9						
LASF	Ste Croix	4.07	71	ePn	Pn	22 09 01.2	-1.4
VIVF	Saint-Julien-l	4.87	64	ePn	Pn	22 09 12.3	-1.7

IDC 20 22:28:49.5±1.7**, 2.08S×127.16E, mb3.6**/3**, mb1 3.7**/4**, mb1mx3.6**/12**, ML3.6**/1**, Error ellipse: s-maj=125.0km s-min=18.4km az=68.0, Ceram Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	19.09	159	P	P	22 33 12.2	-4.0
	0.2nm,0.3s,baz=338,slow=12,SNR=4.1						
ASAR	Alice Springs	22.43	164	P	P	22 33 49.9	-1.6
	1.7nm,0.7s,baz=344,slow=11,SNR=4.4						
ASAR				S	S	22 37 59.0	+5.2
	0.3nm,0.4s,baz=345,slow=24,SNR=4.8						
STKA	Stephens Creek	32.61	157	P	P	22 35 24.1	-1.0
	0.3nm,0.3s,baz=333,slow=16,SNR=2.1						
MKAR	Makanchi Array	62.59	327	P	P	22 39 15.1	-2.7
	0.2nm,0.4s,baz=123,slow=8.0,SNR=5.4						

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*STR **20** 22:50:20.5±0.4, 42.84N×1.52W, h5^{km}±1^{km}, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LDG **20** 22:50:21.9±0.3, 42.89N×1.47W, h2^{km}, Ml3.0/13, Error ellipse: s-maj=5.0km s-min=3.3km az=37.0*

*NEIC **20** 22:50:21.9, 42.89N×1.47W, h2^{km}, ML3.0(LDG), ML2.4(STR), MN2.3(MDD), After LDG.*

*MDD **20** 22:50:22.1±0.3, 42.87N×1.42W, h5^{km}±3^{km}, mbLg2.3/19, Error ellipse: s-maj=2.7km s-min=2.1km az=24.0, AftershockPLICA PRXIMO*

ISC 20 22:50:19.9±0.4**, 42.90N**±0.02×**1.53W**±0.02**, h14^{km}±2^{km}, n66, σ1^{s}33**/104**, 1C, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJPF	Ste Jean	0.31	47	ePg	Pg	22 50 27.5	+1.0
SJPF				eSg	Sg	22 50 30.3	-0.6
	257nm,0.3s						
EALK	Alkurruntz	0.32	3	⇑Pg	Pg	22 50 28.7	+2.1
	101nm,0.4s,SNR=18						
EALK				Lg		22 50 34.5	
	94nm,0.4s,SNR=4.5						
OSSF	Osses	0.40	29	Pg	Pg	22 50 29.5	+1.2
OSSF				Sg	Sg	22 50 35.8	+1.9
OSSF	Osses	0.40	29	P	Pg	22 50 29.5	+1.2
OSSF				S	Sg	22 50 35.8	+1.9
LARF	Larrau	0.42	71	Pg	Pg	22 50 28.6	0.0
LARF				Sg	Sg	22 50 35.3	+0.8
LARF	Larrau	0.42	71	P	Pg	22 50 28.6	0.0
LARF				S	Sg	22 50 34.7	+0.3
ORDF	Ordiarp	0.53	54	Pg	Pg	22 50 31.4	+0.6
ORDF				Sg	Sg	22 50 39.2	+1.1
ORDF	Ordiarp	0.53	54	P	Pb	22 50 31.4	+0.9
ORDF				S	Sg	22 50 38.9	+0.8
ATE	Arette	0.64	73	P	Pb	22 50 32.4	+0.1
ATE				S	Sb	22 50 40.9	+0.2
FDAF	Les Forges d'A	0.71	97	Pg	Pg	22 50 33.3	-1.0
FDAF				Sg	Sg	22 50 43.7	-0.3
FDAF	Les Forges d'A	0.71	97	P	Pb	22 50 33.0	-0.6
FDAF				S	Sb	22 50 43.1	+0.1
REYF	Montagne du Re	0.85	78	P	Pb	22 50 35.8	-0.2
REYF				S	Sb	22 50 47.2	+0.2
VIEF	Viey	1.14	90	P	Pb	22 50 40.8	-0.2
VIEF				S	Sb	22 50 56.3	+0.8
LABF	Labassere	1.19	83	P	Pb	22 50 42.5	+0.8
LABF				S	Sb	22 50 58.3	+1.6
RESF	Ens	1.38	93	Pg	Pg	22 50 46.9	-0.6
RESF	Ens	1.38	93	P	Pn	22 50 46.9	+2.0
RESF				S	Sb	22 51 04.6	+2.3
EPF	Esparros	1.38	84	ePn	Pn	22 50 45.3	+0.4
EPF				ePg	Pg	22 50 47.5	0.0
EPF				eSg	Sg	22 51 03.1	-2.9
	41nm,0.2s						
ESAC	San Caprasio	1.42	146	Pg	Pg	22 50 46.4	-1.9
	54nm,0.3s,SNR=19						
ESAC				Lg		22 51 05.1	
	128nm,0.3s,SNR=9.2						
ELAN	Lanestosa	1.43	284	Pg	Pg	22 50 49.7	+1.1
	11nm,0.3s,SNR=9.4						
ELAN				Lg		22 51 10.1	
	21nm,0.3s,SNR=10.0						
MELF	Melles	1.68	90	P	Pn	22 50 52.0	+2.8
MELF				S	Sn	22 51 13.5	+2.8
MLS	Moulis	1.93	88	S	Sn	22 51 21.6	+4.6
SALF	Salau	2.01	93	P	Pn	22 50 56.5	+2.6
SALF				S	Sn	22 51 22.0	+3.1
ETOR	Torete	2.12	191	Pn	Pn	22 50 57.5	+2.0
	11nm,0.4s,SNR=11						
ETOR				Lg		22 51 28.7	
	29nm,0.4s,SNR=7.6						
EMIR	Miracle	2.47	113	Pg	Pg	22 51 05.9	-3.4
	11nm,0.5s,SNR=9.3						
EMIR				Lg		22 51 38.5	
	24nm,0.5s,SNR=7.5						
EPOB	Poblet	2.48	128	Pn	Pn	22 51 00.8	+0.2
	SNR=7.9						
EPOB				Pg	Pg	22 51 05.6	-4.0
	5.3nm,0.5s,SNR=6.7						
EPOB				Sn	Sn	22 51 30.6	-0.4
	SNR=7.9						
EPOB				Lg		22 51 39.1	
	13nm,0.5s,SNR=6.0						
EBR	Ebro Roquetas	2.57	143	ePG	Pg	22 51 09.7	-1.6
EBR				eSG	Sg	22 51 43.2	-2.4
LFF	La Frestale	2.61	38	ePn	Pn	22 51 04.6	+2.1
LFF				eSg	Sg	22 51 41.6	-5.4
	25nm,0.5s						
EMOS	Mosqueruela	2.66	162	Pg	Pg	22 51 10.7	-2.3
	8.3nm,0.6s,SNR=17						
EMOS				Lg		22 51 45.3	
	23nm,0.9s,SNR=5.9						
VALF	Valcebollere	2.67	100	S	Sn	22 51 45.5	+10
CARF	Carcanieres	2.68	93	P	Pn	22 51 10.0	+6.5
CARF				S	Sn	22 51 43.6	+7.5
MTLF	Montolieu	2.78	80	ePn	Pn	22 51 05.6	+0.7
MTLF				eSn	Sn	22 51 36.9	-1.6
	13nm,0.5s						
RJF	Les Rejaudoux	3.25	41	ePn	Pn	22 51 11.1	-0.5
RJF				eSn	Sn	22 51 48.9	-1.6
	14nm,0.4s						
EJON	La Jonquera	3.29	96	Pg	Pg	22 51 20.5	-5.1
	0.2nm,0.1s,SNR=7.9						
EJON				Lg		22 52 04.7	
	2.1nm,0.4s,SNR=4.5						
CAF	Calviac	3.29	51	ePn	Pn	22 51 11.4	-0.8
CAF				eSn	Sn	22 51 50.4	-1.1
	9.5nm,0.4s						
ESDC	Sonseca Array	3.71	210	Pn	Pn	22 51 19.5	+1.3
	0.5nm,0.3s,baz=36,slow=13,SNR=5.0						
ESDC				Lg		22 52 20.1	
	2.8nm,0.4s,baz=33,slow=29,SNR=7.9						
MFF	Saint Martin d	3.83	14	ePn	Pn	22 51 20.1	+0.3
MFF				ePg	Pg	22 51 32.3	-4.0
MFF				eSn	Sn	22 52 03.5	-1.6
	2.9nm,0.2s						
ECAL	Calabor	3.97	258	Pn	Pn	22 51 23.1	+1.2
	5.1nm,0.6s,SNR=11						
ECAL				Pg	Pg	22 51 34.9	-4.4
	3.0nm,0.3s,SNR=5.1						
ECAL				Sn	Sn	22 52 08.7	-0.1
	13nm,0.4s,SNR=6.3						
ECAL				Lg		22 52 29.7	
	15nm,0.4s,SNR=4.9						
PBRG	Braganca	4.01	256	ePn	Pn	22 51 24.0	+1.5
PBRG				eSn	Sn	22 52 10.6	+0.8
PBRG				eSg	Sg	22 52 26.1	-7.5
LASF	Ste Croix	4.09	72	ePn	Pn	22 51 22.8	-0.8
LASF				eSn	Sn	22 52 08.5	-3.3
	9.1nm,0.4s						
ERUA	La Rua	4.17	265	Pn	Pn	22 51 26.3	+1.6
	2.2nm,0.3s,SNR=11						
ERUA				Sn	Sn	22 52 12.6	-1.2
	SNR=7.9						
ERUA				Lg		22 52 36.1	
	0.9nm,0.3s,SNR=7.9						
ETOB	Tobarra	4.25	180	Pn	Pn	22 51 26.5	+0.6
	SNR=7.9						
TCF	Toulx Ste Croi	4.31	37	ePn	Pn	22 51 24.7	-2.0
TCF				eSn	Sn	22 52 13.9	-3.4
	6.8nm,0.4s						
EBEN	Beniarda	4.31	166	Pn	Pn	22 51 26.7	0.0
	SNR=7.9						
BGF	Bois d'Agland	4.80	39	ePn	Pn	22 51 32.9	-0.7
BGF				eSn	Sn	22 52 25.6	-4.2
	18nm,0.4s						
PVRL	Vila Real	4.88	253	eSn	Sn	22 52 30.6	-1.2
PVRL				eSg	Sg	22 52 52.8	-10
	5.3nm,0.3s						
PVRL	Vila Real	4.88	253	Sn	Sn	22 52 30.6	-1.2
PVRL				Lg		22 52 52.8	
	2.7nm,0.3s						
VIVF	Saint-Julien-l	4.89	64	ePn	Pn	22 51 33.8	-1.1
ELOB	Lobios	4.95	260	Pn	Pn	22 51 36.6	+0.9
	SNR=7.9						
ELOB				Sn	Sn	22 52 32.2	-1.2
	SNR=7.9						
ELOB				Lg		22 53 01.1	
	1.0nm,0.2s,SNR=7.9						
QUIF	Quistinic	5.14	348	ePn	Pn	22 51 38.7	+0.2
MTE	Manteigas	5.15	243	eSg	Sg	22 53 02.6	-8.9
	9.2nm,0.5s						
MTE	Manteigas	5.15	243	Lg		22 53 02.6	
	4.6nm,0.5s						
AVF	Avril sur Loir	5.21	40	ePn	Pn	22 51 37.7	-1.7
AVF				eSn	Sn	22 52 34.9	-5.1
	3.9nm,0.4s						
EQES	Quesada	5.23	194	Pn	Pn	22 51 39.6	-0.1
	SNR=7.9						
EQES				Pg	Pg	22 51 58.0	-6.3
	5.2nm,0.6s,SNR=8.5						
EQES				Lg		22 53 08.2	
	4.0nm,0.7s,SNR=5.9						
PVIS	Viseu	5.23	247	eSg	Sg	22 53 07.3	-6.9
	3.1nm,0.4s						
PVIS	Viseu	5.23	247	Lg		22 53 07.3	
	1.6nm,0.4s						
EADA	Adamuz	5.27	207	Pn	Pn	22 51 40.2	0.0
	2.2nm,0.9s,SNR=5.8						
SMF	Signal de Mont	5.35	44	ePn	Pn	22 51 40.6	-0.7
SGMF	Saint Gilles	5.40	353	ePn	Pn	22 51 41.7	-0.4
PCBR	Castelo Branco	5.42	238	eSg	Sg	22 53 11.3	-9.1
	4.3nm,0.6s						
PCBR	Castelo Branco	5.42	238	Lg		22 53 11.3	
	2.2nm,0.6s						
SSF	Saint Saulge	5.48	39	eSn	Sn	22 52 41.3	-5.5
	2.8nm,0.4s						
GRR	Gorron	5.50	5	ePn	Pn	22 51 41.2	-2.4
GRR				eSn	Sn	22 52 43.3	-4.1
	3.2nm,0.3s						
ROSF	Rostrenen	5.57	348	ePn	Pn	22 51 44.9	+0.4
ORIF	Oris-en-Rattie	5.72	67	ePn	Pn	22 51 46.4	-0.2
EBAD	Badajoz	5.87	227	Pn	Pn	22 51 49.3	+0.6
	SNR=7.9						
FLN	La Foliniere	5.91	7	ePn	Pn	22 51 47.5	-1.7

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*NAO **20** 23:04:33.0±3.0, 67.21N×20.33E, ML2.3*

*HEL **20** 23:04:33.7±0.2, 67.19N×20.66E, ML2.4, ML2.3(UPP), ML2.3(BER), Explosion*

*BER **20** 23:04:35.8±5.0, 67.20N×20.62E, ML2.3, ML2.3(NAO), Suspected explosion*

ISC 20 23:04:32.6±0.4, 67.22N±0.02×20.74E±0.07, n25, σ0^{s}93/37, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	Dundret	0.12	215	*i* P	Pg	23 04 34.9	-0.1
DUNU				*i* S	Sg	23 04 36.2	-0.3
MASU	Masugnsbyn	0.54	63	*i* P	Pg	23 04 43.9	+0.5
KUA	Kurravaara	0.76	348	*i* P	Pg	23 04 46.9	-0.8
ERTU	Ertsjaerv	0.88	139	*i* P	Pg	23 04 48.6	-1.5
PAJU	Pajala	0.95	101	*e*P	Pg	23 04 50.7	-0.8
SJUU	Sjulsmark	1.75	168	*e*P	Pn	23 05 03.9	-0.5
KIF	Kilpisjarvi	1.79	1	*e*P	Pn	23 05 06.8	+1.8
KIF				*e*SG	Sg	23 05 31.2	-1.1
LILU	Lilltraesk	1.98	191	*e*P	Pn	23 05 07.9	+0.3
KTK1	Kautokeino	2.03	26	*e*P	Pn	23 05 10.9	+2.5
KTK1				*e*SG	Sg	23 05 38.9	-1.2
KTK1				AML	AML	23 05 41.1	
	comp=Z,47nm,0.5s						
SGF	Sodankyl	2.25	82	*e*P	Pn	23 05 13.3	+1.7
SGF				*e*SB	Sb	23 05 42.3	0.0
TRO	Tromso	2.52	345	*e*P	Pn	23 05 15.6	+0.3
TRO				*e*SG	Sg	23 05 52.3	-4.0
TRO				AML	AML	23 05 54.8	
	comp=Z,18nm,0.4s						
MOR8	Moi Rana	2.72	250	*e*SG	Sn	23 05 52.2	-0.1
MOR8				AML	AML	23 05 55.6	
	comp=Z,39nm,0.5s						
LOF	Lofoten	2.90	292	*e*	Sg	23 06 09.3	+0.2
LOF	Lofoten	2.90	292	*e*Sg	Sg	23 06 09.3	+0.2
ARA0	ARCESS Array S	2.92	35	Pn	Pn	23 05 21.1	0.0
	baz=210,slow=16						
ARA0				Sn	Sn	23 05 57.8	+0.3
	baz=211,slow=22						
ARA0	ARCESS Array S	2.92	35	*e*P	Pn	23 05 21.1	0.0
ARA0				*e*S	Sn	23 05 57.8	+0.3
OUL	Oulu	3.00	133	*e*P	Pn	23 05 24.0	+1.8
OUL				*e*S	Sn	23 05 59.5	+0.2
OUL				MSG		23 06 17.8	
	comp=Z,8.2nm,0.4s						
KEV	Kevo	3.44	39	*e*P	Pn	23 05 28.3	-0.1
KEV				*e*S	Sn	23 06 10.1	-0.4
KEV				MSG		23 06 27.6	
	comp=Z,12nm,0.4s						
MSF	Maaselka	3.56	108	*e*P	Pn	23 05 30.5	+0.2
MSF				*e*S	Sn	23 06 13.5	-0.3
KJN	Kajaani	4.27	134	*e*SG	Sg	23 06 45.9	-8.7
KJN				MSG		23 06 51.9	
	comp=Z,6.5nm,0.4s						
NSS	Namsos	4.50	237	*e*SG	Sg	23 06 52.8	-10
NSS				AML	AML	23 06 59.6	
	comp=Z,13nm,0.5s						
FIA0	FINESS Array S	6.24	156	Pn	Pn	23 06 07.0	-1.2
	baz=356,slow=12						
FIA0				Sn	Sn	23 07 16.7	-4.5
	baz=341,slow=28						
FIA0				Lg		23 07 49.3	
	baz=341,slow=37						
FIA0	FINESS Array S	6.24	156	*e*P	Pn	23 06 07.0	-1.2
FIA0				*e*S	Sn	23 07 16.7	-4.5
FIA0				*e*		23 07 49.3	
HFS	Hagfors	7.76	207	*e*S	Sn	23 07 49.7	-10
HFS				*e*SG		23 08 34.5	
HFS	Hagfors	7.76	207	Sn	Sn	23 07 49.7	-10
	baz=39,slow=22						
HFS				Lg		23 08 34.5	
	baz=33,slow=37						

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*JMA **20** 23:43:21.9, 37.70N×137.11E, h14^{km}±1^{km}, M3.6*

ISC 20 23:43:22.0±0.7, 37.70N±0.04×137.11E±0.06, h12^{km}±6^{km}, n7, σ0^{s}64/14, 2C-2D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHG	Hegura jima	0.21	314	⇓P	Pg	23 43 26.8	+0.1
JHG				*e*S	Sg	23 43 30.3	+0.5
JSZ	Suzu	0.32	141	⇓P	Pg	23 43 28.4	-0.4
JSZ				*e*S	Sg	23 43 33.4	0.0
JJH	Hakui	0.82	199	⇑P	Pb	23 43 37.4	-0.3
JJH				S	Sb	23 43 48.6	+0.2
JSD	Sado	0.97	70	⇑P	Pb	23 43 39.7	-0.6
JSD				*e*S	Sb	23 43 53.0	+0.2
JJN	Nakama	1.03	125	P	Pb	23 43 41.5	+0.2
JJN				*e*S	Sb	23 43 56.2	+1.6
JTT	Ttatey	1.11	171	P	Pb	23 43 42.3	-0.4
JTT				*e*S	Sb	23 43 57.6	+0.7
MAT	Matsushiro	1.45	143	P	Pn	23 43 47.0	-1.2
MAT				S	Sb	23 44 06.3	-0.5

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*IDC **20** 23:59:12.9±3.6, 17.40S×66.35E, mb3.9/7, mb1 4.1/7, mb1mx3.9/16, MS3.6/1, Ms1 3.8/1, ms1mx3.2/13, Error ellipse: s-maj=104.0km s-min=27.3km az=59.0*

ISC 20 23:59:12.5±3.3, 17.4S±0.4×66.4E±0.6, h10^{km}, n7, σ0^{s}76/7, mb3.9/7, MS3.6/1, Mauritius - Reunion region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	47.91	44	P	P	00 07 53.8	+0.5
	1.6nm,0.9s,mb4.1,baz=236,slow=8.4,SNR=11						
CMAR				LR	LR	00 24 08.8	
	comp=Z,68nm,18.8s,MS3.6,baz=204,slow=31						
FITZ	Fitzroy Crossi	56.22	100	P	P	00 08 55.7	+0.2
	1.6nm,0.8s,mb4.1,baz=44,slow=5.2,SNR=3.7						
ASAR	Alice Springs	63.04	108	P	P	00 09 42.1	-0.3
	1.5nm,0.8s,mb4.2,baz=269,slow=5.7,SNR=16						
WRA	Warramunga Arr	64.03	104	P	P	00 09 49.4	+0.3
	2.1nm,0.8s,mb4.2,baz=263,slow=5.7,SNR=11						
MKAR	Makanchi Array	65.49	12	P	P	00 09 57.9	-0.2
	0.2nm,0.6s,mb3.4,baz=202,slow=7.8,SNR=2.7						
BVAR	Borovoye Array	70.22	3	P	P	00 10 28.7	+1.1
	0.8nm,0.6s,mb3.8,baz=194,slow=5.9,SNR=4.0						
SONM	Songino Array	74.16	27	P	P	00 10 49.5	-1.6
	0.9nm,0.9s,mb3.7,baz=207,slow=5.5,SNR=5.0						

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*STR **21** 00:10:00.5±0.7, 42.84N×1.55W, h5^{km}±1^{km}, Ml2.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LDG **21** 00:10:03.0±0.3, 42.93N×1.44W, h2^{km}, Md3.0/2, Ml3.0/11, Error ellipse: s-maj=6.1km s-min=3.7km az=35.0*

*NEIC **21** 00:10:03.0, 42.93N×1.44W, h2^{km}, ML3.0(LDG), ML2.6(STR), MN2.4(MDD), After LDG.*

MDD 21 00:10:02.4±0.3, 42.87N×1.42W, h4^{km}±3^{km}, mbLg2.5/13, 1C, Error ellipse: s-maj=2.4km s-min=2.1km az=41.0, AftershockPLICA PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJPF	Ste Jean	0.29	30	*e*Pg	Pg	00 10 07.9	-0.3
SJPF				*e*Sg	Sg	00 10 10.8	-1.2
	817nm,0.4s						
EALK	Alkurruntz	0.36	350	⇑Pg	Pg	00 10 09.0	-0.6
	119nm,0.4s,SNR=18						
EALK				Lg		00 10 13.8	
	170nm,0.2s,SNR=9.5						
LARF	Larrau	0.36	62	Pg	Pg	00 10 09.1	-0.6
LARF				Sg	Sg	00 10 15.5	+0.9
LARF	Larrau	0.36	62	P	Pg	00 10 09.1	-0.6
LARF				S	Sg	00 10 14.8	+0.2
OSSF	Osses	0.41	17	Pg	Pg	00 10 09.8	-0.8
OSSF				Sg	Sg	00 10 16.2	+0.2
OSSF	Osses	0.41	17	P	Pg	00 10 09.9	-0.7
OSSF				S	Sg	00 10 15.6	-0.4
ORDF	Ordiarp	0.50	46	Pg	Pg	00 10 11.8	-0.6
ORDF				Sg	Sg	00 10 19.8	+0.8
ORDF	Ordiarp	0.50	46	P	Pg	00 10 11.9	-0.5
ORDF				S	Sg	00 10 18.6	-0.4
ATE	Arette	0.57	67	P	Pg	00 10 12.8	-1.1
ATE				S	Sg	00 10 21.4	-0.2
FDAF	Les Forges d'A	0.63	94	Pg	Pg	00 10 13.6	-1.4
FDAF				Sg	Sg	00 10 24.7	+1.3
FDAF	Les Forges d'A	0.63	94	P	Pg	00 10 13.8	-1.2
FDAF				S	Sg	00 10 23.9	+0.4
REYF	Montagne du Re	0.78	75	Pg	Pg	00 10 16.2	-1.8
REYF	Montagne du Re	0.78	75	P	Pg	00 10 16.5	-1.6
REYF				S	Sg	00 10 28.0	-0.5
VIEF	Viey	1.06	89	P	Pb	00 10 21.2	-1.8
VIEF				S	Sb	00 10 37.2	+0.1
LABF	Labassere	1.11	80	Pg	Pg	00 10 23.0	-1.6
LABF				Sg	Sg	00 10 38.5	-1.0
LABF	Labassere	1.11	80	P	Pb	00 10 23.2	-0.6
LABF				S	Sb	00 10 38.5	+0.1
RESF	Ens	1.30	92	Pg	Pg	00 10 27.5	-0.8
RESF	Ens	1.30	92	P	Pb	00 10 27.7	+0.8
RESF				S	Sb	00 10 45.1	+1.3
EPF	Esparros	1.30	82	*e*Pn	Pn	00 10 25.8	-1.6
EPF				*e*Pg	Pg	00 10 28.0	-0.4
EPF				*e*Sg	Sg	00 10 43.8	-2.1
	111nm,0.4s						
ESAC	San Caprasio	1.34	148	Pg	Pg	00 10 26.0	-3.2
	103nm,0.3s,SNR=43						
ESAC				Lg		00 10 44.4	
	23nm,0.2s,SNR=73						
ELAN	Lanestosa	1.52	285	Pg	Pg	00 10 30.1	-2.6
	16nm,0.3s,SNR=68						
ELAN				Lg		00 10 51.1	
	12nm,0.2s,SNR=7.9						
MELF	Melles	1.60	89	P	Pn	00 10 32.7	+1.0
MELF				S	Sb	00 10 55.1	+2.4
MLS	Moulis	1.85	86	S	Sn	00 11 00.9	+1.6
SALF	Salau	1.93	92	P	Pn	00 10 36.9	+0.7
SALF				S	Sn	00 11 02.5	+1.4
ETOR	Torete	2.10	193	Pn	Pn	00 10 37.6	-1.1
	22nm,0.4s,SNR=52						
ETOR				Pg	Pg	00 10 40.8	-3.5
	28nm,0.4s,SNR=14						
ETOR				Sn	Sn	00 11 04.8	-0.7
	49nm,0.5s,SNR=5.0						
ETOR				Lg		00 11 10.6	
	18nm,0.2s,SNR=5.0						
GRBF	Gourbit	2.18	90	P	Pn	00 10 43.0	+3.1
EMIR	Miracle	2.38	113	Pn	Pn	00 10 39.8	-3.0
	10.0nm,0.5s,SNR=13						
EMIR				Lg		00 11 16.9	
	17nm,0.4s,SNR=8.5						
EMIR	Miracle	2.38	113	Pn	Pn	00 10 39.8	-3.0
EMIR				Lg		00 11 16.9	
EPOB	Poblet	2.40	128	Pn	Pn	00 10 40.3	-2.7
	SNR=7.9						
EPOB				Pg	Pg	00 10 45.6	-4.7
	SNR=7.9						
EPOB				Lg		00 11 15.1	
	11nm,0.4s,SNR=7.9						
EBR	Ebro Roquetas	2.50	144	*e*Rs		00 10 53.0	
EBR				*e*S*	Sb	00 11 20.5	+1.9
EBR	Ebro Roquetas	2.50	144	*e*SG	Sg	00 11 23.5	-2.0
VALF	Valcebollere	2.58	99	Pg	Pn	00 10 47.0	+1.4
VALF				Sg	Sn	00 11 21.2	+3.4
VALF	Valcebollere	2.58	99	P	Pn	00 10 45.3	-0.3
VALF				S	Sn	00 11 20.9	+3.1
LFF	La Frestale	2.60	36	*e*Pn	Pn	00 10 44.0	-1.8
LFF				*e*Pg	Pg	00 10 53.4	-0.8
LFF				*e*Sn	Sn	00 11 13.6	-4.6
LFF				*e*Sg	Sg	00 11 22.5	-6.3
	18nm,0.4s						
EMOS	Mosqueruela	2.60	164	Pn	Pn	00 10 43.7	-2.2
	SNR=7.9						
EMOS				Pg	Pg	00 10 49.1	-5.2
	SNR=7.9						
EMOS				Lg		00 11 24.6	
	41nm,0.6s,SNR=7.9						
CARF	Carcanieres	2.60	92	P	Pn	00 10 50.0	+4.1
CARF				S	Sn	00 11 23.1	+4.8
MTLF	Montolieu	2.71	79	*e*Pn	Pn	00 10 46.5	-0.9
MTLF				*e*Sn	Sn	00 11 17.6	-3.5
EJON	La Jonquera	3.21	96	Pn	Pn	00 10 51.4	-3.1
	SNR=7.9						
EJON				Pg	Pg	00 10 59.0	-7.4
	SNR=7.9						
EJON				Lg		00 11 42.9	
	26nm,0.6s,SNR=7.9						
RJF	Les Rejaudoux	3.23	40	*e*Pn	Pn	00 10 52.0	-2.9
RJF				*e*Sn	Sn	00 11 29.0	-5.3
	12nm,0.4s						
CAF	Calviac	3.25	50	*e*Pn	Pn	00 10 52.5	-2.7
CAF				*e*Sn	Sn	00 11 30.0	-4.9
	18nm,0.6s						
ESDC	Sonseca Array	3.72	212	Pn	Pn	00 10 58.3	-3.5
	1.3nm,0.3s,baz=37,slow=13,SNR=11						
ESDC				Pg	Pg	00 11 10.6	-6.0
	1.8nm,0.4s,baz=31,slow=17,SNR=12						
ESDC				Lg		00 12 02.6	
	2.6nm,0.4s,baz=33,slow=29,SNR=9.5						
MFF	Saint Martin d	3.85	13	*e*Pn	Pn	00 11 00.5	-3.1
MFF				*e*Pg	Pg	00 11 13.2	-6.0
MFF				*e*Sn	Sn	00 11 43.8	-6.0
	5.9nm,0.4s						
LASF	Ste Croix	4.03	71	*e*Pn	Pn	00 11 03.6	-2.6
LASF				*e*Sn	Sn	00 11 48.6	-5.9
	21nm,0.6s						
ECAL	Calabor	4.04	259	Pn	Pn	00 11 02.8	-3.6
	SNR=7.9						
ECAL				Sn	Sn	00 11 49.4	-5.5
	SNR=7.9						
ECAL				Lg		00 12 08.6	
	6.3nm,0.3s,SNR=7.9						
ETOB	Tobarra	4.22	181	Pn	Pn	00 11 06.1	-2.8
	SNR=7.9						
ETOB				Pg	Pg	00 11 19.4	-7.1
	SNR=7.9						
ETOB				Sn	Sn	00 11 53.1	-6.1
	SNR=7.9						
ETOB				Lg		00 12 16.9	
	3.7nm,0.4s,SNR=7.9						
ERUA	La Rua	4.25	266	Pn	Pn	00 11 07.5	-1.8
	2.4nm,0.3s,SNR=8.6						
ERUA				Sn	Sn	00 11 56.1	-3.9
	2.5nm,0.3s,SNR=6.8						
EBEN	Beniarda	4.26	167	Pn	Pn	00 11 06.2	-3.2
	SNR=7.9						
TCF	Toulx Ste Croi	4.29	36	*e*Pn	Pn	00 11 05.8	-4.2
TCF				*e*Sn	Sn	00 11 54.6	-6.6
	5.5nm,0.3s						
EVIA	Vianos	4.30	191	Pn	Pn	00 11 07.9	-2.2
	11nm,0.5s,SNR=6.1						
EIBI	Ibiza	4.37	150	Pn	Pn	00 11 08.0	-3.1
	SNR=7.9						
BGF	Bois d'Agland	4.78	38	*e*Pn	Pn	00 11 12.9	-4.0
BGF				*e*Sn	Sn	00 12 06.0	-7.6
	21nm,0.4s						
VIVF	Saint-Julien-l	4.84	64	*e*Pn	Pn	00 11 14.2	-3.5
VIVF				*e*Sn	Sn	00 12 06.8	-8.1
	7.5nm,0.6s						
ELOB	Lobios	5.02	261	Pn	Pn	00 11 17.3	-3.0
	SNR=7.9						
ELOB				Sn	Sn	00 12 13.4	-6.1
	SNR=7.9						
AVF	Avril sur Loir	5.19	39	*e*Pn	Pn	00 11 18.3	-4.4
QUIF	Quistinic	5.20	347	*e*Pn	Pn	00 11 19.6	-3.2
EQES	Quesada	5.21	195	Pn	Pn	00 11 20.8	-2.1
	SNR=7.9						
EQES				Pg	Pg	00 11 38.2	-8.2
	SNR=7.9						
SMRF	Simiane la Rot	5.22	75	*e*Pn	Pn	00 11 20.2	-2.8
EADA	Adamuz	5.27	208	Pn	Pn	00 11 20.3	-3.5
	SNR=7.9						
SMF	Signal de Mont	5.32	43	*e*Pn	Pn	00 11 19.4	-5.1
SGMF	Saint Gilles	5.45	352	*e*Pn	Pn	00 11 22.5	-3.8
SSF	Saint Saulge	5.46	38	*e*Pn	Pn	00 11 21.7	-4.8
GRR	Gorron	5.54	4	*e*Pn	Pn	00 11 21.6	-6.0
ROSF	Rostrenen	5.62	347	*e*Pn	Pn	00 11 25.5	-3.3
ORIF	Oris-en-Rattie	5.66	66	*e*Pn	Pn	00 11 26.6	-2.7
ORIF				*e*Sn	Sn	00 12 26.7	-9.0
	4.7nm,0.6s						
LDF	La Druitiere	5.80	9	*e*Pn	Pn	00 11 26.3	-5.0
FLN	La Foliniere	5.94	6	*e*Pn	Pn	00 11 27.6	-5.6
FRF	La Foret Royal	5.94	81	*e*Pn	Pn	00 11 30.4	-2.8
MBDF	Montbardon	6.22	70	*e*Pn	Pn	00 11 34.7	-2.4
LPL	La Plagne	6.43	63	*e*Pn	Pn	00 11 37.4	-2.8
LPG	La Plagne	6.44	63	*e*Pn	Pn	00 11 37.7	-2.6

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*NIED **21** 00:32:00, 33.00N×136.90E, h11^{km}, Mw3.5 Best double couple: M$_0$2.33×10^{14} NP1:ϕ_s56°, δ66°, λ74°. NP2:ϕ_s271°, δ28°, λ122°.*

*JMA **21** 00:32:07.1±0.1, 33.01N×136.93E, h37^{km}, M3.9*

ISC 21 00:32:07.5±1.0, 33.03N±0.06×136.94E±0.04, h45^{km}±23^{km}, n16, σ0^{s}69/29, 10D, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK01	Tokai 1	0.92	36	P	P	00 32 23.9	-0.2
TK01				*e*S	S	00 32 36.2	-0.2
JWZ	Kozaga	1.14	297	⇓P	P	00 32 27.0	-0.2
JWZ				*e*S	S	00 32 40.9	-1.1
TK02	Tokai 2	1.15	36	⇓P	P	00 32 27.3	0.0
TK02				S	S	00 32 42.2	+0.1
JKN	Kiinagashima	1.34	335	⇓P	P	00 32 30.4	+0.2
JKN				S	S	00 32 46.1	-1.0
JIE	Ise	1.38	352	⇓P	P	00 32 31.2	+0.5
JIE				*e*S	S	00 32 48.2	+0.2
JWM	Minabe	1.56	302	⇓P	P	00 32 33.1	-0.1
JWM				*e*S	S	00 32 51.8	-0.6
TK04	Tokai 4	1.57	30	⇓P	P	00 32 33.6	+0.3
TK04				S	S	00 32 52.7	+0.1
JWY	Kouya	1.64	317	⇓P	P	00 32 35.0	+0.7
JWY				*e*S	S	00 32 54.4	+0.1
TSUJ	Tsu 2	1.73	346	⇓P	P	00 32 36.2	+0.5
TSUJ				*e*S	S	00 32 57.5	+0.8
JHE	Heguri	1.93	328	⇓P	P	00 32 39.1	+0.6
JHE				*e*S	S	00 33 02.2	+0.6
JAJ2	Tsuna	2.20	310	P	P	00 32 43.0	+0.6
JAJ2				*e*S	S	00 33 09.0	+0.5
JAI	Aioi	2.21	291	⇓P	P	00 32 42.6	+0.1
JAI				*e*S	S	00 33 07.5	-1.3
SHZ3	Shizuoka 3	2.29	27	*e*S	S	00 33 09.5	-1.3
JIZS	Izushimoda	2.34	43	P	P	00 32 45.7	+1.4
JHJ2	Mitsune	2.42	87	*e*S	S	00 33 12.9	-1.1
MAT	Matsushiro	3.66	16	P	P	00 33 03.8	+0.7
MAT				S	S	00 33 44.5	-1.0

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*HEL **21** 00:41:26.3±0.0, 67.19N×20.70E, ML1.7, ML2.5(UPP), ML1.8(BER), Explosion*

*BER **21** 00:41:26.7±3.5, 67.05N×20.79E, ML1.8, Suspected explosion*

ISC 21 00:41:25.2±0.4, 67.19N±0.03×20.77E±0.07, n22, σ0^{s}99/30, 1C, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	Dundret	0.10	229	⇑*i*P	Pg	00 41 27.6	+0.4
DUNU				*i* S	Sg	00 41 29.0	+0.3
MASU	Masugnsbyn	0.55	60	*i* P	Pg	00 41 36.7	+0.6
KUA	Kurravaara	0.79	348	*i* P	Pg	00 41 40.2	-0.7
ERTU	Ertsjaerv	0.85	138	*i* P	Pg	00 41 41.5	-0.6
PAJU	Pajala	0.93	99	*e*P	Pg	00 41 43.5	-0.3
NIKU	Nikkaluokta	0.95	316	*e*P	Pg	00 41 43.0	-1.2
SJUU	Sjulsmark	1.72	168	*e*P	Pn	00 41 56.9	+0.3
KIF	Kilpisjarvi	1.82	0	*e*P	Pn	00 41 59.1	+1.0
KIF				*e*S	Sn	00 42 23.1	+0.9
LILU	Lilltraesk	1.95	191	*e*P	Pn	00 42 00.3	+0.5
KTK1	Kautokeino	2.05	26	*e*P	Pn	00 42 04.0	+2.6
KTK1				*e*SG	Sg	00 42 32.3	-1.2
KTK1				AML	AML	00 42 32.9	
	comp=Z,16nm,0.3s						
SGF	Sodankyl	2.25	81	*e*P	Pn	00 42 05.3	+1.2
SGF				*e*S	Sn	00 42 33.4	+0.5
SGF				MSG		00 42 42.4	
	comp=Z,2.3nm,0.1s						
TRO	Tromso	2.55	345	*e*S	Sn	00 42 42.0	+1.4
TRO				AML	AML	00 42 45.7	
	comp=Z,12nm,0.8s						
BURU	Burvik	2.63	174	*e*P	Pn	00 42 10.0	+0.4
MOR8	Moi Rana	2.72	251	*e*SG	Sn	00 42 44.4	-0.6
MOR8				AML	AML	00 42 47.5	
	comp=Z,6.3nm,0.4s						
SVAU	Svanoeiden	2.75	191	*e*P	Pn	00 42 11.8	+0.5
LOF	Lofoten	2.92	292	*e*	Sg	00 42 59.9	-2.4
LOF	Lofoten	2.92	292	*e*Sg	Sg	00 42 59.9	-2.4
OUL	Oulu	2.97	133	*e*PG	Pg	00 42 19.2	-5.2
OUL				*e*S	Sn	00 42 50.2	-1.1
OUL				MSG		00 43 00.0	
	comp=Z,2.4nm,0.3s						
UMAU	Umeaa	3.32	181	*e*P	Pn	00 42 19.6	+0.1
KEV	Kevo	3.45	39	*e*P	Pn	00 42 21.3	0.0
KEV				*e*S	Sn	00 43 02.1	-1.5
KEV				MSG		00 43 16.7	
	comp=Z,2.3nm,0.3s						
MSF	Maaselka	3.55	107	*e*P	Pn	00 42 22.9	+0.3
MSF				*e*PG	Pg	00 42 31.0	-5.0
MSF				*e*S	Sn	00 43 04.4	-1.5
MSF				MSG		00 43 21.0	
	comp=Z,1.4nm,0.3s						
NSS	Namsos	4.49	238	*e*SG	Sn	00 43 44.6	+15

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*IDC **21** 00:50:07.9±1.1, 35.36N×29.56E, mb3.6/5, mb1 3.7/9, mb1mx3.7/19, ML3.5/3, Error ellipse: s-maj=26.1km s-min=18.9km az=3.0*

*ISK **21** 00:50:08.0, 35.20N×29.50E, h8^{km}, MD3.8, ML3.8*

*NEIC **21** 00:50:14.2, 35.62N×29.33E, h53^{km}, MD3.8(ATH), After ATH.*

*ATH **21** 00:50:14.2, 35.62N×29.33E, h53^{km}, MD3.8/5*

*NIC **21** 00:50:15.4±0.2, 35.36N×29.70E, h25^{km}, mb4.0, ML3.7, MW3.2*

ISC 21 00:50:11.3±0.3, 35.25N±0.03×29.53E±0.03, h48^{km}±8^{km}, n69, σ0^{s}94/91, mb3.5/5, 4C, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSL	Kastellorizon	0.90	3	*e*P	P	00 50 27.0	-0.8
ARG	Arkhangelos	1.49	311	*e*P	P	00 50 35.3	-0.9
ELL	Elmali	1.53	12	*i* PN	P	00 50 37.2	+0.5
DALT	Dalyan (Mudla)	1.68	335	PN	P	00 50 38.6	-0.2
DALT				SN	S	00 51 01.5	+2.2
DALT	Dalyan (Mudla)	1.68	335	Pn	P	00 50 38.6	-0.2
DALT				Sg	S	00 51 01.6	+2.3
KARP	Karpathos	1.96	279	*e*P	P	00 50 43.5	+0.8
YER	Yerkesik	2.13	332	PN	P	00 50 45.9	+0.6
AKMC	Akamas	2.31	95	P	P	00 50 48.9	+1.1
PPCY	Paphos	2.34	98	P	P	00 50 49.2	+1.0
BCK	Bucak	2.37	21	PN	P	00 50 49.2	+0.6
DNZL	Cakiroluk	2.47	351	*i* P	P	00 50 50.8	+0.8
DNZL				*i* S	S	00 51 26.6	+7.6
BDRM	Kayabasi	2.48	318	*i* P	P	00 50 49.5	-0.6
BDRM				*i* S	S	00 51 16.7	-2.6
ALFC	Alevga	2.52	91	P	P	00 50 51.3	+0.5
	8.6nm,0.3s						
ALFC				S	S	00 51 19.6	-0.8
DENT	Denizli	2.53	351	*e*PN	P	00 50 51.3	+0.4
ISP	Isparta	2.71	17	*e*PN	P	00 50 53.5	+0.1
AYDN	Tasoluk	2.75	332	*i* P	P	00 50 54.5	+0.5
AYDN				*i* S	S	00 51 24.3	-1.9
LEF	Lefka	2.76	92	*e*PN	P	00 50 54.3	+0.1
SZAC	Souni-Zanaja	2.80	99	P	P	00 50 55.5	+0.7
	6.5nm,0.4s						
SZAC				S	S	00 51 27.3	-0.2
HDMB	Hadim	2.94	54	*e*PN	P	00 50 57.0	+0.2
MAMC	Mammari	3.02	90	⇑P	P	00 50 58.9	+1.0
MAMC	Mammari	3.02	90	⇑*i*P	P	00 50 58.9	+1.0
CSS	Prodhromos	3.13	94	P	P	00 50 59.8	+0.3
	2.0nm,0.3s						
CSS				S	S	00 51 35.2	-0.7
CSS	Prodhromos	3.13	94	*i* P	P	00 50 59.7	+0.2
CSS				*i* S	S	00 51 34.4	-1.5
NPS	Neapolis	3.20	271	*e*P	P	00 51 01.5	+1.0
MANT	Manisa	3.33	347	*i* P	P	00 51 01.2	-1.0
MANT				*i* S	S	00 51 36.7	-4.2
IKL	Isikli	3.52	73	*e*PN	P	00 51 05.2	+0.2
KDAG	Bornova	3.63	331	⇑*i*P	P	00 51 05.8	-0.7
KDAG				*i* S	S	00 51 45.4	-3.2
PHNC	Paralimni	3.70	92	P	P	00 51 09.5	+2.0
APE	Apeiranthos	3.71	300	*e*PN	P	00 51 07.2	-0.4
IDI	Anoyia	3.79	272	Pn	P	00 51 09.1	+0.3
	4.2nm,0.3s,baz=100,slow=14,SNR=32						
IDI				Sn	S	00 51 50.9	-1.8
	17nm,0.3s,baz=326,slow=20,SNR=12						
AKS	Akhisar	3.87	340	*e*PN	P	00 51 09.6	-0.3
MEST	Erdemli	3.98	69	*i* P	P	00 51 13.1	+1.6
MEST				*i* S	S	00 51 57.4	0.0
KIZT	Kizilcal	4.08	27	*e*PN	P	00 51 12.5	-0.4
VAM	Vamos	4.36	274	*e*P	P	00 51 18.5	+1.7
ESKT	Eskisehir	4.39	13	P	P	00 51 16.7	-0.5
ESKT	Eskisehir	4.39	13	*e*PN	P	00 51 17.4	+0.1
DST	Dursunbey	4.41	351	*e*PN	P	00 51 17.4	-0.1
GVD	Gavdhos	4.48	266	*e*Pn	P	00 51 18.2	-0.3
HNTI	Hanita	5.16	113	Pn	P	00 51 28.3	+0.3
HNTI				Sn	S	00 52 23.4	-3.5
KAMT	Kaman	5.29	38	*e*PN	P	00 51 30.0	+0.1
SLTI	Sal'it	5.49	122	Sn	S	00 52 31.1	-4.1
HRI	Mount Hermon	5.51	109	Pn	P	00 51 33.7	+0.9
VLI	Veliai	5.54	287	*e*P	P	00 51 32.5	-0.8
COBT	Iskenderun	5.61	75	⇑*i*P	P	00 51 34.3	+0.1
COBT				*i* S	S	00 52 35.6	-2.7
MMLI	Mount Malkishu	5.65	118	Pn	P	00 51 35.0	+0.2
MMLI				Sn	S	00 52 35.9	-3.4

SGKT	Sivrigoynuk	5.68	20	P	P	00 51 35.2	0.0
GLH	Golan-Tel Qazi	5.68	115	Pn	P	00 51 36.0	+0.8
KSHT	Keshet	5.68	112	Pn	P	00 51 35.4	+0.1
HMDT	Nahal Hemdat	5.82	119	Pn	P	00 51 37.8	+0.6
KZIT	Kziot	5.96	135	Pn	P	00 51 39.4	+0.3
KZIT				Sn	S	00 52 42.1	-4.8
DRGI	Dragot	6.11	125	Pn	P	00 51 41.4	+0.1
MASH	Mash‘abbe Sade	6.12	132	Pn	P	00 51 41.7	+0.3
MZDA	Masada	6.27	127	Pn	P	00 51 43.7	+0.2
PRNI	Paran	6.72	135	Pn	P	00 51 49.3	-0.5
PRNI				Sn	S	00 53 00.7	-5.1
KMTI	Karmit	6.75	138	Pn	P	00 51 49.4	-0.8
KMTI				Sn	S	00 53 01.5	-5.0
ASF	Jabal al Asfar	6.87	114	Pn	P	00 51 51.3	-0.6
	0.3nm,0.3s,baz=171,slow=12,SNR=3.3						
ASF				Sn	S	00 53 06.6	-2.9
	0.8nm,0.3s,baz=110,slow=23,SNR=3.2						
MBH	Mount Berech	7.09	139	Pn	P	00 51 55.6	+0.5
EIL	Elat	7.21	139	Pn	P	00 51 56.4	-0.2
	1.1nm,0.3s,baz=304,slow=27,SNR=17						
EIL				Sn	S	00 53 12.7	-5.3
	6.0nm,0.3s,baz=344,slow=25,SNR=10						
HAQS	Haql	7.69	142	P	P	00 52 02.6	-0.7
HAQS				S	S	00 53 23.7	-6.2
JMOS	Jabal al Moall	7.69	141	P	P	00 52 03.3	0.0
TAYS	Tayyib Ism	8.07	144	P	P	00 52 08.0	-0.7
BDAS	Al Bad‘	8.29	144	P	P	00 52 10.6	-0.9
AYUS	‘Aynunah	8.57	144	P	P	00 52 14.6	-0.9
GERES	GERESS Array B	17.91	324	P	P	00 54 18.7	+0.3
	baz=135,slow=11,SNR=5.5						
FINES	FINESS Array B	26.31	356	P	P	00 55 44.1	+0.1
	0.4nm,0.5s,mb3.2,baz=163,slow=14,SNR=3.3						
ESDC	Sonseca Array	26.85	289	P	P	00 55 50.2	+0.9
	0.3nm,0.4s,mb3.2,baz=84,slow=11,SNR=4.2						
MKAR	Makanchi Array	40.74	57	P	P	00 57 49.3	+0.4
	0.3nm,0.5s,mb3.1,baz=273,slow=9.2,SNR=7.2						
DBIC	Dimbokro	42.50	236	P	P	00 58 04.8	+1.0
	5.1nm,1.2s,mb4.1,baz=86,slow=17,SNR=4.0						
SONM	Songino Array	56.64	52	P	P	00 59 52.0	+0.3
	0.4nm,0.5s,mb3.7,baz=270,slow=8.6,SNR=2.9						

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*IDC **21** 00:50:09.6±0.7,5.88N×126.18E,mb4.5/13,mb1 4.6/13, mb1mx4.5/18,MS3.3/3,Ms1 3.4/3,ms1mx3.0/19,Error ellipse: s-maj=58.5km s-min=13.0km az=71.0*

*NEIC **21** 00:50:19.6±6.6,5.79N×126.14E,h79^{km}±63^{km},mb4.8/10, Error ellipse: s-maj=30.2km s-min=11.5km az=70.0*

*MAN **21** 00:50:19.4,5.66N×126.54E,h96^{km},mb5.2,ML4.1,MS4.3*

ISC 21 00:50:20.5±0.4,**5.74N**±0.04×**126.51E**±0.07,**h100**^{km},**n39,** σ**1^{s}35**/42,**mb4.5**/20,**1C-4D,Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MATI	Mati	1.23	348	eP	P	00 50 43.0	-0.9
GSPH	General Santos	1.59	283	i P	P	00 50 47.0	-1.3
GSPH				i S	S	00 51 10.0	+1.0
KCP	Kidapawan	1.90	312	⇓iP	P	00 50 52.4	+0.2
KCP				i S	S	00 51 15.7	+0.1
BIPH	Bislig	2.43	356	⇑iP	P	00 51 00.8	+1.3
BIPH				eS	S	00 51 28.5	0.0
BUKP	Musuan	2.57	326	eP	P	00 51 01.4	+0.1
CGP	Cagayan de Oro	3.25	326	⇓eP	P	00 51 12.3	+1.7
CGP				eS	S	00 51 50.6	+2.2
BUTP	Butuan	3.33	345	eP	P	00 51 11.6	-0.1
PAGZ	Pagadian	3.75	304	eP	P	00 51 16.3	-1.1
SCPH	Surigao	4.14	346	⇓eP	P	00 51 25.5	+2.7
ZMPH	Zamboanga City	4.58	285	⇓eP	P	00 51 29.0	+0.1
TBP	Tagbilaran	4.72	326	eP	P	00 51 30.1	-0.7
TBP				eS	S	00 52 25.8	+1.0
JOW	Kunigami	21.04	4	LR	LR	01 01 44.1	
	comp=Z,87nm,18.6s,baz=154,slow=33						
FITZ	Fitzroy Crossi	23.71	182	eP	P	00 55 25.1	+0.9
	4.5nm,0.6s,mb4.0						
FITZ	Fitzroy Crossi	23.71	182	P	P	00 55 25.3	+1.1
	6.1nm,0.7s,mb4.0,baz=3.8,slow=5.7,SNR=12						
WRAB	Tennant Creek	26.65	163	P	P	00 55 50.4	-1.5
	22nm,0.7s,mb4.8						
WRA	Warramunga Arr	26.66	163	P	P	00 55 53.9	+1.9
	15nm,1.0s,mb4.5,baz=344,slow=10,SNR=20						
WB2	Warramunga Arr	26.66	163	eP	P	00 55 54.1	+2.0
CMAR	Chiang Mai Arr	29.71	298	PcP	PcP	00 59 21.2	-0.1
	1.1nm,0.4s,baz=145,slow=0.8,SNR=5.5						
CMAR				LR	LR	01 07 51.0	
	comp=Z,50nm,18.9s,baz=215,slow=36						
ASAR	Alice Springs	30.10	166	P	P	00 56 22.2	-0.7
	1.2nm,0.3s,mb3.9,baz=341,slow=7.7,SNR=13						
ASAR				PcP	PcP	00 59 21.6	-0.7
	1.2nm,0.5s,baz=330,slow=2.6,SNR=5.4						
CTA	Charters Tower	32.18	143	P	P	00 56 42.8	+1.6
	8.7nm,0.9s,mb4.5,baz=354,slow=12,SNR=4.0						
CTA				LR	LR	01 10 07.0	
	comp=Z,51nm,20.4s,baz=226,slow=37						
CTAO	Charters Tower	32.18	143	P	P	00 56 42.7	+1.6
	12nm,0.9s,mb4.6						
FORT	Forrest	36.34	178	eP	P	00 57 16.3	-0.3
	28nm,0.7s,mb5.3						
KLBR	Kellerberrin	38.05	192	eP	P	00 57 31.0	+0.1
	24nm,1.2s,mb4.9						
NWAO	Narrogin (SRO)	39.45	192	P	P	00 57 42.0	-0.4
	6.8nm,0.5s,mb4.7,baz=13,slow=3.6,SNR=9.2						
STKA	Stephens Creek	40.08	160	eP	P	00 57 48.2	+0.5
	9.5nm,0.9s,mb4.6						
STKA	Stephens Creek	40.08	160	P	P	00 57 48.4	+0.8
	5.9nm,0.4s,mb4.8,baz=338,slow=9.6,SNR=20						
SONM	Songino Array	45.34	341	P	P	00 58 29.1	-1.2
	1.0nm,0.6s,mb3.8,baz=164,slow=9.0,SNR=8.4						
SONM				PcP	PcP	01 00 07.6	-1.0
	1.4nm,0.8s,baz=157,slow=3.7,SNR=5.8						
MKAR	Makanchi Array	55.80	325	P	P	00 59 46.9	-2.6
	1.3nm,0.4s,mb4.3,baz=121,slow=7.7,SNR=38						
MKAR	Makanchi Array	55.80	325	P	P	00 59 46.9	-2.6
KURK	Kurchatov	59.94	327	eP	P	01 00 15.6	-2.9
	8.2nm,0.9s,mb4.8						
BVAR	Borovoye Array	65.53	327	P	P	01 00 52.8	-2.6
	2.0nm,0.6s,mb4.1,baz=135,slow=6.3,SNR=5.7						
BRVK	Borovoye	65.60	327	eP	P	01 00 53.1	-2.8
	5.9nm,0.8s,mb4.5						
ZRNK	Zerenda	66.26	326	eP	P	01 00 57.0	-3.1
	7.9nm,0.8s,mb4.6						
ARCES	ARCESS Array B	88.50	340	P	P	01 03 01.4	-1.1
	3.4nm,0.6s,mb4.6,baz=85,slow=6.4,SNR=20						
FINES	FINESS Array B	89.97	332	P	P	01 03 10.0	+0.5
	3.3nm,0.9s,mb4.4,baz=90,slow=6.9,SNR=9.8						
AKASG	Malin Array Be	90.21	321	P	P	01 03 09.2	-1.7
	0.8nm,0.6s,mb4.0,baz=67,slow=3.8,SNR=4.0						
QSPA	South Pole Qui	95.63	180	P	P	01 03 36.6	+1.4
	4.0nm,1.0s,mb4.8						
HFS	Hagfors	96.15	332	P	P	01 03 38.6	+0.7
	2.2nm,0.8s,mb4.6,baz=90,slow=5.8,SNR=4.2						
CLL	Collm	99.89	324	e	P	01 04 02.0	+6.9

IDC 21 00:55:29.3±27.0,**17.14S**×**175.35W,mb4.2**/4,**mb1 4.4**/4, **mb1mx4.0**/13,**Error ellipse: s-maj=533.0km s-min=142.6km az=86.0,Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	41.55	241	P	P	01 03 18.9	-1.5
	2.0nm,0.9s,baz=90,slow=9.1,SNR=2.6						
WB2	Warramunga Arr	47.63	258	eP	P	01 04 06.4	-3.0
WRA	Warramunga Arr	47.64	258	P	P	01 04 07.4	-2.1
	1.7nm,0.8s,baz=95,slow=7.1,SNR=11						
ASAR	Alice Springs	47.80	253	P	P	01 04 08.7	-2.1
	5.4nm,0.5s,baz=89,slow=8.3,SNR=66						
ASPA	Alice Springs	47.81	253	eP	P	01 04 08.3	-2.5
KAKA	Kakadu	50.56	267	eP	P	01 04 33.3	+1.2
	4.2nm,0.3s						
FITZ	Fitzroy Crossi	56.03	259	eP	P	01 05 10.4	-2.2
	1.6nm,0.4s						
FITZ	Fitzroy Crossi	56.03	259	P	P	01 05 10.5	-2.0
	1.5nm,0.4s,baz=76,slow=6.3,SNR=15						

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*NEIC **21** 01:07:33.6±0.8,22.72S×68.57W,h104^{km}±8^{km},mb4.2/3, Error ellipse: s-maj=15.9km s-min=13.5km az=89.0*

*IDC **21** 01:07:34.3±4.9,22.79S×68.52W,h112^{km}±39^{km},mb3.8/1, mb1 3.5/3,mb1mx3.3/14,Error ellipse: s-maj=53.2km s-min=34.6km az=41.0*

ISC 21 01:07:33.0±0.9,**22.8S**±0.1×**68.5W**±0.2,**h105**^{km}±13^{km},**n13,** σ**0^{s}82**/9,**mb4.3**/2,**Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	Limon Verde	0.42	289	ePn	P	01 07 48.1	-0.8
LPAZ	La Paz	6.44	3	P	P	01 09 07.8	+1.1
	0.7nm,0.3s,baz=200,slow=2.1,SNR=4.8						
LPAZ	La Paz	6.44	3	P	P	01 09 07.8	+1.1
CPUP	Villa Florida	10.76	112	P	P	01 10 05.3	+0.1
	0.1nm,0.3s,baz=108,slow=4.4,SNR=3.5						
TRQA	Tornquist	16.25	161	P	P	01 11 17.5	+1.3
	16nm,1.3s						
BDFB	Brasilia	20.57	74	P	P	01 12 04.9	-0.5
	5.8nm,0.6s,baz=248,slow=9.9,SNR=10.0						
BAO	Brasilia Array	20.59	74	P	P	01 12 05.1	-0.5
SNAA	Sanae	60.98	161	eP	P	01 17 36.0	-1.1
	1.3nm,0.6s,mb4.1						
QSPA	South Pole Qui	67.45	180	eP	P	01 18 19.2	+0.3
	4.2nm,0.5s,mb4.5						
ASAR	Alice Springs	128.99	207	PKP	PKPdf	01 26 29.2	0.0
	0.4nm,0.6s,baz=170,slow=1.3,SNR=4.9						
WRA	Warramunga Arr	132.08	209	PKP	PKPdf	01 26 35.1	-0.1
	0.2nm,0.4s,baz=161,slow=1.8,SNR=4.8						
MKAR	Makanchi Array	146.39	37	PKPbc	PKPbc	01 27 01.4	0.0
	2.4nm,0.9s,baz=318,slow=2.6,SNR=12						
MKAR				pPKPbc		01 27 30.9	
	0.5nm,0.7s,baz=323,slow=6.1,SNR=2.9						
MKAR	Makanchi Array	146.39	37	PKPbc	PKPbc	01 27 01.4	0.0
MKAR				pPKPbc		01 27 30.9	

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*NAO **21** 01:09:38.1±2.0,67.13N×20.63E,ML2.3*

*HEL **21** 01:09:38.7±0.1,67.18N×20.70E,ML2.3,ML2.7(UPP), ML2.1(BER),Explosion*

*BER **21** 01:09:40.8±4.2,67.14N×20.69E,ML2.1,ML2.3(NAO), Suspected explosion*

ISC 21 01:09:37.4±0.4,**67.20N**±0.02×**20.74E**±0.07,**n25,** σ**1^{s}08**/39, **Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DUNU	Dundret	0.10	221	i P	Pg	01 09 39.7	+0.3
DUNU				i S	Sg	01 09 41.1	+0.3
MASU	Masugnsbyn	0.56	61	i P	Pg	01 09 48.9	+0.4
KUA	Kurravaara	0.78	349	i P	Pg	01 09 52.2	-0.7
ERTU	Ertsjaerv	0.86	138	i P	Pg	01 09 53.7	-1.0
NIKU	Nikkaluokta	0.94	317	eP	Pg	01 09 55.2	-0.9
PAJU	Pajala	0.95	99	eP	Pg	01 09 55.6	-0.8
SJUU	Sjulsmark	1.73	168	eP	Pn	01 10 09.0	0.0
KIF	Kilpisjarvi	1.82	1	eP	Pn	01 10 11.3	+1.1
KIF				eS	Sn	01 10 33.3	-0.9
LILU	Lilltraesk	1.95	191	eP	Pn	01 10 12.4	+0.3
KTK1	Kautokeino	2.05	26	eP	Pn	01 10 15.9	+2.4
KTK1				eSG	Sg	01 10 44.0	-1.7
KTK1				AML	AML	01 10 45.2	
	comp=Z,38nm,0.5s						
SGF	Sodankyl	2.26	81	eP	Pn	01 10 17.2	+0.7
SGF				eS	Sn	01 10 44.4	-1.1
SGF				MSG		01 10 49.9	
	comp=Z,9.0nm,0.2s						
TRO	Tromso	2.54	346	eP	Pn	01 10 22.0	+1.5
TRO				eS	Sn	01 10 53.5	+1.0
TRO				AML	AML	01 10 59.5	
	comp=Z,18nm,0.5s						
MOR8	Moi Rana	2.71	251	eSG	Sn	01 10 57.1	+0.2
MOR8				AML	AML	01 10 59.8	
	comp=Z,25nm,0.5s						
LOF	Lofoten	2.90	292	e	Sg	01 11 13.1	-1.0
LOF				AML	AML	01 11 14.6	
	comp=Z,8.6nm,0.4s						
LOF	Lofoten	2.90	292	eSg	Sg	01 11 13.1	-1.0
LOF				AML	AML	01 11 14.6	
	comp=Z,8.6nm,0.4s						
ARA0	ARCESS Array S	2.94	35	Pn	Pn	01 10 26.3	0.0
	baz=210,slow=14						
ARA0				Sn	Sn	01 11 04.0	+1.2
	baz=214,slow=22						
ARA0	ARCESS Array S	2.94	35	eP	Pn	01 10 26.3	0.0
ARA0				eS	Sn	01 11 04.0	+1.2
OUL	Oulu	2.98	133	eP	Pn	01 10 28.9	+2.0
OUL				eS	Sn	01 11 03.8	-0.1
OUL				MSG		01 11 11.4	
	comp=Z,8.1nm,0.3s						
KEV	Kevo	3.46	39	eP	Pn	01 10 33.1	-0.5
KEV				eS	Sn	01 11 11.8	-4.1
KEV				MSG		01 11 31.6	
	comp=Z,11nm,0.4s						
MSF	Maaselka	3.56	107	eP	Pn	01 10 35.9	+0.8
MSF				eSG	Sg	01 11 28.0	-8.0
MSF				MSG		01 11 31.1	
	comp=Z,9.0nm,0.5s						
NSS	Namsos	4.49	237	eSG	Sg	01 11 57.9	-8.9
NSS				AML	AML	01 11 59.8	
	comp=Z,9.4nm,0.4s						
FIA0	FINESS Array S	6.22	156	Pn	Pn	01 11 11.3	-1.5
	baz=342,slow=14						
FIA0				Sn	Sn	01 12 19.7	-5.9
	baz=0.8,slow=22						
FIA0				Lg		01 12 51.5	
	baz=344,slow=28						
FIA0	FINESS Array S	6.22	156	eP	Pn	01 11 11.3	-1.5
FIA0				eS	Sn	01 12 19.7	-5.9
FIA0				eSG		01 12 51.5	
HFS	Hagfors	7.75	207	Pn	Pn	01 11 30.8	-3.3
	baz=14,slow=12						
HFS				Sn	Sn	01 12 55.9	-7.8
	baz=31,slow=28						
HFS				Lg		01 13 38.5	
	baz=31,slow=28						
HFS	Hagfors	7.75	207	eP	Pn	01 11 30.8	-3.3
HFS				eS	Sn	01 12 55.9	-7.8
HFS				eSG		01 13 38.5	

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*NIED **21** 01:13:00,34.20N×132.80E,h50^{km},Mw4.2 Best double couple: $M_0$2.07×10^{15} NP1:ϕ_s146°,δ87°,λ170°. NP2: ϕ_s237°,δ80°,λ3°.*

*IDC **21** 01:13:16.8±0.8,34.23N×132.78E,h44^{km}±5^{km},mb3.4/8, mb1 3.5/9,mb1mx3.5/22,ML3.9/2,Error ellipse: s-maj=14.9km s-min=7.8km az=130.0*

*NEIC **21** 01:13:17.1±0.6,34.18N×132.79E,mb4.6/1,MW4.2(NIED), Error ellipse: s-maj=12.8km s-min=11.3km az=143.0*

NEIC Felt in Hiroshima and Yamaguchi Prefectures. Recorded [3 JMA] in Hiroshima and [2 JMA] in Okayama, Shimane and Yamaguchi Prefectures. Also recorded [3 JMA] in Ehime, [2 JMA] in Kochi and [1 JMA] in Kagawa Prefectures, Shikoku. Recorded [1 JMA] in Oita Prefecture, Kyushu.

*JMA **21** 01:13:17.1,34.25N×132.76E,h48^{km},M4.2 Broadband fault plane solution: P waves. NP1:ϕ_s232°,δ78°,λ-5°. NP2:ϕ_s323°,δ85°,λ-168°. Principal axes: T Plg5°, Azm97°; N Plg77°, Azm345°; P Plg12°, Azm188°;*

JMA Felt III J1.

ISC 21 01:13:16.3±0.3,**34.24N**±0.03×**132.75E**±0.03,**h55**^{km}±3^{km}, **h42**^{km}±1.8^{km}**:pP-P,n32,** σ**0^{s}93**/48,**mb3.8**/10,**5C-6D, Western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHM	Kurahashi	0.21	240	⇑P	P	01 13 25.3	+0.1
JHM				eS	S	01 13 31.1	-0.7
JHT	Toyohira	0.50	327	⇑P	P	01 13 28.1	+0.2
JHT				eS	S	01 13 36.2	-0.2
JET	Tanbara	0.53	152	⇓P	P	01 13 28.7	+0.4
JET				eS	S	01 13 37.0	0.0
JNA	Nagahama	0.72	198	⇓P	P	01 13 31.5	+0.9
JNA				eS	S	01 13 41.5	+0.3
JHS	Saijyo	0.81	22	⇓P	P	01 13 32.3	+0.5
JHS				eS	S	01 13 42.8	-0.5
JGT	Gotsu	0.85	337	⇓P	P	01 13 32.6	+0.2
JGT				eS	S	01 13 44.3	-0.1
JKU	Kubokawa	0.97	164	⇓P	P	01 13 34.3	+0.3
JKU				eS	S	01 13 46.6	-0.5
JJS	Sakaide	0.99	82	⇑P	P	01 13 34.4	+0.2
JJS				eS	S	01 13 47.0	-0.5
UWA2	Uwa jima 2	1.03	186	⇓P	P	01 13 35.5	+0.6
UWA2				eS	S	01 13 48.7	+0.1
JMN	Monobe	1.07	118	⇑P	P	01 13 35.5	+0.1
JMN				eS	S	01 13 49.2	-0.3
JAD	Aida	1.36	59	⇑P	P	01 13 39.6	0.0
JAD				eS	S	01 13 56.2	-0.6
JNU	Nakatsue	1.92	235	P	P	01 13 48.2	+1.0
JNU				S	S	01 14 10.6	+0.4
	baz=3.6,slow=44,SNR=16						
MAJO	Matsushiro	5.01	61	ePn	P	01 14 31.4	+0.6
	15nm,0.3s						
MAT	Matsushiro	5.01	61	P	P	01 14 31.0	+0.1
MAT				S	S	01 15 30.4	+2.2
MAT	Matsushiro	5.01	61	eP	P	01 14 31.0	+0.1
MAT				eS	S	01 15 30.0	+1.8
KS15	Wonju Array Si	5.08	310	ePn	P	01 14 31.3	-0.5
KS15				eS	S	01 15 27.4	-2.4
JHJ	Hachijo jima 2	5.97	99	P	P	01 14 43.5	-0.7
	59nm,0.3s,baz=66,slow=22,SNR=15						
JOW	Kunigami	8.33	209	P	P	01 15 14.8	-2.2
	1.7nm,0.3s,baz=324,slow=8.7,SNR=4.3						
JOW				S	S	01 16 46.4	-4.3
	1.2nm,0.3s,baz=104,slow=19,SNR=2.9						
BJT	Baijiatuau	14.42	298	P	P	01 16 42.1	+3.3
	34nm,0.9s						
BJI	Beijing	14.42	298	P	P	01 16 47.1	+8.3
	22nm,1.3s						
SONM	Songino Array	23.93	312	P	P	01 18 27.4	+1.5
	0.8nm,0.7s,mb3.2,baz=126,slow=11,SNR=7.0						
SONM				pP		01 18 37.6	
	2.7nm,1.0s,baz=120,slow=10.0,SNR=7.7						
MKAR	Makanchi Array	39.70	304	P	P	01 20 45.0	+0.4
	0.7nm,0.6s,mb3.6,baz=90,slow=11,SNR=7.2						
MKAR				pP	pP	01 20 56.2	-2.8
	0.8nm,0.9s,baz=100,slow=8.8,SNR=3.5						
MKAR				sP	sP	01 21 02.0	-3.6
	1.1nm,0.7s,baz=90,slow=11,SNR=6.3						
MKAR	Makanchi Array	39.70	304	P	P	01 20 45.0	+0.4
MKAR				pP	pP	01 20 56.2	-2.8
MKAR				sP	sP	01 21 02.0	-3.6
BVAR	Borovoye Array	47.27	313	P	P	01 21 47.2	+1.5
	0.5nm,0.4s,mb3.8,baz=90,slow=10,SNR=3.3						
BVAR				pP	pP	01 21 58.2	-2.0
	0.6nm,0.5s,baz=88,slow=7.5,SNR=2.9						
BVAR				sP	sP	01 22 04.5	-2.1
	1.2nm,0.6s,baz=101,slow=7.6,SNR=4.3						
BVAR	Borovoye Array	47.27	313	P	P	01 21 47.2	+1.5
BVAR				pP	pP	01 21 58.2	-2.0
BVAR				sP	sP	01 22 04.5	-2.1
ZRNK	Zerenda	48.11	313	eP	P	01 21 52.6	+0.3
	4.7nm,0.7s,mb4.6						
ZRNK				epP	pP	01 22 04.9	-2.0
ZRNK				esP	sP	01 22 09.8	-3.5
FITZ	Fitzroy Crossi	52.49	189	P	P	01 22 25.3	-0.8
	2.0nm,0.5s,mb4.3,baz=23,slow=8.0						
WRA	Warramunga Arr	53.91	178	P	P	01 22 34.8	-1.7
	0.2nm,0.5s,mb3.3,baz=356,slow=8.0,SNR=4.9						
WRA				pP	pP	01 22 48.1	-3.3
	0.8nm,0.8s,baz=355,slow=8.4,SNR=2.6						
ILAR	Eielson Array	55.56	31	P	P	01 22 46.2	-1.8
	0.4nm,0.8s,mb3.5,baz=281,slow=7.4,SNR=3.8						
ASAR	Alice Springs	57.60	179	P	P	01 23 03.3	+0.2
	0.6nm,0.9s,mb3.6,baz=14,slow=11,SNR=3.9						
FINES	FINESS Array B	67.85	330	P	P	01 24 08.7	-1.7
	1.7nm,0.9s,mb4.1,baz=45,slow=5.4,SNR=4.1						
AKASG	Malin Array Be	72.00	319	P	P	01 24 36.9	+1.1
	0.2nm,0.3s,mb3.5,baz=50,slow=6.4,SNR=3.2						
AKASG				pP	pP	01 24 49.0	-2.2
	0.2nm,0.3s,baz=52,slow=6.3,SNR=2.4						

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*NEIC **21** 01:20:20.7±0.6,19.11N×145.31E,h200^{km},mb4.1/2,Error ellipse: s-maj=35.2km s-min=12.8km az=104.0*

*IDC **21** 01:20:21.5±23.0,19.11N×145.33E,h206^{km}±229^{km}, mb3.4/7,mb1 3.6/7,mb1mx3.3/20,Error ellipse: s-maj=37.6km s-min=35.2km az=99.0*

ISC 21 01:20:19.2±0.8,**19.1N**±0.1×**145.3E**±0.3,**h200**^{km},**n11,** σ**0^{s}70**/11,**mb3.6**/8,**1C,Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRAB	Tennant Creek	40.26	196	eP	P	01 27 37.3	-1.0
	4.9nm,0.4s,mb4.3						
WB2	Warramunga Arr	40.27	196	eP	P	01 27 38.6	+0.2
WRA	Warramunga Arr	40.27	196	P	P	01 27 38.4	0.0
	1.0nm,0.4s,mb3.6,baz=19,slow=11,SNR=11						
FITZ	Fitzroy Crossi	41.71	209	⇑iP	P	01 27 50.5	+0.3
	0.9nm,0.3s,mb3.7						
FITZ	Fitzroy Crossi	41.71	209	P	P	01 27 50.2	0.0
	0.9nm,0.3s,mb3.7,baz=28,slow=7.2,SNR=14						
ASAR	Alice Springs	43.94	195	P	P	01 28 08.6	+0.4
	0.2nm,0.5s,mb2.7,baz=14,slow=7.4,SNR=4.5						
ILAR	Eielson Array	63.45	26	P	P	01 30 28.4	-1.1
	0.5nm,0.7s,mb3.3,baz=265,slow=6.8,SNR=5.6						
BVAR	Borovoye Array	65.89	320	P	P	01 30 46.0	+0.6
	0.5nm,0.4s,mb3.5,baz=104,slow=7.9,SNR=6.9						
NVAR	Mina Array Bea	83.21	52	P	P	01 32 25.6	+1.2
	1.3nm,0.6s,mb3.8,baz=265,slow=4.3,SNR=7.7						
FINES	FINESS Array B	86.33	335	P	P	01 32 38.9	-0.5
	3.8nm,1.1s,mb4.1,baz=76,slow=5.7,SNR=4.9						
FINES	FINESS Array B	86.33	335	P	P	01 32 38.9	-0.5

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*BJI **21** 01:47:54.1,5.33S×134.66E,h30^{km},mB5.0,mb5.1,Ms4.4, Msz4.2*

*IDC **21** 01:47:58.4±0.6,4.53S×133.98E,mb4.6/7,mb1 4.8/11, mb1mx4.8/12,ML4.6/4,MS4.3/7,Ms1 4.3/7,ms1mx4.3/10, Error ellipse: s-maj=34.7km s-min=15.8km az=63.0*

*NEIC **21** 01:48:03.2±0.5,4.81S×133.70E,h30^{km},mb5.1/23,Error ellipse: s-maj=18.8km s-min=7.4km az=75.0*

*HRVD **21** 01:48:03.2±0.4,4.37S×133.91E,h12^{km},MW4.9/54, Centroid moment Tensor Solution. LP body waves: s9,c10;Mantle waves: s54,c81; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.39±.13; $M_{\theta\theta}$-0.17±.09; $M_{\phi\phi}$0.57±.13; $M_{r\theta}$-1.38±.38; $M_{\theta\phi}$2.30±.09; $M_{\phi r}$-0.34±.32; Best double couple: $M_0$2.72×10^{16} NP1:ϕ_s175°,δ58°, λ-177°. NP2:ϕ_s83°,δ87°,λ-32°. Principal axes: T 2.94, Plg20°, Azm134°; N -.43, Plg58°, Azm259°; P -2.51, Plg24°, Azm35°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 21 01:47:58.9±2.3,**4.80S**±0.04×**133.9E**±0.1,**h11**^{km}±14^{km}, **h18**^{km}±2.4^{km}**:pP-P,n75,** σ**1^{s}62**/79,**mb5.0**/32,**MS4.2**/12, **2C-2D,Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	Kakadu	7.98	190	eP	Pn	01 50 03.1	+5.4
	91nm,0.5s						
KAKA				eS	Sn	01 51 34.1	+5.2
WRAB	Tennant Creek	15.05	178	eP	P	01 51 32.0	-1.6
	108nm,0.7s						
WRAB				eS	S	01 54 16.3	-4.8
WB2	Warramunga Arr	15.06	178	eP	P	01 51 31.5	-2.2
WB2				e		01 51 39.9	
WB2				eS	S	01 54 17.7	-3.6
WRA	Warramunga Arr	15.06	178	Pn	P	01 51 33.2	-0.4
	2.0nm,0.3s,baz=357,slow=13,SNR=52						
WRA				Sn	S	01 54 16.8	-4.4
	2.0nm,0.3s,baz=359,slow=23,SNR=6.2						
FITZ	Fitzroy Crossi	15.47	211	eP	P	01 51 35.7	-3.3
	37nm,0.6s						
FITZ				eS	S	01 54 23.2	-7.7
FITZ	Fitzroy Crossi	15.47	211	Pn	P	01 51 35.8	-3.1
	4.4nm,0.3s,baz=21,slow=9.7,SNR=74						
FITZ				Sn	S	01 54 25.1	-5.8
	3.9nm,0.3s,baz=180,slow=12,SNR=11						
FITZ				LR	LR	01 58 27.4	
	comp=Z,275nm,18.8s,baz=54,slow=40						
ASAR	Alice Springs	18.76	180	P	P	01 52 21.1	+0.8
	3.2nm,0.3s,baz=4.1,slow=11,SNR=130						
ASAR				S	S	01 55 46.6	+0.3
	0.6nm,0.3s,baz=0.2,slow=29,SNR=4.3						
ASPA	Alice Springs	18.76	180	eP	P	01 52 20.9	+0.6
ASPA				eS	S	01 55 42.2	-4.1
CTA	Charters Tower	19.41	143	eP	P	01 52 28.5	+0.4
	24nm,0.8s						
CTA				e		01 52 36.0	
CTA	Charters Tower	19.41	143	P	P	01 52 28.8	+0.7
	0.8nm,0.3s,baz=329,slow=13,SNR=21						
CTA				LR	LR	02 01 02.0	
	comp=Z,3μm,18.6s,baz=136,slow=40						
CTAO	Charters Tower	19.41	143	eP	P	01 52 28.3	+0.2
	60nm,1.0s						
MBWA	Marble Bar	21.27	219	⇓eP	P	01 52 48.5	+0.8
	156nm,0.7s,mb5.5						
FORT	Forrest	26.41	191	eP	P	01 53 40.2	+2.6
	101nm,0.8s,mb5.4						
STKA	Stephens Creek	27.90	166	eP	P	01 53 50.4	-0.8
	7.3nm,1.0s,mb4.3						
STKA	Stephens Creek	27.90	166	P	P	01 53 50.8	-0.4
	1.9nm,0.5s,mb4.0,baz=323,slow=8.7,SNR=5.1						
STKA				LR	LR	02 05 17.7	
	comp=Z,720nm,20.8s,MS4.2,baz=342,slow=37						

ADE	**Adelaide**	**30.36**	**172**	P	**P**	**01 54 16.8**	**+3.7**
KLBR	**Kellerberrin**	**30.64**	**208**	*e*P	**P**	**01 54 20.4**	**+4.7**
	21nm,0.9s,mb5.0						
TOO	**Toolangi**	**34.31**	**163**	*e*P	**P**	**01 54 49.0**	**+1.3**
	6.6nm,1.1s,mb4.5						
KKTK	**Khon Kaen**	**37.18**	**305**	P	**P**	**01 55 12.0**	**-0.2**
WHN	**Wuhan**	**39.78**	**333**	P	**P**	**01 55 33.8**	**0.0**
NANT	**Nan**	**40.20**	**307**	⇑P	**P**	**01 55 36.5**	**-0.8**
BDT	**Bhumibol Dam**	**40.79**	**303**	P	**P**	**01 55 39.0**	**-3.2**
CMAR	**Chiang Mai Arr**	**41.44**	**305**	P	**P**	**01 55 47.4**	**-0.1**
	5.2nm,0.9s,mb4.2,baz=131,slow=6.5,SNR=28						
CMAR				PcP	PcP	01 57 47.6	+1.5
	1.8nm,0.8s,baz=144,slow=2.3,SNR=4.4						
CMAR				LR	LR	02 10 43.0	
	comp=Z,150nm,21.1s,MS3.8,baz=290,slow=33						
CHG	**Chiang Mai**	**41.62**	**305**	⇓P	**P**	**01 55 49.6**	**+0.5**
	18nm,0.7s,mb4.8						
ENH	**Enshi**	**41.95**	**328**	*e*P	**P**	**01 55 50.9**	**-0.8**
	10nm,0.7s,mb4.6						
KMI	**Kunming**	**42.41**	**316**	*e*P	**P**	**01 55 56.6**	**+1.1**
KMI				AP	pP	01 56 02.6	+3.9
KMI				AMB	AMB		
	comp=Z,31nm,1.0s,mb4.9						
KMI				LR	LR		
	comp=N,272nm,18.5s,MS4.2						
KMI				LR	LR		
	comp=E,173nm,17.7s,MS4.2						
KMI				LR	LR		
	comp=Z,294nm,27.3s						
KMI	**Kunming**	**42.41**	**316**	*e*P	**P**	**01 55 56.6**	**+1.1**
	comp=Z,31nm,1.0s,mb4.9						
KMI				pP	pP	01 56 02.6	+3.9
KMI				PP	PP	01 57 29.5	-7.3
KMI				S	**S**	**02 02 03.1**	**-14**
XAN	**Xi'an**	**45.24**	**330**	P	**P**	**01 56 21.0**	**+2.7**
XAN				AP	pP	01 56 23.6	+2.0
XAN				AMB	AMB		
	comp=Z,19nm,1.3s,mb4.8						
CD2	**Chengdu**	**45.68**	**323**	⇑*i*P	**P**	**01 56 21.6**	**-0.3**
CD2				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.2						
BJT	**Baijiatuau**	**47.47**	**342**	*e*P	**P**	**01 56 34.3**	**-1.6**
	comp=Z,24nm,0.8s,mb5.2						
BJI	**Beijing**	**47.49**	**342**	P	**P**	**01 56 35.5**	**-0.5**
BJI				AMB	AMB		
	comp=Z,34nm,1.3s,mb5.1						
BJI				AMB	AMB		
	comp=Z,259nm,4.5s						
BJI				LR	LR		
	comp=N,223nm,27.2s,MS4.2						
BJI				LR	LR		
	comp=E,314nm,26.1s,MS4.2						
BJI				LR	LR		
	comp=Z,233nm,21.8s,MS4.1						
BJI	**Beijing**	**47.49**	**342**	P	**P**	**01 56 35.5**	**-0.5**
	comp=Z,34nm,1.3s,mb5.1						
BJI				S	**S**	**02 03 18.7**	**-11**
CN2	**Changchun**	**48.96**	**352**	*e*P	**P**	**01 56 44.3**	**-3.1**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.7						
CN2				LR	LR		
	comp=N,400nm,14.0s,MS4.7						
CN2				LR	LR		
	comp=E,400nm,14.0s,MS4.7						
CN2				LR	LR		
	comp=Z,400nm,17.0s,MS4.5						
MDJ	**Mudanjiang**	**49.34**	**356**	P	**P**	**01 56 49.3**	**-1.0**
MDJ				S	**S**	**02 03 53.3**	**-2.2**
MDJ				AMB	AMB		
	comp=Z,25nm,1.1s,mb5.2						
MDJ				AMB	AMB		
	comp=Z,42nm,2.9s,mb5.0						
MDJ				LR	LR		
	comp=N,77nm,26.5s,MS4.3						
MDJ				LR	LR		
	comp=E,365nm,26.5s,MS4.3						
MDJ				LR	LR		
	comp=Z,142nm,20.9s						
MDJ	**Mudanjiang**	**49.34**	**356**	*e*P	**P**	**01 56 49.6**	**-0.7**
	comp=Z,24nm,0.8s,mb5.3						
LZH	**Lanzhou**	**49.43**	**328**	*e*P	**P**	**01 56 51.8**	**+0.7**
LZH				AP	pP	01 56 57.9	+3.5
LZH				XP	sP	01 57 01.0	+5.3
LZH				AMB	AMB		
	comp=Z,40nm,1.2s,mb5.3						
LZH				LR	LR		
	comp=N,510nm,14.0s						
LZH				LR	LR		
	comp=Z,780nm,20.0s						
LZH	**Lanzhou**	**49.43**	**328**	*e*P	**P**	**01 56 51.8**	**+0.7**
	comp=Z,40nm,1.2s,mb5.3						
LZH				pP	pP	01 56 57.9	+3.5
LZH				sP	sP	01 57 01.0	+5.3
HHC	**Hu-ho-hao-te**	**49.80**	**338**	*e*P	**P**	**01 56 54.5**	**+0.6**
HHC				AP	pP	01 56 59.3	+2.1
HHC				AMB	AMB		
	comp=Z,22nm,1.1s,mb5.1						
HHC				AMB	AMB		
	comp=Z,75nm,4.7s						
HHC				LR	LR		
	comp=N,146nm,17.2s,MS4.2						
HHC				LR	LR		
	comp=E,154nm,16.6s,MS4.2						
HHC				LR	LR		
	comp=Z,100nm,18.4s,MS3.9						
RPZ	**Rata Peaks**	**50.75**	**146**	LR	LR	02 18 27.5	
	comp=Z,1µm,18.8s,MS4.9,baz=238,slow=36						
URZ	**Urewera**	**51.50**	**136**	LR	LR	02 19 11.6	
	comp=Z,674nm,18.6s,MS4.7,baz=293,slow=36						
LSA	**Lhasa**	**53.40**	**313**	P	**P**	**01 57 19.0**	**-2.2**
GTA	**Gaotai**	**54.04**	**328**	P	**P**	**01 57 26.5**	**+0.8**
GTA				AP	pP	01 57 34.8	+5.8
GTA				XP	sP	01 57 38.3	+8.0
GTA				AMB	AMB		
	comp=Z,42nm,4.6s						
GTA				LR	LR		
	comp=N,79nm,19.4s,MS4.1						
GTA				LR	LR		
	comp=E,113nm,15.2s,MS4.1						
GTA				LR	LR		
	comp=Z,111nm,17.1s,MS4.0						
PKI	**Pulchoki**	**56.73**	**307**	*e*P	**P**	**01 57 43.3**	**-2.1**
	comp=Z,28nm,1.1s,mb5.2						
KKN	**Kakani**	**56.93**	**308**	*e*P	**P**	**01 57 45.6**	**-1.3**
	comp=Z,32nm,0.9s,mb5.3						
DMN	**Daman**	**56.98**	**307**	*e*P	**P**	**01 57 44.9**	**-2.4**
	comp=Z,15nm,0.4s,mb5.4						
GKN	**Gorkha**	**57.53**	**307**	*e*P	**P**	**01 57 50.5**	**-0.6**
	comp=Z,51nm,1.0s,mb5.5						
SONM	**Songino Array**	**57.69**	**338**	P	**P**	**01 57 50.7**	**-1.3**
	comp=Z,3.2nm,0.8s,mb4.4,baz=155,slow=8.5,SNR=17						
KOLN	**Koldanda**	**58.25**	**307**	*e*P	**P**	**01 57 54.3**	**-1.8**
	comp=Z,33nm,1.0s,mb5.3						
HYB	**Hyderabad**	**58.87**	**294**	*i* P	**P**	**01 58 00.0**	**-0.6**
WMQ	**Urumqi**	**63.74**	**324**	*e*P	**P**	**01 58 34.0**	**+0.8**
WMQ				AP	pP	01 58 39.0	+2.4
WMQ				AMB	AMB		
	comp=Z,39nm,1.0s,mb5.4						
WMQ				LR	LR		
	comp=Z,97nm,20.2s,MS4.0						
YAK	**Yakutsk**	**66.71**	**358**	*e*P	**P**	**01 58 52.0**	**0.0**
	comp=Z,86nm,0.8s,mb5.8						
MKAR	**Makanchi Array**	**68.57**	**325**	P	**P**	**01 59 00.6**	**-3.4**
	comp=Z,18nm,0.8s,mb5.0,baz=113,slow=6.9,SNR=26						
MKAR				LR	LR	02 32 04.8	
	comp=Z,88nm,18.1s,MS4.0,baz=129,slow=39						
TKM2	**Tokmak 2**	**70.80**	**319**	P	**P**	**01 59 19.5**	**+1.8**
	SNR=14						
KBK	**Karagaybulak**	**71.11**	**318**	P	**P**	**01 59 21.3**	**+1.7**
	SNR=6.5						
UCH	**Uchtor**	**71.22**	**318**	P	**P**	**01 59 22.9**	**+2.7**
	SNR=13						
AAK	**Ala-Archa**	**71.41**	**318**	P	**P**	**01 59 23.4**	**+2.1**
	SNR=8.1						
USP	**Ospenovka**	**71.67**	**319**	P	**P**	**01 59 24.5**	**+1.6**
	SNR=18						
AML	**Almayashu**	**71.73**	**317**	P	**P**	**01 59 25.9**	**+2.5**
	SNR=19						
EKS2	**Erkin-Say**	**71.90**	**318**	P	**P**	**01 59 26.4**	**+2.2**
	SNR=8.2						
KURK	**Kurchatov**	**72.71**	**327**	*e*P	**P**	**01 59 26.1**	**-2.9**
	comp=Z,27nm,1.2s,mb5.1						
BVAR	**Borovoye Array**	**78.30**	**327**	P	**P**	**01 59 58.0**	**-2.6**
	comp=Z,33nm,1.2s,mb5.1,baz=124,slow=5.3,SNR=27						
BRVK	**Borovoye**	**78.37**	**327**	*e*P	**P**	**01 59 58.7**	**-2.3**
	comp=Z,24nm,1.1s,mb5.0						
MAW	**Mawson**	**78.39**	**202**	P	**P**	**02 00 02.6**	**+1.7**
	comp=Z,1.5nm,0.5s,mb4.1,baz=69,slow=11,SNR=3.4						
QSPA	**South Pole Qui**	**85.17**	**180**	*e*P	**P**	**02 00 38.2**	**+2.3**
	comp=Z,7.0nm,0.8s,mb4.8						
ILAR	**Eielson Array**	**89.74**	**25**	P	**P**	**02 00 57.4**	**-1.0**
	comp=Z,1.8nm,1.0s,mb4.3,baz=271,slow=5.2,SNR=7.7						
MZLS	**Mizel**	**90.69**	**294**	P	**P**	**02 01 06.3**	**+2.6**
KAMS	**Al Khamasin**	**90.96**	**290**	P	**P**	**02 01 06.9**	**+1.9**
DJNS	**Zahran al Janu**	**91.73**	**288**	P	**P**	**02 01 10.8**	**+2.2**
TATS	**Tathlith**	**91.93**	**289**	P	**P**	**02 01 12.8**	**+3.2**
HILS	**Ha'il**	**94.00**	**297**	P	**P**	**02 01 20.5**	**+1.6**
YNBS	**Yanbu' al Bahr**	**97.28**	**294**	D		02 01 04.5	
AYUS	**'Aynunah**	**99.80**	**298**	D		02 01 03.4	
CPUP	**Villa Florida**	**147.22**	**161**	PKPbc	PKPdf	02 07 45.4	+1.3
	comp=Z,6.2nm,0.9s,baz=215,slow=3.3,SNR=10						
LPAZ	**La Paz**	**149.81**	**134**	PKPbc	PKPdf	02 07 52.5	+4.1
	comp=Z,2.1nm,0.2s,baz=118,slow=0.2,SNR=3.9						
LPAZ				PKPab	PKPab	02 07 57.1	-0.6
	comp=Z,4.5nm,0.2s,baz=348,slow=1.6,SNR=7.2						
ROSC	**El Rosal**	**151.92**	**89**	PKPbc	PKPdf	02 07 57.0	+5.3
	comp=Z,6.8nm,0.6s,baz=88,slow=19,SNR=3.6						
ROSC				PKPab	PKPab	02 08 03.9	-2.8
	comp=Z,8.3nm,0.6s,baz=74,slow=16,SNR=8.3						

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*IDC **21** 02:08:38.4±2.5, 12.51S×167.25E, mb4.0/6, mb1 4.2/6, mb1mx4.0/13, MS3.8/3, Ms1 3.7/3, ms1mx3.5/17, Error ellipse: s-maj=88.4km s-min=29.2km az=129.0*

ISC 21 02:09:23.5±1.2**, 16.2S**±0.4×**168.6E**±0.3**, h569**^{km}±23^{km}**, n10,** σ1^{s}15/9**, mb3.6**/6**, 1C, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**1.50**	**193**	⇑*i*P	**P**	**02 10 33.5**	**+0.2**
DZM	**Mont Dzumac**	**6.18**	**199**	*e*P	**P**	**02 11 03.4**	**-1.9**
DZM				*e*S	S	02 11 50.6	-36
NOUC	**Port Laguerre**	**6.25**	**200**	*e*P	**P**	**02 11 08.1**	**+2.1**
NOUC				*e*S	S	02 11 52.7	-35
CTA	**Charters Tower**	**21.57**	**256**	LR	LR	02 20 33.6	
	comp=Z,258nm,20.8s,baz=46,slow=33						
STKA	**Stephens Creek**	**29.06**	**233**	P	**P**	**02 14 53.4**	**+13**
	2.6nm,0.8s,mb3.9,baz=41,slow=11,SNR=3.5						
STKA				LR	LR	02 25 04.8	
	comp=Z,202nm,19.4s,baz=26,slow=32						
WRA	**Warramunga Arr**	**32.73**	**258**	P	**P**	**02 15 11.4**	**-0.1**
	1.2nm,1.0s,mb3.4,baz=85,slow=9.4,SNR=4.8						
ASAR	**Alice Springs**	**33.37**	**252**	P	**P**	**02 15 18.1**	**+1.3**
	1.3nm,0.9s,mb3.5,baz=65,slow=9.9,SNR=3.6						
ASAR				LR	LR	02 28 10.8	
	comp=Z,99nm,19.6s,baz=20,slow=35						
CMAR	**Chiang Mai Arr**	**76.70**	**294**	P	**P**	**02 20 17.4**	**-1.0**
	0.7nm,0.3s,mb3.5,baz=129,slow=3.9,SNR=4.7						
ILAR	**Eielson Array**	**87.53**	**18**	P	**P**	**02 21 12.6**	**+0.7**
	0.7nm,0.9s,mb3.4,baz=224,slow=4.7,SNR=5.1						
MKAR	**Makanchi Array**	**99.14**	**316**	P	**P**	**02 22 04.8**	**-0.5**
	1.2nm,0.9s,mb4.2,baz=112,slow=6.5,SNR=6.3						

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*NEIC **21** 02:30:54.3, 40.76N×20.65E, h10^{km}, MD3.3(ATH), After ATH.*

*ATH **21** 02:30:54.4, 40.75N×20.65E, h12^{km}±4^{km}, MD3.3/6*

*THE **21** 02:30:57.6, 40.64N×20.76E, h7^{km}, ML3.1*

ISC 21 02:30:56.0±0.5**, 40.66N**±0.03×**20.69E**±0.04**, h12**^{km}±4^{km}**, n21,** σ0^{s}99/30**, Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBN	**Korca**	**0.08**	**114**	*i* Pg	**Pg**	**02 30 58.3**	**-0.3**
KBN				*i* Sg	**Sg**	**02 31 00.8**	**+0.4**
OHR	**Ohrid**	**0.46**	**10**	*i* Pg	**Pg**	**02 31 04.4**	**-1.1**
OHR				*i* Sg	**Sg**	**02 31 11.7**	**-0.1**
FNA	**Florina**	**0.54**	**76**	*e*Pg	**Pg**	**02 31 06.1**	**-0.8**
FNA				*e*Sg	**Sg**	**02 31 15.1**	**+0.9**
KZN	**Kozani**	**0.89**	**113**	*e*PB	**Pb**	**02 31 12.6**	**-0.4**
KZN				*e*SB	**Sb**	**02 31 26.2**	**+1.6**
TIR	**Tirane**	**0.93**	**318**	*e*Pg	**Pg**	**02 31 14.5**	**-0.3**
MEV	**Metsovon**	**0.96**	**155**	*e*Pg	**Pg**	**02 31 15.0**	**-0.3**
JAN	**Janina**	**1.00**	**173**	*e*PB	**Pb**	**02 31 15.0**	**+0.1**
QSH	**Qafa e Shtames**	**1.05**	**326**	*i* Pg	**Pg**	**02 31 20.0**	**+2.9**
QSH				*i* Sg	**Sg**	**02 31 31.8**	**+0.6**
IGT	**Igoumenitsa**	**1.16**	**194**	*e*Pg	**Pg**	**02 31 18.3**	**-0.9**
IGT				*e*Sg	**Sg**	**02 31 36.9**	**+2.2**
KEK	**Kerkira**	**1.16**	**216**	*e*PB	**Pb**	**02 31 17.5**	**-0.1**
GRG	**Griva**	**1.33**	**76**	*e*Pb	**Pb**	**02 31 20.2**	**-0.4**
SKO	**Skopje**	**1.43**	**23**	*i* Pn	**Pn**	**02 31 22.5**	**+0.5**
LIT	**Litokhoron**	**1.48**	**111**	*e*Pb	**Pb**	**02 31 23.3**	**+0.3**
LIT				*e*Sb	**Sb**	**02 31 42.5**	**+0.8**
EVR	**Evrytania**	**1.94**	**153**	*e*PG	**Pg**	**02 31 32.0**	**-2.8**
EVR	**Evrytania**	**1.94**	**153**	*e*Pg	**Pg**	**02 31 34.2**	**-0.6**
SOH	**Sokhos**	**2.03**	**84**	*e*Pb	**Pb**	**02 31 30.7**	**-1.8**
SOH				*e*Sb	**Sb**	**02 31 57.2**	**-0.4**
AGG	**Agios Georgios**	**2.06**	**142**	*e*Pn	**Pn**	**02 31 32.2**	**+1.2**
PLG	**Polygyros**	**2.12**	**97**	*e*PN	**Pn**	**02 31 32.1**	**+0.3**
SRS	**Serrai**	**2.25**	**77**	*e*Pn	**Pn**	**02 31 34.3**	**+0.6**
XOR	**Xorichti**	**2.31**	**123**	*e*Pn	**Pn**	**02 31 34.7**	**+0.1**
XOR				*e*Sn	**Sn**	**02 32 02.4**	**-0.8**
VLS	**Valsamata**	**2.48**	**182**	*e*PB	**Pb**	**02 31 38.0**	**-2.1**

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*NEIC **21** 02:34:20.5, 16.31N×94.32W, h99^{km}, MD3.8(MEX), After MEX.*

MEX 21 02:34:20.5±0.8**, 16.39N×94.31W, h107**^{km}±51^{km}**, MD3.9, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.89**	**322**	*i* P	P	02 34 38.9	-1.7
CMIG				*i* S	S	02 34 53.8	-1.9
CCIG	**Comitan**	**2.08**	**93**	*i* P	P	02 34 54.1	-0.9
CCIG				*i* S	S	02 35 18.3	-2.4
OXX	**Oaxaca**	**2.42**	**287**	*i* P	P	02 34 59.0	-0.5
OXX				*i* S	S	02 35 30.0	+1.3
VHO	**Vista Hermosa**	**2.42**	**287**	*i* P	P	02 34 57.4	-2.2
VHO				*i* S	S	02 35 28.0	-0.9

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*BJI **21** 02:47:42.2, 53.20S×23.50E, h10^{km}, mB5.2, Ms5.3, Msz5.1*

*IDC **21** 02:47:42.0±0.5, 53.24S×23.39E, mb4.7/10, mb1 4.8/10, mb1mx4.8/13, MS4.5/10, Ms1 4.4/10, ms1mx4.3/14, Error ellipse: s-maj=25.5km s-min=16.5km az=45.0*

*NEIC **21** 02:47:43.2±0.2, 53.19S×23.46E, h10^{km}, mb4.9/14, Error ellipse: s-maj=9.5km s-min=7.1km az=62.0*

*HRVD **21** 02:47:43.2±0.4, 53.30S×23.65E, h12^{km}, MW5.2/51, Centroid moment Tensor Solution. LP body waves: s29,c38;Mantle waves: s51,c77; Half duration: 1^{s}0 Moment tensor: Scale 10^{16}Nm; M_{rr}-4.71±.22; $M_{\theta\theta}$4.02±.19; $M_{\phi\phi}$0.69±.22; $M_{r\theta}$4.13±.67; $M_{\theta\phi}$-1.48±.20; $M_{\phi r}$-4.11±.71; Best double couple: $M_0$7.44×10^{16} NP1: ϕ_s97°, δ22°, λ-120°. NP2: ϕ_s309°, δ71°, λ-79°. Principal axes: T 7.14, Plg25°, Azm30°; N .58, Plg11°, Azm125°; P -7.73, Plg62°, Azm236°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*SYO **21** 02:47:43.1, 53.20S×23.47E, h10^{km}, MB5.0*

ISC 21 02:47:40.9±6.2**, 53.21S**±0.06×**23.2E**±0.1**, h3**^{km}±39^{km}**, n104,** σ1^{s}**03**/49**, mb5.0**/21**, MS4.5**/12**, 7C-6D, South of Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SYO	**Syowa Base**	**17.61**	**160**	⇑Pn	**P**	**02 51 46.5**	**-1.9**
SYO	**Syowa Base**	**17.61**	**160**	⇓P	**P**	**02 51 50.2**	**+1.8**
SYO	**Syowa Base**	**17.61**	**160**	⇓pP		02 51 52.0	
SYO	**Syowa Base**	**17.61**	**160**	⇓P	**P**	**02 52 06.8**	**+18**
SYO	**Syowa Base**	**17.61**	**160**	⇑P	Px	02 52 18.4	
SYO	**Syowa Base**	**17.61**	**160**	⇓P	Px	02 52 38.0	
MAIT	**Maitri**	**18.36**	**192**	*e*P	**P**	**02 51 57.5**	**-0.4**
SUR	**Sutherland**	**20.89**	**354**	P	**P**	**02 52 26.7**	**0.0**
	38nm,1.0s,baz=174,slow=7.8,SNR=11						
SUR				LR	LR	02 58 58.1	
	comp=Z,2µm,19.0s,MS4.4,baz=343,slow=32						
SUR	**Sutherland**	**20.89**	**354**	*e*P	**P**	**02 52 26.9**	**+0.2**
	84nm,1.0s						
SNAA	**Sanae**	**21.74**	**202**	*e*		02 52 44.2	
SNAA	**Sanae**	**21.74**	**202**	*e*	Px	02 53 09.6	
SNAA	**Sanae**	**21.74**	**202**	⇑*i*P	**P**	**02 52 36.2**	**+1.2**
SNAA				*e*		02 52 44.2	
SNAA				*e*		02 53 09.6	
VNA2	**Neumayer--Watz**	**22.37**	**206**	*e*		02 52 54.0	
VNA2	**Neumayer--Watz**	**22.37**	**206**	*e*	Px	02 53 22.5	
VNA2	**Neumayer--Watz**	**22.37**	**206**	⇑*i*P	**P**	**02 52 45.3**	**+4.0**
VNA2				*e*		02 52 54.0	
VNA2				*e*		02 53 22.5	
VNA1	**Neumayer--Stat**	**22.45**	**207**	⇓*i*P	**P**	**02 52 46.8**	**+4.8**
VNA1				*e*		02 52 56.4	
VNA1				*e*		02 53 21.2	
VNA3	**Neumayer Olymp**	**23.16**	**207**	*e*		02 53 00.9	
VNA3	**Neumayer Olymp**	**23.16**	**207**	*e*	Px	02 53 28.3	
VNA3	**Neumayer Olymp**	**23.16**	**207**	⇑*i*P	**P**	**02 52 53.3**	**+4.4**
VNA3				*e*		02 53 00.9	
VNA3				*e*		02 53 28.3	
MAW	**Mawson**	**23.75**	**143**	⇑*i*P	**P**	**02 52 55.1**	**+0.5**
	8.5nm,0.9s,mb4.2						
MAW	**Mawson**	**23.75**	**143**	P	**P**	**02 52 55.3**	**+0.7**
	10nm,0.9s,mb4.2,baz=294,slow=9.8,SNR=8.4						
MAW				LR	LR	03 00 30.0	
	comp=Z,521nm,20.4s,MS4.0,baz=286,slow=32						
BOSA	**Boshof**	**24.62**	**4**	*e*P	**P**	**02 53 03.3**	**-0.2**
	11nm,0.8s,mb4.5						
TSUM	**Tsumeb**	**34.22**	**351**	P	**P**	**02 54 30.1**	**+0.3**
	5.3nm,0.8s,mb4.5,baz=170,slow=8.1,SNR=9.5						
TSUM	**Tsumeb**	**34.22**	**351**	*e*P	**P**	**02 54 29.7**	**-0.1**
	16nm,1.1s,mb4.9						
QSPA	**South Pole Qui**	**37.01**	**180**	*e*P	**P**	**02 54 52.7**	**-0.2**
	27nm,1.0s,mb5.0						
LSZ	**Lusaka**	**38.05**	**8**	*e*P	**P**	**02 55 01.6**	**-0.7**
	8.0nm,0.8s,mb4.5						
CASY	**Casey**	**42.10**	**143**	*e*P	**P**	**02 55 34.9**	**-0.2**
SBA	**Scott Base**	**47.29**	**170**	*e*P	**P**	**02 56 16.7**	**+0.1**
	17nm,0.9s,mb5.0						
USHA	**Ushuaia**	**50.08**	**229**	LR	LR	03 12 54.3	
	comp=Z,1µm,18.9s,MS4.9,baz=88,slow=30						
TRQA	**Tornquist**	**57.97**	**248**	*e*P	**P**	**02 57 35.9**	**-0.8**
	13nm,0.9s,mb5.0						
CPUP	**Villa Florida**	**63.82**	**261**	P	**P**	**02 58 15.3**	**-1.2**
	4.2nm,0.8s,mb4.5,baz=166,slow=5.2,SNR=10						
CPUP				LR	LR	03 21 21.0	
	comp=Z,238nm,18.5s,MS4.4,baz=170,slow=32						
CPUP	**Villa Florida**	**63.82**	**261**	P	**P**	**02 58 15.3**	**-1.3**
LIC	**Lamto**	**63.85**	**328**	*e*P	**P**	**02 58 16.4**	**-0.5**
	41nm,1.0s,mb5.4						
KIC	**Kosan Boka**	**63.88**	**329**	*e*P	**P**	**02 58 15.3**	**-1.9**
	471nm,2.5s,mb6.1						
DBIC	**Dimbokro**	**64.21**	**329**	P	**P**	**02 58 18.8**	**-0.6**
	16nm,0.9s,mb5.1,baz=141,slow=8.1,SNR=14						
DBIC				LR	LR	03 19 22.4	
	comp=Z,269nm,21.3s,MS4.4,baz=148,slow=30						
DBIC	**Dimbokro**	**64.21**	**329**	*e*P	**P**	**02 58 18.1**	**-1.3**
	21nm,0.9s,mb5.2						
TIC	**Toumodi**	**64.24**	**329**	*e*P	**P**	**02 58 19.0**	**-0.5**
	109nm,0.8s,mb5.9						
BAO	**Brasilia Array**	**66.37**	**275**	P	**P**	**02 58 34.1**	**+1.0**
BDFB	**Brasilia**	**66.38**	**275**	P	**P**	**02 58 34.1**	**+0.9**
	9.8nm,0.9s,mb4.8,baz=112,slow=3.9,SNR=8.6						
TOO	**Toolangi**	**76.72**	**136**	*e*P	**P**	**02 59 34.9**	**+0.2**
	4.3nm,0.9s,mb4.4						
MBWA	**Marble Bar**	**77.12**	**108**	*e*P	**P**	**02 59 33.3**	**-4.0**
	11nm,1.0s,mb4.8						
LPAZ	**La Paz**	**77.92**	**259**	P	**P**	**02 59 42.8**	**+1.1**
	1.7nm,0.3s,mb4.5,baz=154,slow=4.4,SNR=5.1						
AFFS	**'Afif**	**78.72**	**18**	P	**P**	**02 59 48.1**	**+2.1**
RPZ	**Rata Peaks**	**79.58**	**157**	LR	LR	03 33 55.1	
	comp=Z,363nm,18.4s,MS4.8,baz=351,slow=35						
STKA	**Stephens Creek**	**79.83**	**131**	⇓*i*P	**P**	**02 59 51.6**	**-0.3**
	9.3nm,0.9s,mb4.7						
STKA	**Stephens Creek**	**79.83**	**131**	P	**P**	**02 59 51.6**	**-0.3**
	12nm,0.9s,mb4.8,baz=216,slow=3.9,SNR=14						
KBRS	**Khaybar**	**79.90**	**15**	P	**P**	**02 59 52.6**	**+0.3**
SAML	**Samuel**	**80.74**	**267**	*e*P	**P**	**02 59 56.8**	**-0.3**
	20nm,0.9s,mb5.1						
AYUS	**'Aynunah**	**81.74**	**11**	P	**P**	**03 00 04.1**	**+2.1**
BDAS	**Al Bad'**	**81.96**	**11**	P	**P**	**03 00 04.2**	**+1.1**
TAYS	**Tayyib Ism**	**82.05**	**10**	P	**P**	**03 00 05.5**	**+1.9**
JMQS	**Jabal Moqyreh**	**82.49**	**11**	P	**P**	**02 59 56.6**	**-9.3**
HAQS	**Haql**	**82.55**	**10**	P	**P**	**03 00 03.1**	**-3.1**
JMOS	**Jabal al Moall**	**82.69**	**10**	P	**P**	**03 00 01.1**	**-5.8**
ASPA	**Alice Springs**	**82.88**	**120**	⇑*i*P	**P**	**03 00 08.0**	**0.0**
ASAR	**Alice Springs**	**82.88**	**120**	P	**P**	**03 00 07.7**	**-0.3**
	12nm,0.8s,mb5.0,baz=210,slow=5.9,SNR=57						
ASAR				LR	LR	03 30 03.7	
	comp=Z,93nm,19.9s,MS4.2,baz=197,slow=31						
URZ	**Urewera**	**86.13**	**160**	LR	LR	03 36 50.4	
	comp=Z,418nm,19.2s,MS4.8,baz=216,slow=34						
WRA	**Warramunga Arr**	**86.17**	**118**	P	**P**	**03 00 24.1**	**-0.5**
	12nm,0.9s,mb5.1,baz=209,slow=3.6,SNR=50						
WB2	**Warramunga Arr**	**86.17**	**118**	*e*P	**P**	**03 00 23.1**	**-1.5**
WB2				*e*		03 00 30.5	
WB2	**Warramunga Arr**	**86.17**	**118**	*e*P	**P**	**03 00 24.1**	**-0.5**
WRAB	**Tennant Creek**	**86.18**	**118**	*e*P	**P**	**03 00 23.8**	**-0.8**
	56nm,1.0s,mb5.8						
CMAR	**Chiang Mai Arr**	**96.36**	**68**	LR	LR	03 36 23.1	
	comp=Z,87nm,21.1s,MS4.2,baz=180,slow=30						
ROSC	**El Rosal**	**98.38**	**267**	LR	LR	03 43 33.6	
	comp=Z,296nm,21.1s,MS4.8,baz=104,slow=34						
MKAR	**Makanchi Array**	**111.61**	**39**	PKiKP		03 06 22.7	
	0.2nm,0.3s,baz=225,slow=2.0,SNR=3.9						
NJ2	**Nanjing**	**118.18**	**73**	*e*PKP	PKPdf	03 06 26.5	-4.8
NJ2				PP	PP	03 07 47.0	-2.3
NJ2				PKS	PKS	03 10 02.0	-2.7
NJ2				SKS	SKS	03 13 34.0	+7.2
NJ2				SKKS		03 14 35.0	
NJ2				LR	LR		
	comp=N,290nm,22.7s,MS5.0						
NJ2				LR	LR		
	comp=E,310nm,21.2s,MS5.0						
NJ2				LR	LR		
	comp=Z,3µm,22.6s,MS5.8						
SONM	**Songino Array**	**122.84**	**53**	PKP	PKPdf	03 06 37.9	-2.0
	comp=Z,1.3nm,0.9s,baz=215,slow=2.0,SNR=6.6						
MDJ	**Mudanjiang**	**132.88**	**69**	PKP	PKPdf	03 06 58.1	-1.1
MDJ				PP	PP	03 09 29.0	+3.1
MDJ				SKS	SKS	03 14 05.9	-3.7
MDJ				PS	PS	03 19 39.4	+0.9
MDJ				SS	SS	03 27 05.3	-0.6
MDJ				PP	PP		
	comp=Z,70nm,6.5s						
MDJ				LR	LR		
	comp=N,46nm,27.3s,MS4.2						
MDJ				LR	LR		
	comp=E,39nm,28.5s,MS4.2						
MDJ				LR	LR		
	comp=Z,89nm,25.6s,MS4.4						
TXAR	**Lajitas Array**	**134.79**	**260**	PKP	PKPdf	03 07 03.1	0.0
	comp=Z,1.0nm,0.9s,baz=153,slow=2.8,SNR=8.7						
RSSD	**Black Hills**	**144.72**	**277**	*e*PKPdf	PKPdf	03 07 18.7	-1.7
SRU	**San Rafael**	**145.62**	**265**	*e*PKPdf	PKPdf	03 07 21.4	-0.7
NEN	**Nelson**	**145.88**	**256**	*e*PKPdf	PKPdf	03 07 21.5	-1.1
MSU	**Marysvale**	**146.23**	**262**	*e*PKPbc	PKPbc	03 07 23.9	+1.8
DAU	**Daniels Canyon**	**146.88**	**266**	*e*PKPbc	PKPbc	03 07 26.1	+2.6
NLU	**North Lily Min**	**147.09**	**265**	*e*PKPbc	PKPdf	03 07 26.8	+2.3
JLU	**Jordanelle**	**147.11**	**266**	*e*PKPdf	PKPdf	03 07 23.6	-0.9
PDAR	**Pinedale Array**	**147.27**	**271**	PKPbc	PKPdf	03 07 25.8	+1.0
	comp=Z,6.2nm,1.0s,baz=124,slow=3.3,SNR=30						
LAO	**LASA Array**	**147.40**	**279**	*e*PKPdf	PKPdf	03 07 23.4	-1.4
LAO				*e*PKPbc	PKPdf	03 07 27.1	+2.3
TCUT	**Toone Canyon**	**147.40**	**267**	*e*PKPbc	PKPdf	03 07 27.9	+2.9
TPNV	**Topopah Spring**	**147.59**	**256**	*e*PKPbc	PKPdf	03 07 28.8	+3.4
DUG	**Dugway**	**147.68**	**264**	*e*PKPbc	PKPdf	03 07 28.2	+2.8
HWUT	**Hardware Ranch**	**147.79**	**267**	*e*PKPbc	PKPdf	03 07 26.2	+0.6
DAC	**Darwin (Calif)**	**147.91**	**254**	*e*PKPbc	PKPdf	03 07 29.4	+3.5
TPAW	**Teton Pass**	**148.52**	**271**	*e*PKPdf	PKPdf	03 07 26.9	+0.2
MOOW	**Moose Ponds**	**148.54**	**271**	*e*PKPdf	PKPdf	03 07 26.2	-0.5
MOOW				*e*SKPdf		03 10 59.1	
IMW	**Indian Meadow**	**148.74**	**271**	*e*PKPdf	PKPdf	03 07 27.1	+0.1
TPH	**Tonopah**	**148.92**	**257**	*e*PKPbc	PKPdf	03 07 31.5	+4.0
GCMT	**Greycliff**	**148.99**	**276**	*e*PKPdf	PKPdf	03 07 26.0	-1.4
GCMT				*e*PKPbc	PKPdf	03 07 31.3	+3.9
MTUM	**Tungsten Hills**	**149.22**	**255**	*e*PKPdf	PKPdf	03 07 26.8	-1.3
MTUM				*e*PKPbc	PKPdf	03 07 32.8	+4.7
ELK	**Elko**	**149.47**	**263**	*e*PKPdf	PKPdf	03 07 28.6	+0.3
ELK				*e*PKPbc	PKPdf	03 07 33.4	+5.0
QLMT	**Earthquake Lak**	**149.54**	**273**	*e*PKPbc	PKPdf	03 07 32.8	+4.5
OMM	**Old Mammoth Mi**	**149.65**	**254**	*e*PKPbc	PKPdf	03 07 34.2	+5.4
MNV	**Mina**	**149.71**	**256**	*e*PKPdf	PKPdf	03 07 29.3	+0.5
MNV				*e*PKPbc	PKPdf	03 07 34.0	+5.2
NVAR	**Mina Array Bea**	**149.79**	**256**	PKP	PKPdf	03 07 29.4	+0.5
	comp=Z,1.6nm,0.8s,baz=153,slow=2.0,SNR=6.8						
NVAR				PKPbc	PKPdf	03 07 34.5	+5.5
	comp=Z,6.4nm,0.9s,baz=131,slow=3.6,SNR=21						
NVAR				PKPab	PKPab	03 07 40.6	+1.5
	comp=Z,5.9nm,0.8s,baz=116,slow=3.7,SNR=11						
MCMT	**McKenzie Canyo**	**150.39**	**272**	*e*PKPdf	PKPdf	03 07 30.2	+0.6
MCMT				*e*PKPbc	PKPdf	03 07 34.7	+5.1
HLID	**Hailey**	**150.64**	**268**	*e*PKPdf	PKPdf	03 07 30.0	-0.1
HLID				*e*PKPbc	PKPdf	03 07 36.0	+6.0

CMB	Columbia Colle	150.74	254	*e*PKPbc	PKPdf	03 07 36.2	+5.8
HRY	Holter Researc	150.75	276	*e*PKPdf	PKPdf	03 07 30.0	-0.1
HRY				*e*PKPbc	PKPdf	03 07 36.2	+6.1
HRY				*e*PKPab	PKPab	03 07 41.9	-0.9
CHMT	Chamberlain Mo	151.70	275	*e*PKPbc	PKPdf	03 07 37.5	+6.0
MSO	Missoula	152.07	274	*e*PKPbc	PKPdf	03 07 37.5	+5.4
OHCM	Honcut	152.25	254	*e*PKPdf	PKPdf	03 07 30.7	-1.9
OHCM				*e*PKPbc	PKPdf	03 07 39.1	+6.6
EDM	Edmonton	154.28	288	*e*PKPbc	PKPdf	03 07 42.6	+7.8
YKA	Yellowknife Ar	156.13	310	PKPab	PKPab	03 08 05.1	+0.1
	comp=Z,4.4nm,0.8s,baz=93,slow=4.7,SNR=10.0						
INK	Inuvik	161.27	333	PKPab	PKPab	03 08 27.4	+0.4
	comp=Z,2.4nm,1.0s,baz=333,slow=2.3,SNR=2.8						
ILAR	Eielson Array	167.35	340	PKP	PKPdf	03 07 48.2	-0.4
	comp=Z,1.2nm,1.2s,baz=62,slow=2.6,SNR=5.4						
ILAR				PKPab	PKPab	03 08 53.1	-0.5
	comp=Z,0.6nm,0.8s,baz=2.7,slow=3.8,SNR=6.0						

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*TAP **21** 03:30:06.8, 23.21N×122.37E, h117^{km}, ML3.0*

JMA 21 03:30:06.6±0.2**, 23.19N×122.86E, h62^{km}, M2.9, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HATJ	Hateruma jima	1.22	45	P	P	03 30 27.9	-0.1
HATJ				S	S	03 30 43.8	-0.1
YOJ	Yonaguni jima	1.27	6	P	P	03 30 28.7	0.0
IRIF	Iriomote-Funau	1.39	35	P	P	03 30 30.3	-0.1
IRIF				S	S	03 30 47.8	-0.2
JKRS	Kuro-shima	1.48	45	P	P	03 30 31.8	+0.2
JIJ	Ishigaki jima	1.66	45	P	P	03 30 33.6	-0.4
JIJ				S	S	03 30 53.7	-0.6
JTJ	Tarama	2.22	49	P	P	03 30 41.8	-0.1
JTJ				S	S	03 31 08.5	+0.4

CASC 21 03:33:34.4±2.0**, 11.08N×87.08W, h22^{km}±8^{km}, MD4.1, ML3.9, 6C-5D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CRUN	El Crucero	1.18	41	⇓*e*P	Pn	03 33 55.5	-0.2
CRUN				*e*S	Sb	03 34 12.5	+1.7
COPN	Copaltepe	1.19	24	⇓*e*P	Pn	03 33 55.8	-0.1
COPN				*e*S	Sb	03 34 12.5	+1.3
TICN	Ticuantepe	1.26	41	*e*P	Pn	03 33 56.9	0.0
TICN				*e*S	Sb	03 34 13.6	+0.5
XAVN	Gruta Xavier	1.29	35	*e*P	Pn	03 33 57.2	-0.1
APON	Apoyo	1.29	50	⇑*e*P	Pn	03 33 56.8	-0.6
MGAN	Managua	1.34	38	⇑*e*P	Pn	03 33 56.5	-1.5
MGAN				*e*P		03 33 56.9	
MGAN				*e*S	Sn	03 34 14.4	-0.8
MGAN				*e*S	Sn	03 34 15.4	+0.2
	comp=N,1µm,0.3s						
LEON	Leon	1.34	8	⇑*e*P	Pn	03 33 58.2	+0.2
LEON				*e*S	Sn	03 34 16.1	+0.9
APYN	Apoyeque	1.35	32	⇓*e*P	Pn	03 33 57.8	-0.3
APYN				*e*S	Sn	03 34 15.3	-0.2
WILN	Americas 2	1.38	39	*e*P	Pn	03 33 58.0	-0.7
WILN				*i*		03 34 17.8	
	comp=N,4µm,0.3s						
MIRN	Miramar	1.40	15	⇓*e*P	Pn	03 33 58.5	-0.4
MOMJ	Momotombo	1.42	22	*e*P	Pn	03 33 58.9	-0.3
CNGN	Cerro Negro	1.46	15	*e*P	Pn	03 33 59.3	-0.4
CRZC	La Cruz	1.46	95	*e*P	Pn	03 34 00.4	+0.6
CRZC				*e*S	Sn	03 34 20.3	+1.9
CONN	Concepcion	1.51	71	⇓*e*P	Pn	03 33 59.6	-0.9
TELN	Telica	1.53	9	*e*P	Pn	03 34 00.6	-0.2
VCR	Vista de Mar	1.71	124	*e*P	Pn	03 34 03.1	-0.3
PYTN	Playitas	1.76	35	⇑*e*P	Pn	03 34 03.0	-1.1
PYTN				*e*S	Sn	03 34 26.3	+0.4
QUIN	Quiabu	2.13	18	⇑*e*P	Pn	03 34 08.8	-0.5
JCR	Jicaral	2.29	122	*e*P	Pn	03 34 10.7	-1.0
SOMN	Somoto	2.37	11	⇑*e*P	Pn	03 34 14.1	+1.3
CGA2	Cerro Gallo 2	2.78	112	*e*P	Pn	03 34 19.0	+0.3
PRS1	Puriscal	2.94	112	*e*P	Pn	03 34 20.6	-0.2
LCR2	La Lucha 2	3.31	113	*e*P	Pn	03 34 22.8	-3.4
TRTC	Tortuguero	3.35	98	*e*P	Pn	03 34 24.9	-1.8
ACR	Cerro Adams	4.55	122	*e*P	Pn	03 34 43.5	-0.3

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*IDC **21** 03:39:36.6±1.8, 53.05S×24.79E, mb4.2/2, mb1 4.4/2, mb1mx4.4/2, Error ellipse: s-maj=113.0km s-min=43.5km az=37.0*

*NEIC **21** 03:39:37.1±0.7, 53.27S×24.15E, h10^{km}, mb4.8/3, Error ellipse: s-maj=21.9km s-min=14.7km az=103.0*

ISC 21 03:39:34.9±0.9**, 53.2S**±0.1×**24.0E**±0.3**, h10^{km}, n12, σ0^{s}91**/10**, mb4.5**/5**, 4C, South of Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNAA	Sanae	21.98	202	⇑*i*	P	03 44 28.6	-1.8
SNAA	Sanae	21.98	202	*e*P	P	03 44 28.9	-1.5
	80nm,1.6s,mb4.9						
VNA2	Neumayer--Watz	22.64	206	⇑*i*	P	03 44 37.5	+0.7
VNA1	Neumayer--Stat	22.72	207	⇑*i*	P	03 44 38.1	+0.5
VNA3	Neumayer Olymp	23.43	207	⇑*i*	P	03 44 45.6	+1.1
MAW	Mawson	23.52	143	P	P	03 44 45.6	+0.3
	baz=308,slow=12						
TSUM	Tsumeb	34.24	349	*e*P	P	03 46 22.7	-0.2
	6.4nm,1.1s,mb4.5						
QSPA	South Pole Qui	37.08	180	*e*P	P	03 46 44.9	-1.6
	30nm,1.6s,mb4.9						
ASAR	Alice Springs	82.51	120	P	P	03 51 59.0	0.0
	1.4nm,0.7s,mb4.1,baz=204,slow=6.1,SNR=9.7						
WRA	Warramunga Arr	85.79	118	P	P	03 52 16.2	+0.6
	2.0nm,1.1s,mb4.3,baz=210,slow=4.0,SNR=6.1						
MSU	Marysvale	146.70	262	*e*PKPdf	PKPdf	03 59 18.7	+1.1
PDAR	Pinedale Array	147.73	270	PKPbc	PKPdf	03 59 23.4	+4.2
	1.4nm,1.0s,baz=127,slow=4.5,SNR=5.7						

DJA 21 03:40:06.8±0.9**, 9.39S×115.17E, h76^{km}±8^{km}, MD5.0**/4**, ML3.8**/2**, 7C-2D, Error ellipse: s-maj=29.1km s-min=10.0km az=5.0, South of Bali**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
INGI	Ingas	0.57	357	⇓*i*Pn	P	03 40 18.4	-2.6
	295nm,0.2s						
INGI				⇓*i*Sn	S	03 40 32.6	+1.2
RATI	Rata	0.75	28	⇑*e*Pn	P	03 40 23.7	+0.7
	117nm,0.2s						
RATI	Rata	0.75	28	⇑*i*P	P	03 40 23.9	+0.9
RATI				⇑*i*Sn	S	03 40 34.4	-0.5
KEDI	Kedomdong	1.29	46	⇑*i*Pn	P	03 40 28.8	-0.9
	58nm,0.2s						
KEDI				⇑*i*Sn	S	03 40 43.1	-3.6
KELI	Kelakatan	1.35	330	⇑*i*Pn	P	03 40 30.5	0.0
	165nm,0.2s						
KELI				⇑*i*Sn	S	03 40 45.0	-3.0

DJA 21 03:54:31.0±0.9**, 8.93S×115.28E, h103^{km}±5^{km}, MD5.0**/4**, ML4.0**/2**, 3C-7D, Error ellipse: s-maj=24.0km s-min=7.0km az=6.0, Bali region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
INGI	Ingas	0.17	309	⇓*i*Pn	P	03 54 45.2	-0.4
	740nm,0.2s						
INGI				⇓*i*Sn	S	03 54 54.9	-1.6
RATI	Rata	0.32	51	⇓*i*Pn	P	03 54 46.2	0.0
	578nm,0.2s						
RATI				⇑*i*Sn	S	03 54 56.9	-0.6
KEDI	Kedomdong	0.93	62	⇓*i*Pn	P	03 54 50.9	-0.3
	275nm,0.2s						
KEDI	Kedomdong	0.93	62	⇓*i*P	P	03 54 51.1	-0.1
KEDI				⇓*i*Sn	S	03 55 04.9	-1.5
KELI	Kelakatan	1.05	312	⇑*e*Pn	P	03 54 52.3	-0.2
	190nm,0.2s						
KELI	Kelakatan	1.05	312	⇑*i*P	P	03 54 52.5	0.0
KELI				⇓*i*Sn	S	03 55 08.3	-0.4

IDC 21 04:30:21.5±46.0**, 16.96S×171.76W, mb4.0**/3**, mb1 4.2**/3**, mb1mx3.9**/15**, Error ellipse: s-maj=901.0km s-min=180.0km az=81.0, Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	44.66	242	P	P	04 38 37.0	-1.0
	1.7nm,0.9s,baz=78,slow=9.3,SNR=4.5						
WRA	Warramunga Arr	51.04	258	P	P	04 39 25.3	-2.5
	0.7nm,0.3s,baz=98,slow=6.9,SNR=28						
ASAR	Alice Springs	51.15	253	P	P	04 39 26.6	-2.1
	2.5nm,1.0s,baz=90,slow=8.0,SNR=13						

MEX 21 04:35:31.9±0.6**, 17.87N×94.64W, h96^{km}±133^{km}, MD3.8, Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OXX	Oaxaca	2.13	249	*i* P	P	04 36 05.0	-1.7
OXX				*i* S	S	04 36 31.0	-1.4
VHO	Vista Hermosa	2.15	249	*i* P	P	04 36 05.0	-1.8
VHO				*i* S	S	04 36 31.5	-1.2

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*LDG **21** 04:46:09.1±0.1, 43.06N×18.12E, h10^{km}, Ml3.8/12, Error ellipse: s-maj=4.0km s-min=2.7km az=32.0*

*PDG **21** 04:46:09.8±0.2, 43.07N×18.07E, h11^{km}*

*NEIC **21** 04:46:09.8, 43.07N×18.07E, h11^{km}, mb3.5/1, ML3.7(VIE), ML3.7(PDG), ML3.5(ZAG), After PDG.*

*IDC **21** 04:46:11.6±2.6, 43.30N×17.88E, mb1 3.9/8, mb1mx3.7/25, ML3.6/8, Error ellipse: s-maj=29.9km s-min=13.2km az=19.0*

*THE **21** 04:46:12.7, 42.84N×18.15E, h1^{km}, ML4.0*

ISC 21 04:46:09.1±0.3**, 43.13N**±0.01×**18.04E**±0.02**, h15^{km}**±2^{km}**, n143, σ1^{s}46**/220**, 30C-19D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STON	Ston	0.36	224	*i* Pg	Pg	04 46 16.0	-0.6
STON				*i* Sg	Sg	04 46 21.6	-0.2
BRY	Bratogost	0.43	121	⇑*i*Pg	Pg	04 46 17.3	-0.8
BRY				*e*Sg	Sg	04 46 23.3	-0.9
UPM	Unac-Piva	0.64	83	⇑*i*Pg	Pg	04 46 21.2	-1.0
UPM				*e*Sg	Sg	04 46 31.8	+0.9
HCY	Herceg Novi	0.76	153	⇑*i*Pg	Pg	04 46 22.9	-1.5
HCY				*e*Sg	Sg	04 46 34.0	-0.7
NKY	Niksic	0.77	114	⇓*i*Pg	Pg	04 46 23.1	-1.6
NKY				*e*Sg	Sg	04 46 34.9	-0.2
PLE	Pljevlja	1.01	78	⇓*i*Pg	Pg	04 46 28.4	-1.0
PLE				*e*Sg	Sg	04 46 44.4	+1.4
BUM	Brajici-Budva	1.04	142	⇑*i*Pg	Pg	04 46 28.1	-1.9
BUM				*e*Sg	Sg	04 46 43.5	-0.5
TTG	Podgorica	1.14	127	⇑*i*Pg	Pg	04 46 29.5	-2.4
TTG				*e*Sg	Sg	04 46 47.1	-0.2
NVSS	Nova Varos 2	1.27	72	⇓*i*Pg	Pg	04 46 35.2	+0.7
NVSS				Sg	Sg	04 46 54.1	+2.5
IVA	Berane	1.39	100	⇑*i*Pg	Pg	04 46 35.1	-1.8
IVA				*e*Sg	Sg	04 46 56.4	+0.9
ULC	Ulcinj	1.47	142	⇓*i*Pg	Pg	04 46 35.3	-3.2
ULC				*e*Sg	Sg	04 46 57.9	-0.3
PVY	Plav	1.52	110	⇑*i*Pg	Pg	04 46 37.0	-2.5
PVY				*e*Sg	Sg	04 46 59.5	-0.3
SDA	Shkodra	1.52	134	*e*Pn	Pn	04 46 38.4	+2.4
SDA				*i* Sn	Sn	04 47 01.6	+6.0
BCI	Bajram Curri	1.68	116	*e*Pn	Pn	04 46 41.0	+2.8
BCI				*i* Sn	Sn	04 47 07.1	+7.6
DIVS	Divcibare	1.72	55	⇑*i*Pn	Pn	04 46 40.0	+1.2
DIVS				Sn	Sn	04 47 01.6	+1.1
PUK	Puka	1.75	128	*e*Pn	Pn	04 46 42.1	+2.9
PUK				*i* Sn	Sx	04 47 43.7	
LACI	Lac	1.94	140	*i* Pn	Pn	04 46 43.7	+1.8
LACI				*i* Sn	Sn	04 47 10.3	+4.2
GRUS	Gruza	2.09	68	⇑*i*Pn	Pn	04 46 45.3	+1.2
GRUS				Sn	Sn	04 47 15.5	+5.5
FGMS	Monte Sant'Ang	2.10	228	*e*Pn	Pn	04 46 46.6	+2.4
QSH	Qafa e Shtames	2.12	139	*i* Pn	Pn	04 46 48.0	+3.5
QSH				*i* Sn	Sn	04 47 14.0	+3.2
TIR	Tirane	2.24	142	⇑*i*Pn	Pn	04 46 48.5	+2.3
TIR				*i* Sn	Sn	04 47 17.0	+3.3
RGNG	Rignano Grg	2.33	232	*e*Pn	Pn	04 46 48.5	+1.1
BEO	Belgrade	2.43	45	⇓*i*Pn	Pn	04 46 51.7	+2.7
BEO	Belgrade	2.43	45	⇑*i*Pn	Pn	04 46 55.6	+6.6
BEO				Sn	Sg	04 47 30.1	0.0
FG2	Serracapriola	2.51	239	*e*Pn	Pn	04 46 51.6	+1.6
SVIS	Svilajnac	2.59	62	⇑*i*Pn	Pn	04 46 52.1	+0.9
SVIS				Sn	Sn	04 47 27.5	+4.8
SISC	Sisak	2.63	334	*i* Pn	Pn	04 46 53.2	+1.4
SISC				*i* Sn	Sn	04 47 25.7	+1.9
NVLJ	Novalja	2.70	303	*i* Pn	Pn	04 46 54.2	+1.3
NVLJ				*i* Sn	Sn	04 47 32.8	+7.2
FG4	Candela	2.74	224	*e*Pn	Pn	04 46 55.8	+2.5
FG5	Orsara di Pugl	2.76	229	*e*Pn	Pn	04 46 54.9	+1.1
RHK3	Tenkes	2.77	3	*e*P	Pn	04 46 54.1	+0.4
RHK3				*e*S	Sg	04 47 39.2	-2.0
SKO	Skopje	2.77	114	*i* Pn	Pn	04 46 56.5	+2.7
SKO				*i*		04 47 00.1	
SKO				*i* Sn	Sn	04 47 36.3	+9.1
SKO				Lg		04 47 51.0	
	comp=Z,0.1nm,0.6s						
BARS	Barje	2.80	95	⇓*i*Pn	Pn	04 46 56.3	+2.1
BARS				Sn	Sn	04 47 26.9	-1.1
OHR	Ohrid	2.88	134	*i* Sn	Sn	04 47 34.0	+4.0
OHR				*i*		04 47 44.2	
BOLS	Boljevac	2.94	75	⇑*i*Pn	Pn	04 46 59.6	+3.4
BOLS				Sn	Sn	04 47 38.1	+6.6
RHK1	Bakonya	2.97	0	*e*P	Pn	04 46 56.6	0.0
RHK1				*e*S	Sn	04 47 32.7	+0.4
MRB1	Monte Rocchett	3.03	230	*e*Pn	Pn	04 47 00.2	+2.7
MRLC	Muro Lucano	3.04	220	⇓*i*Pn	Pn	04 46 57.8	+0.2
CII	Carovilli	3.10	244	*e*Pn	Pn	04 46 59.0	+0.4
CII				*e*Sn	Sn	04 47 34.0	-1.6
VBY	Vinica-Bojanci	3.10	321	*e*Pn	Pn	04 47 00.8	+2.2
VBY				*e*Sn	Sn	04 47 40.3	+4.6
CPI2	Carpinone	3.16	242	⇓*i*Pn	Pn	04 47 00.6	+1.3
CSSN	Cassano Irpino	3.19	226	*e*Pn	Pn	04 46 59.6	-0.2
SGG	Gregorio Mates	3.23	239	⇑*i*Pn	Pn	04 47 01.2	+0.9
SGG				*e*Sn	Sn	04 47 39.1	+0.3
INTR	Introdacqua	3.25	251	⇓*i*Pn	Pn	04 47 01.2	+0.6
CRES	Cresnjevec ost	3.27	326	*i* Pn	Pn	04 47 02.4	+1.5
CRES				*i*		04 47 41.1	
SLCN	Sala Consilina	3.27	214	⇓*i*Pn	Pn	04 47 02.2	+1.2
SGO	Sicignano	3.28	219	*e*Pn	Pn	04 47 01.0	-0.1
TERO	Teramo	3.30	263	*e*Pn	Pn	04 47 03.1	+1.7
TERO				*e*Sn	Sn	04 47 40.6	0.0
FNA	Florina	3.42	132	*e*Pn	Pn	04 47 03.8	+0.8
FNA				*e*Sn	Sn	04 47 42.6	-1.0
PKS9	Tamasi	3.46	3	⇑*i*P	Pn	04 47 04.1	+0.4
MGR	Morigerati	3.52	213	⇓*i*Pn	Pn	04 47 04.2	-0.3
CING	Cingoli	3.55	276	⇓*i*Pn	Pn	04 47 06.1	+1.2
MSC	Monte Massico	3.59	239	⇑*i*Pn	Pn	04 47 05.8	+0.3
MSC				*e*Sn	Sn	04 47 47.1	-0.9
PTQR	Pietraquaria	3.60	254	*e*Pn	Pn	04 47 07.1	+1.5
NRCA	Norcia	3.62	267	⇓*i*Pn	Pn	04 47 06.6	+0.6
NRCA				*e*Sn	Sn	04 47 49.2	+0.3
KEK	Kerkira	3.66	158	*e*P	Pn	04 47 05.0	-1.5
TDS	Terranova Siba	3.69	201	*e*Pn	Pn	04 47 07.4	+0.5
ARV	Arcevia	3.74	277	⇓*i*Pn	Pn	04 47 08.1	+0.5
PKS8	Sarbogard	3.78	7	⇓*e*P	Pn	04 47 08.0	-0.1
PKS8				*e*S	Sn	04 47 50.8	-2.0
LJU	Ljubljana	3.85	321	*e*Pn	Pn	04 47 10.4	+1.3
LJU				*i* Sn	Sn	04 47 54.4	-0.1
LJU				*i*		04 48 02.1	
FSSB	Fossombrone	3.88	280	*e*Pn	Pn	04 47 09.4	-0.1
GRG	Griva	3.91	122	*e*Pn	Pn	04 47 11.0	+1.1
GRG				*e*Sn	Sn	04 47 56.0	-0.1
CERT	Cerreto	3.92	254	*e*Pn	Pn	04 47 10.9	+0.8
JAVS	Javornik	3.96	316	*i* Pn	Pn	04 47 12.3	+1.5
JAVS				*i* Sn	Sn	04 47 59.0	+1.5
KZN	Kozani	3.97	134	*e*P	Pg	04 47 25.5	-2.8
IGT	Igoumenitsa	3.98	154	*e*Pn	Pn	04 47 10.1	-0.9
IGT				*e*Sn	Sn	04 47 56.5	-1.5
TRI	Trieste	4.00	312	*e*Pn	Pn	04 47 12.0	+0.6
MNS	Montasola	4.01	261	⇑*i*Pn	Pn	04 47 11.9	+0.4
MURB	Monte Urbino	4.03	274	⇓*i*Pn	Pn	04 47 12.9	+1.1
JAN	Janina	4.06	148	*e*P	Pn	04 47 07.0	-5.2
TIP	Timpagrande	4.06	194	*e*Pn	Pn	04 47 10.7	-1.5
MEV	Metsovon	4.11	143	*e*Pn	Pn	04 47 12.6	-0.3
MEV				*e*Sn	Sn	04 47 59.5	-1.7
VOY	Vojsko	4.15	316	*e*Sn	Sn	04 48 03.5	+1.4
OBKA	Obir	4.19	325	⇑*i*PN	Pn	04 47 15.0	+0.9
OBKA				*i* SN	Sn	04 48 01.8	-1.5
OBKA				*i* SG	Sg	04 48 23.7	-5.1
	comp=Z,44nm,0.5s						
PKSG		4.27	3	*e*P	Pn	04 47 14.8	-0.4
PKSG				*e*S	Sn	04 48 06.2	+0.9
THE	Thessaloniki	4.44	122	*e*Pn	Pn	04 47 17.7	+0.1
CRE	Caprese Michel	4.46	278	*e*Pn	Pn	04 47 19.7	+1.8
ARSA	Arzberg	4.49	338	⇑*i*PN	Pn	04 47 18.4	+0.1
ARSA				*i* SN	Sn	04 48 10.2	-0.6
LIT	Litokhoron	4.50	131	*e*Pn	Pn	04 47 19.1	+0.7
LIT				*e*Sn	Sn	04 48 10.0	-1.2
SFI	Santa Sofia	4.57	282	*e*Pn	Pn	04 47 20.4	+1.0
SOH	Sokhos	4.58	118	*e*Pn	Pn	04 47 20.8	+1.2
TOLF	Tolfa	4.58	259	⇑*i*Pn	Pn	04 47 19.8	+0.3
SRS	Serrai	4.59	114	*e*Pn	Pn	04 47 20.9	+1.2
GMNA	Gemona	4.65	314	*e*Pn	Pn	04 47 22.6	+2.1
PTCC	Patocco-Chiusa	4.68	316	⇑*i*Pn	Pn	04 47 21.4	+0.5
VMG	Vicchio	4.79	282	*e*Pn	Pn	04 47 24.0	+1.4
PLG	Polygyros	4.89	122	*e*P	Pn	04 47 23.0	-0.9
SEI	Scarperia	4.94	283	⇓*i*Pn	Pn	04 47 26.3	+1.7
PSZ	Piszkesteto	4.96	15	⇑*e*Pn	Pn	04 47 24.2	-0.8
PSZ				*e*Sn	Sn	04 48 19.6	-3.2
EVR	Evrytania	5.08	145	*e*P	Pn	04 47 27.5	+0.9
KBA	Koelnbreinsper	5.16	322	⇑*i*PN	Pn	04 47 29.3	+1.6
KBA				*i* SN	Sn	04 48 26.0	-1.7
KBA				*i* SG	Sg	04 48 56.0	-4.9
	comp=Z,20nm,0.5s						
KBA	Koelnbreinsper	5.16	322	⇑*i*Pn	Pn	04 47 29.3	+1.6
	comp=Z,20nm,0.5s						
KBA				*i* Sn	Sn	04 48 26.0	-1.7
KBA				*i* Sg	Sg	04 48 56.0	-4.9
AGG	Agios Georgios	5.23	140	*e*Pn	Pn	04 47 28.5	-0.2
AGG				*e*Sn	Sn	04 48 27.5	-1.9
SOI	Samo	5.27	197	*e*Pn	Pn	04 47 28.5	-0.8
VLS	Valsamata	5.31	158	*e*P	Pn	04 47 27.0	-2.9
VYHS	Vyhne	5.40	6	*e*PN	Pn	04 47 31.0	-0.1
VYHS				*e*SN	Sn	04 48 31.7	-1.9
XOR	Xorichti	5.40	132	*e*Pn	Pn	04 47 30.4	-0.8
XOR				*e*Sn	Sn	04 48 32.0	-1.8
MOA	Molln	5.42	332	⇑*i*PN	Pn	04 47 32.5	+1.2
MOA				*i* SN	Sn	04 48 32.4	-1.7
CTI	Castel Tesino	5.42	305	*e*Pn	Pn	04 47 30.9	-0.5
KOLL	Kolacno	5.46	3	*e*PN	Pn	04 47 31.8	-0.1
BDI	Bagni Di Lucca	5.49	282	*e*Pn	Pn	04 47 34.3	+2.0
BGLD	Berchtesgaden	5.74	324	⇓*i*Pn	Pn	04 47 37.6	+1.6
SCE	Schlegeis	5.95	313	⇓*i*Pn	Pn	04 47 39.1	+0.3
WTTA	Wattenberg	6.13	315	⇑*i*PN	Pn	04 47 41.4	0.0
WTTA				*i* SN	Sn	04 48 49.4	-2.6
MLR	Muntele Rosu	6.14	65	Pn	Pn	04 47 45.1	+3.5
	comp=Z,0.1nm,0.3s,baz=133,slow=23,SNR=3.1						
MLR				Sn	Sn	04 48 56.3	+3.9
	comp=Z,0.5nm,0.3s,baz=281,slow=15,SNR=3.1						
WATA	Walderalm	6.21	315	⇑*i*PN	Pn	04 47 43.1	+0.6
WATA				*i* SN	Sn	04 48 51.4	-2.5
VRAC	Vranov	6.26	351	Pn	Pn	04 47 45.2	+1.9
	comp=Z,0.7nm,0.3s,baz=161,slow=18,SNR=2.1						
VRAC				Sn	Sn	04 48 52.7	-2.6
	comp=Z,0.8nm,0.3s,baz=92,slow=22,SNR=1.8						
SQTA	Sankt Quirin	6.33	313	⇑*i*PN	Pn	04 47 44.2	0.0
SQTA				*i* SN	Sn	04 48 53.5	-3.4
ALN	Alexandroupoli	6.37	108	*e*Pn	Pn	04 47 46.1	+1.4
MOTA	Moosalm	6.46	313	⇑*i*PN	Pn	04 47 46.7	+0.6
MOTA				*i* SN	Sn	04 48 56.9	-3.4
GERES	GERESS Array B	6.47	334	Pn	Pn	04 47 46.3	+0.2
	comp=Z,3.1nm,0.3s,baz=156,slow=14,SNR=34						
GERES				Sn	Sn	04 48 57.5	-2.9
	comp=Z,1.6nm,0.3s,baz=153,slow=24,SNR=6.2						
PGF	Pioggiola	6.67	268	*e*Pn	Pn	04 47 48.1	-0.9
PGF				*e*Sn	Sn	04 48 57.7	-7.8
KHC	Kasperske Hory	6.76	334	*e*PN	Pn	04 47 50.5	+0.3
KHC				*e*x	x	04 47 59.7	
KHC				*e*SN	Sn	04 49 04.4	-3.2
DAVOX	Davos	6.84	305	Pn	Pn	04 47 51.5	+0.1
	comp=Z,1.7nm,0.3s,baz=129,slow=14,SNR=12						
DAVA	Damuels	7.10	309	⇑*i*PN	Pn	04 47 54.2	-0.9
DAVA				*i* SN	Sn	04 49 12.7	-3.7
PRU	Pruhonice	7.27	342	*e*SN	Sn	04 49 25.2	+4.6
SBF	Sospel	7.75	279	*e*Pn	Pn	04 48 02.7	-1.4
SBF				*e*Sn	Sn	04 49 24.8	-7.6
	comp=Z,7.3nm,0.3s						
GRA1	Grafenberg Arr	8.08	327	*e*Pn	P	04 48 08.1	-0.6
GRA1				*e*Sn	Sx	04 50 24.3	
MBDF	Montbardon	8.29	285	*e*Sn	Sn	04 49 36.8	-9.2
	comp=Z,9.3nm,0.5s						
FRF	La Foret Royal	8.32	277	*e*Pn	P	04 48 09.5	-2.5
FRF				*e*Sn	Sn	04 49 38.7	-7.9
	comp=Z,4.1nm,0.4s						
LMR	La Mourre	8.42	275	*e*Pn	P	04 48 11.2	-2.3
LMR				*e*Sn	Sn	04 49 39.8	-9.5
	comp=Z,2.5nm,0.3s						
LPG	La Plagne	8.43	290	*e*Pn	P	04 48 10.5	-3.2
LPG				*e*Sn	Sn	04 49 40.8	-8.8
	comp=Z,8.2nm,0.4s						
LPL	La Plagne	8.45	290	*e*Pn	P	04 48 12.3	-1.6
LPL				*e*Sn	Sn	04 49 41.4	-8.6
	comp=Z,12nm,0.5s						
MOX	Moxa	8.71	332	*i* P	P	04 48 16.7	-0.8
MOX	Moxa	8.71	332	*e*Pn	P	04 48 16.7	-0.8
CLL	Collm	8.87	339	*e*SG	Sg	04 51 07.0	+2.6
ORIF	Oris-en-Rattie	8.94	286	*e*Pn	P	04 48 18.4	-2.3
ORIF				*e*Sn	Sn	04 49 52.0	-10
	comp=Z,13nm,0.5s						
SMRF	Simiane la Rot	9.09	280	*e*Pn	P	04 48 19.4	-3.4
HINF	Hinteralfeld	9.15	305	*e*Pn	P	04 48 20.1	-3.5
HINF				*e*Sn	Sn	04 49 59.2	-8.1
	comp=Z,7.9nm,0.5s						
CABF	La Chapelle	9.17	296	*e*Pn	P	04 48 20.9	-3.0
CABF				*e*Sn	Sn	04 49 57.6	-10
CDF	Champ du Feu	9.19	309	*e*Pn	P	04 48 19.8	-4.3
CDF				*e*Sn	Sn	04 49 58.9	-9.4
	comp=Z,3.6nm,0.4s						
IDI	Anoyia	9.46	144	Pn	P	04 48 25.1	-2.8
	comp=Z,0.5nm,0.3s,baz=337,slow=15,SNR=3.4						
IDI				Sn	Sn	04 50 05.3	-10
	comp=Z,0.9nm,0.3s,baz=115,slow=22,SNR=5.1						
HAU	Haudompre	9.54	305	*e*Pn	P	04 48 24.8	-4.1
VIVF	Saint-Julien-I	9.79	285	*e*Pn	P	04 48 28.3	-4.1
SMF	Signal de Mont	10.67	294	*e*Pn	P	04 48 40.9	-3.5
SMF				*e*Sn	S	04 50 32.3	-12
	comp=Z,5.4nm,0.4s						
LOR	Lormes	10.83	297	*e*Pn	P	04 48 43.5	-3.1
LOR				*e*Sn	S	04 50 37.2	-11
	comp=Z,6.9nm,0.3s						
SSF	Saint Saulge	11.00	296	*e*Sn	S	04 50 41.4	-11
	comp=Z,6.8nm,0.7s						
AVF	Avril sur Loir	11.03	294	*e*Pn	P	04 48 46.5	-2.9
BGF	Bois d'Agland	11.32	293	*e*Pn	P	04 48 50.3	-3.0
HFS	Hagfors	17.24	353	Pn	P	04 50 09.7	-1.0
	comp=Z,0.0nm,0.3s,baz=166,slow=18,SNR=4.4						
NOA	NORSAR Array B	18.40	349	P	P	04 50 24.7	-0.4
	comp=Z,0.1nm,0.3s,baz=172,slow=13,SNR=2.9						
FINES	FINESS Array B	18.96	12	P	P	04 50 30.9	-1.0
	comp=Z,0.2nm,0.3s,baz=198,slow=9.7,SNR=5.0						
KAF	Kangasniemi	19.64	12	*e*p	P	04 50 32.0	-7.8
	comp=Z,1.9nm,0.7s						

IDC 21 04:52:47.0±5.8**, 51.54S×24.16E, mb4.2**/1**, mb1 4.4**/1**, mb1mx3.7**/11**, 1D, Error ellipse: s-maj=808.0km s-min=53.1km az=18.0, South of Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNAA	Sanae	23.52	201	⇓*i*	P	04 57 42.7	-16
SNAA	Sanae	23.52	201	*e*	P	04 57 51.9	-7.0
ASAR	Alice Springs	83.21	120	P	P	05 05 15.2	-1.1
	1.8nm,0.9s,baz=211,slow=5.7,SNR=10						
PDAR	Pinedale Array	147.80	273	PKPbc	PKPdf	05 12 32.1	+0.2
	0.7nm,0.8s,baz=129,slow=5.8,SNR=4.9						
NVAR	Mina Array Bea	150.74	258	PKPbc	PKPdf	05 12 41.0	+4.4
	0.7nm,0.9s,baz=143,slow=4.5,SNR=4.5						

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*IDC **21** 05:01:21.4±5.9, 1.72N×122.30E, h468^{km}±75^{km}, mb3.2/4, mb1 3.3/5, mb1mx3.1/15, Error ellipse: s-maj=99.1km s-min=20.6km az=61.0*

ISC 21 05:01:22.1±1.3**, 1.8N**±0.4×**122.5E**±0.7**, h500^{km}, n9, σ0^{s}77**/9**, mb3.6**/4**, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	Kakadu	17.45	146	*e*P	P	05 05 01.6	+4.7
	18nm,0.4s						
FITZ	Fitzroy Crossi	20.01	171	*e*P	P	05 05 21.8	+0.3
	3.4nm,1.8s						
FITZ	Fitzroy Crossi	20.01	171	P	P	05 05 21.3	-0.2
	0.3nm,0.3s,baz=0.1,slow=8.8,SNR=11						
WRA	Warramunga Arr	24.54	152	P	P	05 06 02.2	-0.8
	3.5nm,0.5s,mb4.1,baz=334,slow=9.6,SNR=44						
WB2	Warramunga Arr	24.54	152	*e*P	P	05 06 02.7	-0.4

ASAR	Alice Springs	27.64	157	P	P	05 06 30.2	-0.3
	0.9nm,0.5s,mb3.5,baz=328,slow=8.3,SNR=13						
ASAR				PcP	PcP	05 09 32.1	-0.1
	0.4nm,0.4s,baz=338,slow=2.5,SNR=4.1						
STKA	Stephens Creek	38.08	153	eP	P	05 08 00.0	+1.5
	3.5nm,0.4s,mb4.1						
STKA	Stephens Creek	38.08	153	P	P	05 07 60.0	+1.5
	4.5nm,0.5s,mb4.2,baz=328,slow=7.9,SNR=20						
MKAR	Makanchi Array	56.83	328	P	P	05 10 20.0	-0.1
	0.1nm,0.4s,mb2.5,baz=135,slow=8.2,SNR=3.8						

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*IDC **21** 05:10:55.4±1.6, 6.51S×130.60E, mb4.1/3, mb1 4.4/6, mb1mx4.2/11, ML4.3/3, MS2.9/2, Ms1 2.9/2, ms1mx2.6/12, Error ellipse: s-maj=74.0km s-min=20.3km az=67.0*

*NEIC **21** 05:10:57.7±0.9, 6.55S×130.62E, h15^{km}, mb4.0/1, Error ellipse: s-maj=21.9km s-min=10.1km az=69.0*

ISC 21 05:11:07.7±3.0, **7.08S**±0.10×**130.3E**±0.2, **h135**^{km}±31^{km}, **n14**, σ**1^{s}19**/19, **mb4.4**/6, **Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.85	202	Pn	P	05 13 54.3	+1.0
	1.7nm,0.3s,baz=21,slow=7.9,SNR=77						
FITZ				Sn	S	05 16 01.8	-1.4
	1.6nm,0.3s,baz=187,slow=21,SNR=6.3						
FITZ				LR	LR	05 17 50.0	
	comp=Z,26nm,21.3s,baz=83,slow=33						
WRAB	Tennant Creek	13.38	163	eP	P	05 14 12.9	-0.3
	11nm,0.6s						
WRAB				eS	S	05 16 38.5	-0.5
WRA	Warramunga Arr	13.38	163	Pn	P	05 14 12.4	-0.9
	2.2nm,0.3s,baz=332,slow=13,SNR=56						
WRA				Sn	S	05 16 36.9	-2.2
	3.0nm,0.3s,baz=347,slow=22,SNR=13						
WRA	Warramunga Arr	13.38	163	Pn	P	05 14 12.4	-0.9
WRA				Sn	S	05 16 36.9	-2.2
ASAR	Alice Springs	16.86	168	P	P	05 14 58.9	+1.8
	1.0nm,0.3s,baz=343,slow=11,SNR=34						
ASAR				S	S	05 18 02.0	+3.4
	0.6nm,0.3s,baz=348,slow=21,SNR=7.0						
ASAR				LR	LR	05 20 56.3	
	comp=Z,70nm,18.4s,baz=303,slow=35						
MBWA	Marble Bar	17.32	215	eP	P	05 15 07.4	+4.7
	10nm,0.8s						
STKA	Stephens Creek	26.84	158	P	P	05 16 41.9	+4.3
	0.5nm,0.3s,mb3.6,baz=308,slow=19,SNR=5.3						
CMAR	Chiang Mai Arr	39.99	310	P	P	05 18 31.6	+0.8
	2.6nm,0.7s,mb4.0,baz=136,slow=7.4,SNR=17						
GUN	Gumba	55.21	311	eP	P	05 20 28.7	-0.4
	22nm,0.6s						
PKI	Pulchoki	55.38	310	eP	P	05 20 30.2	-0.2
KKN	Kakani	55.59	311	eP	P	05 20 31.3	-0.6
	12nm,0.7s,mb4.8						
GKN	Gorkha	56.19	310	eP	P	05 20 35.8	-0.3
	21nm,0.7s,mb5.1						
KOLN	Koldanda	56.86	310	eP	P	05 20 40.9	+0.1
	19nm,0.9s,mb4.9						
MKAR	Makanchi Array	68.44	327	P	P	05 21 57.1	0.0
	1.4nm,0.4s,mb4.0,baz=116,slow=7.8,SNR=35						

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*IDC **21** 05:20:25.6±1.1, 3.24S×150.80E, mb4.2/9, mb1 4.5/9, mb1mx4.3/15, MS3.9/10, Ms1 4.0/10, ms1mx3.8/14, Error ellipse: s-maj=41.1km s-min=19.8km az=121.0*

*BJI **21** 05:20:37.9, 2.82S×151.50E, h115^{km}, mB5.0, mb4.9*

*NEIC **21** 05:20:39.7±2.6, 3.54S×150.72E, h120^{km}±24^{km}, mb4.7/11, Error ellipse: s-maj=27.0km s-min=15.2km az=119.0*

ISC 21 05:20:35.4±3.3, **3.3S**±0.1×**150.7E**±0.2, **h89**^{km}±31^{km}, **n35**, σ**1^{s}06**/31, **mb4.5**/23, **New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	6.99	210	P	P	05 22 17.2	+0.1
CTA	Charters Tower	17.22	194	LR	LR	05 30 40.8	
	comp=Z,229nm,21.1s,baz=14,slow=36						
KAKA	Kakadu	20.36	242	eP	P	05 25 09.6	+2.5
	15nm,0.5s						
WRAB	Tennant Creek	22.96	223	eP	P	05 25 32.7	-0.2
	34nm,0.7s,mb4.8						
WRAB				e		05 25 40.1	
WB2	Warramunga Arr	22.96	223	eP	P	05 25 32.7	-0.3
WRA	Warramunga Arr	22.97	223	P	P	05 25 32.7	-0.4
	5.9nm,0.6s,mb4.1,baz=48,slow=10.0,SNR=37						
WRA				LR	LR	05 35 10.7	
	comp=Z,184nm,19.5s,baz=65,slow=38						
ASAR	Alice Springs	25.93	217	P	P	05 26 01.4	0.0
	7.8nm,1.2s,mb4.0,baz=57,slow=8.0,SNR=17						
ASAR				PcP	PcP	05 29 30.1	+1.7
	0.8nm,1.1s,baz=45,slow=2.6,SNR=2.2						
ASPA	Alice Springs	25.94	217	eP	P	05 26 07.8	+6.4
FITZ	Fitzroy Crossi	28.60	237	eP	P	05 26 24.6	-1.1
	8.7nm,0.7s,mb4.5						
FITZ	Fitzroy Crossi	28.60	237	P	P	05 26 24.2	-1.5
	9.8nm,1.0s,mb4.4,baz=53,slow=5.3,SNR=4.0						
FITZ				LR	LR	05 38 37.8	
	comp=Z,235nm,19.0s,baz=82,slow=38						
STKA	Stephens Creek	29.67	196	LR	LR	05 39 04.4	
	comp=Z,239nm,18.1s,baz=17,slow=38						
MBWA	Marble Bar	34.95	237	P	P	05 27 16.8	-4.2
	56nm,1.7s,mb5.1						
MDJ	Mudanjiang	51.32	341	P	P	05 29 30.4	-2.4
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,28nm,2.9s,mb4.8						
MDJ				LR	LR		
	comp=N,89nm,37.5s						
MDJ				LR	LR		
	comp=E,84nm,27.6s						
MDJ				LR	LR		
	comp=Z,159nm,33.5s						
BJI	Beijing	53.51	327	P	P	05 29 51.4	+2.2
BJI				AMB	AMB		
	comp=Z,7.0nm,1.3s,mb4.5						
BJI				LR	LR		
	comp=Z,129nm,20.2s						
BJI	Beijing	53.51	327	P	P	05 29 51.4	+2.2
	comp=Z,7.0nm,1.3s,mb4.5						
BJI				S	S	05 37 27.4	+14
XAN	Xi'an	54.11	317	P	P	05 29 52.5	-1.1
XAN				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.6						
CMAR	Chiang Mai Arr	55.35	295	P	P	05 30 03.0	+0.2
	comp=Z,1.0nm,0.7s,mb4.0,baz=117,slow=5.8,SNR=4.6						
CMAR				LR	LR	05 51 25.1	
	comp=Z,66nm,19.9s,baz=195,slow=34						
CD2	Chengdu	56.19	311	eP	P	05 30 13.8	+5.1
CD2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.2						
HHC	Hu-ho-hao-te	56.63	325	eP	P	05 30 17.1	+5.4
HHC				AMB	AMB		
	comp=Z,15nm,1.0s,mb5.0						
HHC				AMB	AMB		
	comp=Z,88nm,4.6s						
BTO	Baotou	57.37	324	eP	P	05 30 18.5	+1.6
LZH	Lanzhou	58.71	316	eP	P	05 30 26.0	-0.3
LZH				AMB	AMB		
	comp=Z,42nm,1.3s,mb5.3						
HIA	Hailar	58.84	337	eP	P	05 30 26.1	-1.0
	comp=Z,33nm,1.6s,mb5.1						
GTA	Gaotai	63.15	318	eP	P	05 30 56.6	+0.2
GTA				AMB	AMB		
	comp=Z,2.0nm,1.1s,mb4.0						
SONM	Songino Array	63.97	328	P	P	05 31 01.3	-0.3
	comp=Z,1.9nm,0.6s,mb4.1,baz=149,slow=7.2,SNR=6.7						
MKAR	Makanchi Array	77.84	319	P	P	05 32 24.5	-0.4
	comp=Z,1.0nm,0.7s,mb3.6,baz=101,slow=6.2,SNR=7.9						
MKAR				LR	LR	06 05 29.3	
	comp=Z,76nm,19.6s,baz=261,slow=35						
MCK	McKinley	80.32	23	eP	P	05 32 37.6	-0.5
	comp=Z,9.8nm,1.0s,mb4.6						
KURK	Kurchatov	81.32	322	eP	P	05 32 44.4	+0.9
	comp=Z,10nm,1.1s,mb4.6						
ILAR	Eielson Array	81.59	23	P	P	05 32 43.5	-1.3
	comp=Z,2.1nm,0.8s,mb4.0,baz=250,slow=5.4,SNR=18						
MAW	Mawson	86.12	203	LR	LR	06 06 07.5	
	comp=Z,163nm,18.7s,baz=233,slow=32						
QSPA	South Pole Qui	86.63	180	eP	P	05 33 17.7	+8.1
	comp=Z,6.8nm,1.2s,mb4.5						
ZRNK	Zerenda	87.62	323	eP	P	05 33 15.1	+0.2
	comp=Z,9.1nm,0.7s,mb4.9						
ZRNK				e		05 33 20.1	
INK	Inuvik	87.83	21	P	P	05 33 16.9	+1.2
	comp=Z,2.7nm,1.1s,mb4.2,baz=286,slow=5.4,SNR=1.9						
NVAR	Mina Array Bea	92.83	52	P	P	05 33 40.6	+1.0
	comp=Z,0.2nm,0.4s,mb3.8,baz=252,slow=5.7,SNR=2.6						
NVAR				LR	LR	06 14 12.4	
	comp=Z,75nm,18.2s,baz=145,slow=35						
YKA	Yellowknife Ar	95.10	28	LR	LR	06 12 34.4	
	comp=Z,63nm,18.2s,baz=240,slow=33						
PDAR	Pinedale Array	99.40	47	LR	LR	06 10 59.5	
	comp=Z,102nm,20.1s,baz=274,slow=31						

WEL 21 05:47:12.4±0.2, **45.21S**×**167.36E**, **h73**^{km}±1^{km}, **ML3.7**/4, **3C, Error ellipse: s-maj=1.7km s-min=1.3km az=90.0, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DCZ	Deep Cove	0.30	209	PN	P	05 47 23.6	-0.4
DCZ				SN	S	05 47 32.6	0.0
MLZ	Mavora Lakes	0.59	103	⇑PN	P	05 47 26.1	-0.5
MLZ				SN	S	05 47 36.4	-0.6
MLZ				SN	S	05 47 36.5	-0.5
MSZ	Milford Sound	0.68	37	PN	P	05 47 27.0	-0.4
MSZ				SN	S	05 47 38.0	-0.6
WKZ	Wanaka	1.24	72	PN	P	05 47 34.1	-0.3
TUZ	Tuapeka	1.76	116	PN	P	05 47 40.7	-0.8
LBZ	Lake Benmore	2.17	69	⇑PN	P	05 47 44.9	-2.3
ODZ	Otahua Downs	2.33	87	⇑PN	P	05 47 47.6	-1.9
ODZ				SN	S	05 48 12.2	-4.8
RPZ	Rata Peaks	3.04	62	PN	P	05 47 55.6	-3.8
RPZ				SN	S	05 48 29.1	-5.6
WVZ	Waitaha Valley	3.24	50	ePN	P	05 47 57.9	-4.2
MQZ	McQueen's Vall	4.08	70	ePN	P	05 48 09.4	-4.4
LTZ	Lake Taylor	4.30	57	ePN	P	05 48 12.0	-4.9
DSZ	Denniston Nort	4.74	45	PN	P	05 48 19.5	-3.6
DSZ				SN	S	05 49 10.2	-7.0
THZ	Tophouse	5.31	51	PN	P	05 48 25.6	-5.2
THZ				SN	S	05 49 24.8	-6.5
QRZ	Quartz Range	5.79	43	ePN	P	05 48 34.7	-2.9

NEIC 21 05:51:42.7, 37.99N×**118.72W, h7**^{km}, **ML3.7**(REN), **3C-3D, After REN., California-Nevada border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OMM	Old Mammoth Mi	0.43	210	⇓iP	Pg	05 51 51.2	-0.2
OMM				eS	Sg	05 51 58.0	+0.7
MNV	Mina	0.62	45	⇓iP	Pg	05 51 54.5	-0.7
MNV				eS	Sg	05 52 03.0	-0.6
MTUM	Tungsten Hills	0.65	169	eP	Pg	05 51 55.1	-0.7
TPH	Tonopah	1.18	86	⇑ePn	Pn	05 52 04.7	-1.0
CMB	Columbia Colle	1.32	272	⇑iPn	Pn	05 52 06.6	-1.0
CMB				eS	Sb	05 52 24.3	-0.1
WCN	Washoe City	1.54	328	⇑iPn	Pn	05 52 11.1	+0.4
WCN				eSg	Sg	05 52 32.4	-1.6
PAHR	Pah Rah Range	1.79	343	ePn	Pn	05 52 14.2	-0.1
PAHR				eSg	Sg	05 52 40.3	-2.0
DAC	Darwin (Calif)	1.93	152	ePn	Pn	05 52 16.2	-0.2
DAC				ePg	Pg	05 52 19.1	-2.2
DAC				eSg	Sg	05 52 43.7	-3.4
TPNV	Topopah Spring	2.22	117	ePn	Pn	05 52 19.9	-0.6
BEKR	Beckwourth	2.27	326	⇓ePn	Pn	05 52 21.5	+0.3
BEKR				eSg	Sg	05 52 54.5	-3.7
LRV	Little Rabbit	2.41	230	Pn	Pn	05 52 24.1	+0.8
SAO	San Andreas Ge	2.50	241	ePn	Pn	05 52 26.2	+1.7
OHCM	Honcut	2.55	303	ePn	Pn	05 52 24.6	-0.6
OHCM				eSg	Sg	05 53 01.1	-6.4
LKC	Lake Chabot	2.66	266	ePn	Pn	05 52 27.0	+0.2
SAC	San Andreas	2.96	263	ePn	Pn	05 52 31.7	+0.6
NSHM	Saint Helena R	3.11	281	ePn	Pn	05 52 32.8	-0.4
HOPS	Hopland	3.56	288	Pn	Pn	05 52 41.6	+2.0
MWC	Mount Wilson	3.80	172	Pn	Pn	05 52 45.2	+2.2
ELK	Elko	3.85	43	ePn	Pn	05 52 41.7	-2.0
NEN	Nelson	3.89	126	ePn	Pn	05 52 44.6	+0.3
WDC	Whiskeytown Da	3.94	312	ePn	Pn	05 52 44.2	-0.7
MOD	Modoc	4.09	343	ePn	Pn	05 52 48.7	+1.6
LDFC	Landfair	4.11	134	P	Pn	05 52 55.8	+8.4
ARUT	Antelope Range	4.18	91	ePn	Pn	05 52 47.2	-1.2
WVOR	Wild Horse Val	4.44	1	Pn	Pn	05 52 53.5	+1.4
PFO	Pinyon Flat Ob	4.74	157	Pn	Pn	05 52 54.9	-1.5
YBH	Yreka Blue Hor	4.84	322	ePn	Pn	05 52 57.7	0.0
DUG	Dugway	5.09	63	Pn	Pn	05 53 00.2	-1.1
MSU	Marysvale	5.17	82	Pn	Pn	05 53 02.2	-0.3
MSU				ePg	Pg	05 53 19.2	-6.8
MSU				eSg	Sg	05 54 27.0	-7.9
NLU	North Lily Min	5.53	67	ePn	Pn	05 53 08.5	+0.9
HUMO	Hull Mountain	5.63	326	ePn	Pn	05 53 10.9	+1.9
NOQ	North Oquirrh	5.76	61	P	Pn	05 53 03.7	-7.1
MPU	Maple Canyon	5.87	68	eP	Pn	05 53 02.3	-10
HVU	Hansel Valley	5.93	49	ePn	Pn	05 53 12.6	-0.6
JLU	Jordanelle	6.21	63	Pn	Pn	05 53 14.9	-2.1
JLU				ePg	Pg	05 53 39.5	-7.2
HLID	Hailey	6.45	29	eP	Pn	05 53 26.8	+6.3
TCUT	Toone Canyon	6.45	59	eP	Pn	05 53 21.3	+0.8
SRU	San Rafael	6.52	78	eP	Pn	05 53 17.6	-3.8
HWUT	Hardware Ranch	6.58	55	Pn	Pn	05 53 15.2	-7.1
TPAW	Teton Pass	8.05	45	Pn	P	05 53 48.0	+5.0
MCMT	McKenzie Canyo	8.13	31	Pn	P	05 53 40.9	-3.1
SNOW	Snow King Moun	8.14	45	Pn	P	05 53 42.2	-2.1

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*CASC **21** 06:00:52.4±2.4, 12.58N×88.32W, h35^{km}±999^{km}, MD4.3, ML4.4, mb4.0(NEIC)*

*IDC **21** 06:00:53.6±1.2, 13.03N×87.84W, h66^{km}±9^{km}, mb3.5/6, mb1 3.8/7, mb1mx3.7/19, MS3.5/2, Ms1 3.5/2, ms1mx3.1/17, Error ellipse: s-maj=56.6km s-min=11.2km az=49.0*

*NEIC **21** 06:00:54.0, 12.71N×88.35W, h39^{km}, mb4.0/1, MD4.2(SNET), After SNET.*

NEIC Felt [II] at Usulutan.

ISC 21 06:00:51.8±0.3, **12.63N**±0.05×**88.29W**±0.03, **h72**^{km}±5^{km}, **n75**, σ**0^{s}96**/110, **mb3.8**/6, **16C-16D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CNCH	Conchagua	0.79	34	⇓eP	P	06 01 08.0	0.0
CNCH				eS	S	06 01 19.5	-0.5
CNCH	Conchagua	0.79	34	eP	P	06 01 08.1	+0.1
CNCH				eS	S	06 01 19.5	-0.5
VSM	San Miguel	0.80	1	⇓eP	P	06 01 08.4	+0.2
BLLM	Bellamira	0.81	4	⇓eP	P	06 01 08.4	0.0
BLLM				eS	S	06 01 20.0	-0.6
BLLM	Bellamira	0.81	4	⇓eP	P	06 01 08.4	0.0
BLLM				eS	S	06 01 19.0	-1.6
SNVI	San Vicente	1.12	331	⇓eP	P	06 01 12.1	-0.1
SNVI				eS	S	06 01 26.7	-0.6
SNVI	San Vicente	1.12	331	eP	P	06 01 12.2	0.0
SNVI				eS	S	06 01 26.4	-1.0
CAHU	Cacacuatique	1.14	4	⇓eP	P	06 01 13.2	+0.8
CAHU				eS	S	06 01 29.3	+1.4
CAHU	Cacacuatique	1.14	4	eP	P	06 01 13.2	+0.8
CAHU				eS	S	06 01 28.7	+0.8
CRIN	San Cristobal	1.21	86	⇑eP	P	06 01 14.1	+0.7
LCBS	La Ceiba	1.22	327	⇓iP	P	06 01 13.7	+0.1
LCBS				eS	S	06 01 28.7	-1.1
LFRS	El Faro	1.25	323	⇓iP	P	06 01 13.9	0.0
LFRS				eS	S	06 01 29.3	-1.0
LBRS	Las Brisas	1.33	327	⇑eP	P	06 01 15.7	+0.6
LBRS				eS	S	06 01 31.8	-0.5
LFU	La Fuente	1.38	324	⇑eP	P	06 01 15.9	+0.2
LEON	Leon	1.38	99	⇑eP	P	06 01 15.3	-0.5
LEON				eS	S	06 01 33.8	+0.3
SNET	Serv Nac Est T	1.40	319	eP	P	06 01 15.9	-0.1
SNET				eP		06 01 17.0	
SNET				eS	S	06 01 33.7	-0.3
SNET				i		06 01 35.2	
	comp=Z,4µm,0.2s						
SNET	Serv Nac Est T	1.40	319	eP	P	06 01 16.0	0.0
SNET				eS	S	06 01 33.1	-0.8
SNET				i		06 01 35.2	
TELN	Telica	1.42	91	⇑eP	P	06 01 16.2	-0.1
TELN				eS	S	06 01 34.7	+0.2
BOQS	Boqueron	1.47	319	⇓eP	P	06 01 17.2	+0.3
BOQS				eS	S	06 01 36.0	+0.6
BOQS	Boqueron	1.47	319	eP	P	06 01 17.1	+0.2
BOQS				eS	S	06 01 35.3	-0.2
MIRN	Miramar	1.55	97	⇓eP	P	06 01 17.7	-0.4
CNGN	Cerro Negro	1.56	94	⇑eP	P	06 01 17.9	-0.3
COPN	Copaltepe	1.72	105	⇓eP	P	06 01 20.0	-0.3
COPN				eS	S	06 01 40.4	-0.8
MOMJ	Momotombo	1.72	97	⇑eP	P	06 01 20.2	-0.2
SBLS	San Blas	1.77	313	⇑eP	P	06 01 21.5	+0.5
SBLS				eS	S	06 01 43.4	+0.9
SBLS	San Blas	1.77	313	eP	P	06 01 21.6	+0.6
SNJE	San Jose	1.78	314	⇓eP	P	06 01 21.7	+0.6
SNJE				eS	S	06 01 43.5	+0.7
SNJE	San Jose	1.78	314	eP	P	06 01 21.7	+0.6
SNJE				eS	S	06 01 43.1	+0.3
SOMN	Somoto	1.81	64	⇑eP	P	06 01 23.6	+2.0
SOMN				eS	S	06 01 48.2	+4.7
RTR	El Retiro	1.83	314	⇑eP	P	06 01 22.4	+0.6
RTR				eS	S	06 01 43.9	+0.1
RTR	El Retiro	1.83	314	eP	P	06 01 22.4	+0.6
RTR				eS	S	06 01 43.9	+0.1
QUIN	Quiabu	1.89	75	eP	P	06 01 22.8	+0.1
APYN	Apoyeque	1.93	101	⇓eP	P	06 01 23.4	+0.2
APYN				eS	S	06 01 47.3	+1.0
XAVN	Gruta Xavier	1.98	104	⇑eP	P	06 01 23.9	+0.1
CRUN	El Crucero	2.05	108	eP	P	06 01 25.6	+0.8
CRUN				eS	S	06 01 48.0	-1.1
MTO2	Montecristo 2	2.05	330	⇓eP	P	06 01 25.4	+0.5
MTO2				eS	S	06 01 53.3	+4.1
MGAN	Managua	2.05	103	⇑eP	P	06 01 24.5	-0.3
MGAN				eS	S	06 01 48.6	-0.6
CUSS	Cusmapa	2.06	309	⇑eP	P	06 01 25.0	+0.1
TICN	Ticuantepe	2.10	106	⇓eP	P	06 01 25.6	+0.1
WILN	Americas 2	2.10	102	eP	P	06 01 25.4	-0.1
WILN				eS	S	06 01 50.4	-0.2
WILN				i		06 01 51.5	
	comp=E,4µm,0.3s						
PYTN	Playitas	2.18	92	⇑eP	P	06 01 26.4	-0.3
PYTN				eS	S	06 01 54.5	+2.0
MASN	Masaya	2.18	107	eP	P	06 01 26.7	0.0
MASN				eS	S	06 01 51.2	-1.3
APON	Apoyo	2.28	108	⇓eP	P	06 01 27.9	-0.2
APON				eS	S	06 01 54.5	-0.6
IXG	Ixpaco	2.61	306	⇑eP	P	06 01 32.5	-0.2
IXG				eS	S	06 02 01.7	-1.6
IXG				AML	AML	06 02 05.3	
	comp=E,9µm,0.4s						
NBG	Las Nubes	2.79	315	eP	P	06 01 36.4	+1.1
CONN	Concepcion	2.81	112	eP	P	06 01 35.7	+0.1
FUG	Fuego 3	3.07	306	eP	P	06 01 39.4	+0.2
FUG				eS	S	06 02 14.7	-0.2
VCR	Vista de Mar	3.60	133	eP	P	06 01 46.8	+0.2
JAT	Jato	3.67	298	eP	P	06 01 47.6	+0.1
JAT				eS	S	06 02 27.1	-2.6
JAT				AML	AML	06 02 34.4	
	comp=E,1µm,0.3s						
JTS	JuntasAbangare	4.01	125	P	P	06 01 52.4	+0.2
	comp=E,3.4nm,0.3s,baz=293,slow=18,SNR=18						
JTS				S	S	06 02 36.6	-1.8
	comp=E,9.2nm,0.3s,baz=318,slow=18,SNR=4.2						
JTS	JuntasAbangare	4.01	125	ePn	P	06 01 52.7	+0.4
JCR	Jicaral	4.16	131	eP	P	06 01 54.5	+0.1
CGA2	Cerro Gallo 2	4.56	124	eP	P	06 02 01.7	+1.8
PRS1	Puriscal	4.70	124	eP	P	06 02 03.9	+2.0
PRS1				eS	S	06 02 54.9	-0.8
LAJ	Bijagual	4.92	123	eP	P	06 02 03.1	-1.9
SJS	Escuela Geolog	4.94	122	⇑eP	P	06 02 09.1	+3.9
LCR2	La Lucha 2	5.09	124	eP	P	06 02 08.7	+1.5
LCR2				eS	S	06 03 03.6	-1.6
URSC	Urasca	5.22	122	eP	P	06 02 12.4	+3.3
BUS	Buena Vista	5.39	124	eP	P	06 02 13.7	+2.3
BUS				eS	S	06 03 12.7	-0.1
ACR	Cerro Adams	6.40	128	eP	P	06 02 26.0	+0.7
ROSC	El Rosal	15.80	118	LR	LR	06 10 07.9	
	comp=E,123nm,18.0s,baz=223,slow=36						
SDV	Santo Domingo	17.74	100	P	P	06 04 51.9	-3.8
	comp=E,11nm,0.8s						
TXAR	Lajitas Array	21.92	322	P	P	06 05 41.9	+1.3
	comp=E,1.5nm,0.5s,mb3.6,baz=141,slow=10,SNR=29						
TXAR				pP		06 05 56.6	
	comp=E,1.0nm,0.6s,baz=147,slow=9.9,SNR=5.9						
PDAR	Pinedale Array	35.23	332	P	P	06 07 40.1	-1.1
	comp=E,0.4nm,0.5s,mb3.5,baz=117,slow=9.9,SNR=4.3						
REDW	Red Top Meadow	36.29	332	eP	P	06 07 50.5	+0.3
SNOW	Snow King Moun	36.32	332	eP	P	06 07 51.3	+0.9
MCMT	McKenzie Canyo	38.34	332	eP	P	06 08 09.1	+1.9
SCHQ	Schefferville	45.35	17	P	P	06 09 01.9	-2.5
	comp=E,15nm,1.2s,mb4.6,baz=216,slow=11,SNR=6.2						
BDFB	Brasilia	48.75	124	P	P	06 09 30.8	-0.8
	comp=E,2.2nm,0.7s,mb4.2,baz=296,slow=10,SNR=4.7						
CPUP	Villa Florida	49.05	142	LR	LR	06 33 52.9	
	comp=E,73nm,20.3s,baz=147,slow=40						
YKA	Yellowknife Ar	53.23	345	P	P	06 10 01.8	-3.1
	comp=E,0.4nm,0.6s,mb3.6,baz=144,slow=6.5,SNR=6.6						
YKA				pP	pP	06 10 19.4	-3.9
	comp=E,0.7nm,0.5s,baz=101,slow=26,SNR=2.9						
YKA	Yellowknife Ar	53.23	345	P	P	06 10 01.8	-3.1
YKA				pP	pP	06 10 19.4	-3.9
ILAR	Eielson Array	65.53	336	P	P	06 11 28.2	-1.3
	comp=E,0.2nm,0.5s,mb3.2,baz=170,slow=5.2,SNR=4.8						
ILAR				pP	pP	06 11 45.9	-2.8
	comp=E,0.3nm,0.6s,baz=161,slow=4.8,SNR=2.9						
WRA	Warramunga Arr	138.53	254	PKP	PKPdf	06 20 14.6	+4.4
	comp=E,0.6nm,0.4s,baz=90,slow=2.6,SNR=17						
ASAR	Alice Springs	138.57	249	PKP	PKPdf	06 20 14.2	+4.0
	comp=E,0.6nm,0.9s,baz=100,slow=1.8,SNR=7.6						

IDC 21 06:01:55.1±49.0, **17.13S**×**179.57E**, **mb4.2**/3, **mb1 4.4**/3, **mb1mx3.9**/13, **Error ellipse: s-maj=888.0km s-min=150.0km az=77.0, Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	37.34	240	P	P	06 09 08.3	-2.9
	1.9nm,0.8s,baz=56,slow=7.3,SNR=3.4						
WRA	Warramunga Arr	42.88	259	P	P	06 09 56.1	-1.2
	0.5nm,0.3s,baz=90,slow=7.8,SNR=15						
ASAR	Alice Springs	43.15	254	P	P	06 09 58.0	-1.5
	4.0nm,0.5s,baz=88,slow=8.5,SNR=68						

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*NEIC **21** 06:17:31.8±3.3, 19.81S×177.48W, h547^{km}±32^{km}, mb4.6/15, Error ellipse: s-maj=28.7km s-min=14.6km az=53.0*

*IDC **21** 06:17:35.2±2.2, 20.22S×177.47W, h586^{km}±23^{km}, mb4.2/6, mb1 4.3/7, mb1mx3.7/14, Error ellipse: s-maj=17.4km s-min=15.6km az=138.0*

ISC 21 06:17:33.6±1.2, **20.1S**±0.1×**177.7W**±0.1, **h560**^{km}±13^{km}, **n37**, σ**1^{s}02**/34, **mb4.6**/18, **6D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.67	300	P	P	06 19 01.3	-0.6
	2µm,0.4s						
DZM	Mont Dzumac	14.92	260	eP	P	06 20 43.5	+1.7
URZ	Urewera	18.62	193	P	P	06 21 16.5	-0.6
	3.7nm,0.3s,baz=304,slow=1.2,SNR=17						
URZ				S	S	06 24 15.1	-2.1
	0.9nm,0.3s,baz=15,slow=22,SNR=9.0						
ARMA	Armidale	29.48	244	eP	P	06 22 55.8	+1.4
CNB	Canberra Magne	32.66	235	⇓iP	P	06 23 22.9	+1.6
	18nm,0.6s,mb4.8						
CTA	Charters Tower	33.80	264	eP	P	06 23 31.3	+0.3
	29nm,0.4s,mb5.2						
CTA	Charters Tower	33.80	264	P	P	06 23 31.3	+0.3
	37nm,0.4s,mb5.2,baz=92,slow=10,SNR=68						
CTAO	Charters Tower	33.80	264	eP	P	06 23 31.3	+0.3
	48nm,0.5s,mb5.3						
TOO	Toolangi	36.34	233	eP	P	06 23 53.0	+1.1
	13nm,0.6s,mb4.6						
STKA	Stephens Creek	38.20	244	⇓iP	P	06 24 08.5	+1.4
	18nm,0.5s,mb4.8						
STKA	Stephens Creek	38.20	244	P	P	06 24 08.2	+1.1
	22nm,0.5s,mb4.9,baz=91,slow=9.5,SNR=64						
STKA	Stephens Creek	38.20	244	eP	P	06 24 08.1	+1.0
STKA				e		06 24 14.7	
ASAR	Alice Springs	44.87	256	P	P	06 25 00.2	-0.1
	30nm,0.3s,mb5.2,baz=89,slow=8.2,SNR=718						
ASAR				PcP	PcP	06 26 28.6	-1.6
	2.8nm,0.5s,baz=123,slow=2.9,SNR=5.1						
ASAR				S	S	06 30 58.2	+0.4
	2.2nm,0.6s,baz=90,slow=16,SNR=18						
ASPA	Alice Springs	44.88	256	⇓iP	P	06 25 00.2	-0.1
ASPA				eS	S	06 30 58.3	+0.4
WB2	Warramunga Arr	44.92	262	⇓iP	P	06 24 59.7	-0.9
WRAB	Tennant Creek	44.92	262	eP	P	06 24 59.2	-1.4
	28nm,0.4s,mb5.2						
WRA	Warramunga Arr	44.93	262	P	P	06 24 59.6	-1.1
	18nm,0.3s,mb5.1,baz=98,slow=7.3,SNR=917						
WRA				PcP	PcP	06 26 29.0	-1.4
	1.3nm,0.6s,baz=116,slow=3.1,SNR=4.4						

WRA				S	S	06 30 58.8	+0.2
	0.5nm,0.8s,baz=106,slow=11,SNR=3.2						
KAKA	Kakadu	48.29	271	*e*P	P	06 25 27.4	+1.1
	13nm,0.6s,mb4.6						
FORT	Forrest	49.70	246	*e*P	P	06 25 35.6	-1.0
	94nm,0.7s,mb5.3						
FITZ	Fitzroy Crossi	53.35	262	⇓*i*P	P	06 26 02.3	-0.8
	16nm,0.4s,mb4.7						
MBWA	Marble Bar	58.20	257	*e*P	P	06 26 35.1	-1.6
	18nm,0.5s,mb4.6						
SBA	Scott Base	58.25	184	*e*P	P	06 26 37.8	+1.6
	4.1nm,0.7s,mb3.8						
KLBR	Kellerberrin	58.46	245	*e*P	P	06 26 37.4	-0.8
	12nm,0.7s,mb4.2						
MUN	Mundaring	59.73	244	*e*P	P	06 26 46.1	-0.6
	7.6nm,0.4s,mb4.4						
CASY	Casey	64.41	205	⇓*i*P	P	06 27 16.5	+0.2
QSPA	South Pole Qui	69.93	180	*e*P	P	06 27 51.0	+1.2
	8.9nm,0.8s,mb4.3						
MAW	Mawson	82.00	200	P	P	06 28 55.9	+0.1
	1.9nm,0.6s,mb3.7,baz=133,slow=7.8,SNR=7.7						
MAW	Mawson	82.00	200	*e*P	P	06 28 56.1	+0.3
	3.0nm,0.6s,mb3.9						
SNAA	Sanae	88.37	178	*e*P	P	06 29 26.3	-0.2
	1.6nm,0.7s,mb3.9						
CMAR	Chiang Mai Arr	90.25	289	P	P	06 29 36.1	-0.3
	1.9nm,0.6s,mb4.1,baz=126,slow=3.8,SNR=12						
MKAR	Makanchi Array	111.15	313	PKiKP		06 35 01.6	
	0.7nm,0.6s,baz=148,slow=1.4,SNR=8.3						
ARCES	ARCESS Array B	128.61	350	PKP	PKPdf	06 35 35.4	-1.3
	6.3nm,1.1s,slow=1.2,SNR=9.6						
FINES	FINESS Array B	135.50	344	PKP	PKPdf	06 35 49.3	-0.4
	3.5nm,1.1s,baz=76,slow=5.7,SNR=3.5						
AKASG	Malin Array Be	142.83	332	PKhKP		06 35 58.6	
	1.1nm,0.4s,baz=41,slow=4.5,SNR=7.1						
MALT	Malatya	143.93	308	*e*PKP	PKPdf	06 36 05.4	0.0
CLL	Collm	147.77	347	*i* PKIKP	PKPdf	06 36 13.0	+1.6
CLL				*i* PKP1	PKPdf	06 36 14.7	+3.3
GERES	GERESS Array B	149.92	345	PKPbc	PKPdf	06 36 19.6	+4.7
	5.2nm,1.0s,slow=1.3,SNR=10						

MDD ***21*** *06:46:44.5±1.1, 43.33N×1.08W, mbLg0.8/3, Error ellipse: s-maj=8.0km s-min=3.5km az=12.0, PRXIMO SIN SOLUCIN*

LDG 21 06:46:44.6±1.2**, 42.93N×1.37W, h2**^{km}**, Md1.8**/2**, Ml1.7**/1**, Error ellipse: s-maj=19.7km s-min=6.9km az=41.0, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJPF	Ste Jean	0.22	30	*e*Pg	Pg	06 46 48.9	0.0
SJPF				*e*Sg	Sg	06 46 51.8	0.0
	21nm,0.3s						
EALK	Alkurruntz	0.31	341	Pg	Pg	06 46 50.3	-0.5
	SNR=7.9						
EALK				Lg		06 46 55.7	
	3.5nm,0.1s,SNR=7.5						
ETSF	Etsaut	0.60	92	*e*Pg	Pg	06 46 54.6	-1.9
ETSF				*e*Sg	Sg	06 47 03.4	-1.1
	2.0nm,0.3s						
EPF	Esparros	1.26	85	*e*Pg	Pg	06 47 09.0	-0.8
EPF				*e*Sg	Sg	06 47 25.0	-1.6
	1.1nm,0.2s						

NEIC ***21*** *07:00:27.8, 60.44N×152.50W, h102*^{km}*, mb3.8/5, After AEIC.*

IDC ***21*** *07:00:28.8±5.6, 60.69N×152.42W, h123*^{km}*±50*^{km}*, mb3.5/5, mb1 3.9/9, mb1mx3.7/21, Error ellipse: s-maj=46.0km s-min=15.3km az=39.0*

ISC 21 07:00:25.5±0.2**, 60.47N**±0.02×**152.45W**±0.05**, h112**^{km}±2^{km}**, n111,** σ**0**^{s}**91**/128**, mb3.7**/10**, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RDT	Redoubt	0.10	11	P	P	07 00 41.8	+0.7
RDT				S	S	07 00 53.0	+0.4
REF	Redoubt East F	0.13	277	P	P	07 00 41.6	+0.5
REF				S	S	07 00 53.5	+0.8
RSO	Redoubt South	0.15	266	P	P	07 00 41.8	+0.6
DFR	Drift River	0.17	315	P	P	07 00 41.8	+0.6
DFR				S	S	07 00 53.3	+0.4
ILIM	Iliamna	0.47	213	P	P	07 00 42.5	0.0
IVE	Iliamna Volcan	0.54	212	P	P	07 00 43.2	+0.2
IVE				S	S	07 00 55.9	-0.3
IVS	Iliamna South	0.56	214	P	P	07 00 43.7	+0.6
ILS	Iliamna Low So	0.60	211	P	P	07 00 43.6	+0.2
BKG	Blockade Glaci	0.61	9	P	P	07 00 44.4	+1.0
CKL	Chakachamna La	0.73	4	P	P	07 00 45.7	+1.2
SPU	Mount Spurr	0.74	15	P	P	07 00 45.6	+1.0
HOM	Homer	0.91	153	P	P	07 00 47.0	+0.8
OPT	Oil Point	0.91	206	P	P	07 00 46.6	+0.3
OPT				S	S	07 01 02.1	+0.3
BRLK	Bradley Lake	1.06	132	P	P	07 00 48.0	+0.3
STLK	Strandline Lak	1.07	16	P	P	07 00 49.1	+1.2
XLV	Seldovia	1.08	160	P	P	07 00 48.3	+0.2
SLKM	Skilak Lake	1.10	87	P	P	07 00 49.1	+0.8
CNPM	China Poot	1.13	147	P	P	07 00 48.9	+0.3
AUL	Augustine Lava	1.20	205	P	P	07 00 49.5	0.0
AUE	Augustine Isla	1.21	203	P	P	07 00 49.4	-0.2
AGU	Augustine-Summ	1.22	204	P	P	07 00 49.9	+0.2
AUI	Augustine Isla	1.24	204	P	P	07 00 49.8	-0.1
AUI				S	S	07 01 07.1	-1.1
SUA	Susitna One	1.30	39	P	P	07 00 52.0	+1.6
FIB	Fire Island	1.31	57	P	P	07 00 52.9	+2.2
RC01	Rabbit Creek A	1.47	64	P	P	07 00 53.4	+0.9
RC01				S	S	07 01 13.8	+1.0
MPA	Moose Pass	1.53	88	P	P	07 00 53.8	+0.5
SEW	Seward	1.54	103	P	P	07 00 53.5	+0.2
SEW				S	S	07 01 13.6	-0.7
SKT	Skwentna	1.58	16	P	P	07 00 54.8	+0.9
MCNL	McNeil River	1.61	217	P	P	07 00 53.8	-0.4
SYI	Shuyak Island	1.87	179	P	P	07 00 57.3	-0.1
PMR	Palmer	1.97	54	P	P	07 00 58.8	+0.2
PMR				S	S	07 01 23.5	+0.1
PWL	Port Wells	2.06	77	P	P	07 00 59.6	-0.2
KAPH	Katmai Pasha	2.12	208	P	P	07 01 00.6	-0.1
KAPH				S	S	07 01 26.5	-0.4
GHO	Glory Hole Cre	2.15	51	P	P	07 01 01.5	+0.4
CUT	Chulitna	2.20	27	P	P	07 01 02.8	+1.0
KAHG	Katmai Hook Gl	2.26	209	P	P	07 01 02.3	-0.2
CFI	College Fiord	2.40	71	P	P	07 01 03.8	-0.7
SML	Sawmill	2.40	54	P	P	07 01 04.6	+0.1
SML				S	S	07 01 33.6	-0.2
KAWH	Katmai	2.42	211	P	P	07 01 04.1	-0.6
GLI	Glacier Island	2.67	79	P	P	07 01 06.2	-1.9
KABR	Katmai Barrier	2.68	210	P	P	07 01 07.5	-0.7
KDAK	Kodiak Island	2.70	182	P	P	07 01 06.3	-2.1
ANCK	Angle Creek	2.76	216	P	P	07 01 08.9	-0.5
SCM	Sheep Creek Mo	2.83	59	P	P	07 01 10.2	0.0
CAHL	Cahill	2.84	212	P	P	07 01 09.9	-0.4
KJL	Kejulik	2.91	215	P	P	07 01 11.1	-0.2
JPK	Jack Peak	2.93	76	P	P	07 01 10.6	-1.0
HIN	Hinchinbrook I	2.95	89	P	P	07 01 10.4	-1.5
TT01	Tatalina	2.98	327	P	P	07 01 12.1	-0.2
TTA	Tatalina	2.99	327	*e*P	P	07 01 11.9	-0.5
VLZ	Valdez	3.07	75	P	P	07 01 12.7	-0.8
VLZ				S	S	07 01 48.1	-1.6
TRF	Thorofare Moun	3.16	18	P	P	07 01 15.1	+0.4
KTH	Kantishna Hill	3.17	12	P	P	07 01 14.9	0.0
MID	Middleton Isla	3.25	106	P	P	07 01 16.0	+0.1
EYAK	Cordova Ski Ar	3.31	86	P	P	07 01 16.9	+0.1
DIV	Divide	3.34	76	P	P	07 01 16.2	-0.9
DIV				S	S	07 01 54.4	-1.9
KLU	Klutina	3.34	69	P	P	07 01 16.5	-0.6
DHY	Denali Highway	3.55	41	P	P	07 01 20.3	+0.3
MCK	McKinley	3.66	25	P	P	07 01 21.8	+0.3
TZL	Tazlina	3.74	62	P	P	07 01 21.9	-0.6
RAGM	Ragged Mountai	3.85	88	P	P	07 01 24.1	0.0
BMRM	Bremner River	3.89	79	P	P	07 01 23.0	-1.5
PAX	Paxson	4.16	50	P	P	07 01 28.6	+0.3
PAX				S	S	07 02 14.7	-1.5
GLB	Gilahina Butte	4.32	73	P	P	07 01 29.7	-0.8
WANC	Wrangell North	4.33	66	P	P	07 01 31.6	+1.1
ANPK	Aniakchak Peak	4.70	222	P	P	07 01 34.1	-1.4
HDA	Harding Lake	4.70	31	P	P	07 01 35.6	+0.1
CCB	Clear Creek Bu	4.71	25	P	P	07 01 35.0	-0.6
TGL	Tana Glacier	4.75	82	P	P	07 01 36.4	+0.2
GCSA	Galena City Sc	4.75	336	P	P	07 01 36.6	+0.4
WAX	Waxell Ridge	4.75	86	P	P	07 01 34.4	-1.8
SNH	Sunshine Point	4.79	89	P	P	07 01 36.9	+0.2
COLA	College	4.90	24	P	P	07 01 37.9	-0.4
BALM	Baldy	4.99	79	P	P	07 01 38.5	-1.0
ILAR	Eielson Array	5.02	28	P	P	07 01 39.0	-0.8
	28nm,0.3s,baz=215,slow=14,SNR=2096						
ILAR				S	S	07 02 35.7	-1.4
	10nm,0.3s,baz=214,slow=23,SNR=4.6						
IL1	Eielson Array	5.02	28	P	P	07 01 39.0	-0.8
DOT	Dot Lake	5.07	47	P	P	07 01 40.5	0.0
YAH	Yahtse	5.31	87	P	P	07 01 44.2	+0.5
CTGM	Chitina Glacie	5.48	80	P	P	07 01 46.7	+0.7
IM3	Indian Mountai	5.56	354	P	P	07 01 46.8	-0.5
IMA	Indian Mountai	5.64	355	*e*P	P	07 01 47.7	-0.6
CHX	Chaix Hills	5.66	89	P	P	07 01 49.3	+0.8
BCA3	Beaver Creek A	5.69	58	P	P	07 01 49.1	+0.2
PCA	Pinnacle	6.08	88	P	P	07 01 53.8	-0.4
PNL	Peninsula	6.58	91	P	P	07 02 00.8	-0.4
SDPT	Sand Point	6.68	223	P	P	07 01 59.7	-2.9
COLD	Coldfoot	6.85	7	P	P	07 02 04.0	-0.9
DAWY	Dawson	7.07	54	P	P	07 02 08.0	+0.1
PN7A	Pavlof North-7	7.16	229	P	P	07 02 08.9	-0.2
HAG	Hague Volcano	7.21	228	P	P	07 02 08.4	-1.4
ANM	Nome	7.25	310	*e*P	P	07 02 10.5	+0.2
BM3	Burnt Mountain	7.77	23	P	P	07 02 15.9	-1.5
INK	Inuvik	11.29	38	P	P	07 03 03.5	-0.9
	0.8nm,0.3s,baz=239,slow=18,SNR=28						
INK				S	S	07 05 04.7	-4.1
	0.3nm,0.3s,baz=266,slow=12,SNR=3.2						
INK	Inuvik	11.29	38	*e*P	P	07 03 03.3	-1.0
	7.7nm,0.8s						
DLBC	Dease Lake	11.57	90	P	P	07 03 09.2	+1.2
	0.4nm,0.3s,baz=312,slow=22,SNR=14						
DLBC				S	S	07 05 13.8	-1.6
	0.2nm,0.3s,baz=298,slow=27,SNR=3.7						
YKA	Yellowknife Ar	18.01	67	P	P	07 04 29.5	0.0
	0.6nm,0.3s,baz=278,slow=11,SNR=22						
EDM	Edmonton	22.29	91	*e*P	P	07 05 15.1	+1.2
NEW	Newport	23.60	105	P	P	07 05 28.4	+1.9
	3.5nm,1.0s,mb3.6						
VGB	Gordon Butte	23.92	114	*e*P	P	07 05 32.6	+3.1
HLID	Hailey	28.34	109	*e*P	P	07 06 11.6	+1.0
	0.7nm,0.5s,mb3.5						
NVAR	Mina Array Bea	30.72	120	P	P	07 06 32.9	+1.1
	0.7nm,0.5s,mb3.6,baz=324,slow=7.8,SNR=7.3						
BW06	Boulder Array	31.24	105	P	P	07 06 37.0	+0.8
PDAR	Pinedale Array	31.24	105	P	P	07 06 37.4	+1.1
	0.5nm,0.5s,mb3.5,baz=307,slow=7.4,SNR=5.5						
DUG	Dugway	31.72	112	*e*P	P	07 06 41.2	+0.8
	0.2nm,0.6s,mb3.0						
TPNV	Topopah Spring	32.84	119	*e*P	P	07 06 51.2	+1.0
SRU	San Rafael	33.64	110	*e*P	P	07 06 58.9	+1.8
SDCO	Great Sand Dun	37.10	106	*e*P	P	07 07 28.1	+1.7
	1.1nm,0.6s,mb4.0						
WMOK	Wichita Mounta	42.74	102	*e*P	P	07 08 13.8	+1.0
	1.2nm,0.7s,mb3.7						
TXAR	Lajitas Array	44.90	111	P	P	07 08 31.6	+1.3
	0.8nm,0.5s,mb3.7,baz=316,slow=6.4,SNR=16						
SONM	Songino Array	54.74	306	P	P	07 09 45.0	0.0
	1.7nm,0.6s,mb4.2,baz=37,slow=6.2,SNR=6.2						
MKAR	Makanchi Array	64.23	321	P	P	07 10 47.8	-2.3
	1.0nm,0.8s,mb3.7,baz=44,slow=6.2,SNR=6.4						

IDC ***21*** *07:37:51.1±3.0, 4.54S×133.56E, mb3.3/1, mb1 3.8/4, mb1mx3.7/10, ML3.6/3, Error ellipse: s-maj=129.0km s-min=28.3km az=81.0*

NEIC ***21*** *07:37:55.3±1.6, 4.65S×133.68E, h30*^{km}*, mb3.9/3, Error ellipse: s-maj=36.8km s-min=16.7km az=76.0*

ISC 21 07:37:50.0±3.2**, 4.55S**±0.10×**133.8E**±0.3**, h12**^{km}±23^{km}**, n10,** σ**0**^{s}**67**/17**, mb3.6**/2**, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	Kakadu	8.21	189	*e*P	P	07 39 57.5	+5.6
	5.5nm,0.6s						
KAKA				*e*S	Sn	07 41 26.5	+0.9
WRAB	Tennant Creek	15.30	178	P	P	07 41 27.8	+0.1
	6.3nm,0.8s						
WB2	Warramunga Arr	15.31	178	*e*P	P	07 41 27.7	-0.2
WB2				*e*S	S	07 44 11.6	-6.5
WRA	Warramunga Arr	15.31	178	Pn	P	07 41 27.3	-0.6
	0.2nm,0.3s,baz=357,slow=13,SNR=15						
WRA				Sn	S	07 44 08.7	-9.4
	0.1nm,0.3s,baz=1.6,slow=23,SNR=4.9						
FITZ	Fitzroy Crossi	15.64	210	*e*P	P	07 41 31.5	-0.6
	1.0nm,0.2s						
FITZ				*e*S	S	07 44 16.5	-9.3
FITZ	Fitzroy Crossi	15.64	210	Pn	P	07 41 31.4	-0.7
	0.7nm,0.3s,baz=30,slow=11,SNR=19						
FITZ				Sn	S	07 44 15.9	-10
	0.2nm,0.3s,baz=8.7,slow=13,SNR=4.6						
ASAR	Alice Springs	19.01	180	P	P	07 42 15.5	+1.3
	0.3nm,0.3s,baz=3.8,slow=11,SNR=16						
ASAR				S	S	07 45 41.9	-0.9
	0.1nm,0.3s,baz=8.4,slow=31,SNR=3.0						
ASAR	Alice Springs	19.01	180	P	P	07 42 15.5	+1.3
ASAR				S	S	07 45 41.9	-0.9
MBWA	Marble Bar	21.41	218	P	P	07 42 40.1	0.0
	4.1nm,0.8s,mb3.8						
MKAR	Makanchi Array	68.32	325	P	P	07 48 53.4	+0.1
	0.2nm,0.4s,mb3.5,baz=135,slow=6.1,SNR=2.0						

IDC ***21*** *07:45:53.5±4.7, 19.95S×175.85W, mb4.0/4, mb1 4.2/4, mb1mx3.9/14, MS3.5/1, Ms1 3.5/1, ms1mx3.1/13, Error ellipse: s-maj=150.0km s-min=93.0km az=157.0*

NEIC 21 07:45:31.9±3.0**, 19.73S×172.08W, h35**^{km}**, mb4.4**/3**, Error ellipse: s-maj=144.0km s-min=38.0km az=147.0, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	Urewera	20.71	205	LR	LR	07 56 25.6	
	comp=Z,135nm,20.1s,baz=248,slow=33						
CTAO	Charters Tower	39.10	262	P	P	07 52 55.3	-2.5
	1.2nm,0.3s						
STKA	Stephens Creek	43.13	244	P	P	07 53 28.2	-2.7
	1.0nm,0.5s,baz=79,slow=10,SNR=2.6						
STKA	Stephens Creek	43.13	244	P	P	07 53 28.2	-2.8
ASAR	Alice Springs	50.10	255	P	P	07 54 23.9	-2.0
	1.3nm,0.5s,baz=93,slow=7.9,SNR=24						
ASAR				PcP	PcP	07 55 57.6	+12
	0.5nm,0.6s,baz=96,slow=3.8,SNR=6.1						
WRAB	Tennant Creek	50.21	260	*e*P	P	07 54 24.3	-2.5
	3.3nm,0.8s						
WRA	Warramunga Arr	50.21	260	P	P	07 54 24.4	-2.4
	0.5nm,0.3s,baz=97,slow=7.3,SNR=35						
FITZ	Fitzroy Crossi	58.64	260	P	P	07 55 27.8	-0.6
	2.9nm,1.1s,baz=63,slow=6.8,SNR=5.6						
MBWA	Marble Bar	63.44	256	*e*P	P	07 56 00.2	-0.6
	2.7nm,0.5s						
MORC	Moravsky Berou	149.05	348	PKPbc	PKPdf	08 05 15.9	+3.8

LDG ***21*** *08:16:46.8±0.3, 36.69N×4.45W, h85*^{km}*±3*^{km}*, Ml3.8/6, Error ellipse: s-maj=6.8km s-min=3.2km az=165.0*

NEIC ***21*** *08:16:47.4, 36.53N×4.42W, h88*^{km}*, MG3.5(MDD), After MDD.*

INMG ***21*** *08:16:47.3±1.5, 36.53N×4.44W, h88*^{km}*±3*^{km}*, ML3.0, Error ellipse: s-maj=6.6km s-min=3.9km az=170.0*

MDD 21 08:16:47.4±0.6**, 36.54N×4.41W, h89**^{km}±4^{km}**, mb3.6**/24**, 13C-4D, Error ellipse: s-maj=6.3km s-min=3.4km az=164.0, PRXIMO, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EMAL	Malaga-Limoner	0.23	356	⇓P	P	08 17 00.1	-0.3
	16nm,0.1s,SNR=18						
EMAL				S	S	08 17 08.7	-1.4
	189nm,0.1s,SNR=7.9						
EMIJ	Mijas	0.29	276	⇓P	P	08 16 59.8	-0.9
	SNR=18						
EMIJ				S	S	08 17 09.2	-1.6
	386nm,0.1s,SNR=7.9						
REAL	Reales	0.64	266	⇓P	P	08 17 03.5	0.0
REAL				S	S	08 17 15.0	-0.4
ELOJ	Sierra Loja	0.65	19	⇑P	P	08 17 03.3	-0.2
	102nm,0.2s,SNR=18						
ELOJ				S	S	08 17 15.0	-0.5
	158nm,0.3s,SNR=5.0						
ERON	Agron	0.69	45	⇑P	P	08 17 03.7	-0.1
	97nm,0.3s,SNR=18						
ERON				S	S	08 17 15.1	-1.0
	175nm,0.4s,SNR=5.0						
EJIF	Jimena Fronter	0.86	265	P	P	08 17 05.7	0.0
	0.2nm,0.1s,SNR=7.9						
EJIF				S	S	08 17 19.3	0.0
	0.5nm,0.1s,SNR=4.0						
LIJA	Lijar	0.88	295	⇓P	P	08 17 06.3	+0.4
LIJA				S	S	08 17 19.6	-0.1
ELUQ	Luque	1.03	6	⇑P	P	08 17 07.1	-0.5
	98nm,0.2s,SNR=18						
ELUQ				S	S	08 17 21.2	-1.6
	149nm,0.2s,SNR=13						
MOMI	Momias	1.07	259	S	S	08 17 26.5	+2.8
ESPR	Espera	1.21	286	P	P	08 17 09.4	-0.5
	10.0nm,0.1s,SNR=12						
ESPR				S	S	08 17 25.0	-1.6
	190nm,0.2s,SNR=18						
GIBL	Gibalbin	1.28	284	S	S	08 17 27.2	-1.2
CNIL	Conil	1.33	263	P	P	08 17 12.7	+1.3
CNIL				S	S	08 17 32.1	+2.7
SCRT	Cerro San Cris	1.42	275	S	S	08 17 28.6	-2.6
EADA	Adamuz	1.64	355	⇑P	P	08 17 14.2	-1.0
	189nm,0.1s,SNR=18						
EADA				S	S	08 17 33.6	-2.3
	305nm,0.2s,SNR=14						
EQES	Quesada	1.66	40	⇑P	P	08 17 14.8	-0.8
	17nm,0.1s,SNR=18						
EQES				S	S	08 17 34.3	-2.0
	119nm,0.1s,SNR=16						
EMEL	Melilla	1.71	136	P	P	08 17 14.3	-1.9
	74nm,0.1s,SNR=5.0						
EMEL				S	S	08 17 33.5	-4.0
	340nm,0.1s,SNR=11						
EMIN	Mina Concepcio	2.19	305	⇑P	P	08 17 20.9	-1.8
	15nm,0.1s,SNR=18						
EMIN				S	S	08 17 45.3	-3.5
	85nm,0.2s,SNR=5.0						
ERIP	Rio Piedras	2.43	291	⇑P	P	08 17 24.2	-1.8
	10nm,0.1s,SNR=18						
ERIP				S	S	08 17 50.8	-4.0
	246nm,0.2s,SNR=7.9						
EVIA	Vianos	2.59	35	⇑P	P	08 17 26.4	-1.8
	6.1nm,0.1s,SNR=18						
EVIA				S	S	08 17 54.2	-4.6
	62nm,0.2s,SNR=5.0						
PALC	Alcoutim	2.62	292	*e*P	P	08 17 26.9	-1.8
PALC				*e*S	S	08 17 55.5	-4.1
	87nm,0.3s						
PALC	Alcoutim	2.62	292	⇑P	P	08 17 26.9	-1.8
PALC				S	S	08 17 55.5	-4.1
	44nm,0.3s						
EMUR	La Murta	2.85	62	P	P	08 17 30.6	-1.3
	0.7nm,0.1s,SNR=7.9						
EMUR				S	S	08 18 02.7	-2.5
	17nm,0.4s,SNR=4.0						
EBAD	Badajoz	3.03	318	⇑P	P	08 17 32.4	-1.9
	13nm,0.1s,SNR=18						
EBAD				S	S	08 18 05.4	-4.3
	126nm,0.2s,SNR=15						
ETOB	Tobarra	3.10	46	⇑P	P	08 17 33.4	-1.9
	36nm,0.1s,SNR=18						
ETOB				S	S	08 18 06.2	-5.2
	66nm,0.2s,SNR=5.0						
PBEJ	Beja	3.13	299	*e*P	P	08 17 33.9	-1.9
PBEJ				*e*S	S	08 18 08.4	-3.8
	68nm,0.1s						
PBEJ	Beja	3.13	299	P	P	08 17 33.9	-1.9
PBEJ				S	S	08 18 08.4	-3.8
	34nm,0.1s						
ESDC	Sonseca Array	3.15	6	⇑P	P	08 17 34.1	-2.0
	9.9nm,0.1s,baz=180,slow=13,SNR=18						
ESDC				S	S	08 18 07.8	-4.9
	37nm,0.1s,baz=191,slow=22,SNR=11						
ESLA	Sonseca Array	3.15	6	*e*Pn	P	08 17 34.0	-2.0
EVO	Evora	3.49	306	*e*Pn	P	08 17 39.8	-0.9
EVO				*e*Sn	S	08 18 17.8	-3.3
	83nm,0.3s						
PTEO	Sao Teotonio	3.59	288	*e*P	P	08 17 40.5	-1.7
PTEO				*e*S	S	08 18 19.5	-4.2
	34nm,0.3s						
PTEO	Sao Teotonio	3.59	288	P	P	08 17 40.5	-1.7
PTEO				S	S	08 18 19.5	-4.2
	17nm,0.3s						
MOE	Montemor	3.71	304	*e*P	P	08 17 41.1	-2.6
MOE				*e*S	S	08 18 21.2	-5.3
EBEN	Beniarda	3.97	56	P	P	08 17 45.1	-2.1
	1.5nm,0.1s,SNR=11						
EBEN				S	S	08 18 26.9	-5.9
	4.4nm,0.2s,SNR=5.0						
PCBR	Castelo Branco	4.09	325	*e*P	P	08 17 46.9	-2.1
PCBR				*e*S	S	08 18 29.9	-6.0
	12nm,0.3s						
PCBR	Castelo Branco	4.09	325	P	P	08 17 46.9	-2.1
PCBR				S	S	08 18 29.9	-6.0
	5.9nm,0.3s						
MTE	Manteigas	4.58	328	*e*P	P	08 17 53.5	-2.2
MTE				*e*S	S	08 18 41.4	-6.6
	25nm,0.6s						
MTE	Manteigas	4.58	328	P	P	08 17 53.5	-2.2
MTE				S	S	08 18 41.4	-6.6
	13nm,0.6s						
ETOR	Torete	4.66	23	⇑P	P	08 17 54.6	-2.2
	36nm,0.1s,SNR=18						
ETOR				S	S	08 18 43.0	-7.1
	20nm,0.2s,SNR=5.0						
EMOS	Mosqueruela	4.92	38	P	P	08 17 58.6	-1.7
	3.3nm,0.2s,SNR=35						
EMOS				S	S	08 18 49.3	-7.1
	18nm,0.2s,SNR=5.0						
PVIS	Viseu	4.99	328	*e*P	P	08 17 59.1	-2.2
PVIS				*e*S	S	08 18 51.9	-6.3
EIBI	Ibiza	5.19	60	P	P	08 18 01.7	-2.4
	1.2nm,0.1s,SNR=8.1						
EIBI				S	S	08 18 56.0	-7.2
	1.2nm,0.1s,SNR=4.0						
PVRL	Vila Real	5.39	332	*e*P	P	08 18 05.6	-1.2
PVRL				*e*S	S	08 19 02.0	-6.1
	29nm,0.1s						
PVRL	Vila Real	5.39	332	P	P	08 18 05.6	-1.2
PVRL				S	S	08 19 02.0	-6.1
	15nm,0.1s						
PBRG	Braganca	5.56	342	*e*P	P	08 18 07.4	-1.8
PBRG				*e*S	S	08 19 04.7	-7.8
	5.8nm,0.3s						
PBRG	Braganca	5.56	342	P	P	08 18 07.4	-1.8
PBRG				S	S	08 19 04.7	-7.8
	2.9nm,0.3s						
ECAL	Calabor	5.69	342	P	P	08 18 09.2	-1.7
	2.5nm,0.1s,SNR=10.0						
ECAL				S	S	08 19 09.5	-6.1
	5.9nm,0.2s,SNR=7.9						
ESAC	San Caprasio	6.02	29	P	P	08 18 14.3	-1.1
	5.8nm,0.2s,SNR=5.0						
ESAC				S	S	08 19 17.5	-6.2
	9.2nm,0.1s,SNR=7.9						
ESAC	San Caprasio	6.02	29	P	P	08 18 14.3	-1.1
ESAC				S	S	08 19 17.4	-6.2
ELOB	Lobios	6.03	333	P	P	08 18 14.0	-1.6
	1.2nm,0.1s,SNR=6.9						
ELOB				S	S	08 19 15.6	-8.4
	3.2nm,0.1s,SNR=7.9						
EPOB	Poblet	6.44	40	P	P	08 18 19.1	-2.2
	6.3nm,0.2s,SNR=7.9						
EPOB				S	S	08 19 25.3	-8.6
	2.2nm,0.2s,SNR=7.9						
ELAN	Lanestosa	6.73	6	P	P	08 18 24.0	-1.3
	1.9nm,0.1s,SNR=7.9						
ELAN				S	S	08 19 33.6	-7.6
	2.2nm,0.1s,SNR=7.9						
EGRA	Graus	6.73	31	P	P	08 18 24.1	-1.3
	1.2nm,0.1s,SNR=5.0						
EGRA				S	S	08 19 34.1	-7.1
	1.6nm,0.2s,SNR=4.0						
SJPF	Ste Jean	7.01	19	*e*Pn	P	08 18 27.5	-1.8
SJPF				*e*Sn	S	08 19 38.8	-9.2
	11nm,0.3s						
ETSF	Etsaut	7.01	24	*e*Pn	P	08 18 26.8	-2.5
ETSF				*e*Sn	S	08 19 37.8	-10
	5.3nm,0.3s						
EALK	Alkurruntz	7.04	18	P	P	08 18 29.0	-0.6
	3.7nm,0.1s,SNR=7.9						
EALK				S	S	08 19 41.5	-7.2
	51nm,0.4s,SNR=7.9						
EMIR	Miracle	7.08	39	P	P	08 18 28.1	-2.0
	6.1nm,0.1s,SNR=8.5						
EMIR				S	S	08 19 42.5	-7.1
	4.2nm,0.4s,SNR=4.0						
EMIR	Miracle	7.08	39	P	P	08 18 28.1	-2.0
EMIR				S	S	08 19 42.5	-7.2
EPF	Esparros	7.45	28	*e*Pn	P	08 18 32.4	-2.8

EPF				eSn	S	08 19 49.4	-9.3
	6.0nm,0.2s						
MTLF	Montolieu	8.49	35	ePn	P	08 18 45.5	-3.9
LFF	La Frestale	9.26	23	ePn	P	08 18 54.6	-5.2
CAF	Calviac	9.71	28	ePn	P	08 19 01.0	-4.9
RJF	Les Rejaudoux	9.84	25	ePn	P	08 19 02.4	-5.2
MFF	Saint Martin d	10.55	16	ePn	P	08 19 11.8	-5.4
TCF	Toulx Ste Croi	10.93	25	ePn	P	08 19 17.3	-5.0
BGF	Bois d'Agland	11.39	26	ePn	P	08 19 23.6	-4.8
QUIF	Quistinic	11.41	4	ePn	P	08 19 23.1	-5.6
QUIF				eSn	S	08 21 20.2	-15
	1.8nm,0.3s						
AVF	Avril sur Loir	11.77	27	ePn	P	08 19 28.7	-4.8
SGMF	Saint Gilles	11.79	6	ePn	P	08 19 27.8	-6.0
ROSF	Rostrenen	11.82	4	ePn	P	08 19 29.2	-5.0
ROSF				eSn	S	08 21 30.9	-14
	1.5nm,0.2s						
SMF	Signal de Mont	11.83	29	ePn	P	08 19 31.2	-3.1
HYF	Humbligny	11.94	24	ePn	P	08 19 32.1	-3.6
PGF	Pioggiola	11.96	56	ePn	P	08 19 32.2	-3.9
LOR	Lormes	12.36	27	ePn	P	08 19 36.9	-4.4
FLN	La Foliniere	12.55	12	ePn	P	08 19 39.7	-4.2

NEIC 21 08:25:11.3, 38.02N×118.66W, h7^{km}, ML3.8(REN), 3C-3D, After REN., California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OMM	Old Mammoth Mi	0.48	213	⇓iP	Pg	08 25 20.8	-0.1
MNV	Mina	0.57	44	⇑iP	Pg	08 25 22.2	-0.6
MNV				iS	Sg	08 25 30.6	+0.1
MTUM	Tungsten Hills	0.67	173	⇓iP	Pg	08 25 24.1	-0.6
TPH	Tonopah	1.14	87	⇑iPn	Pn	08 25 32.7	-0.9
TPH				eS	Sb	08 25 52.0	+4.3
CMB	Columbia Colle	1.36	271	⇑iP	Pb	08 25 36.0	-0.7
WCN	Washoe City	1.54	327	ePn	Pn	08 25 40.1	+0.8
DAC	Darwin (Calif)	1.94	154	ePn	Pn	08 25 44.9	-0.1
TPNV	Topopah Spring	2.20	118	⇓ePn	Pn	08 25 48.9	+0.1
BEKR	Beckwourth	2.27	325	ePn	Pn	08 25 50.2	+0.4
LRV	Little Rabbit	2.46	230	ePn	Pn	08 25 53.8	+1.2
SAO	San Andreas Ge	2.55	241	ePn	Pn	08 25 54.4	+0.6
OHCM	Honcut	2.57	302	ePn	Pn	08 25 53.6	-0.5
OHCM				ePg	Pg	08 25 56.8	-5.8
LKC	Lake Chabot	2.71	265	ePn	Pn	08 25 56.6	+0.6
SAC	San Andreas	3.01	263	ePn	Pn	08 26 00.1	-0.2
NSHM	Saint Helena R	3.15	280	ePn	Pn	08 26 01.6	-0.6
HOPS	Hopland	3.59	287	Pn	Pn	08 26 06.7	-2.0
ELK	Elko	3.80	43	ePn	Pn	08 26 10.0	-1.6
NEN	Nelson	3.87	127	Pn	Pn	08 26 12.7	+0.1
WDC	Whiskeytown Da	3.95	312	ePn	Pn	08 26 10.8	-2.9
MOD	Modoc	4.08	343	Pn	Pn	08 26 15.1	-0.4
LDFC	Landfair	4.10	135	ePn	Pn	08 26 12.3	-3.5
LDFC				ePg	Pg	08 26 30.8	-2.3
ARUT	Antelope Range	4.14	92	ePn	Pn	08 26 14.8	-1.6
WVOR	Wild Horse Val	4.41	0	ePn	Pn	08 26 17.8	-2.5
PFO	Pinyon Flat Ob	4.75	157	ePg	Pg	08 26 39.6	-6.6
YBH	Yreka Blue Hor	4.84	321	ePn	Pn	08 26 23.5	-2.8
DUG	Dugway	5.04	63	ePn	Pn	08 26 28.7	-0.4
MSU	Marysvale	5.13	83	ePn	Pn	08 26 30.9	+0.5
NLU	North Lily Min	5.48	67	ePn	Pn	08 26 35.8	+0.4
HUMO	Hull Mountain	5.63	326	ePn	Pn	08 26 35.8	-1.8
MPU	Maple Canyon	5.83	68	ePg	Pg	08 27 00.7	-6.9
HVU	Hansel Valley	5.88	48	Pn	Pn	08 26 40.1	-0.9
CTU	Camp Tracy	5.98	61	ePg	Pg	08 27 07.0	-3.8
JLU	Jordanelle	6.16	63	Pn	Pn	08 26 44.1	-0.9
DAU	Daniels Canyon	6.23	65	Pn	Pn	08 26 44.7	-1.2
TCUT	Toone Canyon	6.40	59	ePn	Pn	08 26 44.4	-3.9
HLID	Hailey	6.41	29	Pn	Pn	08 26 46.5	-1.9
SRU	San Rafael	6.47	78	Pn	Pn	08 26 48.9	-0.4
HWUT	Hardware Ranch	6.53	55	Pn	Pn	08 26 48.1	-2.1

MEX 21 08:25:14.2±1.1**, 16.94N×100.77W, h16^{km}**±31^{km}**, MD3.6, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	Acapulco	0.82	95	iP	Pb	08 25 28.0	-1.6
ACX				iS	Sb	08 25 36.0	-4.1
ZIIG	Zihuatanejo	0.94	315	iP	Pb	08 25 28.3	-3.4
ZIIG				iS	Sb	08 25 41.1	-2.6

MAN 21 08:48:39.9, 9.45N×126.13E, h23^{km}, mb4.4, ML3.3, MS3.3, 4C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	Butuan	0.69	227	eP	Pb	08 48 53.1	-0.1
SCPH	Surigao	0.72	298	⇓eP	Pb	08 48 54.3	+0.7
SCPH				eS	Sb	08 49 05.1	+2.1
BIPH	Bislig	1.27	170	⇑iP	Pn	08 49 00.6	-1.9
BIPH				iS	Sn	08 49 15.6	-3.4
MSLP	Maasin	1.43	299	eP	Pn	08 49 05.8	+1.1
CGP	Cagayan de Oro	1.73	235	⇑eP	Pn	08 49 08.2	-0.8
CGP				iS	Sn	08 49 29.6	-1.0
BUKP	Musuan	1.88	214	eP	Pn	08 49 11.4	+0.2
PLP	Palo	2.05	326	iP	Pn	08 49 13.4	-0.2
PLP				eS	Sn	08 49 37.3	-1.4
BESP	Borongan	2.25	342	eP	Pn	08 49 16.2	-0.2
LLP	Lapu-Lapu	2.30	292	eP	Pn	08 49 16.5	-0.7
LLP				eS	Sn	08 49 42.0	-3.2
DCPH	Dipolog City	2.88	253	⇑eP	Pn	08 49 25.2	-0.2
PAGZ	Pagadian	3.15	240	eP	Pn	08 49 29.5	+0.2
CNP	Catarman	3.37	335	eP	Pn	08 49 31.8	-0.6
GUIM	Jordan	3.68	289	eP	Pn	08 49 37.9	+1.1
RCP	Roxas	3.94	303	⇑eP	Pn	08 49 40.8	+0.3
	136µm,2.0s						

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*IDC **21** 08:52:32.7±2.3, 50.10N×175.47W, mb3.3/5, mb1 3.8/6, mb1mx3.6/21, ML2.8/1, Error ellipse: s-maj=65.1km s-min=16.9km az=6.0*

*NEIC **21** 08:52:37.9, 50.43N×175.42W, h33^{km}, ML2.6(AEIC), After AEIC.*

ISC 21 08:52:36.4±0.9**, 50.41N**±0.07×**175.5W**±0.1**, h33^{km}, n13, σ0^{s}82**/17**, mb3.5**/4**, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSIG	Igitkin Island	1.60	351	P	P	08 53 02.9	+0.2
GSIG				S	S	08 53 22.6	+0.2
GSTD	Great Sitkin T	1.70	347	P	P	08 53 04.5	+0.4
GSTD				S	S	08 53 24.8	-0.1
ADAG	Mount Adagdak	1.72	337	P	P	08 53 05.0	+0.6
ADAG				S	S	08 53 25.8	+0.5
GSTR	Great Sitkin T	1.73	349	P	P	08 53 05.1	+0.7
KIMD	Kanaga Island	1.74	322	P	P	08 53 04.7	+0.1
KIWB	Kanaga Island	1.78	325	P	P	08 53 05.0	-0.1
ATKA	Atka Island	1.98	24	P	P	08 53 07.7	-0.4
ATKA				S	S	08 53 30.4	-1.6
FX1	Attu Island--F	7.47	294	Pn	P	08 54 24.0	-1.6
	0.5nm,0.3s,baz=287,slow=20,SNR=3.3						
ILAR	Eielson Array	20.77	35	P	P	08 57 16.4	-0.2
	0.5nm,0.8s,baz=226,slow=9.4,SNR=13						
YKA	Yellowknife Ar	34.41	46	P	P	08 59 23.8	+1.7
	0.2nm,0.5s,mb3.4,baz=269,slow=7.4,SNR=4.2						
PDAR	Pinedale Array	44.61	73	P	P	09 00 48.0	+1.0
	0.3nm,0.5s,mb3.4,baz=333,slow=3.3,SNR=3.6						
TXAR	Lajitas Array	56.73	83	P	P	09 02 17.9	-1.1
	0.4nm,0.8s,mb3.5,baz=270,slow=3.8,SNR=4.1						
MKAR	Makanchi Array	62.26	311	P	P	09 02 56.5	-0.4
	0.7nm,0.8s,mb3.8,baz=52,slow=6.1,SNR=5.3						

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*ISK **21** 08:59:33.6, 36.89N×27.75E, h9^{km}, MD3.2, ML3.1*

*ATH **21** 08:59:34.8, 36.90N×27.80E, h24^{km}±4^{km}, MD3.2/4*

*NEIC **21** 08:59:35.1, 36.93N×27.82E, h28^{km}, MD3.2(ATH), After ATH.*

ISC 21 08:59:34.7±0.6**, 36.91N**±0.03×**27.80E**±0.04**, h12^{km}**±4^{km}**, n21, σ0^{s}69**/28**, 2C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.32	299	⇑iP	Pg	08 59 41.7	+0.3
BDRM				iS	Sg	08 59 47.4	+1.4
MLSB	Milas	0.39	358	iPG	Pg	08 59 42.4	-0.3
MLSB				iSG	Sg	08 59 48.3	+0.3
YER	Yerkesik	0.45	60	iPG	Pg	08 59 43.0	-0.9
DALT	Dalyan (Mudla)	0.69	102	iPG	Pg	08 59 48.0	-0.7
DALT				iSG	Sg	08 59 58.4	+0.4
ARG	Arkhangelos	0.74	159	ePb	Pb	08 59 49.1	0.0
ARG				eSn	Sn	09 00 02.2	+0.2
AYDN	Tasoluk	0.75	5	iP	Pb	08 59 49.9	+0.6
AYDN				iS	Sb	08 59 59.6	+0.3
SMG	Samos	1.10	317	ePN	Pn	08 59 55.8	-0.2
SMG				eSN	Sn	09 00 12.2	+1.0
DNZL	Cakiroluk	1.27	52	iP	Pb	08 59 58.8	+0.7
DENT	Denizli	1.30	49	iPN	Pn	08 59 59.8	+1.0
KARP	Karpathos	1.45	201	⇑iPN	Pn	09 00 01.4	+0.4
KARP				eSN	Sn	09 00 20.9	+0.8
IZM	Izmir	1.54	344	PN	Pn	09 00 01.8	-0.5
KDAG	Bornova	1.55	344	iP	Pn	09 00 01.6	-0.7
KSL	Kastellorizon	1.63	117	ePN	Pn	09 00 04.0	+0.5
MANT	Manisa	1.69	21	iP	Pn	09 00 04.2	-0.2
ELL	Elmali	1.70	95	PN	Pn	09 00 04.8	+0.2
APE	Apeiranthos	1.82	276	PN	Pn	09 00 05.3	-1.0
APE	Apeiranthos	1.82	276	ePB	Pb	09 00 06.2	-1.4
AKS	Akhisar	1.97	0	PN	Pn	09 00 07.6	-0.7
NPS	Neapolis	2.41	228	ePB	Pb	09 00 17.0	-0.7
NPS	Neapolis	2.41	228	ePb	Pb	09 00 17.3	-0.4
KCT	Karacabey	3.38	7	ePN	Pn	09 00 27.6	-0.9

IDC 21 09:01:32.9±6.5**, 19.88S×177.98W, mb4.1**/3**, mb1 4.2**/3**, mb1mx3.8**/12**, Error ellipse: s-maj=165.0km s-min=101.7km az=134.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	38.08	243	P	P	09 08 52.6	-2.6
	1.8nm,0.7s,baz=84,slow=11,SNR=7.0						
WRA	Warramunga Arr	44.71	261	P	P	09 09 48.7	-1.1
	1.2nm,0.3s,baz=96,slow=7.8,SNR=54						
FITZ	Fitzroy Crossi	53.13	262	P	P	09 10 52.8	-2.2
	1.0nm,0.6s,baz=67,slow=7.7,SNR=7.0						
AKASG	Malin Array Be	142.48	331	PKP	PKPdf	09 21 06.8	-2.7
	0.4nm,0.3s,baz=38,slow=4.2,SNR=5.0						

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*TAP **21** 09:21:23.1, 25.35N×122.69E, h228^{km}, ML3.7*

*JMA **21** 09:21:27.0±0.2, 25.37N×122.50E, h187^{km}, M3.2*

ISC 21 09:21:26.0±1.8**, 25.6N**±0.4×**122.5E**±0.2**, h174^{km}**±61^{km}**, n12, σ0^{s}63**/18**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	1.23	158	P	P	09 21 55.7	+0.4
IRIF	Iriomote-Funau	1.69	138	P	P	09 21 59.7	0.0
IRIF				S	S	09 22 25.6	-0.1
JKRS	Kuro-shima	1.93	134	P	P	09 22 02.6	+0.3
JKRS				S	S	09 22 29.9	-0.3
JIJ	Ishigaki jima	1.94	129	P	P	09 22 02.3	0.0
JIJ				S	S	09 22 29.4	-0.9
HATJ	Hateruma jima	1.94	142	P	P	09 22 02.5	+0.1
HATJ				S	S	09 22 29.5	-0.9
JTJ	Tarama	2.21	115	P	P	09 22 06.3	+0.8
JTJ				S	S	09 22 36.6	+0.7
JMJ	Miyako jima 2	2.65	107	eS	S	09 22 45.4	+0.3
JOGS	Gusukube	2.76	107	P	P	09 22 13.1	+1.0
JOGS				eS	S	09 22 47.9	+0.4
JKE	Kume jima 2	3.92	78	P	P	09 22 27.2	+0.5
JAGN	Aguni-jima	4.38	76	P	P	09 22 32.6	+0.1
JIH	Iheya	5.11	73	P	P	09 22 41.3	-0.8
JOW	Kunigami	5.33	75	P	P	09 22 43.5	-1.5

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*NEIC **21** 09:57:04.2, 44.91N×6.55E, h1^{km}, ML2.9(LDG), ML2.8(GEN), ML2.6(STR), After GEN.*

*LDG **21** 09:57:05.5±0.1, 44.91N×6.64E, h2^{km}, Md2.5/4, Ml2.9/12, Error ellipse: s-maj=2.9km s-min=1.6km az=67.0*

*STR **21** 09:57:05.1±0.2, 44.92N×6.62E, h5^{km}±1^{km}, Ml2.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 21 09:57:04.2±0.2**, 44.91N**±0.01×**6.59E**±0.02**, h11^{km}**±2^{km}**, n47, σ0^{s}91**/80**, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RRL	Cesana Torines	0.14	87	P	Pg	09 57 08.1	+0.5
RRL				S	Sg	09 57 10.5	+0.7
BNI	Bardonecchia	0.15	24	ePg	Pg	09 57 08.3	+0.5
MBDF	Montbardon	0.23	145	ePg	Pg	09 57 09.4	+0.3
MBDF				eSg	Sg	09 57 12.7	+0.3
	442nm,0.2s						
FENE	Fenestrelle	0.36	70	P	Pg	09 57 11.8	+0.3
FENE				S	Sg	09 57 17.3	+0.8
GDM	Grand'Maison	0.44	311	Pg	Pg	09 57 13.7	+0.4
GDM				Sg	Sg	09 57 19.6	+0.3
SURF	Saint Ours	0.46	160	Pg	Pg	09 57 13.7	+0.1
SURF				Sg	Sg	09 57 21.0	+1.2
BHB	Bricherasio	0.48	98	P	Pg	09 57 14.3	+0.2
BHB				S	Sg	09 57 21.0	+0.4
ORIF	Oris-en-Rattie	0.50	271	ePg	Pg	09 57 14.7	+0.3
ORIF				eSg	Sg	09 57 21.3	0.0
	75nm,0.2s						
RSP	Reno Superiore	0.53	63	P	Pg	09 57 15.3	+0.3
RSP				S	Sg	09 57 22.8	+0.6
PZZ	Prazzo	0.55	138	P	Pg	09 57 15.2	-0.1
PZZ				S	Sg	09 57 22.8	+0.1
LPG	La Plagne	0.60	11	ePg	Pg	09 57 16.5	+0.2
LPG				eSg	Sg	09 57 24.8	+0.5
	46nm,0.2s						
LPL	La Plagne	0.61	9	ePg	Pg	09 57 16.7	+0.1
LPL				eSg	Sg	09 57 26.0	+1.2
	89nm,0.5s						
OG25	Le Caire	0.66	214	Pg	Pg	09 57 18.1	+0.7
LSD	Ceresole Reale	0.68	36	P	Pb	09 57 17.7	+0.1
LSD				S	Sb	09 57 27.0	+0.3
GRN	Grenoble	0.68	299	Pg	Pg	09 57 18.7	+0.7
STV	Sta Anna Valdi	0.85	142	P	Pb	09 57 20.8	+0.2
STV				S	Sb	09 57 31.9	+0.2
STV2	Anna di Valdie	0.85	141	P	Pb	09 57 20.8	+0.2
STV2				S	Sb	09 57 32.0	+0.3
ENR	Entracque	0.91	139	P	Pb	09 57 21.7	+0.2
ENR				S	Sb	09 57 33.5	+0.1
TRAV		1.01	53	P	Pb	09 57 23.6	+0.2
TRAV				S	Sb	09 57 37.1	+0.6
MVIF	Mont Vial	1.09	158	Pg	Pg	09 57 25.6	-0.5
AUTN	L'Aution	1.10	146	Pg	Pg	09 57 25.5	-0.7
ROB	Roburent	1.10	124	P	Pb	09 57 25.3	+0.4
ROB				S	Sb	09 57 39.6	+0.5
AURF	Auriere	1.15	152	Pg	Pg	09 57 26.8	-0.5
SAOF	Saorge	1.16	143	Pg	Pg	09 57 26.4	-1.0
MONE	Monesi	1.18	135	P	Pb	09 57 26.4	+0.3
MONE				S	Sb	09 57 41.4	+0.1
CALN	Calern	1.18	169	Pg	Pg	09 57 27.6	-0.2
CALN				Sg	Sg	09 57 46.5	+2.9
SMRF	Simiane la Rot	1.19	218	ePg	Pg	09 57 28.6	+0.7
SMRF				eSg	Sg	09 57 45.0	+1.2
	50nm,0.4s						
SBF	Sospel	1.21	150	ePn	Pn	09 57 28.1	+1.0
SBF				eSg	Sg	09 57 44.7	0.0
	59nm,0.4s						
ORO	Oropa	1.22	53	ePg	Pg	09 57 27.3	-1.2
RORO		1.33	127	P	Pb	09 57 27.0	-1.7
RORO				S	Sb	09 57 44.0	-1.5
NEGI	Negi	1.33	143	P	Pb	09 57 29.7	+0.9
FRF	La Foret Royal	1.35	178	ePg	Pg	09 57 30.4	-0.9
FRF				eSg	Sg	09 57 49.4	+0.1
	36nm,0.2s						
FIN	Finale Ligure	1.35	121	ePg	Pg	09 57 30.1	-1.2
FIN				eSg	Sg	09 57 47.4	-2.0
VIVF	Saint-Julien-l	1.36	268	ePg	Pg	09 57 31.8	+0.3
VIVF				eSg	Sg	09 57 50.5	+0.8
	19nm,0.2s						
IMI	Imperia	1.37	137	ePg	Pg	09 57 30.6	-1.0
OG05	Jujurieux	1.38	325	Pg	Pg	09 57 32.4	+0.6
MCGN	Macugnaga	1.44	43	ePg	Pg	09 57 31.7	-1.3
PCP	Pian Castagno	1.44	104	P	Pn	09 57 30.5	+0.1
LMR	La Mourre	1.58	182	ePg	Pg	09 57 34.6	-1.2
LMR				eSg	Sg	09 57 55.4	-1.5
	20nm,0.2s						
CABF	La Chapelle	1.73	349	ePn	Pn	09 57 35.0	+0.4
CABF				ePg	Pg	09 57 38.5	-0.4
LASF	Ste Croix	2.13	248	ePn	Pn	09 57 41.1	+0.9
LASF				eSn	Sn	09 58 06.9	0.0
	3.8nm,0.3s						
SMF	Signal de Mont	2.59	313	ePg	Pg	09 57 54.1	-1.8
SMF				eSg	Sg	09 58 26.8	-3.6
	17nm,0.4s						
PGF	Pioggiola	2.94	143	ePn	Pn	09 57 53.2	+1.4
PGF				eSn	Sn	09 58 26.1	-1.4
	3.3nm,0.3s						
AVF	Avril sur Loir	2.94	311	eSg	Sg	09 58 37.1	-5.0
	9.6nm,0.5s						
SSF	Saint Saulge	3.04	316	eSg	Sg	09 58 41.3	-4.1
	6.2nm,0.4s						
BGF	Bois d'Agland	3.09	303	ePn	Pn	09 57 55.5	+1.4
BGF				ePg	Pg	09 58 04.4	-1.6
BGF				eSg	Sg	09 58 44.8	-2.5
	26nm,0.4s						
HAU	Haudompre	3.10	357	ePg	Pg	09 58 03.5	-2.6
HAU				eSg	Sg	09 58 43.6	-3.8
	5.9nm,0.3s						

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*ISK **21** 09:57:38.9, 37.31N×37.34E, h6^{km}, MD3.5, ML3.2*

ISC 21 09:57:39.8±0.5**, 37.31N**±0.04×**37.34E**±0.05**, h6^{km}, n16, σ1^{s}08**/23**, 1C, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	Gaziantep	0.17	217	iPG	Pg	09 57 42.9	-0.5
GZT	Gaziantep	0.18	76	⇑iP	Pg	09 57 43.7	+0.1
GZT				iS	Sg	09 57 49.7	+3.5
KAHT	Ahir Dag	0.49	311	iP	Pg	09 57 48.5	-1.1
KAHT				iS	Sg	09 57 57.0	+0.9
COBT	Iskenderun	1.17	228	iP	Pb	09 58 01.4	-0.7
COBT				iS	Sb	09 58 18.5	+1.1
CEYT	Ceyhan	1.31	257	iPN	Pn	09 58 04.0	-0.6
MALT	Malatya	1.32	40	PN	Pn	09 58 03.9	-0.9
MYA	Malataya	1.33	40	iPN	Pn	09 58 04.9	0.0
HTY	Hatay	1.53	219	ePN	Pn	09 58 07.9	+0.1
HTY				eSN	Sn	09 58 28.2	0.0
ELZG	Elazig	1.76	47	iP	Pn	09 58 11.2	+0.1
ELZG				iS	Sn	09 58 37.4	+3.4
BNN	Bunyan	1.94	323	ePN	Pn	09 58 13.3	-0.3
PTK	Pertek	2.26	45	ePN	Pn	09 58 16.9	-1.4
AVNT	Avonos	2.45	308	eP	Pn	09 58 24.3	+3.4
AVNT				iS	Sn	09 58 57.8	+6.2
SVSK	Karacayir	2.62	354	ePN	Pn	09 58 22.8	-0.5
MEST	Erdemli	2.66	255	iP	Pn	09 58 23.3	-0.7
MEST				iS	Sn	09 58 58.2	+1.3
BEST	Besiri	3.17	78	eP	Pn	09 58 37.4	+6.1
KELT	Kelkit	3.21	27	iP	Pn	09 58 42.9	+11

IDC 21 10:11:26.8±18.0**, 37.29S×94.33W, mb3.9**/3**, mb1 4.4**/3**, mb1mx4.0**/13**, MS3.7**/4**, Ms1 3.7**/4**, ms1mx3.5**/17**, 1C-1D, Error ellipse: s-maj=608.0km s-min=306.9km az=119.0, West Chile Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	31.20	55	LR	LR	10 27 03.0	
	comp=Z,64nm,22.0s,baz=189,slow=30						
CPUP	Villa Florida	33.10	82	LR	LR	10 30 24.1	
	comp=Z,114nm,19.8s,baz=81,slow=34						
ROSC	El Rosal	45.89	28	LR	LR	10 35 56.4	
	comp=Z,82nm,21.4s,baz=66,slow=32						
BDFB	Brasilia	46.18	75	LR	LR	10 38 26.0	
	comp=Z,185nm,20.4s,baz=261,slow=35						
TXAR	Lajitas Array	66.85	351	P	P	10 22 20.6	-2.1
	0.6nm,0.8s,baz=172,slow=9.7,SNR=7.0						
SYO	Syowa Base	68.69	164	⇑P	P	10 22 38.5	+5.0
SYO	Syowa Base	68.69	164	⇓P	P	10 22 41.8	+8.2
NVAR	Mina Array Bea	78.52	341	P	P	10 23 30.0	-1.3
	0.9nm,0.8s,baz=164,slow=6.6,SNR=6.1						
PDAR	Pinedale Array	80.88	349	P	P	10 23 42.5	-1.3
	1.3nm,0.8s,baz=158,slow=4.9,SNR=12						

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*IDC **21** 10:25:49.6±0.9, 36.01N×141.16E, mb4.0/8, mb1 4.1/11, mb1mx4.0/24, ML4.0/3, MS2.7/2, Ms1 2.7/2, ms1mx2.6/30, Error ellipse: s-maj=25.7km s-min=17.7km az=97.0*

*JMA **21** 10:25:53.1±0.1, 36.04N×141.13E, h43^{km}±2^{km}, M3.9*

JMA Felt I J1.

*NEIC **21** 10:25:55.4±1.7, 35.97N×141.08E, h42^{km}±14^{km}, mb4.5/3, MW3.9(NIED), Error ellipse: s-maj=15.1km s-min=11.3km az=80.0*

NEIC Recorded [1 JMA] in Chiba and Ibaraki Prefectures.

*NIED **21** 10:26:00, 36.10N×141.10E, h20^{km}, Mw3.9 Best double couple: $M_0 8.13\times10^{14}$ NP1: ϕ_s28°, δ76°, λ-115°. NP2: ϕ_s270°, δ29°, λ-31°.*

ISC 21 10:25:53.4±0.7**, 36.02N**±0.04×**141.10E**±0.08**, h41^{km}**±7^{km}**, n28, σ0^{s}90**/32**, mb4.0**/10**, 7C, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	Chosi	0.37	212	⇑P	P	10 26 02.6	+0.1
CHOJ				S	S	10 26 09.4	+0.5
JHO	Hitachi	0.73	324	⇑P	P	10 26 06.9	-0.4
JYT	Yasato	0.77	286	⇑P	P	10 26 08.0	+0.2
JYT				S	S	10 26 18.2	-0.1
ONAJ	Iwakimizuishiy	1.11	347	⇑P	P	10 26 11.5	-1.1
JFK	Kawauchi	1.36	352	⇑P	P	10 26 14.9	-1.4
BSO1	Boso 1	1.36	184	P	P	10 26 17.5	+1.1
JAG	Ashikaga	1.40	287	⇑P	P	10 26 17.0	+0.2
JFT	Otama	1.62	338	⇑P	P	10 26 20.4	+0.4
MAJO	Matsushiro	2.40	283	ePn	P	10 26 32.2	+1.2
MAT	Matsushiro	2.40	283	P	P	10 26 32.2	+1.1
MAT				S	S	10 26 58.6	-0.8
MAT	Matsushiro	2.40	283	eP	P	10 26 32.0	+0.9
MAT				eS	S	10 26 59.0	-0.4
JHJ	Hachijo jima 2	3.09	201	Pn	P	10 26 41.5	+0.5
	26nm,0.3s,baz=221,slow=18,SNR=15						
JHJ				Sn	S	10 27 14.8	-2.1
	33nm,0.3s,baz=249,slow=23,SNR=4.8						
ASAJ	Asahikawa	8.17	8	Pn	P	10 27 48.4	-3.9
	2.0nm,0.3s,baz=256,slow=8.3,SNR=13						
ASAJ				LR	LR	10 31 27.2	
	comp=Z,53nm,18.8s,baz=169,slow=41						
CBIJ	Chichi jima	8.94	174	Pn	P	10 27 58.6	-4.3
	6.4nm,0.3s,baz=88,slow=22,SNR=6.8						
CBIJ				Sn	S	10 29 30.7	-13
	5.2nm,0.3s,baz=287,slow=19,SNR=4.2						
JOW	Kunigami	14.26	234	LR	LR	10 34 16.4	
	comp=Z,34nm,19.9s,baz=295,slow=36						
SONM	Songino Array	28.16	306	P	P	10 31 43.4	-0.4
	1.3nm,0.7s,mb3.7,baz=104,slow=8.2,SNR=9.7						
MKAR	Makanchi Array	44.45	303	P	P	10 34 03.1	+1.1
	3.8nm,0.7s,mb4.3,baz=91,slow=9.7,SNR=29						
KURK	Kurchatov	46.37	309	eP	P	10 34 16.9	-0.2
	9.8nm,0.7s,mb4.8						
ILAR	Eielson Array	50.49	32	P	P	10 34 49.5	+0.6
	0.6nm,0.7s,mb3.7,baz=267,slow=6.0,SNR=9.3						
BVAR	Borovoye Array	51.08	313	P	P	10 34 53.9	+0.4
	1.1nm,0.6s,mb4.0,baz=72,slow=9.4,SNR=6.9						
ZRNK	Zerenda	51.91	313	eP	P	10 34 59.4	-0.5
	2.9nm,0.5s,mb4.5						
INK	Inuvik	55.41	27	P	P	10 35 24.6	-0.8
	1.5nm,1.0s,mb4.0,baz=225,slow=4.3,SNR=1.9						
WB2	Warramunga Arr	56.02	188	eP	P	10 35 29.7	-0.7
WRA	Warramunga Arr	56.02	188	P	P	10 35 29.6	-0.8
	0.8nm,0.4s,mb4.1,baz=6.1,slow=7.4,SNR=15						
NB2	NORSAR Subarra	75.03	337	P	P	10 37 32.5	+0.6
	0.7nm,0.5s,mb3.9,baz=41,slow=5.6						
NOA	NORSAR Array B	75.03	337	P	P	10 37 32.6	+0.7
	1.7nm,0.8s,mb4.0,baz=39,slow=5.8,SNR=4.7						
PDAR	Pinedale Array	78.56	45	P	P	10 37 53.7	+1.6
	0.3nm,0.6s,mb3.4,SNR=3.9						
PMSA	Palmer Station	147.50	160	ePKPbc	PKPdf	10 45 33.2	+3.7

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*IDC **21** 10:45:24.2±1.0, 23.64S×176.61W, mb4.2/8, mb1 4.4/10, mb1mx4.3/16, ML4.3/2, MS3.5/1, Ms1 3.5/1, ms1mx3.2/10, Error ellipse: s-maj=40.5km s-min=22.5km az=155.0*

*NEIC **21** 10:45:28.5±0.7, 23.78S×176.36W, h35^{km}, mb4.5/7, Error ellipse: s-maj=22.1km s-min=14.2km az=164.0*

ISC 21 10:45:27.7±0.8**, 23.8S**±0.1×**176.7W**±0.1**, h33^{km}, n20, σ1^{s}00**/19**, mb4.2**/10**, 1D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	15.38	199	Pn	P	10 49 04.5	+0.6
	0.7nm,0.3s,baz=162,slow=7.6,SNR=4.4						
URZ				Sn	Sx	10 51 39.5	
	0.7nm,0.3s,baz=127,slow=19,SNR=3.4						
RAR	Rarotonga	15.80	84	Pn	P	10 49 02.6	-6.9
	2.2nm,0.3s,baz=192,slow=5.4,SNR=13						
RAR				Sn	Sx	10 51 36.6	
	3.6nm,0.3s,baz=112,slow=22,SNR=8.0						
RAR				LR	LR	10 53 27.7	
	comp=Z,164nm,20.1s,baz=334,slow=31						
CTA	Charters Tower	34.55	269	⇓iP	P	10 52 16.8	+1.4

	6.1nm,0.7s,mb4.6						
CTA	Charters Tower	34.55	269	P	P	10 52 16.3	+1.0
	6.2nm,0.5s,mb4.8,baz=111,slow=8.0,SNR=12						
CTAO	Charters Tower	34.55	269	eP	P	10 52 16.5	+1.2
	11nm,0.8s,mb4.8						
STKA	Stephens Creek	37.61	248	eP	P	10 52 41.6	+0.4
	5.3nm,1.9s,mb4.0						
STKA	Stephens Creek	37.61	248	P	P	10 52 41.5	+0.3
	2.7nm,0.6s,mb4.1,baz=105,slow=7.8,SNR=8.5						
WB2	Warramunga Arr	45.46	265	eP	P	10 53 45.1	-0.7
WRA	Warramunga Arr	45.48	265	P	P	10 53 44.7	-1.2
	2.7nm,0.7s,mb4.2,baz=104,slow=8.4,SNR=25						
FITZ	Fitzroy Crossi	53.90	264	eP	P	10 54 50.4	0.0
	2.4nm,0.8s,mb4.2						
FITZ	Fitzroy Crossi	53.90	264	P	P	10 54 48.7	-1.7
	2.3nm,0.6s,mb4.3,baz=179,slow=7.5,SNR=7.4						
CASY	Casey	61.56	206	eP	P	10 55 41.9	-1.7
	3.5nm,0.6s,mb4.7						
QSPA	South Pole Qui	66.30	180	eP	P	10 56 14.1	-0.3
	3.1nm,0.9s,mb4.3						
MAW	Mawson	78.91	200	P	P	10 57 30.1	+1.1
	1.5nm,0.6s,mb4.1,baz=136,slow=5.4,SNR=7.9						
MAW	Mawson	78.91	200	eP	P	10 57 29.9	+1.0
	1.9nm,0.5s,mb4.3						
NVAR	Mina Array Bea	82.57	42	P	P	10 57 48.5	-0.4
	0.8nm,0.8s,mb3.8,baz=234,slow=13,SNR=4.2						
TXAR	Lajitas Array	87.79	57	P	P	10 58 15.1	+0.1
	0.8nm,0.8s,mb4.0,baz=218,slow=7.9,SNR=8.5						
TXAR	Lajitas Array	87.79	57	P	P	10 58 15.1	+0.1
CMAR	Chiang Mai Arr	92.38	289	P	P	10 58 38.5	+1.7
	1.1nm,1.0s,mb4.1,baz=138,slow=4.7,SNR=4.5						
AKASG	Malin Array Be	146.48	330	PKPbc	PKPbc	11 05 05.6	+0.5
	1.3nm,0.4s,baz=41,slow=3.8,SNR=5.0						

IDC 21 10:48:23.2±18.0**, 37.79S**×**91.70W, mb4.0**/3**, mb1 4.5**/3**, mb1mx4.1**/13**, MS4.2**/1**, Ms1 4.2**/1**, ms1mx3.6**/14**, Error ellipse: s-maj=618.0km s-min=321.4km az=115.0, West Chile Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CPUP	Villa Florida	31.13	79	LR	LR	11 07 18.6	
	comp=Z,364nm,18.0s,baz=347,slow=36						
TXAR	Lajitas Array	67.70	349	P	P	10 59 22.3	-2.2
	0.5nm,0.7s,baz=166,slow=7.9,SNR=5.6						
NVAR	Mina Array Bea	79.70	339	P	P	11 00 32.7	-1.4
	2.1nm,1.0s,baz=172,slow=6.4,SNR=7.3						
PDAR	Pinedale Array	81.80	347	P	P	11 00 44.0	-1.1
	1.5nm,0.8s,baz=135,slow=5.1,SNR=10						

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*PRU **21** 10:51:04.2, 44.77N×9.55E*

*NEIC **21** 10:51:04.7, 44.98N×9.44E, h0^{km}, MD3.3(ROM), ML3.5(LDG), ML3.3(STR), ML3.2(GEN), After GEN.*

*ROM **21** 10:51:04.7±0.2, 44.98N×9.36E, h5^{km}±1^{km}, MD3.3/14, ML2.9/12, Error ellipse: s-maj=1.1km s-min=1.1km az=90.0*

*LDG **21** 10:51:05.8±0.1, 45.01N×9.59E, h10^{km}, Ml3.5/22, Error ellipse: s-maj=3.5km s-min=2.9km az=24.0*

*STR **21** 10:51:05.3±0.5, 44.98N×9.48E, h10^{km}±1^{km}, Ml3.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 21 10:51:03.6±0.3**, 45.00N**±0.01×**9.40E**±0.02**, h0**^{km}±2^{km}**, n112, σ1^{s}16**/182**, 5C-9D, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BOB	Bobbio (Coli)	0.24	172	⇓iPG	Pg	10 51 10.1	+1.8
BOB				SG	Sg	10 51 14.3	+2.8
GENL	Genova Univers	0.67	207	P	Pg	10 51 17.9	+0.9
GENL				S	Sg	10 51 26.8	+0.8
CODM		0.69	152	P	Pg	10 51 17.2	-0.1
CODM				S	Sg	10 51 26.0	-0.6
GRAM		0.70	137	P	Pg	10 51 17.7	+0.2
GRAM				S	Sg	10 51 26.4	-0.4
PCP	Pian Castagno	0.77	233	P	Pg	10 51 19.0	+0.2
PCP				S	Sg	10 51 29.5	+0.5
BACM		0.87	146	P	Pg	10 51 20.6	-0.3
BACM				S	Sg	10 51 31.4	-1.1
VALM		0.89	137	P	Pg	10 51 21.1	-0.3
VALM				S	Sg	10 51 31.9	-1.3
ERBM	Eremo	0.93	129	ePG	Pg	10 51 22.5	+0.4
ERBM				SG	Sg	10 51 37.7	+3.2
ERBM	Eremo	0.93	129	ePg	Pg	10 51 22.5	+0.4
ERBM				eSg	Sg	10 51 37.7	+3.2
VAI	Varese	0.97	333	ePG	Pg	10 51 24.3	+1.3
VAI				SG	Sg	10 51 40.2	+4.3
	170nm,0.6s						
VAI	Varese	0.97	333	ePg	Pg	10 51 24.3	+1.4
VAI				eSg	Sg	10 51 40.2	+4.3
SAL	Salo	1.00	52	ePG	Pg	10 51 25.4	+1.9
SAL				SG	Sg	10 51 40.8	+4.0
	946nm,0.4s						
SAL	Salo	1.00	52	ePg	Pg	10 51 25.4	+1.9
SAL				eSg	Sg	10 51 40.9	+4.1
VINC	Vinca	1.02	148	P	Pb	10 51 23.0	-0.7
VINC				S	Sb	10 51 35.8	-1.6
VLC	Villacollemand	1.10	140	eP	Pb	10 51 24.5	-0.6
FIN	Finale Ligure	1.17	227	⇓iPN	Pn	10 51 26.5	-0.5
FIN				SN	Sn	10 51 44.0	+0.2
	200nm,0.3s						
FIN	Finale Ligure	1.17	227	⇓iPg	Pg	10 51 26.5	-0.3
FIN				eSg	Sg	10 51 44.0	+1.6
ORO	Oropa	1.18	302	ePN	Pn	10 51 27.8	+0.6
ORO				SN	Sn	10 51 44.8	+0.7
ORO	Oropa	1.18	302	ePg	Pg	10 51 27.8	+0.6
ORO				eSg	Sg	10 51 44.8	+2.0
BDI	Bagni Di Lucca	1.27	137	ePN	Pn	10 51 27.6	-0.9
BDI				SN	Sn	10 51 47.8	+1.3
BDI	Bagni Di Lucca	1.27	137	ePg	Pg	10 51 27.6	-1.3
BDI				eSg	Sg	10 51 47.8	+1.9
TRAV		1.27	294	P	Pb	10 51 28.4	+0.3
TRAV				S	Sb	10 51 44.9	0.0
ZCCA	Zocca	1.30	120	⇑iPN	Pn	10 51 30.7	+1.8
	196nm,0.5s						
ZCCA	Zocca	1.30	120	⇑iPg	Pg	10 51 30.7	+1.2
ROB	Roburent	1.30	238	P	Pb	10 51 29.3	+0.7
RORO		1.31	227	P	Pb	10 51 28.6	0.0
MABI	Malga Bissina	1.31	36	ePN	Pn	10 51 29.2	+0.2
MABI	Malga Bissina	1.31	36	ePg	Pg	10 51 29.2	-0.5
MCGN	Macugnaga	1.38	314	ePN	Pg	10 51 31.1	0.0
MCGN				SN	Sn	10 51 49.2	0.0
	156nm,0.5s						
MCGN	Macugnaga	1.38	314	ePg	Pg	10 51 31.1	0.0
MCGN				eSg	Sg	10 51 49.1	-0.3
FNVD	Fontana Vidola	1.49	124	ePN	Pn	10 51 32.9	+1.3
FNVD	Fontana Vidola	1.49	124	ePg	Pg	10 51 32.9	-0.3
MONE	Monesi	1.50	232	P	Pn	10 51 31.8	+0.1
PII	Pisa	1.51	147	ePN	Pn	10 51 31.5	-0.5
PII				SN	Sn	10 51 52.2	-0.4
	242nm,0.3s						
PII	Pisa	1.51	147	ePg	Pg	10 51 31.6	-2.2
PII				eSg	Sg	10 51 52.2	-1.8
RSP	Reno Superiore	1.53	276	P	Pn	10 51 31.2	-0.9
BHB	Bricherasio	1.53	265	P	Pn	10 51 32.1	-0.1
IMI	Imperia	1.54	225	⇓iPN	Pn	10 51 31.8	-0.5
IMI				SN	Sn	10 51 52.6	-0.7
	96nm,0.2s						
IMI	Imperia	1.54	225	⇓iPg	Pg	10 51 31.8	-2.5
IMI				eSg	Sg	10 51 52.6	-2.2
ENR	Entracque	1.61	242	P	Pn	10 51 33.5	+0.1
BRMO	Bormio	1.62	24	ePN	Pn	10 51 34.6	+1.1
BRMO				SN	Sn	10 51 57.1	+1.7
	37nm,0.4s						
BRMO	Bormio	1.62	24	ePg	Pg	10 51 34.6	-1.3
BRMO				eSg	Sg	10 51 57.1	-0.4
LSD	Ceresole Reale	1.65	287	P	Pn	10 51 34.1	+0.2
FENE	Fenestrelle	1.66	272	P	Pn	10 51 33.9	-0.1
STV2	Anna di Valdie	1.67	244	P	Pn	10 51 33.9	-0.2
STV	Sta Anna Valdi	1.67	244	P	Pn	10 51 34.1	0.0
SAOF	Saorge	1.67	233	P	Pn	10 51 34.3	+0.2
NEGI	Negi	1.68	227	P	Pn	10 51 33.3	-1.0
PZZ	Prazzo	1.71	254	P	Pn	10 51 34.9	+0.1
AUTN	L'Aution	1.73	235	P	Pn	10 51 35.3	+0.2
AUTN				S	Sn	10 51 59.3	+1.1
SBF	Sospel	1.81	232	ePn	Pn	10 51 36.8	+0.6
SBF				eSn	Sn	10 52 00.9	+0.7
	463nm,0.4s						
TOUF	Mont Tournerai	1.83	238	P	Pn	10 51 37.8	+1.3
TOUF				S	Sn	10 52 02.8	+2.1
AURF	Auriere	1.86	234	P	Pn	10 51 37.5	+0.6
AURF				S	Sn	10 52 02.3	+0.9
RRL	Cesana Torines	1.86	268	P	Pn	10 51 37.1	+0.2
MBDF	Montbardon	1.89	262	ePn	Pn	10 51 37.2	-0.1
MBDF				eSn	Sn	10 52 03.1	+0.9
	120nm,0.5s						
CTI	Castel Tesino	1.89	56	ePN	Pn	10 51 37.2	-0.2
CTI				SN	Sn	10 52 01.4	-0.9
	111nm,0.3s						
CTI	Castel Tesino	1.89	56	ePg	Pg	10 51 37.2	-4.2
CTI				eSg	Sn	10 52 01.4	-0.9
BNI	Bardonecchia	1.93	272	eP	Pn	10 51 38.5	+0.6
LPG	La Plagne	1.94	286	ePn	Pn	10 51 38.5	+0.5
LPG				eSn	Sn	10 52 04.1	+0.8
	112nm,0.4s						
LPL	La Plagne	1.95	286	ePn	Pn	10 51 38.9	+0.7
LPL				eSn	Sn	10 52 04.0	+0.2
	186nm,0.5s						
MVIF	Mont Vial	1.95	236	P	Pn	10 51 39.3	+1.0
MVIF				S	Sn	10 52 05.8	+2.0
CSNT	Castellina Chi	2.05	138	ePN	Pn	10 51 39.5	-0.1
	94nm,0.5s						
CSNT	Castellina Chi	2.05	138	ePn	Pn	10 51 39.5	-0.1
SFI	Santa Sofia	2.07	121	ePN	Pn	10 51 40.7	+0.8
	74nm,0.7s						
SFI	Santa Sofia	2.07	121	ePn	Pn	10 51 40.7	+0.8
CALN	Calern	2.19	236	P	Pn	10 51 42.5	+0.8
CALN				S	Sn	10 52 12.5	+2.6
CRE	Caprese Michel	2.29	126	ePN	Pn	10 51 43.7	+0.6
	36nm,0.3s						
CRE	Caprese Michel	2.29	126	ePn	Pn	10 51 43.7	+0.6
DAVA	Damuels	2.31	8	⇓iPN	Pn	10 51 45.1	+1.8
DAVA				i SN	Sn	10 52 15.7	+2.9
DAVA				i SG	Sg	10 52 25.3	+4.9
	27nm,0.4s						
RSM	Repubblica di	2.43	115	ePN	Pn	10 51 45.5	+0.4
RSM	Repubblica di	2.43	115	ePn	Pn	10 51 45.5	+0.4
FRF	La Foret Royal	2.45	235	ePn	Pn	10 51 45.1	-0.2
FRF				eSn	Sn	10 52 15.7	-0.7
	71nm,0.3s						
PGF	Pioggiola	2.47	187	ePn	Pn	10 51 43.7	-2.0
PGF				eSn	Sn	10 52 12.7	-4.3
	24nm,0.2s						
ORIF	Oris-en-Rattie	2.50	269	ePn	Pn	10 51 47.4	+1.3
ORIF				eSn	Sn	10 52 17.6	-0.1
	93nm,0.6s						
SQTA	Sankt Quirin	2.55	29	⇑iPN	Pn	10 51 48.9	+2.1
SQTA				i SN	Sn	10 52 21.1	+2.2
MOTA	Moosalm	2.62	26	⇓iPN	Pn	10 51 48.7	+0.9
MOTA				i SN	Sn	10 52 22.4	+1.6
LMR	La Mourre	2.67	232	ePn	Pn	10 51 47.6	-0.9
LMR				eSn	Sn	10 52 20.6	-1.3
WTTA	Wattenberg	2.74	34	⇑iPN	Pn	10 51 51.2	+1.7
WTTA				i SN	Sn	10 52 24.1	+0.3
WATA	Walderalm	2.78	32	⇓iPN	Pn	10 51 51.7	+1.6
WATA				i SN	Sn	10 52 25.8	+1.0
CABF	La Chapelle	2.82	306	ePn	Pn	10 51 51.6	+1.0
CABF				eSn	Sn	10 52 25.6	-0.2
	36nm,0.6s						
SMRF	Simiane la Rot	2.92	251	ePn	Pn	10 51 53.0	+0.9
SMRF				eSn	Sn	10 52 28.6	+0.1
	38nm,0.5s						
LOMF	Lomont	2.95	324	P	Pn	10 51 53.7	+1.2
ARV	Arcevia	2.96	119	ePN	Pn	10 51 52.9	+0.3
	20nm,0.7s						
ARV	Arcevia	2.96	119	ePn	Pn	10 51 52.9	+0.3
PTCC	Patocco-Chiusa	3.10	62	ePN	Pn	10 51 54.8	+0.1
	34nm,0.4s						
PTCC	Patocco-Chiusa	3.10	62	ePn	Pn	10 51 54.8	+0.1
MOF	Molkenrain	3.25	332	P	Pn	10 51 57.0	+0.2
HINF	Hinteralfeld	3.32	329	ePn	Pn	10 51 57.2	-0.5
HINF				eP		10 51 57.5	
HINF				eSn	Sn	10 52 37.0	-1.4
	14nm,0.3s						
VOY	Vojsko	3.32	70	ePn	Pn	10 51 55.7	-2.1
VOY				eSn	Sn	10 52 34.0	-4.5
VOY				e		10 52 50.2	
VIVF	Saint-Julien-l	3.36	269	ePn	Pn	10 51 58.2	-0.1
VIVF				eSn	Sn	10 52 37.6	-1.9
	13nm,0.3s						
KBA	Koelnbreinsper	3.44	52	⇓iPN	Pn	10 51 59.2	-0.3
KBA				i SN	Sn	10 52 39.9	-1.6
ECH	Echery	3.56	335	P	Pn	10 52 00.4	-0.8
HAU	Haudompre	3.67	326	ePn	Pn	10 52 02.6	-0.1
HAU				eSn	Sn	10 52 45.7	-1.6
	31nm,0.3s						
WLS	Welschbruch	3.69	338	P	Pn	10 52 02.6	-0.4
CDF	Champ du Feu	3.71	338	ePn	Pn	10 52 02.4	-0.9
CDF				eSn	Sn	10 52 45.7	-2.6
	18nm,0.5s						
OBKA	Obir	3.91	66	⇑iPN	Pn	10 52 05.0	-1.1
OBKA				i SN	Sn	10 52 50.1	-3.2
NVLJ	Novalja	3.92	95	i Pn	Pn	10 52 03.5	-2.8
NVLJ				i Sn	Sn	10 52 42.5	-11
LASF	Ste Croix	4.07	259	ePn	Pn	10 52 07.5	-0.9
LASF				eSn	Sn	10 52 54.4	-3.1
	11nm,0.4s						
SMF	Signal de Mont	4.22	295	ePn	Pn	10 52 10.2	-0.3
SMF				eSn	Sn	10 52 58.8	-2.4
	15nm,0.3s						
LOR	Lormes	4.47	302	ePn	Pn	10 52 14.0	-0.1
LOR				ePg	Pg	10 52 30.2	-2.6
LOR				eSn	Sn	10 53 05.1	-2.4
	22nm,0.3s						
AVF	Avril sur Loir	4.58	295	ePn	Pn	10 52 15.2	-0.5
SSF	Saint Saulge	4.59	299	ePn	Pn	10 52 15.2	-0.6
SSF				eSn	Sn	10 53 06.9	-3.8
	10nm,0.3s						
BGF	Bois d'Agland	4.84	291	ePn	Pn	10 52 18.9	-0.5
BGF				eSn	Sn	10 53 12.5	-4.5
	14nm,0.3s						
KHC	Kasperske Hory	5.02	33	ePN	Pn	10 52 22.6	+0.7
KHC				x	x	10 53 14.3	
TCF	Toulx Ste Croi	5.20	287	ePn	Pn	10 52 24.0	-0.5
TCF				ePg	Pg	10 52 43.8	-3.6
TCF				eSn	Sn	10 53 22.3	-3.8
	13nm,0.3s						
CAF	Calviac	5.21	272	ePn	Pn	10 52 24.3	-0.2
HYF	Humbligny	5.22	298	ePn	Pn	10 52 24.2	-0.5
HYF				eSn	Sn	10 53 23.0	-3.4
	67nm,0.4s						
MTLF	Montolieu	5.43	255	ePn	Pn	10 52 26.5	-1.1
MTLF				eSn	Sn	10 53 27.4	-4.3
	4.6nm,0.3s						
RJF	Les Rejaudoux	5.58	276	ePn	Pn	10 52 30.8	+1.0
CLL	Collm	6.75	20	eSG	Sg	10 54 46.0	-2.3
MFF	Saint Martin d	6.86	287	ePn	Pn	10 52 46.6	-1.3
SJPF	Ste Jean	7.88	260	ePn	Pn	10 52 59.6	-2.6

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*IDC **21** 11:03:20.2±5.0, 20.97S×178.86W, h598^{km}±61^{km}, mb3.0/7, mb1 3.3/8, mb1mx3.3/11, Error ellipse: s-maj=31.2km s-min=26.2km az=153.0*

*NEIC **21** 11:03:20.5±4.5, 20.96S×178.90W, h597^{km}±53^{km}, mb3.8/7, Error ellipse: s-maj=26.6km s-min=21.4km az=220.0*

ISC 21 11:03:17.5±3.9**, 20.9S**±0.2×**178.9W**±0.2**, h572**^{km}±49^{km}**, n18, σ0^{s}94**/16**, mb3.6**/14**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	17.65	190	P	P	11 06 50.5	-0.9
	1.8nm,0.3s,baz=4.8,slow=2.9,SNR=9.9						
CTAO	Charters Tower	32.61	265	eP	P	11 09 05.3	+1.1
	6.1nm,0.4s,mb4.6						
STKA	Stephens Creek	36.85	244	P	P	11 09 40.4	+1.1
	1.1nm,0.4s,mb3.8,baz=98,slow=12,SNR=3.3						
WB2	Warramunga Arr	43.70	263	eP	P	11 10 34.1	-0.2
WRAB	Tennant Creek	43.70	263	eP	P	11 10 33.7	-0.6
	3.0nm,0.5s,mb4.1						
WRA	Warramunga Arr	43.71	263	P	P	11 10 34.2	-0.1
	1.0nm,0.3s,mb3.9,baz=96,slow=7.4,SNR=106						
FITZ	Fitzroy Crossi	52.13	263	eP	P	11 11 37.7	+0.2
	3.3nm,1.6s,mb3.4						
MBWA	Marble Bar	56.94	258	eP	P	11 12 10.0	-1.0
	2.9nm,0.6s,mb3.7						
SBA	Scott Base	57.43	184	eP	P	11 12 15.2	+1.6
	1.9nm,0.6s,mb3.5						
QSPA	South Pole Qui	69.18	180	eP	P	11 13 28.7	+0.5
	2.6nm,0.5s,mb3.9						
MAW	Mawson	80.91	200	P	P	11 14 33.0	-0.1
	0.8nm,0.7s,mb3.3,baz=120,slow=3.8,SNR=4.5						
NVAR	Mina Array Bea	81.89	44	P	P	11 14 39.3	+0.6
	0.4nm,0.5s,mb3.2,baz=214,slow=6.2,SNR=4.1						
SNAA	Sanae	87.64	179	P	P	11 15 03.2	-2.7
	0.7nm,0.6s,mb3.6						
TXAR	Lajitas Array	87.98	58	P	P	11 15 09.2	+0.7
	0.4nm,0.9s,mb3.1,baz=239,slow=7.3,SNR=3.9						
ILAR	Eielson Array	88.88	13	P	P	11 15 10.6	-1.3
	0.4nm,0.5s,mb3.5,baz=214,slow=5.1,SNR=16						
PDAR	Pinedale Array	89.83	44	P	P	11 15 16.9	+0.1
	0.2nm,0.4s,mb3.3,baz=213,slow=4.1,SNR=3.7						
BVAR	Borovoye Array	118.83	320	PKP	PKPdf	11 21 01.0	+0.1
	1.1nm,0.3s,baz=110,slow=3.2,SNR=5.0						
AKASG	Malin Array Be	142.94	330	PKP	PKPdf	11 21 43.9	-2.0
	1.5nm,0.3s,baz=41,slow=4.1,SNR=4.8						

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*BJI **21** 11:04:59.0, 55.76N×19.28E, h3^{km}, mB4.7, mb4.8, Ms4.4, Msz4.4*

*WAR **21** 11:05:01.6, 54.92N×20.12E, h16^{km}, Origin time based upon SUW*

*MOS **21** 11:05:02.0±1.0, 54.84N×20.02E, h10^{km}, mb4.6/7, Error ellipse: s-maj=8.7km s-min=3.7km az=80.2*

MOS Felt (IV-V) at Svetlogorsk, Pionerskii, Kaliningrad; (III-IV) at Baltiisk.

*LDG **21** 11:05:03.5±0.2, 54.74N×20.34E, h10^{km}, Ml5.2/22, ms3.4/6, Error ellipse: s-maj=5.1km s-min=2.9km az=170.0*

*ZUR_RM **21** 11:05:03, 54.86N×19.98E, h15^{km}, Mw4.6/29, Moment Tensor Solution. s29 Moment tensor: Scale 10^{15}Nm; M_{rr}-0.20; $M_{\theta\theta}$-6.03; $M_{\phi\phi}$6.23; $M_{r\theta}$0.64; $M_{\theta\phi}$-3.90; $M_{\phi r}$3.20; Best double couple: $M_0$7.93×10^{15} NP1:ϕ_s29°,δ86°,λ23°. NP2:ϕ_s298°,δ67°,λ175°. Principal axes: T 8.36, Plg19°, Azm256°; N -.855, Plg67°, Azm40°; P -7.504, Plg13°, Azm161°;*

*MED_RC **21** 11:05:03.2±1.5, 55.03N×20.21E, h18^{km}±1^{km}, MW4.5/15, Moment Tensor Solution. Body waves: s15,c19; Duration: 1^{s}0 Moment tensor: Scale 10^{15}Nm; M_{rr}-3.29±1.13; $M_{\theta\theta}$-4.19±.81; $M_{\phi\phi}$7.48±.78; $M_{r\theta}$3.90±1.19; $M_{\theta\phi}$-3.07±.82; $M_{\phi r}$1.11±.84; Best double couple: $M_0$8.25×10^{15} NP1:ϕ_s308°,δ63°,λ-151°. NP2:ϕ_s204°,δ64°,λ-31°. Principal axes: T 8.24, Plg1°, Azm256°; N .02, Plg51°, Azm347°; P -8.26, Plg39°, Azm166°; nsta1 refers to waves, cutoff=35s.*

*NEIC **21** 11:05:03.2±1.7, 54.86N×19.98E, h4^{km}±12^{km}, mb4.8/30, MS4.0/1, ML4.5(BRG), ML4.5(CLL) Error ellipse: s-maj=3.6km s-min=2.9km az=90.0*

NEIC Felt [V] at Kaliningrad, Pionerskiy and Svetlogorsk; [IV] at Baltiysk, Russia. Also felt in much of Latvia and Lithuania; at Harju, Estonia; and in the Oslo area, Norway.

*HEL **21** 11:05:04.8±0.1, 54.77N×20.04E, h10^{km}, ML4.8, mb4.8(NEIC), MS4.0(NEIC)*

*IDC **21** 11:05:04.0±0.5, 54.83N×20.10E, mb4.2/8, mb1 4.5/19, mb1mx4.4/26, ML4.5/10, MS3.4/5, Ms1 3.5/5, ms1mx3.1/26, Error ellipse: s-maj=8.8km s-min=6.0km az=90.0*

*NAO **21** 11:05:07.9±3.9, 55.09N×20.11E, h6^{km}±18^{km}, ML4.9*

*BER **21** 11:05:07.8±6.6, 54.90N×20.25E, h10^{km}, ML5.1, MW4.5, ML4.9(NAO)*

*BGR **21** 11:05:07.0±0.5, 54.66N×19.89E, h10^{km}, ML5.2/2, Error ellipse: s-maj=15.6km s-min=5.6km az=179.0*

*ORF **21** 11:05:08.7, 54.83N×19.71E, h100^{km}, mb4.1, ML4.8*

ISC 21 11:05:01.3±0.1**, 54.86N**±0.01×**20.07E**±0.02**, h10**^{km}**, n344, σ1^{s}54**/473**, mb4.7**/43**, MS3.8**/8**, 18C-12D, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SUW	Suwalki	2.01	114	ePn	Pn	11 05 39.5	+3.8
SUW				eSn	Sg	11 06 08.3	+0.1
SUW	Suwalki	2.01	114	eP	Pn	11 05 39.4	+3.7
SUW				e		11 06 06.0	
SUW	Suwalki	2.01	114	ePn	Pn	11 05 39.4	+3.7
SUW				ePg	Pg	11 05 41.4	0.0
SUW				eSn	Sn	11 06 06.0	+5.0
SUW				eSg	Sg	11 06 08.3	+0.1
GKP	Gorka Klasztor	2.31	227	eP	Pn	11 05 43.7	+3.7
GKP				e		11 06 13.6	
GKP	Gorka Klasztor	2.31	227	ePn	Pn	11 05 43.7	+3.7
GKP				ePg	Pg	11 05 48.8	+1.4
GKP				eSn	Sn	11 06 13.6	+4.9
GKP				eSg	Sg	11 06 19.9	+1.7
WAR	Warsaw	2.69	167	eP	Pn	11 05 48.2	+2.8
WAR				e		11 06 25.5	
WAR	Warsaw	2.69	167	ePn	Pn	11 05 48.2	+2.8
WAR				ePg	Pg	11 05 54.3	-0.7
WAR				eSn	Sn	11 06 25.5	+7.2
WAR				eSg	Sg	11 06 30.9	+0.1
BLEU	Blekinge	2.82	303	eP	Pn	11 05 50.2	+2.9
BLEU				eS	Sn	11 06 23.5	+1.9
GOTU	Gotland	2.95	344	eP	Pn	11 05 53.3	+4.1
BYXU	Byxelkrok	2.98	326	eP	Pn	11 05 53.3	+3.7
BYXU				eS	Sn	11 06 30.8	+5.0
BSD	Bornholm Skovb	2.98	277	i P	Pn	11 05 51.9	+2.3
BSD				i		11 05 58.5	
BSD				i S	Sg	11 06 37.7	-2.9
BSD	Bornholm Skovb	2.98	277	eP	Pn	11 05 51.9	+2.3
BSD				i		11 05 58.5	
BSD				i S	Sg	11 06 37.7	-2.9
OSKU	Oskarshamn	3.23	318	⇓eP	Pn	11 05 56.7	+3.6
OSKU				eS	Sn	11 06 34.6	+2.5
VSTU	Vaestervik	3.43	326	eP	Pn	11 05 59.8	+3.8
ISAL	Salakas	3.54	76	ePg	Pn	11 06 00.9	+3.3
ISAL				eSg	Sg	11 06 56.6	-2.7
ISAL				AMPb	AMB	11 07 10.6	
	comp=Z,735nm,0.5s						
VXJU	Vaexsjoe	3.55	308	⇓eP	Pn	11 06 00.6	+2.8
IIGN	Ignalina	3.57	80	ePg	Pn	11 06 01.3	+3.4
IIGN				eSg	Sg	11 06 56.9	-3.3
IIGN				AMPL	AML	11 07 07.6	
	comp=Z,788nm,0.3s						
IIGN				AMPb	AMB	11 07 10.4	
	comp=Z,737nm,0.4s						
IZAR	Zarasai	3.64	73	ePg	Pn	11 06 02.3	+3.4
IZAR				eSg	Sg	11 06 58.1	-4.5
IZAR				AMPL	AML	11 07 10.7	
	comp=Z,786nm,0.7s						
EKSU	Eksjoe	3.81	318	⇓eP	Pn	11 06 04.5	+3.1
IDID	Didziasalis	3.86	81	ePg	Pn	11 06 04.6	+2.5
IDID				AMPL	AML	11 07 21.1	
	comp=Z,714nm,0.5s						
DEL	Delary	3.86	297	⇑eP	Pn	11 06 04.2	+2.1
DEL				eS	Sn	11 06 48.4	+0.3
NE53	Naroch'	3.88	87	eP	Pn	11 06 02.0	-0.4
RGN	Rugen	3.93	268	ePn	Pn	11 06 05.8	+2.7
RGN				eSn	Sn	11 06 51.6	+1.9
RGN	Rugen	3.93	268	ePn	Pn	11 06 05.8	+2.7
RGN				eSn	Sn	11 06 51.6	+1.8
VIKU	Vikbolandet	4.10	334	⇓eP	Pn	11 06 09.1	+3.7
LNKU	Linkoeping	4.21	325	eP	Pn	11 06 10.0	+2.9
NYNU	Nynaeshamn	4.31	346	eP	Pn	11 06 12.0	+3.5
RUE	Ruedersdorf	4.44	240	ePn	Pn	11 06 11.5	+1.2
COP	Copenhagen	4.45	284	i P	Pn	11 06 11.9	+1.5
COP				i		11 06 24.9	
COP				i S	Sg	11 07 23.3	-6.1
COP	Copenhagen	4.45	284	eP	Pn	11 06 11.9	+1.5
COP				i		11 06 24.9	
COP				i S	Sg	11 07 23.3	-6.1
MNK	Minsk	4.52	91	eP	Pn	11 06 11.0	-0.5
KSP	Ksiaz	4.63	211	ePn	Pn	11 06 14.1	+1.1
KSP				e		11 06 19.4	
KSP				ePg	Pg	11 06 32.7	-1.1
KSP				e		11 06 37.3	
KSP				eSn	Sn	11 07 02.4	-5.1
KSP				eSg	Sg	11 07 28.6	-6.9
OJC	Ojcow	4.65	182	eP	Pn	11 06 13.7	+0.3
OJC				e		11 07 04.1	
OJC	Ojcow	4.65	182	ePn	Pn	11 06 13.7	+0.3
OJC				i Pg	Pg	11 06 33.2	-1.0
OJC				eSn	Sn	11 07 04.1	-4.0
OJC				i Sg	Sg	11 07 29.0	-7.2
ESKU	Eskilstuna	4.82	337	⇓eP	Pn	11 06 19.1	+3.4
ESKU				eS	Sn	11 07 12.2	-0.1
NRTU	Norrtaelje	4.89	351	eP	Pn	11 06 19.8	+3.1
RAC	Raciborz	4.92	194	ePn	Pn	11 06 20.2	+3.0
RAC				ePP	PP	11 06 27.5	+3.3
RAC				ePg	Pg	11 06 41.3	+1.7
RAC				eSn	Sn	11 07 17.9	+3.0
ASKU	Askersund	4.96	327	⇓eP	Pn	11 06 20.6	+2.9
UPC	Upice	5.01	211	ePN	Pn	11 06 19.6	+1.2
UPC				eSN	Sn	11 07 14.3	-2.8
UPC				ex	x	11 07 27.4	
DPC	Dobruska-Polom	5.06	208	ePN	Pn	11 06 20.2	+1.1

DPC				ex	x	11 07 13.6	
DPC				eSG	Sg	11 07 43.4	-6.5
	comp=Z,2µm,0.8s						
DPC	Dobruska-Polom	5.06	208	ePn	Pn	11 06 20.2	+1.1
	comp=Z,2µm,0.8s						
DPC				e		11 07 13.6	
DPC				eSg	Sg	11 07 43.4	-6.5
VSU	Vasula	5.15	43	eP	Pn	11 06 23.9	+3.5
VSU				ePG	Pg	11 06 38.4	-5.7
VSU				eS	Sn	11 07 19.4	-1.3
VSU				eSG	Sg	11 07 44.2	-8.6
VSU	Vasula	5.15	43	Pn	Pn	11 06 23.7	+3.3
VSU				Pg	Pg	11 06 37.9	-6.3
VSU				Sn	Sn	11 07 21.5	+0.8
VSU				Lg		11 07 44.9	
VSU	Vasula	5.15	43	P	Pn	11 06 23.8	+3.4
OKC	Ostrava-Krasne	5.17	194	ePn	Pn	11 06 21.9	+1.2
UPP	Uppsala	5.18	346	eP	Pn	11 06 24.0	+3.1
BACU	Backbrunna	5.26	343	eP	Pn	11 06 24.5	+2.6
MORC	Moravsky Berou	5.32	198	ePn	Pn	11 06 23.1	+0.3
AAL	Aland	5.33	360	eP	Pn	11 06 25.7	+2.8
FLYU	Flymyra	5.41	348	eP	Pn	11 06 26.7	+2.6
BRG	Berggiesshubel	5.45	225	i P	Pn	11 06 25.3	+0.7
BRG				i		11 07 25.2	
BRG				pmax	pmax		
	comp=Z,161nm,0.8s						
BRG				MLR	MLR		
	comp=Z,1µm,6.0s						
BRG				MLR	MLR		
	comp=N,4µm,6.4s						
BRG				MLR	MLR		
	comp=E,4µm,6.4s						
BRG	Berggiesshubel	5.45	225	i Pn	Pn	11 06 25.3	+0.7
	comp=E,161nm,0.8s						
BRG				ePg	Pg	11 06 53.9	+3.7
BRG				i Sn	Sn	11 07 25.2	-3.0
BRG				eSg	Sg	11 08 07.1	+4.3
NRAU	Nora	5.46	332	eP	Pn	11 06 27.4	+2.7
PVCC	Panska Ves	5.48	220	ePN	Pn	11 06 26.1	+1.1
PVCC				eSN	Sn	11 07 24.4	-4.5
KWP	Kalwaria	5.48	162	ePn	Pn	11 06 27.0	+1.9
KWP				ePg	Pg	11 06 45.9	-4.9
KWP				eSn	Sn	11 07 52.8	+24
KWP				eSg	Sg	11 08 05.0	+1.1
CLL	Collm	5.55	233	ePn	Pn	11 06 26.2	+0.2
CLL				eSn	Sn	11 07 25.9	-4.7
CLL	Collm	5.55	233	i PN	Pn	11 06 26.3	+0.3
CLL				i		11 06 27.1	
CLL				i		11 06 32.1	
CLL				e		11 06 40.0	
CLL				i PG	Pg	11 06 54.7	+2.6
CLL				i SN	Sn	11 07 25.2	-5.5
CLL				e		11 07 44.0	
CLL				i SG	Sg	11 08 01.6	-4.5
CLL				e		11 08 14.0	
CLL	Collm	5.55	233	i P	Pn	11 06 26.3	+0.3
CLL				i		11 07 25.2	
CLL	Collm	5.55	233	i Pn	Pn	11 06 26.3	+0.3
CLL				i Pg	Pg	11 06 54.7	+2.6
CLL				i Sn	Sn	11 07 25.2	-5.5
CLL				i Sg	Sg	11 08 01.6	-4.5
GRAU	Graesoe	5.55	352	eP	Pn	11 06 28.6	+2.6
LVV	L'vov	5.60	153	i P	Pn	11 06 27.9	+1.1
LVV				eS	Sn	11 07 27.9	-4.1
LVV	L'vov	5.60	153	eP	Pn	11 06 27.0	+0.2
OSTU	Oestervaala	5.61	345	eP	Pn	11 06 28.7	+1.8
BSEG	Bad Segeberg	5.77	265	ePn	Pn	11 06 30.0	+0.8
LIKS	Likavka	5.85	186	eSN	Sn	11 07 41.2	+3.0
LIKS				e		11 08 09.2	
LIKS	Likavka	5.85	186	eP	Pn	11 06 31.0	+0.7
LIKS				e		11 07 41.2	
LIKS	Likavka	5.85	186	ePn	Pn	11 06 31.0	+0.7
LIKS				e		11 06 36.4	
LIKS				e		11 06 59.9	
LIKS				e		11 07 41.2	
LIKS				eSg	Sg	11 08 09.2	-6.9
PRU	Pruhonice	5.94	217	ePN	Pn	11 06 29.1	-2.4
PRU				ex	x	11 06 54.8	
PRU				i x	x	11 07 03.5	
PRU				eSG	Sg	11 08 09.3	-10
	comp=E,665nm,1.0s						
PRU	Pruhonice	5.94	217	ePn	Pn	11 06 29.1	-2.4
	comp=E,665nm,1.0s						
PRU				e		11 06 54.8	
PRU				i		11 07 03.5	
PRU				eSg	Sg	11 08 09.3	-10
VRAC	Vranov	5.96	202	Pn	Pn	11 06 32.6	+0.8
	comp=E,3.9nm,0.3s,baz=20,slow=12,SNR=26						
VRAC				Sn	Sn	11 07 36.0	-4.9
	comp=E,18nm,0.3s,baz=354,slow=13,SNR=3.7						
VRAC				Lg		11 08 16.4	
	comp=E,28nm,0.3s,baz=293,slow=14,SNR=5.2						
VRAC	Vranov	5.96	202	P	Pn	11 06 32.6	+0.8
VRAC				SN	Sn	11 07 35.9	-5.0
CRVS	Cervenica-Dubn	6.03	171	ePN	Pn	11 06 33.2	+0.4
CRVS				ePG	Pg	11 06 58.6	-3.1
FALU	Falun	6.09	340	eP	Pn	11 06 35.6	+2.0
KOLS	Kolonicke sedl	6.09	166	ePN	Pn	11 06 34.3	+0.6
KOLS				e		11 06 58.6	
KOLS	Kolonicke sedl	6.09	166	eSG	Sg	11 08 20.5	-3.6
JAVC	Velka Javorina	6.19	195	P	Pn	11 06 36.6	+1.5
IGGU	Iggoen	6.21	347	eP	Pn	11 06 36.4	+1.1
KRUC	Moravsky	6.24	203	P	Pn	11 06 36.1	+0.4
HFS	Hagfors	6.30	330	eP	Pn	11 06 38.5	+1.8
HFS				ePG	Pg	11 06 59.1	-8.1
HFS				eS	Sn	11 07 48.3	-1.2
HFS				eSG	Sg	11 08 21.0	-10
HFS	Hagfors	6.30	330	Pn	Pn	11 06 38.4	+1.8
	comp=E,4.8nm,0.3s,baz=140,slow=13,SNR=436						
HFS				Pg	Pg	11 06 59.1	-8.0
	comp=E,20nm,0.3s,baz=143,slow=14,SNR=24						
HFS				Sn	Sn	11 07 48.1	-1.4
	comp=E,15nm,0.3s,baz=139,slow=29,SNR=4.9						
HFS				Lg		11 08 20.9	
	comp=E,87nm,0.3s,baz=144,slow=25,SNR=12						
HFS	Hagfors	6.30	330	Pn	Pn	11 06 38.5	+1.8
	baz=133,slow=12						
HFS				Pg	Pg	11 06 59.1	-8.1
	baz=146,slow=16						
HFS				Sn	Sn	11 07 48.3	-1.2
	baz=145,slow=28						
HFS				Lg		11 08 21.0	
	baz=146,slow=37						
HFS	Hagfors	6.30	330	P	Pn	11 06 38.4	+1.7
HFS						11 07 48.1	
HFS				pmax	pmax		
	comp=Z,5.0nm,0.3s						
HFS				smax			
	comp=N,15nm,0.3s						
MUD	Monsted U'grnd	6.37	289	i P	Pn	11 06 40.5	+2.9
MUD				i S	Sn	11 07 52.5	+1.3
MUD				i		11 08 27.7	
MUD	Monsted U'grnd	6.37	289	eP	Pn	11 06 40.5	+2.9
MUD				i S	Sn	11 07 52.5	+1.3
MUD				i		11 08 27.7	
KOLL	Kolacno	6.38	190	ePN	Pn	11 06 38.1	+0.4
KOLL				e		11 06 41.3	
KOLL				e		11 07 09.6	
UZH	Uzhgorod	6.39	167	eP	Pn	11 06 38.0	+0.1
KECS	Kecovo	6.39	178	ePN	Pn	11 06 37.6	-0.3
KECS				e		11 06 41.9	
KECS				e		11 07 08.9	
KECS				e		11 08 24.4	
VYHS	Vyhne	6.42	187	i PN	Pn	11 06 38.3	0.0
VYHS				ePG	Pg	11 07 07.6	-1.9
VYHS				e		11 08 28.5	
WERD	Werda	6.47	230	ePn	Pn	11 06 38.1	-0.8
PVF	Pernaja	6.49	26	eP	Pn	11 06 41.2	+2.0
PVF				eS	Sn	11 07 52.7	-1.4
PVF				eSG	Sg	11 08 24.1	-13
PVF				MSG		11 08 35.9	
	comp=Z,1µm,0.4s						
GUNZ	Gunzen	6.52	229	ePn	Pn	11 06 38.8	-0.9
NKC	Novy Kostel	6.56	228	ePn	Pn	11 06 39.5	-0.8
NKC	Novy Kostel	6.56	228	ePN	Pn	11 06 39.3	-1.0
MOX	Moxa	6.64	234	ePn	Pn	11 06 40.2	-1.3
MOX				eSn	Sn	11 07 52.1	-5.9
MOX	Moxa	6.64	234	i P	Pn	11 06 40.3	-1.2
MOX				S	Sn	11 07 52.0	-6.0
MOX				L		11 09 26.0	
MOX	Moxa	6.64	234	eP	Pn	11 06 40.3	-1.2
MOX				e		11 07 52.8	
MOX				MLR	MLR		
	comp=Z,900nm,14.0s						
ZST	Bratislava	6.93	197	eP	Pn	11 06 44.1	-1.3
ZST				e		11 08 05.2	
ZST	Bratislava	6.93	197	ePn	Pn	11 06 44.1	-1.3
ZST				e		11 06 50.5	
ZST				eSn	Sn	11 08 05.2	+0.1
KIEV	Kiev	6.94	123	P	Pn	11 06 45.0	-0.6
AKASG	Malin Array Be	6.94	123	Pn	Pn	11 06 45.0	-0.6
	comp=Z,21nm,0.3s,baz=310,slow=12,SNR=46						
AKASG				Sn	Sn	11 07 59.6	-5.8
	comp=Z,120nm,0.3s,baz=226,slow=3.1,SNR=10.0						
AKASG				Lg		11 08 35.0	
	comp=Z,159nm,0.3s,baz=307,slow=28,SNR=13						
AKASG	Malin Array Be	6.94	123	P	Pn	11 06 45.0	-0.6
AKASG						11 07 59.6	
AKASG				pmax	pmax		
	comp=Z,21nm,0.3s						
AKASG				smax			
	comp=N,120nm,0.3s						
ROTU	Roteberg	6.95	343	eP	Pn	11 06 46.9	+1.1
PSZ	Piszkesteto	6.95	181	ePn	Pn	11 06 46.0	+0.2
VJF	Virojoki	6.96	32	eP	Pn	11 06 46.3	+0.4
VJF				eS	Sn	11 08 02.1	-3.9
VJF				eSG	Sg	11 08 41.1	-12
ARNU	Arnoeviken	7.00	349	eP	Pn	11 06 46.5	+0.1
KHC	Kasperske Hory	7.00	218	ePN	Pn	11 06 46.9	+0.5
KHC				ex	x	11 06 52.0	
KHC				eSN	Sn	11 08 05.1	-1.8
KHC	Kasperske Hory	7.00	218	eP	Pn	11 06 46.9	+0.5
KHC				e		11 08 05.1	
VKA	Vienna	7.01	201	e(PN)	Pn	11 06 48.0	+1.4
VKA				i (SG)	Sg	11 08 44.2	-10
OSL	Oslo	7.17	319	eP	Pn	11 06 48.3	-0.5
OSL				eS	Sn	11 08 09.4	-1.7
OSL				AML	AML	11 08 56.6	
	comp=Z,3µm,0.9s						
GERES	GERESS Array B	7.20	216	Pn	Pn	11 06 50.8	+1.6
	comp=Z,1.3nm,0.3s,baz=17,slow=14,SNR=13						
GERES				Sn	Sn	11 08 07.5	-4.4
	comp=Z,12nm,0.3s,baz=36,slow=18,SNR=6.1						
GERES				Lg		11 08 45.5	
	comp=Z,20nm,0.3s,baz=45,slow=26,SNR=5.8						
GERES	GERESS Array B	7.20	216	P	Pn	11 06 50.8	+1.6
GERES						11 08 07.5	
GERES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
GERES				smax			
	comp=N,12nm,0.3s						
WET	Wettzell	7.24	221	ePn	Pn	11 06 50.4	+0.6
FIA0	FINESS Array S	7.32	23	Pn	Pn	11 06 52.0	+1.0
	baz=192,slow=12						
FIA0				Sn	Sn	11 08 10.8	-4.2
	baz=202,slow=22						
FIA0				Lg		11 08 50.4	
	baz=204,slow=28						
FIA0	FINESS Array S	7.32	23	eP	Pn	11 06 52.0	+1.0
FIA0				eS	Sn	11 08 11.8	-3.2
FIA0				eSG	Sg	11 08 51.8	-13
FIA0				MSG		11 08 57.7	
	comp=Z,877nm,0.4s						
FINES	FINESS Array B	7.32	23	Pn	Pn	11 06 52.0	+1.0
	comp=Z,14nm,0.3s,baz=209,slow=12,SNR=393						
FINES				Sn	Sn	11 08 10.5	-4.5
	comp=Z,62nm,0.3s,baz=194,slow=24,SNR=9.3						
FINES				Lg		11 08 51.9	
	comp=Z,165nm,0.3s,baz=209,slow=24,SNR=8.2						
FINES				LR	LR	11 09 12.3	
	comp=Z,100nm,18.4s,baz=16,slow=34						
FINES	FINESS Array B	7.32	23	P	Pn	11 06 52.0	+1.0
FINES						11 08 10.5	
FINES				pmax	pmax		
	comp=Z,14nm,0.3s						
FINES				smax			
	comp=N,62nm,0.3s						
FINES				MLR	MLR		
	comp=Z,100nm,18.4s						
FINES	FINESS Array B	7.32	23	Pn	Pn	11 06 52.0	+1.0
FINES				Sn	Sn	11 08 10.5	-4.5
FINES				Lg		11 08 51.9	
PUL	Pulkovo	7.41	44	eP	Pn	11 06 52.6	+0.4
PUL				pmax	pmax		
	comp=Z,188nm,0.5s						
PUL	Pulkovo	7.41	44⇑	eP	Pn	11 06 52.7	+0.5
KONO	Kongsberg	7.43	314	eP	Pg	11 07 37.3	+7.7
KONO	Kongsberg	7.43	314⇓	eP	Pn	11 07 00.3	+7.8
KMPD	K-Podol'skiy	7.45	145	P	Pn	11 06 51.0	-1.8
KMPD				S	Sn	11 08 16.0	-2.2
GRA1	Grafenberg Arr	7.50	230	ePn	Pn	11 06 51.2	-2.2
GRF	Grafenberg Arr	7.50	230	ePn	Pn	11 06 51.2	-2.3
SOP	Sopron	7.52	198	ePn	Pn	11 06 54.8	+1.1
HASU	Hassela	7.53	348	eP	Pn	11 06 54.1	+0.2
PKSG		7.55	189⇑	eP	Pn	11 06 54.3	+0.1
NAO01	NORSAR Array S	7.74	325	eP	Pn	11 06 56.4	-0.5
	comp=Z,35nm,1.5s						
KEF	Keuruu	7.74	17	eP	Pn	11 06 58.8	+1.9
KEF				eS	Sn	11 08 23.2	-2.3
KEF				eSG	Sg	11 09 05.5	-14
KEF				MSG		11 09 27.3	
	comp=Z,535nm,0.5s						
NB2	NORSAR Subarra	7.78	326	eP	Pn	11 06 56.6	-0.7
NB2				eSG	Sg	11 09 05.3	-15
NOA	NORSAR Array B	7.78	326	Pn	Pn	11 06 56.0	-1.3
	comp=Z,6.5nm,0.3s,baz=285,slow=19,SNR=20						
NOA				Sn	Sn	11 08 19.6	-6.7
	comp=Z,27nm,0.3s,baz=68,slow=10,SNR=4.5						
NOA				Lg		11 09 06.4	
	comp=Z,169nm,0.3s,baz=151,slow=10,SNR=13						
NOA				LR	LR	11 10 08.8	
	comp=Z,335nm,19.4s,baz=110,slow=39						
NOA	NORSAR Array B	7.78	326	P	Pn	11 06 56.0	-1.3
NOA						11 08 19.7	
NOA				pmax	pmax		
	comp=Z,7.0nm,0.3s						
NOA				smax			
	comp=N,27nm,0.3s						
NOA				MLR	MLR		
	comp=Z,335nm,19.4s						
MOA	Molln	7.90	210⇑	iPn	Pn	11 07 00.0	+0.9
	comp=Z,328nm,0.7s						
MOA				i Sg	Sg	11 09 01.7	-23
KAF	Kangasniemi	7.97	22	ep	Pn	11 07 00.7	+0.7
KAF	Kangasniemi	7.97	22	eP	Pn	11 07 00.8	+0.8
KAF				eS	Sn	11 08 26.3	-4.8
KAF				eSG	Sg	11 09 13.1	-14
KAF				MSG		11 09 20.3	
	comp=Z,1µm,0.5s						
PKS8	Sarbogard	8.04	187⇑	iP	P	11 07 01.0	0.0
ARSA	Arzberg	8.14	202⇑	iPn	P	11 07 02.8	+0.4
	comp=Z,453nm,1.1s						
ARSA				i Sg	Sg	11 09 10.8	-22
PKS9	Tamasi	8.36	189	eP	P	11 07 09.0	+3.5
WTSB	Winterswijk	8.44	255	eP	P	11 07 05.3	-1.3
	comp=Z,47nm,1.8s						
SUF	Sumiainen	8.49	19	eP	P	11 07 07.6	+0.4
SUF				eS	Sn	11 08 41.2	-2.9
SUF				eSG	Sg	11 09 26.4	-17
SUF				MSG		11 09 36.2	
	comp=Z,880nm,0.5s						
HUSU	Husum	8.52	357	eP	P	11 07 08.1	+0.4
SOLU	Sollefteaa	8.54	351	eP	P	11 07 07.6	-0.3
BLS5	Blasjo	8.69	307	eP	P	11 07 09.9	-0.2
BLS5				eS	Sn	11 08 48.1	-1.1
BLS5				AML	AML	11 09 44.6	
	comp=Z,1µm,0.7s						
PERS	Pernice	8.81	203	ePn	P	11 07 12.7	+1.0
ODD1	Odda	8.84	310	eP	P	11 07 10.5	-1.7
ODD1				eS	Sn	11 08 51.8	-1.1
ODD1				AML	AML	11 09 47.9	
	comp=Z,3µm,0.6s						
KBA	Koelnbreinsper	8.87	211⇑	iPn	P	11 07 12.8	+0.3
	comp=Z,287nm,1.0s						
KBA				i Sg	Sg	11 09 34.3	-22
RHK1	Bakonya	8.87	189⇑	eP	P	11 07 13.1	+0.6
NOD	Norderasen	9.01	345	eP	P	11 07 13.7	-0.8
UMAU	Umeaa	9.06	2	eP	P	11 07 15.9	+0.8
RHK3	Tenkes	9.06	188⇑	eP	P	11 07 14.6	-0.5
OBKA	Obir	9.06	205⇑	iPn	P	11 07 15.6	+0.4
	comp=Z,129nm,0.8s						
OBKA				i Sg	Sg	11 09 41.5	-22
BREU	Bredtraesk	9.09	356	eP	P	11 07 15.2	-0.4
KMY	Karmoy	9.18	304	eP	P	11 07 15.7	-1.1
KMY				AML	AML	11 09 53.0	
	comp=Z,788nm,0.7s						
DOMB	Dombas	9.21	326	eP	P	11 07 18.1	+0.7
DOMB				AML	AML	11 10 11.4	
	comp=Z,965nm,0.8s						
WATA	Walderalm	9.23	219⇑	iPn	P	11 07 18.6	+1.1
	comp=Z,214nm,0.8s						
WATA				i Sg	Sg	11 09 46.0	-23
WTTA	Wattenberg	9.27	218⇑	iPn	P	11 07 18.3	+0.2
	comp=Z,199nm,0.9s						
WTTA				i Sg	Sg	11 09 47.6	-22
MOTA	Moosalm	9.40	220⇑	iPn	P	11 07 19.8	0.0
	comp=Z,245nm,0.8s						
MOTA				i Sg	Sg	11 09 52.3	-22
SQTA	Sankt Quirin	9.46	220⇓	iPn	P	11 07 20.7	0.0
	comp=Z,166nm,0.9s						
SQTA				i Sg	Sg	11 09 53.8	-23
FVI	Forni Avoltri	9.47	212	eP	P	11 07 32.0	+11
PTCC	Patocco-Chiusa	9.48	209	eP	P	11 07 27.1	+6.2
OBN	Obninsk	9.49	82	Pn	P	11 07 20.0	-1.1
	comp=Z,2µm,0.5s,SNR=8.8						
OBN	Obninsk	9.49	82⇑	iP	P	11 07 18.6	-2.5
OBN				i		11 09 15.2	
OBN				pmax	pmax		
	comp=Z,93nm,0.7s						
OBN				MLR	MLR		
	comp=Z,400nm,5.0s						
OBN	Obninsk	9.49	82	eP	P	11 07 18.5	-2.7
	comp=Z,115nm,0.6s						
HGN	Heimansgroeve	9.49	250	eP	P	11 07 21.9	+0.8
	comp=Z,16nm,0.7s						
LJU	Ljubljana	9.51	204	ePn	P	11 07 22.2	+1.0
KIS	Kishinev	9.61	141	eP	P	11 07 19.0	-3.6
KIS				eS	Sn	11 09 06.0	-5.8
EGD	Espegrend	9.63	310	eP	P	11 07 22.1	-0.8
EGD				AML	AML	11 10 13.4	
	comp=Z,1µm,0.6s						
BER	Bergen	9.64	311	eP	P	11 07 22.0	-1.0
BER				AML	AML	11 10 10.6	
	comp=Z,2µm,0.7s						
RUND	Rundenannen	9.64	311	eP	P	11 07 20.0	-3.0
RUND				AML	AML	11 10 14.8	
	comp=Z,2µm,0.8s						
VOY	Vojsko	9.67	206	eP	P	11 07 29.4	+5.9
VOY				e		11 07 51.0	
VOY				eS	Sn	11 10 18.0	+65
HYA	Hoyanger	9.69	316	eP	P	11 07 24.1	+0.4
HYA				AML	AML	11 10 19.3	
	comp=Z,1µm,0.7s						
BURU	Burvik	9.78	3	eP	P	11 07 24.9	0.0
BFO	Black Forest	9.80	233	ePn	P	11 07 24.5	-0.7
DAVA	Damuels	9.92	224⇓	iPn	P	11 07 27.8	+0.8
	comp=Z,142nm,0.8s						
DAVA				i Sg	Sg	11 10 09.7	-22
TRON	Trondheim	9.92	334	eP	P	11 07 27.4	+0.5
TRON				eS	Sn	11 09 07.0	-12
VRI	Vrincioaia	9.95	152⇓	iP	P	11 07 27.5	+0.1
WLF	Walferdange	9.99	244	P	P	11 07 28.8	+1.0
KJN	Kajaani	10.03	20	eP	P	11 07 27.8	-0.6
KJN				eS	S	11 09 15.1	-6.9
KJN				eSG	S	11 10 14.7	+53
KJN				MSG		11 10 27.4	
	comp=Z,752nm,0.4s						
MOS	Moscow	10.05	78	eP	P	11 07 28.6	-0.1
MOS				eS	S	11 09 19.4	-3.2
MOS				pmax	pmax		
	comp=Z,63nm,0.8s						
MOS				smax			
	comp=E,383nm,1.0s						
MOS				MLR	MLR		
	comp=Z,600nm,9.2s						
MOL	Molde	10.09	325	eP	P	11 07 29.6	+0.4
MOL				AML	AML	11 10 30.2	
	comp=Z,1µm,0.8s						
MLR	Muntele Rosu	10.10	156	Pn	P	11 07 29.2	-0.3
	comp=Z,0.7nm,0.3s,baz=347,slow=9.3,SNR=16						
MLR				Lg		11 10 18.1	
	comp=Z,2.8nm,0.3s,baz=313,slow=23,SNR=3.2						
SUE	Sulen	10.22	314	eP	P	11 07 29.6	-1.3
SUE				AML	AML	11 10 41.9	
	comp=Z,577nm,0.8s						
CDF	Champ du Feu	10.23	236	ePn	P	11 07 28.6	-2.6
CDF				eSn	S	11 09 18.7	-8.4
CDF				eSg	S	11 10 27.1	+60
	comp=Z,298nm,1.0s						
CDF	Champ du Feu	10.23	236	ePn	P	11 07 28.6	-2.6
CDF				eP		11 07 34.0	
CDF				eSn	S	11 09 18.7	-8.4
CDF				eSg	S	11 10 27.1	+60
CTI	Castel Tesino	10.32	215	eP	P	11 07 37.6	+5.2
DAVOX	Davos	10.34	223	Pn	P	11 07 32.4	-0.2
	comp=Z,0.3nm,0.3s,baz=22,slow=16,SNR=4.6						
DAVOX				Sn	S	11 09 25.0	-4.6
	comp=Z,1.3nm,0.3s,baz=341,slow=20,SNR=2.2						
DAVOX				Lg		11 10 35.5	
	comp=Z,2.4nm,0.3s,baz=200,slow=23,SNR=6.2						
FOO	Floro	10.39	317	eP	P	11 07 32.2	-1.1
FOO				AML	AML	11 10 39.3	
	comp=Z,834nm,0.4s						
GIVF	Givet	10.44	249	ePn	P	11 07 31.2	-2.9
GIVF				eSn	S	11 09 23.7	-8.5
GIVF				eSg	S	11 10 29.7	+57
	comp=Z,267nm,1.1s						
NSS	Namsos	10.52	340	eP	P	11 07 31.6	-3.5
SVIS	Svilajnac	10.60	176	ePn	P	11 07 36.7	+0.4
OUL	Oulu	10.66	13	eP	P	11 07 35.8	-1.2
OUL				eS	S	11 09 30.4	-7.1
OUL				eSG	S	11 10 34.1	+57
OUL				MSG		11 10 49.7	
	comp=Z,1µm,0.7s						
DIVS	Divcibare	10.77	180⇑	iPn	P	11 07 38.8	+0.1
BAIF	Baives	10.80	250	ePn	P	11 07 36.7	-2.3
BAIF				eSn	S	11 09 29.2	-12
BAIF				eSg	S	11 10 40.6	+60
	comp=Z,140nm,1.2s						
NVLJ	Novalja	10.84	200	i Pn	P	11 07 43.8	+4.3
HINF	Hinteralfeld	10.86	235	ePn	P	11 07 36.7	-3.0
HINF				eSg	S	11 10 43.3	+61
	comp=Z,350nm,1.3s						
HAU	Haudompre	10.96	237	ePn	P	11 07 39.3	-1.9
HAU				eSn	S	11 09 35.0	-10
HAU				eSg	S	11 10 50.2	+65
	comp=Z,526nm,1.6s						
HAU				eR			
	comp=Z,440nm,12.2s						
RFYF	Reffroy	10.98	241	ePn	P	11 07 39.2	-2.2
	baz=60						
RFYF				eSg	S	11 10 49.1	+64
	comp=Z,280nm,1.2s						
GRUS	Gruza	10.99	178⇑	iPn	P	11 07 41.7	+0.1
MEZF	Maizieres J'vi	11.28	242	ePn	P	11 07 43.0	-2.5
	baz=63						
MEZF				eSg	S	11 10 58.4	+66
	comp=Z,305nm,1.3s						
SFTF	Sexfontaines	11.48	241	ePn	P	11 07 45.4	-2.8
	baz=63						
SFTF				eSg	S	11 11 04.4	+67
	comp=Z,403nm,1.4s						
MOR8	Moi Rana	11.68	349	ePn	P	11 07 50.2	-0.6
MOR8				e		11 09 55.4	
MOR8				AML	AML	11 11 29.9	
	comp=Z,419nm,0.5s						
TIRR	Tirgusor	11.72	149	P	P	11 07 49.9	-1.6
MCGN	Macugnaga	11.77	226	eP	P	11 07 57.1	+5.0
VOR	Voronezh	11.86	97	P	P	11 07 49.5	-3.9
VOR				e		11 10 07.0	
VOR				pmax	pmax		
	comp=Z,100µm,1.4s						
MSF	Maaselka	11.92	18	eP	P	11 07 51.6	-2.6
MSF				eS	S	11 10 00.1	-8.1
MSF				eSG	S	11 11 12.8	+65
MSF				MSG		11 11 24.9	
	comp=Z,431nm,0.5s						
STOK	Stokkvaagen	12.01	346	ePn	P	11 07 54.7	-0.7
STOK				eS	S	11 09 54.9	-15
STOK				AML	AML	11 11 27.7	
	comp=Z,576nm,0.7s						
CABF	La Chapelle	12.09	233	ePn	P	11 07 52.8	-3.7
CABF				eSg		11 11 23.0	
	comp=Z,486nm,1.3s						
CABF	La Chapelle	12.09	233	ePn	P	11 07 52.8	-3.7
CABF				eP		11 08 01.3	
CABF				eSg		11 11 23.0	
LPL	La Plagne	12.65	228	eP	P	11 08 08.0	+4.0
LPG	La Plagne	12.65	228	ePn	P	11 08 01.7	-2.4
LPG				eSg		11 11 39.5	

	comp=Z,204nm,1.3s						
LPG	La Plagne	12.65	228	ePn	P	11 08 01.7	-2.4
LPG				eP		11 08 07.8	
LPG				eSg		11 11 39.5	
LOR	Lormes	12.70	240	ePn	P	11 08 03.6	-1.0
	baz=61						
LOR				eSn	S	11 10 15.9	-11
LOR				eSg		11 11 41.9	
	comp=Z,96nm,1.0s						
LOR				eR			
	comp=Z,287nm,18.0s						
SGF	Sodankyl	12.99	11	eP	P	11 08 06.6	-1.9
SGF				eS	S	11 10 26.1	-8.0
SGF				MSG		11 11 57.5	
	comp=Z,377nm,0.6s						
SSF	Saint Saulge	13.01	240	ePn	P	11 08 07.0	-1.8
SSF				eSg		11 11 53.5	
	comp=Z,101nm,1.3s						
SSF	Saint Saulge	13.01	240	ePn	P	11 08 07.0	-1.8
SSF				eP		11 08 10.9	
SSF				eSg		11 11 53.5	
SMF	Signal de Mont	13.13	238	ePn	P	11 08 08.0	-2.5
SMF				eSg		11 11 55.5	
	comp=Z,200nm,1.3s						
SMF	Signal de Mont	13.13	238	ePn	P	11 08 08.0	-2.5
SMF				eP		11 08 15.2	
SMF				eSg		11 11 55.5	
MBDF	Montbardon	13.27	226	ePn	P	11 08 09.8	-2.4
MBDF				eSg		11 11 58.2	
	comp=Z,162nm,1.3s						
MBDF	Montbardon	13.27	226	ePn	P	11 08 09.8	-2.4
MBDF				eP		11 08 14.0	
MBDF				eSg		11 11 58.2	
AVF	Avril sur Loir	13.28	239	ePn	P	11 08 09.8	-2.5
AVF				eSg		11 11 59.2	
	comp=Z,180nm,1.4s						
AVF	Avril sur Loir	13.28	239	ePn	P	11 08 09.8	-2.5
AVF				eP		11 08 17.2	
AVF				eSg		11 11 59.2	
EKA	Eskdalemuir Ar	13.30	282	Pn	P	11 08 10.7	-1.9
	comp=Z,0.5nm,0.3s,baz=86,slow=13,SNR=9.2						
EKA				Sn	S	11 10 27.7	-14
	comp=Z,0.7nm,0.3s,baz=82,slow=14,SNR=2.8						
HYF	Humbligny	13.31	242	ePn	P	11 08 10.3	-2.5
ESK	Eskdalemuir	13.33	281	eP	P	11 08 13.9	+0.9
	comp=Z,29nm,0.8s						
SIM	Simferopol’	13.40	132	P	P	11 08 08.9	-5.1
SIM				pmax	pmax		
	comp=Z,19nm,0.6s						
SIM				MLR	MLR		
	comp=Z,120nm,8.5s						
ORIF	Oris-en-Rattie	13.49	228	ePn	P	11 08 13.6	-1.6
ORIF				eSg		11 12 05.8	
	comp=Z,262nm,1.4s						
LOF	Lofoten	13.66	350	ePn	P	11 08 16.9	-0.3
LOF				AML	AML	11 12 35.9	
	comp=Z,199nm,0.4s						
BGF	Bois d’Agland	13.69	240	ePn	P	11 08 16.0	-1.7
BGF				eSg		11 12 12.4	
	comp=Z,195nm,1.2s						
SBF	Sospel	13.72	222	ePn	P	11 08 15.4	-2.7
LDF	La Druitiere	13.97	252	ePn	P	11 08 21.1	-0.3
LDF				eP		11 08 25.7	
VIVF	Saint-Julien-l	14.07	231	ePn	P	11 08 20.6	-2.1
VIVF				eSg		11 12 24.4	
	comp=Z,142nm,1.4s						
FLN	La Foliniere	14.08	253	ePn	P	11 08 21.8	-0.9
FLN				eR			
	comp=Z,256nm,27.2s						
APA0	Apatity Array	14.17	20	Pn	P	11 08 21.7	-2.1
	baz=200,slow=14						
APA0	Apatity Array	14.17	20	eP	P	11 08 21.7	-2.1
TCF	Toulx Ste Croi	14.19	240	ePn	P	11 08 24.1	-0.2
TCF				eSg		11 12 28.4	
	comp=Z,148nm,1.4s						
KIF	Kilpisjarvi	14.20	1	eP	P	11 08 22.5	-1.7
KIF				eS	S	11 10 56.3	-6.5
APA	Apatity	14.22	21	⇑iP	P	11 08 21.0	-3.5
APA				i S	S	11 10 55.0	-8.4
APA				pmax	pmax		
	comp=Z,14nm,0.6s						
APA				MLR	MLR		
	comp=Z,2µm,4.0s						
KTK1	Kautokeino	14.28	5	ePn	P	11 08 23.6	-1.6
KTK1				e		11 10 52.3	
KTK1				AML	AML	11 12 43.5	
	comp=Z,421nm,0.8s						
FRF	La Foret Royal	14.28	223	ePn	P	11 08 22.9	-2.6
SMRF	Simiane la Rot	14.38	227	ePn	P	11 08 23.7	-3.0
GRR	Gorron	14.49	252	ePn	P	11 08 27.7	-0.5
LMR	La Mourre	14.53	223	ePn	P	11 08 27.5	-1.2
LVZ	Lovozero	14.76	22	eP	P	11 08 35.3	+3.7
LVZ				eS	S	11 11 18.4	+2.3
LVZ				pmax	pmax		
	comp=Z,103nm,1.3s						
LVZ				smax			
	comp=E,162nm,1.0s						
LVZ	Lovozero	14.76	22	eP	P	11 08 35.4	+3.8
TRO	Tromso	14.84	358	eP	P	11 08 31.1	-1.5
TRO				AML	AML	11 13 04.7	
	comp=Z,274nm,1.0s						
TRO	Tromso	14.84	358	eP	P	11 08 29.7	-2.9
ARA0	ARCESS Array S	14.93	7	Pn	P	11 08 30.9	-2.9
	baz=186,slow=14						
ARA0				Sn	S	11 11 06.2	-14
	baz=188,slow=22						
ARA0				Lg		11 12 44.2	
	baz=181,slow=28						
ARA0	ARCESS Array S	14.93	7	eP	P	11 08 30.9	-2.9
ARA0				e		11 11 06.2	
ARA0				eSG		11 12 44.2	
ARCES	ARCESS Array B	14.93	7	Pn	P	11 08 30.9	-3.0
	comp=Z,8.2nm,0.3s,baz=186,slow=14,SNR=353						
ARCES				Sn	S	11 11 09.7	-11
	comp=Z,8.9nm,0.3s,baz=190,slow=21,SNR=5.3						
ARCES				Lg		11 12 45.6	
	comp=Z,18nm,0.3s,baz=187,slow=28,SNR=8.2						
ARCES				LR	LR	11 13 35.4	
	comp=Z,108nm,18.0s,baz=173,slow=34						
ARE0	ARCESS Array S	14.93	7	eP	P	11 08 30.8	-3.1
ANN	Anapa	15.02	125	eP	P	11 08 27.8	-7.3
ANN				eS	S	11 11 11.4	-11
ANN				pmax	pmax		
	comp=Z,40nm,0.9s						
ANN				MLR	MLR		
	comp=E,2µm,3.0s						
ANN				MLR	MLR		
	comp=Z,2µm,3.0s						
ANN				MLR	MLR		
	comp=N,600nm,2.0s						
LASF	Ste Croix	15.04	231	ePn	P	11 08 34.3	-1.2
MFF	Saint Martin d	15.19	245	ePn	P	11 08 36.7	-0.7
RJF	Les Rejaudoux	15.23	239	ePn	P	11 08 36.5	-1.4
RJF				eR			
	comp=N,236nm,21.0s						
CAF	Calviac	15.23	237	ePn	P	11 08 36.6	-1.4
KEV	Kevo	15.27	9	ep	P	11 08 35.1	-3.2
KEV	Kevo	15.27	9	eP	P	11 08 35.4	-2.9
KEV				eS	S	11 11 19.8	-8.5
KEV				eSG		11 12 56.3	
KEV				MSG		11 13 14.8	
	comp=Z,474nm,0.6s						
SGMF	Saint Gilles	15.51	254	ePn	P	11 08 40.2	-1.3
SGMF				eP		11 08 45.6	
DLF	Lyons Farm	15.66	275	eP	P	11 08 51.3	+7.9
ROSF	Rostrenen	15.86	255	ePn	P	11 08 45.5	-0.5
ROSF				eSn	S	11 11 33.5	-8.6
ROSF	Rostrenen	15.86	255	ePn	P	11 08 45.5	-0.5
ROSF				eP		11 08 50.7	
ROSF				eSn	S	11 11 33.5	-8.6
LFF	La Frestale	15.88	239	ePn	P	11 08 45.8	-0.4
QUIF	Quistinic	16.03	254	ePn	P	11 08 48.8	+0.5
DCN	Croghan	16.07	276	eP	P	11 08 52.1	+3.4
SOC	Sochi	17.02	123	eP	P	11 09 02.0	+1.2
SOC				eS	S	11 12 08.4	-0.5
SOC				pmax	pmax		
	comp=N,10.0nm,0.5s						
SOC				pmax	pmax		
	comp=Z,11nm,0.5s						
SOC				pmax	pmax		
	comp=E,9.0nm,0.6s						
SOC				MLR	MLR		
	comp=Z,392nm,22.0s						
SOC				MLR	MLR		
	comp=N,350nm,16.0s						
SOC				MLR	MLR		
	comp=E,257nm,15.0s						
EPF	Esparros	17.48	236	ePn	P	11 09 07.7	+1.2
GOF	Gofitskoye	17.66	114	⇓iP	P	11 09 16.0	+7.3
GOF				i S	S	11 12 27.0	+3.6
GOF				pmax	pmax		
	comp=Z,120nm,1.0s						
GOF				smax			
	comp=N,280nm,1.2s						
ETSF	Etsaut	18.01	237	ePn	P	11 09 11.6	-1.6
ETSF				eP		11 09 15.3	
SJPF	Ste Jean	18.18	238	eP	P	11 09 18.7	+3.5
APE	Apeiranthos	18.18	166	P	P	11 09 16.4	+1.0
APE	Apeiranthos	18.18	166	P	P	11 09 18.0	+2.6
KIV	Kislovodsk	18.23	117	eP	P	11 09 12.9	-3.1
KIV				pmax	pmax		
	comp=Z,17nm,1.1s						
KIV				pmax	pmax		
	comp=N,8.0nm,0.9s						
KIV				MLR	MLR		
	comp=Z,391nm,20.0s						
KIV				MLR	MLR		
	comp=N,307nm,19.0s						
KIV				MLR	MLR		
	comp=E,189nm,16.0s						
KIV	Kislovodsk	18.23	117	eP	P	11 09 14.4	-1.5
	comp=E,66nm,0.8s						
SANT	Santorini	18.86	166	P	P	11 09 24.1	+0.4
	comp=E,131nm,1.1s						
ELAN	Lanestosa	19.20	242	P	P	11 09 32.8	+5.1
	comp=E,586nm,3.4s						
ARG	Arkhangelos	19.46	160	P	P	11 09 32.2	+1.5
ZEI	Tsey	19.70	118	eP	P	11 09 31.0	-2.4
ZEI				eS	S	11 13 05.0	-4.4
ZEI				MLR	MLR		
	comp=Z,500nm,16.0s						
IDI	Anoyia	19.86	168	P	P	11 09 32.7	-2.5
	comp=Z,3.1nm,0.3s,baz=342,slow=12,SNR=14						
IDI				S	S	11 13 09.5	-3.4
	comp=Z,0.2nm,0.3s,baz=336,slow=19,SNR=1.9						
EMOS	Mosqueruela	19.94	232	P	P	11 09 36.6	+0.5
	comp=Z,39nm,1.1s						
ETOR	Torete	20.32	235	P	P	11 09 41.4	+1.4
	comp=Z,76nm,1.5s						
MALT	Malatya	20.70	136	eP	P	11 09 45.8	+1.7
	comp=Z,6.5nm,0.6s						
EBEN	Beniarda	21.19	229	P	P	11 09 53.8	+4.8
	comp=Z,21nm,0.7s,mb4.6						
ARU	Arti	21.59	70	⇓iP	P	11 09 53.2	+0.2
ARU				i S	S	11 13 51.8	+4.7
ARU				pmax	pmax		
	comp=Z,78nm,0.9s,mb5.1						
ARU				MLR	MLR		
	comp=N,100nm,17.0s						
ARU				MLR	MLR		
	comp=Z,100nm,17.0s,MS3.3						
ARU	Arti	21.59	70	eP	P	11 09 52.9	0.0
	comp=Z,97nm,0.6s,mb5.4						
ERUA	La Rua	21.73	246	P	P	11 09 55.6	+1.2
	comp=Z,34nm,1.1s,mb4.7						
ETOB	Tobarra	21.82	231	P	P	11 09 58.3	+2.9
	comp=Z,27nm,0.7s,mb4.8						
ECAL	Calabor	21.83	245	P	P	11 10 01.7	+6.2
	comp=Z,109nm,1.2s,mb5.2						
CSS	Prodhromos	21.93	150	eP	P	11 09 57.1	+0.6
	comp=Z,27nm,0.6s,mb4.8						
GNI	Garni	22.07	122	eP	P	11 09 58.2	+0.3
	comp=Z,20nm,0.8s,mb4.6						
ESDC	Sonseca Array	22.13	237	P	P	11 09 59.5	+1.0
	comp=Z,12nm,0.6s,mb4.5,baz=40,slow=9.4,SNR=44						
ESDC	Sonseca Array	22.13	237	P	P	11 09 59.4	+1.0
	comp=Z,11nm,0.6s,mb4.5						
ESLA	Sonseca Array	22.13	237	eP	P	11 09 59.4	+1.0
	comp=Z,6.8nm,0.9s,mb4.1						
STS	Santiago	22.14	249	P	P	11 10 05.0	+6.4
EVIA	Vianos	22.26	233	P	P	11 10 06.0	+6.2
	comp=Z,12nm,0.8s,mb4.4						
EMAZ	Mazaricos	22.33	250	P	P	11 10 03.5	+3.1
	comp=Z,325nm,2.6s,mb5.3						
ELOB	Lobios	22.58	247	P	P	11 10 07.5	+4.7
	comp=Z,46nm,0.9s,mb4.9						
BORG	Borgarnes	22.62	312	LR	LR	11 19 02.5	
	comp=Z,255nm,19.7s,MS3.7,baz=266,slow=37						
SVE	Sverdlovsk	22.63	68	⇑iP	P	11 10 05.0	+1.8
SVE				eS	S	11 14 14.0	+7.9
SVE				pmax	pmax		
	comp=Z,60nm,1.7s,mb4.8						
SVE				MLR	MLR		
	comp=N,100nm,7.0s						
SVE				MLR	MLR		
	comp=E,500nm,7.0s						
SVE				MLR	MLR		
	comp=Z,1µm,7.0s						
EQES	Quesada	23.20	232	P	P	11 10 10.6	+1.6
	comp=Z,32nm,1.0s,mb4.7						
MTE	Manteigas	23.37	243	eP	P	11 10 12.9	+2.4
	comp=Z,42nm,1.4s,mb4.7						
SPA0	Spitsbergen Ar	23.46	358	P	P	11 10 13.6	+2.5
	baz=148,slow=14						
EADA	Adamuz	23.61	235	P	P	11 10 17.0	+4.1
	comp=Z,4.3nm,0.6s,mb4.1						
PCBR	Castelo Branco	23.75	242	eP	P	11 10 16.2	+2.0
	comp=Z,21nm,0.8s,mb4.6						
KBS	Kingsbay	24.33	356	eP	P	11 10 22.5	+3.0
	comp=Z,28nm,0.6s,mb4.9						
PTOM	Tomar	24.39	243	eP	P	11 10 22.6	+2.1
	comp=Z,72nm,1.2s,mb5.0						
EMIN	Mina Concepcio	24.93	238	P	P	11 10 27.6	+1.8
	comp=Z,12nm,0.9s,mb4.4						
EMIJ	Mijas	24.99	233	P	P	11 10 27.5	+1.1
EVO	Evora	25.01	241	eP	P	11 10 27.7	+1.2
	comp=Z,4.9nm,0.4s,mb4.1						
EVO				eR			
	comp=Z,220nm,23.0s						
BRVK	Borovoye	29.09	73	P	P	11 11 04.0	+0.3
BRVK	Borovoye	29.09	73	eP	P	11 11 03.8	+0.1
	comp=Z,10nm,0.7s,mb4.7						
BVAR	Borovoye Array	29.16	73	P	P	11 11 05.9	+1.6
	comp=Z,6.1nm,0.5s,mb4.6,baz=278,slow=10,SNR=14						
KURK	Kurchatov	34.76	72	P	P	11 11 53.9	+0.5
	comp=Z,7.9nm,0.3s,mb5.1						
NVS	Novosibirsk	35.26	63	i P	P	11 11 59.4	+1.7
NVS				e		11 13 12.4	
NVS				pmax	pmax		
	comp=Z,11nm,0.6s,mb5.0						
NVS				pmax	pmax		
	comp=E,6.0nm,0.7s						
MKAR	Makanchi Array	38.92	75	P	P	11 12 30.2	+1.6
	comp=E,3.2nm,0.7s,mb4.2,baz=314,slow=7.0,SNR=18						
MKAR				LR	LR	11 29 20.6	
	comp=E,73nm,21.7s,MS3.5,baz=122,slow=37						
MKAR	Makanchi Array	38.92	75	P	P	11 12 30.3	+1.7
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MKAR				MLR	MLR		
	comp=Z,73nm,21.7s						
WMQ	Urumqi	43.76	75	eP	P	11 13 09.6	+1.4
WMQ				AP	pP	11 13 14.6	+3.4
WMQ				XP	sP	11 13 16.6	+4.2
WMQ				AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.4						
WMQ				LR	LR		
	comp=E,89nm,17.2s						
WMQ				LR	LR		
	comp=Z,79nm,17.6s,MS3.7						
TIXI	Tiksi	44.37	25	eP	P	11 13 10.3	-2.5
TIXI				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.6						
TIXI				MLR	MLR		
	comp=Z,100nm,20.0s,MS3.7						
ZAK	Zakamensk	47.89	59	eP	P	11 13 43.9	+2.9
BOD	Bodaibo	48.09	46	eP	P	11 13 47.2	+4.8
SONM	Songino Array	51.10	60	P	P	11 14 07.8	+2.1
	comp=Z,1.9nm,0.9s,mb4.0,baz=304,slow=8.9,SNR=8.3						
DBIC	Dimbokro	52.05	212	P	P	11 14 13.2	-0.1
	comp=Z,1.4nm,0.6s,mb4.1,baz=59,slow=5.1,SNR=3.9						
DBIC	Dimbokro	52.05	212	P	P	11 14 13.2	-0.1
DBIC				pmax	pmax		
	comp=Z,1.0nm,0.6s						
LIC	Lamto	52.53	212	eP	P	11 14 16.0	-0.9
	comp=Z,12nm,0.8s,mb4.6						
GKN	Gorkha	53.09	93	eP	P	11 14 21.5	+0.6
	comp=Z,14nm,0.4s,mb5.3						
KKN	Kakani	53.62	92	eP	P	11 14 25.6	+0.8
	comp=Z,13nm,0.6s,mb5.0						
DMN	Daman	53.65	93	eP	P	11 14 26.3	+1.3
PKI	Pulchoki	53.86	93	eP	P	11 14 27.3	+0.8
	comp=Z,5.8nm,0.5s,mb4.8						
GUN	Gumba	53.87	92	eP	P	11 14 27.3	+0.7
	comp=Z,38nm,0.8s,mb5.4						
YKA	Yellowknife Ar	57.73	337	P	P	11 14 55.1	+1.1
	comp=Z,2.5nm,0.7s,mb4.3,baz=32,slow=6.8,SNR=9.0						
YKA	Yellowknife Ar	57.73	337	P	P	11 14 55.1	+1.1
YKA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
COLA	College	60.24	354	P	P	11 15 11.5	+0.2
	comp=Z,5.3nm,0.9s,mb4.6						
DAWY	Dawson	60.35	350	eP	P	11 15 13.6	+1.5
CN2	Changchun	63.14	51	eP	P	11 15 30.4	-0.8
CN2				eXP	sP	11 15 37.0	+1.6
CN2				eS	S	11 23 57.4	-3.2
CN2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.2						
CN2				AMB	AMB		
	comp=Z,300nm,3.0s						
CN2				LR	LR		
	comp=Z,200nm,15.0s,MS4.4						
MDJ	Mudanjiang	64.33	48	P	P	11 15 36.5	-2.4
MDJ				PCP	PcP	11 16 11.1	-2.3
MDJ				PP	PP	11 17 57.3	-5.0
MDJ				S	S	11 24 10.6	-4.7
MDJ				SCS	ScS	11 25 30.0	+0.6
MDJ				AMB	AMB		
	comp=Z,3.0nm,0.7s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,44nm,4.7s						
MDJ				LR	LR		
	comp=N,85nm,21.9s,MS4.1						
MDJ				LR	LR		
	comp=E,106nm,20.4s,MS4.1						
MDJ				LR	LR		
	comp=Z,63nm,18.0s,MS3.9						
CMAR	Chiang Mai Arr	68.74	88	P	P	11 16 08.5	+1.2
	comp=Z,1.5nm,0.9s,mb3.9,baz=312,slow=6.5,SNR=5.9						
CMAR	Chiang Mai Arr	68.74	88	P	P	11 16 08.5	+1.2
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
NJ2	Nanjing	69.15	64	eP	P	11 16 13.0	+3.4
NJ2				PP	PP	11 18 47.8	+3.1
NJ2				PPP	PPP	11 20 25.8	+2.8
NJ2				S	S	11 25 18.0	+4.2
NJ2				XS		11 25 26.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.0						
SSE	Sheshan	71.11	63	eP	P	11 16 20.8	-0.8
SSE				S	S	11 25 35.8	-1.0
SSE				SCS	ScS	11 26 23.8	+1.5
SSE				AMB	AMB		
	comp=Z,17nm,0.7s,mb5.1						
SSE				AMB	AMB		
	comp=Z,24nm,12.0s						
SSE				LR	LR		
	comp=N,45nm,20.0s,MS4.2						
SSE				LR	LR		
	comp=E,136nm,20.0s,MS4.2						
SSE				LR	LR		
	comp=Z,76nm,20.0s,MS4.0						
SSE	Sheshan	71.11	63	eP	P	11 16 20.7	-0.9
	comp=Z,17nm,0.7s,mb5.1						
SSE				S	S	11 25 35.8	-1.0
SSE				sS		11 25 41.4	
SSE				ScS	ScS	11 26 23.8	+1.5
SSE				LR	LR		
	comp=Z,80nm,20.0s,MS4.0						
PDAR	Pinedale Array	73.71	324	P	P	11 16 39.0	+2.4
	comp=Z,0.3nm,0.5s,mb3.5,baz=37,slow=7.4,SNR=4.2						
MSU	Marysvale	78.40	324	eP	P	11 17 06.1	+2.9
ANMO	Albuquerque	79.48	318	eP	P	11 17 12.3	+3.1
TUC	Tucson	83.47	320	P	P	11 17 31.0	+0.9
QSPA	South Pole Qui	144.72	180	ePKP	PKPdf	11 24 38.2	-1.2

IDC **21** *11:06:40.2±0.7, 37.20S×95.09W, mb4.6/10, mb1 4.8/10, mb1mx4.7/14, MS4.8/14, Ms1 4.8/14, ms1mx4.7/17, Error ellipse: s-maj=23.6km s-min=22.2km az=78.0*

BJI **21** *11:06:41.6, 37.20S×95.20W, h10*^{km}*, mB5.3, Ms5.5, Msz5.2*

NEIC **21** *11:06:41.6±0.3, 37.18S×95.17W, h10*^{km}*, mb5.1/33, Error ellipse: s-maj=11.6km s-min=7.2km az=74.0*

HRVD **21** *11:06:41.6±0.1, 37.14S×95.29W, h12*^{km}*, MW5.4/73, Centroid moment Tensor Solution. LP body waves: s64,c116;Mantle waves: s73,c150; Half duration:* $1^{\text{s}}2$ *Moment tensor: Scale* 10^{17}*Nm;* M_{rr}*-1.50±.02;* $M_{\theta\theta}$*-0.16±.02;* $M_{\phi\phi}$*1.66±.02;* $M_{r\theta}$*0.13±.06;* $M_{\theta\phi}$*-0.31±.02;* $M_{\phi r}$*0.01±.06; Best double couple:* $M_0 1.61\times10^{17}$ *NP1:* ϕ_s*176°,* δ*45°,* λ*-82°. NP2:*ϕ_s*345°,* δ*45°,* λ*-98°. Principal axes: T 1.71, Plg0°, Azm81°; N -.2, Plg6°, Azm351°; P -1.51, Plg84°, Azm173°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

SYO **21** *11:06:41.7, 37.17S×95.14W, h10*^{km}*, MB5.1*

ISC 21 11:06:40.2±0.3**, 37.15S**±0.06×**95.13W**±0.09**, h10**^{km}**, (h11**^{km}±.4^{km}**:pP-P), n110,** σ**0**$^{\text{s}}$**98**/75**, mb4.9**/41**, MS4.9**/18**, 3C-3D, Southeast of Easter Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
USHA	Ushuaia	25.38	143	LR	LR	11 19 54.2	
	comp=Z,2µm,20.9s,MS4.6,baz=277,slow=31						
TRQA	Tornquist	26.21	102	eP	P	11 12 18.4	+1.5
	22nm,1.1s,mb4.6						
LPAZ	La Paz	31.65	56	P	P	11 13 06.7	+0.8
	15nm,1.0s,mb4.8,baz=211,slow=3.2,SNR=11						
LPAZ				LR	LR	11 23 44.3	
	comp=Z,1µm,18.5s,MS4.6,baz=240,slow=32						
LPAZ	La Paz	31.65	56	eP	P	11 13 07.0	+1.1
	26nm,1.0s,mb5.0						
CPUP	Villa Florida	33.71	82	P	P	11 13 22.5	-1.3
	2.2nm,0.9s,mb4.1,baz=270,slow=11,SNR=3.1						
CPUP				PcP	PcP	11 16 02.8	-0.9
	2.3nm,1.0s,baz=292,slow=3.3,SNR=2.3						
CPUP				LR	LR	11 25 28.3	
	comp=Z,4µm,18.2s,MS5.2,baz=272,slow=34						
CPUP	Villa Florida	33.71	82	eP	P	11 13 22.3	-1.5
	35nm,1.6s,mb5.0						
RKT	Rikitea	36.91	281	eS	S	11 19 23.8	-11
RKT				eL		11 22 15.5	
RKT				eR		11 23 40.5	
	5µm,26.5s						
OTAV	Otavalo	40.28	26	eP	P	11 14 22.3	+3.0
	15nm,1.1s,mb4.7						
SAML	Samuel	40.30	54	eP	P	11 14 18.7	-0.7
	9.5nm,1.0s,mb4.5						
ROSC	El Rosal	46.08	29	P	P	11 15 07.6	+1.3
	14nm,0.7s,mb5.0,baz=176,slow=22,SNR=6.7						
ROSC				LR	LR	11 32 18.4	
	comp=Z,3µm,18.3s,MS5.2,baz=45,slow=33						
BDFB	Brasilia	46.77	76	P	P	11 15 11.6	-0.2
	9.6nm,1.1s,mb4.6,baz=230,slow=10.0,SNR=4.3						
BDFB				PcP	PcP	11 16 44.7	-0.9
	2.4nm,0.4s,baz=159,slow=3.4,SNR=3.0						
BDFB				LR	LR	11 33 48.3	
	comp=Z,6µm,19.3s,MS5.5,baz=241,slow=35						
JTS	JuntasAbangare	48.15	14	P	P	11 15 21.5	-1.1
	4.2nm,0.8s,mb4.5,baz=240,slow=8.1,SNR=3.4						
JTS	JuntasAbangare	48.15	14	P	P	11 15 21.5	-1.1
TBI	Tubuai	48.30	271	eS	S	11 22 21.2	-1.3
TBI				eR		11 28 54.4	
	5µm,30.2s,baz=121						
SDV	Santo Domingo	51.23	32	eP	P	11 15 43.6	-2.7
	54nm,1.5s,mb5.2						
PPT	Papeete	51.42	277	eP	P	11 15 50.0	+2.4
	33nm,1.4s,mb5.1						
PPT	Papeete	51.42	277	eS	S	11 23 03.6	-2.3
PPT				eR		11 30 18.6	
	6µm,24.0s,baz=120						
QSPA	South Pole Qui	53.07	180	eP	P	11 15 59.3	0.0
	19nm,1.1s,mb4.9						
VNA3	Neumayer Olymp	53.88	156	e	pP	11 16 11.1	+2.7
VNA3	Neumayer Olymp	53.88	156	e	Px	11 16 14.2	
VNA3	Neumayer Olymp	53.88	156	e	Px	11 16 20.7	
VNA3	Neumayer Olymp	53.88	156	⇓iP	P	11 16 07.8	+2.5
VNA3				e	pP	11 16 11.1	+2.7
VNA3				e		11 16 14.2	
VNA3				e		11 16 20.7	
VNA3				e		11 17 10.4	
VNA3				e		11 18 05.8	
VNA1	Neumayer--Stat	54.45	156	e	pP	11 16 13.5	+1.0
VNA1	Neumayer--Stat	54.45	156	e	Px	11 16 25.4	
VNA1	Neumayer--Stat	54.45	156	⇓iP	P	11 16 10.0	+0.6

VNA1				e	pP	11 16 13.5	+1.0
VNA1				e		11 16 25.4	
VNA1				e		11 17 12.6	
VNA1				e		11 18 07.6	
VNA2	**Neumayer--Watz**	54.67	156	P	P	11 16 09.9	-1.2
VNA2				e		11 16 21.2	
VNA2				e		11 16 26.6	
SBA	**Scott Base**	55.68	195	eP	P	11 16 19.2	+0.8
	46nm,1.4s,mb5.3						
SNAA	**Sanae**	55.92	158	e	P	11 16 20.9	+0.7
SNAA	**Sanae**	55.92	158	e	pP	11 16 27.1	+3.8
SNAA	**Sanae**	55.92	158	e	Px	11 16 33.1	
SNAA	**Sanae**	55.92	158	⇑iP	P	11 16 17.9	-2.3
SNAA				e	pP	11 16 20.9	-2.4
SNAA				e		11 16 27.1	
SNAA				e		11 16 33.1	
SNAA				e		11 17 20.1	
SNAA				e		11 18 16.8	
RAR	**Rarotonga**	57.61	267	LR	LR	11 35 43.4	
	comp=Z,746nm,18.1s,MS4.8,baz=132,slow=30						
LTX	**Lajitas**	66.62	352	eP	P	11 17 32.5	-0.6
	58nm,1.5s,mb5.4						
LTX	**Lajitas**	66.62	352	eP	P	11 17 32.5	-0.5
	49nm,1.5s,mb5.3						
TXAR	**Lajitas Array**	66.62	352	P	P	11 17 32.5	-0.6
	5.3nm,0.9s,mb4.6,baz=172,slow=7.8,SNR=43						
TXAR				LR	LR	11 41 39.9	
	comp=Z,477nm,18.7s,MS4.7,baz=45,slow=32						
JCT	**Junction City**	67.42	356	eP	P	11 17 36.7	-1.4
	44nm,1.2s,mb5.4						
NATX	**Nacogdoches**	68.56	0	P	P	11 17 44.5	-0.7
SYO	**Syowa Base**	69.00	164	⇑P	P	11 17 46.5	-0.8
SYO	**Syowa Base**	69.00	164	⇓pP	pP	11 17 49.6	-0.8
SYO	**Syowa Base**	69.00	164	⇑PcP	PcP	11 18 09.6	-2.0
GDL2	**Guadalupe Moun**	69.53	352	eP	P	11 17 50.0	-1.2
TUC	**Tucson**	70.63	346	eP	P	11 17 57.3	-0.6
	9.5nm,1.0s,mb4.7						
LPM	**Los Pinos Moun**	71.90	350	eP	P	11 18 04.7	-0.9
LAZ	**Ladron**	72.06	350	eP	P	11 18 07.0	+0.5
ANMO	**Albuquerque**	72.50	350	eP	P	11 18 08.8	-0.3
	17nm,1.3s,mb4.8						
MYNC	**Murphy**	72.58	9	eP	P	11 18 09.1	-0.4
	34nm,1.0s,mb5.2						
MAW	**Mawson**	74.24	171	P	P	11 18 17.5	-1.0
	1.4nm,0.6s,mb4.0,baz=310,slow=7.6,SNR=6.2						
MAW				LR	LR	11 51 23.2	
	comp=Z,193nm,20.9s,MS4.4,baz=340,slow=36						
MAW	**Mawson**	74.24	171	eP	P	11 18 17.5	-1.1
	12nm,1.0s,mb4.8						
CCM	**Cathedral Cave**	74.92	3	eP	P	11 18 21.4	-1.6
	27nm,1.0s,mb5.1						
CASY	**Casey**	75.01	190	eP	P	11 18 22.3	-0.7
	12nm,1.2s,mb4.7						
SDCO	**Great Sand Dun**	75.14	352	eP	P	11 18 24.1	-0.2
	13nm,1.2s,mb4.7						
TPNV	**Topopah Spring**	76.28	343	eP	P	11 18 30.6	-0.2
	56nm,1.7s,mb5.2						
ARUT	**Antelope Range**	76.46	345	eP	P	11 18 31.9	+0.1
MSU	**Marysvale**	76.92	346	eP	P	11 18 35.2	+0.9
MTUM	**Tungsten Hills**	77.24	341	eP	P	11 18 35.5	-0.7
TPH	**Tonopah**	77.58	342	eP	P	11 18 39.1	+1.1
	32nm,1.4s,mb5.1						
MNV	**Mina**	78.15	342	eP	P	11 18 41.4	+0.2
	38nm,1.4s,mb5.1						
NVAR	**Mina Array Bea**	78.19	342	P	P	11 18 42.3	+1.0
	9.7nm,1.0s,mb4.7,baz=158,slow=7.3,SNR=30						
NVAR				LR	LR	11 46 41.6	
	comp=Z,119nm,18.4s,MS4.3,baz=30,slow=31						
NLU	**North Lily Min**	78.30	347	eP	P	11 18 43.2	+1.3
CMB	**Columbia Colle**	78.36	340	eP	P	11 18 43.1	+0.8
	6.8nm,1.0s,mb4.5						
DAU	**Daniels Canyon**	78.59	348	eP	P	11 18 44.0	+0.5
DUG	**Dugway**	78.67	346	eP	P	11 18 44.0	0.0
	4.2nm,1.5s,mb4.2						
ELK	**Elko**	79.68	345	eP	P	11 18 50.1	+0.6
	14nm,0.9s,mb4.9						
HWUT	**Hardware Ranch**	79.81	348	eP	P	11 18 50.0	-0.1
	25nm,1.5s,mb4.9						
BEKR	**Beckwourth**	80.07	341	eP	P	11 18 52.2	+0.7
	7.8nm,1.0s,mb4.6						
PDAR	**Pinedale Array**	80.62	349	P	P	11 18 54.6	+0.2
	6.6nm,0.7s,mb4.7,baz=158,slow=5.2,SNR=42						
RSSD	**Black Hills**	81.30	354	eP	P	11 18 58.1	+0.2
	18nm,1.0s,mb5.0						
WDC	**Whiskeytown Da**	81.34	339	eP	P	11 18 58.0	-0.2
	24nm,1.3s,mb5.0						
REDW	**Red Top Meadow**	81.40	348	eP	P	11 18 59.0	+0.5
SNOW	**Snow King Moun**	81.48	349	eP	P	11 18 58.0	-0.9
TPAW	**Teton Pass**	81.54	348	eP	P	11 18 59.2	0.0
IMW	**Indian Meadow**	81.94	349	eP	P	11 19 01.4	+0.2
MOD	**Modoc**	81.97	341	eP	P	11 19 02.0	+0.5
	26nm,1.3s,mb5.0						
WVOR	**Wild Horse Val**	82.06	343	eP	P	11 19 02.6	+0.7
	25nm,1.3s,mb5.0						
HLID	**Hailey**	82.22	346	eP	P	11 19 03.7	+1.0
	16nm,0.9s,mb4.9						
SADO	**Sadowa**	82.82	11	LR	LR	11 53 07.7	
	comp=Z,370nm,18.2s,MS4.8,baz=199,slow=34						
QLMT	**Earthquake Lak**	82.92	348	eP	P	11 19 07.5	+1.1
MCMT	**McKenzie Canyo**	83.16	347	eP	P	11 19 08.4	+0.8
LAO	**LASA Array**	84.05	352	eP	P	11 19 11.7	-0.4
	25nm,1.0s,mb5.3						
HSO	**Harness Mounta**	84.22	340	eP	P	11 19 12.6	-0.4
SSOR	**Sweet Springs**	85.29	341	eP	P	11 19 18.2	0.0
MSO	**Missoula**	85.29	347	eP	P	11 19 19.6	+1.4
VGB	**Gordon Butte**	85.48	342	P	P	11 19 20.2	+1.0
DGMT	**Dagmar**	85.63	354	eP	P	11 19 18.0	-1.8
	126nm,1.8s,mb5.8						
ULM	**Lac du Bonnet**	87.03	360	P	P	11 19 26.1	-0.6
	6.6nm,0.8s,mb4.9,baz=229,slow=4.0,SNR=4.5						
ULM				LR	LR	11 56 15.8	
	comp=Z,230nm,19.5s,MS4.6,baz=101,slow=34						
DPW	**Davenport**	87.12	345	eP	P	11 19 26.5	-0.7
NEW	**Newport**	87.27	345	eP	P	11 19 27.7	-0.2
	16nm,1.2s,mb5.1						
STKA	**Stephens Creek**	93.26	225	LR	LR	11 53 33.8	
	comp=Z,359nm,21.5s,MS4.8,baz=300,slow=30						
DBIC	**Dimbokro**	94.20	85	LR	LR	11 56 40.9	
	comp=Z,1µm,21.8s,MS5.3,baz=211,slow=32						
SCHQ	**Schefferville**	94.79	16	LR	LR	11 59 19.6	
	comp=Z,383nm,20.1s,MS4.9,baz=250,slow=33						
ILAR	**Eielson Array**	109.35	339	PKiKP		11 25 10.3	
	0.4nm,0.9s,baz=170,slow=5.5,SNR=4.3						
IDI	**Anoyia**	132.29	73	PKP	PKPdf	11 25 56.7	-1.2
	3.2nm,0.7s,baz=225,slow=4.3,SNR=4.4						
AKASG	**Malin Array Be**	138.66	53	PKP	PKPdf	11 26 07.7	-1.5
	2.3nm,0.8s,baz=264,slow=2.8,SNR=4.5						
MALT	**Malatya**	143.55	74	ePKPdf	PKPdf	11 26 15.2	-2.9
MDJ	**Mudanjiang**	145.72	297	PKP	PKPdf	11 26 19.3	-2.3
MDJ				PP	PP	11 29 40.8	-2.9
MDJ				SKS	SKS	11 33 27.3	-2.6
MDJ				PP	PP		
	comp=Z,121nm,8.1s						
MDJ				LR	LR		
	comp=N,176nm,25.4s,MS5.1						
MDJ				LR	LR		
	comp=E,329nm,24.1s,MS5.1						
MDJ				LR	LR		
	comp=Z,522nm,29.8s						
MDJ	**Mudanjiang**	145.72	297	ePKPdf	PKPdf	11 26 19.4	-2.2
KIV	**Kislovodsk**	147.52	65	ePKPdf	PKPdf	11 26 25.1	+0.5
CN2	**Changchun**	148.66	295	ePKP	PKPdf	11 26 21.3	-5.2
CN2				ePKP2	PKPab	11 26 31.8	-1.2
CN2				ePP	PP	11 29 58.3	-2.4
CN2				PP	PP		
	comp=Z,100nm,7.0s						
CN2				LR	LR		
	comp=N,200nm,17.0s,MS5.2						
CN2				LR	LR		
	comp=E,300nm,17.0s,MS5.2						
CN2				LR	LR		
	comp=Z,300nm,21.0s,MS5.1						
GNI	**Garni**	148.71	72	ePKPbc	PKPdf	11 26 29.3	+2.6
NJ2	**Nanjing**	151.66	270	ePKP	PKPdf	11 26 25.5	-6.0
NJ2				PKS	PKS	11 29 59.0	-2.8
NJ2				PP	PP	11 30 16.0	-2.1
NJ2				SKS	SKS	11 33 29.0	-9.3
NJ2				LR	LR		
	comp=N,140nm,27.4s,MS4.7						
NJ2				LR	LR		
	comp=E,70nm,27.0s,MS4.7						
NJ2				LR	LR		
	comp=Z,260nm,20.0s						
HIA	**Hailar**	152.10	307	ePKPbc	PKPdf	11 26 36.0	+4.4
CMAR	**Chiang Mai Arr**	157.65	217	PKP	PKPdf	11 26 42.5	+2.5
	comp=Z,3.4nm,1.2s,baz=218,slow=1.3,SNR=7.3						
CMAR				PKPab	PKPab	11 27 12.3	+0.7
	comp=Z,1.5nm,0.8s,baz=166,slow=3.7,SNR=5.9						
GYA	**Guiyang**	158.67	246	PKP	PKPdf	11 26 35.4	-5.7
GYA				PKS	PKS	11 30 07.6	-2.8
GYA				SKS	SKS	11 33 40.1	-5.8
GYA				PP	PP		
	comp=Z,190nm,6.2s						
GYA				LR	LR		
	comp=N,340nm,16.8s,MS5.4						
GYA				LR	LR		
	comp=E,280nm,17.0s,MS5.4						
GYA				LR	LR		
	comp=Z,320nm,17.8s,MS5.2						
KMI	**Kunming**	160.60	237	ePKP	PKPdf	11 26 39.8	-3.4
KMI				SKKS		11 37 54.0	
KMI				LR	LR		
	comp=Z,391nm,35.1s						
KMI	**Kunming**	160.60	237	ePKP	PKPdf	11 26 39.8	-3.4
KMI				SKKS		11 37 54.0	
KMI				SS	SS	11 51 19.6	+2.8
KMI				SSS	SSS	11 57 31.4	+1.9
SONM	**Songino Array**	160.93	311	PKP	PKPdf	11 26 39.7	-3.1
	comp=Z,0.8nm,1.0s,baz=12,slow=11,SNR=5.4						
SONM				PKPab	PKPab	11 27 25.9	+1.0
	comp=Z,3.5nm,1.0s,baz=58,slow=3.1,SNR=7.6						
BVAR	**Borovoye Array**	161.18	28	PKP	PKPdf	11 26 40.5	-2.4
	comp=Z,0.9nm,0.8s,slow=1.4,SNR=2.8						
BVAR				PKPab	PKPab	11 27 25.6	-0.2
	comp=Z,2.3nm,1.0s,baz=333,slow=3.3,SNR=3.6						
GTA	**Gaotai**	168.04	285	ePKP	PKPdf	11 26 47.3	-2.1
GTA				APKP		11 26 51.3	
GTA				XPKP		11 26 54.3	
GTA				PKP2	PKPab	11 27 55.3	-0.8
GTA				PP	PP	11 31 44.3	-1.4
GTA				SKS	SKS	11 33 49.3	-3.3
GTA				PPP	PPP	11 35 44.0	-2.8
GTA				SKKS		11 38 31.0	
GTA				SS	SS	11 52 30.9	-1.8
GTA				PP	PP		
	comp=Z,100nm,6.1s						
GTA				LR	LR		
	comp=N,92nm,21.7s						
GTA				LR	LR		
	comp=E,167nm,25.1s						
GTA				LR	LR		
	comp=Z,297nm,28.5s						
MKAR	**Makanchi Array**	170.18	10	PKP	PKPdf	11 26 49.5	-1.0
	comp=Z,1.3nm,0.8s,baz=315,slow=4.1,SNR=3.9						
MKAR				PKPab	PKPab	11 28 05.3	0.0
	comp=Z,1.4nm,0.9s,baz=14,slow=5.9,SNR=3.3						
WMQ	**Urumqi**	173.00	343	ePKP	PKPdf	11 26 50.3	-1.8
WMQ				PP	PP	11 32 11.4	+1.0
WMQ				PPP	PPP	11 36 22.4	+1.0
WMQ				SKKS		11 38 57.4	
WMQ				PP	PP		
	comp=Z,71nm,9.3s						
WMQ				LR	LR		
	comp=N,432nm,24.0s						
WMQ				LR	LR		
	comp=E,367nm,24.0s						
WMQ				LR	LR		
	comp=Z,714nm,23.0s						

MDD ***21*** *11:39:18.1±0.9, 43.32N×1.09W, mbLg1.0/3, Error ellipse: s-maj=7.0km s-min=3.3km az=8.0, PRXIMO SIN SOLUCIN*

LDG 21 11:39:17.9±0.5**, 42.97N×1.36W, h15^{km}, Md2.2**/3**, Ml2.1**/1**, Error ellipse: s-maj=10.4km s-min=5.0km az=42.0, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJPF	**Ste Jean**	0.18	34	ePg	Pg	11 39 22.2	-0.2
SJPF				eSg	Sg	11 39 25.2	-0.1
	20nm,0.3s						
EALK	**Alkurruntz**	0.28	337	Pg	Pg	11 39 23.4	-0.6
	SNR=7.9						
EALK				Lg		11 39 29.1	
	6.3nm,0.2s,SNR=7.9						
ETSF	**Etsaut**	0.59	96	ePg	Pg	11 39 28.1	-1.9
ETSF				eSg	Sg	11 39 36.9	-1.2
ETSF				eSn	Sn	11 39 38.8	-1.9
	5.6nm,0.3s						
EPF	**Esparros**	1.25	86	ePn	Pn	11 39 39.4	-1.5
EPF				ePg	Pg	11 39 42.8	-0.2
EPF				eSg	Sg	11 39 58.3	-1.4
	3.8nm,0.3s						

CASC ***21*** *11:42:52.3±2.6, 10.59N×87.13W, h38^{km}±999^{km}, MD4.4, ML4.4, MW4.3, mb4.3(NEIC)*

NEIC ***21*** *11:42:55.5±2.1, 10.94N×86.71W, h45^{km}±20^{km}, mb4.3/11, Error ellipse: s-maj=27.1km s-min=9.1km az=47.0*

IDC ***21*** *11:42:56.0±3.4, 11.13N×86.53W, h40^{km}±30^{km}, mb4.0/12, mb1 4.2/12, mb1mx4.1/21, Error ellipse: s-maj=38.4km s-min=13.6km az=49.0*

ISC 21 11:42:51.5±0.5**, 10.58N**±0.03×**87.13W**±0.03**, h36^{km}**±5^{km}**, n76, σ1^{s}18**/106**, mb4.2**/22**, 20C-8D, Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VCR	**Vista de Mar**	1.54	107	⇑eP	P	11 43 15.6	-1.4
VCR				eS	S	11 43 32.0	-3.9
CRUN	**El Crucero**	1.62	30	⇓eP	P	11 43 18.9	+0.8
COPN	**Copaltepe**	1.68	18	⇓iP	P	11 43 20.0	+1.0
APON	**Apoyo**	1.69	38	⇑eP	P	11 43 19.3	+0.2
TICN	**Ticuantepe**	1.69	31	⇑eP	P	11 43 19.6	+0.5
MASN	**Masaya**	1.70	34	⇑eP	P	11 43 19.2	0.0
XAVN	**Gruta Xavier**	1.75	27	⇑eP	P	11 43 20.4	+0.5
CONN	**Concepcion**	1.77	56	⇑eP	P	11 43 19.9	-0.4
MGAN	**Managua**	1.78	29	⇑eP	P	11 43 20.0	-0.5
MGAN				eS	S	11 43 42.1	0.0
MGAN				i		11 43 42.3	
	comp=E,5µm,0.5s						
APYN	**Apoyeque**	1.81	25	⇓eP	P	11 43 21.4	+0.6
APYN				eS	S	11 43 44.0	+1.1
WILN	**Americas 2**	1.82	30	⇑eP	P	11 43 21.2	+0.2
WILN				eS	S	11 43 43.0	-0.1
LEON	**Leon**	1.84	7	⇑iP	P	11 43 22.5	+1.2
LEON				eS	S	11 43 44.6	+1.0
MIRN	**Miramar**	1.90	12	⇓eP	P	11 43 23.1	+1.1
MOMJ	**Momotombo**	1.91	17	⇑eP	P	11 43 22.9	+0.7
MOMJ				eS	S	11 43 45.9	+0.6
CNGN	**Cerro Negro**	1.96	12	⇑eP	P	11 43 23.7	+0.8
CNGN				eS	S	11 43 46.9	+0.4
TELN	**Telica**	2.04	8	⇑eP	P	11 43 25.0	+1.0
JCR	**Jicaral**	2.11	110	eP	P	11 43 24.0	-1.1
JCR				eS	S	11 43 47.5	-2.8
CRIN	**San Cristobal**	2.11	2	⇑eP	P	11 43 26.4	+1.3
CRIN				eS	S	11 43 51.8	+1.4
JTS	**JuntasAbangare**	2.16	97	P	P	11 43 24.2	-1.6
	comp=E,24nm,0.3s,baz=305,slow=16,SNR=41						
JTS				S	S	11 43 45.3	-6.2
	comp=E,78nm,0.3s,baz=298,slow=14,SNR=19						
JTS	**JuntasAbangare**	2.16	97	ePn	P	11 43 24.0	-1.8
PYTN	**Playitas**	2.21	28	eP	P	11 43 26.6	+0.1
PYTN				eS	S	11 43 52.6	-0.4
FORC	**Fortuna**	2.42	92	eP	P	11 43 28.2	-1.3
CGA2	**Cerro Gallo 2**	2.68	102	eP	P	11 43 33.5	+0.3
CGA2				eS	S	11 44 04.4	-0.3
CNCH	**Conchagua**	2.77	346	⇑eP	P	11 43 34.6	0.0
CNCH				eS	S	11 44 05.5	-1.7
PRS1	**Puriscal**	2.83	102	eP	P	11 43 35.4	0.0
VPS2	**Volcan Poas 2**	2.87	97	eP	P	11 43 36.6	+0.7
LAJ	**Bijagual**	3.04	103	eP	P	11 43 32.7	-5.7
BLLM	**Bellamira**	3.05	339	⇑eP	P	11 43 38.6	+0.1
BLLM				eS	S	11 44 13.1	-1.2
VSM	**San Miguel**	3.05	338	eP	P	11 43 39.5	+1.0
VSM				eS	S	11 44 13.8	-0.4
SJS	**Escuela Geolog**	3.09	102	⇓eP	P	11 43 39.2	+0.2
SJS				eS	S	11 44 16.0	+0.8
LCR2	**La Lucha 2**	3.18	105	eP	P	11 43 40.9	+0.5
LCR2				eS	S	11 44 16.1	-1.5
CAHU	**Cacacuatique**	3.35	342	⇓eP	P	11 43 43.4	+0.7
CAHU				eS	S	11 44 21.1	-0.8
TRTC	**Tortuguero**	3.35	90	eP	P	11 43 42.4	-0.5
URSC	**Urasca**	3.38	102	⇑eP	P	11 43 44.3	+1.1
URSC				eS	S	11 44 24.0	+1.5
SNVI	**San Vicente**	3.45	331	eP	P	11 43 44.8	+0.5
SNVI				eS	S	11 44 22.8	-1.7
BUS	**Buena Vista**	3.47	107	eP	P	11 43 44.9	+0.4
BUS				eS	S	11 44 22.4	-2.4
LCBS	**La Ceiba**	3.56	330	⇑eP	P	11 43 46.1	+0.4
LCBS				eS	S	11 44 25.3	-1.8
LFRS	**El Faro**	3.57	328	⇑eP	P	11 43 46.1	+0.2
LFRS				eS	S	11 44 25.0	-2.5
LBRS	**Las Brisas**	3.66	329	eP	P	11 43 47.8	+0.7
LBRS				eS	S	11 44 27.8	-1.9
LFU	**La Fuente**	3.71	329	⇓eP	P	11 43 48.6	+0.8
LFU				eS	S	11 44 29.2	-1.7
BOQS	**Boqueron**	3.78	326	eP	P	11 43 49.8	+0.9
BOQS				eS	S	11 44 31.7	-1.1
SBLS	**San Blas**	4.06	323	eP	P	11 43 53.8	+1.0
SBLS				eS	S	11 44 38.4	-1.5
LIO	**Limon**	4.07	98	eP	P	11 43 51.6	-1.3
LIO				eS	S	11 44 39.4	-0.6
SNJE	**San Jose**	4.07	324	⇓eP	P	11 43 54.1	+1.1
SNJE				eS	S	11 44 38.5	-1.7
RTR	**El Retiro**	4.12	324	⇑eP	P	11 43 54.9	+1.2
RTR				eS	S	11 44 40.3	-1.1
CUSS	**Cusmapa**	4.31	321	eP	P	11 43 57.1	+0.7
CUSS				eS	S	11 44 43.5	-2.7
ACR	**Cerro Adams**	4.34	116	eP	P	11 43 57.0	+0.1
ACR				eS	S	11 44 41.2	-5.8
MTO2	**Montecristo 2**	4.38	330	⇑eP	P	11 43 58.0	+0.6
SDV	**Santo Domingo**	16.34	94	P	P	11 46 38.2	-1.8
	comp=E,14nm,1.0s						
JCT	**Junction City**	23.05	331	eP	P	11 47 55.6	+0.8
	comp=E,9.4nm,0.7s,mb4.3						
LTX	**Lajitas**	24.23	323	eP	P	11 48 09.0	+2.8
	comp=E,11nm,0.9s,mb4.3						
TXAR	**Lajitas Array**	24.23	323	P	P	11 48 08.4	+2.2
	comp=E,2.8nm,0.6s,mb3.9,baz=136,slow=9.4,SNR=21						
TXAR				PcP	PcP	11 51 48.8	+1.4
	comp=E,0.5nm,0.8s,baz=178,slow=7.9,SNR=3.8						
WMOK	**Wichita Mounta**	26.30	338	eP	P	11 48 26.7	+0.9
	comp=E,33nm,1.1s,mb4.8						
ANMO	**Albuquerque**	29.99	327	P	P	11 48 58.2	-0.8
	comp=E,1.6nm,0.7s,mb3.9						
SAML	**Samuel**	30.72	128	eP	P	11 49 03.6	-2.1
	comp=E,6.9nm,0.8s,mb4.5						
TUC	**Tucson**	30.73	318	P	P	11 49 05.6	0.0
	comp=E,2.9nm,1.0s,mb4.1						
SADO	**Sadowa**	34.76	10	P	P	11 49 37.8	-2.7
	comp=E,4.6nm,0.5s,mb4.7,baz=189,slow=9.7,SNR=4.8						
SRU	**San Rafael**	35.25	328	eP	P	11 49 45.5	+0.8
TPNV	**Topopah Spring**	37.13	320	eP	P	11 50 02.6	+1.9
	comp=E,8.3nm,1.1s,mb4.5						
PDAR	**Pinedale Array**	37.57	333	P	P	11 50 04.6	+0.3
	comp=E,1.3nm,0.6s,mb3.8,baz=128,slow=9.4,SNR=13						
PDAR				PcP	PcP	11 52 21.5	-0.7
	comp=E,0.6nm,0.9s,baz=135,slow=3.8,SNR=3.2						
HWUT	**Hardware Ranch**	37.64	329	eP	P	11 50 05.7	+0.8
	comp=E,7.6nm,0.8s,mb4.5						
NVAR	**Mina Array Bea**	39.33	320	P	P	11 50 22.1	+3.1
	comp=E,3.8nm,0.8s,mb4.2,baz=128,slow=8.7,SNR=22						
NVAR				PcP	PcP	11 52 28.9	+1.2
	comp=E,1.1nm,0.7s,baz=122,slow=4.6,SNR=6.0						
ULM	**Lac du Bonnet**	40.21	351	P	P	11 50 24.4	-1.7
	comp=E,2.8nm,0.4s,mb4.3,baz=163,slow=13,SNR=3.4						
ULM	**Lac du Bonnet**	40.21	351	P	P	11 50 24.4	-1.7
HLID	**Hailey**	40.50	329	eP	P	11 50 29.8	+1.2
	comp=E,2.3nm,0.8s,mb4.0						
WVOR	**Wild Horse Val**	42.00	325	eP	P	11 50 39.7	-1.3
	comp=E,6.5nm,1.0s,mb4.2						
BDFB	**Brasilia**	46.67	123	P	P	11 51 20.9	+2.0
	comp=E,5.7nm,1.0s,mb4.4,baz=323,slow=5.1,SNR=3.3						
CPUP	**Villa Florida**	46.74	142	P	P	11 51 21.9	+2.6
	comp=E,0.6nm,0.4s,mb3.8,baz=323,slow=3.0,SNR=3.6						
SCHQ	**Schefferville**	46.98	16	P	P	11 51 17.1	-3.6
	comp=E,4.2nm,0.6s,mb4.6,baz=240,slow=10,SNR=9.5						
SCHQ				PcP	PcP	11 52 53.3	+0.1
	comp=E,3.6nm,0.7s,baz=190,slow=6.1,SNR=3.8						
YKA	**Yellowknife Ar**	55.49	345	P	P	11 52 23.3	-1.7
	comp=E,1.2nm,0.8s,mb4.0,baz=144,slow=6.9,SNR=4.7						
YKA				PcP	PcP	11 53 24.3	-0.3
	comp=E,1.1nm,0.6s,baz=143,slow=3.7,SNR=4.7						
DLBC	**Dease Lake**	57.73	335	P	P	11 52 41.9	+0.9
	comp=E,4.0nm,1.2s,mb4.3,baz=135,slow=3.1,SNR=5.7						
INK	**Inuvik**	65.08	343	P	P	11 53 29.8	-0.5
	comp=E,1.3nm,0.7s,mb4.1,baz=213,slow=11,SNR=7.0						
INK	**Inuvik**	65.08	343	P	P	11 53 29.8	-0.5
ILAR	**Eielson Array**	67.85	336	P	P	11 53 47.7	-0.2
	comp=E,5.7nm,1.1s,mb4.5,baz=141,slow=4.0,SNR=22						
WRA	**Warramunga Arr**	139.02	252	PKhKP		12 02 17.4	
	comp=E,1.9nm,0.8s,baz=91,slow=2.1,SNR=14						
CMAR	**Chiang Mai Arr**	150.54	348	PKP	PKPdf	12 02 37.5	+2.6
	comp=E,3.3nm,1.0s,baz=346,slow=2.8,SNR=4.5						

BJI 21 11:53:09.9, 37.15N×103.86E, h16^{km}, mb4.5, ML4.0, Ms3.8, Msz3.5, 1C, Gansu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LZH	**Lanzhou**	1.06	181	⇑PG	Pb	11 53 27.3	-2.1
LZH				SG	Sb	11 53 39.9	-2.9
LZH				Smax			
	comp=N,5µm,0.6s						
LZH				Smax			
	comp=E,7µm,0.8s						
LZH				LR	LR		
	comp=E,4µm,4.0s						
LZH				LR	LR		
	comp=Z,7µm,5.9s						
GTA	**Gaotai**	3.90	307	P	Pn	11 54 10.8	+0.2
GTA				PG	Pn	11 54 19.4	+8.8
GTA				S	Sn	11 54 57.0	+0.4
GTA				SG	Sn	11 55 10.3	+14
GTA				Smax			
	comp=N,382nm,0.7s						
GTA				Smax			
	comp=E,291nm,0.7s						
GTA				LR	LR		
	comp=N,386nm,8.7s						
GTA				LR	LR		
	comp=E,306nm,9.5s						
GTA				LR	LR		
	comp=Z,174nm,10.6s						
XAN	**Xi’an**	5.16	125	PG	Pn	11 54 44.0	+16
XAN				SG	Sn	11 55 49.0	+21
XAN				Smax			
	comp=N,107nm,0.8s						
XAN				Smax			
	comp=E,105nm,0.9s						
BTO	**Baotou**	5.92	52	ePG	Pn	11 54 57.9	+19
BTO				SG	Sn	11 56 12.1	+25
BTO				Smax			
	comp=N,97nm,0.9s						
BTO				Smax			
	comp=E,68nm,0.8s						
HHC	**Hu-ho-hao-te**	7.04	56	ePG	Pn	11 55 16.9	+22
HHC				SG	Sn	11 56 48.1	+33
HHC				Smax			
	comp=N,68nm,0.8s						
HHC				Smax			
	comp=E,79nm,1.1s						
HHC				LR	LR		
	comp=N,232nm,8.9s						
HHC				LR	LR		
	comp=E,203nm,9.2s						
GYA	**Guiyang**	10.92	167	P	P	11 55 53.1	+4.4
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s						
GYA				LR	LR		
	comp=N,370nm,12.0s						
GYA				LR	LR		
	comp=E,290nm,10.5s						
GYA				LR	LR		
	comp=Z,360nm,11.1s						

NAO ***21*** *11:59:33.7±11.0, 57.72N×22.82E, ML2.3*

BER ***21*** *11:59:33.8±3.2, 57.58N×22.93E, ML2.3(NAO), Suspected explosion*

HEL 21 11:59:29.6±0.1**, 57.02N×24.98E, ML1.8, Explosion, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PVF	**Pernaja**	3.57	7	eP	Pn	12 00 26.2	-1.2
PVF				eS	Sn	12 01 07.8	-3.1
PVF				MSG		12 01 22.2	
	comp=Z,2.2nm,0.2s						
VJF	**Virojoki**	3.78	20	eP	Pn	12 00 29.1	-1.2
VJF				eS	Sn	12 01 13.2	-2.9

VJF				*e*SG	Sg	12 01 25.6	-10
FIA0	FINESS Array S	4.47	7	Pn	Pn	12 00 38.6	-1.6
	baz=194,slow=16						
FIA0				Sn	Sn	12 01 23.9	-10
	baz=190,slow=18						
FIA0				Lg		12 01 42.9	
	baz=192,slow=28						
FIA0	FINESS Array S	4.47	7	*e*S	Sn	12 01 29.3	-4.5
FIA0				*e*SG	Sg	12 01 47.1	-11
FIA0				MSG		12 01 47.3	
	comp=Z,1.5nm,0.3s						
KAF	Kangasniemi	5.15	7	*e*S	Sn	12 01 44.9	-6.1
KAF				*e*SG	Sg	12 02 07.9	-13
KAF				MSG		12 02 10.5	
	comp=Z,0.6nm,0.2s						
HFS	Hagfors	6.67	303	Sn	Sn	12 01 52.8	-36
	baz=113,slow=28						
HFS				Lg		12 02 21.7	
	baz=119,slow=28						

JMA 21 12:01:05.5±0.1,29.31N×129.88E,h59^{km}±3^{km},M3.5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JNN	Nakanoshima	0.53	360	P	P	12 01 17.6	-0.2
JNN				S	S	12 01 26.3	-0.5
JAM	Amami Oshima	0.93	195	P	P	12 01 22.1	-0.6
JAM				S	S	12 01 34.1	-1.5
JZK	Kikaishima	0.99	175	P	P	12 01 24.4	+0.7
JKC	Kuchinoerabu	1.18	13	P	P	12 01 26.2	0.0
JKC				S	S	12 01 41.2	-0.4
JTN	Tanegashima 3	1.65	35	P	P	12 01 32.5	-0.2
JTN				S	S	12 01 52.5	-0.3
JTK	Tokunoshima	1.73	209	P	P	12 01 33.4	-0.4
JTK				S	S	12 01 54.3	-0.4
JTSR	Tashiro 2	2.06	26	P	P	12 01 38.7	+0.3
JTSR				S	S	12 02 02.2	-0.7
JSU	Suzuyama	2.24	13	P	P	12 01 41.2	+0.1
JSU				S	S	12 02 07.0	-0.6
JSJ	Shimokoshiki	2.36	357	P	P	12 01 42.9	+0.1
JSJ				S	S	12 02 09.9	-0.7
JIH	Iheya	2.83	217	P	P	12 01 49.1	-0.3
JIH				S	S	12 02 21.8	-0.5
JOW	Kunigami	2.85	210	P	P	12 01 49.5	-0.1
JOW				S	S	12 02 22.9	+0.1
JAGN	Aguni-jima	3.58	221	P	P	12 02 00.2	+0.3
JAGN				S	S	12 02 41.1	-0.1
JKE	Kume jima 2	4.04	223	P	P	12 02 06.5	+0.1

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*NIED **21** 12:07:00,40.80N×143.30E,h26^{km},Mw4.2 Best double couple: M$_0$2×10^{15} NP1:φ$_s$30°,δ61°,λ96°. NP2:φ$_s$198°, δ29°,λ79°.*

*IDC **21** 12:07:40.8±0.9,40.75N×143.10E,mb4.0/10,mb1 4.2/12, mb1mx4.1/23,ML3.6/3,MS3.0/1,Ms1 3.0/1,ms1mx2.6/23, Error ellipse: s-maj=24.9km s-min=17.9km az=89.0*

*MOS **21** 12:07:42.9±0.9,40.75N×143.27E,h33^{km},mb4.4/7,Error ellipse: s-maj=26.0km s-min=12.8km az=89.2*

*JMA **21** 12:07:43.1±0.3,40.81N×143.25E,h17^{km}±5^{km},M4.3*

*NEIC **21** 12:07:48.7±1.9,40.81N×143.04E,h58^{km}±18^{km},mb4.6/5, MW4.2(NIED),Error ellipse: s-maj=16.1km s-min=13.4km az=223.0*

ISC 21 12:07:43.8±0.6,40.80N±0.03×143.38E±0.05,h38^{km}±6^{km}, n48,σ1^{s}02/64,mb4.2/14,8C-2D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JEM	Erimo	1.23	352	⇑P	P	12 08 05.2	+0.5
JEM				*e*S	S	12 08 21.5	+1.1
JTH	Tanohata	1.44	234	P	P	12 08 08.0	+0.2
JTH				S	S	12 08 24.9	-0.9
JANG	Nango	1.48	254	⇓P	P	12 08 07.6	-0.8
JNBK	Urakawa-nobuka	1.56	343	⇑P	P	12 08 10.0	+0.5
JNBK				*e*S	S	12 08 29.9	+1.3
JTM	Tenmabayashi	1.76	270	⇑P	P	12 08 12.1	-0.2
JTM				*e*S	S	12 08 33.0	-0.6
JCH	Churui	1.82	360	P	P	12 08 13.8	+0.7
JCH				*e*S	S	12 08 35.2	+0.1
JOT	Ohata	1.86	289	⇑P	P	12 08 13.4	-0.3
JOT				*e*S	S	12 08 35.1	-1.1
JOM	Ohasama	2.08	231	⇑P	P	12 08 17.8	+1.0
JOM				*e*S	S	12 08 44.3	+2.6
JKB	Kayabe	2.08	302	⇑P	P	12 08 16.6	-0.3
JKB				*e*S	S	12 08 41.6	-0.1
JAK	Akkeshi	2.41	24	P	P	12 08 22.1	+0.5
JAK				*e*S	S	12 08 49.5	-0.6
JMK	Ichinoseki	2.48	223	⇑P	P	12 08 23.6	+1.0
JMK				*e*S	S	12 08 52.7	+0.7
JEW	Eniwo	2.50	325	P	P	12 08 23.3	+0.4
JAR	Ashorobuto	2.52	6	⇑P	P	12 08 23.2	+0.1
JAR				S	S	12 08 51.5	-1.4
ASAJ	Asahikawa	3.37	350	Pn	P	12 08 35.9	+0.6
	2.3nm,0.3s,baz=213,slow=8.4,SNR=19						
ASAJ				Sn	S	12 09 15.6	+1.1
	7.3nm,0.3s,baz=176,slow=11,SNR=6.8						
ASAJ				LR	LR	12 10 11.1	
	comp=Z,242nm,19.8s,baz=169,slow=44						
ASAJ	Asahikawa	3.37	350	P	P	12 08 35.9	+0.6
ASAJ						12 09 15.6	
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				smax			
	comp=N,7.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,242nm,19.8s						
YUK	Yuzh-Kuril'sk	3.72	29	*e*P	P	12 08 39.5	-0.8
YUK				*i* S	S	12 09 20.3	-3.2
YUK				pmax	pmax		
	comp=Z,690nm,0.3s						
YUK				pmax	pmax		
	comp=N,180nm,0.4s						
YUK				pmax	pmax		
	comp=E,180nm,0.4s						
YUK				smax			
	comp=N,2μm,0.5s						
YUK				smax			
	comp=E,420nm,0.4s						
YUK				smax			
	comp=N,2μm,1.0s						
YUK				smax			
	comp=E,2μm,1.0s						
KUR	Kuril'sk	5.52	35	⇓*i*P	P	12 09 05.5	-0.1
KUR				*i* S	S	12 10 07.0	-1.8
KUR				pmax	pmax		
	comp=Z,80nm,0.4s						
KUR				smax			
	comp=N,240nm,0.4s						
KUR				smax			
	comp=E,200nm,0.4s						
MAJO	Matsushiro	5.87	225	*e*Pn	P	12 09 10.8	+0.3
	comp=E,18nm,0.7s						
MAT	Matsushiro	5.87	225	P	P	12 09 10.6	+0.1
MAT				*e*S	S	12 10 17.4	0.0
MAT	Matsushiro	5.87	225	*e*P	P	12 09 11.0	+0.5
	comp=E,14nm,0.7s						
MAT				*e*S	Sx	12 10 38.0	
JHJ	Hachijo jima 2	8.18	202	Pn	P	12 09 40.0	-2.9
	comp=E,4.6nm,0.3s,baz=49,slow=23,SNR=3.1						
JHJ				Sn	S	12 11 04.2	-11
	comp=E,4.5nm,0.3s,baz=254,slow=23,SNR=2.5						
KLR	Kul'dur	11.77	320	*e*P	P	12 10 22.2	-10
CBIJ	Chichi jima	13.70	185	Pn	P	12 10 54.6	-3.0
	comp=E,1.5nm,0.3s,baz=274,slow=19,SNR=4.2						
HIA	Hailar	18.68	305	*e*P	P	12 11 57.5	-3.3
	comp=E,8.6nm,0.5s						
BOD	Bodaibo	25.33	322	*e*P	P	12 13 07.1	-1.2
SONM	Songino Array	27.19	297	P	P	12 13 25.1	-0.5
	comp=E,1.5nm,0.7s,mb3.6,baz=83,slow=7.8,SNR=11						
ZAK	Zakamensk	29.34	303	*e*P	P	12 13 44.0	-0.8
IMA	Indian Mountai	42.68	32	*e*P	P	12 15 40.0	+2.0
MKAR	Makanchi Array	43.53	299	P	P	12 15 45.1	0.0
	comp=E,8.5nm,1.1s,mb4.4,baz=82,slow=10,SNR=11						
MKAR	Makanchi Array	43.53	299	P	P	12 15 45.1	0.0
MKAR				pmax	pmax		
	comp=Z,9.0nm,1.1s						
KURK	Kurchatov	44.91	305	*e*P	P	12 15 55.4	-0.8
	comp=Z,8.9nm,0.7s,mb4.7						
BVAR	Borovoye Array	49.25	310	P	P	12 16 30.0	-0.2
	comp=Z,2.1nm,0.4s,mb4.5,baz=81,slow=9.3,SNR=16						
BRVK	Borovoye	49.30	310	*e*P	P	12 16 30.4	-0.2
	comp=Z,3.9nm,0.4s,mb4.8						
BRVK				*e*		12 16 37.9	
ZRNK	Zerenda	50.07	311	*e*P	P	12 16 36.2	-0.2
	comp=Z,7.1nm,0.6s,mb4.9						
ZRNK				*e*		12 16 43.1	
INK	Inuvik	50.35	29	P	P	12 16 40.2	+1.8
	comp=Z,1.3nm,0.4s,mb4.3,baz=325,slow=6.6,SNR=15						
INK	Inuvik	50.35	29	P	P	12 16 40.3	+1.9
INK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
INK	Inuvik	50.35	29	*e*P	P	12 16 39.8	+1.4
	comp=Z,2.3nm,0.5s,mb4.5						
WRA	Warramunga Arr	61.01	190	P	P	12 17 55.3	-0.5
	comp=Z,0.6nm,0.5s,mb4.0,baz=6.9,slow=7.0,SNR=12						
WRA	Warramunga Arr	61.01	190	P	P	12 17 55.3	-0.5
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	FINESS Array B	66.21	332	P	P	12 18 28.8	-0.4
	comp=Z,1.5nm,0.5s,mb4.3,baz=44,slow=8.2,SNR=11						
FINES	FINESS Array B	66.21	332	P	P	12 18 28.8	-0.4
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
KIV	Kislovodsk	69.61	311	*e*P	P	12 18 51.9	+1.2
KIV				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
NOA	NORSAR Array B	71.31	338	P	P	12 19 01.0	+0.3
	comp=Z,0.9nm,0.8s,mb3.8,baz=55,slow=6.8,SNR=3.2						
NOA	NORSAR Array B	71.31	338	P	P	12 19 01.0	+0.3
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AKASG	Malin Array Be	72.26	322	P	P	12 19 06.6	+0.1
	comp=Z,1.0nm,0.4s,mb4.1,baz=45,slow=5.9,SNR=6.0						
AKASG	Malin Array Be	72.26	322	P	P	12 19 06.6	+0.1
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
PDAR	Pinedale Array	73.96	47	P	P	12 19 18.8	+2.2
	comp=Z,0.3nm,0.8s,mb3.3,baz=247,slow=6.9,SNR=2.4						
TXAR	Lajitas Array	86.64	54	P	P	12 20 28.8	+4.3
	comp=Z,0.1nm,0.5s,mb3.3,baz=309,slow=5.8,SNR=2.5						

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*ISK **21** 12:41:11.5,36.97N×27.78E,h7^{km},MD3.1,ML3.1*

*NEIC **21** 12:41:12.5,36.94N×27.84E,h29^{km},MD3.3(ATH),After ATH.*

*ATH **21** 12:41:12.5,36.94N×27.84E,h29^{km}±1^{km},MD3.3/6*

ISC 21 12:41:11.9±0.5,36.89N±0.03×27.80E±0.04,h7^{km},n19, σ1^{s}09/26,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.33	301	*i* P	Pg	12 41 19.5	+0.8
BDRM				*i* S	Sg	12 41 25.1	+2.0
MLSB	Milas	0.40	358	*e*PG	Pg	12 41 18.8	-1.2
YER	Yerkesik	0.46	58	*e*PG	Pg	12 41 20.6	-0.5
YER				*e*SG	Sg	12 41 27.4	+0.1
NISR	Nisiros	0.61	243	*e*PN	Pn	12 41 26.0	-0.6
DALT	Dalyan (Mudla)	0.69	100	*i* PG	Pg	12 41 25.5	-0.2
ARG	Arkhangelos	0.73	159	*e*PN	Pn	12 41 27.0	-1.3
AYDN	Tasoluk	0.77	5	*e*P	Pb	12 41 26.7	-0.5
AYDN				*i* S	Sg	12 41 36.2	-1.3
SMG	Samos	1.12	317	*e*PN	Pn	12 41 33.6	-0.3
DNZL	Cakiroluk	1.27	51	*i* P	Pb	12 41 35.9	0.0
DNZL				*i* S	Sb	12 41 54.8	+2.4
DENT	Denizli	1.31	49	*e*PN	Pn	12 41 36.7	+0.1
KARP	Karpathos	1.44	201	*e*PN	Pn	12 41 39.3	+0.8
KARP				*e*SN	Sn	12 41 58.9	+1.1
IZM	Izmir	1.56	344	PN	Pn	12 41 39.1	-1.2
KDAG	Bornova	1.56	345	*e*P	Pn	12 41 39.2	-1.1
KDAG				*i* S	Sb	12 42 03.7	+3.0
KSL	Kastellorizon	1.62	117	*e*PN	Pn	12 41 41.0	-0.1
ELL	Elmali	1.70	94	*e*PN	Pn	12 41 43.1	+0.8
MANT	Manisa	1.70	21	*i* P	Pn	12 41 42.9	+0.5
MANT				*i* S	Sn	12 42 06.7	+2.1
APE	Apeiranthos	1.82	276	*e*PN	Pn	12 41 44.3	+0.3
APE	Apeiranthos	1.82	276	*e*PB	Pb	12 41 44.2	-1.1
AKS	Akhisar	1.98	0	*i* PN	Pn	12 41 45.0	-1.3

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*IDC **21** 12:55:18.8±3.0,19.82S×177.13W,h386^{km}±31^{km},mb3.6/9, mb1 3.8/10,mb1mx3.7/16,Error ellipse: s-maj=28.1km s-min=12.5km az=151.0*

*NEIC **21** 12:55:19.4±3.8,20.03S×177.04W,h398^{km}±39^{km},mb4.2/4, Error ellipse: s-maj=19.5km s-min=17.6km az=89.0*

ISC 21 12:55:16.4±2.5,19.99S±0.10×177.1W±0.1,h379^{km}±25^{km}, n23,σ0^{s}76/21,mb4.0/12,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	15.55	259	*e*P	P	12 58 38.6	+0.8
NOUC	Port Laguerre	15.68	259	*e*P	P	12 58 38.8	-0.3
URZ	Urewera	18.89	194	P	P	12 59 04.9	-6.7
	3.6nm,0.3s,baz=14,slow=1.4,SNR=17						
URZ				S	S	13 02 21.9	+0.1
	0.7nm,0.3s,baz=302,slow=7.6,SNR=7.2						
SNZO	South Karori	22.38	196	P	P	12 59 43.0	-2.1
	96nm,0.8s,mb5.1						
RPZ	Rata Peaks	25.66	200	P	P	13 00 17.0	+2.0
	16nm,0.6s,mb4.5,baz=20,slow=6.5,SNR=11						
CTA	Charters Tower	34.43	263	*e*P	P	13 01 32.0	+0.7
	8.5nm,0.6s,mb4.2						
CTA	Charters Tower	34.43	263	P	P	13 01 31.6	+0.3
	11nm,0.7s,mb4.2,baz=106,slow=8.7,SNR=12						
CTAO	Charters Tower	34.43	263	*e*P	P	13 01 31.3	0.0
	15nm,0.7s,mb4.3						
STKA	Stephens Creek	38.81	244	P	P	13 02 07.6	+0.1
	2.1nm,0.7s,mb3.5,baz=87,slow=6.5,SNR=5.2						
STKA	Stephens Creek	38.81	244	P	P	13 02 07.4	-0.2
WB2	Warramunga Arr	45.54	261	*e*P	P	13 03 01.6	-0.2
WRAB	Tennant Creek	45.54	261	*e*P	P	13 03 01.6	-0.3
	6.6nm,0.7s,mb3.9						
WRA	Warramunga Arr	45.55	261	P	P	13 03 01.5	-0.4
	2.1nm,0.5s,mb3.6,baz=95,slow=5.2,SNR=68						
WRA				S	S	13 09 14.7	0.0
	0.3nm,0.9s,baz=100,slow=14,SNR=2.6						
QSPA	South Pole Qui	70.07	180	*e*P	P	13 05 49.0	-0.4
	4.5nm,0.8s,mb4.2						
YBH	Yreka Blue Hor	79.34	38	P	P	13 06 42.4	0.0
	2.3nm,0.8s,mb4.0,baz=205,slow=4.5,SNR=6.5						
NVAR	Mina Array Bea	80.05	43	P	P	13 06 46.2	+0.1
	1.6nm,0.7s,mb3.9,baz=217,slow=7.2,SNR=11						
MAW	Mawson	82.34	200	P	P	13 06 57.7	+0.3
	1.4nm,0.8s,mb3.9,baz=130,slow=7.7,SNR=4.3						
TXAR	Lajitas Array	86.03	57	P	P	13 07 17.1	+0.6
	1.8nm,0.9s,mb3.9,baz=225,slow=7.1,SNR=8.6						
ILAR	Eielson Array	87.63	12	P	P	13 07 22.7	-0.5
	2.4nm,1.1s,mb3.9,baz=234,slow=5.2,SNR=6.9						
ARCES	ARCESS Array B	128.58	350	PKP	PKPdf	13 13 39.5	+1.1
	9.2nm,1.1s,baz=34,slow=4.4,SNR=5.1						
ARCES	ARCESS Array B	128.58	350	PKP	PKPdf	13 13 39.5	+1.1
CLL	Collm	147.76	348	*i* PKP1	PKPdf	13 14 19.1	+5.9
GERES	GERESS Array B	149.94	346	PKPbc	PKPdf	13 14 24.2	+7.5
	2.8nm,0.8s,baz=45,slow=1.9,SNR=10						

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*TAP **21** 12:57:46.5,24.01N×122.05E,h29^{km},ML2.6*

JMA 21 12:57:47.4±0.2,24.84N×122.19E,h73^{km},M1.8,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.84	117	P	P	12 58 04.2	-0.1
YOJ				S	S	12 58 16.6	-0.2
IRIF	Iriomote-Funau	1.49	109	P	P	12 58 12.8	-0.1
IRIF				S	S	12 58 31.4	-0.2
JKRS	Kuro-shima	1.76	110	P	P	12 58 16.5	0.0
JKRS				S	S	12 58 37.7	-0.2
JIJ	Ishigaki jima	1.84	105	P	P	12 58 17.2	-0.3
JIJ				S	S	12 58 39.3	-0.4
JTJ	Tarama	2.29	94	*e*S	S	12 58 52.4	+1.5

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*BER **21** 13:05:49.1±1.4,59.69N×12.83E,ML2.3(NAO), Suspected explosion*

NAO 21 13:05:46.9±1.5,59.61N×12.79E,ML2.3,Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HFS	Hagfors	0.69	41	Pg	Pg	13 06 00.3	-0.5
	baz=221,slow=18						
HFS				Lg		13 06 08.5	
	baz=224,slow=37						
HFS				Rg		13 06 12.4	
	baz=226,slow=37						
NC6	NORSAR Subarra	1.32	330	Pn	Pn	13 06 11.8	-0.7
NC6				Lg		13 06 29.0	
NB2	NORSAR Subarra	1.63	332	Pn	Pn	13 06 17.1	+0.1
NB2				Lg		13 06 36.4	

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*BJI **21** 13:32:27.7,55.03N×19.08E,h29^{km},mB4.9,mb4.8,Ms5.0, Msz4.5*

*MOS **21** 13:32:28.3±2.0,54.90N×20.19E,h10^{km},mb5.1/9,Error ellipse: s-maj=7.4km s-min=3.3km az=83.6*

MOS Felt (V-VI) at Kaliningrad; (II) at Sankt-Peterburg.

*LDG **21** 13:32:29.3±0.1,54.75N×20.20E,h10^{km},Ml5.3/36, ms3.5/6,Error ellipse: s-maj=4.8km s-min=2.7km az=138.0*

*CSEM **21** 13:32:29.2,54.77N×19.94E,h10^{km},mb5.0*

*NIC **21** 13:32:29.2±0.5,54.77N×19.94E,h10^{km},Earthquake Poland 6 km NW Primorsk.*

*STR **21** 13:32:29.3±0.0,54.74N×20.19E,h10^{km}±1^{km},Ml5.3,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*IDC **21** 13:32:30.1±0.4,54.83N×20.07E,mb4.5/14,mb1 4.8/25, mb1mx4.8/28,ML4.9/11,MS3.9/13,Ms1 3.9/13, ms1mx3.8/20,Error ellipse: s-maj=7.9km s-min=5.4km az=81.0*

*ZUR_RM **21** 13:32:30,54.84N×19.91E,h15^{km},Mw4.7/31,Moment Tensor Solution. s31 Moment tensor: Scale 10^{16}Nm; M$_{rr}$-0.04; M$_{\theta\theta}$-0.94; M$_{\phi\phi}$0.99; M$_{r\theta}$0.11; M$_{\theta\phi}$-0.77; M$_{\phi r}$0.62; Best double couple: M$_0$1.38×10^{16} NP1:φ$_s$26°,δ86°,λ26°. NP2:φ$_s$294°,δ64°,λ176°. Principal axes: T 1.4633, Plg21°, Azm253°; N -.1627, Plg64°, Azm33°; P -1.3005, Plg15°, Azm157°;*

*HRVD **21** 13:32:30.8±0.6,54.79N×20.11E,h20^{km}±3^{km},MW4.7/40, Centroid moment Tensor Solution. LP body waves: s5,c6; Mantle waves: s40,c59; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M$_{rr}$-0.09±.16; M$_{\theta\theta}$-1.04±.12; M$_{\phi\phi}$1.13±.12; M$_{r\theta}$-0.20±.25; M$_{\theta\phi}$-1.09±.13; M$_{\phi r}$-0.04±.21; Best double couple: M$_0$1.55×10^{16} NP1:φ$_s$22°,δ83°,λ-5°. NP2:φ$_s$113°, δ85°,λ-173°. Principal axes: T 1.58, Plg1°, Azm247°; N -.06, Plg82°, Azm148°; P -1.52, Plg8°, Azm338°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **21** 13:32:30.8±0.2,54.84N×19.91E,h10^{km},mb4.9/52, ML4.8(CLL),ML4.7(BRG) Error ellipse: s-maj=2.8km s-min=2.3km az=89.0*

NEIC At least three people injured and seventeen houses damaged [VI] at Kaliningrad, Russia. Damage to railroad tracks near Svetlogorsk, Russia. Minor damage occured at Suwalki, Poland. Felt [II] at Saint Petersburg, Russia. Felt throughout Belarus, Estonia, Latvia, Lithuania and northern Poland. Also felt in the areas of Copenhagen, Denmark; Helsinki, Finland; Oslo, Norway; and in southern Sweden.

*MED_RC **21** 13:32:30.8±0.4,54.83N×20.06E,h20^{km}±1^{km},MW4.7/19, Moment Tensor Solution. Body waves: s19,c24; Duration: 1^{s}0 Moment tensor: Scale 10^{16}Nm; M$_{rr}$-0.36±.13; M$_{\theta\theta}$-1.16±.08; M$_{\phi\phi}$1.52±.12; M$_{r\theta}$0.13±.10; M$_{\theta\phi}$-0.69±.06; M$_{\phi r}$0.13±.10; Best double couple: M$_0$1.52×10^{16} NP1:φ$_s$302°,δ82°,λ-175°. NP2:φ$_s$211°,δ85°, λ-8°. Principal axes: T 1.69, Plg3°, Azm257°; N -.34, Plg80°, Azm3°; P -1.36, Plg9°, Azm166°; nsta1 refers to waves, cutoff=35s.*

*HEL **21** 13:32:31.9±0.3,54.83N×20.03E,h10^{km},ML5.0, mb4.9(NEIC),ML5.2(UPP)*

*WAR **21** 13:32:31.0,54.88N×20.12E,h20^{km},Origin time based upon SUW*

*BGR **21** 13:32:32.7±0.6,54.70N×19.92E,h10^{km},ML5.4/3,Ms3.7/4, Error ellipse: s-maj=12.2km s-min=4.4km az=1.0*

*BER **21** 13:32:33.7±3.9,54.85N×20.16E,h10^{km},ML5.4,MS3.4, MW4.8*

*NAO **21** 13:32:34.1±3.8,55.05N×20.08E,h10^{km}±16^{km},ML5.4*

ISC 21 13:32:28.5±0.1,54.825N±0.010×19.97E±0.02,h10^{km}, n544,σ1^{s}50/688,mb4.8/78,MS4.0/20,34C-32D,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SUW	Suwalki	2.04	112	*e*Pn	Pn	13 33 05.9	+2.5
SUW				*e*Sn	Sn	13 33 32.5	+3.3
SUW	Suwalki	2.04	112	⇑*e*P	Pn	13 33 05.9	+2.5
SUW				*e*		13 33 32.2	
SUW	Suwalki	2.04	112	⇑*e*Pn	Pn	13 33 05.9	+2.5
SUW				*e*Pg	Pg	13 33 07.6	-1.7
SUW				*e*Sn	Sn	13 33 32.2	+3.0
SUW				*e*Sg	Sg	13 33 34.4	-2.2
GKP	Gorka Klasztor	2.24	227	⇑*e*P	Pn	13 33 10.2	+3.9
GKP				*e*		13 33 39.0	
GKP	Gorka Klasztor	2.24	227	⇑*e*Pn	Pn	13 33 10.2	+3.9
GKP				*e*Pg	Pg	13 33 15.4	+2.1
GKP				*e*Sn	Sn	13 33 39.0	+4.7
GKP				*e*Sg	Sg	13 33 49.6	+6.3
WAR	Warsaw	2.66	166	⇓*e*P	Pn	13 33 15.2	+2.9
WAR				*e*		13 33 42.1	
WAR	Warsaw	2.66	166	⇓*e*Pn	Pn	13 33 15.2	+2.9
WAR				*e*Pg	Pg	13 33 20.8	-0.9
WAR				*e*Sn	Sn	13 33 42.1	-2.8
WAR				*e*Sg	Sg	13 33 54.5	-2.7
BLEU	Blekinge	2.79	304	⇓*e*P	Pn	13 33 16.6	+2.6
BLEU				*e*S	Sn	13 33 49.1	+1.0
BSD	Bornholm Skovb	2.93	278	*i* P	Pn	13 33 18.2	+2.1
BSD				*i*		13 33 25.0	
BSD				*e*S	Sg	13 34 03.8	-2.3
BSD	Bornholm Skovb	2.93	278	*e*P	Pn	13 33 18.2	+2.1
BSD				*i*		13 33 25.0	
BSD				*e*S	Sg	13 34 03.8	-2.3
GOTU	Gotland	2.97	345	⇓*e*P	Pn	13 33 19.7	+3.1
GOTU				*e*S	Sn	13 33 57.2	+4.4
BYXU	Byxelkrok	2.98	327	⇓*e*P	Pn	13 33 19.7	+3.0
OSKU	Oskarshamn	3.22	319	⇓*e*P	Pn	13 33 23.2	+3.0
OSKU				*e*S	Sn	13 34 02.0	+3.0
VSTU	Vaestervik	3.43	327	*e*P	Pn	13 33 25.9	+2.7
ISAL	Salakas	3.60	76	*i* P	Pn	13 33 27.4	+1.7
ISAL				*e*S	Sg	13 34 22.5	-6.0
ISAL				AMPL	AML	13 34 38.1	
	comp=Z,2μm,0.3s						
IIGN	Ignalina	3.63	79	*i* P	Pn	13 33 27.7	+1.7
IIGN				*e*S	Sg	13 34 22.5	-6.9
IIGN				AMPL	AML	13 34 29.9	
	comp=Z,3μm,0.4s						
IZAR	Zarasai	3.70	73	*i* P	Pn	13 33 28.8	+1.8
IZAR				*e*S	Sg	13 34 24.3	-7.6
IZAR				AMPL	AML	13 34 38.6	
	comp=Z,2μm,0.4s						
EKSU	Eksjoe	3.79	318	⇓*e*P	Pn	13 33 30.9	+2.6
DEL	Delary	3.83	298	*e*P	Pn	13 33 30.6	+1.7
RGN	Rugen	3.87	269	*e*Pn	Pn	13 33 32.4	+3.0
RGN				*e*Sg	Sg	13 34 34.4	-3.1
RGN	Rugen	3.87	269	*e*Pn	Pn	13 33 32.4	+3.0
RGN				*e*Sg	Sg	13 34 34.4	-3.0
IDID	Didziasalis	3.92	80	*i* P	Pn	13 33 31.4	+1.3
IDID				*e*S	Sn	13 34 26.1	+9.4
IDID				AMPL	AML	13 34 44.7	
	comp=Z,1μm,0.4s						
NE53	Naroch'	3.94	86	*e*P	Pn	13 33 28.0	-2.4
VIKU	Vikbolandet	4.11	335	⇓*e*P	Pn	13 33 35.5	+2.8
LNKU	Linkoeping	4.21	326	*e*P	Pn	13 33 36.6	+2.4
NYNU	Nynaeshamn	4.33	346	*e*P	Pn	13 33 37.8	+1.9
RUE	Ruedersdorf	4.37	240	*e*L		13 35 57.2	
	comp=Z,3μm,12.1s						
RUE	Ruedersdorf	4.37	240	*e*Pn	Pn	13 33 38.2	+1.7
COP	Copenhagen	4.40	284	*i* P	Pn	13 33 39.0	+2.0
COP				*i*		13 33 43.4	
COP				*e*S	Sg	13 34 46.3	-8.7
COP				*i* LG		13 34 52.2	
	comp=Z,1μm,16.0s						
COP	Copenhagen	4.40	284	*e*P	Pn	13 33 39.0	+2.0
COP				*i*		13 33 43.4	
COP				*e*S	Sg	13 34 46.3	-8.7
COP				*i* Lg		13 34 52.2	
KSP	Ksiaz	4.57	211	*e*P	Pn	13 33 39.9	+0.5
KSP				*e*SN	Sn	13 34 27.8	-5.4
KSP	Ksiaz	4.57	211	*e*Pn	Pn	13 33 39.9	+0.5
KSP				*e*		13 33 47.1	
MNK	Minsk	4.58	91	*e*P	Pn	13 33 36.0	-3.5
OJC	Ojcow	4.62	181	*e*P	Pn	13 33 40.1	+0.1
OJC				*e*		13 34 31.2	
OJC	Ojcow	4.62	181	*e*Pn	Pn	13 33 40.1	+0.1
OJC				*i* Pg	Pg	13 33 59.7	-1.0

OJC				*e*Sn	Sn	13 34 31.2	-3.1
OJC				*i* Sg	Sg	13 34 54.3	-7.9
ESKU	**Eskilstuna**	4.83	338⇓	*e*P	Pn	13 33 45.6	+2.5
RAC	**Raciborz**	4.87	194	*e*P	Pn	13 33 44.5	+0.8
RAC				*e*SN	Sn	13 34 40.3	-0.6
RAC	**Raciborz**	4.87	194	*e*Pn	Pn	13 33 44.5	+0.8
RAC				*e*PP	PP	13 33 52.2	+1.5
NRTU	**Norrtaelje**	4.92	352	*e*P	Pn	13 33 46.4	+2.0
UPC	**Upice**	4.95	211	*e*Pn	Pn	13 33 45.1	+0.3
UPC				*e*Sn	Sn	13 34 40.9	-1.9
ASKU	**Askersund**	4.96	327⇓	*e*P	Pn	13 33 47.1	+2.2
DPC	**Dobruska-Polom**	5.00	208	*e*PN	Pn	13 33 46.1	+0.6
DPC				*e*SN	Sn	13 34 41.8	-2.4
DPC				*e*SG	Sg	13 35 10.7	-4.4
	comp=Z,3µm,0.8s						
DPC	**Dobruska-Polom**	5.00	208	*e*Pn	Pn	13 33 46.1	+0.6
	comp=Z,3µm,0.8s						
DPC				*e*Sn	Sn	13 34 41.8	-2.4
DPC				*e*Sg	Sg	13 35 10.7	-4.4
OKC	**Ostrava-Krasne**	5.12	193	*e*Pn	Pn	13 33 48.1	+0.9
OKC	**Ostrava-Krasne**	5.12	193	*e*PN	Pn	13 33 47.9	+0.7
OKC				*e*PG	Pg	13 34 09.9	-0.8
OKC				*e*SN	Sn	13 34 44.0	-3.1
OKC				LR		13 36 00.0	
	comp=Z,2.8nm,10.2s						
OKC	**Ostrava-Krasne**	5.12	193	*e*P	Pn	13 33 47.9	+0.7
OKC				*e*		13 34 44.0	
OKC				MLR	MLR		
	comp=Z,3µm,10.2s						
OKC	**Ostrava-Krasne**	5.12	193	*e*Pn	Pn	13 33 47.9	+0.7
OKC				*e*		13 34 09.9	
OKC				*e*Sn	Sn	13 34 44.0	-3.1
UPP	**Uppsala**	5.20	347	*e*P	Pn	13 33 50.5	+2.1
VSU	**Vasula**	5.21	43	Pn	Pn	13 33 50.2	+1.7
VSU				Pg	Pg	13 34 05.1	-7.5
VSU				Sn	Sn	13 34 48.3	-1.1
VSU				Lg		13 35 11.0	
VSU	**Vasula**	5.21	43	*e*P	Pn	13 33 51.1	+2.6
VSU				*e*S	Sn	13 34 46.8	-2.6
VSU				*e*SG	Sg	13 35 10.6	-12
VSU	**Vasula**	5.21	43	P	Pn	13 33 49.9	+1.4
MORC	**Moravsky Berou**	5.27	197	*e*Pn	Pn	13 33 49.2	0.0
	comp=Z,97nm,0.8s						
BACU	**Backbrunna**	5.28	344	*e*P	Pn	13 33 50.9	+1.6
BRG	**Berggiesshubel**	5.39	225	*i* P	Pn	13 33 51.1	+0.2
BRG				*e*		13 34 52.5	
BRG				pmax	pmax		
	comp=Z,436nm,1.0s						
BRG				MLR	MLR		
	comp=Z,2µm,3.9s						
BRG				MLR	MLR		
	comp=N,7µm,6.1s						
BRG				MLR	MLR		
	comp=E,6µm,6.1s						
BRG	**Berggiesshubel**	5.39	225	*i* Pn	Pn	13 33 51.1	+0.2
	comp=E,436nm,1.0s						
BRG				*e*Pg	Pg	13 34 22.3	+6.2
BRG				*e*Sn	Sn	13 34 52.5	-1.3
BRG				*e*Sg	Sg	13 35 31.2	+3.3
PVCC	**Panska Ves**	5.42	220	*e*PN	Pn	13 33 51.7	+0.4
PVCC				*e*SN	Sn	13 34 50.9	-3.6
PVCC				L		13 36 20.0	
	comp=E,2.4nm,9.5s						
FLYU	**Flymyra**	5.44	349	*e*P	Pn	13 33 53.1	+1.5
NRAU	**Nora**	5.46	333⇓	*e*P	Pn	13 33 53.7	+1.8
KWP	**Kalwaria**	5.47	161⇓	*e*P	Pn	13 33 53.0	+1.0
KWP				*e*		13 34 58.6	
KWP	**Kalwaria**	5.47	161⇓	*e*Pn	Pn	13 33 53.0	+1.0
KWP				*e*Pg	Pg	13 34 12.3	-5.4
KWP				*e*Sn	Sn	13 34 58.6	+2.8
KWP				*e*Sg	Sg	13 35 25.4	-5.1
CLL	**Collm**	5.48	233	*e*Pn	Pn	13 33 52.7	+0.4
CLL				*e*L		13 36 35.7	
	comp=E,3µm,12.0s						
CLL	**Collm**	5.48	233	*i* PN	Pn	13 33 52.5	+0.2
CLL				*i*		13 33 53.6	
CLL				*i*		13 33 58.3	
CLL				*e*		13 34 06.0	
CLL				*i* PG	Pg	13 34 21.1	+3.1
CLL				*i* SN	Sn	13 34 51.6	-4.6
CLL				*e*		13 35 11.0	
CLL				*i* SG	Sg	13 35 28.0	-3.1
CLL				*e*		13 35 40.0	
CLL	**Collm**	5.48	233	*i* P	Pn	13 33 52.5	+0.2
CLL				*i*		13 34 51.6	
CLL	**Collm**	5.48	233	*i* Pn	Pn	13 33 52.5	+0.2
CLL				*i* Pg	Pg	13 34 21.1	+3.1
CLL				*i* Sn	Sn	13 34 51.6	-4.6
CLL				*i* Sg	Sg	13 35 28.0	-3.1
GRAU	**Graesoe**	5.58	353⇓	*e*P	Pn	13 33 55.1	+1.5
LVV	**L'vov**	5.60	152	*i* P	Pn	13 33 55.0	+1.1
OSTU	**Oestervaala**	5.63	345	*e*P	Pn	13 33 55.1	+0.7
LIKS	**Likavka**	5.81	186	*e*	Pn	13 34 03.0	+6.1
LIKS				*e*		13 34 27.0	
LIKS				*e*		13 35 46.5	
LIKS	**Likavka**	5.81	186	*i* P	Pn	13 34 03.0	+6.1
LIKS	**Likavka**	5.81	186	P	Pn	13 33 57.7	+0.8
LIKS				*i* Pn	Pn	13 34 03.0	+6.1
LIKS				*e*Pg	Pg	13 34 27.0	+2.5
LIKS				*e*Sg	Sg	13 35 46.5	+4.6
PRU	**Pruhonice**	5.87	217	*e*PN	Pn	13 33 57.6	-0.2
PRU				*i* x	x	13 34 07.0	
PRU				*i* PG	Pg	13 34 18.2	-7.6
PRU				*e*SN	Sn	13 35 02.6	-3.4
PRU				*e*SG	Sg	13 35 37.9	-6.2
	comp=E,408nm,0.6s						
PRU				L		13 36 00.0	
PRU	**Pruhonice**	5.87	217	*e*P	Pn	13 33 57.6	-0.2
PRU				*e*		13 35 02.6	
PRU				smax			
	comp=N,408nm,0.6s						
PRU				MLR	MLR		
	comp=Z,3µm,2.2s						
PRU	**Pruhonice**	5.87	217	*e*Pn	Pn	13 33 57.6	-0.2
	comp=Z,408nm,0.6s						
PRU				*i*		13 34 07.0	
PRU				*i*		13 34 18.2	
PRU				*e*Sn	Sn	13 35 02.6	-3.4
PRU				*e*Sg	Sg	13 35 37.9	-6.2
VRAC	**Vranov**	5.91	202	Pn	Pn	13 33 59.0	+0.7
	comp=Z,8.7nm,0.3s,baz=17,slow=12,SNR=38						
VRAC				Sn	Sn	13 35 07.2	+0.5
	comp=Z,35nm,0.3s,slow=13,SNR=3.8						
VRAC				Lg		13 35 42.3	
	comp=Z,36nm,0.3s,baz=118,slow=22,SNR=4.5						
VRAC	**Vranov**	5.91	202	P	Pn	13 33 58.9	+0.7
VRAC				SN	Sn	13 35 07.2	+0.4
CRVS	**Cervenica-Dubn**	6.00	171	*i*	Pn	13 34 05.0	+5.4
CRVS				*e*		13 34 30.0	
CRVS				*e*		13 35 53.6	
CRVS	**Cervenica-Dubn**	6.00	171	P	Pn	13 34 00.4	+0.8
CRVS				*i* Pn	Pn	13 34 05.0	+5.4
CRVS				*e*Pg	Pg	13 34 30.0	+1.6
CRVS				*e*Sg	Sg	13 35 53.6	+5.2
KOLS	**Kolonicke sedl**	6.07	166	*e*PG	Pg	13 34 27.5	-2.2
KOLS				*e*SN	Sn	13 35 08.0	-2.9
KOLS				*e*		13 35 57.9	
KOLS	**Kolonicke sedl**	6.07	166	*e*P	Pn	13 34 05.4	+4.8
KOLS				*e*		13 35 08.0	
FALU	**Falun**	6.10	340⇑	*e*P	Pn	13 34 02.2	+1.1
JAVC	**Velka Javorina**	6.14	194	P	Pn	13 34 02.9	+1.3
KRUC	**Moravsky**	6.18	202	P	Pn	13 34 02.6	+0.5
IGGU	**Iggoen**	6.23	348	*e*P	Pn	13 34 02.6	-0.2
HFS	**Hagfors**	6.31	330	*e*P	Pn	13 34 05.0	+1.1
HFS				*e*PG	Pg	13 34 25.7	-8.7
HFS				*e*SG	Sg	13 35 47.5	-11
HFS	**Hagfors**	6.31	330	Pn	Pn	13 34 04.5	+0.6
	comp=Z,18nm,0.3s,baz=140,slow=13,SNR=732						
HFS				Pg	Pg	13 34 25.5	-8.9
	comp=Z,76nm,0.3s,baz=145,slow=18,SNR=21						
HFS				Lg		13 35 48.1	
	comp=Z,229nm,0.3s,baz=137,slow=28,SNR=14						
HFS	**Hagfors**	6.31	330	Pn	Pn	13 34 05.0	+1.1
	baz=138,slow=14						
HFS				Pg	Pg	13 34 25.7	-8.7
	baz=138,slow=18						
HFS				Lg		13 35 47.5	
	baz=146,slow=28						
MUD	**Monsted U'grnd**	6.33	289	*i* PG	Pg	13 34 25.9	-9.0
MUD	**Monsted U'grnd**	6.33	289	*i* P	Pn	13 34 14.3	+10
MUD				*i*		13 34 25.9	
	comp=Z,850nm,16.0s						
MUD	**Monsted U'grnd**	6.33	289	*e*P	Pn	13 34 14.3	+10
MUD				*i*		13 34 25.9	
KOLL	**Kolacno**	6.33	190	*i*	Pn	13 34 10.0	+5.7
KOLL	**Kolacno**	6.33	190	*e*PG	Pg	13 34 35.4	+0.5
KOLL				*e*SG	Sg	13 36 00.0	+0.7
KOLL	**Kolacno**	6.33	190	P	Pn	13 34 04.0	-0.3
KOLL				*i* Pn	Pn	13 34 10.0	+5.7
KOLL				*e*Pg	Pg	13 34 35.4	+0.5
KOLL				*e*Sg	Sg	13 36 00.0	+0.7
KECS	**Kecovo**	6.36	177	*e*PN	Pn	13 34 08.6	+4.0
KECS				*i* PG	Pg	13 34 36.0	+0.5
KECS				*i* SG	Sg	13 36 01.5	+1.2
KECS	**Kecovo**	6.36	177	P	Pn	13 34 04.2	-0.5
KECS				*e*Pn	Pn	13 34 08.6	+4.0
KECS				*i* Pg	Pg	13 34 36.0	+0.5
KECS				*i* Sg	Sg	13 36 01.5	+1.2
UZH	**Uzhgorod**	6.37	166	*i* P	Pn	13 34 02.5	-2.3
VYHS	**Vyhne**	6.38	187	*e*PN	Pn	13 34 10.1	+5.2
VYHS				*e*PG	Pg	13 34 36.1	+0.2
VYHS				*e*SN	Sn	13 35 15.5	-3.1
VYHS				*e*		13 36 02.1	
VYHS	**Vyhne**	6.38	187	*e*P	Pn	13 34 10.1	+5.2
VYHS				*e*		13 35 15.5	
VYHS	**Vyhne**	6.38	187	P	Pn	13 34 03.9	-1.0
VYHS				*e*Pn	Pn	13 34 10.1	+5.2
VYHS				*e*Pg	Pg	13 34 36.1	+0.2
VYHS				*e*Sn	Sn	13 35 15.5	-3.1
VYHS				*e*Sg	Sg	13 36 02.1	+1.2
WERD	**Werda**	6.40	230	*e*Pn	Pn	13 34 04.6	-0.7
GUNZ	**Gunzen**	6.45	229	*e*Pn	Pn	13 34 05.0	-0.9
NKC	**Novy Kostel**	6.50	228	*e*PN	Pn	13 34 05.8	-0.8
NKC				L		13 37 10.0	
	comp=Z,1.8nm,9.4s						
SMOL	**Smolenice**	6.52	195	*e*Pn	Pn	13 34 13.5	+6.7
SMOL				*e*Sn	Sn	13 35 17.2	-4.8
PVF	**Pernaja**	6.54	26	*e*P	Pn	13 34 07.7	+0.4
PVF				*e*S	Sn	13 35 17.4	-5.4
PVF				*e*SG	Sg	13 35 50.1	-16
MOX	**Moxa**	6.58	234	*e*Pn	Pn	13 34 06.7	-1.0
MOX				*e*Sn	Sn	13 35 18.8	-4.8
MOX	**Moxa**	6.58	234	*i* P	Pn	13 34 06.8	-0.9
MOX				S	Sn	13 35 18.0	-5.6
MOX				L		13 36 56.0	
MOX	**Moxa**	6.58	234	*e*P	Pn	13 34 06.8	-0.9
MOX				*e*		13 35 18.3	
MOX				MLR	MLR		
	comp=Z,2µm,13.0s						
ZST	**Bratislava**	6.88	196	*e*	Pn	13 34 17.1	+5.2
ZST	**Bratislava**	6.88	196	*e*SG	Sg	13 36 13.6	-3.8
ZST	**Bratislava**	6.88	196	P	Pn	13 34 13.8	+1.9
ZST				*e*Pn	Pn	13 34 17.1	+5.2
ZST				*e*Sg	Sg	13 36 13.6	-3.8
PSZ	**Piszkesteto**	6.92	180⇓	*e*Pn	Pn	13 34 11.9	-0.6
KHC	**Kasperske Hory**	6.94	217	*e*PN	Pn	13 34 12.2	-0.5
KHC				*e*x	x	13 34 16.5	
VKA	**Vienna**	6.95	201	*e*(PN)	Pn	13 34 16.0	+3.0
VKA				*i* (SG)	Sg	13 36 09.7	-10
AKASG	**Malin Array Be**	6.97	123	Pn	Pn	13 34 11.2	-1.9
	comp=Z,53nm,0.3s,baz=317,slow=12,SNR=81						
AKASG				Pg	Pg	13 34 34.6	-13
	comp=Z,144nm,0.3s,baz=312,slow=13,SNR=29						
AKASG				Sn	Sn	13 35 26.8	-6.5
	comp=Z,268nm,0.3s,baz=315,slow=23,SNR=8.5						
AKASG				Lg		13 36 05.3	
	comp=Z,973nm,0.3s,baz=306,slow=28,SNR=14						
AKASG	**Malin Array Be**	6.97	123	P	Pn	13 34 11.3	-1.9
AKASG						13 35 26.8	
AKASG				pmax	pmax		
	comp=Z,53nm,0.3s						
AKASG				smax			
	comp=N,268nm,0.3s						
ROTU	**Roteberg**	6.97	343	*e*P	Pn	13 34 13.3	+0.1
VJF	**Virojoki**	7.02	32	*e*P	Pn	13 34 13.1	-0.8
VJF				*e*S	Sn	13 35 28.3	-6.3
VJF				*e*SG	Sg	13 36 05.2	-17
ARNU	**Arnoeviken**	7.02	350⇓	*e*P	Pn	13 34 13.0	-0.9
GERES	**GERESS Array B**	7.14	216	Pn	Pn	13 34 16.0	+0.4
	comp=N,3.4nm,0.3s,baz=33,slow=13,SNR=50						
GERES				Sn	Sn	13 35 41.2	+3.7
	comp=N,31nm,0.3s,baz=33,slow=32,SNR=6.1						
GERES				Lg		13 36 17.3	
	comp=N,30nm,0.3s,baz=43,slow=24,SNR=4.6						
GERES	**GERESS Array B**	7.14	216	P	Pn	13 34 16.0	+0.4
GERES						13 35 41.2	
GERES				pmax	pmax		
	comp=Z,3.0nm,0.3s						
GERES				smax			
	comp=N,31nm,0.3s						
OSL	**Oslo**	7.16	319	*e*P	Pn	13 34 15.1	-0.8
OSL				AMB	AMB	13 34 24.6	
	comp=Z,46nm,0.8s						
OSL				AML	AML	13 36 25.5	
	comp=Z,1µm,0.3s						
OSL	**Oslo**	7.16	319	*e*P	Pn	13 34 15.1	-0.8
OSL				AML	AML	13 36 25.5	
	comp=Z,6µm,0.4s						
OSL	**Oslo**	7.16	319	*e*P	Pn	13 34 15.1	-0.8
	comp=Z,46nm,0.8s						
WET	**Wettzell**	7.18	220	*e*Pn	Pn	13 34 16.0	-0.2
FIA0	**FINESS Array S**	7.38	23	*e*P	Pn	13 34 18.6	-0.4
FIA0				*e*S	Sn	13 35 37.2	-6.3
FIA0				*e*SG	Sg	13 36 16.9	-17
FIA0				MSG		13 36 24.9	
	comp=Z,2µm,0.4s						
FIA0	**FINESS Array S**	7.38	23	Pn	Pn	13 34 18.5	-0.4
	baz=202,slow=12						
FIA0				Sn	Sn	13 35 37.9	-5.7
	baz=207,slow=22						
FIA0				Lg		13 36 17.4	
	baz=212,slow=28						
FINES	**FINESS Array B**	7.38	23	Pn	Pn	13 34 18.4	-0.5
	comp=Z,36nm,0.3s,baz=202,slow=11,SNR=547						
FINES				Sn	Sn	13 35 37.6	-6.0
	comp=Z,152nm,0.3s,baz=200,slow=22,SNR=10						
FINES				Lg		13 36 22.0	
	comp=Z,661nm,0.3s,baz=206,slow=24,SNR=9.0						
FINES	**FINESS Array B**	7.38	23	P	Pn	13 34 18.4	-0.6
FINES						13 35 37.6	
FINES				pmax	pmax		
	comp=Z,36nm,0.3s						
FINES				smax			
	comp=N,152nm,0.3s						
GRA1	**Grafenberg Arr**	7.43	230	*e*Pn	Pn	13 34 18.9	-0.8
GRF	**Grafenberg Arr**	7.43	230	*e*L		13 37 08.3	
	comp=N,646nm,18.1s						
GRF	**Grafenberg Arr**	7.43	230	*e*P	Pn	13 34 18.9	-0.8
GRF				MLR	MLR		
	comp=Z,600nm,18.1s						
PUL	**Pulkovo**	7.47	44	*e*P	Pn	13 34 17.6	-2.7
PUL				*e*		13 35 42.4	
PUL				pmax	pmax		
	comp=Z,83nm,0.3s						
PKSG		7.51	188⇓	*e*P	Pn	13 34 21.3	+0.5
HASU	**Hassela**	7.56	348	*e*P	Pn	13 34 20.6	-0.8
NAO01	**NORSAR Array S**	7.74	325	*e*P	Pn	13 34 22.3	-1.6
	comp=Z,19nm,1.2s						
NAO	**NORSAR Subarra**	7.74	325	P	Pn	13 34 23.1	-0.9
NB2	**NORSAR Subarra**	7.78	327	*e*P	Pn	13 34 23.1	-1.5
NB2				*e*		13 36 35.1	
NOA	**NORSAR Array B**	7.78	327	Pn	Pn	13 34 23.1	-1.5
	comp=Z,31nm,0.3s,baz=145,slow=14,SNR=74						
NOA				Sn	Sn	13 35 45.5	-8.1
	comp=Z,82nm,0.3s,baz=274,slow=13,SNR=3.5						
NOA				Lg		13 36 34.9	
	comp=Z,524nm,0.3s,baz=141,slow=27,SNR=12						
NOA	**NORSAR Array B**	7.78	327	P	Pn	13 34 23.1	-1.4
NOA						13 35 45.5	
NOA				pmax	pmax		
	comp=Z,31nm,0.3s						
NOA				smax			
	comp=N,82nm,0.3s						
KEF	**Keuruu**	7.79	17	*e*P	Pn	13 34 25.4	+0.6
KEF				*e*S	Sn	13 35 48.2	-5.8
KEF				*e*SG	Sg	13 36 32.0	-16
KEF				MSG		13 36 46.1	
	comp=Z,1µm,0.4s						
MOA	**Molln**	7.84	209⇑	*i*Pn	Pn	13 34 25.5	0.0
	comp=Z,524nm,0.7s						
MOA				*i* Sg	Sg	13 36 29.8	-20
HEMU	**Hemsoen**	7.94	354	*e*P	Pn	13 34 26.1	-0.7
PKS8	**Sarbogard**	8.00	186⇑	*e*P	P	13 34 27.3	-0.3
KAF	**Kangasniemi**	8.02	22	*e*p	P	13 34 27.2	-0.8
KAF	**Kangasniemi**	8.02	22	*e*P	P	13 34 27.1	-0.8
KAF				*e*S	Sn	13 35 52.2	-7.5
KAF				*e*SG	Sg	13 36 37.5	-18
KAF				MSG		13 36 45.9	
	comp=Z,1µm,0.4s						
ARSA	**Arzberg**	8.09	202⇑	*i*Pn	P	13 34 29.5	+0.7
	comp=Z,324nm,0.7s						
ARSA				*i* Sg	Sg	13 36 38.8	-19
WIT	**Witteveen**	8.13	261	*e*P	P	13 34 40.6	+11
PKS9	**Tamasi**	8.32	188	*e*P	P	13 34 32.1	0.0
WTSB	**Winterswijk**	8.38	255	*e*P	P	13 34 31.6	-1.3
	comp=Z,90nm,1.1s						
WTSB				*e*x	x	13 34 42.7	
WTSB	**Winterswijk**	8.38	255	P	P	13 34 32.2	-0.7
SUF	**Sumiainen**	8.54	20	*e*P	P	13 34 34.0	-1.1
SUF				*e*S	Sn	13 36 05.3	-7.2
SUF				MSG		13 37 02.8	
	comp=Z,3µm,0.5s						
HUSU	**Husum**	8.55	358	*e*P	P	13 34 34.6	-0.7
HUSU				*e*S	Sn	13 36 08.0	-4.9
SOLU	**Sollefteaa**	8.56	352	*e*P	P	13 34 34.3	-1.2
FUR	**Furstenfeldbru**	8.59	223	P	P	13 34 35.9	0.0
BLS5	**Blasjo**	8.67	308	*e*P	P	13 34 36.2	-0.8
BLS5				AMB	AMB	13 34 47.0	
	comp=Z,177nm,0.4s						
BLS5				*e*S	Sn	13 36 10.3	-5.6
BLS5				AML	AML	13 37 11.3	
	comp=Z,2µm,0.4s						
BLS5	**Blasjo**	8.67	308	*e*P	P	13 34 36.2	-0.8
BLS5				*e*S	Sn	13 36 10.3	-5.6
BLS5				AML	AML	13 37 11.3	
	comp=Z,2µm,0.4s						
BLS5	**Blasjo**	8.67	308	*e*P	P	13 34 36.2	-0.8
	comp=Z,177nm,0.4s						
BLS5				*e*S	Sn	13 36 10.3	-5.6
KBA	**Koelnbreinsper**	8.81	211⇑	*i*PN	P	13 34 39.5	+0.6
ODD1	**Odda**	8.82	311	*e*P	P	13 34 36.8	-2.3
ODD1				AMB	AMB	13 34 47.9	
	comp=Z,218nm,0.4s						
ODD1				*e*S	Sn	13 36 13.1	-6.5
ODD1				AML	AML	13 37 14.1	
	comp=Z,6µm,0.6s						
ODD1	**Odda**	8.82	311	*e*P	P	13 34 36.8	-2.3
ODD1				*e*S	Sn	13 36 13.1	-6.5
ODD1				AML	AML	13 37 14.1	
	comp=Z,6µm,0.6s						
ODD1	**Odda**	8.82	311	*e*P	P	13 34 36.8	-2.3
	comp=Z,218nm,0.4s						
ODD1				*e*S	Sn	13 36 13.1	-6.5
RHK1	**Bakonya**	8.82	189⇑	*e*P	P	13 34 39.5	+0.4
STAV	**Stavanger**	8.83	304	*e*P	P	13 34 37.5	-1.7
STAV				AMB	AMB	13 34 52.2	
	comp=Z,207nm,2.2s						
STAV				AML	AML	13 37 13.2	
	comp=Z,1µm,0.6s						
STAV	**Stavanger**	8.83	304	*e*P	P	13 34 37.5	-1.7
STAV				AML	AML	13 37 13.2	
	comp=Z,1µm,0.6s						
OBKA	**Obir**	9.01	205⇓	*i*Pn	P	13 34 41.3	-0.3
	comp=Z,317nm,0.9s						
OBKA				*i* Sg	Sn	13 37 08.0	+44
STU	**Stuttgart**	9.01	232	*e*L		13 38 51.2	
	comp=Z,1µm,12.8s						
STU	**Stuttgart**	9.01	232	P	P	13 34 40.7	-1.0
	comp=Z,29nm,0.4s						
RHK3	**Tenkes**	9.02	188⇑	*e*P	P	13 34 41.3	-0.4
NOD	**Norderasen**	9.03	345	*e*P	P	13 34 40.0	-1.9
NOD				*e*S	Sn	13 36 17.5	-7.3
UMAU	**Umeaa**	9.09	2	*e*P	P	13 34 42.1	-0.8
BREU	**Bredtraesk**	9.12	356	*e*P	P	13 34 41.8	-1.4
KMY	**Karmoy**	9.15	305	*e*P	P	13 34 41.6	-2.0
KMY				AMB	AMB	13 34 50.9	
	comp=Z,147nm,0.6s						
KMY				*e*S	Sn	13 36 19.9	-7.8
KMY				AML	AML	13 37 19.0	
	comp=Z,1µm,0.5s						
KMY	**Karmoy**	9.15	305	*e*P	P	13 34 41.6	-2.0
KMY				*e*S	Sn	13 36 19.9	-7.8
KMY				AML	AML	13 37 19.0	
	comp=Z,1µm,0.5s						
KMY	**Karmoy**	9.15	305	*e*P	P	13 34 41.6	-2.0
	comp=Z,147nm,0.6s						
KMY				*e*S	Sn	13 36 19.9	-7.8
WATA	**Walderalm**	9.17	219⇓	*i*PN	P	13 34 43.6	-0.3
WTTA	**Wattenberg**	9.21	218⇑	*i*Pn	P	13 34 45.1	+0.7
	comp=Z,363nm,0.9s						
WTTA				*i* Sg	Sn	13 37 11.6	+42
DOMB	**Dombas**	9.21	326	*e*P	P	13 34 42.7	-1.8
DOMB				AMB	AMB	13 35 00.9	
	comp=Z,164nm,0.8s						
DOMB				AML	AML	13 37 38.0	
	comp=Z,2µm,0.9s						
DOMB	**Dombas**	9.21	326	*e*P	P	13 34 42.7	-1.8
DOMB				AML	AML	13 37 38.0	
	comp=Z,2µm,0.9s						
DOMB	**Dombas**	9.21	326	*e*P	P	13 34 42.7	-1.8
	comp=Z,164nm,0.8s						
PDKS	**Podkum**	9.31	202	*e*Pn	P	13 34 46.8	+0.9
PDKS				*e*		13 37 14.2	
MOTA	**Moosalm**	9.33	220⇑	*i*Pn	P	13 34 45.7	-0.5
	comp=Z,257nm,0.8s						
MOTA				*i* Sg	Sn	13 37 18.8	+47
SQTA	**Sankt Quirin**	9.40	219⇑	*i*Pn	P	13 34 46.9	-0.2
	comp=Z,286nm,0.8s						
SQTA				*i* Sg	Sn	13 37 20.3	+46
FVI	**Forni Avoltri**	9.41	212	*e*P	P	13 34 53.3	+6.1
PTCC	**Patocco-Chiusa**	9.42	209	*e*P	P	13 34 48.0	+0.7
HGN	**Heimansgroeve**	9.43	250	*e*P	P	13 34 46.7	-0.7
	comp=Z,16nm,0.6s						
RUP	**Ruppelstein**	9.43	242	P	P	13 34 46.6	-0.9
CADS	**Cadrg**	9.47	207	*e*Pn	P	13 34 48.5	+0.4
LANF	**Langenberg**	9.52	237	P	P	13 34 47.1	-1.5
OBN	**Obninsk**	9.55	81	Pn	P	13 34 44.9	-4.1
	comp=Z,6µm,0.5s,SNR=22						
OBN	**Obninsk**	9.55	81⇓	*i*P	P	13 34 44.8	-4.2
OBN				*i*		13 36 28.1	
OBN				pmax	pmax		
	comp=Z,66nm,0.4s						
OBN				MLR	MLR		
	comp=Z,1µm,8.0s						
OBN	**Obninsk**	9.55	81	*e*P	P	13 34 45.0	-4.0
	comp=Z,426nm,0.4s						
VISS	**Visnje**	9.61	202	*e*Pn	P	13 34 50.3	+0.4
VISS				*e*		13 36 38.1	
VISS				*e*		13 37 08.0	
VISS				*e*		13 37 21.0	
EGD	**Espegrend**	9.61	311	*e*P	P	13 34 48.4	-1.5
EGD				AMB	AMB	13 35 10.1	
	comp=Z,1µm,1.0s						
EGD				AML	AML	13 37 36.5	
	comp=Z,9µm,0.5s						
EGD	**Espegrend**	9.61	311	*e*P	P	13 34 48.4	-1.5
EGD				AML	AML	13 37 36.4	
	comp=Z,2µm,0.8s						
EGD	**Espegrend**	9.61	311	*e*P	P	13 34 48.4	-1.5
	comp=Z,1µm,1.0s						
KIS	**Kishinev**	9.62	141α	*i*P	P	13 34 46.0	-3.9
KIS				*i* S	Sn	13 36 32.0	-7.1
KIS				pmax	pmax		
	comp=Z,400nm,0.6s						
KIS				smax			
	comp=N,4µm,1.0s						
KIS				smax			
	comp=E,3µm,1.0s						
KIS				MLR	MLR		
	comp=Z,2µm,10.0s						
VOY	**Vojsko**	9.62	206	*e*P	P	13 34 51.9	+2.0
VOY				*e*		13 35 16.5	
VOY				*e*S	Sn	13 37 42.3	+63
BER	**Bergen**	9.62	311	*e*P	P	13 34 48.5	-1.5
BER				AMB	AMB	13 34 58.0	
	comp=Z,1µm,0.9s						
BER				AML	AML	13 37 47.0	
	comp=Z,2µm,0.9s						
BER	**Bergen**	9.62	311	*e*P	P	13 34 48.5	-1.5
BER				AML	AML	13 37 47.0	
	comp=Z,3µm,0.9s						
BER	**Bergen**	9.62	311	*e*P	P	13 34 48.5	-1.5
	comp=Z,1µm,0.9s						
RUND	**Rundenannen**	9.62	312	*e*P	P	13 34 48.6	-1.3
RUND				AMB	AMB	13 34 59.2	
	comp=Z,476nm,1.0s						
RUND				*e*S	Sn	13 36 34.3	-4.9
RUND				AML	AML	13 37 39.1	
	comp=Z,5µm,0.6s						

RUND	**Rundenannen**	9.62	312	*e*P	P	13 34 48.6	-1.3
RUND				*e*Sn	Sn	13 36 34.3	-4.9
RUND				AML	AML	13 37 39.1	
	comp=Z,5µm,0.6s						
HYA	**Hoyanger**	9.68	317	*e*P	P	13 34 49.8	-1.0
HYA				AMB	AMB	13 35 04.1	
	comp=Z,248nm,0.3s						
HYA				AML	AML	13 37 49.0	
	comp=Z,3µm,0.6s						
HYA	**Hoyanger**	9.68	317	*e*P	P	13 34 49.8	-1.0
HYA				AML	AML	13 37 49.0	
	comp=Z,3µm,0.6s						
HYA	**Hoyanger**	9.68	317	*e*P	P	13 34 49.8	-1.0
	comp=Z,248nm,0.3s						
BURU	**Burvik**	9.81	4	*e*P	P	13 34 51.4	-1.2
DAVA	**Damuels**	9.86	224	⇑*i*PN	P	13 34 51.8	-1.5
WLF	**Walferdange**	9.92	244	P	P	13 34 54.9	+0.8
TRON	**Trondheim**	9.93	334	*e*P	P	13 34 54.2	0.0
VRI	**Vrincioaia**	9.95	152	⇑*i*P	P	13 34 53.7	-0.8
VRI	**Vrincioaia**	9.95	152	⇑*i*P	P	13 34 53.6	-0.9
BEO	**Belgrade**	10.02	178	⇑*i*Pn	P	13 34 55.4	-0.1
KJN	**Kajaani**	10.08	20	*e*P	P	13 34 54.3	-1.9
KJN				*e*S	S	13 36 40.9	-10
KJN				MSG		13 37 54.2	
	comp=Z,1µm,0.4s						
MOL	**Molde**	10.09	325	*e*P	P	13 34 57.0	+0.7
MOL				AMB	AMB	13 35 06.8	
	comp=Z,136nm,1.1s						
MOL				AML	AML	13 37 53.5	
	comp=Z,3µm,0.6s						
MOL	**Molde**	10.09	325	*e*Pn	P	13 34 57.0	+0.7
MOL				AML	AML	13 37 53.5	
	comp=Z,3µm,0.6s						
MOL	**Molde**	10.09	325	*e*P	P	13 34 57.1	+0.8
	comp=Z,136nm,1.1s						
MLR	**Muntele Rosu**	10.10	155	Pn	P	13 34 54.0	-2.6
	comp=Z,2.0nm,0.3s,baz=162,slow=14,SNR=22						
MLR				Lg		13 37 45.8	
	comp=Z,8.0nm,0.3s,baz=237,slow=14,SNR=3.1						
MLR				LR	LR	13 38 57.9	
	comp=Z,515nm,19.2s,baz=333,slow=38						
MLR	**Muntele Rosu**	10.10	155	⇓*i*P	P	13 34 55.2	-1.3
MLR	**Muntele Rosu**	10.10	155	⇓*i*P	P	13 34 55.2	-1.3
MOS	**Moscow**	10.11	78	*e*P	P	13 34 52.7	-4.0
MOS				*i* S	S	13 36 39.3	-12
MOS				pmax	pmax		
	comp=Z,53nm,0.6s						
MOS				smax			
	comp=N,313nm,0.9s						
MOS				MLR	MLR		
	comp=Z,1µm,9.4s						
MOS				MLR	MLR		
	comp=E,2µm,9.6s						
WLS	**Welschbruch**	10.13	236	P	P	13 34 54.0	-3.0
CDF	**Champ du Feu**	10.17	236	*e*Pn	P	13 34 54.9	-2.6
CDF				*e*Sg	S	13 37 49.8	+57
	comp=E,554nm,1.0s						
SUE	**Sulen**	10.20	314	*e*P	P	13 34 55.9	-2.0
SUE				AMB	AMB	13 35 05.6	
	comp=Z,186nm,0.6s						
SUE	**Sulen**	10.20	314	*e*P	P	13 34 55.9	-2.0
	comp=Z,186nm,0.6s						
CTI	**Castel Tesino**	10.26	214	*e*P	P	13 35 01.2	+2.4
DAVOX	**Davos**	10.27	222	Pn	P	13 34 57.4	-1.6
	comp=Z,1.3nm,0.3s,baz=27,slow=9.2,SNR=12						
DAVOX				Lg		13 37 52.7	
	comp=Z,2.2nm,0.3s,baz=131,slow=22,SNR=3.6						
BRD	**Bordesti**	10.32	151	⇓*i*P	P	13 34 58.8	-0.8
BRD	**Bordesti**	10.32	151	⇓*i*P	P	13 34 58.8	-0.8
DJES	**Djerdap**	10.34	170	⇑*i*Pn	P	13 34 58.4	-1.5
BRMO	**Bormio**	10.34	220	*e*P	P	13 35 03.5	+3.7
ECH	**Echery**	10.36	236	P	P	13 34 58.5	-1.7
GIVF	**Givet**	10.38	249	*e*Pn	P	13 34 56.7	-3.7
GIVF				*e*Sn	S	13 36 47.3	-11
GIVF				*e*Sg	S	13 37 57.2	+59
	comp=Z,470nm,1.1s						
NSS	**Namsos**	10.53	341	*e*P	P	13 34 58.2	-4.2
NSS				AMB	AMB	13 35 09.9	
	comp=Z,233nm,0.9s						
NSS				AMS	AMS	13 37 54.2	
	comp=Z,328nm,16.9s						
NSS	**Namsos**	10.53	341	*e*P	P	13 34 58.2	-4.2
NSS				AMS	AMS	13 37 54.2	
	comp=Z,328nm,16.9s						
NSS	**Namsos**	10.53	341	*e*P	P	13 34 58.2	-4.2
	comp=Z,233nm,0.9s						
SVIS	**Svilajnac**	10.57	175	*e*Pn	P	13 35 02.1	-0.9
ISR	**Istrita**	10.59	154	⇑*i*P	P	13 35 04.1	+0.8
ISR	**Istrita**	10.59	154	⇑*i*P	P	13 35 04.1	+0.8
MOF	**Molkenrain**	10.63	234	P	P	13 35 04.0	+0.1
VDL	**Val di Lei**	10.67	223	⇓P	P	13 35 04.6	+0.2
OUL	**Oulu**	10.71	14	*e*P	P	13 35 01.4	-3.5
OUL				*e*S	S	13 36 55.5	-10
OUL				*e*SG	S	13 38 00.7	+55
OUL				MSG		13 38 11.4	
	comp=Z,2µm,0.5s						
BAIF	**Baives**	10.73	250	*e*Pn	P	13 35 03.1	-2.2
BAIF				*e*Sg	S	13 38 06.2	+60
	comp=Z,149nm,0.8s						
DIVS	**Divcibare**	10.74	180	⇑*i*Pn	P	13 35 05.1	-0.3
HINF	**Hinteralfeld**	10.79	235	*e*Pn	P	13 35 02.3	-3.7
HINF				*e*Sg	S	13 38 06.3	+58
	comp=Z,565nm,1.2s						
HAU	**Haudompre**	10.90	237	*e*Pn	P	13 35 04.3	-3.2
HAU				*e*Sg	S	13 38 08.9	+58
	comp=Z,260nm,0.9s						
HAU				*e*R			
	comp=Z,708nm,12.8s						
RFYF	**Reffroy**	10.91	241	*e*Pn	P	13 35 04.7	-3.0
	baz=56						
RFYF				*e*Sg	S	13 38 14.4	+63
	comp=Z,880nm,1.4s						
THEF	**They Montfort**	10.92	239	P	P	13 35 05.7	-2.2
GRUS	**Gruza**	10.96	177	⇓*i*Pn	P	13 35 07.6	-0.7
BOLS	**Boljevac**	11.08	173	⇓*i*Pn	P	13 35 08.0	-2.1
MEZF	**Maizieres J’vi**	11.21	242	*e*Pn	P	13 35 08.1	-3.7
	baz=54						
MEZF				*e*Sg	S	13 38 21.0	+63
	comp=Z,492nm,1.3s						
NVSS	**Nova Varos 2**	11.33	181	⇑*i*Pn	P	13 35 14.5	+1.1
SFTF	**Sexfontaines**	11.41	241	*e*Pn	P	13 35 11.6	-2.9
	baz=58						
SFTF				*e*Sg	S	13 38 28.7	+66
	comp=Z,600nm,1.2s						
VAI	**Varese**	11.46	223	*e*P	P	13 35 16.1	+0.9
MOR8	**Moi Rana**	11.70	349	*e*P	P	13 35 16.8	-1.5
MOR8				*e*S	S	13 37 24.4	-5.7
MOR8				AML	AML	13 39 11.3	
	comp=Z,741nm,0.6s						
MCGN	**Macugnaga**	11.70	226	*e*P	P	13 35 16.7	-1.8
VOR	**Voronezh**	11.91	97	⇓*i*P	P	13 35 15.9	-5.4
VOR				*e*		13 37 26.0	
VOR				pmax	pmax		
	comp=Z,290nm,1.0s						
VOR				pmax	pmax		
	comp=N,110nm,1.2s						
VOR				pmax	pmax		
	comp=E,150nm,1.1s						
MSF	**Maaselka**	11.97	18	*e*P	P	13 35 18.4	-3.6
MSF				*e*S	S	13 37 23.0	-14
CABF	**La Chapelle**	12.03	233	*e*Pn	P	13 35 18.7	-4.1
CABF				*e*Sg	S	13 38 45.8	+68
	comp=E,777nm,1.2s						
CABF	**La Chapelle**	12.03	233	*e*Pn	P	13 35 18.7	-4.1
CABF				*e*P		13 35 22.3	
CABF				*e*Sg	S	13 38 45.8	+68
STOK	**Stokkvaagen**	12.03	346	*e*P	P	13 35 20.6	-2.2
STOK				AML	AML	13 38 54.3	
	comp=Z,1µm,0.7s						
BARS	**Barje**	12.08	173	*e*Pn	P	13 35 22.9	-0.6
PVL	**Pavlikeni**	12.13	161	*i* P	P	13 35 25.0	+0.7
ARV	**Arcevia**	12.23	205	*e*P	P	13 35 31.9	+6.4
PSN	**Preselentsi**	12.36	151	*i* P	P	13 35 22.0	-5.4
BDI	**Bagni Di Lucca**	12.37	213	*e*P	P	13 35 31.8	+4.3
CRE	**Caprese Michel**	12.37	208	*e*P	P	13 35 34.9	+7.4
VTS	**Vitosha**	12.43	169	*i* P	P	13 35 27.0	-1.2
VTS	**Vitosha**	12.43	169	P	P	13 35 28.5	+0.3
LPG	**La Plagne**	12.59	228	*e*Pn	P	13 35 26.0	-4.4
LPG				*e*Sg		13 39 02.3	
	comp=Z,243nm,1.1s						
LPG	**La Plagne**	12.59	228	*e*Pn	P	13 35 26.0	-4.4
LPG				*e*P		13 35 32.6	
LPG				*e*Sg		13 39 02.3	
PRD	**Provadia**	12.61	154	*i* P	P	13 35 29.0	-1.6
LOR	**Lormes**	12.63	240	*e*Pn	P	13 35 29.3	-1.6
	baz=54						
LOR				*e*Pg	Px	13 36 23.7	
LOR				*e*Sn	S	13 37 39.5	-13
LOR				*e*R			
	comp=Z,406nm,14.8s						
SKO	**Skopje**	12.90	175	*e*P	P	13 35 34.5	-0.1
SSF	**Saint Saulge**	12.95	240	*e*Pn	P	13 35 33.9	-1.3
SSF				*e*Pg	Px	13 36 28.9	
SSF				*e*Sg		13 39 15.8	
	comp=Z,210nm,1.3s						
BNI	**Bardonecchia**	12.98	227	P	P	13 35 36.5	+0.9
	comp=Z,28nm,1.1s						
SGF	**Sodankyl**	13.04	11	*e*P	P	13 35 32.1	-4.2
SGF				*e*S	S	13 37 51.2	-11
SGF				MSG		13 39 41.5	
	comp=Z,803nm,0.5s						
FIN	**Finale Ligure**	13.07	220	*e*P	P	13 35 43.8	+7.0
SMF	**Signal de Mont**	13.07	238	*e*Pn	P	13 35 32.7	-4.1
SMF				*e*Sg		13 39 19.3	
	comp=Z,528nm,1.5s						
KKB	**Krupnik**	13.13	170	*i* P	P	13 35 36.0	-1.6
MBDF	**Montbardon**	13.20	225	*e*Pn	P	13 35 35.9	-2.6
MBDF				*e*Sg		13 39 21.7	
	comp=Z,396nm,1.4s						
MBDF	**Montbardon**	13.20	225	*e*Pn	P	13 35 35.9	-2.6
MBDF				*e*P		13 35 40.5	
MBDF				*e*Sg		13 39 21.7	
AQU	**L’Aquila**	13.21	202	P	P	13 35 36.5	-2.2
AVF	**Avril sur Loir**	13.21	239	*e*Pn	P	13 35 35.2	-3.4
AVF				*e*Sg		13 39 19.6	
	comp=Z,159nm,1.1s						
AVF	**Avril sur Loir**	13.21	239	*e*Pn	P	13 35 35.2	-3.4
AVF				*e*P		13 35 40.7	
AVF				*e*Sg		13 39 19.6	
GRN	**Grenoble**	13.23	229	P	P	13 35 40.2	+1.3
HYF	**Humbligny**	13.25	242	*e*Pn	P	13 35 35.4	-3.7
EKA	**Eskdalemuir Ar**	13.25	282	Pn	P	13 35 38.0	-1.2
	comp=Z,1.6nm,0.3s,baz=86,slow=13,SNR=24						
EKA	**Eskdalemuir Ar**	13.25	282	P	P	13 35 38.0	-1.2
EKA				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ESK	**Eskdalemuir**	13.28	282	*e*P	P	13 35 37.8	-1.7
	comp=Z,26nm,0.5s						
MNS	**Montasola**	13.34	204	*e*P	P	13 35 46.1	+5.7
SURF	**Saint Ours**	13.39	225	P	P	13 35 41.0	0.0
SURF	**Saint Ours**	13.39	225	P	P	13 35 40.5	-0.5
SIM	**Simferopol’**	13.42	132	P	P	13 35 38.7	-2.7
SIM				*e*		13 38 01.0	
SIM				pmax	pmax		
	comp=Z,48nm,0.8s						
SIM				MLR	MLR		
	comp=Z,1µm,8.0s						
ORIF	**Oris-en-Rattie**	13.42	228	*e*Pn	P	13 35 38.0	-3.5
ORIF				*e*Sg		13 39 30.7	
	comp=Z,455nm,1.5s						
ORIF				*e*R			
	comp=Z,779nm,18.0s						
ORIF	**Oris-en-Rattie**	13.42	228	*e*Pn	P	13 35 38.0	-3.5
ORIF				*e*P		13 35 41.4	
ORIF				*e*Sg		13 39 30.7	
IMI	**Imperia**	13.44	221	*e*P	P	13 35 50.7	+9.0
MMB	**Musomiste**	13.48	168	*i* P	P	13 35 41.0	-1.2
RZN	**Rozhen**	13.52	165	*i* P	P	13 35 42.0	-0.6
TOUF	**Mont Tournerai**	13.60	223	P	P	13 35 47.3	+3.6
BGF	**Bois d’Agland**	13.62	240	*e*Pn	P	13 35 40.6	-3.4
BGF				*e*Sg		13 39 36.8	
	comp=Z,339nm,1.2s						
SBF	**Sospel**	13.65	222	*e*P	P	13 35 46.2	+1.8
SBF				*e*Sg		13 39 32.3	
	comp=Z,276nm,1.4s						
AURF	**Auriere**	13.68	222	P	P	13 35 49.0	+4.3
LOF	**Lofoten**	13.69	350	*e*P	P	13 35 42.7	-2.0
LOF				AMB	AMB	13 35 48.8	
	comp=Z,122nm,1.4s						
LOF				AML	AML	13 40 02.6	
	comp=Z,521nm,0.6s						
LOF	**Lofoten**	13.69	350	*e*P	P	13 35 42.7	-2.0
LOF				AML	AML	13 40 02.6	
	comp=Z,521nm,0.6s						
LOF	**Lofoten**	13.69	350	*e*P	P	13 35 42.7	-2.0
	comp=Z,122nm,1.4s						
LDF	**La Druitiere**	13.91	252	*e*Pn	P	13 35 46.8	-0.9
LDF				*e*Sn	S	13 38 10.7	-12
	comp=Z,115nm,0.8s						
SRS	**Serrai**	13.93	169	*e*P	P	13 35 46.8	-1.3
CALN	**Calern**	13.96	223	P	P	13 35 48.0	-0.5
GRG	**Griva**	13.97	172	*e*P	P	13 35 48.1	-0.5
VIVF	**Saint-Julien-l**	14.00	231	*e*Pn	P	13 35 45.8	-3.2
VIVF				*e*Sg		13 39 49.4	
	comp=Z,285nm,1.5s						
FLN	**La Foliniere**	14.01	253	*e*Pn	P	13 35 47.5	-1.6
FLN				*e*Sn	S	13 38 13.7	-12
	comp=Z,142nm,0.8s						
FLN				*e*R			
	comp=Z,374nm,21.1s						
FNA	**Florina**	14.08	176	*e*P	P	13 35 58.1	+8.1
TCF	**Toulx Ste Croi**	14.13	240	*e*Pn	P	13 35 48.7	-1.9
TCF				*e*Sg		13 39 51.6	
	comp=Z,257nm,1.3s						
SOH	**Sokhos**	14.19	169	*e*P	P	13 35 50.7	-0.8
FRF	**La Foret Royal**	14.22	223	*e*Pn	P	13 35 48.1	-3.7
FRF				*e*Sg		13 39 54.3	
	comp=Z,194nm,1.4s						
APA0	**Apatity Array**	14.22	21	Pn	P	13 35 47.7	-4.0
	baz=210,slow=12						
APA0				Lg		13 39 54.5	
	baz=192,slow=28						
APA0	**Apatity Array**	14.22	21	*e*P	P	13 35 47.7	-4.0
APA0				*e*		13 39 54.5	
KIF	**Kilpisjarvi**	14.24	1	*e*P	P	13 35 49.0	-2.9
APA	**Apatity**	14.28	21	⇑*i*P	P	13 35 48.0	-4.4
APA				pmax	pmax		
	comp=Z,36nm,0.6s						
APA				MLR	MLR		
	comp=Z,4µm,3.0s						
SMRF	**Simiane la Rot**	14.31	227	*e*Pn	P	13 35 49.4	-3.7
SMRF				*e*Sg		13 39 56.8	
	comp=Z,688nm,2.1s						
KTK1	**Kautokeino**	14.32	5	*e*P	P	13 35 50.4	-2.6
KTK1				AML	AML	13 40 10.0	
	comp=Z,1µm,0.7s						
GRR	**Gorron**	14.43	252	*e*Pn	P	13 35 53.1	-1.5
GRR				*e*Sn	S	13 38 23.5	-12
	comp=Z,64nm,0.6s						
LMR	**La Mourre**	14.46	223	*e*Pn	P	13 35 51.7	-3.3
LMR				*e*Sg		13 40 02.0	
	comp=Z,70nm,1.1s						
ALN	**Alexandroupoli**	14.51	161	*e*P	P	13 35 55.0	-0.7
LVZ	**Lovozero**	14.82	22	Pn	P	13 35 55.5	-4.0
	comp=Z,503nm,0.5s,SNR=8.8						
LVZ	**Lovozero**	14.82	22*c*	*i*P	P	13 35 56.3	-3.2
LIT	**Litokhoron**	14.83	172	*e*P	P	13 36 02.3	+2.5
TRO	**Tromso**	14.87	359	*e*P	P	13 35 55.6	-4.6
TRO				AMS	AMS	13 40 36.8	
	comp=Z,384nm,19.1s						
ARA0	**ARCESS Array S**	14.98	8	Pn	P	13 35 57.4	-4.2
	baz=188,slow=14						
ARA0				Sn	S	13 38 36.4	-12
	baz=189,slow=22						
ARA0				Lg		13 40 15.1	
	baz=185,slow=37						
ARA0	**ARCESS Array S**	14.98	8	*e*P	P	13 35 57.4	-4.2
ARA0				*e*S	S	13 38 36.4	-12
ARA0				*e*SG		13 40 15.1	
ARCES	**ARCESS Array B**	14.98	8	Pn	P	13 35 57.1	-4.5
	comp=Z,27nm,0.3s,baz=187,slow=14,SNR=642						
ARCES				Sn	S	13 38 36.5	-12
	comp=Z,45nm,0.3s,baz=188,slow=24,SNR=7.0						
ARCES				Lg		13 40 14.2	
	comp=Z,41nm,0.3s,baz=190,slow=30,SNR=8.6						
ARCES				LR	LR	13 42 06.0	
	comp=Z,364nm,18.8s,baz=165,slow=38						
ARCES	**ARCESS Array B**	14.98	8	P	P	13 35 57.1	-4.5
ARCES						13 38 36.5	
ARCES				pmax	pmax		
	comp=Z,27nm,0.3s						
ARCES				smax			
	comp=N,45nm,0.3s						
ARCES				MLR	MLR		
	comp=Z,364nm,18.8s						
ARE0	**ARCESS Array S**	14.98	8	*e*P	P	13 35 57.0	-4.5
LASF	**Ste Croix**	14.98	231	*e*Pn	P	13 35 58.6	-3.2
LASF				*e*Sg		13 40 18.2	
	comp=Z,150nm,1.3s						
LASF	**Ste Croix**	14.98	231	*e*Pn	P	13 35 58.6	-3.2
LASF				*e*P		13 36 03.7	
LASF				*e*Sg		13 40 18.2	
ANN	**Anapa**	15.05	125	*e*P	P	13 35 53.0	-10
ANN				pmax	pmax		
	comp=Z,60nm,0.8s						
ANN				MLR	MLR		
	comp=Z,3µm,3.0s						
ANN				MLR	MLR		
	comp=N,1µm,2.0s						
ANN				MLR	MLR		
	comp=E,2µm,2.0s						
MEV	**Metsovon**	15.07	176	*e*P	P	13 36 09.0	+5.9
MFF	**Saint Martin d**	15.13	245	*e*Pn	P	13 36 02.2	-1.5
RJF	**Les Rejaudoux**	15.16	239	*e*Pn	P	13 36 02.4	-1.8
RJF				*e*Sg		13 40 24.5	
	comp=E,177nm,1.4s						
RJF				*e*R			
	comp=E,265nm,15.1s						
RJF	**Les Rejaudoux**	15.16	239	*e*Pn	P	13 36 02.4	-1.8
RJF				*e*P		13 36 06.3	
RJF				*e*Sg		13 40 24.5	
CAF	**Calviac**	15.17	237	*e*Pn	P	13 36 03.0	-1.3
CAF				*e*Sg		13 40 25.2	
	comp=E,147nm,1.5s						
IGT	**Igoumenitsa**	15.30	179	*e*P	P	13 36 11.7	+5.6
KEV	**Kevo**	15.32	9	*e*p	P	13 36 01.5	-4.6
KEV	**Kevo**	15.32	9	*e*P	P	13 36 01.7	-4.4
KEV				*e*S	S	13 38 43.4	-13
SGMF	**Saint Gilles**	15.44	254	*e*Pn	P	13 36 06.5	-1.3
SGMF				*e*Sn	S	13 38 48.1	-11
	comp=E,81nm,0.8s						
DLF	**Lyons Farm**	15.61	275	*e*P	P	13 36 16.6	+6.7
XOR	**Xorichti**	15.62	171	*e*P	P	13 36 10.9	+0.8
DMUB	**Kingscourt**	15.66	278	*e*P	P	13 36 18.8	+8.2
HENT	**Hendek**	15.79	148	*i* P	P	13 36 08.2	-4.1
ROSF	**Rostrenen**	15.80	255	*e*Pn	P	13 36 11.4	-1.0
ROSF				*e*Sn	S	13 38 55.7	-12
	comp=E,88nm,0.8s						
LFF	**La Frestale**	15.81	239	*e*Pn	P	13 36 10.5	-2.1
LFF				*e*Sg		13 40 44.4	
	comp=E,218nm,1.3s						
AGG	**Agios Georgios**	15.89	173	*e*P	P	13 36 15.7	+2.0
ULDT	**Uludag**	15.92	154	*i* P	P	13 36 10.3	-3.7
QUIF	**Quistinic**	15.97	254	*e*Pn	P	13 36 13.2	-1.4
QUIF				*e*Sn	S	13 39 00.0	-12
	comp=E,56nm,0.6s						
BALT	**Daday**	15.99	141	*i* P	P	13 36 09.9	-4.9
DCN	**Croghan**	16.02	276	*e*P	P	13 36 17.7	+2.4
LKD	**Levkas**	16.13	178	*e*P	P	13 36 19.8	+3.1
MTLF	**Montolieu**	16.30	232	*e*Pn	P	13 36 17.2	-1.6
MTLF				*e*Sg		13 41 00.4	
	comp=E,271nm,1.8s						
SGKT	**Sivrigoynuk**	16.38	146	*i* P	P	13 36 16.2	-3.6
BOYT	**Boyabat**	16.66	137	*i* P	P	13 36 20.8	-2.6
ELDT	**Eldivan**	16.92	142	*i* P	P	13 36 22.8	-4.0
SOI	**Samo**	16.97	191	*e*P	P	13 36 34.9	+7.5
ESKT	**Eskisehir**	16.97	150	*i* P	P	13 36 30.6	+3.2
SOC	**Sochi**	17.05	123	*e*P	P	13 36 27.7	-0.6
SOC				*e*S	S	13 39 32.7	-4.0
SOC				pmax	pmax		
	comp=Z,45nm,0.5s						
SOC				pmax	pmax		
	comp=N,63nm,0.8s						
SOC				pmax	pmax		
	comp=E,55nm,0.7s						
SOC				MLR	MLR		
	comp=Z,420nm,14.0s						
SOC				MLR	MLR		
	comp=N,641nm,21.0s						
SOC				MLR	MLR		
	comp=E,595nm,15.0s						
CTKT	**Corum**	17.30	139	*i* P	P	13 36 28.5	-3.0
EPF	**Esparros**	17.41	235	*e*Pn	P	13 36 33.4	+0.5
GOF	**Gofitskoye**	17.69	114	⇑*i*P	P	13 36 45.0	+8.6
GOF				*i* S	S	13 39 55.0	+3.6
GOF				pmax	pmax		
	comp=Z,180nm,1.0s						
GOF				smax			
	comp=N,650nm,1.6s						
EMIR	**Miracle**	17.73	231	P	P	13 36 40.0	+3.1
	comp=N,18nm,0.8s						
ETSF	**Etsaut**	17.94	237	*e*Pn	P	13 36 40.4	+0.9
EGRA	**Graus**	18.07	234	P	P	13 36 43.7	+2.6
	comp=N,15nm,0.6s						
SJPF	**Ste Jean**	18.11	238	*e*Pn	P	13 36 43.7	+2.1
EALK	**Alkurruntz**	18.17	239	P	P	13 36 46.0	+3.6
	comp=N,12nm,0.6s						
KIV	**Kislovodsk**	18.27	117	*e*P	P	13 36 38.8	-4.8
KIV				pmax	pmax		
	comp=Z,23nm,1.0s						
KIV				pmax	pmax		
	comp=N,12nm,0.9s						
KIV				pmax	pmax		
	comp=E,10.0nm,0.9s						
KIV				MLR	MLR		
	comp=Z,700nm,20.0s						
KIV				MLR	MLR		
	comp=N,562nm,19.0s						
KIV				MLR	MLR		
	comp=E,374nm,16.0s						
KIV	**Kislovodsk**	18.27	117	*e*P	P	13 36 38.4	-5.1
	comp=E,18nm,0.7s						
BDRM	**Kayabasi**	18.49	161	*i* P	P	13 36 46.4	0.0
THR5	**Thira Island,**	18.78	166	*e*P	P	13 36 49.8	-0.1
THR3	**Thira Island,**	18.79	166	*e*P	P	13 36 50.8	+0.7
SANT	**Santorini**	18.84	166	*e*P	P	13 36 50.1	-0.5
	comp=E,64nm,0.4s						
AVNT	**Avonos**	18.94	142	*i* P	P	13 36 50.1	-1.7
EBR	**Ebro Roquetas**	19.07	231	*e*P	P	13 36 59.0	+5.6
ELAN	**Lanestosa**	19.14	242	P	P	13 36 53.8	-0.3
	comp=E,34nm,0.8s						
ARG	**Arkhangelos**	19.44	160	P	P	13 36 57.3	-0.4
ZEI	**Tsey**	19.73	118	*e*P	P	13 36 57.0	-3.9
ZEI				*e*S	S	13 40 31.0	-6.3
ZEI				pmax	pmax		
	comp=Z,150nm,5.0s						
ZEI				MLR	MLR		
	comp=Z,600nm,16.0s						
IDI	**Anoyia**	19.83	168	P	P	13 36 58.6	-3.5
	comp=Z,5.3nm,0.3s,baz=358,slow=12,SNR=37						
EMOS	**Mosqueruela**	19.88	232	P	P	13 37 04.0	+1.4
	comp=Z,36nm,0.7s						
EIBI	**Ibiza**	20.19	226	P	P	13 37 07.1	+1.2
	comp=Z,17nm,0.6s						
ETOR	**Torete**	20.25	235	P	P	13 37 08.0	+1.4
	comp=Z,32nm,0.9s						
JMIC	**Jan Mayen**	20.41	333	LR	LR	13 44 22.9	
	comp=Z,447nm,21.9s,MS3.8,baz=64,slow=35						
MEST	**Erdemli**	20.68	146	*i* P	P	13 37 10.4	-0.6
KAHT	**Ahir Dag**	20.70	139	*i* P	P	13 37 11.6	+0.4
MALT	**Malatya**	20.72	135	*e*P	P	13 37 12.0	+0.6
	comp=Z,21nm,0.7s						
EBEN	**Beniarda**	21.12	229	P	P	13 37 17.2	+1.7
	comp=Z,34nm,0.7s,mb4.8						
GZT	**Gaziantep**	21.20	138	*i* P	P	13 37 16.5	+0.1
COBT	**Iskenderun**	21.46	142	*i* P	P	13 37 20.6	+1.7
ALFC	**Alevga**	21.54	151	P	P	13 37 18.0	-1.7
	comp=Z,1.2nm,0.4s,mb3.6						
AKMC	**Akamas**	21.58	151	P	P	13 37 18.8	-1.4
ARU	**Arti**	21.66	70	⇑*i*P	P	13 37 19.2	-1.6
ARU				*i*		13 37 38.1	
ARU				*i* S	S	13 41 17.9	+2.4
ARU				*i* SS	SS	13 41 42.8	-9.0
ARU				pmax	pmax		
	comp=Z,144nm,0.8s,mb5.5						
ARU				MLR	MLR		
	comp=Z,100nm,13.0s,MS3.4						
ARU				MLR	MLR		
	comp=N,100nm,17.0s,MS3.5						
ARU				MLR	MLR		
	comp=E,100nm,14.0s,MS3.5						
ARU	**Arti**	21.66	70	⇑*e*P	P	13 37 18.7	-2.1
	comp=E,226nm,0.6s,mb5.8						
ERUA	**La Rua**	21.66	246	P	P	13 37 22.3	+1.3
	comp=E,25nm,0.6s,mb4.8						
PPCY	**Paphos**	21.72	152	P	P	13 37 20.1	-1.5
ETOB	**Tobarra**	21.76	231	P	P	13 37 25.5	+3.5
	comp=E,55nm,0.7s,mb5.1						
ECAL	**Calabor**	21.77	245	P	P	13 37 22.7	+0.7
	comp=E,28nm,0.6s,mb4.9						
PBRG	**Braganca**	21.86	244	*e*P	P	13 37 24.3	+1.3
	comp=E,64nm,1.1s,mb5.0						
CSS	**Prodhromos**	21.93	149	P	P	13 37 23.3	-0.4

	comp=E,1.2nm,0.5s,mb3.5						
ESDC	Sonseca Array	22.06	236	P	P	13 37 25.5	+0.6
	comp=E,24nm,0.6s,mb4.8,baz=41,slow=9.5,SNR=83						
ESDC	Sonseca Array	22.06	236	P	P	13 37 25.8	+0.8
	comp=E,33nm,0.6s,mb4.9						
ESLA	Sonseca Array	22.06	236⇑	*e*P	P	13 37 25.6	+0.6
	comp=E,20nm,0.9s,mb4.5						
GNI	Garni	22.10	121	*e*P	P	13 37 23.6	-1.7
	comp=E,80nm,0.9s,mb5.2						
EVIA	Vianos	22.20	232	P	P	13 37 27.6	+1.3
	comp=E,10nm,0.6s,mb4.4						
EMAZ	Mazaricos	22.26	250	P	P	13 37 28.6	+1.6
	comp=E,42nm,0.6s,mb5.0						
BEST	Besiri	22.28	131	*i* P	P	13 37 31.3	+4.2
EMUR	La Murta	22.28	229	P	P	13 37 30.8	+3.6
	comp=E,13nm,0.7s,mb4.5						
ELOB	Lobios	22.52	246	P	P	13 37 31.5	+2.1
	comp=E,29nm,0.7s,mb4.8						
BORG	Borgarnes	22.60	313	LR	LR	13 46 59.7	
	comp=E,332nm,18.4s,MS3.8,baz=182,slow=38						
SVE	Sverdlovsk	22.69	68⇓	*i*P	P	13 37 28.8	-2.2
SVE				*e*SS	S	13 41 38.0	+3.5
SVE				*e*		13 42 07.0	
SVE				pmax	pmax		
	comp=Z,140nm,1.2s,mb5.3						
SVE				MLR	MLR		
	comp=Z,1µm,9.0s						
SVE				MLR	MLR		
	comp=N,400nm,10.0s,MS4.6						
SVE				MLR	MLR		
	comp=E,1µm,10.0s,MS4.6						
PVRL	Vila Real	22.75	245	*e*P	P	13 37 34.9	+3.2
	comp=E,37nm,1.4s,mb4.6						
PVIS	Viseu	23.25	244	*e*P	P	13 37 38.9	+2.3
	comp=E,22nm,0.8s,mb4.7						
MTE	Manteigas	23.30	243	*e*P	P	13 37 38.9	+1.8
	comp=E,22nm,0.7s,mb4.7						
MTE	Manteigas	23.30	243	*e*P	P	13 37 38.3	+1.2
	comp=E,40nm,0.8s,mb4.9						
SPA0	Spitsbergen Ar	23.49	358	P	P	13 37 40.0	+1.4
	baz=158,slow=12						
EADA	Adamuz	23.54	235	P	P	13 37 41.6	+2.2
	comp=E,6.6nm,0.5s,mb4.3						
PCBR	Castelo Branco	23.68	242	*e*P	P	13 37 42.5	+1.7
	comp=E,28nm,0.7s,mb4.8						
ERON	Agron	24.11	232	P	P	13 37 46.8	+1.8
	comp=E,10nm,0.6s,mb4.4						
ELOJ	Sierra Loja	24.16	233	P	P	13 37 47.6	+2.1
	comp=E,8.7nm,0.7s,mb4.3						
HRI	Mount Hermon	24.24	146	P	P	13 37 49.7	+3.4
EBAD	Badajoz	24.27	240	P	P	13 37 47.6	+1.1
	comp=E,17nm,0.6s,mb4.7						
PTOM	Tomar	24.33	243	*e*P	P	13 37 49.2	+2.1
	comp=E,88nm,1.0s,mb5.1						
KBS	Kingsbay	24.36	356⇓	*e*P	P	13 37 48.9	+1.8
	comp=E,86nm,0.9s,mb5.2						
KSHT	Keshet	24.52	146	P	P	13 37 52.1	+3.0
OFRI	‘Ofer	24.60	148	P	P	13 37 51.5	+1.7
EMIN	Mina Concepcio	24.87	238	P	P	13 37 51.7	-0.6
	comp=E,16nm,0.7s,mb4.7						
MMLI	Mount Malkishu	24.91	148	P	P	13 37 56.2	+3.5
EMIJ	Mijas	24.93	233	P	P	13 37 52.5	-0.4
	comp=E,15nm,0.6s,mb4.7						
EVO	Evora	24.94	241	*e*P	P	13 37 54.2	+1.2
	comp=E,21nm,0.7s,mb4.5						
EVO				*e*R			
	comp=E,404nm,18.2s						
SLTI	Sal’it	24.97	149	P	P	13 37 54.7	+1.3
HMDT	Nahal Hemdat	25.11	148	P	P	13 37 56.8	+2.1
ESPR	Espera	25.19	235	P	P	13 37 56.3	+0.9
	comp=E,7.8nm,0.5s,mb4.5						
PBEJ	Beja	25.26	240	*e*P	P	13 37 57.4	+1.4
PALC	Alcoutim	25.50	238	*e*P	P	13 38 00.1	+1.8
ASF	Jabal al Asfar	25.62	145	P	P	13 38 00.6	+1.1
	comp=E,13nm,0.7s,mb4.5,baz=217,slow=2.4,SNR=16						
DRGI	Dragot	25.68	148	P	P	13 38 01.9	+1.8
MZDA	Masada	25.94	149	P	P	13 38 03.8	+1.3
KZIT	Kziot	26.04	151	P	P	13 38 03.9	+0.5
ZFRI	Zfri	26.59	150	P	P	13 38 09.3	+0.8
PRNI	Paran	26.73	150	P	P	13 38 10.7	+0.9
KMTI	Karmit	26.88	151	P	P	13 38 11.6	+0.4
MBH	Mount Berech	27.23	151	P	P	13 38 14.8	+0.4
EIL	Elat	27.36	151	P	P	13 38 16.1	+0.6
	comp=E,6.0nm,0.6s,mb4.3,baz=332,slow=19,SNR=7.5						
EIL	Elat	27.36	151⇓	*e*P	P	13 38 15.5	0.0
	comp=E,28nm,0.6s,mb5.0						
JMOS	Jabal al Moall	27.87	151	P	P	13 38 20.8	+0.6
HAQS	Haql	27.93	151	P	P	13 38 20.9	+0.1
JMQS	Jabal Moqyreh	28.36	150	P	P	13 38 25.3	+0.7
ZRNK	Zerenda	28.49	73	P	P	13 38 25.6	+0.1
ZRNK				pmax	pmax		
	comp=Z,27nm,0.9s,mb4.9						
BDAS	Al Bad‘	28.57	151	P	P	13 38 27.0	+0.5
BRVK	Borovoye	29.15	72	P	P	13 38 31.8	+0.3
BRVK	Borovoye	29.15	72⇑	*e*P	P	13 38 31.4	-0.1
	comp=Z,17nm,0.6s,mb5.0						
TBKS	Tabuk	29.18	149	P	P	13 38 34.0	+2.0
BVA0	Borovoye Array	29.23	72	*i* P	P	13 38 32.4	+0.2
BVAR	Borovoye Array	29.23	72	P	P	13 38 32.7	+0.6
	comp=Z,11nm,0.5s,mb4.9,baz=292,slow=8.0,SNR=25						
SUMG	Summit	29.66	329	P	P	13 38 35.5	-0.5
	comp=Z,28nm,1.0s,mb4.9						
VOSK	Vostochnaya	29.68	73	P	P	13 38 36.0	-0.2
VOSK				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.6						
RST	Umm Al-Ruwaisa	31.90	131	*e*P	P	13 38 56.4	+0.3
RST				AMb	AMB	13 38 58.5	
	comp=Z,25nm,0.7s,mb5.1						
KBD	Kabd	32.49	131	*e*P	P	13 39 01.8	+0.6
RDF	Al-Radifah	32.64	131	*e*P	P	13 39 03.8	+1.3
RDF				AMb	AMB	13 39 05.6	
	comp=Z,42nm,0.5s,mb5.6						
QRN	Al-Qurain	32.96	131	*e*P	P	13 39 06.3	+1.0
QRN				AMb	AMB	13 39 08.0	
	comp=Z,28nm,0.3s,mb5.6						
KURK	Kurchatov	34.82	72	*i* P	P	13 39 20.4	-0.8
KURK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
KURK	Kurchatov	34.82	72⇑	*e*P	P	13 39 20.6	-0.6
	comp=Z,10nm,0.4s,mb5.1						
NVS	Novosibirsk	35.33	63	*i* P	P	13 39 25.8	+0.4
NVS				*i*		13 40 44.9	
NVS				*e*S	S	13 44 53.3	-5.4
NVS				*e*SSS	SSS	13 47 43.0	-0.1
NVS				pmax	pmax		
	comp=Z,20nm,0.6s,mb5.2						
NVS				pmax	pmax		
	comp=E,11nm,0.7s						
NVS				smax			
	comp=N,40nm,1.8s						
EKS2	Erkin-Say	36.61	87	P	P	13 39 38.0	+1.6
	SNR=8.3						
USP	Ospenovka	36.65	85	P	P	13 39 37.6	+0.9
	SNR=12						
AML	Almayashu	36.89	87	P	P	13 39 41.7	+2.9
	SNR=5.8						
AAK	Ala-Archa	37.04	86	P	P	13 39 41.9	+1.9
	SNR=14						
KBK	Karagaybulak	37.29	86	P	P	13 39 43.8	+1.7
	SNR=9.8						
UCH	Uchtor	37.30	87	P	P	13 39 45.0	+2.7
	SNR=7.0						
MKAR	Makanchi Array	38.99	75	P	P	13 39 56.7	+0.4
	comp=N,1.2nm,0.4s,mb4.0,baz=314,slow=6.5,SNR=7.1						
MKAR				PP	PP	13 41 23.4	-6.2
	comp=N,7.9nm,0.8s,baz=300,slow=9.8,SNR=3.9						
MKAR				LR	LR	13 56 47.1	
	comp=N,136nm,19.2s,MS3.8,baz=308,slow=37						
MKAR	Makanchi Array	38.99	75	P	P	13 39 56.7	+0.4
MKAR						13 41 23.4	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR				pmax	pmax		
	comp=Z,8.0nm,0.8s						
MKAR				MLR	MLR		
	comp=Z,136nm,19.2s						
MKAR	Makanchi Array	38.99	75	P	P	13 39 56.7	+0.4
MKAR				PP	PP	13 41 23.4	-6.2
WMQ	Urumqi	43.82	75	*e*P	P	13 40 37.0	+1.1
WMQ				AP	pP	13 40 42.0	+3.1
WMQ				PP	PP	13 42 20.8	+1.0
WMQ				*e*S	S	13 47 06.8	+0.6
WMQ				SS	SS	13 50 15.0	+0.4
WMQ				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.5						
WMQ				LR	LR		
	comp=N,194nm,19.0s,MS4.1						
WMQ				LR	LR		
	comp=E,163nm,22.0s,MS4.1						
WMQ				LR	LR		
	comp=Z,143nm,20.3s,MS3.9						
TIXI	Tiksi	44.42	25	*e*P	P	13 40 42.7	+2.3
TIXI				*e*		13 42 23.5	
TIXI				*e*S	S	13 47 17.5	+2.9
TIXI				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.5						
TIXI				MLR	MLR		
	comp=Z,200nm,19.0s,MS4.1						
MOY	Mondy	46.03	59	*e*P	P	13 40 55.3	+1.9
SCHQ	Schefferville	46.85	308	P	P	13 41 00.3	+0.4
	comp=Z,11nm,0.9s,mb4.8,baz=50,slow=9.2,SNR=6.3						
SCHQ				LR	LR	14 00 18.5	
	comp=Z,165nm,18.4s,MS4.0,baz=294,slow=36						
SCHQ	Schefferville	46.85	308	P	P	13 41 00.3	+0.4
ZAK	Zakamensk	47.96	59	*e*P	P	13 41 09.7	+1.0
BOD	Bodaibo	48.15	46	*e*P	P	13 41 08.2	-1.9
BOD				*e*		13 41 14.2	
YAK	Yakutsk	51.15	35	*e*P	P	13 41 36.7	+3.7
YAK				pmax	pmax		
	comp=Z,14nm,0.7s,mb5.0						
YAK	Yakutsk	51.15	35	*e*P	P	13 41 31.1	-2.0
	comp=Z,66nm,0.6s,mb5.7						
SONM	Songino Array	51.17	60	P	P	13 41 34.8	+1.5
	comp=Z,1.4nm,0.5s,mb4.2,baz=288,slow=9.1,SNR=15						
SONM				PP	PP	13 43 27.7	-3.3
	comp=Z,7.3nm,1.1s,baz=307,slow=8.2,SNR=3.6						
DBIC	Dimbokro	51.99	212	LR	LR	14 06 05.2	
	comp=Z,85nm,18.5s,MS3.8,baz=358,slow=39						
TIC	Toumodi	52.07	212	*e*P	P	13 41 46.2	+5.6
	comp=Z,11nm,0.2s,mb5.4						
KIC	Kosan Boka	52.25	212	*e*P	P	13 41 41.8	-0.2
	comp=Z,144nm,1.5s,mb5.7						
LIC	Lamto	52.47	212	*e*P	P	13 41 42.7	-0.9
	comp=Z,78nm,1.4s,mb5.5						
LIC	Lamto	52.47	212⇓	*i*P	P	13 41 43.1	-0.5
	comp=Z,8.6nm,0.7s,mb4.8						
KOLN	Koldanda	52.72	94	*e*P	P	13 41 43.4	-1.9
GKN	Gorkha	53.14	93	*e*P	P	13 41 48.0	-0.5
	comp=Z,42nm,0.5s,mb5.7						
GTA	Gaotai	53.50	72	*e*P	P	13 41 51.5	+0.5
GTA				AP	pP	13 41 55.8	+1.8
GTA				PP	PP	13 43 52.8	-0.4
GTA				PPP	PPP	13 44 58.5	-2.0
GTA				S	S	13 49 19.8	-2.3
GTA				AMB	AMB		
	comp=Z,2.0nm,0.9s,mb4.0						
GTA				AMB	AMB		
	comp=Z,32nm,4.9s						
GTA				LR	LR		
	comp=N,109nm,18.3s,MS4.1						
GTA				LR	LR		
	comp=E,87nm,17.5s,MS4.1						
GTA				LR	LR		
	comp=Z,69nm,17.1s,MS3.8						
KKN	Kakani	53.67	92	*e*P	P	13 41 52.2	-0.2
	comp=Z,32nm,0.6s,mb5.4						
DMN	Daman	53.71	93	*e*P	P	13 41 52.9	+0.3
	comp=Z,38nm,0.6s,mb5.5						
PKI	Pulchoki	53.91	92	*e*P	P	13 41 53.9	-0.2
	comp=Z,19nm,0.7s,mb5.2						
LSA	Lhasa	55.63	86	P	P	13 42 08.0	+1.3
YKA	Yellowknife Ar	57.74	337	P	P	13 42 21.6	+0.3
	comp=Z,5.6nm,0.6s,mb4.8,baz=24,slow=6.9,SNR=16						
YKA				LR	LR	14 06 51.5	
	comp=Z,101nm,18.8s,MS4.0,baz=45,slow=36						
YKA	Yellowknife Ar	57.74	337	P	P	13 42 21.6	+0.3
YKA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
YKA				MLR	MLR		
	comp=Z,101nm,18.8s						
YKA	Yellowknife Ar	57.74	337	P	P	13 42 21.6	+0.3
SHL	Shillong	59.18	89	*e*P	P	13 42 31.5	-0.3
IMA	Indian Mountai	59.34	357	*e*P	P	13 42 33.4	+1.1
	comp=Z,30nm,0.9s,mb5.3						
COLA	College	60.27	354	P	P	13 42 38.8	+0.1
COLA	College	60.27	354	*e*P	P	13 42 39.4	+0.6
	comp=Z,12nm,0.9s,mb4.9						
ILAR	Eielson Array	60.31	354	P	P	13 42 39.4	+0.4
	comp=Z,9.0nm,1.1s,mb4.7,baz=354,slow=6.1,SNR=35						
ILAR	Eielson Array	60.31	354	P	P	13 42 39.4	+0.4
ILAR				pmax	pmax		
	comp=Z,9.0nm,1.1s						
DAWY	Dawson	60.37	350	*e*P	P	13 42 40.0	+0.6
MCK	McKinley	61.47	354	*e*P	P	13 42 47.3	+0.5
	comp=Z,6.5nm,0.6s,mb4.9						
KLR	Kul’dur	61.63	44	*e*P	P	13 42 52.6	+4.4
CD2	Chengdu	61.92	76	*e*P	P	13 42 55.5	+5.1
CD2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.5						
ULM	Lac du Bonnet	62.40	319	P	P	13 42 53.3	-0.1
	comp=Z,9.7nm,0.9s,mb4.9,baz=24,slow=3.3,SNR=6.9						
ULM				LR	LR	14 11 03.4	
	comp=Z,114nm,18.1s,MS4.1,baz=41,slow=37						
CN2	Changchun	63.21	51	*e*P	P	13 42 57.8	-1.0
CN2				*e*S	S	13 51 25.3	-3.4
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb5.0						
CN2				AMB	AMB		
	comp=Z,300nm,4.0s						
CN2				LR	LR		
	comp=N,200nm,13.0s,MS4.7						
CN2				LR	LR		
	comp=E,300nm,13.0s,MS4.7						
CN2				LR	LR		
	comp=Z,200nm,13.0s,MS4.5						
MDJ	Mudanjiang	64.40	48	P	P	13 43 04.3	-2.2
MDJ				PCP	PcP	13 43 39.1	-1.7
MDJ				PP	PP	13 45 25.3	-4.8
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.7s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,59nm,5.4s						
MDJ				LR	LR		
	comp=N,105nm,20.9s,MS4.2						
MDJ				LR	LR		
	comp=E,148nm,20.1s,MS4.2						
MDJ				LR	LR		
	comp=Z,60nm,21.8s,MS3.7						
KMI	Kunming	65.77	80	*e*P	P	13 43 16.6	+1.0
KMI				LR	LR		
	comp=Z,136nm,13.2s,MS4.3						
CMAR	Chiang Mai Arr	68.79	88	P	P	13 43 35.0	+0.2
	comp=Z,1.0nm,0.5s,mb4.0,baz=309,slow=8.4,SNR=9.1						
CMAR				LR	LR	14 14 15.0	
	comp=Z,75nm,18.2s,MS4.0,baz=185,slow=36						
CMAR	Chiang Mai Arr	68.79	88	P	P	13 43 35.0	+0.2
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
CMAR				MLR	MLR		
	comp=Z,75nm,18.2s						
LAO	LASA Array	69.13	324	*e*P	P	13 43 37.4	+1.0
	comp=Z,29nm,0.5s,mb5.5						
NJ2	Nanjing	69.22	64	*e*P	P	13 43 35.8	-1.4
NJ2				PP	PP	13 46 10.0	-2.4
NJ2				PPP	PPP	13 47 47.9	-2.9
HRY	Holter Researc	70.95	327	*e*P	P	13 43 48.4	+0.9
SSE	Sheshan	71.18	63	*e*P	P	13 43 47.1	-2.1
SSE				S	S	13 53 03.0	-1.8
SSE				SCS	ScS	13 53 50.4	+0.4
SSE				AMB	AMB		
	comp=Z,28nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,27nm,12.0s						
SSE				LR	LR		
	comp=N,52nm,25.6s,MS4.1						
SSE				LR	LR		
	comp=E,125nm,25.7s,MS4.1						
SSE				LR	LR		
	comp=Z,71nm,23.9s,MS3.9						
SSE	Sheshan	71.18	63	*e*P	P	13 43 47.1	-2.1
	comp=Z,28nm,0.7s,mb5.3						
SSE				S	S	13 53 03.0	-1.8
SSE				sS		13 53 08.4	
SSE				ScS	ScS	13 53 50.4	+0.4
MSO	Missoula	71.50	329	*e*P	P	13 43 51.8	+1.0
	comp=Z,3.8nm,0.5s,mb4.6						
DPW	Davenport	71.78	332	P	P	13 43 53.4	+0.9
KSU1	Kansas State U	71.89	313	*e*P	P	13 43 54.0	+0.6
LRAL	Lakeview Retre	72.51	303	P	P	13 43 57.6	+0.6
	comp=Z,18nm,0.7s,mb5.1						
GNW	Green Mountain	73.27	335	*e*P	P	13 44 02.9	+1.8
LNOR	Lincton Mounta	73.63	331	*e*P	P	13 44 04.6	+1.3
PDAR	Pinedale Array	73.71	324	P	P	13 44 05.2	+1.3
	comp=Z,1.3nm,0.5s,mb4.1,baz=34,slow=5.3,SNR=7.5						
PDAR				LR	LR	14 14 28.2	
	comp=Z,65nm,19.1s,MS3.9,baz=224,slow=34						
HLID	Hailey	74.59	327	*e*P	P	13 44 10.5	+1.7
	comp=Z,7.1nm,0.6s,mb4.8						
WMOK	Wichita Mounta	76.51	312	*e*P	P	13 44 21.5	+1.5
	comp=Z,7.9nm,0.6s,mb4.8						
DUG	Dugway	77.10	325	*e*P	P	13 44 25.4	+2.2
	comp=Z,0.6nm,0.6s,mb3.7						
SRU	San Rafael	77.29	323	*e*P	P	13 44 25.4	+1.1
MOD	Modoc	77.86	331	*e*P	P	13 44 29.7	+2.4
	comp=Z,4.5nm,0.6s,mb4.6						
MSU	Marysvale	78.40	324	*e*P	P	13 44 32.2	+1.8
ANMO	Albuquerque	79.47	318*c*	*i*P	P	13 44 39.2	+2.9
BNM	Barren Site	80.24	318	*e*P	P	13 44 42.6	+2.2
NVAR	Mina Array Bea	80.47	328	P	P	13 44 44.4	+2.9
	comp=Z,0.6nm,0.7s,mb3.6,baz=66,slow=3.7,SNR=3.8						
NVAR				LR	LR	14 24 13.9	
	comp=Z,72nm,18.3s,MS4.1,baz=40,slow=39						
NVAR	Mina Array Bea	80.47	328	P	P	13 44 44.4	+2.9
SDV	Santo Domingo	83.16	276	*e*P	P	13 44 58.0	+1.9
	comp=Z,6.7nm,0.8s,mb4.7						
TXAR	Lajitas Array	83.25	313	P	P	13 44 58.2	+1.9
	comp=Z,1.3nm,0.4s,mb4.3,baz=64,slow=4.6,SNR=18						
TXAR				LR	LR	14 22 37.0	
	comp=Z,92nm,18.8s,MS4.2,baz=50,slow=36						
TXAR	Lajitas Array	83.25	313	P	P	13 44 58.2	+1.9
WRA	Warramunga Arr	120.07	82	PKP	PKPdf	13 51 22.4	0.0
	comp=Z,0.3nm,0.5s,baz=320,slow=1.7,SNR=6.8						
SNAA	Sanae	127.22	189		PKPdf	13 51 37.6	+2.7

MOS 21 13:36:48.5±1.9**,54.47N**×**21.26E,h10**^{km}**,mb4.0**/1**,Error ellipse: s-maj=23.6km s-min=11.3km az=74.3,Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SUW	Suwalki	1.22	111	*e*P	Pb	13 37 08.4	-2.8
SUW				*e*		13 37 35.2	
WAR	Warsaw	2.24	184	*e*P	Pn	13 37 21.6	-4.6
WAR				*e*		13 37 58.2	
OJC	Ojcow	4.35	192	*e*P	Pn	13 38 00.1	+3.8
OJC				*e*		13 38 56.5	
VSU	Vasula	5.02	35	P	Pn	13 38 05.2	-0.6
	baz=39						
VSU	Vasula	5.02	35	P	Pn	13 38 05.2	-0.6
VSU				S	Sn	13 39 11.8	+7.2
UPC	Upice	5.10	221	*e*SG	Px	13 38 39.4	
BRG	Berggiesshubel	5.73	234	*e*P	Pn	13 38 16.9	+1.2
BRG				MLR	MLR		
	comp=Z,680nm,6.7s						
BRG				MLR	MLR		
	comp=N,1µm,6.1s						
BRG				MLR	MLR		
	comp=E,1µm,6.1s						
PRU	Pruhonice	6.10	225	SG	Sn	13 39 36.4	+4.9
	comp=E,296nm,1.0s						
PRU	Pruhonice	6.10	225	Sg	Sn	13 39 36.4	+4.9
KHC	Kasperske Hory	7.16	225	P	Pn	13 38 35.4	-0.5
	baz=221						
KHC	Kasperske Hory	7.16	225	P	Pn	13 38 35.5	-0.4
PUL	Pulkovo	7.24	39	P	Pn	13 38 37.9	+0.9
	baz=42						
OBN	Obninsk	8.87	80	*e*P	P	13 39 01.5	+1.8
OBN				pmax	pmax		
	comp=Z,482nm,0.6s						
LVZ	Lovozero	14.88	20	P	P	13 40 19.0	-1.3
	baz=21						
LVZ	Lovozero	14.88	20	P	P	13 40 19.1	-1.2
ZEI	Tsey	18.90	119	*e*P	P	13 41 15.0	+3.7
ZEI				pmax	pmax		
	comp=Z,50nm,4.0s						
ZEI				MLR	MLR		
	comp=Z,300nm,14.0s						

CASC 21 14:12:53.7±2.2**,12.52N**×**87.92W,h39**^{km}±237^{km}**,MD3.6, 3C-3D,Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CNCH	Conchagua	0.76	7⇓	*e*P	P	14 13 08.3	+0.4
CNCH				*e*S	S	14 13 18.6	+0.3
CRIN	San Cristobal	0.87	78	*e*P	P	14 13 10.8	+1.3
CRIN				*e*S	S	14 13 23.3	+2.1
VSM	San Miguel	0.96	339	*e*P	P	14 13 12.0	+1.1
VSM				*e*S	S	14 13 24.9	+1.3
BLLM	Bellamira	0.96	342⇑	*e*P	P	14 13 11.0	+0.1
BLLM				*e*P		14 13 11.1	
BLLM				*e*S	S	14 13 23.5	-0.1
BLLM				*e*S	S	14 13 25.8	+2.1
LEON	Leon	1.01	96	*e*P	P	14 13 11.5	0.0
LEON				*e*S	S	14 13 24.8	-0.1
TELN	Telica	1.07	86⇑	*e*P	P	14 13 12.7	+0.4
TELN				*e*S	S	14 13 24.6	-1.7
MIRN	Miramar	1.19	94⇓	*e*P	P	14 13 14.1	0.0
MIRN				*e*S	S	14 13 29.6	+0.3
CNGN	Cerro Negro	1.20	91	*e*P	P	14 13 14.4	+0.2
CNGN				*e*S	S	14 13 30.0	+0.5
CAHU	Cacacuatique	1.27	347	*e*P	P	14 13 15.4	+0.2
CAHU				*e*S	S	14 13 32.7	+1.2
COPN	Copaltepe	1.35	104	*e*P	P	14 13 16.4	0.0
COPN				*e*S	S	14 13 32.6	-0.7
MOMJ	Momotombo	1.36	95	*e*P	P	14 13 16.5	0.0
MOMJ				*e*S	S	14 13 32.5	-1.1
LCBS	La Ceiba	1.52	318⇑	*e*P	P	14 13 18.9	-0.1
LCBS				*e*S	S	14 13 36.7	-1.1
LFRS	El Faro	1.56	315	*e*P	P	14 13 19.5	+0.1
LFRS				*e*S	S	14 13 37.8	-0.8
APYN	Apoyeque	1.56	100⇓	*e*P	P	14 13 19.7	+0.2
APYN				*e*S	S	14 13 38.3	-0.4
SBLS	San Blas	2.11	309	*e*P	P	14 13 27.3	0.0
SBLS				*e*S	S	14 13 52.5	0.0

CSEM ***21*** *14:15:02.5,35.11N×27.75E,h40^{km},mb4.9*

DUSS ***21*** *14:15:02.5±0.3,36.20N×27.75E,h15^{km},MS4.8*

ISK ***21*** *14:15:03.0,35.08N×27.68E,h72^{km},ML4.8*

MOS ***21*** *14:15:03.9±1.3,35.24N×27.70E,h33^{km},mb4.6/14,Error ellipse: s-maj=10.8km s-min=4.1km az=102.7*

BJI ***21*** *14:15:04.2,35.30N×27.80E,h29^{km},mB4.8,mb4.8,Ms4.8, Msz4.5*

NEIC ***21*** *14:15:04.2,35.28N×27.79E,h29^{km},mb4.8/86, ML4.9(ISK),ML4.8(ATH),After ATH.*

MED_RC ***21*** *14:15:04.2±0.3,35.01N×27.54E,h31^{km}±1^{km},MW4.9/18, Moment Tensor Solution. Body waves: s18,c25; Duration: 1^{s}0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.25±.22; $M_{\theta\theta}$-0.74±.12; $M_{\phi\phi}$2.99±.14; $M_{r\theta}$0.38±.10; $M_{\theta\phi}$0.17±.14; $M_{\phi r}$1.45±.12; Best double couple: $M_0$3.03×10^{16} NP1:ϕ_s352°,δ31°,λ-106°. NP2:ϕ_s191°,δ60°, λ-80°. Principal axes: T 3.38, Plg15°, Azm274°; N -.7, Plg8°, Azm6°; P -2.68, Plg73°, Azm124°; nsta1 refers to waves, cutoff=35s.*

ATH ***21*** *14:15:04.6,35.31N×27.77E,h29^{km}±2^{km},MD4.5/22, ML4.8*

ZUR_RM ***21*** *14:15:04,35.28N×27.79E,h24^{km},Mw5.0/21,Moment Tensor Solution. s21 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.91; $M_{\theta\theta}$-2.80; $M_{\phi\phi}$3.71; $M_{r\theta}$0.79; $M_{\theta\phi}$0.26; $M_{\phi r}$0.88; Best double couple: $M_0$3.49×10^{16} NP1:ϕ_s225°,δ84°,λ-22°. NP2:ϕ_s318°,δ68°,λ-173°. Principal axes: T 3.899, Plg11°, Azm274°; N -.812, Plg67°, Azm31°; P -3.087, Plg20°, Azm180°;*

HRVD ***21*** *14:15:04.2±0.5,35.13N×27.71E,h27^{km}±2^{km},MW4.9/41, Centroid moment Tensor Solution. LP body waves: s11,c13;Mantle waves: s41,c57; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.02±.21; $M_{\theta\theta}$-2.36±.16; $M_{\phi\phi}$2.39±.14; $M_{r\theta}$0.28±.32; $M_{\theta\phi}$-0.29±.19; $M_{\phi r}$0.36±.29; Best double couple: $M_0$2.43×10^{16} NP1:ϕ_s311°,δ79°,λ180°. NP2:ϕ_s42°,δ90°,λ11°. Principal axes: T 2.45, Plg8°, Azm267°; N -.03, Plg79°, Azm44°; P -2.42, Plg7°, Azm176°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

THE ***21*** *14:15:06.2,35.13N×27.81E,h20^{km},ML5.0*

NIC ***21*** *14:15:08.0±0.3,35.40N×27.98E,h25^{km},mb4.9,ML4.6, MW4.0*

IDC ***21*** *14:15:08.5±2.7,35.49N×27.68E,h53^{km}±23^{km},mb4.4/15,* *mb1 4.6/24, mb1mx4.5/28, ML4.5/9, MS4.3/15, Ms1 4.3/15, ms1mx4.2/22, Error ellipse: s-maj=18.7km s-min=14.3km az=150.0*

PDG ***21*** *14:15:10.0±0.1, 35.80N×27.47E, h8^{km}±1^{km}*

ISC 21 14:15:03.3±0.2**, 35.12N**±0.02×**27.73E**±0.01**, h42**^{km}±2^{km}**, h36**^{km}±2.7^{km}**: pP-P, n572,** $\sigma 1^{s}28$/612**, mb4.8**/97**, MS4.4**/24**,**
57C-23D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	0.63	313	⇑*i*PN	P	14 15 15.8	-0.1
KARP				*e*SN	S	14 15 24.8	-0.2
ARG	**Arkhangelos**	1.14	16	⇓*i*PN	P	14 15 22.5	-0.5
ARG				*e*SN	S	14 15 37.5	-0.2
NISR	**Nisiros**	1.57	342	*e*PN	P	14 15 29.9	+0.7
NISR	**Nisiros**	1.57	342	*e*Pn	P	14 15 30.1	+0.9
XRY	**Khrisi**	1.69	262	⇑*i*PN	P	14 15 35.5	+4.6
NPS	**Neapolis**	1.74	275	⇑*i*PB	P	14 15 36.5	+4.8
NPS	**Neapolis**	1.74	275	⇑*i*Pb	P	14 15 36.7	+5.0
DALT	**Dalyan (Mudla)**	1.80	24	*i* PN	P	14 15 33.5	+1.0
KSL	**Kastellorizon**	1.83	55	⇑*i*PN	P	14 15 34.4	+1.6
KSL	**Kastellorizon**	1.83	55	⇑*i*Pn	P	14 15 33.9	+1.1
BDRM	**Kayabasi**	1.96	353	*i* P	P	14 15 35.8	+1.1
YER	**Yerkesik**	2.06	12	*i* PN	P	14 15 37.3	+1.1
MLSB	**Milas**	2.17	1	*i* PN	P	14 15 39.6	+1.8
SANT	**Santorini**	2.23	305	*e*Pn	P	14 15 40.4	+1.8
THR6	**Thira Island,**	2.27	304	*e*Pn	P	14 15 41.2	+2.1
THR3	**Thira Island,**	2.29	305	*e*Pn	P	14 15 41.3	+1.8
THR4	**Thira Island,**	2.32	306	*e*Pn	P	14 15 41.8	+1.8
THR4				*e*Sn	S	14 16 08.7	+1.3
THR5	**Thira Island,**	2.33	304	*e*Pn	P	14 15 41.9	+1.9
THR5				*e*Sn	S	14 16 09.6	+1.9
IDI	**Anoyia**	2.33	275	P	P	14 15 43.9	+3.8
	27nm,0.3s,baz=65,slow=12,SNR=208						
IDI				S	S	14 16 15.4	+7.7
	122nm,0.3s,baz=129,slow=10,SNR=3.3						
ELL	**Elmali**	2.40	47	*i* PN	P	14 15 42.7	+1.6
AYDN	**Tasoluk**	2.54	3	*i* P	P	14 15 43.4	+0.4
APE	**Apeiranthos**	2.64	318	*i* PN	P	14 15 45.2	+0.7
APE	**Apeiranthos**	2.64	318	⇑*i*PN	P	14 15 45.4	+0.9
APE				*e*SN	S	14 16 15.9	+0.4
SMG	**Samos**	2.68	345	*e*PN	P	14 15 45.9	+0.8
SMG	**Samos**	2.68	345	⇑*i*Pn	P	14 15 45.4	+0.3
DNZL	**Cakiroluk**	2.78	22	*i* P	P	14 15 47.6	+1.2
DENT	**Denizli**	2.83	21	*i* PN	P	14 15 48.6	+1.4
VAM	**Vamos**	2.91	277	*e*PB	P	14 15 53.4	+5.2
VAM	**Vamos**	2.91	277	*e*Pn	P	14 15 52.4	+4.2
GVD	**Gavdhos**	3.01	266	*e*PN	P	14 15 53.9	+4.2
GVD	**Gavdhos**	3.01	266	*e*Pn	P	14 15 54.0	+4.3
BCK	**Bucak**	3.29	44	PN	P	14 15 55.6	+2.0
IZM	**Izmir**	3.29	354	PN	P	14 15 54.5	+0.7
KDAG	**Bornova**	3.30	354	*i* P	P	14 15 53.9	0.0
MANT	**Manisa**	3.43	11	*i* P	P	14 15 55.9	+0.2
KHL	**Karahalli**	3.51	24	PN	P	14 15 57.7	+0.9
ISP	**Isparta**	3.52	39	PN	P	14 15 58.0	+1.0
AKS	**Akhisar**	3.75	1	PN	P	14 16 01.1	+0.8
AKS	**Akhisar**	3.75	1	Pn	P	14 15 59.4	-0.9
AKMC	**Akamas**	3.77	90	P	P	14 16 00.9	+0.4
PPCY	**Paphos**	3.79	92	⇑P	P	14 16 01.3	+0.5
PPCY	**Paphos**	3.79	92	⇑*e*P	P	14 16 01.3	+0.5
ALFC	**Alevga**	3.99	88	⇑P	P	14 16 03.7	+0.1
	38nm,0.3s						
ALFC				S	S	14 16 47.7	-2.0
ALFC	**Alevga**	3.99	88	⇑*i*P	P	14 16 03.7	+0.1
ALFC				S	S	14 16 47.7	-2.0
KYTH	**Kithira**	3.99	288	⇓*i*PN	P	14 16 05.6	+1.9
KYTH	**Kithira**	3.99	288	⇓*i*Pn	P	14 16 05.2	+1.5
VLI	**Veliai**	4.21	294	⇑*e*PN	P	14 16 08.1	+1.4
LEF	**Lefka**	4.23	89	PN	P	14 16 07.3	+0.3
LEF	**Lefka**	4.23	89	Pn	P	14 16 06.3	-0.7
SZAC	**Souni-Zanaja**	4.25	93	⇑P	P	14 16 07.5	+0.2
	32nm,0.4s						
SZAC				S	S	14 16 55.0	-1.2
SZAC	**Souni-Zanaja**	4.25	93	⇑*e*P	P	14 16 07.5	+0.2
SZAC				S	S	14 16 55.0	-1.2
AYVA	**Ayvalik**	4.26	349	*i* P	P	14 16 08.2	+0.7
HDMB	**Hadim**	4.27	63	*e*PN	P	14 16 08.4	+0.8
PTL	**Penteli**	4.27	314	*e*PN	P	14 16 09.5	+1.9
PRK	**Paraskevi**	4.28	345	*e*PN	P	14 16 07.3	-0.4
ATH	**Athens Observa**	4.31	313	*e*PN	P	14 16 09.9	+1.8
NAIG	**Nisos Aigina**	4.32	309	*e*PN	P	14 16 10.5	+2.2
ALT	**Altintas**	4.37	25	*e*PN	P	14 16 09.4	+0.5
ALT	**Altintas**	4.37	25	Pn	P	14 16 07.4	-1.5
MPAR	**Parnis Oros**	4.42	314	*e*PN	P	14 16 11.5	+1.9
NSAL	**Nisos Salamina**	4.42	310	*e*PN	P	14 16 11.5	+1.8
MAMC	**Mammari**	4.50	88	P	P	14 16 10.8	0.0
BALB	**Balikesir**	4.51	1	*e*PN	P	14 16 11.6	+0.6
DST	**Dursunbey**	4.54	9	PN	P	14 16 11.6	+0.3
DST	**Dursunbey**	4.54	9	Pn	P	14 16 09.8	-1.5
CSS	**Prodhromos**	4.60	90	P	P	14 16 12.1	-0.1
	25nm,1.0s						
CSS				S	S	14 17 02.2	-2.8
KONT	**Konya--Tatoy**	4.67	52	PN	P	14 16 14.3	+1.0
MKIT	**Kithairon Oros**	4.72	312	*e*PN	P	14 16 16.0	+2.0
BOZC	**Bozcaada**	4.90	345	*i* P	P	14 16 16.7	+0.2
IKL	**Isikli**	4.97	75	PN	P	14 16 17.5	0.0
ORLT	**Orhaneli**	5.00	10	PN	P	14 16 18.0	+0.1
ORLT	**Orhaneli**	5.00	10	Pn	P	14 16 19.4	+1.5
KIZT	**Kizilcal**	5.01	40	PN	P	14 16 18.3	+0.3
ESKT	**Eskisehir**	5.05	29	*i* P	P	14 16 19.2	+0.6
ESKT	**Eskisehir**	5.05	29	PN	P	14 16 18.4	-0.1
ULDT	**Uludag**	5.14	12	*i* P	P	14 16 22.8	+3.0
KCT	**Karacabey**	5.16	5	PN	P	14 16 19.8	-0.3
PHNC	**Paralimni**	5.17	89	P	P	14 16 20.7	+0.5
LKR	**Lokris**	5.18	314	*e*PN	P	14 16 21.5	+1.1
LIA	**Limnos Island**	5.18	338	⇑*i*PN	P	14 16 20.5	+0.1
LIA	**Limnos Island**	5.18	338	⇑*e*Pn	P	14 16 20.5	+0.1
EDC	**Edincik**	5.22	1	*e*PN	P	14 16 20.8	-0.1
EDC	**Edincik**	5.22	1	Pn	P	14 16 19.8	-1.1
BNT	**Bandirma**	5.23	2	*e*PN	P	14 16 20.1	-1.0
LOS	**Limnos**	5.25	337	*e*Pn	P	14 16 22.2	+0.9
LPK	**Lapseki**	5.30	352	PN	P	14 16 22.0	-0.1
MEST	**Erdemli**	5.41	72	*i* P	P	14 16 23.7	+0.1
NEO	**Neokhori**	5.51	321	*e*PN	P	14 16 26.2	+1.2
XOR	**Xorichti**	5.58	321	*e*Pn	P	14 16 27.2	+1.3
YLV	**Yalova**	5.59	13	*e*PN	P	14 16 25.2	-0.9
MFT	**Murefte**	5.67	357	*e*PN	P	14 16 26.5	-0.7
MFT	**Murefte**	5.67	357	Pn	P	14 16 24.5	-2.7
AGG	**Agios Georgios**	5.82	314	*e*Pn	P	14 16 31.3	+2.0
AGG				*e*Sn	S	14 17 33.4	-2.3
BADT	**Buyukada**	5.83	10	PN	P	14 16 28.3	-1.1
RLS	**Riolos of Patr**	5.83	302	*e*PN	P	14 16 32.5	+3.0
HRT	**Hereke**	5.89	14	*e*PN	P	14 16 30.1	-0.3
HRT	**Hereke**	5.89	14	Pn	P	14 16 28.1	-2.3
ALN	**Alexandroupoli**	5.92	348	*e*Pn	P	14 16 30.6	-0.1
ALN				*e*Sn	S	14 17 35.0	-3.3
OUR	**Ouranopolis**	6.00	331	*e*Pn	P	14 16 32.7	+1.0
MDU	**Mudurnu**	6.01	26	*e*PN	P	14 16 32.2	+0.3
ISK	**Istanbul-Kandi**	6.03	10	*e*PN	P	14 16 31.4	-0.8
ISK	**Istanbul-Kandi**	6.03	10	Pn	P	14 16 33.4	+1.2
CTT	**Catalca**	6.04	5	*e*PN	P	14 16 31.8	-0.7
CTT	**Catalca**	6.04	5	Pn	P	14 16 30.3	-2.2
EVR	**Evrytania**	6.07	310	⇑*i*PN	P	14 16 34.7	+1.9
ANTO	**Ankara**	6.22	39	*e*PN	P	14 16 34.5	-0.4
HENT	**Hendek**	6.22	23	*i* P	P	14 16 34.8	-0.2
RDO	**Rodhopi**	6.26	345	⇓*i*PN	P	14 16 35.6	+0.1
NIG	**Nigde**	6.29	60	*e*PN	P	14 16 35.4	-0.5
NIG	**Nigde**	6.29	60	Pn	P	14 16 36.9	+1.0
KAMT	**Kaman**	6.38	47	*e*PN	P	14 16 36.9	-0.4
SGKT	**Sivrigoynuk**	6.43	31	*i* P	P	14 16 38.0	+0.1
LIT	**Litokhoron**	6.48	322	*e*Pn	P	14 16 40.1	+1.4
HAF	**Haifa**	6.49	109	P	P	14 16 37.9	-0.9
MATL	**Matirih**	6.49	102	*e*PN	P	14 16 37.4	-1.4
HNTI	**Hanita**	6.50	106	P	P	14 16 38.4	-0.5
HNTI				S	S	14 17 47.6	-5.0
VLS	**Valsamata**	6.50	300	*e*PN	P	14 16 40.5	+1.6
VLS	**Valsamata**	6.50	300	*e*Pn	P	14 16 39.5	+0.6
OFRI	**‘Ofer**	6.53	110	P	P	14 16 38.3	-1.0
BHL	**Bhannes**	6.65	98	*e*PN	P	14 16 39.0	-2.0
BHL	**Bhannes**	6.65	98	P	P	14 16 39.6	-1.4
SOH	**Sokhos**	6.66	330	*e*Pn	P	14 16 42.3	+1.2
LKD	**Levkas**	6.71	304	*e*Pn	P	14 16 42.5	+0.7
LKD				*e*Sn	S	14 17 55.4	-2.5
SLTI	**Sal’it**	6.73	113	P	P	14 16 41.1	-1.1
SLTI				S	S	14 17 54.7	-3.8
CEYT	**Ceyhan**	6.76	71	*e*PN	P	14 16 41.0	-1.6
EDRB	**Edirne**	6.76	354	*e*PN	P	14 16 42.2	-0.4
KDZ	**Kurdzhali**	6.77	345	*i* P	P	14 16 42.0	-0.7
AVNT	**Avonos**	6.77	55	*i* P	P	14 16 43.0	+0.3
HWQ	**Hawqa**	6.82	95	*e*PN	P	14 16 41.9	-1.4
HWQ	**Hawqa**	6.82	95	P	P	14 16 42.1	-1.3
SRS	**Serrai**	6.82	333	*e*Pn	P	14 16 43.6	+0.2
KSDI	**Kefar Szold**	6.85	104	P	P	14 16 43.4	-0.4
HRI	**Mount Hermon**	6.88	103	P	P	14 16 43.2	-1.1
HTY	**Hatay**	6.92	79	PN	P	14 16 43.0	-1.8
NVR	**Nevrokopi**	6.93	335	*e*PN	P	14 16 44.9	0.0
MMLI	**Mount Malkishu**	6.94	110	P	P	14 16 44.3	-0.7
MEV	**Metsovon**	6.96	314	*e*Pn	P	14 16 47.0	+1.7
RZN	**Rozhen**	6.97	341	*i* P	P	14 16 45.0	-0.5
KZIT	**Kziot**	7.00	125	P	P	14 16 45.0	-0.9
KZIT				S	S	14 18 01.2	-3.8
ELDT	**Eldivan**	7.00	38	*i* P	P	14 16 47.0	+1.0
KZN	**Kozani**	7.01	319	*e*PN	P	14 16 47.8	+1.8
KSHT	**Keshet**	7.04	105	P	P	14 16 45.7	-0.7
COBT	**Iskenderun**	7.07	76	*i* P	P	14 16 46.2	-0.6
HMDT	**Nahal Hemdat**	7.10	112	P	P	14 16 46.4	-0.9
RTMM	**Retamin**	7.11	123	P	P	14 16 47.3	-0.1
DIM	**Dimitrovgrad**	7.13	347	*i* P	P	14 16 47.0	-0.7
MMB	**Musomiste**	7.18	335	*i* P	P	14 16 48.0	-0.5
GRG	**Griva**	7.19	326	*e*Pn	P	14 16 49.6	+1.1
MASH	**Mash‘abbe Sade**	7.21	123	P	P	14 16 48.3	-0.5
SAFT	**Safranbolu**	7.25	31	*e*PN	P	14 16 48.9	-0.5
DUSS	**Damascus Unive**	7.26	100	*i* P	P	14 16 49.7	+0.2
DUSS				*i* P		14 16 49.8	
DUSS				*i* P		14 16 49.9	
DUSS				*e*		14 16 49.9	
	baz=293,slow=11						
DUSS				*e*S	S	14 18 09.0	-2.5
DUSS				AMS	AMS	14 21 54.7	
	comp=N,19µm,17.9s						
DUSS				AMS	AMS	14 23 13.6	
	comp=Z,16µm,17.1s						
DUSS				AMS	AMS	14 23 19.0	
	comp=E,22µm,16.3s						
DRGI	**Dragot**	7.31	117	P	P	14 16 50.0	-0.2
IGT	**Igoumenitsa**	7.36	309	*e*Pn	P	14 16 51.3	+0.4
MZDA	**Masada**	7.44	119	P	P	14 16 51.4	-0.6
MZDA				S	S	14 18 11.9	-4.0
BNN	**Bunyan**	7.49	58	*e*PN	P	14 16 52.2	-0.4
FNA	**Florina**	7.56	320	*e*Pn	P	14 16 54.5	+0.8
KKB	**Krupnik**	7.66	333	*i* P	P	14 16 55.0	-0.1
TOS	**Tosya**	7.71	38	*e*PN	P	14 16 54.6	-1.2
KMTI	**Karmit**	7.73	128	P	P	14 16 54.9	-1.1
KMTI				S	S	14 18 18.4	-4.9
ZFRI	**Zfri**	7.74	124	P	P	14 16 54.8	-1.4
PRNI	**Paran**	7.75	126	P	P	14 16 55.0	-1.3
PRNI				S	S	14 18 18.9	-4.9
KAHT	**Ahir Dag**	7.79	69	*i* P	P	14 16 55.5	-1.3
BALT	**Daday**	7.79	33	*i* P	P	14 16 56.6	-0.3
KEK	**Kerkira**	7.80	308	*e*Pn	P	14 16 56.7	-0.3
CTKT	**Corum**	7.83	43	*i* P	P	14 16 57.2	-0.2
GAZ	**Gaziantep**	7.94	72	*e*PN	P	14 16 56.8	-2.1
MBH	**Mount Berech**	8.06	129	P	P	14 17 00.5	-0.1
OHR	**Ohrid**	8.10	320	⇑*i*Pn	P	14 17 03.5	+2.3
OHR				*i* Sn	S	14 18 42.8	+10
EIL	**Elat**	8.17	130	P	P	14 17 02.1	0.0
EIL	**Elat**	8.17	130	P	P	14 17 02.2	0.0
	comp=E,16nm,0.3s,baz=336,slow=12,SNR=110						
EIL				S	S	14 18 28.3	-5.9
	comp=E,27nm,0.3s,baz=14,slow=22,SNR=8.6						
ASF	**Jabal al Asfar**	8.19	108	P	P	14 17 01.8	-0.6
	comp=E,5.7nm,0.3s,baz=149,slow=9.0,SNR=42						
ASF				S	S	14 18 39.8	+5.2
	comp=E,5.2nm,0.3s,baz=149,slow=22,SNR=5.7						
ASF				LR	LR	14 22 32.5	
	comp=E,1µm,18.2s,baz=335,slow=53						
AQBJ	**Aqaba**	8.19	129	P	P	14 17 02.6	+0.2
GZT	**Gaziantep**	8.25	71	*i* P	P	14 17 01.4	-1.9
VTS	**Vitosha**	8.25	336	*i* P	P	14 17 04.0	+0.7
PVL	**Pavlikeni**	8.30	348	*i* P	P	14 17 03.0	-0.9
SKO	**Skopje**	8.43	326	⇓*i*Pn	P	14 17 07.5	+1.8
SKO				*i*		14 17 15.0	
	comp=Z,0.1nm,1.2s						
BOYT	**Boyabat**	8.45	40	*i* P	P	14 17 06.0	+0.1
ALWS	**Ilw as Safayha**	8.49	131	P	P	14 17 06.8	+0.3
ALWS				S	S	14 18 37.3	-4.8
HAQS	**Haql**	8.59	133	P	P	14 17 07.6	-0.4
JMOS	**Jabal al Moall**	8.62	131	P	P	14 17 08.2	-0.2
SVSK	**Karacayir**	8.78	54	*e*PN	P	14 17 09.3	-1.3
TAYS	**Tayyib Ism**	8.93	135	P	P	14 17 13.0	+0.4
BARS	**Barje**	8.96	331	⇑*i*Pn	P	14 17 13.2	+0.1
BDAS	**Al Bad‘**	9.15	135	P	P	14 17 15.4	-0.2
MALT	**Malatya**	9.16	67	*e*PN	P	14 17 13.9	-1.9
MYA	**Malataya**	9.16	66	*e*PN	P	14 17 13.9	-1.9
JMQS	**Jabal Moqyreh**	9.29	130	P	P	14 17 16.9	-0.8
TIRR	**Tirgusor**	9.34	3	P	P	14 17 19.5	+1.2
ULC	**Ulcinj**	9.53	318	⇑*i*Pn	P	14 17 20.7	-0.1
ULC				*e*Sn	S	14 18 58.0	-10
PVY	**Plav**	9.61	323	⇑*i*Pn	P	14 17 21.7	-0.2
PVY				*e*Sn	S	14 18 59.9	-10
TIP	**Timpagrande**	9.65	298	*e*P	P	14 17 20.4	-2.2
BOLS	**Boljevac**	9.78	335	⇓*i*Pn	P	14 17 24.8	+0.6
GRI	**Girifalco**	9.78	296	P	P	14 17 23.6	-0.7
SOI	**Samo**	9.84	291	*e*Pn	P	14 17 24.2	-1.0
SOI				*e*Sn	S	14 18 59.3	-16
TTG	**Podgorica**	9.85	320	⇑*i*Pn	P	14 17 25.0	-0.2
TTG				*e*Sn	S	14 19 06.0	-10
IVA	**Berane**	9.85	324	⇑*i*Pn	P	14 17 25.0	-0.3
IVA				*e*Sn	S	14 19 05.6	-10
BUM	**Brajici-Budva**	9.95	319	⇑*i*Pn	P	14 17 26.5	-0.1
BUM				*e*Sn	S	14 19 08.7	-9.4
ISR	**Istrita**	10.03	355	⇑*i*P	P	14 17 27.5	-0.3
ISR	**Istrita**	10.03	355	⇑*i*P	P	14 17 27.6	-0.2
TDS	**Terranova Siba**	10.13	300	*e*Pn	P	14 17 30.8	+1.6
TBKS	**Tabuk**	10.18	130	P	P	14 17 29.7	-0.1
ORI	**Oriolo Calabro**	10.22	302	P	P	14 17 29.1	-1.3
NKY	**Niksic**	10.26	321	⇑*i*Pn	P	14 17 30.9	0.0
NKY				*e*Sn	S	14 19 15.6	-10
HCY	**Herceg Novi**	10.27	318	⇑*i*Pn	P	14 17 30.9	-0.1
HCY				*e*Sn	S	14 19 16.2	-10
GRUS	**Gruza**	10.30	330	⇓*i*Pn	P	14 17 32.5	+1.1
DJES	**Djerdap**	10.31	339	⇑*i*Pn	P	14 17 31.4	-0.2
AGST	**Augusta-Monte**	10.33	286	*e*Pn	P	14 17 29.2	-2.7
KELT	**Kelkit**	10.42	58	*i* P	P	14 17 34.9	+1.7
NVSS	**Nova Varos 2**	10.43	326	⇑*i*Pn	P	14 17 33.0	-0.3
PLE	**Pljevlja**	10.44	324	⇑*i*Pn	P	14 17 33.1	-0.2
PLE				*e*Sn	S	14 19 19.9	-10
SSY	**Sortino**	10.44	285	P	P	14 17 31.3	-2.1
SVIS	**Svilajnac**	10.44	333	*e*Pn	P	14 17 34.1	+0.7
MLR	**Muntele Rosu**	10.45	353	P	P	14 17 34.0	+0.5
	comp=Z,0.6nm,0.3s,baz=162,slow=3.9,SNR=47						
MLR				LR	LR	14 21 53.4	
	comp=Z,2µm,21.9s,baz=180,slow=40						
MLR	**Muntele Rosu**	10.45	353	P	P	14 17 34.0	+0.5
MLR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MLR				MLR	MLR		
	comp=Z,2µm,21.9s						
PZI	**Palazzolo**	10.53	284	*e*Pn	P	14 17 33.0	-1.6
MEU	**Monte Lauro**	10.54	285	P	P	14 17 33.8	-1.0
BRY	**Bratogost**	10.55	320	⇑*i*Pn	P	14 17 34.7	-0.2
BRY				*e*Sn	S	14 19 23.0	-10
DBAS	**Duba**	10.58	136	P	P	14 17 35.6	+0.3
UPM	**Unac-Piva**	10.58	322	⇑*i*Pn	P	14 17 35.4	0.0
UPM				*e*Sn	S	14 19 23.4	-10
GUMT	**Gumushane**	10.71	57	*e*PN	P	14 17 34.8	-2.3
GUMT	**Gumushane**	10.71	57	Pn	P	14 17 35.9	-1.2
VRI	**Vrincioaia**	10.76	356	⇑*i*P	P	14 17 38.4	+0.6
VRI	**Vrincioaia**	10.76	356	⇑*i*P	P	14 17 38.4	+0.6
DIVS	**Divcibare**	10.77	329	⇓*i*Pn	P	14 17 37.7	-0.2
MGR	**Morigerati**	10.88	301	*e*Pn	P	14 17 36.7	-2.7
SLCN	**Sala Consilina**	10.93	302	*e*Pn	P	14 17 38.4	-1.7
SIM	**Simferopol’**	10.97	25	*e*P	P	14 17 48.3	+7.8
SIM				*e*S	S	14 19 46.0	+3.1
SIM				pmax	pmax		
	comp=Z,34nm,0.9s						
SIM				MLR	MLR		
	comp=Z,340nm,10.0s						
STON	**Ston**	10.99	318	*i* Pn	P	14 17 38.1	-2.8
STON				*i* Sn	S	14 19 36.4	-7.0
VAE	**Valguarnera**	11.01	286	P	P	14 17 40.5	-0.6
	comp=Z,4.8nm,0.3s,baz=81,slow=13,SNR=3.0						
VAE				S	S	14 19 46.1	+2.3
	comp=Z,7.0nm,0.3s,baz=232,slow=19,SNR=3.4						
MRLC	**Muro Lucano**	11.18	304	*e*Pn	P	14 17 41.9	-1.6
SGO	**Sicignano**	11.22	303	*e*Pn	P	14 17 42.5	-1.6
FG4	**Candela**	11.34	306	P	P	14 17 44.2	-1.3
FGMS	**Monte Sant’Ang**	11.34	309	P	P	14 17 43.8	-1.8
CSLB	**Castelbuono**	11.36	288	P	P	14 17 46.8	+1.0
FG5	**Orsara di Pugl**	11.57	306	*e*Pn	P	14 17 47.5	-1.2
KIS	**Kishinev**	11.90	4	*e*P	P	14 17 57.0	+3.9
KIS				MLR	MLR		
	comp=Z,2µm,14.0s						
KIS				MLR	MLR		
	comp=N,2µm,12.0s						
KIS				MLR	MLR		
	comp=Z,2µm,15.0s						
ANN	**Anapa**	12.19	35	*e*P	P	14 18 09.6	+13
ANN				pmax	pmax		
	comp=Z,20nm,0.8s						
ANN				MLR	MLR		
	comp=Z,460nm,6.0s						
ANN				MLR	MLR		
	comp=N,170nm,4.0s						
ANN				MLR	MLR		
	comp=E,660nm,7.0s						
SOC	**Sochi**	12.54	44	*e*P	P	14 18 01.1	-0.6
SOC				*e*S	S	14 20 21.4	+0.5
SOC				pmax	pmax		
	comp=Z,6.0nm,0.4s						
SOC				pmax	pmax		
	comp=N,12nm,0.7s						
SOC				pmax	pmax		
	comp=E,17nm,0.7s						
SOC				MLR	MLR		
	comp=N,2µm,15.0s						
SOC				MLR	MLR		
	comp=Z,2µm,15.0s						
SOC				MLR	MLR		
	comp=E,2µm,14.0s						
INTR	**Introdacqua**	12.82	307	P	P	14 18 06.3	+0.9
UMJS	**Umm Lajj**	12.86	137	P	P	14 18 07.7	+1.6
VVLD	**Villa Vallelon**	12.94	306	P	P	14 18 06.5	-0.6
GUAR	**Guarcino**	13.11	305	P	P	14 18 09.2	-0.1
PTQR	**Pietraquaria**	13.15	306	P	P	14 18 10.0	+0.1
RHK1	**Bakonya**	13.18	329	*e*P	P	14 18 11.0	+0.8
TERO	**Teramo**	13.30	308	P	P	14 18 14.1	+2.2
AQU	**L’Aquila**	13.31	307	*e*P	P	14 18 12.2	+0.3
	comp=E,52nm,0.9s						
KMPD	**K-Podol’skiy**	13.47	356	P	P	14 18 15.0	+1.0
KBRS	**Khaybar**	13.60	130	P	P	14 18 18.0	+2.1
MNS	**Montasola**	13.79	306	*e*Pn	P	14 18 14.0	-4.2
MNS				P		14 18 17.4	
YNBS	**Yanbu‘ al Bahr**	13.95	138	P	P	14 18 24.3	+4.0
PSZ	**Piszkesteto**	14.06	338	*e*P	P	14 18 26.5	+4.8
PSZ	**Piszkesteto**	14.06	338	*e*P	P	14 18 21.0	-0.7
	comp=E,97nm,1.5s						
PSZ				*e*P		14 18 26.5	
BOJS	**Bojanci**	14.06	321	*i* Pn	P	14 18 20.1	-1.6
ARV	**Arcevia**	14.17	311	*e*Pn	P	14 18 24.1	+1.0
HILS	**Ha’il**	14.28	119	P	P	14 18 27.6	+2.9
FSSB	**Fossombrone**	14.37	311	*e*Pn	P	14 18 25.9	+0.1
GNI	**Garni**	14.38	65	*e*P	P	14 18 27.4	+1.4
	comp=E,22nm,0.9s						
KOLS	**Kolonicke sedl**	14.38	345	*e*P	P	14 18 32.3	+6.4
KECS	**Kecovo**	14.39	340	*e*P	P	14 18 29.3	+3.2
DOBS	**Dobrina**	14.41	324	P	P	14 18 24.9	-1.3
KIV	**Kislovodsk**	14.51	48	*d* *i*P	P	14 18 35.4	+7.8
KIV				pmax	pmax		
	comp=Z,126nm,1.3s						
KIV				pmax	pmax		
	comp=N,22nm,1.0s						
KIV				pmax	pmax		
	comp=E,35nm,1.3s						
KIV				MLR	MLR		
	comp=Z,868nm,17.0s						
KIV				MLR	MLR		
	comp=E,437nm,16.0s						
KIV	**Kislovodsk**	14.51	48	⇓*i*P	P	14 18 35.2	+7.6
	comp=E,161nm,1.2s						
CRVS	**Cervenica-Dubn**	14.53	343	*e*P	P	14 18 31.1	+3.2
CRVS				*e*		14 22 44.9	
PDKS	**Podkum**	14.59	322	*e*Pn	P	14 18 25.1	-3.5
GROS	**Grobnik**	14.61	325	P	P	14 18 29.6	+0.6
CEY	**Cerknica**	14.65	320	*e*Pn	P	14 18 27.6	-1.8
LJU	**Ljubljana**	14.80	321	*e*Pn	P	14 18 30.0	-1.4
VYHS	**Vyhne**	14.90	336	*e*P	P	14 18 35.0	+2.3
VYHS				*e*		14 23 03.7	
PERS	**Pernice**	14.93	324	P	P	14 18 33.6	+0.6
KWP	**Kalwaria**	14.96	347	*e*P	P	14 18 40.8	+7.3
SFI	**Santa Sofia**	15.06	310	P	P	14 18 35.4	+0.7
SFI				*e*P		14 18 40.5	
OBKA	**Obir**	15.11	323	⇓*i*P	P	14 18 35.2	-0.2
	comp=E,66nm,1.3s						
ARSA	**Arzberg**	15.19	327	⇑*i*P	P	14 18 36.6	+0.2
	comp=E,29nm,1.2s						
CSNT	**Castellina Chi**	15.20	308	*e*P	P	14 18 40.0	+3.4
GRFL	**Gerfalco**	15.26	307	P	P	14 18 36.9	-0.4
VMG	**Vicchio**	15.28	310	*e*P	P	14 18 35.4	-2.1
DRE	**Drenchia**	15.35	320	⇓*e*P	P	14 18 37.0	-1.4
SEI	**Scarperia**	15.44	310	*e*P	P	14 18 44.9	+5.2
COLI	**Coloredo**	15.46	320	⇑*e*P	P	14 18 39.0	-0.9
ROBS	**Robic**	15.46	320	P	P	14 18 39.5	-0.5
BAD	**Bernadia**	15.60	320	⇓*e*P	P	14 18 40.0	-1.7
KIEV	**Kiev**	15.61	3	P	P	14 18 44.0	+2.3
AKASG	**Malin Array Be**	15.61	4	P	P	14 18 41.4	-0.4
	comp=E,2.7nm,0.3s,baz=193,slow=11,SNR=20						
AKASG	**Malin Array Be**	15.61	4	P	P	14 18 41.4	-0.4
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.3s						
GMNA	**Gemona**	15.63	320	P	P	14 18 41.7	-0.3
FNVD	**Fontana Vidola**	15.64	310	*e*P	P	14 18 43.0	+0.7
PTCC	**Patocco-Chiusa**	15.65	320	P	P	14 18 41.4	-1.0
ZCCA	**Zocca**	15.82	311	*e*P	P	14 18 45.6	+1.1
PLRO	**Paularo**	15.85	320	⇑*e*P	P	14 18 45.0	+0.1
ZOU	**Zoufplan**	15.95	320	⇓*i*P	P	14 18 45.0	-1.2
GSCL	**Gusciola**	16.07	310	*e*P	P	14 18 50.8	+3.1
FVI	**Forni Avoltri**	16.07	320	P	P	14 18 46.1	-1.7
CSMI	**Casera Mimoias**	16.09	320	⇓*e*P	P	14 18 47.0	-0.9
KBA	**Koelnbreinsper**	16.10	322	⇑*i*P	P	14 18 48.8	+0.7
	comp=Z,135nm,1.2s						
OJC	**Ojcow**	16.16	341	*e*P	P	14 18 50.8	+1.9
OJC				*e*S	S	14 21 48.2	+1.8
OJC				MLR	MLR		
	comp=Z,1µm,18.3s						
MOA	**Molln**	16.20	326	P	P	14 18 50.0	+0.6
OKC	**Ostrava-Krasne**	16.30	337	*e*P	P	14 18 51.7	+1.1
OKC				LR		14 26 20.0	
	comp=Z,2.2nm,12.5s						
PGF	**Pioggiola**	16.36	303	*e*P	P	14 18 49.5	-1.8
	comp=Z,86nm,1.0s						
VRAC	**Vranov**	16.38	333	P	P	14 18 51.6	0.0
	comp=Z,0.3nm,0.3s,baz=128,slow=11,SNR=6.5						
MORC	**Moravsky Berou**	16.44	336	*e*P	P	14 18 52.9	+0.5
	comp=Z,49nm,1.1s						
SEST	**Monte Rota**	16.47	320	P	P	14 18 53.6	+0.8
APPI	**Appiano**	16.84	317	P	P	14 18 56.9	-0.5
BOB	**Bobbio (Coli)**	16.98	310	*e*P	P	14 19 02.6	+3.4
WTTA	**Wattenberg**	17.10	320	⇑*i*P	P	14 19 01.5	+0.8
	comp=Z,90nm,1.1s						
GEC2	**GERESS Array S**	17.19	327	*e*P	P	14 19 01.9	+0.1
GERES	**GERESS Array B**	17.19	327	P	P	14 19 02.1	+0.3
	comp=Z,1.1nm,0.3s,baz=144,slow=12,SNR=68						
GERES	**GERESS Array B**	17.19	327	P	P	14 19 02.1	+0.3
GERES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
RST	**Umm Al-Ruwaisa**	17.21	104	*e*P	P	14 19 02.9	+0.7
RST				AMb	AMB	14 19 04.1	
	comp=Z,38nm,0.7s						
SQTA	**Sankt Quirin**	17.30	319	⇑*i*P	P	14 19 03.1	-0.1
	comp=Z,95nm,1.2s						
BRMO	**Bormio**	17.32	316	*e*P	P	14 19 04.8	+1.3
DPC	**Dobruska-Polom**	17.34	335	*e*P	P	14 19 03.3	-0.4
DPC				*e*pP		14 19 12.4	
DPC				*e*x	x	14 19 22.0	
DPC				LR		14 25 50.0	
	comp=Z,1.3nm,15.7s						
DPC	**Dobruska-Polom**	17.34	335	*e*P	P	14 19 03.3	-0.4
DPC				MLR	MLR		
	comp=Z,1µm,15.7s						
MOTA	**Moosalm**	17.44	320	⇑*i*P	P	14 19 05.2	+0.3
	comp=Z,34nm,1.1s						
KHC	**Kasperske Hory**	17.46	328	*e*P	P	14 19 05.3	+0.2
KHC				*e*pP		14 19 13.1	
KHC				*e*x	x	14 19 18.8	
KHC				LR		14 26 40.0	
	comp=Z,1.8nm,12.1s						
KHC	**Kasperske Hory**	17.46	328	*e*P	P	14 19 05.3	+0.2
KHC				MLR	MLR		
	comp=Z,2µm,12.1s						
UPC	**Upice**	17.59	335	*e*P	P	14 19 06.9	+0.2
UPC				*e*pP		14 19 14.7	
IMI	**Imperia**	17.62	306	P	P	14 19 06.6	-0.6
PRU	**Pruhonice**	17.71	331	P	P	14 19 07.6	-0.7
	comp=Z,42nm,1.2s						

PRU				*e*pP		14 19 13.4	
PRU				L		14 26 30.0	
	comp=Z,0.8nm,8.0s						
PRU	**Pruhonice**	**17.71**	**331**	P	**P**	**14 19 07.6**	**-0.7**
PRU				pmax	pmax		
	comp=Z,42nm,1.2s						
PRU				MLR	MLR		
	comp=Z,800nm,8.0s						
KSP	**Ksiaz**	**17.77**	**336**	⇑*e*P	**P**	**14 19 08.8**	**-0.2**
KSP				*e*pP		14 19 20.5	
DAVOX	**Davos**	**17.77**	**316**	P	**P**	**14 19 10.1**	**+1.0**
	comp=Z,0.6nm,0.3s,baz=123,slow=9.3,SNR=11						
WET	**Wettzell**	**17.78**	**327**	*e*P	**P**	**14 19 08.5**	**-0.6**
VDL	**Val di Lei**	**17.84**	**315**	⇑P	**P**	**14 19 11.5**	**+1.5**
SAOF	**Saorge**	**17.87**	**306**	*e*P	**P**	**14 19 08.7**	**-1.6**
FUR	**Furstenfeldbru**	**17.87**	**322**	*e*P	**P**	**14 19 09.2**	**-1.1**
RDF	**Al-Radifah**	**17.89**	**105**	*e*P	**P**	**14 19 12.1**	**+1.4**
RDF				AMb	AMB	14 19 23.6	
	comp=Z,45nm,1.2s						
KBD	**Kabd**	**17.90**	**104**	*e*P	**P**	**14 19 11.4**	**+0.6**
SBF	**Sospel**	**17.90**	**305**	*e*P	**P**	**14 19 08.8**	**-1.9**
	comp=Z,152nm,0.8s						
VAI	**Varese**	**17.94**	**312**	*e*P	**P**	**14 19 09.3**	**-1.9**
AUTN	**L'Aution**	**17.96**	**306**	*e*P	**P**	**14 19 09.7**	**-1.7**
DAVA	**Damuels**	**18.07**	**318**	⇑*i*P	**P**	**14 19 11.7**	**-1.0**
	comp=Z,69nm,1.2s						
TOUF	**Mont Tournerai**	**18.08**	**306**	*e*P	**P**	**14 19 11.7**	**-1.3**
MVIF	**Mont Vial**	**18.10**	**305**	*e*P	**P**	**14 19 12.0**	**-1.2**
PVCC	**Panska Ves**	**18.13**	**332**	*e*P	**P**	**14 19 12.6**	**-0.9**
PVCC				*e*x	x	14 19 24.7	
PVCC				LR		14 27 40.0	
	comp=Z,1.2nm,13.5s						
PVCC	**Panska Ves**	**18.13**	**332**	*e*P	**P**	**14 19 12.6**	**-0.9**
PVCC				MLR	MLR		
	comp=Z,1µm,13.5s						
UBR	**Uberruh**	**18.18**	**319**	P	**P**	**14 19 15.2**	**+1.1**
CALN	**Calern**	**18.23**	**304**	*e*P	**P**	**14 19 15.2**	**+0.4**
ORO	**Oropa**	**18.30**	**311**	*e*P	**P**	**14 19 14.0**	**-1.6**
LLS	**Linth-Limmern**	**18.31**	**315**	⇓P	**P**	**14 19 16.5**	**+0.7**
FRF	**La Foret Royal**	**18.32**	**304**	*e*P	**P**	**14 19 13.5**	**-2.5**
	comp=Z,90nm,1.0s						
LMR	**La Mourre**	**18.34**	**303**	*e*P	**P**	**14 19 13.5**	**-2.7**
MCGN	**Macugnaga**	**18.45**	**312**	*e*P	**P**	**14 19 16.1**	**-1.5**
VOR	**Voronezh**	**18.54**	**23**	P	**P**	**14 19 19.0**	**+0.5**
VOR				pmax	pmax		
	comp=Z,80nm,1.0s						
VOR				pmax	pmax		
	comp=N,50nm,1.2s						
SURF	**Saint Ours**	**18.55**	**307**	*e*P	**P**	**14 19 19.5**	**+0.7**
MUO	**Muotathal**	**18.59**	**315**	⇓P	**P**	**14 19 19.0**	**-0.2**
BRG	**Berggiesshubel**	**18.65**	**332**	*e*P	**P**	**14 19 19.1**	**-0.8**
BRG				pmax	pmax		
	comp=Z,19nm,1.1s						
BRG				MLR	MLR		
	comp=Z,1µm,12.9s						
BRG				MLR	MLR		
	comp=N,1µm,13.2s						
BRG				MLR	MLR		
	comp=E,700nm,13.2s						
BRG	**Berggiesshubel**	**18.65**	**332**	*e*P	**P**	**14 19 19.1**	**-0.8**
	comp=E,19nm,1.1s						
BRG				*e*		14 19 30.6	
MBDF	**Montbardon**	**18.68**	**307**	*e*P	**P**	**14 19 18.3**	**-2.0**
	comp=E,38nm,0.7s						
WILA	**Wila**	**18.68**	**317**	⇑P	**P**	**14 19 20.2**	**-0.1**
HDH	**Heidenheim**	**18.69**	**321**	P	**P**	**14 19 18.9**	**-1.5**
NKC	**Novy Kostel**	**18.77**	**328**	*e*P	**P**	**14 19 20.4**	**-0.9**
NKC				*e*pP		14 19 28.3	
NKC				*e*sP		14 19 39.9	
NKC				LR		14 27 30.0	
	comp=E,1.3nm,12.4s						
NKC	**Novy Kostel**	**18.77**	**328**	*e*P	**P**	**14 19 20.4**	**-0.9**
NKC				MLR	MLR		
	comp=Z,1µm,12.4s						
ZUR	**Zurich**	**18.84**	**316**	⇓P	**P**	**14 19 22.3**	**+0.1**
DIX	**Grande Dixence**	**18.87**	**312**	⇓P	**P**	**14 19 22.1**	**-0.4**
BNI	**Bardonecchia**	**18.87**	**308**	*e*P	**P**	**14 19 22.3**	**-0.3**
	comp=Z,33nm,1.0s						
LKBD	**Leukerbad**	**18.88**	**313**	⇓P	**P**	**14 19 21.7**	**-1.0**
GRA1	**Grafenberg Arr**	**18.93**	**325**	*e*P	**P**	**14 19 21.8**	**-1.4**
	comp=Z,79nm,1.1s						
GRF	**Grafenberg Arr**	**18.93**	**325**	*e*P	**P**	**14 19 21.8**	**-1.4**
GRF				pmax	pmax		
	comp=Z,79nm,1.1s						
GUT	**Gutenstein**	**18.95**	**319**	P	**P**	**14 19 22.6**	**-0.8**
LPG	**La Plagne**	**19.01**	**309**	*e*P	**P**	**14 19 22.7**	**-1.5**
	comp=Z,30nm,0.5s						
LPL	**La Plagne**	**19.03**	**309**	*e*P	**P**	**14 19 22.8**	**-1.6**
	comp=Z,42nm,0.5s						
BUCH	**Bad Urach**	**19.05**	**320**	P	**P**	**14 19 24.6**	**0.0**
SLE	**Schleitheim**	**19.11**	**317**	⇓P	**P**	**14 19 24.3**	**-1.0**
SPAK	**Spaichingen**	**19.14**	**318**	P	**P**	**14 19 25.4**	**-0.2**
SUW	**Suwalki**	**19.16**	**352**	*e*P	**P**	**14 19 23.4**	**-2.4**
EMV	**Vieux Emosson**	**19.17**	**311**	⇑P	**P**	**14 19 27.3**	**+1.3**
SULZ	**Sulz-Cheisache**	**19.19**	**316**	⇓P	**P**	**14 19 25.4**	**-0.8**
SMRF	**Simiane la Rot**	**19.20**	**304**	*e*P	**P**	**14 19 24.3**	**-2.0**
RAYN	**Ar Rayn**	**19.30**	**122**	Pn	**P**	**14 19 30.1**	**+2.6**
	comp=Z,165nm,0.7s,SNR=29						
STU	**Stuttgart**	**19.33**	**321**	*e*P	**P**	**14 19 24.8**	**-2.9**
	comp=Z,35nm,0.7s						
ORIF	**Oris-en-Rattie**	**19.34**	**307**	*e*P	**P**	**14 19 26.0**	**-1.8**
	comp=Z,21nm,0.6s						
ORIF				*e*R			
	comp=Z,941nm,20.5s						
CLL	**Collm**	**19.36**	**331**	P	**P**	**14 19 27.4**	**-0.6**
	comp=Z,logA/T=1.7						
CLL				*i* *PP		14 19 35.5	
CLL				*i*		14 19 45.4	
CLL	**Collm**	**19.36**	**331**	*i* P	**P**	**14 19 27.4**	**-0.6**
CLL				pmax	pmax		
	comp=Z,66nm,1.2s						
CLL	**Collm**	**19.36**	**331**	*i* P	**P**	**14 19 27.4**	**-0.6**
	comp=Z,66nm,1.2s						
CLL				*i* pP		14 19 35.5	
CLL				*i*		14 19 45.4	
MNK	**Minsk**	**19.38**	**0**	*e*P	**P**	**14 19 23.0**	**-5.2**
MOX	**Moxa**	**19.43**	**328**	*i* P	**P**	**14 19 28.8**	**0.0**
	comp=Z,logA/T=2.0						
MOX				L		14 29 25.0	
MOX	**Moxa**	**19.43**	**328**	*e*P	**P**	**14 19 28.8**	**0.0**
MOX				pmax	pmax		
	comp=Z,143nm,1.4s						
MOX				MLR	MLR		
	comp=Z,1µm,17.0s						
MOX	**Moxa**	**19.43**	**328**	*e*P	**P**	**14 19 28.8**	**0.0**
	comp=Z,143nm,1.4s						
FELD	**Feldberg**	**19.45**	**317**	*e*P	**P**	**14 19 27.4**	**-1.6**
LBG	**Lerchenberg**	**19.47**	**320**	P	**P**	**14 19 30.3**	**+1.0**
BFO	**Black Forest**	**19.52**	**318**	Pn	**P**	**14 19 29.4**	**-0.4**
	comp=Z,205nm,1.4s,SNR=11						
BFO	**Black Forest**	**19.52**	**318**	*e*P	**P**	**14 19 28.9**	**-0.9**
BFO				pmax	pmax		
	comp=Z,81nm,1.4s						
BFO	**Black Forest**	**19.52**	**318**	*e*P	**P**	**14 19 28.9**	**-0.9**
	comp=Z,81nm,1.4s						
KIZ	**Kirchzarten**	**19.54**	**317**	P	**P**	**14 19 30.0**	**0.0**
GKP	**Gorka Klasztor**	**19.61**	**341**	*e*P	**P**	**14 19 29.0**	**-1.7**
LOMF	**Lomont**	**19.84**	**314**	P	**P**	**14 19 34.4**	**+1.1**
MOF	**Molkenrain**	**19.92**	**316**	*e*P	**P**	**14 19 33.3**	**-0.9**
CABF	**La Chapelle**	**19.93**	**312**	*e*P	**P**	**14 19 31.5**	**-2.7**
	comp=Z,28nm,0.5s						
RUE	**Ruedersdorf**	**20.00**	**334**	*e*P	**P**	**14 19 32.1**	**-2.8**
	comp=Z,173nm,1.2s						
SWS	**Schriesheim**	**20.02**	**322**	P	**P**	**14 19 35.6**	**+0.4**
OG05	**Jujurieux**	**20.06**	**310**	*e*P	**P**	**14 19 32.8**	**-2.9**
HINF	**Hinteralfeld**	**20.07**	**316**	*e*P	**P**	**14 19 34.0**	**-1.7**
	comp=Z,16nm,0.6s						
ECH	**Echery**	**20.11**	**317**	*e*P	**P**	**14 19 34.5**	**-1.6**
WLS	**Welschbruch**	**20.11**	**318**	*e*P	**P**	**14 19 34.8**	**-1.3**
VIVF	**Saint-Julien-l**	**20.11**	**306**	*e*P	**P**	**14 19 33.8**	**-2.4**
	comp=Z,29nm,0.6s						
CDF	**Champ du Feu**	**20.15**	**317**	*e*P	**P**	**14 19 34.9**	**-1.6**
	comp=Z,63nm,1.0s						
LANF	**Langenberg**	**20.19**	**319**	*e*P	**P**	**14 19 37.8**	**+0.9**
LASF	**Ste Croix**	**20.40**	**303**	*e*P	**P**	**14 19 37.5**	**-1.7**
	comp=Z,59nm,0.9s						
HAU	**Haudompre**	**20.45**	**316**	*e*P	**P**	**14 19 38.1**	**-1.6**
	comp=Z,18nm,0.6s						
HAU				*e*R			
	comp=Z,1µm,17.8s						
EJON	**La Jonquera**	**20.66**	**298**	P	**P**	**14 19 39.0**	**-2.9**
THEF	**They Montfort**	**20.78**	**316**	P	**P**	**14 19 42.5**	**-0.6**
OBN	**Obninsk**	**20.91**	**14**	c*e*P	**P**	**14 19 47.0**	**+2.6**
OBN				*i*		14 20 04.5	
OBN				pmax	pmax		
	comp=Z,62nm,0.9s						
OBN				MLR	MLR		
	comp=Z,1µm,17.0s,MS4.3						
OBN	**Obninsk**	**20.91**	**14**	*e*P	**P**	**14 19 42.8**	**-1.6**
	comp=Z,120nm,1.1s						
COLF	**Collangettes**	**20.99**	**307**	*e*P	**P**	**14 19 43.3**	**-2.0**
RUP	**Ruppelstein**	**21.00**	**320**	*e*P	**P**	**14 19 43.2**	**-2.2**
LBL	**Lubilhac**	**21.19**	**306**	*e*P	**P**	**14 19 47.4**	**+0.1**
VALF	**Valcebollere**	**21.28**	**298**	*e*P	**P**	**14 19 48.1**	**-0.1**
SMF	**Signal de Mont**	**21.33**	**310**	*e*P	**P**	**14 19 47.1**	**-1.6**
	comp=Z,71nm,0.4s,mb5.0						
MTLF	**Montolieu**	**21.34**	**300**	*e*P	**P**	**14 19 47.3**	**-1.5**
	comp=Z,32nm,0.9s,mb4.4						
EIBI	**Ibiza**	**21.39**	**288**	P	**P**	**14 19 47.5**	**-1.8**
MEZF	**Maizieres J'vi**	**21.45**	**315**	*e*P	**P**	**14 19 48.3**	**-1.6**
WLF	**Walferdange**	**21.46**	**319**	*e*P	**P**	**14 19 49.1**	**-0.8**
	comp=Z,52nm,0.9s,mb4.9						
PYM	**Petit Puy Mans**	**21.53**	**307**	*e*P	**P**	**14 19 50.7**	**+0.1**
EMIR	**Miracle**	**21.55**	**296**	P	**P**	**14 19 47.1**	**-3.8**
	comp=Z,20nm,0.9s,mb4.5						
LOR	**Lormes**	**21.59**	**311**	*e*P	**P**	**14 19 49.5**	**-1.7**
	comp=Z,59nm,0.8s,mb4.8						
LOR				*e*R			
	comp=Z,956nm,18.2s						
AVF	**Avril sur Loir**	**21.70**	**310**	*e*P	**P**	**14 19 50.9**	**-1.5**
	comp=Z,35nm,0.6s,mb4.7						
EPOB	**Poblet**	**21.80**	**295**	P	**P**	**14 19 51.6**	**-1.8**
	comp=Z,48nm,1.1s,mb4.8						
CAF	**Calviac**	**21.88**	**304**	*e*P	**P**	**14 19 53.2**	**-1.0**
	comp=Z,42nm,0.9s,mb4.5						
BGF	**Bois d'Agland**	**21.93**	**309**	*e*P	**P**	**14 19 53.3**	**-1.3**
	comp=Z,54nm,0.6s,mb4.9						
EBR	**Ebro Roquetas**	**22.17**	**293**	*e*P	**P**	**14 19 59.5**	**+2.4**
TCF	**Toulx Ste Croi**	**22.24**	**308**	*e*P	**P**	**14 19 57.6**	**-0.1**
RJF	**Les Rejaudoux**	**22.37**	**305**	*e*P	**P**	**14 19 58.7**	**-0.3**
RJF				*e*R			
	comp=Z,879nm,17.8s						
GIVF	**Givet**	**22.42**	**319**	*e*P	**P**	**14 19 58.2**	**-1.3**
	comp=Z,44nm,0.8s,mb4.6						
EGRA	**Graus**	**22.48**	**297**	P	**P**	**14 20 00.2**	**0.0**
EBEN	**Beniarda**	**22.60**	**287**	P	**P**	**14 20 02.3**	**+1.0**
	comp=Z,25nm,0.8s,mb4.7						
EPF	**Esparros**	**22.61**	**299**	*e*P	**P**	**14 20 01.1**	**-0.3**
	comp=Z,28nm,0.9s,mb4.4						
BAIF	**Baives**	**22.73**	**318**	*e*P	**P**	**14 20 01.5**	**-1.0**
	comp=Z,188nm,1.3s,mb5.1						
LFF	**La Frestale**	**22.79**	**304**	*e*P	**P**	**14 20 02.4**	**-0.7**
EMOS	**Mosqueruela**	**22.86**	**292**	P	**P**	**14 20 05.5**	**+1.6**
	comp=Z,27nm,1.0s,mb4.6						
FDAF	**Les Forges d'A**	**23.23**	**298**	*e*P	**P**	**14 20 09.6**	**+2.2**
ETSF	**Etsaut**	**23.24**	**298**	*e*P	**P**	**14 20 09.1**	**+1.6**
LARF	**Larrau**	**23.57**	**298**	⇑*e*P	**P**	**14 20 13.0**	**+2.2**
ETOB	**Tobarra**	**23.64**	**287**	P	**P**	**14 20 13.8**	**+2.4**
	comp=Z,14nm,1.0s,mb4.4						
SJPF	**Ste Jean**	**23.76**	**298**	*e*P	**P**	**14 20 12.1**	**-0.4**
	comp=Z,305nm,1.2s,mb5.3						
OSSF	**Osses**	**23.81**	**299**	⇑*e*P	**P**	**14 20 13.9**	**+0.9**
MFF	**Saint Martin d**	**23.88**	**307**	*e*P	**P**	**14 20 13.4**	**-0.2**
	comp=Z,72nm,0.9s,mb4.8						
EALK	**Alkurruntz**	**23.98**	**299**	P	**P**	**14 20 16.8**	**+2.1**
	comp=Z,23nm,1.0s,mb4.6						
ETOR	**Torete**	**24.10**	**293**	P	**P**	**14 20 17.7**	**+1.8**
	comp=Z,12nm,0.5s,mb4.6						
EVIA	**Vianos**	**24.39**	**287**	P	**P**	**14 20 21.1**	**+2.4**
	comp=Z,39nm,0.8s,mb4.9						
LDF	**La Druitiere**	**24.57**	**312**	*e*P	**P**	**14 20 19.4**	**-1.0**
	comp=Z,129nm,1.2s,mb5.0						
FLN	**La Foliniere**	**24.86**	**312**	*e*P	**P**	**14 20 22.0**	**-1.2**
	comp=Z,37nm,0.4s,mb5.0						
FLN				*e*R			
	comp=Z,947nm,22.5s						
EQES	**Quesada**	**24.86**	**285**	P	**P**	**14 20 24.2**	**+0.9**
	comp=Z,20nm,0.6s,mb4.8						
GRR	**Gorron**	**24.95**	**311**	*e*P	**P**	**14 20 22.7**	**-1.3**
	comp=Z,41nm,0.5s,mb4.9						
ELAN	**Lanestosa**	**25.37**	**298**	P	**P**	**14 20 29.2**	**+1.1**
	comp=Z,54nm,0.9s,mb5.1						
ESDC	**Sonseca Array**	**25.51**	**290**	P	**P**	**14 20 30.4**	**+1.0**
	comp=Z,28nm,0.8s,mb4.8,baz=82,slow=9.0,SNR=57						
ESDC	**Sonseca Array**	**25.51**	**290**	P	**P**	**14 20 30.6**	**+1.1**
	comp=Z,20nm,0.8s,mb4.7						
ESLA	**Sonseca Array**	**25.51**	**290**	*e*P	**P**	**14 20 30.3**	**+0.8**
	comp=Z,8.8nm,0.7s,mb4.4						
ELOJ	**Sierra Loja**	**25.77**	**284**	P	**P**	**14 20 34.5**	**+2.6**
	comp=Z,2.8nm,0.5s,mb4.0						
SGMF	**Saint Gilles**	**25.96**	**310**	*e*P	**P**	**14 20 32.2**	**-1.4**
	comp=Z,222nm,1.4s,mb5.2						
EADA	**Adamuz**	**26.03**	**286**	P	**P**	**14 20 35.3**	**+1.0**
	comp=Z,12nm,0.8s,mb4.5						
QUIF	**Quistinic**	**26.24**	**309**	*e*P	**P**	**14 20 34.8**	**-1.4**
	comp=Z,36nm,0.6s,mb4.8						
EMIJ	**Mijas**	**26.32**	**283**	P	**P**	**14 20 37.0**	**-0.1**
FINES	**FINESS Array B**	**26.36**	**358**	P	**P**	**14 20 35.9**	**-1.3**
	comp=Z,4.2nm,0.5s,mb4.2,baz=161,slow=11,SNR=14						
FINES				PcP	PcP	14 24 03.7	+1.0
	comp=Z,1.5nm,0.5s,baz=168,slow=2.5,SNR=7.8						
FINES				LR	LR	14 31 40.4	
	comp=Z,502nm,20.6s,MS4.0,baz=14,slow=38						
FINES	**FINESS Array B**	**26.36**	**358**	P	**P**	**14 20 35.9**	**-1.3**
FINES						14 24 03.7	
FINES				pmax	pmax		
	comp=Z,4.0nm,0.5s						
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
FINES				MLR	MLR		
	comp=Z,502nm,20.6s						
FINES	**FINESS Array B**	**26.36**	**358**	P	**P**	**14 20 35.9**	**-1.3**
FINES				PcP	PcP	14 24 03.7	+1.0
ROSF	**Rostrenen**	**26.44**	**309**	*e*P	**P**	**14 20 36.3**	**-1.7**
	comp=Z,27nm,0.6s,mb4.6						
HFS	**Hagfors**	**26.64**	**344**	P	**P**	**14 20 37.5**	**-2.2**
	comp=Z,9.6nm,0.5s,mb4.6,baz=164,slow=10,SNR=30						
HFS	**Hagfors**	**26.64**	**344**	P	**P**	**14 20 37.5**	**-2.2**
HFS				pmax	pmax		
	comp=Z,10.0nm,0.5s						
KAF	**Kangasniemi**	**27.03**	**359**	*e*p	**P**	**14 20 39.9**	**-3.4**
	comp=Z,1.5nm,0.4s,mb3.9						
KAF	**Kangasniemi**	**27.03**	**359**	*e*P	**P**	**14 20 39.9**	**-3.4**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.0						
ESPR	**Espera**	**27.16**	**284**	P	**P**	**14 20 44.0**	**-0.7**
	comp=Z,11nm,0.9s,mb4.4						
PBRG	**Braganca**	**27.68**	**294**	*e*P	**P**	**14 20 49.7**	**+0.3**
	comp=Z,54nm,1.0s,mb5.1						
ECAL	**Calabor**	**27.68**	**295**	P	**P**	**14 20 48.3**	**-1.1**
	comp=Z,20nm,0.8s,mb4.8						
EMIN	**Mina Concepcio**	**27.71**	**286**	P	**P**	**14 20 50.4**	**+0.6**
	comp=Z,16nm,0.7s,mb4.8						
EBAD	**Badajoz**	**27.91**	**288**	P	**P**	**14 20 51.7**	**+0.2**
	comp=Z,15nm,0.7s,mb4.7						
NAO01	**NORSAR Array S**	**27.93**	**342**	P	**P**	**14 20 49.3**	**-2.2**
	comp=Z,6.4nm,0.4s,mb4.6						
NB2	**NORSAR Subarra**	**28.02**	**343**	P	**P**	**14 20 49.3**	**-3.0**
	comp=Z,6.1nm,0.9s,mb4.2,baz=150,slow=9.3						
NOA	**NORSAR Array B**	**28.02**	**343**	P	**P**	**14 20 49.6**	**-2.7**
	comp=Z,3.7nm,0.8s,mb4.1,baz=150,slow=8.2,SNR=8.4						
NOA				LR	LR	14 34 03.6	
	comp=Z,933nm,18.2s,MS4.4,baz=160,slow=41						
NOA	**NORSAR Array B**	**28.02**	**343**	P	**P**	**14 20 49.6**	**-2.7**
NOA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
NOA				MLR	MLR		
	comp=Z,933nm,18.2s						
PCBR	**Castelo Branco**	**28.22**	**290**	*e*P	**P**	**14 20 55.4**	**+1.1**
	comp=Z,41nm,1.3s,mb4.9						
MTE	**Manteigas**	**28.26**	**291**	*e*P	**P**	**14 20 54.9**	**+0.3**
	comp=Z,54nm,1.5s,mb5.0						
MTE	**Manteigas**	**28.26**	**291**	*e*P	**P**	**14 20 54.8**	**+0.2**
PALC	**Alcoutim**	**28.38**	**285**	*e*P	**P**	**14 20 55.3**	**-0.4**
	comp=Z,61nm,1.5s,mb5.0						
PVIS	**Viseu**	**28.52**	**292**	*e*P	**P**	**14 20 57.6**	**+0.6**
	comp=Z,68nm,1.2s,mb5.2						
PVIS	**Viseu**	**28.52**	**292**	*e*P	**P**	**14 20 57.5**	**+0.5**
PBEJ	**Beja**	**28.63**	**286**	*e*P	**P**	**14 20 58.5**	**+0.5**
	comp=Z,49nm,1.4s,mb5.0						
PBEJ	**Beja**	**28.63**	**286**	*e*P	**P**	**14 20 58.4**	**+0.4**
ELOB	**Lobios**	**28.66**	**294**	P	**P**	**14 20 58.2**	**0.0**
EVO	**Evora**	**28.70**	**287**	*e*P	**P**	**14 20 59.2**	**+0.6**
	comp=Z,76nm,1.5s,mb4.9						
EVO				*e*R			
	comp=Z,413nm,19.5s						
STS	**Santiago**	**29.07**	**296**	P	**P**	**14 21 02.2**	**+0.4**
EKA	**Eskdalemuir Ar**	**29.31**	**323**	P	**P**	**14 21 03.0**	**-0.8**
	comp=Z,1.3nm,0.4s,mb4.0,baz=123,slow=10,SNR=5.3						
EKA				PcP	PcP	14 24 11.3	+1.4
	comp=Z,2.3nm,0.9s,baz=118,slow=2.4,SNR=3.9						
EKA	**Eskdalemuir Ar**	**29.31**	**323**	P	**P**	**14 21 03.0**	**-0.8**
EKA						14 24 11.3	
EKA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
EKA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ARU	**Arti**	**29.86**	**35**	⇑*i*P	**P**	**14 21 10.9**	**+2.2**
ARU				*e*		14 22 10.9	
ARU				*e*PPP	PPP	14 22 20.2	-0.5
ARU				*e*SS	SS	14 27 54.3	+15
ARU				*e*		14 31 44.1	
ARU				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.4						
ARU				MLR	MLR		
	comp=Z,400nm,17.0s,MS4.1						
ARU				MLR	MLR		
	comp=N,200nm,19.0s,MS4.0						
ARU				MLR	MLR		
	comp=E,300nm,19.0s,MS4.0						
SVE	**Sverdlovsk**	**31.05**	**35**	⇓*e*P	**P**	**14 21 19.1**	**-0.1**
SVE				*e*SS	SS	14 28 35.0	+29
SVE				*e*		14 31 44.0	
SVE				MLR	MLR		
	comp=Z,500nm,15.0s,MS4.3						
SVE				MLR	MLR		
	comp=N,100nm,16.0s,MS4.3						
SVE				MLR	MLR		
	comp=E,500nm,16.0s,MS4.3						
ZRNK	**Zerenda**	**34.03**	**45**	*e*P	**P**	**14 21 45.4**	**+0.2**
	comp=E,24nm,1.1s,mb5.0						
ARCES	**ARCESS Array B**	**34.49**	**359**	P	**P**	**14 21 47.2**	**-1.9**
	comp=E,2.2nm,0.4s,mb4.5,baz=173,slow=8.2,SNR=35						
ARCES				LR	LR	14 36 31.1	
	comp=E,596nm,19.6s,MS4.3,baz=181,slow=38						
ARCES	**ARCESS Array B**	**34.49**	**359**	P	**P**	**14 21 47.2**	**-1.8**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ARCES				MLR	MLR		
	comp=Z,596nm,19.6s						
ARCES	**ARCESS Array B**	**34.49**	**359**	P	**P**	**14 21 47.2**	**-1.9**
KEV	**Kevo**	**34.70**	**360**	*e*p	**P**	**14 21 45.6**	**-5.2**
	comp=Z,1.0nm,0.3s,mb4.2						
KEV	**Kevo**	**34.70**	**360**	*e*P	**P**	**14 21 45.6**	**-5.2**
KEV				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.2						
BRVK	**Borovoye**	**34.80**	**46**	*e*P	**P**	**14 21 50.5**	**-1.4**
	comp=Z,10nm,1.1s,mb4.7						
KMBO	**Kilima Mbogo**	**37.14**	**164**	LR	LR	14 40 03.3	
	comp=Z,441nm,19.5s,MS4.3,baz=61,slow=40						
JASL	**Jaisalmer**	**37.65**	**90**	*e*P	**P**	**14 22 18.9**	**+2.7**
KSH	**Kashi**	**38.26**	**69**	*e*P	**P**	**14 22 26.0**	**+4.9**
KSH				*e*PP	PP	14 23 58.0	+5.6
KSH				*e*PPP	PPP	14 24 22.0	+6.9
KSH				*e*PCP	PcP	14 24 41.0	+5.7
KSH				*e*S	**S**	**14 28 18.0**	**+6.2**
KSH				*e*XS		14 28 27.0	
KSH				*e*PS		14 28 37.0	
KSH				*e*SS	SS	14 30 55.0	+3.1
KSH				*e*SCS	ScS	14 32 30.3	+3.6
KSH				AMB	AMB		
	comp=Z,60nm,4.6s						
KSH				LR	LR		
	comp=N,260nm,7.9s						
KSH				LR	LR		
	comp=E,210nm,4.7s						
KURK	**Kurchatov**	**39.57**	**51**	⇑*e*P	**P**	**14 22 32.5**	**+0.6**
KURK	**Kurchatov**	**39.57**	**51**	*e*P	**P**	**14 22 32.4**	**+0.5**
	comp=E,12nm,0.8s,mb4.7						
KURK				*e*		14 24 06.0	
DBIC	**Dimbokro**	**41.22**	**234**	P	**P**	**14 22 48.7**	**+2.8**
	comp=E,20nm,0.7s,mb4.9,baz=21,slow=9.4,SNR=33						
DBIC				PcP	PcP	14 24 47.6	+2.7
	comp=E,9.9nm,1.1s,baz=49,slow=5.3,SNR=3.3						
DBIC				LR	LR	14 43 20.0	
	comp=E,493nm,19.5s,MS4.4,baz=21,slow=41						
DBIC	**Dimbokro**	**41.22**	**234**	P	**P**	**14 22 48.7**	**+2.8**
DBIC						14 24 47.7	
DBIC				pmax	pmax		
	comp=Z,20nm,0.7s						
DBIC				pmax	pmax		
	comp=Z,10.0nm,1.1s						
DBIC				MLR	MLR		
	comp=Z,493nm,19.5s						
DBIC	**Dimbokro**	**41.22**	**234**	*e*P	**P**	**14 22 48.1**	**+2.2**
	comp=Z,24nm,0.6s,mb5.0						
KHET	**Khetri**	**41.23**	**86**	*e*P	**P**	**14 22 48.1**	**+2.3**
KHET				*e*		14 22 49.2	
	comp=Z,2.4nm,0.2s						
KHET				AMb	AMB	14 22 52.8	
	comp=Z,6.6nm,0.6s,mb4.4						
TIC	**Toumodi**	**41.35**	**234**	⇑*i*P	**P**	**14 22 49.5**	**+2.5**
	comp=Z,98nm,0.7s,mb5.5						
RTK	**Rohtak**	**41.37**	**84**	*e*P	**P**	**14 22 45.1**	**-1.9**
KIC	**Kosan Boka**	**41.37**	**234**	⇑*i*P	**P**	**14 22 49.8**	**+2.6**
	comp=Z,143nm,0.6s,mb5.8						
LIC	**Lamto**	**41.66**	**234**	*e*P	**P**	**14 22 50.7**	**+1.1**
	comp=Z,61nm,0.8s,mb5.0						
LIC	**Lamto**	**41.66**	**234**	⇑*i*P	**P**	**14 22 52.3**	**+2.7**
	comp=Z,94nm,0.8s,mb5.5						
KUDL	**Kundal**	**41.76**	**86**	*e*P	**P**	**14 22 53.3**	**+3.1**
KUDL				AMb	AMB	14 23 02.5	
	comp=Z,9.5nm,1.4s,mb4.2						
KLP	**Kalpa**	**42.00**	**80**	*e*P	**P**	**14 22 56.0**	**+3.8**
KLP				AMb	AMB	14 22 57.9	
	comp=Z,9.7nm,0.5s,mb4.7						
MKAR	**Makanchi Array**	**42.04**	**57**	P	**P**	**14 22 53.8**	**+1.6**
	comp=Z,3.5nm,0.5s,mb4.2,baz=274,slow=7.8,SNR=60						
MKAR				LR	LR	14 42 27.2	
	comp=Z,189nm,20.6s,MS4.0,baz=270,slow=39						
MKAR	**Makanchi Array**	**42.04**	**57**	P	**P**	**14 22 53.8**	**+1.6**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.5s						
MKAR				MLR	MLR		
	comp=Z,189nm,20.6s						
NDI	**New Delhi**	**42.15**	**84**	*e*P	**P**	**14 22 53.5**	**+0.1**
AYAN	**Aya Nagar**	**42.15**	**85**	*e*P	**P**	**14 22 55.9**	**+2.4**
AYAN				AMb	AMB	14 22 59.9	
	comp=Z,11nm,0.8s,mb4.5						
SONA	**Sohna**	**42.20**	**85**	*e*P	**P**	**14 22 55.6**	**+1.7**
SONA				AMb	AMB	14 22 56.3	
	comp=Z,5.5nm,0.4s,mb4.6						
NVS	**Novosibirsk**	**42.63**	**45**	*e*P	**P**	**14 22 57.7**	**+0.7**
NVS				*e*		14 24 35.2	
NVS				*i* S	**S**	**14 29 14.7**	**-2.1**
NVS				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.6						
NVS				pmax	pmax		
	comp=E,6.0nm,0.9s						
NVS				smax			
	comp=N,21nm,1.9s						
JOSI	**Joshimath**	**43.39**	**81**	*e*P	**P**	**14 23 06.5**	**+3.0**
WMQ	**Urumqi**	**46.20**	**60**	P	**P**	**14 23 27.6**	**+1.8**
WMQ				AP	pP	14 23 40.0	+2.5
WMQ				XP	sP	14 23 45.3	+2.8
WMQ				PP	PP	14 25 16.4	+1.9
WMQ				*e*S	**S**	**14 30 09.9**	**+1.5**
WMQ				SS	SS	14 33 27.8	+1.6
WMQ				AMB	AMB		
	comp=Z,14nm,1.0s,mb4.8						
WMQ				LR	LR		
	comp=N,673nm,30.0s,MS4.4						
WMQ				LR	LR		
	comp=E,259nm,31.0s,MS4.4						
WMQ				LR	LR		
	comp=Z,201nm,28.0s,MS3.9						
KOLN	**Koldanda**	**47.70**	**83**	*e*P	**P**	**14 23 40.3**	**+2.4**
	comp=Z,60nm,1.0s,mb5.6						
HYB	**Hyderabad**	**48.33**	**98**	*i* P	**P**	**14 23 45.5**	**+2.6**
HYB	**Hyderabad**	**48.33**	**98**	*e*P	**P**	**14 23 45.5**	**+2.6**
GKN	**Gorkha**	**48.45**	**82**	*e*P	**P**	**14 23 45.5**	**+1.8**
	comp=Z,73nm,0.9s,mb5.7						
DMN	**Daman**	**48.99**	**82**	*e*P	**P**	**14 23 50.1**	**+2.3**
	comp=Z,105nm,1.0s,mb5.8						
KKN	**Kakani**	**49.06**	**82**	*e*P	**P**	**14 23 50.0**	**+1.7**
	comp=Z,38nm,0.8s,mb5.5						
PKI	**Pulchoki**	**49.25**	**82**	*e*P	**P**	**14 23 51.8**	**+2.0**
	comp=Z,90nm,1.2s,mb5.7						
LSA	**Lhasa**	**53.02**	**77**	P	**P**	**14 24 20.8**	**+2.4**
MOY	**Mondy**	**53.48**	**48**	*e*P	**P**	**14 24 23.7**	**+2.3**
TSUM	**Tsumeb**	**54.87**	**192**	*e*P	**P**	**14 24 35.3**	**+3.3**
	comp=Z,5.5nm,0.8s,mb4.6						
ZAK	**Zakamensk**	**55.19**	**49**	*e*P	**P**	**14 24 34.8**	**+0.9**
SHL	**Shillong**	**55.35**	**81**	*e*P	**P**	**14 24 34.0**	**-1.4**
SONM	**Songino Array**	**57.88**	**51**	P	**P**	**14 24 54.5**	**+1.4**
	comp=Z,5.6nm,0.7s,mb4.7,baz=283,slow=6.1,SNR=20						

BOD	**Bodaibo**	**59.18**	**38**	*e*P	**P**	**14 25 01.0**	**-1.1**
LZH	**Lanzhou**	**60.32**	**65**	*e*P	**P**	**14 25 15.1**	**+4.9**
LZH				AP	pP	14 25 25.9	+3.6
LZH				XP	sP	14 25 30.6	+3.5
LZH				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.1						
LZH				AMB	AMB		
	comp=Z,190nm,4.0s						
LZH				LR	LR		
	comp=N,670nm,17.0s						
LZH				LR	LR		
	comp=Z,880nm,18.8s,MS4.9						
CD2	**Chengdu**	**62.43**	**70**	*e*P	**P**	**14 25 25.9**	**+1.4**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb5.0						
HHC	**Hu-ho-hao-te**	**63.90**	**57**	*e*P	**P**	**14 25 35.8**	**+1.8**
HHC				AP	pP	14 25 46.3	+0.1
HHC				XP	sP	14 25 50.8	-0.1
HHC				PCP	PcP	14 26 10.3	+1.0
HHC				PP	PP	14 28 00.8	+4.3
HHC				S	**S**	**14 34 07.3**	**+2.3**
HHC				XS		14 34 24.9	
HHC				PS	PS	14 34 31.6	+1.5
HHC				SCS	ScS	14 35 24.9	+4.5
HHC				SS	SS	14 38 17.9	+2.7
HHC				AMB	AMB		
	comp=Z,26nm,1.3s,mb5.1						
HHC				AMB	AMB		
	comp=Z,93nm,4.1s						
HHC				LR	LR		
	comp=N,98nm,28.5s						
HHC				LR	LR		
	comp=E,121nm,20.8s						
HHC				LR	LR		
	comp=Z,55nm,20.2s						
KMI	**Kunming**	**64.28**	**76**	*e*P	**P**	**14 25 38.5**	**+1.8**
KMI				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.7						
KMI				LR	LR		
	comp=N,169nm,16.9s,MS4.4						
KMI				LR	LR		
	comp=E,139nm,18.1s,MS4.4						
KMI				LR	LR		
	comp=Z,112nm,13.9s,MS4.2						
KMI	**Kunming**	**64.28**	**76**	*e*P	**P**	**14 25 38.5**	**+1.8**
	comp=Z,7.0nm,0.8s,mb4.7						
CHG	**Chiang Mai**	**64.30**	**84**	P	**P**	**14 25 41.4**	**+4.4**
CM31	**Chiang Mai Arr**	**64.48**	**85**	*e*P	**P**	**14 25 36.8**	**-1.4**
	comp=Z,6.9nm,0.7s,mb4.8						
CMAR	**Chiang Mai Arr**	**64.48**	**85**	P	**P**	**14 25 39.1**	**+1.0**
	comp=Z,3.1nm,0.9s,mb4.3,baz=298,slow=8.3,SNR=18						
CMAR				LR	LR	14 57 44.2	
	comp=Z,145nm,19.9s,MS4.2,baz=280,slow=40						
CMAR	**Chiang Mai Arr**	**64.48**	**85**	P	**P**	**14 25 39.2**	**+1.1**
CMAR				pmax	pmax		
	comp=Z,3.0nm,1.0s						
CMAR				MLR	MLR		
	comp=Z,145nm,19.9s						
SCHQ	**Schefferville**	**64.58**	**320**	P	**P**	**14 25 38.0**	**-0.2**
	comp=Z,7.8nm,0.4s,mb5.0,baz=65,slow=6.2,SNR=21						
SCHQ				LR	LR	14 53 51.3	
	comp=Z,279nm,20.1s,MS4.5,baz=20,slow=36						
SCHQ	**Schefferville**	**64.58**	**320**	P	**P**	**14 25 38.0**	**-0.2**
YAK	**Yakutsk**	**64.85**	**31**	⇑*e*P	**P**	**14 25 39.9**	**+0.1**
YAK				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.8						
YAK				MLR	MLR		
	comp=Z,300nm,15.0s,MS4.6						
XAN	**Xi’an**	**64.95**	**65**	P	**P**	**14 25 41.5**	**+0.5**
XAN				AP	pP	14 25 48.8	-4.4
XAN				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.5						
NANT	**Nan**	**65.74**	**83**	P	**P**	**14 25 44.0**	**-2.2**
ENH	**Enshi**	**67.11**	**68**	*e*P	**P**	**14 25 56.0**	**+1.2**
	comp=Z,32nm,0.9s,mb5.3						
ENH				*e*		14 26 04.7	
BJI	**Beijing**	**67.42**	**56**	P	**P**	**14 25 57.8**	**+1.3**
BJI				S	S	14 34 56.6	+8.8
BJI				AMB	AMB		
	comp=Z,6.0nm,0.5s,mb4.9						
BJI				LR	LR		
	comp=N,230nm,17.0s,MS4.5						
BJI				LR	LR		
	comp=E,117nm,17.0s,MS4.5						
BJI				LR	LR		
	comp=Z,444nm,22.4s						
BJI	**Beijing**	**67.42**	**56**	P	**P**	**14 25 57.8**	**+1.3**
	comp=Z,6.0nm,0.5s,mb4.9						
BJI				S	S	14 34 56.6	+8.8
KKTK	**Khon Kaen**	**68.74**	**85**	P	**P**	**14 26 05.0**	**-0.1**
CN2	**Changchun**	**71.62**	**49**	*e*P	**P**	**14 26 22.8**	**+0.6**
CN2				*e*AP	pP	14 26 34.5	0.0
CN2				*e*S	S	14 35 35.8	-1.4
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
CN2				AMB	AMB		
	comp=Z,300nm,3.0s						
CN2				LR	LR		
	comp=N,200nm,13.0s,MS4.6						
CN2				LR	LR		
	comp=E,100nm,13.0s,MS4.6						
CN2				LR	LR		
	comp=Z,200nm,18.0s,MS4.4						
KLR	**Kul’dur**	**72.41**	**42**	*e*P	**P**	**14 26 27.8**	**+1.1**
NJ2	**Nanjing**	**73.21**	**62**	*e*P	**P**	**14 26 29.5**	**-2.3**
NJ2				AP	pP	14 26 39.8	-4.4
NJ2				XP	sP	14 26 43.8	-4.9
NJ2				PP	PP	14 29 14.8	-2.4
NJ2				S	S	14 35 54.0	-1.6
NJ2				LR	LR		
	comp=N,190nm,19.0s,MS4.5						
NJ2				LR	LR		
	comp=E,160nm,19.6s,MS4.5						
MDJ	**Mudanjiang**	**73.71**	**47**	P	**P**	**14 26 33.5**	**-0.9**
MDJ				AP	pP	14 26 45.6	-1.2
MDJ				XP	sP	14 26 50.3	-1.1
MDJ				PP	PP	14 29 19.9	-1.0
MDJ				S	S	14 36 00.1	-0.8
MDJ				SCS	ScS	14 36 38.5	+1.6
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.5s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,43nm,4.8s						
MDJ				LR	LR		
	comp=N,86nm,34.0s						
MDJ				LR	LR		
	comp=E,68nm,40.2s						
MDJ				LR	LR		
	comp=Z,95nm,25.8s						
SSE	**Sheshan**	**75.41**	**62**	*e*P	**P**	**14 26 45.8**	**+1.3**
SSE				S	S	14 36 18.3	-1.8
SSE				XS		14 36 43.1	
SSE				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,36nm,12.0s						
SSE				LR	LR		
	comp=N,101nm,20.0s,MS4.2						
SSE				LR	LR		
	comp=E,62nm,20.0s,MS4.2						
SSE				LR	LR		
	comp=Z,71nm,20.0s,MS4.0						
SSE	**Sheshan**	**75.41**	**62**	*e*P	**P**	**14 26 45.7**	**+1.2**
	comp=Z,30nm,0.7s,mb5.3						
SSE				S	S	14 36 18.3	-1.8
SSE				sS		14 36 43.1	
SSE				SS	SS	14 41 08.5	-4.9
YKA	**Yellowknife Ar**	**78.12**	**343**	LR	LR	15 02 38.5	
	comp=Z,232nm,20.6s,MS4.5,baz=55,slow=37						
IMA	**Indian Mountai**	**79.13**	**1**	P	**P**	**14 27 06.3**	**+1.7**
	comp=Z,27nm,1.0s,mb5.1						
YSS	**Yuzh-Sakhalins**	**79.65**	**39**	*e*P	**P**	**14 27 09.0**	**+1.2**
YSS				*e*		14 27 12.2	
YSS				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.0						
ILAR	**Eielson Array**	**80.35**	**358**	P	**P**	**14 27 11.6**	**+0.4**
	comp=Z,1.3nm,0.7s,mb4.0,baz=338,slow=2.9,SNR=11						
ILAR	**Eielson Array**	**80.35**	**358**	P	**P**	**14 27 11.6**	**+0.4**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
DAWY	**Dawson**	**80.62**	**354**	*e*P	**P**	**14 27 12.9**	**+0.3**
ULM	**Lac du Bonnet**	**81.50**	**327**	P	**P**	**14 27 17.5**	**0.0**
	comp=Z,5.9nm,0.4s,mb4.8,baz=44,slow=6.0,SNR=10						
ULM				LR	LR	15 03 02.6	
	comp=Z,285nm,19.5s,MS4.6,baz=50,slow=35						
ULM	**Lac du Bonnet**	**81.50**	**327**	P	**P**	**14 27 17.5**	**0.0**
EDM	**Edmonton**	**85.75**	**338**	P	**P**	**14 27 39.8**	**+1.0**
FVM	**French Village**	**87.41**	**316**	*e*P	**P**	**14 27 47.8**	**+0.5**
	comp=Z,6.7nm,0.5s,mb5.1						
BDFB	**Brasilia**	**87.65**	**249**	P	**P**	**14 27 53.1**	**+4.2**
	comp=Z,8.4nm,0.6s,mb5.1,baz=61,slow=6.9,SNR=9.9						
BDFB				LR	LR	15 05 57.1	
	comp=Z,304nm,21.4s,MS4.7,baz=250,slow=35						
BDFB	**Brasilia**	**87.65**	**249**	P	**P**	**14 27 53.1**	**+4.2**
BDFB				pmax	pmax		
	comp=Z,8.0nm,0.6s						
BDFB				MLR	MLR		
	comp=Z,304nm,21.4s						
CCM	**Cathedral Cave**	**87.82**	**316**	*e*P	**P**	**14 27 50.9**	**+1.6**
	comp=Z,11nm,0.5s,mb5.3						
CHMT	**Chamberlain Mo**	**91.13**	**334**	P	**P**	**14 28 05.8**	**+1.1**
SDV	**Santo Domingo**	**91.72**	**282**	*e*P	**P**	**14 28 10.3**	**+2.1**
	comp=Z,8.7nm,0.9s,mb5.1						
CBIJ	**Chichi jima**	**92.47**	**54**	LR	LR	15 11 46.9	
	comp=Z,102nm,18.6s,MS4.3,baz=321,slow=37						
PDAR	**Pinedale Array**	**93.22**	**330**	P	**P**	**14 28 15.1**	**+0.7**
	comp=Z,1.4nm,1.1s,mb4.3,baz=18,slow=4.7,SNR=4.1						
PDAR				LR	LR	15 13 25.6	
	comp=Z,205nm,18.6s,MS4.6,baz=304,slow=38						
WRA	**Warramunga Arr**	**114.49**	**98**	PKP	PKPdf	14 33 42.1	+2.8
	comp=Z,0.2nm,0.6s,baz=314,slow=1.4,SNR=7.2						
QSPA	**South Pole Qui**	**124.97**	**180**	*e*PKP	PKPdf	14 34 01.6	+3.6

MAN 21 14:26:18.2, 16.41N×120.04E, h22$^{\mathrm{km}}$, mb3.8, ML2.6, MS2.2, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOLP	**Bolinao**	**0.12**	**254**	*e*P	Pb	14 26 23.8	+1.1
BCPH	**Baguio City Da**	**0.53**	**94**	⇑*i*P	Pb	14 26 30.0	+1.3
BCPH				*i* S	Sb	14 26 40.6	+4.7
ABRA	**Dolores**	**1.39**	**28**	*e*P	Pn	14 26 42.0	-0.6
APYP	**Conner**	**1.85**	**39**	*e*P	Pn	14 26 49.1	-0.1

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*NEIC **21** 14:41:11.5±0.7, 64.82S×176.48E, h10$^{\mathrm{km}}$, mb4.7/3, Error ellipse: s-maj=27.9km s-min=14.6km az=74.0*

*IDC **21** 14:41:12.1±1.3, 64.46S×175.79E, mb4.0/3, mb1 4.2/3, mb1mx4.1/7, MS4.5/7, Ms1 4.5/7, ms1mx4.4/10, Error ellipse: s-maj=48.3km s-min=37.8km az=63.0*

ISC 21 14:41:09.5±0.9**, 64.8S**±0.1×**176.1E**±0.5**, h10$^{\mathrm{km}}$, n21, σ0$^{\mathrm{s}}$.36**/10**, mb4.5**/7**, MS4.5**/7**, 1C, Balleny Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SBA	**Scott Base**	**13.40**	**188**	*e*P	**P**	**14 44 21.8**	**-0.3**
	222nm,1.4s						
RPZ	**Rata Peaks**	**21.33**	**350**	LR	LR	14 52 34.9	
	comp=Z,1µm,19.5s,MS4.4,baz=332,slow=33						
QSPA	**South Pole Qui**	**25.27**	**180**	*e*P	**P**	**14 46 36.8**	**+0.2**
	81nm,1.2s,mb5.1						
URZ	**Urewera**	**26.60**	**2**	LR	LR	14 55 17.4	
	comp=Z,1µm,21.3s,MS4.4,baz=162,slow=32						
MAW	**Mawson**	**39.62**	**214**	P	**P**	**14 48 46.6**	**+4.3**
	0.9nm,0.7s,mb3.6,baz=144,slow=8.6,SNR=2.7						
MAW				LR	LR	15 05 12.1	
	comp=Z,2µm,20.0s,MS4.9,baz=137,slow=36						
SNAA	**Sanae**	**43.77**	**181**	⇑*i*	**P**	**14 49 16.2**	**+0.2**
VNA3	**Neumayer Olymp**	**44.15**	**177**		**P**	**14 49 09.5**	**-10**
CTA	**Charters Tower**	**48.88**	**322**	LR	LR	15 08 09.0	
	comp=Z,292nm,20.3s,MS4.3,baz=351,slow=33						
WRA	**Warramunga Arr**	**52.63**	**308**	P	**P**	**14 50 25.5**	**-0.2**
	1.8nm,1.1s,mb3.9,baz=159,slow=6.2,SNR=4.6						
WRA				LR	LR	15 10 56.9	
	comp=Z,440nm,18.5s,MS4.5,baz=180,slow=34						
WRAB	**Tennant Creek**	**52.64**	**308**	P	**P**	**14 50 25.8**	**+0.1**
	24nm,1.5s,mb4.9						
FITZ	**Fitzroy Crossi**	**57.42**	**300**	LR	LR	15 14 35.9	
	comp=Z,129nm,20.2s,MS4.0,baz=126,slow=35						
CPUP	**Villa Florida**	**80.23**	**133**	P	**P**	**14 53 26.4**	**+5.0**
	2.4nm,1.0s,mb4.1,baz=216,slow=6.7,SNR=3.6						
SUR	**Sutherland**	**81.20**	**201**	LR	LR	15 26 41.7	
	comp=Z,488nm,19.4s,MS4.9,baz=172,slow=34						
LPAZ	**La Paz**	**85.82**	**120**	P	**P**	**14 53 49.6**	**-0.5**
	1.6nm,0.3s,mb4.7						
SAML	**Samuel**	**94.39**	**122**	P	**P**	**14 54 30.9**	**+0.4**
	4.9nm,1.4s,mb4.7						
VIB	**Van Inlet**	**124.20**	**35**	T		17 16 06.2	
	SNR=9.1						
ILAR	**Eielson Array**	**132.09**	**20**	PKP	PKPdf	15 00 24.7	-0.4
	1.5nm,1.0s,baz=269,slow=2.4,SNR=4.7						
MALT	**Malatya**	**143.77**	**244**	*e*PKPdf	PKPdf	15 00 45.5	-1.3
IDI	**Anoyia**	**145.73**	**224**	PKPbc	PKPbc	15 00 51.8	+3.7
	4.7nm,0.6s,baz=113,slow=4.5,SNR=4.7						
BRTR	**Keskin Array B**	**146.81**	**239**	PKPbc	PKPbc	15 00 54.5	+4.0
	4.3nm,1.1s,baz=153,slow=5.5,SNR=9.4						
KIV	**Kislovodsk**	**146.86**	**254**	*e*PKPbc	PKPbc	15 00 54.1	+3.7

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*TAP **21** 14:51:36.6, 24.13N×122.78E, h24$^{\mathrm{km}}$±2$^{\mathrm{km}}$, ML2.3*

JMA 21 14:51:36.9±0.1**, 24.40N×122.88E, h61$^{\mathrm{km}}$**±1$^{\mathrm{km}}$**, M2.0, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.13**	**63**	P	P	14 51 46.2	+0.1
YOJ				S	S	14 51 52.8	-0.1
IRIF	**Iriomote-Funau**	**0.78**	**95**	P	P	14 51 52.1	-0.2
IRIF				S	S	14 52 03.9	+0.2
HATJ	**Hateruma jima**	**0.91**	**112**	P	P	14 51 54.0	0.0
HATJ				S	S	14 52 06.5	-0.2
JKRS	**Kuro-shima**	**1.04**	**99**	P	P	14 51 55.8	0.0
JKRS				S	S	14 52 09.8	0.0
JIJ	**Ishigaki jima**	**1.15**	**92**	P	P	14 51 57.0	-0.3
JIJ				S	S	14 52 11.5	-0.9
JTJ	**Tarama**	**1.68**	**81**	P	P	14 52 04.7	+0.1
JTJ				*e*S	S	14 52 25.1	+0.1

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*IDC **21** 15:08:24.7±1.5, 10.11N×126.10E, mb3.9/5, mb1 4.0/5, mb1mx3.8/17, Error ellipse: s-maj=123.0km s-min=21.2km az=74.0*

*MAN **21** 15:08:26.1, 10.38N×126.59E, h10$^{\mathrm{km}}$, mb4.5, ML3.4, MS3.2*

ISC 21 15:08:23.9±0.8**, 10.35N**±0.06×**126.76E**±0.07**, h10$^{\mathrm{km}}$, n15, σ0$^{\mathrm{s}}$.94**/17**, mb3.8**/5**, 1C, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**1.38**	**246**	⇑*e*P	**Pn**	**15 08 47.9**	**-1.3**
SCPH				*e*S	**Sb**	**15 09 06.4**	**-0.4**
BUTP	**Butuan**	**1.78**	**219**	*e*P	**Pn**	**15 08 55.2**	**+0.3**
BESP	**Borongan**	**1.80**	**314**	*e*P	**Pn**	**15 08 54.3**	**-0.9**
MSLP	**Maasin**	**1.89**	**264**	*e*P	**Pn**	**15 08 56.4**	**-0.1**
PLP	**Palo**	**1.93**	**295**	*e*P	**Pn**	**15 08 57.1**	**-0.1**
TBP	**Tagbilaran**	**2.93**	**257**	*e*P	**Pn**	**15 09 11.4**	**0.0**
TBP				*e*S	**Sn**	**15 09 48.0**	**+0.9**
CNP	**Catarman**	**2.97**	**316**	*e*P	**Pn**	**15 09 11.3**	**-0.7**
BUKP	**Musuan**	**2.98**	**214**	*e*P	**Pn**	**15 09 13.6**	**+1.5**
PVCP	**Virac**	**4.11**	**322**	*e*P	**Pn**	**15 09 28.9**	**+0.7**
GUIM	**Jordan**	**4.11**	**274**	*e*P	**Pn**	**15 09 28.6**	**+0.3**
FITZ	**Fitzroy Crossi**	**28.30**	**182**	P	**P**	**15 14 17.9**	**-2.0**
	1.2nm,0.8s,mb3.6,baz=66,slow=18,SNR=2.7						
SONM	**Songino Array**	**41.11**	**339**	P	**P**	**15 16 11.2**	**+1.6**
	0.3nm,0.5s,mb3.1,baz=158,slow=12,SNR=3.1						
STKA	**Stephens Creek**	**44.33**	**162**	P	**P**	**15 16 36.5**	**+0.4**
	2.8nm,1.1s,mb3.9,baz=339,slow=14,SNR=3.6						
MKAR	**Makanchi Array**	**52.26**	**323**	P	**P**	**15 17 36.2**	**-1.2**
	0.7nm,0.5s,mb3.9,baz=128,slow=7.3,SNR=12						
MKAR				PcP	PcP	15 18 48.1	-0.8
	0.5nm,0.5s,baz=112,slow=5.3,SNR=4.0						
ARCES	**ARCESS Array B**	**84.28**	**340**	P	**P**	**15 20 57.5**	**+0.8**
	2.9nm,0.8s,mb4.5,baz=79,slow=6.2,SNR=7.7						

MAN 21 15:12:51.0, 15.89N×120.88E, h1$^{\mathrm{km}}$, mb4.2, ML3.0, MS2.8, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BCPH	**Baguio City Da**	**0.57**	**329**	⇑*i*P	Pg	15 13 02.4	0.0
BCPH				*i* S	Sg	15 13 09.3	-0.6
BALP	**Baler**	**0.68**	**102**	*e*P	Pg	15 13 04.8	+0.1
BALP				*e*S	Sg	15 13 15.1	+1.3
BOLP	**Bolinao**	**1.05**	**298**	*e*P	Pb	15 13 12.1	+0.4
CAUP	**Cauayan**	**1.38**	**41**	*e*P	Pb	15 13 15.9	-1.5
ABRA	**Dolores**	**1.76**	**355**	*e*P	Pn	15 13 21.2	-1.6
APYP	**Conner**	**1.99**	**10**	*e*P	Pn	15 13 26.8	+0.6
APYP				*e*S	Sn	15 13 52.8	+0.7

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*IDC **21** 15:13:01.9±0.7, 11.16S×118.86E, mb4.4/8, mb1 4.6/10, mb1mx4.4/14, ML4.5/2, MS3.8/4, Ms1 3.8/4, ms1mx3.5/14, Error ellipse: s-maj=46.6km s-min=16.1km az=62.0*

*NEIC **21** 15:13:02.3±0.4, 11.28S×118.72E, h10$^{\mathrm{km}}$, mb4.7/11, Error ellipse: s-maj=19.0km s-min=6.8km az=49.0*

*DJA **21** 15:13:04.7±0.8, 11.30S×118.46E, h2$^{\mathrm{km}}$, MD5.1/6, ML5.6/6, Error ellipse: s-maj=17.3km s-min=7.8km az=167.0*

ISC 21 15:13:00.9±0.3**, 11.24S**±0.05×**118.82E**±0.07**, h10$^{\mathrm{km}}$, n49, σ1$^{\mathrm{s}}$.37**/55**, mb4.8**/18**, MS3.9**/3**, 2C-8D, South of Sumbawa**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KEDI	**Kedomdong**	**3.82**	**315**	⇓*e*Pn	**Pn**	**15 14 01.3**	**+0.2**
	2µm,0.3s						
KEDI				⇓*i*Sn	**Sn**	**15 14 41.6**	**-4.9**
RATI	**Rata**	**4.09**	**307**	⇓*e*Pn	**Pn**	**15 14 03.3**	**-1.6**
	1µm,0.2s						
RATI				⇓*i*Sn	**Sn**	**15 14 48.0**	**-5.4**
INGI	**Ingas**	**4.34**	**303**	*e*Pn	**Pn**	**15 14 06.1**	**-2.4**
	1µm,0.3s						
INGI				⇑*e*Sn	**Sn**	**15 14 50.6**	**-9.3**
KELI	**Kelakatan**	**5.22**	**305**	⇓*e*Pn	**Pn**	**15 14 19.2**	**-1.7**
	341nm,0.3s						
KELI				⇓*i*Sn	**Sn**	**15 15 13.9**	**-8.0**
NINI	**Niniconang**	**6.83**	**8**	⇓*e*Pn	**Pn**	**15 14 48.6**	**+4.9**
	767nm,0.3s						
NINI				⇓*i*Sn	**Sn**	**15 16 02.2**	**-0.2**
TANI	**Tanete Lipujan**	**7.77**	**4**	⇑*e*Pn	**Pn**	**15 14 59.9**	**+3.1**
	331nm,0.4s						
FITZ	**Fitzroy Crossi**	**9.49**	**137**	*e*P	**P**	**15 15 18.7**	**-2.0**
	60nm,0.6s						
FITZ				*e*S	**Sn**	**15 16 59.1**	**-9.4**
FITZ	**Fitzroy Crossi**	**9.49**	**137**	Pn	**P**	**15 15 19.1**	**-1.6**
	8.8nm,0.3s,baz=342,slow=7.3,SNR=179						
FITZ				Sn	**Sn**	**15 16 58.4**	**-10**
	4.5nm,0.3s,baz=180,slow=20,SNR=6.6						
MBWA	**Marble Bar**	**9.90**	**175**	*e*P	**P**	**15 15 22.7**	**-3.8**
	266nm,0.4s						
WRA	**Warramunga Arr**	**17.26**	**122**	Pn	**P**	**15 17 02.7**	**-1.1**
	1.1nm,0.3s,baz=294,slow=13,SNR=47						
WRA				Sn	**S**	**15 20 05.0**	**-9.4**
	1.0nm,0.3s,baz=294,slow=23,SNR=6.2						
WRA				LR	LR	15 24 13.5	
	comp=Z,119nm,18.5s,baz=275,slow=39						
WRA	**Warramunga Arr**	**17.26**	**122**	Pn	**P**	**15 17 02.7**	**-1.1**
WRA				Sn	**S**	**15 20 05.0**	**-9.4**
WRAB	**Tennant Creek**	**17.27**	**122**	*e*P	**P**	**15 17 03.1**	**-0.7**
	13nm,0.5s						
WB2	**Warramunga Arr**	**17.27**	**122**	*e*P	**P**	**15 17 02.9**	**-1.0**
WB2				*e*S	**S**	**15 20 04.3**	**-10**
FORT	**Forrest**	**21.25**	**158**	*e*P	**P**	**15 17 50.6**	**+1.1**
	147nm,0.7s,mb5.4						
NWAO	**Narrogin (SRO)**	**21.64**	**184**	P	**P**	**15 17 53.5**	**+0.1**
	34nm,0.5s,mb5.1,baz=355,slow=9.0,SNR=15						
NWAO				S	**S**	**15 21 33.7**	**-14**
	46nm,0.8s,baz=269,slow=15,SNR=7.4						
NWAO	**Narrogin (SRO)**	**21.64**	**184**	*e*P	**P**	**15 17 53.6**	**+0.2**
	34nm,0.4s,mb5.1						
STKA	**Stephens Creek**	**29.38**	**138**	*e*P	**P**	**15 19 08.4**	**+1.8**
	3.2nm,1.0s,mb4.0						
STKA	**Stephens Creek**	**29.38**	**138**	P	**P**	**15 19 07.7**	**+1.1**
	1.2nm,0.5s,mb3.9,baz=308,slow=9.4,SNR=8.0						
CMAR	**Chiang Mai Arr**	**35.43**	**326**	P	**P**	**15 19 59.8**	**+0.3**
	0.9nm,0.5s,mb4.0,baz=148,slow=6.2,SNR=9.9						
CMAR				PcP	PcP	15 22 30.9	+1.4
	0.4nm,0.5s,baz=181,slow=2.8,SNR=4.8						
CMAR				LR	LR	15 35 59.1	
	comp=Z,92nm,18.3s,MS3.6,baz=150,slow=39						
HYB	**Hyderabad**	**48.92**	**305**	*i* P	**P**	**15 21 49.5**	**0.0**
KS15	**Wonju Array Si**	**49.16**	**10**	P	**P**	**15 21 52.8**	**+1.7**
GUN	**Gumba**	**50.32**	**321**	*e*P	**P**	**15 21 58.2**	**-1.9**
PKI	**Pulchoki**	**50.37**	**321**	*e*P	**P**	**15 21 59.5**	**-1.0**
	9.1nm,0.5s,mb5.1						
DMN	**Daman**	**50.59**	**320**	*e*P	**P**	**15 22 00.6**	**-1.5**
	15nm,0.6s,mb5.1						
KKN	**Kakani**	**50.60**	**321**	*e*P	**P**	**15 22 01.3**	**-1.0**
	10nm,0.7s,mb4.8						
GKN	**Gorkha**	**51.16**	**320**	*e*P	**P**	**15 22 05.4**	**-1.0**
	21nm,0.6s,mb5.3						
KOLN	**Koldanda**	**51.65**	**319**	*e*P	**P**	**15 22 09.2**	**-1.0**
	20nm,0.7s,mb5.2						
SONM	**Songino Array**	**59.84**	**350**	P	**P**	**15 23 08.8**	**-0.1**
	1.5nm,0.6s,mb4.2,baz=167,slow=7.9,SNR=12						
MKAR	**Makanchi Array**	**66.36**	**333**	P	**P**	**15 23 51.7**	**-0.4**
	4.5nm,0.4s,mb4.8,baz=152,slow=6.7,SNR=81						
KURK	**Kurchatov**	**70.92**	**334**	*e*P	**P**	**15 24 19.2**	**-1.1**
	2.1nm,0.5s,mb4.3						
BVAR	**Borovoye Array**	**76.18**	**332**	P	**P**	**15 24 51.1**	**+0.1**
	2.2nm,0.8s,mb4.2,baz=143,slow=7.4,SNR=12						
ZRNK	**Zerenda**	**76.77**	**332**	*e*P	**P**	**15 24 54.0**	**-0.2**
	5.2nm,0.7s,mb4.6						
QRN	**Al-Qurain**	**79.09**	**302**	*e*P	**P**	**15 25 08.1**	**+0.5**
KBD	**Kabd**	**79.42**	**303**	*e*P	**P**	**15 25 10.1**	**+0.7**
RDF	**Al-Radifah**	**79.46**	**302**	*e*P	**P**	**15 25 10.8**	**+1.3**
RDF				AMb	AMB	15 25 12.0	
	comp=Z,24nm,1.0s,mb5.1						
DJNS	**Zahran al Janu**	**79.68**	**290**	P	**P**	**15 25 12.7**	**+1.8**
RST	**Umm Al-Ruwaisa**	**80.10**	**303**	*e*P	**P**	**15 25 13.3**	**+0.3**
RST				AMb	AMB	15 25 14.5	
	comp=Z,42nm,0.6s,mb5.5						
TATS	**Tathlith**	**80.23**	**292**	P	**P**	**15 25 15.7**	**+1.8**
BLJS	**Baljurashi**	**82.02**	**292**	P	**P**	**15 25 26.0**	**+2.8**
HILS	**Ha’il**	**83.84**	**299**	P	**P**	**15 25 35.1**	**+2.6**
KBRS	**Khaybar**	**85.61**	**297**	P	**P**	**15 25 43.5**	**+2.1**
ASF	**Jabal al Asfar**	**89.18**	**303**	P	**P**	**15 26 00.5**	**+1.9**
	comp=Z,2.7nm,0.7s,mb4.7,baz=20,slow=4.6,SNR=4.2						
ASF				LR	LR	16 05 51.8	
	comp=Z,124nm,21.4s,MS4.3,baz=348,slow=36						
JMQS	**Jabal Moqyreh**	**89.27**	**299**	P	**P**	**15 26 01.4**	**+2.3**
SUR	**Sutherland**	**90.71**	**237**	LR	LR	15 59 36.1	
	comp=Z,53nm,21.9s,MS3.9,baz=118,slow=31						
BRTR	**Keskin Array B**	**93.42**	**310**	P	**P**	**15 26 18.6**	**+0.7**
	comp=Z,2.1nm,1.0s,mb4.5,baz=121,slow=7.2,SNR=4.8						
FINES	**FINESS Array B**	**101.09**	**331**	P	P	15 26 52.9	+0.6
	comp=Z,2.0nm,0.7s,baz=117,slow=4.3,SNR=6.2						
BDFB	**Brasilia**	**150.28**	**206**	PKPbc	PKPdf	15 32 56.0	+4.9
	comp=Z,5.1nm,1.1s,baz=111,slow=5.7,SNR=3.2						
LPAZ	**La Paz**	**151.80**	**166**	PKPbc	PKPdf	15 33 02.5	+9.1
	comp=Z,1.8nm,0.3s,baz=22,slow=0.7,SNR=3.0						
LPAZ	**La Paz**	**151.80**	**166**	PKPbc	PKPdf	15 33 02.5	+9.1

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*NIED **21** 15:13:00, 32.90N×136.90E, h20$^{\mathrm{km}}$, Mw3.9 Best double couple: $M_0$8.48×10^{14} NP1: ϕ_s156°, δ80°, λ146°. NP2: ϕ_s252°, δ57°, λ11°.*

*JMA **21** 15:13:37.4±0.1, 32.90N×136.91E, h43$^{\mathrm{km}}$, M4.3*

JMA Felt I J1.

ISC 21 15:13:37.5±1.0**, 32.91N**±0.06×**136.92E**±0.04**, h49$^{\mathrm{km}}$**±33$^{\mathrm{km}}$**, n13, σ0$^{\mathrm{s}}$.52**/25**, 4C-5D, Southeast of Shikoku**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TK01	**Tokai 1**	**1.02**	**33**	S	**S**	**15 14 08.8**	**-0.2**
JWZ	**Kozaga**	**1.18**	**302**	⇑P	**P**	**15 13 57.9**	**0.0**
JWZ				S	**S**	**15 14 12.2**	**-0.9**
TK02	**Tokai 2**	**1.25**	**34**	P	**P**	**15 13 58.8**	**0.0**
TK02				S	**S**	**15 14 14.9**	**+0.1**
JKN	**Kiinagashima**	**1.44**	**338**	⇓P	**P**	**15 14 02.0**	**+0.3**
JKN				S	**S**	**15 14 18.7**	**-0.9**
JIE	**Ise**	**1.48**	**353**	⇓P	**P**	**15 14 02.8**	**+0.5**
JIE				S	**S**	**15 14 20.5**	**-0.2**
JWM	**Minabe**	**1.61**	**306**	⇑P	**P**	**15 14 04.1**	**+0.1**
JWM				S	**S**	**15 14 23.2**	**-0.5**
TK04	**Tokai 4**	**1.67**	**28**	⇓P	**P**	**15 14 05.1**	**+0.2**
TK04				S	**S**	**15 14 25.3**	**+0.1**
JWY	**Kouya**	**1.71**	**320**	⇑P	**P**	**15 14 06.2**	**+0.8**
JWY				S	**S**	**15 14 26.4**	**+0.2**
TSUJ	**Tsu 2**	**1.84**	**347**	⇓P	**P**	**15 14 07.8**	**+0.6**
TSUJ				S	**S**	**15 14 29.3**	**-0.1**
JHE	**Heguri**	**2.02**	**330**	⇓P	**P**	**15 14 10.5**	**+0.8**
JHE				S	**S**	**15 14 34.2**	**+0.4**
JAI	**Aioi**	**2.24**	**294**	⇑P	**P**	**15 14 13.1**	**+0.1**
JAI				S	**S**	**15 14 38.8**	**-0.8**
JHJ2	**Mitsune**	**2.44**	**85**	P	**P**	**15 14 15.5**	**-0.3**
JHJ2				S	**S**	**15 14 43.7**	**-0.9**
MAT	**Matsushiro**	**3.77**	**16**	P	**P**	**15 14 35.5**	**+0.8**
MAT				S	**S**	**15 15 17.7**	**-0.6**

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*NEIC **21** 15:15:09.1±6.0, 22.03S×178.89W, h397$^{\mathrm{km}}$±62$^{\mathrm{km}}$, mb4.1/1, Error ellipse: s-maj=46.2km s-min=21.7km az=192.0*

*IDC **21** 15:15:10.1±6.4,22.14S×178.89W,h410^{km}±68^{km},mb3.4/5, mb1 3.7/6,mb1mx3.5/13,Error ellipse: s-maj=45.5km s-min=29.0km az=3.0*

ISC 21 15:15:14.4±1.7**,22.1S**±0.1×**179.1W**±0.2**,h462**^{km}±17^{km}**, n16,**σ**1^{s}42**/9**,mb3.7**/5**,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.10**	**327**	Pn	**P**	**15 16 41.9**	**+0.8**
	553nm,0.5s,SNR=82						
URZ	**Urewera**	**16.46**	**191**	P	**P**	**15 18 38.2**	**-2.7**
	2.6nm,0.3s,baz=156,slow=21,SNR=12						
URZ				S	**S**	**15 21 29.6**	**+1.7**
	0.7nm,0.3s,baz=137,slow=15,SNR=6.4						
CTA	**Charters Tower**	**32.38**	**267**	P	**P**	**15 21 05.6**	**-0.2**
	3.9nm,0.4s,mb4.2,baz=98,slow=13,SNR=9.6						
CTAO	**Charters Tower**	**32.38**	**267**	*e*P	**P**	**15 21 05.2**	**-0.7**
	4.3nm,0.4s,mb4.2						
WRA	**Warramunga Arr**	**43.42**	**264**	P	**P**	**15 22 35.1**	**-1.4**
	0.5nm,0.3s,mb3.4,baz=97,slow=8.3,SNR=3.0						
CMAR	**Chiang Mai Arr**	**89.71**	**290**	P	**P**	**15 27 26.1**	**+2.4**
	0.9nm,0.9s,mb3.6,baz=143,slow=4.5,SNR=5.6						
ILAR	**Eielson Array**	**90.07**	**13**	P	**P**	**15 27 24.1**	**-0.2**
	0.5nm,0.4s,mb3.7,baz=219,slow=5.1,SNR=5.3						
PDAR	**Pinedale Array**	**90.79**	**44**	P	**P**	**15 27 27.9**	**-0.2**
	0.6nm,0.9s,mb3.5,baz=219,slow=5.8,SNR=2.6						
ARCES	**ARCESS Array B**	**130.28**	**349**	PKP	PKPdf	15 33 31.4	+0.9
	1.4nm,0.6s,baz=14,slow=5.0,SNR=6.1						
ARCES	**ARCESS Array B**	**130.28**	**349**	PKP	PKPdf	15 33 31.4	+0.9
FINES	**FINESS Array B**	**136.99**	**343**	PKP	PKPdf	15 33 45.5	+2.3
	2.3nm,0.9s,baz=108,slow=4.4,SNR=3.8						
FINES	**FINESS Array B**	**136.99**	**343**	PKP	PKPdf	15 33 45.5	+2.3
AKASG	**Malin Array Be**	**143.88**	**329**	PKP	PKPdf	15 33 55.6	0.0
	1.7nm,0.4s,baz=44,slow=4.2,SNR=11						
BRTR	**Keskin Array B**	**147.12**	**310**	PKPbc	PKPdf	15 34 06.2	+4.8
	2.2nm,0.9s,baz=164,slow=3.8,SNR=7.1						
CLL	**Collm**	**149.35**	**345**	*e*PKP1	PKPdf	15 34 12.0	+7.4
GERES	**GERESS Array B**	**151.42**	**342**	PKPbc	PKPdf	15 34 16.5	+8.6
	0.8nm,0.6s,baz=45,slow=2.8,SNR=3.8						

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*NEIC **21** 15:30:35.0,16.62N×98.68W,h20^{km},MD3.9(MEX),After MEX.*

MEX 21 15:30:33.7±0.8**,16.53N×98.67W,h12**^{km}±10^{km}**,MD3.9, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.54**	**105**	*i* P	Pb	15 30 43.0	-1.5
PNIG				*i* S	Sb	15 30 50.5	-1.4
ACX	**Acapulco**	**1.24**	**286**	*i* P	Pb	15 30 53.0	-3.6
ACX				*i* S	Sb	15 31 09.0	-3.4
VHO	**Vista Hermosa**	**1.93**	**74**	*i* P	Pn	15 31 02.9	-3.8
VHO				*i* S	Sn	15 31 25.4	-5.6
OXX	**Oaxaca**	**1.94**	**73**	*i* P	Pn	15 31 05.0	-1.9
OXX				*i* S	Sn	15 31 30.0	-1.4
PLIG	**Platanillo**	**2.02**	**337**	*e*P	Pn	15 31 03.9	-4.0
PLIG				*i* S	Sn	15 31 26.6	-6.6
YAIG	**Yautepec**	**2.35**	**351**	*e*P	Pn	15 31 09.0	-3.7
YAIG				*i* S	Sn	15 31 35.6	-6.1
PPM	**Popocatepetl**	**2.52**	**1**	*e*P	Pn	15 31 12.0	-3.2
PPM				*i* S	Sn	15 31 45.0	-1.1
IISM	**Ciudad Serdan**	**2.74**	**27**	*e*P	Pn	15 31 15.0	-3.3
IISM				*i* S	Sn	15 31 47.5	-4.0
IISM	**Ciudad Serdan**	**2.74**	**27**	*e*P	Pn	15 31 15.0	-3.3
IISM				*i* S	Sn	15 31 48.0	-3.5
CMIG	**Matias Romero**	**3.67**	**81**	*e*P	Pn	15 31 28.1	-3.4
CMIG				*i* S	Sn	15 32 10.1	-5.0

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*BJI **21** 15:48:01.8,42.30N×2.50E,h2^{km},mB4.6,mb4.7,Ms4.5, Msz4.2*

*IGIL **21** 15:48:03.9,42.30N×2.50E,h2^{km},ML4.5*

*CSEM **21** 15:48:04.8,42.30N×2.46E,h2^{km},ML4.8*

*MED_RC **21** 15:48:04.8±0.5,42.19N×2.38E,h10^{km},MW4.5/12, Moment Tensor Solution. Body waves: s12,c13; Duration: 1^{s}0 Moment tensor: Scale 10^{15}Nm; M$_{rr}$-4.48±.87; M$_{\theta\theta}$2.73±.85; M$_{\phi\phi}$1.76±.44; M$_{r\theta}$2.77±2.15; M$_{\theta\phi}$-1.49±.79; M$_{\phi r}$-4.51±2.32; Best double couple: M$_0$6.69×10^{15} NP1:ϕ$_s$118°,δ20°,λ-114°. NP2:ϕ$_s$323°,δ71°, λ-82°. Principal axes: T 6.21, Plg26°, Azm46°; N .97, Plg8°, Azm140°; P -7.18, Plg63°, Azm246°; nsta1 refers to waves, cutoff=35s.*

*ZUR_RM **21** 15:48:04,42.30N×2.46E,h6^{km},Mw4.5/24,Moment Tensor Solution. s24 Moment tensor: Scale 10^{15}Nm; M$_{rr}$-3.99; M$_{\theta\theta}$2.42; M$_{\phi\phi}$1.58; M$_{r\theta}$4.40; M$_{\theta\phi}$-2.40; M$_{\phi r}$-2.95; Best double couple: M$_0$6.77×10^{15} NP1:ϕ$_s$305°,δ71°,λ-94°. NP2:ϕ$_s$136°,δ20°,λ-79°. Principal axes: T 6.974, Plg26°, Azm38°; N -.409, Plg4°, Azm306°; P -6.565, Plg64°, Azm209°;*

*IDC **21** 15:48:04.3±0.8,42.38N×2.19E,mb3.9/12,mb1 4.1/20, mb1mx4.1/30,ML4.7/8,MS3.6/5,Ms1 3.6/5,ms1mx3.3/27 Error ellipse: s-maj=21.4km s-min=14.1km az=141.0*

*NEIC **21** 15:48:04.8,42.30N×2.46E,h2^{km},mb4.5/8,ML5.1(LDG), ML4.8(CSEM),ML4.7(STR),MN4.1(MDD),After CSEM.*

NEIC Felt [V] at Queralbs; [IV] at Campdevanol, Camprodon, Fonts, Nuria, Olot, Pardinas, Planolas, Ribas de Fresser, Ripoll, San Juan de las Abadesas and Tosas; [III] at Alella, Alp, Badalona, Barcelona, Berga, Castelldefels, Hospitalet, Manlleu, Setcasas and Vich; [II] at Calella, Figueras, Gava, Rubi, Teya, Tiana and Villanueva y Geltru, Spain. Also felt in the Pyrenees-Orientales, France.

*STR **21** 15:48:05.2±0.2,42.34N×2.02E,h5^{km}±1^{km},Ml4.8,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*INMG **21** 15:48:05.3±1.2,42.33N×2.17E,h4^{km}±3^{km},ML3.9,Error ellipse: s-maj=3.6km s-min=2.1km az=158.0*

*MDD **21** 15:48:05.3±0.2,42.34N×2.16E,h3^{km}±2^{km},mbLg4.3/60, Error ellipse: s-maj=1.6km s-min=1.3km az=166.0, PRXIMO IV RIBES DE FRESER CAMPDEVANOL RIPOLL OLOT IV PLANOLES SANT JOAN DE LES ABADESES TOSES PARDINES III-IV N NURIA III SANT JOAN LES FONTS SETCASES ALP MANLLEU II-III BARCELONA VIC BADALONA SANT BOI DE LLOBREGAT II-III ALELLA CASTELLDEFELS BERGA L''HOSPITALET DE LLOBREGAT II SANT HILARI SACALM GAV.B, VILANOVA I LA GELTR.B, TIANA II SANT FRUITS DE BAGES RUB.B, TERRASA SANT JOAN DESP.B II TEI.B, PREMI DE DALT CALELLA FIGUERES II SANT FELIU DE LLOBREGAT*

MDD EMS: V QUERALBS.

*LDG **21** 15:48:06.2±0.1,42.34N×2.13E,h4^{km},Md4.3/3,Ml5.1/42, ms3.3/5,Error ellipse: s-maj=1.8km s-min=1.2km az=144.0*

*MOS **21** 15:48:06.8±1.5,42.80N×2.25E,h10^{km},mb4.4/10,Error ellipse: s-maj=19.0km s-min=5.7km az=53.5*

*IAG **21** 15:48:06,42.34N×2.17E,h8^{km},Mw4.4,Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M$_{rr}$-3.80; M$_{\theta\theta}$2.06; M$_{\phi\phi}$1.74; M$_{r\theta}$1.77; M$_{\theta\phi}$-2.70; M$_{\phi r}$0.69; Best double couple: M$_0$4.66×10^{15} NP1:ϕ$_s$291°,δ55°,λ241°. NP2:ϕ$_s$156°,δ44°,λ-54°. Principal axes: T 4.63, Plg6°, Azm42°; N .052, Plg24°, Azm309°; P -4.69, Plg66°, Azm145°;*

ISC 21 15:48:03.3±0.2**,42.41N**±0.01×**2.10E**±0.01**,h13**^{km}±1^{km}**, n373,**σ**1^{s}44**/614**,mb4.2**/23**,MS3.8**/6**,21C-12D,Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VALF	**Valcebollere**	**0.06**	**260**	Pg	**Pg**	**15 48 07.3**	**+1.4**
VALF				Sg	**Sg**	**15 48 08.7**	**+1.0**
VALF	**Valcebollere**	**0.06**	**260**	P	**Pb**	**15 48 07.4**	**+1.4**
VALF				S	**Sb**	**15 48 09.2**	**+1.5**
CLLI	**Llivia**	**0.12**	**305**	Pg	**Pg**	**15 48 08.7**	**+2.1**
CLLI				Lg		15 48 11.6	
	493nm,0.2s						
CBRU	**Bruguera**	**0.14**	**156**	Pg	**Pg**	**15 48 06.3**	**-0.6**
CBRU				Lg		15 48 07.4	
CARF	**Carcanieres**	**0.30**	**0**	P	**Pg**	**15 48 12.4**	**+2.7**
CARF				S	**Sg**	**15 48 17.3**	**+3.2**
FILF	**Fillols**	**0.37**	**66**	Pg	**Pg**	**15 48 10.5**	**-0.5**
FILF				Sg	**Sg**	**15 48 16.3**	**+0.1**
FILF	**Fillols**	**0.37**	**66**	P	**Pg**	**15 48 10.7**	**-0.3**
FILF				S	**Sg**	**15 48 14.9**	**-1.3**
LPEF	**Le Peyrat**	**0.55**	**345**	Pg	**Pg**	**15 48 17.3**	**+2.7**
LPEF				Sg	**Sg**	**15 48 25.7**	**+3.5**
LPEF	**Le Peyrat**	**0.55**	**345**	P	**Pg**	**15 48 17.3**	**+2.7**
LPEF				S	**Sb**	**15 48 26.2**	**+4.3**
SJAF	**Saint Jean de**	**0.58**	**83**	Pg	**Pg**	**15 48 15.3**	**+0.1**
SJAF	**Saint Jean de**	**0.58**	**83**	P	**Pg**	**15 48 15.3**	**+0.2**
SJAF				S	**Sb**	**15 48 23.1**	**+0.4**
EJON	**La Jonquera**	**0.58**	**86**	⇑Pg	**Pg**	**15 48 15.4**	**+0.3**
	2μm,0.4s,SNR=18						
EJON				Lg		15 48 23.0	
	8μm,0.2s,SNR=7.9						
GRBF	**Gourbit**	**0.60**	**316**	Pg	**Pg**	**15 48 17.5**	**+2.0**
CORG	**Organya**	**0.61**	**253**	Pg	**Pg**	**15 48 16.5**	**+0.8**
CORG				Lg		15 48 25.8	
	431nm,0.1s						
LRDF	**Laroque-de-Fa**	**0.62**	**31**	Pg	**Pg**	**15 48 17.4**	**+1.6**
LRDF	**Laroque-de-Fa**	**0.62**	**31**	P	**Pg**	**15 48 17.4**	**+1.6**
LRDF				S	**Sb**	**15 48 27.1**	**+3.4**
EMIR	**Miracle**	**0.66**	**221**	⇑Pg	**Pg**	**15 48 16.7**	**0.0**
	869nm,0.1s,SNR=18						
EMIR				Lg		15 48 25.7	
	5μm,0.2s,SNR=7.9						
EMIR	**Miracle**	**0.66**	**221**	⇑Pg	**Pg**	**15 48 16.7**	**0.0**
EMIR				Lg		15 48 25.7	
CSOR	**Sort**	**0.72**	**267**	Pg	**Pg**	**15 48 18.8**	**+1.0**
CSOR				Lg		15 48 30.2	
	342nm,0.2s						
SALF	**Salau**	**0.76**	**298**	Pg	**Pg**	**15 48 19.7**	**+1.1**
SALF	**Salau**	**0.76**	**298**	P	**Pg**	**15 48 19.9**	**+1.3**
SALF				S	**Sb**	**15 48 31.4**	**+3.5**
MLS	**Moulis**	**0.92**	**307**	Pg	**Pg**	**15 48 23.1**	**+1.2**
MLS				Pg	**Pg**	**15 48 23.2**	**+1.3**
MLS	**Moulis**	**0.92**	**307**	P	**Pg**	**15 48 23.2**	**+1.3**
MTLF	**Montolieu**	**0.93**	**5**	*e*Pg	**Pg**	**15 48 23.7**	**+1.6**
MTLF				*e*Pn	**Pn**	**15 48 25.1**	**+3.1**
MTLF				*e*Sg	**Sg**	**15 48 37.5**	**+2.9**
	8μm,0.3s						
MTLF	**Montolieu**	**0.93**	**5**	Pg	**Pg**	**15 48 23.7**	**+1.6**
MTLF				Lg		15 48 35.2	
	3μm,0.5s						
MELF	**Melles**	**1.09**	**295**	Pg	**Pg**	**15 48 25.8**	**+0.5**
MELF	**Melles**	**1.09**	**295**	P	**Pg**	**15 48 25.9**	**+0.6**
CAVN	**Les Avellanes**	**1.14**	**243**	Pn	**Pn**	**15 48 26.1**	**+1.2**
CAVN				Lg		15 48 42.6	
	621nm,0.1s						
EPOB	**Poblet**	**1.31**	**216**	⇓Pn	**Pn**	**15 48 28.4**	**+1.0**
	2μm,0.2s,SNR=18						
EPOB				Lg		15 48 44.6	
	4μm,0.4s,SNR=7.9						
CGAR	**Garraf**	**1.33**	**213**	Pg	**Pg**	**15 48 24.6**	**-5.4**
CGAR				Lg		15 48 38.4	
	191nm,0.4s						
EGRA	**Graus**	**1.34**	**261**	⇑Pn	**Pn**	**15 48 30.1**	**+2.2**
	148nm,0.6s,SNR=18						
EGRA				Lg		15 48 52.8	
	SNR=4.0						
RESF	**Ens**	**1.36**	**287**	Pg	**Pg**	**15 48 30.6**	**0.0**
RESF	**Ens**	**1.36**	**287**	P	**Pn**	**15 48 31.0**	**+2.8**
RESF				S	**Sb**	**15 48 54.1**	**+8.7**
EPF	**Esparros**	**1.44**	**296**	*e*Pn	**Pn**	**15 48 32.0**	**+2.7**
EPF				*e*Pg	**Pg**	**15 48 34.0**	**+1.9**
EPF				*e*Sn	**Sn**	**15 48 50.9**	**+2.8**
EPF				*e*Sg	**Sg**	**15 48 53.2**	**+1.8**
	2μm,0.2s						
EPF	**Esparros**	**1.44**	**296**	Pn	**Pn**	**15 48 32.2**	**+2.9**
EPF				Pg	**Pg**	**15 48 34.0**	**+1.9**
EPF				Sn	**Sn**	**15 48 50.9**	**+2.8**
EPF				Lg		15 48 53.2	
	913nm,0.2s						
VIEF	**Viey**	**1.60**	**288**	Pg	**Pg**	**15 48 35.0**	**-0.4**
VIEF	**Viey**	**1.60**	**288**	P	**Pg**	**15 48 35.0**	**-0.4**
LABF	**Labassere**	**1.62**	**294**	Pg	**Pg**	**15 48 35.9**	**+0.1**
LABF	**Labassere**	**1.62**	**294**	P	**Pg**	**15 48 35.9**	**0.0**
LABF				S	**Sn**	**15 48 59.4**	**+6.6**
REYF	**Montagne du Re**	**1.95**	**290**	P	**Pn**	**15 48 41.7**	**+5.1**
REYF				S	**Sn**	**15 49 09.5**	**+8.4**
EBR	**Ebro Roquetas**	**2.00**	**218**	*e*PN	**Pn**	**15 48 38.3**	**+1.1**
EBR				*i* P*	**Pb**	**15 48 40.6**	**+1.5**
FDAF	**Les Forges d'A**	**2.01**	**283**	Pg	**Pg**	**15 48 42.1**	**-1.5**
FDAF				Sg	**Sg**	**15 49 09.8**	**-0.6**
FDAF	**Les Forges d'A**	**2.01**	**283**	P	**Pg**	**15 48 41.9**	**-1.7**
ETSF	**Etsaut**	**2.02**	**285**	*e*P	**Pn**	**15 48 42.2**	**+4.6**
ETSF				*e*Pg	**Pg**	**15 48 44.0**	**+0.2**
ETSF				*e*Sn	**Sn**	**15 49 04.4**	**+1.5**
ETSF				*e*Sg	**Sg**	**15 49 11.5**	**+0.7**
	3μm,0.4s						
ETSF	**Etsaut**	**2.02**	**285**	Pn	**Pn**	**15 48 42.3**	**+4.7**
ETSF				Pg	**Pg**	**15 48 44.0**	**+0.2**
ETSF				Sn	**Sn**	**15 49 04.4**	**+1.5**
ETSF				Lg		15 49 11.5	
	2μm,0.4s						
ESAC	**San Caprasio**	**2.04**	**251**	⇑Pn	**Pn**	**15 48 40.4**	**+2.6**
	672nm,0.3s,SNR=18						
ESAC				Pg	**Pg**	**15 48 43.6**	**-0.4**
	346nm,0.1s,SNR=7.9						
ESAC				Sn	**Sn**	**15 49 06.6**	**+3.4**
	789nm,0.2s,SNR=7.9						
ESAC				Lg		15 49 12.8	
	6μm,0.3s,SNR=7.9						
LASF	**Ste Croix**	**2.10**	**37**	*e*Pn	**Pn**	**15 48 40.0**	**+1.3**
LASF				*e*Pg	**Pg**	**15 48 45.1**	**-0.2**
LASF				*e*Sn	**Sn**	**15 49 06.3**	**+1.4**
LASF				*e*Sg	**Sg**	**15 49 13.8**	**+0.5**
	2μm,0.3s						
LASF	**Ste Croix**	**2.10**	**37**	Pn	**Pn**	**15 48 40.3**	**+1.6**
LASF				Pg	**Pg**	**15 48 45.1**	**-0.2**
LASF				Sn	**Sn**	**15 49 05.3**	**+0.4**
	1μm,0.4s						
LASF				Lg		15 49 13.8	
	868nm,0.3s						
LASF	**Ste Croix**	**2.10**	**37**	Pn	**Pn**	**15 48 40.3**	**+1.6**
LASF				Sn	**Sn**	**15 49 05.3**	**+0.4**
ATE	**Arette**	**2.17**	**289**	P	**Pn**	**15 48 44.7**	**+5.0**
LARF	**Larrau**	**2.36**	**286**	Pg	**Pg**	**15 48 47.1**	**-3.4**
LARF	**Larrau**	**2.36**	**286**	P	**Pn**	**15 48 47.0**	**+4.6**
ORDF	**Ordiarp**	**2.37**	**291**	Pg	**Pg**	**15 48 47.3**	**-3.5**
ORDF				Sg	**Sg**	**15 49 21.6**	**-0.9**
ORDF	**Ordiarp**	**2.37**	**291**	P	**Pn**	**15 48 47.5**	**+4.9**
CAF	**Calviac**	**2.51**	**359**	*e*Pn	**Pn**	**15 48 46.4**	**+1.8**
CAF				*e*Pg	**Pg**	**15 48 53.6**	**+0.1**
CAF				*e*Sn	**Sn**	**15 49 17.6**	**+2.2**
CAF				*e*Sg	**Sg**	**15 49 26.2**	**-0.8**
	2μm,0.3s						
CAF	**Calviac**	**2.51**	**359**	Pn	**Pn**	**15 48 46.8**	**+2.2**
CAF				Pg	**Pg**	**15 48 53.6**	**+0.1**
CAF				Sn	**Sn**	**15 49 15.4**	**0.0**
CAF				Lg		15 49 26.2	
	1μm,0.3s						
CAF	**Calviac**	**2.51**	**359**	Pn	**Pn**	**15 48 46.8**	**+2.2**
CAF				Sn	**Sn**	**15 49 15.4**	**0.0**
CAF				Sg	**Sg**	**15 49 23.9**	**-3.1**
SJPF	**Ste Jean**	**2.55**	**287**	*e*P	**Pn**	**15 48 49.7**	**+4.6**
SJPF				*e*Pg	**Pg**	**15 48 53.4**	**-0.8**
SJPF				*e*Sn	**Sn**	**15 49 17.1**	**+0.8**
SJPF				*e*Sg	**Sg**	**15 49 27.6**	**-0.6**
	2μm,0.5s						
SJPF	**Ste Jean**	**2.55**	**287**	Pn	**Pn**	**15 48 49.8**	**+4.7**
SJPF				Pg	**Pg**	**15 48 53.4**	**-0.8**
SJPF				Sn	**Sn**	**15 49 19.4**	**+3.1**
	839nm,0.5s						
SJPF				Lg		15 49 27.6	
	828nm,0.5s						
SJPF	**Ste Jean**	**2.55**	**287**	Pn	**Pn**	**15 48 49.8**	**+4.7**
SJPF				Sn	**Sn**	**15 49 19.4**	**+3.1**
OSSF	**Osses**	**2.61**	**290**	Pn	**Pn**	**15 48 45.2**	**-0.9**
OSSF				Sg	**Sg**	**15 49 28.3**	**-2.1**
OSSF	**Osses**	**2.61**	**290**	P	**Pn**	**15 48 50.0**	**+3.9**
GELF	**Grande-Etoile**	**2.63**	**67**	Pn	**Pn**	**15 48 47.3**	**+1.0**
PRAF	**Pradon**	**2.64**	**57**	Pn	**Pn**	**15 48 47.9**	**+1.4**
TREF	**Trevaresse**	**2.69**	**62**	Pn	**Pn**	**15 48 48.9**	**+1.7**
LFF	**La Frestale**	**2.71**	**339**	*e*Pn	**Pn**	**15 48 50.2**	**+2.7**
LFF				*e*Pg	**Pg**	**15 48 57.7**	**+0.2**
LFF				*e*Sn	**Sn**	**15 49 21.8**	**+1.3**
LFF				*e*Sg	**Sg**	**15 49 33.7**	**0.0**
	4μm,0.5s						
EALK	**Alkurruntz**	**2.77**	**288**	⇑Pn	**Pn**	**15 48 53.0**	**+4.6**
	69nm,0.4s,SNR=18						
EALK				Pg	**Pg**	**15 48 58.7**	**-0.1**
	205nm,0.3s,SNR=7.9						
EALK				Lg		15 49 33.1	
	980nm,0.3s,SNR=7.9						
BERF	**Bertagne**	**2.79**	**70**	Pn	**Pn**	**15 48 50.5**	**+1.9**
EMOS	**Mosqueruela**	**2.82**	**224**	Pn	**Pn**	**15 48 50.1**	**+1.1**
	133nm,0.6s,SNR=7.9						
EMOS				Pg	**Pg**	**15 48 58.0**	**-1.6**
	2μm,0.6s,SNR=7.9						
EMOS				Lg		15 49 35.5	
	1μm,0.6s,SNR=7.9						
PUYF	**Puyloubier**	**2.87**	**66**	Pn	**Pn**	**15 48 50.7**	**+1.0**
RJF	**Les Rejaudoux**	**2.92**	**352**	*e*Pn	**Pn**	**15 48 52.2**	**+1.7**
RJF				*e*Pg	**Pg**	**15 49 01.7**	**0.0**
RJF				*e*Sn	**Sn**	**15 49 26.8**	**+1.0**
RJF				*e*Sg	**Sg**	**15 49 39.9**	**-0.8**
	948nm,0.2s						
RJF				*e*R			
	986nm,14.8s						
LBL	**Lubilhac**	**2.94**	**16**	Pn	**Pn**	**15 48 52.1**	**+1.4**
SMRF	**Simiane la Rot**	**2.98**	**57**	*e*Pn	**Pn**	**15 48 52.8**	**+1.5**
SMRF				*e*Pg	**Pg**	**15 49 01.9**	**-1.0**
SMRF				*e*Sg	**Sg**	**15 49 40.8**	**-1.9**
	1μm,0.7s						
FRNF	**Fournols**	**2.99**	**6**	Pn	**Pn**	**15 48 53.4**	**+1.9**
FRNF				Pg	**Pg**	**15 49 02.4**	**-0.7**
MAHO	**Mahon**	**3.00**	**146**	P	**Pn**	**15 48 50.6**	**-1.0**
MAHO				S	**Sn**	**15 49 23.2**	**-4.5**
VILF	**Villemus**	**3.01**	**60**	Pn	**Pn**	**15 48 53.9**	**+2.2**
VIVF	**Saint-Julien-l**	**3.07**	**37**	*e*Pn	**Pn**	**15 48 53.1**	**+0.5**
VIVF				*e*Pg	**Pg**	**15 49 02.7**	**-2.0**
VIVF				*e*Sn	**Sn**	**15 49 29.6**	**0.0**
VIVF				*e*Sg	**Sg**	**15 49 44.0**	**-1.7**
	1μm,0.4s						
TAVF	**Tavernes**	**3.14**	**66**	Pn	**Pn**	**15 48 54.6**	**+1.0**
OCF	**Saint Nazaire**	**3.18**	**46**	Pn	**Pn**	**15 48 55.8**	**+1.7**
OG26	**St.-Nazaire-De**	**3.18**	**46**	Pn	**Pn**	**15 48 55.8**	**+1.7**
COLF	**Collangettes**	**3.31**	**20**	Pn	**Pn**	**15 48 56.9**	**+0.9**
COLF				Pg	**Pg**	**15 49 07.6**	**-1.8**
VERF	**Verneugheol**	**3.35**	**5**	Pn	**Pn**	**15 48 57.8**	**+1.3**
VERF				Pg	**Pg**	**15 49 08.7**	**-1.5**
LMR	**La Mourre**	**3.37**	**73**	*e*Pn	**Pn**	**15 48 56.8**	**0.0**
LMR				*e*Sn	**Sn**	**15 49 35.7**	**-1.3**
	1μm,0.4s						
PYM	**Petit Puy Mans**	**3.40**	**11**	Pn	**Pn**	**15 48 59.4**	**+2.1**
EIBI	**Ibiza**	**3.43**	**190**	Pn	**Pn**	**15 48 56.2**	**-1.5**
	30nm,0.2s,SNR=7.9						
EIBI				Sn	**Sn**	**15 49 33.3**	**-5.4**
	133nm,0.3s,SNR=7.9						
EIBI				Lg		15 49 48.2	
	288nm,0.5s,SNR=7.9						
ETOR	**Torete**	**3.50**	**244**	Pn	**Pn**	**15 49 00.4**	**+1.7**
	119nm,0.3s,SNR=7.9						
ETOR				Pg	**Pg**	**15 49 09.5**	**-3.7**
	49nm,0.4s,SNR=7.9						
ETOR				Sn	**Sn**	**15 49 41.3**	**+0.9**
	422nm,0.4s,SNR=7.9						
ETOR				Lg		15 49 57.5	
	2μm,0.9s,SNR=7.9						
FRF	**La Foret Royal**	**3.53**	**69**	*e*Pn	**Pn**	**15 48 59.2**	**+0.2**
FRF				*e*Pg	**Pg**	**15 49 11.0**	**-2.7**
FRF				*e*Sn	**Sn**	**15 49 39.9**	**-1.2**
	1μm,0.4s						
FRF	**La Foret Royal**	**3.53**	**69**	Pn	**Pn**	**15 48 59.3**	**+0.3**
FRF				Pg	**Pg**	**15 49 11.0**	**-2.7**
FRF				Sn	**Sn**	**15 49 39.9**	**-1.2**
	508nm,0.4s						
ORIF	**Oris-en-Rattie**	**3.71**	**46**	*e*Pn	**Pn**	**15 49 03.2**	**+1.5**
ORIF				*e*Pg	**Pg**	**15 49 15.7**	**-1.8**
ORIF				*e*Sn	**Sn**	**15 49 45.3**	**-0.5**
	432nm,0.5s						
ORIF				*e*R			
	2μm,26.5s						
ORIF	**Oris-en-Rattie**	**3.71**	**46**	Pn	**Pn**	**15 49 03.8**	**+2.1**
ORIF				Pg	**Pg**	**15 49 15.7**	**-1.8**
ORIF				Sn	**Sn**	**15 49 45.3**	**-0.5**
	216nm,0.5s						
CALN	**Calern**	**3.75**	**67**	Pn	**Pn**	**15 49 03.1**	**+0.8**
GRN	**Grenoble**	**3.87**	**42**	Pn	**Pn**	**15 49 05.2**	**+1.3**
TCF	**Toulx Ste Croi**	**3.88**	**1**	*e*Pn	**Pn**	**15 49 05.1**	**+1.1**
TCF				*e*Pg	**Pg**	**15 49 18.6**	**-2.1**
TCF				*e*Sn	**Sn**	**15 49 49.4**	**-0.5**
TCF				*e*Sg	**Sg**	**15 50 09.1**	**-3.3**
	2μm,0.6s						
MVIF	**Mont Vial**	**3.98**	**66**	Pn	**Pn**	**15 49 06.8**	**+1.3**
SURF	**Saint Ours**	**4.00**	**57**	Pn	**Pn**	**15 49 07.7**	**+1.9**
GDM	**Grand'Maison**	**4.03**	**45**	Pn	**Pn**	**15 49 07.7**	**+1.5**
REVF	**Revere**	**4.08**	**69**	Pn	**Pn**	**15 49 07.7**	**+0.8**
TOUF	**Mont Tournerai**	**4.09**	**65**	Pn	**Pn**	**15 49 08.4**	**+1.4**
AURF	**Auriere**	**4.10**	**67**	Pn	**Pn**	**15 49 07.4**	**+0.2**
MBDF	**Montbardon**	**4.11**	**54**	*e*Pn	**Pn**	**15 49 09.0**	**+1.7**
MBDF				*e*Sn	**Sn**	**15 49 54.6**	**-1.2**
	630nm,0.5s						
EBEN	**Beniarda**	**4.11**	**206**	Pn	**Pn**	**15 49 07.1**	**-0.2**
	20nm,0.3s,SNR=26						
EBEN				Pg	**Pg**	**15 49 17.3**	**-8.1**
	20nm,0.2s,SNR=7.9						
EBEN				Sn	**Sn**	**15 49 51.5**	**-4.2**
	208nm,0.9s,SNR=7.9						
EBEN				Lg		15 50 12.1	
	226nm,0.6s,SNR=7.9						
ELAN	**Lanestosa**	**4.15**	**283**	Pn	**Pn**	**15 49 10.7**	**+2.7**
	40nm,0.4s,SNR=7.9						
ELAN				Sn	**Sn**	**15 49 59.5**	**+2.5**
	SNR=7.9						
SBF	**Sospel**	**4.16**	**68**	*e*Pn	**Pn**	**15 49 08.2**	**+0.1**
SBF				*e*Sn	**Sn**	**15 49 54.9**	**-2.3**
	2μm,0.4s						
BGF	**Bois d'Agland**	**4.18**	**7**	*e*Pn	**Pn**	**15 49 09.5**	**+1.2**
BGF				*e*Pg	**Pg**	**15 49 24.1**	**-2.7**
BGF				*e*Sg	**Sg**	**15 50 18.7**	**-3.8**
	4μm,0.4s						
PZZ	**Prazzo**	**4.20**	**58**	P	**Pn**	**15 49 10.6**	**+2.0**
PZZ				S	**Sn**	**15 49 53.0**	**-5.1**
AUTN	**L'Aution**	**4.20**	**66**	Pn	**Pn**	**15 49 09.5**	**+0.8**
RRL	**Cesana Torines**	**4.22**	**52**	P	**Pn**	**15 49 10.9**	**+2.0**
STV	**Sta Anna Valdi**	**4.23**	**63**	P	**Pn**	**15 49 10.0**	**+0.9**
STV				S	**Sn**	**15 49 52.0**	**-6.8**
STV2	**Anna di Valdie**	**4.23**	**63**	P	**Pn**	**15 49 10.0**	**+0.9**
STV2				S	**Sn**	**15 49 52.1**	**-6.8**
BNI	**Bardonecchia**	**4.24**	**50**	*e*Pn	**Pn**	**15 49 10.9**	**+1.7**
BNI				*e*S	**Sn**	**15 50 00.6**	**+1.5**
ENR	**Entracque**	**4.28**	**63**	P	**Pn**	**15 49 10.9**	**+1.1**
ENR				S	**Sn**	**15 49 53.8**	**-6.4**
SAOF	**Saorge**	**4.29**	**67**	Pn	**Pn**	**15 49 10.1**	**+0.3**
OLEF	**Ile d'Oleron**	**4.32**	**326**	Pn	**Pn**	**15 49 12.4**	**+2.1**
NEGI	**Negi**	**4.34**	**69**	P	**Pn**	**15 49 10.5**	**-0.2**
NEGI				S	**Sn**	**15 49 52.8**	**-9.0**
OG05	**Jujurieux**	**4.36**	**32**	Pn	**Pn**	**15 49 12.4**	**+1.6**
SMF	**Signal de Mont**	**4.41**	**16**	*e*Pn	**Pn**	**15 49 11.8**	**+0.2**
SMF				*e*Pg	**Pg**	**15 49 29.3**	**-2.1**
SMF				*e*Sn	**Sn**	**15 50 02.1**	**-1.4**
SMF				*e*Sg	**Sg**	**15 50 26.0**	**-4.2**
	552nm,0.4s						
FENE	**Fenestrelle**	**4.45**	**52**	P	**Pn**	**15 49 13.2**	**+1.0**
MONE	**Monesi**	**4.45**	**66**	P	**Pn**	**15 49 12.9**	**+0.7**
BHB	**Bricherasio**	**4.46**	**55**	P	**Pn**	**15 49 14.2**	**+1.8**
AVF	**Avril sur Loir**	**4.47**	**11**	*e*Pn	**Pn**	**15 49 13.0**	**+0.6**
AVF				*e*Pg	**Pg**	**15 49 29.5**	**-3.0**
AVF				*e*Sn	**Sn**	**15 50 03.2**	**-1.7**
AVF				*e*Sg	**Sg**	**15 50 27.5**	**-4.6**
	1μm,0.7s						
MFF	**Saint Martin d**	**4.49**	**340**	*e*Pn	**Pn**	**15 49 14.4**	**+1.7**
MFF				*e*Pg	**Pg**	**15 49 30.8**	**-2.1**
MFF				*e*Sn	**Sn**	**15 50 04.9**	**-0.5**
MFF				*e*Sg	**Sg**	**15 50 29.7**	**-3.0**
	600nm,0.5s						
IMI	**Imperia**	**4.49**	**69**	*e*Pn	**Pn**	**15 49 12.4**	**-0.3**
IMI				*e*Sn	**Sn**	**15 50 03.8**	**-1.7**
LPG	**La Plagne**	**4.56**	**46**	*e*Pn	**Pn**	**15 49 15.9**	**+2.2**
LPG				*e*Pg	**Pg**	**15 49 31.7**	**-2.6**
LPG				*e*Sn	**Sn**	**15 50 05.4**	**-1.8**
LPG				*e*Sg	**Sg**	**15 50 29.6**	**-5.5**
	259nm,0.6s						
LPL	**La Plagne**	**4.56**	**46**	*e*Pn	**Pn**	**15 49 15.7**	**+2.0**
LPL				*e*Pg	**Pg**	**15 49 31.6**	**-2.8**
LPL				*e*Sn	**Sn**	**15 50 05.4**	**-1.8**
	265nm,0.6s						
ROB	**Roburent**	**4.61**	**64**	P	**Pn**	**15 49 15.8**	**+1.4**
RSP	**Reno Superiore**	**4.63**	**52**	P	**Pn**	**15 49 16.9**	**+2.1**
RORO		**4.67**	**67**	P	**Pn**	**15 49 15.7**	**+0.3**
ETOB	**Tobarra**	**4.68**	**218**	⇑Pn	**Pn**	**15 49 15.4**	**0.0**
	49nm,0.4s,SNR=18						
ETOB				Pg	**Pg**	**15 49 29.4**	**-7.4**
	SNR=7.9						
ETOB				Sn	**Sn**	**15 50 04.4**	**-5.9**
	SNR=7.9						
ETOB				Lg		15 50 31.0	
	321nm,0.9s,SNR=7.9						
LSD	**Ceresole Reale**	**4.75**	**48**	P	**Pn**	**15 49 18.8**	**+2.3**
FIN	**Finale Ligure**	**4.80**	**66**	*e*Pn	**Pn**	**15 49 18.1**	**+0.9**
FIN				*e*Sn	**Sn**	**15 50 13.6**	**+0.2**
HYF	**Humbligny**	**4.87**	**4**	*e*Pn	**Pn**	**15 49 20.2**	**+2.1**

HYF				ePg	Pg	15 49 37.5	-3.1
HYF				eSg	Sg	15 50 41.4	-4.1
LRYF	La Roche-sur-Y	4.92	329	Pn	Pn	15 49 20.2	+1.4
EMV	Vieux Emosson	5.02	42	⇑P	Pn	15 49 22.2	+2.0
CABF	La Chapelle	5.07	33	ePn	Pn	15 49 21.4	+0.4
CABF				ePg	Pg	15 49 40.5	-4.1
CABF				eSg	Sg	15 50 48.5	-3.8
	2μm,0.8s						
PGF	Pioggiola	5.10	86	ePn	Pn	15 49 19.3	-2.1
PGF				eSn	Sn	15 50 14.4	-6.5
	661nm,0.3s						
TRAV		5.12	51	P	Pn	15 49 23.1	+1.5
PCP	Pian Castagno	5.15	63	P	Pn	15 49 23.0	+0.9
EVIA	Vianos	5.15	224	Pn	Pn	15 49 22.2	+0.1
	53nm,0.5s,SNR=32						
EVIA				Lg		15 50 47.2	
	1μm,0.9s,SNR=7.9						
DIX	Grande Dixence	5.29	44	⇓P	Pn	15 49 26.1	+2.1
ORO	Oropa	5.32	51	ePn	Pn	15 49 25.6	+1.2
ORO				eSn	Sn	15 50 26.4	0.0
ESDC	Sonseca Array	5.34	241	Pn	Pn	15 49 24.2	-0.6
	53nm,0.3s,baz=60,slow=14,SNR=295						
ESDC				Sn	Sn	15 50 22.4	-4.4
	18nm,0.3s,baz=71,slow=18,SNR=4.7						
ESDC				Lg		15 50 54.5	
	35nm,0.3s,baz=58,slow=31,SNR=9.0						
ESDC				LR	LR	15 51 47.4	
	comp=Z,617nm,18.3s,baz=60,slow=42						
ESDC	Sonseca Array	5.34	241	Pn	Pn	15 49 24.2	-0.6
	42nm,0.2s,baz=62,slow=14,SNR=195						
ESDC				Pg	Pg	15 49 42.5	-7.5
	SNR=7.9						
ESDC				Sn	Sn	15 50 24.0	-2.9
	SNR=7.9						
ESDC				Lg		15 50 55.5	
	SNR=7.9						
ESDC	Sonseca Array	5.34	241	Pn	Pn	15 49 24.2	-0.6
ESDC				Pg	Pg	15 49 42.5	-7.5
ESDC				Sn	Sn	15 50 24.0	-2.9
ESDC				Lg		15 50 55.5	
ESLA	Sonseca Array	5.34	241	⇑ePn	Pn	15 49 24.1	-0.6
	9.6nm,0.5s						
GENL	Genova Univers	5.38	66	P	Pn	15 49 25.4	0.0
MCGN	Macugnaga	5.52	48	ePn	Pn	15 49 29.5	+2.3
MCGN				eSn	Sn	15 50 32.4	+1.0
MMK	Mattmark	5.56	47	⇓P	Pn	15 49 30.3	+2.4
LKBD	Leukerbad	5.61	43	⇓P	Pn	15 49 29.9	+1.4
BOB	Bobbio (Coli)	5.83	64	ePn	Pn	15 49 33.8	+2.1
VAI	Varese	5.91	52	⇓iPn	Pn	15 49 34.4	+1.6
VAI				eSn	Sn	15 50 41.9	+0.8
LOMF	Lomont	5.97	33	Pn	Pn	15 49 34.5	+0.9
CODM		5.98	68	P	Pn	15 49 32.5	-1.3
DGI	Dorgali Grotta	6.02	108	P	Pn	15 49 32.9	-1.5
EQES	Quesada	6.08	222	Pn	Pn	15 49 34.9	-0.2
	35nm,0.5s,SNR=28						
EQES				Pg	Pg	15 49 54.1	-11
	SNR=7.9						
EQES				Sn	Sn	15 50 39.1	-6.2
	SNR=7.9						
EQES				Lg		15 51 17.0	
	70nm,1.4s,SNR=7.9						
BACM		6.10	70	P	Pn	15 49 34.8	-0.8
VINC	Vinca	6.12	71	P	Pn	15 49 34.0	-1.8
SFTF	Sexfontaines	6.15	19	ePn	Pn	15 49 36.4	+0.2
	baz=188						
SFTF				ePg	Pg	15 50 01.0	-5.1
	baz=186						
SFTF				eSn	Sn	15 50 44.4	-2.8
SFTF				eSg	Sg	15 51 18.9	-9.2
	1μm,0.6s						
GRAM		6.16	68	P	Pn	15 49 36.1	-0.2
EMHD	Djebel Mahouad	6.24	174	P	Pn	15 49 38.0	+0.6
ECHF	Ech Chlef	6.28	186	P	Pn	15 49 42.0	+4.0
VLC	Villacollemand	6.29	71	ePn	Pn	15 49 37.6	-0.6
	30nm,0.4s						
PII	Pisa	6.31	75	ePn	Pn	15 49 37.6	-0.8
GRR	Gorron	6.33	342	ePn	Pn	15 49 39.2	+0.5
GRR				eSn	Sn	15 50 48.2	-3.4
GRR				eSg	Sg	15 51 26.3	-7.7
	1μm,0.8s						
HAU	Haudompre	6.34	27	ePn	Pn	15 49 39.6	+0.7
HAU				ePg	Pg	15 50 05.1	-4.9
HAU				eSg	Sg	15 51 25.7	-8.9
	504nm,0.5s						
HAU				eR			
	541nm,17.0s						
HINF	Hinteralfeld	6.36	30	ePn	Pn	15 49 37.6	-1.6
HINF				ePg	Pg	15 50 04.3	-6.1
HINF				eSg	Sg	15 51 26.5	-8.7
	542nm,0.7s						
ERBM	Eremo	6.38	69	ePn	Pn	15 49 40.9	+1.5
ERBM				eSn	Sn	15 50 49.8	-3.0
LDF	La Druitiere	6.38	347	ePn	Pn	15 49 39.7	+0.3
LDF				eSn	Sn	15 50 48.8	-4.0
LDF				eSg	Sg	15 51 27.8	-7.8
	894nm,0.9s						
BDI	Bagni Di Lucca	6.42	72	ePn	Pn	15 49 39.0	-1.0
BDI				eSn	Sn	15 50 48.2	-5.7
THEF	They Montfort	6.43	24	Pn	Pn	15 49 39.2	-0.9
MEZF	Maizieres J’vi	6.43	18	ePn	Pn	15 49 40.2	0.0
	baz=201						
MEZF				ePg	Pg	15 50 06.7	-5.1
	baz=197						
MEZF				eSg	Sg	15 51 29.3	-8.2
	875nm,0.6s						
GSCL	Gusciola	6.48	70	ePn	Pn	15 49 41.0	+0.2
MOF	Molkenrain	6.50	31	Pn	Pn	15 49 39.6	-1.5
MUO	Muotathal	6.51	43	⇑P	Pn	15 49 42.2	+0.9
GRFL	Gerfalco	6.57	81	ePn	Pn	15 49 40.8	-1.4
GRFL				eSn	Sn	15 50 51.5	-6.2
ECAL	Calabor	6.58	269	Pn	Pn	15 49 42.2	-0.1
	27nm,0.3s,SNR=36						
ECAL				Pg	Pg	15 50 07.0	-7.7
	SNR=7.9						
ECAL				Sn	Sn	15 50 56.2	-1.9
	SNR=7.9						
ECAL				Lg		15 51 40.4	
	142nm,1.6s,SNR=7.9						
FLN	La Foliniere	6.60	345	ePn	Pn	15 49 42.8	+0.2
FLN				ePg	Pg	15 50 09.7	-5.5
FLN				eSn	Sn	15 50 54.5	-4.0
FLN				eSg	Sg	15 51 35.0	-8.2
	1μm,1.1s						
FLN				eR			
	602nm,15.0s						
PBRG	Braganca	6.61	268	ePn	Pn	15 49 43.1	+0.5
PBRG				eSn	Sn	15 50 54.5	-4.1
PBRG				eSg	Sg	15 51 34.1	-9.2
	70nm,0.5s						
PBRG	Braganca	6.61	268	Pn	Pn	15 49 43.1	+0.5
PBRG				Sn	Sn	15 50 54.5	-4.1
PBRG				Lg		15 51 34.1	
	35nm,0.5s						
LLS	Linth-Limmern	6.63	46	⇑P	Pn	15 49 44.2	+1.3
EADA	Adamuz	6.64	232	Pn	Pn	15 49 41.8	-1.3
	30nm,0.4s,SNR=70						
EADA				Pg	Pg	15 50 05.6	-10
	SNR=7.9						
EADA				Sn	Sn	15 50 53.9	-5.4
	SNR=7.9						
EADA				Lg		15 51 36.4	
	115nm,1.1s,SNR=7.9						
QUIF	Quistinic	6.64	328	ePn	Pn	15 49 44.3	+1.1
QUIF				ePg	Pg	15 50 10.3	-5.7
QUIF				eSn	Sn	15 50 55.5	-4.0
QUIF				eSg	Sg	15 51 37.1	-7.4
	553nm,0.9s						
RFYF	Reffroy	6.65	20	ePn	Pn	15 49 43.2	-0.1
	baz=198						
RFYF				ePg	Pg	15 50 10.4	-5.7
	baz=196						
RFYF				eSn	Sn	15 50 55.7	-4.0
RFYF				eSg	Sg	15 51 36.1	-8.7
	977nm,0.7s						
VDL	Val di Lei	6.66	50	⇑P	Pn	15 49 45.0	+1.6
MAON	Monte Argentar	6.68	87	ePn	Pn	15 49 42.5	-1.2
SGMF	Saint Gilles	6.70	332	ePn	Pn	15 49 45.0	+1.1
SGMF				eSn	Sn	15 50 55.6	-5.3
SGMF				eSg	Sg	15 51 38.8	-7.6
	343nm,0.7s						
CAEH	’Ain El Ouahch	6.71	145	P	Pn	15 49 41.0	-3.1
EBER	Berja	6.72	217	P	Pn	15 49 39.0	-5.2
ZUR	Zurich	6.76	41	⇓P	Pn	15 49 44.9	+0.1
ECH	Echery	6.81	30	Pn	Pn	15 49 45.1	-0.4
CSNT	Castellina Chi	6.83	78	P	Pn	15 49 43.7	-2.0
ERUA	La Rua	6.84	273	Pn	Pn	15 49 46.1	+0.1
	16nm,0.3s,SNR=23						
ERUA				Sn	Sn	15 51 02.7	-1.8
	SNR=7.9						
ERUA				Lg		15 51 49.1	
	33nm,1.0s,SNR=7.9						
EPON	Pontenova	6.86	281	Pn	Pn	15 49 46.8	+0.6
	18nm,0.2s,SNR=7.9						
EPON				Pg	Pg	15 50 13.5	-6.8
	SNR=7.9						
EPON				Sn	Sn	15 51 03.0	-1.9
	SNR=7.9						
EPON				Lg		15 51 50.7	
	125nm,0.8s,SNR=7.9						
SAL	Salo	6.86	59	ePn	Pn	15 49 47.1	+0.9
FELD	Feldberg	6.87	35	Pn	Pn	15 49 45.1	-1.3
ELUQ	Luque	6.88	227	Pn	Pn	15 49 46.0	-0.5
	10nm,0.3s,SNR=11						
ELUQ				Sn	Sn	15 50 59.5	-6.0
	SNR=7.9						
ELUQ				Lg		15 51 43.9	
	896nm,2.1s,SNR=7.9						
CKHR	Kef el Ahmar	6.91	156	P	Pn	15 49 48.5	+1.6
LIBD	Limburg	6.92	32	Pn	Pn	15 49 46.9	-0.2
WILA	Wila	6.95	42	⇑P	Pn	15 49 47.4	-0.1
SEI	Scarperia	6.96	73	ePn	Pn	15 49 46.9	-0.6
CDF	Champ du Feu	7.02	29	ePn	Pn	15 49 46.7	-1.7
CDF				ePg	Pg	15 50 16.3	-7.1
CDF				eSn	Sn	15 51 04.2	-4.6
CDF				eSg	Sg	15 51 49.1	-7.8
	325nm,0.8s						
CASM	Ain Smara	7.02	150	P	Pn	15 49 47.0	-1.5
ROSF	Rostrenen	7.03	329	ePn	Pn	15 49 49.2	+0.6
ROSF				eSn	Sn	15 51 03.8	-5.3
ROSF				eSg	Sg	15 51 47.5	-10
	382nm,0.7s						
ETRT	Tiaret	7.04	185	P	Pn	15 49 50.0	+1.3
WLS	Welschbruch	7.04	30	Pn	Pn	15 49 47.6	-1.2
ERON	Agron	7.05	222	Pn	Pn	15 49 49.2	+0.3
	21nm,0.4s,SNR=7.9						
MABI	Malga Bissina	7.05	56	ePn	Pn	15 49 50.0	+1.1
DAVOX	Davos	7.06	49	Pn	Pn	15 49 51.5	+2.4
	7.6nm,0.3s,baz=242,slow=11,SNR=39						
DAVOX				Sn	Sn	15 51 12.8	+2.8
	5.7nm,0.3s,baz=169,slow=23,SNR=3.6						
VMG	Vicchio	7.07	74	ePn	Pn	15 49 49.1	-0.1
CMAH	Djebel Manchou	7.09	143	P	Pn	15 49 46.5	-2.9
ELOJ	Sierra Loja	7.13	225	Pn	Pn	15 49 49.9	-0.1
ELOJ				Lg		15 51 51.5	
SISB	Singen-Sch Ber	7.17	40	P	Pn	15 49 50.3	-0.2
BRMO	Bormio	7.18	53	ePn	Pn	15 49 52.6	+1.9
PGD	Poggio Sodo	7.19	75	ePn	Pn	15 49 50.1	-0.7
SFI	Santa Sofia	7.28	75	ePn	Pn	15 49 50.7	-1.4
CRE	Caprese Michel	7.32	77	ePn	Pn	15 49 51.5	-1.1
TOLF	Tolfa	7.35	89	ePn	Pn	15 49 50.5	-2.7
BFO	Black Forest	7.36	34	Pn	Pn	15 49 51.5	-1.7
	477nm,0.4s,SNR=60						
BFO	Black Forest	7.36	34	ePn	Pn	15 49 51.6	-1.6
BFO				eSn	Sn	15 51 12.3	-5.2
DAVA	Damuels	7.37	46	⇑iPN	Pn	15 49 53.9	+0.6
DAVA				i SN	Sn	15 51 16.5	-1.1
CMER	Merouana	7.40	155	P	Pn	15 49 52.0	-1.7
PVRL	Vila Real	7.42	264	ePn	Pn	15 49 53.7	-0.3
PVRL				eSn	Sn	15 51 14.3	-4.6
PVRL				eSg	Sg	15 51 58.9	-11
	96nm,0.6s						
PVRL	Vila Real	7.42	264	Pn	Pn	15 49 53.7	-0.3
PVRL				Sn	Sn	15 51 14.3	-4.6
PVRL				Lg		15 51 58.9	
	48nm,0.6s						
MTE	Manteigas	7.53	258	ePn	Pn	15 49 54.3	-1.2
MTE				eSn	Sn	15 51 15.2	-6.4
MTE				eSg	Sg	15 52 05.7	-8.2
	165nm,0.7s						
MTE	Manteigas	7.53	258	Pn	Pn	15 49 54.3	-1.2
MTE				Sn	Sn	15 51 15.2	-6.4
MTE				Lg		15 52 05.7	
	82nm,0.7s						
MTE	Manteigas	7.53	258	ePn	Pn	15 49 54.1	-1.4
	23nm,0.6s						
MTE				eS	Sn	15 51 15.2	-6.3
ELOB	Lobios	7.57	269	Pn	Pn	15 49 55.0	-1.2
	23nm,0.3s,SNR=27						
ELOB				Sn	Sn	15 51 16.6	-6.2
	SNR=7.9						
ELOB				Lg		15 52 08.1	
	112nm,1.2s,SNR=7.9						
PCBR	Castelo Branco	7.67	254	ePn	Pn	15 49 56.3	-1.3
PCBR				eSn	Sn	15 51 18.5	-6.8
PCBR				eSg	Sg	15 52 10.5	-8.4
	88nm,0.7s						
PCBR	Castelo Branco	7.67	254	Pn	Pn	15 49 56.3	-1.3
PCBR				Sn	Sn	15 51 18.5	-6.8
PCBR				Lg		15 52 10.5	
	44nm,0.7s						
PVIS	Viseu	7.69	261	ePn	Pn	15 49 56.7	-1.1
PVIS				eSn	Sn	15 51 19.1	-6.5
PVIS				eSg	Sg	15 52 15.2	-4.0
	71nm,0.5s						
PVIS	Viseu	7.69	261	Pn	Pn	15 49 56.7	-1.1
PVIS				Sn	Sn	15 51 19.1	-6.5
PVIS				Lg		15 52 15.2	
	35nm,0.5s						
APPI	Appiano	7.69	55	P	Pn	15 49 59.5	+1.7
MURB	Monte Urbino	7.71	80	P	Pn	15 49 59.0	+0.9
UBR	Uberruh	7.74	44	P	Pn	15 49 58.9	+0.4
CTI	Castel Tesino	7.76	59	ePn	Pn	15 49 58.8	0.0
WLF	Walferdange	7.78	20	ePn	Pn	15 49 59.9	+0.8
WLF				ePg	Pg	15 50 30.9	-7.8
BAIF	Baives	7.79	10	ePn	Pn	15 49 59.7	+0.5
BAIF				eSg	Sg	15 52 11.1	-11
	806nm,1.2s						
MNS	Montasola	7.83	87	ePn	Pn	15 49 57.1	-2.7
EBAD	Badajoz	7.84	245	Pn	Pn	15 49 57.6	-2.3
	30nm,0.5s,SNR=7.9						
EBAD				Sn	Sn	15 51 21.5	-7.9
	SNR=7.9						
EBAD				Lg		15 52 17.0	
	86nm,1.5s,SNR=7.9						
STS	Santiago	7.87	277	Pn	Pn	15 49 60.0	-0.3
EMIJ	Mijas	7.89	225	Pn	Pn	15 50 00.1	-0.6
	15nm,0.5s,SNR=7.9						
EMIJ				Pg	Pg	15 50 28.2	-13
	SNR=7.9						
EMIJ				Sn	Sn	15 51 22.6	-8.2
	SNR=7.9						
EMIJ				Lg		15 52 15.7	
	38nm,0.7s,SNR=7.9						
GIVF	Givet	7.92	13	ePn	Pn	15 50 01.2	+0.2
GIVF				eSn	Sn	15 51 26.8	-4.6
GIVF				eSg	Sg	15 52 15.9	-11
	1μm,1.1s						
LIJA	Lijar	7.98	229	P	Pn	15 50 01.5	-0.4
LIJA				S	Sn	15 51 27.0	-6.0
EZAM	Zamans	8.01	272	Pn	P	15 50 02.5	+0.1
	0.9nm,0.1s,SNR=7.9						
EZAM				Sn	Sn	15 51 29.3	-4.4
	SNR=7.9						
EZAM				Lg		15 52 24.4	
	41nm,1.1s,SNR=7.9						
ARV	Arcevia	8.03	79	P	P	15 50 04.2	+1.7
SQTA	Sankt Quirin	8.06	50	⇓iPN	P	15 50 03.8	+0.8
SQTA				i SN	Sn	15 51 33.3	-1.6
STU	Stuttgart	8.07	36	eP	P	15 50 01.0	-2.1
MOTA	Moosalm	8.07	49	⇓iPN	P	15 50 03.6	+0.5
MOTA				i SN	Sn	15 51 33.4	-1.8
CERT	Cerreto	8.09	90	ePn	P	15 50 01.1	-2.4
EMIN	Mina Concepcio	8.17	238	Pn	P	15 50 02.3	-2.2
	14nm,0.6s,SNR=22						
EMIN				Sn	Sn	15 51 30.1	-7.6
	SNR=7.9						
EMIN				Lg		15 52 26.1	
	82nm,0.7s,SNR=7.9						
EMAZ	Mazaricos	8.18	277	Pn	P	15 50 04.1	-0.6
	70nm,0.4s,SNR=47						
EMAZ				Sn	Sn	15 51 35.3	-2.6
	SNR=7.9						
ESPR	Espera	8.27	231	Pn	P	15 50 05.2	-0.6
	16nm,0.4s,SNR=12						
ESPR				Sn	Sn	15 51 30.7	-9.3
	SNR=7.9						
ESPR				Lg		15 52 27.9	
	69nm,1.2s,SNR=7.9						
WTTA	Wattenberg	8.33	51	⇓iPN	P	15 50 07.8	+1.1
WTTA				i SN	Sn	15 51 39.1	-2.5
WATA	Walderalm	8.33	51	⇑iPN	P	15 50 07.6	+0.8
WATA				i SN	Sn	15 51 40.1	-1.6
AQU	L’Aquila	8.37	87	eP	P	15 50 05.9	-1.3
	25nm,0.6s						
SEST	Monte Rota	8.42	56	P	P	15 50 10.3	+2.3
PTOM	Tomar	8.42	254	ePn	P	15 50 06.9	-1.2
PTOM				eSn	Sn	15 51 36.8	-7.2
PTOM				eSg	Sg	15 52 34.7	-9.1
	107nm,0.8s						
PTOM	Tomar	8.42	254	Pn	P	15 50 06.9	-1.2
PTOM				Sn	Sn	15 51 36.8	-7.2
PTOM				Lg		15 52 34.7	
	54nm,0.8s						
TERO	Teramo	8.50	85	P	P	15 50 10.8	+1.7
VVLD	Villa Vallelon	8.58	90	P	P	15 50 08.8	-1.4
EVO	Evora	8.63	247	ePn	P	15 50 09.4	-1.5
EVO				eSn	Sn	15 51 42.6	-6.5
EVO				eSg	Sg	15 52 37.3	-13
	216nm,0.8s						
EVO				eR			
	632nm,17.8s						
FUR	Furstenfeldbru	8.65	45	P	P	15 50 11.0	-0.2
FVI	Forni Avoltri	8.70	58	ePn	P	15 50 12.2	+0.4
HGN	Heimansgroeve	8.76	16	eP	P	15 50 12.2	-0.5
	11nm,0.3s						
HGN				ex	x	15 50 49.0	
HGN				eS	Sn	15 51 46.9	-5.4
INTR	Introdacqua	8.77	89	P	P	15 50 12.6	-0.3
PBEJ	Beja	8.79	243	ePn	P	15 50 10.4	-2.8
PBEJ				eSn	Sn	15 51 45.7	-7.4
PBEJ				eSg	Sg	15 52 47.1	-9.0
	40nm,0.7s						
PBEJ	Beja	8.79	243	Pn	P	15 50 10.4	-2.8
PBEJ				Sn	Sn	15 51 45.7	-7.4
PBEJ				Lg		15 52 47.1	
	20nm,0.7s						
PALC	Alcoutim	8.86	239	ePn	P	15 50 11.9	-2.2
PALC				eSn	Sn	15 51 46.4	-8.4
PALC				eSg	Sg	15 52 49.1	-9.2
	56nm,0.6s						
PALC	Alcoutim	8.86	239	Pn	P	15 50 11.9	-2.2
PALC				Sn	Sn	15 51 46.4	-8.4
PALC				Lg		15 52 49.1	
	28nm,0.6s						
GMNA	Gemona	8.86	60	ePn	P	15 50 12.8	-1.4
MOE	Montemor	8.86	247	ePn	P	15 50 11.2	-2.9
MOE				eSn	Sn	15 51 46.0	-8.9
MOE				eSg	Sg	15 52 48.0	-10
PTCC	Patocco-Chiusa	8.99	60	ePn	P	15 50 15.2	-0.6
TRI	Trieste	9.02	65	P	P	15 50 15.7	-0.6
VOY	Vojsko	9.21	63	eSn	Sn	15 51 58.3	-5.1
KBA	Koelnbreinsper	9.26	56	⇑iPN	P	15 50 19.2	-0.4
KBA				i SN	Sn	15 52 02.2	-2.5
JAVS	Javornik	9.28	64	i Pn	P	15 50 18.6	-1.2
JAVS				i Sn	Sn	15 51 59.7	-5.4
LIS	Lisbon	9.32	250	eP	P	15 50 18.4	-2.1
LIS				eS	Sn	15 51 55.8	-10
LIS				eS	Sn	15 51 55.8	-10
LIS				AML	AML	15 52 23.3	
	comp=E,224nm,0.2s						
PTEO	Sao Teotonio	9.62	243	ePn	P	15 50 22.4	-2.2
PTEO				eSn	Sn	15 52 04.1	-10
PTEO				eSg	Sg	15 53 16.5	-7.2
	comp=E,49nm,0.6s						
PTEO	Sao Teotonio	9.62	243	Pn	P	15 50 22.4	-2.2
PTEO				Sn	Sn	15 52 04.1	-10
PTEO				Lg		15 53 16.5	
	comp=E,25nm,0.6s						
VISS	Visnje	9.77	65	ePn	P	15 50 25.4	-1.2
VISS				eSn	Sn	15 52 09.7	-7.5
OBKA	Obir	9.79	61	⇑iPN	P	15 50 26.1	-0.8
OBKA				i SN	Sn	15 52 13.7	-4.1
PDKS	Podkum	9.95	64	ePn	P	15 50 28.4	-0.7
WTSB	Winterswijk	10.07	17	eP	P	15 50 30.8	0.0
	comp=E,6.1nm,0.6s						
WET	Wettzell	10.09	44	ePn	P	15 50 29.3	-1.7
WET				eSn	S	15 52 18.4	-6.7
MOA	Molln	10.16	54	⇑iPN	P	15 50 31.0	-1.0
MOA				i SN	S	15 52 23.3	-3.6
PERS	Pernice	10.21	61	P	P	15 50 32.2	-0.4
GEC2	GERESS Array S	10.36	48	ePn	P	15 50 33.4	-1.2
GEC2				eSn	S	15 52 24.3	-7.3
GERES	GERESS Array B	10.36	48	Pn	P	15 50 32.8	-1.8
	comp=E,11nm,0.3s,baz=229,slow=12,SNR=219						
GERES				Sn	S	15 52 25.4	-6.2
	comp=E,5.2nm,0.3s,baz=241,slow=24,SNR=10						
GERES				Lg		15 53 50.1	
	comp=E,0.3nm,0.3s,baz=252,slow=28,SNR=2.1						
GERES	GERESS Array B	10.36	48	P	P	15 50 32.8	-1.8
GERES						15 52 25.4	
GERES				pmax	pmax		
	comp=Z,11nm,0.3s						
GERES				smax			
	comp=N,5.0nm,0.3s						
KHC	Kasperske Hory	10.45	46	eP	P	15 50 34.0	-1.9
KHC				x	x	15 50 41.5	
KHC				eS	S	15 52 28.0	-6.0
KHC				x	x	15 52 31.5	
KHC				LR		15 55 10.0	
	comp=N,0.7nm,16.6s						
KHC	Kasperske Hory	10.45	46	eP	P	15 50 34.0	-1.9
KHC				eS	S	15 52 28.0	-6.0
KHC				MLR	MLR		
	comp=Z,700nm,16.6s						
KHC	Kasperske Hory	10.45	46	eP	P	15 50 34.0	-1.9
KHC				e		15 50 41.5	
KHC				eS	S	15 52 28.0	-6.0
KHC				e		15 52 31.5	
MOX	Moxa	10.52	35	eP	P	15 50 36.0	-0.8
NKC	Novy Kostel	10.59	39	eP	P	15 50 35.3	-2.6
NKC				eS	S	15 52 31.4	-6.0
NKC				ex	x	15 53 44.5	
NKC				L		15 55 20.0	
	comp=Z,0.8nm,9.6s						
NKC	Novy Kostel	10.59	39	eP	P	15 50 35.3	-2.6
NKC				eS	S	15 52 31.4	-6.0
NKC				MLR	MLR		
	comp=Z,800nm,9.6s						
ARSA	Arzberg	10.69	59	⇓iPN	P	15 50 38.5	-0.6
ARSA				i SN	S	15 52 35.6	-4.1
PRU	Pruhonice	11.46	44	eP	P	15 50 47.7	-2.1
PRU				eS	S	15 52 51.5	-7.2
PRU				ex	x	15 54 25.6	
PRU				L		15 56 20.0	
TIP	Timpagrande	11.57	101	P	P	15 50 52.4	+1.1
CLL	Collm	11.60	36	e	Sx	15 54 25.0	
CLL				eL		15 54 40.0	
BRG	Berggiesshubel	11.73	40	eP	P	15 50 53.0	-0.3
BRG				e		15 53 00.8	
BRG				pmax	pmax		
	comp=Z,6.0nm,0.5s						
BRG				MLR	MLR		
	comp=Z,1μm,6.2s						
BRG				MLR	MLR		
	comp=N,530nm,6.6s						
BRG				MLR	MLR		
	comp=E,630nm,6.6s						
BRG	Berggiesshubel	11.73	40	eP	P	15 50 53.0	-0.3
	comp=E,5.5nm,0.5s						
BRG				e		15 53 00.8	
BRG				e		15 54 18.0	
PVCC	Panska Ves	11.81	42	LR		15 56 20.0	
	comp=E,0.5nm,17.0s						
VRAC	Vranov	12.22	51	Pn	P	15 50 57.6	-2.4
	comp=E,1.9nm,0.3s,baz=267,slow=12,SNR=7.1						
VRAC				Sn	S	15 53 08.3	-8.7
	comp=E,0.5nm,0.3s,baz=326,slow=18,SNR=2.9						
VRAC				Lg		15 54 48.5	
	comp=E,0.6nm,0.3s,baz=155,slow=17,SNR=2.5						
DLF	Lyons Farm	12.32	335	eP	P	15 51 00.0	-1.4
SMOL	Smolenice	12.36	55	i PN	P	15 51 02.3	+0.4
UPC	Upice	12.54	45	eP	P	15 51 02.6	-1.6
UPC				eS	S	15 53 17.8	-6.9
UPC				ex	x	15 55 03.3	
DCN	Croghan	12.61	333	eP	P	15 51 04.2	-0.9
DPC	Dobruska-Polom	12.61	46	eP	P	15 51 03.8	-1.4
DPC				eS	S	15 53 18.4	-8.1
DPC				ex	x	15 55 10.9	
DPC				LR		15 56 30.0	
	comp=E,0.6nm,10.1s						
DPC	Dobruska-Polom	12.61	46	eP	P	15 51 03.8	-1.4

DPC				*e*S	S	15 53 18.4	-8.1
DPC				MLR	MLR		
	comp=Z,600nm,10.1s						
MORC	**Moravsky Berou**	12.99	50	*e*P	P	15 51 08.4	-1.8
	comp=Z,4.9nm,0.6s						
VYHS	**Vyhne**	13.22	57	*e*PN	P	15 51 13.6	+0.3
OKC	**Ostrava-Krasne**	13.36	51	L		15 56 50.0	
	comp=Z,0.9nm,8.3s						
ESK	**Eskdalemuir**	13.37	347	*e*P	P	15 51 13.4	-1.9
EKA	**Eskdalemuir Ar**	13.38	347	Pn	P	15 51 13.9	-1.5
	comp=Z,3.1nm,0.3s,baz=162,slow=14,SNR=32						
EKA				Sn	S	15 53 33.8	-11
	comp=Z,0.6nm,0.3s,baz=165,slow=25,SNR=5.0						
EKA	**Eskdalemuir Ar**	13.38	347	P	P	15 51 13.9	-1.5
EKA						15 53 33.8	
EKA				pmax	pmax		
	comp=Z,3.0nm,0.3s						
EKA				smax			
	comp=N,1.0nm,0.3s						
PSZ	**Piszkesteto**	13.70	60	*e*P	P	15 51 19.8	+0.2
	comp=N,14nm,0.9s						
KECS	**Kecovo**	14.25	59	*i* PN	P	15 51 27.4	+0.7
OJC	**Ojcow**	14.48	51	*e*P	P	15 51 39.3	+9.5
CRVS	**Cervenica-Dubn**	14.99	58	*e*P	P	15 51 41.5	+5.0
CRVS				*e*		15 53 51.4	
CRVS				*e*		15 55 55.4	
KOLS	**Kolonicke sedl**	15.51	58	*e*P	P	15 51 53.0	+10
MLR	**Muntele Rosu**	17.43	72	P	P	15 52 10.6	+3.0
	comp=N,0.1nm,0.3s,baz=146,slow=21,SNR=3.0						
MLR				LR	LR	15 59 06.7	
	comp=N,125nm,21.3s,baz=173,slow=38						
MLR	**Muntele Rosu**	17.43	72	P	P	15 52 10.6	+2.9
SUW	**Suwalki**	18.14	43	P	P	15 52 16.0	-0.5
	comp=N,28nm,0.4s						
IDI	**Anoyia**	19.09	104	P	P	15 52 28.8	+0.7
	comp=N,0.4nm,0.3s,baz=244,slow=14,SNR=3.8						
HFS	**Hagfors**	19.12	18	P	P	15 52 31.8	+3.5
	comp=N,0.0nm,0.3s,baz=187,slow=12,SNR=3.2						
NB2	**NORSAR Subarra**	19.45	13	P	P	15 52 34.1	+1.9
	comp=N,5.8nm,1.0s,baz=206,slow=9.3						
NOA	**NORSAR Array B**	19.45	13	P	P	15 52 34.2	+2.0
	comp=N,0.2nm,0.3s,baz=200,slow=10,SNR=3.8						
NOA				LR	LR	16 00 13.3	
	comp=N,77nm,20.2s,baz=205,slow=37						
NOA	**NORSAR Array B**	19.45	13	P	P	15 52 34.2	+2.0
KIS	**Kishinev**	19.49	67	*e*P	P	15 52 37.0	+4.2
AKASG	**Malin Array Be**	20.32	57	P	P	15 52 41.2	-0.5
	comp=N,1.6nm,0.6s,baz=248,slow=11,SNR=5.3						
AKASG	**Malin Array Be**	20.32	57	P	P	15 52 41.2	-0.5
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BRTR	**Keskin Array B**	23.86	86	P	P	15 53 17.8	+0.8
	comp=Z,1.3nm,0.7s,mb3.4,baz=263,slow=6.3,SNR=5.9						
BRTR	**Keskin Array B**	23.86	86	P	P	15 53 17.8	+0.7
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FINES	**FINESS Array B**	23.87	29	P	P	15 53 19.6	+2.6
	comp=Z,3.8nm,0.7s,mb4.0,baz=233,slow=9.5,SNR=8.0						
FINES	**FINESS Array B**	23.87	29	P	P	15 53 19.6	+2.7
FINES				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KAF	**Kangasniemi**	24.40	28	*e*p	P	15 53 21.2	-0.9
	comp=Z,2.4nm,0.6s,mb3.8						
KAF	**Kangasniemi**	24.40	28	*e*P	P	15 53 21.2	-0.9
KAF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.7						
CSS	**Prodhromos**	25.38	97	P	P	15 53 30.0	-1.8
	comp=Z,13nm,0.6s,mb4.6						
OBN	**Obninsk**	25.74	48⇑	*e*P	P	15 53 38.0	+3.1
OBN				*e*S	S	15 58 00.9	-0.1
OBN				pmax	pmax		
	comp=Z,13nm,0.7s,mb4.6						
OBN				MLR	MLR		
	comp=Z,100nm,5.0s						
SOC	**Sochi**	27.39	75	*e*P	P	15 53 52.5	+2.3
SOC				*e*		15 54 32.4	
SOC				*e*S	S	15 58 21.0	-7.1
SOC				*e*SSS	SSS	15 59 51.9	-11
SOC				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.5						
SOC				pmax	pmax		
	comp=N,3.0nm,0.3s						
SOC				pmax	pmax		
	comp=E,2.0nm,0.4s						
SOC				MLR	MLR		
	comp=Z,116nm,20.0s,MS3.5						
SOC				MLR	MLR		
	comp=N,57nm,17.0s,MS3.3						
SOC				MLR	MLR		
	comp=E,49nm,20.0s,MS3.3						
ASF	**Jabal al Asfar**	29.33	99	P	P	15 54 09.7	+1.9
	comp=E,1.2nm,0.3s,mb4.1,baz=196,slow=3.2,SNR=4.5						
ARCES	**ARCESS Array B**	29.76	16	P	P	15 54 12.2	+0.8
	comp=E,2.8nm,1.0s,mb4.0,baz=207,slow=5.4,SNR=3.7						
ARCES	**ARCESS Array B**	29.76	16	P	P	15 54 12.2	+0.8
ARCES				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ARU	**Arti**	38.18	49⇑	*i*P	P	15 55 25.6	+1.6
ARU				*e*		15 56 50.9	
ARU				*e*PPP	PPP	15 57 09.4	-7.4
ARU				*e*		15 57 40.7	
ARU				*e*S	S	16 01 13.3	-3.4
ARU				*e*SS	SS	16 03 52.0	-2.7
ARU				*e*		16 05 31.8	
ARU				pmax	pmax		
	comp=Z,12nm,1.6s,mb4.4						
ARU	**Arti**	38.18	49	*e*P	P	15 55 23.0	-1.0
	comp=Z,6.0nm,0.6s,mb4.5						
SVE	**Sverdlovsk**	39.30	48⇓	*e*P	P	15 55 34.8	+1.4
ZRNK	**Zerenda**	44.70	52	*e*P	P	15 56 18.6	+1.1
	comp=Z,4.3nm,0.8s,mb4.3						
BRVK	**Borovoye**	45.42	52	*e*P	P	15 56 24.2	+1.0
	comp=Z,4.8nm,0.8s,mb4.4						
BVAR	**Borovoye Array**	45.49	52	P	P	15 56 25.1	+1.4
	comp=Z,1.4nm,0.6s,mb4.0,baz=243,slow=6.6,SNR=12						
KURK	**Kurchatov**	51.06	53⇓	*e*P	P	15 57 08.3	+1.2
KURK	**Kurchatov**	51.06	53	*e*P	P	15 57 07.5	+0.4
	comp=Z,7.7nm,1.1s,mb4.5						
NVS	**Novosibirsk**	52.11	46	*e*P	P	15 57 08.1	-6.9
MKAR	**Makanchi Array**	54.90	56	P	P	15 57 35.9	+0.2
	comp=Z,1.9nm,1.0s,mb4.1,baz=292,slow=6.5,SNR=5.6						
MKAR				LR	LR	16 21 24.8	
	comp=Z,80nm,21.4s,MS3.8,baz=280,slow=36						
MKAR	**Makanchi Array**	54.90	56	P	P	15 57 35.9	+0.2
MKAR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
MKAR				MLR	MLR		
	comp=Z,80nm,21.4s						
MKAR	**Makanchi Array**	54.90	56	P	P	15 57 35.9	+0.2
WMQ	**Urumqi**	59.68	57	P	P	15 58 10.0	+0.4
WMQ				AP	pP	15 58 15.0	+1.5
WMQ				AMB	AMB		
	comp=Z,11nm,0.8s,mb4.9						
WMQ				LR	LR		
	comp=E,137nm,23.0s						
WMQ				LR	LR		
	comp=Z,88nm,28.0s,MS3.8						
TIXI	**Tiksi**	60.20	17	*e*P	P	15 58 15.6	+2.8
TIXI				*e*		16 00 30.3	
TIXI				*e*SS	SS	16 10 22.5	-0.4
TIXI				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7						
TIXI				MLR	MLR		
	comp=Z,100nm,17.0s,MS4.0						
TSUM	**Tsumeb**	62.95	164	P	P	15 58 32.0	+0.1
	comp=Z,1.3nm,0.9s,mb4.1,baz=314,slow=8.1,SNR=3.6						
ZAK	**Zakamensk**	64.89	44	*e*P	P	15 58 48.7	+4.5
YAK	**Yakutsk**	67.69	24⇑	*e*P	P	15 59 06.5	+4.7
YAK				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
SONM	**Songino Array**	68.08	45	P	P	15 59 05.9	+1.4
	comp=Z,0.3nm,0.7s,mb3.4,baz=290,slow=6.2,SNR=3.6						
ILAR	**Eielson Array**	70.42	346	P	P	15 59 20.8	+2.2
	comp=Z,0.3nm,0.7s,mb3.3,baz=56,slow=3.3,SNR=4.1						
CN2	**Changchun**	80.29	38	*e*P	P	16 00 14.4	-0.7
MDJ	**Mudanjiang**	81.46	35	P	P	16 00 19.5	-1.8
MDJ				AMB	AMB		
	comp=Z,3.0nm,0.9s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,44nm,4.4s						
CMAR	**Chiang Mai Arr**	82.66	72	P	P	16 00 28.9	+0.9
	comp=Z,1.1nm,1.0s,mb3.9,baz=309,slow=6.9,SNR=5.9						
CMAR	**Chiang Mai Arr**	82.66	72	P	P	16 00 29.0	+1.0
CMAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
NJ2	**Nanjing**	85.88	49	*e*P	P	16 00 47.0	+3.0
LPAZ	**La Paz**	86.95	245	LR	LR	16 34 42.7	
	comp=Z,63nm,20.9s,MS4.0,baz=177,slow=32						
CPUP	**Villa Florida**	87.62	231	P	P	16 00 55.4	+2.8
	comp=Z,1.6nm,0.9s,mb4.2,baz=69,slow=8.6,SNR=3.8						
CPUP	**Villa Florida**	87.62	231	P	P	16 00 55.4	+2.8
CPUP				pmax	pmax		
	comp=Z,2.0nm,0.9s						
SSE	**Sheshan**	87.91	49	*e*P	P	16 00 55.8	+1.9
SSE				S	S	16 11 30.8	-3.9
SSE				XS		16 11 47.3	
SSE				AMB	AMB		
	comp=Z,22nm,12.0s						
SSE				LR	LR		
	comp=N,32nm,22.2s,MS4.0						
SSE				LR	LR		
	comp=E,51nm,22.3s,MS4.0						
SSE				LR	LR		
	comp=Z,42nm,18.8s,MS3.9						
SSE	**Sheshan**	87.91	49	*e*P	P	16 00 55.8	+1.9
	comp=Z,30nm,0.7s						
SSE				S	S	16 11 30.8	-3.9
SSE				sS		16 11 47.3	
SSE				SS	SS	16 17 10.6	-15
STKA	**Stephens Creek**	146.32	85	*e*P	PKPbc	16 07 45.5	+1.8
	comp=Z,2.4nm,0.6s						
STKA	**Stephens Creek**	146.32	85	PKPbc	PKPbc	16 07 45.6	+1.9
	comp=Z,2.5nm,0.5s,baz=327,slow=6.1,SNR=13						

*TIR **21** 15:51:42.4, 41.93N×19.97E, h5^{km}*

*PDG **21** 15:51:43.1±0.2, 41.88N×20.05E, h8^{km}±1^{km}*

ISC 21 15:51:41.1±1.0, **41.87N**±0.03×**20.19E**±0.06, **h8^{km}, n13, σ1^{s}20**/26, **1C-3D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PUK	**Puka**	0.28	309	*e*Pg	Pg	15 51 47.8	+0.9
PUK				*i* Sg	Sg	15 51 52.0	+1.2
QSH	**Qafa e Shtames**	0.40	212	*i* Pg	Pg	15 51 52.0	+2.7
QSH				*i* Sg	Sg	15 51 56.8	+2.1
LACI	**Lac**	0.42	238	*i* Pg	Pg	15 51 49.8	+0.1
LACI				*i* Sg	Sg	15 51 55.8	+0.4
ULC	**Ulcinj**	0.71	278⇓	*i*Pg	Pg	15 51 54.3	-1.0
ULC				*e*Sg	Sg	15 52 04.4	-0.4
PVY	**Plav**	0.75	348⇓	*i*Pg	Pg	15 51 56.2	+0.1
PVY				*e*Sg	Sg	15 52 07.9	+1.8
TTG	**Podgorica**	0.89	310⇓	*i*Pg	Pg	15 51 57.8	-1.1
TTG				*e*Sg	Sg	15 52 11.0	+0.1
IVA	**Berane**	1.03	348	*e*Pg	Pg	15 52 01.9	+0.2
IVA				*e*Sg	Sg	15 52 17.3	+1.9
BUM	**Brajici-Budva**	1.05	295	*e*Pg	Pg	15 52 00.8	-1.3
BUM				*e*Sg	Sg	15 52 16.3	+0.1
NKY	**Niksic**	1.29	317	*e*Pg	Pg	15 52 05.4	-1.6
NKY				*e*Sg	Sg	15 52 25.2	+1.0
HCY	**Herceg Novi**	1.38	295⇑	*i*Pg	Pg	15 52 06.3	-2.5
HCY				*e*Sg	Sg	15 52 27.1	-0.2
PLE	**Pljevlja**	1.58	338	*e*Pg	Pg	15 52 11.1	-1.5
PLE				*e*Sg	Sg	15 52 34.5	+0.8
BRY	**Bratogost**	1.60	311	*e*Pg	Pg	15 52 11.2	-1.8
BRY				*e*Sg	Sg	15 52 34.7	+0.3
UPM	**Unac-Piva**	1.64	325	*e*Pg	Pg	15 52 12.6	-1.3
UPM				*e*Sg	Sg	15 52 35.6	-0.1

*NEIC **21** 15:52:00.2, 42.37N×2.13E, h4^{km}, ML3.2(LDG), After LDG.*

*MDD **21** 15:52:00.8±0.7, 42.41N×2.17E, h10^{km}±2^{km}, mbLg2.5/12, Error ellipse: s-maj=7.8km s-min=3.8km az=175.0, PRXIMO AftershockPLICA*

*LDG **21** 15:52:00.2±0.2, 42.37N×2.13E, h4^{km}, Ml3.2/12, Error ellipse: s-maj=3.8km s-min=2.4km az=172.0*

ISC 21 15:51:59.0±0.5, **42.50N**±0.03×**2.12E**±0.03, **h10^{km}, n19, σ1^{s}11**/34, **Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EJON	**La Jonquera**	0.57	95	Pg	Pg	15 52 10.5	0.0
	22nm,0.1s,SNR=7.9						
EJON				Lg		15 52 18.1	
	92nm,0.2s,SNR=7.9						
MTLF	**Montolieu**	0.84	5	*e*Pg	Pg	15 52 17.7	+1.8
MTLF				*e*Pn	Pn	15 52 19.1	+2.4
MTLF				*e*Sg	Sg	15 52 31.5	+4.3
	101nm,0.3s						
MTLF	**Montolieu**	0.84	5	Pg	Pg	15 52 17.7	+1.8
MTLF				Lg		15 52 31.5	
	51nm,0.3s						
EGRA	**Graus**	1.37	258	Pg	Pg	15 52 26.4	-0.1
	19nm,0.2s,SNR=7.9						
EGRA				Lg		15 52 45.8	
	38nm,0.2s,SNR=7.9						
EPF	**Esparros**	1.42	293	*e*Pg	Pg	15 52 27.9	+0.6
EPF				*e*Sg	Sg	15 52 47.1	+0.9
	23nm,0.2s						
ETSF	**Etsaut**	2.02	282	*e*Pg	Pg	15 52 37.9	-1.4
ETSF				*e*Sg	Sg	15 53 05.3	-0.9
	60nm,0.4s						
LASF	**Ste Croix**	2.02	38	*e*Pn	Pn	15 52 33.9	+0.3
LASF				*e*Pg	Pg	15 52 39.0	-0.4
LASF				*e*Sg	Sg	15 53 07.5	+1.1
	17nm,0.2s						
EBR	**Ebro Roquetas**	2.07	217	*e*SN	Sn	15 53 01.5	+1.0
CAF	**Calviac**	2.42	359	*e*Pn	Pn	15 52 40.0	+0.6
CAF				*e*Pg	Pg	15 52 47.7	+0.3
CAF				*e*Sg	Sg	15 53 20.1	+0.3
	32nm,0.3s						
SJPF	**Ste Jean**	2.54	285	*e*Sg	Sg	15 53 21.7	-1.8
	24nm,0.3s						
LFF	**La Frestale**	2.64	338	*e*Pn	Pn	15 52 44.0	+1.6
LFF				*e*Pg	Pg	15 52 51.3	-0.4
LFF				*e*Sg	Sg	15 53 27.7	+0.9
	74nm,0.5s						
EALK	**Alkurruntz**	2.76	286	Pg	Pg	15 52 53.0	-1.2
	6.4nm,0.3s,SNR=7.9						
EALK				Sn	Sn	15 53 24.9	+7.0
	3.6nm,0.2s,SNR=7.9						
EALK				Lg		15 53 31.3	
	6.8nm,0.2s,SNR=7.9						
RJF	**Les Rejaudoux**	2.84	351	*e*Pn	Pn	15 52 46.1	+0.8
RJF				*e*Pg	Pg	15 52 55.5	-0.2
RJF				*e*Sg	Sg	15 53 33.5	0.0
	19nm,0.3s						
SMRF	**Simiane la Rot**	2.92	59	*e*Pn	Pn	15 52 46.8	+0.3
VIVF	**Saint-Julien-l**	3.00	37	*e*Pg	Pg	15 52 56.3	-2.5
VIVF				*e*Sg	Sg	15 53 37.6	-1.2
	12nm,0.2s						
LMR	**La Mourre**	3.33	74	*e*Pn	Pn	15 52 52.0	-0.2
LMR				*e*Sn	Sn	15 53 29.8	-2.5
	9.7nm,0.2s						
FRF	**La Foret Royal**	3.48	71	*e*Pn	Pn	15 52 54.7	+0.3
TCF	**Toulx Ste Croi**	3.79	1	*e*Sg	Sg	15 54 03.0	-2.1
	9.1nm,0.3s						
SBF	**Sospel**	4.12	69	*e*Pn	Pn	15 53 03.6	+0.2

*LDG **21** 15:59:51.7±0.5, 42.31N×2.21E, h4^{km}, Ml2.0/5, Error ellipse: s-maj=9.1km s-min=3.7km az=138.0*

MDD 21 15:59:53.6±0.5, **42.34N×2.07E, h6^{km}**±8^{km}, **mbLg1.5**/4, **Error ellipse: s-maj=5.0km s-min=3.0km az=144.0, PRXIMO AftershockPLICA, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VALF	**Valcebollere**	0.07	330	P	Pg	15 59 55.5	+0.1
VALF				S	Sg	15 59 56.8	+0.2
CARF	**Carcanieres**	0.38	4	P	Pg	16 00 00.6	-0.7
EMIR	**Miracle**	0.58	224	Pg	Pg	16 00 04.7	-0.6
	4.3nm,0.0s,SNR=7.9						
EMIR				Lg		16 00 11.4	
	2.7nm,0.0s,SNR=7.9						
EJON	**La Jonquera**	0.62	79	Pg	Pg	16 00 03.9	-2.1
	0.9nm,0.1s,SNR=7.9						
EJON				Lg		16 00 14.6	
	1.3nm,0.0s,SNR=7.9						
MTLF	**Montolieu**	1.01	6	*e*Pg	Pg	16 00 11.0	-2.8
MTLF				*e*Sg	Sg	16 00 25.0	-2.3
	2.6nm,0.2s						
EPOB	**Poblet**	1.23	217	Pg	Pg	16 00 16.9	-1.3
	1.4nm,0.1s,SNR=7.9						
EPOB				Lg		16 00 33.8	
	4.8nm,0.1s,SNR=7.9						
EGRA	**Graus**	1.31	264	Lg		16 00 36.7	
	SNR=7.9						
EPF	**Esparros**	1.45	299	*e*Pg	Pg	16 00 21.0	-1.6
EPF				*e*Sg	Sg	16 00 40.3	-1.6
	1.3nm,0.2s						
ETSF	**Etsaut**	2.02	287	*e*Pg	Pg	16 00 31.0	-2.9
ETSF				*e*Sg	Sg	16 00 59.0	-1.8
	1.9nm,0.4s						
CAF	**Calviac**	2.59	360	*e*Sg	Sg	16 01 13.6	-6.2
	1.5nm,0.3s						
RJF	**Les Rejaudoux**	2.99	353	*e*Sg	Sg	16 01 27.0	-6.3
	2.8nm,0.3s						

*LDG **21** 16:02:46.7±0.3, 42.29N×2.17E, h4^{km}, Ml2.0/5, Error ellipse: s-maj=7.2km s-min=2.5km az=160.0*

MDD 21 16:02:47.2±0.4, **42.35N×2.15E, h1^{km}**±9^{km}, **mbLg1.2**/3, **Error ellipse: s-maj=3.9km s-min=2.8km az=167.0, PRXIMO AftershockPLICA, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VALF	**Valcebollere**	0.11	297	P	Pg	16 02 48.6	-0.7
VALF				S	Sg	16 02 50.5	-0.3
CARF	**Carcanieres**	0.36	355	P	Pg	16 02 54.1	-0.3
CARF				S	Sg	16 02 59.2	-0.1
EJON	**La Jonquera**	0.56	80	Pg	Pg	16 02 56.5	-1.8
	SNR=7.9						
EJON				Lg		16 03 05.5	
	1.5nm,0.1s,SNR=7.9						
EMIR	**Miracle**	0.64	227	Pg	Pg	16 02 51.7	-8.2
	SNR=7.9						
EMIR				Lg		16 03 08.0	
	1.6nm,0.1s,SNR=7.9						
MTLF	**Montolieu**	0.99	3	*e*Pg	Pg	16 03 05.4	-1.5
MTLF				*e*Pn	Pn	16 03 06.8	-1.2
MTLF				*e*Sg	Sg	16 03 19.5	-0.6
	3.8nm,0.2s						
EPOB	**Poblet**	1.28	219	Pg	Pg	16 03 10.6	-2.1
	SNR=7.9						
EPOB				Lg		16 03 28.3	
	SNR=7.9						
EPF	**Esparros**	1.49	298	*e*Pg	Pg	16 03 15.6	-1.4
EPF				*e*Sg	Sg	16 03 34.7	-2.2
	1.4nm,0.2s						
ETSF	**Etsaut**	2.07	286	*e*Pg	Pg	16 03 25.8	-2.7
ETSF				*e*Sg	Sg	16 03 53.2	-2.9
	1.6nm,0.4s						
LASF	**Ste Croix**	2.13	35	*e*Pg	Pg	16 03 26.6	-3.1
LASF				*e*Sg	Sg	16 03 55.1	-3.0
	0.8nm,0.2s						
CAF	**Calviac**	2.57	359	*e*Pn	Pn	16 03 28.0	-2.7
CAF				*e*Sn	Sn	16 03 59.3	-3.8
	1.3nm,0.2s						

*STR **21** 16:04:23.1±0.6, 42.28N×2.11E, h5^{km}±1^{km}, Ml2.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*MDD **21** 16:04:24.9±0.2, 42.35N×2.15E, h2^{km}±5^{km}, mbLg2.0/14, Error ellipse: s-maj=2.1km s-min=1.8km az=6.0, PRXIMO AftershockPLICA*

*LDG **21** 16:04:25.1±0.1, 42.35N×2.14E, h4^{km}, Ml2.6/8, Error ellipse: s-maj=2.9km s-min=1.7km az=174.0*

*NEIC **21** 16:04:25.1, 42.35N×2.14E, h4^{km}, ML2.7(STR), ML2.6(LDG), MN2.3(MDD), After LDG.*

ISC 21 16:04:23.1±0.4, **42.36N**±0.03×**2.14E**±0.02, **h6^{km}**±4^{km}, **n39, σ1^{s}32**/61, **Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBRU	**Bruguera**	0.08	159	Pg	Pg	16 04 26.0	+1.0
CBRU				Lg		16 04 27.2	
	162nm,0.1s						
VALF	**Valcebollere**	0.10	293	Pg	Pg	16 04 26.7	+1.4
VALF				Sg	Sg	16 04 28.4	+1.6
VALF	**Valcebollere**	0.10	293	P	Pg	16 04 26.9	+1.5
VALF				S	Sg	16 04 28.6	+1.7
CLLI	**Llivia**	0.17	314	Pg	Pg	16 04 28.2	+1.6
CLLI				Lg		16 04 31.0	
	169nm,0.1s						
CARF	**Carcanieres**	0.35	356	P	Pg	16 04 31.6	+1.4
CARF				S	Sg	16 04 37.1	+2.1
FILF	**Fillols**	0.37	57	Pg	Pg	16 04 30.2	-0.3
FILF	**Fillols**	0.37	57	P	Pg	16 04 30.3	-0.2
FILF				S	Sg	16 04 34.2	-1.3
EJON	**La Jonquera**	0.56	81	Pg	Pg	16 04 35.2	+0.8
	3.7nm,0.1s,SNR=7.9						
EJON				Lg		16 04 43.1	
	14nm,0.1s,SNR=7.9						
EJON	**La Jonquera**	0.56	81	Pg	Pg	16 04 35.1	+0.8
EJON				Lg		16 04 43.1	
SJAF	**Saint Jean de**	0.56	77	Pg	Pg	16 04 35.0	+0.6
SJAF				Sg	Sg	16 04 42.7	+0.8
SJAF	**Saint Jean de**	0.56	77	P	Pg	16 04 35.1	+0.7
SJAF				S	Sg	16 04 42.5	+0.6
EMIR	**Miracle**	0.64	226	Pg	Pg	16 04 36.4	+0.5
	9.0nm,0.1s,SNR=7.9						
EMIR				Lg		16 04 45.7	
	30nm,0.2s,SNR=7.9						
EMIR	**Miracle**	0.64	226	Pg	Pg	16 04 36.4	+0.5
EMIR				Lg		16 04 45.6	
LRDF	**Laroque-de-Fa**	0.65	27	Pg	Pg	16 04 37.2	+1.2
LRDF				Sg	Sg	16 04 47.2	+2.6
LRDF	**Laroque-de-Fa**	0.65	27	P	Pg	16 04 37.6	+1.6
LRDF				S	Sg	16 04 46.6	+1.9
SALF	**Salau**	0.81	300	Pg	Pg	16 04 39.7	+0.5
SALF				Sg	Sg	16 04 50.7	+0.7
SALF	**Salau**	0.81	300	P	Pb	16 04 40.0	+0.9
SALF				S	Sg	16 04 50.7	+0.7
MTLF	**Montolieu**	0.98	3	*e*Pg	Pg	16 04 43.0	+0.3
MTLF				*e*Pn	Pn	16 04 44.3	+1.1
MTLF				*e*Sg	Sg	16 04 56.6	+0.9
	12nm,0.2s						
MELF	**Melles**	1.14	297	Pg	Pg	16 04 43.6	-2.2
MELF	**Melles**	1.14	297	P	Pb	16 04 45.7	+1.0
MELF				S	Sb	16 05 00.8	+1.2
EPOB	**Poblet**	1.28	218	Pg	Pg	16 04 47.9	-0.8
	6.5nm,0.1s,SNR=7.9						
EPOB				Lg		16 05 05.3	
	34nm,0.1s,SNR=7.9						
EGRA	**Graus**	1.36	264	Pg	Pg	16 04 50.4	+0.1
	4.7nm,0.3s,SNR=7.9						
EGRA				Lg		16 05 10.2	
	5.3nm,0.3s,SNR=7.9						
RESF	**Ens**	1.40	289	S	Sb	16 05 12.3	+5.0
EPF	**Esparros**	1.48	297	*e*Pn	Pn	16 04 51.3	+0.9
EPF				*e*Pg	Pg	16 04 52.9	+0.2
EPF				*e*Sg	Sg	16 05 12.4	-0.1
	11nm,0.2s						
VIEF	**Viey**	1.65	289	S	Sb	16 05 18.0	+3.7
EBR	**Ebro Roquetas**	1.97	219	*e*S*	Sb	16 05 27.0	+3.1
EBR				*e*Rs		16 43 15.0	
ESAC	**San Caprasio**	2.05	253	Pg	Pg	16 05 02.7	-1.3
	12nm,0.1s,SNR=7.9						
ESAC				Lg		16 05 30.2	
	51nm,0.5s,SNR=7.9						
ETSF	**Etsaut**	2.06	286	*e*Pg	Pg	16 05 03.3	-1.0
ETSF				*e*Sg	Sg	16 05 30.4	-1.4
	9.4nm,0.3s						
LASF	**Ste Croix**	2.12	36	*e*Pn	Pn	16 04 59.1	-0.5
LASF				*e*Pg	Pg	16 05 04.3	-1.2
LASF				*e*Sg	Sg	16 05 32.8	-1.0
	2.9nm,0.3s						
CAF	**Calviac**	2.56	359	*e*Pn	Pn	16 05 05.4	-0.4
CAF				*e*Pg	Pg	16 05 12.8	-1.4
CAF				*e*Sg	Sg	16 05 45.9	-2.5
	6.4nm,0.3s						
SJPF	**Ste Jean**	2.59	288	*e*Pg	Pg	16 05 12.5	-2.3
SJPF				*e*Sg	Sg	16 05 46.4	-2.9
	3.6nm,0.4s						
LFF	**La Frestale**	2.77	339	*e*Sg	Sg	16 05 53.0	-2.3
	7.5nm,0.3s						
EMOS	**Mosqueruela**	2.80	225	Pg	Pg	16 05 14.6	-4.5
	0.5nm,0.2s,SNR=7.9						
EMOS				Lg		16 05 53.6	
	SNR=7.9						
EALK	**Alkurruntz**	2.82	289	Lg		16 05 55.3	
	SNR=7.9						
RJF	**Les Rejaudoux**	2.98	351	*e*Pg	Pg	16 05 20.8	-1.7
SMRF	**Simiane la Rot**	2.99	56	*e*Pg	Pg	16 05 20.3	-2.4
LMR	**La Mourre**	3.36	72	*e*Pn	Pn	16 05 16.7	-0.4
ETOR	**Torete**	3.50	245	Pn	Pn	16 05 20.8	+1.6
	SNR=7.9						
ETOR				Pg	Pg	16 05 30.9	-2.1
	0.9nm,0.2s,SNR=7.9						
ETOR				Sn	Sn	16 06 01.0	-0.5

	SNR=7.9						
ETOR				Lg		16 06 17.3	
	SNR=7.9						
FRF	**La Foret Royal**	3.52	69	*e*Pn	Pn	16 05 19.0	-0.4

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*LDG **21** 16:17:24.6±0.3, 42.32N×2.17E, h4^{km}, Md2.1/1, Ml2.2/7, Error ellipse: s-maj=5.2km s-min=2.6km az=155.0*

*MDD **21** 16:17:24.5±0.3, 42.33N×2.16E, mbLg1.7/11, Error ellipse: s-maj=2.3km s-min=2.0km az=46.0, AftershockPLICA PRXIMO*

ISC 21 16:17:23.2±0.5**, 42.40N**±0.03×**2.16E**±0.03**, h10^{km}, n20, σ1^{s}25**/31**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VALF	**Valcebollere**	0.10	270	P	Pg	16 17 26.5	+0.6
VALF				S	Sg	16 17 28.3	+0.6
CBRU	**Bruguera**	0.12	172	Pg	Pg	16 17 25.0	-1.1
CBRU				Lg		16 17 26.1	
	234nm,0.1s						
CLLI	**Llivia**	0.16	300	Pg	Pg	16 17 27.8	+1.0
CLLI				Lg		16 17 30.8	
	13nm,0.1s						
CARF	**Carcanieres**	0.32	353	P	Pg	16 17 31.6	+1.9
CARF				S	Sg	16 17 37.0	+2.8
FILF	**Fillols**	0.34	62	P	Pg	16 17 29.8	-0.3
FILF				S	Sg	16 17 34.1	-0.7
EJON	**La Jonquera**	0.54	85	Pg	Pg	16 17 35.3	+1.1
	3.9nm,0.3s,SNR=9.3						
EJON				Lg		16 17 42.3	
	3.9nm,0.5s,SNR=7.9						
CORG	**Organya**	0.65	255	Pg	Pg	16 17 36.2	0.0
EMIR	**Miracle**	0.68	224	Pg	Pg	16 17 35.4	-1.4
	8.1nm,0.3s,SNR=5.5						
EMIR				Lg		16 17 45.0	
	6.7nm,0.1s,SNR=7.9						
SALF	**Salau**	0.80	297	P	Pb	16 17 40.0	+1.3
SALF				S	Sb	16 17 50.5	+1.2
MTLF	**Montolieu**	0.94	3	*e*Pg	Pg	16 17 42.9	+0.9
MTLF				*e*Pn	Pn	16 17 44.3	+2.0
MTLF				*e*Sg	Sg	16 17 56.8	+2.2
	5.4nm,0.2s						
EPOB	**Poblet**	1.32	218	Pn	Pn	16 17 47.6	-0.1
	2.3nm,0.4s,SNR=8.1						
EPOB				Lg		16 18 04.6	
	3.7nm,0.1s,SNR=7.9						
EGRA	**Graus**	1.38	262	Pn	Pn	16 17 50.6	+2.0
	SNR=7.9						
EGRA				Lg		16 18 10.1	
	4.7nm,0.5s,SNR=7.9						
EPF	**Esparros**	1.48	296	*e*Pg	Pg	16 17 53.0	+0.3
EPF				*e*Sg	Sg	16 18 12.5	0.0
	3.4nm,0.2s						
ETSF	**Etsaut**	2.06	285	*e*Pg	Pg	16 18 03.4	-1.0
ETSF				*e*Sg	Sg	16 18 31.0	-1.0
	3.5nm,0.3s						
ESAC	**San Caprasio**	2.07	252	Lg		16 18 31.2	
	4.7nm,0.1s,SNR=7.9						
LASF	**Ste Croix**	2.08	36	*e*Pg	Pg	16 18 04.0	-0.8
LASF				*e*Sg	Sg	16 18 32.8	+0.2
	1.4nm,0.3s						
CAF	**Calviac**	2.52	359	*e*Pg	Pg	16 18 12.8	-0.8
CAF				*e*Sg	Sg	16 18 45.4	-1.9
	1.7nm,0.2s						
SJPF	**Ste Jean**	2.59	287	*e*Pg	Pg	16 18 12.5	-2.4
LFF	**La Frestale**	2.74	338	*e*Pg	Pg	16 18 16.9	-0.9
LFF				*e*Sg	Sg	16 18 52.9	-1.4
	9.6nm,0.5s						
RJF	**Les Rejaudoux**	2.94	351	*e*Pg	Pg	16 18 20.9	-1.0
RJF				*e*Sg	Sg	16 18 59.2	-1.8
	1.1nm,0.2s						

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*IDC **21** 16:20:52.8±4.8, 23.79S×66.62W, h196^{km}±31^{km}, mb1 3.7/3, mb1mx3.4/14, Error ellipse: s-maj=67.9km s-min=21.9km az=47.0*

*NEIC **21** 16:20:52.2±1.4, 23.88S×66.69W, h201^{km}±17^{km}, mb3.8/1, Error ellipse: s-maj=21.4km s-min=11.6km az=71.0*

ISC 21 16:20:51.7±1.5**, 23.87S**±0.10×**66.6W**±0.2**, h206^{km}**±31^{km}**, n9, σ0^{s}63**/9**, Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPAZ	**La Paz**	7.67	349	P	P	16 22 42.4	+1.0
	1.2nm,0.3s,baz=160,slow=1.8,SNR=9.7						
LPAZ				S	S	16 24 06.9	-0.3
	0.9nm,0.3s,baz=131,slow=3.0,SNR=3.5						
LPAZ	**La Paz**	7.67	349	P	P	16 22 42.4	+1.0
LPAZ				S	S	16 24 06.9	-0.3
CPUP	**Villa Florida**	8.79	108	P	P	16 22 55.9	-0.1
	0.1nm,0.3s,baz=312,slow=10,SNR=7.2						
TRQA	**Tornquist**	14.69	165	P	P	16 24 10.7	-0.2
SAML	**Samuel**	15.20	13	*e*P	P	16 24 16.2	-1.1
	2.3nm,0.6s						
BDFB	**Brasilia**	19.34	68	P	P	16 25 03.3	0.0
	0.7nm,0.3s,baz=250,slow=11,SNR=12						
BAO	**Brasilia Array**	19.36	68	*i* P	P	16 25 04.2	+0.7
MKAR	**Makanchi Array**	146.22	40	PKPbc	PKPbc	16 40 08.8	+1.4
	1.0nm,0.7s,baz=299,slow=2.9,SNR=7.1						
MKAR	**Makanchi Array**	146.22	40	PKPbc	PKPbc	16 40 08.8	+1.4

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*LDG **21** 16:25:32.9±0.1, 50.81N×6.41E, h11^{km}, Md2.3/1, Ml2.7/4, Error ellipse: s-maj=1.7km s-min=1.1km az=123.0*

*BNS **21** 16:25:32.9±0.7, 50.81N×6.43E, h12^{km}, ML1.5*

*NEIC **21** 16:25:32.9, 50.81N×6.41E, h11^{km}, ML2.7(LDG), After LDG.*

ISC 21 16:25:32.4±0.5**, 50.74N**±0.03×**6.38E**±0.04**, h11^{km}, n12, σ1^{s}06**/23**, 2C-1D, Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KLL	**Kalltalsperre**	0.10	206⇑	*i*Pg	Pg	16 25 36.6	+1.3
KLL				*e*Sg	Sg	16 25 38.7	+1.6
	123nm,0.3s						
JUE	**Julich**	0.18	6	*e*Pg	Pg	16 25 35.7	-0.9
JUE				*i* Sg	Sg	16 25 38.6	-0.6
HGN	**Heimansgroeve**	0.29	276⇑	*i*Pg	Pg	16 25 39.3	+0.8
	26nm,0.1s						
HGN				*e*Sg	Sg	16 25 43.7	+1.2
STB	**Steinbach**	0.33	115⇓	*e*Pg	Pg	16 25 39.7	+0.4
STB				*e*Sg	Sg	16 25 44.4	+0.6
	21nm,0.2s						
BNS	**Bensberg**	0.56	65	*e*Pg	Pg	16 25 43.1	-0.6
BGG	**Burgeitz**	0.81	130	*e*Pg	Pg	16 25 48.8	0.0
BGG				*e*Sg	Sg	16 26 01.0	+1.4
	22nm,0.2s						
WLF	**Walferdange**	1.08	188	*e*Pg	Pg	16 25 55.1	+1.0
WLF				*e*Sg	Sg	16 26 09.3	+0.7
GIVF	**Givet**	1.18	238	*e*Pn	Pn	16 25 56.3	+1.4
GIVF				*e*Sg	Sg	16 26 12.4	+0.6
	11nm,0.2s						
BAIF	**Baives**	1.54	245	*e*Pg	Pg	16 26 02.9	-0.5
BAIF				*e*Sg	Sg	16 26 23.1	-0.9
	9.9nm,0.2s						
RFYF	**Reffroy**	2.19	196	*e*Pn	Pn	16 26 08.4	-0.9
RFYF				*e*Pg	Pg	16 26 15.0	-1.2
RFYF				*e*Sg	Sg	16 26 44.1	-1.3
	10nm,0.3s						
CDF	**Champ du Feu**	2.40	166	*e*Pn	Pn	16 26 11.4	-0.9
CDF				*e*Pg	Pg	16 26 18.8	-1.5
SFTF	**Sexfontaines**	2.68	200	*e*Sg	Sg	16 26 59.6	-2.1
	6.0nm,0.3s						

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*NEIC **21** 16:27:39.1, 17.18N×100.54W, h7^{km}, MD3.8(MEX), After MEX.*

MEX 21 16:27:40.0±0.6**, 17.15N×100.50W, h46^{km}**±17^{km}**, MD3.8, Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ACX	**Acapulco**	0.63	117	*i* P	P	16 27 51.0	-1.7
ACX				*i* S	S	16 28 00.0	-1.9
ZIIG	**Zihuatanejo**	1.02	296	*e*P	P	16 27 56.8	-1.3
ZIIG				*i* S	S	16 28 09.0	-2.6
ZIIG	**Zihuatanejo**	1.02	296	*e*P	P	16 27 54.6	-3.5
ZIIG				*i* S	S	16 28 09.0	-2.6
PLIG	**Platanillo**	1.56	38	*i* P	P	16 28 04.0	-1.8
PLIG				*i* S	S	16 28 22.1	-2.9
PLIG	**Platanillo**	1.56	38	*i* P	P	16 28 04.2	-1.6
PLIG				*i* S	S	16 28 22.1	-2.9
PPM	**Popocatepetl**	2.61	43	*i* P	P	16 28 20.0	-0.7
PPM				*i* S	S	16 28 51.0	-0.4
IISM	**Ciudad Serdan**	3.49	58	*e*P	P	16 28 30.0	-3.2
OXX	**Oaxaca**	3.62	91	*e*P	P	16 28 36.0	+1.0
OXX				*i* S	S	16 29 19.0	+2.1

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*STR **21** 16:31:04.1±0.2, 42.37N×2.14E, h5^{km}±1^{km}, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*MDD **21** 16:31:04.6±0.4, 42.34N×2.15E, mbLg1.8/3, Error ellipse: s-maj=3.5km s-min=2.2km az=164.0, PRXIMO AftershockPLICA*

ISC 21 16:31:03.1±0.7**, 42.33N**±0.05×**2.16E**±0.04**, h10^{km}**±7^{km}**, n13, σ0^{s}65**/21**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VALF	**Valcebollere**	0.13	304	Pg	Pg	16 31 06.5	+0.3
VALF				Sg	Sg	16 31 08.3	0.0
VALF	**Valcebollere**	0.13	304	P	Pg	16 31 06.7	+0.5
VALF				S	Sg	16 31 08.4	+0.1
FILF	**Fillols**	0.38	52	Pg	Pg	16 31 10.0	-0.8
FILF				Sg	Sg	16 31 14.1	-1.9
FILF	**Fillols**	0.38	52	P	Pg	16 31 10.1	-0.7
FILF				S	Sg	16 31 14.2	-1.8
CARF	**Carcanieres**	0.39	354	P	Pg	16 31 11.8	+0.7
CARF				S	Sg	16 31 16.9	+0.6
EJON	**La Jonquera**	0.55	77	Pg	Pg	16 31 15.1	+0.8
	1.5nm,0.1s,SNR=7.9						
EJON				Lg		16 31 22.4	
	5.1nm,0.1s,SNR=7.9						
SJAF	**Saint Jean de**	0.56	74	Pg	Pg	16 31 14.8	+0.4
SJAF	**Saint Jean de**	0.56	74	P	Pg	16 31 14.9	+0.5
SJAF				S	Sg	16 31 22.4	+0.5
EMIR	**Miracle**	0.63	229	Pg	Pg	16 31 16.2	+0.4
	5.3nm,0.1s,SNR=7.9						
EMIR				Lg		16 31 24.4	
	4.1nm,0.1s,SNR=7.9						
SALF	**Salau**	0.83	301	Pg	Pg	16 31 19.7	-0.2
SALF				Sg	Sg	16 31 30.6	-0.5
SALF	**Salau**	0.83	301	P	Pb	16 31 19.2	0.0
SALF				S	Sb	16 31 30.3	+0.1
EPOB	**Poblet**	1.27	220	Pg	Pg	16 31 27.9	-0.6
	4.4nm,0.1s,SNR=7.9						
EPOB				Lg		16 31 45.0	
	7.9nm,0.1s,SNR=7.9						
EGRA	**Graus**	1.38	265	Pg	Pg	16 31 30.2	-0.4
	SNR=7.9						
EGRA				Lg		16 31 49.9	
	SNR=7.9						

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*NEIC **21** 16:38:08.6±5.4, 17.32S×178.77W, h539^{km}±63^{km}, mb4.0/5, Error ellipse: s-maj=72.5km s-min=22.6km az=154.0*

*IDC **21** 16:38:12.1±7.6, 17.45S×178.75W, h583^{km}±98^{km}, mb3.4/8, mb1 3.7/8, mb1mx3.4/14, Error ellipse: s-maj=76.5km s-min=30.4km az=158.0*

ISC 21 16:38:13.8±1.6**, 17.4S**±0.5×**179.0W**±0.3**, h621^{km}**±14^{km}**, n18, σ0^{s}45**/15**, mb3.8**/11**, 1C, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	2.88	263	P	P	16 39 34.2	-0.1
	457nm,0.6s,SNR=17						
CTA	**Charters Tower**	33.02	260	P	P	16 44 02.6	+1.2
	4.8nm,0.5s,mb4.4,baz=79,slow=11,SNR=7.6						
CTAO	**Charters Tower**	33.02	260	*e*P	P	16 44 01.4	0.0
	7.9nm,0.7s,mb4.5						
STKA	**Stephens Creek**	38.42	240	*e*P	P	16 44 45.6	-0.1
	4.4nm,0.9s,mb4.0						
STKA	**Stephens Creek**	38.42	240	P	P	16 44 45.9	+0.2
	4.9nm,0.7s,mb4.1,baz=89,slow=8.6,SNR=8.9						
WB2	**Warramunga Arr**	44.20	259	*e*P	P	16 45 31.7	+0.1
WRAB	**Tennant Creek**	44.20	259	*e*P	P	16 45 31.3	-0.4
	6.7nm,0.6s,mb4.3						
WRA	**Warramunga Arr**	44.21	259	P	P	16 45 31.8	+0.1
	3.2nm,0.6s,mb4.1,baz=95,slow=7.1,SNR=129						
FITZ	**Fitzroy Crossi**	52.60	260	*e*P	P	16 46 34.4	+0.6
	3.4nm,1.5s,mb3.5						
MBWA	**Marble Bar**	57.69	256	*e*P	P	16 47 08.1	-0.9
	2.0nm,0.6s,mb3.4						
YBH	**Yreka Blue Hor**	78.47	39	P	P	16 49 13.9	+0.5
	2.3nm,0.7s,mb3.7,baz=84,slow=2.5,SNR=4.9						
NVAR	**Mina Array Bea**	79.43	44	P	P	16 49 18.6	+0.2
	1.6nm,0.7s,mb3.5,baz=226,slow=10,SNR=11						
ILAR	**Eielson Array**	85.52	13	P	P	16 49 47.7	-0.6
	0.8nm,0.6s,mb3.5,baz=230,slow=6.2,SNR=6.6						
TXAR	**Lajitas Array**	86.17	58	P	P	16 49 52.1	-0.1
	1.7nm,0.7s,mb3.8,baz=217,slow=6.3,SNR=10						
PDAR	**Pinedale Array**	87.35	44	P	P	16 49 57.4	-0.1
	1.3nm,0.7s,mb3.8,baz=238,slow=3.4,SNR=7.8						
CLL	**Collm**	144.86	347	*e*PKIKP	PKPdf	16 56 44.0	+3.0
KHC	**Kasperske Hory**	146.76	345⇑	*e*PKPB	PKPbc	16 56 49.5	+3.1
GERES	**GERESS Array B**	147.00	345	PKPbc	PKPbc	16 56 50.3	+3.3
	1.2nm,0.6s,slow=2.7,SNR=7.4						

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*IDC **21** 16:39:04.8±0.8, 67.16N×21.29E, mb1 3.1/4, mb1mx3.0/19, ML2.3/4, Error ellipse: s-maj=15.5km s-min=6.4km az=114.0*

*HEL **21** 16:39:05.2±0.3, 67.09N×20.92E, ML2.0, ML2.1(UPP), ML1.7(BER), Explosion*

*BER **21** 16:39:07.8±4.0, 67.10N×20.80E, ML1.7, Suspected explosion*

ISC 21 16:39:03.2±0.4**, 67.04N**±0.03×**20.77E**±0.06**, n25, σ1^{s}21**/35**, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DUNU	**Dundret**	0.11	317	*i* P	Pg	16 39 06.7	+1.3
DUNU				*i* S	Sg	16 39 10.3	+3.4
MASU	**Masugnsbyn**	0.64	48	*i* P	Pg	16 39 14.6	-1.3
ERTU	**Ertsjaerv**	0.75	130	*i* P	Pg	16 39 17.0	-1.1
PAJU	**Pajala**	0.92	90	*i* P	Pg	16 39 19.6	-2.0
KUA	**Kurravaara**	0.93	350	*e*P	Pg	16 39 20.9	-0.9
SALU	**Saltoluokta**	0.94	292	*e*P	Pg	16 39 22.2	+0.1
NIKU	**Nikkaluokta**	1.07	322	*e*P	Pb	16 39 23.7	-0.5
SJUU	**Sjulsmark**	1.58	167	*e*P	Pn	16 39 34.1	+1.5
KIF	**Kilpisjarvi**	1.97	0	*e*P	Pn	16 39 39.5	+1.3
KIF				*e*S	Sn	16 40 04.5	+0.5
KTK1	**Kautokeino**	2.19	24	*e*P	Pn	16 39 44.1	+2.8
KTK1				*e*SG	Sg	16 40 13.9	-2.1
SGF	**Sodankyl**	2.28	77	*e*P	Pn	16 39 43.1	+0.6
SGF				*e*S	Sn	16 40 13.1	+1.4
SGF				MSG		16 40 19.5	
	comp=Z,7.7nm,0.1s						
MOR8	**Moi Rana**	2.67	254	*e*SG	Sg	16 40 24.9	-7.2
MOR8				AML	AML	16 40 31.7	
	comp=Z,8.5nm,0.1s						
TRO	**Tromso**	2.69	346	*e*SG	Sg	16 40 28.3	-4.5
TRO				AML	AML	16 40 32.9	
	comp=Z,5.6nm,0.1s						
OUL	**Oulu**	2.87	131	*e*P	Pn	16 39 53.5	+2.5
OUL				*e*S	Sn	16 40 27.6	+0.8
OUL				MSG		16 40 40.5	
	comp=Z,6.2nm,0.2s						
LOF	**Lofoten**	2.98	295	*e*	Sg	16 40 42.2	-0.1
LOF	**Lofoten**	2.98	295	*e*Sg	Sg	16 40 42.2	-0.1
ARCES	**ARCESS Array B**	3.06	33	Pn	Pn	16 39 52.9	-0.9
	comp=Z,0.5nm,0.3s,baz=209,slow=14,SNR=23						
ARCES				Sn	Sn	16 40 26.2	-5.5
	comp=Z,0.4nm,0.3s,baz=205,slow=17,SNR=3.2						
ARCES				Lg		16 40 32.8	
	comp=Z,1.3nm,0.3s,baz=214,slow=26,SNR=8.1						
STOK	**Stokkvaagen**	3.16	261	*e*SG	Sg	16 40 48.3	-0.1
STOK				AML	AML	16 40 56.2	
	comp=Z,8.2nm,0.3s						
MSF	**Maaselka**	3.51	105	*e*P	Pn	16 40 00.6	+0.5
MSF				*e*S	Sn	16 40 43.4	+0.5
MSF				MSG		16 40 59.1	
	comp=Z,3.6nm,0.2s						
KEV	**Kevo**	3.57	37	*e*P	Pn	16 40 00.3	-0.7
KEV				MSG		16 41 10.6	
	comp=Z,3.0nm,0.2s						
KJN	**Kajaani**	4.14	133	*e*P	Pn	16 40 10.2	+1.2
KJN				*e*S	Sn	16 40 58.1	-0.8
NSS	**Namsos**	4.41	239	*e*SG	Sg	16 41 26.1	-4.0
FINES	**FINESS Array B**	6.08	155	Pn	Pn	16 40 36.7	+0.2
	comp=Z,0.0nm,0.3s,baz=352,slow=13,SNR=7.6						
FINES				Sn	Sn	16 41 45.8	-1.9
	comp=Z,0.3nm,0.3s,baz=350,slow=22,SNR=6.9						
FINES				Lg		16 42 16.6	
	comp=Z,0.2nm,0.3s,baz=335,slow=23,SNR=3.2						
NOA	**NORSAR Array B**	7.33	219	Pn	Pn	16 40 54.6	+0.5
	comp=Z,0.1nm,0.3s,baz=17,slow=11,SNR=2.4						
NOA				Sn	Sn	16 42 17.4	-1.7
	comp=Z,0.1nm,0.3s,baz=275,slow=12,SNR=2.3						
HFS	**Hagfors**	7.61	208	Pn	Pn	16 40 57.6	-0.5
	comp=Z,0.0nm,0.3s,baz=18,slow=14,SNR=4.5						

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*LDG **21** 16:39:06.6±0.2, 42.33N×2.16E, h4^{km}, Md2.3/1, Ml2.1/6, Error ellipse: s-maj=4.3km s-min=2.2km az=157.0*

*MDD **21** 16:39:06.8±0.4, 42.35N×2.14E, h4^{km}±5^{km}, mbLg1.5/4, Error ellipse: s-maj=3.6km s-min=2.4km az=152.0, PRXIMO AftershockPLICA*

ISC 21 16:39:05.3±0.6**, 42.41N**±0.03×**2.12E**±0.04**, h9^{km}**±4^{km}**, n15, σ1^{s}16**/29**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VALF	**Valcebollere**	0.08	267	P	Pg	16 39 08.7	+1.2
VALF				S	Sg	16 39 10.3	+1.4
CARF	**Carcanieres**	0.31	358	P	Pg	16 39 13.7	+2.1
CARF				S	Sg	16 39 19.2	+3.3
FILF	**Fillols**	0.36	64	P	Pg	16 39 12.1	-0.5
FILF				S	Sg	16 39 16.2	-1.3
EJON	**La Jonquera**	0.57	85	Pg	Pg	16 39 17.5	+0.8
	0.7nm,0.1s,SNR=7.9						
EJON				Lg		16 39 24.7	
	0.6nm,0.1s,SNR=7.9						
EMIR	**Miracle**	0.66	222	Pg	Pg	16 39 18.1	-0.5
	0.9nm,0.1s,SNR=7.9						
EMIR				Lg		16 39 26.8	
	SNR=7.9						
MTLF	**Montolieu**	0.94	4	*e*Pg	Pg	16 39 24.7	+0.7
MTLF				*e*Pn	Pn	16 39 26.1	+1.6
MTLF				*e*Sg	Sg	16 39 38.4	+1.8
	3.8nm,0.2s						
EPOB	**Poblet**	1.31	217	Pg	Pg	16 39 30.0	-1.4
	1.8nm,0.1s,SNR=7.9						
EPOB				Lg		16 39 46.9	
	1.7nm,0.1s,SNR=7.9						
EGRA	**Graus**	1.36	262	Pg	Pg	16 39 33.0	+0.6
	0.6nm,0.2s,SNR=7.9						
EGRA				Lg		16 39 51.7	
	SNR=7.9						
EPF	**Esparros**	1.46	296	*e*Pn	Pn	16 39 32.8	+0.9
EPF				*e*Pg	Pg	16 39 34.9	+0.6
ETSF	**Etsaut**	2.04	285	*e*Sg	Sg	16 40 12.5	-0.7
	1.5nm,0.2s						
LASF	**Ste Croix**	2.10	37	*e*Pn	Pn	16 39 40.8	-0.3
LASF				*e*Pg	Pg	16 39 46.2	-0.9
LASF				*e*Sg	Sg	16 40 14.9	-0.2
	0.8nm,0.2s						
CAF	**Calviac**	2.52	359	*e*Pn	Pn	16 39 47.2	+0.1
CAF				*e*Pg	Pg	16 39 54.5	-1.1
CAF				*e*Sn	Sn	16 40 18.5	+0.2
CAF				*e*Sg	Sg	16 40 28.2	-1.0
	2.3nm,0.3s						
SJPF	**Ste Jean**	2.56	287	*e*Sg	Sg	16 40 28.7	-2.0
	1.1nm,0.3s						
LFF	**La Frestale**	2.72	339	*e*Pn	Pn	16 39 51.1	+1.1
LFF				*e*Pg	Pg	16 39 58.3	-1.4
LFF				*e*Sg	Sg	16 40 34.2	-1.8
	3.3nm,0.3s						
RJF	**Les Rejaudoux**	2.93	352	*e*Pn	Pn	16 39 53.3	+0.3
RJF				*e*Pg	Pg	16 40 02.3	-1.5

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*LDG **21** 16:42:12.9±0.1, 42.32N×2.14E, h4^{km}, Md2.6/2, Ml2.5/14, Error ellipse: s-maj=2.1km s-min=1.4km az=166.0*

*STR **21** 16:42:12.2±0.4, 42.32N×2.14E, h5^{km}±1^{km}, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*NEIC **21** 16:42:12.9, 42.32N×2.14E, h4^{km}, ML2.7(STR), ML2.5(LDG), MN1.9(MDD), After LDG.*

*MDD **21** 16:42:13.1±0.2, 42.34N×2.16E, h2^{km}±3^{km}, mbLg1.9/15, Error ellipse: s-maj=2.0km s-min=1.7km az=3.0, AftershockPLICA PRXIMO*

ISC 21 16:42:11.5±0.4**, 42.41N**±0.02×**2.18E**±0.02**, h9^{km}**±2^{km}**, n41, σ1^{s}38**/77**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VALF	**Valcebollere**	0.12	266	Pg	Pg	16 42 15.1	+0.7
VALF				Sg	Sg	16 42 16.8	+0.5
VALF	**Valcebollere**	0.12	266	P	Pg	16 42 15.2	+0.8
VALF				S	Sg	16 42 16.9	+0.5
CBRU	**Bruguera**	0.12	179	Pg	Pg	16 42 14.0	-0.5
CBRU				Lg		16 42 15.2	
	167nm,0.1s						
CLLI	**Llivia**	0.17	295	Pg	Pg	16 42 16.5	+1.3
CLLI				Lg		16 42 19.1	
	145nm,0.1s						
CARF	**Carcanieres**	0.31	350	P	Pg	16 42 20.2	+2.3
CARF				S	Sg	16 42 25.4	+3.2
FILF	**Fillols**	0.32	62	Pg	Pg	16 42 18.4	+0.3
FILF				Sg	Sg	16 42 22.4	-0.1
FILF	**Fillols**	0.32	62	P	Pg	16 42 18.5	+0.4
FILF				S	Sg	16 42 22.5	0.0
SJAF	**Saint Jean de**	0.53	82	Pg	Pg	16 42 23.2	+1.1
SJAF				Sg	Sg	16 42 30.8	+1.5
SJAF	**Saint Jean de**	0.53	82	P	Pg	16 42 23.2	+1.1
SJAF				S	Sg	16 42 30.8	+1.5
EJON	**La Jonquera**	0.53	86	Pg	Pg	16 42 23.3	+1.2
	SNR=10						
EJON				Lg		16 42 30.6	
	2.3nm,0.2s,SNR=7.9						
LRDF	**Laroque-de-Fa**	0.59	27	Pg	Pg	16 42 25.2	+1.8
LRDF				Sg	Sg	16 42 35.5	+4.1
LRDF	**Laroque-de-Fa**	0.59	27	P	Pg	16 42 25.4	+2.0
LRDF				S	Sg	16 42 35.6	+4.3
CORG	**Organya**	0.66	255	Pg	Pg	16 42 24.7	-0.1
EMIR	**Miracle**	0.69	225	Pg	Pg	16 42 24.4	-1.0
	8.0nm,0.3s,SNR=8.8						
EMIR				Lg		16 42 33.9	
	22nm,0.1s,SNR=7.9						
SALF	**Salau**	0.81	296	Pg	Pg	16 42 28.1	+0.4
SALF				Sg	Sg	16 42 39.3	+0.7
SALF	**Salau**	0.81	296	P	Pb	16 42 28.2	+0.9
SALF				S	Sb	16 42 38.6	+0.6
MTLF	**Montolieu**	0.93	2	*e*Pg	Pg	16 42 31.4	+1.2
MTLF				*e*Pn	Pn	16 42 32.4	+1.9
MTLF				*e*Sg	Sg	16 42 45.4	+2.8
	17nm,0.3s						
MTLF	**Montolieu**	0.93	2	Pg	Pg	16 42 31.4	+1.2
MTLF				Lg		16 42 45.4	
	8.4nm,0.3s						
MELF	**Melles**	1.14	294	Pg	Pg	16 42 34.7	+0.3
MELF	**Melles**	1.14	294	P	Pb	16 42 34.7	+1.8
MELF				S	Sb	16 42 49.7	+2.0
EPOB	**Poblet**	1.34	218	Pn	Pn	16 42 36.3	0.0
	5.4nm,0.3s,SNR=43						
EPOB				Lg		16 42 52.9	
	11nm,0.2s,SNR=7.9						
EGRA	**Graus**	1.40	262	Pn	Pn	16 42 38.8	+1.6
	SNR=7.9						
EGRA				Lg		16 42 56.9	
	3.2nm,0.1s,SNR=7.9						
RESF	**Ens**	1.41	287	S	Sb	16 43 01.6	+6.0
EPF	**Esparros**	1.49	295	*e*Pn	Pn	16 42 39.6	+1.1
EPF				*e*Pg	Pg	16 42 41.5	+0.2
EPF				*e*Sg	Sg	16 43 00.9	-0.2
	5.1nm,0.2s						
VIEF	**Viey**	1.66	287	S	Sn	16 43 07.2	+4.8
LASF	**Ste Croix**	2.07	36	*e*Pn	Pn	16 42 48.0	+1.2
LASF				*e*Pg	Pg	16 42 52.6	-0.2
LASF				*e*Sg	Sg	16 43 21.2	+0.8
	2.0nm,0.2s						
ETSF	**Etsaut**	2.08	285	*e*Pn	Pn	16 42 45.5	-1.4
ETSF				*e*Pg	Pg	16 42 51.7	-1.3
ETSF				*e*Sg	Sg	16 43 19.0	-1.7
	6.9nm,0.3s						
ESAC	**San Caprasio**	2.09	252	Pn	Pn	16 42 47.6	+0.5
	SNR=7.9						
ESAC				Pg	Pg	16 42 50.9	-2.3
	SNR=7.9						
ESAC				Lg		16 43 19.9	
	10nm,0.1s,SNR=7.9						
CAF	**Calviac**	2.52	358	*e*Pn	Pn	16 42 54.0	+0.8
CAF				*e*Pg	Pg	16 43 01.2	-0.6
CAF				*e*Sn	Sn	16 43 24.9	+0.6
CAF				*e*Sg	Sg	16 43 34.3	-1.0
	4.7nm,0.2s						
SJPF	**Ste Jean**	2.60	287	*e*Pg	Pg	16 43 01.0	-2.5
SJPF				*e*Sg	Sg	16 43 35.2	-3.0

	2.9nm,0.3s						
LFF	**La Frestale**	**2.73**	**338**	*e*Pn	**Pn**	**16 42 57.4**	**+1.1**
LFF				*e*Pg	**Pg**	**16 43 05.2**	**-0.9**
LFF				*e*Sg	**Sg**	**16 43 40.9**	**-1.7**
	16nm,0.4s						
RJF	**Les Rejaudoux**	**2.93**	**351**	*e*Pn	**Pn**	**16 42 59.7**	**+0.5**
RJF				*e*Pg	**Pg**	**16 43 09.3**	**-0.8**
RJF				*e*Sg	**Sg**	**16 43 46.8**	**-2.4**
	4.1nm,0.2s						
SMRF	**Simiane la Rot**	**2.94**	**57**	*e*Pn	**Pn**	**16 43 00.2**	**+1.0**
VIVF	**Saint-Julien-l**	**3.04**	**36**	*e*Pn	**Pn**	**16 43 00.4**	**-0.3**
VIVF				*e*Pg	**Pg**	**16 43 10.5**	**-1.8**
VIVF				*e*Sg	**Sg**	**16 43 50.7**	**-2.1**
LMR	**La Mourre**	**3.32**	**72**	*e*Pg	**Pg**	**16 43 15.3**	**-2.4**
LMR				*e*Sn	**Sn**	**16 43 42.5**	**-2.0**
	2.5nm,0.3s						
FRF	**La Foret Royal**	**3.48**	**69**	*e*Pn	**Pn**	**16 43 07.8**	**+0.9**
FRF				*e*Sn	**Sn**	**16 43 47.5**	**-1.1**
	0.9nm,0.2s						
ETOR	**Torete**	**3.55**	**245**	Pn	**Pn**	**16 43 08.5**	**+0.6**
	SNR=7.9						
ETOR				Sn	**Sn**	**16 43 48.3**	**-2.1**
	SNR=7.9						
ETOR				Lg		16 44 04.9	
	SNR=7.9						
TCF	**Toulx Ste Croi**	**3.88**	**0**	*e*Pg	**Pg**	**16 43 26.5**	**-2.4**
TCF				*e*Sg	**Sg**	**16 44 18.3**	**-2.3**
	1.4nm,0.2s						
SBF	**Sospel**	**4.11**	**68**	*e*Pn	**Pn**	**16 43 15.8**	**-0.1**
SBF				*e*Sn	**Sn**	**16 44 02.0**	**-2.7**
	1.0nm,0.2s						
BGF	**Bois d'Agland**	**4.17**	**6**	*e*Pg	**Pg**	**16 43 31.7**	**-3.1**
PGF	**Pioggiola**	**5.05**	**86**	*e*Sn	**Sn**	**16 44 22.0**	**-6.3**
	0.7nm,0.2s						

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*MDD **21** 16:50:48.5±0.3, 42.32N×2.16E, h3^{km}±3^{km}, mbLg1.9/16, Error ellipse: s-maj=2.3km s-min=2.2km az=154.0, AftershockPLICA PRXIMO*

*LDG **21** 16:50:49.0±0.2, 42.34N×2.14E, h4^{km}, Md2.4/2, Ml2.5/10, Error ellipse: s-maj=3.8km s-min=1.8km az=159.0*

*STR **21** 16:50:49.0±0.7, 42.35N×2.12E, h2^{km}±1^{km}, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*NEIC **21** 16:50:49.0, 42.34N×2.14E, h4^{km}, ML2.5(LDG), ML2.5(STR), MN1.7(MDD), After LDG.*

ISC 21 16:50:47.4±0.5**, 42.39N**±0.03×**2.16E**±0.03**, h9**^{km}±3^{km}**, n31,** σ**1^{s}34**/52**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VALF	**Valcebollere**	**0.10**	**277**	Pg	**Pg**	**16 50 50.7**	**+0.7**
VALF				Sg	**Sg**	**16 50 52.5**	**+0.8**
VALF	**Valcebollere**	**0.10**	**277**	P	**Pg**	**16 50 50.8**	**+0.9**
VALF				S	**Sg**	**16 50 52.6**	**+0.9**
CBRU	**Bruguera**	**0.11**	**170**	Pg	**Pg**	**16 50 49.3**	**-0.7**
CBRU				Lg		16 50 50.4	
	251nm,0.1s						
CLLI	**Llivia**	**0.16**	**304**	Pg	**Pg**	**16 50 52.2**	**+1.3**
CLLI				Lg		16 50 55.2	
	36nm,0.0s						
CARF	**Carcanieres**	**0.33**	**354**	P	**Pg**	**16 50 56.0**	**+1.9**
CARF				S	**Sg**	**16 51 01.2**	**+2.7**
FILF	**Fillols**	**0.34**	**60**	P	**Pg**	**16 50 54.1**	**-0.3**
FILF				S	**Sg**	**16 50 58.4**	**-0.8**
EJON	**La Jonquera**	**0.55**	**84**	Pg	**Pg**	**16 50 57.6**	**-0.8**
	10nm,1.1s,SNR=7.6						
EJON				Lg		16 51 06.3	
	6.3nm,0.2s,SNR=7.9						
LRDF	**Laroque-de-Fa**	**0.62**	**27**	Pg	**Pg**	**16 51 01.4**	**+1.6**
LRDF				Sg	**Sg**	**16 51 10.6**	**+2.5**
LRDF	**Laroque-de-Fa**	**0.62**	**27**	P	**Pg**	**16 51 01.3**	**+1.5**
LRDF				S	**Sg**	**16 51 10.7**	**+2.7**
EMIR	**Miracle**	**0.67**	**225**	Pg	**Pg**	**16 50 59.9**	**-0.9**
	6.5nm,0.2s,SNR=7.9						
EMIR				Lg		16 51 09.1	
	17nm,0.2s,SNR=7.9						
EMIR	**Miracle**	**0.67**	**225**	Pg	**Pg**	**16 50 59.9**	**-0.9**
EMIR				Lg		16 51 09.2	
SALF	**Salau**	**0.80**	**298**	Pg	**Pg**	**16 51 04.6**	**+1.1**
SALF	**Salau**	**0.80**	**298**	S	**Sb**	**16 51 15.0**	**+1.2**
MTLF	**Montolieu**	**0.95**	**3**	*e*Pg	**Pg**	**16 51 07.0**	**+0.6**
MTLF				*e*Pn	**Pn**	**16 51 08.3**	**+1.5**
MTLF				*e*Sg	**Sg**	**16 51 21.3**	**+2.1**
	11nm,0.2s						
MELF	**Melles**	**1.14**	**296**	S	**Sb**	**16 51 25.7**	**+2.2**
EPOB	**Poblet**	**1.31**	**218**	Pn	**Pn**	**16 51 11.9**	**0.0**
	2.4nm,0.2s,SNR=18						
EPOB				Lg		16 51 28.4	
	5.0nm,0.1s,SNR=7.9						
EGRA	**Graus**	**1.38**	**263**	Pn	**Pn**	**16 51 13.3**	**+0.5**
	SNR=7.9						
EGRA				Lg		16 51 33.4	
	SNR=7.9						
RESF	**Ens**	**1.41**	**288**	S	**Sb**	**16 51 37.2**	**+6.0**
EPF	**Esparros**	**1.48**	**296**	*e*Pn	**Pn**	**16 51 15.4**	**+1.0**
EPF				*e*Pg	**Pg**	**16 51 17.3**	**+0.3**
EPF				*e*Sg	**Sg**	**16 51 36.6**	**-0.2**
	9.6nm,0.2s						
VIEF	**Viey**	**1.65**	**288**	S	**Sn**	**16 51 43.5**	**+5.3**
EBR	**Ebro Roquetas**	**2.00**	**219**	*e*S*	**Sb**	**16 51 51.5**	**+2.9**
ESAC	**San Caprasio**	**2.06**	**252**	Pn	**Pn**	**16 51 20.8**	**-1.9**
	SNR=7.9						
ESAC				Sn	**Sn**	**16 51 48.2**	**-0.6**
	SNR=7.9						
ESAC				Lg		16 51 53.8	
	13nm,0.2s,SNR=7.9						
ETSF	**Etsaut**	**2.07**	**285**	*e*Pg	**Pg**	**16 51 27.1**	**-1.5**
ETSF				*e*Sn	**Sn**	**16 51 47.6**	**-1.2**
ETSF				*e*Sg	**Sg**	**16 51 54.7**	**-1.5**
	9.1nm,0.3s						
LASF	**Ste Croix**	**2.10**	**36**	*e*Pg	**Pg**	**16 51 28.3**	**-0.9**
LASF				*e*Sg	**Sg**	**16 51 57.7**	**+0.6**
	3.5nm,0.3s						
CAF	**Calviac**	**2.54**	**359**	*e*Pn	**Pn**	**16 51 29.7**	**+0.3**
CAF				*e*Pg	**Pg**	**16 51 36.9**	**-1.1**
CAF				*e*Sn	**Sn**	**16 52 00.7**	**-0.1**
CAF				*e*Sg	**Sg**	**16 52 09.6**	**-2.2**
	5.9nm,0.3s						
SJPF	**Ste Jean**	**2.59**	**287**	*e*Sg	**Sg**	**16 52 11.0**	**-2.7**
	4.1nm,0.4s						
LFF	**La Frestale**	**2.75**	**339**	*e*Pn	**Pn**	**16 51 33.4**	**+0.9**
LFF				*e*Pg	**Pg**	**16 51 40.8**	**-1.4**
LFF				*e*Sg	**Sg**	**16 52 16.9**	**-2.0**
	8.3nm,0.3s						
RJF	**Les Rejaudoux**	**2.95**	**351**	*e*Pn	**Pn**	**16 51 35.5**	**+0.2**
RJF				*e*Sn	**Sn**	**16 52 10.1**	**-1.2**
RJF				*e*Sg	**Sg**	**16 52 23.2**	**-2.4**
	2.2nm,0.3s						
VIVF	**Saint-Julien-l**	**3.07**	**36**	*e*Sg	**Sg**	**16 52 27.7**	**-1.9**
	2.2nm,0.3s						
ORIF	**Oris-en-Rattie**	**3.70**	**46**	*e*Pn	**Pn**	**16 51 46.2**	**+0.2**
BGF	**Bois d'Agland**	**4.20**	**7**	*e*Sg	**Sg**	**16 53 02.1**	**-5.0**
	9.0nm,0.4s						

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*ATH **21** 16:56:06.5, 36.97N×28.07E, h64^{km}±10^{km}*

*ISK **21** 16:56:08.1, 37.00N×27.90E, h5^{km}, MD3.1*

ISC 21 16:56:08.0±0.5**, 36.92N**±0.03×**27.82E**±0.04**, h5**^{km}**, n15,** σ**0^{s}97**/23**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.34**	**296**	*e*P	**Pg**	**16 56 14.3**	**-0.5**
BDRM				*i* S	**Sg**	**16 56 19.8**	**+0.4**
MLSB	**Milas**	**0.38**	**354**	*e*PG	**Pg**	**16 56 15.1**	**-0.6**
MLSB				*e*SG	**Sg**	**16 56 20.7**	**-0.1**
YER	**Yerkesik**	**0.43**	**59**	*i* PG	**Pg**	**16 56 15.7**	**-0.9**
DALT	**Dalyan (Mudla)**	**0.67**	**102**	*e*PG	**Pg**	**16 56 21.4**	**0.0**
ARG	**Arkhangelos**	**0.74**	**161**	*e*P	**Pg**	**16 56 21.7**	**-1.1**
ARG				*e*S	**Sg**	**16 56 34.4**	**+1.7**
AYDN	**Tasoluk**	**0.74**	**3**	*e*P	**Pg**	**16 56 21.6**	**-1.4**
AYDN				*i* S	**Sg**	**16 56 32.1**	**-0.8**
SMG	**Samos**	**1.12**	**315**	*e*P	**Pb**	**16 56 28.8**	**-0.7**
SMG				*e*S	**Sb**	**16 56 44.7**	**+0.6**
DNZL	**Cakiroluk**	**1.24**	**51**	*e*P	**Pb**	**16 56 31.4**	**-0.2**
DNZL				*i* S	**Sb**	**16 56 48.9**	**+1.1**
DENT	**Denizli**	**1.28**	**49**	*e*PN	**Pn**	**16 56 32.2**	**-0.3**
KARP	**Karpathos**	**1.47**	**202**	*e*P	**Pn**	**16 56 34.1**	**-1.2**
KARP				*e*S	**Sb**	**16 56 53.4**	**-0.9**
IZM	**Izmir**	**1.54**	**343**	*e*PN	**Pn**	**16 56 37.2**	**+0.8**
KDAG	**Bornova**	**1.55**	**344**	*e*P	**Pn**	**16 56 36.5**	**+0.1**
KDAG				*i* S	**Sb**	**16 57 00.3**	**+3.6**
ELL	**Elmali**	**1.68**	**95**	*e*PN	**Pn**	**16 56 39.1**	**+0.8**
APE	**Apeiranthos**	**1.84**	**275**	*e*PN	**Pn**	**16 56 42.8**	**+2.2**
AKS	**Akhisar**	**1.96**	**360**	*e*PN	**Pn**	**16 56 43.5**	**+1.2**

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*NIED **21** 17:19:00, 29.70N×129.60E, h56^{km}, Mw4.0 Best double couple: M$_0$1.27×10^{15} NP1:ϕ_s47°, δ81°, λ109°. NP2:ϕ_s162°, δ21°, λ27°.*

*IDC **21** 17:19:10.5±1.7, 29.56N×129.17E, h156^{km}±20^{km}, mb2.9/3, mb1 3.2/5, mb1mx3.1/21, Error ellipse: s-maj=27.1km s-min=19.7km az=96.0*

*JMA **21** 17:19:10.6±0.2, 29.66N×129.63E, h148^{km}±2^{km}, M3.5*

ISC 21 17:19:08.6±0.5**, 29.65N**±0.05×**129.5E**±0.1**, h154**^{km}±7^{km}**, n21,** σ**1^{s}09**/30**, mb3.2**/3**, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.40**	**61**	P	**P**	**17 19 31.0**	**+0.5**
JNN				S	**S**	**17 19 46.4**	**-0.9**
JKC	**Kuchinoerabu**	**1.03**	**38**	P	**P**	**17 19 34.8**	**+0.6**
JAM	**Amami Oshima**	**1.24**	**174**	P	**P**	**17 19 37.0**	**+0.8**
JAM				S	**S**	**17 19 56.5**	**-0.9**
JZK	**Kikaishima**	**1.40**	**161**	P	**P**	**17 19 39.6**	**+1.8**
JZK				S	**S**	**17 20 02.0**	**+1.7**
JTN	**Tanegashima 3**	**1.65**	**52**	P	**P**	**17 19 40.3**	**-0.1**
JTN				S	**S**	**17 20 03.3**	**-1.7**
JTK	**Tokunoshima**	**1.91**	**194**	P	**P**	**17 19 44.3**	**+1.1**
JTK				S	**S**	**17 20 09.7**	**-0.3**
JTSR	**Tashiro 2**	**1.97**	**39**	P	**P**	**17 19 44.1**	**+0.2**
JTSR				S	**S**	**17 20 09.3**	**-1.9**
JSJ	**Shimokoshiki**	**2.04**	**6**	P	**P**	**17 19 45.9**	**+1.2**
JSU	**Suzuyama**	**2.04**	**24**	P	**P**	**17 19 45.8**	**+1.0**
JNAR	**Kushima--Naru**	**2.44**	**39**	P	**P**	**17 19 50.5**	**+0.8**
JNAR				S	**S**	**17 20 19.4**	**-1.8**
JTZ	**Takazaki**	**2.65**	**31**	P	**P**	**17 19 53.2**	**+0.9**
JTZ				S	**S**	**17 20 24.9**	**-0.9**
JZO	**Okuchi**	**2.67**	**21**	P	**P**	**17 19 54.0**	**+1.4**
JIH	**Iheya**	**2.92**	**207**	P	**P**	**17 19 55.9**	**+0.1**
JOW	**Kunigami**	**3.00**	**201**	P	**P**	**17 19 56.5**	**-0.2**
	4.2nm,0.3s,baz=84,slow=18,SNR=32						
JOW				S	**S**	**17 20 31.5**	**-2.1**
	23nm,0.3s,baz=110,slow=30,SNR=18						
JIU2	**Izumi 2**	**3.11**	**21**	P	**P**	**17 19 59.9**	**+1.6**
JAGN	**Aguni-jima**	**3.62**	**213**	P	**P**	**17 20 04.4**	**-0.5**
JKE	**Kume jima 2**	**4.07**	**216**	P	**P**	**17 20 10.0**	**-0.7**
JHJ	**Hachijo jima 2**	**9.47**	**66**	P	**P**	**17 21 27.4**	**+5.1**
	13nm,0.3s,baz=64,slow=23,SNR=9.5						
SONM	**Songino Array**	**25.41**	**322**	P	**P**	**17 24 22.0**	**-1.2**
	0.4nm,0.4s,mb3.3,baz=141,slow=10,SNR=6.6						
MKAR	**Makanchi Array**	**40.17**	**309**	P	**P**	**17 26 30.7**	**-0.3**
	0.4nm,0.7s,mb3.1,baz=97,slow=9.9,SNR=4.1						
WRA	**Warramunga Arr**	**49.52**	**174**	P	**P**	**17 27 44.9**	**-0.7**
	0.3nm,0.6s,mb3.1,baz=356,slow=8.2,SNR=5.7						

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*LDG **21** 17:35:01.7±0.6, 42.88N×1.47W, h2^{km}, Md2.1/2, Ml2.4/1, Error ellipse: s-maj=10.0km s-min=6.5km az=55.0*

*STR **21** 17:35:01.5±0.2, 42.85N×1.46W, h2^{km}±1^{km}, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*MDD **21** 17:35:01.8±0.6, 42.84N×1.42W, h2^{km}±11^{km}, mbLg1.6/5, Error ellipse: s-maj=4.5km s-min=3.3km az=57.0, PRXIMO AftershockPLICA*

ISC 21 17:34:59.7±0.9**, 42.79N**±0.04×**1.45W**±0.06**, h9**^{km}±7^{km}**, n14,** σ**0^{s}62**/25**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	**0.36**	**28**	*e*Pg	**Pg**	**17 35 07.6**	**+0.5**
SJPF				*e*Sg	**Sg**	**17 35 10.6**	**-1.5**
	48nm,0.3s						
LARF	**Larrau**	**0.42**	**54**	Pg	**Pg**	**17 35 09.1**	**+0.8**
LARF				Sg	**Sg**	**17 35 14.4**	**+0.4**
LARF	**Larrau**	**0.42**	**54**	P	**Pg**	**17 35 08.9**	**+0.6**
LARF				S	**Sg**	**17 35 14.6**	**+0.6**
EALK	**Alkurruntz**	**0.43**	**355**	Pg	**Pg**	**17 35 09.0**	**+0.5**
	0.1nm,0.2s,SNR=7.9						
EALK				Lg		17 35 14.8	
	17nm,0.2s,SNR=7.9						
OSSF	**Osses**	**0.49**	**17**	Pg	**Pg**	**17 35 09.6**	**+0.1**
OSSF				Sg	**Sg**	**17 35 15.6**	**-0.5**
OSSF	**Osses**	**0.49**	**17**	P	**Pg**	**17 35 09.8**	**+0.2**
OSSF				S	**Sg**	**17 35 15.4**	**-0.7**
ORDF	**Ordiarp**	**0.57**	**42**	Pg	**Pg**	**17 35 11.5**	**+0.3**
ORDF				Sg	**Sg**	**17 35 18.8**	**0.0**
ORDF	**Ordiarp**	**0.57**	**42**	P	**Pg**	**17 35 11.6**	**+0.4**
ORDF				S	**Sg**	**17 35 18.3**	**-0.5**
ATE	**Arette**	**0.63**	**62**	P	**Pb**	**17 35 12.7**	**+0.3**
ATE				S	**Sg**	**17 35 20.8**	**+0.1**
ETSF	**Etsaut**	**0.67**	**80**	*e*Pg	**Pg**	**17 35 13.1**	**0.0**
ETSF				*e*Sg	**Sg**	**17 35 22.0**	**-0.1**
	6.7nm,0.2s						
ESAC	**San Caprasio**	**1.29**	**145**	Pg	**Pg**	**17 35 24.8**	**-0.8**
	SNR=7.9						
ESAC				Lg		17 35 45.1	
	33nm,0.4s,SNR=7.9						
EPF	**Esparros**	**1.34**	**79**	*e*Pn	**Pn**	**17 35 25.2**	**+0.5**
EPF				*e*Pg	**Pg**	**17 35 27.7**	**+1.2**
EPF				*e*Sg	**Sg**	**17 35 44.2**	**-0.2**
	6.4nm,0.2s						
ETOR	**Torete**	**2.02**	**193**	Pg	**Pg**	**17 35 39.4**	**-0.6**
	SNR=7.9						
ETOR				Lg		17 36 04.2	
	SNR=7.9						
MTLF	**Montolieu**	**2.75**	**77**	*e*Sn	**Sn**	**17 36 17.8**	**-0.7**

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*BJI **21** 17:43:43.6, 27.12S×176.34W, h51^{km}, mB5.0, mb5.0, Ms5.1, Msz4.8*

*SYO **21** 17:43:43.2, 26.74S×176.18W, h37^{km}, MB5.1*

*NEIC **21** 17:43:44.9±2.4, 26.79S×176.13W, h49^{km}±21^{km}, mb5.1/14, Error ellipse: s-maj=15.4km s-min=14.0km az=155.0*

*IDC **21** 17:43:46.1±7.6, 26.56S×176.32W, h49^{km}±68^{km}, mb4.2/11, mb1 4.4/14, mb1mx4.4/16, ML4.4/3, MS4.4/7, Ms1 4.4/7, ms1mx4.1/23, Error ellipse: s-maj=30.6km s-min=24.6km az=170.0*

ISC 21 17:43:42.7±2.3**, 26.80S**±0.09×**176.15W**±0.10**, h39**^{km}±20^{km}**, h43**^{km}±2.4^{km}**:pP-P, n90,** σ**1^{s}26**/56**, mb4.8**/25**, MS4.5**/9**, 12C-4D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.90**	**212**	*e*Pn	**P**	**17 44 27.3**	**-0.3**
URZ	**Urewera**	**12.76**	**205**	P	**P**	**17 46 39.5**	**-4.8**
	0.7nm,0.3s,baz=352,slow=12,SNR=4.0						
URZ				S	**S**	**17 48 56.0**	**-10**
	1.7nm,0.3s,baz=284,slow=22,SNR=8.3						
RAR	**Rarotonga**	**15.96**	**73**	P	**P**	**17 47 15.4**	**-11**
	3.4nm,0.3s,baz=255,slow=8.6,SNR=10.0						
RAR				LR	LR	17 52 23.5	
	comp=Z,1µm,19.6s,baz=263,slow=32						
RAR	**Rarotonga**	**15.96**	**73**	*e*P	**P**	**17 47 14.5**	**-12**
DZM	**Mont Dzumac**	**16.53**	**283**	*e*P	**P**	**17 47 35.9**	**+2.6**
DZM	**Mont Dzumac**	**16.53**	**283**	*e*P	**P**	**17 47 35.9**	**+2.6**
RPZ	**Rata Peaks**	**19.81**	**208**	P	**P**	**17 48 13.2**	**+0.5**
	1.0nm,0.3s,baz=43,slow=20,SNR=3.7						
PPT	**Papeete**	**26.22**	**75**	*e*L		17 54 04.0	
PPT				*e*R		17 55 19.9	
	574nm,21.0s,baz=245						
CTA	**Charters Tower**	**35.04**	**273**	P	**P**	**17 50 34.6**	**+0.6**
	3.7nm,0.5s,mb4.6,baz=101,slow=11,SNR=10						
CTAO	**Charters Tower**	**35.04**	**273**	*e*P	**P**	**17 50 33.9**	**-0.1**
	15nm,0.8s,mb5.0						
STKA	**Stephens Creek**	**37.01**	**252**	P	**P**	**17 50 49.5**	**-1.1**
	0.6nm,0.5s,mb3.7,baz=85,slow=20,SNR=3.9						
STKA				LR	LR	18 05 13.4	
	comp=Z,1µm,19.0s,MS4.6,baz=278,slow=35						
STKA	**Stephens Creek**	**37.01**	**252**	*e*P	**P**	**17 50 48.0**	**-2.5**
WAU	**Wau**	**40.20**	**292**	P	**P**	**17 51 21.0**	**+3.7**
WRAB	**Tennant Creek**	**45.72**	**268**	*e*P	**P**	**17 52 00.2**	**-2.0**
	13nm,0.8s,mb4.9						
WRA	**Warramunga Arr**	**45.73**	**268**	P	**P**	**17 52 00.1**	**-2.2**
	8.6nm,0.7s,mb4.8,baz=105,slow=7.9,SNR=41						
WRA				LR	LR	18 11 32.1	
	comp=Z,283nm,18.4s,MS4.2,baz=130,slow=36						
SBA	**Scott Base**	**51.74**	**185**	*e*P	**P**	**17 52 46.8**	**-1.1**
	27nm,1.3s,mb5.0						
FITZ	**Fitzroy Crossi**	**54.10**	**266**	*e*P	**P**	**17 53 05.0**	**-1.3**
	4.5nm,0.9s,mb4.4						
FITZ	**Fitzroy Crossi**	**54.10**	**266**	P	**P**	**17 53 04.7**	**-1.6**
	7.7nm,1.0s,mb4.6,baz=158,slow=5.2,SNR=15						
FITZ				LR	LR	18 16 12.3	
	comp=Z,238nm,18.5s,MS4.3,baz=86,slow=36						
NWAO	**Narrogin (SRO)**	**57.25**	**247**	LR	LR	18 17 55.5	
	comp=Z,646nm,19.4s,MS4.7,baz=298,slow=36						
CASY	**Casey**	**59.07**	**207**	*e*P	**P**	**17 53 40.4**	**-0.7**
	28nm,0.7s,mb5.4						
QSPA	**South Pole Qui**	**63.30**	**180**	*e*P	**P**	**17 54 09.3**	**-0.2**
	16nm,1.1s,mb5.1						
JOW	**Kunigami**	**75.51**	**310**	P	**P**	**17 55 25.1**	**0.0**
	11nm,1.1s,mb4.7,baz=149,slow=13,SNR=5.4						
MAW	**Mawson**	**76.24**	**200**	P	**P**	**17 55 31.2**	**+2.7**
	3.7nm,0.7s,mb4.4,baz=133,slow=7.5,SNR=11						
ASAJ	**Asahikawa**	**80.04**	**331**	LR	LR	18 29 04.8	
	comp=Z,148nm,19.4s,MS4.3,baz=346,slow=34						
SYO	**Syowa Base**	**80.97**	**192**	⇓P	**P**	**17 55 50.3**	**-4.0**
SYO	**Syowa Base**	**80.97**	**192**	⇓PcP	PcP	17 55 55.9	-5.1
SYO	**Syowa Base**	**80.97**	**192**	⇓pP	pP	17 56 01.9	-4.2
SYO	**Syowa Base**	**80.97**	**192**	⇓sP	sP	17 56 12.5	+2.2
SNAA	**Sanae**	**81.69**	**178**	⇑*i*	**P**	**17 55 56.9**	**-1.1**
SNAA	**Sanae**	**81.69**	**178**	⇑*i*	**P**	**17 55 59.5**	**+1.5**
SNAA	**Sanae**	**81.69**	**178**	⇑*i*	**P**	**17 56 07.3**	**+9.3**
VNA3	**Neumayer Olymp**	**81.77**	**176**		**P**	**17 55 59.9**	**+1.5**
VNA3	**Neumayer Olymp**	**81.77**	**176**	⇑*i*	**P**	**17 56 03.6**	**+5.2**
VNA3	**Neumayer Olymp**	**81.77**	**176**	⇑*i*	pP	17 56 11.7	+1.5
VNA2	**Neumayer--Watz**	**82.23**	**176**	⇑*i*	**P**	**17 56 03.6**	**+2.8**
VNA2	**Neumayer--Watz**	**82.23**	**176**	⇑*i*	**P**	**17 56 06.6**	**+5.8**
VNA2	**Neumayer--Watz**	**82.23**	**176**	⇑*i*	pP	17 56 14.5	+1.9
YSS	**Yuzh-Sakhalins**	**82.25**	**333**	P	**P**	**17 56 00.1**	**-1.2**
	21nm,0.9s,mb5.1						
VNA1	**Neumayer--Stat**	**82.44**	**176**	⇑*i*	**P**	**17 56 04.1**	**+2.2**
VNA1	**Neumayer--Stat**	**82.44**	**176**	⇑*i*	pP	17 56 15.8	+2.1
MTUM	**Tungsten Hills**	**83.64**	**43**	P	**P**	**17 56 06.2**	**-2.4**
BEKR	**Beckwourth**	**84.24**	**40**	*e*P	**P**	**17 56 08.5**	**-3.1**
	2.9nm,0.6s,mb4.6						
NVAR	**Mina Array Bea**	**84.49**	**42**	P	**P**	**17 56 13.1**	**+0.2**
	1.3nm,0.8s,mb4.1,baz=209,slow=7.1,SNR=12						
HUMO	**Hull Mountain**	**84.67**	**36**	*e*P	**P**	**17 56 13.3**	**-0.4**
	24nm,1.5s,mb5.1						
TPH	**Tonopah**	**84.91**	**43**	*e*P	**P**	**17 56 15.6**	**+0.5**
	53nm,1.7s,mb5.4						
NJ2	**Nanjing**	**85.18**	**309**	*e*P	**P**	**17 56 17.3**	**+0.8**
MOD	**Modoc**	**85.63**	**38**	*e*P	**P**	**17 56 14.7**	**-3.8**
	6.8nm,0.8s,mb4.9						
MDJ	**Mudanjiang**	**86.62**	**325**	P	**P**	**17 56 23.3**	**+0.1**
MDJ				AP	pP	17 56 35.4	+0.3
MDJ				XP	sP	17 56 40.5	+1.3
MDJ				S	S	18 07 00.8	+5.2
MDJ				XS		18 07 19.5	
MDJ				SS	SS	18 12 42.3	+2.1
MDJ				AMB	AMB		
	comp=Z,89nm,4.7s						
MDJ				LR	LR		
	comp=N,127nm,21.5s,MS4.5						
MDJ				LR	LR		
	comp=E,134nm,18.6s,MS4.5						
MDJ				LR	LR		
	comp=Z,143nm,17.2s,MS4.4						
BMW	**Boistfort Moun**	**87.23**	**34**	*e*P	**P**	**17 56 27.6**	**+1.4**
WHN	**Wuhan**	**87.52**	**306**	P	**P**	**17 56 28.8**	**+0.8**
CN2	**Changchun**	**88.29**	**322**	*e*P	**P**	**17 56 31.5**	**+0.2**
CN2				*e*AP	pP	17 56 44.3	+1.0
CN2				*e*S	S	18 07 12.4	+1.0
CN2				AMB	AMB		
	comp=Z,10.0nm,1.4s,mb4.8						
CN2				AMB	AMB		
	comp=Z,100nm,5.0s						
CN2				LR	LR		
	comp=N,200nm,11.0s,MS4.8						
CN2				LR	LR		
	comp=E,100nm,11.0s,MS4.8						
CN2				LR	LR		
	comp=Z,200nm,11.0s,MS4.8						
TXAR	**Lajitas Array**	**89.06**	**56**	P	**P**	**17 56 36.9**	**+1.5**
	comp=Z,1.8nm,0.7s,mb4.5,baz=202,slow=4.9,SNR=9.0						
BBB	**Bella Bella**	**89.16**	**27**	LR	LR	18 26 24.1	
	comp=Z,71nm,20.2s,MS4.1,baz=345,slow=29						
LAZ	**Ladron**	**89.28**	**51**	P	**P**	**17 56 36.5**	**+0.2**
BNM	**Barren Site**	**89.50**	**51**	*e*P	**P**	**17 56 36.7**	**-0.7**
HLID	**Hailey**	**90.02**	**40**	P	**P**	**17 56 38.9**	**-0.7**
	comp=Z,14nm,1.6s,mb5.0						
DPW	**Davenport**	**90.70**	**35**	*e*P	**P**	**17 56 42.5**	**-0.1**
ENH	**Enshi**	**90.94**	**304**	*e*P	**P**	**17 56 45.1**	**+0.9**
	comp=Z,77nm,1.4s,mb5.8						
GYA	**Guiyang**	**91.20**	**299**	⇑*i*P	**P**	**17 56 46.8**	**+1.3**
GYA				AP	pP	17 57 01.3	+3.8
GYA				XP	sP	17 57 05.8	+4.4
GYA				PP	PP	18 00 27.8	+2.7
GYA				S	S	18 07 40.6	+2.3
GYA				PS		18 08 07.8	
GYA				AMB	AMB		
	comp=Z,10.0nm,1.6s,mb4.9						
GYA				LR	LR		
	comp=N,160nm,16.4s,MS4.8						
GYA				LR	LR		
	comp=E,210nm,17.0s,MS4.8						
GYA				LR	LR		
	comp=Z,280nm,16.8s,MS4.8						
PDAR	**Pinedale Array**	**92.40**	**43**	P	**P**	**17 56 51.0**	**+0.4**
	comp=Z,0.8nm,1.0s,mb4.0,baz=207,slow=3.3,SNR=3.9						
CHMT	**Chamberlain Mo**	**92.71**	**38**	*e*P	**P**	**17 56 51.3**	**-0.7**
KMI	**Kunming**	**93.67**	**296**	*e*P	**P**	**17 56 55.9**	**-0.9**
KMI				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb5.2						
KMI	**Kunming**	**93.67**	**296**	*e*P	**P**	**17 56 55.9**	**-0.9**
	comp=Z,8.0nm,0.9s,mb5.2						
KMI				sP	sP	17 57 05.8	-7.0
CMAR	**Chiang Mai Arr**	**93.77**	**289**	P	**P**	**17 56 59.0**	**+1.6**
	comp=Z,2.6nm,0.8s,mb4.7,baz=132,slow=3.4,SNR=13						
ILAR	**Eielson Array**	**94.07**	**12**	P	**P**	**17 56 57.2**	**-0.4**
	comp=Z,0.8nm,0.8s,mb4.2,baz=255,slow=4.3,SNR=4.4						
MKAR	**Makanchi Array**	**116.67**	**311**	PKP	PKPdf	18 02 22.6	-0.1
	comp=Z,1.4nm,0.8s,baz=72,slow=3.8,SNR=7.9						
BVAR	**Borovoye Array**	**124.91**	**317**	PKP	PKPdf	18 02 38.8	+0.3
	comp=Z,3.2nm,1.0s,baz=117,slow=3.3,SNR=8.5						
ZRNK	**Zerenda**	**125.75**	**317**	*e*PKPdf	PKPdf	18 02 40.1	0.0
FINES	**FINESS Array B**	**142.26**	**343**	PKP	PKPdf	18 03 13.6	+3.1
	comp=Z,1.8nm,0.7s,slow=3.8,SNR=6.1						
FINES	**FINESS Array B**	**142.26**	**343**	PKP	PKPdf	18 03 13.6	+3.1
NB2	**NORSAR Subarra**	**145.40**	**354**	PKP		18 03 16.2	
	comp=Z,34nm,1.4s,baz=12,slow=3.6						
NB2	**NORSAR Subarra**	**145.40**	**354**	⇑PKPab	PKPab	18 03 16.2	-1.9
NOA	**NORSAR Array B**	**145.40**	**354**	PKPbc	PKPbc	18 03 16.6	+0.1
	comp=Z,7.8nm,0.8s,baz=10,slow=2.4,SNR=17						
NAO01	**NORSAR Array S**	**145.63**	**354**	*e*PKPdf	PKPdf	18 03 15.0	-1.3
KBRS	**Khaybar**	**148.29**	**276**	P	PKPdf	18 03 22.8	+0.9
MALT	**Malatya**	**148.84**	**300**	*e*PKPbc	PKPdf	18 03 25.4	+3.0
YNBS	**Yanbu' al Bahr**	**149.15**	**273**	P	PKPdf	18 03 28.3	+5.0
AKASG	**Malin Array Be**	**149.28**	**328**	PKPbc	PKPdf	18 03 27.2	+4.6
	comp=Z,2.6nm,0.7s,baz=33,slow=2.7,SNR=16						
ASF	**Jabal al Asfar**	**150.81**	**289**	PKPbc	PKPdf	18 03 31.2	+5.6
	comp=Z,1.1nm,0.3s,baz=115,slow=0.7,SNR=6.1						
ASF				PKPab	PKPab	18 03 40.4	-0.3
	comp=Z,6.3nm,0.9s,baz=246,slow=0.8,SNR=11						
TBKS	**Tabuk**	**151.01**	**280**	P	PKPdf	18 03 33.3	+7.3
DBAS	**Duba**	**151.41**	**278**	P	PKPdf	18 03 25.4	-1.3
JMQS	**Jabal Moqyreh**	**151.64**	**282**	P	PKPdf	18 03 36.0	+9.0
BRTR	**Keskin Array B**	**152.09**	**305**	PKPbc	PKPdf	18 03 34.7	+7.4
	comp=Z,3.3nm,1.0s,baz=243,slow=2.8,SNR=3.8						
BRTR				PKPab	PKPab	18 03 43.6	-2.3
	comp=Z,2.1nm,0.7s,baz=124,slow=4.5,SNR=5.1						
AYUS	**'Aynunah**	**152.13**	**280**	P	PKPdf	18 03 38.6	+11
BDAS	**Al Bad'**	**152.29**	**281**	P	PKPdf	18 03 36.8	+8.9
HAQS	**Haql**	**152.48**	**282**	P	PKPdf	18 03 37.7	+10
TAYS	**Tayyib Ism**	**152.50**	**281**	P	PKPdf	18 03 39.5	+11
MLR	**Muntele Rosu**	**154.33**	**322**	PKPbc	PKPdf	18 03 41.3	+11
	comp=Z,0.7nm,0.6s,baz=258,slow=13,SNR=3.7						
MLR				PKPab	PKPab	18 03 53.8	-1.3
	comp=Z,1.0nm,0.8s,baz=343,slow=7.0,SNR=3.1						
CLL	**Collm**	**154.55**	**347**	*e*PKP1	PKPdf	18 03 40.0	+10
GERES	**GERESS Array B**	**156.69**	**343**	PKPbc	PKPdf	18 03 47.7	+14
	comp=Z,0.6nm,0.8s,baz=252,slow=4.2,SNR=3.4						

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*IDC **21** 17:55:48.7±0.6, 36.07S×101.82W, mb5.0/14, mb1 5.1/14, mb1mx5.0/19, MS4.7/17, Ms1 4.7/17, ms1mx4.6/20, Error ellipse: s-maj=20.5km s-min=16.8km az=71.0*

*BJI **21** 17:55:50.2, 36.20S×101.50W, h10^{km}, mB5.2, Ms5.2, Msz5.0*

*NEIC **21** 17:55:50.3±0.3, 36.23S×101.48W, h10^{km}, mb5.4/37, MS4.9/35, Error ellipse: s-maj=12.3km s-min=9.2km az=66.0*

*SYO **21** 17:55:50.7, 36.12S×101.26W, h10^{km}, MB5.5, MS4.9*

*HRVD **21** 17:55:50.3±0.2, 36.01S×101.70W, h12^{km}, MW5.2/67, Centroid moment Tensor Solution. LP body waves: s57,c88;Mantle waves: s67,c115; Half duration: 1^{s}1 Moment tensor: Scale 10^{17}Nm; M$_{rr}$-0.09±.02;*

$M_{\theta\theta}$-0.71±.02; $M_{\phi\phi}$0.80±.02; $M_{r\theta}$-0.05±.05; $M_{\theta\phi}$-0.52±.02; $M_{\phi r}$-0.11±.05; Best double couple: M_0.92×10^{17} NP1: ϕ_s118°,δ82°,λ-179°. NP2:ϕ_s28°,δ89°,λ-8°. Principal axes: T .97, Plg5°, Azm73°; N -.09, Plg82°, Azm200°; P -.88, Plg6°, Azm342°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

*MOS **21** 17:55:54.8±1.1, 35.67S×101.39W, h33^{km}, mb5.6/22 Error ellipse: s-maj=31.8km s-min=9.4km az=94.6*

ISC 21 17:55:49.5±4.0,**35.91S**±0.07×**101.4W**±0.1,**h4**^{km}±23^{km}, **n239,**σ1^{s}**15**/165,**mb5.2**/48,**MS4.8**/53,**14C-9D, Southeast of Easter Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FCH	Farellones	25.70	93	*e*P	P	18 01 24.2	+1.8
USHA	Ushuaia	29.52	140	P	P	18 01 56.9	0.0
	19nm,1.0s,mb4.8,baz=308,slow=8.9,SNR=2.8						
USHA				LR	LR	18 10 48.7	
	comp=Z,3µm,19.8s,MS4.9,baz=271,slow=30						
TRQA	Tornquist	31.43	106	PFAKE		18 02 20.0	+6.0
TRQA				LR	LR		
	comp=Z,2µm,20.0s,MS4.7						
ARE	Arequipa	32.91	62	*e*P	P	18 02 29.0	+1.8
LPAZ	La Paz	35.47	65	P	P	18 02 51.3	+2.1
	comp=Z,53nm,1.1s,mb5.4,baz=237,slow=5.3,SNR=57						
LPAZ				LR	LR	18 14 45.7	
	comp=Z,245nm,18.1s,MS4.0,baz=258,slow=32						
LPAZ	La Paz	35.47	65	*e*P	P	18 02 51.1	+1.9
	comp=Z,93nm,1.1s,mb5.6						
LPAZ				LR	LR		
	comp=Z,457nm,20.0s,MS4.2						
CPUP	Villa Florida	38.67	88	P	P	18 03 15.8	-0.2
	comp=Z,12nm,1.2s,mb4.5,baz=273,slow=8.0,SNR=8.3						
CPUP				LR	LR	18 16 41.7	
	comp=Z,1µm,19.6s,MS4.7,baz=272,slow=32						
CPUP	Villa Florida	38.67	88	P	P	18 03 15.8	-0.2
CPUP				LR	LR	18 16 41.7	
OTAV	Otavalo	41.84	36	*e*P	P	18 03 43.5	+1.1
	comp=Z,70nm,1.3s,mb5.1						
SAML	Samuel	43.93	62	⇑*e*P	P	18 03 58.8	-0.7
	comp=Z,46nm,1.1s,mb5.1						
SAML				LR	LR		
	comp=Z,1µm,19.0s,MS4.8						
ROSC	El Rosal	47.85	38	P	P	18 04 32.0	+1.3
	comp=Z,88nm,0.9s,mb5.8,baz=184,slow=4.6,SNR=43						
ROSC				LR	LR	18 21 13.6	
	comp=Z,787nm,19.5s,MS4.7,baz=52,slow=32						
JTS	JuntasAbangare	48.51	22	P	P	18 04 36.2	+0.5
	comp=Z,1.7nm,0.3s,mb4.5,baz=330,slow=21,SNR=2.8						
BDFB	Brasilia	51.49	81	P	P	18 04 58.0	-0.5
	comp=Z,9.1nm,0.7s,mb4.8,baz=245,slow=8.3,SNR=12						
BDFB				LR	LR	18 24 57.3	
	comp=Z,838nm,21.8s,MS4.7,baz=270,slow=34						
BAO	Brasilia Array	51.51	81	*e*P	P	18 04 59.0	+0.3
SDV	Santo Domingo	53.17	39	⇑*e*P	P	18 05 08.4	-2.7
	comp=Z,21nm,0.8s,mb5.1						
SDV				LR	LR		
	comp=Z,497nm,22.0s,MS4.5						
QSPA	South Pole Qui	54.30	180	*e*P	P	18 05 16.7	-1.9
	comp=Z,25nm,0.9s,mb5.1						
QSPA				LR	LR		
	comp=Z,2µm,20.0s,MS5.1						
VNA3	Neumayer Olymp	57.01	157	⇑*i*P	P	18 05 40.4	+2.1
VNA3	Neumayer Olymp	57.01	157	⇑*i*	P	18 05 43.5	+5.2
VNA3	Neumayer Olymp	57.01	157	⇑*i*	P	18 05 44.4	+6.1
VNA3	Neumayer Olymp	57.01	157	⇑*i*S	S	18 13 37.9	+6.3
VNA1	Neumayer--Stat	57.62	157	⇑*i*P	P	18 05 45.1	+2.5
VNA1	Neumayer--Stat	57.62	157	⇓*i*	P	18 05 48.5	+5.9
VNA1	Neumayer--Stat	57.62	157	⇓*i*	P	18 05 49.4	+6.8
VNA2	Neumayer--Watz	57.81	157	⇑*i*P	P	18 05 46.2	+2.3
VNA2	Neumayer--Watz	57.81	157	⇑*i*	P	18 05 50.2	+6.3
VNA2	Neumayer--Watz	57.81	157	⇑*i*S	S	18 13 42.3	+0.2
SNAA	Sanae	58.97	159	⇑*i*P	P	18 05 50.0	-2.0
SNAA	Sanae	58.97	159	⇓*i*	P	18 05 53.8	+1.8
SNAA	Sanae	58.97	159	⇑*i*	P	18 05 54.7	+2.7
MGP	Maguayo	62.71	37	*e*P	P	18 06 16.0	-2.1
URZ	Urewera	62.94	241	LR	LR	18 26 11.9	
	comp=Z,653nm,18.7s,MS4.8,baz=112,slow=29						
SJG	San Juan	63.26	38	*e*P	P	18 06 18.8	-2.9
SJG				pmax	pmax		
	comp=Z,26nm,0.6s						
SJG	San Juan	63.26	38	*e*P	P	18 06 18.8	-2.9
	comp=Z,26nm,0.6s,mb5.5						
HUMP	Col San Antoni	63.44	38	*e*P	P	18 06 19.5	-3.4
MAIT	Maitri	63.56	160	*e*P	P	18 06 21.5	-1.4
RPZ	Rata Peaks	64.69	233	LR	LR	18 27 31.4	
	comp=Z,821nm,18.2s,MS5.0,baz=149,slow=30						
LTX	Lajitas	64.93	358	PFAKE		18 06 40.0	+7.5
LTX				LR	LR		
	comp=Z,935nm,20.0s,MS5.0						
TXAR	Lajitas Array	64.93	358	P	P	18 06 31.5	-1.0
	comp=Z,4.7nm,1.0s,mb4.5,baz=180,slow=8.8,SNR=15						
TXAR	Lajitas Array	64.93	358	P	P	18 06 31.5	-1.0
JCT	Junction City	66.06	2	*e*P	P	18 06 38.3	-1.4
JCT				pmax	pmax		
	comp=Z,67nm,1.2s,mb5.5						
JCT	Junction City	66.06	2	*e*P	P	18 06 38.3	-1.4
	comp=Z,67nm,1.2s,mb5.5						
GDL2	Guadalupe Moun	67.81	357	*e*P	P	18 06 48.4	-2.5
TUC	Tucson	68.43	351	*e*P	P	18 06 54.1	-0.6
TUC				pmax	pmax		
	comp=Z,37nm,1.2s,mb5.3						
TUC	Tucson	68.43	351	*e*P	P	18 06 54.1	-0.6
	comp=Z,37nm,1.2s,mb5.3						
BAR	Barrett	69.71	346	*e*P	P	18 07 02.6	0.0
LRAL	Lakeview Retre	69.90	13	PFAKE		18 07 20.0	+16
LRAL				LR	LR		
	comp=Z,399nm,19.0s,MS4.7						
LAZ	Ladron	70.15	355	*e*P	P	18 07 04.4	-0.8
ANMO	Albuquerque	70.65	356	*e*P	P	18 07 07.3	-1.0
	comp=Z,39nm,1.5s,mb5.1						
ANMO				LR	LR		
	comp=Z,671nm,19.0s,MS4.9						
SYO	Syowa Base	71.50	166	⇓P	P	18 07 09.8	-3.0
SYO	Syowa Base	71.50	166	⇓pP	pP	18 07 11.0	-3.0
SYO	Syowa Base	71.50	166	⇓sP	sP	18 07 13.2	-1.2
SYO	Syowa Base	71.50	166	⇓PcP	PcP	18 07 25.3	-7.2
LDFC	Landfair	71.77	348	P	P	18 07 14.0	-1.0
NEN	Nelson	72.28	349	*e*P	P	18 07 18.2	+0.1
DAC	Darwin (Calif)	73.38	346	*e*P	P	18 07 24.7	+0.3
	comp=Z,33nm,1.2s,mb5.1						
DAC				LR	LR		
	comp=Z,498nm,20.0s,MS4.8						
SDCO	Great Sand Dun	73.38	357	*e*P	P	18 07 24.0	-0.5
	comp=Z,26nm,1.0s,mb5.1						
SDCO				LR	LR		
	comp=Z,1µm,21.0s,MS5.1						
TPNV	Topopah Spring	73.78	348	*e*P	P	18 07 26.6	-0.2
	comp=Z,71nm,1.3s,mb5.4						
TPNV				LR	LR		
	comp=Z,864nm,22.0s,MS5.0						
ARUT	Antelope Range	74.17	350	*e*P	P	18 07 30.0	+1.0
CCM	Cathedral Cave	74.20	8	*e*P	P	18 07 28.3	-0.8
	comp=Z,38nm,0.8s,mb5.4						
CCM				LR	LR		
	comp=Z,564nm,19.0s,MS4.9						
FVM	French Village	74.23	9	*e*P	P	18 07 27.8	-1.5
FVM				pmax	pmax		
	comp=Z,27nm,1.0s,mb5.1						
FVM	French Village	74.23	9	*e*P	P	18 07 27.8	-1.6
	comp=Z,27nm,1.1s,mb5.1						
LRV	Little Rabbit	74.24	344	*e*P	P	18 07 28.4	-1.0
MTUM	Tungsten Hills	74.61	346	*e*P	P	18 07 32.3	+0.7
SAO	San Andreas Ge	74.66	343	*e*P	P	18 07 32.0	+0.2
	comp=Z,48nm,1.2s,mb5.3						
SAO				LR	LR		
	comp=Z,1µm,21.0s,MS5.2						
MSU	Marysvale	74.72	351	*e*P	P	18 07 32.9	+0.7
OMM	Old Mammoth Mi	74.95	346	*e*P	P	18 07 34.0	+0.5
TPH	Tonopah	75.05	347	*e*P	P	18 07 34.3	+0.2
TPH				pmax	pmax		
	comp=Z,85nm,1.2s,mb5.5						
TPH	Tonopah	75.05	347	*e*P	P	18 07 34.3	+0.1
	comp=Z,85nm,1.2s,mb5.5						
SRU	San Rafael	75.12	353	*e*P	P	18 07 33.8	-0.7
CASY	Casey	75.20	193	*e*P	P	18 07 32.0	-2.4
CASY				LR	LR		
	comp=Z,409nm,21.0s,MS4.7						
MNV	Mina	75.57	347	*e*P	P	18 07 36.6	-0.5
	comp=Z,77nm,1.1s,mb5.5						
MNV				LR	LR		
	comp=Z,714nm,20.0s,MS5.0						
NVAR	Mina Array Bea	75.60	346	P	P	18 07 36.8	-0.5
	comp=Z,28nm,0.9s,mb5.2,baz=163,slow=7.0,SNR=84						
NVAR				LR	LR	18 33 37.4	
	comp=Z,519nm,18.8s,MS4.9,baz=170,slow=30						
CMB	Columbia Colle	75.64	345	*e*P	P	18 07 36.5	-1.0
CMB				pmax	pmax		
	comp=Z,45nm,1.0s,mb5.3						
CMB	Columbia Colle	75.64	345	*e*P	P	18 07 36.5	-1.0
	comp=Z,45nm,1.1s,mb5.3						
MAW	Mawson	76.12	174	P	P	18 07 37.4	-2.2
	comp=Z,18nm,0.9s,mb5.0,baz=193,slow=7.0,SNR=40						
MAW				LR	LR	18 39 10.7	
	comp=Z,521nm,21.0s,MS4.8,baz=210,slow=34						
MAW	Mawson	76.12	174	P	P	18 07 37.4	-2.2
MAW				LR	LR	18 39 10.7	
NLU	North Lily Min	76.13	352	*e*P	P	18 07 40.4	+0.2
MPU	Maple Canyon	76.14	352	*e*P	P	18 07 37.4	-2.8
DUG	Dugway	76.45	351	*e*P	P	18 07 41.6	-0.4
	comp=Z,5.3nm,1.4s,mb4.3						
DUG				LR	LR		
	comp=Z,57nm,19.0s,MS3.9						
DAU	Daniels Canyon	76.48	352	*e*P	P	18 07 42.5	+0.3
JLU	Jordanelle	76.69	352	*e*P	P	18 07 43.4	0.0
WCN	Washoe City	76.73	345	*e*P	P	18 07 44.5	+0.9
WCN				pmax	pmax		
	comp=Z,20nm,0.9s,mb5.0						
WCN	Washoe City	76.73	345	*e*P	P	18 07 44.5	+0.9
	comp=Z,20nm,0.9s,mb5.0						
CTU	Camp Tracy	76.82	352	*e*P	P	18 07 44.3	+0.2
NOQ	North Oquirrh	76.82	352	P	P	18 07 43.7	-0.3
OHCM	Honcut	77.13	344	P	P	18 07 43.8	-2.0
HOPS	Hopland	77.17	343	*e*P	P	18 07 45.8	-0.2
	comp=Z,143nm,1.2s,mb5.8						
HOPS				LR	LR		
	comp=Z,594nm,19.0s,MS4.9						
TCUT	Toone Canyon	77.20	352	*e*P	P	18 07 43.9	-2.2
ELK	Elko	77.33	349	*e*P	P	18 07 46.0	-0.9
	comp=Z,51nm,1.3s,mb5.3						
ELK				LR	LR		
	comp=Z,809nm,19.0s,MS5.1						
BEKR	Beckwourth	77.40	345	*e*P	P	18 07 46.9	-0.3
	comp=Z,90nm,1.3s,mb5.5						
HWUT	Hardware Ranch	77.70	352	*e*P	P	18 07 48.0	-0.9
	comp=Z,22nm,1.3s,mb4.9						
HWUT				LR	LR		
	comp=Z,455nm,20.0s,MS4.8						
HVU	Hansel Valley	78.01	351	*e*P	P	18 07 49.8	-0.8
WDC	Whiskeytown Da	78.55	344	*e*P	P	18 07 52.1	-1.5
	comp=Z,88nm,1.1s,mb5.6						
WDC				LR	LR		
	comp=Z,582nm,19.0s,MS4.9						
PDAR	Pinedale Array	78.65	354	P	P	18 07 52.8	-1.3
	comp=Z,18nm,1.0s,mb5.0,baz=158,slow=4.6,SNR=49						
PDAR				PKKPbc		18 26 47.8	
	comp=Z,0.6nm,0.8s,baz=72,slow=4.7,SNR=3.9						
AHID	Auburn Hatcher	78.80	353	*e*P	P	18 07 54.4	-0.5
	comp=Z,19nm,0.9s,mb5.0						
AHID				LR	LR		
	comp=Z,369nm,20.0s,MS4.7						
KHMM	Horse Mountain	79.11	343	*e*P	P	18 07 58.2	+1.6
MOD	Modoc	79.34	346	*e*P	P	18 07 57.2	-0.7
	comp=Z,32nm,0.7s,mb5.4						
MOD				LR	LR		
	comp=Z,604nm,19.0s,MS5.0						
REDW	Red Top Meadow	79.36	353	*e*P	P	18 07 58.0	+0.1
SNOW	Snow King Moun	79.45	353	*e*P	P	18 07 58.5	+0.1
TPAW	Teton Pass	79.50	353	*e*P	P	18 07 58.2	-0.5
WUWY	Wally Ulrich	79.53	353	*e*P	P	18 07 58.6	-0.2
WVOR	Wild Horse Val	79.54	347	*e*P	P	18 07 59.1	+0.2
	comp=Z,62nm,1.3s,mb5.4						
WVOR				LR	LR		
	comp=Z,571nm,20.0s,MS4.9						
YBH	Yreka Blue Hor	79.69	344	P	P	18 07 58.3	-1.5
	comp=Z,13nm,0.9s,mb4.8,baz=73,slow=4.4,SNR=16						
YBH	Yreka Blue Hor	79.69	344	*e*P	P	18 07 58.5	-1.2
	comp=Z,20nm,0.9s,mb5.1						
YBH				LR	LR		
	comp=Z,720nm,21.0s,MS5.0						
MOOW	Moose Ponds	79.73	353	*e*P	P	18 07 59.6	-0.4
IMW	Indian Meadow	79.90	353	*e*P	P	18 08 00.3	-0.6
HLID	Hailey	79.97	350	*e*P	P	18 08 00.3	-0.9
	comp=Z,122nm,1.2s,mb5.7						
HLID				LR	LR		
	comp=Z,651nm,21.0s,MS5.0						
BUOR	Burton Butte	80.11	344	P	P	18 08 03.5	+1.5
HUMO	Hull Mountain	80.58	344	*e*P	P	18 08 03.9	-0.6
	comp=Z,33nm,1.1s,mb5.2						
HUMO				LR	LR		
	comp=Z,573nm,22.0s,MS4.9						
YMR	Madison River	80.67	353	*e*P	P	18 08 05.9	+0.9
BBOR	Butler Butte	80.78	344	P	P	18 08 05.9	+0.3
QLMT	Earthquake Lak	80.87	353	*e*P	P	18 08 06.3	+0.3
MCMT	McKenzie Canyo	81.03	352	*e*P	P	18 08 06.6	-0.2
PINOR	Pine Mountain	81.29	346	P	P	18 08 08.1	-0.1
HSO	Harness Mounta	81.48	344	*e*P	P	18 08 09.3	+0.1
VIPM	Ingram Point	81.91	346	P	P	18 08 13.0	+1.5
LCCM	Lewis and Clar	81.92	353	P	P	18 08 13.4	+2.0
CROR	Criterion Ridg	82.44	346	P	P	18 08 15.4	+1.3
MPOR	Mary's Peak	82.52	344	P	P	18 08 15.9	+1.4
COR	Corvallis	82.54	344	P	P	18 08 14.1	-0.6
	comp=Z,81nm,1.2s,mb5.6						
COR				LR	LR		
	comp=Z,495nm,21.0s,MS4.8						
SSOR	Sweet Springs	82.62	345	*e*P	P	18 08 11.3	-3.8
SSOR	Sweet Springs	82.62	345	P	P	18 08 15.0	-0.1
VBEM	Beaver Butte	82.64	346	P	P	18 08 15.8	+0.6
HRY	Holter Researc	82.78	353	*e*P	P	18 08 16.5	+0.6
SADO	Sadowa	82.81	16	P	P	18 08 14.5	-1.6
	comp=Z,7.9nm,0.7s,mb4.8,baz=175,slow=2.4,SNR=5.2						
LNOR	Lincton Mounta	82.81	348	*e*P	P	18 08 16.0	-0.1
VFP	Flag Point	82.86	346	P	P	18 08 17.7	+1.4
TDH	Tom, Dick, Har	82.90	346	P	P	18 08 17.6	+1.1
VGB	Gordon Butte	82.92	346	*e*P	P	18 08 16.3	-0.3
MSO	Missoula	83.13	351	*e*P	P	18 08 16.5	-1.2
	comp=Z,31nm,1.3s,mb5.2						
REDWA	Red Mountain	83.43	348	P	P	18 08 20.6	+1.4
H2OWA	Water	83.52	348	P	P	18 08 21.0	+1.4
HAWA	Hanford	83.53	347	*e*P	P	18 08 19.9	+0.1
	comp=Z,7.0nm,1.4s,mb4.6						
HAWA				LR	LR		
	comp=Z,54nm,20.0s,MS3.9						
RSW	Rattlesnake Hi	83.55	347	P	P	18 08 21.3	+1.5
KMOR	Kings Mountain	83.58	345	P	P	18 08 21.1	+1.1
ASR	Mount Adams--S	83.68	346	P	P	18 08 21.6	+1.1
BENWA	Benson Ranch	83.69	347	P	P	18 08 22.0	+1.5
GBL	Gable Mountain	83.72	348	P	P	18 08 22.2	+1.5
LOZ	Lake Ozonia	83.77	19	*e*P	P	18 08 18.8	-2.2
MDW	Midway	83.79	347	P	P	18 08 22.5	+1.5
MXC	Moxie City	83.85	347	P	P	18 08 22.8	+1.5
SHW	Mount Saint He	83.85	346	P	P	18 08 20.2	-1.1
FL2	Flat Top 2	83.88	346	P	P	18 08 22.2	+0.7
BVW	Beverly	84.00	347	P	P	18 08 23.6	+1.6
NLO	Nicolai Mounta	84.00	345	P	P	18 08 23.7	+1.6
DGMT	Dagmar	84.04	358	*e*P	P	18 08 21.9	-0.4
	comp=Z,92nm,1.1s,mb5.8						
DGMT				LR	LR		
	comp=Z,538nm,21.0s,MS4.9						
NAC	Naches	84.10	347	P	P	18 08 23.8	+1.2
WPW	White Pass	84.20	346	P	P	18 08 23.7	+0.6
EBG	Ellensburg	84.22	347	P	P	18 08 23.8	+0.6
BSMT	Bassoo Peak	84.24	351	P	P	18 08 24.9	+1.6
LON	Longmire	84.30	346	*e*P	P	18 08 22.3	-1.3
BMW	Boistfort Moun	84.32	345	*e*P	P	18 08 24.2	+0.5
BMW	Boistfort Moun	84.32	345	P	P	18 08 23.5	-0.3
FMW	Mount Fremont	84.45	346	P	P	18 08 25.4	+1.1
TWW	Teanaway	84.49	347	P	P	18 08 26.1	+1.5
LTY	Liberty	84.57	347	P	P	18 08 25.0	0.0
GSM	Grass Mountain	84.73	346	P	P	18 08 26.0	+0.2
DPW	Davenport	84.75	349	*e*P	P	18 08 26.5	+0.7
DPW	Davenport	84.75	349	P	P	18 08 27.2	+1.4
CPW	Capitol Peak	84.78	345	P	P	18 08 27.0	+1.0
ETW	Entiat	84.85	347	P	P	18 08 27.3	+1.0
WTV	Waterville	84.87	348	P	P	18 08 27.4	+1.0
NEW	Newport	84.96	350	P	P	18 08 27.3	+0.4
	comp=Z,53nm,1.2s,mb5.5						
NEW				LR	LR	18 39 41.7	
	comp=Z,406nm,18.7s,MS4.8,baz=150,slow=31						
NEW	Newport	84.96	350	*e*P	P	18 08 27.4	+0.6
	comp=Z,106nm,1.4s,mb5.8						
NEW				LR	LR		
	comp=Z,641nm,19.0s,MS5.0						
WRW	Wenatchee Ridg	85.19	347	P	P	18 08 28.7	+0.7
GNW	Green Mountain	85.28	346	*e*P	P	18 08 28.3	-0.2
NLW	Nelson Butte	85.30	347	*e*P	P	18 08 27.1	-1.5
OOW	Octopus West	85.73	345	P	P	18 08 31.9	+1.2
RPW	Rockport	85.87	347	*e*P	P	18 08 28.6	-2.8
ULM	Lac du Bonnet	85.93	4	P	P	18 08 30.6	-1.1
	comp=Z,29nm,1.0s,mb5.5,baz=187,slow=4.3,SNR=13						
ULM				LR	LR	18 42 34.3	
	comp=Z,327nm,18.6s,MS4.8,baz=214,slow=33						
ULM	Lac du Bonnet	85.93	4	*e*P	P	18 08 30.1	-1.5
	comp=Z,176nm,1.4s,mb6.1						
ULM				LR	LR		
	comp=Z,768nm,19.0s,MS5.1						
EDM	Edmonton	89.37	353	P	P	18 08 46.7	-1.4
STKA	Stephens Creek	90.37	229	LR	LR	18 40 36.1	
	comp=Z,466nm,18.8s,MS4.9,baz=197,slow=30						
SUR	Sutherland	93.17	134	LR	LR	18 41 26.0	
	comp=Z,266nm,22.0s,MS4.7,baz=129,slow=29						
SCHQ	Schefferville	95.14	19	LR	LR	18 48 02.6	
	comp=Z,296nm,18.3s,MS4.8,baz=276,slow=33						
CTA	Charters Tower	95.19	241	LR	LR	18 44 11.5	
	comp=Z,334nm,18.4s,MS4.8,baz=138,slow=31						
DLBC	Dease Lake	96.99	345	P	P	18 09 22.2	-0.8
	comp=Z,3.5nm,0.7s,mb4.9,baz=194,slow=17,SNR=3.8						
YKA	Yellowknife Ar	98.64	354	LR	LR	18 48 56.0	
	comp=Z,246nm,18.2s,MS4.7,baz=155,slow=32						
DBIC	Dimbokro	99.19	88	LR	LR	18 48 50.1	
	comp=Z,298nm,20.3s,MS4.8,baz=213,slow=32						
DBIC	Dimbokro	99.19	88	PFAKE		18 09 40.0	+6.0
DBIC				LR	LR		
	comp=Z,455nm,20.0s,MS5.0						
TSUM	Tsumeb	100.44	123	PFAKE		18 09 50.0	+10
TSUM				LR	LR		
	comp=Z,355nm,19.0s,MS4.9						
WRA	Warramunga Arr	103.40	233	Pdiff	Pdif	18 09 48.6	-4.2
	comp=Z,1.4nm,1.1s,baz=136,slow=4.5,SNR=4.7						
WRA				PKiKP		18 14 08.9	
	comp=Z,0.3nm,0.7s,baz=126,slow=1.9,SNR=4.5						
LSZ	Lusaka	110.28	128	PFAKE		18 14 30.0	+4.7
LSZ				LR	LR		
	comp=Z,264nm,21.0s,MS4.8						
ESLA	Sonseca Array	116.92	59	PFAKE		18 14 50.0	+12
ESLA				LR	LR		
	comp=Z,1µm,19.0s,MS5.5						
CLL	Collm	131.71	50	*e*PKIKP	PKPdf	18 15 12.0	+6.1
GERES	GERESS Array B	131.77	53	PKP	PKPdf	18 15 02.1	-4.0
	comp=Z,0.8nm,0.8s,baz=333,slow=3.0,SNR=3.9						
TIXI	Tiksi	135.90	340	*e*PKIKP	PKPdf	18 15 09.6	-3.6
TIXI				*e*		18 22 20.8	
TIXI				*e*SS	SS	18 35 50.3	-0.1
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.8s						
YAK	Yakutsk	139.05	326	*e*PKIKP	PKPdf	18 15 14.5	-4.6
MDJ	Mudanjiang	140.66	299	PKP	PKPdf	18 15 19.8	-2.7
MDJ				PP	PP	18 18 21.6	-2.0
MDJ				SS	SS	18 36 51.3	+4.2
MDJ				PP	PP		
	comp=Z,48nm,6.1s						
MDJ				LR	LR		
	comp=N,44nm,21.7s,MS4.5						
MDJ				LR	LR		
	comp=E,93nm,22.9s,MS4.5						
MDJ				LR	LR		
	comp=Z,140nm,22.9s,MS4.7						
AKASG	Malin Array Be	141.90	51	PKP	PKPdf	18 15 21.9	-2.5
	comp=Z,0.7nm,0.6s,baz=270,slow=3.8,SNR=4.7						
SGKT	Sivrigoynuk	143.50	68	*i* P	PKPbc	18 15 23.7	0.0
CN2	Changchun	143.57	297	*e*PKP	PKPdf	18 15 22.8	-4.7
CN2				PP	PP	18 18 39.8	-1.3
CN2				*e*SS	SS	18 37 17.8	-3.2
CN2				PP	PP		
	comp=Z,100nm,8.0s						
CN2				LR	LR		
	comp=N,200nm,19.0s,MS5.0						
CN2				LR	LR		
	comp=E,100nm,19.0s,MS5.0						
CN2				LR	LR		
	comp=Z,100nm,19.0s,MS4.6						
MEST	Erdemli	144.40	75	*i* P	PKPbc	18 15 25.8	-0.7
ELDT	Eldivan	144.52	69	*i* P	PKPbc	18 15 26.6	-0.1
BRTR	Keskin Array B	144.58	70	PKP	PKPdf	18 15 26.2	-3.2
	comp=Z,12nm,1.1s,baz=198,slow=3.9,SNR=34						
BALT	Daday	144.61	67	*i* P	PKPbc	18 15 26.4	-0.5
SNY	Shenyang	144.78	294	⇑PKP	PKPdf	18 15 24.8	-4.9
SNY				LR	LR		
	comp=E,180nm,15.7s						
SNY				LR	LR		
	comp=Z,180nm,15.9s,MS4.9						
SIM	Simferopol'	145.35	61	*e*PKIKP	PKPdf	18 15 29.5	-1.1
SIM				pmax	pmax		
	comp=Z,17nm,0.9s						
ASF	Jabal al Asfar	145.45	84	PKPbc	PKPbc	18 15 30.8	+1.3
	comp=Z,5.0nm,0.8s,baz=101,slow=5.2,SNR=12						
OBN	Obninsk	145.54	43	*de*PKIKP	PKPdf	18 15 29.0	-1.6
OBN				*e*		18 18 48.6	
OBN				*e*		18 22 28.0	
OBN				pmax	pmax		
	comp=Z,170nm,1.5s						
OBN				MLR	MLR		
	comp=Z,100nm,20.0s,MS4.6						
OBN	Obninsk	145.54	43	*e*PKPdf	PKPdf	18 15 28.8	-1.8
BOYT	Boyabat	145.74	67	*i* P	PKPbc	18 15 29.1	-0.8
DL2	Dalian	145.90	288	PKP	PKPdf	18 15 28.0	-3.7
MOS	Moscow	145.93	41	*e*PKP2	PKPab	18 15 30.2	-1.9
MOS				pmax	pmax		
	comp=Z,121nm,1.6s						
COBT	Iskenderun	146.05	76	*i* P	PKPbc	18 15 26.0	-4.7
NJ2	Nanjing	146.54	275	*e*PKP	PKPdf	18 15 26.9	-6.1
NJ2				APKP		18 15 36.6	
NJ2				XPKP		18 15 40.3	
NJ2				PKS	PKS	18 19 02.0	-2.7
NJ2				SKKS		18 25 41.0	
GZT	Gaziantep	147.24	75	*i* P	PKPdf	18 15 34.9	+0.9
BOD	Bodaibo	147.91	324	*e*PKIKP	PKPdf	18 15 32.7	-1.7
MALT	Malatya	148.07	74	*e*PKPdf	PKPdf	18 15 32.5	-2.8
ELZG	Elazig	148.53	73	*i* P	PKPdf	18 15 37.2	+1.1
TIA	Tai'an	148.97	282	PKP	PKPdf	18 15 36.9	+0.1
SOC	Sochi	149.38	64	*e*PKP2	PKPab	18 15 40.4	-5.9
WHN	Wuhan	149.71	270	⇑PKP	PKPdf	18 15 39.1	+0.9
NNT	Nongplab	149.95	225	P	PKPdf	18 15 41.0	+2.0
KKTK	Khon Kaen	150.92	234	P	PKPdf	18 15 42.5	+2.1
KIV	Kislovodsk	151.51	63	*e*PKIKP	PKPdf	18 15 40.0	-0.5
KIV	Kislovodsk	151.51	63	*e*PKPbc	PKPdf	18 15 45.9	+5.4
GOF	Gofitskoye	151.66	60	⇓*i*PKIKP	PKPdf	18 15 40.0	-0.7
GOF				pmax	pmax		
	comp=Z,40nm,1.4s						
NST	Nakhon Sawan	152.14	229	P	PKPdf	18 15 46.0	+3.8
CM31	Chiang Mai Arr	154.98	231	*e*PKPdf	PKPdf	18 15 42.1	-3.9
CMAR	Chiang Mai Arr	154.98	231	PKP	PKPdf	18 15 41.6	-4.4
	comp=Z,2.8nm,1.0s,baz=254,slow=1.2,SNR=18						
CMAR				PKPbc	PKPdf	18 15 52.1	+6.1
	comp=Z,3.5nm,1.1s,baz=221,slow=2.3,SNR=5.0						
CMAR				PKPab	PKPab	18 16 07.0	-3.4
	comp=Z,4.0nm,0.7s,baz=154,slow=3.7,SNR=15						
XAN	Xi'an	155.11	275	PKP	PKPdf	18 15 47.0	+1.2
ARU	Arti	155.41	27	*e*PKIKP	PKPdf	18 15 51.2	+5.8
SONM	Songino Array	156.24	309	PKP	PKPdf	18 15 42.9	-3.9
	comp=Z,1.5nm,1.1s,baz=45,slow=1.7,SNR=7.3						
SONM				PKPbc	PKPdf	18 15 54.0	+7.2
	comp=Z,3.5nm,0.9s,baz=110,slow=1.6,SNR=12						
SONM				PKPab	PKPab	18 16 12.1	-2.9
	comp=Z,3.0nm,0.8s,baz=145,slow=1.6,SNR=5.4						
KMI	Kunming	156.63	249	*e*PKP	PKPdf	18 15 44.0	-4.0
KMI				SS	SS	18 39 47.8	+1.7
KMI				LR	LR		
	comp=Z,131nm,24.1s,MS4.7						
ZAK	Zakamensk	157.03	317	*e*PKIKP	PKPdf	18 15 43.0	-4.8
NVS	Novosibirsk	160.80	352	*i* PKP2	PKPab	18 16 31.4	-3.0
NVS				pmax	pmax		
	comp=Z,19nm,1.4s						
NVS				pmax	pmax		
	comp=N,13nm,1.7s						
NVS				pmax	pmax		
	comp=E,8.0nm,1.3s						
BVAR	Borovoye Array	161.94	16	PKP	PKPdf	18 15 50.2	-3.1
	comp=E,0.6nm,0.5s,baz=228,slow=38,SNR=4.3						
BVAR				PKPab	PKPab	18 16 36.5	-2.9
	comp=E,2.6nm,0.9s,baz=315,slow=2.1,SNR=7.4						
BVAR				PP	PP	18 20 20.5	-3.6
	comp=E,1.3nm,1.0s,baz=315,slow=6.3,SNR=4.3						
GTA	Gaotai	162.83	288	*e*PKP	PKPdf	18 15 51.6	-3.0
GTA				APKP		18 15 56.0	
GTA				XPKP		18 15 58.6	
GTA				PKP2	PKPab	18 16 40.0	-3.7
GTA				PKS	PKS	18 19 23.8	-0.6
GTA				PP	PP	18 20 27.6	-1.3
GTA				SKS	SKS	18 22 55.1	-3.8
GTA				PPP	PPP	18 24 15.8	-3.6
GTA				SS	SS	18 40 47.4	-3.2
GTA				LR	LR		
	comp=N,50nm,18.3s						

GTA				LR	LR		
	comp=E,53nm,18.6s						
GTA				LR	LR		
	comp=Z,92nm,19.0s						
SHL	Shillong	164.61	232	e	PKPdf	18 15 54.0	-2.8
KURK	Kurchatov	165.20	360	ePKIKP	PKPdf	18 15 52.6	-3.9
KURK	Kurchatov	165.20	360	ePKPdf	PKPdf	18 15 52.3	-4.2
MKAR	Makanchi Array	168.78	347	PKP	PKPdf	18 15 54.9	-4.3
	comp=Z,2.1nm,1.0s,baz=304,slow=4.4,SNR=5.7						
MKAR				PKPab	PKPab	18 17 07.5	-1.9
	comp=Z,0.8nm,0.7s,baz=329,slow=3.3,SNR=4.0						
WMQ	Urumqi	169.44	321	ePKP	PKPdf	18 15 57.4	-2.3
WMQ				LR	LR		
	comp=E,148nm,24.3s						
WMQ				LR	LR		
	comp=Z,164nm,22.1s						
PKI	Pulchoki	169.86	217	eP	PKPdf	18 15 57.0	-3.4
DMN	Daman	170.03	216	eP	PKPdf	18 15 57.5	-3.0
	comp=Z,52nm,1.7s						
KKN	Kakani	170.10	217	eP	PKPdf	18 15 57.4	-3.2
	comp=Z,40nm,1.4s						
GKN	Gorkha	170.59	215	eP	PKPdf	18 15 57.7	-3.1
	comp=Z,35nm,1.1s						
KOLN	Koldanda	170.83	209	eP	PKPdf	18 15 57.6	-3.4
	comp=Z,44nm,1.5s						

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*IDC **21** 18:07:13.7±2.1, 43.37N×105.14W, mb4.4/1, mb1 4.1/3, mb1mx3.6/20, ML3.7/2, Error ellipse: s-maj=63.1km s-min=14.1km az=161.0*
*NEIC **21** 18:07:17.2±0.7, 43.73N×105.28W, ML3.3, Error ellipse: s-maj=15.3km s-min=6.3km az=138.0, Suspected Mining explosion.*
NEIC 65 km [40 miles] SSE of Gillette.
ISC 21 18:07:15.2±0.8**, 43.68N**±0.10×**105.3W**±0.1**, n12, σ0^{s}92**/13**, Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	Black Hills	0.98	63	ePg	Pg	18 07 35.6	+0.9
LAO	LASA Array	3.08	347	ePn	Pn	18 08 05.8	-0.3
PDAR	Pinedale Array	3.28	255	Pn	Pn	18 08 09.8	+0.9
	1.0nm,0.3s,baz=78,slow=17,SNR=8.5						
PDAR				Sn	Sn	18 08 49.9	+0.7
	2.4nm,0.3s,baz=66,slow=22,SNR=3.7						
PDAR				Lg		18 08 56.6	
	11nm,0.3s,baz=66,slow=29,SNR=11						
MOOW	Moose Ponds	3.99	273	Pn	Pn	18 08 24.7	+5.8
DGMT	Dagmar	4.84	8	ePn	Pn	18 08 31.8	+0.7
HWUT	Hardware Ranch	5.10	248	ePn	Pn	18 08 34.6	-0.1
TCUT	Toone Canyon	5.23	243	ePn	Pn	18 08 36.9	+0.3
SRU	San Rafael	6.05	223	ePn	Pn	18 08 48.2	+0.1
DUG	Dugway	6.63	241	ePn	Pn	18 08 56.3	0.0
MSU	Marysvale	7.35	228	ePn	Pn	18 09 06.6	+0.2
NVAR	Mina Array Bea	11.16	246	Pn	P	18 09 56.7	-2.5
	0.3nm,0.3s,baz=344,slow=14,SNR=7.3						
ARCES	ARCESS Array B	61.47	18	P	P	18 17 33.5	-1.8
	4.0nm,0.9s,baz=337,slow=6.9,SNR=3.7						

OTT 21 18:11:21.3±0.9**, 80.48N×108.24W, h18^{km}, ML3.8**/4**, Offshore Queen Elizabeth Island region, Nt. 212km northwest from Isachsen, Nu, Arctic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EUNU	Eureka	3.72	86	PN	Pn	18 12 18.4	-0.8
EUNU				SN	Sn	18 12 58.4	-4.6
EUNU				Trac		18 13 00.7	
	comp=Z,30nm,0.2s						
RES	Resolute Bay	6.46	147	PN	Pn	18 12 55.4	-2.6
RES				SN	Sn	18 14 03.5	-8.7
RES				Trac		18 14 06.9	
	comp=Z,17nm,0.3s						
TULEG	Thule	8.61	96	PN	P	18 13 23.4	-4.7
TULEG				SN	Sn	18 14 54.4	-11
PINU	Pond Inlet	10.30	122	SN	S	18 15 20.0	-27
INK	Inuvik	13.75	222	PN	P	18 14 31.8	-5.5
LUPN	Lupin Mine	14.84	185	PN	P	18 14 47.3	-4.3
LUPN				SN	S	18 17 22.7	-14
ACKN	Achilles Lake	15.59	184	PN	P	18 14 56.9	-4.4
ACKN				Trac		18 17 45.4	
	comp=Z,1.9nm,0.5s						
SNPN	Snap Lake	17.07	184	PN	P	18 15 16.3	-3.8
SNPN				SN	S	18 18 12.2	-16
SNPN				Trac		18 18 24.6	
	comp=Z,0.8nm,0.1s						
YKW3	Yellowknife Ar	18.10	190	PN	P	18 15 31.2	-1.8
YKW3				SN	S	18 18 38.0	-14

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*STR **21** 18:12:49.7±0.3, 42.32N×2.15E, h5^{km}±1^{km}, Ml3.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **21** 18:12:50.1±0.1, 42.32N×2.15E, h4^{km}, Md3.0/3, Ml2.9/24, Error ellipse: s-maj=1.9km s-min=1.2km az=169.0*
*NEIC **21** 18:12:50.1, 42.32N×2.15E, h4^{km}, ML3.0(STR), ML2.9(LDG), ML2.3(MRB), MN2.3(MDD), After LDG.*
*MDD **21** 18:12:50.3±0.2, 42.33N×2.17E, h4^{km}±2^{km}, mbLg2.3/27, Error ellipse: s-maj=1.8km s-min=1.5km az=171.0, AftershockPLICA PRXIMO*
ISC 21 18:12:48.2±0.3**, 42.41N**±0.02×**2.24E**±0.02**, h4^{km}**±2^{km}**, n86, σ1^{s}49**/170**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBRU	Bruguera	0.14	200	Pg	Pg	18 12 51.1	+0.1
CBRU				Lg		18 12 52.2	
	149nm,0.1s						
CBRU	Bruguera	0.14	200	Pg	Pg	18 12 51.2	+0.2
CBRU				Sg	Sg	18 12 52.2	-0.6
VALF	Valcebollere	0.17	266	Pg	Pg	18 12 52.5	+0.9
VALF				Sg	Sg	18 12 54.7	+0.8
VALF	Valcebollere	0.17	266	P	Pg	18 12 52.6	+1.0
VALF				S	Sg	18 12 54.5	+0.7
CLLI	Llivia	0.21	289	Pg	Pg	18 12 53.9	+1.5
CLLI				Lg		18 12 56.8	
	62nm,0.1s						
CLLI	Llivia	0.21	289	Pg	Pg	18 12 54.0	+1.6
CLLI				Sg	Sg	18 12 56.8	+1.6
FILF	Fillols	0.28	58	Pg	Pg	18 12 55.7	+1.9
FILF				Sg	Sg	18 12 59.9	+2.4
FILF	Fillols	0.28	58	P	Pg	18 12 55.7	+1.9
FILF				S	Sg	18 12 59.8	+2.3
CARF	Carcanieres	0.32	342	P	Pg	18 12 57.6	+3.0
CARF				S	Sg	18 13 02.5	+3.6
SJAF	Saint Jean de	0.48	81	Pg	Pg	18 13 00.2	+2.4
SJAF				Sg	Sg	18 13 08.0	+3.8
SJAF	Saint Jean de	0.48	81	P	Pg	18 13 00.2	+2.5
SJAF				S	Sg	18 13 07.9	+3.7
EJON	La Jonquera	0.48	85	Pg	Pg	18 13 00.3	+2.5
	9.8nm,0.1s,SNR=7.9						
EJON				Lg		18 13 08.1	
	25nm,0.2s,SNR=7.9						
LRDF	Laroque-de-Fa	0.57	22	Pg	Pg	18 13 02.7	+3.1
LRDF				Sg	Sg	18 13 12.6	+5.4
LRDF	Laroque-de-Fa	0.57	22	P	Pg	18 13 02.5	+3.0
LRDF				S	Sg	18 13 12.2	+5.0
LPEF	Le Peyrat	0.59	335	Pg	Pg	18 13 02.4	+2.4
LPEF				Sg	Sg	18 13 11.6	+3.7
LPEF	Le Peyrat	0.59	335	P	Pg	18 13 02.5	+2.5
LPEF				S	Sg	18 13 11.4	+3.6
GRBF	Gourbit	0.68	310	Pg	Pg	18 13 02.8	+1.1
GRBF	Gourbit	0.68	310	Pg	Pg	18 13 02.8	+1.1
CORG	Organya	0.71	255	Pg	Pg	18 13 02.0	-0.4
CORG				Lg		18 13 11.3	
	17nm,0.1s						
CORG	Organya	0.71	255	Pg	Pg	18 13 02.1	-0.3
CORG				Sg	Sg	18 13 11.3	-0.5
EMIR	Miracle	0.73	227	Pg	Pg	18 13 01.9	-0.9
	28nm,0.3s,SNR=31						
EMIR				Lg		18 13 10.8	
	96nm,0.2s,SNR=7.9						
CSOR	Sort	0.82	268	Pg	Pg	18 13 04.2	-0.4
CSOR				Lg		18 13 15.0	
	32nm,0.1s						
CSOR	Sort	0.82	268	Pg	Pg	18 13 04.2	-0.4
CSOR				Sg	Sg	18 13 15.0	-0.6
SALF	Salau	0.85	294	Pg	Pg	18 13 05.5	+0.3
SALF	Salau	0.85	294	P	Pg	18 13 05.4	+0.2
SALF				S	Sg	18 13 16.6	0.0
MTLF	Montolieu	0.93	359	ePg	Pg	18 13 08.9	+2.2
MTLF				ePn	Pn	18 13 10.2	+2.3
MTLF				eSg	Sg	18 13 22.1	+3.0
	94nm,0.3s						
MLS	Moulis	1.01	303	Pg	Pg	18 13 09.0	+0.7
MLS				Sg	Sg	18 13 21.8	+0.1
MLS	Moulis	1.01	303	P	Pb	18 13 08.9	+1.0
MLS				S	Sb	18 13 21.6	+0.3
MELF	Melles	1.19	293	Pg	Pg	18 13 11.8	-0.1
MELF				Sg	Sg	18 13 27.5	-0.2
MELF	Melles	1.19	293	P	Pb	18 13 11.8	+0.8
MELF				S	Sb	18 13 27.0	+0.5
CAVN	Les Avellanes	1.23	245	Pg	Pg	18 13 11.2	-1.5
CAVN				Lg		18 13 26.3	
	96nm,0.1s						
CAVN	Les Avellanes	1.23	245	Pg	Pg	18 13 11.3	-1.5
CAVN				Sg	Sg	18 13 26.3	-2.8
EPOB	Poblet	1.37	220	Pg	Pg	18 13 13.4	-2.1
	12nm,0.3s,SNR=161						
EPOB				Lg		18 13 29.7	
	26nm,0.2s,SNR=7.9						
CGAR	Garraf	1.39	217	Pg	Pg	18 13 09.9	-6.1
CGAR				Lg		18 13 23.9	
	22nm,0.1s						
CGAR	Garraf	1.39	217	Pg	Pg	18 13 09.9	-6.1
CGAR				Sg		18 13 23.9	
RESF	Ens	1.46	286	Pg	Pg	18 13 18.0	+0.6
RESF				Sg	Sg	18 13 39.0	+2.2
RESF	Ens	1.46	286	P	Pn	18 13 17.0	+1.5
RESF				S	Sb	18 13 37.3	+2.8
EPF	Esparros	1.53	294	ePg	Pg	18 13 18.7	-0.1
EPF				eSg	Sg	18 13 38.0	-1.2
	28nm,0.2s						
VIEF	Viey	1.70	287	Pg	Pg	18 13 20.8	-1.4
VIEF				Sg	Sg	18 13 44.9	0.0
VIEF	Viey	1.70	287	P	Pn	18 13 20.9	+2.0
VIEF				S	Sn	18 13 44.9	+3.4
LABF	Labassere	1.72	292	Pg	Pg	18 13 21.8	-0.7
LABF	Labassere	1.72	292	P	Pn	18 13 22.0	+2.8
LABF				S	Sn	18 13 44.2	+2.3
LASF	Ste Croix	2.04	35	ePn	Pn	18 13 24.7	+0.9
LASF				ePg	Pg	18 13 29.6	+0.7
LASF				eSg	Sg	18 13 58.3	+2.2
	6.6nm,0.3s						
REYF	Montagne du Re	2.05	290	Pg	Pg	18 13 28.2	-0.9
REYF	Montagne du Re	2.05	290	P	Pn	18 13 27.9	+4.0
REYF				S	Sn	18 13 55.9	+5.6
EBR	Ebro Roquetas	2.06	220	eP*	Pb	18 13 27.5	+1.6
EBR	Ebro Roquetas	2.06	220	eSN	Sn	18 13 52.0	+1.4
FDAF	Les Forges d'A	2.11	282	Pg	Pg	18 13 27.6	-2.8
FDAF				Sg	Sg	18 13 56.7	-1.9
FDAF	Les Forges d'A	2.11	282	P	Pn	18 13 27.7	+2.9
FDAF				S	Sn	18 13 56.5	+4.6
ETSF	Etsaut	2.12	284	ePg	Pg	18 13 27.8	-2.8
ETSF				eSg	Sg	18 13 55.8	-3.1
	54nm,0.4s						
ESAC	San Caprasio	2.13	252	Pn	Pn	18 13 25.5	+0.4
	17nm,0.3s,SNR=13						
ESAC				Sn	Sn	18 13 52.6	+0.2
	SNR=7.9						
ESAC	San Caprasio	2.13	252	Pn	Pn	18 13 25.5	+0.4
ESAC				Sn	Sn	18 13 52.6	+0.2
ATE	Arette	2.27	288	P	Pn	18 13 32.3	+5.3
ATE				S	Sn	18 14 00.2	+4.3
LARF	Larrau	2.46	286	Pg	Pg	18 13 32.6	-4.7
LARF	Larrau	2.46	286	P	Pn	18 13 32.7	+2.9
LARF				S	Sn	18 14 07.3	+6.6
CAF	Calviac	2.52	357	ePn	Pn	18 13 31.2	+0.6
CAF				ePg	Pg	18 13 38.4	0.0
CAF				eSn	Sn	18 14 01.8	-0.3
CAF				eSg	Sg	18 14 11.2	-0.8
	25nm,0.2s						
SJPF	Ste Jean	2.65	287	ePn	Pn	18 13 32.1	-0.4
SJPF				ePg	Pg	18 13 37.8	-3.3
SJPF				eSg	Sg	18 14 11.4	-5.0
	10nm,0.3s						
LFF	La Frestale	2.75	337	ePn	Pn	18 13 34.7	+0.8
LFF				ePg	Pg	18 13 42.4	-0.7
LFF				eSn	Sn	18 14 06.1	-2.0
LFF				eSg	Sg	18 14 18.4	-1.4
	56nm,0.4s						
EALK	Alkurruntz	2.87	288	Pn	Pn	18 13 38.5	+2.8
	6.0nm,0.4s,SNR=7.7						
EALK				Sn	Sn	18 14 12.2	+1.0
	SNR=7.9						
EALK				Lg		18 14 23.1	
	10nm,0.7s,SNR=7.9						
EMOS	Mosqueruela	2.89	226	Pn	Pn	18 13 35.5	-0.5
	SNR=7.9						
EMOS				Pg	Pg	18 13 42.6	-3.3
	SNR=7.9						
EMOS				Sn	Sn	18 14 09.1	-2.5
	SNR=7.9						
EMOS				Lg		18 14 20.2	
	2.6nm,0.3s,SNR=7.9						
SMRF	Simiane la Rot	2.90	56	ePn	Pn	18 13 36.5	+0.5
SMRF				ePg	Pg	18 13 45.8	-0.2
SMRF				eSn	Sn	18 14 10.9	-0.8
SMRF				eSg	Sg	18 14 25.0	+0.4
	3.4nm,0.5s						
LBL	Lubilhac	2.91	14	Pn	Pn	18 13 37.6	+1.4
LBL				Pg	Pg	18 13 46.6	+0.3
RJF	Les Rejaudoux	2.94	350	ePn	Pn	18 13 36.4	-0.2
RJF				ePg	Pg	18 13 46.1	-0.8
RJF				eSn	Sn	18 14 12.3	-0.5
RJF				eSg	Sg	18 14 23.7	-2.3
	14nm,0.2s						
VIVF	Saint-Julien-l	3.01	35	ePn	Pn	18 13 38.0	+0.3
VIVF				ePg	Pg	18 13 47.5	-0.9
VIVF				eSn	Sn	18 14 13.9	-0.8
VIVF				eSg	Sg	18 14 28.3	-0.2
	6.5nm,0.3s						
LMR	La Mourre	3.27	72	ePn	Pn	18 13 42.4	+1.1
LMR				eSn	Sn	18 14 18.7	-2.5
	4.6nm,0.2s						
PYM	Petit Puy Mans	3.38	9	Pn	Pn	18 13 44.6	+1.7
FRF	La Foret Royal	3.43	69	ePn	Pn	18 13 45.0	+1.4
FRF				eSn	Sn	18 14 23.8	-1.5
	7.1nm,0.3s						
EIBI	Ibiza	3.45	192	Pn	Pn	18 13 41.5	-2.3
	SNR=7.9						
EIBI				Sn	Sn	18 14 20.1	-5.7
	SNR=7.9						
ETOR	Torete	3.59	245	Pn	Pn	18 13 46.4	+0.5
	2.7nm,0.7s,SNR=10						
ETOR				Sn	Sn	18 14 26.7	-2.7
	SNR=7.9						
ETOR				Lg		18 14 42.4	
	6.8nm,0.3s,SNR=7.9						
ORIF	Oris-en-Rattie	3.64	45	ePn	Pn	18 13 46.0	-0.6
ORIF				eSn	Sn	18 14 28.8	-1.8
	0.5nm,0.2s						
TCF	Toulx Ste Croi	3.88	360	ePn	Pn	18 13 49.6	-0.3
TCF				ePg	Pg	18 14 03.5	-2.1
TCF				eSg	Sg	18 14 54.0	-3.2
	7.6nm,0.3s						
MBDF	Montbardon	4.02	53	ePn	Pn	18 13 52.4	+0.4
MBDF				eSn	Sn	18 14 37.5	-2.8
	1.4nm,0.3s						
SBF	Sospel	4.07	67	ePn	Pn	18 13 53.8	+1.1
SBF				eSn	Sn	18 14 39.0	-2.4
	9.6nm,0.4s						
BGF	Bois d'Agland	4.17	6	ePn	Pn	18 13 54.3	+0.2
BGF				ePg	Pg	18 14 08.8	-2.6
BGF				eSg	Sg	18 15 03.6	-3.3
	26nm,0.4s						
ELAN	Lanestosa	4.25	283	Pn	Pn	18 13 56.2	+0.9
	SNR=7.9						
ELAN				Sn	Sn	18 14 45.1	-1.1
	SNR=7.9						
SMF	Signal de Mont	4.38	15	ePn	Pn	18 13 57.5	+0.3
SMF				ePg	Pg	18 14 13.2	-2.5
SMF				eSg	Sg	18 15 09.7	-4.4
	7.0nm,0.4s						
AVF	Avril sur Loir	4.45	10	eSg	Sg	18 15 12.8	-3.5
	2.4nm,0.3s						
AVF	Avril sur Loir	4.45	10	Pn	Pn	18 13 58.7	+0.6
AVF				Pg	Pg	18 14 14.6	-2.4
AVF				Lg		18 15 12.8	
	1.2nm,0.3s						
AVF	Avril sur Loir	4.45	10	ePn	Pn	18 13 58.7	+0.6
AVF				ePg	Pg	18 14 14.6	-2.4
AVF				eSg	Sg	18 15 12.8	-3.5
MFF	Saint Martin d	4.52	339	eSg	Sg	18 15 13.7	-5.1
	4.8nm,0.3s						
MFF	Saint Martin d	4.52	339	Pn	Pn	18 13 58.7	-0.4
MFF				Pg	Pg	18 14 15.3	-3.2
MFF				Sn	Sn	18 14 49.8	-3.2
MFF				Lg		18 15 13.7	
	2.4nm,0.3s						
MFF	Saint Martin d	4.52	339	ePn	Pn	18 13 58.7	-0.4
MFF				ePg	Pg	18 14 15.3	-3.2
MFF				eSn	Sn	18 14 49.8	-3.2
MFF				eSg	Sg	18 15 13.7	-5.1
PGF	Pioggiola	5.00	86	ePn	Pn	18 14 04.3	-1.6
PGF				eSn	Sn	18 14 59.5	-5.5
	2.9nm,0.3s						
CABF	La Chapelle	5.02	32	eSg	Sg	18 15 30.6	-4.7
	0.6nm,0.2s						
ROSF	Rostrenen	7.08	329	ePn	Pn	18 14 33.5	-1.7
ROSF				eSn	Sn	18 15 48.9	-8.2
	1.6nm,0.3s						
EFAM	Famara	18.39	229	P	P	18 17 06.3	+0.6
	10nm,0.7s						

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*SNSN **21** 18:12:50.9, 28.45N×34.61E, h17^{km}, Ml2.6*
*GII **21** 18:12:53.9±0.8, 28.54N×34.70E, h5^{km}±30^{km}, ML2.1/2*
ISC 21 18:12:49.9±1.6**, 28.42N**±0.05×**34.6E**±0.1**, h4^{km}**±6^{km}**, n14, σ0^{s}82**/19**, Egypt**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAYS	Tayyib Ism	0.30	63	P	Pg	18 12 56.6	+0.7
TAYS				S	Sg	18 13 00.6	+0.7
BDAS	Al Bad'	0.47	88	P	Pg	18 12 59.8	+0.6
AYUS	'Aynunah	0.66	110	P	Pg	18 13 03.6	+0.6
HAQS	Haql	0.71	26	P	Pg	18 13 04.0	-0.1
JMOS	Jabal al Moall	0.89	32	P	Pb	18 13 07.0	-0.4
ALWS	Ilw as Safayha	0.99	26	P	Pb	18 13 08.9	-0.3
JMQS	Jabal Moqyreh	1.24	68	P	Pb	18 13 12.7	-0.7
EIL	Elat	1.29	15	Pg	Pg	18 13 15.0	-0.7
EIL				Sg	Sg	18 13 32.2	-0.7
MBH	Mount Berech	1.40	12	Pg	Pg	18 13 18.7	+0.7
MBH				Sg	Sg	18 13 35.4	-1.3
HRFI	Mount Harif	1.66	14	Sn	Sn	18 13 43.0	+1.0
KMTI	Karmit	1.69	5	Pn	Pn	18 13 22.0	+1.7
KMTI				Sn	Sn	18 13 43.1	+0.5
DBAS	Duba	1.73	134	P	Pn	18 13 19.7	-1.2
TBKS	Tabuk	1.75	96	P	Pn	18 13 20.3	-1.0
PRNI	Paran	1.96	11	Pn	Pn	18 13 25.0	+0.7
PRNI				Sn	Sn	18 13 49.1	-0.5

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*NIED **21** 18:17:00, 24.80N×122.00E, h5^{km}, Mw4.2 Best double couple: $M_0$2.33×10^{15} NP1:ϕ_s83°, δ68°, λ-72°. NP2:ϕ_s221°, δ28°, λ-128°.*
*TAP **21** 18:17:02.6, 24.90N×122.11E, h4^{km}±1^{km}, ML4.0*
*BJI **21** 18:17:05.0, 24.90N×122.10E, h15^{km}, mb4.4, ML4.1, Ms3.9, Msz3.8*
*NEIC **21** 18:17:05.0±2.1, 24.88N×122.07E, h15^{km}±13^{km}, mb4.3/4, Error ellipse: s-maj=17.5km s-min=13.2km az=215.0*
*IDC **21** 18:17:10.7±4.8, 25.03N×122.23E, h75^{km}±54^{km}, mb3.5/4, mb1 3.7/4, mb1mx3.4/18, Error ellipse: s-maj=38.7km s-min=21.6km az=58.0*
ISC 21 18:17:04.6±0.9**, 24.85N**±0.07×**122.11E**±0.04**, h25^{km}**±7^{km}**, n24, σ1^{s}06**/29**, mb4.2**/6**, 1C-1D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TATO	Taipei	0.57	283	⇑iPn	Pb	18 17 15.2	-0.8
YOJ	Yonaguni jima	0.91	115	P	Pb	18 17 21.1	-0.5
YOJ				eS	Sb	18 17 33.9	+0.6
IRIF	Iriomote-Funau	1.56	109	P	Pn	18 17 30.3	-1.0
IRIF				S	Sn	18 17 50.3	-0.6
HATJ	Hateruma jima	1.74	117	P	Pn	18 17 33.5	-0.2
HATJ				eS	Sn	18 17 55.3	0.0
JKRS	Kuro-shima	1.84	109	P	Pn	18 17 34.8	-0.4
JIJ	Ishigaki jima	1.92	104	P	Pn	18 17 35.2	-1.1
JIJ				eS	Sn	18 18 00.8	+1.0
JTJ	Tarama	2.37	94	P	Pn	18 17 42.7	-0.1
JOGS	Gusukube	3.00	91	P	Pn	18 17 52.8	+1.0
QZH	Quanzhou	3.19	272	⇓iP	Pn	18 17 53.8	-0.7
QZH				S	Sn	18 18 34.0	+1.8
QZH				Smax			
	comp=N,420nm,1.1s						
QZH				Smax			
	comp=E,200nm,1.0s						
QZH				LR	LR		
	comp=N,830nm,5.1s						
QZH				LR	LR		
	comp=E,1µm,6.9s						
QZH				LR	LR		
	comp=Z,2µm,9.9s						
JKE	Kume jima 2	4.47	70	P	Pn	18 18 14.8	+2.1
JAGN	Aguni-jima	4.95	68	P	Pn	18 18 20.6	+1.2
JIH	Iheya	5.71	66	P	Pn	18 18 29.7	-0.4
JOW	Kunigami	5.90	69	P	Pn	18 18 33.3	+0.5
CD2	Chengdu	17.30	295	eP	P	18 21 09.0	+2.8
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s						
LZH	Lanzhou	19.28	310	eP	P	18 21 31.0	+0.6
LZH				AP		18 21 41.5	
LZH				AMB	AMB		
	comp=Z,29nm,1.6s						
LZH	Lanzhou	19.28	310	eP	P	18 21 31.0	+0.6
	comp=Z,29nm,1.6s						
LZH				pP		18 21 41.5	
LZH				sP		18 21 47.0	
CMAR	Chiang Mai Arr	22.43	258	P	P	18 22 05.3	+2.2
	comp=Z,0.3nm,0.7s,baz=68,slow=9.7,SNR=3.6						
SONM	Songino Array	26.10	335	P	P	18 22 36.6	-1.5
	comp=Z,1.7nm,0.9s,mb3.6,baz=145,slow=9.0,SNR=8.2						
MKAR	Makanchi Array	38.45	315	P	P	18 24 24.4	-1.8
	comp=Z,0.7nm,0.7s,mb3.5,baz=90,slow=8.5,SNR=5.6						
WRAB	Tennant Creek	46.08	164	eP	P	18 25 28.3	-0.3
	comp=Z,15nm,0.9s,mb4.9						
WRA	Warramunga Arr	46.09	164	P	P	18 25 28.4	-0.4
	comp=Z,5.1nm,0.7s,mb4.6,baz=347,slow=8.9,SNR=26						
WB2	Warramunga Arr	46.09	164	eP	P	18 25 28.8	+0.1
BRVK	Borovoye	47.77	320	P	P	18 25 40.7	-0.8
	comp=Z,2.4nm,0.9s,mb4.2						
ZRNK	Zerenda	48.49	320	eP	P	18 25 45.9	-1.2
	comp=Z,4.1nm,1.1s,mb4.4						

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*STR **21** 18:25:15.0±0.3, 42.32N×2.15E, h5^{km}±1^{km}, Ml2.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*MDD **21** 18:25:15.8±0.2, 42.33N×2.16E, h0^{km}±4^{km}, mbLg2.1/25, Error ellipse: s-maj=1.8km s-min=1.6km az=168.0, AftershockPLICA PRXIMO*
*LDG **21** 18:25:16.2±0.2, 42.34N×2.14E, h4^{km}, Md2.8/2, Ml2.7/20, Error ellipse: s-maj=3.2km s-min=1.8km az=174.0*
*NEIC **21** 18:25:16.2, 42.34N×2.14E, h4^{km}, ML2.7(LDG), ML2.7(STR), MN1.8(MDD), After LDG.*
ISC 21 18:25:14.0±0.4**, 42.36N**±0.02×**2.21E**±0.02**, h3^{km}**±3^{km}**, n56, σ1^{s}37**/105**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBRU	Bruguera	0.08	198	Pg	Pg	18 25 16.6	+1.0
CBRU				Lg		18 25 17.6	
	222nm,0.2s						
VALF	Valcebollere	0.15	287	Pg	Pg	18 25 18.0	+1.0
VALF				Sg	Sg	18 25 19.8	+0.7
VALF	Valcebollere	0.15	287	P	Pg	18 25 18.1	+1.0
VALF				S	Sg	18 25 20.0	+0.9
CLLI	Llivia	0.21	304	Pg	Pg	18 25 19.4	+1.1
CLLI				Lg		18 25 22.2	
	96nm,0.1s						
FILF	Fillols	0.33	52	Pg	Pg	18 25 21.1	+0.6
FILF				Sg	Sg	18 25 25.3	+0.4
FILF	Fillols	0.33	52	P	Pg	18 25 21.2	+0.7
FILF				S	Sg	18 25 25.3	+0.4
CARF	Carcanieres	0.37	348	P	Pg	18 25 23.1	+1.8
CARF				S	Sg	18 25 28.0	+1.8
EJON	La Jonquera	0.51	80	Pg	Pg	18 25 26.0	+1.8
	3.2nm,0.3s,SNR=26						
EJON				Lg		18 25 33.4	
	14nm,0.2s,SNR=7.9						
SJAF	Saint Jean de	0.51	76	Pg	Pg	18 25 25.9	+1.7
SJAF				Sg	Sg	18 25 33.6	+2.6
SJAF	Saint Jean de	0.51	76	P	Pg	18 25 25.9	+1.7
SJAF				S	Sg	18 25 33.4	+2.4
LRDF	Laroque-de-Fa	0.63	22	Pg	Pg	18 25 28.2	+1.7
LRDF				Sg	Sg	18 25 38.1	+3.2
LRDF	Laroque-de-Fa	0.63	22	P	Pg	18 25 28.1	+1.6

LRDF				S	Sg	18 25 38.0	+3.1
LPEF	**Le Peyrat**	0.63	339	Pg	Pg	18 25 27.7	+1.1
LPEF				Sg	Sg	18 25 36.8	+1.8
LPEF	**Le Peyrat**	0.63	339	P	Pg	18 25 28.0	+1.4
LPEF				S	Sg	18 25 36.9	+1.9
CORG	**Organya**	0.68	259	Pg	Pg	18 25 27.4	-0.1
CORG				Lg		18 25 36.7	
	6.3nm,0.0s						
EMIR	**Miracle**	0.68	229	Pg	Pg	18 25 27.3	-0.2
	14nm,0.3s,SNR=14						
EMIR				Lg		18 25 36.1	
	20nm,0.4s,SNR=7.9						
GRBF	**Gourbit**	0.69	314	P	Pg	18 25 28.2	+0.3
GRBF				S	Sg	18 25 37.9	+0.8
CSOR	**Sort**	0.80	272	Pg	Pg	18 25 29.8	-0.1
CSOR				Lg		18 25 40.5	
	12nm,0.1s						
SALF	**Salau**	0.86	298	Pg	Pg	18 25 30.9	-0.2
SALF	**Salau**	0.86	298	P	Pg	18 25 31.0	0.0
SALF				S	Sg	18 25 42.3	-0.2
MTLF	**Montolieu**	0.98	0	*e*Pg	Pg	18 25 34.2	+0.6
MTLF				*e*Pn	Pn	18 25 35.7	+1.2
MTLF				*e*Sg	Sg	18 25 47.6	+0.9
	26nm,0.2s						
MLS	**Moulis**	1.02	306	S	Sb	18 25 47.9	+0.3
CAVN	**Les Avellanes**	1.19	247	Pg	Pg	18 25 36.7	-1.0
CAVN				Lg		18 25 52.0	
	44nm,0.1s						
MELF	**Melles**	1.19	296	Pg	Pg	18 25 37.2	-0.5
MELF				Sg	Sg	18 25 52.3	-1.3
MELF	**Melles**	1.19	296	P	Pb	18 25 37.3	+0.4
MELF				S	Sb	18 25 52.1	-0.4
EPOB	**Poblet**	1.31	221	Pg	Pg	18 25 39.0	-1.2
	12nm,0.6s,SNR=75						
EPOB				Lg		18 25 55.9	
	12nm,0.2s,SNR=7.9						
CGAR	**Garraf**	1.33	218	Pg	Pg	18 25 35.0	-5.6
CGAR				Lg		18 25 49.4	
	11nm,0.2s						
RESF	**Ens**	1.46	289	Pg	Pg	18 25 44.1	+1.1
RESF	**Ens**	1.46	289	P	Pn	18 25 44.4	+3.1
RESF				S	Sb	18 26 02.5	+2.2
EPF	**Esparros**	1.54	297	*e*Pn	Pn	18 25 42.8	+0.4
EPF				*e*Pg	Pg	18 25 44.2	-0.4
EPF				*e*Sg	Sg	18 26 03.6	-1.5
	16nm,0.2s						
VIEF	**Viey**	1.70	289	Pg	Pg	18 25 46.5	-1.4
VIEF				Sg	Sg	18 26 10.3	-0.2
VIEF	**Viey**	1.70	289	P	Pn	18 25 46.6	+1.9
VIEF				S	Sb	18 26 10.3	+3.1
LABF	**Labassere**	1.72	294	S	Sn	18 26 10.1	+2.2
EBR	**Ebro Roquetas**	2.01	221	*e*SN	Sn	18 26 17.0	+1.9
EBR				*e*SG	Sg	18 26 20.0	-0.8
LASF	**Ste Croix**	2.10	34	*e*Pn	Pn	18 25 50.6	+0.2
LASF				*e*Pg	Pg	18 25 55.3	-0.5
LASF				*e*Sg	Sg	18 26 24.3	+0.5
	3.2nm,0.2s						
ESAC	**San Caprasio**	2.10	253	Pn	Pn	18 25 52.5	+2.0
	SNR=7.9						
ESAC				Sn	Sn	18 26 18.3	+0.9
	SNR=7.9						
ETSF	**Etsaut**	2.12	286	*e*Pg	Pg	18 25 54.4	-1.8
ETSF				*e*Sg	Sg	18 26 21.7	-2.7
	24nm,0.4s						
ATE	**Arette**	2.27	290	S	Sn	18 26 26.6	+4.9
CAF	**Calviac**	2.57	358	*e*Pn	Pn	18 25 57.2	0.0
CAF				*e*Pg	Pg	18 26 04.0	-1.3
CAF				*e*Sn	Sn	18 26 28.1	-1.3
CAF				*e*Sg	Sg	18 26 36.7	-2.8
	12nm,0.2s						
SJPF	**Ste Jean**	2.64	288	*e*Pg	Pg	18 26 03.9	-2.8
SJPF				*e*Sg	Sg	18 26 36.8	-5.2
	3.6nm,0.2s						
LFF	**La Frestale**	2.79	338	*e*Pn	Pn	18 26 00.8	+0.4
LFF				*e*Sg	Sg	18 26 43.8	-3.1
	27nm,0.4s						
EMOS	**Mosqueruela**	2.84	226	Pn	Pn	18 26 00.2	-0.9
	SNR=7.9						
EMOS				Pg	Pg	18 26 06.5	-4.1
	SNR=7.9						
EMOS				Sn	Sn	18 26 34.7	-1.5
	SNR=7.9						
EMOS				Lg		18 26 45.7	
	1.0nm,0.2s,SNR=7.9						
EALK	**Alkurruntz**	2.87	289	Lg		18 26 48.8	
	2.8nm,0.2s,SNR=7.9						
SMRF	**Simiane la Rot**	2.94	56	*e*Pn	Pn	18 26 03.3	+0.7
SMRF				*e*Pg	Pg	18 26 12.3	-0.4
SMRF				*e*Sg	Sg	18 26 51.5	-0.5
	1.8nm,0.3s						
RJF	**Les Rejaudoux**	2.99	351	*e*Pn	Pn	18 26 02.8	-0.4
RJF				*e*Sg	Sg	18 26 49.8	-3.6
	7.6nm,0.2s						
VIVF	**Saint-Julien-l**	3.07	35	*e*Pn	Pn	18 26 03.8	-0.6
VIVF				*e*Pg	Pg	18 26 13.0	-2.3
VIVF				*e*Sn	Sn	18 26 39.8	-2.3
VIVF				*e*Sg	Sg	18 26 54.4	-1.8
	2.8nm,0.2s						
LMR	**La Mourre**	3.31	71	*e*Pn	Pn	18 26 07.8	+0.1
LMR				*e*Sn	Sn	18 26 44.1	-4.0
	2.9nm,0.3s						
FRF	**La Foret Royal**	3.47	68	*e*Pn	Pn	18 26 09.7	-0.3
FRF				*e*Sn	Sn	18 26 48.6	-3.6
	2.5nm,0.2s						
ETOR	**Torete**	3.55	246	Pn	Pn	18 26 11.6	+0.4
	SNR=7.9						
ETOR				Sn	Sn	18 26 51.9	-2.3
	SNR=7.9						
ETOR				Lg		18 27 07.7	
	SNR=7.9						
TCF	**Toulx Ste Croi**	3.93	360	*e*Pg	Pg	18 26 29.0	-3.4
TCF				*e*Sg	Sg	18 27 20.0	-4.8
	2.6nm,0.3s						
SBF	**Sospel**	4.11	67	*e*Pn	Pn	18 26 19.2	+0.1
SBF				*e*Sn	Sn	18 27 04.6	-3.8
	5.0nm,0.4s						
BGF	**Bois d'Agland**	4.22	6	*e*Pg	Pg	18 26 33.2	-5.1
BGF				*e*Sg	Sg	18 27 29.2	-5.4
	13nm,0.4s						
SMF	**Signal de Mont**	4.44	15	*e*Pg	Pg	18 26 38.4	-4.2
SMF				*e*Sg	Sg	18 27 35.3	-6.5
	3.3nm,0.3s						
AVF	**Avril sur Loir**	4.51	10	*e*Pg	Pg	18 26 40.2	-3.7
AVF				*e*Sg	Sg	18 27 38.2	-5.8
	2.4nm,0.5s						
MFF	**Saint Martin d**	4.57	339	*e*Pn	Pn	18 26 24.8	-0.8
MFF				*e*Sg	Sg	18 27 39.7	-6.3
	1.3nm,0.3s						
PGF	**Pioggiola**	5.03	86	*e*Pn	Pn	18 26 29.9	-2.2
PGF				*e*Sn	Sn	18 27 25.2	-6.4
	0.9nm,0.2s						

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*THE **21** 18:28:17.0, 38.73N×23.11E, h1^{km}, ML2.9*

*NEIC **21** 18:28:19.2, 38.82N×23.03E, h9^{km}, ML3.2(ATH), After ATH.*

*ATH **21** 18:28:19.2, 38.82N×23.03E, h9^{km}±1^{km}, MD3.0/8, ML3.2*

ISC 21 18:28:18.7±0.4, **38.83N**±0.02×**23.07E**±0.05, **h9^{km}, n19, $\sigma 1\overset{s}{.}00$**/30, **2C, Greece**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LKR	**Lokris**	0.19	196	⇑*i*PG	Pg	18 28 22.8	0.0
LKR				*e*SG	Sg	18 28 25.6	+0.1
NEO	**Neokhori**	0.49	14	⇑*i*PB	Pb	18 28 29.1	0.0
NEO				*e*SB	Sb	18 28 36.1	0.0
XOR	**Xorichti**	0.55	10	*e*Pg	Pg	18 28 30.0	+0.3
XOR				*e*Sg	Sg	18 28 38.0	+0.9
AGG	**Agios Georgios**	0.60	289	*e*Pg	Pg	18 28 29.9	-1.1
AGG				*e*Sg	Sg	18 28 39.0	0.0
MKIT	**Kithairon Oros**	0.66	167	*e*PB	Pb	18 28 31.2	-0.8
MKIT				*e*SB	Sb	18 28 41.8	+0.8
AOS	**Alonnisos**	0.72	61	*e*Pg	Pg	18 28 30.1	-3.1
MPAR	**Parnis Oros**	0.86	142	*e*PB	Pb	18 28 36.0	+0.7
MPAR				*e*SB	Sb	18 28 47.5	+0.8
NSAL	**Nisos Salamina**	0.97	161	*e*PG	Pg	18 28 37.3	-0.9
NSAL				*e*SB	Sb	18 28 51.5	+1.4
EVR	**Evrytania**	0.98	275	*e*PB	Pb	18 28 37.2	-0.3
ATH	**Athens Observa**	1.00	149	*e*PN	Pn	18 28 38.6	-0.2
ATH				*e*SB	Sb	18 28 51.6	+0.8
PTL	**Penteli**	1.00	141	*e*PB	Pb	18 28 38.0	+0.2
NAIG	**Nisos Aigina**	1.12	163	*e*PG	Pg	18 28 40.0	-1.1
LIT	**Litokhoron**	1.35	341	*e*Pb	Pb	18 28 43.2	-0.5
LIT				*e*Sb	Sb	18 29 03.2	+2.3
OUR	**Ouranopolis**	1.66	25	*e*Pb	Pb	18 28 47.5	-1.6
SOH	**Sokhos**	2.00	6	*e*Pn	Pn	18 28 52.3	-0.9
GRG	**Griva**	2.19	347	*e*Pn	Pn	18 28 55.6	-0.2
GRG				*e*Sn	Sn	18 29 25.6	+2.4
SRS	**Serrai**	2.32	10	*e*Pn	Pn	18 28 56.8	-0.9
KNT	**Kendrikon**	2.33	357	*e*Pn	Pn	18 28 57.5	-0.4
FNA	**Florina**	2.35	327	*e*Pn	Pn	18 28 57.1	-1.0
FNA				*e*Sn	Sn	18 29 28.9	+1.6

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*STR **21** 18:56:47.8±0.3, 42.35N×2.14E, h5^{km}±1^{km}, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LDG **21** 18:56:48.1±0.2, 42.33N×2.14E, h4^{km}, Md2.4/3, Ml2.4/13, Error ellipse: s-maj=3.5km s-min=1.9km az=168.0*

*NEIC **21** 18:56:48.1, 42.33N×2.14E, h4^{km}, ML2.6(STR), ML2.4(LDG), MN1.9(MDD), After LDG.*

*MDD **21** 18:56:48.1±0.2, 42.33N×2.15E, h2^{km}±4^{km}, mbLg1.9/13, Error ellipse: s-maj=2.2km s-min=1.9km az=13.0, AftershockPLICA PRXIMO*

ISC 21 18:56:46.9±0.4, **42.44N**±0.02×**2.17E**±0.02, **h2^{km}**±4^{km}**, n36, $\sigma 1\overset{s}{.}36$**/69**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VALF	**Valcebollere**	0.12	251	Pg	Pg	18 56 50.1	+0.9
VALF				Sg	Sg	18 56 52.1	+1.3
VALF	**Valcebollere**	0.12	251	P	Pg	18 56 50.2	+1.0
VALF				S	Sg	18 56 51.9	+1.1
CLLI	**Llivia**	0.15	286	Pg	Pg	18 56 51.6	+1.7
CLLI				Lg		18 56 54.5	
	37nm,0.1s						
CBRU	**Bruguera**	0.15	176	Pg	Pg	18 56 48.8	-1.2
CBRU				Lg		18 56 49.9	
	420nm,0.1s						
CARF	**Carcanieres**	0.28	351	P	Pg	18 56 55.3	+2.8
CARF				S	Sg	18 57 00.7	+4.5
FILF	**Fillols**	0.32	67	Pg	Pg	18 56 53.4	+0.2
FILF				Sg	Sg	18 56 57.7	+0.3
FILF	**Fillols**	0.32	67	P	Pg	18 56 53.6	+0.4
FILF				S	Sg	18 56 57.8	+0.4
SJAF	**Saint Jean de**	0.53	85	Pg	Pg	18 56 59.0	+1.5
SJAF				Sg	Sg	18 57 06.4	+1.8
SJAF	**Saint Jean de**	0.53	85	P	Pg	18 56 58.4	+0.9
SJAF				S	Sg	18 57 06.0	+1.4
EJON	**La Jonquera**	0.54	89	Pg	Pg	18 56 58.5	+0.9
	1.8nm,0.1s,SNR=7.9						
EJON				Lg		18 57 05.8	
	6.0nm,0.1s,SNR=7.9						
LRDF	**Laroque-de-Fa**	0.57	29	Pg	Pg	18 57 00.5	+2.2
LRDF				Sg	Sg	18 57 10.2	+4.4
LRDF	**Laroque-de-Fa**	0.57	29	P	Pg	18 57 00.7	+2.5
LRDF				S	Sg	18 57 10.4	+4.6
CORG	**Organya**	0.66	252	Pg	Pg	18 56 59.5	-0.6
EMIR	**Miracle**	0.71	222	Pg	Pg	18 56 59.6	-1.5
	3.4nm,0.1s,SNR=7.9						
EMIR				Lg		18 57 08.9	
	14nm,0.3s,SNR=7.9						
SALF	**Salau**	0.79	294	Pg	Pg	18 57 03.4	+0.8
SALF	**Salau**	0.79	294	P	Pg	18 57 03.3	+0.7
SALF				S	Sg	18 57 14.4	+1.2
MTLF	**Montolieu**	0.90	2	*e*Pg	Pg	18 57 06.6	+1.7
MTLF				*e*Pn	Pn	18 57 07.8	+1.5
MTLF				*e*Sg	Sg	18 57 20.0	+3.1
	10nm,0.2s						
MELF	**Melles**	1.12	293	Pg	Pg	18 57 10.0	+0.7
MELF				Sg	Sg	18 57 25.3	+1.0
MELF	**Melles**	1.12	293	P	Pb	18 57 10.0	+1.3
MELF				S	Sb	18 57 24.3	+0.7
EPOB	**Poblet**	1.36	217	Pg	Pg	18 57 11.2	-2.7
	SNR=7.9						
EPOB				Lg		18 57 27.9	
	13nm,0.1s,SNR=7.9						
RESF	**Ens**	1.40	286	S	Sb	18 57 34.4	+2.9
EPF	**Esparros**	1.47	294	*e*Pg	Pg	18 57 16.8	+0.6
EPF				*e*Sg	Sg	18 57 35.8	0.0
	8.4nm,0.2s						
VIEF	**Viey**	1.64	286	S	Sb	18 57 42.1	+3.5
LASF	**Ste Croix**	2.05	36	*e*Pn	Pn	18 57 22.4	-0.3
LASF				*e*Pg	Pg	18 57 27.7	-0.1
LASF				*e*Sg	Sg	18 57 56.1	+1.0
	4.2nm,0.3s						
ETSF	**Etsaut**	2.06	284	*e*Pg	Pg	18 57 26.2	-1.8
ETSF				*e*Sg	Sg	18 57 53.6	-1.9
	15nm,0.4s						
CAF	**Calviac**	2.49	358	*e*Pn	Pn	18 57 29.1	+0.1
CAF				*e*Pg	Pg	18 57 36.4	-0.1
CAF				*e*Sn	Sn	18 57 59.7	-0.6
CAF				*e*Sg	Sg	18 58 09.1	-0.6
	3.4nm,0.2s						
SJPF	**Ste Jean**	2.59	286	*e*Pg	Pg	18 57 35.8	-2.7
SJPF				*e*Sg	Sg	18 58 09.3	-3.7
	3.8nm,0.5s						
LFF	**La Frestale**	2.70	338	*e*Pn	Pn	18 57 33.1	+1.0
LFF				*e*Pg	Pg	18 57 40.8	-0.1
	10nm,0.3s						
LFF				*e*Sg	Sg	18 58 16.3	-0.6
EALK	**Alkurruntz**	2.81	287	Pg	Pg	18 57 40.0	-3.0
	SNR=7.9						
EALK				Lg		18 58 18.6	
	SNR=7.9						
RJF	**Les Rejaudoux**	2.90	351	*e*Pn	Pn	18 57 35.0	+0.1
RJF				*e*Pg	Pg	18 57 44.3	-0.5
RJF				*e*Sn	Sn	18 58 09.7	-1.2
RJF				*e*Sg	Sg	18 58 22.7	-0.8
	2.5nm,0.3s						
SMRF	**Simiane la Rot**	2.93	57	*e*Pn	Pn	18 57 35.7	+0.4
SMRF				*e*Pg	Pg	18 57 44.8	-0.5
VIVF	**Saint-Julien-l**	3.02	36	*e*Pn	Pn	18 57 36.0	-0.7
VIVF				*e*Pg	Pg	18 57 45.6	-1.7
VIVF				*e*Sg	Sg	18 58 26.1	-1.5
	1.4nm,0.2s						
LMR	**La Mourre**	3.31	73	*e*Pn	Pn	18 57 40.2	-0.6
LMR				*e*Sn	Sn	18 58 16.6	-4.7
	0.7nm,0.2s						
FRF	**La Foret Royal**	3.47	70	*e*Pn	Pn	18 57 42.9	-0.1
TCF	**Toulx Ste Croi**	3.85	0	*e*Pg	Pg	18 58 01.4	-2.3
TCF				*e*Sg	Sg	18 58 52.9	-2.1
	0.9nm,0.3s						
BGF	**Bois d'Agland**	4.15	7	*e*Pg	Pg	18 58 06.9	-2.8
BGF				*e*Sg	Sg	18 59 02.2	-2.7
	8.7nm,0.4s						

WEL 21 19:04:56.4±0.3, **39.55S×174.79E, h149^{km}**±2^{km}**, ML3.6**/5**, 1C, Error ellipse: s-maj=2.7km s-min=1.4km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WAZ	**Wanganui**	0.26	143	PN	P	19 05 17.2	+0.1
WAZ				SN	S	19 05 32.4	-0.6
VRZ	**Vera Road**	0.42	357	PN	P	19 05 16.7	-1.0
VRZ				SN	S	19 05 32.3	-1.8
NEZ	**North Egmont**	0.60	297	PN	P	19 05 18.0	-0.6
WPVZ	**Whakapapa**	0.68	60	PN	P	19 05 18.6	-0.4
CNZ	**Chateau**	0.69	60	PN	P	19 05 18.6	-0.5
TWVZ	**Taurewa**	0.69	47	PN	P	19 05 18.3	-0.8
NGZ	**Ngauruhoe**	0.73	60	PN	P	19 05 18.9	-0.4
NGZ				SN	S	19 05 35.9	-1.1
MOVZ	**Moawhango**	0.76	80	PN	P	19 05 18.9	-0.7
MOVZ				SN	S	19 05 34.8	-2.5
MGZ	**Maungaku**	0.80	47	PN	P	19 05 19.4	-0.4
MRZ	**Mangatainoka R**	1.27	152	PN	P	19 05 23.5	-0.3
MRZ				SN	S	19 05 43.5	-1.4
KIW	**Kapiti Island**	1.31	176	PN	P	19 05 23.8	-0.4
CAW	**Cannon Point**	1.57	172	PN	P	19 05 26.6	-0.4
BFZ	**Birch Farm**	1.59	136	PN	P	19 05 27.3	+0.1
PWZ	**Pawanui**	1.67	107	SN	S	19 05 51.6	-0.8
MRW	**Makara Radio**	1.68	182	⇑PN	P	19 05 27.6	-0.5
MTW	**Mount Morrison**	1.70	161	PN	P	19 05 27.7	-0.7
SNZO	**South Karori**	1.76	182	PN	P	19 05 28.2	-0.8
SNZO				SN	S	19 05 51.9	-2.2
PAWZ	**Paruwai Farm**	1.90	165	PN	P	19 05 29.9	-0.7
MSWZ	**Moikau Station**	1.90	169	PN	P	19 05 29.9	-0.7
NNZ	**Nelson**	1.98	212	PN	P	19 05 30.3	-1.2
NNZ				SN	S	19 05 56.1	-2.5
TUWZ	**Tuamarina**	1.99	199	PN	P	19 05 30.5	-1.0
TUWZ				SN	S	19 05 55.6	-3.0
QRZ	**Quartz Range**	2.15	233	PN	P	19 05 31.4	-2.2
QRZ				SN	S	19 05 58.0	-4.2
BSWZ	**Blackbirch Sta**	2.27	197	PN	P	19 05 34.0	-1.1
KNZ	**Kokohu**	2.30	78	PN	P	19 05 34.1	-1.5
THZ	**Tophouse**	2.63	212	PN	P	19 05 37.6	-2.2
THZ				SN	S	19 06 09.8	-3.1
THZ				SN	S	19 06 10.0	-2.8
KHZ	**Kahutara**	3.02	198	PN	P	19 05 43.1	-1.6
KHZ				SN	S	19 06 18.4	-3.1
DSZ	**Denniston Nort**	3.16	225	SN	S	19 06 20.4	-4.3
MQZ	**McQueen's Vall**	4.45	200	SN	S	19 06 47.2	-7.8
WVZ	**Waitaha Valley**	4.66	220	*e*PN	P	19 06 03.6	-2.6
WVZ				SN	S	19 06 51.8	-8.1

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*JMA **21** 19:26:31.2±0.3, 23.29N×121.55E, h86^{km}, M2.6*

TAP 21 19:26:31.1, 23.32N×121.51E, h27^{km}, ML3.3, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	1.78	50	P	Pn	19 27 00.7	0.0
YOJ				S	Sn	19 27 23.2	+0.5
HATJ	**Hateruma jima**	2.23	70	P	Pn	19 27 06.4	-0.7
IRIF	**Iriomote-Funau**	2.27	63	P	Pn	19 27 07.3	-0.4
IRIF				S	Sn	19 27 34.6	-0.5
JKRS	**Kuro-shima**	2.46	68	P	Pn	19 27 10.2	-0.3
JKRS				S	Sn	19 27 38.9	-1.1
JIJ	**Ishigaki jima**	2.62	66	P	Pn	19 27 11.8	-1.0
JIJ				S	Sn	19 27 42.1	-2.0
JTJ	**Tarama**	3.20	65	P	Pn	19 27 19.9	-1.1
JTJ				S	Sn	19 27 57.6	-1.1
JOGS	**Gusukube**	3.84	67	P	Pn	19 27 28.8	-1.2

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*ISK **21** 19:34:04.4, 36.96N×27.83E, h15^{km}, MD3.3*

*NEIC **21** 19:34:04.2, 36.95N×27.86E, h31^{km}, MD3.1(ATH), After ATH.*

*ATH **21** 19:34:04.2, 36.95N×27.86E, h31^{km}±2^{km}, MD3.1/4*

ISC 21 19:34:04.3±0.6, **36.90N**±0.03×**27.80E**±0.04, **h12^{km}**±5^{km}**, n16, $\sigma 0\overset{s}{.}82$**/24**, 1C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDRM	**Kayabasi**	0.33	300	*i* P	Pg	19 34 11.5	+0.3
BDRM				*i* S	Sg	19 34 16.9	+1.2
MLSB	**Milas**	0.39	357	*i* PG	Pg	19 34 12.0	-0.4
YER	**Yerkesik**	0.45	59	*i* PG	Pg	19 34 12.9	-0.6
NISR	**Nisiros**	0.61	242	*e*PN	Pn	19 34 18.0	-0.5
DALT	**Dalyan (Mudla)**	0.69	101	PG	Pg	19 34 17.7	-0.4
DALT				SG	Sg	19 34 28.1	+0.7
ARG	**Arkhangelos**	0.73	159	*e*PN	Pn	19 34 18.8	-1.5
ARG				*e*SN	Sn	19 34 31.5	+0.1
AYDN	**Tasoluk**	0.76	5	*i* P	Pb	19 34 18.6	-0.3
AYDN				*i* S	Sb	19 34 28.4	-0.7
SMG	**Samos**	1.11	317	*e*PN	Pn	19 34 25.1	-0.6
SMG				*e*SN	Sn	19 34 40.7	-0.3
DNZL	**Cakiroluk**	1.27	51	⇑*i*P	Pb	19 34 27.6	0.0
DNZL				*e*S	Sb	19 34 46.2	+2.4
DENT	**Denizli**	1.30	49	*e*PN	Pn	19 34 28.2	-0.2
KARP	**Karpathos**	1.45	201	*e*PN	Pn	19 34 31.3	+0.8
KARP				*e*SN	Sn	19 34 50.4	+0.9
IZM	**Izmir**	1.55	344	*e*PN	Pn	19 34 31.1	-0.9
KDAG	**Bornova**	1.56	344	*i* P	Pn	19 34 31.8	-0.2
KDAG				*e*S	Sb	19 34 53.6	+1.4
APE	**Apeiranthos**	1.82	276	*e*PN	Pn	19 34 36.4	+0.5
APE	**Apeiranthos**	1.82	276	*e*PB	Pb	19 34 36.7	-0.5
AKS	**Akhisar**	1.97	0	*e*PN	Pn	19 34 37.3	-0.7

IDC 21 19:38:21.7±1.6, **8.25S×126.86E, mb3.8**/2**, mb1 4.1**/3**, mb1mx3.7**/9**, ML4.1**/1**, Error ellipse: s-maj=234.0km s-min=28.6km az=60.0, Timor region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	13.70	149	Pn	P	19 41 38.1	-1.8
	1.0nm,0.3s,baz=323,slow=13,SNR=85						
WRA				Sn	S	19 44 01.4	-13
	1.2nm,0.3s,baz=333,slow=22,SNR=12						
STKA	**Stephens Creek**	27.22	152	P	P	19 44 07.1	-2.2
	3.4nm,1.2s,baz=349,slow=10,SNR=3.0						
MKAR	**Makanchi Array**	67.61	329	P	P	19 49 20.3	-2.1
	0.2nm,0.6s,baz=127,slow=7.2,SNR=2.9						

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*IDC **21** 20:30:51.9±1.3, 22.47S×171.49E, mb4.4/7, mb1 4.5/7, mb1mx4.4/11, MS3.8/10, Ms1 3.8/10, ms1mx3.6/22, Error ellipse: s-maj=45.3km s-min=28.8km az=155.0*

*NEIC **21** 20:30:57.0±3.5, 22.65S×171.50E, h38^{km}±27^{km}, mb4.7/6, Error ellipse: s-maj=24.6km s-min=22.1km az=51.0*

ISC 21 20:31:05.1±2.3, **22.5S**±0.1×**170.8E**±0.1, **h91^{km}**±18^{km}**, n31, $\sigma 1\overset{s}{.}05$**/23**, mb4.3**/11**, 6C-1D, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	4.02	275	*e*P	P	20 32 05.8	0.0
DZM				*e*S	S	20 32 52.3	+0.2
NOUC	**Port Laguerre**	4.15	275	*e*P	P	20 32 07.7	+0.2
NOUC				*e*S	S	20 32 53.9	-1.2
BKM	**Butte a Klehm**	5.36	333	⇑*i*P	P	20 32 24.6	+0.5
MSVF	**Nonsavu**	8.33	57	Pn	P	20 32 55.5	-9.4
	1µm,1.5s,SNR=45						
URZ	**Urewera**	16.62	162	LR	LR	20 39 45.0	
	comp=Z,247nm,20.8s,baz=168,slow=32						
CTA	**Charters Tower**	22.95	271	*e*P	P	20 36 06.3	+3.9
	16nm,1.7s,mb4.1						
CTA	**Charters Tower**	22.95	271	P	P	20 36 05.9	+3.5
	6.7nm,0.7s,mb4.1,baz=87,slow=9.8,SNR=11						
CTA				LR	LR	20 44 00.1	
	comp=Z,246nm,19.1s,baz=87,slow=33						
CTAO	**Charters Tower**	22.95	271	*e*P	P	20 36 06.3	+4.0
	17nm,0.8s,mb4.4						
PMG	**Port Moresby**	26.11	296	P	P	20 36 32.7	+0.2
	37nm,0.9s,mb4.8						
RAR	**Rarotonga**	27.36	93	LR	LR	20 44 25.3	
	comp=Z,165nm,19.8s,baz=296,slow=30						
STKA	**Stephens Creek**	27.50	244	P	P	20 36 46.4	+1.3
	17nm,1.4s,mb4.4,baz=93,slow=13,SNR=3.4						
STKA				LR	LR	20 45 55.6	
	comp=Z,215nm,19.3s,baz=288,slow=32						
ASAR	**Alice Springs**	33.87	261	LR	LR	20 51 27.2	
	comp=Z,131nm,20.2s,baz=110,slow=36						
WB2	**Warramunga Arr**	33.99	267	⇑*i*P	P	20 37 41.9	-0.3
WRAB	**Tennant Creek**	33.99	267	*e*P	P	20 37 41.8	-0.5
	4.0nm,0.5s,mb4.5						
WRA	**Warramunga Arr**	34.00	267	P	P	20 37 42.0	-0.3
	4.2nm,0.5s,mb4.5,baz=97,slow=8.4,SNR=164						
WRA				LR	LR	20 51 26.8	
	comp=Z,207nm,20.4s,baz=175,slow=36						
FITZ	**Fitzroy Crossi**	42.43	267	⇑*i*P	P	20 38 54.0	+1.3
	16nm,0.7s,mb4.8						
FITZ	**Fitzroy Crossi**	42.43	267	LR	LR	20 54 22.6	
	comp=Z,49nm,18.6s,baz=105,slow=33						
NWAO	**Narrogin (SRO)**	48.07	245	LR	LR	20 57 11.7	
	comp=Z,207nm,21.3s,baz=112,slow=32						
JHJ	**Hachijo jima 2**	62.71	331	LR	LR	21 03 12.9	
	comp=Z,59nm,20.4s,baz=102,slow=31						
QSPA	**South Pole Qui**	67.57	180	*e*P	P	20 41 47.3	-6.1
	7.2nm,1.0s,mb4.5						
MAW	**Mawson**	75.96	202	P	P	20 42 41.7	-1.6
	1.1nm,0.7s,mb3.7,baz=34,slow=3.6,SNR=4.0						
CMAR	**Chiang Mai Arr**	81.13	294	P	P	20 43 13.9	+1.4
	2.4nm,0.7s,mb4.1,baz=135,slow=3.7,SNR=20						
SNAA	**Sanae**	85.97	182	⇓*i*	P	20 43 31.4	-4.4
VNA3	**Neumayer Olymp**	86.51	180	⇑*i*	P	20 43 39.0	+0.6
VNA2	**Neumayer--Watz**	86.82	181		P	20 43 40.3	+0.4
NVAR	**Mina Array Bea**	89.90	48	P	P	20 43 51.5	-3.9
	0.7nm,0.7s,mb3.9,baz=217,slow=7.4,SNR=4.8						
NVAR				LR	LR	21 17 12.4	
	comp=Z,38nm,18.7s,baz=270,slow=31						
SONM	**Songino Array**	90.67	323	P	P	20 43 57.3	-1.4
	1.9nm,1.2s,mb4.1,baz=136,slow=4.1,SNR=7.7						
MALT	**Malatya**	136.46	302	PKPdf	PKPdf	20 50 14.8	-1.9
DPC	**Dobruska-Polom**	145.75	331	⇑*e*PKPB	PKPbc	20 50 32.5	-1.2
KHC	**Kasperske Hory**	147.87	331	⇑*e*PKPB	PKPdf	20 50 38.8	+2.5
GERES	**GERESS Array B**	148.02	331	PKPbc	PKPdf	20 50 38.8	+2.3
	1.4nm,0.8s,slow=1.3,SNR=8.9						

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*LDG **21** 20:36:01.8±0.1, 42.33N×2.17E, h4^{km}, Md2.3/3, Ml2.0/8, Error ellipse: s-maj=1.8km s-min=1.4km az=155.0*

*MDD **21** 20:36:02.3±0.3, 42.34N×2.14E, h4^{km}±4^{km}, mbLg1.6/9, Error ellipse: s-maj=2.3km s-min=2.1km az=10.0, AftershockPLICA PRXIMO*

ISC 21 20:36:00.5±0.5, **42.39N**±0.03×**2.12E**±0.03, **h11^{km}**±4^{km}**,**

n18, σ1^{s}20/32, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VALF	Valcebollere	0.07	278	P	Pb	20 36 04.4	+0.8
VALF				S	Sb	20 36 06.0	+0.5
CBRU	Bruguera	0.12	156	Pg	Pg	20 36 03.3	-0.2
CBRU				Lg		20 36 04.5	
	69nm,0.1s						
CLLI	Llivia	0.14	309	Pg	Pg	20 36 05.7	+1.8
CLLI				Lg		20 36 08.5	
	10nm,0.0s						
CARF	Carcanieres	0.32	358	P	Pg	20 36 09.4	+2.1
CARF				S	Sg	20 36 14.4	+2.6
FILF	Fillols	0.37	63	P	Pg	20 36 07.8	-0.3
FILF				S	Sg	20 36 11.6	-1.6
EJON	La Jonquera	0.57	84	Pg	Pg	20 36 12.6	+0.4
	0.7nm,0.4s,SNR=7.9						
EJON				Lg		20 36 21.3	
	1.9nm,0.1s,SNR=7.9						
CORG	Organya	0.61	255	Pg	Pg	20 36 13.9	+1.0
EMIR	Miracle	0.65	223	Pg	Pg	20 36 13.0	-0.6
	5.7nm,0.4s,SNR=6.2						
EMIR				Lg		20 36 23.1	
	9.7nm,0.2s,SNR=11						
MTLF	Montolieu	0.95	4	*e*Pg	Pg	20 36 21.0	+1.4
MTLF				*e*Sg	Sg	20 36 34.0	+1.6
	1.6nm,0.2s						
EPOB	Poblet	1.30	217	Pg	Pg	20 36 25.9	-0.6
	2.6nm,0.6s,SNR=7.3						
EPOB				Lg		20 36 42.4	
	2.5nm,0.4s,SNR=15						
EPF	Esparros	1.46	297	*e*Pn	Pn	20 36 28.2	+1.3
EPF				*e*Pg	Pg	20 36 30.5	+0.8
EPF				*e*Sg	Sg	20 36 49.6	+0.5
	2.9nm,0.3s						
ESAC	San Caprasio	2.04	252	Pg	Pg	20 36 40.8	-0.4
	5.5nm,0.2s,SNR=7.9						
ESAC				Lg		20 37 07.2	
	6.6nm,0.2s,SNR=7.9						
ETSF	Etsaut	2.04	285	*e*Pg	Pg	20 36 40.6	-0.7
ETSF				*e*Sn	Sn	20 37 00.9	0.0
ETSF				*e*Sg	Sg	20 37 07.9	-0.6
	6.0nm,0.4s						
LASF	Ste Croix	2.11	36	*e*Pn	Pn	20 36 36.5	+0.2
LASF				*e*Pg	Pg	20 36 41.9	-0.8
LASF				*e*Sg	Sg	20 37 10.5	-0.3
	0.7nm,0.3s						
CAF	Calviac	2.53	359	*e*Pg	Pg	20 36 49.8	-1.3
CAF				*e*Sg	Sg	20 37 23.0	-1.9
	1.2nm,0.2s						
SJPF	Ste Jean	2.56	287	*e*Pg	Pg	20 36 50.2	-1.6
SJPF				*e*Sn	Sn	20 37 13.9	-0.4
SJPF				*e*Sg	Sg	20 37 24.0	-2.0
	0.8nm,0.3s						
LFF	La Frestale	2.74	339	*e*Sg	Sg	20 37 30.7	-1.0
	3.0nm,0.3s						
RJF	Les Rejaudoux	2.94	352	*e*Pn	Pn	20 36 49.1	+0.9
RJF				*e*Sg	Sg	20 37 36.1	-2.5
	1.3nm,0.3s						

JMA 21 20:46:50.4±0.7, 44.92N×147.81E, h147^{km}, M3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NEM2	Nemuro 2	2.15	224	P	P	20 47 27.1	-0.5
NEM2				*e*S	S	20 47 55.6	-0.5
JTKR	Abashiri--Toko	2.95	253	P	P	20 47 37.4	-0.3
JAK	Akkeshi	2.96	231	P	P	20 47 37.5	-0.3
JAK				*e*S	S	20 48 14.4	+0.3
JKK2	Kamakawa 2	3.78	256	P	P	20 47 48.5	0.0
ASAJ	Asahikawa	3.81	260	P	P	20 47 48.9	-0.1
JCH	Churui	3.96	236	P	P	20 47 50.7	-0.2
JCH				*e*S	S	20 48 37.1	-0.3
JNBK	Urakawa-nobuka	4.52	236	P	P	20 47 57.6	-0.7
JKB	Kayabe	5.79	241	P	P	20 48 14.2	-1.0

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*IDC **21** 20:49:14.9±3.3, 14.69N×146.60E, mb3.9/5, mb1 3.9/5, mb1mx3.7/19, Error ellipse: s-maj=94.2km s-min=27.9km az=78.0*

*NEIC **21** 20:49:21.1±3.1, 14.77N×146.76E, h58^{km}±15^{km}, mb4.6/2, Error ellipse: s-maj=46.3km s-min=15.0km az=95.0*

ISC 21 20:49:19.7±3.5, **14.8N**±0.1×**146.8E**±0.4, **h66^{km}**±17^{km}, **n12, σ1^{s}01**/12, **mb4.0**/7, **1C, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SAPN	Saipan	1.15	293	⇑*i*P	P	20 49 40.9	+0.7
ANAT	Anatahan	1.95	324	P	P	20 49 51.5	+0.3
SARN	Sarigan	2.19	332	*e*P	P	20 49 54.0	-0.6
GUMO	Guam	2.24	239	*e*Pn	P	20 49 55.0	-0.4
JOW	Kunigami	21.07	308	P	P	20 53 58.0	-2.5
	6.9nm,0.7s,mb4.1,baz=118,slow=10,SNR=7.4						
WRA	Warramunga Arr	36.61	200	P	P	20 56 21.4	-0.2
	0.8nm,1.0s,mb3.6,baz=20,slow=9.5,SNR=4.3						
ENH	Enshi	37.60	301	P	P	20 56 28.6	-1.1
	5.5nm,0.8s,mb4.4						
CMAR	Chiang Mai Arr	45.95	282	P	P	20 57 39.6	+1.5
	1.0nm,1.0s,mb3.5,baz=93,slow=6.9,SNR=4.9						
SONM	Songino Array	46.91	323	P	P	20 57 46.3	+1.0
	1.1nm,0.8s,mb3.6,baz=141,slow=9.3,SNR=11						
MKAR	Makanchi Array	61.99	315	P	P	20 59 36.2	+1.0
	3.6nm,1.0s,mb4.3,baz=95,slow=8.7,SNR=8.1						
MKAR	Makanchi Array	61.99	315	P	P	20 59 36.2	+1.0
KURK	Kurchatov	64.94	319	*e*P	P	20 59 53.8	-0.6
	6.3nm,0.9s,mb4.5						

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*LDG **21** 20:58:01.7±0.4, 42.32N×2.17E, h4^{km}, Md2.4/3, Ml2.0/7, Error ellipse: s-maj=6.7km s-min=3.1km az=154.0*

*MDD **21** 20:58:01.7±0.4, 42.32N×2.18E, h4^{km}±7^{km}, mbLg1.4/8, Error ellipse: s-maj=3.7km s-min=2.4km az=151.0, AftershockPLICA PRXIMO*

ISC 21 20:57:59.6±0.7, **42.36N**±0.04×**2.17E**±0.04, **h12^{km}**±5^{km}, **n15, σ1^{s}32**/28, **Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VALF	Valcebollere	0.12	292	P	Pg	20 58 04.3	+1.4
VALF				S	Sg	20 58 06.2	+1.1
FILF	Fillols	0.35	54	P	Pg	20 58 07.5	+0.5
FILF				S	Sg	20 58 11.6	-0.3
CARF	Carcanieres	0.36	352	P	Pg	20 58 09.4	+2.2
CARF				S	Sg	20 58 14.6	+2.3
EJON	La Jonquera	0.54	80	Pg	Pg	20 58 11.0	+0.4
	0.2nm,0.1s,SNR=7.9						
EJON				Lg		20 58 18.9	
	3.7nm,0.1s,SNR=7.9						
EMIR	Miracle	0.65	228	Pg	Pg	20 58 13.1	+0.3
	3.4nm,0.2s,SNR=9.8						
EMIR				Lg		20 58 22.8	
	3.7nm,0.1s,SNR=6.3						
MTLF	Montolieu	0.99	2	*e*Pg	Pg	20 58 20.5	+1.1
MTLF				*e*Sg	Sg	20 58 33.8	+1.2
	5.7nm,0.2s						
EPOB	Poblet	1.29	220	Pg	Pg	20 58 24.9	-0.6
	1.5nm,0.1s,SNR=7.9						
EPOB				Lg		20 58 42.4	
	4.6nm,0.1s,SNR=7.9						
EPF	Esparros	1.51	297	*e*Pg	Pg	20 58 30.4	+0.6
EPF				*e*Sg	Sg	20 58 49.8	-0.2
	2.2nm,0.2s						
ESAC	San Caprasio	2.07	253	Pg	Pg	20 58 38.5	-2.4
	2.3nm,0.3s,SNR=7.9						
ESAC				Lg		20 59 07.5	
	0.4nm,0.4s,SNR=7.9						
ETSF	Etsaut	2.09	286	*e*Pg	Pg	20 58 40.4	-0.9
ETSF				*e*Sg	Sg	20 59 07.6	-1.6
	3.3nm,0.4s						
LASF	Ste Croix	2.12	35	*e*Pn	Pn	20 58 36.0	+0.8
LASF				*e*Pg	Pg	20 58 40.9	-1.0
LASF				*e*Sg	Sg	20 59 09.3	-0.8
	1.8nm,0.5s						
CAF	Calviac	2.57	358	*e*Pg	Pg	20 58 50.0	-1.0
CAF				*e*Sn	Sn	20 59 13.8	+0.6
CAF				*e*Sg	Sg	20 59 23.0	-2.2
	2.4nm,0.5s						
LFF	La Frestale	2.78	339	*e*Pn	Pn	20 58 47.0	+2.2
LFF				*e*Pg	Pg	20 58 53.9	-1.3
RJF	Les Rejaudoux	2.99	351	*e*Pn	Pn	20 58 49.0	+1.3
RJF				*e*Pg	Pg	20 58 58.3	-0.9
RJF				*e*Sg	Sg	20 59 35.5	-3.6
	2.0nm,0.3s						
VIVF	Saint-Julien-l	3.09	35	*e*Sg	Sg	20 59 40.0	-2.5
	1.1nm,0.3s						

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*IDC **21** 21:01:21.3±0.9, 60.50S×26.70W, mb4.4/4, mb1 4.5/4, mb1mx4.3/10, MS4.0/8, Ms1 4.0/8, ms1mx3.8/16, Error ellipse: s-maj=51.8km s-min=23.1km az=44.0*

*NEIC **21** 21:01:22.4±0.3, 60.50S×26.66W, h10^{km}, mb4.8/10, Error ellipse: s-maj=9.6km s-min=5.6km az=53.0*

ISC 21 21:01:18.1±0.6, **61.13S**±0.09×**26.8W**±0.3, **h10^{km}, n38, σ1^{s}18**/23, **mb4.6**/12, **MS4.1**/8, **7C, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	12.13	150	⇑*i*	P	21 04 21.5	+7.8
VNA1	Neumayer--Stat	12.13	150	⇑*i*	S	21 06 30.8	+0.8
VNA3	Neumayer Olymp	12.22	153	⇑*i*	P	21 04 22.9	+7.9
VNA3	Neumayer Olymp	12.22	153	⇑*i*	S	21 06 31.4	-0.9
VNA2	Neumayer--Watz	12.53	150	⇑*i*	P	21 04 27.0	+8.0
VNA2	Neumayer--Watz	12.53	150		Px	21 05 53.0	
VNA2	Neumayer--Watz	12.53	150		S	21 06 38.6	-1.1
SNAA	Sanae	14.14	148	⇑*i*	P	21 04 44.4	+4.3
SNAA	Sanae	14.14	148	⇑*i*	P	21 04 45.9	+5.8
PMSA	Palmer Station	17.15	242	P	P	21 05 27.2	+8.3
	12nm,0.9s						
USHA	Ushuaia	22.62	267	LR	LR	21 13 26.4	
	comp=Z,544nm,20.2s,MS4.0,baz=106,slow=32						
QSPA	South Pole Qui	29.11	180	*e*P	P	21 07 29.0	+8.7
	22nm,1.0s,mb4.8						
TRQA	Tornquist	31.80	300	*e*P	P	21 07 44.1	-0.4
	5.2nm,0.8s,mb4.4						
MAW	Mawson	36.04	139	P	P	21 08 27.3	+6.4
	5.4nm,1.1s,mb4.4,baz=251,slow=4.9,SNR=6.9						
MAW				LR	LR	21 21 12.1	
	comp=Z,150nm,21.9s,MS3.7,baz=45,slow=33						
CPUP	Villa Florida	40.45	315	P	P	21 08 57.9	-0.2
	2.8nm,0.4s,mb4.3,baz=177,slow=7.3,SNR=15						
CPUP	Villa Florida	40.45	315	P	P	21 08 57.9	-0.2
BOSA	Boshof	47.24	71	*e*P	P	21 09 53.3	+0.4
	2.8nm,0.7s,mb4.3						
BDFB	Brasilia	47.91	332	LR	LR	21 25 41.0	
	comp=Z,106nm,18.9s,MS3.8,baz=278,slow=31						
LVC	Limon Verde	48.16	304	*e*P	P	21 10 00.9	+0.8
	8.9nm,0.7s,mb4.9						
LPAZ	La Paz	53.57	308	P	P	21 10 42.0	+0.8
	2.4nm,0.5s,mb4.4,baz=164,slow=6.2,SNR=10						
LPAZ	La Paz	53.57	308	*e*P	P	21 10 41.7	+0.4
	4.3nm,0.4s,mb4.7						
SAML	Samuel	58.58	317	*e*P	P	21 11 15.3	-1.9
	14nm,1.0s,mb4.9						
SAML				*e*		21 11 23.1	
LSZ	Lusaka	60.16	66	*e*P	P	21 11 28.5	+0.4
	3.7nm,0.7s,mb4.5						
DBIC	Dimbokro	69.74	23	P	P	21 12 29.1	-1.0
	7.9nm,1.3s,mb4.5,baz=55,slow=4.9,SNR=2.4						
DBIC				LR	LR	21 35 31.7	
	comp=Z,77nm,18.7s,MS4.0,baz=150,slow=30						
OTAV	Otavalo	72.68	305	*e*P	P	21 12 48.9	+1.0
	7.3nm,0.9s,mb4.6						
ROSC	El Rosal	75.34	311	LR	LR	21 48 49.5	
	comp=Z,106nm,18.2s,MS4.2,baz=204,slow=38						
SDV	Santo Domingo	77.77	316	*e*P	P	21 13 16.8	0.0
	9.1nm,0.3s,mb5.2						
STKA	Stephens Creek	86.85	170	LR	LR	21 52 51.6	
	comp=Z,129nm,21.5s,MS4.3,baz=205,slow=35						
ASAR	Alice Springs	94.08	162	LR	LR	21 57 45.2	
	comp=Z,87nm,18.4s,MS4.2,baz=194,slow=36						
CTA	Charters Tower	98.88	173	LR	LR	22 02 19.3	
	comp=Z,83nm,21.2s,MS4.2,baz=42,slow=37						
CMAR	Chiang Mai Arr	122.98	113	PKP	PKPdf	21 20 19.1	+1.6
	0.8nm,1.1s,baz=198,slow=2.9,SNR=2.9						
FINES	FINESS Array B	128.76	29	PKP	PKPdf	21 20 27.5	0.0
	3.9nm,1.0s,baz=196,slow=14,SNR=3.4						
FINES	FINESS Array B	128.76	29	PKP	PKPdf	21 20 27.5	0.0
KAF	Kangasniemi	129.39	29	*e*p	PKPdf	21 20 28.3	-0.4
	1.9nm,0.7s						
INK	Inuvik	149.71	315	PKPbc	PKPdf	21 21 08.8	+4.3
	3.0nm,0.7s,baz=339,slow=3.0,SNR=7.2						
INK	Inuvik	149.71	315	PKPbc	PKPdf	21 21 08.8	+4.3
SONM	Songino Array	150.46	95	PKPbc	PKPdf	21 21 13.9	+7.6
	2.2nm,1.0s,baz=226,slow=2.6,SNR=12						
ILAR	Eielson Array	153.40	304	PKPbc	PKPdf	21 21 19.1	+9.2
	0.9nm,0.9s,baz=175,slow=2.5,SNR=7.3						

IDC 21 21:21:09.0±5.0, **17.11S**×**175.45W, mb4.2**/4, **mb1 4.3**/4, **mb1mx3.9**/14, **Error ellipse: s-maj=160.0km s-min=101.1km az=158.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	41.49	241	P	P	21 28 58.8	-0.7
	1.9nm,0.7s,baz=79,slow=10,SNR=3.0						
WRA	Warramunga Arr	47.56	258	P	P	21 29 46.3	-2.1
	1.1nm,0.5s,baz=97,slow=6.9,SNR=39						
ASAR	Alice Springs	47.73	253	P	P	21 29 48.0	-1.8
	7.0nm,0.6s,baz=88,slow=8.7,SNR=111						
ASAR				PcP	PcP	21 31 17.2	-2.2
	0.6nm,0.6s,baz=100,slow=4.1,SNR=4.6						
FITZ	Fitzroy Crossi	55.95	259	P	P	21 30 48.8	-2.8
	1.1nm,0.7s,baz=90,slow=14,SNR=3.3						

IDC 21 21:39:01.3±6.0, **5.39N**×**96.62E, mb3.7**/3, **mb1 4.0**/3, **mb1mx3.5**/14, **Error ellipse: s-maj=322.0km s-min=28.0km az=57.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MKAR	Makanchi Array	43.06	346	P	P	21 47 02.9	-1.8
	0.3nm,0.6s,baz=155,slow=8.0,SNR=5.8						
WRA	Warramunga Arr	44.82	125	P	P	21 47 17.8	-1.4
	1.0nm,0.3s,baz=305,slow=9.0,SNR=24						
ASAR	Alice Springs	46.44	130	P	P	21 47 29.6	-2.4
	0.6nm,0.5s,baz=299,slow=7.8,SNR=6.2						

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*IDC **21** 22:00:12.4±13.0, 17.35S×178.79W, h478^{km}±174^{km}, mb3.4/5, mb1 3.7/6, mb1mx3.4/14, Error ellipse: s-maj=130.0km s-min=17.1km az=167.0*

*NEIC **21** 22:00:16.6±3.6, 17.71S×178.74W, h539^{km}±47^{km}, mb3.9/5, Error ellipse: s-maj=33.0km s-min=12.2km az=171.0*

ISC 21 22:00:16.1±3.6, **17.7S**±0.3×**178.8W**±0.1, **h544^{km}**±50^{km}, **n13, σ0^{s}72**/13, **mb3.8**/9, **2D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAR	Rarotonga	18.27	104	P	P	22 03 56.9	-0.3
	2.0nm,0.3s,baz=61,slow=10,SNR=3.9						
STKA	Stephens Creek	38.39	241	⇓*i*P	P	22 06 53.7	+1.6
	3.1nm,0.6s,mb4.0						
STKA	Stephens Creek	38.39	241	P	P	22 06 53.6	+1.5
	4.2nm,0.7s,mb4.1,baz=82,slow=9.3,SNR=12						
WB2	Warramunga Arr	44.28	259	*e*P	P	22 07 38.9	-0.4
WRAB	Tennant Creek	44.28	259	*e*P	P	22 07 37.9	-1.4
	3.1nm,0.6s,mb4.0						
WRA	Warramunga Arr	44.29	259	P	P	22 07 39.2	-0.2
	1.9nm,0.7s,mb3.7,baz=96,slow=7.6,SNR=70						
ASAR	Alice Springs	44.48	254	P	P	22 07 41.4	+0.6
	11nm,0.4s,mb4.7,baz=89,slow=8.1,SNR=195						
ASPA	Alice Springs	44.48	254	⇓*i*P	P	22 07 41.1	+0.3
FITZ	Fitzroy Crossi	52.69	260	*e*P	P	22 08 42.5	+0.4
	1.6nm,1.0s,mb3.3						
MBWA	Marble Bar	57.75	256	*e*P	P	22 09 16.6	-0.8
	2.4nm,0.3s,mb3.9						
QSPA	South Pole Qui	72.33	180	*e*P	P	22 10 47.4	-0.2
	1.6nm,0.5s,mb3.7						
NVAR	Mina Array Bea	79.56	44	P	P	22 11 28.4	+0.6
	0.3nm,0.3s,mb3.1,baz=231,slow=5.8,SNR=4.2						
PDAR	Pinedale Array	87.48	44	P	P	22 12 06.9	0.0
	0.4nm,0.6s,mb3.2,baz=206,slow=3.2,SNR=4.3						

WEL 21 22:11:25.6±0.2, **41.40S**×**175.78E, h21^{km}**±1^{km}, **ML3.5**/8, **1C-2D, Error ellipse: s-maj=1.9km s-min=1.4km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PAWZ	Paruwai Farm	0.26	275	P*	Pb	22 11 31.4	-0.3
PAWZ				S*	Sb	22 11 36.4	+0.5
MTW	Mount Morrison	0.32	320	⇓P*	Pb	22 11 32.4	-0.2
MTW				S*	Sb	22 11 37.8	+0.5
MSWZ	Moikau Station	0.40	268	⇓P*	Pb	22 11 33.8	0.0
MSWZ				S*	Sb	22 11 41.0	+1.5
CAW	Cannon Point	0.61	299	P*	Pb	22 11 37.9	+0.5
CAW				S*	Sb	22 11 46.6	+1.1
BHW	Baring Head	0.68	269	P*	Pb	22 11 38.6	0.0
BHW				S*	Sb	22 11 48.3	+0.8
MRZ	Mangatainoka R	0.76	349	P*	Pb	22 11 40.2	+0.3
WEL	Wellington	0.77	278	P*	Pb	22 11 40.2	+0.1
WEL				S*	Sb	22 11 51.9	+1.8
BFZ	Birch Farm	0.80	26	P*	Pb	22 11 40.5	-0.2
SNZO	South Karori	0.81	276	P*	Pb	22 11 40.7	-0.1
MRW	Makara Radio	0.83	282	⇑P*	Pb	22 11 41.1	-0.1
MRW				S*	Sb	22 11 52.2	+0.4
KIW	Kapiti Island	0.85	309	P*	Pb	22 11 41.8	+0.3
KIW				S*	Sb	22 11 53.8	+1.3
MOVZ	Moawhango	1.99	359	PN	Pn	22 11 58.4	-0.3
THZ	Tophouse	2.19	260	PN	Pn	22 11 59.3	-2.2
BKZ	Black Stump Fm	2.30	14	PN	Pn	22 12 01.6	-1.6
MQZ	McQueen's Vall	3.26	224	SN	Sn	22 12 48.0	-7.4

MAN 21 22:39:19.1, 9.39N×125.60E, h5^{km}, mb4.1, ML3.0, MS2.7, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCPH	Surigao	0.41	344	⇓*e*P	Pg	22 39 27.5	+0.2
SCPH				*e*S	Sg	22 39 33.8	+1.0
BUTP	Butuan	0.42	178	*e*P	Pg	22 39 27.6	+0.1
CGP	Cagayan de Oro	1.29	224	*e*P	Pb	22 39 42.6	-0.9
BUKP	Musuan	1.59	200	*e*P	Pn	22 39 47.7	-0.4

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*IDC **21** 22:44:24.4±0.8, 16.76S×173.41W, mb4.3/9, mb1 4.6/10, mb1mx4.4/17, ML4.9/1, Error ellipse: s-maj=35.7km s-min=16.8km az=145.0*

*NEIC **21** 22:44:26.3±0.4, 16.87S×173.33W, h15^{km}, mb4.6/5, Error ellipse: s-maj=14.0km s-min=8.8km az=164.0*

ISC 21 22:44:24.0±0.6, **16.8S**±0.1×**173.4W**±0.1, **h10^{km}, n22, σ0^{s}76**/20, **mb4.4**/14, **Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAR	Rarotonga	13.60	111	Pn	P	22 47 38.1	-1.4
	6.1nm,0.3s,baz=259,slow=7.8,SNR=12						
RAR	Rarotonga	13.60	111	*e*P	P	22 47 36.4	-3.2
	20nm,0.7s						
URZ	Urewera	22.93	199	P	P	22 49 30.8	+1.5
	25nm,0.5s,mb4.9,baz=45,slow=2.0,SNR=31						
CTA	Charters Tower	38.35	259	P	P	22 51 47.2	+0.1
	9.4nm,0.9s,mb4.5,baz=66,slow=10.0,SNR=3.4						
CTA	Charters Tower	38.35	259	P	P	22 51 47.2	0.0
STKA	Stephens Creek	43.35	241	*e*P	P	22 52 29.4	+1.2
	3.5nm,0.3s,mb4.6						
STKA	Stephens Creek	43.35	241	P	P	22 52 29.1	+0.9
	5.3nm,0.4s,mb4.6,baz=85,slow=9.8,SNR=11						
WB2	Warramunga Arr	49.53	258	*e*P	P	22 53 16.5	-0.7
WRAB	Tennant Creek	49.53	258	*e*P	P	22 53 16.3	-0.9
	4.4nm,0.5s,mb4.7						
WRA	Warramunga Arr	49.54	258	P	P	22 53 16.7	-0.6
	2.6nm,0.4s,mb4.6,baz=96,slow=7.0,SNR=126						
ASAR	Alice Springs	49.69	253	P	P	22 53 18.2	-0.2
	45nm,0.5s,mb5.8,baz=88,slow=8.6,SNR=698						
ASPA	Alice Springs	49.69	253	*e*P	P	22 53 18.1	-0.3
FITZ	Fitzroy Crossi	57.93	259	*e*P	P	22 54 19.1	-0.1
	2.3nm,1.1s,mb4.1						
MBWA	Marble Bar	62.98	254	*e*P	P	22 54 52.8	-0.7
	4.1nm,0.5s,mb4.8						
QSPA	South Pole Qui	73.23	180	*e*P	P	22 55 56.7	+0.1
	5.3nm,1.1s,mb4.4						
YBH	Yreka Blue Hor	74.72	37	P	P	22 56 06.6	+0.7
	1.0nm,0.5s,mb4.0,baz=221,slow=4.7,SNR=4.9						
NVAR	Mina Array Bea	75.38	42	P	P	22 56 10.2	+0.4
	1.0nm,0.7s,mb3.9,baz=220,slow=7.2,SNR=6.0						
PDAR	Pinedale Array	83.32	42	P	P	22 56 52.9	+0.3
	1.3nm,0.8s,mb4.0,baz=217,slow=2.5,SNR=11						
ILAR	Eielson Array	83.83	11	P	P	22 56 54.4	-0.3
	0.5nm,0.7s,mb3.8,baz=210,slow=5.3,SNR=4.3						
CMAR	Chiang Mai Arr	93.06	288	P	P	22 57 40.9	+1.0
	0.4nm,0.5s,mb4.1,baz=86,slow=2.4,SNR=4.7						
MALT	Malatya	144.86	314	*e*PKPdf	PKPdf	23 04 04.1	-0.6
BRTR	Keskin Array B	147.25	320	PKPbc	PKPdf	23 04 10.0	+1.3
	0.6nm,0.6s,baz=243,slow=2.8,SNR=4.5						

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*NEIC **21** 22:53:28.5±0.5, 36.09S×101.55W, h10^{km}, mb4.5/8, Error ellipse: s-maj=22.7km s-min=13.0km az=78.0*

*IDC **21** 22:53:32.5±1.5, 35.03S×101.33W, mb4.2/6, mb1 4.6/6, mb1mx4.4/15, MS4.0/7, Ms1 4.0/7, ms1mx3.8/18, Error ellipse: s-maj=49.4km s-min=29.0km az=22.0*

ISC 21 22:53:27.3±0.6, **36.01S**±0.10×**101.8W**±0.2, **h10^{km}, n35, σ1^{s}21**/24, **mb4.3**/14, **MS4.0**/7, **6C-1D, Southeast of Easter Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPAZ	La Paz	35.75	66	P	P	23 00 27.4	-1.0
	12nm,1.1s,mb4.8,baz=226,slow=7.6,SNR=13						
LPAZ				LR	LR	23 12 04.2	
	comp=Z,38nm,20.9s,MS3.1,baz=283,slow=32						
LPAZ	La Paz	35.75	66	P	P	23 00 27.4	-1.0
CPUP	Villa Florida	38.93	88	P	P	23 00 57.9	+2.8
	0.8nm,0.5s,mb3.7,baz=354,slow=2.3,SNR=2.9						
CPUP				LR	LR	23 13 52.9	
	comp=Z,99nm,19.3s,MS3.6,baz=86,slow=32						
OTAV	Otavalo	42.08	36	P	P	23 01 22.4	+1.2
	3.5nm,0.8s,mb4.0						
SAML	Samuel	44.21	62	*e*P	P	23 01 35.5	-3.1
	21nm,1.2s,mb4.8						
ROSC	El Rosal	48.09	38	LR	LR	23 18 36.4	
	comp=Z,286nm,20.1s,MS4.2,baz=211,slow=32						
BDFB	Brasilia	51.77	81	LR	LR	23 23 48.4	
	comp=Z,86nm,20.1s,MS3.8,baz=273,slow=35						
RAR	Rarotonga	52.33	270	LR	LR	23 19 38.0	
	comp=Z,1µm,19.5s,MS4.9,baz=210,slow=30						
QSPA	South Pole Qui	54.20	180	*e*P	P	23 02 53.0	-1.7
	3.5nm,0.8s,mb4.3						
VNA3	Neumayer Olymp	57.02	157	⇑*i*	P	23 03 14.4	-0.8
VNA3	Neumayer Olymp	57.02	157	⇑*i*	P	23 03 17.3	+2.1
VNA1	Neumayer--Stat	57.63	157	⇑*i*	P	23 03 20.8	+1.3
VNA1	Neumayer--Stat	57.63	157	⇑*i*	P	23 03 23.6	+4.1
VNA2	Neumayer--Watz	57.82	157	⇑*i*	P	23 03 21.4	+0.6
VNA2	Neumayer--Watz	57.82	157	⇓*i*	P	23 03 24.5	+3.7
SNAA	Sanae	58.97	159		P	23 03 26.1	-2.7
SNAA	Sanae	58.97	159	⇑*i*	P	23 03 29.0	+0.2
TXAR	Lajitas Array	65.02	358	P	P	23 04 08.8	-1.2
	1.3nm,0.7s,mb4.0,baz=180,slow=10.0,SNR=7.9						
TUC	Tucson	68.49	352	*e*P	P	23 04 30.9	-1.0
	6.3nm,1.1s,mb4.6						
ANMO	Albuquerque	70.73	356	*e*P	P	23 04 45.3	-0.3
	2.0nm,0.8s,mb4.1						
TPNV	Topopah Spring	73.83	348	*e*P	P	23 05 04.6	+0.7
	5.8nm,1.0s,mb4.5						
PV01	Paradox Valley	74.04	354	*e*P	P	23 05 05.2	+0.1
MNV	Mina	75.61	347	*e*P	P	23 05 14.4	+0.3
	7.1nm,1.0s,mb4.5						
NVAR	Mina Array Bea	75.64	347	P	P	23 05 14.9	+0.7
	3.1nm,0.9s,mb4.2,baz=161,slow=7.5,SNR=5.9						
PDAR	Pinedale Array	78.72	354	P	P	23 05 31.0	-0.3
	5.1nm,1.1s,mb4.4,baz=159,slow=5.3,SNR=21						
YBH	Yreka Blue Hor	79.72	344	P	P	23 05 37.3	+0.5
	1.3nm,0.7s,mb3.9,baz=127,slow=5.1,SNR=3.1						
HLID	Hailey	80.03	351	*e*P	P	23 05 38.9	+0.6
	6.4nm,1.1s,mb4.5						
CTA	Charters Tower	94.91	241	LR	LR	23 39 53.9	
	comp=Z,57nm,21.5s,MS4.0,baz=225,slow=29						
SCHQ	Schefferville	95.32	19	LR	LR	23 43 37.5	
	comp=Z,173nm,19.0s,MS4.5,baz=203,slow=32						
AKASG	Malin Array Be	142.17	52	PKP	PKPdf	23 13 02.3	-0.1
	0.2nm,0.3s,baz=105,slow=10,SNR=4.5						
BRTR	Keskin Array B	144.86	70	PKhKP		23 13 04.0	
	5.0nm,1.0s,baz=223,slow=3.1,SNR=20						
BRTR				PKP	PKPdf	23 13 10.9	+3.5
	5.7nm,0.8s,baz=207,slow=2.9,SNR=15						
ASF	Jabal al Asfar	145.72	84	PKPbc	PKPbc	23 13 09.6	+2.7
	6.8nm,1.1s,baz=344,slow=1.3,SNR=6.6						
OBN	Obninsk	145.79	43	*e*PKPdf	PKPdf	23 13 05.7	-2.8
CMAR	Chiang Mai Arr	154.71	232	PKP	PKPdf	23 13 28.4	+5.1
	0.4nm,0.4s,baz=207,slow=4.0,SNR=4.2						
SONM	Songino Array	156.09	308	PKP	PKPdf	23 13 29.6	+5.4
	0.9nm,0.9s,baz=102,slow=2.1,SNR=5.0						
SONM				PKPab	PKPab	23 13 52.9	+1.7
	0.6nm,0.8s,baz=117,slow=3.2,SNR=3.9						

*BJI **21** 22:55:10.7,15.01N×147.04E,h56^{km},mB5.0,mb4.7,Ms4.4,Msz4.0*

*NEIC **21** 22:55:12.8±0.9,14.83N×146.74E,h53^{km}±7^{km},mb4.9/19,Error ellipse: s-maj=9.5km s-min=6.2km az=94.0*

*HRVD **21** 22:55:12.8±1.3,14.83N×146.74E,h134^{km}±14^{km},MW4.8/26,Centroid moment Tensor Solution. LP body waves: s7,c7;Mantle waves: s26,c36; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M$_{rr}$-1.69±.17; M$_{\theta\theta}$1.78±.23; M$_{\phi\phi}$-0.09±.18; M$_{r\theta}$-0.14±.18; M$_{\theta\phi}$0.29±.23; M$_{\phi r}$-0.40±.12; Best double couple: M$_0$1.81×10^{16} NP1: φ$_s$274°,δ43°,λ-71°. NP2:φ$_s$69°,δ50°,λ-107°. Principal axes: T 1.83, Plg3°, Azm171°; N -.05, Plg13°, Azm80°; P -1.79, Plg77°, Azm275°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*IDC **21** 22:55:16.4±6.9,14.81N×146.65E,h84^{km}±63^{km},mb4.1/17,mb1 4.2/17,mb1mx4.1/25,MS3.8/11,Ms1 3.9/11,ms1mx3.7/25 Error ellipse: s-maj=22.2km s-min=12.6km az=90.0*

ISC 21 22:55:11.7±0.9**,14.79N**±0.05×**146.74E**±0.06**,h57**^{km}±7^{km}**,h57**^{km}±4.7^{km}**:pP-P,n81,σ0^{s}.95**/66**,mb4.7**/41**,MS3.9**/19**,9C,Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SAPN	**Saipan**	**1.04**	**294**	⇑*e*P	**P**	**22 55 31.8**	**+1.5**
ANA2	**Anatahan**	**1.83**	**327**	⇑*e*P	**P**	**22 55 41.8**	**+0.5**
ANAT	**Anatahan**	**1.87**	**326**	⇑*e*P	**P**	**22 55 41.9**	**0.0**
SARN	**Sarigan**	**2.11**	**334**	*e*P	**P**	**22 55 44.8**	**-0.6**
GUMO	**Guam**	**2.17**	**237**	*e*Pn	**P**	**22 55 46.4**	**+0.2**
JOW	**Kunigami**	**20.97**	**308**	P	**P**	**22 59 52.8**	**+0.5**
	15nm,0.7s,baz=124,slow=13,SNR=10						
JOW				LR	LR	23 08 01.8	
	comp=Z,392nm,19.0s,MS3.8,baz=127,slow=37						
MAJO	**Matsushiro**	**22.96**	**342**	P	**P**	**23 00 10.6**	**-1.4**
PMG	**Port Moresby**	**24.05**	**179**	P	**P**	**23 00 21.9**	**-0.8**
	124nm,1.1s,mb5.2						
ASAJ	**Asahikawa**	**29.44**	**354**	P	**P**	**23 01 11.6**	**-0.5**
	9.6nm,0.6s,mb4.7,baz=206,slow=10,SNR=7.3						
ASAJ				LR	LR	23 11 44.1	
	comp=Z,107nm,19.7s,MS3.5,baz=181,slow=34						
NJ2	**Nanjing**	**30.68**	**309**	*e*P	**P**	**23 01 23.4**	**+0.1**
NJ2				AP	pP	23 01 38.3	+0.7
NJ2				XP	sP	23 01 45.6	+1.1
NJ2				PP	PP	23 02 29.4	+3.9
NJ2				PPP	PPP	23 02 43.1	+2.9
NJ2				S	**S**	**23 06 22.0**	**+1.5**
NJ2				XS		23 06 49.0	
NJ2				SS	SS	23 08 09.0	+3.5
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.0						
NJ2				LR	LR		
	comp=N,480nm,16.7s,MS4.4						
NJ2				LR	LR		
	comp=E,470nm,18.0s,MS4.4						
NJ2				LR	LR		
	comp=Z,100nm,19.4s,MS3.5						
MDJ	**Mudanjiang**	**33.10**	**337**	P	**P**	**23 01 42.8**	**-1.5**
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.7s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,17nm,4.6s						
MDJ				LR	LR		
	comp=N,44nm,21.3s						
MDJ				LR	LR		
	comp=E,81nm,28.0s						
MDJ				LR	LR		
	comp=Z,116nm,16.3s,MS3.7						
CTA	**Charters Tower**	**34.67**	**181**	LR	LR	23 15 33.4	
	comp=Z,76nm,19.6s,MS3.4,baz=43,slow=35						
QIZ	**Qiongzhong**	**35.50**	**282**	P	**P**	**23 02 03.8**	**-1.4**
QIZ				LR	LR		
	comp=E,167nm,16.5s						
QIZ				LR	LR		
	comp=Z,207nm,19.4s,MS3.9						
WRAB	**Tennant Creek**	**36.60**	**200**	*e*P	**P**	**23 02 13.7**	**-0.7**
	comp=Z,20nm,0.8s,mb5.0						
WB2	**Warramunga Arr**	**36.60**	**200**	*e*P	**P**	**23 02 13.9**	**-0.6**
WRA	**Warramunga Arr**	**36.61**	**200**	P	**P**	**23 02 14.0**	**-0.5**
	comp=Z,7.1nm,0.8s,mb4.5,baz=20,slow=9.1,SNR=26						
WRA				PcP	PcP	23 04 37.2	+0.2
	comp=Z,2.4nm,1.0s,baz=16,slow=3.3,SNR=5.0						
BJT	**Baijiatuau**	**36.67**	**319**	*e*P	**P**	**23 02 13.7**	**-1.1**
	comp=Z,13nm,0.7s,mb4.9						
BJI	**Beijing**	**36.67**	**319**	P	**P**	**23 02 13.9**	**-0.9**
BJI				AMB	AMB		
	comp=Z,15nm,1.2s,mb4.7						
BJI				LR	LR		
	comp=N,266nm,16.1s,MS4.2						
BJI				LR	LR		
	comp=E,211nm,17.7s,MS4.2						
BJI				LR	LR		
	comp=Z,184nm,16.9s,MS3.9						
BJI	**Beijing**	**36.67**	**319**	P	**P**	**23 02 13.9**	**-0.9**
	comp=Z,15nm,1.2s,mb4.7						
BJI				S	SS	23 10 42.3	+19
BJI				LR	LR		
	comp=Z,180nm,16.9s,MS3.9						
ENH	**Enshi**	**37.50**	**301**	*e*P	**P**	**23 02 22.2**	**+0.3**
	comp=Z,18nm,0.9s,mb4.9						
FITZ	**Fitzroy Crossi**	**38.74**	**213**	*e*P	**P**	**23 02 33.0**	**+0.7**
	comp=Z,6.7nm,0.8s,mb4.4						
FITZ	**Fitzroy Crossi**	**38.74**	**213**	P	**P**	**23 02 32.3**	**0.0**
	comp=Z,7.2nm,0.7s,mb4.5,baz=25,slow=8.0,SNR=13						
GYA	**Guiyang**	**39.10**	**294**	⇑*i*P	**P**	**23 02 37.3**	**+2.1**
GYA				AP	pP	23 02 52.8	+2.9
GYA				XP	sP	23 02 59.6	+2.8
GYA				AMB	AMB		
	comp=Z,10.0nm,1.5s,mb4.3						
GYA				LR	LR		
	comp=N,210nm,17.0s,MS4.1						
GYA				LR	LR		
	comp=E,160nm,18.2s,MS4.1						
GYA				LR	LR		
	comp=Z,220nm,17.0s,MS4.1						
XAN	**Xi’an**	**39.11**	**306**	P	**P**	**23 02 35.0**	**-0.2**
HHC	**Hu-ho-hao-te**	**40.08**	**317**	*e*P	**P**	**23 02 43.8**	**+0.6**
HHC				AP	pP	23 03 00.9	+3.0
HHC				PCS		23 08 36.8	
HHC				S	**S**	**23 08 46.8**	**+1.8**
HHC				XS		23 09 10.1	
HHC				SS	SS	23 11 41.8	+3.3
HHC				SCS	ScS	23 12 42.3	-0.2
HHC				AMB	AMB		
	comp=Z,15nm,1.6s,mb4.5						
HHC				AMB	AMB		
	comp=Z,115nm,5.2s						
HHC				LR	LR		
	comp=N,74nm,17.3s,MS3.7						
HHC				LR	LR		
	comp=E,71nm,18.4s,MS3.7						
HHC				LR	LR		
	comp=Z,77nm,19.0s,MS3.6						
ASAR	**Alice Springs**	**40.23**	**198**	P	**P**	**23 02 44.0**	**-0.5**
	comp=Z,3.2nm,0.8s,mb4.1,baz=19,slow=5.7,SNR=16						
ASAR				LR	LR	23 18 36.9	
	comp=Z,96nm,20.3s,MS3.6,baz=276,slow=35						
HIA	**Hailar**	**40.86**	**333**	P	**P**	**23 02 48.1**	**-1.4**
	comp=Z,12nm,0.9s,mb4.5						
BTO	**Baotou**	**40.99**	**316**	*e*P	**P**	**23 02 51.5**	**+0.8**
CD2	**Chengdu**	**42.44**	**300**	*e*P	**P**	**23 03 02.9**	**+0.1**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.4s,mb4.8						
LZH	**Lanzhou**	**43.71**	**307**	*e*P	**P**	**23 03 14.0**	**+0.9**
LZH				AP	pP	23 03 23.0	-4.9
LZH				AMB	AMB		
	comp=Z,58nm,1.4s,mb5.1						
LZH	**Lanzhou**	**43.71**	**307**	*e*P	**P**	**23 03 14.0**	**+0.9**
	comp=Z,58nm,1.4s,mb5.1						
LZH				pP	pP	23 03 23.0	-4.9
LZH				sP	sP	23 03 27.0	-7.6
MBWA	**Marble Bar**	**44.49**	**217**	*e*P	**P**	**23 03 20.4**	**+0.9**
	comp=Z,7.1nm,0.8s,mb4.5						
CMAR	**Chiang Mai Arr**	**45.84**	**281**	P	**P**	**23 03 30.5**	**+0.2**
	comp=Z,2.4nm,0.8s,mb4.2,baz=81,slow=6.2,SNR=23						
CMAR				LR	LR	23 23 57.3	
	comp=Z,99nm,19.1s,MS3.8,baz=180,slow=38						
STKA	**Stephens Creek**	**46.66**	**186**	P	**P**	**23 03 37.2**	**+0.6**
	comp=Z,1.8nm,0.6s,mb4.2,baz=338,slow=7.1,SNR=3.4						
SONM	**Songino Array**	**46.82**	**323**	P	**P**	**23 03 37.0**	**-0.7**
	comp=Z,3.8nm,0.6s,mb4.5,baz=130,slow=7.1,SNR=33						
GTA	**Gaotai**	**47.76**	**310**	*e*P	**P**	**23 03 45.8**	**+0.7**
GTA				AP	pP	23 03 59.1	-0.9
GTA				XP	sP	23 04 05.5	-1.1
GTA				PCP	PcP	23 05 15.3	+1.5
GTA				PP	PP	23 05 36.8	+0.2
GTA				SCP		23 09 05.8	
GTA				S	**S**	**23 10 36.8**	**+0.5**
GTA				XS		23 10 57.3	
GTA				SS	SS	23 13 57.6	-1.9
GTA				AMB	AMB		
	comp=Z,3.0nm,1.3s,mb4.2						
GTA				AMB	AMB		
	comp=Z,44nm,5.3s						
GTA				LR	LR		
	comp=N,54nm,16.7s,MS3.9						
GTA				LR	LR		
	comp=E,81nm,16.3s,MS3.9						
GTA				LR	LR		
	comp=Z,108nm,17.9s,MS3.9						
SHL	**Shillong**	**52.27**	**291**	*e*P	**P**	**23 04 20.0**	**+0.2**
LSA	**Lhasa**	**53.08**	**296**	P	**P**	**23 04 28.0**	**+2.3**
WMQ	**Urumqi**	**57.64**	**313**	P	**P**	**23 04 59.0**	**+0.5**
WMQ				AP	pP	23 05 13.3	-0.5
WMQ				XP	sP	23 05 19.5	-0.9
WMQ				AMB	AMB		
	comp=Z,19nm,1.1s,mb5.0						
WMQ				LR	LR		
	comp=Z,82nm,18.2s,MS3.9						
PKI	**Pulchoki**	**58.07**	**293**	*e*P	**P**	**23 05 01.4**	**-0.3**
	comp=Z,42nm,1.1s,mb5.4						
KKN	**Kakani**	**58.19**	**294**	*e*P	**P**	**23 05 02.6**	**+0.1**
	comp=Z,30nm,1.1s,mb5.2						
DMN	**Daman**	**58.34**	**293**	*e*P	**P**	**23 05 02.4**	**-1.2**
	comp=Z,33nm,1.0s,mb5.3						
GKN	**Gorkha**	**58.75**	**294**	*e*P	**P**	**23 05 06.1**	**-0.3**
	comp=Z,73nm,1.1s,mb5.6						
KOLN	**Koldanda**	**59.67**	**294**	*e*P	**P**	**23 05 07.6**	**-5.2**
MKAR	**Makanchi Array**	**61.90**	**315**	P	**P**	**23 05 26.9**	**-0.7**
	comp=Z,6.3nm,0.8s,mb4.8,baz=97,slow=8.7,SNR=36						
MKAR				LR	LR	23 31 30.3	
	comp=Z,52nm,18.9s,MS3.7,baz=278,slow=35						
MKAR	**Makanchi Array**	**61.90**	**315**	P	**P**	**23 05 26.9**	**-0.7**
KURK	**Kurchatov**	**64.84**	**319**	*e*P	**P**	**23 05 45.7**	**-1.3**
	comp=Z,24nm,0.8s,mb5.3						
HYB	**Hyderabad**	**65.25**	**283**	*i* P	**P**	**23 05 50.0**	**-0.1**
ILAR	**Eielson Array**	**66.71**	**25**	P	**P**	**23 05 57.7**	**-0.9**
	comp=Z,1.8nm,0.8s,mb4.1,baz=258,slow=5.9,SNR=12						
DAWY	**Dawson**	**69.75**	**27**	P	**P**	**23 06 18.2**	**+0.7**
BVAR	**Borovoye Array**	**70.11**	**321**	P	**P**	**23 06 18.6**	**-1.2**
	comp=Z,4.7nm,0.6s,mb4.6,baz=101,slow=7.6,SNR=16						
BRVK	**Borovoye**	**70.18**	**321**	*e*P	**P**	**23 06 19.2**	**-1.0**
	comp=Z,8.7nm,0.8s,mb4.7						
DLBC	**Dease Lake**	**74.00**	**33**	P	**P**	**23 06 43.0**	**+0.3**
	comp=Z,4.1nm,0.9s,mb4.3,baz=217,slow=5.1,SNR=2.8						
ARU	**Arti**	**76.81**	**325**	*e*P	**P**	**23 06 58.0**	**-0.9**
	comp=Z,5.9nm,0.6s,mb4.7						
YBH	**Yreka Blue Hor**	**80.72**	**49**	P	**P**	**23 07 21.0**	**+0.5**
	comp=Z,0.9nm,0.4s,mb4.0,baz=260,slow=5.7,SNR=3.6						
BEKR	**Beckwourth**	**82.86**	**51**	*e*P	**P**	**23 07 32.5**	**+0.9**
	comp=Z,4.1nm,0.8s,mb4.5						
NEW	**Newport**	**83.13**	**42**	P	**P**	**23 07 34.4**	**+1.6**
	comp=Z,2.8nm,0.8s,mb4.4,baz=15,slow=5.1,SNR=3.4						
CMB	**Columbia Colle**	**83.26**	**53**	P	**P**	**23 07 33.0**	**-0.7**
	comp=Z,5.2nm,1.1s,mb4.5						
NVAR	**Mina Array Bea**	**84.76**	**52**	P	**P**	**23 07 43.1**	**+1.8**
	comp=Z,1.4nm,0.8s,mb4.2,baz=277,slow=4.2,SNR=5.3						
NVAR				LR	LR	23 40 43.1	
	comp=Z,46nm,18.4s,MS3.9,baz=155,slow=32						
ARCES	**ARCESS Array B**	**86.49**	**342**	LR	LR	23 51 41.6	
	comp=Z,118nm,18.9s,MS4.3,baz=107,slow=39						
MCMT	**McKenzie Canyo**	**86.91**	**44**	*e*P	**P**	**23 07 51.6**	**-0.1**
HRY	**Holter Researc**	**87.01**	**42**	*e*P	**P**	**23 07 51.6**	**-0.6**
HWUT	**Hardware Ranch**	**88.81**	**47**	*e*P	**P**	**23 08 02.8**	**+1.9**
	comp=Z,7.5nm,1.1s,mb4.9						
PDAR	**Pinedale Array**	**89.83**	**46**	P	**P**	**23 08 07.2**	**+1.6**
	comp=Z,0.6nm,0.8s,mb4.0,baz=315,slow=2.1,SNR=3.5						
PDAR				LR	LR	23 44 22.9	
	comp=Z,64nm,19.1s,MS4.1,baz=326,slow=33						
FINES	**FINESS Array B**	**90.83**	**336**	P	**P**	**23 08 08.4**	**-1.4**
	comp=Z,2.2nm,0.8s,mb4.5,baz=90,slow=1.9,SNR=5.6						
NOA	**NORSAR Array B**	**96.56**	**340**	LR	LR	23 57 06.6	
	comp=Z,37nm,21.2s,MS3.8,baz=285,slow=38						
TXAR	**Lajitas Array**	**99.19**	**56**	LR	LR	23 46 17.4	
	comp=Z,70nm,20.4s,MS4.2,baz=330,slow=31						
SNAA	**Sanae**	**120.31**	**191**	⇑*i*	PKPdf	23 13 59.4	+3.2
LSZ	**Lusaka**	**120.83**	**261**	*e*PKPdf	PKPdf	23 14 01.3	+2.9
VNA2	**Neumayer--Watz**	**121.72**	**190**	⇑*i*	PKPdf	23 14 06.5	+7.6
VNA2	**Neumayer--Watz**	**121.72**	**190**	P	PKPdf	23 14 03.9	+5.0
VNA2				⇑*i*P		23 14 06.5	
VNA3	**Neumayer Olymp**	**121.79**	**189**	⇑*i*	PKPdf	23 14 06.3	+7.3
VNA3	**Neumayer Olymp**	**121.79**	**189**	P	PKPdf	23 14 03.7	+4.7
VNA3				⇑*i*P		23 14 06.3	
DBIC	**Dimbokro**	**144.67**	**305**	PKP	PKPdf	23 14 43.2	+0.2
	comp=Z,5.4nm,0.7s,baz=48,slow=7.9,SNR=6.3						
DBIC	**Dimbokro**	**144.67**	**305**	*e*PKPdf	PKPdf	23 14 43.2	+0.2
KIC	**Kosan Boka**	**144.76**	**305**	*e*PKP1	PKPbc	23 14 43.8	+0.6
	comp=Z,56nm,1.0s						
TIC	**Toumodi**	**144.81**	**305**	*e*PKP1	PKPbc	23 14 43.8	+0.5
	comp=Z,12nm,0.2s						
LIC	**Lamto**	**145.07**	**305**	*e*PKP1	PKPbc	23 14 44.7	+0.7
	comp=Z,56nm,1.1s						
LPAZ	**La Paz**	**146.40**	**97**	PKPbc	PKPbc	23 14 48.7	+1.6
	comp=Z,2.9nm,0.8s,baz=247,slow=3.1,SNR=10.0						
LPAZ	**La Paz**	**146.40**	**97**	PKPbc	PKPbc	23 14 48.7	+1.6
CPUP	**Villa Florida**	**154.76**	**121**	PKPab	PKPab	23 15 23.9	-0.6
	comp=Z,1.6nm,0.7s,baz=258,slow=11,SNR=4.5						

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*PRU **21** 22:56:04.1,50.28N×19.05E*

*WAR **21** 22:56:04.1,50.20N×19.13E,ML2.8,Mining Induced*

ISC 21 22:56:02.3±0.6**,50.18N**±0.05×**19.01E**±0.04**,n12,σ1^{s}.40**/21**,Poland**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OJC	**Ojcow**	**0.51**	**85**	*e*PG	**Pg**	**22 56 13.0**	**+0.5**
OJC				*i* SG	**Sg**	**22 56 19.5**	**+0.3**
OKC	**Ostrava-Krasne**	**0.65**	**239**	*e*PG	**Pg**	**22 56 18.2**	**+2.9**
OKC				*e*SG	**Sg**	**22 56 28.6**	**+4.6**
NIE	**Niedzica**	**1.14**	**131**	*e*PG	**Pg**	**22 56 24.0**	**-1.0**
NIE				*e*SG	**Sg**	**22 56 40.0**	**-0.1**
DPC	**Dobruska-Polom**	**1.73**	**277**	*e*PG	**Pg**	**22 56 35.7**	**-1.2**
DPC				*e*SG	**Sg**	**22 57 01.3**	**+1.3**
KSP	**Ksiaz**	**1.86**	**292**	*e*PG	**Pg**	**22 56 41.0**	**+1.6**
KSP				*e*SG	**Sg**	**22 57 05.0**	**+0.8**
UPC	**Upice**	**1.95**	**281**	*e*PG	**Pg**	**22 56 41.5**	**+0.3**
PSZ	**Piszkesteto**	**2.33**	**165**	*e*P	**Pn**	**22 56 49.2**	**+6.7**
PSZ				*e*S	**Sn**	**22 57 11.6**	**-0.7**
PVCC	**Panska Ves**	**2.87**	**279**	*e*PG	**Pg**	**22 56 56.9**	**-2.6**
PVCC				*e*SG	**Sg**	**22 57 36.5**	**-1.2**
PRU	**Pruhonice**	**2.88**	**268**	*e*PG	**Pg**	**22 56 57.1**	**-2.8**
PRU				*e*SG	**Sg**	**22 57 36.3**	**-2.0**
	6.4nm,0.6s						
KHC	**Kasperske Hory**	**3.68**	**256**	*e*PN	**Pn**	**22 57 02.6**	**+0.9**
KHC				*e*x	x	22 57 09.7	
KHC				*e*SG	**Sg**	**22 58 03.9**	**-1.0**
MOA	**Molln**	**3.90**	**235**	*i*	**Pn**	**22 57 14.5**	**+10**
MOA	**Molln**	**3.90**	**235**	*i* SG	**Sg**	**22 58 14.0**	**+2.0**
	3.4nm,0.6s						

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*NEIC **21** 23:16:02.8±0.6,6.86S×129.90E,h35^{km},mb4.1/3,Error ellipse: s-maj=20.3km s-min=7.7km az=71.0*

*IDC **21** 23:16:03.8±6.6,6.93S×129.83E,h43^{km}±67^{km},mb3.9/4,mb1 4.3/7,mb1mx4.1/11,ML4.5/3,Error ellipse: s-maj=87.7km s-min=24.7km az=57.0*

ISC 21 23:16:14.3±2.4**,7.53S**±0.09×**129.8E**±0.1**,h190**^{km}±26^{km}**,n14,σ1^{s}.12**/21**,mb3.9**/5**,1D,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.25**	**201**	*e*P	**P**	**23 18 50.6**	**-0.2**
	2.6nm,0.2s						
FITZ				*e*S	**S**	**23 20 52.8**	**-0.8**
FITZ	**Fitzroy Crossi**	**11.25**	**201**	P	**P**	**23 18 50.2**	**-0.6**
	2.4nm,0.3s,baz=19,slow=7.6,SNR=38						
FITZ				S	**S**	**23 20 52.3**	**-1.3**
	4.9nm,0.3s,baz=200,slow=11,SNR=7.2						
WRAB	**Tennant Creek**	**13.10**	**161**	*e*P	**P**	**23 19 14.6**	**+0.4**
	18nm,0.4s						
WRAB				*e*S	**S**	**23 21 34.4**	**-1.6**
WRA	**Warramunga Arr**	**13.10**	**161**	P	**P**	**23 19 14.2**	**-0.1**
	3.8nm,0.3s,baz=338,slow=13,SNR=124						
WRA				S	**S**	**23 21 35.1**	**-1.1**
	4.3nm,0.3s,baz=334,slow=22,SNR=10						
WB2	**Warramunga Arr**	**13.11**	**161**	*e*P	**P**	**23 19 14.3**	**0.0**
WB2				*e*S	**S**	**23 21 36.4**	**+0.2**
ASAR	**Alice Springs**	**16.52**	**167**	P	**P**	**23 19 59.8**	**+3.0**
	1.8nm,0.3s,baz=340,slow=9.4,SNR=63						
ASAR				S	**S**	**23 22 59.7**	**+6.4**
	1.1nm,0.3s,baz=346,slow=25,SNR=9.7						
ASPA	**Alice Springs**	**16.52**	**167**	*e*P	**P**	**23 20 01.0**	**+4.2**
ASPA				*e*S	**S**	**23 22 55.0**	**+1.7**
MBWA	**Marble Bar**	**16.67**	**215**	*e*P	**P**	**23 20 01.4**	**+2.8**
	3.4nm,0.6s						
STKA	**Stephens Creek**	**26.60**	**157**	⇓*i*P	**P**	**23 21 43.2**	**+6.2**
	2.7nm,0.3s,mb4.3						
STKA	**Stephens Creek**	**26.60**	**157**	P	**P**	**23 21 43.1**	**+6.1**
	4.1nm,0.4s,mb4.5,baz=334,slow=8.3,SNR=29						
CMAR	**Chiang Mai Arr**	**39.91**	**311**	P	**P**	**23 23 31.1**	**-0.4**
	0.7nm,0.6s,mb3.5,baz=130,slow=7.4,SNR=4.2						
SONM	**Songino Array**	**58.88**	**342**	P	**P**	**23 25 54.9**	**-0.4**
	0.6nm,0.4s,mb3.8,baz=160,slow=6.6,SNR=11						
MKAR	**Makanchi Array**	**68.55**	**327**	P	**P**	**23 26 58.6**	**+0.3**
	1.5nm,0.4s,mb4.1,baz=119,slow=7.8,SNR=30						
KURK	**Kurchatov**	**72.86**	**329**	P	**P**	**23 27 23.4**	**-0.7**
	2.0nm,0.7s,mb4.0						

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*LDG **21** 23:57:19.9±0.3,42.31N×2.17E,h2^{km},Md2.5/3,Ml2.0/9,Error ellipse: s-maj=5.0km s-min=2.5km az=152.0*

*MDD **21** 23:57:20.7±0.3,42.35N×2.14E,h4^{km}±5^{km},mbLg1.5/8,Error ellipse: s-maj=2.4km s-min=2.1km az=24.0,AftershockPLICA PRXIMO*

ISC 21 23:57:19.2±0.5**,42.43N**±0.03×**2.14E**±0.03**,h8**^{km}±5^{km}**,n19,σ1^{s}.31**/36**,Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VALF	**Valcebollere**	**0.09**	**250**	P	**Pg**	**23 57 22.7**	**+1.3**
VALF				S	**Sg**	**23 57 24.3**	**+1.3**
CLLI	**Llivia**	**0.13**	**291**	Pg	**Pg**	**23 57 24.1**	**+2.0**
CLLI				Lg		23 57 26.8	
	29nm,0.1s						
CBRU	**Bruguera**	**0.15**	**168**	Pg	**Pg**	**23 57 21.9**	**-0.6**
CBRU				Lg		23 57 23.1	
	122nm,0.1s						
CARF	**Carcanieres**	**0.28**	**355**	P	**Pg**	**23 57 27.9**	**+2.9**
CARF				S	**Sg**	**23 57 33.0**	**+4.2**
FILF	**Fillols**	**0.34**	**68**	P	**Pg**	**23 57 26.3**	**+0.2**
FILF				S	**Sg**	**23 57 30.4**	**-0.2**
EJON	**La Jonquera**	**0.56**	**88**	Pg	**Pg**	**23 57 31.2**	**+0.9**
	0.8nm,0.1s,SNR=7.9						
EJON				Lg		23 57 39.2	
	2.0nm,0.1s,SNR=7.9						
CORG	**Organya**	**0.64**	**252**	Pg	**Pg**	**23 57 32.0**	**0.0**
EMIR	**Miracle**	**0.69**	**221**	Pg	**Pg**	**23 57 32.3**	**-0.7**
	1.8nm,0.1s,SNR=7.9						
EMIR				Lg		23 57 41.3	
	5.1nm,0.1s,SNR=7.9						
SALF	**Salau**	**0.77**	**295**	P	**Pb**	**23 57 35.9**	**+1.4**
SALF				S	**Sb**	**23 57 47.1**	**+2.2**
MTLF	**Montolieu**	**0.91**	**4**	*e*Pg	**Pg**	**23 57 39.5**	**+2.1**
MTLF				*e*Sg	**Sg**	**23 57 52.6**	**+3.1**
	4.2nm,0.2s						
EPOB	**Poblet**	**1.34**	**217**	Pg	**Pg**	**23 57 44.1**	**-1.9**
	1.1nm,0.1s,SNR=7.9						
EPOB				Lg		23 58 00.7	
	2.6nm,0.2s,SNR=7.9						
EPF	**Esparros**	**1.45**	**295**	*e*Pg	**Pg**	**23 57 48.1**	**-0.1**
EPF				*e*Sg	**Sg**	**23 58 08.7**	**+1.1**
	2.0nm,0.2s						
ETSF	**Etsaut**	**2.04**	**284**	*e*Pg	**Pg**	**23 57 59.3**	**-0.7**
ETSF				*e*Sg	**Sg**	**23 58 26.3**	**-0.9**
	2.5nm,0.3s						
LASF	**Ste Croix**	**2.07**	**37**	*e*Pn	**Pn**	**23 57 54.8**	**+0.1**
LASF				*e*Pg	**Pg**	**23 57 59.9**	**-0.6**
LASF				*e*Sg	**Sg**	**23 58 28.5**	**+0.5**
	0.9nm,0.2s						
CAF	**Calviac**	**2.49**	**359**	*e*Pg	**Pg**	**23 58 08.4**	**-0.5**
CAF				*e*Sn	**Sn**	**23 58 32.4**	**+0.7**
CAF				*e*Sg	**Sg**	**23 58 41.7**	**-0.5**
	1.8nm,0.2s						
SJPF	**Ste Jean**	**2.57**	**286**	*e*Pn	**Pn**	**23 58 02.3**	**+0.5**
SJPF				*e*Pg	**Pg**	**23 58 08.5**	**-1.9**
SJPF				*e*Sg	**Sg**	**23 58 42.0**	**-2.7**
	1.5nm,0.3s						
LFF	**La Frestale**	**2.70**	**338**	*e*Pg	**Pg**	**23 58 04.5**	**-8.6**
LFF				*e*Sg	**Sg**	**23 58 49.0**	**-0.2**
	1.7nm,0.3s						
RJF	**Les Rejaudoux**	**2.91**	**351**	*e*Pn	**Pn**	**23 58 06.5**	**-0.2**
RJF				*e*Pg	**Pg**	**23 58 15.7**	**-1.5**
RJF				*e*Sg	**Sg**	**23 58 54.4**	**-1.5**
	0.9nm,0.2s						
TCF	**Toulx Ste Croi**	**3.85**	**1**	*e*Pg	**Pg**	**23 58 34.1**	**-2.0**
TCF				*e*Sg	**Sg**	**23 59 25.5**	**-2.0**
	0.6nm,0.3s						

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*BJI **22** 00:09:30.8,21.90S×179.10W,h536^{km},mB4.3,mb4.5*

*NEIC **22** 00:09:30.8±1.0,21.95S×179.07W,h537^{km}±12^{km},mb4.6/15,Error ellipse: s-maj=12.0km s-min=8.6km az=163.0*

*SYO **22** 00:09:31.4,22.02S×179.05W,h547^{km},MB4.2*

*IDC **22** 00:09:32.3±1.3,21.92S×179.15W,h551^{km}±13^{km},mb4.0/12,mb1 4.3/13,mb1mx4.2/16,Error ellipse: s-maj=23.1km s-min=10.0km az=155.0*

ISC 22 00:09:31.5±0.8**,22.18S**±0.06×**179.08W**±0.07**,h558**^{km}±10^{km}**,n71,σ0^{s}.98**/51**,mb4.5**/26**,2C-9D,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**5.18**	**328**	P	**P**	**00 11 04.6**	**+0.6**
	1µm,0.5s,SNR=63						
RAO	**Raoul Island**	**7.12**	**172**	*e*P	**P**	**00 11 21.0**	**-0.6**
	342nm,0.3s						
DZM	**Mont Dzumac**	**13.42**	**268**	*e*P	**P**	**00 12 24.0**	**-0.7**
DZM				*e*S	Px	00 14 00.5	
URZ	**Urewera**	**16.36**	**191**	P	**P**	**00 12 52.6**	**-0.9**
	11nm,0.3s,baz=330,slow=2.8,SNR=31						
URZ				S	**S**	**00 15 35.5**	**-1.1**
	0.6nm,0.3s,baz=342,slow=19,SNR=4.3						
THZ	**Tophouse**	**20.66**	**197**	P	**P**	**00 13 34.2**	**+0.1**
KHZ	**Kahutara**	**21.10**	**195**	P	**P**	**00 13 38.2**	**0.0**
RPZ	**Rata Peaks**	**22.98**	**199**	P	**P**	**00 13 56.6**	**+1.4**
	18nm,0.6s,mb4.9,baz=242,slow=14,SNR=6.7						
CTA	**Charters Tower**	**32.36**	**267**	⇓*i*P	**P**	**00 15 17.3**	**+0.3**
	30nm,0.4s,mb5.2						
CTA	**Charters Tower**	**32.36**	**267**	P	**P**	**00 15 17.4**	**+0.4**
	43nm,0.4s,mb5.3,baz=94,slow=10,SNR=62						
CTAO	**Charters Tower**	**32.36**	**267**	*e*P	**P**	**00 15 17.0**	**0.0**
	43nm,0.5s,mb5.2						
TOO	**Toolangi**	**34.11**	**235**	⇓*i*P	**P**	**00 15 32.9**	**+1.5**
	23nm,0.6s,mb4.9						
PMG	**Port Moresby**	**34.79**	**286**	*e*P	**P**	**00 15 37.1**	**-0.3**
	64nm,0.9s,mb5.2						
STKA	**Stephens Creek**	**36.17**	**246**	⇓*i*P	**P**	**00 15 49.9**	**+1.3**
	29nm,0.5s,mb5.1						
STKA	**Stephens Creek**	**36.17**	**246**	P	**P**	**00 15 49.9**	**+1.3**
	39nm,0.5s,mb5.2,baz=92,slow=9.8,SNR=110						
STKA				ScP		00 20 55.1	
	3.0nm,0.8s,baz=355,slow=8.9,SNR=3.3						
ASAR	**Alice Springs**	**43.18**	**259**	P	**P**	**00 16 45.1**	**0.0**
	53nm,0.6s,mb5.3,baz=100,slow=8.0,SNR=446						
ASAR				ScP		00 21 22.9	
	1.5nm,0.8s,baz=98,slow=4.4,SNR=4.3						
ASAR				S	**S**	**00 22 31.2**	**-1.0**
	1.0nm,0.7s,baz=90,slow=16,SNR=3.4						
ASPA	**Alice Springs**	**43.18**	**259**	⇓*i*P	**P**	**00 16 45.1**	**0.0**
WB2	**Warramunga Arr**	**43.39**	**264**	⇓*i*P	**P**	**00 16 46.0**	**-0.8**
WRAB	**Tennant Creek**	**43.39**	**264**	⇓*i*P	**P**	**00 16 45.9**	**-0.9**
	45nm,0.7s,mb5.1						
WRA	**Warramunga Arr**	**43.40**	**264**	P	**P**	**00 16 46.1**	**-0.8**
	25nm,0.3s,mb5.2,baz=94,slow=7.9,SNR=1006						
WRA				ScP		00 21 23.9	
	4.5nm,0.8s,baz=96,slow=4.0,SNR=14						
WRA				S	**S**	**00 22 33.4**	**-2.0**
	0.7nm,1.0s,baz=101,slow=13,SNR=2.2						
FORT	**Forrest**	**47.72**	**248**	⇓*i*P	**P**	**00 17 19.4**	**-0.5**
	190nm,0.5s						
SBA	**Scott Base**	**56.14**	**184**	*e*P	**P**	**00 18 22.3**	**+2.4**
	1.2nm,0.6s						
MBWA	**Marble Bar**	**56.52**	**259**	⇓*i*P	**P**	**00 18 22.3**	**-1.0**
	56nm,0.6s,mb5.0						
NWAO	**Narrogin (SRO)**	**56.73**	**244**	*e*P	**P**	**00 18 24.5**	**0.0**
	7.8nm,0.4s,mb4.3						
QSPA	**South Pole Qui**	**67.89**	**180**	*e*P	**P**	**00 19 37.4**	**+1.7**
	2.5nm,0.7s,mb3.9						
QSPA				*e*	pP	00 21 32.1	+1.6
QSPA				*e*		00 34 02.3	
SSE	**Sheshan**	**78.00**	**311**	*e*P	**P**	**00 20 34.6**	**+0.6**

SSE				AMB	AMB		
	comp=Z,42nm,0.7s,mb4.9						
SSE				AMB	AMB		
	comp=Z,62nm,8.0s						
MAW	Mawson	79.65	200	P	P	00 20 43.0	+1.1
	comp=Z,1.5nm,0.6s,mb3.5,baz=117,slow=10,SNR=7.5						
NJ2	Nanjing	80.19	310	eP	P	00 20 46.5	+1.1
NJ2				AMB	AMB		
	comp=Z,30nm,1.0s,mb4.6						
CMB	Columbia Colle	81.37	43	eP	P	00 20 50.7	-0.6
	comp=Z,4.4nm,0.8s,mb3.9						
MTUM	Tungsten Hills	82.14	44	eP	P	00 20 55.1	-0.1
YBH	Yreka Blue Hor	82.22	39	P	P	00 20 56.3	+0.7
	comp=Z,3.7nm,0.7s,mb3.9,baz=171,slow=1.9,SNR=12						
YBH	Yreka Blue Hor	82.22	39	eP	P	00 20 55.8	+0.3
	comp=Z,4.5nm,0.8s,mb4.0						
BEKR	Beckwourth	82.49	42	eP	P	00 20 56.7	-0.3
	comp=Z,3.3nm,0.6s,mb3.9						
NVAR	Mina Array Bea	82.93	44	P	P	00 20 59.3	+0.1
	comp=Z,3.4nm,0.7s,mb4.0,baz=230,slow=10.0,SNR=11						
CN2	Changchun	83.02	323	eP	P	00 21 00.9	+1.3
MNV	Mina	83.03	44	eP	P	00 20 59.2	-0.5
	comp=Z,4.1nm,0.7s,mb4.1						
SSOR	Sweet Springs	84.33	37	eP	P	00 21 05.6	-0.3
SYO	Syowa Base	84.87	193	⇑P	P	00 21 05.1	-2.9
SYO	Syowa Base	84.87	193	⇑PcP	PcP	00 21 08.2	-2.5
SYO	Syowa Base	84.87	193	⇓pP	pP	00 23 05.6	-3.8
ENH	Enshi	86.16	305	eP	P	00 21 15.7	+0.6
	comp=Z,10nm,0.8s,mb4.5						
SNAA	Sanae	86.36	179	eP	P	00 21 14.8	-0.3
	comp=Z,0.5nm,0.6s						
DPW	Davenport	88.50	36	eP	P	00 21 24.9	-0.8
TXAR	Lajitas Array	88.80	58	P	P	00 21 27.8	+0.1
	comp=Z,3.6nm,0.9s,mb4.2,baz=216,slow=5.8,SNR=24						
MCK	McKinley	88.83	13	eP	P	00 21 25.0	-1.9
	comp=Z,2.2nm,0.6s,mb4.2						
CM31	Chiang Mai Arr	89.73	290	eP	P	00 21 33.6	+1.4
	comp=Z,12nm,0.8s,mb4.8						
CMAR	Chiang Mai Arr	89.73	290	P	P	00 21 33.6	+1.5
	comp=Z,8.9nm,0.8s,mb4.7,baz=135,slow=3.1,SNR=49						
MCMT	McKenzie Canyo	89.88	41	eP	P	00 21 32.3	+0.1
ILAR	Eielson Array	90.17	13	P	P	00 21 31.1	-1.9
	comp=Z,0.9nm,0.6s,mb3.8,baz=238,slow=6.2,SNR=7.0						
IMW	Indian Meadow	90.56	42	eP	P	00 21 35.9	+0.5
PDAR	Pinedale Array	90.87	44	P	P	00 21 36.3	-0.5
	comp=Z,2.1nm,0.8s,mb4.1,baz=225,slow=2.1,SNR=12						
MKAR	Makanchi Array	111.61	313	PKiKP		00 27 02.2	
	comp=Z,0.3nm,0.4s,baz=146,slow=1.3,SNR=7.8						
BVAR	Borovoye Array	119.70	319	PKP	PKPdf	00 27 17.9	-0.2
	comp=Z,1.5nm,0.4s,baz=119,slow=2.1,SNR=17						
ZRNK	Zerenda	120.54	319	ePKPdf	PKPdf	00 27 19.3	-0.4
ARCES	ARCESS Array B	130.38	349	PKP	PKPdf	00 27 38.1	0.0
	comp=Z,2.7nm,0.6s,baz=57,slow=2.1,SNR=9.8						
ARCES				SKPbc		00 30 10.0	
	comp=Z,3.9nm,0.9s,baz=45,slow=5.1,SNR=5.2						
KAF	Kangasniemi	136.47	343	ep	PKPdf	00 27 50.1	+0.5
	comp=Z,0.4nm,0.3s						
FINES	FINESS Array B	137.08	343	PKP	PKPdf	00 27 52.0	+1.2
	comp=Z,1.1nm,0.4s,baz=63,slow=3.1,SNR=9.6						
FINES				SKPbc		00 30 32.0	
	comp=Z,4.7nm,1.1s,baz=38,slow=2.5,SNR=5.0						
BLJS	Baljurashi	142.04	274	P	PKPdf	00 28 00.4	-0.3
MBAR	Mbarara	143.15	236	ePKPdf	PKPdf	00 28 02.5	-0.4
AKASG	Malin Array Be	143.96	329	PKP	PKPdf	00 28 02.3	-0.8
	comp=Z,5.0nm,0.4s,baz=43,slow=4.2,SNR=25						
MALT	Malatya	144.11	305	ePKPdf	PKPdf	00 28 05.3	+1.6
KBRS	Khaybar	144.87	284	P	PKPdf	00 28 08.1	+2.6
BRTR	Keskin Array B	147.18	310	PKPbc	PKPdf	00 28 12.8	+3.8
	comp=Z,3.5nm,0.7s,baz=139,slow=4.9,SNR=20						
TBKS	Tabuk	147.29	288	P	PKPdf	00 28 14.6	+5.1
DBAS	Duba	147.83	286	P	PKPdf	00 28 15.8	+5.4
JMQS	Jabal Moqyreh	147.84	289	P	PKPdf	00 28 16.0	+5.6
JMOS	Jabal al Moall	148.49	290	P	PKPdf	00 28 17.3	+6.0
BDAS	Al Bad‘	148.55	288	P	PKPdf	00 28 17.4	+6.0
HAQS	Haql	148.66	290	P	PKPdf	00 28 17.7	+6.2
CSS	Prodhromos	148.96	301	ePKPbc	PKPdf	00 28 17.4	+5.5
CLL	Collm	149.44	345	i PKP1	PKPdf	00 28 18.3	+6.2
GERES	GERESS Array B	151.51	342	PKPbc	PKPdf	00 28 22.8	+7.5
	comp=Z,0.9nm,0.6s,baz=8.4,slow=2.2,SNR=8.6						
GERES				PKPab	PKPab	00 28 34.1	-1.6
	comp=Z,0.4nm,0.5s,baz=22,slow=5.3,SNR=3.1						

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*STR **22** 00:47:04.4±0.3, 42.33N×2.15E, h5^{km}±1^{km}, Ml2.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*MDD **22** 00:47:04.9±0.2, 42.33N×2.16E, h3^{km}±2^{km}, mbLg2.4/21, Error ellipse: s-maj=1.8km s-min=1.4km az=177.0, AftershockPLICA PRXIMO*

*LDG **22** 00:47:05.1±0.1, 42.33N×2.15E, h4^{km}, Md2.7/3, Ml3.0/22, Error ellipse: s-maj=2.3km s-min=1.4km az=174.0*

*NEIC **22** 00:47:05.3, 42.36N×2.11E, h5^{km}, ML3.0(LDG), ML2.8(STR), MN2.4(MDD), After STR.*

ISC 22 00:47:03.1±0.3**, 42.38N**±0.02×**2.21E**±0.02**, h9**^{km}±2^{km}**, n68, σ1^{s}45**/150**, 2C-1D, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBRU	Bruguera	0.10	192	Pg	Pg	00 47 05.6	0.0
CBRU				Lg		00 47 06.7	
	247nm,0.1s						
VALF	Valcebollere	0.14	279	Pg	Pg	00 47 06.9	+0.5
VALF				Sg	Sg	00 47 08.6	0.0
VALF	Valcebollere	0.14	279	P	Pg	00 47 07.0	+0.7
VALF				S	Sg	00 47 08.8	+0.2
CLLI	Llivia	0.20	300	Pg	Pg	00 47 08.4	+1.0
CLLI				Lg		00 47 11.3	
	95nm,0.1s						
FILF	Fillols	0.32	55	Pg	Pg	00 47 10.3	+0.7
FILF				Sg	Sg	00 47 14.8	+0.8
FILF	Fillols	0.32	55	P	Pg	00 47 10.4	+0.8
FILF				S	Sg	00 47 14.9	+0.9
CARF	Carcanieres	0.34	347	P	Pg	00 47 12.1	+2.0
CARF				S	Sg	00 47 17.6	+2.7
EJON	La Jonquera	0.51	82	⇓Pg	Pg	00 47 15.2	+1.8
	7.3nm,0.4s,SNR=18						
EJON				Lg		00 47 22.8	
	76nm,0.3s,SNR=48						
SJAF	Saint Jean de	0.51	78	Pg	Pg	00 47 14.8	+1.4
SJAF				Sg	Sg	00 47 22.6	+2.3
SJAF	Saint Jean de	0.51	78	P	Pg	00 47 14.9	+1.6
SJAF				S	Sg	00 47 22.8	+2.5
LRDF	Laroque-de-Fa	0.61	24	Pg	Pg	00 47 17.4	+2.1
LRDF				Sg	Sg	00 47 26.9	+3.4
LRDF	Laroque-de-Fa	0.61	24	P	Pg	00 47 17.2	+1.9
LRDF				S	Sg	00 47 27.2	+3.7
LPEF	Le Peyrat	0.61	339	Pg	Pg	00 47 16.9	+1.5
LPEF				Sg	Sg	00 47 26.1	+2.5
LPEF	Le Peyrat	0.61	339	P	Pg	00 47 17.1	+1.7
LPEF				S	Sg	00 47 26.2	+2.6
CORG	Organya	0.68	258	Pg	Pg	00 47 16.3	-0.4
GRBF	Gourbit	0.68	313	P	Pb	00 47 17.4	+0.8
GRBF				S	Sb	00 47 26.7	+0.9
EMIR	Miracle	0.69	228	⇑Pg	Pg	00 47 16.2	-0.7
	26nm,0.3s,SNR=18						
EMIR				Lg		00 47 25.1	
	53nm,0.2s,SNR=12						
SALF	Salau	0.84	297	Pg	Pg	00 47 20.1	+0.1
SALF				Sg	Sg	00 47 31.2	-0.1
SALF	Salau	0.84	297	P	Pb	00 47 19.9	+0.5
SALF				S	Sb	00 47 30.6	0.0
MTLF	Montolieu	0.96	0	ePg	Pg	00 47 23.4	+1.1
MTLF				ePn	Pn	00 47 24.8	+2.2
MTLF				eSg	Sg	00 47 36.9	+1.7
	76nm,0.3s						
MLS	Moulis	1.00	306	S	Sb	00 47 36.6	+1.4
MELF	Melles	1.18	295	Pg	Pg	00 47 26.3	-0.3
MELF				Sg	Sg	00 47 41.9	-0.5
MELF	Melles	1.18	295	P	Pb	00 47 26.3	+1.1
MELF				S	Sb	00 47 41.9	+1.6
EPOB	Poblet	1.33	220	⇑Pg	Pg	00 47 27.8	-1.8
	18nm,0.3s,SNR=18						
EPOB				Lg		00 47 45.0	
	14nm,0.1s,SNR=20						
RESF	Ens	1.45	288	Pg	Pg	00 47 31.9	-0.1
RESF	Ens	1.45	288	P	Pn	00 47 31.8	+2.3
RESF				S	Sb	00 47 51.1	+3.1
EPF	Esparros	1.52	296	ePn	Pn	00 47 31.7	+1.1
EPF				ePg	Pg	00 47 33.7	+0.2
EPF				eSn	Sn	00 47 50.5	-0.2
EPF				eSg	Sg	00 47 52.5	-1.3
	34nm,0.2s						
VIEF	Viey	1.69	288	Pg	Pg	00 47 36.7	-0.1
VIEF				Sg	Sg	00 47 59.7	+0.4
VIEF	Viey	1.69	288	P	Pn	00 47 35.1	+2.1
VIEF				S	Sn	00 47 57.4	+2.6
LABF	Labassere	1.71	294	Pg	Pg	00 47 36.7	-0.5
LABF				Sg	Sg	00 47 58.2	-1.8
LABF	Labassere	1.71	294	P	Pn	00 47 36.3	+3.0
LABF				S	Sn	00 47 58.2	+2.8
EBR	Ebro Roquetas	2.02	220	eP*	Pb	00 47 41.0	+1.5
EBR				eS*	Sb	00 48 06.0	+1.2
REYF	Montagne du Re	2.04	291	S	Sn	00 48 09.6	+5.9
LASF	Ste Croix	2.08	35	ePn	Pn	00 47 39.0	+0.4
LASF				ePg	Pg	00 47 44.5	-0.1
LASF				eSn	Sn	00 48 05.9	+1.1
LASF				eSg	Sg	00 48 12.9	+0.5
FDAF	Les Forges d’A	2.10	283	S	Sn	00 48 10.4	+5.2
ESAC	San Caprasio	2.10	253	Pn	Pn	00 47 40.7	+1.9
	14nm,0.3s,SNR=8.3						
ESAC				Pg	Pg	00 47 43.6	-1.4
	18nm,0.3s,SNR=6.0						
ESAC				Sn	Sn	00 48 06.2	+0.9
	53nm,0.3s,SNR=6.3						
ESAC				Lg		00 48 12.0	
	24nm,0.2s,SNR=12						
ETSF	Etsaut	2.11	285	ePg	Pg	00 47 43.7	-1.5
ETSF				eSn	Sn	00 48 04.0	-1.5
ETSF				eSg	Sg	00 48 10.6	-2.6
	42nm,0.3s						
ATE	Arette	2.25	289	S	Sn	00 48 13.8	+4.5
CAF	Calviac	2.55	358	ePn	Pn	00 47 46.0	+0.7
CAF				ePg	Pg	00 47 52.9	-1.1
CAF				eSn	Sn	00 48 17.0	+0.3
CAF				eSg	Sg	00 48 25.7	-2.2
SJPF	Ste Jean	2.63	287	ePn	Pn	00 47 46.3	-0.2
SJPF				ePg	Pg	00 47 52.6	-3.0
SJPF				eSn	Sn	00 48 16.7	-2.2
SJPF				eSg	Sg	00 48 27.1	-3.7
	11nm,0.3s						
LFF	La Frestale	2.77	338	ePn	Pn	00 47 49.7	+1.2
LFF				ePg	Pg	00 47 57.1	-1.3
LFF				eSn	Sn	00 48 21.3	-1.1
LFF				eSg	Sg	00 48 32.9	-2.5
	38nm,0.3s						
EMOS	Mosqueruela	2.85	226	Pn	Pn	00 47 49.8	+0.2
	SNR=7.9						
EMOS				Pg	Pg	00 47 55.4	-4.6
	11nm,0.5s,SNR=19						
EMOS				Sn	Sn	00 48 22.7	-1.7
	SNR=7.9						
EMOS				Lg		00 48 33.3	
	1.8nm,0.2s,SNR=6.9						
EALK	Alkurruntz	2.86	288	Pn	Pn	00 47 52.6	+2.9
	0.2nm,0.2s,SNR=7.9						
EALK				Pg	Pg	00 47 57.8	-2.3
	0.7nm,0.1s,SNR=7.9						
EALK				Sn	Sn	00 48 27.1	+2.5
	SNR=7.9						
SMRF	Simiane la Rot	2.94	56	ePn	Pn	00 47 52.6	+1.8
SMRF				ePg	Pg	00 48 01.4	-0.3
SMRF				eSn	Sn	00 48 25.6	-0.9
SMRF				eSg	Sg	00 48 37.7	-3.1
	17nm,0.7s						
RJF	Les Rejaudoux	2.97	351	ePn	Pn	00 47 51.1	-0.1
RJF				ePg	Pg	00 48 00.7	-1.6
RJF				eSn	Sn	00 48 26.5	-0.8
RJF				eSg	Sg	00 48 38.3	-3.6
	8.1nm,0.2s						
VIVF	Saint-Julien-l	3.06	35	ePn	Pn	00 47 52.5	0.0
VIVF				ePg	Pg	00 48 02.3	-1.8
VIVF				eSn	Sn	00 48 29.3	-0.3
VIVF				eSg	Sg	00 48 42.8	-2.0
	13nm,0.4s						
LMR	La Mourre	3.30	72	ePn	Pn	00 47 57.2	+1.2
LMR				eSn	Sn	00 48 35.0	-0.9
	8.2nm,0.4s						
EIBI	Ibiza	3.41	191	Pn	Pn	00 47 55.9	-1.7
	0.9nm,0.2s,SNR=7.9						
EIBI				Sn	Sn	00 48 33.6	-5.1
	SNR=7.9						
FRF	La Foret Royal	3.46	69	ePn	Pn	00 47 59.8	+1.5
FRF				eSn	Sn	00 48 39.2	-0.7
	9.6nm,0.4s						
ETOR	Torete	3.56	245	Pn	Pn	00 48 01.0	+1.4
	2.3nm,0.4s,SNR=11						
ETOR				Sn	Sn	00 48 40.5	-1.8
	2.7nm,0.3s,SNR=4.6						
ETOR				Lg		00 48 55.2	
	SNR=7.9						
ORIF	Oris-en-Rattie	3.68	45	ePn	Pn	00 48 02.4	+1.0
ORIF				eSn	Sn	00 48 43.8	-1.6
	9.2nm,0.9s						
TCF	Toulx Ste Croi	3.91	0	ePn	Pn	00 48 05.0	+0.4
TCF				ePg	Pg	00 48 18.2	-2.9
TCF				eSn	Sn	00 48 49.1	-2.0
TCF				eSg	Sg	00 49 09.5	-3.7
	11nm,0.4s						
MBDF	Montbardon	4.06	53	ePn	Pn	00 48 07.0	+0.2
MBDF				eSn	Sn	00 48 52.1	-3.0
	1.6nm,0.5s						
SBF	Sospel	4.10	67	ePn	Pn	00 48 08.2	+0.8
SBF				eSn	Sn	00 48 53.5	-2.6
	7.1nm,0.4s						
EBEN	Beniarda	4.11	208	Pn	Pn	00 48 06.4	-1.1
	0.7nm,0.1s,SNR=7.9						
EBEN				Sn	Sn	00 48 50.7	-5.7
	SNR=7.9						
BGF	Bois d’Agland	4.20	6	ePn	Pn	00 48 09.0	+0.2
BGF				ePg	Pg	00 48 23.8	-3.2
BGF				eSg	Sg	00 49 18.2	-4.8
	37nm,0.4s						
ELAN	Lanestosa	4.24	283	Pn	Pn	00 48 11.2	+1.9
	SNR=7.9						
ELAN				Sn	Sn	00 48 59.3	-0.2
	SNR=7.9						
SMF	Signal de Mont	4.42	15	ePn	Pn	00 48 11.6	-0.3
SMF				ePg	Pg	00 48 28.6	-2.8
SMF				eSg	Sg	00 49 24.3	-6.0
	9.5nm,0.6s						
AVF	Avril sur Loir	4.49	10	ePn	Pn	00 48 13.2	+0.4
AVF				ePg	Pg	00 48 29.2	-3.4
AVF				eSg	Sg	00 49 27.4	-5.0
	5.7nm,0.4s						
MFF	Saint Martin d	4.54	339	ePn	Pn	00 48 14.2	+0.5
MFF				ePg	Pg	00 48 30.3	-3.5
MFF				eSn	Sn	00 49 04.2	-3.1
MFF				eSg	Sg	00 49 27.5	-6.9
	21nm,0.8s						
ETOB	Tobarra	4.70	219	Pn	Pn	00 48 14.8	-1.1
	SNR=7.9						
ETOB				Sn	Sn	00 49 05.9	-5.4
	SNR=7.9						
PGF	Pioggiola	5.03	86	ePn	Pn	00 48 18.7	-1.8
PGF				eSn	Sn	00 49 14.2	-5.2
	2.8nm,0.3s						
CABF	La Chapelle	5.06	32	eSg	Sg	00 49 45.1	-6.4
	19nm,0.8s						
ESDC	Sonseca Array	5.39	242	Pn	Pn	00 48 24.5	-1.1
	1.5nm,0.1s,baz=63,slow=14,SNR=6.4						
ESDC				Sn	Sn	00 49 24.1	-4.5
	0.3nm,0.3s,baz=101,slow=39,SNR=5.3						
EQES	Quesada	6.11	223	Pn	Pn	00 48 42.1	+6.4
	SNR=7.9						
ECAL	Calabor	6.66	269	Pn	Pn	00 48 44.2	+0.6
	SNR=7.9						
ECAL				Sn	Sn	00 49 54.8	-5.6
	SNR=7.9						
ROSF	Rostrenen	7.10	329	ePn	Pn	00 48 48.9	-0.8
ROSF				eSn	Sn	00 50 04.1	-7.2
	1.2nm,0.3s						
EVO	Evora	8.69	247	ePn	P	00 49 10.4	-1.4

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*LDG **22** 00:48:10.2±0.4, 42.33N×2.14E, h4^{km}, Md2.3/3, Ml2.4/8, Error ellipse: s-maj=5.8km s-min=2.4km az=146.0*

MDD 22 00:48:10.6±0.6**, 42.34N×2.15E, mbLg1.7**/10**, Error ellipse: s-maj=6.4km s-min=3.8km az=174.0, PRXIMO AftershockPLICA, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EJON	La Jonquera	0.56	79	Pg	Pg	00 48 21.3	-0.5
	SNR=7.9						
EJON				Lg		00 48 28.1	
	3.6nm,0.1s,SNR=7.9						
MTLF	Montolieu	1.00	3	ePg	Pg	00 48 29.5	-1.0
MTLF				eSg	Sg	00 48 42.3	-1.6
	8.1nm,0.2s						
EPOB	Poblet	1.27	219	Pg	Pg	00 48 33.8	-2.1
	SNR=7.9						
EPOB				Lg		00 48 50.4	
	8.4nm,0.1s,SNR=7.9						
EPF	Esparros	1.50	298	ePg	Pg	00 48 38.1	-2.4
EPF				eSg	Sg	00 48 58.6	-1.9
	6.8nm,0.3s						
ETSF	Etsaut	2.07	286	ePg	Pg	00 48 48.7	-3.3
ETSF				eSg	Sg	00 49 15.9	-3.7
	7.9nm,0.3s						
LASF	Ste Croix	2.14	35	eSg	Sg	00 49 18.4	-3.3
	3.1nm,0.3s						
CAF	Calviac	2.58	359	eSg	Sg	00 49 31.7	-4.9
	2.5nm,0.2s						
SJPF	Ste Jean	2.60	288	eSg	Sg	00 49 32.0	-5.2
	4.4nm,0.6s						
LFF	La Frestale	2.79	339	eSg	Sg	00 49 38.4	-5.1
	11nm,0.4s						
RJF	Les Rejaudoux	3.00	351	eSg	Sg	00 49 44.1	-6.2
	2.6nm,0.3s						

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*LDG **22** 00:57:37.4±0.4, 42.33N×2.15E, h4^{km}, Md2.3/3, Ml1.9/4, Error ellipse: s-maj=7.1km s-min=2.5km az=148.0*

*MDD **22** 00:57:37.7±0.4, 42.33N×2.16E, mbLg1.3/3, Error ellipse: s-maj=3.6km s-min=2.8km az=160.0, AftershockPLICA PRXIMO*

ISC 22 00:57:36.5±0.8**, 42.34N**±0.04×**2.06E**±0.05**, h10**^{km}**, n10, σ1^{s}06**/16**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VALF	Valcebollere	0.07	333	P	Pg	00 57 40.0	+1.2
VALF				S	Sg	00 57 41.6	+1.4
CARF	Carcanieres	0.38	5	P	Pg	00 57 44.9	+0.7
CARF				S	Sg	00 57 50.3	+0.9
EMIR	Miracle	0.58	223	Pg	Pg	00 57 49.0	+0.8
	0.7nm,0.1s,SNR=7.9						
EMIR				Lg		00 57 58.3	
	2.0nm,0.1s,SNR=7.9						
EJON	La Jonquera	0.62	80	Pg	Pg	00 57 48.1	-0.9
	0.4nm,0.1s,SNR=7.9						
EJON				Lg		00 57 54.9	
	0.6nm,0.1s,SNR=7.9						
MTLF	Montolieu	1.01	7	ePg	Pg	00 57 56.6	0.0
MTLF				eSg	Sg	00 58 09.5	-0.6
	1.0nm,0.2s						
EPOB	Poblet	1.23	217	Pg	Pg	00 58 01.1	+0.1
	1.0nm,0.1s,SNR=7.9						
EPOB				Lg		00 58 17.1	
	1.2nm,0.2s,SNR=7.9						
EPF	Esparros	1.44	299	ePg	Pg	00 58 05.4	+0.1
EPF				eSg	Sg	00 58 25.8	+1.2
	1.4nm,0.2s						
ETSF	Etsaut	2.01	287	ePg	Pg	00 58 16.1	-0.6
ETSF				eSg	Sg	00 58 42.9	-0.6
	3.5nm,0.3s						
SJPF	Ste Jean	2.54	289	eSg	Sg	00 58 59.3	-1.8
	0.8nm,0.3s						
CAF	Calviac	2.58	0	ePg	Pg	00 58 25.7	-2.4
CAF				eSg	Sg	00 58 58.4	-4.2

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*LDG **22** 00:58:51.3±0.5, 42.29N×2.18E, h4^{km}, Md2.2/3, Ml1.9/3, Error ellipse: s-maj=9.2km s-min=3.5km az=148.0*

MDD 22 00:58:52.3±0.4**, 42.34N×2.14E, mbLg1.5**/2**, Error ellipse: s-maj=4.2km s-min=2.9km az=170.0, AftershockPLICA PRXIMO, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VALF	Valcebollere	0.11	304	P	Pg	00 58 54.2	-0.3
VALF				S	Sg	00 58 55.8	-0.1
EJON	La Jonquera	0.57	79	Pg	Pg	00 59 02.6	-1.1
	0.5nm,0.1s,SNR=7.9						
EJON				Lg		00 59 10.4	
	0.8nm,0.1s,SNR=7.9						
EMIR	Miracle	0.62	227	Pg	Pg	00 59 03.7	-1.1
	1.5nm,0.2s,SNR=7.9						
EMIR				Lg		00 59 12.5	
	0.1nm,0.2s,SNR=7.9						
MTLF	Montolieu	1.00	3	ePg	Pg	00 59 11.1	-1.2
MTLF				eSg	Sg	00 59 24.2	-1.4
	1.4nm,0.2s						
EPOB	Poblet	1.27	219	Pg	Pg	00 59 15.5	-2.1
	0.7nm,0.1s,SNR=7.9						
EPOB				Lg		00 59 32.3	
	2.7nm,0.1s,SNR=7.9						
EPF	Esparros	1.49	298	ePg	Pg	00 59 19.9	-2.3
EPF				eSg	Sg	00 59 40.2	-1.9
	1.8nm,0.3s						
ETSF	Etsaut	2.07	287	ePg	Pg	00 59 30.6	-3.0
ETSF				eSg	Sg	00 59 57.9	-3.3
	2.6nm,0.5s						

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*NIED **22** 01:01:00, 32.00N×141.70E, h5^{km}, Mw4.0 Best double couple: $M_0$9.55×10^{14} NP1:ϕ_s335°, δ68°, λ63°. NP2:ϕ_s208°, δ34°, λ138°.*

*IDC **22** 01:01:42.2±1.0, 31.74N×141.73E, mb3.9/6, mb1 4.1/8, mb1mx3.9/22, ML3.7/2, Error ellipse: s-maj=30.8km s-min=17.4km az=68.0*

*JMA **22** 01:01:43.7±0.3, 32.01N×141.73E, h2^{km}, M3.6*

*NEIC **22** 01:01:48.2±0.6, 31.80N×141.55E, h45^{km}, mb4.2/4, Error ellipse: s-maj=23.4km s-min=11.4km az=72.0*

ISC 22 01:01:43.5±2.4**, 31.80N**±0.06×**141.8E**±0.1**, h28**^{km}±18^{km}**, n21, σ0^{s}86**/24**, mb4.0**/10**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHJ2	Mitsune	2.15	308	P	Pn	01 02 18.7	+0.5
JHJ	Hachijo jima 2	2.17	308	Pn	Pn	01 02 18.6	0.0
	26nm,0.3s,baz=88,slow=22,SNR=7.7						
JHJ				Sn	Sn	01 02 45.1	+0.4
	29nm,0.3s,baz=252,slow=20,SNR=4.6						
BSO1	Boso 1	2.93	346	P	Pn	01 02 29.2	-0.2
CBIJ	Chichi jima	4.70	176	Pn	Pn	01 02 54.8	+0.2
	8.6nm,0.3s,baz=92,slow=21,SNR=9.8						
CBIJ				Sn	Sn	01 03 44.7	-4.1
	8.0nm,0.3s,baz=270,slow=20,SNR=2.6						
JRY	Ryogami san	4.86	331	P	Pn	01 02 57.8	+1.1
JAG	Ashikaga	5.01	337	P	Pn	01 02 58.9	0.0
JAG				eS	Sn	01 03 55.3	-1.4
MAJO	Matsushiro	5.60	329	eP	Pn	01 03 05.5	-1.7
	6.7nm,0.5s						
MAT	Matsushiro	5.60	329	P	Pn	01 03 03.1	-4.1
MAT				eS	Sn	01 04 11.2	-0.2
MAT	Matsushiro	5.60	329	P	Pn	01 03 03.0	-4.2
	11nm,1.0s						
HIA	Hailar	24.07	323	eP	P	01 06 57.6	+0.4
	5.8nm,1.0s,mb4.0						
SONM	Songino Array	31.25	311	P	P	01 08 04.8	+1.9
	1.1nm,0.7s,mb3.8,baz=112,slow=9.1,SNR=8.2						
MKAR	Makanchi Array	47.34	306	P	P	01 10 17.1	+0.4
	0.9nm,0.6s,mb3.9,baz=88,slow=9.0,SNR=9.2						
KURK	Kurchatov	49.55	312	eP	P	01 10 33.7	0.0
	4.6nm,0.8s,mb4.6						
KURK				e		01 10 45.8	
WRAB	Tennant Creek	51.94	189	eP	P	01 10 51.6	-0.7
	3.0nm,0.7s,mb4.3						
WRAB				e		01 11 04.7	
WRA	Warramunga Arr	51.95	189	P	P	01 10 51.7	-0.6
	2.0nm,0.6s,mb4.2,baz=6.3,slow=7.7,SNR=26						
ILAR	Eielson Array	53.78	30	P	P	01 11 05.9	+0.6
	0.6nm,0.7s,mb3.6,baz=268,slow=6.8,SNR=5.0						
BRVK	Borovoye	54.49	315	P	P	01 11 10.6	-0.1
ZRNK	Zerenda	55.27	315	P	P	01 11 16.0	-0.5
	1.5nm,1.0s,mb4.0						
ASAR	Alice Springs	55.67	189	P	P	01 11 19.4	-0.3
	1.0nm,0.6s,mb4.0,baz=17,slow=14,SNR=11						
TXAR	Lajitas Array	93.02	53	P	P	01 14 59.4	+3.5
	0.5nm,0.8s,mb4.0,baz=270,slow=1.3,SNR=4.7						
QSPA	South Pole Qui	121.56	180	P	PKPdf	01 20 36.1	-2.5

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*LDG **22** 01:29:34.5±0.4, 42.95N×1.33W, h10^{km}±1^{km}, Md2.1/3, Ml1.7/1, Error ellipse: s-maj=8.6km s-min=2.8km az=29.0*

MDD 22 01:29:33.9±1.1**, 42.89N×1.34W, h7**^{km}±14^{km}**, mbLg0.9**/3**, Error ellipse: s-maj=10.9km s-min=3.7km az=31.0, PRXIMO AftershockPLICA, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	Ste Jean	0.24	20	ePg	Pg	01 29 38.5	-0.3

SJPF				eSg	Sg	01 29 41.2	-0.9
	12nm,0.3s						
EALK	Alkurruntz	0.35	339	Pg	Pg	01 29 39.7	-1.3
	SNR=7.9						
EALK				Lg		01 29 46.3	
	4.0nm,0.1s,SNR=7.9						
ETSF	Etsaut	0.57	89	ePg	Pg	01 29 44.3	-1.1
ETSF				eSg	Sg	01 29 52.9	-0.2
ETSF				eSn	Sn	01 29 55.9	-2.0
	0.9nm,0.2s						
EPF	Esparros	1.24	83	ePn	Pn	01 29 56.2	-1.5
EPF				ePg	Pg	01 29 58.5	-0.2
EPF				eSg	Sg	01 30 13.8	-1.4
	1.7nm,0.3s						

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*LDG **22** 01:36:32.8±0.2, 42.32N×2.16E, h4^{km}, Md2.4/4, Ml1.9/7, Error ellipse: s-maj=4.5km s-min=1.8km az=154.0*

*MDD **22** 01:36:33.6±0.4, 42.35N×2.16E, mbLg1.3/6, Error ellipse: s-maj=3.6km s-min=2.4km az=157.0, AftershockPLICA PRXIMO*

ISC 22 01:36:31.5±0.6**, 42.39N**±0.04×**2.13E**±0.04**, h10^{km}, n13, σ1^{s}35**/22**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VALF	Valcebollere	0.08	277	P	Pg	01 36 35.5	+1.6
VALF				S	Sg	01 36 37.3	+1.8
CARF	Carcanieres	0.32	357	P	Pg	01 36 40.5	+2.3
CARF				S	Sg	01 36 45.7	+3.0
FILF	Fillols	0.36	62	P	Pg	01 36 38.9	-0.1
FILF				S	Sg	01 36 43.1	-0.8
EJON	La Jonquera	0.57	84	Pg	Pg	01 36 43.1	+0.2
	0.4nm,0.1s,SNR=7.9						
EJON				Lg		01 36 51.3	
	1.6nm,0.1s,SNR=7.9						
EMIR	Miracle	0.65	223	Pg	Pg	01 36 44.9	+0.3
	1.0nm,0.1s,SNR=7.9						
EMIR				Lg		01 36 55.2	
	3.5nm,0.2s,SNR=7.9						
MTLF	Montolieu	0.95	4	ePg	Pg	01 36 52.2	+1.7
MTLF				eSg	Sg	01 37 05.2	+1.9
	2.7nm,0.2s						
EPOB	Poblet	1.30	217	Pg	Pg	01 36 56.8	-0.7
	1.0nm,0.1s,SNR=7.9						
EPOB				Lg		01 37 13.9	
	3.9nm,0.1s,SNR=7.9						
EPF	Esparros	1.47	296	ePg	Pg	01 37 01.0	+0.2
EPF				eSg	Sg	01 37 21.2	+0.9
	2.6nm,0.3s						
ETSF	Etsaut	2.05	285	ePg	Pg	01 37 11.9	-0.5
ETSF				eSg	Sg	01 37 39.0	-0.7
	2.2nm,0.3s						
LASF	Ste Croix	2.10	36	ePg	Pg	01 37 12.6	-0.9
LASF				eSg	Sg	01 37 41.2	-0.4
	1.5nm,0.3s						
CAF	Calviac	2.53	359	ePg	Pg	01 37 21.1	-1.0
CAF				eSg	Sg	01 37 54.5	-1.4
	1.4nm,0.2s						
SJPF	Ste Jean	2.57	287	ePg	Pg	01 37 21.2	-1.7
SJPF				eSg	Sg	01 37 54.6	-2.6
	1.0nm,0.3s						
RJF	Les Rejaudoux	2.94	352	eSg	Sg	01 38 07.0	-2.6
	0.9nm,0.3s						

WEL 22 01:47:04.1±0.2**, 45.28S×167.00E, h20^{km}**±1^{km}**, ML3.7**/6**, 1C-1D, Error ellipse: s-maj=2.1km s-min=1.0km az=90.0, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DCZ	Deep Cove	0.23	152	⇓P*	Pb	01 47 09.4	-0.3
DCZ				S*	Sb	01 47 13.3	-0.1
DCZ				S*	Sb	01 47 13.3	-0.1
MLZ	Mavora Lakes	0.83	95	⇑P*	Pb	01 47 19.7	+0.1
MLZ				S*	Sb	01 47 30.3	0.0
MSZ	Milford Sound	0.89	48	eP*	Pb	01 47 20.5	-0.3
MSZ				S*	Sb	01 47 32.6	+0.4
WHZ	Wether Hill Ro	0.90	133	P*	Pb	01 47 20.6	-0.3
WHZ				S*	Sb	01 47 33.0	+0.5
WHZ				S*	Sb	01 47 33.2	+0.7
WKZ	Wanaka	1.50	73	ePN	Pn	01 47 30.9	+0.8
WKZ				SN	Sn	01 47 52.5	+3.3
TUZ	Tuapeka	1.96	111	ePN	Pn	01 47 37.0	+0.2
TUZ				SN	Sn	01 48 02.2	+1.1
LBZ	Lake Benmore	2.43	70	PN	Pn	01 47 43.3	-0.2
LBZ				SN	Sn	01 48 16.3	+3.4
ODZ	Otahua Downs	2.58	86	PN	Pn	01 47 45.4	-0.3
ODZ				SN	Sn	01 48 19.4	+2.5
DSZ	Denniston Nort	4.96	46	ePN	Pn	01 48 19.1	-0.4
THZ	Tophouse	5.54	53	ePN	Pn	01 48 28.2	+0.5

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*LDG **22** 01:57:47.2±1.4, 42.88N×1.42W, h2^{km}, Md2.1/3, Ml1.7/1, Error ellipse: s-maj=25.9km s-min=15.1km az=58.0*

MDD 22 01:57:48.0±1.1**, 42.90N×1.37W, h6^{km}**±15^{km}**, mbLg0.7**/3**, Error ellipse: s-maj=10.3km s-min=3.8km az=33.0, PRXIMO AftershockPLICA, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	Ste Jean	0.24	27	ePg	Pg	01 57 52.8	-0.2
SJPF				eSg	Sg	01 57 55.6	-0.7
	9.5nm,0.3s						
EALK	Alkurruntz	0.34	343	Pg	Pg	01 57 53.8	-1.1
	SNR=7.9						
EALK				Lg		01 57 59.5	
	4.1nm,0.2s,SNR=7.9						
ETSF	Etsaut	0.60	90	ePg	Pg	01 57 58.4	-1.6
ETSF				eSg	Sg	01 58 07.3	-0.7
ETSF				eSn	Sn	01 58 09.1	-3.7
	1.0nm,0.3s						
EPF	Esparros	1.27	83	ePn	Pn	01 58 10.6	-1.7
EPF				ePg	Pg	01 58 12.9	-0.4
EPF				eSg	Sg	01 58 28.8	-1.4
	2.3nm,0.4s						

WEL 22 02:02:00.3±0.7**, 45.62S×166.19E, h12^{km}, ML3.7**/4**, Error ellipse: s-maj=6.5km s-min=6.1km az=90.0, Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DCZ	Deep Cove	0.69	78	P*	Pb	02 02 13.4	-0.4
DCZ				S*	Sb	02 02 23.5	+0.5
WHZ	Wether Hill Ro	1.26	103	P*	Pb	02 02 20.8	-2.7
WHZ				S*	Sb	02 02 38.9	-0.6
MLZ	Mavora Lakes	1.42	80	PN	Pn	02 02 24.8	-1.2
MLZ				SN	Sn	02 02 43.2	-1.5
WKZ	Wanaka	2.15	69	PN	Pn	02 02 38.3	+1.8
WKZ				SN	Sn	02 03 06.5	+3.2
TUZ	Tuapeka	2.43	99	PN	Pn	02 02 39.2	-1.3
TUZ				SN	Sn	02 03 08.7	-1.7
LBZ	Lake Benmore	3.09	68	PN	Pn	02 02 49.9	0.0

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*NEIC **22** 02:16:24.4, 36.42N×22.94E, h26^{km}, MD3.4(ATH), After ATH.*

*ATH **22** 02:16:24.4, 36.42N×22.94E, h26^{km}±1^{km}, MD3.4/9*

*THE **22** 02:16:29.6, 36.55N×23.11E, h20^{km}*

ISC 22 02:16:25.6±0.8**, 36.42N**±0.06×**23.04E**±0.07**, h26^{km}, n21, σ1^{s}04**/24**, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KYTH	Kithira	0.14	182	ePB	Pb	02 16 29.9	-0.7
VLI	Veliai	0.31	344	ePB	Pb	02 16 31.2	-1.6
ITM	Ithomi	1.17	311	ePN	Pn	02 16 45.6	-0.9
VAM	Vamos	1.38	137	ePN	Pn	02 16 50.8	+1.3
NAIG	Nisos Aigina	1.39	15	ePN	Pn	02 16 50.6	+1.1
NSAL	Nisos Salamina	1.52	13	ePN	Pn	02 16 53.0	+1.5
PTL	Penteli	1.75	22	ePN	Pn	02 16 55.6	+0.8
MPAR	Parnis Oros	1.82	18	ePN	Pn	02 16 57.0	+1.3
MPAR	Parnis Oros	1.82	18	ePn	Pn	02 16 57.5	+1.8
THR5	Thira Island,	1.86	89	ePb	Pb	02 16 57.9	-0.8
THR4	Thira Island,	1.90	88	ePb	Pb	02 16 58.7	-0.7
THR6	Thira Island,	1.90	91	ePb	Pb	02 16 58.6	-0.9
THR3	Thira Island,	1.90	90	ePb	Pb	02 16 58.7	-0.8
SANT	Santorini	1.95	91	eP	Pn	02 16 57.8	+0.2
THR1	Thera Island	1.95	91	ePb	Pb	02 16 59.3	-1.0
APE	Apeiranthos	2.10	71	ePN	Pn	02 17 00.7	+0.9
AGG	Agios Georgios	2.66	348	ePn	Pn	02 17 09.0	+1.2
AGG				eSn	Sn	02 17 38.7	-0.9
XOR	Xorichti	2.94	2	ePn	Pn	02 17 11.9	0.0
LIT	Litokhoron	3.70	353	ePn	Pn	02 17 23.1	+0.5
LIT				eSn	Sn	02 18 04.3	-1.6
IGT	Igoumenitsa	3.77	326	ePn	Pn	02 17 24.9	+1.3
IGT				eSn	Sn	02 18 06.6	-1.1
KNT	Kendrikon	4.74	359	ePn	Pn	02 17 38.1	+0.8

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*NEIC **22** 02:21:10.1, 36.46N×22.99E, h23^{km}, MD3.2(ATH), After ATH.*

*ATH **22** 02:21:10.1, 36.46N×22.99E, h23^{km}, MD3.2/7*

*THE **22** 02:21:12.7, 36.36N×22.87E, h20^{km}*

ISC 22 02:21:10.0±3.1**, 36.47N**±0.07×**23.0E**±0.1**, h5^{km}**±26^{km}**, n13, σ0^{s}73**/14**, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KYTH	Kithira	0.20	164	ePB	Pb	02 21 15.5	-0.1
VLI	Veliai	0.25	354	ePB	Pb	02 21 16.5	-0.1
ITM	Ithomi	1.10	311	ePN	Pn	02 21 31.4	-0.5
VAM	Vamos	1.46	136	ePN	Pn	02 21 37.0	0.0
NSAL	Nisos Salamina	1.49	15	ePN	Pn	02 21 37.5	0.0
PTL	Penteli	1.73	24	ePN	Pn	02 21 41.5	+0.5
THR5	Thira Island,	1.92	91	ePn	Pn	02 21 43.8	+0.2
THR4	Thira Island,	1.96	90	ePn	Pn	02 21 44.6	+0.5
THR3	Thira Island,	1.96	91	ePn	Pn	02 21 44.5	+0.3
THR6	Thira Island,	1.96	93	ePn	Pn	02 21 44.4	+0.1
APE	Apeiranthos	2.14	73	ePB	Pb	02 21 46.5	-2.4
AGG	Agios Georgios	2.60	349	ePn	Pn	02 21 53.2	-0.2
AGG				eSn	Sn	02 22 25.3	-0.5
XOR	Xorichti	2.90	3	ePn	Pn	02 21 59.1	+1.5

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*LDG **22** 02:23:58.1±0.8, 43.25N×1.96W, h2^{km}, Md2.2/3, Ml1.7/2, Error ellipse: s-maj=39.7km s-min=14.1km az=12.0*

MDD 22 02:23:59.2±1.7**, 43.04N×1.94W, mbLg0.9**/2**, Error ellipse: s-maj=11.9km s-min=9.5km az=142.0, PRXIMO, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EALK	Alkurruntz	0.37	60	Pg	Pg	02 24 05.8	-0.8
	SNR=7.9						
EALK				Lg		02 24 11.2	
	SNR=7.9						
SJPF	Ste Jean	0.53	82	ePg	Pg	02 24 09.0	-0.8
SJPF				eSg	Sg	02 24 16.1	-0.8
	10nm,0.3s						
ETSF	Etsaut	1.03	97	ePg	Pg	02 24 18.5	-1.2
ETSF				eSg	Sg	02 24 31.9	-1.5
	1.7nm,0.3s						
ELAN	Lanestosa	1.11	281	Pg	Pg	02 24 17.2	-4.1
	SNR=4.0						
ELAN				Lg		02 24 31.7	
	SNR=4.0						
EPF	Esparros	1.68	89	ePg	Pg	02 24 29.4	-3.2
EPF				eSg	Sg	02 24 52.2	-2.8
	1.2nm,0.3s						

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*IDC **22** 02:39:22.7±0.9, 16.69S×173.42W, mb4.1/8, mb1 4.4/8, mb1mx4.2/15, MS3.9/4, Ms1 3.8/4, ms1mx3.5/13, Error ellipse: s-maj=48.3km s-min=18.5km az=140.0*

ISC 22 02:39:26.3±0.8**, 16.6S**±0.2×**173.5W**±0.2**, h33^{km}, n12, σ0^{s}46**/8**, mb4.0**/8**, MS3.9**/4**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	23.06	199	P	P	02 44 29.8	0.0
	17nm,0.6s,mb4.7,baz=11,slow=10,SNR=8.6						
RPZ	Rata Peaks	30.00	203	LR	LR	02 56 45.7	
	comp=Z,305nm,19.2s,MS4.0,baz=312,slow=35						
STKA	Stephens Creek	43.31	241	P	P	02 47 27.9	+0.9
	1.6nm,0.6s,mb4.0,baz=87,slow=7.2,SNR=4.5						
WRA	Warramunga Arr	49.44	258	P	P	02 48 15.0	-0.5
	0.7nm,0.6s,mb3.9,baz=95,slow=7.6,SNR=7.2						
ASAR	Alice Springs	49.61	253	P	P	02 48 16.3	-0.5
	4.9nm,0.7s,mb4.7,baz=88,slow=8.3,SNR=36						
NVAR	Mina Array Bea	75.33	42	P	P	02 51 08.0	-0.3
	1.1nm,0.8s,mb3.9,baz=220,slow=7.5,SNR=7.7						
NVAR				LR	LR	03 16 55.1	
	comp=Z,37nm,19.2s,MS3.7,baz=205,slow=30						
TXAR	Lajitas Array	81.41	56	P	P	02 51 41.5	-0.2
	0.5nm,0.8s,mb3.5,baz=202,slow=6.7,SNR=6.1						
PDAR	Pinedale Array	83.27	42	P	P	02 51 51.0	0.0
	1.4nm,0.7s,mb4.1,baz=212,slow=2.5,SNR=13						
ILAR	Eielson Array	83.67	11	P	P	02 51 53.1	+0.6
	0.6nm,0.7s,mb3.8,baz=220,slow=5.2,SNR=7.5						
YKA	Yellowknife Ar	91.27	23	LR	LR	03 30 07.3	
	comp=Z,38nm,19.2s,MS3.9,baz=95,slow=33						
ULM	Lac du Bonnet	94.97	39	LR	LR	03 27 34.7	
	comp=Z,80nm,21.5s,MS4.2,baz=320,slow=30						
BRTR	Keskin Array B	147.01	320	PKPbc	PKPdf	02 59 09.6	+5.8
	0.8nm,0.7s,baz=90,slow=5.8,SNR=4.5						

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*TIF **22** 02:56:52.7, 38.70N×44.78E, h16^{km}, Mpv5.0*

ISC 22 02:56:54.3±1.2**, 38.37N**±0.08×**45.15E**±0.09**, h10^{km}, n16, σ1^{s}48**/23**, Iran-Armenia-Azerbaijan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HKR	Hakkari	1.37	235	eP	Pb	02 57 19.8	+0.3
TVAN	Van	1.38	277	i P	Pn	02 57 17.3	-2.4
TVAN				i S	Sb	02 57 31.4	-5.9
VANT	Van	1.39	274	eP	Pn	02 57 20.0	+0.2
VANB	Van	1.40	280	eP	Pn	02 57 17.3	-2.7
GRS	Goris	1.48	38	eP	Pn	02 57 21.0	-0.1
GRS				eS	Sb	02 57 42.0	+1.8
GNI	Garni	1.81	350	eP	Pn	02 57 23.9	-1.9
VAD	Vardenisi	1.87	14	eP	Pn	02 57 26.0	-0.7
VAD				eS	Sn	02 57 51.0	+0.4
ERE	Yerevan	1.88	344	i P	Pn	02 57 22.0	-4.8
ERE				i S	Sn	02 57 44.0	-6.8
AGRT	Agri	2.09	307	eP	Pn	02 57 27.5	-2.4
STE	Stepanavan	2.69	348	eP	Pn	02 57 37.0	-1.4
STE				eS	Sn	02 58 12.0	+0.6
KARS	Kars	2.75	325	eP	Pn	02 57 39.1	-0.2
BTMT	Batman	2.89	268	eP	Pn	02 57 43.6	+2.4
BEST	Besiri	3.10	262	i P	Pn	02 57 43.8	-0.4
BEST				eS	Sn	02 58 23.7	+2.0
ERZM	Erzurum	3.32	299	i P	Pn	02 57 48.4	+1.0
ERZM				eS	Sn	02 58 33.8	+6.5
EZM	Erzurum	3.32	299	eP	Pn	02 57 49.1	+1.7
BCA	Borcka	4.10	320	eP	Pn	02 58 01.6	+3.2

ISC 22 02:57:07.6±0.9**, 37.57N**±0.07×**38.76E**±0.06**, h10^{km}, n11, σ0^{s}64**/15**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MALT	Malatya	0.79	341	eP	Pb	02 57 22.0	-1.0
MALT	Malatya	0.79	341	i P	Pb	02 57 22.3	-0.6
MALT				i S	Sb	02 57 33.2	-0.3
MYA	Malataya	0.80	341	eP	Pb	02 57 22.9	-0.3
GZT	Gaziantep	0.97	258	i P	Pb	02 57 25.4	-0.7
GZT				i S	Sb	02 57 39.4	+0.6
DIY	Diyarbakir	1.21	74	eP	Pb	02 57 29.6	-0.5
GAZ	Gaziantep	1.29	253	eP	Pb	02 57 31.2	-0.4
PTK	Pertek	1.41	20	eP	Pn	02 57 35.0	+1.5
KAHT	Ahir Dag	1.50	273	i P	Pn	02 57 34.8	+0.1
KAHT				eS	Sb	02 57 54.5	+0.4
BINT	Bingol	1.89	46	eP	Pn	02 57 40.4	+0.1
COBT	Iskenderun	2.26	243	i P	Pn	02 57 50.1	+4.5
COBT				eS	Sn	02 58 19.3	+5.5
EZC	Erzincan	2.33	20	eP	Pn	02 57 47.0	+0.4

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*THR **22** 03:34:54.6±1.0, 28.28N×52.54E, h10^{km}, ML3.7*

ISC 22 03:34:53.4±1.9**, 28.3N**±0.1×**52.47E**±0.09**, h4^{km}**±19^{km}**, n9, σ0^{s}94**/11**, mb3.5**/1**, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GHIR	Ghir-Karzin	0.46	86	i P	Pg	03 35 02.2	-0.2
GHIR				eSG	Sg	03 35 08.3	-0.3
GHIR				AMP		03 35 13.3	
	comp=N,12µm,0.3s						
GHIR				AMP		03 35 15.8	
	comp=E,10µm,0.3s						
KRBR	Kerman	4.13	64	ePN	Pn	03 35 59.9	+1.3
KRBR				AMP		03 37 08.3	
	comp=N,67nm,0.6s						
KRBR				AMP		03 37 15.0	
	comp=E,65nm,0.2s						
NASN	Na'in	4.54	4	ePN	Pn	03 36 05.0	+0.5
ZHSF	Zahedan	7.40	78	ePN	Pn	03 36 44.2	-0.6
MZLS	Mizel	7.77	239	P	Pn	03 36 52.0	+2.0
MZLS				S	Sn	03 38 15.4	-4.0
ARSS	Ar Rass	8.56	256	P	P	03 37 00.7	-0.4
HILS	Ha'il	9.49	267	P	P	03 37 13.3	-0.7
AFFS	‘Afif	9.54	245	P	P	03 37 14.7	+0.1
KAF	Kangasniemi	38.01	340	ep	P	03 42 13.2	-0.8
	comp=E,0.3nm,0.3s,mb3.5						

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*SOF **22** 03:51:01.9, 40.55N×23.53E, h5^{km}, MD3.5*

*NEIC **22** 03:51:02.0, 40.48N×23.48E, h3^{km}, MD3.6(ATH), ML3.4(THE), After THE.*

*ATH **22** 03:51:01.7, 40.48N×23.42E, h15^{km}±4^{km}, MD3.6/8*

*THE **22** 03:51:02.0, 40.48N×23.48E, h2^{km}, ML3.5*

ISC 22 03:51:01.0±0.3**, 40.46N**±0.02×**23.49E**±0.03**, h3^{km}, n43, σ0^{s}97**/55**, 2C-2D, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLG	Polygyros	0.10	200	⇑iPB	Pb	03 51 04.5	-0.6
SOH	Sokhos	0.37	344	ePg	Pg	03 51 08.8	+0.4
SOH				eSg	Sg	03 51 13.9	+0.5
OUR	Ouranopolis	0.40	109	ePg	Pg	03 51 10.2	+1.3
THE	Thessaloniki	0.43	293	ePg	Pg	03 51 09.2	-0.5
SRS	Serrai	0.66	7	ePg	Pg	03 51 14.1	0.0
SRS				eSg	Sg	03 51 24.0	+1.1
KNT	Kendrikon	0.83	328	ePg	Pg	03 51 16.9	-0.6
KNT				eSg	Sg	03 51 28.2	-0.4
KNT	Kendrikon	0.83	328	P	Pg	03 51 16.9	-0.6
KNT				S	Sg	03 51 28.2	-0.4
LIT	Litokhoron	0.84	245	ePg	Pg	03 51 18.1	+0.3
LIT				eSg	Sg	03 51 29.6	+0.4
LIT	Litokhoron	0.84	245	P	Pg	03 51 18.1	+0.3
LIT				S	Sg	03 51 30.0	+0.9
GRG	Griva	0.96	301	ePg	Pg	03 51 19.9	-0.3
GRG				eSg	Sg	03 51 34.5	+1.4
VAY	Valandovo	1.10	321	i Pg	Pg	03 51 22.6	-0.4
VAY				i Sg	Sg	03 51 37.8	+0.1
XOR	Xorichti	1.12	192	ePg	Pg	03 51 23.1	-0.2
XOR	Xorichti	1.12	192	P	Pb	03 51 22.8	+0.2
MMB	Musomiste	1.14	9	i P	Pb	03 51 22.3	-0.6
KZN	Kozani	1.32	264	ePN	Pn	03 51 26.0	-0.3
LOS	Limnos	1.33	113	ePb	Pb	03 51 26.0	-0.2
KKB	Krupnik	1.44	348	i P	Pn	03 51 27.3	-0.6
RZN	Rozhen	1.54	37	i P	Pn	03 51 29.7	+0.3
FNA	Florina	1.64	282	ePb	Pb	03 51 31.4	-0.1
FNA				eSb	Sb	03 51 52.8	+0.3
AGG	Agios Georgios	1.69	212	ePb	Pb	03 51 31.7	-0.7
RDO	Rodhopi	1.70	66	ePB	Pb	03 51 32.0	-0.5
RDO				eSN	Sn	03 51 57.0	+2.8
MEV	Metsovon	1.86	249	ePb	Pb	03 51 34.7	-0.5
PLD	Plovdiv	1.88	29	i P	Pn	03 51 36.7	+2.4
KDZ	Kurdzhali	1.88	50	i P	Pn	03 51 34.5	+0.2
ALN	Alexandroupoli	1.99	77	ePn	Pn	03 51 35.5	-0.3
EVR	Evrytania	2.02	221	ePN	Pn	03 51 37.0	+0.8
VTS	Vitosha	2.14	354	i P	Pn	03 51 39.5	+1.5
PGB	Panagyurishte	2.15	14	P	Pn	03 51 39.0	+0.9
SKO	Skopje	2.16	315	i Pn	Pg	03 51 43.5	-0.6
SKO				i		03 51 49.0	
DIM	Dimitrovgrad	2.21	44	i P	Pg	03 51 43.0	-2.1
MPAR	Parnis Oros	2.32	175	ePB	Pb	03 51 41.3	-1.8
PTL	Penteli	2.43	173	ePN	Pn	03 51 42.7	+0.6
PRK	Paraskevi	2.46	119	ePB	Pb	03 51 45.0	-0.6
NSAL	Nisos Salamina	2.55	180	ePN	Pn	03 51 44.4	+0.5
NSAL	Nisos Salamina	2.55	180	ePn	Pn	03 51 44.0	+0.1
BARS	Barje	2.66	333	⇓iPn	Pn	03 51 47.0	+1.5
BARS				Sn	Sn	03 52 19.7	+1.0
LKD	Levkas	2.81	232	ePn	Pn	03 51 48.0	+0.5
JMB	Yambol	3.07	48	P	Pg	03 51 59.5	-2.7
PVL	Pavlikeni	3.08	26	i P	Pn	03 51 50.0	-1.4
SZH	Strazhica	3.34	32	P	Pn	03 51 56.0	+0.8
BOLS	Boljevac	3.55	342	⇑iPn	Pn	03 51 57.8	-0.3
BOLS				Sn	Sg	03 52 57.0	-2.3
GRUS	Gruza	4.00	330	⇓iPn	Sg	03 53 12.3	-1.6
DJES	Djerdap	4.23	351	ePn	Pn	03 52 08.0	+0.3

GUC 22 03:57:44.6±0.7**, 34.97S×70.52W, h5^{km}, MD3.7, ML3.1, 3C-5D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFDO	San Fernando	0.54	311	⇓iP	Pg	03 57 55.4	0.0
SFDO				i S	Sg	03 58 03.8	+1.2
CICH	Cipreses	0.66	7	⇓iP	Pg	03 57 57.1	-0.7
CICH				i S	Sg	03 58 06.9	+0.4
CACH	El Canelo	0.86	356	⇑iP	Pb	03 58 00.7	-0.9
CACH				i S	Sb	03 58 13.5	+0.4
CHCH	Chadas Angostu	1.04	354	⇓iP	Pb	03 58 04.3	-0.4
CHCH				i S	Sb	03 58 19.2	+0.7
LMEL	Las Melosas	1.15	13	⇑iP	Pb	03 58 05.8	-0.8
LMEL				i S	Sb	03 58 22.4	+0.7
LMEL				AMP		03 58 24.4	
	comp=N,396nm,0.2s						
LNV	Longovilo	1.25	324	⇑iP	Pb	03 58 07.5	-0.8
LNV				i S	Sb	03 58 25.1	+0.5
PCH	Pirque	1.35	0	⇓iP	Pb	03 58 09.3	-0.6
PCH				i S	Sb	03 58 27.9	+0.5
TACH	Talagante	1.36	345	⇓iP	Pb	03 58 09.9	-0.3
TACH				i S	Sb	03 58 28.6	+0.9
ANTU	Antumapu	1.40	356	i P	Pn	03 58 10.8	-0.1
ANTU				i S	Sb	03 58 29.9	+0.9
ANTU				AMP		03 58 32.5	
	comp=E,984nm,0.5s						
FSR	Penalolen	1.49	360	eP	Pn	03 58 12.1	-0.1
FSR				AMP		03 58 35.3	
	comp=E,558nm,0.6s						
RCDM	Rinconada Maip	1.50	351	eP	Pn	03 58 12.0	-0.2
RCDM				i S	Sb	03 58 32.3	+0.6
RCDM				AMP		03 58 33.7	
	comp=N,440nm,0.1s						
CLCH	Cerro Calan	1.57	359	eP	Pn	03 58 13.4	+0.1
CLCH				i S	Sb	03 58 35.1	+1.2
CLCH				AMP		03 58 40.3	
	comp=E,802nm,0.6s						
FCH	Farellones	1.65	7	eP	Pn	03 58 14.7	+0.3
FCH				i S	Sb	03 58 38.0	+1.8
FCH				AMP		03 58 39.9	
	comp=N,466nm,0.2s						

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*LDG **22** 04:19:57.5±0.5, 42.87N×1.42W, h2^{km}, Md2.0/3, Ml1.8/3, Error ellipse: s-maj=9.3km s-min=6.3km az=61.0*

MDD 22 04:19:58.0±0.6**, 42.89N×1.41W, h6^{km}**±7^{km}**, mbLg1.1**/5**, Error ellipse: s-maj=4.7km s-min=3.4km az=53.0, PRXIMO AftershockPLICA, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	Ste Jean	0.26	32	ePg	Pg	04 20 03.4	0.0
SJPF				eSg	Sg	04 20 06.1	-0.9
	16nm,0.4s						
EALK	Alkurruntz	0.34	348	Pg	Pg	04 20 04.8	-0.1
	1.1nm,0.2s,SNR=6.7						
EALK				Lg		04 20 09.0	
	14nm,0.5s,SNR=8.3						
ETSF	Etsaut	0.63	89	ePg	Pg	04 20 09.0	-1.6
ETSF				eSg	Sg	04 20 17.9	-1.1
ETSF				eSn	Sn	04 20 20.0	-3.5
	2.0nm,0.2s						
EPF	Esparros	1.29	83	ePn	Pn	04 20 21.2	-1.5
EPF				ePg	Pg	04 20 23.6	-0.3
EPF				eSg	Sg	04 20 39.6	-1.6
	2.3nm,0.3s						
ESAC	San Caprasio	1.36	149	Pg	Pg	04 20 23.8	-1.4
	3.1nm,0.2s,SNR=7.9						
ESAC				Lg		04 20 40.2	
	4.7nm,0.2s,SNR=7.9						
ELAN	Lanestosa	1.52	284	Pg	Pg	04 20 24.9	-3.5
	0.4nm,0.2s,SNR=7.9						
ELAN				Lg		04 20 39.1	
	0.8nm,0.3s,SNR=7.9						
ETOR	Torete	2.12	193	Pg	Pg	04 20 36.1	-4.4
	0.3nm,0.2s,SNR=7.9						
ETOR				Lg		04 21 00.3	
	1.2nm,0.4s,SNR=7.9						

LFF	**La Frestale**	**2.57**	**36**	*e*Pn	Pn	04 20 38.6	-2.4
LFF				*e*Sn	Sn	04 21 09.4	-3.5
LFF				*e*Sg	Sg	04 21 17.8	-5.9
	1.4nm,0.3s						
CAF	**Calviac**	**3.23**	**50**	*e*Pn	Pn	04 20 47.5	-2.9
CAF				*e*Sn	Sn	04 21 25.5	-4.2
	0.6nm,0.3s						

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*NEIC **22** 04:32:32.3, 38.42S×175.93E, h215^{km}, After WEL.*

WEL 22 04:32:34.4±0.5**, 38.32S×175.92E, h191**^{km}±4^{km}**, ML4.1**/7**, 3C-1D, Error ellipse: s-maj=5.2km s-min=4.0km az=0.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NGZ	**Ngauruhoe**	**0.89**	**196**	⇓PN	P	04 33 02.8	+0.1
NGZ	**Ngauruhoe**	**0.89**	**196**	P	P	04 33 02.8	+0.1
CNZ	**Chateau**	**0.93**	**198**	PN	P	04 33 02.1	-0.8
BKZ	**Black Stump Fm**	**0.96**	**152**	⇑PN	P	04 33 03.0	-0.1
BKZ				SN	S	04 33 25.1	-0.3
BKZ	**Black Stump Fm**	**0.96**	**152**	P	P	04 33 03.0	-0.1
TUVZ	**Tukino**	**0.97**	**192**	PN	P	04 33 03.1	-0.1
MOVZ	**Moawhango**	**1.10**	**187**	⇑PN	P	04 33 03.5	-0.6
MOVZ				*e*SN	S	04 33 26.4	-0.8
MOVZ	**Moawhango**	**1.10**	**187**	P	P	04 33 03.5	-0.6
MOVZ				S	S	04 33 26.7	-0.5
MWZ	**Matawai**	**1.27**	**91**	⇑PN	P	04 33 05.1	-0.4
MWZ				SN	S	04 33 28.9	-0.8
MWZ	**Matawai**	**1.27**	**91**	P	P	04 33 05.1	-0.5
KNZ	**Kokohu**	**1.55**	**118**	PN	P	04 33 07.9	-0.2
KNZ				SN	S	04 33 33.6	-0.5
KNZ	**Kokohu**	**1.55**	**118**	*e*P	P	04 33 07.9	-0.2
TSZ	**Takapari Road**	**1.74**	**179**	PN	P	04 33 08.8	-1.1
TSZ				SN	S	04 33 36.7	-0.7
TSZ	**Takapari Road**	**1.74**	**179**	P	P	04 33 08.8	-1.2
PWZ	**Pawanui**	**1.86**	**157**	*e*PN	P	04 33 10.3	-0.8
PWZ				SN	S	04 33 39.0	-0.5
MXZ	**Matakaoa Point**	**2.03**	**69**	PN	P	04 33 10.5	-2.4
MXZ				SN	S	04 33 41.6	-1.1
MXZ	**Matakaoa Point**	**2.03**	**69**	P	P	04 33 12.0	-0.9
MRZ	**Mangatainoka R**	**2.36**	**186**	PN	P	04 33 14.2	-2.4
MRZ				SN	S	04 33 45.9	-3.2
MRZ	**Mangatainoka R**	**2.36**	**186**	P	P	04 33 14.2	-2.4
MRZ				S	S	04 33 45.9	-3.2
BFZ	**Birch Farm**	**2.38**	**174**	PN	P	04 33 14.8	-2.0
BFZ				SN	S	04 33 45.2	-4.3
BFZ	**Birch Farm**	**2.38**	**174**	P	P	04 33 14.8	-2.0
KIW	**Kapiti Island**	**2.66**	**197**	PN	P	04 33 17.1	-3.0
KIW				SN	S	04 33 51.0	-4.3
KIW	**Kapiti Island**	**2.66**	**197**	P	P	04 33 17.1	-2.9
MTW	**Mount Morrison**	**2.86**	**186**	*e*PN	P	04 33 19.0	-3.4
MTW				SN	S	04 33 55.2	-4.3
CAW	**Cannon Point**	**2.87**	**193**	PN	P	04 33 19.4	-3.1
CAW				SN	S	04 33 55.6	-4.0
CAW	**Cannon Point**	**2.87**	**193**	P	P	04 33 19.4	-3.1
MRW	**Makara Radio**	**3.06**	**197**	PN	P	04 33 21.3	-3.4
MRW				SN	S	04 33 59.0	-4.7
MRW	**Makara Radio**	**3.06**	**197**	P	P	04 33 21.3	-3.5
PAWZ	**Paruwai Farm**	**3.09**	**187**	PN	P	04 33 21.6	-3.6
PAWZ				SN	S	04 33 59.5	-4.8
SNZO	**South Karori**	**3.13**	**197**	PN	P	04 33 22.0	-3.7
SNZO				SN	S	04 34 00.3	-5.0
SNZO	**South Karori**	**3.13**	**197**	P	P	04 33 22.0	-3.7
MSWZ	**Moikau Station**	**3.14**	**189**	PN	P	04 33 22.1	-3.7
MSWZ				SN	S	04 34 00.3	-5.1
MSWZ	**Moikau Station**	**3.14**	**189**	P	P	04 33 22.1	-3.7
TUWZ	**Tuamarina**	**3.46**	**205**	PN	P	04 33 25.7	-4.1
TUWZ				SN	S	04 34 07.0	-5.5
NNZ	**Nelson**	**3.50**	**213**	PN	P	04 33 25.7	-4.4
NNZ				SN	S	04 34 08.2	-5.1
NNZ	**Nelson**	**3.50**	**213**	*e*P	P	04 33 25.7	-4.5
QRZ	**Quartz Range**	**3.62**	**225**	PN	P	04 33 26.5	-5.3
QRZ	**Quartz Range**	**3.62**	**225**	*e*P	P	04 33 26.5	-5.3
THZ	**Tophouse**	**4.15**	**213**	PN	P	04 33 33.1	-5.3
THZ				SN	S	04 34 22.5	-5.3
THZ	**Tophouse**	**4.15**	**213**	*e*P	P	04 33 33.1	-5.3
KHZ	**Kahutara**	**4.48**	**203**	PN	P	04 33 38.1	-4.5
KHZ				SN	S	04 34 28.6	-6.9
KHZ	**Kahutara**	**4.48**	**203**	*e*P	P	04 33 38.1	-4.5
DSZ	**Denniston Nort**	**4.66**	**221**	*e*PN	P	04 33 37.3	-7.6
LTZ	**Lake Taylor**	**5.25**	**211**	PN	P	04 33 47.0	-5.6
MQZ	**McQueen's Vall**	**5.92**	**204**	*e*PN	P	04 33 54.5	-6.8
RPZ	**Rata Peaks**	**6.53**	**213**	*e*PN	P	04 34 02.4	-6.7
LBZ	**Lake Benmore**	**7.44**	**214**	*e*PN	P	04 34 13.9	-7.2

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*BJI **22** 04:35:59.7, 5.70S×147.50E, h169^{km}, mB4.7, mb4.8*

*NEIC **22** 04:35:59.7±0.6, 5.67S×147.48E, h169^{km}±6^{km}, mb4.8/25, Error ellipse: s-maj=8.2km s-min=5.2km az=110.0*

*SYO **22** 04:35:59.3, 5.66S×147.44E, h167^{km}, MB4.8*

*IDC **22** 04:36:01.0±4.0, 5.68S×147.51E, h180^{km}±37^{km}, mb4.4/15, mb1 4.6/17, mb1mx4.6/19, MS3.8/8, Ms1 3.8/8, ms1mx3.6/17, Error ellipse: s-maj=21.4km s-min=11.5km az=85.0*

ISC 22 04:35:58.0±0.8**, 5.61S**±0.04×**147.50E**±0.06**, h165**^{km}±7^{km}**, h164**^{km}±4.2^{km}**:pP-P, n76, σ1^{s}01**/76**, mb4.8**/38**, 2C-7D, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WAU	**Wau**	**1.89**	**204**	⇑*e*P	**P**	**04 36 33.6**	**+0.4**
PMG	**Port Moresby**	**3.78**	**185**	⇓*i*P	**P**	**04 36 55.7**	**-1.0**
RAB	**Rabaul**	**4.86**	**73**	*e*P	**P**	**04 37 12.4**	**+1.7**
CTA	**Charters Tower**	**14.44**	**185**	*e*P	**P**	**04 39 16.9**	**+1.0**
	44nm,1.0s						
CTA	**Charters Tower**	**14.44**	**185**	P	**P**	**04 39 15.3**	**-0.5**
	1.0nm,0.3s,baz=3.7,slow=13,SNR=13						
CTA				LR	LR	04 43 58.7	
	comp=Z,275nm,20.7s,baz=34,slow=33						
CTAO	**Charters Tower**	**14.44**	**185**	*e*P	**P**	**04 39 17.1**	**+1.2**
	86nm,1.1s						
WRAB	**Tennant Creek**	**19.13**	**221**	⇓*i*P	**P**	**04 40 09.7**	**-1.1**
	467nm,0.9s						
WRAB				*e*S	**S**	**04 43 36.3**	**+2.3**
WB2	**Warramunga Arr**	**19.14**	**221**	⇓*i*P	**P**	**04 40 10.1**	**-0.8**
WB2				*i* S	**S**	**04 43 36.5**	**+2.4**
WB2				*i* SCS	ScS	04 51 32.3	+5.2
WRA	**Warramunga Arr**	**19.15**	**221**	P	**P**	**04 40 09.9**	**-1.1**
	14nm,0.3s,baz=49,slow=12,SNR=436						
WRA				S	**S**	**04 43 35.9**	**+1.6**
	baz=36,slow=19,SNR=15						
WRA				LR	LR	04 48 57.6	
	comp=Z,249nm,18.3s,baz=50,slow=41						
ASAR	**Alice Springs**	**22.21**	**215**	P	**P**	**04 40 42.6**	**+1.1**
	108nm,0.5s,mb5.5,baz=49,slow=8.6,SNR=1272						
ASAR				S	**S**	**04 44 37.2**	**+7.0**
	66nm,1.0s,baz=30,slow=21,SNR=21						
ASAR				LR	LR	04 50 09.0	
	comp=Z,133nm,21.3s,baz=26,slow=38						
ASPA	**Alice Springs**	**22.22**	**215**	⇓*i*P	**P**	**04 40 42.6**	**+1.0**
ASPA				*e*S	**S**	**04 44 36.4**	**+6.1**
ASPA				*e*SCS	ScS	04 51 40.8	+3.0
DZM	**Mont Dzumac**	**24.57**	**134**	*e*P	**P**	**04 41 03.6**	**-0.7**
STKA	**Stephens Creek**	**26.71**	**191**	*e*P	**P**	**04 41 22.9**	**-1.0**
	24nm,1.2s,mb4.7						
STKA	**Stephens Creek**	**26.71**	**191**	P	**P**	**04 41 23.0**	**-0.9**
	39nm,1.1s,mb4.9,baz=354,slow=8.2,SNR=21						
STKA				LR	LR	04 52 10.4	
	comp=Z,196nm,20.2s,baz=136,slow=36						
CNB	**Canberra Magne**	**29.61**	**177**	⇓*i*P	**P**	**04 41 49.5**	**-0.5**
	60nm,0.7s,mb5.4						
FORT	**Forrest**	**30.99**	**214**	⇓*i*P	**P**	**04 42 01.2**	**-1.0**
	158nm,0.6s,mb5.9						
MBWA	**Marble Bar**	**31.03**	**238**	*e*P	**P**	**04 42 01.2**	**-1.4**
	33nm,0.5s,mb5.3						
TOO	**Toolangi**	**31.86**	**183**	*e*P	**P**	**04 42 09.3**	**-0.4**
	18nm,0.8s,mb4.9						
CBIJ	**Chichi jima**	**32.92**	**351**	P	**P**	**04 42 18.2**	**-0.7**
	67nm,0.5s,mb5.6,baz=94,slow=22,SNR=13						
JOW	**Kunigami**	**37.24**	**331**	P	**P**	**04 42 56.1**	**+0.7**
	7.4nm,0.4s,mb4.7,baz=169,slow=13,SNR=7.9						
JOW				LR	LR	04 55 47.3	
	comp=Z,62nm,18.5s,baz=138,slow=32						
NWAO	**Narrogin (SRO)**	**39.15**	**222**	P	**P**	**04 43 10.7**	**-0.5**
	16nm,0.8s,mb4.7,baz=53,slow=8.7,SNR=12						
NWAO				LR	LR	05 00 56.9	
	comp=Z,249nm,20.6s,baz=305,slow=38						
NWAO	**Narrogin (SRO)**	**39.15**	**222**	*e*P	**P**	**04 43 10.8**	**-0.5**
	16nm,0.8s,mb4.7						
MAJO	**Matsushiro**	**42.83**	**349**	*e*P	**P**	**04 43 41.3**	**-0.1**
	15nm,0.6s,mb4.8						
MAT	**Matsushiro**	**42.83**	**349**	P	**P**	**04 43 40.9**	**-0.5**
MAT				S	**S**	**04 49 50.0**	**-2.5**
MAT	**Matsushiro**	**42.83**	**349**	*e*P	**P**	**04 43 41.0**	**-0.4**
	29nm,1.1s,mb4.8						
RPZ	**Rata Peaks**	**43.25**	**155**	P	**P**	**04 43 44.6**	**0.0**
	23nm,1.0s,mb4.8,baz=311,slow=7.7,SNR=7.2						
RPZ				LR	LR	04 57 11.0	
	comp=Z,249nm,21.4s,baz=244,slow=29						
SSE	**Sheshan**	**44.32**	**327**	*e*P	**P**	**04 43 54.3**	**+0.9**
SSE				AMB	AMB		
	comp=Z,31nm,0.8s,mb5.0						
SSE				AMB	AMB		
	comp=Z,33nm,5.9s						
SSE				LR	LR		
	comp=N,63nm,37.0s						
SSE				LR	LR		
	comp=E,90nm,37.1s						
SSE				LR	LR		
	comp=Z,47nm,28.9s						
SSE	**Sheshan**	**44.32**	**327**	*e*P	**P**	**04 43 54.2**	**+0.8**
	comp=Z,31nm,0.8s,mb5.0						
SSE				LR	LR		
	comp=Z,50nm,28.9s						
NJ2	**Nanjing**	**46.34**	**326**	*e*P	**P**	**04 44 13.8**	**+4.5**
NJ2				AP	pP	04 44 50.0	+3.8
NJ2				XP	sP	04 45 07.8	+2.7
NJ2				PP	PP	04 46 05.0	+5.1
NJ2				S	**S**	**04 50 50.0**	**+7.1**
NJ2				XS		04 51 53.0	
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb4.9						
NJ2				LR	LR		
	comp=Z,262nm,21.4s						
GYA	**Guiyang**	**50.80**	**311**	P	**P**	**04 44 49.0**	**+5.3**
GYA				AP	pP	04 45 24.1	+2.8
GYA				AMB	AMB		
	comp=Z,50nm,3.0s						
GYA				LR	LR		
	comp=N,260nm,16.0s						
GYA				LR	LR		
	comp=E,340nm,16.0s						
GYA				LR	LR		
	comp=Z,290nm,16.6s						
ENH	**Enshi**	**50.97**	**317**	*e*P	**P**	**04 44 44.9**	**-0.1**
	comp=Z,10nm,0.6s,mb4.6						
MDJ	**Mudanjiang**	**52.53**	**344**	P	**P**	**04 44 57.4**	**+1.0**
MDJ				AP	pP	04 45 33.8	-0.4
MDJ				XP	sP	04 45 51.3	-1.1
MDJ				PP	PP	04 46 58.5	+0.6
MDJ				PCS		04 50 02.4	
MDJ				S	**S**	**04 52 13.6**	**+5.2**
MDJ				XS		04 53 17.8	
MDJ				SS	SS	04 55 47.0	-1.0
MDJ				AMB	AMB		
	comp=Z,7.0nm,0.6s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,40nm,6.7s						
MDJ				LR	LR		
	comp=N,26nm,20.6s						
MDJ				LR	LR		
	comp=E,31nm,27.5s						
MDJ				LR	LR		
	comp=Z,57nm,21.1s						
CN2	**Changchun**	**53.06**	**340**	*e*P	**P**	**04 45 03.5**	**+3.1**
CMAR	**Chiang Mai Arr**	**53.50**	**298**	P	**P**	**04 45 04.8**	**+0.8**
	comp=Z,1.6nm,0.7s,mb3.9,baz=118,slow=5.9,SNR=4.6						
CMAR				pP	pP	04 45 46.1	+4.3
	comp=Z,8.6nm,1.0s,baz=120,slow=5.6,SNR=15						
XAN	**Xi'an**	**53.70**	**320**	P	**P**	**04 45 04.0**	**-1.2**
XAN				AMB	AMB		
	comp=Z,11nm,0.9s,mb4.6						
CD2	**Chengdu**	**55.36**	**314**	*e*P	**P**	**04 45 16.8**	**-0.5**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7						
LZH	**Lanzhou**	**58.24**	**319**	*e*P	**P**	**04 45 37.0**	**-0.5**
LZH				AMB	AMB		
	comp=Z,22nm,1.0s,mb4.9						
HIA	**Hailar**	**59.77**	**339**	*e*P	**P**	**04 45 47.0**	**-0.8**
	comp=Z,9.6nm,0.7s,mb4.7						
FX1	**Attu Island--F**	**62.20**	**17**	*e*P	**P**	**04 46 05.1**	**+0.9**
GTA	**Gaotai**	**62.76**	**320**	*e*P	**P**	**04 46 08.1**	**0.0**
GTA				AP	pP	04 46 46.1	-1.1
GTA				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.2						
SONM	**Songino Array**	**64.31**	**331**	P	**P**	**04 46 18.2**	**+0.2**
	comp=Z,5.8nm,0.5s,mb4.7,baz=148,slow=5.3,SNR=42						
CASY	**Casey**	**65.76**	**195**	*e*P	**P**	**04 46 25.4**	**-1.6**
	comp=Z,6.5nm,0.5s,mb4.7						
WMQ	**Urumqi**	**72.82**	**319**	*e*P	**P**	**04 47 11.8**	**+1.3**
WMQ				AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.4						
MKAR	**Makanchi Array**	**77.52**	**320**	P	**P**	**04 47 36.6**	**-0.4**
	comp=Z,3.4nm,0.5s,mb4.2,baz=98,slow=8.6,SNR=40						
MKAR				pP	pP	04 48 22.6	+4.9
	comp=Z,3.1nm,0.9s,baz=100,slow=7.4,SNR=4.8						
KURK	**Kurchatov**	**81.20**	**323**	P	**P**	**04 47 56.0**	**-0.8**
SLKM	**Skilak Lake**	**81.69**	**26**	*e*P	**P**	**04 47 59.7**	**+0.6**
PMR	**Palmer**	**82.65**	**26**	*e*P	**P**	**04 48 03.9**	**-0.1**
	comp=Z,10nm,0.8s,mb4.6						
MAW	**Mawson**	**82.79**	**203**	P	**P**	**04 48 04.2**	**-0.4**
	comp=Z,5.9nm,0.8s,mb4.4,baz=94,slow=5.7,SNR=17						
MAW				LR	LR	05 21 53.2	
	comp=Z,88nm,18.7s,baz=61,slow=33						
MAW	**Mawson**	**82.79**	**203**	*e*P	**P**	**04 48 01.7**	**-2.9**
	comp=Z,5.9nm,0.7s,mb4.4						
SML	**Sawmill**	**83.08**	**26**	*e*P	**P**	**04 48 06.5**	**+0.3**
MCK	**McKinley**	**83.68**	**24**	*e*P	**P**	**04 48 08.9**	**-0.2**
	comp=Z,13nm,0.9s,mb4.7						
DIV	**Divide**	**83.92**	**27**	*e*P	**P**	**04 48 11.0**	**+0.7**
	comp=Z,53nm,0.9s,mb5.3						
QSPA	**South Pole Qui**	**84.35**	**180**	*e*P	**P**	**04 48 12.2**	**0.0**
	comp=Z,17nm,0.8s,mb4.8						
QSPA				*e*	pP	04 48 53.6	+0.1
COLA	**College**	**84.60**	**23**	*e*P	**P**	**04 48 12.9**	**-0.8**
	comp=Z,21nm,0.9s,mb4.9						
ILAR	**Eielson Array**	**84.93**	**23**	P	**P**	**04 48 14.4**	**-0.9**
	comp=Z,16nm,0.7s,mb4.9,baz=255,slow=5.0,SNR=136						
BRVK	**Borovoye**	**86.82**	**324**	*e*P	**P**	**04 48 24.5**	**-0.3**
ZRNK	**Zerenda**	**87.55**	**324**	*e*P	**P**	**04 48 26.5**	**-1.7**
	comp=Z,2.0nm,0.6s,mb4.1						
DAWY	**Dawson**	**87.72**	**25**	*e*P	**P**	**04 48 30.6**	**+1.8**
INK	**Inuvik**	**91.12**	**21**	P	**P**	**04 48 46.0**	**+1.3**
	comp=Z,3.8nm,0.8s,mb4.5,baz=273,slow=5.8,SNR=7.8						
INK	**Inuvik**	**91.12**	**21**	*e*P	**P**	**04 48 45.1**	**+0.4**
	comp=Z,6.6nm,1.0s,mb4.6						
SYO	**Syowa Base**	**91.12**	**200**	⇑P	**P**	**04 48 43.8**	**-0.9**
SYO	**Syowa Base**	**91.12**	**200**	⇓PcP	PcP	04 48 49.6	+3.9
YBH	**Yreka Blue Hor**	**93.54**	**49**	P	**P**	**04 48 57.1**	**+0.7**
	comp=Z,1.1nm,0.5s,mb4.3,baz=336,slow=3.1,SNR=4.4						
YBH	**Yreka Blue Hor**	**93.54**	**49**	*e*P	**P**	**04 48 57.5**	**+1.0**
	comp=Z,6.9nm,1.2s,mb4.7						
WDC	**Whiskeytown Da**	**93.58**	**50**	*e*PKPdf	**P**	**04 48 56.0**	**-0.7**
HAWA	**Hanford**	**96.08**	**44**	*e*PKPdf	**P**	**04 49 07.8**	**0.0**
NVAR	**Mina Array Bea**	**96.74**	**52**	P	**P**	**04 49 12.5**	**+1.4**
	comp=Z,0.4nm,0.5s,mb4.0,baz=236,slow=4.0,SNR=5.7						
NEW	**Newport**	**97.74**	**42**	P	**P**	**04 49 15.7**	**+0.3**
	comp=Z,2.2nm,0.7s,mb4.7,baz=246,slow=1.7,SNR=5.5						
NEW	**Newport**	**97.74**	**42**	*e*P	**P**	**04 49 16.0**	**+0.6**
	comp=Z,4.7nm,0.9s,mb4.9						
SNAA	**Sanae**	**100.45**	**189**	*e*P	P	04 49 26.4	-0.8
	comp=Z,3.7nm,1.3s						
PDAR	**Pinedale Array**	**103.29**	**48**	Pdiff	Pdif	04 49 41.5	+1.1
	comp=Z,0.7nm,0.8s,baz=225,slow=2.1,SNR=5.8						
PDAR				PKiKP		04 53 59.1	
	comp=Z,0.8nm,0.8s,baz=252,slow=4.7,SNR=5.6						
GERES	**GERESS Array B**	**121.87**	**326**	PKP	PKPdf	04 54 33.2	+0.6
	comp=Z,1.2nm,0.5s,baz=90,slow=2.7,SNR=7.9						
SDV	**Santo Domingo**	**142.05**	**83**	*e*PKPpre		04 55 07.9	
SAML	**Samuel**	**146.17**	**115**	*e*PKPdf	PKPdf	04 55 20.5	+1.9
DBIC	**Dimbokro**	**152.49**	**274**	PKPbc	PKPdf	04 55 36.6	+8.2
	comp=Z,3.5nm,0.9s,baz=193,slow=8.2,SNR=5.0						
BDFB	**Brasilia**	**153.89**	**144**	PKPbc	PKPdf	04 55 39.6	+9.4
	comp=Z,2.6nm,0.6s,baz=296,slow=2.4,SNR=7.4						

OTT 22 04:37:33.2±0.3**, 64.74N×86.36W, h18**^{km}**, MN2.6**/4**, 169km northwest from Coral Harbour, Nu Boothia Ungava Seismic Zone. Boothia Ungava Seismic Zone., Northwest Territories**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
QILN	**Qililugaq Expl**	**1.92**	**360**	PN	Pn	04 38 06.0	+0.5
QILN				PG	Pn	04 38 09.2	+3.6
QILN				SN	Sn	04 38 28.0	-1.4
QILN				SG	Sn	04 38 33.2	+3.8
QILN				Trac		04 38 33.6	
	comp=Z,31nm,0.1s						
YRTN	**Rankin Inlet**	**3.20**	**235**	PN	Pn	04 38 23.4	-0.5
YRTN				PG	Pn	04 38 29.1	+5.3
YRTN				SN	Sn	04 38 58.0	-3.9
YRTN				SG	Sn	04 39 10.5	+8.6
YRTN				Trac		04 39 14.3	
	comp=Z,16nm,0.2s						
FCC	**Fort Churchill**	**7.03**	**215**	PN	Pn	04 39 14.9	-3.0
FCC				SN	Sn	04 40 30.1	-8.0
FCC				LG		04 41 08.8	
FCC				Trac		04 41 15.8	
	comp=Z,1.2nm,0.2s						
FRB	**Frobisher Bay**	**7.82**	**89**	SN	Sn	04 40 48.3	-10
SILO	**Sutton Inlier**	**10.32**	**175**	PN	P	04 39 57.7	-5.7
SILO				SN	S	04 41 46.7	-13
SILO				LG		04 42 54.5	
SILO				Trac		04 43 05.8	
	comp=Z,0.3nm,0.3s						
ACKN	**Achilles Lake**	**10.40**	**282**	SN	S	04 41 46.8	-15
ACKN				LG		04 42 51.0	
VIMO	**Victor Mine**	**12.04**	**172**	PN	P	04 40 21.7	-5.0
VIMO				SN	S	04 42 27.4	-14
DSMN	**Discovery Mine**	**12.16**	**275**	SN	S	04 42 28.5	-16
YKW3	**Yellowknife Ar**	**12.69**	**273**	PN	P	04 40 32.4	-3.0
YKW3				SN	S	04 42 36.6	-21
LG4Q	**La Grande 4**	**12.76**	**145**	SN	S	04 42 50.6	-8.5

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*LDG **22** 04:55:02.6±0.1, 47.93N×6.49E, h15^{km}, Md2.0/3, Ml2.0/5, Error ellipse: s-maj=1.9km s-min=1.4km az=1.0*

*STR **22** 04:55:02.8±0.1, 47.94N×6.50E, h10^{km}±1^{km}, Ml1.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 22 04:55:01.4±0.4**, 47.90N**±0.03×**6.45E**±0.03**, h15**^{km}**, n12, σ0^{s}93**/24**, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HAU	**Haudompre**	**0.13**	**328**	*e*Pg	**Pg**	**04 55 06.9**	**+1.8**
HAU				*e*Sg	**Sg**	**04 55 09.7**	**+2.2**
	36nm,0.3s						
HINF	**Hinteralfeld**	**0.28**	**107**	*e*Pg	**Pg**	**04 55 08.8**	**+1.1**
HINF				*e*Sg	**Sg**	**04 55 12.9**	**+1.1**
	8.4nm,0.2s						
THEF	**They Montfort**	**0.45**	**317**	Pg	**Pg**	**04 55 11.6**	**+0.8**
THEF				Sg	**Sg**	**04 55 18.2**	**+1.1**
MOF	**Molkenrain**	**0.46**	**96**	Pg	**Pg**	**04 55 11.5**	**+0.5**
MOF				Sg	**Sg**	**04 55 17.8**	**+0.4**
ECH	**Echery**	**0.57**	**56**	Pg	**Pg**	**04 55 12.9**	**-0.2**
ECH				Sg	**Sg**	**04 55 20.5**	**-0.4**
CDF	**Champ du Feu**	**0.76**	**47**	*e*Pg	**Pg**	**04 55 16.2**	**-0.5**
CDF				*e*Sg	**Sg**	**04 55 24.8**	**-2.1**
	2.1nm,0.2s						
WLS	**Welschbruch**	**0.80**	**49**	Pg	**Pg**	**04 55 16.8**	**-0.7**
WLS				Sg	**Sg**	**04 55 27.4**	**-0.8**
RFYF	**Reffroy**	**0.98**	**319**	*e*Pg	**Pg**	**04 55 21.3**	**+0.2**
	baz=139						
RFYF				*e*Sg	**Sg**	**04 55 33.7**	**-0.6**
	5.7nm,0.2s						
SFTF	**Sexfontaines**	**0.99**	**288**	*e*Pg	**Pg**	**04 55 21.8**	**+0.4**
SFTF				*e*Sg	**Sg**	**04 55 34.0**	**-0.8**
	4.9nm,0.2s						
MEZF	**Maizieres J'vi**	**1.11**	**303**	*e*Pg	**Pg**	**04 55 23.7**	**-0.1**
	baz=123						
MEZF				*e*Sg	**Sg**	**04 55 38.0**	**-0.7**
	4.0nm,0.2s						
CABF	**La Chapelle**	**1.31**	**191**	*e*Pg	**Pg**	**04 55 27.8**	**+0.1**
CABF				*e*Sg	**Sg**	**04 55 44.7**	**-0.6**
	1.4nm,0.3s						
SMF	**Signal de Mont**	**2.17**	**236**	*e*Pg	**Pg**	**04 55 43.9**	**-1.0**
SMF				*e*Sg	**Sg**	**04 56 13.0**	**-0.9**
	1.0nm,0.3s						

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*BER **22** 05:11:01.7±3.9, 77.67N×8.29E, ML3.4(NAO)*

NAO 22 05:11:02.0±3.5**, 77.58N×8.80E, ML3.4, Svalbard region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**1.50**	**24**	Pn	Pn	05 11 27.7	-2.6
KBS				Lg		05 11 44.8	
SPA0	**Spitsbergen Ar**	**1.71**	**66**	Pn	Pn	05 11 33.7	+0.5
	baz=253,slow=12						
SPA0				Lg		05 11 56.8	
	baz=247,slow=28						
ARA0	**ARCESS Array S**	**9.30**	**141**	Pn	P	05 13 16.4	-4.0
	baz=326,slow=12						

IDC 22 05:11:50.2±7.2**, 22.01S×148.36E, mb1 3.9**/3**, mb1mx3.7**/9**, ML3.7**/3**, Error ellipse: s-maj=75.2km s-min=44.5km az=38.0, Queensland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**11.53**	**210**	Pn	P	05 14 35.3	-3.8
	0.4nm,0.3s,baz=31,slow=9.6,SNR=6.0						
WRA	**Warramunga Arr**	**13.26**	**276**	Pn	P	05 15 00.5	-1.9
	0.5nm,0.3s,baz=95,slow=12,SNR=32						
WRA				Lg		05 18 50.2	
	0.3nm,0.3s,baz=102,slow=30,SNR=6.6						
ASAR	**Alice Springs**	**13.44**	**260**	Pn	P	05 15 02.8	-1.9
	0.3nm,0.3s,baz=82,slow=14,SNR=12						
ASAR				Lg		05 18 57.2	
	0.3nm,0.3s,baz=84,slow=28,SNR=4.4						

CASC 22 05:41:06.2±2.2**, 12.60N×87.99W, h45**^{km}±66^{km}**, MD3.5, ML2.9, 1C, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.69**	**13**	*e*P	P	05 41 20.0	+0.3
CNCH				*e*S	S	05 41 30.7	+1.1
VSM	**San Miguel**	**0.87**	**341**	*e*P	P	05 41 25.3	+3.1
BLLM	**Bellamira**	**0.87**	**344**	*e*P	P	05 41 22.5	+0.3
BLLM				*e*S	S	05 41 34.4	+0.3
CRIN	**San Cristobal**	**0.92**	**84**	*e*P	P	05 41 23.8	+0.9
CRIN				*e*S	S	05 41 36.2	+1.0
LEON	**Leon**	**1.09**	**99**	*e*P	P	05 41 24.6	-0.7
TELN	**Telica**	**1.13**	**90**	*e*P	P	05 41 25.6	-0.2
TELN				*e*S	S	05 41 40.3	-0.2
CAHU	**Cacacuatique**	**1.19**	**350**	*e*P	P	05 41 26.8	+0.2
CAHU				*e*S	S	05 41 43.1	+1.2
MIRN	**Miramar**	**1.26**	**97**	*e*P	P	05 41 27.3	-0.4
CNGN	**Cerro Negro**	**1.27**	**94**	*e*P	P	05 41 27.5	-0.3
SNVI	**San Vicente**	**1.30**	**321**	*e*P	P	05 41 27.8	-0.7
SNVI				*e*S	S	05 41 44.1	-0.8
LCBS	**La Ceiba**	**1.43**	**318**	*e*P	P	05 41 30.1	0.0
LCBS				*e*S	S	05 41 46.7	-1.2
COPN	**Copaltepe**	**1.43**	**107**	⇑*e*P	P	05 41 30.4	+0.2
COPN				*e*S	S	05 41 47.0	-1.0
LFRS	**El Faro**	**1.46**	**314**	*e*P	P	05 41 30.2	-0.4
LFRS				*e*S	S	05 41 48.0	-0.7
SOMN	**Somoto**	**1.57**	**58**	*e*P	P	05 41 33.2	+1.1
XAVN	**Gruta Xavier**	**1.69**	**105**	*e*P	P	05 41 33.0	-0.8
BOQS	**Boqueron**	**1.69**	**312**	*e*P	P	05 41 33.3	-0.5
BOQS				*e*S	S	05 41 54.7	+0.3
CRUN	**El Crucero**	**1.76**	**110**	*e*P	P	05 41 34.0	-0.8
MGAN	**Managua**	**1.76**	**105**	*e*P	P	05 41 35.1	+0.3
MGAN				*e*S	S	05 41 55.1	-1.1
	comp=E,120nm,0.3s						
SBLS	**San Blas**	**2.01**	**308**	*e*P	P	05 41 39.1	+0.7
SBLS				*e*S	S	05 42 03.3	+0.9
RTR	**El Retiro**	**2.07**	**309**	*e*P	P	05 41 40.4	+1.2
RTR				*e*S	S	05 42 04.1	+0.3

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*NIED **22** 05:47:00, 42.20N×144.70E, h26^{km}, Mw4.3 Best double couple: M$_0$3.37×10^{15} NP1:φ$_s$19°, δ72°, λ78°. NP2:φ$_s$235°, δ21°, λ124°.*

*MOS **22** 05:47:02.5±1.1, 42.16N×144.73E, h43^{km}, mb4.5/15, Error ellipse: s-maj=18.4km s-min=8.6km az=100.9*

*BJI **22** 05:47:03.3, 42.19N×144.53E, h36^{km}, mB4.6, mb4.8, Ms3.9, Msz3.6*

*SKHL **22** 05:47:03.0±3.7, 42.10N×144.90E, h31^{km}±9^{km}, mb4.9/3, ms4.0/1*

*JMA **22** 05:47:03.5, 42.23N×144.73E, h29^{km}±1^{km}, M4.2*

JMA Felt I J1.

*IDC **22** 05:47:04.3±0.7, 42.19N×144.54E, h37^{km}±5^{km}, mb3.9/17, mb1 4.1/18, mb1mx4.0/26, ML4.0/1, MS3.5/6, Ms1 3.6/6, ms1mx3.3/30, Error ellipse: s-maj=19.3km s-min=15.3km*

az=147.0

*NEIC **22** 05:47:05.0±0.9, 42.17N×144.57E, h43^{km}±8^{km}, mb4.5/13, MW4.3(NIED), Error ellipse: s-maj=8.8km s-min=6.6km az=138.0*

NEIC Recorded [1 JMA] in the Kushiro area.

ISC 22 05:47:02.5±0.4**, 42.16N**±0.03×**144.70E**±0.05**, h36^{km}, h36^{km}**±1.8^{km}**:pP-P, n100,** σ1^{s}**23**/107**, mb4.3**/36**, MS3.7**/12**, 5C-6D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAK	**Akkeshi**	**0.83**	**360**	⇓P	**P**	**05 47 18.1**	**+0.3**
JAK				*e*S	**S**	**05 47 29.2**	**+0.1**
JOB	**Onbets**	**0.98**	**320**	⇓P	**P**	**05 47 21.1**	**+1.2**
JCH	**Churui**	**1.09**	**295**	⇑P	**P**	**05 47 23.1**	**+1.7**
JCH				*e*S	**S**	**05 47 38.4**	**+2.9**
JEM	**Erimo**	**1.16**	**263**	P	**P**	**05 47 24.6**	**+2.2**
JAR	**Ashorobuto**	**1.32**	**329**	⇓P	**P**	**05 47 25.4**	**+0.5**
JAR				*e*S	**S**	**05 47 42.2**	**+0.7**
JNK	**Nakash**	**1.42**	**1**	⇑P	**P**	**05 47 26.2**	**-0.1**
JNK				*e*S	**S**	**05 47 44.1**	**+0.1**
NEM2	**Nemuro 2**	**1.43**	**32**	P	**P**	**05 47 26.3**	**-0.1**
NEM2				*e*S	**S**	**05 47 43.3**	**-0.8**
JNBK	**Urakawa-nobuka**	**1.45**	**275**	P	**P**	**05 47 27.6**	**+1.0**
YUK	**Yuzh-Kuril'sk**	**2.06**	**24**	*e*P	**P**	**05 47 34.5**	**-0.8**
YUK				AMB	AMB	05 47 35.2	
	180nm,0.3s						
YUK				AMB	AMB	05 47 35.2	
	290nm,0.3s						
YUK				*i* S	**S**	**05 47 58.1**	**-1.9**
YUK				A		05 48 01.5	
	4µm,0.4s						
YUK				A		05 48 01.5	
	3µm,0.4s						
YUK				A		05 48 07.3	
	6µm,0.6s						
YUK				A		05 48 07.3	
	4µm,0.8s						
YUK	**Yuzh-Kuril'sk**	**2.06**	**24**	*e*PN	**P**	**05 47 34.5**	**-0.8**
YUK				*i* S	**S**	**05 47 58.1**	**-1.9**
YUK				pmax	pmax		
	comp=N,180nm,0.3s						
YUK				pmax	pmax		
	comp=Z,290nm,0.3s						
YUK				smax			
	comp=N,4µm,0.4s						
YUK				smax			
	comp=E,3µm,0.4s						
YUK				smax			
	comp=N,4µm,0.8s						
YUK				smax			
	comp=E,6µm,0.6s						
ASAJ	**Asahikawa**	**2.49**	**323**	Pn	**P**	**05 47 42.4**	**+0.9**
	comp=E,26nm,0.3s,baz=173,slow=7.9,SNR=30						
ASAJ				Sn	**S**	**05 48 14.9**	**+4.1**
	comp=E,37nm,0.3s,baz=16,slow=14,SNR=11						
ASAJ				LR	LR	05 48 58.5	
	comp=E,1µm,18.8s,baz=312,slow=48						
ASAJ	**Asahikawa**	**2.49**	**323**	PN	**P**	**05 47 42.4**	**+0.9**
ASAJ						05 48 15.0	
ASAJ				pmax	pmax		
	comp=Z,26nm,0.3s						
ASAJ				smax			
	comp=N,37nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,1µm,18.8s						
KUR	**Kuril'sk**	**3.84**	**36**	*e*P	**P**	**05 48 01.7**	**+1.1**
KUR				AMB	AMB	05 48 08.4	
	comp=Z,30nm,0.6s						
KUR				AMB	AMB	05 48 08.4	
	comp=Z,20nm,0.6s						
KUR				AMB	AMB	05 48 08.4	
	comp=Z,100nm,0.6s						
KUR				*e*S	**S**	**05 48 41.0**	**-4.2**
KUR				A		05 48 55.8	
	comp=Z,300nm,0.6s						
KUR				A		05 48 55.8	
	comp=Z,110nm,0.6s						
YSS	**Yuzh-Sakhalins**	**4.99**	**345**	*e*P	**P**	**05 48 16.7**	**-0.3**
YSS				*e*LQ		05 49 39.0	
YSS				*e*LR	LR	05 49 59.0	
YSS				AMS	AMS	05 50 33.0	
	comp=Z,500nm,17.0s						
YSS				AMS	AMS	05 50 33.0	
	comp=Z,500nm,16.0s						
YSS	**Yuzh-Sakhalins**	**4.99**	**345**	*e*PN	**P**	**05 48 16.7**	**-0.3**
YSS				MLR	MLR		
	comp=Z,500nm,17.0s						
YSS				MLR	MLR		
	comp=E,500nm,16.0s						
YSS	**Yuzh-Sakhalins**	**4.99**	**345**	P	**P**	**05 48 15.6**	**-1.4**
TEY	**Ternei**	**6.54**	**299**	*e*P	**P**	**05 48 41.0**	**+2.2**
TEY				*e*L		05 51 14.0	
UGL	**Uglegorsk**	**7.16**	**346**	*e*L		05 48 20.0	
UGL				AMS	AMS	05 51 49.0	
	comp=E,500nm,18.0s						
UGL				AMS	AMS	05 51 49.0	
	comp=E,500nm,17.0s						
UGL				AMS	AMS	05 51 49.0	
	comp=E,700nm,17.0s						
MAJO	**Matsushiro**	**7.53**	**224**	*e*P	**P**	**05 48 51.5**	**-1.1**
	comp=E,19nm,0.7s						
MAT	**Matsushiro**	**7.53**	**224**	P	**P**	**05 48 51.3**	**-1.3**
MAT				S	**S**	**05 50 18.7**	**+1.0**
MAT	**Matsushiro**	**7.53**	**224**	*e*P	**P**	**05 48 51.0**	**-1.6**
	comp=E,12nm,0.8s						
MAT				*e*S	**S**	**05 50 19.0**	**+1.3**
TYV	**Tymovskoe**	**8.82**	**352**	*e*P	**P**	**05 49 15.0**	**+4.5**
JHJ	**Hachijo jima 2**	**9.83**	**205**	LR	LR	05 53 15.6	
	comp=E,98nm,18.4s,baz=332,slow=38						
MDJ	**Mudanjiang**	**11.26**	**288**	P	**P**	**05 49 41.6**	**-2.4**
MDJ				S	**S**	**05 51 45.3**	**-4.4**
MDJ				SS	SS	05 52 00.8	-3.1
MDJ				PCP	PcP	05 55 37.4	+0.4
MDJ				SCS	ScS	06 02 42.8	+3.2
MDJ				AMB	AMB		
	comp=Z,9.0nm,0.8s						
MDJ				AMB	AMB		
	comp=Z,48nm,8.6s						
MDJ				LR	LR		
	comp=N,98nm,14.9s						
MDJ				LR	LR		
	comp=E,159nm,14.0s						
MDJ				LR	LR		
	comp=Z,274nm,16.8s						
MDJ	**Mudanjiang**	**11.26**	**288**	*e*P	**P**	**05 49 42.6**	**-1.4**
	comp=Z,18nm,1.3s						
KLR	**Kul'dur**	**11.48**	**312**	*e*PN	**P**	**05 49 49.0**	**+2.2**
KLR				MLR	MLR		
	comp=N,500nm,14.0s						
KLR				MLR	MLR		
	comp=E,400nm,14.0s						
KLR				MLR	MLR		
	comp=Z,700nm,14.0s						
CN2	**Changchun**	**14.19**	**283**	*e*P	**P**	**05 50 21.6**	**-1.2**
CN2				*e*AP		05 50 29.0	
CN2				*e*S	**S**	**05 52 58.1**	**-1.8**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.5s						
CN2				AMB	AMB		
	comp=Z,80nm,6.0s						
CN2				LR	LR		
	comp=N,300nm,18.0s						
CN2				LR	LR		
	comp=E,300nm,18.0s						
CN2				LR	LR		
	comp=Z,300nm,21.0s						
ZEA	**Zeya**	**16.40**	**321**	*e*P	**P**	**05 50 52.2**	**+0.9**
ZEA				AMB	AMB	05 50 52.9	
	comp=Z,25nm,0.7s						
HIA	**Hailar**	**18.77**	**301**	*e*P	**P**	**05 51 18.9**	**-1.9**
	comp=Z,6.4nm,0.6s						
BJT	**Baijiatuau**	**21.57**	**274**	*e*P	**P**	**05 51 50.6**	**-0.2**
	comp=Z,6.2nm,0.4s,mb4.4						
SSE	**Sheshan**	**21.79**	**247**	*e*P	**P**	**05 51 51.8**	**-1.2**
SSE				AMB	AMB		
	comp=Z,39nm,0.7s,mb5.0						
SSE				AMB	AMB		
	comp=Z,52nm,4.1s						
SSE	**Sheshan**	**21.79**	**247**	*e*P	**P**	**05 51 51.8**	**-1.2**
	comp=Z,39nm,0.7s,mb5.0						
YAK	**Yakutsk**	**21.83**	**341**	*de*P	**P**	**05 51 50.7**	**-2.5**
YAK				pmax	pmax		
	comp=Z,22nm,0.6s,mb4.8						
YAK				MLR	MLR		
	comp=Z,200nm,17.0s,MS3.6						
NJ2	**Nanjing**	**22.87**	**252**	*e*P	**P**	**05 52 00.0**	**-3.7**
NJ2				AP		05 52 14.4	
NJ2				XP		05 52 22.3	
NJ2				PP	PP	05 52 28.5	-5.0
NJ2				PPP	PPP	05 52 40.3	-3.3
NJ2				S	**S**	**05 55 56.0**	**-10**
NJ2				XS		05 56 20.0	
HHC	**Hu-ho-hao-te**	**24.77**	**278**	*e*P	**P**	**05 52 22.0**	**0.0**
HHC				AP		05 52 32.0	
HHC				XP		05 52 36.1	
HHC				PP	PP	05 52 56.9	-2.3
HHC				S	**S**	**05 56 38.8**	**-0.4**
HHC				SS	SS	05 57 32.3	-5.0
HHC				PCS		05 59 39.5	
HHC				AMB	AMB		
	comp=Z,18nm,0.5s,mb4.9						
HHC				AMB	AMB		
	comp=Z,93nm,5.9s						
HHC				LR	LR		
	comp=N,101nm,14.9s,MS3.6						
HHC				LR	LR		
	comp=E,121nm,16.6s,MS3.6						
HHC				LR	LR		
	comp=Z,112nm,19.6s,MS3.4						
BOD	**Bodaibo**	**24.90**	**320**	*e*P	**P**	**05 52 18.7**	**-4.4**
SONM	**Songino Array**	**27.47**	**295**	P	**P**	**05 52 45.7**	**-1.3**
	comp=Z,4.8nm,0.5s,mb4.3,baz=91,slow=8.8,SNR=26						
TIXI	**Tiksi**	**30.59**	**350**	*e*P	**P**	**05 53 13.7**	**-1.0**
TIXI				*i*	pP	05 53 26.1	+1.2
TIXI				*e*SS	SS	05 59 49.5	-5.8
TIXI				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.5						
TIXI				MLR	MLR		
	comp=Z,100nm,22.0s,MS3.4						
LZH	**Lanzhou**	**32.04**	**273**	*e*P	**P**	**05 53 28.5**	**+0.6**
LZH				AP	pP	05 53 37.5	-0.6
LZH				XP	sP	05 53 42.0	-0.8
LZH				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.2						
LZH	**Lanzhou**	**32.04**	**273**	*e*P	**P**	**05 53 28.5**	**+0.6**
	comp=Z,40nm,1.0s,mb5.2						
LZH				pP	pP	05 53 37.5	-0.6
LZH				sP	sP	05 53 42.0	-0.8
GTA	**Gaotai**	**33.80**	**281**	*e*P	**P**	**05 53 46.0**	**+2.9**
GTA				AP	pP	05 53 56.3	+3.0
GTA				XP	sP	05 54 00.0	+2.0
GTA				PP	PP	05 54 59.3	+2.5
GTA				PCP	PcP	05 56 26.3	+4.4
GTA				S	**S**	**05 59 05.6**	**+2.1**
GTA				XS		05 59 22.0	
GTA				SS	SS	06 01 11.1	+0.6
GTA				AMB	AMB		
	comp=Z,2.0nm,1.0s,mb4.0						
GTA				AMB	AMB		
	comp=Z,22nm,5.7s						
GTA				LR	LR		
	comp=N,79nm,17.9s,MS3.6						
GTA				LR	LR		
	comp=E,60nm,19.4s,MS3.6						
GTA				LR	LR		
	comp=Z,84nm,17.5s,MS3.5						
GYA	**Guiyang**	**34.78**	**256**	P	**P**	**05 53 51.3**	**-0.3**
GYA				AP	pP	05 54 02.0	+0.1
GYA				XP	sP	05 54 06.3	-0.3
GYA				S	**S**	**05 59 09.9**	**-8.9**
GYA				XS		05 59 33.6	
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
GYA				AMB	AMB		
	comp=Z,90nm,2.9s,mb5.2						
GYA				LR	LR		
	comp=N,120nm,14.8s,MS3.8						
GYA				LR	LR		
	comp=E,60nm,15.1s,MS3.8						
GYA				LR	LR		
	comp=Z,90nm,15.4s,MS3.6						
IMA	**Indian Mountai**	**41.00**	**33**	*e*P	**P**	**05 54 43.7**	**+0.4**
	comp=Z,30nm,0.9s,mb4.9						
WMQ	**Urumqi**	**41.02**	**292**	*e*P	**P**	**05 54 45.6**	**+1.9**
WMQ				AP	pP	05 54 55.6	+1.5
WMQ				XP	sP	05 54 59.6	+1.0
WMQ				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.2						
WMQ				LR	LR		
	comp=Z,98nm,18.0s,MS3.7						
SPU	**Mount Spurr**	**41.66**	**41**	*e*P	**P**	**05 54 50.1**	**+1.5**
COLA	**College**	**43.41**	**35**	*e*P	**P**	**05 55 05.7**	**+2.8**
COLA	**College**	**43.41**	**35**	*e*P	**P**	**05 55 04.0**	**+1.0**
MKAR	**Makanchi Array**	**43.74**	**298**	P	**P**	**05 55 05.1**	**-0.7**
	comp=Z,1.9nm,0.7s,mb3.9,baz=83,slow=11,SNR=14						
MKAR				LR	LR	06 14 50.4	
	comp=Z,52nm,18.1s,MS3.5,baz=240,slow=38						
MKAR	**Makanchi Array**	**43.74**	**298**	*i* P	**P**	**05 55 05.7**	**-0.1**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ILAR	**Eielson Array**	**43.83**	**35**	P	**P**	**05 55 06.2**	**0.0**
	comp=Z,1.0nm,0.5s,mb3.8,baz=258,slow=4.9,SNR=16						
ILAR				pP	pP	05 55 17.4	+0.6
	comp=Z,2.0nm,0.7s,baz=254,slow=5.4,SNR=12						
ILAR	**Eielson Array**	**43.83**	**35**	P	**P**	**05 55 06.3**	**0.0**
ILAR				*PP	pP	05 55 17.4	+0.6
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ILAR				pmax	pmax		
	comp=N,2.0nm,0.7s						
EYAK	**Cordova Ski Ar**	**44.79**	**41**	P	**P**	**05 55 14.9**	**+0.9**
KURK	**Kurchatov**	**44.94**	**305**	*e*P	**P**	**05 55 13.8**	**-1.6**
KURK	**Kurchatov**	**44.94**	**305**	*e*P	**P**	**05 55 14.6**	**-0.8**
	comp=N,11nm,0.9s,mb4.7						
CMAR	**Chiang Mai Arr**	**45.34**	**253**	P	**P**	**05 55 19.9**	**+0.8**
	comp=N,1.2nm,0.7s,mb3.8,baz=44,slow=6.7,SNR=7.4						
CMAR				LR	LR	06 15 40.9	
	comp=N,78nm,19.3s,MS3.6,baz=170,slow=38						
CMAR	**Chiang Mai Arr**	**45.34**	**253**	P	**P**	**05 55 19.9**	**+0.8**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
CMAR				MLR	MLR		
	comp=Z,78nm,19.3s						
INK	**Inuvik**	**48.68**	**29**	P	**P**	**05 55 44.0**	**-0.5**
	comp=Z,1.6nm,0.4s,mb4.4,baz=295,slow=8.9,SNR=22						
INK	**Inuvik**	**48.68**	**29**	P	**P**	**05 55 44.1**	**-0.5**
INK				pmax	pmax		
	comp=Z,2.0nm,0.4s						
INK	**Inuvik**	**48.68**	**29**	*e*P	**P**	**05 55 44.2**	**-0.4**
	comp=Z,1.8nm,0.5s,mb4.4						
BRVK	**Borovoye**	**49.17**	**310**	*e*P	**P**	**05 55 48.2**	**-0.3**
	comp=Z,3.8nm,0.8s,mb4.5						
ZRNK	**Zerenda**	**49.94**	**310**	*e*P	**P**	**05 55 53.8**	**-0.7**
	comp=Z,5.2nm,0.6s,mb4.7						
ARU	**Arti**	**54.28**	**317**	⇑*i*P	**P**	**05 56 25.4**	**-1.5**
ARU				*e*		05 57 27.3	
ARU				*e*		05 58 24.5	
ARU				*e*S	**S**	**06 03 57.0**	**-3.3**
ARU				*e*SS	SS	06 07 45.2	+3.2
ARU				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
ARU	**Arti**	**54.28**	**317**	*e*P	**P**	**05 56 25.4**	**-1.6**
	comp=Z,6.2nm,0.6s,mb4.7						
ARCES	**ARCESS Array B**	**60.10**	**339**	P	**P**	**05 57 07.2**	**-0.9**
	comp=Z,2.2nm,0.9s,mb4.2,baz=39,slow=7.8,SNR=5.1						
ARCES	**ARCESS Array B**	**60.10**	**339**	P	**P**	**05 57 07.2**	**-0.8**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
WRA	**Warramunga Arr**	**62.53**	**191**	P	**P**	**05 57 23.9**	**-1.1**
	comp=Z,0.3nm,0.6s,mb3.6,baz=8.5,slow=6.8,SNR=5.9						
WRA				pP	pP	05 57 34.2	-1.6
	comp=Z,1.0nm,0.6s,baz=9.1,slow=6.7,SNR=5.9						
WRA	**Warramunga Arr**	**62.53**	**191**	P	**P**	**05 57 23.9**	**-1.1**
WRA				*PP	pP	05 57 34.2	-1.6
WRA				pmax	pmax		
	comp=N,1.0nm,0.6s						
KAF	**Kangasniemi**	**64.92**	**333**	*e*p	**P**	**05 57 35.5**	**-4.4**
FINES	**FINESS Array B**	**65.46**	**332**	P	**P**	**05 57 42.1**	**-1.3**
	comp=N,2.5nm,0.4s,mb4.6,baz=44,slow=7.5,SNR=31						
FINES	**FINESS Array B**	**65.46**	**332**	P	**P**	**05 57 42.1**	**-1.3**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.4s						
KIV	**Kislovodsk**	**69.46**	**311**	*e*P	**P**	**05 58 09.2**	**+0.4**
KIV				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
KIV				pmax	pmax		
	comp=N,4.0nm,0.7s						
KIV				MLR	MLR		
	comp=N,97nm,17.0s,MS4.2						
KIV				MLR	MLR		
	comp=E,54nm,17.0s,MS4.2						
KIV				MLR	MLR		
	comp=Z,136nm,17.0s,MS4.3						
NVAR	**Mina Array Bea**	**69.95**	**56**	P	**P**	**05 58 13.7**	**+1.8**
	comp=Z,0.8nm,0.7s,mb3.8,baz=294,slow=6.3,SNR=5.5						
NB2	**NORSAR Subarra**	**70.42**	**338**	P	**P**	**05 58 13.4**	**-0.9**
	comp=Z,1.3nm,0.6s,mb4.0,baz=33,slow=6.2						
NOA	**NORSAR Array B**	**70.42**	**338**	P	**P**	**05 58 13.3**	**-1.0**
	comp=Z,2.0nm,0.6s,mb4.2,baz=35,slow=6.1,SNR=6.4						
NOA				LR	LR	06 36 17.6	
	comp=Z,55nm,18.8s,MS3.8,baz=5.0,slow=42						
HFS	**Hagfors**	**70.44**	**336**	P	**P**	**05 58 13.4**	**-1.1**
	comp=Z,3.0nm,0.6s,mb4.4,baz=63,slow=6.4,SNR=12						
HFS	**Hagfors**	**70.44**	**336**	P	**P**	**05 58 13.4**	**-1.1**
HFS				pmax	pmax		
	comp=Z,3.0nm,0.6s						
SOC	**Sochi**	**71.35**	**312**	*e*P	**P**	**05 58 19.0**	**-1.3**
SOC				*e*	pP	05 58 28.2	-3.1
SOC				*e*		06 00 59.3	
SOC				*e*S	S	06 07 27.7	-6.6
SOC				*e*		06 08 22.8	
SOC				pmax	pmax		
	comp=N,5.0nm,0.5s						
SOC				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.7						
SOC				pmax	pmax		
	comp=E,2.0nm,0.3s						
SOC				MLR	MLR		
	comp=Z,104nm,19.0s,MS4.1						
SOC				MLR	MLR		
	comp=N,50nm,16.0s,MS4.0						
SOC				MLR	MLR		
	comp=E,59nm,17.0s,MS4.0						
AKASG	**Malin Array Be**	**71.78**	**323**	P	**P**	**05 58 21.1**	**-1.6**
	comp=E,0.5nm,0.3s,mb3.9,baz=41,slow=6.2,SNR=6.0						
AKASG	**Malin Array Be**	**71.78**	**323**	P	**P**	**05 58 21.1**	**-1.6**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
DUG	**Dugway**	**72.14**	**52**	*e*P	**P**	**05 58 27.7**	**+2.7**
	comp=Z,0.2nm,0.9s,mb3.0						
PDAR	**Pinedale Array**	**72.31**	**48**	P	**P**	**05 58 26.4**	**+0.5**
	comp=Z,0.5nm,0.7s,mb3.5,baz=38,slow=1.4,SNR=5.3						
PDAR				pP	pP	05 58 38.1	+1.2
	comp=Z,1.2nm,0.5s,baz=280,slow=0.8,SNR=8.8						
PV10	**Paradox Valley**	**75.54**	**51**	*e*P	**P**	**05 58 45.7**	**+0.9**
BRTR	**Keskin Array B**	**77.31**	**312**	LR	LR	06 36 51.1	
	comp=Z,33nm,19.1s,MS3.7,baz=320,slow=39						
MORC	**Moravsky Berou**	**77.41**	**328**	*e*P	**P**	**05 58 55.2**	**0.0**
	comp=Z,4.5nm,0.8s,mb4.5						
SDCO	**Great Sand Dun**	**78.00**	**50**	P	**P**	**05 58 59.4**	**+0.7**
	comp=Z,1.0nm,0.8s,mb3.8						
EKA	**Eskdalemuir Ar**	**79.10**	**342**	P	**P**	**05 59 04.4**	**+0.1**
	comp=Z,1.2nm,0.7s,mb4.0,baz=14,slow=4.9,SNR=4.1						
EKA	**Eskdalemuir Ar**	**79.10**	**342**	P	**P**	**05 59 04.4**	**+0.1**
EKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KHC	**Kasperske Hory**	**79.45**	**330**	*e*P	**P**	**05 59 06.5**	**+0.1**
GERES	**GERESS Array B**	**79.64**	**330**	P	**P**	**05 59 07.5**	**+0.1**
	comp=Z,0.8nm,0.6s,mb3.9,baz=18,slow=4.2,SNR=4.0						
GERES	**GERESS Array B**	**79.64**	**330**	P	**P**	**05 59 07.5**	**+0.1**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TXAR	**Lajitas Array**	**85.03**	**55**	P	**P**	**05 59 37.4**	**+1.8**
	comp=Z,0.5nm,0.7s,mb3.8,baz=288,slow=4.0,SNR=8.6						
TXAR				pP	pP	05 59 48.8	+2.0
	comp=Z,1.5nm,0.9s,baz=297,slow=3.1,SNR=9.0						
IDI	**Anoyia**	**85.28**	**315**	P	**P**	**05 59 36.4**	**-0.3**
	comp=Z,3.1nm,0.5s,mb4.7,baz=354,slow=9.2,SNR=6.7						
SNAA	**Sanae**	**146.39**	**198**	*e*	PKPdf	06 06 48.3	+11
SNAA	**Sanae**	**146.39**	**198**	⇓*i*PKPdf	PKPdf	06 06 41.3	+4.3
SNAA				*e*		06 06 48.3	
VNA2	**Neumayer--Watz**	**147.95**	**197**	*e*	PKPdf	06 06 46.7	+7.2
VNA2	**Neumayer--Watz**	**147.95**	**197**	⇓*i*PKPdf	PKPdf	06 06 39.7	+0.2
VNA2				*e*		06 06 46.7	
VNA3	**Neumayer Olymp**	**148.17**	**195**	*e*	PKPdf	06 06 46.5	+6.6
VNA3	**Neumayer Olymp**	**148.17**	**195**	⇑*i*PKPdf	PKPdf	06 06 39.8	-0.1
VNA3				*e*		06 06 46.5	
VNA1	**Neumayer--Stat**	**148.34**	**197**	*e*	PKPdf	06 06 47.9	+7.7
VNA1	**Neumayer--Stat**	**148.34**	**197**	⇑*i*PKPdf	PKPdf	06 06 40.3	+0.1
VNA1				*e*		06 06 47.9	

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*NEIC **22** 05:50:35.4±0.7, 51.56N×16.15E, h5^{km}, ML3.1(VIE), ML3.0(SZGRF), ML2.5(CLL), ML2.4(BRG), Error ellipse: s-maj=7.7km s-min=5.9km az=193.0*

*BGR **22** 05:50:36.1±0.9, 51.58N×16.16E, h1^{km}, ML3.0/7, Error ellipse: s-maj=16.7km s-min=7.8km az=164.0*

*PRU **22** 05:50:37.2, 51.45N×16.11E*

*WAR **22** 05:50:37.1, 51.50N×16.09E, ML3.1, Mining Induced*

*IDC **22** 05:50:38.1±1.2, 51.44N×16.01E, mb1 3.3/4, mb1mx3.2/18, ML3.0/4, Error ellipse: s-maj=17.0km s-min=9.8km az=127.0*

ISC 22 05:50:34.4±0.7**, 51.47N**±0.04×**16.09E**±0.03**, n32,** σ1^{s}**29**/59**, 1C, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.65**	**168**	*e*PG	**Pg**	**05 50 49.0**	**+1.7**
KSP				*e*SG	**Sg**	**05 50 58.0**	**+2.1**
KSP	**Ksiaz**	**0.65**	**168**	*i* Pg	**Pg**	**05 50 49.4**	**+2.1**
KSP				*e*		05 50 51.8	
KSP				*e*Sg	**Sg**	**05 50 58.2**	**+2.3**
KSP				*e*		05 51 03.3	
UPC	**Upice**	**0.97**	**183**	*e*PG	**Pg**	**05 50 55.4**	**+1.7**
DPC	**Dobruska-Polom**	**1.14**	**172**	*e*PG	**Pg**	**05 50 58.1**	**+1.1**
DPC				*e*SG	**Sg**	**05 51 12.8**	**+0.6**
PVCC	**Panska Ves**	**1.35**	**226**	*e*PG	**Pg**	**05 51 02.0**	**+0.7**
BRG	**Berggiesshubel**	**1.48**	**247**	*e*Pg	**Pg**	**05 51 04.0**	**+0.2**
BRG				*e*Sg	**Sg**	**05 51 25.3**	**+1.7**
BRG	**Berggiesshubel**	**1.48**	**247**	*i* Pn	**Pn**	**05 51 04.5**	**+2.2**
BRG				*i* Pg	**Pg**	**05 51 05.1**	**+1.2**
BRG				*i* Sg	**Sg**	**05 51 25.1**	**+1.5**
PRU	**Pruhonice**	**1.78**	**214**	*e*PN	**Pn**	**05 51 07.4**	**+0.7**
PRU				PG	**Pg**	**05 51 09.2**	**-0.8**
PRU				*i* x	x	05 51 26.6	
PRU				SG	**Sg**	**05 51 32.5**	**-1.2**
	39nm,0.4s						
MORC	**Moravsky Berou**	**1.94**	**151**	*e*P	**Pn**	**05 51 09.3**	**+0.4**
MORC				*e*S	**Sn**	**05 51 34.3**	**0.0**
CLL	**Collm**	**1.94**	**266**	*e*Pn	**Pn**	**05 51 09.4**	**+0.5**
CLL				*e*Sg	**Sg**	**05 51 39.3**	**+0.3**
CLL	**Collm**	**1.94**	**266**	*i* PN	**Pn**	**05 51 09.2**	**+0.3**
CLL				*i* PG	**Pg**	**05 51 12.8**	**-0.3**
CLL				*i*		05 51 16.6	
CLL				*i* SG	**Sg**	**05 51 38.7**	**-0.2**
CLL	**Collm**	**1.94**	**266**	*i* Pn	**Pn**	**05 51 09.2**	**+0.3**
CLL				*i* Pg	**Pg**	**05 51 12.8**	**-0.3**
CLL				*i* Sg	**Sg**	**05 51 38.7**	**-0.2**
OKC	**Ostrava-Krasne**	**2.10**	**141**	*e*PG	**Pg**	**05 51 15.1**	**-1.2**
OKC				*e*SG	**Sg**	**05 51 42.4**	**-1.9**
VRAC	**Vranov**	**2.19**	**171**	Pn	**Pn**	**05 51 14.2**	**+1.7**
	1.6nm,0.3s,baz=341,slow=17,SNR=5.4						
VRAC				Lg		05 51 46.0	
	3.7nm,0.3s,baz=82,slow=23,SNR=7.0						
TANN	**Tannenbergstha**	**2.53**	**247**	*e*Pn	**Pn**	**05 51 19.2**	**+1.9**
TANN				*e*Sg	**Sg**	**05 51 58.4**	**0.0**
WERD	**Werda**	**2.60**	**248**	*e*Pg	**Pg**	**05 51 25.2**	**-1.1**
WERD				*e*Sg	**Sg**	**05 52 00.5**	**-0.5**
NKC	**Novy Kostel**	**2.62**	**243**	*e*PG	**Pg**	**05 51 27.3**	**+0.6**
NKC				*e*SG	**Sg**	**05 52 02.1**	**+0.5**
GUNZ	**Gunzen**	**2.62**	**246**	*e*Sg	**Sg**	**05 52 00.5**	**-1.2**
OJC	**Ojcow**	**2.67**	**117**	*i* PG	**Pg**	**05 51 27.3**	**-0.3**
OJC				*i* SG	**Sg**	**05 52 02.4**	**-0.8**
OJC	**Ojcow**	**2.67**	**117**	*e*Pg	**Pg**	**05 51 27.3**	**-0.3**
OJC				*i* Sg	**Sg**	**05 52 02.4**	**-0.8**
KHC	**Kasperske Hory**	**2.84**	**215**	*e*PN	**Pn**	**05 51 22.8**	**+0.9**
KHC				*e*PG	**Pg**	**05 51 28.9**	**-2.3**
KHC				*e*SG	**Sg**	**05 52 07.5**	**-1.6**
MOX	**Moxa**	**2.94**	**255**	*e*Pg	**Pg**	**05 51 30.7**	**-2.4**
MOX				*e*Sg	**Sg**	**05 52 12.2**	**-0.1**
MOX	**Moxa**	**2.94**	**255**	*e*Pg	**Pg**	**05 51 31.8**	**-1.3**
MOX				*e*Sg	**Sg**	**05 52 11.6**	**-0.7**
GEC2	**GERESS Array S**	**3.05**	**211**	*e*Pn	**Pn**	**05 51 26.8**	**+2.1**
GEC2	**GERESS Array S**	**3.05**	**211**	*e*Pn	**Pn**	**05 51 26.8**	**+2.1**
GERES	**GERESS Array B**	**3.05**	**211**	Pn	**Pn**	**05 51 26.7**	**+2.0**
	1.5nm,0.3s,baz=31,slow=12,SNR=18						
GERES				Pg	**Pg**	**05 51 32.8**	**-2.4**
	2.9nm,0.3s,baz=29,slow=17,SNR=19						
GERES				Lg		05 52 13.5	
	2.4nm,0.3s,baz=30,slow=26,SNR=7.0						
GERES	**GERESS Array B**	**3.05**	**211**	Pn	**Pn**	**05 51 26.7**	**+2.0**

GERES				Pg	Pg	05 51 32.8	-2.4
GERES				Lg		05 52 13.5	
GRF	Grafenberg Arr	3.58	242	eSg	Sg	05 52 31.7	-1.8
MOA	Molln	3.82	199	⇑iPN	Pn	05 51 36.9	+1.2
MOA				iSG	Sg	05 52 40.7	-0.7
	9.6nm,0.5s						
CRVS	Cervenica-Dubn	4.31	125	ePG	Pg	05 51 59.1	-1.3
AKASG	Malin Array Be	8.31	90	Pn	P	05 52 37.6	-1.4
	0.9nm,0.3s,baz=279,slow=12,SNR=5.5						
FINES	FINESS Array B	11.40	25	Pn	P	05 53 17.1	-4.3
	0.1nm,0.3s,baz=201,slow=12,SNR=3.8						

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*MDD **22** 05:59:14.8±2.9, 35.45N×11.83W, h30^{km}, mb4.2/6, Error ellipse: s-maj=30.3km s-min=24.5km az=128.0, PRXIMO*

INMG 22 05:59:16.3±0.8**, 35.60N×11.59W, ML1.9, Error ellipse: s-maj=9.3km s-min=6.0km az=130.0, Azores-Cape St. Vincent Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PTEO	Sao Teotonio	3.02	49	ePn	Pn	06 00 03.5	-2.8
PTEO				eSn	Sn	06 00 38.9	-4.8
	2.9nm,0.1s						
PTEO	Sao Teotonio	3.02	49	Pn	Pn	06 00 03.5	-2.8
PTEO				Sn	Sn	06 00 38.9	-4.8
	1.4nm,0.1s						
PALC	Alcoutim	3.81	59	ePn	Pn	06 00 14.3	-3.1
PALC				eSn	Sn	06 00 57.4	-6.2
	2.7nm,0.3s						
PALC	Alcoutim	3.81	59	Pn	Pn	06 00 14.3	-3.1
PALC				Sn	Sn	06 00 57.4	-6.2
	1.4nm,0.3s						
PBEJ	Beja	3.85	50	ePn	Pn	06 00 14.8	-3.3
PBEJ				eSn	Sn	06 00 58.1	-6.6
MOE	Montemor	3.91	41	ePn	Pn	06 00 15.7	-3.2
MOE				eSn	Sn	06 00 59.3	-6.8
EMIN	Mina Concepcio	4.51	60	P	Pn	06 00 23.1	-4.4
	0.9nm,0.1s,SNR=9.5						
EMIN				S	Sn	06 01 13.6	-7.8
	0.5nm,0.1s						
ESPR	Espera	4.81	73	P	Pn	06 00 27.4	-4.3
	6.1nm,0.2s,SNR=7.1						
ESPR				S	Sn	06 01 21.1	-7.9
	3.7nm,0.2s,SNR=4.0						
EBAD	Badajoz	4.83	48	P	Pn	06 00 27.2	-4.8
	1.4nm,0.1s,SNR=6.7						
EBAD				S	Sn	06 01 21.8	-7.7
	1.9nm,0.2s,SNR=7.9						
EADA	Adamuz	6.18	63	P	Pn	06 00 46.2	-4.9
	0.8nm,0.1s,SNR=8.4						
EADA				S	Sn	06 01 53.5	-10
	3.7nm,0.9s						
ELOB	Lobios	6.84	23	S	Sn	06 02 08.8	-11
	1.1nm,0.2s,SNR=4.0						
ESDC	Sonseca Array	7.29	54	P	Pn	06 01 01.7	-5.1
	1.4nm,0.2s,baz=236,slow=13,SNR=4.0						
ECAL	Calabor	7.38	29	S	Sn	06 02 21.2	-12
	1.0nm,0.4s,SNR=4.0						
ERUA	La Rua	7.62	26	P	Pn	06 01 05.8	-5.5
	0.8nm,0.2s,SNR=4.0						
ERUA				S	Sn	06 02 27.8	-12
	3.0nm,0.3s,SNR=4.0						

IDC 22 05:59:55.6±3.2**, 30.32S×138.49E, mb1 3.1**/3**, mb1mx3.1**/8**, ML2.7**/3**, Error ellipse: s-maj=77.8km s-min=16.3km az=43.0, South Australia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	3.08	121	Pn	Pn	06 00 45.1	-1.4
	0.3nm,0.3s,baz=309,slow=14,SNR=4.9						
STKA				Pg	Pg	06 00 53.3	-3.8
	1.6nm,0.3s,baz=302,slow=13,SNR=18						
STKA				Lg		06 01 32.5	
	2.1nm,0.3s,baz=200,slow=22,SNR=9.3						
ASAR	Alice Springs	7.79	327	Pn	Pn	06 01 50.3	-2.7
	0.1nm,0.3s,baz=150,slow=11,SNR=6.9						
ASAR				Sn	Sn	06 03 21.6	-1.3
	0.1nm,0.3s,baz=152,slow=22,SNR=4.7						
WRA	Warramunga Arr	11.00	339	Pn	P	06 02 33.5	-3.8
	0.1nm,0.3s,baz=156,slow=14,SNR=6.7						

CASC 22 06:02:53.0±2.4**, 11.97N×88.30W, h4^{km}±9^{km}, MD3.8, 3C-2D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CNCH	Conchagua	1.38	19	⇑eP	Pb	06 03 17.9	-1.1
LEON	Leon	1.45	72	⇑eP	Pn	06 03 18.6	-1.5
BLLM	Bellamira	1.46	2	eP	Pn	06 03 20.4	+0.1
BLLM				eS	Sb	06 03 41.4	+2.0
TELN	Telica	1.57	66	eP	Pn	06 03 19.9	-1.9
TELN				eS	Sb	06 03 42.6	+0.2
MIRN	Miramar	1.62	73	eP	Pn	06 03 21.2	-1.4
COPN	Copaltepe	1.69	83	⇓eP	Pn	06 03 22.4	-1.1
COPN				eS	Sb	06 03 46.6	+0.8
MOMJ	Momotombo	1.78	76	⇓eP	Pn	06 03 23.4	-1.4
MOMJ				eS	Sn	06 03 48.6	+0.5
CAHU	Cacacuatique	1.79	3	eP	Pn	06 03 23.8	-1.2
LCBS	La Ceiba	1.80	339	eP	Pn	06 03 24.8	-0.3
LCBS				eS	Sn	06 03 50.5	+1.9
LFRS	El Faro	1.80	336	eP	Pn	06 03 24.8	-0.3
LFRS				eS	Sn	06 03 47.9	-0.8
LBRS	Las Brisas	1.90	338	eP	Pn	06 03 27.7	+1.2
XAVN	Gruta Xavier	1.94	85	eP	Pn	06 03 26.9	-0.2
BOQS	Boqueron	2.00	332	eP	Pn	06 03 28.0	+0.1
MGAN	Managua	2.02	85	eP	Pn	06 03 27.2	-1.0
MGAN				eS	Sn	06 03 55.0	+0.7
TICN	Ticuantepe	2.03	88	eP	Pn	06 03 28.0	-0.4
TICN				eS	Sn	06 03 56.0	+1.5
SBLS	San Blas	2.26	325	⇑eP	Pn	06 03 31.2	-0.5
SBLS				eS	Sn	06 03 59.6	-0.8
PYTN	Playitas	2.27	75	eP	Pn	06 03 31.0	-0.8
SNJE	San Jose	2.27	326	eP	Pn	06 03 31.7	-0.2
RTR	El Retiro	2.32	326	eP	Pn	06 03 32.6	+0.1
RTR				eS	Sn	06 04 00.7	-1.2
MTO2	Montecristo 2	2.62	337	eP	Pn	06 03 37.8	+0.8
MTO2				eS	Sn	06 04 13.4	+3.8
CONN	Concepcion	2.65	98	eP	Pn	06 03 36.4	-0.9

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*STR **22** 06:16:09.7±0.2, 42.35N×2.14E, h2^{km}±1^{km}, Ml2.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*NEIC **22** 06:16:09.7, 42.35N×2.14E, h2^{km}, ML2.6(STR), After STR.*

*MDD **22** 06:16:10.2±0.4, 42.34N×2.14E, mbLg1.5/4, Error ellipse: s-maj=3.8km s-min=2.6km az=155.0, PRXIMO AftershockPLICA*

ISC 22 06:16:08.4±0.8**, 42.32N**±0.05×**2.19E**±0.06**, h10^{km}, n10, σ0^{s}73**/14**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VALF	Valcebollere	0.15	303	Pg	Pg	06 16 11.9	0.0
VALF				Sg	Sg	06 16 13.7	-0.5
VALF	Valcebollere	0.15	303	P	Pg	06 16 12.1	+0.2
VALF				S	Sg	06 16 13.8	-0.4
FILF	Fillols	0.37	49	Pg	Pg	06 16 15.5	-0.4
FILF				Sg	Sg	06 16 19.6	-1.4
FILF	Fillols	0.37	49	P	Pg	06 16 15.6	-0.3
FILF				S	Sg	06 16 19.9	-1.0
CARF	Carcanieres	0.40	351	P	Pg	06 16 17.3	+0.7
CARF				S	Sg	06 16 22.5	+0.4
EJON	La Jonquera	0.54	76	Pg	Pg	06 16 20.6	+1.4
	0.8nm,0.1s,SNR=7.9						
EJON				Lg		06 16 28.2	
	1.8nm,0.2s,SNR=7.9						
EMIR	Miracle	0.64	231	Pg	Pg	06 16 21.5	+0.2
	1.2nm,0.1s,SNR=7.9						
EMIR				Lg		06 16 30.7	
	6.9nm,0.3s,SNR=7.1						
EMIR	Miracle	0.64	231	Pg	Pg	06 16 21.5	+0.2
EMIR				Lg		06 16 30.7	
EPOB	Poblet	1.27	221	Pg	Pg	06 16 33.2	-0.7
	1.9nm,0.1s,SNR=8.7						
EPOB				Lg		06 16 49.9	
	4.2nm,0.3s,SNR=14						
ESAC	San Caprasio	2.07	254	Lg		06 17 14.5	
	9.1nm,0.3s,SNR=4.0						

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*STR **22** 06:16:56.9±0.5, 42.82N×1.49W, h5^{km}±1^{km}, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LDG **22** 06:16:59.1±1.6, 42.88N×1.40W, h2^{km}, Md2.5/1, Ml2.4/1, Error ellipse: s-maj=29.3km s-min=15.5km az=54.0*

*MDD **22** 06:16:59.1±0.7, 42.87N×1.38W, h3^{km}±14^{km}, mbLg1.7/5, Error ellipse: s-maj=6.0km s-min=3.0km az=44.0, PRXIMO AftershockPLICA*

ISC 22 06:16:56.7±1.0**, 42.82N**±0.05×**1.43W**±0.07**, h13^{km}**±8^{km}**, n8, σ0^{s}72**/14**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	Ste Jean	0.33	27	ePg	Pg	06 17 04.2	+0.4
SJPF				eSg	Sg	06 17 07.0	-1.4
	37nm,0.3s						
LARF	Larrau	0.39	56	Pg	Pg	06 17 05.0	+0.1
LARF				Sg	Sg	06 17 11.3	+0.9
EALK	Alkurruntz	0.41	352	Pg	Pg	06 17 05.5	+0.4
	4.4nm,0.1s,SNR=7.8						
EALK				Lg		06 17 11.0	
	14nm,0.1s,SNR=13						
OSSF	Osses	0.46	16	Pg	Pg	06 17 06.0	-0.1
OSSF				Sg	Sg	06 17 12.3	-0.1
ETSF	Etsaut	0.65	82	ePg	Pg	06 17 09.8	0.0
ETSF				eSg	Sg	06 17 18.5	0.0
ETSF				eSn	Sn	06 17 20.6	-0.7
	6.2nm,0.3s						
ESAC	San Caprasio	1.30	147	Lg		06 17 40.9	
	19nm,0.2s,SNR=7.9						
EPF	Esparros	1.32	80	ePn	Pn	06 17 21.9	+1.0
EPF				ePg	Pg	06 17 24.3	+1.2
EPF				eSg	Sg	06 17 40.0	-0.8
	6.7nm,0.2s						
ETOR	Torete	2.05	193	Pg	Pg	06 17 36.9	-0.8
	1.6nm,0.3s,SNR=6.7						
ETOR				Lg		06 18 01.9	
	2.7nm,0.3s,SNR=7.9						

IDC 22 06:17:26.0±5.8**, 26.20S×70.71E, mb3.8**/4**, mb1 4.0**/4**, mb1mx3.7**/15**, MS3.5**/1**, Ms1 3.7**/1**, ms1mx3.2**/19**, Error ellipse: s-maj=158.0km s-min=38.4km az=56.0, Indian Ocean Triple Junction**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	52.18	35	P	P	06 26 38.5	-2.5
	0.5nm,0.4s,baz=228,slow=7.1,SNR=4.5						
CMAR				LR	LR	06 46 12.0	
	comp=Z,52nm,20.1s,baz=125,slow=33						
ASAR	Alice Springs	56.86	102	P	P	06 27 12.8	-2.2
	0.5nm,0.5s,baz=249,slow=6.4,SNR=7.3						
WRA	Warramunga Arr	58.38	98	P	P	06 27 23.6	-2.2
	0.7nm,0.7s,baz=252,slow=7.4,SNR=3.8						
MKAR	Makanchi Array	73.40	8	P	P	06 28 59.9	-1.8
	0.9nm,0.8s,baz=191,slow=6.2,SNR=4.6						

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*LDG **22** 06:17:31.5±0.2, 42.31N×2.16E, h4^{km}, Md2.4/3, Ml2.4/7, Error ellipse: s-maj=5.0km s-min=1.9km az=157.0*

*STR **22** 06:17:31.3±0.6, 42.34N×2.15E, h5^{km}±1^{km}, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*NEIC **22** 06:17:31.3, 42.34N×2.15E, h5^{km}, ML2.5(STR), ML2.4(LDG), MN2.0(MDD), After STR.*

*MDD **22** 06:17:32.0±0.4, 42.34N×2.14E, h4^{km}±8^{km}, mbLg1.7/11, Error ellipse: s-maj=3.8km s-min=2.4km az=156.0, PRXIMO AftershockPLICA*

ISC 22 06:17:29.7±0.7**, 42.34N**±0.04×**2.17E**±0.03**, h11^{km}**±5^{km}**, n18, σ1^{s}20**/33**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VALF	Valcebollere	0.13	298	Pg	Pg	06 17 34.0	+1.0
VALF				Sg	Sg	06 17 35.8	+0.6
VALF	Valcebollere	0.13	298	P	Pg	06 17 34.1	+1.1
VALF				S	Sg	06 17 35.8	+0.6
FILF	Fillols	0.36	52	Pg	Pg	06 17 37.3	+0.1
FILF				Sg	Sg	06 17 41.7	-0.4
FILF	Fillols	0.36	52	P	Pg	06 17 37.4	+0.2
FILF				S	Sg	06 17 41.6	-0.6
CARF	Carcanieres	0.38	352	P	Pg	06 17 39.2	+1.7
CARF				S	Sg	06 17 44.2	+1.5
EJON	La Jonquera	0.54	78	Pg	Pg	06 17 42.5	+1.8
	1.1nm,0.1s,SNR=9.7						
EJON				Lg		06 17 49.9	
	6.5nm,0.1s,SNR=5.0						
EMIR	Miracle	0.64	229	Pg	Pg	06 17 43.4	+0.7
	3.2nm,0.1s,SNR=6.4						
EMIR				Lg		06 17 52.8	
	8.1nm,0.1s,SNR=5.6						
SALF	Salau	0.84	300	Pg	Pg	06 17 47.0	+0.4
SALF				Sg	Sg	06 17 58.7	+0.8
SALF	Salau	0.84	300	P	Pb	06 17 47.1	+1.2
SALF				S	Sb	06 17 58.2	+1.3
MTLF	Montolieu	1.00	2	ePg	Pg	06 17 51.0	+1.2
MTLF				eSg	Sg	06 18 04.1	+0.9
	9.7nm,0.3s						
EPOB	Poblet	1.28	220	Pg	Pg	06 17 55.0	-0.4
	2.8nm,0.1s,SNR=8.4						
EPOB				Lg		06 18 11.9	
	8.9nm,0.2s,SNR=5.0						
EPF	Esparros	1.52	298	ePg	Pg	06 17 59.7	-0.4
EPF				eSg	Sg	06 18 20.2	-0.2
	7.4nm,0.3s						
ESAC	San Caprasio	2.06	253	Pg	Pg	06 18 09.8	-1.2
	11nm,0.2s,SNR=4.0						
ESAC				Lg		06 18 36.3	
	10nm,0.2s,SNR=7.9						
ETSF	Etsaut	2.09	286	ePg	Pg	06 18 10.4	-1.2
ETSF				eSg	Sg	06 18 37.8	-1.7
	8.1nm,0.4s						
LASF	Ste Croix	2.13	35	ePn	Pn	06 18 06.4	+0.7
LASF				ePg	Pg	06 18 11.3	-0.9
LASF				eSg	Sg	06 18 40.2	-0.4
	3.6nm,0.3s						
CAF	Calviac	2.58	358	ePg	Pg	06 18 19.8	-1.6
CAF				eSg	Sg	06 18 53.2	-2.7
	5.4nm,0.3s						
SJPF	Ste Jean	2.62	288	ePn	Pn	06 18 13.0	+0.2
SJPF				ePg	Pg	06 18 20.1	-2.0
SJPF				eSg	Sg	06 18 53.5	-3.5
	2.4nm,0.4s						
VIVF	Saint-Julien-l	3.10	35	eSg	Sg	06 19 10.7	-2.3
	3.7nm,0.4s						

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*KRSC **22** 06:21:42.6±0.7, 55.62N×161.79E, h87^{km}±3^{km}, ML4.0*

*IDC **22** 06:21:48.1±9.8, 55.86N×162.72E, h71^{km}±65^{km}, mb3.1/3, mb1 3.6/4, mb1mx3.3/23, ML3.4/1, Error ellipse: s-maj=114.0km s-min=57.9km az=45.0*

ISC 22 06:21:43.2±0.4**, 55.62N**±0.03×**161.83E**±0.05**, h84^{km}**±5^{km}**, n32, σ0^{s}94**/57**, mb3.3**/3**, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZLN	Zelenaya	0.70	305	iP	P	06 21 59.5	+0.1
ZLN				iS	S	06 22 12.2	+0.8
CIRR	Tsirk	0.79	310	iP	P	06 22 00.4	+0.1
CIRR				iS	S	06 22 13.4	+0.4
LGNR	Loginova	0.79	306	iP	P	06 22 00.7	+0.3
LGNR				eS	S	06 22 14.0	+0.9
KBG	Krutoberegovo	0.81	37	eP	P	06 22 00.5	0.0
KBG				eS	S	06 22 13.5	+0.1
KBG				Smax			
	2µm,0.7s						
KBTR	Krutoberegovo	0.81	43	eP	P	06 22 01.0	+0.4
KBTR				eS	S	06 22 14.7	+1.2
KMNR	Kamenistaya	0.91	279	iP	P	06 22 01.5	-0.1
KMNR				eS	S	06 22 15.8	+0.3
KRSR	Krestovskiy	0.93	311	eP	P	06 22 01.6	-0.3
KRSR				eS	S	06 22 14.7	-1.2
KLY	Klyuchi	0.96	317	iP	P	06 22 01.1	-1.1
KLY				iS	S	06 22 14.8	-1.7
KPT	Kopyto	0.97	292	eP	P	06 22 02.2	-0.2
KPT				eS	S	06 22 16.7	-0.1
TUMR	Tumrok	1.02	251	iP	P	06 22 03.1	+0.2
TUMR				iS	S	06 22 17.9	+0.2
SVLR	Shiveluch	1.02	341	eP	P	06 22 03.5	+0.6
SVLR				eS	S	06 22 19.1	+1.3
MKZ	Mys Kozlova	1.07	183	eP	P	06 22 03.1	-0.4
MKZ				eS	S	06 22 18.5	-0.3
KOZ	Kozyrevsk	1.19	293	iP	P	06 22 05.1	+0.1
KOZ				iS	S	06 22 21.9	+0.5
SRDR	Sredinnyy	1.38	301	eP	P	06 22 07.1	-0.5
SRDR				eS	S	06 22 25.1	-0.5
ESO	Esso	1.79	281	P	P	06 22 11.6	-1.4
ESO				eS	S	06 22 33.1	-1.9
ESO				Smax			
	150nm,0.6s						
KII	Karymskiy	2.10	222	eP	P	06 22 17.3	+0.1
KII				eS	S	06 22 42.7	+0.4
BKI	Bering	2.40	98	iP	P	06 22 21.2	-0.1
BKI				iS	S	06 22 48.8	-0.9
BKI				Smax			
	110nm,0.4s						
SPN	Mys Shipunski	2.74	203	iP	P	06 22 25.0	-1.1
SPN				eS	S	06 22 56.3	-1.9
NLC	Nalytchevo	2.85	212	eP	P	06 22 26.9	-0.8
NLC				eS	S	06 23 00.1	-0.9
SDLR	Sedlovina	2.91	217	P	P	06 22 30.0	+1.5
SDLR				eS	S	06 23 02.8	+0.4
SMAR	Somma	2.95	218	eP	P	06 22 29.7	+0.7
SMAR				eS	S	06 23 03.6	+0.2
GNL	Ganaly	2.97	231	eP	P	06 22 29.7	+0.4
AVH	Avacha	2.97	219	P	P	06 22 29.3	0.0
AVH				eS	S	06 23 03.7	-0.2
KOK	Koryaka	2.99	220	eS	S	06 23 03.1	-1.2
UGLR	Uglovaya	2.99	217	P	P	06 22 32.2	+2.7
UGLR				eS	S	06 23 07.5	+3.2
PET	Petropavlovsk	3.20	217	eS	S	06 23 10.3	+0.7
RUS	Russkaya	3.74	213	eP	P	06 22 41.6	+1.6
RUS				eS	S	06 23 23.7	+0.6
GRL	Gorelyy	3.79	217	P	P	06 22 44.0	+3.4
FX1	Attu Island--F	7.18	108	P	P	06 23 25.0	-2.5
	2.7nm,0.3s,baz=163,slow=24,SNR=22						
FX1				S	S	06 24 41.3	-6.9
	3.5nm,0.3s,baz=90,slow=18,SNR=9.1						
ILAR	Eielson Array	26.35	49	P	P	06 27 12.1	-0.5
	0.6nm,1.1s,mb2.9,baz=268,slow=9.2,SNR=4.6						
NVAR	Mina Array Bea	53.98	73	P	P	06 31 01.2	+0.8
	0.4nm,0.7s,mb3.6,baz=315,slow=6.3,SNR=3.9						
TXAR	Lajitas Array	68.75	69	P	P	06 32 40.5	+0.7
	0.3nm,0.6s,mb3.3,baz=315,slow=3.5,SNR=4.3						

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*NEIC **22** 06:27:36.6, 17.46N×94.78W, h151^{km}, MD3.8(MEX), After MEX.*

MEX 22 06:27:37.2±1.0**, 17.50N×94.84W, h147^{km}**±10^{km}**, MD3.9, 3C, Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.41	186	⇑iP	P	06 27 56.5	-1.8
CMIG				iS	S	06 28 10.9	-3.4
TUIG	Tuzandepetl	0.66	37	iP	P	06 27 57.4	-2.1
TUIG				iS	S	06 28 14.2	-2.5
OXX	Oaxaca	1.85	257	iP	P	06 28 09.0	-1.7
OXX				iS	S	06 28 35.0	-1.4
VHO	Vista Hermosa	1.86	257	⇑iP	P	06 28 10.0	-0.8
VHO				iS	S	06 28 35.3	-1.3
VHO	Vista Hermosa	1.86	257	⇑iP	P	06 28 10.0	-0.8
VHO				iS	S	06 28 36.0	-0.6
HUIG	Huatulco	2.11	215	iP	P	06 28 11.3	-2.5
HUIG				iS	S	06 28 39.2	-2.6
IISM	Ciudad Serdan	2.83	302	iP	P	06 28 21.5	-1.5
IISM				iS	S	06 28 54.0	-3.9

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*IDC **22** 06:43:28.7±0.8, 20.34S×173.97W, mb4.3/10, mb1 4.6/12, mb1mx4.5/17, ML4.5/2, Error ellipse: s-maj=40.7km s-min=17.4km az=145.0*

*BJI **22** 06:43:30.8, 20.20S×174.10W, h12^{km}, mB4.8, mb4.6, Ms4.6, Msz4.4*

*NEIC **22** 06:43:30.8±10.0, 20.25S×174.05W, h12^{km}±61^{km}, mb4.6/13, Error ellipse: s-maj=12.7km s-min=9.8km az=135.0*

*SYO **22** 06:43:30.6, 20.15S×174.14W, h10^{km}, MB4.5*

ISC 22 06:43:29.0±0.3**, 20.30S**±0.08×**174.09W**±0.09**, h10^{km}, n46, σ0^{s}78**/41**, mb4.4**/22**, 3C-3D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAR	Rarotonga	13.43	96	Pn	P	06 46 27.8	-14
	2.2nm,0.3s,baz=222,slow=6.1,SNR=9.3						
RAR	Rarotonga	13.43	96	eP	P	06 46 29.0	-13
URZ	Urewera	19.46	201	P	P	06 47 58.1	-0.6
	1.3nm,0.3s,baz=343,slow=11,SNR=5.0						
CTA	Charters Tower	37.16	263	P	P	06 50 43.8	+1.7
	6.6nm,0.8s,mb4.5,baz=115,slow=15,SNR=5.6						
CTAO	Charters Tower	37.16	263	eP	P	06 50 42.7	+0.6
	7.1nm,0.9s,mb4.5						
STKA	Stephens Creek	41.18	245	P	P	06 51 15.7	+0.3
	3.0nm,0.7s,mb4.0,baz=54,slow=11,SNR=4.7						
STKA	Stephens Creek	41.18	245	eP	P	06 51 15.8	+0.3
ASAR	Alice Springs	48.13	256	P	P	06 52 11.0	-0.4
	3.9nm,0.9s,mb4.5,baz=87,slow=8.3,SNR=29						
WRAB	Tennant Creek	48.25	261	eP	P	06 52 10.8	-1.6
	12nm,1.1s,mb4.8						
WRA	Warramunga Arr	48.26	261	P	P	06 52 11.5	-0.9
	3.3nm,0.8s,mb4.4,baz=96,slow=7.3,SNR=16						
SBA	Scott Base	58.34	185	eP	P	06 53 27.4	+1.1
	13nm,1.4s,mb4.8						
MBWA	Marble Bar	61.47	256	eP	P	06 53 47.5	-1.0
	4.5nm,0.7s,mb4.7						
QSPA	South Pole Qui	69.77	180	eP	P	06 54 40.6	-0.4
	8.9nm,1.1s,mb4.6						
NVAR	Mina Array Bea	78.40	42	P	P	06 55 31.3	-0.3
	3.8nm,0.8s,mb4.4,baz=216,slow=7.4,SNR=17						
MNV	Mina	78.50	42	eP	P	06 55 31.4	-0.8
	9.4nm,1.3s,mb4.6						
TPNV	Topopah Spring	78.82	44	eP	P	06 55 33.4	-0.5
	3.8nm,1.0s,mb4.3						
TPH	Tonopah	78.86	42	eP	P	06 55 33.7	-0.4
	4.9nm,1.0s,mb4.4						
TUC	Tucson	80.00	50	eP	P	06 55 40.6	+0.1
SSE	Sheshan	80.41	308	eP	P	06 55 42.6	0.0
SSE				AMB	AMB		
	comp=Z,73nm,6.7s						
WVOR	Wild Horse Val	80.66	38	eP	P	06 55 43.1	-0.7
	comp=Z,3.1nm,0.9s,mb4.2						
ELK	Elko	81.68	41	eP	P	06 55 48.6	-0.5
	comp=Z,1.5nm,0.9s,mb3.9						
MSU	Marysvale	82.37	44	eP	P	06 55 53.4	+0.7
MDJ	Mudanjiang	82.50	323	P	P	06 55 53.8	+0.5
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.2s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,55nm,7.9s						
MDJ	Mudanjiang	82.50	323	P	P	06 55 53.5	+0.2
NJ2	Nanjing	82.61	308	eP	P	06 55 54.8	+0.7
NJ2				AP	pP	06 55 59.8	+2.5
NJ2				XP	sP	06 56 01.8	+3.5
NJ2				PP	PP	06 59 06.9	+1.2
NJ2				S	S	07 06 11.0	+1.1
NJ2				XS		07 06 19.0	
MAW	Mawson	82.97	199	P	P	06 55 55.0	-0.2
	comp=Z,1.7nm,0.8s,mb4.1,baz=128,slow=11,SNR=4.8						
MAW	Mawson	82.97	199	eP	P	06 55 55.7	+0.5
	comp=Z,2.8nm,0.9s,mb4.3						
TXAR	Lajitas Array	83.89	56	P	P	06 56 00.7	-0.1
	comp=Z,1.2nm,0.9s,mb4.0,baz=211,slow=7.3,SNR=10						
PV10	Paradox Valley	84.38	46	eP	P	06 56 02.8	-0.2
CN2	Changchun	84.42	321	eP	P	06 56 03.6	+0.5
MCMT	McKenzie Canyo	85.47	39	eP	P	06 56 08.7	+0.5
MCK	McKinley	86.03	11	eP	P	06 56 10.5	-0.1
PDAR	Pinedale Array	86.34	42	P	P	06 56 12.3	-0.4
	comp=Z,1.3nm,1.1s,mb4.1,baz=214,slow=5.3,SNR=5.3						
SDCO	Great Sand Dun	86.48	48	P	P	06 56 14.0	+0.5
	comp=Z,3.3nm,1.3s,mb4.4						
COLA	College	87.27	11	eP	P	06 56 17.0	+0.3
	comp=Z,5.7nm,0.9s,mb4.8						
ILAR	Eielson Array	87.35	11	P	P	06 56 17.3	+0.2
	comp=Z,1.0nm,0.8s,mb4.1,baz=221,slow=6.0,SNR=9.5						
SYO	Syowa Base	87.69	192	⇑P	P	06 56 18.1	-0.5
SYO	Syowa Base	87.69	192	⇓PcP	PcP	06 56 20.2	-0.8
SYO	Syowa Base	87.69	192	⇓pP	pP	06 56 23.4	+1.5
VNA3	Neumayer Olymp	88.06	175	⇑i	P	06 56 22.1	+1.7
SNAA	Sanae	88.08	177	⇓i	P	06 56 18.8	-1.6
VNA2	Neumayer--Watz	88.55	176	⇑i	P	06 56 24.0	+1.3
CMAR	Chiang Mai Arr	93.52	288	P	P	06 56 48.4	+1.5
	comp=Z,0.6nm,0.4s,mb4.4,baz=111,slow=2.5,SNR=4.7						
BRG	Berggiesshubel	148.83	350	ePKP	PKPdf	07 03 21.0	+5.2
BRTR	Keskin Array B	149.35	315	PKPbc	PKPdf	07 03 20.6	+3.7
	comp=Z,0.6nm,0.7s,baz=135,slow=2.0,SNR=3.6						

GERES	GERESS Array B	150.84	349	PKPbc	PKPdf	07 03 22.9	+3.9
	comp=Z,1.3nm,0.8s,baz=63,slow=3.0,SNR=3.8						

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*NEIC **22** 06:57:11.5,54.88N×158.57W,h5^{km},ML3.5(AEIC),After AEIC.*

*IDC **22** 06:57:13.6±16.0,55.17N×159.46W,h63^{km}±106^{km}, mb3.1/3,mb1 3.7/5,mb1mx3.3/23,ML3.7/2,MS3.7/1, Ms1 3.7/1,ms1mx2.8/9,Error ellipse: s-maj=204.0km s-min=74.8km az=73.0*

ISC 22 06:57:09.2±0.7,**54.91N**±0.08×**158.53W**±0.06,**h5^{km},n19,** σ**0^{s}67**/21,**mb3.3**/3,**MS3.7**/1,**South of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SDPT	Sand Point	1.20	292	P	Pb	06 57 31.4	-0.7
SDPT				S	Sb	06 57 48.1	+0.4
PS1A	Pavlof South-1	1.91	287	P	Pn	06 57 42.5	-0.2
PVV	Pavlof Volcano	1.93	285	P	Pn	06 57 42.7	-0.3
PVV				S	Sn	06 58 08.2	+0.3
DOL	Dolgoi Island	1.93	278	P	Pn	06 57 43.4	+0.3
ANPK	Aniakchak Peak	1.95	7	P	Pn	06 57 43.8	+0.6
PN7A	Pavlof North-7	2.06	286	P	Pn	06 57 45.3	+0.4
DRIA	Deer Island	2.15	273	P	Pn	06 57 46.2	-0.1
DTNA	Dutton South F	2.15	278	P	Pn	06 57 45.9	-0.4
DT1	Dutton Round H	2.17	277	P	Pn	06 57 46.2	-0.3
CAHL	Cahill	3.62	28	P	Pn	06 58 08.0	+0.9
MGLS	Mageik LS	3.75	27	P	Pn	06 58 09.6	+0.6
KABR	Katmai Barrier	3.78	30	P	Pn	06 58 09.5	+0.1
KDAK	Kodiak Island	4.38	47	*e*P	Pn	06 58 18.0	0.0
RSO	Redoubt South	6.37	27	*e*P	Pn	06 58 46.6	+0.6
ILAR	Eielson Array	11.46	26	P	P	06 59 54.5	-2.0
	0.2nm,0.3s,baz=219,slow=13,SNR=21						
INK	Inuvik	17.73	31	P	P	07 01 16.6	-1.5
	0.2nm,0.3s,baz=230,slow=9.0,SNR=7.5						
NVAR	Mina Array Bea	31.61	105	P	P	07 03 35.6	+0.8
	0.4nm,0.6s,mb3.4,baz=311,slow=7.6,SNR=4.5						
PDAR	Pinedale Array	33.75	90	P	P	07 03 53.2	-0.2
	0.4nm,0.5s,mb3.6,baz=311,slow=3.3,SNR=4.3						
TXAR	Lajitas Array	46.52	100	P	P	07 05 39.2	+0.2
	0.1nm,0.5s,mb3.0,baz=301,slow=5.8,SNR=7.8						
TXAR				LR	LR	07 26 50.8	
	comp=Z,73nm,18.0s,MS3.7,baz=200,slow=38						

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*TAP **22** 07:02:00.1,23.74N×121.80E,h33^{km},ML4.0*

TAP Felt III J at Hualien, I J at Nanau, I J at Suao, I J at Mingjian.

*JMA **22** 07:02:01.8±0.2,23.86N×121.86E,h81^{km},M3.4*

ISC 22 07:02:00.7±0.3,**23.75N**±0.02×**121.80E**±0.02,**h37**^{km}±9^{km}, **n57,**σ**0^{s}77**/94,**7C-6D,Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HWA	Hwalien	0.29	321	P	P	07 02 08.5	-0.1
HWA				S	S	07 02 14.7	+0.5
ESL	Shilin	0.35	281	⇓*i*P	P	07 02 08.9	-0.4
ESL				S	S	07 02 15.1	-0.3
TWD	Chiawan	0.38	330	⇓*i*P	P	07 02 09.4	-0.4
TWD				S	S	07 02 15.8	-0.3
EHY	Hungye	0.50	241	⇓*i*P	P	07 02 10.7	-0.7
EHY				S	S	07 02 19.6	+0.6
TWF1	Yuli	0.61	230	⇓*i*P	P	07 02 12.4	-0.5
TWF1				S	S	07 02 20.5	-1.2
ENA	Nanau	0.68	355	*e*P	P	07 02 13.4	-0.5
CHKT	Chengkung	0.76	212	*e*P	P	07 02 14.2	-0.9
CHKT				S	S	07 02 24.1	-1.4
NNS	Nan Shan	0.79	330	⇑*i*P	P	07 02 14.9	-0.6
NNS				S	S	07 02 25.3	-1.0
SMLT	Sun Moon Lake	0.84	279	⇑*i*P	P	07 02 15.7	-0.4
SMLT				S	S	07 02 26.2	-1.2
TWC	Suao	0.86	3	*i* P	P	07 02 16.4	0.0
TWC				S	S	07 02 28.0	+0.1
TYC	Yuchr	0.88	280	⇑*i*P	P	07 02 16.0	-0.7
TYC				S	S	07 02 26.8	-1.7
ELDTW	Lidau	0.91	233	⇓*i*P	P	07 02 16.4	-0.8
ENTT	Nioudou	0.91	346	⇑*i*P	P	07 02 16.8	-0.4
ALS	Alishan	0.95	256	*e*P	P	07 02 17.9	+0.2
ALS				S	S	07 02 29.9	-0.3
TWE	Neicheng	0.98	353	*i* P	P	07 02 17.8	-0.3
TWE				S	S	07 02 30.6	-0.3
WNT	Mingjian	1.03	277	*e*P	P	07 02 19.3	+0.3
WNT				S	S	07 02 32.6	+0.2
CHN5	Tsauling	1.04	262	⇑*i*P	P	07 02 19.2	+0.2
CHN5				S	S	07 02 33.0	+0.3
EGS		1.10	6	*e*P	P	07 02 19.7	-0.1
EGS				S	S	07 02 35.6	+1.6
TCU	Taichung	1.11	291	*e*P	P	07 02 20.5	+0.6
TCU				S	S	07 02 35.1	+0.9
STYT	Tauyuan	1.12	239	⇓*i*P	P	07 02 20.3	+0.1
STYT				S	S	07 02 34.9	+0.2
WGK	Gukeng	1.14	267	*e*P	P	07 02 20.6	+0.2
WGK				S	S	07 02 35.8	+0.7
TWG	Pinlang	1.14	216	*e*P	P	07 02 19.0	-1.5
NSTT	Nanjuang	1.14	320	⇑P	P	07 02 20.7	+0.3
NSTT				S	S	07 02 34.9	-0.4
NSY	Sanyi	1.16	305	P	P	07 02 21.0	+0.3
NSY				S	S	07 02 36.0	+0.4
CHN4	Tsaushan	1.18	251	*e*P	P	07 02 21.4	+0.5
CHN4				S	S	07 02 37.2	+1.1
WTP	Ta-pu	1.20	246	*e*P	P	07 02 21.9	+0.6
TWA	Mucha	1.24	351	*e*P	P	07 02 22.1	+0.2
TWA				S	S	07 02 37.5	-0.2
TWB1	Santiao Chiao	1.27	8	*e*P	P	07 02 22.4	+0.2
CHY	Chiayi	1.29	259	*e*P	P	07 02 22.3	-0.3
HSN	Hsinchu	1.30	324	*e*P	P	07 02 22.8	+0.2
CHN1	Nanshi	1.30	245	*e*P	P	07 02 23.2	+0.6
TWK	Hsinying	1.30	249	⇑P	P	07 02 23.3	+0.5
TWK				S	S	07 02 39.9	+0.7
SGST	Jiashian	1.30	240	*e*P	P	07 02 23.9	+1.1
SGST				S	S	07 02 41.3	+2.0
TAP1	Taipei	1.31	349	*e*P	P	07 02 23.1	+0.2
YOJ	Yonaguni jima	1.31	57	P	P	07 02 23.8	+0.9
YOJ				S	S	07 02 39.8	+0.3
NWF	Wu-fen Shan	1.32	359	P	P	07 02 23.2	+0.2
NWF				S	S	07 02 40.3	+0.7
TWS1	Kuangyinshan	1.39	345	*e*P	P	07 02 23.9	-0.2
WTCT	Ta-ch’eng	1.40	275	*e*P	P	07 02 24.2	0.0
WTCT				S	S	07 02 42.3	+0.6
WSF	Szhu	1.46	266	*e*P	P	07 02 24.9	-0.1
WSF				S	S	07 02 43.7	+0.6
SSD	Sandimen	1.47	227	*e*P	P	07 02 26.1	+1.0
SSD				S	S	07 02 45.5	+2.1
CHN8	Yiju	1.52	255	*e*P	P	07 02 25.8	-0.1
CHN8				S	S	07 02 44.9	+0.3
TWY	Chenhua	1.53	353	*e*P	P	07 02 26.0	-0.1
TWM1	Shoushan	1.57	234	*e*P	P	07 02 26.1	-0.5
SCLT	Jiali	1.58	249	*e*P	P	07 02 20.6	-6.2
SCLT				S	S	07 02 47.1	+0.8
EAST	Anshuo	1.62	213	*e*P	P	07 02 26.9	-0.5
SCZT	Fangliau	1.75	219	*e*P	P	07 02 30.1	+1.0
IRIF	Iriomote-Funau	1.85	71	P	P	07 02 31.2	+0.5
IRIF				S	S	07 02 53.3	+0.2
HATJ	Hateruma jima	1.86	80	P	P	07 02 31.2	+0.5
HATJ				S	S	07 02 53.7	+0.6
HEN	Hengchun	1.99	210	*e*P	P	07 02 33.7	+1.0
TWK1	Hengchun	2.02	207	*e*P	P	07 02 31.1	-1.9
WDGT	Dungji	2.03	257	*e*P	P	07 02 32.2	-1.0
WDGT				S	S	07 02 55.6	-1.9
PNG	Penghu	2.07	265	*e*P	P	07 02 32.3	-1.4
JKRS	Kuro-shima	2.08	76	P	P	07 02 34.5	+0.7
JKRS				S	S	07 02 59.9	+1.2
JIJ	Ishigaki jima	2.22	74	P	P	07 02 35.9	0.0
JIJ				S	S	07 03 01.7	-0.7
JTJ	Tarama	2.79	71	P	P	07 02 43.7	-0.4
JTJ				S	S	07 03 15.7	-1.2
KNM	Kinmen	3.15	283	*e*P	P	07 02 48.2	-1.0
JMJ	Miyako jima 2	3.36	71	*e*S	S	07 03 30.2	-1.0

IDC 22 07:04:33.2±6.3,**40.95N**×**111.00E,mb3.3**/2,**mb1 3.5**/3, **mb1mx3.3**/20,**ML3.1**/1,**Error ellipse: s-maj=141.0km s-min=33.3km az=79.0,Northeastern China**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SONM	Songino Array	7.63	336	Pn	Pn	07 06 25.7	-2.7
	0.1nm,0.3s,baz=166,slow=12,SNR=2.8						
MKAR	Makanchi Array	21.44	295	P	P	07 09 22.9	-2.0
	0.4nm,0.5s,baz=113,slow=9.2,SNR=4.3						
CMAR	Chiang Mai Arr	24.69	208	P	P	07 09 56.0	-1.2
	0.7nm,0.4s,baz=9.5,slow=8.7,SNR=5.2						

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*LDG **22** 07:09:20.7±0.5,42.90N×1.38W,h2^{km},Md2.2/3,Ml2.2/3, Error ellipse: s-maj=9.4km s-min=5.8km az=62.0*

*MDD **22** 07:09:20.4±0.5,42.91N×1.44W,h6^{km}±6^{km},mbLg1.7/9, Error ellipse: s-maj=3.9km s-min=2.5km az=38.0,PRXIMO AftershockPLICA*

ISC 22 07:09:18.1±0.6,**42.83N**±0.03×**1.44W**±0.05,**h6^{km},n13,** σ**1^{s}24**/23,**Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	Ste Jean	0.32	29	*e*Pg	Pg	07 09 25.8	+1.2
SJPF				*e*Sg	Sg	07 09 28.5	-0.4
	76nm,0.3s						
LARF	Larrau	0.39	58	P	Pg	07 09 27.3	+1.4
LARF				S	Sg	07 09 32.6	+1.5
EALK	Alkurruntz	0.39	352	Pg	Pg	07 09 26.8	+0.9
	7.9nm,0.2s,SNR=14						
EALK				Lg		07 09 30.4	
	14nm,0.2s,SNR=14						
OSSF	Osses	0.44	17	P	Pg	07 09 27.8	+0.8
OSSF				S	Sg	07 09 32.3	-0.6
ETSF	Etsaut	0.65	84	*e*Pg	Pg	07 09 31.7	+0.6
ETSF				*e*Sg	Sg	07 09 40.1	+0.4
ETSF				*e*Sn	Sn	07 09 42.2	-1.9
	4.1nm,0.2s						
EPF	Esparros	1.32	81	*e*Pn	Pn	07 09 43.7	+0.6
EPF				*e*Pg	Pg	07 09 45.9	+1.4
EPF				*e*Sg	Sg	07 10 01.7	-0.3
	4.4nm,0.2s						
ESAC	San Caprasio	1.32	147	Pg	Pg	07 09 44.9	+0.3
	SNR=7.9						
ESAC				Lg		07 10 01.9	
	38nm,0.4s,SNR=7.9						
ELAN	Lanestosa	1.52	286	Pg	Pg	07 09 46.7	-1.8
	1.0nm,0.2s,SNR=7.9						
ELAN				Lg		07 10 07.4	
	3.5nm,0.5s,SNR=7.9						
ETOR	Torete	2.06	193	Pn	Pn	07 09 55.3	+1.5
	0.4nm,0.2s,SNR=7.9						
ETOR				Pg	Pg	07 09 59.0	-0.4
	1.8nm,0.3s,SNR=5.3						
ETOR				Lg		07 10 22.4	
	6.2nm,0.4s,SNR=4.0						
EPOB	Poblet	2.39	127	Pg	Pg	07 10 03.8	-1.9
	0.5nm,0.2s,SNR=4.0						
EPOB				Lg		07 10 35.0	
	1.7nm,0.3s,SNR=4.0						
EMOS	Mosqueruela	2.57	163	Lg		07 10 44.0	
	1.0nm,0.2s,SNR=4.0						
LFF	La Frestale	2.63	36	*e*Pn	Pn	07 10 01.0	-0.8
LFF				*e*Sn	Sn	07 10 31.6	-2.8
LFF				*e*Sg	Sg	07 10 40.0	-5.6
	4.3nm,0.4s						
MTLF	Montolieu	2.72	78	*e*Pn	Pn	07 10 03.6	+0.4
MTLF				*e*Sn	Sn	07 10 34.3	-2.6
	2.0nm,0.3s						

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*THE **22** 07:43:04.5,42.51N×21.68E,h8^{km},ML3.8*

*BEO **22** 07:43:05.2±0.6,42.50N×21.64E,h14^{km}±1^{km}*

*SOF **22** 07:43:05.0,42.40N×21.84E,h5^{km},MD3.4*

*PDG **22** 07:43:07.0±0.2,42.61N×21.55E,h13^{km}*

*NEIC **22** 07:43:07.0,42.61N×21.55E,h13^{km},ML3.2(PDG),After PDG.*

NEIC Felt [III] at Skopje, former Yugoslav Republic of Macedonia.

ISC 22 07:43:04.8±0.2,**42.43N**±0.02×**21.70E**±0.02,**h10^{km},n46,** σ**1^{s}09**/73,**16C-1D,Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BARS	Barje	0.40	13	⇑*i*Pg	Pg	07 43 12.0	-0.9
BARS				Sg	Sg	07 43 17.6	-0.7
SKO	Skopje	0.50	203	⇑*i*Pg	Pg	07 43 13.9	-1.0
SKO				*i* Sg	Sg	07 43 20.6	-1.1
SKO				Smax		07 43 25.0	
	comp=Z,0.7nm,0.4s						
VTS	Vitosha	1.12	81	*i* Pg	Pg	07 43 26.0	-1.3
KKB	Krupnik	1.17	118	*i* Pg	Pg	07 43 27.0	-1.2
VAY	Valandovo	1.29	150	*i* Pn	Pn	07 43 28.0	-0.8
PVY	Plav	1.29	278	⇑*i*Pg	Pg	07 43 29.2	-1.3
PVY				*e*Sg	Sg	07 43 46.3	-1.5
IVA	Berane	1.40	289	⇑*i*Pg	Pg	07 43 30.4	-2.5
IVA				*e*Sg	Sg	07 43 49.4	-2.1
BOLS	Boljevac	1.41	8	⇑*i*Pn	Pn	07 43 30.2	-0.4
BOLS				Sn	Sn	07 43 47.6	-1.7
OHR	Ohrid	1.48	207	*i* Pn	Pn	07 43 31.8	+0.1
OHR				*i*		07 43 32.2	
OHR				*i* Sg	Sg	07 43 52.2	-2.1
GRG	Griva	1.56	160	*e*Pb	Pb	07 43 33.0	-0.4
GRG				*e*Sb	Sb	07 43 54.4	+1.2
GRUS	Gruza	1.62	334	⇑*i*Pn	Pn	07 43 33.1	-0.5
GRUS				Sn	Sn	07 43 55.2	+0.4
FNA	Florina	1.67	189	*e*Pb	Pb	07 43 34.3	-0.8
FNA				*e*Sb	Sb	07 43 57.7	+1.7
MMB	Musomiste	1.73	119	*i* P	Pn	07 43 36.0	+0.9
TTG	Podgorica	1.81	271	⇑*i*Pn	Pn	07 43 36.6	+0.3
TTG				*e*Sn	Sn	07 44 00.8	+1.3
NVSS	Nova Varos 2	1.82	307	⇓*i*Pg	Pg	07 43 34.8	-6.4
NVSS				Sn	Sn	07 43 54.9	-4.9
PGB	Panagyurishte	1.82	86	*i* P	Pn	07 43 37.7	+1.2
ULC	Ulcinj	1.88	256	⇑*i*Pn	Pn	07 43 39.1	+1.8
ULC				*e*Sn	Sn	07 44 04.5	+3.2
SVIS	Svilajnac	1.90	349	⇑*i*Pn	Pn	07 43 37.4	-0.1
SVIS				Sn	Sn	07 44 03.4	+1.7
PLE	Pljevlja	1.92	299	⇑*i*Pn	Pn	07 43 38.4	+0.5
PLE				*e*Sn	Sn	07 44 02.1	-0.2
SRS	Serrai	1.93	132	*e*Pn	Pn	07 43 37.8	-0.3
SRS				*e*Sn	Sn	07 44 04.4	+1.9
SOH	Sokhos	2.03	142	*e*Pn	Pn	07 43 39.2	-0.3
SOH				*e*Sn	Sn	07 44 06.6	+1.5
NKY	Niksic	2.03	282	⇑*i*Pn	Pn	07 43 39.9	+0.4
NKY				*e*Sn	Sn	07 44 06.0	+0.9
THE	Thessaloniki	2.03	152	*e*Pn	Pn	07 43 39.1	-0.4
DIVS	Divcibare	2.08	324	*e*Pn	Pn	07 43 39.4	-0.8
DIVS				Sn	Sn	07 44 07.6	+1.2
BUM	Brajici-Budva	2.08	267	⇑*i*Pn	Pn	07 43 41.6	+1.4
BUM				*e*Sn	Sn	07 44 07.8	+1.4
UPM	Unac-Piva	2.19	291	⇑*i*Pn	Pn	07 43 42.2	+0.3
UPM				*e*Sn	Sn	07 44 09.3	0.0
PLD	Plovdiv	2.25	97	*i* P	Pn	07 43 46.5	+3.9
DJES	Djerdap	2.28	15	*e*Pn	Pn	07 43 43.7	+0.7
DJES				Sn	Sn	07 44 13.0	+1.6
RZN	Rozhen	2.36	107	*i* P	Pn	07 43 45.2	+1.0
HCY	Herceg Novi	2.37	271	⇑*i*Pn	Pn	07 43 45.4	+1.0
HCY				*e*Sn	Sn	07 44 14.9	+1.1
BRY	Bratogost	2.38	282	⇑*i*Pn	Pn	07 43 44.5	+0.1
BRY				*e*Sn	Sn	07 44 14.7	+0.8
MEV	Metsovon	2.67	188	*e*Pn	Pn	07 43 48.5	-0.1
OUR	Ouranopolis	2.71	140	*e*Pn	Pn	07 43 48.6	-0.6
PVL	Pavlikeni	2.78	72	P	Pn	07 43 53.7	+3.5
DIM	Dimitrovgrad	2.87	96	*i* P	Pn	07 43 57.5	+6.0
KDZ	Kurdzhali	2.87	105	P	Pn	07 43 51.5	0.0
KDZ				*i* Pg	Pg	07 43 56.0	-6.2
IGT	Igoumenitsa	3.08	200	*e*Pn	Pn	07 43 54.8	+0.3
IGT				*e*Sn	Sn	07 44 31.4	-0.3
SZH	Strazhica	3.22	74	P	Pn	07 43 58.3	+1.9
XOR	Xorichti	3.27	159	*e*Pn	Pn	07 43 56.2	-0.8
AGG	Agios Georgios	3.44	172	*e*Pn	Pn	07 43 59.3	-0.3
LOS	Limnos	3.57	133	*e*Pn	Pn	07 43 59.9	-1.5
ALN	Alexandroupoli	3.60	114	*e*Pn	Pn	07 44 01.1	-0.6
ALN				*e*Sn	Sn	07 44 45.1	+0.3
JMB	Yambol	3.61	88	P	Pn	07 44 01.0	-1.0
LKD	Levkas	3.81	193	*e*Pn	Pn	07 44 04.3	-0.4
PRD	Provadia	4.26	78	P	Pn	07 44 10.5	-0.7
RHK1	Bakonya	4.50	326	⇑*e*P	Pn	07 44 13.1	-1.5
RHK1				*e*S	Sn	07 45 06.6	-0.9

IDC 22 07:53:36.8±2.1,**1.18N**×**126.67E,mb3.6**/3,**mb1 3.9**/3, **mb1mx3.6**/14,**Error ellipse: s-maj=168.0km s-min=27.2km az=66.0,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.30	161	P	P	07 58 34.3	-3.2
	2.0nm,0.6s,baz=339,slow=11,SNR=12						
ASAR	Alice Springs	25.68	165	P	P	07 59 09.9	-0.3
	0.7nm,0.5s,baz=347,slow=12,SNR=11						
MKAR	Makanchi Array	59.62	326	P	P	08 03 42.5	-2.5
	0.3nm,0.5s,baz=118,slow=8.3,SNR=3.6						

IDC 22 08:00:05.2±3.9,**52.24N**×**35.34E,mb1 3.9**/3, **mb1mx3.5**/18,**ML3.0**/4,**Error ellipse: s-maj=47.8km s-min=14.7km az=126.0,Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AKASG	Malin Array Be	4.12	251	Pn	Pn	08 01 07.5	-3.4
	1.1nm,0.3s,baz=60,slow=22,SNR=4.1						
AKASG				Sn	Sn	08 01 57.8	-2.7
	2.3nm,0.3s,baz=60,slow=20,SNR=5.3						
AKASG				Lg		08 02 14.1	
	2.0nm,0.3s,baz=68,slow=29,SNR=4.9						
FINES	FINESS Array B	10.52	335	Pn	P	08 02 31.4	-8.8
	0.1nm,0.3s,baz=153,slow=13,SNR=7.0						
HFS	Hagfors	14.36	312	Pn	P	08 03 22.0	-10
	0.0nm,0.3s,baz=119,slow=15,SNR=2.0						
ARCES	ARCESS Array B	17.96	349	Pn	P	08 04 11.4	-6.2
	0.2nm,0.3s,baz=163,slow=9.4,SNR=6.1						

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*NIED **22** 08:03:00,39.50N×142.30E,h56^{km},Mw3.6 Best double couple: M$_0$3.11×10^{14} NP1:φ$_s$171°,δ60°,λ36°. NP2:φ$_s$61°, δ60°,λ144°.*

*JMA **22** 08:03:26.3±0.1,39.54N×142.30E,h54^{km}±1^{km},M3.7*

JMA Felt I J1.

ISC 22 08:03:26.4±1.7,**39.55N**±0.05×**142.3E**±0.1,**h49**^{km}±16^{km}, **n8,**σ**0^{s}30**/15,**2C-4D,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MIYJ	Miyakonagasawa	0.37	274	P	P	08 03 36.5	+0.3
JTH	Tanohata	0.52	319	⇓P	P	08 03 38.0	+0.1
JTH				S	S	08 03 46.4	+0.3
OFUJ	Ofunato	0.68	227	⇑P	P	08 03 39.8	-0.1
OFUJ				S	S	08 03 49.4	-0.4
JOM	Ohasama	0.79	265	⇓P	P	08 03 41.6	+0.3
JOM				*e*S	S	08 03 52.6	+0.3
JKZ	Kuzumaki	0.87	301	⇓P	P	08 03 42.7	+0.2
JKZ				*e*S	S	08 03 54.3	-0.1
JANG	Nango	1.02	324	⇓P	P	08 03 44.4	-0.2
JANG				S	S	08 03 57.6	-0.6
JMK	Ichinoseki	1.03	235	⇑P	P	08 03 44.5	-0.2
JMK				*e*S	S	08 03 57.9	-0.4
MAT	Matsushiro	4.41	228	P	P	08 04 32.6	0.0
MAT				*e*S	S	08 05 23.7	+0.4

MEX 22 08:16:46.0±0.8,**18.07N**×**93.13W,h36**^{km}±368^{km},**MD4.0, Bay of Campeche**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCX	San Cristobal	1.41	160	*i* P	P	08 17 07.0	-2.5
SCX				*i* S	S	08 17 25.0	-2.1
CMIG	Matias Romero	1.94	240	*i* P	P	08 17 15.3	-1.8
CMIG				*i* S	S	08 17 37.3	-3.2
CCIG	Comitan	2.01	152	*i* P	P	08 17 16.6	-1.6
CCIG				*i* S	S	08 17 39.2	-3.1

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*IDC **22** 08:22:08.5±0.7,8.42S×126.69E,mb4.4/10,mb1 4.6/13, mb1mx4.5/15,ML4.7/3,MS3.0/3,Ms1 3.0/3,ms1mx2.9/15, Error ellipse: s-maj=37.5km s-min=14.5km az=76.0*

*MOS **22** 08:22:10.9±0.9,8.49S×126.88E,h33^{km},mb5.0/6,Error ellipse: s-maj=37.5km s-min=16.2km az=108.9*

*BJI **22** 08:22:14.6,8.50S×126.30E,h36^{km},mB4.7,mb4.7,Ms4.5, Msz4.2*

*SYO **22** 08:22:14.1,8.60S×126.59E,h40^{km},MB4.5*

*NEIC **22** 08:22:14.7±1.2,8.53S×126.34E,h36^{km}±12^{km},mb4.8/14, Error ellipse: s-maj=13.6km s-min=7.8km az=72.0*

ISC 22 08:22:11.5±0.3,**8.59S**±0.05×**126.64E**±0.08,**h33^{km}, (h41**^{km}±2.3^{km}**:pP-P),n63,**σ**1^{s}18**/70,**mb4.7**/31,**MS4.3**/3, **2C-4D,Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	Kakadu	6.98	126	*e*P	P	08 24 00.0	+6.0
	39nm,0.6s						
KAKA				*e*S	S	08 25 14.6	+1.5
FITZ	Fitzroy Crossi	9.51	186	*e*P	P	08 24 28.7	-0.5
	20nm,0.3s						
FITZ				*e*S	S	08 26 09.6	-6.4
FITZ	Fitzroy Crossi	9.51	186	Pn	P	08 24 28.8	-0.4
	9.8nm,0.3s,baz=15,slow=9.1,SNR=194						
FITZ				Sn	Sn	08 26 09.4	-6.8
	30nm,0.3s,baz=182,slow=17,SNR=7.6						
FITZ				LR	LR	08 27 42.3	
	comp=Z,40nm,20.9s,baz=292,slow=34						
WRAB	Tennant Creek	13.52	147	*e*P	P	08 25 21.5	-2.0
	18nm,0.5s						
WRAB				*e*S	S	08 27 42.7	-11
WRA	Warramunga Arr	13.53	147	Pn	P	08 25 21.6	-2.0
	4.6nm,0.3s,baz=320,slow=13,SNR=121						
WRA				Sn	S	08 27 42.6	-11
	4.8nm,0.3s,baz=329,slow=23,SNR=12						
WRA				LR	LR	08 30 53.4	
	comp=Z,72nm,18.5s,baz=270,slow=38						
WRA	Warramunga Arr	13.53	147	P	P	08 25 21.6	-2.0
WRA						08 27 42.6	
WRA				pmax	pmax		
	comp=Z,5.0nm,0.3s						
WRA				smax			
	comp=N,5.0nm,0.3s						
WRA				MLR	MLR		
	comp=Z,72nm,18.5s						
WB2	Warramunga Arr	13.53	147	*e*P	P	08 25 21.4	-2.3
WB2				*e*S	S	08 27 42.5	-11
MBWA	Marble Bar	14.16	207	*e*P	P	08 25 30.7	-1.3
	comp=Z,10nm,0.5s						
ASPA	Alice Springs	16.53	156	*e*P	P	08 26 01.9	-0.5
ASPA				*e*S	S	08 28 53.2	-11
ASAR	Alice Springs	16.53	156	Pn	P	08 26 02.0	-0.5
	comp=Z,1.8nm,0.3s,baz=325,slow=10,SNR=59						
ASAR				Sn	S	08 28 56.2	-7.9
	comp=Z,2.5nm,0.3s,baz=322,slow=21,SNR=10.0						
ASAR				LR	LR	08 32 39.1	
	comp=Z,78nm,18.4s,baz=14,slow=38						
FORT	Forrest	22.12	177	*e*P	P	08 27 08.1	+2.4
	comp=Z,107nm,0.8s,mb5.3						
FORT				*e*S	S	08 31 05.3	+2.8
NWAO	Narrogin (SRO)	25.74	198	P	P	08 27 41.9	+1.0
	comp=Z,7.1nm,0.6s,mb4.3,baz=38,slow=12,SNR=5.4						
NWAO	Narrogin (SRO)	25.74	198	P	P	08 27 41.9	+1.1
NWAO				pmax	pmax		
	comp=Z,7.0nm,0.6s						
NWAO	Narrogin (SRO)	25.74	198	*e*P	P	08 27 41.6	+0.8
	comp=Z,6.7nm,0.8s,mb4.2						
STKA	Stephens Creek	27.02	151	*e*P	P	08 27 54.6	+1.9
	comp=Z,1.5nm,0.3s,mb4.0						
STKA	Stephens Creek	27.02	151	P	P	08 27 54.5	+1.8
	comp=Z,1.5nm,0.4s,mb3.8,baz=334,slow=22,SNR=7.0						
JOW	Kunigami	35.24	3	P	P	08 29 03.9	-1.2
	comp=Z,6.4nm,0.8s,mb4.6,baz=153,slow=9.5,SNR=4.1						
BDT	Bhumibol Dam	37.48	313	P	P	08 29 24.0	-0.1
CM31	Chiang Mai Arr	38.33	315	*e*P	P	08 29 31.3	+0.1
	comp=Z,8.1nm,0.7s,mb4.6						
CMAR	Chiang Mai Arr	38.33	315	P	P	08 29 31.3	+0.1
	comp=Z,6.6nm,0.6s,mb4.5,baz=143,slow=6.7,SNR=34						
CMAR	Chiang Mai Arr	38.33	315	P	P	08 29 31.3	+0.1
CMAR				pmax	pmax		
	comp=Z,7.0nm,0.6s						
CHG	Chiang Mai	38.57	315	⇑P	P	08 29 33.8	+0.7
	comp=Z,13nm,0.6s,mb4.8						
SSE	Sheshan	39.80	353	*e*P	P	08 29 48.0	+4.7
SSE				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.1						
SSE				AMB	AMB		
	comp=Z,27nm,2.8s,mb4.5						
SSE	Sheshan	39.80	353	*e*P	P	08 29 48.0	+4.7
	comp=Z,30nm,0.7s,mb5.1						
GYA	Guiyang	39.87	331	⇑*i*P	P	08 29 44.8	+0.9
GYA				AP	pP	08 29 55.1	+1.4
GYA				XP	sP	08 29 59.9	+2.0
GYA				S	S	08 35 44.8	-1.5
GYA				XS		08 36 04.0	
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
GYA				LR	LR		
	comp=N,230nm,14.5s,MS4.3						

GYA				LR	LR		
	comp=E,240nm,14.5s,MS4.3						
GYA				LR	LR		
	comp=Z,150nm,15.9s,MS3.9						
WHN	Wuhan	40.66	344	eP	P	08 29 51.3	+0.9
NJ2	Nanjing	41.09	350	eP	P	08 29 57.8	+3.9
NJ2				PPP	PPP	08 32 18.0	+16
NJ2				S	S	08 36 04.0	-0.3
NJ2				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.0						
NJ2				LR	LR		
	comp=N,2µm,20.0s,MS5.3						
NJ2				LR	LR		
	comp=E,3µm,18.4s,MS5.3						
NJ2				LR	LR		
	comp=Z,1µm,20.6s,MS4.7						
ENH	Enshi	42.01	338	eP	P	08 30 01.8	+0.2
	comp=Z,9.5nm,0.5s,mb4.7						
CN2	Changchun	52.15	359	eP	P	08 31 23.9	+3.0
MDJ	Mudanjiang	53.02	3	P	P	08 31 28.6	+1.1
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.7s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,50nm,5.5s						
PKI	Pulchoki	53.70	313	eP	P	08 31 31.9	-0.9
	comp=Z,27nm,0.6s,mb5.3						
GTA	Gaotai	53.85	334	P	P	08 31 34.0	+0.3
GTA				AP	pP	08 31 46.0	+2.3
GTA				XP	sP	08 31 51.1	+3.4
GTA				PP	PP	08 33 37.5	+1.2
GTA				S	S	08 39 06.4	+1.7
GTA				XS		08 39 27.8	
GTA				SS	SS	08 42 47.3	+2.0
GTA				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.3						
GTA				AMB	AMB		
	comp=Z,37nm,3.8s						
GTA				LR	LR		
	comp=N,30nm,14.5s,MS3.7						
GTA				LR	LR		
	comp=E,37nm,15.6s,MS3.7						
GTA				LR	LR		
	comp=Z,50nm,15.6s,MS3.7						
KKN	Kakani	53.93	314	eP	P	08 31 34.1	-0.3
	comp=Z,21nm,0.6s,mb5.2						
DMN	Daman	53.95	313	eP	P	08 31 34.5	0.0
	comp=Z,17nm,0.6s,mb5.2						
GKN	Gorkha	54.51	313	eP	P	08 31 38.2	-0.5
	comp=Z,23nm,0.3s,mb5.7						
KOLN	Koldanda	55.13	313	eP	P	08 31 42.7	-0.5
	comp=Z,26nm,0.6s,mb5.4						
SONM	Songino Array	58.97	344	P	P	08 32 09.6	-0.5
	comp=Z,1.6nm,0.8s,mb4.1,baz=151,slow=6.6,SNR=8.3						
WMQ	Urumqi	62.98	329	eP	P	08 32 37.8	+0.5
WMQ				AP	pP	08 32 50.6	+3.1
WMQ				XP	sP	08 32 55.8	+4.5
WMQ				AMB	AMB		
	comp=Z,4.0nm,1.2s,mb4.4						
MKAR	Makanchi Array	67.78	329	P	P	08 33 07.2	-0.9
	comp=Z,6.8nm,0.6s,mb4.9,baz=129,slow=7.6,SNR=56						
MKAR	Makanchi Array	67.78	329	i P	P	08 33 07.6	-0.5
MKAR				pmax	pmax		
	comp=Z,7.0nm,0.6s						
AAK	Ala-Archa	69.65	322	d iP	P	08 33 18.9	-0.8
AAK	Ala-Archa	69.65	322	eP	P	08 33 18.8	-1.0
	comp=Z,3.2nm,0.6s,mb4.4						
YAK	Yakutsk	70.44	2	eP	P	08 33 23.1	-1.1
YAK				pmax	pmax		
	comp=Z,12nm,0.5s,mb5.1						
ZAL	Zalesovo	71.58	335	P	P	08 33 30.1	-1.1
	comp=Z,3.7nm,0.4s,mb4.7,baz=316,slow=2.5,SNR=9.1						
ZAL	Zalesovo	71.58	335	P	P	08 33 30.1	-1.1
ZAL				pmax	pmax		
	comp=Z,4.0nm,0.4s						
KURK	Kurchatov	72.18	330	i P	P	08 33 34.7	-0.1
KURK	Kurchatov	72.18	330	eP	P	08 33 34.1	-0.7
	comp=Z,2.5nm,0.6s,mb4.3						
SBA	Scott Base	72.23	172	P	P	08 33 35.4	+0.7
MAW	Mawson	72.27	201	P	P	08 33 36.7	+1.6
	comp=Z,0.9nm,0.6s,mb3.9,baz=87,slow=4.4,SNR=4.5						
MAW	Mawson	72.27	201	P	P	08 33 36.7	+1.6
MAW				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BVAR	Borovoye Array	77.66	329	P	P	08 34 05.5	-0.9
	comp=Z,2.0nm,0.5s,mb4.3,baz=124,slow=5.3,SNR=14						
BRVK	Borovoye	77.73	329	eP	P	08 34 05.9	-0.9
	comp=Z,5.5nm,0.9s,mb4.5						
TIXI	Tiksi	80.08	1	eP	P	08 34 19.5	+0.3
TIXI				eS	S	08 44 10.0	-10
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
SYO	Syowa Base	80.98	201	⇓P	P	08 34 25.3	+1.3
SYO	Syowa Base	80.98	201	⇓PcP	PcP	08 34 31.1	+0.4
SYO	Syowa Base	80.98	201	⇓pP	pP	08 34 36.1	+1.7
QSPA	South Pole Qui	81.40	180	eP	P	08 34 28.7	+2.7
	comp=Z,4.1nm,0.9s,mb4.4						
SNAA	Sanae	93.34	194	P	P	08 35 26.6	+2.7
COLA	College	95.80	25	P	P	08 35 36.4	+1.2
ILAR	Eielson Array	96.20	25	P	P	08 35 36.0	-1.1
	comp=Z,0.3nm,0.8s,mb3.8,baz=236,slow=5.2,SNR=5.6						
TXAR	Lajitas Array	128.60	59	PKP	PKPdf	08 41 18.5	+2.4
	comp=Z,0.1nm,0.6s,slow=3.8,SNR=3.4						
CPUP	Villa Florida	145.08	174	PKPbc	PKPbc	08 41 49.4	+2.9
	comp=Z,2.6nm,0.9s,baz=135,slow=1.3,SNR=5.0						
CPUP	Villa Florida	145.08	174	PKIKP	PKPdf	08 41 49.4	+3.1
CPUP				pmax	pmax		
	comp=Z,3.0nm,0.9s						

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*NAO **22** 08:27:43.1±3.5, 59.81N×4.43E, ML2.7*
*BER **22** 08:27:46.5±2.6, 60.09N×4.41E, MD2.1, ML2.0, ML2.7(NAO), Suspected explosion*
ISC 22 08:27:43.3±1.8**, 60.01N**±0.07×**4.5E**±0.2**, n12,** σ**1^{s}01**/19**,**
Southern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EGD	Espegrend	0.45	54	eP	Pg	08 27 53.7	+1.4
RUND	Rundenannen	0.59	47	eP	Pg	08 27 56.3	+1.1
KMY	Karmoy	0.89	154	eP	Pg	08 28 04.6	+3.6
KMY				eS	Sg	08 28 19.3	+6.5
SUE	Sulen	1.06	7	eP	Pb	08 28 03.7	-0.4
SUE				eS	Sb	08 28 18.4	-0.1
SUE				AML	AML	08 28 19.3	
	comp=Z,46nm,0.4s						
ODD1	Odda	1.08	94	eP	Pb	08 28 05.3	+0.8
BLS5	Blasjo	1.16	120	eP	Pb	08 28 09.2	+3.4
HYA	Hoyanger	1.43	35	eP	Pn	08 28 11.0	+0.5
HYA				eS	Sb	08 28 29.8	+0.6
HYA				AML	AML	08 28 31.3	
	comp=Z,51nm,0.4s						
FOO	Floro	1.62	9	eP	Pn	08 28 12.7	-0.5
FOO				eS	Sb	08 28 33.7	-0.9
FOO				AML	AML	08 28 35.4	
	comp=Z,26nm,0.6s						
MOL	Molde	2.96	29	eP	Pn	08 28 33.1	+0.7
NB2	NORSAR Subarra	3.48	70	Pn	Pn	08 28 39.5	-0.2
NB2				Lg		08 29 34.9	
NC6	NORSAR Subarra	3.54	75	Pn	Pn	08 28 40.4	-0.2
NC6				Pg	Pg	08 28 49.7	-4.1
NC6				Lg		08 29 36.5	
HFS	Hagfors	4.61	84	Pn	Pn	08 28 53.8	-2.1
	baz=272,slow=14						
HFS				Pg	Pg	08 29 09.0	-6.3
	baz=272,slow=16						
HFS				Sn	Sn	08 29 49.5	-1.5
	baz=268,slow=28						
HFS				Lg		08 30 09.6	
	baz=264,slow=37						

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*NEIC **22** 08:34:23.8, 53.24N×160.77W, h33^{km}, ML3.5(AEIC), After AEIC.*
*IDC **22** 08:34:25.3±1.8, 53.37N×159.61W, mb3.7/4, mb1 4.1/6, mb1mx3.8/24, ML3.8/2, Error ellipse: s-maj=39.3km s-min=26.4km az=36.0*
ISC 22 08:34:20.6±1.9**, 53.24N**±0.05×**160.72W**±0.07**,**
h22^{km}±18^{km}**, n39,** σ**0^{s}74**/43**, mb3.8**/4**, South of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DRIA	Deer Island	1.96	333	P	Pn	08 34 53.5	+0.4
DRIA				S	Sn	08 35 16.7	-0.5
DOL	Dolgoi Island	2.03	341	P	Pn	08 34 54.5	+0.4
DT1	Dutton Round H	2.09	334	P	Pn	08 34 55.2	+0.3
DT1				S	Sn	08 35 20.6	+0.1
DTNA	Dutton South F	2.12	335	P	Pn	08 34 55.8	+0.5
SDPT	Sand Point	2.12	4	P	Pn	08 34 55.6	+0.2
SDPT				S	Sn	08 35 20.7	-0.6
HAG	Hague Volcano	2.19	342	P	Pn	08 34 57.6	+1.1
PVV	Pavlof Volcano	2.23	344	P	Pn	08 34 57.9	+0.9
PS1A	Pavlof South-1	2.27	345	P	Pn	08 34 58.6	+1.0
FALS	False Pass	2.27	317	P	Pn	08 34 57.5	-0.1
FALS				S	Sn	08 35 24.6	-0.6
PN7A	Pavlof North-7	2.32	342	P	Pn	08 34 59.8	+1.5
SSLS	Shishaldin Sou	2.44	309	P	Pn	08 35 00.6	+0.6
SSLW	Shishaldin Wes	2.53	309	P	Pn	08 35 01.7	+0.4
WESN	West Dahl Nort	2.65	302	P	Pn	08 35 03.4	+0.4
WESS	West Dahl Sout	2.68	299	P	Pn	08 35 03.4	0.0
WFAR	Faris Peak	2.73	300	P	Pn	08 35 04.4	+0.2
WPOG	Pogromni	2.74	301	P	Pn	08 35 04.6	+0.3
AHB	Akutan Harbor	3.16	288	P	Pn	08 35 10.3	+0.1
AKLV	Akutan Long Va	3.25	289	P	Pn	08 35 11.4	-0.1
UNV	Unalaska Valle	3.50	282	P	Pn	08 35 14.4	-0.8
MNAT	Makushin Natee	3.62	283	P	Pn	08 35 16.3	-0.5
MTBL	Makushin Table	3.63	284	P	Pn	08 35 16.7	-0.2
MSW	Makushin Switc	3.68	283	P	Pn	08 35 17.3	-0.4
MCIR	Makushin Cirqu	3.75	283	P	Pn	08 35 18.6	0.0
OKCD	Okmok Cone D	4.44	275	P	Pn	08 35 27.7	-0.7
NIKO	Nikolski	4.91	270	P	Pn	08 35 33.9	-1.2
CAHL	Cahill	5.71	30	P	Pn	08 35 45.5	-1.0
ANCK	Angle Creek	5.78	29	P	Pn	08 35 46.7	-0.6
KAIC	Katmai Ikaglui	6.15	29	P	Pn	08 35 51.8	-0.8
KDAK	Kodiak Island	6.48	42	P	Pn	08 35 55.5	-1.8
ILAR	Eielson Array	13.54	26	Pn	P	08 37 29.2	-4.3
	0.1nm,0.3s,baz=217,slow=13,SNR=12						
INK	Inuvik	19.84	30	P	P	08 38 51.8	-0.7
	0.4nm,0.3s,baz=240,slow=12,SNR=11						
NVAR	Mina Array Bea	32.52	100	P	P	08 40 52.2	+0.4
	0.8nm,0.6s,mb3.8,baz=305,slow=7.4,SNR=7.0						
NVAR	Mina Array Bea	32.52	100	P	P	08 40 52.2	+0.4
MNV	Mina	32.60	100	P	P	08 40 52.8	+0.3
ELK	Elko	32.88	94	P	P	08 40 55.9	+1.1
HWUT	Hardware Ranch	34.56	89	P	P	08 41 07.9	-1.5
PDAR	Pinedale Array	35.09	86	P	P	08 41 14.9	+1.0
	0.4nm,0.6s,mb3.5,baz=315,slow=6.3,SNR=3.9						
TXAR	Lajitas Array	47.55	97	P	P	08 42 57.0	+0.8
	1.6nm,0.5s,mb4.3,baz=298,slow=5.5,SNR=29						
SONM	Songino Array	55.24	305	P	P	08 44 03.4	+9.4
	0.3nm,0.6s,mb3.5,baz=59,slow=8.4,SNR=3.9						

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*IDC **22** 08:38:03.0±0.7, 9.11S×124.12E, mb4.3/7, mb1 4.6/10, mb1mx4.5/14, ML4.7/3, MS3.2/3, Ms1 3.3/3, ms1mx3.0/10, Error ellipse: s-maj=40.7km s-min=15.1km az=61.0*
*DJA **22** 08:38:04.9±1.0, 9.10S×124.39E, h240^{km}, MD4.8/3, Error ellipse: s-maj=76.5km s-min=20.5km az=8.0*
*NEIC **22** 08:38:10.2±1.4, 9.18S×124.11E, h52^{km}±14^{km}, mb4.6/13, Error ellipse: s-maj=18.5km s-min=6.3km az=48.0*
ISC 22 08:38:05.6±0.4**, 9.11S**±0.06×**124.26E**±0.05**, h33**^{km}**, n42,**
σ**1^{s}20**/48**, mb4.6**/18**, MS3.1**/2**, 1C-3D, Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WSI	Waingapu	3.94	262	ePn	Pn	08 39 10.3	+4.8
KEDI	Kedomdong	8.07	274	⇓iPn	P	08 40 05.1	+1.8
KEDI				eSn	Sn	08 41 33.2	-1.4
RATI	Rata	8.63	272	⇓ePn	P	08 40 11.8	+0.7
RATI				eSn	Sn	08 41 43.8	-4.7
KAKA	Kakadu	8.76	115	eP	P	08 40 18.7	+5.9
	152nm,0.6s						
KAKA				eS	S	08 41 49.8	-1.7
INGI	Ingas	9.01	271	⇑iPn	P	08 40 17.1	+0.8
FITZ	Fitzroy Crossi	9.04	172	eP	P	08 40 16.3	-0.4
	23nm,0.3s						
FITZ				eS	S	08 41 48.3	-10
FITZ	Fitzroy Crossi	9.04	172	Pn	P	08 40 16.3	-0.4
	7.0nm,0.3s,baz=2.9,slow=8.7,SNR=239						
FITZ				Sn	Sn	08 41 48.2	-10
	34nm,0.3s,baz=175,slow=5.3,SNR=25						
KELI	Kelakatan	9.70	275	⇓ePn	P	08 40 24.9	-1.1
KELI				eSn	Sn	08 42 08.4	-6.5
MBWA	Marble Bar	12.75	199	eP	P	08 41 06.7	-0.7
WRA	Warramunga Arr	14.52	139	Pn	P	08 41 29.6	-1.3
	4.7nm,0.3s,baz=317,slow=14,SNR=34						
WRA				Sn	S	08 43 58.6	-13
	9.7nm,0.3s,baz=306,slow=23,SNR=16						
WRAB	Tennant Creek	14.52	139	eP	P	08 41 29.4	-1.4
	17nm,0.3s						
WB2	Warramunga Arr	14.53	139	eP	P	08 41 29.4	-1.5
WB2				eS	S	08 43 58.4	-13
ASPA	Alice Springs	17.16	149	eP	P	08 42 05.3	+0.7
ASPA				eS	S	08 45 02.1	-11
ASAR	Alice Springs	17.16	149	P	P	08 42 05.1	+0.5
	2.1nm,0.3s,baz=319,slow=11,SNR=68						
ASAR				S	S	08 45 03.0	-10
	3.9nm,0.3s,baz=314,slow=20,SNR=16						
ASAR				LR	LR	08 48 52.3	
	comp=Z,74nm,21.8s,baz=327,slow=38						
FORT	Forrest	21.85	171	eP	P	08 42 57.5	+0.3
	44nm,0.5s,mb5.2						
FORT				eS	S	08 46 49.7	-2.0
CTA	Charters Tower	23.89	120	eP	P	08 43 21.1	+3.7
	11nm,0.9s,mb4.3						
CTA	Charters Tower	23.89	120	P	P	08 43 20.4	+3.0
	14nm,1.1s,mb4.3,baz=274,slow=14,SNR=8.6						
CTA				LR	LR	08 52 29.9	
	comp=Z,54nm,20.8s,MS3.0,baz=48,slow=36						
CTAO	Charters Tower	23.89	120	eP	P	08 43 21.4	+4.0
	18nm,1.0s,mb4.5						
NWAO	Narrogin (SRO)	24.57	194	P	P	08 43 23.6	-0.3
	2.6nm,0.4s,mb4.1,baz=26,slow=8.7,SNR=5.8						
NWAO	Narrogin (SRO)	24.57	194	eP	P	08 43 23.5	-0.4
	3.8nm,0.6s,mb4.1						
STKA	Stephens Creek	27.79	147	eP	P	08 43 55.5	+1.7
	6.9nm,0.6s,mb4.5						
STKA				eS	Sx	08 49 09.2	
STKA	Stephens Creek	27.79	147	P	P	08 43 55.2	+1.4
	9.6nm,0.7s,mb4.6,baz=318,slow=9.2,SNR=19						
ARMA	Armidale	33.19	133	eP	P	08 44 44.6	+3.0
TOO	Toolangi	34.22	149	eP	P	08 44 52.9	+2.5
	4.6nm,0.8s,mb4.5						
CNB	Canberra Magne	34.73	142	eP	P	08 44 57.4	+2.6
	8.7nm,0.6s,mb4.9						
CMAR	Chiang Mai Arr	37.07	318	P	P	08 45 15.8	+1.0
	1.7nm,0.4s,mb4.2,baz=147,slow=7.2,SNR=11						
CMAR				LR	LR	09 00 48.8	
	comp=Z,46nm,19.9s,MS3.3,baz=339,slow=37						
PKI	Pulchoki	52.39	315	eP	P	08 47 16.5	-0.6
	14nm,0.3s,mb5.3						
KKN	Kakani	52.61	315	eP	P	08 47 18.2	-0.6
	12nm,0.6s,mb5.0						
DMN	Daman	52.62	315	eP	P	08 47 18.5	-0.3
	17nm,0.6s,mb5.2						
GKN	Gorkha	53.19	315	eP	P	08 47 22.2	-0.9
	9.4nm,0.3s,mb5.2						
MDJ	Mudanjiang	53.69	5	P	P	08 47 26.9	+0.3
	8.1nm,1.0s,mb4.6						
KOLN	Koldanda	53.78	314	eP	P	08 47 26.4	-1.0
	16nm,0.6s,mb5.1						
SONM	Songino Array	58.87	346	P	P	08 48 02.8	-0.7
	1.0nm,0.6s,mb4.1,baz=163,slow=8.8,SNR=5.8						
MKAR	Makanchi Array	67.03	330	P	P	08 48 56.8	-0.7
	1.3nm,0.5s,mb4.3,baz=141,slow=5.9,SNR=14						
ZAL	Zalesovo	71.10	337	P	P	08 49 23.1	+0.7
	1.5nm,0.3s,mb4.4,baz=213,slow=3.1,SNR=3.4						
SBA	Scott Base	72.06	171	eP	P	08 49 29.0	+1.2
	1.8nm,0.8s,mb4.0						
QSPA	South Pole Qui	80.88	180	eP	P	08 50 18.6	+1.2
	3.3nm,0.7s,mb4.4						
PDAR	Pinedale Array	122.40	45	PKP	PKPdf	08 56 59.5	+1.6
	0.3nm,0.6s,SNR=4.0						
TXAR	Lajitas Array	130.88	59	PKP	PKPdf	08 57 17.6	+3.0
	0.2nm,0.4s,baz=212,slow=2.5,SNR=5.7						
CPUP	Villa Florida	144.74	178	PKP	PKPdf	08 57 41.2	+1.4
	2.4nm,0.6s,baz=239,slow=2.4,SNR=12						
CPUP	Villa Florida	144.74	178	PKP	PKPdf	08 57 41.2	+1.4
LPAZ	La Paz	151.94	154	PKPbc	PKPdf	08 58 02.1	+11
	4.5nm,0.7s,baz=178,slow=2.0,SNR=4.4						

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*IDC **22** 09:09:11.4±14.0, 1.82N×98.82E, h72^{km}±118^{km}, mb3.5/3, mb1 3.7/4, mb1mx3.4/15, Error ellipse: s-maj=150.0km s-min=24.1km az=58.0*
*NEIC **22** 09:09:13.1±9.9, 2.07N×99.31E, h67^{km}±71^{km}, mb4.5/1, Error ellipse: s-maj=126.9km s-min=17.0km az=57.0*
NEIC Felt [III] at Tarutung.
ISC 22 09:09:06.4±1.6**, 1.9N**±0.1×**98.9E**±0.2**, h33**^{km}**, n7,** σ**0^{s}97**/7**,**
mb3.9/4**, 1C-1D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IPM	Ipoh	3.42	38	⇓eP	P	09 09 58.2	-0.5
	33nm,0.5s						
KGM	Kluang	4.39	88	⇑eP	P	09 10 06.5	-6.0
CMAR	Chiang Mai Arr	16.50	0	P	P	09 12 58.9	+1.8
	baz=194,slow=11,SNR=6.8						
WRA	Warramunga Arr	40.94	124	P	P	09 16 47.6	-0.1
	2.9nm,0.8s,mb4.0,baz=301,slow=9.1,SNR=16						
WRAB	Tennant Creek	40.94	124	eP	P	09 16 48.3	+0.6
	6.7nm,0.9s,mb4.3						
SONM	Songino Array	46.26	7	P	P	09 17 29.6	-0.9
	0.3nm,0.4s,mb3.5,baz=191,slow=7.3,SNR=4.0						
MKAR	Makanchi Array	47.05	344	P	P	09 17 35.9	-0.8
	1.3nm,1.1s,mb3.8,baz=150,slow=9.2,SNR=3.5						

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*JMA **22** 09:23:42.4±0.2, 24.11N×123.74E, h21^{km}±2^{km}, M1.5*
*TAP **22** 09:23:59.4, 24.27N×121.65E, h23^{km}±1^{km}, ML2.1*
ISC 22 09:23:42.6±1.5**, 24.11N**±0.08×**123.74E**±0.04**, h20**^{km}±10^{km}**,**
n6, σ**0^{s}37**/12**, Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HATJ	Hateruma jima	0.07	130	P	Pb	09 23 46.2	-0.2
HATJ				S	Sb	09 23 49.0	+0.1
IRIF	Iriomote-Funau	0.23	357	P	Pb	09 23 48.0	-0.2
IRIF				S	Sb	09 23 51.8	-0.2
JKRS	Kuro-shima	0.28	62	P	Pb	09 23 49.0	+0.1
JKRS				S	Sb	09 23 53.7	+0.5
JIJ	Ishigaki jima	0.45	55	P	Pb	09 23 51.3	-0.4
JIJ				S	Sb	09 23 57.3	-0.6
YOJ	Yonaguni jima	0.76	298	P	Pb	09 23 56.9	0.0
YOJ				eS	Sb	09 24 07.1	+0.3
JTJ	Tarama	1.02	58	P	Pb	09 24 01.3	-0.2
JTJ				S	Sb	09 24 15.3	+0.8

IDC 22 09:37:09.5±7.3**, 5.58S**×**133.59E, mb4.1**/1**, mb1 3.9**/4**,**
mb1mx3.6/10**, ML3.1**/3**, Error ellipse: s-maj=104.0km**
s-min=64.1km az=142.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.30	177	Pn	P	09 40 32.3	-3.3
	0.1nm,0.3s,baz=356,slow=12,SNR=7.5						
WRA				Sn	S	09 43 13.7	-2.4
	0.1nm,0.3s,baz=358,slow=24,SNR=6.3						
FITZ	Fitzroy Crossi	14.67	211	Pn	P	09 40 37.9	-2.6
	0.1nm,0.3s,baz=35,slow=14,SNR=3.6						
FITZ				Sn	S	09 43 23.2	-1.7
	0.2nm,0.3s,baz=188,slow=17,SNR=3.7						
ASAR	Alice Springs	17.99	179	P	P	09 41 21.8	-1.0
	0.1nm,0.3s,baz=356,slow=11,SNR=14						
STKA	Stephens Creek	27.22	165	P	P	09 42 55.4	-1.8
	2.6nm,0.9s,slow=8.1,SNR=3.5						

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*PRU **22** 09:38:33.2, 51.45N×16.14E*
WAR 22 09:38:33.5, 51.47N×16.11E, ML2.6, Mining Induced,
Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	Ksiaz	0.64	169	i PG	Pg	09 38 45.2	-1.1
KSP				eSG	Sg	09 38 54.2	-0.7
UPC	Upice	0.97	184	ePG	Pg	09 38 51.5	-1.4
DPC	Dobruska-Polom	1.13	173	ePG	Pg	09 38 54.0	-2.1
DPC				eSG	Sg	09 39 08.4	-2.8
PVCC	Panska Ves	1.36	226	ePG	Pg	09 38 58.4	-2.2
PRU	Pruhonice	1.79	214	ePN	Pn	09 39 03.8	-2.1
PRU				PG	Pg	09 39 05.5	-3.7
PRU				i x	x	09 39 10.0	
PRU				i x	x	09 39 22.3	
PRU				SG	Sg	09 39 29.9	-3.2
	7.0nm,0.4s						
KHC	Kasperske Hory	2.85	216	ePN	Pn	09 39 19.2	-1.9
KHC				ePG	Pg	09 39 25.2	-5.2
KHC				eSN	Sn	09 39 54.0	-2.6
KHC				eSG	Sg	09 40 02.2	-6.2

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*BJI **22** 09:48:45.2, 68.20N×129.79E, h4^{km}, mB4.6, mb4.6, Ms4.3, Msz4.1*
*IDC **22** 09:48:51.0±0.8, 67.57N×129.02E, mb4.0/18, mb1 4.2/18, mb1mx4.2/23, MS3.7/9, Ms1 3.8/9, ms1mx3.5/24, Error ellipse: s-maj=21.5km s-min=14.4km az=154.0*
*MOS **22** 09:48:51.9±1.0, 67.65N×128.93E, h17^{km}, mb4.3/14, Error ellipse: s-maj=23.2km s-min=8.8km az=91.8*
*NEIC **22** 09:48:52.2±6.6, 67.63N×128.89E, h4^{km}±42^{km}, mb4.5/15, Error ellipse: s-maj=9.9km s-min=7.7km az=148.0*
ISC 22 09:48:52.2±1.9**, 67.62N**±0.04×**128.9E**±0.1**, h16**^{km}±14^{km}**,**
n80, σ**1^{s}05**/83**, mb4.3**/38**, MS3.7**/18**, 7D, Northern and central Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TIXI	Tiksi	4.05	360	deP	Pn	09 49 55.1	+0.1
TIXI				e		09 50 43.7	
TIXI				pmax	pmax		
	comp=Z,232nm,0.9s						
TIXI				pmax	pmax		
	comp=Z,783nm,0.8s						
TIXI				smax			
	comp=E,212nm,0.6s						
YAK	Yakutsk	5.62	176	eP	Pn	09 50 18.2	+0.9
YAK				eS	Sn	09 51 20.4	-1.9
YAK				pmax	pmax		
	comp=Z,12nm,0.9s						
YAK				pmax	pmax		
	comp=N,12nm,1.3s						
YAK				pmax	pmax		
	comp=E,2.0nm,1.0s						
YAK				pmax	pmax		
	comp=Z,69nm,0.9s						
YAK				pmax	pmax		
	comp=N,103nm,1.2s						
YAK				pmax	pmax		
	comp=E,37nm,1.3s						
YAK				smax			
	comp=Z,62nm,0.9s						
YAK				smax			
	comp=N,57nm,0.8s						
YAK				smax			
	comp=E,66nm,1.0s						
YAK				smax			
	comp=Z,219nm,1.2s						
YAK				smax			
	comp=N,155nm,1.0s						
YAK				smax			
	comp=E,662nm,1.3s						
YAK				MLR	MLR		
	comp=Z,142nm,12.0s						
YAK				MLR	MLR		
	comp=N,113nm,13.0s						
YAK				MLR	MLR		
	comp=E,28nm,9.0s						
YAK	Yakutsk	5.62	176	eP	Pn	09 50 15.8	-1.5
	comp=E,40nm,0.3s						
CLNS	Chul'man	10.98	192	eP	P	09 51 31.5	-0.1
CLNS				eS	S	09 53 27.8	-7.4
CLNS				pmax	pmax		
	comp=Z,19nm,0.8s						
CLNS				pmax	pmax		
	comp=N,13nm,0.7s						
CLNS				pmax	pmax		
	comp=E,15nm,0.8s						
CLNS				pmax	pmax		
	comp=N,17nm,0.8s						
CLNS				pmax	pmax		
	comp=Z,29nm,0.8s						
CLNS				pmax	pmax		
	comp=E,9.0nm,1.0s						
CLNS				smax			
	comp=N,66nm,0.8s						
CLNS				smax			
	comp=Z,19nm,0.9s						
CLNS				smax			
	comp=E,40nm,1.0s						
CLNS				MLR	MLR		
	comp=N,500nm,12.0s						
CLNS				MLR	MLR		

	comp=Z,600nm,12.0s						
CLNS				MLR	MLR		
	comp=E,100nm,11.0s						
BOD	**Bodaibo**	**11.94**	**222**	*e*P	**P**	**09 51 39.8**	**-4.8**
MA2	**Magadan**	**12.56**	**119**	*e*P	**P**	**09 51 51.1**	**-1.8**
MA2				*e*S	**S**	**09 54 14.6**	**+1.2**
MA2				pmax	pmax		
	comp=Z,10.0nm,1.2s						
MA2				MLR	MLR		
	comp=Z,1μm,3.2s						
KLR	**Kul'dur**	**18.50**	**174**	*e*P	**P**	**09 53 10.5**	**+1.2**
MOY	**Mondy**	**21.02**	**234**	*e*P	**P**	**09 53 37.6**	**+0.4**
ZAK	**Zakamensk**	**21.47**	**229**	⇓*i*P	**P**	**09 53 41.4**	**-0.3**
ZAK				*e*		09 57 38.5	
SONM	**Songino Array**	**22.94**	**221**	P	**P**	**09 53 57.1**	**+0.9**
	comp=Z,1.5nm,0.4s,mb3.8,baz=12,slow=9.5,SNR=18						
MDJ	**Mudanjiang**	**23.07**	**179**	P	**P**	**09 53 57.0**	**-0.5**
MDJ				AMB	AMB		
	comp=Z,2.0nm,0.5s,mb3.8						
MDJ				AMB	AMB		
	comp=Z,40nm,5.7s						
MDJ				LR	LR		
	comp=N,37nm,28.9s,MS3.2						
MDJ				LR	LR		
	comp=E,116nm,24.1s,MS3.2						
CN2	**Changchun**	**23.95**	**186**	*e*P	**P**	**09 54 07.8**	**+1.7**
CN2				*e*XP		09 54 18.0	
CN2				*e*S	**S**	**09 58 30.8**	**+12**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.3						
CN2				AMB	AMB		
	comp=Z,80nm,5.0s						
CN2				LR	LR		
	comp=N,300nm,12.0s,MS4.1						
CN2				LR	LR		
	comp=E,300nm,12.0s,MS4.1						
CN2				LR	LR		
	comp=Z,400nm,13.0s,MS4.1						
ASAJ	**Asahikawa**	**24.66**	**156**	LR	LR	10 04 52.7	
	comp=Z,112nm,19.7s,MS3.4,baz=6.5,slow=39						
NVS	**Novosibirsk**	**24.73**	**262**	*i* P	**P**	**09 54 13.0**	**-0.6**
NVS				*e*S	**S**	**09 58 30.6**	**-1.4**
NVS				*e*SS	SS	09 59 28.7	-0.4
NVS				pmax	pmax		
	comp=N,5.0nm,0.4s						
NVS				pmax	pmax		
	comp=E,4.0nm,0.4s						
NVS				pmax	pmax		
	comp=Z,6.0nm,0.4s,mb4.5						
NVS				smax			
	comp=N,36nm,1.8s						
KURK	**Kurchatov**	**29.71**	**261**	*d i*P	**P**	**09 54 58.4**	**-0.8**
KURK	**Kurchatov**	**29.71**	**261**	*e*P	**P**	**09 54 58.6**	**-0.6**
	comp=N,3.6nm,0.6s,mb4.3						
BVAR	**Borovoye Array**	**31.03**	**272**	P	**P**	**09 55 09.7**	**-1.1**
	comp=N,1.8nm,0.3s,mb4.4,baz=52,slow=8.0,SNR=17						
VOSK	**Vostochnaya**	**31.04**	**271**	P	**P**	**09 55 10.1**	**-0.8**
VOSK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.8						
BRVK	**Borovoye**	**31.04**	**272**	*e*P	**P**	**09 55 09.8**	**-1.2**
	comp=Z,2.7nm,0.6s,mb4.2						
COLA	**College**	**31.28**	**55**	*e*P	**P**	**09 55 13.9**	**+1.0**
	comp=Z,10nm,1.2s,mb4.5						
MKAR	**Makanchi Array**	**31.59**	**252**	P	**P**	**09 55 14.8**	**-1.0**
	comp=Z,8.4nm,0.4s,mb4.9,baz=31,slow=7.2,SNR=152						
MKAR	**Makanchi Array**	**31.59**	**252**	*e*P	**P**	**09 55 15.0**	**-0.8**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZRNK	**Zerenda**	**31.61**	**273**	P	**P**	**09 55 15.6**	**-0.4**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.2						
ZRNK	**Zerenda**	**31.61**	**273**	*e*P	**P**	**09 55 15.8**	**-0.2**
	comp=Z,5.9nm,0.7s,mb4.5						
ILAR	**Eielson Array**	**31.65**	**54**	P	**P**	**09 55 16.4**	**+0.2**
	comp=Z,3.6nm,0.7s,mb4.3,baz=304,slow=7.5,SNR=42						
ILAR	**Eielson Array**	**31.65**	**54**	P	**P**	**09 55 16.4**	**+0.2**
ILAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
SVE	**Sverdlovsk**	**31.84**	**284**	⇓*e*P	**P**	**09 55 20.5**	**+2.6**
WMQ	**Urumqi**	**32.24**	**243**	*e*P	**P**	**09 55 22.8**	**+1.2**
WMQ				AP	pP	09 55 27.8	+1.6
WMQ				XP	sP	09 55 29.8	+1.6
WMQ				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.5						
WMQ				LR	LR		
	comp=Z,101nm,18.0s,MS3.5						
GTA	**Gaotai**	**32.51**	**225**	*e*P	**P**	**09 55 25.3**	**+1.3**
GTA				AP	pP	09 55 29.6	+1.0
GTA				XP	sP	09 55 32.1	+1.4
GTA				AMB	AMB		
	comp=Z,2.0nm,0.9s,mb4.0						
GTA				AMB	AMB		
	comp=Z,29nm,5.3s						
GTA				LR	LR		
	comp=N,160nm,14.8s,MS4.1						
GTA				LR	LR		
	comp=E,255nm,16.7s,MS4.1						
GTA				LR	LR		
	comp=Z,119nm,14.1s,MS3.7						
ARU	**Arti**	**32.90**	**286**	⇓*i*P	**P**	**09 55 27.8**	**+0.6**
ARU				*e*		09 56 37.9	
ARU				*e*PPP	PPP	09 56 47.4	-5.9
ARU				*e*		09 58 11.4	
ARU				*e*S	**S**	**10 00 45.7**	**+2.6**
ARU				*e*SS	SS	10 02 41.3	-1.2
ARU				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
ARU				MLR	MLR		
	comp=Z,100nm,18.0s,MS3.6						
ARU				MLR	MLR		
	comp=N,100nm,20.0s,MS3.6						
ARU				MLR	MLR		
	comp=E,50nm,18.0s,MS3.6						
INK	**Inuvik**	**32.98**	**43**	P	**P**	**09 55 27.6**	**-0.1**
	comp=E,2.9nm,0.9s,mb4.2,baz=327,slow=7.6,SNR=6.8						
INK	**Inuvik**	**32.98**	**43**	P	**P**	**09 55 27.6**	**-0.1**
INK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
INK	**Inuvik**	**32.98**	**43**	*e*P	**P**	**09 55 28.2**	**+0.5**
	comp=Z,2.5nm,0.8s,mb4.2						
KEV	**Kevo**	**33.02**	**321**	*e*p	**P**	**09 55 25.5**	**-2.6**
ARCES	**ARCESS Array B**	**33.54**	**322**	P	**P**	**09 55 31.7**	**-0.9**
	comp=Z,3.2nm,0.8s,mb4.3,baz=41,slow=9.9,SNR=12						
ARCES				LR	LR	10 12 06.6	
	comp=Z,125nm,18.2s,MS3.7,baz=11,slow=42						
ARCES	**ARCESS Array B**	**33.54**	**322**	P	**P**	**09 55 31.7**	**-0.9**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ARCES				MLR	MLR		
	comp=Z,125nm,18.2s						
NJ2	**Nanjing**	**36.10**	**195**	*e*P	**P**	**09 55 53.5**	**-1.4**
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.2						
SSE	**Sheshan**	**36.85**	**191**	*e*P	**P**	**09 56 02.6**	**+1.4**
SSE				XP	sP	09 56 10.9	+3.0
SSE				S	**S**	**10 01 43.1**	**-1.3**
SSE				AMB	AMB		
	comp=Z,14nm,0.7s,mb4.9						
SSE				AMB	AMB		
	comp=Z,80nm,3.4s						
SSE				LR	LR		
	comp=N,30nm,23.0s,MS3.6						
SSE				LR	LR		
	comp=E,119nm,23.0s,MS3.6						
SSE				LR	LR		
	comp=Z,52nm,18.5s,MS3.4						
SSE	**Sheshan**	**36.85**	**191**	*e*P	**P**	**09 56 02.6**	**+1.4**
	comp=Z,14nm,0.7s,mb4.9						
SSE				sP	sP	09 56 10.9	+3.0
SSE				S	**S**	**10 01 43.1**	**-1.3**
SSE				sS		10 01 52.0	
SSE				LR	LR		
	comp=Z,50nm,18.5s,MS3.3						
AAK	**Ala-Archa**	**38.02**	**257**	*de*P	**P**	**09 56 11.3**	**+0.3**
AAK				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.5						
AAK				MLR	MLR		
	comp=Z,200nm,15.0s,MS4.0						
AAK	**Ala-Archa**	**38.02**	**257**	⇓*e*P	**P**	**09 56 11.3**	**+0.3**
	comp=Z,3.7nm,0.5s,mb4.4						
KAF	**Kangasniemi**	**39.11**	**313**	*e*p	**P**	**09 56 19.2**	**-0.6**
	comp=Z,1.9nm,0.3s,mb4.3						
KAF	**Kangasniemi**	**39.11**	**313**	*e*P	**P**	**09 56 19.2**	**-0.6**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.3						
FINES	**FINESS Array B**	**39.72**	**313**	P	**P**	**09 56 25.0**	**+0.1**
	comp=Z,1.3nm,0.4s,mb4.0,baz=45,slow=5.4,SNR=15						
FINES				LR	LR	10 15 13.3	
	comp=Z,91nm,18.6s,MS3.6,baz=232,slow=40						
FINES	**FINESS Array B**	**39.72**	**313**	P	**P**	**09 56 25.0**	**+0.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES				MLR	MLR		
	comp=Z,91nm,18.6s						
SUMG	**Summit**	**39.80**	**354**	*e*P	**P**	**09 56 20.1**	**-5.4**
	comp=Z,11nm,1.0s,mb4.5						
YKA	**Yellowknife Ar**	**42.36**	**38**	P	**P**	**09 56 46.5**	**+0.1**
	comp=Z,0.6nm,0.4s,mb3.6,baz=333,slow=7.8,SNR=6.5						
YKA	**Yellowknife Ar**	**42.36**	**38**	P	**P**	**09 56 46.5**	**+0.1**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
YKA	**Yellowknife Ar**	**42.36**	**38**	P	**P**	**09 56 46.5**	**+0.1**
NB2	**NORSAR Subarra**	**43.92**	**322**	P	**P**	**09 56 58.9**	**-0.2**
	comp=Z,2.6nm,0.8s,mb4.0,baz=30,slow=7.9						
NOA	**NORSAR Array B**	**43.92**	**322**	P	**P**	**09 56 59.2**	**+0.2**
	comp=Z,1.0nm,0.8s,mb3.6,baz=29,slow=5.7,SNR=2.8						
NOA				LR	LR	10 18 48.0	
	comp=Z,70nm,19.8s,MS3.6,slow=41						
NOA	**NORSAR Array B**	**43.92**	**322**	P	**P**	**09 56 59.3**	**+0.2**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NOA				MLR	MLR		
	comp=Z,71nm,19.8s						
NOA	**NORSAR Array B**	**43.92**	**322**	P	**P**	**09 56 59.2**	**+0.2**
NOA				LR	LR	10 18 48.0	
KKN	**Kakani**	**47.63**	**236**	*e*P	**P**	**09 57 29.8**	**+0.7**
	comp=Z,41nm,0.7s						
GKN	**Gorkha**	**47.64**	**237**	*e*P	**P**	**09 57 30.1**	**+0.9**
	comp=Z,21nm,0.3s						
AKASG	**Malin Array Be**	**47.79**	**302**	P	**P**	**09 57 29.4**	**-0.6**
	comp=Z,1.5nm,0.3s,mb4.4,baz=31,slow=9.0,SNR=8.8						
AKASG	**Malin Array Be**	**47.79**	**302**	P	**P**	**09 57 29.4**	**-0.6**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.3s						
PKI	**Pulchoki**	**47.80**	**236**	*e*P	**P**	**09 57 30.6**	**+0.2**
	comp=Z,18nm,0.7s,mb5.2						
DMN	**Daman**	**47.86**	**236**	*e*P	**P**	**09 57 31.7**	**+0.8**
	comp=Z,13nm,0.3s						
KOLN	**Koldanda**	**48.19**	**238**	*e*P	**P**	**09 57 33.1**	**-0.3**
	comp=Z,18nm,1.0s,mb5.0						
KIV	**Kislovodsk**	**48.92**	**287**	*e*P	**P**	**09 57 39.1**	**+0.2**
KIV				MLR	MLR		
	comp=Z,58nm,17.0s,MS3.6						
KIV	**Kislovodsk**	**48.92**	**287**	*e*P	**P**	**09 57 39.9**	**+1.0**
	comp=Z,21nm,0.7s,mb5.3						
SOC	**Sochi**	**50.33**	**289**	*e*P	**P**	**09 57 37.5**	**-12**
SOC				MLR	MLR		
	comp=Z,189nm,22.0s,MS4.1						
SOC				MLR	MLR		
	comp=N,108nm,18.0s,MS4.0						
SOC				MLR	MLR		
	comp=E,124nm,22.0s,MS4.0						
CMAR	**Chiang Mai Arr**	**52.74**	**217**	LR	LR	10 22 56.0	
	comp=E,78nm,18.7s,MS3.8,baz=350,slow=39						
GERES	**GERESS Array B**	**54.15**	**312**	P	**P**	**09 58 19.2**	**+1.1**
	comp=E,0.4nm,0.3s,mb3.8,baz=54,slow=8.4,SNR=1.8						
SHW	**Mount Saint He**	**54.64**	**54**	P	**P**	**09 58 27.5**	**+5.7**
MALT	**Malatya**	**55.41**	**287**	*e*P	**P**	**09 58 28.7**	**+1.1**
	comp=E,2.8nm,0.8s,mb4.3						
SSOR	**Sweet Springs**	**55.77**	**55**	P	**P**	**09 58 30.9**	**+0.8**
BRTR	**Keskin Array B**	**55.89**	**292**	P	**P**	**09 58 31.7**	**+0.7**
	comp=E,1.1nm,0.9s,mb3.9,baz=45,slow=6.1,SNR=3.1						
BRTR	**Keskin Array B**	**55.89**	**292**	P	**P**	**09 58 31.7**	**+0.7**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
BRTR	**Keskin Array B**	**55.89**	**292**	P	**P**	**09 58 31.7**	**+0.7**
SCHQ	**Schefferville**	**57.30**	**11**	P	**P**	**09 58 38.3**	**-2.6**
	comp=Z,2.4nm,0.5s,mb4.5,baz=351,slow=10,SNR=7.2						
ASF	**Jabal al Asfar**	**61.45**	**285**	LR	LR	10 27 18.9	
	comp=Z,43nm,18.9s,MS3.6,baz=255,slow=38						
PDAR	**Pinedale Array**	**61.47**	**46**	P	**P**	**09 59 08.2**	**-1.7**
	comp=Z,0.5nm,0.7s,mb3.8,baz=349,slow=7.6,SNR=3.8						
EIL	**Elat**	**64.42**	**286**	LR	LR	10 34 00.2	
	comp=Z,44nm,18.8s,MS3.7,baz=307,slow=42						
ESDC	**Sonseca Array**	**67.28**	**322**	P	**P**	**09 59 47.3**	**-0.3**
	comp=Z,0.3nm,0.3s,mb3.8,baz=2.4,slow=6.5,SNR=3.6						
ESDC				LR	LR	10 33 07.8	
	comp=Z,77nm,18.0s,MS4.0,baz=330,slow=40						
TXAR	**Lajitas Array**	**75.69**	**46**	P	**P**	**10 00 38.5**	**+0.4**
	comp=Z,0.4nm,0.6s,mb3.5,baz=44,slow=2.1,SNR=4.6						
WRA	**Warramunga Arr**	**87.40**	**175**	P	**P**	**10 01 38.6**	**-0.9**
	comp=Z,0.3nm,0.7s,mb3.6,baz=356,slow=5.6,SNR=4.7						
ASAR	**Alice Springs**	**91.09**	**175**	P	**P**	**10 01 56.4**	**-0.4**
	comp=Z,0.7nm,1.2s,mb3.9,slow=3.6,SNR=2.7						
DBIC	**Dimbokro**	**99.01**	**313**	LR	LR	10 54 56.7	
	comp=Z,62nm,20.2s,MS4.1,baz=15,slow=40						

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*HEL **22** 10:50:13.7±0.2, 59.53N×24.55E, ML1.6, ML2.0(UPP), Explosion*

*IDC **22** 10:50:14.7±2.4, 59.63N×24.66E, mb1 3.3/3, mb1mx3.1/16, ML2.7/3, Error ellipse: s-maj=27.0km s-min=8.2km az=143.0*

ISC 22 10:50:12.9±1.0**, 59.56N**±0.06×**24.50E**±0.09**, n15,** $\sigma 1^{s}$**14**/26**,**
Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PVF	**Pernaja**	**1.20**	**34**	*e*P	**Pb**	**10 50 35.1**	**-1.1**
PVF				*e*SN	**Sn**	**10 50 55.4**	**+1.4**
VJF	**Virojoki**	**1.82**	**56**	*e*P	**Pn**	**10 50 45.6**	**0.0**
VJF				*e*S	**Sn**	**10 51 08.7**	**-1.1**
FIA0	**FINESS Array S**	**2.04**	**22**	*e*P	**Pn**	**10 50 50.1**	**+1.2**
FIA0				*e*S	**Sn**	**10 51 16.1**	**+0.6**
FINES	**FINESS Array B**	**2.04**	**22**	Pn	**Pn**	**10 50 50.1**	**+1.2**
	3.9nm,0.3s,baz=202,slow=16,SNR=111						
FINES				Lg		10 51 15.7	
	2.4nm,0.3s,baz=209,slow=30,SNR=10.0						
AAL	**Aland**	**2.36**	**287**	*e*P	**Pn**	**10 50 54.3**	**+0.9**
AAL				*e*S	**Sn**	**10 51 26.1**	**+2.7**
KEF	**Keuruu**	**2.62**	**4**	*e*P	**Pn**	**10 50 58.8**	**+1.6**
KEF				*e*S	**Sn**	**10 51 29.8**	**-0.4**
KEF				*e*SB	**Sb**	**10 51 32.8**	**-0.6**
KEF				MSG		10 51 33.8	
	comp=Z,2.1nm,0.2s						
KAF	**Kangasniemi**	**2.71**	**18**	*e*P	**Pn**	**10 50 59.1**	**+0.7**
KAF				*e*SB	**Sb**	**10 51 35.7**	**-0.2**
KAF				MSG		10 51 36.9	
	comp=Z,1.6nm,0.2s						
NRTU	**Norrtaelje**	**2.99**	**275**	*e*P	**Pn**	**10 51 02.8**	**+0.5**
GRAU	**Graesoe**	**3.10**	**287**	*e*P	**Pn**	**10 51 03.6**	**-0.3**
SUF	**Sumiainen**	**3.27**	**13**	*e*P	**Pn**	**10 51 07.0**	**+0.6**
SUF				*e*S	**Sn**	**10 51 45.3**	**-1.3**
FLYU	**Flymyra**	**3.39**	**283**	*e*P	**Pn**	**10 51 08.2**	**+0.1**
FLYU				*e*S	**Sn**	**10 51 50.6**	**+1.0**
OSTU	**Oestervaala**	**3.77**	**283**	*e*P	**Pn**	**10 51 13.4**	**-0.2**
HFS	**Hagfors**	**5.48**	**281**	Pn	**Pn**	**10 51 36.4**	**-1.4**
	comp=Z,0.0nm,0.3s,baz=98,slow=15,SNR=6.9						
HFS				Sn	**Sn**	**10 52 40.2**	**-2.3**
	comp=Z,0.1nm,0.3s,baz=100,slow=26,SNR=4.2						
HFS				Lg		10 53 03.7	
	comp=Z,0.1nm,0.3s,baz=98,slow=32,SNR=4.0						
NOA	**NORSAR Array B**	**6.77**	**288**	Pn	**Pn**	**10 51 53.0**	**-2.9**
	comp=Z,0.2nm,0.3s,baz=43,slow=11,SNR=2.3						
NOA				Sn	**Sn**	**10 53 07.7**	**-7.0**
	comp=Z,0.2nm,0.3s,baz=303,slow=19,SNR=2.8						
NOA				Lg		10 53 44.3	
	comp=Z,0.3nm,0.3s,baz=61,slow=18,SNR=2.6						
ARCES	**ARCESS Array B**	**10.03**	**2**	Pn	**P**	**10 52 36.7**	**-4.3**
	comp=Z,0.1nm,0.3s,baz=181,slow=14,SNR=7.2						

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*TAP **22** 10:52:54.7, 24.44N×122.63E, h32^{km}, ML2.9*

JMA 22 10:52:53.6±0.1**, 24.50N×122.72E, h55**^{km}±1^{km}**, M2.6,**
Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.27**	**98**	P	P	10 53 02.9	-0.1
YOJ				S	S	10 53 09.6	-0.2
IRIF	**Iriomote-Funau**	**0.94**	**100**	P	P	10 53 10.7	-0.1
IRIF				S	S	10 53 23.5	-0.1
HATJ	**Hateruma jima**	**1.08**	**114**	P	P	10 53 12.7	-0.2
HATJ				*e*S	S	10 53 27.3	+0.2
JKRS	**Kuro-shima**	**1.20**	**102**	P	P	10 53 14.7	+0.2
JKRS				S	S	10 53 30.7	+0.7
JIJ	**Ishigaki jima**	**1.30**	**96**	P	P	10 53 15.5	-0.6
JIJ				S	S	10 53 31.9	-0.8
JTJ	**Tarama**	**1.81**	**85**	P	P	10 53 23.5	+0.5
JTJ				S	S	10 53 45.7	+0.9

NEIC 22 10:57:35.5, 36.80N×121.54W, h9^{km}**, MW3.7**(BRK)**, After NCEDC., Central California**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SAO	**San Andreas Ge**	**0.08**	**119**	*e*P	Pg	10 57 37.3	-0.5
LRV	**Little Rabbit**	**0.56**	**132**	*e*P	Pg	10 57 46.4	-0.5
LKC	**Lake Chabot**	**1.02**	**336**	*e*P	Pb	10 57 54.0	-1.0
SAC	**San Andreas**	**1.05**	**318**	*e*P	Pb	10 57 54.4	-1.1
CMB	**Columbia Colle**	**1.53**	**36**	*e*Pn	Pn	10 58 01.7	-1.6
NSHM	**Saint Helena R**	**1.91**	**334**	*e*Pn	Pn	10 58 06.2	-2.6
OMM	**Old Mammoth Mi**	**2.19**	**67**	*e*Pn	Pn	10 58 12.5	-0.2
MTUM	**Tungsten Hills**	**2.44**	**76**	*e*Pn	Pn	10 58 16.1	-0.2
HOPS	**Hopland**	**2.50**	**331**	*e*Pn	Pn	10 58 14.6	-2.5
OHCM	**Honcut**	**2.53**	**1**	*e*Pn	Pn	10 58 16.6	-0.9
WCN	**Washoe City**	**2.86**	**29**	*e*Pn	Pn	10 58 22.2	-0.1
MNV	**Mina**	**3.14**	**58**	Pn	Pn	10 58 26.4	+0.1
BEKR	**Beckwourth**	**3.20**	**16**	*e*Pn	Pn	10 58 26.4	-0.7
DAC	**Darwin (Calif)**	**3.22**	**98**	*e*Pn	Pn	10 58 26.1	-1.3
PAHR	**Pah Rah Range**	**3.36**	**30**	*e*Pg	Pg	10 58 37.5	-5.1
TPH	**Tonopah**	**3.66**	**68**	Pn	Pn	10 58 34.5	+0.9
TPH				*e*Pg	Pg	10 58 44.0	-4.6
TPH				*e*Sg	Sg	10 59 31.7	-5.7
MWC	**Mount Wilson**	**3.83**	**131**	*e*Pn	Pn	10 58 33.3	-2.7
WDC	**Whiskeytown Da**	**3.85**	**349**	Pn	Pn	10 58 34.6	-1.8
TPNV	**Topopah Spring**	**4.24**	**86**	*e*Pn	Pn	10 58 41.1	-0.7
MOD	**Modoc**	**5.18**	**10**	Pn	Pn	10 58 55.2	0.0
PFO	**Pinyon Flat Ob**	**5.24**	**126**	*e*Pn	Pn	10 58 53.2	-2.8
NEN	**Nelson**	**5.53**	**100**	*e*Pn	Pn	10 58 58.6	-1.5
BAR	**Barrett**	**5.74**	**134**	*e*Pn	Pn	10 58 59.1	-4.0
WVOR	**Wild Horse Val**	**6.05**	**21**	Pn	Pn	10 59 06.6	-0.9
ELK	**Elko**	**6.30**	**49**	*e*Pn	Pn	10 59 10.1	-0.8
ELK				*e*Sg	Sg	11 00 54.8	-10
ARUT	**Antelope Range**	**6.53**	**79**	Pn	Pn	10 59 14.0	-0.2
MSU	**Marysvale**	**7.62**	**74**	Pn	Pn	10 59 29.2	-0.3
TCUT	**Toone Canyon**	**8.99**	**58**	Pn	P	10 59 44.7	-3.9
HWUT	**Hardware Ranch**	**9.10**	**55**	Pn	P	10 59 47.9	-2.2

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*BJI **22** 11:03:50.8, 41.38N×141.37E, h123^{km}, mB5.0, mb5.1*

*IDC **22** 11:03:50.9±1.3, 41.39N×141.48E, h104^{km}±11^{km}, mb4.5/24, mb1 4.6/28, mb1mx4.5/30, MS3.0/3, Ms1 3.1/3, ms1mx3.0/28, Error ellipse: s-maj=12.5km s-min=9.6km az=111.0*

*MOS **22** 11:03:50.2±1.0, 41.40N×141.52E, h113^{km}, mb4.9/20, Error ellipse: s-maj=11.2km s-min=6.7km az=107.2*

*SYO **22** 11:03:51.9, 41.42N×141.32E, h111^{km}, MB5.0*

*JMA **22** 11:03:52.1±0.1, 41.38N×141.56E, h109^{km}±1^{km}, M4.8 Broadband fault plane solution: P waves. NP1:ϕ_s66°, δ21°, λ-17°. NP2:ϕ_s172°, δ84°, λ-110°. Principal axes: T Plg36°, Azm279°; N Plg20°, Azm174°; P Plg47°, Azm61°;*

JMA Felt III J1.

*NEIC **22** 11:03:54.0±0.1, 41.34N×141.37E, mb4.9/68, MW4.8(NIED) Error ellipse: s-maj=4.5km s-min=2.6km az=153.0*

NEIC Felt in Aomori Prefecture, Honshu. Recorded [3 JMA] in Aomori and Iwate Prefectures, Honshu. Recorded [2 JMA] in the Shizunai and Tomakomai areas and in southwestern Hokkaido. Recorded [1 JMA] in the Obihiro and Bekkai areas.

*HRVD **22** 11:03:54.0±0.5, 41.60N×141.40E, h122^{km}±6^{km}, MW4.9/50, Centroid moment Tensor Solution. LP body waves: s10,c10;Mantle waves: s50,c75; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.21±.21; $M_{\theta\theta}$-1.53±.20; $M_{\phi\phi}$1.32±.19; $M_{r\theta}$-0.87±.12; $M_{\theta\phi}$1.07±.16; $M_{\phi r}$1.80±.11; Best double couple: $M_0$2.69×10^{16} NP1:ϕ_s65°, δ42°, λ5°. NP2:ϕ_s332°, δ87°, λ132°. Principal axes: T 2.68, Plg34°, Azm276°; N .01, Plg41°, Azm149°; P -2.69, Plg29°, Azm29°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NIED **22** 11:04:00, 41.40N×141.60E, h101^{km}, Mw4.8 Best double couple: $M_0$1.86×10^{16} NP1:ϕ_s156°, δ90°, λ-115°. NP2: ϕ_s66°, δ25°, λ0°.*

ISC 22 11:03:51.0±0.2**, 41.37N**±0.02×**141.44E**±0.02**, h116**^{km}±1^{km}**,**
h122^{km}±3.2^{km}**:pP-P, n312,** $\sigma 1^{s}$**00**/347**, mb4.9**/108**, 23C-23D,**
Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JOT	**Ohata**	**0.30**	**272**	⇓P	**P**	**11 04 08.1**	**+0.6**
JOT				S	**S**	**11 04 20.7**	**+0.6**
JKB	**Kayabe**	**0.60**	**329**	⇓P	**P**	**11 04 10.0**	**+0.7**
JKB				S	**S**	**11 04 23.5**	**+0.3**
JTM	**Tenmabayashi**	**0.65**	**206**	⇓P	**P**	**11 04 10.4**	**+0.8**
JTM				S	**S**	**11 04 24.4**	**+0.5**
JSR	**Shiriuchi**	**0.79**	**282**	⇓P	**P**	**11 04 12.2**	**+1.4**
JSR				S	**S**	**11 04 26.7**	**+0.9**
JANG	**Nango**	**1.00**	**177**	⇓P	**P**	**11 04 12.9**	**-0.1**
JANG				S	**S**	**11 04 28.0**	**-1.4**
JYM2	**Yakumo 2**	**1.09**	**313**	⇓P	**P**	**11 04 15.4**	**+1.4**
JYM2				S	**S**	**11 04 33.3**	**+2.1**
JNB	**Noboribetsu**	**1.14**	**345**	⇓P	**P**	**11 04 14.8**	**+0.4**
JNB				S	**S**	**11 04 32.0**	**0.0**
JAH	**Hinai**	**1.33**	**208**	⇓P	**P**	**11 04 17.8**	**+1.2**
JNBK	**Urakawa-nobuka**	**1.33**	**47**	⇑P	**P**	**11 04 16.4**	**-0.3**
JNBK				S	**S**	**11 04 34.8**	**-1.3**
JIW	**Iwasaki**	**1.34**	**235**	⇓P	**P**	**11 04 18.1**	**+1.4**
JEM	**Erimo**	**1.44**	**63**	⇑P	**P**	**11 04 17.6**	**-0.3**
JEM				*e*S	**S**	**11 04 35.8**	**-2.4**
JEW	**Eniwo**	**1.47**	**0**	⇑P	**P**	**11 04 18.9**	**+0.7**
JEW				S	**S**	**11 04 38.5**	**-0.3**
JOSM	**Okushiri--Mats**	**1.63**	**296**	⇓P	**P**	**11 04 21.1**	**+0.9**
JOSM				S	**S**	**11 04 43.4**	**+1.2**
JCH	**Churui**	**1.90**	**48**	⇑P	**P**	**11 04 23.2**	**-0.2**
JCH				S	**S**	**11 04 45.7**	**-2.1**
JOM	**Ohasama**	**1.90**	**183**	⇓P	**P**	**11 04 23.8**	**+0.4**
JOM				*e*S	**S**	**11 04 47.8**	**-0.1**
JFR	**Furan**	**1.98**	**25**	P	**P**	**11 04 24.3**	**-0.2**
JFR				S	**S**	**11 04 48.9**	**-0.8**
ASAJ	**Asahikawa**	**2.87**	**17**	P	**P**	**11 04 35.8**	**-0.5**
	45nm,0.3s,baz=229,slow=12,SNR=324						
ASAJ				S	**S**	**11 05 08.2**	**-2.4**
	152nm,0.3s,baz=84,slow=31,SNR=24						
ASAJ	**Asahikawa**	**2.87**	**17**	P	**P**	**11 04 35.8**	**-0.5**
ASAJ				S	**S**	**11 05 08.2**	**-2.4**
ASAJ				pmax	pmax		
	comp=Z,45nm,0.3s						
ASAJ				smax			
	comp=N,152nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**4.21**	**49**	⇑*i*P	**P**	**11 04 52.1**	**-2.2**
YUK				*i* S	**S**	**11 05 36.1**	**-6.7**
YUK				pmax	pmax		
	comp=N,360nm,0.3s						
YUK				pmax	pmax		
	comp=E,160nm,0.3s						
YUK				pmax	pmax		
	comp=Z,760nm,0.3s						
YUK				pmax	pmax		
	comp=Z,6μm,2.0s						
YUK				pmax	pmax		
	comp=E,2μm,0.8s						
YUK				smax			
	comp=N,40μm,1.3s						
YUK				smax			
	comp=E,30μm,0.8s						
YUK				smax			
	comp=N,11μm,0.5s						
YUK				smax			
	comp=E,5μm,0.5s						
MAJO	**Matsushiro**	**5.44**	**209**	*e*P	**P**	**11 05 11.6**	**+0.6**
	comp=E,215nm,0.8s						
MAT	**Matsushiro**	**5.44**	**209**	P	**P**	**11 05 11.7**	**+0.7**
MAT				S	**S**	**11 06 09.7**	**-3.2**
MAT	**Matsushiro**	**5.44**	**209**	*e*P	**P**	**11 05 12.0**	**+1.0**
MAT				*e*S	**S**	**11 06 10.0**	**-2.9**
YSS	**Yuzh-Sakhalins**	**5.66**	**9**	*d i*P	**P**	**11 05 13.0**	**-0.9**
YSS				*e*S	**S**	**11 06 15.0**	**-3.2**
YSS				pmax	pmax		
	comp=Z,270nm,0.5s						
YSS				pmax	pmax		
	comp=N,230nm,0.6s						
YSS				smax			
	comp=E,800nm,1.5s						
YSS				smax			
	comp=N,470nm,1.2s						
YSS				smax			
	comp=E,340nm,1.2s						
YSS				MLR	MLR		

	comp=N,500nm,13.0s						
YSS				MLR	MLR		
	comp=Z,500nm,13.0s						
YSS	**Yuzh-Sakhalins**	**5.66**	**9**	⇓*i*P	**P**	**11 05 13.3**	**-0.6**
	comp=Z,153nm,0.5s						
KUR	**Kuril'sk**	**6.07**	**48**	*b* *i*P	**P**	**11 05 17.0**	**-2.5**
KUR				*i* S	**S**	**11 06 22.3**	**-5.9**
KUR				pmax	pmax		
	comp=N,80nm,0.6s						
KUR				pmax	pmax		
	comp=E,80nm,0.6s						
KUR				pmax	pmax		
	comp=Z,550nm,0.6s						
KUR				pmax	pmax		
	comp=Z,2µm,1.0s						
KUR				smax			
	comp=N,15µm,1.6s						
KUR				smax			
	comp=E,18µm,1.6s						
KUR				smax			
	comp=N,2µm,0.7s						
KUR				smax			
	comp=E,1µm,0.7s						
VLA	**Vladivostok**	**7.30**	**287**	⇓*i*P	**P**	**11 05 38.0**	**+1.7**
VLA				pmax	pmax		
	comp=Z,900nm,2.0s						
JHJ	**Hachijo jima 2**	**8.34**	**190**	P	**P**	**11 05 46.0**	**-4.4**
	comp=Z,90nm,0.3s,baz=223,slow=20,SNR=25						
JHJ				S	**S**	**11 07 15.0**	**-8.5**
	comp=Z,89nm,0.3s,baz=248,slow=22,SNR=14						
MDJ	**Mudanjiang**	**9.27**	**294**	P	**P**	**11 06 04.3**	**+1.5**
MDJ				XP		11 06 30.3	
MDJ				S	**S**	**11 07 50.4**	**+4.6**
MDJ				SCP		11 15 33.3	
MDJ				PCS		11 15 44.5	
MDJ				SCS	ScS	11 19 07.8	+1.4
MDJ				AMB	AMB		
	comp=Z,181nm,1.0s						
MDJ				AMB	AMB		
	comp=Z,207nm,4.9s						
MDJ				LR	LR		
	comp=N,294nm,18.3s						
MDJ				LR	LR		
	comp=E,123nm,16.6s						
MDJ				LR	LR		
	comp=Z,282nm,15.0s						
MDJ	**Mudanjiang**	**9.27**	**294**	*e*P	**P**	**11 06 04.2**	**+1.4**
	comp=Z,134nm,0.8s						
KLR	**Kul'dur**	**10.40**	**322**	*e*P	**P**	**11 06 17.3**	**-0.5**
KLR				*e*S	**S**	**11 08 13.5**	**+0.7**
KLR				MLR	MLR		
	comp=N,400nm,13.0s						
KLR				MLR	MLR		
	comp=Z,500nm,13.0s						
KS15	**Wonju Array Si**	**11.20**	**254**	*e*P	**P**	**11 06 29.6**	**+1.1**
CN2	**Changchun**	**12.04**	**287**	*e*P	**P**	**11 06 39.3**	**-0.2**
CN2				*e*XP		11 07 09.0	
CN2				*e*S	**S**	**11 08 50.0**	**-1.7**
CN2				AMB	AMB		
	comp=Z,30nm,1.0s						
CN2				AMB	AMB		
	comp=Z,200nm,8.0s						
INCN	**Inchon**	**12.09**	**256**	*e*P	**P**	**11 06 36.9**	**-3.3**
	comp=Z,26nm,0.9s						
SNY	**Shenyang**	**13.38**	**278**	⇑P	**P**	**11 06 58.1**	**+1.0**
SNY				LR	LR		
	comp=E,160nm,14.7s						
SNY				LR	LR		
	comp=Z,170nm,16.5s						
SKR	**Severo-Kuril's**	**13.78**	**43**	*e*P	**P**	**11 06 56.4**	**-5.7**
SKR				pmax	pmax		
	comp=Z,80nm,0.6s						
SKR				pmax	pmax		
	comp=N,110nm,1.0s						
SKR				pmax	pmax		
	comp=E,90nm,1.0s						
SKR				MLR	MLR		
	comp=Z,1µm,14.0s						
CBIJ	**Chichi jima**	**14.26**	**177**	P	**P**	**11 07 03.8**	**-4.6**
	comp=Z,13nm,0.3s,baz=288,slow=16,SNR=14						
CBIJ				S	**S**	**11 09 32.8**	**-11**
	comp=Z,9.0nm,0.3s,baz=336,slow=18,SNR=6.1						
DL2	**Dalian**	**15.35**	**267**	P	**P**	**11 07 23.3**	**+1.0**
DL2				S	**S**	**11 10 10.0**	**+0.9**
DL2				AMB	AMB		
	comp=Z,80nm,0.9s						
PET	**Petropavlovsk**	**16.46**	**39**	*e*P	**P**	**11 07 39.3**	**+3.3**
PET				*e*S	**S**	**11 10 26.0**	**-8.1**
PET				pmax	pmax		
	comp=Z,84nm,14.3s						
PET				MLR	MLR		
	comp=Z,515nm,28.0s						
HIA	**Hailar**	**17.14**	**305**	⇑*e*P	**P**	**11 07 42.5**	**-1.9**
	comp=Z,116nm,0.9s						
JOW	**Kunigami**	**18.11**	**221**	P	**P**	**11 07 54.1**	**-2.1**
	comp=Z,2.8nm,0.3s,baz=34,slow=9.7,SNR=14						
CLNS	**Chul'man**	**18.81**	**331**	*e*P	**P**	**11 08 04.6**	**+0.9**
CLNS				*e*S	**S**	**11 11 25.3**	**-0.7**
CLNS				pmax	pmax		
	comp=Z,21nm,0.8s						
CLNS				pmax	pmax		
	comp=N,14nm,0.9s						
CLNS				pmax	pmax		
	comp=E,16nm,0.8s						
CLNS				pmax	pmax		
	comp=Z,20nm,0.8s						
CLNS				pmax	pmax		
	comp=N,18nm,1.2s						
CLNS				pmax	pmax		
	comp=E,24nm,0.9s						
CLNS				smax			
	comp=N,23nm,1.0s						
CLNS				smax			
	comp=Z,7.0nm,0.9s						
CLNS				smax			
	comp=E,21nm,1.0s						
CLNS				MLR	MLR		
	comp=N,100nm,13.0s						
CLNS				MLR	MLR		
	comp=E,100nm,13.0s						
CLNS				MLR	MLR		
	comp=Z,100nm,13.0s						
MA2	**Magadan**	**19.13**	**15**	*e*P	**P**	**11 08 03.1**	**-4.0**
MA2				*e*S	**S**	**11 11 23.2**	**-9.3**
MA2				pmax	pmax		
	comp=Z,50nm,0.6s						
MA2	**Magadan**	**19.13**	**15**	*e*P	**P**	**11 08 03.7**	**-3.4**
	comp=Z,72nm,0.6s						
MA2				*e*		11 08 10.9	
BJI	**Beijing**	**19.19**	**274**	P	**P**	**11 08 05.6**	**-2.2**
BJI				AP		11 08 28.3	
BJI				XP		11 08 43.3	
BJI				AMB	AMB		
	comp=Z,99nm,1.3s						
BJI				AMB	AMB		
	comp=Z,312nm,3.4s						
BJI	**Beijing**	**19.19**	**274**	P	**P**	**11 08 05.6**	**-2.2**
	comp=Z,99nm,1.3s						
BJI				pP		11 08 28.2	
BJI				sP		11 08 43.2	
BJI				S	Sx	11 12 03.4	
BJI				sS		11 13 06.2	
BJT	**Baijiatuau**	**19.20**	**274**	*e*P	**P**	**11 08 05.5**	**-2.4**
	comp=Z,117nm,0.8s						
SSE	**Sheshan**	**19.25**	**244**	⇓P	**P**	**11 08 08.1**	**-0.4**
SSE				XP		11 08 46.6	
SSE				S	**S**	**11 11 35.5**	**+0.5**
SSE				AMB	AMB		
	comp=Z,74nm,0.8s						
SSE				AMB	AMB		
	comp=Z,94nm,7.2s						
SSE				LR	LR		
	comp=N,248nm,15.4s						
SSE				LR	LR		
	comp=E,159nm,15.3s						
SSE				LR	LR		
	comp=Z,217nm,17.0s						
SSE	**Sheshan**	**19.25**	**244**	⇓P	**P**	**11 08 08.1**	**-0.4**
	comp=Z,74nm,0.8s						
SSE				sP		11 08 46.6	
SSE				S	**S**	**11 11 35.5**	**+0.5**
SSE				sS		11 12 08.4	
TIA	**Tai'an**	**19.62**	**263**	P	**P**	**11 08 10.0**	**-2.4**
TIA				AMB	AMB		
	comp=Z,28nm,1.0s						
NJ2	**Nanjing**	**20.31**	**250**	*e*P	**P**	**11 08 17.4**	**-2.2**
NJ2				AP		11 08 37.1	
NJ2				PP	PP	11 08 44.1	+0.8
NJ2				XP		11 08 54.0	
NJ2				S	**S**	**11 11 52.0**	**-3.6**
NJ2				SS	SS	11 12 29.0	-5.0
NJ2				AMB	AMB		
	comp=Z,110nm,0.6s						
NJ2				AMB	AMB		
	comp=Z,2µm,5.4s						
NJ2				LR	LR		
	comp=N,720nm,13.6s						
NJ2				LR	LR		
	comp=E,840nm,20.5s						
NJ2				LR	LR		
	comp=Z,9µm,16.4s						
YAK	**Yakutsk**	**21.86**	**345**	*e*P	**P**	**11 08 32.8**	**-2.0**
YAK				*e*S	**S**	**11 12 23.5**	**-0.5**
YAK				pmax	pmax		
	comp=Z,19nm,0.8s,mb4.5						
YAK				pmax	pmax		
	comp=N,7.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,6.0nm,1.3s						
YAK				pmax	pmax		
	comp=N,6.0nm,0.8s						
YAK				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.2						
YAK				pmax	pmax		
	comp=E,6.0nm,0.9s						
YAK				smax			
	comp=N,46nm,1.2s						
YAK				smax			
	comp=Z,20nm,1.3s						
YAK				smax			
	comp=E,54nm,1.1s						
YAK				MLR	MLR		
	comp=Z,300nm,49.0s						
YAK				MLR	MLR		
	comp=N,200nm,38.0s						
YAK	**Yakutsk**	**21.86**	**345**	*e*P	**P**	**11 08 32.4**	**-2.5**
	comp=N,71nm,0.8s,mb5.0						
HHC	**Hu-ho-hao-te**	**22.47**	**279**	*e*P	**P**	**11 08 39.6**	**-1.3**
HHC				AP		11 09 02.3	
HHC				PP	PP	11 09 12.3	-0.2
HHC				XP		11 09 16.5	
HHC				S	**S**	**11 12 31.6**	**-3.2**
HHC				XS		11 13 11.4	
HHC				SS	SS	11 13 22.1	-4.0
HHC				PCS		11 16 10.6	
HHC				SCS	ScS	11 19 45.5	+3.3
HHC				AMB	AMB		
	comp=Z,41nm,0.9s,mb4.8						
HHC				AMB	AMB		
	comp=Z,71nm,5.5s						
SEY	**Seymchan**	**22.55**	**13**	*e*P	**P**	**11 08 39.7**	**-1.7**
SEY				*e*PPP		11 09 07.5	
SEY				*e*S	**S**	**11 12 27.7**	**-8.2**
SEY				*e*SSS		11 13 23.1	
SEY				pmax	pmax		
	comp=N,80nm,0.8s						
SEY				pmax	pmax		
	comp=E,40nm,0.8s						
SEY				pmax	pmax		
	comp=Z,200nm,0.8s,mb5.5						
SEY				MLR	MLR		
	comp=Z,200nm,15.0s						
TATO	**Taipei**	**23.29**	**232**	*e*P	**P**	**11 08 49.2**	**+0.3**
BTO	**Baotou**	**23.67**	**279**	*e*P	**P**	**11 08 51.3**	**-1.1**
BTO				AMB	AMB		
	comp=Z,86nm,0.8s,mb5.1						
BOD	**Bodaibo**	**23.98**	**323**	*e*P	**P**	**11 08 53.7**	**-1.5**
FX1	**Attu Island--F**	**24.25**	**51**	P	**P**	**11 08 58.5**	**+0.6**
	comp=Z,53nm,0.5s,mb5.1,baz=270,slow=3.4,SNR=18						
FX1				LR	LR	11 17 14.5	
	comp=Z,6.6nm,20.7s,baz=256,slow=33						
FX1	**Attu Island--F**	**24.25**	**51**	P	**P**	**11 08 58.5**	**+0.6**
FX1				pmax	pmax		
	comp=Z,53nm,0.5s						
FX1				MLR	MLR		
	comp=Z,7.0nm,20.7s						
FX1	**Attu Island--F**	**24.25**	**51**	*e*P	**P**	**11 08 58.4**	**+0.5**
WHN	**Wuhan**	**24.35**	**252**	*e*P	**P**	**11 08 58.3**	**-0.8**
SONM	**Songino Array**	**25.62**	**297**	P	**P**	**11 09 10.5**	**-0.3**
	comp=Z,10nm,0.5s,mb4.5,baz=89,slow=8.2,SNR=54						
SONM				ScP		11 16 06.5	
	comp=Z,4.0nm,0.9s,baz=90,slow=2.5,SNR=12						
XAN	**Xi'an**	**26.64**	**265**	P	**P**	**11 09 18.6**	**-1.8**
XAN				AMB	AMB		
	comp=Z,17nm,0.6s,mb4.8						
IRK	**Irkutsk**	**27.37**	**306**	*e*P	**P**	**11 09 26.7**	**-0.3**
IRK				*e*		11 10 21.1	
ZAK	**Zakamensk**	**27.79**	**302**	⇓*i*P	**P**	**11 09 29.7**	**-1.0**
ENH	**Enshi**	**28.03**	**257**	*e*P	**P**	**11 09 30.8**	**-2.3**
	comp=Z,34nm,0.6s,mb5.1						
MOY	**Mondy**	**29.32**	**304**	*e*P	**P**	**11 09 44.4**	**0.0**
LZH	**Lanzhou**	**29.64**	**272**	*e*P	**P**	**11 09 46.4**	**-1.0**
LZH				AP	pP	11 10 12.5	-0.4
LZH				PP	PP	11 10 45.0	-3.3
LZH				AMB	AMB		
	comp=Z,70nm,1.1s,mb5.2						
LZH				AMB	AMB		
	comp=Z,140nm,5.6s						
LZH				LR	LR		
	comp=N,410nm,11.2s						
LZH				LR	LR		
	comp=Z,750nm,13.8s						
LZH	**Lanzhou**	**29.64**	**272**	*e*P	**P**	**11 09 46.4**	**-1.0**
	comp=Z,70nm,1.1s,mb5.2						
LZH				pP	pP	11 10 12.5	-0.4
LZH				sP	sP	11 10 22.5	-3.8
LZH				PP	PP	11 10 45.0	-3.3
LZH				LR	LR		
	comp=Z,750nm,13.8s						
TIXI	**Tiksi**	**30.99**	**352**	*d* *e*P	**P**	**11 09 56.7**	**-2.3**
TIXI				*e**PP	pP	11 10 23.2	-1.5
TIXI				*e*		11 11 01.9	
TIXI				*e*		11 12 49.3	
TIXI				*e*S	**S**	**11 14 45.0**	**-8.8**
TIXI				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.6						
GTA	**Gaotai**	**31.55**	**280**	P	**P**	**11 10 03.8**	**-0.4**
GTA				AP	pP	11 10 28.4	-1.6
GTA				XP	sP	11 10 41.1	-2.4
GTA				PP	PP	11 11 11.4	-0.9
GTA				PCP	PcP	11 12 54.6	+0.5
GTA				S	**S**	**11 15 01.4**	**-1.5**
GTA				XS		11 15 45.3	
GTA				SCP		11 16 26.4	
GTA				PCS		11 16 39.1	
GTA				SS	SS	11 16 55.9	-4.1
GTA				SCS	ScS	11 20 24.6	+2.8
GTA				AMB	AMB		
	comp=Z,17nm,0.8s,mb4.8						
GTA				AMB	AMB		
	comp=Z,53nm,6.5s						
GTA				LR	LR		
	comp=N,65nm,17.9s						
GTA				LR	LR		
	comp=E,65nm,16.7s						
GTA				LR	LR		
	comp=Z,85nm,16.7s						
CD2	**Chengdu**	**31.95**	**263**	P	**P**	**11 10 05.6**	**-2.2**
CD2				AMB	AMB		
	comp=Z,60nm,0.6s,mb5.5						
GYA	**Guiyang**	**32.22**	**254**	⇑*i*P	**P**	**11 10 08.3**	**-1.9**
GYA				AP	pP	11 10 33.8	-2.3
GYA				XP	sP	11 10 46.8	-2.9
GYA				PP	PP	11 11 18.3	-2.7
GYA				PPP	PPP	11 11 35.4	-1.8
GYA				S	**S**	**11 15 09.1**	**-4.4**
GYA				SCS	ScS	11 20 26.3	+1.0
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.9						
GYA				AMB	AMB		
	comp=Z,200nm,4.5s						
GYA				LR	LR		
	comp=N,280nm,16.2s						
GYA				LR	LR		
	comp=E,340nm,16.5s						
GYA				LR	LR		
	comp=Z,150nm,16.5s						
KMI	**Kunming**	**35.86**	**255**	⇑*e*P	**P**	**11 10 41.3**	**+0.1**
KMI				AP	pP	11 11 06.1	-1.4
KMI				S	**S**	**11 16 08.1**	**-1.6**
KMI				AMB	AMB		
	comp=Z,21nm,0.8s,mb5.1						
KMI				AMB	AMB		
	comp=Z,169nm,4.1s						
KMI				LR	LR		
	comp=N,186nm,10.6s						
KMI				LR	LR		
	comp=E,109nm,13.7s						
KMI				LR	LR		
	comp=Z,117nm,24.0s						
KMI	**Kunming**	**35.86**	**255**	⇑*e*P	**P**	**11 10 41.3**	**+0.1**
	comp=Z,21nm,0.8s,mb5.1						
KMI				pP	pP	11 11 06.1	-1.4
KMI				S	**S**	**11 16 08.1**	**-1.6**
KMI				LR	LR		
	comp=Z,120nm,24.0s						
TNA	**Tin City**	**37.12**	**32**	P	**P**	**11 10 54.1**	**+2.7**
WMQ	**Urumqi**	**39.06**	**292**	P	**P**	**11 11 08.0**	**+0.2**
WMQ				AP	pP	11 11 33.3	-1.1
WMQ				XP	sP	11 11 46.3	-1.8
WMQ				AMB	AMB		
	comp=Z,32nm,1.1s,mb5.1						
WMQ				LR	LR		
	comp=Z,52nm,17.6s						
NVS	**Novosibirsk**	**39.96**	**310**	*i* P	**P**	**11 11 14.4**	**-0.7**
NVS				*e*		11 11 50.6	
NVS				*e*S	**S**	**11 17 06.6**	**-4.8**
NVS				pmax	pmax		
	comp=E,31nm,1.6s						
NVS				pmax	pmax		
	comp=Z,43nm,1.6s,mb5.0						
NVS				pmax	pmax		
	comp=N,29nm,1.9s						
NVS				smax			
	comp=E,21nm,1.9s						
CHRT	**Chiangrai**	**41.26**	**252**	⇑P	**P**	**11 11 27.0**	**+0.9**
	comp=E,303nm,0.8s						
NANT	**Nan**	**41.31**	**249**	SG	**P**	**11 11 25.0**	**-1.6**
KKTK	**Khon Kaen**	**41.52**	**245**	⇑P	**P**	**11 11 29.0**	**+0.7**
	comp=E,2µm,0.4s						
MKAR	**Makanchi Array**	**41.96**	**298**	P	**P**	**11 11 31.8**	**+0.2**
	comp=E,18nm,0.5s,mb5.0,baz=86,slow=10,SNR=152						
MKAR				PcP	PcP	11 13 24.5	-0.9
	comp=E,3.3nm,0.6s,baz=27,slow=2.4,SNR=2.5						
MKAR				ScP		11 17 03.9	
	comp=E,4.7nm,1.0s,baz=76,slow=5.0,SNR=7.9						
MKAR				LR	LR	11 30 41.0	
	comp=E,48nm,19.7s,baz=285,slow=38						
MKAR	**Makanchi Array**	**41.96**	**298**	P	**P**	**11 11 31.8**	**+0.3**
MKAR						11 13 24.5	
MKAR				pmax	pmax		
	comp=Z,18nm,0.5s						
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MKAR				pmax	pmax		
	comp=N,5.0nm,1.0s						
MKAR				MLR	MLR		
	comp=Z,48nm,19.7s						
MKAR	**Makanchi Array**	**41.96**	**298**	P	**P**	**11 11 31.8**	**+0.2**
MKAR				PcP	PcP	11 13 24.5	-0.9
MKAR				ScP		11 17 03.9	
MKAR				LR	LR	11 30 41.0	
LSA	**Lhasa**	**42.02**	**270**	P	**P**	**11 11 34.0**	**+1.8**
CHG	**Chiang Mai**	**42.55**	**251**	⇑P	**P**	**11 11 37.4**	**+0.7**
	comp=Z,40nm,0.6s,mb5.3						
CM31	**Chiang Mai Arr**	**42.78**	**251**	*e*P	**P**	**11 11 39.3**	**+0.7**
	comp=Z,9.5nm,0.6s,mb4.7						
CMAR	**Chiang Mai Arr**	**42.78**	**251**	P	**P**	**11 11 39.3**	**+0.7**
	comp=Z,9.1nm,0.6s,mb4.7,baz=42,slow=8.0,SNR=56						
CMAR				ScP		11 17 08.6	
	comp=Z,2.2nm,0.8s,baz=23,slow=3.3,SNR=11						
CMAR				LR	LR	11 28 41.3	
	comp=Z,55nm,20.2s,baz=180,slow=35						
CMAR	**Chiang Mai Arr**	**42.78**	**251**	P	**P**	**11 11 39.3**	**+0.7**
CMAR				pmax	pmax		
	comp=Z,9.0nm,0.6s						
CMAR				pmax	pmax		
	comp=N,2.0nm,0.8s						
CMAR				MLR	MLR		
	comp=Z,55nm,20.2s						
IMA	**Indian Mountai**	**42.99**	**33**	*e*P	**P**	**11 11 40.1**	**+0.5**
KURK	**Kurchatov**	**43.38**	**305**	*i* P	**P**	**11 11 42.9**	**-0.1**
KURK				pmax	pmax		
	comp=Z,17nm,0.8s,mb4.8						
KURK	**Kurchatov**	**43.38**	**305**	*e*P	**P**	**11 11 42.7**	**-0.3**
	comp=Z,38nm,0.8s,mb5.2						
BDT	**Bhumibol Dam**	**43.55**	**249**	P	**P**	**11 11 46.0**	**+1.2**
RSO	**Redoubt South**	**43.55**	**41**	*e*P	**P**	**11 11 45.0**	**+0.7**
SHL	**Shillong**	**43.65**	**265**	*e*P	**P**	**11 11 45.0**	**-0.5**
SHL				*e*		11 14 12.0	
SPU	**Mount Spurr**	**43.83**	**40**	*e*P	**P**	**11 11 47.3**	**+0.8**
KDAK	**Kodiak Island**	**43.93**	**45**	*e*P	**P**	**11 11 46.4**	**-0.9**
	comp=Z,76nm,1.2s,mb5.3						
MCK	**McKinley**	**45.07**	**36**	*e*P	**P**	**11 11 56.6**	**+0.3**
	comp=Z,27nm,1.1s,mb4.9						
PMR	**Palmer**	**45.19**	**39**	*e*P	**P**	**11 11 56.6**	**-0.8**
COLA	**College**	**45.45**	**34**	*d* *i*P	**P**	**11 11 59.8**	**+0.4**
COLA	**College**	**45.45**	**34**	*e*P	**P**	**11 12 00.0**	**+0.6**
COLA				LR	LR		
	comp=Z,100nm,17.0s						
SML	**Sawmill**	**45.54**	**39**	*e*P	**P**	**11 12 00.3**	**+0.2**
ILAR	**Eielson Array**	**45.87**	**35**	P	**P**	**11 12 02.3**	**-0.4**
	comp=Z,39nm,1.0s,mb5.1,baz=267,slow=6.1,SNR=319						
ILAR	**Eielson Array**	**45.87**	**35**	P	**P**	**11 12 02.3**	**-0.4**
ILAR				pmax	pmax		
	comp=Z,39nm,1.0s						
DIV	**Divide**	**46.86**	**39**	*e*P	**P**	**11 12 10.7**	**+0.2**
	comp=Z,291nm,1.3s,mb5.8						
EYAK	**Cordova Ski Ar**	**46.97**	**40**	*e*P	**P**	**11 12 11.7**	**+0.3**
KKN	**Kakani**	**47.41**	**272**	*e*P	**P**	**11 12 15.7**	**+0.3**
	comp=Z,131nm,0.8s,mb5.7						
PKI	**Pulchoki**	**47.43**	**272**	*e*P	**P**	**11 12 15.4**	**-0.1**
	comp=Z,84nm,0.8s,mb5.5						
VOSK	**Vostochnaya**	**47.49**	**309**	P	**P**	**11 12 15.3**	**-0.3**
VOSK				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.6						
DMN	**Daman**	**47.64**	**272**	*e*P	**P**	**11 12 17.4**	**+0.3**
	comp=Z,96nm,0.7s,mb5.7						
TKM2	**Tokmak 2**	**47.70**	**295**	P	**P**	**11 12 18.2**	**+0.9**
	SNR=89						
BVA0	**Borovoye Array**	**47.75**	**309**	*i* P	**P**	**11 12 17.5**	**-0.1**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.8						
BVAR	**Borovoye Array**	**47.75**	**309**	P	**P**	**11 12 17.6**	**0.0**
	comp=Z,13nm,0.4s,mb5.1,baz=80,slow=9.0,SNR=92						
GKN	**Gorkha**	**47.79**	**273**	*e*P	**P**	**11 12 18.1**	**-0.2**
	comp=Z,117nm,0.6s,mb5.9						
BRVK	**Borovoye**	**47.80**	**310**	⇑*e*P	**P**	**11 12 17.8**	**-0.2**
	comp=Z,10nm,0.6s,mb4.8						
KBK	**Karagaybulak**	**48.24**	**295**	P	**P**	**11 12 22.1**	**+0.5**
	SNR=46						
KZA	**Kyzart**	**48.26**	**294**	P	**P**	**11 12 23.2**	**+1.5**
	SNR=19						
USP	**Ospenovka**	**48.32**	**296**	P	**P**	**11 12 22.3**	**+0.1**
	SNR=17						
FRU	**Bishkek**	**48.40**	**295**	*e*P	**P**	**11 12 23.0**	**+0.2**
FRU				pmax	pmax		
	comp=Z,60nm,1.6s,mb5.2						
AAK	**Ala-Archa**	**48.56**	**295**	P	**P**	**11 12 24.2**	**+0.2**
	SNR=22						
AAK	**Ala-Archa**	**48.56**	**295**	*c* *i*P	**P**	**11 12 22.9**	**-1.1**
AAK				pmax	pmax		
	comp=Z,11nm,0.6s,mb5.0						
AAK	**Ala-Archa**	**48.56**	**295**	*e*P	**P**	**11 12 22.8**	**-1.3**
	comp=Z,17nm,0.5s,mb5.2						
ZRNK	**Zerenda**	**48.57**	**310**	P	**P**	**11 12 24.0**	**0.0**
ZRNK				pmax	pmax		
	comp=Z,15nm,0.6s,mb5.1						
ZRNK	**Zerenda**	**48.57**	**310**	*e*P	**P**	**11 12 24.0**	**0.0**
	comp=Z,26nm,0.6s,mb5.3						
KOLN	**Koldanda**	**48.69**	**273**	*e*P	**P**	**11 12 25.3**	**+0.1**
	comp=Z,68nm,0.6s,mb5.8						
UCH	**Uchtor**	**48.70**	**295**	P	**P**	**11 12 29.3**	**+4.2**
	SNR=14						
KSH	**Kashi**	**48.77**	**291**	*e*P	**P**	**11 12 27.0**	**+1.3**
KSH				*e*AP	pP	11 12 52.1	-0.9
KSH				*e*XP	sP	11 13 06.3	+0.3
KSH				*e*PCP	PcP	11 13 50.3	+1.1
KSH				*e*PP	PP	11 14 22.5	+2.6
KSH				*e*PPP	PPP	11 15 17.8	+1.9
KSH				*e*SCP		11 17 34.6	
KSH				*e*S	**S**	**11 19 20.0**	**+1.6**
KSH				*e*PS	PS	11 19 29.8	-18
KSH				*e*XS		11 20 05.3	
KSH				*e*SCS	ScS	11 22 05.8	+2.6
KSH				*e*SS	SS	11 22 47.0	+0.7
KSH				AMB	AMB		

	comp=Z,40nm,1.0s,mb5.3						
KSH				AMB	AMB		
	comp=Z,150nm,7.3s						
KSH				LR	LR		
	comp=N,310nm,4.2s						
KSH				LR	LR		
	comp=E,220nm,5.7s						
EKS2	Erkin-Say	49.04	295	P	P	11 12 27.8	+0.1
	SNR=30						
DAWY	Dawson	49.19	35	eP	P	11 12 28.1	-0.5
AML	Almayashu	49.30	295	P	P	11 12 30.4	+0.7
	SNR=30						
JOSI	Joshimath	50.28	278	eP	P	11 12 36.6	-0.7
INK	Inuvik	50.55	29	eP	P	11 12 38.6	-0.3
	comp=E,26nm,0.6s,mb5.4						
KLP	Kalpa	50.76	280	eP	P	11 12 41.5	+0.4
KLP				AMb	AMB	11 12 45.7	
	comp=Z,124nm,1.0s,mb5.9						
KLP				e		11 19 49.2	
KLP				e		11 19 51.6	
SVE	Sverdlovsk	51.97	316	⇓eP	P	11 12 49.7	0.0
NDI	New Delhi	52.99	278	eP	P	11 12 56.0	-1.8
ARU	Arti	53.18	316	⇓iP	P	11 12 58.6	-0.2
ARU				e		11 14 02.0	
ARU				e		11 14 54.7	
ARU				eS	S	11 20 16.8	-1.9
ARU				eSS	SS	11 23 52.4	-6.8
ARU				pmax	pmax		
	comp=Z,32nm,1.7s,mb5.1						
ARU	Arti	53.18	316	eP	P	11 12 58.2	-0.5
	comp=Z,14nm,0.8s,mb5.1						
AGRA	Agra	53.22	276	eP	P	11 12 59.0	-0.5
AGRA				AMb	AMB	11 13 01.2	
	comp=Z,51nm,0.2s						
AGRA				e		11 19 53.0	
SONA	Sohna	53.32	277	eP	P	11 12 59.2	-1.0
SONA				e		11 13 00.5	
	comp=Z,35nm,0.5s						
KHET	Khetri	54.37	278	eP	P	11 13 06.7	-1.1
KHET				e		11 13 08.0	
	comp=Z,7.9nm,0.3s						
KAKA	Kakadu	54.44	191	eP	P	11 13 10.6	+2.1
	comp=Z,8.6nm,0.8s,mb4.8						
BHPL	Bhopal	55.83	272	eP	P	11 13 16.9	-1.6
KGD	Kothagudem	56.77	264	eP	P	11 13 22.7	-2.5
KGD				epP	pP	11 13 49.2	-4.0
KGD				ePP	PP	11 15 29.2	-4.8
KGD				eS	S	11 21 07.1	+0.1
KGD				eScS	ScS	11 23 00.1	+1.0
RES	Resolute Bay	58.41	15	eP	P	11 13 34.2	-1.7
HYB	Hyderabad	58.44	266	i P	P	11 13 36.0	-0.9
HYB	Hyderabad	58.44	266	eP	P	11 13 36.0	-0.9
KEV	Kevo	59.41	338	ep	P	11 13 39.3	-3.6
	comp=Z,0.9nm,0.3s,mb4.3						
KEV	Kevo	59.41	338	eP	P	11 13 39.3	-3.6
KEV				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.3						
ARCES	ARCESS Array B	59.96	339	P	P	11 13 44.9	-1.8
	comp=Z,3.0nm,0.6s,mb4.5,baz=52,slow=7.3,SNR=12						
ARCES	ARCESS Array B	59.96	339	P	P	11 13 44.9	-1.8
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.6s						
YKA	Yellowknife Ar	60.07	31	P	P	11 13 46.5	-1.1
	comp=Z,4.7nm,0.7s,mb4.7,baz=304,slow=6.9,SNR=9.9						
YKA	Yellowknife Ar	60.07	31	P	P	11 13 46.5	-1.0
YKA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
YKA	Yellowknife Ar	60.07	31	P	P	11 13 46.5	-1.1
FITZ	Fitzroy Crossi	60.96	197	eP	P	11 13 53.2	-1.0
	comp=Z,8.2nm,0.9s,mb4.8						
CTA	Charters Tower	61.31	175	P	P	11 13 55.1	-1.4
	comp=Z,2.3nm,0.5s,mb4.4,baz=329,slow=5.9,SNR=4.3						
CTA	Charters Tower	61.31	175	P	P	11 13 55.1	-1.4
CTA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
WRAB	Tennant Creek	61.34	188	eP	P	11 13 54.8	-2.0
	comp=Z,22nm,0.9s,mb5.2						
WB2	Warramunga Arr	61.35	188	⇑iP	P	11 13 54.8	-2.0
WRA	Warramunga Arr	61.36	188	P	P	11 13 54.9	-1.9
	comp=Z,8.3nm,0.5s,mb5.0,baz=3.4,slow=6.9,SNR=67						
WRA				pP	pP	11 14 22.0	-3.3
	comp=Z,3.5nm,0.5s,baz=4.1,slow=7.0,SNR=3.4						
WRA	Warramunga Arr	61.36	188	P	P	11 13 54.9	-1.9
WRA				*PP	pP	11 14 22.0	-3.3
WRA				pmax	pmax		
	comp=Z,8.0nm,0.5s						
WRA				pmax	pmax		
	comp=N,4.0nm,0.5s						
KAD	Karad	61.80	269	eP	P	11 13 58.8	-1.0
KAD				AMb	AMB	11 13 59.7	
	comp=Z,62nm,1.0s,mb5.6						
HDW	Hoodsport	64.13	48	P	P	11 14 15.0	+0.3
KAF	Kangasniemi	64.48	332	ep	P	11 14 13.2	-3.5
	comp=Z,1.1nm,0.4s,mb4.0						
KAF	Kangasniemi	64.48	332	eP	P	11 14 13.2	-3.5
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.0						
RPW	Rockport	64.54	47	P	P	11 14 16.9	-0.5
OBN	Obninsk	64.66	322	eP	P	11 14 15.9	-2.1
OBN				pmax	pmax		
	comp=Z,28nm,1.3s,mb4.9						
OBN				MLR	MLR		
	comp=Z,100nm,18.0s						
BMW	Boistfort Moun	64.69	50	P	P	11 14 18.6	+0.2
FINES	FINESS Array B	65.01	331	P	P	11 14 19.4	-0.8
	comp=Z,2.2nm,0.4s,mb4.3,baz=41,slow=8.5,SNR=27						
FINES	FINESS Array B	65.01	331	P	P	11 14 19.4	-0.8
FINES				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ASAR	Alice Springs	65.08	188	P	P	11 14 20.1	-1.3
	comp=Z,4.0nm,0.7s,mb4.4,baz=11,slow=8.8,SNR=73						
ASAR				pP	pP	11 14 47.5	-2.6
	comp=Z,4.9nm,0.8s,baz=7.4,slow=6.0,SNR=7.8						
ASPA	Alice Springs	65.08	188	eP	P	11 14 19.9	-1.4
FMW	Mount Fremont	65.31	48	P	P	11 14 22.4	0.0
NLW	Nelson Butte	65.40	47	eP	P	11 14 22.2	-0.7
SHW	Mount Saint He	65.41	49	eP	P	11 14 23.8	+0.7
WTV	Waterville	65.83	47	P	P	11 14 25.0	-0.7
EBG	Ellensburg	65.95	48	P	P	11 14 26.4	0.0
SSOR	Sweet Springs	66.05	51	eP	P	11 14 27.6	+0.5
TDH	Tom, Dick, Har	66.19	50	P	P	11 14 28.1	+0.1
SUMG	Summit	66.35	360	eP	P	11 14 28.6	0.0
	comp=Z,42nm,1.3s,mb5.1						
VGB	Gordon Butte	66.64	49	eP	P	11 14 31.1	+0.2
DPW	Davenport	66.69	46	eP	P	11 14 30.4	-0.7
HAWA	Hanford	66.83	48	eP	P	11 14 31.9	-0.1
	comp=Z,1.3nm,0.9s,mb3.8						
NEW	Newport	67.04	45	eP	P	11 14 33.0	-0.3
	comp=Z,15nm,1.0s,mb4.8						
HUMO	Hull Mountain	67.05	53	eP	P	11 14 33.6	+0.2
	comp=Z,3.8nm,0.8s,mb4.3						
GOF	Gofitskoye	67.26	311	⇓iP	P	11 14 34.5	-0.3
GOF				pmax	pmax		
	comp=Z,50nm,1.2s,mb5.2						
KHMM	Horse Mountain	67.59	55	eP	P	11 14 37.9	+1.1
YBH	Yreka Blue Hor	67.71	54	eP	P	11 14 38.2	+0.6
	comp=Z,26nm,1.2s,mb4.9						
LNOR	Lincton Mounta	67.83	48	eP	P	11 14 38.4	+0.1
KIV	Kislovodsk	68.12	310	c iP	P	11 14 40.5	+0.4
KIV				e*PP	pP	11 15 16.2	+7.2
KIV				eS	S	11 23 26.2	-2.7
KIV				pmax	pmax		
	comp=Z,59nm,0.9s,mb5.4						
KIV	Kislovodsk	68.12	310	eP	P	11 14 40.9	+0.8
	comp=Z,71nm,0.9s,mb5.5						
WDC	Whiskeytown Da	68.50	55	eP	P	11 14 42.5	+0.1
	comp=Z,30nm,1.1s,mb5.0						
MOD	Modoc	69.06	52	eP	P	11 14 46.0	+0.1
	comp=Z,7.7nm,0.9s,mb4.5						
MSO	Missoula	69.62	45	eP	P	11 14 48.3	-1.0
WVOR	Wild Horse Val	69.72	51	eP	P	11 14 49.7	-0.2
	comp=Z,22nm,1.2s,mb4.9						
OHCM	Honcut	69.89	55	eP	P	11 14 50.6	-0.4
CHMT	Chamberlain Mo	69.93	45	eP	P	11 14 50.9	-0.3
SOC	Sochi	70.05	311	i P	P	11 14 51.7	-0.2
SOC				eS	S	11 23 43.7	-8.0
SOC				e		11 24 43.2	
SOC				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.8						
SOC				pmax	pmax		
	comp=N,4.0nm,0.3s						
SOC				pmax	pmax		
	comp=E,4.0nm,0.3s						
NB2	NORSAR Subarra	70.21	337	P	P	11 14 51.9	-0.6
	comp=E,2.2nm,0.5s,mb4.2,baz=37,slow=6.2						
NOA	NORSAR Array B	70.21	337	P	P	11 14 52.2	-0.4
	comp=E,3.3nm,0.7s,mb4.3,baz=38,slow=6.1,SNR=12						
NOA	NORSAR Array B	70.21	337	P	P	11 14 52.2	-0.3
NOA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
NOA	NORSAR Array B	70.21	337	P	P	11 14 52.2	-0.4
BEKR	Beckwourth	70.26	54	eP	P	11 14 52.9	-0.3
	comp=Z,34nm,1.0s,mb5.1						
ANN	Anapa	70.57	313	eP	P	11 14 49.6	-5.4
ANN				pmax	pmax		
	comp=Z,70nm,1.2s,mb5.4						
HRY	Holter Researc	70.81	44	eP	P	11 14 56.6	+0.2
AKASG	Malin Array Be	70.90	321	P	P	11 14 56.4	-0.5
	comp=Z,8.8nm,0.5s,mb4.8,baz=44,slow=6.0,SNR=6.0						
AKASG	Malin Array Be	70.90	321	P	P	11 14 56.4	-0.5
AKASG				pmax	pmax		
	comp=Z,9.0nm,0.5s						
WCN	Washoe City	70.97	54	eP	P	11 14 57.8	+0.3
	comp=Z,28nm,1.2s,mb5.0						
CMB	Columbia Colle	71.37	56	eP	P	11 14 60.0	+0.1
	comp=Z,17nm,1.0s,mb4.8						
CMB				epP	pP	11 15 33.1	+3.9
HLID	Hailey	71.43	48	eP	P	11 15 00.4	+0.3
	comp=Z,16nm,1.1s,mb4.8						
MCMT	McKenzie Canyo	71.48	46	eP	P	11 15 00.3	-0.2
QLMT	Earthquake Lak	72.25	46	eP	P	11 15 05.6	+0.6
NVAR	Mina Array Bea	72.40	54	P	P	11 15 06.7	+0.6
	comp=Z,12nm,0.7s,mb4.8,baz=301,slow=4.6,SNR=75						
OMM	Old Mammoth Mi	72.49	55	eP	P	11 15 07.3	+0.8
OMM				epP	pP	11 15 40.3	+4.4
MNV	Mina	72.49	54	eP	P	11 15 06.7	+0.2
	comp=Z,7.5nm,0.8s,mb4.6						
MNV				epP	pP	11 15 39.8	+4.0
YMR	Madison River	72.60	45	eP	P	11 15 07.8	+0.8
ELK	Elko	72.76	51	eP	P	11 15 08.5	+0.5
	comp=Z,5.3nm,0.8s,mb4.4						
STKA	Stephens Creek	72.89	180	eP	P	11 15 08.5	-0.4
	comp=Z,3.3nm,0.8s,mb4.2						
STKA	Stephens Creek	72.89	180	P	P	11 15 08.8	-0.1
	comp=Z,3.5nm,0.7s,mb4.3,baz=332,slow=6.1,SNR=7.5						
MTUM	Tungsten Hills	72.92	55	eP	P	11 15 09.8	+0.8
IMW	Indian Meadow	73.13	46	eP	P	11 15 11.3	+1.3
TPH	Tonopah	73.29	54	eP	P	11 15 11.7	+0.5
	comp=Z,41nm,1.5s,mb5.0						
TPH				epP	pP	11 15 45.0	+4.4
MOOW	Moose Ponds	73.33	46	eP	P	11 15 12.2	+0.9
MOOW				epP	pP	11 15 43.4	+2.8
TPAW	Teton Pass	73.39	46	eP	P	11 15 12.2	+0.6
DGMT	Dagmar	73.45	39	eP	P	11 15 11.5	-0.4
	comp=Z,14nm,0.7s,mb4.9						
SNOW	Snow King Moun	73.52	46	eP	P	11 15 13.0	+0.6
REDW	Red Top Meadow	73.53	46	eP	P	11 15 13.5	+1.1
UMR	Umm Al-Rimmam	73.71	295	eP	P	11 15 13.4	-0.4
UMR				AMb	AMB	11 15 14.4	
	comp=Z,45nm,0.7s,mb5.3						
MIB	Mutribah	73.81	295	eP	P	11 15 13.7	-0.7
MIB				AMb	AMB	11 15 14.8	
	comp=Z,63nm,0.8s,mb5.4						
KBD	Kabd	73.96	295	eP	P	11 15 14.6	-0.7
QRN	Al-Qurain	74.07	294	eP	P	11 15 15.8	-0.1
MALT	Malatya	74.15	307	eP	P	11 15 17.2	+1.1
	comp=Z,20nm,1.0s,mb4.8						
MALT				esP	sP	11 15 57.8	-0.4
RDF	Al-Radifah	74.21	295	eP	P	11 15 16.8	0.0
RDF				AMb	AMB	11 15 17.9	
	comp=Z,79nm,1.1s,mb5.4						
RST	Umm Al-Ruwaisa	74.23	295	eP	P	11 15 15.6	-1.2
RST				AMb	AMB	11 15 16.7	
	comp=Z,54nm,0.8s,mb5.3						
HWUT	Hardware Ranch	74.30	48	eP	P	11 15 17.6	+0.7
	comp=Z,26nm,1.1s,mb4.9						
HWUT				epP	pP	11 15 51.4	+4.9
DUG	Dugway	74.52	50	eP	P	11 15 18.7	+0.4
	comp=Z,1.6nm,1.2s						
TPNV	Topopah Spring	74.60	54	eP	P	11 15 18.9	+0.1
	comp=Z,25nm,0.8s,mb5.0						
NOQ	North Oquirrh	74.62	49	eP	P	11 15 19.6	+0.7
PDAR	Pinedale Array	74.63	46	P	P	11 15 18.9	+0.1
	comp=Z,10nm,0.7s,mb4.7,baz=275,slow=1.9,SNR=89						
TCUT	Toone Canyon	74.71	48	eP	P	11 15 18.9	-0.4
HASS	Wahat al Ahsa’	75.05	290	P	P	11 15 20.6	-0.9
NLU	North Lily Min	75.11	50	eP	P	11 15 22.2	+0.7
DAU	Daniels Canyon	75.27	49	eP	P	11 15 23.4	+0.9
OJC	Ojcow	75.47	326	eP	P	11 15 24.4	+1.0
ARUT	Antelope Range	75.75	52	eP	P	11 15 26.2	+0.9
ULM	Lac du Bonnet	75.88	34	P	P	11 15 24.9	-0.8
	comp=Z,6.6nm,0.7s,mb4.5,baz=324,slow=8.9,SNR=5.6						
MSU	Marysvale	76.01	51	eP	P	11 15 27.9	+1.1
MSU				epP	pP	11 16 01.2	+4.8
BRTR	Keskin Array B	76.02	311	P	P	11 15 27.1	+0.4
	comp=Z,5.9nm,1.0s,mb4.2,baz=56,slow=4.5,SNR=11						
BRTR				PP	PP	11 18 19.1	-1.1
	comp=Z,0.6nm,0.5s,baz=90,slow=2.5,SNR=4.0						
BRTR	Keskin Array B	76.02	311	P	P	11 15 27.2	+0.5
BRTR						11 18 19.1	
BRTR				pmax	pmax		
	comp=Z,6.0nm,1.0s						
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
LDFC	Landfair	76.52	55	eP	P	11 15 30.4	+0.7
SRU	San Rafael	76.56	50	eP	P	11 15 30.3	+0.5
SRU				ePP	PP	11 18 26.4	+1.8
RSSD	Black Hills	76.60	42	eP	P	11 15 30.1	+0.2
	comp=Z,15nm,0.9s,mb4.7						
PFO	Pinyon Flat Ob	76.64	57	eP	P	11 15 30.6	+0.2
	comp=Z,11nm,1.0s,mb4.5						
NWAO	Narrogin (SRO)	77.22	201	P	P	11 15 33.5	-0.1
	comp=Z,7.5nm,0.5s,mb4.7,baz=38,slow=5.1,SNR=10						
NWAO	Narrogin (SRO)	77.22	201	P	P	11 15 33.5	-0.1
NWAO				pmax	pmax		
	comp=Z,8.0nm,0.5s						
PV10	Paradox Valley	77.91	49	eP	P	11 15 38.3	+1.0
RW3	Ridgway	78.77	49	eP	P	11 15 43.1	+1.2
RW3				epP	pP	11 16 17.4	+5.6
ISCO	Idaho Springs	78.83	46	eP	P	11 15 43.1	+0.9
	comp=Z,5.2nm,0.7s,mb4.5						
KHC	Kasperske Hory	78.87	328	eP	P	11 15 43.2	+0.9
MZLS	Mizel	78.94	292	P	P	11 15 43.2	0.0
GERES	GERESS Array B	79.05	328	P	P	11 15 44.0	+0.7
	comp=Z,1.1nm,0.4s,mb4.0,baz=38,slow=5.4,SNR=6.2						
GERES	GERESS Array B	79.05	328	P	P	11 15 44.0	+0.7
GERES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
RAYN	Ar Rayn	79.06	292	P	P	11 15 43.8	0.0
	comp=Z,152nm,0.7s,mb5.9,SNR=26						
ARSS	Ar Rass	79.10	295	P	P	11 15 43.8	-0.2
HILS	Ha’il	79.10	297	P	P	11 15 44.5	+0.5
PGB	Panagyurishte	79.12	318	P	P	11 15 44.0	+0.2
ASF	Jabal al Asfar	79.13	303	P	P	11 15 45.1	+1.0
	comp=Z,7.3nm,0.7s,mb4.6,baz=281,slow=2.4,SNR=9.8						
VTS	Vitosha	79.57	319	i P	P	11 15 47.0	+0.8
MMB	Musomiste	80.05	318	i P	P	11 15 50.0	+1.2
KKB	Krupnik	80.17	318	P	P	11 15 50.3	+0.8
SDCO	Great Sand Dun	80.35	48	eP	P	11 15 51.1	+0.6
	comp=Z,9.4nm,1.1s,mb4.5						
AFFS	‘Afif	80.53	293	P	P	11 15 52.0	+0.2
TUC	Tucson	81.04	55	eP	P	11 15 54.9	+0.5
	comp=Z,10nm,1.2s,mb4.5						
LAZ	Ladron	81.78	51	eP	P	11 15 59.5	+1.4
KBRS	Khaybar	81.85	297	P	P	11 15 59.6	+1.0
BNM	Barren Site	82.25	51	eP	P	11 16 01.8	+1.3
BDAS	Al Bad‘	82.80	302	P	P	11 16 04.1	+0.6
TATS	Tathlith	83.07	290	P	P	11 16 05.7	+0.7
UMJS	Umm Lajj	83.53	298	P	P	11 16 08.3	+1.1
YNBS	Yanbu‘ al Bahr	83.67	297	P	P	11 16 08.9	+0.9
LOR	Lormes	84.05	332	eP	P	11 16 09.5	+0.3
IDI	Anoyia	84.06	313	P	P	11 16 09.1	-0.5
	comp=Z,9.3nm,0.4s,mb5.0,baz=38,slow=7.4,SNR=17						
FLN	La Foliniere	84.17	336	eP	P	11 16 11.3	+1.5
	comp=Z,4.5nm,0.5s,mb4.3						
BLJS	Baljurashi	84.17	291	P	P	11 16 11.8	+1.3
LDF	La Druitiere	84.20	335	eP	P	11 16 11.1	+1.1
DJNS	Zahran al Janu	84.23	288	P	P	11 16 12.2	+1.4
SSF	Saint Saulge	84.34	333	eP	P	11 16 11.1	+0.4
	comp=Z,1.5nm,0.3s,mb4.0						
LPL	La Plagne	84.50	330	eP	P	11 16 12.5	+1.0
LPG	La Plagne	84.50	330	eP	P	11 16 12.8	+1.2
SMF	Signal de Mont	84.59	332	eP	P	11 16 11.6	-0.3
GRR	Gorron	84.61	336	eP	P	11 16 12.8	+0.8
AVF	Avril sur Loir	84.63	333	eP	P	11 16 12.6	+0.4
	comp=Z,4.7nm,0.5s,mb4.4						
MBDF	Montbardon	85.15	329	eP	P	11 16 15.8	+1.0
ORIF	Oris-en-Rattie	85.32	330	eP	P	11 16 16.5	+0.9
	comp=Z,9.3nm,0.8s,mb4.5						
VIVF	Saint-Julien-l	85.82	331	eP	P	11 16 19.2	+1.1
WMOK	Wichita Mounta	86.24	46	eP	P	11 16 20.6	+0.2
	comp=Z,4.4nm,0.7s,mb4.5						
CAF	Calviac	86.70	332	eP	P	11 16 23.1	+0.8
	comp=Z,28nm,1.2s,mb4.8						
LASF	Ste Croix	86.79	331	eP	P	11 16 23.3	+0.5
LTX	Lajitas	87.46	52	eP	P	11 16 26.7	+0.3
	comp=Z,2.1nm,0.6s,mb4.2						
TXAR	Lajitas Array	87.46	52	P	P	11 16 26.9	+0.5
	comp=Z,1.9nm,0.5s,mb4.3,baz=291,slow=3.5,SNR=34						
TXAR	Lajitas Array	87.46	52	P	P	11 16 26.9	+0.5
CCM	Cathedral Cave	87.48	39	eP	P	11 16 26.5	+0.2
	comp=Z,17nm,0.9s,mb5.0						
MIAR	Mount Ida	89.11	43	eP	P	11 16 34.7	+0.5
	comp=Z,16nm,0.9s,mb5.0						
MAW	Mawson	123.44	207	PKP	PKPdf	11 22 34.7	+1.2
	comp=Z,0.3nm,0.3s,baz=61,slow=1.1,SNR=4.7						
MAW	Mawson	123.44	207	ePKPdf	PKPdf	11 22 34.5	+1.0
SYO	Syowa Base	132.06	208	⇑PP	PP	11 25 13.9	-2.9
LPAZ	La Paz	144.31	54	PKP	PKPdf	11 23 14.7	+1.3
	comp=Z,0.8nm,0.3s,baz=317,slow=1.2,SNR=3.0						
LPAZ	La Paz	144.31	54	PKIKP	PKPdf	11 23 14.7	+1.3
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
LPAZ	La Paz	144.31	54	ePKPdf	PKPdf	11 23 13.8	+0.5
SNAA	Sanae	144.88	199	⇑iP	PKPdf	11 23 13.6	+0.8
VNA2	Neumayer--Watz	146.47	198	⇑iPKPdf	PKPdf	11 23 20.7	+5.2
VNA2				e		11 23 49.4	
VNA3	Neumayer Olymp	146.74	197	⇑iPKPdf	PKPdf	11 23 20.9	+5.0
VNA3				e		11 23 49.6	
VNA1	Neumayer--Stat	146.87	198	⇑iPKPdf	PKPdf	11 23 21.6	+5.4
VNA1				e		11 23 50.4	

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*NEIC **22** 11:13:59.2, 32.68S×71.43W, h30^{km}, ML2.7(GUC), After GUC.*

GUC 22 11:13:59.2±0.6**, 32.68S×71.43W, h30**^{km}±5^{km}**, MD3.5, ML2.7, 6C-3D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JACH	Jahuel	0.70	90	⇑iP	Pb	11 14 12.8	-0.1
JACH				i S	Sb	11 14 23.0	+0.7
LCCH	Las Cruces	0.80	189	eP	Pb	11 14 14.2	-0.2
RCDM	Rinconada Maip	0.96	147	eP	Pn	11 14 16.2	-0.5
RCDM				i S	Sn	11 14 29.6	+0.1
RCDM				AMP		11 14 30.3	
	comp=E,475nm,0.1s						
CLCH	Cerro Calan	1.03	134	⇓iP	Pn	11 14 17.8	-0.1
CLCH				i S	Sn	11 14 31.9	+0.6
CLCH				AMP		11 14 34.6	
	comp=E,354nm,0.7s						
TACH	Talagante	1.05	157	⇑iP	Pn	11 14 17.8	-0.2
FCH	Farellones	1.15	124	⇓iP	Pn	11 14 19.8	+0.2
FCH				i S	Sn	11 14 35.7	+1.4
FCH				AMP		11 14 36.5	
	comp=E,255nm,0.2s						
PCH	Pirque	1.21	141	⇓iP	Pn	11 14 20.5	+0.2
PCH				i S	Sn	11 14 37.0	+1.2
LNV	Longovilo	1.27	179	⇑iP	Pn	11 14 20.8	-0.4
LNV				i S	Sn	11 14 36.5	-0.8
CHCH	Chadas Angostu	1.41	153	⇑iP	Pn	11 14 23.6	+0.4
CHCH				i S	Sn	11 14 41.9	+1.1
LMEL	Las Melosas	1.55	139	⇑iP	Pn	11 14 25.8	+0.6
LMEL				i S	Sn	11 14 46.2	+1.7
LMEL				AMP		11 14 49.4	
	comp=N,311nm,0.2s						
CACH	El Canelo	1.59	154	eP	Pn	11 14 26.9	+1.1
CICH	Cipreses	1.83	153	⇑iP	Pn	11 14 30.3	+1.0
SFDO	San Fernando	1.96	170	eP	Pn	11 14 32.0	+1.0

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*NEIC **22** 11:17:12.3±1.7, 21.52S×68.12W, h126^{km}±15^{km}, mb3.8/3, Error ellipse: s-maj=30.5km s-min=13.6km az=68.0*

*IDC **22** 11:17:13.8±8.8, 21.41S×68.11W, h136^{km}±62^{km}, mb3.6/5, mb1 3.9/6, mb1mx3.7/13, Error ellipse: s-maj=79.7km s-min=26.7km az=21.0*

ISC 22 11:17:11.5±2.0**, 21.5S**±0.1×**68.1W**±0.3**, h135**^{km}±19^{km}**, n11, $\sigma 0^{s}.74$**/11**, mb3.6**/6**, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPAZ	La Paz	5.21	359	P	P	11 18 29.0	+0.5
	2.8nm,0.3s,baz=186,slow=5.3,SNR=23						
LPAZ				S	S	11 19 27.9	-0.2
	0.1nm,0.3s,baz=202,slow=6.5,SNR=3.8						
LPAZ	La Paz	5.21	359	eP	P	11 18 28.7	+0.2
	9.5nm,0.5s						
TRQA	Tornquist	17.28	164	eP	P	11 21 05.7	-0.2
	2.0nm,0.6s						
TXAR	Lajitas Array	61.11	324	P	P	11 27 11.9	-1.9
	0.3nm,0.7s,mb3.2,baz=149,slow=7.3,SNR=4.8						
DBIC	Dimbokro	67.98	73	P	P	11 27 58.5	0.0
	8.6nm,0.6s,mb4.7,baz=207,slow=7.1,SNR=14						
TPNV	Topopah Spring	73.81	322	eP	P	11 28 33.7	+0.6
	1.1nm,0.6s,mb3.8						
PDAR	Pinedale Array	74.54	330	P	P	11 28 37.0	-0.1
	0.2nm,0.7s,mb2.9,baz=117,slow=3.3,SNR=3.7						
NVAR	Mina Array Bea	76.01	322	P	P	11 28 46.5	+1.0
	0.6nm,0.7s,mb3.4,baz=181,slow=7.0,SNR=3.9						
YKA	Yellowknife Ar	91.48	340	P	P	11 30 03.4	+0.1
	0.7nm,0.4s,mb4.0,baz=142,slow=4.3,SNR=5.2						
YKA	Yellowknife Ar	91.48	340	P	P	11 30 03.4	+0.1
MKAR	Makanchi Array	145.19	37	PKPbc	PKPbc	11 36 35.4	+2.1
	0.8nm,0.6s,baz=333,slow=3.2,SNR=6.6						

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*NIED **22** 11:23:00, 38.90N×141.70E, h77^{km}, Mw3.7 Best double couple: M$_0$3.43×10^{14} NP1:ϕ_s202°, δ66°, λ94°. NP2:ϕ_s13°, δ24°, λ82°.*

*JMA **22** 11:23:15.4, 38.93N×141.66E, h65^{km}±1^{km}, M3.7 Broadband fault plane solution: P waves. NP1:ϕ_s342°, δ7°, λ37°. NP2:ϕ_s216°, δ86°, λ95°. Principal axes: T Plg49°, Azm132°; N Plg5°, Azm36°; P Plg41°, Azm301°;*

JMA Felt II J1.

ISC 22 11:23:15.7±1.7**, 38.92N**±0.06×**141.7E**±0.1**, h62**^{km}±10^{km}**, n7, $\sigma 0^{s}.41$**/14**, 5C-1D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OFUJ	Ofunato	0.17	1	⇑P	P	11 23 25.3	+0.2
OFUJ				eS	S	11 23 32.3	+0.2
JMK	Ichinoseki	0.35	276	⇑P	P	11 23 26.3	-0.2
JMK				S	S	11 23 34.6	+0.2
JIO	Ouri	0.52	208	⇓P	P	11 23 28.0	-0.1
JIO				S	S	11 23 36.9	-0.3
JOM	Ohasama	0.63	333	⇑P	P	11 23 29.1	-0.2
JOM				S	S	11 23 39.1	-0.3
JOU	Okura	0.96	235	⇑P	P	11 23 33.2	-0.3
JOU				eS	S	11 23 47.0	+0.3
JYK	Kaneyama	1.02	271	⇑P	P	11 23 34.0	-0.3
JYK				eS	S	11 23 48.4	+0.3
MAT	Matsushiro	3.62	230	P	P	11 24 11.9	+1.1
MAT				eS	S	11 24 52.0	-0.6

PRE 22 11:31:38.1±1.9**, 26.95S×26.77E, h2**^{km}**, ML3.5, South Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSR	Koster	1.08	6	eP	Pb	11 31 58.5	-0.7
KSR				eS	Sb	11 32 11.8	-1.9
KSR				e		11 32 17.8	
	comp=Z,368nm,0.1s						
SLR	Silverton	1.82	49	eP	Pn	11 32 09.0	-1.6
SLR				eS	Sn	11 32 34.1	-0.4
SLR				e		11 32 35.1	
	comp=Z,92nm,0.3s						
BOSA	Boshof	2.13	219	eP	Pn	11 32 14.9	-0.3
BOSA				eS	Sn	11 32 40.2	-2.5
NWL	Newcastle	2.93	106	eP	Pn	11 32 24.4	-2.2
NWL				eS	Sn	11 32 59.3	-3.6
NWL				e		11 33 10.7	
	comp=Z,104nm,0.6s						
PKA	Prieska	4.46	232	eP	Pn	11 32 34.0	-14
PKA				eS	Sn	11 33 54.9	+13
PKA				e		11 33 58.9	
	comp=Z,956nm,0.5s						

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*NEIC **22** 11:33:57.0±0.5, 1.90N×98.84E, h20^{km}, mb4.3/4, Error*

ellipse: s-maj=16.7km s-min=8.6km az=56.0

IDC ***22*** *11:34:02.9±11.0, 1.93N×98.93E, h70^{km}±103^{km}, mb3.7/7, mb1 3.8/8, mb1mx3.7/16, ML3.5/1, MS3.5/1, Ms1 3.7/1, ms1mx2.9/20, Error ellipse: s-maj=74.8km s-min=16.3km az=55.0*

ISC 22 11:33:56.5±6.7**, 1.9N**±0.3×**98.8E**±0.4**, h33^{km}**±53^{km}**, n18, σ1.^{s}14**/16**, mb4.1**/11**, 2C, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IPM	**Ipoh**	**3.51**	**39**	⇑*e*P	**P**	**11 34 49.5**	**-0.5**
	46nm,0.3s						
KGM	**Kluang**	**4.53**	**88**	⇑*e*P	**P**	**11 35 14.0**	**+9.5**
SNG	**Songkhla**	**5.59**	**19**	P	**P**	**11 35 18.0**	**-1.5**
	260nm,0.9s						
CMAR	**Chiang Mai Arr**	**16.50**	**1**	P	**P**	**11 37 49.6**	**+2.4**
	0.1nm,0.3s,baz=194,slow=13,SNR=15						
CMAR				LR	LR	11 44 22.4	
	comp=Z,160nm,18.1s,baz=180,slow=38						
CHG	**Chiang Mai**	**16.86**	**0**	P	**P**	**11 37 54.6**	**+2.9**
WRA	**Warramunga Arr**	**41.05**	**124**	P	**P**	**11 41 39.6**	**+0.8**
	5.1nm,0.8s,mb4.2,baz=303,slow=9.2,SNR=34						
WRAB	**Tennant Creek**	**41.05**	**124**	*e*P	**P**	**11 41 40.1**	**+1.4**
	8.2nm,0.8s,mb4.4						
ASAR	**Alice Springs**	**42.54**	**129**	P	**P**	**11 41 50.7**	**-0.4**
	0.8nm,1.0s,mb3.4,baz=305,slow=8.0,SNR=5.3						
SONM	**Songino Array**	**46.27**	**7**	P	**P**	**11 42 20.9**	**+0.2**
	1.1nm,1.0s,mb3.8,baz=190,slow=7.5,SNR=5.7						
MKAR	**Makanchi Array**	**47.02**	**345**	P	**P**	**11 42 26.7**	**+0.1**
	0.5nm,0.6s,mb3.6,baz=153,slow=7.0,SNR=5.2						
KURK	**Kurchatov**	**51.60**	**344**	*e*P	**P**	**11 43 01.7**	**-0.1**
	3.5nm,1.1s,mb4.2						
STKA	**Stephens Creek**	**52.62**	**133**	P	**P**	**11 43 09.9**	**+0.2**
	2.4nm,0.9s,mb4.2,baz=0.9,slow=7.9,SNR=3.2						
BVAR	**Borovoye Array**	**56.18**	**340**	P	**P**	**11 43 34.7**	**-0.7**
	7.4nm,1.2s,mb4.6,baz=166,slow=6.1,SNR=8.9						
BRVK	**Borovoye**	**56.24**	**340**	*e*P	**P**	**11 43 35.4**	**-0.5**
	3.2nm,1.0s,mb4.3						
ZRNK	**Zerenda**	**56.60**	**339**	*e*P	**P**	**11 43 37.5**	**-1.0**
	2.5nm,1.0s,mb4.2						
BRTR	**Keskin Array B**	**69.86**	**312**	P	**P**	**11 45 07.3**	**+1.2**
	1.3nm,0.8s,mb3.9,baz=112,slow=7.5,SNR=6.1						
TXAR	**Lajitas Array**	**142.27**	**33**	PKP	PKPdf	11 53 29.2	+2.8
	0.9nm,1.1s,baz=270,slow=0.9,SNR=4.0						
TXAR	**Lajitas Array**	**142.27**	**33**	PKP	PKPdf	11 53 29.2	+2.8

PRU ***22*** *11:36:58.8, 51.52N×16.15E*

WAR ***22*** *11:36:59.5, 51.51N×16.09E, ML2.7, Mining Induced*

NEIC ***22*** *11:37:04.0±1.8, 51.18N×15.79E, h5^{km}, MG2.8(WAR), Error ellipse: s-maj=21.4km s-min=7.9km az=193.0*

ISC 22 11:36:56.1±1.1**, 51.55N**±0.05×**16.11E**±0.04**, n14, σ0.^{s}87**/23**, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.71**	**170**	*e*PG	**Pg**	**11 37 12.0**	**+1.7**
KSP				*e*SG	**Sg**	**11 37 21.0**	**+1.2**
KSP	**Ksiaz**	**0.71**	**170**	*e*Pg	**Pg**	**11 37 11.9**	**+1.6**
KSP				*e*Sg	**Sg**	**11 37 20.9**	**+1.1**
UPC	**Upice**	**1.04**	**183**	*e*PG	**Pg**	**11 37 18.0**	**+1.1**
DPC	**Dobruska-Polom**	**1.21**	**173**	*e*PG	**Pg**	**11 37 20.8**	**+0.7**
DPC				*e*SG	**Sg**	**11 37 36.0**	**-0.2**
	16nm,0.2s						
PVCC	**Panska Ves**	**1.41**	**224**	*e*PG	**Pg**	**11 37 25.1**	**+0.9**
BRG	**Berggiesshubel**	**1.52**	**245**	*i* Pg	**Pg**	**11 37 27.5**	**+1.1**
BRG				*i* Sg	**Sg**	**11 37 47.4**	**+0.8**
PRU	**Pruhonice**	**1.85**	**213**	*e*SG	**Sg**	**11 37 57.1**	**-0.5**
	15nm,0.3s						
CLL	**Collm**	**1.96**	**264**	*i* SG	**Sg**	**11 38 01.1**	**-0.1**
OKC	**Ostrava-Krasne**	**2.15**	**142**	*e*SG	**Sg**	**11 38 06.0**	**-1.6**
NKC	**Novy Kostel**	**2.66**	**242**	*e*PG	**Pg**	**11 37 48.9**	**-0.3**
NKC				*e*SG	**Sg**	**11 38 23.8**	**-0.9**
OJC	**Ojcow**	**2.69**	**118**	*e*PG	**Pg**	**11 37 49.0**	**-0.8**
OJC				*e*SG	**Sg**	**11 38 25.0**	**-0.6**
OJC	**Ojcow**	**2.69**	**118**	*e*Pg	**Pg**	**11 37 49.5**	**-0.3**
OJC				*e*Sg	**Sg**	**11 38 25.2**	**-0.4**
KHC	**Kasperske Hory**	**2.91**	**215**	*e*PN	**Pn**	**11 37 44.0**	**-0.5**
KHC				*e*x	x	11 37 50.0	
KHC				*e*SG	**Sg**	**11 38 32.1**	**-0.8**
MOX	**Moxa**	**2.97**	**254**	*e*Pg	**Pg**	**11 37 54.7**	**-0.7**
MOX				*e*Sg	**Sg**	**11 38 34.3**	**-0.7**

IDC ***22*** *11:40:01.5±1.2, 3.62S×144.23E, mb4.1/7, mb1 4.2/8, mb1mx4.1/13, ML3.7/1, MS3.4/1, Ms1 3.4/1, ms1mx2.8/17, Error ellipse: s-maj=42.4km s-min=20.3km az=105.0*

NEIC ***22*** *11:40:08.5±5.4, 3.71S×144.24E, h51^{km}±47^{km}, mb4.5/10, Error ellipse: s-maj=25.0km s-min=12.0km az=60.0*

ISC 22 11:40:05.2±0.8**, 3.67S**±0.07×**144.2E**±0.2**, h33^{km}, n26, σ0.^{s}48**/22**, mb4.5**/16**, MS3.2**/1**, Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**18.78**	**210**	*e*P	**P**	**11 44 23.9**	**-0.4**
	5.8nm,0.7s						
WB2	**Warramunga Arr**	**18.79**	**210**	*e*P	**P**	**11 44 24.7**	**+0.3**
WRA	**Warramunga Arr**	**18.79**	**210**	P	**P**	**11 44 24.0**	**-0.5**
	0.2nm,0.3s,baz=35,slow=11,SNR=17						
WRA				PcP	PcP	11 48 51.1	+0.3
	0.1nm,0.3s,baz=9.8,slow=2.1,SNR=7.1						
ASAR	**Alice Springs**	**22.21**	**206**	P	**P**	**11 45 00.7**	**+0.3**
	2.6nm,1.0s,mb3.6,baz=40,slow=8.4,SNR=14						
ASAR				PcP	PcP	11 48 57.6	+0.4
	0.8nm,0.6s,baz=28,slow=2.6,SNR=5.6						
ASAR				LR	LR	11 55 00.3	
	comp=Z,86nm,18.6s,MS3.2,baz=194,slow=40						
FITZ	**Fitzroy Crossi**	**23.12**	**230**	*e*P	**P**	**11 45 08.5**	**-1.0**
	4.4nm,1.0s,mb3.8						
FITZ	**Fitzroy Crossi**	**23.12**	**230**	P	**P**	**11 45 08.8**	**-0.7**
	3.8nm,0.7s,mb3.9,baz=26,slow=8.5,SNR=11						
STKA	**Stephens Creek**	**28.16**	**185**	P	**P**	**11 45 57.0**	**+0.2**
CMAR	**Chiang Mai Arr**	**49.66**	**298**	P	**P**	**11 48 55.9**	**-0.3**
	0.8nm,0.8s,mb3.8,baz=121,slow=2.4,SNR=5.4						
SONM	**Songino Array**	**61.02**	**332**	P	**P**	**11 50 17.4**	**-0.5**
	1.0nm,0.9s,mb4.0,baz=153,slow=8.3,SNR=5.6						
PKI	**Pulchoki**	**64.51**	**303**	*e*P	**P**	**11 50 41.4**	**0.0**
	6.7nm,0.6s,mb4.8						
KKN	**Kakani**	**64.69**	**303**	*e*P	**P**	**11 50 42.7**	**+0.2**
	21nm,0.7s,mb5.2						
DMN	**Daman**	**64.78**	**303**	*e*P	**P**	**11 50 43.3**	**+0.2**
	7.3nm,0.3s,mb5.2						
GKN	**Gorkha**	**65.30**	**303**	*e*P	**P**	**11 50 46.6**	**+0.2**
	14nm,0.5s,mb5.2						
KOLN	**Koldanda**	**66.09**	**302**	*e*P	**P**	**11 50 51.7**	**+0.2**
	17nm,0.8s,mb5.1						
MKAR	**Makanchi Array**	**73.91**	**321**	P	**P**	**11 51 38.9**	**+0.1**
	1.4nm,0.7s,mb4.0,baz=102,slow=8.3,SNR=10						
KURK	**Kurchatov**	**77.66**	**324**	*e*P	**P**	**11 52 00.3**	**+0.2**
BVAR	**Borovoye Array**	**83.23**	**324**	P	**P**	**11 52 30.1**	**+0.5**
	6.2nm,0.7s,mb4.8,baz=104,slow=6.1,SNR=30						
BRVK	**Borovoye**	**83.30**	**324**	*e*P	**P**	**11 52 30.8**	**+0.8**
	1.7nm,0.7s,mb4.2						
ZRNK	**Zerenda**	**84.02**	**324**	*e*P	**P**	**11 52 33.5**	**-0.2**
	2.5nm,0.7s,mb4.5						
ZRNK				*e*		11 52 40.6	
COLA	**College**	**84.14**	**23**	*e*P	**P**	**11 52 33.6**	**-0.3**
	3.2nm,1.0s,mb4.4						
ILAR	**Eielson Array**	**84.48**	**24**	P	**P**	**11 52 34.5**	**-1.1**
	2.4nm,0.7s,mb4.5,baz=258,slow=5.2,SNR=27						
QSPA	**South Pole Qui**	**86.28**	**180**	*e*P	**P**	**11 52 45.1**	**+0.9**
	4.2nm,0.9s,mb4.7						
LPAZ	**La Paz**	**142.42**	**123**	PKhKP		11 59 34.9	
	1.2nm,0.6s,baz=283,slow=4.4,SNR=5.4						
LPAZ	**La Paz**	**142.42**	**123**	*e*PKPdf	PKPdf	11 59 35.5	-0.1
HUMP	**Col San Antoni**	**147.30**	**62**	*e*PKPbc	PKPdf	11 59 47.5	+3.5
DBIC	**Dimbokro**	**149.00**	**277**	PKPbc	PKPdf	11 59 52.1	+5.3
	2.6nm,0.7s,baz=122,slow=6.2,SNR=4.1						

LDG ***22*** *11:47:11.2±1.6, 42.85N×1.40W, h2^{km}, Ml2.2/1, Error ellipse: s-maj=29.0km s-min=15.4km az=53.0*

MDD 22 11:47:11.8±0.6**, 42.85N×1.35W, h4^{km}**±14^{km}**, mbLg1.1**/3**, Error ellipse: s-maj=5.6km s-min=2.8km az=42.0, PRXIMO AftershockPLICA, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	**0.27**	**19**	*e*Pg	Pg	11 47 16.7	-0.6
SJPF				*e*Sg	Sg	11 47 19.5	-1.5
	19nm,0.3s						
EALK	**Alkurruntz**	**0.39**	**342**	Pg	Pg	11 47 17.9	-1.7
	6.0nm,0.7s,SNR=9.3						
EALK				Lg		11 47 25.0	
	13nm,0.4s,SNR=14						
OSSF	**Osses**	**0.41**	**9**	P	Pg	11 47 18.8	-1.2
OSSF				S	Sg	11 47 25.0	-0.5
ETSF	**Etsaut**	**0.58**	**85**	*e*Pg	Pg	11 47 22.1	-1.3
ETSF				*e*Sg	Sg	11 47 31.2	0.0
ETSF				*e*Sn	Sn	11 47 33.0	-3.4
	5.4nm,0.3s						
EPF	**Esparros**	**1.25**	**81**	*e*Pn	Pn	11 47 34.4	-1.6
EPF				*e*Pg	Pg	11 47 36.6	-0.2
EPF				*e*Sg	Sg	11 47 52.6	-0.9
	4.6nm,0.3s						
ESAC	**San Caprasio**	**1.30**	**150**	Pg	Pg	11 47 36.1	-1.8
	SNR=7.9						
ESAC				Lg		11 47 53.8	
	SNR=7.9						
EGRA	**Graus**	**1.39**	**118**	Pg	Pg	11 47 36.6	-3.1
	SNR=4.0						
ELAN	**Lanestosa**	**1.58**	**285**	Pg	Pg	11 47 39.9	-3.4
	SNR=4.0						

LDG ***22*** *11:54:10.8±0.6, 42.84N×1.43W, h2^{km}, Md2.4/3, Ml2.5/1, Error ellipse: s-maj=9.0km s-min=5.1km az=53.0*

STR ***22*** *11:54:10.1±0.0, 43.36N×0.65W, h5^{km}±1^{km}, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

NEIC ***22*** *11:54:10.8, 42.84N×1.43W, h2^{km}, ML2.5(LDG), ML2.3(STR), After LDG.*

MDD ***22*** *11:54:11.7±0.5, 42.87N×1.42W, h3^{km}±12^{km}, mbLg1.6/8, Error ellipse: s-maj=3.9km s-min=2.1km az=41.0, PRXIMO AftershockPLICA*

ISC 22 11:54:10.0±0.7**, 42.83N**±0.04×**1.42W**±0.05**, h9^{km}**±6^{km}**, n12, σ0.^{s}75**/20**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	**0.32**	**27**	*e*Pg	**Pg**	**11 54 17.0**	**+0.4**
SJPF				*e*Sg	**Sg**	**11 54 19.8**	**-1.2**
	44nm,0.3s						
LARF	**Larrau**	**0.38**	**56**	Pg	**Pg**	**11 54 18.1**	**+0.3**
LARF				Sg	**Sg**	**11 54 24.0**	**+1.0**
EALK	**Alkurruntz**	**0.40**	**351**	Pg	**Pg**	**11 54 18.2**	**+0.1**
	2.0nm,0.1s,SNR=15						
EALK				Lg		11 54 23.1	
	26nm,0.2s,SNR=19						
OSSF	**Osses**	**0.45**	**15**	Pg	**Pg**	**11 54 19.0**	**0.0**
OSSF				Sg	**Sg**	**11 54 25.5**	**+0.4**
ATE	**Arette**	**0.59**	**64**	P	**Pb**	**11 54 22.3**	**+0.3**
ATE				S	**Sb**	**11 54 30.7**	**+0.5**
ETSF	**Etsaut**	**0.64**	**83**	*e*Pg	**Pg**	**11 54 22.7**	**-0.1**
ETSF				*e*Sg	**Sg**	**11 54 31.4**	**0.0**
	8.4nm,0.3s						
ETSF				*e*Sn	**Sn**	**11 54 33.5**	**-1.6**
EPF	**Esparros**	**1.31**	**80**	*e*Pn	**Pn**	**11 54 35.0**	**+0.5**
EPF				*e*Pg	**Pg**	**11 54 37.1**	**+0.9**
EPF				*e*Sg	**Sg**	**11 54 52.9**	**-0.8**
	6.9nm,0.2s						
ESAC	**San Caprasio**	**1.31**	**147**	Pg	**Pg**	**11 54 35.8**	**-0.4**
	6.9nm,0.1s,SNR=6.6						
ESAC				Lg		11 54 54.0	
	28nm,0.3s,SNR=7.9						
EGRA	**Graus**	**1.43**	**116**	Pg	**Pg**	**11 54 38.2**	**-0.4**
	3.4nm,0.3s,SNR=7.9						
EGRA				Lg		11 54 57.0	
	1.4nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**1.53**	**286**	Pg	**Pg**	**11 54 39.3**	**-1.2**
	1.4nm,0.2s,SNR=7.9						
ELAN				Lg		11 55 00.2	
	2.2nm,0.2s,SNR=7.9						
ETOR	**Torete**	**2.06**	**193**	Pn	**Pn**	**11 54 46.5**	**+1.3**
	0.2nm,0.2s,SNR=7.9						
ETOR				Pg	**Pg**	**11 54 51.0**	**-0.1**
	2.0nm,0.4s,SNR=5.0						
ETOR				Lg		11 55 14.0	
	2.5nm,0.3s,SNR=7.9						
EPOB	**Poblet**	**2.37**	**127**	Lg		11 55 24.2	
	0.5nm,0.1s,SNR=7.9						

IDC ***22*** *11:57:59.7±1.7, 16.78S×177.95W, mb4.4/4, mb1 4.6/4, mb1mx4.2/12, Error ellipse: s-maj=144.0km s-min=30.1km az=155.0*

ISC 22 11:58:03.4±1.6**, 16.7S**±0.9×**178.1W**±0.4**, h33^{km}, n7, σ0.^{s}46**/7**, mb4.3**/4**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.49**	**240**	*e*P	**P**	**12 05 32.7**	**+0.1**
	5.0nm,1.0s,mb4.2						
STKA	**Stephens Creek**	**39.49**	**240**	P	**P**	**12 05 33.1**	**+0.5**
	8.5nm,0.9s,mb4.5,baz=95,slow=11,SNR=19						
WB2	**Warramunga Arr**	**45.14**	**258**	*e*P	**P**	**12 06 19.4**	**+0.4**
WRA	**Warramunga Arr**	**45.16**	**258**	P	**P**	**12 06 19.5**	**+0.4**
	1.5nm,0.3s,mb4.3,baz=94,slow=7.4,SNR=58						
ASAR	**Alice Springs**	**45.42**	**253**	P	**P**	**12 06 20.9**	**-0.2**
	11nm,0.7s,mb4.8,baz=87,slow=8.7,SNR=143						
ASPA	**Alice Springs**	**45.42**	**253**	*e*P	**P**	**12 06 20.3**	**-0.9**
TXAR	**Lajitas Array**	**85.09**	**58**	P	**P**	**12 10 37.7**	**0.0**
	0.4nm,0.8s,mb3.6,baz=211,slow=7.3,SNR=5.2						

GII ***22*** *12:00:19.7±0.8, 28.31N×34.22E, h10^{km}±30^{km}, ML3.6/4*

SNSN ***22*** *12:00:22.0, 28.46N×34.52E, h11^{km}, Ml3.2*

HLW ***22*** *12:00:23.6, 28.45N×34.60E, h10^{km}, Mb3.4*

ISC 22 12:00:23.2±0.6**, 28.46N**±0.03×**34.58E**±0.03**, h11^{km}**±4^{km}**, n31, σ0.^{s}90**/44**, 10C-8D, Egypt**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HDHB	**Dhahab**	**0.26**	**8**	⇓P	**Pg**	**12 00 29.3**	**+0.6**
TAYS	**Tayyib Ism**	**0.27**	**71**	P	**Pg**	**12 00 28.9**	**-0.1**
TAYS				S	**Sg**	**12 00 32.7**	**-0.2**
BDAS	**Al Bad‘**	**0.46**	**94**	P	**Pg**	**12 00 31.9**	**-0.7**
HKAT	**Jabal Katrina**	**0.52**	**277**	⇑P	**Pb**	**12 00 34.3**	**+0.6**
HKAT				S	**Sg**	**12 00 42.1**	**+1.4**
NUB		**0.56**	**6**	⇓P	**Pb**	**12 00 34.5**	**-0.1**
NUB				S	**Sb**	**12 00 42.9**	**+0.5**
HAQS	**Haql**	**0.67**	**28**	P	**Pb**	**12 00 36.0**	**-0.3**
HAQS				S	**Sb**	**12 00 45.4**	**+0.1**
SHRM		**0.69**	**215**	⇓P	**Pb**	**12 00 38.5**	**+1.8**
SHRM				S	**Sb**	**12 00 46.6**	**+0.6**
TR1		**0.71**	**231**	⇑*i*P	**Pb**	**12 00 38.0**	**+0.8**
TR2		**0.76**	**264**	⇑P	**Pb**	**12 00 38.6**	**+0.7**
HBST	**Basata**	**0.76**	**10**	⇓P	**Pb**	**12 00 37.7**	**-0.2**
HBST				S	**Sb**	**12 00 49.3**	**+1.2**
JMOS	**Jabal al Moall**	**0.84**	**34**	P	**Pb**	**12 00 38.9**	**-0.4**
JMOS				S	**Sb**	**12 00 51.1**	**+0.7**
ALWS	**Ilw as Safayha**	**0.95**	**27**	P	**Pb**	**12 00 40.1**	**-1.0**
ZEIT		**1.09**	**237**	⇓P	**Pb**	**12 00 43.6**	**0.0**
HRDS	**Abu Rudays**	**1.15**	**283**	⇑P	**Pb**	**12 00 45.4**	**+0.8**
EIL	**Elat**	**1.25**	**15**	Pn	**Pn**	**12 00 46.5**	**-0.1**
AQBJ	**Aqaba**	**1.33**	**18**	Pn	**Pn**	**12 00 47.7**	**0.0**
MBH	**Mount Berech**	**1.36**	**13**	Pn	**Pn**	**12 00 47.2**	**-0.9**
HHRG	**Al Ghardaqah**	**1.53**	**216**	⇑P	**Pn**	**12 00 49.8**	**-0.7**
HNKL	**Nakhl**	**1.55**	**340**	⇓P	**Pn**	**12 00 50.7**	**-0.2**
GRB	**Gharib**	**1.59**	**263**	⇓P	**Pn**	**12 00 50.9**	**-0.5**
HRFI	**Mount Harif**	**1.62**	**14**	Pn	**Pn**	**12 00 52.5**	**+0.6**
HRFI				Sn	**Sn**	**12 01 14.8**	**+2.0**
KMTI	**Karmit**	**1.64**	**5**	Pn	**Pn**	**12 00 51.4**	**-0.8**
KMTI				Sn	**Sn**	**12 01 14.9**	**+1.5**
TBKS	**Tabuk**	**1.75**	**97**	P	**Pn**	**12 00 52.4**	**-1.4**
TBKS				S	**Sn**	**12 01 17.3**	**+1.0**
PRNI	**Paran**	**1.92**	**11**	Pn	**Pn**	**12 00 55.3**	**-0.9**
PRNI				Sn	**Sn**	**12 01 23.7**	**+3.3**
ZFRI	**Zfri**	**2.15**	**14**	Pn	**Pn**	**12 00 59.1**	**-0.3**
AMAG	**Maghara**	**2.48**	**332**	⇑P	**Pn**	**12 01 03.3**	**-0.9**
HRSH	**Kfar Ka’horesh**	**2.60**	**344**	⇑P	**Pn**	**12 01 04.8**	**-1.0**
HHAG	**Hagoal**	**2.62**	**305**	⇑P	**Pn**	**12 01 06.1**	**-0.2**
HHAG				S	**Sn**	**12 01 36.5**	**-1.9**
GLL	**Jalalah**	**2.75**	**295**	⇓P	**Pn**	**12 01 07.8**	**-0.3**
KOT	**Kottamia**	**2.81**	**302**	⇑P	**Pn**	**12 01 08.5**	**-0.5**
KOT				S	**Sn**	**12 01 41.4**	**-1.7**
HSAF	**As Saff**	**2.89**	**294**	⇑P	**Pn**	**12 01 09.8**	**-0.2**

IDC 22 12:13:59.0±3.3**, 24.86N×46.16W, mb3.8**/4**, mb1 4.2**/4**, mb1mx3.8**/20**, MS3.8**/13**, Ms1 3.8**/13**, ms1mx3.7**/21**, Error ellipse: s-maj=95.1km s-min=34.3km az=88.0, Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SADO	**Sadowa**	**33.26**	**315**	LR	LR	12 31 43.4	
	comp=Z,198nm,19.3s,baz=145,slow=32						
ROSC	**El Rosal**	**33.58**	**238**	LR	LR	12 31 56.0	
	comp=Z,102nm,18.8s,baz=36,slow=32						
SCHQ	**Schefferville**	**33.62**	**338**	LR	LR	12 32 46.4	
	comp=Z,111nm,19.2s,baz=63,slow=34						
BDFB	**Brasilia**	**40.29**	**183**	LR	LR	12 37 03.8	
	comp=Z,95nm,19.9s,baz=9.4,slow=34						
FRB	**Frobisher Bay**	**41.58**	**345**	LR	LR	12 37 36.3	
	comp=Z,112nm,18.4s,baz=333,slow=34						
DBIC	**Dimbokro**	**43.44**	**108**	LR	LR	12 37 11.4	
	comp=Z,132nm,18.8s,baz=307,slow=32						
ULM	**Lac du Bonnet**	**45.77**	**317**	LR	LR	12 38 05.0	
	comp=Z,171nm,20.9s,baz=54,slow=32						
LPAZ	**La Paz**	**46.17**	**210**	P	P	12 22 26.2	-1.3
	4.1nm,1.0s,baz=19,slow=9.4,SNR=8.0						
TXAR	**Lajitas Array**	**50.96**	**289**	P	P	12 23 03.2	-1.3
	0.4nm,0.7s,baz=106,slow=9.1,SNR=5.4						
TXAR				LR	LR	12 43 30.2	
	comp=Z,90nm,21.7s,baz=255,slow=35						
NOA	**NORSAR Array B**	**52.87**	**31**	LR	LR	12 41 33.4	
	comp=Z,41nm,18.3s,slow=31						
PDAR	**Pinedale Array**	**54.38**	**306**	P	P	12 23 27.3	-2.6
	1.3nm,1.0s,baz=82,slow=10,SNR=7.2						
PDAR				LR	LR	12 43 45.4	
	comp=Z,107nm,18.9s,baz=272,slow=33						
YKA	**Yellowknife Ar**	**58.32**	**330**	LR	LR	12 49 40.8	
	comp=Z,77nm,18.2s,baz=55,slow=37						
NEW	**Newport**	**59.40**	**313**	LR	LR	12 47 35.9	
	comp=Z,182nm,18.4s,baz=128,slow=34						
NVAR	**Mina Array Bea**	**61.48**	**302**	LR	LR	12 48 51.6	
	comp=Z,149nm,20.4s,baz=210,slow=34						
ILAR	**Eielson Array**	**72.23**	**334**	P	P	12 25 25.9	-1.6
	0.4nm,0.7s,baz=65,slow=5.4,SNR=6.2						

MAN 22 12:25:54.2, 5.50N×126.36E, h114^{km}, mb4.5, ML3.4, MS3.3, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MATI	**Mati**	**1.44**	**356**	*e*P	P	12 26 21.1	+0.2
MATI				*e*S	S	12 26 41.7	+0.6
GSPH	**General Santos**	**1.52**	**293**	*e*P	P	12 26 20.0	-1.9
KCP	**Kidapawan**	**1.96**	**320**	⇓*i*P	P	12 26 27.2	-0.1
KCP				*i* S	S	12 26 50.2	-1.9
BUKP	**Musuan**	**2.69**	**331**	*e*P	P	12 26 37.6	+0.6
BUKP				*e*S	S	12 27 09.6	+0.3
PAGZ	**Pagadian**	**3.76**	**308**	*e*P	P	12 26 51.2	-0.3
IPIL	**Ipil**	**4.39**	**301**	*e*P	P	12 26 56.4	-3.6

IDC ***22*** *12:26:41.4±0.8, 62.02N×124.25W, mb2.9/1, mb1 3.7/5, mb1mx3.5/23, ML3.5/4, Error ellipse: s-maj=12.8km s-min=7.2km az=163.0*

PGC 22 12:26:41.5, 62.02N×124.07W, h1^{km}, MN3.5/4**, Mackenzie Mountains, Northwest Territories, Northwest Territories**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FNBB	**Fort Nelson**	**3.18**	**170**	Pn	Pn	12 27 31.7	-1.9
FNBB				Sn	Sn	12 28 09.9	-2.9
FNBB				Sg	Sg	12 28 19.6	-7.8
FNBB				Trac		12 28 24.6	
	comp=Z,60nm,0.5s						
FNBB				Trac		12 28 24.6	
	comp=Z,60nm,0.5s						
YKW3	**Yellowknife Ar**	**4.45**	**79**	Pn	Pn	12 27 49.3	-2.4
YKW3				Pn	Pn	12 27 50.1	-1.6
YKW3				Pg	Pg	12 28 03.5	-6.8
YKW3				Pg	Pg	12 28 04.0	-6.3
YKW3				Sn	Sn	12 28 38.0	-6.9
YKW3				Sn	Sn	12 28 39.3	-5.6
YKW3				Sg	Sg	12 29 00.1	-9.5
YKW3				Sg	Sg	12 29 00.2	-9.4
YKW3				Trac		12 29 05.0	
	comp=Z,51nm,0.2s						
YKW3				Trac		12 29 05.0	
	comp=Z,51nm,0.2s						
YKW3				Trac		12 29 05.0	
	comp=Z,131nm,0.6s						
YKW3				Trac		12 29 05.0	
	comp=Z,131nm,0.6s						
YKA	**Yellowknife Ar**	**4.45**	**80**	Pn	Pn	12 27 50.4	-1.3
	1.1nm,0.3s,baz=267,slow=13,SNR=47						
YKA				Pg	Pg	12 28 03.4	-6.9
	11nm,0.3s,baz=267,slow=17,SNR=56						
YKA				Sn	Sn	12 28 40.4	-4.6
	4.4nm,0.3s,baz=266,slow=22,SNR=4.2						
YKA				Lg		12 29 01.4	
	14nm,0.3s,baz=270,slow=30,SNR=11						
DLBC	**Dease Lake**	**4.66**	**222**	Pn	Pn	12 27 52.1	-2.5
	1.1nm,0.3s,baz=7.1,slow=16,SNR=15						
DLBC				Sn	Sn	12 28 45.9	-4.4
	3.9nm,0.3s,baz=291,slow=18,SNR=3.8						
DLBC				Lg		12 29 04.9	
	2.9nm,0.3s,baz=291,slow=26,SNR=6.7						
DLBC	**Dease Lake**	**4.66**	**222**	Pn	Pn	12 27 52.1	-2.6
DLBC				Sn	Sn	12 28 42.5	-7.8
DLBC				Sg	Sg	12 29 02.9	-14
DLBC				Trac		12 29 12.2	
	comp=Z,24nm,0.5s						
WHY	**Whitehorse**	**5.38**	**260**	Pn	Pn	12 28 01.9	-3.0
WHY				Sn	Sn	12 29 01.5	-6.9
WHY				Sg	Sg	12 29 25.8	-15
WHY				Trac		12 29 39.8	
	comp=Z,20nm,0.7s						
BMBC	**Bull Mountain**	**6.07**	**170**	Pn	Pn	12 28 10.9	-3.7
BMBC				Sn	Sn	12 29 18.3	-7.4
BMBC				Sg	Sg	12 29 50.5	-13
BMBC				Trac		12 29 56.7	
	comp=Z,44nm,0.6s						
BMBC				Trac		12 29 56.7	
	comp=Z,44nm,0.6s						
DAWY	**Dawson**	**7.26**	**293**	Pn	Pn	12 28 27.1	-4.2
DAWY				Sn	Sn	12 29 45.7	-10
DAWY				Sg	Sg	12 30 23.3	-20
DAWY				Trac		12 30 31.7	
	comp=Z,6.0nm,0.5s						
INK	**Inuvik**	**7.46**	**332**	Pn	Pn	12 28 28.6	-5.5
	1.4nm,0.3s,baz=145,slow=8.8,SNR=49						
INK				Sn	Sn	12 29 50.4	-10
	1.7nm,0.3s,baz=259,slow=17,SNR=6.4						
INK	**Inuvik**	**7.46**	**332**	Pn	Pn	12 28 28.5	-5.6
INK				Sn	Sn	12 29 48.5	-12
INK				Sg	Sg	12 30 34.3	-15
INK				Trac		12 30 43.9	
	comp=Z,7.0nm,0.7s						
FSB	**Fort Saint Jam**	**7.56**	**181**	Sg	Sg	12 30 31.4	-22
FSB				Trac		12 30 43.1	
	comp=Z,13nm,0.7s						
ILAR	**Eielson Array**	**10.57**	**295**	Pn	P	12 29 11.9	-5.2
	0.1nm,0.3s,baz=93,slow=11,SNR=14						
ILAR				Lg		12 32 14.9	
	0.1nm,0.3s,baz=83,slow=30,SNR=6.1						
PDAR	**Pinedale Array**	**21.12**	**149**	P	P	12 31 28.5	-1.2
	0.3nm,0.5s,slow=8.9,SNR=4.0						

IDC ***22*** *13:11:07.9±0.9, 12.80N×48.72E, mb4.2/14, mb1 4.4/14, mb1mx4.3/19, MS3.6/6, Ms1 3.7/6, ms1mx3.5/16, Error ellipse: s-maj=27.6km s-min=16.8km az=46.0*

DHMR ***22*** *13:11:09.9±0.6, 13.14N×48.29E, h14^{km}±7^{km}, ML3.8*

NEIC ***22*** *13:11:09.5±7.5, 12.83N×48.80E, h10^{km}±47^{km}, mb4.3/13, Error ellipse: s-maj=12.7km s-min=8.3km az=100.0*

ISC 22 13:11:09.6±2.4**, 12.76N**±0.05×**48.50E**±0.03**, h27^{km}**±17^{km}**, n60, σ1.^{s}22**/63**, mb4.2**/25**, MS3.6**/6**, 1C-5D, Eastern Gulf of Aden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MUKL	**Al Mukalla**	**1.60**	**18**	⇓*i*P	**Pn**	**13 11 37.2**	**+0.6**
MUKL				*i* S	**Sn**	**13 11 57.7**	**+1.2**
MUKL				AML	AML	13 11 58.0	
	comp=N,2μm,0.7s						
BDHA	**Al Bayda’**	**3.10**	**293**	⇓*i*P	**Pn**	**13 11 57.1**	**-1.0**
BDHA				AML	AML	13 12 00.5	
	comp=Z,868nm,0.3s						
BDHA				*i* S	**Sn**	**13 12 33.9**	**-0.9**
LBOS		**3.35**	**290**	⇓*i*P	**Pn**	**13 12 00.8**	**-0.9**
LBOS				*i* S	**Sn**	**13 12 40.3**	**-0.8**
ADEN	**Aden**	**3.43**	**271**	AML	AML	13 12 18.6	
	comp=Z,305nm,0.8s						
ADEN				*i* S	**Sn**	**13 12 44.5**	**+1.5**

TRBA	At Turbah	4.29	277	⇑iP	Pn	13 12 14.2	-0.8
TRBA				AML	AML	13 12 24.8	
	comp=N,160nm,0.4s						
TRBA				iS	Sn	13 13 04.6	-0.2
DHBB	Dhamar BB	4.38	295	⇓iP	Pn	13 12 14.3	-2.0
DHBB				iS	Sn	13 13 04.2	-2.9
UDYN	Al ‘Udayn	4.55	286	iS	Sn	13 13 09.2	-2.2
HAJJ	Hajjah	5.58	302	⇓iP	Pn	13 12 29.2	-4.0
HAJJ				iS	Sn	13 13 32.0	-5.3
ARSS	Ar Rass	13.97	340	P	P	13 14 37.1	+8.8
ARSS				S	Sx	13 18 14.5	
YNBS	Yanbu‘ al Bahr	15.22	321	P	P	13 14 51.8	+7.0
KBRS	Khaybar	15.62	327	P	P	13 14 56.6	+6.8
KBRS				S	Sx	13 19 03.3	
HILS	Ha’il	15.85	338	P	P	13 14 58.6	+5.7
HILS				S	Sx	13 19 18.6	
RDF	Al-Radifah	16.11	357	eP	P	13 14 57.3	+1.1
RDF				AMb	AMB	13 15 01.4	
	comp=Z,138nm,1.0s						
UMJS	Umm Lajj	16.30	321	P	P	13 15 03.0	+4.5
KBD	Kabd	16.36	357	eP	P	13 14 59.4	+0.1
RST	Umm Al-Ruwaisa	16.72	355	eP	P	13 15 02.9	-1.0
RST				AMb	AMB	13 15 08.9	
	comp=Z,86nm,0.9s						
UMR	Umm Al-Rimmam	16.73	358	eP	P	13 15 04.0	0.0
UMR				AMb	AMB	13 15 08.1	
	comp=Z,274nm,0.7s						
MIB	Mutribah	17.00	357	eP	P	13 15 06.7	-0.7
MIB				AMb	AMB	13 15 11.8	
	comp=Z,107nm,0.9s						
KMBO	Kilima Mbogo	17.74	220	eP	P	13 15 18.4	+1.6
	comp=Z,8.3nm,1.1s						
BDAS	Al Bad‘	19.99	323	P	P	13 15 44.5	+1.3
BDAS				S	Sx	13 21 25.1	
TAYS	Tayyib Ism	20.21	323	P	P	13 15 46.8	+1.3
JMOS	Jabal al Moall	20.54	325	P	P	13 15 50.4	+1.6
HAQS	Haql	20.55	324	P	P	13 15 50.3	+1.2
ALWS	Ilw as Safayha	20.67	325	P	P	13 15 52.0	+1.8
EIL	Elat	21.01	325	P	P	13 15 54.7	+1.0
	comp=Z,5.8nm,0.6s,mb4.1,baz=64,slow=5.4,SNR=5.3						
EIL				LR	LR	13 22 48.6	
	comp=Z,172nm,18.8s,MS3.5,baz=130,slow=33						
EIL	Elat	21.01	325	eP	P	13 15 54.8	+1.1
	comp=Z,12nm,0.9s,mb4.2						
ASF	Jabal al Asfar	22.07	333	P	P	13 16 06.1	+1.8
	comp=Z,9.2nm,0.8s,mb4.2,baz=5.2,slow=4.5,SNR=14						
ASF				LR	LR	13 25 06.0	
	comp=Z,225nm,18.2s,MS3.6,baz=27,slow=38						
MALT	Malatya	26.99	342	eP	P	13 16 53.4	+2.1
	comp=Z,6.4nm,1.2s,mb4.0						
GNI	Garni	27.49	354	eP	P	13 16 55.1	-0.7
	comp=Z,6.3nm,0.8s,mb4.2						
BRTR	Keskin Array B	29.90	337	P	P	13 17 18.9	+1.3
	comp=Z,1.5nm,0.8s,mb3.8,baz=144,slow=11,SNR=7.1						
BRTR				LR	LR	13 30 46.8	
	comp=Z,103nm,18.0s,MS3.5,baz=200,slow=39						
LSZ	Lusaka	34.35	216	eP	P	13 18 01.5	+4.8
	comp=Z,2.3nm,0.8s,mb4.2						
AKASG	Malin Array Be	40.98	341	P	P	13 18 52.5	+0.6
	comp=Z,5.8nm,0.7s,mb4.3,baz=155,slow=7.4,SNR=24						
KWP	Kalwaria	42.45	335	P	P	13 19 05.1	+1.1
	comp=Z,6.0nm,0.5s,mb4.5						
ZRNK	Zerenda	43.31	18	eP	P	13 19 10.2	-0.8
	comp=Z,5.7nm,1.1s,mb4.2						
BRVK	Borovoye	43.80	19	eP	P	13 19 14.8	-0.1
BVAR	Borovoye Array	43.80	19	P	P	13 19 14.3	-0.7
	comp=Z,1.6nm,0.6s,mb4.0,baz=191,slow=7.6,SNR=10.0						
MKAR	Makanchi Array	44.23	33	P	P	13 19 17.7	-0.8
	comp=Z,1.6nm,0.6s,mb4.0,baz=218,slow=8.2,SNR=19						
MKAR				LR	LR	13 38 07.1	
	comp=Z,35nm,18.6s,MS3.3,baz=8.0,slow=37						
MKAR	Makanchi Array	44.23	33	P	P	13 19 17.7	-0.9
MKAR				LR	LR	13 38 07.0	
ARU	Arti	44.27	8	eP	P	13 19 18.1	-0.6
	comp=Z,3.2nm,0.8s,mb4.1						
MORC	Moravsky Berou	44.81	332	P	P	13 19 23.9	+0.7
	comp=Z,2.4nm,0.8s,mb4.1						
KURK	Kurchatov	45.10	27	eP	P	13 19 24.8	-0.7
	comp=Z,6.8nm,1.3s,mb4.3						
GERES	GERESS Array B	46.06	328	P	P	13 19 32.8	-0.2
	comp=Z,0.6nm,0.3s,mb3.9,baz=153,slow=6.0,SNR=9.4						
BOSA	Boshof	46.87	208	P	P	13 19 42.7	+3.0
CM31	Chiang Mai Arr	48.79	77	eP	P	13 19 53.5	-1.3
	comp=Z,8.4nm,0.8s,mb4.8						
CM31				e		13 19 59.3	
CMAR	Chiang Mai Arr	48.79	77	P	P	13 19 53.0	-1.8
	comp=Z,7.8nm,0.8s,mb4.8,baz=274,slow=8.5,SNR=51						
SUR	Sutherland	52.12	210	P	P	13 20 20.6	+0.6
ESDC	Sonseca Array	53.26	310	P	P	13 20 29.0	+0.6
	comp=Z,0.7nm,0.5s,mb3.8,baz=96,slow=6.7,SNR=5.1						
NOA	NORSAR Array B	55.29	339	P	P	13 20 42.1	-0.9
	comp=Z,1.8nm,0.8s,mb4.2,baz=133,slow=7.1,SNR=3.9						
NOA				LR	LR	13 47 39.1	
	comp=Z,68nm,19.7s,MS3.7,baz=95,slow=40						
ARCES	ARCESS Array B	58.59	351	LR	LR	13 49 31.4	
	comp=Z,74nm,18.2s,MS3.8,baz=115,slow=39						
ENH	Enshi	58.71	62	eP	P	13 21 04.6	-3.1
SONM	Songino Array	59.24	42	P	P	13 21 10.7	-0.4
	comp=Z,2.3nm,0.9s,mb4.2,baz=249,slow=7.0,SNR=14						
HIA	Hailar	68.20	42	eP	P	13 22 06.8	-3.2
	comp=Z,2.7nm,0.7s,mb4.4						
YAK	Yakutsk	74.69	29	P	P	13 22 46.1	-2.4
MBWA	Marble Bar	77.62	115	eP	P	13 23 04.8	-1.0
	comp=Z,5.3nm,0.9s,mb4.5						
MAW	Mawson	80.82	174	P	P	13 23 23.6	+1.4
	comp=Z,1.1nm,0.7s,mb3.9,baz=318,slow=12,SNR=4.7						
WRA	Warramunga Arr	90.44	110	P	P	13 24 11.0	+0.1
	comp=Z,5.7nm,0.7s,mb5.0,baz=297,slow=3.8,SNR=72						
WB2	Warramunga Arr	90.45	110	eP	P	13 24 10.8	-0.2
ASAR	Alice Springs	90.91	114	P	P	13 24 13.0	0.0
	comp=Z,1.2nm,0.7s,mb4.3,baz=284,slow=4.5,SNR=15						
NVAR	Mina Array Bea	127.61	347	PKP	PKPdf	13 30 16.6	-1.3
	comp=Z,0.7nm,0.9s,baz=76,slow=1.7,SNR=4.3						
TXAR	Lajitas Array	130.28	328	PKP	PKPdf	13 30 21.4	-1.8
	comp=Z,0.5nm,1.0s,SNR=4.1						

JMA 22 13:22:56.6±0.1**, 33.41N**×**136.79E, h44**^{km}±3^{km}**, M1.2, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JWZ	Kozaga	0.91	278	P	P	13 23 12.9	-0.2
JWZ				eS	S	13 23 25.3	+0.1
JKN	Kiinagashima	0.94	332	P	P	13 23 13.6	0.0
JKN				eS	S	13 23 25.3	-0.8
JIE	Ise	0.98	356	P	P	13 23 14.4	+0.3
JAA	Atsumi	1.25	13	P	P	13 23 18.4	+0.4
JWM	Minabe	1.27	290	P	P	13 23 18.6	+0.3
JWM				eS	S	13 23 34.7	+0.2

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*NIED **22** 13:23:00, 33.00N×136.90E, h8^{km}, Mw3.7 Best double couple: $M_0$4.27×10^{14} NP1:ϕ_s118°, δ78°, λ110°. NP2: ϕ_s238°, δ23°, λ32°.*

*JMA **22** 13:23:56.7±0.1, 33.01N×136.88E, h37^{km}, M4.0*

JMA Felt I J1.

ISC 22 13:23:56.7±0.8**, 33.00N**±0.05×**136.87E**±0.03**, h37**^{km}**, n17,** σ**0^{s}69**/34**, 1C-11D, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	Tokai 1	0.97	38	P	P	13 24 13.8	-0.1
TK01				S	S	13 24 26.2	-0.5
JWZ	Kozaga	1.10	299	⇓P	P	13 24 16.1	+0.3
JWZ				S	S	13 24 29.6	-0.4
TK02	Tokai 2	1.20	38	⇓P	P	13 24 17.2	0.0
TK02				S	S	13 24 32.3	-0.2
JKN	Kiinagashima	1.34	338	⇓P	P	13 24 19.8	+0.5
JKN				S	S	13 24 35.4	-0.8
JIE	Ise	1.39	354	⇓P	P	13 24 20.8	+0.8
JIE				S	S	13 24 37.8	+0.4
JWM	Minabe	1.52	304	⇓P	P	13 24 22.2	+0.3
JWM				S	S	13 24 39.8	-0.9
JWY	Kouya	1.61	319	⇓P	P	13 24 24.1	+0.9
JWY				S	S	13 24 43.3	+0.3
TK04	Tokai 4	1.61	31	⇓P	P	13 24 23.5	+0.3
TK04				S	S	13 24 42.8	-0.2
TSUJ	Tsu 2	1.75	348	⇓P	P	13 24 25.7	+0.7
TSUJ				S	S	13 24 46.5	+0.3
JHE	Heguri	1.92	329	⇓P	P	13 24 28.4	+0.9
JHE				S	S	13 24 50.9	+0.2
JAI	Aioi	2.17	292	⇑P	P	13 24 31.5	+0.4
JAI				eS	S	13 24 55.8	-1.2
JHJ2	Mitsune	2.48	87	P	P	13 24 35.3	-0.2
JHJ2				S	S	13 25 03.4	-1.4
JWT	Wachi	2.58	332	⇓P	P	13 24 37.8	+0.8
JWT				S	S	13 25 07.3	-0.1
JMN	Monobe	2.61	287	P	P	13 24 37.4	+0.1
JMN				S	S	13 25 06.2	-1.9
JGM	Miyama	2.69	357	⇓P	P	13 24 39.2	+0.6
JGM				S	S	13 25 10.4	+0.1
JIM2	Oshima 3	2.73	51	P	P	13 24 39.7	+0.6
JIM2				S	S	13 25 11.3	0.0
MAT	Matsushiro	3.70	17	P	P	13 24 53.4	+0.5
MAT				S	S	13 25 34.3	-1.6

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*NAO **22** 13:49:37.6±6.9, 60.01N×9.99E, h15^{km}±26^{km}, ML2.1*

BER 22 13:49:36.5±3.0**, 59.97N**×**9.87E, ML1.8, ML2.1**(NAO)**, Suspected explosion, Southern Norway**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NC6	NORSAR Subarra	1.11	45	Pg	Pg	13 49 57.4	-1.3
NC6				Lg		13 50 12.0	
NB2	NORSAR Subarra	1.26	31	Pn	Pn	13 49 58.2	-3.2
NB2				Lg		13 50 14.0	
HFS	Hagfors	1.93	83	Pn	Pn	13 50 09.8	-1.1
	baz=266,slow=16						
HFS				Sn	Sn	13 50 32.5	-3.7
	baz=256,slow=22						
HFS				Lg		13 50 35.2	
	baz=257,slow=28						
MOL	Molde	2.84	338	eSg	Sg	13 51 05.3	-5.7
MOL				AML	AML	13 51 06.0	
	comp=Z,9.0nm,0.4s						

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*NAO **22** 14:08:33.1±3.0, 67.19N×20.75E, ML2.1*

*HEL **22** 14:08:33.3±0.1, 67.15N×20.71E, ML2.1, ML2.4(UPP), ML2.0(BER), Explosion*

*BER **22** 14:08:33.7±4.3, 67.15N×20.90E, ML2.0, ML2.1(NAO), Suspected explosion*

ISC 22 14:08:32.3±0.5**, 67.17N**±0.03×**20.71E**±0.07**, n24,** σ**1^{s}26**/37**, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DUNU	Dundret	0.08	228	iP	Pg	14 08 34.2	+0.4
DUNU				iS	Sg	14 08 35.6	+0.8
MASU	Masugnsbyn	0.57	60	iP	Pg	14 08 43.5	-0.3
MASU				iS	Sg	14 08 52.6	+1.1
KUA	Kurravaara	0.80	350	iP	Pg	14 08 47.4	-0.9
KUA				iS	Sg	14 08 58.5	-0.5
ERTU	Ertsjaerv	0.85	136	iP	Pg	14 08 48.2	-1.2
SALU	Saltoluokta	0.88	285	iP	Pg	14 08 49.5	-0.4
NIKU	Nikkaluokta	0.95	318	eP	Pg	14 08 50.1	-1.2
PAJU	Pajala	0.95	98	eP	Pg	14 08 50.2	-1.1
SJUU	Sjulsmark	1.71	167	eP	Pn	14 09 03.5	-0.1
KIF	Kilpisjarvi	1.84	1	eP	Pn	14 09 07.0	+1.5
KIF				eS	Sn	14 09 31.1	+1.3
KTK1	Kautokeino	2.08	26	eP	Pn	14 09 10.1	+1.3
KTK1				eSG	Sg	14 09 38.0	-3.4
KTK1				AML	AML	14 09 41.6	
	comp=Z,16nm,0.3s						
SGF	Sodankyl	2.27	80	eP	Pn	14 09 12.0	+0.4
SGF				eS	Sn	14 09 40.2	-0.5
SGF				eSG	Sg	14 09 42.8	-5.2
TRO	Tromso	2.56	346	eSG	Sg	14 09 53.0	-4.6
TRO				AML	AML	14 09 54.7	
	comp=Z,13nm,0.4s						
MOR8	Moi Rana	2.69	251	eSG	Sg	14 09 52.1	-10
MOR8				AML	AML	14 09 54.8	
	comp=Z,16nm,0.4s						
LOF	Lofoten	2.90	293	e	Sg	14 10 09.4	+0.4
LOF				AML	AML	14 10 18.6	
	comp=Z,9.7nm,0.6s						
LOF	Lofoten	2.90	293	eSg	Sg	14 10 09.4	+0.4
LOF				AML	AML	14 10 18.6	
	comp=Z,9.7nm,0.6s						
ARA0	ARCESS Array S	2.96	35	Pn	Pn	14 09 20.5	-1.0
	baz=214,slow=14						
ARA0				Sn	Sn	14 09 58.6	+0.3
	baz=221,slow=37						
ARA0				Lg		14 10 03.1	
	baz=221,slow=37						
ARA0	ARCESS Array S	2.96	35	eP	Pn	14 09 20.5	-1.0
ARA0				eS	Sn	14 09 58.6	+0.3
ARA0				eSB	Sb	14 10 03.1	+0.3
OUL	Oulu	2.97	132	eP	Pn	14 09 23.8	+2.1
OUL				eS	Sn	14 10 01.1	+2.5
OUL				eSG	Sg	14 10 06.4	-4.9
OUL				MSG		14 10 07.1	
	comp=Z,5.7nm,0.3s						
KEV	Kevo	3.48	39	eP	Pn	14 09 30.6	+1.7
KEV				eS	Sn	14 10 08.6	-2.9
MSF	Maaselka	3.56	107	eSG	Sg	14 10 22.6	-8.4
NSS	Namsos	4.46	238	e	Sg	14 10 54.5	-6.5
NSS				AML	AML	14 10 58.0	
	comp=Z,6.9nm,0.5s						
NSS	Namsos	4.46	238	eSg	Sg	14 10 54.5	-6.5
NSS				AML	AML	14 10 58.0	
	comp=Z,6.9nm,0.5s						
HFS	Hagfors	7.72	207	Pn	Pn	14 10 25.6	-3.1
	baz=23,slow=14						
HFS	Hagfors	7.72	207	eP	Pn	14 10 25.6	-3.1

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*IDC **22** 14:27:35.4±1.2, 17.78S×64.95E, mb4.0/8, mb1 4.2/8, mb1mx4.0/16, MS3.8/3, Ms1 3.8/3, ms1mx3.3/17, Error ellipse: s-maj=38.9km s-min=22.6km az=71.0*

*NEIC **22** 14:27:36.5±0.6, 17.76S×64.81E, h10^{km}, mb4.5/4, Error ellipse: s-maj=22.4km s-min=12.1km az=94.0*

ISC 22 14:27:34.7±0.7**, 17.8S**±0.1×**64.9E**±0.2**, h10**^{km}**, n18,** σ**0^{s}93**/17**, mb4.1**/12**, MS3.8**/3**, 3C-1D, Mauritius - Reunion region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	49.19	45	P	P	14 36 26.8	+1.4
	0.7nm,0.8s,mb3.8,baz=245,slow=9.2,SNR=4.5						
CMAR				LR	LR	14 54 20.0	
	comp=Z,98nm,18.0s,MS3.9,baz=31,slow=33						
MAW	Mawson	49.81	181	P	P	14 36 29.7	+0.3
	1.5nm,0.6s,mb4.2,baz=15,slow=6.9,SNR=6.0						
SHL	Shillong	50.48	32	eP	P	14 36 36.5	+1.3
FITZ	Fitzroy Crossi	57.57	100	LR	LR	14 58 47.5	
	comp=Z,61nm,19.3s,MS3.7,baz=75,slow=33						
ASAR	Alice Springs	64.30	108	P	P	14 38 12.5	-0.5
	2.7nm,0.6s,mb4.5,baz=271,slow=5.6,SNR=61						
ASAR				LR	LR	15 00 23.2	
	comp=Z,68nm,20.5s,MS3.8,baz=113,slow=31						
WRA	Warramunga Arr	65.34	104	P	P	14 38 19.6	-0.2
	2.8nm,0.7s,mb4.4,baz=263,slow=5.5,SNR=29						
WRAB	Tennant Creek	65.35	104	eP	P	14 38 19.4	-0.5
	7.4nm,0.8s,mb4.8						
MKAR	Makanchi Array	66.17	13	P	P	14 38 23.1	-1.6
	1.3nm,1.1s,mb3.9,baz=211,slow=7.1,SNR=5.0						
SNAA	Sanae	66.27	199	⇑i	P	14 38 24.3	-0.6
SNAA	Sanae	66.27	199	⇑i	P	14 38 25.2	+0.3
SNAA	Sanae	66.27	199	⇑iP	P	14 38 25.2	+0.3
VNA2	Neumayer--Watz	67.53	200	⇓i	P	14 38 37.4	+4.5
ZRNK	Zerenda	70.53	3	eP	P	14 38 50.6	-1.1
	2.6nm,1.0s,mb4.1						
BVAR	Borovoye Array	70.68	4	P	P	14 38 52.0	-0.6
	0.7nm,0.6s,mb3.8,baz=207,slow=6.6,SNR=3.6						
BRVK	Borovoye	70.71	3	eP	P	14 38 52.0	-0.8
	1.7nm,0.7s,mb4.1						
QSPA	South Pole Qui	72.31	180	eP	P	14 39 02.2	+0.2
	4.1nm,0.8s,mb4.4						
AKASG	Malin Array Be	75.05	337	P	P	14 39 20.0	+1.6
	0.4nm,0.3s,mb3.8,baz=145,slow=5.0,SNR=6.7						
SONM	Songino Array	75.16	28	P	P	14 39 19.4	+0.4
	1.6nm,0.8s,mb4.0,baz=213,slow=5.7,SNR=11						

DJA 22 14:45:54.4±0.9**, 9.36S**×**115.16E, h62**^{km}±9^{km}**, MD4.5**/2**, ML3.8**/2**, 2C-2D, Error ellipse: s-maj=30.0km s-min=9.9km az=7.0, South of Bali**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
INGI	Ingas	0.53	358	⇑iPn	P	14 46 06.3	-0.7
INGI				eSn	S	14 46 15.9	-0.3
RATI	Rata	0.72	30	⇓ePn	P	14 46 08.4	-0.8
	4µm,0.2s						
RATI				eSn	S	14 46 18.8	-1.4
KEDI	Kedomdong	1.27	47	⇓iPn	P	14 46 15.8	-0.7
	69nm,0.2s						
KEDI				eSn	S	14 46 30.6	-2.3
KELI	Kelakatan	1.31	329	⇑iPn	P	14 46 16.2	-0.9
	161nm,0.2s						
KELI				eSn	S	14 46 32.1	-1.9

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*LJU **22** 14:55:47.8, 46.11N×14.77E, h16^{km}, ML3.5*

*LDG **22** 14:55:48.0±0.1, 46.11N×14.84E, h10^{km}, Ml3.8/10, Error ellipse: s-maj=3.6km s-min=2.5km az=21.0*

*PDG **22** 14:55:48.6±0.7, 46.10N×14.76E, h11^{km}±1^{km}*

*IDC **22** 14:55:48.1±2.4, 46.10N×14.89E, h7^{km}±13^{km}, mb3.6/3, mb1 3.8/7, mb1mx3.7/20, ML3.5/4, Error ellipse: s-maj=16.9km s-min=12.0km az=30.0*

*PRU **22** 14:55:48.6, 46.12N×14.85E*

*NEIC **22** 14:55:48.7±0.3, 46.15N×14.80E, h6^{km}±2^{km}, MD3.8(PDG), ML4.1(STR), ML3.9(VIE), ML3.8(CLL), ML3.7(ZAG), ML3.7(SZGRF), ML3.6(LJU), ML3.5(FUR), ML3.5(BRG), Error ellipse: s-maj=1.8km s-min=1.7km az=198.0*

NEIC Felt throughout Slovenia.

*BGR **22** 14:55:49.3±1.0, 46.12N×14.83E, h10^{km}, ML3.7/8, Error ellipse: s-maj=13.3km s-min=11.1km az=131.0*

*STR **22** 14:55:54.4±5.5, 46.35N×14.26E, h10^{km}±1^{km}, Ml3.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 22 14:55:47.4±0.2**, 46.144N**±0.009×**14.78E**±0.01**, h11**^{km}±1^{km}**, n180,** σ**1^{s}31**/299**, mb3.6**/3**, 38C-16D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PDKS	Podkum	0.16	113	iPg	Pg	14 55 52.5	+1.3
PDKS				iSg	Sg	14 55 54.9	+1.2
	comp=Z,14µm,0.1s						
PDKS	Podkum	0.16	113	iPg	Pg	14 55 52.5	+1.3
PDKS				iSg	Sg	14 55 55.0	+1.2
LJU	Ljubljana	0.20	241	iPg	Pg	14 55 52.8	+0.8
LJU				iSg	Sg	14 55 55.3	+0.3
	comp=Z,4µm,0.1s						
VISS	Visnje	0.34	174	⇓iPg	Pg	14 55 54.8	+0.2
VISS				iSg	Sg	14 55 59.1	-0.2
	comp=Z,3µm,0.1s						
OBKA	Obir	0.40	336	⇑iPG	Pg	14 55 57.2	+1.5
OBKA				iSG	Sg	14 56 03.1	+2.0
	comp=Z,1µm,0.1s						
LEGS	Legarje	0.42	117	iPg	Pg	14 55 56.7	+0.6
LEGS				iSg	Sg	14 56 01.8	+0.1
	comp=Z,3µm,0.2s						
CEY	Cerknica	0.48	212	iPg	Pg	14 55 57.0	-0.1
CEY				iSg	Sg	14 56 02.6	-1.0
	comp=Z,3µm,0.2s						
DOBS	Dobrina	0.48	89	⇑iPg	Pg	14 55 58.0	+0.8
CESS	Cesta pri Krsk	0.50	110	iPg	Pg	14 55 58.4	+0.7
CESS				iSg	Sg	14 56 05.5	+1.0
	comp=Z,2µm,0.2s						
PERS	Pernice	0.54	25	iPg	Pg	14 55 59.7	+1.3
PERS				iSg	Sg	14 56 07.0	+1.2
	comp=Z,1µm,0.2s						
BISS	Bistriski jare	0.56	25	⇓iPg	Pg	14 56 00.0	+1.3
BISS				iSg	Sg	14 56 07.4	+1.2
	comp=Z,1µm,0.1s						
JAVS	Javornik	0.56	244	iPg	Pg	14 55 58.6	-0.1
JAVS				iSg	Sg	14 56 05.7	-0.7
	comp=Z,519nm,0.1s						
CRES	Cresnjevec ost	0.57	124	⇓iPg	Pg	14 55 59.1	+0.1
CRES				iSg	Sg	14 56 06.9	+0.4
	comp=Z,838nm,0.1s						
GROS	Grobnik	0.59	57	⇓iPg	Pg	14 56 00.3	+0.9
GOLS	Golise	0.60	103	⇑iPg	Pg	14 56 00.3	+0.7
GOLS				eSg	Sg	14 56 09.0	+1.3
	comp=Z,2µm,0.2s						
GCIS	Gornji Cirnik	0.64	116	ePg	Pg	14 56 00.8	+0.5
GCIS				iSg	Sg	14 56 09.5	+0.5
	comp=Z,2µm,0.2s						
KNDS	Knezji Dol	0.68	205	⇓iPg	Pg	14 56 00.3	-0.8
KNDS				iSg	Sg	14 56 09.7	-0.6
	comp=Z,2µm,0.2s						
BOJS	Bojanci	0.72	153	⇓iPg	Pg	14 56 01.4	-0.5
BOJS				iSg	Sg	14 56 11.5	-0.1
	comp=Z,4µm,0.3s						
CADS	Cadrg	0.73	277	ePg	Pg	14 56 02.0	-0.1
CADS				iSg	Sg	14 56 12.5	+0.5
	comp=Z,790nm,0.1s						
DRE	Drenchia	0.79	273	⇓ePg	Pg	14 56 03.1	-0.3
DRE				eSg	Sg	14 56 15.1	+1.1
TRI	Trieste	0.83	239	⇓iPn	Pn	14 56 03.0	-1.9
TRI				eSn	Sn	14 56 15.3	-1.9
ROBS	Robic	0.89	277	iPg	Pg	14 56 04.7	-0.6
ROBS				iSg	Sg	14 56 18.0	+0.8
	comp=Z,419nm,0.2s						
LSR	Lussari	0.93	291	ePg	Pg	14 56 06.1	0.0
LSR				eSg	Sg	14 56 20.6	+1.9
COLI	Coloredo	0.98	270	⇑iPg	Pg	14 56 06.7	-0.4
COLI				eSg	Sg	14 56 21.7	+1.6
PTCC	Patocco-Chiusa	1.03	285	⇓iPg	Pg	14 56 07.4	-0.6
PTCC				eSn	Sn	14 56 22.9	+0.8
BAD	Bernadia	1.07	276	⇓iPg	Pg	14 56 07.9	-1.1
BAD				eSg	Sg	14 56 23.6	+0.3
GMNA	Gemona	1.08	278	ePn	Pn	14 56 09.5	+1.1
GMNA				eSn	Sn	14 56 27.0	+3.5
BUA	Buia	1.16	274	ePg	Pg	14 56 11.0	+0.4
BOO	Bordano	1.18	279	⇑iPg	Pg	14 56 09.9	-1.2
TLI	Talmassons	1.19	260	⇓iPg	Pg	14 56 11.2	-0.1
TLI				eSg	Sg	14 56 29.0	+1.7
PLRO	Paularo	1.20	290	ePg	Pg	14 56 11.8	+0.2
PLRO				eSg	Sg	14 56 29.9	+2.3
ARSA	Arzberg	1.22	24	⇓iPG	Pg	14 56 11.6	-0.2
ARSA				iSG	Sg	14 56 29.4	+1.3
	comp=Z,790nm,0.4s						
MPRI	Monte Prat	1.25	275	ePg	Pg	14 56 11.7	-0.8
MPRI				eSg	Sg	14 56 31.1	+1.9
SISC	Sisak	1.30	121	iPg	Pg	14 56 12.6	-0.8
SISC				iSg	Sg	14 56 29.2	-1.6
ZOU	Zoufplan	1.32	289	⇑ePg	Pg	14 56 13.4	-0.5
ZOU				eSg	Sg	14 56 32.8	+1.3
KBA	Koelnbreinsper	1.36	314	⇑iPG	Pg	14 56 14.4	-0.3
KBA				iSG	Sg	14 56 33.1	+0.2
	comp=Z,522nm,0.4s						
FVI	Forni Avoltri	1.46	289	⇑iPn	Pn	14 56 15.5	+1.6
MLNI	Malnisio	1.51	271	⇑ePg	Pg	14 56 16.1	-1.5
MLNI				eSg	Sg	14 56 36.9	-0.9
CSMI	Casera Mimoias	1.52	285	⇑ePg	Pg	14 56 16.5	-1.4
NVLJ	Novalja	1.58	178	iPn	Pn	14 56 16.5	+0.9
NVLJ				iSn	Sn	14 56 38.5	+2.3
CAE	Caneva	1.64	266	⇑iPg	Pg	14 56 17.6	-2.6
CAE				eSg	Sg	14 56 41.0	-1.1
IESO	Jesolo	1.68	249	⇑iPg	Pg	14 56 19.1	-2.0
CSO	Casso	1.71	275	⇑iPg	Pg	14 56 18.6	-3.0
CSO				eSg	Sg	14 56 42.2	-2.3
MOA	Molln	1.74	348	⇑iPN	Pn	14 56 19.2	+1.3
MOA				iPG	Pg	14 56 22.1	-0.2
MOA				iSN	Sn	14 56 42.8	+2.5
MOA				iSG	Sg	14 56 45.9	+0.3
	comp=Z,216nm,0.4s						
AFL	Alpe Faloria	1.84	283	⇑iPn	Pn	14 56 21.5	+2.1
BGLD	Berchtesgaden	1.94	322	⇑iPn	Pn	14 56 23.1	+2.4
FAU	Forcella Aurin	1.95	274	⇑iPn	Pn	14 56 22.0	+1.1
SOP	Sopron	1.96	38	⇑iPn	Pn	14 56 23.1	+2.0
SOP				eSn	Sn	14 56 46.1	+0.2
SOP	Sopron	1.96	38	⇑iP	Pn	14 56 23.1	+2.0
SOP				eS	Sn	14 56 46.3	+0.4
CGRP	Cima Grappa	2.10	264	ePn	Pn	14 56 23.4	+0.5
CGRP				eSn	Sn	14 56 52.6	+3.4
CTI	Castel Tesino	2.18	269	⇑iPn	Pn	14 56 25.1	+0.9
RHK1	Bakonya	2.29	90	⇑iP	Pn	14 56 25.0	-0.7
RHK1				eS	Sn	14 56 51.9	-2.2
SCE	Schlegeis	2.30	294	ePn	Pn	14 56 27.7	+1.8
VKA	Vienna	2.37	26	⇓iPN	Pn	14 56 27.8	+0.9
VKA				iPG	Pg	14 56 33.5	-1.2
VKA				iSN	Sn	14 56 56.9	+0.8
VKA				iSG	Sg	14 57 04.9	-1.4
RHK3	Tenkes	2.43	95	⇑eP	Pn	14 56 26.9	-0.9
WTTA	Wattenberg	2.44	298	⇑iPN	Pn	14 56 30.0	+2.1
WTTA				iSN	Sn	14 56 59.5	+1.5
WATA	Walderalm	2.51	300	⇑iPN	Pn	14 56 31.6	+2.7
WATA				iSN	Sn	14 57 01.6	+1.9
ZST	Bratislava	2.59	37	iPn	Pn	14 56 31.4	+1.3
ZST				e		14 56 40.1	
ZST				eSn	Sn	14 57 01.5	-0.4

ZST				eSg	Sg	14 57 12.2	-1.6
SQTA	Sankt Quirin	2.69	295⇑	iPN	Pn	14 56 33.3	+1.9
SQTA				i SN	Sn	14 57 06.5	+2.2
PKSG		2.78	62⇓	iP	Pn	14 56 32.8	+0.1
PKS8	Sarbogard	2.79	73⇑	eP	Pn	14 56 31.3	-1.6
GEC2	GERESS Array S	2.80	345	ePn	Pn	14 56 34.3	+1.3
GEC2				eSn	Sn	14 57 07.7	+0.5
GEC2	GERESS Array S	2.80	345	ePn	Pn	14 56 34.3	+1.2
GEC2				eSn	Sn	14 57 07.7	+0.5
GERES	GERESS Array B	2.80	345	Pn	Pn	14 56 34.2	+1.1
	comp=Z,4.8nm,0.3s,baz=166,slow=14,SNR=36						
GERES				Pg	Pg	14 56 40.4	-3.0
	comp=Z,23nm,0.3s,baz=162,slow=16,SNR=37						
GERES				Sn	Sn	14 57 09.4	+2.2
	comp=Z,16nm,0.3s,baz=162,slow=25,SNR=6.7						
GERES				Lg		14 57 18.5	
	comp=Z,34nm,0.3s,baz=164,slow=29,SNR=9.7						
MOTA	Moosalm	2.80	297⇑	iPN	Pn	14 56 34.5	+1.4
MOTA				i SN	Sn	14 57 08.7	+1.5
FSSB	Fossombrone	2.84	211	ePn	Pn	14 56 34.3	+0.7
SRO	Srobarova	2.94	54	eSN	Sn	14 57 10.6	0.0
SRO				eSG	Sg	14 57 23.4	-1.9
ARV	Arcevia	2.95	207	ePn	Pn	14 56 35.4	+0.2
MABI	Malga Bissina	2.97	270	ePn	Pn	14 56 36.5	+1.0
SMOL	Smolenice	2.98	36	ePN	Pn	14 56 36.2	+0.6
SMOL				eSG	Sg	14 57 26.5	-0.1
SFI	Santa Sofia	3.06	224	ePn	Pn	14 56 36.7	0.0
BRMO	Bormio	3.08	278	ePn	Pn	14 56 37.9	+0.9
KHC	Kasperske Hory	3.10	345	ePN	Pn	14 56 38.2	+0.9
KHC				ex	x	14 56 40.5	
KHC				ePG	Pg	14 56 47.4	-1.9
KHC				eSN	Sn	14 57 16.0	+1.3
KHC				eSG	Sg	14 57 26.0	-4.6
FUR	Furstenfeldbru	3.13	311	eSn	Sn	14 57 18.0	+2.4
PGD	Poggio Sodo	3.14	225	ePn	Pn	14 56 38.9	+1.0
VMG	Vicchio	3.17	228	ePn	Pn	14 56 40.3	+2.0
CRE	Caprese Michel	3.23	220	ePn	Pn	14 56 39.6	+0.4
WET	Wettzell	3.27	337	ePn	Pn	14 56 40.7	+1.0
WET				eSn	Sn	14 57 20.5	+1.5
WET	Wettzell	3.27	337	ePn	Pn	14 56 40.7	+1.0
WET				eSn	Sn	14 57 20.5	+1.5
MURB	Monte Urbino	3.30	210	ePn	Pn	14 56 42.0	+1.9
VRAC	Vranov	3.39	20	Pn	Pn	14 56 42.3	+0.8
	comp=Z,1.9nm,0.3s,baz=196,slow=14,SNR=8.1						
VRAC				Lg		14 57 35.5	
	comp=Z,5.8nm,0.3s,baz=126,slow=19,SNR=3.5						
DAVOX	Davos	3.45	282	Pn	Pn	14 56 44.3	+2.0
	comp=Z,4.5nm,0.3s,baz=106,slow=15,SNR=20						
DAVOX				Sn	Sn	14 57 26.9	+3.4
	comp=Z,6.4nm,0.3s,baz=160,slow=22,SNR=5.7						
DAVOX				Lg		14 57 39.1	
	comp=Z,7.3nm,0.3s,baz=178,slow=19,SNR=4.6						
KOLL	Kolacno	3.46	44	ePN	Pn	14 56 43.2	+0.7
DAVA	Damuels	3.56	290⇓	iPN	Pn	14 56 45.2	+1.3
DAVA				i PG	Pg	14 56 56.9	-1.7
DAVA				i SG	Sg	14 57 45.9	-0.2
	comp=Z,92nm,0.9s						
BDI	Bagni Di Lucca	3.62	236	ePn	Pn	14 56 46.0	+1.2
VYHS	Vyhne	3.62	48	ePN	Pn	14 56 44.6	-0.1
VYHS				ePG	Pg	14 56 54.9	-4.9
VYHS				e		14 57 53.6	
GRAM		3.72	245	P	Pn	14 56 50.3	+4.3
BACM		3.82	242	P	Pn	14 56 50.4	+2.9
PRU	Pruhonice	3.85	358	i PN	Pn	14 56 48.4	+0.4
PRU				PG	Pg	14 57 00.8	-3.5
PRU				SN	Sn	14 57 32.5	-1.2
PRU				eSG	Sg	14 57 53.2	-2.5
	comp=Z,109nm,0.8s						
STON	Ston	3.88	146	i Pn	Pn	14 56 49.5	+1.1
STON				i Sn	Sn	14 57 34.5	0.0
CODM		3.90	245	P	Pn	14 56 50.7	+2.0
AQU	L'Aquila	3.92	195	P	Pn	14 56 50.1	+1.1
PSZ	Piszkesteto	3.92	61⇑	iPn	Pn	14 56 48.8	-0.2
PSZ				eSn	Sn	14 57 33.9	-1.6
MNS	Montasola	4.05	203	ePn	Pn	14 56 50.5	-0.3
MNS				eSn	Sn	14 57 36.5	-2.3
MORC	Moravsky Berou	4.08	26	eP	Pn	14 56 51.7	+0.5
UPM	Unac-Piva	4.16	134⇑	iPn	Pn	14 56 53.1	+0.8
UPM				eSn	Sn	14 57 42.5	+0.9
INTR	Introdacqua	4.18	189	ePn	Pn	14 56 54.0	+1.3
VAI	Varese	4.20	268⇓	iPn	Pn	14 56 53.0	0.0
BRY	Bratogost	4.21	139⇑	iPn	Pn	14 56 53.7	+0.6
BRY				eSn	Sn	14 57 43.4	+0.5
DIVS	Divcibare	4.21	117⇑	iPn	Pn	14 56 52.4	-0.8
DIVS				Sn	Sn	14 57 41.9	-1.1
GRA1	Grafenberg Arr	4.28	327	ePn	Pn	14 56 55.8	+1.7
GRA1				eSn	Sn	14 57 45.1	+0.4
GRF	Grafenberg Arr	4.28	327	ePn	Pn	14 56 55.8	+1.6
GRF				eSn	Sn	14 57 45.1	+0.4
PLE	Pljevlja	4.32	129	ePn	Pn	14 56 55.2	+0.5
PLE				eSn	Sn	14 57 46.6	+0.9
OKC	Ostrava-Krasne	4.33	30	ePN	Pn	14 56 54.8	0.0
OKC				eSN	Sn	14 57 42.7	-3.2
DPC	Dobruska-Polom	4.33	13	ePN	Pn	14 56 55.2	+0.4
DPC				eSG	Sg	14 58 05.0	-6.7
	comp=Z,142nm,1.4s						
NKC	Novy Kostel	4.38	340	ePN	Pn	14 56 55.6	+0.1
NKC				ePG	Pg	14 57 10.2	-4.7
PVCC	Panska Ves	4.39	358	ePN	Pn	14 56 56.1	+0.4
UPC	Upice	4.44	10	ePN	Pn	14 56 56.6	+0.2
UPC				ePG	Pg	14 57 11.2	-5.0
NKY	Niksic	4.49	136⇑	iPn	Pn	14 56 57.9	+0.8
NKY				eSn	Sn	14 57 50.3	+0.3
TANN	Tannenbergstha	4.55	341	ePn	Pn	14 56 59.1	+1.2
TANN				eSn	Sn	14 57 49.6	-1.7
HCY	Herceg Novi	4.56	143⇑	iPn	Pn	14 56 58.4	+0.3
HCY				eSn	Sn	14 57 51.5	-0.1
PCP	Pian Castagno	4.68	252	P	Pn	14 56 59.9	+0.1
MCGN	Macugnaga	4.74	270	ePn	Pn	14 57 01.6	+1.0
BRG	Berggiesshubel	4.77	354	i Pn	Pn	14 57 00.6	-0.4
BRG				ePg	Pg	14 57 19.9	-2.7
BRG				i Sn	Sn	14 57 54.4	-2.5
BRG				e		14 58 05.5	
BRG				eSg	Sg	14 58 24.4	-1.7
KSP	Ksiaz	4.81	11	ePn	Pn	14 57 01.5	-0.1
KSP				ePg	Pg	14 57 21.4	-2.0
KSP				eSn	Sn	14 57 56.7	-1.3
KSP				eSg	Sg	14 58 23.3	-4.3
BUM	Brajici-Budva	4.85	141⇑	iPn	Pn	14 57 02.7	+0.6
BUM				eSn	Sn	14 57 58.5	-0.4
IVA	Berane	4.91	130⇑	iPn	Pn	14 57 03.5	+0.5
IVA				eSn	Sn	14 58 00.5	+0.1
BFO	Black Forest	4.91	299	Pn	Pn	14 57 02.3	-0.7
	comp=Z,402nm,0.4s,SNR=37						
BFO	Black Forest	4.91	299	ePn	Pn	14 57 02.5	-0.5
BFO				eSn	Sn	14 57 57.4	-3.1
BFO	Black Forest	4.91	299	ePn	Pn	14 57 02.5	-0.5
BFO				eSn	Sn	14 57 57.4	-3.1
TTG	Podgorica	4.91	138⇑	iPn	Pn	14 57 03.8	+0.8
TTG				eSn	Sn	14 58 00.2	-0.3
FELD	Feldberg	4.95	293	P	Pn	14 57 02.9	-0.7
TRAV		4.96	265	P	Pn	14 57 03.2	-0.5
MOX	Moxa	4.97	336	ePn	Pn	14 57 04.0	0.0
MOX				eSn	Sn	14 57 59.2	-2.9
MOX	Moxa	4.97	336	i P	Pn	14 57 03.8	-0.1
MOX				S	Sn	14 57 59.0	-3.1
MOX				Sg	Sg	14 58 28.0	-5.0
MOX	Moxa	4.97	336	ePn	Pn	14 57 03.8	-0.1
MOX				eSn	Sn	14 57 59.1	-3.0
MOX				eSg	Sg	14 58 28.5	-4.5
FIN	Finale Ligure	5.04	250	ePn	Pn	14 57 04.4	-0.4
PVY	Plav	5.14	132⇑	iPn	Pn	14 57 07.1	+0.8
PVY				eSn	Sn	14 58 05.7	-0.6
RORO		5.17	249	P	Pn	14 57 04.4	-2.2
ROB	Roburent	5.22	252	P	Pn	14 57 04.3	-3.2
ULC	Ulcinj	5.27	141⇑	iPn	Pn	14 57 08.4	+0.2
ULC				eSn	Sn	14 58 08.9	-0.8
CLL	Collm	5.30	348	ePn	Pn	14 57 08.1	-0.4
CLL	Collm	5.30	348	i PN	Pn	14 57 08.0	-0.5
CLL				e		14 57 26.0	
CLL				eSN	Sn	14 58 09.0	-1.4
CLL				e		14 58 14.0	
CLL				e		14 58 36.0	
CLL				eSG	Sg	14 58 43.0	-0.9
CLL	Collm	5.30	348	i Pn	Pn	14 57 08.0	-0.5
CLL				eSn	Sn	14 58 09.0	-1.4
CLL				eSg	Sg	14 58 43.0	-0.9
TOD	Tromm	5.31	313	P	Pn	14 57 08.4	-0.2
RSP	Reno Superiore	5.37	262	P	Pn	14 57 06.5	-3.0
IMI	Imperia	5.37	248	P	Pn	14 57 05.5	-4.1
IMI				ePn	Pn	14 57 08.9	-0.6
LSD	Ceresole Reale	5.38	265	P	Pn	14 57 07.9	-1.7
MONE	Monesi	5.39	250	P	Pn	14 57 06.2	-3.5
MRLC	Muro Lucano	5.41	174	ePn	Pn	14 57 09.4	-0.7
BHB	Bricherasio	5.45	259	P	Pn	14 57 07.2	-3.4
PGF	Pioggiola	5.49	231	ePn	Pn	14 57 08.0	-3.2
PGF				eSn	Sn	14 58 08.6	-6.5
	comp=Z,46nm,0.7s						
MOF	Molkenrain	5.51	291	P	Pn	14 57 10.3	-1.1
NEGI	Negi	5.52	248	P	Pn	14 57 05.9	-5.7
WLS	Welschbruch	5.54	297	P	Pn	14 57 10.9	-1.0
ENR	Entracque	5.55	252	P	Pn	14 57 07.8	-4.2
SAOF	Saorge	5.56	250	P	Pn	14 57 12.0	-0.1
CDF	Champ du Feu	5.59	297	ePn	Pn	14 57 10.2	-2.4
SGO	Sicignano	5.59	176	ePn	Pn	14 57 12.2	-0.5
STV	Sta Anna Valdi	5.60	253	P	Pn	14 57 08.5	-4.3
AUTN	L'Aution	5.64	250	P	Pn	14 57 15.6	+2.4
LPG	La Plagne	5.65	266	ePn	Pn	14 57 11.6	-1.9
LPG				eSn	Sn	14 58 12.7	-6.5
	comp=Z,26nm,0.5s						
PZZ	Prazzo	5.66	256	P	Pn	14 57 09.7	-3.9
LPL	La Plagne	5.66	267	ePn	Pn	14 57 12.0	-1.6
LPL				eSn	Sn	14 58 12.7	-6.7
	comp=Z,25nm,0.5s						
HINF	Hinteralfeld	5.68	290	ePn	Pn	14 57 11.7	-2.2
HINF				eSn	Sn	14 58 12.6	-7.3
	comp=Z,21nm,0.4s						
SBF	Sospel	5.69	249	eP	Pn	14 57 14.9	+0.9
SBF				eSn	Sn	14 58 12.2	-7.9
	comp=Z,48nm,0.6s						
RSL	Roselend	5.71	268	P	Pn	14 57 15.0	+0.7
RRL	Cesana Torines	5.75	261	P	Pn	14 57 11.0	-3.9
BNI	Bardonecchia	5.79	262	eP	Pn	14 57 17.6	+2.1
	comp=Z,18nm,0.9s						
MBDF	Montbardon	5.81	259	ePn	Pn	14 57 13.4	-2.4
MBDF				eSn	Sn	14 58 15.0	-8.2
	comp=Z,36nm,0.6s						
MGR	Morigerati	6.03	174	ePn	Pn	14 57 18.4	-0.5
CABF	La Chapelle	6.04	278	ePn	Pn	14 57 17.8	-1.1
HAU	Haudompre	6.06	291	ePn	Pn	14 57 16.7	-2.5
HAU				eSn	Sn	14 58 21.0	-8.3
	comp=Z,33nm,0.5s						
FRF	La Foret Royal	6.33	249	ePn	Pn	14 57 20.9	-2.2
FRF				eSn	Sn	14 58 27.3	-8.9
	comp=Z,14nm,0.4s						
ORIF	Oris-en-Rattie	6.37	262	ePn	Pn	14 57 23.3	-0.4
ORIF				eSn	Sn	14 58 28.1	-9.1
	comp=Z,21nm,0.5s						
LMR	La Mourre	6.53	247	ePn	Pn	14 57 22.7	-3.1
LMR				eSn	Sn	14 58 33.0	-8.1
	comp=Z,18nm,0.4s						
VIVF	Saint-Julien-l	7.22	263	ePn	Pn	14 57 33.4	-2.2
SMF	Signal de Mont	7.58	278	ePn	Pn	14 57 36.7	-4.0
LOR	Lormes	7.60	282	ePn	Pn	14 57 37.1	-3.7
SSF	Saint Saulge	7.82	281	ePn	Pn	14 57 39.7	-4.3
MLR	Muntele Rosu	7.83	91	Pn	Pn	14 57 41.5	-2.6
	comp=Z,0.3nm,0.3s,baz=304,slow=18,SNR=3.0						
AVF	Avril sur Loir	7.92	279	ePn	Pn	14 57 42.2	-3.2
LASF	Ste Croix	8.00	259	ePn	Pn	14 57 43.4	-3.1
BGF	Bois d'Agland	8.27	277	ePn	P	14 57 46.6	-3.7
TCF	Toulx Ste Croi	8.72	275	ePn	P	14 57 51.9	-4.6
CAF	Calviac	9.01	267	ePn	P	14 57 58.0	-2.5
MTLF	Montolieu	9.37	257	ePn	P	14 58 01.1	-4.4
MKAR	Makanchi Array	45.17	64	P	P	15 04 05.4	-0.2
	comp=Z,0.6nm,0.8s,mb3.5,baz=297,slow=6.4,SNR=5.3						
SONM	Songino Array	58.80	52	P	P	15 05 47.7	-0.1
	comp=Z,0.6nm,0.9s,mb3.6,baz=315,slow=10,SNR=3.6						
CMAR	Chiang Mai Arr	72.94	81	P	P	15 07 18.0	-0.8
	comp=Z,1.1nm,1.1s,mb3.7,baz=308,slow=7.6,SNR=4.8						

NEIC ***22*** *15:06:10.4, 18.83N×68.17W, h166km, MD3.9(RSPR), After RSPR.*

RSPR 22 15:06:10.4, 18.83N×68.17W, h166km±1km**, MD3.9**/11, **MD3.9**/11**, 9C-3D, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IDE	Isla Desecheo	0.79	124⇑	eP	P	15 06 35.1	-0.3
IDE				eS	S	15 06 54.1	-0.6
MPR	Mayaguez	1.16	122⇑	eP	P	15 06 38.1	-0.1
MPR				eS	S	15 06 59.0	-0.7
LSP	Las Mesas	1.22	122⇑	eP	P	15 06 38.1	-0.7
MGP	Maguayo	1.31	128⇑	eP	P	15 06 38.4	-1.3
MGP				eS	S	15 07 00.8	-1.6
LRS	Lares	1.37	113⇑	eP	P	15 06 40.0	-0.2
AOPR	Arecibo Observ	1.43	109⇑	eP	P	15 06 40.8	-0.1
AOPR	Arecibo Observ	1.43	109	eS	S	15 07 04.7	+0.3
AOPR	Arecibo Observ	1.43	109	eP	P	15 06 40.4	-0.4
PORP	Portuguez	1.65	118⇑	iP	P	15 06 42.5	-0.5
PORP				eS	S	15 07 08.1	-0.1
OBIP	Obispado Ponce	1.68	117⇓	eP	P	15 06 42.7	-0.6
OBIP	Obispado Ponce	1.68	117	eS	S	15 07 08.2	-0.6
CELP	Cerrillos	1.69	116⇑	iP	P	15 06 43.1	-0.3
CELP				eS	S	15 07 09.2	+0.2
CSB	Colonia Sabana	1.99	105⇓	eP	P	15 06 46.4	-0.3
CSB				eS	S	15 07 14.5	-0.1
SJG	San Juan	2.05	110	eS	S	15 07 15.5	-0.3
SJG	San Juan	2.05	110⇑	eP	P	15 06 47.1	-0.3
SJG	San Juan	2.05	110⇑	eP	P	15 06 47.0	-0.4
SJG				eS	S	15 07 15.5	-0.3
CBYP	Canovanas	2.27	104⇑	eP	P	15 06 49.9	-0.1
CBYP				eS	S	15 07 20.3	-0.2
HUMP	Col San Antoni	2.31	107⇓	eP	P	15 06 50.4	-0.1
HUMP				eS	S	15 07 21.2	-0.1

IDC ***22*** *15:25:38.2±2.1, 51.01N×175.53E, mb3.5/4, mb1 3.9/5, mb1mx3.6/22, ML3.1/1, Error ellipse: s-maj=49.7km s-min=14.3km az=32.0*

NEIC ***22*** *15:25:40.1±1.5, 51.11N×175.46E, h10km, ML3.7(AEIC), Error ellipse: s-maj=34.2km s-min=9.2km az=196.0*

ISC 22 15:25:35.9±2.2**, 50.9N**±0.1×**175.40E**±0.08**, h2**km±15km**, n17, σ1**s**17**/23**, mb3.6**/4**, Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SMY	Shemya	2.02	337	P	Pn	15 26 11.4	+0.2
SMY				S	Sn	15 26 39.7	+2.3
FX1	Attu Island--F	2.44	326	Pn	Pn	15 26 15.5	-1.7
	14nm,0.3s,baz=117,slow=1.2,SNR=271						
FX1				Sn	Sn	15 26 46.1	-1.9
	43nm,0.3s,baz=297,slow=19,SNR=14						
FX1	Attu Island--F	2.44	326	P	Pn	15 26 15.5	-1.8
FX1				S	Sn	15 26 46.2	-1.8
KIMD	Kanaga Island	4.70	76	P	Pn	15 26 50.0	+0.5
KIMD				S	Sn	15 27 45.7	+0.3
KIKV	Kanaga Island	4.76	75	P	Pn	15 26 51.3	+1.0
KIRH	Kanaga Island	4.81	75	P	Pn	15 26 52.0	+1.0
KIRH				S	Sn	15 27 48.9	+0.8
GSMY	Great Sitkin M	5.46	74	P	Pn	15 27 00.4	+0.2
GSMY				S	Sn	15 28 03.2	-1.5
ATKA	Atka Island	6.62	74	P	Pn	15 27 15.9	-0.7
NIKO	Nikolski	9.95	72	P	P	15 28 01.4	-1.4
ILAR	Eielson Array	23.95	40	P	P	15 30 54.0	+2.3
	0.6nm,0.6s,mb3.2,baz=252,slow=7.6,SNR=6.8						
DAWY	Dawson	26.98	43	eP	P	15 31 20.4	+0.1
TPNV	Topopah Spring	49.43	79	P	P	15 34 28.3	-0.6
BW06	Boulder Array	49.92	68	P	P	15 34 31.8	-0.8
PDAR	Pinedale Array	49.92	68	P	P	15 34 32.0	-0.5
	0.3nm,0.7s,mb3.5,baz=248,slow=4.9,SNR=2.7						
KURK	Kurchatov	56.65	311	P	P	15 35 23.0	+0.6
MKAR	Makanchi Array	57.41	305	P	P	15 35 30.1	+2.2
	0.4nm,0.7s,mb3.6,baz=53,slow=6.1,SNR=4.4						
TXAR	Lajitas Array	62.33	77	P	P	15 36 00.9	-1.0
	1.2nm,0.8s,mb4.1,baz=305,slow=5.3,SNR=9.5						

BGR ***22*** *15:35:06.7±0.7, 51.52N×16.28E, h1km, ML3.6/9, Error ellipse: s-maj=7.8km s-min=5.6km az=160.0*

NEIC ***22*** *15:35:06.9±0.6, 51.60N×16.23E, h5km, ML3.6(SZGRF), ML3.6(VIE), ML3.4(FUR), ML3.3(BRG), ML3.2(CLL), Error ellipse: s-maj=6.9km s-min=3.7km az=200.0*

WAR ***22*** *15:35:08.8, 51.54N×16.13E, ML3.5, Mining Induced*

PRU ***22*** *15:35:09.0, 51.49N×16.12E*

ISC 22 15:35:07.4±0.5**, 51.42N**±0.03×**16.09E**±0.03**, n55, σ1**s**25**/113**, 16C, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	Ksiaz	0.60	167	i PG	Pg	15 35 21.7	+2.4
KSP				eSG	Sg	15 35 31.7	+4.5
KSP	Ksiaz	0.60	167	i Pg	Pg	15 35 21.7	+2.4
KSP				eSg	Sg	15 35 30.7	+3.5
KSP				e		15 35 36.5	
UPC	Upice	0.92	183	ePG	Pg	15 35 27.8	+2.1
DPC	Dobruska-Polom	1.08	172	ePG	Pg	15 35 30.5	+1.5
DPC				eSG	Sg	15 35 46.2	+2.7
	177nm,0.6s						
PVCC	Panska Ves	1.31	228	ePG	Pg	15 35 34.4	+0.8
BRG	Berggiesshubel	1.46	249	ePn	Pn	15 35 35.3	+0.3
BRG				eSg	Sg	15 35 57.8	+1.9
BRG	Berggiesshubel	1.46	249	i Pn	Pn	15 35 35.4	+0.4
BRG				i Pg	Pg	15 35 37.3	+0.8
BRG				i Sg	Sg	15 35 57.9	+2.0
PRU	Pruhonice	1.74	215	PN	Pn	15 35 39.7	+0.6
PRU				PG	Pg	15 35 42.1	0.0
PRU				i x	x	15 35 59.6	
PRU				SG	Sg	15 36 06.4	+1.1
	136nm,0.6s						
RUE	Ruedersdorf	1.78	307	eP	Pn	15 35 38.1	-1.5
MORC	Moravsky Berou	1.89	150	eP	Pn	15 35 41.6	+0.4
RAC	Raciborz	1.90	134	eP	Pn	15 35 45.0	+3.7
RAC				eS	Sn	15 36 11.0	+4.8
RAC	Raciborz	1.90	134	ePg	Pg	15 35 45.1	-0.1
RAC				eSg	Sg	15 36 10.8	+0.4
CLL	Collm	1.94	268	ePn	Pn	15 35 41.4	-0.5
CLL				eSg	Sg	15 36 11.6	-0.3
CLL	Collm	1.94	268	i PN	Pn	15 35 41.3	-0.6
	logA/T=1.8						
CLL				i PG	Pg	15 35 45.1	-0.9
CLL				i		15 35 48.6	
CLL				i SG	Sg	15 36 10.9	-1.0
CLL	Collm	1.94	268	i Pn	Pn	15 35 41.3	-0.6
CLL				i Pg	Pg	15 35 45.1	-0.9
CLL				i Sg	Sg	15 36 10.9	-1.0
OKC	Ostrava-Krasne	2.06	140	ePN	Pn	15 35 43.8	+0.2
OKC				ePG	Pg	15 35 47.7	-0.8
OKC				eSG	Sg	15 36 14.5	-1.4
TANN	Tannenbergstha	2.51	248	ePn	Pn	15 35 51.1	+1.1
TANN				eSg	Sg	15 36 31.0	+0.2
WERD	Werda	2.58	249	ePn	Pn	15 35 51.5	+0.4
WERD				eSg	Sg	15 36 33.8	+0.4
NKC	Novy Kostel	2.60	244	ePN	Pn	15 35 51.9	+0.6
NKC				ePG	Pg	15 35 58.9	-0.3
NKC				eSG	Sg	15 36 35.1	+1.2
GUNZ	Gunzen	2.60	247	ePn	Pn	15 35 52.2	+0.7
GUNZ				eSg	Sg	15 36 34.6	+0.6
OJC	Ojcow	2.64	116	ePN	Pn	15 35 50.0	-2.0
OJC				ePG	Pg	15 35 59.0	-1.1
OJC				eSG	Sg	15 36 33.0	-2.4
OJC	Ojcow	2.64	116	ePn	Pn	15 35 50.0	-2.0
OJC				ePg	Pg	15 35 59.1	-1.0
OJC				eSg	Sg	15 36 33.4	-2.0
KHC	Kasperske Hory	2.80	216	ePn	Pn	15 35 54.7	+0.4
KHC				ePg	Pg	15 36 01.2	-2.1
KHC				eSg	Sg	15 36 39.9	-0.8
MOX	Moxa	2.93	256	ePn	Pn	15 35 55.9	-0.1
MOX				eSg	Sg	15 36 44.8	-0.1
MOX	Moxa	2.93	256	i P	Pn	15 35 55.9	-0.2
MOX				Pg	Pg	15 36 04.0	-1.8
MOX				Sg	Sg	15 36 44.0	-0.9
MOX	Moxa	2.93	256	ePn	Pn	15 35 55.9	-0.2
MOX				ePg	Pg	15 36 04.4	-1.4
MOX				eSg	Sg	15 36 44.4	-0.5
GEC2	GERESS Array S	3.00	212	ePn	Pn	15 35 58.0	+0.9
GEC2				eSg	Sg	15 36 46.2	-1.1
GEC2	GERESS Array S	3.00	212	ePn	Pn	15 35 58.0	+0.9
GEC2				eSg	Sg	15 36 46.2	-1.2
SMOL	Smolenice	3.04	163	ePG	Pg	15 36 06.9	-1.1
SMOL				eSB	Sb	15 36 47.2	+7.2
LIKS	Likavka	3.07	140	eSG	Sg	15 36 51.2	+1.8
WET	Wettzell	3.07	223	ePn	Pn	15 35 59.0	+0.9
WET				eSg	Sg	15 36 48.5	-1.2
WET	Wettzell	3.07	223	ePn	Pn	15 35 59.0	+0.9
WET				eSg	Sg	15 36 48.5	-1.2
VKA	Vienna	3.17	177⇑	iPN	Pn	15 36 02.5	+3.1
VKA				i PG	Pg	15 36 10.3	-0.3
VKA				i SG	Sg	15 36 53.9	+1.1
ZST	Bratislava	3.30	168	eSB	Sb	15 36 56.2	+8.7
VYHS	Vyhne	3.43	148	ePG	Pg	15 36 13.9	-1.9
VYHS				eSG	Sg	15 37 01.9	+0.4
GRF	Grafenberg Arr	3.56	243	eSg	Sg	15 37 04.5	-1.2
MOA	Molln	3.77	199⇑	iPN	Pn	15 36 09.1	+1.1
MOA				i SG	Sg	15 37 12.1	-0.7
	36nm,0.5s						
ARSA	Arzberg	4.19	185⇑	iPN	Pn	15 36 15.0	+1.0
ARSA				i SG	Sg	15 37 23.4	-3.6
	48nm,0.7s						
KWP	Kalwaria	4.59	110	ePG	Pg	15 36 34.0	-5.0
KWP				eSG	Sg	15 37 45.0	+4.9
KWP	Kalwaria	4.59	110	ePg	Pg	15 36 34.0	-5.0
KWP				eSg	Sg	15 37 44.7	+4.6
KOLS	Kolonicke sedl	4.69	120	ePN	Pn	15 36 19.5	-1.6
KBA	Koelnbreinsper	4.71	204⇑	iPN	Pn	15 36 22.2	+0.9
KBA				i SG	Sg	15 37 40.0	-4.0
	29nm,0.6s						
OBKA	Obir	5.02	192⇑	iPN	Pn	15 36 26.6	+0.8
OBKA				i SG	Sg	15 37 52.2	-2.4
	16nm,0.7s						
OBKA	Obir	5.02	192⇑	iPn	Pn	15 36 26.6	+0.8
	16nm,0.7s						
OBKA				i Sg	Sg	15 37 52.2	-2.4
WATA	Walderalm	5.04	218⇑	iPN	Pn	15 36 26.2	+0.1
WATA				i SG	Sg	15 37 52.6	-2.6
	15nm,0.5s						
WATA	Walderalm	5.04	218⇑	iPn	Pn	15 36 26.2	+0.1
	15nm,0.5s						
WATA				i Sg	Sg	15 37 52.6	-2.6
WTTA	Wattenberg	5.08	217⇑	iPN	Pn	15 36 26.6	0.0
WTTA				i SG	Sg	15 37 51.8	-4.7
	17nm,0.6s						
WTTA	Wattenberg	5.08	217⇑	iPn	Pn	15 36 26.6	0.0
	17nm,0.6s						
WTTA				i Sg	Sg	15 37 51.8	-4.7
MOTA	Moosalm	5.22	220⇑	iPN	Pn	15 36 28.5	-0.1
MOTA				i SG	Sg	15 37 57.7	-3.5
	20nm,0.7s						
MOTA	Moosalm	5.22	220⇑	iPn	Pn	15 36 28.5	-0.1
	20nm,0.7s						
MOTA				i Sg	Sg	15 37 57.7	-3.5
SQTA	Sankt Quirin	5.28	219⇑	iPN	Pn	15 36 30.0	+0.6
SQTA				i SG	Sg	15 38 00.1	-3.0
	8.4nm,0.5s						
SQTA	Sankt Quirin	5.28	219⇑	iPn	Pn	15 36 30.0	+0.6
	8.4nm,0.5s						
SQTA				i Sg	Sg	15 38 00.1	-3.0
DAVA	Damuels	5.79	227⇑	iPN	Pn	15 36 35.7	-1.0
DAVA				i SG	Sg	15 38 15.8	-4.5
	13nm,0.6s						
DAVA	Damuels	5.79	227⇑	iPn	Pn	15 36 35.7	-1.0
	13nm,0.6s						
DAVA				i Sg	Sg	15 38 15.8	-4.5
KEV	Kevo	19.10	12	ep	P	15 39 36.8	+3.1
	2.2nm,0.4s						

IDC ***22*** *15:43:31.4±0.6, 57.99S×25.27W, mb4.7/8, mb1 4.7/8, mb1mx4.7/11, MS4.0/4, Ms1 4.0/4, ms1mx3.8/13, Error ellipse: s-maj=29.1km s-min=17.8km az=46.0*

NEIC ***22*** *15:43:38.5±1.4, 57.88S×25.32W, h49km±13km, mb4.6/12, Error ellipse: s-maj=11.5km s-min=6.9km az=218.0*

ISC 22 15:43:37.7±2.8**, 57.86S**±0.09×**25.2W**±0.2**, h59**km±27km**, n53, σ0**s**99**/32**, mb4.7**/17**, MS3.9**/5**, 4C, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	14.71	157⇑	i	P	15 47 04.4	+1.0
VNA3	Neumayer Olymp	14.92	160⇑	i	P	15 47 06.2	+0.1
VNA2	Neumayer--Watz	15.10	157⇑	i	P	15 47 09.2	+0.7
SNAA	Sanae	16.64	155⇑	i	P	15 47 26.7	-1.3
PMSA	Palmer Station	19.59	233	eP	P	15 48 02.6	-0.7
	33nm,1.0s						
EFI	East Falkland	19.79	274	eP	P	15 48 01.3	-4.2
	18nm,0.6s						
USHA	Ushuaia	23.83	259	P	P	15 48 45.9	+0.2
	50nm,1.4s,mb4.8,baz=78,slow=11,SNR=3.7						
USHA				LR	LR	15 55 39.3	
	comp=Z,616nm,20.5s,MS4.1,baz=325,slow=31						
TRQA	Tornquist	31.03	294	eP	P	15 49 50.2	-1.5
	4.0nm,0.9s,mb4.2						
QSPA	South Pole Qui	32.38	180	eP	P	15 50 02.8	-0.4
	11nm,0.8s,mb4.7						
QSPA				LR	LR		

	comp=Z,130nm,22.0s,MS3.6						
MAW	**Mawson**	**38.05**	**142**	P	**P**	**15 50 50.8**	**-0.7**
	comp=Z,1.8nm,0.4s,mb4.2,baz=253,slow=10,SNR=16						
MAW				PcP	PcP	15 53 06.1	-0.3
	comp=Z,0.7nm,0.7s,baz=205,slow=4.5,SNR=4.0						
MAW	**Mawson**	**38.05**	**142**	*e*P	**P**	**15 50 50.7**	**-0.9**
	comp=Z,2.3nm,0.5s,mb4.2						
CPUP	**Villa Florida**	**38.81**	**310**	P	**P**	**15 50 57.8**	**-0.5**
	comp=Z,3.0nm,0.4s,mb4.3,baz=176,slow=6.4,SNR=11						
CPUP				PcP	PcP	15 53 09.1	-0.1
	comp=Z,2.5nm,0.5s,baz=163,slow=2.8,SNR=5.4						
CPUP	**Villa Florida**	**38.81**	**310**	*e*P	**P**	**15 50 57.4**	**-0.9**
	comp=Z,4.3nm,0.7s,mb4.3						
SBA	**Scott Base**	**44.34**	**184**	*e*P	**P**	**15 51 44.0**	**+1.1**
	comp=Z,9.7nm,0.9s,mb4.5						
BOSA	**Boshof**	**45.44**	**72**	P	**P**	**15 51 52.6**	**+0.4**
	comp=Z,6.5nm,1.0s,mb4.4						
BAO	**Brasilia Array**	**45.47**	**328**	P	**P**	**15 51 54.0**	**+1.3**
BDFB	**Brasilia**	**45.48**	**328**	P	**P**	**15 51 54.2**	**+1.5**
	comp=Z,8.7nm,0.7s,mb4.7,baz=134,slow=7.3,SNR=9.3						
LPAZ	**La Paz**	**52.30**	**304**	P	**P**	**15 52 45.4**	**+0.1**
	comp=Z,4.6nm,0.4s,mb4.8,baz=138,slow=4.9,SNR=19						
LPAZ				LR	LR	16 14 49.5	
	comp=Z,28nm,18.5s,MS3.3,baz=26,slow=36						
LPAZ	**La Paz**	**52.30**	**304**	*e*P	**P**	**15 52 45.0**	**-0.3**
	comp=Z,4.8nm,0.5s,mb4.7						
SAML	**Samuel**	**56.84**	**313**	*e*P	**P**	**15 53 17.2**	**-1.3**
	comp=Z,20nm,0.7s,mb5.3						
LSZ	**Lusaka**	**58.08**	**66**	P	**P**	**15 53 25.7**	**-1.4**
LIC	**Lamto**	**65.94**	**22**	*e*P	**P**	**15 54 20.3**	**+0.6**
	comp=Z,28nm,0.5s,mb5.5						
KIC	**Kosan Boka**	**66.13**	**22**	*e*P	**P**	**15 54 21.4**	**+0.4**
	comp=Z,25nm,0.6s,mb5.4						
TIC	**Toumodi**	**66.35**	**22**	*e*P	**P**	**15 54 19.8**	**-2.5**
	comp=Z,23nm,0.2s						
DBIC	**Dimbokro**	**66.41**	**22**	P	**P**	**15 54 23.1**	**+0.3**
	comp=Z,5.7nm,0.5s,mb4.9,baz=168,slow=9.2,SNR=18						
OTAV	**Otavalo**	**71.55**	**302**	*e*P	**P**	**15 54 56.1**	**+1.8**
	comp=Z,6.4nm,0.8s,mb4.6						
ROSC	**El Rosal**	**73.88**	**308**	LR	LR	16 25 28.0	
	comp=Z,124nm,18.2s,MS4.2,baz=197,slow=34						
SDV	**Santo Domingo**	**76.05**	**314**	*e*P	**P**	**15 55 19.8**	**-0.6**
	comp=Z,11nm,0.9s,mb4.8						
HUMP	**Col San Antoni**	**82.86**	**321**	*e*P	**P**	**15 55 57.8**	**+0.8**
MGP	**Maguayo**	**83.16**	**320**	*e*P	**P**	**15 55 58.8**	**+0.3**
STKA	**Stephens Creek**	**89.92**	**169**	P	**P**	**15 56 31.6**	**+0.4**
	comp=Z,3.7nm,0.8s,mb4.7,baz=121,slow=8.6,SNR=4.7						
STKA	**Stephens Creek**	**89.92**	**169**	*e*P	**P**	**15 56 31.5**	**+0.3**
ASAR	**Alice Springs**	**96.93**	**161**	P	**P**	**15 57 03.3**	**-0.2**
	comp=Z,1.8nm,0.8s,mb4.6,baz=180,slow=4.1,SNR=20						
ASAR				LR	LR	16 34 58.4	
	comp=Z,132nm,21.6s,MS4.4,baz=16,slow=32						
MSU	**Marysvale**	**120.12**	**295**	*e*PKPdf	PKPdf	16 02 23.4	+2.0
TPNV	**Topopah Spring**	**120.89**	**291**	*e*PKPdf	PKPdf	16 02 25.6	+2.7
PDAR	**Pinedale Array**	**122.20**	**300**	PKP	PKPdf	16 02 26.3	+1.0
	comp=Z,0.6nm,0.5s,baz=129,slow=6.4,SNR=4.1						
MNV	**Mina**	**123.00**	**291**	*e*PKPdf	PKPdf	16 02 29.5	+2.5
NVAR	**Mina Array Bea**	**123.07**	**291**	PKP	PKPdf	16 02 29.4	+2.3
	comp=Z,0.7nm,0.7s,baz=128,slow=3.4,SNR=5.5						
ELK	**Elko**	**123.34**	**295**	*e*PKPdf	PKPdf	16 02 29.8	+2.2
CMAR	**Chiang Mai Arr**	**123.43**	**110**	PKP	PKPdf	16 02 29.6	+1.4
	comp=Z,6.3nm,1.1s,baz=223,slow=3.5,SNR=12						
FINES	**FINESS Array B**	**125.50**	**27**	PKP	PKPdf	16 02 32.1	+1.1
	comp=Z,2.1nm,0.5s,baz=163,slow=2.2,SNR=24						
ARCES	**ARCESS Array B**	**132.24**	**22**	PKP	PKPdf	16 02 45.0	+1.2
	comp=Z,2.7nm,0.8s,baz=180,slow=1.2,SNR=5.8						
ARCES	**ARCESS Array B**	**132.24**	**22**	PKP	PKPdf	16 02 45.0	+1.2
BVAR	**Borovoye Array**	**134.84**	**58**	PKP	PKPdf	16 02 51.1	+2.1
	comp=Z,1.5nm,0.5s,baz=186,slow=2.7,SNR=10.0						
YKA	**Yellowknife Ar**	**138.23**	**316**	PKP	PKPdf	16 02 56.2	+1.2
	comp=Z,6.5nm,0.9s,baz=129,slow=1.9,SNR=7.2						
YKA	**Yellowknife Ar**	**138.23**	**316**	PKP	PKPdf	16 02 56.2	+1.2
INK	**Inuvik**	**147.88**	**318**	*e*PKPbc	PKPdf	16 03 16.1	+4.8
DAWY	**Dawson**	**148.79**	**309**	*e*PKPbc	PKPdf	16 03 18.4	+5.5
SONM	**Songino Array**	**149.74**	**88**	PKPbc	PKPdf	16 03 22.0	+7.0
	comp=Z,8.4nm,0.7s,baz=214,slow=2.7,SNR=11						
SML	**Sawmill**	**151.94**	**302**	*e*PKPbc	PKPdf	16 03 26.6	+8.8
ILAR	**Eielson Array**	**152.11**	**309**	PKPbc	PKPdf	16 03 27.0	+9.0
	comp=Z,11nm,0.9s,baz=114,slow=1.0,SNR=49						
KDAK	**Kodiak Island**	**152.55**	**293**	*e*PKPbc	PKPdf	16 03 27.9	+9.1
MCK	**McKinley**	**152.73**	**306**	*e*PKPbc	PKPdf	16 03 28.3	+9.4

MOS **22** *15:53:04.2±1.0, 3.54N×126.79E, h33^{km}, mb5.2/18, Error ellipse: s-maj=21.7km s-min=9.1km az=114.0*

IDC **22** *15:53:05.6±2.9, 3.49N×126.75E, h30^{km}±20^{km}, mb4.7/17, mb1 4.7/17, mb1mx4.6/20, MS4.0/10, Ms1 4.1/10, ms1mx3.7/24, Error ellipse: s-maj=25.3km s-min=9.4km az=68.0*

BJI **22** *15:53:09.8, 3.50N×126.55E, h78^{km}, mB4.9, mb5.0, Ms4.1, Msz3.9*

NEIC **22** *15:53:11.9±1.4, 3.52N×126.87E, h89^{km}±13^{km}, mb5.1/38, Error ellipse: s-maj=9.9km s-min=4.8km az=63.0*

HRVD **22** *15:53:11.9±0.5, 3.59N×126.90E, h57^{km}±5^{km}, MW4.9/45, Centroid moment Tensor Solution. LP body waves: s16,c20;Mantle waves: s45,c66; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M$_{rr}$-0.28±.22; M$_{\theta\theta}$-2.18±.15; M$_{\phi\phi}$2.47±.19; M$_{r\theta}$0.71±.13; M$_{\theta\phi}$-0.66±.15; M$_{\phi r}$1.60±.17; Best double couple: M$_0$2.96×10^{16} NP1:φ$_s$306°,δ54°, λ-179°. NP2:φ$_s$215°,δ89°,λ-36°. Principal axes: T 3.22, Plg24°, Azm266°; N -.51, Plg54°, Azm35°; P -2.7, Plg25°, Azm165°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 22 15:53:08.8±0.6, **3.50N**±0.03×**126.85E**±0.05, **h73**^{km}±4^{km}, **h59**^{km}±7.0^{km}**:pP-P, n173,** σ1§**22**/189, **mb5.0**/72, **6C-17D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**3.19**	**324**	*e*P	**P**	**15 53 59.9**	**+2.0**
MATI	**Mati**	**3.47**	**350**	*e*P	**P**	**15 54 00.9**	**-0.8**
MATI				*e*S	**S**	**15 54 45.3**	**+3.5**
DAV	**Davao City (W)**	**3.76**	**340**	*e*P	**P**	**15 54 06.0**	**+0.2**
KCP	**Kidapawan**	**3.90**	**333**	⇓*e*P	**P**	**15 54 08.1**	**+0.4**
KCP				*i* S	**S**	**15 54 56.5**	**+4.0**
CTBH	**Cotabato--PC H**	**4.51**	**325**	*e*P	**P**	**15 54 15.1**	**-1.1**
CTBH				*i* S	**S**	**15 54 54.3**	**-14**
BIPH	**Bislig**	**4.67**	**354**	⇓*e*P	**P**	**15 54 20.5**	**+2.0**
BIPH				*i* S	**S**	**15 55 12.9**	**+0.9**
BUKP	**Musuan**	**4.70**	**338**	*e*P	**P**	**15 54 19.3**	**+0.5**
BUKP				*e*S	**S**	**15 55 13.0**	**+0.5**
CGP	**Cagayan de Oro**	**5.37**	**337**	⇓*e*P	Px	15 54 10.1	
CGP				*e*S	**S**	**15 55 32.9**	**+3.7**
PAGZ	**Pagadian**	**5.53**	**322**	*e*P	**P**	**15 54 29.2**	**-1.0**
BUTP	**Butuan**	**5.56**	**347**	*e*P	**P**	**15 54 29.8**	**-1.0**
BUTP				*e*S	**S**	**15 55 40.2**	**+6.1**
ZMPH	**Zamboanga City**	**5.87**	**306**	*e*P	**P**	**15 54 34.0**	**-1.0**
ZMPH				*e*S	**S**	**15 55 38.0**	**-3.7**
IPIL	**Ipil**	**6.02**	**315**	*e*P	**P**	**15 54 35.3**	**-1.8**
IPIL				*e*S	**S**	**15 55 39.4**	**-5.9**
SCPH	**Surigao**	**6.38**	**348**	⇑*e*P	**P**	**15 54 42.1**	**0.0**
MSLP	**Maasin**	**6.88**	**343**	*e*P	**P**	**15 54 47.9**	**-1.2**
MSLP				*e*S	**S**	**15 56 13.3**	**+6.8**
OCLP	**Ormoc**	**7.82**	**344**	*e*P	**P**	**15 55 03.1**	**+1.0**
BESP	**Borongan**	**8.16**	**350**	*e*P	**P**	**15 55 07.7**	**+0.9**
BESP				*e*S	**S**	**15 56 31.4**	**-6.9**
GUIM	**Jordan**	**8.24**	**329**	*e*P	**P**	**15 55 04.8**	**-3.0**
BUNI	**Buntu Taipa**	**9.65**	**223**	⇓*i*P	**P**	**15 55 25.6**	**-1.5**
PVCP	**Virac**	**10.38**	**345**	*e*P	**P**	**15 55 38.7**	**+1.7**
NINI	**Niniconang**	**10.59**	**222**	⇓*i*P	**P**	**15 55 43.0**	**+3.1**
ENPP	**El Nido**	**10.62**	**317**	*e*P	**P**	**15 55 39.6**	**-0.7**
KKM	**Kota Kinabalu**	**10.89**	**284**	⇓*e*P	**P**	**15 55 45.9**	**+1.9**
	43nm,0.4s						
KEDI	**Kedomdong**	**16.02**	**222**	⇓*i*P	**P**	**15 56 55.3**	**+4.2**
	122nm,0.6s						
RATI	**Rata**	**16.58**	**223**	⇓*i*P	**P**	**15 57 00.8**	**+2.7**
INGI	**Ingas**	**16.91**	**224**	⇓*i*P	**P**	**15 57 03.5**	**+1.3**
KELI	**Kelakatan**	**16.96**	**227**	⇓*i*P	**P**	**15 57 04.4**	**+1.6**
KAKA	**Kakadu**	**17.02**	**161**	*e*P	**P**	**15 57 03.5**	**0.0**
	72nm,0.6s						
FITZ	**Fitzroy Crossi**	**21.50**	**183**	*e*P	**P**	**15 57 51.9**	**-1.5**
	21nm,0.4s,mb4.8						
FITZ				*e*S	**S**	**16 01 43.5**	**+1.2**
FITZ	**Fitzroy Crossi**	**21.50**	**183**	P	**P**	**15 57 51.5**	**-1.9**
	22nm,0.5s,mb4.8,baz=7.4,slow=10,SNR=118						
QIZ	**Qiongzhong**	**22.68**	**314**	P	**P**	**15 58 03.8**	**-1.3**
QIZ				LR	LR		
	comp=N,463nm,23.2s						
QIZ				LR	LR		
	comp=E,357nm,14.1s						
QIZ				LR	LR		
	comp=Z,241nm,16.2s						
JOW	**Kunigami**	**23.24**	**3**	P	**P**	**15 58 12.3**	**+2.0**
	comp=Z,18nm,0.5s,mb4.6,baz=230,slow=8.5,SNR=5.9						
JOW				LR	LR	16 06 52.4	
	comp=Z,427nm,21.9s,baz=157,slow=36						
GZH	**Guangzhou**	**23.45**	**327**	P	**P**	**15 58 13.8**	**+1.3**
GZH				LR	LR		
	comp=N,320nm,18.6s						
GZH				LR	LR		
	comp=E,143nm,16.2s						
GZH				LR	LR		
	comp=Z,520nm,21.1s						
KGM	**Kluang**	**23.55**	**267**	⇓*e*P	**P**	**15 58 14.5**	**+1.0**
WRAB	**Tennant Creek**	**24.43**	**163**	*e*P	**P**	**15 58 21.1**	**-0.9**
	comp=Z,397nm,0.8s,mb5.8						
WRA	**Warramunga Arr**	**24.43**	**163**	P	**P**	**15 58 21.0**	**-1.0**
	comp=Z,122nm,0.5s,mb5.5,baz=342,slow=11,SNR=254						
WRA				S	**S**	**16 02 41.5**	**+7.6**
	comp=Z,6.7nm,0.8s,baz=344,slow=17,SNR=6.2						
WRA	**Warramunga Arr**	**24.43**	**163**	P	**P**	**15 58 21.0**	**-1.1**
WRA				S	**S**	**16 02 41.5**	**+7.6**
WRA				pmax	pmax		
	comp=Z,122nm,0.5s						
WRA				smax			
	comp=N,7.0nm,0.8s						
WB2	**Warramunga Arr**	**24.44**	**163**	⇓*i*P	**P**	**15 58 21.0**	**-1.1**
WB2				*e*S	**S**	**16 02 41.4**	**+7.4**
MBWA	**Marble Bar**	**25.48**	**196**	*e*P	**P**	**15 58 32.4**	**+0.4**
	comp=N,19nm,0.8s,mb4.6						
IPM	**Ipoh**	**25.78**	**273**	⇑*e*P	**P**	**15 58 34.8**	**-0.1**
SNG	**Songkhla**	**26.37**	**279**	P	**P**	**15 58 40.0**	**-0.3**
KKTK	**Khon Kaen**	**26.84**	**300**	P	**P**	**15 58 45.0**	**+0.4**
ASPA	**Alice Springs**	**27.87**	**166**	*e*P	**P**	**15 58 52.5**	**-1.4**
ASAR	**Alice Springs**	**27.87**	**166**	P	**P**	**15 58 52.3**	**-1.6**
	comp=N,6.0nm,0.6s,mb4.3,baz=349,slow=7.2,SNR=127						
SSE	**Sheshan**	**27.96**	**350**	*e*P	**P**	**15 58 54.0**	**-0.7**
SSE				AMB	AMB		
	comp=Z,34nm,0.7s,mb5.0						
SSE				LR	LR		
	comp=N,203nm,20.7s						
SSE				LR	LR		
	comp=E,78nm,20.8s						
SSE				LR	LR		
	comp=Z,193nm,22.1s						
SSE	**Sheshan**	**27.96**	**350**	*e*P	**P**	**15 58 54.0**	**-0.7**
	comp=Z,34nm,0.7s,mb5.0						
SSE				S	Sx	16 02 45.0	
SSE				sS		16 05 01.3	
SSE				LR	LR		
	comp=Z,190nm,22.1s						
NJ2	**Nanjing**	**29.38**	**346**	*e*P	**P**	**15 59 04.4**	**-2.9**
NJ2				PCS		16 05 56.0	
NJ2				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.1						
NJ2				LR	LR		
	comp=N,368nm,15.2s						
NJ2				LR	LR		
	comp=E,2µm,14.0s						
NJ2				LR	LR		
	comp=Z,1µm,16.2s						
CTA	**Charters Tower**	**30.21**	**142**	*e*P	**P**	**15 59 14.1**	**-0.8**
	comp=Z,12nm,1.0s,mb4.5						
CTA	**Charters Tower**	**30.21**	**142**	P	**P**	**15 59 14.2**	**-0.6**
	comp=Z,9.9nm,0.8s,mb4.5						
CTA	**Charters Tower**	**30.21**	**142**	P	**P**	**15 59 14.3**	**-0.6**
CTA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CTAO	**Charters Tower**	**30.21**	**142**	*e*P	**P**	**15 59 13.7**	**-1.2**
	comp=Z,24nm,1.2s,mb4.7						
BDT	**Bhumibol Dam**	**30.54**	**299**	P	**P**	**15 59 17.0**	**-0.8**
CM31	**Chiang Mai Arr**	**31.09**	**301**	*e*P	**P**	**15 59 21.9**	**-0.7**
	comp=Z,12nm,0.6s,mb4.8						
CMAR	**Chiang Mai Arr**	**31.09**	**301**	P	**P**	**15 59 21.2**	**-1.4**
	comp=Z,8.0nm,0.6s,mb4.6,baz=116,slow=7.2,SNR=58						
CMAR				ScP		16 05 57.6	
	comp=Z,1.7nm,1.1s,baz=147,slow=1.8,SNR=6.6						
CMAR				LR	LR	16 13 46.6	
	comp=Z,109nm,19.3s,baz=110,slow=40						
CMAR	**Chiang Mai Arr**	**31.09**	**301**	P	**P**	**15 59 21.2**	**-1.4**
CMAR				pmax	pmax		
	comp=Z,8.0nm,0.6s						
CMAR				pmax	pmax		
	comp=N,2.0nm,1.1s						
CMAR				MLR	MLR		
	comp=Z,109nm,19.3s						
CHG	**Chiang Mai**	**31.24**	**301**	⇓P	**P**	**15 59 23.5**	**-0.4**
	comp=Z,22nm,0.6s,mb5.0						
ENH	**Enshi**	**31.28**	**330**	*e*P	**P**	**15 59 22.8**	**-1.4**
	comp=Z,20nm,0.7s,mb5.0						
FORT	**Forrest**	**34.11**	**178**	*e*P	**P**	**15 59 47.9**	**-0.8**
	comp=Z,136nm,0.8s,mb5.8						
XAN	**Xi'an**	**34.67**	**333**	P	**P**	**15 59 51.5**	**-1.9**
XAN				AMB	AMB		
	comp=Z,11nm,0.6s,mb4.9						
CD2	**Chengdu**	**34.90**	**324**	P	**P**	**15 59 54.1**	**-1.3**
CD2				AMB	AMB		
	comp=Z,20nm,0.4s,mb5.3						
MUN	**Mundaring**	**36.71**	**195**	*e*P	**P**	**16 00 10.8**	**+0.1**
	comp=Z,8.5nm,0.4s,mb5.0						
NWAO	**Narrogin (SRO)**	**37.36**	**193**	P	**P**	**16 00 16.5**	**+0.3**
	comp=Z,12nm,0.5s,mb5.1,baz=20,slow=8.4						
NWAO	**Narrogin (SRO)**	**37.36**	**193**	P	**P**	**16 00 16.5**	**+0.3**
NWAO				pmax	pmax		
	comp=Z,12nm,0.5s						
NWAO	**Narrogin (SRO)**	**37.36**	**193**	*e*P	**P**	**16 00 16.5**	**+0.3**
	comp=Z,12nm,0.6s,mb5.0						
BJT	**Baijiatuau**	**37.61**	**347**	*e*P	**P**	**16 00 18.1**	**0.0**
	comp=Z,50nm,0.9s,mb5.3						
BJI	**Beijing**	**37.63**	**347**	P	**P**	**16 00 18.3**	**0.0**
BJI				AMB	AMB		
	comp=Z,60nm,1.1s,mb5.3						
BJI				LR	LR		
	comp=N,85nm,18.3s						
BJI				LR	LR		
	comp=E,202nm,18.3s						
BJI				LR	LR		
	comp=Z,114nm,25.1s						
BJI	**Beijing**	**37.63**	**347**	P	**P**	**16 00 18.3**	**0.0**
	comp=Z,60nm,1.1s,mb5.3						
BJI				pP	pP	16 00 24.5	-12
BJI				S	**S**	**16 06 13.2**	**+11**
BJI				LR	LR		
	comp=Z,110nm,25.1s						
STKA	**Stephens Creek**	**37.88**	**159**	⇓*i*P	**P**	**16 00 19.9**	**-0.6**
	comp=Z,35nm,0.8s,mb5.2						
STKA	**Stephens Creek**	**37.88**	**159**	P	**P**	**16 00 20.1**	**-0.4**
	comp=Z,28nm,0.5s,mb5.4,baz=333,slow=7.9,SNR=114						
STKA				LR	LR	16 16 40.7	
	comp=Z,259nm,21.6s,baz=122,slow=37						
SNY	**Shenyang**	**38.27**	**356**	⇑P	**P**	**16 00 24.8**	**+1.2**
SNY				S	**S**	**16 06 12.4**	**+0.5**
SNY				AMB	AMB		
	comp=Z,40nm,0.6s,mb5.4						
SNY				LR	LR		
	comp=E,130nm,20.2s						
SNY				LR	LR		
	comp=Z,130nm,15.3s						
LZH	**Lanzhou**	**38.76**	**330**	*e*P	**P**	**16 00 28.5**	**+0.8**
LZH				AP	pP	16 00 41.3	-4.4
LZH				PP	PP	16 01 55.0	-6.2
LZH				*e*S	**S**	**16 06 09.0**	**-10**
LZH				AMB	AMB		
	comp=Z,70nm,1.4s,mb5.3						
LZH				AMB	AMB		
	comp=Z,110nm,4.0s						
LZH				LR	LR		
	comp=E,950nm,16.7s						
LZH				LR	LR		
	comp=Z,2µm,18.6s						
LZH	**Lanzhou**	**38.76**	**330**	*e*P	**P**	**16 00 28.5**	**+0.8**
	comp=Z,70nm,1.4s,mb5.3						
LZH				pP	pP	16 00 41.2	-4.5
LZH				sP	sP	16 00 48.2	-6.2
LZH				PP	PP	16 01 55.0	-6.2
LZH				*e*S	**S**	**16 06 09.0**	**-10**
LZH				sS		16 06 30.0	
LZH				SS	SS	16 08 40.0	-25
LZH				LR	LR		
	comp=Z,2µm,18.6s						
HHC	**Hu-ho-hao-te**	**39.65**	**342**	*e*P	**P**	**16 00 35.8**	**+0.7**
HHC				PP	PP	16 02 11.4	+0.4
HHC				S	**S**	**16 06 31.8**	**-0.9**
HHC				SS	SS	16 09 22.9	-1.4
HHC				SCS	ScS	16 10 33.3	-0.2
HHC				AMB	AMB		
	comp=Z,17nm,1.0s,mb4.8						
HHC				AMB	AMB		
	comp=Z,85nm,4.7s						
HHC				LR	LR		
	comp=N,98nm,22.0s						
HHC				LR	LR		
	comp=E,85nm,25.6s						
HHC				LR	LR		
	comp=Z,128nm,23.2s						
ADE	**Adelaide**	**39.86**	**165**	⇑*i*P	**P**	**16 00 38.1**	**+1.2**
SHL	**Shillong**	**40.10**	**307**	⇑*i*P	**P**	**16 00 38.0**	**-1.0**
SHL				*e*S	**S**	**16 06 39.5**	**-0.2**
MDJ	**Mudanjiang**	**41.01**	**3**	P	**P**	**16 00 47.3**	**+1.0**
MDJ				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,82nm,8.7s						
MDJ				LR	LR		
	comp=N,149nm,22.9s						
MDJ				LR	LR		
	comp=E,60nm,27.6s						
MDJ				LR	LR		
	comp=Z,183nm,24.2s						
MDJ	**Mudanjiang**	**41.01**	**3**	*e*P	**P**	**16 00 47.0**	**+0.7**
	comp=Z,9.5nm,0.6s,mb4.8						
ARMA	**Armidale**	**41.21**	**147**	*e*P	**P**	**16 00 48.4**	**+0.3**
LSA	**Lhasa**	**42.68**	**311**	P	**P**	**16 01 01.0**	**+0.8**
ASAJ	**Asahikawa**	**42.77**	**17**	P	**P**	**16 01 00.8**	**0.0**
	comp=Z,3.8nm,0.8s,mb4.2,baz=90,slow=1.0,SNR=3.7						
ASAJ	**Asahikawa**	**42.77**	**17**	P	**P**	**16 01 00.8**	**0.0**
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.8s						
GTA	**Gaotai**	**43.35**	**329**	*e*P	**P**	**16 01 05.9**	**+0.3**
GTA				AMB	AMB		
	comp=Z,6.0nm,0.5s,mb4.6						
GTA				LR	LR		
	comp=N,134nm,20.9s						
GTA				LR	LR		
	comp=E,94nm,19.4s						
GTA				LR	LR		
	comp=Z,251nm,22.4s						
TOO	**Toolangi**	**44.39**	**159**	*e*P	**P**	**16 01 15.3**	**+1.3**
	comp=Z,9.3nm,1.2s,mb4.4						
YSS	**Yuzh-Sakhalins**	**45.43**	**15**	*e*P	**P**	**16 01 20.6**	**-1.5**
YSS				*e*		16 01 31.0	
YSS	**Yuzh-Sakhalins**	**45.43**	**15**	*e*P	**P**	**16 01 21.4**	**-0.7**
	comp=Z,6.6nm,0.6s,mb4.5						
KLR	**Kul'dur**	**45.75**	**4**	*e*P	**P**	**16 01 26.2**	**+1.6**
HIA	**Hailar**	**46.00**	**354**	*e*P	**P**	**16 01 27.7**	**+1.1**
	comp=Z,11nm,0.8s,mb4.6						
PKI	**Pulchoki**	**46.20**	**306**	*e*P	**P**	**16 01 27.4**	**-1.1**
	comp=Z,36nm,0.6s,mb5.3						
DZM	**Mont Dzumac**	**46.31**	**125**	*e*P	**P**	**16 01 28.6**	**-0.9**
DZM	**Mont Dzumac**	**46.31**	**125**	*e*P	**P**	**16 01 28.6**	**-0.9**
KKN	**Kakani**	**46.39**	**306**	*e*P	**P**	**16 01 29.2**	**-0.8**
	comp=Z,52nm,0.6s,mb5.4						
DMN	**Daman**	**46.46**	**305**	*e*P	**P**	**16 01 29.6**	**-0.9**
	comp=Z,47nm,0.7s,mb5.3						
GKN	**Gorkha**	**46.99**	**306**	*e*P	**P**	**16 01 33.9**	**-0.9**
	comp=Z,41nm,0.7s,mb5.2						
SONM	**Songino Array**	**47.55**	**341**	P	**P**	**16 01 39.0**	**+0.2**
	comp=Z,11nm,0.6s,mb4.8,baz=158,slow=7.8,SNR=65						
KOLN	**Koldanda**	**47.75**	**305**	*e*P	**P**	**16 01 39.9**	**-0.8**
	comp=Z,141nm,0.6s,mb5.9						
HYB	**Hyderabad**	**49.30**	**290**	*i* P	**P**	**16 01 52.5**	**-0.3**
HYB	**Hyderabad**	**49.30**	**290**	*e*P	**P**	**16 01 52.5**	**-0.3**
ZAK	**Zakamensk**	**50.77**	**341**	*e*P	**P**	**16 02 03.1**	**-0.5**
MOY	**Mondy**	**52.63**	**340**	*e*P	**P**	**16 02 18.5**	**+1.0**
WMQ	**Urumqi**	**52.98**	**325**	P	**P**	**16 02 20.0**	**-0.2**
WMQ				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.9						
WMQ				LR	LR		
	comp=E,197nm,22.6s						
WMQ				LR	LR		
	comp=Z,281nm,20.4s						
POO	**Poona**	**53.91**	**290**	*e*P	**P**	**16 02 25.0**	**-2.4**
BOD	**Bodaibo**	**55.10**	**352**	*e*P	**P**	**16 02 29.7**	**-5.9**
MKAR	**Makanchi Array**	**57.81**	**325**	P	**P**	**16 02 53.9**	**-1.2**
	comp=Z,12nm,0.5s,mb5.2,baz=122,slow=8.4,SNR=109						
MKAR				LR	LR	16 28 21.4	
	comp=Z,186nm,20.6s,baz=118,slow=37						
MKAR	**Makanchi Array**	**57.81**	**325**	P	**P**	**16 02 53.6**	**-1.4**
MKAR				pmax	pmax		
	comp=Z,8.0nm,0.6s						
YAK	**Yakutsk**	**58.43**	**2**	*e*P	**P**	**16 03 02.5**	**+3.4**
YAK				*e*	pP	16 03 21.1	+3.0
YAK				pmax	pmax		
	comp=Z,13nm,0.8s,mb5.0						
YAK				pmax	pmax		
	comp=N,5.0nm,1.0s						
YAK				pmax	pmax		
	comp=N,10.0nm,0.8s						
YAK				pmax	pmax		
	comp=N,7.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,2.0nm,0.9s						
YAK	**Yakutsk**	**58.43**	**2**	*e*P	**P**	**16 02 56.6**	**-2.5**
	comp=E,23nm,0.8s,mb5.2						
MA2	**Magadan**	**58.89**	**14**	*e*P	**P**	**16 03 01.1**	**-1.2**
MA2				*e*		16 11 05.2	
MA2				pmax	pmax		
	comp=Z,30nm,1.8s,mb5.0						
AAK	**Ala-Archa**	**60.60**	**318**	*e*P	**P**	**16 03 13.8**	**-0.5**
AAK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
AAK	**Ala-Archa**	**60.60**	**318**	*e*P	**P**	**16 03 12.7**	**-1.7**
	comp=Z,3.6nm,0.6s,mb4.6						
RPZ	**Rata Peaks**	**61.51**	**145**	P	**P**	**16 03 20.6**	**+0.2**
	comp=Z,31nm,0.7s,mb5.4,baz=321,slow=4.1,SNR=13						
KURK	**Kurchatov**	**61.99**	**328**	c*e*P	**P**	**16 03 22.1**	**-1.5**
KURK				pmax	pmax		
	comp=Z,9.0nm,0.5s,mb5.1						
KURK	**Kurchatov**	**61.99**	**328**	*e*P	**P**	**16 03 22.2**	**-1.3**
	comp=Z,28nm,0.6s,mb5.5						
NVS	**Novosibirsk**	**62.12**	**333**	*e*P	**P**	**16 03 21.7**	**-2.7**
NVS				pmax	pmax		
	comp=N,9.0nm,0.6s						
NVS				pmax	pmax		
	comp=Z,11nm,0.6s,mb5.1						
NVS				pmax	pmax		
	comp=E,7.0nm,0.5s						
URZ	**Urewera**	**62.30**	**137**	P	**P**	**16 03 25.1**	**-0.7**
	comp=E,14nm,0.7s,mb5.1,baz=304,slow=6.8,SNR=6.8						
VOSK	**Vostochnaya**	**67.12**	**327**	P	**P**	**16 03 55.2**	**-1.5**
VOSK				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.8						
BVA0	**Borovoye Array**	**67.57**	**327**	*i* P	**P**	**16 03 58.4**	**-1.2**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.8						
BVAR	**Borovoye Array**	**67.57**	**327**	P	**P**	**16 03 58.4**	**-1.2**
	baz=139,slow=9.9						
BRVK	**Borovoye**	**67.64**	**327**	*e*P	**P**	**16 03 59.0**	**-1.0**
	comp=Z,20nm,0.6s,mb5.1						
ZRNK	**Zerenda**	**68.30**	**327**	P	**P**	**16 04 03.0**	**-1.1**
ZRNK				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.8						
ZRNK	**Zerenda**	**68.30**	**327**	*e*P	**P**	**16 04 02.8**	**-1.3**
	comp=Z,30nm,0.5s,mb5.4						
SVE	**Sverdlovsk**	**74.21**	**328**	⇓*i*P	**P**	**16 04 39.0**	**-0.4**
SVE				pmax	pmax		
	comp=Z,60nm,1.8s,mb5.0						
ARU	**Arti**	**75.19**	**328**	⇓*i*P	**P**	**16 04 44.5**	**-0.5**
ARU				*e*		16 04 56.7	
ARU				*e*		16 07 30.0	
ARU				pmax	pmax		
	comp=Z,19nm,0.9s,mb4.8						
ARU	**Arti**	**75.19**	**328**	*e*P	**P**	**16 04 44.0**	**-1.0**
	comp=Z,16nm,0.8s,mb4.8						
RAR	**Rarotonga**	**75.84**	**113**	P	**P**	**16 04 50.2**	**+0.8**
	comp=Z,20nm,0.6s,mb5.0,baz=221,slow=9.3,SNR=4.4						
RAR				LR	LR	16 32 45.1	
	comp=Z,160nm,21.5s,baz=280,slow=31						
RAR	**Rarotonga**	**75.84**	**113**	P	**P**	**16 04 50.2**	**+0.7**
RAR				pmax	pmax		
	comp=Z,20nm,0.6s						
RAR				MLR	MLR		
	comp=Z,160nm,21.5s						
UMR	**Umm Al-Rimmam**	**78.83**	**299**	*e*P	**P**	**16 05 05.2**	**-0.7**
UMR				AMb	AMB	16 05 06.8	
	comp=Z,20nm,0.7s,mb5.1						
RDF	**Al-Radifah**	**78.95**	**299**	*e*P	**P**	**16 05 04.9**	**-1.7**
RDF				AMb	AMB	16 05 09.4	
	comp=Z,25nm,0.6s,mb5.2						
MIB	**Mutribah**	**79.17**	**300**	*e*P	**P**	**16 05 06.6**	**-1.1**
MIB				AMb	AMB	16 05 08.4	
	comp=Z,43nm,0.6s,mb5.5						
RST	**Umm Al-Ruwaisa**	**79.45**	**299**	*e*P	**P**	**16 05 07.3**	**-2.0**
RST				AMb	AMB	16 05 09.4	

	comp=Z,29nm,0.6s,mb5.3						
RAYN	**Ar Rayn**	80.68	293	P	P	16 05 15.5	-0.5
	comp=Z,87nm,0.8s,mb5.6,SNR=20						
MZLS	**Mizel**	80.95	294	P	P	16 05 17.8	+0.4
KAMS	**Al Khamasin**	81.55	290	P	P	16 05 20.6	+0.1
DJNS	**Zahran al Janu**	82.57	287	P	P	16 05 27.0	+1.2
TATS	**Tathlith**	82.60	289	P	P	16 05 27.3	+1.3
ARSS	**Ar Rass**	82.74	296	P	P	16 05 27.5	+0.9
AFFS	**‘Afif**	82.97	294	P	P	16 05 28.5	+0.7
KIV	**Kislovodsk**	83.38	314	*e*P	P	16 05 31.0	+1.5
KIV				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.4						
KIV				pmax	pmax		
	comp=N,3.0nm,0.7s						
KIV				pmax	pmax		
	comp=E,2.0nm,0.5s						
KIV				MLR	MLR		
	comp=Z,78nm,20.0s						
HILS	**Ha’il**	84.02	297	P	P	16 05 34.7	+1.6
SBA	**Scott Base**	84.10	172	*e*P	P	16 05 35.4	+3.0
	comp=Z,3.5nm,0.9s,mb4.2						
MCK	**McKinley**	84.31	26	*e*P	P	16 05 34.3	+0.6
	comp=Z,4.2nm,0.8s,mb4.3						
BLJS	**Baljurashi**	84.36	290	P	P	16 05 37.2	+2.3
ILAR	**Eielson Array**	85.25	25	P	P	16 05 38.8	+0.4
	comp=Z,0.7nm,0.6s,mb3.8,baz=250,slow=5.1,SNR=4.4						
ILAR	**Eielson Array**	85.25	25	P	P	16 05 38.8	+0.4
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SOC	**Sochi**	85.53	313	*e*P	P	16 05 40.6	+0.4
SOC				*e*		16 05 48.3	
SOC				*e*		16 08 59.1	
SOC				*e*PPP	PPP	16 10 48.8	-9.2
SOC				pmax	pmax		
	comp=Z,19nm,0.9s,mb5.0						
SOC				pmax	pmax		
	comp=N,5.0nm,0.8s						
SOC				pmax	pmax		
	comp=E,2.0nm,0.4s						
KBRS	**Khaybar**	86.32	295	P	P	16 05 46.8	+2.3
MALT	**Malatya**	86.61	308	*e*P	P	16 05 47.4	+1.7
	comp=E,7.1nm,0.8s,mb4.7						
MOS	**Moscow**	86.69	325	*e*P	P	16 05 46.1	+0.5
MOS				*e*	pP	16 06 02.6	-3.2
MOS				pmax	pmax		
	comp=Z,48nm,0.6s,mb5.6						
OBN	**Obninsk**	87.31	325	*de*P	P	16 05 49.9	+1.3
OBN				pmax	pmax		
	comp=Z,62nm,1.2s,mb5.4						
OBN				MLR	MLR		
	comp=Z,100nm,17.0s						
OBN	**Obninsk**	87.31	325	*e*P	P	16 05 49.6	+1.0
	comp=Z,25nm,0.6s,mb5.3						
UMJS	**Umm Lajj**	88.11	295	P	P	16 05 55.8	+2.6
TBKS	**Tabuk**	88.63	298	P	P	16 05 58.1	+2.5
JMQS	**Jabal Moqyreh**	89.18	299	P	P	16 06 00.5	+2.4
KMBO	**Kilima Mbogo**	89.67	269	*e*P	P	16 06 02.4	+1.6
	comp=Z,2.0nm,0.7s,mb4.4						
JMOS	**Jabal al Moall**	89.83	299	P	P	16 06 02.8	+1.6
HAQS	**Haql**	90.00	299	P	P	16 06 03.5	+1.5
TAYS	**Tayyib Ism**	90.08	298	P	P	16 06 04.3	+1.9
BRTR	**Keskin Array B**	90.26	310	P	P	16 06 03.6	+0.7
	comp=Z,5.6nm,1.0s,mb4.7,baz=117,slow=5.5,SNR=14						
BRTR				LR	LR	16 48 54.3	
	comp=Z,54nm,19.6s,baz=270,slow=37						
BRTR	**Keskin Array B**	90.26	310	P	P	16 06 03.7	+0.7
BRTR				pmax	pmax		
	comp=Z,6.0nm,1.0s						
BRTR				MLR	MLR		
	comp=Z,54nm,19.6s						
ARCES	**ARCESS Array B**	90.70	340	P	P	16 06 04.0	-0.4
	comp=Z,3.4nm,0.5s,mb4.7,baz=78,slow=6.9,SNR=20						
ARCES				LR	LR	16 49 52.5	
	comp=Z,131nm,20.4s,baz=61,slow=38						
ARCES	**ARCESS Array B**	90.70	340	P	P	16 06 04.0	-0.3
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.5s						
ARCES				MLR	MLR		
	comp=Z,131nm,20.4s						
ARCES	**ARCESS Array B**	90.70	340	P	P	16 06 04.0	-0.4
ARCES				LR	LR	16 49 52.5	
FINES	**FINESS Array B**	92.09	332	P	P	16 06 10.5	-0.4
	comp=Z,2.0nm,0.7s,mb4.5,baz=61,slow=5.2,SNR=14						
FINES				LR	LR	16 48 50.2	
	comp=Z,98nm,18.5s,baz=318,slow=36						
FINES	**FINESS Array B**	92.09	332	P	P	16 06 10.5	-0.4
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
FINES				MLR	MLR		
	comp=Z,98nm,18.5s						
AKASG	**Malin Array Be**	92.14	321	P	P	16 06 10.9	-0.5
	comp=Z,4.3nm,0.7s,mb4.8,baz=63,slow=4.7,SNR=18						
AKASG				LR	LR	16 54 24.6	
	comp=Z,61nm,18.4s,baz=90,slow=40						
AKASG	**Malin Array Be**	92.14	321	P	P	16 06 10.9	-0.5
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.7s						
AKASG				MLR	MLR		
	comp=Z,61nm,18.4s						
QSPA	**South Pole Qui**	93.41	180	*e*P	P	16 06 20.1	+3.5
	comp=Z,14nm,1.4s,mb5.1						
NB2	**NORSAR Subarra**	99.04	334	P	P	16 06 42.2	-0.4
	comp=Z,0.2nm,0.6s,baz=73,slow=5.3						
NOA	**NORSAR Array B**	99.04	334	P	P	16 06 42.2	-0.4
	comp=Z,1.8nm,0.8s,mb4.6,baz=67,slow=4.6,SNR=4.8						
NOA				LR	LR	16 52 52.0	
	comp=Z,104nm,21.7s,baz=60,slow=36						
NOA	**NORSAR Array B**	99.04	334	P	P	16 06 42.2	-0.4
NOA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NOA				MLR	MLR		
	comp=Z,104nm,21.7s						
NOA	**NORSAR Array B**	99.04	334	P	P	16 06 42.2	-0.4
NOA				LR	LR	16 52 52.0	
GERES	**GERESS Array B**	102.34	322	P	Pdif	16 06 58.6	+1.0
	comp=Z,0.5nm,0.7s,slow=4.9,SNR=2.9						
GERES	**GERESS Array B**	102.34	322	P	Pdif	16 06 58.6	+0.9
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TXAR	**Lajitas Array**	121.64	52	PKP	PKPdf	16 11 57.3	+2.5
	comp=Z,0.4nm,0.6s,baz=322,slow=0.3,SNR=5.5						
DBIC	**Dimbokro**	130.74	282	PKP	PKPdf	16 12 15.7	+2.8
	comp=Z,3.0nm,0.7s,baz=165,slow=4.7,SNR=4.4						

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*IDC **22** 16:22:46.9±1.5, 4.73S×133.76E, mb3.9/3, mb1 4.3/7, mb1mx4.0/12, ML3.8/4, MS3.7/1, Ms1 3.7/1, ms1mx2.9/9, Error ellipse: s-maj=60.5km s-min=22.0km az=69.0*

*NEIC **22** 16:22:51.8±0.8, 4.73S×133.74E, h30^{km}, mb4.2/3, Error ellipse: s-maj=23.7km s-min=11.9km az=74.0*

ISC 22 16:22:53.6±2.4**, 4.93S**±0.07×**133.9E**±0.2**, h74**^{km}±22^{km}**, n17, σ1^{s}61**/23**, mb3.8**/4**, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	**Kakadu**	7.86	191	*e*P	P	16 24 50.1	+2.8
	22nm,0.6s						
KAKA				*e*S	S	16 26 17.3	+1.7
WRAB	**Tennant Creek**	14.93	178	*e*P	P	16 26 19.8	-2.1
	15nm,0.7s						
WB2	**Warramunga Arr**	14.93	178	*e*P	P	16 26 20.1	-1.9
WB2				*e*S	S	16 28 59.1	-6.8
WRA	**Warramunga Arr**	14.93	178	Pn	P	16 26 20.2	-1.8
	0.3nm,0.3s,baz=356,slow=13,SNR=8.2						
WRA				Sn	S	16 28 59.8	-6.0
	0.6nm,0.3s,baz=1.0,slow=22,SNR=6.0						
FITZ	**Fitzroy Crossi**	15.38	211	*e*P	P	16 26 27.1	-0.5
	3.7nm,0.6s						
FITZ				*e*S	S	16 29 09.5	-6.5
FITZ	**Fitzroy Crossi**	15.38	211	Pn	P	16 26 26.9	-0.7
	0.5nm,0.3s,baz=24,slow=11,SNR=8.2						
FITZ				Sn	S	16 29 10.0	-6.0
	0.7nm,0.3s,baz=180,slow=17,SNR=5.0						
ASAR	**Alice Springs**	18.63	180	P	P	16 27 07.8	-0.1
	0.5nm,0.3s,baz=358,slow=10,SNR=22						
ASAR				S	S	16 30 31.4	+1.7
	0.2nm,0.3s,baz=0.3,slow=28,SNR=6.6						
ASPA	**Alice Springs**	18.63	180	*e*P	P	16 27 09.3	+1.4
ASPA				*e*S	S	16 30 27.5	-2.2
CTA	**Charters Tower**	19.29	142	P	P	16 27 17.6	+2.3
	0.2nm,0.3s,baz=328,slow=11,SNR=3.2						
MBWA	**Marble Bar**	21.19	219	*e*P	P	16 27 37.1	+2.1
	9.0nm,0.9s,mb4.1						
STKA	**Stephens Creek**	27.77	166	P	P	16 28 41.3	+3.6
NWAO	**Narrogin (SRO)**	31.90	207	LR	LR	16 42 43.3	
	comp=Z,122nm,20.7s,baz=64,slow=37						
CMAR	**Chiang Mai Arr**	41.54	305	P	P	16 30 36.3	+0.6
	0.6nm,0.9s,mb3.3,baz=150,slow=7.3,SNR=5.0						
MKAR	**Makanchi Array**	68.69	325	P	P	16 33 50.7	-0.6
	2.6nm,0.9s,mb4.1,baz=108,slow=7.4,SNR=11						
MKAR	**Makanchi Array**	68.69	325	P	P	16 33 50.7	-0.6
BVAR	**Borovoye Array**	78.42	327	P	P	16 34 47.4	-0.5
	0.6nm,0.6s,mb3.5,baz=117,slow=6.6,SNR=5.5						
BRVK	**Borovoye**	78.50	327	*e*P	P	16 34 48.1	-0.2

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*LDG **22** 16:45:29.8±0.3, 42.29N×2.20E, h4^{km}, Md2.4/3, Ml2.3/7, Error ellipse: s-maj=4.9km s-min=1.9km az=163.0*

*NEIC **22** 16:45:29.8, 42.29N×2.20E, h4^{km}, ML2.5(STR), ML2.3(LDG), After LDG.*

*STR **22** 16:45:31.2±0.5, 42.37N×2.13E, h5^{km}±1^{km}, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*MDD **22** 16:45:31.5±0.7, 42.35N×2.13E, h6^{km}±6^{km}, mbLg1.5/5, Error ellipse: s-maj=6.1km s-min=2.6km az=5.0, PRXIMO AftershockPLICA*

ISC 22 16:45:29.8±0.9**, 42.40N**±0.05×**2.16E**±0.03**, h12**^{km}±5^{km}**, n16, σ1^{s}39**/32**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VALF	**Valcebollere**	0.11	273	Pg	Pg	16 45 33.5	+0.7
VALF				Sg	Sg	16 45 35.1	+0.3
VALF	**Valcebollere**	0.11	273	P	Pg	16 45 33.5	+0.7
VALF				S	Sg	16 45 35.2	+0.4
CARF	**Carcanieres**	0.32	352	P	Pg	16 45 38.7	+2.1
CARF				S	Sg	16 45 43.9	+2.9
FILF	**Fillols**	0.34	61	Pg	Pg	16 45 36.9	+0.1
FILF				Sg	Sg	16 45 41.3	-0.2
FILF	**Fillols**	0.34	61	P	Pg	16 45 37.1	+0.3
FILF				S	Sg	16 45 41.2	-0.3
EJON	**La Jonquera**	0.54	84	Pg	Pg	16 45 42.1	+1.4
	SNR=7.9						
EJON				Lg		16 45 49.9	
	7.2nm,0.6s,SNR=14						
SALF	**Salau**	0.81	297	Pg	Pg	16 45 46.9	+0.9
SALF				Sg	Sg	16 45 57.3	+0.4
SALF	**Salau**	0.81	297	P	Pb	16 45 47.0	+1.6
SALF				S	Sb	16 45 57.1	+1.2
MTLF	**Montolieu**	0.94	2	*e*Pg	Pg	16 45 50.4	+1.6
MTLF				*e*Sg	Sg	16 46 03.0	+1.6
	7.2nm,0.2s						
EPF	**Esparros**	1.49	296	*e*Pg	Pg	16 45 58.7	-0.8
EPF				*e*Sg	Sg	16 46 19.2	-0.2
	5.6nm,0.4s						
ETSF	**Etsaut**	2.07	285	*e*Pg	Pg	16 46 09.5	-1.7
ETSF				*e*Sg	Sg	16 46 36.8	-2.0
	3.2nm,0.2s						
LASF	**Ste Croix**	2.08	36	*e*Pn	Pn	16 46 04.9	-0.2
LASF				*e*Pg	Pg	16 46 09.9	-1.6
LASF				*e*Sg	Sg	16 46 38.8	-0.5
CAF	**Calviac**	2.53	358	*e*Pg	Pg	16 46 19.0	-1.3
CAF				*e*Sn	Sn	16 46 43.0	+0.5
CAF				*e*Sg	Sg	16 46 52.2	-1.9
	1.8nm,0.2s						
SJPF	**Ste Jean**	2.60	287	*e*Pg	Pg	16 46 19.0	-2.7
SJPF				*e*Sg	Sg	16 46 52.3	-4.0
	2.2nm,0.3s						
VIVF	**Saint-Julien-l**	3.06	36	*e*Sg	Sg	16 47 08.7	-3.0
	1.9nm,0.3s						
BGF	**Bois d’Agland**	4.19	6	*e*Pg	Pg	16 46 48.7	-4.7
BGF				*e*Sg	Sg	16 47 44.6	-4.7
	8.2nm,0.6s						

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*IDC **22** 16:49:53.4±2.3, 27.05N×60.54E, mb3.6/4, mb1 3.8/4, mb1mx3.5/19, Error ellipse: s-maj=59.9km s-min=39.1km az=65.0*

*KISR **22** 16:50:02.9±0.7, 27.53N×60.45E, h15^{km}±999^{km}, ML4.6*

ISC 22 16:49:54.5±1.3**, 27.2N**±0.2×**60.74E**±0.09**, h10**^{km}**, n10, σ0^{s}71**/10**, mb3.5**/4**, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
QRN	**Al-Qurain**	11.44	281	*e*P	P	16 52 42.0	+0.9
QRN				AML	AML	16 54 37.0	
	comp=Z,4.5nm,0.1s						
QRN				*e*S	Sx	16 54 38.4	
KBD	**Kabd**	11.68	283	*e*P	P	16 52 44.3	0.0
UMR	**Umm Al-Rimmam**	11.71	285	*e*P	P	16 52 45.0	+0.3
UMR				*e*S	Sx	16 54 45.1	
UMR				AML	AML	16 54 46.5	
	comp=Z,10nm,0.3s						
RDF	**Al-Radifah**	11.78	282	*e*P	P	16 52 46.2	+0.5
RDF				*e*S	Sx	16 54 46.9	
RDF				AML	AML	16 54 51.1	
	comp=Z,7.2nm,0.4s						
MIB	**Mutribah**	12.07	286	*e*P	P	16 52 49.4	-0.3
MIB				*e*S	Sx	16 54 52.6	
MIB				AML	AML	16 54 55.3	
	comp=Z,6.1nm,0.5s						
RST	**Umm Al-Ruwaisa**	12.32	284	*e*P	P	16 52 52.0	-0.9
RST				AML	AML	16 54 57.4	
	comp=Z,3.3nm,0.5s						
RST				*e*S	Sx	16 54 58.4	
MKAR	**Makanchi Array**	25.92	35	P	P	16 55 28.7	+0.3
	comp=Z,0.2nm,0.3s,mb3.1,baz=218,slow=9.3,SNR=6.5						
BVAR	**Borovoye Array**	26.80	13	P	P	16 55 37.1	+0.7
	comp=Z,0.4nm,0.4s,mb3.3,baz=217,slow=7.2,SNR=4.5						
NOA	**NORSAR Array B**	47.28	330	P	P	16 58 28.1	-1.6
	comp=Z,1.3nm,0.8s,mb3.9,baz=104,slow=4.8,SNR=3.2						
ASAR	**Alice Springs**	86.83	118	P	P	17 02 40.7	-0.2
	comp=Z,0.5nm,0.7s,mb3.8,baz=306,slow=5.1,SNR=5.3						

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*LDG **22** 17:04:42.5±0.5, 42.85N×1.44W, h2^{km}, Md2.3/3, Ml2.0/1, Error ellipse: s-maj=8.5km s-min=4.8km az=53.0*

*STR **22** 17:04:42.5±0.3, 43.38N×0.70W, h2^{km}±1^{km}, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*MDD **22** 17:04:43.0±0.7, 42.84N×1.41W, h2^{km}±15^{km}, mbLg1.2/5, Error ellipse: s-maj=5.0km s-min=2.6km az=32.0, PRXIMO AftershockPLICA*

ISC 22 17:04:41.6±1.2**, 42.85N**±0.08×**1.44W**±0.06**, h14**^{km}±8^{km}**, n7, σ0^{s}68**/14**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	0.31	30	*e*Pg	Pg	17 04 48.8	+0.5
SJPF				*e*Sg	Sg	17 04 51.6	-1.1
	42nm,0.4s						
EALK	**Alkurruntz**	0.38	352	Pg	Pg	17 04 49.9	+0.4
	16nm,0.3s,SNR=18						
EALK				Lg		17 04 55.7	
	16nm,0.3s,SNR=18						
LARF	**Larrau**	0.38	60	Pg	Pg	17 04 50.0	+0.4
LARF				Sg	Sg	17 04 55.9	+0.9
OSSF	**Osses**	0.43	17	Pg	Pg	17 04 50.7	+0.2
OSSF				Sg	Sg	17 04 56.6	+0.1
ETSF	**Etsaut**	0.65	85	*e*Pg	Pg	17 04 54.4	-0.4
ETSF				*e*Sg	Sg	17 05 03.2	-0.4
	6.7nm,0.4s						
ETSF				*e*Sn	Sn	17 05 05.3	-0.6
EPF	**Esparros**	1.32	81	*e*Pn	Pn	17 05 06.6	+1.0
EPF				*e*Pg	Pg	17 05 08.8	+0.8
EPF				*e*Sg	Sg	17 05 24.8	-0.9
	3.2nm,0.3s						
ELAN	**Lanestosa**	1.52	285	Pg	Pg	17 05 11.0	-0.9
	SNR=4.0						
ELAN				Lg		17 05 33.1	
	1.5nm,0.2s,SNR=4.0						

DJA 22 18:10:06.5±1.2**, 8.16S×116.83E, h160**^{km}**, MD4.4**/3**, ML4.6**/2**, 5C-1D, Error ellipse: s-maj=48.7km s-min=34.8km az=147.0, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	0.78	245	⇑*i*Pn	P	18 10 24.0	-6.8
	148nm,0.2s						
RATI	**Rata**	1.40	246	⇑*i*Pn	P	18 10 35.3	-0.8
	276nm,0.2s						
RATI				⇑*i*Sn	S	18 10 57.2	-1.8
INGI	**Ingas**	1.79	248	⇑*i*Pn	P	18 10 40.5	+0.3
	800nm,0.2s						
INGI				⇓*i*Sn	S	18 11 04.1	-2.1
KELI	**Kelakatan**	2.31	268	⇑*i*Pn	P	18 10 46.2	-0.1

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*STR **22** 18:11:16.7±0.1, 42.93N×0.15W, h5^{km}±1^{km}, Ml2.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*NEIC **22** 18:11:16.7, 42.93N×0.15W, h5^{km}, ML2.8(STR), ML2.8(LDG), MN2.2(MDD), After STR.*

*LDG **22** 18:11:17.2±0.1, 42.94N×0.16W, h2^{km}, Md2.8/3, Ml2.8/17, Error ellipse: s-maj=1.2km s-min=0.9km az=8.0*

MDD 22 18:11:17.6±0.2**, 42.95N×0.17W, h3**^{km}±4^{km}**, mbLg2.2**/25**, 2C, Error ellipse: s-maj=2.7km s-min=1.3km az=6.0, PRXIMO, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VIEF	**Viey**	0.15	115	Pg	Pg	18 11 20.2	-0.5
VIEF	**Viey**	0.15	115	P	Pg	18 11 20.3	-0.4
VIEF				S	Sg	18 11 22.5	-0.2
LABF	**Labassere**	0.20	61	Pg	Pg	18 11 21.3	-0.3
LABF				Sg	Sg	18 11 24.5	+0.2
LABF	**Labassere**	0.20	61	P	Pg	18 11 21.5	-0.2
LABF				S	Sg	18 11 24.6	+0.3
REYF	**Montagne du Re**	0.21	306	Pg	Pg	18 11 21.6	-0.1
REYF				Sg	Sg	18 11 24.6	+0.1
REYF	**Montagne du Re**	0.21	306	P	Pg	18 11 21.6	-0.1
REYF				S	Sg	18 11 24.7	+0.2
ETSF	**Etsaut**	0.29	260	*e*Pg	Pg	18 11 22.8	-0.7
ETSF				*e*Sg	Sg	18 11 26.7	-0.7
	546nm,0.4s						
FDAF	**Les Forges d’A**	0.32	246	Pg	Pg	18 11 23.3	-0.8
FDAF				Sg	Sg	18 11 27.9	-0.5
FDAF	**Les Forges d’A**	0.32	246	P	Pg	18 11 23.4	-0.7
FDAF				S	Sg	18 11 28.0	-0.4
EPF	**Esparros**	0.38	77	*e*Pg	Pg	18 11 24.4	-0.8
EPF				*e*Sg	Sg	18 11 29.8	-0.5
	137nm,0.2s						
RESF	**Ens**	0.40	111	Pg	Pg	18 11 24.4	-1.1
RESF				Sg	Sg	18 11 29.8	-1.0
RESF	**Ens**	0.40	111	P	Pg	18 11 24.4	-1.1
RESF				S	Sg	18 11 29.9	-0.9
ATE	**Arette**	0.42	289	P	Pg	18 11 25.2	-0.7
ATE				S	Sg	18 11 30.8	-0.7
LARF	**Larrau**	0.61	279	Pg	Pg	18 11 28.6	-1.2
LARF				Sg	Sg	18 11 37.4	-0.5
LARF	**Larrau**	0.61	279	P	Pg	18 11 28.8	-1.0
LARF				S	Sg	18 11 37.4	-0.5
ORDF	**Ordiarp**	0.62	295	Pg	Pg	18 11 29.7	-0.4
ORDF				Sg	Sg	18 11 38.2	-0.2
ORDF	**Ordiarp**	0.62	295	P	Pg	18 11 29.3	-0.8
ORDF				S	Sg	18 11 37.9	-0.5
MELF	**Melles**	0.68	96	Pg	Pg	18 11 29.6	-1.6
MELF				Sg	Sg	18 11 38.6	-1.8
MELF	**Melles**	0.68	96	P	Pg	18 11 29.7	-1.6
MELF				S	Sg	18 11 38.8	-1.6
SJPF	**Ste Jean**	0.80	282	*e*Pg	Pg	18 11 31.8	-1.7
SJPF				*e*Sg	Sg	18 11 42.5	-1.6
	32nm,0.2s						
OSSF	**Osses**	0.86	291	Pg	Pg	18 11 32.5	-2.3
SALF	**Salau**	1.01	100	Pg	Pg	18 11 35.7	-2.1
SALF				Sg	Sg	18 11 49.1	-2.3
EALK	**Alkurruntz**	1.02	286	⇑Pg	Pg	18 11 36.3	-1.7
	6.9nm,0.3s,SNR=18						
EALK				Lg		18 11 49.7	
	11nm,0.2s,SNR=14						
CSOR	**Sort**	1.12	120	Pg	Pg	18 11 37.8	-2.1
CSOR				Lg		18 11 52.9	
	12nm,0.1s						
ESAC	**San Caprasio**	1.25	191	⇑Pg	Pg	18 11 41.3	-1.2
	65nm,0.3s,SNR=18						
ESAC				Lg		18 11 58.6	
	23nm,0.1s,SNR=22						
GRBF	**Gourbit**	1.25	94	Pg	Pg	18 11 39.8	-2.9
CAVN	**Les Avellanes**	1.26	147	Pg	Pg	18 11 41.1	-1.7
CAVN				Lg		18 11 57.9	
	29nm,0.1s						
CORG	**Organya**	1.31	123	Pg	Pg	18 11 41.4	-2.3
EMIR	**Miracle**	1.62	129	Pg	Pg	18 11 48.6	-1.4
	3.4nm,0.3s,SNR=12						
EMIR				Lg		18 12 10.7	
	6.9nm,0.3s,SNR=7.6						
EMIR	**Miracle**	1.62	129	Pg	Pg	18 11 48.6	-1.4
EMIR				Lg		18 12 10.7	
CLLI	**Llivia**	1.65	106	Pg	Pg	18 11 48.0	-2.4
CLLI				Lg		18 12 10.8	
	11nm,0.2s						
CARF	**Carcanieres**	1.69	97	S	Sb	18 12 09.8	-0.8
MTLF	**Montolieu**	1.79	77	*e*Pn	Pn	18 11 48.8	-0.8
MTLF				*e*Pg	Pg	18 11 50.4	-2.9
MTLF				*e*Sg	Sg	18 12 13.1	-4.0
	12nm,0.2s						
EPOB	**Poblet**	1.84	149	Pg	Pg	18 11 51.1	-3.3
	6.4nm,0.7s,SNR=13						
EPOB				Lg		18 12 15.5	
	3.6nm,0.1s,SNR=14						
CBRU	**Bruguera**	1.85	110	Lg		18 12 16.4	
LFF	**La Frestale**	2.09	18	*e*Pn	Pn	18 11 51.4	-2.6
LFF				*e*Pg	Pg	18 11 56.2	-3.2
LFF				*e*Sg	Sg	18 12 23.5	-3.8
	22nm,0.3s						
EBR	**Ebro Roquetas**	2.18	167	*e*S*	Sb	18 12 28.3	+3.3
EJON	**La Jonquera**	2.31	102	Pn	Pn	18 11 56.1	-1.0
	SNR=4.0						
EJON				Lg		18 12 31.8	
	5.7nm,0.2s,SNR=4.9						
ELAN	**Lanestosa**	2.41	278	Pn	Pn	18 11 57.1	-1.4
	0.4nm,0.1s,SNR=7.9						
ELAN				Pg	Pg	18 12 01.4	-4.3
	1.1nm,0.2s,SNR=7.9						
ELAN				Sn	Sn	18 12 27.0	-2.0
	0.6nm,0.1s,SNR=7.9						
ELAN				Lg		18 12 32.1	
	2.5nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	2.41	278	Pn	Pn	18 11 57.1	-1.4
ELAN				Pg	Pg	18 12 01.4	-4.4
ELAN				Sn	Sn	18 12 27.0	-2.0
ELAN				Lg		18 12 32.1	
CAF	**Calviac**	2.55	38	*e*Pn	Pn	18 11 58.4	-2.1
CAF				*e*Pg	Pg	18 12 05.1	-3.4
CAF				*e*Sn	Sn	18 12 27.1	-5.4
	7.7nm,0.2s						
ETOR	**Torete**	2.55	214	Pn	Pn	18 11 59.6	-1.0
	1.8nm,0.3s,SNR=26						
ETOR				Lg		18 12 38.3	
	4.8nm,0.4s,SNR=5.2						
ETOR	**Torete**	2.55	214	Pn	Pn	18 11 59.6	-1.0
ETOR				Lg		18 12 38.3	
EMOS	**Mosqueruela**	2.59	185	Pg	Pg	18 12 04.7	-4.7
	5.8nm,0.5s,SNR=8.9						
EMOS				Lg		18 12 40.0	
	1.3nm,0.1s,SNR=7.9						
EMOS	**Mosqueruela**	2.59	185	Pg	Pg	18 12 04.7	-4.7
EMOS				Lg		18 12 40.0	
RJF	**Les Rejaudoux**	2.65	27	*e*Pg	Pg	18 12 06.8	-3.6
RJF				*e*Sg	Sg	18 12 40.5	-5.2
	10nm,0.2s						
LASF	**Ste Croix**	3.13	68	*e*Pn	Pn	18 12 06.0	-2.9
LASF				*e*Pg	Pg	18 12 15.4	-4.8
LASF				*e*Sg	Sg	18 12 55.7	-6.3
	6.7nm,0.3s						
MFF	**Saint Martin d**	3.65	0	*e*Pn	Pn	18 12 13.0	-3.2
MFF				*e*Pg	Pg	18 12 25.0	-5.5
MFF				*e*Sg	Sg	18 13 11.8	-7.4
	3.8nm,0.3s						
TCF	**Toulx Ste Croi**	3.74	26	*e*Pn	Pn	18 12 14.3	-3.2
TCF				*e*Sg	Sg	18 13 14.3	-7.9
	4.7nm,0.3s						
VIVF	**Saint-Julien-l**	3.98	60	*e*Pn	Pn	18 12 17.6	-3.3
VIVF				*e*Pg	Pg	18 12 30.5	-6.6
VIVF				*e*Sg	Sg	18 13 21.3	-8.9
	4.8nm,0.4s						
BGF	**Bois d’Agland**	4.20	30	*e*Sg	Sg	18 13 28.4	-8.9
	16nm,0.3s						
AVF	**Avril sur Loir**	4.58	32	*e*Pg	Pg	18 12 41.3	-7.8
AVF				*e*Sg	Sg	18 13 40.7	-9.5
	4.5nm,0.5s						
SMF	**Signal de Mont**	4.67	36	*e*Sg	Sg	18 13 43.6	-9.4
	1.5nm,0.2s						
SSF	**Saint Saulge**	4.87	31	*e*Sg	Sg	18 13 49.0	-11
	2.9nm,0.4s						
LOR	**Lormes**	5.17	32	*e*Sg	Sg	18 13 59.3	-10
	5.1nm,0.4s						
QUIF	**Quistinic**	5.40	338	*e*Pn	Pn	18 12 37.1	-3.9
GRR	**Gorron**	5.46	355	*e*Sn	Sn	18 13 37.6	-8.5
	1.2nm,0.2s						
LDF	**La Druitiere**	5.64	0	*e*Sn	Sn	18 13 41.7	-9.0

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
	0.8nm,0.2s						
ROSF	**Rostrenen**	5.81	339	eSn	Sn	18 13 45.9	-9.0
	0.9nm,0.3s						

*KISR **22** 18:11:22.9±0.6,29.36N×52.46E,h159^{km}±102^{km},ML2.8*
*THR **22** 18:11:24.3±0.7,29.22N×52.17E,h30^{km},ML2.9*
ISC 22 18:11:23.5±0.7**,29.20N**±0.07×**52.18E**±0.05**,h10^{km},n9, σ0^{s}69**/13**,Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	1.15	142	ePG	Pg	18 11 46.3	-0.3
GHIR				eSG	Sg	18 12 01.6	-0.3
GHIR				AMP		18 12 07.4	
	comp=N,447nm,0.3s						
GHIR				AMP		18 12 08.6	
	comp=E,464nm,0.5s						
NASN	**Na'in**	3.63	8	ePN	Pn	18 12 20.6	-0.4
QRN	**Al-Qurain**	3.77	264	eP	Pn	18 12 23.8	+0.9
UMR	**Umm Al-Rimmam**	3.92	276	eP	Pn	18 12 25.5	+0.5
UMR				eS	Sn	18 13 12.2	+0.6
UMR				AML	AML	18 13 20.2	
	comp=Z,11nm,0.4s						
KBD	**Kabd**	3.93	271	eP	Pn	18 12 25.8	+0.6
KRBR	**Kerman**	4.06	78	ePN	Pn	18 12 27.3	+0.2
KRBR				AMP		18 13 07.5	
	comp=E,7.0nm,0.7s						
KRBR				AMP		18 13 19.1	
	comp=N,6.0nm,0.6s						
RDF	**Al-Radifah**	4.07	267	eP	Pn	18 12 28.1	+0.9
RDF				AML	AML	18 13 22.5	
	comp=Z,7.0nm,0.4s						
MIB	**Mutribah**	4.27	279	eP	Pn	18 12 29.8	-0.2
MIB				eS	Sn	18 13 19.4	-1.1
MIB				AML	AML	18 13 29.5	
	comp=Z,6.8nm,0.4s						
RST	**Umm Al-Ruwaisa**	4.54	275	eP	Pn	18 12 33.9	0.0
RST				eS	Sn	18 13 25.9	-1.5
RST				AML	AML	18 13 40.3	
	comp=Z,6.3nm,0.5s						

*IDC **22** 18:34:20.7±4.9,34.85N×70.70E,mb3.8/2,mb1 3.9/4, mb1mx3.5/19,ML4.1/2,Error ellipse: s-maj=86.1km s-min=41.4km az=5.0*
*NEIC **22** 18:34:52.9±2.6,36.51N×71.16E,h199^{km}±28^{km},mb4.0/9, Error ellipse: s-maj=34.8km s-min=8.9km az=65.0*
ISC 22 18:34:53.3±2.2**,36.6N**±0.1×**71.2E**±0.3**,h229^{km}**±20^{km}**,n21, σ0^{s}76**/21**,mb3.4**/2**,Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AML	**Almayashu**	5.89	18	P	P	18 36 20.3	0.0
	SNR=44						
UCH	**Uchtor**	6.21	23	P	P	18 36 24.6	+0.2
	SNR=28						
KZA	**Kyzart**	6.34	28	P	P	18 36 25.6	-0.4
	SNR=10						
EKS2	**Erkin-Say**	6.41	17	P	P	18 36 27.1	+0.2
	SNR=8.0						
AAK	**Ala-Archa**	6.58	22	P	P	18 36 29.2	+0.2
	SNR=7.2						
AAK	**Ala-Archa**	6.58	22	eP	P	18 36 28.1	-0.9
	6.1nm,0.4s						
KBK	**Karagaybulak**	6.74	24	P	P	18 36 31.7	+0.6
	SNR=8.8						
ULHL	**Ulahol**	6.89	33	P	P	18 36 32.7	-0.3
	SNR=5.1						
TKM2	**Tokmak 2**	7.20	27	P	P	18 36 37.1	+0.1
	SNR=5.7						
MKAR	**Makanchi Array**	13.15	36	Pn	P	18 37 51.1	-1.4
	1.1nm,0.3s,baz=216,slow=14,SNR=26						
KOLN	**Koldanda**	13.66	126	eP	P	18 37 57.7	-1.3
	4.5nm,0.4s						
GKN	**Gorkha**	14.20	123	eP	P	18 38 04.5	-1.1
	6.8nm,0.3s						
DMN	**Daman**	14.77	123	eP	P	18 38 13.4	+0.7
	9.4nm,0.5s						
KKN	**Kakani**	14.77	122	eP	P	18 38 13.3	+0.6
	3.7nm,0.2s						
PKI	**Pulchoki**	14.99	123	eP	P	18 38 16.8	+1.3
	5.2nm,0.3s						
KURK	**Kurchatov**	15.12	18	eP	P	18 38 17.7	+0.9
	1.3nm,0.6s						
ZRNK	**Zerenda**	16.46	355	eP	P	18 38 32.5	-0.3
	1.4nm,0.6s						
BVAR	**Borovoye Array**	16.48	358	P	P	18 38 34.1	+1.2
	0.5nm,0.3s,baz=162,slow=11,SNR=13						
BRVK	**Borovoye**	16.51	358	P	P	18 38 33.1	-0.3
	0.9nm,0.5s						
SONM	**Songino Array**	28.16	55	P	P	18 40 26.7	+0.3
	0.4nm,0.7s,mb3.2,baz=270,slow=9.4,SNR=3.3						
FINES	**FINESS Array B**	37.53	326	P	P	18 41 46.0	-0.6
	2.0nm,0.8s,mb3.7,baz=122,slow=13,SNR=3.7						

*IDC **22** 18:39:21.5±1.8,11.79N×85.06W,mb3.6/3,mb1 4.1/3, mb1mx3.8/18,Error ellipse: s-maj=97.0km s-min=22.0km az=72.0*
*CASC **22** 18:39:22.6±2.4,10.50N×86.63W,h24^{km}±15^{km},MD4.3, mb3.9(NEIC)*
*NEIC **22** 18:39:27.2±2.2,11.54N×85.37W,h44^{km}±19^{km},mb3.9/1, Error ellipse: s-maj=87.4km s-min=15.5km az=61.0*
ISC 22 18:39:21.2±1.4**,10.50N**±0.05×**86.65W**±0.05**,h15^{km}**±12^{km}**, n39,σ0^{s}97**/42**,mb3.6**/4**,5C-1D,Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VCR	**Vista de Mar**	1.07	110	eP	Pb	18 39 40.6	-0.3
CRZC	**La Cruz**	1.13	66	eP	Pb	18 39 41.9	-0.1
CONN	**Concepcion**	1.46	43	⇑eP	Pn	18 39 46.5	-0.7
APON	**Apoyo**	1.52	22	eP	Pn	18 39 47.9	-0.2
APON				eS	Sn	18 40 09.0	+1.3
MASN	**Masaya**	1.56	18	eP	Pn	18 39 48.3	-0.3
TICN	**Ticuantepe**	1.58	15	eP	Pn	18 39 49.1	+0.2
JCR	**Jicaral**	1.65	113	eP	Pn	18 39 48.6	-1.2
XAVN	**Gruta Xavier**	1.67	11	eP	Pn	18 39 50.5	+0.3
COPN	**Copaltepe**	1.67	2	⇓eP	Pn	18 39 50.5	+0.3
COPN				eS	Sn	18 40 12.9	+1.5
JTS	**JuntasAbangare**	1.69	97	Pn	Pn	18 39 49.8	-0.6
	30nm,0.3s,baz=308,slow=19,SNR=19						
JTS	**JuntasAbangare**	1.69	97	eP	Pn	18 39 49.1	-1.3
MGAN	**Managua**	1.69	14	eP	Pn	18 39 48.9	-1.5
WILN	**Americas 2**	1.71	15	⇑eP	Pn	18 39 50.5	-0.3
MOMJ	**Momotombo**	1.90	3	eP	Pn	18 39 53.5	0.0
LEON	**Leon**	1.92	353	⇑eP	Pn	18 39 54.1	+0.3
LEON				i P		18 39 54.1	
MIRN	**Miramar**	1.93	358	⇑eP	Pn	18 39 54.1	+0.2
CNGN	**Cerro Negro**	1.99	359	eP	Pn	18 39 54.8	0.0
TELN	**Telica**	2.10	355	eP	Pn	18 39 56.7	+0.3
PYTN	**Playitas**	2.11	16	⇑iP	Pn	18 39 55.9	-0.6
CGA2	**Cerro Gallo 2**	2.21	102	eP	Pn	18 39 57.6	-0.2
PRS1	**Puriscal**	2.36	102	eP	Pn	18 40 00.4	+0.3
VPS2	**Volcan Poas 2**	2.40	97	eP	Pn	18 40 00.7	+0.1
LAJ	**Bijagual**	2.57	104	eP	Pn	18 39 58.5	-4.6
LCR2	**La Lucha 2**	2.71	106	eP	Pn	18 40 03.0	-2.1
TRTC	**Tortuguero**	2.89	88	eP	Pn	18 40 07.9	+0.2
URSC	**Urasca**	2.91	103	eP	Pn	18 40 09.0	+1.2
CNCH	**Conchagua**	2.99	337	eP	Pn	18 40 09.8	+0.7
CNCH				eS	Sn	18 40 43.7	-1.3
BUS	**Buena Vista**	3.00	108	eP	Pn	18 40 10.1	+0.9
VSM	**San Miguel**	3.32	332	eP	Pn	18 40 15.1	+1.4
SNVI	**San Vicente**	3.76	326	eP	Pn	18 40 20.3	+0.3
SNVI				eS	Sn	18 41 03.5	-1.0
LCBS	**La Ceiba**	3.88	324	eP	Pn	18 40 22.6	+1.0
LCBS				eS	Sn	18 41 05.3	-2.0
LFRS	**El Faro**	3.90	323	eP	Pn	18 40 23.1	+1.2
LFRS				eS	Sn	18 41 05.9	-2.0
LTX	**Lajitas**	24.58	322	eP	P	18 44 42.7	+0.7
	3.3nm,0.8s,mb3.9						
TXAR	**Lajitas Array**	24.58	322	P	P	18 44 43.5	+1.5
	1.2nm,0.5s,mb3.6,baz=135,slow=10,SNR=13						
TXAR				PcP	PcP	18 48 22.1	+0.9
	0.4nm,0.7s,baz=101,slow=4.6,SNR=4.3						
PDAR	**Pinedale Array**	37.85	332	P	P	18 46 37.9	-1.2
	0.3nm,0.5s,mb3.3,baz=117,slow=6.6,SNR=4.6						
NVAR	**Mina Array Bea**	39.68	320	P	P	18 46 56.0	+1.4
	0.3nm,0.3s,mb3.5,baz=175,slow=5.7,SNR=4.8						
ASAR	**Alice Springs**	139.23	246	PKP	PKPdf	18 58 52.6	+0.4
	0.5nm,0.9s,baz=100,slow=1.7,SNR=4.5						
WRA	**Warramunga Arr**	139.44	252	PKP	PKPdf	18 58 54.2	+1.5
	0.4nm,0.7s,baz=94,slow=2.6,SNR=5.2						
CMAR	**Chiang Mai Arr**	150.70	349	PKPbc	PKPdf	18 59 13.3	+1.5
	0.8nm,0.8s,baz=344,slow=3.6,SNR=5.9						

IDC 22 18:48:08.5±7.2**,19.00S**×**176.69W,mb4.2**/3**,mb1 4.4**/3**, mb1mx3.9**/14**,Error ellipse: s-maj=289.0km s-min=115.7km az=152.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	46.05	260	P	P	18 56 34.4	-1.7
	0.5nm,0.3s,baz=97,slow=7.4,SNR=8.2						
ASAR	**Alice Springs**	46.08	255	P	P	18 56 34.5	-1.7
	0.9nm,0.4s,baz=93,slow=7.6,SNR=23						
FITZ	**Fitzroy Crossi**	54.46	261	P	P	18 57 37.8	-2.4
	14nm,1.6s,baz=140,slow=7.9,SNR=3.4						
AKASG	**Malin Array Be**	142.28	333	PKP	PKPdf	19 07 42.4	-2.3
	0.5nm,0.4s,baz=41,slow=4.4,SNR=4.3						

*LDG **22** 18:53:04.1±0.1,42.56N×1.01E,h6^{km},Md2.3/3,Ml2.2/8, Error ellipse: s-maj=0.9km s-min=0.7km az=19.0*
*STR **22** 18:53:04.0±0.2,42.56N×1.01E,h5^{km}±1^{km},Ml2.2,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*MDD **22** 18:53:04.5±0.2,42.57N×1.02E,h10^{km},mbLg1.8/17,Error ellipse: s-maj=2.0km s-min=1.6km az=57.0,PRXIMO*
ISC 22 18:53:03.0±0.3**,42.59N**±0.02×**1.03E**±0.02**,h12^{km}**±3^{km}**, n38,σ1^{s}24**/62**,1D,Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SALF	**Salau**	0.20	36	Pg	Pg	18 53 09.1	+1.5
SALF				Sg	Sg	18 53 12.6	+1.9
SALF	**Salau**	0.20	36	P	Pg	18 53 09.2	+1.6
SALF				S	Sg	18 53 12.4	+1.6
CSOR	**Sort**	0.23	160	Pg	Pg	18 53 08.4	+0.3
CSOR				Lg		18 53 11.5	
	29nm,0.1s						
MELF	**Melles**	0.34	325	Pg	Pg	18 53 11.4	+1.2
MELF				Sg	Sg	18 53 16.2	+1.3
MELF	**Melles**	0.34	325	P	Pg	18 53 11.5	+1.3
MELF				S	Sg	18 53 16.3	+1.4
MLS	**Moulis**	0.37	8	Pg	Pg	18 53 12.0	+1.3
MLS				Sg	Sg	18 53 17.6	+1.8
MLS	**Moulis**	0.37	8	P	Pg	18 53 12.1	+1.4
MLS				S	Sg	18 53 17.5	+1.8
CORG	**Organya**	0.42	149	Pg	Pg	18 53 11.8	+0.1
CORG				Lg		18 53 17.6	
	12nm,0.1s						
GRBF	**Gourbit**	0.45	56	Pg	Pg	18 53 13.5	+1.2
GRBF				Lg		18 53 19.8	
RESF	**Ens**	0.55	293	Pg	Pg	18 53 14.7	+0.5
RESF				Sg	Sg	18 53 22.1	+0.4
RESF	**Ens**	0.55	293	P	Pb	18 53 15.0	+0.9
RESF				S	Sg	18 53 22.4	+0.7
EPF	**Esparros**	0.67	311	ePg	Pg	18 53 17.1	+0.6
EPF				eSg	Sg	18 53 25.6	+0.1
	32nm,0.3s						
CLLI	**Llivia**	0.71	99	Pg	Pg	18 53 17.3	0.0
CLLI				Lg		18 53 26.9	
	7.8nm,0.1s						
CAVN	**Les Avellanes**	0.74	196	Pg	Pg	18 53 17.9	0.0
CAVN				Lg		18 53 26.9	
	3.7nm,0.1s						
VALF	**Valcebollere**	0.76	104	Pg	Pg	18 53 18.1	-0.2
VALF	**Valcebollere**	0.76	104	P	Pb	18 53 18.2	+0.5
VALF				S	Sb	18 53 28.0	+0.3
EMIR	**Miracle**	0.77	151	⇓Pg	Pg	18 53 18.5	-0.1
	2.3nm,0.1s,SNR=18						
EMIR				Lg		18 53 29.1	
	SNR=7.9						
VIEF	**Viey**	0.79	292	Pg	Pg	18 53 19.1	+0.1
VIEF				Sg	Sg	18 53 29.8	+0.1
VIEF	**Viey**	0.79	292	P	Pb	18 53 19.3	+1.0
VIEF				S	Sb	18 53 29.4	+0.7
CARF	**Carcanieres**	0.81	81	P	Pb	18 53 19.6	+1.2
CARF				S	Sb	18 53 30.1	+1.1
LABF	**Labassere**	0.83	303	Pg	Pg	18 53 20.3	+0.5
LABF				Sg	Sg	18 53 31.1	+0.1
LABF	**Labassere**	0.83	303	P	Pb	18 53 20.2	+1.2
LABF				S	Sb	18 53 31.1	+1.2
CBRU	**Bruguera**	0.91	109	Pg	Pg	18 53 21.0	-0.3
CBRU				Lg		18 53 33.4	
	3.8nm,0.1s						
MTLF	**Montolieu**	1.15	49	ePg	Pg	18 53 26.4	+0.3
MTLF				eSg	Sg	18 53 41.8	+0.3
	3.6nm,0.2s						
ETSF	**Etsaut**	1.21	285	ePg	Pg	18 53 26.5	-0.7
ETSF				eSg	Sg	18 53 42.2	-1.2
	7.3nm,0.2s						
EPOB	**Poblet**	1.24	178	Pg	Pg	18 53 27.2	-0.7
	0.8nm,0.1s,SNR=7.9						
EPOB				Lg		18 53 42.7	
	4.7nm,0.1s,SNR=7.9						
ATE	**Arette**	1.36	292	S	Sb	18 53 47.2	+2.0
EJON	**La Jonquera**	1.39	95	Pg	Pg	18 53 30.8	+0.1
	0.5nm,0.1s,SNR=5.0						
EJON				Lg		18 53 48.7	
	3.0nm,0.1s,SNR=7.9						
ESAC	**San Caprasio**	1.41	232	Pg	Pg	18 53 31.7	+0.4
	4.5nm,0.1s,SNR=5.0						
ESAC				Lg		18 53 49.6	
	20nm,0.1s,SNR=7.9						
SJPF	**Ste Jean**	1.73	288	ePg	Pg	18 53 35.9	-1.8
SJPF				eSg	Sg	18 53 58.9	-2.0
	4.0nm,0.2s						
EALK	**Alkurruntz**	1.96	289	Pg	Pg	18 53 41.3	-0.9
	0.8nm,0.1s,SNR=5.0						
EALK				Lg		18 54 07.6	
	7.7nm,0.2s,SNR=5.0						
LFF	**La Frestale**	2.35	355	ePg	Pg	18 53 47.8	-2.3
LFF				eSg	Sg	18 54 18.7	-2.8
	4.3nm,0.2s						
CAF	**Calviac**	2.45	18	ePg	Pg	18 53 50.3	-1.7
CAF				eSn	Sn	18 54 12.6	-1.0
CAF				eSg	Sg	18 54 21.8	-2.9
	1.5nm,0.2s						
EMOS	**Mosqueruela**	2.50	207	Pg	Pg	18 53 50.0	-2.9
	SNR=5.0						
EMOS				Lg		18 54 22.0	
	1.1nm,0.2s,SNR=7.9						
LASF	**Ste Croix**	2.54	53	ePg	Pg	18 53 51.4	-2.4
LASF				eSg	Sg	18 54 24.4	-3.3
	2.5nm,0.3s						
RJF	**Les Rejaudoux**	2.73	7	eSn	Sn	18 54 18.9	-1.9
RJF				eSg	Sg	18 54 30.7	-3.4
	2.4nm,0.3s						
ETOR	**Torete**	2.91	233	Pg	Pg	18 53 59.8	-1.4
	SNR=4.0						
ETOR				Lg		18 54 35.7	
	0.5nm,0.2s,SNR=4.0						
VIVF	**Saint-Julien-l**	3.48	48	ePg	Pg	18 54 08.7	-3.8
VIVF				eSg	Sg	18 54 53.9	-5.0

*IDC **22** 19:05:42.2±1.3,20.08S×173.96W,mb4.0/5,mb1 4.2/6, mb1mx4.0/16,ML4.5/1,MS3.2/1,Ms1 3.2/1,ms1mx3.0/17, Error ellipse: s-maj=54.5km s-min=25.3km az=145.0*
ISC 22 19:05:45.0±1.3**,20.3S**±0.2×**173.9W**±0.2**,h33^{km},n9, σ1^{s}09**/6**,mb3.9**/5**,Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAR	**Rarotonga**	13.24	96	LR	LR	19 11 58.1	
	comp=Z,123nm,21.6s,baz=316,slow=28						
URZ	**Urewera**	19.54	202	P	P	19 10 12.4	-0.2
	1.3nm,0.3s,baz=295,slow=5.6,SNR=5.5						
CTA	**Charters Tower**	37.35	263	P	P	19 12 57.0	+0.6
	1.9nm,0.6s,mb4.1,baz=69,slow=8.6,SNR=3.9						
STKA	**Stephens Creek**	41.36	245	P	P	19 13 30.9	+1.2
	2.1nm,0.9s,mb3.8,baz=85,slow=12,SNR=3.1						
ASAR	**Alice Springs**	48.32	256	P	P	19 14 25.1	-0.4
	1.8nm,0.8s,mb4.1,baz=94,slow=8.0,SNR=19						
ASAR				PcP	PcP	19 15 53.5	+1.3
	0.8nm,1.0s,baz=107,slow=4.0,SNR=4.6						
WRA	**Warramunga Arr**	48.45	261	P	P	19 14 25.3	-1.2
	1.4nm,0.9s,mb4.0,baz=97,slow=7.5,SNR=17						
NVAR	**Mina Array Bea**	78.26	41	P	P	19 17 43.5	+0.1
	0.7nm,0.7s,mb3.7,baz=221,slow=8.6,SNR=4.7						
BVAR	**Borovoye Array**	121.39	320	PKP	PKPdf	19 24 37.1	+2.2
	0.4nm,0.7s,baz=102,slow=4.0,SNR=3.7						
AKASG	**Malin Array Be**	144.59	334	PKP	PKPdf	19 25 18.9	+1.0
	1.2nm,0.5s,baz=38,slow=4.3,SNR=10						

IDC 22 19:06:35.0±3.0**,18.95S**×**174.54W,mb4.0**/3**,mb1 4.4**/3**, mb1mx3.9**/14**,Error ellipse: s-maj=223.0km s-min=31.8km az=152.0,Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	48.05	255	P	P	19 15 16.1	-2.4
	2.5nm,0.8s,baz=90,slow=8.2,SNR=8.3						
ASAR				PcP	PcP	19 16 44.2	-2.5
	1.1nm,0.8s,baz=111,slow=5.4,SNR=4.5						
WRA	**Warramunga Arr**	48.06	260	P	P	19 15 17.2	-1.3
	0.6nm,0.4s,baz=97,slow=7.6,SNR=8.3						
NVAR	**Mina Array Bea**	77.68	42	P	P	19 18 34.1	-1.2
	1.5nm,1.0s,baz=222,slow=8.6,SNR=4.4						
AKASG	**Malin Array Be**	143.12	335	PKP	PKPdf	19 26 09.6	-3.1
	0.7nm,0.4s,baz=37,slow=4.0,SNR=7.0						

*JMA **22** 19:09:09.7±0.6,25.21N×122.61E,M2.8*
TAP 22 19:09:10.8,24.92N×122.23E,h9^{km},ML3.2,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	0.84	123	P	Pb	19 09 26.0	-1.2
YOJ				eS	Sb	19 09 37.4	-1.0
IRIF	**Iriomote-Funau**	1.48	113	P	Pn	19 09 35.3	-2.5
IRIF				eS	Sb	19 09 53.8	-3.2
HATJ	**Hateruma jima**	1.67	121	P	Pn	19 09 38.8	-1.7
JKRS	**Kuro-shima**	1.76	112	P	Pn	19 09 40.3	-1.4
JKRS				eS	Sn	19 10 01.6	-2.7
JIJ	**Ishigaki jima**	1.83	107	P	Pn	19 09 42.5	-0.2

*NEIC **22** 19:21:56.5,34.06S×72.28W,h34^{km},ML3.6(GUC),After GUC.*
GUC 22 19:21:56.5±0.6**,34.06S**×**72.28W,h34^{km}**±1^{km}**,MD4.0, ML3.6,10C-5D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LNV	**Longovilo**	0.73	82	⇓iP	P	19 22 10.3	+0.1
LNV				i S	S	19 22 20.5	+0.2
LCCH	**Las Cruces**	0.83	46	⇑iP	P	19 22 11.6	-0.1
LCCH				i S	S	19 22 22.8	-0.1
IHA	**Instituto Hidr**	1.16	27	⇑iP	P	19 22 16.9	+0.5
IHA				i S	S	19 22 32.2	+0.9
SFDO	**San Fernando**	1.18	118	eP	P	19 22 17.4	+0.6
TACH	**Talagante**	1.18	70	⇑iP	P	19 22 17.1	+0.3
TACH				i S	S	19 22 33.1	+1.2
RCDM	**Rinconada Maip**	1.35	66	eP	P	19 22 19.8	+0.6
RCDM				i S	S	19 22 37.7	+1.5
RCDM				AMP		19 22 39.7	
	comp=N,2µm,0.2s						
CHCH	**Chadas Angostu**	1.35	85	⇑iP	P	19 22 20.2	+0.9
CHCH				i S	S	19 22 38.5	+2.2
CACH	**El Canelo**	1.39	93	⇓iP	P	19 22 21.3	+1.5
CACH				i S	S	19 22 40.6	+3.4
ANTU	**Antumapu**	1.45	71	⇑iP	P	19 22 21.7	+1.0
ANTU				i S	S	19 22 40.8	+2.0
ANTU				AMP		19 22 44.6	
	comp=N,2µm,0.5s						
SAN	**Santiago**	1.47	66	i P	P	19 22 22.3	+1.3
SAN				i S	S	19 22 41.9	+2.6
SAN				AMP		19 22 47.1	
	comp=N,2µm,0.3s						
STL	**Santa Lucia**	1.50	66	⇑iP	P	19 22 22.5	+1.2
STL				i S	S	19 22 41.5	+1.7
STL				AMP		19 22 50.3	
	comp=N,450nm,0.3s						
PCH	**Pirque**	1.53	74	⇓iP	P	19 22 22.8	+1.0
PCH				i S	S	19 22 42.6	+1.9
CICH	**Cipreses**	1.56	100	⇑iP	P	19 22 23.5	+1.3
CICH				i S	S	19 22 43.9	+2.4
DSCH	**Colegio Aleman**	1.57	66	i P	P	19 22 23.6	+1.3
DSCH				i S	S	19 22 43.9	+2.3
DSCH				AMP		19 22 49.5	
	comp=N,2µm,0.4s						
FSR	**Penalolen**	1.57	69	eP	P	19 22 23.4	+1.1
FSR				i S	S	19 22 44.3	+2.7
FSR				AMP		19 22 50.2	
	comp=E,1µm,0.3s						
CLCH	**Cerro Calan**	1.59	66	⇓iP	P	19 22 24.1	+1.4
CLCH				i S	S	19 22 44.8	+2.5
CLCH				AMP		19 22 58.6	
	comp=N,2µm,0.4s						
CLCH				AMP		19 22 59.1	
	comp=N,2µm,0.5s						
PEL	**Peldehue**	1.61	56	i P	P	19 22 24.3	+1.4
PEL				i S	S	19 22 45.5	+2.7
SJCH	**San Jose de Ma**	1.65	76	⇑iP	P	19 22 24.5	+1.0
SJCH				i S	S	19 22 46.2	+2.4
SJCH				AMP		19 22 51.8	
	comp=E,2µm,0.4s						
LMEL	**Las Melosas**	1.73	84	⇓iP	P	19 22 26.2	+1.5
LMEL				i S	S	19 22 48.2	+2.3
LMEL				AMP		19 22 53.0	
	comp=N,2µm,0.3s						
FCH	**Farellones**	1.81	67	⇑iP	P	19 22 27.4	+1.6
FCH				i S	S	19 22 50.9	+3.2
FCH				AMP		19 22 58.5	
	comp=N,1µm,0.3s						
JACH	**Jahuel**	1.97	46	⇑iP	P	19 22 29.1	+1.1

*NEIC **22** 19:23:15.3±7.4,36.86N×71.03E,h4^{km}±50^{km},mb4.2/7, Error ellipse: s-maj=25.3km s-min=7.6km az=64.0*
*BJI **22** 19:23:18.1,36.59N×71.26E,h20^{km},mb3.8,ML4.3*
*IDC **22** 19:23:27.6±13.0,37.43N×71.35E,h81^{km}±92^{km},mb3.7/5, mb1 3.8/7,mb1mx3.5/19,ML4.0/2,Error ellipse: s-maj=125.0km s-min=29.9km az=7.0*
ISC 22 19:23:26.2±0.6**,37.07N**±0.03×**71.76E**±0.09**,h129^{km}**±10^{km}**, n39,σ1^{s}06**/41**,mb3.9**/9**,3C-1D,Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CEP	**Cherat**	3.25	178	⇑P	P	19 24 18.2	+1.3
CHCP	**Chirah Chowk**	3.62	160	⇑P	P	19 24 24.7	+2.8
KSH	**Kashi**	4.12	52	eP	P	19 24 33.3	+4.7
KSH				S	S	19 25 21.8	+5.5
KSH				Smax			
	comp=N,170nm,0.6s						
KSH				Smax			
	comp=E,180nm,0.5s						
THW	**Thamme Wali**	4.27	180	⇓P	P	19 24 31.0	+0.4
SBDP	**Sheikh Budin**	4.83	190	P	P	19 24 37.0	-1.1
SARP	**Sargodha**	5.19	171	P	P	19 24 43.1	+0.1
SARP				S	S	19 25 40.0	-2.2
AML	**Almayashu**	5.27	16	P	P	19 24 43.6	-0.4
	SNR=190						
DRP	**Derazinda**	5.47	194	P	P	19 24 46.5	-0.1
UCH	**Uchtor**	5.57	22	P	P	19 24 48.1	+0.1
	SNR=40						
KZA	**Kyzart**	5.68	27	P	P	19 24 50.0	+0.5
	SNR=12						
EKS2	**Erkin-Say**	5.79	15	P	P	19 24 50.6	-0.4
	SNR=58						
AAK	**Ala-Archa**	5.94	20	P	P	19 24 53.4	+0.4
	SNR=57						
AAK	**Ala-Archa**	5.94	20	⇑iP	P	19 24 52.0	-1.0
	comp=E,49nm,0.4s						
KBK	**Karagaybulak**	6.09	23	P	P	19 24 56.3	+1.2
	SNR=11						
ULHL	**Ulahol**	6.22	32	P	P	19 24 57.7	+1.0
	SNR=7.7						
CHMS	**Chumysh**	6.35	20	P	P	19 24 58.4	-0.2
	SNR=57						
USP	**Ospenovka**	6.53	18	P	P	19 25 00.2	-0.9
	SNR=18						
TKM2	**Tokmak 2**	6.54	26	P	P	19 25 01.8	+0.6
	SNR=7.6						
MKAR	**Makanchi Array**	12.47	36	P	P	19 26 21.0	+0.9
	comp=E,0.5nm,0.3s,baz=226,slow=16,SNR=24						
KOLN	**Koldanda**	13.63	129	eP	P	19 26 34.0	-1.1
	comp=E,8.6nm,0.3s						
GKN	**Gorkha**	14.12	126	eP	P	19 26 41.9	+0.4
	comp=E,17nm,0.3s						
KURK	**Kurchatov**	14.50	18	eP	P	19 26 42.1	-4.0
KKN	**Kakani**	14.69	125	eP	P	19 26 48.1	-0.5
	comp=E,12nm,0.4s						
DMN	**Daman**	14.70	126	eP	P	19 26 49.3	+0.5
	comp=E,16nm,0.4s						
PKI	**Pulchoki**	14.92	126	eP	P	19 26 51.3	-0.3

	comp=E,14nm,0.4s						
BVAR	**Borovoye Array**	**15.98**	**357**	P	**P**	**19 27 02.2**	**-2.5**
	comp=E,0.9nm,0.3s,baz=156,slow=13,SNR=20						
ZRNK	**Zerenda**	**15.99**	**354**	*e*P	**P**	**19 27 01.6**	**-3.3**
	comp=E,9.1nm,0.6s						
BRVK	**Borovoye**	**16.02**	**357**	*e*P	**P**	**19 27 02.6**	**-2.6**
	comp=E,15nm,1.2s						
ARU	**Arti**	**21.30**	**340**	*e*P	**P**	**19 28 03.5**	**0.0**
	comp=E,2.8nm,0.6s,mb3.8						
MIB	**Mutribah**	**21.59**	**258**	*e*P	**P**	**19 28 11.8**	**+5.1**
MIB				AMb	AMB	19 28 12.6	
	comp=Z,12nm,0.7s,mb4.4						
KBD	**Kabd**	**21.60**	**256**	*e*P	**P**	**19 28 11.7**	**+5.0**
RST	**Umm Al-Ruwaisa**	**21.99**	**257**	*e*P	**P**	**19 28 11.8**	**+1.3**
RST				AMb	AMB	19 28 14.8	
	comp=Z,5.5nm,0.3s,mb4.5						
GTA	**Gaotai**	**22.13**	**75**	*e*P	**P**	**19 28 18.4**	**+6.6**
GTA				AP		19 28 23.4	
GTA				XP		19 28 26.6	
GTA				AMB	AMB		
	comp=Z,3.0nm,0.8s,mb3.8						
SONM	**Songino Array**	**27.51**	**56**	P	**P**	**19 29 07.1**	**+4.6**
	comp=Z,0.3nm,0.8s,mb3.1,baz=263,slow=10.0,SNR=5.1						
AKASG	**Malin Array Be**	**33.07**	**308**	P	**P**	**19 29 51.1**	**-0.2**
	comp=Z,0.6nm,0.4s,mb3.6,baz=105,slow=8.3,SNR=3.1						
FINES	**FINESS Array B**	**37.35**	**325**	P	**P**	**19 30 27.9**	**+0.4**
	comp=Z,2.9nm,1.0s,mb3.9,baz=119,slow=10,SNR=7.1						
ARCES	**ARCESS Array B**	**40.85**	**337**	P	**P**	**19 30 57.4**	**+1.0**
	comp=Z,8.1nm,0.9s,mb4.3,baz=98,slow=8.6,SNR=8.3						
NB2	**NORSAR Subarra**	**44.29**	**323**	P	**P**	**19 31 24.5**	**+0.2**
	comp=Z,1.5nm,0.5s,mb3.9,baz=94,slow=7.9						
NOA	**NORSAR Array B**	**44.29**	**323**	P	**P**	**19 31 24.9**	**+0.6**
	comp=Z,1.8nm,0.5s,mb4.0,baz=95,slow=7.7,SNR=6.8						

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*NEIC **22** 19:25:20.7,32.62S×71.59W,h28^{km},ML3.5(GUC),After GUC.*

GUC 22 19:25:20.7±0.8**,32.62S×71.59W,h28^{km}**±5^{km}**,MD3.8, ML3.5,18C-3D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IHA	**Instituto Hidr**	**0.41**	**186**	⇑*i*P	Pb	19 25 29.3	-0.2
IHA				*i* S	Sb	19 25 35.6	0.0
JACH	**Jahuel**	**0.84**	**94**	⇑*i*P	Pb	19 25 36.2	-0.4
JACH				*i* S	Sb	19 25 47.6	0.0
LCCH	**Las Cruces**	**0.85**	**179**	⇑*i*P	Pb	19 25 36.1	-0.7
PEL	**Peldehue**	**0.92**	**125**	⇑*i*P	Pn	19 25 37.8	-0.1
PEL				*i* S	Sb	19 25 50.4	+0.5
PUEX	**Pudahuel**	**1.07**	**140**	⇑*i*P	Pn	19 25 41.3	+1.3
PUEX				*i* S	Sn	19 25 55.8	+1.7
PUEX				AMP		19 25 56.3	
	comp=N,7µm,0.3s						
RCDM	**Rinconada Maip**	**1.09**	**143**	⇑*i*P	Pn	19 25 39.1	-1.1
RCDM				*i* S	Sn	19 25 53.6	-0.8
RCDM				AMP		19 25 54.4	
	comp=E,5µm,0.1s						
SAN	**Santiago**	**1.14**	**137**	⇑*i*P	Pn	19 25 41.0	0.0
SAN				*i* S	Sn	19 25 56.3	+0.6
SAN				AMP		19 25 57.1	
	comp=N,2µm,0.2s						
STL	**Santa Lucia**	**1.14**	**136**	⇑*i*P	Pn	19 25 40.7	-0.2
STL				*i* S	Sn	19 25 56.0	+0.3
STL				AMP		19 25 60.0	
	comp=N,614nm,0.4s						
DSCH	**Colegio Aleman**	**1.16**	**132**	⇑*i*P	Pn	19 25 41.2	+0.1
DSCH				*i* S	Sn	19 25 56.5	+0.4
DSCH				AMP		19 25 57.4	
	comp=E,2µm,0.3s						
TACH	**Talagante**	**1.17**	**152**	⇑*i*P	Pn	19 25 41.3	0.0
TACH				*i* S	Sn	19 25 56.7	+0.3
CLCH	**Cerro Calan**	**1.17**	**131**	⇓*i*P	Pn	19 25 41.5	0.0
CLCH				*i* S	Sn	19 25 57.2	+0.6
CLCH				AMP		19 26 00.3	
	comp=E,2µm,0.6s						
CLCH				AMP		19 26 00.9	
	comp=E,3µm,0.6s						
FSR	**Penalolen**	**1.23**	**134**	⇑*i*P	Pn	19 25 42.5	+0.2
FSR				*i* S	Sn	19 25 58.9	+0.7
FSR				AMP		19 26 06.3	
	comp=E,1µm,0.5s						
ANTU	**Antumapu**	**1.24**	**140**	⇑*i*P	Pn	19 25 42.6	+0.2
ANTU				*i* S	Sn	19 25 59.1	+0.8
ANTU				AMP		19 26 03.1	
	comp=E,2µm,0.2s						
FCH	**Farellones**	**1.30**	**123**	⇓*i*P	Pn	19 25 43.4	+0.1
FCH				*i* S	Sn	19 26 01.1	+1.3
FCH				AMP		19 26 02.5	
	comp=E,1µm,0.2s						
LNV	**Longovilo**	**1.34**	**174**	⇑*i*P	Pn	19 25 43.2	-0.6
PCH	**Pirque**	**1.34**	**138**	⇑*i*P	Pn	19 25 44.0	+0.1
PCH				*i* S	Sn	19 26 01.5	+0.6
SJCH	**San Jose de Ma**	**1.45**	**135**	⇑*i*P	Pn	19 25 44.7	-0.7
SJCH				*i* S	Sn	19 26 03.8	+0.2
SJCH				AMP		19 26 09.1	
	comp=E,565nm,0.4s						
CHCH	**Chadas Angostu**	**1.53**	**149**	⇓*i*P	Pn	19 25 47.3	+0.8
CHCH				*i* S	Sn	19 26 06.6	+1.1
LMEL	**Las Melosas**	**1.69**	**137**	⇑*i*P	Pn	19 25 49.4	+0.6
LMEL				*i* S	Sn	19 26 11.3	+1.6
LMEL				AMP		19 26 17.3	
	comp=N,2µm,0.2s						
CACH	**El Canelo**	**1.71**	**151**	*e*P	Pn	19 25 50.5	+1.5
CACH				*i* S	Sn	19 26 13.5	+3.4
CICH	**Cipreses**	**1.96**	**150**	⇑*i*P	Pn	19 25 53.8	+1.2
SFDO	**San Fernando**	**2.04**	**167**	⇑*i*P	Pn	19 25 54.4	+0.4
SFDO				*i* S	Sn	19 26 19.6	+0.8

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*NAO **22** 19:31:42.3±2.8,60.19N×25.19E,ML2.4*
*BER **22** 19:31:42.4±2.8,60.12N×25.38E,ML2.4(NAO)*
*HEL **22** 19:31:43.3±0.2,60.14N×25.25E,ML2.0,ML2.1(UPP), ML2.4(NAO),Explosion*
*IDC **22** 19:31:43.3±1.8,60.20N×25.30E,mb1 3.5/2, mb1mx3.2/17,ML3.0/2,Error ellipse: s-maj=19.0km s-min=9.5km az=140.0*

ISC 22 19:31:41.7±0.7**,60.14N**±0.05×**25.24E**±0.09**,n24,**σ**1^{s}09**/45**, Finland**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PVF	**Pernaja**	**0.51**	**37**	*e*P	**Pg**	**19 31 52.1**	**+0.1**
PVF				*e*S	**Sg**	**19 31 58.5**	**-0.3**
VJF	**Virojoki**	**1.22**	**70**	*e*P	**Pb**	**19 32 04.9**	**-0.4**
VJF				*e*S	**Sb**	**19 32 21.3**	**-0.2**
FIA0	**FINESS Array S**	**1.38**	**17**	*e*P	**Pb**	**19 32 07.7**	**-0.4**
FIA0				*e*S	**Sb**	**19 32 25.1**	**-1.0**
FIA0	**FINESS Array S**	**1.38**	**17**	Pn	**Pn**	**19 32 07.5**	**-0.6**
	baz=188,slow=18						
FIA0				Lg		19 32 24.6	
	baz=192,slow=28						
FINES	**FINESS Array B**	**1.38**	**17**	Pg	**Pg**	**19 32 07.5**	**-1.7**
	5.3nm,0.3s,baz=200,slow=16,SNR=169						
FINES				Pn	**Pn**	**19 32 09.8**	**+1.6**
	5.3nm,0.3s,baz=196,slow=12,SNR=171						
FINES				Lg		19 32 24.4	
	2.6nm,0.3s,baz=191,slow=30,SNR=19						
FINES				Sn	**Sn**	**19 32 29.4**	**+2.0**
	16nm,0.3s,baz=197,slow=23,SNR=48						
FINES				Rg		19 32 31.8	
	52nm,0.8s,baz=190,slow=33,SNR=29						
KEF	**Keuruu**	**2.05**	**355**	*e*P	**Pn**	**19 32 19.4**	**+1.7**
KEF				*e*S	**Sn**	**19 32 45.2**	**+0.8**
KAF	**Kangasniemi**	**2.05**	**14**	*e*P	**Pn**	**19 32 19.2**	**+1.4**
KAF				*e*SG	**Sg**	**19 32 46.2**	**-3.8**
KAF				MSG		19 32 48.2	
	comp=Z,4.5nm,0.1s						
AAL	**Aland**	**2.62**	**273**	*e*P	**Pn**	**19 32 26.9**	**+0.8**
AAL				*e*S	**Sn**	**19 32 51.1**	**-8.0**
SUF	**Sumiainen**	**2.63**	**9**	*e*P	**Pn**	**19 32 26.9**	**+0.7**
SUF				*e*S	**Sn**	**19 32 59.4**	**+0.1**
SUF				*e*SB	**Sb**	**19 33 01.7**	**-0.8**
SUF				MSG		19 33 02.8	
	comp=Z,6.5nm,0.2s						
NYNU	**Nynaeshamn**	**3.85**	**256**	*e*P	**Pn**	**19 32 44.4**	**+0.9**
BACU	**Backbrunna**	**4.09**	**270**	*e*P	**Pn**	**19 32 47.3**	**+0.4**
KJN	**Kajaani**	**4.13**	**15**	*e*P	**Pn**	**19 32 49.2**	**+1.7**
KJN				*e*S	**Sn**	**19 33 36.2**	**-1.1**
KJN				*e*SG	**Sg**	**19 33 49.6**	**-10**
KJN				MSG		19 33 54.6	
	comp=Z,3.7nm,0.2s						
ESKU	**Eskilstuna**	**4.58**	**262**	*e*P	**Pn**	**19 32 53.9**	**+0.1**
VIKU	**Vikbolandet**	**4.67**	**253**	*e*P	**Pn**	**19 32 54.6**	**-0.6**
OUL	**Oulu**	**4.98**	**3**	*e*P	**Pn**	**19 32 59.6**	**+0.1**
OUL				*e*SG	**Sg**	**19 34 15.1**	**-12**
NRAU	**Nora**	**5.17**	**268**	*e*P	**Pn**	**19 33 02.0**	**-0.3**
ASKU	**Askersund**	**5.45**	**261**	*e*P	**Pn**	**19 33 05.4**	**-0.7**
HFS	**Hagfors**	**5.77**	**275**	Pn	**Pn**	**19 33 08.8**	**-1.8**
	baz=80,slow=11						
HFS				Sn	**Sn**	**19 34 13.9**	**-4.6**
	baz=77,slow=28						
HFS				Lg		19 34 41.9	
	baz=86,slow=37						
HFS	**Hagfors**	**5.77**	**275**	*e*P	**Pn**	**19 33 08.8**	**-1.8**
HFS				*e*S	**Sn**	**19 34 13.9**	**-4.6**
HFS				*e*SG	**Sg**	**19 34 41.9**	**-12**
NB2	**NORSAR Subarra**	**6.97**	**284**	*e*P	**Pn**	**19 33 23.8**	**-3.8**
NB2				*e*SG	**Sg**	**19 35 18.7**	**-15**
NOA	**NORSAR Array B**	**6.97**	**284**	Pn	**Pn**	**19 33 24.6**	**-3.0**
	comp=Z,0.2nm,0.3s,baz=4.9,slow=18,SNR=3.1						
NOA				Sn	**Sn**	**19 34 40.0**	**-8.6**
	comp=Z,0.3nm,0.3s,baz=349,slow=4.5,SNR=2.7						
NOA				Lg		19 35 15.1	
	comp=Z,0.3nm,0.3s,baz=115,slow=17,SNR=3.3						
ARA0	**ARCESS Array S**	**9.44**	**1**	Pn	**P**	**19 33 56.8**	**-5.2**
	baz=181,slow=14						
ARA0				Sn	**Sn**	**19 35 39.7**	**-10**
	baz=175,slow=22						
ARA0	**ARCESS Array S**	**9.44**	**1**	*e*P	**P**	**19 33 56.8**	**-5.2**
ARA0				*e*S	**Sn**	**19 35 39.7**	**-10**
ARCES	**ARCESS Array B**	**9.44**	**1**	Pn	**P**	**19 33 58.0**	**-3.9**
	comp=Z,0.1nm,0.3s,baz=181,slow=13,SNR=8.7						
ARCES				Sn	**Sn**	**19 35 39.5**	**-11**
	comp=Z,0.1nm,0.3s,baz=177,slow=20,SNR=2.5						

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*LDG **22** 19:57:54.4±0.4,42.86N×1.47W,h2^{km},Md2.2/3,Ml2.3/6, Error ellipse: s-maj=6.2km s-min=4.1km az=61.0*
*STR **22** 19:57:54.1±0.2,42.85N×1.48W,h5^{km}±1^{km},Ml2.3,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

MDD 22 19:57:55.2±0.4**,42.87N×1.42W,h7^{km}**±4^{km}**,mbLg1.8**/6**, 1C,Error ellipse: s-maj=3.3km s-min=2.3km az=30.0, PRXIMO AftershockPLICA,Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJPF	**Ste Jean**	**0.28**	**30**	*e*Pg	Pg	19 58 00.7	-0.4
SJPF				*e*Sg	Sg	19 58 03.5	-1.4
	57nm,0.3s						
EALK	**Alkurruntz**	**0.36**	**350**	⇑Pg	Pg	19 58 01.9	-0.6
	6.6nm,0.3s,SNR=18						
EALK				Lg		19 58 07.7	
	11nm,0.1s,SNR=7.9						
LARF	**Larrau**	**0.36**	**62**	Pg	Pg	19 58 01.8	-0.7
LARF				Sg	Sg	19 58 07.8	+0.4
LARF	**Larrau**	**0.36**	**62**	P	Pg	19 58 01.9	-0.6
LARF				S	Sg	19 58 07.5	+0.1
OSSF	**Osses**	**0.41**	**17**	Pg	Pg	19 58 02.7	-0.7
OSSF				Sg	Sg	19 58 08.9	0.0
OSSF	**Osses**	**0.41**	**17**	P	Pg	19 58 02.7	-0.7
OSSF				S	Sg	19 58 08.4	-0.5
ORDF	**Ordiarp**	**0.50**	**46**	Pg	Pg	19 58 04.6	-0.6
ORDF				Sg	Sg	19 58 12.3	+0.4
ORDF	**Ordiarp**	**0.50**	**46**	P	Pg	19 58 04.7	-0.5
ORDF				S	Sg	19 58 12.2	+0.3
ATE	**Arette**	**0.57**	**67**	P	Pg	19 58 05.7	-1.0
ATE				S	Sg	19 58 13.8	-0.6
FDAF	**Les Forges d'A**	**0.63**	**94**	Pg	Pg	19 58 07.0	-0.9
FDAF				Sg	Sg	19 58 16.4	+0.1
FDAF	**Les Forges d'A**	**0.63**	**94**	P	Pg	19 58 06.8	-1.1
FDAF				S	Sg	19 58 15.8	-0.5
ETSF	**Etsaut**	**0.63**	**87**	*e*Pg	Pg	19 58 06.3	-1.6
ETSF				*e*Sg	Sg	19 58 15.2	-1.2
ETSF				*e*Sn	Sn	19 58 17.2	-3.4
	12nm,0.3s						
VIEF	**Viey**	**1.06**	**89**	S	Sb	19 58 29.6	+0.3
EPF	**Esparros**	**1.30**	**82**	*e*Pn	Pn	19 58 18.5	-1.3
EPF				*e*Pg	Pg	19 58 20.6	-0.7
EPF				*e*Sg	Sg	19 58 37.0	-1.7
	7.4nm,0.2s						
ESAC	**San Caprasio**	**1.34**	**148**	Pg	Pg	19 58 19.7	-2.4
	12nm,0.3s,SNR=6.0						
ESAC				Lg		19 58 37.9	
	24nm,0.3s,SNR=11						
ELAN	**Lanestosa**	**1.52**	**285**	Pg	Pg	19 58 21.9	-3.7
	4.6nm,0.7s,SNR=12						
ELAN				Lg		19 58 45.0	
	0.9nm,0.1s,SNR=5.5						
ETOR	**Torete**	**2.10**	**193**	Pn	Pn	19 58 30.2	-1.1
	SNR=7.9						
ETOR				Pg	Pg	19 58 33.9	-3.2
	2.8nm,0.3s,SNR=9.6						
ETOR				Lg		19 59 01.6	
	1.6nm,0.2s,SNR=7.9						
EMIR	**Miracle**	**2.38**	**113**	Pg	Pg	19 58 38.7	-4.0
	SNR=7.9						
EMIR				Lg		19 59 10.7	
	SNR=4.0						
LFF	**La Frestale**	**2.59**	**36**	*e*Pn	Pn	19 58 36.0	-2.3
LFF				*e*Sn	Sn	19 59 06.5	-3.9
LFF				*e*Sg	Sg	19 59 15.6	-6.0
	5.9nm,0.4s						
MTLF	**Montolieu**	**2.71**	**79**	*e*Pn	Pn	19 58 38.5	-1.4
MTLF				*e*Sn	Sn	19 59 10.7	-2.6
	1.5nm,0.3s						
RJF	**Les Rejaudoux**	**3.23**	**40**	*e*Pn	Pn	19 58 44.2	-3.1
RJF				*e*Sn	Sn	19 59 21.7	-4.8
	1.6nm,0.2s						
CAF	**Calviac**	**3.25**	**50**	*e*Pn	Pn	19 58 44.8	-2.9
CAF				*e*Sn	Sn	19 59 22.7	-4.4
	1.7nm,0.2s						
TCF	**Toulx Ste Croi**	**4.29**	**36**	*e*Pn	Pn	19 58 58.0	-4.5
TCF				*e*Sn	Sn	19 59 47.0	-6.4
	0.5nm,0.2s						

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*LDG **22** 20:15:16.6±0.5,42.85N×1.47W,h2^{km},Md2.4/3,Ml2.1/4, Error ellipse: s-maj=7.7km s-min=5.6km az=60.0*
*STR **22** 20:15:16.5±0.1,42.85N×1.48W,h5^{km}±1^{km},Ml2.3,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

MDD 22 20:15:17.6±0.4**,42.88N×1.43W,h7^{km}**±6^{km}**,mbLg1.5**/5**, Error ellipse: s-maj=3.5km s-min=2.2km az=36.0, PRXIMO AftershockPLICA,Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJPF	**Ste Jean**	**0.28**	**32**	*e*Pg	Pg	20 15 22.9	-0.4
SJPF				*e*Sg	Sg	20 15 25.6	-1.5
	33nm,0.3s						
EALK	**Alkurruntz**	**0.35**	**350**	Pg	Pg	20 15 24.1	-0.6
	4.7nm,0.3s,SNR=20						
EALK				Lg		20 15 28.9	
	7.2nm,0.2s,SNR=18						
LARF	**Larrau**	**0.36**	**63**	Pg	Pg	20 15 24.4	-0.5
LARF				Sg	Sg	20 15 30.3	+0.6
OSSF	**Osses**	**0.40**	**17**	Pg	Pg	20 15 24.9	-0.7
OSSF				Sg	Sg	20 15 31.2	+0.2
ORDF	**Ordiarp**	**0.49**	**47**	Pg	Pg	20 15 26.8	-0.7
ORDF				Sg	Sg	20 15 34.4	+0.3
ATE	**Arette**	**0.57**	**68**	P	Pg	20 15 28.2	-0.8
ATE				S	Sg	20 15 36.6	-0.1
ETSF	**Etsaut**	**0.64**	**88**	*e*Pg	Pg	20 15 28.8	-1.5
ETSF				*e*Sg	Sg	20 15 37.3	-1.6
ETSF				*e*Sn	Sn	20 15 39.4	-3.7
	6.5nm,0.2s						
EPF	**Esparros**	**1.30**	**83**	*e*Pn	Pn	20 15 40.8	-1.4
EPF				*e*Pg	Pg	20 15 43.1	-0.5
EPF				*e*Sg	Sg	20 15 58.8	-2.3
	5.4nm,0.2s						
ESAC	**San Caprasio**	**1.35**	**148**	Pg	Pg	20 15 41.3	-3.3
	7.6nm,0.3s,SNR=4.0						
ESAC				Lg		20 16 00.2	
	18nm,0.4s,SNR=7.9						
ELAN	**Lanestosa**	**1.51**	**284**	Pg	Pg	20 15 46.6	-1.2
	4.5nm,0.8s,SNR=7.7						
ELAN				Lg		20 16 06.0	
	SNR=7.9						
ETOR	**Torete**	**2.11**	**193**	Pg	Pg	20 15 55.9	-3.8
	SNR=7.9						
ETOR				Lg		20 16 24.0	
	1.0nm,0.2s,SNR=7.9						
MTLF	**Montolieu**	**2.71**	**79**	*e*Pn	Pn	20 16 00.7	-1.6
MTLF				*e*Sn	Sn	20 16 32.6	-3.1
	1.5nm,0.4s						
RJF	**Les Rejaudoux**	**3.22**	**40**	*e*Pn	Pn	20 16 06.2	-3.4
RJF				*e*Sn	Sn	20 16 43.7	-5.0
	1.2nm,0.2s						
CAF	**Calviac**	**3.25**	**50**	*e*Pn	Pn	20 16 06.8	-3.2
CAF				*e*Sn	Sn	20 16 44.7	-4.7
	1.0nm,0.2s						

IDC 22 20:20:06.5±1.9**,3.73S×129.56E,mb3.5**/2**,mb1 3.7**/3**, mb1mx3.6**/13**,ML3.1**/1**,Error ellipse: s-maj=148.0km s-min=29.9km az=69.0,Seram**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.77**	**164**	Pn	P	20 24 01.6	-3.0
	0.1nm,0.3s,baz=347,slow=13,SNR=4.9						
ASAR	**Alice Springs**	**20.26**	**168**	P	P	20 24 44.6	-1.8
	2.7nm,1.1s,baz=348,slow=12,SNR=17						
ASAR				PcP	PcP	20 28 57.2	-3.0
	0.2nm,0.4s,baz=5.2,slow=1.2,SNR=5.4						
ASPA	**Alice Springs**	**20.26**	**168**	*e*P	P	20 24 45.1	-1.3
MKAR	**Makanchi Array**	**65.27**	**326**	P	P	20 30 50.4	-2.0
	0.2nm,0.5s,baz=117,slow=7.5,SNR=3.7						

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*WEL **22** 20:22:52.3±0.3,36.76S×179.61E,h12^{km},ML3.8/2,Error ellipse: s-maj=4.5km s-min=4.3km az=0.0*

ISC 22 20:22:52.1±2.6**,36.7S**±0.3×**179.7E**±0.4**,h47^{km}**±29^{km}**,n5,** σ**0^{s}19**/9**,Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.40**	**233**	PN	**P**	**20 23 15.6**	**-0.1**
MXZ				SN	**S**	**20 23 33.2**	**0.0**
PUZ	**Puketiti**	**1.77**	**221**	PN	**P**	**20 23 21.1**	**+0.2**
PUZ				SN	**S**	**20 23 42.5**	**+0.1**
MWZ	**Matawai**	**2.37**	**227**	PN	**P**	**20 23 29.3**	**-0.1**
MWZ				SN	**S**	**20 23 56.8**	**-0.4**
URZ	**Urewera**	**2.58**	**233**	PN	**P**	**20 23 32.3**	**0.0**
URZ				SN	**S**	**20 24 02.9**	**+0.3**
WB2	**Warramunga Arr**	**42.87**	**280**	*e*P	**P**	**20 30 47.6**	**0.0**

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*MOS **22** 20:49:58.9±1.2,55.21S×28.65W,h10^{km},mb5.0/10, MS5.0/5,Error ellipse: s-maj=56.2km s-min=15.9km az=107.8*
*BJI **22** 20:50:00.1,55.10S×28.40W,h10^{km},mB5.3,Ms5.5, Msz5.4*
*IDC **22** 20:50:00.4±1.7,55.22S×28.66W,h12^{km}±9^{km},mb4.8/13, mb1 4.8/13,mb1mx4.8/14,MS5.2/13,Ms1 5.2/13, ms1mx5.1/15,Error ellipse: s-maj=12.2km s-min=8.3km az=18.0*
*SYO **22** 20:50:00.0,55.07S×28.35W,h10^{km},MB5.2,MS5.3*
*HRVD **22** 20:50:00.2±0.1,55.13S×28.63W,h12^{km},MW5.5/65, Centroid moment Tensor Solution. LP body waves: s63,c116;Mantle waves: s65,c134; Half duration: 1^{s}3 Moment tensor: Scale 10^{17}Nm; M_{rr}0.45±.03; $M_{\theta\theta}$-1.27±.03; $M_{\phi\phi}$0.82±.03; $M_{r\theta}$-0.07±.07; $M_{\theta\phi}$1.71±.03; $M_{\phi r}$0.16±.07; Best double couple: $M_0$2.01×10^{17} NP1:ϕ_s74°, δ85°,λ1°. NP2:ϕ_s344°,δ89°,λ175°. Principal axes: T 1.78, Plg5°, Azm299°; N .45, Plg84°, Azm152°; P -2.24, Plg3°, Azm29°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **22** 20:50:00.2±0.2,55.10S×28.42W,h10^{km},mb5.2/19, MS5.3/109 Error ellipse: s-maj=9.8km s-min=7.5km az=202.0*

ISC 22 20:49:58.5±0.3**,55.12S**±0.05×**28.42W**±0.09**,h10^{km},n255,** σ**1^{s}21**/76**,mb5.1**/27**,MS5.2**/125**,16C-7D,South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**17.92**	**158**	⇑*i*	**P**	**20 54 14.1**	**+5.1**
VNA1	**Neumayer--Stat**	**17.92**	**158**	⇑*i*		20 54 18.3	
VNA1	**Neumayer--Stat**	**17.92**	**158**	⇑*i*		20 54 23.6	
VNA1	**Neumayer--Stat**	**17.92**	**158**	⇑*i*P		20 54 18.3	
EFI	**East Falkland**	**17.94**	**269**	*e*P	**P**	**20 54 09.0**	**-0.3**
	169nm,1.1s						
VNA3	**Neumayer Olymp**	**18.11**	**160**	⇑*i*	**P**	**20 54 14.6**	**+3.3**
VNA3	**Neumayer Olymp**	**18.11**	**160**	⇑*i*	**P**	**20 54 15.1**	**+3.8**
VNA3	**Neumayer Olymp**	**18.11**	**160**	⇑*i*		20 54 17.9	
VNA3	**Neumayer Olymp**	**18.11**	**160**	⇑*i*P		20 54 17.9	
VNA2	**Neumayer--Watz**	**18.32**	**158**	⇑*i*	**P**	**20 54 17.4**	**+3.4**
VNA2	**Neumayer--Watz**	**18.32**	**158**			20 54 23.1	
VNA2	**Neumayer--Watz**	**18.32**	**158**	⇓*i*		20 54 23.5	
VNA2	**Neumayer--Watz**	**18.32**	**158**	P		20 54 23.1	
SNAA	**Sanae**	**19.88**	**156**	⇑*i*	**P**	**20 54 29.9**	**-2.5**
SNAA	**Sanae**	**19.88**	**156**	⇑*i*	**P**	**20 54 31.1**	**-1.3**
SNAA	**Sanae**	**19.88**	**156**	⇑*i*	**P**	**20 54 32.0**	**-0.4**
SNAA	**Sanae**	**19.88**	**156**	⇓*i*	**P**	**20 54 37.1**	**+4.7**
PMSA	**Palmer Station**	**20.00**	**227**	*e*P	**P**	**20 54 33.5**	**-0.2**
	145nm,1.1s						
PMSA				LR	LR		
	comp=Z,4µm,19.0s,MS4.8						
USHA	**Ushuaia**	**22.75**	**254**	P	**P**	**20 55 00.8**	**-0.7**
	comp=Z,28nm,0.8s,mb4.7,baz=83,slow=7.1,SNR=6.7						
USHA				S	**S**	**20 59 09.0**	**+3.5**
	comp=Z,33nm,1.3s,baz=25,slow=17,SNR=2.3						
USHA				LR	LR	21 02 15.4	
	comp=Z,6µm,18.3s,MS5.1,baz=82,slow=32						
MAIT	**Maitri**	**23.40**	**147**	*e*P	**P**	**20 55 02.7**	**-5.0**
NVL	**N'lazarevskaya**	**23.43**	**147**	⇑*e*P	**P**	**20 55 07.0**	**-1.0**
NVL				*e*S	**S**	**20 59 27.0**	**+10**
NVL				pmax	pmax		
	comp=Z,1µm,4.8s						
TRQA	**Tornquist**	**28.31**	**293**	*e*P	**P**	**20 55 53.2**	**-0.8**
	comp=Z,41nm,1.1s,mb5.0						
TRQA				LR	LR		
	comp=Z,6µm,20.0s,MS5.2						
LPA	**La Plata**	**28.70**	**303**	*ce*P	**P**	**20 55 58.0**	**+0.5**
SYO	**Syowa Base**	**32.75**	**142**	⇓P	**P**	**20 56 26.6**	**-6.4**
SYO	**Syowa Base**	**32.75**	**142**	⇓pP	pP	20 56 30.9	-5.1
SYO	**Syowa Base**	**32.75**	**142**	⇓sP	sP	20 56 33.3	-4.0
SYO	**Syowa Base**	**32.75**	**142**	⇓PP	PP	20 57 39.3	-3.2
SYO	**Syowa Base**	**32.75**	**142**	⇓PP	PP	20 57 42.9	+0.4
CAM4	**Nova Friburgo**	**34.39**	**336**	(P)	**P**	**20 56 49.9**	**+2.2**
CAM4				*i*		20 56 58.6	
CAM4				*i*		20 57 03.8	
CAM4				*i*		20 57 07.2	
CAM4				*i*		20 57 25.4	
CAM4	**Nova Friburgo**	**34.39**	**336**	P	**P**	**20 56 49.9**	**+2.2**
CAM4				*i*		20 56 58.6	
CAM4				*i*		20 57 03.8	
CAM4				*i*		20 57 07.2	
CAM4				*i*		20 57 25.4	
QSPA	**South Pole Qui**	**35.13**	**180**	*e*P	**P**	**20 56 54.2**	**+0.7**
	comp=Z,36nm,0.6s,mb5.5						
QSPA				LR	LR		
	comp=Z,4µm,21.7s,MS5.1						
CPUP	**Villa Florida**	**35.67**	**312**	P	**P**	**20 56 57.1**	**-1.5**
	comp=Z,93nm,1.2s,mb5.6,baz=171,slow=7.4,SNR=48						
CPUP				S	**S**	**21 02 34.7**	**+0.4**
	comp=Z,3.0nm,1.0s,baz=54,slow=3.5,SNR=2.3						
CPUP				LR	LR	21 10 07.0	
	comp=Z,4µm,20.8s,MS5.2,baz=176,slow=34						
CPUP	**Villa Florida**	**35.67**	**312**	P	**P**	**20 56 56.9**	**-1.7**
CPUP	**Villa Florida**	**35.67**	**312**	P	**P**	**20 56 57.1**	**-1.5**
CPUP				S	**S**	**21 02 34.7**	**+0.4**
CPUP				pmax	pmax		
	comp=Z,93nm,1.2s						
CPUP				smax			
	comp=N,3.0nm,1.0s						
CPUP				MLR	MLR		
	comp=Z,4µm,20.8s						
CPUP	**Villa Florida**	**35.67**	**312**	*e*P	**P**	**20 56 56.6**	**-2.0**
	comp=Z,117nm,1.2s,mb5.7						
CPUP				LR	LR		
	comp=Z,4µm,20.0s,MS5.2						
SUR	**Sutherland**	**41.09**	**77**	P	**P**	**20 57 46.0**	**+2.2**
	comp=Z,12nm,0.8s,mb4.6,baz=211,slow=7.3,SNR=9.1						
SUR				S	**S**	**21 04 01.0**	**+4.6**
	comp=Z,3.8nm,0.8s,baz=260,slow=13,SNR=2.2						
SUR				LR	LR	21 10 40.2	
	comp=Z,2µm,19.4s,MS5.1,baz=60,slow=30						
SUR	**Sutherland**	**41.09**	**77**	P	**P**	**20 57 41.6**	**-2.2**
	comp=Z,31nm,1.1s,mb4.8						
SUR				S	**S**	**21 04 01.0**	**+4.6**
SUR				LR	LR	21 10 40.2	
MAW	**Mawson**	**41.32**	**145**	P	**P**	**20 57 45.4**	**+0.1**
	comp=Z,10nm,0.6s,mb4.7,baz=243,slow=8.9,SNR=48						
MAW				ScP		21 03 33.1	
	comp=Z,3.9nm,1.0s,baz=270,slow=6.1,SNR=3.1						
MAW				S	**S**	**21 03 58.9**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=339,slow=16,SNR=1.2						

MAW				LR	LR	21 12 33.7	
	comp=Z,2µm,19.9s,MS5.0,baz=250,slow=33						
MAW	**Mawson**	**41.32**	**145**	P	**P**	**20 57 45.4**	**+0.1**
MAW				S	**S**	**21 03 58.9**	**-0.4**
MAW				pmax	pmax		
	comp=Z,11nm,0.6s						
MAW				pmax	pmax		
	comp=N,4.0nm,1.0s						
MAW				smax			
	comp=N,1.0nm,0.6s						
MAW				MLR	MLR		
	comp=Z,2µm,19.9s						
MAW	**Mawson**	**41.32**	**145**	*e*P	**P**	**20 57 45.3**	**+0.1**
	comp=Z,14nm,0.7s,mb4.7						
MAW				LR	LR		
	comp=Z,5µm,20.0s,MS5.4						
BDFB	**Brasilia**	**42.21**	**331**	P	**P**	**20 57 53.5**	**+0.5**
	comp=Z,6.7nm,0.9s,mb4.3,baz=168,slow=7.5,SNR=7.1						
BDFB				S	**S**	**21 04 15.2**	**+2.2**
	comp=Z,0.7nm,0.3s,baz=166,slow=19,SNR=1.5						
BDFB	**Brasilia**	**42.21**	**331**	P	**P**	**20 57 53.5**	**+0.4**
BDFB				S	**S**	**21 04 15.2**	**+2.2**
BDFB				pmax	pmax		
	comp=Z,7.0nm,0.9s						
BDFB				smax			
	comp=N,1.0nm,0.3s						
BOSA	**Boshof**	**46.44**	**78**	*e*P	**P**	**20 58 26.6**	**-0.4**
	comp=N,31nm,1.2s,mb5.1						
BOSA				LR	LR		
	comp=Z,4µm,19.0s,MS5.4						
SBA	**Scott Base**	**46.96**	**184**	*e*P	**P**	**20 58 31.2**	**+0.7**
	comp=Z,22nm,1.1s,mb5.0						
SBA				LR	LR		
	comp=Z,2µm,19.0s,MS5.0						
LPAZ	**La Paz**	**49.26**	**306**	P	**P**	**20 58 49.2**	**+0.1**
	comp=Z,72nm,1.2s,mb5.6,baz=152,slow=5.8,SNR=71						
LPAZ				S	**S**	**21 05 54.6**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=229,slow=12,SNR=2.2						
LPAZ				LR	LR	21 18 43.6	
	comp=Z,2µm,18.7s,MS5.2,baz=352,slow=35						
LPAZ	**La Paz**	**49.26**	**306**	P	**P**	**20 58 49.3**	**+0.1**
LPAZ				S	**S**	**21 05 54.6**	**+0.5**
LPAZ				pmax	pmax		
	comp=Z,72nm,1.2s						
LPAZ				MLR	MLR		
	comp=Z,2µm,18.7s						
LPAZ	**La Paz**	**49.26**	**306**	*e*P	**P**	**20 58 49.2**	**0.0**
	comp=Z,191nm,1.6s,mb5.9						
LPAZ				LR	LR		
	comp=Z,2µm,19.0s,MS5.2						
RCBR	**Riachuelo**	**49.52**	**350**	PFAKE		20 59 00.0	+8.8
RCBR				LR	LR		
	comp=Z,2µm,22.0s,MS5.1						
TSUM	**Tsumeb**	**49.86**	**63**	P	**P**	**20 58 54.4**	**+0.7**
	comp=Z,7.9nm,0.7s,mb4.8,baz=196,slow=7.6,SNR=24						
TSUM				S	**S**	**21 06 05.2**	**+3.0**
	comp=Z,1.8nm,0.9s,baz=198,slow=5.4,SNR=4.2						
TSUM				LR	LR	21 16 47.5	
	comp=Z,1µm,18.1s,MS5.0,baz=214,slow=32						
TSUM	**Tsumeb**	**49.86**	**63**	*e*P	**P**	**20 58 53.9**	**+0.2**
	comp=Z,21nm,1.1s,mb5.1						
TSUM				LR	LR		
	comp=Z,1µm,19.0s,MS5.0						
ARE	**Arequipa**	**50.71**	**302**	*e*P	**P**	**20 59 02.0**	**+1.7**
MIR	**Mirnyy**	**50.93**	**154**	P	**P**	**20 59 01.0**	**-0.3**
MIR				*e*		21 01 06.0	
MIR				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.1						
SAML	**Samuel**	**53.65**	**316**	*e*P	**P**	**20 59 20.2**	**-2.1**
	comp=Z,125nm,1.4s,mb5.7						
SAML				LR	LR		
	comp=Z,3µm,21.0s,MS5.3						
CASY	**Casey**	**55.02**	**161**	PFAKE		20 59 40.0	+8.3
CASY				LR	LR		
	comp=Z,4µm,19.0s,MS5.5						
NNA	**Nana**	**57.18**	**299**	P	**P**	**20 59 48.0**	**+0.1**
	comp=Z,35nm,1.1s,mb5.3						
NNA				LR	LR		
	comp=Z,373nm,19.0s,MS4.5						
DRV	**Dumont d’Urvil**	**58.23**	**175**	S	**S**	**21 08 05.0**	**+10**
DRV				R		21 18 00.0	
LSZ	**Lusaka**	**58.71**	**71**	*e*P	**P**	**20 59 59.2**	**+0.6**
	comp=Z,38nm,1.5s,mb5.2						
LSZ				LR	LR		
	comp=Z,2µm,20.0s,MS5.3						
LIC	**Lamto**	**64.15**	**26**	*e*P	**P**	**21 00 34.3**	**-1.0**
	comp=Z,112nm,1.8s,mb5.6						
KIC	**Kosan Boka**	**64.35**	**26**	*e*P	**P**	**21 00 36.4**	**-0.3**
	comp=Z,143nm,1.6s,mb5.8						
TIC	**Toumodi**	**64.56**	**26**	*e*P	**P**	**21 00 36.8**	**-1.2**
	comp=Z,132nm,1.2s,mb5.8						
DBIC	**Dimbokro**	**64.62**	**26**	P	**P**	**21 00 37.8**	**-0.6**
	comp=Z,8.1nm,1.0s,mb4.7,baz=202,slow=8.4,SNR=4.5						
DBIC				S	**S**	**21 09 19.6**	**+3.1**
	comp=Z,1.1nm,0.7s,baz=219,slow=21,SNR=1.6						
DBIC				LR	LR	21 22 48.4	
	comp=Z,1µm,18.1s,MS5.2,baz=184,slow=30						
DBIC	**Dimbokro**	**64.62**	**26**	P	**P**	**21 00 37.8**	**-0.6**
DBIC				S	**S**	**21 09 19.7**	**+3.2**
DBIC				pmax	pmax		
	comp=Z,8.0nm,1.0s						
DBIC				smax			
	comp=N,1.0nm,0.7s						
DBIC				MLR	MLR		
	comp=Z,1µm,18.1s						
DBIC	**Dimbokro**	**64.62**	**26**	*e*P	**P**	**21 00 37.7**	**-0.7**
	comp=Z,18nm,1.2s,mb5.0						
DBIC				LR	LR		
	comp=Z,1µm,19.0s,MS5.2						
OTAV	**Otavalo**	**68.55**	**305**	*e*P	**P**	**21 01 04.4**	**+1.1**
	comp=Z,24nm,1.1s,mb5.0						
OTAV				LR	LR		
	comp=Z,942nm,20.0s,MS5.0						
ROSC	**El Rosal**	**70.76**	**311**	P	**P**	**21 01 15.9**	**-1.0**
	comp=Z,7.2nm,0.4s,mb5.0,baz=129,slow=23,SNR=6.5						
ROSC				S	S	21 10 32.8	+2.6
	comp=Z,5.2nm,0.3s,baz=158,slow=23,SNR=1.4						
ROSC				LR	LR	21 29 59.9	
	comp=Z,2µm,19.6s,MS5.4,baz=298,slow=34						
MBAR	**Mbarara**	**72.36**	**64**	*e*P	**P**	**21 01 24.3**	**-2.2**
	comp=Z,10nm,1.2s,mb4.6						
MBAR				LR	LR		
	comp=Z,373nm,19.0s,MS4.7						
SDV	**Santo Domingo**	**72.85**	**316**	*e*P	**P**	**21 01 28.0**	**-1.4**
	comp=Z,35nm,1.0s,mb5.2						
SDV				LR	LR		
	comp=Z,4µm,21.0s,MS5.7						
PAYG	**Puerto Ayora**	**73.71**	**293**	PFAKE		21 01 50.0	+16
PAYG				LR	LR		
	comp=Z,1µm,20.0s,MS5.2						
KMBO	**Kilima Mbogo**	**75.37**	**70**	PFAKE		21 02 00.0	+16
KMBO				LR	LR		
	comp=Z,3µm,19.0s,MS5.6						
HUMP	**Col San Antoni**	**79.60**	**324**	*e*P	**P**	**21 02 06.4**	**-0.9**
SJG	**San Juan**	**79.67**	**324**	PFAKE		21 02 20.0	+12
SJG				LR	LR		
	comp=Z,2µm,21.0s,MS5.4						
RPZ	**Rata Peaks**	**80.16**	**194**	LR	LR	21 32 52.5	
	comp=Z,2µm,20.7s,MS5.4,baz=97,slow=32						
RKT	**Rikitea**	**80.28**	**244**	*e*SS	SS	21 17 07.7	-21
RKT				*e*L		21 23 29.6	
RKT				*e*R		21 27 27.2	
	comp=Z,600nm,22.5s						
JTS	**JuntasAbangare**	**80.41**	**304**	P	**P**	**21 02 12.7**	**+1.0**
	comp=Z,7.7nm,0.3s,mb5.1,baz=16,slow=22,SNR=5.4						
JTS				S	S	21 12 12.2	-4.2
	comp=Z,6.1nm,0.2s,baz=345,slow=20,SNR=2.2						
JTS	**JuntasAbangare**	**80.41**	**304**	P	**P**	**21 02 12.7**	**+1.0**
JTS				S	S	21 12 12.2	-4.2
JTS				LR	LR		
	comp=Z,241nm,19.0s,MS4.6						
SNZO	**South Karori**	**81.94**	**197**	PFAKE		21 02 30.0	+11
SNZO				LR	LR		
	comp=Z,1µm,21.0s,MS5.3						
TAU	**Tasmania Unive**	**82.28**	**177**	PFAKE		21 02 30.0	+9.1
TAU				LR	LR		
	comp=Z,465nm,19.0s,MS4.9						
URZ	**Urewera**	**84.45**	**200**	LR	LR	21 37 53.8	
	comp=Z,1µm,18.8s,MS5.3,baz=28,slow=34						
TBI	**Tubuai**	**87.11**	**232**	*e*SS	SS	21 19 01.1	-8.4
TBI				*e*L		21 26 26.4	
TBI				*e*R		21 30 09.1	
	comp=Z,1µm,24.8s,baz=154						
NWAO	**Narrogin (SRO)**	**87.48**	**152**	P	**P**	**21 02 47.9**	**+0.8**
	comp=Z,2.8nm,0.7s,mb4.6,baz=282,slow=14,SNR=3.1						
NWAO	**Narrogin (SRO)**	**87.48**	**152**	*e*P	**P**	**21 02 47.9**	**+0.7**
	comp=Z,6.8nm,1.0s,mb4.8						
NWAO				LR	LR		
	comp=Z,762nm,20.0s,MS5.1						
PPT	**Papeete**	**92.17**	**235**	*e*SP	SP	21 15 06.9	-18
PPT				*e*L		21 29 06.6	
PPT				*e*R		21 32 24.5	
	comp=Z,1µm,23.5s,baz=152						
STKA	**Stephens Creek**	**92.93**	**172**	P	**P**	**21 03 12.2**	**-0.4**
	comp=Z,2.1nm,0.5s,mb4.8,baz=154,slow=7.5,SNR=5.0						
STKA				LR	LR	21 44 31.2	
	comp=Z,2µm,19.0s,MS5.5,baz=181,slow=35						
STKA	**Stephens Creek**	**92.93**	**172**	*e*P	**P**	**21 03 12.2**	**-0.4**
RAR	**Rarotonga**	**93.42**	**225**	LR	LR	21 35 25.6	
	comp=Z,504nm,21.9s,MS4.9,baz=169,slow=29						
DWPF	**Disney**	**94.49**	**315**	PFAKE		21 03 30.0	+10
DWPF				LR	LR		
	comp=Z,2µm,21.0s,MS5.6						
ESDC	**Sonseca Array**	**96.71**	**19**	P	**P**	**21 03 31.9**	**+2.2**
	comp=Z,1.7nm,0.9s,mb4.5,baz=182,slow=4.1,SNR=5.6						
ESDC				LR	LR	21 41 13.9	
	comp=Z,1µm,21.8s,MS5.3,baz=195,slow=32						
NHSC	**New Hope**	**98.42**	**318**	PFAKE		21 03 50.0	+12
NHSC				LR	LR		
	comp=Z,1µm,22.0s,MS5.3						
MBWA	**Marble Bar**	**99.31**	**150**	PFAKE		21 03 50.0	+8.2
MBWA				LR	LR		
	comp=Z,1µm,20.0s,MS5.5						
ASAR	**Alice Springs**	**100.09**	**164**	P	P	21 03 44.8	-0.6
	comp=Z,4.5nm,1.1s,baz=191,slow=4.3,SNR=11						
ASAR				PP	PP	21 07 48.8	-4.6
	comp=Z,1.5nm,1.0s,baz=190,slow=6.7,SNR=5.5						
ASAR				PKKP	PKKP	21 20 02.9	-0.4
	comp=Z,0.4nm,0.7s,baz=13,slow=1.5,SNR=6.1						
LRAL	**Lakeview Retre**	**101.10**	**313**	PFAKE		21 04 00.0	+10
LRAL				LR	LR		
	comp=Z,1µm,19.0s,MS5.4						
CBN	**Corbin**	**101.94**	**323**	PFAKE		21 04 00.0	+6.6
CBN				LR	LR		
	comp=Z,973nm,19.0s,MS5.3						
BLA	**Blacksburg**	**102.15**	**320**	PFAKE		21 04 10.0	+16
BLA				LR	LR		
	comp=Z,793nm,22.0s,MS5.2						
OXF	**Oxford**	**103.39**	**312**	PFAKE		21 04 10.0	+10
OXF				LR	LR		
	comp=Z,1µm,21.0s,MS5.4						
NATX	**Nacogdoches**	**103.39**	**307**	PFAKE		21 04 10.0	+10
NATX				LR	LR		
	comp=Z,629nm,21.0s,MS5.1						
WES	**Weston**	**103.77**	**329**	PFAKE		21 04 10.0	+8.6
WES				LR	LR		
	comp=Z,2µm,19.0s,MS5.6						
WRA	**Warramunga Arr**	**103.81**	**163**	Pdiff	Pdif	21 04 01.7	-0.3
	comp=Z,0.2nm,0.6s,baz=193,slow=4.4,SNR=5.1						
WRA				PP	PP	21 08 16.9	-4.5
	comp=Z,0.9nm,1.0s,baz=191,slow=6.8,SNR=4.1						
WRA	**Warramunga Arr**	**103.81**	**163**	P	Pdif	21 04 01.7	-0.3
WRA						21 08 16.9	
WRA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
WRAB	**Tennant Creek**	**103.82**	**163**	PFAKE		21 04 10.0	+7.9
WRAB				LR	LR		
	comp=Z,639nm,19.0s,MS5.2						
HRV	**Harvard--Oak R**	**103.95**	**329**	PFAKE		21 04 10.0	+7.9
HRV				LR	LR		
	comp=Z,444nm,19.0s,MS5.0						
MCWV	**Mont Chateau**	**104.11**	**322**	PFAKE		21 04 10.0	+7.1
MCWV				LR	LR		
	comp=Z,857nm,20.0s,MS5.3						
WVT	**Waverly**	**104.11**	**314**	PFAKE		21 04 10.0	+7.0
WVT				LR	LR		
	comp=Z,2µm,22.0s,MS5.6						
SSPA	**Standing Stone**	**104.29**	**323**	PFAKE		21 04 20.0	+16
SSPA				LR	LR		
	comp=Z,829nm,21.0s,MS5.2						
JCT	**Junction City**	**104.76**	**302**	PFAKE		21 04 20.0	+14
JCT				LR	LR		
	comp=Z,474nm,21.0s,MS5.0						
EMMW	**East Machias**	**104.81**	**332**	PFAKE		21 04 20.0	+14
EMMW				LR	LR		
	comp=Z,3µm,19.0s,MS5.8						
CTAO	**Charters Tower**	**104.96**	**175**	PFAKE		21 04 20.0	+13
CTAO				LR	LR		
	comp=Z,2µm,20.0s,MS5.6						
MIAR	**Mount Ida**	**105.23**	**309**	PFAKE		21 08 30.0	
MIAR				LR	LR		
	comp=Z,736nm,19.0s,MS5.2						
WVL	**Waterville**	**105.28**	**331**	PFAKE		21 08 30.0	
WVL				LR	LR		
	comp=Z,6µm,20.0s,MS6.1						
WCI	**Wyandotte Cave**	**105.30**	**316**	PFAKE		21 08 30.0	
WCI				LR	LR		
	comp=Z,976nm,20.0s,MS5.3						
LTX	**Lajitas**	**105.73**	**299**	PFAKE		21 08 40.0	
LTX				LR	LR		
	comp=Z,747nm,19.0s,MS5.2						
TXAR	**Lajitas Array**	**105.73**	**299**	Pdiff	Pdif	21 04 10.9	+0.6
	comp=Z,0.2nm,0.3s,baz=158,slow=6.7,SNR=4.6						
TXAR				PP	PP	21 08 30.3	-5.4
	comp=Z,0.7nm,0.9s,baz=156,slow=11,SNR=3.6						
ACSO	**Alum Creek Sta**	**105.76**	**320**	PFAKE		21 08 30.0	
ACSO				LR	LR		
	comp=Z,817nm,19.0s,MS5.3						
NCB	**Newcomb**	**106.09**	**327**	PFAKE		21 08 40.0	
NCB				LR	LR		
	comp=Z,929nm,22.0s,MS5.3						
FVM	**French Village**	**106.77**	**313**	*e*PKiKP		21 08 35.6	
PALK	**Pallekele**	**106.84**	**102**	PFAKE		21 08 40.0	
PALK				LR	LR		
	comp=Z,91nm,19.0s,MS4.3						
CCM	**Cathedral Cave**	**107.18**	**313**	PFAKE		21 08 40.0	
CCM				LR	LR		
	comp=Z,2µm,20.0s,MS5.6						
WMOK	**Wichita Mounta**	**107.77**	**305**	PFAKE		21 08 40.0	
WMOK				LR	LR		
	comp=Z,629nm,22.0s,MS5.1						
BRTR	**Keskin Array B**	**108.27**	**46**	PP	PP	21 08 50.8	-3.7
	comp=Z,0.4nm,0.5s,baz=198,slow=4.6,SNR=4.1						
MOX	**Moxa**	**110.56**	**26**	*e*P	PKPdf	21 07 28.0	-65
MOX				PPS	PPS	21 18 52.0	-52
MOX				L		21 53 28.0	
JFWS	**Jewell Farm**	**110.86**	**316**	PFAKE		21 08 40.0	+6.0
JFWS				LR	LR		
	comp=Z,1µm,21.0s,MS5.4						
BRG	**Berggiesshubel**	**111.37**	**27**	*e*PKIKP	PKPdf	21 08 33.6	-1.1
BRG				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ANMO	**Albuquerque**	**111.65**	**300**	PFAKE		21 08 50.0	+14
ANMO				LR	LR		
	comp=Z,652nm,20.0s,MS5.2						
TUC	**Tucson**	**111.76**	**295**	PFAKE		21 08 50.0	+14
TUC				LR	LR		
	comp=Z,496nm,21.0s,MS5.1						
ESK	**Eskdalemuir**	**111.99**	**15**	PFAKE		21 08 50.0	+14
ESK				LR	LR		
	comp=Z,281nm,19.0s,MS4.9						
SDCO	**Great Sand Dun**	**113.40**	**303**	PFAKE		21 08 50.0	+11
SDCO				LR	LR		
	comp=Z,895nm,19.0s,MS5.4						
SCHQ	**Schefferville**	**114.03**	**337**	PFAKE		21 08 50.0	+10
SCHQ				LR	LR		
	comp=Z,1µm,20.0s,MS5.5						
ISCO	**Idaho Springs**	**115.07**	**304**	PFAKE		21 08 50.0	+7.7
ISCO				LR	LR		
	comp=Z,627nm,20.0s,MS5.2						
EYMN	**Ely**	**115.53**	**318**	PFAKE		21 08 50.0	+7.0
EYMN				LR	LR		
	comp=Z,12nm,20.0s						
KIV	**Kislovodsk**	**115.58**	**49**	PFAKE		21 08 50.0	+6.8
KIV				LR	LR		
	comp=Z,126nm,20.0s,MS4.5						
PMG	**Port Moresby**	**115.61**	**175**	PFAKE		21 08 50.0	+6.0
PMG				LR	LR		
	comp=Z,1µm,19.0s,MS5.5						
PFO	**Pinyon Flat Ob**	**115.75**	**292**	PFAKE		21 08 50.0	+6.2
PFO				LR	LR		
	comp=Z,166nm,21.0s,MS4.6						
MSU	**Marysvale**	**117.29**	**299**	*e*PKPdf	PKPdf	21 08 46.5	-0.1
RSSD	**Black Hills**	**117.71**	**308**	PFAKE		21 09 00.0	+13
RSSD				LR	LR		
	comp=Z,2µm,20.0s,MS5.6						
TPNV	**Topopah Spring**	**118.19**	**295**	*e*PKPdf	PKPdf	21 08 47.0	-1.5
TPNV				LR	LR		
	comp=Z,619nm,19.0s,MS5.2						
KONO	**Kongsberg**	**118.38**	**21**	PFAKE		21 09 00.0	+12
KONO				LR	LR		
	comp=Z,1µm,20.0s,MS5.5						
DAC	**Darwin (Calif)**	**118.39**	**293**	PFAKE		21 09 00.0	+11
DAC				LR	LR		
	comp=Z,162nm,19.0s,MS4.7						
ULM	**Lac du Bonnet**	**119.09**	**317**	PP	PP	21 10 04.3	-7.2
	comp=Z,15nm,1.2s,baz=134,slow=7.7,SNR=3.9						
ULM	**Lac du Bonnet**	**119.09**	**317**	PFAKE		21 09 00.0	+10
ULM				LR	LR		
	comp=Z,1µm,19.0s,MS5.6						
BW06	**Boulder Array**	**119.25**	**303**	PFAKE		21 09 00.0	+10
BW06				LR	LR		
	comp=Z,734nm,21.0s,MS5.3						
AHID	**Auburn Hatcher**	**119.99**	**303**	PFAKE		21 09 00.0	+8.3
AHID				LR	LR		
	comp=Z,553nm,21.0s,MS5.2						
MNV	**Mina**	**120.30**	**295**	PFAKE		21 09 00.0	+7.5
MNV				LR	LR		
	comp=Z,511nm,20.0s,MS5.2						
NVAR	**Mina Array Bea**	**120.38**	**294**	PKP	PKPdf	21 08 50.1	-2.5
	comp=Z,1.0nm,0.7s,baz=140,slow=4.7,SNR=5.9						
ELK	**Elko**	**120.53**	**298**	*e*P	PKPdf	21 08 52.0	-0.9
ELK				LR	LR		
	comp=Z,646nm,20.0s,MS5.3						
LAO	**LASA Array**	**120.67**	**309**	PFAKE		21 09 00.0	+7.0
LAO				LR	LR		
	comp=Z,1µm,21.0s,MS5.6						
SAO	**San Andreas Ge**	**120.81**	**291**	PFAKE		21 09 00.0	+6.4
SAO				LR	LR		
	comp=Z,464nm,22.0s,MS5.1						
DGMT	**Dagmar**	**121.13**	**311**	PFAKE		21 09 00.0	+6.1
DGMT				LR	LR		
	comp=Z,1µm,22.0s,MS5.5						
CMB	**Columbia Colle**	**121.18**	**293**	PFAKE		21 09 00.0	+5.7
CMB				LR	LR		
	comp=Z,420nm,20.0s,MS5.1						
OBN	**Obninsk**	**122.03**	**38**	PFAKE		21 09 10.0	+15
OBN				LR	LR		
	comp=Z,119nm,19.0s,MS4.6						
HLID	**Hailey**	**122.20**	**301**	PFAKE		21 09 10.0	+14
HLID				LR	LR		
	comp=Z,565nm,22.0s,MS5.2						
HOPS	**Hopland**	**123.31**	**292**	PFAKE		21 09 10.0	+12
HOPS				LR	LR		
	comp=Z,536nm,20.0s,MS5.2						
WVOR	**Wild Horse Val**	**123.49**	**297**	*e*PKPdf	PKPdf	21 08 57.5	-1.1
WVOR				LR	LR		
	comp=Z,486nm,20.0s,MS5.2						
FINES	**FINESS Array B**	**123.89**	**28**	PKP	PKPdf	21 08 56.7	-2.2
	comp=Z,3.3nm,1.1s,baz=135,slow=2.7,SNR=6.8						
FINES	**FINESS Array B**	**123.89**	**28**	PKIKP	PKPdf	21 08 56.7	-2.2
FINES				pmax	pmax		
	comp=Z,3.0nm,1.1s						
FINES	**FINESS Array B**	**123.89**	**28**	PKP	PKPdf	21 08 56.7	-2.2
MOD	**Modoc**	**123.97**	**296**	PFAKE		21 09 10.0	+10
MOD				LR	LR		
	comp=Z,438nm,20.0s,MS5.1						
CHMT	**Chamberlain Mo**	**124.08**	**304**	*e*PKPdf	PKPdf	21 08 57.6	-2.0
WDC	**Whiskeytown Da**	**124.18**	**293**	*e*PKPdf	PKPdf	21 08 58.6	-1.4
WDC				LR	LR		
	comp=Z,289nm,19.0s,MS5.0						
MSO	**Missoula**	**124.35**	**304**	*e*PKPdf	PKPdf	21 08 59.1	-1.1
MSO				LR	LR		
	comp=Z,560nm,21.0s,MS5.2						
KOLN	**Koldanda**	**124.77**	**90**	*e*P	PKPdf	21 08 59.1	-2.3
	comp=Z,20nm,0.9s						
FFC	**Flin Flon**	**124.92**	**317**	PFAKE		21 09 10.0	+9.1
FFC				LR	LR		
	comp=Z,199nm,21.0s,MS4.8						
YBH	**Yreka Blue Hor**	**125.10**	**294**	PFAKE		21 09 10.0	+8.4
YBH				LR	LR		
	comp=Z,308nm,21.0s,MS5.0						
DMN	**Daman**	**125.51**	**92**	*e*P	PKPdf	21 09 01.2	-1.6
	comp=Z,29nm,1.2s						
GKN	**Gorkha**	**125.54**	**91**	*e*P	PKPdf	21 09 01.0	-1.8
	comp=Z,27nm,1.1s						
PKI	**Pulchoki**	**125.66**	**92**	*e*P	PKPdf	21 09 02.3	-0.8
KKN	**Kakani**	**125.75**	**92**	*e*P	PKPdf	21 09 02.0	-1.2
	comp=Z,12nm,0.9s						
HUMO	**Hull Mountain**	**125.85**	**295**	*e*PKPdf	PKPdf	21 09 02.0	-1.0
HUMO				LR	LR		
	comp=Z,425nm,21.0s,MS5.1						
CM31	**Chiang Mai Arr**	**126.05**	**111**	*e*PKPpre		21 08 57.7	
CM31				*e*PKPdf	PKPdf	21 09 02.5	-1.6
CM31				LR	LR		
	comp=Z,786nm,19.0s,MS5.4						
CMAR	**Chiang Mai Arr**	**126.05**	**111**	PKP	PKPdf	21 09 02.5	-1.5
	comp=Z,3.4nm,0.9s,baz=234,slow=3.8,SNR=18						
CMAR				PP	PP	21 10 55.3	-3.8
	comp=Z,1.1nm,1.1s,baz=214,slow=6.5,SNR=2.6						
CMAR	**Chiang Mai Arr**	**126.05**	**111**	PKIKP	PKPdf	21 09 02.5	-1.5
CMAR						21 10 55.3	
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
CMAR				pmax	pmax		
	comp=Z,1.0nm,1.1s						
HAWA	**Hanford**	**126.76**	**300**	PFAKE		21 09 10.0	+5.5
HAWA				LR	LR		
	comp=Z,47nm,21.0s						
NEW	**Newport**	**126.89**	**303**	PFAKE		21 09 10.0	+5.3
NEW				LR	LR		
	comp=Z,1µm,21.0s,MS5.5						
COR	**Corvallis**	**127.41**	**296**	PFAKE		21 09 20.0	+14
COR				LR	LR		
	comp=Z,717nm,19.0s,MS5.4						
SUMG	**Summit**	**127.59**	**356**	*e*PKPdf	PKPdf	21 09 06.5	+0.9
SHL	**Shillong**	**127.82**	**99**	*e*P	PKPdf	21 09 07.5	+0.2
LON	**Longmire**	**128.14**	**299**	*e*PKPdf	PKPdf	21 09 05.9	-1.4
NLW	**Nelson Butte**	**128.32**	**301**	*e*PKPdf	PKPdf	21 09 06.3	-1.4
EDM	**Edmonton**	**128.57**	**310**	*e*PKPdf	PKPdf	21 09 06.0	-1.9
BMW	**Boistfort Moun**	**128.67**	**298**	*e*PKPdf	PKPdf	21 09 07.9	-0.5
KSH	**Kashi**	**128.99**	**75**	*e*PKP	PKPdf	21 09 10.1	+0.9
KSH				*e*PP	PP	21 11 21.1	+2.9
KSH				*e*PKS	PKS	21 12 45.1	+3.7
KSH				*e*PPP	PPP	21 14 08.1	+3.9
KSH				*e*SKS	SKS	21 16 20.0	+2.9
KSH				*e*SKKS		21 18 12.3	
OCWA	**Octopus Mounta**	**130.01**	**299**	PFAKE		21 09 20.0	+9.1
OCWA				LR	LR		
	comp=Z,778nm,20.0s,MS5.4						
AAK	**Ala-Archa**	**130.33**	**71**	*e*PKIKP	PKPdf	21 09 09.0	-2.6
AAK	**Ala-Archa**	**130.33**	**71**	*e*PKPdf	PKPdf	21 09 09.2	-2.4
AAK				LR	LR		
	comp=Z,145nm,19.0s,MS4.7						
ARCES	**ARCESS Array B**	**130.34**	**22**	PKP	PKPdf	21 09 10.0	-1.0
	comp=Z,11nm,1.1s,baz=180,slow=2.4,SNR=7.3						
ARCES	**ARCESS Array B**	**130.34**	**22**	PKIKP	PKPdf	21 09 10.0	-0.9
ARCES				pmax	pmax		
	comp=Z,11nm,1.1s						
FRU	**Bishkek**	**130.53**	**71**	*e*PKIKP	PKPdf	21 09 10.0	-2.0
LSA	**Lhasa**	**130.55**	**95**	PKP	PKPdf	21 09 12.0	-0.4
LSA	**Lhasa**	**130.55**	**95**	PFAKE		21 09 20.0	+7.6
LSA				LR	LR		
	comp=Z,567nm,19.0s,MS5.3						
ARU	**Arti**	**131.59**	**48**	*e*PKIKP	PKPdf	21 09 12.9	-0.7
QIZ	**Qiongzhong**	**132.13**	**122**	*e*PKP	PKPdf	21 09 11.0	-4.7
QIZ				PP	PP	21 11 37.9	-0.7
QIZ				LR	LR		
	comp=N,418nm,22.6s,MS5.2						
QIZ				LR	LR		
	comp=E,372nm,24.1s,MS5.2						
QIZ				LR	LR		
	comp=Z,746nm,23.1s,MS5.3						
QIZ	**Qiongzhong**	**132.13**	**122**	PFAKE		21 09 30.0	+14
QIZ				LR	LR		
	comp=Z,803nm,22.0s,MS5.4						
SVE	**Sverdlovsk**	**132.73**	**48**⇑	*e*PKIKP	PKPdf	21 09 13.5	-2.3
SVE				pmax	pmax		
	comp=Z,480nm,2.4s						
KMI	**Kunming**	**133.50**	**110**	*e*PKP	PKPdf	21 09 18.6	+0.6
KMI				PP	PP	21 11 48.3	+1.2
KMI				PKS	PKS	21 12 51.9	+1.8
KMI				SKKS		21 18 36.8	
KMI				SS	SS	21 29 36.4	+6.8
KMI				PP	PP		
	comp=Z,89nm,7.9s						
KMI				LR	LR		
	comp=N,432nm,24.5s,MS5.2						
KMI				LR	LR		
	comp=E,378nm,25.4s,MS5.2						
KMI				LR	LR		
	comp=Z,777nm,26.0s,MS5.3						
ZRNK	**Zerenda**	**134.16**	**57**	*e*PKPdf	PKPdf	21 09 17.2	-1.2
BRVK	**Borovoye**	**134.84**	**57**	*e*P	PKPdf	21 09 19.2	-0.6
BRVK				LR	LR		
	comp=Z,141nm,19.0s,MS4.7						
YKA	**Yellowknife Ar**	**135.01**	**319**	PKP	PKPdf	21 09 17.4	-2.5

	comp=Z,2.3nm,0.6s,baz=131,slow=2.2,SNR=5.7						
YKA	**Yellowknife Ar**	**135.01**	**319**	PKIKP	PKPdf	21 09 17.4	-2.4
YKA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
GYA	**Guiyang**	**136.67**	**113**	PKP	PKPdf	21 09 23.5	-0.3
GYA				PKS	PKS	21 12 56.8	+0.9
GYA				PP	PP		
	comp=Z,170nm,9.3s						
GYA				LR	LR		
	comp=N,350nm,18.9s,MS5.2						
GYA				LR	LR		
	comp=E,220nm,16.5s,MS5.2						
GYA				LR	LR		
	comp=Z,410nm,19.2s,MS5.2						
MKAR	**Makanchi Array**	**137.25**	**71**	PKhKP		21 09 13.8	
	comp=Z,0.5nm,0.7s,SNR=4.0						
MKAR				PKP	PKPdf	21 09 22.2	-2.1
	comp=Z,0.9nm,0.7s,baz=135,slow=1.7,SNR=6.4						
MKAR	**Makanchi Array**	**137.25**	**71**	PKHKP		21 09 13.8	
MKAR						21 09 22.2	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**137.25**	**71**	PKP	PKPdf	21 09 22.2	-2.1
KURK	**Kurchatov**	**137.63**	**64**	*e*PKIKP	PKPdf	21 09 23.6	-1.4
KURK	**Kurchatov**	**137.63**	**64**	*e*PKPdf	PKPdf	21 09 23.1	-1.9
KURK				LR	LR		
	comp=Z,249nm,20.0s,MS5.0						
WMQ	**Urumqi**	**138.40**	**78**	*e*PKP	PKPdf	21 09 27.6	+1.0
WMQ				PP	PP	21 12 21.4	+3.9
WMQ				PPP	PPP	21 15 23.3	+4.0
WMQ				SKKS		21 19 11.4	
WMQ				PP	PP		
	comp=Z,52nm,6.0s						
WMQ				LR	LR		
	comp=N,262nm,18.0s,MS5.1						
WMQ				LR	LR		
	comp=E,220nm,20.0s,MS5.1						
WMQ				LR	LR		
	comp=Z,238nm,18.8s,MS5.0						
CD2	**Chengdu**	**138.58**	**106**	*e*PKP	PKPdf	21 09 26.3	-1.0
SIT	**Sitka**	**140.97**	**304**	PFAKE		21 09 40.0	+9.3
SIT				LR	LR		
	comp=Z,1μm,20.0s,MS5.7						
ENH	**Enshi**	**141.20**	**112**	PFAKE		21 09 40.0	+8.1
ENH				LR	LR		
	comp=Z,537nm,19.0s,MS5.3						
NVS	**Novosibirsk**	**142.22**	**61**	*e*PKIKP	PKPdf	21 09 27.8	-5.1
NVS				*e*		21 12 39.1	
NVS				pmax	pmax		
	comp=Z,16nm,1.4s						
NVS				pmax	pmax		
	comp=N,8.0nm,1.5s						
NVS				pmax	pmax		
	comp=E,9.0nm,1.6s						
LZH	**Lanzhou**	**142.46**	**100**	*e*PKP	PKPdf	21 09 35.0	+1.1
LZH				LR	LR		
	comp=N,730nm,18.2s						
LZH				LR	LR		
	comp=Z,1μm,21.0s,MS5.7						
LZH	**Lanzhou**	**142.46**	**100**	*e*PKP	PKPdf	21 09 35.0	+1.1
LZH				pPKP		21 09 42.0	
LZH				sPKP		21 09 46.0	
LZH				PP	PP	21 12 38.0	-4.1
LZH				SKKS		21 19 25.0	
LZH				*e*SS	SS	21 30 58.0	-17
LZH				LR	LR		
	comp=Z,1μm,21.0s,MS5.7						
GTA	**Gaotai**	**142.47**	**93**	*e*PKP	PKPdf	21 09 33.3	-0.5
GTA				PP	PP	21 12 43.1	+1.1
GTA				PKS	PKS	21 13 07.4	+2.1
GTA				PPP	PPP	21 15 53.3	+1.4
GTA				SKS	SKS	21 16 41.5	-1.4
GTA				SKKS		21 19 33.0	
GTA				SS	SS	21 31 21.8	+6.7
GTA				PP	PP		
	comp=Z,103nm,8.4s						
GTA				LR	LR		
	comp=N,159nm,19.0s,MS5.0						
GTA				LR	LR		
	comp=E,180nm,18.3s,MS5.0						
GTA				LR	LR		
	comp=Z,261nm,18.2s,MS5.0						
WHN	**Wuhan**	**143.95**	**118**	*e*PKP	PKPdf	21 09 34.0	-2.6
INK	**Inuvik**	**144.63**	**322**	PKP	PKPdf	21 09 33.9	-2.8
	comp=Z,55nm,1.1s,baz=116,slow=5.3,SNR=30						
INK	**Inuvik**	**144.63**	**322**	PKIKP	PKPdf	21 09 33.9	-2.8
INK				pmax	pmax		
	comp=Z,55nm,1.2s						
INK	**Inuvik**	**144.63**	**322**	*e*PKPdf	PKPdf	21 09 33.6	-3.1
MIDW	**Midway**	**145.01**	**233**	PFAKE		21 09 50.0	+14
MIDW				LR	LR		
	comp=Z,2μm,22.0s,MS5.8						
DAWY	**Dawson**	**145.64**	**313**	*e*PKPdf	PKPdf	21 09 36.7	-1.8
NJ2	**Nanjing**	**147.42**	**122**	*e*PKP	PKPdf	21 09 43.1	+0.6
NJ2				PKP2	PKPab	21 09 50.6	+4.5
NJ2				PKS	PKS	21 13 17.0	+3.6
NJ2				SKS	SKS	21 16 46.0	-4.3
NJ2				PP	PP		
	comp=Z,240nm,9.5s						
NJ2				LR	LR		
	comp=N,240nm,22.5s,MS5.5						
NJ2				LR	LR		
	comp=E,900nm,26.0s,MS5.5						
NJ2				LR	LR		
	comp=Z,270nm,27.1s,MS4.9						
DIV	**Divide**	**147.54**	**307**	*e*PKPbc	PKPdf	21 09 43.1	+1.3
DIV				LR	LR		
	comp=Z,2μm,20.0s,MS5.9						
SSE	**Sheshan**	**147.75**	**126**	PKP	PKPdf	21 09 46.8	+3.7
SSE				PP	PP	21 13 20.8	+6.8
SSE				PP	PP		
	comp=Z,145nm,10.8s						
SSE				LR	LR		
	comp=N,456nm,18.5s,MS5.4						
SSE				LR	LR		
	comp=E,287nm,18.4s,MS5.4						
SSE				LR	LR		
	comp=Z,684nm,17.9s,MS5.5						
THY	**Trims Highway**	**148.18**	**311**	*e*PKPab	PKPab	21 09 49.2	+1.2
SML	**Sawmill**	**148.91**	**307**	*e*PKPbc	PKPdf	21 09 45.9	+2.0
ILAR	**Eielson Array**	**148.97**	**313**	PKP	PKPdf	21 09 41.4	-2.6
	comp=Z,2.0nm,1.1s,baz=330,slow=1.4,SNR=5.7						
ILAR				PKPbc	PKPdf	21 09 46.2	+2.2
	comp=Z,37nm,0.8s,baz=125,slow=1.5,SNR=133						
ILAR	**Eielson Array**	**148.97**	**313**	PKIKP	PKPdf	21 09 41.4	-2.6
ILAR						21 09 46.2	
ILAR				pmax	pmax		
	comp=Z,2.0nm,1.1s						
ILAR				pmax	pmax		
	comp=Z,37nm,0.8s						
BTO	**Baotou**	**149.09**	**101**	*e*PKP	PKPdf	21 09 48.9	+4.0
PMR	**Palmer**	**149.22**	**307**	*e*PKPbc	PKPdf	21 09 46.2	+1.8
PMR				LR	LR		
	comp=Z,623nm,22.0s,MS5.4						
COLA	**College**	**149.39**	**313**	*e*PKPbc	PKPdf	21 09 47.4	+2.8
COLA				LR	LR		
	comp=Z,700nm,21.0s,MS5.4						
FIB	**Fire Island**	**149.59**	**305**	PFAKE		21 10 00.0	+15
FIB				LR	LR		
	comp=Z,842nm,19.0s,MS5.6						
MCK	**McKinley**	**149.63**	**311**	*e*PKPbc	PKPdf	21 09 46.6	+1.5
MCK				LR	LR		
	comp=Z,295nm,21.0s,MS5.1						
KDAK	**Kodiak Island**	**149.77**	**298**	*e*PKPbc	PKPdf	21 09 49.6	+4.2
KDAK				LR	LR		
	comp=Z,184nm,21.0s,MS4.8						
TIA	**Tai'an**	**149.83**	**114**	*e*PKP	PKPdf	21 09 45.4	-0.8
HHC	**Hu-ho-hao-te**	**150.12**	**102**	*e*PKP	PKPdf	21 09 51.6	+5.1
HHC				LR	LR		
	comp=N,137nm,22.0s,MS4.8						
HHC				LR	LR		
	comp=E,111nm,22.0s,MS4.8						
HHC				LR	LR		
	comp=Z,155nm,23.2s,MS4.7						
MOY	**Mondy**	**150.18**	**75**	*e*PKIKP	PKPdf	21 09 51.3	+5.0
SPU	**Mount Spurr**	**150.48**	**305**	*e*PKPbc	PKPdf	21 09 50.5	+4.1
ZAK	**Zakamensk**	**150.86**	**79**	*e*PKIKP	PKPdf	21 09 36.0	-11
SONM	**Songino Array**	**151.36**	**86**	PKP	PKPdf	21 09 47.3	-0.8
	comp=Z,2.3nm,0.9s,baz=180,slow=3.7,SNR=9.4						
SONM				PKPbc	PKPdf	21 09 53.1	+5.0
	comp=Z,10nm,0.7s,baz=226,slow=2.6,SNR=39						
ULN	**Ulaanbaatar**	**151.75**	**86**	PFAKE		21 10 00.0	+11
ULN				LR	LR		
	comp=Z,466nm,20.0s,MS5.3						
IMA	**Indian Mountai**	**151.96**	**315**	*e*PKPbc	PKPdf	21 09 54.6	+6.1
BJT	**Baijiatuau**	**152.11**	**108**	*e*PKPbc	PKPdf	21 09 55.2	+5.6
BJT				LR	LR		
	comp=Z,542nm,20.0s,MS5.4						
INCN	**Inchon**	**155.55**	**126**	PFAKE		21 10 00.0	+5.7
INCN				LR	LR		
	comp=Z,543nm,20.0s,MS5.4						
TNA	**Tin City**	**157.83**	**314**	PFAKE		21 10 10.0	+14
TNA				LR	LR		
	comp=Z,382nm,19.0s,MS5.2						
BOD	**Bodaibo**	**159.25**	**67**	*e*PKIKP	PKPdf	21 09 56.7	-1.7
MAJO	**Matsushiro**	**159.28**	**148**	PFAKE		21 10 10.0	+11
MAJO				LR	LR		
	comp=Z,372nm,20.0s,MS5.2						
CN2	**Changchun**	**159.72**	**113**	*e*PKP	PKPdf	21 09 59.8	+0.5
CN2				PP	PP	21 14 22.8	+3.2
CN2				PPP		21 16 17.8	
CN2				PP	PP		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,400nm,21.0s,MS5.3						
CN2				LR	LR		
	comp=E,200nm,21.0s,MS5.3						
CN2				LR	LR		
	comp=Z,400nm,24.0s,MS5.2						
HIA	**Hailar**	**159.75**	**94**	PFAKE		21 10 10.0	+11
HIA				LR	LR		
	comp=Z,752nm,21.0s,MS5.5						
TIXI	**Tiksi**	**160.78**	**22**	PFAKE		21 10 10.0	+10
TIXI				LR	LR		
	comp=Z,491nm,22.0s						
MDJ	**Mudanjiang**	**162.44**	**118**	PKP	PKPdf	21 10 01.8	-0.2
MDJ				LR	LR		
	comp=N,499nm,20.2s						
MDJ				LR	LR		
	comp=E,189nm,21.1s						
MDJ				LR	LR		
	comp=Z,742nm,21.1s						
MDJ	**Mudanjiang**	**162.44**	**118**	PFAKE		21 10 10.0	+8.0
MDJ				LR	LR		
	comp=Z,778nm,20.0s						
ERM	**Erimo**	**165.77**	**154**	PFAKE		21 10 20.0	+15
ERM				LR	LR		
	comp=Z,85nm,22.0s						
KLR	**Kul'dur**	**166.50**	**108**	*e*PKIKP	PKPdf	21 10 03.5	-2.2
SMY	**Shemya**	**166.53**	**269**	PFAKE		21 10 20.0	+14
SMY				LR	LR		
	comp=Z,2μm,21.0s						
YAK	**Yakutsk**	**166.69**	**50**	PFAKE		21 10 20.0	+15
YAK				LR	LR		
	comp=Z,549nm,21.0s						
YSS	**Yuzh-Sakhalins**	**170.12**	**142**	⇑*e*PKIKP	PKPdf	21 10 08.4	+0.4
YSS				MLR	MLR		
	comp=Z,300nm,20.0s						
YSS	**Yuzh-Sakhalins**	**170.12**	**142**	PFAKE		21 10 20.0	+12
YSS				LR	LR		
	comp=Z,746nm,19.0s						
PET	**Petropavlovsk**	**175.33**	**246**	PFAKE		21 10 20.0	+10
PET				LR	LR		
	comp=Z,622nm,20.0s						
MA2	**Magadan**	**175.51**	**5**	PFAKE		21 10 20.0	+10
MA2				LR	LR		
	comp=Z,352nm,21.0s						

DJA 22 20:53:19.5±0.9**,8.55S**×**116.17E,h107**^{km}±6^{km}**,MD4.6**/4**,**
ML4.3/2**,5C-3D,Error ellipse: s-maj=29.7km**
s-min=14.3km az=173.0,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**0.08**	**318**	⇑*i*Pn	P	20 53 34.0	-0.4
	278nm,0.2s						
KEDI				⇓*i*Sn	S	20 53 45.1	-0.4
RATI	**Rata**	**0.65**	**254**	⇑*i*Pn	P	20 53 36.9	-0.4
	822nm,0.2s						
RATI				⇓*i*Sn	S	20 53 49.9	-0.9
INGI	**Ingas**	**1.05**	**255**	⇑*i*Pn	P	20 53 40.6	-0.6
	1μm,0.2s						
INGI				⇓*i*Sn	S	20 53 57.0	-0.6
KELI	**Kelakatan**	**1.69**	**281**	⇑*i*Pn	P	20 53 48.8	-0.1
	106nm,0.2s						
KELI				⇑*i*Sn	S	20 54 08.8	-2.1

IDC 22 21:07:31.2±1.7**,55.25S**×**28.65W,mb3.7**/1**,mb1 3.7**/1**,**
mb1mx3.6/10**,2C,Error ellipse: s-maj=172.0km**
s-min=48.7km az=53.0,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA3	**Neumayer Olymp**	**18.02**	**160**		P	21 11 48.6	+4.3
VNA2	**Neumayer--Watz**	**18.25**	**158**	⇑*i*	P	21 11 50.1	+3.0
SNAA	**Sanae**	**19.81**	**156**	⇑*i*	P	21 12 03.2	-2.5
MAW	**Mawson**	**41.28**	**145**	P	P	21 15 17.5	-1.8
	0.6nm,0.5s,baz=261,slow=9.1,SNR=2.8						
ILAR	**Eielson Array**	**148.96**	**313**	PKPbc	PKPdf	21 27 18.9	+1.8
	1.9nm,1.1s,baz=125,slow=1.2,SNR=6.3						
SONM	**Songino Array**	**151.50**	**86**	PKPbc	PKPdf	21 27 26.1	+4.5
	0.5nm,0.6s,baz=225,slow=4.1,SNR=2.7						

IDC 22 21:24:60.0±15.0**,11.84S**×**166.39E,h249**^{km}±158^{km}**,**
mb3.4/5**,mb1 3.6**/5**,mb1mx3.3**/15**,1C,Error ellipse:**
s-maj=149.0km s-min=51.7km az=144.0,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**6.06**	**163**	⇑*i*P	P	21 25 39.2	-50
BKM				S		21 25 58.9	
CTA	**Charters Tower**	**21.01**	**245**	P	P	21 29 25.0	0.0
	4.2nm,0.8s,baz=78,slow=12,SNR=3.3						
WB2	**Warramunga Arr**	**31.80**	**251**	*e*P	P	21 31 01.6	-2.0
WRA	**Warramunga Arr**	**31.82**	**251**	P	P	21 31 01.7	-2.0
	0.5nm,0.4s,baz=80,slow=9.2,SNR=17						
ASAR	**Alice Springs**	**33.01**	**245**	P	P	21 31 11.4	-2.5
	0.7nm,0.4s,baz=73,slow=9.7,SNR=12						
ASAR				pP	pP	21 31 55.5	-8.8
	0.7nm,0.8s,baz=76,slow=8.7,SNR=4.0						
FITZ	**Fitzroy Crossi**	**39.79**	**256**	*e*P	P	21 32 10.9	+0.2
	1.3nm,0.6s						
FITZ	**Fitzroy Crossi**	**39.79**	**256**	P	P	21 32 10.1	-0.7
	2.5nm,0.7s,baz=67,slow=3.7,SNR=7.6						
ILAR	**Eielson Array**	**84.07**	**18**	P	P	21 37 02.4	-1.2
	1.1nm,0.7s,baz=244,slow=5.9,SNR=7.8						

KRSC 22 22:21:37.0±0.5**,55.64N**×**160.51E,h195**^{km}±2^{km}**,ML3.8,**
Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMNR	**Kamenistaya**	**0.19**	**307**	*i* P	P	22 22 03.4	+0.4
KPT	**Kopyto**	**0.36**	**334**	*i* P	P	22 22 03.5	+0.1
ZLN	**Zelenaya**	**0.41**	**24**	*i* P	P	22 22 04.5	+0.9
ZLN				*e*S	S	22 22 25.2	+1.1
TUMR	**Tumrok**	**0.41**	**210**	*i* P	P	22 22 04.7	+1.1
TUMR				*e*S	S	22 22 24.7	+0.6
LGNR	**Loginova**	**0.46**	**13**	*i* P	P	22 22 04.8	+1.1
LGNR				*e*S	S	22 22 24.8	+0.5
CIRR	**Tsirk**	**0.49**	**16**	*i* P	P	22 22 04.7	+0.9
CIRR				*e*S	S	22 22 25.4	+0.8
KOZ	**Kozyrevsk**	**0.55**	**320**	*i* P	P	22 22 04.1	0.0
KOZ				*e*S	S	22 22 24.5	-0.5
KRSR	**Krestovskiy**	**0.58**	**3**	*e*P	P	22 22 04.2	0.0
KRSR				*e*S	S	22 22 25.1	-0.1
KLY	**Klyuchi**	**0.68**	**7**	*i* P	P	22 22 05.1	+0.5
KLY				*e*S	S	22 22 26.1	+0.1
SRDR	**Sredinnyy**	**0.81**	**327**	*i* P	P	22 22 05.2	-0.1
SRDR				*e*S	S	22 22 25.8	-1.4
SVLR	**Shiveluch**	**1.02**	**23**	*i* P	P	22 22 07.5	+1.0
SVLR				*e*S	S	22 22 30.0	+0.6
ESO	**Esso**	**1.06**	**286**	*i* P	P	22 22 06.5	-0.4
ESO				*i* S	S	22 22 28.0	-2.0
ESO				Smax			
	110nm,0.7s						
MKZ	**Mys Kozlova**	**1.29**	**147**	*e*P	P	22 22 09.2	+0.4
MKZ				*e*S	S	22 22 32.6	-0.8
KBG	**Krutoberegovo**	**1.38**	**63**	*i* P	P	22 22 10.3	+0.7
KBG				*i* S	S	22 22 34.3	-0.4
KBG				Smax			
	700nm,0.9s						
KBTR	**Krutoberegovo**	**1.42**	**65**	*i* P	P	22 22 10.3	+0.4
KBTR				*i* S	S	22 22 34.7	-0.6
GNL	**Ganaly**	**2.45**	**218**	*i* P	P	22 22 22.0	+1.5
GNL				*e*S	S	22 22 55.6	+1.5
SDLR	**Sedlovina**	**2.55**	**203**	*e*S	S	22 22 57.6	+1.5
SPN	**Mys Shipunski**	**2.56**	**187**	*i* P	P	22 22 21.2	-0.6
SPN				*e*S	S	22 22 53.5	-2.9
NLC	**Nalytchevo**	**2.57**	**196**	*e*P	P	22 22 22.5	+0.7
NLC				*e*S	S	22 22 55.4	-1.0
SMAR	**Somma**	**2.58**	**203**	*e*P	P	22 22 24.1	+2.1
AVH	**Avacha**	**2.59**	**204**	*e*P	P	22 22 24.5	+2.3
AVH				*e*S	S	22 22 58.9	+1.9
KOK	**Koryaka**	**2.59**	**206**	*e*P	P	22 22 24.6	+2.4
APC	**Apacha**	**3.36**	**217**	*e*P	P	22 22 33.2	+2.0
RUS	**Russkaya**	**3.42**	**201**	*e*P	P	22 22 32.4	+0.3
RUS				*i* S	S	22 23 12.5	-2.1

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*TAP **22** 22:22:07.0,24.46N×122.27E,h13^{km},ML2.6*
JMA 22 22:22:06.6±0.1**,24.91N**×**122.44E,h28**^{km}**,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.69**	**131**	P	Pb	22 22 19.6	-0.3
YOJ				S	Sb	22 22 28.8	-0.2
IRIF	**Iriomote-Funau**	**1.31**	**116**	P	Pn	22 22 29.3	0.0
IRIF				*e*S	Sn	22 22 45.7	-0.2
HATJ	**Hateruma jima**	**1.51**	**124**	*e*S	Sn	22 22 51.5	+0.5
JKRS	**Kuro-shima**	**1.58**	**115**	P	Pn	22 22 33.6	+0.4
JKRS				*e*S	Sn	22 22 52.7	-0.1
JIJ	**Ishigaki jima**	**1.64**	**109**	*e*S	Sn	22 22 54.3	-0.2

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*TAP **22** 22:27:48.7,24.47N×122.28E,h10^{km},ML2.9*
JMA 22 22:27:48.4±0.1**,24.91N**×**122.45E,h29**^{km}**,M1.8,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.68**	**131**	P	Pb	22 28 01.3	-0.3
YOJ				S	Sb	22 28 10.4	-0.3
IRIF	**Iriomote-Funau**	**1.30**	**116**	P	Pn	22 28 10.9	0.0
IRIF				*e*S	Sn	22 28 27.4	0.0
HATJ	**Hateruma jima**	**1.50**	**124**	*e*S	Sn	22 28 33.2	+0.7
JKRS	**Kuro-shima**	**1.57**	**115**	P	Pn	22 28 15.1	+0.3
JKRS				*e*S	Sn	22 28 34.3	0.0
JIJ	**Ishigaki jima**	**1.63**	**109**	*e*S	Sn	22 28 35.8	-0.1

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*LDG **22** 22:38:53.5±0.5,42.85N×1.45W,h2^{km},Md2.4/3,Ml2.0/3,*
Error ellipse: s-maj=7.4km s-min=5.0km az=56.0
*STR **22** 22:38:53.1±0.2,43.37N×0.71W,h10^{km}±1^{km},Ml2.2,Error*
ellipse: s-maj=0.0km s-min=0.0km az=1.0
MDD 22 22:38:54.3±0.6**,42.87N**×**1.41W,h8**^{km}±5^{km}**,mbLg1.3**/6**,**
Error ellipse: s-maj=4.5km s-min=3.2km az=44.0,
PRXIMO AftershockPLICA,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	**0.28**	**29**	*e*Pg	Pg	22 38 59.7	-0.4
SJPF				*e*Sg	Sg	22 39 02.5	-1.4
	15nm,0.3s						
LARF	**Larrau**	**0.35**	**61**	Pg	Pg	22 39 01.1	-0.4
LARF				Sg	Sg	22 39 07.1	+0.8
EALK	**Alkurruntz**	**0.36**	**349**	Pg	Pg	22 39 01.0	-0.6
	SNR=7.9						
EALK				Lg		22 39 06.4	
	6.5nm,0.2s,SNR=7.9						
OSSF	**Osses**	**0.40**	**16**	Pg	Pg	22 39 01.7	-0.8
OSSF				Sg	Sg	22 39 07.8	-0.1
ETSF	**Etsaut**	**0.63**	**87**	*e*Pg	Pg	22 39 05.4	-1.5
ETSF				*e*Sg	Sg	22 39 14.2	-1.1
	3.5nm,0.2s						
ETSF				*e*Sn	Sn	22 39 15.9	-3.3
EPF	**Esparros**	**1.29**	**82**	*e*Pn	Pn	22 39 17.6	-1.0
EPF				*e*Pg	Pg	22 39 19.8	-0.4
EPF				*e*Sg	Sg	22 39 35.9	-1.6
	1.7nm,0.2s						
ESAC	**San Caprasio**	**1.34**	**148**	Pg	Pg	22 39 18.0	-3.1
	SNR=7.9						
ESAC				Lg		22 39 36.9	
	4.4nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**1.53**	**284**	Pg	Pg	22 39 22.1	-2.7
	SNR=7.9						
ELAN				Lg		22 39 44.2	
	1.1nm,0.2s,SNR=7.9						
LFF	**La Frestale**	**2.59**	**36**	*e*Pn	Pn	22 39 35.0	-2.2
LFF				*e*Sn	Sn	22 40 05.4	-3.7
LFF				*e*Sg	Sg	22 40 14.3	-6.2
	4.5nm,0.2s						
RJF	**Les Rejaudoux**	**3.22**	**40**	*e*Pn	Pn	22 39 43.1	-3.1
RJF				*e*Sn	Sn	22 40 20.8	-4.3
	0.7nm,0.2s						

IDC 22 23:05:25.9±4.7**,6.76S**×**127.41E,h379**^{km}±56^{km}**,mb3.1**/2**,**
mb1 3.4/4**,mb1mx3.1**/10**,Error ellipse: s-maj=138.0km**
s-min=14.7km az=66.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.72**	**153**	P	P	23 08 35.3	-3.5
	1.0nm,0.3s,baz=330,slow=13,SNR=58						
WRA				S	S	23 11 12.7	-0.8
	0.2nm,0.3s,baz=330,slow=20,SNR=50						
ASAR	**Alice Springs**	**17.93**	**160**	P	P	23 09 11.2	-0.4
	1.1nm,0.3s,baz=342,slow=11,SNR=54						
ASAR				S	S	23 12 18.1	+4.1
	0.1nm,0.3s,baz=336,slow=23,SNR=5.3						
STKA	**Stephens Creek**	**28.28**	**154**	P	P	23 10 45.8	-2.2
	0.7nm,0.5s,baz=326,slow=7.3,SNR=2.6						
MKAR	**Makanchi Array**	**66.64**	**328**	P	P	23 15 37.0	-1.6
	0.5nm,0.4s,baz=116,slow=8.2,SNR=13						

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*NEIC **22** 23:08:51.5±1.4,19.07S×69.46W,h103^{km}±16^{km},mb4.2/2,*
Error ellipse: s-maj=25.6km s-min=14.2km az=210.0
*IDC **22** 23:08:53.5±5.6,19.02S×69.30W,h120^{km}±35^{km},mb4.2/2,*
mb1 3.9/4,mb1mx3.6/15,Error ellipse: s-maj=73.0km
s-min=34.4km az=43.0
ISC 22 23:08:50.6±0.7**,18.73S**±0.10×**69.17W**±0.10**,h100**^{km}**,n16,**
σ**1**^{s}**31**/16**,mb5.0**/4**,3C-2D,Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.62**	**22**	P	**P**	**23 09 39.3**	**+7.1**
	17nm,0.3s,baz=203,slow=9.1,SNR=375						
LPAZ	**La Paz**	**2.62**	**22**	⇓*i*P	**P**	**23 09 39.1**	**+7.0**
ARE	**Arequipa**	**3.16**	**315**	⇑*i*P	**P**	**23 09 40.6**	**+1.1**
ARE				*i* S	**S**	**23 10 15.9**	**-0.4**
NNA	**Nana**	**9.98**	**311**	P	**P**	**23 11 11.9**	**-0.6**
SAML	**Samuel**	**11.32**	**32**	*e*P	**P**	**23 11 31.4**	**+1.0**
	2.1nm,1.0s						
CPUP	**Villa Florida**	**13.30**	**127**	P	**P**	**23 11 55.7**	**-0.7**
	0.1nm,0.3s,baz=309,slow=15,SNR=2.0						
BDFB	**Brasilia**	**20.44**	**85**	P	**P**	**23 13 25.1**	**+2.9**
	11nm,0.5s,baz=265,slow=9.3,SNR=25						
VNA3	**Neumayer Olymp**	**62.77**	**162**	⇑*i*	**P**	**23 19 08.9**	**+1.6**
VNA2	**Neumayer--Watz**	**63.34**	**161**	⇓*i*	**P**	**23 19 13.1**	**+2.1**
SNAA	**Sanae**	**64.97**	**161**	⇑*i*	**P**	**23 19 19.8**	**-1.7**
LIC	**Lamto**	**67.88**	**75**	*e*PKP1	**P**	**23 19 40.5**	**-0.3**
	60nm,1.3s,mb5.3						
TIC	**Toumodi**	**68.05**	**75**	*e*PKP1	**P**	**23 19 41.0**	**-0.9**
	7.1nm,0.2s,mb5.2						
KIC	**Kosan Boka**	**68.20**	**75**	*e*PKP1	**P**	**23 19 41.5**	**-1.3**
	47nm,0.9s,mb5.3						
DBIC	**Dimbokro**	**68.21**	**75**	P	**P**	**23 19 41.6**	**-1.2**
	4.7nm,0.8s,mb4.4,baz=250,slow=4.4,SNR=6.8						
DBIC	**Dimbokro**	**68.21**	**75**	*e*P	**P**	**23 19 41.8**	**-1.1**
	5.4nm,0.8s,mb4.4						
SONM	**Songino Array**	**150.74**	**6**	PKPbc	PKPdf	23 28 32.9	+7.7
	0.9nm,0.4s,baz=333,slow=1.7,SNR=8.4						

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*SKHL **22** 23:10:01.6±0.5,52.57N×142.60E,h10^{km}±2^{km},mb4.1/5*
*IDC **22** 23:10:03.2±1.3,52.60N×143.23E,mb3.6/4,mb1 3.8/4,*
mb1mx3.5/21,MS2.6/1,Ms1 2.6/1,ms1mx2.1/30,Error
ellipse: s-maj=38.9km s-min=37.3km az=106.0
ISC 22 23:10:02.4±0.7**,52.56N**±0.03×**142.60E**±0.06**,h5**^{km}±5^{km}**,**
n15,σ**1**^{s}**31**/22**,mb3.5**/4**,2C,Sakhalin Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKH	**Okha**	**1.01**	**11**	⇑*i*Pg	**Pg**	**23 10 22.8**	**+0.3**
OKH				AMB	AMB	23 10 23.0	

	500nm,0.8s						
OKH				pP		23 10 25.0	
OKH				i Sg	Sg	23 10 37.7	+1.7
OKH				eSg	Sg	23 10 37.7	+1.7
OKH				A		23 10 39.1	
	4µm,0.6s						
OKH				A		23 10 39.1	
	2µm,0.6s						
OKH				sS		23 10 41.3	
NKL	Nikolayevsk	1.30	298⇑	iPg	Pg	23 10 27.0	-1.4
NKL				AMB	AMB	23 10 28.0	
	40nm,0.3s						
NKL				AMB	AMB	23 10 28.0	
	50nm,0.3s						
NKL				AMB	AMB	23 10 28.0	
	90nm,0.3s						
NKL				pP		23 10 30.2	
NKL				i Sg	Sg	23 10 45.8	0.0
NKL				A		23 10 48.0	
	420nm,0.3s						
NKL				A		23 10 48.0	
	320nm,0.3s						
NKL				A		23 10 55.0	
	1µm,1.5s						
TYV	Tymovskoe	1.70	179	ePb	Pb	23 10 33.0	-0.8
TYV				ePg	Pg	23 10 36.2	-0.2
TYV				AMB	AMB	23 10 37.9	
	22nm,0.4s						
TYV				AMB	AMB	23 10 37.9	
	24nm,0.4s						
TYV				pP		23 10 40.6	
TYV				eSb	Sb	23 10 56.5	+1.0
TYV				eSg	Sg	23 10 59.8	+0.7
TYV				A		23 11 03.1	
	188nm,0.8s						
TYV				A		23 11 03.1	
	230nm,0.8s						
GRNR	Gornyy	4.25	247	ePg	Pg	23 11 25.6	-1.5
GRNR				AMB	AMB	23 11 27.6	
	38nm,0.6s						
GRNR				eSg	Sg	23 12 24.8	+1.1
GRNR				A		23 12 25.6	
	84nm,0.6s						
GRNR				A		23 12 25.6	
	42nm,0.6s						
EKMR	Ekimchan	5.88	279	erx	rx	23 11 37.4	
EKMR				ePb	Pb	23 11 46.0	+0.8
EKMR				ePg	Pg	23 11 57.0	-2.7
EKMR				AMB	AMB	23 12 07.9	
	7.0nm,0.5s						
EKMR				eSn	Sn	23 12 39.9	-1.0
EKMR				eSb	Sb	23 12 53.5	-3.1
EKMR				eSg	Sg	23 13 18.6	+0.6
EKMR				A		23 13 23.5	
	82nm,0.6s						
KLR	Kul'dur	7.63	248	erx	rx	23 12 28.2	
KLR				erx	rx	23 14 05.5	
ASAJ	Asahikawa	8.45	180	LR	LR	23 15 32.2	
	comp=Z,39nm,19.8s,baz=157,slow=39						
BMKR	Bomnak	8.46	290	erx	rx	23 12 56.6	
BMKR				erx	rx	23 13 55.5	
YASR	Yasnyy	8.87	281	eP	P	23 12 16.3	+2.2
YASR				eS	Sn	23 13 57.8	+2.2
ZEA	Zeya	9.30	283	erx	rx	23 15 03.9	
KROS	Kirovskiy	9.50	288	erx	rx	23 12 26.5	
KROS				erx	rx	23 14 33.0	
MKAR	Makanchi Array	38.44	286	P	P	23 17 30.4	+4.0
	0.4nm,0.7s,mb3.2,baz=53,slow=7.2,SNR=4.0						
NOA	NORSAR Array B	60.30	335	P	P	23 20 12.5	-1.2
	0.7nm,0.8s,mb3.7,baz=50,slow=7.9,SNR=2.5						
PDAR	Pinedale Array	66.54	50	P	P	23 20 53.7	-1.3
	0.4nm,0.5s,mb3.7,baz=315,slow=2.6,SNR=3.9						
ASAR	Alice Springs	76.28	188	P	P	23 21 53.8	+0.1
	0.5nm,0.8s,mb3.5,baz=6.9,slow=6.6,SNR=5.3						

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*IDC **22** 23:15:14.7±2.1, 33.44N×23.91E, mb4.0/6, mb1 4.1/12, mb1mx4.0/24, ML4.0/6, Error ellipse: s-maj=37.3km s-min=21.6km az=27.0*

*NEIC **22** 23:15:15.7±2.0, 33.35N×23.90E, h12^{km}±16^{km}, Error ellipse: s-maj=6.8km s-min=2.4km az=206.0*

*ATH **22** 23:15:19.0, 33.65N×23.90E, h127^{km}±9^{km}*

*THE **22** 23:15:21.6, 33.57N×24.06E, h10^{km}, ML4.1*

ISC 22 23:15:12.5±0.4**, 33.31N**±0.03×**23.88E**±0.03**, h10**^{km}**, n92, σ1§17**/114**, mb3.9**/6**, Central Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GVD	Gavdhos	1.54	6	eP	Pn	23 15 42.3	+2.2
VAM	Vamos	2.11	7	eP	Pn	23 15 50.6	+2.3
VAM				eS	Sn	23 16 15.0	+0.2
IDI	Anoyia	2.15	23	Pn	Pn	23 15 51.4	+2.6
	24nm,0.3s,baz=203,slow=15,SNR=181						
IDI				Sn	Sn	23 16 16.4	+0.7
	16nm,0.3s,baz=269,slow=20,SNR=10						
XRY	Khrisi	2.17	43	eP	Pn	23 15 52.0	+2.8
NPS	Neapolis	2.42	36	eP	Pn	23 15 56.0	+3.2
THR6	Thira Island,	3.29	22	ePn	Pn	23 16 06.5	+1.4
THR6				eSn	Sn	23 16 42.6	-2.0
THR1	Thera Island	3.32	23	ePn	Pn	23 16 06.5	+1.0
THR5	Thira Island,	3.33	21	ePn	Pn	23 16 07.1	+1.4
THR5				eSn	Sn	23 16 43.5	-2.2
THR3	Thira Island,	3.34	22	ePn	Pn	23 16 06.7	+0.9
THR4	Thira Island,	3.38	21	ePn	Pn	23 16 07.7	+1.3
KARP	Karpathos	3.51	50	eP	Pn	23 16 11.8	+3.5
APE	Apeiranthos	3.99	19	PN	Pn	23 16 14.4	-0.7
APE	Apeiranthos	3.99	19	eP	Pn	23 16 15.1	0.0
APE				eS	Sn	23 16 56.7	-5.7
ARG	Arkhangelos	4.54	49	eP	Pn	23 16 25.0	+2.1
ARG				eS	Sn	23 17 12.5	-4.0
NSAL	Nisos Salamina	4.60	356	eP	Pn	23 16 24.4	+0.6
PTL	Penteli	4.73	360	eP	Pn	23 16 25.1	-0.5
BDRM	Kayabasi	4.75	37	i P	Pn	23 16 27.1	+1.2
DALT	Dalyan (Mudla)	5.21	47	PN	Pn	23 16 33.7	+1.3
YER	Yerkesik	5.25	42	PN	Pn	23 16 34.6	+1.7
LKR	Lokris	5.38	353	eP	Pn	23 16 34.5	-0.2
AYDN	Tasoluk	5.43	36	i P	Pn	23 16 37.3	+1.8
VLS	Valsamata	5.54	332	eP	Pn	23 16 37.8	+0.7
IZM	Izmir	5.77	27	PN	Pn	23 16 40.1	-0.2
KDAG	Bornova	5.78	27	i P	Pn	23 16 40.6	+0.2
AGG	Agios Georgios	5.84	348	ePn	Pn	23 16 41.0	-0.2
AGG				eSn	Sn	23 17 41.8	-7.2
LKD	Levkas	5.99	335	ePn	Pn	23 16 45.1	+1.8
ELL	Elmali	6.02	54	ePN	Pn	23 16 45.3	+1.5
XOR	Xorichti	6.07	355	ePn	Pn	23 16 44.1	-0.4
DNZL	Cakiroluk	6.07	43	i P	Pn	23 16 45.3	+0.8
DENT	Denizli	6.11	42	ePN	Pn	23 16 45.4	+0.3
MANT	Manisa	6.42	35	i P	Sn	23 17 50.3	-13
MEV	Metsovon	6.81	343	ePn	Pn	23 16 53.5	-1.4
MEV				eSn	Sn	23 18 05.1	-8.1
IGT	Igoumenitsa	6.84	336	ePn	Pn	23 16 54.8	-0.6
BCK	Bucak	6.87	51	ePN	Pn	23 16 56.1	+0.3
LIT	Litokhoron	6.87	351	ePn	Pn	23 16 54.4	-1.4
LIT				eSn	Sn	23 18 07.3	-7.5
OUR	Ouranopolis	7.01	1	ePn	Pn	23 16 56.5	-1.3
SOH	Sokhos	7.51	357	ePn	Pn	23 17 02.4	-2.4
GRG	Griva	7.72	352	ePn	Pn	23 17 05.5	-2.2
SRS	Serrai	7.80	358	ePn	Pn	23 17 05.9	-2.9
SOI	Samo	7.94	309	ePn	Pn	23 17 10.7	-0.1
ULDT	Uludag	8.02	30	i P	Pn	23 17 11.9	+0.1
AGST	Augusta-Monte	8.10	302	ePn	P	23 17 12.3	-0.7
GRI	Girifalco	8.17	314	ePn	P	23 17 13.8	-0.2
PZI	Palazzolo	8.21	300	ePn	P	23 17 14.4	-0.1
MEU	Monte Lauro	8.24	300	ePn	P	23 17 16.1	+1.1
KIZT	Kizilcal	8.53	47	ePN	P	23 17 18.4	-0.6
IKL	Isikli	8.58	67	eP	P	23 17 19.1	-0.6
TDS	Terranova Siba	8.77	318	ePn	P	23 17 22.3	-0.1
VAE	Valguarnera	8.78	301	Pn	P	23 17 23.9	+1.5
	6.7nm,0.3s,baz=51,slow=16,SNR=19						
VAE				Sn	Sn	23 18 53.0	-9.3
	1.4nm,0.3s,baz=303,slow=9.9,SNR=1.9						
ORI	Oriolo Calabro	9.00	321	ePn	P	23 17 25.4	-0.1
MEST	Erdemli	9.04	66	i P	P	23 17 23.1	-2.9
KZIT	Kziot	9.24	102	Pn	P	23 17 28.9	+0.1
KZIT				Sn	Sn	23 19 01.4	-12
OFRI	'Ofer	9.36	91	Pn	P	23 17 30.3	-0.1
RTMM	Retamin	9.43	101	Pn	P	23 17 31.8	+0.3
SLTI	Sal'it	9.46	93	Pn	P	23 17 31.4	-0.4
SLTI				Sn	Sn	23 19 07.3	-12
HNTI	Hanita	9.47	88	Pn	P	23 17 31.6	-0.4
HNTI				Sn	Sn	23 19 08.4	-11
MGR	Morigerati	9.54	318	ePn	P	23 17 32.1	-0.9
SLCN	Sala Consilina	9.67	319	ePn	P	23 17 35.0	+0.3
CLTB	Caltabellotta	9.68	299	ePn	P	23 17 38.9	+3.9
MMLI	Mount Malkishu	9.75	92	Pn	P	23 17 34.9	-0.9
KMTI	Karmit	9.78	106	Pn	P	23 17 36.8	+0.6
KMTI				Sn	Sn	23 19 15.0	-12
HMDT	Nahal Hemdat	9.86	93	Pn	P	23 17 36.6	-0.8
DRGI	Dragot	9.88	97	Pn	P	23 17 36.6	-1.0
GLH	Golan-Tel Qazi	9.90	90	Pn	P	23 17 38.0	0.0
PRNI	Paran	9.91	104	Pn	P	23 17 38.2	+0.1
PRNI				Sn	Sn	23 19 18.5	-12
MZDA	Masada	9.92	98	Pn	P	23 17 38.3	+0.1
MZDA				Sn	Sn	23 19 19.3	-11
HRI	Mount Hermon	9.93	87	Pn	P	23 17 37.1	-1.2
SGO	Sicignano	9.97	319	ePn	P	23 17 38.5	-0.3
ZFRI	Zfri	9.99	103	Pn	P	23 17 38.9	-0.2
MRLC	Muro Lucano	10.01	320	ePn	P	23 17 38.8	-0.6
KSHT	Keshet	10.01	89	Pn	P	23 17 38.4	-1.0
MBH	Mount Berech	10.05	107	Pn	P	23 17 40.3	+0.3
EIL	Elat	10.12	108	Pn	P	23 17 41.0	0.0
	0.6nm,0.3s,baz=273,slow=32,SNR=12						
EIL				Sn	S	23 19 21.1	-15
	0.6nm,0.3s,baz=283,slow=14,SNR=2.8						
EIL	Elat	10.12	108	Pn	P	23 17 41.0	0.0
EIL				Sn	S	23 19 21.1	-15
BRTR	Keskin Array B	10.13	48	Pn	P	23 17 40.5	-0.6
	0.5nm,0.3s,baz=222,slow=13,SNR=21						
BRTR				Sn	S	23 19 27.1	-8.7
	0.2nm,0.3s,baz=222,slow=26,SNR=3.4						
AQBJ	Aqaba	10.18	108	Pn	P	23 17 41.7	-0.1
FG5	Orsara di Pugl	10.50	322	ePn	P	23 17 45.6	-0.5
MRB1	Monte Rocchett	10.54	320	ePn	P	23 17 47.2	+0.4
RGNG	Rignano Grg	10.63	324	ePn	P	23 17 46.9	-1.0
STON	Ston	10.71	335	i Pn	P	23 17 45.1	-4.0
STON				i Sn	S	23 19 32.0	-18
ASF	Jabal al Asfar	11.02	92	Pn	P	23 17 52.6	-0.7
	0.6nm,0.3s,baz=154,slow=8.1,SNR=4.9						
ASF				Sn	S	23 19 46.9	-11
	0.5nm,0.3s,baz=167,slow=18,SNR=3.6						
SGG	Gregorio Mates	11.05	320	ePn	P	23 17 53.1	-0.5
MALT	Malatya	12.82	63	P	P	23 18 15.9	-1.6
	1.3nm,0.8s						
ARV	Arcevia	13.29	323	ePn	P	23 18 23.7	0.0
FSSB	Fossombrone	13.52	323	ePn	P	23 18 26.8	+0.1
AKASG	Malin Array Be	17.82	11	P	P	23 19 19.2	-2.8
	4.1nm,0.3s,baz=200,slow=10,SNR=20						
AKASG				S	S	23 22 40.6	+2.2
	0.3nm,0.3s,baz=198,slow=21,SNR=5.7						
HFS	Hagfors	27.66	349	P	P	23 21 02.4	+0.2
	1.6nm,0.4s,mb4.0,baz=164,slow=10,SNR=12						
FINES	FINESS Array B	28.18	2	P	P	23 21 06.0	-0.9
	7.4nm,1.3s,mb4.2,baz=157,slow=11,SNR=5.5						
NOA	NORSAR Array B	28.94	347	P	P	23 21 14.5	+0.9
	0.2nm,0.4s,mb3.2,baz=146,slow=12,SNR=2.7						
BVAR	Borovoye Array	38.40	45	P	P	23 22 36.6	+1.1
	0.6nm,0.7s,mb3.5,baz=270,slow=7.4,SNR=3.8						
MKAR	Makanchi Array	45.69	55	P	P	23 23 36.8	+1.6
	3.1nm,0.6s,mb4.4,baz=270,slow=7.7,SNR=45						
SONM	Songino Array	61.49	49	P	P	23 25 32.9	+1.4
	0.9nm,0.6s,mb4.1,baz=278,slow=8.0,SNR=7.7						

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*IDC **22** 23:31:27.3±2.4, 42.44S×120.20E, mb3.9/3, mb1 4.1/5, mb1mx3.9/9, ML4.0/1, Error ellipse: s-maj=50.7km s-min=37.3km az=180.0*

*NEIC **22** 23:31:29.6±0.7, 42.31S×120.18E, h10^{km}, mb4.3/1, Error ellipse: s-maj=22.3km s-min=12.5km az=109.0*

ISC 22 23:31:27.6±0.8**, 42.3S**±0.1×**120.1E**±0.2**, h10**^{km}**, n13, σ0§86**/13**, mb3.9**/4**, 2C, South of Australia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NWAO	Narrogin (SRO)	9.61	345	Pn	P	23 33 48.5	-0.6
	0.6nm,0.3s,baz=165,slow=9.2,SNR=5.5						
NWAO				Sn	Sn	23 35 29.3	-8.9
	0.7nm,0.3s,baz=111,slow=17,SNR=5.6						
NWAO	Narrogin (SRO)	9.61	345	Pn	P	23 33 48.5	-0.6
NWAO				Sn	Sn	23 35 29.3	-8.9
STKA	Stephens Creek	19.97	66	P	P	23 36 02.2	-0.6
	0.2nm,0.3s,baz=222,slow=14,SNR=4.6						
STKA	Stephens Creek	19.97	66	eP	P	23 36 02.1	-0.7
STKA				P		23 36 02.2	
ASAR	Alice Springs	21.80	36	P	P	23 36 22.2	+0.5
	4.2nm,0.9s,mb3.9,baz=204,slow=11,SNR=23						
ASAR				PcP	PcP	23 40 21.1	-1.3
	0.4nm,0.7s,baz=193,slow=2.1,SNR=4.7						
WRA	Warramunga Arr	25.30	33	P	P	23 36 56.2	+0.4
	1.8nm,0.7s,mb3.7,baz=201,slow=11,SNR=12						
WRAB	Tennant Creek	25.31	33	eP	P	23 36 56.0	+0.1
	4.9nm,0.8s,mb4.1						
SNAA	Sanae	59.47	198		P	23 41 29.9	-2.6
VNA2	Neumayer--Watz	61.03	197⇑	i	P	23 41 44.1	+0.9
VNA3	Neumayer Olymp	61.28	196⇑	i	P	23 41 45.3	+0.4
CMAR	Chiang Mai Arr	63.52	337	P	P	23 42 00.9	+0.4
	1.2nm,0.6s,mb4.1,baz=175,slow=6.0,SNR=8.7						
TXAR	Lajitas Array	142.59	96	PKhKP		23 50 58.5	
	0.3nm,0.6s,baz=207,slow=6.0,SNR=4.8						
PDAR	Pinedale Array	143.80	72	PKP	PKPdf	23 51 02.5	-3.0
	0.6nm,0.5s,baz=270,slow=1.8,SNR=5.5						

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*IDC **22** 23:59:34.9±4.2, 26.44N×96.20E, h84^{km}±44^{km}, mb3.1/4, mb1 3.3/5, mb1mx3.2/18, ML3.4/1, Error ellipse: s-maj=42.0km s-min=21.3km az=64.0*

*NEIC **22** 23:59:34.1±1.4, 26.43N×96.13E, h70^{km}±18^{km}, mb3.8/1, Error ellipse: s-maj=29.1km s-min=11.6km az=58.0*

ISC 22 23:59:33.4±1.9**, 26.2N**±0.1×**95.6E**±0.1**, h88**^{km}±23^{km}**, n13, σ1§42**/14**, mb3.5**/5**, 1C, Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SHL	Shillong	3.42	261⇑	iP	P	00 00 27.0	+1.2
SHL				eS	S	00 01 12.0	+6.6
LSA	Lhasa	5.30	313	eP	P	00 00 52.9	+1.3
	26nm,1.3s						
CMAR	Chiang Mai Arr	8.26	158	P	P	00 01 33.1	+0.9
	0.1nm,0.3s,baz=332,slow=13,SNR=4.7						
CMAR				Lg		00 03 52.1	
	0.3nm,0.3s,baz=332,slow=28,SNR=3.3						
PKI	Pulchoki	9.23	281	eP	P	00 01 44.5	-0.9
	9.2nm,0.4s						
KKN	Kakani	9.37	282	eP	P	00 01 46.7	-0.6
	7.2nm,0.2s						
DMN	Daman	9.50	281	eP	P	00 01 47.4	-1.8
	9.1nm,0.4s						
GKN	Gorkha	9.96	283	eP	P	00 01 54.7	-0.7
	14nm,0.4s						
KOLN	Koldanda	10.85	281	eP	P	00 02 06.4	-0.9
	3.0nm,0.2s						
MKAR	Makanchi Array	23.15	336	P	P	00 04 33.6	+1.2
	0.4nm,0.3s,mb3.2,baz=142,slow=8.8,SNR=10						
SONM	Songino Array	23.24	19	P	P	00 04 30.9	-2.4
	0.3nm,0.3s,mb3.1,baz=198,slow=9.1,SNR=3.3						
ZRNK	Zerenda	33.36	330	eP	P	00 06 06.5	+1.6
	0.7nm,0.5s,mb3.8						
BRTR	Keskin Array B	52.80	301	P	P	00 08 44.1	+2.4
	0.7nm,0.7s,mb3.8,baz=111,slow=7.9,SNR=4.3						
WRA	Warramunga Arr	59.27	137	P	P	00 09 26.9	-1.3
	0.4nm,0.6s,mb3.6,baz=326,slow=7.4,SNR=6.6						

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*MOS **23** 00:08:37.3±2.1, 46.45N×153.32E, h33^{km}, mb4.2/4, Error ellipse: s-maj=31.6km s-min=18.6km az=51.1*

*IDC **23** 00:08:41.7±0.9, 46.86N×152.99E, h32^{km}±4^{km}, mb3.6/7, mb1 3.9/8, mb1mx3.6/22, ML3.5/1, Error ellipse: s-maj=28.4km s-min=21.9km az=159.0*

*NEIC **23** 00:08:45.2±2.4, 46.99N×153.01E, h62^{km}±25^{km}, mb3.9/3, Error ellipse: s-maj=29.0km s-min=14.3km az=145.0*

ISC 23 00:08:41.5±1.3**, 46.9N**±0.1×**152.9E**±0.2**, h46**^{km}±13^{km}**, n21, σ0§86**/23**, mb3.7**/8**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUR	Kuril'sk	3.91	246	ePN	P	00 09 39.8	-0.9
KUR				eS	S	00 10 26.5	+0.5
KUR				pmax	pmax		
	comp=N,70nm,0.6s						
KUR				pmax	pmax		
	comp=Z,100nm,0.6s						
KUR				smax			
	comp=N,310nm,0.7s						
KUR				smax			
	comp=E,130nm,0.7s						
SKR	Severo-Kuril's	4.30	28	ePN	P	00 09 46.4	+0.2
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
YUK	Yuzh-Kuril'sk	5.75	242	ePN	P	00 09 59.5	-7.0
YUK				eS	S	00 11 16.0	+3.8
YUK				smax			
	comp=E,280nm,0.6s						
YUK				smax			
	comp=N,250nm,0.5s						
ASAJ	Asahikawa	7.79	253	Pn	P	00 10 35.0	0.0
	comp=N,0.7nm,0.3s,baz=97,slow=16,SNR=6.1						
ASAJ	Asahikawa	7.79	253	PN	P	00 10 35.0	+0.1
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
FX1	Attu Island--F	14.31	58	eP	P	00 12 02.5	-0.3
MAJO	Matsushiro	15.10	232	P	P	00 12 16.8	+3.6
	comp=Z,5.3nm,0.7s						
ILAR	Eielson Array	36.48	39	P	P	00 15 44.0	+0.4
	comp=Z,1.4nm,1.1s,mb3.8,baz=287,slow=9.4,SNR=4.3						
ILAR	Eielson Array	36.48	39	P	P	00 15 44.0	+0.4
ILAR				pmax	pmax		
	comp=Z,1.0nm,1.1s						
KURK	Kurchatov	47.16	303	P	P	00 17 08.7	-2.1
	comp=Z,0.9nm,0.7s,mb3.8						
FINES	FINESS Array B	63.82	335	P	P	00 19 11.1	+0.4
	comp=Z,4.6nm,1.1s,mb4.4,baz=90,slow=5.7,SNR=7.5						
FINES				sP	sP	00 19 24.1	-5.1
	comp=Z,3.3nm,1.0s,baz=56,slow=6.9,SNR=2.3						
FINES	FINESS Array B	63.82	335	P	P	00 19 11.1	+0.5
FINES				*SP	sP	00 19 24.1	-5.1
FINES				pmax	pmax		
	comp=Z,5.0nm,1.1s						
FINES				pmax	pmax		
	comp=N,3.0nm,1.0s						
FINES	FINESS Array B	63.82	335	P	P	00 19 11.1	+0.4
FINES				sP	sP	00 19 24.1	-5.1
PDAR	Pinedale Array	64.74	54	P	P	00 19 16.8	-0.2
	comp=N,0.2nm,0.7s,mb3.2,baz=264,slow=9.1,SNR=2.7						
PDAR				pP	pP	00 19 26.6	-3.6
	comp=N,0.6nm,0.8s,baz=270,slow=3.0,SNR=4.5						
NB2	NORSAR Subarra	68.02	341	P	P	00 19 38.2	+0.9
	comp=N,0.9nm,0.6s,mb4.0,baz=28,slow=6.2						
NOA	NORSAR Array B	68.02	341	P	P	00 19 37.9	+0.5
	comp=N,1.4nm,0.7s,mb4.1,baz=28,slow=6.2,SNR=4.2						
NOA	NORSAR Array B	68.02	341	P	P	00 19 37.9	+0.6
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AKASG	Malin Array Be	71.33	326	P	P	00 19 57.8	+0.1
	comp=Z,0.5nm,0.6s,mb3.7,baz=36,slow=6.3,SNR=4.6						
AKASG	Malin Array Be	71.33	326	P	P	00 19 57.8	0.0
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR	Alice Springs	72.34	198	P	P	00 20 03.5	-0.8
	comp=Z,0.5nm,0.6s,mb3.6,baz=10,slow=5.2,SNR=6.0						
TXAR	Lajitas Array	77.51	60	P	P	00 20 34.6	+0.7
	comp=Z,0.3nm,0.7s,mb3.4,baz=315,slow=5.1,SNR=3.3						
TXAR				pP	pP	00 20 44.2	-3.2
	comp=Z,0.6nm,0.6s,baz=297,slow=4.5,SNR=2.4						
TXAR				sP	sP	00 20 49.2	-3.3
	comp=Z,0.6nm,0.6s,baz=297,slow=4.3,SNR=3.9						

IDC 23 00:27:20.0±1.9**, 1.79S**×**129.09E, mb3.7**/2**, mb1 3.9**/3**, mb1mx3.6**/13**, ML3.7**/1**, Error ellipse: s-maj=116.0km s-min=25.1km az=69.0, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.75	164	P	P	00 31 40.2	-2.6
	0.3nm,0.3s,baz=344,slow=11,SNR=16						
WRA				S	S	00 34 58.3	-11
	0.1nm,0.3s,baz=334,slow=22,SNR=3.0						
WB2	Warramunga Arr	18.76	164	eP	P	00 31 40.1	-2.7
ASAR	Alice Springs	22.24	168	P	P	00 32 18.3	-1.8
	2.3nm,0.6s,baz=348,slow=11,SNR=27						
ASAR				S	S	00 36 13.7	-7.1
	1.1nm,1.0s,baz=346,slow=26,SNR=4.6						
ASPA	Alice Springs	22.24	168	eP	P	00 32 18.7	-1.4
MKAR	Makanchi Array	63.42	326	P	P	00 37 51.8	-1.9
	0.3nm,0.5s,baz=112,slow=7.8,SNR=4.1						

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*LDG **23** 00:30:40.8±0.6, 42.88N×1.41W, h2^{km}, Md2.1/3, Ml1.9/3, Error ellipse: s-maj=10.0km s-min=6.4km az=62.0*

*MDD **23** 00:30:41.4±0.7, 42.87N×1.37W, h6^{km}±7^{km}, mbLg1.1/5, Error ellipse: s-maj=5.8km s-min=3.4km az=45.0, AftershockPLICA PRXIMO*

ISC 23 00:30:41.3±1.3**, 42.96N**±0.07×**1.39W**±0.09**, h21**^{km}±6^{km}**, n8, σ0§90**/14**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	Ste Jean	0.20	38	ePg	Pb	00 30 46.6	+0.1
SJPF				eSg	Sb	00 30 49.3	-0.7
	16nm,0.3s						
EALK	Alkurruntz	0.27	342	Pg	Pb	00 30 48.1	+0.4
	SNR=7.9						
EALK				Lg		00 30 53.7	
	2.9nm,0.2s,SNR=7.9						
ETSF	Etsaut	0.61	95	ePg	Pb	00 30 52.1	-1.1
ETSF				eSg	Sb	00 31 01.0	-0.3
ETSF				eSn	Sn	00 31 03.0	-0.8
	1.8nm,0.3s						
EPF	Esparros	1.27	86	ePn	Pn	00 31 04.5	+0.5
EPF				ePg	Pn	00 31 06.7	+2.7
EPF				eSg	Sb	00 31 22.5	+2.2
	2.5nm,0.4s						
ESAC	San Caprasio	1.41	151	Pg	Pn	00 31 06.0	-0.1
	SNR=7.9						
ESAC				Lg		00 31 22.8	
	2.7nm,0.1s,SNR=7.9						
ELAN	Lanestosa	1.52	281	Lg		00 31 29.5	
	0.2nm,0.1s,SNR=7.9						
LFF	La Frestale	2.51	37	ePn	Pn	00 31 21.5	-0.2
LFF				eSn	Sn	00 31 52.2	+0.3
LFF				eSg	Sn	00 32 00.9	+9.0
	2.7nm,0.3s						
CAF	Calviac	3.17	51	eSn	Sn	00 32 08.5	-0.4
	0.5nm,0.2s						

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*NIED **23** 01:05:00, 25.10N×127.20E, h8^{km}, Mw4.5 Best double couple: M$_0$6.19×10^{15} NP1:φ$_s$360°, δ73°, λ28°. NP2:φ$_s$261°, δ64°, λ161°.*

*IDC **23** 01:05:38.7±0.6, 25.09N×127.11E, mb4.5/21, mb1 4.7/21, mb1mx4.6/26, ML3.7/1, Error ellipse: s-maj=18.7km s-min=13.5km az=82.0*

*MOS **23** 01:05:42.3±1.2, 25.11N×127.10E, h33^{km}, mb4.8/27, Error ellipse: s-maj=16.3km s-min=8.9km az=116.0*

*JMA **23** 01:05:42.1±0.2, 25.08N×127.22E, h73^{km}, M4.9*

*BJI **23** 01:05:43.1, 25.06N×127.31E, h53^{km}, mB4.5, mb4.7, Ms4.5, Msz4.3*

*NEIC **23** 01:05:44.7±0.9, 25.08N×127.21E, h41^{km}±8^{km}, mb4.9/39, MS4.5/1, MW4.5(NIED), Error ellipse: s-maj=7.5km s-min=6.5km az=65.0*

ISC 23 01:05:43.4±0.3**, 25.11N**±0.03×**127.23E**±0.03**, h47**^{km}**, h47**^{km}±2.7^{km}**:pP-P, n166, σ1§35**/190**, mb4.7**/63**, MS4.3**/12**, 7C-6D, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JJT2	Tamagusuku 2	1.13	24	P	P	01 06 03.2	+0.2
JJT2				S	S	01 06 18.5	+0.8
NAH1	Naha	1.17	21	P	P	01 06 03.4	-0.2
NAH1				S	S	01 06 19.9	+1.3
JKE	Kume jima 2	1.28	342	P	P	01 06 04.8	-0.4
JAGN	Aguni-jima	1.48	0	P	P	01 06 07.9	-0.1
JAGN				eS	S	01 06 27.4	+1.0
JOGS	Gusukube	1.69	259	P	P	01 06 10.3	-0.7
JOGS				S	S	01 06 29.1	-2.5
JMJ	Miyako jima 2	1.78	261	P	P	01 06 11.3	-1.0
JMJ				eS	S	01 06 32.8	-1.0
JOW	Kunigami	1.96	28	Pn	P	01 06 14.2	-0.6
	38nm,0.3s,baz=188,slow=12,SNR=88						
JOW				Sn	S	01 06 37.8	-0.4
	180nm,0.3s,baz=115,slow=19,SNR=13						
JOW	Kunigami	1.96	28	P	P	01 06 14.1	-0.7
JOW				eS	S	01 06 35.6	-2.6
JIH	Iheya	2.03	19	P	P	01 06 15.2	-0.6
JIH				eS	S	01 06 39.7	-0.4
JTJ	Tarama	2.34	259	P	P	01 06 18.6	-1.7
JTJ				S	S	01 06 45.6	-2.3
JIJ	Ishigaki jima	2.90	256	P	P	01 06 25.9	-2.4
JKRS	Kuro-shima	3.05	254	P	P	01 06 28.0	-2.4
JTK	Tokunoshima	3.08	30	P	P	01 06 29.8	-1.0

IRIF	Iriomote-Funau	3.27	257	P	P	01 06 31.1	-2.4
HATJ	Hateruma jima	3.29	252	P	P	01 06 30.9	-2.8
JMZ	Minamidaito 2	3.68	78	P	P	01 06 35.1	-4.1
JMZ				*e*S	S	01 07 14.5	-7.3
YOJ	Yonaguni jima	3.89	261	P	P	01 06 40.6	-1.6
JAM	Amami Oshima	3.92	32	P	P	01 06 41.0	-1.6
JAM				*e*S	S	01 07 24.3	-3.6
JZK	Kikaishima	4.03	37	P	P	01 06 43.0	-1.2
TATO	Taipei	5.21	270	*e*Pn	P	01 07 01.6	+0.8
JNN	Nakanoshima	5.27	26	P	P	01 06 59.6	-2.0
JNN				*e*S	S	01 08 00.7	-1.1
JKC	Kuchinoerabu	5.95	26	P	P	01 07 09.2	-1.8
JTN	Tanegashima 3	6.45	30	P	P	01 07 15.6	-2.5
SSE	Sheshan	8.00	320	*e*P	P	01 07 40.5	+0.8
SSE				S	S	01 09 11.6	+1.8
SSE				AMB	AMB		
	comp=Z,26nm,0.8s						
SSE				AMB	AMB		
	comp=Z,88nm,5.4s						
SSE				LR	LR		
	comp=N,1µm,14.4s						
SSE				LR	LR		
	comp=E,767nm,14.4s						
SSE				LR	LR		
	comp=Z,2µm,13.9s						
SSE	Sheshan	8.00	320	*e*P	P	01 07 40.5	+0.8
	comp=Z,26nm,0.8s						
SSE				S	S	01 09 11.6	+1.8
JNU	Nakatsue	8.60	21	Pn	P	01 07 47.1	-0.9
JNU				Sn	S	01 09 21.8	-2.9
	baz=93,slow=3.5,SNR=1.4						
NJ2	Nanjing	10.10	315	*e*P	P	01 08 06.1	-2.5
NJ2				AP		01 08 13.3	
NJ2				S	S	01 09 58.0	-3.6
NJ2				XS		01 10 10.0	
NJ2				AMB	AMB		
	comp=Z,30nm,0.5s						
NJ2				AMB	AMB		
	comp=Z,280nm,4.1s						
NJ2				LR	LR		
	comp=N,3µm,13.4s						
NJ2				LR	LR		
	comp=E,3µm,16.9s						
NJ2				LR	LR		
	comp=Z,3µm,12.9s						
KS15	Wonju Array Si	12.31	2	*e*P	P	01 08 37.7	-0.8
MAJO	Matsushiro	14.78	37	*e*P	P	01 09 20.1	+9.1
	comp=Z,37nm,1.1s						
MAJO				*e*		01 09 32.6	
MAT	Matsushiro	14.78	37	P	P	01 09 16.2	+5.2
MAT	Matsushiro	14.78	37	*e*P	P	01 09 16.0	+5.0
	comp=Z,8.0nm,0.6s						
ENH	Enshi	16.53	292	*e*P	P	01 09 35.5	+2.1
	comp=Z,11nm,0.7s						
ENH				*e*		01 09 51.4	
SNY	Shenyang	16.95	351	⇑P	P	01 09 38.1	-0.5
SNY				AMB	AMB		
	comp=Z,60nm,6.4s						
SNY				LR	LR		
	comp=N,670nm,12.9s						
SNY				LR	LR		
	comp=E,560nm,12.9s						
SNY				LR	LR		
	comp=Z,820nm,12.3s						
QIZ	Qiongzhong	17.20	253	*e*P	P	01 09 45.3	+3.4
QIZ				*e*S	S	01 12 52.8	+2.7
QIZ				LR	LR		
	comp=N,623nm,20.1s						
QIZ				LR	LR		
	comp=E,341nm,21.2s						
QIZ				LR	LR		
	comp=Z,306nm,17.8s						
BJT	Baijiatuau	17.53	331	*e*P	P	01 09 44.1	-1.8
	comp=Z,35nm,1.3s						
BJI	Beijing	17.54	331	P	P	01 09 47.8	+1.8
BJI				S	S	01 13 05.9	+8.4
BJI				AMB	AMB		
	comp=Z,13nm,1.0s						
BJI				LR	LR		
	comp=N,821nm,15.5s						
BJI				LR	LR		
	comp=E,253nm,16.6s						
BJI				LR	LR		
	comp=Z,442nm,16.9s						
BJI	Beijing	17.54	331	P	P	01 09 47.8	+1.8
	comp=Z,13nm,1.0s						
BJI				S	S	01 13 05.9	+8.4
XAN	Xi’an	18.22	303	P	P	01 09 53.4	-1.1
GYA	Guiyang	18.57	279	P	P	01 09 59.5	+0.7
GYA				AP		01 10 11.8	
GYA				XP		01 10 17.8	
GYA				S	S	01 13 11.6	-9.3
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s						
GYA				AMB	AMB		
	comp=Z,70nm,4.9s						
GYA				LR	LR		
	comp=N,540nm,15.5s						
GYA				LR	LR		
	comp=E,430nm,15.8s						
GYA				LR	LR		
	comp=Z,660nm,12.6s						
CN2	Changchun	18.71	356	*e*P	P	01 09 59.1	-1.2
CN2				*e*S	S	01 13 23.8	0.0
CN2				AMB	AMB		
	comp=Z,20nm,1.0s						
CN2				AMB	AMB		
	comp=Z,100nm,9.0s						
CN2				LR	LR		
	comp=N,800nm,16.0s						
CN2				LR	LR		
	comp=E,600nm,16.0s						
CN2				LR	LR		
	comp=Z,600nm,16.0s						
MDJ	Mudanjiang	19.56	5	P	P	01 10 04.6	-5.3
	comp=Z,9.2nm,1.1s						
GUMO	Guam	20.18	121	P	P	01 10 15.7	-1.0
	comp=Z,135nm,1.2s						
HHC	Hu-ho-hao-te	20.42	324	*e*P	P	01 10 21.5	+2.4
HHC				AP		01 10 31.8	
HHC				XP		01 10 37.1	
HHC				PP	PP	01 10 42.5	+1.9
HHC				S	S	01 14 04.0	+3.8
HHC				XS		01 14 19.5	
HHC				SS	SS	01 14 34.4	+2.6
HHC				PCS		01 18 07.5	
HHC				AMB	AMB		
	comp=Z,20nm,1.0s						
HHC				AMB	AMB		
	comp=Z,85nm,3.6s						
HHC				LR	LR		
	comp=N,608nm,13.7s,MS4.2						
HHC				LR	LR		
	comp=E,556nm,14.9s,MS4.2						
HHC				LR	LR		
	comp=Z,708nm,13.7s,MS4.2						
CD2	Chengdu	21.50	291	P	P	01 10 28.8	-1.3
CD2				AMB	AMB		
	comp=Z,70nm,1.2s,mb4.9						
CD2				LR	LR		
	comp=E,820nm,11.4s						
CD2				LR	LR		
	comp=Z,1µm,10.2s,MS4.6						
KMI	Kunming	22.17	275	*e*P	P	01 10 37.4	+0.6
KMI				AP		01 10 49.6	
KMI				PP	PP	01 11 05.8	+1.6
KMI				S	S	01 14 33.3	+0.3
KMI				XS		01 14 53.9	
KMI				SS	SS	01 15 17.1	+2.3
KMI				AMB	AMB		
	comp=Z,13nm,1.1s,mb4.3						
KMI				AMB	AMB		
	comp=Z,72nm,3.1s						
KMI				LR	LR		
	comp=N,455nm,18.5s,MS4.1						
KMI				LR	LR		
	comp=E,397nm,15.6s,MS4.1						
KMI				LR	LR		
	comp=Z,349nm,14.9s,MS3.9						
KMI	Kunming	22.17	275	*e*P	P	01 10 37.4	+0.6
	comp=Z,13nm,1.1s,mb4.3						
KMI				pP		01 10 49.6	
KMI				PP	PP	01 11 05.7	+1.5
KMI				S	S	01 14 33.2	+0.2
KMI				sS		01 14 53.9	
KMI				SS	SS	01 15 17.1	+2.3
KMI				LR	LR		
	comp=Z,350nm,14.9s,MS3.9						
ASAJ	Asahikawa	22.73	30	P	P	01 10 42.1	0.0
	comp=Z,3.4nm,0.4s,mb4.1,baz=186,slow=19,SNR=2.8						
ASAJ	Asahikawa	22.73	30	P	P	01 10 42.1	0.0
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.4s						
LZH	Lanzhou	22.86	304	*e*P	P	01 10 43.5	0.0
LZH				AP		01 10 58.5	
LZH				XP		01 11 04.6	
LZH				PP	PP	01 11 16.0	+2.2
LZH				*e*S	S	01 14 49.0	+3.7
LZH				XS		01 15 11.0	
LZH				AMB	AMB		
	comp=Z,82nm,1.0s,mb5.1						
LZH				AMB	AMB		
	comp=Z,230nm,4.5s						
LZH				LR	LR		
	comp=E,1µm,12.5s						
LZH				LR	LR		
	comp=Z,2µm,14.9s,MS4.7						
LZH	Lanzhou	22.86	304	*e*P	P	01 10 43.5	0.0
	comp=Z,82nm,1.0s,mb5.1						
LZH				pP		01 10 58.5	
LZH				sP		01 11 04.6	
LZH				PP	PP	01 11 16.0	+2.2
LZH				*e*S	S	01 14 49.0	+3.7
LZH				sS		01 15 11.0	
LZH				SS	SS	01 15 38.7	+7.5
LZH				LR	LR		
	comp=Z,2µm,14.9s,MS4.7						
YSS	Yuzh-Sakhalins	25.07	26	⇑*i*P	P	01 11 06.0	+1.2
YSS				*e*	pP	01 11 19.0	+2.2
YSS				pmax	pmax		
	comp=Z,60nm,1.0s,mb5.1						
YSS				MLR	MLR		
	comp=Z,500nm,15.0s,MS4.2						
YSS				MLR	MLR		
	comp=N,400nm,16.0s						
YSS	Yuzh-Sakhalins	25.07	26	*e*P	P	01 11 06.5	+1.7
	comp=N,82nm,1.1s,mb5.2						
NANT	Nan	25.37	261	P	P	01 11 08.0	+0.1
CHG	Chiang Mai	26.94	262	⇑P	P	01 11 22.9	+0.4
	comp=N,13nm,0.7s,mb4.6						
CM31	Chiang Mai Arr	27.05	261	P	P	01 11 22.5	-1.0
	comp=N,11nm,1.0s,mb4.4						
CMAR	Chiang Mai Arr	27.05	261	P	P	01 11 21.1	-2.5
	comp=N,3.6nm,0.8s,mb3.9,baz=57,slow=8.3,SNR=25						
CMAR	Chiang Mai Arr	27.05	261	P	P	01 11 21.1	-2.4
CMAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
GTA	Gaotai	27.09	308	P	P	01 11 22.5	-1.1
GTA				AP	pP	01 11 33.6	-2.3
GTA				PP	PP	01 12 09.3	-1.6
GTA				PPP	PPP	01 12 21.5	-1.5
GTA				S	S	01 15 54.8	-1.7
GTA				SS	SS	01 17 10.9	-2.7
GTA				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.4						
GTA				AMB	AMB		
	comp=Z,53nm,6.8s						
GTA				LR	LR		
	comp=N,240nm,14.8s,MS4.0						
GTA				LR	LR		
	comp=E,243nm,14.8s,MS4.0						
GTA				LR	LR		
	comp=Z,278nm,13.3s,MS4.0						
SONM	Songino Array	28.03	329	P	P	01 11 30.7	-1.4
	comp=Z,5.7nm,0.7s,mb4.3,baz=142,slow=8.4,SNR=22						
PET	Petropavlovsk	36.52	32	*e*P	P	01 12 46.5	+0.5
PET				pmax	pmax		
	comp=Z,26nm,1.4s,mb4.9						
YAK	Yakutsk	36.95	2	*de*P	P	01 12 49.4	-0.1
YAK				pmax	pmax		
	comp=Z,28nm,0.8s,mb5.1						
YAK	Yakutsk	36.95	2	*e*P	P	01 12 48.8	-0.7
	comp=Z,36nm,0.8s,mb5.3						
WMQ	Urumqi	37.13	310	P	P	01 12 51.1	-0.1
WMQ				AP	pP	01 13 04.8	+0.9
WMQ				XP	sP	01 13 11.4	+1.6
WMQ				PP	PP	01 14 18.6	-0.2
WMQ				*e*S	S	01 18 33.1	-0.6
WMQ				SS	SS	01 21 03.8	-2.0
WMQ				AMB	AMB		
	comp=Z,16nm,1.0s,mb4.8						
WMQ				LR	LR		
	comp=E,209nm,16.0s						
WMQ				LR	LR		
	comp=Z,232nm,16.0s,MS4.1						
PKI	Pulchoki	37.43	283	*e*P	P	01 12 54.3	+0.4
	comp=Z,31nm,0.8s,mb5.2						
KKN	Kakani	37.53	284	*e*P	P	01 12 55.3	+0.6
	comp=Z,51nm,0.8s,mb5.3						
DMN	Daman	37.70	283	*e*P	P	01 12 55.7	-0.4
	comp=Z,52nm,0.8s,mb5.3						
GKN	Gorkha	38.07	284	*e*P	P	01 12 59.7	+0.5
	comp=Z,36nm,0.7s,mb5.2						
KOLN	Koldanda	39.01	284	*e*P	P	01 13 07.9	+0.9
	comp=Z,44nm,0.9s,mb5.2						
MKAR	Makanchi Array	41.62	313	P	P	01 13 28.0	-0.4
	comp=Z,9.8nm,0.6s,mb4.6,baz=97,slow=11,SNR=85						
MKAR				PcP	PcP	01 15 26.9	+1.5
	comp=Z,1.7nm,0.7s,baz=81,slow=5.0,SNR=3.9						
MKAR	Makanchi Array	41.62	313	P	P	01 13 28.0	-0.4
MKAR						01 15 26.9	
MKAR				pmax	pmax		
	comp=Z,10.0nm,0.6s						
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
FITZ	Fitzroy Crossi	42.97	182	⇓*i*P	P	01 13 39.0	-0.9
	comp=Z,7.3nm,0.6s,mb4.6						
NVS	Novosibirsk	43.82	325	*i* P	P	01 13 45.1	-1.2
NVS				pmax	pmax		
	comp=Z,19nm,2.0s,mb4.5						
NVS				pmax	pmax		
	comp=E,9.0nm,1.5s						
KURK	Kurchatov	45.02	318	*i* P	P	01 13 55.2	-0.8
KURK				pmax	pmax		
	comp=Z,16nm,1.5s,mb4.6						
KURK	Kurchatov	45.02	318	*e*P	P	01 13 54.5	-1.4
	comp=Z,15nm,1.0s,mb4.8						
KURK				*e*	pP	01 14 09.8	+0.9
KSH	Kashi	45.06	302	*e*P	P	01 13 59.3	+2.9
KSH				*e*AP	pP	01 14 11.3	+2.0
KSH				*e*XP	sP	01 14 17.5	+2.5
KSH				*e*PCS		01 19 32.3	
KSH				*e*S	S	01 20 34.0	+2.7
KSH				*e*PS	PS	01 20 43.0	-3.6
KSH				*e*XS		01 20 54.1	
KSH				*e*SS	SS	01 23 46.8	+1.5
KSH				AMB	AMB		
	comp=Z,130nm,4.9s						
KSH				LR	LR		
	comp=N,430nm,12.0s,MS4.8						
KSH				LR	LR		
	comp=E,400nm,10.5s,MS4.8						
WRAB	Tennant Creek	45.30	171	*e*P	P	01 13 57.8	-0.8
	comp=E,35nm,1.0s,mb5.2						
WRA	Warramunga Arr	45.31	171	P	P	01 13 58.1	-0.5
	comp=E,10nm,0.7s,mb4.7,baz=352,slow=8.5,SNR=46						
WRA	Warramunga Arr	45.31	171	P	P	01 13 58.1	-0.5
WRA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
WB2	Warramunga Arr	45.31	171	*e*P	P	01 13 58.3	-0.4
HYB	Hyderabad	45.81	270	*i* P	P	01 14 03.5	+0.9
HYB				*e*	pP	01 14 15.5	0.0
AAK	Ala-Archa	46.38	306	*e*P	P	01 14 06.0	-0.8
AAK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
AAK	Ala-Archa	46.38	306	*e*P	P	01 14 05.9	-0.9
	comp=Z,3.4nm,0.8s,mb4.3						
MBWA	Marble Bar	46.56	190	*e*P	P	01 14 07.2	-1.4
	comp=Z,16nm,1.0s,mb4.9						
MBWA				*e*	pP	01 14 21.1	-0.3
CTAO	Charters Tower	48.58	156	*e*P	P	01 14 24.4	+0.1
	comp=Z,14nm,1.2s,mb4.9						
ASAR	Alice Springs	48.91	172	P	P	01 14 26.8	-0.1
	comp=Z,18nm,1.2s,mb5.0,baz=356,slow=8.0,SNR=42						
ASAR				PcP	PcP	01 15 50.8	-0.2
	comp=Z,1.1nm,0.6s,baz=346,slow=4.0,SNR=3.8						
ASPA	Alice Springs	48.91	172	*e*P	P	01 14 26.7	-0.1
VOSK	Vostochnaya	50.11	319	P	P	01 14 34.8	-0.9
VOSK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
BVA0	Borovoye Array	50.52	319	*i* P	P	01 14 38.5	-0.3
BVAR	Borovoye Array	50.52	319	P	P	01 14 38.2	-0.6
	comp=Z,2.9nm,0.6s,mb4.4,baz=100,slow=8.6,SNR=13						
BRVK	Borovoye	50.59	319	*e*P	P	01 14 38.5	-0.7
	comp=Z,5.1nm,0.7s,mb4.6						
ZRNK	Zerenda	51.33	319	P	P	01 14 44.5	-0.4
ZRNK				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
ZRNK	Zerenda	51.33	319	*e*P	P	01 14 44.2	-0.7
	comp=Z,7.8nm,0.6s,mb4.8						
SVE	Sverdlovsk	56.60	323	⇑*e*P	P	01 15 23.5	-0.1
SVE				pmax	pmax		
	comp=Z,40nm,2.2s,mb5.1						
SVE				MLR	MLR		
	comp=N,500nm,15.0s,MS4.9						
SVE				MLR	MLR		
	comp=E,500nm,15.0s,MS4.9						
SVE				MLR	MLR		
	comp=Z,1µm,15.0s,MS5.0						
ARU	Arti	57.72	322	⇑*i*P	P	01 15 30.6	-0.9
ARU				*i*		01 16 21.6	
ARU				*i*		01 17 38.1	
ARU				*i* PPP	PPP	01 18 57.2	-6.3
ARU				*e*S	S	01 23 25.5	+0.6
ARU				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.7						
ARU	Arti	57.72	322	*e*P	P	01 15 30.5	-1.0
	comp=Z,14nm,1.0s,mb5.0						
STKA	Stephens Creek	58.30	166	⇓*i*P	P	01 15 35.2	-0.7
	comp=Z,6.1nm,0.6s,mb4.8						
STKA	Stephens Creek	58.30	166	P	P	01 15 35.2	-0.6
	comp=Z,7.9nm,0.6s,mb5.0,baz=349,slow=6.3,SNR=22						
IMA	Indian Mountai	62.92	27	*e*P	P	01 16 08.2	+1.3
	comp=Z,18nm,0.9s,mb5.2						
MCK	McKinley	65.09	29	P	P	01 16 21.6	+0.7
	comp=Z,6.4nm,0.9s,mb4.7						
ILAR	Eielson Array	65.85	28	P	P	01 16 25.9	+0.2
	comp=Z,1.0nm,0.8s,mb3.9,baz=276,slow=7.1,SNR=7.7						
ILAR	Eielson Array	65.85	28	P	P	01 16 26.0	+0.2
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
GOF	Gofitskoye	68.74	311	*e*P	P	01 16 46.0	+1.8
GNI	Garni	68.78	305	*e*P	P	01 16 43.6	-1.0
	comp=Z,9.7nm,0.9s,mb4.7						
KIV	Kislovodsk	69.26	310	*e*P	P	01 16 48.2	+0.7
KIV				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.8						
KIV				MLR	MLR		
	comp=E,58nm,18.0s						
KIV				MLR	MLR		
	comp=Z,73nm,18.0s,MS4.0						
KIV	Kislovodsk	69.26	310	*e*P	P	01 16 49.0	+1.5
	comp=Z,16nm,0.8s,mb5.0						
KIV				*e*	pP	01 16 58.3	-2.8
OBN	Obninsk	70.16	322	*de*P	P	01 16 52.9	+0.2
OBN				pmax	pmax		
	comp=Z,18nm,0.9s,mb5.0						
OBN				MLR	MLR		
	comp=Z,100nm,17.0s,MS4.1						
OBN	Obninsk	70.16	322	*e*P	P	01 16 52.9	+0.1
	comp=Z,13nm,0.5s,mb5.1						
INK	Inuvik	70.27	23	P	P	01 16 53.4	+0.2
	comp=Z,6.2nm,0.8s,mb4.6,baz=272,slow=10,SNR=4.5						
INK	Inuvik	70.27	23	P	P	01 16 53.4	+0.2
INK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
INK	Inuvik	70.27	23	P	P	01 16 53.4	+0.2
ARCES	ARCESS Array B	70.72	339	P	P	01 16 54.5	-1.4
	comp=Z,2.8nm,0.8s,mb4.2,baz=90,slow=7.3,SNR=6.4						
ARCES	ARCESS Array B	70.72	339	P	P	01 16 54.5	-1.4
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
SOC	Sochi	71.43	310	*e*P	P	01 16 59.2	-1.4
SOC				*e*		01 17 27.8	
SOC				*e*		01 19 40.0	
SOC				*e*S	S	01 26 08.5	-5.6
SOC				*e*		01 26 51.9	
SOC				*e*SS	SS	01 30 51.0	-0.3
SOC				*e*SSS	SSS	01 33 54.0	-4.8
SOC				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.0						
SOC				pmax	pmax		
	comp=N,19nm,1.3s						
SOC				pmax	pmax		
	comp=E,11nm,0.7s						
SOC				MLR	MLR		
	comp=Z,87nm,20.0s,MS4.0						
SOC				MLR	MLR		
	comp=N,47nm,14.0s						
SOC				MLR	MLR		
	comp=E,57nm,18.0s						
KAF	Kangasniemi	73.05	331	*e*p	P	01 17 08.1	-1.7
	comp=E,4.0nm,0.8s,mb4.4						
KAF	Kangasniemi	73.05	331	*e*P	P	01 17 08.1	-1.7
KAF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
MZLS	Mizel	73.39	289	P	P	01 17 13.6	+1.0
FINES	FINESS Array B	73.39	331	P	P	01 17 12.5	+0.6
	comp=Z,4.9nm,0.7s,mb4.6,baz=65,slow=6.4,SNR=23						
FINES	FINESS Array B	73.39	331	P	P	01 17 12.5	+0.7
FINES				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MALT	Malatya	74.01	305	*e*P	P	01 17 18.0	+2.1
	comp=Z,13nm,1.2s,mb4.7						
HILS	Ha’il	75.10	293	P	P	01 17 24.0	+1.6
AFFS	‘Afif	75.31	290	P	P	01 17 25.1	+1.4
AKASG	Malin Array Be	75.80	319	P	P	01 17 26.4	+0.5
	comp=Z,2.6nm,0.7s,mb4.3,baz=55,slow=5.8,SNR=13						
AKASG	Malin Array Be	75.80	319	P	P	01 17 26.4	+0.5
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BRTR	Keskin Array B	77.01	308	P	P	01 17 34.0	+1.0
	comp=Z,5.1nm,0.8s,mb4.5,baz=89,slow=5.9,SNR=30						
BRTR	Keskin Array B	77.01	308	P	P	01 17 34.1	+1.1
BRTR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KBRS	Khaybar	77.78	293	P	P	01 17 39.8	+2.2
SUW	Suwalki	77.83	324	*e*P	P	01 17 38.3	+1.0
	comp=Z,20nm,0.7s,mb5.2						
BLJS	Baljurashi	78.02	286	P	P	01 17 41.0	+2.0
JMQS	Jabal Moqyreh	79.39	297	P	P	01 17 48.2	+1.8
UMJS	Umm Lajj	79.62	293	P	P	01 17 50.2	+2.5
JMOS	Jabal al Moall	79.91	297	P	P	01 17 50.9	+1.8
MLR	Muntele Rosu	79.91	316	P	P	01 17 50.2	+1.4
	comp=Z,1.6nm,0.6s,mb4.2,baz=154,slow=22,SNR=4.0						
MLR	Muntele Rosu	79.91	316	P	P	01 17 50.2	+1.4
MLR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NB2	NORSAR Subarra	79.92	334	P	P	01 17 49.3	+0.8
	comp=Z,17nm,1.1s,mb4.9,baz=53,slow=5.8						
NB2	NORSAR Subarra	79.92	334	P	P	01 17 49.3	+0.8
	baz=53,slow=5.9						
NOA	NORSAR Array B	79.92	334	P	P	01 17 49.5	+1.0
	comp=Z,8.3nm,0.8s,mb4.7,baz=55,slow=5.4,SNR=20						
NOA	NORSAR Array B	79.92	334	P	P	01 17 49.5	+1.0
NOA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KWP	Kalwaria	80.05	320	*e*P	P	01 17 48.6	-0.8
	comp=Z,16nm,0.8s,mb5.0						
OJC	Ojcow	81.44	322	*e*P	P	01 17 58.2	+1.5
SUMG	Summit	82.09	356	*e*P	P	01 18 02.2	+2.5
	comp=Z,20nm,1.2s,mb4.9						
MORC	Moravsky Berou	82.92	322	*e*P	P	01 18 03.5	-0.8
	comp=Z,4.1nm,1.0s,mb4.4						
DPC	Dobruska-Polom	83.30	323	L		02 05 20.0	
UPC	Upice	83.38	323	*e*P	P	01 18 09.0	+2.3
VRAC	Vranov	83.69	322	P	P	01 18 10.1	+1.9
	comp=Z,5.6nm,1.0s,mb4.7,baz=32,slow=6.4,SNR=6.2						
PVCC	Panska Ves	84.15	324	LR		02 01 40.0	
	comp=Z,0.3nm,16.7s						
BRG	Berggiesshubel	84.30	324	*e*P	P	01 18 14.2	+2.9
BRG				*e*	pP	01 18 28.4	+3.2
BRG				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.6						
BRG	Berggiesshubel	84.30	324	*e*P	P	01 18 14.2	+2.9
	comp=Z,4.5nm,1.0s,mb4.5						
BRG				*e*	pP	01 18 28.4	+3.2
PRU	Pruhonice	84.46	323	*e*P	P	01 18 05.8	-6.3
PRU				L		01 59 10.0	
CLL	Collm	84.55	325	P	P	01 18 15.0	+2.5
CLL	Collm	84.55	325	*e*P	P	01 18 17.0	+4.5
NKC	Novy Kostel	85.45	324	*e*P	P	01 18 19.2	+2.2
KHC	Kasperske Hory	85.45	323	*e*P	P	01 18 22.2	+5.1
KHC				LR		01 59 00.0	
	comp=Z,0.2nm,18.6s						
GERES	GERESS Array B	85.54	323	P	P	01 18 18.2	+0.6

	comp=Z,1.4nm,0.7s,mb4.3,baz=45,slow=3.8,SNR=7.0						
GERES	**GERESS Array B**	**85.54**	**323**	P	**P**	**01 18 18.2**	**+0.7**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
GRA1	**Grafenberg Arr**	**86.41**	**324**	*e*P	**P**	**01 18 24.8**	**+3.1**
	comp=Z,7.0nm,1.1s,mb4.8						
GRF	**Grafenberg Arr**	**86.41**	**324**	*e*P	**P**	**01 18 24.8**	**+3.1**
GRF				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.8						
NEW	**Newport**	**87.04**	**37**	P	**P**	**01 18 26.4**	**+1.6**
	comp=Z,0.9nm,0.5s,mb4.3,baz=315,slow=2.9,SNR=3.4						
NEW	**Newport**	**87.04**	**37**	P	**P**	**01 18 26.5**	**+1.7**
NEW				pmax	pmax		
	comp=Z,1.0nm,0.5s						
DAVOX	**Davos**	**88.84**	**322**	P	**P**	**01 18 34.7**	**+1.2**
	comp=Z,4.5nm,0.8s,mb4.9,baz=120,slow=4.2,SNR=4.3						
DAVOX	**Davos**	**88.84**	**322**	P	**P**	**01 18 34.7**	**+1.2**
NVAR	**Mina Array Bea**	**91.93**	**46**	P	**P**	**01 18 50.9**	**+2.7**
	comp=Z,0.4nm,0.6s,mb4.0,baz=292,slow=3.3,SNR=3.6						
TPNV	**Topopah Spring**	**94.12**	**46**	P	**P**	**01 18 59.7**	**+1.5**
	comp=Z,1.5nm,0.9s,mb4.4						
SNAA	**Sanae**	**125.80**	**197**	⇓*i*P	PKPdf	01 24 32.3	-7.0
VNA2	**Neumayer--Watz**	**127.44**	**197**	⇑*i*P	PKPdf	01 24 47.1	+4.5
VNA1	**Neumayer--Stat**	**127.83**	**197**	⇓*i*P	PKPdf	01 24 46.3	+3.0
VNA3	**Neumayer Olymp**	**127.84**	**196**	⇑*i*P	PKPdf	01 24 46.8	+3.5

MDD 23 01:36:50.3±0.8, 36.40N×2.76E, h4^{km}±13^{km}, mb4.2/10, Error ellipse: s-maj=9.2km s-min=5.4km az=102.0, PRXIMO, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EMHD	**Djebel Mahouad**	**0.25**	**141**	P	Pg	01 36 54.5	-0.8
ADJB	**Djebel Djouab**	**0.60**	**113**	P	Pg	01 37 00.7	-1.5
AKET	**Djebel Ketaf**	**0.97**	**111**	P	Pb	01 37 09.5	+0.2
ECHF	**Ech Chlef**	**1.17**	**259**	P	Pb	01 37 10.5	-2.2
EANR	**’Ain N’Sour**	**1.42**	**252**	P	Pn	01 37 15.0	-1.9
ETRT	**Tiaret**	**1.55**	**230**	P	Pn	01 37 17.0	-1.8
CMER	**Merouana**	**2.66**	**106**	P	Pn	01 37 41.0	+6.3
EIBI	**Ibiza**	**2.86**	**337**	Pn	Pn	01 37 35.4	-2.1
	9.9nm,0.1s,SNR=115						
EIBI				Sn	Sn	01 38 06.0	-6.8
	18nm,0.1s,SNR=7.9						
CASM	**Ain Smara**	**3.02**	**91**	P	Pn	01 37 48.0	+8.3
EBEN	**Beniarda**	**3.31**	**315**	Pn	Pn	01 37 40.9	-3.0
	0.5nm,0.1s,SNR=13						
EBEN				Sn	Sn	01 38 17.0	-7.1
	4.7nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**4.09**	**305**	Pn	Pn	01 37 53.4	-1.6
	2.6nm,0.2s,SNR=32						
ETOB				Sn	Sn	01 38 38.2	-5.9
	SNR=7.9						
EMOS	**Mosqueruela**	**4.71**	**328**	Pn	Pn	01 38 01.3	-2.4
	5.0nm,0.1s,SNR=81						
EMOS				Sn	Sn	01 38 51.1	-8.4
	3.5nm,0.2s,SNR=7.9						
EQES	**Quesada**	**4.87**	**288**	Pn	Pn	01 38 04.8	-1.2
	0.4nm,0.1s,SNR=12						
EQES				Sn	Sn	01 38 59.6	-4.0
	1.1nm,0.4s,SNR=7.9						
EPOB	**Poblet**	**5.12**	**346**	Pn	Pn	01 38 06.8	-2.8
	2.0nm,0.1s,SNR=11						
EPOB				Sn	Sn	01 38 59.5	-11
	SNR=7.9						
EMIR	**Miracle**	**5.59**	**351**	Pn	Pn	01 38 13.9	-2.3
	5.3nm,0.1s,SNR=31						
EMIR				Sn	Sn	01 39 10.3	-12
	SNR=7.9						
ETOR	**Torete**	**5.81**	**321**	Pn	Pn	01 38 18.5	-0.7
	0.2nm,0.2s,SNR=7.9						
ESAC	**San Caprasio**	**5.88**	**336**	Pn	Pn	01 38 18.0	-2.3
	2.5nm,0.1s,SNR=7.9						
EJON	**La Jonquera**	**6.04**	**1**	Pn	Pn	01 38 20.3	-2.4
	1.3nm,0.1s,SNR=12						
EJON				Sn	Sn	01 39 21.8	-11
	SNR=7.9						
ESDC	**Sonseca Array**	**6.23**	**304**	Pn	Pn	01 38 22.0	-3.4
	0.3nm,0.2s,baz=116,slow=14,SNR=5.4						
ESDC				Sn	Sn	01 39 28.5	-9.4
	0.3nm,0.2s,baz=114,slow=24,SNR=4.2						
EALK	**Alkurruntz**	**7.56**	**336**	Pn	Pn	01 38 41.1	-2.9
	0.5nm,0.2s,SNR=7.9						
EALK				Sn	Sn	01 39 57.0	-14
	SNR=7.9						
ECAL	**Calabor**	**9.22**	**310**	Pn	P	01 39 02.6	-4.4
	SNR=7.9						

IDC 23 01:47:54.9±1.8, 8.87S×128.67E, mb3.5/1, mb1 3.5/4, mb1mx3.4/11, ML3.1/3, Error ellipse: s-maj=61.4km s-min=22.5km az=75.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**9.63**	**197**	Pn	P	01 50 14.7	-3.3
	0.2nm,0.3s,baz=12,slow=12,SNR=10						
FITZ				Sn	Sn	01 52 07.2	-1.0
	0.4nm,0.3s,baz=334,slow=21,SNR=6.2						
WRA	**Warramunga Arr**	**12.30**	**154**	Pn	P	01 50 51.0	-3.3
	0.1nm,0.3s,baz=334,slow=14,SNR=8.9						
WRA				Sn	S	01 53 12.2	-1.1
	0.4nm,0.3s,baz=329,slow=22,SNR=9.3						
ASAR	**Alice Springs**	**15.54**	**162**	Pn	P	01 51 33.9	-3.3
	0.1nm,0.3s,baz=342,slow=11,SNR=5.3						
ASAR				Sn	S	01 54 31.6	+0.8
	0.1nm,0.3s,baz=344,slow=25,SNR=3.3						
MKAR	**Makanchi Array**	**69.08**	**328**	P	P	01 59 02.9	-1.9
	0.6nm,1.0s,baz=135,slow=10,SNR=2.8						

NIED ***23*** *01:55:00, 25.10N×127.20E, h38^{km}, Mw5.3 Best double couple: $M_0$1.16×10^{17} NP1:ϕ_s31°, δ81°, λ84°. NP2:ϕ_s243°, δ11°, λ122°.*

IDC ***23*** *01:55:20.4±0.4, 25.07N×127.14E, mb5.1/28, mb1 5.3/29, mb1mx5.3/32, ML4.7/2, MS4.7/17, Ms1 4.7/17, ms1mx4.5/23, Error ellipse: s-maj=14.6km s-min=10.4km az=81.0*

BJI ***23*** *01:55:21.6, 25.16N×127.23E, h22^{km}, mB5.1, mb5.3, Ms5.3, Msz5.2*

NEIC ***23*** *01:55:23.9±1.3, 25.08N×127.15E, h21^{km}±8^{km}, mb5.4/109, MS4.8/95, MW5.3, MW5.4(NIED), Error ellipse: s-maj=3.8km s-min=3.7km az=87.0, Moment Tensor Solution. s9 Moment tensor: Scale 10^{16}Nm; M_{rr}8.59; $M_{\theta\theta}$-5.32; $M_{\phi\phi}$-3.28; $M_{r\theta}$3.27; $M_{\theta\phi}$-4.80; $M_{\phi r}$1.02; Best double couple: $M_0$9.5×10^{16} NP1:ϕ_s223°, δ36°, λ77°. NP2: ϕ_s59°, δ55°, λ100°. Principal axes: T 9.32, Plg77°, Azm1°; N .44, Plg8°, Azm234°; P -9.76, Plg10°, Azm142°;*

HRVD ***23*** *01:55:23.9±0.8, 25.14N×127.32E, h25^{km}±3^{km}, MW5.3/35, Centroid moment Tensor Solution. LP body waves: s35,c47; Mantle waves: s33,c38; Half duration: 1^{s}8 Moment tensor: Scale 10^{17}Nm; M_{rr}0.08±.03; $M_{\theta\theta}$0.05±.02; $M_{\phi\phi}$-0.13±.03; $M_{r\theta}$0.99±.08; $M_{\theta\phi}$-0.12±.02; $M_{\phi r}$0.49±.07; Best double couple: $M_0$1.12×10^{17} NP1:ϕ_s169°, δ8°, λ15°. NP2:ϕ_s64°, δ88°, λ97°. Principal axes: T 1.11, Plg47°, Azm341°; N .01, Plg7°, Azm244°; P -1.12, Plg43°, Azm147°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

JMA ***23*** *01:55:23.1±0.2, 25.06N×127.25E, h66^{km}, M5.5*

SYO ***23*** *01:55:24.8, 25.05N×127.12E, h28^{km}, MB5.4, MS4.8*

CSEM ***23*** *01:55:27.5, 25.66N×127.14E, h33^{km}, mb5.5*

MOS ***23*** *01:55:27.2±0.9, 25.67N×126.93E, h33^{km}, mb5.5/43, MS5.4/26, Error ellipse: s-maj=11.3km s-min=5.9km az=115.0*

ISC 23 01:55:25.2±0.1, 25.16N±0.02×127.15E±0.02, h41^{km}, h41^{km}±1.6^{km}:pP-P, n553, σ1^{s}26/517, mb5.3/155, MS4.9/127, 48C-24D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JJT2	**Tamagusuku 2**	**1.12**	**29**	P	**P**	**01 55 44.1**	**-0.4**
JJT2				S	**S**	**01 55 58.3**	**-0.7**
NAH1	**Naha**	**1.15**	**25**	P	**P**	**01 55 44.4**	**-0.6**
NAH1				S	**S**	**01 56 00.6**	**+0.8**
JKE	**Kume jima 2**	**1.21**	**344**	P	**P**	**01 55 45.8**	**-0.1**
JKE				S	**S**	**01 56 03.5**	**+2.1**
JAGN	**Aguni-jima**	**1.43**	**3**	P	**P**	**01 55 48.9**	**-0.2**
JAGN				S	**S**	**01 56 08.7**	**+1.8**
JOGS	**Gusukube**	**1.63**	**256**	P	**P**	**01 55 51.2**	**-0.8**
JOGS				S	**S**	**01 56 12.9**	**+0.9**
JMJ	**Miyako jima 2**	**1.72**	**259**	P	**P**	**01 55 52.3**	**-0.9**
JMJ				*e*S	**S**	**01 56 13.2**	**-1.0**
JOW	**Kunigami**	**1.95**	**31**	Pn	**P**	**01 55 55.4**	**-1.1**
	125nm,0.3s,baz=204,slow=11,SNR=260						
JOW				Sn	**S**	**01 56 17.4**	**-2.5**
	767nm,0.3s,baz=231,slow=18,SNR=14						
JOW	**Kunigami**	**1.95**	**31**	P	**P**	**01 55 55.2**	**-1.3**
JOW				S	**S**	**01 56 17.5**	**-2.4**
JIH	**Iheya**	**2.01**	**21**	P	**P**	**01 55 56.5**	**-0.8**
JIH				*e*S	**S**	**01 56 20.2**	**-1.2**
JTJ	**Tarama**	**2.28**	**258**	P	**P**	**01 55 59.7**	**-1.6**
JTJ				*e*S	**S**	**01 56 28.5**	**+0.1**
JIJ	**Ishigaki jima**	**2.85**	**255**	P	**P**	**01 56 07.1**	**-2.2**
JIJ				S	**S**	**01 56 39.3**	**-3.4**
JKRS	**Kuro-shima**	**3.00**	**253**	P	**P**	**01 56 09.4**	**-2.1**
JTK	**Tokunoshima**	**3.08**	**31**	P	**P**	**01 56 10.6**	**-1.9**
IRIF	**Iriomote-Funau**	**3.22**	**256**	P	**P**	**01 56 12.6**	**-2.0**
IRIF				*e*S	**S**	**01 56 49.9**	**-2.2**
HATJ	**Hateruma jima**	**3.24**	**251**	P	**P**	**01 56 12.1**	**-2.7**
JMZ	**Minamidaito 2**	**3.73**	**79**	P	**P**	**01 56 16.1**	**-5.8**
JMZ				S	**S**	**01 56 55.0**	**-10**
YOJ	**Yonaguni jima**	**3.83**	**260**	P	**P**	**01 56 20.4**	**-2.8**
JAM	**Amami Oshima**	**3.91**	**34**	P	**P**	**01 56 22.0**	**-2.4**
JAM				*e*S	**S**	**01 57 05.4**	**-4.3**
JZK	**Kikaishima**	**4.03**	**38**	P	**P**	**01 56 24.0**	**-2.1**
TATO	**Taipei**	**5.14**	**269**	*e*Pn	**P**	**01 56 40.9**	**-0.9**
JNN	**Nakanoshima**	**5.26**	**27**	P	**P**	**01 56 40.5**	**-2.8**
JNN				*e*S	**S**	**01 57 43.0**	**-0.5**
JKC	**Kuchinoerabu**	**5.93**	**26**	P	**P**	**01 56 50.7**	**-2.1**
JTN	**Tanegashima 3**	**6.44**	**31**	P	**P**	**01 56 57.3**	**-2.6**
JTN				*e*S	**S**	**01 58 10.4**	**-2.6**
JTSR	**Tashiro 2**	**6.85**	**28**	P	**P**	**01 57 02.6**	**-3.1**
JNAR	**Kushima--Naru**	**7.31**	**29**	P	**P**	**01 57 08.9**	**-3.2**
JTZ	**Takazaki**	**7.56**	**26**	P	**P**	**01 57 12.1**	**-3.5**
JZO	**Okuchi**	**7.59**	**23**	P	**P**	**01 57 13.9**	**-2.1**
JFU	**Fukue jima 2**	**7.60**	**10**	P	**P**	**01 57 15.1**	**-1.1**
QZH	**Quanzhou**	**7.77**	**270**	P	**P**	**01 57 14.4**	**-4.0**
QZH				S	**S**	**01 58 47.0**	**+1.0**
QZH				LR	LR		
	comp=N,11µm,12.5s						
QZH				LR	LR		
	comp=E,19µm,13.4s						
QZH				LR	LR		
	comp=Z,11µm,13.2s						
SSE	**Sheshan**	**7.92**	**320**	⇑P	**P**	**01 57 19.0**	**-1.6**
SSE				S	**S**	**01 58 53.1**	**+3.2**
SSE				AMB	AMB		
	comp=Z,73nm,1.0s						
SSE				LR	LR		
	comp=N,11µm,14.5s						
SSE				LR	LR		
	comp=E,7µm,14.5s						
SSE				LR	LR		
	comp=Z,16µm,14.9s						
SSE	**Sheshan**	**7.92**	**320**	⇑P	**P**	**01 57 19.0**	**-1.6**
	comp=Z,73nm,1.0s						
SSE				S	**S**	**01 58 53.1**	**+3.2**
JIU2	**Izumi 2**	**8.03**	**23**	P	**P**	**01 57 20.4**	**-1.7**
JUR	**Ureshino**	**8.28**	**17**	P	**P**	**01 57 24.3**	**-1.2**
JNU	**Nakatsue**	**8.58**	**21**	Pn	**P**	**01 57 27.6**	**-2.2**
	comp=Z,22nm,0.3s,baz=229,slow=1.3,SNR=66						
JNU				Sn	**S**	**01 59 01.4**	**-4.9**
	comp=Z,2.9nm,0.3s,baz=132,slow=2.3,SNR=1.6						
JNU				LR	LR	02 01 19.5	
	comp=Z,9µm,20.1s,baz=187,slow=41						
JNU	**Nakatsue**	**8.58**	**21**	P	**P**	**01 57 27.4**	**-2.3**
JFA	**Akaike**	**9.10**	**20**	P	**P**	**01 57 34.6**	**-2.3**
NJ2	**Nanjing**	**10.02**	**315**	*e*P	**P**	**01 57 44.8**	**-4.8**
NJ2				AP		01 57 51.5	
NJ2				XP		01 57 56.4	
NJ2				AMB	AMB		
	comp=Z,40nm,0.8s						
NJ2				AMB	AMB		
	comp=Z,480nm,3.5s						
NJ2				LR	LR		
	comp=Z,22µm,13.7s						
JAI	**Aioi**	**10.70**	**35**	P	**P**	**01 57 53.7**	**-5.2**
JKN	**Kiinagashima**	**12.03**	**39**	P	**P**	**01 58 12.0**	**-4.8**
KS15	**Wonju Array Si**	**12.26**	**3**	*e*P	**P**	**01 58 18.9**	**-1.1**
INCN	**Inchon**	**12.30**	**358**	*e*P	**P**	**01 58 19.4**	**-1.1**
INCN				*e*		01 58 28.4	
JIE	**Ise**	**12.38**	**40**	P	**P**	**01 58 17.6**	**-4.1**
WHN	**Wuhan**	**12.53**	**298**	⇑P	**P**	**01 58 22.0**	**-1.6**
WHN				LR	LR		
	comp=N,9µm,13.9s						
WHN				LR	LR		
	comp=E,15µm,12.6s						
WHN				LR	LR		
	comp=Z,24µm,11.9s						
JHJ	**Hachijo jima 2**	**13.59**	**51**	LR	LR	02 03 05.0	
	comp=Z,2µm,22.0s,baz=336,slow=34						
CBIJ	**Chichi jima**	**13.64**	**79**	LR	LR	02 02 53.2	
	comp=Z,2µm,21.3s,baz=282,slow=33						
TIA	**Tai’an**	**13.98**	**324**	*e*P	**P**	**01 58 42.8**	**+0.1**
JOD2	**Odawara 2**	**14.41**	**43**	P	**P**	**01 58 46.5**	**-1.8**
DL2	**Dalian**	**14.48**	**343**	P	**P**	**01 58 49.8**	**+0.5**
DL2				AMB	AMB		
	comp=Z,100nm,1.0s						
DL2				AMB	AMB		
	comp=Z,550nm,9.2s						
DL2				LR	LR		
	comp=N,7µm,12.9s						
DL2				LR	LR		
	comp=E,2µm,13.5s						
DL2				LR	LR		
	comp=Z,9µm,13.8s						
MAJO	**Matsushiro**	**14.78**	**37**	*e*P	**P**	**01 58 49.5**	**-3.8**
	comp=Z,71nm,1.0s						
MAJO				*e*		01 58 59.0	
MAT	**Matsushiro**	**14.78**	**37**	P	**P**	**01 58 47.1**	**-6.1**
MAT	**Matsushiro**	**14.78**	**37**	*e*P	**P**	**01 58 47.0**	**-6.2**
	comp=Z,19nm,1.1s						
MAT				*e*S	**S**	**02 01 48.0**	**+12**
JSD	**Sado**	**15.93**	**34**	P	**P**	**01 59 11.1**	**+3.1**
ENH	**Enshi**	**16.45**	**292**	*e*P	**P**	**01 59 15.0**	**+0.4**
	comp=Z,128nm,1.3s						
SNY	**Shenyang**	**16.89**	**351**	⇑P	**P**	**01 59 19.6**	**-0.5**
SNY				AMB	AMB		
	comp=Z,720nm,9.0s						
SNY				LR	LR		
	comp=N,7µm,12.9s						
SNY				LR	LR		
	comp=E,5µm,13.6s						
SNY				LR	LR		
	comp=Z,9µm,14.1s						
QIZ	**Qiongzhong**	**17.15**	**253**	P	**P**	**01 59 22.1**	**-1.4**
QIZ				PP	PP	01 59 40.9	+2.8
QIZ				S	**S**	**02 02 30.5**	**-0.9**
QIZ				XS		02 02 44.8	
QIZ				SS	SS	02 02 54.6	+1.4
QIZ				LR	LR		
	comp=N,6µm,20.3s						
QIZ				LR	LR		
	comp=E,3µm,21.2s						
QIZ				LR	LR		
	comp=Z,3µm,17.5s						
QIZ	**Qiongzhong**	**17.15**	**253**	*e*P	**P**	**01 59 24.9**	**+1.3**
	comp=Z,92nm,1.5s						
QIZ				*e*		01 59 40.0	
BJT	**Baijiatuau**	**17.45**	**331**	*e*P	**P**	**01 59 26.7**	**-0.4**
	comp=Z,146nm,1.3s						
BJI	**Beijing**	**17.46**	**331**	*e*P	**P**	**01 59 26.8**	**-0.5**
BJI				AP		01 59 36.3	
BJI				AMB	AMB		
	comp=Z,1µm,3.7s						
BJI				LR	LR		
	comp=N,8µm,15.1s						
BJI				LR	LR		
	comp=E,3µm,17.3s						
BJI				LR	LR		
	comp=Z,5µm,15.8s						
BJI	**Beijing**	**17.46**	**331**	*e*P	**P**	**01 59 26.7**	**-0.6**
	comp=Z,63nm,1.4s						
BJI				pP		01 59 36.3	
BJI				S	**S**	**02 02 48.5**	**+10**
BJI				sS		02 03 13.0	
DAV	**Davao City (W)**	**18.05**	**185**	*e*P	**P**	**01 59 32.0**	**-2.7**
XAN	**Xi’an**	**18.14**	**303**	P	**P**	**01 59 34.0**	**-1.7**
XAN				AP		01 59 42.5	
XAN				LR	LR		
	comp=N,5µm,13.9s						
XAN				LR	LR		
	comp=E,6µm,13.1s						
XAN				LR	LR		
	comp=Z,9µm,13.1s						
GYA	**Guiyang**	**18.50**	**278**	⇓*i*P	**P**	**01 59 39.9**	**-0.3**
GYA				AP		01 59 48.3	
GYA				XP		01 59 53.6	
GYA				S	**S**	**02 03 04.6**	**+2.9**
GYA				XS		02 03 14.5	
GYA				SS	SS	02 03 25.9	-0.6
GYA				LR	LR		
	comp=N,5µm,15.5s						
GYA				LR	LR		
	comp=E,3µm,15.2s						
GYA				LR	LR		
	comp=Z,8µm,14.3s						
CN2	**Changchun**	**18.65**	**356**	*e*P	**P**	**01 59 40.1**	**-1.9**
CN2				*e*XP		01 59 56.0	
CN2				*e*S	**S**	**02 03 04.8**	**-0.3**
CN2				AMB	AMB		
	comp=Z,100nm,1.3s						
CN2				AMB	AMB		
	comp=Z,600nm,3.0s						
CN2				LR	LR		
	comp=N,6µm,15.0s						
CN2				LR	LR		
	comp=E,5µm,15.0s						
CN2				LR	LR		
	comp=Z,6µm,15.0s						
MDJ	**Mudanjiang**	**19.52**	**5**	*e*P	**P**	**01 59 51.6**	**-0.2**
	comp=Z,19nm,1.0s						
GUMO	**Guam**	**20.26**	**121**	*e*P	**P**	**01 59 58.3**	**-1.7**
	comp=Z,504nm,1.2s						
GUMO				*e*		02 00 01.9	
GUMO				LR	LR		
	comp=Z,1µm,19.0s,MS4.3						
HHC	**Hu-ho-hao-te**	**20.34**	**324**	*e*P	**P**	**01 59 59.4**	**-1.2**
HHC				AP		02 00 05.8	
HHC				XP		02 00 10.3	
HHC				PP	PP	02 00 20.8	-0.8
HHC				S	**S**	**02 03 43.3**	**+1.9**
HHC				XS		02 03 50.9	
HHC				SS	SS	02 04 08.8	-3.2
HHC				PCP	PcP	02 04 12.9	+0.4
HHC				PCS		02 07 50.8	
HHC				AMB	AMB		
	comp=Z,86nm,0.9s						
HHC				AMB	AMB		
	comp=Z,653nm,3.2s						
HHC				LR	LR		
	comp=N,5µm,14.9s,MS5.2						
HHC				LR	LR		
	comp=E,5µm,14.9s,MS5.2						
HHC				LR	LR		
	comp=Z,7µm,14.3s,MS5.2						
BTO	**Baotou**	**21.02**	**321**	*e*P	**P**	**02 00 05.6**	**-2.0**
BTO				S	**S**	**02 03 54.1**	**-0.4**
BTO				AMB	AMB		
	comp=Z,110nm,1.4s,mb5.0						
ERM	**Erimo**	**21.40**	**34**	PFAKE		02 00 20.0	+8.6
ERM				LR	LR		
	comp=Z,61nm,22.0s						
CD2	**Chengdu**	**21.41**	**291**	⇑*i*P	**P**	**02 00 09.6**	**-2.1**
CD2				XP		02 00 25.3	
CD2				PP	PP	02 00 35.1	-1.2
CD2				S	**S**	**02 04 03.9**	**+2.0**
CD2				AMB	AMB		
	comp=Z,250nm,1.2s,mb5.4						
KKM	**Kota Kinabalu**	**21.70**	**211**	⇑*e*P	**P**	**02 00 13.7**	**-0.9**
	comp=Z,91nm,1.2s,mb5.1						
KMI	**Kunming**	**22.10**	**275**	⇑*e*P	**P**	**02 00 19.1**	**+0.6**
KMI				AP		02 00 28.8	
KMI				XP		02 00 34.0	
KMI				PP	PP	02 00 47.6	+2.3
KMI				S	**S**	**02 04 14.1**	**-0.5**
KMI				XS		02 04 32.9	
KMI				SS	SS	02 04 53.3	-1.9
KMI				LR	LR		
	comp=N,5µm,17.9s,MS5.1						
KMI				LR	LR		
	comp=E,3µm,15.6s,MS5.1						
KMI				LR	LR		
	comp=Z,4µm,14.1s,MS5.0						
KMI	**Kunming**	**22.10**	**275**	⇑*e*P	**P**	**02 00 19.1**	**+0.6**
	comp=Z,63nm,1.5s,mb4.8						
KMI				pP		02 00 28.8	
KMI				sP		02 00 34.0	
KMI				PP	PP	02 00 47.6	+2.3
KMI				S	**S**	**02 04 14.1**	**-0.5**
KMI				sS		02 04 32.9	
KMI				SS	SS	02 04 53.2	-2.0
KMI				LR	LR		
	comp=Z,4µm,14.1s,MS5.0						
ASAJ	**Asahikawa**	**22.72**	**30**	P	**P**	**02 00 24.7**	**+0.2**
	comp=Z,23nm,0.7s,mb4.8,baz=244,slow=12,SNR=11						
ASAJ	**Asahikawa**	**22.72**	**30**	P	**P**	**02 00 24.7**	**+0.2**
ASAJ				pmax	pmax		
	comp=Z,23nm,0.7s						
LZH	**Lanzhou**	**22.77**	**304**	⇑P	**P**	**02 00 24.6**	**-0.5**
LZH				AP		02 00 35.8	
LZH				XP		02 00 39.4	
LZH				PP	PP	02 00 58.0	+3.3
LZH				S	**S**	**02 04 32.1**	**+5.4**
LZH				AMB	AMB		
	comp=Z,490nm,1.0s,mb5.9						
LZH				AMB	AMB		
	comp=Z,1µm,4.0s						
LZH	**Lanzhou**	**22.77**	**304**	⇑P	**P**	**02 00 24.6**	**-0.5**
	comp=Z,490nm,1.0s,mb5.9						
LZH				pP		02 00 35.7	
LZH				sP		02 00 39.4	
LZH				PP	PP	02 00 58.0	+3.3
LZH				S	**S**	**02 04 32.1**	**+5.4**
LZH				sS		02 04 51.0	
LZH				SS	SS	02 05 23.0	+12
LZH				LR	LR		
	comp=Z,16µm,14.0s,MS5.6						
YUK	**Yuzh-Kuril’sk**	**24.23**	**34**	*e*P	**P**	**02 00 39.0**	**-0.2**
YUK				pmax	pmax		
	comp=Z,8µm,2.0s						
KLR	**Kul’dur**	**24.30**	**7**	*e*P	**P**	**02 00 39.0**	**-0.8**
KLR				*e*		02 00 50.0	
KLR				*e*S	**S**	**02 04 55.5**	**+2.3**
KLR				pmax	pmax		
	comp=N,30nm,1.6s						
KLR				pmax	pmax		
	comp=E,34nm,1.6s						
KLR				pmax	pmax		
	comp=Z,57nm,1.6s,mb4.8						
KLR				smax			
	comp=N,900nm,14.0s						
KLR				smax			
	comp=E,700nm,14.0s						
KLR				MLR	MLR		
	comp=N,2µm,11.5s,MS4.9						
KLR				MLR	MLR		
	comp=E,2µm,11.5s,MS4.9						
KLR				MLR	MLR		
	comp=Z,4µm,11.5s,MS5.1						
KKTK	**Khon Kaen**	**24.35**	**254**	P	**P**	**02 00 41.5**	**+0.8**
	comp=Z,432nm,1.0s,mb5.8						
HIA	**Hailar**	**24.75**	**348**	*e*P	**P**	**02 00 41.5**	**-2.8**
	comp=Z,22nm,0.9s,mb4.7						
HIA				LR	LR		
	comp=Z,4µm,19.0s,MS5.0						
YSS	**Yuzh-Sakhalins**	**25.05**	**26**	α*e*P	**P**	**02 00 46.0**	**-1.1**
YSS				*e*	pP	02 00 57.0	-0.9
YSS				*e*S	**S**	**02 05 04.0**	**-2.0**
YSS				*e*		02 05 16.0	
YSS				*e*SSS	SSS	02 05 53.0	-31
YSS				pmax	pmax		
	comp=Z,600nm,1.3s,mb6.0						
YSS				pmax	pmax		
	comp=N,400nm,1.4s						
YSS				pmax	pmax		
	comp=N,1µm,4.0s						
YSS				pmax	pmax		
	comp=Z,2µm,4.0s						
YSS				MLR	MLR		
	comp=Z,3µm,16.0s,MS4.9						
YSS				MLR	MLR		
	comp=N,3µm,17.0s,MS4.9						
YSS				MLR	MLR		
	comp=E,1µm,15.0s,MS4.9						
YSS	**Yuzh-Sakhalins**	**25.05**	**26**	*e*P	**P**	**02 00 47.4**	**+0.3**
	comp=E,1µm,1.6s,mb6.2						
YSS				LR	LR		
	comp=Z,2µm,21.0s,MS4.7						
CHG	**Chiang Mai**	**26.88**	**262**	⇑P	**P**	**02 01 04.0**	**-0.4**

	comp=Z,44nm,1.3s,mb4.8						
CM31	**Chiang Mai Arr**	**26.99**	**261**	*e*P	**P**	**02 01 05.7**	**+0.2**
	comp=Z,33nm,0.9s,mb4.9						
CM31				*e*		02 01 13.5	
CM31				LR	LR		
	comp=Z,2µm,22.0s,MS4.6						
CMAR	**Chiang Mai Arr**	**26.99**	**261**	P	**P**	**02 01 05.2**	**-0.2**
	comp=Z,30nm,1.3s,mb4.7,baz=61,slow=8.0,SNR=49						
CMAR				PcP	PcP	02 04 27.3	+0.7
	comp=Z,3.0nm,0.9s,baz=75,slow=1.3,SNR=6.1						
CMAR				LR	LR	02 11 06.4	
	comp=Z,1µm,21.5s,MS4.4,baz=85,slow=35						
CMAR	**Chiang Mai Arr**	**26.99**	**261**	P	**P**	**02 01 05.2**	**-0.2**
CMAR						02 04 27.3	
CMAR				pmax	pmax		
	comp=Z,30nm,1.3s						
CMAR				MLR	MLR		
	comp=Z,1µm,21.5s						
GTA	**Gaotai**	**27.00**	**308**	⇑P	**P**	**02 01 03.5**	**-1.8**
GTA				AP	pP	02 01 15.4	-0.9
GTA				XP	sP	02 01 20.9	-0.4
GTA				PP	PP	02 01 48.8	-3.1
GTA				PCP	PcP	02 04 27.4	+0.9
GTA				S	**S**	**02 05 33.9**	**-4.3**
GTA				XS		02 05 54.1	
GTA				SS	SS	02 06 48.4	-5.4
GTA				PCS		02 08 07.6	
GTA				SCS	ScS	02 11 52.3	+0.6
GTA				AMB	AMB		
	comp=Z,59nm,0.9s,mb5.1						
GTA				AMB	AMB		
	comp=Z,155nm,4.2s						
GTA				LR	LR		
	comp=N,2µm,13.3s,MS5.0						
GTA				LR	LR		
	comp=E,2µm,12.9s,MS5.0						
GTA				LR	LR		
	comp=Z,2µm,12.9s,MS4.9						
BDT	**Bhumibol Dam**	**27.36**	**259**	P	**P**	**02 01 09.0**	**+0.2**
SONM	**Songino Array**	**27.95**	**329**	P	**P**	**02 01 11.6**	**-2.2**
	comp=Z,27nm,0.7s,mb5.0,baz=146,slow=8.9,SNR=74						
ZAK	**Zakamensk**	**31.21**	**330**	*e*P	**P**	**02 01 40.2**	**-2.6**
ZAK				*e*		02 04 35.7	
CLNS	**Chul’man**	**31.69**	**358**	*e*P	**P**	**02 01 42.2**	**-4.8**
CLNS				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.8						
CLNS				pmax	pmax		
	comp=N,8.0nm,1.1s						
CLNS				pmax	pmax		
	comp=E,11nm,0.9s						
CLNS				MLR	MLR		
	comp=N,6µm,14.0s,MS5.4						
CLNS				MLR	MLR		
	comp=Z,8µm,14.0s,MS5.6						
CLNS				MLR	MLR		
	comp=E,300nm,12.0s,MS5.4						
SHL	**Shillong**	**31.82**	**278**	*e*P	**P**	**02 01 47.0**	**-1.4**
SHL				*e*		02 05 52.0	
LSA	**Lhasa**	**32.19**	**286**	P	**P**	**02 01 53.0**	**+1.4**
LSA	**Lhasa**	**32.19**	**286**	PFAKE		02 02 00.0	+8.4
LSA				LR	LR		
	comp=Z,1µm,20.0s,MS4.6						
IPM	**Ipoh**	**32.37**	**235**	⇓*e*P	**P**	**02 01 53.5**	**+0.1**
MOY	**Mondy**	**33.14**	**330**	*e*P	**P**	**02 01 57.9**	**-1.7**
SKR	**Severo-Kuril’s**	**33.84**	**34**	*e*P	**P**	**02 02 01.5**	**-4.2**
SKR				*e*		02 03 21.0	
SKR				*e*PPP	PPP	02 03 41.0	+3.5
SKR				*e*S	**S**	**02 07 30.0**	**+4.0**
SKR				*e*SSS	SSS	02 09 22.0	-38
SKR				pmax	pmax		
	comp=Z,180nm,1.0s,mb6.0						
SKR				smax			
	comp=E,1µm,10.0s						
SKR				smax			
	comp=N,1µm,14.0s						
SKR				MLR	MLR		
	comp=N,1µm,16.0s,MS4.9						
SKR				MLR	MLR		
	comp=E,1µm,16.0s,MS4.9						
SKR				MLR	MLR		
	comp=Z,2µm,16.0s,MS4.8						
PET	**Petropavlovsk**	**36.52**	**32**	*e*P	**P**	**02 02 28.4**	**-0.1**
PET				*e*S	**S**	**02 08 08.9**	**+1.6**
PET				*e*SS	SS	02 10 37.2	+2.5
PET				pmax	pmax		
	comp=Z,50nm,1.4s,mb5.2						
PET				smax			
	comp=E,579nm,18.9s						
PET				smax			
	comp=N,464nm,19.6s						
PET				MLR	MLR		
	comp=Z,1µm,19.0s,MS4.6						
PET	**Petropavlovsk**	**36.52**	**32**	*e*P	**P**	**02 02 28.1**	**-0.4**
	comp=Z,65nm,1.0s,mb5.4						
PET				LR	LR		
	comp=Z,1µm,20.0s,MS4.7						
YAK	**Yakutsk**	**36.90**	**2**	*e*P	**P**	**02 02 30.1**	**-1.5**
YAK				*e*S	**S**	**02 08 15.6**	**+2.5**
YAK				*e*SSS	SSS	02 10 59.1	-15
YAK				pmax	pmax		
	comp=Z,34nm,0.7s,mb5.3						
YAK				pmax	pmax		
	comp=N,31nm,1.3s						
YAK				pmax	pmax		
	comp=E,2.0nm,0.8s						
YAK				smax			
	comp=N,140nm,20.5s						
YAK				smax			
	comp=E,79nm,18.9s						
YAK				MLR	MLR		
	comp=Z,957nm,15.0s,MS4.7						
YAK				MLR	MLR		
	comp=N,744nm,16.0s,MS4.6						
YAK				MLR	MLR		
	comp=E,372nm,18.0s,MS4.6						
YAK	**Yakutsk**	**36.90**	**2**	*e*P	**P**	**02 02 29.4**	**-2.2**
	comp=E,132nm,0.8s,mb5.8						
YAK				LR	LR		
	comp=Z,2µm,19.0s,MS4.8						
WMQ	**Urumqi**	**37.05**	**310**	P	**P**	**02 02 32.3**	**-0.7**
WMQ				AP	pP	02 02 42.3	-2.0
WMQ				XP	sP	02 02 46.3	-3.2
WMQ				PP	PP	02 03 59.0	-1.1
WMQ				S	**S**	**02 08 15.3**	**-0.2**
WMQ				SS	SS	02 10 45.8	-0.6
WMQ				AMB	AMB		
	comp=Z,74nm,1.0s,mb5.5						
WMQ				LR	LR		
	comp=N,722nm,14.0s,MS5.1						
WMQ				LR	LR		
	comp=E,2µm,15.0s,MS5.1						
WMQ				LR	LR		
	comp=Z,2µm,16.0s,MS5.1						
PKI	**Pulchoki**	**37.36**	**283**	*e*P	**P**	**02 02 35.3**	**-0.5**
	comp=Z,94nm,0.8s,mb5.7						
KKN	**Kakani**	**37.45**	**283**	*e*P	**P**	**02 02 36.3**	**-0.2**
	comp=Z,134nm,0.7s,mb5.9						
DMN	**Daman**	**37.62**	**283**	*e*P	**P**	**02 02 38.1**	**+0.1**
	comp=Z,149nm,0.9s,mb5.7						
KAKA	**Kakadu**	**37.97**	**172**	⇓*i*P	**P**	**02 02 41.5**	**+0.5**
	comp=Z,52nm,1.2s,mb5.1						
GKN	**Gorkha**	**37.99**	**284**	*e*P	**P**	**02 02 40.9**	**-0.2**
	comp=Z,277nm,1.2s,mb5.9						
MA2	**Magadan**	**38.14**	**19**	*e*P	**P**	**02 02 40.8**	**-1.2**
MA2				*e*S	**S**	**02 08 31.3**	**-0.6**
MA2				*e*SS	SS	02 11 04.0	-7.3
MA2				pmax	pmax		
	comp=N,30nm,1.4s						
MA2				pmax	pmax		
	comp=E,20nm,1.4s						
MA2				pmax	pmax		
	comp=Z,30nm,1.4s,mb4.8						
MA2				MLR	MLR		
	comp=Z,1µm,22.0s,MS4.7						
MA2	**Magadan**	**38.14**	**19**	PFAKE		02 02 50.0	+8.0
MA2				LR	LR		
	comp=Z,641nm,20.0s,MS4.4						
KOLN	**Koldanda**	**38.93**	**284**	*e*P	**P**	**02 02 49.1**	**+0.2**
	comp=Z,135nm,0.8s,mb5.7						
PMG	**Port Moresby**	**39.50**	**148**	PFAKE		02 03 00.0	+6.3
PMG				LR	LR		
	comp=Z,909nm,21.0s,MS4.6						
SEY	**Seymchan**	**41.33**	**17**	*i* P	**P**	**02 03 08.7**	**+0.3**
SEY						02 04 50.4	
SEY						02 05 15.2	
SEY				*e*S	**S**	**02 09 19.1**	**-0.6**
SEY				*e*		02 13 12.1	
SEY				pmax	pmax		
	comp=Z,120nm,1.1s,mb5.4						
SEY				pmax	pmax		
	comp=N,60nm,0.9s						
SEY				smax			
	comp=N,1µm,20.2s						
SEY				smax			
	comp=E,2µm,19.5s						
MKAR	**Makanchi Array**	**41.54**	**313**	P	**P**	**02 03 09.0**	**-1.2**
	comp=E,48nm,0.7s,mb5.3,baz=98,slow=10,SNR=263						
MKAR				LR	LR	02 22 07.8	
	comp=E,1µm,18.9s,MS4.8,baz=113,slow=39						
MKAR	**Makanchi Array**	**41.54**	**313**	P	**P**	**02 03 09.0**	**-1.3**
MKAR				pmax	pmax		
	comp=Z,48nm,0.7s						
MKAR				MLR	MLR		
	comp=Z,1µm,18.9s						
MKAR	**Makanchi Array**	**41.54**	**313**	P	**P**	**02 03 09.0**	**-1.2**
MKAR				LR	LR	02 22 07.8	
FITZ	**Fitzroy Crossi**	**43.02**	**182**	⇓*i*P	**P**	**02 03 20.0**	**-2.8**
	comp=Z,56nm,0.7s,mb5.4						
FITZ	**Fitzroy Crossi**	**43.02**	**182**	P	**P**	**02 03 20.6**	**-2.2**
	comp=Z,82nm,0.8s,mb5.5,baz=6.8,slow=8.0,SNR=177						
NVS	**Novosibirsk**	**43.74**	**325**	*i* P	**P**	**02 03 25.8**	**-2.4**
NVS				*e*	pP	02 03 40.2	+0.6
NVS				*e*		02 05 07.4	
NVS				*e*S	**S**	**02 09 45.9**	**-9.2**
NVS				pmax	pmax		
	comp=Z,83nm,1.9s,mb5.1						
NVS				pmax	pmax		
	comp=N,72nm,1.8s						
NVS				pmax	pmax		
	comp=E,75nm,1.8s						
NVS				pmax	pmax		
	comp=Z,83nm,2.2s,mb5.1						
NVS				pmax	pmax		
	comp=N,71nm,2.0s						
NVS				smax			
	comp=E,35nm,2.0s						
KGD	**Kothagudem**	**43.78**	**270**	*e*P	**P**	**02 03 26.8**	**-2.1**
KGD				*e*sP	sP	02 03 38.4	-7.0
KGD				*e*PP	PP	02 05 13.6	+0.9
KGD				*e*ScP		02 09 02.8	
KGD				*e*S	**S**	**02 09 56.5**	**+0.3**
KGD				*e*SS	SS	02 13 18.6	+14
FX1	**Attu Island--F**	**44.13**	**39**	P	**P**	**02 03 31.7**	**+0.4**
	comp=E,13nm,0.7s,mb4.8,baz=252,slow=20,SNR=3.0						
FX1	**Attu Island--F**	**44.13**	**39**	P	**P**	**02 03 31.7**	**+0.4**
FX1				pmax	pmax		
	comp=Z,13nm,0.7s						
FX1	**Attu Island--F**	**44.13**	**39**	*e*P	**P**	**02 03 31.4**	**+0.1**
NDI	**New Delhi**	**44.41**	**286**	*e*P	**P**	**02 03 32.5**	**-1.4**
NDI				*e*S	**S**	**02 10 05.0**	**-0.2**
KURK	**Kurchatov**	**44.94**	**318**	*c i*P	**P**	**02 03 36.2**	**-1.6**
KURK				pmax	pmax		
	comp=Z,61nm,1.5s,mb5.2						
KURK	**Kurchatov**	**44.94**	**318**	*e*P	**P**	**02 03 36.6**	**-1.2**
	comp=Z,93nm,1.1s,mb5.5						
KURK				*e*S	**S**	**02 10 16.1**	**+3.6**
KURK				LR	LR		
	comp=Z,252nm,22.0s,MS4.1						
ULHL	**Ulahol**	**44.97**	**305**	P	**P**	**02 03 38.6**	**+0.5**
	SNR=8.2						
KSH	**Kashi**	**44.98**	**302**	*e*P	**P**	**02 03 40.0**	**+1.7**
KSH				*e*PCP	PcP	02 05 21.6	+2.2
KSH				*e*PP	PP	02 05 26.0	+1.6
KSH				*e*PPP	PPP	02 06 07.0	+1.5
KSH				*e*SCP		02 09 08.3	
KSH				*e*PCS		02 09 13.0	
KSH				*e*S	**S**	**02 10 15.3**	**+2.1**
KSH				*e*SS	SS	02 13 26.0	-0.7
KSH				*e*SCS	ScS	02 13 33.0	+3.6
KSH				AMB	AMB		
	comp=Z,90nm,1.2s,mb5.5						
KSH				AMB	AMB		
	comp=Z,310nm,2.8s,mb5.6						
BHPL	**Bhopal**	**45.19**	**278**	*e*P	**P**	**02 03 39.5**	**-0.8**
BHPL				*e*	pP	02 03 53.4	+1.7
BHPL				*e*		02 10 05.3	
WRAB	**Tennant Creek**	**45.36**	**170**	⇓*i*P	**P**	**02 03 39.1**	**-2.5**
	comp=Z,214nm,0.9s,mb6.0						
WRAB				*e*	pP	02 03 48.9	-4.2
WRAB				LR	LR		
	comp=Z,220nm,19.0s,MS4.1						
WRA	**Warramunga Arr**	**45.37**	**170**	P	**P**	**02 03 39.2**	**-2.5**
	comp=Z,81nm,0.8s,mb5.6,baz=351,slow=8.5,SNR=213						
WRA				LR	LR	02 22 40.7	
	comp=Z,431nm,18.6s,MS4.4,baz=10.0,slow=36						
WRA	**Warramunga Arr**	**45.37**	**170**	P	**P**	**02 03 39.2**	**-2.5**
WRA				pmax	pmax		
	comp=Z,81nm,0.8s						
WRA				MLR	MLR		
	comp=Z,431nm,18.6s						
WB2	**Warramunga Arr**	**45.37**	**170**	*e*P	**P**	**02 03 39.1**	**-2.6**
TKM2	**Tokmak 2**	**45.51**	**306**	P	**P**	**02 03 42.6**	**0.0**
	SNR=65						
KZA	**Kyzart**	**45.69**	**305**	P	**P**	**02 03 45.2**	**+1.3**
	SNR=35						
HYB	**Hyderabad**	**45.74**	**270**	*i* P	**P**	**02 03 45.5**	**+0.9**
HYB				*e*		02 03 53.0	
HYB				*e*S	**S**	**02 10 22.0**	**-2.3**
HYB	**Hyderabad**	**45.74**	**270**	*e*P	**P**	**02 03 45.5**	**+0.9**
KBK	**Karagaybulak**	**45.96**	**306**	P	**P**	**02 03 46.0**	**-0.1**
	SNR=21						
CHMS	**Chumysh**	**46.14**	**306**	P	**P**	**02 03 47.0**	**-0.4**
	SNR=27						
FRU	**Bishkek**	**46.22**	**306**	⇑*e*P	**P**	**02 03 48.0**	**-0.1**
FRU				pmax	pmax		
	comp=Z,90nm,1.6s,mb5.5						
FRU				MLR	MLR		
	comp=Z,4µm,14.0s,MS5.5						
UCH	**Uchtor**	**46.25**	**305**	P	**P**	**02 03 48.6**	**+0.3**
	SNR=56						
AAK	**Ala-Archa**	**46.30**	**306**	P	**P**	**02 03 48.9**	**+0.2**
	SNR=11						
AAK	**Ala-Archa**	**46.30**	**306**	*c i*P	**P**	**02 03 47.4**	**-1.3**
AAK				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.8						
AAK				MLR	MLR		
	comp=Z,4µm,16.0s,MS5.4						
AAK	**Ala-Archa**	**46.30**	**306**	*e*P	**P**	**02 03 46.6**	**-2.1**
	comp=Z,24nm,1.1s,mb5.0						
AAK				*e*PcP	PcP	02 05 22.6	-1.4
AAK				*e*PP	PP	02 05 37.4	-0.2
AAK				LR	LR		
	comp=Z,404nm,19.0s,MS4.4						
USP	**Ospenovka**	**46.35**	**307**	P	**P**	**02 03 49.0**	**0.0**
	SNR=16						
CUD	**Cuddapah**	**46.53**	**266**	*e*P	**P**	**02 03 51.8**	**+0.9**
TIXI	**Tiksi**	**46.54**	**1**	*c i*P	**P**	**02 03 48.2**	**-2.0**
TIXI				*i*	pP	02 04 01.5	-0.2
TIXI				*e*		02 05 35.5	
TIXI				*e*S	**S**	**02 10 41.5**	**+6.5**
TIXI				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
TIXI				MLR	MLR		
	comp=Z,2µm,18.0s,MS5.1						
TIXI	**Tiksi**	**46.54**	**1**	PFAKE		02 04 00.0	+10
TIXI				LR	LR		
	comp=Z,2µm,19.0s,MS5.1						
MBWA	**Marble Bar**	**46.60**	**190**	⇓*e*P	**P**	**02 03 48.3**	**-3.0**
	comp=Z,68nm,0.9s,mb5.6						
MBWA				*e*PP	PP	02 05 41.9	+1.0
EKS2	**Erkin-Say**	**46.83**	**306**	P	**P**	**02 03 53.0**	**+0.1**
	SNR=11						
AML	**Almayashu**	**46.85**	**305**	P	**P**	**02 03 53.5**	**+0.5**
	SNR=23						
AJM	**Ajmer**	**47.01**	**284**	*e*P	**P**	**02 03 52.5**	**-2.0**
AJM				*e*		02 10 37.0	
AJM				*e*		02 25 58.9	
	comp=Z,564nm,15.1s						
PALK	**Pallekele**	**47.73**	**256**	P	**P**	**02 03 56.9**	**-3.5**
	comp=Z,54nm,1.5s,mb5.4						
PALK				LR	LR		
	comp=Z,124nm,20.0s,MS3.9						
CTA	**Charters Tower**	**48.66**	**156**	*e*P	**P**	**02 04 05.9**	**-1.6**
	comp=Z,32nm,1.2s,mb5.2						
CTA	**Charters Tower**	**48.66**	**156**	P	**P**	**02 04 05.9**	**-1.5**
	comp=Z,32nm,0.9s,mb5.3,baz=337,slow=8.5,SNR=27						
CTA				PcP	PcP	02 05 31.9	-0.9
	comp=Z,7.9nm,0.8s,baz=304,slow=9.5,SNR=2.8						
CTA				LR	LR	02 24 48.2	
	comp=Z,446nm,18.8s,MS4.5,baz=147,slow=36						
CTA	**Charters Tower**	**48.66**	**156**	P	**P**	**02 04 05.9**	**-1.6**
CTA						02 05 31.9	
CTA				pmax	pmax		
	comp=Z,32nm,0.9s						
CTA				MLR	MLR		
	comp=Z,446nm,18.8s						
CTAO	**Charters Tower**	**48.66**	**156**	*e*P	**P**	**02 04 06.0**	**-1.5**
	comp=Z,64nm,1.1s,mb5.6						
CTAO				LR	LR		
	comp=Z,475nm,20.0s,MS4.5						
ASAR	**Alice Springs**	**48.97**	**172**	P	**P**	**02 04 07.8**	**-2.1**
	comp=Z,48nm,0.9s,mb5.5,baz=359,slow=7.5,SNR=285						
ASAR				PcP	PcP	02 05 32.0	-1.8
	comp=Z,9.9nm,0.7s,baz=345,slow=3.2,SNR=8.9						
ASAR				LR	LR	02 24 09.9	
	comp=Z,331nm,19.9s,MS4.3,baz=9.5,slow=35						
ASAR				P4KPbc		02 41 44.9	
	comp=Z,0.7nm,1.0s,baz=359,slow=5.2,SNR=4.1						
ASPA	**Alice Springs**	**48.97**	**172**	*e*P	**P**	**02 04 08.0**	**-1.8**
MIDW	**Midway**	**49.30**	**74**	PFAKE		02 04 20.0	+7.7
MIDW				LR	LR		
	comp=Z,2µm,20.0s,MS5.0						
POO	**Poona**	**49.66**	**274**	*e*P	**P**	**02 04 14.0**	**-1.2**
VOSK	**Vostochnaya**	**50.03**	**319**	P	**P**	**02 04 15.8**	**-1.8**
VOSK				pmax	pmax		
	comp=Z,22nm,1.0s,mb5.1						
BVA0	**Borovoye Array**	**50.44**	**319**	*i* P	**P**	**02 04 19.4**	**-1.3**
BVAR	**Borovoye Array**	**50.44**	**319**	P	**P**	**02 04 19.4**	**-1.3**
	comp=Z,10nm,0.5s,mb5.1,baz=100,slow=9.0,SNR=40						
BRVK	**Borovoye**	**50.51**	**319**	*e*P	**P**	**02 04 19.6**	**-1.6**
	comp=Z,95nm,1.3s,mb5.6						
BRVK				*e*PcP	PcP	02 05 38.5	-0.5
BRVK				LR	LR		
	comp=Z,426nm,19.0s,MS4.5						
ZRNK	**Zerenda**	**51.25**	**319**	P	**P**	**02 04 25.6**	**-1.2**
ZRNK				pmax	pmax		
	comp=Z,76nm,1.3s,mb5.5						
ZRNK	**Zerenda**	**51.25**	**319**	⇑*e*P	**P**	**02 04 25.1**	**-1.7**
	comp=Z,28nm,0.6s,mb5.4						
ZRNK				*e*PcP	PcP	02 05 41.0	-0.7
FORT	**Forrest**	**55.62**	**179**	*e*P	**P**	**02 04 57.6**	**-1.9**
	comp=Z,190nm,0.7s,mb6.2						
SVE	**Sverdlovsk**	**56.52**	**323**	⇑*i*P	**P**	**02 05 04.0**	**-1.5**
SVE				*e*		02 06 02.2	
SVE				*e*		02 07 05.3	
SVE				*e*		02 08 30.0	
SVE				*e*		02 16 31.0	
SVE				pmax	pmax		
	comp=Z,140nm,1.7s,mb5.7						
SVE				MLR	MLR		
	comp=N,2µm,17.0s,MS5.7						
SVE				MLR	MLR		
	comp=E,4µm,17.0s,MS5.7						
SVE				MLR	MLR		
	comp=Z,7µm,17.0s,MS5.8						
TNA	**Tin City**	**57.03**	**27**	PFAKE		02 05 20.0	+11
TNA				LR	LR		
	comp=Z,688nm,20.0s,MS4.8						
KLBR	**Kellerberrin**	**57.14**	**190**	⇓*i*P	**P**	**02 05 07.8**	**-2.5**
	comp=Z,34nm,1.1s,mb5.3						
ARU	**Arti**	**57.64**	**322**	⇑*i*P	**P**	**02 05 11.8**	**-1.7**
ARU				*i*	pP	02 05 22.3	-3.0
ARU				*i*		02 06 05.0	
ARU				*i*		02 07 19.2	
ARU				*i* PPP	PPP	02 08 35.1	-10
ARU				*e*S	**S**	**02 13 06.1**	**-0.9**
ARU				*e*		02 14 54.0	
ARU				*e*SS	SS	02 16 58.8	-0.1
ARU				pmax	pmax		
	comp=Z,34nm,0.9s,mb5.4						
ARU				MLR	MLR		
	comp=Z,3µm,19.0s,MS5.5						
ARU				MLR	MLR		
	comp=N,1µm,17.0s,MS5.4						
ARU				MLR	MLR		
	comp=E,2µm,18.5s,MS5.4						
ARU	**Arti**	**57.64**	**322**	⇑*e*P	**P**	**02 05 11.5**	**-2.0**
	comp=E,26nm,0.6s,mb5.5						
ARU				LR	LR		
	comp=Z,942nm,19.0s,MS4.9						
STKA	**Stephens Creek**	**58.37**	**166**	*e*P	**P**	**02 05 16.3**	**-2.6**
	comp=Z,43nm,0.6s,mb5.7						
STKA	**Stephens Creek**	**58.37**	**166**	P	**P**	**02 05 16.7**	**-2.2**
	comp=Z,70nm,0.8s,mb5.7,baz=344,slow=6.9,SNR=80						
NWAO	**Narrogin (SRO)**	**58.53**	**190**	*e*P	**P**	**02 05 17.6**	**-2.4**
	comp=Z,14nm,0.7s,mb5.1						
DZM	**Mont Dzumac**	**60.48**	**138**	*e*P	**P**	**02 05 32.2**	**-1.5**
ADE	**Adelaide**	**60.79**	**169**	*e*P	**P**	**02 05 34.0**	**-1.5**
IMA	**Indian Mountai**	**62.91**	**27**	*e*P	**P**	**02 05 49.4**	**+0.1**
RSO	**Redoubt South**	**63.61**	**33**	*e*P	**P**	**02 05 53.7**	**-0.3**
CNB	**Canberra Magne**	**63.71**	**160**	*e*P	**P**	**02 05 53.9**	**-1.2**
	comp=Z,63nm,1.0s,mb5.6						
SPU	**Mount Spurr**	**63.89**	**32**	*e*P	**P**	**02 05 55.9**	**+0.1**
SPU				*e*		02 06 02.2	
KDAK	**Kodiak Island**	**63.96**	**36**	*e*P	**P**	**02 05 54.3**	**-1.9**
	comp=Z,90nm,1.3s,mb5.6						
KDAK				LR	LR		
	comp=Z,129nm,20.0s,MS4.1						
TOO	**Toolangi**	**64.73**	**164**	*e*P	**P**	**02 06 00.8**	**-0.8**
	comp=Z,21nm,1.0s,mb5.1						
FIB	**Fire Island**	**64.80**	**32**	PFAKE		02 06 10.0	+8.4
FIB				LR	LR		
	comp=Z,1µm,19.0s,MS5.1						
MCK	**McKinley**	**65.08**	**29**	⇑*i*P	**P**	**02 06 02.8**	**-0.7**
	comp=Z,31nm,0.9s,mb5.3						
MCK				LR	LR		
	comp=Z,304nm,20.0s,MS4.5						
PMR	**Palmer**	**65.25**	**32**	*e*P	**P**	**02 06 03.8**	**-0.7**
PMR				LR	LR		
	comp=Z,300nm,20.0s,MS4.5						
COLA	**College**	**65.42**	**28**	*ce*P	**P**	**02 06 05.2**	**-0.4**
COLA	**College**	**65.42**	**28**	*e*P	**P**	**02 06 06.1**	**+0.5**
COLA				LR	LR		
	comp=Z,500nm,20.0s,MS4.7						
SML	**Sawmill**	**65.60**	**31**	*e*P	**P**	**02 06 06.3**	**-0.4**
ILAR	**Eielson Array**	**65.84**	**28**	P	**P**	**02 06 07.1**	**-1.2**
	comp=Z,5.1nm,0.7s,mb4.7,baz=273,slow=6.4,SNR=43						
ILAR				PKPPKP		02 34 43.2	
	comp=Z,0.7nm,0.9s,baz=135,slow=1.3,SNR=4.8						
DIV	**Divide**	**66.92**	**32**	*e*P	**P**	**02 06 15.3**	**+0.2**
	comp=Z,252nm,1.2s,mb6.1						
DIV				*e*		02 06 21.7	
DIV				LR	LR		
	comp=Z,1µm,19.0s,MS5.1						
APA	**Apatity**	**68.43**	**336**	⇑*i*P	**P**	**02 06 23.4**	**-1.1**
APA				*i*	pP	02 06 37.1	+0.5
APA				*i*		02 06 45.4	
APA				pmax	pmax		
	comp=Z,76nm,1.4s,mb5.5						
APA				MLR	MLR		
	comp=Z,2µm,14.0s,MS5.5						
ZEI	**Tsey**	**68.63**	**308**	*c i*P	**P**	**02 06 25.0**	**-1.2**
ZEI				*e*PP	PP	02 09 04.0	+3.8
ZEI				*e*S	S	02 15 24.0	-0.5
ZEI				pmax	pmax		
	comp=Z,100nm,5.0s						
GOF	**Gofitskoye**	**68.65**	**311**	⇓*i*P	**P**	**02 06 26.0**	**-0.3**
GOF				pmax	pmax		
	comp=Z,60nm,1.2s,mb5.4						
GNI	**Garni**	**68.70**	**305**	*e*P	**P**	**02 06 24.0**	**-2.7**
GNI	**Garni**	**68.70**	**305**	⇑*e*P	**P**	**02 06 27.1**	**+0.5**
	comp=Z,44nm,1.0s,mb5.3						
GNI				*e*	pP	02 06 41.9	+3.2
GNI				LR	LR		
	comp=Z,447nm,19.0s,MS4.7						
DAWY	**Dawson**	**69.17**	**28**	⇑*i*P	**P**	**02 06 29.2**	**+0.1**
DAWY				*e*		02 06 34.8	
DAWY				*e*		02 06 45.8	
KIV	**Kislovodsk**	**69.17**	**310**	*e*P	**P**	**02 06 29.6**	**+0.1**
KIV				*e*		02 09 01.0	
KIV				*e*PPP	PPP	02 10 41.3	-1.9
KIV				*e*S	S	02 15 30.9	-0.1
KIV				*e*SS	SS	02 19 55.0	-4.5
KIV				pmax	pmax		
	comp=Z,82nm,1.1s,mb5.6						
KIV	**Kislovodsk**	**69.17**	**310**	⇑*i*P	**P**	**02 06 29.6**	**+0.1**
	comp=Z,150nm,1.2s,mb5.8						
KIV				LR	LR		
	comp=Z,164nm,20.0s,MS4.3						
MOS	**Moscow**	**69.34**	**323**	*e*P	**P**	**02 06 29.4**	**-0.9**
MOS				*e*		02 06 51.6	
MOS				*e*		02 09 03.5	
MOS				*e*S	S	02 15 35.1	+2.4
MOS				pmax	pmax		
	comp=N,45nm,0.7s						
MOS				pmax	pmax		

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       comp=Z,116nm,0.7s,mb5.9
MOS                                MLR     MLR
       comp=E,2µm,17.4s,MS5.5
MOS                                MLR     MLR
       comp=Z,2µm,17.4s,MS5.5
MOS                                MLR     MLR
       comp=N,1µm,17.6s,MS5.5
VOR    Voronezh          69.44 318  eP      P       02 06 29.5  -1.5
VOR                                pmax    pmax
       comp=Z,160nm,1.5s,mb5.7
KEV    Kevo              70.08 339  ep      P       02 06 32.9  -1.7
       comp=Z,15nm,0.7s,mb5.0
KEV    Kevo              70.08 339  eP      P       02 06 32.9  -1.7
KEV                                pmax    pmax
       comp=Z,15nm,0.7s,mb5.0
OBN    Obninsk           70.08 322   P      P       02 06 34.5  -0.3
       comp=Z,390nm,0.9s,mb6.3,SNR=12
OBN    Obninsk           70.08 322c iP      P       02 06 33.9  -0.9
OBN                                 i               02 06 49.2
OBN                                pmax    pmax
       comp=Z,68nm,0.8s,mb5.6
OBN                                MLR     MLR
       comp=Z,2µm,15.0s,MS5.4
OBN    Obninsk           70.08 322⇑eP      P       02 06 33.8  -1.1
       comp=Z,48nm,0.8s,mb5.5
OBN                                 e      pP       02 06 48.7  +1.8
OBN                                LR      LR
       comp=Z,477nm,20.0s,MS4.7
INK    Inuvik            70.25  23   P      P       02 06 35.8  +0.1
       comp=Z,26nm,0.9s,mb5.2,baz=283,slow=6.6,SNR=30
INK    Inuvik            70.25  23   P      P       02 06 35.8  +0.1
INK                                pmax    pmax
       comp=Z,26nm,0.9s
INK    Inuvik            70.25  23  eP      P       02 06 36.0  +0.3
       comp=Z,92nm,1.0s,mb5.7
INK                                 e               02 06 41.4
INK                                 e               02 06 52.2
BCA    Borcka            70.62 307  eP      P       02 06 38.2  -0.2
ARCES  ARCESS Array B    70.65 339   P      P       02 06 37.8  -0.2
       comp=Z,14nm,0.9s,mb4.9,baz=69,slow=8.1,SNR=15
ARCES                              LR      LR       02 45 02.2
       comp=Z,1µm,18.4s,MS5.1,baz=190,slow=42
ERZM   Erzurum           71.26 306  iP      P       02 06 43.6  +1.4
EZM    Erzurum           71.26 306   P      P       02 06 42.7  +0.5
SOC    Sochi             71.34 310  eP      P       02 06 41.0  -1.7
SOC                                 e               02 06 59.0
SOC                                 e               02 09 24.0
SOC                                 eS     S        02 15 53.7  -2.6
SOC                                 e               02 16 41.1
SOC                                 eSS    SS       02 20 24.8  -8.2
SOC                                pmax    pmax
       comp=Z,38nm,0.7s,mb5.4
SOC                                pmax    pmax
       comp=N,13nm,0.8s
SOC                                pmax    pmax
       comp=E,23nm,0.9s
SOC                                smax
       comp=N,39nm,1.2s
SOC                                smax
       comp=E,13nm,0.8s
KTK1   Kautokeino        71.59 338  eP      P       02 06 44.7  +1.0
KTK1                               AMb     AMB      02 06 46.8
       comp=Z,56nm,1.4s,mb5.3
KTK1                                epP    pP       02 06 50.6  -5.2
KTK1   Kautokeino        71.59 338  eP      P       02 06 44.7  +1.0
       comp=Z,56nm,1.4s,mb5.3
BTMT   Batman            71.68 304   P      P       02 06 45.2  +0.4
BEST   Besiri            71.94 304  iP      P       02 06 47.1  +0.8
PUL    Pulkovo           71.94 328⇑eP      P       02 06 46.3  +0.4
PUL                                pmax    pmax
       comp=Z,141nm,1.1s,mb5.8
PUL                                pmax    pmax
       comp=N,53nm,0.6s
PUL                                pmax    pmax
       comp=E,110nm,1.0s
PUL                                MLR     MLR
       comp=E,2µm,15.0s
PUL                                MLR     MLR
       comp=Z,3µm,15.0s,MS5.7
BINT   Bingol            72.22 305  eP      P       02 06 47.7  -0.2
EZC    Erzincan          72.44 306   P      P       02 06 51.7  +2.5
ANN    Anapa             72.54 312  eP      P       02 06 49.7   0.0
ANN                                 eS     S        02 16 13.3  +3.3
ANN                                pmax    pmax
       comp=Z,110nm,1.3s,mb5.6
TRO    Tromso            72.74 340  eP      P       02 06 49.0  -1.4
TRO                                AMb     AMB      02 06 51.2
       comp=Z,41nm,1.5s,mb5.2
TRO    Tromso            72.74 340  eP      P       02 06 49.0  -1.4
       comp=Z,41nm,1.5s,mb5.1
KAF    Kangasniemi       72.97 331  ep      P       02 06 50.7  -1.2
       comp=Z,22nm,1.0s,mb5.0,baz=67,slow=5.7
KAF    Kangasniemi       72.97 331  eP      P       02 06 50.7  -1.2
KAF                                pmax    pmax
       comp=Z,23nm,1.0s,mb5.1
RAYN   Ar Rayn           73.23 288   P      P       02 06 54.0  -0.3
       comp=Z,167nm,1.3s,mb5.8,SNR=52
MZLS   Mizel             73.31 289   P      P       02 06 55.3  +0.6
FINES  FINESS Array B    73.32 331   P      P       02 06 54.0   0.0
       comp=Z,20nm,0.9s,mb5.0,baz=66,slow=5.2,SNR=42
FINES                              LR      LR       02 45 55.1
       comp=Z,622nm,18.3s,MS4.9,baz=70,slow=41
ELZG   Elazig            73.45 305  iP      P       02 06 56.0  +0.8
MYA    Malataya          73.92 305  eP      P       02 06 58.8  +0.8
MALT   Malatya           73.93 305  eP      P       02 06 56.5  -1.5
MALT   Malatya           73.93 305⇑eP      P       02 06 58.7  +0.7
       comp=Z,80nm,1.3s,mb5.5
MALT                                e      pP       02 07 09.9  -0.3
SIM    Simferopol'       74.72 313ceP      P       02 07 03.4  +0.9
SIM                                 ePS    PS       02 17 10.0  -5.1
SIM                                pmax    pmax
       comp=Z,51nm,1.1s,mb5.4
GZT    Gaziantep         74.89 304  iP      P       02 07 04.9  +1.3
HILS   Ha'il             75.01 293   P      P       02 07 05.0  +0.5
MNK    Minsk             75.06 323  eP      P       02 07 03.0  -1.2
MNK                                pmax    pmax
       comp=Z,360nm,1.0s,mb6.3
LOF    Lofoten           75.17 339  eP      P       02 07 07.3  +2.7
KAMS   Al Khamasin       75.18 286   P      P       02 07 05.4  -0.2
GAZ    Gaziantep         75.22 304  eP      P       02 07 06.3  +0.8
AFFS   ‘Afif             75.23 290   P      P       02 07 06.1  +0.3
DLBC   Dease Lake        75.30  32   P      P       02 07 06.8  +1.3
       comp=Z,6.0nm,0.9s,mb4.5,baz=308,slow=7.5,SNR=5.7
DLBC   Dease Lake        75.30  32  eP      P       02 07 06.5  +1.0
DLBC                                e               02 07 13.4
KAHT   Ahir Dag          75.31 305  iP      P       02 07 06.9  +0.8
BOYT   Boyabat           75.41 309  iP      P       02 07 07.1  +0.6
BNN    Bunyan            75.64 306  eP      P       02 07 08.7  +0.8
AKASG  Malin Array Be    75.71 319   P      P       02 07 07.9  -0.2
       comp=Z,8.3nm,0.7s,mb4.8,baz=55,slow=5.0,SNR=62
AKASG                              LR      LR       02 43 41.4
       comp=Z,890nm,18.1s,MS5.1,baz=70,slow=38
AKASG  Malin Array Be    75.71 319   P      P       02 07 07.9  -0.1
AKASG                              pmax    pmax
       comp=Z,8.0nm,0.7s
AKASG                              MLR     MLR
       comp=Z,890nm,18.1s
CTKT   Corum             75.78 308  iP      P       02 07 01.2  -7.4
MOR8   Moi Rana          75.87 337  eP      P       02 07 07.6  -1.1
MOR8                               AMb     AMB      02 07 09.5
       comp=Z,57nm,1.5s,mb5.3
MOR8                                epP    pP       02 07 14.5  -6.3
MOR8   Moi Rana          75.87 337  eP      P       02 07 07.6  -1.1
       comp=Z,57nm,1.5s,mb5.3
COBT   Iskenderun        76.17 304  iP      P       02 07 13.7  +2.7
CEYT   Ceyhan            76.37 305  eP      P       02 07 10.6  -1.5
TATS   Tathlith          76.42 285   P      P       02 07 13.3  +0.6
RES    Resolute Bay      76.78  11  eP      P       02 07 14.2  +0.6
       comp=Z,49nm,0.9s,mb5.4
RES                                 e               02 07 29.5
ELDT   Eldivan           76.79 309  iP      P       02 07 17.6  +3.3
NIG    Nigde             76.81 306  eP      P       02 07 14.8  +0.2
BRTR   Keskin Array B    76.92 308   P      P       02 07 15.2   0.0
       comp=Z,12nm,0.8s,mb4.8,baz=90,slow=4.9,SNR=63
BRTR                               LR      LR       02 47 32.5
       comp=Z,322nm,19.1s,MS4.7,baz=40,slow=41
DJNS   Zahran al Janu    77.06 284   P      P       02 07 17.5  +1.2
ASF    Jabal al Asfar    77.26 300   P      P       02 07 17.9  +0.7
       comp=Z,20nm,0.9s,mb5.0,baz=327,slow=1.8,SNR=30
KIS    Kishinev          77.39 316  eP      P       02 07 17.0  -0.6
KIS                                 e      pP       02 07 28.0  -1.8
KIS                                pmax    pmax
       comp=Z,110nm,1.8s,mb5.5
KIS                                MLR     MLR
       comp=Z,900nm,16.0s,MS5.2
LOD    Lodumlu           77.49 308  eP      P       02 07 17.5  -0.8
NSS    Namsos            77.62 336  eP      P       02 07 17.6  -0.9
NSS                                AMb     AMB      02 07 25.4
       comp=Z,60nm,1.7s,mb5.2
NSS    Namsos            77.62 336  eP      P       02 07 17.6  -0.9
       comp=Z,60nm,1.7s,mb5.2
KBRS   Khaybar           77.70 293   P      P       02 07 20.8  +1.1
SGKT   Sivrigoynuk       77.73 309  iP      P       02 07 24.9  +5.3
SUW    Suwalki           77.75 324  eP      P       02 07 19.9  +0.5
SUW                                MLR     MLR
       comp=Z,2µm,18.8s,MS5.5
BLJS   Baljurashi        77.93 286   P      P       02 07 21.9  +0.8
MDU    Mudurnu           78.36 309  eP      P       02 07 21.8  -1.3
HENT   Hendek            78.44 310  iP      P       02 07 11.1   -12
KIZT   Kizilcal          78.51 308  eP      P       02 07 23.2  -0.7
CSS    Prodhromos        78.96 303  eP      P       02 07 26.3  -0.1
       comp=Z,39nm,0.7s,mb5.5
ESKT   Eskisehir         78.99 308  iP      P       02 07 31.7  +5.2
TBKS   Tabuk             79.02 296   P      P       02 07 28.1  +1.1
LVV    L'vov             79.12 320  eP      P       02 07 25.0  -2.0
PSN    Preselentsi       79.14 313   P      P       02 07 29.5  +2.2
JMQS   Jabal Moqyreh     79.31 297   P      P       02 07 29.5  +1.0
YNBS   Yanbu‘ al Bahr    79.32 292   P      P       02 07 30.4  +1.8
RPZ    Rata Peaks        79.49 149   P      P       02 07 27.4  -1.8
       comp=Z,38nm,0.8s,mb5.4,baz=268,slow=2.1,SNR=8.4
UMJS   Umm Lajj          79.54 293   P      P       02 07 31.7  +1.9
ALT    Altintas          79.70 308  eP      P       02 07 17.1   -13
WAR    Warsaw            79.71 323  eP      P       02 07 30.9  +0.7
WAR                                MLR     MLR
       comp=Z,3µm,17.4s,MS5.6
EIL    Elat              79.75 298  eP      P       02 07 28.6  -2.3
       comp=Z,17nm,1.1s,mb4.9
ALWS   Ilw as Safayha    79.80 298   P      P       02 07 32.3  +1.1
JMOS   Jabal al Moall    79.82 297   P      P       02 07 32.2  +0.9
MLR    Muntele Rosu      79.83 315   P      P       02 07 31.7  +0.8
       comp=Z,5.5nm,0.6s,mb4.7,baz=91,slow=4.7,SNR=10
MLR    Muntele Rosu      79.83 315   P      P       02 07 31.7  +0.7
MLR                                pmax    pmax
       comp=Z,6.0nm,0.6s
NB2    NORSAR Subarra    79.84 334   P      P       02 07 30.1  -0.6
       comp=Z,61nm,1.0s,mb5.5,baz=57,slow=5.0
NB2    NORSAR Subarra    79.84 334   P      P       02 07 30.1  -0.6
       baz=57,slow=5.1
NOA    NORSAR Array B    79.84 334   P      P       02 07 30.4  -0.3
       comp=Z,20nm,0.8s,mb5.1,baz=56,slow=5.4,SNR=43
NOA                                LR      LR       02 47 12.3
       comp=Z,2µm,18.5s,MS5.5,baz=35,slow=39
NOA    NORSAR Array B    79.84 334   P      P       02 07 30.4  -0.3
NOA                                pmax    pmax
       comp=Z,20nm,0.8s
NOA                                MLR     MLR
       comp=Z,2µm,18.5s
NOA    NORSAR Array B    79.84 334   P      P       02 07 30.4  -0.3
NOA                                LR      LR       02 47 12.3
YKW3   Yellowknife Ar    79.86  24  eP      P       02 07 30.6  -0.2
YKW3                                e               02 07 37.2
YKW3                                e               02 07 46.2
YKA    Yellowknife Ar    79.90  25   P      P       02 07 31.4  +0.4
       comp=Z,21nm,0.9s,mb5.0,baz=303,slow=5.5,SNR=19
YKA                                LR      LR       02 43 30.0
       comp=Z,358nm,21.8s,MS4.7,baz=300,slow=36
YKA    Yellowknife Ar    79.90  25   P      P       02 07 31.4  +0.4
YKA                                pmax    pmax
       comp=Z,21nm,1.0s
YKA                                MLR     MLR
       comp=Z,358nm,21.8s
ULDT   Uludag            79.95 310  iP      P       02 07 31.7   0.0
KWP    Kalwaria          79.97 320  eP      P       02 07 32.2  +0.6
KWP                                MLR     MLR
       comp=Z,900nm,20.2s,MS5.1
HAQS   Haql              80.01 297   P      P       02 07 33.3  +1.0
AYUS   ‘Aynunah          80.08 296   P      P       02 07 33.3  +0.7
NAO01  NORSAR Array S    80.08 334  eP      P       02 07 30.9  -1.0
       comp=Z,10nm,0.7s,mb4.9
DOMB   Dombas            80.11 335  eP      P       02 07 32.6  +0.5
DOMB                               AMb     AMB      02 07 36.0
       comp=Z,123nm,1.3s,mb5.7
DOMB   Dombas            80.11 335  eP      P       02 07 32.6  +0.5
       comp=Z,123nm,1.3s,mb5.7
BDAS   Al Bad‘           80.12 297   P      P       02 07 33.6  +0.8
TAYS   Tayyib Ism        80.25 297   P      P       02 07 34.6  +1.0
MOL    Molde             80.37 336  eP      P       02 07 38.4  +5.0
MOL                                AMb     AMB      02 07 41.2
       comp=Z,127nm,1.5s,mb5.6
MOL    Molde             80.37 336  eP      P       02 07 38.4  +5.0
       comp=Z,127nm,1.5s,mb5.6
KOLS   Kolonicke sedl    80.54 320  eP      P       02 07 35.3  +0.6
KOLS                                epP    pP       02 07 41.5  -5.4
KOLS                                e      pP       02 07 48.2  +1.3
ELL    Elmali            80.79 306  eP      P       02 07 35.0  -1.3
SZH    Strazhica         80.80 313   P      P       02 07 37.0  +0.8
DENT   Denizli           81.01 307  eP      P       02 07 36.8  -0.6
DNZL   Cakiroluk         81.03 307  iP      P       02 07 37.3  -0.2
MANT   Manisa            81.04 308  iP      P       02 07 37.4  -0.2
GKP    Gorka Klasztor    81.22 325  eP      P       02 07 38.7  +0.5
GKP                                MLR     MLR
       comp=Z,4µm,19.8s,MS5.7
KONO   Kongsberg         81.30 333   PFAKE          02 07 50.0   +12
KONO                               LR      LR
       comp=Z,1µm,20.0s,MS5.3
OJC    Ojcow             81.35 322  eP      P       02 07 39.5  +0.6
OJC                                 eS     S        02 17 33.7   -12
OJC                                MLR     MLR
       comp=Z,1µm,17.5s,MS5.4
HYA    Hoyanger          81.74 335  eP      P       02 07 42.1  +1.4
HYA                                AMb     AMB      02 07 44.7
       comp=Z,127nm,1.8s,mb5.5
HYA    Hoyanger          81.74 335  eP      P       02 07 43.9  +3.2
       comp=Z,127nm,1.8s,mb5.5
ALN    Alexandroupoli    81.76 311  eP      P       02 07 41.2   0.0
YER    Yerkesik          81.81 307  eP      P       02 07 41.2  -0.4
AYDN   Tasoluk           81.88 308  iP      P       02 07 42.7  +0.8
FOO    Floro             81.90 336  eP      P       02 07 42.5  +1.1
FOO                                AMb     AMB      02 07 46.0
       comp=Z,74nm,2.6s,mb5.2
FOO                                 epP    pP       02 07 48.8  -5.0
FOO    Floro             81.90 336  eP      P       02 07 43.2  +1.7
       comp=Z,74nm,2.6s,mb5.2
KDAG   Bornova           82.00 309  iP      P       02 07 35.7  -6.8
IZM    Izmir             82.00 309  eP      P       02 07 41.5  -1.0
AYVA   Ayvalik           82.01 310  iP      P       02 07 47.3  +4.8
SUMG   Summit            82.03 356  eP      P       02 07 43.2  +1.2
       comp=Z,53nm,1.0s,mb5.4
SUMG                                e      pP       02 07 57.5  +3.2
RZN    Rozhen            82.30 312   P      P       02 07 45.0  +1.0
RAC    Raciborz          82.32 322  eP      P       02 07 43.2  -0.7
RAC                                 eS     S        02 17 52.7  -2.5
RAC                                MLR     MLR
       comp=Z,2µm,17.1s,MS5.5
PSZ    Piszkesteto       82.42 320  eP      P       02 07 45.5  +1.0
OKC    Ostrava-Krasne    82.47 322⇓iP      P       02 07 46.0  +1.3
OKC                                 epP    pP       02 07 57.9  +0.9
BLS5   Blasjo            82.72 334  eP      P       02 07 47.3  +1.6
BLS5   Blasjo            82.72 334  eP      P       02 07 48.2  +2.5
VYHS   Vyhne             82.75 320  eP      P       02 07 47.1  +1.0
VYHS                                e               02 07 52.7
VYHS                                e      pP       02 08 02.4  +4.0
MORC   Moravsky Berou    82.84 322  eP      P       02 07 47.7  +1.2
       comp=Z,17nm,1.0s,mb5.0
MORC                                e      pP       02 07 59.7  +0.8
VTS    Vitosha           82.89 314  iP      P       02 07 48.0  +1.0
KSP    Ksiaz             82.97 323  eP      P       02 07 47.8  +0.6
KSP                                 e*PP   pP       02 07 57.8  -1.7
KSP                                MLR     MLR
       comp=Z,4µm,18.5s,MS5.8
KSP    Ksiaz             82.97 323  eP      P       02 07 47.8  +0.6
KSP                                 epP    pP       02 07 57.8  -1.7
KSP                                 eSKS   SKS      02 18 12.0   +11
KSP                                LR      LR
       comp=Z,4µm,18.5s,MS5.8
MMB    Musomiste         83.01 313  iP      P       02 07 48.5  +0.9
BOLS   Boljevac          83.12 315⇑iP      P       02 07 49.0  +0.9
DPC    Dobruska-Polom    83.22 323⇓iP      P       02 07 50.1  +1.6
DPC                                 eS              02 19 14.4
DPC                                LR               02 48 50.0
       comp=Z,2.2nm,16.1s
UPC    Upice             83.30 323⇓iP      P       02 07 51.3  +2.4
UPC                                 epP    pP       02 08 00.1  -1.1
KKB    Krupnik           83.31 313  iP      P       02 07 50.0  +0.9
MUD    Monsted U'grnd    83.36 330  iP      P       02 07 50.2  +1.1
       comp=Z,50nm,0.9s,mb5.5
       comp=Z,1µm,20.0s
SMOL   Smolenice         83.55 321  iP      P       02 07 51.9  +1.7
SMOL                                e               02 07 55.2
SMOL                                e      pP       02 08 02.4  -0.1
SMOL   Smolenice         83.55 321  iP      P       02 07 51.9  +1.7
SMOL                                e      pP       02 08 02.4  -0.1
ZST    Bratislava        83.90 321  eP      P       02 07 53.6  +1.6
VAY    Valandovo         83.90 313⇑iP      P       02 07 52.2   0.0
VAY                                 i      pP       02 08 06.3  +1.8
HDW    Hoodsport         84.03  40   P      P       02 07 53.4  +0.7
PVCC   Panska Ves        84.07 324⇓iP      P       02 07 54.4  +1.6
PVCC                                epP    pP       02 08 09.4  +4.3
PVCC                                eS     S        02 18 14.5  +1.8
PVCC                               LR               02 51 40.0
       comp=Z,2.3nm,14.4s
SANT   Santorini         84.18 307  eP      P       02 07 52.5  -1.2
       comp=Z,65nm,1.2s,mb5.6
SANT                                e      pP       02 08 03.2  -2.9
GRG    Griva             84.19 313  eP      P       02 07 51.9  -1.7
BRG    Berggiesshubel    84.22 324  iP      P       02 07 54.5  +1.0
BRG                                 i      pP       02 08 09.0  +3.2
BRG                                pmax    pmax
       comp=Z,45nm,1.4s,mb5.4
BRG                                MLR     MLR
       comp=Z,2µm,15.8s,MS5.6
BRG                                MLR     MLR
       comp=N,1µm,18.8s,MS5.4
BRG                                MLR     MLR
       comp=E,920nm,18.8s,MS5.4
BRG    Berggiesshubel    84.22 324  iP      P       02 07 54.5  +1.0
       comp=E,45nm,1.4s,mb5.4
BRG                                 i      pP       02 08 09.0  +3.2
BRG                                LR      LR
       comp=Z,2µm,15.8s,MS5.6
DIVS   Divcibare         84.23 316⇓iP      P       02 07 53.9  +0.2
SKO    Skopje            84.34 314  iP      P       02 07 55.5  +1.2
SKO                                 i      pP       02 08 09.5  +2.8
PRU    Pruhonice         84.38 323⇓iP      P       02 07 55.8  +1.5
       comp=Z,64nm,1.7s,mb5.5
PRU                                 epP    pP       02 08 02.4  -4.3
PRU                                 esP    sP       02 08 11.1  +0.1
PRU                                 eS     S        02 18 22.6  +6.8
PRU                                LR               02 49 40.0
       comp=Z,1.5nm,12.0s
PRU    Pruhonice         84.38 323⇓iP      P       02 07 55.8  +1.5
PRU                                 e               02 08 02.4
PRU                                 e*PP   pP       02 08 11.1  +4.4
PRU                                 eS     S        02 18 22.6  +6.8
PRU                                pmax    pmax
       comp=Z,64nm,1.7s,mb5.5
PRU                                MLR     MLR
       comp=Z,2µm,12.0s,MS5.6
RHK1   Bakonya           84.41 319  eP      P       02 07 55.1  +0.5
CLL    Collm             84.47 325 ⇓P      P       02 07 56.1  +1.3
       comp=Z,logA/T=1.7,mb5.6
CLL                                 i*PP   pP       02 08 07.7  +0.6
CLL                                 i      pP       02 08 10.0  +2.9
CLL                                 e               02 08 18.0
CLL                                 iPP    PP       02 11 07.2  -4.7
CLL                                 eS     S        02 18 18.0  +1.3
CLL    Collm             84.47 325⇓iP      P       02 07 56.1  +1.3
CLL                                 i*PP   pP       02 08 07.7  +0.6
CLL                                 i      pP       02 08 10.0  +2.9
CLL                                 eS     S        02 18 18.0  +1.3
CLL                                pmax    pmax
       comp=Z,80nm,1.5s,mb5.6
CLL    Collm             84.47 325⇓iP      P       02 07 56.1  +1.3
       comp=Z,80nm,1.5s,mb5.6
CLL                                 ipP    pP       02 08 07.7  +0.6
CLL                                 i      pP       02 08 10.0  +2.9
CLL                                 eS     S        02 18 18.0  +1.3
RPW    Rockport          84.50  39   P      P       02 07 55.8  +0.8
LIT    Litokhoron        84.53 312  eP      P       02 07 54.4  -0.9
BMW    Boistfort Moun    84.53  41  eP      P       02 07 56.5  +1.3
FNA    Florina           84.95 313  eP      P       02 07 56.6  -0.8
GSM    Grass Mountain    85.00  40   P      P       02 07 59.2  +1.7
AGG    Agios Georgios    85.15 311  eP      P       02 07 55.8  -2.7
FMW    Mount Fremont     85.21  40   P      P       02 07 59.8  +1.3
SHW    Mount Saint He    85.27  41  eP      P       02 07 59.1  +0.3
SHW                                 e      pP       02 08 09.9  -1.3
ARSA   Arzberg           85.30 321⇑iP      P       02 08 00.0  +1.0
       comp=Z,62nm,2.8s,mb5.2
NLW    Nelson Butte      85.36  38   P      P       02 08 00.4  +1.1
NKC    Novy Kostel       85.37 324⇓iP      P       02 08 00.8  +1.6
NKC                                 epP    pP       02 08 14.9  +3.3
NKC                                 ex     x        02 19 21.0
NKC                                LR               02 51 00.0
       comp=Z,1.7nm,15.7s
KHC    Kasperske Hory    85.37 323⇓iP      P       02 08 00.6  +1.3
KHC                                 epP    pP       02 08 10.9  -0.8
KHC                                 eS     S        02 18 30.5  +4.9
KHC                                LR               02 48 50.0
       comp=Z,1.5nm,15.9s
GERES  GERESS Array B    85.46 323   P      P       02 08 01.1  +1.4
       comp=Z,7.1nm,0.8s,mb4.9,baz=45,slow=3.8,SNR=20
GERES  GERESS Array B    85.46 323   P      P       02 08 01.1  +1.4
GERES                              pmax    pmax
       comp=Z,7.0nm,0.8s
COR    Corvallis         85.46  42  eP      P       02 08 02.0  +2.1
       comp=Z,52nm,1.0s,mb5.6
MOX    Moxa              85.57 325  iP      P       02 08 01.6  +1.4
       comp=Z,logA/T=1.5,mb5.5
MOX                                 S      S        02 18 27.0  -0.5
MOX                                 L               02 50 39.0
MOX    Moxa              85.57 325  eP      P       02 08 01.6  +1.4
MOX                                pmax    pmax
       comp=Z,52nm,1.5s,mb5.5
MOX                                MLR     MLR
       comp=Z,2µm,19.0s,MS5.5
MOX    Moxa              85.57 325  eP      P       02 08 01.6  +1.4
       comp=Z,52nm,1.5s,mb5.5
MOX                                 eS     S        02 18 27.0  -0.5
MOX                                LR      LR
       comp=Z,2µm,19.0s,MS5.5
MOA    Molln             85.69 322⇑iP      P       02 08 02.2  +1.3
       comp=Z,97nm,2.6s,mb5.6
SISC   Sisak             85.75 319  iP      P       02 08 01.9  +0.7
WTV    Waterville        85.78  39   P      P       02 08 02.5  +1.2
SSOR   Sweet Springs     85.84  42  eP      P       02 08 02.6  +0.9
EDM    Edmonton          86.02  32  eP      P       02 08 03.4  +1.1
EDM                                 e               02 08 12.3
CRES   Cresnjevec ost    86.10 319  eP      P       02 08 03.6  +0.6
LEGS   Legarje           86.12 320  iP      P       02 08 03.6  +0.5
LEGS                                ePcP   PcP      02 08 06.7  +0.6
LEGS                                esP    sP       02 08 17.6  -2.2
OBKA   Obir              86.27 320⇑iP      P       02 08 04.4  +0.7
       comp=Z,233nm,4.0s
GRA1   Grafenberg Arr    86.33 324  eP      P       02 08 05.2  +1.3
       comp=Z,37nm,1.2s,mb5.5
GRA1                                eS     S        02 18 49.8   +15
GRA1                                eSS    SS       02 24 05.3   -13
GRA1                               LR      LR
       comp=Z,1µm,20.2s,MS5.3
GRF    Grafenberg Arr    86.33 324  eP      P       02 08 05.2  +1.3
GRF                                pmax    pmax
       comp=Z,37nm,1.2s,mb5.5
GRF                                MLR     MLR
       comp=Z,1µm,20.2s,MS5.3
VGB    Gordon Butte      86.49  41  eP      P       02 08 06.0  +1.1
LJU    Ljubljana         86.53 320  eP      P       02 08 05.8  +0.7
LJU                                 ePcP   PcP      02 08 09.0  +1.1
LJU                                 esP    sP       02 08 19.8  -2.0
GBB    Gable Butte       86.57  39   P      P       02 08 06.5  +1.3
KBA    Koelnbreinsper    86.64 321⇑iP      P       02 08 06.1  +0.5
       comp=Z,76nm,2.9s,mb5.4
DPW    Davenport         86.67  38  eP      P       02 08 06.6  +1.0
DPW                                 e               02 08 23.6
HUMO   Hull Mountain     86.70  44  eP      P       02 08 07.2  +1.3
       comp=Z,31nm,1.3s,mb5.4
HUMO                               LR      LR
       comp=Z,186nm,21.0s,MS4.5
HAWA   Hanford           86.74  40   PFAKE          02 08 20.0   +14
HAWA                               LR      LR
       comp=Z,15nm,19.0s
CEY    Cerknica          86.76 320  eP      P       02 08 07.1  +0.9
CEY                                 esP    sP       02 08 20.4  -2.5
VOY    Vojsko            86.91 320  eP      P       02 08 07.3  +0.4
VOY                                 esP    sP       02 08 20.4  -3.2
VOY                                 e               02 08 28.4
NEW    Newport           87.04  37   P      P       02 08 08.7  +1.2
       comp=Z,8.0nm,0.8s,mb5.0,baz=315,slow=4.0,SNR=17
NEW    Newport           87.04  37   P      P       02 08 08.7  +1.2
NEW                                pmax    pmax
       comp=Z,8.0nm,0.8s
NEW    Newport           87.04  37  eP      P       02 08 08.2  +0.7
       comp=Z,20nm,1.1s,mb5.3
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NEW				*e*	pP	02 08 18.0	-1.9
NEW				LR	LR		
	comp=Z,408nm,21.0s,MS4.8						
FVI	**Forni Avoltri**	**87.23**	**321**	*e*P	**P**	**02 08 08.9**	**+0.4**
YBH	**Yreka Blue Hor**	**87.32**	**45**	P	**P**	**02 08 10.5**	**+1.6**
	comp=Z,13nm,0.9s,mb5.1,baz=299,slow=12,SNR=26						
YBH	**Yreka Blue Hor**	**87.32**	**45**	P	**P**	**02 08 10.5**	**+1.5**
YBH				pmax	pmax		
	comp=Z,13nm,0.9s						
YBH	**Yreka Blue Hor**	**87.32**	**45**	*e*P	**P**	**02 08 10.3**	**+1.4**
	comp=Z,20nm,1.1s,mb5.3						
YBH				*e*	pP	02 08 23.3	+1.9
YBH				LR	LR		
	comp=Z,209nm,21.0s,MS4.5						
WATA	**Walderalm**	**87.49**	**322**	⇑*i*P	**P**	**02 08 11.1**	**+1.4**
	comp=Z,12nm,1.1s,mb5.0						
WTTA	**Wattenberg**	**87.50**	**322**	⇑*i*P	**P**	**02 08 10.3**	**+0.6**
	comp=Z,81nm,1.8s,mb5.7						
MOTA	**Moosalm**	**87.75**	**322**	⇓*i*P	**P**	**02 08 11.7**	**+0.8**
	comp=Z,9.8nm,1.1s,mb5.0						
LNOR	**Lincton Mounta**	**87.75**	**39**	*e*P	**P**	**02 08 12.5**	**+1.6**
LNOR				*e*		02 08 29.5	
SQTA	**Sankt Quirin**	**87.76**	**322**	⇑*i*P	**P**	**02 08 11.4**	**+0.4**
	comp=Z,20nm,1.3s,mb5.2						
STU	**Stuttgart**	**87.94**	**324**	*e*P	**P**	**02 08 15.1**	**+3.3**
	comp=Z,46nm,1.1s,mb5.6						
WDC	**Whiskeytown Da**	**88.03**	**46**	*e*P	**P**	**02 08 13.3**	**+0.8**
	comp=Z,13nm,1.0s,mb5.1						
WDC				LR	LR		
	comp=Z,162nm,20.0s,MS4.4						
CTI	**Castel Tesino**	**88.19**	**321**	*e*P	**P**	**02 08 13.9**	**+0.9**
DAVA	**Damuels**	**88.46**	**323**	⇑*i*P	**P**	**02 08 15.0**	**+0.7**
	comp=Z,113nm,2.5s,mb5.7						
HOPS	**Hopland**	**88.51**	**47**	PFAKE		02 08 30.0	+15
HOPS				LR	LR		
	comp=Z,310nm,19.0s,MS4.7						
BRMO	**Bormio**	**88.66**	**322**	*e*P	**P**	**02 08 17.0**	**+1.7**
MOD	**Modoc**	**88.75**	**44**	⇑*i*P	**P**	**02 08 16.8**	**+1.0**
	comp=Z,30nm,1.2s,mb5.5						
MOD				*e*		02 08 34.0	
MOD				LR	LR		
	comp=Z,234nm,19.0s,MS4.6						
TDS	**Terranova Siba**	**88.85**	**314**	*e*P	**P**	**02 08 19.3**	**+2.9**
FSSB	**Fossombrone**	**88.87**	**319**	*e*P	**P**	**02 08 18.2**	**+1.8**
NSHM	**Saint Helena R**	**89.07**	**47**	*e*P	**P**	**02 08 18.5**	**+1.1**
CDF	**Champ du Feu**	**89.17**	**325**	*e*P	**P**	**02 08 17.7**	**0.0**
	comp=Z,44nm,1.0s,mb5.4						
AQU	**L'Aquila**	**89.24**	**317**	*e*P	**P**	**02 08 18.1**	**0.0**
	comp=Z,21nm,0.9s,mb5.5						
ESK	**Eskdalemuir**	**89.35**	**334**	PFAKE		02 08 30.0	+12
ESK				LR	LR		
	comp=Z,255nm,19.0s,MS4.7						
OHCM	**Honcut**	**89.38**	**46**	*e*P	**P**	**02 08 18.8**	**-0.1**
PGD	**Poggio Sodo**	**89.40**	**319**	*e*P	**P**	**02 08 21.1**	**+2.3**
CRE	**Caprese Michel**	**89.41**	**319**	*e*P	**P**	**02 08 20.0**	**+1.1**
PTQR	**Pietraquaria**	**89.43**	**317**	*e*P	**P**	**02 08 19.7**	**+0.6**
VMG	**Vicchio**	**89.45**	**319**	*e*P	**P**	**02 08 21.1**	**+2.0**
WVOR	**Wild Horse Val**	**89.48**	**42**	*e*P	**P**	**02 08 20.4**	**+1.1**
	comp=Z,11nm,1.1s,mb5.1						
WVOR				LR	LR		
	comp=Z,231nm,19.0s,MS4.6						
SEI	**Scarperia**	**89.51**	**320**	*e*P	**P**	**02 08 22.4**	**+3.1**
ZCCA	**Zocca**	**89.56**	**320**	*e*P	**P**	**02 08 22.5**	**+2.9**
MSO	**Missoula**	**89.62**	**37**	*e*P	**P**	**02 08 20.2**	**+0.4**
	comp=Z,17nm,1.5s,mb5.2						
MSO				LR	LR		
	comp=Z,283nm,21.0s,MS4.7						
FCC	**Fort Churchill**	**89.68**	**20**	P	**P**	**02 08 17.7**	**-2.1**
	comp=Z,64nm,1.1s,mb5.9						
BAIF	**Baives**	**89.68**	**327**	*e*P	**P**	**02 08 19.8**	**-0.2**
GSCL	**Gusciola**	**89.79**	**320**	*e*P	**P**	**02 08 23.0**	**+2.3**
BEKR	**Beckwourth**	**89.82**	**45**	*e*P	**P**	**02 08 21.8**	**+0.9**
	comp=Z,16nm,1.3s,mb5.2						
BEKR				*e*	pP	02 08 33.5	+0.1
ERBM	**Eremo**	**89.85**	**320**	*e*P	**P**	**02 08 23.5**	**+2.6**
VAI	**Varese**	**89.92**	**322**	*e*P	**P**	**02 08 20.6**	**-0.6**
CHMT	**Chamberlain Mo**	**89.95**	**37**	*e*P	**P**	**02 08 22.0**	**+0.6**
FFC	**Flin Flon**	**89.98**	**26**	*e*P	**P**	**02 08 21.8**	**+0.5**
	comp=Z,16nm,1.0s,mb5.3						
FFC				*e*		02 08 29.3	
MCGN	**Macugnaga**	**90.30**	**322**	*e*P	**P**	**02 08 24.6**	**+1.6**
KMBO	**Kilima Mbogo**	**90.38**	**269**	*e*P	**P**	**02 08 22.1**	**-2.1**
	comp=Z,9.8nm,1.2s,mb5.0						
KMBO				LR	LR		
	comp=Z,235nm,20.0s,MS4.6						
SAO	**San Andreas Ge**	**90.78**	**48**	PFAKE		02 08 40.0	+14
SAO				LR	LR		
	comp=Z,233nm,20.0s,MS4.6						
CMB	**Columbia Colle**	**90.80**	**47**	*e*P	**P**	**02 08 26.1**	**+0.5**
	comp=Z,10nm,1.0s,mb5.1						
CMB				LR	LR		
	comp=Z,296nm,19.0s,MS4.7						
HRY	**Holter Researc**	**90.84**	**36**	*e*P	**P**	**02 08 26.4**	**+0.9**
HRY				*e*	pP	02 08 37.0	-1.0
FIN	**Finale Ligure**	**91.24**	**321**	*e*P	**P**	**02 08 27.5**	**+0.1**
LPL	**La Plagne**	**91.26**	**323**	*e*P	**P**	**02 08 28.5**	**+1.0**
	comp=Z,14nm,0.7s,mb5.1						
LPG	**La Plagne**	**91.26**	**323**	*e*P	**P**	**02 08 28.5**	**+0.9**
	comp=Z,34nm,1.1s,mb5.3						
HLID	**Hailey**	**91.34**	**40**	*e*P	**P**	**02 08 29.4**	**+1.5**
	comp=Z,12nm,1.1s,mb5.1						
HLID				*e*	pP	02 08 40.4	-0.1
HLID				LR	LR		
	comp=Z,354nm,21.0s,MS4.8						
LCCM	**Lewis and Clar**	**91.36**	**37**	P	**P**	**02 08 29.5**	**+1.5**
MCMT	**McKenzie Canyo**	**91.46**	**38**	*e*P	**P**	**02 08 29.8**	**+1.3**
BNI	**Bardonecchia**	**91.58**	**322**	*e*P	**P**	**02 08 30.3**	**+1.2**
	comp=Z,30nm,1.2s,mb5.5						
LOR	**Lormes**	**91.67**	**325**	*e*P	**P**	**02 08 28.8**	**-0.6**
LOR				*e*R			
	comp=Z,2µm,19.8s						
MBDF	**Montbardon**	**91.73**	**322**	*e*P	**P**	**02 08 29.5**	**-0.2**
	comp=Z,8.7nm,0.7s,mb4.9						
PGF	**Pioggiola**	**91.79**	**319**	*e*P	**P**	**02 08 30.2**	**+0.2**
	comp=Z,96nm,1.1s,mb5.8						
SBF	**Sospel**	**91.89**	**321**	*e*P	**P**	**02 08 30.4**	**-0.1**
	comp=Z,51nm,0.8s,mb5.6						
NVAR	**Mina Array Bea**	**91.95**	**46**	P	**P**	**02 08 32.1**	**+1.3**
	comp=Z,6.9nm,0.9s,mb5.0,baz=278,slow=3.1,SNR=38						
NVAR				LR	LR	02 53 34.3	
	comp=Z,101nm,18.2s,MS4.3,baz=345,slow=38						
CASY	**Casey**	**92.02**	**187**	PFAKE		02 08 40.0	+9.5
CASY				LR	LR		
	comp=Z,265nm,19.0s,MS4.7						
MNV	**Mina**	**92.04**	**46**	PFAKE		02 08 40.0	+8.7
MNV				LR	LR		
	comp=Z,209nm,20.0s,MS4.6						
ORIF	**Oris-en-Rattie**	**92.11**	**323**	*e*P	**P**	**02 08 32.3**	**+0.9**
	comp=Z,27nm,1.2s,mb5.2						
ORIF				*e*R			
	comp=Z,2µm,18.5s						
QLMT	**Earthquake Lak**	**92.24**	**37**	*e*P	**P**	**02 08 33.4**	**+1.4**
QLMT				*e*	pP	02 08 44.6	0.0
MTUM	**Tungsten Hills**	**92.38**	**47**	*e*P	**P**	**02 08 33.4**	**+0.5**
MTUM				*e*		02 08 51.9	
FRF	**La Foret Royal**	**92.53**	**321**	*e*P	**P**	**02 08 32.9**	**-0.5**
	comp=Z,43nm,1.0s,mb5.5						
ELK	**Elko**	**92.54**	**42**	PFAKE		02 08 50.0	+16
ELK				LR	LR		
	comp=Z,300nm,19.0s,MS4.8						
YMR	**Madison River**	**92.60**	**37**	*e*P	**P**	**02 08 35.9**	**+2.1**
YMR				*e*		02 08 52.6	
LMR	**La Mourre**	**92.75**	**321**	*e*P	**P**	**02 08 34.2**	**-0.2**
	comp=Z,73nm,1.3s,mb5.7						
VIVF	**Saint-Julien-l**	**92.81**	**323**	*e*P	**P**	**02 08 34.4**	**-0.3**
	comp=Z,24nm,1.2s,mb5.2						
FLN	**La Foliniere**	**92.82**	**328**	*e*P	**P**	**02 08 34.0**	**-0.6**
FLN				*e*R			
	comp=Z,2µm,19.8s						
TPH	**Tonopah**	**92.85**	**45**	*e*P	**P**	**02 08 35.9**	**+0.9**
	comp=Z,22nm,1.0s,mb5.5						
TPH				LR	LR		
	comp=Z,194nm,19.0s,MS4.6						
SMRF	**Simiane la Rot**	**92.87**	**322**	*e*P	**P**	**02 08 34.6**	**-0.4**
IMW	**Indian Meadow**	**93.11**	**38**	*e*P	**P**	**02 08 37.5**	**+1.5**
IMW				*e*	pP	02 08 48.8	+0.2
TPAW	**Teton Pass**	**93.36**	**38**	*e*P	**P**	**02 08 39.0**	**+1.8**
DAC	**Darwin (Calif)**	**93.63**	**47**	*e*P	**P**	**02 08 39.3**	**+0.6**
	comp=Z,11nm,0.9s,mb5.3						
DAC				*e*	pP	02 08 53.4	+2.2
DAC				LR	LR		
	comp=Z,187nm,19.0s,MS4.6						
AHID	**Auburn Hatcher**	**93.74**	**39**	PFAKE		02 08 50.0	+11
AHID				LR	LR		
	comp=Z,371nm,21.0s,MS4.8						
LAO	**LASA Array**	**93.76**	**34**	*e*P	**P**	**02 08 37.0**	**-2.0**
	comp=Z,16nm,1.0s,mb5.4						
LAO				LR	LR		
	comp=Z,382nm,19.0s,MS4.9						
TPNV	**Topopah Spring**	**94.13**	**46**	*e*P	**P**	**02 08 41.7**	**+0.8**
	comp=Z,14nm,1.0s,mb5.3						
TPNV				*e*		02 09 00.2	
TPNV				LR	LR		
	comp=Z,312nm,19.0s,MS4.8						
SGMF	**Saint Gilles**	**94.16**	**329**	*e*P	**P**	**02 08 40.1**	**-0.6**
	comp=Z,137nm,1.5s,mb5.9						
HWUT	**Hardware Ranch**	**94.20**	**40**	*e*P	**P**	**02 08 42.1**	**+1.1**
	comp=Z,21nm,1.4s,mb5.4						
HWUT				LR	LR		
	comp=Z,467nm,20.0s,MS5.0						
DUG	**Dugway**	**94.34**	**42**	*e*P	**P**	**02 08 42.9**	**+1.2**
	comp=Z,13nm,1.5s,mb5.1						
ROSF	**Rostrenen**	**94.43**	**329**	*e*P	**P**	**02 08 41.7**	**-0.2**
	comp=Z,53nm,1.2s,mb5.5						
BW06	**Boulder Array**	**94.61**	**38**	PFAKE		02 09 00.0	+17
BW06				LR	LR		
	comp=Z,324nm,20.0s,MS4.8						
PDAR	**Pinedale Array**	**94.61**	**38**	P	**P**	**02 08 43.6**	**+0.8**
	comp=Z,1.7nm,0.8s,mb4.5,baz=332,slow=1.4,SNR=16						
QUIF	**Quistinic**	**94.68**	**329**	*e*P	**P**	**02 08 41.9**	**-1.2**
MSU	**Marysvale**	**95.77**	**43**	*e*P	**P**	**02 08 50.0**	**+1.7**
ULM	**Lac du Bonnet**	**95.81**	**26**	LR	LR	02 59 02.2	
	comp=Z,322nm,18.4s,MS4.8,baz=22,slow=40						
ULM	**Lac du Bonnet**	**95.81**	**26**	PFAKE		02 09 00.0	+12
ULM				LR	LR		
	comp=Z,619nm,19.0s,MS5.1						
NEN	**Nelson**	**95.81**	**46**	*e*P	**P**	**02 08 49.5**	**+1.0**
MBAR	**Mbarara**	**96.06**	**272**	PFAKE		02 09 00.0	+10
MBAR				LR	LR		
	comp=Z,56nm,19.0s,MS4.1						
RSSD	**Black Hills**	**96.65**	**34**	P	**P**	**02 08 53.3**	**+1.1**
	comp=Z,5.2nm,1.2s,mb4.8						
PV10	**Paradox Valley**	**97.76**	**41**	*e*P	**P**	**02 08 58.8**	**+1.5**
PV01	**Paradox Valley**	**98.19**	**41**	*e*P	**P**	**02 09 01.0**	**+1.7**
ISCO	**Idaho Springs**	**98.80**	**38**	PFAKE		02 09 10.0	+8.0
ISCO				LR	LR		
	comp=Z,339nm,19.0s,MS4.9						
EYMN	**Ely**	**99.38**	**25**	PFAKE		02 09 20.0	+16
EYMN				LR	LR		
	comp=Z,9.0nm,21.0s						
SCHQ	**Schefferville**	**99.44**	**8**	LR	LR	02 55 46.6	
	comp=Z,910nm,21.5s,MS5.2,baz=103,slow=36						
SCHQ	**Schefferville**	**99.44**	**8**	PFAKE		02 09 20.0	+15
SCHQ				LR	LR		
	comp=Z,2µm,21.0s,MS5.6						
SDCO	**Great Sand Dun**	**100.26**	**40**	PFAKE		02 09 20.0	+11
SDCO				LR	LR		
	comp=Z,453nm,22.0s,MS4.9						
TUC	**Tucson**	**100.52**	**47**	PFAKE		02 09 20.0	+10
TUC				LR	LR		
	comp=Z,269nm,22.0s,MS4.7						
ESDC	**Sonseca Array**	**101.02**	**324**	PP	PP	02 13 19.7	-3.9
	comp=Z,0.3nm,0.3s,baz=40,slow=8.0,SNR=4.4						
ESLA	**Sonseca Array**	**101.02**	**324**	PFAKE		02 09 20.0	+7.9
ESLA				LR	LR		
	comp=Z,4µm,19.0s,MS5.9						
ANMO	**Albuquerque**	**101.57**	**42**	PFAKE		02 09 30.0	+15
ANMO				LR	LR		
	comp=Z,199nm,20.0s,MS4.6						
MAW	**Mawson**	**103.87**	**201**	PFAKE		02 09 40.0	+16
MAW				LR	LR		
	comp=Z,174nm,20.0s,MS4.6						
EVO	**Evora**	**103.99**	**325**	*e*P	Pdif	02 09 24.7	-0.6
EVO				*e*R			
	comp=Z,1µm,20.2s						
JFWS	**Jewell Farm**	**104.01**	**27**	PFAKE		02 09 40.0	+15
JFWS				LR	LR		
	comp=Z,442nm,20.0s,MS5.0						
LSZ	**Lusaka**	**104.30**	**260**	PFAKE		02 09 40.0	+13
LSZ				LR	LR		
	comp=Z,313nm,19.0s,MS4.9						
SBA	**Scott Base**	**105.38**	**172**	PFAKE		02 14 00.0	
SBA				LR	LR		
	comp=Z,299nm,20.0s,MS4.8						
WMOK	**Wichita Mounta**	**106.22**	**38**	PFAKE		02 14 00.0	
WMOK				LR	LR		
	comp=Z,349nm,20.0s,MS4.9						
LTX	**Lajitas**	**107.09**	**45**	PFAKE		02 14 00.0	
LTX				LR	LR		
	comp=Z,462nm,21.0s,MS5.0						
TXAR	**Lajitas Array**	**107.09**	**45**	PKiKP		02 13 49.0	
	comp=Z,0.3nm,0.6s,baz=190,slow=1.6,SNR=4.7						
TXAR				PP	PP	02 14 02.2	-7.2
	comp=Z,1.6nm,1.1s,baz=304,slow=4.5,SNR=4.8						
PQI	**Presque Isle**	**107.20**	**11**	PFAKE		02 14 00.0	
PQI				LR	LR		
	comp=Z,5µm,22.0s						
CCM	**Cathedral Cave**	**107.53**	**31**	PFAKE		02 14 00.0	
CCM				LR	LR		
	comp=Z,356nm,20.0s,MS4.9						
NCB	**Newcomb**	**108.47**	**16**	PFAKE		02 14 00.0	
NCB				LR	LR		
	comp=Z,844nm,21.0s,MS5.3						
JCT	**Junction City**	**108.70**	**42**	PFAKE		02 14 00.0	
JCT				LR	LR		
	comp=Z,267nm,20.0s,MS4.8						
WVL	**Waterville**	**108.94**	**13**	PFAKE		02 14 00.0	
WVL				LR	LR		
	comp=Z,5µm,22.0s						
ACSO	**Alum Creek Sta**	**109.15**	**24**	PFAKE		02 14 00.0	
ACSO				LR	LR		
	comp=Z,818nm,20.0s,MS5.3						
MIAR	**Mount Ida**	**109.17**	**35**	PFAKE		02 14 00.0	
MIAR				LR	LR		
	comp=Z,334nm,19.0s,MS4.9						
EMMW	**East Machias**	**109.20**	**11**	PFAKE		02 14 00.0	
EMMW				LR	LR		
	comp=Z,5µm,21.0s,MS6.0						
WCI	**Wyandotte Cave**	**109.58**	**27**	PFAKE		02 14 00.0	
WCI				LR	LR		
	comp=Z,310nm,19.0s,MS4.9						
BINY	**Binghamton**	**109.65**	**18**	PFAKE		02 14 10.0	
BINY				LR	LR		
	comp=Z,2µm,21.0s,MS5.6						
HRV	**Harvard--Oak R**	**110.50**	**15**	PFAKE		02 14 10.0	+17
HRV				LR	LR		
	comp=Z,340nm,20.0s,MS4.9						
SSPA	**Standing Stone**	**110.53**	**20**	PFAKE		02 14 10.0	+17
SSPA				LR	LR		
	comp=Z,592nm,19.0s,MS5.2						
WES	**Weston**	**110.67**	**15**	PFAKE		02 14 10.0	+17
WES				LR	LR		
	comp=Z,933nm,22.0s,MS5.3						
WVT	**Waverly**	**110.67**	**30**	PFAKE		02 14 10.0	+16
WVT				LR	LR		
	comp=Z,466nm,19.0s,MS5.1						
NATX	**Nacogdoches**	**110.73**	**37**	PFAKE		02 14 10.0	+16
NATX				LR	LR		
	comp=Z,377nm,19.0s,MS5.0						
MCWV	**Mont Chateau**	**110.77**	**22**	PFAKE		02 14 10.0	+16
MCWV				LR	LR		
	comp=Z,731nm,20.0s,MS5.3						
SYO	**Syowa Base**	**112.36**	**203**	⇓Pdiff	Pdif	02 10 02.6	+1.2
SYO	**Syowa Base**	**112.36**	**203**	⇓pPdiff		02 10 11.8	
BLA	**Blacksburg**	**112.75**	**24**	*e*PKPdf	PKPdf	02 13 55.2	-2.4
BLA				LR	LR		
	comp=Z,354nm,19.0s,MS5.0						
CBN	**Corbin**	**112.90**	**21**	PFAKE		02 14 10.0	+12
CBN				LR	LR		
	comp=Z,839nm,20.0s,MS5.3						
MYNC	**Murphy**	**113.17**	**28**	PFAKE		02 14 10.0	+12
MYNC				LR	LR		
	comp=Z,604nm,20.0s,MS5.2						
LRAL	**Lakeview Retre**	**113.62**	**31**	PFAKE		02 14 10.0	+11
LRAL				LR	LR		
	comp=Z,454nm,19.0s,MS5.1						
QSPA	**South Pole Qui**	**114.94**	**180**	*e*PKP	PKPdf	02 14 01.8	+0.8
QSPA				*e*		02 14 54.8	
QSPA				LR	LR		
	comp=Z,190nm,20.4s,MS4.7						
TSUM	**Tsumeb**	**115.16**	**260**	PFAKE		02 14 20.0	+17
TSUM				LR	LR		
	comp=Z,194nm,19.0s,MS4.7						
DBIC	**Dimbokro**	**123.62**	**298**	PKP	PKPdf	02 14 20.6	+1.3
	comp=Z,2.7nm,0.8s,baz=66,slow=6.1,SNR=3.7						
DBIC	**Dimbokro**	**123.62**	**298**	PKP	PKPdf	02 14 20.6	+1.3
DBIC				LR	LR		
	comp=Z,299nm,19.0s,MS5.0						
SNAA	**Sanae**	**125.82**	**197**	⇓*i*PKPdf	PKPdf	02 14 22.0	-0.1
SNAA				*e*		02 16 19.9	
VNA2	**Neumayer--Watz**	**127.46**	**197**	⇑*i*PKPdf	PKPdf	02 14 27.5	+2.2
VNA2				*e*		02 16 24.8	
VNA1	**Neumayer--Stat**	**127.86**	**197**	⇑*i*PKPdf	PKPdf	02 14 29.3	+3.2
VNA1				*e*		02 16 27.1	
VNA3	**Neumayer Olymp**	**127.86**	**196**	⇑*i*PKPdf	PKPdf	02 14 27.7	+1.6
VNA3				*e*		02 16 25.0	
SJG	**San Juan**	**135.09**	**18**	PFAKE		02 14 50.0	+9.0
SJG				LR	LR		
	comp=Z,418nm,22.0s,MS5.1						
SDV	**Santo Domingo**	**141.99**	**29**	*e*PKPpre		02 14 50.2	
SDV				*e*PKPdf	PKPdf	02 14 55.1	+1.5
SDV				LR	LR		
	comp=Z,265nm,21.0s,MS5.0						
ROSC	**El Rosal**	**143.59**	**38**	PKP	PKPdf	02 14 59.2	+2.7
	comp=Z,13nm,0.8s,baz=132,slow=18,SNR=5.9						
OTAV	**Otavalo**	**144.64**	**48**	*e*PKPdf	PKPdf	02 14 59.4	+1.1
OTAV				LR	LR		
	comp=Z,231nm,20.0s,MS5.0						
USHA	**Ushuaia**	**148.19**	**163**	PKPbc	PKPdf	02 15 08.0	+5.0
	comp=Z,28nm,0.9s,baz=90,slow=3.8,SNR=6.6						
RCBR	**Riachuelo**	**154.84**	**317**	PFAKE		02 15 30.0	+16
RCBR				LR	LR		
	comp=Z,459nm,19.0s,MS5.3						
SAML	**Samuel**	**161.11**	**33**	PFAKE		02 15 30.0	+8.4
SAML				LR	LR		
	comp=Z,241nm,19.0s						
LPAZ	**La Paz**	**163.21**	**61**	PKP	PKPdf	02 15 27.1	+3.5
	comp=Z,2.7nm,1.0s,baz=17,slow=2.3,SNR=8.1						
LPAZ				PKPab	PKPab	02 16 15.8	-0.6
	comp=Z,2.9nm,0.8s,baz=323,slow=5.0,SNR=6.8						
LPAZ	**La Paz**	**163.21**	**61**	PKIKP	PKPdf	02 15 27.2	+3.6
LPAZ						02 16 15.8	
LPAZ				pmax	pmax		
	comp=Z,3.0nm,1.0s						
LPAZ				pmax	pmax		
	comp=Z,3.0nm,0.9s						
LPAZ	**La Paz**	**163.21**	**61**	*e*PKPdf	PKPdf	02 15 26.9	+3.2
LPAZ				*e*PKPab	PKPab	02 16 15.9	-0.5
LPAZ				LR	LR		
	comp=Z,308nm,21.0s						
TRQA	**Tornquist**	**164.98**	**151**	PFAKE		02 15 40.0	+15
TRQA				LR	LR		
	comp=Z,367nm,20.0s						
BDFB	**Brasilia**	**169.51**	**334**	PKP	PKPdf	02 15 29.8	+1.3
	comp=Z,1.9nm,0.5s,baz=100,slow=3.9,SNR=3.8						
BDFB				PKPab	PKPab	02 16 47.3	+3.4
	comp=Z,4.9nm,0.8s,baz=257,slow=2.5,SNR=5.8						
CPUP	**Villa Florida**	**175.79**	**107**	PKPab	PKPab	02 17 11.3	-0.2
	comp=Z,2.2nm,0.9s,baz=282,slow=5.1,SNR=3.6						
CPUP	**Villa Florida**	**175.79**	**107**	PKP2	PKPab	02 17 11.3	-0.2
CPUP				pmax	pmax		
	comp=Z,2.0nm,0.9s						
CPUP	**Villa Florida**	**175.79**	**107**	PFAKE		02 15 40.0	+8.9
CPUP				LR	LR		
	comp=Z,411nm,19.0s						

IDC 23 02:01:42.5±13.0**, 21.49S**×**179.19E, h666**^{km}±167^{km}**, mb3.0**/5**, mb1 3.2**/5**, mb1mx3.0**/14**, Error ellipse: s-maj=216.0km s-min=56.3km az=157.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**30.80**	**267**	P	P	02 07 08.9	-0.5
	4.4nm,0.4s,baz=107,slow=9.0,SNR=9.2						
ASAR	**Alice Springs**	**41.75**	**258**	P	P	02 08 35.6	-3.0
	1.1nm,0.5s,baz=93,slow=7.3,SNR=7.9						
WRA	**Warramunga Arr**	**41.88**	**264**	P	P	02 08 37.8	-1.9
	0.8nm,0.3s,baz=96,slow=7.7,SNR=45						
FITZ	**Fitzroy Crossi**	**50.31**	**264**	P	P	02 09 42.4	-0.9
	0.7nm,0.4s,baz=231,slow=7.1,SNR=4.7						
TXAR	**Lajitas Array**	**89.80**	**58**	P	P	02 13 32.9	-1.1
	0.5nm,0.9s,baz=236,slow=4.5,SNR=3.8						

NEIC ***23*** *02:08:13.1, 16.94N×94.07W, h149*^{km}*, MD4.0(MEX), After MEX.*

MEX 23 02:08:13.1±0.9**, 16.94N**×**94.07W, h149**^{km}±9^{km}**, MD4.0, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.79**	**281**	*i* P	P	02 08 34.6	-1.8
CMIG				*i* S	S	02 08 51.7	-2.7
TUIG	**Tuzandepetl**	**1.14**	**343**	*e*P	P	02 08 37.2	-2.0
TUIG				*i* S	S	02 08 57.2	-2.2
SCX	**San Cristobal**	**1.39**	**98**	*i* P	P	02 08 40.5	-1.3
SCX				*i* S	S	02 09 02.0	-1.9
EVV	**El Vigia**	**1.94**	**321**	*i* P	P	02 08 45.5	-2.2
EVV				*i* S	S	02 09 10.0	-4.4
CCIG	**Comitan**	**1.97**	**109**	*e*P	P	02 08 46.6	-1.5
CCIG				*i* S	S	02 09 12.7	-2.3
HUIG	**Huatulco**	**2.28**	**239**	*i* P	P	02 08 48.1	-3.9
HUIG				*i* S	S	02 09 18.2	-3.5
OXX	**Oaxaca**	**2.54**	**273**	*i* P	P	02 08 54.5	-0.8
OXX				*i* S	S	02 09 25.5	-2.1
VHO	**Vista Hermosa**	**2.55**	**273**	*i* P	P	02 08 54.1	-1.3
VHO				*i* S	S	02 09 25.6	-2.1
IISM	**Ciudad Serdan**	**3.75**	**303**	*i* P	P	02 09 08.0	-2.9
IISM				*i* S	S	02 09 47.0	-8.2
PPM	**Popocatepetl**	**4.82**	**297**	*i* P	P	02 09 25.5	+0.5

IDC ***23*** *02:32:47.5±1.3, 37.35S×96.18W, mb3.7/5, mb1 4.0/5, mb1mx3.9/13, Error ellipse: s-maj=47.9km s-min=32.9km az=84.0*

ISC 23 02:32:47.6±1.3**, 37.3S**±0.2×**96.2W**±0.4**, h10**^{km}**, n5,** σ1^{s}**20**/5**, mb3.6**/5**, Southeast of Easter Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**32.45**	**57**	P	**P**	**02 39 20.4**	**+0.2**
	0.8nm,0.7s,mb3.7,baz=225,slow=4.3,SNR=2.7						
TXAR	**Lajitas Array**	**66.70**	**353**	P	**P**	**02 43 39.6**	**-1.3**
	0.3nm,0.7s,mb3.4,baz=173,slow=7.3,SNR=3.9						
MAW	**Mawson**	**74.18**	**172**	P	**P**	**02 44 25.4**	**-0.1**
	0.7nm,0.5s,mb3.8,baz=297,slow=17,SNR=4.5						
NVAR	**Mina Array Bea**	**78.11**	**342**	P	**P**	**02 44 49.7**	**+1.4**
	0.1nm,0.4s,mb3.1,baz=188,slow=6.4,SNR=3.5						
PDAR	**Pinedale Array**	**80.66**	**350**	P	**P**	**02 45 01.9**	**-0.1**
	0.9nm,0.7s,mb3.8,baz=142,slow=6.7,SNR=9.8						

IDC ***23*** *02:34:42.7±1.4, 29.67N×140.88E, h41*^{km}*±17*^{km}*, mb3.5/7, mb1 3.7/9, mb1mx3.5/23, ML3.7/2, MS3.9/2, Ms1 3.9/2, ms1mx3.2/21, Error ellipse: s-maj=38.5km s-min=8.1km az=70.0*

ISC 23 02:34:41.8±1.2**, 29.66N**±0.10×**140.8E**±0.3**, h48**^{km}±14^{km}**, n10,** σ**0**^{s}**97**/11**, mb3.8**/7**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.83**	**154**	P	**P**	**02 35 26.9**	**+1.2**
	17nm,0.3s,baz=21,slow=23,SNR=17						
CBIJ				S	**S**	**02 35 57.6**	**-1.1**
	104nm,0.3s,baz=270,slow=20,SNR=9.0						
CBIJ				LR	LR	02 35 59.8	
	comp=Z,556nm,18.1s,baz=44,slow=28						
JHJ	**Hachijo jima 2**	**3.56**	**346**	P	**P**	**02 35 37.2**	**+1.2**
	9.0nm,0.3s,baz=68,slow=16,SNR=3.0						
JHJ				S	**S**	**02 36 15.6**	**-1.7**
	21nm,0.3s,baz=240,slow=20,SNR=4.3						
JNU	**Nakatsue**	**9.15**	**295**	LR	LR	02 40 11.0	
	comp=Z,3µm,21.2s,baz=255,slow=36						
SONM	**Songino Array**	**32.04**	**314**	P	**P**	**02 41 07.1**	**+1.1**
	0.2nm,0.5s,mb3.2,baz=121,slow=8.4,SNR=3.1						
MKAR	**Makanchi Array**	**47.92**	**308**	P	**P**	**02 43 17.3**	**+0.1**
	0.1nm,0.3s,mb3.3,baz=83,slow=12,SNR=4.2						
MKAR				PcP	PcP	02 44 45.1	-0.2
	0.8nm,0.8s,baz=72,slow=4.6,SNR=4.0						
WRA	**Warramunga Arr**	**49.70**	**188**	P	**P**	**02 43 30.4**	**-0.9**
	0.3nm,0.2s,mb3.9,baz=6.4,slow=8.1,SNR=18						
BVAR	**Borovoye Array**	**55.34**	**316**	P	**P**	**02 44 11.9**	**-1.0**
	0.6nm,0.3s,mb4.1,baz=101,slow=7.6,SNR=5.8						
FINES	**FINESS Array B**	**75.12**	**333**	P	**P**	**02 46 20.0**	**-0.1**
	1.3nm,0.8s,mb3.9,baz=56,slow=6.9,SNR=3.4						
NVAR	**Mina Array Bea**	**79.90**	**52**	P	**P**	**02 46 47.8**	**+0.6**
	0.6nm,0.7s,mb3.6,baz=290,slow=4.3,SNR=4.3						
BRTR	**Keskin Array B**	**83.38**	**312**	P	**P**	**02 47 05.5**	**+0.4**
	3.2nm,1.0s,mb4.3,baz=124,slow=4.5,SNR=8.0						

IDC ***23*** *03:08:42.7±3.5, 1.93S×139.11E, h49*^{km}*±34*^{km}*, mb4.0/9,* *mb1 4.2/11, mb1mx4.2/14, ML4.3/2, MS3.4/2, Ms1 3.4/2, ms1mx3.2/11, Error ellipse: s-maj=25.0km s-min=11.0km az=97.0*

*NEIC **23** 03:08:42.5±1.5, 1.92S×139.22E, h52^{km}±14^{km}, mb4.3/9, Error ellipse: s-maj=12.7km s-min=9.2km az=80.0*

ISC 23 03:08:38.5±0.5, **1.89S**±0.06×**139.3E**±0.1, **h33**^{km}**, n28,** σ**0^{s}67**/28, **mb4.3**/13, **MS3.2**/2, **1D, Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	10.81	134	P	P	03 11 14.5	+0.2
	45nm,1.3s						
KAKA	Kakadu	12.72	212	*e*P	P	03 11 41.0	+1.0
	11nm,0.5s						
WRAB	Tennant Creek	18.57	195	*e*P	P	03 12 54.4	-0.8
	31nm,0.6s						
WB2	Warramunga Arr	18.58	195	*e*P	P	03 12 54.2	-1.0
WB2				*e*S	Sx	03 16 42.1	
WRA	Warramunga Arr	18.58	195	P	P	03 12 54.9	-0.4
	1.6nm,0.3s,baz=10,slow=11,SNR=62						
CTA	Charters Tower	19.32	160	P	P	03 13 04.4	+0.5
	0.2nm,0.3s,baz=2.8,slow=6.7,SNR=4.1						
CTAO	Charters Tower	19.32	160	*e*P	P	03 13 03.6	-0.3
	13nm,1.2s						
FITZ	Fitzroy Crossi	20.95	219	*e*P	P	03 13 20.7	-0.5
	5.9nm,0.8s						
FITZ	Fitzroy Crossi	20.95	219	P	P	03 13 21.3	+0.1
	9.8nm,0.9s,baz=38,slow=7.7,SNR=10						
FITZ				S	S	03 17 09.5	+1.7
	3.5nm,0.6s,baz=193,slow=12,SNR=5.6						
FITZ				LR	LR	03 22 19.7	
	comp=Z,104nm,20.2s,MS3.2,baz=51,slow=39						
ASAR	Alice Springs	22.26	193	P	P	03 13 34.1	-0.2
	18nm,0.6s,mb4.7,baz=25,slow=10,SNR=72						
ASAR				S	S	03 17 38.2	+5.9
	1.1nm,0.8s,baz=11,slow=23,SNR=3.0						
ASAR				LR	LR	03 22 52.9	
	comp=Z,102nm,19.4s,MS3.3,baz=21,slow=38						
ASPA	Alice Springs	22.26	193	*e*P	P	03 13 34.1	-0.2
ASPA				*e*S	S	03 17 37.9	+5.6
STKA	Stephens Creek	29.90	176	*e*P	P	03 14 46.7	+1.1
	3.1nm,0.9s,mb4.0						
STKA	Stephens Creek	29.90	176	P	P	03 14 45.4	-0.2
	1.3nm,0.5s,mb4.0,baz=349,slow=9.8,SNR=4.7						
FORT	Forrest	30.63	199	*e*P	P	03 14 51.3	-0.8
	59nm,0.6s						
CMAR	Chiang Mai Arr	44.54	299	P	P	03 16 49.0	-0.4
	1.1nm,0.5s,mb3.9,baz=113,slow=6.4,SNR=6.2						
SONM	Songino Array	57.24	334	P	P	03 18 25.6	+0.5
	1.1nm,0.9s,mb3.9,baz=162,slow=7.8,SNR=5.4						
CASY	Casey	67.39	192	P	P	03 19 31.7	-0.6
	4.7nm,0.9s,mb4.5						
MKAR	Makanchi Array	69.50	322	P	P	03 19 45.9	0.0
	2.7nm,0.6s,mb4.3,baz=106,slow=7.1,SNR=26						
KURK	Kurchatov	73.39	325	*e*P	P	03 20 08.3	-0.7
	2.3nm,0.8s,mb4.2						
BVAR	Borovoye Array	78.98	325	P	P	03 20 40.8	+0.2
	7.8nm,1.1s,mb4.6,baz=101,slow=7.3,SNR=4.5						
BRVK	Borovoye	79.05	325	*e*P	P	03 20 41.3	+0.3
	4.6nm,0.7s,mb4.5						
ZRNK	Zerenda	79.75	325	*e*P	P	03 20 44.6	-0.3
	4.7nm,1.0s,mb4.4						
MAW	Mawson	83.09	202	P	P	03 21 02.6	+0.6
	1.4nm,0.7s,mb4.1,baz=72,slow=5.0,SNR=4.8						
ILAR	Eielson Array	84.86	24	P	P	03 21 10.9	0.0
	1.3nm,1.1s,mb4.0,baz=257,slow=5.5,SNR=5.9						
QSPA	South Pole Qui	88.05	180	*e*P	P	03 21 27.7	+1.5
	1.6nm,0.6s,mb4.4						
SYO	Syowa Base	91.72	201	⇓P	pP	03 21 53.8	-0.5
DBIC	Dimbokro	143.94	279	PKP	PKPdf	03 28 11.2	-0.4
	2.3nm,0.7s,baz=83,slow=9.5,SNR=5.2						
LPAZ	La Paz	147.45	125	PKPbc	PKPdf	03 28 23.9	+6.3
	1.4nm,0.8s,baz=268,slow=3.4,SNR=5.6						

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*IDC **23** 03:13:57.0±2.3, 1.81S×140.07E, mb4.0/4, mb1 4.2/5, mb1mx3.9/11, ML4.2/1, Error ellipse: s-maj=97.9km s-min=23.3km az=83.0*

*NEIC **23** 03:14:13.5±7.0, 2.19S×138.90E, h111^{km}±60^{km}, mb4.0/3, Error ellipse: s-maj=48.9km s-min=20.0km az=67.0*

ISC 23 03:14:03.0±1.4, **2.0S**±0.1×**139.0E**±0.4, **h33**^{km}**, n10,** σ**0^{s}55**/10, **mb3.9**/6, **Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRAB	Tennant Creek	18.39	194	*e*P	P	03 18 17.5	0.0
	15nm,0.7s						
WB2	Warramunga Arr	18.40	194	*e*P	P	03 18 17.5	-0.1
WRA	Warramunga Arr	18.41	194	P	P	03 18 17.6	-0.1
	0.7nm,0.3s,baz=20,slow=11,SNR=12						
ASAR	Alice Springs	22.10	193	P	P	03 18 57.7	+0.5
	7.9nm,0.8s,mb4.2,baz=28,slow=11,SNR=18						
ASPA	Alice Springs	22.10	193	*e*P	P	03 18 58.2	+1.1
MBWA	Marble Bar	26.75	223	P	P	03 19 41.2	-0.7
	2.8nm,0.8s,mb3.8						
STKA	Stephens Creek	29.82	176	P	P	03 20 08.9	-0.4
	2.6nm,1.0s,mb3.9,baz=346,slow=12,SNR=2.9						
MKAR	Makanchi Array	69.42	322	P	P	03 25 09.7	-0.2
	0.5nm,0.6s,mb3.6,baz=109,slow=7.3,SNR=6.0						
BVAR	Borovoye Array	78.91	325	P	P	03 26 05.4	+0.6
	0.6nm,0.5s,mb3.8,baz=117,slow=9.7,SNR=3.4						
QSPA	South Pole Qui	87.94	180	P	P	03 26 49.4	-0.7
	0.8nm,0.6s,mb4.1						

CASC 23 03:39:23.9±1.9, **12.46N**×**87.95W, h43**^{km}±64^{km}**, MD4.0, ML3.7, 8C-6D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CNCH	Conchagua	0.82	8	⇓*i*P	P	03 39 39.5	+0.4
CNCH				*e*S	S	03 39 51.5	+1.3
CRIN	San Cristobal	0.91	75	*e*P	P	03 39 40.6	+0.3
CRIN				*e*S	S	03 39 54.5	+2.1
VSM	San Miguel	1.01	342	⇑*e*P	P	03 39 42.4	+0.6
VSM				*e*S	S	03 39 56.8	+1.6
BLLM	Bellamira	1.02	344	⇓*e*P	P	03 39 41.8	-0.1
BLLM				*e*S	S	03 39 55.9	+0.7
LEON	Leon	1.03	92	⇓*e*P	P	03 39 41.7	-0.4
LEON				*e*S	S	03 39 53.9	-1.6
AGUN	Aguas Caliente	1.10	79	*e*P	P	03 39 43.2	+0.1
MIRN	Miramar	1.21	91	⇓*e*P	P	03 39 44.4	-0.2
CAHU	Cacacuatique	1.33	349	⇑*e*P	P	03 39 46.6	+0.2
COPN	Copaltepe	1.35	102	*e*P	P	03 39 46.4	-0.3
MOMJ	Momotombo	1.37	92	⇑*e*P	P	03 39 46.8	-0.3
MOMJ				*e*S	S	03 40 04.3	+0.1
SNVI	San Vicente	1.44	323	⇑*e*P	P	03 39 48.0	0.0
SNVI				*e*S	S	03 40 05.8	-0.1
LCBS	La Ceiba	1.56	320	⇓*e*P	P	03 39 49.5	-0.1
LCBS				*e*S	S	03 40 08.4	-0.4
LFRS	El Faro	1.59	317	⇓*e*P	P	03 39 50.0	-0.1
LFRS				*e*S	S	03 40 08.8	-0.8
SOMN	Somoto	1.61	53	*e*P	P	03 39 52.1	+1.7
SOMN				*e*S	S	03 40 13.3	+3.1
XAVN	Gruta Xavier	1.61	101	*e*P	P	03 39 50.5	+0.1
XAVN				*e*S	S	03 40 10.3	+0.2
LBRS	Las Brisas	1.66	320	*e*P	P	03 39 51.5	+0.3
MGAN	Managua	1.69	100	⇑*e*P	P	03 39 51.0	-0.5
MGAN				⇑*e*P		03 39 51.2	
MGAN				*e*S	S	03 40 11.6	-0.4
MGAN				*i*		03 40 12.6	
	comp=N,982nm,0.5s						
LFU	La Fuente	1.71	319	⇑*e*P	P	03 39 52.4	+0.6
LFU				*e*S	S	03 40 12.9	+0.2
TICN	Ticuantepe	1.73	104	*e*P	P	03 39 52.0	0.0
TICN				*e*S	S	03 40 11.6	-1.4
BOQS	Boqueron	1.82	314	⇑*e*P	P	03 39 53.7	+0.4
BOQS				*e*S	S	03 40 15.6	+0.4
PYTN	Playitas	1.84	87	*e*P	P	03 39 53.2	-0.5
PYTN				*e*S	S	03 40 15.2	-0.7
SBLS	San Blas	2.13	310	*e*P	P	03 39 58.5	+0.7
SBLS				*e*S	S	03 40 22.8	-0.4
SNJE	San Jose	2.14	311	*e*P	P	03 39 58.0	+0.1
SNJE				*e*S	S	03 40 22.6	-0.8
RTR	El Retiro	2.19	311	*e*P	P	03 39 59.1	+0.6

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*IDC **23** 03:43:27.4±2.4, 13.31N×43.69W, mb3.8/6, mb1 4.1/6, mb1mx3.8/19, MS3.6/9, Ms1 3.7/9, ms1mx3.4/27, Error ellipse: s-maj=79.6km s-min=23.6km az=85.0*

ISC 23 03:43:27.8±2.1, **13.3N**±0.1×**43.8W**±0.5, **h10**^{km}**, n11,** σ**0^{s}77**/6, **mb3.7**/6, **MS3.6**/9, **Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDFB	Brasilia	29.05	188	P	P	03 49 31.5	+0.9
	2.6nm,0.8s,mb4.0,baz=22,slow=5.4,SNR=3.7						
BDFB				LR	LR	04 00 53.7	
	comp=Z,82nm,18.5s,MS3.4,baz=291,slow=36						
ROSC	El Rosal	31.26	257	LR	LR	04 01 16.1	
	comp=Z,140nm,21.1s,MS3.6,baz=114,slow=34						
LPAZ	La Paz	37.98	220	P	P	03 50 47.7	-0.2
	0.7nm,0.8s,mb3.5,baz=60,slow=8.1,SNR=3.3						
LPAZ				LR	LR	04 05 39.1	
	comp=Z,114nm,20.6s,MS3.7,baz=250,slow=35						
DBIC	Dimbokro	38.87	96	LR	LR	04 03 22.5	
	comp=Z,113nm,20.8s,MS3.7,baz=312,slow=31						
CPUP	Villa Florida	41.53	198	P	P	03 51 16.4	-0.8
	1.3nm,0.9s,mb3.6,baz=21,slow=8.6,SNR=2.9						
SADO	Sadowa	43.45	323	LR	LR	04 05 43.2	
	comp=Z,85nm,18.4s,MS3.7,baz=241,slow=31						
ESDC	Sonseca Array	43.76	46	LR	LR	04 05 18.0	
	comp=Z,64nm,18.3s,MS3.6,baz=300,slow=30						
TXAR	Lajitas Array	57.45	296	P	P	03 53 19.6	+0.1
	0.4nm,0.7s,mb3.5,baz=102,slow=8.3,SNR=5.8						
TXAR				LR	LR	04 18 29.4	
	comp=Z,65nm,19.7s,MS3.7,baz=130,slow=36						
NOA	NORSAR Array B	61.88	27	LR	LR	04 14 47.2	
	comp=Z,39nm,19.1s,MS3.6,baz=225,slow=30						
PDAR	Pinedale Array	63.33	311	P	P	03 53 59.8	+0.5
	0.5nm,0.8s,mb3.7,baz=84,slow=8.2,SNR=4.1						
PDAR				LR	LR	04 21 21.3	
	comp=Z,46nm,18.0s,MS3.7,baz=340,slow=36						
ILAR	Eielson Array	83.57	335	P	P	03 55 56.8	-0.4
	0.9nm,0.7s,mb4.0,baz=72,slow=4.3,SNR=11						

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*NEIC **23** 03:46:16.8±0.7, 51.56N×16.16E, h5^{km}, ML2.8(SZGRF), ML2.8(VIE), ML2.5(BRG), ML2.5(CLL), Error ellipse: s-maj=8.8km s-min=6.3km az=58.0*

*PRU **23** 03:46:17.7, 51.50N×16.15E*

*WAR **23** 03:46:18.1, 51.52N×16.12E, ML2.9, Mining Induced*

ISC 23 03:46:15.4±0.6, **51.52N**±0.03×**16.12E**±0.04**, n19,** σ**1^{s}23**/45, **2C, Poland**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	Ksiaz	0.69	171	*e*PG	Pg	03 46 31.0	+1.9
KSP				*e*SG	Sg	03 46 40.0	+1.8
KSP	Ksiaz	0.69	171	*i* Pg	Pg	03 46 30.6	+1.5
KSP				*e*Sg	Sg	03 46 39.6	+1.4
UPC	Upice	1.01	184	*e*PG	Pg	03 46 36.5	+0.8
UPC				*e*SG	Sg	03 46 49.7	+0.5
DPC	Dobruska-Polom	1.18	174	*e*PG	Pg	03 46 39.4	+0.5
DPC				*e*SG	Sg	03 46 54.8	+0.2
	18nm,0.2s						
PVCC	Panska Ves	1.40	225	*e*PG	Pg	03 46 43.3	+0.1
PVCC				*e*SG	Sg	03 47 02.8	+1.0
BRG	Berggiesshubel	1.52	246	*i* Pn	Pn	03 46 45.8	+1.9
BRG				*i* Pg	Pg	03 46 46.5	+0.8
BRG				*i* Sg	Sg	03 47 06.5	+0.6
PRU	Pruhonice	1.83	214	PN	Pn	03 46 49.0	+0.6
PRU				PG	Pg	03 46 51.0	-1.0
PRU				*i* x	x	03 46 55.4	
PRU				*i* x	x	03 47 08.0	
PRU				SG	Sg	03 47 15.1	-1.3
	24nm,0.4s						
CLL	Collm	1.96	265	*i* PN	Pn	03 46 50.7	+0.4
CLL				*i* PG	Pg	03 46 53.9	-0.7
CLL				*i*		03 46 57.8	
CLL				*i*		03 47 08.7	
CLL				*i* SG	Sg	03 47 20.3	-0.5
CLL				*i*		03 47 26.4	
CLL	Collm	1.96	265	*i* Pn	Pn	03 46 50.7	+0.4
CLL				*i* Pg	Pg	03 46 53.9	-0.7
CLL				*i* Sg	Sg	03 47 20.3	-0.5
MORC	Moravsky Berou	1.96	152	*e*Pn	Pn	03 46 50.9	+0.6
MORC				*e*Sn	Sn	03 47 11.5	-4.5
OKC	Ostrava-Krasne	2.12	142	*e*PN	Pn	03 46 53.3	+0.8
OKC				*e*PG	Pg	03 46 56.2	-1.5
OKC				*e*SG	Sg	03 47 24.2	-1.8
NKC	Novy Kostel	2.66	242	*e*PN	Pn	03 47 01.2	+1.0
NKC				*e*PG	Pg	03 47 06.3	-2.2
NKC				*e*SG	Sg	03 47 42.2	-1.7
OJC	Ojcow	2.67	118	*e*PG	Pg	03 47 08.0	-0.7
OJC				*e*SG	Sg	03 47 43.0	-1.2
KHC	Kasperske Hory	2.89	215	*e*PN	Pn	03 47 04.1	+0.5
KHC				*e*PG	Pg	03 47 10.2	-3.0
KHC				*e*SN	Sn	03 47 39.9	+0.3
KHC				*e*SG	Sg	03 47 49.0	-2.7
GEC2	GERESS Array S	3.10	211	*e*Pn	Pn	03 47 07.9	+1.4
WET	Wettzell	3.16	222	*e*Pn	Pn	03 47 08.1	+0.8
WET				*e*Sg	Sg	03 47 57.0	-3.5
BSD	Bornholm Skovb	3.67	349	*i* P	Pn	03 47 13.3	-1.4
BSD				*i* S	Sn	03 47 54.3	-5.0
BSD				*i*		03 47 56.9	
MOA	Molln	3.87	199	⇑*i*PN	Pn	03 47 18.1	+0.7
MOA				*i* SG	Sg	03 48 21.1	-3.0
	9.3nm,0.7s						
ARSA	Arzberg	4.29	185	⇑*i*PN	Pn	03 47 24.7	+1.3
ARSA				*i* SG	Sg	03 48 33.2	-5.0
	8.5nm,0.7s						

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*IDC **23** 04:19:53.5±2.9, 30.69S×177.45W, mb4.5/4, mb1 4.5/5, mb1mx4.2/14, ML3.2/1, Error ellipse: s-maj=60.8km s-min=34.9km az=116.0*

*NEIC **23** 04:19:56.5±1.7, 30.66S×177.71W, h10^{km}, mb4.6/3, Error ellipse: s-maj=34.1km s-min=23.7km az=75.0*

ISC 23 04:20:00.2±1.9, **30.64S**±0.10×**178.0W**±0.3, **h33**^{km}**, n12,** σ**0^{s}81**/12, **mb4.5**/6, **Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	Urewera	8.59	207	Pn	P	04 22 01.1	-4.1
	0.3nm,0.3s,baz=184,slow=23,SNR=3.8						
URZ				Sn	Sn	04 23 42.1	-0.1
	1.2nm,0.3s,baz=315,slow=23,SNR=9.3						
CTA	Charters Tower	33.81	280	P	P	04 26 42.5	+1.1
	3.8nm,0.5s,mb4.6,baz=105,slow=11,SNR=7.3						
CTAO	Charters Tower	33.81	280	*e*P	P	04 26 42.4	+0.9
	3.8nm,0.5s,mb4.6						
STKA	Stephens Creek	34.40	257	P	P	04 26 47.9	+1.4
	5.6nm,0.7s,mb4.6,baz=103,slow=9.6,SNR=14						
STKA	Stephens Creek	34.40	257	*e*P	P	04 26 47.9	+1.4
ASAR	Alice Springs	43.07	267	P	P	04 27 59.0	+0.1
	1.2nm,0.4s,mb4.0,baz=104,slow=7.2,SNR=16						
WB2	Warramunga Arr	44.07	272	*e*P	P	04 28 06.2	-0.8
WRAB	Tennant Creek	44.08	272	*e*P	P	04 28 06.3	-0.8
	4.7nm,0.6s,mb4.4						
WRA	Warramunga Arr	44.08	272	P	P	04 28 06.4	-0.7
	2.7nm,0.3s,mb4.5,baz=110,slow=8.1,SNR=106						
QSPA	South Pole Qui	59.47	180	*e*P	P	04 30 08.6	+6.8
	5.0nm,0.6s,mb4.7						
SNAA	Sanae	77.92	178	P	P	04 31 56.0	+0.1
FINES	FINESS Array B	145.36	340	PKPbc	PKPbc	04 39 32.5	-1.9
	0.7nm,0.3s,baz=63,slow=4.3,SNR=10						

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*IDC **23** 04:27:03.6±0.7, 2.50N×127.04E, mb4.3/11, mb1 4.4/11, mb1mx4.3/15, MS3.6/2, Ms1 3.6/2, ms1mx3.1/20, Error ellipse: s-maj=58.1km s-min=14.4km az=73.0*

*NEIC **23** 04:27:11.7±4.2, 2.47N×127.16E, h62^{km}±40^{km}, mb4.6/12, Error ellipse: s-maj=21.9km s-min=8.2km az=83.0*

ISC 23 04:27:06.9±0.4, **2.50N**±0.06×**127.0E**±0.2, **h33**^{km}**, n28,** σ**0^{s}86**/26, **mb4.5**/21, **MS3.5**/2, **Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	20.52	184	*e*P	P	04 31 45.1	0.0
	3.2nm,0.8s						
FITZ	Fitzroy Crossi	20.52	184	P	P	04 31 44.9	-0.2
	2.9nm,0.5s,baz=8.8,slow=9.8,SNR=16						
WRAB	Tennant Creek	23.43	162	*e*P	P	04 32 13.8	-0.5
	20nm,0.9s,mb4.5						
WRA	Warramunga Arr	23.44	162	P	P	04 32 13.8	-0.5
	6.4nm,0.4s,mb4.4,baz=343,slow=11,SNR=54						
WRA				PcP	PcP	04 36 01.0	-0.6
	0.3nm,0.5s,baz=336,slow=2.1,SNR=5.4						
WB2	Warramunga Arr	23.44	162	*e*P	P	04 32 14.4	0.0
MBWA	Marble Bar	24.57	197	*e*P	P	04 32 26.7	+1.3
	5.3nm,0.8s,mb4.1						
ASAR	Alice Springs	26.86	166	P	P	04 32 46.0	-0.9
	2.6nm,0.5s,mb4.0,baz=347,slow=7.2,SNR=36						
ASAR				PcP	PcP	04 36 09.0	-0.1
	0.9nm,0.7s,baz=345,slow=2.1,SNR=6.5						
ASPA	Alice Springs	26.86	166	*e*P	P	04 32 46.7	-0.1
JHJ	Hachijo jima 2	32.73	20	LR	LR	04 44 07.8	
	comp=Z,174nm,21.7s,MS3.7,baz=301,slow=31						
MAJO	Matsushiro	35.42	16	P	P	04 34 01.8	-0.2
	6.7nm,0.8s,mb4.6						
NWAO	Narrogin (SRO)	36.43	194	P	P	04 34 12.0	+1.4
	15nm,1.1s,mb4.8						
STKA	Stephens Creek	36.89	159	P	P	04 34 14.1	-0.4
	6.8nm,0.7s,mb4.6,baz=322,slow=7.8,SNR=11						
STKA	Stephens Creek	36.89	159	*e*P	P	04 34 14.0	-0.5
BJI	Beijing	38.63	347	*e*P	P	04 34 29.8	+0.8
	12nm,1.1s,mb4.5						
MDJ	Mudanjiang	42.00	3	*e*P	P	04 34 57.9	+1.1
	7.7nm,0.8s,mb4.4						
ASAJ	Asahikawa	43.68	16	LR	LR	04 53 30.3	
	comp=Z,43nm,18.8s,MS3.4,baz=15,slow=36						
SONM	Songino Array	48.54	342	P	P	04 35 49.6	+0.7
	0.6nm,0.4s,mb4.0,baz=163,slow=9.2,SNR=6.7						
SONM				PcP	PcP	04 37 14.6	-0.1
	0.4nm,0.4s,baz=151,slow=3.9,SNR=2.7						
MKAR	Makanchi Array	58.71	326	P	P	04 37 02.9	-1.0
	2.7nm,0.5s,mb4.6,baz=121,slow=8.5,SNR=37						
KURK	Kurchatov	62.92	328	*e*P	P	04 37 31.4	-1.0
	5.7nm,0.6s,mb4.9						
BVAR	Borovoye Array	68.49	327	P	P	04 38 07.5	-0.4
	1.2nm,0.4s,mb4.3,baz=142,slow=7.9,SNR=7.3						
BRVK	Borovoye	68.56	327	P	P	04 38 07.9	-0.5
	2.2nm,0.5s,mb4.3						
ZRNK	Zerenda	69.21	327	*e*P	P	04 38 11.8	-0.6
	2.8nm,0.5s,mb4.5						
ARU	Arti	76.11	328	P	P	04 38 50.8	-2.3
	11nm,1.1s,mb4.7						
MAW	Mawson	82.71	200	P	P	04 39 28.8	+0.4
	0.9nm,0.6s,mb4.0,baz=63,slow=5.5,SNR=4.7						
COLA	College	85.68	25	*e*P	P	04 39 36.6	-6.7
	5.9nm,0.5s,mb5.1						
ILAR	Eielson Array	86.09	25	P	P	04 39 46.3	+1.0
	0.3nm,0.5s,mb3.8,baz=239,slow=5.7,SNR=5.0						
ARCES	ARCESS Array B	91.69	340	P	P	04 40 12.0	+0.1
	5.4nm,1.0s,mb4.8,slow=3.6,SNR=6.0						
FINES	FINESS Array B	93.04	332	P	P	04 40 19.6	+1.4
	1.6nm,0.9s,mb4.4,baz=100,slow=8.5,SNR=2.7						

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*NEIC **23** 04:53:50.2±7.2, 7.26N×93.47E, h69^{km}±53^{km}, mb4.5/1, Error ellipse: s-maj=90.2km s-min=14.3km az=65.0*

*IDC **23** 04:53:55.9±11.0, 7.49N×93.84E, h110^{km}±90^{km}, mb3.3/4, mb1 3.5/5, mb1mx3.3/16, ML4.4/1, Error ellipse: s-maj=110.0km s-min=18.8km az=63.0*

ISC 23 04:53:52.3±1.7, **7.4N**±0.1×**93.7E**±0.3, **h100**^{km}**, n13,** σ**0^{s}54**/8, **mb3.8**/6, **Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	Chiang Mai Arr	12.16	25	P	P	04 56 43.1	-0.2
	0.6nm,0.3s,baz=213,slow=14,SNR=9.3						
PKI	Pulchoki	21.56	340	*e*P		04 58 49.5	
	7.5nm,0.3s						
DMN	Daman	21.70	339	*e*P		04 58 52.2	
	10nm,0.2s						
KKN	Kakani	21.80	340	*e*P		04 58 50.8	
GKN	Gorkha	22.23	338	*e*P		04 58 56.0	
KOLN	Koldanda	22.42	336	*e*P		04 59 02.0	
	2.5nm,0.2s						
MBWA	Marble Bar	38.20	138	P	P	05 01 02.7	-1.3
	7.2nm,1.0s,mb4.5						
FITZ	Fitzroy Crossi	40.46	129	P	P	05 01 23.4	+0.7
	6.5nm,1.4s,mb4.3,baz=297,slow=18						
MKAR	Makanchi Array	40.47	348	P	P	05 01 22.7	+0.2
	0.5nm,0.5s,mb3.6,baz=164,slow=9.0,SNR=6.4						
SONM	Songino Array	41.76	13	P	P	05 01 33.0	-0.1
	0.5nm,0.7s,mb3.4,baz=207,slow=9.4,SNR=3.6						
WRA	Warramunga Arr	48.36	125	P	P	05 02 26.0	-0.1
	0.5nm,0.3s,mb3.8,baz=300,slow=9.8,SNR=16						
WB2	Warramunga Arr	48.37	125	*e*P	P	05 02 26.5	+0.3
ASAR	Alice Springs	49.96	129	P	P	05 02 38.8	+0.4
	0.3nm,0.4s,mb3.6,baz=305,slow=8.0,SNR=4.8						

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*NEIC **23** 05:22:17.3±3.0, 21.46S×176.45W, h186^{km}±32^{km}, mb4.1/4, Error ellipse: s-maj=21.9km s-min=11.7km az=164.0*

*IDC **23** 05:22:20.7±7.5, 21.66S×176.34W, h220^{km}±78^{km}, mb3.4/6, mb1 3.6/8, mb1mx3.5/16, Error ellipse: s-maj=57.8km s-min=19.8km az=168.0*

ISC 23 05:22:15.3±3.5, **21.5S**±0.2×**176.5W**±0.1, **h180**^{km}±37^{km}, **n17,** σ**0^{s}92**/16, **mb3.9**/9, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAR	Rarotonga	15.58	92	P	P	05 25 47.3	+0.6
	2.5nm,0.3s,baz=85,slow=18,SNR=4.1						
URZ	Urewera	17.60	197	P	P	05 26 08.7	-1.9
	0.6nm,0.3s,baz=321,slow=22,SNR=2.7						
CTA	Charters Tower	34.80	265	P	P	05 28 52.0	+1.2
	3.5nm,0.9s,mb4.0,baz=98,slow=7.3,SNR=5.9						
CTAO	Charters Tower	34.80	265	*e*P	P	05 28 51.2	+0.4
	4.9nm,0.8s,mb4.2						
PMG	Port Moresby	36.94	283	P	P	05 29 07.9	-1.0
STKA	Stephens Creek	38.64	246	P	P	05 29 23.9	+0.9
	1.8nm,0.7s,mb3.8,baz=106,slow=12,SNR=5.0						
STKA	Stephens Creek	38.64	246	P	P	05 29 23.9	+0.9
STKA				*e*P		05 29 24.6	
ASAR	Alice Springs	45.67	257	P	P	05 30 20.7	+0.7
	6.0nm,1.0s,mb4.2,baz=90,slow=8.3,SNR=40						
ASPA	Alice Springs	45.67	257	*e*P	P	05 30 21.2	+1.2
WRAB	Tennant Creek	45.86	263	P	P	05 30 20.4	-1.1
WRA	Warramunga Arr	45.87	263	P	P	05 30 21.4	-0.2
	1.7nm,0.8s,mb3.7,baz=96,slow=7.3,SNR=13						
FITZ	Fitzroy Crossi	54.30	263	P	P	05 31 26.1	+0.7
	0.8nm,0.5s,mb3.7,baz=26,slow=8.0,SNR=4.5						
MBWA	Marble Bar	59.01	258	*e*P	P	05 31 57.9	-0.8
	2.0nm,0.6s,mb4.1						
QSPA	South Pole Qui	68.58	180	P	P	05 33 00.6	+0.6
	1.7nm,0.8s,mb3.8						
PMR	Palmer	85.66	13	P	P	05 34 33.5	-1.0
	41nm,1.7s,mb4.9						
TXAR	Lajitas Array	86.41	57	P	P	05 34 38.8	-0.1
	0.4nm,1.0s,mb3.1,baz=249,slow=11,SNR=3.6						
AKASG	Malin Array Be	144.56	332	PKP	PKPdf	05 41 29.6	-0.3
	3.1nm,0.8s,baz=40,slow=4.2,SNR=15						

IDC 23 05:22:17.8±23.0, **13.64S**×**170.48E, h462**^{km}±328^{km}, **mb3.0**/5, **mb1 3.3**/5, **mb1mx3.1**/15, **Error ellipse: s-maj=260.0km s-min=62.7km az=161.0, Vanuatu Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	35.11	255	P	P	05 28 31.0	-1.3
	0.9nm,0.3s,baz=82,slow=6.7,SNR=12						
ASAR	Alice Springs	35.96	248	P	P	05 28 38.4	-1.1
	0.9nm,0.3s,baz=76,slow=9.3,SNR=14						
FITZ	Fitzroy Crossi	43.28	258	P	P	05 29 37.8	-1.2
	0.4nm,0.3s,baz=70,slow=8.2,SNR=5.3						
CMAR	Chiang Mai Arr	77.38	293	P	P	05 33 24.6	-1.2
	0.6nm,0.4s,baz=135,slow=4.0,SNR=4.1						
ILAR	Eielson Array	84.56	17	P	P	05 34 00.9	-0.8
	0.2nm,0.4s,baz=219,slow=5.8,SNR=5.5						

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*PRU **23** 05:32:13.2, 48.34N×18.85E, Felt In Slovakia*

*NEIC **23** 05:32:13.0±0.4, 48.27N×18.81E, h8^{km}±3^{km}, ML3.5(VIE), ML3.1(BRG), ML3.0(BRA), Error ellipse: s-maj=3.8km s-min=3.2km az=88.0*

*IDC **23** 05:32:14.2±1.1, 48.21N×18.53E, mb1 3.6/5, mb1mx3.4/21, ML3.4/5, Error ellipse: s-maj=15.9km s-min=8.3km az=12.0*

ISC 23 05:32:12.1±0.3, **48.32N**±0.01×**18.76E**±0.02, **h7**^{km}±2^{km}, **n46,** σ**1^{s}28**/98, **7C-4D, Czech and Slovak Republics**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VYHS	Vyhne	0.18	16	*e*PG	Pg	05 32 17.6	+1.7
VYHS				*i* SG	Sg	05 32 20.6	+2.1
SRO	Srobarova	0.59	211	*e*PG	Pg	05 32 24.6	+0.6
SRO				*i* SG	Sg	05 32 32.7	+0.8
PENC	Penc	0.64	146	⇑*e*P	Pg	05 32 24.6	-0.2
PENC				*i* S	Sg	05 32 32.4	-0.9
LIKS	Likavka	0.77	17	*i* PG	Pg	05 32 30.0	+2.6
LIKS				*e*SG	Sg	05 32 40.4	+2.8
BUD	Budapest	0.86	168	*e*Snc		05 32 28.8	
BUD				*e*		05 32 39.7	
BUD	Budapest	0.86	168	⇑*e*P	Pb	05 32 28.8	-0.1
BUD				*e*S	Sb	05 32 39.7	-0.6

PSZ	Piszkesteto	0.86	118	ePg	Pg	05 32 27.3	-2.0
SMOL	Smolenice	0.91	283	ePG	Pg	05 32 32.7	+2.4
SMOL				i SG	Sg	05 32 46.7	+4.3
PKSG		0.96	195	⇑eP	Pb	05 32 31.2	+0.5
PKSG				Pg	Pg	05 32 32.2	+0.8
PKSG				eS	Sb	05 32 44.1	+0.7
ZST	Bratislava	1.12	264	i PG	Pg	05 32 35.1	+0.7
ZST				i SG	Sg	05 32 50.2	+0.9
KECS	Kecovo	1.16	81	ePG	Pg	05 32 33.7	-1.6
KECS				eSG	Sg	05 32 48.7	-2.1
PKS8	Sarbogard	1.44	182	⇓iP	Pn	05 32 38.6	-0.2
PKS8				eS	Sb	05 32 56.8	-0.6
OKC	Ostrava-Krasne	1.57	345	ePG	Pg	05 32 41.8	-1.7
OKC				eSG	Sg	05 33 02.6	-1.8
SOP	Sopron	1.61	247	e	Pn	05 32 42.1	+0.9
SOP				e		05 33 05.3	
VKA	Vienna	1.63	269	⇑iPG	Pg	05 32 42.2	-2.5
VKA				i SG	Sg	05 33 12.1	+5.6
MORC	Moravsky Berou	1.66	332	ePn	Pn	05 32 42.6	+0.7
MORC				eSn	Sn	05 33 00.0	-3.7
MORC				eSg	Sg	05 33 05.1	-2.5
VRAC	Vranov	1.74	305	Pn	Pn	05 32 43.9	+0.9
	19nm,0.3s,baz=112,slow=13,SNR=23						
VRAC				Pg	Pg	05 32 47.0	+0.1
	19nm,0.3s,baz=111,slow=13,SNR=30						
VRAC				Lg		05 33 06.0	
	29nm,0.3s,baz=234,slow=22,SNR=16						
PKS9	Tamasi	1.77	191	⇓eP	Pn	05 32 43.4	0.0
PKS9				eS	Sn	05 33 12.7	+6.4
RAC	Raciborz	1.80	348	ePg	Pg	05 32 49.7	+1.6
RAC				eSg	Sg	05 33 13.0	+0.8
OJC	Ojcow	2.02	19	ePn	Pn	05 32 47.8	+0.8
OJC				eSn	Sn	05 33 11.3	-1.4
OJC				i Sg	Sg	05 33 14.1	-5.2
RHK1	Bakonya	2.28	192	⇑iP	Pn	05 32 50.1	-0.6
RHK1				eS	Sn	05 33 18.7	-0.6
KOLS	Kolonicke sedl	2.41	74	ePN	Pn	05 32 52.7	+0.1
KOLS				eSG	Sg	05 33 30.8	-1.5
ARSA	Arzberg	2.43	245	⇑iPN	Pn	05 32 53.4	+0.5
ARSA				i SN	Sn	05 33 24.9	+1.6
ARSA				i SG	Sg	05 33 34.0	+0.9
	41nm,0.4s						
RHK3	Tenkes	2.46	188	⇓iP	Pn	05 32 52.8	-0.5
RHK3				eS	Sn	05 33 20.8	-3.1
DPC	Dobruska-Polom	2.58	323	ePN	Pn	05 32 56.4	+1.3
DPC				ePG	Pg	05 33 01.6	-2.1
DPC				eSG	Sg	05 33 36.7	-1.4
	57nm,0.6s						
UPC	Upice	2.83	322	ePN	Pn	05 32 59.6	+1.0
UPC				ePG	Pg	05 33 06.5	-2.1
UPC				eSG	Sg	05 33 45.0	-1.4
GROS	Grobnik	2.89	231	i Pn	Pn	05 32 59.2	-0.3
KWP	Kalwaria	2.91	62	ePn	Pn	05 33 00.9	+1.1
KWP				ePg	Pg	05 33 12.0	+1.8
KWP				eSn	Sn	05 33 37.2	+1.8
KWP				eSg	Sg	05 33 51.5	+2.4
KSP	Ksiaz	2.99	328	ePn	Pn	05 33 02.1	+1.2
KSP				ePg	Pg	05 33 11.2	-0.7
KSP				eSn	Sn	05 33 33.0	-4.5
KSP				eSg	Sg	05 33 45.5	-6.2
PERS	Pernice	2.99	237	ePn	Pn	05 33 01.1	+0.2
MOA	Molln	3.05	263	⇓iPN	Pn	05 33 00.9	-0.8
MOA				i SN	Sn	05 33 39.1	+0.2
PRU	Pruhonice	3.23	303	ePN	Pn	05 33 04.7	+0.4
PRU				ePG	Pg	05 33 12.1	-4.6
PRU				ex	x	05 33 40.7	
PRU				eSG	Sg	05 33 56.2	-3.6
	32nm,0.6s						
OBKA	Obir	3.39	239	⇑iPN	Pn	05 33 06.4	-0.1
OBKA				i SG	Sg	05 34 05.8	+0.9
	14nm,0.4s						
GERES	GERESS Array B	3.40	281	Pn	Pn	05 33 07.4	+0.7
	5.1nm,0.3s,baz=98,slow=14,SNR=65						
GERES				Sn	Sn	05 33 44.3	-3.4
	3.0nm,0.3s,baz=104,slow=22,SNR=4.4						
GERES				Lg		05 33 57.3	
	5.1nm,0.3s,baz=105,slow=26,SNR=6.3						
PVCC	Panska Ves	3.52	310	ePN	Pn	05 33 08.6	+0.2
PVCC				eSN	Sn	05 33 51.2	+0.5
KHC	Kasperske Hory	3.53	285	ePN	Pn	05 33 09.4	+0.9
KHC				ex	x	05 33 17.0	
KHC				eSN	Sn	05 33 51.3	+0.3
KHC				eSG	Sg	05 34 07.5	-2.0
KHC				ex	x	05 34 17.5	
BOJS	Bojanci	3.71	222	ePn	Pn	05 33 10.8	-0.2
BOJS				i Sn	Sn	05 33 51.9	-3.6
BRG	Berggiesshubel	4.04	311	ePn	Pn	05 33 16.1	+0.3
BRG				ePg	Pg	05 33 31.6	-1.2
BRG				i Sg	Sg	05 34 28.1	+1.4
NKC	Novy Kostel	4.55	297	ePN	Pn	05 33 23.0	-0.1
NKC				eSG	Sg	05 34 38.6	-5.2
CLL	Collm	4.78	311	i PN	Pn	05 33 26.1	-0.2
CLL				e		05 34 24.0	
CLL				eSG	Sg	05 34 44.0	-7.2
CLL	Collm	4.78	311	i Pn	Pn	05 33 26.1	-0.2
CLL				eSg	Sg	05 34 44.0	-7.2
MOX	Moxa	5.21	299	Pn	Pn	05 33 31.9	-0.4
MOX				Sg	Sg	05 34 58.1	-7.3
MLR	Muntele Rosu	5.68	117	Pn	Pn	05 33 41.8	+2.9
	0.5nm,0.3s,baz=83,slow=8.5,SNR=3.1						
DAVOX	Davos	6.21	259	Pn	Pn	05 33 46.2	-0.2
	0.8nm,0.3s,baz=4.1,slow=9.7,SNR=4.2						
DAVOX				Sn	Sn	05 34 56.0	-2.5
	0.6nm,0.3s,baz=183,slow=22,SNR=3.0						
DAVOX				Lg		05 35 31.9	
	0.6nm,0.3s,baz=290,slow=18,SNR=2.0						
AKASG	Malin Array Be	7.22	67	Pn	Pn	05 34 01.5	+0.9
	1.1nm,0.3s,baz=248,slow=12,SNR=5.3						
AKASG				Sn	Sn	05 35 19.6	-4.2
	2.1nm,0.3s,baz=251,slow=24,SNR=8.1						
FINES	FINESS Array B	13.79	15	Pn	P	05 35 29.2	-0.9
	0.2nm,0.3s,baz=195,slow=10,SNR=6.7						
FINES				Sn	S	05 37 55.0	-10
	0.3nm,0.3s,baz=196,slow=22,SNR=5.8						

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*IDC **23** 05:46:57.3±1.0,4.28S×124.22E,mb4.2/6,mb1 4.3/8,
mb1mx4.1/15,ML3.4/2,MS3.4/5,Ms1 3.4/5,ms1mx3.2/14,
Error ellipse: s-maj=88.3km s-min=17.2km az=63.0*

*NEIC **23** 05:46:58.8±0.7,4.36S×124.17E,h10^{km},mb4.4/2,Error
ellipse: s-maj=53.5km s-min=10.6km az=64.0*

ISC 23 05:46:56.7±0.7,**4.4S**±0.2×**124.1E**±0.3,**h10^{km},n12,
σ1^{s}13**/11,**mb4.2**/7,**MS3.4**/3,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	13.72	174	Pn	P	05 50 13.0	-1.0
	0.2nm,0.3s,baz=359,slow=14,SNR=8.6						
FITZ				LR	LR	05 55 39.6	
	comp=Z,54nm,19.9s,baz=341,slow=38						
WRAB	Tennant Creek	18.40	148	eP	P	05 51 12.7	-1.1
	14nm,1.0s						
WRA	Warramunga Arr	18.40	148	P	P	05 51 12.5	-1.3
	0.1nm,0.3s,baz=321,slow=12,SNR=11						
WRA				LR	LR	05 57 27.3	
	comp=Z,108nm,19.3s,baz=240,slow=34						
ASPA	Alice Springs	21.38	155	eP	P	05 51 48.3	+1.6
ASAR	Alice Springs	21.38	155	P	P	05 51 47.6	+1.0
	10nm,0.9s,mb4.2,baz=338,slow=11,SNR=44						
ASAR				LR	LR	06 00 51.7	
	comp=Z,128nm,18.1s,MS3.4,baz=21,slow=39						
CTA	Charters Tower	26.62	128	LR	LR	06 02 17.9	
	comp=Z,99nm,18.5s,MS3.4,baz=230,slow=35						
STKA	Stephens Creek	31.90	151	P	P	05 53 26.1	+1.6
	1.8nm,0.8s,mb4.0,baz=355,slow=17,SNR=3.1						
CMAR	Chiang Mai Arr	33.62	313	P	P	05 53 40.0	+0.2
	0.9nm,0.3s,mb4.1,baz=129,slow=5.8,SNR=2.6						
CMAR				LR	LR	06 09 45.6	
	comp=Z,57nm,18.9s,MS3.3,baz=152,slow=41						
SONM	Songino Array	54.27	345	P	P	05 56 25.1	0.0
	2.6nm,1.2s,mb4.0,baz=166,slow=5.1,SNR=5.1						
MKAR	Makanchi Array	62.91	329	P	P	05 57 25.9	+0.4
	1.8nm,0.7s,mb4.3,baz=131,slow=7.8,SNR=13						
ZAL	Zalesovo	66.73	336	P	P	05 57 48.1	-2.1
	1.9nm,0.3s,mb4.6,baz=78,slow=13,SNR=3.8						
KURK	Kurchatov	67.31	331	eP	P	05 57 54.3	+0.5
	6.9nm,1.2s,mb4.6						

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*LDG **23** 05:56:06.1±0.4,42.30N×2.17E,h4^{km},Md2.6/3,Ml2.4/7,
Error ellipse: s-maj=6.6km s-min=2.7km az=159.0*

*STR **23** 05:56:06.8±0.1,42.48N×2.05E,h5^{km}±1^{km},Ml2.4,Error
ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*NEIC **23** 05:56:06.8,42.48N×2.05E,h5^{km},ML2.7(STR),
ML2.4(LDG),MN2.2(MDD),After STR.*

*MDD **23** 05:56:07.3±0.4,42.35N×2.14E,h5^{km}±6^{km},mbLg1.9/10,
Error ellipse: s-maj=3.5km s-min=2.2km az=161.0,
AftershockPLICA PRXIMO*

ISC 23 05:56:05.3±0.6,**42.38N**±0.03×**2.14E**±0.03,**h8^{km}**±4^{km},**n24,
σ1^{s}33**/39,**Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VALF	Valcebollere	0.09	283	Pg	Pg	05 56 09.1	+1.4
VALF				Sg	Sg	05 56 10.8	+1.5
VALF	Valcebollere	0.09	283	P	Pg	05 56 09.2	+1.5
VALF				S	Sg	05 56 10.9	+1.6
CARF	Carcanieres	0.34	356	P	Pg	05 56 14.4	+2.2
CARF				S	Sg	05 56 19.4	+2.7
FILF	Fillols	0.36	60	Pg	Pg	05 56 12.6	0.0
FILF				Sg	Sg	05 56 16.9	-0.6
FILF	Fillols	0.36	60	P	Pg	05 56 12.7	+0.1
FILF				S	Sg	05 56 17.0	-0.5
EJON	La Jonquera	0.56	83	Pg	Pg	05 56 17.8	+1.2
	1.2nm,0.1s,SNR=7.9						
EJON				Lg		05 56 25.3	
	7.6nm,0.1s,SNR=10						
EMIR	Miracle	0.65	225	Pg	Pg	05 56 18.8	+0.3
	3.7nm,0.1s,SNR=7.0						
EMIR				Lg		05 56 28.1	
	6.6nm,0.1s,SNR=5.0						
EMIR	Miracle	0.65	225	Pg	Pg	05 56 18.8	+0.3
EMIR				Lg		05 56 28.6	
SALF	Salau	0.80	299	P	Pb	05 56 22.7	+1.7
SALF				S	Sb	05 56 33.3	+1.6
MTLF	Montolieu	0.96	3	ePg	Pg	05 56 26.0	+1.4
MTLF				eSg	Sg	05 56 38.8	+1.4
	10nm,0.3s						
MELF	Melles	1.13	296	S	Sb	05 56 42.1	+0.8
EPOB	Poblet	1.30	218	Pg	Pg	05 56 30.5	-0.8
	4.6nm,0.1s,SNR=15						
EPOB				Lg		05 56 47.0	
	17nm,0.1s,SNR=18						
EPOB	Poblet	1.30	218	Pg	Pg	05 56 30.6	-0.7
EPOB				Lg		05 56 48.1	
RESF	Ens	1.40	288	S	Sb	05 56 48.4	-0.7
EPF	Esparros	1.48	297	ePg	Pg	05 56 34.6	-0.2
EPF				eSg	Sg	05 56 55.2	+0.6
	5.2nm,0.2s						
EBR	Ebro Roquetas	1.99	219	eRs		05 56 58.0	
ESAC	San Caprasio	2.05	252	Pg	Pg	05 56 44.7	-1.6
	4.2nm,0.1s,SNR=7.9						
ESAC				Lg		05 57 11.9	
	14nm,0.1s,SNR=5.0						
ESAC	San Caprasio	2.05	252	Pg	Pg	05 56 45.1	-1.2
ESAC				Lg		05 57 11.9	
ETSF	Etsaut	2.06	285	ePg	Pg	05 56 45.5	-0.9
ETSF				eSg	Sg	05 57 12.6	-1.3
	7.2nm,0.3s						
LASF	Ste Croix	2.11	36	ePn	Pn	05 56 41.3	0.0
LASF				ePg	Pg	05 56 46.5	-0.9
LASF				eSg	Sg	05 57 15.1	-0.4
	1.1nm,0.2s						
CAF	Calviac	2.54	359	ePg	Pg	05 56 54.8	-1.3
CAF				eSn	Sn	05 57 19.0	0.0
CAF				eSg	Sg	05 57 28.0	-2.1
	4.0nm,0.2s						
SJPF	Ste Jean	2.58	288	ePn	Pn	05 56 48.9	+0.7
SJPF				ePg	Pg	05 56 54.8	-2.1
SJPF				eSg	Sg	05 57 28.5	-2.9
	3.3nm,0.4s						
EMOS	Mosqueruela	2.82	225	Sn	Sn	05 57 26.3	+0.4
	SNR=5.0						
EMOS				Lg		05 57 35.7	
	2.6nm,0.4s,SNR=5.0						
TCF	Toulx Ste Croi	3.91	1	ePg	Pg	05 57 20.4	-2.9
TCF				eSg	Sg	05 58 11.4	-4.0
	1.7nm,0.2s						

IDC 23 06:37:57.8±1.8,**2.59N**×**127.07E,mb3.4**/5,**mb1 3.7**/5,
mb1mx3.5/16,**Error ellipse: s-maj=97.8km
s-min=24.7km az=68.0,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	20.61	184	P	P	06 42 38.6	-2.7
	0.8nm,0.6s,baz=11,slow=10,SNR=4.1						
WRA	Warramunga Arr	23.50	163	P	P	06 43 09.3	-1.1
	0.8nm,0.5s,baz=343,slow=11,SNR=22						
ASAR	Alice Springs	26.93	166	P	P	06 43 40.5	-2.4
	0.2nm,0.3s,baz=346,slow=7.4,SNR=4.0						
STKA	Stephens Creek	36.95	159	P	P	06 45 09.2	-1.4
	1.7nm,0.9s,baz=331,slow=15,SNR=2.6						
MKAR	Makanchi Array	58.68	325	P	P	06 47 57.2	-2.3
	0.2nm,0.4s,baz=116,slow=8.0,SNR=4.2						

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*RSPR **23** 06:40:56.4,19.54N×65.20W,h25^{km}±39^{km},MD3.7/6,
MD3.7/6*

*NEIC **23** 06:40:56.4,19.54N×65.20W,h25^{km},MD3.7(RSPR),
After RSPR.*

ISC 23 06:40:55.3±1.6,**19.49N**±0.10×**65.3W**±0.1,**h25^{km},n13,
σ0^{s}65**/21,**7C-3D,Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBYP	Canovanas	1.33	204	⇑eP	Pn	06 41 18.1	-0.4
CBYP				eS	Sn	06 41 34.6	-0.9
HUMP	Col San Antoni	1.44	202	⇑eP	Pn	06 41 20.3	+0.1
HUMP				eS	Sn	06 41 38.6	+0.2
SJG	San Juan	1.60	211	⇑eP	Pn	06 41 22.2	-0.2
SJG				eS	Sn	06 41 43.1	+0.7
AOPR	Arecibo Observ	1.79	231	⇑eP	Pn	06 41 24.8	-0.4
AOPR	Arecibo Observ	1.79	231	eS	Sn	06 41 47.7	+0.3
AOPR	Arecibo Observ	1.79	231	ePn	Pn	06 41 24.6	-0.6
CELP	Cerrillos	1.87	221	⇓eP	Pn	06 41 26.0	-0.2
CELP				eS	Sn	06 41 48.7	-0.5
LRS	Lares	1.90	231	⇓eP	Pn	06 41 25.9	-0.8
LRS				eS	Sn	06 41 50.9	+0.9
OBIP	Obispado Ponce	1.91	221	⇓eP	Pn	06 41 26.6	-0.2
OBIP				eS	Sn	06 41 50.4	+0.2
PORP	Portuguez	1.92	222	⇑eP	Pn	06 41 27.1	+0.1
PORP				eS	Sn	06 41 50.0	-0.6
LSP	Las Mesas	2.15	233	⇑eP	Pn	06 41 31.0	+0.7
LSP				eS	Sn	06 41 56.2	-0.2
MGP	Maguayo	2.26	230	⇑eP	Pn	06 41 31.5	-0.4
SDV	Santo Domingo	11.74	207	P	P	06 43 46.6	+2.1
	3.0nm,0.9s						

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*MOS **23** 06:59:14.6±1.4,56.25N×163.50E,h5^{km},mb4.0/6,Error
ellipse: s-maj=18.5km s-min=11.4km az=66.1*

*KRSC **23** 06:59:14.5±0.7,56.21N×163.47E,ML4.4*

*IDC **23** 06:59:16.0±0.7,56.22N×163.39E,mb3.7/10,mb1 3.9/11,
mb1mx3.8/24,ML3.3/1,Error ellipse: s-maj=22.1km
s-min=11.3km az=27.0*

*NEIC **23** 06:59:19.8±3.3,56.26N×163.28E,h25^{km}±25^{km},mb4.3/5,
Error ellipse: s-maj=14.1km s-min=7.8km az=159.0*

ISC 23 06:59:14.9±0.8,**56.20N**±0.03×**163.63E**±0.04,**h4^{km}**±4^{km},
n65,σ1^{s}14/93,**mb3.9**/14,**Near east coast of Kamchatka
Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBTR	Krutoberegovo	0.45	271	i P	Pg	06 59 22.8	-1.1
KBTR				eS	Sg	06 59 29.7	-0.3
KBG	Krutoberegovo	0.52	276	i P	Pg	06 59 24.7	-0.5
KBG				eS	Sg	06 59 31.7	-0.4
KBG				Smax			
	28μm,1.0s						
SVLR	Shiveluch	1.39	287	i P	Pb	06 59 40.6	-0.5
SVLR				eS	Sb	06 59 59.6	+0.5
ZLN	Zelenaya	1.59	264	i P	Pn	06 59 43.9	-0.1
ZLN				eS	Sb	07 00 05.1	+0.1
CIRR	Tsirk	1.61	268	i P	Pn	06 59 44.2	-0.1
CIRR				i S	Sb	07 00 05.8	+0.2
KLY	Klyuchi	1.67	275	P	Pn	06 59 42.7	-2.4
KLY				S	Sb	07 00 03.6	-3.5
KLY	Klyuchi	1.67	275	i P	Pn	06 59 42.8	-2.3
KLY				eS	Sb	07 00 03.0	-4.1
KRSR	Krestovskiy	1.71	272	i P	Pn	06 59 45.0	-0.7
KRSR				eS	Sn	07 00 07.7	-0.6
KPT	Kopyto	1.92	264	eP	Pn	06 59 48.6	-0.2
KPT				eS	Sn	07 00 14.7	+1.0
KMNR	Kamenistaya	1.96	258	eP	Pn	06 59 50.4	+1.1
KMNR				eS	Sn	07 00 16.2	+1.6
MKZ	Mys Kozlova	1.97	214	P	Pn	06 59 49.0	-0.5
MKZ				S	Sn	07 00 14.6	-0.4
MKZ	Mys Kozlova	1.97	214	eP	Pn	06 59 48.7	-0.8
MKZ				eS	Sn	07 00 14.4	-0.6
KOZR	Kozyr	2.09	268	PN	Pn	06 59 52.0	+0.8
KOZR				S	Sn	07 00 20.0	+1.9
KOZ	Kozyrevsk	2.11	268	P	Pn	06 59 52.0	+0.6
KOZ				S	Sn	07 00 20.0	+1.6
KOZ	Kozyrevsk	2.11	268	i P	Pn	06 59 52.1	+0.7
KOZ				eS	Sn	07 00 20.1	+1.7
TUMR	Tumrok	2.17	246	eP	Pn	06 59 53.3	+0.9
TUMR				eS	Sn	07 00 21.4	+1.3
SRDR	Sredinnyy	2.19	275	eP	Pn	06 59 53.0	+0.5
SRDR				eS	Sn	07 00 21.3	+0.9
ESO	Esso	2.78	266	eP	Pn	07 00 00.5	-0.5
ESO				eS	Sn	07 00 34.5	-0.9
ESO				Smax			
	450nm,1.0s						
OSSR	Ossora	3.07	355	eP	Pn	07 00 05.0	-0.2
OSSR				eS	Sn	07 00 41.5	-1.4
OSSR				Smax			
	220nm,0.5s						
KII	Karymskiy	3.24	230	eP	Pn	07 00 08.9	+1.4
SPN	Mys Shipunski	3.75	215	P	Pn	07 00 14.3	-0.5
SPN				S	Sn	07 00 57.4	-2.6
SPN	Mys Shipunski	3.75	215	eP	Pn	07 00 14.0	-0.8
SPN				eS	Sn	07 00 56.7	-3.3
NLC	Nalytchevo	3.92	221	eP	Pn	07 00 16.7	-0.6
NLC				eS	Sn	07 01 01.3	-3.2
SDLR	Sedlovina	4.02	225	eP	Pn	07 00 19.0	+0.4
SDLR				eS	Sn	07 01 07.1	+0.3
AVH	Avacha	4.09	226	eP	Pn	07 00 20.4	+0.8
UGLR	Uglovaya	4.09	225	eP	Pn	07 00 21.2	+1.5
KOK	Koryaka	4.11	227	eP	Pn	07 00 21.0	+1.1
GNL	Ganaly	4.13	235	eP	Pn	07 00 20.9	+0.7
PET	Petropavlovsk	4.30	224	eP	Pn	07 00 23.0	+0.4
PET				eS	Sn	07 01 13.1	-0.9
PET	Petropavlovsk	4.30	224	ePN	Pn	07 00 23.7	+1.1
PET				eS	Sn	07 01 13.8	-0.2
PET				pmax	pmax		
	comp=Z,62nm,0.5s						
PET				smax			
	comp=N,125nm,0.9s						
PET				smax			
	comp=E,181nm,1.0s						
PET				MLR	MLR		
	comp=Z,155nm,11.0s						
PET	Petropavlovsk	4.30	224	ePn	Pn	07 00 22.8	+0.2
RUS	Russkaya	4.82	221	P	Pn	07 00 28.7	-1.3
RUS	Russkaya	4.82	221	eP	Pn	07 00 28.9	-1.1
RUS				eS	Sn	07 01 23.7	-3.4
GRL	Gorelyy	4.89	224	eP	Pn	07 00 31.4	+0.4
APC	Apacha	5.00	232	eP	Pn	07 00 33.9	+1.4
APC				eS	Sn	07 01 29.4	-2.1
APC				Smax			
	comp=Z,40nm,2.0s						
KAMR	Kamenskoye	6.41	11	i P	Pn	07 00 53.6	+1.2
KAMR				eS	Sn	07 02 06.1	-0.9
KAMR				Smax			
	comp=Z,30nm,1.4s						
FX1	Attu Island--F	6.47	117	Pn	Pn	07 00 54.2	+0.9
	comp=Z,2.0nm,0.3s,baz=70,slow=22,SNR=9.3						
FX1				Sn	Sn	07 02 05.3	-3.1
FX1	Attu Island--F	6.47	117	PN	Pn	07 00 54.2	+0.9
FX1				pmax	pmax		
	comp=Z,2.0nm,0.3s						
FX1	Attu Island--F	6.47	117	P	Pn	07 00 56.3	+3.0
YSS	Yuzh-Sakhalins	15.88	243	P	P	07 02 58.6	-2.0
	comp=Z,17nm,0.5s						
MCK	McKinley	24.38	53	eP	P	07 04 36.4	+1.8
	comp=Z,8.3nm,1.4s,mb4.0						
COLA	College	24.78	50	P	P	07 04 40.1	+1.6
	comp=Z,4.3nm,0.9s,mb4.0						
ILAR	Eielson Array	25.20	50	P	P	07 04 43.1	+0.7
	comp=Z,1.3nm,0.8s,mb3.5,baz=268,slow=9.1,SNR=22						
ILAR	Eielson Array	25.20	50	P	P	07 04 43.2	+0.7
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
INK	Inuvik	30.16	41	P	P	07 05 27.3	-0.3
	comp=Z,1.2nm,0.6s,mb3.8,baz=270,slow=6.1,SNR=3.8						
INK	Inuvik	30.16	41	P	P	07 05 27.3	-0.4
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
INK	Inuvik	30.16	41	eP	P	07 05 28.3	+0.7
SONM	Songino Array	35.26	281	P	P	07 06 11.4	-0.9
	comp=Z,0.3nm,0.4s,mb3.6,baz=53,slow=7.2,SNR=4.0						
MKAR	Makanchi Array	48.67	295	P	P	07 07 58.6	-3.0
	comp=Z,0.7nm,0.5s,mb4.0,baz=59,slow=8.1,SNR=9.1						
MKAR	Makanchi Array	48.67	295	P	P	07 07 58.6	-3.0
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	Makanchi Array	48.67	295	P	P	07 07 58.6	-3.0
AAK	Ala-Archa	55.54	296	P	P	07 08 50.1	-3.1
	comp=Z,3.6nm,1.1s,mb4.3						
FINES	FINESS Array B	58.05	338	P	P	07 09 10.1	-0.7
	comp=Z,2.4nm,1.0s,mb4.2,baz=194,slow=31,SNR=2.8						
FINES	FINESS Array B	58.05	338	P	P	07 09 10.1	-0.7
FINES				pmax	pmax		
	comp=Z,2.0nm,1.0s						
FINES	FINESS Array B	58.05	338	P	P	07 09 10.1	-0.7
NOA	NORSAR Array B	61.10	345	P	P	07 09 30.7	-1.1
	comp=Z,0.5nm,0.6s,mb3.9,baz=17,slow=6.9,SNR=2.6						
NOA	NORSAR Array B	61.10	345	P	P	07 09 30.7	-1.1
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SCHQ	Schefferville	61.93	30	eP	P	07 09 36.5	-1.0
	comp=Z,7.0nm,0.8s,mb4.8						
TXAR	Lajitas Array	67.59	71	P	P	07 10 15.5	+1.0
	comp=Z,0.3nm,0.5s,mb3.5,baz=297,slow=3.5,SNR=6.1						
TXAR	Lajitas Array	67.59	71	P	P	07 10 15.5	+1.0
BRTR	Keskin Array B	75.47	322	P	P	07 11 02.1	+0.7
	comp=Z,0.6nm,0.7s,mb3.7,baz=56,slow=5.2,SNR=2.7						
BRTR	Keskin Array B	75.47	322	P	P	07 11 02.2	+0.8
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRA	Warramunga Arr	79.78	208	P	P	07 11 25.2	-0.5
	comp=Z,0.3nm,0.5s,mb3.4,baz=22,slow=6.1,SNR=4.6						
ASAR	Alice Springs	83.45	207	P	P	07 11 45.0	+0.3
	comp=Z,0.5nm,0.8s,mb3.6,baz=16,slow=5.2,SNR=4.9						
QSPA	South Pole Qui	145.96	180	eP	PKPbc	07 18 54.2	+0.2

IDC 23 06:59:20.3±6.7,**19.20S**×**173.94W,mb3.9**/4,**mb1 4.1**/4,
mb1mx3.8/15,**Error ellipse: s-maj=284.0km
s-min=33.2km az=144.0,Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	Charters Tower	37.44	262	P	P	07 06 35.1	-2.2
	2.0nm,0.8s,baz=90,slow=8.1,SNR=2.6						
ASAR	Alice Springs	48.54	255	P	P	07 08 06.0	-1.3
	1.1nm,0.6s,baz=90,slow=8.0,SNR=15						
WRA	Warramunga Arr	48.58	260	P	P	07 08 05.5	-2.1
	0.8nm,0.5s,baz=98,slow=6.0,SNR=15						
ILAR	Eielson Array	86.25	11	P	P	07 12 03.4	-1.2
	0.3nm,0.5s,baz=224,slow=5.8,SNR=11						

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*NEIC **23** 06:59:22.8±2.3,51.56N×16.24E,h5^{km},ML3.0(VIE),Error
ellipse: s-maj=26.3km s-min=8.8km az=41.0*

*PRU **23** 06:59:24.2,51.48N×16.13E*

*WAR **23** 06:59:24.8,51.49N×16.09E,ML2.7,Mining Induced*

ISC 23 06:59:22.5±0.8,**51.47N**±0.04×**16.08E**±0.04,**n16,σ1^{s}18**/38,
1D,Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	Ksiaz	0.64	168	ePG	Pg	06 59 37.0	+1.7
KSP				eSG	Sg	06 59 45.0	+1.1
KSP	Ksiaz	0.64	168	i Pg	Pg	06 59 36.8	+1.5
KSP				eSg	Sg	06 59 45.3	+1.4
UPC	Upice	0.96	183	ePG	Pg	06 59 42.8	+1.0
UPC				eSG	Sg	06 59 55.5	+0.8
DPC	Dobruska-Polom	1.13	172	ePG	Pg	06 59 45.5	+0.4
DPC				eSG	Sg	07 00 00.3	+0.1
	17nm,0.3s						
PVCC	Panska Ves	1.34	226	ePG	Pg	06 59 50.2	+0.9
PVCC				eSG	Sg	07 00 07.4	+0.2
BRG	Berggiesshubel	1.47	247	i Pn	Pn	06 59 52.1	+1.7
BRG				i Pg	Pg	06 59 52.6	+0.7
BRG				i Sg	Sg	07 00 12.5	+1.0

PRU	**Pruhonice**	**1.78**	**214**	PG	**Pg**	**06 59 57.1**	**-0.9**
PRU				*i* x	x	07 00 00.6	
PRU				*e*x	x	07 00 14.0	
PRU				SG	**Sg**	**07 00 20.7**	**-1.0**
	13nm,0.3s						
CLL	**Collm**	**1.94**	**266**	*i* PN	**Pn**	**06 59 56.6**	**-0.4**
CLL				*i* PG	**Pg**	**06 59 59.9**	**-1.2**
CLL				*e*		07 00 04.0	
CLL				*i* SG	**Sg**	**07 00 25.7**	**-1.2**
CLL	**Collm**	**1.94**	**266**	*i* Pn	**Pn**	**06 59 56.6**	**-0.4**
CLL				*i* Pg	**Pg**	**06 59 59.9**	**-1.2**
CLL				*i* Sg	**Sg**	**07 00 25.7**	**-1.2**
MORC	**Moravsky Berou**	**1.94**	**151**	*e*Pn	**Pn**	**06 59 57.2**	**+0.2**
MORC				*e*Sn	**Sn**	**07 00 19.7**	**-2.6**
OKC	**Ostrava-Krasne**	**2.10**	**140**	*e*PG	**Pg**	**07 00 03.6**	**-0.8**
OKC				*e*SG	**Sg**	**07 00 30.5**	**-1.9**
NKC	**Novy Kostel**	**2.61**	**243**	*e*PN	**Pn**	**07 00 07.8**	**+1.1**
NKC				*e*PG	**Pg**	**07 00 13.5**	**-1.2**
NKC				*e*SG	**Sg**	**07 00 48.6**	**-0.9**
OJC	**Ojcow**	**2.67**	**117**	*e*PG	**Pg**	**07 00 16.0**	**+0.2**
OJC				*e*SG	**Sg**	**07 00 51.0**	**-0.4**
OJC	**Ojcow**	**2.67**	**117**	*e*Pg	**Pg**	**07 00 15.8**	**0.0**
OJC				*e*Sg	**Sg**	**07 00 50.7**	**-0.7**
KHC	**Kasperske Hory**	**2.84**	**215**	*e*PN	**Pn**	**07 00 10.7**	**+0.8**
KHC				*e*PG	**Pg**	**07 00 15.9**	**-3.3**
KHC				*e*SN	**Sn**	**07 00 45.7**	**+0.4**
KHC				*e*SG	**Sg**	**07 00 54.4**	**-2.6**
MOA	**Molln**	**3.81**	**199**⇓	*i*PN	**Pn**	**07 00 26.4**	**+2.7**
MOA				*i* SG	**Sg**	**07 01 29.7**	**+0.3**
	6.8nm,0.5s						

IDC ***23*** *07:20:48.7±0.6, 55.58N×162.62E, h25^{km}±3^{km}, mb4.0/20, mb1 4.2/21, mb1mx4.2/24, ML4.4/2, MS3.7/6, Ms1 3.7/6, ms1mx3.5/22, Error ellipse: s-maj=16.7km s-min=10.5km az=4.0*

KRSC ***23*** *07:20:48.9±1.0, 55.45N×163.15E, h40^{km}±8^{km}, ML5.2*

BJI ***23*** *07:20:49.0, 55.44N×162.33E, h47^{km}, mB4.7, mb4.6, Ms4.0, Msz3.7*

MOS ***23*** *07:20:49.3±1.5, 55.48N×162.84E, h56^{km}, mb4.6/12, Error ellipse: s-maj=11.5km s-min=7.1km az=76.4*

NEIC ***23*** *07:20:51.7±1.6, 55.63N×162.40E, h50^{km}±16^{km}, mb4.6/31, Error ellipse: s-maj=12.4km s-min=5.9km az=164.0*

ISC 23 07:20:50.2±0.2**, 55.48N**±0.02×**162.88E**±0.04**, h57**^{km}**, h57**^{km}±7.2^{km}**:pP-P, n146,** σ1^{s}**48**/186**, mb4.5**/53**, MS3.8**/11**, 1D, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	**0.74**	**357**	*i* P	**P**	**07 21 04.0**	**-0.8**
KBTR				*e*S	**S**	**07 21 14.5**	**-1.2**
KBG	**Krutoberegovo**	**0.79**	**353**	*i* P	**P**	**07 21 05.0**	**-0.5**
KBG				*e*S	**S**	**07 21 16.0**	**-0.8**
KBG				Smax			
	52μm,1.0s						
MKZ	**Mys Kozlova**	**1.14**	**216**	*i* P	**P**	**07 21 09.7**	**-0.5**
MKZ				*e*S	**S**	**07 21 24.2**	**-0.9**
ZLN	**Zelenaya**	**1.30**	**296**	*i* P	**P**	**07 21 13.1**	**+0.6**
ZLN				*e*S	**S**	**07 21 30.6**	**+1.6**
CIRR	**Tsirk**	**1.37**	**299**	*i* P	**P**	**07 21 14.0**	**+0.4**
CIRR				*e*S	**S**	**07 21 34.0**	**+3.2**
SVLR	**Shiveluch**	**1.45**	**320**	*i* P	**P**	**07 21 14.8**	**+0.1**
SVLR				*e*S	**S**	**07 21 33.0**	**+0.3**
KRSR	**Krestovskiy**	**1.50**	**301**	*i* P	**P**	**07 21 15.5**	**+0.1**
KRSR				*i* S	**S**	**07 21 34.8**	**+0.7**
KLY	**Klyuchi**	**1.51**	**305**	P	**P**	**07 21 14.3**	**-1.2**
KLY				S	**S**	**07 21 33.1**	**-1.2**
KLY	**Klyuchi**	**1.51**	**305**	*i* P	**P**	**07 21 14.5**	**-1.0**
KLY				*i* S	**S**	**07 21 33.0**	**-1.3**
KMNR	**Kamenistaya**	**1.53**	**282**	*i* P	**P**	**07 21 16.9**	**+1.1**
TUMR	**Tumrok**	**1.57**	**264**	*i* P	**P**	**07 21 17.7**	**+1.3**
TUMR				*e*S	**S**	**07 21 39.2**	**+3.4**
KPT	**Kopyto**	**1.58**	**289**	*i* P	**P**	**07 21 17.5**	**+1.0**
KPT				*i* S	**S**	**07 21 38.7**	**+2.7**
KOZR	**Kozyr**	**1.79**	**291**	PN	**P**	**07 21 20.6**	**+1.2**
KOZR				S	**S**	**07 21 43.8**	**+2.9**
KOZ	**Kozyrevsk**	**1.80**	**290**	P	**P**	**07 21 20.6**	**+1.1**
KOZ				S	**S**	**07 21 43.8**	**+2.6**
KOZ	**Kozyrevsk**	**1.80**	**290**	*i* P	**P**	**07 21 20.9**	**+1.4**
KOZ				*i* S	**S**	**07 21 44.9**	**+3.7**
SRDR	**Sredinnyy**	**1.97**	**297**	*e*P	**P**	**07 21 22.6**	**+0.7**
SRDR				*e*S	**S**	**07 21 46.9**	**+1.5**
ESO	**Esso**	**2.41**	**283**	*i* P	**P**	**07 21 28.2**	**+0.1**
ESO				*e*S	**S**	**07 21 56.4**	**-0.1**
ESO				Smax			
	3μm,0.9s						
KII	**Karymskiy**	**2.46**	**235**	P	**P**	**07 21 30.1**	**+1.3**
KII	**Karymskiy**	**2.46**	**235**	*e*P	**P**	**07 21 29.9**	**+1.1**
KII				*e*S	**S**	**07 22 00.6**	**+2.9**
SPN	**Mys Shipunski**	**2.91**	**216**	P	**P**	**07 21 34.0**	**-1.3**
SPN				S	**S**	**07 22 05.6**	**-3.6**
SPN	**Mys Shipunski**	**2.91**	**216**	*e*P	**P**	**07 21 34.0**	**-1.3**
SPN				*e*S	**S**	**07 22 06.5**	**-2.7**
NLC	**Nalytchevo**	**3.10**	**223**	P	**P**	**07 21 37.9**	**0.0**
NLC				S	**S**	**07 22 13.2**	**-0.8**
NLC	**Nalytchevo**	**3.10**	**223**	*e*P	**P**	**07 21 37.7**	**-0.2**
NLC				*e*S	**S**	**07 22 13.2**	**-0.8**
SDLR	**Sedlovina**	**3.21**	**228**	*i* P	**P**	**07 21 40.2**	**+0.7**
SDLR				*e*S	**S**	**07 22 16.9**	**+0.1**
SMAR	**Somma**	**3.26**	**229**	*e*P	**P**	**07 21 40.9**	**+0.8**
SMAR				*e*S	**S**	**07 22 17.6**	**-0.3**
AVH	**Avacha**	**3.28**	**229**	*e*P	**P**	**07 21 41.2**	**+0.7**
AVH				*e*S	**S**	**07 22 20.6**	**+2.0**
UGLR	**Uglovaya**	**3.29**	**228**	*e*P	**P**	**07 21 41.0**	**+0.5**
UGLR				*e*S	**S**	**07 22 20.3**	**+1.7**
KOK	**Koryaka**	**3.31**	**230**	*e*P	**P**	**07 21 41.6**	**+0.8**
GNL	**Ganaly**	**3.38**	**240**	*e*P	**P**	**07 21 42.9**	**+1.0**
PET	**Petropavlovsk**	**3.49**	**227**	P	**P**	**07 21 43.7**	**+0.3**
PET				S	**S**	**07 22 21.5**	**-2.3**
PET	**Petropavlovsk**	**3.49**	**227**	*e*P	**P**	**07 21 43.7**	**+0.3**
PET				*e*S	**S**	**07 22 22.7**	**-1.1**
PET	**Petropavlovsk**	**3.49**	**227**⇓	*i*PN	**P**	**07 21 43.7**	**+0.3**
PET				*e*S	**S**	**07 22 22.3**	**-1.5**
PET				pmax	pmax		
	comp=Z,666nm,0.5s						
PET				smax			
	comp=N,2μm,0.7s						
PET				smax			
	comp=E,2μm,0.6s						
PET				MLR	MLR		
	comp=Z,537nm,18.0s						
PET	**Petropavlovsk**	**3.49**	**227**	*e*Pn	**P**	**07 21 43.4**	**0.0**
OSSR	**Ossora**	**3.79**	**1**	*i* P	**P**	**07 21 46.1**	**-1.4**
OSSR				*e*S	**S**	**07 22 27.6**	**-3.6**
OSSR				Smax			
	comp=Z,400nm,0.9s						
RUS	**Russkaya**	**3.99**	**222**	P	**P**	**07 21 50.5**	**+0.1**
RUS				S	**S**	**07 22 33.8**	**-2.6**
RUS	**Russkaya**	**3.99**	**222**	*e*P	**P**	**07 21 49.7**	**-0.7**
RUS				*e*S	**S**	**07 22 33.7**	**-2.7**
GRL	**Gorelyy**	**4.08**	**226**	*e*P	**P**	**07 21 53.4**	**+1.8**
GRL				*e*S	**S**	**07 22 39.8**	**+1.3**
APC	**Apacha**	**4.22**	**235**	*e*P	**P**	**07 21 55.5**	**+1.8**
APC				*e*S	**S**	**07 22 41.4**	**-0.8**
APC				Smax			
	comp=Z,340nm,1.0s						
PAU	**Pauzhetka**	**5.41**	**225**	*e*P	**P**	**07 22 10.3**	**+0.1**
PAU				*e*S	**S**	**07 23 09.3**	**-2.6**
PAU				Smax			
	comp=Z,500nm,1.0s						
SKR	**Severo-Kuril's**	**6.30**	**223**	*e*P	**P**	**07 22 21.1**	**-1.5**
SKR				*e*S	**S**	**07 23 32.6**	**-1.4**
SKR	**Severo-Kuril's**	**6.30**	**223**	*e*PN	**P**	**07 22 18.0**	**-4.6**
SKR				pmax	pmax		
	comp=Z,40nm,0.6s						
SKR				MLR	MLR		
	comp=Z,1μm,16.0s						
SKR				MLR	MLR		
	comp=N,1μm,14.0s						
SKR				MLR	MLR		
	comp=E,1μm,16.0s						
ALID	**Alaid**	**6.38**	**227**	P	**P**	**07 22 25.9**	**+2.1**
FX1	**Attu Island--F**	**6.57**	**109**	Pn	**P**	**07 22 24.2**	**-2.2**
	comp=E,50nm,0.3s,baz=350,slow=5.9,SNR=4.0						
FX1				Sn	**S**	**07 23 33.1**	**-7.7**
	comp=E,145nm,0.3s,baz=165,slow=21,SNR=10.0						
FX1	**Attu Island--F**	**6.57**	**109**	*e*Pn	**P**	**07 22 23.9**	**-2.6**
FX1				*e*Sn	**S**	**07 23 32.9**	**-7.8**
SMY	**Shemya**	**7.14**	**108**	*e*Pn	**P**	**07 22 34.0**	**-0.5**
SMY				*e*Sn	**S**	**07 23 46.9**	**-8.1**
KAMR	**Kamenskoye**	**7.21**	**12**	*i* P	**P**	**07 22 35.2**	**-0.2**
KAMR				*e*S	**S**	**07 23 53.1**	**-3.5**
KAMR				Smax			
	comp=E,110nm,1.2s						
MA2	**Magadan**	**7.71**	**307**	P	**P**	**07 22 41.5**	**-0.7**
YSS	**Yuzh-Sakhalins**	**15.18**	**244**	*e*P	**P**	**07 24 21.4**	**-0.8**
YSS				pmax	pmax		
	comp=Z,13μm,0.7s						
YSS	**Yuzh-Sakhalins**	**15.18**	**244**	*e*P	**P**	**07 24 15.3**	**-6.9**
	comp=Z,14nm,0.6s						
ASAJ	**Asahikawa**	**17.27**	**237**	P	**P**	**07 24 47.6**	**-1.0**
	comp=Z,1.1nm,0.3s,baz=40,slow=4.3,SNR=18						
ASAJ				LR	LR	07 30 56.3	
	comp=Z,259nm,19.9s,baz=7.4,slow=35						
ASAJ	**Asahikawa**	**17.27**	**237**	P	**P**	**07 24 47.6**	**-1.0**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,259nm,19.9s						
YAK	**Yakutsk**	**18.27**	**305**	*e*P	**P**	**07 24 59.8**	**-1.0**
YAK				pmax	pmax		
	comp=Z,28nm,0.9s						
YAK				pmax	pmax		
	comp=E,23nm,1.2s						
YAK	**Yakutsk**	**18.27**	**305**	P	**P**	**07 24 58.2**	**-2.7**
	comp=E,64nm,0.8s						
KLR	**Kul'dur**	**19.90**	**265**	*e*P	**P**	**07 25 15.5**	**-3.8**
CLNS	**Chul'man**	**21.03**	**289**	*e*P	**P**	**07 25 25.0**	**-5.9**
CLNS				pmax	pmax		
	comp=Z,25nm,0.9s,mb4.5						
CLNS				pmax	pmax		
	comp=N,17nm,1.0s						
CLNS				pmax	pmax		
	comp=E,33nm,1.0s						
TIXI	**Tiksi**	**21.68**	**331**	*e*P	**P**	**07 25 37.8**	**+0.5**
TIXI				*e*		07 26 04.9	
TIXI				pmax	pmax		
	comp=Z,22nm,0.7s,mb4.7						
TIXI				MLR	MLR		
	comp=Z,300nm,17.0s,MS3.8						
IMA	**Indian Mountai**	**23.19**	**45**	*e*P	**P**	**07 25 54.3**	**+2.4**
	comp=Z,68nm,1.0s,mb5.0						
MCK	**McKinley**	**25.16**	**51**	*e*P	**P**	**07 26 12.8**	**+1.8**
	comp=Z,2.2nm,0.5s,mb3.9						
PMR	**Palmer**	**25.28**	**56**	P	**P**	**07 26 13.0**	**+0.8**
	comp=Z,2.8nm,0.6s,mb4.0						
MAJO	**Matsushiro**	**25.31**	**232**	*e*P	**P**	**07 26 12.9**	**+0.2**
	comp=Z,21nm,0.6s,mb4.8						
MAT	**Matsushiro**	**25.31**	**232**	P	**P**	**07 26 11.7**	**-1.0**
MAT	**Matsushiro**	**25.31**	**232**	*e*P	**P**	**07 26 12.0**	**-0.7**
	comp=Z,30nm,1.0s,mb4.8						
COLA	**College**	**25.57**	**49**	*e*P	**P**	**07 26 15.5**	**+0.6**
COLA	**College**	**25.57**	**49**	*e*P	**P**	**07 26 16.0**	**+1.1**
	comp=Z,8.0nm,0.9s,mb4.2						
COLA				*e*		07 26 35.5	
SML	**Sawmill**	**25.63**	**56**	*e*P	**P**	**07 26 13.2**	**-2.2**
ILAR	**Eielson Array**	**25.99**	**49**	P	**P**	**07 26 19.2**	**+0.4**
	comp=Z,8.6nm,1.1s,mb4.2,baz=273,slow=10,SNR=52						
ILAR	**Eielson Array**	**25.99**	**49**	P	**P**	**07 26 19.2**	**+0.4**
ILAR				pmax	pmax		
	comp=Z,9.0nm,1.1s						
BOD	**Bodaibo**	**26.51**	**295**	*e*P	**P**	**07 26 20.5**	**-3.2**
CN2	**Changchun**	**26.57**	**260**	*e*P	**P**	**07 26 22.8**	**-1.6**
INK	**Inuvik**	**30.99**	**40**	P	**P**	**07 27 01.6**	**-2.1**
	comp=Z,2.9nm,0.7s,mb4.2,baz=294,slow=11,SNR=8.7						
INK				pP	pP	07 27 12.4	-5.7
	comp=Z,2.9nm,0.5s,baz=282,slow=7.0,SNR=4.1						
INK	**Inuvik**	**30.99**	**40**	P	**P**	**07 27 01.6**	**-2.1**
INK				*PP	pP	07 27 12.4	-5.7
INK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
INK				pmax	pmax		
	comp=N,3.0nm,0.5s						
INK	**Inuvik**	**30.99**	**40**	*e*P	**P**	**07 27 01.6**	**-2.1**
	comp=N,5.7nm,0.8s,mb4.5						
SONM	**Songino Array**	**34.99**	**282**	P	**P**	**07 27 35.6**	**-3.0**
	comp=N,1.4nm,0.5s,mb4.1,baz=54,slow=8.6,SNR=15						
SONM				PcP	PcP	07 30 10.9	+0.9
	comp=N,0.6nm,0.8s,baz=34,slow=5.2,SNR=2.6						
SONM				pScP		07 34 01.4	
	comp=N,0.7nm,0.9s,baz=45,slow=2.0,SNR=3.6						
DLBC	**Dease Lake**	**35.34**	**57**	*e*P	**P**	**07 27 42.8**	**+1.4**
SSE	**Sheshan**	**38.08**	**248**	*e*P	**P**	**07 28 01.4**	**-3.3**
SSE				S	**S**	**07 33 40.6**	**-12**
SSE				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.1						
SSE				AMB	AMB		
	comp=Z,13nm,2.7s,mb4.2						
SSE				LR	LR		
	comp=N,63nm,25.5s,MS3.4						
SSE				LR	LR		
	comp=E,29nm,25.4s,MS3.4						
SSE				LR	LR		
	comp=Z,60nm,27.4s,MS3.3						
SSE	**Sheshan**	**38.08**	**248**	*e*P	**P**	**07 28 01.4**	**-3.3**
	comp=Z,30nm,0.7s,mb5.1						
SSE				S	**S**	**07 33 40.6**	**-12**
SSE				sS		07 34 20.1	
SSE				SS	SS	07 36 35.0	+2.0
SSE				LR	LR		
	comp=Z,60nm,27.4s,MS3.3						
NJ2	**Nanjing**	**38.58**	**251**	*e*P	**P**	**07 28 05.8**	**-3.0**
NJ2				AMB	AMB		
	comp=Z,30nm,0.5s,mb5.3						
YKW3	**Yellowknife Ar**	**40.27**	**45**	P	**P**	**07 28 21.8**	**-0.8**
YKA	**Yellowknife Ar**	**40.31**	**45**	P	**P**	**07 28 22.8**	**-0.1**
	comp=Z,2.3nm,0.7s,mb4.0,baz=299,slow=7.8,SNR=6.7						
YKA	**Yellowknife Ar**	**40.31**	**45**	P	**P**	**07 28 22.8**	**-0.1**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
YKA	**Yellowknife Ar**	**40.31**	**45**	P	**P**	**07 28 22.8**	**-0.1**
ZAL	**Zalesovo**	**42.91**	**302**	LR	LR	07 49 18.0	
	comp=Z,88nm,19.1s,MS3.7,baz=160,slow=40						
NVS	**Novosibirsk**	**43.13**	**304**	*e*P	**P**	**07 28 43.4**	**-2.6**
GTA	**Gaotai**	**43.98**	**276**	*e*P	**P**	**07 28 55.3**	**+2.2**
GTA				XP	sP	07 29 09.8	-5.0
GTA				PP	PP	07 30 39.5	+1.8
GTA				S	**S**	**07 35 21.3**	**+1.1**
GTA				SS	SS	07 38 30.6	+0.6
GTA				AMB	AMB		
	comp=Z,3.0nm,0.6s,mb4.2						
GTA				AMB	AMB		
	comp=Z,61nm,5.3s						
GTA				LR	LR		
	comp=N,57nm,16.0s,MS3.8						
GTA				LR	LR		
	comp=E,76nm,19.0s,MS3.8						
GTA				LR	LR		
	comp=Z,70nm,18.2s,MS3.6						
LZH	**Lanzhou**	**44.00**	**269**	*e*P	**P**	**07 28 51.0**	**-2.3**
LZH				AP	pP	07 29 06.0	-2.2
LZH				XP	sP	07 29 13.6	-1.4
LZH				PP	PP	07 30 35.0	-3.0
LZH				*e*S	**S**	**07 35 15.5**	**-5.1**
LZH				XS		07 35 42.0	
LZH				*e*SS	SS	07 38 24.0	-6.4
LZH				AMB	AMB		
	comp=Z,28nm,1.5s,mb4.8						
LZH				AMB	AMB		
	comp=Z,125nm,4.3s						
LZH				LR	LR		
	comp=E,450nm,15.0s						
LZH				LR	LR		
	comp=Z,780nm,17.0s,MS4.7						
LZH	**Lanzhou**	**44.00**	**269**	*e*P	**P**	**07 28 51.0**	**-2.3**
	comp=Z,28nm,1.5s,mb4.8						
LZH				pP	pP	07 29 06.0	-2.2
LZH				sP	sP	07 29 13.6	-1.4
LZH				PP	PP	07 30 35.0	-3.0
LZH				*e*S	**S**	**07 35 15.5**	**-5.1**
LZH				sS		07 35 42.0	
LZH				*e*SS	SS	07 38 24.0	-6.4
LZH				LR	LR		
	comp=Z,780nm,17.0s,MS4.7						
ENH	**Enshi**	**45.09**	**259**	P	**P**	**07 28 58.4**	**-3.7**
	comp=Z,7.0nm,0.9s,mb4.5						
EDM	**Edmonton**	**46.05**	**56**	*e*P	**P**	**07 29 07.9**	**-1.5**
NEW	**Newport**	**47.34**	**63**	P	**P**	**07 29 20.9**	**+1.2**
	comp=Z,0.5nm,0.5s,mb3.7,baz=18,slow=21,SNR=3.1						
NEW	**Newport**	**47.34**	**63**	P	**P**	**07 29 20.9**	**+1.3**
NEW				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WMQ	**Urumqi**	**47.73**	**289**	*e*P	**P**	**07 29 23.8**	**+1.0**
WMQ				AP	pP	07 29 39.3	+1.5
WMQ				AMB	AMB		
	comp=Z,13nm,0.9s,mb5.0						
WMQ				LR	LR		
	comp=Z,91nm,22.0s,MS3.7						
KURK	**Kurchatov**	**47.88**	**301**	*e*P	**P**	**07 29 21.7**	**-2.1**
KURK	**Kurchatov**	**47.88**	**301**	*e*P	**P**	**07 29 21.1**	**-2.7**
	comp=Z,11nm,0.6s,mb5.1						
KURK				*e*PcP	PcP	07 30 52.3	+0.3
MKAR	**Makanchi Array**	**48.60**	**295**	P	**P**	**07 29 27.1**	**-2.4**
	comp=Z,2.6nm,0.7s,mb4.4,baz=58,slow=7.4,SNR=22						
MKAR				LR	LR	07 51 23.1	
	comp=Z,122nm,18.2s,MS3.9,baz=45,slow=38						
MKAR	**Makanchi Array**	**48.60**	**295**	P	**P**	**07 29 27.1**	**-2.4**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MKAR				MLR	MLR		
	comp=Z,122nm,18.2s						
YBH	**Yreka Blue Hor**	**48.72**	**74**	P	**P**	**07 29 32.2**	**+1.7**
	comp=Z,0.6nm,0.5s,mb3.9,baz=124,slow=14,SNR=2.2						
YBH	**Yreka Blue Hor**	**48.72**	**74**	P	**P**	**07 29 32.2**	**+1.7**
YBH				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MOD	**Modoc**	**49.91**	**72**	*e*P	**P**	**07 29 43.9**	**+4.3**
	comp=Z,3.6nm,0.7s,mb4.5						
BRVK	**Borovoye**	**50.22**	**308**	*e*P	**P**	**07 29 39.7**	**-2.1**
	comp=Z,5.5nm,0.6s,mb4.8						
ARCES	**ARCESS Array B**	**51.52**	**342**	P	**P**	**07 29 51.4**	**0.0**
	comp=Z,3.8nm,0.7s,mb4.4,baz=14,slow=10.0,SNR=3.9						
ARCES				LR	LR	07 54 34.2	
	comp=Z,75nm,19.2s,MS3.7,baz=111,slow=39						
ARCES	**ARCESS Array B**	**51.52**	**342**	P	**P**	**07 29 51.4**	**-0.1**
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ARCES				MLR	MLR		
	comp=Z,75nm,19.2s						
ARCES	**ARCESS Array B**	**51.52**	**342**	P	**P**	**07 29 51.4**	**-0.1**
ARCES				LR	LR	07 54 34.2	
ARU	**Arti**	**52.75**	**317**	*i* P	**P**	**07 29 59.0**	**-1.8**
NVAR	**Mina Array Bea**	**53.44**	**74**	P	**P**	**07 30 08.2**	**+2.0**
	comp=Z,1.2nm,0.9s,mb3.8,baz=302,slow=5.1,SNR=7.2						
NVAR				pP	pP	07 30 15.6	-5.9
	comp=Z,1.8nm,0.8s,baz=308,slow=5.9,SNR=6.7						
NVAR				LR	LR	07 50 32.8	
	comp=Z,40nm,18.1s,MS3.5,baz=330,slow=33						
IMW	**Indian Meadow**	**53.45**	**64**	P	**P**	**07 30 09.2**	**+2.9**
TPH	**Tonopah**	**54.29**	**73**	*e*P	**P**	**07 30 14.7**	**+2.2**
	comp=Z,3.5nm,0.8s,mb4.3						
TPH				*e*	pP	07 30 26.0	-1.7
TPH				*e*	pP	07 30 32.8	+5.1
BW06	**Boulder Array**	**54.97**	**64**	P	**P**	**07 30 20.3**	**+3.0**
	comp=Z,1.3nm,0.8s,mb4.0						
PDAR	**Pinedale Array**	**54.97**	**64**	P	**P**	**07 30 19.6**	**+2.3**
	comp=Z,0.2nm,0.5s,mb3.4,baz=349,slow=4.6,SNR=2.7						
PDAR				pP	pP	07 30 25.1	-7.7
	comp=Z,0.7nm,0.5s,baz=331,slow=4.9,SNR=5.9						
AAK	**Ala-Archa**	**55.49**	**296**	*e*P	**P**	**07 30 18.4**	**-2.7**
AAK	**Ala-Archa**	**55.49**	**296**	*e*P	**P**	**07 30 17.1**	**-3.9**
	comp=Z,5.8nm,0.8s,mb4.7						
TPNV	**Topopah Spring**	**55.64**	**73**	P	**P**	**07 30 23.6**	**+1.3**
	comp=Z,6.7nm,1.2s,mb4.5						
RSSD	**Black Hills**	**56.75**	**59**	P	**P**	**07 30 33.6**	**+3.5**
	comp=Z,3.1nm,1.0s,mb4.3						
SRU	**San Rafael**	**57.12**	**68**	*e*P	**P**	**07 30 34.1**	**+1.2**
KAF	**Kangasniemi**	**57.92**	**338**	*e*p	**P**	**07 30 37.1**	**-1.0**
PV10	**Paradox Valley**	**58.45**	**67**	*e*P	**P**	**07 30 45.4**	**+3.3**
FINES	**FINESS Array B**	**58.57**	**337**	P	**P**	**07 30 42.4**	**-0.2**
	comp=Z,2.0nm,0.5s,mb4.4,baz=36,slow=8.4,SNR=27						
FINES				pP	pP	07 30 49.5	-8.6
	comp=Z,2.7nm,0.5s,baz=33,slow=7.7,SNR=4.4						
FINES	**FINESS Array B**	**58.57**	**337**	P	**P**	**07 30 42.4**	**-0.2**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
FINES				pmax	pmax		
	comp=Z,3.0nm,0.5s						
PV01	**Paradox Valley**	**58.87**	**67**	P	**P**	**07 30 47.1**	**+2.1**
CMAR	**Chiang Mai Arr**	**60.26**	**259**	P	**P**	**07 30 53.9**	**-0.9**
	comp=Z,2.3nm,0.7s,mb4.3,baz=23,slow=7.5,SNR=8.0						
CMAR	**Chiang Mai Arr**	**60.26**	**259**	P	**P**	**07 30 53.9**	**-0.9**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KKN	**Kakani**	**60.69**	**277**	*e*	**P**	**07 30 56.4**	**-1.3**
	comp=Z,18nm,0.5s,mb5.4						
SDCO	**Great Sand Dun**	**60.76**	**65**	P	**P**	**07 31 00.0**	**+2.0**
	comp=Z,3.8nm,1.1s,mb4.4						
PKI	**Pulchoki**	**60.78**	**277**	*e*	**P**	**07 30 56.9**	**-1.4**
	comp=Z,15nm,0.6s,mb5.3						
GKN	**Gorkha**	**60.89**	**278**	*e*	**P**	**07 30 57.0**	**-2.0**
	comp=Z,14nm,0.7s,mb5.2						
DMN	**Daman**	**60.93**	**277**	*e*	**P**	**07 30 57.9**	**-1.4**
	comp=Z,9.0nm,0.4s,mb5.2						
KOLN	**Koldanda**	**61.65**	**278**	*e*	**P**	**07 31 02.2**	**-2.0**
	comp=Z,7.8nm,0.5s,mb5.1						
NB2	**NORSAR Subarra**	**61.69**	**345**	P	**P**	**07 31 02.7**	**-1.3**
	comp=Z,3.4nm,0.8s,mb4.5,baz=19,slow=7.0						
NOA	**NORSAR Array B**	**61.69**	**345**	P	**P**	**07 31 03.1**	**-0.9**
	comp=Z,6.9nm,1.1s,mb4.7,baz=19,slow=6.6,SNR=5.2						
NOA				pP	pP	07 31 10.4	-9.1
	comp=Z,2.0nm,0.7s,baz=18,slow=6.8,SNR=4.4						
NOA	**NORSAR Array B**	**61.69**	**345**	P	**P**	**07 31 03.1**	**-0.9**
NOA				pmax	pmax		
	comp=Z,7.0nm,1.2s						
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ANMO	**Albuquerque**	**62.39**	**68**	*e*P	**P**	**07 31 06.9**	**-2.1**
ANMO	**Albuquerque**	**62.39**	**68**	P	**P**	**07 31 14.4**	**+5.4**
	comp=Z,2.4nm,0.9s,mb4.3						
SCHQ	**Schefferville**	**62.77**	**30**	P	**P**	**07 31 10.1**	**-1.2**
	comp=Z,2.7nm,0.7s,mb4.5,baz=233,slow=17,SNR=2.4						
WMOK	**Wichita Mounta**	**66.53**	**63**	*e*P	**P**	**07 31 36.5**	**+0.8**
	comp=Z,5.4nm,0.8s,mb4.6						
AKASG	**Malin Array Be**	**67.39**	**330**	P	**P**	**07 31 39.3**	**-1.5**
	comp=Z,1.7nm,0.3s,mb4.5,baz=28,slow=6.7,SNR=8.7						
AKASG	**Malin Array Be**	**67.39**	**330**	P	**P**	**07 31 39.3**	**-1.6**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.3s						
LTX	**Lajitas**	**68.24**	**70**	P	**P**	**07 31 55.5**	**+8.9**
	comp=Z,13nm,1.3s,mb4.8						
TXAR	**Lajitas Array**	**68.24**	**70**	P	**P**	**07 31 48.4**	**+1.8**
	comp=Z,0.6nm,0.5s,mb3.9,baz=300,slow=4.4,SNR=13						
TXAR				pP	pP	07 31 55.4	-7.1
	comp=Z,1.8nm,0.7s,baz=299,slow=5.0,SNR=16						
SOC	**Sochi**	**70.22**	**320**	*e*P	**P**	**07 31 56.9**	**-1.6**
SOC				*e*	pP	07 32 15.0	+0.6
SOC				*e*		07 34 32.4	
SOC				*e*S	S	07 40 57.2	-7.2
SOC				*e*		07 41 56.2	
SOC				pmax	pmax		
	comp=N,6.0nm,0.4s						
SOC				pmax	pmax		
	comp=Z,5.0nm,0.4s,mb4.8						
SOC				pmax	pmax		
	comp=E,3.0nm,0.3s						
SOC				MLR	MLR		
	comp=Z,107nm,21.0s,MS4.1						
SOC				MLR	MLR		
	comp=N,70nm,17.0s,MS4.1						
SOC				MLR	MLR		
	comp=E,65nm,19.0s,MS4.1						
GERES	**GERESS Array B**	**72.89**	**339**	P	**P**	**07 32 15.3**	**+1.1**
	comp=E,0.3nm,0.3s,mb3.7,baz=333,slow=3.0,SNR=5.3						
MALT	**Malatya**	**75.28**	**318**	P	**P**	**07 32 29.3**	**+1.0**
	comp=E,4.2nm,0.9s,mb4.4						
BRTR	**Keskin Array B**	**75.79**	**322**	P	**P**	**07 32 30.9**	**-0.2**
	comp=E,1.7nm,0.7s,mb4.1,baz=34,slow=4.5,SNR=6.0						
BRTR				LR	LR	08 11 56.4	
	comp=E,42nm,18.5s,MS3.8,baz=310,slow=41						
CTA	**Charters Tower**	**76.58**	**196**	pP	pP	07 32 45.8	-6.3
	comp=E,6.7nm,1.2s,baz=23,slow=11,SNR=2.9						
WRA	**Warramunga Arr**	**78.94**	**207**	pP	pP	07 32 57.9	-7.3
	comp=E,1.6nm,0.6s,baz=21,slow=5.7,SNR=3.1						
ASAR	**Alice Springs**	**82.61**	**207**	P	**P**	**07 33 10.2**	**+1.8**
	comp=E,1.9nm,0.8s,mb4.2,slow=7.1,SNR=5.3						
ASAR				pP	pP	07 33 18.2	-6.5
	comp=E,1.0nm,0.5s,baz=22,slow=4.9,SNR=4.6						
ESDC	**Sonseca Array**	**84.56**	**350**	P	**P**	**07 33 19.0**	**+1.2**
	comp=E,0.4nm,0.3s,mb4.0,baz=8.5,slow=5.6,SNR=6.2						
QSPA	**South Pole Qui**	**145.22**	**180**	*e*PKPdf	PKPdf	07 40 21.6	+2.3
QSPA				*e*PKP	PKPdf	07 40 27.9	+8.6

NEIC ***23*** *07:23:51.5±2.2, 0.88S×132.77E, h98^{km}±20^{km}, mb4.4/6, Error ellipse: s-maj=22.7km s-min=11.5km az=94.0*

IDC ***23*** *07:23:53.4±5.9, 0.94S×132.82E, h112^{km}±51^{km}, mb3.7/4, mb1 3.9/5, mb1mx3.6/15, MS2.9/2, Ms1 2.9/2, ms1mx2.6/19, Error ellipse: s-maj=81.7km s-min=18.5km az=91.0*

ISC 23 07:23:47.4±2.6**, 0.87S**±0.06×**132.9E**±0.2**, h68**^{km}±24^{km}**,**

n16,σ1^{s}04/20,mb4.1/7,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**11.77**	**183**	*e*P	**P**	**07 26 35.4**	**+1.0**
	51nm,0.6s						
KAKA				*e*S	**S**	**07 28 43.4**	**-1.3**
FITZ	**Fitzroy Crossi**	**18.56**	**202**	*e*P	**P**	**07 27 59.9**	**-1.4**
	6.9nm,0.6s						
FITZ				*e*S	**S**	**07 31 24.0**	**+1.5**
FITZ	**Fitzroy Crossi**	**18.56**	**202**	LR	LR	07 35 40.7	
	comp=Z,58nm,19.4s,baz=182,slow=38						
WRAB	**Tennant Creek**	**19.00**	**176**	*e*P	**P**	**07 28 06.1**	**-0.1**
	16nm,0.8s						
WRAB				*e*S	**S**	**07 31 31.0**	**-1.1**
WRA	**Warramunga Arr**	**19.01**	**176**	P	**P**	**07 28 05.8**	**-0.6**
	1.1nm,0.3s,baz=357,slow=13,SNR=44						
WRA				S	**S**	**07 31 35.9**	**+3.6**
	0.4nm,0.3s,baz=355,slow=23,SNR=7.5						
WB2	**Warramunga Arr**	**19.01**	**176**	*e*P	**P**	**07 28 06.0**	**-0.4**
WB2				*e*S	**S**	**07 31 32.3**	**0.0**
ASAR	**Alice Springs**	**22.68**	**178**	P	**P**	**07 28 45.2**	**+1.1**
	11nm,1.0s,mb4.1,baz=350,slow=5.8,SNR=43						
ASPA	**Alice Springs**	**22.68**	**178**	*e*P	**P**	**07 28 45.3**	**+1.2**
ASPA				*e*S	**S**	**07 32 59.0**	**+16**
CTA	**Charters Tower**	**23.13**	**147**	P	**P**	**07 28 50.0**	**+1.6**
	3.7nm,0.8s,mb3.8,baz=359,slow=12,SNR=4.6						
CTA				LR	LR	07 36 26.9	
	comp=Z,24nm,21.7s,baz=39,slow=33						
MBWA	**Marble Bar**	**23.93**	**212**	*e*P	**P**	**07 28 56.2**	**+0.1**
	24nm,1.1s,mb4.4						
MBWA				*e*		07 29 15.8	
STKA	**Stephens Creek**	**31.91**	**166**	*e*P	**P**	**07 30 08.0**	**-0.7**
	3.9nm,1.0s,mb4.1						
STKA	**Stephens Creek**	**31.91**	**166**	P	**P**	**07 30 07.7**	**-1.0**
	4.4nm,0.8s,mb4.3,baz=338,slow=7.0,SNR=5.9						
MAJO	**Matsushiro**	**37.55**	**7**	P	**P**	**07 30 56.5**	**-0.2**
	4.9nm,0.8s,mb4.4						
ILAR	**Eielson Array**	**86.59**	**25**	P	**P**	**07 36 24.1**	**+0.1**
	0.4nm,0.8s,mb3.4,baz=262,slow=4.9,SNR=4.6						
QSPA	**South Pole Qui**	**89.06**	**180**	P	**P**	**07 36 34.4**	**-1.3**
	3.0nm,1.1s,mb4.2						
CPUP	**Villa Florida**	**151.21**	**161**	PKPbc	PKPdf	07 43 34.5	+6.8
	0.7nm,0.7s,baz=206,slow=6.1,SNR=3.4						

TIR ***23*** *07:35:35.0,42.10N×19.26E,h45^{km}*
PDG ***23*** *07:35:36.0±0.1,42.11N×19.26E,h20^{km}*
ISC 23 07:35:36.5±0.6,**42.06N**±0.03×**19.23E**±0.05,**h23**^{km}±7^{km},
n14,σ1^{s}11/27,**5C-1D,Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time	Res
				Op	ISC	h m s	ISC
ULC	**Ulcinj**	**0.10**	**172**	⇑*i*Pg	**Pb**	**07 35 40.2**	**-0.5**
ULC				*e*Sg	**Sb**	**07 35 43.8**	**+0.1**
BUM	**Brajici-Budva**	**0.35**	**315**	⇑*i*Pg	**Pb**	**07 35 43.4**	**-0.7**
BUM				*e*Sg	**Sb**	**07 35 49.1**	**-0.1**
TTG	**Podgorica**	**0.37**	**3**	⇑*i*Pg	**Pb**	**07 35 42.7**	**-1.8**
TTG				*e*Sg	**Sb**	**07 35 48.8**	**-1.1**
PUK	**Puka**	**0.49**	**91**	*i* Pg	**Pb**	**07 35 45.4**	**-1.0**
PUK				*i* Sg	**Sb**	**07 35 53.1**	**-0.1**
LACI	**Lac**	**0.55**	**140**	*i* Pg	**Pb**	**07 35 47.1**	**-0.3**
LACI				*i* Sg	**Sb**	**07 35 55.8**	**+0.9**
HCY	**Herceg Novi**	**0.67**	**306**	⇑*i*Pg	**Pb**	**07 35 48.7**	**-0.7**
HCY				*e*Sg	**Sb**	**07 35 59.8**	**+1.5**
QSH	**Qafa e Shtames**	**0.73**	**137**	*i* Pg	**Pb**	**07 35 51.0**	**+0.5**
QSH				*i* Sg	**Sb**	**07 36 02.0**	**+1.9**
PVY	**Plav**	**0.77**	**45**	⇓*i*Pg	**Pb**	**07 35 49.9**	**-1.2**
PVY				*e*Sg	**Sb**	**07 36 01.4**	**+0.3**
NKY	**Niksic**	**0.78**	**347**	⇑*i*Pg	**Pb**	**07 35 49.6**	**-1.6**
NKY				*e*Sg	**Sb**	**07 36 01.8**	**+0.6**
TIR	**Tirane**	**0.85**	**146**	*e*pg?	**Pn**	**07 36 02.5**	**+9.4**
IVA	**Berane**	**0.95**	**31**	*e*Pg	**Pb**	**07 35 53.0**	**-1.1**
IVA				*e*Sg	**Sb**	**07 36 07.5**	**+1.2**
BRY	**Bratogost**	**0.98**	**329**	*e*Pg	**Pb**	**07 35 53.8**	**-0.9**
BRY				*e*Sg	**Sb**	**07 36 09.3**	**+2.0**
UPM	**Unac-Piva**	**1.17**	**348**	*e*Pg	**Pn**	**07 35 56.9**	**-0.8**
UPM				*e*Sg	**Sb**	**07 36 14.6**	**+2.0**
PLE	**Pljevlja**	**1.28**	**5**	*e*Pg	**Pn**	**07 35 59.0**	**-0.2**
PLE				*e*Sg	**Sb**	**07 36 17.4**	**+1.7**

IDC ***23*** *07:55:47.1±2.7,32.27S×178.26W,mb4.1/3,mb1 4.2/4,*
mb1mx4.0/14,ML3.7/1,Error ellipse: s-maj=59.1km
s-min=35.3km az=115.0
NEIC ***23*** *07:55:58.0±1.3,32.44S×179.13W,h35^{km},mb4.6/3,Error*
ellipse: s-maj=28.7km s-min=13.7km az=58.0
ISC 23 07:55:57.1±1.1,**32.39S**±0.08×**179.3W**±0.2,**h33**^{km}**,n14,**
σ1^{s}17/15,**mb4.3**/5,**2C-2D,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time	Res
				Op	ISC	h m s	ISC
PUZ	**Puketiti**	**6.01**	**199**	P	**P**	**07 57 21.6**	**-4.3**
PUZ				S	**S**	**07 58 34.9**	**+0.3**
URZ	**Urewera**	**6.55**	**206**	Pn	**Pn**	**07 57 32.1**	**-1.7**
	1.4nm,0.3s,baz=299,slow=20,SNR=7.9						
URZ				Sn	**Sn**	**07 58 52.3**	**+4.3**
	2.7nm,0.3s,baz=266,slow=19,SNR=8.9						
CTA	**Charters Tower**	**33.10**	**283**	P	**P**	**08 02 31.7**	**-0.5**
	1.2nm,0.4s,mb4.2,baz=135,slow=8.6,SNR=3.2						
CTAO	**Charters Tower**	**33.10**	**283**	P	**P**	**08 02 32.6**	**+0.4**
	6.6nm,0.9s,mb4.6						
ASAR	**Alice Springs**	**41.95**	**270**	P	**P**	**08 03 47.2**	**+0.7**
	0.8nm,0.5s,mb3.6,baz=112,slow=7.6,SNR=9.2						
WB2	**Warramunga Arr**	**43.11**	**275**	*e*P	**P**	**08 03 56.3**	**+0.2**
WRAB	**Tennant Creek**	**43.11**	**275**	*e*P	**P**	**08 03 55.5**	**-0.6**
	11nm,1.1s,mb4.5						
WRA	**Warramunga Arr**	**43.12**	**275**	P	**P**	**08 03 56.3**	**+0.1**
	1.5nm,0.4s,mb4.1,baz=112,slow=8.0,SNR=37						
QSPA	**South Pole Qui**	**57.72**	**180**	P	**P**	**08 05 39.9**	**-6.6**
	6.6nm,0.8s,mb4.7						
SNAA	**Sanae**	**76.20**	**179**	⇓*i*P	**P**	**08 07 42.2**	**-0.8**
	0.1nm,1.0s						
VNA3	**Neumayer Olymp**	**76.39**	**177**	⇑*i*	**P**	**08 07 45.9**	**+1.7**
VNA2	**Neumayer--Watz**	**76.81**	**177**	⇓*i*	**P**	**08 07 48.3**	**+1.7**
VNA1	**Neumayer--Stat**	**77.05**	**177**	⇑*i*	**P**	**08 07 46.4**	**-1.5**
FINES	**FINESS Array B**	**146.60**	**338**	PKPbc	PKPbc	08 15 29.6	-4.7
	1.2nm,0.6s,baz=45,slow=3.9,SNR=14						

IDC 23 08:17:48.8±2.8,**32.42S**×**177.94W,mb4.1**/3,**mb1 4.2**/4,
mb1mx3.9/14,**ML3.5**/1,**2C,Error ellipse: s-maj=60.5km**
s-min=35.4km az=119.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time	Res
				Op	ISC	h m s	ISC
PUZ	**Puketiti**	**6.44**	**208**	*e*P	Pn	08 19 24.4	-2.8
PUZ				S	Sn	08 20 38.6	-3.8
URZ	**Urewera**	**7.09**	**213**	Pn	Pn	08 19 34.0	-2.4
	0.8nm,0.3s,baz=70,slow=15,SNR=4.4						
URZ				Sn	Sn	08 20 55.5	-3.2
	1.7nm,0.3s,baz=264,slow=18,SNR=6.6						
CTA	**Charters Tower**	**34.22**	**282**	P	P	08 24 36.8	-1.6
	1.8nm,0.6s,baz=99,slow=11,SNR=3.9						
ASAR	**Alice Springs**	**43.09**	**269**	P	P	08 25 50.6	-1.8
	1.1nm,0.7s,baz=109,slow=7.9,SNR=8.3						
WB2	**Warramunga Arr**	**44.25**	**274**	*e*P	P	08 25 59.6	-2.3
WRA	**Warramunga Arr**	**44.26**	**274**	P	P	08 26 00.0	-1.9
	1.3nm,0.4s,baz=112,slow=8.0,SNR=36						
VNA3	**Neumayer Olymp**	**76.29**	**176**	⇑*i*	P	08 29 51.6	+11
VNA2	**Neumayer--Watz**	**76.73**	**177**	⇑*i*	P	08 29 54.4	+11
FINES	**FINESS Array B**	**147.05**	**339**	PKPbc	PKPdf	08 37 32.0	-0.5
	2.3nm,0.7s,baz=49,slow=4.2,SNR=15						

IDC ***23*** *08:54:15.9±26.0,21.92S×173.34W,mb4.2/4,mb1 4.3/4,*
mb1mx4.0/15,Error ellipse: s-maj=488.0km
s-min=145.3km az=77.0
NEIC ***23*** *08:54:19.3±2.3,22.34S×173.02W,h35^{km},mb4.6/5,Error*
ellipse: s-maj=86.3km s-min=18.0km az=142.0
ISC 23 08:54:17.9±3.7,**22.4S**±0.8×**173.1W**±0.7,**h33**^{km}**,n11,**
σ0^{s}77/11,**mb4.3**/8,**Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**37.92**	**266**	P	**P**	**09 01 34.0**	**-0.1**
	4.7nm,0.5s,mb4.5,baz=90,slow=11,SNR=11						
CTAO	**Charters Tower**	**37.92**	**266**	*e*P	**P**	**09 01 34.2**	**0.0**
	5.7nm,0.5s,mb4.6						
STKA	**Stephens Creek**	**41.21**	**247**	P	**P**	**09 02 01.0**	**-0.2**
	0.9nm,0.8s,mb3.5,baz=85,slow=9.0,SNR=3.1						
STKA	**Stephens Creek**	**41.21**	**247**	P	**P**	**09 02 01.0**	**-0.2**
ASAR	**Alice Springs**	**48.60**	**258**	P	**P**	**09 03 00.3**	**-0.2**
	1.1nm,0.5s,mb4.2,baz=98,slow=7.1,SNR=17						
WB2	**Warramunga Arr**	**48.91**	**263**	*e*P	**P**	**09 03 02.6**	**-0.4**
WRAB	**Tennant Creek**	**48.91**	**263**	*e*P	**P**	**09 03 02.5**	**-0.5**
	4.3nm,0.5s,mb4.7						
WRA	**Warramunga Arr**	**48.92**	**263**	P	**P**	**09 03 02.8**	**-0.3**
	2.4nm,0.3s,mb4.6,baz=96,slow=8.3,SNR=46						
KAKA	**Kakadu**	**52.66**	**271**	*e*P	**P**	**09 03 36.4**	**+4.9**
	15nm,1.5s,mb4.7						
FITZ	**Fitzroy Crossi**	**57.35**	**262**	*e*P	**P**	**09 04 07.8**	**+2.3**
	1.7nm,0.8s,mb4.1						
COLA	**College**	**89.14**	**10**	P	**P**	**09 07 10.7**	**-0.1**
	1.3nm,0.7s,mb4.4						

LEDBW ***23*** *09:30:00.7±0.1,47.83N×7.97E,h12^{km},ML1.8,Error*
ellipse: s-maj=4.0km s-min=2.0km az=90.0
ZUR ***23*** *09:30:00.7,47.84N×7.99E,h10^{km},ML1.6/3*
ISC 23 09:30:00.9±0.9,**47.83N**±0.03×**7.99E**±0.08,**h8**^{km}±7^{km}**,n8,**
σ0^{s}46/14,**3D,Switzerland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time	Res
				Op	ISC	h m s	ISC
KIZ	**Kirchzarten**	**0.14**	**340**	⇓*i*P	**Pg**	**09 30 04.0**	**0.0**
KIZ				*i* S	**Sg**	**09 30 06.3**	**+0.1**
SULZ	**Sulz-Cheisache**	**0.31**	**164**	⇓*i*Pg	**Pg**	**09 30 07.3**	**0.0**
	0.5nm,0.4s						
SULZ				*e*Sg	**Sg**	**09 30 11.9**	**+0.4**
	0.5nm,0.4s						
SLE	**Schleitheim**	**0.35**	**100**	*e*Pg	**Pg**	**09 30 07.8**	**-0.2**
	0.7nm,0.1s						
SLE				*i* Sg	**Sg**	**09 30 12.6**	**-0.1**
	0.7nm,0.1s						
BALST	**Balsthal**	**0.53**	**202**	⇓*i*Pg	**Pg**	**09 30 11.3**	**-0.2**
	0.5nm,0.1s						
BFO	**Black Forest**	**0.56**	**24**	P	**Pg**	**09 30 11.4**	**-0.6**
BFO				P		09 30 12.4	
BFO				S	**Sg**	**09 30 18.9**	**-0.6**
BFO				S	**Sg**	**09 30 20.8**	**+1.3**
GUT	**Gutenstein**	**0.80**	**72**	P	**Pb**	**09 30 16.1**	**-0.5**
GUT				P		09 30 16.5	
GUT				S	**Sb**	**09 30 26.7**	**-0.5**
BUCH	**Bad Urach**	**1.11**	**55**	S	**Sb**	**09 30 36.9**	**+0.7**
UBR	**Uberruh**	**1.44**	**95**	P	**Pn**	**09 30 27.7**	**+0.4**

NIED ***23*** *09:42:00,32.30N×142.00E,h8^{km},Mw3.8 Best double*
couple: $M_0$5.8×10^{14} NP1:ϕ_s185°,δ45°,λ87°. NP2:ϕ_s10°,
δ45°,λ93°.
IDC ***23*** *09:42:41.5±0.8,32.22N×141.93E,mb3.9/9,mb1 4.0/11,*
mb1mx3.9/23,ML3.8/2,Error ellipse: s-maj=27.5km
s-min=16.9km az=69.0
JMA ***23*** *09:42:41.5±0.3,32.25N×142.03E,h12^{km},M3.9*
NEIC ***23*** *09:42:46.8±0.5,32.20N×141.87E,h35^{km},mb4.6/3,*
MW3.8(NIED),Error ellipse: s-maj=16.2km s-min=8.9km
az=78.0
ISC 23 09:42:43.0±1.9,**32.23N**±0.05×**141.98E**±0.08,**h23**^{km}±15^{km},
n31,σ0^{s}89/37,**mb4.0**/12,**Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**2.02**	**296**	P	**Pn**	**09 43 16.6**	**+0.2**
JHJ	**Hachijo jima 2**	**2.05**	**296**	Pn	**Pn**	**09 43 16.6**	**-0.2**
	57nm,0.3s,baz=66,slow=22,SNR=21						
JHJ				Sn	**Sn**	**09 43 42.5**	**+0.6**
	53nm,0.3s,baz=225,slow=21,SNR=4.2						
BSO1	**Boso 1**	**2.56**	**341**	P	**Pn**	**09 43 23.9**	**-0.1**
BSO3	**Boso 3**	**2.84**	**335**	P	**Pn**	**09 43 28.1**	**0.0**
BSO4	**Boso 4**	**3.08**	**334**	P	**Pn**	**09 43 31.4**	**0.0**
JKO	**Kozu shima**	**3.08**	**310**	P	**Pn**	**09 43 32.3**	**+0.9**
JHU	**Hanno**	**4.25**	**329**	P	**Pn**	**09 43 48.7**	**+0.6**
JHU				*e*S	**Sn**	**09 44 36.6**	**-1.0**
JHO	**Hitachi**	**4.52**	**345**	P	**Pn**	**09 43 50.8**	**-1.2**
JHO				*e*S	**Sn**	**09 44 41.1**	**-3.4**
JAG	**Ashikaga**	**4.68**	**334**	P	**Pn**	**09 43 53.4**	**-0.7**
CBIJ	**Chichi jima**	**5.12**	**178**	Pn	**Pn**	**09 43 59.6**	**-0.7**
	14nm,0.3s,baz=296,slow=21,SNR=26						
CBIJ				Sn	**Sn**	**09 44 54.7**	**-4.8**
	14nm,0.3s,baz=287,slow=19,SNR=3.3						
CBIJ	**Chichi jima**	**5.12**	**178**	P	**Pn**	**09 44 00.2**	**-0.2**
JFK	**Kawauchi**	**5.21**	**350**	P	**Pn**	**09 44 00.2**	**-1.4**
MAJO	**Matsushiro**	**5.31**	**325**	*e*P	**Pn**	**09 43 58.2**	**-4.9**
	8.6nm,0.5s						
MAT	**Matsushiro**	**5.31**	**325**	P	**Pn**	**09 44 03.4**	**+0.3**
MAT				S	**Sn**	**09 45 04.6**	**+0.2**
MAT	**Matsushiro**	**5.31**	**325**	*e*P	**Pn**	**09 44 03.0**	**-0.1**
MAT				*e*S	**Sn**	**09 45 03.0**	**-1.4**
ASAJ	**Asahikawa**	**11.88**	**2**	Pn	**P**	**09 45 36.1**	**+2.1**
	0.4nm,0.3s,baz=333,slow=31,SNR=2.5						
KS15	**Wonju Array Si**	**12.69**	**298**	P	**P**	**09 45 46.9**	**+1.9**
SONM	**Songino Array**	**31.06**	**311**	P	**P**	**09 49 01.6**	**+0.2**
	0.9nm,0.9s,mb3.6,baz=106,slow=11,SNR=3.7						
MKAR	**Makanchi Array**	**47.19**	**306**	P	**P**	**09 51 15.5**	**-0.2**
	1.3nm,0.6s,mb4.0,baz=94,slow=10,SNR=14						
KURK	**Kurchatov**	**49.36**	**312**	P	**P**	**09 51 31.6**	**-0.8**
	6.3nm,1.0s,mb4.6						
WRAB	**Tennant Creek**	**52.38**	**189**	*e*P	**P**	**09 51 54.9**	**-0.9**
	3.8nm,0.5s,mb4.6						
WB2	**Warramunga Arr**	**52.38**	**189**	*e*P	**P**	**09 51 55.6**	**-0.3**
WRA	**Warramunga Arr**	**52.39**	**189**	P	**P**	**09 51 55.5**	**-0.3**
	2.8nm,0.6s,mb4.4,baz=5.0,slow=7.6,SNR=54						
ILAR	**Eielson Array**	**53.35**	**30**	P	**P**	**09 52 02.9**	**+0.5**
	0.4nm,0.9s,mb3.3,baz=333,slow=3.2,SNR=4.3						
ASAR	**Alice Springs**	**56.11**	**189**	P	**P**	**09 52 22.4**	**-0.7**
	0.5nm,0.4s,mb3.9,baz=9.6,slow=7.0,SNR=9.7						
INK	**Inuvik**	**58.48**	**26**	*e*P	**P**	**09 52 39.9**	**+0.7**
	4.5nm,1.1s,mb4.4						
FINES	**FINESS Array B**	**73.29**	**333**	P	**P**	**09 54 13.0**	**-0.9**
	2.2nm,1.1s,mb4.0,baz=325,slow=37,SNR=3.6						
AKASG	**Malin Array Be**	**78.40**	**323**	P	**P**	**09 54 44.3**	**+1.2**
	0.5nm,0.3s,mb3.9,baz=53,slow=6.4,SNR=9.3						
NOA	**NORSAR Array B**	**78.80**	**338**	P	**P**	**09 54 46.3**	**+1.2**
	1.7nm,1.0s,mb3.9,baz=42,slow=5.3,SNR=3.0						
TXAR	**Lajitas Array**	**92.67**	**53**	P	**P**	**09 55 55.2**	**+0.7**
	0.4nm,0.9s,mb3.8,baz=315,slow=2.6,SNR=2.9						
TXAR	**Lajitas Array**	**92.67**	**53**	P	**P**	**09 55 55.2**	**+0.7**

STR ***23*** *09:50:18.9±0.3,42.31N×2.13E,h10^{km}±1^{km},Ml3.5,Error*
ellipse: s-maj=0.0km s-min=0.0km az=1.0
LDG ***23*** *09:50:19.8±0.1,42.32N×2.14E,h4^{km},Md3.5/1,Ml3.5/26,*
Error ellipse: s-maj=2.3km s-min=1.5km az=163.0
NEIC ***23*** *09:50:19.2,42.34N×2.17E,h5^{km},ML3.5(STR),*
ML3.5(LDG),ML2.7(MRB),MN3.0(MDD),After MRB.
NEIC Felt [III] at Pardinas and Planolas; [II] at Ripoll, Spain.
MDD ***23*** *09:50:19.9±0.2,42.34N×2.16E,h2^{km}±2^{km},mbLg2.9/24,*
Error ellipse: s-maj=1.8km s-min=1.5km az=170.0,II
RIPOLL PRXIMO AftershockPLICA
MDD EMS: III QUERALBS RIBES DE FRESER PLANOLES
PARDINES.
ISC 23 09:50:17.7±0.3,**42.41N**±0.02×**2.21E**±0.02,**h5**^{km}±2^{km}**,n93,**
σ1^{s}51/193,**4C,Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time	Res
				Op	ISC	h m s	ISC
CBRU	**Bruguera**	**0.12**	**189**	Pg	**Pg**	**09 50 20.8**	**+0.5**
CBRU				Lg		09 50 21.9	
	94nm,0.2s						
CBRU	**Bruguera**	**0.12**	**189**	Pg	**Pg**	**09 50 20.9**	**+0.6**
CBRU				Sg	**Sg**	**09 50 21.9**	**0.0**
VALF	**Valcebollere**	**0.14**	**269**	Pg	**Pg**	**09 50 21.8**	**+1.2**
VALF				Sg	**Sg**	**09 50 25.2**	**+2.6**
VALF	**Valcebollere**	**0.14**	**269**	P	**Pg**	**09 50 21.9**	**+1.3**
VALF				S	**Sg**	**09 50 23.6**	**+1.1**
CLLI	**Llivia**	**0.19**	**294**	Pg	**Pg**	**09 50 23.3**	**+1.8**
CLLI				Lg		09 50 26.0	
	255nm,0.1s						
CLLI	**Llivia**	**0.19**	**294**	Pg	**Pg**	**09 50 23.3**	**+1.8**
CLLI				Sg	**Sg**	**09 50 26.1**	**+2.0**
FILF	**Fillols**	**0.31**	**59**	P	**Pg**	**09 50 25.3**	**+1.4**
FILF				S	**Sg**	**09 50 29.4**	**+1.4**
CARF	**Carcanieres**	**0.32**	**347**	P	**Pg**	**09 50 27.0**	**+2.8**
CARF				S	**Sg**	**09 50 32.4**	**+3.9**
EJON	**La Jonquera**	**0.51**	**85**	⇑Pg	**Pg**	**09 50 30.0**	**+2.1**
	5.2nm,0.3s,SNR=18						
EJON				Lg		09 50 37.7	
	138nm,0.1s,SNR=59						
EJON	**La Jonquera**	**0.51**	**85**	Pg	**Pg**	**09 50 30.2**	**+2.3**
EJON				Lg		09 50 37.7	
SJAF	**Saint Jean de**	**0.51**	**81**	Pg	**Pg**	**09 50 29.7**	**+1.8**
SJAF				Sg	**Sg**	**09 50 37.4**	**+2.7**
SJAF	**Saint Jean de**	**0.51**	**81**	P	**Pg**	**09 50 29.9**	**+2.0**
SJAF				S	**Sg**	**09 50 37.5**	**+2.8**
LPEF	**Le Peyrat**	**0.59**	**338**	Pg	**Pg**	**09 50 31.8**	**+2.4**
LPEF				Sg	**Sg**	**09 50 40.8**	**+3.5**
LPEF	**Le Peyrat**	**0.59**	**338**	P	**Pg**	**09 50 31.9**	**+2.5**
LPEF				S	**Sg**	**09 50 40.7**	**+3.4**
LRDF	**Laroque-de-Fa**	**0.59**	**25**	Pg	**Pg**	**09 50 31.9**	**+2.4**
LRDF				Sg	**Sg**	**09 50 42.5**	**+5.2**
LRDF	**Laroque-de-Fa**	**0.59**	**25**	P	**Pg**	**09 50 32.0**	**+2.5**
LRDF				S	**Sg**	**09 50 41.3**	**+4.0**
GRBF	**Gourbit**	**0.66**	**312**	P	**Pg**	**09 50 32.2**	**+1.4**
CORG	**Organya**	**0.68**	**255**	Pg	**Pg**	**09 50 31.2**	**-0.1**
CORG	**Organya**	**0.68**	**255**	Pg	**Pg**	**09 50 31.2**	**-0.1**
EMIR	**Miracle**	**0.70**	**226**	⇑Pg	**Pg**	**09 50 31.2**	**-0.6**
	129nm,0.2s,SNR=18						
EMIR				Lg		09 50 40.6	
	317nm,0.3s,SNR=32						
EMIR	**Miracle**	**0.70**	**226**	Pg	**Pg**	**09 50 31.3**	**-0.4**
EMIR				Lg		09 50 40.5	
CSOR	**Sort**	**0.79**	**268**	Pg	**Pg**	**09 50 33.4**	**-0.1**
CSOR				Sg	**Sg**	**09 50 44.5**	**+0.3**
SALF	**Salau**	**0.83**	**296**	Pg	**Pg**	**09 50 34.7**	**+0.4**
SALF				Sg	**Sg**	**09 50 46.0**	**+0.6**
SALF	**Salau**	**0.83**	**296**	P	**Pg**	**09 50 34.9**	**+0.5**
SALF				S	**Sg**	**09 50 46.0**	**+0.6**
MTLF	**Montolieu**	**0.94**	**1**	*e*Pg	**Pg**	**09 50 38.3**	**+1.9**
MTLF				*e*Sg	**Sg**	**09 50 52.0**	**+3.1**
	189nm,0.2s						
MLS	**Moulis**	**0.99**	**304**	Pg	**Pg**	**09 50 38.1**	**+0.6**
MLS				Sg	**Sg**	**09 50 51.4**	**+0.8**
MLS	**Moulis**	**0.99**	**304**	P	**Pb**	**09 50 38.2**	**+1.3**
MLS				S	**Sb**	**09 50 51.3**	**+1.2**
MELF	**Melles**	**1.17**	**294**	Pg	**Pg**	**09 50 41.0**	**0.0**
MELF	**Melles**	**1.17**	**294**	P	**Pb**	**09 50 40.8**	**+0.8**
MELF				S	**Sb**	**09 50 55.5**	**+0.3**
CAVN	**Les Avellanes**	**1.20**	**245**	Pg	**Pg**	**09 50 40.6**	**-1.1**
CAVN				Sg	**Sg**	**09 50 56.5**	**-1.2**
EPOB	**Poblet**	**1.35**	**219**	⇑Pg	**Pg**	**09 50 42.8**	**-1.8**
	40nm,0.2s,SNR=18						
EPOB				Lg		09 50 59.6	
	138nm,0.1s,SNR=25						
EPOB	**Poblet**	**1.35**	**219**	Pg	**Pg**	**09 50 43.0**	**-1.6**
EPOB				Lg		09 50 59.8	
CGAR	**Garraf**	**1.37**	**216**	Pg	**Pg**	**09 50 39.1**	**-6.0**
CGAR				Sg	**Sg**	**09 50 53.0**	**-10**
RESF	**Ens**	**1.44**	**287**	Pg	**Pg**	**09 50 47.5**	**+1.1**
RESF				Sg	**Sg**	**09 51 07.8**	**+2.3**
RESF	**Ens**	**1.44**	**287**	P	**Pn**	**09 50 45.9**	**+1.4**
RESF				S	**Sb**	**09 51 05.0**	**+1.9**
EPF	**Esparros**	**1.51**	**295**	*e*Pg	**Pg**	**09 50 48.2**	**+0.3**
EPF				*e*Sn	**Sn**	**09 51 05.3**	**-0.5**
EPF				*e*Sg	**Sg**	**09 51 07.4**	**-0.6**
	99nm,0.3s						
VIEF	**Viey**	**1.68**	**287**	Pg	**Pg**	**09 50 50.2**	**-1.0**
VIEF				Sg	**Sg**	**09 51 13.5**	**-0.1**
VIEF	**Viey**	**1.68**	**287**	P	**Pn**	**09 50 49.9**	**+1.9**
VIEF				S	**Sb**	**09 51 14.3**	**+4.1**
LABF	**Labassere**	**1.70**	**293**	Pg	**Pg**	**09 50 51.6**	**0.0**
LABF	**Labassere**	**1.70**	**293**	P	**Pn**	**09 50 50.1**	**+1.9**
LABF				S	**Sn**	**09 51 13.1**	**+2.5**
REYF	**Montagne du Re**	**2.03**	**290**	Pg	**Pg**	**09 50 57.1**	**-1.1**
REYF	**Montagne du Re**	**2.03**	**290**	P	**Pn**	**09 50 57.6**	**+4.7**
REYF				S	**Sn**	**09 51 23.6**	**+4.7**
EBR	**Ebro Roquetas**	**2.04**	**220**	*e*PN	**Pn**	**09 50 54.5**	**+1.4**
EBR				*e*SN	**Sn**	**09 51 20.6**	**+1.4**
LASF	**Ste Croix**	**2.06**	**35**	*e*Pn	**Pn**	**09 50 54.3**	**+0.8**
LASF				*e*Sn	**Sn**	**09 51 20.7**	**+0.8**
LASF				*e*Sg	**Sg**	**09 51 28.1**	**+1.7**
	40nm,0.3s						
FDAF	**Les Forges d’A**	**2.09**	**282**	Pg	**Pg**	**09 50 56.6**	**-2.8**
FDAF				Sg	**Sg**	**09 51 25.8**	**-1.4**
FDAF	**Les Forges d’A**	**2.09**	**282**	P	**Pn**	**09 50 56.6**	**+2.8**
FDAF				S	**Sn**	**09 51 24.1**	**+3.6**
ETSF	**Etsaut**	**2.10**	**285**	*e*Pn	**Pn**	**09 50 56.7**	**+2.7**
ETSF				*e*Pg	**Pg**	**09 50 58.5**	**-1.1**
ETSF				*e*Sn	**Sn**	**09 51 18.7**	**-2.1**
ETSF				*e*Sg	**Sg**	**09 51 25.7**	**-1.9**
	113nm,0.4s						
ESAC	**San Caprasio**	**2.10**	**252**	⇑Pn	**Pn**	**09 50 54.9**	**+0.9**
	43nm,0.2s,SNR=18						
ESAC				Pg	**Pg**	**09 50 58.3**	**-1.4**
	69nm,0.2s,SNR=7.9						
ESAC				Sn	**Sn**	**09 51 21.3**	**+0.3**
	233nm,0.3s,SNR=5.0						
ESAC				Lg		09 51 23.9	
	228nm,0.2s,SNR=7.9						
ESAC	**San Caprasio**	**2.10**	**252**	Pn	**Pn**	**09 50 55.1**	**+1.0**
ESAC				Pg	**Pg**	**09 50 58.4**	**-1.4**
ESAC				Sn	**Sn**	**09 51 22.2**	**+1.2**
ATE	**Arette**	**2.25**	**289**	P	**Pn**	**09 51 00.5**	**+4.4**
ATE				S	**Sn**	**09 51 29.1**	**+4.6**
LARF	**Larrau**	**2.44**	**286**	Pg	**Pg**	**09 51 01.9**	**-4.5**
LARF				Sg	**Sg**	**09 51 38.0**	**-0.8**
LARF	**Larrau**	**2.44**	**286**	P	**Pn**	**09 51 02.0**	**+3.1**
LARF				S	**Sn**	**09 51 37.5**	**+8.2**
ORDF	**Ordiarp**	**2.45**	**290**	Pg	**Pg**	**09 51 04.6**	**-2.0**
ORDF	**Ordiarp**	**2.45**	**290**	P	**Pn**	**09 51 04.7**	**+5.7**
ORDF				S	**Sn**	**09 51 36.6**	**+6.9**
CAF	**Calviac**	**2.52**	**358**	*e*Pn	**Pn**	**09 51 01.5**	**+1.4**
CAF				*e*Pg	**Pg**	**09 51 07.6**	**-0.5**
CAF				*e*Sn	**Sn**	**09 51 31.0**	**-0.6**
CAF				*e*Sg	**Sg**	**09 51 40.7**	**-1.0**
	79nm,0.3s						
SJPF	**Ste Jean**	**2.62**	**287**	*e*Pg	**Pg**	**09 51 07.6**	**-2.5**
SJPF				*e*Sn	**Sn**	**09 51 31.8**	**-2.3**
SJPF				*e*Sg	**Sg**	**09 51 41.9**	**-3.2**
	57nm,0.5s						
LFF	**La Frestale**	**2.75**	**338**	*e*Pn	**Pn**	**09 51 04.7**	**+1.4**
LFF				*e*Pg	**Pg**	**09 51 12.1**	**-0.5**
LFF				*e*Sn	**Sn**	**09 51 35.8**	**-1.5**
LFF				*e*Sg	**Sg**	**09 51 47.6**	**-1.6**
	175nm,0.4s						
EALK	**Alkurruntz**	**2.85**	**288**	Pn	**Pn**	**09 51 07.6**	**+2.9**
	7.6nm,0.3s,SNR=9.2						
EALK				Pg	**Pg**	**09 51 12.6**	**-2.1**
	12nm,0.3s,SNR=8.8						
EALK				Lg		09 51 50.4	
	49nm,0.5s,SNR=7.9						
EALK	**Alkurruntz**	**2.85**	**288**	Pn	**Pn**	**09 51 07.6**	**+2.9**
EALK				Pg	**Pg**	**09 51 13.2**	**-1.4**
EALK				Lg		09 51 50.5	
EMOS	**Mosqueruela**	**2.87**	**226**	Pn	**Pn**	**09 51 05.4**	**+0.5**
	0.8nm,0.2s,SNR=8.5						
EMOS				Pg	**Pg**	**09 51 12.4**	**-2.5**
	44nm,0.6s,SNR=25						
EMOS				Sn	**Sn**	**09 51 38.9**	**-1.3**
	20nm,0.3s,SNR=7.9						
EMOS				Lg		09 51 46.8	
	28nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**2.87**	**226**	Pn	**Pn**	**09 51 05.4**	**+0.5**
EMOS				Pg	**Pg**	**09 51 11.5**	**-3.5**
EMOS				Sn	**Sn**	**09 51 38.9**	**-1.3**
EMOS				Lg		09 51 46.6	
LBL	**Lubilhac**	**2.93**	**15**	Pn	**Pn**	**09 51 06.9**	**+1.1**
LBL				Pg	**Pg**	**09 51 15.9**	**-0.2**
RJF	**Les Rejaudoux**	**2.94**	**350**	*e*Pn	**Pn**	**09 51 06.7**	**+0.7**
RJF				*e*Pg	**Pg**	**09 51 15.5**	**-0.9**
RJF				*e*Sn	**Sn**	**09 51 41.1**	**-1.1**
RJF				*e*Sg	**Sg**	**09 51 54.1**	**-1.6**
	33nm,0.2s						
VIVF	**Saint-Julien-l**	**3.04**	**35**	*e*Pn	**Pn**	**09 51 07.7**	**+0.3**
VIVF				*e*Pg	**Pg**	**09 51 16.9**	**-1.4**
VIVF				*e*Sn	**Sn**	**09 51 43.0**	**-1.6**
VIVF				*e*Sg	**Sg**	**09 51 58.4**	**-0.4**
	24nm,0.3s						
COLF	**Collangettes**	**3.29**	**19**	Pn	**Pn**	**09 51 11.4**	**+0.4**
LMR	**La Mourre**	**3.30**	**72**	*e*Pn	**Pn**	**09 51 10.9**	**-0.2**
LMR				*e*Sn	**Sn**	**09 51 49.6**	**-1.6**
	15nm,0.2s						
PYM	**Petit Puy Mans**	**3.40**	**10**	Pn	**Pn**	**09 51 14.1**	**+1.6**
PYM				Pg	**Pg**	**09 51 24.6**	**-0.9**
EIBI	**Ibiza**	**3.44**	**191**	Pn	**Pn**	**09 51 11.4**	**-1.6**
	1.2nm,0.1s,SNR=7.9						
EIBI				Sn	**Sn**	**09 51 48.4**	**-6.3**
	7.5nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	**3.44**	**191**	Pn	**Pn**	**09 51 11.4**	**-1.6**
EIBI				Sn	**Sn**	**09 51 48.9**	**-5.9**
FRF	**La Foret Royal**	**3.46**	**69**	*e*Pn	**Pn**	**09 51 14.5**	**+1.1**
FRF				*e*Sn	**Sn**	**09 51 53.7**	**-1.6**
	17nm,0.3s						
ETOR	**Torete**	**3.56**	**245**	Pn	**Pn**	**09 51 15.4**	**+0.5**
	4.6nm,0.2s,SNR=16						
ETOR				Pg	**Pg**	**09 51 26.4**	**-2.5**
	8.4nm,0.3s,SNR=8.2						
ETOR				Sn	**Sn**	**09 51 55.7**	**-2.3**
	8.2nm,0.3s,SNR=7.9						
ETOR				Lg		09 52 11.0	

	15nm,0.3s,SNR=7.9						
ETOR	Torete	3.56	245	Pn	Pn	09 51 15.3	+0.5
ETOR				Sn	Sn	09 51 55.7	-2.3
ETOR				Lg		09 52 11.0	
ORIF	Oris-en-Rattie	3.66	45	ePn	Pn	09 51 18.4	+2.1
ORIF				eSn	Sn	09 51 59.6	-0.9
	3.3nm,0.4s						
TCF	Toulx Ste Croi	3.88	0	ePn	Pn	09 51 19.5	+0.1
TCF				ePg	Pg	09 51 32.9	-2.3
TCF				eSg	Sg	09 52 23.4	-3.6
	27nm,0.4s						
MBDF	Montbardon	4.05	53	ePn	Pn	09 51 24.0	+2.2
MBDF				eSn	Sn	09 52 09.2	-1.1
	16nm,0.7s						
SBF	Sospel	4.10	67	ePn	Pn	09 51 23.3	+0.9
SBF				eSn	Sn	09 52 09.2	-2.2
	18nm,0.3s						
BGF	Bois d'Agland	4.18	6	ePn	Pn	09 51 24.0	+0.4
BGF				ePg	Pg	09 51 38.5	-2.6
BGF				eSg	Sg	09 52 32.2	-4.6
	73nm,0.3s						
ELAN	Lanestosa	4.23	283	Pn	Pn	09 51 26.3	+2.0
	2.2nm,0.2s,SNR=7.9						
ELAN				Sn	Sn	09 52 15.1	+0.3
	5.7nm,0.3s,SNR=5.0						
ELAN				Lg		09 52 34.4	
	2.7nm,0.3s,SNR=5.0						
SMF	Signal de Mont	4.40	15	ePn	Pn	09 51 24.4	-2.3
SMF				ePg	Pg	09 51 43.6	-1.9
SMF				eSg	Sg	09 52 40.1	-4.1
	22nm,0.5s						
AVF	Avril sur Loir	4.46	10	ePn	Pn	09 51 27.5	-0.1
AVF				eSg	Sg	09 52 41.0	-5.3
	14nm,0.3s						
LPG	La Plagne	4.51	45	ePn	Pn	09 51 30.3	+2.0
LPG				eSn	Sn	09 52 19.8	-2.1
	2.0nm,0.3s						
LPL	La Plagne	4.51	45	ePn	Pn	09 51 30.1	+1.7
MFF	Saint Martin d	4.52	339	ePn	Pn	09 51 29.5	+1.0
MFF				ePg	Pg	09 51 44.6	-3.4
MFF				eSn	Sn	09 52 18.9	-3.3
MFF				eSg	Sg	09 52 43.8	-4.4
	32nm,0.6s						
SSF	Saint Saulge	4.75	11	ePn	Pn	09 51 31.6	-0.1
SSF				ePg	Pg	09 51 45.9	-6.6
SSF				eSg	Sg	09 52 50.8	-5.0
	11nm,0.4s						
HYF	Humbligny	4.87	3	eSg	Sg	09 52 55.2	-4.8
LOR	Lormes	5.00	13	ePn	Pn	09 51 34.5	-0.8
LOR				ePg	Pg	09 51 50.3	-7.3
LOR				eSg	Sg	09 52 59.1	-5.2
	20nm,0.5s						
PGF	Pioggiola	5.03	86	ePn	Pn	09 51 34.0	-1.7
PGF				eSn	Sn	09 52 28.7	-6.3
	11nm,0.3s						
CABF	La Chapelle	5.04	32	ePn	Pn	09 51 36.1	+0.3
CABF				ePg	Pg	09 51 55.1	-3.2
CABF				eSg	Sg	09 53 02.7	-2.8
	13nm,0.5s						
ESDC	Sonseca Array	5.40	242	Pn	Pn	09 51 39.3	-1.6
	3.8nm,0.1s,baz=63,slow=14,SNR=11						
ESDC				Sn	Sn	09 52 37.8	-6.6
	3.3nm,0.2s,baz=59,slow=24,SNR=4.8						
ESDC				Lg		09 53 05.3	
	3.4nm,0.3s,baz=64,slow=30,SNR=4.0						
ESDC	Sonseca Array	5.40	242	Pn	Pn	09 51 39.3	-1.6
ESDC				Sn	Sn	09 52 37.8	-6.6
ESDC				Lg		09 53 05.3	
FLN	La Foliniere	6.63	344	ePn	Pn	09 51 57.2	-1.1
ROSF	Rostrenen	7.07	329	ePn	Pn	09 52 03.9	-0.6
EVO	Evora	8.69	247	ePn	P	09 52 24.2	-2.9
EVO				eSn	Sn	09 53 56.3	-10
EVO				eSg	Sg	09 54 49.9	-17
	4.6nm,0.4s						

NEIC ***23*** *09:58:05.7, 42.34N×2.15E, h4^{km}, ML4.0(LDG), ML3.9(STR), ML3.3(MRB), MN3.5(MDD), After MRB.*

NEIC Felt [IV] at Queralbs; [III] at Pardinas, Planolas, Ribas de Fresser and Ripoll, Spain.

LDG ***23*** *09:58:06.7±0.1, 42.35N×2.13E, h4^{km}, Ml4.0/41, Error ellipse: s-maj=2.0km s-min=1.4km az=150.0*

MDD ***23*** *09:58:06.1±0.2, 42.34N×2.16E, h2^{km}±2^{km}, mbLg3.4/41, Error ellipse: s-maj=1.7km s-min=1.4km az=165.0, III RIPOLL RIBES DE FRESER PLANOLES PARDINES PRXIMO AftershockPLICA*

MDD EMS: III-IV QUERALBS.

STR ***23*** *09:58:06.9±0.3, 42.40N×2.07E, h10^{km}±1^{km}, Ml3.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 23 09:58:03.9±0.3**, 42.43N**±0.01×**2.17E**±0.01**, h4**^{km}±2^{km}**, n171, σ1§60**/353**, 4C, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VALF	Valcebollere	0.12	255	Pg	Pg	09 58 07.9	+1.6
VALF				Sg	Sg	09 58 11.7	+3.8
VALF	Valcebollere	0.12	255	P	Pg	09 58 08.1	+1.7
VALF				S	Sg	09 58 09.8	+1.9
CBRU	Bruguera	0.15	177	Pg	Pg	09 58 07.0	+0.1
CBRU				Lg		09 58 08.1	
	286nm,0.2s						
CBRU	Bruguera	0.15	177	Pg	Pg	09 58 07.0	+0.1
CBRU				Sg	Sg	09 58 08.2	-0.8
CLLI	Llivia	0.15	288	Pg	Pg	09 58 09.4	+2.4
CLLI				Lg		09 58 12.2	
	403nm,0.1s						
CLLI	Llivia	0.15	288	Pg	Pg	09 58 09.4	+2.4
CLLI				Sg	Sg	09 58 12.2	+3.1
CARF	Carcanieres	0.29	351	P	Pg	09 58 13.1	+3.4
CARF				S	Sg	09 58 18.7	+5.1
FILF	Fillols	0.32	66	Pg	Pg	09 58 11.3	+1.0
FILF				Sg	Sg	09 58 17.4	+2.9
FILF	Fillols	0.32	66	P	Pg	09 58 11.5	+1.2
FILF				S	Sg	09 58 15.6	+1.1
SJAF	Saint Jean de	0.53	84	Pg	Pg	09 58 15.9	+1.4
SJAF				Sg	Sg	09 58 22.0	+0.4
SJAF	Saint Jean de	0.53	84	P	Pg	09 58 16.1	+1.5
SJAF				S	Sg	09 58 24.0	+2.4
EJON	La Jonquera	0.53	88	⇑Pg	Pg	09 58 16.2	+1.6
	85nm,0.3s,SNR=18						
EJON				Lg		09 58 24.0	
	2µm,0.4s,SNR=18						
LPEF	Le Peyrat	0.55	340	Pg	Pg	09 58 17.8	+2.9
LPEF				Sg	Sg	09 58 26.4	+4.1
LPEF	Le Peyrat	0.55	340	P	Pg	09 58 18.1	+3.1
LPEF				S	Sg	09 58 27.0	+4.7
LRDF	Laroque-de-Fa	0.57	28	Pg	Pg	09 58 18.1	+2.7
LRDF				Sg	Sg	09 58 26.6	+3.5
LRDF	Laroque-de-Fa	0.57	28	P	Pg	09 58 18.2	+2.8
LRDF				S	Sg	09 58 28.2	+5.1
GRBF	Gourbit	0.62	312	P	Pg	09 58 18.4	+2.1
CORG	Organya	0.66	253	Pg	Pg	09 58 17.4	+0.3
CORG				Lg		09 58 26.4	
	100nm,0.1s						
CORG	Organya	0.66	253	Pg	Pg	09 58 17.4	+0.3
CORG				Sg	Sg	09 58 26.4	+0.4
EMIR	Miracle	0.70	223	⇑Pg	Pg	09 58 17.4	-0.6
	283nm,0.2s,SNR=18						
EMIR				Lg		09 58 26.8	
	391nm,0.2s,SNR=7.9						
CSOR	Sort	0.77	266	Pg	Pg	09 58 19.9	+0.6
CSOR				Lg		09 58 30.2	
	231nm,0.2s						
CSOR	Sort	0.77	266	Pg	Pg	09 58 19.9	+0.7
CSOR				Sg	Sg	09 58 30.2	+0.7
SALF	Salau	0.79	295	P	Pg	09 58 20.9	+1.1
SALF				S	Sg	09 58 31.9	+1.6
MTLF	Montolieu	0.91	2	ePg	Pg	09 58 24.5	+2.4
MTLF				ePn	Pn	09 58 25.8	+2.5
MTLF				eSg	Sg	09 58 38.1	+3.9
	1µm,0.4s						
MTLF	Montolieu	0.91	2	Pn	Pn	09 58 23.2	-0.1
MTLF				Pg	Pg	09 58 24.7	+2.6
MTLF				Lg		09 58 35.8	
	402nm,0.3s						
MLS	Moulis	0.95	304	Pg	Pg	09 58 24.1	+1.2
MLS				Sg	Sg	09 58 37.0	+1.4
MLS	Moulis	0.95	304	P	Pb	09 58 24.2	+1.6
MLS				S	Sb	09 58 37.5	+2.2
MELF	Melles	1.13	293	Pg	Pg	09 58 27.1	+0.6
MELF				Sg	Sg	09 58 42.0	+0.5
MELF	Melles	1.13	293	P	Pb	09 58 27.2	+1.6
MELF				S	Sb	09 58 43.0	+2.4
CAVN	Les Avellanes	1.19	243	Pg	Pg	09 58 26.7	-0.9
CAVN				Lg		09 58 41.5	
	119nm,0.2s						
CAVN	Les Avellanes	1.19	243	Pg	Pg	09 58 26.8	-0.8
CAVN				Sg	Sg	09 58 41.5	-1.9
EPOB	Poblet	1.35	217	⇑Pg	Pg	09 58 29.0	-1.9
	111nm,0.1s,SNR=18						
EPOB				Lg		09 58 46.0	
	282nm,0.1s,SNR=5.0						
CGAR	Garraf	1.37	215	Pn	Pn	09 58 25.2	-4.7
CGAR				Sn	Sn	09 58 39.6	-9.2
	193nm,0.3s						
CGAR	Garraf	1.37	215	Pn	Pn	09 58 25.3	-4.7
CGAR				Sn	Sn	09 58 39.6	-9.1
RESF	Ens	1.40	286	P	Pb	09 58 32.1	+1.8
RESF				S	Sb	09 58 52.1	+3.6
EPF	Esparros	1.47	295	ePn	Pn	09 58 32.8	+1.4
EPF				ePg	Pg	09 58 34.7	+1.4
EPF				eSn	Sn	09 58 51.4	+0.1
EPF				eSg	Sg	09 58 54.1	+1.1
	418nm,0.3s						
EPF	Esparros	1.47	295	Pn	Pn	09 58 33.2	+1.8
EPF				Pg	Pg	09 58 34.7	+1.4
EPF				Sn	Sn	09 58 51.4	+0.1
EPF				Lg		09 58 54.1	
	209nm,0.3s						
VIEF	Viey	1.65	287	Pg	Pg	09 58 36.3	-0.5
VIEF				Sg	Sg	09 59 00.2	+1.5
VIEF	Viey	1.65	287	P	Pn	09 58 36.0	+2.2
VIEF				S	Sb	09 58 58.7	+3.2
LABF	Labassere	1.66	292	Pg	Pg	09 58 37.0	-0.1
LABF	Labassere	1.66	292	P	Pn	09 58 37.1	+3.1
LABF				S	Sb	09 58 59.2	+3.2
REYF	Montagne du Re	1.99	290	Pg	Pg	09 58 43.1	-0.6
REYF				Sg	Sg	09 59 11.1	+0.9
REYF	Montagne du Re	1.99	290	P	Pn	09 58 43.4	+4.7
REYF				S	Sn	09 59 10.2	+5.7
EBR	Ebro Roquetas	2.04	219	ePN	Pn	09 58 40.5	+1.0
EBR				i SN	Sn	09 59 06.5	+0.8
FDAF	Les Forges d'A	2.06	282	Pg	Pg	09 58 42.4	-2.6
FDAF				Sg	Sg	09 59 11.3	-1.1
FDAF	Les Forges d'A	2.06	282	P	Pn	09 58 43.3	+3.6
FDAF				S	Sn	09 59 11.3	+5.2
LASF	Ste Croix	2.06	36	ePn	Pn	09 58 41.3	+1.6
LASF				ePg	Pg	09 58 45.3	+0.4
LASF				eSn	Sn	09 59 03.3	-2.8
LASF				eSg	Sg	09 59 12.9	+0.6
	199nm,0.4s						
ETSF	Etsaut	2.06	284	eP	Pn	09 58 42.8	+3.0
ETSF				ePg	Pg	09 58 44.7	-0.4
ETSF				eSn	Sn	09 59 04.9	-1.4
ETSF				eSg	Sg	09 59 11.9	-0.8
	332nm,0.3s						
ETSF	Etsaut	2.06	284	Pg	Pg	09 58 43.3	-1.8
ETSF				Pg	Pg	09 58 44.7	-0.4
ETSF				Sn	Sn	09 59 07.4	+1.1
	166nm,0.3s						
ETSF				Lg		09 59 11.9	
	166nm,0.3s						
ESAC	San Caprasio	2.09	251	⇑Pn	Pn	09 58 41.2	+1.0
	54nm,0.1s,SNR=18						
ESAC				Pg	Pg	09 58 44.7	-0.9
	219nm,0.2s,SNR=7.9						
ESAC				Sn	Sn	09 59 07.6	+0.7
	508nm,0.2s,SNR=5.0						
ESAC				Lg		09 59 10.3	
	756nm,0.2s,SNR=5.0						
ATE	Arette	2.21	288	P	Pn	09 58 46.0	+4.0
ATE				S	Sn	09 59 14.1	+4.0
LARF	Larrau	2.40	286	Pg	Pg	09 58 48.1	-3.8
LARF				Sg	Sg	09 59 23.7	-0.2
LARF	Larrau	2.40	286	P	Pn	09 58 48.0	+3.3
LARF				S	Sn	09 59 23.0	+8.1
ORDF	Ordiarp	2.41	290	Pg	Pg	09 58 50.6	-1.5
ORDF				Sg	Sg	09 59 23.1	-1.2
ORDF	Ordiarp	2.41	290	P	Pn	09 58 49.0	+4.2
ORDF				S	Sn	09 59 21.2	+6.0
CAF	Calviac	2.49	358	ePn	Pn	09 58 47.1	+1.1
CAF				ePg	Pg	09 58 53.8	+0.1
CAF				eSn	Sn	09 59 17.8	+0.5
CAF				eSg	Sg	09 59 26.8	-0.2
	274nm,0.3s						
CAF	Calviac	2.49	358	Pn	Pn	09 58 48.3	+2.3
CAF				Pg	Pg	09 58 53.8	+0.1
CAF				Sn	Sn	09 59 17.8	+0.5
CAF				Lg		09 59 26.8	
	137nm,0.3s						
SJPF	Ste Jean	2.59	286	eP	Pn	09 58 50.3	+3.0
SJPF				ePg	Pg	09 58 54.0	-1.6
SJPF				eSn	Sn	09 59 17.1	-2.6
SJPF				eSg	Sg	09 59 27.8	-2.3
	221nm,0.5s						
SJPF	Ste Jean	2.59	286	P	Pn	09 58 50.3	+3.0
SJPF				Pg	Pg	09 58 54.0	-1.6
SJPF				Sn	Sn	09 59 21.4	+1.7
	101nm,0.5s						
SJPF				Lg		09 59 27.8	
	110nm,0.5s						
PRAF	Pradon	2.59	57	Pn	Pn	09 58 49.0	+1.7
TREF	Trevaresse	2.64	62	Pn	Pn	09 58 50.4	+2.3
OSSF	Osses	2.65	289	P	Pn	09 58 51.9	+3.7
OSSF				S	Sn	09 59 29.0	+7.7
LFF	La Frestale	2.71	338	ePn	Pn	09 58 51.0	+1.9
LFF				ePg	Pg	09 58 58.2	+0.1
LFF				eSn	Sn	09 59 22.3	-0.5
LFF				eSg	Sg	09 59 33.8	-0.4
	475nm,0.3s						
LFF	La Frestale	2.71	338	Pn	Pn	09 58 51.8	+2.7
LFF				Pg	Pg	09 58 58.2	+0.1
LFF				Sn	Sn	09 59 22.3	-0.5
LFF				Lg		09 59 33.4	
	237nm,0.3s						
BERF	Bertagne	2.73	70	Pn	Pn	09 58 51.3	+1.9
EALK	Alkurruntz	2.82	287	Pn	Pn	09 58 54.1	+3.5
	6.7nm,0.2s,SNR=9.3						
EALK				Pg	Pg	09 58 58.9	-1.2
	60nm,0.3s,SNR=7.9						
EALK				Sn	Sn	09 59 25.0	-0.4
	89nm,0.6s,SNR=5.0						
EALK				Lg		09 59 36.7	
	129nm,0.4s,SNR=7.9						
EALK	Alkurruntz	2.82	287	Pn	Pn	09 58 54.3	+3.7
EALK				Pg	Pg	09 58 58.9	-1.2
EALK				Sn	Sn	09 59 25.0	-0.4
EALK				Sn	Sn	09 59 31.8	+6.4
EALK				Lg		09 59 37.4	
PUYF	Puyloubier	2.82	66	Pn	Pn	09 58 51.1	+0.5
EMOS	Mosqueruela	2.87	225	Pn	Pn	09 58 51.5	+0.2
	9.5nm,0.4s,SNR=7.9						
EMOS				Pg	Pg	09 58 58.5	-2.7
	146nm,0.5s,SNR=7.9						
EMOS				Sn	Sn	09 59 25.4	-1.3
	43nm,0.3s,SNR=7.9						
EMOS				Lg		09 59 35.3	
	116nm,0.5s,SNR=9.6						
EMOS	Mosqueruela	2.87	225	Pn	Pn	09 58 51.5	+0.2
EMOS				Pg	Pg	09 58 58.5	-2.7
EMOS				Sn	Sn	09 59 26.1	-0.5
EMOS				Lg		09 59 35.3	
LBL	Lubilhac	2.91	15	Pn	Pn	09 58 53.3	+1.4
RJF	Les Rejaudoux	2.91	351	ePn	Pn	09 58 53.0	+1.1
RJF				ePg	Pg	09 59 01.8	-0.2
RJF				eSn	Sn	09 59 26.9	-0.9
RJF				eSg	Sg	09 59 40.3	-0.5
	171nm,0.4s						
RJF	Les Rejaudoux	2.91	351	Pn	Pn	09 58 53.3	+1.4
RJF				Pg	Pg	09 59 00.3	-1.7
RJF				Sn	Sn	09 59 26.9	-0.9
RJF				Lg		09 59 40.3	
	85nm,0.4s						
VILF	Villemus	2.96	60	Pn	Pn	09 58 50.0	-2.6
FRNF	Fournols	2.97	5	Pn	Pn	09 58 54.4	+1.7
VIVF	Saint-Julien-l	3.03	36	ePn	Pn	09 58 53.8	+0.2
VIVF				ePg	Pg	09 59 03.0	-1.4
VIVF				eSn	Sn	09 59 30.1	-0.7
VIVF				eSg	Sg	09 59 43.6	-1.2
	91nm,0.3s						
COLF	Collangettes	3.28	19	Pn	Pn	09 58 57.8	+0.7
LMR	La Mourre	3.31	73	ePn	Pn	09 58 57.8	+0.1
LMR				eSn	Sn	09 59 35.5	-2.6
	44nm,0.2s						
PYM	Petit Puy Mans	3.37	10	Pn	Pn	09 59 00.1	+1.6
EIBI	Ibiza	3.46	191	Pn	Pn	09 58 57.7	-2.0
	6.2nm,0.2s,SNR=18						
EIBI				Sn	Sn	09 59 36.3	-5.4
	19nm,0.2s,SNR=5.0						
FRF	La Foret Royal	3.47	70	ePn	Pn	09 59 00.0	+0.1
FRF				eSn	Sn	09 59 39.3	-2.8
	58nm,0.3s						
FRF	La Foret Royal	3.47	70	Pn	Pn	09 59 00.3	+0.4
FRF				Sn	Sn	09 59 39.3	-2.8
	29nm,0.3s						
ETOR	Torete	3.55	244	Pn	Pn	09 59 01.5	+0.4
	30nm,0.4s,SNR=52						
ETOR				Pg	Pg	09 59 11.7	-3.2
	13nm,0.3s,SNR=7.9						
ETOR				Sn	Sn	09 59 42.6	-1.4
	30nm,0.4s,SNR=5.0						
ETOR				Lg		09 59 59.3	
	206nm,0.7s,SNR=7.9						
ORIF	Oris-en-Rattie	3.66	46	ePn	Pn	09 59 04.8	+2.2
ORIF				eSn	Sn	09 59 46.0	-0.9
	17nm,0.4s						
AGO	Saint Agoulin	3.69	10	Pn	Pn	09 59 00.1	-2.8
CALN	Calern	3.70	68	Pn	Pn	09 59 03.8	+0.7
TCF	Toulx Ste Croi	3.86	0	ePn	Pn	09 59 05.6	+0.3
TCF				ePg	Pg	09 59 19.1	-1.8
TCF				eSn	Sn	09 59 49.7	-2.0
TCF				eSg	Sg	10 00 07.4	-4.9
	110nm,0.4s						
MVIF	Mont Vial	3.93	66	Pn	Pn	09 59 08.2	+1.8
REVF	Revere	4.03	69	Pn	Pn	09 59 09.0	+1.2
TOUF	Mont Tournerai	4.04	65	Pn	Pn	09 59 09.3	+1.4
AURF	Auriere	4.04	67	Pn	Pn	09 59 08.6	+0.6
MBDF	Montbardon	4.05	54	ePn	Pn	09 59 08.9	+0.7
MBDF				ePg	Pg	09 59 19.9	-5.0
MBDF				eSn	Sn	09 59 55.1	-1.7
	35nm,0.5s						
SBF	Sospel	4.11	68	ePn	Pn	09 59 09.4	+0.4
SBF				eSn	Sn	09 59 54.5	-3.7
	108nm,0.4s						
EBEN	Beniarda	4.15	207	Pn	Pn	09 59 08.5	-0.9
	1.3nm,0.2s,SNR=4.0						
EBEN				Pg	Pg	09 59 18.1	-8.6
	3.7nm,0.2s,SNR=5.0						
EBEN	Beniarda	4.15	207	Pn	Pn	09 59 08.7	-0.8
PZZ	Prazzo	4.15	58	P	Pn	09 59 11.6	+2.2
AUTN	L'Aution	4.15	66	Pn	Pn	09 59 11.0	+1.5
BGF	Bois d'Agland	4.15	6	ePn	Pn	09 59 10.1	+0.5
BGF				ePg	Pg	09 59 24.7	-2.1
BGF				eSg	Sg	10 00 18.4	-3.8
	343nm,0.4s						
BGF	Bois d'Agland	4.15	6	Pn	Pn	09 59 10.1	+0.5
BGF				Pg	Pg	09 59 24.4	-2.4
BGF				Lg		10 00 18.4	
	172nm,0.4s						
BGF	Bois d'Agland	4.15	6	ePn	Pn	09 59 10.1	+0.5
BGF				Pg	Pg	09 59 24.4	-2.4
BGF				ePg	Pg	09 59 24.7	-2.1
BGF				eSg	Sg	10 00 18.4	-3.8
RRL	Cesana Torines	4.17	52	P	Pn	09 59 11.9	+2.1
STV	Sta Anna Valdi	4.17	63	P	Pn	09 59 11.5	+1.6
ELAN	Lanestosa	4.20	283	Pn	Pn	09 59 12.2	+2.0
	4.2nm,0.2s,SNR=12						
ELAN				Sn	Sn	10 00 01.2	+0.9
	16nm,0.2s,SNR=5.0						
ELAN				Lg		10 00 21.7	
	28nm,0.6s,SNR=5.0						
ELAN	Lanestosa	4.20	283	Pn	Pn	09 59 12.6	+2.4
ELAN				Sn	Sn	10 00 01.5	+1.1
ENR	Entracque	4.23	63	P	Pn	09 59 11.9	+1.2
SAOF	Saorge	4.23	67	Pn	Pn	09 59 11.8	+1.1
NEGI	Negi	4.29	69	P	Pn	09 59 11.6	+0.1
SMF	Signal de Mont	4.38	15	ePn	Pn	09 59 13.2	+0.4
SMF				ePg	Pg	09 59 29.9	-1.4
SMF				eSn	Sn	10 00 02.7	-2.3
SMF				eSg	Sg	10 00 25.8	-3.9
	173nm,0.8s						
SMF	Signal de Mont	4.38	15	Pn	Pn	09 59 13.4	+0.6
SMF				Pg	Pg	09 59 27.9	-3.4
SMF				Sn	Sn	10 00 02.7	-2.3
SMF				Lg		10 00 25.8	
	86nm,0.8s						
MONE	Monesi	4.40	66	P	Pn	09 59 13.5	+0.4
BHB	Bricherasio	4.41	55	P	Pn	09 59 15.0	+1.7
IMI	Imperia	4.44	69	ePn	Pn	09 59 14.9	+1.3
IMI				eSn	Sn	10 00 03.8	-2.6
AVF	Avril sur Loir	4.44	11	ePn	Pn	09 59 14.4	+0.8
AVF				ePg	Pg	09 59 30.0	-2.5
AVF				eSg	Sg	10 00 27.6	-4.1
	46nm,0.3s						
AVF	Avril sur Loir	4.44	11	Pn	Pn	09 59 14.4	+0.8
AVF				Pg	Pg	09 59 28.4	-4.1
AVF				Lg		10 00 27.6	
	23nm,0.3s						
MFF	Saint Martin d	4.49	339	ePn	Pn	09 59 15.5	+1.2
MFF				ePg	Pg	09 59 30.8	-2.7
MFF				eSn	Sn	10 00 05.2	-2.5
MFF				eSg	Sg	10 00 28.4	-4.9
	88nm,0.6s						
LPG	La Plagne	4.51	46	eSn	Sn	10 00 06.1	-2.2
	16nm,0.6s						
LPG	La Plagne	4.51	46	Pn	Pn	09 59 17.4	+2.8
LPG				Sn	Sn	10 00 06.1	-2.2
	7.8nm,0.6s						
LPG	La Plagne	4.51	46	ePn	Pn	09 59 17.4	+2.8
LPG				eSn	Sn	10 00 06.1	-2.2
LPL	La Plagne	4.51	45	eSn	Sn	10 00 06.2	-2.2
	26nm,0.7s						
LPL	La Plagne	4.51	45	Pn	Pn	09 59 17.4	+2.7
LPL				Sn	Sn	10 00 06.2	-2.2
	13nm,0.7s						
LPL	La Plagne	4.51	45	ePn	Pn	09 59 17.4	+2.7
LPL				eSn	Sn	10 00 06.2	-2.2
ROB	Roburent	4.55	64	P	Pn	09 59 17.0	+1.7
RSP	Reno Superiore	4.58	52	P	Pn	09 59 17.9	+2.3
RORO		4.62	67	P	Pn	09 59 16.5	+0.3
LSD	Ceresole Reale	4.70	48	P	Pn	09 59 19.3	+1.9
ETOB	Tobarra	4.72	218	Pn	Pn	09 59 16.1	-1.6
	5.7nm,0.3s,SNR=9.5						
ETOB				Pg	Pg	09 59 32.6	-5.7
	12nm,0.5s,SNR=7.2						
ETOB				Sn	Sn	10 00 07.4	-6.3
	7.5nm,0.3s,SNR=5.0						
ETOB				Lg		10 00 32.2	
	18nm,0.6s,SNR=4.0						
ETOB	Tobarra	4.72	218	Pn	Pn	09 59 16.1	-1.6
ETOB				Sn	Sn	10 00 07.4	-6.3
SSF	Saint Saulge	4.73	11	ePn	Pn	09 59 16.0	-1.7
SSF				ePg	Pg	09 59 35.1	-3.2
SSF				eSg	Sg	10 00 37.5	-3.8
	40nm,0.3s						
SSF	Saint Saulge	4.73	11	Pn	Pn	09 59 16.0	-1.7
SSF				Pg	Pg	09 59 33.9	-4.4
SSF				Lg		10 00 37.5	
	20nm,0.3s						
SSF	Saint Saulge	4.73	11	ePn	Pn	09 59 16.0	-1.7
SSF				Pg	Pg	09 59 33.9	-4.4
SSF				ePg	Pg	09 59 35.1	-3.2
SSF				eSg	Sg	10 00 37.5	-3.8
FIN	Finale Ligure	4.75	66	ePn	Pn	09 59 19.7	+1.6
FIN				eSn	Sn	10 00 11.8	-2.6
HYF	Humbligny	4.85	4	ePg	Pg	09 59 37.5	-3.2
HYF				eSg	Sg	10 00 42.1	-3.2
LOR	Lormes	4.98	13	ePn	Pn	09 59 21.1	-0.2
	baz=195						
LOR				ePg	Pg	09 59 40.0	-3.4
	baz=194						
LOR				eSg	Sg	10 00 45.2	-4.6
	82nm,0.5s						
CABF	La Chapelle	5.03	33	ePn	Pn	09 59 22.3	+0.3
CABF				ePg	Pg	09 59 40.1	-4.2
CABF				eSg	Sg	10 00 48.5	-2.9
	60nm,0.6s						
CABF	La Chapelle	5.03	33	Pn	Pn	09 59 22.4	+0.4
CABF				Pg	Pg	09 59 40.5	-3.8
CABF				Lg		10 00 48.5	
	30nm,0.6s						
PGF	Pioggiola	5.05	86	ePn	Pn	09 59 19.9	-2.4
PGF				eSn	Sn	10 00 14.2	-7.8
	32nm,0.3s						
PCP	Pian Castagno	5.10	63	P	Pn	09 59 24.1	+1.1
EVIA	Vianos	5.20	225	Pn	Pn	09 59 22.9	-1.4
	7.7nm,0.6s,SNR=7.9						
EVIA				Lg		10 00 48.9	
	30nm,0.6s,SNR=4.0						

EVIA	Vianos	5.20	225	Pn	Pn	09 59 22.9	-1.4
EVIA				Lg		10 00 49.1	
ESDC	Sonseca Array	5.39	241	Pn	Pn	09 59 25.3	-1.8
	7.6nm,0.1s,baz=62,slow=14,SNR=30						
ESDC				Sn	Sn	10 00 23.9	-6.7
	14nm,0.2s,baz=59,slow=24,SNR=13						
ESDC				Lg		10 00 54.7	
	11nm,0.3s,baz=62,slow=29,SNR=5.9						
ESLA	Sonseca Array	5.39	241	ePn	Pn	09 59 24.5	-2.6
	0.9nm,0.5s						
MCGN	Macugnaga	5.47	48	ePn	Pn	09 59 30.7	+2.5
MCGN				eSn	Sn	10 00 34.0	+1.5
SFTF	Sexfontaines	6.12	18	ePn	Pn	09 59 37.0	-0.3
SFTF				ePg	Pg	10 00 01.6	-4.4
SFTF				eSg	Sg	10 01 19.6	-8.0
	153nm,0.9s						
EQES	Quesada	6.12	223	Pn	Pn	09 59 36.1	-1.4
	1.8nm,0.2s,SNR=5.0						
EQES				Pg	Pg	09 59 59.0	-7.1
	7.9nm,0.4s,SNR=5.0						
EQES				Lg		10 01 21.2	
	5.3nm,0.3s,SNR=5.0						
HAU	Haudompre	6.31	26	ePn	Pn	09 59 40.5	+0.5
HAU				ePg	Pg	10 00 05.5	-4.3
HAU				eSg	Sg	10 01 26.3	-7.6
	41nm,0.5s						
HINF	Hinteralfeld	6.32	30	ePn	Pn	09 59 38.0	-2.2
HINF				ePg	Pg	10 00 04.9	-5.2
GRR	Gorron	6.33	341	ePn	Pn	09 59 40.0	-0.3
GRR				eSn	Sn	10 00 48.2	-5.7
GRR				eSg	Sg	10 01 26.9	-7.6
	76nm,0.8s						
GRR	Gorron	6.33	341	Pn	Pn	09 59 40.0	-0.3
GRR				Pg	Pg	10 00 04.0	-6.2
GRR				Sn	Sn	10 00 48.2	-5.7
	20nm,0.4s						
GRR				Lg		10 01 26.9	
	38nm,0.8s						
LDF	La Druitiere	6.37	346	ePn	Pn	09 59 40.6	-0.3
LDF				eSg	Sg	10 01 27.7	-8.2
	34nm,0.6s						
MEZF	Maizieres J’vi	6.40	17	ePn	Pn	09 59 40.4	-0.9
MEZF				ePg	Pg	10 00 07.0	-4.7
	baz=198						
MEZF				eSg	Sg	10 01 29.8	-7.2
	72nm,0.6s						
FLN	La Foliniere	6.60	345	ePn	Pn	09 59 43.3	-0.8
FLN				eSn	Sn	10 00 54.7	-6.0
FLN				eSg	Sg	10 01 35.5	-8.1
	24nm,0.4s						
FLN	La Foliniere	6.60	345	Pn	Pn	09 59 44.0	-0.1
FLN				Sn	Sn	10 00 54.7	-6.0
	10nm,0.5s						
FLN				Lg		10 01 35.5	
	12nm,0.4s						
RFYF	Reffroy	6.62	19	ePg	Pg	10 00 11.0	-5.0
	baz=200						
RFYF				eSg	Sg	10 01 36.8	-7.4
	44nm,0.6s						
ECAL	Calabor	6.63	269	Pn	Pn	09 59 43.3	-1.3
	1.8nm,0.2s,SNR=5.0						
ECAL				Sn	Sn	10 00 55.0	-6.6
	9.3nm,0.2s,SNR=7.9						
ECAL	Calabor	6.63	269	Pn	Pn	09 59 43.3	-1.3
ECAL				Sn	Sn	10 00 55.9	-5.7
QUIF	Quistinic	6.65	327	ePn	Pn	09 59 44.7	-0.2
QUIF				eSn	Sn	10 00 55.8	-6.3
	27nm,0.6s						
QUIF	Quistinic	6.65	327	Pn	Pn	09 59 45.5	+0.6
QUIF				Sn	Sn	10 00 55.8	-6.3
	14nm,0.6s						
EADA	Adamuz	6.69	233	Pn	Pn	09 59 42.2	-3.1
	1.8nm,0.2s,SNR=8.2						
EADA				Sn	Sn	10 00 53.3	-10
	3.1nm,0.2s,SNR=7.9						
EADA				Lg		10 01 36.0	
	2.4nm,0.3s,SNR=7.9						
EADA	Adamuz	6.69	233	Pn	Pn	09 59 42.2	-3.1
EADA				Sn	Sn	10 00 53.9	-9.1
EADA				Lg		10 01 36.5	
SGMF	Saint Gilles	6.71	332	ePn	Pn	09 59 45.0	-0.6
SGMF				eSn	Sn	10 00 56.7	-6.7
SGMF				eSg	Sg	10 01 38.7	-8.5
	25nm,0.4s						
ERUA	La Rua	6.89	273	Pn	Pn	09 59 47.3	-1.0
	3.1nm,0.2s,SNR=7.9						
CDF	Champ du Feu	6.98	29	ePn	Pn	09 59 46.9	-2.5
CDF				ePg	Pg	10 00 16.9	-6.3
CDF				eSg	Sg	10 01 49.6	-6.5
	15nm,0.7s						
ROSF	Rostrenen	7.04	329	ePn	Pn	09 59 50.2	-0.1
ROSF				eSn	Sn	10 01 04.7	-7.0
	15nm,0.4s						
ROSF	Rostrenen	7.04	329	Pn	Pn	09 59 50.5	+0.2
ROSF				Sn	Sn	10 01 04.8	-6.9
	9.1nm,0.4s						
ELOB	Lobios	7.62	269	Pn	Pn	09 59 56.3	-2.2
	0.7nm,0.2s,SNR=4.0						
ELOB				Sn	Sn	10 01 17.8	-8.6
	3.7nm,0.3s,SNR=7.9						
BAIF	Baives	7.76	10	ePn	Pn	09 59 59.7	-0.7
BAIF				eSg	Sg	10 02 11.6	-11
	18nm,0.7s						
GIVF	Givet	7.89	13	ePn	Pn	10 00 01.1	-1.1
GIVF				eSg	Sg	10 02 16.4	-10
	59nm,1.0s						
EBAD	Badajoz	7.89	245	Pn	Pn	09 59 59.0	-3.2
	0.6nm,0.1s,SNR=7.9						
EBAD				Sn	Sn	10 01 23.5	-10
	2.5nm,0.2s,SNR=7.9						
EMIN	Mina Concepcio	8.22	238	Pn	P	10 00 03.5	-3.3
	0.5nm,0.2s,SNR=7.9						
EMIN				Sn	Sn	10 01 31.4	-10
	1.0nm,0.4s,SNR=7.9						
EMIN	Mina Concepcio	8.22	238	Pn	P	10 00 03.5	-3.3
EMIN				Sn	Sn	10 01 31.4	-10
EVO	Evora	8.68	247	ePn	P	10 00 10.1	-3.1
EVO				eSn	Sn	10 01 43.3	-9.4
EVO				eSg	Sg	10 02 37.6	-15
	22nm,0.8s						

LDG ***23*** *09:59:47.9±0.1, 42.34N×2.14E, h4^{km}, Md3.0/1, Ml3.2/17, Error ellipse: s-maj=2.5km s-min=1.7km az=163.0*

NEIC ***23*** *09:59:47.2, 42.34N×2.18E, h5^{km}, ML3.2(LDG), ML2.5(MRB), MN2.8(MDD), After MRB.*

MDD ***23*** *09:59:47.6±0.2, 42.34N×2.16E, h5^{km}±2^{km}, mbLg2.6/23, Error ellipse: s-maj=2.3km s-min=2.1km az=11.0, PRXIMO AftershockPLICA*

ISC 23 09:59:45.8±0.4**, 42.42N**±0.02×**2.18E**±0.02**, h9**^{km}±2^{km}**, n42, σ1^{s}40**/76**, 1C, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VALF	Valcebollere	0.12	261	P	Pg	09 59 50.0	+1.2
VALF				S	Sg	09 59 51.7	+1.0
CBRU	Bruguera	0.14	181	Pg	Pg	09 59 48.8	-0.2
CBRU				Lg		09 59 49.9	
	303nm,0.1s						
CBRU	Bruguera	0.14	181	Pg	Pg	09 59 48.8	-0.1
CBRU				Sg	Sg	09 59 49.9	-1.2
CLLI	Llivia	0.17	290	Pg	Pg	09 59 51.3	+1.8
CLLI				Lg		09 59 54.1	
	228nm,0.1s						
CLLI	Llivia	0.17	290	Pg	Pg	09 59 51.4	+1.9
CLLI				Sg	Sg	09 59 54.1	+2.2
EJON	La Jonquera	0.52	87	Pg	Pg	09 59 58.3	+1.9
	7.4nm,0.1s,SNR=7.9						
EJON				Lg		10 00 05.6	
	76nm,0.2s,SNR=7.9						
EJON	La Jonquera	0.52	87	Pg	Pg	09 59 58.3	+1.9
EJON				Lg		10 00 05.5	
CORG	Organya	0.67	254	Pg	Pg	09 59 59.4	+0.2
CORG	Organya	0.67	254	Pg	Pg	09 59 59.5	+0.2
EMIR	Miracle	0.70	224	⇑Pg	Pg	09 59 59.3	-0.6
	22nm,0.1s,SNR=18						
EMIR				Lg		10 00 08.7	
	101nm,0.1s,SNR=7.9						
CSOR	Sort	0.78	267	Pg	Pg	10 00 01.9	+0.5
CSOR				Lg		10 00 12.0	
	47nm,0.3s						
CSOR	Sort	0.78	267	Pg	Pg	10 00 01.9	+0.5
CSOR				Sg	Sg	10 00 12.0	+0.2
MTLF	Montolieu	0.92	2	ePg	Pg	10 00 06.3	+2.1
MTLF				ePn	Pn	10 00 07.5	+2.9
MTLF				eSg	Sg	10 00 19.7	+3.2
	84nm,0.2s						
MTLF	Montolieu	0.92	2	Pg	Pg	10 00 06.3	+2.1
MTLF				Lg		10 00 19.7	
	42nm,0.2s						
CAVN	Les Avellanes	1.19	244	Pg	Pg	10 00 08.6	-1.0
CAVN				Lg		10 00 24.7	
	210nm,0.2s						
CAVN	Les Avellanes	1.19	244	Pg	Pg	10 00 08.6	-1.0
CAVN				Sg	Sg	10 00 24.8	-0.8
EPOB	Poblet	1.35	218	Pg	Pg	10 00 11.2	-1.6
	23nm,0.1s,SNR=7.9						
EPOB				Lg		10 00 27.7	
	137nm,0.1s,SNR=7.9						
CGAR	Garraf	1.37	215	Pn	Pn	10 00 07.1	-4.0
CGAR				Sn	Sn	10 00 21.4	-8.1
	52nm,0.2s						
CGAR	Garraf	1.37	215	Pn	Pn	10 00 07.1	-4.0
CGAR				Sn	Sn	10 00 21.5	-8.0
EPF	Esparros	1.49	295	ePn	Pn	10 00 14.5	+1.7
EPF				ePg	Pg	10 00 16.2	+0.7
EPF				eSn	Sn	10 00 33.1	+0.7
EPF				eSg	Sg	10 00 36.0	+0.6
	44nm,0.3s						
EBR	Ebro Roquetas	2.04	219	eSN	Sn	10 00 48.4	+1.9
EBR				eS*	Sb	10 00 51.5	+3.5
LASF	Ste Croix	2.06	36	ePn	Pn	10 00 23.0	+2.1
LASF				ePg	Pg	10 00 26.9	0.0
LASF				eSn	Sn	10 00 44.8	-2.1
LASF				eSg	Sg	10 00 54.7	+0.4
	16nm,0.3s						
ETSF	Etsaut	2.08	284	ePg	Pg	10 00 26.3	-1.0
ETSF				eSn	Sn	10 00 46.5	-0.9
ETSF				eSg	Sg	10 00 53.7	-1.3
	46nm,0.3s						
ESAC	San Caprasio	2.10	251	Pg	Pg	10 00 25.7	-1.9
	44nm,0.3s,SNR=5.0						
ESAC				Lg		10 00 51.5	
	108nm,0.2s,SNR=4.0						
CAF	Calviac	2.50	358	ePn	Pn	10 00 28.8	+1.5
CAF				ePg	Pg	10 00 35.5	-0.3
CAF				eSn	Sn	10 00 59.6	+1.3
CAF				eSg	Sg	10 01 08.7	-0.5
	30nm,0.3s						
SJPF	Ste Jean	2.60	287	ePg	Pg	10 00 35.8	-1.9
SJPF				eSg	Sg	10 01 09.6	-2.9
	14nm,0.3s						
LFF	La Frestale	2.73	338	ePg	Pg	10 00 40.0	-0.2
LFF				eSg	Sg	10 01 15.6	-1.0
	54nm,0.3s						
EALK	Alkurruntz	2.83	288	Lg		10 01 20.1	
	21nm,0.4s,SNR=5.0						
EMOS	Mosqueruela	2.87	225	Pg	Pg	10 00 39.0	-4.0
	15nm,0.5s,SNR=5.0						
EMOS				Lg		10 01 15.6	
	14nm,0.4s,SNR=7.9						
RJF	Les Rejaudoux	2.92	351	ePn	Pn	10 00 34.6	+1.3
RJF				ePg	Pg	10 00 43.6	-0.5
RJF				eSn	Sn	10 01 08.7	-0.2
RJF				eSg	Sg	10 01 21.9	-1.2
	16nm,0.2s						
VIVF	Saint-Julien-l	3.03	36	ePn	Pn	10 00 35.6	+0.8
VIVF				ePg	Pg	10 00 44.3	-2.0
VIVF				eSn	Sn	10 01 11.7	+0.1
VIVF				eSg	Sg	10 01 25.6	-1.1
	15nm,0.3s						
LMR	La Mourre	3.31	73	ePn	Pn	10 00 39.9	+1.1
LMR				eSn	Sn	10 01 17.5	-1.1
	10.0nm,0.3s						
EIBI	Ibiza	3.45	191	Sn	Sn	10 01 17.4	-4.9
	2.0nm,0.1s,SNR=5.0						
FRF	La Foret Royal	3.47	69	ePn	Pn	10 00 42.4	+1.4
FRF				eSn	Sn	10 01 21.1	-1.5
	8.8nm,0.3s						
ETOR	Torete	3.56	245	Sn	Sn	10 01 25.1	+0.2
	2.8nm,0.1s,SNR=7.9						
ETOR				Lg		10 01 38.2	
	4.1nm,0.3s,SNR=7.9						
ORIF	Oris-en-Rattie	3.66	46	ePn	Pn	10 00 46.8	+3.0
TCF	Toulx Ste Croi	3.87	0	eSg	Sg	10 01 49.3	-5.2
	5.8nm,0.2s						
MBDF	Montbardon	4.05	54	ePn	Pn	10 00 50.8	+1.5
SBF	Sospel	4.11	68	ePn	Pn	10 00 51.5	+1.4
SBF				eSn	Sn	10 01 36.4	-2.4
	6.4nm,0.3s						
BGF	Bois d’Agland	4.16	6	eSg	Sg	10 02 00.3	-4.1
	45nm,0.4s						
MFF	Saint Martin d	4.50	339	ePg	Pg	10 01 12.4	-3.2
MFF				eSn	Sn	10 01 46.8	-2.0
MFF				eSg	Sg	10 02 09.9	-5.7
	11nm,0.6s						
PGF	Pioggiola	5.04	86	ePn	Pn	10 01 01.8	-1.6
PGF				eSn	Sn	10 01 56.0	-6.5
	2.8nm,0.2s						

NEIC ***23*** *10:04:59.2±1.7, 6.62S×147.49E, h66^{km}±13^{km}, mb4.4/7, Error ellipse: s-maj=18.1km s-min=15.3km az=88.0*

IDC ***23*** *10:05:01.4±4.0, 6.72S×147.59E, h91^{km}±39^{km}, mb3.9/7, mb1 4.0/9, mb1mx3.9/15, Error ellipse: s-maj=44.0km s-min=14.7km az=114.0*

ISC 23 10:04:58.5±1.9**, 6.7S**±0.1×**147.4E**±0.2**, h71**^{km}±13^{km}**, n25, σ0^{s}86**/26**, mb4.2**/11**, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WAU	Wau	0.96	224	eP	P	10 05 16.9	+0.2
PMG	Port Moresby	2.75	185	ePn	P	10 05 41.0	-0.3
PMG				eP		10 05 41.3	
CTA	Charters Tower	13.41	185	P	P	10 08 08.2	+1.2
	0.4nm,0.3s,baz=9.7,slow=15,SNR=8.8						
CTAO	Charters Tower	13.41	185	eP	P	10 08 08.5	+1.4
	9.7nm,1.1s						
KAKA	Kakadu	15.94	247	eP	P	10 08 43.6	+3.7
	9.2nm,0.8s						
WRAB	Tennant Creek	18.29	223	eP	P	10 09 07.5	-1.5
	15nm,1.0s						
WB2	Warramunga Arr	18.30	223	eP	P	10 09 08.6	-0.5
WRA	Warramunga Arr	18.31	223	P	P	10 09 08.4	-0.8
	0.6nm,0.3s,baz=52,slow=11,SNR=43						
ASAR	Alice Springs	21.31	216	P	P	10 09 41.5	+0.1
	4.4nm,0.6s,mb4.0,baz=52,slow=9.1,SNR=113						
ASAR				S	S	10 13 34.9	+6.1
	0.5nm,0.5s,baz=32,slow=22,SNR=4.4						
ASPA	Alice Springs	21.32	216	eP	P	10 09 41.7	+0.3
FITZ	Fitzroy Crossi	24.07	240	eP	P	10 10 09.5	+1.2
	8.4nm,0.6s,mb4.2						
FITZ	Fitzroy Crossi	24.07	240	P	P	10 10 09.6	+1.2
	13nm,0.6s,mb4.4,baz=44,slow=5.7,SNR=46						
STKA	Stephens Creek	25.68	191	eP	P	10 10 23.8	+0.1
	4.2nm,0.4s,mb4.2						
STKA	Stephens Creek	25.68	191	P	P	10 10 23.0	-0.7
	4.7nm,0.4s,mb4.2,baz=356,slow=10,SNR=14						
STKA	Stephens Creek	25.68	191	eP	P	10 10 22.9	-0.7
FORT	Forrest	30.08	215	eP	P	10 11 03.2	-0.3
	19nm,0.7s,mb4.8						
MBWA	Marble Bar	30.40	239	eP	P	10 11 06.0	-0.3
	4.8nm,0.7s,mb4.2						
KLBR	Kellerberrin	37.17	224	eP	P	10 12 04.4	-0.1
	5.8nm,0.5s,mb4.8						
NWAO	Narrogin (SRO)	38.31	223	P	P	10 12 13.8	-0.2
	4.8nm,0.7s,mb4.5,baz=48,slow=8.6,SNR=6.4						
NWAO	Narrogin (SRO)	38.31	223	P	P	10 12 13.8	-0.2
NWAO				eP		10 12 14.0	
MKAR	Makanchi Array	78.23	320	P	P	10 16 53.4	+1.2
	0.5nm,0.7s,mb3.4,baz=99,slow=8.6,SNR=4.6						
MKAR	Makanchi Array	78.23	320	P	P	10 16 53.4	+1.2
ZAL	Zalesovo	79.76	328	P	P	10 17 00.1	-0.3
	1.4nm,0.5s,mb4.1,baz=192,slow=6.4,SNR=3.4						
QSPA	South Pole Qui	83.33	180	eP	P	10 17 19.5	+1.1
	1.3nm,0.4s,mb4.1						
ILAR	Eielson Array	85.92	23	P	P	10 17 30.2	-1.3
	0.7nm,0.9s,mb3.6,baz=258,slow=4.5,SNR=5.4						

IDC ***23*** *10:08:24.7±0.5, 15.67S×177.26W, mb4.7/20, mb1 4.9/21, mb1mx4.9/23, ML4.8/1, MS5.7/14, Ms1 5.7/14, ms1mx5.6/15, Error ellipse: s-maj=25.8km s-min=12.6km az=140.0*

MOS ***23*** *10:08:26.0±1.3, 15.49S×177.24W, h10^{km}, mb5.4/34, MS5.7/15, Error ellipse: s-maj=13.9km s-min=8.2km az=61.6*

BJI ***23*** *10:08:28.7, 15.48S×177.82W, h5^{km}, mB5.6, mb5.1, Ms5.8, Msz5.7*

HRVD ***23*** *10:08:28.5±0.1, 15.45S×177.10W, h15^{km}, MW5.9/77, Centroid moment Tensor Solution. LP body waves: s66,c154;Mantle waves: s77,c185; Half duration: 2^{s}1 Moment tensor: Scale 10^{17}Nm; M$_{rr}$0.69±.07; M$_{\theta\theta}$-5.62±.08; M$_{\phi\phi}$4.92±.07; M$_{r\theta}$-1.12±.22; M$_{\theta\phi}$6.30±.06; M$_{\phi r}$0.71±.22; Best double couple: M$_0$8.31×10^{17} NP1:ϕ_s70°, δ83°,λ-5°. NP2:ϕ_s160°,δ85°,λ-173°. Principal axes: T 7.87, Plg1°, Azm295°; N .87, Plg82°, Azm195°; P -8.75, Plg8°, Azm25°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

SYO ***23*** *10:08:28.2, 15.47S×177.33W, h15^{km}, MB5.3, MS5.7*

NEIC ***23*** *10:08:28.5±0.2, 15.60S×177.28W, mb5.3/66, MS5.7/142, MW5.9, Error ellipse: s-maj=10.6km s-min=4.4km az=147.0, Moment Tensor Solution. s29 Moment tensor: Scale 10^{17}Nm; M$_{rr}$-0.39; M$_{\theta\theta}$-3.40; M$_{\phi\phi}$3.79; M$_{r\theta}$0.05; M$_{\theta\phi}$6.21; M$_{\phi r}$1.47; Best double couple: M$_0$7.3×10^{17} NP1: ϕ_s75°,δ79°,λ2°. NP2:ϕ_s345°,δ88°,λ169°. Principal axes: T 7.59, Plg9°, Azm300°; N -.53, Plg79°, Azm153°; P -7.06, Plg6°, Azm31°;*

CSEM ***23*** *10:08:30.9, 15.11S×177.27W, h33^{km}, mb5.5*

ISC 23 10:08:26.5±0.2**, 15.67S**±0.05×**177.25W**±0.05**, h17**^{km}**, h17**^{km}±1.4^{km}**:pP-P, n427, σ1^{s}17**/213**, mb5.2**/91**, MS5.7**/166**, 14C-5D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	16.69	245	eP	P	10 12 21.3	-0.1
NOUC	Port Laguerre	16.82	245	eP	P	10 12 26.8	+3.7
NOUC	Port Laguerre	16.82	245	eP	P	10 12 26.8	+3.7
RAR	Rarotonga	17.47	111	P	P	10 12 29.7	-1.5
	3.4nm,0.3s,baz=357,slow=7.1,SNR=2.9						
RAR				LR	LR	10 17 39.3	
	comp=Z,16µm,20.5s,baz=12,slow=32						
RAR				T		10 30 22.5	
	14nm,0.3s,baz=147,slow=15,SNR=4.1						
RAR	Rarotonga	17.47	111	P	P	10 12 27.3	-3.9
RAR				pmax	pmax		
	comp=Z,1µm,2.1s						
RAR	Rarotonga	17.47	111	P	P	10 12 27.3	-3.8
	comp=Z,1µm,2.2s						
URZ	Urewera	23.05	191	P	P	10 13 30.9	-1.2
	comp=Z,11nm,0.9s,mb4.3,baz=350,slow=22,SNR=3.2						
URZ				LR	LR	10 21 07.3	
	comp=Z,27µm,19.6s,MS5.7,baz=37,slow=33						
SNZO	South Karori	26.48	194	PFAKE		10 14 20.0	+15
SNZO				LR	LR		
	comp=Z,30µm,19.0s,MS5.9						
PPT	Papeete	26.57	98	eP	P	10 14 01.2	-4.7
	comp=Z,63nm,1.2s,mb5.0						
PPT				eL		10 19 30.3	
PPT				eR		10 20 32.3	
	comp=Z,41µm,26.2s,baz=262						
TBI	Tubuai	27.25	111	eL		10 20 01.0	
TBI				eR		10 20 56.2	
	comp=Z,47µm,28.8s,baz=286						
KWAJ	Kwajalein Atol	28.57	327	PFAKE		10 14 30.0	+6.0
KWAJ				LR	LR		
	comp=Z,5µm,21.0s,MS5.1						
RPZ	Rata Peaks	29.68	197	P	P	10 14 32.8	-0.9
	comp=Z,6.6nm,0.6s,mb4.6,baz=178,slow=22,SNR=3.9						
RPZ				LR	LR	10 24 47.1	
	comp=Z,16µm,21.6s,MS5.6,baz=36,slow=33						
CTA	Charters Tower	34.97	257	eP	P	10 15 20.5	+0.4
	comp=Z,22nm,0.9s,mb5.1						
CTA				eS	S	10 20 54.0	+3.9
CTA	Charters Tower	34.97	257	P	P	10 15 18.4	-1.7
	comp=Z,23nm,0.9s,mb5.1,baz=87,slow=9.7,SNR=9.7						
CTA				LR	LR	10 27 11.1	
	comp=Z,7µm,20.3s,MS5.4,baz=83,slow=32						
CTAO	Charters Tower	34.97	257	eP	P	10 15 19.0	-1.1
CTAO				pmax	pmax		
	comp=Z,40nm,1.0s,mb5.3						
CTAO	Charters Tower	34.97	257	eP	P	10 15 19.0	-1.2
	comp=Z,40nm,1.0s,mb5.3						
CTAO				e		10 15 37.0	
CTAO				LR	LR		
	comp=Z,7µm,20.0s,MS5.4						
PMG	Port Moresby	35.26	276	P	P	10 15 18.4	-4.3
	comp=Z,54nm,1.2s,mb5.3						
PMG				LR	LR		
	comp=Z,14µm,22.0s,MS5.7						
CNB	Canberra Magne	35.68	230	eP	P	10 15 26.5	+0.4
	comp=Z,35nm,0.8s,mb5.3						
TOO	Toolangi	39.45	229	eP	P	10 15 58.6	+0.9
	comp=Z,31nm,1.4s,mb4.8						
TOO				eS	S	10 22 03.1	+4.6
RKT	Rikitea	40.45	107	eL		10 25 52.2	
RKT				eR		10 27 02.3	
	comp=Z,25µm,27.5s,baz=276						
TAU	Tasmania Unive	40.64	221	P	P	10 16 11.5	+4.1
	comp=Z,104nm,1.6s,mb5.2						
TAU				LR	LR		
	comp=Z,3µm,22.0s,MS5.1						
STKA	Stephens Creek	40.70	239	eP	P	10 16 07.4	-0.6
	comp=Z,61nm,1.0s,mb5.2						
STKA				eS	S	10 22 20.3	+3.0
STKA	Stephens Creek	40.70	239	P	P	10 16 07.3	-0.8
	comp=Z,60nm,1.0s,mb5.2,baz=62,slow=6.1,SNR=18						
STKA				LR	LR	10 31 31.7	
	comp=Z,10µm,19.3s,MS5.7,baz=70,slow=34						
POHA	Pohakuloa	41.17	32	PFAKE		10 16 20.0	+8.0
POHA				LR	LR		
	comp=Z,7µm,19.0s,MS5.5						
KIP	Kipapa	41.41	28	P	P	10 16 12.2	-1.7
	comp=Z,78nm,1.1s,mb5.2						
KIP				LR	LR		
	comp=Z,12µm,21.0s,MS5.7						
MIDW	Midway	43.63	360	PFAKE		10 16 40.0	+7.9
MIDW				LR	LR		
	comp=Z,6µm,19.0s,MS5.5						
PTCN	Pitcairn Islan	44.99	110	PFAKE		10 17 00.0	+17
PTCN				LR	LR		
	comp=Z,8µm,21.0s,MS5.6						
WB2	Warramunga Arr	46.16	257	eP	P	10 16 50.8	-1.6
WB2				eS	S	10 23 34.0	-2.9
WRAB	Tennant Creek	46.16	257	eP	P	10 16 50.6	-1.8
	comp=Z,109nm,1.6s,mb5.5						
WRAB				LR	LR		
	comp=Z,3µm,22.0s,MS5.1						
WRA	Warramunga Arr	46.17	257	P	P	10 16 49.8	-2.7
	comp=Z,8.3nm,1.0s,mb4.6,baz=89,slow=7.2,SNR=24						
WRA				PP	PP	10 18 36.8	-4.3
	comp=Z,5.1nm,1.2s,baz=93,slow=9.6,SNR=4.2						
WRA				LR	LR	10 33 39.0	
	comp=Z,5µm,21.8s,MS5.5,baz=100,slow=33						
ASAR	Alice Springs	46.50	252	P	P	10 16 53.3	-1.8
	comp=Z,27nm,0.6s,mb5.3,baz=85,slow=8.1,SNR=213						
ASAR				LR	LR	10 34 43.5	
	comp=Z,7µm,19.4s,MS5.6,baz=352,slow=34						
ASPA	Alice Springs	46.50	252	eP	P	10 16 53.4	-1.7
GUMO	Guam	47.42	306	P	P	10 17 01.3	-1.2
	comp=Z,301nm,1.5s,mb6.0						
GUMO				LR	LR		
	comp=Z,4µm,20.0s,MS5.4						
KAKA	Kakadu	48.82	267	eP	P	10 17 16.6	+3.3
	comp=Z,42nm,0.6s,mb5.6						
FORT	Forrest	51.99	243	eP	P	10 17 36.1	-1.2
	comp=Z,107nm,1.0s,mb5.7						
FORT				ePCP	PcP	10 18 51.6	+1.8
FITZ	Fitzroy Crossi	54.52	259	eP	P	10 17 56.4	+0.2
	comp=Z,19nm,1.5s,mb4.9						
FITZ	Fitzroy Crossi	54.52	259	P	P	10 17 55.6	-0.6
	comp=Z,8.6nm,0.8s,mb4.8,baz=124,slow=6.1,SNR=11						
DRV	Dumont d’Urvil	58.13	199	P	P	10 18 20.0	-1.4
DRV				SP	SP	10 26 27.0	-6.0
DRV				R		10 36 00.0	
MBWA	Marble Bar	59.72	254	eP	P	10 18 30.5	-2.5
	comp=Z,125nm,1.8s,mb5.6						
MBWA				LR	LR		
	comp=Z,5µm,20.0s,MS5.7						
KLBR	Kellerberrin	60.83	242	eP	P	10 18 38.2	-2.3
	comp=Z,29nm,0.9s,mb5.4						
NWAO	Narrogin (SRO)	61.25	241	P	P	10 18 41.9	-1.5
	comp=Z,5.7nm,0.6s,mb4.9,baz=72,slow=9.6,SNR=3.7						
NWAO	Narrogin (SRO)	61.25	241	eP	P	10 18 42.0	-1.4
	comp=Z,40nm,1.4s,mb5.4						
NWAO				LR	LR		
	comp=Z,6µm,20.0s,MS5.7						
MUN	Mundaring	62.14	242	eP	P	10 18 50.8	+1.4
	comp=Z,10nm,0.8s,mb5.0						
SBA	Scott Base	62.71	184	eP	P	10 18 54.3	+1.7
	comp=Z,32nm,1.2s,mb5.3						

SBA				LR	LR		
	comp=Z,3µm,19.0s,MS5.4						
RPN	**Rapa Nui**	**63.60**	**113**	PFAKE		10 19 10.0	+11
RPN				LR	LR		
	comp=Z,1µm,20.0s,MS5.1						
MAJO	**Matsushiro**	**66.81**	**322**	*e*P	**P**	**10 19 18.3**	**-1.4**
	comp=Z,16nm,1.0s,mb5.0						
MAJO				LR	LR		
	comp=Z,4µm,22.0s,MS5.6						
MAT	**Matsushiro**	**66.81**	**322**	P	**P**	**10 19 19.2**	**-0.5**
MAT				S	S	10 28 09.0	-0.8
MAT	**Matsushiro**	**66.81**	**322**	*e*P	**P**	**10 19 18.0**	**-1.7**
	comp=Z,42nm,1.5s,mb5.2						
MAT				*e*S	S	10 28 10.0	+0.2
MAT				LR	LR		
	comp=Z,3µm,22.0s,MS5.5						
ERM	**Erimo**	**68.03**	**329**	PFAKE		10 19 40.0	+13
ERM				LR	LR		
	comp=Z,62nm,22.0s						
SMY	**Shemya**	**68.53**	**354**	PFAKE		10 19 40.0	+10
SMY				LR	LR		
	comp=Z,5µm,19.0s,MS5.8						
FX1	**Attu Island--F**	**68.77**	**354**	P	**P**	**10 19 28.4**	**-3.2**
	comp=Z,36nm,1.1s,mb5.2,baz=140,slow=7.9,SNR=3.7						
SKR	**Severo-Kuril's**	**70.08**	**342**	*e*P	**P**	**10 19 37.0**	**-2.7**
SKR				*e*		10 19 55.0	
SKR				*e*		10 22 16.0	
SKR				*e*S	S	10 28 50.0	+1.5
SKR				*e*		10 29 28.0	
SKR				*e*SSS	SSS	10 36 30.0	+5.1
SKR				pmax	pmax		
	comp=Z,1µm,6.0s						
SKR				pmax	pmax		
	comp=N,1µm,4.0s						
SKR				pmax	pmax		
	comp=E,1µm,4.0s						
SKR				smax			
	comp=N,2µm,12.0s						
SKR				smax			
	comp=E,1µm,12.0s						
SKR				MLR	MLR		
	comp=N,2µm,18.0s,MS5.6						
SKR				MLR	MLR		
	comp=E,2µm,18.0s,MS5.6						
SKR				MLR	MLR		
	comp=Z,4µm,18.0s,MS5.7						
PET	**Petropavlovsk**	**71.50**	**345**	*e*P	**P**	**10 19 50.2**	**+1.9**
PET				*e*		10 20 09.0	
PET				*e*S	S	10 29 05.9	+1.0
PET				*e*PS	PS	10 29 36.2	-0.3
PET				*e*SS	SS	10 33 40.1	-1.9
PET				*e*SSS	SSS	10 36 51.8	+2.3
PET				pmax	pmax		
	comp=Z,260nm,9.1s						
PET				pmax	pmax		
	comp=Z,579nm,5.3s						
PET				pmax	pmax		
	comp=Z,387nm,6.5s						
PET				smax			
	comp=E,1µm,10.1s						
PET				smax			
	comp=E,2µm,14.4s						
PET				smax			
	comp=N,647nm,12.2s						
PET				MLR	MLR		
	comp=Z,2µm,18.0s,MS5.5						
PET				MLR	MLR		
	comp=Z,2µm,14.0s						
PET	**Petropavlovsk**	**71.50**	**345**	PFAKE		10 20 00.0	+12
PET				LR	LR		
	comp=Z,3µm,22.0s,MS5.5						
YSS	**Yuzh-Sakhalins**	**71.94**	**332**	*e*P	**P**	**10 19 49.0**	**-2.1**
YSS				*e*		10 22 33.0	
YSS				*e*S	S	10 29 06.0	-4.1
YSS				*e*PPS	PPS	10 29 36.0	-20
YSS				*e*SS	SS	10 33 49.0	+0.3
YSS				pmax	pmax		
	comp=Z,50nm,1.0s,mb5.4						
YSS				pmax	pmax		
	comp=Z,1µm,6.0s						
YSS				MLR	MLR		
	comp=Z,2µm,18.0s,MS5.5						
YSS				MLR	MLR		
	comp=N,2µm,20.0s,MS5.5						
YSS				MLR	MLR		
	comp=E,2µm,17.0s,MS5.5						
YSS	**Yuzh-Sakhalins**	**71.94**	**332**	*e*P	**P**	**10 19 50.1**	**-1.0**
	comp=E,58nm,1.1s,mb5.4						
YSS				LR	LR		
	comp=Z,4µm,20.0s,MS5.7						
TATO	**Taipei**	**72.08**	**303**	PFAKE		10 20 00.0	+7.7
TATO				LR	LR		
	comp=Z,5µm,20.0s,MS5.8						
SAO	**San Andreas Ge**	**74.05**	**44**	*e*P	**P**	**10 20 03.0**	**-0.6**
	comp=Z,16nm,1.0s,mb4.9						
SAO				LR	LR		
	comp=Z,3µm,21.0s,MS5.5						
HOPS	**Hopland**	**74.27**	**41**	PFAKE		10 20 20.0	+15
HOPS				LR	LR		
	comp=Z,9µm,20.0s,MS6.0						
QSPA	**South Pole Qui**	**74.37**	**180**	*e*P	**P**	**10 20 09.0**	**+4.3**
	comp=Z,45nm,1.1s,mb5.3						
QSPA				LR	LR		
	comp=Z,3µm,20.9s,MS5.5						
INCN	**Inchon**	**74.66**	**317**	PFAKE		10 20 20.0	+13
INCN				LR	LR		
	comp=Z,5µm,22.0s,MS5.8						
VLA	**Vladivostok**	**74.79**	**324**	⇑*i*P	**P**	**10 20 09.0**	**+1.2**
VLA				*i*		10 20 23.0	
VLA				*e*S	S	10 29 49.0	+6.8
VLA				*e*		10 30 13.0	
VLA				*e*		10 30 31.0	
VLA				pmax	pmax		
	comp=E,300nm,8.0s						
VLA				pmax	pmax		
	comp=Z,600nm,8.0s						
VLA				pmax	pmax		
	comp=N,500nm,7.0s						
VLA				pmax	pmax		
	comp=Z,500nm,5.8s						
VLA				smax			
	comp=N,1µm,10.0s						
VLA				smax			
	comp=E,900nm,11.0s						
MWC	**Mount Wilson**	**75.02**	**47**	*e*P	**P**	**10 20 09.7**	**+0.4**
SSE	**Sheshan**	**75.20**	**309**	⇑P	**P**	**10 20 09.5**	**-0.9**
SSE				AP	pP	10 20 16.5	+0.8
SSE				PP	PP	10 22 59.5	-1.5
SSE				S	S	10 29 47.1	+0.1
SSE				SCS	ScS	10 30 20.6	+1.6
SSE				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.3						
SSE				AMB	AMB		
	comp=Z,192nm,11.4s						
SSE				LR	LR		
	comp=N,1µm,33.2s,MS5.3						
SSE				LR	LR		
	comp=E,2µm,33.2s,MS5.3						
SSE				LR	LR		
	comp=Z,3µm,36.3s,MS5.3						
SSE	**Sheshan**	**75.20**	**309**	⇑P	**P**	**10 20 09.5**	**-0.9**
	comp=Z,30nm,0.8s,mb5.3						
SSE				pP	pP	10 20 16.5	+0.8
SSE				PP	PP	10 22 59.5	-1.5
SSE				sS		10 29 28.4	
SSE				S	S	10 29 47.1	+0.1
SSE				ScS	ScS	10 30 20.6	+1.6
SSE				SS	SS	10 34 40.9	+1.9
SSE				LR	LR		
	comp=Z,3µm,36.3s,MS5.3						
CMB	**Columbia Colle**	**75.45**	**43**	*e*P	**P**	**10 20 11.4**	**-0.3**
	comp=Z,22nm,1.2s,mb5.0						
CMB				LR	LR		
	comp=Z,3µm,19.0s,MS5.7						
OHCM	**Honcut**	**75.47**	**41**	*e*P	**P**	**10 20 12.1**	**+0.4**
WDC	**Whiskeytown Da**	**75.52**	**40**	*e*P	**P**	**10 20 08.7**	**-3.4**
	comp=Z,21nm,1.2s,mb4.9						
WDC				LR	LR		
	comp=Z,7µm,20.0s,MS6.0						
MIR	**Mirnyy**	**75.65**	**204**	⇓*e*P	**P**	**10 20 13.0**	**+0.8**
MIR				*e*S	S	10 29 56.0	+4.7
MIR				*e*PS	PS	10 30 35.0	+4.3
MIR				pmax	pmax		
	comp=Z,55nm,1.3s,mb5.3						
MIR				MLR	MLR		
	comp=N,1µm,15.0s,MS5.6						
MIR				MLR	MLR		
	comp=E,2µm,15.0s,MS5.6						
MIR				MLR	MLR		
	comp=Z,4µm,15.0s,MS5.9						
PFO	**Pinyon Flat Ob**	**75.85**	**49**	PFAKE		10 20 30.0	+16
PFO				LR	LR		
	comp=Z,1µm,20.0s,MS5.3						
KDAK	**Kodiak Island**	**75.98**	**13**	*e*P	**P**	**10 20 14.4**	**+0.2**
	comp=Z,144nm,1.6s,mb5.7						
KDAK				LR	LR		
	comp=Z,2µm,21.0s,MS5.3						
YBH	**Yreka Blue Hor**	**76.10**	**39**	P	**P**	**10 20 14.8**	**-0.4**
	comp=Z,15nm,1.1s,mb4.8,baz=181,slow=1.3,SNR=17						
YBH	**Yreka Blue Hor**	**76.10**	**39**	*e*P	**P**	**10 20 14.5**	**-0.8**
	comp=Z,25nm,1.1s,mb5.1						
YBH				LR	LR		
	comp=Z,7µm,21.0s,MS6.0						
OMM	**Old Mammoth Mi**	**76.16**	**44**	*e*P	**P**	**10 20 14.2**	**-1.5**
MTUM	**Tungsten Hills**	**76.30**	**44**	*e*P	**P**	**10 20 15.6**	**-0.9**
DAC	**Darwin (Calif)**	**76.40**	**46**	*e*P	**P**	**10 20 17.2**	**+0.1**
	comp=Z,18nm,1.3s,mb4.8						
DAC				LR	LR		
	comp=Z,5µm,21.0s,MS5.8						
HUMO	**Hull Mountain**	**76.47**	**38**	*e*P	**P**	**10 20 18.1**	**+0.8**
	comp=Z,35nm,1.4s,mb5.1						
HUMO				LR	LR		
	comp=Z,7µm,22.0s,MS5.9						
BEKR	**Beckwourth**	**76.49**	**42**	*e*P	**P**	**10 20 17.4**	**-0.1**
	comp=Z,32nm,1.3s,mb5.1						
WCN	**Washoe City**	**76.56**	**42**	*e*P	**P**	**10 20 17.5**	**-0.4**
WCN				pmax	pmax		
	comp=Z,23nm,1.1s,mb5.0						
WCN	**Washoe City**	**76.56**	**42**	*e*P	**P**	**10 20 17.5**	**-0.4**
	comp=Z,23nm,1.1s,mb5.0						
MDJ	**Mudanjiang**	**77.02**	**324**	*e*P	**P**	**10 20 21.1**	**+0.7**
	comp=Z,108nm,1.7s,mb5.5						
MDJ				LR	LR		
	comp=Z,2µm,20.0s,MS5.4						
NVAR	**Mina Array Bea**	**77.05**	**44**	P	**P**	**10 20 19.8**	**-0.9**
	comp=Z,6.7nm,0.8s,mb4.6,baz=222,slow=5.4,SNR=46						
NVAR				LR	LR	10 46 05.0	
	comp=Z,3µm,21.6s,MS5.6,baz=275,slow=29						
NVAR	**Mina Array Bea**	**77.05**	**44**	P	**P**	**10 20 19.8**	**-0.9**
NVAR				LR	LR	10 46 05.0	
MNV	**Mina**	**77.15**	**44**	*e*P	**P**	**10 20 20.9**	**-0.3**
	comp=Z,57nm,1.4s,mb5.3						
MNV				LR	LR		
	comp=Z,3µm,22.0s,MS5.6						
NJ2	**Nanjing**	**77.40**	**309**	*e*P	**P**	**10 20 24.3**	**+1.6**
NJ2				AP	pP	10 20 29.0	+0.9
NJ2				XP	sP	10 20 31.3	+1.4
NJ2				PP	PP	10 23 20.4	+1.4
NJ2				S	S	10 30 11.0	-0.1
NJ2				XS		10 30 18.0	
NJ2				PS	PS	10 30 53.0	-0.1
NJ2				AMB	AMB		
	comp=Z,30nm,1.2s,mb5.1						
NJ2				LR	LR		
	comp=N,6µm,18.0s						
NJ2				LR	LR		
	comp=E,7µm,26.7s						
NJ2				LR	LR		
	comp=Z,8µm,25.6s						
COR	**Corvallis**	**77.45**	**36**	PFAKE		10 20 30.0	+7.3
COR				LR	LR		
	comp=Z,7µm,22.0s,MS5.9						
TPH	**Tonopah**	**77.58**	**44**	*e*P	**P**	**10 20 23.5**	**-0.1**
	comp=Z,31nm,1.3s,mb5.1						
TPH				LR	LR		
	comp=Z,3µm,22.0s,MS5.6						
MOD	**Modoc**	**77.67**	**40**	*e*P	**P**	**10 20 22.9**	**-1.1**
	comp=Z,18nm,1.1s,mb4.9						
MOD				LR	LR		
	comp=Z,7µm,20.0s,MS6.0						
TPNV	**Topopah Spring**	**77.67**	**46**	*e*P	**P**	**10 20 22.9**	**-1.2**
	comp=Z,51nm,1.7s,mb5.2						
TPNV				LR	LR		
	comp=Z,5µm,19.0s,MS5.9						
NEN	**Nelson**	**78.01**	**48**	*e*P	**P**	**10 20 25.7**	**-0.3**
NEN				*e*PP	PP	10 23 22.6	-1.9
SSOR	**Sweet Springs**	**78.09**	**36**	*e*P	**P**	**10 20 28.4**	**+2.2**
RSO	**Redoubt South**	**78.39**	**12**	*e*P	**P**	**10 20 27.0**	**-0.5**
BMW	**Boistfort Moun**	**78.63**	**35**	*e*P	**P**	**10 20 27.9**	**-1.3**
DL2	**Dalian**	**78.75**	**316**	P	**P**	**10 20 32.6**	**+2.6**
DL2				AMB	AMB		
	comp=Z,390nm,5.0s						
DL2				LR	LR		
	comp=N,2µm,16.2s						
DL2				LR	LR		
	comp=Z,2µm,22.2s						
KLR	**Kul'dur**	**78.77**	**329**	*e*P	**P**	**10 20 30.0**	**+0.1**
KLR				*e*S	S	10 30 27.0	+1.5
KLR				*e*SS	SS	10 35 35.5	+2.4
KLR				pmax	pmax		
	comp=Z,600nm,7.0s						
KLR				smax			
	comp=N,3µm,10.0s						
KLR				smax			
	comp=E,1µm,10.0s						
OCWA	**Octopus Mounta**	**78.90**	**33**	PFAKE		10 20 40.0	+9.4
OCWA				LR	LR		
	comp=Z,4µm,22.0s,MS5.7						
VFP	**Flag Point**	**78.93**	**36**	P	**P**	**10 20 31.3**	**+0.5**
CN2	**Changchun**	**78.95**	**322**	*e*P	**P**	**10 20 31.0**	**0.0**
CN2				*e*XP	sP	10 20 38.0	-0.2
CN2				*e*S	S	10 30 27.9	+0.4
CN2				AMB	AMB		
	comp=Z,20nm,1.3s,mb4.9						
CN2				LR	LR		
	comp=N,2µm,16.0s,MS5.5						
CN2				LR	LR		
	comp=E,1µm,16.0s,MS5.5						
CN2				LR	LR		
	comp=Z,2µm,19.0s,MS5.5						
SLKM	**Skilak Lake**	**78.97**	**13**	*e*P	**P**	**10 20 30.3**	**-0.4**
CPW	**Capitol Peak**	**78.98**	**34**	P	**P**	**10 20 32.2**	**+1.1**
WVOR	**Wild Horse Val**	**78.99**	**40**	*e*P	**P**	**10 20 31.1**	**-0.2**
	comp=Z,25nm,1.3s,mb5.0						
WVOR				LR	LR		
	comp=Z,11µm,20.0s,MS6.2						
SHW	**Mount Saint He**	**79.01**	**35**	*e*P	**P**	**10 20 27.8**	**-3.5**
CROR	**Criterion Ridg**	**79.01**	**37**	P	**P**	**10 20 31.9**	**+0.6**
SPU	**Mount Spurr**	**79.19**	**12**	*e*P	**P**	**10 20 30.5**	**-1.4**
SPU				*e*		10 20 42.0	
MA2	**Magadan**	**79.35**	**344**	PFAKE		10 20 40.0	+7.2
MA2				LR	LR		
	comp=Z,2µm,21.0s,MS5.5						
HDW	**Hoodsport**	**79.44**	**34**	P	**P**	**10 20 33.9**	**+0.4**
VGB	**Gordon Butte**	**79.44**	**37**	P	**P**	**10 20 25.3**	**-8.3**
TUC	**Tucson**	**79.46**	**52**	*e*P	**P**	**10 20 33.8**	**-0.2**
	comp=Z,30nm,1.4s,mb5.0						
TUC				*e*PP	PP	10 23 38.0	+1.9
TUC				LR	LR		
	comp=Z,5µm,21.0s,MS5.8						
GNW	**Green Mountain**	**79.51**	**34**	*e*P	**P**	**10 20 33.9**	**-0.1**
FIB	**Fire Island**	**79.57**	**13**	PFAKE		10 20 50.0	+16
FIB				LR	LR		
	comp=Z,2µm,21.0s,MS5.5						
LON	**Longmire**	**79.58**	**35**	*e*P	**P**	**10 20 34.3**	**0.0**
QIZ	**Qiongzhong**	**79.58**	**293**	P	**P**	**10 20 35.4**	**+0.5**
QIZ				XP	sP	10 20 41.8	-0.2
QIZ				S	S	10 30 35.9	+1.3
QIZ				PS	PS	10 31 18.1	-3.0
QIZ				AMB	AMB		
	comp=Z,224nm,10.9s						
QIZ				LR	LR		
	comp=N,2µm,22.6s,MS5.6						
QIZ				LR	LR		
	comp=E,3µm,23.3s,MS5.6						
QIZ				LR	LR		
	comp=Z,5µm,23.3s,MS5.8						
QIZ	**Qiongzhong**	**79.58**	**293**	*e*P	**P**	**10 20 39.1**	**+4.2**
	comp=Z,43nm,1.5s,mb5.2						
QIZ				LR	LR		
	comp=Z,5µm,22.0s,MS5.8						
FMW	**Mount Fremont**	**79.76**	**35**	P	**P**	**10 20 35.9**	**+0.6**
PGC	**Sidney**	**79.84**	**33**	*e*P	**P**	**10 20 36.1**	**+0.4**
	comp=Z,164nm,1.6s,mb5.7						
ARUT	**Antelope Range**	**80.03**	**46**	*e*P	**P**	**10 20 36.5**	**-0.5**
PMR	**Palmer**	**80.18**	**13**	*e*P	**P**	**10 20 36.5**	**-0.7**
PMR				pmax	pmax		
	comp=Z,150nm,1.8s,mb5.6						
PMR	**Palmer**	**80.18**	**13**	*e*P	**P**	**10 20 39.5**	**+2.3**
PMR				LR	LR		
	comp=Z,2µm,17.0s,MS5.6						
WHN	**Wuhan**	**80.20**	**306**	*e*P	**P**	**10 20 37.3**	**-0.7**
WHN				XP	sP	10 20 53.0	+7.8
WHN				S	S	10 30 46.0	+5.1
WHN				PS	PS	10 31 30.3	+1.7
WHN				AMB	AMB		
	comp=Z,760nm,11.8s						
WHN				LR	LR		
	comp=Z,4µm,18.3s,MS5.8						
ELK	**Elko**	**80.27**	**43**	*e*P	**P**	**10 20 38.0**	**-0.2**
	comp=Z,9.8nm,1.1s,mb4.7						
ELK				LR	LR		
	comp=Z,4µm,22.0s,MS5.8						
EBG	**Ellensburg**	**80.36**	**36**	P	**P**	**10 20 39.3**	**+0.7**
JCW	**Jim Creek**	**80.37**	**34**	P	**P**	**10 20 39.3**	**+0.7**
SIT	**Sitka**	**80.40**	**22**	PFAKE		10 20 50.0	+12
SIT				LR	LR		
	comp=Z,14µm,20.0s,MS6.3						
SML	**Sawmill**	**80.55**	**13**	P	**P**	**10 20 37.1**	**-2.1**
DIV	**Divide**	**80.56**	**15**	*e*P	**P**	**10 20 39.4**	**+0.1**
	comp=Z,227nm,1.5s,mb5.9						
DIV				LR	LR		
	comp=Z,10µm,21.0s,MS6.1						
HAWA	**Hanford**	**80.66**	**36**	*e*P	**P**	**10 20 39.1**	**-1.0**
	comp=Z,4.8nm,1.5s,mb4.2						
HAWA				LR	LR		
	comp=Z,428nm,20.0s,MS4.8						
RPW	**Rockport**	**80.75**	**34**	*e*P	**P**	**10 20 40.5**	**0.0**
ETW	**Entiat**	**80.90**	**35**	P	**P**	**10 20 41.5**	**+0.1**
LNOR	**Lincton Mounta**	**81.08**	**37**	*e*P	**P**	**10 20 41.5**	**-0.9**
WTV	**Waterville**	**81.16**	**35**	P	**P**	**10 20 43.2**	**+0.5**
NLW	**Nelson Butte**	**81.17**	**35**	*e*P	**P**	**10 20 41.3**	**-1.4**
MSU	**Marysvale**	**81.25**	**46**	*e*P	**P**	**10 20 44.9**	**+1.5**
TNA	**Tin City**	**81.29**	**4**	PFAKE		10 20 50.0	+7.0
TNA				LR	LR		
	comp=Z,4µm,21.0s,MS5.8						
DUG	**Dugway**	**81.61**	**44**	*e*P	**P**	**10 20 44.8**	**-0.4**
	comp=Z,41nm,1.7s,mb5.1						
DUG				LR	LR		
	comp=Z,3µm,22.0s,MS5.5						
SEY	**Seymchan**	**81.86**	**346**	*e*P	**P**	**10 20 46.5**	**+0.5**
SEY					pP	10 20 52.3	+0.9
SEY				pmax	pmax		
	comp=Z,20nm,1.1s,mb5.0						
SEY				MLR	MLR		
	comp=Z,5µm,21.0s,MS5.8						
SEY				MLR	MLR		
	comp=E,2µm,19.0s						
NLU	**North Lily Min**	**82.00**	**45**	*e*P	**P**	**10 20 48.4**	**+1.2**
MCK	**McKinley**	**82.13**	**12**	*e*P	**P**	**10 20 46.4**	**-1.0**
	comp=E,22nm,1.3s,mb4.9						
MCK				LR	LR		
	comp=Z,4µm,20.0s,MS5.7						
HLID	**Hailey**	**82.22**	**41**	*e*P	**P**	**10 20 48.3**	**0.0**
	comp=Z,20nm,1.1s,mb5.0						
HLID				*e*PP	PP	10 23 50.8	-8.1
HLID				LR	LR		
	comp=Z,4µm,20.0s,MS5.8						
DPW	**Davenport**	**82.23**	**36**	*e*P	**P**	**10 20 46.8**	**-1.5**
NOQ	**North Oquirrh**	**82.30**	**44**	*e*P	**P**	**10 20 48.0**	**-0.7**
HVU	**Hansel Valley**	**82.40**	**43**	*e*P	**P**	**10 20 47.9**	**-1.4**
HVU				*e*		10 23 53.8	
CTU	**Camp Tracy**	**82.56**	**44**	*e*P	**P**	**10 20 51.2**	**+1.0**
SRU	**San Rafael**	**82.67**	**46**	*e*P	**P**	**10 20 50.1**	**-0.7**
JLU	**Jordanelle**	**82.72**	**44**	*e*P	**P**	**10 20 50.0**	**-1.0**
DAU	**Daniels Canyon**	**82.77**	**45**	*e*P	**P**	**10 20 52.1**	**+0.9**
BJT	**Baijiatuau**	**82.99**	**315**	*e*P	**P**	**10 20 52.3**	**-0.1**
	comp=Z,130nm,1.8s,mb5.7						
BJT				LR	LR		
	comp=Z,4µm,22.0s,MS5.8						
TCUT	**Toone Canyon**	**82.99**	**44**	*e*P	**P**	**10 20 52.4**	**0.0**
BJI	**Beijing**	**82.99**	**315**	*e*P	**P**	**10 20 53.9**	**+1.5**
BJI				AMB	AMB		
	comp=Z,14nm,1.2s,mb4.9						
BJI				LR	LR		
	comp=N,2µm,18.0s,MS5.7						
BJI				LR	LR		
	comp=E,2µm,22.7s,MS5.7						
BJI				LR	LR		
	comp=Z,4µm,24.3s,MS5.7						
BJI	**Beijing**	**82.99**	**315**	*e*P	**P**	**10 20 53.9**	**+1.5**
	comp=Z,14nm,1.2s,mb4.9						
BJI				SKS	SKS	10 31 18.9	+3.3
BJI				S	S	10 31 32.3	+23
BJI				SS	SS	10 36 43.6	+7.0
BJI				LR	LR		
	comp=Z,4µm,24.3s,MS5.7						
NEW	**Newport**	**83.06**	**36**	P	**P**	**10 20 52.4**	**-0.1**
	comp=Z,1.9nm,0.5s,mb4.4,baz=246,slow=5.4,SNR=5.0						
NEW	**Newport**	**83.06**	**36**	P	**P**	**10 20 52.4**	**-0.1**
NEW				LR	LR		
	comp=Z,4µm,22.0s,MS5.8						
HWUT	**Hardware Ranch**	**83.11**	**44**	*e*P	**P**	**10 20 53.1**	**+0.1**
	comp=Z,44nm,1.6s,mb5.2						
HWUT				*e*PP	PP	10 24 00.6	-5.5
HWUT				LR	LR		
	comp=Z,4µm,22.0s,MS5.8						
LENM	**Lemitar**	**83.13**	**52**	*e*P	**P**	**10 20 53.0**	**-0.2**
IPM	**Ipoh**	**83.29**	**277**	⇑*e*P	**P**	**10 20 54.2**	**-0.2**
DLBC	**Dease Lake**	**83.35**	**23**	P	**P**	**10 20 53.8**	**0.0**
	comp=Z,8.2nm,1.1s,mb4.7,baz=133,slow=3.9,SNR=5.7						
COLA	**College**	**83.36**	**12**	*e*P	**P**	**10 20 51.4**	**-2.4**
COLA				pmax	pmax		
	comp=Z,160nm,1.7s,mb5.8						
COLA	**College**	**83.36**	**12**	*e*P	**P**	**10 20 53.8**	**0.0**
COLA				LR	LR		
	comp=Z,6µm,19.0s,MS6.0						
BNM	**Barren Site**	**83.39**	**52**	*e*P	**P**	**10 20 54.9**	**+0.4**
PV10	**Paradox Valley**	**83.39**	**47**	*e*P	**P**	**10 20 55.5**	**+1.0**
IMA	**Indian Mountai**	**83.39**	**9**	*e*P	**P**	**10 20 56.9**	**+3.0**
LPM	**Los Pinos Moun**	**83.45**	**52**	*e*P	**P**	**10 20 54.3**	**-0.6**
ILAR	**Eielson Array**	**83.47**	**13**	P	**P**	**10 20 52.6**	**-1.7**
	comp=Z,11nm,1.1s,mb4.8,baz=229,slow=6.1,SNR=15						
PV01	**Paradox Valley**	**83.62**	**48**	*e*P	**P**	**10 20 56.5**	**+0.8**
MCMT	**McKenzie Canyo**	**83.82**	**40**	*e*P	**P**	**10 20 57.3**	**+0.8**
ANMO	**Albuquerque**	**83.84**	**51**	*e*P	**P**	**10 20 57.3**	**+0.4**
	comp=Z,39nm,1.4s,mb5.3						
ANMO				LR	LR		
	comp=Z,5µm,21.0s,MS5.9						
LTX	**Lajitas**	**83.86**	**57**	*e*P	**P**	**10 20 57.2**	**0.0**
	comp=Z,73nm,1.6s,mb5.6						
LTX				LR	LR		
	comp=Z,4µm,21.0s,MS5.8						
TXAR	**Lajitas Array**	**83.86**	**57**	P	**P**	**10 20 57.0**	**-0.2**
	comp=Z,2.9nm,0.9s,mb4.4,baz=210,slow=5.2,SNR=27						
TXAR				LR	LR	10 50 34.1	
	comp=Z,4µm,20.2s,MS5.7,baz=200,slow=30						
TXAR	**Lajitas Array**	**83.86**	**57**	P	**P**	**10 20 57.0**	**-0.2**
TXAR				LR	LR	10 50 34.0	
ENH	**Enshi**	**83.95**	**304**	*e*P	**P**	**10 20 59.0**	**+1.4**
	comp=Z,80nm,1.4s,mb5.7						
ENH				LR	LR		
	comp=Z,2µm,20.0s,MS5.5						
AHID	**Auburn Hatcher**	**83.96**	**43**	*e*P	**P**	**10 20 53.6**	**-3.6**
AHID				LR	LR		
	comp=Z,2µm,19.0s,MS5.6						
MSO	**Missoula**	**84.15**	**38**	*e*P	**P**	**10 20 56.8**	**-1.3**
	comp=Z,28nm,1.5s,mb5.2						
MSO				LR	LR		
	comp=Z,4µm,20.0s,MS5.8						
RW3	**Ridgway**	**84.30**	**48**	*e*P	**P**	**10 20 59.6**	**+0.5**
GDL2	**Guadalupe Moun**	**84.38**	**55**	*e*P	**P**	**10 21 01.6**	**+1.9**
TPAW	**Teton Pass**	**84.39**	**42**	*e*P	**P**	**10 20 59.5**	**+0.1**
REDW	**Red Top Meadow**	**84.39**	**42**	*e*P	**P**	**10 20 59.3**	**-0.1**
SNOW	**Snow King Moun**	**84.50**	**42**	*e*P	**P**	**10 21 00.3**	**+0.3**
WUWY	**Wally Ulrich**	**84.55**	**42**	*e*P	**P**	**10 20 59.4**	**-0.8**
IMW	**Indian Meadow**	**84.59**	**42**	*e*P	**P**	**10 21 00.9**	**+0.5**
IMW				*e*PP	PP	10 24 14.1	-3.8
CHMT	**Chamberlain Mo**	**84.60**	**38**	*e*P	**P**	**10 20 59.5**	**-0.9**
MOOW	**Moose Ponds**	**84.64**	**42**	*e*P	**P**	**10 21 00.5**	**-0.2**
MOOW				*e*PP	PP	10 24 16.1	-2.2
DAWY	**Dawson**	**84.64**	**16**	*e*P	**P**	**10 20 59.5**	**-0.7**
QLMT	**Earthquake Lak**	**84.71**	**41**	*e*P	**P**	**10 21 02.5**	**+1.5**
QLMT				*e*PP	PP	10 24 23.8	+5.0
CLNB	**Carlsbad**	**84.78**	**55**	*e*P	**P**	**10 21 02.9**	**+1.2**
GYA	**Guiyang**	**84.91**	**299**	P	**P**	**10 21 05.8**	**+3.3**
GYA				AP	pP	10 21 09.6	+1.7
GYA				SKS	SKS	10 31 26.6	-2.3
GYA				S	S	10 31 33.8	+5.0
GYA				AMB	AMB		
	comp=Z,80nm,1.4s,mb5.7						
GYA				AMB	AMB		
	comp=Z,410nm,9.1s						
GYA				LR	LR		
	comp=N,1µm,21.6s,MS5.4						
GYA				LR	LR		
	comp=E,1µm,22.2s,MS5.4						

GYA				LR	LR		
	comp=Z,2µm,22.2s,MS5.3						
YMR	**Madison River**	**84.93**	**41**	*e*P	**P**	**10 21 03.1**	**+1.0**
BW06	**Boulder Array**	**84.97**	**43**	PFAKE		10 21 10.0	+7.7
BW06				LR	LR		
	comp=Z,3µm,20.0s,MS5.7						
PDAR	**Pinedale Array**	**84.97**	**43**	P	**P**	**10 21 01.8**	**-0.6**
	comp=Z,4.3nm,1.0s,mb4.5,baz=220,slow=3.0,SNR=22						
PDAR				PP	PP	10 24 26.2	+5.3
	comp=Z,1.0nm,1.1s,baz=252,slow=4.7,SNR=3.8						
PDAR				LR	LR	10 51 19.7	
	comp=Z,3µm,21.4s,MS5.6,baz=258,slow=30						
HIA	**Hailar**	**85.21**	**324**	*e*P	**P**	**10 21 04.9**	**+1.5**
	comp=Z,45nm,1.6s,mb5.3						
HIA				LR	LR		
	comp=Z,3µm,21.0s,MS5.7						
HRY	**Holter Researc**	**85.36**	**39**	*e*P	**P**	**10 21 04.2**	**0.0**
PMSA	**Palmer Station**	**85.42**	**157**	PFAKE		10 21 20.0	+16
PMSA				LR	LR		
	comp=Z,3µm,20.0s,MS5.7						
SDCO	**Great Sand Dun**	**85.67**	**49**	*e*P	**P**	**10 21 06.4**	**+0.4**
	comp=Z,28nm,1.6s,mb5.2						
SDCO				LR	LR		
	comp=Z,5µm,20.0s,MS5.9						
XAN	**Xi'an**	**85.80**	**307**	P	**P**	**10 21 13.0**	**+6.3**
GCMT	**Greycliff**	**86.26**	**40**	*e*P	**P**	**10 21 08.4**	**-0.3**
MAW	**Mawson**	**86.33**	**199**	*e*P	**P**	**10 21 11.6**	**+3.1**
	comp=Z,6.3nm,1.3s,mb4.7						
MAW	**Mawson**	**86.33**	**199**	P	**P**	**10 21 08.2**	**-0.3**
	comp=Z,5.3nm,1.2s,mb4.7,baz=90,slow=7.1,SNR=3.1						
MAW				LR	LR	10 57 19.1	
	comp=Z,4µm,18.6s,MS5.8,baz=112,slow=34						
MAW	**Mawson**	**86.33**	**199**	*e*P	**P**	**10 21 08.6**	**+0.1**
MAW				pmax	pmax		
	comp=Z,50nm,1.6s						
MAW	**Mawson**	**86.33**	**199**	P	**P**	**10 21 08.2**	**-0.3**
MAW				LR	LR	10 57 19.1	
ISCO	**Idaho Springs**	**86.41**	**47**	PFAKE		10 21 20.0	+10
ISCO				LR	LR		
	comp=Z,3µm,20.0s,MS5.7						
HHC	**Hu-ho-hao-te**	**86.52**	**314**	*e*P	**P**	**10 21 12.4**	**+2.3**
HHC				AP	pP	10 21 17.5	+2.0
HHC				XP	sP	10 21 19.5	+2.3
HHC				SKS	SKS	10 31 36.3	-2.9
HHC				S	S	10 31 47.5	+3.5
HHC				XS		10 31 55.3	
HHC				PS	PS	10 32 49.0	+2.0
HHC				SS	SS	10 37 24.1	-3.9
HHC				AMB	AMB		
	comp=Z,30nm,1.7s,mb5.2						
HHC				LR	LR		
	comp=N,756nm,18.4s						
HHC				LR	LR		
	comp=E,889nm,25.6s						
HHC				LR	LR		
	comp=Z,2µm,24.4s						
CLNS	**Chul'man**	**86.71**	**332**	*e*P	**P**	**10 21 14.2**	**+3.6**
CLNS				*e*SS		10 31 33.5	
CLNS				pmax	pmax		
	comp=Z,16nm,1.0s,mb5.2						
CLNS				pmax	pmax		
	comp=N,12nm,1.3s						
CLNS				pmax	pmax		
	comp=E,9.0nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.5						
CLNS				pmax	pmax		
	comp=N,4.0nm,1.2s						
CLNS				pmax	pmax		
	comp=E,5.0nm,0.7s						
PAYG	**Puerto Ayora**	**86.89**	**90**	PFAKE		10 21 20.0	+7.4
PAYG				LR	LR		
	comp=Z,2µm,19.0s,MS5.5						
JCT	**Junction City**	**87.40**	**58**	*e*P	**P**	**10 21 15.1**	**+0.5**
	comp=Z,24nm,1.4s,mb5.2						
JCT				LR	LR		
	comp=Z,2µm,20.0s,MS5.5						
BTO	**Baotou**	**87.50**	**313**	*e*P	**P**	**10 21 15.8**	**+1.0**
EDM	**Edmonton**	**87.69**	**33**	*e*P	**P**	**10 21 13.8**	**-1.6**
EDM				*e*		10 24 39.0	
NANT	**Nan**	**87.70**	**290**	P	**P**	**10 21 19.0**	**+2.7**
KMI	**Kunming**	**87.82**	**297**	*e*P	**P**	**10 21 16.8**	**+0.1**
KMI				AP	pP	10 21 22.9	+0.8
KMI				XP	sP	10 21 24.6	+0.7
KMI				PP	PP	10 24 43.8	-1.3
KMI				SKS	SKS	10 31 42.5	-5.6
KMI				S	S	10 31 58.8	+2.1
KMI				XS		10 32 05.3	
KMI				AMB	AMB		
	comp=Z,9.0nm,0.8s,mb5.0						
KMI				AMB	AMB		
	comp=Z,523nm,7.8s						
KMI				LR	LR		
	comp=N,1µm,20.9s,MS5.6						
KMI				LR	LR		
	comp=E,2µm,21.6s,MS5.6						
KMI				LR	LR		
	comp=Z,4µm,25.2s,MS5.7						
KMI	**Kunming**	**87.82**	**297**	*e*P	**P**	**10 21 16.8**	**+0.1**
	comp=Z,9.0nm,0.8s,mb5.0						
KMI				pP	pP	10 21 22.9	+0.8
KMI				sP	sP	10 21 24.6	+0.7
KMI				PP	PP	10 24 43.7	-1.4
KMI				SKS	SKS	10 31 42.5	-5.6
KMI				S	S	10 31 58.7	+2.0
KMI				sS		10 32 05.2	
KMI				SS	SS	10 37 48.0	+0.7
KMI				LR	LR		
	comp=Z,4µm,25.2s,MS5.7						
YAK	**Yakutsk**	**87.93**	**338**	*e*P	**P**	**10 21 17.6**	**+1.2**
	comp=Z,35nm,1.4s,mb5.4						
YAK				LR	LR		
	comp=Z,2µm,19.0s,MS5.5						
LAO	**LASA Array**	**88.80**	**41**	PFAKE		10 21 30.0	+9.1
LAO				LR	LR		
	comp=Z,5µm,22.0s,MS5.9						
CD2	**Chengdu**	**88.81**	**302**	*e*P	**P**	**10 21 25.0**	**+3.6**
RSSD	**Black Hills**	**89.19**	**44**	*e*P	**P**	**10 21 23.4**	**+0.5**
	comp=Z,8.6nm,1.0s,mb5.0						
RSSD				*e*PP	PP	10 24 49.2	-6.4
RSSD				LR	LR		
	comp=Z,3µm,20.0s,MS5.8						
CM31	**Chiang Mai Arr**	**89.19**	**289**	*e*P	**P**	**10 21 26.0**	**+2.5**
	comp=Z,29nm,1.6s,mb5.3						
CM31				LR	LR		
	comp=Z,2µm,20.0s,MS5.6						
CMAR	**Chiang Mai Arr**	**89.19**	**289**	P	**P**	**10 21 24.4**	**+1.0**
	comp=Z,2.8nm,1.1s,mb4.5,baz=88,slow=3.7,SNR=5.8						
CMAR				LR	LR	10 57 44.8	
	comp=Z,2µm,19.8s,MS5.5,baz=115,slow=33						
CHG	**Chiang Mai**	**89.29**	**290**	P	**P**	**10 21 27.1**	**+3.2**
WMOK	**Wichita Mounta**	**89.64**	**54**	PFAKE		10 21 40.0	+15
WMOK				LR	LR		
	comp=Z,4µm,20.0s,MS5.8						
LZH	**Lanzhou**	**90.42**	**307**	*e*P	**P**	**10 21 32.8**	**+4.0**
LZH				AP	pP	10 21 37.4	+3.2
LZH				XP	sP	10 21 42.5	+6.6
LZH				AMB	AMB		
	comp=Z,360nm,7.1s						
LZH				LR	LR		
	comp=N,2µm,14.8s						
LZH				LR	LR		
	comp=Z,5µm,21.1s						
LZH	**Lanzhou**	**90.42**	**307**	*e*P	**P**	**10 21 32.7**	**+3.9**
	comp=Z,130nm,1.5s,mb6.0						
LZH				pP	pP	10 21 37.4	+3.2
LZH				sP	sP	10 21 42.5	+6.6
LZH				PP	PP	10 24 59.1	-6.6
LZH				SKS	SKS	10 32 01.3	-2.5
LZH				S	S	10 32 19.0	-1.4
LZH				sS		10 32 30.3	
LZH				PS	PS	10 33 30.0	-2.9
LZH				SS	SS	10 38 15.0	-10
LZH				LR	LR		
	comp=Z,5µm,21.1s,MS5.9						
DGMT	**Dagmar**	**90.77**	**40**	*e*P	**P**	**10 21 33.6**	**+3.5**
	comp=Z,76nm,1.7s,mb5.8						
DGMT				*e*		10 21 42.7	
DGMT				LR	LR		
	comp=Z,7µm,21.0s,MS6.0						
SYO	**Syowa Base**	**91.57**	**192**	⇓P	**P**	**10 21 33.6**	**+0.3**
SYO	**Syowa Base**	**91.57**	**192**	⇓PcP	PcP	10 21 35.3	+0.8
SYO	**Syowa Base**	**91.57**	**192**	⇓pP	pP	10 21 39.3	+0.6
YKA	**Yellowknife Ar**	**91.85**	**24**	P	**P**	**10 21 34.5**	**-0.2**
	comp=Z,1.5nm,0.9s,mb4.3,baz=242,slow=4.8,SNR=5.6						
YKA				LR	LR	10 56 01.9	
	comp=Z,10µm,20.2s,MS6.2,baz=240,slow=31						
YKA	**Yellowknife Ar**	**91.85**	**24**	P	**P**	**10 21 34.5**	**-0.2**
YKA				LR	LR	10 56 01.9	
NATX	**Nacogdoches**	**91.99**	**58**	*e*P	**P**	**10 21 36.7**	**+0.6**
	comp=Z,87nm,1.8s,mb5.8						
NATX				*e*PP	PP	10 25 16.4	-2.0
NATX				LR	LR		
	comp=Z,3µm,20.0s,MS5.7						
ULN	**Ulaanbaatar**	**92.19**	**319**	PFAKE		10 21 50.0	+13
ULN				LR	LR		
	comp=Z,3µm,20.0s,MS5.7						
SONM	**Songino Array**	**92.59**	**319**	P	**P**	**10 21 38.7**	**+0.2**
	comp=Z,1.3nm,1.0s,mb4.3,baz=117,slow=2.8,SNR=6.5						
SNAA	**Sanae**	**92.79**	**178**	*e*	**P**	**10 21 44.0**	**+5.1**
SNAA	**Sanae**	**92.79**	**178**	*e*	**P**	**10 21 46.4**	**+7.5**
SNAA	**Sanae**	**92.79**	**178**	*e*P	**P**	**10 21 39.0**	**+0.1**
SNAA				pmax	pmax		
	comp=Z,13nm,1.2s						
SNAA	**Sanae**	**92.79**	**178**	⇓*i*P	**P**	**10 21 39.3**	**+0.4**
SNAA				*e*	pP	10 21 44.0	-0.3
SNAA				*e*	pP	10 21 46.4	+2.1
SNAA				*e*		10 26 17.2	
VNA3	**Neumayer Olymp**	**92.89**	**176**	*e*	pP	10 21 47.2	+2.5
VNA3	**Neumayer Olymp**	**92.89**	**176**	*e*	pP	10 21 49.6	+4.9
VNA3	**Neumayer Olymp**	**92.89**	**176**	⇑*i*P	**P**	**10 21 42.8**	**+3.5**
VNA3				*e*	pP	10 21 47.2	+2.5
VNA3				*e*	pP	10 21 49.6	+4.9
VNA3				*e*		10 26 23.6	
VNA2	**Neumayer--Watz**	**93.34**	**177**	*e*	pP	10 21 49.7	+2.9
VNA2	**Neumayer--Watz**	**93.34**	**177**	*e*	pP	10 21 52.1	+5.3
VNA2	**Neumayer--Watz**	**93.34**	**177**	⇑*i*P	**P**	**10 21 45.3**	**+3.9**
VNA2				*e*	pP	10 21 49.7	+2.9
VNA2				*e*	pP	10 21 52.1	+5.3
VNA2				*e*		10 26 26.5	
VNA1	**Neumayer--Stat**	**93.56**	**176**	*e*	pP	10 21 48.7	+0.9
VNA1	**Neumayer--Stat**	**93.56**	**176**	*e*	pP	10 21 51.7	+3.9
VNA1	**Neumayer--Stat**	**93.56**	**176**	⇑*i*P	**P**	**10 21 44.3**	**+1.9**
VNA1				*e*	pP	10 21 48.7	+0.9
VNA1				*e*	pP	10 21 51.7	+3.9
VNA1				*e*		10 26 25.3	
MIAR	**Mount Ida**	**93.67**	**55**	PFAKE		10 22 00.0	+16
MIAR				LR	LR		
	comp=Z,4µm,22.0s,MS5.8						
TIXI	**Tiksi**	**94.29**	**345**	*e*P	**P**	**10 21 46.5**	**+0.8**
TIXI				*e*PS	PS	10 34 19.9	+3.7
TIXI				*e*SS	SS	10 39 24.5	+5.5
TIXI				pmax	pmax		
	comp=Z,20nm,1.4s,mb5.3						
TIXI				MLR	MLR		
	comp=Z,1µm,18.0s,MS5.4						
TIXI	**Tiksi**	**94.29**	**345**	PFAKE		10 22 00.0	+14
TIXI				LR	LR		
	comp=Z,2µm,20.0s,MS5.5						
FFC	**Flin Flon**	**94.39**	**34**	PFAKE		10 22 00.0	+13
FFC				LR	LR		
	comp=Z,1µm,21.0s,MS5.3						
GTA	**Gaotai**	**94.47**	**310**	*e*P	**P**	**10 21 46.4**	**-0.9**
GTA				AP	pP	10 21 51.1	-1.7
GTA				XP	sP	10 21 53.5	-1.0
GTA				PP	PP	10 25 35.9	-1.7
GTA				PPP	PPP	10 27 40.3	-1.2
GTA				S	S	10 32 54.3	-1.5
GTA				XS		10 33 03.1	
GTA				PS	PS	10 34 17.3	-1.7
GTA				SS	SS	10 39 19.5	-2.9
GTA				AMB	AMB		
	comp=Z,69nm,6.5s						
GTA				LR	LR		
	comp=N,462nm,20.1s,MS5.3						
GTA				LR	LR		
	comp=E,991nm,24.0s,MS5.3						
GTA				LR	LR		
	comp=Z,2µm,25.9s,MS5.5						
EFI	**East Falkland**	**94.73**	**147**	PFAKE		10 22 00.0	+12
EFI				LR	LR		
	comp=Z,639nm,21.0s,MS5.1						
JTS	**JuntasAbangare**	**94.91**	**81**	*e*P	**P**	**10 21 52.7**	**+2.8**
	comp=Z,42nm,1.4s,mb5.7						
JTS				LR	LR		
	comp=Z,289nm,19.0s,MS4.8						
ZAK	**Zakamensk**	**95.37**	**321**	*e*P	**P**	**10 21 51.9**	**+0.7**
CCM	**Cathedral Cave**	**96.42**	**52**	PFAKE		10 22 10.0	+14
CCM				LR	LR		
	comp=Z,4µm,22.0s,MS5.9						
ULM	**Lac du Bonnet**	**96.49**	**40**	LR	LR	10 58 34.6	
	comp=Z,6µm,21.2s,MS6.0,baz=251,slow=31						
ULM	**Lac du Bonnet**	**96.49**	**40**	PFAKE		10 22 10.0	+14
ULM				LR	LR		
	comp=Z,8µm,21.0s,MS6.2						
NNA	**Nana**	**96.59**	**104**	PFAKE		10 22 10.0	+12
NNA				LR	LR		
	comp=Z,308nm,20.0s,MS4.8						
OXF	**Oxford**	**96.97**	**56**	PFAKE		10 22 10.0	+11
OXF				LR	LR		
	comp=Z,3µm,20.0s,MS5.7						
FVM	**French Village**	**97.03**	**53**	*e*P	**P**	**10 21 59.9**	**+0.9**
FVM				pmax	pmax		
	comp=Z,17nm,1.3s,mb5.3						
FVM	**French Village**	**97.03**	**53**	*e*P	**P**	**10 21 59.9**	**+0.9**
	comp=Z,17nm,1.3s,mb5.3						
JFWS	**Jewell Farm**	**98.34**	**48**	PFAKE		10 22 20.0	+15
JFWS				LR	LR		
	comp=Z,5µm,20.0s,MS6.0						
OTAV	**Otavalo**	**98.53**	**92**	PFAKE		10 22 20.0	+14
OTAV				LR	LR		
	comp=Z,666nm,19.0s,MS5.2						
LRAL	**Lakeview Retre**	**98.58**	**58**	PFAKE		10 22 20.0	+14
LRAL				LR	LR		
	comp=Z,2µm,19.0s,MS5.6						
WVT	**Waverly**	**98.61**	**55**	PFAKE		10 22 20.0	+14
WVT				LR	LR		
	comp=Z,3µm,20.0s,MS5.8						
EYMN	**Ely**	**98.67**	**43**	PFAKE		10 22 20.0	+14
EYMN				LR	LR		
	comp=Z,15nm,21.0s						
LSA	**Lhasa**	**98.96**	**298**	PFAKE		10 22 20.0	+12
LSA				LR	LR		
	comp=Z,1µm,22.0s,MS5.4						
TRQA	**Tornquist**	**99.20**	**134**	PFAKE		10 22 20.0	+11
TRQA				LR	LR		
	comp=Z,2µm,21.0s,MS5.6						
WCI	**Wyandotte Cave**	**100.26**	**53**	PFAKE		10 22 30.0	+16
WCI				LR	LR		
	comp=Z,3µm,22.0s,MS5.7						
MYNC	**Murphy**	**101.34**	**57**	PFAKE		10 22 30.0	+11
MYNC				LR	LR		
	comp=Z,3µm,20.0s,MS5.8						
DWPF	**Disney**	**102.24**	**64**	PFAKE		10 22 30.0	+7.1
DWPF				LR	LR		
	comp=Z,1µm,19.0s,MS5.4						
ACSO	**Alum Creek Sta**	**103.15**	**52**	PFAKE		10 22 40.0	+13
ACSO				LR	LR		
	comp=Z,6µm,21.0s,MS6.1						
LPAZ	**La Paz**	**103.19**	**111**	PFAKE		10 22 40.0	+13
LPAZ				LR	LR		
	comp=Z,2µm,21.0s,MS5.6						
PALK	**Pallekele**	**103.49**	**274**	PFAKE		10 22 40.0	+11
PALK				LR	LR		
	comp=Z,382nm,20.0s,MS4.9						
NHSC	**New Hope**	**104.21**	**59**	PFAKE		10 22 40.0	+8.6
NHSC				LR	LR		
	comp=Z,2µm,21.0s,MS5.7						
BLA	**Blacksburg**	**104.66**	**55**	PFAKE		10 22 40.0	+6.7
BLA				LR	LR		
	comp=Z,3µm,21.0s,MS5.9						
MCWV	**Mont Chateau**	**105.45**	**53**	PFAKE		10 27 00.0	
MCWV				LR	LR		
	comp=Z,4µm,21.0s,MS6.0						
SSPA	**Standing Stone**	**107.06**	**52**	PFAKE		10 27 10.0	
SSPA				LR	LR		
	comp=Z,3µm,20.0s,MS5.9						
CBN	**Corbin**	**107.19**	**54**	PFAKE		10 27 10.0	
CBN				LR	LR		
	comp=Z,5µm,22.0s,MS6.0						
CPUP	**Villa Florida**	**108.23**	**125**	PFAKE		10 27 10.0	
CPUP				LR	LR		
	comp=Z,3µm,21.0s,MS5.8						
SDV	**Santo Domingo**	**108.26**	**86**	PFAKE		10 27 10.0	
SDV				LR	LR		
	comp=Z,898nm,21.0s,MS5.3						
MKAR	**Makanchi Array**	**108.38**	**315**	PKiKP		10 26 56.8	
	comp=Z,1.2nm,0.9s,baz=90,slow=1.2,SNR=6.3						
BINY	**Binghamton**	**108.63**	**50**	PFAKE		10 27 10.0	
BINY				LR	LR		
	comp=Z,4µm,22.0s,MS5.9						
NCB	**Newcomb**	**110.03**	**48**	PFAKE		10 27 10.0	+9.1
NCB				LR	LR		
	comp=Z,4µm,21.0s,MS6.0						
SAML	**Samuel**	**110.28**	**106**	PFAKE		10 27 10.0	+7.9
SAML				LR	LR		
	comp=Z,2µm,20.0s,MS5.7						
KURK	**Kurchatov**	**110.90**	**319**	PFAKE		10 27 10.0	+7.5
KURK				LR	LR		
	comp=Z,392nm,22.0s,MS5.0						
HRV	**Harvard--Oak R**	**111.92**	**50**	PFAKE		10 27 10.0	+5.4
HRV				LR	LR		
	comp=Z,5µm,22.0s,MS6.0						
WES	**Weston**	**112.09**	**50**	PFAKE		10 27 10.0	+5.0
WES				LR	LR		
	comp=Z,4µm,19.0s,MS6.0						
WVL	**Waterville**	**113.32**	**48**	PFAKE		10 27 20.0	+13
WVL				LR	LR		
	comp=Z,14µm,20.0s,MS6.6						
AAK	**Ala-Archa**	**113.82**	**310**	PFAKE		10 27 20.0	+12
AAK				LR	LR		
	comp=Z,365nm,21.0s,MS5.0						
SJG	**San Juan**	**114.38**	**77**	PFAKE		10 27 20.0	+10
SJG				LR	LR		
	comp=Z,1µm,19.0s,MS5.6						
PQI	**Presque Isle**	**114.40**	**46**	PFAKE		10 27 20.0	+11
PQI				LR	LR		
	comp=Z,20µm,20.0s,MS6.7						
SCHQ	**Schefferville**	**114.42**	**37**	PFAKE		10 27 20.0	+11
SCHQ				LR	LR		
	comp=Z,3µm,21.0s,MS5.9						
EMMW	**East Machias**	**114.88**	**48**	PFAKE		10 27 20.0	+10
EMMW				LR	LR		
	comp=Z,15µm,20.0s,MS6.6						
BRVK	**Borovoye**	**115.86**	**322**	*e*PKPdf	PKPdf	10 27 10.2	-2.0
BRVK				*e*PP	PP	10 28 08.7	-8.3
BRVK				LR	LR		
	comp=Z,672nm,21.0s,MS5.2						
ZRNK	**Zerenda**	**116.64**	**322**	*e*PKIKP	PKPdf	10 27 14.5	+0.8
ZRNK				*e*		10 28 14.8	
BBSR	**BB Station**	**117.11**	**61**	PFAKE		10 27 20.0	+4.9
BBSR				LR	LR		
	comp=Z,1µm,19.0s,MS5.6						
ARU	**Arti**	**121.60**	**327**	*i* PKIKP	PKPdf	10 27 20.3	-2.9
ARU				*e*		10 28 54.4	
ARU				*e*		10 34 16.6	
ARU	**Arti**	**121.60**	**327**	PFAKE		10 27 30.0	+6.8
ARU				LR	LR		
	comp=Z,545nm,22.0s,MS5.2						
BORG	**Borgarnes**	**128.30**	**13**	PFAKE		10 27 40.0	+4.1
BORG				LR	LR		
	comp=Z,956nm,22.0s,MS5.4						
SUR	**Sutherland**	**129.19**	**200**	*e*PKPdf	PKPdf	10 27 31.8	-6.7
SUR				LR	LR		
	comp=Z,536nm,19.0s,MS5.3						
BOSA	**Boshof**	**130.89**	**206**	PFAKE		10 27 50.0	+8.2
BOSA				LR	LR		
	comp=Z,1µm,21.0s,MS5.6						
OBN	**Obninsk**	**132.81**	**334**	PFAKE		10 27 50.0	+5.3
OBN				LR	LR		
	comp=Z,448nm,21.0s,MS5.2						
ZEI	**Tsey**	**135.71**	**316**	*e*PKIKP	PKPdf	10 27 46.0	-4.4
KONO	**Kongsberg**	**135.80**	**355**	PFAKE		10 28 00.0	+10
KONO				LR	LR		
	comp=Z,2µm,19.0s,MS5.8						
KIV	**Kislovodsk**	**135.98**	**318**	PFAKE		10 28 00.0	+9.1
KIV				LR	LR		
	comp=Z,507nm,22.0s,MS5.2						
GNI	**Garni**	**136.15**	**312**	PFAKE		10 28 00.0	+8.7
GNI				LR	LR		
	comp=Z,830nm,21.0s,MS5.4						
RCBR	**Riachuelo**	**136.17**	**116**	PFAKE		10 28 00.0	+8.0
RCBR				LR	LR		
	comp=Z,2µm,20.0s,MS5.8						
SOC	**Sochi**	**138.05**	**319**	*i* PKIKP	PKPdf	10 27 48.8	-5.9
SOC				*e*		10 30 36.8	
AKASG	**Malin Array Be**	**139.07**	**334**	PKP	PKPdf	10 27 51.7	-4.6
	comp=Z,0.2nm,0.3s,baz=34,slow=3.3,SNR=2.8						
ESK	**Eskdalemuir**	**140.17**	**5**	PFAKE		10 28 10.0	+12
ESK				LR	LR		
	comp=Z,734nm,20.0s,MS5.4						
LSZ	**Lusaka**	**140.29**	**220**	PFAKE		10 28 10.0	+11
LSZ				LR	LR		
	comp=Z,2µm,20.0s,MS5.8						
ARSS	**Ar Rass**	**140.95**	**292**	P	PKPdf	10 28 01.1	+0.6
MALT	**Malatya**	**141.38**	**313**	*e*PKPdf	PKPdf	10 27 57.7	-3.2
KMBO	**Kilima Mbogo**	**142.04**	**247**	*e*PKPdf	PKPdf	10 28 00.8	-2.0
KMBO				LR	LR		
	comp=Z,966nm,20.0s,MS5.6						
TSUM	**Tsumeb**	**142.40**	**203**	PKP	PKPdf	10 27 58.6	-4.5
	comp=Z,0.7nm,0.6s,baz=220,slow=22,SNR=2.2						
TSUM	**Tsumeb**	**142.40**	**203**	PKP	PKPdf	10 27 58.6	-4.5
TSUM				LR	LR		
	comp=Z,2µm,20.0s,MS5.9						
OJC	**Ojcow**	**142.88**	**342**	*e*PKIKP	PKPdf	10 27 59.9	-3.1
OJC				*e*SS	SS	10 49 50.7	+4.1
OJC				MLR	MLR		
	comp=Z,2µm,21.8s,MS5.8						
KSP	**Ksiaz**	**143.26**	**346**	*e*PKP	PKPdf	10 28 00.5	-3.1
KSP				*e*pPKP		10 28 06.0	
KSP				*e*SS	SS	10 49 52.0	+0.9
KSP				LR	LR		
	comp=Z,5µm,19.5s,MS6.3						
CLL	**Collm**	**143.51**	**349**	*e*PKIKP	PKPdf	10 28 05.0	+1.0
CLL				*e*		10 33 56.0	
CLL	**Collm**	**143.51**	**349**	*e*PKIKP	PKPdf	10 28 05.0	+1.0
CLL				MLR	MLR		
	comp=Z,2µm,22.0s,MS5.9						
OKC	**Ostrava-Krasne**	**143.70**	**343**	*e*PKPDF	PKPdf	10 28 15.2	+11
OKC				*e*SS	SS	10 49 32.9	-23
OKC				LR		11 36 30.0	
	comp=Z,1.2nm,17.4s						
DPC	**Dobruska-Polom**	**143.71**	**345**	*e*PKPDF	PKPdf	10 28 01.9	-2.5
DPC				*e*x	x	10 50 02.2	
DPC				*e*x	x	11 08 01.2	
DPC				LR		11 33 10.0	
	comp=Z,1.8nm,19.5s						
DPC	**Dobruska-Polom**	**143.71**	**345**	*e*PKIKP	PKPdf	10 28 01.9	-2.5
DPC				*e*SS	SS	10 50 02.2	+5.7
DPC				MLR	MLR		
	comp=Z,2µm,19.5s,MS5.8						
BRG	**Berggiesshubel**	**143.75**	**348**	*e*PKIKP	PKPdf	10 28 06.3	+1.8
BRG				*i* SS	SS	10 49 54.0	-2.9
BRG				*e*		10 55 21.0	
BRG				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BRG				MLR	MLR		
	comp=Z,2µm,17.2s,MS5.9						
BRG				MLR	MLR		
	comp=N,1µm,20.4s,MS5.7						
BRG				MLR	MLR		
	comp=E,940nm,20.2s,MS5.7						
MORC	**Moravsky Berou**	**143.92**	**344**	*e*PKIKP	PKPdf	10 27 59.2	-5.6
BRTR	**Keskin Array B**	**143.94**	**318**	PKP	PKPdf	10 28 00.2	-4.9
	comp=E,4.7nm,0.9s,baz=117,slow=2.8,SNR=9.3						
PVCC	**Panska Ves**	**143.94**	**347**	*e*PKPDF	PKPdf	10 28 06.7	+1.9
PVCC				LR		11 35 40.0	
	comp=E,2.4nm,19.4s						
MOX	**Moxa**	**144.39**	**350**	*i* P	PKPbc	10 28 06.5	+5.1
MOX				SS	SS	10 50 00.0	-4.2
MOX				LQ		11 08 05.0	
MOX				L		11 44 57.0	
MOX	**Moxa**	**144.39**	**350**	*e*PKIKP	PKPdf	10 28 06.5	+0.9
MOX				MLR	MLR		
	comp=Z,800nm,19.0s,MS5.5						
MOX	**Moxa**	**144.39**	**350**	*e*PKP	PKPdf	10 28 06.5	+0.9
MOX				*e*SS	SS	10 50 00.0	-4.2
MOX				*e*LQ		11 08 05.0	
MOX				LR	LR		
	comp=Z,800nm,19.0s,MS5.5						
MLR	**Muntele Rosu**	**144.45**	**332**	PKP	PKPdf	10 28 03.0	-2.9
	comp=Z,5.3nm,0.9s,baz=33,slow=6.0,SNR=6.1						
PRU	**Pruhonice**	**144.46**	**347**	*e*PKPDF	PKPdf	10 28 04.3	-1.5
PRU				*e*x	x	10 28 16.3	
PRU				*e*SS	SS	10 50 09.6	+4.6
PRU				*e*x	x	11 07 43.4	
PRU				LR		11 29 40.0	
	comp=Z,2.7nm,23.0s						
PRU	**Pruhonice**	**144.46**	**347**	*e*PKIKP	PKPdf	10 28 04.3	-1.5
PRU				*e*SS	SS	10 50 09.6	+4.6
PRU				MLR	MLR		
	comp=Z,3µm,23.0s,MS6.0						
KBRS	**Khaybar**	**144.51**	**293**	P	PKPbc	10 28 03.7	+1.1

NKC	**Novy Kostel**	**144.64**	**349**	ePKPDF	PKPdf	10 28 04.3	-1.8
NKC				ex	x	10 28 16.1	
NKC				eSS	SS	10 50 11.9	+4.9
NKC				ex	x	11 08 04.5	
NKC				LR		11 33 50.0	
	comp=Z,1.4nm,17.7s						
NKC	**Novy Kostel**	**144.64**	**349**	ePKIKP	PKPdf	10 28 04.3	-1.8
NKC				eSS	SS	10 50 11.9	+4.9
NKC				MLR	MLR		
	comp=Z,1µm,17.7s,MS5.8						
VYHS	**Vyhne**	**144.70**	**341**	ePKP	PKPdf	10 28 04.1	-2.1
VYHS				e		10 28 23.9	
PSZ	**Piszkesteto**	**144.87**	**340**	epPKP/F		10 28 08.6	
PSZ	**Piszkesteto**	**144.87**	**340**	ePKIKP	PKPdf	10 28 04.2	-2.4
HGN	**Heimansgroeve**	**144.90**	**356**	eP	PKPbc	10 28 03.8	+1.0
	comp=Z,13nm,1.7s						
ASF	**Jabal al Asfar**	**144.92**	**304**	PKP	PKPdf	10 28 05.2	-1.9
	comp=Z,2.1nm,0.3s,baz=275,slow=18,SNR=7.3						
GRA1	**Grafenberg Arr**	**145.38**	**350**	ePKP	PKPdf	10 28 06.4	-1.0
GRA1				eSS	SS	10 50 14.1	-1.0
GRA1				LR	LR		
	comp=Z,3µm,19.7s,MS6.0						
GRF	**Grafenberg Arr**	**145.38**	**350**	ePKIKP	PKPdf	10 28 06.4	-1.0
GRF				eSS	SS	10 50 14.1	-1.0
KHC	**Kasperske Hory**	**145.48**	**347**	ePKPDF	PKPdf	10 28 06.6	-1.0
KHC				ex	x	10 28 13.7	
KHC				eSS	SS	10 50 18.6	+2.4
KHC				ex	x	11 07 57.8	
KHC				LR		11 36 30.0	
	comp=Z,2.0nm,20.5s						
KHC	**Kasperske Hory**	**145.48**	**347**	ePKIKP	PKPdf	10 28 06.6	-1.0
KHC				e		10 28 13.7	
KHC				eSS	SS	10 50 18.6	+2.4
KHC				MLR	MLR		
	comp=Z,2µm,20.5s,MS5.9						
ZST	**Bratislava**	**145.48**	**343**	ePKP	PKPdf	10 28 07.8	+0.2
ZST				e		10 28 14.6	
ZST				e		10 33 27.4	
GIVF	**Givet**	**145.62**	**358**	ePKP1	PKPbc	10 28 07.2	+2.5
ABH	**Alteburg**	**145.66**	**354**	PKP	PKPdf	10 28 07.2	-0.6
BAIF	**Baives**	**145.68**	**358**	ePKP1	PKPbc	10 28 07.4	+2.5
GERES	**GERESS Array B**	**145.72**	**347**	PKPbc	PKPbc	10 28 06.8	+1.8
	comp=Z,6.3nm,1.0s,baz=27,slow=3.0,SNR=12						
TOD	**Tromm**	**145.80**	**353**	PKP	PKPdf	10 28 07.4	-0.7
RUP	**Ruppelstein**	**145.88**	**355**	PKP	PKPdf	10 28 08.1	-0.1
WLF	**Walferdange**	**145.99**	**356**	ePKP2	PKPab	10 28 08.0	0.0
UMJS	**Umm Lajj**	**146.34**	**292**	P	PKPbc	10 28 11.7	+4.4
TBKS	**Tabuk**	**146.38**	**298**	P	PKPbc	10 28 11.0	+3.8
LANF	**Langenberg**	**146.53**	**354**	PKP	PKPdf	10 28 11.8	+2.4
MOA	**Molln**	**146.53**	**346**	⇑iP	PKPbc	10 28 10.1	+3.1
	comp=Z,57nm,1.9s						
CSS	**Prodhromos**	**146.54**	**311**	ePKPbc	PKPbc	10 28 10.2	+2.8
STU	**Stuttgart**	**146.57**	**352**	ePKIKP	PKPdf	10 28 05.7	-3.7
JMQS	**Jabal Moqyreh**	**146.77**	**299**	P	PKPbc	10 28 12.9	+4.8
ARSA	**Arzberg**	**146.78**	**344**	⇑iP	PKPbc	10 28 11.7	+4.2
	comp=Z,23nm,1.1s						
FLN	**La Foliniere**	**146.89**	**4**	ePKP1	PKPbc	10 28 10.8	+3.0
FLN				eR			
	comp=Z,3µm,21.2s						
ROSF	**Rostrenen**	**147.05**	**7**	ePKP1	PKPdf	10 28 11.7	+1.4
	comp=Z,89nm,1.2s						
LDF	**La Druitiere**	**147.09**	**4**	ePKP1	PKPdf	10 28 11.1	+0.8
	comp=Z,48nm,1.2s						
WLS	**Welschbruch**	**147.13**	**354**	PKP	PKPdf	10 28 14.6	+4.2
CDF	**Champ du Feu**	**147.14**	**354**	ePKP1	PKPdf	10 28 11.7	+1.3
	comp=Z,95nm,1.2s						
MEZF	**Maizieres J'vi**	**147.21**	**357**	ePKP1	PKPdf	10 28 12.2	+1.7
SGMF	**Saint Gilles**	**147.22**	**7**	ePKP1	PKPdf	10 28 11.5	+1.0
	comp=Z,192nm,1.2s						
GRR	**Gorron**	**147.24**	**4**	ePKP1	PKPdf	10 28 11.8	+1.2
	comp=Z,130nm,1.3s						
EIL	**Elat**	**147.31**	**301**	ePKPbc	PKPdf	10 28 12.3	+1.0
ECH	**Echery**	**147.34**	**355**	PKP	PKPdf	10 28 11.5	+0.8
QUIF	**Quistinic**	**147.48**	**7**	ePKP1	PKPdf	10 28 12.1	+1.1
	comp=Z,174nm,1.3s						
HAQS	**Haql**	**147.52**	**300**	P	PKPdf	10 28 13.7	+2.0
BDAS	**Al Bad'**	**147.55**	**299**	P	PKPdf	10 28 13.6	+1.9
BDAS				S	Sx	10 36 05.1	
WATA	**Walderalm**	**147.59**	**349**	⇑iP	PKPdf	10 28 13.9	+2.7
	comp=Z,19nm,0.9s						
HAU	**Haudompre**	**147.62**	**355**	ePKP1	PKPdf	10 28 13.0	+1.8
HAU				eR			
	comp=Z,3µm,20.0s						
WTTA	**Wattenberg**	**147.65**	**349**	⇑iP	PKPdf	10 28 13.3	+2.0
	comp=Z,56nm,1.4s						
MOTA	**Moosalm**	**147.67**	**349**	⇑iP	PKPdf	10 28 14.2	+2.9
	comp=Z,19nm,1.1s						
MOF	**Molkenrain**	**147.71**	**354**	PKP	PKPdf	10 28 14.8	+3.5
HINF	**Hinteralfeld**	**147.77**	**355**	ePKP1	PKPdf	10 28 12.1	+0.7
SQTA	**Sankt Quirin**	**147.77**	**349**	⇑iP	PKPdf	10 28 14.5	+3.1
	comp=Z,18nm,1.0s						
DAVA	**Damuels**	**147.93**	**351**	⇑iP	PKPdf	10 28 13.8	+2.1
	comp=Z,92nm,1.7s						
VTS	**Vitosha**	**147.94**	**331**	eP	PKPdf	10 28 20.0	+8.1
MBAR	**Mbarara**	**147.97**	**242**	ePKPbc	PKPdf	10 28 16.0	+3.2
MBAR				LR	LR		
	comp=Z,341nm,20.0s,MS5.1						
PDKS	**Podkum**	**148.00**	**344**	ePKP	PKPdf	10 28 15.5	+3.7
CRES	**Cresnjevec ost**	**148.10**	**343**	ePKP	PKPdf	10 28 16.1	+4.1
CRES				e		10 28 20.7	
PTCC	**Patocco-Chiusa**	**148.10**	**346**	ePKP	PKPdf	10 28 16.7	+4.7
LJU	**Ljubljana**	**148.15**	**344**	ePKP	PKPdf	10 28 16.4	+4.3
SISC	**Sisak**	**148.16**	**342**	i P	PKPdf	10 28 17.6	+5.5
LOMF	**Lomont**	**148.23**	**355**	PKP	PKPdf	10 28 15.9	+3.7
GMNA	**Gemona**	**148.25**	**346**	ePKP	PKPdf	10 28 17.0	+4.7
MMB	**Musomiste**	**148.46**	**329**	eP	PKPdf	10 28 15.0	+2.3
LOR	**Lormes**	**148.48**	**359**	ePKP1	PKPdf	10 28 15.5	+2.9
	comp=Z,122nm,1.6s						
LOR				eR			
	comp=Z,3µm,20.5s						
KKB	**Krupnik**	**148.56**	**330**	eP	PKPdf	10 28 16.0	+3.1
BRMO	**Bormio**	**148.63**	**350**	ePKP	PKPdf	10 28 16.7	+3.8
SSF	**Saint Saulge**	**148.70**	**359**	ePKP1	PKPdf	10 28 16.2	+3.3
	comp=Z,107nm,1.4s						
CTI	**Castel Tesino**	**148.81**	**348**	ePKP	PKPdf	10 28 16.4	+3.3
AVF	**Avril sur Loir**	**148.97**	**359**	ePKP1	PKPdf	10 28 16.8	+3.4
	comp=Z,89nm,1.6s						
CABF	**La Chapelle**	**149.03**	**356**	ePKP1	PKPdf	10 28 16.4	+2.9
	comp=Z,146nm,1.5s						
MFF	**Saint Martin d**	**149.07**	**4**	ePKP1	PKPdf	10 28 15.6	+2.1
SMF	**Signal de Mont**	**149.11**	**359**	ePKP1	PKPdf	10 28 17.0	+3.4
	comp=Z,92nm,1.3s						
BGF	**Bois d'Agland**	**149.21**	**360**	ePKP1	PKPdf	10 28 17.4	+3.6
SKO	**Skopje**	**149.24**	**332**	ePKP	PKPdf	10 28 18.0	+4.0
TCF	**Toulx Ste Croi**	**149.47**	**1**	ePKP1	PKPdf	10 28 17.9	+3.7
VAI	**Varese**	**149.48**	**352**	ePKP	PKPdf	10 28 19.9	+5.7
MCGN	**Macugnaga**	**149.49**	**353**	ePKP	PKPdf	10 28 20.2	+5.9
PYM	**Petit Puy Mans**	**150.01**	**360**	PKP	PKPdf	10 28 19.5	+4.4
LPL	**La Plagne**	**150.06**	**354**	ePKP1	PKPdf	10 28 19.4	+4.2
LPG	**La Plagne**	**150.08**	**354**	ePKP1	PKPdf	10 28 19.3	+4.1
OHR	**Ohrid**	**150.22**	**332**	i PKP	PKPdf	10 28 19.7	+4.1
RJF	**Les Rejaudoux**	**150.44**	**2**	ePKP1	PKPdf	10 28 22.4	+6.6
RJF				eR			
	comp=Z,4µm,18.2s						
BOB	**Bobbio (Coli)**	**150.45**	**350**	ePKP	PKPdf	10 28 26.5	+11
BNI	**Bardonecchia**	**150.53**	**354**	ePKIKP	PKPdf	10 28 14.2	-1.7
BNI				e		10 28 20.6	
LBL	**Lubilhac**	**150.53**	**359**	PKP	PKPdf	10 28 22.2	+6.3
ZCCA	**Zocca**	**150.57**	**348**	ePKP	PKPdf	10 28 27.9	+12
GSCL	**Gusciola**	**150.65**	**348**	ePKP	PKPdf	10 28 33.0	+17
LFF	**La Frestale**	**150.78**	**3**	ePKP1	PKPdf	10 28 23.1	+6.8
SFI	**Santa Sofia**	**150.81**	**346**	ePKP	PKPdf	10 28 23.5	+7.1
CAF	**Calviac**	**150.83**	**1**	ePKP1	PKPdf	10 28 22.2	+5.8
	comp=Z,44nm,1.2s						
MBDF	**Montbardon**	**150.84**	**354**	ePKP1	PKPdf	10 28 21.6	+5.2
VIVF	**Saint-Julien-l**	**150.86**	**357**	ePKP1	PKPdf	10 28 21.7	+5.3
	comp=Z,115nm,1.6s						
PGD	**Poggio Sodo**	**150.87**	**347**	ePKP	PKPdf	10 28 24.6	+8.2
ARV	**Arcevia**	**150.94**	**345**	ePKP	PKPdf	10 28 25.4	+8.9
SANT	**Santorini**	**151.13**	**320**	ePKPbc	PKPdf	10 28 20.5	+3.4
MURB	**Monte Urbino**	**151.26**	**345**	ePKP	PKPdf	10 28 29.8	+13
AQU	**L'Aquila**	**151.88**	**343**	ePKIKP	PKPdf	10 28 14.9	-3.1
ETSF	**Etsaut**	**152.72**	**5**	ePKP1	PKPdf	10 28 26.2	+7.0
	comp=Z,41nm,1.3s						
SLCN	**Sala Consilina**	**152.94**	**338**	ePKP	PKPdf	10 28 30.0	+10
GVD	**Gavdhos**	**152.96**	**319**	ePKPdf	PKPdf	10 28 19.5	-0.2
TIP	**Timpagrande**	**153.56**	**335**	ePKPbc	PKPdf	10 28 27.9	+7.5
ESDC	**Sonseca Array**	**155.38**	**13**	PKPab	PKPab	10 28 47.4	+0.4
	comp=Z,0.5nm,0.5s,baz=346,slow=5.3,SNR=3.2						
ESLA	**Sonseca Array**	**155.38**	**13**	PFAKE		10 28 30.0	+7.1
ESLA				LR	LR		
	comp=Z,16µm,22.0s,MS6.8						
DBIC	**Dimbokro**	**168.35**	**139**	PFAKE		10 28 50.0	+13
DBIC				LR	LR		
	comp=Z,2µm,22.0s						

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*IDC **23** 10:16:16.6±0.8, 15.47S×177.32W, mb4.2/11, mb1 4.5/11, mb1mx4.4/16, Error ellipse: s-maj=54.4km s-min=15.8km az=147.0*

*BJI **23** 10:16:18.5, 15.70S×177.30W, h15^{km}, mB5.2, mb5.0, Ms5.4, Msz5.1*

*NEIC **23** 10:16:19.6±0.4, 15.69S×177.25W, h15^{km}, mb4.7/21, Error ellipse: s-maj=27.0km s-min=8.4km az=149.0*

*SYO **23** 10:16:19.9, 15.64S×177.26W, h15^{km}, MB4.7*

ISC 23 10:16:21.0±0.4**, 15.4S**±0.1×**177.5W**±0.1**, h33^{km}, n44, $\sigma 1\overset{s}{.}$17**/37**, mb4.5**/29**, 3C-2D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**34.78**	**257**	P	**P**	**10 23 11.4**	**+0.7**
	3.5nm,0.8s,mb4.3,baz=85,slow=12,SNR=3.0						
CTAO	**Charters Tower**	**34.78**	**257**	eP	**P**	**10 23 11.9**	**+1.1**
	13nm,1.1s,mb4.8						
STKA	**Stephens Creek**	**40.64**	**239**	eP	**P**	**10 23 59.7**	**-0.1**
	14nm,0.9s,mb4.6						
STKA	**Stephens Creek**	**40.64**	**239**	P	**P**	**10 23 59.6**	**-0.1**
	20nm,1.0s,mb4.7,baz=78,slow=6.7,SNR=9.9						
WRAB	**Tennant Creek**	**45.98**	**257**	eP	**P**	**10 24 42.2**	**-1.0**
	8.2nm,1.0s,mb4.6						
WRA	**Warramunga Arr**	**45.99**	**257**	P	**P**	**10 24 41.7**	**-1.6**
	1.5nm,1.1s,mb3.8,baz=82,slow=6.3,SNR=5.2						
WRA	**Warramunga Arr**	**45.99**	**257**	P	**P**	**10 24 41.7**	**-1.6**
ASAR	**Alice Springs**	**46.35**	**252**	P	**P**	**10 24 44.6**	**-1.5**
	7.6nm,0.7s,mb4.8,baz=86,slow=8.4,SNR=48						
ASPA	**Alice Springs**	**46.35**	**252**	eP	**P**	**10 24 45.8**	**-0.3**
KAKA	**Kakadu**	**48.58**	**266**	eP	**P**	**10 25 07.5**	**+3.8**
	8.9nm,0.8s,mb4.8						
FORT	**Forrest**	**51.90**	**243**	eP	**P**	**10 25 27.9**	**-0.9**
	29nm,0.8s,mb5.3						
FITZ	**Fitzroy Crossi**	**54.33**	**259**	P	**P**	**10 25 47.8**	**+0.8**
	3.1nm,0.8s,mb4.3,baz=103,slow=5.6,SNR=5.2						
NWAO	**Narrogin (SRO)**	**61.18**	**241**	P	**P**	**10 26 37.1**	**+2.1**
	7.9nm,1.0s,mb4.8						
QSPA	**South Pole Qui**	**74.69**	**180**	eP	**P**	**10 27 57.7**	**-0.8**
	5.5nm,1.0s,mb4.4						
CMB	**Columbia Colle**	**75.40**	**43**	P	**P**	**10 28 03.3**	**-0.1**
	4.0nm,1.0s,mb4.3						
YBH	**Yreka Blue Hor**	**76.01**	**39**	P	**P**	**10 28 06.2**	**-0.6**
	2.3nm,0.9s,mb4.1,baz=166,slow=11,SNR=3.8						
NVAR	**Mina Array Bea**	**77.00**	**44**	P	**P**	**10 28 10.9**	**-1.6**
	1.4nm,0.7s,mb4.0,baz=232,slow=10,SNR=11						
MNV	**Mina**	**77.10**	**44**	eP	**P**	**10 28 12.2**	**-0.9**
	9.7nm,1.1s,mb4.7						
TPH	**Tonopah**	**77.54**	**45**	eP	**P**	**10 28 14.4**	**-1.1**
	5.9nm,1.2s,mb4.4						
TPNV	**Topopah Spring**	**77.64**	**46**	eP	**P**	**10 28 15.2**	**-0.9**
	2.7nm,1.0s,mb4.1						
MCK	**McKinley**	**81.87**	**12**	P	**P**	**10 28 38.4**	**+0.2**
	5.1nm,1.1s,mb4.4						
HLID	**Hailey**	**82.15**	**41**	eP	**P**	**10 28 39.6**	**-0.4**
	8.8nm,1.5s,mb4.5						
HWUT	**Hardware Ranch**	**83.06**	**44**	P	**P**	**10 28 45.5**	**+0.8**
	2.0nm,0.9s,mb4.2						
COLA	**College**	**83.11**	**12**	eP	**P**	**10 28 46.2**	**+1.7**
	5.0nm,0.9s,mb4.5						
ILAR	**Eielson Array**	**83.22**	**13**	P	**P**	**10 28 44.4**	**-0.6**
	2.5nm,1.2s,mb4.1,baz=225,slow=5.3,SNR=7.9						
BNM	**Barren Site**	**83.40**	**52**	P	**P**	**10 28 48.0**	**+1.3**
ANMO	**Albuquerque**	**83.84**	**51**	eP	**P**	**10 28 50.9**	**+2.0**
	6.4nm,1.3s,mb4.6						
LTX	**Lajitas**	**83.91**	**58**	eP	**P**	**10 28 51.2**	**+1.8**
	10nm,1.2s,mb4.8						
TXAR	**Lajitas Array**	**83.91**	**58**	P	**P**	**10 28 48.4**	**-1.1**
	1.8nm,1.0s,mb4.2,baz=236,slow=3.3,SNR=7.4						
PDAR	**Pinedale Array**	**84.92**	**43**	P	**P**	**10 28 53.6**	**-0.5**
	0.8nm,0.9s,mb3.9,baz=243,slow=3.3,SNR=5.6						
SDCO	**Great Sand Dun**	**85.65**	**49**	P	**P**	**10 28 57.4**	**-0.5**
	8.5nm,1.6s,mb4.7						
MAW	**Mawson**	**86.54**	**199**	P	**P**	**10 29 01.1**	**-0.4**
	1.8nm,1.0s,mb4.2,baz=198,slow=3.2,SNR=3.0						
MAW	**Mawson**	**86.54**	**199**	eP	**P**	**10 29 00.8**	**-0.7**
	2.2nm,0.9s,mb4.4						
LZH	**Lanzhou**	**90.02**	**307**	eP	**P**	**10 29 21.5**	**+2.6**
LZH				AP	pP	10 29 26.5	-3.0
LZH				XP	sP	10 29 28.5	-4.4
LZH				PP	PP	10 32 58.0	+3.4
LZH				AMB	AMB		
	comp=Z,25nm,1.5s,mb5.3						
LZH	**Lanzhou**	**90.02**	**307**	eP	**P**	**10 29 21.5**	**+2.6**
	comp=Z,25nm,1.5s,mb5.3						
LZH				pP	pP	10 29 26.5	-3.0
LZH				sP	sP	10 29 28.5	-4.4
LZH				PP	PP	10 32 58.0	+3.4
SYO	**Syowa Base**	**91.83**	**193**	⇑P	**P**	**10 29 26.9**	**+0.4**
SYO	**Syowa Base**	**91.83**	**193**	⇓PcP	PcP	10 29 28.0	+0.5
SYO	**Syowa Base**	**91.83**	**193**	⇓pP	pP	10 29 30.2	-6.9
SYO	**Syowa Base**	**91.83**	**193**	⇑sP	sP	10 29 32.3	-8.2
SYO	**Syowa Base**	**91.83**	**193**	⇑PKiKP		10 34 16.5	
SNAA	**Sanae**	**93.12**	**178**	eP	**P**	**10 29 34.3**	**+1.9**
	comp=Z,3.3nm,1.2s,mb4.6						
BRTR	**Keskin Array B**	**143.53**	**318**	PKP	PKPdf	10 35 55.1	+2.6
	comp=Z,2.2nm,1.0s,baz=90,slow=2.5,SNR=4.9						
KHC	**Kasperske Hory**	**145.11**	**347**	ePKPDF	PKPdf	10 35 59.5	+4.4
GERES	**GERESS Array B**	**145.35**	**347**	PKPbc	PKPbc	10 35 56.8	+0.8
	comp=Z,0.7nm,0.7s,slow=6.9,SNR=2.4						

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*LDG **23** 10:24:49.3±0.1, 42.32N×2.16E, h4^{km}, Md2.6/1, Ml2.6/10, Error ellipse: s-maj=3.3km s-min=2.0km az=163.0*

*STR **23** 10:24:49.1±0.6, 42.34N×2.13E, h5^{km}±1^{km}, Ml2.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*NEIC **23** 10:24:49.0, 42.34N×2.14E, h5^{km}, ML2.8(STR), ML2.6(LDG), MN2.2(MDD), After STR.*

*MDD **23** 10:24:49.6±0.2, 42.33N×2.16E, h2^{km}±4^{km}, mbLg2.0/19, Error ellipse: s-maj=2.0km s-min=1.9km az=174.0, AftershockPLICA PRXIMO*

ISC 23 10:24:47.6±0.4**, 42.36N**±0.03×**2.21E**±0.02**, h7^{km}**±3^{km}**, n44, $\sigma 1\overset{s}{.}$47**/72**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBRU	**Bruguera**	**0.08**	**194**	Pg	**Pg**	**10 24 50.3**	**+0.7**
CBRU				Lg		10 24 51.4	
	272nm,0.1s						
VALF	**Valcebollere**	**0.14**	**286**	Pg	**Pg**	**10 24 51.5**	**+0.8**
VALF				Sg	**Sg**	**10 24 53.3**	**+0.5**
VALF	**Valcebollere**	**0.14**	**286**	P	**Pg**	**10 24 51.7**	**+1.0**
VALF				S	**Sg**	**10 24 53.4**	**+0.6**
CLLI	**Llivia**	**0.21**	**304**	Pg	**Pg**	**10 24 53.1**	**+1.2**
CLLI				Lg		10 24 56.0	
	71nm,0.1s						
FILF	**Fillols**	**0.33**	**53**	Pg	**Pg**	**10 24 54.9**	**+0.7**
FILF				Sg	**Sg**	**10 24 59.1**	**+0.4**
FILF	**Fillols**	**0.33**	**53**	P	**Pg**	**10 24 55.0**	**+0.8**
FILF				S	**Sg**	**10 24 59.3**	**+0.6**
CARF	**Carcanieres**	**0.36**	**348**	P	**Pg**	**10 24 56.8**	**+1.9**
CARF				S	**Sg**	**10 25 01.8**	**+2.1**
EJON	**La Jonquera**	**0.51**	**80**	Pg	**Pg**	**10 25 00.1**	**+2.2**
	2.1nm,0.1s,SNR=10.0						
EJON				Lg		10 25 07.4	
	18nm,0.2s,SNR=5.0						
EJON	**La Jonquera**	**0.51**	**80**	Pg	**Pg**	**10 25 00.1**	**+2.2**
EJON				Lg		10 25 07.7	
LRDF	**Laroque-de-Fa**	**0.62**	**23**	Pg	**Pg**	**10 25 02.2**	**+2.1**
LRDF				Sg	**Sg**	**10 25 11.7**	**+3.2**
LRDF	**Laroque-de-Fa**	**0.62**	**23**	P	**Pg**	**10 25 02.3**	**+2.2**
LRDF				S	**Sg**	**10 25 11.6**	**+3.1**
CORG	**Organya**	**0.67**	**259**	Pg	**Pg**	**10 25 01.1**	**+0.1**
CORG				Lg		10 25 09.9	
	5.1nm,0.1s						
EMIR	**Miracle**	**0.68**	**229**	Pg	**Pg**	**10 25 01.0**	**-0.1**
	5.9nm,0.1s,SNR=10.0						
EMIR				Lg		10 25 09.8	
	16nm,0.1s,SNR=5.0						
CSOR	**Sort**	**0.79**	**271**	Pg	**Pg**	**10 25 03.4**	**-0.1**
CSOR				Lg		10 25 14.4	
	9.6nm,0.2s						
SALF	**Salau**	**0.85**	**298**	Pg	**Pg**	**10 25 04.8**	**+0.2**
SALF				Sg	**Sg**	**10 25 15.7**	**-0.2**
SALF	**Salau**	**0.85**	**298**	P	**Pb**	**10 25 04.7**	**+0.4**
SALF				S	**Sb**	**10 25 15.8**	**+0.1**
MTLF	**Montolieu**	**0.98**	**1**	ePg	**Pg**	**10 25 08.2**	**+1.1**
MTLF				ePn	**Pn**	**10 25 09.5**	**+1.9**
MTLF				eSg	**Sg**	**10 25 21.8**	**+1.6**
	14nm,0.2s						
MTLF	**Montolieu**	**0.98**	**1**	Pg	**Pg**	**10 25 08.2**	**+1.1**
MTLF				Lg		10 25 21.8	
	7.1nm,0.2s						
CAVN	**Les Avellanes**	**1.18**	**247**	Pg	**Pg**	**10 25 10.3**	**-0.9**
CAVN				Lg		10 25 25.8	
	34nm,0.2s						
MELF	**Melles**	**1.18**	**296**	Pg	**Pg**	**10 25 11.4**	**+0.2**
MELF	**Melles**	**1.18**	**296**	P	**Pb**	**10 25 11.7**	**+1.7**
MELF				S	**Sb**	**10 25 26.6**	**+1.2**
EPOB	**Poblet**	**1.31**	**220**	Pg	**Pg**	**10 25 12.8**	**-1.0**
	5.7nm,0.1s,SNR=29						
EPOB				Lg		10 25 29.4	
	18nm,0.2s,SNR=16						
EPOB	**Poblet**	**1.31**	**220**	Pg	**Pg**	**10 25 12.8**	**-1.0**
EPOB				Lg		10 25 29.7	
CGAR	**Garraf**	**1.33**	**217**	Lg		10 25 23.0	
	7.9nm,0.2s						
RESF	**Ens**	**1.45**	**289**	S	**Sb**	**10 25 36.0**	**+2.9**
EPF	**Esparros**	**1.53**	**297**	ePn	**Pn**	**10 25 16.4**	**+0.9**
EPF				ePg	**Pg**	**10 25 18.0**	**-0.1**
EPF				eSg	**Sg**	**10 25 38.2**	**-0.3**
	12nm,0.2s						
VIEF	**Viey**	**1.69**	**289**	S	**Sn**	**10 25 44.0**	**+4.0**
LABF	**Labassere**	**1.71**	**294**	S	**Sn**	**10 25 43.1**	**+2.5**
ESAC	**San Caprasio**	**2.09**	**253**	Pn	**Pn**	**10 25 24.7**	**+1.1**
	1.8nm,0.1s,SNR=7.9						
ESAC				Pg	**Pg**	**10 25 27.4**	**-2.0**
	11nm,0.3s,SNR=7.9						
ESAC				Lg		10 25 54.3	
	27nm,0.3s,SNR=8.8						
ESAC	**San Caprasio**	**2.09**	**253**	Pg	**Pg**	**10 25 27.0**	**-2.4**
ESAC				Lg		10 25 54.8	
LASF	**Ste Croix**	**2.10**	**35**	ePn	**Pn**	**10 25 24.8**	**+1.2**
LASF				ePg	**Pg**	**10 25 29.1**	**-0.3**
LASF				eSn	**Sn**	**10 25 46.8**	**-3.4**
LASF				eSg	**Sg**	**10 25 56.8**	**-0.6**
	5.4nm,0.3s						
ETSF	**Etsaut**	**2.11**	**286**	ePg	**Pg**	**10 25 27.8**	**-1.9**
ETSF				eSn	**Sn**	**10 25 48.6**	**-2.0**
ETSF				eSg	**Sg**	**10 25 55.1**	**-2.7**
	15nm,0.3s						
CAF	**Calviac**	**2.56**	**358**	ePn	**Pn**	**10 25 30.8**	**+0.5**
CAF				ePg	**Pg**	**10 25 36.9**	**-1.9**
CAF				eSg	**Sg**	**10 26 10.0**	**-3.0**
	7.6nm,0.3s						
SJPF	**Ste Jean**	**2.64**	**288**	ePg	**Pg**	**10 25 37.3**	**-2.9**
SJPF				eSg	**Sg**	**10 26 11.6**	**-3.8**
	3.7nm,0.3s						
LFF	**La Frestale**	**2.79**	**338**	eSg	**Sg**	**10 26 17.7**	**-2.7**
	13nm,0.3s						
RJF	**Les Rejaudoux**	**2.98**	**351**	ePn	**Pn**	**10 25 36.7**	**+0.4**
RJF				ePg	**Pg**	**10 25 45.3**	**-1.8**
RJF				eSg	**Sg**	**10 26 24.0**	**-2.9**
	2.5nm,0.2s						
VIVF	**Saint-Julien-l**	**3.07**	**35**	ePn	**Pn**	**10 25 37.5**	**0.0**
VIVF				ePg	**Pg**	**10 25 46.5**	**-2.4**
VIVF				eSn	**Sn**	**10 26 13.7**	**-1.3**
VIVF				eSg	**Sg**	**10 26 27.4**	**-2.4**
	2.2nm,0.2s						
LMR	**La Mourre**	**3.31**	**71**	ePn	**Pn**	**10 25 41.4**	**+0.5**
LMR				eSn	**Sn**	**10 26 19.3**	**-1.8**
	1.3nm,0.3s						
FRF	**La Foret Royal**	**3.47**	**68**	ePn	**Pn**	**10 25 43.3**	**0.0**
ORIF	**Oris-en-Rattie**	**3.69**	**45**	ePn	**Pn**	**10 25 48.6**	**+2.2**
SBF	**Sospel**	**4.11**	**67**	ePn	**Pn**	**10 25 52.2**	**-0.1**
PGF	**Pioggiola**	**5.03**	**86**	ePn	**Pn**	**10 26 02.5**	**-2.9**
SGMF	**Saint Gilles**	**6.78**	**332**	ePn	**Pn**	**10 26 27.8**	**-2.2**
ROSF	**Rostrenen**	**7.11**	**329**	ePn	**Pn**	**10 26 34.1**	**-0.6**

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*IDC **23** 10:45:06.1±1.9, 14.62S×177.74W, mb3.6/5, mb1 4.0/5, mb1mx3.8/13, Error ellipse: s-maj=125.0km s-min=24.3km az=151.0*

ISC 23 10:45:28.0±1.9**, 14.7S**±0.7×**178.0W**±0.5**, h200^{km}, n5, $\sigma 1\overset{s}{.}$29**/5**, mb3.1**/5**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.72**	**256**	P	**P**	**10 53 32.6**	**+1.4**
	0.8nm,1.2s,mb2.9,baz=91,slow=6.6,SNR=2.3						
ASAR	**Alice Springs**	**46.15**	**251**	P	**P**	**10 53 33.2**	**-1.3**
	1.1nm,0.6s,mb3.3,baz=84,slow=7.8,SNR=13						
NVAR	**Mina Array Bea**	**76.85**	**44**	P	**P**	**10 57 00.2**	**+0.7**
	0.3nm,0.7s,mb3.1,baz=217,slow=6.7,SNR=3.8						
ILAR	**Eielson Array**	**82.71**	**13**	P	**P**	**10 57 29.7**	**-0.5**
	0.3nm,0.9s,mb3.0,baz=202,slow=6.8,SNR=4.3						
TXAR	**Lajitas Array**	**83.93**	**58**	P	**P**	**10 57 37.0**	**-0.2**
	0.5nm,1.0s,mb3.2,baz=211,slow=5.3,SNR=3.1						

DJA 23 10:50:37.6±1.0**, 8.65S**×**117.06E, h212^{km}**±7^{km}**, MD4.8**/2**, ML4.1**/3**, 5C-1D, Error ellipse: s-maj=67.6km s-min=29.8km az=171.0, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**0.95**	**280**	ePn	P	10 51 08.7	+0.3
	114nm,0.2s						
KEDI				⇑eSn	S	10 51 31.4	-0.9
RATI	**Rata**	**1.52**	**267**	⇓ePn	P	10 51 13.0	+0.2
RATI				⇑eSn	S	10 51 38.4	-1.6
INGI	**Ingas**	**1.90**	**265**	⇑ePn	P	10 51 16.4	0.0
	378nm,0.2s						
INGI				⇑eSn	S	10 51 45.2	-1.1
KELI	**Kelakatan**	**2.58**	**279**	⇑ePn	P	10 51 23.9	+0.3
	57nm,0.3s						

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*MDD **23** 10:55:46.7±0.9, 42.38N×2.22E, h4^{km}±6^{km}, mbLg1.2/3, Error ellipse: s-maj=9.0km s-min=4.0km az=9.0, PRXIMO AftershockPLICA*

*LDG **23** 10:55:47.0±0.3, 42.38N×2.17E, h4^{km}, Md2.0/1, Ml1.9/8, Error ellipse: s-maj=5.3km s-min=2.5km az=169.0*

ISC 23 10:55:45.2±0.9**, 42.46N**±0.05×**2.14E**±0.04**, h6^{km}**±5^{km}**, n12, $\sigma 1\overset{s}{.}$30**/27**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EJON	**La Jonquera**	**0.55**	**90**	Pg	**Pg**	**10 55 56.6**	**+0.3**
	13nm,1.0s,SNR=7.1						
EJON				Lg		10 56 01.6	
	10.0nm,1.0s,SNR=6.1						
MTLF	**Montolieu**	**0.89**	**4**	ePg	**Pg**	**10 56 04.9**	**+2.0**
MTLF				ePn	**Pn**	**10 56 06.2**	**+2.2**
MTLF				eSg	**Sg**	**10 56 17.1**	**+2.3**
	6.2nm,0.2s						
EPF	**Esparros**	**1.45**	**294**	ePn	**Pn**	**10 56 13.2**	**+1.1**
EPF				ePg	**Pg**	**10 56 15.2**	**+1.1**
EPF				eSn	**Sn**	**10 56 31.7**	**+0.1**
EPF				eSg	**Sg**	**10 56 34.5**	**+1.1**
	0.7nm,0.3s						
ETSF	**Etsaut**	**2.04**	**283**	ePg	**Pg**	**10 56 25.0**	**-1.0**
ETSF				eSn	**Sn**	**10 56 45.2**	**-1.4**
ETSF				eSg	**Sg**	**10 56 52.4**	**-0.8**
	1.6nm,0.4s						
LASF	**Ste Croix**	**2.05**	**37**	ePn	**Pn**	**10 56 21.1**	**+0.5**
LASF				ePg	**Pg**	**10 56 25.6**	**-0.5**
LASF				eSn	**Sn**	**10 56 43.9**	**-2.9**
LASF				eSg	**Sg**	**10 56 52.4**	**-1.0**
	0.7nm,0.2s						
CAF	**Calviac**	**2.47**	**359**	ePn	**Pn**	**10 56 27.4**	**+0.7**
CAF				eSg	**Sg**	**10 57 06.9**	**-0.6**
	1.3nm,0.3s						
SJPF	**Ste Jean**	**2.56**	**286**	eSg	**Sg**	**10 57 08.1**	**-2.5**
	0.5nm,0.2s						
LFF	**La Frestale**	**2.68**	**338**	ePn	**Pn**	**10 56 31.2**	**+1.5**
LFF				eSg	**Sg**	**10 57 14.2**	**-0.3**
	2.1nm,0.3s						
RJF	**Les Rejaudoux**	**2.88**	**351**	ePn	**Pn**	**10 56 33.2**	**+0.6**
RJF				ePg	**Pg**	**10 56 41.5**	**-1.3**
VIVF	**Saint-Julien-l**	**3.02**	**37**	ePn	**Pn**	**10 56 34.1**	**-0.5**
VIVF				ePg	**Pg**	**10 56 43.3**	**-2.2**
VIVF				eSn	**Sn**	**10 57 10.5**	**-1.0**
	0.8nm,0.3s						
LMR	**La Mourre**	**3.33**	**73**	ePn	**Pn**	**10 56 38.2**	**-0.7**
LPG	**La Plagne**	**4.51**	**46**	ePn	**Pn**	**10 56 57.7**	**+2.0**

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*MOS **23** 11:00:01.2±0.8, 44.99N×150.48E, h79^{km}, mb4.3/1, Error ellipse: s-maj=41.8km s-min=27.6km az=2.5*

*IDC **23** 11:00:02.3±4.8, 45.21N×150.62E, h59^{km}±44^{km}, mb3.4/6, mb1 3.6/7, mb1mx3.5/23, ML3.8/1, Error ellipse: s-maj=31.5km s-min=25.6km az=152.0*

ISC 23 10:59:57.2±2.1, 45.2N±0.2×150.8E±0.2, h33^{km}±18^{km}, n12, σ1^{s}13/13, mb3.6/6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YUK	**Yuzh-Kuril'sk**	**3.72**	**253**	*e*PN	**P**	**11 00 53.4**	**-0.4**
YUK				*e*S	**S**	**11 01 31.1**	**-6.0**
YUK				smax			
	comp=N,420nm,0.4s						
YUK				smax			
	comp=E,210nm,0.4s						
YSS	**Yuzh-Sakhalins**	**5.87**	**290**	*e*PN	**P**	**11 01 25.5**	**+1.5**
ASAJ	**Asahikawa**	**5.96**	**262**	P	**P**	**11 01 25.4**	**+0.1**
	comp=E,2.2nm,0.3s,baz=84,slow=20,SNR=16						
ASAJ	**Asahikawa**	**5.96**	**262**	PN	**P**	**11 01 25.5**	**+0.2**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
SKR	**Severo-Kuril's**	**6.53**	**31**	*e*PN	**P**	**11 01 31.7**	**-1.7**
SKR				pmax	pmax		
	comp=Z,30nm,0.5s						
SONM	**Songino Array**	**30.36**	**291**	P	**P**	**11 06 07.3**	**-0.6**
	comp=Z,1.1nm,0.8s,mb3.6,baz=74,slow=9.0,SNR=4.9						
ILAR	**Eielson Array**	**38.75**	**37**	P	**P**	**11 07 21.8**	**+2.2**
	comp=Z,0.3nm,0.7s,mb3.1,baz=254,slow=6.8,SNR=6.6						
MKAR	**Makanchi Array**	**46.23**	**298**	P	**P**	**11 08 21.2**	**+0.6**
	comp=Z,3.2nm,0.7s,mb4.3,baz=71,slow=7.8,SNR=28						
FINES	**FINESS Array B**	**64.74**	**334**	P	**P**	**11 10 32.3**	**-1.4**
	comp=Z,1.2nm,0.6s,mb4.1,baz=18,slow=6.0,SNR=6.2						
FINES	**FINESS Array B**	**64.74**	**334**	P	**P**	**11 10 32.3**	**-1.4**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR	**Alice Springs**	**70.26**	**196**	P	**P**	**11 11 08.9**	**0.0**
	comp=Z,0.4nm,0.8s,mb3.4,baz=13,slow=7.0,SNR=4.9						
TXAR	**Lajitas Array**	**79.66**	**59**	P	**P**	**11 12 03.8**	**+0.9**
	comp=Z,0.2nm,0.5s,mb3.3,baz=300,slow=4.8,SNR=4.8						

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*NEIC **23** 11:04:55.2±3.7, 28.53N×142.16E, h30^{km}±26^{km}, mb4.4/7, Error ellipse: s-maj=14.3km s-min=9.2km az=87.0*

*IDC **23** 11:04:56.6±3.7, 28.52N×142.05E, h38^{km}±34^{km}, mb3.6/10, mb1 3.8/10, mb1mx3.7/21, MS3.6/1, Ms1 3.6/1, ms1mx3.4/24, Error ellipse: s-maj=26.6km s-min=18.5km az=77.0*

ISC 23 11:04:53.3±3.1, 28.61N±0.05×142.1E±0.1, h28^{km}±23^{km}, n26, σ1^{s}01/28, mb4.1/17, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.51**	**178**	Pn	**Pn**	**11 05 19.7**	**+0.8**
	9.2nm,0.3s,baz=96,slow=15,SNR=11						
CBIJ				Sn	**Sn**	**11 05 38.4**	**+0.5**
	65nm,0.3s,baz=269,slow=23,SNR=21						
JHJ	**Hachijo jima 2**	**4.92**	**337**	LR	LR	11 07 21.2	
	comp=Z,609nm,19.3s,baz=117,slow=29						
MAJO	**Matsushiro**	**8.56**	**338**	*e*Pn	**P**	**11 06 58.2**	**-0.3**
MAT	**Matsushiro**	**8.56**	**338**	P	**P**	**11 06 58.2**	**-0.3**
MAT				S	**Sn**	**11 08 31.6**	**-3.6**
MAT	**Matsushiro**	**8.56**	**338**	*e*P	**P**	**11 06 58.0**	**-0.5**
MAT				*e*S	**Sn**	**11 08 32.0**	**-3.2**
HIA	**Hailar**	**26.80**	**326**	*e*P	**P**	**11 10 34.6**	**+1.8**
	10nm,1.4s,mb4.2						
SONM	**Songino Array**	**33.59**	**315**	P	**P**	**11 11 33.8**	**+0.7**
	0.8nm,0.7s,mb3.8,baz=100,slow=8.8,SNR=3.3						
CMAR	**Chiang Mai Arr**	**40.66**	**265**	P	**P**	**11 12 32.4**	**-0.5**
	0.5nm,0.4s,mb3.5,baz=47,slow=9.1,SNR=4.1						
ZAL	**Zalesovo**	**48.32**	**318**	P	**P**	**11 13 34.7**	**+0.7**
	1.3nm,0.4s,mb4.3,baz=289,slow=6.5,SNR=4.8						
ZAL	**Zalesovo**	**48.32**	**318**	P	**P**	**11 13 34.7**	**+0.6**
WRAB	**Tennant Creek**	**48.84**	**190**	*e*P	**P**	**11 13 37.4**	**-1.1**
	8.2nm,0.8s,mb4.8						
WB2	**Warramunga Arr**	**48.85**	**190**	*e*P	**P**	**11 13 37.5**	**-1.0**
WRA	**Warramunga Arr**	**48.85**	**190**	P	**P**	**11 13 37.7**	**-0.9**
	2.7nm,0.7s,mb4.4,baz=11,slow=8.2,SNR=23						
MKAR	**Makanchi Array**	**49.47**	**309**	P	**P**	**11 13 43.1**	**+0.1**
	1.6nm,0.7s,mb4.2,baz=95,slow=9.6,SNR=15						
MKAR				PcP	PcP	11 15 05.2	+0.1
	0.3nm,0.3s,baz=90,slow=4.3,SNR=4.3						
KURK	**Kurchatov**	**51.89**	**314**	*e*P	**P**	**11 14 01.2**	**-0.1**
	6.6nm,0.9s,mb4.6						
ASAR	**Alice Springs**	**52.57**	**189**	P	**P**	**11 14 05.7**	**-1.2**
	0.3nm,0.7s,mb3.3,baz=13,slow=8.1,SNR=3.7						
AAK	**Ala-Archa**	**55.35**	**304**	*e*P	**P**	**11 14 26.8**	**-0.2**
	1.4nm,0.8s,mb4.0						
ILAR	**Eielson Array**	**56.42**	**29**	P	**P**	**11 14 34.0**	**-0.3**
	0.9nm,1.0s,mb3.8,baz=257,slow=5.5,SNR=7.2						
BRVK	**Borovoye**	**56.95**	**317**	*e*P	**P**	**11 14 38.6**	**+0.2**
	1.6nm,0.6s,mb4.2						
INK	**Inuvik**	**61.68**	**25**	*e*P	**P**	**11 15 08.9**	**-1.9**
	0.5nm,0.5s,mb3.9						
ARU	**Arti**	**63.19**	**322**	*e*P	**P**	**11 15 21.1**	**+0.1**
	14nm,1.4s,mb4.9						
FINES	**FINESS Array B**	**76.56**	**334**	P	**P**	**11 16 43.2**	**+0.8**
	0.9nm,0.8s,mb3.8,baz=90,slow=2.8,SNR=3.0						
NVAR	**Mina Array Bea**	**79.63**	**52**	P	**P**	**11 17 01.6**	**+1.9**
	0.6nm,0.9s,mb3.5,baz=297,slow=6.8,SNR=4.2						
RAYN	**Ar Rayn**	**84.48**	**294**	P	**P**	**11 17 27.4**	**+2.2**
	33nm,0.7s,SNR=8.3						
BRTR	**Keskin Array B**	**84.93**	**313**	P	**P**	**11 17 26.4**	**-0.7**
	1.0nm,0.7s,mb4.1,baz=121,slow=7.2,SNR=4.6						
PV10	**Paradox Valley**	**85.91**	**48**	P	**P**	**11 17 32.2**	**+0.2**

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*IDC **23** 11:47:23.5±1.1, 4.16N×126.70E, mb3.9/8, mb1 4.1/8, mb1mx4.0/17, Error ellipse: s-maj=69.0km s-min=15.3km az=67.0*

*NEIC **23** 11:47:37.3±6.2, 4.16N×126.83E, h123^{km}±63^{km}, mb4.3/7, Error ellipse: s-maj=26.6km s-min=12.2km az=72.0*

ISC 23 11:47:33.7±1.8, 4.21N±0.09×126.8E±0.2, h106^{km}±17^{km}, n19, σ0^{s}78/19, mb4.0/13, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**2.61**	**316**	*e*P	**P**	**11 48 15.0**	**-0.3**
KAKA	**Kakadu**	**17.70**	**162**	*e*P	**P**	**11 51 36.9**	**+1.9**
	14nm,1.0s						
FITZ	**Fitzroy Crossi**	**22.19**	**183**	*e*P	**P**	**11 52 22.0**	**-0.2**
	3.9nm,0.6s,mb3.9						
FITZ	**Fitzroy Crossi**	**22.19**	**183**	P	**P**	**11 52 20.3**	**-1.9**
	4.2nm,0.7s,mb3.9,baz=9.1,slow=5.8,SNR=12						
WRAB	**Tennant Creek**	**25.11**	**163**	*e*P	**P**	**11 52 50.4**	**0.0**
	16nm,1.0s,mb4.4						
WRA	**Warramunga Arr**	**25.12**	**163**	P	**P**	**11 52 49.9**	**-0.6**
	8.0nm,1.0s,mb4.1,baz=342,slow=10,SNR=29						
WB2	**Warramunga Arr**	**25.12**	**163**	*e*P	**P**	**11 52 50.2**	**-0.4**
MBWA	**Marble Bar**	**26.14**	**195**	*e*P	**P**	**11 52 59.8**	**-0.1**
	9.0nm,1.2s,mb4.1						
ASAR	**Alice Springs**	**28.56**	**166**	P	**P**	**11 53 21.2**	**-0.7**
	0.6nm,0.7s,mb3.3,baz=356,slow=8.5,SNR=11						
CMAR	**Chiang Mai Arr**	**30.68**	**300**	P	**P**	**11 53 40.7**	**-0.1**
	0.7nm,0.6s,mb3.6,baz=121,slow=8.0,SNR=5.1						
MAJO	**Matsushiro**	**33.86**	**17**	P	**P**	**11 54 07.0**	**-1.2**
	4.1nm,0.7s,mb4.4						
STKA	**Stephens Creek**	**38.55**	**160**	*e*P	**P**	**11 54 49.0**	**+1.2**
	3.1nm,0.7s,mb4.2						
STKA	**Stephens Creek**	**38.55**	**160**	P	**P**	**11 54 48.6**	**+0.9**
	3.5nm,0.7s,mb4.3,baz=328,slow=9.0,SNR=7.7						
STKA	**Stephens Creek**	**38.55**	**160**	*e*P	**P**	**11 54 48.1**	**+0.3**
SONM	**Songino Array**	**46.87**	**341**	P	**P**	**11 55 56.0**	**+1.1**
	0.3nm,0.5s,mb3.3,baz=149,slow=8.4,SNR=2.6						
MKAR	**Makanchi Array**	**57.19**	**325**	P	**P**	**11 57 12.3**	**+0.2**
	1.2nm,0.7s,mb4.0,baz=129,slow=7.9,SNR=14						
KURK	**Kurchatov**	**61.37**	**327**	*e*P	**P**	**11 57 40.9**	**+0.2**
	6.7nm,0.7s,mb4.8						
BVAR	**Borovoye Array**	**66.95**	**327**	P	**P**	**11 58 16.7**	**-0.3**
	0.9nm,0.8s,mb3.7,baz=108,slow=4.7,SNR=4.1						
ZRNK	**Zerenda**	**67.68**	**326**	*e*P	**P**	**11 58 22.2**	**+0.7**
	2.2nm,0.8s,mb4.0						

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*MOS **23** 11:52:56.7±1.0, 4.17N×126.52E, h33^{km}, mb4.7/10, Error ellipse: s-maj=28.1km s-min=12.1km az=109.1*

*IDC **23** 11:52:58.8±2.3, 4.09N×126.67E, h41^{km}±19^{km}, mb4.1/16, mb1 4.3/16, mb1mx4.2/20, Error ellipse: s-maj=29.2km s-min=8.6km az=77.0*

*BJI **23** 11:52:59.7, 4.10N×126.60E, h45^{km}, mB5.1, mb5.0, Ms4.4, Msz4.1*

*NEIC **23** 11:52:59.9±2.6, 4.13N×126.64E, h46^{km}±26^{km}, mb4.8/25, Error ellipse: s-maj=17.5km s-min=6.6km az=78.0*

*SYO **23** 11:53:01.5, 4.07N×126.58E, h58^{km}, MB4.8*

ISC 23 11:53:00.7±0.9, 4.14N±0.04×126.59E±0.09, h69^{km}±8^{km}, n85, σ1^{s}30/97, mb4.6/41, 2C-3D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**2.53**	**320**	*e*P	**P**	**11 53 41.0**	**+0.5**
CTBH	**Cotabato--PC H**	**3.84**	**323**	*e*P	**P**	**11 54 00.8**	**+1.9**
CTBH				*i* S	**S**	**11 54 31.7**	**-11**
BUKP	**Musuan**	**4.01**	**338**	*e*P	**P**	**11 54 02.5**	**+1.3**
BIPH	**Bislig**	**4.02**	**357**	⇑*e*P	**P**	**11 54 03.6**	**+2.3**
BIPH				*e*S	**S**	**11 54 56.5**	**+9.0**
CGP	**Cagayan de Oro**	**4.68**	**336**	⇓*e*P	**P**	**11 54 16.6**	**+6.1**
PAGZ	**Pagadian**	**4.87**	**319**	*e*P	**P**	**11 54 13.0**	**-0.2**
BUTP	**Butuan**	**4.89**	**349**	*e*P	**P**	**11 54 18.1**	**+4.6**
IPIL	**Ipil**	**5.39**	**312**	*e*P	**P**	**11 54 19.7**	**-0.7**
SCPH	**Surigao**	**5.71**	**349**	⇑*e*P	**P**	**11 54 31.9**	**+7.2**
TBP	**Tagbilaran**	**6.14**	**334**	*e*P	**P**	**11 54 27.8**	**-2.9**
KAKA	**Kakadu**	**17.70**	**161**	*e*P	**P**	**11 57 04.2**	**-0.1**
	30nm,0.6s						
KAKA				*e*S	**S**	**12 00 24.3**	**+7.8**
QIZ	**Qiongzhong**	**22.05**	**313**	*e*P	**P**	**11 57 53.9**	**+2.7**
	21nm,1.1s,mb4.4						
QIZ				*e*		11 58 05.3	
QIZ				*e*		11 58 20.3	
FITZ	**Fitzroy Crossi**	**22.12**	**182**	*e*P	**P**	**11 57 50.6**	**-1.2**
	23nm,1.0s,mb4.5						
FITZ				*e*S	**S**	**12 01 50.1**	**+3.9**
FITZ	**Fitzroy Crossi**	**22.12**	**182**	P	**P**	**11 57 50.8**	**-1.1**
	16nm,0.8s,mb4.4,baz=12,slow=12,SNR=20						
FITZ				S	**S**	**12 01 49.5**	**+3.3**
	12nm,1.1s,baz=188,slow=18,SNR=7.4						
JOW	**Kunigami**	**22.62**	**4**	P	**P**	**11 57 56.6**	**-0.1**
	12nm,0.9s,mb4.2,baz=176,slow=4.6,SNR=2.3						
WRAB	**Tennant Creek**	**25.11**	**163**	*e*P	**P**	**11 58 20.0**	**-0.9**
	56nm,0.8s,mb5.0						
WRA	**Warramunga Arr**	**25.12**	**163**	P	**P**	**11 58 19.4**	**-1.5**
	19nm,0.6s,mb4.7,baz=343,slow=10,SNR=91						
WRA				S	**S**	**12 02 40.9**	**+2.9**
	2.2nm,1.2s,baz=352,slow=18,SNR=3.2						
WRA	**Warramunga Arr**	**25.12**	**163**	P	**P**	**11 58 19.4**	**-1.6**
WRA				S	**S**	**12 02 40.9**	**+2.9**
WRA				pmax	pmax		
	comp=Z,19nm,0.6s						
WRA				smax			
	comp=N,2.0nm,1.2s						
WB2	**Warramunga Arr**	**25.12**	**163**	*e*P	**P**	**11 58 19.8**	**-1.2**
WB2				*e*S	**S**	**12 02 43.2**	**+5.1**
MBWA	**Marble Bar**	**26.03**	**195**	*e*P	**P**	**11 58 28.4**	**-1.0**
	comp=N,18nm,1.0s,mb4.5						
KKTK	**Khon Kaen**	**26.30**	**299**	P	**P**	**11 58 38.0**	**+6.0**
SSE	**Sheshan**	**27.29**	**350**	*e*P	**P**	**11 58 39.0**	**-1.9**
SSE				S	**S**	**12 03 17.4**	**+3.8**
SSE				AMB	AMB		
	comp=Z,31nm,0.7s,mb5.0						
SSE				AMB	AMB		
	comp=Z,143nm,9.6s						
SSE				LR	LR		
	comp=N,207nm,20.4s						
SSE				LR	LR		
	comp=E,68nm,20.4s						
SSE				LR	LR		
	comp=Z,243nm,19.9s						
SSE	**Sheshan**	**27.29**	**350**	*e*P	**P**	**11 58 39.0**	**-1.9**
	comp=Z,31nm,0.7s,mb5.0						
SSE				S	**S**	**12 03 17.4**	**+3.8**
SSE				sS		12 03 31.6	
ASAR	**Alice Springs**	**28.55**	**166**	P	**P**	**11 58 49.8**	**-2.5**
	comp=Z,2.6nm,0.6s,mb4.0,baz=344,slow=6.4,SNR=39						
ASAR				S	**S**	**12 03 37.1**	**+3.3**
	comp=Z,1.1nm,1.0s,baz=345,slow=21,SNR=2.8						
ASPA	**Alice Springs**	**28.55**	**166**	*e*P	**P**	**11 58 53.2**	**+0.9**
ASPA				*e*S	**S**	**12 03 52.0**	**+18**
WHN	**Wuhan**	**28.69**	**338**	*e*P	**P**	**11 58 52.3**	**-1.2**
NJ2	**Nanjing**	**28.70**	**346**	*e*P	**P**	**11 58 54.1**	**+0.5**
NJ2				AP	pP	11 59 03.6	-6.5
NJ2				XP	sP	11 59 07.6	-11
NJ2				PP	PP	11 59 47.5	-0.8
NJ2				S	**S**	**12 03 41.0**	**+4.8**
NJ2				XS		12 03 56.0	
NJ2				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.0						
NJ2				LR	LR		
	comp=N,540nm,19.9s						
NJ2				LR	LR		
	comp=E,430nm,20.9s						
NJ2				LR	LR		
	comp=Z,470nm,19.1s						
JNU	**Nakatsue**	**29.11**	**7**	P	**P**	**11 58 54.4**	**-2.8**
	comp=Z,55nm,0.4s,mb5.6,baz=166,slow=2.2,SNR=3.7						
CM31	**Chiang Mai Arr**	**30.54**	**300**	P	**P**	**11 59 09.4**	**-0.7**
	comp=Z,6.8nm,1.1s,mb4.3						
CMAR	**Chiang Mai Arr**	**30.54**	**300**	P	**P**	**11 59 09.9**	**-0.2**
	comp=Z,1.9nm,0.6s,mb4.0,baz=117,slow=7.3,SNR=14						
CMAR	**Chiang Mai Arr**	**30.54**	**300**	P	**P**	**11 59 10.0**	**-0.1**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ENH	**Enshi**	**30.60**	**330**	P	**P**	**11 59 09.9**	**-0.6**
CHG	**Chiang Mai**	**30.69**	**301**	P	**P**	**11 59 12.1**	**+0.7**
KS15	**Wonju Array Si**	**33.16**	**2**	P	**P**	**11 59 33.0**	**+0.2**
XAN	**Xi'an**	**33.99**	**333**	P	**P**	**11 59 38.5**	**-1.4**
XAN				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.5						
FORT	**Forrest**	**34.75**	**178**	*e*P	**P**	**11 59 46.2**	**-0.3**
	comp=Z,46nm,0.7s,mb5.4						
BJT	**Baijiatuau**	**36.94**	**347**	P	**P**	**12 00 07.3**	**+2.4**
	comp=Z,38nm,1.2s,mb5.2						
NWAO	**Narrogin (SRO)**	**37.92**	**193**	P	**P**	**12 00 13.4**	**+0.3**
	comp=Z,9.8nm,0.9s,mb4.6,baz=354,slow=9.5,SNR=6.9						
NWAO	**Narrogin (SRO)**	**37.92**	**193**	P	**P**	**12 00 13.4**	**+0.2**
NWAO				pmax	pmax		
	comp=Z,10.0nm,0.9s						
NWAO	**Narrogin (SRO)**	**37.92**	**193**	*e*P	**P**	**12 00 10.5**	**-2.7**
	comp=Z,17nm,1.2s,mb4.8						
LZH	**Lanzhou**	**38.08**	**329**	*e*P	**P**	**12 00 14.5**	**+0.1**
LZH				AP	pP	12 00 27.5	-4.1
LZH				XP	sP	12 00 36.5	-3.3
LZH				AMB	AMB		
	comp=Z,40nm,1.3s,mb5.1						
LZH	**Lanzhou**	**38.08**	**329**	*e*P	**P**	**12 00 14.5**	**+0.1**
	comp=Z,40nm,1.3s,mb5.1						
LZH				pP	pP	12 00 27.5	-4.1
LZH				sP	sP	12 00 36.5	-3.3
STKA	**Stephens Creek**	**38.56**	**159**	*e*P	**P**	**12 00 18.9**	**+0.4**
	comp=Z,19nm,0.9s,mb4.9						
STKA	**Stephens Creek**	**38.56**	**159**	P	**P**	**12 00 18.3**	**-0.2**
	comp=Z,25nm,0.9s,mb5.0,baz=334,slow=7.7,SNR=36						
MDJ	**Mudanjiang**	**40.40**	**3**	*e*P	**P**	**12 00 33.8**	**+0.2**
	comp=Z,13nm,1.6s,mb4.5						
ADE	**Adelaide**	**40.54**	**165**	*e*P	**P**	**12 00 36.2**	**+1.3**
YSS	**Yuzh-Sakhalins**	**44.88**	**16**	*e*P	**P**	**12 01 10.6**	**+0.4**
YSS				pmax	pmax		
	comp=Z,8.0nm,1.4s,mb4.3						
YSS				MLR	MLR		
	comp=Z,200nm,17.0s						
YSS	**Yuzh-Sakhalins**	**44.88**	**16**	P	**P**	**12 01 09.0**	**-1.1**
	comp=Z,5.6nm,0.7s,mb4.4						
HIA	**Hailar**	**45.34**	**354**	P	**P**	**12 01 15.3**	**+1.6**
	comp=Z,14nm,1.1s,mb4.6						
SONM	**Songino Array**	**46.86**	**341**	P	**P**	**12 01 24.2**	**-1.6**
	comp=Z,0.9nm,0.5s,mb3.8,baz=164,slow=10,SNR=6.3						
HYB	**Hyderabad**	**48.84**	**289**	*i* P	**P**	**12 01 43.0**	**+1.4**
ZAK	**Zakamensk**	**50.09**	**341**	*e*P	**P**	**12 01 49.5**	**-1.3**
MKAR	**Makanchi Array**	**57.14**	**325**	P	**P**	**12 02 41.6**	**-1.1**
	comp=Z,3.2nm,0.7s,mb4.5,baz=129,slow=8.2,SNR=31						
MKAR				ScP		12 07 34.4	
	comp=Z,0.2nm,0.6s,baz=117,slow=6.4,SNR=2.4						
YAK	**Yakutsk**	**57.80**	**2**	*e*P	**P**	**12 02 47.1**	**0.0**
YAK				pmax	pmax		
	comp=Z,18nm,0.8s,mb5.2						
YAK				MLR	MLR		
	comp=Z,300nm,20.0s						
YAK	**Yakutsk**	**57.80**	**2**	P	**P**	**12 02 46.5**	**-0.6**
	comp=Z,20nm,0.8s,mb5.2						
AAK	**Ala-Archa**	**59.96**	**318**	*e*P	**P**	**12 03 00.9**	**-1.4**
AAK	**Ala-Archa**	**59.96**	**318**	*e*P	**P**	**12 02 59.7**	**-2.6**
	comp=Z,14nm,1.6s,mb4.7						
ZAL	**Zalesovo**	**60.16**	**333**	P	**P**	**12 03 02.3**	**-1.2**
	comp=Z,1.3nm,0.4s,mb4.4,baz=153,slow=2.3,SNR=3.9						
ZAL	**Zalesovo**	**60.16**	**333**	P	**P**	**12 03 02.3**	**-1.2**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KURK	**Kurchatov**	**61.32**	**327**	*e*P	**P**	**12 03 10.4**	**-1.0**
KURK	**Kurchatov**	**61.32**	**327**	*e*P	**P**	**12 03 06.4**	**-5.1**
	comp=Z,8.9nm,0.6s,mb5.0						
NVS	**Novosibirsk**	**61.44**	**333**	*e*P	**P**	**12 03 10.4**	**-1.8**
BVAR	**Borovoye Array**	**66.90**	**327**	P	**P**	**12 03 47.4**	**-0.4**
	comp=Z,1.6nm,0.6s,mb4.1,baz=124,slow=11,SNR=11						
BRVK	**Borovoye**	**66.97**	**327**	*e*P	**P**	**12 03 47.8**	**-0.4**
	comp=Z,12nm,1.2s,mb4.6						
TIXI	**Tiksi**	**67.43**	**1**	*e*P	**P**	**12 03 51.4**	**+0.6**
TIXI				*e*		12 04 01.3	
TIXI				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.6						
TIXI				MLR	MLR		
	comp=Z,200nm,20.0s						
ZRNK	**Zerenda**	**67.62**	**326**	*e*P	**P**	**12 03 51.0**	**-1.3**
	comp=Z,11nm,1.0s,mb4.7						
ZEI	**Tsey**	**81.84**	**312**	*e*P	**P**	**12 05 08.0**	**-6.0**
ZEI				*e*		12 05 15.0	
ZEI				*e*		12 15 23.0	
MCK	**McKinley**	**83.86**	**26**	*e*P	**P**	**12 05 26.5**	**+2.6**
	comp=Z,9.5nm,1.4s,mb4.4						
MAW	**Mawson**	**84.09**	**200**	*e*P	**P**	**12 05 27.1**	**+2.2**
	comp=Z,2.8nm,1.4s,mb3.9						
MAW	**Mawson**	**84.09**	**200**	P	**P**	**12 05 26.0**	**+1.1**
	comp=Z,2.7nm,1.0s,mb4.0,baz=338,slow=3.2,SNR=5.2						
MAW	**Mawson**	**84.09**	**200**	P	**P**	**12 05 26.0**	**+1.1**
MAW				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ILAR	**Eielson Array**	**84.79**	**25**	P	**P**	**12 05 28.6**	**+0.1**
	comp=Z,0.7nm,0.9s,mb3.6,baz=236,slow=5.7,SNR=6.8						
ILAR	**Eielson Array**	**84.79**	**25**	P	**P**	**12 05 28.6**	**+0.1**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
SOC	**Sochi**	**84.90**	**313**	*e*P	**P**	**12 05 29.8**	**+0.3**
SOC				*e*		12 05 38.9	
SOC				*e*		12 15 40.1	
SOC				*e*S	S	12 15 53.9	+2.9
SOC				*e*SS	SS	12 21 24.8	-2.9
SOC				*e*SSS	SSS	12 24 59.6	+3.4
SOC				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb5.0						
SOC				pmax	pmax		
	comp=N,11nm,0.4s						
SOC				pmax	pmax		
	comp=E,13nm,0.7s						
SOC				MLR	MLR		
	comp=Z,127nm,15.0s						
SOC				MLR	MLR		
	comp=N,71nm,16.0s						
SOC				MLR	MLR		
	comp=E,57nm,16.0s						
OBN	**Obninsk**	**86.64**	**325**	*e*P	**P**	**12 05 39.5**	**+1.7**
OBN				*e*		12 05 51.0	
OBN				pmax	pmax		
	comp=Z,42nm,1.3s,mb5.2						
OBN				MLR	MLR		
	comp=Z,100nm,17.0s						
OBN	**Obninsk**	**86.64**	**325**	*e*P	**P**	**12 05 39.4**	**+1.6**
	comp=Z,66nm,1.5s,mb5.3						
KMBO	**Kilima Mbogo**	**89.42**	**269**	*e*P	**P**	**12 05 54.2**	**+2.2**
	comp=Z,8.0nm,1.4s,mb4.6						
ARCES	**ARCESS Array B**	**90.02**	**340**	P	**P**	**12 05 54.2**	**+0.7**
	comp=Z,2.7nm,0.8s,mb4.4,baz=90,slow=5.4,SNR=2.4						
ARCES	**ARCESS Array B**	**90.02**	**340**	P	**P**	**12 05 54.2**	**+0.7**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
FINES	**FINESS Array B**	**91.40**	**332**	P	**P**	**12 06 01.2**	**+1.0**
	comp=Z,1.0nm,0.6s,mb4.2,baz=63,slow=8.5,SNR=5.5						
FINES	**FINESS Array B**	**91.40**	**332**	P	**P**	**12 06 01.2**	**+1.0**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	**Malin Array Be**	**91.48**	**321**	P	**P**	**12 06 01.0**	**+0.2**
	comp=Z,0.2nm,0.3s,mb3.7,baz=65,slow=4.2,SNR=5.3						
SYO	**Syowa Base**	**92.76**	**201**	⇓P	**P**	**12 06 06.4**	**+0.1**
SYO	**Syowa Base**	**92.76**	**201**	⇓PcP	PcP	12 06 07.7	+0.6
QSPA	**South Pole Qui**	**94.05**	**180**	*e*P	**P**	**12 06 13.8**	**+1.9**
	comp=Z,4.4nm,1.1s,mb4.7						

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*JMA **23** 11:56:23.8, 34.36N×136.11E, h7^{km}±1^{km}, M3.9 Broadband fault plane solution: P waves. NP1:φs110°, δ75°, λ-10°. NP2:φs203°, δ80°, λ-164°. Principal axes: T Plg4°, Azm336°; N Plg72°, Azm234°; P Plg18°, Azm67°;*

JMA Felt II J1.

ISC 23 11:56:23.6±0.6, 34.35N±0.04×136.10E±0.04, h1^{km}±9^{km}, n8, σ0^{s}41/13, 3C-4D, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JKN	**Kiinagashima**	**0.17**	**128**	⇑P	**Pg**	**11 56 27.5**	**+0.5**
JKN				S	**Sg**	**11 56 29.8**	**+0.6**
JWY	**Kouya**	**0.44**	**253**	⇓P	**Pg**	**11 56 32.7**	**+0.3**
TSUJ	**Tsu 2**	**0.44**	**36**	⇓P	**Pg**	**11 56 32.4**	**0.0**
TSUJ				S	**Sg**	**11 56 38.2**	**-0.1**
JHE	**Heguri**	**0.46**	**311**	⇑P	**Pg**	**11 56 32.8**	**+0.1**
JHE				S	**Sg**	**11 56 39.0**	**+0.2**
JIE	**Ise**	**0.50**	**85**	⇓P	**Pg**	**11 56 33.4**	**-0.2**
JIE				S	**Sg**	**11 56 39.9**	**-0.4**
JWM	**Minabe**	**0.80**	**231**	⇓P	**Pg**	**11 56 39.4**	**-0.1**
JWZ	**Kozaga**	**0.88**	**202**	⇑P	**Pg**	**11 56 40.3**	**-0.9**
MAT	**Matsushiro**	**2.78**	**38**	P	**Pn**	**11 57 09.7**	**-0.4**
MAT				S	**Sn**	**11 57 45.2**	**+0.4**

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*MOS **23** 12:14:54.1±1.1, 44.68N×148.62E, h59^{km}, mb4.4/11, Error ellipse: s-maj=16.0km s-min=13.0km az=86.0*

MOS Felt (II) at Kuril'sk.

*IDC **23** 12:14:55.8±0.7, 44.72N×148.35E, h49^{km}±6^{km}, mb3.9/19, mb1 4.2/21, mb1mx4.1/27, MS3.1/1, Ms1 3.1/1, ms1mx2.6/33, Error ellipse: s-maj=17.8km s-min=12.9km az=134.0*

*BJI **23** 12:14:56.1, 44.90N×148.77E, h87^{km}, mB4.9, mb4.5, Ms3.8, Msz3.6*

*JMA **23** 12:14:56.1±0.4, 44.17N×148.30E, M5.0*

*SKHL **23** 12:14:56.0±1.7, 44.70N×148.60E, h62^{km}±11^{km}, mb5.3/5*

*NEIC **23** 12:14:57.1±1.0, 44.63N×148.47E, h64^{km}±9^{km}, mb4.5/23, Error ellipse: s-maj=8.1km s-min=5.7km az=144.0*

NEIC Felt [II] at Kuril'sk.

ISC 23 12:14:54.2±0.3, 44.60N±0.04×148.59E±0.04, h52^{km}, h52^{km}±2.2^{km}:pP-P, n124, σ1^{s}12/143, mb4.4/46, 1C-8D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**0.82**	**322**	⇓*i*P	**P**	**12 15 10.4**	**+0.7**
KUR				⇓*i*P		12 15 10.4	
KUR				AMB	AMB	12 15 11.4	
	8μm,0.6s						
KUR				AMB	AMB	12 15 11.4	
	10μm,0.6s						
KUR				AMB	AMB	12 15 11.5	
	2μm,0.5s						
KUR				AMB	AMB	12 15 11.5	
	4μm,0.5s						
KUR				AMB	AMB	12 15 11.5	
	4μm,0.5s						
KUR				*i* S	**S**	**12 15 21.2**	**+0.1**
KUR				A		12 15 23.6	
	45μm,0.5s						
KUR	**Kuril'sk**	**0.82**	**322**	κ *i*PN	**P**	**12 15 10.4**	**+0.7**
KUR				*i* S	**S**	**12 15 21.2**	**+0.1**
KUR				pmax	pmax		
	comp=E,8μm,0.6s						
KUR				pmax	pmax		
	comp=Z,10μm,0.6s						
KUR				pmax	pmax		
	comp=N,2μm,0.5s						
KUR				pmax	pmax		
	comp=E,4μm,0.5s						
KUR				pmax	pmax		
	comp=Z,4μm,0.5s						
KUR				smax			
	comp=E,45μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**2.04**	**255**	*e*P	**P**	**12 15 27.0**	**+0.2**
YUK				AMB	AMB	12 15 28.3	
	comp=E,300nm,0.2s						
YUK				AMB	AMB	12 15 28.3	
	comp=E,210nm,0.2s						
YUK				AMB	AMB	12 15 28.3	
	comp=E,2μm,0.2s						
YUK				*i* S	**S**	**12 15 51.7**	**+0.7**
YUK				A		12 15 58.1	
	comp=E,5μm,0.7s						
YUK				A		12 15 58.1	
	comp=E,7μm,0.7s						
YUK				A		12 15 58.1	
	comp=E,4μm,0.4s						
YUK				A		12 15 58.1	
	comp=E,5μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**2.04**	**255**	*e*PN	**P**	**12 15 27.0**	**+0.2**
YUK				*i* S	**S**	**12 15 51.7**	**+0.7**
YUK				pmax	pmax		
	comp=N,200nm,0.2s						

YUK				pmax	pmax		
	comp=E,300nm,0.2s						
YUK				pmax	pmax		
	comp=Z,2µm,0.2s						
YUK				smax			
	comp=N,4µm,0.5s						
YUK				smax			
	comp=E,5µm,0.4s						
YUK				smax			
	comp=N,5µm,0.7s						
YUK				smax			
	comp=E,7µm,0.7s						
NEM2	**Nemuro 2**	**2.39**	**240**	P	**P**	**12 15 31.9**	**0.0**
NEM2				*e*S	**S**	**12 15 57.8**	**-2.3**
JRA	**Rausu**	**2.57**	**256**	P	**P**	**12 15 36.2**	**+1.7**
JRA				*e*S	**S**	**12 16 05.4**	**+0.7**
JNK	**Nakash**	**2.96**	**251**	P	**P**	**12 15 41.3**	**+1.3**
JNK				*e*S	**S**	**12 16 13.9**	**-0.6**
JAK	**Akkeshi**	**3.24**	**242**	P	**P**	**12 15 44.0**	**+0.1**
JAK				*e*S	**S**	**12 16 19.2**	**-2.3**
JTKR	**Abashiri--Toko**	**3.42**	**261**	P	**P**	**12 15 47.8**	**+1.4**
JAR	**Ashorobuto**	**3.71**	**251**	P	**P**	**12 15 52.1**	**+1.6**
JAR				*e*S	**S**	**12 16 34.4**	**+0.9**
JKK2	**Kamakawa 2**	**4.26**	**262**	P	**P**	**12 16 00.6**	**+2.4**
JCH	**Churui**	**4.28**	**244**	P	**P**	**12 15 58.8**	**+0.3**
JCH				*e*S	**S**	**12 16 45.6**	**-2.1**
JSE	**Soyaes**	**4.29**	**277**	P	**P**	**12 15 59.8**	**+1.1**
ASAJ	**Asahikawa**	**4.32**	**266**	P	**P**	**12 16 01.1**	**+2.0**
	comp=E,9.1nm,0.3s,baz=82,slow=22,SNR=42						
ASAJ				LR	LR	12 17 42.8	
	comp=E,265nm,21.6s,baz=350,slow=40						
ASAJ	**Asahikawa**	**4.32**	**266**	PN	**P**	**12 16 01.2**	**+2.1**
ASAJ				pmax	pmax		
	comp=Z,9.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,265nm,21.7s						
JFR	**Furan**	**4.56**	**254**	P	**P**	**12 16 04.8**	**+2.3**
JFR				*e*S	**S**	**12 16 55.6**	**+0.7**
YSS	**Yuzh-Sakhalins**	**4.71**	**302**	⇓*i*P	**P**	**12 16 04.8**	**+0.2**
YSS				AMB	AMB	12 16 06.0	
	comp=Z,130nm,0.2s						
YSS				*i* S	**S**	**12 16 58.8**	**+0.2**
YSS				A		12 17 02.0	
	comp=Z,70nm,0.5s						
YSS				*e*rx	rx	12 17 12.0	
YSS	**Yuzh-Sakhalins**	**4.71**	**302**	⇓*i*PN	**P**	**12 16 04.8**	**+0.2**
YSS				*i* S	**S**	**12 16 58.8**	**+0.2**
YSS				pmax	pmax		
	comp=Z,130nm,0.2s						
YSS				smax			
	comp=N,70nm,0.5s						
YSS	**Yuzh-Sakhalins**	**4.71**	**302**	*e*Pn	**P**	**12 16 05.4**	**+0.8**
JWK2	**Keihoku**	**4.80**	**281**	P	**P**	**12 16 10.0**	**+4.1**
JNBK	**Urakawa-nobuka**	**4.84**	**243**	P	**P**	**12 16 06.7**	**+0.3**
JNBK				*e*S	**S**	**12 16 59.0**	**-2.8**
JHR	**Hokuryu**	**5.01**	**263**	P	**P**	**12 16 12.8**	**+4.0**
JYG	**Yagishiri**	**5.12**	**271**	P	**P**	**12 16 12.5**	**+2.1**
JEW	**Eniwo**	**5.46**	**254**	P	**P**	**12 16 17.9**	**+2.9**
JSK	**Shakotan**	**5.98**	**261**	P	**P**	**12 16 26.1**	**+3.8**
JKB	**Kayabe**	**6.14**	**246**	P	**P**	**12 16 24.9**	**+0.3**
JKB				*e*S	**S**	**12 17 30.8**	**-3.6**
UGL	**Uglegorsk**	**6.33**	**317**	*e*P	**P**	**12 16 26.2**	**-1.0**
UGL				AMB	AMB	12 16 27.0	
	comp=N,46nm,0.7s						
JOT	**Ohata**	**6.39**	**242**	P	**P**	**12 16 27.4**	**-0.7**
JOT				*e*S	**S**	**12 17 35.0**	**-5.5**
JANG	**Nango**	**6.72**	**234**	P	**P**	**12 16 30.9**	**-1.7**
JANG				*e*S	**S**	**12 17 40.6**	**-8.0**
JOSM	**Okushiri--Mats**	**7.10**	**252**	P	**P**	**12 16 38.7**	**+0.7**
JOSM				*e*S	**S**	**12 17 56.6**	**-1.5**
TYV	**Tymovskoe**	**7.43**	**330**	*e*P	**P**	**12 16 43.0**	**+0.4**
SKR	**Severo-Kuril's**	**7.93**	**37**	*e*P	**P**	**12 16 46.0**	**-3.5**
SKR				AMB	AMB	12 16 49.5	
	comp=N,50nm,0.7s						
SKR				*e*S	**S**	**12 18 16.9**	**-1.8**
SKR				A		12 18 26.0	
	comp=N,70nm,0.9s						
SKR				A		12 18 26.0	
	comp=N,80nm,0.9s						
SKR	**Severo-Kuril's**	**7.93**	**37**	*e*PN	**P**	**12 16 46.0**	**-3.5**
SKR				*e*S	**S**	**12 18 16.9**	**-1.8**
SKR				pmax	pmax		
	comp=Z,50nm,0.7s						
SKR				smax			
	comp=N,70nm,0.9s						
SKR				smax			
	comp=E,80nm,0.9s						
MAJO	**Matsushiro**	**11.26**	**228**	*e*P	**P**	**12 17 32.7**	**-2.3**
MAT	**Matsushiro**	**11.26**	**228**	P	**P**	**12 17 33.3**	**-1.7**
MAT				S	**S**	**12 19 42.4**	**+2.1**
MAT	**Matsushiro**	**11.26**	**228**	*e*P	**P**	**12 17 33.0**	**-2.0**
	comp=E,12nm,0.9s						
MAT				*e*S	**S**	**12 19 42.0**	**+1.7**
KLR	**Kul'dur**	**12.40**	**298**	*e*PN	**P**	**12 17 54.0**	**+3.7**
CN2	**Changchun**	**16.61**	**275**	*e*P	**P**	**12 18 44.6**	**-0.1**
CN2				*e*S	**S**	**12 21 45.3**	**-1.2**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
CN2				AMB	AMB		
	comp=Z,300nm,3.0s						
CN2				LR	LR		
	comp=N,300nm,16.0s						
CN2				LR	LR		
	comp=E,300nm,16.0s						
CN2				LR	LR		
	comp=Z,200nm,19.0s						
KS15	**Wonju Array Si**	**17.15**	**253**	*e*P	**P**	**12 18 52.6**	**+1.0**
FX1	**Attu Island--F**	**18.14**	**54**	P	**P**	**12 19 06.4**	**+2.7**
	comp=Z,0.5nm,0.3s,baz=34,slow=24,SNR=6.2						
FX1	**Attu Island--F**	**18.14**	**54**	P	**P**	**12 19 06.4**	**+2.7**
FX1				pmax	pmax		
	comp=Z,1.0nm,0.3s						
YAK	**Yakutsk**	**20.66**	**334**	P	**P**	**12 19 32.1**	**+0.5**
	comp=Z,19nm,1.0s						
JOW	**Kunigami**	**24.10**	**229**	P	**P**	**12 20 07.0**	**+1.2**
	comp=Z,9.1nm,0.7s,mb4.3,baz=53,slow=8.7,SNR=3.8						
SSE	**Sheshan**	**25.35**	**247**	*e*P	**P**	**12 20 19.4**	**+1.6**
SSE				AMB	AMB		
	comp=Z,11nm,2.2s,mb4.0						
SSE	**Sheshan**	**25.35**	**247**	*e*P	**P**	**12 20 19.4**	**+1.6**
	comp=Z,33nm,0.7s,mb5.0						
SONM	**Songino Array**	**29.11**	**292**	P	**P**	**12 20 50.8**	**-1.1**
	comp=Z,0.5nm,0.4s,mb3.6,baz=90,slow=9.9,SNR=4.0						
LZH	**Lanzhou**	**34.78**	**272**	*e*P	**P**	**12 21 41.5**	**-0.1**
LZH				PP	PP	12 22 59.5	-0.5
LZH				AMB	AMB		
	comp=Z,21nm,1.2s,mb4.9						
LZH	**Lanzhou**	**34.78**	**272**	*e*P	**P**	**12 21 41.5**	**-0.1**
	comp=Z,21nm,1.2s,mb4.9						
LZH				pP	pP	12 21 56.5	+1.3
LZH				sP	sP	12 22 04.0	+2.3
LZH				PP	PP	12 22 59.5	-0.5
GTA	**Gaotai**	**36.17**	**279**	*e*P	**P**	**12 21 54.1**	**+0.7**
GTA				AP	pP	12 22 09.0	+2.0
GTA				AMB	AMB		
	comp=Z,3.0nm,0.7s,mb4.3						
IMA	**Indian Mountai**	**37.40**	**35**	*e*P	**P**	**12 22 03.8**	**+0.4**
	comp=Z,20nm,0.7s,mb5.0						
COLA	**College**	**39.78**	**37**	*e*P	**P**	**12 22 23.9**	**+0.7**
	comp=Z,4.1nm,0.7s,mb4.3						
COLA				*e*	pP	12 22 37.2	+0.3
ILAR	**Eielson Array**	**40.19**	**37**	P	**P**	**12 22 26.8**	**+0.2**
	comp=Z,0.9nm,0.6s,mb3.7,baz=264,slow=8.2,SNR=19						
ILAR	**Eielson Array**	**40.19**	**37**	P	**P**	**12 22 26.8**	**+0.2**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ZAL	**Zalesovo**	**41.33**	**307**	PcP	PcP	12 24 33.6	-0.9
	comp=Z,1.2nm,0.6s,baz=278,slow=5.8,SNR=4.7						
WMQ	**Urumqi**	**42.75**	**291**	*e*P	**P**	**12 22 48.6**	**+0.8**
WMQ				AP	pP	12 23 04.0	+2.4
WMQ				AMB	AMB		
	comp=Z,6.0nm,1.2s,mb4.2						
MKAR	**Makanchi Array**	**45.11**	**297**	P	**P**	**12 23 05.8**	**-1.0**
	comp=Z,0.8nm,0.6s,mb3.7,baz=78,slow=8.7,SNR=9.4						
MKAR				PcP	PcP	12 24 46.3	-0.8
	comp=Z,1.8nm,0.7s,baz=64,slow=4.5,SNR=8.0						
MKAR	**Makanchi Array**	**45.11**	**297**	P	**P**	**12 23 05.8**	**-1.0**
MKAR						12 24 46.3	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
INK	**Inuvik**	**45.15**	**31**	P	**P**	**12 23 06.2**	**-0.6**
	comp=Z,1.6nm,0.4s,mb4.2,baz=302,slow=6.5,SNR=18						
INK	**Inuvik**	**45.15**	**31**	P	**P**	**12 23 06.3**	**-0.5**
INK				pmax	pmax		
	comp=Z,2.0nm,0.4s						
INK	**Inuvik**	**45.15**	**31**	*e*P	**P**	**12 23 06.6**	**-0.2**
	comp=Z,1.6nm,0.5s,mb4.1						
KURK	**Kurchatov**	**45.92**	**304**	*e*P	**P**	**12 23 12.9**	**-0.2**
	comp=Z,1.9nm,0.6s,mb4.2						
CMAR	**Chiang Mai Arr**	**48.75**	**254**	P	**P**	**12 23 34.7**	**-1.0**
	comp=Z,0.7nm,0.6s,mb3.9,baz=50,slow=6.7,SNR=5.3						
CMAR	**Chiang Mai Arr**	**48.75**	**254**	P	**P**	**12 23 34.7**	**-1.0**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KKN	**Kakani**	**52.49**	**274**	*e*P	**P**	**12 24 03.8**	**-0.3**
PKI	**Pulchoki**	**52.53**	**274**	*e*P	**P**	**12 24 03.6**	**-0.8**
	comp=Z,12nm,0.7s,mb5.0						
DMN	**Daman**	**52.73**	**274**	*e*P	**P**	**12 24 05.5**	**-0.3**
	comp=Z,24nm,0.8s,mb5.2						
GKN	**Gorkha**	**52.83**	**274**	*e*P	**P**	**12 24 06.0**	**-0.6**
	comp=Z,7.5nm,0.3s,mb5.1						
KOLN	**Koldanda**	**53.70**	**275**	*e*P	**P**	**12 24 12.5**	**-0.6**
	comp=Z,21nm,0.9s,mb5.1						
YKA	**Yellowknife Ar**	**54.52**	**34**	P	**P**	**12 24 18.3**	**-0.2**
	comp=Z,1.0nm,0.4s,mb4.2,baz=294,slow=5.5,SNR=5.5						
YKA	**Yellowknife Ar**	**54.52**	**34**	P	**P**	**12 24 18.3**	**-0.3**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
YKA	**Yellowknife Ar**	**54.52**	**34**	P	**P**	**12 24 18.3**	**-0.2**
ARCES	**ARCESS Array B**	**58.81**	**340**	P	**P**	**12 24 46.3**	**-2.7**
	comp=Z,6.0nm,1.0s,mb4.6,baz=56,slow=9.8,SNR=4.6						
ARCES				PcP	PcP	12 25 36.9	-1.0
	comp=Z,6.1nm,1.2s,baz=59,slow=5.3,SNR=3.6						
ARCES	**ARCESS Array B**	**58.81**	**340**	P	**P**	**12 24 46.3**	**-2.7**
ARCES						12 25 36.9	
ARCES				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ARCES				pmax	pmax		
	comp=Z,6.0nm,1.2s						
NEW	**Newport**	**61.00**	**50**	P	**P**	**12 25 04.5**	**+0.2**
	comp=Z,2.6nm,0.8s,mb4.4						
SUMG	**Summit**	**63.03**	**2**	*e*P	**P**	**12 25 15.7**	**-1.8**
	comp=Z,5.4nm,0.6s,mb4.8						
FINES	**FINESS Array B**	**64.59**	**333**	P	**P**	**12 25 26.0**	**-1.7**
	comp=Z,2.1nm,0.6s,mb4.3,baz=39,slow=6.4,SNR=8.5						
FINES	**FINESS Array B**	**64.59**	**333**	P	**P**	**12 25 26.0**	**-1.7**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
CMB	**Columbia Colle**	**65.22**	**60**	P	**P**	**12 25 32.7**	**+0.5**
	comp=Z,1.5nm,0.7s,mb4.1						
WRAB	**Tennant Creek**	**65.52**	**195**	*e*P	**P**	**12 25 32.9**	**-1.5**
	comp=Z,3.5nm,0.8s,mb4.4						
WRA	**Warramunga Arr**	**65.53**	**195**	P	**P**	**12 25 33.7**	**-0.7**
	comp=Z,1.7nm,0.7s,mb4.2,baz=10,slow=6.5,SNR=15						
WRA	**Warramunga Arr**	**65.53**	**195**	P	**P**	**12 25 33.7**	**-0.8**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NVAR	**Mina Array Bea**	**66.26**	**59**	P	**P**	**12 25 40.0**	**+1.3**
	comp=Z,1.1nm,0.5s,mb4.1,baz=288,slow=8.4,SNR=12						
NVAR				pP	pP	12 25 53.7	+0.3
	comp=Z,1.5nm,0.6s,baz=289,slow=8.2,SNR=12						
TPH	**Tonopah**	**67.14**	**59**	P	**P**	**12 25 45.3**	**+0.9**
	comp=Z,3.5nm,1.0s,mb4.3						
HWUT	**Hardware Ranch**	**68.21**	**53**	P	**P**	**12 25 51.4**	**+0.4**
	comp=Z,2.0nm,0.7s,mb4.3						
TPNV	**Topopah Spring**	**68.45**	**59**	P	**P**	**12 25 53.3**	**+0.7**
	comp=Z,3.2nm,0.9s,mb4.3						
PDAR	**Pinedale Array**	**68.58**	**51**	P	**P**	**12 25 53.8**	**+0.5**
	comp=Z,1.6nm,0.6s,mb4.1,baz=294,slow=2.1,SNR=16						
PDAR				pP	pP	12 26 07.5	-0.5
	comp=Z,1.5nm,1.1s,baz=201,slow=1.0,SNR=3.4						
NB2	**NORSAR Subarra**	**69.18**	**339**	P	**P**	**12 25 55.2**	**-1.5**
	comp=Z,1.1nm,0.3s,mb4.3,baz=31,slow=6.2						
NOA	**NORSAR Array B**	**69.18**	**339**	P	**P**	**12 25 55.7**	**-0.9**
	comp=Z,0.8nm,0.3s,mb4.1,baz=34,slow=6.0,SNR=5.6						
NOA	**NORSAR Array B**	**69.18**	**339**	P	**P**	**12 25 55.7**	**-1.0**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NOA	**NORSAR Array B**	**69.18**	**339**	P	**P**	**12 25 55.7**	**-0.9**
ASAR	**Alice Springs**	**69.24**	**194**	P	**P**	**12 25 58.1**	**+0.4**
	comp=Z,1.0nm,0.5s,mb4.0,baz=9.0,slow=5.5,SNR=22						
HFS	**Hagfors**	**69.31**	**338**	P	**P**	**12 25 56.3**	**-1.1**
	comp=Z,2.1nm,0.5s,mb4.4,baz=45,slow=4.1,SNR=18						
HFS	**Hagfors**	**69.31**	**338**	P	**P**	**12 25 56.3**	**-1.1**
HFS				pmax	pmax		
	comp=Z,2.0nm,0.5s						
RSSD	**Black Hills**	**70.63**	**47**	*e*P	**P**	**12 26 05.9**	**+0.2**
	comp=Z,2.3nm,0.7s,mb4.2						
PV10	**Paradox Valley**	**71.81**	**54**	*e*P	**P**	**12 26 14.0**	**+1.1**
PV01	**Paradox Valley**	**72.24**	**54**	P	**P**	**12 26 15.6**	**+0.2**
SCHQ	**Schefferville**	**76.48**	**20**	P	**P**	**12 26 39.4**	**-0.2**
	comp=Z,10nm,1.1s,mb4.7,baz=244,slow=5.8,SNR=5.9						
CLL	**Collm**	**77.03**	**333**	P	**P**	**12 26 41.9**	**-0.9**
	comp=Z,logA/T=1.3,mb5.0						
CLL	**Collm**	**77.03**	**333**	*i* P	**P**	**12 26 41.9**	**-0.9**
CLL				pmax	pmax		
	comp=Z,9.0nm,0.5s,mb5.0						
CLL	**Collm**	**77.03**	**333**	*i* P	**P**	**12 26 41.9**	**-0.9**
	comp=Z,9.0nm,0.5s,mb5.0						
QRN	**Al-Qurain**	**77.37**	**298**	*e*P	**P**	**12 26 45.3**	**+0.2**
RST	**Umm Al-Ruwaisa**	**77.43**	**299**	*e*P	**P**	**12 26 44.6**	**-0.9**
RST				AMb	AMB	12 26 45.6	
	comp=Z,25nm,0.8s,mb5.2						
RDF	**Al-Radifah**	**77.48**	**298**	*e*P	**P**	**12 26 46.2**	**+0.5**
RDF				AMb	AMB	12 26 47.0	
	comp=Z,33nm,0.6s,mb5.5						
EKA	**Eskdalemuir Ar**	**77.61**	**344**	P	**P**	**12 26 45.5**	**-0.4**
	comp=Z,2.8nm,0.6s,mb4.3,baz=21,slow=5.3,SNR=10						
EKA	**Eskdalemuir Ar**	**77.61**	**344**	P	**P**	**12 26 45.5**	**-0.4**
EKA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
GERES	**GERESS Array B**	**78.92**	**332**	P	**P**	**12 26 52.8**	**-0.4**
	comp=Z,1.3nm,0.3s,mb4.3,baz=30,slow=5.7,SNR=9.5						
GERES	**GERESS Array B**	**78.92**	**332**	P	**P**	**12 26 52.8**	**-0.4**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
WMOK	**Wichita Mounta**	**80.19**	**50**	P	**P**	**12 27 00.4**	**0.0**
	comp=Z,1.7nm,0.8s,mb4.0						
TXAR	**Lajitas Array**	**81.32**	**57**	P	**P**	**12 27 07.7**	**+1.2**
	comp=Z,1.5nm,0.6s,mb4.1,baz=299,slow=4.2,SNR=20						
TXAR				pP	pP	12 27 21.4	-0.1
	comp=Z,1.3nm,0.6s,baz=289,slow=3.9,SNR=8.8						
CDF	**Champ du Feu**	**81.36**	**335**	*e*P	**P**	**12 27 05.9**	**-0.4**
LDF	**La Druitiere**	**83.23**	**340**	*e*P	**P**	**12 27 15.4**	**-0.4**
LOR	**Lormes**	**83.39**	**337**	*e*P	**P**	**12 27 16.5**	**-0.2**
SSF	**Saint Saulge**	**83.68**	**337**	*e*P	**P**	**12 27 17.3**	**-0.8**
SMF	**Signal de Mont**	**83.96**	**336**	*e*P	**P**	**12 27 18.6**	**-0.9**
AVF	**Avril sur Loir**	**83.97**	**337**	*e*P	**P**	**12 27 19.7**	**+0.2**
	comp=Z,20nm,1.1s,mb4.9						
LPL	**La Plagne**	**84.12**	**334**	*e*P	**P**	**12 27 20.3**	**0.0**
LPG	**La Plagne**	**84.13**	**334**	*e*P	**P**	**12 27 20.5**	**+0.1**
	comp=Z,2.7nm,0.3s,mb4.6						
MBDF	**Montbardon**	**84.81**	**334**	*e*P	**P**	**12 27 24.2**	**+0.4**
	comp=Z,14nm,0.7s,mb4.9						
ORIF	**Oris-en-Rattie**	**84.92**	**334**	*e*P	**P**	**12 27 24.0**	**-0.4**
	comp=Z,8.7nm,0.6s,mb4.8						
CAF	**Calviac**	**86.04**	**337**	*e*P	**P**	**12 27 30.0**	**+0.2**
LASF	**Ste Croix**	**86.30**	**335**	*e*P	**P**	**12 27 30.4**	**-0.7**
SNAA	**Sanae**	**149.57**	**197**	⇑*i*	PKPdf	12 34 37.8	+6.1
VNA2	**Neumayer--Watz**	**151.09**	**196**	⇓*i*	PKPdf	12 34 45.6	+12
VNA3	**Neumayer Olymp**	**151.25**	**194**	⇓*i*	PKPdf	12 34 45.7	+11

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*IDC **23** 12:16:05.0±2.5, 10.88S×112.15E, mb3.6/4, mb1 3.8/5, mb1mx3.7/14, ML3.1/1, Error ellipse: s-maj=116.0km s-min=20.8km az=46.0*

*NEIC **23** 12:16:05.7±0.8, 11.09S×111.96E, h10^{km}, mb4.3/1, Error ellipse: s-maj=13.2km s-min=11.0km az=68.0*

*DJA **23** 12:16:09.1±0.9, 11.08S×112.20E, h2^{km}, MD5.4/4, ML4.8/4, Error ellipse: s-maj=36.2km s-min=17.9km az=141.0*

ISC 23 12:16:11.0±2.3**, 10.90S**±0.10×**112.2E**±0.1**, h65**^{km}±23^{km}**, n11, σ0^{s}81**/16**, mb3.5**/5**, 6C-2D, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time	Res
				Op	ISC	h m s	ISC
KELI	**Kelakatan**	**3.49**	**40**	⇑*e*Pn	**P**	**12 17 04.7**	**+0.6**
	287nm,0.2s						
KELI				⇑*e*Sn	**S**	**12 17 45.1**	**+0.7**
INGI	**Ingas**	**3.55**	**55**	⇑*e*Pn	**P**	**12 17 04.7**	**-0.3**
	349nm,0.3s						
INGI				⇓*e*Sn	**S**	**12 17 46.6**	**+0.5**
RATI	**Rata**	**3.92**	**57**	⇑*e*Pn	**P**	**12 17 10.3**	**+0.1**
	360nm,0.2s						
RATI				⇑*e*Sn	**S**	**12 17 54.8**	**-0.5**
KEDI	**Kedomdong**	**4.53**	**58**	⇓*e*Pn	**P**	**12 17 18.9**	**+0.2**
	75nm,0.2s						
KEDI				⇑*e*Sn	**S**	**12 18 09.4**	**-1.2**
MBWA	**Marble Bar**	**12.50**	**146**	*e*P	**P**	**12 19 00.6**	**-7.3**
MBWA				*e*S	Sx	12 21 00.1	
FITZ	**Fitzroy Crossi**	**14.84**	**120**	Pn	**P**	**12 19 37.5**	**-1.1**
	0.1nm,0.3s,baz=303,slow=12,SNR=2.5						
FITZ				Sn	**S**	**12 22 07.9**	**-14**
	0.1nm,0.3s,baz=177,slow=23,SNR=2.3						
WRA	**Warramunga Arr**	**23.13**	**116**	P	**P**	**12 21 13.0**	**+0.8**
	1.2nm,0.7s,mb3.3,baz=288,slow=11,SNR=8.2						
ASAR	**Alice Springs**	**24.25**	**124**	P	**P**	**12 21 25.2**	**+2.1**
	0.5nm,0.6s,mb3.0,baz=301,slow=9.4,SNR=8.0						
CMAR	**Chiang Mai Arr**	**31.97**	**336**	P	**P**	**12 22 32.8**	**-0.4**
	0.6nm,0.7s,mb3.5,baz=174,slow=8.0,SNR=4.4						
MKAR	**Makanchi Array**	**63.35**	**337**	P	**P**	**12 26 35.6**	**-0.1**
	0.6nm,0.5s,mb3.8,baz=147,slow=8.1,SNR=8.4						
QSPA	**South Pole Qui**	**79.11**	**180**	P	**P**	**12 28 08.8**	**-0.7**
	3.5nm,1.2s,mb4.1						

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*HEL **23** 12:28:16.6±0.1, 59.63N×22.05E, ML2.2, ML3.1(UPP), ML2.7(NAO), Explosion*

*BER **23** 12:28:16.8±5.5, 59.67N×22.08E, ML2.7(NAO), Suspected explosion*

*IDC **23** 12:28:18.3±1.9, 59.87N×22.02E, mb1 3.1/4, mb1mx3.0/20, ML3.2/4, Error ellipse: s-maj=29.1km s-min=6.5km az=161.0*

*NAO **23** 12:28:19.3±3.2, 59.99N×21.85E, ML2.7*

ISC 23 12:28:15.4±0.6**, 59.65N**±0.06×**22.05E**±0.05**, n21, σ1^{s}05**/32**, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time	Res
				Op	ISC	h m s	ISC
AAL	**Aland**	**1.16**	**298**	*e*P	**Pb**	**12 28 37.8**	**-0.2**
AAL				*e*S	**Sb**	**12 28 53.2**	**-0.3**
NRTU	**Norrtaelje**	**1.73**	**272**	*e*P	**Pn**	**12 28 47.4**	**+0.5**
GRAU	**Graesoe**	**1.89**	**293**	*e*P	**Pn**	**12 28 49.8**	**+0.7**
PVF	**Pernaja**	**2.11**	**63**	*e*P	**Pn**	**12 28 53.6**	**+1.3**
PVF				*e*S	**Sn**	**12 29 20.3**	**+0.7**
PVF				MSG		12 29 23.5	
	comp=Z,9.6nm,0.2s						
FLYU	**Flymyra**	**2.15**	**285**	*e*P	**Pn**	**12 28 53.6**	**+0.7**
BACU	**Backbrunna**	**2.51**	**277**	*e*P	**Pn**	**12 29 01.0**	**+3.0**
OSTU	**Oestervaala**	**2.54**	**285**	*e*P	**Pn**	**12 28 59.3**	**+0.8**
IGGU	**Iggoen**	**2.66**	**299**	*e*P	**Pn**	**12 29 00.8**	**+0.7**
FIA0	**FINESS Array S**	**2.68**	**46**	*e*P	**Pn**	**12 29 01.3**	**+0.8**
FIA0				*e*S	**Sn**	**12 29 33.9**	**-0.3**
FIA0				MSG		12 29 41.4	
	comp=Z,8.7nm,0.3s						
FIA0	**FINESS Array S**	**2.68**	**46**	Pn	**Pn**	**12 29 02.0**	**+1.5**
	baz=223,slow=14						
FIA0				Lg		12 29 36.9	
	baz=230,slow=28						
FINES	**FINESS Array B**	**2.68**	**46**	Pn	**Pn**	**12 29 02.1**	**+1.6**
	comp=Z,3.5nm,0.3s,baz=223,slow=13,SNR=72						
FINES				Lg		12 29 36.6	
	comp=Z,7.4nm,0.3s,baz=241,slow=24,SNR=25						
VSU	**Vasula**	**2.70**	**114**	*e*S	**Sn**	**12 29 33.7**	**-1.0**
KEF	**Keuruu**	**2.88**	**27**	*e*P	**Pn**	**12 29 03.8**	**+0.6**
KEF				*e*SB	**Sb**	**12 29 42.4**	**-0.8**
KEF				MSG		12 29 46.9	
	comp=Z,6.6nm,0.3s						
VJF	**Virojoki**	**2.90**	**70**	*e*P	**Pn**	**12 29 03.4**	**-0.3**
VJF				*e*S	**Sn**	**12 29 38.5**	**-1.2**
HFS	**Hagfors**	**4.23**	**280**	*e*P	**Pn**	**12 29 21.9**	**-0.7**
HFS				*e*PG	**Pg**	**12 29 30.9**	**-9.0**
HFS				*e*S	**Sn**	**12 30 11.8**	**-1.7**
HFS				*e*SG	**Sg**	**12 30 25.4**	**-11**
HFS	**Hagfors**	**4.23**	**280**	Pn	**Pn**	**12 29 22.2**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=95,slow=17,SNR=8.8						
HFS				Pg	**Pg**	**12 29 32.3**	**-7.6**
	comp=Z,0.4nm,0.3s,baz=85,slow=17,SNR=22						
HFS				Lg		12 30 26.8	
	comp=Z,1.1nm,0.3s,baz=95,slow=32,SNR=15						
HFS	**Hagfors**	**4.23**	**280**	Pn	**Pn**	**12 29 21.9**	**-0.7**
	baz=112,slow=14						
HFS				Pg	**Pg**	**12 29 30.9**	**-9.0**
	baz=117,slow=14						
HFS				Sn	**Sn**	**12 30 11.8**	**-1.7**
	baz=92,slow=28						
HFS				Lg		12 30 25.4	
	baz=98,slow=37						
NOA	**NORSAR Array B**	**5.55**	**289**	Pn	**Pn**	**12 29 38.7**	**-2.6**
	comp=Z,0.4nm,0.3s,baz=103,slow=12,SNR=2.6						
NOA				Lg		12 31 08.9	
	comp=Z,1.9nm,0.3s,baz=93,slow=17,SNR=5.6						
ARA0	**ARCESS Array S**	**10.03**	**7**	Pn	**P**	**12 30 39.3**	**-4.3**
	baz=188,slow=16						
ARA0	**ARCESS Array S**	**10.03**	**7**	*e*P	**P**	**12 30 39.3**	**-4.3**
ARCES	**ARCESS Array B**	**10.03**	**7**	Pn	**P**	**12 30 39.1**	**-4.5**
	comp=Z,0.9nm,0.3s,baz=187,slow=13,SNR=20						

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*NEIC **23** 12:53:04.9±0.7, 8.71S×107.82W, h10^{km}, mb4.6/10, Error ellipse: s-maj=30.0km s-min=14.0km az=70.0*

*IDC **23** 12:53:05.1±1.5, 8.46S×107.75W, mb3.8/6, mb1 4.2/6, mb1mx4.1/12, MS4.1/10, Ms1 4.1/10, ms1mx3.9/17, Error ellipse: s-maj=56.9km s-min=23.3km az=51.0*

ISC 23 12:53:02.8±0.7**, 8.71S**±0.10×**107.9W**±0.2**, h10**^{km}**, n34, σ1^{s}35**/24**, mb4.2**/14**, MS4.1**/10**, 1C-2D, Central East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time	Res
				Op	ISC	h m s	ISC
JTS	**JuntasAbangare**	**29.64**	**51**	LR	LR	13 08 09.2	
	comp=Z,431nm,20.9s,MS4.1,baz=140,slow=31						
TXAR	**Lajitas Array**	**38.04**	**6**	P	**P**	**13 00 23.5**	**+0.3**
	0.3nm,0.4s,mb3.4,baz=180,slow=10.0,SNR=4.4						
LPAZ	**La Paz**	**39.51**	**105**	P	**P**	**13 00 39.1**	**+3.4**
	12nm,1.4s,mb4.4,baz=265,slow=8.1,SNR=5.1						
LPAZ				LR	LR	13 13 26.1	
	comp=Z,246nm,19.5s,MS4.0,baz=95,slow=31						
LPAZ	**La Paz**	**39.51**	**105**	*e*P	**P**	**13 00 36.3**	**+0.7**
	10nm,1.0s,mb4.5						
LPAZ				LR	LR	13 13 26.1	
LENM	**Lemitar**	**42.64**	**1**	P	**P**	**13 01 03.6**	**+2.3**
SAML	**Samuel**	**44.18**	**94**	*e*P	**P**	**13 01 13.6**	**-0.5**
	12nm,1.2s,mb4.5						
MIAR	**Mount Ida**	**45.11**	**17**	*e*P	**P**	**13 01 21.7**	**+0.5**
	14nm,1.3s,mb4.6						
SDCO	**Great Sand Dun**	**46.26**	**3**	*e*P	**P**	**13 01 36.2**	**+5.9**
	2.5nm,1.0s,mb4.1						
PV01	**Paradox Valley**	**46.60**	**359**	P	**P**	**13 01 26.9**	**-6.1**
PV01				*e*		13 01 38.6	
PV10	**Paradox Valley**	**46.85**	**359**	*e*P	**P**	**13 01 39.5**	**+4.5**
TPH	**Tonopah**	**47.34**	**350**	P	**P**	**13 01 38.1**	**-0.8**
	9.2nm,1.4s,mb4.5						
NVAR	**Mina Array Bea**	**47.88**	**349**	P	**P**	**13 01 43.5**	**+0.4**
	0.3nm,0.7s,mb3.5,baz=162,slow=6.2,SNR=3.9						
NVAR				LR	LR	13 17 07.2	
	comp=Z,165nm,21.8s,MS4.0,baz=205,slow=30						
TRQA	**Tornquist**	**50.58**	**133**	*e*P	**P**	**13 02 02.5**	**-1.3**
	10nm,1.1s,mb4.7						
CPUP	**Villa Florida**	**50.98**	**117**	P	**P**	**13 02 07.0**	**0.0**
	2.7nm,0.8s,mb4.2,baz=284,slow=8.5,SNR=6.0						
CPUP				LR	LR	13 19 26.9	
	comp=Z,299nm,21.0s,MS4.3,baz=311,slow=31						
CPUP	**Villa Florida**	**50.98**	**117**	*e*P	**P**	**13 02 07.0**	**0.0**
	8.9nm,0.9s,mb4.7						
CPUP				*e*		13 02 13.2	
CPUP				LR	LR	13 19 26.9	
PDAR	**Pinedale Array**	**51.24**	**358**	P	**P**	**13 02 07.6**	**-1.2**
	0.3nm,0.5s,mb3.5,baz=172,slow=6.4,SNR=3.2						
HLID	**Hailey**	**52.35**	**354**	*e*P	**P**	**13 02 23.0**	**+5.8**
	2.8nm,1.0s,mb4.2						
IMW	**Indian Meadow**	**52.42**	**357**	*e*P	**P**	**13 02 16.7**	**-1.0**
MCMT	**McKenzie Canyo**	**53.47**	**356**	*e*P	**P**	**13 02 23.6**	**-1.8**
BDFB	**Brasilia**	**58.81**	**103**	LR	LR	13 25 51.9	
	comp=Z,160nm,20.8s,MS4.1,baz=291,slow=34						
SADO	**Sadowa**	**59.22**	**24**	LR	LR	13 27 49.4	
	comp=Z,103nm,18.9s,MS4.0,baz=7.1,slow=35						
BBB	**Bella Bella**	**63.08**	**346**	LR	LR	13 23 47.6	
	comp=Z,123nm,21.8s,MS4.0,baz=17,slow=29						
YKA	**Yellowknife Ar**	**71.17**	**357**	LR	LR	13 34 06.1	
	comp=Z,96nm,19.8s,MS4.1,baz=200,slow=35						
SCHQ	**Schefferville**	**72.03**	**24**	LR	LR	13 33 54.6	
	comp=Z,140nm,18.6s,MS4.3,baz=128,slow=34						
ILAR	**Eielson Array**	**78.84**	**344**	P	**P**	**13 05 09.9**	**+2.6**
	0.6nm,0.9s,mb3.5,baz=165,slow=5.1,SNR=4.8						
INK	**Inuvik**	**78.94**	**351**	LR	LR	13 36 09.9	
	comp=Z,191nm,19.4s,MS4.4,baz=342,slow=33						
QSPA	**South Pole Qui**	**81.37**	**180**	*e*P	**P**	**13 05 19.3**	**-1.3**
	11nm,0.9s,mb4.8						
QSPA				*e*		13 08 53.0	
VNA3	**Neumayer Olymp**	**84.47**	**161**	⇑*i*	**P**	**13 05 38.8**	**+2.2**

VNA2	Neumayer--Watz	85.26	161	⇓i	P	13 05 42.3	+1.8
SNAA	Sanae	86.49	162	⇓i	P	13 05 45.8	-0.8
SNAA	Sanae	86.49	162	P	P	13 05 45.2	-1.4
	7.5nm,1.3s,mb4.8						
MBWA	Marble Bar	124.59	237	eP	PKPdf	13 12 06.0	-0.6
MKAR	Makanchi Array	141.06	349	PKP	PKPdf	13 12 37.1	+0.4
	0.5nm,0.8s,baz=315,slow=2.0,SNR=3.0						
CMAR	Chiang Mai Arr	152.19	293	PKPbc	PKPdf	13 13 03.7	+7.9
	1.7nm,0.8s,baz=53,slow=0.6,SNR=10						

IDC 23 12:54:13.3±1.4**,34.32S**×**109.34W,mb4.1**/4**,mb1 4.4**/4**, mb1mx4.1**/16**,Error ellipse: s-maj=80.0km s-min=42.0km az=104.0,Southern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TXAR	Lajitas Array	63.53	6	P	P	13 04 46.3	-1.6
	0.1nm,0.3s,baz=315,slow=1.8,SNR=2.1						
NVAR	Mina Array Bea	72.86	353	P	P	13 05 44.6	-1.2
	3.5nm,0.8s,baz=186,slow=8.2,SNR=19						
PDAR	Pinedale Array	76.71	360	P	P	13 06 05.4	-2.5
	1.2nm,0.9s,baz=146,slow=5.3,SNR=7.1						
SADO	Sadowa	83.36	21	P	P	13 06 41.5	-1.9
	5.6nm,1.0s,baz=225,slow=1.4,SNR=3.8						
BRTR	Keskin Array B	150.10	69	PKPbc	PKPdf	13 14 05.8	+3.3
	0.8nm,0.9s,baz=315,slow=6.1,SNR=2.3						
SONM	Songino Array	150.16	308	PKPbc	PKPdf	13 14 04.8	+2.4
	2.0nm,0.9s,baz=90,slow=2.5,SNR=8.0						
CMAR	Chiang Mai Arr	150.28	245	PKPbc	PKPdf	13 14 07.2	+3.7
	1.4nm,0.9s,baz=162,slow=2.9,SNR=3.5						

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*NIED **23** 13:03:00,40.30N×139.20E,h11^{km},Mw3.9 Best double couple: M$_0$7.8×10^{14} NP1:φ$_s$8°,δ60°,λ67°. NP2:φ$_s$228°, δ37°,λ124°.*
*JMA **23** 13:03:04.2±0.1,40.35N×139.16E,h35^{km}±1^{km},M4.4*
JMA Felt I J1.
*NEIC **23** 13:03:07.2±0.9,40.28N×139.00E,h40^{km}±9^{km},mb4.2/4, Error ellipse: s-maj=11.4km s-min=7.9km az=104.0*
NEIC Recorded [1 JMA] in Akita and Aomori Prefectures, Honshu.
*IDC **23** 13:03:08.3±3.9,40.30N×139.05E,h46^{km}±37^{km},mb3.6/9, mb1 3.8/10,mb1mx3.6/24,ML2.8/1,Error ellipse: s-maj=23.0km s-min=18.2km az=126.0*
ISC 23 13:03:04.1±0.9**,40.31N**±0.04×**139.15E**±0.06**,h29**^{km}±6^{km}**, n32,**σ1^s**01**/35**,mb3.9**/14**,4C-4D,Near west coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JOG2	Oga 2	0.63	129	⇓P	Pb	13 03 17.0	+0.4
JOG2				S	Sb	13 03 26.1	+1.0
JIW	Iwasaki	0.71	66	⇓P	Pb	13 03 17.2	-0.6
JIW				S	Sb	13 03 26.3	-1.0
JAH	Hinai	1.14	96	⇓P	Pn	13 03 23.9	-0.4
JAH				eS	Sn	13 03 38.1	-1.0
JRG	Rokugo	1.46	128	⇓P	Pn	13 03 28.9	0.0
JRG				eS	Sn	13 03 47.5	+0.3
JTM	Tenmabayashi	1.53	71	P	Pn	13 03 29.8	-0.1
JTM				eS	Sn	13 03 48.0	-1.0
JSR	Shiriuchi	1.55	38	P	Pn	13 03 29.7	-0.4
MAJO	Matsushiro	3.84	191	ePn	Pn	13 04 03.0	+0.3
MAT	Matsushiro	3.84	191	P	Pn	13 04 03.1	+0.4
MAT				S	Sn	13 04 46.7	-0.7
MAT	Matsushiro	3.84	191	eP	Pn	13 04 03.0	+0.3
MAT				eS	Sn	13 04 47.0	-0.4
ASAJ	Asahikawa	4.58	33	P	Pn	13 04 16.2	+2.9
	0.4nm,0.3s,baz=234,slow=11,SNR=3.2						
YSS	Yuzh-Sakhalins	7.13	20	P	Pn	13 04 49.8	+0.5
	29nm,1.5s						
SONM	Songino Array	24.57	299	P	P	13 08 24.1	+1.6
	0.6nm,1.1s,mb3.0,baz=111,slow=12,SNR=2.7						
MKAR	Makanchi Array	40.94	299	P	P	13 10 44.5	-1.0
	0.3nm,0.7s,mb3.1,baz=97,slow=12,SNR=3.5						
KURK	Kurchatov	42.56	305	eP	P	13 10 57.8	-0.9
	2.0nm,0.8s,mb3.9						
BVAR	Borovoye Array	47.09	310	P	P	13 11 34.4	-0.5
	1.2nm,0.7s,mb3.9,baz=228,slow=38,SNR=3.0						
BVAR				PcP	PcP	13 13 06.9	0.0
	1.0nm,0.6s,baz=45,slow=2.0,SNR=4.6						
ILAR	Eielson Array	47.72	34	P	P	13 11 39.6	-0.1
	1.9nm,0.9s,mb4.1,baz=281,slow=6.6,SNR=17						
ZRNK	Zerenda	47.92	310	P	P	13 11 40.7	-0.8
	1.5nm,0.6s,mb4.2						
INK	Inuvik	52.30	28	P	P	13 12 15.0	+0.3
	1.1nm,0.5s,mb4.0,baz=325,slow=6.5,SNR=8.5						
INK	Inuvik	52.30	28	P	P	13 12 15.0	+0.3
ARU	Arti	52.75	316	P	P	13 12 16.4	-1.9
	4.5nm,0.7s,mb4.5						
WRA	Warramunga Arr	60.11	185	P	P	13 13 10.4	-0.9
	1.3nm,0.5s,mb4.2,baz=2.1,slow=7.5,SNR=24						
MBWA	Marble Bar	63.78	200	P	P	13 13 32.8	-3.0
ASAR	Alice Springs	63.84	185	P	P	13 13 35.9	-0.3
	0.3nm,0.7s,mb3.5,baz=359,slow=7.4,SNR=6.5						
NVAR	Mina Array Bea	74.43	53	P	P	13 14 42.9	+1.8
	1.0nm,0.7s,mb3.8,baz=300,slow=5.4,SNR=8.8						
PDAR	Pinedale Array	76.61	45	P	P	13 14 54.2	+0.8
	0.7nm,0.5s,mb3.8,baz=267,slow=0.3,SNR=6.8						
TPNV	Topopah Spring	76.63	53	eP	P	13 14 54.7	+1.1
	2.4nm,0.8s,mb4.2						
PV10	Paradox Valley	79.91	48	P	P	13 15 13.1	+1.5
PV10				e	pP	13 15 22.3	+1.4
TXAR	Lajitas Array	89.48	51	P	P	13 16 01.3	+1.5
	0.4nm,0.6s,mb3.9,baz=311,slow=3.0,SNR=4.5						
SNAA	Sanae	143.32	199	⇑i	PKPbc	13 22 32.2	-0.4
VNA2	Neumayer--Watz	144.92	198	⇑i	PKPbc	13 22 42.2	+5.0
VNA3	Neumayer Olymp	145.23	197	⇑i	PKPbc	13 22 42.4	+4.4
VNA1	Neumayer--Stat	145.32	198	⇑i	PKPbc	13 22 43.4	+5.1

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*IDC **23** 13:16:13.0±10.0,4.91N×127.72E,h137^{km}±105^{km}, mb3.5/7,mb1 3.7/7,mb1mx3.5/17,Error ellipse: s-maj=64.0km s-min=17.2km az=70.0*
*NEIC **23** 13:16:25.1±6.5,4.82N×127.56E,h263^{km}±71^{km},mb4.1/3, Error ellipse: s-maj=57.0km s-min=14.7km az=72.0*
ISC 23 13:16:17.5±0.7**,4.9N**±0.1×**127.6E**±0.4**,h200**^{km}**,n14,** σ**0^{s}97**/14**,mb3.7**/8**,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	Kakadu	18.10	165	eP	P	13 20 19.0	+2.1
	3.8nm,0.5s						
FITZ	Fitzroy Crossi	22.91	185	eP	P	13 21 05.8	+0.8
	2.7nm,1.4s,mb3.6						
FITZ	Fitzroy Crossi	22.91	185	P	P	13 21 05.3	+0.2
	1.0nm,0.3s,mb3.8,baz=8.0,slow=12,SNR=10						
WRAB	Tennant Creek	25.53	165	P	P	13 21 26.2	-3.4
	7.1nm,0.9s,mb4.3						
WRA	Warramunga Arr	25.54	165	P	P	13 21 28.9	-0.8
	1.2nm,0.3s,mb4.0,baz=337,slow=11,SNR=31						
WB2	Warramunga Arr	25.54	165	eP	P	13 21 28.9	-0.8
ASAR	Alice Springs	29.03	168	P	P	13 22 00.3	-0.8
	0.5nm,0.3s,mb3.5,baz=347,slow=7.0,SNR=22						
ASAR				PcP	PcP	13 25 05.3	+0.9
	0.2nm,0.4s,baz=349,slow=1.8,SNR=3.9						
ASPA	Alice Springs	29.03	168	eP	P	13 22 01.7	+0.5
BJT	Baijiatuau	36.47	345	P	P	13 23 04.1	-1.0
STKA	Stephens Creek	38.90	161	P	P	13 23 25.8	+0.4
	2.4nm,0.3s,mb4.1,baz=337,slow=8.4,SNR=14						
STKA	Stephens Creek	38.90	161	P	P	13 23 25.2	-0.1
SONM	Songino Array	46.51	340	P	P	13 24 26.8	+0.4
	0.3nm,0.5s,mb2.9,baz=153,slow=9.7,SNR=3.0						
MKAR	Makanchi Array	57.12	324	P	P	13 25 45.5	+0.2
	0.5nm,0.5s,mb3.4,baz=116,slow=8.4,SNR=6.5						
ILAR	Eielson Array	83.71	25	P	P	13 28 25.4	+0.6
	1.0nm,1.2s,mb3.4,baz=253,slow=5.5,SNR=6.0						

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*NEIC **23** 13:20:26.6,16.97N×95.11W,h42^{km},MD3.9(MEX),After MEX.*
MEX 23 13:20:26.6±0.9**,16.97N**×**95.11W,h42**^{km}±10^{km}**,MD3.9, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMIG	Matias Romero	0.25	61	eP	P	13 20 32.7	-1.9
CMIG				i S	S	13 20 38.7	-1.4
EVV	El Vigia	1.50	351	eP	P	13 20 49.0	-2.5
EVV				i S	S	13 21 07.5	-2.5
HUIG	Huatulco	1.53	219	i P	P	13 20 49.3	-2.7
HUIG				i S	S	13 21 07.6	-3.2
OXX	Oaxaca	1.55	274	i P	P	13 20 51.0	-1.2
OXX				i S	S	13 21 08.0	-3.2
VHO	Vista Hermosa	1.55	274	i P	P	13 20 50.5	-1.8
VHO				i S	S	13 21 09.5	-1.9
CCIG	Comitan	2.93	103	eP	P	13 21 11.1	-0.8
CCIG				i S	S	13 21 43.1	-3.2
IISM	Ciudad Serdan	2.95	313	eP	P	13 21 09.0	-3.1
IISM				i S	S	13 21 42.0	-4.6

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*NIED **23** 13:23:00,33.10N×137.00E,h14^{km},Mw4.0 Best double couple: M$_0$1.1×10^{15} NP1:φ$_s$33°,δ51°,λ100°. NP2:φ$_s$197°, δ40°,λ78°.*
*NEIC **23** 13:23:19.8±2.5,33.03N×137.07E,h23^{km}±17^{km},mb4.3/10, Error ellipse: s-maj=9.5km s-min=6.6km az=117.0*
*JMA **23** 13:23:19.1±0.1,33.10N×136.96E,h38^{km},M4.1*
*IDC **23** 13:23:20.8±5.6,33.01N×137.07E,h29^{km}±41^{km},mb3.8/12, mb1 4.0/16,mb1mx3.9/28,ML4.0/4,MS3.2/1,Ms1 3.2/1, ms1mx2.8/23,Error ellipse: s-maj=17.0km s-min=15.0km az=54.0*
ISC 23 13:23:19.0±0.3**,33.10N**±0.03×**136.99E**±0.03**,h33**^{km}**,n50,** σ**1^{s}02**/66**,mb4.1**/20**,10D,Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TK01	Tokai 1	0.84	37	P	P	13 23 34.5	+0.2
TK01				eS	S	13 23 45.5	-0.1
TK02	Tokai 2	1.06	37	P	P	13 23 37.9	+0.3
TK02				S	S	13 23 51.9	+0.5
JWZ	Kozaga	1.15	292	⇓P	P	13 23 38.6	-0.2
JWZ				S	S	13 23 52.4	-1.3
JKN	Kiinagashima	1.30	332	⇓P	P	13 23 41.2	+0.3
JKN				S	S	13 23 56.1	-1.3
JIE	Ise	1.31	350	⇓P	P	13 23 41.8	+0.6
JIE				S	S	13 23 56.9	-0.9
TK04	Tokai 4	1.48	30	⇓P	P	13 23 44.2	+0.6
TK04				S	S	13 24 02.3	+0.3
JWM	Minabe	1.56	299	⇓P	P	13 23 44.7	0.0
JWM				eS	S	13 24 02.8	-1.2
JWY	Kouya	1.62	314	⇓P	P	13 23 46.2	+0.7
JWY				eS	S	13 24 05.0	-0.4
TSUJ	Tsu 2	1.68	344	⇓P	P	13 23 46.9	+0.5
TSUJ				eS	S	13 24 06.4	-0.6
JHE	Heguri	1.90	325	⇓P	P	13 23 50.1	+0.6
JHE				eS	S	13 24 11.9	-0.6
JAJ2	Tsuna	2.19	308	⇓P	P	13 23 54.4	+0.6
JAJ2				eS	S	13 24 19.7	-0.4
SHZ3	Shizuoka 3	2.21	27	P	P	13 23 54.0	-0.1
SHZ3				eS	S	13 24 19.2	-1.3
JAI	Aioi	2.23	289	⇓P	P	13 23 54.2	-0.2
JAI				eS	S	13 24 19.1	-1.9
JHJ	Hachijo jima 2	2.34	89	Pn	Pn	13 23 56.4	+0.3
	330nm,0.3s,baz=232,slow=21,SNR=110						
JHJ				Sn	Sn	13 24 23.1	-1.1
	83nm,0.3s,baz=48,slow=23,SNR=10						
JHJ2	Mitsune	2.37	89	P	P	13 23 56.4	0.0
JHJ2				eS	S	13 24 23.1	-1.5
MAJO	Matsushiro	3.58	16	eP	P	13 24 14.5	+1.0
MAT	Matsushiro	3.58	16	P	P	13 24 14.3	+0.7
MAT				S	S	13 24 54.1	-1.2
MAT	Matsushiro	3.58	16	eP	P	13 24 14.0	+0.4
MAT				eS	S	13 24 54.0	-1.3
JNU	Nakatsue	5.13	272	Pn	Pn	13 24 37.0	+1.4
	6.7nm,0.3s,baz=131,slow=8.0,SNR=5.6						
CBIJ	Chichi jima	7.48	142	Pn	Pn	13 25 06.6	-2.1
	6.7nm,0.3s,baz=283,slow=20,SNR=5.9						
JOW	Kunigami	9.80	233	Pn	P	13 25 39.2	-1.4
	1.6nm,0.3s,baz=94,slow=15,SNR=8.8						
ASAJ	Asahikawa	11.84	20	LR	LR	13 31 12.6	
	comp=Z,113nm,19.1s,baz=166,slow=40						
MDJ	Mudanjiang	12.86	336	P	P	13 26 16.6	-5.5
BJT	Baijiatuau	18.08	298	P	P	13 27 31.0	+1.8
	17nm,1.4s						
BJI	Beijing	18.08	298	eP	P	13 27 24.4	-4.8
	6.0nm,0.7s						
ENH	Enshi	23.55	271	eP	P	13 28 28.9	+1.7
	22nm,1.4s,mb4.4						
SONM	Songino Array	27.32	312	P	P	13 29 04.1	+1.5
	0.8nm,0.8s,mb3.3,baz=120,slow=10.0,SNR=4.3						
CMAR	Chiang Mai Arr	37.01	256	P	P	13 30 27.9	+0.4
	0.8nm,0.9s,mb3.5,baz=45,slow=8.4,SNR=5.2						
MKAR	Makanchi Array	43.27	305	P	P	13 31 21.0	+2.0
	1.0nm,0.8s,mb3.6,baz=90,slow=11,SNR=8.4						
KURK	Kurchatov	45.62	311	eP	P	13 31 36.4	-1.5
	3.5nm,0.9s,mb4.3						
BVAR	Borovoye Array	50.62	314	P	P	13 32 17.4	+0.8
	0.5nm,0.4s,mb3.8,baz=82,slow=10,SNR=4.5						
BRVK	Borovoye	50.68	314	P	P	13 32 17.4	+0.3
	1.6nm,0.8s,mb4.0						
ZRNK	Zerenda	51.46	314	eP	P	13 32 23.7	+0.8
	1.9nm,0.8s,mb4.1						
FITZ	Fitzroy Crossi	52.05	194	P	P	13 32 27.9	0.0
	1.4nm,0.6s,mb4.1,baz=27,slow=8.6,SNR=5.2						
WRAB	Tennant Creek	52.79	183	eP	P	13 32 24.8	-8.6
	7.9nm,1.0s,mb4.6						
WRA	Warramunga Arr	52.80	183	P	P	13 32 32.8	-0.7
	2.5nm,1.1s,mb4.1,baz=1.4,slow=7.9,SNR=12						
CTAO	Charters Tower	53.62	169	eP	P	13 32 38.5	-1.0
	9.7nm,1.2s,mb4.6						
PMR	Palmer	53.93	35	P	P	13 32 40.6	-0.6
ILAR	Eielson Array	54.74	31	P	P	13 32 47.3	+0.2
	0.6nm,0.8s,mb3.7,baz=265,slow=5.4,SNR=6.4						
MBWA	Marble Bar	56.41	199	eP	P	13 32 59.0	-0.7
	1.8nm,0.6s,mb4.3						
MBWA				e	pP	13 33 10.8	+0.9
ASAR	Alice Springs	56.52	183	P	P	13 32 59.5	-1.1
	1.2nm,0.8s,mb4.0,baz=11,slow=7.1,SNR=14						
INK	Inuvik	59.52	26	eP	P	13 33 15.5	-5.5
	12nm,1.4s,mb4.7						
STKA	Stephens Creek	64.77	176	P	P	13 33 55.7	-0.8
	1.4nm,0.8s,mb4.0,baz=268,slow=22,SNR=3.5						
STKA	Stephens Creek	64.77	176	eP	P	13 33 55.9	-0.7
ARCES	ARCESS Array B	66.39	339	P	P	13 34 07.1	+0.9
	7.1nm,1.0s,mb4.7,baz=48,slow=15,SNR=4.7						
ARCES	ARCESS Array B	66.39	339	P	P	13 34 07.1	+0.9
AKASG	Malin Array Be	75.14	321	P	P	13 34 59.7	+0.4
	1.0nm,0.6s,mb3.9,baz=50,slow=6.0,SNR=5.7						
PV10	Paradox Valley	86.11	46	eP	P	13 35 59.5	+1.8
PV01	Paradox Valley	86.54	46	eP	P	13 36 02.4	+2.6
TXAR	Lajitas Array	95.41	50	P	P	13 36 44.0	+2.5
	1.3nm,0.8s,mb4.4,baz=288,slow=4.0,SNR=8.9						

MEX 23 14:00:33.1±0.4**,16.23N**×**98.09W,h5**^{km}±10^{km}**,MD3.6, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	Pinotepa	0.17	347	i P	Pg	14 00 36.1	-0.5
PNIG				i S	Sg	14 00 38.7	-0.2
VHO	Vista Hermosa	1.55	57	i P	Pn	14 00 58.0	-3.5
VHO				i S	Sb	14 01 16.9	-4.8
OXX	Oaxaca	1.56	57	eP	Pn	14 00 39.0	-23
OXX				i S	Sb	14 01 04.0	-18
IISM	Ciudad Serdan	2.83	14	eP	Pn	14 01 15.0	-4.8

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*SYO **23** 14:03:18.8,31.36S×68.82W,h86^{km},MB4.6*
*BJI **23** 14:03:19.8,31.30S×68.80W,h97^{km}*
*NEIC **23** 14:03:19.9±0.4,31.32S×68.79W,h97^{km}±4^{km},mb4.5/11, MD4.5(SJA),Error ellipse: s-maj=7.3km s-min=4.5km az=84.0*
NEIC Felt [III] at San Juan.
*GUC **23** 14:03:19.4±0.7,31.30S×69.22W,h159^{km}±11^{km},ML4.7*
*IDC **23** 14:03:20.4±0.8,31.41S×68.80W,h104^{km}±7^{km},mb3.8/6, mb1 4.1/8,mb1mx4.0/14,Error ellipse: s-maj=25.9km s-min=19.9km az=79.0*
ISC 23 14:03:19.0±0.5**,31.28S**±0.02×**68.79W**±0.06**,h100**^{km}±6^{km}**, n74,**σ**1^{s}02**/77**,mb4.4**/17**,21C-6D,San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MDZ	Mendoza	1.60	182	i P	P	14 03 47.5	+0.6
MDZ				i		14 03 48.6	
MDZ				i		14 04 06.6	
MDZ				i S	S	14 04 11.6	+4.0
CMCH	Combarbala	1.90	273	eP	P	14 03 51.0	+0.4
CMCH				i S	S	14 04 14.3	+0.1
CMCH				AMP		14 04 16.1	
	comp=N,12µm,0.5s						
TLL	Tololo Astrono	2.06	302	⇑iP	P	14 03 53.7	+0.9
TLL				i S	S	14 04 19.4	+1.5
TLL				AMP		14 04 23.2	
	comp=E,3µm,0.4s						
JACH	Jahuel	2.08	227	⇓iP	P	14 03 53.6	+0.6
JACH				i S	S	14 04 19.6	+1.3
OVCH	Ovalle	2.18	287	⇑iP	P	14 03 54.1	-0.3
OVCH				i S	S	14 04 19.7	-1.1
OVCH				AMP		14 04 22.6	
	comp=E,4µm,0.6s						
FCH	Farellones	2.41	211	⇑iP	P	14 03 58.6	+1.1
FCH				i S	S	14 04 28.8	+2.4
FCH				AMP		14 04 34.0	
	comp=N,2µm,0.3s						
PEL	Peldehue	2.46	220	eP	P	14 03 58.2	-0.1
PEL				i S	S	14 04 27.3	-0.4
LSCH	La Serena	2.52	302	eP	P	14 03 58.4	-0.8
LSCH				i S	S	14 04 27.2	-1.9
LSCH				AMP		14 04 27.8	
	comp=E,2µm,0.4s						
CLCH	Cerro Calan	2.58	215	⇑iP	P	14 04 00.1	+0.2
CLCH				i S	S	14 04 31.0	+0.4
CLCH				AMP		14 04 37.6	
	comp=N,5µm,0.5s						
CLCH				AMP		14 04 38.2	
	comp=N,6µm,0.5s						
DSCH	Colegio Aleman	2.60	215	eP	P	14 04 00.2	0.0
DSCH				i S	S	14 04 31.3	+0.3
DSCH				AMP		14 04 32.8	
	comp=N,6µm,0.5s						
FSR	Penalolen	2.64	213	eP	P	14 04 01.4	+0.6
FSR				i S	S	14 04 32.9	+0.8
FSR				AMP		14 04 35.9	
	comp=N,4µm,0.4s						
STL	Santa Lucia	2.66	216	⇑iP	P	14 04 01.4	+0.3
STL				i S	S	14 04 32.5	-0.2
STL				AMP		14 04 34.4	
	comp=N,1µm,0.4s						
SAN	Santiago	2.69	216	i S	S	14 04 32.9	-0.4
SAN				AMP		14 04 33.6	
	comp=N,2µm,0.5s						
SJCH	San Jose de Ma	2.70	209	AMP		14 04 41.6	
	comp=N,778nm,0.4s						
PCH	Pirque	2.75	212	⇑iP	P	14 04 02.7	+0.4
PCH				i S	S	14 04 35.7	+0.8
ANTU	Antumapu	2.77	214	⇑iP	P	14 04 02.5	0.0
ANTU				i S	S	14 04 35.2	+0.1
ANTU				AMP		14 04 36.8	
	comp=E,3µm,0.5s						
RCDM	Rinconada Maip	2.79	217	⇑iP	P	14 04 02.4	-0.4
RCDM				i S	S	14 04 35.3	-0.4
RCDM				AMP		14 04 35.7	
	comp=E,3µm,0.2s						
LMEL	Las Melosas	2.83	205	⇑iP	P	14 04 03.8	+0.5
LMEL				AMP		14 04 46.8	
	comp=N,2µm,0.3s						
TACH	Talagante	2.98	217	⇑iP	P	14 04 04.4	-1.1
TACH				i S	S	14 04 39.0	-1.5
CHCH	Chadas Angostu	3.08	210	⇓iP	P	14 04 06.4	-0.4
CHCH				i S	S	14 04 42.5	-0.3
VACH	Vallenar	3.19	327	⇑iP	P	14 04 08.2	-0.1
VACH				i S	S	14 04 44.4	-1.1
LCCH	Las Cruces	3.21	226	⇑iP	P	14 04 07.2	-1.5
CACH	El Canelo	3.22	208	⇑iP	P	14 04 08.8	+0.2
CACH				i S	S	14 04 46.8	+0.6
CICH	Cipreses	3.33	204	⇓iP	P	14 04 10.4	+0.2
SFDO	San Fernando	3.82	209	⇓iP	P	14 04 15.3	-1.6
SFDO				i S	S	14 04 58.9	-2.0
CPCH	Copiapo	4.14	340	⇑iP	P	14 04 21.6	+0.3
CPCH				i S	S	14 05 08.8	0.0
TRQA	Tornquist	8.78	142	ePn	P	14 05 23.0	-1.7
CPUP	Villa Florida	11.19	67	P	P	14 05 56.4	-0.6
	comp=N,0.2nm,0.3s,baz=274,slow=12,SNR=5.5						
CPUP	Villa Florida	11.19	67	eP	P	14 05 55.5	-1.6
LPAZ	La Paz	14.94	2	P	P	14 06 48.2	+2.2
	comp=N,0.8nm,0.3s,baz=175,slow=8.5,SNR=10						
LPAZ	La Paz	14.94	2	eP	P	14 06 48.2	+2.2
	comp=N,20nm,0.8s						
EFI	East Falkland	21.86	162	eP	P	14 08 02.9	-1.5
	comp=N,58nm,1.0s,mb4.9						
SAML	Samuel	22.82	14	eP	P	14 08 14.8	+0.8
	comp=N,6.1nm,0.9s,mb3.9						
USHA	Ushuaia	23.55	179	P	P	14 08 20.2	-0.4
	comp=N,10nm,0.8s,mb4.2,baz=304,slow=10,SNR=5.2						
RCBR	Riachuelo	39.88	57	P	P	14 10 46.7	+2.1
	comp=N,12nm,1.0s,mb4.7						
VNA3	Neumayer Olymp	50.88	159	⇑i	P	14 12 14.1	+2.9
VNA3	Neumayer Olymp	50.88	159	⇑i	sP	14 12 44.8	-1.5
VNA1	Neumayer--Stat	51.13	158	⇑i	P	14 12 14.5	+1.3
VNA2	Neumayer--Watz	51.49	158	⇑i	P	14 12 18.6	+2.7
VNA2	Neumayer--Watz	51.49	158	⇑i	sP	14 12 50.4	-0.6
SNAA	Sanae	53.09	159	⇓i	P	14 12 26.9	-1.0
SYO	Syowa Base	67.38	158	⇑P	P	14 14 03.6	-1.5
SYO	Syowa Base	67.38	158	⇓pP	pP	14 14 20.0	-10
SYO	Syowa Base	67.38	158	⇑PP	PP	14 16 30.3	-6.2
TXAR	Lajitas Array	68.81	328	P	P	14 14 14.2	-0.3
	comp=N,0.7nm,0.6s,mb3.7,baz=150,slow=8.3,SNR=6.8						
WVT	Waverly	69.39	344	eP	P	14 14 16.3	-1.8
	comp=N,8.2nm,0.6s,mb4.7						
LIC	Lamto	71.30	70	eP	P	14 14 29.6	-0.3
	comp=N,63nm,1.8s,mb5.1						
TIC	Toumodi	71.55	70	eP	P	14 14 28.3	-3.1
	comp=N,8.2nm,0.2s,mb5.3						
KIC	Kosan Boka	71.61	70	eP	P	14 14 30.8	-0.9
	comp=N,122nm,1.6s						
DBIC	Dimbokro	71.69	70	P	P	14 14 31.9	-0.3
	comp=N,2.7nm,0.7s,mb4.2,baz=221,slow=7.7,SNR=7.2						
DBIC	Dimbokro	71.69	70	eP	P	14 14 32.0	-0.2
	comp=N,6.6nm,0.7s,mb4.6						
MAW	Mawson	74.98	163	P	P	14 14 49.5	-0.9
	comp=N,1.5nm,0.5s,mb4.0,baz=226,slow=6.3,SNR=4.1						
MAW	Mawson	74.98	163	eP	P	14 14 49.3	-1.1
	comp=N,2.2nm,0.7s,mb4.0						
SDCO	Great Sand Dun	76.75	331	eP	P	14 15 01.3	+0.3
	comp=N,3.0nm,1.0s,mb4.0						
TSUM	Tsumeb	77.29	105	P	P	14 15 04.5	+0.2
	comp=N,2.0nm,0.9s,mb3.9						
PDAR	Pinedale Array	82.65	331	P	P	14 15 32.6	+0.1
	comp=N,1.7nm,1.1s,mb3.8,baz=129,slow=4.8,SNR=7.0						
NVAR	Mina Array Bea	83.29	323	P	P	14 15 36.2	+0.4
	comp=N,1.2nm,0.8s,mb3.8,baz=145,slow=6.4,SNR=7.7						
NVAR				pP	pP	14 16 03.3	+1.2
	comp=N,0.7nm,0.8s,baz=156,slow=7.8,SNR=3.0						
HLID	Hailey	85.38	329	eP	P	14 15 46.9	+0.8
	comp=N,5.2nm,1.1s,mb4.4						
MCMT	McKenzie Canyo	85.71	330	eP	P	14 15 48.8	+1.0
SCHQ	Schefferville	85.77	1	eP	P	14 15 48.9	+1.1
	comp=N,14nm,0.9s,mb4.9						
NEW	Newport	90.23	330	P	P	14 16 09.9	+0.7
	comp=N,3.5nm,0.8s,mb4.5						
ASAR	Alice Springs	121.20	204	PKP	PKPdf	14 22 00.1	-0.5
	comp=N,0.4nm,0.7s,baz=159,slow=2.5,SNR=8.6						
WRA	Warramunga Arr	124.44	207	PKP	PKPdf	14 22 06.7	-0.2
	comp=N,1.2nm,0.7s,baz=158,slow=1.8,SNR=18						
WRA				pPKP		14 22 36.2	
	comp=N,0.6nm,0.9s,baz=159,slow=1.5,SNR=2.1						
YAK	Yakutsk	146.98	344	ePKPbc	PKPbc	14 22 49.8	+1.1
HYB	Hyderabad	147.34	107	i PKP	PKPdf	14 22 52.5	+3.6
HYB	Hyderabad	147.34	107	eP	PKPdf	14 22 52.5	+3.6
AAK	Ala-Archa	148.78	58	ePKPbc	PKPdf	14 22 55.7	+5.2
AAK				epPKPbc		14 23 22.8	
ZAL	Zalesovo	150.47	32	PKPbc	PKPdf	14 22 60.0	+7.2
	comp=N,3.5nm,0.5s,baz=83,slow=2.1,SNR=19						
ZAL	Zalesovo	150.47	32	PKPbc	PKPdf	14 22 60.0	+7.2
MKAR	Makanchi Array	152.91	47	PKPbc	PKPdf	14 23 05.0	+8.4
	comp=N,2.4nm,0.8s,baz=298,slow=2.0,SNR=19						
MKAR				PKPab	PKPab	14 23 17.0	-0.9
	comp=N,2.9nm,0.8s,baz=293,slow=3.9,SNR=12						
MKAR				pPKPbc		14 23 33.6	
	comp=N,1.1nm,0.7s,baz=295,slow=2.9,SNR=3.8						
MKAR				pPKPab		14 23 44.8	
	comp=N,1.6nm,0.8s,baz=306,slow=3.9,SNR=6.6						
WMQ	Urumqi	157.63	49	ePKP	PKPdf	14 23 02.6	-0.3
SONM	Songino Array	163.06	11	PKPab	PKPab	14 24 00.9	-0.4
	comp=N,0.5nm,0.6s,baz=333,slow=5.5,SNR=4.1						
LZH	Lanzhou	172.21	50	ePKP	PKPdf	14 23 14.0	-1.7
LZH				XPKP		14 23 51.5	
LZH	Lanzhou	172.21	50	ePKP	PKPdf	14 23 14.0	-1.7
LZH				pPKP		14 23 41.0	
LZH				sPKP		14 23 51.5	

DJA 23 14:04:47.7±1.0**,9.83S**×**114.14E,h80**^{km}**,MD5.1**/3**, ML4.3**/3**,5C-2D,Error ellipse: s-maj=24.0km s-min=16.4km az=18.0,South of Bali**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
INGI	**Ingas**	**1.42**	**45**	⇑*e*Pn	P	14 05 11.5	-0.9
	387nm,0.2s						
INGI				⇑*e*Sn	S	14 05 28.8	-1.9
KELI	**Kelakatan**	**1.64**	**12**	⇓*e*Pn	P	14 05 15.0	-0.4
	251nm,0.2s						
KELI	**Kelakatan**	**1.64**	**12**	⇑*e*P	P	14 05 15.3	-0.1
KELI				⇑*e*Sn	S	14 05 35.4	-0.4
RATI	**Rata**	**1.76**	**51**	⇓*e*Pn	P	14 05 16.7	-0.3
	206nm,0.1s						
RATI				⇑*e*Sn	S	14 05 36.6	-1.9

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*JMA **23** 14:13:40.1±0.3, 22.51N×122.48E, h92^{km}, M2.9*
TAP 23 14:13:38.6, 22.46N×122.24E, h8^{km}±1^{km}, ML3.2, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**2.11**	**19**	P	Pn	14 14 12.9	-1.8
HATJ	**Hateruma jima**	**2.14**	**42**	P	Pn	14 14 12.3	-2.9
HATJ				S	Sn	14 14 36.8	-5.4
IRIF	**Iriomote-Funau**	**2.31**	**36**	P	Pn	14 14 15.0	-2.6
IRIF				S	Sn	14 14 41.6	-4.9
JKRS	**Kuro-shima**	**2.40**	**42**	P	Pn	14 14 16.1	-2.8
JKRS				S	Sn	14 14 42.9	-5.9
JIJ	**Ishigaki jima**	**2.58**	**42**	P	Pn	14 14 17.9	-3.5
JIJ				S	Sn	14 14 46.4	-6.8
JTJ	**Tarama**	**3.13**	**46**	P	Pn	14 14 25.7	-3.6
JTJ				*e*S	Sn	14 15 00.3	-7.0
JOGS	**Gusukube**	**3.70**	**51**	*e*S	Sn	14 15 13.7	-7.9

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*IDC **23** 15:06:26.7±0.8, 40.39N×77.62E, mb3.9/12, mb1 4.1/15, mb1mx4.0/22, ML3.3/3, MS3.2/2, Ms1 3.2/2, ms1mx2.5/33, Error ellipse: s-maj=16.8km s-min=14.8km az=52.0*
*MOS **23** 15:06:26.2±1.4, 40.47N×77.61E, h10^{km}, mb4.2/8, Error ellipse: s-maj=18.8km s-min=8.0km az=100.5*
*BJI **23** 15:06:28.9, 40.62N×77.44E, h34^{km}, mB4.4, mb4.4, ML4.4, Ms3.9, Msz3.6*
*NNC **23** 15:06:32.5±1.2, 40.97N×77.74E, mpv4.2, Error ellipse: s-maj=12.4km s-min=4.6km az=161.0*
*NEIC **23** 15:06:34.0±1.7, 40.73N×77.53E, h42^{km}±15^{km}, mb4.3/8, Error ellipse: s-maj=17.4km s-min=9.3km az=195.0*
ISC 23 15:06:28.9±0.5**, 40.32N**±0.02×**77.79E**±0.04**, h36**^{km}±7^{km}**, n88, σ1^{s}35**/107**, mb4.1**/19**, MS3.4**/1**, 8C-6D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.61**	**241**	⇑*i*P	**P**	**15 06 57.1**	**+1.8**
KSH				*e*S	**S**	**15 07 20.3**	**+5.3**
KSH				*e*XS		15 07 27.0	
ULHL	**Ulahol**	**2.25**	**329**	P	**P**	**15 07 04.5**	**0.0**
	SNR=354						
KZA	**Kyzart**	**2.60**	**313**	P	**P**	**15 07 09.8**	**+0.3**
	SNR=565						
AAA	**Alma-Ata**	**3.02**	**348**	*e*PN	**P**	**15 07 15.4**	**0.0**
AAA				*i*		15 07 18.1	
AAA				*i*		15 07 56.5	
AAA				pmax	pmax		
	comp=Z,700nm,1.0s						
AAA				smax			
	comp=N,4µm,1.0s						
TKM2	**Tokmak 2**	**3.08**	**328**	P	**P**	**15 07 16.9**	**+0.7**
	SNR=397						
UCH	**Uchtor**	**3.12**	**309**	P	**P**	**15 07 17.2**	**+0.3**
	SNR=89						
KBK	**Karagaybulak**	**3.16**	**319**	P	**P**	**15 07 21.4**	**+3.9**
	SNR=17						
AAK	**Ala-Archa**	**3.39**	**314**	⇑Pn	**P**	**15 07 21.3**	**+0.7**
	comp=N,450nm,0.8s						
AAK				Pg	**P**	**15 07 25.3**	**+4.6**
AAK				⇑Lg		15 08 06.6	
	comp=N,2µm,0.8s						
AAK	**Ala-Archa**	**3.39**	**314**	P	**P**	**15 07 21.3**	**+0.7**
	SNR=108						
AAK	**Ala-Archa**	**3.39**	**314**	*e*PN	**P**	**15 07 20.1**	**-0.5**
AAK	**Ala-Archa**	**3.39**	**314**	*e*Pn	**P**	**15 07 19.5**	**-1.1**
AAK				*e*Pb	**P**	**15 07 23.9**	**+3.3**
AAK				*e*Sn	**S**	**15 07 59.8**	**-0.4**
CHMS	**Chumysh**	**3.51**	**321**	P	**P**	**15 07 22.5**	**+0.1**
	SNR=39						
AML	**Almayashu**	**3.58**	**302**	P	**P**	**15 07 23.6**	**+0.3**
	SNR=135						
EKS2	**Erkin-Say**	**3.81**	**309**	P	**P**	**15 07 27.3**	**+0.6**
	SNR=102						
USP	**Ospenovka**	**3.84**	**321**	P	**P**	**15 07 27.7**	**+0.7**
	SNR=7.7						
MK31	**Makanchi Array**	**7.25**	**25**	Pn	**P**	**15 08 14.5**	**-0.6**
	comp=N,1.2nm,0.3s,baz=200,slow=13,SNR=66						
MK31				⇓Sn	**S**	**15 09 35.4**	**-1.8**
	comp=N,11nm,0.6s,baz=206,slow=18,SNR=4.5						
MK31				⇓Lg		15 10 02.5	
	comp=N,68nm,0.8s						
MKAR	**Makanchi Array**	**7.25**	**25**	Pn	**P**	**15 08 14.9**	**-0.2**
	comp=N,1.5nm,0.3s,baz=201,slow=16,SNR=55						
MKAR				Sn	**S**	**15 09 35.5**	**-1.6**
	comp=N,4.1nm,0.3s,baz=204,slow=23,SNR=7.2						
MKAR				Lg		15 10 12.3	
	comp=N,3.1nm,0.3s,baz=214,slow=24,SNR=5.2						
MKAR	**Makanchi Array**	**7.25**	**25**	PN	**P**	**15 08 14.4**	**-0.7**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR	**Makanchi Array**	**7.25**	**25**	Pn	**P**	**15 08 14.9**	**-0.2**
MKAR				Sn	**S**	**15 09 35.5**	**-1.6**
MKAR				Lg		15 10 12.3	
CHCP	**Chirah Chowk**	**7.57**	**210**	P	**P**	**15 08 20.9**	**+1.4**
NIL	**Nilore**	**7.58**	**210**	Pn	**P**	**15 08 21.9**	**+2.2**
	comp=Z,278nm,0.8s,SNR=30						
CEP	**Cherat**	**8.00**	**218**	P	**P**	**15 08 26.0**	**+0.5**
CEP				S	**S**	**15 09 55.0**	**-0.8**
WMQ	**Urumqi**	**8.16**	**61**	*e*P	**P**	**15 08 30.0**	**+2.3**
WMQ				S	**S**	**15 10 00.0**	**+0.3**
WMQ				Smax			
	comp=N,50nm,1.0s						
WMQ				Smax			
	comp=E,67nm,1.0s						
KLP	**Kalpa**	**8.78**	**177**	*e*P	**P**	**15 08 38.0**	**+1.7**
KLP				*e*S	**S**	**15 10 14.9**	**-0.2**
KLP				*e*		15 10 40.9	
	comp=N,247nm,1.0s						
KLP				*e*		15 10 41.0	
	comp=E,328nm,1.1s						
THW	**Thamme Wali**	**8.94**	**215**	P	**P**	**15 08 37.8**	**-0.8**
SBDP	**Sheikh Budin**	**9.78**	**217**	P	**P**	**15 08 48.5**	**-1.7**
JOSI	**Joshimath**	**9.85**	**171**	*e*	**P**	**15 08 39.1**	**-12**
JOSI				*e*S	**S**	**15 10 40.8**	**-0.8**
KURK	**Kurchatov**	**10.41**	**3**	⇑Pn	**P**	**15 08 55.5**	**-3.3**
	comp=E,3.3nm,0.8s,baz=191,slow=16,SNR=8.8						
KURK				⇓Lg		15 11 42.9	
	comp=E,23nm,0.8s,baz=100,slow=15,SNR=9.0						
KURK	**Kurchatov**	**10.41**	**3**	P	**P**	**15 08 55.4**	**-3.4**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KURK	**Kurchatov**	**10.41**	**3**	*e*Pn	**P**	**15 08 53.8**	**-5.0**
RTK	**Rohtak**	**11.31**	**186**	*e*	**P**	**15 09 08.6**	**-2.5**
RTK				*e*S	**S**	**15 11 11.7**	**-5.6**
NDI	**New Delhi**	**11.62**	**182**	*e*P	**P**	**15 09 13.0**	**-2.2**
NDI				*e*S	**S**	**15 11 17.0**	**-7.7**
AYAN	**Aya Nagar**	**11.82**	**183**	*e*P	**P**	**15 09 15.2**	**-2.7**
AYAN				*e*S	**S**	**15 11 20.8**	**-8.8**
AYAN				*e*		15 11 27.1	
	comp=Z,31nm,0.4s						
SONA	**Sohna**	**12.05**	**183**	*e*	**P**	**15 09 17.5**	**-3.6**
SONA				*e*S	**S**	**15 11 27.1**	**-8.2**
SONA				*e*		15 11 35.0	
	comp=E,29nm,0.4s						
SONA				*e*		15 11 35.4	
	comp=N,16nm,0.5s						
KHET	**Khetri**	**12.32**	**188**	*e*P	**P**	**15 09 22.4**	**-2.3**
KHET				*e*S	**S**	**15 11 35.3**	**-6.5**
KHET				*e*		15 11 44.5	
	comp=N,29nm,0.8s						
AGRA	**Agra**	**13.05**	**179**	*e*S	**S**	**15 11 54.4**	**-5.0**
VOSK	**Vostochnaya**	**13.25**	**342**	⇓Pn	**P**	**15 09 32.6**	**-4.4**
	comp=N,5.2nm,1.1s						
VOSK				⇑Lg		15 13 13.5	
	comp=N,136nm,1.6s						
BVA0	**Borovoye Array**	**13.68**	**341**	⇑Pn	**P**	**15 09 38.2**	**-4.2**
	comp=N,0.9nm,0.6s						
BVA0				⇑Lg		15 13 27.4	
	comp=N,2.8nm,0.7s,baz=159,slow=29,SNR=4.2						
BVA0	**Borovoye Array**	**13.68**	**341**	P	**P**	**15 09 38.1**	**-4.3**
BVAR	**Borovoye Array**	**13.68**	**341**	Pn	**P**	**15 09 38.9**	**-3.6**
	comp=N,0.2nm,0.3s,baz=144,slow=13,SNR=7.5						
BVAR				Lg		15 13 25.4	
	comp=N,0.4nm,0.3s,baz=150,slow=21,SNR=4.9						
BRVK	**Borovoye**	**13.73**	**341**	*e*P	**P**	**15 09 39.0**	**-4.2**
	comp=N,15nm,0.9s						
BRVK				*e*		15 09 51.1	
BRVK				*e*S	**S**	**15 12 30.4**	**+15**
ZRNK	**Zerenda**	**13.99**	**338**	⇓Pn	**P**	**15 09 43.8**	**-2.7**
	comp=N,4.5nm,1.1s						
ZRNK				⇓Lg		15 13 37.5	
	comp=N,71nm,1.2s						
ZRNK	**Zerenda**	**13.99**	**338**	P	**P**	**15 09 41.2**	**-5.3**
ZRNK				pmax	pmax		
	comp=Z,5.0nm,1.1s						
ZRNK	**Zerenda**	**13.99**	**338**	*e*P	**P**	**15 09 40.7**	**-5.8**
	comp=Z,4.3nm,0.6s						
ZRNK				*e*		15 09 51.8	
ZAL	**Zalesovo**	**14.42**	**17**	Pn	**P**	**15 09 52.0**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=147,slow=8.8,SNR=4.1						
ZAL				Lg		15 13 51.6	
	comp=Z,0.4nm,0.3s,baz=188,slow=6.6,SNR=3.9						
ZAL				LR	LR	15 16 20.0	
	comp=Z,60nm,18.9s,baz=30,slow=41						
NVS	**Novosibirsk**	**14.98**	**12**	*e*P	**P**	**15 10 03.6**	**+4.1**
NVS				pmax	pmax		
	comp=N,7.0nm,0.7s						
NVS				pmax	pmax		
	comp=E,3.0nm,0.7s						
NVS				pmax	pmax		
	comp=Z,12nm,0.7s						
GTA	**Gaotai**	**16.94**	**86**	*e*P	**P**	**15 10 30.8**	**+6.3**
GTA				AP		15 10 38.3	
GTA				XP		15 10 41.8	
GTA				PP	PP	15 10 44.5	+5.7
GTA				S	**S**	**15 13 31.4**	**+1.0**
GTA				AMB	AMB		
	comp=Z,3.0nm,1.0s						
GTA				AMB	AMB		
	comp=Z,38nm,4.2s						
GTA				LR	LR		
	comp=N,45nm,14.8s						
GTA				LR	LR		
	comp=E,71nm,14.8s						
GTA				LR	LR		
	comp=Z,50nm,13.3s						
BHPL	**Bhopal**	**17.03**	**181**	*e*P	**P**	**15 10 26.3**	**+0.4**
BHPL				*e*		15 10 34.3	
	comp=Z,5.8nm,0.3s						
SVE	**Sverdlovsk**	**19.94**	**332**	⇑*e*P	**P**	**15 11 03.0**	**+2.6**
ARU	**Arti**	**20.45**	**328**	⇑*i*P	**P**	**15 10 59.4**	**-6.3**
ARU				*e*		15 11 23.7	
ARU				*e*S	**S**	**15 14 41.8**	**-5.9**
ARU				pmax	pmax		
	comp=Z,6.0nm,1.1s						
ARU	**Arti**	**20.45**	**328**	*e*P	**P**	**15 11 02.6**	**-3.1**
	comp=Z,3.5nm,0.7s						
ZAK	**Zakamensk**	**20.45**	**52**	*e*P	**P**	**15 11 06.8**	**+1.0**
LZH	**Lanzhou**	**20.88**	**93**	*e*P	**P**	**15 11 16.5**	**+6.2**
LZH				AP		15 11 27.8	
LZH				PP	PP	15 11 40.5	+7.5
LZH				AMB	AMB		
	comp=Z,25nm,1.5s						
LZH	**Lanzhou**	**20.88**	**93**	*e*P	**P**	**15 11 16.5**	**+6.2**
	comp=Z,25nm,1.5s						
LZH				pP		15 11 27.7	
LZH				sP		15 11 33.4	
LZH				PP	PP	15 11 40.5	+7.5
SONM	**Songino Array**	**21.80**	**60**	P	**P**	**15 11 21.7**	**+2.4**
	comp=Z,1.5nm,0.7s,mb3.5,baz=263,slow=10.0,SNR=11						
HYB	**Hyderabad**	**22.83**	**178**	*i* P	**P**	**15 11 35.0**	**+5.1**
HHC	**Hu-ho-hao-te**	**25.57**	**78**	*e*P	**P**	**15 11 54.3**	**-1.8**
HHC				AP	pP	15 12 03.9	-2.0
HHC				XP	sP	15 12 09.9	-0.2
HHC				AMB	AMB		
	comp=Z,11nm,0.5s,mb4.6						
HHC				AMB	AMB		
	comp=Z,83nm,5.9s						
CMAR	**Chiang Mai Arr**	**28.40**	**134**	P	**P**	**15 12 23.9**	**+1.7**
	comp=Z,0.5nm,0.7s,mb3.2,baz=319,slow=7.7,SNR=5.0						
CMAR	**Chiang Mai Arr**	**28.40**	**134**	P	**P**	**15 12 23.9**	**+1.7**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MALT	**Malatya**	**30.35**	**279**	P	**P**	**15 12 42.1**	**+2.8**
	comp=Z,6.0nm,1.5s,mb4.1						
BRTR	**Keskin Array B**	**33.55**	**284**	P	**P**	**15 13 07.2**	**-0.1**
	comp=Z,1.8nm,0.3s,mb4.5,baz=98,slow=7.7,SNR=18						
BRTR	**Keskin Array B**	**33.55**	**284**	P	**P**	**15 13 07.2**	**-0.1**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
AKASG	**Malin Array Be**	**35.00**	**304**	P	**P**	**15 13 18.4**	**-1.2**
	comp=Z,1.9nm,0.6s,mb4.2,baz=80,slow=8.1,SNR=5.0						
AKASG	**Malin Array Be**	**35.00**	**304**	P	**P**	**15 13 18.5**	**-1.1**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
CN2	**Changchun**	**35.17**	**68**	*e*P	**P**	**15 13 25.3**	**+4.1**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.0						
SSE	**Sheshan**	**36.12**	**91**	*e*P	**P**	**15 13 28.8**	**-0.6**
SSE				AMB	AMB		
	comp=Z,16nm,0.7s,mb5.1						
SSE				AMB	AMB		
	comp=Z,30nm,4.2s						
SSE	**Sheshan**	**36.12**	**91**	*e*P	**P**	**15 13 28.8**	**-0.6**
	comp=Z,16nm,0.7s,mb5.1						
FINES	**FINESS Array B**	**37.54**	**322**	P	**P**	**15 13 41.0**	**0.0**
	comp=Z,1.7nm,0.6s,mb4.0,baz=112,slow=10,SNR=13						
FINES	**FINESS Array B**	**37.54**	**322**	P	**P**	**15 13 41.0**	**0.0**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KS15	**Wonju Array Si**	**38.69**	**78**	P	**P**	**15 13 55.1**	**+4.3**
ARCES	**ARCESS Array B**	**39.84**	**334**	P	**P**	**15 14 00.3**	**+0.3**
	comp=Z,8.2nm,0.9s,mb4.5,baz=106,slow=8.5,SNR=13						
ARCES	**ARCESS Array B**	**39.84**	**334**	P	**P**	**15 14 00.3**	**+0.2**
ARCES				pmax	pmax		
	comp=Z,8.0nm,0.9s						
ARCES	**ARCESS Array B**	**39.84**	**334**	P	**P**	**15 14 00.3**	**+0.3**
ARE0	**ARCESS Array S**	**39.84**	**334**	*e*P	**P**	**15 13 58.7**	**-1.3**
MORC	**Moravsky Berou**	**42.55**	**304**	P	**P**	**15 14 22.6**	**+0.1**
	comp=Z,13nm,1.5s,mb4.4						
NB2	**NORSAR Subarra**	**44.69**	**321**	P	**P**	**15 14 38.9**	**-0.7**
	comp=Z,7.8nm,1.4s,mb4.3,baz=87,slow=7.9						
NOA	**NORSAR Array B**	**44.69**	**321**	P	**P**	**15 14 39.8**	**+0.1**
	comp=Z,1.1nm,1.0s,mb3.6,baz=90,slow=7.2,SNR=3.8						
NOA				LR	LR	15 33 56.0	
	comp=Z,40nm,18.6s,MS3.4,baz=200,slow=37						
NOA	**NORSAR Array B**	**44.69**	**321**	P	**P**	**15 14 39.8**	**+0.2**
NOA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
NOA				MLR	MLR		
	comp=Z,41nm,18.6s						
GERES	**GERESS Array B**	**45.20**	**303**	P	**P**	**15 14 44.5**	**+0.5**
	comp=Z,0.4nm,0.4s,mb3.6,baz=97,slow=7.9,SNR=2.8						
KMBO	**Kilima Mbogo**	**55.36**	**232**	P	**P**	**15 16 05.7**	**+3.8**
	comp=Z,1.4nm,0.8s,mb4.0						
INK	**Inuvik**	**69.18**	**12**	P	**P**	**15 17 32.9**	**-0.3**
	comp=Z,1.7nm,0.5s,mb4.2,baz=224,slow=9.1,SNR=4.7						
INK	**Inuvik**	**69.18**	**12**	P	**P**	**15 17 32.9**	**-0.2**
INK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ILAR	**Eielson Array**	**69.56**	**19**	P	**P**	**15 17 35.0**	**-0.4**
	comp=Z,0.8nm,0.8s,mb3.7,baz=320,slow=5.6,SNR=10						
ILAR	**Eielson Array**	**69.56**	**19**	P	**P**	**15 17 35.1**	**-0.4**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRA	**Warramunga Arr**	**79.75**	**127**	P	**P**	**15 18 37.7**	**+2.7**
	comp=Z,0.5nm,0.8s,mb3.5,baz=328,slow=5.6,SNR=6.3						
WRA	**Warramunga Arr**	**79.75**	**127**	P	**P**	**15 18 37.7**	**+2.7**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRAB	**Tennant Creek**	**79.75**	**127**	P	**P**	**15 18 39.7**	**+4.7**
	comp=Z,6.4nm,1.0s,mb4.5						
ASAR	**Alice Springs**	**82.32**	**130**	P	**P**	**15 18 52.0**	**+3.6**
	comp=Z,0.4nm,0.6s,mb3.5,baz=320,slow=4.6,SNR=10						

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*LDG **23** 15:19:55.8±0.1, 44.42N×6.63E, h2^{km}, Md2.9/1, Ml2.9/9, Error ellipse: s-maj=1.2km s-min=0.9km az=54.0*
*STR **23** 15:19:56.8±0.2, 44.41N×6.71E, h5^{km}±1^{km}, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **23** 15:19:56.8, 44.41N×6.71E, h5^{km}, ML2.9(LDG), ML2.8(GEN), ML2.4(STR), After STR.*
ISC 23 15:19:54.8±0.3**, 44.41N**±0.01×**6.60E**±0.02**, h11**^{km}±2^{km}**, n47, σ0^{s}76**/87**, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SURF	**Saint Ours**	**0.17**	**63**	Pg	**Pg**	**15 19 59.2**	**+0.5**
SURF				Sg	**Sg**	**15 20 01.5**	**+0.2**
MBDF	**Montbardon**	**0.34**	**21**	*e*Pg	**Pg**	**15 20 02.4**	**+0.4**
MBDF				*e*Sg	**Sg**	**15 20 06.6**	**-0.1**
	219nm,0.4s						
PZZ	**Prazzo**	**0.37**	**74**	P	**Pg**	**15 20 02.9**	**+0.4**
PZZ				S	**Sg**	**15 20 08.1**	**+0.4**
OG25	**Le Caire**	**0.38**	**265**	Pg	**Pg**	**15 20 03.8**	**+1.1**
RRL	**Cesana Torines**	**0.53**	**14**	P	**Pg**	**15 20 06.2**	**+0.6**
RRL				S	**Sg**	**15 20 13.4**	**+0.6**
STV	**Sta Anna Valdi**	**0.54**	**107**	P	**Pg**	**15 20 05.8**	**0.0**
STV				S	**Sg**	**15 20 12.7**	**-0.5**
STV2	**Anna di Valdie**	**0.54**	**107**	P	**Pg**	**15 20 05.8**	**-0.1**
STV2				S	**Sg**	**15 20 12.6**	**-0.6**
TOUF	**Mont Tournerai**	**0.61**	**130**	Pg	**Pg**	**15 20 07.1**	**0.0**
ENR	**Entracque**	**0.61**	**107**	P	**Pb**	**15 20 07.1**	**0.0**
ENR				S	**Sb**	**15 20 14.8**	**-0.7**
BHB	**Bricherasio**	**0.64**	**47**	P	**Pb**	**15 20 07.8**	**+0.2**
BHB				S	**Sb**	**15 20 15.8**	**-0.5**
MVIF	**Mont Vial**	**0.65**	**142**	Pg	**Pg**	**15 20 07.7**	**-0.2**
BNI	**Bardonecchia**	**0.65**	**5**	*e*Pg	**Pg**	**15 20 08.6**	**+0.6**
CALN	**Calern**	**0.69**	**162**	Pg	**Pg**	**15 20 09.6**	**+0.9**
FENE	**Fenestrelle**	**0.70**	**28**	P	**Pb**	**15 20 08.9**	**+0.2**
FENE				S	**Sb**	**15 20 18.5**	**+0.3**
AUTN	**L'Aution**	**0.72**	**124**	Pg	**Pg**	**15 20 09.1**	**-0.3**
AUTN				Sg	**Sg**	**15 20 19.4**	**+0.3**
ORIF	**Oris-en-Rattie**	**0.73**	**315**	*e*Pg	**Pg**	**15 20 09.7**	**+0.2**
ORIF				*e*Pn	**Pn**	**15 20 11.6**	**+0.8**
ORIF				*e*Sg	**Sg**	**15 20 19.3**	**0.0**
	44nm,0.3s						
AURF	**Auriere**	**0.73**	**135**	Pg	**Pg**	**15 20 09.6**	**-0.1**
SAOF	**Saorge**	**0.80**	**121**	Pg	**Pg**	**15 20 10.6**	**-0.4**
SAOF				Sg	**Sg**	**15 20 21.2**	**-0.6**
SBF	**Sospel**	**0.81**	**132**	*e*Pg	**Pg**	**15 20 10.8**	**-0.3**
SBF				*e*Sg	**Sg**	**15 20 21.4**	**-0.6**
	39nm,0.2s						
FRF	**La Foret Royal**	**0.84**	**178**	*e*Pg	**Pg**	**15 20 12.0**	**+0.2**
FRF				*e*Pn	**Pn**	**15 20 13.3**	**+0.8**
FRF				*e*Sg	**Sg**	**15 20 22.0**	**-1.2**
FRF				*e*Sn	**Sn**	**15 20 25.8**	**+0.9**
	130nm,0.2s						
SMRF	**Simiane la Rot**	**0.85**	**240**	*e*Pg	**Pg**	**15 20 12.4**	**+0.4**
SMRF				*e*Pn	**Pn**	**15 20 13.8**	**+1.2**
SMRF				*e*Sg	**Sg**	**15 20 23.9**	**+0.4**
SMRF				*e*Sn	**Sn**	**15 20 26.3**	**+1.2**
	40nm,0.2s						
REVF	**Revere**	**0.86**	**140**	Pg	**Pg**	**15 20 13.2**	**+1.0**
RSP	**Reno Superiore**	**0.88**	**32**	P	**Pb**	**15 20 12.3**	**+0.7**
RSP				S	**Sb**	**15 20 23.6**	**+0.4**
MONE	**Monesi**	**0.89**	**111**	P	**Pb**	**15 20 12.2**	**+0.3**
MONE				S	**Sb**	**15 20 23.5**	**0.0**
ROB	**Roburent**	**0.92**	**97**	P	**Pb**	**15 20 12.5**	**+0.2**
ROB				S	**Sb**	**15 20 23.9**	**-0.4**
OCF	**Saint Nazaire**	**0.95**	**281**	Pg	**Pg**	**15 20 16.1**	**+2.3**
OCF				Sg	**Sg**	**15 20 31.8**	**+5.3**
OG26	**St.-Nazaire-De**	**0.95**	**281**	Pg	**Pg**	**15 20 16.1**	**+2.3**
OG26				Sg	**Sg**	**15 20 31.8**	**+5.3**
NEGI	**Negi**	**0.97**	**125**	P	**Pb**	**15 20 13.7**	**+0.5**
NEGI				S	**Sb**	**15 20 26.0**	**+0.2**
IMI	**Imperia**	**1.05**	**118**	P	**Pb**	**15 20 15.1**	**+0.6**
LMR	**La Mourre**	**1.07**	**184**	*e*Pg	**Pg**	**15 20 16.1**	**-0.3**
LMR				*e*Pn	**Pn**	**15 20 16.6**	**+0.8**
LMR				*e*Sg	**Sg**	**15 20 30.2**	**-0.5**
	77nm,0.2s						
RORO		**1.09**	**105**	P	**Pb**	**15 20 15.3**	**+0.1**
RORO				S	**Sb**	**15 20 28.5**	**-0.8**
LPG	**La Plagne**	**1.10**	**5**	*e*Pg	**Pg**	**15 20 16.4**	**-0.4**
LPG				*e*Pn	**Pn**	**15 20 17.2**	**+1.1**
LPG				*e*Sg	**Sg**	**15 20 30.0**	**-1.5**
	30nm,0.4s						
LPL	**La Plagne**	**1.11**	**5**	*e*Pg	**Pg**	**15 20 16.6**	**-0.6**
LPL				*e*Pn	**Pn**	**15 20 17.4**	**+1.1**
LPL				*e*Sg	**Sg**	**15 20 30.7**	**-1.4**
	28nm,0.3s						
LSD	**Ceresole Reale**	**1.12**	**20**	P	**Pb**	**15 20 16.9**	**+1.1**
FIN	**Finale Ligure**	**1.17**	**99**	P	**Pb**	**15 20 16.5**	**-0.1**
TRAV		**1.37**	**36**	P	**Pn**	**15 20 20.2**	**+0.2**
PCP	**Pian Castagno**	**1.40**	**84**	P	**Pn**	**15 20 20.7**	**+0.3**
VIVF	**Saint-Julien-l**	**1.45**	**289**	*e*Pn	**Pn**	**15 20 21.5**	**+0.4**
VIVF				*e*Pg	**Pg**	**15 20 22.8**	**-1.0**
VIVF				*e*Sn	**Sn**	**15 20 39.9**	**-0.3**
VIVF				*e*Sg	**Sg**	**15 20 42.5**	**-0.7**
	8.9nm,0.2s						
LASF	**Ste Croix**	**2.00**	**261**	*e*Pn	**Pn**	**15 20 30.1**	**+1.1**
LASF				*e*Pg	**Pg**	**15 20 33.1**	**-1.7**
LASF				*e*Sn	**Sn**	**15 20 53.2**	**-1.0**
	3.7nm,0.2s						
CABF	**La Chapelle**	**2.23**	**351**	*e*Pg	**Pg**	**15 20 32.5**	**-7.0**
CODM		**2.33**	**89**	P	**Pn**	**15 20 33.4**	**-0.3**
PGF	**Pioggiola**	**2.55**	**136**	*e*Pn	**Pn**	**15 20 37.0**	**+0.2**
PGF				*e*Sn	**Sn**	**15 21 07.2**	**-0.9**
	6.0nm,0.3s						
CAF	**Calviac**	**3.28**	**281**	*e*Pn	**Pn**	**15 20 46.2**	**-1.1**
AVF	**Avril sur Loir**	**3.30**	**317**	*e*Pn	**Pn**	**15 20 46.6**	**-1.0**
MTLF	**Montolieu**	**3.34**	**253**	*e*Pn	**Pn**	**15 20 47.3**	**-0.9**
MTLF				*e*Sn	**Sn**	**15 21 25.8**	**-2.5**
	2.7nm,0.3s						
LOR	**Lormes**	**3.45**	**327**	*e*Pn	**Pn**	**15 20 48.6**	**-1.0**
CDF	**Champ du Feu**	**4.04**	**6**	*e*Pn	**Pn**	**15 20 56.5**	**-1.5**

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*NEIC **23** 15:26:00.9±4.2, 13.62N×120.80E, h156^{km}±41^{km}, mb4.3/17, Error ellipse: s-maj=17.7km s-min=5.2km az=59.0*
*IDC **23** 15:26:01.8±6.9, 13.61N×120.81E, h160^{km}±66^{km}, mb3.6/11, mb1 3.7/11, mb1mx3.6/20, Error ellipse: s-maj=40.5km s-min=11.3km az=60.0*
*MAN **23** 15:26:01.9, 13.70N×120.66E, h151^{km}, mb4.7, ML3.6, MS3.8*
ISC 23 15:26:00.8±0.3**, 13.61N**±0.03×**120.70E**±0.06**, h167**^{km}±3^{km}**, n57, σ1^{s}11**/63**, mb4.1**/24**, 4C-3D, Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.46**	**286**	*e*P	**P**	**15 26 23.4**	**-0.9**
LUBP	**Lubang**	**0.46**	**286**	⇑*e*P	**P**	**15 26 23.1**	**-1.2**
TGY	**Tagaytay City**	**0.54**	**25**	⇑*i*P	**P**	**15 26 24.3**	**-0.4**
TGY				*i* S	**S**	**15 26 41.8**	**-1.2**
LQP	**Lukban**	**0.96**	**59**	⇑*e*P	**P**	**15 26 27.4**	**+0.3**
LQP				*i* S	**S**	**15 26 45.5**	**-1.8**
BOAC	**Boac**	**1.12**	**98**	*e*P	**P**	**15 26 28.0**	**-0.4**
BOAC				*i* S	**S**	**15 26 43.0**	**-6.8**
SJMP	**San Jose**	**1.21**	**160**	*e*P	**P**	**15 26 29.8**	**+0.5**
SJMP				*i* S	**S**	**15 26 49.5**	**-1.8**
POLP	**Polilio Island**	**1.64**	**47**	*e*P	**P**	**15 26 34.0**	**+0.6**
BUSP	**Coron**	**1.67**	**197**	*e*P	**P**	**15 26 34.7**	**+1.0**
BUSP				*e*S	**S**	**15 26 57.6**	**-1.6**
OTRP	**Odiongan**	**1.79**	**134**	*e*P	**P**	**15 26 35.5**	**+0.5**
AUQP	**San Andres**	**1.94**	**98**	*e*P	**P**	**15 26 39.4**	**+2.8**
BALP	**Baler**	**2.28**	**22**	*i* P	**P**	**15 26 40.6**	**-0.1**
SCZP	**Santa Cruz**	**2.28**	**341**	*i* P	**P**	**15 26 39.6**	**-1.0**
KALP	**Kalibo**	**2.50**	**140**	⇓*e*P	**P**	**15 26 45.4**	**+2.1**
ENPP	**El Nido**	**2.69**	**208**	*i* P	**P**	**15 26 47.5**	**+1.8**
BCPH	**Baguio City Da**	**2.76**	**358**	⇓*i*P	**P**	**15 26 46.5**	**+0.1**
BCPH				*i* S	**S**	**15 27 23.5**	**+2.0**
CUYO	**Cuyo Island**	**2.76**	**173**	*e*P	**P**	**15 26 47.9**	**+1.4**
RCP	**Roxas**	**2.85**	**135**	⇓*e*P	**P**	**15 26 49.6**	**+1.9**
BOLP	**Bolinao**	**2.86**	**345**	*e*P	**P**	**15 26 46.7**	**-0.9**
PVCP	**Virac**	**3.36**	**90**	*e*P	**P**	**15 26 55.6**	**+1.5**
CAUP	**Cauayan**	**3.49**	**18**	*e*P	**P**	**15 26 55.6**	**-0.1**
GUIM	**Jordan**	**3.50**	**148**	*i* P	**P**	**15 26 58.6**	**+2.8**
PALP	**Palanan**	**3.81**	**26**	*i* P	**P**	**15 26 60.0**	**+0.1**
ABRA	**Dolores**	**4.01**	**0**	*e*P	**P**	**15 27 01.2**	**-1.2**
APYP	**Conner**	**4.26**	**7**	*e*P	**P**	**15 27 05.5**	**-0.1**
CM31	**Chiang Mai Arr**	**21.45**	**286**	*e*P	**P**	**15 30 38.5**	**+1.8**
	7.5nm,0.8s,mb4.1						
CMAR	**Chiang Mai Arr**	**21.45**	**286**	P	**P**	**15 30 39.0**	**+2.4**
	2.6nm,0.7s,mb3.6,baz=90,slow=7.5,SNR=23						
CMAR				PcP	PcP	15 34 35.0	+0.3
	0.4nm,0.6s,baz=100,slow=0.9,SNR=5.0						
BJT	**Baijiatuau**	**26.61**	**352**	P	**P**	**15 31 22.9**	**-2.5**
	9.4nm,1.0s,mb4.4						
FITZ	**Fitzroy Crossi**	**31.89**	**171**	*e*P	**P**	**15 32 11.4**	**-1.2**
	4.4nm,1.9s,mb3.9						
FITZ	**Fitzroy Crossi**	**31.89**	**171**	P	**P**	**15 32 11.7**	**-0.9**
	1.8nm,0.9s,mb3.8,baz=116,slow=1.4,SNR=7.4						
MBWA	**Marble Bar**	**34.56**	**182**	P	**P**	**15 32 34.7**	**-0.8**
	13nm,0.6s,mb4.7						

PKI	Pulchoki	35.69	298	eP	P	15 32 45.1	+0.2
	6.4nm,0.5s,mb4.5						
KKN	Kakani	35.86	299	eP	P	15 32 46.9	+0.5
	5.4nm,0.6s,mb4.4						
WRAB	Tennant Creek	35.94	158	eP	P	15 32 45.8	-1.3
	6.2nm,0.5s,mb4.5						
WRA	Warramunga Arr	35.94	158	P	P	15 32 45.9	-1.2
	2.9nm,0.4s,mb4.2,baz=331,slow=10,SNR=73						
WB2	Warramunga Arr	35.95	158	⇑iP	P	15 32 45.8	-1.3
DMN	Daman	35.96	298	eP	P	15 32 47.6	+0.4
	5.3nm,0.6s,mb4.4						
SONM	Songino Array	36.14	344	P	P	15 32 48.3	-0.2
	0.4nm,0.5s,mb3.3,baz=158,slow=9.4,SNR=3.6						
GKN	Gorkha	36.47	299	eP	P	15 32 51.1	-0.3
KOLN	Koldanda	37.29	298	eP	P	15 32 58.4	0.0
	5.1nm,0.8s,mb4.2						
ASAR	Alice Springs	39.23	161	P	P	15 33 14.1	-0.5
	1.6nm,0.5s,mb3.9,baz=335,slow=6.8,SNR=65						
ASPA	Alice Springs	39.23	161	eP	P	15 33 14.1	-0.5
CTA	Charters Tower	41.87	143	eP	P	15 33 37.0	+0.7
	4.8nm,0.6s,mb4.3						
CTA	Charters Tower	41.87	143	P	P	15 33 37.0	+0.7
	8.6nm,0.7s,mb4.5,baz=331,slow=8.5,SNR=14						
CTAO	Charters Tower	41.87	143	eP	P	15 33 36.7	+0.4
	13nm,0.9s,mb4.6						
FORT	Forrest	44.70	171	eP	P	15 33 58.2	-0.7
	31nm,0.6s,mb5.1						
MKAR	Makanchi Array	46.10	324	P	P	15 34 10.7	+0.9
	0.7nm,0.6s,mb3.5,baz=121,slow=8.3,SNR=6.8						
NWAO	Narrogin (SRO)	46.39	184	P	P	15 34 12.2	-0.1
	3.1nm,0.6s,mb4.2,baz=349,slow=5.2,SNR=5.2						
NWAO	Narrogin (SRO)	46.39	184	P	P	15 34 12.1	-0.2
	11nm,1.0s,mb4.4						
STKA	Stephens Creek	49.47	156	eP	P	15 34 35.2	-0.8
	2.3nm,1.5s,mb3.6						
STKA	Stephens Creek	49.47	156	P	P	15 34 35.0	-1.1
	1.4nm,0.6s,mb3.8,baz=339,slow=8.9,SNR=5.0						
STKA	Stephens Creek	49.47	156	eP	P	15 34 34.9	-1.2
KURK	Kurchatov	50.26	326	eP	P	15 34 42.1	+0.3
	5.0nm,0.7s,mb4.2						
BRVK	Borovoye	55.92	326	P	P	15 35 23.8	+0.4
	3.3nm,1.0s,mb4.1						
ZRNK	Zerenda	56.58	325	eP	P	15 35 27.0	-1.1
	1.1nm,0.7s,mb3.8						
MCK	McKinley	78.07	27	eP	P	15 37 42.1	-0.1
	2.0nm,0.7s,mb3.9						
ARCES	ARCESS Array B	79.17	339	P	P	15 37 48.6	+0.6
	2.2nm,0.8s,mb3.9,baz=79,slow=6.2,SNR=5.9						
FINES	FINESS Array B	80.36	331	P	P	15 37 54.6	+0.1
	0.4nm,0.5s,mb3.4,baz=63,slow=4.3,SNR=5.1						

IDC ***23*** *16:02:10.8±6.2, 17.21S×174.36W, h52^{km}±57^{km}, mb4.4/14, mb1 4.6/15, mb1mx4.5/19, ML4.6/1, MS3.6/3, Ms1 3.6/3, ms1mx3.1/21, Error ellipse: s-maj=33.0km s-min=14.3km az=153.0*

NEIC ***23*** *16:02:12.9±2.0, 17.26S×174.38W, h76^{km}±18^{km}, mb4.7/25, Error ellipse: s-maj=11.2km s-min=5.9km az=150.0*

ISC 23 16:02:09.8±3.4**, 17.22S**±0.10×**174.45W**±0.08**, h61**^{km}±30^{km}**, n64, σ0^{s}.84**/58**, mb4.7**/36**, 8C-3D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	Nonsavu	7.17	265	Pn	P	16 04 08.8	+14
	348nm,1.2s,SNR=9.8						
RAR	Rarotonga	14.42	108	P	P	16 05 32.1	-0.1
	2.5nm,0.3s,baz=252,slow=23,SNR=6.1						
RAR				S	S	16 07 59.2	-12
	1.4nm,0.3s,baz=140,slow=19,SNR=3.1						
DZM	Mont Dzumac	18.63	252	eP	P	16 06 15.5	-9.5
DZM	Mont Dzumac	18.63	252	eP	P	16 06 15.5	-9.5
URZ	Urewera	22.23	198	P	P	16 07 02.7	+0.2
	12nm,0.4s,mb4.7,baz=174,slow=1.5,SNR=16						
RPZ	Rata Peaks	29.13	202	P	P	16 08 08.5	+1.4
	7.0nm,0.6s,mb4.6,baz=206,slow=8.7,SNR=8.3						
CTA	Charters Tower	37.28	259	P	P	16 09 18.8	+1.0
	3.9nm,0.6s,mb4.4,baz=86,slow=14,SNR=8.3						
CTA	Charters Tower	37.28	259	P	P	16 09 18.8	+1.0
CTAO	Charters Tower	37.28	259	eP	P	16 09 18.5	+0.7
	6.6nm,0.8s,mb4.5						
STKA	Stephens Creek	42.27	241	eP	P	16 09 59.5	+0.5
	17nm,1.0s,mb4.6						
STKA	Stephens Creek	42.27	241	P	P	16 09 59.2	+0.2
	21nm,1.0s,mb4.7,baz=76,slow=7.7,SNR=24						
WB2	Warramunga Arr	48.46	258	⇑iP	P	16 10 48.2	-0.2
WRAB	Tennant Creek	48.46	258	eP	P	16 10 47.9	-0.5
	12nm,0.6s,mb5.1						
WRA	Warramunga Arr	48.47	258	P	P	16 10 48.3	-0.2
	6.8nm,0.6s,mb4.9,baz=97,slow=7.0,SNR=107						
WRA				LR	LR	16 29 04.3	
	comp=Z,43nm,20.4s,baz=110,slow=33						
ASAR	Alice Springs	48.61	253	P	P	16 10 50.1	+0.5
	51nm,0.7s,mb5.7,baz=89,slow=8.3,SNR=509						
ASAR				LR	LR	16 27 54.4	
	comp=Z,81nm,20.4s,baz=17,slow=32						
ASPA	Alice Springs	48.61	253	⇓iP	P	16 10 49.4	-0.2
FORT	Forrest	53.71	244	eP	P	16 11 26.8	-1.2
	29nm,0.8s,mb5.3						
FITZ	Fitzroy Crossi	56.86	259	eP	P	16 11 50.7	-0.3
	1.4nm,0.6s,mb4.2						
FITZ	Fitzroy Crossi	56.86	259	P	P	16 11 51.7	+0.7
	1.8nm,0.6s,mb4.3,baz=167,slow=8.3,SNR=9.7						
SBA	Scott Base	61.37	184	eP	P	16 12 21.6	+0.2
	8.8nm,0.8s,mb4.9						
MBWA	Marble Bar	61.90	255	eP	P	16 12 24.5	-1.1
	20nm,1.2s,mb5.1						
KLBR	Kellerberrin	62.51	243	eP	P	16 12 28.8	-0.8
	13nm,0.7s,mb5.2						
NWAO	Narrogin (SRO)	62.86	241	eP	P	16 12 30.6	-1.3
	23nm,1.4s,mb5.1						
MUN	Mundaring	63.79	242	eP	P	16 12 37.9	-0.2
	6.0nm,0.5s,mb4.9						
QSPA	South Pole Qui	72.84	180	eP	P	16 13 33.1	-0.1
	20nm,0.9s,mb5.0						
QSPA				eP		16 13 33.3	
YSS	Yuzh-Sakhalins	74.56	331	eP	P	16 13 44.6	+0.7
	3.9nm,0.6s,mb4.5						
CMB	Columbia Colle	74.79	41	eP	P	16 13 45.3	-0.1
	4.4nm,0.9s,mb4.4						
YBH	Yreka Blue Hor	75.65	37	P	P	16 13 49.8	-0.5
	2.7nm,0.5s,mb4.4,baz=163,slow=2.0,SNR=11						
NVAR	Mina Array Bea	76.34	42	P	P	16 13 54.8	+0.5
	3.4nm,0.7s,mb4.4,baz=231,slow=12,SNR=26						
TPH	Tonopah	76.84	43	eP	P	16 13 56.3	-0.8
	2.1nm,0.3s,mb4.5						
WVOR	Wild Horse Val	78.47	39	eP	P	16 14 05.5	-0.5
	5.4nm,1.0s,mb4.4						
HWUT	Hardware Ranch	82.41	42	eP	P	16 14 26.0	-0.9
	2.6nm,0.8s,mb4.2						
LTX	Lajitas	82.46	56	eP	P	16 14 27.1	-0.3
	8.4nm,1.1s,mb4.6						
TXAR	Lajitas Array	82.46	56	P	P	16 14 27.7	+0.3
	2.2nm,0.8s,mb4.1,baz=211,slow=7.3,SNR=10						
ANMO	Albuquerque	82.73	50	eP	P	16 14 28.9	+0.2
	4.7nm,1.0s,mb4.5						
NEW	Newport	82.77	35	eP	P	16 14 32.6	+4.0
	4.9nm,0.9s,mb4.5						
MCK	McKinley	83.09	11	eP	P	16 14 30.2	+0.3
	2.8nm,0.7s,mb4.4						
GDL2	Guadalupe Moun	83.11	53	eP	P	16 14 31.3	+0.6
IMW	Indian Meadow	83.98	41	eP	P	16 14 35.2	+0.4
QLMT	Earthquake Lak	84.16	40	eP	P	16 14 34.6	-1.1
PDAR	Pinedale Array	84.28	42	P	P	16 14 36.7	+0.3
	3.7nm,0.7s,mb4.6,baz=214,slow=3.3,SNR=31						
PDAR				LR	LR	16 43 56.6	
	comp=Z,40nm,19.7s,baz=69,slow=30						
COLA	College	84.33	11	eP	P	16 14 36.6	+0.5
	7.6nm,0.9s,mb4.8						
ILAR	Eielson Array	84.41	11	P	P	16 14 36.6	+0.1
	1.3nm,0.5s,mb4.3,baz=243,slow=5.5,SNR=15						
SDCO	Great Sand Dun	84.67	48	eP	P	16 14 38.9	+0.5
	1.5nm,0.7s,mb4.2						
MAW	Mawson	85.76	199	P	P	16 14 43.3	+0.3
	5.6nm,0.9s,mb4.8,baz=127,slow=6.7,SNR=7.9						
ENH	Enshi	87.04	303	eP	P	16 14 51.9	+1.7
	6.7nm,0.8s,mb4.9						
YAK	Yakutsk	90.38	337	P	P	16 15 03.7	-1.6
	4.3nm,0.6s,mb5.0						
VNA3	Neumayer Olymp	91.15	175	⇑i	P	16 15 11.7	+3.0
VNA3	Neumayer Olymp	91.15	175	⇓i	P	16 15 15.0	+6.3
SNAA	Sanae	91.15	177	⇑i	P	16 15 05.6	-3.1
SNAA	Sanae	91.15	177	⇑i	P	16 15 08.2	-0.5
SNAA	Sanae	91.15	177	eP	P	16 15 07.6	-1.1
	3.6nm,0.8s,mb4.8						
VNA2	Neumayer--Watz	91.63	176	⇑i	P	16 15 10.4	-0.6
VNA2	Neumayer--Watz	91.63	176	⇑i	P	16 15 14.3	+3.3
VNA1	Neumayer--Stat	91.84	175	⇑i	P	16 15 11.9	0.0
VNA1	Neumayer--Stat	91.84	175	⇑i	P	16 15 15.6	+3.7
CMAR	Chiang Mai Arr	92.22	289	P	P	16 15 17.6	+2.7
	1.7nm,0.9s,mb4.4,baz=117,slow=3.0,SNR=12						
KMBO	Kilima Mbogo	143.83	243	ePKPdf	PKPdf	16 21 39.0	-0.1
MALT	Malatya	144.39	313	ePKPdf	PKPdf	16 21 41.0	+1.7
CLL	Collm	145.47	352	⇓iPKP1	PKPbc	16 21 42.2	+0.8
CLL				e		16 21 53.0	
CLL				e		16 22 12.0	
BRG	Berggiesshubel	145.76	351	i P	PKPdf	16 21 44.5	+3.2
BRTR	Keskin Array B	146.88	318	PKPbc	PKPbc	16 21 47.7	+2.5
	4.7nm,1.0s,baz=90,slow=1.2,SNR=12						
MLR	Muntele Rosu	147.06	333	PKPbc	PKPdf	16 21 48.0	+4.3
	3.2nm,0.9s,baz=120,slow=8.1,SNR=3.6						
GERES	GERESS Array B	147.76	350	PKPbc	PKPdf	16 21 48.7	+4.0
	1.5nm,0.7s,baz=65,slow=25,SNR=4.1						

NIED ***23*** *16:10:00, 38.50N×141.70E, h47^{km}, Mw3.5 Best double couple: M$_0$2.06×10^{14} NP1:φ$_s$46°, δ70°, λ90°. NP2:φ$_s$226°, δ20°, λ90°.*

JMA ***23*** *16:10:09.9±0.1, 38.54N×141.72E, h53^{km}±1^{km}, M3.5 Broadband fault plane solution: P waves. NP1:φ$_s$172°, δ25°, λ74°. NP2:φ$_s$9°, δ66°, λ97°. Principal axes: T Plg68°, Azm293°; N Plg7°, Azm187°; P Plg21°, Azm94°;*

JMA Felt I J1.

ISC 23 16:10:09.4±1.2**, 38.50N**±0.05×**141.8E**±0.1**, h51**^{km}±11^{km}**, n10, σ0^{s}.31**/18**, 1C-8D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIO	Ouri	0.32	262	⇓P	P	16 10 19.4	+0.6
JIO				S	S	16 10 25.8	+0.2
OFUJ	Ofunato	0.58	354	⇑P	P	16 10 21.9	+0.2
OFUJ				S	S	16 10 30.2	-0.5
JMK	Ichinoseki	0.61	317	⇓P	P	16 10 22.5	+0.4
JMK				S	S	16 10 31.2	-0.2
JOU	Okura	0.87	261	⇓P	P	16 10 25.6	+0.1
JOU				S	S	16 10 37.5	+0.1
JMM	Marumori	0.99	230	⇓P	P	16 10 27.1	-0.1
JMM				S	S	16 10 40.0	-0.3
JOM	Ohasama	1.03	340	⇓P	P	16 10 27.8	0.0
JOM				S	S	16 10 41.2	-0.3
JYK	Kaneyama	1.17	291	⇓P	P	16 10 29.7	+0.1
JFK	Kawauchi	1.33	212	⇓P	P	16 10 32.1	0.0
JFK				S	S	16 10 48.2	-0.7
JYS	Shirataka	1.36	259	⇓P	P	16 10 32.5	0.0
JYS				S	S	16 10 49.6	0.0
MAT	Matsushiro	3.43	236	P	P	16 11 02.2	+0.4

HEL ***23*** *16:15:40.1±0.4, 61.84N×31.74E, ML1.9, ML2.0(NAO), Explosion*

NAO ***23*** *16:15:41.6±5.9, 62.10N×31.53E, ML2.0*

ISC 23 16:15:37.8±1.6**, 61.88N**±0.06×**31.8E**±0.2**, n11, σ1^{s}.36**/21**, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VJF	Virojoki	2.46	239	eP	Pn	16 16 20.2	+0.3
VJF				eS	Sn	16 16 50.5	-0.6
KAF	Kangasniemi	2.61	278	eP	Pn	16 16 23.9	+1.9
KAF				eS	Sn	16 16 54.4	-0.5
FIA0	FINESS Array S	2.77	264	Pn	Pn	16 16 25.6	+1.3
	baz=75,slow=16						
FIA0				Pg	Pg	16 16 28.0	-5.2
	baz=85,slow=16						
FIA0				Sn	Sn	16 16 59.2	+0.3
	baz=68,slow=28						
FIA0	FINESS Array S	2.77	264	eP	Pn	16 16 25.4	+1.2
FIA0				eS	Sn	16 16 58.8	-0.2
FIA0				MSG		16 17 04.4	
	comp=Z,3.8nm,0.2s						
SUF	Sumiainen	2.78	290	eP	Pn	16 16 25.6	+1.2
SUF				eSB	Sb	16 17 02.4	-0.6
KJN	Kajaani	2.90	322	eP	Pn	16 16 27.9	+1.8
KJN				eSB	Sb	16 17 06.8	+0.4
PVF	Pernaja	3.18	248	eP	Pn	16 16 29.9	-0.2
PVF				eSG	Sg	16 17 15.7	-7.9
PVF				MSG		16 17 18.7	
	comp=Z,2.5nm,0.2s						
ARA0	ARCESS Array S	8.11	344	Pn	P	16 17 36.5	-3.2
	baz=156,slow=14						
ARA0				Sn	Sn	16 19 04.0	-9.3
	baz=156,slow=28						
ARA0	ARCESS Array S	8.11	344	eP	P	16 17 36.5	-3.2
ARA0				eS	Sn	16 19 04.0	-9.3
HFS	Hagfors	8.97	267	Pn	P	16 17 49.1	-2.5
	baz=72,slow=16						
HFS	Hagfors	8.97	267	eP	P	16 17 49.1	-2.5

NIED ***23*** *16:33:00, 26.40N×129.00E, h11^{km}, Mw3.7 Best double couple: M$_0$3.93×10^{14} NP1:φ$_s$195°, δ61°, λ-118°. NP2: φ$_s$62°, δ40°, λ-50°.*

NEIC ***23*** *16:33:14.0±6.8, 26.41N×128.80E, h17^{km}±44^{km}, mb4.1/2, Error ellipse: s-maj=31.7km s-min=14.3km az=69.0*

JMA ***23*** *16:33:14.0±0.2, 26.44N×128.97E, h40^{km}±3^{km}, M3.7*

IDC ***23*** *16:33:16.8±1.3, 26.38N×128.71E, h34^{km}±5^{km}, mb3.3/7, mb1 3.4/7, mb1mx3.4/21, MS2.9/1, Ms1 2.9/1, ms1mx2.7/13, Error ellipse: s-maj=78.4km s-min=13.8km az=61.0*

ISC 23 16:33:13.6±0.4**, 26.42N**±0.03×**128.99E**±0.03**, h35**^{km}**, h35**^{km}±1.3^{km}**:pP-P, n27, σ0^{s}.86**/38**, mb3.6**/8**, MS2.7**/1**, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JOW	Kunigami	0.76	303	Pn	P	16 33 27.9	+0.1
JOW				Sn	S	16 33 38.0	-0.3
JIH	Iheya	1.10	304	P	P	16 33 33.2	+0.5
JIH				eS	S	16 33 46.4	-0.5
JJT2	Tamagusuku 2	1.15	256	P	P	16 33 34.0	+0.6
JJT2				S	S	16 33 48.9	+0.7
NAH1	Naha	1.19	260	P	P	16 33 34.4	+0.4
NAH1				S	S	16 33 49.0	-0.2
JTK	Tokunoshima	1.36	358	P	P	16 33 37.1	+0.6
JTK				eS	S	16 33 52.7	-0.8
JAGN	Aguni-jima	1.58	276	P	P	16 33 40.1	+0.5
JAGN				S	S	16 33 58.9	-0.1
JKE	Kume jima 2	1.98	268	P	P	16 33 44.9	-0.4
JKE				eS	S	16 34 09.5	+0.3
JAM	Amami Oshima	2.06	15	P	P	16 33 46.8	+0.4
JAM				eS	S	16 34 11.2	+0.1
JZK	Kikaishima	2.08	25	P	P	16 33 47.8	+1.1
JZK				eS	S	16 34 12.8	+1.2
JMZ	Minamidaito 2	2.09	106	P	P	16 33 47.6	+0.7
JMZ				S	S	16 34 10.3	-1.7
JNN	Nakanoshima	3.50	13	P	P	16 34 06.3	-0.6
JOGS	Gusukube	3.64	244	P	P	16 34 09.0	+0.1
JOGS				eS	S	16 34 51.0	-0.2
JKC	Kuchinoerabu	4.16	14	P	P	16 34 15.8	-0.6
JTJ	Tarama	4.26	246	P	P	16 34 16.4	-1.4
JTJ				eS	S	16 35 01.0	-6.1
JTN	Tanegashima 3	4.56	22	P	P	16 34 21.5	-0.6
JIJ	Ishigaki jima	4.84	246	P	P	16 34 23.9	-2.1
JIJ				eS	S	16 35 14.1	-7.6
KS15	Wonju Array Si	11.03	355	eP	P	16 35 50.9	-1.2
ASAJ	Asahikawa	20.81	28	LR	LR	16 46 06.8	
	comp=Z,31nm,18.4s,MS2.7,baz=174,slow=37						
YSS	Yuzh-Sakhalins	23.21	24	P	P	16 38 15.0	-3.2
	10nm,1.2s,mb4.1						
SONM	Songino Array	27.77	326	P	P	16 39 01.9	+0.7
	0.3nm,0.5s,mb3.2,baz=140,slow=11,SNR=2.3						
SONM				pP	pP	16 39 12.6	+1.6
	0.7nm,0.6s,baz=131,slow=11,SNR=5.1						
MKAR	Makanchi Array	41.92	312	P	P	16 41 02.5	+0.1
	0.2nm,0.5s,mb3.0,baz=100,slow=10,SNR=3.1						
MKAR				pP	pP	16 41 12.2	-0.5
	0.8nm,0.8s,baz=101,slow=6.2,SNR=4.5						
WRA	Warramunga Arr	46.38	173	P	P	16 41 39.4	+0.7
	1.0nm,1.2s,mb3.6,baz=349,slow=8.3,SNR=7.6						
ASAR	Alice Springs	50.02	174	P	P	16 42 08.2	+1.2
	0.5nm,0.9s,mb3.5,baz=2.1,slow=11,SNR=10						
BVAR	Borovoye Array	50.59	318	P	P	16 42 10.5	-0.3
	0.3nm,0.5s,mb3.5,baz=233,slow=39,SNR=3.0						
BVAR				pP	pP	16 42 21.1	-0.1
	1.2nm,0.8s,baz=90,slow=7.4,SNR=4.7						
ZRNK	Zerenda	51.41	318	P	pP	16 42 26.2	-1.2
	1.4nm,0.7s						
FINES	FINESS Array B	73.03	331	P	P	16 44 41.6	+0.2
	1.7nm,1.0s,mb3.9,baz=185,slow=23,SNR=3.1						
FINES				pP	pP	16 44 52.6	+0.5
	0.8nm,0.5s,baz=90,slow=5.7,SNR=1.8						
AKASG	Malin Array Be	75.83	320	P	P	16 44 59.5	+1.7
	0.4nm,0.5s,mb3.6,baz=114,slow=26,SNR=3.3						
AKASG				pP	pP	16 45 09.5	+1.0
	0.9nm,0.5s,baz=57,slow=6.5,SNR=5.4						

NEIC ***23*** *16:35:02.7, 33.59S×71.63W, h45^{km}, MD3.5(GUC), After GUC.*

GUC 23 16:35:02.7±0.7**, 33.59S×71.63W, h45**^{km}±1^{km}**, MD3.5, ML2.9, 6C-7D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LCCH	Las Cruces	0.12	25	⇓iP	P	16 35 10.0	+0.1
LCCH				i S	S	16 35 15.3	+0.2
LNV	Longovilo	0.41	153	⇑iP	P	16 35 12.6	0.0
LNV				i S	S	16 35 20.1	+0.6
TACH	Talagante	0.58	97	⇓iP	P	16 35 15.0	+0.2
TACH				i S	S	16 35 24.0	+0.6
RCDM	Rinconada Maip	0.70	82	eP	P	16 35 16.5	+0.2
RCDM				i S	S	16 35 26.7	+0.5
RCDM				AMP		16 35 27.8	
	comp=N,2μm,0.1s						
ANTU	Antumapu	0.83	89	eP	P	16 35 18.8	+0.6
ANTU				i S	S	16 35 30.9	+1.3
ANTU				AMP		16 35 31.1	
	comp=E,1μm,0.2s						
STL	Santa Lucia	0.84	80	i P	P	16 35 18.8	+0.5
STL				i S	S	16 35 31.1	+1.4
STL				AMP		16 35 32.2	
	comp=E,434nm,0.2s						
CHCH	Chadas Angostu	0.89	113	⇑iP	P	16 35 19.2	+0.4
CHCH				i S	S	16 35 31.6	+0.7
DSCH	Colegio Aleman	0.91	78	eP	P	16 35 19.6	+0.3
DSCH				i S	S	16 35 33.1	+1.7
DSCH				AMP		16 35 34.3	
	comp=E,848nm,0.2s						
PEL	Peldehue	0.91	61	⇑iP	P	16 35 19.9	+0.7
PEL				i S	S	16 35 33.3	+1.9
FSR	Penalolen	0.93	84	eP	P	16 35 20.4	+0.9
FSR				i S	S	16 35 33.4	+1.5
FSR				AMP		16 35 33.8	
	comp=E,410nm,0.3s						
FSR				AMP		16 35 35.8	
	comp=N,515nm,0.4s						
PCH	Pirque	0.94	92	⇓iP	P	16 35 20.2	+0.6
PCH				i S	S	16 35 33.2	+1.2
CLCH	Cerro Calan	0.94	78	⇓iP	P	16 35 20.6	+1.0
CLCH				i S	S	16 35 33.6	+1.5
CLCH				AMP		16 35 35.8	
	comp=E,580nm,0.3s						
CLCH				AMP		16 35 36.3	
	comp=E,632nm,0.3s						
CACH	El Canelo	1.01	122	⇑iP	P	16 35 22.0	+1.4
CACH				i S	S	16 35 36.4	+2.5
SFDO	San Fernando	1.15	154	⇓iP	P	16 35 23.3	+0.8
SFDO				i S	S	16 35 39.0	+1.7
FCH	Farellones	1.15	77	⇓iP	P	16 35 23.5	+0.9
FCH				i S	S	16 35 39.3	+1.9
FCH				AMP		16 35 41.4	
	comp=E,510nm,0.3s						
LMEL	Las Melosas	1.22	103	⇓iP	P	16 35 24.3	+0.7
LMEL				i S	S	16 35 40.7	+1.5
LMEL				AMP		16 35 41.1	
	comp=N,1μm,0.2s						
CICH	Cipreses	1.24	126	⇑iP	P	16 35 24.8	+0.8
CICH				i S	S	16 35 41.5	+1.6
JACH	Jahuel	1.26	44	⇑iP	P	16 35 24.3	+0.2

IDC ***23*** *16:42:12.6±1.0, 8.73S×160.13E, h54^{km}±5^{km}, mb3.9/12, mb1 4.1/13, mb1mx4.1/18, MS2.7/2, Ms1 2.7/2, ms1mx2.6/12, Error ellipse: s-maj=33.5km s-min=14.1km az=132.0*

NEIC ***23*** *16:42:16.9±7.3, 8.93S×160.21E, h101^{km}±65^{km}, mb4.4/9, Error ellipse: s-maj=51.9km s-min=21.3km az=109.0*

ISC 23 16:42:10.6±0.7**, 8.8S**±0.1×**160.1E**±0.2**, h51**^{km}**, h51**^{km}±2.0^{km}**:pP-P, n25, σ1^{s}.06**/25**, mb4.3**/18**, MS2.8**/1**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	17.47	229	P	P	16 46 13.3	+1.0
	0.1nm,0.3s,baz=335,slow=13,SNR=1.8						
CTA				pP		16 46 24.3	
	0.7nm,0.3s,baz=42,slow=10,SNR=3.2						
CTA				LR	LR	16 50 41.0	
	comp=Z,12nm,20.8s,baz=265,slow=29						
CTAO	Charters Tower	17.47	229	eP	P	16 46 14.4	+2.0
	7.9nm,1.0s						
WRAB	Tennant Creek	27.25	243	eP	P	16 47 52.2	-0.1
	5.0nm,0.6s,mb4.2						
WB2	Warramunga Arr	27.26	243	eP	P	16 47 52.4	+0.1
WRA	Warramunga Arr	27.27	243	P	P	16 47 52.6	+0.2
	1.8nm,0.3s,mb4.0,baz=71,slow=9.1,SNR=42						
WRA				pP	pP	16 48 06.8	+1.5
	8.7nm,1.3s,baz=68,slow=8.9,SNR=4.2						
WRA				LR	LR	16 57 18.2	
	comp=Z,31nm,21.6s,MS2.8,baz=180,slow=33						
STKA	Stephens Creek	28.68	214	eP	P	16 48 05.0	0.0
	1.8nm,1.4s,mb3.6						
STKA	Stephens Creek	28.68	214	P	P	16 48 06.9	+1.9
	0.5nm,0.3s,mb3.7,baz=83,slow=12,SNR=5.7						
ASAR	Alice Springs	29.10	236	P	P	16 48 07.9	-0.9
	0.9nm,0.3s,mb3.9,baz=63,slow=10,SNR=36						
ASAR				pP	pP	16 48 22.3	+0.3
	0.3nm,0.4s,baz=63,slow=10,SNR=3.3						
ASAR				PcP	PcP	16 51 13.8	-2.2
	0.3nm,0.4s,baz=78,slow=2.3,SNR=4.4						
ASPA	Alice Springs	29.11	236	eP	P	16 48 07.9	-0.9
FITZ	Fitzroy Crossi	34.72	251	eP	P	16 48 57.4	-0.6
	1.5nm,0.6s,mb4.1						
FITZ	Fitzroy Crossi	34.72	251	P	P	16 48 57.1	-0.8
	1.4nm,0.5s,mb4.1,baz=43,slow=4.2,SNR=12						
MBWA	Marble Bar	40.77	248	eP	P	16 49 48.0	-0.6
	5.2nm,0.9s,mb4.2						
NWAO	Narrogin (SRO)	46.26	232	P	P	16 50 32.8	-0.1
	24nm,1.4s,mb4.9						
KS15	Wonju Array Si	55.02	329	P	P	16 51 40.4	+1.1
BJT	Baijiatuau	63.32	323	eP	P	16 52 39.8	+3.1
	6.6nm,0.9s,mb4.8						
CMAR	Chiang Mai Arr	66.14	295	P	P	16 52 55.4	+0.1
	0.9nm,0.6s,mb4.0,baz=118,slow=5.7,SNR=6.7						
CMAR				pP	pP	16 53 09.1	-0.8
	1.1nm,0.8s,baz=122,slow=6.0,SNR=5.7						
HIA	Hailar	67.78	333	P	P	16 53 04.4	-0.6
	3.8nm,0.5s,mb4.7						
SONM	Songino Array	73.65	326	P	P	16 53 40.8	+0.3
	2.8nm,0.8s,mb4.3,baz=140,slow=5.0,SNR=16						
SONM				pP	pP	16 53 54.2	-1.0
	1.6nm,1.0s,baz=135,slow=5.1,SNR=4.0						
YAK	Yakutsk	74.48	346	eP	P	16 53 42.9	-2.2
	9.4nm,0.6s,mb4.9						
ILAR	Eielson Array	83.25	20	P	P	16 54 30.9	-1.7
	0.7nm,0.9s,mb3.7,baz=260,slow=3.5,SNR=4.7						
DLBC	Dease Lake	87.16	30	P	P	16 54 53.7	+1.6
	1.2nm,0.4s,mb4.5,baz=197,slow=24,SNR=1.2						
DLBC				pP	pP	16 55 08.2	+1.1
	2.1nm,0.4s,baz=272,slow=21,SNR=2.6						
MKAR	Makanchi Array	88.13	318	P	P	16 54 57.2	+0.1
	1.5nm,0.5s,mb4.5,baz=96,slow=6.0,SNR=20						
MKAR				pP	pP	16 55 12.8	+0.7
	0.5nm,0.7s,baz=101,slow=7.1,SNR=2.9						
MKAR				sP	sP	16 55 20.6	+3.1
	2.4nm,1.0s,baz=105,slow=5.2,SNR=5.4						
NVAR	Mina Array Bea	88.88	51	P	P	16 55 00.7	-0.2
	0.3nm,0.5s,mb3.9,baz=248,slow=3.5,SNR=5.0						
INK	Inuvik	89.65	20	P	P	16 55 05.2	+1.4
	2.2nm,0.3s,mb4.9,baz=278,slow=7.1,SNR=5.6						
PDAR	Pinedale Array	96.15	48	P	P	16 55 33.5	-0.7
	0.6nm,0.7s,mb4.1,baz=270,slow=4.4,SNR=4.5						

NNC ***23*** *16:56:46.3±19.0, 42.57N×85.25E, mpv3.0, Error ellipse: s-maj=744.3km s-min=228.3km az=64.0*

BJI 23 16:56:50.2, 42.38N×84.31E, h14^{km}**, ML3.1, 2C, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WMQ	Urumqi	2.87	59	ePG	Pg	16 57 45.6	-1.9

WMQ				SG	Sg	16 58 20.4	-5.3
WMQ				Smax			
	comp=N,33nm,0.5s						
WMQ				Smax			
	comp=E,46nm,0.6s						
MK31	**Makanchi Array**	**4.64**	**343**	⇑Pn	Pn	16 58 01.5	-0.1
	comp=E,1.1nm,0.4s,baz=148,slow=14,SNR=49						
MK31				⇑Lg		16 59 14.5	
	comp=E,15nm,0.7s,baz=156,slow=25,SNR=9.3						

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*BJI **23** 17:28:36.9, 31.22N×96.38E, h27^{km}, mB4.7, mb4.7, ML4.2, Ms4.2, Msz4.2*

*MOS **23** 17:28:37.2±1.0, 31.14N×96.39E, h33^{km}, mb4.8/20, Error ellipse: s-maj=18.7km s-min=7.5km az=119.2*

*NEIC **23** 17:28:38.9±1.6, 31.12N×96.31E, h32^{km}±12^{km}, mb4.7/37, Error ellipse: s-maj=6.3km s-min=4.9km az=192.0*

*IDC **23** 17:28:39.2±7.5, 31.15N×96.48E, h31^{km}±56^{km}, mb4.2/19, mb1 4.3/22, mb1mx4.3/26, ML4.3/3, MS3.6/7, Ms1 3.7/7, ms1mx3.4/24, Error ellipse: s-maj=23.4km s-min=14.2km az=47.0*

ISC 23 17:28:37.7±0.6**, 31.09N**±0.03×**96.29E**±0.03**, h38**^{km}±6^{km}**, n130, σ1^{s}03**/147**, mb4.6**/59**, MS3.9**/10**, 3C-1D, Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LSA	**Lhasa**	**4.65**	**254**	*e*Sn	**P**	**17 29 47.1**	**-0.4**
CD2	**Chengdu**	**6.41**	**90**	P	**P**	**17 30 12.3**	**+0.2**
CD2				PG	P	17 30 32.6	+20
CD2				SG	S	17 31 58.8	+34
CD2				Smax			
	comp=N,120nm,1.3s						
CD2				Smax			
	comp=E,100nm,1.3s						
SHL	**Shillong**	**6.74**	**216**	*e*P	**P**	**17 30 18.0**	**+1.3**
SHL				*e*		17 30 43.0	
SHL				*e*S	**S**	**17 31 38.0**	**+5.0**
SHL				*e*		17 32 12.0	
LZH	**Lanzhou**	**8.03**	**50**	*e*P	**P**	**17 30 34.8**	**+0.1**
LZH				AP		17 30 42.6	
LZH				XP		17 30 46.8	
LZH				*e*S	**S**	**17 32 05.0**	**-0.2**
LZH				XS		17 32 14.0	
LZH				AMB	AMB		
	comp=Z,40nm,1.2s						
LZH				AMB	AMB		
	comp=Z,120nm,4.0s						
LZH				Smax			
	comp=N,100nm,1.2s						
LZH				Smax			
	comp=E,240nm,1.7s						
LZH				LR	LR		
	comp=E,880nm,7.2s						
LZH				LR	LR		
	comp=Z,1µm,11.0s						
LZH	**Lanzhou**	**8.03**	**50**	*e*P	**P**	**17 30 34.7**	**0.0**
	comp=Z,40nm,1.2s						
LZH				pP		17 30 42.6	
LZH				sP		17 30 46.8	
LZH				*e*S	**S**	**17 32 05.0**	**-0.2**
LZH				sS		17 32 14.0	
KMI	**Kunming**	**8.23**	**135**	*e*P	**P**	**17 30 38.5**	**+1.1**
KMI				S	**S**	**17 32 10.5**	**+0.4**
KMI				Smax			
	comp=N,27nm,2.0s						
KMI				Smax			
	comp=E,25nm,1.6s						
KMI				LR	LR		
	comp=N,984nm,4.9s						
KMI				LR	LR		
	comp=E,724nm,9.4s						
KMI	**Kunming**	**8.23**	**135**	*e*P	**P**	**17 30 38.5**	**+1.1**
	comp=E,27nm,2.0s						
KMI				S	**S**	**17 32 10.5**	**+0.4**
GTA	**Gaotai**	**8.79**	**18**	*e*P	**P**	**17 30 46.8**	**+1.6**
GTA				S	**S**	**17 32 24.9**	**+0.8**
GTA				LG1		17 33 07.1	
GTA				LG2		17 33 20.4	
GTA				PCP	PcP	17 37 09.3	-0.3
GTA				AMB	AMB		
	comp=Z,32nm,4.9s						
GTA				LR	LR		
	comp=N,775nm,9.1s						
GTA				LR	LR		
	comp=E,827nm,11.4s						
GTA				LR	LR		
	comp=Z,767nm,10.3s						
PKI	**Pulchoki**	**10.12**	**252**	*e*P	**P**	**17 31 02.6**	**-1.0**
	comp=Z,33nm,0.4s						
KKN	**Kakani**	**10.15**	**254**	*e*P	**P**	**17 31 02.8**	**-1.2**
	comp=Z,30nm,0.4s						
GYA	**Guiyang**	**10.20**	**114**	⇑*i*P	**P**	**17 31 03.1**	**-1.6**
GYA				S	**S**	**17 32 59.8**	**+0.9**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s						
GYA				AMB	AMB		
	comp=Z,70nm,6.0s						
GYA				LR	LR		
	comp=N,360nm,7.8s						
GYA				LR	LR		
	comp=E,710nm,9.0s						
GYA				LR	LR		
	comp=Z,960nm,10.2s						
DMN	**Daman**	**10.36**	**253**	*e*P	**P**	**17 31 05.8**	**-1.1**
	comp=Z,35nm,0.7s						
GKN	**Gorkha**	**10.61**	**256**	*e*P	**P**	**17 31 07.5**	**-2.7**
	comp=Z,21nm,0.4s						
XAN	**Xi'an**	**11.05**	**71**	P	**P**	**17 31 12.5**	**-3.8**
XAN				AP		17 31 22.3	
XAN				AMB	AMB		
	comp=Z,3.0nm,0.7s						
ENH	**Enshi**	**11.39**	**91**	*e*P	**P**	**17 31 17.0**	**-3.9**
	comp=Z,28nm,1.0s						
ENH				*e*		17 34 26.2	
KOLN	**Koldanda**	**11.55**	**257**	*e*P	**P**	**17 31 20.0**	**-3.0**
	comp=Z,32nm,0.6s						
CM31	**Chiang Mai Arr**	**12.80**	**169**	*e*P	**P**	**17 31 40.8**	**+0.9**
	comp=Z,5.6nm,0.8s						
CMAR	**Chiang Mai Arr**	**12.80**	**169**	Pn	**P**	**17 31 40.1**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=342,slow=13,SNR=5.2						
CMAR				Sn	**S**	**17 34 00.5**	**-1.5**
	comp=Z,0.3nm,0.3s,baz=315,slow=19,SNR=4.9						
CMAR				LR	LR	17 36 20.2	
	comp=Z,112nm,21.2s,baz=340,slow=36						
WMQ	**Urumqi**	**14.41**	**334**	*e*P	**P**	**17 32 02.0**	**+1.0**
WMQ				AP		17 32 10.0	
WMQ				XP		17 32 15.6	
WMQ				PPP	PPP	17 32 20.8	+1.4
WMQ				*e*S	**S**	**17 34 41.3**	**+0.9**
WMQ				SS	SS	17 34 58.5	+1.0
WMQ				AMB	AMB		
	comp=Z,18nm,1.0s						
WMQ				LR	LR		
	comp=N,245nm,16.0s						
WMQ				LR	LR		
	comp=E,148nm,18.0s						
WMQ				LR	LR		
	comp=Z,174nm,14.2s						
WHN	**Wuhan**	**15.53**	**87**	*e*P	**P**	**17 32 16.8**	**+1.3**
WHN				S	**S**	**17 35 06.5**	**0.0**
WHN				LR	LR		
	comp=N,910nm,13.8s						
WHN				LR	LR		
	comp=E,1µm,11.8s						
WHN				LR	LR		
	comp=Z,970nm,12.9s						
QIZ	**Qiongzhong**	**17.15**	**131**	*e*P	**P**	**17 32 38.3**	**+2.2**
QIZ				*e*S	**S**	**17 35 46.8**	**+2.8**
QIZ				LR	LR		
	comp=N,295nm,10.8s						
QIZ				LR	LR		
	comp=E,401nm,10.1s						
QIZ				LR	LR		
	comp=Z,520nm,11.4s						
QIZ	**Qiongzhong**	**17.15**	**131**	P	**P**	**17 32 35.0**	**-1.1**
	comp=Z,19nm,1.2s						
SONM	**Songino Array**	**18.43**	**22**	P	**P**	**17 32 51.6**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=206,slow=11,SNR=24						
BJT	**Baijiatuau**	**18.43**	**56**	*e*P	**P**	**17 32 50.7**	**-1.4**
	comp=Z,22nm,1.1s						
BJI	**Beijing**	**18.45**	**56**	*e*P	Px	17 32 25.0	
BJI				S	**S**	**17 36 12.4**	**-0.8**
MKAR	**Makanchi Array**	**19.05**	**329**	P	**P**	**17 32 57.7**	**-1.5**
	comp=Z,0.7nm,0.3s,baz=135,slow=13,SNR=26						
MKAR				LR	LR	17 41 29.8	
	comp=Z,98nm,18.6s,baz=129,slow=40						
NJ2	**Nanjing**	**19.25**	**81**	*e*P	**P**	**17 33 01.0**	**-0.6**
NJ2				PP	PP	17 33 20.6	+1.6
NJ2				S	**S**	**17 36 27.0**	**-4.3**
NJ2				AMB	AMB		
	comp=Z,30nm,0.6s						
NJ2				LR	LR		
	comp=N,840nm,24.8s						
NJ2				LR	LR		
	comp=E,150nm,12.3s						
NJ2				LR	LR		
	comp=Z,1µm,12.0s						
AAK	**Ala-Archa**	**20.84**	**310**	*e*P	**P**	**17 33 18.4**	**-0.1**
AAK	**Ala-Archa**	**20.84**	**310**	*e*P	**P**	**17 33 18.8**	**+0.3**
	comp=Z,24nm,1.1s						
FRU	**Bishkek**	**20.85**	**310**	*e*P	**P**	**17 33 25.0**	**+6.4**
FRU				pmax	pmax		
	comp=Z,40nm,1.5s						
HYB	**Hyderabad**	**21.10**	**234**	*i* P	**P**	**17 33 21.5**	**+0.3**
SSE	**Sheshan**	**21.31**	**84**	*e*P	**P**	**17 33 22.3**	**-1.0**
SSE				S	**S**	**17 37 08.5**	**-4.3**
SSE				AMB	AMB		
	comp=Z,48nm,0.7s,mb4.9						
SSE				LR	LR		
	comp=N,424nm,20.7s,MS3.8						
SSE				LR	LR		
	comp=E,138nm,20.7s,MS3.8						
SSE				LR	LR		
	comp=Z,306nm,13.2s						
SSE	**Sheshan**	**21.31**	**84**	*e*P	**P**	**17 33 22.2**	**-1.1**
	comp=Z,48nm,0.7s,mb4.9						
SSE				pP		17 33 37.4	
SSE				sP		17 33 45.9	
SSE				S	**S**	**17 37 08.5**	**-4.3**
SSE				sS		17 37 32.7	
SSE				LR	LR		
	comp=Z,310nm,13.2s,MS3.9						
KURK	**Kurchatov**	**23.61**	**331**	*i* P	**P**	**17 33 46.1**	**+0.3**
KURK				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.3						
KURK	**Kurchatov**	**23.61**	**331**	*e*P	**P**	**17 33 45.4**	**-0.4**
	comp=Z,23nm,1.0s,mb4.6						
ZAL	**Zalesovo**	**24.29**	**343**	P	**P**	**17 33 54.1**	**+1.8**
	comp=Z,2.6nm,0.8s,mb3.7,baz=241,slow=4.4,SNR=7.3						
ZAL				LR	LR	17 44 47.6	
	comp=Z,144nm,20.8s,MS3.4,baz=323,slow=40						
ZAL	**Zalesovo**	**24.29**	**343**	P	**P**	**17 33 54.2**	**+1.8**
ZAL				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ZAL				MLR	MLR		
	comp=Z,144nm,20.8s						
HIA	**Hailar**	**25.34**	**38**	*e*P	**P**	**17 34 02.0**	**-0.5**
	comp=Z,14nm,1.2s,mb4.3						
HIA				*e*ScP		17 41 04.7	
NVS	**Novosibirsk**	**25.50**	**342**	*i* P	**P**	**17 34 02.5**	**-1.5**
NVS				pmax	pmax		
	comp=N,18nm,1.3s						
NVS				pmax	pmax		
	comp=E,17nm,1.3s						
NVS				pmax	pmax		
	comp=Z,35nm,1.3s,mb4.7						
CN2	**Changchun**	**26.25**	**53**	*e*P	**P**	**17 34 10.3**	**-0.7**
CN2				*e*AP	pP	17 34 19.5	-1.9
CN2				*e*S	**S**	**17 38 37.1**	**-1.5**
CN2				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.6						
CN2				AMB	AMB		
	comp=Z,100nm,5.0s						
CN2				LR	LR		
	comp=N,300nm,11.0s,MS4.4						
CN2				LR	LR		
	comp=E,500nm,11.0s,MS4.4						
CN2				LR	LR		
	comp=Z,700nm,11.0s,MS4.5						
KS15	**Wonju Array Si**	**26.79**	**68**	P	**P**	**17 34 11.9**	**-4.1**
PALK	**Pallekele**	**27.82**	**215**	P	**P**	**17 34 28.9**	**+3.2**
VOSK	**Vostochnaya**	**28.41**	**327**	P	**P**	**17 34 30.1**	**-0.5**
VOSK				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.1						
BVA0	**Borovoye Array**	**28.88**	**327**	P	**P**	**17 34 34.6**	**-0.2**
BVAR	**Borovoye Array**	**28.88**	**327**	P	**P**	**17 34 34.7**	**-0.1**
	comp=Z,10nm,1.2s,mb4.4,baz=117,slow=9.9,SNR=11						
BRVK	**Borovoye**	**28.95**	**327**	*e*P	**P**	**17 34 35.1**	**-0.3**
	comp=Z,9.1nm,1.0s,mb4.5						
ZRNK	**Zerenda**	**29.49**	**326**	P	**P**	**17 34 40.5**	**+0.3**
ZRNK				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.0						
ZRNK	**Zerenda**	**29.49**	**326**	*e*P	**P**	**17 34 40.5**	**+0.3**
	comp=Z,5.1nm,1.1s,mb4.2						
MAJO	**Matsushiro**	**35.04**	**70**	P	**P**	**17 35 33.1**	**+4.2**
	comp=Z,4.3nm,0.9s,mb4.4						
SVE	**Sverdlovsk**	**35.67**	**327**	⇑*e*P	**P**	**17 35 33.2**	**-0.8**
ARU	**Arti**	**36.47**	**325**	⇓*i*P	**P**	**17 35 40.5**	**-0.2**
ARU				*e*		17 38 03.4	
ARU				*e*S	**S**	**17 41 19.4**	**0.0**
ARU				*e*		17 45 48.3	
ARU				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.8						
ARU	**Arti**	**36.47**	**325**	*e*P	**P**	**17 35 40.7**	**0.0**
	comp=Z,22nm,1.2s,mb5.0						
YAK	**Yakutsk**	**37.74**	**25**	*e*P	**P**	**17 35 51.0**	**-0.3**
YAK				*i* *PP	pP	17 36 10.0	+7.9
YAK				pmax	pmax		
	comp=Z,17nm,1.9s,mb4.5						
YAK				MLR	MLR		
	comp=Z,300nm,9.0s						
YAK	**Yakutsk**	**37.74**	**25**	*e*P	**P**	**17 35 51.9**	**+0.6**
	comp=Z,9.6nm,0.8s,mb4.6						
ASAJ	**Asahikawa**	**38.44**	**57**	P	**P**	**17 35 56.5**	**-0.9**
	comp=Z,4.8nm,0.9s,mb4.2,baz=51,slow=12,SNR=5.6						
ASAJ	**Asahikawa**	**38.44**	**57**	P	**P**	**17 35 56.5**	**-0.8**
ASAJ				pmax	pmax		
	comp=Z,5.0nm,0.9s						
YSS	**Yuzh-Sakhalins**	**38.82**	**52**	*e*P	**P**	**17 35 59.9**	**-0.5**
YSS				*i* *PP	pP	17 36 18.9	+7.6
YSS				pmax	pmax		
	comp=Z,27nm,1.2s,mb4.8						
YSS				MLR	MLR		
	comp=Z,200nm,15.0s,MS4.1						
YSS	**Yuzh-Sakhalins**	**38.82**	**52**	*e*P	**P**	**17 35 59.3**	**-1.2**
	comp=Z,35nm,1.2s,mb5.0						
GNI	**Garni**	**42.36**	**297**	*e*P	**P**	**17 36 31.5**	**+1.7**
GNI				pmax	pmax		
	comp=Z,13nm,1.4s						
ZEI	**Tsey**	**42.85**	**301**	*e*P	**P**	**17 36 32.0**	**-1.8**
ZEI				*e*S	**S**	**17 42 53.0**	**-2.2**
KIV	**Kislovodsk**	**43.70**	**303**	*c* *i*P	**P**	**17 36 41.9**	**+1.3**
KIV				*e*S	**S**	**17 43 09.0**	**+1.5**
KIV				*e*SS	SS	17 46 28.1	+12
KIV				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.4						
KIV				MLR	MLR		
	comp=Z,45nm,18.0s,MS3.4						
KIV				MLR	MLR		
	comp=N,12nm,16.0s						
OBN	**Obninsk**	**48.01**	**318**	*e*P	**P**	**17 37 14.6**	**-0.1**
OBN				pmax	pmax		
	comp=Z,25nm,1.6s,mb5.0						
OBN				MLR	MLR		
	comp=Z,100nm,17.0s,MS3.9						
ASF	**Jabal al Asfar**	**50.01**	**288**	P	**P**	**17 37 31.6**	**+1.2**
	comp=Z,2.3nm,0.8s,mb4.3,baz=312,slow=16,SNR=2.4						
BRTR	**Keskin Array B**	**50.88**	**298**	P	**P**	**17 37 37.9**	**+1.0**
	comp=Z,1.0nm,0.8s,mb3.8,baz=68,slow=7.8,SNR=3.1						
BRTR	**Keskin Array B**	**50.88**	**298**	P	**P**	**17 37 37.9**	**+1.0**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AKASG	**Malin Array Be**	**52.48**	**312**	P	**P**	**17 37 48.4**	**-0.4**
	comp=Z,2.7nm,0.7s,mb4.3,baz=79,slow=6.1,SNR=12						
AKASG	**Malin Array Be**	**52.48**	**312**	P	**P**	**17 37 48.4**	**-0.3**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KAF	**Kangasniemi**	**53.73**	**327**	*e*p	**P**	**17 37 57.2**	**-0.8**
FINES	**FINESS Array B**	**53.83**	**326**	P	**P**	**17 37 59.2**	**+0.5**
	comp=Z,5.5nm,1.0s,mb4.4,baz=93,slow=6.6,SNR=11						
FINES				LR	LR	18 01 51.9	
	comp=Z,64nm,20.2s,MS3.7,baz=95,slow=37						
FINES	**FINESS Array B**	**53.83**	**326**	P	**P**	**17 37 59.2**	**+0.5**
FINES				pmax	pmax		
	comp=Z,6.0nm,1.0s						
FINES				MLR	MLR		
	comp=Z,64nm,20.3s						
FINES	**FINESS Array B**	**53.83**	**326**	P	**P**	**17 37 59.2**	**+0.5**
FINES				LR	LR	18 01 51.9	
KEV	**Kevo**	**54.03**	**336**	*e*p	**P**	**17 37 58.1**	**-2.0**
ARCES	**ARCESS Array B**	**54.53**	**336**	P	**P**	**17 38 03.3**	**-0.4**
	comp=Z,7.1nm,0.9s,mb4.7,baz=88,slow=7.4,SNR=13						
ARCES				PcP	PcP	17 39 05.4	-1.2
	comp=Z,5.5nm,1.0s,baz=101,slow=6.2,SNR=3.9						
ARCES				LR	LR	18 03 40.8	
	comp=Z,164nm,18.2s,MS4.1,baz=36,slow=38						
ARCES	**ARCESS Array B**	**54.53**	**336**	P	**P**	**17 38 03.3**	**-0.4**
ARCES						17 39 05.4	
ARCES				pmax	pmax		
	comp=Z,7.0nm,0.9s						
ARCES				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ARCES				MLR	MLR		
	comp=Z,164nm,18.2s						
MLR	**Muntele Rosu**	**55.38**	**306**	P	**P**	**17 38 10.7**	**+0.6**
	comp=Z,12nm,1.1s,mb4.8,baz=20,slow=8.8,SNR=3.5						
MLR	**Muntele Rosu**	**55.38**	**306**	P	**P**	**17 38 10.7**	**+0.5**
MLR				pmax	pmax		
	comp=Z,12nm,1.1s						
SUW	**Suwalki**	**55.81**	**317**	P	**P**	**17 38 12.7**	**-0.5**
	comp=Z,72nm,1.1s,mb5.6						
MBWA	**Marble Bar**	**56.61**	**154**	*e*P	**P**	**17 38 19.1**	**-0.3**
	comp=Z,6.8nm,1.1s,mb4.6						
OJC	**Ojcow**	**58.50**	**313**	*e*P	**P**	**17 38 36.7**	**+4.4**
PSZ	**Piszkesteto**	**58.94**	**310**	P	**P**	**17 38 37.9**	**+2.5**
	comp=Z,6.0nm,1.2s,mb4.5						
HFS	**Hagfors**	**59.99**	**325**	P	**P**	**17 38 44.2**	**+1.7**
	comp=Z,11nm,1.1s,mb4.8,baz=126,slow=13,SNR=7.1						
HFS	**Hagfors**	**59.99**	**325**	P	**P**	**17 38 44.2**	**+1.7**
HFS				pmax	pmax		
	comp=Z,11nm,1.1s						
MORC	**Moravsky Berou**	**60.02**	**313**	P	**P**	**17 38 43.0**	**+0.2**
	comp=Z,3.3nm,0.8s,mb4.4						
DPC	**Dobruska-Polom**	**60.64**	**314**	*e*P	**P**	**17 38 47.8**	**+0.8**
VRAC	**Vranov**	**60.73**	**312**	P	**P**	**17 38 49.4**	**+1.7**
	comp=Z,4.0nm,0.8s,mb4.6,baz=38,slow=5.8,SNR=4.0						
NB2	**NORSAR Subarra**	**61.01**	**326**	P	**P**	**17 38 48.4**	**-1.0**
	comp=Z,2.8nm,0.8s,mb4.4,baz=79,slow=6.5						
NOA	**NORSAR Array B**	**61.01**	**326**	P	**P**	**17 38 48.9**	**-0.5**
	comp=Z,4.9nm,0.9s,mb4.6,baz=78,slow=6.7,SNR=8.3						
NOA				LR	LR	18 06 16.8	
	comp=Z,48nm,18.2s,MS3.7,baz=55,slow=37						
NOA	**NORSAR Array B**	**61.01**	**326**	P	**P**	**17 38 48.9**	**-0.5**
NOA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
NOA				MLR	MLR		
	comp=Z,48nm,18.2s						
NOA	**NORSAR Array B**	**61.01**	**326**	P	**P**	**17 38 48.9**	**-0.5**
NOA				LR	LR	18 06 16.8	
PRU	**Pruhonice**	**61.84**	**314**	*e*P	**P**	**17 38 56.4**	**+1.3**
BRG	**Berggiesshubel**	**61.97**	**315**	*i* P	**P**	**17 38 56.2**	**+0.2**
BRG				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.7						
BRG	**Berggiesshubel**	**61.97**	**315**	*i* P	**P**	**17 38 56.2**	**+0.2**
	comp=Z,7.6nm,1.2s,mb4.7						
BRG				*e*		17 38 59.9	
CLL	**Collm**	**62.43**	**315**	P	**P**	**17 39 03.0**	**+4.0**
	comp=Z,logA/T=0.9,mb4.8						
WRAB	**Tennant Creek**	**62.52**	**139**	*e*P	**P**	**17 38 59.3**	**-0.8**
	comp=Z,5.3nm,0.9s,mb4.7						
WRA	**Warramunga Arr**	**62.52**	**139**	P	**P**	**17 38 59.7**	**-0.4**
	comp=Z,1.7nm,0.7s,mb4.3,baz=330,slow=7.2,SNR=25						
WRA	**Warramunga Arr**	**62.52**	**139**	P	**P**	**17 38 59.7**	**-0.4**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
GERES	**GERESS Array B**	**62.69**	**312**	P	**P**	**17 39 02.0**	**+1.2**
	comp=Z,4.4nm,1.0s,mb4.5,baz=79,slow=6.8,SNR=5.9						
GERES	**GERESS Array B**	**62.69**	**312**	P	**P**	**17 39 02.0**	**+1.2**
GERES				pmax	pmax		
	comp=Z,4.0nm,1.0s						
NKC	**Novy Kostel**	**63.07**	**314**	*e*P	**P**	**17 39 07.1**	**+3.8**
KMBO	**Kilima Mbogo**	**64.46**	**252**	*e*P	**P**	**17 39 14.2**	**+1.3**
	comp=Z,3.6nm,1.0s,mb4.4						
DAVOX	**Davos**	**65.79**	**311**	P	**P**	**17 39 21.4**	**+0.4**
	comp=Z,6.4nm,0.7s,mb4.8,baz=89,slow=6.5,SNR=7.4						
CDF	**Champ du Feu**	**66.86**	**314**	*e*P	**P**	**17 39 27.6**	**-0.1**
CABF	**La Chapelle**	**68.28**	**312**	*e*P	**P**	**17 39 35.3**	**-1.3**
	comp=Z,99nm,1.8s,mb5.2						
LPG	**La Plagne**	**68.28**	**311**	*e*P	**P**	**17 39 37.0**	**+0.4**
	comp=Z,23nm,0.9s,mb4.9						
LPL	**La Plagne**	**68.29**	**311**	*e*P	**P**	**17 39 37.0**	**+0.3**
	comp=Z,18nm,0.8s,mb4.8						
SBF	**Sospel**	**68.46**	**309**	*e*P	**P**	**17 39 37.8**	**0.0**
	comp=Z,29nm,0.8s,mb5.1						
MBDF	**Montbardon**	**68.56**	**310**	*e*P	**P**	**17 39 38.5**	**+0.1**
	comp=Z,22nm,1.1s,mb4.7						
ORIF	**Oris-en-Rattie**	**69.07**	**310**	*e*P	**P**	**17 39 41.0**	**-0.6**
	comp=Z,16nm,0.8s,mb4.7						
LMR	**La Mourre**	**69.29**	**309**	*e*P	**P**	**17 39 42.1**	**-0.8**
	comp=Z,55nm,1.2s,mb5.1						
LOR	**Lormes**	**69.43**	**313**	*e*P	**P**	**17 39 42.9**	**-0.8**
	comp=Z,9.6nm,1.0s,mb4.4						
MBAR	**Mbarara**	**69.53**	**256**	P	**P**	**17 39 44.0**	**-0.9**
	comp=Z,5.7nm,1.1s,mb4.4						
SMF	**Signal de Mont**	**69.69**	**313**	*e*P	**P**	**17 39 44.9**	**-0.4**
SSF	**Saint Saulge**	**69.73**	**313**	*e*P	**P**	**17 39 44.6**	**-0.9**
	comp=Z,6.2nm,0.8s,mb4.3						
VIVF	**Saint-Julien-l**	**69.88**	**311**	*e*P	**P**	**17 39 46.3**	**-0.2**
	comp=Z,58nm,1.5s,mb5.0						
CTAO	**Charters Tower**	**69.92**	**130**	P	**P**	**17 39 47.2**	**+0.1**
	comp=Z,4.6nm,0.9s,mb4.4						
AVF	**Avril sur Loir**	**69.94**	**313**	*e*P	**P**	**17 39 46.7**	**-0.1**
	comp=Z,22nm,1.0s,mb4.7						
EKA	**Eskdalemuir Ar**	**70.05**	**323**	P	**P**	**17 39 47.9**	**+0.6**
	comp=Z,6.2nm,1.1s,mb4.4,baz=9.1,slow=21,SNR=3.6						
EKA	**Eskdalemuir Ar**	**70.05**	**323**	P	**P**	**17 39 47.9**	**+0.6**
EKA				pmax	pmax		
	comp=Z,6.0nm,1.1s						
LASF	**Ste Croix**	**70.74**	**310**	*e*P	**P**	**17 39 51.4**	**-0.3**
	comp=Z,32nm,1.2s,mb4.8						
TCF	**Toulx Ste Croi**	**70.86**	**313**	*e*P	**P**	**17 39 52.7**	**+0.3**
	comp=Z,43nm,1.3s,mb4.9						
COLA	**College**	**72.25**	**24**	*e*P	**P**	**17 40 02.7**	**+2.3**
	comp=Z,9.7nm,0.9s,mb4.7						
ILAR	**Eielson Array**	**72.64**	**24**	P	**P**	**17 40 02.4**	**-0.3**
	comp=Z,2.0nm,0.9s,mb4.0,baz=292,slow=4.9,SNR=11						
ILAR	**Eielson Array**	**72.64**	**24**	P	**P**	**17 40 02.4**	**-0.2**
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
SGMF	**Saint Gilles**	**72.90**	**316**	*e*P	**P**	**17 40 04.1**	**-0.4**
ROSF	**Rostrenen**	**73.29**	**317**	*e*P	**P**	**17 40 06.7**	**-0.1**
	comp=Z,47nm,1.1s,mb5.0						
ETSF	**Etsaut**	**74.14**	**311**	*e*P	**P**	**17 40 11.1**	**-0.7**
STKA	**Stephens Creek**	**75.92**	**141**	P	**P**	**17 40 22.4**	**+0.2**
	comp=Z,0.9nm,0.5s,mb4.0,baz=331,slow=23,SNR=2.8						
ESDC	**Sonseca Array**	**77.95**	**309**	P	**P**	**17 40 36.7**	**+3.2**
	comp=Z,0.3nm,0.3s,mb3.6,baz=56,slow=5.3,SNR=6.5						
LSZ	**Lusaka**	**79.97**	**245**	*e*P	**P**	**17 40 45.4**	**+0.5**
	comp=Z,4.7nm,0.8s,mb4.5						
NEW	**Newport**	**95.52**	**22**	LR	LR	18 28 04.2	
	comp=Z,59nm,18.2s,MS4.1,baz=204,slow=37						

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*IDC **23** 18:05:39.0±1.7, 42.70N×104.77W, mb4.0/3, mb1 4.1/8, mb1mx3.8/24, ML3.6/5, Error ellipse: s-maj=31.8km s-min=9.9km az=153.0*

*NEIC **23** 18:05:44.8±0.5, 43.78N×105.32W, ML3.3, Error ellipse: s-maj=6.2km s-min=5.1km az=106.0, Suspected Mining explosion.*

NEIC 60 km [35 miles] SSE of Gillette.

ISC 23 18:05:43.0±0.5**, 43.77N**±0.04×**105.34W**±0.06**, n36, σ1^{s}00**/46**, mb4.0**/3**, 1C, Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.00**	**69**	⇑*i*Pg	**Pg**	**18 06 03.3**	**+0.2**
LAO	**LASA Array**	**2.98**	**348**	*e*Pn	**Pn**	**18 06 33.5**	**+1.0**
BW06	**Boulder Array**	**3.24**	**253**	*e*Pn	**Pn**	**18 06 36.1**	**-0.1**
BW06				*e*Sg	**Sg**	**18 07 23.5**	**-7.4**
PDAR	**Pinedale Array**	**3.24**	**253**	Pn	**Pn**	**18 06 36.1**	**0.0**
	2.3nm,0.3s,baz=198,slow=14,SNR=49						
PDAR				Sn	**Sn**	**18 07 20.9**	**+4.9**
	12nm,0.3s,baz=69,slow=29,SNR=11						
GCMT	**Greycliff**	**3.68**	**305**	*e*Pn	**Pn**	**18 06 42.0**	**-0.4**
GCMT				*e*Sg	**Sg**	**18 07 45.0**	**-0.7**
MOOW	**Moose Ponds**	**3.92**	**272**	*e*Pn	**Pn**	**18 06 47.4**	**+1.6**
WUWY	**Wally Ulrich**	**3.93**	**268**	Pn	**Pn**	**18 06 46.6**	**+0.7**
ISCO	**Idaho Springs**	**3.97**	**183**	*e*Pn	**Pn**	**18 06 47.2**	**+0.7**
IMW	**Indian Meadow**	**4.05**	**274**	*e*Pn	**Pn**	**18 06 48.9**	**+1.2**
QLMT	**Earthquake Lak**	**4.50**	**286**	Pn	**Pn**	**18 06 55.2**	**+1.2**
QLMT				*e*Pg	**Pg**	**18 07 06.0**	**-6.8**
DGMT	**Dagmar**	**4.77**	**9**	*e*Pn	**Pn**	**18 06 58.0**	**+0.1**
DGMT				*e*Sg	**Sg**	**18 08 18.8**	**-2.9**
HWUT	**Hardware Ranch**	**5.07**	**247**	Pn	**Pn**	**18 07 01.2**	**-0.9**
HWUT				*e*Sg	**Sg**	**18 08 26.0**	**-5.9**

TCUT	**Toone Canyon**	5.21	242	*e*Pn	Pn	18 07 02.6	-1.5
TCUT				*e*Sg	Sg	18 08 29.3	-7.3
HRY	**Holter Researc**	5.45	305	*e*Pn	Pn	18 07 07.3	-0.1
MCMT	**McKenzie Canyo**	5.49	284	*e*Pn	Pn	18 07 11.7	+3.6
JLU	**Jordanelle**	5.53	237	Pn	Pn	18 07 09.3	+0.7
JLU				*e*Sg	Sg	18 08 41.7	-5.6
CTU	**Camp Tracy**	5.67	239	*e*Sg	Sg	18 08 44.0	-7.6
RW3	**Ridgway**	5.79	199	Pn	Pn	18 07 12.8	+0.5
HVU	**Hansel Valley**	5.82	253	*e*Sg	Sg	18 08 46.6	-10
MPU	**Maple Canyon**	6.01	234	*e*Pg	Pg	18 07 36.5	-6.5
SDCO	**Great Sand Dun**	6.02	181	*e*Pn	Pn	18 07 15.0	-0.5
SDCO				*e*Pg	Pg	18 07 38.4	-4.8
SDCO				*e*Sg	Sg	18 08 55.1	-8.4
SRU	**San Rafael**	6.07	222	Pn	Pn	18 07 16.4	+0.2
SRU				*e*Sg	Sn	18 08 52.3	+25
PV10	**Paradox Valley**	6.07	209	*e*Pn	Pn	18 07 17.1	+0.8
PV01	**Paradox Valley**	6.14	205	*e*Pn	Pn	18 07 16.8	-0.3
PV01				*e*Sg	Sn	18 08 51.9	+23
CHMT	**Chamberlain Mo**	6.40	302	*e*Pn	Pn	18 07 20.9	0.0
MSU	**Marysvale**	7.36	227	Pn	Pn	18 07 33.8	-0.6
ELK	**Elko**	7.94	251	*e*Pn	Pn	18 07 41.2	-1.3
ELK				*e*Sg	Sn	18 09 52.4	+38
KSU1	**Kansas State U**	8.05	122	*e*Pg	Px	18 08 11.0	
ULM	**Lac du Bonnet**	9.15	42	Pn	P	18 07 57.5	-1.8
	0.6nm,0.3s,baz=232,slow=9.5,SNR=4.1						
ULM				Pg	P	18 08 29.1	+30
	0.7nm,0.3s,baz=228,slow=16,SNR=3.3						
ULM				Sn	Sn	18 09 41.0	-3.2
	0.4nm,0.3s,baz=193,slow=6.7,SNR=3.9						
ULM				Lg		18 10 35.5	
	0.4nm,0.3s,baz=137,slow=16,SNR=4.7						
NEW	**Newport**	9.34	303	Pn	P	18 08 08.9	+7.0
	0.9nm,0.3s,baz=123,slow=19,SNR=8.9						
WMOK	**Wichita Mounta**	10.35	148	*e*Pn	P	18 08 10.5	-5.3
NVAR	**Mina Array Bea**	11.14	246	Pn	P	18 08 23.7	-2.8
	0.1nm,0.3s,baz=61,slow=12,SNR=6.6						
YBH	**Yreka Blue Hor**	12.93	267	Pn	P	18 08 54.5	+3.7
	0.2nm,0.3s,baz=78,slow=8.2,SNR=4.3						
ZAL	**Zalesovo**	82.28	354	P	P	18 18 07.5	+0.4
	0.6nm,0.4s,mb4.1,baz=357,slow=6.7,SNR=4.0						
SONM	**Songino Array**	84.59	339	P	P	18 18 19.3	+0.3
	0.5nm,0.6s,mb3.9,baz=2.7,slow=4.8,SNR=4.3						
MKAR	**Makanchi Array**	89.57	355	P	P	18 18 43.5	+0.3
	0.8nm,0.6s,mb4.1,baz=1.3,slow=3.9,SNR=7.1						

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*STR **23** 18:11:26.9±0.0, 42.35N×2.14E, h2^{km}±1^{km}, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*NEIC **23** 18:11:26.9, 42.35N×2.14E, h2^{km}, MD2.3(LDG), ML2.7(STR), After STR.*

*LDG **23** 18:11:27.3±0.6, 42.36N×2.18E, h4^{km}, Md2.3/1, Ml2.0/6, Error ellipse: s-maj=11.2km s-min=3.7km az=166.0*

*MDD **23** 18:11:27.3±0.7, 42.35N×2.14E, h4^{km}±6^{km}, mbLg1.3/5, Error ellipse: s-maj=6.4km s-min=2.7km az=2.0, PRXIMO AftershockPLICA*

ISC 23 18:11:25.9±0.9**, 42.38N**±0.05×**2.17E**±0.04**, h10**^{km}±4^{km}**, n15,** σ1$^{\underline{s}}$**05**/28**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VALF	**Valcebollere**	0.12	283	Pg	Pg	18 11 29.1	+0.3
VALF				Sg	Sg	18 11 30.7	-0.1
VALF	**Valcebollere**	0.12	283	P	Pg	18 11 29.1	+0.3
VALF				S	Sg	18 11 30.8	0.0
FILF	**Fillols**	0.34	57	Pg	Pg	18 11 32.6	-0.3
FILF				Sg	Sg	18 11 36.7	-0.9
FILF	**Fillols**	0.34	57	P	Pg	18 11 32.7	-0.2
FILF				S	Sg	18 11 36.8	-0.8
CARF	**Carcanieres**	0.34	352	P	Pg	18 11 34.3	+1.3
CARF				S	Sg	18 11 39.7	+2.1
EJON	**La Jonquera**	0.53	82	Pg	Pg	18 11 37.9	+1.2
	SNR=7.9						
EJON				Lg		18 11 45.2	
	2.7nm,0.1s,SNR=7.9						
SALF	**Salau**	0.82	298	P	Pb	18 11 42.5	+0.6
SALF				S	Sb	18 11 53.1	+0.4
MTLF	**Montolieu**	0.96	2	*e*Pg	Pg	18 11 45.3	+0.1
MTLF				*e*Pn	Pn	18 11 46.6	+1.2
MTLF				*e*Sg	Sg	18 11 59.0	+0.8
	4.8nm,0.2s						
MTLF	**Montolieu**	0.96	2	Pg	Pg	18 11 45.3	+0.1
MTLF				Lg		18 11 59.0	
	2.4nm,0.2s						
EPF	**Esparros**	1.50	296	*e*Pn	Pn	18 11 53.5	+0.4
EPF				*e*Pg	Pg	18 11 55.7	-0.2
EPF				*e*Sg	Sg	18 12 15.1	-0.9
	2.3nm,0.3s						
ETSF	**Etsaut**	2.08	285	*e*Sg	Sg	18 12 32.8	-2.5
	2.7nm,0.2s						
LASF	**Ste Croix**	2.10	35	*e*Pn	Pn	18 12 01.8	+0.2
LASF				*e*Pg	Pg	18 12 06.0	-1.8
LASF				*e*Sg	Sg	18 12 33.9	-1.9
	5.6nm,0.5s						
CAF	**Calviac**	2.55	358	*e*Pn	Pn	18 12 08.6	+0.5
CAF				*e*Sn	Sn	18 12 38.3	-1.2
	0.4nm,0.2s						
SJPF	**Ste Jean**	2.61	288	*e*Sg	Sg	18 12 48.3	-4.5
	0.5nm,0.3s						
RJF	**Les Rejaudoux**	2.97	351	*e*Pn	Pn	18 12 13.9	-0.1

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*MOS **23** 18:52:12.8±1.0, 24.97S×68.79W, h92^{km}, mb5.2/4, Error ellipse: s-maj=19.6km s-min=18.3km az=74.5*

*GUC **23** 18:52:13.7±0.9, 25.13S×69.05W, h98^{km}±30^{km}, ML5.2*

*BJI **23** 18:52:14.6, 25.10S×68.90W, h107^{km}, mB5.1*

*HRVD **23** 18:52:14.7±1.1, 25.27S×69.24W, h136^{km}±8^{km}, MW4.9/36, Centroid moment Tensor Solution. LP body waves: s7,c8; Mantle waves: s36,c41; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M$_{rr}$-2.36±.22; M$_{\theta\theta}$-0.91±.25; M$_{\phi\phi}$3.27±.34; M$_{r\theta}$-0.03±.16; M$_{\theta\phi}$-1.33±.28; M$_{\phi r}$0.87±.32; Best double couple: M$_0$3.14×10^{16} NP1:φ$_s$333°, δ38°, λ-106°. NP2: φ$_s$173°, δ54°, λ-78°. Principal axes: T 3.77, Plg8°, Azm254°; N -1.26, Plg10°, Azm345°; P -2.51, Plg77°, Azm126°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **23** 18:52:14.7±0.2, 25.06S×68.86W, mb4.9/52 Error ellipse: s-maj=7.3km s-min=5.8km az=63.0*

NEIC Felt [III] at Taltal.

*IDC **23** 18:52:15.8±0.5, 24.98S×68.87W, h112^{km}±3^{km}, mb4.6/10, mb1 4.7/12, mb1mx4.6/14, MS3.7/3, Ms1 3.7/3, ms1mx3.4/15, Error ellipse: s-maj=19.8km s-min=15.2km az=50.0*

*SYO **23** 18:52:15.4, 24.80S×68.67W, h107^{km}, MB4.9*

ISC 23 18:52:13.4±0.2**, 25.06S**±0.03×**69.02W**±0.05**, h106**^{km}**, h106**^{km}±1.0^{km}**:pP-P, n207,** σ1$^{\underline{s}}$**19**/123**, mb4.9**/62**, 13C-18D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CPN1	**Cerro Paranal**	1.33	289	⇑*i*P	P	18 52 39.0	+0.7
CPN1				*i* S	S	18 52 57.4	+0.3
CPN1				AMP		18 52 59.1	
	comp=E,51μm,0.5s						
ANCH	**Antofagasta**	1.86	317	⇑*i*P	P	18 52 42.6	-2.3
ANCH				*i* S	S	18 53 06.8	-1.7
ANCH				AMP		18 53 21.4	
	comp=E,7μm,0.5s						
CPCH	**Copiapo**	2.58	207	⇓*i*P	P	18 52 53.5	-1.1
CPCH				*i* S	S	18 53 23.7	-1.9
CPCH				AMP		18 53 32.6	
	comp=E,20μm,0.1s						
VACH	**Vallenar**	3.83	204	⇓*i*P	P	18 53 09.8	-1.7
VACH				*i* S	S	18 53 53.1	-2.7
MDZ	**Mendoza**	7.80	179	*e*P	P	18 53 54.6	-11
MDZ				*e*		18 54 03.6	
MDZ				*e*		18 54 20.5	
LPAZ	**La Paz**	8.77	6	P	P	18 54 17.6	-1.1
	comp=E,2.4nm,0.3s,baz=195,slow=7.9,SNR=72						
LPAZ	**La Paz**	8.77	6	P	P	18 54 17.6	-1.1
LPAZ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
LPAZ	**La Paz**	8.77	6	*e*Pn	P	18 54 16.8	-1.9
LPAZ				*e*		18 54 26.0	
ARE	**Arequipa**	8.86	344	*e*P	P	18 54 16.0	-3.9
ARE				*e*		18 54 34.0	
ARE				*e*S	Sx	18 54 51.0	
CPUP	**Villa Florida**	10.62	99	P	P	18 54 40.2	-3.4
	comp=Z,0.7nm,0.3s,baz=293,slow=9.5,SNR=12						
CPUP	**Villa Florida**	10.62	99	P	P	18 54 40.2	-3.4
CPUP				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CPUP	**Villa Florida**	10.62	99	*e*P	P	18 54 39.8	-3.9
TRQA	**Tornquist**	14.27	157	*e*P	P	18 55 29.6	-1.9
	comp=Z,19nm,0.8s						
TRQA				*e*		18 55 35.8	
NNA	**Nana**	14.96	329	P	P	18 55 37.3	-3.1
	comp=Z,22nm,0.9s						
NNA				*e*		18 55 48.3	
SAML	**Samuel**	16.96	20	*e*P	P	18 56 00.6	-4.8
	comp=Z,18nm,0.9s						
SAML				*e*		18 56 05.5	
SAML				*e*		18 56 10.7	
BDFB	**Brasilia**	21.79	69	P	P	18 56 56.0	-1.7
	comp=Z,19nm,0.5s,mb4.7,baz=251,slow=9.7,SNR=27						
BDFB	**Brasilia**	21.79	69	P	P	18 56 56.1	-1.7
BDFB				pmax	pmax		
	comp=Z,19nm,0.5s						
BAO	**Brasilia Array**	21.81	69	*e*P	P	18 56 56.2	-1.8
BAO				*e*		18 57 20.6	
BAO				*i*		18 57 37.3	
OTAV	**Otavalo**	26.75	339	*e*P	P	18 57 44.1	-1.0
	comp=Z,4.9nm,0.7s,mb4.2						
USHA	**Ushuaia**	29.74	179	LR	LR	19 10 07.3	
	comp=Z,162nm,19.1s,baz=243,slow=36						
ROSC	**El Rosal**	30.18	349	LR	LR	19 11 03.2	
	comp=Z,112nm,20.2s,baz=209,slow=37						
SDV	**Santo Domingo**	33.77	357	*e*P	P	18 58 44.9	-2.3
	comp=Z,14nm,1.1s,mb4.7						
RCBR	**Riachuelo**	37.04	64	*e*P	P	18 59 13.8	-1.0
	comp=Z,39nm,1.0s,mb5.3						
JTS	**JuntasAbangare**	38.41	334	*e*P	P	18 59 22.8	-3.5
	comp=Z,16nm,0.9s,mb4.8						
JTS				*e*		18 59 27.7	
SJG	**San Juan**	43.00	4	*e*P	P	19 00 00.9	-3.1
	comp=Z,51nm,1.2s,mb5.1						
VNA3	**Neumayer Olymp**	56.76	161	⇓*i*P	P	19 01 50.6	+2.4
VNA3	**Neumayer Olymp**	56.76	161		pP	19 02 16.7	+2.6
VNA3	**Neumayer Olymp**	56.76	161	⇑*i*	sP	19 02 28.2	+2.2
VNA3	**Neumayer Olymp**	56.76	161	⇓*i*	PcP	19 02 45.2	+2.6
VNA1	**Neumayer--Stat**	56.99	160	⇓*i*P	P	19 01 52.6	+2.8
VNA1	**Neumayer--Stat**	56.99	160	⇑*i*	pP	19 02 19.4	+3.7
VNA1	**Neumayer--Stat**	56.99	160	⇑*i*	sP	19 02 30.2	+2.6
VNA1	**Neumayer--Stat**	56.99	160	⇑*i*	PcP	19 02 46.8	+3.3
VNA2	**Neumayer--Watz**	57.35	160	⇓*i*P	P	19 01 54.7	+2.4
VNA2	**Neumayer--Watz**	57.35	160	⇑*i*	sP	19 02 22.9	-7.3
VNA2	**Neumayer--Watz**	57.35	160	⇑*i*	sP	19 02 32.4	+2.2
VNA2	**Neumayer--Watz**	57.35	160	⇑*i*	PcP	19 02 47.3	+2.4
SNAA	**Sanae**	58.97	160	⇓*i*P	P	19 02 02.6	-1.0
SNAA	**Sanae**	58.97	160	⇓*i*	pP	19 02 29.9	+0.2
SNAA	**Sanae**	58.97	160	⇑*i*	sP	19 02 41.0	-0.6
SNAA	**Sanae**	58.97	160		PcP	19 02 48.9	-2.3
SNAA	**Sanae**	58.97	160	⇓*i*S	S	19 09 59.7	0.0
LRAL	**Lakeview Retre**	60.25	343	*e*P	P	19 02 10.7	-2.2
	comp=Z,20nm,1.1s,mb5.1						
JCT	**Junction City**	62.60	330	*e*P	P	19 02 27.9	-0.8
	comp=Z,32nm,0.8s,mb5.3						
JCT				*e*		19 02 39.9	
JCT				*e*pP	pP	19 02 54.1	-1.1
JCT				*e*sP	sP	19 03 07.0	0.0
WVT	**Waverly**	63.40	343	*e*P	P	19 02 31.4	-2.5
	comp=Z,18nm,0.6s,mb5.2						
WVT				*e*pP	pP	19 02 56.8	-3.5
WVT				*e*sP	sP	19 03 10.1	-2.1
TXAR	**Lajitas Array**	63.50	326	P	P	19 02 34.4	-0.3
	comp=Z,5.3nm,0.9s,mb4.5,baz=150,slow=8.3,SNR=20						
TXAR				pP	pP	19 03 01.9	+0.8
	comp=Z,0.6nm,0.4s,baz=135,slow=7.1,SNR=2.0						
TXAR	**Lajitas Array**	63.50	326	P	P	19 02 34.4	-0.3
TXAR				pP	pP	19 03 01.9	+0.8
WCI	**Wyandotte Cave**	65.00	345	*e*P	P	19 02 41.4	-3.0
	comp=Z,23nm,0.8s,mb5.0						
WCI				*e*pP	pP	19 03 08.2	-2.7
WCI				*e*sP	sP	19 03 19.4	-3.2
QSPA	**South Pole Qui**	65.15	180	*e*P	P	19 02 45.0	+0.4
	comp=Z,17nm,0.6s,mb5.0						
QSPA				*e*	pP	19 03 11.6	+0.4
FVM	**French Village**	65.85	342	*e*P	P	19 02 47.7	-2.0
	comp=Z,67nm,1.0s,mb5.4						
FVM				*e*pP	pP	19 03 14.7	-1.7
FVM				*e*sP	sP	19 03 26.8	-1.2
CCM	**Cathedral Cave**	66.16	341	*e*P	P	19 02 49.9	-1.9
	comp=Z,34nm,0.9s,mb5.2						
CCM				*e*pP	pP	19 03 16.7	-1.7
GDL2	**Guadalupe Moun**	66.18	328	*e*P	P	19 02 51.8	-0.2
GDL2				*e*pP	pP	19 03 18.9	+0.3
BRYW	**Bryant College**	66.68	358	*e*P	P	19 02 54.3	-0.6
	comp=Z,112nm,1.0s,mb5.7						
BRYW				*e*pP	pP	19 03 21.7	+0.1
GENY	**Geneseo**	67.97	353	*e*P	P	19 03 02.1	-0.9
GENY				*e*pP	pP	19 03 27.6	-2.1
BNM	**Barren Site**	68.87	327	*e*P	P	19 03 09.0	+0.4
BNM				*e*pP	pP	19 03 32.8	-2.7
ANMO	**Albuquerque**	69.43	328	*e*P	P	19 03 11.4	-0.7
ANMO				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ANMO	**Albuquerque**	69.43	328	*e*P	P	19 03 12.6	+0.5
	comp=Z,11nm,0.8s,mb4.7						
ANMO				*e*pP	pP	19 03 37.3	-1.7
ANMO				*e*sP	sP	19 03 51.7	+1.3
LIC	**Lamto**	69.51	73	⇓*i*P	P	19 03 11.8	-1.1
	comp=Z,81nm,0.8s,mb5.6						
LOZ	**Lake Ozonia**	69.52	356	*e*P	P	19 03 11.1	-1.4
LOZ				*e*pP	pP	19 03 38.4	-1.0
LOZ				*e*PP	PP	19 05 48.0	-1.4
TUC	**Tucson**	69.58	323	*e*P	P	19 03 13.7	+0.6
	comp=Z,15nm,1.3s,mb4.7						
TUC				*e*pP	pP	19 03 36.1	-3.9
TUC				*e*sP	sP	19 03 52.0	+0.6
TIC	**Toumodi**	69.72	72	*e*P	P	19 03 13.0	-1.2
	comp=Z,119nm,1.0s,mb5.7						
KIC	**Kosan Boka**	69.83	73	⇓*i*P	P	19 03 14.0	-0.8
	comp=Z,200nm,0.7s						
DBIC	**Dimbokro**	69.88	72	P	P	19 03 14.4	-0.8
	comp=Z,37nm,0.6s,mb5.4,baz=216,slow=6.3,SNR=69						
DBIC				pP	pP	19 03 41.9	-0.2
	comp=Z,13nm,1.1s,baz=168,slow=9.0,SNR=1.7						
DBIC				LR	LR	19 32 02.7	
	comp=Z,50nm,18.2s,baz=287,slow=34						
DBIC	**Dimbokro**	69.88	72	P	P	19 03 14.4	-0.8
DBIC				*PP	pP	19 03 41.9	-0.2
DBIC				pmax	pmax		
	comp=Z,37nm,0.6s						
DBIC				pmax	pmax		
	comp=N,13nm,1.1s						
DBIC				MLR	MLR		
	comp=Z,50nm,18.3s						
DBIC	**Dimbokro**	69.88	72	*e*P	P	19 03 14.2	-1.0
	comp=Z,44nm,0.7s,mb5.4						
SDCO	**Great Sand Dun**	71.25	330	*e*P	P	19 03 23.6	+0.6
	comp=Z,36nm,1.4s,mb5.0						
SDCO				*e*pP	pP	19 03 49.2	-0.8
SDCO				*e*sP	sP	19 04 01.9	+0.4
RW3	**Ridgway**	72.67	329	*e*P	P	19 03 32.4	+1.0
PV01	**Paradox Valley**	72.99	328	*e*P	P	19 03 34.6	+1.3
PV01				*e*		19 03 49.5	
PV01				*e*pP	pP	19 03 59.3	-1.1
SYO	**Syowa Base**	73.23	159	⇑P	P	19 03 33.8	-0.2
SYO	**Syowa Base**	73.23	159	⇑pP	pP	19 04 01.7	+0.5
SYO	**Syowa Base**	73.23	159	⇓sP	sP	19 04 10.9	-1.7
PV10	**Paradox Valley**	73.41	328	*e*P	P	19 03 36.1	+0.4
RSSD	**Black Hills**	75.95	335	*e*P	P	19 03 50.7	+0.5
	comp=Z,13nm,0.9s,mb4.7						
RSSD				*e*pP	pP	19 04 17.8	+0.3
RSSD				*e*sP	sP	19 04 29.9	+0.8
TPNV	**Topopah Spring**	76.03	323	*e*P	P	19 03 52.0	+1.3
	comp=Z,22nm,1.0s,mb4.8						
TPNV				*e*pP	pP	19 04 19.1	+0.9
DAC	**Darwin (Calif)**	76.30	321	*e*P	P	19 03 53.1	+0.8
	comp=Z,18nm,1.2s,mb4.7						
DUG	**Dugway**	76.66	327	*e*P	P	19 03 54.9	+0.6
	comp=Z,23nm,1.2s,mb4.8						
SUR	**Sutherland**	76.90	120	*e*P	P	19 03 56.3	+0.6
	comp=Z,20nm,0.9s,mb4.8						
SUR				*e*pP	pP	19 04 25.2	+2.1
PDAR	**Pinedale Array**	77.14	331	P	P	19 03 57.1	+0.3
	comp=Z,3.6nm,0.9s,mb4.1,baz=153,slow=3.3,SNR=17						
PDAR				pP	pP	19 04 25.9	+1.6
	comp=Z,1.1nm,0.7s,baz=90,slow=7.4,SNR=2.4						
HWUT	**Hardware Ranch**	77.14	329	*e*P	P	19 03 57.3	+0.4
	comp=Z,14nm,0.7s,mb4.8						
HWUT				*e*pP	pP	19 04 23.9	-0.4
HWUT				*e*sP	sP	19 04 35.2	-0.7
TPH	**Tonopah**	77.38	323	*e*P	P	19 03 59.4	+1.1
	comp=Z,24nm,1.2s,mb4.8						
AHID	**Auburn Hatcher**	77.83	330	*e*P	P	19 04 01.1	+0.4
	comp=Z,34nm,1.1s,mb5.0						
OMM	**Old Mammoth Mi**	78.04	322	*e*P	P	19 04 03.1	+1.2
NVAR	**Mina Array Bea**	78.23	323	P	P	19 04 04.2	+1.3
	comp=Z,5.6nm,0.9s,mb4.3,baz=145,slow=7.0,SNR=28						
NVAR				pP	pP	19 04 31.6	+1.2
	comp=Z,1.8nm,0.8s,baz=140,slow=6.1,SNR=3.1						
ELK	**Elko**	78.29	326	*e*P	P	19 04 03.8	+0.6
	comp=Z,18nm,1.1s,mb4.7						
ELK				*e*pP	pP	19 04 29.9	-0.8
ELK				*e*sP	sP	19 04 41.8	-0.6
TPAW	**Teton Pass**	78.33	330	*e*P	P	19 04 04.4	+1.0
MOOW	**Moose Ponds**	78.44	331	*e*P	P	19 04 04.7	+0.7
IMW	**Indian Meadow**	78.65	330	*e*P	P	19 04 06.1	+1.0
IMW				*e*pP	pP	19 04 33.6	+1.0
ULM	**Lac du Bonnet**	78.67	343	P	P	19 04 04.4	-0.7
	comp=Z,20nm,0.7s,mb5.1,baz=153,slow=6.5,SNR=19						
ULM				pP	pP	19 04 34.0	+1.5
	comp=Z,5.7nm,0.6s,baz=170,slow=6.6,SNR=3.3						
ULM	**Lac du Bonnet**	78.67	343	*e*P	P	19 04 04.2	-0.8
	comp=Z,35nm,0.8s,mb5.2						
ULM				*e*pP	pP	19 04 31.6	-1.0
ULM				*e*sP	sP	19 04 40.6	-3.6
LAO	**LASA Array**	78.94	335	*e*P	P	19 04 06.9	+0.2
	comp=Z,23nm,0.9s,mb5.0						
CMB	**Columbia Colle**	79.12	321	*e*P	P	19 04 08.1	+0.3
	comp=Z,3.5nm,0.7s,mb4.3						
TSUM	**Tsumeb**	79.14	106	*e*P	P	19 04 08.2	-0.1
	comp=Z,25nm,1.1s,mb5.0						
TSUM				*e*pP	pP	19 04 36.8	+1.0
SCHQ	**Schefferville**	79.58	1	P	P	19 04 09.1	-0.8
	comp=Z,9.9nm,0.9s,mb4.6,baz=220,slow=5.0,SNR=5.2						
SCHQ				pP	pP	19 04 38.0	+0.5
	comp=Z,8.5nm,0.9s,baz=274,slow=9.1,SNR=2.9						
SCHQ	**Schefferville**	79.58	1	P	P	19 04 09.1	-0.8
SCHQ				pP	pP	19 04 38.0	+0.5
QLMT	**Earthquake Lak**	79.60	331	*e*P	P	19 04 12.0	+1.8
PAHR	**Pah Rah Range**	79.73	323	*e*P	P	19 04 12.3	+1.2
	comp=Z,33nm,0.9s,mb5.2						
HLID	**Hailey**	79.99	328	*e*P	P	19 04 13.6	+1.2
	comp=Z,38nm,1.0s,mb5.2						
HLID				*e*pP	pP	19 04 41.6	+1.7
MCMT	**McKenzie Canyo**	80.23	330	*e*P	P	19 04 15.2	+1.6
MCMT				*e*pP	pP	19 04 43.4	+2.2
MAW	**Mawson**	80.97	163	⇓*i*P	P	19 04 17.6	+0.5
	comp=Z,9.7nm,0.6s,mb4.8						
MAW				*e*pP	pP	19 04 46.2	+1.5
MAW	**Mawson**	80.97	163	P	P	19 04 17.8	+0.7
	comp=Z,12nm,0.5s,mb5.0,baz=223,slow=6.9,SNR=38						
MAW	**Mawson**	80.97	163	P	P	19 04 17.8	+0.7
MAW				pmax	pmax		
	comp=Z,12nm,0.5s						
HRY	**Holter Researc**	81.24	332	*e*P	P	19 04 19.8	+0.9
HRY				*e*pP	pP	19 04 48.0	+1.4
HRY				*e*sP	sP	19 04 59.4	+1.0
MOD	**Modoc**	81.76	324	*e*P	P	19 04 22.6	+0.9
	comp=Z,20nm,1.1s,mb4.8						
BOSA	**Boshof**	81.88	118	*e*P	P	19 04 22.4	-0.2
	comp=Z,22nm,1.1s,mb4.9						
BOSA				*e*pP	pP	19 04 50.7	+0.4
MSO	**Missoula**	82.25	331	*e*P	P	19 04 23.7	-0.5
	comp=Z,5.3nm,0.8s,mb4.4						
YBH	**Yreka Blue Hor**	82.95	323	*e*P	P	19 04 26.9	-1.0
	comp=Z,4.3nm,0.8s,mb4.3						
YBH				*e*pP	pP	19 04 55.1	-0.4
LNOR	**Lincton Mounta**	83.56	328	P	P	19 04 29.2	-1.6
PTEO	**Sao Teotonio**	84.17	44	*e*P	P	19 04 35.6	+1.6
HAWA	**Hanford**	84.54	328	*e*P	P	19 04 36.4	+0.8
	comp=Z,1.2nm,0.8s,mb3.9						
PALC	**Alcoutim**	84.91	45	*e*P	P	19 04 39.1	+1.4
	comp=Z,47nm,1.4s,mb5.2						
DPW	**Davenport**	84.97	329	*e*P	P	19 04 38.5	+0.7
DPW				*e*pP	pP	19 05 05.9	+0.3
PBEJ	**Beja**	85.00	44	*e*P	P	19 04 39.0	+0.8
	comp=Z,25nm,1.1s,mb5.1						
ESPR	**Espera**	85.60	46	P	P	19 04 41.9	+0.7
	comp=Z,18nm,0.7s,mb5.1						
EMIN	**Mina Concepcio**	85.60	45	P	P	19 04 41.8	+0.7
	comp=Z,22nm,0.8s,mb5.1						
PTOM	**Tomar**	85.62	42	*e*P	P	19 04 42.1	+0.9
	comp=Z,62nm,1.1s,mb5.5						
WTV	**Waterville**	85.67	328	P	P	19 04 42.1	+0.9
EBAD	**Badajoz**	85.97	44	P	P	19 04 43.3	+0.4
	comp=Z,26nm,1.0s,mb5.1						
PCBR	**Castelo Branco**	86.33	43	*e*P	P	19 04 45.0	+0.3
	comp=Z,15nm,1.2s,mb4.8						
BMW	**Boistfort Moun**	86.44	326	*e*P	P	19 04 45.7	+0.7
EDM	**Edmonton**	86.93	335	*e*P	P	19 04 46.5	-0.7
ELUQ	**Luque**	87.03	46	P	P	19 04 49.1	+0.9
	comp=Z,16nm,0.8s,mb5.0						
ELOB	**Lobios**	87.20	41	P	P	19 04 48.7	-0.2
	comp=Z,12nm,0.9s,mb4.8						
VDB	**Vedder Mountai**	87.62	328	P	P	19 04 50.8	+0.1
STW	**Striped Peak**	87.79	327	P	P	19 04 52.8	+1.3
PGC	**Sidney**	88.02	327	*e*P	P	19 04 53.2	+0.6
	comp=Z,34nm,0.8s,mb5.4						
ESDC	**Sonseca Array**	88.43	44	P	P	19 04 55.4	+0.6
	comp=Z,2.1nm,0.7s,mb4.3,baz=254,slow=4.5,SNR=9.6						
ESDC				pP	pP	19 05 24.0	+1.1
	comp=Z,1.7nm,0.8s,baz=246,slow=5.4,SNR=3.2						
ESDC	**Sonseca Array**	88.43	44	P	P	19 04 55.2	+0.4
	comp=Z,2.8nm,0.8s,mb4.3						
ESLA	**Sonseca Array**	88.43	44	*e*P	P	19 04 54.4	-0.3
	comp=Z,2.4nm,1.1s,mb4.1						
EVIA	**Vianos**	88.79	46	P	P	19 04 56.6	+0.1
	comp=Z,5.8nm,0.7s,mb4.7						
CASY	**Casey**	88.95	180	⇓*i*P	P	19 04 58.1	+1.5
CASY				*i* pP	pP	19 05 26.6	+1.9
ETOB	**Tobarra**	89.42	46	P	P	19 04 59.0	-0.4
	comp=Z,4.6nm,0.6s,mb4.7						
LSZ	**Lusaka**	89.97	107	*e*P	P	19 05 04.6	+2.0
	comp=Z,8.2nm,1.0s,mb4.8						
LSZ				*e*pP	pP	19 05 33.9	+3.2
ETOR	**Torete**	90.28	44	P	P	19 05 03.2	-0.2
	comp=Z,4.9nm,0.7s,mb4.8						
YKA	**Yellowknife Ar**	94.49	341	P	P	19 05 22.2	0.0
	comp=Z,6.6nm,0.6s,mb5.1,baz=138,slow=4.3,SNR=11						
YKA	**Yellowknife Ar**	94.49	341	P	P	19 05 22.2	0.0
YKA				pmax	pmax		
	comp=Z,7.0nm,0.6s						
MOX	**Moxa**	103.35	40	*e*P		19 10 20.0	
MLR	**Muntele Rosu**	110.77	49	PKiKP		19 10 34.9	
	comp=Z,3.4nm,1.1s,baz=294,slow=7.6,SNR=3.9						
MLR	**Muntele Rosu**	110.77	49	*i* PKIKP	PKPdf	19 10 34.9	+1.4
MLR				pmax	pmax		
	comp=Z,3.0nm,1.1s						
AKASG	**Malin Array Be**	114.06	44	PKiKP		19 10 40.4	
	comp=Z,1.7nm,0.5s,baz=265,slow=2.9,SNR=17						
AKASG	**Malin Array Be**	114.06	44	*i* PKIKP	PKPdf	19 10 40.4	+0.6
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
BRTR	**Keskin Array B**	114.92	56	PKP	PKPdf	19 10 43.1	+1.3
	comp=Z,1.6nm,0.7s,baz=164,slow=1.4,SNR=7.2						
BRTR	**Keskin Array B**	114.92	56	PKIKP	PKPdf	19 10 43.2	+1.4
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
OBN	**Obninsk**	119.00	39	*i* PKIKP	PKPdf	19 10 46.5	-2.8
OBN				pmax	pmax		
	comp=Z,14nm,1.1s						
CTA	**Charters Tower**	123.51	221	PKP	PKPdf	19 11 00.3	+1.5
	comp=Z,3.6nm,0.8s,baz=344,slow=3.6,SNR=3.1						
CTA				pPKP		19 11 30.5	
	comp=Z,2.5nm,0.7s,baz=280,slow=5.4,SNR=3.2						
CTA	**Charters Tower**	123.51	221	PKIKP	PKPdf	19 11 00.4	+1.6
CTA						19 11 30.5	
CTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
CTA				pmax	pmax		
	comp=N,3.0nm,0.7s						
ASAR	**Alice Springs**	126.71	206	PKP	PKPdf	19 11 06.0	+1.0
	comp=N,6.5nm,0.7s,baz=132,slow=1.8,SNR=102						
ASAR				pPKP		19 11 35.9	
	comp=N,4.3nm,0.8s,baz=148,slow=2.5,SNR=9.9						
ASPA	**Alice Springs**	126.71	206	⇓*i*PKP	PKPdf	19 11 06.0	+1.0
ASPA				*e*pPKP		19 11 35.7	
WB2	**Warramunga Arr**	129.82	209	⇓*i*PKP	PKPdf	19 11 12.3	+1.2
WB2				*i* pPKP		19 11 39.6	
WRA	**Warramunga Arr**	129.83	209	PKP	PKPdf	19 11 12.3	+1.3
	comp=N,3.0nm,0.4s,baz=156,slow=1.8,SNR=55						
WRA				pPKP		19 11 42.1	
	comp=N,1.7nm,0.6s,baz=160,slow=1.8,SNR=9.9						
WRA	**Warramunga Arr**	129.83	209	PKIKP	PKPdf	19 11 12.3	+1.2
WRA						19 11 42.1	
WRA				pmax	pmax		
	comp=Z,3.0nm,0.4s						

WRA				pmax	pmax		
	comp=N,2.0nm,0.6s						
WRAB	**Tennant Creek**	**129.83**	**209**	*e*PKPdf	PKPdf	19 11 12.0	+0.9
WRAB				*e*pPKPdf		19 11 39.3	
ARU	**Arti**	**131.11**	**36**	*e*PKIKP	PKPdf	19 11 14.0	+1.5
FITZ	**Fitzroy Crossi**	**134.79**	**200**	⇑*i*PKP	PKPdf	19 11 22.0	+1.6
	comp=N,3.8nm,0.7s						
FITZ				*e*pPKP		19 11 51.9	
FITZ	**Fitzroy Crossi**	**134.79**	**200**	PKP	PKPdf	19 11 23.2	+2.8
	comp=N,4.2nm,0.6s,baz=187,slow=5.7,SNR=9.1						
FITZ				pPKP		19 11 52.2	
	comp=N,3.1nm,0.7s,baz=205,slow=5.2,SNR=3.5						
ZRNK	**Zerenda**	**138.02**	**37**	PKIKP	PKPdf	19 11 22.6	-2.8
ZRNK				pmax	pmax		
	comp=Z,11nm,0.9s						
ZRNK	**Zerenda**	**138.02**	**37**	*e*PKPpre		19 11 22.4	
ZRNK				*e*PKPdf	PKPdf	19 11 27.1	+1.7
BRVK	**Borovoye**	**138.67**	**37**	*e*PKP	PKPdf	19 11 25.9	-0.7
BVA0	**Borovoye Array**	**138.74**	**37**	*i* PKIKP	PKPdf	19 11 24.4	-2.3
BVAR	**Borovoye Array**	**138.74**	**37**	PKhKP		19 11 24.2	
	comp=Z,2.0nm,0.7s,baz=243,slow=3.3,SNR=4.8						
BVAR				PKP	PKPdf	19 11 29.2	+2.4
	comp=Z,12nm,1.2s,baz=270,slow=3.0,SNR=19						
VOSK	**Vostochnaya**	**139.19**	**37**	PKHKP		19 11 22.3	
VOSK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
YAK	**Yakutsk**	**140.94**	**346**	*i* PKHKP		19 11 24.9	
YAK	**Yakutsk**	**140.94**	**346**	*e*PKPpre		19 11 24.3	
YAK				*e*PKPdf	PKPdf	19 11 31.4	+1.0
NVS	**Novosibirsk**	**143.89**	**27**	*i* PKIKP	PKPdf	19 11 34.7	-0.9
NVS				*e*		19 12 04.4	
NVS				pmax	pmax		
	comp=N,14nm,1.4s						
NVS				pmax	pmax		
	comp=E,17nm,1.4s						
NVS				pmax	pmax		
	comp=Z,39nm,1.4s						
KURK	**Kurchatov**	**144.31**	**36**	*i* PKIKP	PKPdf	19 11 37.0	+0.5
KURK				pmax	pmax		
	comp=Z,6.0nm,0.6s						
KURK	**Kurchatov**	**144.31**	**36**	*e*PKPdf	PKPdf	19 11 36.9	+0.4
EKS2	**Erkin-Say**	**144.81**	**51**	P	PKPdf	19 11 39.4	+1.7
	SNR=44						
AML	**Almayashu**	**144.91**	**52**	P	PKPdf	19 11 39.8	+1.9
	SNR=46						
USP	**Ospenovka**	**145.12**	**49**	P	PKPdf	19 11 40.1	+1.9
	SNR=20						
ZAL	**Zalesovo**	**145.18**	**27**	PKPbc	PKPbc	19 11 40.1	+1.7
	comp=Z,39nm,0.6s,baz=86,slow=4.0,SNR=197						
ZAL				pPKPbc		19 12 09.6	
	comp=Z,17nm,0.8s,baz=61,slow=3.6,SNR=4.9						
ZAL	**Zalesovo**	**145.18**	**27**	PKIKP	PKPdf	19 11 40.1	+2.2
ZAL						19 12 09.6	
ZAL				pmax	pmax		
	comp=Z,39nm,0.6s						
ZAL				pmax	pmax		
	comp=N,17nm,0.9s						
ZAL	**Zalesovo**	**145.18**	**27**	PKPbc	PKPbc	19 11 40.1	+1.7
ZAL				pPKPbc		19 12 09.6	
AAK	**Ala-Archa**	**145.32**	**50**	P	PKPdf	19 11 41.5	+3.0
	SNR=55						
AAK	**Ala-Archa**	**145.32**	**50**	*d i*PKIKP	PKPdf	19 11 40.4	+1.8
AAK	**Ala-Archa**	**145.32**	**50**	*e*PKPdf	PKPdf	19 11 40.1	+1.5
AAK				*e*pPKPdf		19 12 09.6	
FRU	**Bishkek**	**145.34**	**50**	⇓*i*PKIKP	PKPdf	19 11 42.0	+3.4
FRU				pmax	pmax		
	comp=Z,90nm,1.5s						
FRU				MLR	MLR		
	comp=Z,500nm,18.0s						
CHMS	**Chumysh**	**145.38**	**50**	P	PKPdf	19 11 41.2	+2.5
	SNR=24						
UCH	**Uchtor**	**145.47**	**51**	P	PKPdf	19 11 42.4	+3.5
	SNR=76						
KBK	**Karagaybulak**	**145.63**	**50**	P	PKPdf	19 11 42.4	+3.3
	SNR=36						
TKM2	**Tokmak 2**	**145.99**	**50**	P	PKPdf	19 11 42.6	+2.9
	SNR=28						
KZA	**Kyzart**	**146.03**	**51**	P	PKPdf	19 11 43.0	+3.2
	SNR=21						
YSS	**Yuzh-Sakhalins**	**146.62**	**319**	*e*PKIKP	PKPdf	19 11 42.0	+1.4
ULHL	**Ulahol**	**146.67**	**50**	P	PKPdf	19 11 44.2	+3.3
	SNR=11						
CLNS	**Chul’man**	**146.69**	**346**	*e*PKIKP	PKPdf	19 11 42.0	+1.6
CLNS				pmax	pmax		
	comp=N,15nm,0.9s						
CLNS				pmax	pmax		
	comp=E,12nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,20nm,0.9s						
BOD	**Bodaibo**	**147.19**	**357**	*e*PKIKP	PKPdf	19 11 42.9	+1.7
KSH	**Kashi**	**147.31**	**55**	*e*PKP	PKPdf	19 11 45.1	+3.1
KSH				*e*XPKP		19 12 22.4	
KSH				*e*PKS	PKS	19 15 19.0	+2.8
KSH				*e*SKS	SKS	19 18 43.3	+5.3
KSH				LR	LR		
	comp=N,230nm,6.4s						
KSH				LR	LR		
	comp=E,190nm,5.5s						
MKAR	**Makanchi Array**	**148.51**	**39**	PKPbc	PKPdf	19 11 48.0	+4.4
	comp=E,47nm,0.7s,baz=318,slow=2.5,SNR=132						
MKAR				pPKPbc		19 12 18.9	
	comp=E,11nm,0.7s,baz=297,slow=2.7,SNR=4.4						
MKAR	**Makanchi Array**	**148.51**	**39**	PKP2	PKPab	19 11 48.1	-5.2
MKAR				pmax	pmax		
	comp=Z,47nm,0.7s						
MKAR				pmax	pmax		
	comp=N,11nm,0.7s						
HYB	**Hyderabad**	**148.89**	**98**	*i* PKP	PKPdf	19 11 47.0	+1.8
HYB				*e*		19 11 51.0	
HYB				*e*		19 12 20.0	
HYB	**Hyderabad**	**148.89**	**98**	*e*P	PKPdf	19 11 51.0	+5.8
HYB				*e*		19 12 20.0	
KGD	**Kothagudem**	**150.84**	**99**	*e*PKiK		19 11 54.7	
KGD				*e*PP	PP	19 15 31.8	-3.2
KGD				*e*SS	SS	19 34 43.8	-1.4
KLR	**Kul’dur**	**150.93**	**331**	*e*PKIKP	PKPdf	19 11 54.2	+6.8
KLR				*e*		19 12 24.6	
KLR				pmax	pmax		
	comp=Z,20nm,1.0s						
MOY	**Mondy**	**152.35**	**13**	*e*PKIKP	PKPdf	19 11 59.2	+10
WMQ	**Urumqi**	**153.34**	**40**	*e*PKP	PKPdf	19 11 52.4	+1.4
WMQ				LR	LR		
	comp=Z,86nm,16.4s						
KOLN	**Koldanda**	**155.35**	**78**	*e*P	PKPdf	19 11 55.8	+1.6
	comp=Z,4.6nm,0.8s						
GKN	**Gorkha**	**156.26**	**77**	*e*P	PKPdf	19 11 57.2	+1.8
	comp=Z,2.7nm,0.3s						
DMN	**Daman**	**156.69**	**78**	*e*P	PKPdf	19 11 57.7	+1.7
	comp=Z,1.9nm,0.3s						
KKN	**Kakani**	**156.84**	**78**	*e*P	PKPdf	19 11 58.0	+1.8
	comp=Z,11nm,0.8s						
PKI	**Pulchoki**	**156.95**	**78**	*e*P	PKPdf	19 11 57.6	+1.3
	comp=Z,1.3nm,0.3s						
SONM	**Songino Array**	**156.98**	**8**	PKP	PKPdf	19 11 58.8	+3.1
	comp=Z,3.5nm,1.0s,slow=1.2,SNR=14						
SONM				pPKP		19 12 28.9	
	comp=Z,2.5nm,0.7s,baz=328,slow=4.9,SNR=6.9						
SONM				PP	PP	19 16 08.8	+0.7
	comp=Z,0.4nm,0.6s,baz=333,slow=5.5,SNR=4.0						
CN2	**Changchun**	**157.88**	**331**	*e*PKP	PKPdf	19 11 58.6	+1.6
CN2				*e*PKP2	PKPab	19 12 32.4	-0.5
CN2				*e*PP	PP	19 16 15.0	+1.4
CN2				PP	PP		
	comp=Z,100nm,5.0s						
CN2				LR	LR		
	comp=N,200nm,14.0s						
CN2				LR	LR		
	comp=E,300nm,14.0s						
CN2				LR	LR		
	comp=Z,300nm,16.0s						
GTA	**Gaotai**	**162.88**	**31**	*e*PKP	PKPdf	19 12 04.9	+2.4
GTA				APKP		19 12 32.1	
GTA				XPKP		19 12 42.8	
GTA				PKP2	PKPab	19 12 54.9	+0.3
GTA				PKS	PKS	19 15 37.0	+2.0
GTA				PP	PP	19 16 43.3	+3.5
GTA				SKS	SKS	19 18 58.5	+3.6
GTA				SKKS		19 23 20.9	
GTA				PP	PP		
	comp=Z,39nm,6.1s						
GTA				LR	LR		
	comp=N,58nm,15.6s						
GTA				LR	LR		
	comp=E,60nm,15.6s						
GTA				LR	LR		
	comp=Z,65nm,15.6s						
CMAR	**Chiang Mai Arr**	**167.04**	**118**	PKP	PKPdf	19 12 08.9	+2.1
	comp=Z,1.2nm,0.9s,baz=272,slow=2.7,SNR=8.4						
CMAR				PKPab	PKPab	19 13 12.7	-0.7
	comp=Z,0.6nm,0.7s,baz=262,slow=5.1,SNR=5.0						
CMAR	**Chiang Mai Arr**	**167.04**	**118**	PKIKP	PKPdf	19 12 09.0	+2.2
CMAR						19 13 12.7	
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
LZH	**Lanzhou**	**167.41**	**27**	*e*PKP	PKPdf	19 12 08.5	+1.9
LZH				APKP		19 12 35.5	
LZH				XPKP		19 12 46.0	
SSE	**Sheshan**	**169.17**	**306**	*e*PKP	PKPdf	19 12 09.9	+2.1
KMI	**Kunming**	**172.53**	**88**	*e*PKP	PKPdf	19 12 10.6	+0.7
GYA	**Guiyang**	**175.87**	**69**	PKP	PKPdf	19 12 06.1	-4.9
GYA				PP	PP		
	comp=Z,140nm,6.8s						
GYA				LR	LR		
	comp=N,160nm,19.4s						
GYA				LR	LR		
	comp=E,158nm,21.6s						
GYA				LR	LR		
	comp=Z,130nm,22.0s						

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*NEIC **23** 19:13:51.8,39.11S×174.99E,h216^{km},After WEL.*

WEL 23 19:13:52.1±0.4**,39.19S×174.90E,h214**^{km}±2^{km}**,ML3.9**/10**,
8C,Error ellipse: s-maj=4.2km s-min=2.5km az=90.0,
North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VRZ	**Vera Road**	**0.13**	**301**	PN	P	19 14 19.4	-0.9
VRZ				SN	S	19 14 41.2	-0.7
VRZ	**Vera Road**	**0.13**	**301**	P	P	19 14 19.6	-0.6
VRZ				S	S	19 14 41.2	-0.7
TWVZ	**Taurewa**	**0.43**	**74**	PN	P	19 14 20.3	-0.6
TWVZ				*e*SN	S	19 14 42.1	-1.1
TWVZ	**Taurewa**	**0.43**	**74**	P	P	19 14 20.3	-0.6
WAZ	**Wanganui**	**0.57**	**174**	PN	P	19 14 21.6	+0.3
WAZ				*e*SN	S	19 14 43.1	-0.8
WAZ	**Wanganui**	**0.57**	**174**	P	P	19 14 21.6	+0.3
WAZ				S	S	19 14 44.5	+0.5
MOVZ	**Moawhango**	**0.69**	**108**	PN	P	19 14 21.3	-0.6
MOVZ				SN	S	19 14 43.0	-1.9
MOVZ	**Moawhango**	**0.69**	**108**	P	P	19 14 21.3	-0.5
MOVZ				S	S	19 14 43.0	-1.9
TSZ	**Takapari Road**	**1.19**	**137**	PN	P	19 14 24.9	+0.1
TSZ				SN	S	19 14 49.5	-0.7
TSZ	**Takapari Road**	**1.19**	**137**	P	P	19 14 25.0	+0.1
TSZ				S	S	19 14 49.5	-0.7
BKZ	**Black Stump Fm**	**1.23**	**89**	PN	P	19 14 24.3	-0.9
BKZ	**Black Stump Fm**	**1.23**	**89**	P	P	19 14 24.3	-0.9
MRZ	**Mangatainoka R**	**1.56**	**161**	PN	P	19 14 27.2	-0.7
MRZ				SN	S	19 14 54.3	-1.2
MRZ	**Mangatainoka R**	**1.56**	**161**	*e*P	P	19 14 27.3	-0.6
KIW	**Kapiti Island**	**1.67**	**180**	PN	P	19 14 28.3	-0.6
KIW				SN	S	19 14 55.8	-1.4
KIW	**Kapiti Island**	**1.67**	**180**	P	P	19 14 28.3	-0.6
PWZ	**Pawanui**	**1.73**	**120**	⇑PN	P	19 14 28.9	-0.5
PWZ				SN	S	19 14 57.2	-1.0
PWZ	**Pawanui**	**1.73**	**120**	*e*P	P	19 14 28.9	-0.5
BFZ	**Birch Farm**	**1.81**	**146**	PN	P	19 14 29.4	-0.7
BFZ	**Birch Farm**	**1.81**	**146**	*e*P	P	19 14 29.5	-0.7
CAW	**Cannon Point**	**1.92**	**176**	⇑PN	P	19 14 30.6	-0.6
CAW	**Cannon Point**	**1.92**	**176**	P	P	19 14 30.6	-0.6
URZ	**Urewera**	**1.96**	**62**	PN	P	19 14 28.8	-2.8
URZ				SN	S	19 14 56.7	-5.4
URZ	**Urewera**	**1.96**	**62**	P	P	19 14 28.9	-2.7
MTW	**Mount Morrison**	**2.02**	**167**	⇑PN	P	19 14 31.2	-0.9
MTW	**Mount Morrison**	**2.02**	**167**	P	P	19 14 31.2	-1.0
MRW	**Makara Radio**	**2.04**	**184**	⇑PN	P	19 14 31.6	-0.8
MRW	**Makara Radio**	**2.04**	**184**	P	P	19 14 31.6	-0.8
WEL	**Wellington**	**2.09**	**183**	PN	P	19 14 32.0	-0.9
WEL	**Wellington**	**2.09**	**183**	P	P	19 14 32.0	-0.9
SNZO	**South Karori**	**2.12**	**184**	PN	P	19 14 32.2	-1.0
SNZO				SN	S	19 15 03.7	-1.3
SNZO	**South Karori**	**2.12**	**184**	P	P	19 14 32.2	-1.0
KNZ	**Kokohu**	**2.16**	**86**	PN	P	19 14 32.1	-1.6
KNZ	**Kokohu**	**2.16**	**86**	P	P	19 14 32.1	-1.6
BHW	**Baring Head**	**2.21**	**181**	⇑PN	P	19 14 33.1	-1.1
BHW	**Baring Head**	**2.21**	**181**	P	P	19 14 33.1	-1.1
MWZ	**Matawai**	**2.22**	**68**	PN	P	19 14 31.5	-2.8
MWZ				SN	S	19 15 02.1	-4.9
MWZ	**Matawai**	**2.22**	**68**	P	P	19 14 31.4	-2.9
PAWZ	**Paruwai Farm**	**2.22**	**170**	⇑PN	P	19 14 33.4	-0.9
MSWZ	**Moikau Station**	**2.24**	**173**	⇑PN	P	19 14 33.4	-1.0
MSWZ	**Moikau Station**	**2.24**	**173**	P	P	19 14 33.4	-1.1
NNZ	**Nelson**	**2.34**	**209**	⇑PN	P	19 14 34.3	-1.2
NNZ				SN	S	19 15 07.4	-1.7
NNZ	**Nelson**	**2.34**	**209**	P	P	19 14 34.4	-1.1
TUWZ	**Tuamarina**	**2.35**	**198**	PN	P	19 14 34.8	-0.9
QRZ	**Quartz Range**	**2.45**	**227**	PN	P	19 14 34.6	-2.1
QRZ				SN	S	19 15 08.0	-3.2
QRZ	**Quartz Range**	**2.45**	**227**	P	P	19 14 34.7	-2.0
THZ	**Tophouse**	**2.99**	**210**	PN	P	19 14 41.1	-1.7
THZ				SN	S	19 15 20.0	-2.0
THZ	**Tophouse**	**2.99**	**210**	P	P	19 14 41.1	-1.6
KHZ	**Kahutara**	**3.38**	**197**	PN	P	19 14 45.8	-1.6
KHZ	**Kahutara**	**3.38**	**197**	*e*P	P	19 14 45.9	-1.6
DSZ	**Denniston Nort**	**3.48**	**222**	PN	P	19 14 46.0	-2.6
DSZ	**Denniston Nort**	**3.48**	**222**	P	P	19 14 46.1	-2.5
LTZ	**Lake Taylor**	**4.10**	**208**	PN	P	19 14 53.8	-2.5
LTZ	**Lake Taylor**	**4.10**	**208**	*e*P	P	19 14 53.9	-2.3
MQZ	**McQueen’s Vall**	**4.82**	**200**	PN	P	19 15 01.6	-3.6
MQZ				SN	S	19 15 56.7	-5.2
MQZ	**McQueen’s Vall**	**4.82**	**200**	*e*P	P	19 15 01.6	-3.6
LBZ	**Lake Benmore**	**6.27**	**213**	PN	P	19 15 19.7	-4.0
LBZ	**Lake Benmore**	**6.27**	**213**	*e*P	P	19 15 19.8	-4.0
ODZ	**Otahua Downs**	**6.65**	**207**	*e*P	P	19 15 26.0	-2.6

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*MOS **23** 19:24:26.6±1.1,14.89N×146.37E,h33^{km},mb5.1/21,
MS4.5/18,Error ellipse: s-maj=20.2km s-min=8.3km
az=103.8*

*BJI **23** 19:24:28.9,15.19N×147.05E,h56^{km},mB5.0,mb4.9,
Ms4.9,Msz4.7*

*IDC **23** 19:24:28.4±3.7,14.86N×146.65E,h32^{km}±27^{km},mb4.5/21,
mb1 4.6/23,mb1mx4.6/28,ML4.2/2,MS4.5/18,Ms1 4.5/18,
ms1mx4.5/26,Error ellipse: s-maj=19.0km s-min=12.0km
az=97.0*

*NEIC **23** 19:24:30.9±0.9,14.84N×146.68E,h60^{km}±8^{km},mb5.0/50,
Error ellipse: s-maj=8.1km s-min=5.7km az=103.0*

*HRVD **23** 19:24:30.9±0.4,14.59N×147.26E,h78^{km}±4^{km},MW5.2/54,
Centroid moment Tensor Solution. LP body waves: s3,c3;
Mantle waves: s54,c95; Half duration: 1^{s}0 Moment
tensor: Scale 10^{17}Nm; M_{rr}-0.77±.04; $M_{\theta\theta}$0.73±.03;
$M_{\phi\phi}$0.04±.03; $M_{r\theta}$0.09±.03; $M_{\theta\phi}$-0.13±.02; $M_{\phi r}$0.16±.02;
Best double couple: M_0.78×10^{17} NP1:ϕ_s112°,δ44°,λ-73°.
NP2:ϕ_s269°,δ49°,λ-106°. Principal axes: T .75, Plg2°,
Azm10°; N .05, Plg12°, Azm280°; P -.81, Plg78°, Azm112°;
nsta1 refers to body waves, cutoff=40s. nsta2 refers to
surface waves, cutoff=50s.*

ISC 23 19:24:29.8±0.7**,14.79N**±0.03×**146.70E**±0.04**,h61**^{km}±5^{km}**,
h59**^{km}±2.3^{km}**:pP-P,n213,**σ1^{s}**17**/206**,mb5.0**/78**,18C-1D,
Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SAPN	**Saipan**	**1.01**	**295**	⇑*e*P	**P**	**19 24 49.5**	**+1.2**
ANA2	**Anatahan**	**1.81**	**328**	⇑*e*P	**P**	**19 24 59.5**	**+0.2**
ANA2				*e*S	**S**	**19 25 26.9**	**+5.8**
SARN	**Sarigan**	**2.10**	**335**	⇑*i*P	**P**	**19 25 02.6**	**-0.7**
SARN				*e*S	**S**	**19 25 30.6**	**+2.4**
GUMO	**Guam**	**2.14**	**236**	*e*Pn	**P**	**19 25 03.7**	**-0.2**
CBIJ	**Chichi jima**	**12.95**	**342**	Pn	**P**	**19 27 28.9**	**-3.9**
	4.0nm,0.3s,baz=279,slow=20,SNR=2.2						
JHJ	**Hachijo jima 2**	**19.30**	**342**	P	**P**	**19 28 50.0**	**-2.4**
	6.4nm,0.3s,baz=101,slow=6.1,SNR=1.8						
JHJ				LR	LR	19 35 35.6	
	comp=Z,1µm,18.4s,baz=350,slow=35						
JOW	**Kunigami**	**20.95**	**308**	P	**P**	**19 29 11.1**	**+1.3**
	36nm,0.4s,baz=128,slow=13,SNR=68						
JOW				LR	LR	19 37 01.0	
	comp=Z,2µm,18.9s,baz=130,slow=36						
MAJO	**Matsushiro**	**22.95**	**342**	*e*P	**P**	**19 29 25.7**	**-3.9**
	16nm,0.7s,mb4.5						
MAT	**Matsushiro**	**22.95**	**342**	P	**P**	**19 29 25.9**	**-3.6**
MAT				S	**S**	**19 33 32.0**	**+0.9**
MAT	**Matsushiro**	**22.95**	**342**	*e*P	**P**	**19 29 26.0**	**-3.5**
	9.3nm,0.6s,mb4.4						
MAT				*e*S	**S**	**19 33 32.0**	**+0.9**
MAT				LR	LR		
	comp=Z,1µm,18.0s						
PMG	**Port Moresby**	**24.05**	**179**	*e*P	**P**	**19 29 36.0**	**-4.3**
	comp=Z,215nm,1.1s,mb5.5						
KS15	**Wonju Array Si**	**28.07**	**327**	*e*P	**P**	**19 30 15.9**	**-1.8**
SSE	**Sheshan**	**28.45**	**309**	*e*P	**P**	**19 30 17.1**	**-4.0**
SSE				AP	pP	19 30 33.0	-3.1
SSE				XP	sP	19 30 40.9	-2.6
SSE				PP	PP	19 31 14.9	+0.4
SSE				S	**S**	**19 34 58.6**	**-3.9**
SSE				XS		19 35 25.0	
SSE				AMB	AMB		
	comp=Z,49nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,103nm,7.0s						
SSE				LR	LR		
	comp=N,513nm,16.5s						
SSE				LR	LR		
	comp=E,931nm,16.5s						
SSE				LR	LR		
	comp=Z,1µm,16.4s						
SSE	**Sheshan**	**28.45**	**309**	*e*P	**P**	**19 30 17.1**	**-4.0**
	comp=Z,49nm,0.7s,mb5.2						
SSE				pP	pP	19 30 33.0	-3.1
SSE				sP	sP	19 30 40.9	-2.6
SSE				PP	PP	19 31 14.9	+0.4
SSE				S	**S**	**19 34 58.6**	**-3.9**
SSE				sS		19 35 25.0	
SSE				LR	LR		
	comp=Z,1µm,16.4s						
ASAJ	**Asahikawa**	**29.44**	**354**	P	**P**	**19 30 28.9**	**-0.9**
	comp=Z,14nm,0.7s,mb4.8,baz=245,slow=12,SNR=15						
ASAJ				LR	LR	19 41 02.6	
	comp=Z,658nm,19.5s,baz=186,slow=34						
ASAJ	**Asahikawa**	**29.44**	**354**	P	**P**	**19 30 28.9**	**-0.9**
ASAJ				pmax	pmax		
	comp=Z,14nm,0.7s						
ASAJ				MLR	MLR		
	comp=Z,658nm,19.5s						
KAKA	**Kakadu**	**30.77**	**208**	⇑*i*P	**P**	**19 30 43.9**	**+2.1**
	comp=Z,14nm,0.5s,mb5.0						
VLA	**Vladivostok**	**30.96**	**339**	*e*P	**P**	**19 30 41.0**	**-2.3**
VLA				*e*		19 31 47.0	
VLA				*e*		19 35 45.0	
VLA				MLR	MLR		
	comp=Z,1µm,15.0s						
VLA				MLR	MLR		
	comp=N,1µm,18.0s						
VLA				MLR	MLR		
	comp=E,600nm,12.0s						
YSS	**Yuzh-Sakhalins**	**32.23**	**355**	*e*P	**P**	**19 30 51.0**	**-3.4**
YSS				*e*S	**S**	**19 36 04.0**	**+2.0**
YSS				*e*SSS	SSS	19 38 22.0	-2.3
YSS				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.1						
YSS				MLR	MLR		
	comp=Z,700nm,16.0s						
YSS				MLR	MLR		
	comp=N,500nm,17.0s						
YSS	**Yuzh-Sakhalins**	**32.23**	**355**	*e*P	**P**	**19 30 51.1**	**-3.2**
	comp=N,25nm,1.0s,mb5.0						
WHN	**Wuhan**	**33.56**	**303**	*e*P	**P**	**19 31 05.8**	**-0.3**
WHN				LR	LR		
	comp=N,711nm,14.0s						
WHN				LR	LR		
	comp=E,580nm,16.0s						
WHN				LR	LR		
	comp=Z,2µm,19.4s						
CN2	**Changchun**	**34.13**	**332**	*e*P	**P**	**19 31 07.8**	**-3.0**
CN2				*e*AP	pP	19 31 23.0	-3.3
CN2				*e*S	**S**	**19 36 27.6**	**-3.9**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
CN2				AMB	AMB		
	comp=Z,100nm,8.0s						
CN2				LR	LR		
	comp=N,1µm,18.0s						
CN2				LR	LR		
	comp=E,900nm,18.0s						
CN2				LR	LR		
	comp=Z,1µm,19.0s						
CTA	**Charters Tower**	**34.66**	**181**	P	**P**	**19 31 15.8**	**+0.3**
	comp=Z,2.4nm,0.6s,mb4.3,baz=355,slow=10,SNR=4.6						
CTA	**Charters Tower**	**34.66**	**181**	P	**P**	**19 31 15.9**	**+0.3**
CTA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
CTAO	**Charters Tower**	**34.66**	**181**	*e*P	**P**	**19 31 13.8**	**-1.8**
	comp=Z,46nm,1.7s,mb5.1						
CTAO				LR	LR		
	comp=Z,720nm,19.0s						
QIZ	**Qiongzhong**	**35.47**	**282**	P	**P**	**19 31 23.0**	**+0.5**
QIZ				AP	pP	19 31 37.3	-0.7
QIZ				PP	PP	19 32 45.8	+1.9
QIZ				S	**S**	**19 36 57.5**	**+5.1**
QIZ				SCS	ScS	19 41 32.3	-1.3
QIZ				LR	LR		
	comp=N,362nm,18.8s						
QIZ				LR	LR		
	comp=E,539nm,19.8s						
QIZ				LR	LR		
	comp=Z,845nm,19.6s						
KLR	**Kul’dur**	**36.47**	**343**	*e*P	**P**	**19 31 28.0**	**-2.6**
KLR				*e*		19 41 47.0	
WRAB	**Tennant Creek**	**36.58**	**200**	*e*P	**P**	**19 31 30.8**	**-1.1**
	comp=Z,78nm,1.2s,mb5.4						
WRAB				LR	LR		
	comp=Z,281nm,21.0s						
WB2	**Warramunga Arr**	**36.59**	**200**	⇑*i*P	**P**	**19 31 31.2**	**-0.7**
WRA	**Warramunga Arr**	**36.59**	**200**	P	**P**	**19 31 31.3**	**-0.7**
	comp=Z,17nm,1.0s,mb4.8,baz=24,slow=9.8,SNR=65						
WRA	**Warramunga Arr**	**36.59**	**200**	P	**P**	**19 31 31.3**	**-0.7**
WRA				pmax	pmax		
	comp=Z,17nm,1.0s						
BJT	**Baijiatuau**	**36.65**	**319**	*e*P	**P**	**19 31 31.3**	**-1.0**
	comp=Z,37nm,1.1s,mb5.1						
BJI	**Beijing**	**36.66**	**319**	*e*P	**P**	**19 31 31.6**	**-0.7**
BJI				XP	sP	19 31 52.3	-3.0
BJI				PP	PP	19 32 52.5	-5.8
BJI				S	**S**	**19 37 12.9**	**+2.5**
BJI				AMB	AMB		
	comp=Z,24nm,1.3s,mb4.9						
BJI				LR	LR		
	comp=N,992nm,17.9s						
BJI				LR	LR		
	comp=E,988nm,16.5s						
BJI				LR	LR		
	comp=Z,1µm,17.4s						
BJI	**Beijing**	**36.66**	**319**	*e*P	**P**	**19 31 31.6**	**-0.7**
	comp=Z,24nm,1.3s,mb4.9						
BJI				sP	sP	19 31 52.2	-3.1
BJI				PP	PP	19 32 52.5	-5.8
BJI				S	**S**	**19 37 12.9**	**+2.5**
BJI				SS	SS	19 39 59.7	+20
BJI				LR	LR		
	comp=Z,1µm,17.4s						
ENH	**Enshi**	**37.47**	**301**	*e*P	**P**	**19 31 39.7**	**+0.5**
	comp=Z,57nm,1.2s,mb5.3						
FITZ	**Fitzroy Crossi**	**38.72**	**213**	⇑*i*P	**P**	**19 31 49.9**	**+0.2**
	comp=Z,16nm,0.9s,mb4.8						
FITZ	**Fitzroy Crossi**	**38.72**	**213**	P	**P**	**19 31 50.0**	**+0.3**
	comp=Z,21nm,0.9s,mb4.9,baz=25,slow=6.9,SNR=22						
GYA	**Guiyang**	**39.08**	**294**	⇑*i*P	**P**	**19 31 54.9**	**+2.3**
GYA				AP	pP	19 32 10.8	+2.6
GYA				XP	sP	19 32 16.3	+0.7
GYA				PP	PP	19 33 29.3	+2.4
GYA				S	**S**	**19 37 48.9**	**+1.6**
GYA				XS		19 38 12.8	
GYA				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.8						
GYA				AMB	AMB		
	comp=Z,130nm,7.2s						
GYA				LR	LR		
	comp=N,440nm,16.5s						
GYA				LR	LR		
	comp=E,460nm,16.5s						
GYA				LR	LR		
	comp=Z,620nm,15.6s						
XAN	**Xi’an**	**39.09**	**306**	P	**P**	**19 31 53.0**	**+0.4**
PET	**Petropavlovsk**	**39.30**	**11**	*e*P	**P**	**19 31 53.2**	**-1.0**
PET				*e*S	**S**	**19 37 51.2**	**+0.8**

PET				smax			
	comp=E,619nm,13.9s						
PET				smax			
	comp=N,271nm,14.7s						
PET				MLR	MLR		
	comp=Z,649nm,16.0s						
HHC	**Hu-ho-hao-te**	**40.06**	**317**	*e*P	**P**	**19 32 01.4**	**+0.8**
HHC				AP	pP	19 32 16.8	+0.5
HHC				PP	PP	19 33 36.4	-0.8
HHC				PCP	PcP	19 34 06.3	+1.2
HHC				SCP		19 37 45.9	
HHC				S	**S**	**19 38 00.5**	**-1.4**
HHC				SS	SS	19 40 56.8	+1.3
HHC				SCS	ScS	19 41 55.5	-3.9
HHC				AMB	AMB		
	comp=Z,25nm,1.1s,mb4.9						
HHC				AMB	AMB		
	comp=Z,247nm,4.2s						
HHC				LR	LR		
	comp=N,151nm,20.8s						
HHC				LR	LR		
	comp=E,395nm,19.0s						
HHC				LR	LR		
	comp=Z,276nm,19.0s						
ASAR	**Alice Springs**	**40.22**	**198**	P	**P**	**19 32 01.8**	**-0.3**
	comp=Z,5.3nm,0.8s,mb4.3,baz=22,slow=8.8,SNR=38						
ASAR				LR	LR	19 50 14.2	
	comp=Z,503nm,19.6s,baz=17,slow=38						
ASPA	**Alice Springs**	**40.22**	**198**	*e*P	**P**	**19 32 01.7**	**-0.4**
HIA	**Hailar**	**40.85**	**333**	*e*P	**P**	**19 32 06.1**	**-0.9**
	comp=Z,21nm,1.1s,mb4.7						
BTO	**Baotou**	**40.97**	**316**	*e*P	**P**	**19 32 08.5**	**+0.4**
KKTK	**Khon Kaen**	**42.24**	**278**	P	**P**	**19 32 20.5**	**+1.6**
CD2	**Chengdu**	**42.41**	**300**	P	**P**	**19 32 20.6**	**+0.4**
KMI	**Kunming**	**42.41**	**291**⇑	*i*P	**P**	**19 32 22.0**	**+1.8**
KMI				AP	pP	19 32 34.3	-1.6
KMI				XP	sP	19 32 44.4	+1.2
KMI				PP	PP	19 34 00.8	-1.2
KMI				PCS		19 38 07.8	
KMI				S	**S**	**19 38 35.3**	**-1.7**
KMI				XS		19 39 00.3	
KMI				SCS	ScS	19 42 14.6	+0.8
KMI				AMB	AMB		
	comp=Z,10.0nm,1.5s,mb4.2						
KMI				AMB	AMB		
	comp=Z,178nm,5.5s						
KMI				LR	LR		
	comp=N,491nm,18.7s						
KMI				LR	LR		
	comp=E,602nm,20.5s						
KMI				LR	LR		
	comp=Z,668nm,18.1s						
KMI	**Kunming**	**42.41**	**291**⇑	*i*P	**P**	**19 32 22.0**	**+1.8**
	comp=Z,10.0nm,1.5s,mb4.2						
KMI				pP	pP	19 32 34.3	-1.6
KMI				sP	sP	19 32 44.4	+1.2
KMI				PP	PP	19 34 00.7	-1.3
KMI				PcS		19 38 07.8	
KMI				S	**S**	**19 38 35.3**	**-1.7**
KMI				sS		19 39 00.2	
KMI				SS	SS	19 41 38.3	-3.3
KMI				ScS	ScS	19 42 14.6	+0.8
KMI				LR	LR		
	comp=Z,670nm,18.1s						
FX1	**Attu Island--F**	**43.40**	**23**	P	**P**	**19 32 32.2**	**+4.3**
LZH	**Lanzhou**	**43.69**	**307**	*e*P	**P**	**19 32 31.3**	**+0.8**
LZH				AP	pP	19 32 47.8	+1.6
LZH				PP	PP	19 34 12.0	-2.6
LZH				S	**S**	**19 39 01.0**	**+5.6**
LZH				AMB	AMB		
	comp=Z,70nm,1.0s,mb5.3						
LZH				LR	LR		
	comp=N,2µm,16.0s						
LZH				LR	LR		
	comp=Z,2µm,17.2s						
LZH	**Lanzhou**	**43.69**	**307**	*e*P	**P**	**19 32 31.2**	**+0.7**
	comp=Z,70nm,1.0s,mb5.3						
LZH				pP	pP	19 32 47.7	+1.5
LZH				sP	sP	19 32 56.0	+2.6
LZH				PP	PP	19 34 12.0	-2.6
LZH				S	**S**	**19 39 01.0**	**+5.6**
LZH				sS		19 39 28.0	
LZH				SS	SS	19 42 12.0	+7.6
LZH				LR	LR		
	comp=Z,2µm,17.2s						
NANT	**Nan**	**44.13**	**282**	P	**P**	**19 32 35.0**	**+0.8**
MBWA	**Marble Bar**	**44.47**	**217**	*e*P	**P**	**19 32 36.4**	**-0.6**
	comp=Z,18nm,1.0s,mb4.7						
MA2	**Magadan**	**44.81**	**3**	*e*P	**P**	**19 32 40.4**	**+1.3**
MA2				*e*		19 34 31.4	
MA2				*e*S	**S**	**19 39 15.0**	**+3.7**
MA2				*e*SS	SS	19 42 31.6	+7.0
MA2				pmax	pmax		
	comp=Z,20nm,0.9s,mb5.0						
MA2				MLR	MLR		
	comp=Z,410nm,20.0s						
MA2	**Magadan**	**44.81**	**3**	*e*P	**P**	**19 32 35.8**	**-3.4**
	comp=Z,23nm,0.8s,mb5.0						
CHG	**Chiang Mai**	**45.79**	**282**	P	**P**	**19 32 48.3**	**+0.8**
CM31	**Chiang Mai Arr**	**45.81**	**281**	*e*P	**P**	**19 32 48.7**	**+1.1**
	comp=Z,26nm,1.1s,mb5.1						
CM31				*e*	pP	19 33 03.3	-0.1
CMAR	**Chiang Mai Arr**	**45.81**	**281**	P	**P**	**19 32 49.0**	**+1.3**
	comp=Z,9.1nm,0.9s,mb4.7,baz=79,slow=6.3,SNR=39						
CMAR				PcP	PcP	19 34 27.4	+2.7
	comp=Z,1.7nm,0.8s,baz=93,slow=2.6,SNR=4.2						
CMAR				LR	LR	19 53 05.9	
	comp=Z,447nm,18.1s,baz=276,slow=38						
CMAR	**Chiang Mai Arr**	**45.81**	**281**	P	**P**	**19 32 49.0**	**+1.4**
CMAR						19 34 27.4	
CMAR				pmax	pmax		
	comp=Z,9.0nm,0.9s						
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
CMAR				MLR	MLR		
	comp=Z,447nm,18.2s						
BDT	**Bhumibol Dam**	**45.82**	**280**	P	**P**	**19 32 48.0**	**+0.2**
STKA	**Stephens Creek**	**46.66**	**186**	*e*P	**P**	**19 32 52.9**	**-1.3**
	comp=Z,3.6nm,0.7s,mb4.4						
STKA	**Stephens Creek**	**46.66**	**186**	P	**P**	**19 32 55.5**	**+1.4**
	comp=Z,1.7nm,0.5s,mb4.3,baz=24,slow=14,SNR=4.0						
STKA				LR	LR	19 52 49.0	
	comp=Z,437nm,18.4s,baz=5.9,slow=36						
STKA	**Stephens Creek**	**46.66**	**186**	*e*P	**P**	**19 32 52.9**	**-1.3**
SONM	**Songino Array**	**46.81**	**323**	P	**P**	**19 32 55.0**	**-0.1**
	comp=Z,9.5nm,0.5s,mb5.0,baz=136,slow=6.8,SNR=61						
SONM				PcP	PcP	19 34 27.9	+0.1
	comp=Z,4.2nm,1.0s,baz=135,slow=5.2,SNR=3.6						
SONM				ScP		19 38 19.3	
	comp=Z,1.5nm,1.2s,baz=108,slow=4.6,SNR=3.0						
GTA	**Gaotai**	**47.73**	**310**	*e*P	**P**	**19 33 03.4**	**+0.9**
GTA				AP	pP	19 33 18.6	+0.2
GTA				XP	sP	19 33 25.9	+0.4
GTA				PCP	PcP	19 34 33.3	+2.0
GTA				PP	PP	19 34 55.3	+1.3
GTA				PPP	PPP	19 35 45.1	+0.4
GTA				S	**S**	**19 39 54.9**	**+1.8**
GTA				SCS	ScS	19 42 48.3	+0.9
GTA				SS	SS	19 43 17.5	+1.1
GTA				AMB	AMB		
	comp=Z,7.0nm,1.2s,mb4.6						
GTA				AMB	AMB		
	comp=Z,155nm,8.5s						
GTA				LR	LR		
	comp=N,189nm,18.3s						
GTA				LR	LR		
	comp=E,300nm,17.5s						
GTA				LR	LR		
	comp=Z,412nm,16.4s						
SEY	**Seymchan**	**48.25**	**3**	*e*P	**P**	**19 33 06.7**	**+0.5**
SEY				*e*		19 34 59.4	
SEY				*e*PPP	PPP	19 35 42.7	-8.3
SEY				*e*S	**S**	**19 40 04.7**	**+4.7**
SEY						19 42 53.1	
SEY				*e*SSS	SSS	19 44 50.5	+4.8
SEY				pmax	pmax		
	comp=Z,100nm,1.1s,mb5.8						
SEY				pmax	pmax		
	comp=N,30nm,1.0s						
SEY				pmax	pmax		
	comp=E,10.0nm,0.9s						
SEY				smax			
	comp=N,400nm,7.5s						
SEY				smax			
	comp=E,2µm,10.8s						
SEY				MLR	MLR		
	comp=Z,2µm,21.0s						
SEY				MLR	MLR		
	comp=N,980nm,20.0s						
SEY				MLR	MLR		
	comp=E,910nm,19.0s						
YAK	**Yakutsk**	**48.72**	**349**	*e*P	**P**	**19 33 07.4**	**-2.4**
YAK				*e*S	**S**	**19 40 06.3**	**-0.3**
YAK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
YAK				smax			
	comp=E,72nm,16.6s						
YAK				smax			
	comp=N,59nm,26.3s						
YAK				MLR	MLR		
	comp=Z,314nm,17.0s						
YAK				MLR	MLR		
	comp=N,150nm,15.0s						
YAK				MLR	MLR		
	comp=E,135nm,15.0s						
YAK	**Yakutsk**	**48.72**	**349**	*e*P	**P**	**19 33 07.4**	**-2.4**
	comp=E,28nm,0.8s,mb5.3						
FORT	**Forrest**	**48.73**	**201**⇑	*i*P	**P**	**19 33 10.1**	**-0.2**
	comp=E,70nm,0.7s,mb5.8						
BOD	**Bodaibo**	**49.46**	**338**	*e*P	**P**	**19 33 12.4**	**-3.2**
TOO	**Toolangi**	**52.09**	**181**	*e*P	**P**	**19 33 35.5**	**-0.3**
	comp=E,11nm,1.1s,mb4.7						
SHL	**Shillong**	**52.25**	**291**	*e*P	**P**	**19 33 38.0**	**+0.9**
LSA	**Lhasa**	**53.05**	**296**	P	**P**	**19 33 45.8**	**+2.7**
KLBR	**Kellerberrin**	**53.84**	**211**	*e*P	**P**	**19 33 47.8**	**-1.1**
	comp=E,10nm,0.9s,mb4.8						
MUN	**Mundaring**	**54.92**	**212**	*e*P	**P**	**19 33 56.1**	**-0.7**
	comp=E,11nm,1.2s,mb4.8						
NWAO	**Narrogin (SRO)**	**55.18**	**210**	*e*P	**P**	**19 33 59.4**	**+0.7**
	comp=E,17nm,1.0s,mb5.0						
WMQ	**Urumqi**	**57.62**	**313**	P	**P**	**19 34 15.8**	**-0.1**
WMQ				AP	pP	19 34 31.8	-0.5
WMQ				XP	sP	19 34 38.8	-0.5
WMQ				PP	PP	19 36 25.6	-0.1
WMQ				*e*S	**S**	**19 42 06.8**	**-0.7**
WMQ				SS	SS	19 45 58.3	-1.5
WMQ				AMB	AMB		
	comp=Z,20nm,1.2s,mb5.0						
WMQ				AMB	AMB		
	comp=Z,62nm,10.0s						
WMQ				LR	LR		
	comp=N,164nm,16.0s						
WMQ				LR	LR		
	comp=E,254nm,19.2s						
WMQ				LR	LR		
	comp=Z,391nm,18.4s						
TIXI	**Tiksi**	**57.84**	**353**	*e*P	**P**	**19 34 16.5**	**-0.6**
TIXI				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.9						
TIXI				MLR	MLR		
	comp=Z,400nm,17.0s						
PKI	**Pulchoki**	**58.04**	**293**	*e*P	**P**	**19 34 19.1**	**0.0**
	comp=Z,38nm,0.8s,mb5.5						
KKN	**Kakani**	**58.16**	**294**	*e*P	**P**	**19 34 19.8**	**-0.1**
	comp=Z,72nm,1.1s,mb5.6						
DMN	**Daman**	**58.31**	**293**	*e*P	**P**	**19 34 21.0**	**0.0**
	comp=Z,46nm,0.7s,mb5.6						
GKN	**Gorkha**	**58.72**	**294**	*e*P	**P**	**19 34 23.8**	**0.0**
	comp=Z,180nm,1.2s,mb6.0						
KOLN	**Koldanda**	**59.64**	**294**	*e*P	**P**	**19 34 29.9**	**-0.3**
	comp=Z,49nm,0.9s,mb5.5						
ZAL	**Zalesovo**	**61.71**	**324**	P	**P**	**19 34 42.2**	**-1.6**
	comp=Z,2.0nm,0.7s,mb4.4,baz=234,slow=6.5,SNR=7.5						
ZAL				LR	LR	20 01 38.6	
	comp=Z,534nm,19.6s,baz=279,slow=36						
ZAL	**Zalesovo**	**61.71**	**324**	P	**P**	**19 34 42.2**	**-1.6**
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ZAL				MLR	MLR		
	comp=Z,534nm,19.6s						
MKAR	**Makanchi Array**	**61.88**	**315**	P	**P**	**19 34 45.0**	**-0.1**
	comp=Z,14nm,0.7s,mb5.2,baz=92,slow=8.4,SNR=106						
MKAR				PcP	PcP	19 35 24.6	-0.5
	comp=Z,6.5nm,0.7s,baz=84,slow=11,SNR=3.9						
MKAR				LR	LR	20 00 48.7	
	comp=Z,197nm,20.1s,baz=288,slow=35						
MKAR	**Makanchi Array**	**61.88**	**315**	P	**P**	**19 34 45.0**	**0.0**
MKAR						19 35 24.6	
MKAR				pmax	pmax		
	comp=Z,14nm,0.7s						
MKAR				pmax	pmax		
	comp=Z,7.0nm,0.7s						
MKAR				MLR	MLR		
	comp=Z,197nm,20.1s						
NVS	**Novosibirsk**	**62.81**	**324**	*e*P	**P**	**19 34 48.9**	**-2.3**
NVS				pmax	pmax		
	comp=N,7.0nm,1.1s						
NVS				pmax	pmax		
	comp=E,16nm,1.1s						
NVS				pmax	pmax		
	comp=Z,25nm,1.1s,mb5.3						
JOSI	**Joshimath**	**63.10**	**297**	*e*P	**P**	**19 34 54.4**	**+1.0**
RAR	**Rarotonga**	**63.56**	**123**	LR	LR	20 00 26.4	
	comp=Z,407nm,19.2s,baz=123,slow=34						
KLP	**Kalpa**	**64.19**	**298**	*e*P	**P**	**19 35 01.4**	**+0.8**
KLP				*e*		19 35 03.2	
	comp=Z,8.2nm,0.3s						
AGRA	**Agra**	**64.69**	**293**	*e*P	**P**	**19 35 02.5**	**-1.5**
ASOR	**Ausora**	**64.74**	**295**	*e*P	**P**	**19 35 04.3**	**+0.1**
ASOR				*e*		19 35 05.2	
	comp=Z,300nm,0.2s						
KURK	**Kurchatov**	**64.83**	**319***c*	*i*P	**P**	**19 35 03.5**	**-0.9**
KURK	**Kurchatov**	**64.83**	**319**	*e*P	**P**	**19 35 03.0**	**-1.4**
	comp=Z,96nm,1.2s,mb5.7						
PMR	**Palmer**	**64.89**	**28**	*e*P	**P**	**19 35 04.2**	**-0.4**
	comp=Z,17nm,1.1s,mb5.0						
HYB	**Hyderabad**	**65.22**	**283**	*i* P	**P**	**19 35 08.0**	**+0.6**
HYB	**Hyderabad**	**65.22**	**283**	*e*P	**P**	**19 35 08.0**	**+0.6**
NDI	**New Delhi**	**65.23**	**295**	*e*P	**P**	**19 35 08.0**	**+0.6**
AYAN	**Aya Nagar**	**65.32**	**295**	*e*P	**P**	**19 35 06.7**	**-1.3**
AYAN				*e*		19 35 12.2	
	comp=Z,15nm,1.6s						
SONA	**Sohna**	**65.38**	**295**	*e*P	**P**	**19 35 07.6**	**-0.7**
SONA				*e*		19 35 10.1	
	comp=Z,6.9nm,0.3s						
BHPL	**Bhopal**	**65.52**	**289**	*e*P	**P**	**19 35 08.8**	**-0.5**
BHPL				*e*		19 35 09.2	
	comp=Z,11nm,0.6s						
MCK	**McKinley**	**65.58**	**26**	P	**P**	**19 35 13.0**	**+4.0**
	comp=Z,16nm,1.3s,mb4.9						
RTK	**Rohtak**	**65.91**	**295**	*e*P	**P**	**19 35 11.1**	**-0.6**
RTK				*e*		19 35 16.6	
	comp=Z,26nm,1.5s						
KSH	**Kashi**	**65.94**	**307**	*e*P	**P**	**19 35 12.1**	**+0.4**
KSH				*e*AP	pP	19 35 28.0	-0.4
KSH				*e*XP	sP	19 35 36.0	+0.8
KSH				*e*PP	PP	19 37 38.0	-1.7
KSH				*e*PPP	PPP	19 39 15.0	+0.2
KSH				*e*PCS		19 39 46.1	
KSH				*e*S	S	19 43 51.8	-1.0
KSH				*e*XS		19 44 22.0	
KSH				*e*PS	PS	19 44 29.0	+5.7
KSH				*e*SCS	ScS	19 44 57.0	-1.4
KSH				*e*SS	SS	19 48 08.0	-2.1
KSH				AMB	AMB		
	comp=Z,70nm,1.4s,mb5.5						
KSH				AMB	AMB		
	comp=Z,100nm,6.4s						
KSH				LR	LR		
	comp=N,280nm,6.5s						
KSH				LR	LR		
	comp=E,240nm,6.2s						
TKM2	**Tokmak 2**	**66.28**	**311**	P	**P**	**19 35 14.2**	**+0.3**
	SNR=8.2						
KHET	**Khetri**	**66.51**	**294**	*e*P	**P**	**19 35 15.3**	**-0.2**
KHET				*e*		19 35 16.8	
	comp=Z,10.0nm,0.4s						
KZA	**Kyzart**	**66.52**	**310**	P	**P**	**19 35 16.9**	**+1.5**
	SNR=12						
ILAR	**Eielson Array**	**66.73**	**25**	P	**P**	**19 35 14.9**	**-1.3**
	comp=Z,6.0nm,1.1s,mb4.6,baz=259,slow=4.9,SNR=22						
ILAR	**Eielson Array**	**66.73**	**25**	P	**P**	**19 35 14.9**	**-1.4**
ILAR				pmax	pmax		
	comp=Z,6.0nm,1.1s						
KBK	**Karagaybulak**	**66.75**	**310**	P	**P**	**19 35 17.6**	**+0.8**
	SNR=5.2						
UCH	**Uchtor**	**67.07**	**310**	P	**P**	**19 35 20.0**	**+1.2**
	SNR=10						
AAK	**Ala-Archa**	**67.09**	**310**	*e*P	**P**	**19 35 17.7**	**-1.2**
AAK	**Ala-Archa**	**67.09**	**310**	*e*P	**P**	**19 35 17.2**	**-1.7**
	comp=Z,6.6nm,1.0s,mb4.6						
EKS2	**Erkin-Say**	**67.62**	**310**	P	**P**	**19 35 22.4**	**+0.2**
	SNR=5.6						
AML	**Almayashu**	**67.68**	**310**	P	**P**	**19 35 23.7**	**+1.1**
	SNR=12						
VOSK	**Vostochnaya**	**69.73**	**321**	P	**P**	**19 35 33.8**	**-1.3**
VOSK				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.6						
DAWY	**Dawson**	**69.77**	**27**	*e*P	**P**	**19 35 34.7**	**-0.5**
BVA0	**Borovoye Array**	**70.10**	**321**	P	**P**	**19 35 36.6**	**-0.7**
BRVK	**Borovoye**	**70.16**	**321**	*e*P	**P**	**19 35 36.9**	**-0.8**
	comp=Z,13nm,0.7s,mb5.0						
ZRNK	**Zerenda**	**70.93**	**321**	P	**P**	**19 35 41.7**	**-0.7**
ZRNK				pmax	pmax		
	comp=Z,30nm,1.4s,mb5.0						
ZRNK	**Zerenda**	**70.93**	**321**	*e*P	**P**	**19 35 41.0**	**-1.3**
	comp=Z,54nm,1.4s,mb5.3						
JASL	**Jaisalmer**	**70.97**	**294**	*e*P	**P**	**19 35 43.0**	**0.0**
INK	**Inuvik**	**72.58**	**23**	P	**P**	**19 35 50.9**	**-1.0**
	comp=Z,9.6nm,1.1s,mb4.6,baz=236,slow=7.3,SNR=5.2						
INK	**Inuvik**	**72.58**	**23**	P	**P**	**19 35 50.9**	**-1.0**
INK				pmax	pmax		
	comp=Z,10.0nm,1.1s						
INK	**Inuvik**	**72.58**	**23**	*e*P	**P**	**19 35 49.4**	**-2.5**
	comp=Z,9.1nm,0.9s,mb4.7						
DLBC	**Dease Lake**	**74.02**	**33**	*e*P	**P**	**19 35 58.8**	**-1.7**
SVE	**Sverdlovsk**	**75.62**	**326**⇑	*e*P	**P**	**19 36 09.0**	**-0.7**
SVE				*e*		19 45 49.0	
SVE				pmax	pmax		
	comp=Z,80nm,2.5s,mb5.2						
SVE				MLR	MLR		
	comp=N,200nm,16.0s						
SVE				MLR	MLR		
	comp=E,600nm,16.0s						
SVE				MLR	MLR		
	comp=Z,600nm,16.0s						
ARU	**Arti**	**76.80**	**325**⇑	*i*P	**P**	**19 36 15.5**	**-0.9**
ARU				*e*		19 36 25.7	
ARU				*e*		19 39 09.0	
ARU				*e*PPP	PPP	19 40 58.2	-0.9
ARU				*e*S	S	19 46 00.9	+3.5
ARU				*e*		19 46 26.6	
ARU				*e*SS	SS	19 50 59.9	+2.5
ARU				pmax	pmax		
	comp=Z,23nm,1.5s,mb4.9						
ARU				MLR	MLR		
	comp=Z,200nm,18.0s						
ARU				MLR	MLR		
	comp=N,100nm,17.0s						
ARU				MLR	MLR		
	comp=E,100nm,17.0s						
ARU	**Arti**	**76.80**	**325**	*e*P	**P**	**19 36 15.4**	**-1.0**
	comp=E,25nm,1.2s,mb5.0						
GNW	**Green Mountain**	**79.56**	**44**	*e*P	**P**	**19 36 31.8**	**0.0**
KHMM	**Horse Mountain**	**80.16**	**50**	*e*P	**P**	**19 36 33.9**	**-1.2**
SHW	**Mount Saint He**	**80.21**	**45**	*e*P	**P**	**19 36 38.8**	**+3.5**
YBH	**Yreka Blue Hor**	**80.75**	**49**	P	**P**	**19 36 40.1**	**+1.9**
	comp=E,8.7nm,1.1s,mb4.6,baz=143,slow=0.3,SNR=9.7						
YBH	**Yreka Blue Hor**	**80.75**	**49**	P	**P**	**19 36 40.1**	**+1.9**
YBH				pmax	pmax		
	comp=Z,9.0nm,1.1s						
YBH	**Yreka Blue Hor**	**80.75**	**49**	*e*P	**P**	**19 36 39.9**	**+1.7**
	comp=Z,12nm,1.2s,mb4.7						
YKW3	**Yellowknife Ar**	**80.96**	**28**	*e*P	**P**	**19 36 39.2**	**+0.3**
YKA	**Yellowknife Ar**	**80.98**	**28**	P	**P**	**19 36 40.6**	**+1.6**
	comp=Z,3.2nm,0.8s,mb4.3,baz=290,slow=5.9,SNR=4.3						
YKA				LR	LR	20 12 24.2	
	comp=Z,279nm,18.7s,baz=230,slow=36						
YKA	**Yellowknife Ar**	**80.98**	**28**	P	**P**	**19 36 40.6**	**+1.6**
YKA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
YKA				MLR	MLR		
	comp=Z,279nm,18.7s						
NLW	**Nelson Butte**	**81.10**	**43**	*e*P	**P**	**19 36 39.0**	**-1.0**
VGB	**Gordon Butte**	**81.35**	**45**	*e*P	**P**	**19 36 43.1**	**+1.9**
OHCM	**Honcut**	**82.16**	**51**	*e*P	**P**	**19 36 47.0**	**+1.3**
MOD	**Modoc**	**82.47**	**49**	*e*P	**P**	**19 36 47.9**	**+0.8**
	comp=Z,17nm,1.2s,mb4.9						
DPW	**Davenport**	**82.55**	**43**	*e*P	**P**	**19 36 47.3**	**-0.1**
LNOR	**Lincton Mounta**	**82.97**	**45**	*e*P	**P**	**19 36 50.9**	**+1.3**
NEW	**Newport**	**83.16**	**42**	P	**P**	**19 36 52.7**	**+2.2**
	comp=Z,6.3nm,1.0s,mb4.6,baz=245,slow=2.8,SNR=5.2						
NEW	**Newport**	**83.16**	**42**	P	**P**	**19 36 52.7**	**+2.2**
NEW				LR	LR		
	comp=Z,315nm,20.0s						
CMB	**Columbia Colle**	**83.29**	**53**	*e*P	**P**	**19 36 52.8**	**+1.4**
	comp=Z,11nm,1.1s,mb4.8						
WVOR	**Wild Horse Val**	**83.55**	**48**	*e*P	**P**	**19 36 54.2**	**+1.6**
	comp=Z,16nm,1.2s,mb5.0						
NVAR	**Mina Array Bea**	**84.79**	**52**	P	**P**	**19 37 00.6**	**+1.7**
	comp=Z,2.1nm,0.8s,mb4.3,baz=271,slow=3.8,SNR=14						
TPH	**Tonopah**	**85.70**	**52**	*e*P	**P**	**19 37 05.5**	**+2.1**
	comp=Z,6.4nm,1.0s,mb4.8						
KEV	**Kevo**	**85.93**	**342**	*e*p	**P**	**19 37 02.6**	**-1.2**
CHMT	**Chamberlain Mo**	**86.04**	**43**	*e*P	**P**	**19 37 04.3**	**-0.6**
HLID	**Hailey**	**86.24**	**46**	*e*P	**P**	**19 37 06.1**	**+0.1**
	comp=Z,8.7nm,1.2s,mb4.9						
ELK	**Elko**	**86.45**	**49**	*e*P	**P**	**19 37 06.5**	**-0.6**
	comp=Z,12nm,1.1s,mb5.0						
ARCES	**ARCESS Array B**	**86.49**	**342**	P	**P**	**19 37 06.1**	**-0.4**
	comp=Z,14nm,1.0s,mb5.2,baz=82,slow=8.6,SNR=7.8						
ARCES				LR	LR	20 20 58.5	
	comp=Z,484nm,18.3s,baz=36,slow=39						
ARCES	**ARCESS Array B**	**86.49**	**342**	P	**P**	**19 37 06.1**	**-0.4**
ARCES				pmax	pmax		
	comp=Z,14nm,1.0s						
ARCES				MLR	MLR		
	comp=Z,485nm,18.3s						
TPNV	**Topopah Spring**	**86.75**	**53**	*e*P	**P**	**19 37 08.4**	**-0.2**
	comp=Z,7.0nm,1.1s,mb4.8						
MCMT	**McKenzie Canyo**	**86.94**	**44**	*e*P	**P**	**19 37 08.8**	**-0.5**
QLMT	**Earthquake Lak**	**87.90**	**44**	*e*P	**P**	**19 37 14.0**	**0.0**
DUG	**Dugway**	**88.38**	**49**	*e*P	**P**	**19 37 17.3**	**+0.9**
	comp=Z,13nm,1.1s,mb5.1						
IMW	**Indian Meadow**	**88.53**	**45**	*e*P	**P**	**19 37 17.3**	**+0.3**
ARUT	**Antelope Range**	**88.65**	**51**	*e*P	**P**	**19 37 18.1**	**+0.4**
HWUT	**Hardware Ranch**	**88.84**	**47**	*e*P	**P**	**19 37 17.9**	**-0.6**
	comp=Z,9.1nm,1.0s,mb5.1						
NLU	**North Lily Min**	**89.00**	**49**	*e*P	**P**	**19 37 19.1**	**-0.2**
OBN	**Obninsk**	**89.06**	**327**	*e*P	**P**	**19 37 17.7**	**-1.5**
OBN				pmax	pmax		
	comp=Z,15nm,0.9s,mb5.3						
OBN				MLR	MLR		
	comp=Z,600nm,18.0s						
OBN	**Obninsk**	**89.06**	**327**	P	**P**	**19 37 16.7**	**-2.5**
	comp=Z,23nm,1.1s,mb5.4						
ZEI	**Tsey**	**89.21**	**314**	*e*P	**P**	**19 37 19.0**	**-1.2**
ZEI				*i* S	S	19 48 04.0	+1.6
ZEI				pmax	pmax		
	comp=Z,50nm,6.0s						
MSU	**Marysvale**	**89.37**	**50**	*e*P	**P**	**19 37 22.6**	**+1.5**
KIV	**Kislovodsk**	**89.64**	**316**	*e*P	**P**	**19 37 21.7**	**-0.5**
KIV				*e*		19 47 49.7	
KIV				*e*SS	SS	19 54 10.2	+3.1
KIV				pmax	pmax		
	comp=Z,13nm,1.2s,mb5.1						
KIV	**Kislovodsk**	**89.64**	**316**	*e*P	**P**	**19 37 22.3**	**0.0**
	comp=Z,19nm,1.2s,mb5.3						
PDAR	**Pinedale Array**	**89.86**	**46**	P	**P**	**19 37 24.2**	**+0.9**
	comp=Z,1.0nm,0.8s,mb4.2,baz=315,slow=2.1,SNR=6.1						
PDAR				LR	LR	20 09 48.7	
	comp=Z,195nm,21.5s,baz=291,slow=30						
KAF	**Kangasniemi**	**90.36**	**336**	*e*p	**P**	**19 37 22.8**	**-2.3**
FINES	**FINESS Array B**	**90.82**	**336**	P	**P**	**19 37 26.0**	**-1.3**
	comp=Z,3.0nm,0.6s,mb4.8,baz=63,slow=4.3,SNR=21						
FINES				LR	LR	20 22 39.9	
	comp=Z,206nm,18.7s,baz=227,slow=38						
FINES	**FINESS Array B**	**90.82**	**336**	P	**P**	**19 37 26.0**	**-1.3**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.6s						
FINES				MLR	MLR		
	comp=Z,206nm,18.7s						
FINES	**FINESS Array B**	**90.82**	**336**	P	**P**	**19 37 26.0**	**-1.3**
FINES				LR	LR	20 22 39.9	
PV10	**Paradox Valley**	**91.74**	**50**	*e*P	**P**	**19 37 33.0**	**+0.9**
PV01	**Paradox Valley**	**92.17**	**50**	*e*P	**P**	**19 37 35.6**	**+1.4**
SUMG	**Summit**	**92.77**	**2**	*e*P	**P**	**19 37 38.8**	**+2.7**
	comp=Z,11nm,1.0s,mb5.2						
RW3	**Ridgway**	**92.78**	**49**	*e*P	**P**	**19 37 37.4**	**+0.4**
ANN	**Anapa**	**92.81**	**318**	*e*P	**P**	**19 37 33.6**	**-3.3**
ANN				pmax	pmax		
	comp=Z,30nm,0.8s,mb5.8						
SDCO	**Great Sand Dun**	**94.57**	**49**	PFAKE		19 38 00.0	+15
SDCO				LR	LR		
	comp=Z,491nm,20.0s						
ANMO	**Albuquerque**	**94.91**	**52**	PFAKE		19 38 00.0	+13

ANMO				LR	LR		
	comp=Z,319nm,20.0s						
AKASG	Malin Array Be	95.05	326	LR	LR	20 23 50.3	
	comp=Z,232nm,18.5s,baz=40,slow=38						
ULM	Lac du Bonnet	95.25	35	LR	LR	20 21 55.7	
	comp=Z,256nm,18.1s,slow=36						
NOA	NORSAR Array B	96.55	340	LR	LR	20 26 06.4	
	comp=Z,184nm,18.6s,baz=80,slow=38						
BRTR	Keskin Array B	97.51	314	P	P	19 37 58.4	-0.1
	comp=Z,3.6nm,1.1s,mb4.8,baz=117,slow=2.8,SNR=6.9						
BRTR				LR	LR	20 26 58.7	
	comp=Z,108nm,18.3s,baz=170,slow=38						
BRTR	Keskin Array B	97.51	314	P	P	19 37 58.4	0.0
BRTR				pmax	pmax		
	comp=Z,4.0nm,1.1s						
BRTR				MLR	MLR		
	comp=Z,108nm,18.3s						
TXAR	Lajitas Array	99.22	56	LR	LR	20 19 14.3	
	comp=Z,288nm,18.2s,baz=325,slow=33						
WMOK	Wichita Mounta	100.76	50	PFAKE		19 38 20.0	+6.7
WMOK				LR	LR		
	comp=Z,359nm,20.0s						
QSPA	South Pole Qui	104.62	180	eP	Pdif	19 38 30.0	+0.7
QSPA				LR	LR		
	comp=Z,330nm,18.4s						
MIAR	Mount Ida	104.64	48	PFAKE		19 38 40.0	+10
MIAR				LR	LR		
	comp=Z,454nm,21.0s						
ESLA	Sonseca Array	119.31	334	PFAKE		19 43 30.0	+18
ESLA				LR	LR		
	comp=Z,1µm,20.0s						
SNAA	Sanae	120.30	191	⇓i	PKPdf	19 43 23.0	+9.4
SNAA	Sanae	120.30	191	⇑i	PKPdf	19 43 26.9	+13
LSZ	Lusaka	120.80	261	ePKPdf	PKPdf	19 43 15.7	-0.1
VNA2	Neumayer--Watz	121.71	190	⇑i	PKPdf	19 43 31.7	+15
VNA3	Neumayer Olymp	121.78	189	⇑i	PKPdf	19 43 31.1	+15
VNA3	Neumayer Olymp	121.78	189	⇑i	PKPdf	19 43 34.3	+18
VNA1	Neumayer--Stat	122.09	190	⇑i	PKPdf	19 43 29.0	+12
SDV	Santo Domingo	136.14	60	PFAKE		19 44 00.0	+15
SDV				LR	LR		
	comp=Z,143nm,22.0s						
DBIC	Dimbokro	144.64	305	PKP	PKPdf	19 44 00.9	+0.5
	comp=Z,32nm,1.1s,baz=17,slow=4.1,SNR=16						
DBIC	Dimbokro	144.64	305	ePKPdf	PKPdf	19 44 00.9	+0.5
DBIC				LR	LR		
	comp=Z,158nm,19.0s						
KIC	Kosan Boka	144.74	305	eP	PKPbc	19 44 01.2	+0.6
	comp=Z,100nm,1.0s						
TIC	Toumodi	144.79	305	eP	PKPdf	19 44 02.9	+2.2
	comp=Z,153nm,1.1s						
LIC	Lamto	145.05	305	eP	PKPdf	19 44 01.8	+0.6
	comp=Z,189nm,1.3s						
LPAZ	La Paz	146.43	97	PKPbc	PKPbc	19 44 09.3	+4.6
	comp=Z,7.4nm,1.1s,baz=347,slow=5.6,SNR=14						
LPAZ	La Paz	146.43	97	PKP2	PKPab	19 44 09.3	+1.4
LPAZ				pmax	pmax		
	comp=Z,7.0nm,1.1s						
LPAZ	La Paz	146.43	97	ePKPdf	PKPdf	19 44 06.5	+3.1
SAML	Samuel	150.20	82	ePKPdf	PKPdf	19 44 11.4	+1.8
SAML				LR	LR		
	comp=Z,263nm,19.0s						
CPUP	Villa Florida	154.79	121	PKPbc	PKPdf	19 44 26.3	+11
	comp=Z,2.2nm,0.9s,baz=242,slow=2.9,SNR=2.8						
CPUP				PKPab	PKPab	19 44 39.4	-2.8
	comp=Z,2.5nm,0.9s,baz=290,slow=1.9,SNR=3.8						
CPUP	Villa Florida	154.79	121	PKIKP	PKPdf	19 44 26.3	+11
CPUP						19 44 39.4	
CPUP				pmax	pmax		
	comp=Z,2.0nm,0.9s						
CPUP				pmax	pmax		
	comp=Z,3.0nm,0.9s						

IDC 23 19:28:13.9±2.8, 15.07S×70.27W, h194^{km}±22^{km}, mb4.0/3, mb1 3.9/5, mb1mx3.5/17, Error ellipse: s-maj=91.8km s-min=33.8km az=38.0, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPAZ	La Paz	2.39	121	P	P	19 28 56.3	-0.3
	9.8nm,0.3s,baz=293,slow=10,SNR=135						
LPAZ				S	S	19 29 30.9	+1.3
	3.7nm,0.3s,baz=189,slow=22,SNR=18						
CPUP	Villa Florida	16.48	135	P	P	19 31 51.8	-3.8
	0.2nm,0.3s,baz=336,slow=12,SNR=4.1						
DBIC	Dimbokro	68.32	76	P	P	19 38 54.4	-2.1
	2.8nm,0.8s,baz=252,slow=9.6,SNR=3.8						
ULM	Lac du Bonnet	68.83	343	P	P	19 38 55.9	-3.1
	3.3nm,0.5s,baz=170,slow=4.8,SNR=4.3						
YKA	Yellowknife Ar	84.72	341	P	P	19 40 26.3	-0.5
	2.3nm,0.7s,baz=130,slow=5.1,SNR=4.2						
SONM	Songino Array	147.22	4	PKPbc	PKPdf	19 47 34.7	+3.3
	1.1nm,0.6s,baz=340,slow=4.1,SNR=9.2						

IDC 23 19:52:23.1±2.3, 16.95S×178.28W, mb4.2/4, mb1 4.4/4, mb1mx4.0/13, Error ellipse: s-maj=155.0km s-min=29.2km az=149.0

ISC 23 19:52:34.5±2.2, 16.8S±0.9×178.5W±0.6, h100^{km}, n6, σ0^{s}37/6, mb4.0/4, 1C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	39.08	240	P	P	19 59 53.6	+0.2
	2.7nm,0.7s,mb4.2,baz=82,slow=7.7,SNR=6.9						
WB2	Warramunga Arr	44.73	258	eP	P	20 00 40.1	+0.3
WRA	Warramunga Arr	44.74	258	P	P	20 00 40.0	+0.2
	1.4nm,0.6s,mb3.9,baz=95,slow=7.1,SNR=40						
ASAR	Alice Springs	45.00	253	P	P	20 00 41.5	-0.4
	7.1nm,0.5s,mb4.7,baz=88,slow=8.5,SNR=192						
ASPA	Alice Springs	45.00	253	⇑iP	P	20 00 41.6	-0.3
NVAR	Mina Array Bea	78.71	44	P	P	20 04 27.6	0.0
	0.4nm,0.6s,mb3.4,baz=216,slow=8.3,SNR=4.2						

CASC 23 20:07:32.3±2.3, 10.98N×86.96W, h18^{km}±9^{km}, MD4.0, ML3.4, 6C-4D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CRUN	El Crucero	1.19	33	eP	Pb	20 07 52.5	-1.5
COPN	Copaltepe	1.24	17	⇓eP	Pb	20 07 54.6	-0.3
COPN				eS	Sb	20 08 12.2	+1.7
TICN	Ticuantepe	1.27	34	eP	Pn	20 07 54.6	-0.7
TICN				eS	Sb	20 08 11.6	+0.5
MASN	Masaya	1.27	38	⇑eP	Pn	20 07 55.1	-0.3
MASN				eP		20 07 55.8	
APON	Apoyo	1.28	43	⇓eP	Pn	20 07 54.5	-0.9
XAVN	Gruta Xavier	1.31	28	⇓eP	Pn	20 07 55.3	-0.7
CRZC	La Cruz	1.34	91	eP	Pn	20 07 54.9	-1.5
CRZC				eS	Sb	20 08 15.5	+2.2
MGAN	Managua	1.35	31	⇑eP	Pn	20 07 55.7	-0.8
MGAN				eS	Sb	20 08 13.5	-0.1
MGAN				i		20 08 16.4	
	comp=E,698nm,0.5s						
WILN	Americas 2	1.39	33	eP	Pn	20 07 56.3	-0.8
LEON	Leon	1.43	3	⇑eP	Pn	20 07 57.5	-0.1
CONN	Concepcion	1.43	66	⇑eP	Pn	20 07 56.1	-1.6
MIRN	Miramar	1.47	10	⇓eP	Pn	20 07 57.9	-0.3
MIRN				eS	Sn	20 08 17.4	+0.3
MOMJ	Momotombo	1.48	16	eP	Pn	20 07 57.5	-0.8
CNGN	Cerro Negro	1.53	10	⇑eP	Pn	20 07 58.6	-0.5
CNGN				eS	Sn	20 08 20.4	+1.8
VCR	Vista de Mar	1.56	123	eP	Pn	20 07 58.2	-1.3
TELN	Telica	1.62	4	eP	Pn	20 08 00.2	-0.1
PYTN	Playitas	1.78	30	⇑eP	Pn	20 08 01.4	-1.3
PYTN				eS	Sn	20 08 24.5	-0.4
JCR	Jicaral	2.14	122	eP	Pn	20 08 06.5	-1.3
FORC	Fortuna	2.31	102	eP	Pn	20 08 07.8	-2.4
CGA2	Cerro Gallo 2	2.64	111	eP	Pn	20 08 14.5	-0.4
PRS1	Puriscal	2.79	111	eP	Pn	20 08 16.1	-1.0
LAJ	Bijagual	3.01	111	eP	Pn	20 08 16.0	-4.1
LCR2	La Lucha 2	3.16	113	eP	Pn	20 08 22.4	0.0
TRTC	Tortuguero	3.22	97	eP	Pn	20 08 20.7	-2.4
URSC	Urasca	3.33	110	eP	Pn	20 08 26.1	+1.3

LDG 23 20:15:49.2±0.4, 39.83N×6.43E, h20^{km}, Ml3.0/16, Error ellipse: s-maj=8.3km s-min=4.3km az=143.0

NEIC 23 20:15:49.2, 39.83N×6.43E, h20^{km}, ML3.0(LDG), After LDG.

MDD 23 20:15:47.2±1.7, 39.73N×6.51E, h29^{km}±31^{km}, mb3.8/3, Error ellipse: s-maj=22.1km s-min=7.9km az=144.0, PRXIMO, Western Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MAHO	Mahon	1.73	276	P	Pn	20 16 13.2	-2.7
MAHO				S	Sn	20 16 31.5	-5.8
PGF	Pioggiola	3.38	33	ePn	Pn	20 16 36.8	-2.6
PGF				eSn	Sn	20 17 13.0	-6.1
	20nm,0.3s						
LMR	La Mourre	3.60	0	ePn	Pn	20 16 40.3	-2.2
LMR				eSn	Sn	20 17 16.5	-8.0
	18nm,0.2s						
FRF	La Foret Royal	3.83	2	ePn	Pn	20 16 42.9	-2.8
FRF				eSn	Sn	20 17 22.2	-8.1
	20nm,0.3s						
EJON	La Jonquera	3.85	316	Pn	Pn	20 16 42.1	-4.0
	0.5nm,0.1s,SNR=7.0						
EJON				Sn	Sn	20 17 24.1	-6.8
	3.4nm,0.2s						
EIBI	Ibiza	4.06	262	Pn	Pn	20 16 47.8	-1.3
	0.5nm,0.1s,SNR=5.0						
EIBI				Sn	Sn	20 17 29.4	-6.9
	9.9nm,0.2s						
EIBI	Ibiza	4.06	262	Pn	Pn	20 16 47.8	-1.3
EIBI				Sn	Sn	20 17 29.4	-6.9
SBF	Sospel	4.18	9	ePn	Pn	20 16 48.1	-2.7
SBF				eSn	Sn	20 17 30.6	-8.8
	8.6nm,0.2s						
SMRF	Simiane la Rot	4.30	351	ePn	Pn	20 16 51.1	-1.3
SMRF				eSn	Sn	20 17 35.5	-6.7
	4.6nm,0.3s						
EMIR	Miracle	4.36	302	Pn	Pn	20 16 49.8	-3.5
	0.5nm,0.1s,SNR=5.6						
EMIR				Sn	Sn	20 17 38.7	-5.2
	11nm,0.3s,SNR=13						
EMIR	Miracle	4.36	302	Pn	Pn	20 16 49.8	-3.5
EMIR				Sn	Sn	20 17 38.7	-5.2
EPOB	Poblet	4.44	293	Pn	Pn	20 16 51.9	-2.6
	0.4nm,0.1s,SNR=7.3						
EPOB				Sn	Sn	20 17 38.3	-7.5
	4.8nm,0.2s,SNR=5.0						
LASF	Ste Croix	4.77	336	eSn	Sn	20 17 46.2	-7.9
	5.3nm,0.3s						
LASF	Ste Croix	4.77	336	Pn	Pn	20 16 55.9	-3.2
LASF				Sn	Sn	20 17 46.2	-7.9
	2.7nm,0.3s						
LASF	Ste Croix	4.77	336	ePn	Pn	20 16 55.9	-3.2
LASF				eSn	Sn	20 17 46.2	-7.9
MTLF	Montolieu	4.83	320	eSn	Sn	20 17 48.2	-7.5
	7.4nm,0.3s						
MTLF	Montolieu	4.83	320	Pn	Pn	20 16 55.9	-4.1
MTLF				Sn	Sn	20 17 48.2	-7.5
	3.7nm,0.3s						
MTLF	Montolieu	4.83	320	ePn	Pn	20 16 55.9	-4.1
MTLF				eSn	Sn	20 17 48.2	-7.5
MBDF	Montbardon	5.00	2	ePn	Pn	20 16 57.9	-4.4
MBDF				eSn	Sn	20 17 52.8	-7.0
	1.6nm,0.2s						
ORIF	Oris-en-Rattie	5.20	355	ePn	Pn	20 17 04.5	-0.7
ORIF				eSn	Sn	20 17 57.0	-8.0
	0.9nm,0.3s						
VIVF	Saint-Julien-l	5.30	346	ePn	Pn	20 17 03.6	-3.0
VIVF				eSn	Sn	20 17 58.3	-9.1
	1.7nm,0.2s						
EBEN	Beniarda	5.33	261	Sn	Sn	20 18 01.4	-6.8
	1.2nm,0.2s,SNR=4.0						
EMOS	Mosqueruela	5.39	279	Pn	Pn	20 17 05.1	-2.8
	0.4nm,0.1s,SNR=5.9						
EMOS				Sn	Sn	20 18 03.2	-6.6
	1.7nm,0.1s						
ESAC	San Caprasio	5.66	293	Sn	Sn	20 18 10.8	-5.6
	10nm,0.2s,SNR=4.0						
EPF	Esparros	5.69	307	ePn	Pn	20 17 09.5	-2.6
EPF				eSn	Sn	20 18 09.0	-8.2
	1.2nm,0.2s						
LPG	La Plagne	5.76	2	ePn	Pn	20 17 11.3	-1.8
LPL	La Plagne	5.78	2	ePn	Pn	20 17 11.8	-1.6
CAF	Calviac	6.14	329	ePn	Pn	20 17 15.5	-3.0
CAF				eSn	Sn	20 18 19.5	-9.1
	1.0nm,0.2s						
ETSF	Etsaut	6.19	303	ePn	Pn	20 17 15.5	-3.6
ETSF				eSn	Sn	20 18 20.9	-8.8
	1.8nm,0.3s						
ETOB	Tobarra	6.35	263	Sn	Sn	20 18 25.6	-8.1
	0.6nm,0.1s,SNR=4.0						
ETOR	Torete	6.64	282	Sn	Sn	20 18 35.0	-5.9
	SNR=4.0						
RJF	Les Rejaudoux	6.68	328	ePn	Pn	20 17 22.4	-3.6
RJF				eSn	Sn	20 18 31.7	-10
	1.6nm,0.2s						
SJPF	Ste Jean	6.72	303	eSn	Sn	20 18 33.7	-9.3
	1.3nm,0.2s						
LFF	La Frestale	6.73	322	ePn	Pn	20 17 23.6	-3.2
LFF				eSn	Sn	20 18 33.4	-10
	1.2nm,0.2s						
EALK	Alkurruntz	6.95	303	Pn	Pn	20 17 27.2	-2.7
	0.2nm,0.1s,SNR=5.0						
EALK				Sn	Sn	20 18 40.4	-8.4
	2.1nm,0.3s,SNR=5.0						
SMF	Signal de Mont	7.18	345	ePn	Pn	20 17 30.6	-2.4
TCF	Toulx Ste Croi	7.27	336	ePn	Pn	20 17 31.0	-3.3
BGF	Bois d'Agland	7.33	340	ePn	Pn	20 17 32.1	-3.0
AVF	Avril sur Loir	7.42	343	ePn	Pn	20 17 33.4	-3.0

ISK 23 21:30:55.7, 36.94N×27.92E, h15^{km}, MD3.2

ATH 23 21:30:55.5, 36.98N×28.00E, h25^{km}±8^{km}, MD3.1/5

NEIC 23 21:30:56.4, 36.94N×27.89E, h5^{km}, MD3.1(ATH), After ATH.

ISC 23 21:30:55.9±0.5, 36.91N±0.03×27.90E±0.03, h12^{km}±4^{km}, n23, σ0^{s}93/33, 2C, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YER	Yerkesik	0.38	53	i PG	Pg	21 31 03.0	-0.8
BDRM	Kayabasi	0.40	294	i P	Pg	21 31 04.2	+0.1
BDRM				i S	Sg	21 31 10.9	+1.3
MLSB	Milas	0.40	346	i PG	Pg	21 31 04.0	-0.2
MLSB				i SG	Sg	21 31 09.7	-0.1
DALT	Dalyan (Mudla)	0.61	103	i PG	Pg	21 31 07.4	-0.8
DALT				i SG	Sg	21 31 17.3	+0.9
NISR	Nisiros	0.68	245	ePN	Pn	21 31 10.5	-0.6
ARG	Arkhangelos	0.71	165	ePN	Pn	21 31 10.0	-1.5
ARG				eSN	Sn	21 31 22.4	+0.1
AYDN	Tasoluk	0.76	359	i P	Pb	21 31 10.2	-0.3
AYDN				i S	Sb	21 31 19.8	-0.6
SMG	Samos	1.17	314	ePN	Pn	21 31 18.2	+0.2
DNZL	Cakiroluk	1.21	49	⇑iP	Pb	21 31 18.1	0.0
DNZL				i S	Sb	21 31 35.0	+1.4
DENT	Denizli	1.24	46	ePN	Pn	21 31 18.8	-0.3
KARP	Karpathos	1.48	204	ePB	Pb	21 31 23.1	+0.2
KSL	Kastellorizon	1.55	119	ePb	Pb	21 31 26.7	+2.6
IZM	Izmir	1.57	341	i PN	Pn	21 31 23.3	-0.5
KDAG	Bornova	1.58	342	⇑P	Pn	21 31 23.3	-0.6
KDAG				S	Sb	21 31 44.2	-0.2
ELL	Elmali	1.62	95	ePN	Pn	21 31 24.7	+0.2
MANT	Manisa	1.67	18	i P	Pn	21 31 24.7	-0.5
MANT				i S	Sn	21 31 48.0	+1.4
APE	Apeiranthos	1.90	276	PN	Pn	21 31 28.8	+0.2
APE	Apeiranthos	1.90	276	ePN	Pn	21 31 30.5	+1.9
APE	Apeiranthos	1.90	276	ePg	Pg	21 31 31.0	-2.9
APE				eSg	Sg	21 32 00.6	+1.2
AKS	Akhisar	1.97	358	PN	Pn	21 31 28.6	-0.9
BCK	Bucak	2.22	75	ePN	Pn	21 31 32.8	-0.3
AYVA	Ayvalik	2.58	339	eP	Pn	21 31 43.5	+5.2
ULDT	Uludag	3.38	16	P	Pg	21 31 57.7	-5.6
ULDT				S	Sg	21 32 40.8	-7.6

NEIC 23 21:30:59.7, 39.25N×20.93E, h28^{km}, MD3.0(ATH), After ATH.

ATH 23 21:30:59.7, 39.25N×20.93E, h28^{km}±4^{km}, MD3.0/4

THE 23 21:31:00.6, 39.24N×20.86E, h10^{km}, ML2.7

ISC 23 21:30:59.7±0.8, 39.23N±0.03×20.84E±0.05, h8^{km}±7^{km}, n10, σ1^{s}29/18, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAN	Janina	0.42	1	ePB	Pb	21 31 08.0	-1.0
JAN				eSB	Sb	21 31 15.0	-0.3
LKD	Levkas	0.55	196	ePg	Pg	21 31 10.5	-0.2
LKD				eSg	Sg	21 31 20.1	+2.0
MEV	Metsovon	0.63	28	ePg	Pg	21 31 11.8	-0.5
EVR	Evrytania	0.81	112	ePN	Pn	21 31 15.0	-2.3
EVR				eSN	Sn	21 31 26.2	-3.4
KEK	Kerkira	0.94	301	ePN	Pn	21 31 19.5	+0.4
VLS	Valsamata	1.07	191	ePN	Pn	21 31 20.4	-0.6
VLS				eSN	Sn	21 31 36.4	+0.3
AGG	Agios Georgios	1.18	100	ePg	Pg	21 31 21.6	-1.6
AGG				eSg	Sg	21 31 39.7	+0.8
LIT	Litokhoron	1.54	55	ePb	Pb	21 31 27.5	-0.6
LIT				eSb	Sb	21 31 50.3	+2.6
FNA	Florina	1.60	15	ePb	Pb	21 31 29.5	+0.3
FNA				eSb	Sb	21 31 52.4	+3.0
XOR	Xorichti	1.83	85	ePb	Pb	21 31 32.7	-0.3
XOR				eSb	Sb	21 31 57.5	+1.5

GUC 23 21:33:26.6±1.0, 28.95S×71.39W, h36^{km}±6^{km}, MD4.1, ML4.2

ISC 23 21:33:25.9±2.5, 28.93S±0.07×71.5W±0.2, h18^{km}±13^{km}, n8, σ0^{s}47/12, 4C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VACH	Vallenar	0.72	61	⇓iP	Pb	21 33 39.6	0.0
VACH				i S	Sb	21 33 49.2	+0.1
VACH				AMP		21 33 51.9	
	comp=E,18µm,0.2s						
LSCH	La Serena	0.99	169	⇑iP	Pb	21 33 44.4	+0.1
LSCH				i S	Sb	21 33 56.9	+0.1
LSCH				AMP		21 33 57.9	
	comp=E,4µm,0.3s						
CPCH	Copiapo	1.85	32	⇓iP	Pn	21 33 56.4	-0.9
CPCH				i S	Sn	21 34 20.5	+0.1
CMCH	Combarbala	2.27	170	⇑iP	Pn	21 34 02.8	-0.4
CMCH				i S	Sn	21 34 30.2	-0.7
CMCH				AMP		21 34 42.6	
	comp=N,6µm,0.7s						
FCH	Farellones	4.50	167	eP	Pn	21 34 35.4	+0.5
VNA3	Neumayer Olymp	53.89	159		P	21 42 50.5	+0.6
VNA2	Neumayer--Watz	54.51	159	⇑i	P	21 42 54.9	+0.4
SNAA	Sanae	56.11	159	⇑i	P	21 43 01.0	-5.1

IDC 23 21:34:00.9±1.9, 5.85S×130.25E, mb3.9/1, mb1 3.9/4, mb1mx3.7/12, ML3.7/3, Error ellipse: s-maj=69.5km s-min=27.0km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	12.98	200	Pn	P	21 37 06.0	-3.4
	0.2nm,0.3s,baz=34,slow=3.4,SNR=12						
FITZ				Sn	S	21 39 14.1	-22
	0.9nm,0.3s,baz=160,slow=23,SNR=7.2						
WRA	Warramunga Arr	14.56	165	Pn	P	21 37 27.0	-3.3
	0.6nm,0.3s,baz=344,slow=14,SNR=21						
WRA				Sn	S	21 39 54.7	-19
	1.1nm,0.3s,baz=334,slow=21,SNR=14						
ASAR	Alice Springs	18.06	169	P	P	21 38 14.3	-0.7
	0.3nm,0.3s,baz=355,slow=10,SNR=12						
ASAR				S	S	21 41 19.3	-15
	0.2nm,0.3s,baz=342,slow=25,SNR=5.1						
MKAR	Makanchi Array	67.41	326	P	P	21 44 58.3	-2.1
	0.7nm,0.5s,baz=116,slow=7.7,SNR=12						

JMA 23 21:42:54.9±0.1, 24.31N×122.46E, h75^{km}±2^{km}, M2.5

TAP 23 21:42:54.6, 24.07N×122.47E, h31^{km}, ML3.2, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.63	52	P	Pb	21 43 08.4	+1.3
YOJ				S	Sb	21 43 18.4	+2.6
IRIF	Iriomote-Funau	1.18	77	P	Pn	21 43 15.7	+0.5
IRIF				S	Sn	21 43 31.4	+1.1
HATJ	Hateruma jima	1.22	90	P	Pn	21 43 17.1	+1.3
HATJ				S	Sn	21 43 33.3	+1.9
JKRS	Kuro-shima	1.42	83	P	Pn	21 43 19.4	+0.8
JKRS				S	Sn	21 43 38.0	+1.7
JIJ	Ishigaki jima	1.56	79	P	Pn	21 43 20.6	0.0
JIJ				S	Sn	21 43 39.5	-0.4
JTJ	Tarama	2.11	74	P	Pn	21 43 28.5	-0.1
JTJ				S	Sn	21 43 53.2	-0.9

IDC 23 21:57:10.2±2.5, 4.39N×96.10E, mb3.5/2, mb1 3.8/3, mb1mx3.4/16, ML3.6/1, Error ellipse: s-maj=83.8km s-min=43.0km az=64.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	14.25	11	Pn	P	22 00 33.2	-2.5
	0.1nm,0.3s,baz=199,slow=11,SNR=6.0						
WRA	Warramunga Arr	44.69	124	P	P	22 05 24.7	-2.3
	0.6nm,0.8s,baz=301,slow=9.3,SNR=4.9						
ASAR	Alice Springs	46.21	129	P	P	22 05 37.7	-1.4
	0.4nm,0.6s,baz=300,slow=8.0,SNR=7.0						
LPAZ	La Paz	160.52	231	PKP	PKPdf	22 17 13.2	-1.2
	1.5nm,0.4s,baz=238,slow=18,SNR=11						

IDC 23 22:23:50.1±1.4, 30.49S×71.63W, mb4.6/3, mb1 4.4/5, mb1mx4.2/13, ML4.0/2, MS3.4/4, Ms1 3.4/4, ms1mx3.3/14, Error ellipse: s-maj=52.5km s-min=30.4km az=119.0

BJI 23 22:23:53.6, 30.72S×71.00W, h36^{km}, mB4.8, Ms4.7, Msz4.4

GUC 23 22:23:55.3±0.9, 30.45S×71.62W, h34^{km}±5^{km}, MD4.4, ML4.6

NEIC 23 22:23:56.0±0.6, 30.39S×71.55W, h37^{km}±5^{km}, mb4.5/6, MD4.4(GUC), Error ellipse: s-maj=11.2km s-min=3.7km az=99.0

SYO 23 22:23:56.7, 30.38S×71.45W, h44^{km}, MB4.5

ISC 23 22:23:55.1±0.7, 30.43S±0.03×71.66W±0.10, h45^{km}±7^{km}, n56, σ1^{s}00/48, mb4.5/8, MS3.6/3, 5C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OVCH	Ovalle	0.44	115	eP	P	22 24 03.8	-1.4
OVCH				i S	S	22 24 10.8	-1.7
OVCH				AMP		22 24 11.8	
	comp=N,51µm,0.5s						
LSCH	La Serena	0.63	35	eP	P	22 24 07.4	-0.3
LSCH				i S	S	22 24 16.7	-0.2
LSCH				AMP		22 24 17.3	
	comp=N,22µm,0.3s						
TLL	Tololo Astrono	0.79	71	eP	P	22 24 10.3	+0.5
TLL				i S	S	22 24 21.0	+0.3
TLL				AMP		22 24 24.1	
	comp=N,36µm,0.7s						
VACH	Vallenar	2.01	23	eP	P	22 24 26.8	-0.3
VACH				i S	S	22 24 52.8	+1.7
VACH				AMP		22 25 01.2	
	comp=E,3µm,0.2s						
JACH	Jahuel	2.43	158	⇓iP	P	22 24 33.9	+0.8
IHA	Instituto Hidr	2.59	180	eP	P	22 24 34.4	-1.1
PEL	Peldehue	2.83	163	eP	P	22 24 39.0	+0.1
PEL				i S	S	22 25 12.7	+0.5
DSCH	Colegio Aleman	3.11	163	eP	P	22 24 43.1	+0.3
CLCH	Cerro Calan	3.11	162	eP	P	22 24 43.5	+0.6
CLCH				i S	S	22 25 19.6	+0.4
CLCH				AMP		22 25 39.5	
	comp=N,6µm,0.6s						
FCH	Farellones	3.12	158	⇑iP	P	22 24 44.3	+1.3
FCH				i S	S	22 25 20.5	+1.1
FCH				AMP		22 25 38.2	
	comp=E,2µm,0.8s						
RCDM	Rinconada Maip	3.14	167	eP	P	22 24 43.3	0.0
RCDM				AMP		22 25 31.6	
	comp=E,2µm,0.7s						
FSR	Penalolen	3.19	163	eP	P	22 24 44.0	-0.1
CPCH	Copiapo	3.27	21	eP	P	22 24 44.0	-1.1
CPCH				i S	S	22 25 25.9	+2.8
TACH	Talagante	3.28	169	eP	P	22 24 45.3	0.0
PCH	Pirque	3.33	163	eP	P	22 24 46.5	+0.5
MDZ	Mendoza	3.43	136	eP	P	22 24 50.3	+2.9
MDZ				i		22 24 53.5	
MDZ				i		22 24 56.4	
MDZ				i S	S	22 25 39.5	+12
CHCH	Chadas Angostu	3.60	166	eP	P	22 24 49.2	-0.6
CACH	El Canelo	3.79	167	eP	P	22 24 53.1	+0.6
SFDO	San Fernando	4.21	173	eP	P	22 24 57.9	-0.5
CPN1	Cerro Paranal	5.88	11	eP	P	22 25 16.9	-5.0
TRQA	Tornquist	11.05	136	eP	P	22 26 31.3	-2.0
	comp=E,26nm,0.6s						

CPUP	Villa Florida	13.26	76	Pn	P	22 26 59.0	-3.9
	comp=E,0.2nm,0.3s,baz=271,slow=12,SNR=2.7						
CPUP				LR	LR	22 31 45.8	
	comp=E,30nm,21.5s,baz=126,slow=36						
CPUP	Villa Florida	13.26	76	*e*P	P	22 26 58.8	-4.1
LPAZ	La Paz	14.44	14	Pn	P	22 27 19.1	+0.6
	comp=E,0.4nm,0.3s,baz=196,slow=9.2,SNR=12						
LPAZ	La Paz	14.44	14	*e*P	P	22 27 18.3	-0.1
	comp=E,7.1nm,1.0s						
SAML	Samuel	22.79	22	*e*P	P	22 28 55.3	+0.3
	comp=E,11nm,1.1s,mb4.2						
USHA	Ushuaia	24.50	175	LR	LR	22 39 31.4	
	comp=E,296nm,18.7s,MS3.8,baz=0.9,slow=38						
BDFB	Brasilia	26.19	61	P	P	22 29 26.8	-0.7
	comp=E,4.9nm,0.4s,mb4.3,baz=241,slow=6.8,SNR=10.0						
BDFB				LR	LR	22 40 54.8	
	comp=E,141nm,18.6s,MS3.5,baz=121,slow=39						
BAO	Brasilia Array	26.21	61	*e*P	P	22 29 27.2	-0.5
SDV	Santo Domingo	39.10	2	*e*P	P	22 31 23.0	+3.2
	comp=E,3.7nm,1.0s,mb4.1						
SJG	San Juan	48.55	7	P	P	22 32 34.0	-1.9
	comp=E,16nm,0.9s,mb5.1						
VNA3	Neumayer Olymp	52.55	159	⇑*i*	pP	22 33 22.5	+4.2
VNA3	Neumayer Olymp	52.55	159	⇓*i*	pP	22 33 25.8	+7.5
VNA1	Neumayer--Stat	52.84	158	⇑*i*	pP	22 33 22.4	+1.9
VNA2	Neumayer--Watz	53.19	158		pP	22 33 22.4	-0.7
SNAA	Sanae	54.78	159	⇑*i*	P	22 33 22.4	+0.2
QSPA	South Pole Qui	59.80	180	*e*P	P	22 33 57.5	-0.1
	comp=E,2.3nm,0.7s,mb4.3						
SYO	Syowa Base	69.07	159	⇑P	P	22 34 55.6	-2.2
SYO	Syowa Base	69.07	159	⇓P	P	22 35 04.6	+6.8
SYO	Syowa Base	69.07	159	⇓P	PcP	22 35 24.9	+3.2
DBIC	Dimbokro	73.75	72	P	P	22 35 26.6	-0.1
	comp=E,3.4nm,0.5s,mb4.5,baz=218,slow=5.0,SNR=10						
DBIC	Dimbokro	73.75	72	*e*P	P	22 35 26.1	-0.7
	comp=E,5.0nm,0.7s,mb4.5						
SDCO	Great Sand Dun	74.83	333	P	P	22 35 32.9	+0.4
	comp=E,23nm,1.2s,mb5.0						
MAW	Mawson	76.51	164	P	P	22 35 41.7	+0.2
	comp=E,1.8nm,0.5s,mb4.3,baz=195,slow=6.0,SNR=13						
MAW				LR	LR	23 09 40.3	
	comp=E,31nm,19.5s,MS3.6,baz=221,slow=36						
MAW	Mawson	76.51	164	P	P	22 35 41.7	+0.1
MAW				LR	LR	23 09 40.3	
AKASG	Malin Array Be	119.51	46	PKP	PKPdf	22 42 40.0	+0.3
	comp=E,0.9nm,0.6s,baz=266,slow=2.9,SNR=6.4						
BVAR	Borovoye Array	144.39	40	PKP	PKPdf	22 43 27.1	+1.3
	comp=E,0.9nm,0.5s,baz=297,slow=3.3,SNR=5.2						
KURK	Kurchatov	149.98	39	*e*PKPbc	PKPdf	22 43 42.1	+6.9
AAK	Ala-Archa	150.40	56	*e*PKPbc	PKPdf	22 43 43.1	+7.0
ZAL	Zalesovo	151.00	29	PKPbc	PKPdf	22 43 45.1	+8.5
	comp=E,8.4nm,0.5s,baz=76,slow=2.4,SNR=3.2						
MKAR	Makanchi Array	154.07	44	PKPbc	PKPdf	22 43 51.2	+10
	comp=E,1.0nm,0.6s,baz=325,slow=1.4,SNR=9.7						
WMQ	Urumqi	158.87	45	*e*PKP	PKPdf	22 43 50.0	+2.5
CN2	Changchun	160.96	319	*e*PKP	PKPdf	22 43 52.5	+2.7
HHC	Hu-ho-hao-te	169.27	347	*e*PKP	PKPdf	22 43 54.6	-2.3
HHC				APKP		22 44 10.0	
HHC				XPKP		22 44 14.3	
HHC				PKS	PKS	22 47 27.1	-1.4
HHC				SKS	SKS	22 50 52.9	-1.4
HHC				LR	LR		
	comp=N,90nm,23.2s						
NJ2	Nanjing	170.85	283	*e*PKP	PKPdf	22 44 00.3	+2.2
LZH	Lanzhou	173.22	32	*e*PKP	PKPdf	22 44 01.0	+1.8
LZH				APKP		22 44 12.0	
LZH				XPKP		22 44 15.5	

MOS 23 22:28:59.0±1.2**, 55.70N×112.97E, h15^{km}, mb4.0**/1**, 2C-2D, Error ellipse: s-maj=38.5km s-min=25.1km az=57.1, Lake Baykal region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SVK	Severo-Muysk	0.57	32	*e*PG	Pg	22 29 09.8	-1.0
SVK				*e*		22 29 17.5	
SVK				pmax	pmax		
	comp=Z,293nm,0.4s						
SVK				smax			
	comp=E,1µm,0.2s						
YOA	Uoyan	0.82	302	⇓*i*PG	Pg	22 29 13.5	-2.2
YOA				*i*		22 29 24.6	
YOA				pmax	pmax		
	comp=Z,428nm,0.4s						
YOA				smax			
	comp=N,3µm,0.5s						
KMO	Kumora	1.02	281	⇑*i*PG	Pg	22 29 16.9	-2.6
KMO				*i*		22 29 30.2	
KMO				pmax	pmax		
	comp=Z,248nm,0.4s						
KMO				smax			
	comp=E,609nm,0.3s						
YLYR	Ulyunkhan	1.32	232	⇑*i*PG	Pg	22 29 22.9	-2.7
YLYR				*e*		22 29 40.8	
YLYR				pmax	pmax		
	comp=Z,38nm,0.1s						
YLYR				smax			
	comp=E,565nm,0.4s						
NLYR	Nelyaty	1.73	61	⇓*i*PN	Pn	22 29 28.6	-0.2
NLYR				*e*		22 29 52.8	
NLYR				pmax	pmax		
	comp=Z,15nm,0.1s						
NLYR				smax			
	comp=N,417nm,1.1s						
CRS	Chara	3.19	66	*e*PN	Pn	22 29 57.4	+7.7
CRS				*e*		22 30 38.6	
CRS				pmax	pmax		
	comp=Z,15nm,0.6s						
CRS				smax			
	comp=E,160nm,0.4s						

MOS ***23*** *22:30:01.9±1.1, 55.62N×160.38E, h196^{km}, mb4.1/10, Error ellipse: s-maj=20.1km s-min=9.9km az=89.1*
KRSC ***23*** *22:30:02.1±0.8, 55.52N×160.41E, h197^{km}±2^{km}, ML4.4*
BJI ***23*** *22:30:03.6, 55.57N×160.15E, h214^{km}, mb4.6*
IDC ***23*** *22:30:05.9±3.0, 55.73N×159.84E, h198^{km}±28^{km}, mb3.7/17, mb1 3.9/18, mb1mx3.8/25, Error ellipse: s-maj=15.3km s-min=11.0km az=175.0*
NEIC ***23*** *22:30:05.7±0.8, 55.64N×159.91E, h200^{km}±8^{km}, mb4.3/20, Error ellipse: s-maj=8.8km s-min=7.4km az=177.0*
ISC 23 22:30:03.1±0.2**, 55.62N**±0.03×**160.14E**±0.07**, h193**^{km}±1^{km}**, h190**^{km}±3.9^{km}**: pP-P, n106, σ1^{s}06**/142**, mb4.0**/35**, Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KMNR	Kamenistaya	0.15	23	*i* P	P	22 30 29.2	+0.5
KMNR				*e*S	S	22 30 49.3	+0.9
TUMR	Tumrok	0.34	179	*i* P	P	22 30 29.7	+0.5
TUMR				*e*S	S	22 30 49.2	0.0
KPT	Kopyto	0.35	8	*i* P	P	22 30 29.3	+0.1
KPT				*e*S	S	22 30 48.7	-0.6
KOZ	Kozyrevsk	0.47	342	P	P	22 30 29.8	+0.2
KOZ				S	S	22 30 49.6	-0.4
KOZ	Kozyrevsk	0.47	342	*i* P	P	22 30 29.8	+0.2
KOZ				*e*S	S	22 30 49.5	-0.5
KOZR	Kozyr	0.47	343	PN	P	22 30 29.8	+0.2
KOZR				S	S	22 30 49.6	-0.4
ZLN	Zelenaya	0.55	43	*i* P	P	22 30 30.6	+0.7
ZLN				*e*S	S	22 30 50.9	+0.3
LGNR	Loginova	0.56	34	*i* P	P	22 30 30.5	+0.6
LGNR				*e*S	S	22 30 51.5	+0.9
CIRR	Tsirk	0.61	35	*i* P	P	22 30 30.8	+0.7
KRSR	Krestovskiy	0.65	22	*e*P	P	22 30 30.1	-0.2
KRSR				*i* S	S	22 30 51.8	+0.5
SRDR	Sredinnyy	0.74	342	*i* P	P	22 30 31.1	+0.4
SRDR				*i* S	S	22 30 52.3	+0.2
KLY	Klyuchi	0.75	22	P	P	22 30 31.4	+0.6
KLY				S	S	22 30 52.1	-0.2
KLY	Klyuchi	0.75	22	*i* P	P	22 30 31.4	+0.6
KLY				*i* S	S	22 30 53.1	+0.8
ESO	Esso	0.87	291	*i* P	P	22 30 31.8	+0.4
ESO				*i* S	S	22 30 53.3	0.0
SVLR	Shiveluch	1.14	32	*e*P	P	22 30 33.9	+0.5
SVLR				*e*S	S	22 30 56.4	-0.3
MKZ	Mys Kozlova	1.41	139	P	P	22 30 33.6	-2.1
MKZ				S	S	22 30 56.3	-4.5
MKZ	Mys Kozlova	1.41	139	*i* P	P	22 30 33.7	-2.0
MKZ				*e*S	S	22 30 56.7	-4.1
KBG	Krutoberegovo	1.58	65	*i* P	P	22 30 36.9	-0.4
KBG				*i* S	S	22 31 02.1	-1.5
KBG				Smax			
	6µm,0.9s						
KBTR	Krutoberegovo	1.62	68	P	P	22 30 36.8	-0.9
KBTR				S	S	22 31 01.5	-2.8
KBTR	Krutoberegovo	1.62	68	*i* P	P	22 30 36.8	-0.9
KBTR				*i* S	S	22 31 02.1	-2.2
KII	Karymskiy	1.64	194	*e*P	P	22 30 37.9	+0.1
KII				*e*S	S	22 31 04.6	+0.1
GNL	Ganaly	2.31	214	*i* P	P	22 30 45.5	+0.6
GNL				*e*S	S	22 31 17.9	+0.8
SDLR	Sedlovina	2.46	198	*e*P	P	22 30 46.8	+0.3
SDLR				*e*S	S	22 31 19.1	-0.9
SMAR	Somma	2.49	199	*e*P	P	22 30 47.5	+0.6
SMAR				*e*S	S	22 31 20.6	0.0
KOK	Koryaka	2.49	201	*e*P	P	22 30 48.0	+1.1
KOK				*e*S	S	22 31 21.2	+0.5
AVH	Avacha	2.50	200	*e*P	P	22 30 47.7	+0.7
AVH				*e*S	S	22 31 21.4	+0.6
NLC	Nalytchevo	2.50	191	P	P	22 30 46.3	-0.7
NLC				S	S	22 31 17.3	-3.5
NLC	Nalytchevo	2.50	191	*i* P	P	22 30 46.1	-0.9
NLC				*e*S	S	22 31 17.3	-3.5
SPN	Mys Shipunski	2.53	182	P	P	22 30 44.8	-2.5
SPN				S	S	22 31 15.6	-5.9
SPN	Mys Shipunski	2.53	182	*i* P	P	22 30 45.0	-2.3
SPN				*i* S	S	22 31 15.9	-5.6
UGLR	Uglovaya	2.53	198	*e*P	P	22 30 48.1	+0.7
UGLR				*e*S	S	22 31 21.7	+0.1
PET	Petropavlovsk	2.74	199	P	P	22 30 49.6	-0.2
PET				S	S	22 31 23.1	-2.8
PET	Petropavlovsk	2.74	199	*e*P	P	22 30 49.7	-0.1
PET				*e*S	S	22 31 23.1	-2.8
PET	Petropavlovsk	2.74	199	*e*P	P	22 30 49.8	-0.1
APC	Apacha	3.21	214	*i* P	P	22 30 56.5	+1.0
APC				Smax			
	60nm,1.2s						
GRL	Gorelyy	3.30	202	*e*P	P	22 30 57.1	+0.5
GRL				*e*S	S	22 31 37.5	-0.4
RUS	Russkaya	3.33	197	P	P	22 30 55.7	-1.3
RUS				S	S	22 31 33.4	-5.1
RUS	Russkaya	3.33	197	*e*P	P	22 30 55.3	-1.7
RUS				*e*S	S	22 31 34.6	-3.9
OSSR	Ossora	3.97	22	*e*P	P	22 31 05.5	+0.6
OSSR				*e*S	S	22 31 51.0	-1.6
ALID	Alaid	5.50	212	*e*P	P	22 31 25.1	+0.6
SKR	Severo-Kuril's	5.50	208	*e*P	P	22 31 21.5	-3.1
SKR				*e*S	S	22 32 22.2	-5.6
MA2	Magadan	6.41	312	*e*P	P	22 31 38.4	+2.1
KAMR	Kamenskoye	7.54	22	*e*P	P	22 31 52.3	+1.2
FX1	Attu Island--F	8.11	104	*e*Pn	P	22 31 56.7	-1.9
YSS	Yuzh-Sakhalins	13.88	239	*e*P	P	22 33 14.3	+1.9
YSS	Yuzh-Sakhalins	13.88	239	*e*P	P	22 33 15.1	+2.7
	20nm,0.7s						
ASAJ	Asahikawa	16.08	232	P	P	22 33 41.6	+1.9
	4.1nm,0.3s,baz=60,slow=6.2,SNR=15						
ASAJ	Asahikawa	16.08	232	P	P	22 33 41.7	+2.0
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
YAK	Yakutsk	16.90	305	*e*P	P	22 33 48.4	-1.0
YAK				pmax	pmax		
	comp=Z,37nm,0.9s						
YAK				pmax	pmax		
	comp=E,20nm,1.3s						
YAK	Yakutsk	16.90	305	*e*P	P	22 33 44.1	-5.4
	comp=E,75nm,0.7s						
KLR	Kul'dur	18.37	262	*e*P	P	22 34 03.8	-1.5
BOD	Bodaibo	25.03	294	*e*P	P	22 35 11.2	+0.7
HIA	Hailar	25.14	272	P	P	22 35 10.9	-0.7
	comp=E,6.5nm,1.0s,mb4.2						
SONM	Songino Array	33.43	280	P	P	22 36 25.3	+0.3
	comp=E,0.9nm,0.6s,mb3.5,baz=60,slow=8.4,SNR=5.3						
SONM				PcP	PcP	22 39 01.4	-0.6
	comp=E,1.2nm,0.6s,baz=75,slow=1.7,SNR=9.8						
SONM				ScP		22 42 27.7	
	comp=E,0.8nm,1.0s,baz=45,slow=3.5,SNR=4.2						
DLBC	Dease Lake	36.56	56	P	P	22 36 53.4	+1.9
	comp=E,3.4nm,0.8s,mb3.9,baz=321,slow=25,SNR=4.7						
DLBC	Dease Lake	36.56	56	P	P	22 36 53.7	+2.2
NJ2	Nanjing	37.16	248	*e*P	P	22 36 56.3	-0.5
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.7						
ZAL	Zalesovo	41.49	300	P	P	22 37 31.5	-0.8
	comp=Z,0.8nm,0.3s,mb3.6,baz=346,slow=3.5,SNR=3.9						
ZAL	Zalesovo	41.49	300	P	P	22 37 31.5	-0.8
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
LZH	Lanzhou	42.44	267	*e*P	P	22 37 38.5	-1.6
LZH				AP	pP	22 38 21.0	-0.8
LZH				XP	sP	22 38 45.6	+1.4
LZH				PP	PP	22 39 22.0	-1.4
LZH				AMB	AMB		
	comp=Z,26nm,1.6s,mb4.4						
LZH	Lanzhou	42.44	267	*e*P	P	22 37 38.5	-1.6
	comp=Z,26nm,1.6s,mb4.4						
LZH				pP	pP	22 38 21.0	-0.8
LZH				sP	sP	22 38 45.6	+1.4
LZH				PP	PP	22 39 22.0	-1.4
WMQ	Urumqi	46.20	287	*e*P	P	22 38 11.8	+1.9
KURK	Kurchatov	46.46	300	*e*P	P	22 38 10.9	-0.9
	comp=Z,11nm,0.4s,mb4.5						
KURK				*e*		22 38 23.9	
MKAR	Makanchi Array	47.12	294	P	P	22 38 15.6	-1.4
	comp=Z,1.5nm,0.4s,mb3.7,baz=47,slow=6.4,SNR=46						
MKAR	Makanchi Array	47.12	294	P	P	22 38 15.6	-1.4
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
BVAR	Borovoye Array	48.87	307	P	P	22 38 30.0	-0.4
	comp=Z,5.6nm,0.7s,mb4.0,baz=68,slow=8.0,SNR=16						
BRVK	Borovoye	48.89	307	*e*P	P	22 38 29.8	-0.8
	comp=Z,6.2nm,0.6s,mb4.1						
ZRNK	Zerenda	49.54	307	*e*P	P	22 38 34.9	-0.7
	comp=Z,5.6nm,0.6s,mb4.1						
ZRNK				*e*		22 38 47.4	
YBH	Yreka Blue Hor	50.17	72	P	P	22 38 42.1	+1.7
	comp=Z,1.8nm,0.5s,mb3.6,baz=358,slow=4.8,SNR=5.7						
YBH	Yreka Blue Hor	50.17	72	P	P	22 38 42.1	+1.6
YBH				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ARCES	ARCESS Array B	50.90	341	P	P	22 38 44.4	-1.2
	comp=Z,6.1nm,0.9s,mb4.0,baz=37,slow=9.0,SNR=3.9						
ARCES	ARCESS Array B	50.90	341	P	P	22 38 44.4	-1.2
ARCES				pmax	pmax		
	comp=Z,6.0nm,0.9s						
SUMG	Summit	51.45	7	P	P	22 38 48.2	-1.5
	comp=Z,6.3nm,0.9s,mb4.0						
ARU	Arti	51.57	316	*e*P	P	22 38 50.0	-0.8
ARU	Arti	51.57	316	*e*P	P	22 38 49.9	-0.9
	comp=Z,11nm,0.6s,mb4.5						
NVAR	Mina Array Bea	54.89	72	P	P	22 39 17.2	+1.8
	comp=Z,2.0nm,0.8s,mb3.7,baz=307,slow=6.1,SNR=12						
NVAR				pP	pP	22 39 59.0	0.0
	comp=Z,0.9nm,0.7s,baz=281,slow=9.8,SNR=3.0						
HWUT	Hardware Ranch	56.12	65	*e*P	P	22 39 25.8	+1.6
	comp=Z,5.6nm,0.7s,mb4.2						
PDAR	Pinedale Array	56.30	62	P	P	22 39 26.9	+1.5
	comp=Z,2.0nm,0.4s,mb4.0,baz=349,slow=1.8,SNR=20						
PDAR				pP	pP	22 40 10.6	+1.3
	comp=Z,0.9nm,0.7s,baz=337,slow=3.8,SNR=3.7						
TPNV	Topopah Spring	57.08	72	*e*P	P	22 39 31.9	+0.9
	comp=Z,3.9nm,1.0s,mb4.0						
KAF	Kangasniemi	57.17	336	*e*p	P	22 39 29.4	-1.9
	comp=Z,1.7nm,0.4s,mb4.0,baz=29,slow=6.6						
KAF	Kangasniemi	57.17	336	*e*P	P	22 39 29.4	-1.9
KAF				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.1						
FINES	FINESS Array B	57.81	336	P	P	22 39 35.0	-0.8
	comp=Z,1.4nm,0.3s,mb4.0,baz=33,slow=8.2,SNR=37						
FINES	FINESS Array B	57.81	336	P	P	22 39 35.0	-0.8
FINES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
RSSD	Black Hills	58.01	58	*e*P	P	22 39 37.9	+0.6
	comp=Z,4.6nm,0.6s,mb4.3						
PV10	Paradox Valley	59.82	65	*e*P	P	22 39 51.4	+1.5
NB2	NORSAR Subarra	61.12	343	P	P	22 39 57.0	-1.4
	comp=Z,1.0nm,0.5s,mb3.7,baz=21,slow=7.0						
NOA	NORSAR Array B	61.12	343	P	P	22 39 57.2	-1.1
	comp=Z,1.4nm,0.6s,mb3.8,baz=20,slow=6.8,SNR=4.7						
NOA	NORSAR Array B	61.12	343	P	P	22 39 57.2	-1.2
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA	NORSAR Array B	61.12	343	P	P	22 39 57.2	-1.1
SDCO	Great Sand Dun	62.11	63	*e*P	P	22 40 06.4	+1.1
	comp=Z,0.7nm,0.7s,mb3.4						
SCHQ	Schefferville	63.40	28	P	P	22 40 12.8	-0.8
	comp=Z,4.6nm,0.9s,mb4.1,baz=270,slow=8.1,SNR=3.8						
AKASG	Malin Array Be	66.47	328	P	P	22 40 31.9	-1.2
	comp=Z,1.3nm,0.3s,mb4.0,baz=29,slow=7.1,SNR=9.5						
AKASG	Malin Array Be	66.47	328	P	P	22 40 32.0	-1.2
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KIV	Kislovodsk	67.62	316	P	P	22 40 40.3	-0.2
	comp=Z,3.5nm,0.7s,mb4.1						
WMOK	Wichita Mounta	67.83	61	P	P	22 40 41.7	-0.3
	comp=Z,1.8nm,0.8s,mb3.8						
BRTR	Keskin Array B	74.69	320	P	P	22 41 22.9	+0.2
	comp=Z,1.7nm,0.6s,mb3.9,baz=43,slow=3.8,SNR=7.7						
BRTR	Keskin Array B	74.69	320	P	P	22 41 22.9	+0.2
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
CTAO	Charters Tower	76.32	193	*e*P	P	22 41 32.2	+0.1
	comp=Z,4.0nm,0.8s,mb4.1						
WRAB	Tennant Creek	78.38	205	P	P	22 41 43.2	-0.2
	comp=Z,5.0nm,0.9s,mb4.1						
WB2	Warramunga Arr	78.38	205	*e*P	P	22 41 43.7	+0.2
WRA	Warramunga Arr	78.39	205	P	P	22 41 43.8	+0.2
	comp=Z,1.8nm,0.7s,mb3.8,baz=17,slow=5.9,SNR=7.7						
WRA	Warramunga Arr	78.39	205	P	P	22 41 43.8	+0.3
WRA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ASAR	Alice Springs	82.08	204	P	P	22 42 03.9	+0.9
	comp=Z,1.8nm,0.7s,mb3.8,baz=9.5,slow=4.7,SNR=17						
MBWA	Marble Bar	83.82	217	P	P	22 42 08.4	-3.5
	comp=Z,21nm,1.4s,mb4.7						
ESDC	Sonseca Array	84.11	348	P	P	22 42 14.4	+1.5
	comp=Z,0.4nm,0.5s,mb3.4,baz=7.5,slow=4.4,SNR=5.4						
QSPA	South Pole Qui	145.37	180	*e*P	PKPdf	22 49 17.8	+2.0

IDC ***23*** *22:50:06.3±8.2, 4.05S×128.42E, h246^{km}±85^{km}, mb3.5/3, mb1 3.7/5, mb1mx3.4/15, Error ellipse: s-maj=96.7km s-min=23.2km az=61.0*
ISC 23 22:49:51.7±4.4**, 3.5S**±0.2×**129.3E**±0.4**, h125**^{km}±42^{km}**, n9, σ0^{s}38**/10**, mb3.8**/2**, 1D, Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	Kakadu	9.68	162	*e*P	S	22 53 55.8	-0.3
	12nm,0.4s						
FITZ	Fitzroy Crossi	14.98	194	*e*P	P	22 53 18.4	+0.1
	7.4nm,0.6s						
FITZ	Fitzroy Crossi	14.98	194	P	P	22 53 18.4	+0.2
	1.3nm,0.3s,baz=13,slow=8.2,SNR=47						
WRA	Warramunga Arr	17.10	164	P	P	22 53 44.8	+0.2
	2.3nm,0.3s,baz=343,slow=12,SNR=56						
WRA				S	S	22 56 48.6	-0.4
	0.2nm,0.3s,baz=336,slow=22,SNR=3.7						
WB2	Warramunga Arr	17.11	164	⇓*i*P	P	22 53 44.5	-0.1
ASAR	Alice Springs	20.57	168	P	P	22 54 22.8	+0.3
	12nm,0.7s,baz=346,slow=12,SNR=92						
ASPA	Alice Springs	20.57	168	*e*P	P	22 54 22.6	+0.2
STKA	Stephens Creek	30.54	159	P	P	22 55 56.3	+0.7
	1.4nm,0.7s,mb3.8,baz=320,slow=13,SNR=4.2						
MKAR	Makanchi Array	64.91	326	P	P	23 00 19.4	-0.6
	0.6nm,0.4s,mb3.8,baz=112,slow=8.0,SNR=11						

IDC ***23*** *23:14:24.1±1.1, 55.04S×27.92W, mb3.9/3, mb1 4.1/3, mb1mx4.0/9, Error ellipse: s-maj=132.0km s-min=27.1km az=42.0*
NEIC ***23*** *23:14:25.0±0.6, 55.19S×28.19W, h10^{km}, mb4.2/7, Error ellipse: s-maj=19.4km s-min=10.2km az=61.0*
ISC 23 23:14:36.4±5.5**, 55.3S**±0.1×**28.4W**±0.3**, h129**^{km}±56^{km}**, n21, σ0^{s}97**/19**, mb3.9**/8**, 5C-3D, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	17.76	158	⇑*i*	P	23 18 39.1	+2.6
VNA1	Neumayer--Stat	17.76	158	⇓*i*	P	23 18 40.8	+4.3
VNA3	Neumayer Olymp	17.94	160	⇑*i*	P	23 18 38.4	-0.1
VNA3	Neumayer Olymp	17.94	160	⇑*i*	P	23 18 40.0	+1.5
VNA2	Neumayer--Watz	18.16	158	⇑*i*	P	23 18 38.8	-2.2
VNA2	Neumayer--Watz	18.16	158	⇓*i*	P	23 18 40.3	-0.7
SNAA	Sanae	19.72	156	⇑*i*	P	23 18 54.1	-3.5
SNAA	Sanae	19.72	156	⇓*i*P	P	23 18 53.3	-4.3
	0.4nm,0.6s						
PMSA	Palmer Station	19.89	227	*e*P	P	23 18 58.8	-0.5
	9.1nm,0.9s						
TRQA	Tornquist	28.38	293	P	P	23 20 20.3	0.0
	1.4nm,0.7s,mb3.8						
QSPA	South Pole Qui	34.96	180	*e*P	P	23 21 16.6	-0.7
	3.6nm,0.6s,mb4.2						
CPUP	Villa Florida	35.79	312	P	P	23 21 24.9	+0.2
	2.1nm,0.9s,mb3.8,baz=224,slow=11,SNR=4.4						
CPUP	Villa Florida	35.79	312	P	P	23 21 24.9	+0.2
MAW	Mawson	41.17	144	P	P	23 22 09.7	+0.7
	0.7nm,0.6s,mb3.5,baz=211,slow=11,SNR=3.5						
SBA	Scott Base	46.79	184	P	P	23 22 54.4	+0.6
	1.3nm,0.9s,mb3.6						
LPAZ	La Paz	49.37	306	P	P	23 23 16.4	+1.9
	1.4nm,0.6s,mb3.8,baz=120,slow=6.8,SNR=7.0						
LPAZ	La Paz	49.37	306	*e*P	P	23 23 13.9	-0.7
	1.9nm,0.6s,mb3.9						
SAML	Samuel	53.77	316	*e*P	P	23 23 47.7	+0.1
	3.9nm,1.2s,mb4.0						
DBIC	Dimbokro	64.77	26	P	P	23 25 02.6	-0.7
	8.2nm,1.1s,mb4.5						
ILAR	Eielson Array	149.09	313	PKPbc	PKPdf	23 34 12.3	+9.0
	2.3nm,0.8s,baz=101,slow=2.0,SNR=11						
SONM	Songino Array	151.37	86	PKPbc	PKPdf	23 34 17.8	+10
	0.6nm,0.6s,baz=212,slow=2.2,SNR=6.6						

LDG ***23*** *23:20:14.9±0.2, 42.35N×2.17E, h4^{km}, Md2.3/1, Ml2.1/10, Error ellipse: s-maj=4.4km s-min=2.1km az=165.0*
STR ***23*** *23:20:14.2±0.2, 42.35N×2.15E, h2^{km}±1^{km}, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
NEIC ***23*** *23:20:14.9, 42.35N×2.17E, h4^{km}, ML2.7(STR), ML2.1(LDG), After LDG.*
MDD ***23*** *23:20:14.6±0.3, 42.35N×2.16E, h3^{km}±5^{km}, mbLg1.5/9, Error ellipse: s-maj=3.2km s-min=2.0km az=168.0, PRXIMO AftershockPLICA*
ISC 23 23:20:12.6±0.6**, 42.36N**±0.03×**2.19E**±0.03**, h7**^{km}±5^{km}**, n24, σ1^{s}31**/41**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VALF	Valcebollere	0.13	287	Pg	Pg	23 20 16.5	+1.0
VALF				Sg	Sg	23 20 18.3	+0.9
VALF	Valcebollere	0.13	287	P	Pg	23 20 16.6	+1.1
VALF				S	Sg	23 20 18.4	+0.9
FILF	Fillols	0.34	54	Pg	Pg	23 20 19.8	+0.4
FILF				Sg	Sg	23 20 23.8	-0.2
FILF	Fillols	0.34	54	P	Pg	23 20 19.8	+0.4
FILF				S	Sg	23 20 23.9	-0.1
CARF	Carcanieres	0.36	350	P	Pg	23 20 21.7	+1.9
CARF				S	Sg	23 20 26.8	+2.1
EJON	La Jonquera	0.53	81	Pg	Pg	23 20 24.6	+1.4
	0.7nm,0.1s,SNR=6.4						
EJON				Lg		23 20 32.1	
	7.8nm,0.2s,SNR=15						
EJON	La Jonquera	0.53	81	Pg	Pg	23 20 24.5	+1.4
EJON				Lg		23 20 32.1	
EMIR	Miracle	0.67	228	Pg	Pg	23 20 25.8	-0.1
	2.8nm,0.1s,SNR=9.9						
EMIR				Lg		23 20 36.5	
	2.7nm,0.2s,SNR=5.5						
EMIR	Miracle	0.67	228	Pg	Pg	23 20 25.8	-0.1
EMIR				Lg		23 20 36.5	
GRBF	Gourbit	0.68	315	S	Sg	23 20 35.8	+0.5
SALF	Salau	0.84	299	P	Pb	23 20 30.0	+0.9
SALF				S	Sb	23 20 40.4	+0.1
MTLF	Montolieu	0.98	1	*e*Pg	Pg	23 20 33.2	+1.1
MTLF				*e*Pn	Pn	23 20 34.4	+1.8
MTLF				*e*Sg	Sg	23 20 46.7	+1.5
	4.4nm,0.2s						
EPOB	Poblet	1.31	220	Pg	Pg	23 20 37.6	-1.1
	2.6nm,0.1s,SNR=18						
EPOB				Lg		23 20 54.6	
	1.4nm,0.1s,SNR=7.6						
EPF	Esparros	1.52	297	*e*Pn	Pn	23 20 41.3	+1.0
EPF				*e*Pg	Pg	23 20 43.5	+0.6
EPF				*e*Sg	Sg	23 21 02.8	-0.3
	3.8nm,0.2s						
ESAC	San Caprasio	2.08	253	Pg	Pg	23 20 52.8	-1.4
	4.0nm,0.2s,SNR=4.0						
ESAC				Lg		23 21 18.9	
	7.2nm,0.2s,SNR=4.0						

ETSF	Etsaut	2.10	286	ePg	Pg	23 20 53.4	-1.1
ETSF				eSg	Sg	23 21 20.5	-1.9
	4.3nm,0.3s						
LASF	Ste Croix	2.10	35	ePn	Pn	23 20 49.5	+0.8
LASF				ePg	Pg	23 20 53.8	-0.8
LASF				eSg	Sg	23 21 21.5	-1.1
	1.1nm,0.2s						
CAF	Calviac	2.56	358	ePn	Pn	23 20 55.7	+0.4
CAF				eSg	Sg	23 21 35.6	-2.3
	1.4nm,0.2s						
SJPF	Ste Jean	2.62	288	eSg	Sg	23 21 36.2	-3.8
	1.2nm,0.2s						
LFF	La Frestale	2.78	338	eSg	Sg	23 21 42.8	-2.4
	4.4nm,0.4s						
EALK	Alkurruntz	2.85	289	Pg	Pg	23 21 05.7	-3.8
	1.3nm,0.5s,SNR=7.9						
EALK				Lg		23 21 44.2	
	0.8nm,0.2s,SNR=4.0						
RJF	Les Rejaudoux	2.98	351	ePn	Pn	23 21 01.6	+0.4
RJF				eSg	Sg	23 21 48.5	-3.3
	3.5nm,0.3s						
VIVF	Saint-Julien-l	3.08	35	ePn	Pn	23 21 02.1	-0.5
VIVF				eSg	Sg	23 21 52.3	-2.7
	0.5nm,0.2s						
LMR	La Mourre	3.32	72	ePn	Pn	23 21 06.6	+0.5
LMR				eSn	Sn	23 21 43.9	-2.4
	0.4nm,0.2s						

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*TRN **23** 23:27:37.3, 18.03N×63.98W, h5^{km}, MD3.3*
*RSPR **23** 23:27:38.8, 17.94N×64.19W, h25^{km}±29^{km}, MD3.4/7, MD3.4/7*
*NEIC **23** 23:27:38.8, 17.94N×64.19W, h25^{km}, MD3.4(RSPR), After RSPR.*
ISC 23 23:27:37.3±0.6**, 18.1N**±0.2×**64.26W**±0.04**, h25^{km}, n19, σ0^{s}74**/29**, 6C-4D, Virgin Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SABT	Saba	1.07	116	eP	Pn	23 27 55.3	-1.6
SABT				eS	Sb	23 28 10.0	-0.7
STMA	St. Maarten, A	1.09	93	eP	Pn	23 27 56.4	-0.7
STMA				eS	Sb	23 28 11.2	0.0
STAT	Sint Eustatius	1.36	116	eP	Pn	23 28 01.9	+1.0
STAT				eS	Sn	23 28 20.2	+2.0
HUMP	Col San Antoni	1.52	272⇑	eP	Pn	23 28 02.9	-0.3
HUMP				eS	Sn	23 28 22.7	+0.5
CBYP	Canovanas	1.53	277⇑	eP	Pn	23 28 03.5	0.0
CBYP				eS	Sn	23 28 23.4	+0.7
SJG	San Juan	1.80	271⇓	eP	Pn	23 28 07.2	0.0
SJG				eS	Sn	23 28 29.6	0.0
SJG	San Juan	1.80	271⇓	eP	Pn	23 28 07.7	+0.4
SJG	San Juan	1.80	271⇓	eP	Pn	23 28 07.7	+0.4
SJG				eS	Sn	23 28 29.1	-0.4
CSB	Colonia Sabana	1.82	276⇑	eP	Pn	23 28 07.5	0.0
CSB				eS	Sn	23 28 29.2	-0.7
CELP	Cerrillos	2.21	270⇑	eP	Pn	23 28 13.4	+0.3
CELP				eS	Sn	23 28 39.4	-0.5
PORP	Portuguez	2.27	269⇓	eP	Pn	23 28 13.9	0.0
PORP				eS	Sn	23 28 40.6	-0.7
AOPR	Arecibo Observ	2.38	276⇑	eP	Pn	23 28 16.4	+0.8
AOPR	Arecibo Observ	2.38	276	eS	Sn	23 28 45.1	+0.8
AOPR	Arecibo Observ	2.38	276	eP	Pn	23 28 16.5	+0.9
LRS	Lares	2.47	275⇑	eP	Pn	23 28 16.4	-0.4
MGP	Maguayo	2.70	269	eP	Pn	23 28 19.9	-0.2
SEG	Port Louis	3.12	122	eP	Pn	23 28 26.9	+0.8
DEG	La Desirade	3.53	120	eP	Pn	23 28 32.1	+0.2
MGG	Marie-Galante	3.55	127	eP	Pn	23 28 31.0	-1.2

IDC 23 23:34:11.5±5.0**, 5.16S×151.42E, mb3.6**/3**, mb1 3.9**/3**, mb1mx3.7**/12**, Error ellipse: s-maj=146.0km s-min=32.8km az=104.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.18	227	P	P	23 39 08.8	-2.2
	1.5nm,0.5s,baz=52,slow=9.9,SNR=9.7						
ASAR	Alice Springs	24.97	221	P	P	23 39 37.4	-0.9
	2.1nm,0.6s,baz=54,slow=9.2,SNR=25						
SONM	Songino Array	65.91	329	P	P	23 44 59.4	-2.0
	0.1nm,0.5s,baz=142,slow=5.0,SNR=4.1						

MAN 23 23:35:21.5, 10.67N×124.93E, mb4.3, ML3.1, MS2.9, 1C, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLP	Palo	0.50	5	i P	Pg	23 35 31.4	-0.1
PLP				i S	Sg	23 35 39.1	+1.1
MSLP	Maasin	0.54	188	eP	Pg	23 35 32.6	+0.5
SCPH	Surigao	1.04	148⇑	eP	Pb	23 35 42.0	0.0
TBP	Tagbilaran	1.43	227	eP	Pb	23 35 47.7	-1.1
TBP				eS	Sb	23 36 08.7	+1.2

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*NEIC **23** 23:57:37.8, 32.70S×71.63W, h22^{km}, ML3.2(GUC), After GUC.*
*GUC **23** 23:57:37.8±0.7, 32.70S×71.63W, h22^{km}±10^{km}, MD3.9, ML3.2*
ISC 23 23:57:37.0±1.2**, 32.67S**±0.05×**71.67W**±0.06**, h22^{km}, n16, σ0^{s}66**/27**, 2D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IHA	Instituto Hidr	0.36	176	eP	Pb	23 57 45.0	+0.2
IHA				i S	Sb	23 57 50.5	+0.5
LCCH	Las Cruces	0.81	174	eP	Pb	23 57 51.8	-0.5
LCCH				i S	Sb	23 58 02.2	-0.6
JACH	Jahuel	0.91	91	eP	Pb	23 57 53.6	-0.4
JACH				i S	Sb	23 58 05.6	-0.1
PEL	Peldehue	0.96	120	eP	Pb	23 57 54.4	-0.5
RCDM	Rinconada Maip	1.09	139	eP	Pb	23 57 56.4	-0.8
RCDM				i S	Sb	23 58 09.9	-1.1
RCDM				AMP		23 58 13.6	
	comp=E,1µm,0.1s						
TACH	Talagante	1.16	148	eP	Pn	23 57 57.6	-0.5
TACH				i S	Sb	23 58 12.3	-0.6
CLCH	Cerro Calan	1.20	128	eP	Pn	23 57 58.4	-0.3
CLCH				i S	Sb	23 58 14.0	-0.1
CLCH				AMP		23 58 15.5	
	comp=N,1µm,0.5s						
ANTU	Antumapu	1.25	136	i S	Sb	23 58 15.0	-0.6
ANTU				AMP		23 58 20.4	
	comp=N,729nm,0.2s						
LNV	Longovilo	1.30	170⇓	iP	Pn	23 57 59.8	-0.4
LNV				i S	Sn	23 58 16.5	-0.5
FCH	Farellones	1.33	120⇓	iP	Pn	23 58 00.6	-0.1
FCH				i S	Sn	23 58 18.0	+0.2
FCH				AMP		23 58 20.2	
	comp=E,714nm,0.3s						
PCH	Pirque	1.36	135	eP	Pn	23 58 00.8	-0.1
CHCH	Chadas Angostu	1.52	146	i P	Pn	23 58 03.9	+0.6
CHCH				i S	Sn	23 58 23.3	+0.7
CACH	El Canelo	1.70	148	eP	Pn	23 58 06.9	+1.0
LMEL	Las Melosas	1.70	134	eP	Pn	23 58 06.4	+0.5
LMEL				i S	Sn	23 58 28.9	+1.8
LMEL				AMP		23 58 34.0	
	comp=N,635nm,0.1s						
CICH	Cipreses	1.95	148	i P	Pn	23 58 10.0	+0.6
CICH				i S	Sn	23 58 34.8	+1.3
SFDO	San Fernando	2.02	164	i P	Pn	23 58 10.2	-0.2

NEIC 24 00:07:03.8, 37.99N×118.70W, h5^{km}, ML3.6(REN)**, 2C-1D, After REN., California-Nevada border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OMM	Old Mammoth Mi	0.44	212	ePg	Pg	00 07 12.3	-0.3
MNV	Mina	0.61	44	ePg	Pg	00 07 15.5	-0.7
MNV				eSg	Sg	00 07 23.8	-0.6
MTUM	Tungsten Hills	0.65	170⇓	ePg	Pg	00 07 16.1	-0.7
TPH	Tonopah	1.17	85⇑	ePn	Pn	00 07 25.7	-1.1
TPH				eSn	Sn	00 07 45.7	+2.4
CMB	Columbia Colle	1.33	272	ePn	Pn	00 07 27.8	-1.4
CMB				eS	Sb	00 07 44.3	-1.9
WCN	Washoe City	1.55	328⇑	ePn	Pn	00 07 32.6	+0.3
WCN				eSn	Sn	00 07 52.4	-0.6
PAHR	Pah Rah Range	1.79	343	ePn	Pn	00 07 36.7	+0.9
PAHR				eSn	Sn	00 07 56.8	-2.4
DAC	Darwin (Calif)	1.93	152	ePn	Pn	00 07 37.7	0.0
DAC				eSn	Sn	00 07 59.5	-3.1
TPNV	Topopah Spring	2.21	117	ePn	Pn	00 07 41.2	-0.5
TPNV				eSn	Sn	00 08 11.9	+2.1
BEKR	Beckwourth	2.27	326	ePn	Pn	00 07 42.6	0.0
BEKR				eSn	Sn	00 08 12.4	+1.0
LRV	Little Rabbit	2.42	230	ePn	Pn	00 07 46.5	+1.7
LRV				eSn	Sn	00 08 14.0	-1.2
SAO	San Andreas Ge	2.51	242	ePn	Pn	00 07 45.1	-0.9
OHCM	Honcut	2.56	302	ePn	Pn	00 07 47.2	+0.5
OHCM				eSn	Sn	00 08 21.9	+3.3
LKC	Lake Chabot	2.67	266	ePn	Pn	00 07 48.9	+0.5
SAC	San Andreas	2.97	263	ePn	Pn	00 07 53.1	+0.5
NSHM	Saint Helena R	3.12	281	ePn	Pn	00 07 55.4	+0.7
MWC	Mount Wilson	3.80	172	ePg	Pg	00 08 12.8	-6.8
MWC				eSg	Sg	00 09 02.4	-7.9
ELK	Elko	3.84	43	ePn	Pn	00 08 03.3	-1.6
ELK				eSn	Sn	00 09 02.5	+11
NEN	Nelson	3.88	126	ePg	Pg	00 08 14.8	-6.4
NEN				eSg	Sg	00 09 04.1	-8.9
WDC	Whiskeytown Da	3.94	312	ePn	Pn	00 08 09.3	+2.9
WDC				eSn	Sn	00 09 04.1	+10
MOD	Modoc	4.09	343	Pn	Pn	00 08 11.5	+2.9
MOD				eS	Sn	00 09 13.8	+16
LDFC	Landfair	4.10	134	ePg	Pg	00 08 20.3	-5.5
LDFC				eSg	Sg	00 09 13.4	-7.0
ARUT	Antelope Range	4.17	91	ePn	Pn	00 08 07.9	-1.7
ARUT				ePg	Pg	00 08 21.5	-5.5
ARUT				eSn	Sn	00 08 55.7	-3.7
ARUT				eSg	Sg	00 09 16.8	-5.8
WVOR	Wild Horse Val	4.44	1	ePg	Pg	00 08 24.2	-8.2
WVOR				eSg	Sg	00 09 21.7	-10
PFO	Pinyon Flat Ob	4.74	157	ePg	Pg	00 08 31.3	-7.2
YBH	Yreka Blue Hor	4.84	322	ePn	Pn	00 08 19.8	+0.6
DUG	Dugway	5.08	63	ePg	Pg	00 08 37.4	-7.9
DUG				eSg	Sg	00 09 40.3	-13
MSU	Marysvale	5.16	82	ePg	Pg	00 08 38.3	-8.6
MSU				eSg	Sg	00 09 47.0	-8.7
HUMO	Hull Mountain	5.64	326	ePn	Pn	00 08 29.4	-1.0
SPUT	South Promonto	5.85	54	ePn	Pn	00 08 33.1	-0.3
MPU	Maple Canyon	5.86	68	ePg	Pg	00 08 53.0	-7.9
HVU	Hansel Valley	5.92	48	ePn	Pn	00 08 33.8	-0.7
HVU				ePg	Pg	00 08 55.4	-6.7
HVU				eSg	Sg	00 10 12.8	-8.2
HLID	Hailey	6.45	29	ePg	Pg	00 08 57.5	-15
HLID				eSg	Sg	00 10 28.1	-10

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*NEIC **24** 00:26:02.3, 57.09N×154.95W, h49^{km}, ML3.3(AEIC), After AEIC.*
*IDC **24** 00:26:07.3±9.0, 57.86N×155.59W, h82^{km}±68^{km}, mb3.4/3, mb1 3.5/5, mb1mx3.3/21, ML3.6/2, Error ellipse: s-maj=69.2km s-min=46.2km az=8.0*
ISC 24 00:25:59.6±0.6**, 57.08N**±0.07×**154.92W**±0.10**, h79^{km}**±8^{km}**, n33, σ0^{s}85**/38**, mb3.8**/2**, Kodiak Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CAHL	Cahill	1.00	348	P	P	00 26 19.3	+0.5
KJL	Kejulik	1.04	341	P	P	00 26 19.8	+0.5
KJL				S	S	00 26 33.2	-0.8
KABR	Katmai Barrier	1.06	359	P	P	00 26 19.8	+0.3
KABR				S	S	00 26 33.4	-1.1
ANCK	Angle Creek	1.17	345	P	P	00 26 21.4	+0.5
ANCK				S	S	00 26 36.3	-0.6
KAHG	Katmai Hook Gl	1.43	8	P	P	00 26 25.3	+0.7
KDAK	Kodiak Island	1.45	60	P	P	00 26 25.6	+0.8
KDAK				S	S	00 26 43.5	+0.2
KAPH	Katmai Pasha	1.55	11	P	P	00 26 27.1	+1.1
ANPK	Aniakchak Peak	1.77	264	P	P	00 26 29.2	+0.3
IVS	Iliamna South	3.09	17	P	P	00 26 48.3	+0.9
CNPM	China Poot	3.13	37	P	P	00 26 48.5	+0.7
BRLK	Bradley Lake	3.43	37	P	P	00 26 52.1	+0.1
SDPT	Sand Point	3.55	243	P	P	00 26 53.5	-0.3
RSO	Redoubt South	3.58	17	P	P	00 26 55.0	+0.9
REF	Redoubt East F	3.61	18	P	P	00 26 55.4	+0.8
PS1A	Pavlof South-1	4.15	249	P	P	00 27 02.2	+0.2
SEW	Seward	4.17	41	P	P	00 27 01.3	-1.0
SLKM	Skilak Lake	4.22	33	eP	P	00 27 02.9	0.0
BKG	Blockade Glaci	4.23	18	P	P	00 27 03.8	+0.6
PN7A	Pavlof North-7	4.28	250	P	P	00 27 04.2	+0.4
HAG	Hague Volcano	4.28	249	P	P	00 27 03.6	-0.2
SPU	Mount Spurr	4.37	19	P	P	00 27 05.2	+0.1
DRIA	Deer Island	4.63	246	P	P	00 27 07.7	-1.0
LTI	Latouche	4.75	48	P	P	00 27 09.0	-1.3
RC01	Rabbit Creek A	4.83	31	P	P	00 27 11.1	-0.4
GLI	Glacier Island	5.56	43	P	P	00 27 19.8	-1.6
SCM	Sheep Creek Mo	6.14	36	P	P	00 27 28.8	-0.7
BMRM	Bremner River	6.60	49	P	P	00 27 35.0	-0.9
ILAR	Eielson Array	8.64	23	P	P	00 28 01.4	-2.5
	0.4nm,0.3s,baz=212,slow=14,SNR=8.9						
ILAR				S	S	00 29 32.0	-8.7
	0.3nm,0.3s,baz=218,slow=29,SNR=5.7						
INK	Inuvik	14.83	32	P	P	00 29 28.0	+2.2
	0.2nm,0.3s,baz=325,slow=30,SNR=3.2						
YKA	Yellowknife Ar	20.73	58	P	P	00 30 39.6	+4.4
	1.1nm,0.7s,baz=250,slow=8.6,SNR=3.5						
FINES	FINESS Array B	61.81	359	P	P	00 36 11.5	-0.3
	1.4nm,0.8s,mb4.0,slow=5.7,SNR=3.8						
MKAR	Makanchi Array	66.08	321	P	P	00 36 39.7	0.0
	0.4nm,0.5s,mb3.5,baz=22,slow=5.7,SNR=5.0						
MKAR	Makanchi Array	66.08	321	P	P	00 36 39.7	0.0

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*TIR **24** 00:28:00.7, 42.11N×19.26E, h48^{km}, Ml2.6*
*THE **24** 00:28:01.2, 42.22N×18.87E, h20^{km}, ML3.6*
*PDG **24** 00:28:01.7±0.1, 42.11N×19.27E, h20^{km}*
*NEIC **24** 00:28:01.7, 42.11N×19.27E, h20^{km}, MD3.1(PDG), ML3.1(CSEM), ML2.9(ZAG), After PDG.*
ISC 24 00:28:01.9±0.3**, 42.12N**±0.01×**19.22E**±0.02**, h11^{km}**±2^{km}**, n59, σ1^{s}13**/97**, 17C-5D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ULC	Ulcinj	0.16	172⇑	iPg	Pg	00 28 06.0	+0.4
ULC				eSg	Sg	00 28 09.2	+1.1
SDA	Shkodra	0.22	108	i Pg	Pg	00 28 06.3	-0.4
SDA				i Sg	Sg	00 28 09.6	-0.3
BUM	Brajici-Budva	0.30	307⇑	iPg	Pg	00 28 09.3	+1.1
BUM				eSg	Sg	00 28 15.0	+2.7
TTG	Podgorica	0.31	6⇑	iPg	Pg	00 28 08.4	0.0
TTG				eSg	Sg	00 28 14.3	+1.6
PUK	Puka	0.51	99	i Pg	Pg	00 28 11.5	-0.7
PUK				i Sg	Sg	00 28 19.1	0.0
HCY	Herceg Novi	0.63	302⇑	iPg	Pg	00 28 14.4	-0.1
HCY				eSg	Sg	00 28 25.5	+2.5
BCI	Bajram Curri	0.68	68	i Pg	Pg	00 28 14.4	-1.2
BCI				i Sg	Sg	00 28 24.1	-0.6
NKY	Niksic	0.71	347⇑	iPg	Pg	00 28 15.4	-0.8
NKY				eSg	Sg	00 28 27.7	+1.9
PVY	Plav	0.73	49⇓	iPg	Pg	00 28 15.3	-1.4
PVY				eSg	Sg	00 28 26.9	+0.3
QSH	Qafa e Shtames	0.79	139	i Pg	Pg	00 28 16.0	-1.8
QSH				i Sg	Sg	00 28 28.0	-0.3
IVA	Berane	0.90	34⇑	iPg	Pg	00 28 18.6	-1.4
IVA				eSg	Sg	00 28 33.1	+1.0
TIR	Tirane	0.91	148	i Pg	Pg	00 28 18.3	-1.9
TIR				i Sg	Sg	00 28 33.0	+0.6
BRY	Bratogost	0.93	328⇑	iPg	Pg	00 28 19.3	-1.2
BRY				eSg	Sg	00 28 34.9	+2.0
UPM	Unac-Piva	1.10	348⇑	iPg	Pg	00 28 22.6	-1.5
UPM				eSg	Sg	00 28 40.5	+1.7
PLE	Pljevlja	1.22	6⇑	iPg	Pg	00 28 24.7	-1.6
PLE				eSg	Sg	00 28 43.0	+0.5
STON	Ston	1.35	304	i Pn	Pn	00 28 26.7	-0.2
STON				i Sn	Sn	00 28 48.0	+3.2
NVSS	Nova Varos 2	1.43	14⇓	iPg	Pg	00 28 28.2	-2.3
NVSS				Sg	Sg	00 28 48.4	-1.2
OHR	Ohrid	1.56	130	i Pn	Pn	00 28 30.0	+0.2
OHR				i Sg	Sg	00 28 53.5	-0.3
SKO	Skopje	1.66	94	ePn	Pn	00 28 32.7	+1.4
SKO			⇓	i		00 28 33.1	
SKO				i Sg	Sg	00 28 54.3	-3.0
SKO				Lg		00 29 00.0	
	comp=Z,0.1nm,0.6s						
BARS	Barje	2.05	69⇓	iPn	Pn	00 28 36.9	+0.1
BARS				Sn	Sn	00 29 02.4	-0.3
DIVS	Divcibare	2.06	16⇑	iPn	Pn	00 28 37.6	+0.7
DIVS				Sn	Sn	00 29 03.5	+0.7
GRUS	Gruza	2.08	31⇑	iPn	Pn	00 28 37.6	+0.4
GRUS				Sn	Sn	00 29 06.5	+3.1
FNA	Florina	2.10	129	ePn	Pn	00 28 38.8	+1.2
FNA				eSn	Sn	00 29 06.5	+2.6
BOLS	Boljevac	2.64	49⇑	iPn	Pn	00 28 43.8	-1.4
BOLS				Sn	Sn	00 29 26.4	+8.8
GRG	Griva	2.66	115	ePn	Pn	00 28 46.0	+0.5
GRG				eSn	Sn	00 29 19.8	+1.7
IGT	Igoumenitsa	2.72	162	ePn	Pn	00 28 45.8	-0.6
IGT				eSn	Sn	00 29 19.5	-0.1
MEV	Metsovon	2.79	146	ePn	Pn	00 28 47.2	-0.2
KKB	Krupnik	2.89	94	eP	Pn	00 28 50.0	+1.1
VTS	Vitosha	2.99	80	eP	Pn	00 28 50.5	+0.2
MRLC	Muro Lucano	3.12	245	ePn	Pn	00 28 53.6	+1.5
THE	Thessaloniki	3.19	117	ePn	Pn	00 28 53.2	+0.1
LIT	Litokhoron	3.19	128	ePn	Pn	00 28 52.7	-0.4
LIT				eSn	Sn	00 29 33.5	+2.0
SLCN	Sala Consilina	3.21	239	ePn	Pn	00 28 53.6	+0.2
SGO	Sicignano	3.33	243	ePn	Pn	00 28 54.6	-0.5
SOH	Sokhos	3.37	111	ePn	Pn	00 28 55.5	-0.1
SOH				eSn	Sn	00 29 38.5	+2.5
MMB	Musomiste	3.41	97	eP	Pn	00 28 57.0	+0.8
SRS	Serrai	3.43	106	ePn	Pn	00 28 56.4	-0.1
LKD	Levkas	3.58	162	ePn	Pn	00 28 56.9	-1.8
SGG	Gregorio Mates	3.69	260	ePn	Pn	00 29 00.6	+0.3
SGG				eSn	Sn	00 29 43.7	-0.6
AGG	Agios Georgios	3.90	142	ePn	Pn	00 29 02.3	-0.9
GRI	Girifalco	3.92	214	ePn	Pn	00 29 01.6	-2.0
NVLJ	Novalja	4.00	309	i Pn	Pn	00 29 04.4	-0.2
NVLJ				i Sn	Sn	00 29 51.3	-0.8
OUR	Ouranopolis	4.01	115	ePn	Pn	00 29 04.5	-0.2
PAIG	Paliouri	4.02	122	ePn	Pn	00 29 04.0	-0.9
MSC	Monte Massico	4.04	258	ePn	Pn	00 29 04.8	-0.3
RHK1	Bakonya	4.06	349⇑	iP	Pn	00 29 06.0	+0.6
RHK1				eS	Sn	00 29 52.1	-1.4
XOR	Xorichti	4.08	131	ePn	Pn	00 29 05.0	-0.7
XOR				eSn	Sn	00 29 55.2	+1.0
RZN	Rozhen	4.13	94	eP	Pn	00 29 07.0	+0.6
PTQR	Pietraquaria	4.33	271	ePn	Pn	00 29 10.5	+1.2
BOJS	Bojanci	4.44	321	i Pn	Pn	00 29 11.3	+0.5
MNS	Montasola	4.86	275	ePn	Pn	00 29 18.2	+1.4
VOY	Vojsko	5.48	317	eSn	Sn	00 30 28.4	-0.9
OBKA	Obir	5.52	324⇑	iPN	Pn	00 29 26.9	+0.8
OBKA				i SN	Sn	00 30 29.9	-0.5
ARSA	Arzberg	5.77	334⇑	iPN	Pn	00 29 30.6	+1.0
ARSA				i SN	Sn	00 30 36.5	0.0
PTCC	Patocco-Chiusa	6.01	317	ePn	Pn	00 29 32.9	-0.1
PTCC				eSn	Sn	00 30 40.3	-2.3
FVI	Forni Avoltri	6.43	316	ePn	Pn	00 29 39.2	+0.3
WTTA	Wattenberg	7.46	316⇑	iPN	Pn	00 29 52.9	-0.5
WTTA				i SN	Sn	00 31 17.0	-1.8
SQTA	Sankt Quirin	7.65	314⇑	iPN	Pn	00 29 55.8	-0.3
SQTA				i SN	Sn	00 31 22.0	-1.7
MOTA	Moosalm	7.79	315⇓	iPN	Pn	00 29 57.5	-0.5
MOTA				i SN	Sn	00 31 26.4	-0.7

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*LDG **24** 01:08:56.3±0.1, 43.06N×0.65W, h11^{km}, Md2.1/3, Ml1.5/1, Error ellipse: s-maj=2.1km s-min=1.1km az=18.0*
*STR **24** 01:08:56.1±0.1, 43.07N×0.63W, h5^{km}±1^{km}, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*MDD **24** 01:08:56.6±0.5, 43.07N×0.65W, h9^{km}±4^{km}, mbLg1.2/5, Error ellipse: s-maj=3.5km s-min=1.7km az=23.0, PRXIMO*
ISC 24 01:08:55.9±0.4**, 43.07N**±0.04×**0.62W**±0.03**, h9^{km}, n19, σ0^{s}85**/31**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ATE	Arette	0.06	288	P	Pg	01 08 58.3	+0.5
ATE				S	Sg	01 08 59.7	+0.6
REYF	Montagne du Re	0.17	89	P	Pg	01 09 00.3	+0.8
REYF				S	Sg	01 09 03.2	+1.2
ETSF	Etsaut	0.17	165	ePg	Pg	01 09 00.3	+0.6
ETSF				eSg	Sg	01 09 02.4	+0.2
	41nm,0.2s						
FDAF	Les Forges d'A	0.25	171	Pg	Pg	01 09 01.6	+0.5
FDAF				Sg	Sg	01 09 05.3	+0.7
FDAF	Les Forges d'A	0.25	171	P	Pg	01 09 01.8	+0.6
FDAF				S	Sg	01 09 05.5	+0.8
LARF	Larrau	0.27	264	Pg	Pg	01 09 01.6	+0.1
LARF				Sg	Sg	01 09 05.7	+0.5
LARF	Larrau	0.27	264	P	Pg	01 09 01.7	+0.2
LARF				S	Sg	01 09 05.9	+0.7
ORDF	Ordiarp	0.27	303	Pg	Pg	01 09 01.6	+0.1
ORDF				Sg	Sg	01 09 05.7	+0.4
ORDF	Ordiarp	0.27	303	P	Pg	01 09 01.6	+0.1
ORDF				S	Sg	01 09 05.8	+0.5
SJPF	Ste Jean	0.45	276	ePg	Pg	01 09 04.6	-0.3
SJPF				eSg	Sg	01 09 09.9	-1.0
	8.2nm,0.3s						
VIEF	Viey	0.51	111	Pg	Pg	01 09 06.3	+0.2
VIEF				Sg	Sg	01 09 12.9	-0.1
VIEF	Viey	0.51	111	P	Pg	01 09 06.3	+0.2
VIEF				S	Sg	01 09 13.0	0.0
EALK	Alkurruntz	0.67	284	Pg	Pg	01 09 08.3	-0.9
	0.3nm,0.1s,SNR=6.2						
EALK				Lg		01 09 16.4	
	1.7nm,0.1s,SNR=11						
EPF	Esparros	0.71	93	ePg	Pg	01 09 10.2	+0.2
EPF				eSg	Sg	01 09 20.0	+0.5
	2.9nm,0.2s						
ESAC	San Caprasio	1.35	175	Pg	Pg	01 09 21.8	-1.0
	2.6nm,0.1s,SNR=7.9						
ESAC				Lg		01 09 39.8	
	5.8nm,0.2s,SNR=7.9						
EMIR	Miracle	1.96	125	Pg	Pg	01 09 34.2	-0.8
	0.5nm,0.2s,SNR=7.9						
EMIR				Lg		01 10 00.0	
	0.6nm,0.1s,SNR=7.9						
ELAN	Lanestosa	2.06	276	Lg		01 10 01.1	
	0.7nm,0.3s,SNR=4.0						
MTLF	Montolieu	2.09	82	eSg	Sg	01 10 02.9	-2.7
	0.5nm,0.2s						
EPOB	Poblet	2.13	143	Pg	Pg	01 09 36.3	-2.1
	0.2nm,0.1s,SNR=7.9						
EPOB				Lg		01 10 04.2	
	0.3nm,0.1s,SNR=7.9						

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*NEIC **24** 01:36:50.3, 15.68N×98.58W, h16^{km}, MD4.0(MEX), After MEX.*
*MEX **24** 01:36:52.2±1.0, 16.11N×98.54W, h5^{km}±7^{km}, MD4.0*
ISC 24 01:36:46.3±1.4**, 15.76N**±0.08×**98.47W**±0.05**, h5^{km}, n16, σ1^{s}17**/20**, 1C, Off coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.71	27⇑	iP	Pg	01 37 00.5	-0.1
PNIG				i S	Sg	01 37 08.7	-1.4
ACX	Acapulco	1.77	309	eP	Pn	01 37 17.0	-0.9
ACX				i S	Sn	01 37 35.0	-6.1
VHO	Vista Hermosa	2.12	52	i P	Pn	01 37 23.3	+0.4
VHO				i S	Sn	01 37 46.7	-3.1
VHO	Vista Hermosa	2.12	52	i P	Pn	01 37 23.3	+0.4
VHO				i S	Sn	01 37 50.1	+0.3
OXX	Oaxaca	2.13	52	i P	Pn	01 37 23.7	+0.7
OXX				i S	Sn	01 37 50.3	+0.1
PLIG	Platanillo	2.80	339	eP	Pn	01 37 30.1	-2.5
PLIG				i S	Sn	01 37 57.1	-10
PLIG	Platanillo	2.80	339	eP	Pn	01 37 32.8	+0.2
PLIG				i S	Sn	01 38 05.6	-1.6
PPM	Popocatepetl	3.29	357	i P	Pn	01 37 40.0	+0.4
PPM				i S	Sn	01 38 21.0	+1.3
IISM	Ciudad Serdan	3.38	18	i P	Pn	01 37 46.2	+5.4
IISM				i S	Sn	01 38 24.0	+2.2
CMIG	Matias Romero	3.69	68	i P	Pn	01 37 46.3	+1.1
CMIG				i S	Sn	01 38 28.1	-1.5

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*THR **24** 01:42:50.9±0.5, 35.53N×52.12E, h16^{km}±3^{km}, ML3.8*
*NEIC **24** 01:42:51.6±2.5, 35.06N×52.65E, h48^{km}±22^{km}, mb3.9/5, Error ellipse: s-maj=32.1km s-min=11.7km az=150.0*
*MOS **24** 01:42:52.8±2.3, 35.46N×52.52E, h33^{km}, mb4.1/5, Error ellipse: s-maj=18.9km s-min=11.7km az=126.6*
*IDC **24** 01:42:54.2±4.9, 35.27N×52.40E, h44^{km}±65^{km}, mb3.5/6, mb1 3.6/9, mb1mx3.5/22, ML3.3/3, MS3.5/9, Ms1 3.5/9, ms1mx3.2/26, Error ellipse: s-maj=60.9km s-min=22.8km az=170.0*
ISC 24 01:42:50.3±0.5**, 35.59N**±0.06×**52.30E**±0.06**, h16^{km}, n36, σ1^{s}23**/33**, mb3.8**/10**, MS3.3**/8**, 1D, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DAMV	**Damavand**	0.27	278	*i* P	Pb	01 42 55.3	-1.0
DAMV				AMP		01 43 01.4	
	comp=E,17µm,0.3s						
DAMV				AMP		01 43 01.6	
	comp=N,46µm,0.5s						
GRMI	**Germi**	4.76	314	*e*PN	Pn	01 44 03.6	+0.4
GRMI				AMP		01 45 07.8	
	comp=N,53nm,0.7s						
KRBR	**Kerman**	6.74	145	*e*PN	Pn	01 44 32.2	+1.1
MAKU	**Maku**	7.12	304	*e*PN	Pn	01 44 35.5	-1.0
GHIR	**Ghir-Karzin**	7.31	175	*e*PN	Pn	01 44 39.0	-0.1
GNI	**Garni**	7.51	310	*e*P	Pn	01 44 49.5	+7.6
GNI	**Garni**	7.51	310	*e*Pn	Pn	01 44 46.5	+4.6
	comp=N,16nm,0.8s						
KIV	**Kislovodsk**	11.15	321	*e*P	P	01 45 37.0	+4.9
KIV				pmax	pmax		
	comp=Z,4.0nm,0.7s						
SOC	**Sochi**	12.55	313	*e*P	P	01 45 50.5	-0.6
SOC				pmax	pmax		
	comp=Z,37nm,0.9s						
SOC				pmax	pmax		
	comp=N,111nm,1.2s						
SOC				pmax	pmax		
	comp=E,48nm,1.4s						
SOC				MLR	MLR		
	comp=Z,52nm,10.0s						
SOC				MLR	MLR		
	comp=N,67nm,12.0s						
SOC				MLR	MLR		
	comp=E,35nm,8.0s						
ASF	**Jabal al Asfar**	13.24	259	P	P	01 45 58.9	-1.4
	comp=E,0.1nm,0.3s,baz=198,slow=23,SNR=2.4						
ASF				LR	LR	01 52 07.5	
	comp=E,337nm,19.4s,baz=110,slow=42						
BRTR	**Keskin Array B**	15.34	291	P	P	01 46 31.5	+3.8
	comp=E,0.1nm,0.3s,baz=63,slow=9.7,SNR=2.4						
EIL	**Elat**	15.76	253	P	P	01 46 32.7	-0.5
	comp=E,0.1nm,0.3s,baz=7.7,slow=34,SNR=3.0						
EIL				LR	LR	01 53 52.9	
	comp=E,259nm,19.1s,baz=102,slow=42						
EIL	**Elat**	15.76	253	*e*P	P	01 46 31.6	-1.6
	comp=E,2.4nm,0.8s						
AAK	**Ala-Archa**	18.57	61	*e*P	P	01 47 07.3	-1.2
ZRNK	**Zerenda**	20.99	29	*e*P	P	01 47 34.7	-0.4
	comp=E,7.1nm,1.1s						
ARU	**Arti**	21.27	10	⇓*i*P	P	01 47 37.6	-0.4
ARU				*i*		01 47 49.9	
ARU				*e*S	S	01 51 25.0	-3.8
ARU				*e*SS	S	01 51 36.9	+8.1
ARU				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.2						
ARU	**Arti**	21.27	10	*e*P	P	01 47 37.2	-0.8
	comp=Z,9.8nm,0.8s,mb4.2						
BRVK	**Borovoye**	21.58	30	*e*P	P	01 47 39.5	-1.7
	comp=Z,4.6nm,0.9s,mb3.9						
BVAR	**Borovoye Array**	21.60	31	P	P	01 47 42.7	+1.3
	comp=Z,3.6nm,0.7s,mb3.9,baz=207,slow=9.9,SNR=13						
MLR	**Muntele Rosu**	22.25	304	P	P	01 47 50.7	+2.9
	comp=Z,2.3nm,0.7s,mb3.8,baz=107,slow=18,SNR=2.3						
MLR	**Muntele Rosu**	22.25	304	P	P	01 47 50.7	+2.8
MLR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
IDI	**Anoyia**	22.31	277	P	P	01 47 49.9	+1.3
	comp=Z,1.5nm,0.5s,mb3.7,baz=38,slow=12,SNR=3.3						
OBN	**Obninsk**	22.33	336	*e*P	P	01 47 52.3	+3.6
OBN				*e*S	S	01 51 52.5	+3.9
OBN				pmax	pmax		
	comp=Z,40nm,2.8s,mb4.3						
OBN				MLR	MLR		
	comp=Z,100nm,22.0s,MS3.2						
AKASG	**Malin Array Be**	22.48	319	P	P	01 47 51.9	+1.7
	comp=Z,0.2nm,0.3s,mb3.0,baz=130,slow=9.6,SNR=4.1						
KURK	**Kurchatov**	24.26	43	*e*P	P	01 48 07.0	-0.5
MKAR	**Makanchi Array**	25.04	54	P	P	01 48 15.3	+0.3
	comp=Z,2.1nm,0.8s,mb3.7,baz=248,slow=9.9,SNR=7.8						
MKAR				LR	LR	01 59 39.5	
	comp=Z,78nm,19.6s,MS3.2,baz=31,slow=40						
MKAR	**Makanchi Array**	25.04	54	P	P	01 48 15.3	+0.3
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MKAR				MLR	MLR		
	comp=Z,78nm,19.6s						
PSZ	**Piszkesteto**	26.92	307	P	P	01 48 32.3	-0.1
	comp=Z,1.8nm,0.6s,mb3.8						
ZAL	**Zalesovo**	29.11	41	LR	LR	02 03 18.3	
	comp=Z,29nm,21.4s,MS2.9,baz=13,slow=42						
FINES	**FINESS Array B**	30.74	335	pP	Px	01 49 23.6	
	comp=Z,2.1nm,0.9s,baz=140,slow=11,SNR=1.7						
FINES				LR	LR	02 03 53.1	
	comp=Z,94nm,18.3s,MS3.5,baz=188,slow=40						
GERES	**GERESS Array B**	31.15	307	P	P	01 49 10.4	0.0
	comp=Z,0.6nm,0.7s,mb3.5,baz=101,slow=6.8,SNR=4.9						
GERES	**GERESS Array B**	31.15	307	P	P	01 49 10.4	0.0
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA	**NORSAR Array B**	36.37	327	LR	LR	02 06 15.7	
	comp=Z,56nm,19.2s,MS3.4,baz=320,slow=38						
ARCES	**ARCESS Array B**	37.03	345	LR	LR	02 09 39.1	
	comp=Z,67nm,19.9s,MS3.4,baz=158,slow=43						
CMAR	**Chiang Mai Arr**	44.48	100	LR	LR	02 13 39.9	
	comp=Z,39nm,18.6s,MS3.4,baz=153,slow=42						
JMIC	**Jan Mayen**	47.34	337	LR	LR	02 13 06.0	
	comp=Z,63nm,18.7s,MS3.6,baz=84,slow=38						

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*LDG **24** 01:57:19.8±0.4, 42.84N×1.45W, h3^{km}, Md2.4/2, Ml1.9/3, Error ellipse: s-maj=6.9km s-min=4.4km az=52.0*

*STR **24** 01:57:19.7±0.0, 43.38N×0.68W, h5^{km}±1^{km}, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

MDD 24 01:57:20.9±0.5**, 42.89N×1.41W, h11**^{km}±1^{km}**, mbLg1.6**/8**, Error ellipse: s-maj=4.4km s-min=2.4km az=34.0, PRXIMO AftershockPLICA, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	0.26	31	*e*Pg	Pg	01 57 26.2	-0.3
SJPF				*e*Sg	Sg	01 57 29.0	-1.2
	41nm,0.4s						
EALK	**Alkurruntz**	0.34	348	Pg	Pg	01 57 27.3	-0.6
	5.9nm,0.2s,SNR=28						
EALK				Lg		01 57 32.1	
	18nm,0.2s,SNR=24						
LARF	**Larrau**	0.34	65	Pg	Pg	01 57 27.7	-0.3
LARF				Sg	Sg	01 57 33.5	+0.7
LARF	**Larrau**	0.34	65	P	Pg	01 57 27.7	-0.3
LARF				S	Sg	01 57 33.7	+0.9
OSSF	**Osses**	0.38	16	Pg	Pg	01 57 28.2	-0.6
OSSF				Sg	Sg	01 57 34.6	+0.6
OSSF	**Osses**	0.38	16	P	Pg	01 57 28.4	-0.4
OSSF				S	Sg	01 57 34.5	+0.5
ETSF	**Etsaut**	0.62	89	*e*Pg	Pg	01 57 31.9	-1.7
ETSF				*e*Sg	Sg	01 57 40.7	-1.3
ETSF				*e*Sn	Sn	01 57 42.6	-2.8
	3.0nm,0.2s						
EPF	**Esparros**	1.29	83	*e*Pn	Pn	01 57 43.0	-2.0
EPF				*e*Pg	Pg	01 57 46.3	-0.5
EPF				*e*Sg	Sg	01 58 02.2	-1.9
	4.0nm,0.2s						
ESAC	**San Caprasio**	1.36	149	Pg	Pg	01 57 44.9	-3.3
	6.9nm,0.2s,SNR=4.0						
ESAC				Lg		01 58 03.0	
	19nm,0.3s,SNR=7.9						
ELAN	**Lanestosa**	1.52	284	Pg	Pg	01 57 48.6	-2.8
	0.6nm,0.2s,SNR=7.9						
ELAN				Lg		01 58 09.4	
	2.8nm,0.3s,SNR=7.9						
ETOR	**Torete**	2.13	193	Pn	Pn	01 57 55.9	-1.0
	0.7nm,0.2s,SNR=5.9						
ETOR				Pg	Pg	01 58 00.3	-3.1
	4.9nm,0.9s,SNR=5.7						
ETOR				Lg		01 58 23.7	
	3.0nm,0.3s,SNR=4.5						
EMIR	**Miracle**	2.38	113	Lg		01 58 34.7	
	1.1nm,0.2s,SNR=4.0						
EPOB	**Poblet**	2.41	129	Lg		01 58 34.2	
	1.1nm,0.2s,SNR=4.0						
LFF	**La Frestale**	2.57	36	*e*Pn	Pn	01 58 01.4	-1.8
LFF				*e*Sn	Sn	01 58 31.7	-3.1
	0.8nm,0.2s						
EMOS	**Mosqueruela**	2.62	164	Pg	Pg	01 58 07.5	-5.8
	0.2nm,0.1s,SNR=4.0						
EMOS				Lg		01 58 40.0	
	0.5nm,0.2s,SNR=4.0						
RJF	**Les Rejaudoux**	3.20	40	*e*Pn	Pn	01 58 09.5	-2.8
RJF				*e*Sn	Sn	01 58 47.0	-3.8
	0.9nm,0.3s						

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*ISK **24** 02:15:41.4, 36.46N×28.27E, h29^{km}, MD3.4, ML3.5*

*NEIC **24** 02:15:41.2, 36.58N×28.40E, h49^{km}, MD3.1(ATH), After ATH.*

*ATH **24** 02:15:41.2, 36.58N×28.40E, h49^{km}±8^{km}, MD3.1/4*

*NIC **24** 02:15:42.9±0.3, 36.89N×28.84E, h55^{km}, ML3.3, MW2.9*

*SNSN **24** 02:17:40.0, 29.45N×34.53E, h34^{km}, Ml1.1*

ISC 24 02:15:40.3±0.4**, 36.45N**±0.03×**28.38E**±0.04**, h71**^{km}±6^{km}**, n36, σ1§18**/49**, 7C-2D, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	0.32	221	⇑*i*P	P	02 15 52.7	+0.8
ARG				*e*S	S	02 16 00.0	-0.3
DALT	**Dalyan (Mudla)**	0.38	33	*i* PG	P	02 15 51.4	-0.9
DALT				*i* SG	S	02 15 58.6	-2.5
YER	**Yerkesik**	0.69	353	*i* PG	P	02 15 55.3	0.0
BDRM	**Kayabasi**	0.97	309	⇑*i*P	P	02 15 59.0	+0.2
MLSB	**Milas**	0.97	330	*i* PG	P	02 15 59.4	+0.6
KSL	**Kastellorizon**	1.01	107	*e*P	P	02 16 00.5	+1.1
NISR	**Nisiros**	1.02	279	*e*P	P	02 16 00.1	+0.6
ELL	**Elmali**	1.26	76	*i* PN	P	02 16 04.8	+2.2
AYDN	**Tasoluk**	1.27	342	*i* P	P	02 16 03.2	+0.5
AYDN				*i* S	S	02 16 18.5	-0.8
KARP	**Karpathos**	1.34	228	*e*P	P	02 16 06.0	+2.2
DNZL	**Cakiroluk**	1.34	23	⇑*i*P	P	02 16 03.7	-0.1
DNZL				*i* S	S	02 16 21.9	+0.7
DENT	**Denizli**	1.40	22	PN	P	02 16 05.9	+1.4
BCK	**Bucak**	2.03	60	*e*PN	P	02 16 15.5	+2.4
MANT	**Manisa**	2.04	4	⇑*i*P	P	02 16 12.5	-0.7
MANT				*i* S	S	02 16 35.3	-2.1
IZM	**Izmir**	2.14	336	*i* PN	P	02 16 14.7	+0.1
KDAG	**Bornova**	2.14	336	⇑*i*P	P	02 16 14.3	-0.3
KDAG				*i* S	S	02 16 39.2	-0.7
ISP	**Isparta**	2.19	50	*e*PN	P	02 16 17.2	+1.8
APE	**Apeiranthos**	2.37	286	PN	P	02 16 18.0	+0.1
AKS	**Akhisar**	2.46	350	PN	P	02 16 19.4	+0.2
HDMB	**Hadim**	3.34	80	*e*PN	P	02 16 33.9	+2.5
AKMC	**Akamas**	3.51	113	P	P	02 16 33.8	-0.1
PPCY	**Paphos**	3.58	115	⇑P	P	02 16 35.2	+0.3
PPCY	**Paphos**	3.58	115	⇑*i*P	P	02 16 35.2	+0.3
ALFC	**Alevga**	3.66	109	P	P	02 16 35.2	-0.8
	2.1nm,0.2s						
ALFC				S	S	02 17 16.4	-1.8
BOZC	**Bozcaada**	3.85	332	P	P	02 16 38.7	+0.1
BOZC				*i* S	S	02 17 21.3	-1.6
SZAC	**Souni-Zanaja**	4.04	113	⇓P	P	02 16 41.2	0.0
	2.1nm,0.2s						
SZAC				S	S	02 17 27.0	-0.6
SZAC	**Souni-Zanaja**	4.04	113	⇓*i*P	P	02 16 41.2	0.0
SZAC				S	S	02 17 27.0	-0.6
CSS	**Prodhromos**	4.29	109	P	P	02 16 44.6	-0.1
CSS				S	S	02 17 32.5	-1.4
MEST	**Erdemli**	4.64	87	P	P	02 16 51.2	+1.6
MEST				S	S	02 17 45.5	+2.7
COBT	**Iskenderun**	6.34	87	P	P	02 17 13.7	+0.5
COBT				S	S	02 18 21.5	-3.5
ALWS	**Ilw as Safayha**	9.07	140	P	P	02 17 50.3	-0.4
HAQS	**Haql**	9.21	141	P	P	02 17 51.1	-1.4
TAYS	**Tayyib Ism**	9.59	143	P	P	02 17 57.2	-0.7
BDAS	**Al Bad‘**	9.80	143	P	P	02 17 59.1	-1.6
JMQS	**Jabal Moqyreh**	9.84	138	P	P	02 18 01.8	+0.7
AYUS	**‘Aynunah**	10.09	143	P	P	02 18 03.3	-1.3

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*ATH **24** 02:18:53.3, 37.22N×27.87E, h29^{km}, MD3.0/3*

*ISK **24** 02:18:56.6, 36.93N×27.70E, h9^{km}, MD3.2*

ISC 24 02:18:56.8±0.8**, 36.89N**±0.03×**27.73E**±0.05**, h3**^{km}±6^{km}**, n15, σ1§03**/23**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	0.29	308	*i* P	Pg	02 19 03.9	+1.3
BDRM				*i* S	Sg	02 19 08.5	+2.0
MLSB	**Milas**	0.41	5	*i* PG	Pg	02 19 04.6	-0.3
MLSB				*i* SG	Sg	02 19 10.2	-0.1
YER	**Yerkesik**	0.51	61	*i* PG	Pg	02 19 06.9	+0.1
NISR	**Nisiros**	0.56	240	*e*PN	Pn	02 19 10.0	-1.2
DALT	**Dalyan (Mudla)**	0.74	99	*e*PG	Pg	02 19 12.2	+0.7
ARG	**Arkhangelos**	0.74	155	*e*PN	Pn	02 19 13.0	-0.8
ARG				*e*SN	Sn	02 19 27.5	+1.8
AYDN	**Tasoluk**	0.78	9	*i* P	Pg	02 19 11.7	-0.6
AYDN				*i* S	Sg	02 19 24.4	+1.7
DNZL	**Cakiroluk**	1.32	52	*i* P	Pb	02 19 21.4	-0.4
DNZL				*i* S	Sb	02 19 38.8	-0.2
DENT	**Denizli**	1.35	50	*e*PN	Pn	02 19 21.9	-0.6
KARP	**Karpathos**	1.42	199	*e*PN	Pn	02 19 24.0	+0.5
KDAG	**Bornova**	1.56	346	*i* P	Pn	02 19 24.8	-0.7
KDAG				*i* S	Sb	02 19 46.7	+0.8
MANT	**Manisa**	1.73	22	*i* P	Pn	02 19 26.7	-1.2
MANT				*i* S	Sn	02 19 51.9	+1.1
ELL	**Elmali**	1.75	94	*e*PN	Pn	02 19 28.5	+0.2
APE	**Apeiranthos**	1.77	276	*e*PN	Pn	02 19 27.7	-0.8
AYVA	**Ayvalik**	2.55	342	*e*P	Pg	02 19 45.6	-2.1
AYVA				*e*S	Sg	02 20 20.8	-0.9

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*NEIC **24** 02:21:14.2, 36.73N×3.15E, MG4.0(MDD), After MDD.*

MDD 24 02:21:11.5±0.5**, 36.49N×3.21E, h6**^{km}±8^{km}**, mb3.9**/4**, 1C, Error ellipse: s-maj=7.7km s-min=4.9km az=98.0, PRXIMO, Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EMHD	**Djebel Mahouad**	0.35	217	P	Pg	02 21 17.9	-0.7
ADJB	**Djebel Djouab**	0.37	151	P	Pg	02 21 18.5	-0.5
ECHF	**Ech Chlef**	1.55	258	P	Pn	02 21 30.0	-10
EANR	**’Ain N’Sour**	1.79	253	P	Pn	02 21 33.0	-10
ETRT	**Tiaret**	1.90	235	P	Pn	02 21 38.0	-6.7
EIBI	**Ibiza**	2.94	330	⇑P	Pn	02 21 57.4	-2.1
	2.7nm,0.2s,SNR=18						
EIBI				S	Sn	02 22 29.6	-6.0
	2.6nm,0.2s,SNR=7.9						
EBEN	**Beniarda**	3.52	310	P	Pn	02 22 05.3	-2.4
	0.4nm,0.2s,SNR=5.0						
EBEN				S	Sn	02 22 43.6	-6.6
	1.8nm,0.4s,SNR=5.0						
EBEN	**Beniarda**	3.52	310	P	Pn	02 22 05.1	-2.6
EBEN				S	Sn	02 22 43.6	-6.6
ETOB	**Tobarra**	4.35	301	P	Pn	02 22 18.1	-1.6
	0.7nm,0.1s,SNR=5.7						
ETOB				S	Sn	02 23 06.8	-4.6
	0.9nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	4.83	324	P	Pn	02 22 23.9	-2.6
	1.5nm,0.2s,SNR=18						
EMOS				S	Sn	02 23 15.5	-8.0
	0.8nm,0.3s,SNR=7.9						
EQES	**Quesada**	5.19	287	P	Pn	02 22 30.2	-1.3
	0.4nm,0.3s,SNR=5.0						
EQES				S	Sn	02 23 27.9	-4.6
	0.6nm,0.3s,SNR=7.9						
EQES	**Quesada**	5.19	287	P	Pn	02 22 30.4	-1.1
EQES				S	Sn	02 23 27.9	-4.6
EMIR	**Miracle**	5.58	347	P	Pn	02 22 34.9	-2.0
	2.2nm,0.2s,SNR=7.5						
EMIR	**Miracle**	5.58	347	P	Pn	02 22 34.9	-2.0
EJON	**La Jonquera**	5.96	358	P	Pn	02 22 39.2	-3.1
	0.5nm,0.2s,SNR=7.9						

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*IDC **24** 02:32:15.3±1.4, 31.82S×179.90E, h390^{km}±13^{km}, mb3.7/6, mb1 3.9/7, mb1mx3.8/13, Error ellipse: s-maj=20.9km s-min=12.9km az=163.0*

*NEIC **24** 02:32:17.8±2.6, 31.62S×179.77E, h411^{km}±26^{km}, mb4.0/13, Error ellipse: s-maj=18.2km s-min=12.6km az=48.0*

ISC 24 02:32:14.9±0.7**, 31.86S**±0.06×**179.69E**±0.08**, h387**^{km}±8^{km}**, n136, σ1§14**/92**, mb4.0**/16**, 3C-2D, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	5.80	191	*e*P	P	02 33 46.0	+0.6
MXZ				S	S	02 34 59.3	+2.8
PUZ	**Puketiti**	6.31	190	P	P	02 33 51.2	+0.1
PUZ				S	S	02 35 09.1	+2.3
MWZ	**Matawai**	6.70	195	P	P	02 33 55.4	-0.1
MWZ				S	S	02 35 15.8	+1.0
MWZ	**Matawai**	6.70	195	*e*P	P	02 33 55.7	+0.2
URZ	**Urewera**	6.72	198	P	P	02 33 55.7	-0.1
	79nm,0.3s,baz=289,slow=2.4,SNR=87						
URZ				S	S	02 35 18.4	+3.1
	96nm,0.3s,baz=258,slow=24,SNR=28						
URZ	**Urewera**	6.72	198	P	P	02 33 55.6	-0.2
TAZ	**Tarawera**	6.87	201	P	P	02 34 01.0	+3.5
UTU	**Utuhina**	6.92	203	P	P	02 34 03.9	+5.8
PATZ	**Paeroa**	7.08	202	P	P	02 34 03.9	+4.0
KNZ	**Kokohu**	7.33	192	*e*P	P	02 34 01.9	-0.9
KNZ				S	S	02 35 27.6	-0.2
KNZ	**Kokohu**	7.33	192	*e*P	P	02 34 02.6	-0.2
BKZ	**Black Stump Fm**	7.74	199	*e*P	P	02 34 06.6	-0.9
MGZ	**Maungaku**	7.89	204	P	P	02 34 12.0	+2.8
MOVZ	**Moawhango**	8.18	202	P	P	02 34 11.9	-0.7
PWZ	**Pawanui**	8.47	195	P	P	02 34 14.3	-1.6
PWZ				S	S	02 35 52.0	+0.6
PWZ	**Pawanui**	8.47	195	*e*P	P	02 34 15.6	-0.3
TSZ	**Takapari Road**	8.72	199	*e*P	P	02 34 17.6	-1.2
TSZ				S	S	02 35 55.7	-1.0
TSZ	**Takapari Road**	8.72	199	P	P	02 34 18.6	-0.2
WAZ	**Wanganui**	8.75	205	*e*P	P	02 34 20.2	+1.0
WAZ	**Wanganui**	8.75	205	*e*P	P	02 34 20.9	+1.7
BFZ	**Birch Farm**	9.23	197	P	P	02 34 23.9	-0.9
BFZ	**Birch Farm**	9.23	197	*e*P	P	02 34 23.9	-0.9
MRZ	**Mangatainoka R**	9.39	200	P	P	02 34 24.7	-1.9
MRZ				S	S	02 36 11.5	+0.7
KIW	**Kapiti Island**	9.77	202	*e*P	P	02 34 31.7	+0.5
KIW	**Kapiti Island**	9.77	202	P	P	02 34 31.8	+0.6
MTW	**Mount Morrison**	9.87	199	P	P	02 34 31.4	-0.9
MTW				S	S	02 36 21.6	+0.5
MTW	**Mount Morrison**	9.87	199	P	P	02 34 31.6	-0.7
CAW	**Cannon Point**	9.95	201	P	P	02 34 32.7	-0.5
CAW	**Cannon Point**	9.95	201	P	P	02 34 32.6	-0.6
MRW	**Makara Radio**	10.17	202	*e*P	P	02 34 35.8	-0.1
MRW	**Makara Radio**	10.17	202	P	P	02 34 35.5	-0.4
SNZO	**South Karori**	10.24	202	P	P	02 34 35.9	-0.8
SNZO				S	S	02 36 27.9	-1.1
BHW	**Baring Head**	10.28	201	P	P	02 34 37.5	+0.3
NNZ	**Nelson**	10.62	207	*e*P	P	02 34 40.1	-1.2
NNZ				S	S	02 36 36.7	-0.4
NNZ	**Nelson**	10.62	207	*e*P	P	02 34 40.9	-0.4
QRZ	**Quartz Range**	10.64	211	P	P	02 34 41.5	0.0
QRZ				S	Px	02 34 45.9	
THZ	**Tophouse**	11.28	207	P	P	02 34 46.6	-2.2
THZ	**Tophouse**	11.28	207	*e*P	P	02 34 47.6	-1.2
KHZ	**Kahutara**	11.62	203	*e*P	P	02 34 50.1	-2.7
KHZ				S	S	02 36 56.8	-1.5
KHZ	**Kahutara**	11.62	203	*e*P	P	02 34 51.4	-1.4
DSZ	**Denniston Nort**	11.71	210	S	S	02 36 59.6	-0.6
DSZ	**Denniston Nort**	11.71	210	P	P	02 34 46.1	-7.7
LTZ	**Lake Taylor**	12.39	206	*e*P	P	02 35 02.1	+0.4
LTZ	**Lake Taylor**	12.39	206	*e*P	P	02 35 01.9	+0.2
MQZ	**McQueen’s Vall**	13.06	203	*e*P	P	02 35 09.9	+0.7
MQZ				S	S	02 37 26.3	-1.9
MQZ	**McQueen’s Vall**	13.06	203	*e*P	P	02 35 10.1	+0.9
RPZ	**Rata Peaks**	13.65	207	P	P	02 35 15.4	-0.4
	2.2nm,0.3s,baz=20,slow=3.5,SNR=10						
RPZ				S	S	02 37 40.3	0.0
	5.0nm,0.3s,baz=141,slow=18,SNR=15						
ODZ	**Otahua Downs**	14.93	206	*e*P	P	02 35 34.8	+5.5
CTA	**Charters Tower**	32.13	283	*e*P	P	02 38 11.4	+1.9
	6.2nm,1.5s,mb3.7						
CTA	**Charters Tower**	32.13	283	P	P	02 38 10.4	+0.9
	3.7nm,0.5s,mb4.0,baz=115,slow=11,SNR=7.6						
CTA				ScP		02 43 53.4	
	4.1nm,0.9s,baz=229,slow=2.0,SNR=5.3						
CTAO	**Charters Tower**	32.13	283	*e*P	P	02 38 10.8	+1.3
	19nm,1.3s,mb4.3						
STKA	**Stephens Creek**	32.24	260	*e*P	P	02 38 12.8	+2.5
	4.2nm,0.9s,mb3.8						
STKA	**Stephens Creek**	32.24	260	P	P	02 38 12.5	+2.2
	1.9nm,0.3s,mb3.9,baz=110,slow=9.5,SNR=12						
ASAR	**Alice Springs**	41.08	270	P	P	02 39 24.5	+0.6
	3.3nm,0.5s,mb3.9,baz=105,slow=7.2,SNR=57						
ASAR				ScP		02 44 26.6	
	2.4nm,0.8s,baz=118,slow=4.5,SNR=11						
ASAR				S	S	02 45 09.0	+1.1
	0.5nm,0.9s,baz=111,slow=15,SNR=3.2						
ASPA	**Alice Springs**	41.08	270	*e*P	P	02 39 25.0	+1.1
ASPA				*e*S	S	02 45 08.6	+0.6
WB2	**Warramunga Arr**	42.20	275	*e*P	P	02 39 33.0	+0.1
WB2				*e*S	S	02 45 23.4	-0.7
WRAB	**Tennant Creek**	42.20	275	*e*P	P	02 39 32.4	-0.6
	5.1nm,0.6s,mb4.0						
WRA	**Warramunga Arr**	42.21	275	P	P	02 39 33.2	+0.2
	2.3nm,0.3s,mb4.0,baz=111,slow=8.0,SNR=39						
WRA				ScP		02 44 31.5	
	3.7nm,0.8s,baz=112,slow=4.1,SNR=15						
WRA				S	S	02 45 23.9	-0.3
	0.9nm,0.8s,baz=112,slow=14,SNR=3.1						
FORT	**Forrest**	43.77	257	*e*P	P	02 39 45.7	+0.3
	21nm,0.5s,mb4.7						
FITZ	**Fitzroy Crossi**	50.40	272	*e*P	P	02 40 36.7	+0.2
	3.5nm,0.6s,mb3.9						
FITZ	**Fitzroy Crossi**	50.40	272	P	P	02 40 35.9	-0.6
	3.4nm,0.6s,mb3.9,baz=173,slow=6.1,SNR=20						
FITZ				ScP		02 45 05.7	
	4.0nm,0.9s,baz=168,slow=3.6,SNR=4.9						
CASY	**Casey**	52.92	208	*e*P	P	02 40 54.3	-0.1
	3.7nm,0.7s,mb3.7						
MBWA	**Marble Bar**	54.12	266	*e*P	P	02 41 01.4	-2.3
	6.2nm,0.9s,mb3.8						
QSPA	**South Pole Qui**	58.25	180	*e*P	P	02 41 33.5	+1.9
	4.8nm,0.6s,mb4.0						
QSPA				*e*		02 42 00.4	
QSPA				*e*	pP	02 42 54.3	+0.6
SNAA	**Sanae**	76.74	179	⇑*i*	P	02 43 26.1	+0.8
SNAA	**Sanae**	76.74	179	*e*P	P	02 43 25.8	+0.6
	3.2nm,0.8s,mb4.0						
VNA3	**Neumayer Olymp**	76.97	177	⇓*i*	P	02 43 28.9	+2.4
VNA2	**Neumayer--Watz**	77.38	178	⇓*i*	P	02 43 32.0	+3.3
VNA1	**Neumayer--Stat**	77.62	177	⇑*i*	P	02 43 31.4	+1.3
YSS	**Yuzh-Sakhalins**	85.22	336	*e*P	P	02 44 09.5	-0.1
	17nm,0.6s,mb5.0						
NVAR	**Mina Array Bea**	90.66	44	P	P	02 44 34.6	-0.7
	1.9nm,0.8s,mb4.0,baz=214,slow=7.1,SNR=18						
TPNV	**Topopah Spring**	90.93	46	*e*P	P	02 44 35.9	-0.8
	2.0nm,0.7s,mb4.1						
TUC	**Tucson**	91.57	53	*e*P	P	02 44 38.8	-0.9
	1.0nm,0.7s,mb3.9						
WVOR	**Wild Horse Val**	93.11	41	*e*P	P	02 44 45.3	-1.3
	1.0nm,0.5s,mb4.0						
MKAR	**Makanchi Array**	117.19	310	PKP	PKPdf	02 50 13.3	-0.9
	2.0nm,0.7s,baz=182,slow=0.8,SNR=8.1						
MKAR	**Makanchi Array**	117.19	310	PKP	PKPdf	02 50 13.3	-0.9
ZAL	**Zalesovo**	117.81	318	PKP	PKPdf	02 50 15.3	+0.1
	1.2nm,0.5s,baz=49,slow=1.1,SNR=3.6						
ZAL	**Zalesovo**	117.81	318	PKP	PKPdf	02 50 15.3	+0.1
KURK	**Kurchatov**	120.62	314	*e*PKPdf	PKPdf	02 50 19.8	-1.1
AAK	**Ala-Archa**	121.27	304	*e*PKPdf	PKPdf	02 50 21.6	-0.7
LSZ	**Lusaka**	125.74	215	*e*PKPdf	PKPdf	02 50 33.0	+1.4
BVAR	**Borovoye Array**	126.05	315	PKP	PKPdf	02 50 30.9	-0.3
	4.2nm,0.4s,baz=132,slow=1.5,SNR=23						
BRVK	**Borovoye**	126.12	315	*e*PKPdf	PKPdf	02 50 31.2	-0.1
ZRNK	**Zerenda**	126.87	315	*e*PKPdf	PKPdf	02 50 31.6	-1.1
ARU	**Arti**	132.93	319	*e*PKPdf	PKPdf	02 50 44.2	0.0
ARCES	**ARCESS Array B**	139.56	346	PKhKP		02 50 48.4	
	5.5nm,0.9s,baz=71,slow=1.9,SNR=16						
ARCES				PKP	PKPdf	02 50 56.0	0.0
	2.5nm,0.5s,baz=51,slow=1.9,SNR=11						
ARCES	**ARCESS Array B**	139.56	346	PKP	PKPdf	02 50 48.4	-7.6
ARCES				PKP	PKPdf	02 50 56.0	0.0
OBN	**Obninsk**	145.18	323	*e*PKPdf	PKPdf	02 51 06.6	+0.6
KAF	**Kangasniemi**	145.21	338	*e*p	PKPdf	02 51 04.2	-1.6
	6.2nm,0.4s						
FINES	**FINESS Array B**	145.78	338	PKPbc	PKPbc	02 51 07.8	-0.3
	19nm,0.4s,baz=56,slow=4.4,SNR=248						
ELZG	**Elazig**	147.39	293	P	PKPdf	02 51 15.1	+4.9
MALT	**Malatya**	147.82	292	*e*PKPbc	PKPdf	02 51 15.6	+4.7
GZT	**Gaziantep**	148.49	291	P	PKPdf	02 51 17.6	+5.5
ASF	**Jabal al Asfar**	148.55	281	PKPbc	PKPdf	02 51 18.1	+5.8
	7.9nm,0.9s,baz=334,slow=1.8,SNR=13						
ASF				PKPab	PKPab	02 51 23.4	-0.3
	3.0nm,0.8s,baz=155,slow=1.7,SNR=5.8						
KAHT	**Ahir Dag**	149.05	291	P	PKPdf	02 51 18.5	+5.6
COBT	**Iskenderun**	149.51	289	P	PKPdf	02 51 20.0	+6.2
NB2	**NORSAR Subarra**	149.84	349	PKP		02 51 18.1	
	6.8nm,0.5s,baz=18,slow=2.6						
NOA	**NORSAR Array B**	149.84	349	PKPbc	PKPdf	02 51 18.5	+5.1
	9.3nm,0.7s,baz=17,slow=4.2,SNR=24						
NOA				PKPab	PKPab	02 51 25.6	-2.5
	4.9nm,0.6s,baz=27,slow=3.9,SNR=17						
NOA	**NORSAR Array B**	149.84	349	PKPbc	PKPdf	02 51 18.5	+5.1

NOA				PKPab	PKPab	02 51 25.6	-2.5
BOYT	Boyabat	150.35	299	P	PKPdf	02 51 21.0	+6.2
CTKT	Corum	150.52	297	P	PKPdf	02 51 21.8	+6.6
AVNT	Avonos	150.61	293	P	PKPdf	02 51 21.9	+6.5
AKASG	Malin Array Be	151.19	319	PKPbc	PKPdf	02 51 22.1	+6.3
	4.4nm,0.5s,baz=57,slow=2.2,SNR=32						
AKASG				PKPab	PKPab	02 51 31.5	-2.5
	2.4nm,0.6s,baz=48,slow=4.5,SNR=8.7						
MEST	Erdemli	151.22	289	P	PKPdf	02 51 23.4	+7.1
BRTR	Keskin Array B	151.49	296	PKPbc	PKPdf	02 51 23.6	+7.0
	4.4nm,0.6s,baz=132,slow=3.8,SNR=20						
BRTR				PKPab	PKPab	02 51 34.1	-1.6
	1.7nm,0.7s,baz=143,slow=6.2,SNR=5.1						
ELDT	Eldivan	151.57	297	P	PKPdf	02 51 24.1	+7.4
DBIC	Dimbokro	154.58	169	PKPbc	PKPdf	02 51 31.9	+10
	5.7nm,1.1s,baz=236,slow=20,SNR=4.0						
MLR	Muntele Rosu	155.53	311	PKPbc	PKPdf	02 51 32.5	+11
	1.9nm,0.9s,baz=102,slow=11,SNR=2.9						
MLR				PKPab	PKPab	02 51 51.7	-0.8
	1.6nm,0.6s,baz=201,slow=11,SNR=3.8						
DPC	Dobruska-Polom	157.77	331	ePKPAB	PKPab	02 52 00.5	-1.5
UPC	Upice	157.77	332	ePKPAB	PKPab	02 52 00.2	-1.8
VYHS	Vyhne	157.96	324	i PKP	PKPab	02 52 01.6	-1.3
CLL	Collm	158.23	337	⇑iPKP2	PKPab	02 52 01.9	-2.0
BRG	Berggiesshubel	158.27	335	i P	PKPab	02 52 02.3	-1.8
PVCC	Panska Ves	158.32	334	ePKPAB	PKPab	02 52 02.8	-1.5
PRU	Pruhonice	158.76	333	ePKPAB	PKPab	02 52 04.5	-1.8
NKC	Novy Kostel	159.33	336	ePKPAB	PKPab	02 52 07.0	-1.7
KHC	Kasperske Hory	159.83	333	ePKPAB	PKPab	02 52 09.1	-1.8
GEC2	GERESS Array S	160.01	332	eP	PKPab	02 52 09.8	-1.8
GERES	GERESS Array B	160.01	332	PKPab	PKPab	02 52 09.8	-1.8
	3.5nm,0.8s,baz=34,slow=4.8,SNR=16						
WET	Wettzell	160.08	334	eP	PKPab	02 52 10.8	-1.2
GIVF	Givet	161.38	350	ePKP2	PKPab	02 52 15.4	-2.1
BAIF	Baives	161.51	351	ePKP2	PKPab	02 52 15.2	-2.9
	4.2nm,0.6s						
CDF	Champ du Feu	162.50	343	ePKP2	PKPab	02 52 21.7	-0.8
MEZF	Maizieres J'vi	162.89	348	ePKP2	PKPab	02 52 21.5	-2.6
HAU	Haudompre	163.10	344	ePKP2	PKPab	02 52 23.0	-2.1
	7.0nm,0.5s						
LOR	Lormes	164.28	349	ePKP2	PKPab	02 52 28.2	-2.1
	4.7nm,0.6s						
SSF	Saint Saulge	164.54	350	ePKP2	PKPab	02 52 28.7	-2.7
	9.7nm,0.7s						
AVF	Avril sur Loir	164.83	350	ePKP2	PKPab	02 52 29.8	-2.8
	6.8nm,0.7s						
SMF	Signal de Mont	164.89	349	ePKP2	PKPab	02 52 30.2	-2.7
	18nm,0.8s						
BGF	Bois d'Agland	165.12	351	ePKP2	PKPab	02 52 31.1	-2.8
LPL	La Plagne	165.31	340	ePKP2	PKPab	02 52 33.4	-1.4
	12nm,0.9s						
LPG	La Plagne	165.32	340	ePKP2	PKPab	02 52 33.6	-1.2
TCF	Toulx Ste Croi	165.46	353	ePKP2	PKPab	02 52 32.6	-2.8
	7.1nm,0.8s						
MBDF	Montbardon	166.01	339	ePKP2	PKPab	02 52 38.8	+0.9
	6.9nm,0.8s						
ORIF	Oris-en-Rattie	166.09	341	ePKP2	PKPab	02 52 36.6	-1.6
	16nm,0.8s						
MTLF	Montolieu	168.37	351	ePKP2	PKPab	02 52 45.9	-2.3
	8.2nm,0.8s						

FUNV 24 03:05:33.9,8.28N×71.05W,h0^{km},MW3.6,Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SOCV	Socops	0.19	89	eP	Pg	03 05 37.4	-0.2
SOCV				eS	Sg	03 05 40.3	+0.1
VIGV	El Vigia	0.76	292	eP	Pg	03 05 46.5	-2.6
VIGV				eS	Sg	03 05 55.1	-4.1
CAPV	Capacho	1.32	252	eP	Pb	03 05 58.8	-0.5
CAPV				eS	Sb	03 06 17.1	+0.5
QARV	Quebrada Arrib	1.98	15	eP	Pn	03 06 09.0	0.0
QARV				eS	Sn	03 06 33.4	-1.5
VIRV	Villa del Rosa	2.58	329	eP	Pn	03 06 16.1	-1.5
VIRV				eS	Sn	03 06 47.0	-3.2
SIQV	Siquisique	2.65	27	eP	Pn	03 06 18.1	-0.5
SIQV				eS	Sn	03 06 49.5	-2.3
BAUV	El Baul	3.04	77	eS	Sn	03 06 57.5	-4.3
JACV	Jacura	3.54	38	eP	Pn	03 06 28.6	-2.7
MONV	Montecano	3.80	16	eP	Pn	03 06 32.1	-2.8
TURV	Turiamo	3.83	55	eP	Pn	03 06 32.1	-3.2

*INMG **24** 04:01:37.7±0.8,36.67N×9.73W,h10^{km}±21^{km},ML1.4, Error ellipse: s-maj=23.4km s-min=4.6km az=59.0*

MDD 24 04:01:37.3±2.5,**36.65N×9.74W,h13**^{km}±73^{km},**mbLg1.8**/5, **Error ellipse: s-maj=83.9km s-min=18.0km az=55.0, PRXIMO PROFUNDIDAD POBRE,West of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PTEO	Sao Teotonio	1.21	42	eP	Pb	04 01 58.8	-0.8
PTEO				eS	Sb	04 02 14.7	-0.2
	3.9nm,0.3s						
PTEO	Sao Teotonio	1.21	42	P	Pb	04 01 58.8	-0.8
PTEO				S	Sb	04 02 14.7	-0.2
	1.9nm,0.3s						
PALC	Alcoutim	1.98	65	eP	Pn	04 02 09.6	-1.5
PALC				eS	Sn	04 02 33.0	-2.9
	2.5nm,0.3s						
PALC	Alcoutim	1.98	65	P	Pn	04 02 09.6	-1.5
PALC				S	Sn	04 02 33.0	-2.9
	1.2nm,0.3s						
PBEJ	Beja	2.03	47	eP	Pn	04 02 09.7	-2.0
PBEJ				eS	Sn	04 02 33.8	-3.2
	1.0nm,0.1s						
PBEJ	Beja	2.03	47	P	Pn	04 02 09.7	-2.0
PBEJ				S	Sn	04 02 33.8	-3.2
	0.5nm,0.1s						
MOE	Montemor	2.17	30	eS	Sn	04 02 38.5	-2.1
EMIN	Mina Concepcio	2.69	65	P	Pn	04 02 19.9	-1.2
	0.2nm,0.2s,SNR=5.0						
EMIN				S	Sn	04 02 50.6	-3.3
	1.2nm,0.2s,SNR=7.9						
EBAD	Badajoz	3.01	45	P	Pn	04 02 23.1	-2.6
	0.6nm,0.1s,SNR=5.0						
EBAD				S	Sn	04 02 58.2	-3.9
	0.6nm,0.1s,SNR=7.9						
ESPR	Espera	3.13	85	P	Pn	04 02 24.9	-2.5
	1.4nm,0.2s,SNR=7.9						
ESPR				S	Sn	04 03 00.2	-4.7
	6.4nm,0.3s,SNR=7.2						
EADA	Adamuz	4.38	68	P	Pn	04 02 42.5	-2.7
	0.1nm,0.1s,SNR=4.0						
EADA				S	Sn	04 03 31.1	-5.6
	1.3nm,0.2s,SNR=7.9						
ELOB	Lobios	5.37	14	S	Sn	04 03 53.6	-8.0
	0.2nm,0.1s,SNR=4.0						
EQES	Quesada	5.45	76	S	Sn	04 03 56.8	-6.6
	0.2nm,0.1s,SNR=7.9						

*NEIC **24** 04:19:23.5,34.95S×70.52W,h2^{km},MD3.7(GUC),After GUC.*

GUC 24 04:19:23.5±0.7,**34.95S×70.52W,h2**^{km},**MD3.7,1C-3D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFDO	San Fernando	0.53	309	⇓iP	Pg	04 19 34.1	0.0
SFDO				i S	Sg	04 19 42.4	+1.3
CICH	Cipreses	0.64	7	⇓iP	Pg	04 19 36.3	+0.1
CICH				i S	Sg	04 19 46.1	+1.5
CACH	El Canelo	0.83	355	eP	Pg	04 19 39.5	-0.6
CACH				i S	Sg	04 19 52.5	+1.2
CHCH	Chadas Angostu	1.02	354	⇓iP	Pb	04 19 43.0	-0.6
CHCH				i S	Sb	04 19 58.3	+1.1
LNV	Longovilo	1.24	323	eP	Pb	04 19 46.3	-1.0
LNV				i S	Sb	04 20 03.8	+0.2
PCH	Pirque	1.33	0	i P	Pb	04 19 48.5	-0.3
PCH				i S	Sb	04 20 07.0	+0.9
TACH	Talagante	1.34	345	eP	Pb	04 19 48.3	-0.8
LCCH	Las Cruces	1.71	329	⇑iP	Pn	04 19 54.4	-0.2
LCCH				i S	Sn	04 20 17.4	+0.2

*BJI **24** 04:19:28.3,27.32N×96.28E,h83^{km},mb4.6,Ms3.6*

*IDC **24** 04:19:30.9±3.5,27.70N×96.97E,h50^{km}±36^{km},mb3.6/9, mb1 3.8/10,mb1mx3.6/22,ML3.2/1,Error ellipse: s-maj=48.2km s-min=13.2km az=63.0*

*NEIC **24** 04:19:32.5±1.1,27.46N×96.34E,h71^{km}±14^{km},mb4.4/2, Error ellipse: s-maj=17.2km s-min=8.8km az=219.0*

ISC 24 04:19:31.5±0.7,**27.42N**±0.09×**96.28E**±0.06,**h82**^{km}±8^{km}, **n25,**σ**1^{s}20**/29,**mb3.9**/11,**1C-1D,Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LKP	Lekhapani	0.21	246	eP	P	04 19 42.0	-1.5
LKP				eS	S	04 20 00.0	+7.5
IMP	Imphal	3.37	219	eP	P	04 20 15.0	-8.0
SHL	Shillong	4.35	246	⇓iP	P	04 20 38.8	+2.2
SHL				eS	S	04 21 31.8	+5.3
KMI	Kunming	6.23	110	eP	P	04 21 03.1	+0.5
KMI				S	S	04 22 14.6	+1.5
KMI				AMB	AMB		
	comp=Z,13nm,0.8s						
KMI				LR	LR		
	comp=N,337nm,6.4s						
KMI				LR	LR		
	comp=E,231nm,9.6s						
KMI	Kunming	6.23	110	eP	P	04 21 03.1	+0.5
	comp=E,13nm,0.8s						
KMI				S	S	04 22 14.6	+1.5
GUN	Gumba	9.23	275	eP	P	04 21 44.1	+0.3
	comp=E,80nm,0.4s						
CMAR	Chiang Mai Arr	9.25	164	P	P	04 21 44.5	+0.5
	comp=E,0.1nm,0.3s,baz=339,slow=13,SNR=7.2						
CMAR				Lg		04 24 27.8	
	comp=E,0.6nm,0.3s,baz=341,slow=25,SNR=4.2						
GYA	Guiyang	9.32	94	P	P	04 21 39.3	-5.6
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s						
PKI	Pulchoki	9.65	273	eP	P	04 21 49.7	+0.2
	comp=Z,27nm,0.4s						
KKN	Kakani	9.77	275	eP	P	04 21 51.4	+0.4
	comp=Z,77nm,0.6s						
DMN	Daman	9.92	274	eP	P	04 21 52.7	-0.4
	comp=Z,25nm,0.5s						
GKN	Gorkha	10.34	276	eP	P	04 21 58.2	-0.5
	comp=Z,15nm,0.3s						
KOLN	Koldanda	11.25	275	eP	P	04 22 09.8	-1.3
	comp=Z,21nm,0.6s						
SONM	Songino Array	21.86	19	P	P	04 24 15.6	-3.0
	comp=Z,1.7nm,0.6s,mb3.6,baz=208,slow=12,SNR=13						
MKAR	Makanchi Array	22.26	334	P	P	04 24 22.6	+0.1
	comp=Z,1.5nm,0.5s,mb3.6,baz=144,slow=10,SNR=14						
KURK	Kurchatov	26.87	335	eP	P	04 25 07.6	+1.4
	comp=Z,3.7nm,0.8s,mb4.0						
ZAL	Zalesovo	27.81	345	P	P	04 25 13.2	-1.7
	comp=Z,1.3nm,0.6s,mb3.7,baz=134,slow=5.4,SNR=3.0						
BVAR	Borovoye Array	32.00	330	P	P	04 25 53.0	+1.2
	comp=Z,0.6nm,0.5s,mb3.6,baz=121,slow=8.6,SNR=3.7						
FITZ	Fitzroy Crossi	53.45	145	P	P	04 28 44.7	-1.0
	comp=Z,1.0nm,0.7s,mb4.0,baz=174,slow=16,SNR=2.7						
WRAB	Tennant Creek	59.79	138	eP	P	04 29 29.7	-0.9
	comp=Z,4.4nm,0.6s,mb4.7						
WRA	Warramunga Arr	59.79	138	P	P	04 29 29.9	-0.7
	comp=Z,1.4nm,0.4s,mb4.3,baz=327,slow=7.5,SNR=39						
WB2	Warramunga Arr	59.80	138	⇑iP	P	04 29 29.8	-0.9
ASAR	Alice Springs	62.44	141	P	P	04 29 47.9	-0.6
	comp=Z,0.6nm,0.5s,mb3.9,baz=323,slow=6.8,SNR=14						
HFS	Hagfors	63.00	326	P	P	04 29 54.3	+2.6
	comp=Z,2.3nm,1.0s,mb4.1,baz=98,slow=10,SNR=2.3						
NOA	NORSAR Array B	64.07	327	P	P	04 30 00.2	+1.6
	comp=Z,0.9nm,0.8s,mb3.7,baz=86,slow=6.1,SNR=3.1						

*STR **24** 04:27:21.6±0.6,42.87N×1.48W,h5^{km}±1^{km},Ml2.3,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LDG **24** 04:27:22.0±0.4,42.87N×1.47W,h2^{km},Md2.4/3,Ml2.3/9, Error ellipse: s-maj=6.3km s-min=4.6km az=53.0*

*MDD **24** 04:27:22.7±0.4,42.87N×1.42W,h7^{km}±4^{km},mbLg1.8/7, Error ellipse: s-maj=3.5km s-min=2.3km az=32.0,PRXIMO AftershockPLICA*

ISC 24 04:27:20.3±0.5,**42.88N**±0.03×**1.52W**±0.03,**h15**^{km}±2^{km}, **n31,**σ**1^{s}23**/57,**Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	Ste Jean	0.32	42	ePg	Pg	04 27 28.2	+1.0
SJPF				eSg	Sg	04 27 31.0	-0.8
	135nm,0.3s						
EALK	Alkurruntz	0.34	1	Pg	Pg	04 27 29.3	+1.6
	8.8nm,0.3s,SNR=47						
EALK				Lg		04 27 34.3	
	35nm,0.3s,SNR=6.2						
LARF	Larrau	0.42	67	Pg	Pg	04 27 29.5	+0.4
LARF				Sg	Sg	04 27 35.2	+0.2
LARF	Larrau	0.42	67	P	Pb	04 27 29.3	+0.4
LARF				S	Sb	04 27 34.6	-0.1
OSSF	Osses	0.42	26	Pg	Pg	04 27 30.1	+0.9
OSSF				Sg	Sg	04 27 34.7	-0.4
OSSF	Osses	0.42	26	P	Pb	04 27 30.2	+1.3
OSSF				S	Sb	04 27 36.6	+1.9
ORDF	Ordiarp	0.54	51	Pg	Pg	04 27 32.0	+0.5
ORDF				Sg	Sg	04 27 39.4	+0.5
ORDF	Ordiarp	0.54	51	P	Pb	04 27 32.0	+1.1
ORDF				S	Sb	04 27 38.5	+0.2
ATE	Arette	0.63	70	P	Pb	04 27 33.0	+0.5
ATE				S	Sb	04 27 41.5	+0.5
FDAF	Les Forges d'A	0.70	94	Pg	Pg	04 27 34.1	-0.4
FDAF				Sg	Sg	04 27 43.9	-0.1
FDAF	Les Forges d'A	0.70	94	P	Pb	04 27 34.2	+0.6
FDAF				S	Sb	04 27 44.1	+1.3
ETSF	Etsaut	0.70	88	ePg	Pg	04 27 33.8	-0.8
ETSF				eSg	Sg	04 27 42.5	-1.6
ETSF				eSn	Sn	04 27 44.6	-1.4
	10nm,0.2s						
VIEF	Viey	1.13	89	S	Sb	04 27 57.0	+1.6
LABF	Labassere	1.18	81	S	Sb	04 27 58.3	+1.6
RESF	Ens	1.37	92	S	Sb	04 28 04.2	+2.1
EPF	Esparros	1.37	83	ePn	Pn	04 27 46.0	+1.0
EPF				ePg	Pg	04 27 48.4	+0.6
EPF				eSg	Sg	04 28 04.0	-2.2
	8.3nm,0.2s						
ESAC	San Caprasio	1.39	146	Pg	Pg	04 27 46.9	-1.3
	15nm,0.3s,SNR=6.8						
ESAC				Lg		04 28 04.8	
	23nm,0.2s,SNR=7.0						
MELF	Melles	1.67	89	S	Sn	04 28 14.0	+3.4
SALF	Salau	1.99	92	S	Sn	04 28 23.6	+4.9
ETOR	Torete	2.09	191	Pn	Pn	04 27 57.2	+1.9
	4.2nm,0.4s,SNR=9.7						
ETOR				Pg	Pg	04 28 01.4	-0.8
	SNR=7.9						
ETOR				Lg		04 28 25.0	
	7.6nm,0.4s,SNR=5.3						
EMIR	Miracle	2.45	112	Pg	Pg	04 28 05.9	-3.4
	SNR=5.0						
EMIR				Lg		04 28 38.4	
	SNR=5.0						
EPOB	Poblet	2.46	127	Pg	Pg	04 28 04.3	-5.1
	SNR=4.0						
EPOB				Lg		04 28 35.4	
	0.8nm,0.2s,SNR=7.9						
EMOS	Mosqueruela	2.63	162	Pg	Pg	04 28 10.6	-2.3
	SNR=7.9						
EMOS				Lg		04 28 42.9	
	1.0nm,0.2s,SNR=7.9						
LFF	La Frestale	2.63	38	ePn	Pn	04 28 03.3	+0.3
LFF				eSn	Sn	04 28 33.7	-1.2
LFF				eSg	Sg	04 28 42.5	-5.5
	5.3nm,0.5s						
MTLF	Montolieu	2.77	79	ePn	Pn	04 28 06.0	+0.9
MTLF				eSn	Sn	04 28 38.3	-0.2
	2.0nm,0.3s						
RJF	Les Rejaudoux	3.27	41	ePn	Pn	04 28 11.6	-0.5
RJF				eSn	Sn	04 28 49.3	-1.7
	2.5nm,0.3s						
CAF	Calviac	3.30	50	ePn	Pn	04 28 12.2	-0.4
CAF				eSn	Sn	04 28 50.3	-1.6
	1.6nm,0.2s						
MFF	Saint Martin d	3.85	14	ePn	Pn	04 28 20.7	+0.3
MFF				ePg	Pg	04 28 32.5	-4.7
MFF				eSn	Sn	04 29 03.8	-2.0
MFF				eSg	Sg	04 29 23.1	-5.5
	1.3nm,0.3s						
ECAL	Calabor	3.98	258	Pn	Pn	04 28 23.5	+1.3
	SNR=5.0						
ECAL				Sn	Sn	04 29 07.8	-1.2
	SNR=5.0						
ECAL				Lg		04 29 29.1	
	SNR=5.0						
LASF	Ste Croix	4.09	71	ePn	Pn	04 28 23.4	-0.4
LASF				eSn	Sn	04 29 08.9	-3.0
	1.0nm,0.3s						
TCF	Toulx Ste Croi	4.33	37	ePn	Pn	04 28 25.3	-1.9
TCF				eSn	Sn	04 29 14.5	-3.4
	2.7nm,0.4s						

*IDC **24** 04:43:50.9±1.2,2.12N×126.92E,mb3.7/5,mb1 3.9/5, mb1mx3.7/14,Error ellipse: s-maj=131.0km s-min=18.9km az=69.0*

*NEIC **24** 04:44:01.1±0.7,2.12N×127.06E,h85^{km},mb4.1/5,Error ellipse: s-maj=47.0km s-min=10.7km az=72.0*

ISC 24 04:43:53.9±0.8,**2.2N**±0.1×**127.0E**±0.3,**h33**^{km},**n13,** σ**0^{s}74**/13,**mb3.9**/9,**Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	20.22	184	eP	P	04 48 28.6	-0.4
	0.7nm,0.3s						
WRAB	Tennant Creek	23.16	162	eP	P	04 48 58.3	-0.3
	7.5nm,0.7s,mb4.2						
WRA	Warramunga Arr	23.16	162	P	P	04 48 58.5	-0.1
	1.9nm,0.4s,mb3.9,baz=342,slow=11,SNR=20						
WB2	Warramunga Arr	23.16	162	eP	P	04 48 58.6	-0.1
MBWA	Marble Bar	24.28	197	P	P	04 49 10.0	+0.5
	4.7nm,0.5s,mb4.2						
ASAR	Alice Springs	26.58	166	P	P	04 49 29.9	-1.2
	0.7nm,0.6s,mb3.4,baz=346,slow=7.1,SNR=7.8						
ASPA	Alice Springs	26.58	166	eP	P	04 49 33.2	+2.0
STKA	Stephens Creek	36.62	159	P	P	04 50 59.2	0.0
	0.7nm,0.5s,mb3.8,baz=346,slow=9.3,SNR=4.6						
STKA	Stephens Creek	36.62	159	P	P	04 50 59.2	0.0
SONM	Songino Array	48.82	342	P	P	04 52 38.8	+0.8
	0.3nm,0.7s,mb3.4,baz=157,slow=11,SNR=3.0						
MKAR	Makanchi Array	58.95	326	P	P	04 53 52.0	-0.4
	0.3nm,0.4s,mb3.7,baz=124,slow=8.3,SNR=8.0						
KURK	Kurchatov	63.16	328	eP	P	04 54 20.5	-0.4
	3.0nm,0.8s,mb4.5						
ZRNK	Zerenda	69.45	327	eP	P	04 55 00.7	-0.1
	0.8nm,0.5s,mb3.9						

*NEIC **24** 04:49:36.3,15.65N×97.03W,h45^{km},MD3.8(MEX),After MEX.*

MEX 24 04:49:39.0±1.1,**15.80N×96.89W,h49**^{km}±42^{km},**MD3.8,1C, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HUIG	Huatulco	0.76	93	i P	P	04 49 51.4	-2.1
HUIG				i S	S	04 50 02.9	-1.3
HUIG	Huatulco	0.76	93	i P	P	04 49 50.4	-3.1
HUIG				i S	S	04 50 03.2	-1.0
VHO	Vista Hermosa	1.27	7	⇑iP	P	04 49 58.9	-1.9
VHO				i S	S	04 50 14.1	-2.9
VHO	Vista Hermosa	1.27	7	i P	P	04 49 58.8	-1.9
VHO				i S	S	04 50 15.3	-1.6
OXX	Oaxaca	1.28	7	i P	P	04 49 59.3	-1.6
OXX				i S	S	04 50 16.2	-1.0
CMIG	Matias Romero	2.31	56	eP	P	04 50 13.7	-1.8
CMIG				i S	S	04 50 40.0	-2.8
CMIG	Matias Romero	2.31	56	eP	P	04 50 13.7	-1.8
CMIG				i S	S	04 50 41.9	-0.9
IISM	Ciudad Serdan	3.20	352	eP	P	04 50 33.0	+4.9
IISM				i S	S	04 51 12.0	+6.7

*NEIC **24** 04:57:30.6±2.1,4.94S×144.71E,h85^{km}±15^{km},mb4.5/9, Error ellipse: s-maj=22.0km s-min=9.1km az=86.0*

*IDC **24** 04:57:42.5±5.0,5.27S×144.69E,h205^{km}±49^{km},mb3.6/7, mb1 3.8/9,mb1mx3.7/14,Error ellipse: s-maj=35.3km s-min=16.6km az=108.0*

ISC 24 04:57:30.4±2.3,**4.95S**±0.08×**144.6E**±0.2,**h97**^{km}±15^{km}, **n27,**σ**0^{s}73**/25,**mb4.3**/14,**1C,Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PIAM	Paiam	1.57	251	⇑iP	P	04 57 57.9	+0.1
KAKA	Kakadu	14.33	237	eP	P	05 00 51.8	+1.8
	9.1nm,0.3s						
CTA	Charters Tower	15.13	174	P	P	05 01 07.2	+7.0
	0.8nm,0.3s,baz=358,slow=15,SNR=7.3						
CTAO	Charters Tower	15.13	174	eP	P	05 01 06.7	+6.6
WRAB	Tennant Creek	17.95	213	eP	P	05 01 34.1	-1.1
	21nm,0.8s						
WB2	Warramunga Arr	17.95	213	eP	P	05 01 34.5	-0.8
WRA	Warramunga Arr	17.96	213	P	P	05 01 34.7	-0.7
	1.5nm,0.3s,baz=35,slow=11,SNR=72						
WRA				S	S	05 04 48.7	-0.5
	0.2nm,0.3s,baz=27,slow=23,SNR=4.7						
ASAR	Alice Springs	21.29	208	P	P	05 02 10.8	0.0
	2.7nm,0.7s,mb3.7,baz=33,slow=10,SNR=37						
ASPA	Alice Springs	21.29	208	eP	P	05 02 11.5	+0.7
FITZ	Fitzroy Crossi	22.71	233	eP	P	05 02 24.6	-0.3
	5.7nm,1.3s,mb3.7						
FITZ	Fitzroy Crossi	22.71	233	P	P	05 02 25.9	+1.1
	1.4nm,0.5s,mb3.6,baz=26,slow=7.1,SNR=11						
CMAR	Chiang Mai Arr	50.69	299	P	P	05 06 23.1	+0.6
	4.3nm,0.6s,mb4.7,baz=125,slow=6.2,SNR=23						
SONM	Songino Array	62.36	332	P	P	05 07 44.5	-0.6
	0.4nm,0.6s,mb3.6,baz=166,slow=7.6,SNR=4.3						
GUN	Gumba	65.33	304	eP	P	05 08 05.0	+0.1
	19nm,0.6s,mb5.1						
KKN	Kakani	65.79	303	eP	P	05 08 07.7	-0.1
	25nm,0.8s,mb5.1						
DMN	Daman	65.87	303	eP	P	05 08 08.5	+0.1
	24nm,0.6s,mb5.2						
GKN	Gorkha	66.40	303	eP	P	05 08 11.4	-0.3
	15nm,0.5s,mb5.1						
KOLN	Koldanda	67.19	303	eP	P	05 08 16.5	-0.1
MKAR	Makanchi Array	75.20	321	P	P	05 09 04.4	+0.2
	2.6nm,0.4s,mb4.3,baz=97,slow=8.6,SNR=38						
ZAL	Zalesovo	76.89	328	P	P	05 09 13.5	-0.1
	1.6nm,0.7s,mb3.9,baz=206,slow=6.6,SNR=4.9						
AAK	Ala-Archa	78.94	315	eP	P	05 09 23.9	-1.2
	1.5nm,0.7s,mb3.9						
QSPA	South Pole Qui	85.01	180	eP	P	05 09 57.4	+1.7
	1.6nm,0.5s,mb4.2						
ZRNK	Zerenda	85.34	324	eP	P	05 09 57.9	0.0
	1.6nm,0.5s,mb4.2						
ILAR	Eielson Array	85.46	24	P	P	05 09 58.2	0.0
	2.0nm,0.7s,mb4.1,baz=254,slow=5.2,SNR=22						
LPAZ	La Paz	141.32	124	PKP	PKPdf	05 16 51.1	+0.2
	0.6nm,0.5s,baz=153,slow=2.3,SNR=3.8						
CPUP	Villa Florida	142.31	147	PKP	PKPdf	05 16 54.0	+1.5
	0.4nm,0.5s,baz=45,slow=1.4,SNR=3.9						
DBIC	Dimbokro	149.61	275	PKPbc	PKPdf	05 17 12.4	+7.4
	2.8nm,0.8s,baz=14,slow=4.2,SNR=5.5						

CASC 24 05:18:03.0±2.5,**11.12N×87.60W,h36**^{km}±999^{km},**MD3.8, ML2.6,2C-3D,Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
COPN	Copaltepe	1.44	43	⇑iP	P	05 18 26.4	-0.7
LEON	Leon	1.46	28	⇓eP	P	05 18 26.8	-0.6
MIRN	Miramar	1.57	33	⇓eP	P	05 18 28.2	-0.7
CNGN	Cerro Negro	1.63	33	⇑eP	P	05 18 28.9	-0.9
MOMJ	Momotombo	1.65	39	eP	P	05 18 29.0	-1.0
MOMJ				eS	S	05 18 50.4	+0.3
TELN	Telica	1.66	27	eP	P	05 18 29.7	-0.4
MGAN	Managua	1.67	52	eP	P	05 18 29.1	-1.2
MGAN				eS	S	05 18 51.5	+0.7
MGAN				i		05 18 51.6	
	comp=N,61nm,0.3s						
JCR	Jicaral	2.75	117	eS	S	05 19 15.1	-3.0
CGA2	Cerro Gallo 2	3.27	109	eP	P	05 18 51.9	-1.2
LAJ	Bijagual	3.64	110	eP	P	05 18 54.0	-4.4
LCR2	La Lucha 2	3.79	111	eP	P	05 19 01.1	+0.5
LCR2				eS	S	05 19 45.2	+0.7
BUS	Buena Vista	4.08	112	⇓iP	P	05 19 05.5	+0.8
BUS				eS	S	05 19 51.2	-0.7

*NEIC **24** 05:22:15.5±0.5,56.17S×25.29W,h10^{km},mb4.2/5,Error ellipse: s-maj=19.6km s-min=8.8km az=62.0*

*IDC **24** 05:22:20.3±9.1,56.39S×25.49W,h46^{km}±86^{km},mb3.9/5, mb1 3.9/5,mb1mx3.8/10,Error ellipse: s-maj=42.0km s-min=21.9km az=51.0*

ISC 24 05:22:19.3±4.0,**56.3S**±0.1×**25.4W**±0.3,**h52**^{km}±38^{km},**n17,** σ**0^{s}67**/15,**mb4.2**/8,**4D,South Sandwich Islands region**

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

VNA1	Neumayer--Stat	16.23	159	⇓*i*	P	05 26 05.2	+0.5
VNA3	Neumayer Olymp	16.47	162	⇓*i*	P	05 26 07.6	-0.1
VNA2	Neumayer--Watz	16.63	159	⇓*i*	P	05 26 10.6	+0.9
SNAA	Sanae	18.15	157	⇓*i*	P	05 26 27.3	-1.4
PMSA	Palmer Station	20.51	230	*e*P	P	05 26 55.1	0.0
	8.1nm,0.9s						
QSPA	South Pole Qui	33.98	180	*e*P	P	05 28 59.2	+0.1
	7.2nm,0.6s,mb4.8						
CPUP	Villa Florida	37.71	309	P	P	05 29 30.6	-0.7
	1.2nm,0.9s,mb3.6,baz=158,slow=6.8,SNR=5.1						
MAW	Mawson	39.38	143	P	P	05 29 44.0	-0.7
	2.9nm,0.8s,mb4.1,baz=238,slow=10,SNR=7.7						
LPAZ	La Paz	51.32	303	P	P	05 31 21.2	+1.0
	1.7nm,0.9s,mb4.0,baz=145,slow=8.1,SNR=9.5						
LPAZ	La Paz	51.32	303	*e*P	P	05 31 21.2	+1.0
	1.9nm,0.9s,mb4.0						
CASY	Casey	53.36	159	*e*P	P	05 31 35.1	+0.3
	3.9nm,0.8s,mb4.4						
SAML	Samuel	55.67	313	*e*P	P	05 31 51.6	-0.7
	1.8nm,0.9s,mb4.1						
DBIC	Dimbokro	64.97	23	P	P	05 32 56.2	+0.5
	2.6nm,0.9s,mb4.2,baz=64,slow=15,SNR=3.0						
DBIC	Dimbokro	64.97	23	P	P	05 32 56.2	+0.5
STKA	Stephens Creek	91.51	169	P	P	05 35 21.2	+0.3
	1.5nm,0.8s,mb4.3,baz=314,slow=16,SNR=2.1						
SONM	Songino Array	149.75	86	PKPbc	PKPdf	05 42 03.2	+5.9
	1.1nm,1.0s,baz=225,slow=1.7,SNR=6.0						
ILAR	Eielson Array	151.00	311	PKPbc	PKPdf	05 42 06.3	+7.7
	1.3nm,0.9s,baz=87,slow=1.1,SNR=8.0						

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*IDC **24** 05:35:21.8±1.4, 11.46N×94.96E, mb3.7/6, mb1 3.8/7, mb1mx3.7/17, MS2.5/1, Ms1 2.7/1, ms1mx2.6/17, Error ellipse: s-maj=53.7km s-min=20.7km az=64.0*

*NEIC **24** 05:35:22.7±7.7, 11.47N×95.01E, h5^{km}±48^{km}, mb4.1/6, Error ellipse: s-maj=23.3km s-min=9.3km az=221.0*

ISC 24 05:35:24.9±0.8**, 11.6N**±0.1×**95.1E**±0.1**, h33^{km}, n15, σ0^{s}61**/15**, mb3.8**/8**, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	7.78	28	Pn	Pn	05 37 18.3	-0.6
	baz=216,slow=15,SNR=1.0						
CMAR				LR	LR	05 40 25.7	
	comp=Z,38nm,20.9s,baz=210,slow=38						
PKI	Pulchoki	18.34	332	*e*P	P	05 39 38.8	+0.2
	26nm,0.9s						
DMN	Daman	18.51	331	*e*P	P	05 39 41.6	+0.8
KKN	Kakani	18.58	332	*e*P	P	05 39 41.1	-0.5
	4.0nm,0.3s						
GKN	Gorkha	19.07	331	*e*P	P	05 39 46.4	-1.0
	1.8nm,0.3s						
KOLN	Koldanda	19.40	328	*e*P	P	05 39 50.6	-0.4
	35nm,1.1s						
LZH	Lanzhou	25.66	17	*e*P	P	05 41 02.0	+8.5
	28nm,1.5s,mb4.6						
LZH				pP	pP	05 41 13.0	+10
LZH				sP	sP	05 41 17.0	+10
MKAR	Makanchi Array	36.74	345	P	P	05 42 31.3	+0.2
	1.0nm,0.7s,mb3.7,baz=164,slow=10,SNR=6.2						
MKAR	Makanchi Array	36.74	345	P	P	05 42 31.3	+0.2
SONM	Songino Array	37.37	13	P	P	05 42 37.7	+1.4
	0.5nm,0.8s,mb3.4,baz=217,slow=7.2,SNR=2.7						
ZRNK	Zerenda	46.28	338	*e*P	P	05 43 49.0	-0.1
	2.0nm,0.8s,mb4.1						
WRA	Warramunga Arr	49.72	129	P	P	05 44 16.0	-0.3
	0.4nm,0.8s,mb3.5,baz=305,slow=9.1,SNR=5.8						
ASAR	Alice Springs	51.63	133	P	P	05 44 30.9	+0.2
	0.3nm,0.6s,mb3.4,baz=310,slow=7.0,SNR=4.0						
STKA	Stephens Creek	62.01	136	P	P	05 45 44.3	-0.2
	2.4nm,1.1s,mb4.2,baz=335,slow=13,SNR=2.8						
GERES	GERESS Array B	75.74	318	P	P	05 47 09.5	+0.4
	0.3nm,0.2s,mb3.8,baz=90,slow=5.9,SNR=3.2						

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*IDC **24** 05:53:34.4±1.9, 10.58S×165.93E, mb3.8/6, mb1 4.1/6, mb1mx3.9/14, Error ellipse: s-maj=101.0km s-min=23.1km az=145.0*

ISC 24 05:53:59.6±1.0**, 11.75S**±0.09×**166.2E**±0.2**, h250^{km}, n7, σ1^{s}23**/8**, mb3.4**/6**, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	10.27	178	*e*P	P	05 56 24.8	+2.4
DZM				*e*S	S	05 58 13.4	-1.3
WRA	Warramunga Arr	31.62	251	P	P	06 00 01.8	+0.3
	1.1nm,0.8s,mb3.4,baz=79,slow=9.1,SNR=7.1						
ASAR	Alice Springs	32.84	244	P	P	06 00 11.4	-0.5
	0.4nm,0.8s,mb3.0,baz=80,slow=8.7,SNR=5.0						
FITZ	Fitzroy Crossi	39.58	256	P	P	06 01 09.3	+0.8
	1.8nm,0.7s,mb3.6,baz=111,slow=5.1,SNR=9.2						
ILAR	Eielson Array	84.06	18	P	P	06 06 01.2	-1.7
	0.6nm,0.5s,mb3.6,baz=236,slow=5.1,SNR=20						
NVAR	Mina Array Bea	86.18	50	P	P	06 06 15.4	+1.3
	0.4nm,0.8s,mb3.2,baz=252,slow=8.6,SNR=3.1						
MKAR	Makanchi Array	94.30	317	P	P	06 06 51.0	-0.8
	0.6nm,0.8s,mb3.7,baz=90,slow=7.3,SNR=5.5						

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*IDC **24** 06:50:03.7±0.7, 17.50N×62.66W, h85^{km}±6^{km}, mb3.7/15, mb1 3.9/16, mb1mx3.8/22, Error ellipse: s-maj=18.1km s-min=7.2km az=50.0*

*TRN **24** 06:50:03.9, 17.60N×62.52W, h84^{km}, MD4.2, M4.2(FDF)*

*NEIC **24** 06:50:04.5±0.4, 17.54N×62.60W, h90^{km}±4^{km}, mb3.8/3, MD4.2(FDF), Error ellipse: s-maj=8.4km s-min=4.5km az=211.0*

*RSPR **24** 06:50:07.7, 18.77N×62.78W, h25^{km}±55^{km}, MD4.0/8, MD4.0/8*

ISC 24 06:50:03.5±0.3**, 17.59N**±0.04×**62.62W**±0.03**, h97^{km}**±3^{km}**, h85^{km}**±1.7^{km}**:pP-P, n58, σ1^{s}03**/74**, mb3.9**/18**, 8C-9D, Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STAT	Sint Eustatius	0.36	255	⇓*i*P	P	06 50 19.4	+1.3
SABT	Saba	0.60	273	⇓*i*P	P	06 50 21.4	+1.4
SABT				*e*S	S	06 50 33.5	+1.3
STMA	St. Maarten, A	0.65	314	⇑*i*P	P	06 50 21.5	+1.1
STMA				*e*S	S	06 50 33.1	+0.1
CPB	Codrington	0.76	86	⇑*i*P	P	06 50 21.6	+0.2
CPB				*e*S	S	06 50 33.9	-0.8
BPA	Boggy Peak	0.90	126	*e*P	P	06 50 22.1	-0.8
BPA	Boggy Peak	0.90	126	⇑*i*P	P	06 50 23.1	+0.2
BPA				*e*S	S	06 50 35.7	-1.7
BPA				*e*S	S	06 50 36.0	-1.3
SEG	Port Louis	1.59	138	⇓*e*P	P	06 50 30.7	-0.4
DEG	La Desirade	1.96	130	*e*P	P	06 50 35.0	-0.9
DEG				*e*S	S	06 50 58.1	-1.7
MGG	Marie-Galante	2.07	143	*e*P	P	06 50 37.7	+0.2
BBL	Barber's Block	2.32	152	*e*P	P	06 50 41.3	+0.4
BBL	Barber's Block	2.32	152	⇓*i*P	P	06 50 41.3	+0.4
BBL	Barber's Block	2.32	152	⇓*i*P	P	06 50 41.3	+0.4
DWS	Wesley	2.36	148	*e*P	P	06 50 42.3	+0.8
DWS				*e*S	S	06 51 09.5	-0.2
DLVT	Layou Valley	2.44	151	*e*P	P	06 50 43.5	+1.0
DLVT				*e*S	S	06 51 12.5	+1.0
MDN	Morne-Daniel	2.54	152	*e*P	P	06 50 44.1	+0.1
MDN				*e*S	S	06 51 15.0	+0.9
HUMP	Col San Antoni	3.13	281	⇓*e*P	P	06 50 52.0	+0.1
HUMP	Col San Antoni	3.13	281	*e*S	S	06 51 27.3	-1.1
HUMP	Col San Antoni	3.13	281	*e*Pn	P	06 50 51.9	-0.1
HUMP				*e*Sn	S	06 51 27.7	-0.8
CBYP	Canovanas	3.16	283	⇓*e*P	P	06 50 52.7	+0.3
CBYP	Canovanas	3.16	283	*e*Pn	P	06 50 52.7	+0.3
CBYP				*e*Sn	S	06 51 25.6	-3.7
FDF	Fort de France	3.17	153	⇑*e*P	P	06 50 52.0	-0.5
SJG	San Juan	3.41	279	⇓*e*P	P	06 50 55.9	+0.1
SJG	San Juan	3.41	279	⇓*e*P	P	06 50 55.3	-0.5
SJG				*e*S	S	06 51 33.7	-1.6
SJG	San Juan	3.41	279	*e*Pn	P	06 50 55.6	-0.1
SJG				*e*Sn	S	06 51 35.4	+0.1
CSB	Colonia Sabana	3.44	282	⇑*e*P	P	06 50 56.5	+0.2
CSB				*e*S	S	06 51 33.4	-2.8
CELP	Cerrillos	3.81	278	⇑*i*P	P	06 51 01.5	+0.2
CELP				*e*S	S	06 51 41.7	-3.4
OBIP	Obispado Ponce	3.83	277	⇑*e*P	P	06 51 02.0	+0.5
OBIP	Obispado Ponce	3.83	277	*e*S	S	06 51 45.1	-0.6
PORP	Portuguez	3.86	278	⇑*i*P	P	06 51 01.6	-0.4
AOPR	Arecibo Observ	4.01	282	⇑*e*P	P	06 51 04.7	+0.7
AOPR	Arecibo Observ	4.01	282	*e*S	S	06 51 49.2	-0.8
LRS	Lares	4.09	281	⇑*e*P	P	06 51 05.2	+0.1
LRS				*e*S	S	06 51 48.1	-3.9
SDV	Santo Domingo	11.64	223	*e*Pn	P	06 52 47.6	-0.2
ROSC	El Rosal	17.07	224	P	P	06 53 59.6	+2.0
	0.6nm,0.3s,baz=34,slow=24,SNR=5.5						
JTS	JuntasAbangare	22.84	254	P	P	06 55 00.4	+1.2
	1.8nm,0.4s,mb3.8						
SAML	Samuel	26.37	181	P	P	06 55 32.0	-0.7
	0.7nm,0.4s,mb3.4						
LPAZ	La Paz	34.09	189	P	P	06 56 40.7	-0.3
	1.3nm,0.9s,mb3.8,baz=347,slow=2.8,SNR=5.9						
LPAZ	La Paz	34.09	189	P	P	06 56 40.7	-0.3
BDFB	Brasilia	36.02	156	P	P	06 56 57.2	-0.1
	2.0nm,0.8s,mb4.1,baz=299,slow=9.0,SNR=2.7						
SCHQ	Schefferville	37.32	356	P	P	06 57 08.6	+0.8
	1.1nm,0.6s,mb4.0,baz=164,slow=17,SNR=2.5						
BNM	Barren Site	42.55	302	*e*P	P	06 57 51.9	+0.6
CPUP	Villa Florida	43.95	173	P	P	06 58 00.4	-2.4
	0.9nm,0.8s,mb3.6,baz=23,slow=13,SNR=3.5						
PDAR	Pinedale Array	46.94	313	P	P	06 58 26.7	+0.4
	0.4nm,0.4s,mb3.5,baz=114,slow=11,SNR=4.9						
PDAR				pP	pP	06 58 47.4	-2.1
	0.5nm,0.6s,baz=120,slow=11,SNR=3.0						
NVAR	Mina Array Bea	52.54	305	P	P	06 59 09.4	+0.3
	0.3nm,0.6s,mb3.5,baz=96,slow=9.1,SNR=3.1						
NVAR				pP	pP	06 59 31.2	-1.6
	0.3nm,0.6s,baz=87,slow=10,SNR=2.6						
NEW	Newport	53.59	317	P	P	06 59 19.2	+2.4
	0.8nm,0.3s,mb4.2,baz=189,slow=4.8,SNR=3.2						
NEW	Newport	53.59	317	P	P	06 59 19.2	+2.4
TIC	Toumodi	57.16	93	*e*P	P	06 59 41.4	-1.6
	79nm,1.2s						
LIC	Lamto	57.27	94	*e*P	P	06 59 42.9	-0.8
	88nm,1.6s						
DBIC	Dimbokro	57.31	93	P	P	06 59 43.6	-0.4
	4.1nm,0.5s,mb4.7,baz=275,slow=10,SNR=10.0						
YKA	Yellowknife Ar	57.41	334	P	P	06 59 42.7	-1.3
	1.7nm,0.6s,mb4.2,baz=104,slow=7.5,SNR=3.4						
KIC	Kosan Boka	57.51	94	*e*P	P	06 59 44.8	-0.6
	168nm,1.6s						
INK	Inuvik	66.75	338	P	P	07 00 44.8	-1.4
	2.9nm,0.8s,mb4.1,baz=115,slow=15,SNR=3.3						
NOA	NORSAR Array B	66.95	31	P	P	07 00 48.1	+0.6
	1.5nm,0.8s,mb3.9,baz=258,slow=5.1,SNR=2.7						
ILAR	Eielson Array	71.81	333	P	P	07 01 16.6	-0.6
	0.7nm,0.6s,mb3.6,baz=96,slow=4.0,SNR=15						
ILAR				pP	pP	07 01 38.1	-4.1
	0.6nm,0.9s,baz=106,slow=3.5,SNR=3.6						
FINES	FINESS Array B	74.11	30	P	P	07 01 31.1	+0.5
	2.6nm,0.6s,mb4.1,baz=270,slow=3.8,SNR=9.2						
KAF	Kangasniemi	74.13	29	*e*p	P	07 01 26.8	-3.9
	0.9nm,0.4s,mb3.9						
MLR	Muntele Rosu	76.69	46	P	P	07 01 47.5	+1.9
	2.1nm,0.7s,mb4.0,baz=123,slow=9.0,SNR=3.1						
BRTR	Keskin Array B	83.63	50	P	P	07 02 23.9	+1.3
	1.9nm,0.9s,mb3.9,baz=272,slow=6.5,SNR=4.9						

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*NEIC **24** 06:53:12.1±2.8, 5.05S×149.31E, h94^{km}±22^{km}, mb4.3/5, Error ellipse: s-maj=29.4km s-min=18.2km az=149.0*

*IDC **24** 06:53:16.3±10.0, 5.22S×149.36E, h131^{km}±88^{km}, mb3.7/4, mb1 3.8/5, mb1mx3.5/14, Error ellipse: s-maj=53.5km s-min=41.1km az=135.0*

ISC 24 06:53:09.8±4.4**, 5.0S**±0.3×**149.1E**±0.3**, h78^{km}**±39^{km}**, n15, σ0^{s}52**/14**, mb4.0**/4**, Bismarck Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	4.83	203	*e*Pn	P	06 54 21.5	-0.1
PMG				*e*Sn	S	06 55 11.3	-5.4
CTA	Charters Tower	15.30	190	P	P	06 56 43.3	+0.6
	0.2nm,0.3s,baz=20,slow=11,SNR=4.3						
CTAO	Charters Tower	15.30	190	*e*P	P	06 56 43.0	+0.3
	2.8nm,0.7s						
KAKA	Kakadu	18.20	244	*e*P	P	06 57 25.5	+6.7
	11nm,0.5s						
WRAB	Tennant Creek	20.69	223	*e*P	P	06 57 45.0	-0.8
	10nm,0.6s						
WB2	Warramunga Arr	20.69	223	*e*P	P	06 57 45.3	-0.5
WRA	Warramunga Arr	20.70	223	P	P	06 57 45.4	-0.5
	4.6nm,0.5s,baz=49,slow=10,SNR=33						
ASAR	Alice Springs	23.68	217	P	P	06 58 15.5	+0.2
	1.4nm,0.3s,mb3.8,baz=49,slow=8.3,SNR=26						
ASPA	Alice Springs	23.68	217	*e*P	P	06 58 15.3	0.0
FITZ	Fitzroy Crossi	26.39	238	*e*P	P	06 58 42.3	+1.3
	8.2nm,0.8s,mb4.2						
FITZ	Fitzroy Crossi	26.39	238	P	P	06 58 42.0	+1.0
	11nm,0.9s,mb4.3,baz=53,slow=4.0,SNR=34						
MBWA	Marble Bar	32.73	238	*e*P	P	06 59 37.6	+0.2
	6.7nm,0.6s,mb4.7						
ILAR	Eielson Array	83.70	23	P	P	07 05 30.9	-0.1
	0.3nm,0.8s,mb3.2,baz=252,slow=5.2,SNR=4.4						
LPAZ	La Paz	137.56	121	PKP	PKPdf	07 12 25.7	-0.1
	0.3nm,0.3s,baz=277,slow=3.8,SNR=3.1						
BDFB	Brasilia	153.44	141	PKPbc	PKPdf	07 12 59.4	+7.1
	1.5nm,0.6s,baz=216,slow=18,SNR=2.9						

WEL 24 07:00:58.8±0.3**, 40.72S×173.67E, h93^{km}**±3^{km}**, ML3.6**/7**, 3C-6D, Error ellipse: s-maj=1.3km s-min=1.1km az=90.0, Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NNZ	Nelson	0.55	204	PN	P	07 01 14.3	-0.2
NNZ				SN	S	07 01 25.9	-0.1
TUWZ	Tuamarina	0.74	164	⇑PN	P	07 01 16.1	-0.1
TUWZ				SN	S	07 01 29.4	+0.2
QRZ	Quartz Range	0.88	262	⇑PN	P	07 01 16.6	-1.0
QRZ				SN	S	07 01 29.8	-1.8
MRW	Makara Radio	0.93	124	⇓PN	P	07 01 18.2	+0.1
KIW	Kapiti Island	0.95	99	⇓PN	P	07 01 18.2	-0.2
KIW				SN	S	07 01 32.3	-0.7
SNZO	South Karori	0.98	128	⇓PN	P	07 01 18.5	-0.2
SNZO				SN	S	07 01 33.1	-0.6
WEL	Wellington	1.00	125	PN	P	07 01 18.9	-0.1
WEL				SN	S	07 01 33.3	-0.9
BSWZ	Blackbirch Sta	1.01	171	PN	P	07 01 19.5	+0.4
BSWZ				SN	S	07 01 35.8	+1.5
CMWZ	Cape Campbell	1.11	159	PN	P	07 01 21.3	+1.0
CAW	Cannon Point	1.13	111	⇓PN	P	07 01 20.0	-0.5
BHW	Baring Head	1.14	128	PN	P	07 01 19.9	-0.8
BHW				SN	S	07 01 35.4	-1.6
THZ	Tophouse	1.20	209	⇑PN	P	07 01 21.0	-0.4
THZ				SN	S	07 01 38.0	-0.2
MSWZ	Moikau Station	1.38	121	PN	P	07 01 23.0	-0.7
MSWZ				SN	S	07 01 39.9	-2.2
WAZ	Wanganui	1.39	47	PN	P	07 01 23.3	-0.4
NRZ	Ngariki Road	1.39	8	PN	P	07 01 23.3	-0.4
NWEZ	Newall Road	1.45	6	PN	P	07 01 23.9	-0.5
MRZ	Mangatainoka R	1.45	89	⇓PN	P	07 01 23.3	-1.1
MTW	Mount Morrison	1.45	108	PN	P	07 01 23.4	-1.1
MTW				SN	S	07 01 41.4	-2.2
NEZ	North Egmont	1.48	13	PN	P	07 01 24.3	-0.5
PAWZ	Paruwai Farm	1.48	117	PN	P	07 01 24.2	-0.7
PAWZ				SN	S	07 01 41.4	-2.8
PKE	Pukeiti	1.54	9	PN	P	07 01 25.1	-0.5
PKE				SN	S	07 01 45.1	-0.3
DSZ	Denniston Nort	1.75	233	PN	P	07 01 27.3	-1.0
VRZ	Vera Road	1.79	28	⇓PN	P	07 01 28.7	-0.2
VRZ				SN	S	07 01 50.8	-0.3
TSZ	Takapari Road	1.86	70	PN	P	07 01 28.3	-1.5
BFZ	Birch Farm	1.96	90	PN	P	07 01 29.2	-1.8
WNVZ	Wahianoa	2.02	47	PN	P	07 01 31.3	-0.6
MOVZ	Moawhango	2.06	51	PN	P	07 01 31.1	-1.3
WPVZ	Whakapapa	2.08	44	PN	P	07 01 32.0	-0.7
CNZ	Chateau	2.09	44	PN	P	07 01 32.0	-0.8
TUVZ	Tukino	2.10	47	PN	P	07 01 32.1	-0.8
TWVZ	Taurewa	2.13	40	PN	P	07 01 32.5	-0.8
NGZ	Ngauruhoe	2.13	45	PN	P	07 01 32.3	-1.1
WTVZ	West Tongariro	2.17	43	PN	P	07 01 32.8	-1.2
MGZ	Maungaku	2.23	41	PN	P	07 01 33.8	-1.1
LTZ	Lake Taylor	2.32	207	PN	P	07 01 34.5	-1.4
HIZ	Hauiti	2.38	23	PN	P	07 01 35.6	-1.2
HIZ				SN	S	07 02 03.2	-2.0
MQZ	McQueen's Vall	3.08	194	PN	P	07 01 43.4	-3.1
WVZ	Waitaha Valley	3.22	222	PN	P	07 01 46.4	-2.1
TOZ	Tahuroa Road	3.30	26	PN	P	07 01 48.2	-1.3
TOZ				SN	S	07 02 24.8	-3.0
KNZ	Kokohu	3.51	62	PN	P	07 01 47.8	-4.6
KUZ	Kuaotunu	4.27	23	PN	P	07 02 00.8	-2.1

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*NIED **24** 07:05:00, 32.50N×141.80E, h5^{km}, Mw4.6 Best double couple: M$_{0}$8.52×10^{15} NP1:φ$_{s}$16°, δ67°, λ111°. NP2:φ$_{s}$152°, δ31°, λ50°.*

*JMA **24** 07:05:23.1±0.5, 32.49N×141.82E, h15^{km}, M4.3*

*MOS **24** 07:05:24.8±1.7, 32.57N×141.74E, h33^{km}, mb4.7/17, Error ellipse: s-maj=23.7km s-min=9.8km az=104.0*

*BJI **24** 07:05:26.7, 32.58N×141.44E, h38^{km}, mB4.7, mb4.5, Ms4.2, Msz3.8*

*IDC **24** 07:05:28.5±0.4, 32.36N×141.67E, h48^{km}±4^{km}, mb4.0/18, mb1 4.1/19, mb1mx4.1/26, MS4.0/14, Ms1 4.0/14, ms1mx3.8/26, Error ellipse: s-maj=11.5km s-min=7.0km az=38.0*

*NEIC **24** 07:05:28.3±0.3, 32.38N×141.43E, mb4.8/14, MW4.6(NIED), Error ellipse: s-maj=11.5km s-min=7.8km az=73.0*

ISC 24 07:05:25.9±0.3**, 32.39N**±0.04×**141.62E**±0.06**, h48^{km}, h48^{km}**±1.6^{km}**:pP-P, n98, σ1^{s}38**/101**, mb4.5**/41**, MS4.0**/19**, 2C-2D, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHJ2	Mitsune	1.68	296	P	P	07 05 53.9	+0.5
JHJ	Hachijo jima 2	1.71	296	P	P	07 05 54.0	+0.2
	125nm,0.3s,baz=56,slow=22,SNR=26						
JHJ				S	S	07 06 17.6	+3.0
	339nm,0.3s,baz=62,slow=21,SNR=9.2						
BSO1	Boso 1	2.32	347	P	P	07 06 00.9	-1.6
BSO3	Boso 3	2.58	339	P	P	07 06 06.0	-0.2
JKO	Kozu shima	2.75	311	P	P	07 06 09.8	+1.2
JKO				S	S	07 06 43.0	+2.3
BSO4	Boso 4	2.81	338	P	P	07 06 08.9	-0.5
BSO4				S	S	07 06 44.4	+2.2
JIM2	Oshima 3	2.96	322	P	P	07 06 10.4	-1.1
JOD2	Odawara 2	3.56	324	P	P	07 06 17.3	-2.7
JYN	Shimob	4.02	321	P	P	07 06 29.9	+3.4
JRY	Ryogami san	4.26	329	P	P	07 06 29.3	-0.7
JRY				S	S	07 07 19.6	+0.5
JAG	Ashikaga	4.41	337	P	P	07 06 30.0	-2.0
JAG				S	S	07 07 20.9	-1.8
MAJO	Matsushiro	5.01	327	*e*Pn	P	07 06 40.0	-0.5
MAT	Matsushiro	5.01	327	P	P	07 06 40.1	-0.4
MAT				S	S	07 07 38.2	+0.3
MAT	Matsushiro	5.01	327	P	P	07 06 41.4	+0.9
MAT	Matsushiro	5.01	327	*e*P	P	07 06 40.0	-0.5
MAT				*e*S	S	07 07 38.0	+0.1
JWZ	Kozaga	5.09	285	P	P	07 06 42.3	+0.7
CBIJ	Chichi jima	5.30	175	P	P	07 06 41.3	-3.1
	64nm,0.3s,baz=129,slow=23,SNR=44						
CBIJ				S	S	07 07 40.0	-4.9
	38nm,0.3s,baz=98,slow=24,SNR=3.8						
CBIJ				LR	LR	07 08 33.7	
	comp=Z,1μm,18.0s,baz=5.1,slow=35						
JMM	Marumori	5.51	353	P	P	07 06 43.7	-3.7
JMM				S	S	07 07 43.5	-6.8
JNS	Sasagawa	5.74	341	P	P	07 06 48.9	-1.7
JMK	Ichinoseki	6.56	357	P	P	07 06 57.7	-4.4
JMK				S	S	07 08 07.3	-9.1
ASAJ	Asahikawa	11.73	3	P	P	07 08 08.7	-4.5
	baz=214,slow=7.3						
ASAJ				S	S	07 10 14.2	-10
	1.1nm,0.3s,baz=64,slow=31,SNR=3.2						
ASAJ				LR	LR	07 13 26.4	
	comp=Z,296nm,18.6s,baz=182,slow=41						
ASAJ	Asahikawa	11.73	3	P	P	07 08 08.7	-4.5
ASAJ				S	S	07 10 14.2	-9.5
ASAJ				smax			
	comp=N,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,296nm,18.7s						
JOW	Kunigami	12.86	248	LR	LR	07 13 28.7	
	comp=Z,718nm,18.1s,baz=14,slow=37						
YSS	Yuzh-Sakhalins	14.57	3	*e*P	P	07 08 45.4	-5.2
YSS				MLR	MLR		
	comp=N,600nm,15.0s						
YSS				MLR	MLR		
	comp=Z,600nm,15.0s						
YSS				MLR	MLR		
	comp=E,500nm,16.0s						
SSE	Sheshan	17.43	271	P	P	07 09 24.6	-2.5
SSE				AP		07 09 35.8	
SSE				XP		07 09 39.8	
SSE				XS		07 12 48.4	
SSE				AMB	AMB		
	comp=Z,22nm,0.7s						
SSE				AMB	AMB		
	comp=Z,91nm,7.1s						
SSE				LR	LR		
	comp=N,137nm,15.7s						
SSE				LR	LR		
	comp=E,140nm,15.7s						
SSE				LR	LR		
	comp=Z,210nm,18.6s						
SSE	Sheshan	17.43	271	P	P	07 09 24.6	-2.5
	comp=Z,22nm,0.7s						
SSE				pP		07 09 35.8	
SSE				sP		07 09 39.8	
SSE				S	S	07 12 22.4	-15
SSE				sS		07 12 48.4	
KLR	Kul'dur	18.38	339	*e*P	P	07 09 30.2	-8.6
KLR				MLR	MLR		
	comp=N,600nm,14.0s						
KLR				MLR	MLR		
	comp=E,500nm,14.0s						
KLR				MLR	MLR		
	comp=Z,900nm,14.0s						
GUMO	Guam	18.95	170	*e*P	P	07 09 47.2	+1.5
	comp=Z,166nm,1.1s						
WHN	Wuhan	23.32	273	*e*P	P	07 10 34.5	+4.1
HHC	Hu-ho-hao-te	25.47	298	*e*P	P	07 10 51.3	+0.3
HHC				XP	sP	07 11 02.3	-6.6
HHC				PP	PP	07 11 33.3	+2.1
HHC				XS		07 15 25.6	
HHC				AMB	AMB		
	comp=Z,14nm,1.2s,mb4.4						
HHC				AMB	AMB		
	comp=Z,81nm,5.6s						
HHC				LR	LR		
	comp=N,303nm,18.4s,MS3.9						
HHC				LR	LR		
	comp=E,206nm,19.0s,MS3.9						
HHC				LR	LR		
	comp=Z,168nm,20.8s,MS3.5						
CLNS	Chul'man	27.04	340	*e*P	P	07 11 03.6	-1.8
CLNS				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.5						
CLNS				pmax	pmax		
	comp=N,11nm,0.9s						
CLNS				pmax	pmax		
	comp=E,6.0nm,1.3s						
CLNS				MLR	MLR		
	comp=Z,300nm,24.0s,MS3.8						
CLNS				MLR	MLR		
	comp=N,400nm,22.0s						
XAN	Xi'an	27.35	282	P	P	07 11 07.0	-1.5
SONM	Songino Array	30.73	310	P	P	07 11 40.1	+1.6
	comp=N,5.1nm,0.8s,mb4.4,baz=116,slow=7.0,SNR=28						
GTA	Gaotai	34.35	294	P	P	07 12 08.8	-1.2
GTA				AP	pP	07 12 19.3	-3.4
GTA				XP	sP	07 12 22.3	-6.5
GTA				AMB	AMB		
	comp=Z,2.0nm,0.7s,mb4.2						
GTA				AMB	AMB		
	comp=Z,43nm,5.3s						
GTA				LR	LR		
	comp=N,225nm,16.4s,MS4.1						
GTA				LR	LR		
	comp=E,191nm,16.0s,MS4.1						
GTA				LR	LR		
	comp=Z,138nm,14.1s,MS3.8						
TIXI	Tiksi	39.91	354	*e*P	P	07 12 55.1	-1.4
TIXI				*e*		07 15 08.3	
TIXI				*e*SS	SS	07 21 46.1	-3.7
TIXI				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.4						
TIXI				MLR	MLR		
	comp=Z,100nm,15.0s,MS3.8						
CMAR	Chiang Mai Arr	40.70	261	LR	LR	07 32 13.6	
	comp=Z,90nm,18.4s,MS3.7,baz=70,slow=39						
WMQ	Urumqi	43.25	301	*e*P	P	07 13 25.8	+1.7
WMQ				AP	pP	07 13 30.8	-6.2
WMQ				AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.4						
WMQ				LR	LR		
	comp=Z,101nm,20.2s,MS3.7						
ZAL	Zalesovo	45.28	316	P	P	07 13 40.6	+0.3

	comp=Z,1.3nm,0.4s,mb4.2,baz=289,slow=4.7,SNR=7.0						
ZAL				LR	LR	07 34 06.2	
	comp=Z,230nm,19.7s,MS4.1,baz=303,slow=38						
ZAL	**Zalesovo**	**45.28**	**316**	P	**P**	**07 13 40.7**	**+0.4**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZAL				MLR	MLR		
	comp=Z,230nm,19.7s						
NVS	**Novosibirsk**	**46.26**	**317**	*e*P	**P**	**07 13 47.7**	**-0.4**
NVS				pmax	pmax		
	comp=N,2.0nm,0.7s						
NVS				pmax	pmax		
	comp=E,4.0nm,0.7s						
NVS				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6						
MKAR	**Makanchi Array**	**46.86**	**306**	P	**P**	**07 13 53.6**	**+0.8**
	comp=Z,7.3nm,0.8s,mb4.6,baz=89,slow=10.0,SNR=26						
MKAR				LR	LR	07 33 08.4	
	comp=Z,81nm,19.6s,MS3.7,baz=94,slow=35						
MKAR	**Makanchi Array**	**46.86**	**306**	P	**P**	**07 13 53.7**	**+0.8**
MKAR				pmax	pmax		
	comp=Z,7.0nm,0.9s						
MKAR				MLR	MLR		
	comp=Z,81nm,19.6s						
KKN	**Kakani**	**48.50**	**280**	*e*P	**P**	**07 14 03.4**	**-2.5**
	comp=Z,20nm,0.8s,mb5.2						
DMN	**Daman**	**48.70**	**280**	*e*P	**P**	**07 14 05.9**	**-1.6**
	comp=Z,8.8nm,0.5s,mb5.1						
GKN	**Gorkha**	**48.96**	**281**	*e*P	**P**	**07 14 07.1**	**-2.4**
	comp=Z,19nm,0.9s,mb5.1						
KURK	**Kurchatov**	**49.03**	**311**	*i* P	**P**	**07 14 09.6**	**-0.1**
KURK				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.5						
KURK	**Kurchatov**	**49.03**	**311**	*e*P	**P**	**07 14 09.1**	**-0.6**
	comp=Z,8.7nm,0.9s,mb4.8						
KOLN	**Koldanda**	**49.90**	**281**	*e*P	**P**	**07 14 14.9**	**-1.9**
	comp=Z,43nm,1.4s,mb5.3						
CTA	**Charters Tower**	**52.37**	**175**	P	**P**	**07 14 36.4**	**+0.9**
	comp=Z,1.7nm,0.7s,mb4.1,baz=256,slow=19,SNR=2.3						
CTA	**Charters Tower**	**52.37**	**175**	P	**P**	**07 14 36.4**	**+0.9**
CTA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
FITZ	**Fitzroy Crossi**	**52.48**	**199**	P	**P**	**07 14 36.1**	**-0.3**
	comp=Z,3.1nm,0.6s,mb4.4,baz=16,slow=8.6,SNR=6.2						
FITZ				pP	pP	07 14 49.4	-0.1
	comp=Z,5.5nm,0.8s,baz=14,slow=9.3,SNR=5.4						
WRAB	**Tennant Creek**	**52.49**	**189**	*e*P	**P**	**07 14 35.6**	**-0.8**
	comp=Z,62nm,0.9s,mb5.5						
WRAB				*e*	pP	07 14 49.0	-0.5
WB2	**Warramunga Arr**	**52.50**	**189**	*e*P	**P**	**07 14 35.9**	**-0.5**
WB2				*e*	pP	07 14 49.1	-0.5
WRA	**Warramunga Arr**	**52.50**	**189**	P	**P**	**07 14 35.4**	**-1.0**
	comp=Z,6.2nm,0.5s,mb4.8,baz=6.4,slow=7.8,SNR=41						
WRA				pP	pP	07 14 49.0	-0.6
	comp=Z,39nm,0.9s,baz=7.0,slow=7.8,SNR=28						
WRA				LR	LR	07 34 01.1	
	comp=Z,109nm,19.2s,MS3.9,baz=10.0,slow=33						
WRA	**Warramunga Arr**	**52.50**	**189**	P	**P**	**07 14 35.4**	**-1.1**
WRA				*PP	pP	07 14 49.0	-0.6
WRA				pmax	pmax		
	comp=Z,6.0nm,0.5s						
WRA				pmax	pmax		
	comp=N,39nm,0.9s						
WRA	**Warramunga Arr**	**52.50**	**189**	P	**P**	**07 14 35.4**	**-1.0**
WRA				pP	pP	07 14 49.0	-0.6
WRA				LR	LR	07 34 01.1	
ILAR	**Eielson Array**	**53.36**	**30**	P	**P**	**07 14 41.7**	**-0.6**
	comp=N,0.8nm,0.7s,mb3.8,baz=279,slow=6.2,SNR=12						
ILAR				pP	pP	07 14 55.9	+0.3
	comp=N,1.2nm,0.6s,baz=267,slow=6.4,SNR=5.0						
ILAR	**Eielson Array**	**53.36**	**30**	P	**P**	**07 14 41.7**	**-0.6**
ILAR				*PP	pP	07 14 55.9	+0.4
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ILAR				pmax	pmax		
	comp=N,1.0nm,0.6s						
VOSK	**Vostochnaya**	**53.58**	**315**	P	**P**	**07 14 43.4**	**-0.7**
VOSK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
BRVK	**Borovoye**	**53.96**	**315**	*e*P	**P**	**07 14 48.1**	**+1.2**
	comp=Z,4.7nm,0.9s,mb4.4						
ZRNK	**Zerenda**	**54.74**	**315**	P	**P**	**07 14 52.5**	**0.0**
ZRNK				pmax	pmax		
	comp=Z,15nm,1.5s,mb4.8						
ASAR	**Alice Springs**	**56.22**	**189**	P	**P**	**07 15 03.2**	**-0.4**
	comp=Z,1.3nm,0.5s,mb4.2,baz=6.6,slow=7.3,SNR=11						
ASAR				pP	pP	07 15 15.9	-1.0
	comp=Z,5.4nm,0.8s,baz=354,slow=5.3,SNR=16						
ASPA	**Alice Springs**	**56.23**	**189**	*e*P	**P**	**07 15 03.0**	**-0.7**
MBWA	**Marble Bar**	**57.22**	**204**	*e*P	**P**	**07 15 10.1**	**-0.7**
	comp=Z,6.5nm,0.7s,mb4.8						
MBWA				*e*	pP	07 15 22.9	-1.2
ARU	**Arti**	**60.00**	**320**	⇓*i*P	**P**	**07 15 29.6**	**0.0**
ARU				*e*		07 16 18.8	
ARU				*e*		07 17 37.8	
ARU				*e*S	**S**	**07 23 29.6**	**-7.2**
ARU				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.7						
ARU				MLR	MLR		
	comp=Z,200nm,17.0s,MS4.3						
ARU				MLR	MLR		
	comp=N,200nm,18.0s,MS4.4						
ARU				MLR	MLR		
	comp=E,100nm,17.0s,MS4.4						
STKA	**Stephens Creek**	**63.92**	**180**	P	**P**	**07 15 56.1**	**0.0**
	comp=E,3.7nm,0.9s,mb4.4,baz=25,slow=3.1,SNR=4.9						
STKA				pP	pP	07 16 10.4	+0.7
	comp=E,3.4nm,0.7s,baz=284,slow=4.7,SNR=4.3						
FORT	**Forrest**	**64.12**	**193**	*e*P	**P**	**07 15 57.3**	**-0.2**
	comp=E,23nm,0.5s,mb5.5						
ARCES	**ARCESS Array B**	**68.41**	**340**	LR	LR	07 48 12.9	
	comp=E,162nm,18.3s,MS4.3,baz=114,slow=38						
NWAO	**Narrogin (SRO)**	**68.92**	**202**	P	**P**	**07 16 30.1**	**+2.2**
	comp=E,4.8nm,0.7s,mb4.6,baz=33,slow=11,SNR=4.0						
NWAO				pP	pP	07 16 42.3	+0.7
	comp=E,12nm,0.8s,baz=27,slow=7.5,SNR=5.0						
NWAO	**Narrogin (SRO)**	**68.92**	**202**	P	**P**	**07 16 30.1**	**+2.2**
NWAO				*PP	pP	07 16 42.3	+0.7
NWAO				pmax	pmax		
	comp=Z,5.0nm,0.7s						
NWAO				pmax	pmax		
	comp=N,12nm,0.8s						
OBN	**Obninsk**	**71.94**	**324**	*e*P	**P**	**07 16 48.5**	**+2.8**
OBN				*e*		07 19 22.2	
OBN				*e*S	S	07 26 02.8	+0.8
OBN				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
OBN				MLR	MLR		
	comp=Z,200nm,15.0s,MS4.5						
FINES	**FINESS Array B**	**73.01**	**333**	P	**P**	**07 16 52.5**	**+0.6**
	comp=Z,2.0nm,0.8s,mb4.1,baz=90,slow=5.7,SNR=4.5						
FINES	**FINESS Array B**	**73.01**	**333**	*i* P	**P**	**07 16 55.2**	**+3.3**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
YBH	**Yreka Blue Hor**	**73.08**	**51**	P	**P**	**07 16 55.1**	**+2.4**
	comp=Z,0.8nm,0.7s,mb3.8,baz=147,slow=2.3,SNR=2.8						
YBH	**Yreka Blue Hor**	**73.08**	**51**	P	**P**	**07 16 55.1**	**+2.4**
YBH				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KIV	**Kislovodsk**	**74.11**	**312**	*e*P	**P**	**07 17 01.1**	**+2.4**
KIV				*i*	pP	07 17 13.1	+0.6
KIV				*e*		07 19 41.9	
KIV				*e*S	S	07 26 28.8	+2.1
KIV				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.7						
KIV				MLR	MLR		
	comp=Z,100nm,15.0s,MS4.2						
RAR	**Rarotonga**	**77.32**	**125**	LR	LR	07 44 18.2	
	comp=Z,243nm,21.1s,MS4.5,baz=244,slow=30						
FFC	**Flin Flon**	**77.53**	**32**	P	**P**	**07 17 19.3**	**+1.4**
	comp=Z,2.9nm,0.5s,mb4.5						
NVAR	**Mina Array Bea**	**77.66**	**52**	P	**P**	**07 17 20.1**	**+1.2**
	comp=Z,0.9nm,0.7s,mb3.8,baz=290,slow=5.0,SNR=8.2						
NVAR				pP	pP	07 17 37.1	+4.3
	comp=Z,1.6nm,0.9s,baz=286,slow=4.6,SNR=4.4						
NVAR				LR	LR	07 47 46.8	
	comp=Z,97nm,19.2s,MS4.1,baz=225,slow=33						
AKASG	**Malin Array Be**	**78.09**	**323**	P	**P**	**07 17 21.3**	**+0.3**
	comp=Z,0.4nm,0.3s,mb3.9,baz=46,slow=5.5,SNR=4.1						
AKASG				pP	pP	07 17 36.3	+1.4
	comp=Z,0.6nm,0.3s,baz=47,slow=5.6,SNR=3.0						
AKASG				LR	LR	07 54 48.2	
	comp=Z,117nm,18.8s,MS4.2,baz=65,slow=38						
AKASG	**Malin Array Be**	**78.09**	**323**	P	**P**	**07 17 21.3**	**+0.3**
AKASG				*PP	pP	07 17 36.3	+1.4
AKASG				pmax	pmax		
	comp=N,1.0nm,0.3s						
AKASG				MLR	MLR		
	comp=Z,117nm,18.8s						
NOA	**NORSAR Array B**	**78.54**	**338**	P	**P**	**07 17 23.8**	**+0.5**
	comp=Z,1.9nm,0.8s,mb4.1,baz=40,slow=5.6,SNR=3.6						
NOA				LR	LR	07 55 12.6	
	comp=Z,107nm,18.2s,MS4.2,baz=280,slow=38						
NOA	**NORSAR Array B**	**78.54**	**338**	P	**P**	**07 17 23.8**	**+0.5**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NOA				MLR	MLR		
	comp=Z,107nm,18.2s						
NOA	**NORSAR Array B**	**78.54**	**338**	P	**P**	**07 17 23.8**	**+0.5**
NOA				LR	LR	07 55 12.6	
TPNV	**Topopah Spring**	**79.83**	**53**	*e*P	**P**	**07 17 31.6**	**+0.8**
	comp=Z,3.2nm,0.9s,mb4.2						
DUG	**Dugway**	**80.28**	**48**	*e*P	**P**	**07 17 33.9**	**+0.7**
	comp=Z,5.6nm,1.1s,mb4.4						
PDAR	**Pinedale Array**	**80.81**	**45**	P	**P**	**07 17 37.0**	**+1.1**
	comp=Z,0.5nm,0.6s,mb3.6,baz=294,slow=3.2,SNR=6.6						
PDAR				pP	pP	07 17 50.6	+0.7
	comp=Z,0.5nm,0.6s,baz=305,slow=0.7,SNR=4.0						
PDAR				LR	LR	07 53 09.8	
	comp=Z,113nm,18.5s,MS4.2,baz=258,slow=35						
BRTR	**Keskin Array B**	**82.08**	**312**	P	**P**	**07 17 45.2**	**+2.7**
	comp=Z,1.2nm,0.6s,mb4.0,baz=94,slow=3.8,SNR=5.1						
BRTR				LR	LR	07 54 58.9	
	comp=Z,42nm,18.2s,MS3.8,baz=175,slow=36						
BRTR	**Keskin Array B**	**82.08**	**312**	P	**P**	**07 17 45.3**	**+2.7**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRTR				MLR	MLR		
	comp=Z,42nm,18.2s						
VRAC	**Vranov**	**85.11**	**327**	P	**P**	**07 17 59.6**	**+2.0**
	comp=Z,2.0nm,0.4s,mb4.6,baz=292,slow=14,SNR=3.1						
VRAC				pP	pP	07 18 14.1	+2.3
	comp=Z,2.1nm,0.3s,baz=56,slow=8.8,SNR=1.4						
CLL	**Collm**	**85.21**	**331**	P	**P**	**07 17 59.0**	**+0.9**
QSPA	**South Pole Qui**	**122.14**	**180**	*e*P	PKPdf	07 24 17.3	+2.8
SNAA	**Sanae**	**136.35**	**195**	⇑*i*	PKPdf	07 24 45.1	+3.6
VNA2	**Neumayer--Watz**	**137.90**	**195**	⇓*i*	PKPdf	07 24 58.6	+14
VNA3	**Neumayer Olymp**	**138.11**	**193**	⇑*i*	PKPdf	07 24 55.8	+11
LPAZ	**La Paz**	**148.65**	**66**	PKPbc	PKPdf	07 25 11.8	+7.3
	comp=Z,0.9nm,0.5s,baz=63,slow=3.3,SNR=3.1						
LPAZ				pPKPbc		07 25 26.9	
	comp=Z,2.8nm,0.8s,baz=23,slow=4.2,SNR=7.2						
LPAZ	**La Paz**	**148.65**	**66**	PKP2	PKPab	07 25 11.8	-2.2
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.5s						
LPAZ				pmax	pmax		
	comp=N,3.0nm,0.8s						
LPAZ	**La Paz**	**148.65**	**66**	PKPbc	PKPdf	07 25 11.8	+7.3
LPAZ				pPKPbc		07 25 26.9	

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*LDG **24** 07:08:11.1±0.0, 45.69N×5.50E, h6^{km}, Md2.7/4, Ml3.0/29, Error ellipse: s-maj=0.9km s-min=0.7km az=66.0*
*STR **24** 07:08:11.5±0.2, 45.69N×5.60E, h10^{km}±1^{km}, Ml2.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **24** 07:08:11.1, 45.69N×5.50E, h6^{km}, ML3.0(LDG), ML2.8(STR), After LDG.*
ISC 24 07:08:08.7±0.2, **45.72N**±0.01×**5.45E**±0.02, **h6**^{km}±2^{km}, **n55**, σ1^{s}**39**/128, **France**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GRN	**Grenoble**	**0.52**	**156**	Pg	**Pg**	**07 08 20.6**	**+1.5**
GRN				Sg	**Sg**	**07 08 27.1**	**+1.0**
ORIF	**Oris-en-Rattie**	**0.86**	**159**	*e*Sg	**Sg**	**07 08 36.6**	**-0.7**
ORIF				*e*Sn	**Sn**	**07 08 39.4**	**-0.5**
	93nm,0.2s						
LPL	**La Plagne**	**0.92**	**102**	*e*Pg	**Pg**	**07 08 27.8**	**+0.7**
LPL				*e*Sg	**Sg**	**07 08 39.4**	**-0.1**
	77nm,0.3s						
LPG	**La Plagne**	**0.94**	**103**	*e*Pg	**Pg**	**07 08 27.5**	**0.0**
LPG				*e*Sg	**Sg**	**07 08 39.8**	**-0.2**
LPG				*e*Sn	**Sn**	**07 08 41.5**	**-0.6**
	64nm,0.2s						
CABF	**La Chapelle**	**1.00**	**26**	*e*Pg	**Pg**	**07 08 30.4**	**+1.8**
CABF				*e*Sg	**Sg**	**07 08 43.1**	**+1.2**
	44nm,0.3s						
VIVF	**Saint-Julien-l**	**1.02**	**213**	*e*Pg	**Pg**	**07 08 29.9**	**+0.8**
VIVF				*e*Pn	**Pn**	**07 08 30.3**	**+0.9**
VIVF				*e*Sg	**Sg**	**07 08 43.3**	**+0.5**
	66nm,0.3s						
BNI	**Bardonecchia**	**1.09**	**127**	*e*P	**Pb**	**07 08 31.6**	**+2.0**
BNI				*e*S	**Sb**	**07 08 47.9**	**+4.0**
LSD	**Ceresole Reale**	**1.23**	**102**	P	**Pb**	**07 08 34.3**	**+2.5**
LSD				S	**Sb**	**07 08 47.9**	**+0.1**
RRL	**Cesana Torines**	**1.23**	**130**	P	**Pb**	**07 08 34.5**	**+2.4**
RRL				S	**Sb**	**07 08 48.1**	**+0.1**
PLDF	**La Plantade**	**1.30**	**282**	Pn	**Pn**	**07 08 35.2**	**+1.8**
PLDF				Sg	**Sg**	**07 08 54.1**	**+2.0**
FENE	**Fenestrelle**	**1.33**	**121**	P	**Pb**	**07 08 35.7**	**+2.1**
FENE				S	**Sb**	**07 08 50.3**	**-0.4**
MBDF	**Montbardon**	**1.36**	**136**	*e*Pn	**Pn**	**07 08 34.4**	**+0.1**
MBDF				*e*Pg	**Pg**	**07 08 36.1**	**+0.2**
MBDF				*e*Sg	**Sg**	**07 08 52.8**	**-1.3**
	8.0nm,0.2s						
RSP	**Reno Superiore**	**1.39**	**113**	P	**Pn**	**07 08 37.5**	**+2.8**
RSP				S	**Sb**	**07 08 52.2**	**-0.4**
SMF	**Signal de Mont**	**1.45**	**310**	*e*Pn	**Pn**	**07 08 37.3**	**+1.8**
SMF				*e*Pg	**Pg**	**07 08 39.2**	**+1.5**
SMF				*e*Sn	**Sn**	**07 08 55.6**	**+0.6**
SMF				*e*Sg	**Sg**	**07 08 58.3**	**+1.3**
	79nm,0.2s						
BHB	**Bricherasio**	**1.55**	**124**	P	**Pn**	**07 08 39.5**	**+2.5**
BHB				S	**Sb**	**07 08 55.9**	**-1.4**
LBL	**Lubilhac**	**1.62**	**253**	Pn	**Pn**	**07 08 41.7**	**+3.7**
LBL				Sg	**Sg**	**07 09 03.2**	**+0.4**
TRAV		**1.63**	**97**	P	**Pn**	**07 08 40.8**	**+2.8**
TRAV				S	**Sb**	**07 08 58.1**	**-1.3**
AGO	**Saint Agoulin**	**1.65**	**282**	Pn	**Pn**	**07 08 41.1**	**+2.7**
PZZ	**Prazzo**	**1.69**	**136**	P	**Pn**	**07 08 41.8**	**+2.9**
PZZ				S	**Sn**	**07 08 59.6**	**-1.4**
PYM	**Petit Puy Mans**	**1.71**	**272**	Pn	**Pn**	**07 08 41.7**	**+2.5**
SMRF	**Simiane la Rot**	**1.75**	**177**	*e*Pn	**Pn**	**07 08 39.6**	**-0.1**
SMRF				*e*Pg	**Pg**	**07 08 42.9**	**-0.6**
SMRF				*e*Sn	**Sn**	**07 09 00.5**	**-2.0**
SMRF				*e*Sg	**Sg**	**07 09 05.6**	**-1.2**
	13nm,0.4s						
AVF	**Avril sur Loir**	**1.81**	**307**	*e*Pn	**Pn**	**07 08 41.8**	**+1.2**
AVF				*e*Pg	**Pg**	**07 08 45.6**	**+0.8**
AVF				*e*Sn	**Sn**	**07 09 04.0**	**-0.1**
AVF				*e*Sg	**Sg**	**07 09 09.3**	**+0.4**
	23nm,0.2s						
LOMF	**Lomont**	**1.89**	**30**	Pn	**Pn**	**07 08 42.9**	**+1.1**
LOMF				Sg	**Sg**	**07 09 12.9**	**+1.3**
LOR	**Lormes**	**1.90**	**325**	*e*Pn	**Pn**	**07 08 43.1**	**+1.2**
	baz=141						
LOR				*e*Pg	**Pg**	**07 08 47.4**	**+0.8**
	baz=144						
LOR				*e*Sn	**Sn**	**07 09 06.1**	**-0.3**
LOR				*e*Sg	**Sg**	**07 09 11.8**	**-0.1**
	23nm,0.2s						
SSF	**Saint Saulge**	**1.90**	**316**	*e*Pn	**Pn**	**07 08 43.2**	**+1.2**
SSF				*e*Pg	**Pg**	**07 08 47.2**	**+0.6**
SSF				*e*Sn	**Sn**	**07 09 06.5**	**+0.1**
SSF				*e*Sg	**Sg**	**07 09 11.7**	**-0.3**
	18nm,0.2s						
STV2	**Anna di Valdie**	**1.99**	**137**	P	**Pn**	**07 08 45.9**	**+2.7**
STV	**Sta Anna Valdi**	**1.99**	**137**	P	**Pn**	**07 08 45.9**	**+2.7**
BGF	**Bois d'Agland**	**2.00**	**296**	*e*Pn	**Pn**	**07 08 44.9**	**+1.6**
BGF				*e*Pg	**Pg**	**07 08 49.2**	**+0.7**
BGF				*e*Sn	**Sn**	**07 09 08.5**	**-0.3**
BGF				*e*Sg	**Sg**	**07 09 14.3**	**-0.8**
	21nm,0.2s						
LASF	**Ste Croix**	**2.00**	**215**	*e*Pn	**Pn**	**07 08 43.2**	**-0.1**
LASF				*e*Pg	**Pg**	**07 08 47.8**	**-0.7**
LASF				*e*Sn	**Sn**	**07 09 07.2**	**-1.7**
LASF				*e*Sg	**Sg**	**07 09 12.2**	**-2.9**
	27nm,0.3s						
ROB	**Roburent**	**2.23**	**129**	P	**Pn**	**07 08 49.5**	**+2.8**
HINF	**Hinteralfeld**	**2.31**	**24**	*e*Pn	**Pn**	**07 08 48.2**	**+0.4**
HINF				*e*Pg	**Pg**	**07 08 53.9**	**-0.9**
HINF				*e*Sn	**Sn**	**07 09 15.3**	**-1.5**
HINF				*e*Sg	**Sg**	**07 09 23.2**	**-2.4**
	15nm,0.2s						
MONE	**Monesi**	**2.32**	**134**	P	**Pn**	**07 08 50.5**	**+2.5**
FRF	**La Foret Royal**	**2.32**	**158**	*e*Pn	**Pn**	**07 08 47.6**	**-0.4**
FRF				*e*Pg	**Pg**	**07 08 53.1**	**-1.9**
FRF				*e*Sn	**Sn**	**07 09 14.1**	**-3.1**
	12nm,0.4s						
FRF				*e*Sg	**Sg**	**07 09 22.6**	**-3.4**
	9.0nm,0.3s						
TCF	**Toulx Ste Croi**	**2.33**	**285**	*e*Pn	**Pn**	**07 08 49.5**	**+1.4**
TCF				*e*Pg	**Pg**	**07 08 56.0**	**+0.8**
TCF				*e*Sn	**Sn**	**07 09 16.4**	**-0.9**
TCF				*e*Sg	**Sg**	**07 09 25.2**	**-1.0**
	12nm,0.3s						
SBF	**Sospel**	**2.33**	**142**	*e*Pg	**Pg**	**07 08 53.7**	**-1.6**
SBF				*e*Sn	**Sn**	**07 09 14.6**	**-2.9**
SBF				*e*Sg	**Sg**	**07 09 22.7**	**-3.7**
	9.6nm,0.3s						
HAU	**Haudompre**	**2.37**	**15**	*e*Pn	**Pn**	**07 08 49.4**	**+0.7**
HAU				*e*Pg	**Pg**	**07 08 55.1**	**-0.9**
HAU				*e*Sn	**Sn**	**07 09 17.2**	**-1.1**
HAU				*e*Sg	**Sg**	**07 09 26.4**	**-1.1**
	28nm,0.2s						
MOF	**Molkenrain**	**2.43**	**28**	Pn	**Pn**	**07 08 49.6**	**+0.1**
MOF				Sg	**Sg**	**07 09 29.5**	**0.0**
RORO		**2.46**	**130**	P	**Pn**	**07 08 51.5**	**+1.5**
NEGI	**Negi**	**2.47**	**139**	P	**Pn**	**07 08 51.5**	**+1.4**
FIN	**Finale Ligure**	**2.47**	**127**	P	**Pn**	**07 08 51.7**	**+1.6**
PCP	**Pian Castagno**	**2.49**	**117**	P	**Pn**	**07 08 52.6**	**+2.3**
SFTF	**Sexfontaines**	**2.50**	**354**	*e*Pg	**Pg**	**07 08 58.2**	**-0.4**
SFTF				*e*Sn	**Sn**	**07 09 20.3**	**-1.4**
SFTF				*e*Sg	**Sg**	**07 09 30.1**	**-1.9**
	30nm,0.5s						
LMR	**La Mourre**	**2.50**	**162**	*e*Pn	**Pn**	**07 08 50.0**	**-0.6**
LMR				*e*Pg	**Pg**	**07 08 56.7**	**-2.0**
LMR				*e*Sn	**Sn**	**07 09 19.1**	**-2.7**
	6.2nm,0.2s						
IMI	**Imperia**	**2.51**	**135**	P	**Pn**	**07 08 52.5**	**+1.9**
CAF	**Calviac**	**2.52**	**253**	*e*Pg	**Pg**	**07 08 58.1**	**-0.8**
CAF				*e*Sn	**Sn**	**07 09 21.2**	**-0.9**
CAF				*e*Sg	**Sg**	**07 09 31.4**	**-1.1**
	26nm,0.7s						
THEF	**They Montfort**	**2.54**	**8**	Pn	**Pn**	**07 08 50.8**	**-0.2**
MEZF	**Maizieres J'vi**	**2.80**	**355**	*e*Sn	**Sn**	**07 09 27.5**	**-1.7**
MEZF				*e*Sg	**Sg**	**07 09 40.2**	**-1.6**
	19nm,0.3s						
RJF	**Les Rejaudoux**	**2.80**	**263**	*e*Pg	**Pg**	**07 09 03.8**	**-0.7**
RJF				*e*Sg	**Sg**	**07 09 37.0**	**-4.8**
	17nm,0.3s						
RFYF	**Reffroy**	**2.91**	**0**	*e*Pn	**Pn**	**07 08 56.6**	**+0.2**
RFYF				*e*Pg	**Pg**	**07 09 05.6**	**-1.2**
RFYF				*e*Sg	**Sg**	**07 09 44.0**	**-1.6**
	19nm,0.2s						
CDF	**Champ du Feu**	**2.97**	**24**	*e*Pn	**Pn**	**07 08 56.9**	**-0.3**
CDF				*e*Pg	**Pg**	**07 09 06.3**	**-1.6**
CDF				*e*Sn	**Sn**	**07 09 31.5**	**-2.1**
CDF				*e*Sg	**Sg**	**07 09 44.2**	**-3.3**
	3.4nm,0.2s						
WLS	**Welschbruch**	**2.99**	**25**	Pn	**Pn**	**07 08 57.1**	**-0.5**
MTLF	**Montolieu**	**3.32**	**225**	*e*Pn	**Pn**	**07 09 01.7**	**-0.5**
MTLF				*e*Pg	**Pg**	**07 09 12.3**	**-2.6**
MTLF				*e*Sg	**Sg**	**07 09 54.7**	**-4.4**
	3.5nm,0.3s						
MFF	**Saint Martin d**	**3.99**	**285**	*e*Pg	**Pg**	**07 09 26.2**	**-2.1**
MFF				*e*Sg	**Sg**	**07 10 17.7**	**-3.7**
	4.6nm,0.3s						
GRR	**Gorron**	**5.07**	**304**	*e*Sn	**Sn**	**07 10 21.8**	**-4.9**
	2.5nm,0.2s						
ETSF	**Etsaut**	**5.15**	**239**	*e*Pn	**Pn**	**07 09 26.3**	**-1.9**

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*IDC **24** 07:08:19.7±1.9, 26.75S×107.14W, mb4.2/6, mb1 4.4/6, mb1mx4.2/12, Error ellipse: s-maj=72.1km s-min=29.2km az=30.0*
*NEIC **24** 07:08:20.2±0.7, 26.86S×107.25W, h10^{km}, mb4.3/4, Error ellipse: s-maj=25.3km s-min=13.2km az=177.0*
ISC 24 07:08:18.3±0.8, **26.9S**±0.2×**107.27W**±0.08, **h10**^{km}, **n16**, σ1^{s}**15**/13, **mb4.2**/10, **Easter Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**1.86**	**261**	*e*Pn	**Pn**	**07 08 51.5**	**+0.9**
RPN				*e*Sn	**Sn**	**07 09 13.5**	**-0.9**
LPAZ	**La Paz**	**37.75**	**82**	P	**P**	**07 15 37.6**	**+1.4**
	1.3nm,0.8s,mb3.7,baz=256,slow=7.5,SNR=5.9						
SAML	**Samuel**	**45.29**	**75**	*e*P	**P**	**07 16 37.3**	**-1.0**
	5.0nm,1.1s,mb4.3						
SDV	**Santo Domingo**	**50.24**	**50**	*e*P	**P**	**07 17 15.5**	**-1.5**
BDFB	**Brasilia**	**55.92**	**91**	P	**P**	**07 17 58.6**	**-0.4**
	2.5nm,0.7s,mb4.3,baz=214,slow=8.4,SNR=4.3						
TUC	**Tucson**	**58.92**	**357**	P	**P**	**07 18 18.3**	**-1.8**
	0.6nm,0.3s,mb4.1						
NVAR	**Mina Array Bea**	**65.75**	**351**	P	**P**	**07 19 07.4**	**+1.8**
	1.5nm,0.8s,mb4.0,baz=170,slow=9.3,SNR=7.0						
BW06	**Boulder Array**	**69.30**	**358**	P	**P**	**07 19 27.4**	**-0.4**
	1.0nm,0.7s,mb3.9						
PDAR	**Pinedale Array**	**69.30**	**358**	P	**P**	**07 19 27.3**	**-0.5**
	0.8nm,0.7s,mb3.7,baz=179,slow=4.3,SNR=5.4						
HLID	**Hailey**	**70.37**	**354**	*e*P	**P**	**07 19 35.1**	**+0.8**
	6.7nm,1.5s,mb4.3						
SCHQ	**Schefferville**	**88.45**	**22**	P	**P**	**07 21 11.6**	**-0.1**
	4.0nm,0.9s,mb4.7,baz=284,slow=9.3,SNR=3.2						
YKA	**Yellowknife Ar**	**89.22**	**357**	P	**P**	**07 21 17.1**	**+1.9**
	1.7nm,0.7s,mb4.5,baz=162,slow=4.4,SNR=4.0						
BRTR	**Keskin Array B**	**145.16**	**58**	PKPbc	PKPbc	07 27 57.8	+1.3
	1.2nm,0.7s,baz=288,slow=1.7,SNR=4.9						
SONM	**Songino Array**	**146.40**	**318**	PKPbc	PKPbc	07 28 01.4	+2.2
	1.8nm,0.8s,baz=67,slow=2.3,SNR=11						
ASF	**Jabal al Asfar**	**148.46**	**72**	PKPbc	PKPdf	07 28 08.7	+3.8
	1.8nm,0.7s,baz=242,slow=19,SNR=3.1						
BVAR	**Borovoye Array**	**153.79**	**3**	PKPbc	PKPdf	07 28 19.9	+7.7
	1.1nm,0.6s,baz=236,slow=34,SNR=4.3						
BVAR				PKPab	PKPab	07 28 32.2	-0.2
	1.4nm,0.8s,slow=3.0,SNR=4.5						

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*BGR **24** 07:17:56.0±0.7, 51.54N×16.15E, h1^{km}, ML3.2/9, Error ellipse: s-maj=6.7km s-min=5.6km az=158.0*
*NEIC **24** 07:17:56.2±0.5, 51.53N×16.12E, h5^{km}, ML3.4(VIE), ML3.2(SZGRF), ML2.9(BRG), Error ellipse: s-maj=6.1km s-min=4.4km az=64.0*
*IDC **24** 07:17:57.8±0.7, 51.46N×15.93E, mb1 3.6/7, mb1mx3.5/21, ML3.2/7, Error ellipse: s-maj=12.4km s-min=6.0km az=108.0*
*PRU **24** 07:17:57.6, 51.47N×16.07E*
*WAR **24** 07:17:57.6, 51.48N×16.08E, ML3.2, Mining Induced*
ISC 24 07:17:55.2±0.5, **51.43N**±0.02×**16.07E**±0.03, **n46**, σ1^{s}**22**/88, **3C-1D**, **Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.61**	**166**	*e*PG	**Pg**	**07 18 09.0**	**+1.7**
KSP				*e*SG	**Sg**	**07 18 18.0**	**+2.6**
KSP	**Ksiaz**	**0.61**	**166**	*e*Pg	**Pg**	**07 18 09.5**	**+2.2**
KSP				*e*Sg	**Sg**	**07 18 17.9**	**+2.5**
KSP				*e*		07 18 22.5	
UPC	**Upice**	**0.93**	**182**	*e*PG	**Pg**	**07 18 15.6**	**+1.9**
DPC	**Dobruska-Polom**	**1.10**	**171**	*e*PG	**Pg**	**07 18 18.4**	**+1.3**
DPC				*e*SG	**Sg**	**07 18 32.8**	**+1.1**
	66nm,0.4s						
PVCC	**Panska Ves**	**1.31**	**227**	*e*PG	**Pg**	**07 18 22.1**	**+0.7**
BRG	**Berggiesshubel**	**1.45**	**248**	*e*Pg	**Pg**	**07 18 23.5**	**-0.7**
BRG				*e*Sg	**Sg**	**07 18 45.2**	**+1.7**
BRG	**Berggiesshubel**	**1.45**	**248**	*i* Pn	**Pn**	**07 18 23.1**	**+0.4**
BRG				*i* Pg	**Pg**	**07 18 25.5**	**+1.3**
BRG				*i* Sg	**Sg**	**07 18 45.2**	**+1.7**
PRU	**Pruhonice**	**1.74**	**214**	PN	**Pn**	**07 18 27.8**	**+0.9**
PRU				PG	**Pg**	**07 18 29.7**	**-0.3**
PRU				*i* x	x	07 18 34.0	
PRU				SG	**Sg**	**07 18 53.3**	**+0.1**
	42nm,0.5s						
RUE	**Ruedersdorf**	**1.76**	**307**	*e*Pn	**Pn**	**07 18 26.8**	**-0.4**
MORC	**Moravsky Berou**	**1.91**	**150**	*e*Pn	**Pn**	**07 18 30.0**	**+0.7**
MORC				*e*Sn	**Sn**	**07 18 52.0**	**-2.3**
RAC	**Raciborz**	**1.91**	**134**	*e*P	**Pn**	**07 18 34.0**	**+4.7**
RAC				*e*S	**Sn**	**07 18 59.0**	**+4.6**
CLL	**Collm**	**1.93**	**267**	*e*Pn	**Pn**	**07 18 29.9**	**+0.3**
CLL				*e*Sg	**Sg**	**07 18 59.3**	**0.0**
CLL	**Collm**	**1.93**	**267**	*i* PN	**Pn**	**07 18 29.9**	**+0.4**
CLL				*e*PG	**Pg**	**07 18 33.0**	**-0.6**
CLL				*i*		07 18 37.2	
CLL				*i* SG	**Sg**	**07 18 58.8**	**-0.5**
CLL	**Collm**	**1.93**	**267**	*i* Pn	**Pn**	**07 18 29.9**	**+0.4**
CLL				*e*Pg	**Pg**	**07 18 33.0**	**-0.6**
CLL				*i* Sg	**Sg**	**07 18 58.8**	**-0.5**
OKC	**Ostrava-Krasne**	**2.07**	**140**	*e*PG	**Pg**	**07 18 35.9**	**-0.7**
OKC				*e*SG	**Sg**	**07 19 02.9**	**-1.4**
VRAC	**Vranov**	**2.15**	**171**	Pn	**Pn**	**07 18 34.6**	**+1.8**
	3.1nm,0.3s,baz=344,slow=16,SNR=6.5						

VRAC				Lg		07 19 05.3	
	4.3nm,0.3s,baz=81,slow=23,SNR=9.0						
TANN	Tannenbergstha	2.50	247	ePn	Pn	07 18 39.3	+1.5
TANN				eSg	Sg	07 19 18.3	-0.1
WERD	Werda	2.58	249	ePn	Pn	07 18 39.8	+1.0
WERD				eSg	Sg	07 19 19.6	-1.4
NKC	Novy Kostel	2.59	244	ePN	Pn	07 18 40.3	+1.2
NKC				ePG	Pg	07 18 46.7	-0.2
NKC				eSG	Sg	07 19 21.1	-0.3
GUNZ	Gunzen	2.60	247	ePn	Pn	07 18 40.5	+1.3
GUNZ				eSg	Sg	07 19 21.4	-0.2
OJC	Ojcow	2.66	116	ePN	Pn	07 18 40.0	0.0
OJC				ePG	Pg	07 18 48.0	-0.3
OJC				eSG	Sg	07 19 23.0	-0.7
OJC	Ojcow	2.66	116	ePn	Pn	07 18 40.4	+0.4
OJC				ePg	Pg	07 18 48.3	0.0
OJC				eSg	Sg	07 19 23.2	-0.5
KHC	Kasperske Hory	2.80	216	ePN	Pn	07 18 42.9	+0.8
KHC				ePG	Pg	07 18 49.4	-1.8
KHC				ex	x	07 19 14.0	
KHC				eSG	Sg	07 19 27.2	-1.3
MOX	Moxa	2.92	256	ePn	Pn	07 18 44.3	+0.6
MOX				eSg	Sg	07 19 32.0	-0.4
GEC2	GERESS Array S	3.00	211	ePn	Pn	07 18 47.2	+2.3
GEC2				eSg	Sg	07 19 35.3	+0.1
GEC2	GERESS Array S	3.00	211	ePn	Pn	07 18 47.2	+2.2
GEC2				eSg	Sg	07 19 35.3	+0.1
GERES	GERESS Array B	3.00	211	Pn	Pn	07 18 46.4	+1.5
	2.0nm,0.3s,baz=29,slow=12,SNR=33						
GERES				Pg	Pg	07 18 52.7	-2.5
	4.4nm,0.3s,baz=29,slow=17,SNR=32						
GERES				Sn	Sn	07 19 21.9	-0.3
	2.8nm,0.3s,baz=40,slow=23,SNR=6.0						
GERES				Lg		07 19 33.4	
	5.6nm,0.3s,baz=30,slow=26,SNR=9.4						
SMOL	Smolenice	3.05	163	eSG	Sg	07 19 36.2	-0.6
SMOL	Smolenice	3.05	163	eSG	Sg	07 19 37.2	+0.4
WET	Wettzell	3.07	223	ePn	Pn	07 18 46.9	+1.0
WET				eSg	Sg	07 19 36.8	-0.6
WET	Wettzell	3.07	223	ePn	Pn	07 18 46.9	+1.0
WET				eSg	Sg	07 19 36.8	-0.6
VKA	Vienna	3.17	177	⇓iPN	Pn	07 18 49.7	+2.3
VKA				i PG	Pg	07 18 57.5	-1.1
VKA				i SG	Sg	07 19 41.3	+0.4
ZST	Bratislava	3.31	168	eSG	Sg	07 19 43.3	-2.0
ZST	Bratislava	3.31	168	eSG	Sg	07 19 43.4	-1.9
VYHS	Vyhne	3.44	148	eSG	Sg	07 19 50.8	+1.0
GRF	Grafenberg Arr	3.55	242	eSg	Sg	07 19 51.6	-1.7
BSD	Bornholm Skovb	3.75	350	i P	Pn	07 18 53.1	-2.5
BSD				eS	Sn	07 19 33.3	-7.8
BSD				i		07 19 35.7	
MOA	Molln	3.77	199	⇑iPN	Pn	07 18 56.2	+0.3
MOA				i SG	Sg	07 19 59.5	-1.3
	14nm,0.4s						
ARSA	Arzberg	4.20	185	⇑iPN	Pn	07 19 02.3	+0.3
ARSA				i SG	Sg	07 20 13.9	-1.2
	18nm,0.5s						
CRVS	Cervenica-Dubn	4.29	124	ePG	Pg	07 19 19.3	-1.6
KBA	Koelnbreinsper	4.71	203	⇑iPN	Pn	07 19 10.0	+0.8
KBA				i SG	Sg	07 20 30.4	-1.5
	13nm,0.5s						
DAVOX	Davos	6.18	224	Pn	Pn	07 19 30.2	+0.3
	0.3nm,0.3s,baz=180,slow=19,SNR=2.7						
DAVOX				Lg		07 21 14.0	
	0.2nm,0.3s,baz=207,slow=24,SNR=2.2						
AKASG	Malin Array Be	8.32	90	Pn	P	07 19 58.5	-1.5
	1.8nm,0.3s,baz=279,slow=12,SNR=7.8						
HFS	Hagfors	8.82	352	Pn	P	07 20 03.3	-3.6
	0.0nm,0.3s,baz=168,slow=13,SNR=4.2						
HFS				Sn	Sn	07 21 39.1	-9.2
	0.0nm,0.3s,baz=172,slow=29,SNR=2.7						
HFS				Lg		07 22 35.9	
	0.0nm,0.3s,baz=164,slow=26,SNR=1.9						
FINES	FINESS Array B	11.45	25	Pn	P	07 20 37.7	-5.2
	0.2nm,0.3s,baz=211,slow=11,SNR=7.0						
FINES				Sn	S	07 22 40.0	-13
	0.2nm,0.3s,baz=222,slow=19,SNR=3.7						
FINES				Lg		07 24 02.0	
	0.1nm,0.3s,baz=204,slow=24,SNR=2.7						
ARCES	ARCESS Array B	18.70	10	Pn	P	07 22 10.9	-5.9
	0.3nm,0.3s,baz=201,slow=10,SNR=6.7						

IGQ 24 07:42:53.5, 0.52S×78.70W, h16^{km}±5^{km}, mb4.0, 7C-4D, Error ellipse: s-maj=1.5km s-min=0.6km az=178.3, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NAS1	Nasa	0.25	117	⇑P	Pb	07 42 59.4	+0.3
MARY	Rancho Maria	0.30	135	⇓P	Pb	07 43 00.8	+0.9
VC1	Cotopaxi 1	0.32	112	⇑P	Pb	07 43 00.9	+0.6
JUA2	San Juan 2	0.32	17	⇑P	Pb	07 43 00.9	+0.6
CGGP	Crater GGP	0.35	15	P	Pb	07 43 01.7	+0.8
GGP	Refugio Guagua	0.36	17	⇓P	Pb	07 43 01.3	+0.3
TAMB	Tambo	0.37	117	⇑P	Pb	07 43 01.9	+0.7
PINO	Pino	0.37	14	P	Pb	07 43 01.8	+0.6
QIL1	Quilotoa	0.40	216	⇓P	Pb	07 43 01.7	0.0
YANA	Yana	0.42	17	⇑P	Pb	07 43 02.1	+0.1
YANA				S	Sb	07 43 08.9	+1.1
JOR1	San Jorge 1	0.52	6	⇑P	Pb	07 42 60.0	-3.8
JOR1				S	Sb	07 43 05.1	-5.7
ANTI	Antisana	0.54	82	⇑P	Pb	07 43 04.4	+0.3
PISA	Pisayambo	0.62	150	P	Pb	07 43 06.2	+0.8
CAYR	Refugio Cayamb	0.87	52	P	Pb	07 43 10.8	+1.1
CAYA	Cayambe	0.92	50	P	Pb	07 43 11.4	+0.8
COTA	Cotacachi	0.92	23	P	Pb	07 43 12.9	+2.3
ARRY	Arrayan	1.01	166	⇓P	Pb	07 43 12.4	+0.4
ARRY				S	Sb	07 43 26.1	+1.2
PATA	Patacocha	1.01	165	P	Pb	07 43 13.8	+1.7

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*BJI **24** 08:23:35.6, 20.67S×178.73W, h680^{km}, mB4.7, mb4.7*
*IDC **24** 08:23:35.4±0.6, 21.00S×179.11W, h660^{km}±6^{km}, mb4.2/17, mb1 4.3/19, mb1mx4.3/20, Error ellipse: s-maj=11.8km s-min=7.6km az=145.0*
*NEIC **24** 08:23:36.5±0.7, 20.84S×179.12W, h671^{km}±9^{km}, mb4.5/35, Error ellipse: s-maj=8.1km s-min=5.9km az=149.0*
*SYO **24** 08:23:38.2, 20.83S×179.21W, h693^{km}, MB4.4*

ISC 24 08:23:33.8±0.6, 21.06S±0.05×179.05W±0.05, h656^{km}±8^{km}, h662^{km}±1.2^{km}:pP-P, n246, σ1§08/128, mb4.5/49, 15C-16D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.29	320	P	P	08 25 06.4	+0.8
	2µm,1.0s						
DZM	Mont Dzumac	13.53	263	eP	P	08 26 27.3	+0.1
DZM	Mont Dzumac	13.53	263	eP	P	08 26 27.3	+0.1
NOUC	Port Laguerre	13.66	263	eP	P	08 26 30.3	+1.9
NOUC	Port Laguerre	13.66	263	eP	P	08 26 30.3	+1.8
WCZ	Waipu Caves	15.92	200	P	P	08 26 53.5	+3.8
PUZ	Puketiti	17.12	187	P	P	08 27 00.8	+0.1
PUZ				S	S	08 29 43.6	-3.1
URZ	Urewera	17.46	190	P	P	08 27 02.7	-1.1
	9.7nm,0.3s,baz=358,slow=5.8,SNR=41						
URZ				S	S	08 29 48.7	-3.7
	0.5nm,0.3s,baz=198,slow=23,SNR=5.4						
URZ				ScP		08 33 40.0	
	1.2nm,0.3s,baz=194,slow=1.3,SNR=5.7						
URZ	Urewera	17.46	190	P	P	08 27 02.9	-1.0
MWZ	Matawai	17.47	189	P	P	08 27 03.2	-0.7
RAR	Rarotonga	17.99	94	P	P	08 27 07.1	-1.7
	2.5nm,0.3s,baz=288,slow=3.2,SNR=3.4						
BKZ	Black Stump Fm	18.45	191	P	P	08 27 11.5	-1.4
MGZ	Maungaku	18.48	193	P	P	08 27 13.7	+0.5
NGZ	Ngauruhoe	18.64	193	P	P	08 27 14.5	-0.1
TUVZ	Tukino	18.71	193	P	P	08 27 15.3	0.0
TSZ	Takapari Road	19.41	192	P	P	08 27 21.5	-0.2
MRZ	Mangatainoka R	20.07	192	P	P	08 27 26.4	-1.2
CAW	Cannon Point	20.60	193	P	P	08 27 32.1	-0.3
QRZ	Quartz Range	20.97	198	P	P	08 27 36.7	+1.0
NNZ	Nelson	21.10	196	P	P	08 27 36.7	-0.2
THZ	Tophouse	21.73	196	P	P	08 27 41.0	-1.6
THZ				S	S	08 30 56.4	-5.4
DSZ	Denniston Nort	22.03	198	P	P	08 27 45.7	+0.5
LTZ	Lake Taylor	22.85	197	P	P	08 27 50.9	-1.6
WVZ	Waitaha Valley	23.56	199	P	P	08 27 58.4	-0.4
RPZ	Rata Peaks	24.05	198	P	P	08 28 03.3	+0.2
	10nm,0.4s,mb4.6,baz=12,slow=3.0,SNR=14						
RPZ				S	S	08 31 36.6	-1.6
	6.7nm,0.8s,baz=349,slow=23,SNR=2.1						
LBZ	Lake Benmore	24.92	199	P	P	08 28 09.5	-1.1
MSZ	Milford Sound	25.90	202	P	P	08 28 20.6	+1.4
PPT	Papeete	28.01	88	P	P	08 28 37.6	+0.1
	30nm,0.6s,mb5.0,baz=233,slow=21,SNR=2.3						
CNB	Canberra Magne	31.10	236	⇓iP	P	08 29 05.2	+1.7
	137nm,0.7s,mb5.6						
CTA	Charters Tower	32.46	265	⇓iP	P	08 29 15.8	+0.7
	187nm,0.4s						
CTA	Charters Tower	32.46	265	P	P	08 29 15.5	+0.5
	197nm,0.5s,baz=95,slow=10,SNR=412						
CTA				ScP		08 34 25.7	
	1.0nm,0.4s,baz=95,slow=12,SNR=3.1						
CTAO	Charters Tower	32.46	265	⇓iP	P	08 29 15.8	+0.7
	215nm,0.6s						
PMG	Port Moresby	34.52	284	eP	P	08 29 32.7	+0.5
TOO	Toolangi	34.77	234	⇓iP	P	08 29 35.6	+1.5
	55nm,0.7s,mb5.2						
WAU	Wau	35.77	287	eP	P	08 29 42.8	+0.3
STKA	Stephens Creek	36.66	245	⇓iP	P	08 29 51.0	+1.4
	79nm,0.8s,mb5.3						
STKA				eS	S	08 34 46.5	-4.0
STKA	Stephens Creek	36.66	245	P	P	08 29 51.0	+1.4
	88nm,0.8s,mb5.3,baz=90,slow=9.2,SNR=196						
STKA				ScP		08 34 40.3	
	6.4nm,1.0s,baz=152,slow=3.6,SNR=5.8						
ADE	Adelaide	39.49	240	⇓iP	P	08 30 13.2	+0.8
ASAR	Alice Springs	43.43	257	P	P	08 30 43.8	+0.2
	150nm,0.7s,mb5.5,baz=96,slow=7.9,SNR=1161						
ASAR				PcP	PcP	08 32 15.4	-1.2
	11nm,0.6s,baz=104,slow=3.1,SNR=5.7						
ASAR				ScP		08 35 06.2	
	9.2nm,0.9s,baz=106,slow=3.8,SNR=8.8						
ASAR				S	S	08 36 25.4	-2.1
	7.0nm,0.6s,baz=91,slow=16,SNR=20						
ASPA	Alice Springs	43.44	257	⇓iP	P	08 30 43.7	+0.1
ASPA				eS	S	08 36 25.2	-2.3
ASPA				eSCS	ScS	08 39 32.5	+3.5
WB2	Warramunga Arr	43.54	263	⇓iP	P	08 30 43.9	-0.6
WB2				eS	S	08 36 24.5	-4.5
WB2				eSCS	ScS	08 39 33.1	+3.4
WRAB	Tennant Creek	43.54	263	⇓iP	P	08 30 43.7	-0.8
	144nm,0.6s,mb5.5						
WRAB				e		08 35 51.0	
WRA	Warramunga Arr	43.55	263	P	P	08 30 43.9	-0.6
	95nm,0.6s,mb5.3,baz=97,slow=8.7,SNR=598						
WRA				PcP	PcP	08 32 17.4	+0.3
	4.5nm,0.8s,baz=104,slow=6.2,SNR=3.7						
WRA				S	S	08 36 24.2	-4.9
	2.5nm,0.7s,baz=99,slow=14,SNR=4.7						
WRA	Warramunga Arr	43.55	263	P	P	08 30 43.9	-0.6
WRA				PcP	PcP	08 32 17.4	+0.3
WRA				S	S	08 36 24.2	-4.9
KAKA	Kakadu	47.05	272	⇓iP	P	08 31 13.8	+2.6
	71nm,0.5s,mb5.2						
KAKA				eS	S	08 37 18.5	+1.0
FORT	Forrest	48.17	247	⇓iP	P	08 31 18.8	-0.5
	351nm,0.5s						
FORT				eS	S	08 37 30.2	-2.5
FITZ	Fitzroy Crossi	51.98	263	eP	P	08 31 46.8	-0.3
	31nm,0.5s,mb4.8						
FITZ				eS	S	08 38 28.0	+4.2
FITZ	Fitzroy Crossi	51.98	263	P	P	08 31 46.9	-0.2
	33nm,0.5s,mb4.8,baz=146,slow=2.9,SNR=188						
FITZ				S	S	08 38 22.0	-1.8
	1.8nm,0.7s,baz=275,slow=5.3,SNR=3.3						
MBWA	Marble Bar	56.77	258	⇓eP	P	08 32 19.5	-0.8
	75nm,0.6s,mb5.0						
KLBR	Kellerberrin	56.93	245	eP	P	08 32 20.9	-0.3
	72nm,0.7s,mb4.9						
NWAO	Narrogin (SRO)	57.24	244	P	P	08 32 23.4	0.0
	26nm,0.6s,mb4.6,baz=106,slow=6.1,SNR=33						
NWAO	Narrogin (SRO)	57.24	244	eP	P	08 32 23.2	-0.2
	21nm,0.6s,mb4.4						
SBA	Scott Base	57.26	184	eP	P	08 32 25.6	+2.8
	42nm,1.1s,mb4.5						
MUN	Mundaring	58.20	245	eP	P	08 32 30.2	+0.4
	37nm,0.7s,mb4.6						
CBIJ	Chichi jima	60.83	320	P	P	08 32 45.4	-1.8
	37nm,0.4s,mb5.0,baz=271,slow=22,SNR=7.0						
CASY	Casey	63.04	205	eP	P	08 33 01.2	+0.5
	11nm,0.5s,mb4.3						
JHJ	Hachijo jima 2	66.68	323	P	P	08 33 22.9	-0.9
	93nm,0.6s,mb5.3,baz=66,slow=23,SNR=5.6						
MAJO	Matsushiro	70.08	324	eP	P	08 33 42.4	-1.6
MAT	Matsushiro	70.08	324	eP	P	08 33 43.0	-1.1
FX1	Attu Island--F	73.94	355	eP	P	08 34 03.6	-2.1
MDJ	Mudanjiang	80.41	326	eP	P	08 34 40.6	+0.1
	16nm,0.9s,mb4.4						
CMB	Columbia Colle	80.54	43	eP	P	08 34 41.5	+0.2
	7.8nm,1.2s,mb4.0						
MAW	Mawson	80.71	200	eP	P	08 34 42.8	+1.2
	5.1nm,0.9s,mb4.0						
MAW	Mawson	80.71	200	P	P	08 34 42.8	+1.3
	6.1nm,0.9s,mb4.0,baz=127,slow=7.3,SNR=14						
PMSA	Palmer Station	81.17	157	eP	P	08 34 46.1	+2.2
	15nm,1.0s,mb4.4						
MTUM	Tungsten Hills	81.32	45	eP	P	08 34 45.5	+0.2
YBH	Yreka Blue Hor	81.34	39	P	P	08 34 45.5	+0.2
	5.4nm,0.7s,mb4.1,baz=96,slow=0.4,SNR=16						
YBH				pP	pP	08 37 02.6	+1.0
	1.4nm,0.8s,baz=120,slow=4.7,SNR=2.7						
WHN	Wuhan	81.98	307	eP	P	08 34 48.8	0.0
NVAR	Mina Array Bea	82.11	44	P	P	08 34 49.5	+0.2
	4.4nm,1.0s,mb3.9,baz=210,slow=6.4,SNR=21						
NVAR				pP	pP	08 37 06.5	+0.7
	1.0nm,0.9s,baz=230,slow=7.0,SNR=3.3						
NVAR	Mina Array Bea	82.11	44	P	P	08 34 49.5	+0.2
NVAR				pP	pP	08 37 06.5	+0.7
CN2	Changchun	82.14	323	eP	P	08 34 49.3	0.0
CN2				AMB	AMB		
	comp=Z,30nm,1.2s,mb4.7						
TPH	Tonopah	82.61	45	eP	P	08 34 52.3	+0.5
	comp=Z,1.3nm,0.6s,mb3.6						
TPNV	Topopah Spring	82.63	46	eP	P	08 34 52.4	+0.5
	comp=Z,5.2nm,1.1s,mb4.0						
MOD	Modoc	82.87	40	eP	P	08 34 53.6	+0.6
	comp=Z,10.0nm,1.2s,mb4.2						
MA2	Magadan	84.06	345	eP	P	08 34 56.9	-1.5
	comp=Z,14nm,0.9s,mb4.5						
TUC	Tucson	84.10	52	eP	P	08 35 00.0	+0.7
	comp=Z,3.7nm,1.2s,mb3.8						
WVOR	Wild Horse Val	84.19	40	eP	P	08 34 59.9	+0.4
	comp=Z,9.6nm,1.3s,mb4.2						
PGC	Sidney	85.26	33	eP	P	08 35 04.6	+0.2
ELK	Elko	85.36	43	eP	P	08 35 05.4	+0.3
	comp=Z,1.9nm,0.9s,mb3.7						
RMW	Rattlesnake Mo	85.38	35	eP	P	08 35 05.1	0.0
ENH	Enshi	85.54	305	eP	P	08 35 06.4	+0.2
	comp=Z,31nm,0.9s,mb4.9						
BJT	Baijiatuau	85.59	316	P	P	08 35 05.6	-0.7
BJI	Beijing	85.60	316	eP	P	08 35 06.1	-0.2
BJI				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.5						
BJI	Beijing	85.60	316	eP	P	08 35 06.1	-0.2
	comp=Z,10.0nm,0.7s,mb4.5						
SYO	Syowa Base	85.97	193	⇑P	P	08 35 07.7	+0.4
SYO	Syowa Base	85.97	193	⇑PcP	PcP	08 35 09.3	+0.1
SYO	Syowa Base	85.97	193	⇑pP	pP	08 37 29.0	+3.7
HLID	Hailey	87.39	41	eP	P	08 35 15.1	+0.5
	comp=Z,5.7nm,1.1s,mb4.1						
SNAA	Sanae	87.48	179	⇓i	P	08 35 14.5	+0.1
SNAA	Sanae	87.48	179	⇑i	pP	08 37 38.7	+5.8
DPW	Davenport	87.58	36	eP	P	08 35 15.4	0.0
VNA3	Neumayer Olymp	87.65	177	⇓i	P	08 35 17.4	+2.2
VNA3	Neumayer Olymp	87.65	177	⇓i	pP	08 37 37.6	+3.8
XAN	Xi’an	87.69	308	P	P	08 35 17.0	+0.8
MCK	McKinley	87.73	13	eP	P	08 35 14.3	-1.4
	comp=Z,11nm,1.0s,mb4.5						
VNA2	Neumayer--Watz	88.08	177	⇓i	P	08 35 20.1	+2.9
VNA2	Neumayer--Watz	88.08	177	⇑i	pP	08 37 38.8	+2.8
HWUT	Hardware Ranch	88.17	44	eP	P	08 35 17.6	-0.7
	comp=Z,1.0nm,0.6s,mb3.6						
PV10	Paradox Valley	88.28	48	eP	P	08 35 19.2	+0.3
VNA1	Neumayer--Stat	88.31	177	⇑i	P	08 35 21.3	+3.0
NEW	Newport	88.40	36	eP	P	08 35 19.0	-0.2
	comp=Z,2.5nm,0.8s,mb3.9						
ANMO	Albuquerque	88.52	52	eP	P	08 35 20.6	+0.5
	comp=Z,4.0nm,1.3s,mb4.0						
HIA	Hailar	88.58	325	eP	P	08 35 18.5	-1.5
KMI	Kunming	88.73	297	eP	P	08 35 23.9	+2.6
KMI				AMB	AMB		
	comp=Z,19nm,1.0s,mb4.8						
KMI	Kunming	88.73	297	eP	P	08 35 23.9	+2.6
	comp=Z,19nm,1.0s,mb4.8						
COLA	College	88.96	13	eP	P	08 35 19.8	-1.6
	comp=Z,30nm,1.2s,mb4.9						
MCMT	McKenzie Canyo	89.01	41	eP	P	08 35 22.5	+0.4
ILAR	Eielson Array	89.08	13	P	P	08 35 20.1	-1.9
	comp=Z,3.9nm,0.7s,mb4.3,baz=212,slow=5.2,SNR=79						
ILAR				pP	pP	08 37 40.5	-0.5
	comp=Z,2.7nm,1.2s,baz=235,slow=5.1,SNR=5.4						
CM31	Chiang Mai Arr	89.38	290	P	P	08 35 25.6	+1.3
CMAR	Chiang Mai Arr	89.38	290	P	P	08 35 25.7	+1.3
	comp=Z,9.9nm,0.7s,mb4.7,baz=124,slow=3.3,SNR=50						
CMAR				PP	PP	08 39 04.5	-4.8
	comp=Z,0.5nm,0.5s,baz=98,slow=6.4,SNR=2.9						
IMW	Indian Meadow	89.72	42	eP	P	08 35 26.2	+0.9
CHMT	Chamberlain Mo	89.86	39	eP	P	08 35 25.3	-0.6
BW06	Boulder Array	90.04	44	eP	P	08 35 27.0	+0.1
	comp=Z,3.9nm,1.1s,mb4.2						
PDAR	Pinedale Array	90.04	44	P	P	08 35 27.1	+0.2
	comp=Z,1.1nm,0.6s,mb3.9,baz=208,slow=3.5,SNR=12						
PDAR				pP	pP	08 37 47.3	+0.9
	comp=Z,0.1nm,0.3s,baz=15,slow=35,SNR=3.0						
SDCO	Great Sand Dun	90.46	49	eP	P	08 35 29.3	+0.3
LZH	Lanzhou	92.33	308	eP	P	08 35 39.5	+1.9
LZH				AMB	AMB		
	comp=Z,26nm,1.2s,mb5.0						
RSSD	Black Hills	94.24	44	eP	P	08 35 45.6	-0.5
	comp=Z,1.6nm,0.8s,mb4.1						
INK	Inuvik	95.07	15	eP	P	08 35 48.0	-1.3
	comp=Z,13nm,1.3s,mb4.9						
SONM	Songino Array	95.53	319	P	P	08 35 51.2	-0.6
	comp=Z,0.5nm,0.4s,mb4.0,baz=135,slow=3.5,SNR=5.4						
SONM				PP	PP	08 39 50.5	-5.1
	comp=Z,1.6nm,1.1s,baz=108,slow=3.9,SNR=4.2						
MKAR	Makanchi Array	110.86	313	Pdiff	Pdif	08 36 58.6	-1.2
	comp=Z,0.3nm,0.8s,baz=270,slow=2.9,SNR=2.3						
MKAR				PKiKP		08 40 54.0	
	comp=Z,0.9nm,0.4s,baz=122,slow=0.8,SNR=17						
BVAR	Borovoye Array	118.87	320	PKP	PKPdf	08 41 09.2	-0.3
	comp=Z,5.4nm,0.4s,baz=131,slow=1.5,SNR=36						
BRVK	Borovoye	118.93	320	ePKPdf	PKPdf	08 41 09.3	-0.3
ZRNK	Zerenda	119.71	320	ePKPdf	PKPdf	08 41 10.8	-0.2
SUR	Sutherland	123.57	200	ePKPdf	PKPdf	08 41 21.4	+2.3
SUMG	Summit	123.92	13	ePKPdf	PKPdf	08 41 20.0	+1.2
ARU	Arti	125.09	325	ePKPdf	PKPdf	08 41 21.9	+0.6
KEV	Kevo	128.82	349	ep	PKPdf	08 41 25.3	-2.9
	comp=Z,1.0nm,0.4s						
ARCES	ARCESS Array B	129.28	349	PKP	PKPdf	08 41 29.3	+0.3
	comp=Z,5.5nm,0.5s,baz=28,slow=1.2,SNR=31						
ARCES				PP	PP	08 43 44.5	-7.2
	comp=Z,3.7nm,0.9s,baz=352,slow=14,SNR=2.4						
ARCES	ARCESS Array B	129.28	349	PKP	PKPdf	08 41 29.3	+0.3
ARCES				PP	PP	08 43 44.5	-7.2
ARE0	ARCESS Array S	129.28	349	ePKPdf	PKPdf	08 41 29.0	0.0
LSZ	Lusaka	135.07	219	ePKPdf	PKPdf	08 41 42.6	+1.4
KAF	Kangasniemi	135.41	343	ep	PKPdf	08 41 40.1	-0.5
	comp=Z,3.8nm,0.5s						
FINES	FINESS Array B	136.02	343	PKhKP		08 41 30.0	
	comp=Z,1.4nm,0.6s,baz=45,slow=2.7,SNR=8.0						
FINES				PKP	PKPdf	08 41 41.1	-0.6
	comp=Z,2.0nm,0.5s,baz=104,slow=5.7,SNR=12						
FINES				SKPbc		08 44 14.7	
	comp=Z,2.8nm,0.5s,baz=65,slow=2.7,SNR=14						
QRN	Al-Qurain	136.94	290	eP	PKPdf	08 41 36.2	-8.2
QRN				AMb	AMB	08 41 40.8	
	comp=Z,17nm,0.8s						
RDF	Al-Radifah	137.26	290	eP	PKPdf	08 41 36.5	-8.5
RDF				AMb	AMB	08 41 37.2	
	comp=Z,10nm,0.6s						
MIB	Mutribah	137.44	291	eP	PKPdf	08 41 36.3	-8.9
MIB				AMb	AMB	08 41 38.3	
	comp=Z,10nm,0.5s						
RST	Umm Al-Ruwaisa	137.74	291	eP	PKPdf	08 41 37.2	-8.7
GNI	Garni	138.26	307	ePKPdf	PKPdf	08 41 46.6	+0.2
NB2	NORSAR Subarra	139.41	352	PKP		08 41 40.8	
	comp=Z,17nm,1.7s,baz=10.0,slow=3.1						
NB2	NORSAR Subarra	139.41	352	⇑PKPab	PKPdf	08 41 40.8	-7.1
NOA	NORSAR Array B	139.41	352	PKhKP		08 41 40.5	
	comp=Z,1.2nm,0.5s,baz=15,slow=4.6,SNR=5.9						
NOA				PKP	PKPdf	08 41 49.9	+2.0
	comp=Z,1.0nm,0.5s,baz=13,slow=4.0,SNR=4.1						
NOA				SKPbc		08 44 23.7	
	comp=Z,4.3nm,1.0s,baz=15,slow=4.4,SNR=4.0						
NOA	NORSAR Array B	139.41	352	PKP	PKPdf	08 41 49.9	+2.0
NOA				SKPbc		08 44 23.7	
GUMT	Gumushane	142.03	309	eP	PKPdf	08 41 52.0	-1.1
GUMT	Gumushane	142.03	309	P	PKPdf	08 41 52.0	-1.1
KELT	Kelkit	142.30	309	i P	PKPdf	08 41 52.5	-1.0
PTK	Pertek	142.58	307	eP	PKPdf	08 41 55.6	+1.6
ELZG	Elazig	143.00	307	i P	PKPbc	08 41 55.9	+2.5
AKASG	Malin Array Be	143.01	330	PKhKP		08 41 52.6	
	comp=Z,24nm,0.4s,baz=41,slow=4.1,SNR=84						
AKASG				SKPbc		08 44 33.4	
	comp=Z,0.8nm,0.4s,baz=40,slow=2.8,SNR=6.5						
MALT	Malatya	143.48	306	eP	PKPbc	08 41 56.6	+1.8
MALT	Malatya	143.48	306	ePKPdf	PKPdf	08 41 56.0	+0.4
MBAR	Mbarara	143.79	237	ePKPdf	PKPdf	08 41 58.2	+1.3
MUD	Monsted U’grnd	144.13	352	i P	PKPbc	08 41 55.7	-0.4
	comp=Z,72nm,1.3s						
	comp=Z,6µm,18.0s						
BSD	Bornholm Skovb	144.40	346	⇑iP	PKPdf	08 41 57.3	+0.6
	comp=Z,26nm,0.7s						
GZT	Gaziantep	144.41	305	i P	PKPdf	08 41 59.0	+1.7
GAZ	Gaziantep	144.73	305	eP	PKPdf	08 42 01.3	+3.4
GAZ	Gaziantep	144.73	305	P	PKPdf	08 42 01.3	+3.4
KAHT	Ahir Dag	144.85	306	i P	PKPdf	08 42 00.5	+2.5
BOYT	Boyabat	144.89	313	i P	PKPdf	08 42 00.8	+2.9
CTKT	Corum	145.30	312	i P	PKPdf	08 42 02.0	+3.2
COBT	Iskenderun	145.66	304	i P	PKPdf	08 42 03.1	+3.7
HTY	Hatay	145.86	304	P	PKPdf	08 42 03.5	+3.7
HTY	Hatay	145.86	304	P	PKPdf	08 42 03.5	+3.7
BALT	Daday	145.87	314	i P	PKPdf	08 42 03.3	+3.7
CEYT	Ceyhan	145.90	305	eP	PKPdf	08 42 03.9	+4.1
AVNT	Avonos	145.97	309	i P	PKPdf	08 42 03.2	+3.3
ELDT	Eldivan	146.30	312	i P	PKPdf	08 42 04.5	+4.1
NIG	Nigde	146.39	308	eP	PKPdf	08 42 04.2	+3.6
NIG	Nigde	146.39	308	P	PKPdf	08 42 04.2	+3.6
BSEG	Bad Segeberg	146.41	350	ePKPbc	PKPbc	08 42 03.7	+1.6
BRTR	Keskin Array B	146.47	311	PKPbc	PKPbc	08 42 04.7	+2.0
	comp=Z,7.7nm,0.5s,baz=143,slow=4.8,SNR=35						
BRTR				SKPbc		08 44 42.5	
	comp=Z,0.4nm,0.4s,baz=248,slow=42,SNR=4.0						
SAFT	Safranbolu	146.47	314	eP	PKPdf	08 42 04.6	+4.0
SAFT	Safranbolu	146.47	314	P	PKPdf	08 42 04.6	+3.9
KAMT	Kaman	146.56	310	eP	PKPdf	08 42 04.9	+4.1
KAMT	Kaman	146.56	310	P	PKPdf	08 42 04.9	+4.1
KWP	Kalwaria	146.66	334	ePKPbc	PKPbc	08 42 04.6	+1.8
HRI	Mount Hermon	146.90	299	P	PKPdf	08 42 06.6	+5.0
SGKT	Sivrigoynuk	147.20	313	i P	PKPdf	08 42 05.6	+3.8
MEST	Erdemli	147.25	305	i P	PKPdf	08 42 06.5	+4.4
HMDT	Nahal Hemdat	147.28	297	P	PKPdf	08 42 07.6	+5.4
OJC	Ojcow	147.31	337	ePKP	PKPdf	08 42 06.3	+4.6
MMLI	Mount Malkishu	147.33	298	P	PKPdf	08 42 07.8	+5.5
KOLS	Kolonicke sedl	147.38	334	ePKP	PKPdf	08 42 06.9	+5.1
KOLS				e		08 42 14.6	
KOLS				e		08 42 25.4	
DRGI	Dragot	147.51	296	P	PKPdf	08 42 08.0	+5.4
DRGI	Dragot	147.51	296	⇑P	PKPdf	08 42 08.0	+5.4
IKL	Isikli	147.72	305	eP	PKPdf	08 42 07.8	+5.0
IKL	Isikli	147.72	305	P	PKPdf	08 42 07.8	+5.0
CRVS	Cervenica-Dubn	147.74	334	ePKP	PKPdf	08 42 07.9	+5.5
CRVS				e		08 42 12.9	
MDU	Mudurnu	147.82	314	eP	PKPdf	08 42 08.1	+5.3
MDU	Mudurnu	147.82	314	P	PKPdf	08 42 08.1	+5.2
HENT	Hendek	147.86	315	i P	PKPdf	08 42 06.9	+4.0
ZFRI	Zfri	147.87	294	P	PKPdf	08 42 09.1	+5.9
KSP	Ksiaz	147.92	342	ePKP	PKPdf	08 42 08.0	+5.4
KSP				e		08 42 13.2	
PRNI	Paran	148.05	294	P	PKPdf	08 42 09.6	+6.1
PRNI	Paran	148.05	294	⇑P	PKPdf	08 42 09.6	+6.1
KIZT	Kizilcal	148.06	311	i P	PKPdf	08 42 08.9	+5.6
KIZT	Kizilcal	148.06	311	P	PKPdf	08 42 08.9	+5.6
AQBJ	Aqaba	148.10	293	P	PKPdf	08 42 09.6	+6.0
MLR	Muntele Rosu	148.14	326	PKPbc	PKPdf	08 42 08.2	+5.0
	comp=Z,13nm,0.7s,baz=352,slow=5.7,SNR=23						
EIL	Elat	148.19	293	ePKPbc	PKPdf	08 42 09.9	+6.2
EIL				ePKPab	PKPab	08 42 16.3	-0.2
OKC	Ostrava-Krasne	148.21	339	ePKPbc	PKPdf	08 42 09.0	+5.9
OKC				ePKPab	PKPab	08 42 14.6	-1.3
MBH	Mount Berech	148.21	293	P	PKPdf	08 42 09.9	+6.1
UPC	Upice	148.30	342	⇑ePKPbc	PKPdf	08 42 09.3	+6.0
UPC				ePKPab	PKPab	08 42 15.3	-1.0
DPC	Dobruska-Polom	148.35	341	ePKPbc	PKPdf	08 42 09.5	+6.2
DPC				ePKPab	PKPab	08 42 15.5	-1.0
CLL	Collm	148.37	346	⇑iPKP1	PKPdf	08 42 09.1	+5.8
CLL				ePKP2	PKPab	08 42 15.0	-1.5
CSS	Prodhromos	148.39	303	ePKPbc	PKPdf	08 42 09.3	+5.3

CLZ	**Clausthal**	148.41	349	*e*PKPbc	PKPdf	08 42 09.4	+6.0
CLZ				*e*PKPab	PKPab	08 42 14.8	-1.9
MORC	**Moravsky Berou**	148.46	339	*e*PKPbc	PKPdf	08 42 08.7	+5.2
MORC				*e*PKPab	PKPab	08 42 15.7	-1.2
KECS	**Kecovo**	148.47	335	*e*PKP	PKPab	08 42 14.4	-2.6
KZIT	**Kziot**	148.47	295	P	PKPdf	08 42 10.3	+6.1
BRG	**Berggiesshubel**	148.54	344	*i* P	PKPdf	08 42 09.9	+6.3
BRG				*i*		08 42 15.6	
LEF	**Lefka**	148.68	303	*e*P	PKPdf	08 42 10.4	+6.0
LEF	**Lefka**	148.68	303	P	PKPdf	08 42 10.4	+6.0
PVCC	**Panska Ves**	148.69	343	⇑*e*PKPbc	PKPdf	08 42 10.3	+6.4
VYHS	**Vyhne**	149.09	337	*i* PKP	PKPdf	08 42 11.1	+6.5
VYHS				*e*		08 42 18.1	
PSZ	**Piszkesteto**	149.16	335	*e*PKPbc	PKPdf	08 42 11.4	+6.7
PSZ				*e*PKPab	PKPab	08 42 18.3	-1.6
KOLL	**Kolacno**	149.18	337	*e*PKP	PKPdf	08 42 10.7	+6.0
KOLL				*e*		08 42 11.5	
KOLL				*e*		08 42 18.2	
PRU	**Pruhonice**	149.19	343	⇑*i*PKPbc	PKPdf	08 42 11.0	+6.3
	comp=Z,18nm,0.8s						
PRU				*e*PKPab	PKPab	08 42 18.6	-1.3
MOX	**Moxa**	149.30	347	*e*PKP	PKPdf	08 42 11.3	+6.5
MOX				*e*PKPab	PKPab	08 42 18.0	-2.4
ULDT	**Uludag**	149.37	315	*i* P	PKPdf	08 42 12.0	+6.8
NKC	**Novy Kostel**	149.50	345	*e*PKPbc	PKPdf	08 42 12.3	+7.2
NKC				*e*PKPab	PKPab	08 42 19.5	-1.7
ZST	**Bratislava**	149.97	338	*e*PKP	PKPdf	08 42 13.7	+7.8
ZST				*e*		08 42 22.7	
KHC	**Kasperske Hory**	150.23	343	*e*PKPbc	PKPdf	08 42 13.6	+7.3
KHC				*e*PKPab	PKPab	08 42 23.2	-1.1
GRA1	**Grafenberg Arr**	150.28	346	*e*PKPbc	PKPdf	08 42 13.8	+7.5
GRA1				*e*PKPab	PKPab	08 42 23.8	-0.7
ELL	**Elmali**	150.36	308	*e*P	PKPdf	08 42 14.7	+7.8
WET	**Wettzell**	150.40	344	*e*PKPbc	PKPdf	08 42 13.8	+7.3
WET				*e*PKPab	PKPab	08 42 24.4	-0.6
GEC2	**GERESS Array S**	150.45	343	*e*PKPbc	PKPdf	08 42 14.1	+7.5
GERES	**GERESS Array B**	150.45	343	PKPbc	PKPdf	08 42 13.6	+7.0
	comp=Z,7.9nm,0.7s,baz=31,slow=2.5,SNR=24						
MANT	**Manisa**	150.56	312	*i* P	PKPdf	08 42 14.7	+7.6
DNZL	**Cakiroluk**	150.59	310	*i* P	PKPdf	08 42 15.2	+8.0
GIVF	**Givet**	150.85	355	*e*PKP1	PKPdf	08 42 14.9	+7.7
	comp=Z,32nm,0.7s						
BAIF	**Baives**	150.94	356	*e*PKP1	PKPdf	08 42 15.1	+7.8
WLF	**Walferdange**	151.16	353	*e*PKPbc	PKPdf	08 42 15.6	+8.0
RHK1	**Bakonya**	151.37	335	⇑*i*P	PKPdf	08 42 16.1	+8.1
IZM	**Izmir**	151.50	313	*e*P	PKPdf	08 42 16.4	+7.9
IZM	**Izmir**	151.50	313	P	PKPdf	08 42 16.4	+7.9
STU	**Stuttgart**	151.57	349	*e*PKPbc	PKPdf	08 42 16.4	+8.2
STU				*e*PKPab	PKPab	08 42 27.8	-2.1
FUR	**Furstenfeldbru**	151.70	345	*e*PKPbc	PKPdf	08 42 17.9	+9.4
FUR				*e*PKPab	PKPab	08 42 29.8	-0.7
BFO	**Black Forest**	152.15	349	*e*PKPbc	PKPdf	08 42 18.0	+8.9
BFO				*e*PKPab	PKPab	08 42 30.4	-2.0
CDF	**Champ du Feu**	152.24	351	*e*PKP1	PKPdf	08 42 18.0	+8.8
	comp=Z,9.0nm,0.6s						
MEZF	**Maizieres J'vi**	152.42	354	*e*PKP1	PKPdf	08 42 18.8	+9.4
SGMF	**Saint Gilles**	152.72	5	*e*PKP1	PKPdf	08 42 18.4	+8.5
	comp=Z,11nm,0.6s						
HINF	**Hinteralfeld**	152.88	351	*e*PKP1	PKPdf	08 42 19.0	+8.9
LOR	**Lormes**	153.75	356	*e*PKP1	PKPdf	08 42 21.3	+10
	comp=Z,3.4nm,0.4s						
SSF	**Saint Saulge**	153.98	356	*e*PKP1	PKPdf	08 42 21.7	+10
ESDC	**Sonseca Array**	160.97	12	PKPab	PKPab	08 43 08.8	-1.5
	comp=Z,4.6nm,1.0s,baz=351,slow=3.7,SNR=6.5						
DBIC	**Dimbokro**	164.63	158	PKP	PKPdf	08 42 26.2	+1.4
	comp=Z,2.0nm,0.6s,baz=28,slow=6.9,SNR=4.1						
DBIC				PKPab	PKPab	08 43 27.8	+0.8
	comp=Z,10nm,1.1s,baz=56,slow=3.2,SNR=3.4						

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*LDG **24** 08:30:10.3±0.6, 42.84N×1.45W, h2^{km}, Md2.0/2, Ml2.3/1, Error ellipse: s-maj=9.8km s-min=7.3km az=64.0*
*STR **24** 08:30:10.0±0.1, 42.82N×1.46W, h5^{km}±1^{km}, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*MDD **24** 08:30:11.2±0.4, 42.88N×1.43W, h5^{km}±10^{km}, mbLg1.7/6, Error ellipse: s-maj=3.9km s-min=2.5km az=29.0, PRXIMO AftershockPLICA*
ISC 24 08:30:09.2±0.6, **42.81N**±0.03×**1.43W**±0.05, **h4**^{km}±7^{km}, **n17**, σ**0^{s}89**/30, **1C, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	0.34	26	*e*Pg	Pg	08 30 16.5	+0.5
SJPF				*e*Sg	Sg	08 30 19.3	-1.3
	126nm,0.3s						
LARF	**Larrau**	0.40	55	Pg	Pg	08 30 17.9	+0.7
LARF				Sg	Sg	08 30 23.8	+1.3
LARF	**Larrau**	0.40	55	P	Pg	08 30 18.0	+0.8
LARF				S	Sg	08 30 23.9	+1.3
EALK	**Alkurruntz**	0.42	352	⇑Pg	Pg	08 30 17.7	+0.2
	2.9nm,0.1s,SNR=18						
EALK				Lg		08 30 22.1	
	14nm,0.2s,SNR=5.0						
OSSF	**Osses**	0.47	15	P	Pg	08 30 18.5	0.0
OSSF				S	Sg	08 30 23.7	-1.0
ORDF	**Ordiarp**	0.55	42	Pg	Pg	08 30 20.5	+0.4
ORDF				Sg	Sg	08 30 28.1	+0.7
ORDF	**Ordiarp**	0.55	42	P	Pg	08 30 20.6	+0.5
ORDF				S	Sg	08 30 27.4	0.0
ATE	**Arette**	0.60	62	P	Pg	08 30 21.8	+0.6
ATE				S	Sg	08 30 30.1	+0.7
ETSF	**Etsaut**	0.65	82	*e*Pg	Pg	08 30 22.3	+0.2
ETSF				*e*Sg	Sg	08 30 31.0	+0.2
ETSF				*e*Sn	Sn	08 30 33.0	-2.5
	9.4nm,0.3s						
ESAC	**San Caprasio**	1.30	146	Pg	Pg	08 30 35.4	+0.3
	6.3nm,0.2s,SNR=4.7						
ESAC				Lg		08 30 53.7	
	14nm,0.1s,SNR=5.0						
EPF	**Esparros**	1.32	80	*e*Pn	Pn	08 30 34.5	+0.1
EPF				*e*Pg	Pg	08 30 36.9	+1.4
EPF				*e*Sg	Sg	08 30 52.5	-0.7
	8.4nm,0.4s						
EGRA	**Graus**	1.43	115	Pg	Pg	08 30 37.1	-0.6
	0.8nm,0.2s,SNR=7.9						
EGRA				Lg		08 30 55.9	
	1.5nm,0.2s,SNR=4.0						
ELAN	**Lanestosa**	1.53	287	Pg	Pg	08 30 39.3	-0.4
	1.9nm,0.1s,SNR=6.1						
ELAN				Lg		08 30 59.2	
	3.6nm,0.2s,SNR=5.0						
ETOR	**Torete**	2.04	193	Pn	Pn	08 30 44.9	+0.3
	0.5nm,0.2s,SNR=5.0						
ETOR				Pg	Pg	08 30 49.7	-0.2
	0.9nm,0.2s,SNR=7.0						
ETOR				Sn	Sn	08 31 12.5	+1.6
	0.6nm,0.2s,SNR=5.0						
EMIR	**Miracle**	2.37	111	Pg	Pg	08 30 55.7	-0.7
	0.7nm,0.0s,SNR=7.9						
EPOB	**Poblet**	2.37	127	Pg	Pg	08 30 55.9	-0.5
	0.5nm,0.1s,SNR=7.9						
EPOB				Lg		08 31 23.8	
	0.5nm,0.1s,SNR=4.0						
EMOS	**Mosqueruela**	2.54	163	Pg	Pg	08 30 57.9	-2.0
	0.1nm,0.0s,SNR=4.0						
EMOS				Lg		08 31 31.6	
	0.7nm,0.1s,SNR=4.0						

IDC 24 08:42:57.1±2.7, **4.58N**×**96.24E**, **mb3.7**/4, **mb1 3.9**/5, **mb1mx3.7**/16, **ML4.0**/1, **Error ellipse: s-maj=114.0km s-min=23.5km az=62.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	14.05	11	Pn	P	08 46 17.3	-2.5
	0.3nm,0.3s,baz=204,slow=11,SNR=6.5						
MKAR	**Makanchi Array**	43.75	346	P	P	08 51 04.2	-1.8
	0.2nm,0.4s,baz=163,slow=5.7,SNR=2.6						
WRA	**Warramunga Arr**	44.68	124	P	P	08 51 11.5	-2.3
	0.8nm,0.6s,baz=302,slow=9.3,SNR=55						
ASAR	**Alice Springs**	46.22	129	P	P	08 51 24.4	-1.7
	0.9nm,0.6s,baz=301,slow=8.0,SNR=20						
STKA	**Stephens Creek**	56.34	133	P	P	08 52 40.5	-2.0
	1.3nm,0.8s,baz=270,slow=9.8,SNR=2.8						

IDC 24 08:48:05.2±14.0, **0.94S**×**125.18E**, **mb3.9**/3, **mb1 4.1**/3, **mb1mx3.7**/14, **Error ellipse: s-maj=365.0km s-min=223.5km az=65.0, Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	20.91	155	P	P	08 52 48.9	-2.9
	0.5nm,0.3s,baz=333,slow=13,SNR=36						
ASAR	**Alice Springs**	24.12	160	P	P	08 53 23.2	-0.6
	2.8nm,0.3s,baz=331,slow=8.1,SNR=31						
STKA	**Stephens Creek**	34.46	155	P	P	08 54 54.8	-2.0
	1.0nm,0.5s,baz=343,slow=14,SNR=2.9						

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*NAO **24** 08:56:01.5±3.5, 60.10N×25.37E, ML2.4*
*BER **24** 08:56:02.9±3.5, 60.09N×25.57E, h4^{km}±28^{km}, ML2.4(NAO)*
*HEL **24** 08:56:03.6±0.1, 60.17N×25.20E, ML2.0, ML2.0(UPP), ML2.4(NAO), Explosion*
ISC 24 08:56:02.2±0.5, **60.16N**±0.03×**25.26E**±0.07, **n19**, σ**0^{s}97**/28, **Finland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PVF	**Pernaja**	0.49	38	*e*P	Pg	08 56 12.2	+0.3
PVF				*e*S	Sg	08 56 17.7	-0.7
VJF	**Virojoki**	1.20	71	*e*P	Pb	08 56 24.9	-0.7
VJF				*e*S	Sb	08 56 39.4	-2.2
FIA0	**FINESS Array S**	1.35	17	*e*P	Pb	08 56 27.9	-0.1
FIA0				*e*S	Sb	08 56 45.1	-0.6
FIA0	**FINESS Array S**	1.35	17	Pn	Pn	08 56 27.8	-0.5
	baz=178,slow=18						
FIA0				Lg		08 56 45.4	
	baz=189,slow=37						
VSU	**Vasula**	1.87	155	*e*P	Pn	08 56 37.5	+1.8
VSU				*e*S	Sn	08 57 00.8	+0.5
KEF	**Keuruu**	2.02	355	*e*P	Pn	08 56 39.6	+1.7
KEF				*e*S	Sn	08 57 05.8	+1.6
KEF				MSG		08 57 09.0	
	comp=Z,9.6nm,0.1s						
KAF	**Kangasniemi**	2.02	14	*e*P	Pn	08 56 39.6	+1.7
KAF				*e*S	Sn	08 57 04.8	+0.5
KAF				MSG		08 57 08.4	
	comp=Z,5.6nm,0.1s						
SUF	**Sumiainen**	2.60	9	*e*P	Pn	08 56 48.0	+1.8
SUF				*e*SB	Sb	08 57 21.6	-0.5
SUF				MSG		08 57 23.8	
	comp=Z,4.5nm,0.1s						
AAL	**Aland**	2.63	273	*e*P	Pn	08 56 46.8	+0.2
GRAU	**Graesoe**	3.35	276	*e*P	Pn	08 56 56.3	-0.6
NRTU	**Norrtaelje**	3.37	265	*e*P	Pn	08 56 57.1	0.0
FLYU	**Flymyra**	3.69	273	*e*P	Pn	08 57 01.2	-0.4
NYNU	**Nynaeshamn**	3.87	256	*e*P	Pn	08 57 03.9	-0.3
IGGU	**Iggoen**	3.99	284	*e*P	Pn	08 57 05.0	-0.9
OSTU	**Oestervaala**	4.06	274	*e*P	Pn	08 57 06.4	-0.5
BACU	**Backbrunna**	4.10	269	*e*P	Pn	08 57 07.3	-0.3
ARNU	**Arnoeviken**	4.14	295	*e*P	Pn	08 57 07.8	-0.2
HFS	**Hagfors**	5.78	275	Pn	Pn	08 57 30.0	-1.2
	baz=71,slow=16						
HFS				Sn	Sn	08 58 33.8	-5.4
	baz=79,slow=28						
HFS				Lg		08 59 05.7	
	baz=90,slow=37						
HFS	**Hagfors**	5.78	275	*e*P	Pn	08 57 30.0	-1.2
HFS				*e*S	Sn	08 58 33.8	-5.4
HFS				*e*		08 59 05.7	

WEL 24 09:02:14.4±0.3, **38.09S**×**176.36E**, **h155**^{km}±2^{km}, **ML3.5**/5, **3C-1D, Error ellipse: s-maj=3.3km s-min=2.9km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	**Urewera**	0.61	106	⇑PN	P	09 02 36.7	-0.6
URZ				SN	S	09 02 54.2	-0.7
MWZ	**Matawai**	0.95	105	PN	P	09 02 39.6	+0.2
MWZ				SN	S	09 02 58.4	-0.3
BKZ	**Black Stump Fm**	1.08	174	⇑PN	P	09 02 40.3	-0.2
BKZ				SN	S	09 03 00.2	-0.4
MGZ	**Maungaku**	1.11	215	PN	P	09 02 40.8	0.0
NGZ	**Ngauruhoe**	1.23	209	PN	P	09 02 42.0	0.0
TUVZ	**Tukino**	1.30	205	PN	P	09 02 42.4	-0.2
PWZ	**Pawanui**	1.97	169	PN	P	09 02 49.2	-0.5
PWZ				SN	S	09 03 16.2	-0.9
WAZ	**Wanganui**	1.98	212	PN	P	09 02 48.6	-1.2
TSZ	**Takapari Road**	1.99	189	⇓PN	P	09 02 48.9	-1.1
TSZ				SN	S	09 03 15.4	-2.0
NEZ	**North Egmont**	2.13	236	PN	P	09 02 51.3	-0.3
BFZ	**Birch Farm**	2.59	182	PN	P	09 02 55.2	-2.1
MRZ	**Mangatainoka R**	2.64	193	⇑PN	P	09 02 55.4	-2.6
MRZ				SN	S	09 03 27.2	-4.2
KIW	**Kapiti Island**	2.98	202	PN	P	09 02 59.1	-3.3
MTW	**Mount Morrison**	3.13	192	PN	P	09 03 00.8	-3.5
CAW	**Cannon Point**	3.17	198	PN	P	09 03 00.4	-4.5
MSWZ	**Moikau Station**	3.43	194	SN	S	09 03 43.0	-6.4
TUWZ	**Tuamarina**	3.82	208	PN	P	09 03 08.8	-4.4
TUWZ				SN	S	09 03 52.4	-6.0
MQZ	**McQueen's Vall**	6.27	205	SN	S	09 04 45.2	-11

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*LDG **24** 09:14:40.9±0.9, 42.93N×1.40W, h3^{km}, Md2.3/3, Ml2.3/2, Error ellipse: s-maj=16.3km s-min=11.1km az=57.0*
*MDD **24** 09:14:40.3±0.5, 42.86N×1.39W, h3^{km}±9^{km}, mbLg1.6/4, Error ellipse: s-maj=4.3km s-min=2.5km az=36.0, PRXIMO AftershockPLICA*
ISC 24 09:14:38.4±0.9, **42.84N**±0.05×**1.43W**±0.06, **h13**^{km}±5^{km}, **n10**, σ**0^{s}72**/18, **Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	0.31	28	*e*Pg	Pg	09 14 45.5	+0.4
SJPF				*e*Sg	Sg	09 14 48.2	-1.4
	74nm,0.3s						
LARF	**Larrau**	0.38	58	P	Pg	09 14 46.6	+0.2
LARF				S	Sg	09 14 52.6	+0.9
EALK	**Alkurruntz**	0.39	351	Pg	Pg	09 14 47.1	+0.6
	22nm,0.3s,SNR=16						
EALK				Lg		09 14 52.6	
	21nm,0.4s,SNR=12						
OSSF	**Osses**	0.44	16	P	Pb	09 14 47.6	+0.2
OSSF				S	Sg	09 14 53.8	+0.3
FDAF	**Les Forges d'A**	0.63	91	P	Pb	09 14 51.4	+0.6
ETSF	**Etsaut**	0.64	84	*e*Pg	Pg	09 14 51.1	-0.3
ETSF				*e*Sg	Sg	09 14 59.9	-0.2
ETSF				*e*Sn	Sn	09 15 01.8	-1.1
	7.6nm,0.3s						
EPF	**Esparros**	1.31	81	*e*Pn	Pn	09 15 03.3	+0.8
EPF				*e*Pg	Pg	09 15 05.6	+0.9
EPF				*e*Sg	Sg	09 15 21.4	-0.9
	5.7nm,0.2s						
ESAC	**San Caprasio**	1.32	147	Pg	Pg	09 15 04.8	-0.1
	SNR=7.9						
ESAC				Lg		09 15 23.6	
	15nm,0.3s,SNR=5.4						
ELAN	**Lanestosa**	1.52	286	Pg	Pg	09 15 07.7	-1.2
	SNR=7.9						
ELAN				Lg		09 15 29.5	
	SNR=7.9						
MTLF	**Montolieu**	2.72	78	*e*Pn	Pn	09 15 23.4	+0.8
MTLF				*e*Sn	Sn	09 15 55.2	-0.4
	3.5nm,0.5s						

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*IDC **24** 09:19:49.5±0.6, 58.91S×25.77W, mb4.3/10, mb1 4.3/10, mb1mx4.2/14, MS4.0/5, Ms1 3.9/5, ms1mx3.7/13, Error ellipse: s-maj=25.1km s-min=18.9km az=22.0*
*NEIC **24** 09:19:50.7±4.0, 58.72S×25.51W, h6^{km}±24^{km}, mb4.3/8, Error ellipse: s-maj=11.0km s-min=9.3km az=51.0*
ISC 24 09:19:49.3±0.5, **58.76S**±0.07×**25.6W**±0.2, **h10**^{km}, **n42**, σ**1^{s}08**/26, **mb4.3**/15, **MS4.0**/5, **3C-1D, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	13.96	156	⇓*i*P	P	09 23 09.4	+0.4
VNA1				*e*S	S	09 25 31.6	-13
VNA3	**Neumayer Olymp**	14.15	159	⇑*i*P	P	09 23 11.6	+0.1
VNA3				*e*S	S	09 25 34.6	-15
VNA2	**Neumayer--Watz**	14.36	155	⇑*i*P	P	09 23 14.2	0.0
VNA2				*e*S	S	09 25 36.6	-18
SNAA	**Sanae**	15.92	153	⇑*i*P	P	09 23 33.1	-1.5
SNAA				*e*S	S	09 25 55.0	-36
PMSA	**Palmer Station**	18.90	235	*e*P	P	09 24 11.8	-0.1
	8.5nm,0.8s						
USHA	**Ushuaia**	23.46	261	P	P	09 24 57.6	-1.6
	8.6nm,0.8s,mb4.2,baz=300,slow=17,SNR=3.1						
USHA				LR	LR	09 32 09.6	
	comp=Z,456nm,19.5s,MS3.9,baz=65,slow=32						
TRQA	**Tornquist**	31.21	295	*e*P	P	09 26 04.0	-6.6
	16nm,1.4s,mb4.7						
QSPA	**South Pole Qui**	31.48	180	*e*P	P	09 26 14.1	+1.4
	12nm,1.2s,mb4.6						
MAW	**Mawson**	37.48	141	P	P	09 27 03.7	-0.5
	1.3nm,0.7s,mb3.8,baz=248,slow=7.2,SNR=4.3						
MAW				LR	LR	09 40 38.6	
	comp=Z,207nm,19.2s,MS4.0,baz=241,slow=33						
MAW	**Mawson**	37.48	141	P	P	09 27 02.9	-1.3
	1.8nm,0.8s,mb4.0						
CPUP	**Villa Florida**	39.25	312	P	P	09 27 19.0	-0.4
	0.7nm,0.5s,mb3.6,baz=239,slow=14,SNR=2.9						
SUR	**Sutherland**	40.65	70	P	P	09 27 31.5	+0.6
	5.2nm,0.9s,mb4.2,baz=111,slow=23,SNR=2.0						
SBA	**Scott Base**	43.43	184	*e*P	P	09 27 55.7	+2.7
	7.7nm,1.1s,mb4.3						
BDFB	**Brasilia**	46.14	329	P	P	09 28 17.1	+1.6
	6.0nm,1.0s,mb4.5,baz=227,slow=0.5,SNR=5.1						
BDFB				LR	LR	09 45 32.2	
	comp=Z,80nm,20.1s,MS3.7,baz=143,slow=33						
BDFB	**Brasilia**	46.14	329	P	P	09 28 17.1	+1.6
BDFB				LR	LR	09 45 32.2	
TSUM	**Tsumeb**	50.36	57	P	P	09 28 48.0	-0.3
	1.5nm,0.6s,mb4.2,baz=118,slow=2.9,SNR=3.7						
LPAZ	**La Paz**	52.64	305	P	P	09 29 06.0	+0.5
	2.0nm,0.8s,mb4.1,baz=192,slow=4.9,SNR=8.1						
LPAZ	**La Paz**	52.64	305	*e*P	P	09 29 06.0	+0.5
	2.3nm,0.8s,mb4.2						
SAML	**Samuel**	57.31	314	*e*P	P	09 29 38.3	-1.3
	3.0nm,0.9s,mb4.3						
LSZ	**Lusaka**	58.64	66	*e*P	P	09 29 47.1	-1.7
	2.8nm,0.8s,mb4.3						
DBIC	**Dimbokro**	67.32	22	P	P	09 30 47.5	+1.1
	7.1nm,1.1s,mb4.6,baz=308,slow=9.8,SNR=2.3						
ROSC	**El Rosal**	74.28	309	LR	LR	10 03 54.5	
	comp=Z,101nm,21.5s,MS4.1,baz=58,slow=36						
STKA	**Stephens Creek**	89.08	169	P	P	09 32 46.4	+0.9
	1.5nm,0.9s,mb4.3,baz=110,slow=14,SNR=3.4						
ASAR	**Alice Springs**	96.14	161	P	P	09 33 17.9	-0.3
	1.0nm,0.9s,mb4.2,baz=198,slow=5.7,SNR=6.9						
ASAR				LR	LR	10 15 39.8	
	comp=Z,92nm,18.1s,MS4.3,baz=86,slow=35						
PV10	**Paradox Valley**	118.73	297	*e*PKPdf	PKPdf	09 38 39.0	-1.2
TPNV	**Topopah Spring**	121.02	291	*e*PKPdf	PKPdf	09 38 44.2	-0.5
NLU	**North Lily Min**	121.41	296	*e*PKPdf	PKPdf	09 38 44.6	-0.7
DUG	**Dugway**	121.94	296	*e*PKPdf	PKPdf	09 38 45.1	-1.2
PDAR	**Pinedale Array**	122.47	300	PKP	PKPdf	09 38 45.3	-1.9
	1.5nm,1.1s,baz=117,slow=6.6,SNR=5.7						
HWUT	**Hardware Ranch**	122.47	298	*e*PKPdf	PKPdf	09 38 46.0	-1.2
NVAR	**Mina Array Bea**	123.19	290	PKP	PKPdf	09 38 48.4	-0.3
	1.8nm,0.9s,baz=130,slow=3.6,SNR=11						
NVAR	**Mina Array Bea**	123.19	290	PKP	PKPdf	09 38 48.4	-0.3
CMAR	**Chiang Mai Arr**	123.31	111	PKP	PKPdf	09 38 49.0	-0.4
	0.7nm,0.4s,baz=217,slow=4.5,SNR=4.7						
ELK	**Elko**	123.52	294	*e*PKPdf	PKPdf	09 38 48.4	-1.0
HLID	**Hailey**	125.31	297	*e*PKPdf	PKPdf	09 38 52.2	-0.4
WVOR	**Wild Horse Val**	126.44	293	*e*PKPdf	PKPdf	09 38 54.8	0.0
MSO	**Missoula**	127.59	300	*e*PKPdf	PKPdf	09 38 56.4	-0.6
YKA	**Yellowknife Ar**	138.73	315	PKP	PKPdf	09 39 15.9	-1.4
	2.1nm,0.7s,baz=123,slow=2.1,SNR=5.8						
INK	**Inuvik**	148.41	318	*e*PKPbc	PKPdf	09 39 36.2	+2.6
SONM	**Songino Array**	149.96	90	PKPbc	PKPdf	09 39 39.8	+3.1
	3.3nm,0.9s,baz=243,slow=2.8,SNR=14						
ILAR	**Eielson Array**	152.50	307	PKPbc	PKPdf	09 39 46.4	+6.4
	11nm,0.9s,baz=146,slow=2.4,SNR=89						
MCK	**McKinley**	153.08	305	*e*PKPbc	PKPdf	09 39 48.0	+7.2

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*IDC **24** 09:27:27.3±1.1, 29.07S×66.05W, mb3.5/2, mb1 3.9/3, mb1mx3.8/12, ML4.2/1, MS2.8/2, Ms1 2.9/2, ms1mx2.7/16, Error ellipse: s-maj=63.4km s-min=26.1km az=159.0*
*NEIC **24** 09:27:36.4±3.4, 28.83S×65.72W, h54^{km}±30^{km}, mb4.5/3, Error ellipse: s-maj=41.1km s-min=17.1km az=107.0*
NEIC Felt [V] at Catamarca.
ISC 24 09:27:29.7±0.9, **28.8S**±0.1×**65.8W**±0.2, **h10**^{km}, **n13**, σ**0^{s}48**/10, **mb4.1**/4, **Santiago del Estero Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CPUP	**Villa Florida**	7.90	74	Pn	Pn	09 29 27.0	-0.5
	0.7nm,0.3s,baz=277,slow=14,SNR=11						
CPUP				Pg	Pg	09 30 00.2	-7.2
	1.3nm,0.3s,baz=281,slow=13,SNR=12						
CPUP				Lg		09 31 49.5	
	4.2nm,0.3s,baz=19,slow=17,SNR=3.7						
CPUP				LR	LR	09 32 11.7	
	comp=Z,39nm,20.0s,baz=142,slow=35						
CPUP	**Villa Florida**	7.90	74	Pn	Pn	09 29 27.0	-0.5
CPUP				Pg	Pg	09 30 00.2	-7.2
CPUP				Lg		09 31 49.5	
CPUP				LR	LR	09 32 11.7	
TRQA	**Tornquist**	9.76	162	*e*Pn	P	09 29 53.4	+0.2
LPAZ	**La Paz**	12.64	350	LR	LR	09 36 16.9	
	comp=Z,73nm,20.6s,baz=216,slow=41						
BDFB	**Brasilia**	20.99	55	P	P	09 32 16.4	+0.7
	1.6nm,0.5s,baz=231,slow=6.5,SNR=2.8						
SNAA	**Sanae**	54.48	160	*e*P	P	09 36 58.9	-0.4
	0.9nm,0.3s,mb4.2						
QSPA	**South Pole Qui**	61.42	180	*e*P	P	09 37 48.2	+0.2
	3.2nm,0.8s,mb4.5						
WVT	**Waverly**	67.84	341	*e*P	P	09 38 30.8	+0.5
	3.8nm,0.7s,mb4.5						
PDAR	**Pinedale Array**	81.81	329	P	P	09 39 49.6	-0.7
	0.2nm,0.7s,mb3.2,baz=131,slow=9.6,SNR=2.3						
ASAR	**Alice Springs**	124.49	202	PKP	PKPdf	09 46 28.5	-4.4
	0.4nm,0.6s,baz=142,slow=2.0,SNR=5.5						
WRA	**Warramunga Arr**	127.78	204	PKP	PKPdf	09 46 34.9	-4.4
	0.6nm,0.6s,baz=169,slow=1.6,SNR=16						
ZAL	**Zalesovo**	146.99	32	PKPbc	PKPbc	09 47 10.2	-1.6
	1.4nm,0.5s,baz=191,slow=8.0,SNR=4.2						
MKAR	**Makanchi Array**	149.33	45	PKPbc	PKPdf	09 47 18.2	+1.0
	1.1nm,0.8s,baz=314,slow=2.1,SNR=8.2						

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*NAO **24** 09:59:30.5±1.8, 64.75N×30.29E, ML2.4*
*HEL **24** 09:59:30.6±0.2, 64.74N×30.59E, ML2.2, ML2.4(NAO), Explosion*
*BER **24** 09:59:30.2±4.9, 64.67N×30.65E, ML2.4(NAO), Suspected explosion*
*IDC **24** 09:59:31.7±1.7, 64.68N×30.64E, mb1 3.4/4, mb1mx3.2/19, ML2.9/4, Error ellipse: s-maj=20.7km s-min=8.3km az=105.0*
ISC 24 09:59:29.6±0.8, **64.80N**±0.03×**30.3E**±0.1, **n20**, σ**1^{s}41**/37, **Finland-Karelia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSF	**Maaselka**	1.25	335	*e*P	Pb	09 59 55.3	+1.6
MSF				*e*S	Sb	10 00 12.2	+2.0
KJN	**Kajaani**	1.34	239	*e*P	Pb	09 59 55.6	+0.3
KJN				*e*S	Sb	10 00 13.4	+0.5
OUL	**Oulu**	1.91	281	*e*P	Pn	10 00 06.6	+2.9
OUL				*e*SG	Sg	10 00 33.0	-0.3
SUF	**Sumiainen**	2.79	224	*e*P	Pn	10 00 17.5	+1.2
SUF				*e*SB	Sb	10 00 54.7	-0.3
SUF				MSG		10 00 55.9	
	comp=Z,5.6nm,0.2s						
APA0	**Apatity Array**	3.02	20	Pn	Pn	10 00 19.8	+0.2
	baz=190,slow=14						
APA0	**Apatity Array**	3.02	20	*e*P	Pn	10 00 19.8	+0.2
SGF	**Sodankyl**	3.08	331	*e*P	Pn	10 00 21.8	+1.5
SGF				*e*S	Sn	10 01 00.2	+1.7
SGF				MSG		10 01 13.7	
	comp=Z,4.8nm,0.2s						
KAF	**Kangasniemi**	3.24	216	*e*P	Pn	10 00 23.3	+0.6
KEF	**Keuruu**	3.60	225	*e*P	Pn	10 00 28.6	+0.8
KEF				*e*SG	Sg	10 01 22.0	-7.4
FIA0	**FINESS Array S**	3.88	212	*e*P	Pn	10 00 31.2	-0.5
FIA0				*e*SG	Sg	10 01 30.7	-8.0
FIA0				MSG		10 01 35.8	
	comp=Z,5.3nm,0.2s						
FIA0	**FINESS Array S**	3.88	212	Pn	Pn	10 00 31.1	-0.7
	baz=31,slow=14						
FIA0				Pg	Pg	10 00 39.2	-7.8
	baz=38,slow=16						
FIA0				Lg		10 01 28.2	
	baz=39,slow=37						
FIA0				Rg		10 01 48.7	
	baz=27,slow=37						
FINES	**FINESS Array B**	3.88	212	Pn	Pn	10 00 30.7	-1.0
	comp=Z,0.2nm,0.3s,baz=40,slow=14,SNR=10						
FINES				Pg	Pg	10 00 40.0	-7.0
	comp=Z,0.7nm,0.3s,baz=31,slow=15,SNR=15						

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FINES                            Lg            10 01 30.6
      comp=Z,2.3nm,0.3s,baz=32,slow=29,SNR=8.8
FINES                            Rg            10 01 51.4
      comp=Z,27nm,1.2s,baz=27,slow=26,SNR=8.3
ARA0  ARCESS Array S    5.12 341 Pn     Pn     10 00 48.9 -0.5
      baz=153,slow=14
ARA0                             Sn     Sn     10 01 47.0 -3.0
      baz=157,slow=28
ARA0                             Lg            10 02 08.9
      baz=141,slow=37
ARA0  ARCESS Array S    5.12 341 eP     Pn     10 00 48.9 -0.5
ARA0                             eS     Sn     10 01 47.0 -3.0
ARA0                             eSG           10 02 08.9
ARCES ARCESS Array B    5.12 341 Pn     Pn     10 00 48.9 -0.4
      comp=Z,0.8nm,0.3s,baz=151,slow=13,SNR=57
ARCES                            Sn     Sn     10 01 48.0 -2.1
      comp=Z,0.8nm,0.3s,baz=155,slow=23,SNR=7.0
ARCES                            Lg            10 02 10.0
      comp=Z,1.8nm,0.3s,baz=156,slow=29,SNR=7.9
KEV   Kevo              5.15 347 eP     Pn     10 00 49.4 -0.3
KEV                              eSG    Sg     10 02 11.6 -9.3
KEV                              MSG           10 02 12.5
      comp=Z,3.3nm,0.3s
HFS   Hagfors           9.00 246 Pn     P      10 01 41.1 -2.6
      baz=75,slow=14
HFS                              Sn     Sn     10 03 18.6 -8.4
      baz=44,slow=28
HFS                              Lg            10 04 12.7
      baz=41,slow=28
HFS   Hagfors           9.00 246 eP     P      10 01 41.1 -2.6
HFS                              eS     Sn     10 03 18.6 -8.4
HFS                              eSG           10 04 12.7
HFS   Hagfors           9.00 246 Pn     P      10 01 41.2 -2.6
      comp=Z,0.1nm,0.3s,baz=60,slow=11,SNR=10
HFS                              Sn     Sn     10 03 18.3 -8.7
      comp=Z,0.1nm,0.3s,baz=90,slow=33,SNR=4.2
HFS                              Lg            10 04 13.3
      comp=Z,0.1nm,0.3s,baz=55,slow=30,SNR=3.3
NOA   NORSAR Array B    9.48 255 Pn     P      10 01 47.9 -2.5
      comp=Z,0.2nm,0.3s,baz=59,slow=14,SNR=2.2
NOA                              Sn     Sn     10 03 29.9 -9.1
      comp=Z,0.2nm,0.3s,baz=349,slow=6.6,SNR=2.8
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IDC ***24*** *10:34:51.0±0.6,0.86N×26.09W,mb4.4/16,mb1 4.5/16,mb1mx4.4/20,MS5.0/14,Ms1 5.0/14,ms1mx4.9/17,Error ellipse: s-maj=22.3km s-min=15.0km az=133.0*

MOS ***24*** *10:34:51.1±1.3,0.85N×26.00W,h10^{km},mb5.0/19,MS5.2/17,Error ellipse: s-maj=15.5km s-min=10.0km az=50.2*

SYO ***24*** *10:34:52.3,0.74N×26.01W,h10^{km},MB4.9,MS5.0*

BJI ***24*** *10:34:53.5,0.50N×26.40W,h10^{km},mB5.4,Ms5.5,Msz5.3*

HRVD ***24*** *10:34:53.5±0.1,0.87N×25.66W,h12^{km},MW5.8/77, Centroid moment Tensor Solution. LP body waves: s69,c153;Mantle waves: s77,c173; Half duration: 2^{s}0 Moment tensor: Scale 10^{17}Nm; M$_{rr}$-0.44±.07; M$_{\theta\theta}$1.59±.07; M$_{\phi\phi}$-1.15±.08; M$_{r\theta}$0.23±.19; M$_{\theta\phi}$-6.54±.06; M$_{\phi r}$0.42±.19; Best double couple: M$_{0}$6.7×10^{17} NP1:ϕ_s264°, δ86°,λ-177°. NP2:ϕ_s174°,δ87°,λ-4°. Principal axes: T 6.9, Plg1°, Azm219°; N -.4, Plg86°, Azm318°; P -6.5, Plg4°, Azm129°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***24*** *10:34:53.5±0.3,0.46N×26.40W,h10^{km},mb5.0/39, MS5.0/122,MW5.8 Error ellipse: s-maj=10.7km s-min=7.0km az=141.0,Moment Tensor Solution. s15 Moment tensor: Scale 10^{17}Nm; M$_{rr}$-0.35; M$_{\theta\theta}$2.76; M$_{\phi\phi}$-2.41; M$_{r\theta}$1.36; M$_{\theta\phi}$-4.14; M$_{\phi r}$-0.41; Best double couple: M$_{0}$5.1×10^{17} NP1:ϕ_s165°,δ77°,λ7°. NP2:ϕ_s73°, δ83°,λ167°. Principal axes: T 5.39, Plg14°, Azm29°; N -.66, Plg76°, Azm226°; P -4.73, Plg4°, Azm120°;*

ISC 24 10:34:51.8±0.3**,0.42N**±0.06×**26.29W**±0.05**,h10^{km}, (h15^{km}**±2.4^{km}**:pP-P),n284,**σ**1^{s}25**/168**,mb4.8**/54**, MS5.1**/142**,6C-4D,Central Mid-Atlantic Ridge**

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Code  Station Name      Δ°   AZ°   Phase ID       Time     Res
                                 Op     ISC     h  m  s    ISC
RCBR  Riachuelo        11.43 237 ePn    P      10 37 37.1 -1.1
      15nm,0.6s
SACV  Santiago Islan   14.70  10 eP     P      10 38 14.7 -7.2
      82nm,0.9s
LIC   Lamto            21.99  74 eP     P      10 39 41.6 -6.4
      438nm,1.1s,mb5.5
LIC   Lamto            21.99  74 eP     P      10 39 44.0 -4.0
      516nm,1.1s,mb5.9
TIC   Toumodi          22.10  73 eP     P      10 39 42.8 -6.3
      2µm,1.6s
DBIC  Dimbokro         22.27  73 P      P      10 39 45.0 -5.8
      167nm,1.3s,mb5.3,baz=242,slow=12,SNR=11
DBIC                             LR     LR     10 46 04.3
      comp=Z,12µm,19.4s,MS5.3,baz=237,slow=31
DBIC  Dimbokro         22.27  73⇑eP     P      10 39 44.4 -6.3
      160nm,1.0s,mb5.4
DBIC                             LR     LR
      comp=Z,1µm,21.0s,MS4.3
KIC   Kosan Boka       22.30  74 eP     P      10 39 44.7 -6.4
      comp=Z,715nm,1.0s
BAO   Brasilia Array   26.72 232 P      P      10 40 35.2 +1.7
BDFB  Brasilia         26.74 232 P      P      10 40 35.3 +1.6
      comp=Z,7.1nm,0.7s,mb4.3,baz=58,slow=9.5,SNR=7.9
BDFB                             LR     LR     10 50 42.2
      comp=Z,3µm,19.6s,MS4.9,baz=70,slow=35
BDFB  Brasilia         26.74 232 P      P      10 40 35.3 +1.6
BDFB                             pmax   pmax
      comp=Z,7.0nm,0.7s
BDFB                             MLR    MLR
      comp=Z,3µm,19.6s
SAML  Samuel           37.91 255 eP     P      10 42 12.8 +1.5
      comp=Z,14nm,1.3s,mb4.5
SAML                             LR     LR
      comp=Z,457nm,19.0s,MS4.3
CPUP  Villa Florida    40.03 226 P      P      10 42 30.9 +2.0
      comp=Z,2.4nm,0.8s,mb4.0,baz=69,slow=8.2,SNR=5.8
CPUP                             LR     LR     10 58 30.7
      comp=Z,2µm,21.8s,MS4.9,baz=86,slow=35
CPUP  Villa Florida    40.03 226 P      P      10 42 30.9 +2.0
CPUP                             pmax   pmax
      comp=Z,2.0nm,0.8s
CPUP                             MLR    MLR
      comp=Z,2µm,21.8s
CPUP  Villa Florida    40.03 226 eP     P      10 42 31.1 +2.2
      comp=Z,24nm,1.5s,mb4.7
CPUP                             LR     LR
      comp=Z,2µm,22.0s,MS4.8
EVO   Evora            41.48  22 eP     P      10 42 40.3 -0.3
      comp=Z,44nm,1.2s,mb4.7
EVO                              eR
      comp=Z,3µm,22.2s
SJG   San Juan         42.92 296 PFAKE         10 43 00.0 +7.2
SJG                              LR     LR
      comp=Z,632nm,21.0s,MS4.5
ESDC  Sonseca Array    44.07  25 P      P      10 42 57.8 -4.0
      comp=Z,0.3nm,0.3s,baz=237,slow=25,SNR=5.1
ESDC                             LR     LR     11 02 20.5
      comp=Z,2µm,18.9s,baz=190,slow=38
ESDC  Sonseca Array    44.07  25 P      P      10 42 57.8 -4.0
ESDC                             LR     LR     11 02 20.5
ESLA  Sonseca Array    44.07  25 P      P      10 42 58.5 -3.3
      comp=Z,3.5nm,1.0s,mb4.0
ESLA                             LR     LR
      comp=Z,10µm,19.0s,MS5.8
LPAZ  La Paz           44.48 246 P      P      10 43 08.1 +2.6
      comp=Z,13nm,0.8s,mb4.7,baz=74,slow=5.4,SNR=41
LPAZ                             LR     LR     11 02 04.1
      comp=Z,950nm,18.2s,MS4.8,baz=76,slow=36
LPAZ  La Paz           44.48 246 eP     P      10 43 07.8 +2.3
      comp=Z,18nm,0.9s,mb4.8
LPAZ                             LR     LR
      comp=Z,1µm,20.0s,MS4.8
SDV   Santo Domingo    44.94 282 PFAKE         10 43 20.0  +11
SDV                              LR     LR
      comp=Z,364nm,19.0s,MS4.3
TSUM  Tsumeb           47.25 117 P      P      10 43 25.5 -1.9
      comp=Z,3.4nm,0.9s,mb4.3,baz=283,slow=7.1,SNR=5.4
TSUM  Tsumeb           47.25 117 eP     P      10 43 25.4 -1.9
      comp=Z,65nm,1.8s,mb5.3
TSUM                             S      S      10 50 17.6 -1.9
TSUM                             LR     LR
      comp=Z,6µm,21.0s,MS5.5
SJPF  Ste Jean         48.07  25 eP     P      10 43 34.0 +0.5
      comp=Z,57nm,1.3s,mb5.2
BBSR  BB Station       48.16 315 PFAKE         10 43 50.0  +16
BBSR                             LR     LR
      comp=Z,1µm,19.0s,MS4.8
ETSF  Etsaut           48.17  25 eP     P      10 43 35.0 +0.7
      comp=Z,57nm,1.4s,mb5.1
EPF   Esparros         48.67  26 eP     P      10 43 38.8 +0.7
      comp=Z,105nm,1.4s,mb5.4
MTLF  Montolieu        49.76  27 eP     P      10 43 47.2 +0.7
      comp=Z,21nm,1.1s,mb4.8
TRQA  Tornquist        50.45 217 eP     P      10 43 53.1 +1.1
TRQA                             LR     LR
      comp=Z,637nm,20.0s,MS4.6
CAF   Calviac          50.93  26 eP     P      10 43 56.5 +1.1
RJF   Les Rejaudoux    51.00  25 eP     P      10 43 56.7 +0.8
RJF                              eR
      comp=Z,4µm,21.5s
LASF  Ste Croix        51.08  28 eP     P      10 43 57.1 +0.5
MFF   Saint Martin d   51.38  23 eP     P      10 43 59.4 +0.6
      comp=Z,67nm,1.2s,mb5.1
SGMF  Saint Gilles     51.89  20 eP     P      10 44 02.8 +0.1
VIVF  Saint-Julien-l   52.05  28 eP     P      10 44 05.0 +1.1
      comp=Z,43nm,1.3s,mb4.9
TCF   Toulx Ste Croi   52.08  25 eP     P      10 44 04.9 +0.8
      comp=Z,29nm,1.1s,mb4.8
OTAV  Otavalo          52.16 270 PFAKE         10 44 20.0  +15
OTAV                             LR     LR
      comp=Z,663nm,22.0s,MS4.6
SBF   Sospel           52.66  30 eP     P      10 44 09.5 +1.0
      comp=Z,124nm,1.3s,mb5.4
ORIF  Oris-en-Rattie   52.66  28 eP     P      10 44 09.4 +0.9
      comp=Z,22nm,1.1s,mb4.7
ORIF                             eR
      comp=Z,4µm,20.2s
MBDF  Montbardon       52.95  29 eP     P      10 44 12.0 +1.3
      comp=Z,50nm,1.2s,mb5.0
AVF   Avril sur Loir   52.96  25 eP     P      10 44 11.3 +0.6
SMF   Signal de Mont   53.05  26 eP     P      10 44 11.6 +0.2
BNI   Bardonecchia     53.15  29 eP     P      10 44 11.4 -0.7
BNI                              pmax   pmax
      comp=Z,26nm,1.2s,mb5.0
BNI   Bardonecchia     53.15  29 eP     P      10 44 11.4 -0.7
      comp=Z,26nm,1.3s,mb5.0
SSF   Saint Saulge     53.23  25 eP     P      10 44 13.3 +0.6
LPG   La Plagne        53.51  28 eP     P      10 44 16.1 +1.3
      comp=Z,36nm,1.3s,mb4.8
LPL   La Plagne        53.51  28 eP     P      10 44 16.0 +1.2
LOR   Lormes           53.55  25 eP     P      10 44 14.5 -0.5
      comp=Z,55nm,1.3s,mb5.0
LOR                              eR
      comp=Z,4µm,19.2s
CABF  La Chapelle      54.02  27 eP     P      10 44 19.2 +0.7
MEZF  Maizieres J'vi   55.01  25 eP     P      10 44 26.5 +0.7
TIP   Timpagrande      55.07  40 eP     P      10 44 26.2 -0.2
SUR   Sutherland       55.10 131 P      P      10 44 26.9 +0.3
      comp=Z,8.2nm,0.9s,mb4.8,baz=101,slow=10.0,SNR=3.0
SUR   Sutherland       55.10 131 P      P      10 44 26.9 +0.3
SUR                              LR     LR
      comp=Z,996nm,22.0s,MS4.8
HAU   Haudompre        55.19  26 eP     P      10 44 27.8 +0.7
HAU                              eR
      comp=Z,2µm,18.5s
HINF  Hinteralfeld     55.27  27 eP     P      10 44 28.7 +1.0
DAVOX Davos            55.94  29 P      P      10 44 32.8 +0.3
      comp=Z,0.6nm,0.3s,mb4.0,baz=203,slow=15,SNR=2.4
LSZ   Lusaka           56.03 109 eP     P      10 44 36.1 +2.6
LSZ                              pmax   pmax
      comp=Z,36nm,1.6s,mb5.2
LSZ   Lusaka           56.03 109 eP     P      10 44 31.2 -2.3
      comp=Z,36nm,1.6s,mb5.2
LSZ                              LR     LR
      comp=Z,3µm,21.0s,MS5.3
MBAR  Mbarara          57.04  91 eP     P      10 44 39.6 -1.2
      comp=Z,63nm,1.8s,mb5.3
MBAR                             LR     LR
      comp=Z,603nm,21.0s,MS4.7
BOSA  Boshof           57.09 125 PFAKE         10 44 50.0 +9.0
BOSA                             LR     LR
      comp=Z,4µm,21.0s,MS5.5
EMMW  East Machias     57.19 326 PFAKE         10 44 50.0 +8.5
EMMW                             LR     LR
      comp=Z,5µm,20.0s,MS5.6
LJU   Ljubljana        57.84  33 ePcP   PcP    10 46 36.0  +58
LJU                              e             10 48 16.0
LJU                              e             10 52 36.0
LJU                              e             10 52 40.0
ESK   Eskdalemuir      57.87  15 PFAKE         10 45 00.0  +14
ESK                              LR     LR
      comp=Z,716nm,20.0s,MS4.8
WES   Weston           58.10 322 PFAKE         10 45 00.0  +12
WES                              LR     LR
      comp=Z,2µm,19.0s,MS5.2
HRV   Harvard--Oak R   58.31 322 PFAKE         10 45 00.0  +11
HRV                              LR     LR
      comp=Z,1µm,21.0s,MS5.0
WVL   Waterville       58.35 325 PFAKE         10 45 00.0  +10
WVL                              LR     LR
      comp=Z,4µm,20.0s,MS5.6
EFI   East Falkland    58.42 203 PFAKE         10 45 00.0  +10
EFI                              LR     LR
      comp=Z,683nm,19.0s,MS4.8
GRA1  Grafenberg Arr   58.62  28 eP     P      10 44 46.9 -4.5
      comp=Z,17nm,1.7s,mb4.8
GRA1                             LR     LR
      comp=Z,2µm,20.1s,MS5.2
GRF   Grafenberg Arr   58.62  28 eP     P      10 44 46.9 -4.5
GRF                              pmax   pmax
      comp=Z,17nm,1.7s,mb4.8
GRF                              MLR    MLR
      comp=Z,2µm,20.1s,MS5.2
PQI   Presque Isle     58.72 328 PFAKE         10 45 00.0 +7.9
PQI                              LR     LR
      comp=Z,4µm,22.0s,MS5.5
JTS   JuntasAbangare   59.13 282 PFAKE         10 45 10.0  +15
JTS                              LR     LR
      comp=Z,148nm,21.0s,MS4.1
GERES GERESS Array B   59.23  30 P      P      10 44 50.4 -5.3
      comp=Z,1.5nm,0.6s,mb4.2,baz=225,slow=5.7,SNR=6.8
GERES GERESS Array B   59.23  30 P      P      10 44 50.4 -5.3
GERES                            pmax   pmax
      comp=Z,2.0nm,0.6s
KHC   Kasperske Hory   59.36  29 eP     P      10 44 51.4 -5.2
KHC                              epP    pP     10 45 01.3 +1.6
KHC                              eS     S      10 53 05.2 +1.7
KHC                              LR            11 15 10.0
      comp=Z,2.3nm,13.0s
KHC   Kasperske Hory   59.36  29 eP     P      10 44 51.4 -5.2
KHC                              eS     S      10 53 05.2 +1.7
KHC                              MLR    MLR
      comp=Z,2µm,13.0s,MS5.5
DWPF  Disney           59.45 303 PFAKE         10 45 10.0  +13
DWPF                             LR     LR
      comp=Z,1µm,22.0s,MS5.0
MOX   Moxa             59.47  27 i P    P      10 45 07.9  +11
MOX                              S      S      10 53 05.0 +0.1
MOX                              SSS    SSS    10 59 30.0 +0.8
MOX                              L             11 16 54.0
NKC   Novy Kostel      59.57  28 eP     P      10 45 03.1 +5.1
NKC                              LR            11 15 50.0
      comp=Z,1.5nm,14.4s
SKO   Skopje           59.58  40 eP     P      10 44 57.5 -0.7
CBN   Corbin           60.04 315 PFAKE         10 45 10.0 +8.6
CBN                              LR     LR
      comp=Z,943nm,22.0s,MS4.9
NHSC  New Hope         60.09 309 PFAKE         10 45 10.0 +8.2
NHSC                             LR     LR
      comp=Z,1µm,20.0s,MS5.1
PRU   Pruhonice        60.40  29 eP     P      10 44 52.8  -11
PRU                              eS     S      10 53 16.4 -0.4
PRU                              LR            11 10 30.0
      comp=Z,2.1nm,12.0s
ZST   Bratislava       60.56  32 eP     P      10 44 59.7 -5.1
ZST                              e             10 45 09.7
ZST                              eS     S      10 53 27.8 +9.0
ZST   Bratislava       60.56  32 eP     P      10 44 59.7 -5.1
ZST                              eS     S      10 53 27.8 +9.0
CLL   Collm            60.57  27 P      P      10 45 08.0 +3.2
CLL                              ePPP   PPP    10 48 48.0 +0.5
CLL                              eS     S      10 53 22.0 +3.1
CLL   Collm            60.57  27 eP     P      10 45 08.0 +3.2
CLL                              eS     S      10 53 22.0 +3.1
BRG   Berggiesshubel   60.71  28 eP     P      10 45 10.6 +4.9
BRG                              e             10 47 16.0
BRG                              i S    S      10 53 21.0 +0.3
BRG                              pmax   pmax
      comp=Z,17nm,1.5s,mb5.0
BRG                              MLR    MLR
      comp=N,2µm,23.4s,MS5.3
BRG                              MLR    MLR
      comp=E,2µm,23.4s,MS5.3
BRG                              MLR    MLR
      comp=Z,3µm,17.0s
BRG   Berggiesshubel   60.71  28 eP     P      10 45 10.6 +4.9
      comp=Z,17nm,1.5s,mb5.0
BRG                              ePP    PP     10 47 16.0 -5.7
BRG                              i             10 48 54.0
BRG                              i S    S      10 53 21.0 +0.3
BRG                              LR     LR
      comp=Z,3µm,17.0s,MS5.5
NCB   Newcomb          60.74 322 PFAKE         10 45 20.0  +14
NCB                              LR     LR
      comp=Z,1µm,22.0s,MS5.1
PVCC  Panska Ves       60.77  29 LR            11 10 20.0
      comp=Z,2.8nm,16.9s
SSPA  Standing Stone   61.48 317 PFAKE         10 45 20.0 +8.8
SSPA                             LR     LR
      comp=Z,935nm,22.0s,MS4.9
DPC   Dobruska-Polom   61.51  30 eP     P      10 45 16.1 +4.9
DPC                              eS     S      10 53 34.7 +3.8
DPC                              LR            11 16 50.0
      comp=Z,2.7nm,14.8s
VYHS  Vyhne            61.66  32 eP     P      10 45 07.0 -5.2
VYHS                             e             10 45 14.7
KSP   Ksiaz            61.81  29 eP     P      10 45 09.3 -3.9
KSP                              e             10 47 27.0
KSP                              eS     S      10 53 32.0 -2.7
BLA   Blacksburg       61.83 313 PFAKE         10 45 20.0 +6.5
BLA                              LR     LR
      comp=Z,766nm,19.0s,MS4.9
PSZ   Piszkesteto      61.90  33 eP     P      10 45 09.2 -4.7
      comp=Z,23nm,1.2s,mb5.2
PSZ                              e             10 45 17.2
OKC   Ostrava-Krasne   62.11  31 LR            11 14 40.0
      comp=Z,2.1nm,17.0s
MCWV  Mont Chateau     62.41 316 PFAKE         10 45 30.0  +13
MCWV                             LR     LR
      comp=Z,863nm,20.0s,MS4.9
GENY  Geneseo          62.41 319 eP     P      10 45 15.0 -2.4
OJC   Ojcow            63.19  31 eP     P      10 45 18.0 -4.4
SCHQ  Schefferville    63.54 335 P      P      10 45 21.6 -3.0
      comp=Z,2.9nm,0.9s,mb4.3,baz=90,slow=20,SNR=2.3
SCHQ                             LR     LR     11 09 16.4
      comp=Z,1µm,19.1s,MS5.1,baz=135,slow=33
KMBO  Kilima Mbogo     63.56  91 eP     P      10 45 22.5 -3.0
      comp=Z,20nm,1.5s,mb4.9
KMBO                             LR     LR
      comp=Z,4µm,19.0s,MS5.6
UZH   Uzhgorod         63.62  34 eP     P      10 45 28.0 +2.7
MYNC  Murphy           63.85 309 PFAKE         10 45 40.0  +13
MYNC                             LR     LR
      comp=Z,800nm,20.0s,MS4.9
BORG  Borgarnes        64.28   2 PFAKE         10 45 40.0  +11
BORG                             LR     LR
      comp=Z,686nm,20.0s,MS4.8
ACSO  Alum Creek Sta   64.84 315 PFAKE         10 45 40.0 +6.6
ACSO                             LR     LR
      comp=Z,1µm,21.0s,MS5.0
LVV   L'vov            65.22  33 eP     P      10 45 26.0  -10
LVV                              eS     S      10 54 15.0 -2.3
KONO  Kongsberg        65.31  19 PFAKE         10 45 50.0  +14
KONO                             LR     LR
      comp=Z,3µm,21.0s,MS5.4
LRAL  Lakeview Retre   65.48 306 PFAKE         10 45 50.0  +12
LRAL                             LR     LR
      comp=Z,1µm,21.0s,MS5.0
WCI   Wyandotte Cave   66.53 312 PFAKE         10 46 00.0  +16
WCI                              LR     LR
      comp=Z,923nm,21.0s,MS5.0
KIS   Kishinev         66.62  38 eP     P      10 45 50.0 +5.3
KIS                              MLR    MLR
      comp=Z,4µm,18.0s,MS5.7
KIS                              MLR    MLR
      comp=N,2µm,19.0s,MS5.4
KIS                              MLR    MLR
      comp=E,2µm,17.0s,MS5.4
KIS                              MLR    MLR
      comp=Z,4µm,16.0s
NB2   NORSAR Subarra   66.89  19 P      P      10 45 49.2 +3.0
      comp=Z,8.6nm,1.0s,mb4.7,baz=221,slow=6.2
NOA   NORSAR Array B   66.89  19 P      P      10 45 43.1 -3.1
      comp=Z,1.0nm,1.0s,mb3.8,baz=220,slow=14,SNR=2.8
NOA                              LR     LR     11 13 36.5
      comp=Z,1µm,20.9s,MS5.2,baz=210,slow=35
BRTR  Keskin Array B   66.98  46 P      P      10 45 42.2 -4.9
      comp=Z,2.0nm,0.6s,mb4.3,baz=225,slow=7.0,SNR=12
BRTR                             LR     LR     11 15 50.5
      comp=Z,3µm,20.1s,MS5.5,baz=305,slow=37
BRTR  Keskin Array B   66.98  46 P      P      10 45 42.2 -4.9
BRTR                             pmax   pmax
      comp=Z,2.0nm,0.6s
BRTR                             MLR    MLR
      comp=Z,3µm,20.1s
WVT   Waverly          67.04 309 PFAKE         10 46 00.0  +12
WVT                              LR     LR
      comp=Z,642nm,20.0s,MS4.8
AKASG Malin Array Be   68.55  34 P      P      10 45 51.8 -5.0
      comp=Z,12nm,0.9s,mb4.8,baz=239,slow=6.9,SNR=23
AKASG                            LR     LR     11 16 33.3
      comp=Z,1µm,20.4s,MS5.1,baz=225,slow=37
AKASG Malin Array Be   68.55  34 P      P      10 45 51.8 -5.0
AKASG                            pmax   pmax
      comp=Z,12nm,0.9s
AKASG                            MLR    MLR
      comp=Z,1µm,20.4s
SIM   Simferopol'      69.16  41 P      P      10 46 01.3 +0.7
SIM                              eS     S      10 55 24.0  +19
SIM                              pmax   pmax
      comp=Z,500nm,17.0s
SIM                              MLR    MLR
      comp=Z,2µm,20.0s,MS5.3
CCM   Cathedral Cave   70.20 311 eP     P      10 46 04.0 -3.1
CCM                              LR     LR
      comp=Z,612nm,19.0s,MS4.9
PMSA  Palmer Station   70.59 196 PFAKE         10 46 20.0  +11
PMSA                             LR     LR
      comp=Z,588nm,20.0s,MS4.8
JFWS  Jewell Farm      70.89 316 PFAKE         10 46 20.0 +8.8
JFWS                             LR     LR
      comp=Z,861nm,21.0s,MS5.0
MIAR  Mount Ida        71.16 306 PFAKE         10 46 20.0 +7.0
MIAR                             LR     LR
      comp=Z,388nm,22.0s,MS4.6
NATX  Nacogdoches      71.47 303 PFAKE         10 46 30.0  +15
NATX                             LR     LR
      comp=Z,692nm,19.0s,MS4.9
VNA1  Neumayer--Stat   71.93 174 e      P      10 46 26.6  +10
VNA1  Neumayer--Stat   71.93 174 e      P      10 46 27.8  +11
VNA1  Neumayer--Stat   71.93 174 e      PcP    10 46 40.6 +4.7
VNA1  Neumayer--Stat   71.93 174⇑iP     P      10 46 22.6 +5.6
VNA1                             e      pP     10 46 26.6 +6.5
VNA1                             e             10 46 27.8
VNA1                             e             10 46 40.6
VNA1                             e             10 49 06.7
VNA2  Neumayer--Watz   72.29 174 e      P      10 46 26.4 +7.3
VNA2  Neumayer--Watz   72.29 174 e      P      10 46 27.5 +8.4
VNA2  Neumayer--Watz   72.29 174 e      PcP    10 46 40.3 +2.9
VNA2  Neumayer--Watz   72.29 174⇓iP     P      10 46 22.3 +3.2
VNA2                             e      pP     10 46 26.4 +4.1
VNA2                             e             10 46 27.5
VNA2                             e             10 46 40.3
VNA2                             e             10 49 06.6
VNA3  Neumayer Olymp   72.36 174 e      P      10 46 27.6 +8.1
VNA3  Neumayer Olymp   72.36 174 e      P      10 46 28.5 +9.0
VNA3  Neumayer Olymp   72.36 174 e      PcP    10 46 41.6 +3.9
VNA3  Neumayer Olymp   72.36 174⇓iP     P      10 46 23.7 +4.2
VNA3                             e      pP     10 46 27.6 +5.0
VNA3                             e      pP     10 46 28.5 +5.9
VNA3                             e             10 46 41.6
VNA3                             e             10 49 07.3
SUMG  Summit           72.46 356 eP     P      10 46 20.6 +0.5
      comp=Z,29nm,1.2s,mb5.1
SOC   Sochi            72.52  44 eP     P      10 46 17.9 -3.0
SOC                              e             10 49 01.1
SOC                              ePPP   PPP    10 50 34.2  -12
SOC                              eS     S      10 55 34.2  -10
SOC                              e             10 56 15.8
SOC                              pmax   pmax
      comp=Z,31nm,1.1s,mb5.2
SOC                              pmax   pmax
      comp=E,9.0nm,0.6s
SOC                              MLR    MLR
      comp=Z,1µm,24.0s,MS5.1
SOC                              MLR    MLR
      comp=N,827nm,17.0s
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SOC				MLR	MLR		
	comp=E,1µm,19.0s						
FINES	**FINESS Array B**	**72.56**	**24**	P	**P**	**10 46 17.4**	**-3.4**
	comp=E,3.1nm,0.8s,mb4.3,baz=214,slow=6.9,SNR=4.5						
FINES				LR	LR	11 16 23.0	
	comp=E,1µm,19.2s,MS5.2,baz=235,slow=35						
EYMN	**Ely**	**73.30**	**320**	PFAKE		10 46 40.0	+15
EYMN				LR	LR		
	comp=Z,10.0nm,22.0s						
SNAA	**Sanae**	**73.54**	**172**	*e*	**P**	**10 46 29.3**	**+2.9**
SNAA	**Sanae**	**73.54**	**172**	*e*	**P**	**10 46 30.4**	**+4.0**
SNAA	**Sanae**	**73.54**	**172**	*e*	**P**	**10 46 43.3**	**+17**
SNAA	**Sanae**	**73.54**	**172**	*e*P	**P**	**10 46 30.7**	**+4.3**
SNAA				pmax	pmax		
	comp=Z,23nm,1.6s						
SNAA	**Sanae**	**73.54**	**172**	⇑*i*P	**P**	**10 46 25.3**	**-1.1**
SNAA				*e*	pP	10 46 29.3	-0.2
SNAA				*e*	pP	10 46 30.4	+0.9
SNAA				*e*		10 46 43.3	
SNAA				*e*		10 49 09.4	
OBN	**Obninsk**	**74.45**	**32**	*e*P	**P**	**10 46 29.2**	**-2.8**
OBN				*e*		10 46 38.4	
OBN				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.7						
OBN				MLR	MLR		
	comp=Z,1µm,21.0s,MS5.2						
OBN	**Obninsk**	**74.45**	**32**	PFAKE		10 46 40.0	+8.0
OBN				LR	LR		
	comp=Z,450nm,21.0s,MS4.7						
KSU1	**Kansas State U**	**74.54**	**311**	*e*P	**P**	**10 46 33.5**	**+0.7**
KIV	**Kislovodsk**	**74.69**	**44**	*e*P	**P**	**10 46 30.2**	**-3.4**
KIV				pmax	pmax		
	comp=Z,15nm,1.4s,mb4.7						
KIV				MLR	MLR		
	comp=Z,1µm,20.0s,MS5.1						
KIV	**Kislovodsk**	**74.69**	**44**	PFAKE		10 46 50.0	+16
KIV				LR	LR		
	comp=Z,286nm,19.0s,MS4.6						
MOS	**Moscow**	**75.25**	**32**	*e*P	**P**	**10 46 41.6**	**+5.1**
MOS				pmax	pmax		
	comp=Z,77nm,1.1s,mb5.5						
GNI	**Garni**	**75.30**	**49**	*e*P	**P**	**10 46 33.6**	**-3.6**
GNI				pmax	pmax		
	comp=Z,23nm,1.9s						
GNI				MLR	MLR		
	comp=Z,1µm,19.0s						
GNI	**Garni**	**75.30**	**49**	PFAKE		10 46 50.0	+13
GNI				LR	LR		
	comp=Z,1µm,20.0s,MS5.2						
WMOK	**Wichita Mounta**	**75.41**	**306**	PFAKE		10 46 50.0	+12
WMOK				LR	LR		
	comp=Z,423nm,19.0s,MS4.8						
JCT	**Junction City**	**75.60**	**301**	*e*P	**P**	**10 46 38.1**	**-1.0**
	comp=Z,6.1nm,0.8s,mb4.6						
JCT				LR	LR		
	comp=Z,678nm,22.0s,MS4.9						
ARCES	**ARCESS Array B**	**77.04**	**16**	LR	LR	11 16 07.5	
	comp=Z,1µm,19.8s,MS5.3,baz=227,slow=32						
LTX	**Lajitas**	**78.79**	**300**	*e*P	**P**	**10 46 56.9**	**+0.1**
	comp=Z,7.9nm,1.0s,mb4.6						
LTX				LR	LR		
	comp=Z,395nm,19.0s,MS4.8						
GDL2	**Guadalupe Moun**	**79.69**	**303**	*e*P	**P**	**10 47 01.4**	**-0.3**
RSSD	**Black Hills**	**80.91**	**315**	*e*P	**P**	**10 47 06.9**	**-1.0**
	comp=Z,3.0nm,0.8s,mb4.3						
RSSD				LR	LR		
	comp=Z,1µm,19.0s,MS5.3						
SDCO	**Great Sand Dun**	**81.21**	**308**	*e*P	**P**	**10 47 09.6**	**0.0**
	comp=Z,6.1nm,1.0s,mb4.5						
SDCO				LR	LR		
	comp=Z,486nm,20.0s,MS4.9						
FFC	**Flin Flon**	**81.41**	**325**	PFAKE		10 47 20.0	+10
FFC				LR	LR		
	comp=Z,226nm,19.0s,MS4.5						
ISCO	**Idaho Springs**	**81.53**	**310**	PFAKE		10 47 20.0	+8.8
ISCO				LR	LR		
	comp=Z,447nm,22.0s,MS4.8						
DGMT	**Dagmar**	**81.67**	**319**	PFAKE		10 47 20.0	+8.2
DGMT				LR	LR		
	comp=Z,749nm,22.0s,MS5.0						
ANMO	**Albuquerque**	**81.70**	**305**	*e*P	**P**	**10 47 13.2**	**+1.0**
ANMO	**Albuquerque**	**81.70**	**305**	PFAKE		10 47 20.0	+7.8
ANMO				LR	LR		
	comp=Z,354nm,19.0s,MS4.7						
SYO	**Syowa Base**	**81.93**	**161**	⇑pP	pP	10 47 14.2	-1.7
SYO	**Syowa Base**	**81.93**	**161**	⇑PP	sP	10 47 21.9	+5.0
SYO	**Syowa Base**	**81.93**	**161**	⇑P	PcP	10 47 33.1	+14
LAO	**LASA Array**	**82.78**	**317**	*e*P	**P**	**10 47 16.7**	**-0.9**
	comp=Z,13nm,1.0s,mb4.9						
LAO				LR	LR		
	comp=Z,731nm,21.0s,MS5.0						
RW3	**Ridgway**	**82.98**	**308**	*e*P	**P**	**10 47 19.4**	**+0.6**
PV01	**Paradox Valley**	**83.66**	**308**	*e*P	**P**	**10 47 22.8**	**+0.5**
PV10	**Paradox Valley**	**84.05**	**308**	*e*P	**P**	**10 47 24.5**	**+0.2**
BW06	**Boulder Array**	**84.76**	**313**	*e*P	**P**	**10 47 26.7**	**-1.1**
	comp=Z,5.4nm,1.3s,mb4.5						
BW06				LR	LR		
	comp=Z,654nm,20.0s,MS5.0						
PDAR	**Pinedale Array**	**84.76**	**313**	P	**P**	**10 47 26.2**	**-1.6**
	comp=Z,1.8nm,1.1s,mb4.1,baz=45,slow=4.2,SNR=3.7						
PDAR				LR	LR	11 19 48.8	
	comp=Z,417nm,21.1s,MS4.8,baz=100,slow=32						
GCMT	**Greycliff**	**85.07**	**316**	*e*P	**P**	**10 47 28.9**	**-0.3**
TUC	**Tucson**	**85.12**	**302**	*e*P	**P**	**10 47 29.7**	**-0.1**
	comp=Z,1.6nm,0.9s,mb4.2						
TUC				LR	LR		
	comp=Z,441nm,22.0s,MS4.8						
SRU	**San Rafael**	**85.25**	**309**	*e*P	**P**	**10 47 29.8**	**-0.5**
WUWY	**Wally Ulrich**	**85.68**	**313**	*e*P	**P**	**10 47 30.5**	**-1.8**
SNOW	**Snow King Moun**	**85.69**	**313**	*e*P	**P**	**10 47 30.9**	**-1.5**
MOOW	**Moose Ponds**	**85.70**	**314**	*e*P	**P**	**10 47 31.2**	**-1.2**
REDW	**Red Top Meadow**	**85.75**	**313**	*e*P	**P**	**10 47 32.2**	**-0.5**
TPAW	**Teton Pass**	**85.83**	**313**	*e*P	**P**	**10 47 32.5**	**-0.6**
IMW	**Indian Meadow**	**85.84**	**314**	*e*P	**P**	**10 47 33.4**	**+0.3**
DAU	**Daniels Canyon**	**85.89**	**310**	*e*P	**P**	**10 47 31.3**	**-2.1**
AHID	**Auburn Hatcher**	**85.90**	**313**	PFAKE		10 47 40.0	+6.6
AHID				LR	LR		
	comp=Z,601nm,20.0s,MS5.0						
YMR	**Madison River**	**85.91**	**315**	*e*P	**P**	**10 47 33.8**	**+0.4**
TCUT	**Toone Canyon**	**86.04**	**311**	*e*P	**P**	**10 47 33.1**	**-1.0**
JLU	**Jordanelle**	**86.05**	**310**	*e*P	**P**	**10 47 33.2**	**-1.0**
HWUT	**Hardware Ranch**	**86.18**	**311**	*e*P	**P**	**10 47 34.2**	**-0.6**
	comp=Z,6.0nm,0.9s,mb4.8						
HWUT				LR	LR		
	comp=Z,736nm,20.0s,MS5.1						
QLMT	**Earthquake Lak**	**86.25**	**315**	P	**P**	**10 47 35.2**	**+0.1**
NLU	**North Lily Min**	**86.49**	**310**	*e*P	**P**	**10 47 36.6**	**+0.1**
MSU	**Marysvale**	**86.52**	**308**	*e*P	**P**	**10 47 36.6**	**0.0**
HRY	**Holter Researc**	**86.63**	**317**	P	**P**	**10 47 37.9**	**+1.0**
ARU	**Arti**	**86.80**	**34**	⇓*i*P	**P**	**10 47 34.9**	**-2.6**
ARU				*e*S	S	10 57 57.1	-16
ARU				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.8						
ARU				pmax	pmax		
	comp=N,600nm,22.0s						
ARU				pmax	pmax		
	comp=E,1µm,22.0s						
ARU	**Arti**	**86.80**	**34**	PFAKE		10 47 50.0	+13
ARU				LR	LR		
	comp=Z,363nm,20.0s,MS4.8						
DUG	**Dugway**	**87.07**	**310**	*e*P	**P**	**10 47 39.4**	**+0.2**
	comp=Z,16nm,1.5s,mb5.0						
DUG				LR	LR		
	comp=Z,440nm,22.0s,MS4.8						
MCMT	**McKenzie Canyo**	**87.26**	**315**	*e*P	**P**	**10 47 39.6**	**-0.4**
CHMT	**Chamberlain Mo**	**87.61**	**317**	*e*P	**P**	**10 47 42.2**	**+0.6**
EDM	**Edmonton**	**87.90**	**323**	*e*P	**P**	**10 47 41.7**	**-1.2**
SVE	**Sverdlovsk**	**87.97**	**33**	⇓*e*P	**P**	**10 47 49.5**	**+6.4**
SVE				*e*S	S	10 58 28.0	+3.5
SVE				*e*SS	SS	11 04 01.0	-15
SVE				MLR	MLR		
	comp=Z,2µm,19.0s,MS5.4						
SVE				MLR	MLR		
	comp=N,1µm,17.0s,MS5.5						
SVE				MLR	MLR		
	comp=E,1µm,17.0s,MS5.5						
MSO	**Missoula**	**88.08**	**317**	PFAKE		10 48 00.0	+16
MSO				LR	LR		
	comp=Z,559nm,22.0s,MS4.9						
HLID	**Hailey**	**88.35**	**313**	PFAKE		10 48 00.0	+15
HLID				LR	LR		
	comp=Z,706nm,22.0s,MS5.0						
YKA	**Yellowknife Ar**	**88.85**	**332**	LR	LR	11 22 41.0	
	comp=Z,998nm,21.8s,MS5.2,baz=80,slow=32						
ELK	**Elko**	**88.93**	**311**	PFAKE		10 48 00.0	+12
ELK				LR	LR		
	comp=Z,640nm,20.0s,MS5.0						
TPNV	**Topopah Spring**	**89.72**	**307**	PFAKE		10 48 00.0	+8.0
TPNV				LR	LR		
	comp=Z,362nm,21.0s,MS4.8						
PFO	**Pinyon Flat Ob**	**89.91**	**303**	PFAKE		10 48 00.0	+7.1
PFO				LR	LR		
	comp=Z,133nm,20.0s,MS4.4						
MAW	**Mawson**	**90.06**	**157**	P	**P**	**10 47 53.2**	**+0.3**
	comp=Z,2.7nm,0.9s,mb4.5,baz=290,slow=10,SNR=4.2						
MAW	**Mawson**	**90.06**	**157**	P	**P**	**10 47 53.2**	**+0.4**
MAW				pmax	pmax		
	comp=Z,3.0nm,1.0s						
MAW	**Mawson**	**90.06**	**157**	*e*P	**P**	**10 47 53.0**	**+0.2**
	comp=Z,33nm,1.8s,mb5.4						
NEW	**Newport**	**90.24**	**318**	PFAKE		10 48 10.0	+16
NEW				LR	LR		
	comp=Z,809nm,20.0s,MS5.2						
TPH	**Tonopah**	**90.48**	**308**	*e*P	**P**	**10 47 57.0**	**+1.6**
	comp=Z,4.4nm,0.4s,mb5.1						
TPH				LR	LR		
	comp=Z,419nm,22.0s,MS4.8						
DAC	**Darwin (Calif)**	**90.81**	**306**	PFAKE		10 48 10.0	+13
DAC				LR	LR		
	comp=Z,466nm,21.0s,MS4.9						
MNV	**Mina**	**91.20**	**308**	PFAKE		10 48 10.0	+11
MNV				LR	LR		
	comp=Z,331nm,19.0s,MS4.8						
NVAR	**Mina Array Bea**	**91.32**	**308**	LR	LR	11 25 43.1	
	comp=Z,155nm,18.9s,MS4.5,baz=95,slow=34						
WVOR	**Wild Horse Val**	**91.46**	**312**	PFAKE		10 48 10.0	+10
WVOR				LR	LR		
	comp=Z,1µm,22.0s,MS5.2						
HAWA	**Hanford**	**91.94**	**316**	PFAKE		10 48 10.0	+8.0
HAWA				LR	LR		
	comp=Z,32nm,20.0s						
MOD	**Modoc**	**92.72**	**312**	PFAKE		10 48 20.0	+14
MOD				LR	LR		
	comp=Z,620nm,22.0s,MS5.0						
CMB	**Columbia Colle**	**92.98**	**308**	PFAKE		10 48 20.0	+13
CMB				LR	LR		
	comp=Z,366nm,22.0s,MS4.8						
BRVK	**Borovoye**	**93.63**	**37**	PFAKE		10 48 20.0	+10
BRVK				LR	LR		
	comp=Z,302nm,22.0s,MS4.7						
SAO	**San Andreas Ge**	**93.89**	**307**	PFAKE		10 48 20.0	+8.8
SAO				LR	LR		
	comp=Z,472nm,20.0s,MS5.0						
WDC	**Whiskeytown Da**	**94.49**	**311**	PFAKE		10 48 30.0	+16
WDC				LR	LR		
	comp=Z,423nm,19.0s,MS4.9						
YBH	**Yreka Blue Hor**	**94.52**	**312**	PFAKE		10 48 30.0	+16
YBH				LR	LR		
	comp=Z,718nm,22.0s,MS5.1						
HUMO	**Hull Mountain**	**94.63**	**313**	PFAKE		10 48 30.0	+16
HUMO				LR	LR		
	comp=Z,462nm,22.0s,MS4.9						
COR	**Corvallis**	**94.71**	**315**	PFAKE		10 48 30.0	+15
COR				LR	LR		
	comp=Z,769nm,22.0s,MS5.1						
OCWA	**Octopus Mounta**	**95.00**	**318**	PFAKE		10 48 30.0	+14
OCWA				LR	LR		
	comp=Z,895nm,21.0s,MS5.2						
HOPS	**Hopland**	**95.02**	**309**	PFAKE		10 48 30.0	+14
HOPS				LR	LR		
	comp=Z,457nm,22.0s,MS4.9						
AAK	**Ala-Archa**	**97.66**	**47**	*i* P	**P**	**10 48 26.2**	**-2.0**
AAK	**Ala-Archa**	**97.66**	**47**	PFAKE		10 48 40.0	+12
AAK				LR	LR		
	comp=Z,256nm,19.0s,MS4.7						
KURK	**Kurchatov**	**99.09**	**38**	PFAKE		10 48 50.0	+16
KURK				LR	LR		
	comp=Z,195nm,20.0s,MS4.6						
SIT	**Sitka**	**99.91**	**328**	PFAKE		10 48 50.0	+12
SIT				LR	LR		
	comp=Z,1µm,20.0s,MS5.4						
NVS	**Novosibirsk**	**100.80**	**34**	*e*P	P	10 48 38.4	-3.7
SBA	**Scott Base**	**102.32**	**183**	PFAKE		10 49 00.0	+11
SBA				LR	LR		
	comp=Z,510nm,22.0s,MS5.0						
COLA	**College**	**102.53**	**338**	PFAKE		10 49 00.0	+10
COLA				LR	LR		
	comp=Z,733nm,19.0s,MS5.2						
DIV	**Divide**	**103.44**	**334**	PFAKE		10 49 10.0	+16
DIV				LR	LR		
	comp=Z,2µm,20.0s,MS5.7						
MCK	**McKinley**	**103.50**	**337**	PFAKE		10 49 10.0	+16
MCK				LR	LR		
	comp=Z,248nm,19.0s,MS4.8						
PMR	**Palmer**	**104.65**	**335**	PFAKE		10 49 10.0	+11
PMR				LR	LR		
	comp=Z,434nm,19.0s,MS5.0						
FIB	**Fire Island**	**105.30**	**335**	PFAKE		10 53 30.0	
FIB				LR	LR		
	comp=Z,1µm,22.0s,MS5.5						
TIXI	**Tiksi**	**106.29**	**8**	*e*P	Pdif	10 49 02.9	-3.2
TIXI				*e*		10 53 25.2	
TIXI				pmax	pmax		
	comp=Z,13nm,1.1s						
TIXI	**Tiksi**	**106.29**	**8**	PFAKE		10 53 30.0	
TIXI				LR	LR		
	comp=Z,763nm,19.0s,MS5.3						
PALK	**Pallekele**	**106.80**	**82**	PFAKE		10 53 30.0	
PALK				LR	LR		
	comp=Z,221nm,19.0s,MS4.7						
WMQ	**Urumqi**	**106.81**	**44**	*e*PDIF	Pdif	10 49 07.6	-1.4
WMQ				PP	PP	10 53 35.6	-2.4
WMQ				PP	PP		
	comp=Z,54nm,9.0s						
WMQ				LR	LR		
	comp=Z,2µm,26.0s,MS5.5						
CASY	**Casey**	**107.56**	**163**	PFAKE		10 53 30.0	
CASY				LR	LR		
	comp=Z,424nm,19.0s,MS5.0						
KDAK	**Kodiak Island**	**108.12**	**333**	PFAKE		10 53 30.0	
KDAK				LR	LR		
	comp=Z,305nm,21.0s,MS4.8						
TNA	**Tin City**	**108.64**	**344**	PFAKE		10 53 30.0	
TNA				LR	LR		
	comp=Z,399nm,22.0s,MS4.9						
LSA	**Lhasa**	**113.42**	**57**	PFAKE		10 53 40.0	+6.3
LSA				LR	LR		
	comp=Z,708nm,19.0s,MS5.3						
YAK	**Yakutsk**	**115.10**	**12**	PFAKE		10 53 50.0	+14
YAK				LR	LR		
	comp=Z,912nm,22.0s,MS5.3						
GTA	**Gaotai**	**116.87**	**45**	*e*PKP	PKPdf	10 53 41.6	+1.5
GTA				PP	PP	10 54 52.1	+1.4
GTA				PKS	PKS	10 57 16.9	+4.2
GTA				PPP	PPP	10 57 20.0	+0.5
GTA				SKS	SKS	11 00 53.3	+20
GTA				SKKS		11 01 45.4	
GTA				SS	SS	11 10 52.5	-1.5
GTA				PP	PP		
	comp=Z,49nm,4.6s						
GTA				LR	LR		
	comp=N,541nm,23.6s,MS5.2						
GTA				LR	LR		
	comp=E,424nm,22.1s,MS5.2						
GTA				LR	LR		
	comp=Z,908nm,27.4s						
ULN	**Ulaanbaatar**	**117.18**	**33**	PFAKE		10 53 50.0	+9.5
ULN				LR	LR		
	comp=Z,2µm,19.0s,MS5.7						
MA2	**Magadan**	**120.13**	**2**	PFAKE		10 54 00.0	+14
MA2				LR	LR		
	comp=Z,399nm,20.0s,MS5.0						
LZH	**Lanzhou**	**121.19**	**46**	*e*PKP	PKPdf	10 53 40.9	-7.7
LZH				sPKP		10 53 55.0	
LZH				PP	PP	10 55 14.0	-6.1
LZH				SKS	SKS	11 00 48.0	-0.3
LZH				SKKS		11 02 02.0	
LZH				*e*SS	SS	11 11 39.5	-11
LZH				LR	LR		
	comp=Z,2µm,18.2s,MS5.8						
HIA	**Hailar**	**122.53**	**26**	PFAKE		10 54 00.0	+9.2
HIA				LR	LR		
	comp=Z,2µm,22.0s,MS5.7						
CM31	**Chiang Mai Arr**	**123.05**	**68**	PFAKE		10 54 00.0	+7.5
CM31				LR	LR		
	comp=Z,550nm,19.0s,MS5.2						
HHC	**Hu-ho-hao-te**	**123.90**	**38**	*e*PKP	PKPdf	10 53 50.3	-3.4
HHC				XPKP		10 53 53.9	
HHC				PKS	PKS	10 57 25.0	-1.3
HHC				SKS	SKS	11 01 00.8	+4.0
HHC				LR	LR		
	comp=N,272nm,26.2s						
HHC				LR	LR		
	comp=E,441nm,32.1s						
HHC				LR	LR		
	comp=Z,400nm,34.5s						
KMI	**Kunming**	**124.60**	**59**	*e*PKP	PKPdf	10 53 54.6	-1.0
KMI				PP	PP	10 55 44.3	+0.6
KMI				SKS	SKS	11 01 02.8	+3.4
KMI				SKKS		11 02 36.5	
KMI				SS	SS	11 12 36.8	+2.9
KMI				PP	PP		
	comp=Z,95nm,6.3s						
KMI				LR	LR		
	comp=Z,808nm,24.7s,MS5.3						
PET	**Petropavlovsk**	**126.59**	**356**	PFAKE		10 54 10.0	+12
PET				LR	LR		
	comp=Z,508nm,21.0s,MS5.2						
BJI	**Beijing**	**127.17**	**36**	PKP	PKPdf	10 53 57.6	-2.4
BJI				SKKS		11 02 53.0	
BJI				LR	LR		
	comp=Z,1µm,26.3s,MS5.4						
BJI	**Beijing**	**127.17**	**36**	PKP	PKPdf	10 53 57.6	-2.4
BJI				PP	PP	10 56 09.5	+10
BJI				SKKS		11 02 53.0	
BJI				SS	SS	11 13 34.8	+29
BJI				LR	LR		
	comp=Z,1µm,26.3s,MS5.4						
BJT	**Baijiatuau**	**127.18**	**36**	PFAKE		10 54 10.0	+10
BJT				LR	LR		
	comp=Z,2µm,19.0s,MS5.8						
ENH	**Enshi**	**128.05**	**50**	PFAKE		10 54 10.0	+7.9
ENH				LR	LR		
	comp=Z,745nm,20.0s,MS5.4						
CN2	**Changchun**	**129.25**	**26**	*e*PKP	PKPdf	10 54 03.8	-0.2
CN2				PP	PP	10 56 15.8	+1.7
CN2				*e*SS	SS	11 13 32.8	+1.1
CN2				PP	PP		
	comp=Z,100nm,5.0s						
CN2				LR	LR		
	comp=N,800nm,22.0s,MS5.4						
CN2				LR	LR		
	comp=E,100nm,22.0s,MS5.4						
CN2				LR	LR		
	comp=Z,900nm,24.0s,MS5.4						
MDJ	**Mudanjiang**	**130.30**	**22**	PFAKE		10 54 20.0	+14
MDJ				LR	LR		
	comp=Z,865nm,20.0s,MS5.5						
DL2	**Dalian**	**131.04**	**33**	PKP	PKPdf	10 54 10.9	+3.4
DL2				PP	PP		
	comp=Z,180nm,10.8s						
DL2				LR	LR		
	comp=N,350nm,18.6s,MS5.2						
DL2				LR	LR		
	comp=E,270nm,19.6s,MS5.2						
DL2				LR	LR		
	comp=Z,770nm,20.4s,MS5.4						
YSS	**Yuzh-Sakhalins**	**131.86**	**10**	PFAKE		10 54 20.0	+11
YSS				LR	LR		
	comp=Z,747nm,19.0s,MS5.4						
QIZ	**Qiongzhong**	**132.82**	**63**	PKP	PKPdf	10 54 05.3	-6.1
QIZ				*e*PP	PP	10 56 33.3	-3.8
QIZ				LR	LR		
	comp=N,197nm,15.8s,MS5.2						
QIZ				LR	LR		
	comp=E,365nm,16.8s,MS5.2						
QIZ				LR	LR		
	comp=Z,536nm,19.2s,MS5.3						
QIZ	**Qiongzhong**	**132.82**	**63**	PFAKE		10 54 20.0	+8.6
QIZ				LR	LR		
	comp=Z,569nm,20.0s,MS5.3						
NWAO	**Narrogin (SRO)**	**132.86**	**137**	PFAKE		10 54 20.0	+8.8
NWAO				LR	LR		
	comp=Z,760nm,20.0s,MS5.4						
INCN	**Inchon**	**134.74**	**31**	PFAKE		10 54 20.0	+5.5
INCN				LR	LR		
	comp=Z,926nm,22.0s,MS5.5						
SNZO	**South Karori**	**135.08**	**202**	PFAKE		10 54 30.0	+15
SNZO				LR	LR		
	comp=Z,407nm,19.0s,MS5.2						
SSE	**Sheshan**	**136.02**	**42**	PKP	PKPdf	10 54 16.8	-0.2
SSE				PP	PP	10 56 58.1	+1.0
SSE				SS	SS	11 14 54.8	+0.7
SSE				PP	PP		
	comp=Z,43nm,10.5s						
SSE				LR	LR		
	comp=N,526nm,32.2s,MS5.3						
SSE				LR	LR		
	comp=E,778nm,32.2s,MS5.3						
SSE				LR	LR		
	comp=Z,754nm,30.4s,MS5.2						
SSE	**Sheshan**	**136.02**	**42**	PKP	PKPdf	10 54 16.8	-0.2
SSE				PP	PP	10 56 58.1	+1.0
SSE				SS	SS	11 14 54.7	+0.6
SSE				LR	LR		
	comp=Z,750nm,30.4s,MS5.2						
TATO	**Taipei**	**139.88**	**49**	PFAKE		10 54 30.0	+5.8
TATO				LR	LR		
	comp=Z,1µm,20.0s,MS5.6						
MIDW	**Midway**	**140.26**	**318**	PFAKE		10 54 30.0	+5.2
MIDW				LR	LR		
	comp=Z,1µm,21.0s,MS5.5						
MAJO	**Matsushiro**	**140.51**	**20**	PFAKE		10 54 40.0	+15
MAJO				LR	LR		
	comp=Z,887nm,20.0s,MS5.5						
MBWA	**Marble Bar**	**140.95**	**124**	PFAKE		10 54 40.0	+14
MBWA				LR	LR		
	comp=Z,2µm,21.0s,MS5.8						
STKA	**Stephens Creek**	**146.68**	**161**	PKPbc	PKPbc	10 54 37.1	+2.8
	comp=Z,3.6nm,0.9s,baz=272,slow=5.3,SNR=3.7						
ASAR	**Alice Springs**	**149.94**	**142**	PKPbc	PKPdf	10 54 45.9	+4.5
	comp=Z,3.7nm,0.8s,baz=200,slow=2.0,SNR=23						
WRA	**Warramunga Arr**	**152.87**	**137**	PKP	PKPdf	10 54 44.2	-1.6
	comp=Z,1.3nm,1.2s,baz=242,slow=1.8,SNR=2.9						
WRA				PKPbc	PKPdf	10 54 53.9	+8.1
	comp=Z,2.0nm,0.9s,baz=244,slow=1.8,SNR=8.2						
WRA	**Warramunga Arr**	**152.87**	**137**	PKIKP	PKPdf	10 54 44.2	-1.6
WRA				pmax	pmax		
	comp=Z,1.0nm,1.2s						
WRA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
WRAB	**Tennant Creek**	**152.88**	**137**	PFAKE		10 55 00.0	+14
WRAB				LR	LR		
	comp=Z,542nm,22.0s,MS5.3						
CTAO	**Charters Tower**	**159.13**	**160**	PFAKE		10 55 00.0	+6.0
CTAO				LR	LR		
	comp=Z,703nm,20.0s,MS5.5						
GUMO	**Guam**	**163.56**	**32**	PFAKE		10 55 10.0	+11
GUMO				LR	LR		
	comp=Z,667nm,21.0s						
PMG	**Port Moresby**	**168.94**	**144**	PFAKE		10 55 10.0	+7.1
PMG				LR	LR		
	comp=Z,872nm,19.0s						

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*NEIC **24** 11:11:18.5,34.15S×70.05W,h6^{km},ML2.5(GUC),After GUC.*

GUC 24 11:11:18.5±0.7**,34.15S**×**70.05W,h6^{km}**±1^{km}**,MD3.8, ML2.5,1C-1D,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LMEL	**Las Melosas**	**0.33**	**336**	*e*P	Pg	11 11 25.6	+0.6
LMEL				*i* S	Sg	11 11 31.1	+1.6
LMEL				AMP		11 11 32.6	
	comp=E,970nm,0.2s						
CICH	**Cipreses**	**0.36**	**241**	⇑*i*P	Pg	11 11 26.0	+0.3
CICH				*i* S	Sg	11 11 31.6	+1.1
CACH	**El Canelo**	**0.46**	**273**	*i* P	Pg	11 11 27.9	+0.1
CACH				*i* S	Sg	11 11 34.5	+0.5
CHCH	**Chadas Angostu**	**0.55**	**293**	⇓*i*P	Pg	11 11 29.8	+0.3
PCH	**Pirque**	**0.65**	**323**	*i* P	Pg	11 11 31.7	+0.1
PCH				*i* S	Sg	11 11 41.7	+1.4
FCH	**Farellones**	**0.84**	**346**	*e*P	Pb	11 11 35.2	+0.1
FCH				*i* S	Sb	11 11 47.9	+1.5
FCH				AMP		11 11 49.3	
	comp=E,171nm,0.4s						
CLCH	**Cerro Calan**	**0.85**	**331**	*e*P	Pb	11 11 34.5	-0.8
CLCH				*i* S	Sb	11 11 47.6	+0.8
CLCH				AMP		11 11 50.9	
	comp=E,535nm,0.8s						
DSCH	**Colegio Aleman**	**0.86**	**330**	*e*P	Pb	11 11 35.4	-0.1
DSCH				*i* S	Sb	11 11 48.0	+0.9
DSCH				AMP		11 11 50.2	
	comp=E,434nm,0.8s						

TACH	**Talagante**	**0.89**	**303**	*e*P	Pb	11 11 35.5	-0.5
SFDO	**San Fernando**	**0.93**	**239**	*e*P	Pb	11 11 36.3	-0.3
SFDO				*i* S	Sb	11 11 49.4	+0.5
LNV	**Longovilo**	**1.15**	**279**	*e*P	Pb	11 11 39.9	-0.5
LNV				*i* S	Sb	11 11 55.9	+0.5
MDZ	**Mendoza**	**1.61**	**39**	*e*P	Pn	11 11 51.3	+3.7
MDZ				*e*		11 12 14.5	

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*IDC **24** 11:25:02.3±1.1, 57.27S×24.80W, mb4.1/3, mb1 4.2/3, mb1mx4.1/10, Error ellipse: s-maj=134.0km s-min=24.1km az=42.0*

*NEIC **24** 11:25:03.8±0.4, 57.29S×24.83W, h10^{km}, mb4.6/4, Error ellipse: s-maj=13.9km s-min=7.0km az=59.0*

ISC 24 11:25:05.6±5.0**, 57.3S**±0.2×**24.9W**±0.3**, h38**^{km}±49^{km}**, n14, σ0^{s}51**/12**, mb4.4**/6**, 1C-3D, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**15.13**	**159**	⇑*i*	**P**	**11 28 38.1**	**+0.3**
VNA3	**Neumayer Olymp**	**15.36**	**161**	⇓*i*	**P**	**11 28 40.7**	**-0.1**
VNA2	**Neumayer--Watz**	**15.52**	**158**	⇓*i*	**P**	**11 28 43.5**	**+0.6**
SNAA	**Sanae**	**17.05**	**156**	⇓*i*	**P**	**11 29 01.5**	**-0.7**
PMSA	**Palmer Station**	**20.05**	**232**	*e*P	**P**	**11 29 37.0**	**-0.8**
	4.4nm,0.7s						
QSPA	**South Pole Qui**	**32.91**	**180**	*e*P	**P**	**11 31 38.1**	**+0.4**
	45nm,2.0s,mb5.0						
MAW	**Mawson**	**38.36**	**142**	P	**P**	**11 32 24.2**	**+0.2**
	1.2nm,0.9s,mb3.6,baz=248,slow=13,SNR=3.6						
CPUP	**Villa Florida**	**38.61**	**310**	P	**P**	**11 32 26.4**	**-0.1**
	3.9nm,0.8s,mb4.2,baz=167,slow=7.9,SNR=13						
LPAZ	**La Paz**	**52.15**	**304**	P	**P**	**11 34 15.0**	**+0.7**
	1.9nm,0.6s,mb4.2,baz=159,slow=5.6,SNR=8.7						
LPAZ	**La Paz**	**52.15**	**304**	*e*P	**P**	**11 34 15.1**	**+0.9**
SAML	**Samuel**	**56.60**	**313**	*e*P	**P**	**11 34 47.0**	**0.0**
	7.6nm,0.8s,mb4.8						
LSZ	**Lusaka**	**57.70**	**66**	P	**P**	**11 34 54.1**	**-0.6**
	1.2nm,0.3s,mb4.4						
SONM	**Songino Array**	**149.54**	**87**	PKPbc	PKPdf	11 44 51.8	+6.7
	0.5nm,0.5s,baz=232,slow=2.1,SNR=5.1						
ILAR	**Eielson Array**	**151.91**	**309**	PKPbc	PKPdf	11 44 58.0	+10
	1.4nm,0.8s,baz=99,slow=2.3,SNR=19						

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*IDC **24** 11:41:20.8±3.3, 14.01N×145.09E, h172^{km}±30^{km}, mb3.6/11, mb1 3.7/11, mb1mx3.6/22, Error ellipse: s-maj=23.2km s-min=12.6km az=85.0*

*NEIC **24** 11:41:21.2±0.5, 13.92N×145.00E, h171^{km}±6^{km}, mb4.1/6, Error ellipse: s-maj=17.0km s-min=7.8km az=92.0*

ISC 24 11:41:19.8±0.5**, 13.89N**±0.06×**144.8E**±0.1**, h165**^{km}±6^{km}**, n24, σ0^{s}98**/25**, mb3.9**/14**, 2C, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.31**	**164**	*e*Pg	**P**	**11 41 42.7**	**+0.2**
GUMO				*e*Sn	**S**	**11 41 58.2**	**-1.7**
SAPN	**Saipan**	**1.62**	**35**	⇑*i*P	**P**	**11 41 52.4**	**+0.3**
ANAT	**Anatahan**	**2.59**	**19**	*e*P	**P**	**11 42 04.2**	**+0.9**
SARN	**Sarigan**	**2.95**	**19**	⇑*e*P	**P**	**11 42 08.8**	**+1.0**
JOW	**Kunigami**	**20.10**	**312**	P	**P**	**11 45 43.8**	**+1.3**
	19nm,0.7s,baz=69,slow=12,SNR=2.9						
KS15	**Wonju Array Si**	**27.87**	**330**	P	**P**	**11 46 56.8**	**+0.5**
CTA	**Charters Tower**	**33.80**	**178**	P	**P**	**11 47 48.2**	**+0.1**
	1.2nm,0.7s,mb3.8,baz=32,slow=14,SNR=3.4						
WRAB	**Tennant Creek**	**35.14**	**197**	*e*P	**P**	**11 47 59.6**	**0.0**
	12nm,0.7s,mb4.6						
WB2	**Warramunga Arr**	**35.15**	**197**	*e*P	**P**	**11 48 00.0**	**+0.3**
WRA	**Warramunga Arr**	**35.15**	**197**	P	**P**	**11 47 59.3**	**-0.4**
	6.4nm,0.7s,mb4.4,baz=20,slow=9.6,SNR=32						
WRA				ScP		11 53 56.3	
	1.4nm,1.1s,baz=20,slow=4.0,SNR=5.2						
FITZ	**Fitzroy Crossi**	**36.97**	**211**	*e*P	**P**	**11 48 15.4**	**+0.4**
	4.9nm,0.9s,mb4.1						
FITZ	**Fitzroy Crossi**	**36.97**	**211**	P	**P**	**11 48 15.1**	**+0.1**
	5.3nm,0.8s,mb4.2,baz=16,slow=7.7,SNR=9.8						
ASPA	**Alice Springs**	**38.81**	**196**	*e*P	**P**	**11 48 31.1**	**+0.7**
MBWA	**Marble Bar**	**42.64**	**216**	*e*P	**P**	**11 49 01.5**	**-0.4**
	6.2nm,0.8s,mb4.3						
CMAR	**Chiang Mai Arr**	**44.17**	**282**	P	**P**	**11 49 14.4**	**+0.3**
	1.5nm,0.8s,mb3.7,baz=83,slow=6.2,SNR=8.6						
STKA	**Stephens Creek**	**45.61**	**184**	*e*P	**P**	**11 49 26.1**	**+0.7**
	1.6nm,0.5s,mb3.9						
STKA	**Stephens Creek**	**45.61**	**184**	P	**P**	**11 49 25.7**	**+0.3**
	1.9nm,0.5s,mb4.0,baz=1.8,slow=8.9,SNR=8.7						
SONM	**Songino Array**	**46.44**	**325**	P	**P**	**11 49 31.2**	**-0.4**
	0.2nm,0.4s,mb3.1,baz=135,slow=6.1,SNR=3.7						
TOO	**Toolangi**	**51.19**	**179**	*e*P	**P**	**11 50 10.8**	**+2.5**
	1.9nm,0.6s,mb3.9						
MKAR	**Makanchi Array**	**61.22**	**316**	P	**P**	**11 51 18.2**	**-1.3**
	0.4nm,0.4s,mb3.6,baz=101,slow=7.6,SNR=5.2						
KURK	**Kurchatov**	**64.30**	**320**	*e*P	**P**	**11 51 38.5**	**-1.2**
	2.1nm,0.7s,mb4.1						
ILAR	**Eielson Array**	**68.33**	**25**	P	**P**	**11 52 01.2**	**-3.8**
	0.3nm,0.4s,mb3.4,baz=256,slow=5.4,SNR=12						
BVAR	**Borovoye Array**	**69.64**	**322**	P	**P**	**11 52 12.6**	**-0.6**
	0.9nm,0.4s,mb3.8,baz=101,slow=7.6,SNR=4.6						
NVAR	**Mina Array Bea**	**86.80**	**51**	P	**P**	**11 53 45.0**	**-1.9**
	0.4nm,0.6s,mb3.5,baz=256,slow=4.5,SNR=4.9						

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*MOS **24** 11:44:16.7±1.0, 39.40N×141.90E, h77^{km}, mb4.6/5, Error ellipse: s-maj=39.0km s-min=14.9km az=83.0*

*BJI **24** 11:44:17.5, 39.28N×141.67E, h82^{km}, mB4.9, mb4.7*

*IDC **24** 11:44:19.9±0.7, 39.37N×141.88E, h94^{km}±5^{km}, mb3.9/13, mb1 4.1/16, mb1mx3.9/26, MS3.2/1, Ms1 3.2/1, ms1mx3.0/20, Error ellipse: s-maj=15.7km s-min=10.7km az=98.0*

*NEIC **24** 11:44:19.7±0.4, 39.37N×141.94E, mb4.6/6, Error ellipse: s-maj=11.7km s-min=8.1km az=98.0*

NEIC Recorded [3 JMA] in Aomori and Iwate; [1 JMA] in Akita and Miyagi Prefectures.

*JMA **24** 11:44:20.6±0.1, 39.39N×141.90E, h92^{km}±1^{km}, M4.2 Broadband fault plane solution: P waves. NP1:ϕ_s14°, δ35°, λ-131°. NP2:ϕ_s241°, δ65°, λ-65°. Principal axes: T Plg16°, Azm313°; N Plg22°, Azm50°; P Plg62°, Azm190°;*

JMA Felt III J1.

ISC 24 11:44:17.5±0.4**, 39.39N**±0.03×**142.12E**±0.07**, h101**^{km}±3^{km}**, h92**^{km}±3.7^{km}**:pP-P, n58, σ1^{s}11**/74**, mb4.2**/19**, 10C-6D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.30**	**310**	P	**P**	**11 44 34.2**	**+1.9**
OFUJ	**Ofunato**	**0.46**	**229**	⇓P	**P**	**11 44 34.8**	**+1.5**
OFUJ				S	**S**	**11 44 45.0**	**-0.1**
JTH	**Tanohata**	**0.59**	**341**	⇓P	**P**	**11 44 35.8**	**+1.6**
JTH				S	**S**	**11 44 47.1**	**+0.4**
JOM	**Ohasama**	**0.65**	**278**	⇓P	**P**	**11 44 35.5**	**+0.8**
JOM				S	**S**	**11 44 46.5**	**-1.1**
JMK	**Ichinoseki**	**0.82**	**238**	⇓P	**P**	**11 44 37.0**	**+0.6**
JMK				S	**S**	**11 44 49.5**	**-0.9**
JANG	**Nango**	**1.09**	**335**	⇓P	**P**	**11 44 40.4**	**+1.1**
JANG				S	**S**	**11 44 55.3**	**-0.4**
JIO	**Ouri**	**1.11**	**213**	⇑P	**P**	**11 44 40.3**	**+0.8**
JIO				S	**S**	**11 44 54.7**	**-1.3**
JAH	**Hinai**	**1.40**	**306**	⇑P	**P**	**11 44 43.6**	**+0.7**
JAH				S	**S**	**11 45 01.5**	**-0.4**
JYK	**Kaneyama**	**1.45**	**252**	⇑P	**P**	**11 44 44.0**	**+0.5**
JYK				S	**S**	**11 45 02.2**	**-0.8**
JOU	**Okura**	**1.52**	**229**	⇑P	**P**	**11 44 45.1**	**+0.6**
JOU				S	**S**	**11 45 04.1**	**-0.5**
JTM	**Tenmabayashi**	**1.61**	**330**	⇑P	**P**	**11 44 46.6**	**+1.0**
JTM				S	**S**	**11 45 06.5**	**-0.1**
JMM	**Marumori**	**1.84**	**215**	⇑P	**P**	**11 44 48.6**	**+0.1**
JMM				S	**S**	**11 45 10.4**	**-1.1**
MAJO	**Matsushiro**	**4.20**	**229**	*e*Pn	**P**	**11 45 20.9**	**+0.4**
MAT	**Matsushiro**	**4.20**	**229**	P	**P**	**11 45 21.0**	**+0.4**
MAT				S	**S**	**11 46 08.8**	**0.0**
MAT	**Matsushiro**	**4.20**	**229**	*e*P	**P**	**11 45 21.0**	**+0.4**
MAT				*e*S	Sx	11 46 19.0	
ASAJ	**Asahikawa**	**4.74**	**4**	P	**P**	**11 45 28.9**	**+0.9**
	6.0nm,0.3s,baz=235,slow=8.3,SNR=37						
ASAJ				S	**S**	**11 46 20.2**	**-2.0**
	8.7nm,0.3s,baz=101,slow=34,SNR=10.0						
ASAJ				LR	LR	11 48 10.8	
	comp=Z,248nm,20.1s,baz=334,slow=48						
ASAJ	**Asahikawa**	**4.74**	**4**	P	**P**	**11 45 28.9**	**+0.9**
ASAJ				S	**S**	**11 46 20.2**	**-2.0**
ASAJ				pmax	pmax		
	comp=Z,6.0nm,0.3s						
ASAJ				smax			
	comp=N,9.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,248nm,20.1s						
YUK	**Yuzh-Kuril'sk**	**5.42**	**30**	*e*P	**P**	**11 45 36.6**	**-0.7**
YUK				*i* S	**S**	**11 46 36.9**	**-2.1**
YUK				pmax	pmax		
	comp=Z,380nm,0.3s						
YUK				pmax	pmax		
	comp=N,170nm,0.5s						
YUK				smax			
	comp=N,2μm,0.4s						
YUK				smax			
	comp=E,1μm,0.4s						
YUK				smax			
	comp=N,1μm,0.4s						
YUK				smax			
	comp=E,780nm,0.4s						
JHJ	**Hachijo jima 2**	**6.53**	**197**	P	**P**	**11 45 51.9**	**-0.6**
	comp=E,12nm,0.3s,baz=245,slow=14,SNR=7.6						
JHJ				S	**S**	**11 46 58.5**	**-7.7**
	comp=E,52nm,0.3s,baz=237,slow=22,SNR=14						
KUR	**Kuril'sk**	**7.23**	**34**	⇓*e*P	**P**	**11 46 14.0**	**+12**
KUR				*e*S	**S**	**11 47 21.0**	**-2.2**
KUR				pmax	pmax		
	comp=Z,160nm,0.4s						
KUR				smax			
	comp=N,210nm,0.8s						
KUR				smax			
	comp=E,110nm,0.8s						
YSS	**Yuzh-Sakhalins**	**7.58**	**3**	⇑*e*P	**P**	**11 46 06.4**	**-0.5**
YSS				*e*S	**S**	**11 47 28.3**	**-3.5**
YSS				pmax	pmax		
	comp=Z,20nm,0.6s						
YSS				smax			
	comp=N,40nm,1.1s						
YSS				smax			
	comp=E,30nm,1.1s						
YSS	**Yuzh-Sakhalins**	**7.58**	**3**	*e*Pn	**P**	**11 46 07.2**	**+0.3**
	comp=E,8.5nm,0.6s						
MDJ	**Mudanjiang**	**10.68**	**303**	*e*Pn	**P**	**11 46 49.0**	**+0.3**
	comp=E,17nm,0.9s						
CBIJ	**Chichi jima**	**12.26**	**180**	P	**P**	**11 47 08.0**	**-1.6**
	comp=E,2.4nm,0.3s,baz=348,slow=9.3,SNR=5.3						
CBIJ				S	**S**	**11 49 13.6**	**-11**
	comp=E,5.3nm,0.3s,baz=352,slow=21,SNR=3.7						
HIA	**Hailar**	**18.75**	**309**	P	**P**	**11 48 28.1**	**-2.5**
HHC	**Hu-ho-hao-te**	**23.36**	**283**	*e*P	**P**	**11 49 15.8**	**-1.5**
HHC				AP		11 49 36.1	
HHC				XP		11 49 48.6	
HHC				PCP	PcP	11 53 06.6	+3.6
HHC				S	**S**	**11 53 14.3**	**-4.8**
HHC				XS		11 53 48.8	
HHC				SCS	ScS	12 00 19.3	+4.0
HHC				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.1						
HHC				AMB	AMB		
	comp=Z,232nm,8.0s						
SONM	**Songino Array**	**27.01**	**300**	P	**P**	**11 49 52.3**	**+0.7**
	comp=Z,1.0nm,0.4s,mb3.7,baz=99,slow=8.5,SNR=8.5						
ZAL	**Zalesovo**	**40.79**	**310**	P	**P**	**11 51 51.0**	**+1.0**
	comp=Z,3.9nm,0.4s,mb4.6,baz=296,slow=7.4,SNR=7.7						
ZAL				pP	pP	11 52 13.3	-0.3
	comp=Z,2.0nm,0.4s,baz=293,slow=8.1,SNR=3.3						
ZAL	**Zalesovo**	**40.79**	**310**	P	**P**	**11 51 51.0**	**+1.1**
ZAL				*PP	pP	11 52 13.3	-0.3
ZAL				pmax	pmax		
	comp=Z,4.0nm,0.4s						
ZAL				pmax	pmax		
	comp=N,2.0nm,0.4s						
ZAL	**Zalesovo**	**40.79**	**310**	P	**P**	**11 51 51.0**	**+1.0**
ZAL				pP	pP	11 52 13.3	-0.3
MKAR	**Makanchi Array**	**43.38**	**300**	P	**P**	**11 52 11.5**	**+0.3**
	comp=N,2.4nm,0.5s,mb4.2,baz=85,slow=11,SNR=17						
MKAR				pP	pP	11 52 34.2	-0.7
	comp=N,1.0nm,0.5s,baz=85,slow=9.5,SNR=2.9						
MKAR	**Makanchi Array**	**43.38**	**300**	P	**P**	**11 52 11.5**	**+0.4**
MKAR				*PP	pP	11 52 34.2	-0.7
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MKAR				pmax	pmax		
	comp=N,1.0nm,0.5s						
KURK	**Kurchatov**	**44.95**	**306**	*e*P	**P**	**11 52 23.0**	**-0.7**
	comp=N,3.9nm,0.6s,mb4.3						
ILAR	**Eielson Array**	**47.22**	**34**	P	**P**	**11 52 44.6**	**+3.2**
	comp=N,0.8nm,0.8s,mb3.5,baz=266,slow=6.2,SNR=7.4						
ILAR				pP	pP	11 53 07.3	+1.8
	comp=N,0.5nm,0.5s,baz=249,slow=5.6,SNR=3.0						
ILAR	**Eielson Array**	**47.22**	**34**	P	**P**	**11 52 44.6**	**+3.2**
ILAR				*PP	pP	11 53 07.3	+1.8
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ILAR				pmax	pmax		
	comp=N,1.0nm,0.5s						
BVAR	**Borovoye Array**	**49.43**	**311**	P	**P**	**11 52 59.1**	**+0.4**
	comp=N,2.4nm,0.4s,mb4.5,baz=68,slow=7.8,SNR=8.9						
BVAR				pP	pP	11 53 21.8	-1.1
	comp=N,2.8nm,0.7s,baz=90,slow=8.9,SNR=3.2						
ZRNK	**Zerenda**	**50.26**	**311**	*e*P	**P**	**11 53 10.5**	**+5.5**
	comp=N,3.8nm,0.5s,mb4.6						
INK	**Inuvik**	**52.05**	**28**	P	**P**	**11 53 20.9**	**+2.5**
	comp=N,1.3nm,0.8s,mb4.0,baz=146,slow=30,SNR=2.5						
INK	**Inuvik**	**52.05**	**28**	P	**P**	**11 53 20.9**	**+2.6**
INK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
FITZ	**Fitzroy Crossi**	**59.23**	**198**	*e*P	**P**	**11 54 11.3**	**+0.8**
	comp=Z,5.8nm,1.7s,mb4.3						
FITZ	**Fitzroy Crossi**	**59.23**	**198**	P	**P**	**11 54 10.5**	**0.0**
	comp=Z,2.8nm,0.6s,mb4.5,baz=22,slow=6.6,SNR=8.6						
WRAB	**Tennant Creek**	**59.45**	**188**	*e*P	**P**	**11 54 11.8**	**-0.2**
	comp=Z,10nm,0.8s,mb4.9						
WB2	**Warramunga Arr**	**59.46**	**188**	*e*P	**P**	**11 54 11.9**	**-0.2**
WRA	**Warramunga Arr**	**59.46**	**189**	P	**P**	**11 54 11.7**	**-0.4**
	comp=Z,5.4nm,0.6s,mb4.8,baz=6.0,slow=7.1,SNR=103						
WRA	**Warramunga Arr**	**59.46**	**189**	P	**P**	**11 54 11.7**	**-0.4**
WRA				pmax	pmax		
	comp=Z,5.0nm,0.6s						
RES	**Resolute Bay**	**60.19**	**15**	*e*P	**P**	**11 54 14.6**	**-1.8**
	comp=Z,24nm,1.2s,mb5.1						
ASAR	**Alice Springs**	**63.19**	**188**	P	**P**	**11 54 36.8**	**-0.4**
	comp=Z,4.3nm,0.9s,mb4.4,baz=12,slow=6.5,SNR=7.2						
ASPA	**Alice Springs**	**63.19**	**188**	*e*P	**P**	**11 54 37.5**	**+0.3**
MBWA	**Marble Bar**	**63.76**	**203**	*e*P	**P**	**11 54 39.5**	**-1.4**
	comp=Z,4.1nm,0.8s,mb4.3						
KAF	**Kangasniemi**	**66.48**	**333**	*e*p	pP	11 55 17.4	-5.9
	comp=Z,1.1nm,0.3s						
FINES	**FINESS Array B**	**67.00**	**332**	P	**P**	**11 55 01.6**	**+0.6**
	comp=Z,3.5nm,0.9s,mb4.2,baz=185,slow=23,SNR=2.9						
FINES				pP	pP	11 55 22.1	-4.5
	comp=Z,2.6nm,0.4s,baz=56,slow=8.0,SNR=4.9						
FINES	**FINESS Array B**	**67.00**	**332**	P	**P**	**11 55 01.6**	**+0.6**
FINES				*PP	pP	11 55 22.1	-4.5
FINES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
FINES				pmax	pmax		
	comp=N,3.0nm,0.4s						
STKA	**Stephens Creek**	**70.90**	**180**	P	**P**	**11 55 26.3**	**+0.9**
	comp=N,1.0nm,0.8s,mb3.7,baz=321,slow=16,SNR=3.1						
NVAR	**Mina Array Bea**	**73.15**	**54**	P	**P**	**11 55 42.5**	**+3.9**
	comp=N,0.8nm,0.8s,mb3.6,baz=285,slow=7.6,SNR=4.7						
PDAR	**Pinedale Array**	**75.63**	**46**	P	**P**	**11 55 56.0**	**+3.2**
	comp=N,0.7nm,0.5s,mb3.6,baz=335,slow=1.3,SNR=8.7						
PDAR				pP	pP	11 56 20.6	+1.7
	comp=N,0.5nm,0.6s,baz=264,slow=1.2,SNR=3.5						
PDAR				sP	sP	11 56 30.1	+0.1
	comp=N,0.5nm,0.6s,baz=300,slow=3.1,SNR=2.7						
SNAA	**Sanae**	**143.16**	**198**	⇑*i*	PKPbc	12 03 37.2	+0.8
VNA2	**Neumayer--Watz**	**144.73**	**197**	⇑*i*	PKPdf	12 03 45.6	+4.6
VNA3	**Neumayer Olymp**	**144.98**	**195**	⇑*i*	PKPdf	12 03 46.2	+4.8

IDC 24 11:57:46.6±25.0**, 20.44S**×**169.88W, mb4.2**/4**, mb1 4.3**/4**, mb1mx4.0**/13**, Error ellipse: s-maj=473.0km s-min=159.3km az=74.0, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**41.06**	**263**	P	P	12 05 31.8	-1.9
	4.7nm,0.4s,baz=93,slow=10,SNR=22						
STKA	**Stephens Creek**	**44.69**	**245**	P	P	12 06 00.1	-3.2
	1.6nm,0.5s,baz=88,slow=11,SNR=11						
ASAR	**Alice Springs**	**51.92**	**255**	P	P	12 06 58.2	-1.3
	1.0nm,0.5s,baz=94,slow=7.5,SNR=28						
WRA	**Warramunga Arr**	**52.13**	**260**	P	P	12 06 59.9	-1.2
	0.6nm,0.3s,baz=90,slow=5.9,SNR=95						

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*HEL **24** 12:23:52.5±0.5, 61.45N×31.62E, ML1.7, ML2.1(NAO), Explosion*

*BER **24** 12:23:52.0±2.4, 61.54N×31.61E, ML2.1(NAO), Suspected explosion*

*NAO **24** 12:23:53.5±4.5, 61.74N×31.35E, ML2.1*

ISC 24 12:23:52.2±1.7**, 61.48N**±0.07×**31.5E**±0.2**, n10, σ0^{s}62**/18**, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VJF	**Virojoki**	**2.14**	**246**	*e*P	**Pn**	**12 24 29.6**	**0.0**
VJF				*e*S	**Sn**	**12 24 57.8**	**+0.5**
KAF	**Kangasniemi**	**2.55**	**287**	*e*P	**Pn**	**12 24 35.5**	**+0.1**
KAF				*e*S	**Sn**	**12 25 08.3**	**+0.7**
KAF				MSG		12 25 13.3	
	comp=Z,1.6nm,0.1s						
FIA0	**FINESS Array S**	**2.60**	**272**	*e*P	**Pn**	**12 24 35.4**	**-0.8**
FIA0				*e*SB	**Sb**	**12 25 11.5**	**-0.7**
FIA0				MSG		12 25 15.8	
	comp=Z,2.1nm,0.1s						
FIA0	**FINESS Array S**	**2.60**	**272**	Pn	**Pn**	**12 24 35.9**	**-0.4**
	baz=96,slow=14						
FIA0				Lg		12 25 13.2	
	baz=83,slow=37						
SUF	**Sumiainen**	**2.81**	**299**	*e*P	**Pn**	**12 24 39.8**	**+0.7**
SUF				*e*SB	**Sb**	**12 25 18.2**	**+0.2**
SUF				MSG		12 25 19.1	
	comp=Z,2.7nm,0.2s						
PVF	**Pernaja**	**2.90**	**254**	*e*PB	**Pb**	**12 24 43.6**	**-1.0**
PVF				*e*SG	**Sg**	**12 25 22.9**	**-5.9**
KJN	**Kajaani**	**3.14**	**328**	*e*P	**Pn**	**12 24 44.5**	**+0.7**
KJN				*e*S	**Sn**	**12 25 21.5**	**-1.1**
KEF	**Keuruu**	**3.22**	**285**	*e*P	**Pn**	**12 24 45.2**	**+0.2**
KEF				*e*S	**Sn**	**12 25 25.1**	**+0.4**
ARA0	**ARCESS Array S**	**8.46**	**346**	Pn	**P**	**12 25 52.3**	**-6.5**
	baz=159,slow=14						
ARA0				Sn	**Sn**	**12 27 23.2**	**-13**
	baz=155,slow=28						
ARA0				Lg		12 28 12.1	
	baz=158,slow=37						
ARA0	**ARCESS Array S**	**8.46**	**346**	*e*P	**P**	**12 25 52.3**	**-6.5**
ARA0				*e*		12 27 23.2	
ARA0				*e*SG		12 28 12.1	

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*BJI **24** 12:33:59.6, 27.46N×96.67E, h69^{km}, ML3.9*

*IDC **24** 12:34:01.2±4.0, 27.74N×97.09E, h56^{km}±40^{km}, mb3.4/6, mb1 3.6/7, mb1mx3.4/20, ML3.8/1, Error ellipse: s-maj=48.3km s-min=15.8km az=62.0*

*NEIC **24** 12:34:01.9±1.7, 27.66N×96.80E, h69^{km}±22^{km}, Error ellipse: s-maj=30.6km s-min=10.5km az=62.0*

ISC 24 12:34:02.2±1.7**, 27.49N**±0.10×**96.28E**±0.09**, h110**^{km}±20^{km}**, n15, σ1^{s}30**/18**, mb3.7**/6**, Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SHL	**Shillong**	**4.38**	**245**	*e*P	**P**	**12 35 08.0**	**+0.1**
SHL				*e*S	**S**	**12 36 00.0**	**+1.8**
LSA	**Lhasa**	**5.02**	**297**	P	**P**	**12 35 17.8**	**+1.2**
LSA	**Lhasa**	**5.02**	**297**	*e*Pn	**P**	**12 35 19.4**	**+2.8**
	103nm,0.7s						
CMAR	**Chiang Mai Arr**	**9.32**	**164**	P	**P**	**12 36 14.6**	**-0.3**
	0.3nm,0.3s,baz=336,slow=13,SNR=6.3						
PKI	**Pulchoki**	**9.65**	**273**	*e*P	**P**	**12 36 18.6**	**-0.8**
	17nm,0.5s						
PKI				*e*S	**S**	**12 38 07.3**	**+0.8**
KKN	**Kakani**	**9.76**	**274**	*e*P	**P**	**12 36 20.4**	**-0.5**
	26nm,0.5s						
DMN	**Daman**	**9.92**	**273**	*e*P	**P**	**12 36 21.5**	**-1.5**
	17nm,0.5s						
GKN	**Gorkha**	**10.33**	**276**	*e*P	**P**	**12 36 28.5**	**0.0**
	9.7nm,0.3s						
KOLN	**Koldanda**	**11.25**	**274**	*e*P	**P**	**12 36 38.9**	**-1.8**
	7.7nm,0.5s						
KOLN				*e*S	**S**	**12 38 43.4**	**-1.3**
SONM	**Songino Array**	**21.79**	**19**	P	**P**	**12 38 44.5**	**-1.7**
	1.0nm,0.5s,mb3.4,baz=204,slow=9.8,SNR=5.9						
MKAR	**Makanchi Array**	**22.20**	**334**	P	**P**	**12 38 52.1**	**+1.9**
	0.9nm,0.4s,mb3.4,baz=142,slow=12,SNR=12						
BVAR	**Borovoye Array**	**31.93**	**330**	P	**P**	**12 40 22.8**	**+3.4**
	0.8nm,0.8s,mb3.5,baz=122,slow=14,SNR=2.5						
AKASG	**Malin Array Be**	**54.93**	**314**	P	**P**	**12 43 29.6**	**+5.7**
	0.5nm,0.3s,mb4.1,baz=76,slow=7.2,SNR=5.7						
WRA	**Warramunga Arr**	**59.84**	**138**	P	**P**	**12 43 58.8**	**0.0**
	0.8nm,0.5s,mb4.0,baz=327,slow=7.5,SNR=23						
ASAR	**Alice Springs**	**62.49**	**141**	P	**P**	**12 44 17.1**	**+0.5**
	0.3nm,0.5s,mb3.6,baz=324,slow=6.1,SNR=9.8						

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*IDC **24** 12:39:24.1±0.8, 0.93N×28.85W, mb4.2/11, mb1 4.3/11, mb1mx4.2/17, MS4.1/14, Ms1 4.1/14, ms1mx4.0/18, Error ellipse: s-maj=34.1km s-min=15.4km az=144.0*

*NEIC **24** 12:39:25.5±0.5, 0.85N×28.85W, h10^{km}, mb4.5/5, Error ellipse: s-maj=20.8km s-min=8.8km az=143.0*

ISC 24 12:39:23.8±0.5**, 0.9N**±0.1×**28.78W**±0.08**, h10**^{km}**, n30, σ0^{s}56**/24**, mb4.4**/17**, MS4.1**/14**, 1C-1D, Central Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**9.73**	**227**	*e*Pn	**P**	**12 41 43.4**	**-3.6**
	47nm,0.7s						
LIC	**Lamto**	**24.29**	**77**	*e*P	**P**	**12 44 42.9**	**+0.2**
	72nm,1.4s,mb4.9						
TIC	**Toumodi**	**24.39**	**76**	*e*P	**P**	**12 44 42.5**	**-1.1**
	270nm,1.7s,mb5.4						
DBIC	**Dimbokro**	**24.55**	**76**	P	**P**	**12 44 45.1**	**-0.1**
	13nm,0.8s,mb4.5,baz=242,slow=12,SNR=12						
DBIC				LR	LR	12 52 32.9	
	comp=Z,472nm,18.6s,MS4.0,baz=243,slow=32						
DBIC	**Dimbokro**	**24.55**	**76**	*e*P	**P**	**12 44 45.0**	**-0.2**
	33nm,1.2s,mb4.7						
KIC	**Kosan Boka**	**24.60**	**77**	*e*P	**P**	**12 44 46.4**	**+0.7**
	105nm,1.2s,mb5.3						
BDFB	**Brasilia**	**25.10**	**228**	P	**P**	**12 44 50.3**	**-0.1**
	7.8nm,0.7s,mb4.3,baz=52,slow=9.6,SNR=8.0						
BDFB				LR	LR	12 53 44.9	
	comp=Z,674nm,18.1s,MS4.2,baz=356,slow=34						
SAML	**Samuel**	**35.63**	**253**	*e*P	**P**	**12 46 23.8**	**-0.4**
	5.8nm,1.1s,mb4.4						
CPUP	**Villa Florida**	**38.58**	**223**	P	**P**	**12 46 48.9**	**0.0**
	5.1nm,1.0s,mb4.2,baz=67,slow=8.5,SNR=6.7						
CPUP				LR	LR	13 02 23.6	
	comp=Z,626nm,19.1s,MS4.5,baz=103,slow=36						
CPUP	**Villa Florida**	**38.58**	**223**	*e*P	**P**	**12 46 49.2**	**+0.3**
	9.9nm,1.2s,mb4.4						
LPAZ	**La Paz**	**42.40**	**245**	P	**P**	**12 47 21.5**	**+1.0**
	1.2nm,0.8s,mb3.5,baz=139,slow=4.2,SNR=3.6						
LPAZ				LR	LR	13 04 33.5	
	comp=Z,261nm,18.8s,MS4.1,baz=270,slow=36						
SDV	**Santo Domingo**	**42.42**	**282**	*e*P	**P**	**12 47 20.5**	**-0.2**
	6.0nm,0.9s,mb4.2						
ESDC	**Sonseca Array**	**44.78**	**27**	P	**P**	**12 47 40.1**	**+0.6**
	0.8nm,0.5s,mb3.8,baz=218,slow=8.7,SNR=11						
ESDC				LR	LR	13 05 58.7	
	comp=Z,69nm,18.8s,MS3.6,baz=245,slow=36						
ROSC	**El Rosal**	**45.65**	**276**	P	**P**	**12 47 47.0**	**+0.1**
	5.4nm,0.3s,mb4.9,baz=335,slow=20,SNR=2.5						
ROSC				LR	LR	13 06 13.0	
	comp=Z,370nm,18.4s,MS4.4,baz=87,slow=35						
BFO	**Black Forest**	**57.10**	**29**	P	**P**	**12 49 20.8**	**+8.0**
	418nm,0.5s,SNR=34						
GERES	**GERESS Array B**	**60.12**	**31**	P	**P**	**12 49 33.4**	**-0.3**
	2.5nm,0.8s,mb4.3,baz=233,slow=6.7,SNR=16						
SCHQ	**Schefferville**	**62.12**	**336**	LR	LR	13 10 40.3	
	comp=Z,166nm,21.2s,MS4.2,baz=192,slow=30						
PSZ	**Piszkesteto**	**62.93**	**35**	*e*P	**P**	**12 49 53.0**	**+0.3**
	9.6nm,0.9s,mb4.9						
NOA	**NORSAR Array B**	**67.31**	**20**	LR	LR	13 17 06.1	
	comp=Z,76nm,19.1s,MS3.9,baz=240,slow=34						
BRTR	**Keskin Array B**	**68.50**	**47**	P	**P**	**12 50 28.8**	**+0.1**
	1.3nm,0.8s,mb3.9,baz=220,slow=9.6,SNR=4.2						
BRTR				LR	LR	13 20 49.5	
	comp=Z,74nm,19.6s,MS3.9,baz=210,slow=36						
AKASG	**Malin Array Be**	**69.61**	**35**	P	**P**	**12 50 35.0**	**-0.3**
	5.4nm,1.0s,mb4.4,baz=242,slow=7.0,SNR=9.1						
VNA2	**Neumayer--Watz**	**73.02**	**173**	⇓*i*	**P**	**12 51 05.3**	**+10**
VNA3	**Neumayer Olymp**	**73.05**	**174**	⇑*i*	**P**	**12 51 07.3**	**+12**
FINES	**FINESS Array B**	**73.17**	**24**	LR	LR	13 19 47.5	
	comp=Z,92nm,18.4s,MS4.1,baz=250,slow=33						
SNAA	**Sanae**	**74.31**	**172**		**P**	**12 51 07.4**	**+4.6**
ARCES	**ARCESS Array B**	**77.34**	**17**	LR	LR	13 24 26.2	
	comp=Z,77nm,18.1s,MS4.1,baz=196,slow=35						
PDAR	**Pinedale Array**	**82.64**	**313**	P	**P**	**12 51 49.0**	**0.0**

	0.7nm,1.1s,mb3.6,baz=72,slow=5.7,SNR=2.9						
PDAR				LR	LR	13 21 20.8	
	comp=Z,143nm,20.9s,MS4.3,baz=76,slow=30						
YKA	**Yellowknife Ar**	**87.31**	**332**	LR	LR	13 27 36.8	
	comp=Z,136nm,18.5s,MS4.4,baz=85,slow=33						
NVAR	**Mina Array Bea**	**89.10**	**308**	P	**P**	**12 52 20.5**	**-0.5**
	0.6nm,0.8s,mb4.0,baz=104,slow=6.9,SNR=5.0						
NVAR				LR	LR	13 27 13.9	
	comp=Z,88nm,19.0s,MS4.2,baz=220,slow=32						
ASAR	**Alice Springs**	**151.78**	**145**	PKPbc	PKPdf	12 59 23.1	+7.0
	0.5nm,0.8s,baz=198,slow=2.0,SNR=0.6						

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*BJI **24** 12:40:13.8,23.18N×122.00E,h35^{km},ML3.9*
*TAP **24** 12:40:17.9,23.17N×121.48E,h20^{km}±1^{km},ML4.1*
TAP Felt III J at Chenggung, II J at Hungye.
*IDC **24** 12:40:19.3±1.1,23.11N×121.66E,mb3.4/6,mb1 3.6/7, mb1mx3.5/20,ML3.0/1,Error ellipse: s-maj=33.1km s-min=20.1km az=62.0*
*JMA **24** 12:40:22.3±0.4,23.21N×121.51E,h99^{km},M2.9*
*NEIC **24** 12:40:24.0±0.8,23.17N×121.68E,h35^{km},Error ellipse: s-maj=18.1km s-min=14.2km az=83.0*
ISC 24 12:40:18.8±0.3,**23.19N**±0.02×**121.42E**±0.02,**h20**^{km}**,n64,** σ**1**^{s}**05**/109,**mb3.4**/6,**16C,Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHKT	**Chengkung**	**0.10**	**211**	P	**Pb**	**12 40 23.5**	**+0.7**
CHKT				S	**Sb**	**12 40 25.4**	**-0.1**
TWF1	**Yuli**	**0.20**	**325**	⇑iP	**Pb**	**12 40 23.4**	**-0.6**
EHY	**Hungye**	**0.33**	**344**	⇑iP	**Pb**	**12 40 25.2**	**-0.7**
EHY				S	**Sb**	**12 40 30.3**	**-0.6**
ELDTW	**Lidau**	**0.37**	**270**	⇑iP	**Pb**	**12 40 25.8**	**-0.9**
TWG	**Pinlang**	**0.49**	**222**	i P	**Pb**	**12 40 28.2**	**-0.4**
TWG				S	**Sb**	**12 40 35.2**	**-0.1**
STYT	**Tauyuan**	**0.61**	**268**	⇑iP	**Pb**	**12 40 29.6**	**-1.1**
STYT				S	**Sb**	**12 40 39.3**	**+0.5**
ALS	**Alishan**	**0.65**	**300**	⇑iP	**Pb**	**12 40 30.5**	**-0.8**
ALS				S	**Sb**	**12 40 40.0**	**0.0**
ECL	**Taimali**	**0.73**	**216**	eP	**Pb**	**12 40 31.4**	**-1.3**
WTP	**Ta-pu**	**0.75**	**275**	⇑iP	**Pb**	**12 40 32.7**	**-0.2**
WTP				S	**Sb**	**12 40 42.0**	**-0.6**
CHN4	**Tsaushan**	**0.78**	**282**	⇑iP	**Pb**	**12 40 33.0**	**-0.6**
CHN4				S	**Sb**	**12 40 44.3**	**+0.6**
SGST	**Jiashian**	**0.78**	**262**	⇑iP	**Pb**	**12 40 33.5**	**0.0**
SGST				S	**Sb**	**12 40 44.1**	**+0.4**
CHN5	**Tsauling**	**0.80**	**301**	⇑iP	**Pb**	**12 40 33.6**	**-0.2**
CHN5				S	**Sb**	**12 40 44.0**	**-0.1**
HWA	**Hwalien**	**0.80**	**12**	P	**Pb**	**12 40 32.9**	**-1.1**
HWA				S	**Sb**	**12 40 45.3**	**+1.0**
CHN1	**Nanshi**	**0.82**	**270**	⇑iP	**Pb**	**12 40 34.0**	**-0.3**
CHN1				S	**Sb**	**12 40 45.8**	**+0.9**
SMLT	**Sun Moon Lake**	**0.84**	**325**	⇑iP	**Pb**	**12 40 33.8**	**-0.8**
SMLT				S	**Sb**	**12 40 46.3**	**+0.9**
SSD	**Sandimen**	**0.85**	**239**	⇑iP	**Pb**	**12 40 33.7**	**-1.0**
SSD				S	**Sb**	**12 40 46.0**	**+0.3**
TWK	**Hsinying**	**0.86**	**275**	⇑iP	**Pb**	**12 40 34.7**	**-0.2**
TWK				S	**Sb**	**12 40 46.7**	**+0.7**
TYC	**Yuchr**	**0.88**	**324**	⇑iP	**Pb**	**12 40 34.3**	**-0.9**
TYC				S	**Sb**	**12 40 48.0**	**+1.4**
TWD	**Chiawan**	**0.90**	**10**	i P	**Pb**	**12 40 34.0**	**-1.6**
TWD				S	**Sb**	**12 40 47.9**	**+0.7**
WGK	**Gukeng**	**0.93**	**302**	⇑iP	**Pb**	**12 40 36.4**	**+0.3**
WGK				S	**Sb**	**12 40 49.5**	**+1.4**
EAST	**Anshuo**	**0.96**	**214**	⇑iP	**Pb**	**12 40 35.2**	**-1.4**
EAST				S	**Sb**	**12 40 50.2**	**+1.4**
WNT	**Mingjian**	**0.96**	**316**	P	**Pb**	**12 40 37.0**	**+0.3**
WNT				S	**Sb**	**12 40 50.0**	**+1.0**
CHY	**Chiayi**	**0.97**	**289**	P	**Pb**	**12 40 36.7**	**0.0**
CHY				S	**Sb**	**12 40 50.3**	**+1.2**
SGLT	**Jiouru**	**0.97**	**242**	eP	**Pb**	**12 40 38.5**	**+1.7**
TWM1	**Shoushan**	**0.99**	**249**	i P	**Pb**	**12 40 38.2**	**+1.1**
TWM1				S	**Sb**	**12 40 50.3**	**+0.6**
SCZT	**Fangliau**	**1.10**	**223**	P	**Pb**	**12 40 37.9**	**-1.1**
SCZT				S	**Sb**	**12 40 53.4**	**+0.6**
TAI1	**Yung-k'ang**	**1.11**	**263**	eP	**Pb**	**12 40 39.0**	**-0.2**
TAI1				S	**Sb**	**12 40 54.1**	**+0.9**
CHN8	**Yiju**	**1.12**	**278**	i P	**Pb**	**12 40 39.3**	**-0.1**
CHN8				S	**Sb**	**12 40 54.9**	**+1.3**
SCLT	**Jiali**	**1.13**	**270**	eP	**Pb**	**12 40 38.8**	**-0.7**
SCLT				S	**Sb**	**12 40 54.8**	**+1.0**
TCU	**Taichung**	**1.18**	**325**	i P	**Pn**	**12 40 40.0**	**-0.3**
TCU				S	**Sb**	**12 40 55.5**	**+0.5**
WSF	**Szhu**	**1.19**	**292**	i P	**Pn**	**12 40 40.1**	**-0.3**
WSF				S	**Sb**	**12 40 56.3**	**+0.8**
WTCT	**Ta-ch'eng**	**1.25**	**303**	eP	**Pn**	**12 40 39.1**	**-2.2**
NNS	**Nan Shan**	**1.25**	**358**	P	**Pn**	**12 40 39.2**	**-2.1**
NNS				S	**Sb**	**12 40 57.5**	**+0.4**
ENA	**Nanau**	**1.27**	**13**	P	**Pn**	**12 40 38.8**	**-2.8**
ENA				S	**Sb**	**12 40 58.5**	**+0.8**
HEN	**Hengchun**	**1.34**	**208**	eP	**Pn**	**12 40 42.5**	**-0.1**
TWK1	**Hengchun**	**1.36**	**205**	eP	**Pn**	**12 40 41.5**	**-1.4**
TWK1				S	**Sb**	**12 40 59.0**	**-1.5**
NSY	**Sanyi**	**1.36**	**334**	i P	**Pn**	**12 40 43.4**	**+0.4**
NSY				S	**Sn**	**12 41 00.3**	**-0.2**
ENTT	**Nioudou**	**1.45**	**5**	P	**Pn**	**12 40 42.2**	**-1.9**
ENTT				S	**Sn**	**12 41 02.1**	**-0.7**
TWC	**Suao**	**1.47**	**15**	eP	**Pn**	**12 40 43.4**	**-1.0**
TWC				S	**Sn**	**12 41 02.3**	**-0.9**
NSTT	**Nanjuang**	**1.49**	**345**	eP	**Pn**	**12 40 44.3**	**-0.4**
NSTT				S	**Sn**	**12 41 03.4**	**-0.3**
TWE	**Neicheng**	**1.54**	**8**	P	**Pn**	**12 40 45.7**	**+0.2**
TWE				S	**Sn**	**12 41 04.6**	**-0.4**
WDGT	**Dungji**	**1.62**	**273**	eP	**Pn**	**12 40 45.9**	**-0.8**
WDGT				S	**Sn**	**12 41 06.3**	**-0.8**
EGS		**1.71**	**16**	eP	**Pn**	**12 40 46.9**	**-1.1**
PNG	**Penghu**	**1.76**	**283**	P	**Pn**	**12 40 47.5**	**-1.0**
PNG				S	**Sn**	**12 41 10.2**	**-0.3**
TATO	**Taipei**	**1.78**	**2**	ePn	**Pn**	**12 40 51.8**	**+2.9**
TWA	**Mucha**	**1.79**	**5**	eP	**Pn**	**12 40 48.1**	**-0.9**
TWB1	**Santiao Chiao**	**1.89**	**16**	eP	**Pn**	**12 40 49.0**	**-1.4**
NWF	**Wu-fen Shan**	**1.90**	**10**	P	**Pn**	**12 40 48.6**	**-2.1**
NWF				S	**Sn**	**12 41 12.6**	**-1.7**
TWS1	**Kuangyinshan**	**1.91**	**360**	eP	**Pn**	**12 40 50.8**	**+0.1**
YOJ	**Yonaguni jima**	**1.93**	**49**	P	**Pn**	**12 40 53.4**	**+2.4**
YOJ				S	**Sn**	**12 41 16.7**	**+1.8**
HATJ	**Hateruma jima**	**2.35**	**68**	P	**Pn**	**12 40 58.7**	**+1.6**
HATJ				eS	**Sn**	**12 41 26.1**	**+0.5**
IRIF	**Iriomote-Funau**	**2.40**	**61**	P	**Pn**	**12 40 59.7**	**+1.9**
IRIF				eS	**Sn**	**12 41 28.4**	**+1.5**
JKRS	**Kuro-shima**	**2.59**	**66**	P	**Pn**	**12 41 02.5**	**+2.0**
JKRS				eS	**Sn**	**12 41 32.9**	**+1.2**
JIJ	**Ishigaki jima**	**2.75**	**64**	P	**Pn**	**12 41 04.0**	**+1.2**
JIJ				eS	**Sn**	**12 41 35.2**	**-0.6**
QZH	**Quanzhou**	**3.12**	**305**	P	**Pn**	**12 41 09.1**	**+1.1**
QZH				S	**Sn**	**12 41 45.6**	**+0.4**
QZH				Smax			
	comp=N,320nm,0.8s						
QZH				Smax			
	comp=E,290nm,0.8s						
JTJ	**Tarama**	**3.33**	**64**	P	**Pn**	**12 41 11.7**	**+0.7**
JTJ				eS	**Sn**	**12 41 51.5**	**+1.0**
JOW	**Kunigami**	**7.20**	**58**	Pn	**Pn**	**12 42 04.0**	**-1.6**
	comp=E,0.6nm,0.3s,baz=143,slow=15,SNR=2.8						
WHN	**Wuhan**	**9.67**	**321**	eP	**P**	**12 42 38.8**	**-1.2**
CMAR	**Chiang Mai Arr**	**21.52**	**262**	P	**P**	**12 45 11.5**	**+2.7**
	comp=E,0.5nm,0.7s,mb3.0,baz=83,slow=7.3,SNR=4.1						
SONM	**Songino Array**	**27.37**	**338**	P	**P**	**12 46 06.3**	**+1.7**
	comp=E,0.2nm,0.4s,mb3.0,baz=141,slow=9.2,SNR=3.3						
MKAR	**Makanchi Array**	**39.21**	**317**	P	**P**	**12 47 52.4**	**+5.1**
	comp=E,0.3nm,0.5s,mb3.3,baz=114,slow=12,SNR=2.9						
WRA	**Warramunga Arr**	**44.68**	**163**	P	**P**	**12 48 31.7**	**-0.7**
	comp=E,0.3nm,0.6s,mb3.3,baz=344,slow=8.9,SNR=4.6						
ASAR	**Alice Springs**	**48.13**	**165**	P	**P**	**12 49 01.2**	**+1.7**
	comp=E,0.1nm,0.4s,mb3.2,baz=340,slow=7.1,SNR=4.7						
STKA	**Stephens Creek**	**58.05**	**160**	P	**P**	**12 50 13.2**	**+0.2**
	comp=E,3.9nm,1.2s,mb4.3,baz=329,slow=12,SNR=3.2						

MAN 24 13:00:46.4,10.22N×121.95E,h1^{km}**,mb4.1,ML2.9,MS2.7, 1D,Panay**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAP	**Anini-y**	**0.20**	**357**	eP	Pg	13 01 53.0	+63
GUIM	**Jordan**	**0.74**	**57**	eP	Pg	13 01 00.7	-0.6
GUIM				eS	Sg	13 01 10.4	-0.7
CUYO	**Cuyo Island**	**1.11**	**304**	eP	Pb	13 01 10.9	+2.8
RCP	**Roxas**	**1.54**	**30**	⇓eP	Pn	13 01 15.3	+0.2
RCP				eS	Sb	13 01 36.6	+1.3
SJMP	**San Jose**	**2.37**	**340**	eP	Pn	13 01 26.5	-0.5
ENPP	**El Nido**	**2.67**	**292**	eP	Pn	13 01 32.0	+0.8
PAGZ	**Pagadian**	**2.75**	**149**	eP	Pn	13 01 32.8	+0.4

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*TAP **24** 13:12:33.2,24.12N×122.32E,h32^{km},ML4.1*
*JMA **24** 13:12:33.9±0.2,24.34N×122.31E,h66^{km}±2^{km},M3.2*
ISC 24 13:12:33.5±1.9,**24.4N**±0.1×**122.3E**±0.1,**h63**^{km}±16^{km}**,n9,** σ**0**^{s}**49**/16,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.67**	**81**	P	**P**	**13 12 48.0**	**+0.3**
YOJ				S	**S**	**13 12 58.3**	**0.0**
IRIF	**Iriomote-Funau**	**1.32**	**91**	P	**P**	**13 12 56.1**	**-0.3**
IRIF				S	**S**	**13 13 12.8**	**-0.5**
HATJ	**Hateruma jima**	**1.42**	**102**	P	**P**	**13 12 57.5**	**-0.2**
HATJ				eS	**S**	**13 13 15.8**	**+0.1**
JKRS	**Kuro-shima**	**1.58**	**94**	P	**P**	**13 13 00.0**	**+0.1**
JKRS				S	**S**	**13 13 19.8**	**+0.5**
JIJ	**Ishigaki jima**	**1.70**	**90**	P	**P**	**13 13 01.1**	**-0.3**
JIJ				S	**S**	**13 13 21.2**	**-0.9**
JTJ	**Tarama**	**2.22**	**82**	P	**P**	**13 13 09.1**	**+0.3**
JTJ				eS	**S**	**13 13 35.3**	**+0.3**
JMJ	**Miyako jima 2**	**2.78**	**80**	eS	**S**	**13 13 48.6**	**-0.5**
JOGS	**Gusukube**	**2.87**	**81**	eS	**S**	**13 13 52.7**	**+1.3**
JKE	**Kume jima 2**	**4.52**	**63**	P	**P**	**13 13 41.2**	**+0.1**
JKE				eS	**S**	**13 14 32.4**	**-0.4**

IDC 24 13:19:02.1±2.0,**6.12S**×**151.69E,mb3.8**/4,**mb1 4.1**/4, **mb1mx3.8**/13,**Error ellipse: s-maj=119.0km s-min=25.8km az=131.0,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.75**	**229**	P	P	13 23 54.9	-2.4
	0.4nm,0.4s,baz=55,slow=10,SNR=6.4						
ASAR	**Alice Springs**	**24.44**	**223**	P	P	13 24 22.9	-0.9
	2.2nm,0.7s,baz=53,slow=9.1,SNR=32						
FITZ	**Fitzroy Crossi**	**28.07**	**243**	P	P	13 24 55.9	-1.7
	1.1nm,0.5s,baz=40,slow=6.8,SNR=7.8						
ILAR	**Eielson Array**	**83.79**	**22**	P	P	13 31 33.0	-1.3
	1.0nm,0.8s,baz=246,slow=4.7,SNR=17						

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*STR **24** 13:32:42.3±0.1,43.05N×0.61W,h5^{km}±1^{km},Ml2.4,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*MDD **24** 13:32:42.9±0.3,43.07N×0.61W,mbLg1.7/2,Error ellipse: s-maj=4.1km s-min=1.7km az=16.0,PRXIMO*
ISC 24 13:32:42.4±0.5,**43.08N**±0.04×**0.61W**±0.03,**h3**^{km}±8^{km}**,n20,** σ**0**^{s}**56**/33,**Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATE	**Arette**	**0.07**	**277**	P	**Pg**	**13 32 44.0**	**+0.1**
ATE				S	**Sg**	**13 32 45.3**	**+0.4**
REYF	**Montagne du Re**	**0.16**	**93**	Pg	**Pg**	**13 32 45.5**	**-0.1**
REYF				Sg	**Sg**	**13 32 48.2**	**+0.5**
REYF	**Montagne du Re**	**0.16**	**93**	P	**Pg**	**13 32 45.7**	**+0.1**
REYF				S	**Sg**	**13 32 48.3**	**+0.6**
FDAF	**Les Forges d'A**	**0.26**	**174**	Pg	**Pg**	**13 32 47.2**	**-0.4**
FDAF				Sg	**Sg**	**13 32 50.8**	**-0.3**
FDAF	**Les Forges d'A**	**0.26**	**174**	P	**Pg**	**13 32 47.4**	**-0.3**
FDAF				S	**Sg**	**13 32 50.9**	**-0.3**
ORDF	**Ordiarp**	**0.28**	**300**	Pg	**Pg**	**13 32 47.8**	**-0.2**
ORDF				Sg	**Sg**	**13 32 52.7**	**+1.0**
ORDF	**Ordiarp**	**0.28**	**300**	P	**Pg**	**13 32 47.9**	**0.0**
ORDF				S	**Sg**	**13 32 52.5**	**+0.8**
LARF	**Larrau**	**0.28**	**262**	Pg	**Pg**	**13 32 47.9**	**-0.2**
LARF				Sg	**Sg**	**13 32 52.5**	**+0.6**
LARF	**Larrau**	**0.28**	**262**	P	**Pg**	**13 32 48.0**	**-0.1**
LARF				S	**Sg**	**13 32 52.4**	**+0.5**
LABF	**Labassere**	**0.50**	**93**	Pg	**Pg**	**13 32 52.0**	**-0.4**
LABF				Sg	**Sg**	**13 32 59.5**	**+0.4**
LABF	**Labassere**	**0.50**	**93**	P	**Pg**	**13 32 52.1**	**-0.3**
LABF				S	**Sg**	**13 32 59.3**	**+0.2**
VIEF	**Viey**	**0.50**	**113**	Pg	**Pg**	**13 32 51.7**	**-0.7**
VIEF				Sg	**Sg**	**13 32 58.8**	**-0.3**
VIEF	**Viey**	**0.50**	**113**	P	**Pg**	**13 32 51.9**	**-0.6**
VIEF				S	**Sg**	**13 32 58.5**	**-0.6**
OSSF	**Osses**	**0.51**	**291**	Pg	**Pg**	**13 32 52.6**	**0.0**
OSSF	**Osses**	**0.51**	**291**	P	**Pg**	**13 32 51.8**	**-0.9**
OSSF				S	**Sg**	**13 32 58.7**	**-0.8**
EALK	**Alkurruntz**	**0.67**	**282**	Pg	**Pg**	**13 32 55.0**	**-0.9**
	SNR=7.9						
EALK				Lg		13 33 04.4	
	10nm,0.2s,SNR=7.9						
MELF	**Melles**	**1.02**	**101**	S	**Sb**	**13 33 16.1**	**0.0**
EGRA	**Graus**	**1.11**	**142**	Lg		13 33 19.9	
	2.8nm,0.1s,SNR=4.0						
SALF	**Salau**	**1.36**	**103**	S	**Sb**	**13 33 26.3**	**+0.5**
ESAC	**San Caprasio**	**1.36**	**176**	Pg	**Pg**	**13 33 10.8**	**+1.2**
	SNR=7.9						
ESAC				Lg		13 33 27.6	
	SNR=7.9						

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*KRSC **24** 13:36:13.5±0.6,53.96N×161.45E,h18^{km}±4^{km},ML3.9*
ISC 24 13:36:12.7±0.8,**53.95N**±0.03×**161.4E**±0.1,**h7**^{km}±7^{km}**,n25,** σ**0**^{s}**79**/50,**Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.64**	**18**	eP	**Pg**	**13 36 24.8**	**-0.6**
MKZ				eS	**Sg**	**13 36 33.1**	**-0.8**
KII	**Karymskiy**	**1.15**	**275**	eP	**Pb**	**13 36 34.6**	**+0.1**
KII				eS	**Sb**	**13 36 49.1**	**-0.4**
SPN	**Mys Shipunski**	**1.19**	**224**	eP	**Pb**	**13 36 33.9**	**-1.1**
SPN				eS	**Sb**	**13 36 49.3**	**-1.1**
NLC	**Nalytchevo**	**1.45**	**238**	eP	**Pn**	**13 36 38.9**	**-0.5**
NLC				eS	**Sb**	**13 36 57.2**	**-1.0**
TUMR	**Tumrok**	**1.52**	**332**	eP	**Pn**	**13 36 40.3**	**0.0**
TUMR				eS	**Sb**	**13 36 59.6**	**-0.5**
SDLR	**Sedlovina**	**1.64**	**247**	eP	**Pn**	**13 36 42.1**	**0.0**
SDLR				eS	**Sn**	**13 37 03.1**	**-0.6**
SMAR	**Somma**	**1.69**	**247**	eP	**Pn**	**13 36 43.1**	**+0.2**
SMAR				eS	**Sn**	**13 37 04.8**	**-0.2**
UGLR	**Uglovaya**	**1.71**	**245**	eP	**Pn**	**13 36 43.2**	**+0.2**
UGLR				eS	**Sn**	**13 37 04.4**	**-0.9**
AVH	**Avacha**	**1.73**	**248**	eP	**Pn**	**13 36 43.7**	**+0.4**
AVH				eS	**Sn**	**13 37 05.9**	**+0.1**
KOK	**Koryaka**	**1.77**	**249**	eP	**Pn**	**13 36 44.5**	**+0.5**
KOK				eS	**Sn**	**13 37 06.5**	**-0.5**
PET	**Petropavlovsk**	**1.89**	**242**	eP	**Pn**	**13 36 45.4**	**-0.2**
PET				i S	**Sn**	**13 37 08.8**	**-1.0**
KMNR	**Kamenistaya**	**1.93**	**340**	eP	**Pn**	**13 36 47.0**	**+0.8**
KMNR				eS	**Sn**	**13 37 11.9**	**+1.0**
GNL	**Ganaly**	**2.06**	**264**	eP	**Pn**	**13 36 49.0**	**+0.8**
GNL				eS	**Sn**	**13 37 15.4**	**+1.0**
ZLN	**Zelenaya**	**2.10**	**351**	eP	**Pn**	**13 36 48.6**	**0.0**
ZLN				eS	**Sn**	**13 37 14.4**	**-0.8**
KPT	**Kopyto**	**2.13**	**342**	eP	**Pn**	**13 36 50.4**	**+1.3**
KPT				eS	**Sn**	**13 37 16.4**	**+0.4**
LGNR	**Loginova**	**2.17**	**349**	eP	**Pn**	**13 36 50.0**	**+0.3**
LGNR				eS	**Sn**	**13 37 16.6**	**-0.5**
CIRR	**Tsirk**	**2.20**	**350**	eP	**Pn**	**13 36 51.2**	**+1.1**
CIRR				eS	**Sn**	**13 37 18.1**	**+0.3**
KOZ	**Kozyrevsk**	**2.29**	**338**	eP	**Pn**	**13 36 51.5**	**+0.2**
KOZ				eS	**Sn**	**13 37 20.1**	**+0.1**
RUS	**Russkaya**	**2.31**	**230**	eP	**Pn**	**13 36 52.3**	**+0.6**
RUS				eS	**Sn**	**13 37 20.2**	**-0.4**
KRSR	**Krestovskiy**	**2.32**	**348**	eP	**Pn**	**13 36 52.5**	**+0.7**
KRSR				eS	**Sn**	**13 37 20.8**	**0.0**
KBTR	**Krutoberegovo**	**2.40**	**19**	eP	**Pn**	**13 36 51.3**	**-1.7**
KBTR				eS	**Sn**	**13 37 19.2**	**-3.8**
KLY	**Klyuchi**	**2.40**	**350**	eP	**Pn**	**13 36 53.5**	**+0.5**
KLY				eS	**Sn**	**13 37 23.1**	**+0.1**
GRL	**Gorelyy**	**2.44**	**236**	eP	**Pn**	**13 36 54.2**	**+0.7**
GRL				eS	**Sn**	**13 37 24.7**	**+0.8**
ESO	**Esso**	**2.52**	**323**	eP	**Pn**	**13 36 54.0**	**-0.6**
ESO				eS	**Sn**	**13 37 24.0**	**-1.8**
ESO				Smax			
	40nm,0.9s						
APC	**Apacha**	**2.74**	**250**	eP	**Pn**	**13 36 59.4**	**+1.6**
APC				eS	**Sn**	**13 37 33.1**	**+1.6**
APC				Smax			
	30nm,0.7s						

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*NAO **24** 13:38:57.4±1.9,67.69N×33.87E,ML2.2*
*HEL **24** 13:38:57.6±0.3,67.67N×33.89E,ML2.5,ML2.2(BER), ML2.2(NAO),Explosion*
*IDC **24** 13:38:59.0±2.4,67.72N×33.76E,mb1 3.6/4, mb1mx3.3/20,ML3.0/4,Error ellipse: s-maj=23.5km s-min=9.8km az=78.0*
ISC 24 13:38:56.5±1.4,**67.66N**±0.04×**33.7E**±0.2**,n17,**σ**1**^{s}**57**/36, **Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
APA0	**Apatity Array**	**0.28**	**260**	i P	**Pg**	**13 39 03.7**	**+1.6**
APA0				i S	**Sg**	**13 39 08.5**	**+2.7**
APA0				eRG		13 39 10.6	
APA0	**Apatity Array**	**0.28**	**260**	Pg	**Pg**	**13 39 03.7**	**+1.6**
	baz=98,slow=16						
APA0				Lg		13 39 08.5	
	baz=92,slow=37						
APA0				Rg		13 39 10.6	
	baz=99,slow=37						
MSF	**Maaselka**	**2.55**	**229**	eP	**Pn**	**13 39 41.6**	**+1.9**
MSF				eS	**Sn**	**13 40 14.0**	**+2.1**
SGF	**Sodankyl**	**2.77**	**269**	eP	**Pn**	**13 39 43.6**	**+0.7**
SGF				eS	**Sn**	**13 40 19.3**	**+1.9**
SGF				MSG		13 40 24.3	
	comp=Z,13nm,0.2s						
KEV	**Kevo**	**3.23**	**314**	eP	**Pn**	**13 39 50.4**	**+1.0**
KEV				eS	**Sn**	**13 40 29.1**	**-0.1**
ARA0	**ARCESS Array S**	**3.55**	**306**	eP	**Pn**	**13 39 54.6**	**+0.6**
ARA0				ePG	**Pg**	**13 40 01.7**	**-5.6**
ARA0				eS	**Sn**	**13 40 36.1**	**-1.2**
ARA0				eSG	**Sg**	**13 40 48.6**	**-6.0**
ARA0	**ARCESS Array S**	**3.55**	**306**	Pn	**Pn**	**13 39 54.6**	**+0.6**
	baz=122,slow=16						
ARA0				Pg	**Pg**	**13 40 01.7**	**-5.6**
	baz=122,slow=16						
ARA0				Sn	**Sn**	**13 40 36.1**	**-1.2**
	baz=124,slow=28						
ARA0				Lg		13 40 48.6	
	baz=126,slow=28						
ARCES	**ARCESS Array B**	**3.55**	**306**	Pn	**Pn**	**13 39 54.5**	**+0.5**
	comp=Z,4.0nm,0.3s,baz=122,slow=15,SNR=201						
ARCES				Pg	**Pg**	**13 40 01.8**	**-5.6**
	comp=Z,1.6nm,0.3s,baz=125,slow=16,SNR=9.3						
ARCES				Sn	**Sn**	**13 40 36.3**	**-1.0**
	comp=Z,4.8nm,0.3s,baz=121,slow=27,SNR=21						
ARCES				Lg		13 40 48.7	
	comp=Z,9.1nm,0.3s,baz=114,slow=27,SNR=16						
OUL	**Oulu**	**4.07**	**234**	eP	**Pn**	**13 40 02.2**	**+0.9**
OUL				eSB	**Sb**	**13 40 59.1**	**+0.2**
OUL				MSG		13 41 07.5	
	comp=Z,10nm,0.3s						
KTK1	**Kautokeino**	**4.12**	**294**	eP	**Pn**	**13 40 03.1**	**+1.0**
KTK1				AML	AML	13 41 11.0	
	comp=Z,10nm,0.4s						
KJN	**Kajaani**	**4.35**	**217**	eP	**Pn**	**13 40 05.9**	**+0.6**
KJN				eS	**Sn**	**13 40 55.4**	**-2.1**
KJN				MSG		13 41 12.8	
	comp=Z,9.2nm,0.3s						
KIF	**Kilpisjarvi**	**4.97**	**292**	eP	**Pn**	**13 40 13.4**	**-0.7**
KIF				eS	**Sn**	**13 41 10.4**	**-2.8**
FIA0	**FINESS Array S**	**7.05**	**211**	Pn	**Pn**	**13 40 41.4**	**-2.1**
	baz=34,slow=12						
FIA0				Sn	**Sn**	**13 42 00.1**	**-5.1**
	baz=32,slow=22						
FIA0				Lg		13 42 33.1	
	baz=19,slow=37						
FIA0	**FINESS Array S**	**7.05**	**211**	eP	**Pn**	**13 40 41.4**	**-2.1**
FIA0				eS	**Sn**	**13 42 00.1**	**-5.1**
FIA0				eSG	**Sg**	**13 42 33.1**	**-18**
FINES	**FINESS Array B**	**7.05**	**211**	Pn	**Pn**	**13 40 41.3**	**-2.1**
	comp=Z,0.1nm,0.3s,baz=25,slow=12,SNR=3.8						
FINES				Sn	**Sn**	**13 42 00.4**	**-4.8**
	comp=Z,0.3nm,0.3s,baz=32,slow=21,SNR=3.7						
FINES				Lg		13 42 33.4	
	comp=Z,0.8nm,0.3s,baz=34,slow=25,SNR=7.1						
HFS	**Hagfors**	**11.55**	**239**	Pn	**P**	**13 41 41.1**	**-4.3**
	comp=Z,0.0nm,0.3s,baz=37,slow=14,SNR=3.0						
HFS				Sn	**S**	**13 43 48.0**	**-8.3**
	comp=Z,0.0nm,0.3s,baz=38,slow=26,SNR=2.3						
HFS				Lg		13 44 59.8	
	comp=Z,0.1nm,0.3s,baz=79,slow=30,SNR=2.5						
NOA	**NORSAR Array B**	**11.73**	**246**	Pn	**P**	**13 41 43.9**	**-4.0**
	comp=Z,0.1nm,0.3s,baz=184,slow=11,SNR=2.9						

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*NEIC **24** 13:57:30.2,40.34S×174.33E,h100^{km},ML4.0(WEL), After WEL.*
WEL 24 13:57:30.9±0.2,**40.34S**×**174.35E,h89**^{km}±2^{km}**,ML4.0**/8, **8C-9D,Error ellipse: s-maj=1.0km s-min=0.5km az=90.0, Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KIW	**Kapiti Island**	**0.68**	**141**	⇑PN	P	13 57 47.1	-0.2
KIW				SN	S	13 57 58.4	-1.1
KIW	**Kapiti Island**	**0.68**	**141**	P	P	13 57 47.1	-0.3
KIW				S	S	13 57 58.6	-1.0
WAZ	**Wanganui**	**0.76**	**40**	⇑PN	P	13 57 48.6	+0.4
WAZ				SN	S	13 58 00.3	-0.6
WAZ	**Wanganui**	**0.76**	**40**	P	P	13 57 48.6	+0.4
WAZ				S	S	13 58 02.3	+1.4
MRW	**Makara Radio**	**0.93**	**163**	⇑PN	P	13 57 50.0	+0.1
MRW				SN	S	13 58 03.8	-0.5
MRW	**Makara Radio**	**0.93**	**163**	P	P	13 57 50.1	+0.1
CAW	**Cannon Point**	**0.95**	**145**	⇓PN	P	13 57 50.2	+0.1
CAW				SN	S	13 58 03.2	-1.4
CAW	**Cannon Point**	**0.95**	**145**	P	P	13 57 50.3	+0.1
MRZ	**Mangatainoka R**	**0.99**	**110**	⇓PN	P	13 57 50.4	-0.3
MRZ				SN	S	13 58 04.2	-1.4
MRZ	**Mangatainoka R**	**0.99**	**110**	P	P	13 57 50.4	-0.3
WEL	**Wellington**	**1.00**	**162**	PN	P	13 57 50.7	-0.1
WEL				SN	S	13 58 05.7	0.0
WEL	**Wellington**	**1.00**	**162**	P	P	13 57 50.7	-0.1
SNZO	**South Karori**	**1.01**	**164**	PN	P	13 57 50.8	-0.1
SNZO				SN	S	13 58 04.7	-1.2
SNZO	**South Karori**	**1.01**	**164**	P	P	13 57 50.8	-0.1
NRZ	**Ngariki Road**	**1.05**	**342**	PN	P	13 57 51.0	-0.3
NRZ				SN	S	13 58 04.7	-2.0
NRZ	**Ngariki Road**	**1.05**	**342**	P	P	13 57 51.0	-0.3
NEZ	**North Egmont**	**1.08**	**350**	⇑PN	P	13 57 51.4	-0.4
NWEZ	**Newall Road**	**1.12**	**341**	⇓PN	P	13 57 52.0	-0.3
NWEZ	**Newall Road**	**1.12**	**341**	P	P	13 57 52.0	-0.3
TUWZ	**Tuamarina**	**1.14**	**196**	PN	P	13 57 51.9	-0.6
TUWZ				SN	S	13 58 07.3	-1.3
BHW	**Baring Head**	**1.14**	**160**	⇓PN	P	13 57 52.1	-0.5
BHW				SN	S	13 58 06.9	-1.9
BHW	**Baring Head**	**1.14**	**160**	P	P	13 57 52.1	-0.5
NNZ	**Nelson**	**1.15**	**219**	⇑PN	P	13 57 52.1	-0.6
NNZ				SN	S	13 58 07.8	-1.0
NNZ	**Nelson**	**1.15**	**219**	P	P	13 57 52.1	-0.5
NNZ				S	S	13 58 07.8	-1.0
PKE	**Pukeiti**	**1.17**	**346**	PN	P	13 57 52.4	-0.6
PKE				SN	S	13 58 07.5	-1.9
PKE	**Pukeiti**	**1.17**	**346**	P	P	13 57 52.5	-0.5
MTW	**Mount Morrison**	**1.20**	**134**	⇓PN	P	13 57 52.7	-0.7
MTW				SN	S	13 58 08.5	-1.6
MTW	**Mount Morrison**	**1.20**	**134**	P	P	13 57 52.7	-0.6
VRZ	**Vera Road**	**1.25**	**15**	⇓PN	P	13 57 53.6	-0.4
VRZ				SN	S	13 58 10.5	-0.6
VRZ	**Vera Road**	**1.25**	**15**	P	P	13 57 53.6	-0.3
TSZ	**Takapari Road**	**1.27**	**78**	⇓PN	P	13 57 53.3	-0.9
TSZ				SN	S	13 58 10.3	-1.2
TSZ	**Takapari Road**	**1.27**	**78**	P	P	13 57 53.3	-0.8
MSWZ	**Moikau Station**	**1.28**	**148**	⇓PN	P	13 57 53.8	-0.5
MSWZ				SN	S	13 58 09.7	-2.1
MSWZ	**Moikau Station**	**1.28**	**148**	P	P	13 57 53.8	-0.5
PAWZ	**Paruwai Farm**	**1.33**	**142**	PN	P	13 57 54.2	-0.7
PAWZ				SN	S	13 58 11.0	-1.8
WNVZ	**Wahianoa**	**1.39**	**44**	PN	P	13 57 55.1	-0.6
WNVZ				SN	S	13 58 14.5	+0.4
WNVZ	**Wahianoa**	**1.39**	**44**	P	P	13 57 55.6	-0.1
CMWZ	**Cape Campbell**	**1.42**	**184**	PN	P	13 57 55.3	-0.7
CMWZ				SN	S	13 58 14.5	-0.1
BSWZ	**Blackbirch Sta**	**1.42**	**194**	PN	P	13 57 55.7	-0.4
BSWZ	**Blackbirch Sta**	**1.42**	**194**	P	P	13 57 55.8	-0.3
MOVZ	**Moawhango**	**1.43**	**50**	⇑PN	P	13 57 55.3	-0.9
MOVZ				SN	S	13 58 14.4	-0.4
MOVZ	**Moawhango**	**1.43**	**50**	P	P	13 57 55.3	-0.8
WPVZ	**Whakapapa**	**1.46**	**40**	PN	P	13 57 55.9	-0.7
WPVZ	**Whakapapa**	**1.46**	**40**	P	P	13 57 56.0	-0.6
CNZ	**Chateau**	**1.47**	**40**	PN	P	13 57 56.0	-0.6
CNZ	**Chateau**	**1.47**	**40**	P	P	13 57 56.0	-0.7
TUVZ	**Tukino**	**1.47**	**44**	PN	P	13 57 56.1	-0.6

TUVZ	Tukino	1.47	44	P	P	13 57 56.3	-0.4
QRZ	Quartz Range	1.47	250	⇑PN	P	13 57 55.2	-1.5
QRZ				SN	S	13 58 13.6	-2.2
QRZ	Quartz Range	1.47	250	P	P	13 57 55.2	-1.5
BFZ	Birch Farm	1.49	104	PN	P	13 57 55.8	-1.2
BFZ	Birch Farm	1.49	104	P	P	13 57 55.8	-1.2
NGZ	Ngauruhoe	1.51	40	PN	P	13 57 57.3	+0.1
NGZ	Ngauruhoe	1.51	40	P	P	13 57 56.6	-0.6
TWVZ	Taurewa	1.52	34	PN	P	13 57 56.5	-0.8
TWVZ	Taurewa	1.52	34	P	P	13 57 56.8	-0.5
WTVZ	West Tongariro	1.55	39	PN	P	13 57 56.8	-0.9
WTVZ	West Tongariro	1.55	39	P	P	13 57 57.2	-0.5
MGZ	Maungaku	1.62	35	PN	P	13 57 57.9	-0.7
MGZ	Maungaku	1.62	35	P	P	13 57 57.9	-0.7
KATZ	Kakaramea	1.71	38	PN	P	13 57 59.1	-0.7
KATZ	Kakaramea	1.71	38	P	P	13 57 59.6	-0.2
THZ	Tophouse	1.80	217	PN	P	13 58 00.1	-0.9
THZ				SN	S	13 58 22.5	-0.5
THZ	Tophouse	1.80	217	*e*P	P	13 58 00.2	-0.7
RATZ	Rangitukua	1.83	37	PN	P	13 58 01.5	+0.1
HIZ	Hauiti	1.86	12	⇓PN	P	13 58 00.9	-0.9
HIZ				SN	S	13 58 23.2	-1.3
HIZ	Hauiti	1.86	12	P	P	13 58 00.9	-0.9
PWZ	Pawanui	1.95	82	PN	P	13 58 01.1	-1.9
BKZ	Black Stump Fm	2.02	55	PN	P	13 58 01.9	-2.0
BKZ				SN	S	13 58 27.3	-1.0
BKZ	Black Stump Fm	2.02	55	*e*P	P	13 58 02.1	-1.9
KHZ	Kahutara	2.17	196	PN	P	13 58 04.9	-1.1
KHZ	Kahutara	2.17	196	P	P	13 58 04.9	-1.0
DSZ	Denniston Nort	2.38	233	⇑PN	P	13 58 07.2	-1.8
DSZ	Denniston Nort	2.38	233	P	P	13 58 07.2	-1.8
TOZ	Tahuroa Road	2.75	19	SN	S	13 58 44.7	-1.7
KNZ	Kokohu	2.88	64	PN	P	13 58 12.2	-3.7
KNZ	Kokohu	2.88	64	*e*P	P	13 58 12.2	-3.7
LTZ	Lake Taylor	2.90	212	PN	P	13 58 13.5	-2.7
LTZ	Lake Taylor	2.90	212	*e*P	P	13 58 13.5	-2.6
MWZ	Matawai	3.17	52	*e*P	P	13 58 17.2	-2.7
MKAZ	Moumakai	3.28	12	PN	P	13 58 19.9	-1.5
MKAZ	Moumakai	3.28	12	P	P	13 58 19.9	-1.5
WTAZ	Waiatarua	3.40	3	PN	P	13 58 21.8	-1.3
WTAZ	Waiatarua	3.40	3	P	P	13 58 21.8	-1.3
OTAZ	Otara	3.41	8	PN	P	13 58 21.8	-1.4
OTAZ	Otara	3.41	8	P	P	13 58 21.9	-1.3
CRLZ	Canterbury Las	3.48	201	PN	P	13 58 21.1	-3.1
CRLZ				SN	S	13 58 58.4	-6.1
CRLZ	Canterbury Las	3.48	201	*e*P	P	13 58 21.1	-3.1
KAAZ	Kauri Point	3.52	5	P	P	13 58 23.6	-1.1
MTAZ	Motutapu	3.57	7	PN	P	13 58 23.7	-1.7
MTAZ	Motutapu	3.57	7	P	P	13 58 23.7	-1.7
MQZ	McQueen's Vall	3.60	200	PN	P	13 58 21.5	-4.2
MQZ				SN	S	13 58 59.2	-8.1
MQZ	McQueen's Vall	3.60	200	*e*P	P	13 58 21.8	-4.0
KUZ	Kuaotunu	3.74	17	PN	P	13 58 25.7	-2.0
KUZ	Kuaotunu	3.74	17	*e*P	P	13 58 25.8	-1.9
PUZ	Puketiti	3.79	55	SN	S	13 59 06.3	-5.7
WCZ	Waipu Caves	4.39	360	PN	P	13 58 35.0	-1.7
WCZ				SN	S	13 59 21.9	-5.0
WCZ	Waipu Caves	4.39	360	*e*P	P	13 58 35.0	-1.7
ODZ	Otahua Downs	5.44	209	PN	P	13 58 47.6	-3.4
ODZ				SN	S	13 59 44.2	-8.8
ODZ	Otahua Downs	5.44	209	*e*P	P	13 58 47.8	-3.2

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*IDC **24** 14:33:31.2±4.7,23.73N×93.45E,$h81^{km}\pm41^{km}$,mb3.6/5, mb1 3.8/6,mb1mx3.5/19,Error ellipse: s-maj=78.1km s-min=16.9km az=66.0*

*NEIC **24** 14:33:32.5±0.9,23.76N×93.59E,$h90^{km}\pm14^{km}$,mb3.6/1, Error ellipse: s-maj=23.8km s-min=7.3km az=45.0*

ISC 24 14:33:30.4±1.2,**23.8N**±0.1×**93.6E**±0.1,**$h87^{km}\pm15^{km}$,n13,** $\sigma 1^{s}$**02**/16,**mb3.7**/6,**Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHL	Shillong	2.34	318	*e*P	P	14 34 07.8	+0.1
SHL				*e*S	S	14 34 34.0	-1.4
CMAR	Chiang Mai Arr	7.30	136	P	P	14 35 15.8	-0.5
	0.7nm,0.3s,baz=312,slow=14,SNR=13						
PKI	Pulchoki	8.28	299	*e*P	P	14 35 30.8	+1.3
	6.4nm,0.4s						
KKN	Kakani	8.47	300	*e*P	P	14 35 32.8	+0.6
	5.6nm,0.2s						
KKN				*e*S	S	14 37 03.7	-3.3
DMN	Daman	8.54	298	*e*P	P	14 35 34.3	+1.3
GKN	Gorkha	9.08	299	*e*P	P	14 35 41.3	+0.9
	10nm,0.3s						
KOLN	Koldanda	9.83	296	*e*P	P	14 35 50.5	-0.1
	4.0nm,0.2s						
KOLN				*e*S	S	14 37 35.8	-4.2
MKAR	Makanchi Array	24.66	341	P	P	14 38 44.9	+0.7
	0.9nm,0.4s,mb3.5,baz=154,slow=10.0,SNR=16						
SONM	Songino Array	26.04	20	P	P	14 38 58.2	+1.0
	0.7nm,0.7s,mb3.2,baz=207,slow=9.7,SNR=2.3						
KURK	Kurchatov	29.26	340	P	P	14 39 25.8	-0.4
	1.3nm,0.9s,mb3.6						
ZAL	Zalesovo	30.80	350	P	P	14 39 39.1	-0.7
	1.3nm,0.4s,mb4.1,baz=228,slow=5.8,SNR=4.8						
WRA	Warramunga Arr	58.89	134	P	P	14 43 22.6	-0.3
	0.7nm,0.6s,mb3.9,baz=322,slow=7.2,SNR=3.7						
ASAR	Alice Springs	61.31	137	P	P	14 43 38.4	-0.9
	0.6nm,0.4s,mb4.0,baz=325,slow=6.6,SNR=3.2						

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*IDC **24** 14:34:11.0±1.0,6.53S×130.37E,mb4.1/5,mb1 4.3/8, mb1mx4.2/13,ML4.1/3,Error ellipse: s-maj=52.4km s-min=17.6km az=65.0*

*NEIC **24** 14:34:16.2±0.6,6.62S×130.21E,$h35^{km}$,mb4.0/3,Error ellipse: s-maj=24.6km s-min=7.4km az=70.0*

ISC 24 14:34:24.8±2.0,**7.15S**±0.09×**129.7E**±0.2,**$h140^{km}$**$\pm19^{km}$, **n16,**$\sigma 1^{s}$**42**/23,**mb3.9**/7,**1C,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	Kakadu	6.11	155	*e*P	P	14 35 58.4	+4.5
	21nm,0.2s						
KAKA				*e*S	S	14 37 04.1	+1.1
FITZ	Fitzroy Crossi	11.60	200	*e*P	P	14 37 07.3	+0.4
	7.0nm,1.4s						
FITZ				*e*S	S	14 39 09.7	-4.4
FITZ	Fitzroy Crossi	11.60	200	Pn	P	14 37 07.0	+0.1
	0.6nm,0.3s,baz=22,slow=9.2,SNR=21						
FITZ				Sn	S	14 39 09.1	-5.0
	3.2nm,0.3s,baz=193,slow=14,SNR=9.2						
WRAB	Tennant Creek	13.48	161	*e*Pn	P	14 37 29.1	-2.3
	7.6nm,0.7s						
WRA	Warramunga Arr	13.48	161	Pn	P	14 37 29.8	-1.6
	1.2nm,0.3s,baz=345,slow=14,SNR=78						
WRA				Sn	S	14 39 51.4	-6.8
	2.6nm,0.3s,baz=338,slow=22,SNR=12						
WB2	Warramunga Arr	13.49	161	⇑*i*P	P	14 37 30.1	-1.3
WB2				*e*S	S	14 39 52.9	-5.4
ASAR	Alice Springs	16.91	167	P	P	14 38 16.7	+2.3
	1.4nm,0.3s,baz=346,slow=12,SNR=110						
ASAR				S	S	14 41 16.2	-0.1
	0.7nm,0.3s,baz=347,slow=25,SNR=8.9						
ASPA	Alice Springs	16.91	167	*e*P	P	14 38 16.7	+2.3
ASPA				*e*S	S	14 41 15.7	-0.6
STKA	Stephens Creek	26.98	157	*e*P	P	14 39 57.5	+2.1
	0.7nm,0.3s,mb3.8						
STKA	Stephens Creek	26.98	157	P	P	14 39 57.8	+2.3
	0.9nm,0.3s,mb3.8,baz=347,slow=9.0,SNR=7.3						
CMAR	Chiang Mai Arr	39.62	310	P	P	14 41 45.3	+0.9
	0.3nm,0.3s,mb3.4,baz=129,slow=5.8,SNR=2.8						
URZ	Urewera	52.76	133	P	P	14 43 26.9	-0.6
	53nm,1.4s,mb5.1,baz=293,slow=13,SNR=2.2						
SONM	Songino Array	58.49	342	P	P	14 44 06.2	-2.3
	0.3nm,0.4s,mb3.5,baz=141,slow=9.2,SNR=2.3						
MKAR	Makanchi Array	68.20	327	P	P	14 45 12.7	+0.5
	1.0nm,0.3s,mb4.0,baz=116,slow=7.8,SNR=27						
KURK	Kurchatov	72.50	329	*e*P	P	14 45 37.7	-0.3
	1.6nm,0.8s,mb3.8						
ZRNK	Zerenda	78.74	327	*e*P	P	14 46 13.6	+0.4
	0.8nm,0.3s,mb3.8						

MAN 24 14:38:46.0,11.00N×124.80E,$h1^{km}$,mb4.1,ML2.9,MS2.7, Leyte

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLP	Palo	0.24	46	*e*P	Pg	14 38 51.4	+0.7
PLP				*i* S	Sg	14 38 53.4	-0.6
MSLP	Maasin	0.86	176	*e*P	Pg	14 39 03.0	-0.2
MSLP				*e*S	Sg	14 39 18.1	+3.6
BESP	Borongan	0.86	46	*e*P	Pg	14 38 59.1	-4.1
CNP	Catarman	1.51	355	*e*P	Pn	14 39 12.8	-1.4
TBP	Tagbilaran	1.59	216	*e*P	Pn	14 39 15.9	+0.5
TBP				*e*S	Sb	14 39 25.9	-11

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*IDC **24** 14:43:09.7±0.6,28.68N×112.88W,mb4.8/23,mb1 4.9/27, mb1mx4.9/28,ML4.1/4,MS5.7/26,Ms1 5.7/26, ms1mx5.7/28,Error ellipse: s-maj=14.9km s-min=9.5km az=34.0*

*MOS **24** 14:43:10.2±1.2,28.65N×112.71W,$h10^{km}$,mb5.7/27, MS6.0/17,Error ellipse: s-maj=7.1km s-min=3.8km az=92.8*

*BJI **24** 14:43:11.3,28.60N×112.70W,$h10^{km}$,mB5.9,mb5.3, Ms5.9,Msz5.7*

*HRVD **24** 14:43:11.4±0.1,28.82N×112.99W,$h12^{km}$,MW5.9/76, Centroid moment Tensor Solution. LP body waves: s70,c142;Mantle waves: s76,c171; Half duration: $2^{s}1$ Moment tensor: Scale 10^{18}Nm; M_{rr}-0.05±.01; $M_{\theta\theta}$-0.63±.01; $M_{\phi\phi}$0.68±.01; $M_{r\theta}$0.11±.02; $M_{\theta\phi}$-0.41±.01; $M_{\phi r}$-0.09±.02; Best double couple: M_0.78×10^{18} NP1: ϕ_s209°,δ80°,λ1°. NP2:ϕ_s119°,δ89°,λ170°. Principal axes: T .81, Plg7°, Azm73°; N -.06, Plg80°, Azm296°; P -.75, Plg7°, Azm164°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*SYO **24** 14:43:11.7,28.58N×112.71W,$h10^{km}$,MB5.6,MS5.6*

*ECX **24** 14:43:11.5±1.0,28.75N×112.81W,$h8^{km}$,ML5.3*

*NEIC **24** 14:43:11.4±0.2,28.57N×112.73W,$h10^{km}$,mb5.5/100, ME6.1,MS5.6/94,MW5.9,Error ellipse: s-maj=4.4km s-min=2.8km az=44.0 Broadband fault plane solution: P waves. NP1:ϕ_s30°,δ85°,λ-20°. NP2:ϕ_s122°,δ70°,λ-175°. Principal axes: T Plg10°, Azm78°; N Plg0°, Azm0°; P Plg18°, Azm344°; Moment Tensor Solution. s14 Moment tensor: Scale 10^{17} Nm; M_{rr}-1.08; $M_{\theta\theta}$-5.84; $M_{\phi\phi}$6.93; $M_{r\theta}$-2.17; $M_{\theta\phi}$-2.24; $M_{\phi r}$-0.95; Best double couple: $M_0$7.2×10^{17} NP1:ϕ_s127°,δ72°,λ-168°. NP2:ϕ_s33°, δ78°,λ-18°. Principal axes: T 7.35, Plg4°, Azm81°; N -.25, Plg69°, Azm182°; P -7.1, Plg21°, Azm349°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt along the coast of Sonora and at Hermosillo, Mexico.

*MEX **24** 14:43:18.9±3.9,28.44N×112.81W,$h35^{km}\pm106^{km}$,MD5.5*

ISC 24 14:43:09.5±0.8,**28.69N**±0.03×**112.69W**±0.03,**$h2^{km}$**$\pm4^{km}$**,** **$h23^{km}$**$\pm2.4^{km}$**:pP-P,n523,**$\sigma 1^{s}$**16**/439,**mb5.4**/121,**MS5.7**/122, **17C-11D,Gulf of California**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPX	San Pedro Mart	3.37	315	*e*PN	Pn	14 43 59.5	-4.7
SPX				*e*S	Sn	14 44 37.8	-7.5
TUC	Tucson	3.97	24	*e*Pn	Pn	14 44 10.8	-1.9
TUC				*e*Pg	Pg	14 44 28.6	-0.1
TUC				*e*Sg	Sg	14 45 20.4	-1.2
CPBX	Cerro Prieto	4.35	329	*e*P	Pn	14 44 14.6	-3.5
CPBX				⇓*e*		14 46 22.7	
	comp=E,8μm,1.2s						
CPBX				⇓*e*		14 46 24.3	
	comp=N,6μm,0.7s						
ECNX	Esteban Cantu	4.50	312	*e*P	Pn	14 44 18.7	-1.5
PGX	Piedras Gordas	4.60	316	*e*P	Pn	14 44 18.1	-3.6
PBX	Punta Banda	4.63	312	*e*P	Pn	14 44 18.5	-3.6
ENX	Ensenada	4.69	314	*e*P	Pn	14 44 19.4	-3.5
RMX	La Rumorosa	4.88	324	*e*P	Pn	14 44 21.8	-3.8
CBX	Cerro Bola	4.98	318	*e*P	Pn	14 44 23.1	-4.0
CBX				*e*S	Sn	14 45 16.4	-10
LPIG	La Paz	5.04	154	*e*P	Pn	14 44 28.3	+0.5
LPIG				*i* S	Sn	14 45 23.5	-4.0
LPIG	La Paz	5.04	154	*e*P	Pn	14 44 29.1	+1.3
LPIG				*i* S	Pg	14 44 49.0	-1.1
BAR	Barrett	5.26	320	*e*Pn	Pn	14 44 26.0	-4.9
BAR				*e*		14 44 43.8	
BAR				*e*Pg	Pg	14 44 53.1	-1.3
PFO	Pinyon Flat Ob	5.88	328	*e*P	Pn	14 44 35.2	-4.4
PFO				pmax	pmax		
	comp=Z,38nm,1.0s						
PFO	Pinyon Flat Ob	5.88	328	*e*Pn	Pn	14 44 35.2	-4.4
	comp=Z,38nm,0.9s						
PFO				*e*Pg	Pg	14 45 03.3	-3.4
PFO				*e*Sg	Sg	14 46 19.6	-5.4
LDFC	Landfair	6.70	343	*e*Pn	Pn	14 44 48.5	-2.7
LDFC				*e*Sg	Sg	14 46 47.8	-4.6
MWC	Mount Wilson	7.18	322	P	Pn	14 44 57.9	-0.1
MWC	Mount Wilson	7.18	322	*e*Pn	Pn	14 44 56.9	-1.1
NEN	Nelson	7.18	346	*e*Pn	Pn	14 44 54.3	-3.8
LENM	Lemitar	7.33	40	*e*Pn	Pn	14 44 58.3	-1.7
BNM	Barren Site	7.51	42	*e*Pn	Pn	14 45 01.2	-1.5
LPM	Los Pinos Moun	7.63	41	*e*Pn	Pn	14 45 02.5	-1.8
LPM				*e*Pg	Pg	14 45 38.5	-3.2
LPM				*e*Sn	Sn	14 46 33.4	+1.1
LPM				*e*Sg	Sg	14 47 18.3	-5.1
MAIG	Mazatlaan	7.86	133	*e*P	Pn	14 45 10.4	+2.9
MAIG				*i* S	Sn	14 46 36.6	-1.4
MAIG	Mazatlaan	7.86	133	*e*P	Pn	14 45 03.7	-3.8
MAIG				*i* S	Sn	14 46 47.4	+9.3
LTX	Lajitas	7.93	83	*e*Pn	Pn	14 45 08.2	-0.3
TXAR	Lajitas Array	7.93	83	Pn	Pn	14 45 09.4	+0.9
	comp=Z,35nm,0.3s,baz=260,slow=14,SNR=391						
TXAR				Sn	Sn	14 46 40.4	+0.6
	baz=258,slow=12,SNR=2.4						
TXAR				Lg		14 47 27.0	
	comp=Z,19nm,0.3s,baz=341,slow=26,SNR=6.6						
TXAR				LR	LR	14 48 32.7	
	comp=Z,72μm,19.9s,baz=265,slow=40						
GDL2	Guadalupe Moun	7.99	62	*e*Pn	Pn	14 45 10.0	+0.6
ANMO	Albuquerque	8.19	39	P	P	14 45 11.0	-1.1
ANMO	Albuquerque	8.19	39	*e*Pn	P	14 45 11.5	-0.6
CLNB	Carlsbad	8.40	63	*e*Pn	P	14 45 16.1	+1.1
DAC	Darwin (Calif)	8.63	333	P	P	14 45 16.7	-1.5
DAC	Darwin (Calif)	8.63	333	*e*Pn	P	14 45 14.7	-3.5
TPNV	Topopah Spring	8.77	341	P	P	14 45 17.8	-2.4
TPNV	Topopah Spring	8.77	341	*e*Pn	P	14 45 17.6	-2.5
ARUT	Antelope Range	9.10	356	P	P	14 45 24.5	-0.3
ARUT	Antelope Range	9.10	356	*e*Pn	P	14 45 24.3	-0.5
MSU	Marysvale	9.81	2	P	P	14 45 36.2	+1.6
MSU	Marysvale	9.81	2	*e*Pn	P	14 45 36.0	+1.4
MTUM	Tungsten Hills	9.95	332	*e*Pn	P	14 45 36.3	-0.2
PV01	Paradox Valley	10.03	19	*e*Pn	P	14 45 37.4	-0.3
TPH	Tonopah	10.10	339	P	P	14 45 37.6	-1.0
TPH				pmax	pmax		
	comp=Z,150nm,1.1s						
TPH	Tonopah	10.10	339	⇓*e*Pn	P	14 45 36.3	-2.3
PV10	Paradox Valley	10.13	17	*e*Pn	P	14 45 37.3	-1.7
OMM	Old Mammoth Mi	10.35	331	*e*Pn	P	14 45 42.1	0.0
RW3	Ridgway	10.41	22	P	P	14 45 44.8	+1.9
RW3	Ridgway	10.41	22	*e*Pn	P	14 45 44.4	+1.6
LRV	Little Rabbit	10.43	320	*e*Pn	P	14 45 41.9	-1.2
SRU	San Rafael	10.55	9	P	P	14 45 45.0	+0.2
SRU	San Rafael	10.55	9	*e*Pn	P	14 45 44.8	0.0
MNV	Mina	10.73	336	P	P	14 45 46.9	-0.4
MNV				pmax	pmax		
	comp=Z,240nm,1.3s						
MNV	Mina	10.73	336	*e*Pn	P	14 45 46.5	-0.8
NVAR	Mina Array Bea	10.79	336	Pn	P	14 45 47.5	-0.5
	comp=Z,0.5nm,0.3s,baz=151,slow=13,SNR=59						
NVAR				Lg		14 48 59.3	
	comp=Z,0.2nm,0.3s,baz=145,slow=22,SNR=2.5						
NVAR				LR	LR	14 49 37.2	
	comp=Z,35μm,19.9s,baz=195,slow=36						
SDCO	Great Sand Dun	10.85	32	*e*Pn	P	14 45 50.9	+2.0
SAO	San Andreas Ge	10.92	320	P	P	14 45 48.8	-1.0
SAO				pmax	pmax		
	comp=Z,120nm,1.7s						
SAO	San Andreas Ge	10.92	320	*e*Pn	P	14 45 45.1	-4.7
NLU	North Lily Min	11.25	2	*e*Pn	P	14 45 56.8	+2.4
CMB	Columbia Colle	11.32	327	P	P	14 45 54.1	-1.2
CMB				pmax	pmax		
	comp=Z,140nm,1.4s						
CMB	Columbia Colle	11.32	327	*e*Pn	P	14 45 53.3	-2.0
MPU	Maple Canyon	11.34	4	*e*Pn	P	14 45 56.8	+1.3
JCT	Junction City	11.36	78	P	P	14 45 57.8	+1.9
JCT				pmax	pmax		
	comp=Z,5.0nm,1.1s						
JCT	Junction City	11.36	78	⇓*e*Pn	P	14 45 56.2	+0.4
DUG	Dugway	11.48	360	P	P	14 45 59.6	+2.1
DUG				pmax	pmax		
	comp=Z,580nm,1.4s						
DUG	Dugway	11.48	360	*e*Pn	P	14 45 58.5	+1.0
CJM	Chamela	11.50	141	*e*P	P	14 45 60.0	+2.2
CJM	Chamela	11.50	141	*e*P	P	14 45 59.9	+2.1
DAU	Daniels Canyon	11.76	5	P	P	14 46 03.8	+2.6
DAU	Daniels Canyon	11.76	5	*e*Pn	P	14 46 00.7	-0.5
JLU	Jordanelle	11.93	5	*e*Pn	P	14 46 05.2	+1.6
NOQ	North Oquirrh	11.95	2	*e*Pn	P	14 46 05.9	+2.1
LKC	Lake Chabot	11.96	321	*e*Pn	P	14 46 02.7	-1.2
SFJM	Santa Fe	11.98	131	*i* P	P	14 46 07.0	+2.7
CTU	Camp Tracy	12.00	3	*e*Pn	P	14 46 06.0	+1.4
WCN	Washoe City	12.10	333	P	P	14 46 06.7	+0.9
WCN				pmax	pmax		
	comp=Z,360nm,1.5s						
WCN	Washoe City	12.10	333	*e*Pn	P	14 46 05.8	0.0
ELK	Elko	12.21	351	P	P	14 46 05.5	-1.8
ELK				pmax	pmax		
	comp=Z,26nm,0.6s						
ELK	Elko	12.21	351	*e*Pn	P	14 46 06.4	-0.9
CGX	Ciudad Guzman	12.26	135	*e*P	P	14 46 18.0	+10
PAHR	Pah Rah Range	12.31	335	*e*Pn	P	14 46 09.0	+0.4
TCUT	Toone Canyon	12.45	4	*e*Pn	P	14 46 10.9	+0.4
ISCO	Idaho Springs	12.53	26	*e*P	P	14 46 12.8	+1.2
ISCO				pmax	pmax		
	comp=Z,390nm,0.8s						
ISCO	Idaho Springs	12.53	26	*e*Pn	P	14 46 12.8	+1.1
SPUT	South Promonto	12.60	1	*e*Pn	P	14 46 13.2	+0.7
NSHM	Saint Helena R	12.82	322	Pn	P	14 46 14.6	-0.9
BEKR	Beckwourth	12.82	332	*e*Pn	P	14 46 15.2	-0.4
OHCM	Honcut	12.88	328	*e*Pn	P	14 46 15.9	-0.4
HWUT	Hardware Ranch	12.93	4	*e*Pn	P	14 46 18.5	+1.6
HVU	Hansel Valley	13.06	360	P	P	14 46 20.1	+1.3
HVU	Hansel Valley	13.06	360	*e*Pn	P	14 46 19.4	+0.6
WMOK	Wichita Mounta	13.28	59	P	P	14 46 21.7	0.0
WMOK				pmax	pmax		
	comp=Z,160nm,1.7s						
WMOK	Wichita Mounta	13.28	59	⇑*e*Pn	P	14 46 21.7	+0.1
HOPS	Hopland	13.41	323	*e*Pn	P	14 46 21.9	-1.4
MOIG	Morelia	13.79	128	*i* P	P	14 46 30.8	+2.3
MOIG				*i* S	S	14 49 03.3	-0.1
MOIG	Morelia	13.79	128	*i* P	P	14 46 34.4	+5.9
MOIG				*i* S	Sx	14 48 38.2	
AHID	Auburn Hatcher	14.11	5	*e*Pn	P	14 46 33.9	+1.4
BW06	Boulder Array	14.28	9	*e*Pn	P	14 46 34.7	0.0
PDAR	Pinedale Array	14.28	9	Pn	P	14 46 35.0	+0.3
	comp=Z,0.1nm,0.3s,baz=188,slow=10,SNR=35						
PDAR				Lg		14 50 46.3	
	comp=Z,0.3nm,0.3s,baz=176,slow=22,SNR=3.9						
PDAR				LR	LR	14 51 54.1	
	comp=Z,5μm,20.9s,baz=199,slow=37						
WDC	Whiskeytown Da	14.36	328	P	P	14 46 36.9	+1.1
WDC				pmax	pmax		
	comp=Z,140nm,1.7s						
WDC	Whiskeytown Da	14.36	328	*e*Pn	P	14 46 35.7	-0.1
WVOR	Wild Horse Val	14.54	342	P	P	14 46 39.1	+0.9
WVOR				pmax	pmax		
	comp=Z,170nm,1.7s						
WVOR	Wild Horse Val	14.54	342	*e*P	P	14 46 38.9	+0.7
MOD	Modoc	14.57	337	*e*P	P	14 46 40.1	+1.5
REDW	Red Top Meadow	14.72	5	*e*P	P	14 46 41.9	+1.4
SNOW	Snow King Moun	14.83	6	*e*P	P	14 46 43.7	+1.8
TPAW	Teton Pass	14.84	5	*e*P	P	14 46 44.1	+2.0
WUWY	Wally Ulrich	14.91	6	*e*P	P	14 46 44.6	+1.7
HLID	Hailey	14.91	355	*e*P	P	14 46 44.9	+1.9
ZIIG	Zihuatanejo	15.09	135	*e*P	P	14 46 50.8	+5.2
MOOW	Moose Ponds	15.11	5	*e*P	P	14 46 47.3	+1.7
KHMM	Horse Mountain	15.15	326	*e*P	P	14 46 47.3	+1.0
IMW	Indian Meadow	15.25	5	*e*P	P	14 46 49.7	+2.3
YBH	Yreka Blue Hor	15.36	331	Pn	P	14 46 49.5	+0.6
	comp=Z,0.1nm,0.3s,baz=151,slow=11,SNR=15						
YBH	Yreka Blue Hor	15.36	331	P	P	14 46 49.5	+0.6
YBH				pmax	pmax		
	comp=Z,14nm,1.0s						
YBH	Yreka Blue Hor	15.36	331	*e*P	P	14 46 49.2	+0.2
	comp=Z,14nm,1.0s						
UNM	Universidad Na	15.45	124	*i* P	P	14 46 56.0	+5.8
IIZ	Mezontepec	15.50	125	*e*P	P	14 46 59.0	+8.2
KRMB	Red Mountain	15.74	327	*e*P	P	14 46 54.3	+0.5
YAIG	Yautepec	15.83	125	*i* P	P	14 47 02.4	+7.2
NATX	Nacogdoches	15.88	74	*e*P	P	14 46 55.7	0.0
	comp=Z,751nm,1.4s						
YMR	Madison River	16.01	4	*e*P	P	14 46 59.7	+2.4
PPM	Popocatepetl	16.02	124	*i* P	P	14 47 01.0	+3.4
MCMT	McKenzie Canyo	16.11	360	P	P	14 47 01.5	+2.9
QLMT	Earthquake Lak	16.15	3	*e*P	P	14 47 01.7	+2.7
HUMO	Hull Mountain	16.19	332	*e*P	P	14 47 00.4	+0.9
	comp=Z,70nm,1.4s						
KBO	Bosley Butte	16.43	328	*e*P	P	14 47 03.7	+1.1
RSSD	Black Hills	16.89	22	P	P	14 47 10.5	+2.0
RSSD				pmax	pmax		
	comp=Z,120nm,1.2s						
RSSD	Black Hills	16.89	22	*e*P	P	14 47 10.2	+1.7
	comp=Z,124nm,1.2s						
KSU1	Kansas State U	16.89	48	*e*P	P	14 47 08.5	0.0
IISM	Ciudad Serdan	17.00	121	*e*P	P	14 47 15.0	+5.0
KEBM	Edson Butte	17.00	329	*e*P	P	14 47 11.8	+1.9
HSO	Harness Mounta	17.01	333	P	P	14 47 12.2	+2.3
GCMT	Greycliff	17.24	7	*e*P	P	14 47 14.3	+1.4
MIAR	Mount Ida	17.29	65	⇑*e*P	P	14 47 12.0	-1.6
	comp=Z,204nm,1.3s						
LNOR	Lincton Mounta	17.71	347	P	P	14 47 20.7	+1.9
LNOR	Lincton Mounta	17.71	347	*e*P	P	14 47 20.1	+1.3
SSOR	Sweet Springs	17.91	337	P	P	14 47 22.3	+1.0
SSOR	Sweet Springs	17.91	337	*e*P	P	14 47 21.9	+0.6
VGB	Gordon Butte	17.98	341	P	P	14 47 22.8	+0.7
VGB	Gordon Butte	17.98	341	*e*P	P	14 47 22.1	0.0
COR	Corvallis	17.98	335	P	P	14 47 26.0	+3.8
COR				pmax	pmax		
	comp=Z,120nm,1.2s						
COR	Corvallis	17.98	335	*e*P	P	14 47 23.5	+1.3
	comp=Z,122nm,1.2s						
HRY	Holter Researc	18.01	2	*e*P	P	14 47 24.1	+1.7
MSO	Missoula	18.14	357	*e*P	P	14 47 25.5	+1.4
	comp=Z,138nm,1.3s						
CHMT	Chamberlain Mo	18.20	359	*e*P	P	14 47 26.2	+1.3
HAWA	Hanford	18.48	345	*e*P	P	14 47 28.4	+0.1
	comp=Z,63nm,1.9s						
OXX	Oaxaca	18.68	125	*i* P	P	14 47 34.0	+3.1
EVV	El Vigia	18.85	119	*e*P	P	14 47 35.0	+1.9
SHW	Mount Saint He	19.02	339	*e*P	P	14 47 40.5	+5.6
LON	Longmire	19.40	341	P	P	14 47 38.6	-0.7
LON	Longmire	19.40	341	*e*P	P	14 47 38.5	-0.9
BMW	Boistfort Moun	19.59	338	P	P	14 47 41.4	-0.2
BMW	Boistfort Moun	19.59	338	*e*P	P	14 47 41.1	-0.4
DPW	Davenport	19.63	349	P	P	14 47 41.6	-0.4
DPW	Davenport	19.63	349	*e*P	P	14 47 41.1	-0.8
TUIG	Tuzandepetl	19.81	118	*e*P	P	14 47 44.0	-0.3
TUIG	Tuzandepetl	19.81	118	*i* P	P	14 47 44.0	-0.3
NEW	Newport	19.85	351	Pn	P	14 47 44.5	0.0
	comp=Z,0.4nm,0.3s,baz=168,slow=12,SNR=52						
NEW				LR	LR	14 55 25.7	
	comp=Z,16μm,19.0s,baz=178,slow=37						
NEW	Newport	19.85	351	*e*P	P	14 47 43.8	-0.6
NEW				pmax	pmax		
	comp=Z,110nm,1.0s						
NEW	Newport	19.85	351	*e*P	P	14 47 43.8	-0.6
	comp=Z,106nm,0.9s						
HBAR	Harrisburg	19.86	64	*e*P	P	14 47 44.6	0.0
RMW	Rattlesnake Mo	20.04	342	P	P	14 47 48.0	+1.4
RMW	Rattlesnake Mo	20.04	342	*e*P	P	14 47 46.5	-0.1
CCM	Cathedral Cave	20.16	57	P	P	14 47 46.8	-1.1
CCM				pmax	pmax		
	comp=Z,350nm,1.3s						
CCM	Cathedral Cave	20.16	57	*e*P	P	14 47 46.6	-1.3
	comp=Z,352nm,1.3s						
CCM				LR	LR		
	comp=Z,8μm,20.0s,MS5.1						
NLW	Nelson Butte	20.25	345	*e*P	P	14 47 48.2	-0.5
GNW	Green Mountain	20.43	340	*e*P	P	14 47 49.1	-1.5
GNAR	Gosnell	20.46	63	*e*P	P	14 47 50.9	-0.1
OXF	Oxford	20.64	68	P	P	14 47 52.9	0.0
OXF				pmax	pmax		
	comp=Z,1μm,1.1s						
OXF	Oxford	20.64	68	⇑*e*P	P	14 47 52.7	-0.3
	comp=Z,1μm,1.1s						
OXF				LR	LR		
	comp=Z,8μm,19.0s,MS5.1						
FVM	French Village	20.74	58	P	P	14 47 52.8	-1.1
FVM				pmax	pmax		
	comp=Z,300nm,1.4s						
FVM	French Village	20.74	58	⇑*e*P	P	14 47 52.7	-1.2
	comp=Z,300nm,1.4s						
DGMT	Dagmar	20.82	16	*e*P	P	14 47 53.5	-1.1
	comp=Z,799nm,1.6s						
DGMT				LR	LR		

	comp=Z,14µm,22.0s,MS5.3						
RPW	**Rockport**	**20.88**	**343**	P	**P**	**14 47 55.4**	**+0.1**
HALT	**Halls**	**20.98**	**64**	*e*P	**P**	**14 47 56.5**	**+0.1**
OCWA	**Octopus Mounta**	**21.02**	**338**	*e*P	**P**	**14 47 56.7**	**0.0**
	comp=Z,692nm,1.5s,mb5.8						
OCWA				LR	LR		
	comp=Z,42µm,19.0s,MS5.8						
GLAT	**Glass**	**21.11**	**63**	*e*P	**P**	**14 47 58.2**	**+0.5**
SLM	**Saint Louis**	**21.11**	**56**	P	**P**	**14 47 56.5**	**-1.2**
SLM				pmax	pmax		
	comp=Z,390nm,1.1s,mb5.7						
SLM	**Saint Louis**	**21.11**	**56**	*e*P	**P**	**14 47 56.6**	**-1.1**
	comp=Z,393nm,1.1s,mb5.7						
UTMT	**University of**	**21.46**	**63**	*e*P	**P**	**14 48 01.4**	**+0.2**
	comp=Z,2µm,1.2s,mb6.2						
PGC	**Sidney**	**21.59**	**340**	*e*P	**P**	**14 48 01.6**	**-0.9**
	comp=Z,166nm,0.9s,mb5.5						
WVT	**Waverly**	**22.22**	**64**	P	**P**	**14 48 09.9**	**+1.0**
WVT				pmax	pmax		
	comp=Z,720nm,1.1s,mb6.0						
WVT	**Waverly**	**22.22**	**64⇑**	*e*P	**P**	**14 48 09.7**	**+0.8**
	comp=Z,723nm,1.1s,mb6.0						
WVT				LR	LR		
	comp=Z,30µm,21.0s,MS5.7						
LRAL	**Lakeview Retre**	**22.45**	**72**	*e*P	**P**	**14 48 11.8**	**+0.5**
	comp=Z,337nm,1.4s,mb5.6						
LRAL				LR	LR		
	comp=Z,54µm,20.0s,MS6.0						
USIN	**University of**	**22.81**	**60**	*e*P	**P**	**14 48 15.0**	**+0.3**
	comp=Z,380nm,1.3s,mb5.7						
JFWS	**Jewell Farm**	**22.99**	**46**	P	**P**	**14 48 16.6**	**+0.2**
JFWS				pmax	pmax		
	comp=Z,510nm,1.2s,mb5.8						
JFWS	**Jewell Farm**	**22.99**	**46**	*e*P	**P**	**14 48 16.5**	**+0.1**
	comp=Z,506nm,1.3s,mb5.8						
JFWS				LR	LR		
	comp=Z,36µm,22.0s,MS5.8						
SWET	**Sewanee**	**23.58**	**67⇑**	*e*P	**P**	**14 48 23.3**	**+1.1**
TEIG	**Tepich**	**23.73**	**105**	P	**P**	**14 48 26.3**	**+2.5**
	comp=Z,0.0nm,0.4s,baz=118,slow=24,SNR=7.6						
WCI	**Wyandotte Cave**	**23.92**	**60**	*e*P	**P**	**14 48 19.4**	**-6.1**
WCI				pmax	pmax		
	comp=Z,13nm,0.7s,mb4.5						
WCI	**Wyandotte Cave**	**23.92**	**60**	*e*P	**P**	**14 48 26.3**	**+0.8**
	comp=Z,13nm,0.7s,mb4.5						
WCI				LR	LR		
	comp=Z,9µm,20.0s,MS5.3						
BLO	**Bloomington**	**24.02**	**57**	*e*P	**P**	**14 48 28.2**	**+1.7**
BLO				pmax	pmax		
	comp=Z,260nm,1.2s,mb5.5						
BLO	**Bloomington**	**24.02**	**57**	*e*P	**P**	**14 48 27.1**	**+0.7**
	comp=Z,259nm,1.2s,mb5.5						
EDM	**Edmonton**	**24.52**	**359**	P	**P**	**14 48 31.3**	**+0.1**
EDM	**Edmonton**	**24.52**	**359**	*e*P	**P**	**14 48 31.4**	**+0.2**
CPCT	**Cooper Cave**	**24.75**	**67**	*e*P	**P**	**14 48 37.2**	**+3.6**
MYNC	**Murphy**	**25.02**	**68**	P	**P**	**14 48 36.8**	**+0.6**
MYNC				pmax	pmax		
	comp=Z,760nm,1.4s,mb6.0						
MYNC	**Murphy**	**25.02**	**68**	*e*P	**P**	**14 48 36.6**	**+0.4**
	comp=Z,757nm,1.5s,mb6.0						
MYNC				LR	LR		
	comp=Z,28µm,21.0s,MS5.8						
ULM	**Lac du Bonnet**	**25.03**	**26**	P	**P**	**14 48 35.0**	**-1.2**
	comp=Z,56nm,1.0s,mb5.0,baz=219,slow=10,SNR=25						
ULM				LR	LR	14 59 13.5	
	comp=Z,18µm,19.1s,MS5.6,baz=30,slow=38						
ULM	**Lac du Bonnet**	**25.03**	**26**	*e*P	**P**	**14 48 34.7**	**-1.4**
	comp=Z,96nm,0.9s,mb5.3						
ULM				LR	LR		
	comp=Z,4µm,19.0s,MS5.0						
BBB	**Bella Bella**	**26.14**	**338**	P	**P**	**14 48 48.7**	**+2.3**
	comp=Z,36nm,1.1s,mb4.8,baz=145,slow=12,SNR=2.7						
BBB				LR	LR	14 59 02.5	
	comp=Z,27µm,18.7s,MS5.8,baz=165,slow=36						
BBB	**Bella Bella**	**26.14**	**338**	P	**P**	**14 48 48.7**	**+2.2**
BBB				LR	LR	14 59 02.5	
ACSO	**Alum Creek Sta**	**26.94**	**57**	*e*P	**P**	**14 48 53.3**	**-0.7**
	comp=Z,440nm,1.3s,mb5.8						
ACSO				LR	LR		
	comp=Z,30µm,19.0s,MS5.9						
FFC	**Flin Flon**	**27.16**	**14**	*e*P	**P**	**14 48 53.8**	**-2.0**
	comp=Z,34nm,0.9s,mb4.9						
FFC				LR	LR		
	comp=Z,8µm,19.0s,MS5.3						
DWPF	**Disney**	**27.46**	**84**	P	**P**	**14 48 59.3**	**+0.4**
	comp=Z,149nm,1.1s,mb5.4						
DWPF				LR	LR		
	comp=Z,4µm,21.0s,MS5.0						
PWV	**Princeton**	**27.80**	**64**	*e*P	**P**	**14 49 00.9**	**-0.9**
FWV	**Forest Hill**	**28.02**	**63**	*e*P	**P**	**14 49 03.4**	**-0.5**
NHSC	**New Hope**	**28.18**	**73**	*e*P	**P**	**14 49 05.1**	**-0.2**
	comp=Z,459nm,1.5s,mb5.9						
NHSC				LR	LR		
	comp=Z,31µm,20.0s,MS5.9						
BLA	**Blacksburg**	**28.28**	**64**	P	**P**	**14 49 06.1**	**-0.1**
BLA				pmax	pmax		
	comp=Z,290nm,1.2s,mb5.8						
BLA	**Blacksburg**	**28.28**	**64**	*e*P	**P**	**14 49 05.8**	**-0.4**
	comp=Z,294nm,1.3s,mb5.8						
BLA				LR	LR		
	comp=Z,24µm,20.0s,MS5.8						
MCWV	**Mont Chateau**	**29.14**	**59**	*e*P	**P**	**14 49 13.2**	**-0.7**
	comp=Z,78nm,1.0s,mb5.4						
MCWV				LR	LR		
	comp=Z,38µm,19.0s,MS6.0						
ALLY	**Alegheny Colle**	**29.40**	**55**	*e*P	**P**	**14 49 15.3**	**-0.9**
CBN	**Corbin**	**30.80**	**63**	*e*P	**P**	**14 49 27.5**	**-1.2**
	comp=Z,228nm,1.2s,mb5.9						
CBN				LR	LR		
	comp=Z,44µm,19.0s,MS6.1						
SSPA	**Standing Stone**	**30.81**	**58**	*e*P	**P**	**14 49 27.4**	**-1.4**
	comp=Z,181nm,1.3s,mb5.7						
SSPA				LR	LR		
	comp=Z,7µm,20.0s,MS5.3						
SADO	**Sadowa**	**31.05**	**50**	LR	LR	15 02 52.1	
	comp=Z,32µm,18.3s,MS6.0,baz=262,slow=38						
GENY	**Geneseo**	**31.36**	**54**	*e*P	**P**	**14 49 32.5**	**-1.1**
JTS	**JuntasAbangare**	**31.78**	**120**	P	**P**	**14 49 38.3**	**+0.8**
	comp=Z,7.8nm,0.7s,mb4.7,baz=344,slow=20,SNR=7.0						
JTS				LR	LR	15 02 11.6	
	comp=Z,16µm,21.7s,MS5.7,baz=312,slow=36						
JTS	**JuntasAbangare**	**31.78**	**120**	*e*P	**P**	**14 49 36.0**	**-1.6**
	comp=Z,75nm,1.4s,mb5.3						
JTS				LR	LR		
	comp=Z,4µm,21.0s,MS5.1						
DLBC	**Dease Lake**	**32.08**	**343**	*e*P	**P**	**14 49 39.9**	**+0.1**
SIT	**Sitka**	**32.54**	**337**	PFAKE		14 50 00.0	+16
SIT				LR	LR		
	comp=Z,13µm,19.0s,MS5.6						
BINY	**Binghamton**	**32.54**	**56⇑**	*e*P	**P**	**14 49 43.3**	**-0.7**
	comp=Z,282nm,1.3s,mb6.0						
BINY				LR	LR		
	comp=Z,36µm,19.0s,MS6.1						
FCC	**Fort Churchill**	**32.70**	**18**	P	**P**	**14 49 43.5**	**-1.6**
FCC				pmax	pmax		
	comp=Z,81nm,1.2s,mb5.5						
FCC	**Fort Churchill**	**32.70**	**18**	*e*P	**P**	**14 49 42.9**	**-2.3**
	comp=Z,81nm,1.2s,mb5.5						
BRNJ	**Basking Ridge**	**33.31**	**59**	*e*P	**P**	**14 49 50.1**	**-0.5**
CPNY	**Central Park**	**33.78**	**59**	*e*P	**P**	**14 49 53.5**	**-1.2**
PTN	**Potsdam (NY)**	**33.82**	**52**	P	**P**	**14 49 55.7**	**+0.7**
YKA	**Yellowknife Ar**	**33.84**	**358**	P	**P**	**14 49 53.5**	**-1.5**
	comp=Z,1.8nm,0.8s,baz=176,slow=8.1,SNR=4.4						
YKA				LR	LR	15 04 25.7	
	comp=Z,15µm,20.8s,MS5.7,baz=170,slow=38						
YKA	**Yellowknife Ar**	**33.84**	**358**	P	**P**	**14 49 53.5**	**-1.5**
YKA				LR	LR	15 04 25.7	
PAL	**Palisades**	**33.85**	**58**	P	**P**	**14 49 55.5**	**+0.2**
PAL				pmax	pmax		
	comp=Z,130nm,1.3s,mb5.7						
PAL	**Palisades**	**33.85**	**58**	*e*P	**P**	**14 49 54.8**	**-0.6**
	comp=Z,132nm,1.3s,mb5.7						
YKW3	**Yellowknife Ar**	**33.90**	**358**	*e*P	**P**	**14 49 55.8**	**+0.3**
MSNY	**Massena**	**34.01**	**51**	*e*P	**P**	**14 49 56.2**	**-0.5**
LOZ	**Lake Ozonia**	**34.11**	**52**	*e*P	**P**	**14 49 56.4**	**-1.1**
NCB	**Newcomb**	**34.20**	**53**	*e*P	**P**	**14 49 57.5**	**-0.9**
	comp=Z,183nm,1.5s,mb5.8						
NCB				LR	LR		
	comp=Z,21µm,21.0s,MS5.8						
ACCN	**Adirondack Com**	**34.46**	**54**	*e*P	**P**	**14 49 59.4**	**-1.2**
QUA2	**Belchertown**	**35.20**	**56**	*e*P	**P**	**14 50 07.9**	**+0.9**
	comp=Z,150nm,1.1s,mb5.8						
HNH	**Hanover**	**35.51**	**54**	*e*P	**P**	**14 50 09.1**	**-0.5**
	comp=Z,2.5nm,1.1s						
BRYW	**Bryant College**	**35.75**	**57**	*e*P	**P**	**14 50 10.6**	**-1.0**
	comp=Z,149nm,1.3s,mb5.8						
HRV	**Harvard--Oak R**	**35.82**	**56**	P	**P**	**14 50 11.3**	**-0.9**
HRV				pmax	pmax		
	comp=Z,180nm,1.2s,mb5.9						
HRV	**Harvard--Oak R**	**35.82**	**56⇑**	*e*P	**P**	**14 50 11.9**	**-0.3**
	comp=Z,176nm,1.3s,mb5.8						
FFD	**Franklin Falls**	**35.92**	**55**	*e*P	**P**	**14 50 13.5**	**+0.5**
	comp=Z,8.8nm,0.3s,mb5.2						
WES	**Weston**	**35.98**	**56**	P	**P**	**14 50 13.8**	**+0.3**
WES				pmax	pmax		
	comp=Z,170nm,1.2s,mb5.8						
WES	**Weston**	**35.98**	**56**	*e*P	**P**	**14 50 13.0**	**-0.6**
	comp=Z,166nm,1.3s,mb5.8						
WES				LR	LR		
	comp=Z,44µm,20.0s,MS6.2						
PAYG	**Puerto Ayora**	**36.23**	**140**	PFAKE		14 50 30.0	+14
PAYG				LR	LR		
	comp=Z,5µm,22.0s,MS5.3						
WVL	**Waterville**	**37.53**	**53**	*e*P	**P**	**14 50 27.0**	**+0.5**
	comp=Z,701nm,1.3s,mb6.2						
WVL				LR	LR		
	comp=Z,35µm,21.0s,MS6.1						
EYAK	**Cordova Ski Ar**	**38.83**	**335**	*e*P	**P**	**14 50 37.4**	**+0.2**
PQI	**Presque Isle**	**39.06**	**50**	PFAKE		14 50 50.0	+11
PQI				LR	LR		
	comp=Z,15µm,20.0s,MS5.8						
EMMW	**East Machias**	**39.10**	**53**	*e*P	**P**	**14 50 40.2**	**+0.4**
	comp=Z,757nm,1.2s,mb6.3						
EMMW				LR	LR		
	comp=Z,26µm,19.0s,MS6.1						
DIV	**Divide**	**39.21**	**335**	*e*P	**P**	**14 50 41.8**	**+1.3**
	comp=Z,294nm,1.8s,mb5.7						
DIV				LR	LR		
	comp=Z,20µm,19.0s,MS6.0						
POHA	**Pohakuloa**	**39.90**	**267**	PFAKE		14 51 00.0	+13
POHA				LR	LR		
	comp=Z,9µm,20.0s,MS5.6						
KDAK	**Kodiak Island**	**40.15**	**328**	*e*P	**P**	**14 50 48.1**	**-0.2**
KDAK				LR	LR		
	comp=Z,3µm,19.0s,MS5.2						
SLKM	**Skilak Lake**	**40.56**	**332**	*e*P	**P**	**14 50 54.1**	**+2.5**
SLKM	**Skilak Lake**	**40.56**	**332**	*e*P	**P**	**14 50 52.9**	**+1.3**
SML	**Sawmill**	**40.60**	**335**	*e*P	**P**	**14 50 52.6**	**+0.7**
PMR	**Palmer**	**40.77**	**334**	*e*P	**P**	**14 50 54.2**	**+0.9**
PMR				pmax	pmax		
	comp=Z,120nm,1.3s,mb5.4						
PMR	**Palmer**	**40.77**	**334**	*e*P	**P**	**14 50 55.1**	**+1.8**
FIB	**Fire Island**	**40.92**	**333**	PFAKE		14 51 10.0	+15
FIB				LR	LR		
	comp=Z,4µm,21.0s,MS5.2						
BBSR	**BB Station**	**41.23**	**73**	*e*P	**P**	**14 50 57.9**	**+0.4**
	comp=Z,23nm,0.8s,mb4.9						
BBSR				LR	LR		
	comp=Z,6µm,19.0s,MS5.5						
KIP	**Kipapa**	**41.50**	**271**	PFAKE		14 51 10.0	+10
KIP				LR	LR		
	comp=Z,10µm,21.0s,MS5.7						
INK	**Inuvik**	**41.53**	**348**	LR	LR	15 09 19.8	
	comp=Z,28µm,18.2s,MS6.2,baz=165,slow=38						
INK	**Inuvik**	**41.53**	**348**	P	**P**	**14 51 00.9**	**+1.5**
INK				pmax	pmax		
	comp=Z,84nm,1.3s						
INK	**Inuvik**	**41.53**	**348**	*e*P	**P**	**14 50 59.2**	**-0.2**
	comp=Z,84nm,1.3s,mb5.2						
RSO	**Redoubt South**	**41.59**	**331**	*e*P	**P**	**14 51 00.6**	**+0.7**
SPU	**Mount Spurr**	**41.68**	**332**	*e*P	**P**	**14 51 01.8**	**+1.0**
SCHQ	**Schefferville**	**41.97**	**38**	P	**P**	**14 51 03.0**	**-0.1**
	comp=Z,50nm,1.0s,mb5.1,baz=261,slow=5.5,SNR=17						
SCHQ				LR	LR	15 07 17.5	
	comp=Z,18µm,18.6s,MS6.0,baz=252,slow=34						
SCHQ	**Schefferville**	**41.97**	**38**	*e*P	**P**	**14 51 02.3**	**-0.8**
	comp=Z,98nm,0.9s,mb5.4						
SCHQ				LR	LR		
	comp=Z,50µm,20.0s,MS6.4						
MCK	**McKinley**	**42.02**	**337**	*e*P	**P**	**14 51 04.6**	**+1.1**
MCK				pmax	pmax		
	comp=Z,35nm,1.0s,mb4.9						
MCK	**McKinley**	**42.02**	**337**	*e*P	**P**	**14 51 04.3**	**+0.9**
	comp=Z,35nm,1.0s,mb4.9						
MCK				LR	LR		
	comp=Z,3µm,19.0s,MS5.2						
ILAR	**Eielson Array**	**42.02**	**339**	P	**P**	**14 51 03.0**	**-0.5**
	comp=Z,36nm,1.0s,mb5.0,baz=149,slow=7.0,SNR=41						
COLA	**College**	**42.40**	**339**	*e*P	**P**	**14 51 06.1**	**-0.5**
OTAV	**Otavalo**	**43.25**	**125**	*e*P	**P**	**14 51 15.6**	**+1.4**
	comp=Z,559nm,2.3s,mb5.9						
OTAV				*e*S	**S**	**14 57 46.3**	**+4.5**
OTAV				LR	LR		
	comp=Z,4µm,22.0s,MS5.3						
ROSC	**El Rosal**	**43.39**	**116**	P	**P**	**14 51 18.2**	**+2.9**
	comp=Z,4.7nm,0.4s,mb4.6,baz=130,slow=21,SNR=7.8						
ROSC				LR	LR	15 11 56.8	
	comp=Z,9µm,18.6s,MS5.7,baz=121,slow=40						
SJG	**San Juan**	**43.75**	**93**	LR	LR	15 11 41.1	
	comp=Z,8µm,21.0s,MS5.6,baz=308,slow=39						
SJG	**San Juan**	**43.75**	**93**	*e*P	**P**	**14 51 17.5**	**-0.7**
	comp=Z,67nm,0.9s,mb5.4						
SJG				LR	LR		
	comp=Z,7µm,20.0s,MS5.6						
HUMP	**Col San Antoni**	**44.00**	**93**	*e*P	**P**	**14 51 21.0**	**+0.8**
SDV	**Santo Domingo**	**44.12**	**108**	*e*P	**P**	**14 51 21.4**	**+0.2**
	comp=Z,88nm,1.3s,mb5.3						
SDV				LR	LR		
	comp=Z,7µm,19.0s,MS5.6						
FRB	**Frobisher Bay**	**44.92**	**26**	P	**P**	**14 51 25.6**	**-1.4**
	comp=Z,18nm,1.1s,mb4.8,baz=250,slow=9.4,SNR=1.5						
IMA	**Indian Mountai**	**45.05**	**338**	*e*P	**P**	**14 51 30.6**	**+2.5**
IMA				pmax	pmax		
	comp=Z,280nm,1.1s,mb6.0						
IMA	**Indian Mountai**	**45.05**	**338**	*e*P	**P**	**14 51 29.6**	**+1.6**
	comp=Z,277nm,1.1s,mb6.0						
MDN	**Morne-Daniel**	**49.04**	**94**	*e*P	**P**	**14 52 00.4**	**+0.4**
TNA	**Tin City**	**50.01**	**334**	PFAKE		14 52 20.0	+13
TNA				LR	LR		
	comp=Z,3µm,20.0s,MS5.3						
NNA	**Nana**	**53.25**	**134**	*e*P	**P**	**14 52 32.1**	**+0.1**
	comp=Z,237nm,1.8s,mb5.8						
NNA				LR	LR		
	comp=Z,504nm,21.7s						
RPN	**Rapa Nui**	**55.59**	**176**	PFAKE		14 53 00.0	+11
RPN				LR	LR		
	comp=Z,2µm,22.0s,MS5.0						
RKT	**Rikitea**	**55.80**	**205**	*e*S	**S**	**15 00 37.8**	**+1.1**
RKT				*e*L		15 06 44.7	
RKT				*e*R		15 08 43.5	
	comp=Z,5µm,24.8s						
MIDW	**Midway**	**56.21**	**286**	PFAKE		14 53 00.0	+6.6
MIDW				LR	LR		
	comp=Z,7µm,22.0s,MS5.7						
SMY	**Shemya**	**57.77**	**317**	PFAKE		14 53 20.0	+16
SMY				LR	LR		
	comp=Z,7µm,20.0s,MS5.8						
SUMG	**Summit**	**58.18**	**20**	*e*P	**P**	**14 53 05.8**	**-1.0**
	comp=Z,463nm,2.0s,mb6.2						
PPT	**Papeete**	**58.19**	**222**	*e*S	**S**	**15 01 10.5**	**+2.3**
PPT				*e*L		15 07 37.1	
PPT				*e*R		15 09 47.8	
	comp=Z,9µm,25.2s						
ARE	**Arequipa**	**60.01**	**133**	*e*P	**P**	**14 53 21.0**	**+0.8**
SAML	**Samuel**	**60.66**	**120**	*e*P	**P**	**14 53 21.4**	**-3.3**
	comp=Z,84nm,1.6s,mb5.6						
SAML				LR	LR		
	comp=Z,3µm,21.0s,MS5.4						
LPAZ	**La Paz**	**62.09**	**130**	P	**P**	**14 53 33.4**	**-0.9**
	comp=Z,5.6nm,0.8s,mb4.8,baz=340,slow=7.8,SNR=10						
LPAZ				LR	LR	15 19 51.5	
	comp=Z,2µm,18.1s,MS5.2,baz=234,slow=35						
LPAZ	**La Paz**	**62.09**	**130**	*e*P	**P**	**14 53 33.7**	**-0.6**
	comp=Z,46nm,1.4s,mb5.4						
LPAZ				LR	LR		
	comp=Z,2µm,21.0s,MS5.2						
TBI	**Tubuai**	**62.70**	**218**	*e*S	**S**	**15 02 07.6**	**+1.6**
TBI				*e*L		15 09 14.6	
TBI				*e*R		15 11 55.2	
	comp=Z,6µm,26.8s						
BORG	**Borgarnes**	**65.02**	**28**	LR	LR	15 21 01.0	
	comp=Z,8µm,19.0s,MS6.0,baz=283,slow=35						
BORG	**Borgarnes**	**65.02**	**28**	PFAKE		14 54 00.0	+7.2
BORG				LR	LR		
	comp=Z,2µm,21.0s,MS5.2						
PET	**Petropavlovsk**	**66.86**	**319**	*de*P	**P**	**14 54 03.8**	**-1.0**
PET				*i*	pP	14 54 03.8	-1.7
PET				*e*		14 54 30.8	
PET				*e*		14 56 36.3	
PET				*e*PPP	PPP	14 58 06.3	-4.2
PET				*e*S	S	15 02 57.0	+0.1
PET				*e*PS	PS	15 03 22.1	+2.9
PET				*e*PPS	PPS	15 03 28.2	-1.9
PET				*e*		15 03 55.0	
PET				*e*SS	SS	15 07 20.0	+3.5
PET				pmax	pmax		
	comp=Z,15nm,0.7s,mb5.1						
PET				pmax	pmax		
	comp=Z,200nm,14.3s						
PET				smax			
	comp=N,2µm,19.1s						
PET				MLR	MLR		
	comp=Z,1µm,23.0s,MS5.1						
PET				MLR	MLR		
	comp=Z,1µm,17.0s						
SEY	**Seymchan**	**67.04**	**330**	*e*P	**P**	**14 54 10.2**	**+4.4**
SEY						14 54 37.2	
SEY				*e*		14 56 34.7	
SEY				*e*PPP	PPP	14 58 14.8	+2.7
SEY				*e*S	S	15 03 03.6	+4.7
SEY						15 04 06.7	
SEY				*e*SS	SS	15 07 23.9	+4.7
SEY				*e*SSS	SSS	15 10 20.8	+4.5
SEY				pmax	pmax		
	comp=Z,40nm,1.1s,mb5.4						
SEY				pmax	pmax		
	comp=E,20nm,1.0s						
SEY				smax			
	comp=N,5µm,21.9s						
SEY				smax			
	comp=E,3µm,21.2s						
SEY				MLR	MLR		
	comp=Z,13µm,18.0s,MS6.2						
RAR	**Rarotonga**	**67.27**	**228**	LR	LR	15 17 56.1	
	comp=Z,3µm,18.5s,MS5.5,baz=42,slow=31						
RAR	**Rarotonga**	**67.27**	**228**	PFAKE		14 54 20.0	+12
RAR				LR	LR		
	comp=Z,3µm,21.0s,MS5.5						
JMIC	**Jan Mayen**	**67.63**	**20**	LR	LR	15 22 56.2	
	comp=Z,12µm,18.7s,MS6.1,baz=110,slow=35						
JMIC	**Jan Mayen**	**67.63**	**20**	*e*S	S	15 03 05.3	-0.5
JMIC				*e*SS	SS	15 07 27.3	-0.6
JMIC				AMS	AMS	15 23 22.5	
	comp=Z,8µm,18.5s,MS6.0						
MA2	**Magadan**	**68.89**	**327**	*e*P	**P**	**14 54 13.7**	**-3.7**
MA2				*e*S	S	15 03 16.0	-5.1
MA2				*e*PS	PS	15 03 51.9	+5.4
MA2				*e*		15 04 19.3	
MA2				*e*SS	SS	15 07 45.2	-2.7
MA2				*e*SSS	SSS	15 10 51.1	+1.4
MA2				pmax	pmax		
	comp=Z,20nm,1.2s,mb4.9						
MA2				MLR	MLR		
	comp=Z,5µm,25.0s,MS5.6						
MA2	**Magadan**	**68.89**	**327**	*e*P	**P**	**14 54 17.9**	**+0.4**
MA2				LR	LR		
	comp=Z,2µm,19.0s,MS5.4						
SKR	**Severo-Kuril's**	**69.10**	**317**	*e*P	**P**	**14 54 17.0**	**-1.8**
SKR				*e*		14 54 38.0	
SKR				*e*		14 56 50.0	
SKR				*e*S	S	15 03 26.0	+2.4
SKR				*e*		15 03 42.0	
SKR				smax			
	comp=N,1µm,14.0s						
SKR				smax			
	comp=E,1µm,20.0s						
SKR				MLR	MLR		
	comp=N,2µm,16.0s,MS5.5						
SKR				MLR	MLR		
	comp=E,1µm,16.0s,MS5.5						
SKR				MLR	MLR		
	comp=Z,2µm,16.0s,MS5.5						
ADH	**Angra Heroismo**	**69.42**	**56**	*e*-		15 21 50.0	
PDA	**Ponta Delgada**	**70.90**	**57**	*e*-		15 17 18.0	
TIXI	**Tiksi**	**71.32**	**343**	*i* P	**P**	**14 54 31.5**	**-0.5**
TIXI				pmax	pmax		
	comp=Z,200nm,4.0s						
TIXI				MLR	MLR		
	comp=Z,4µm,20.0s,MS5.7						
TIXI	**Tiksi**	**71.32**	**343**	*i* P	**P**	**14 54 31.6**	**-0.4**
BJO	**Bjornoya**	**72.41**	**12**	AMS	AMS	15 29 48.4	
	comp=Z,5µm,22.2s,MS5.7						
TRO	**Tromso**	**75.94**	**16**	*e*S	S	15 04 38.9	-2.3
TRO				*e*SS	SS	15 09 33.8	-2.6
TRO				AMS	AMS	15 30 55.0	
	comp=Z,2µm,18.9s,MS5.5						
CPUP	**Villa Florida**	**76.26**	**131**	P	**P**	**14 55 00.8**	**-0.7**
	comp=Z,28nm,1.0s,mb5.1,baz=342,slow=6.3,SNR=39						
CPUP				LR	LR	15 30 56.5	
	comp=Z,1µm,19.8s,MS5.2,baz=348,slow=38						
CPUP	**Villa Florida**	**76.26**	**131**	*e*P	**P**	**14 55 00.8**	**-0.8**
	comp=Z,62nm,1.3s,mb5.4						
CPUP				LR	LR		
	comp=Z,1µm,20.0s,MS5.2						
BDFB	**Brasilia**	**76.46**	**116**	P	**P**	**14 55 03.0**	**+0.2**
	comp=Z,16nm,1.2s,mb4.8,baz=317,slow=12,SNR=7.0						
BDFB				LR	LR	15 31 27.6	
	comp=Z,4µm,20.0s,MS5.7,baz=308,slow=38						
BAO	**Brasilia Array**	**76.47**	**116**	P	**P**	**14 55 02.9**	**-0.1**
BAO				*i*		14 55 20.0	
YAK	**Yakutsk**	**76.76**	**335**	*e*P	**P**	**14 55 05.5**	**+1.9**
YAK				*e*PPP	PPP	14 59 49.8	+4.3
YAK				*e*S	S	15 04 52.7	+2.4
YAK				*e*		15 05 23.8	
YAK				pmax	pmax		
	comp=Z,25nm,1.1s,mb5.1						
YAK				pmax	pmax		
	comp=N,7.0nm,1.2s						
YAK				pmax	pmax		
	comp=E,14nm,1.2s						
YAK				pmax	pmax		
	comp=Z,51nm,7.3s						
YAK				smax			
	comp=N,811nm,21.3s						
YAK				smax			
	comp=Z,240nm,16.1s						
YAK				smax			
	comp=E,415nm,22.1s						
YAK				MLR	MLR		
	comp=Z,2µm,18.0s,MS5.5						
YAK				MLR	MLR		
	comp=N,1µm,16.0s,MS5.6						
YAK				MLR	MLR		
	comp=E,2µm,17.0s,MS5.6						
YAK	**Yakutsk**	**76.76**	**335**	*e*P	**P**	**14 55 05.2**	**+1.6**
	comp=E,54nm,1.1s,mb5.4						
YAK				LR	LR		
	comp=Z,4µm,19.0s,MS5.7						
ESK	**Eskdalemuir**	**77.04**	**34**	P	**P**	**14 55 04.6**	**-0.7**
ESK				LR	LR		
	comp=Z,1µm,22.0s,MS5.2						
ARCES	**ARCESS Array B**	**77.49**	**14**	P	**P**	**14 55 06.0**	**-1.5**
	comp=Z,13nm,1.0s,mb4.8,baz=326,slow=4.4,SNR=10						
ARCES				LR	LR	15 30 59.5	
	comp=Z,6µm,18.2s,MS6.0,baz=329,slow=37						
NSS	**Namsos**	**77.61**	**21**	*e*S	S	15 04 56.4	-3.1
NSS				AMS	AMS	15 29 36.8	
	comp=Z,8µm,22.8s,MS6.0						
KEV	**Kevo**	**77.62**	**13**	*e*p	**P**	**14 55 11.7**	**+3.5**
	comp=Z,8.4nm,0.7s,mb4.8						
KEV	**Kevo**	**77.62**	**13**	*e*P	**P**	**14 55 11.7**	**+3.5**
KEV				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.8						
YSS	**Yuzh-Sakhalins**	**78.66**	**317**	α*e*P	**P**	**14 55 15.0**	**+0.6**
YSS				*e**SP	sP	14 55 20.0	+4.6
YSS				*e*S	S	15 05 10.0	-1.1
YSS				*e*PPS	PPS	15 06 04.0	-7.7
YSS				pmax	pmax		
	comp=Z,500nm,3.0s						
YSS				pmax	pmax		
	comp=Z,40nm,1.0s,mb5.3						
YSS				MLR	MLR		
	comp=N,2µm,16.0s,MS5.5						
YSS				MLR	MLR		
	comp=Z,1µm,16.0s,MS5.4						
YSS				MLR	MLR		
	comp=E,1µm,15.0s,MS5.5						
YSS	**Yuzh-Sakhalins**	**78.66**	**317**	*e*P	**P**	**14 55 15.6**	**+1.2**
	comp=E,98nm,1.6s,mb5.5						
YSS				LR	LR		
	comp=Z,1µm,19.0s,MS5.2						
PLCA	**Paso Flores**	**79.35**	**149**	P	**P**	**14 55 19.2**	**+0.9**
	comp=Z,11nm,0.8s,mb4.8,baz=326,slow=6.1,SNR=16						
PLCA				LR	LR	15 23 37.7	
	comp=Z,5µm,19.8s,MS5.8,baz=331,slow=31						
NB2	**NORSAR Subarra**	**79.71**	**24**	P	**P**	**14 55 19.3**	**-0.5**
	comp=Z,32nm,1.2s,mb5.1,baz=313,slow=5.6						
NB2	**NORSAR Subarra**	**79.71**	**24**	P	**P**	**14 55 19.3**	**-0.5**
	baz=313,slow=5.6						

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NOA    NORSAR Array B  79.71  24   P      P       14 55 19.7  -0.1
       comp=Z,1.8nm,0.8s,baz=180,slow=19,SNR=2.8
NAO01  NORSAR Array S  79.72  24   PFAKE          14 55 30.0  +10
NAO01                              LR     LR
       comp=Z,6µm,22.0s,MS5.9
KONO   Kongsberg       80.04  26  eS      S       15 05 29.7 +4.3
KONO                               AMS    AMS     15 29 22.5
       comp=Z,7µm,15.8s,MS6.1
KONO   Kongsberg       80.04  26   PFAKE          14 55 30.0 +8.4
KONO                               LR     LR
       comp=Z,5µm,19.0s,MS5.8
ASAJ   Asahikawa       80.18 315   P      P       14 55 24.2 +1.5
       comp=Z,9.5nm,0.7s,mb4.8,baz=346,slow=6.6,SNR=7.2
APA    Apatity         80.73  13⇓iP     P       14 55 29.2 +4.1
APA                               i               14 55 38.3
APA                               eS      S       15 05 34.0 +1.6
APA                                pmax   pmax
       comp=Z,36nm,1.2s,mb5.2
ROSF   Rostrenen       80.75  40  eP      P       14 55 25.1  -0.5
       comp=Z,71nm,1.3s,mb5.1
QUIF   Quistinic       81.04  40  eP      P       14 55 27.7 +0.6
       comp=Z,169nm,1.4s,mb5.5
SGMF   Saint Gilles    81.19  39  eP      P       14 55 27.1  -0.9
       comp=Z,14nm,0.7s,mb4.7
RCBR   Riachuelo       81.28 102   PFAKE          14 55 40.0  +11
RCBR                               LR     LR
       comp=Z,3µm,21.0s,MS5.7
TRQA   Tornquist       81.60 142  eP      P       14 55 29.6  -0.7
       comp=Z,46nm,1.3s,mb5.2
TRQA                               LR     LR
       comp=Z,1µm,20.0s,MS5.2
PVRL   Vila Real       81.80  47  eP      P       14 55 32.0 +0.8
       comp=Z,48nm,1.3s,mb5.3
CLNS   Chul'man        81.95 332  eP      P       14 55 34.0 +2.3
CLNS                              e*PP    pP      14 55 40.5 +8.1
CLNS                              e               15 05 51.7
CLNS                               pmax   pmax
       comp=Z,22nm,0.9s,mb5.1
CLNS                               pmax   pmax
       comp=N,9.0nm,0.7s
CLNS                               pmax   pmax
       comp=E,21nm,1.0s
CLNS                               pmax   pmax
       comp=N,12nm,1.0s
CLNS                               pmax   pmax
       comp=E,5.0nm,1.0s
CLNS                               pmax   pmax
       comp=Z,10.0nm,1.0s,mb4.7
PVIS   Viseu           81.97  48  eP      P       14 55 33.0 +0.9
       comp=Z,38nm,1.3s,mb5.2
FLN    La Foliniere    82.05  38  eP      P       14 55 32.2  -0.2
       comp=Z,50nm,0.9s,mb5.2
FLN                               eR
       comp=Z,10µm,22.5s
GRR    Gorron          82.06  39  eP      P       14 55 31.7  -0.7
       comp=Z,65nm,1.1s,mb5.2
PBRG   Braganca        82.15  47  eP      P       14 55 33.8 +0.7
       comp=Z,36nm,1.5s,mb5.1
SACV   Santiago Islan  82.17  77   PFAKE          14 55 40.0 +6.3
SACV                               LR     LR
       comp=Z,907nm,21.0s,MS5.1
PTOM   Tomar           82.19  49  eP      P       14 55 34.1 +0.8
       comp=Z,60nm,1.3s,mb5.4
LDF    La Druitiere    82.34  38  eP      P       14 55 33.9   0.0
MTE    Manteigas       82.36  48  eP      P       14 55 34.1  -0.1
       comp=Z,51nm,1.4s,mb5.3
MTE                               eS      S       15 05 51.3 +1.6
MTE                               eSS     SS      15 11 15.7 +2.4
MTE                               eLQ             15 19 48.9
MTE                               eLR     LR      15 26 13.2
       comp=Z,6µm,14.7s
MTE    Manteigas       82.36  48  eP      P       14 55 34.1  -0.1
       comp=Z,76nm,1.2s,mb5.5
PCBR   Castelo Branco  82.69  49  eP      P       14 55 36.1 +0.2
       comp=Z,52nm,1.4s,mb5.4
MOE    Montemor        82.79  50  eP      P       14 55 37.1 +0.6
EVO    Evora           83.01  50  eP      P       14 55 36.6  -1.0
       comp=Z,204nm,1.5s,mb5.6
EVO                               eR
       comp=Z,6µm,19.0s
PTEO   Sao Teotonio    83.04  51  eP      P       14 55 37.6  -0.2
       comp=Z,108nm,1.5s,mb5.7
PBEJ   Beja            83.37  50  eP      P       14 55 40.1 +0.6
       comp=Z,23nm,1.6s,mb5.0
MFF    Saint Martin d  83.48  40  eP      P       14 55 38.8  -1.0
       comp=Z,308nm,1.7s,mb5.8
KLR    Kul'dur         83.57 323  eP      P       14 55 38.8  -1.4
KLR                               eS      S       15 05 55.5  -6.2
KLR                               ePS     PS      15 06 55.5 +0.7
KLR                                pmax   pmax
       comp=N,110nm,2.6s
KLR                                pmax   pmax
       comp=Z,170nm,2.6s,mb5.7
KLR                                pmax   pmax
       comp=Z,600nm,12.5s
KLR                                smax
       comp=N,1µm,9.0s
KLR                                smax
       comp=E,800nm,9.0s
KAF    Kangasniemi     83.70  18  ep      P       14 55 40.4  -0.2
BAIF   Baives          83.75  35  eP      P       14 55 40.5  -0.6
       comp=E,146nm,1.4s,mb5.6
WTSB   Winterswijk     83.83  33  eP      P       14 55 41.2  -0.3
       comp=E,17nm,1.5s,mb5.0
COP    Copenhagen      83.84  28  i P     P       14 55 42.3 +0.9
COP    Copenhagen      83.84  28  i S     S       15 06 19.9  +16
       comp=Z,4µm,17.0s
COP    Copenhagen      83.84  28  eP      P       14 55 42.3 +0.9
COP                               i S     S       15 06 19.9  +16
COP                                LR     LR
       comp=Z,4µm,17.0s,MS5.8
PALC   Alcoutim        83.93  51  eP      P       14 55 44.8 +2.5
GIVF   Givet           84.03  35  eP      P       14 55 42.0  -0.5
       comp=Z,296nm,1.7s,mb5.8
HGN    Heimansgroeve   84.17  34  eP      P       14 55 43.1  -0.1
       comp=Z,14nm,1.7s,mb4.8
HGN    Heimansgroeve   84.17  34  eS      S       15 06 06.6  -1.1
HGN                               eSS     SS      15 11 39.1  -0.1
FINES  FINESS Array B  84.19  19   P      P       14 55 43.0   0.0
       comp=Z,8.9nm,1.1s,mb4.8,baz=180,slow=3.8,SNR=6.3
FINES                              LR     LR      15 33 54.4
       comp=Z,8µm,18.1s,MS6.2,baz=314,slow=36
FINES  FINESS Array B  84.19  19  i P     P       14 55 42.2  -0.8
FINES                              pmax   pmax
       comp=Z,9.0nm,1.1s
FINES  FINESS Array B  84.19  19   P      P       14 55 43.0   0.0
FINES                              LR     LR      15 33 54.4
SJPF   Ste Jean        84.85  43  eP      P       14 55 46.2  -0.6
       comp=Z,43nm,1.2s,mb5.1
LFF    La Frestale     84.95  41  eP      P       14 55 47.0  -0.3
       comp=Z,122nm,1.3s,mb5.6
WLF    Walferdange     84.98  35  eP      P       14 55 46.9  -0.4
       comp=Z,18nm,0.8s,mb5.2
TCF    Toulx Ste Croi  84.98  39  eP      P       14 55 47.0  -0.4
       comp=Z,66nm,1.1s,mb5.4
ESDC   Sonseca Array   85.07  47   P      P       14 55 47.1  -0.9
       comp=Z,2.2nm,0.8s,mb4.3,baz=306,slow=5.6,SNR=6.4
ESDC                               LR     LR      15 33 19.6
       comp=Z,7µm,18.2s,MS6.1,baz=285,slow=35
MEZF   Maizieres J'vi  85.15  36  eP      P       14 55 47.8  -0.4
BGF    Bois d'Agland   85.17  39  eP      P       14 55 47.7  -0.6
RJF    Les Rejaudoux   85.18  40  eP      P       14 55 48.0  -0.4
       comp=Z,92nm,1.0s,mb5.6
RJF                               eR
       comp=Z,8µm,21.5s
SSF    Saint Saulge    85.22  38  eP      P       14 55 48.0  -0.6
       comp=Z,67nm,1.1s,mb5.4
BSD    Bornholm Skovb  85.25  27  i P     P       14 55 58.1  +10
BSD                               i               14 59 21.7
BSD                               i S     S       15 06 12.6  -5.6
       comp=Z,2µm,16.0s
BSD    Bornholm Skovb  85.25  27  eP      P       14 55 58.1  +10
BSD                               i               14 59 21.7
BSD                               i S     S       15 06 12.6  -5.6
LOR    Lormes          85.28  38  eP      P       14 55 48.5  -0.4
       comp=Z,46nm,1.0s,mb5.3
LOR                               eR
       comp=Z,11µm,21.2s
AVF    Avril sur Loir  85.30  38  eP      P       14 55 48.1  -0.9
       comp=Z,66nm,1.1s,mb5.4
ETSF   Etsaut          85.37  43  eP      P       14 55 49.5 +0.1
       comp=Z,57nm,1.1s,mb5.3
RUP    Ruppelstein     85.41  34  eP      P       14 55 50.6 +1.2
SMF    Signal de Mont  85.66  38  eP      P       14 55 49.9  -0.9
       comp=Z,35nm,1.0s,mb5.3
CAF    Calviac         85.72  40  eP      P       14 55 50.5  -0.6
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       comp=Z,60nm,1.1s,mb5.5
EPF    Esparros        85.83  43  eP      P       14 55 51.6  -0.1
HAU    Haudompre       86.13  36  eP      P       14 55 52.0  -1.1
       comp=Z,54nm,1.1s,mb5.4
HAU                               eR
       comp=Z,17µm,19.0s
LBL    Lubilhac        86.20  40  eP      P       14 55 59.9 +6.4
TOD    Tromm           86.33  34  eP      P       14 55 53.4  -0.6
CDF    Champ du Feu    86.35  35  eP      P       14 55 53.4  -0.7
       comp=Z,33nm,1.2s,mb5.2
HINF   Hinteralfeld    86.52  36  eP      P       14 55 54.4  -0.6
       comp=Z,30nm,1.2s,mb5.1
MTLF   Montolieu       86.75  42  eP      P       14 55 55.8  -0.5
       comp=Z,92nm,1.3s,mb5.5
LOMF   Lomont          86.80  36  eP      P       14 55 53.9  -2.5
CABF   La Chapelle     86.89  37  eP      P       14 55 56.5  -0.3
MOX    Moxa            86.97  32  i P     P       14 55 55.3  -1.8
       comp=Z,logA/T=1.2,mb5.2
MOX                                S      S       15 06 32.0  -2.9
MOX                                LQ             15 19 04.0
MOX                                LR     LR      15 25 00.0
MOX                                L              15 33 20.0
MOX    Moxa            86.97  32  eP      P       14 55 55.3  -1.8
MOX                                pmax   pmax
       comp=Z,22nm,1.3s,mb5.2
MOX                                MLR    MLR
       comp=Z,7µm,20.0s,MS6.1
MOX    Moxa            86.97  32  eP      P       14 55 55.3  -1.8
       comp=Z,22nm,1.3s,mb5.2
MOX                               eS      S       15 06 32.0  -2.9
MOX                               eLQ             15 19 04.0
MOX                               eLR     LR      15 25 00.0
MAJO   Matsushiro      87.05 310  eP      P       14 56 00.2 +2.3
       comp=Z,31nm,1.0s,mb5.5
MAJO                               LR     LR
       comp=Z,2µm,20.0s,MS5.6
MAT    Matsushiro      87.05 310   P      P       14 55 58.8 +0.9
MAT                                S      S       15 06 31.0  -5.0
MAT    Matsushiro      87.05 310  eP      P       14 55 59.0 +1.1
       comp=Z,23nm,1.0s,mb5.4
MAT                               eS      S       15 06 31.0  -5.0
MAT                                LR     LR
       comp=Z,2µm,20.0s,MS5.5
FELD   Feldberg        87.07  35  eP      P       14 55 56.0  -1.7
BBS    Basel-Blauen    87.08  36  eP      P       14 55 58.0 +0.3
CLL    Collm           87.14  31   P      P       14 55 56.0  -1.9
CLL                               i *PP   pP      14 56 00.5 +1.9
CLL                               i               14 56 10.7
CLL                               e               15 06 28.0
CLL                               eS      S       15 06 40.0 +3.5
CLL                               ePS     PS      15 07 38.0  -0.6
CLL                               eSS     SS      15 12 19.0  -3.7
CLL    Collm           87.14  31  eP      P       14 55 56.0  -1.9
CLL                               i               14 56 00.5
CLL                               e               15 06 28.0
CLL                               eS      S       15 06 40.0 +3.5
CLL                                MLR    MLR
       comp=Z,7µm,16.1s,MS6.2
VLA    Vladivostok     87.19 319⇑iP     P       14 55 58.0  -0.4
VLA                               i S     S       15 06 30.0  -7.2
VLA                               i               15 12 16.0
VLA                                pmax   pmax
       comp=Z,400nm,4.0s
VLA                                smax
       comp=E,500nm,11.0s
VLA                                smax
       comp=E,600nm,12.0s
VLA                                smax
       comp=Z,500nm,11.0s
VIVF   Saint-Julien-l  87.22  39  eP      P       14 55 57.9  -0.6
       comp=Z,71nm,1.4s,mb5.4
LASF   Ste Croix       87.25  40  eP      P       14 55 57.5  -1.1
       comp=Z,133nm,1.6s,mb5.6
GRA1   Grafenberg Arr  87.43  33  eP      P       14 55 58.5  -0.9
GRA1                               LR     LR
       comp=Z,10µm,18.4s,MS6.2
GRF    Grafenberg Arr  87.43  33  eP      P       14 55 58.5  -0.9
GRF                                MLR    MLR
       comp=Z,10µm,18.4s,MS6.2
NKC    Novy Kostel     87.63  32  eP      P       14 56 00.8 +0.5
NKC                               ex      x       14 56 13.1
NKC                                LR             15 36 30.0
       comp=Z,8.4nm,16.8s
NKC    Novy Kostel     87.63  32  eP      P       14 56 00.8 +0.5
NKC                                MLR    MLR
       comp=Z,8µm,16.8s,MS6.2
ORIF   Oris-en-Rattie  87.85  39  eP      P       14 56 01.2  -0.3
       comp=Z,58nm,1.2s,mb5.4
ORIF                              eR
       comp=Z,13µm,23.0s
BRG    Berggiesshubel  87.86  31  eP      P       14 56 00.4  -1.0
BRG                               eS      S       15 06 45.0 +1.7
BRG                               eSS     SS      15 12 31.0  -2.6
BRG                                pmax   pmax
       comp=Z,14nm,1.5s,mb5.0
BRG                                MLR    MLR
       comp=N,7µm,17.1s,MS6.3
BRG                                MLR    MLR
       comp=E,8µm,17.1s,MS6.3
BRG                                MLR    MLR
       comp=Z,6µm,18.6s,MS6.1
BRG    Berggiesshubel  87.86  31  eP      P       14 56 00.4  -1.0
       comp=Z,14nm,1.5s,mb5.0
BRG                               e               14 56 19.3
BRG                               e               14 56 42.9
BRG                               eS      S       15 06 45.0 +1.7
BRG                               eSS     SS      15 12 31.0  -2.6
BRG                                LR     LR
       comp=Z,6µm,18.6s,MS6.1
LPL    La Plagne       87.93  38  eP      P       14 56 02.5 +0.6
LPG    La Plagne       87.95  38  eP      P       14 56 02.1 +0.1
BNI    Bardonecchia    88.20  38   P      P       14 56 02.9  -0.3
SMRF   Simiane la Rot  88.28  40  eP      P       14 56 03.2  -0.4
PVCC   Panska Ves      88.39  31  eP      P       14 56 06.5 +2.6
PVCC                              ex      x       14 56 16.7
PVCC                               LR             15 35 40.0
       comp=Z,5.6nm,16.7s
PVCC   Panska Ves      88.39  31  eP      P       14 56 06.5 +2.6
PVCC                               MLR    MLR
       comp=Z,6µm,16.7s,MS6.1
MBDF   Montbardon      88.46  38  eP      P       14 56 04.3  -0.1
PRU    Pruhonice       88.76  31  eP      P       14 56 07.6 +1.9
PRU                                MLR    MLR
       comp=Z,10µm,18.0s,MS6.3
PRU    Pruhonice       88.76  31  eP      P       14 56 07.6 +1.9
PRU                               e               14 56 21.1
PRU                                LR     LR
       comp=Z,10µm,18.0s,MS6.3
KHC    Kasperske Hory  88.93  32  eP      P       14 56 04.4  -2.2
KHC                                LR             15 33 50.0
       comp=Z,7.7nm,20.1s
UPC    Upice           89.04  30  eP      P       14 56 05.5  -1.6
UPC                               epP     pP      14 56 14.4 +6.6
FRF    La Foret Royal  89.14  39  eP      P       14 56 07.2  -0.5
GERES  GERESS Array B  89.19  32   P      P       14 56 06.7  -1.1
       comp=Z,1.0nm,0.8s,baz=315,slow=3.8,SNR=5.9
LMR    La Mourre       89.21  40  eP      P       14 56 07.6  -0.5
DPC    Dobruska-Polom  89.29  30  eP      P       14 56 07.4  -0.9
DPC                               epP     pP      14 56 15.6 +6.6
DPC                                LR             15 35 50.0
       comp=Z,7.7nm,16.5s
SBF    Sospel          89.38  39  eP      P       14 56 07.5  -1.3
HIA    Hailar          89.44 329  eP      P       14 56 08.7  -0.3
       comp=Z,172nm,2.7s,mb5.9
CN2    Changchun       90.37 322  eP      P       14 56 13.3  -0.2
CN2                               eXP     sP      14 56 20.5 +6.1
CN2                               ePP     PP      14 59 51.1 +1.1
CN2                               eS      S       15 07 08.1 +1.5
CN2                                AMB    AMB
       comp=Z,20nm,1.3s,mb5.3
CN2                                AMB    AMB
       comp=Z,200nm,3.0s
CN2                                LR     LR
       comp=N,1µm,21.0s,MS5.4
CN2                                LR     LR
       comp=E,1µm,21.0s,MS5.4
CN2                                LR     LR
       comp=Z,2µm,21.0s,MS5.5
OKC    Ostrava-Krasne  90.47  29  eP      P       14 56 13.3  -0.4
OKC                               epP     pP      14 56 21.5 +7.1
OKC                                LR             15 35 30.0
       comp=Z,5.2nm,17.5s
OJC    Ojcow           90.88  28  eP      P       14 56 14.2  -1.4
PGF    Pioggiola       91.11  39  eP      P       14 56 16.4  -0.5
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       comp=Z,63nm,1.0s,mb5.6
VYHS   Vyhne           91.77  30  eP      P       14 56 18.9  -0.9
VYHS                              e               14 56 26.8
OBN    Obninsk         92.47  17  eP      P       14 56 22.1  -0.7
OBN                               e               15 00 01.7
OBN                               e               15 06 50.2
OBN                                pmax   pmax
       comp=Z,33nm,1.7s,mb5.4
OBN                                MLR    MLR
       comp=Z,5µm,16.0s,MS6.0
OBN    Obninsk         92.47  17  eP      P       14 56 22.1  -0.7
OBN                                LR     LR
       comp=Z,5µm,16.0s,MS6.0
PSZ    Piszkesteto     92.67  30  eP      P       14 56 23.0  -0.9
       comp=Z,22nm,1.4s,mb5.4
SNY    Shenyang        92.72 322 ⇓P      P       14 56 28.8 +4.5
SNY                                S      S       15 07 33.9 +6.5
SNY                                AMB    AMB
       comp=Z,240nm,3.5s
SNY                                LR     LR
       comp=E,2µm,15.6s
SNY                                LR     LR
       comp=Z,1µm,21.0s
KS15   Wonju Array Si  93.13 316  eP      P       14 56 27.1 +0.8
EFI    East Falkland   93.26 149   PFAKE          14 56 40.0  +13
EFI                                LR     LR
       comp=Z,1µm,22.0s,MS5.3
URZ    Urewera         93.45 228   LR     LR      15 28 50.9
       comp=Z,2µm,21.9s,MS5.5,baz=277,slow=29
INCN   Inchon          93.86 317   P      P       14 56 31.7 +2.1
INCN                               LR     LR
       comp=Z,1µm,22.0s,MS5.4
AKASG  Malin Array Be  94.09  23   P      P       14 56 28.7  -1.7
       comp=Z,0.3nm,0.3s,baz=303,slow=4.0,SNR=9.0
AKASG                              LR     LR      15 36 57.8
       comp=Z,5µm,18.8s,MS6.0,baz=300,slow=34
GUMO   Guam            94.16 288   PFAKE          14 56 40.0 +8.5
GUMO                               LR     LR
       comp=Z,477nm,20.0s,MS5.0
SVE    Sverdlovsk      94.64    4⇑eP     P       14 56 26.0  -6.7
SVE                               eS      SKS     15 07 13.0 +2.1
SVE                               ePS     PS      15 09 02.0  -2.8
SVE                               eSS     SS      15 14 05.0  -5.5
SVE                                MLR    MLR
       comp=N,4µm,19.0s,MS6.1
SVE                                MLR    MLR
       comp=E,4µm,19.0s,MS6.1
SVE                                MLR    MLR
       comp=Z,8µm,19.0s,MS6.2
MOY    Mondy           94.69 340  eP      P       14 56 38.2 +5.1
ARU    Arti            94.90    5⇑iP     P       14 56 32.7  -1.2
ARU                               i               15 00 20.5
ARU                               eS      SKS     15 07 03.1  -9.2
ARU                               i PS    PS      15 09 08.0 +0.3
ARU                               eSSS    SSS     15 17 52.4  -3.6
ARU                                pmax   pmax
       comp=Z,14nm,1.3s,mb5.2
ARU                                MLR    MLR
       comp=N,4µm,19.0s,MS6.0
ARU                                MLR    MLR
       comp=Z,5µm,19.0s,MS6.0
ARU                                MLR    MLR
       comp=E,1µm,17.0s,MS6.0
ARU    Arti            94.90   5  eP      P       14 56 32.6  -1.3
       comp=E,44nm,1.6s,mb5.6
ARU                                LR     LR
       comp=Z,2µm,20.0s,MS5.5
ULN    Ulaanbaatar     95.85 334   PFAKE          14 56 50.0  +11
ULN                                LR     LR
       comp=Z,3µm,20.0s,MS5.8
SONM   Songino Array   96.12 335   P      P       14 56 41.3 +1.5
       comp=Z,6.2nm,0.9s,mb5.0,baz=34,slow=4.5,SNR=12
ZAL    Zalesovo        96.34 350   P      P       14 56 40.2  -0.4
       comp=Z,1.8nm,0.2s,mb5.1,baz=193,slow=2.1,SNR=3.1
ZAL                                LR     LR      15 44 41.9
       comp=Z,3µm,19.1s,MS5.8,baz=7.8,slow=38
KIS    Kishinev        97.04  25  eP      P       14 56 45.0 +1.1
MLR    Muntele Rosu    97.15  28   P      P       14 56 44.0  -0.5
       comp=Z,1.9nm,0.8s,mb4.5,baz=257,slow=3.8,SNR=2.6
SKO    Skopje          97.94  33  eP      P       14 56 52.0 +3.9
BRVK   Borovoye        98.56 358  eP      P       14 56 49.4  -1.3
       comp=Z,17nm,1.4s,mb5.4
BRVK                               LR     LR
       comp=Z,2µm,20.0s,MS5.5
BVAR   Borovoye Array  98.59 358   P      P       14 56 50.1  -0.7
       comp=Z,1.9nm,0.8s,mb4.7,slow=4.4,SNR=8.1
ZRNK   Zerenda         98.70 359  eP      P       14 56 50.6  -0.7
       comp=Z,20nm,1.4s,mb5.5
KURK   Kurchatov      100.32 353  eP      P       14 56 58.3  -0.4
KURK   Kurchatov      100.32 353  ePdif   P       14 56 57.8  -0.9
       comp=Z,25nm,1.8s
KURK                               LR     LR
       comp=Z,1µm,19.0s,MS5.5
PMSA   Palmer Station 100.52 161   PFAKE          14 57 10.0  +11
PMSA                               LR     LR
       comp=Z,1µm,19.0s,MS5.5
SSE    Sheshan        101.48 315   P      P       14 57 02.3  -2.1
SSE                                AP             14 57 07.5
SSE                                S      S       15 08 38.4  -3.4
SSE                                AMB    AMB
       comp=Z,23nm,1.0s
SSE                                LR     LR
       comp=N,786nm,17.1s,MS5.5
SSE                                LR     LR
       comp=E,1µm,17.2s,MS5.5
SSE                                LR     LR
       comp=Z,1µm,17.4s,MS5.5
SSE    Sheshan        101.48 315   P      P       14 57 02.3  -2.1
       comp=Z,23nm,1.0s
SSE                                pP             14 57 07.5
SSE                                PP     PP      15 01 07.6  -9.1
SSE                                S      S       15 08 38.4  -3.4
SSE                                sS             15 08 46.0
SSE                                SS     SS      15 15 35.6   -11
SSE                                LR     LR
       comp=Z,1µm,17.4s,MS5.5
ANN    Anapa          101.95  21  eP      P       14 57 01.4  -4.8
DBIC   Dimbokro       102.25  75   PFAKE          14 57 20.0  +12
DBIC                               LR     LR
       comp=Z,4µm,21.0s,MS5.9
PMG    Port Moresby   103.32 266   PFAKE          14 57 20.0 +7.1
PMG                                LR     LR
       comp=Z,4µm,19.0s,MS6.0
MKAR   Makanchi Array 103.66 349   Pdiff  Pdif    14 57 14.8 +1.2
       comp=Z,0.9nm,0.9s,baz=18,slow=3.8,SNR=5.2
MKAR                               PKKPbc         15 13 06.7
       comp=Z,0.4nm,0.8s,baz=207,slow=5.4,SNR=4.0
MKAR   Makanchi Array 103.66 349   Pdif   Pdif    14 57 14.8 +1.2
MKAR                               PKKPbc         15 13 06.7
SOC    Sochi          103.76  20  eP      Pdif    14 57 05.4  -8.8
KIV    Kislovodsk     104.28  18  eP      Pdif    14 57 14.4  -2.1
KIV                               e               15 01 31.4
KIV                                pmax   pmax
       comp=Z,6.0nm,0.7s
KIV                                MLR    MLR
       comp=Z,6µm,17.0s,MS6.2
TATO   Taipei         105.44 310   PFAKE          15 01 50.0
TATO                               LR     LR
       comp=Z,2µm,21.0s,MS5.6
GNI    Garni          108.38  18   PFAKE          15 01 50.0
GNI                                LR     LR
       comp=Z,4µm,21.0s,MS5.9
AAK    Ala-Archa      108.73 354   PFAKE          15 01 50.0
AAK                                LR     LR
       comp=Z,1µm,19.0s,MS5.5
CTAO   Charters Tower 108.75 257   PFAKE          15 01 50.0
CTAO                               LR     LR
       comp=Z,2µm,19.0s,MS5.7
TAU    Tasmania Unive 115.84 234   PFAKE          15 02 10.0  +14
TAU                                LR     LR
       comp=Z,473nm,19.0s,MS5.1
KMI    Kunming        116.58 324  ePKP    PKPdf   15 01 55.8  -1.8
KMI                                PP     PP      15 03 08.0 +0.5
KMI                                PKS    PKS     15 05 30.8  -0.2
KMI                                SKS    SKS     15 09 05.9  +16
KMI                                SKKS           15 09 59.3
KMI                                SP     SP      15 12 46.3 +0.9
KMI                                SS     SS      15 19 10.0 +0.2
KMI                                PP     PP
       comp=Z,113nm,10.1s
KMI                                LR     LR
       comp=N,2µm,20.7s,MS5.7
KMI                                LR     LR
       comp=E,1µm,23.2s,MS5.7
KMI                                LR     LR
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	comp=Z,2µm,21.2s,MS5.7						
KMI	**Kunming**	116.58	324	ePKP	PKPdf	15 01 55.7	-1.9
KMI				PP	PP	15 03 08.0	+0.5
KMI				PKS	PKS	15 05 30.7	-0.3
KMI				SKS	SKS	15 09 05.9	+16
KMI				SKKS		15 09 59.3	
KMI				SP	SP	15 12 46.2	+0.8
KMI				SS	SS	15 19 10.0	+0.2
KMI				LR	LR		
	comp=Z,2µm,21.2s,MS5.7						
STKA	**Stephens Creek**	116.96	247	PKP	PKPdf	15 02 00.1	+1.9
	comp=Z,2.6nm,0.6s,baz=2.6,slow=3.1,SNR=4.4						
QIZ	**Qiongzhong**	117.24	314	ePKP	PKPdf	15 01 56.4	-2.6
QIZ				PP	PP	15 03 09.0	-3.3
QIZ				SS	SS	15 19 14.1	-4.5
QIZ				LR	LR		
	comp=N,1µm,17.3s						
QIZ				LR	LR		
	comp=Z,1µm,19.7s,MS5.5						
WRAB	**Tennant Creek**	118.97	262	ePKPdf	PKPdf	15 02 01.5	-0.9
WRAB				LR	LR		
	comp=Z,1µm,21.0s,MS5.5						
WB2	**Warramunga Arr**	118.97	262	⇑iP	Pdif	14 58 34.4	+13
WB2				ePKP	PKPdf	15 01 59.4	-3.0
WRA	**Warramunga Arr**	118.98	262	PKP	PKPdf	15 01 59.9	-2.5
	comp=Z,4.4nm,1.0s,baz=65,slow=2.2,SNR=17						
WRA				PKKPbc		15 12 21.5	
	comp=Z,1.2nm,0.9s,baz=248,slow=2.6,SNR=6.2						
ASAR	**Alice Springs**	120.71	258	PKP	PKPdf	15 02 02.5	-3.1
	comp=Z,2.6nm,1.0s,baz=83,slow=2.3,SNR=11						
ASAR				PKKPbc		15 12 13.9	
	comp=Z,2.2nm,1.1s,baz=241,slow=3.9,SNR=5.3						
ASPA	**Alice Springs**	120.71	258	ePKP	PKPdf	15 02 03.8	-1.9
VNA3	**Neumayer Olymp**	121.06	158	⇑i	PKPdf	15 02 09.7	+4.4
VNA3	**Neumayer Olymp**	121.06	158	⇑i	PKPdf	15 02 12.7	+7.4
SHL	**Shillong**	121.12	334	ePKP	PKPdf	15 02 05.2	-1.3
GKN	**Gorkha**	121.24	342	eP	PKPdf	15 02 04.7	-1.9
	comp=Z,41nm,1.4s						
KKN	**Kakani**	121.27	341	eP	PKPdf	15 02 05.1	-1.6
	comp=Z,45nm,1.2s						
PKI	**Pulchoki**	121.44	341	eP	PKPdf	15 02 05.4	-1.6
DMN	**Daman**	121.48	341	eP	PKPdf	15 02 04.5	-2.6
	comp=Z,26nm,1.0s						
KOLN	**Koldanda**	121.74	343	eP	PKPdf	15 02 04.6	-3.0
	comp=Z,71nm,1.7s						
VNA2	**Neumayer--Watz**	121.81	158	⇑i	PKPdf	15 02 09.5	+2.8
VNA2	**Neumayer--Watz**	121.81	158		PKPdf	15 02 11.5	+4.8
RTK	**Rohtak**	121.95	351	ePKP	PKPdf	15 02 03.9	-4.1
RTK				e		15 03 34.8	
NDI	**New Delhi**	122.17	350	ePKP	PKPdf	15 02 07.2	-1.1
AYAN	**Aya Nagar**	122.39	350	ePKP	PKPdf	15 02 07.8	-0.9
AYAN				e		15 02 14.6	
	comp=Z,7.4nm,0.3s						
KHET	**Khetri**	122.98	351	ePKP	PKPdf	15 02 05.4	-4.4
KHET				i		15 03 40.4	
SNAA	**Sanae**	123.19	159	⇓i	PKPdf	15 02 11.3	+2.1
SNAA	**Sanae**	123.19	159	⇓i	PKPdf	15 02 11.8	+2.6
SNAA	**Sanae**	123.19	159	⇓i	PKPdf	15 02 12.9	+3.7
SNAA	**Sanae**	123.19	159	ePKPdf	PKPdf	15 02 05.9	-3.3
CM31	**Chiang Mai Arr**	124.04	323	ePKPdf	PKPdf	15 02 10.2	-2.1
CM31				LR	LR		
	comp=Z,2µm,22.0s,MS5.7						
CMAR	**Chiang Mai Arr**	124.04	323	PKP	PKPdf	15 02 10.9	-1.3
	comp=Z,8.7nm,1.0s,baz=334,slow=1.7,SNR=28						
FITZ	**Fitzroy Crossi**	125.89	268	PKP	PKPdf	15 02 17.8	+2.0
	comp=Z,3.8nm,0.9s,baz=359,slow=2.8,SNR=5.1						
AKL	**Akola**	130.02	348	ePKP	PKPdf	15 02 22.7	-1.0
MBWA	**Marble Bar**	132.18	267	PFAKE		15 02 40.0	+12
MBWA				LR	LR		
	comp=Z,4µm,20.0s,MS6.1						
KGD	**Kothagudem**	132.24	343	ePKiK		15 02 26.9	
KGD				ePP	PP	15 04 48.8	-3.3
KGD				eSP	SP	15 15 02.2	-0.4
KGD				eSS	SS	15 22 28.5	+0.2
LATR	**Latur**	132.33	348	e	PKPdf	15 02 18.4	-10
BOM	**Bombay**	132.40	353	e	PKPdf	15 02 50.6	+22
BOM				i		15 03 39.7	
BOM				e		15 07 56.8	
TSUM	**Tsumeb**	133.86	90	PKhKP		15 02 25.7	
	comp=Z,2.0nm,1.0s,baz=65,slow=7.1,SNR=2.7						
TSUM	**Tsumeb**	133.86	90	PKP	PKPdf	15 02 25.7	-5.2
TSUM				LR	LR		
	comp=Z,3µm,20.0s,MS5.9						
CASY	**Casey**	134.08	203	ePKPdf	PKPdf	15 02 28.5	-1.5
CASY				LR	LR		
	comp=Z,2µm,20.0s,MS5.8						
MBAR	**Mbarara**	135.28	58	PFAKE		15 02 40.0	+6.2
MBAR				LR	LR		
	comp=Z,1µm,22.0s,MS5.5						
SYO	**Syowa Base**	136.53	166	⇓Pdiff	Pdif	14 59 35.0	-2.7
MDRS	**Chennai**	136.65	341	i	PP	15 05 13.0	-6.7
NWAO	**Narrogin (SRO)**	137.23	251	PKP	PKPdf	15 02 34.9	-1.9
	comp=Z,22nm,1.2s,baz=115,slow=3.3,SNR=3.1						
NWAO	**Narrogin (SRO)**	137.23	251	PKP	PKPdf	15 02 34.9	-1.9
NWAO				LR	LR		
	comp=Z,3µm,20.0s,MS6.0						
SUR	**Sutherland**	140.02	107	PFAKE		15 02 50.0	+8.1
SUR				LR	LR		
	comp=Z,376nm,21.0s,MS5.1						
KMBO	**Kilima Mbogo**	140.32	52	ePKPdf	PKPdf	15 02 43.5	+0.5
KMBO				LR	LR		
	comp=Z,1µm,22.0s,MS5.5						
MAW	**Mawson**	140.96	177	PKP	PKPdf	15 02 40.2	-2.4
	comp=Z,1.6nm,0.5s,baz=355,slow=20,SNR=9.6						
LSZ	**Lusaka**	141.53	78	PFAKE		15 03 00.0	+15
LSZ				LR	LR		
	comp=Z,2µm,19.0s,MS5.9						
PALK	**Pallekele**	141.99	338	PFAKE		15 03 00.0	+14
PALK				LR	LR		
	comp=Z,650nm,22.0s,MS5.3						
BOSA	**Boshof**	143.23	100	PFAKE		15 03 00.0	+16
BOSA				LR	LR		
	comp=Z,2µm,21.0s,MS5.9						
COCO	**West Island**	147.96	295	PFAKE		15 03 10.0	+14
COCO				LR	LR		
	comp=Z,519nm,19.0s,MS5.3						

*IDC **24** 14:48:28.5±2.4, 9.42S×117.85E, mb3.6/3, mb1 3.9/5, mb1mx3.8/14, ML3.7/2, Error ellipse: s-maj=221.0km s-min=20.0km az=49.0*

*DJA **24** 14:48:34.8±1.0, 10.13S×117.54E, h108^{km}±35^{km}, MD4.6/4, ML5.2/4, Error ellipse: s-maj=65.3km s-min=29.5km az=0.0*

*NEIC **24** 14:48:36.5±1.0, 10.21S×117.39E, h89^{km}±16^{km}, mb3.7/1, Error ellipse: s-maj=40.9km s-min=7.9km az=47.0*

ISC 24 14:48:35.4±0.8, **10.2S**±0.1×**117.4E**±0.1, **h99**^{km}±12^{km}, **n16**, σ**0^{s}80**/24, **mb3.5**/2, **1C-4D, South of Sumbawa**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KEDI	**Kedomdong**	2.13	323	⇓ePn	P	14 49 10.3	+0.1
	2µm,0.2s						
KEDI				eSn	S	14 49 36.1	+0.1
RATI	**Rata**	2.37	308	⇓ePn	P	14 49 13.4	0.0
	842nm,0.2s						
RATI				eSn	S	14 49 41.8	0.0
RATI	**Rata**	2.37	308	⇓ePn	P	14 49 13.5	+0.1
RATI				eSn	S	14 49 41.8	0.0
INGI	**Ingas**	2.63	301	⇓ePn	P	14 49 17.0	0.0
	2µm,0.2s						
INGI				eSn	S	14 49 48.2	0.0
KELI	**Kelakatan**	3.50	304	⇑ePn	P	14 49 29.0	+0.1
	300nm,0.2s						
MBWA	**Marble Bar**	11.12	169	ePn	P	14 51 12.6	0.0
FITZ	**Fitzroy Crossi**	11.19	136	eP	P	14 51 12.6	-0.9
	2.0nm,0.4s						
FITZ				eS	S	14 53 09.1	-8.0
FITZ	**Fitzroy Crossi**	11.19	136	Pn	P	14 51 12.8	-0.7
	0.6nm,0.3s,baz=347,slow=11,SNR=14						
FITZ				Sn	S	14 53 11.4	-5.7
	0.9nm,0.3s,baz=183,slow=21,SNR=9.4						
WRA	**Warramunga Arr**	18.98	123	P	P	14 52 52.9	+1.3
	0.2nm,0.3s,baz=299,slow=12,SNR=14						
WRA				S	S	14 56 12.1	-4.1
	0.4nm,0.3s,baz=294,slow=21,SNR=7.7						
WRAB	**Tennant Creek**	18.98	123	eP	P	14 52 51.2	-0.5
	3.3nm,0.7s						
ASPA	**Alice Springs**	20.66	132	eP	P	14 53 12.9	+3.7
ASAR	**Alice Springs**	20.66	132	P	P	14 53 12.7	+3.5
	1.9nm,0.6s,baz=322,slow=12,SNR=33						
ASAR				S	S	14 56 57.0	+7.6
	1.3nm,0.7s,baz=316,slow=24,SNR=8.9						
CMAR	**Chiang Mai Arr**	33.81	327	P	P	14 55 08.7	-1.5
	0.2nm,0.3s,mb3.4,baz=164,slow=6.6,SNR=3.3						
BKM	**Butte a Klehm**	49.76	104	i P	P	14 57 11.6	-8.5
MKAR	**Makanchi Array**	64.83	334	P	P	14 59 06.0	+0.1
	0.4nm,0.4s,mb3.6,baz=148,slow=6.7,SNR=8.7						
ZRNK	**Zerenda**	75.21	332	eP	P	15 00 09.6	+0.8

*BJI **24** 14:48:36.3, 31.87N×104.45E, h29^{km}, mb4.7, ML3.7, Ms3.6, Msz3.7*

*IDC **24** 14:48:40.8±5.5, 31.88N×104.47E, h60^{km}±52^{km}, mb3.8/12, mb1 3.9/14, mb1mx3.8/24, ML3.8/2, Error ellipse: s-maj=56.0km s-min=12.7km az=61.0*

*NEIC **24** 14:48:40.8±0.7, 31.89N×104.54E, h61^{km}±7^{km}, mb4.2/3, Error ellipse: s-maj=10.0km s-min=5.2km az=69.0*

ISC 24 14:48:36.0±0.5, **31.77N**±0.06×**104.3E**±0.1, **h33**^{km}, **n22**, σ**1^{s}03**/28, **mb4.1**/14, **Sichuan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LZH	**Lanzhou**	4.32	355	P	P	14 49 42.9	+1.8
LZH				PG	P	14 49 53.9	+13
LZH				S	S	14 50 33.5	+2.5
LZH				SG	S	14 50 49.9	+19
LZH				Smax			
	comp=N,160nm,0.7s						
LZH				Smax			
	comp=E,340nm,0.5s						
LZH				LR	LR		
	comp=N,2µm,6.4s						
LZH				LR	LR		
	comp=Z,2µm,7.8s						
XAN	**Xi'an**	4.48	59	P	P	14 49 41.5	-1.9
XAN				PG	P	14 49 55.5	+12
XAN				SG	S	14 50 58.0	+23
XAN				Smax			
	comp=N,178nm,0.8s						
XAN				Smax			
	comp=E,170nm,0.8s						
ENH	**Enshi**	4.68	107	ePn	Pn	14 49 46.7	+0.4
ENH				eSn	S	14 50 59.9	+20
GYA	**Guiyang**	5.68	158	P	P	14 50 00.9	+0.7
GYA				S	S	14 51 07.1	+1.9
GYA				SG	S	14 51 37.3	+32
GYA				Smax			
	comp=N,80nm,0.9s						
GYA				Smax			
	comp=E,100nm,1.0s						
CM31	**Chiang Mai Arr**	14.12	201	P	P	14 52 00.0	+4.2
	comp=E,2.7nm,0.6s						
CMAR	**Chiang Mai Arr**	14.12	201	P	P	14 52 00.2	+4.4
	comp=E,0.1nm,0.3s,baz=12,slow=13,SNR=4.5						
SONM	**Songino Array**	16.12	5	P	P	14 52 21.6	0.0
	comp=E,0.2nm,0.3s,baz=191,slow=15,SNR=2.8						
MKAR	**Makanchi Array**	22.60	318	P	P	14 53 36.1	+1.3
	comp=E,1.5nm,0.6s,mb3.6,baz=115,slow=12,SNR=17						
ZAL	**Zalesovo**	26.20	333	P	P	14 54 09.4	+0.1
	comp=E,1.2nm,0.4s,mb3.8,baz=264,slow=10.0,SNR=5.0						
KURK	**Kurchatov**	26.82	322	eP	P	14 54 15.2	+0.1
	comp=E,2.0nm,1.1s,mb3.6						
BVAR	**Borovoye Array**	32.38	321	P	P	14 55 05.0	+0.3
	comp=E,0.5nm,0.6s,mb3.6,baz=113,slow=11,SNR=2.3						
FITZ	**Fitzroy Crossi**	53.64	155	P	P	14 57 55.0	-1.8
	comp=E,0.8nm,0.5s,mb3.9,baz=315,slow=11,SNR=3.0						
ARCES	**ARCESS Array B**	56.73	336	P	P	14 58 18.4	0.0
	comp=E,4.9nm,1.1s,mb4.5,baz=80,slow=10,SNR=2.7						
FINES	**FINESS Array B**	57.12	326	P	P	14 58 20.9	-0.5
	comp=E,2.8nm,0.8s,mb4.3,baz=76,slow=7.9,SNR=6.2						
WRAB	**Tennant Creek**	58.92	147	eP	P	14 58 34.0	-0.6
	comp=E,4.8nm,0.6s,mb4.7						
WRA	**Warramunga Arr**	58.93	147	P	P	14 58 34.4	-0.2
	comp=E,3.0nm,0.6s,mb4.5,baz=339,slow=7.5,SNR=13						
ASAR	**Alice Springs**	61.97	149	P	P	14 58 55.3	+0.1
	comp=E,1.1nm,0.5s,mb4.2,baz=333,slow=6.6,SNR=14						
HFS	**Hagfors**	63.32	326	P	P	14 59 02.0	-1.8
	comp=E,1.5nm,0.5s,mb4.4,baz=101,slow=7.3,SNR=5.7						
NOA	**NORSAR Array B**	64.19	327	P	P	14 59 08.7	-0.6
	comp=E,0.5nm,0.6s,mb3.8,baz=79,slow=6.4,SNR=2.5						
CTA	**Charters Tower**	65.38	136	P	P	14 59 16.6	-1.1
	comp=E,1.1nm,0.9s,mb3.9,baz=337,slow=13,SNR=3.7						
CTAO	**Charters Tower**	65.38	136	eP	P	14 59 16.4	-1.3
	comp=E,2.8nm,0.9s,mb4.3						
STKA	**Stephens Creek**	72.47	147	P	P	15 00 01.4	+0.2
	comp=E,2.3nm,0.3s,mb4.5,baz=24,slow=12,SNR=3.4						

MAN 24 14:50:22.1, 18.41N×120.80E, h15^{km}, mb4.5, ML3.3, MS3.2, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PIP	**Pasuquin**	0.19	244	⇑iP	Pb	14 50 27.7	+0.9
PIP				i S	Sb	14 50 35.2	+5.3
APYP	**Conner**	0.69	142	eP	Pb	14 50 35.2	-0.1
APYP				eS	Sb	14 50 47.6	+3.3
ABRA	**Dolores**	0.76	186	eP	Pb	14 50 37.0	+0.5
CAUP	**Cauayan**	1.75	146	eP	Pn	14 50 52.9	+0.6
BOLP	**Bolinao**	2.19	203	eP	Pn	14 50 59.1	+0.5

*IDC **24** 14:54:53.0±1.1, 11.03N×87.33W, mb3.9/4, mb1 4.2/5, mb1mx3.9/20, ML3.4/1, Error ellipse: s-maj=68.9km s-min=20.7km az=39.0*

*CASC **24** 14:54:55.4±2.8, 10.97N×87.42W, h36^{km}±14^{km}, MD4.1, ML3.7, mb3.8(NEIC)*

*NEIC **24** 14:54:57.8±0.7, 11.06N×87.24W, h35^{km}, mb3.8/1, Error ellipse: s-maj=32.6km s-min=10.8km az=209.0*

ISC 24 14:54:54.6±0.6, **10.94N**±0.04×**87.43W**±0.04, **h41**^{km}±14^{km}, **n48**, σ**1^{s}17**/67, **mb3.9**/4, **3C, Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
COPN	**Copaltepe**	1.48	34	eP	P	14 55 19.6	+0.3
CRUN	**El Crucero**	1.51	47	eP	P	14 55 20.2	+0.5
LEON	**Leon**	1.55	20	eP	P	14 55 20.8	+0.5
TICN	**Ticuantepe**	1.59	47	eP	P	14 55 20.6	-0.3
MIRN	**Miramar**	1.64	25	eP	P	14 55 21.7	+0.1
APON	**Apoyo**	1.65	54	eP	P	14 55 20.9	-0.7
MGAN	**Managua**	1.66	44	eP	P	14 55 21.9	+0.1
MGAN				eS	S	14 55 43.5	+1.3
	comp=N,1µm,0.4s						
MOMJ	**Momotombo**	1.69	31	eP	P	14 55 22.4	+0.1
CNGN	**Cerro Negro**	1.70	25	eP	P	14 55 22.8	+0.3
WILN	**Americas 2**	1.71	45	eS	S	14 55 44.8	+1.4
CRIN	**San Cristobal**	1.78	12	eP	P	14 55 24.4	+0.8
CRZC	**La Cruz**	1.80	90	eP	P	14 55 23.9	+0.2
CRZC				eS	S	14 55 43.6	-1.8
CONN	**Concepcion**	1.87	71	eP	P	14 55 24.2	-0.6
VCR	**Vista de Mar**	1.94	115	⇑eP	P	14 55 25.0	-0.8
VCR				eS	S	14 55 46.3	-2.8
PYTN	**Playitas**	2.08	40	eP	P	14 55 27.7	0.0
PYTN				eS	S	14 55 53.1	+0.6
CNCH	**Conchagua**	2.35	350	⇑eP	P	14 55 32.2	+0.5
CNCH				eS	S	14 55 59.2	-0.3
JTS	**JuntasAbangare**	2.52	105	Pn	P	14 55 33.8	-0.2
	comp=N,8.7nm,0.3s,baz=116,slow=24,SNR=19						
JTS				Sn	S	14 56 02.0	-1.7
	comp=N,35nm,0.3s,baz=118,slow=22,SNR=11						
JTS	**JuntasAbangare**	2.52	105	Pn	P	14 55 33.8	-0.2
JTS				Sn	S	14 56 02.0	-1.7
JCR	**Jicaral**	2.52	115	eP	P	14 55 33.2	-0.9
JCR				eS	S	14 56 01.4	-2.5
SOMN	**Somoto**	2.59	18	eP	P	14 55 37.3	+2.3
BLLM	**Bellamira**	2.61	342	eP	P	14 55 35.8	+0.5
BLLM				eS	S	14 56 04.5	-1.5
CAHU	**Cacacuatique**	2.91	345	eP	P	14 55 40.7	+1.0
SNVI	**San Vicente**	2.99	333	eP	P	14 55 41.9	+1.1
SNVI				eS	S	14 56 14.3	-1.5
CGA2	**Cerro Gallo 2**	3.05	107	eP	P	14 55 42.6	+0.9
CGA2				eS	S	14 56 16.2	-1.2
LCBS	**La Ceiba**	3.09	331	eP	P	14 55 42.6	+0.4
LCBS				eS	S	14 56 16.5	-1.9
LFRS	**El Faro**	3.11	329	eP	P	14 55 42.5	+0.1
LFRS				eS	S	14 56 17.2	-1.5
PRS1	**Puriscal**	3.21	107	eP	P	14 55 44.8	+0.9
PRS1				eS	S	14 56 19.6	-1.7
VPS2	**Volcan Poas 2**	3.23	103	eP	P	14 55 44.4	+0.3
BOQS	**Boqueron**	3.31	327	eP	P	14 55 46.2	+0.9
BOQS				eS	S	14 56 23.1	-0.8
LAJ	**Bijagual**	3.42	108	⇑eP	P	14 55 42.7	-4.2
LAJ				eS	S	14 56 14.0	-13
SJS	**Escuela Geolog**	3.46	106	eP	P	14 55 49.6	+2.1
LCR2	**La Lucha 2**	3.57	109	eP	P	14 55 50.0	+1.0
LCR2				eS	S	14 56 31.4	+0.9
SBLS	**San Blas**	3.59	324	eP	P	14 55 50.2	+0.9
SBLS				eS	S	14 56 29.2	-1.8
SNJE	**San Jose**	3.60	324	eP	P	14 55 50.3	+0.8
SNJE				eS	S	14 56 30.0	-1.3
RTR	**El Retiro**	3.65	324	eP	P	14 55 50.5	+0.4
RTR				eS	S	14 56 30.6	-1.8
TRTC	**Tortuguero**	3.67	95	eP	P	14 55 52.0	+1.7
TRTC				eS	S	14 56 32.3	-0.6
URSC	**Urasca**	3.75	107	eP	P	14 55 53.5	+1.9
BUS	**Buena Vista**	3.86	111	eP	P	14 55 54.0	+0.8
BUS				eS	S	14 56 36.0	-1.9
ACR	**Cerro Adams**	4.77	118	eP	P	14 56 06.4	+0.3
ACR				eS	S	14 56 54.6	-6.2
SDV	**Santo Domingo**	16.67	96	P	P	14 58 46.7	-0.2
	comp=N,7.6nm,0.9s						
TXAR	**Lajitas Array**	23.76	323	P	P	15 00 07.2	+3.0
	comp=N,1.3nm,0.8s,mb3.4,baz=138,slow=11,SNR=2.6						
PDAR	**Pinedale Array**	37.11	333	P	P	15 02 04.7	+1.7
	comp=N,2.6nm,1.2s,mb3.9,baz=113,slow=12,SNR=2.7						
NVAR	**Mina Array Bea**	38.85	320	P	P	15 02 21.6	+3.9
	comp=N,1.0nm,0.8s,mb3.6,baz=119,slow=7.8,SNR=7.2						
NVAR				PcP	PcP	15 04 31.4	+2.7
	comp=N,0.4nm,0.6s,baz=159,slow=2.3,SNR=4.5						
BDFB	**Brasilia**	47.12	123	P	P	15 03 28.2	+3.2
	comp=N,3.3nm,0.5s,mb4.5,baz=308,slow=4.3,SNR=5.2						
ASAR	**Alice Springs**	138.72	247	PKP	PKPdf	15 14 20.6	+3.4
	comp=N,0.3nm,0.8s,baz=86,slow=2.7,SNR=3.1						
WRA	**Warramunga Arr**	138.86	252	PKP	PKPdf	15 14 21.5	+4.0
	comp=N,0.3nm,0.9s,baz=91,slow=2.7,SNR=5.1						
FITZ	**Fitzroy Crossi**	147.25	254	PKPbc	PKPdf	15 14 38.5	+6.3
	comp=N,1.1nm,0.6s,baz=202,slow=5.4,SNR=4.7						
CMAR	**Chiang Mai Arr**	150.12	348	PKPbc	PKPdf	15 14 45.1	+8.3
	comp=N,0.6nm,0.7s,baz=354,slow=5.4,SNR=4.6						

*BER **24** 15:02:36.4±4.0, 67.20N×20.60E, ML1.9, Suspected explosion*

HEL 24 15:02:35.0±0.2, **67.14N×20.74E, ML2.1, ML2.1**(BER), **Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KIF	**Kilpisjarvi**	1.88	1	eP	Pn	15 03 07.7	-0.9
KIF				eS	Sn	15 03 32.6	-0.8
KTK1	**Kautokeino**	2.10	25	eP	Pn	15 03 12.4	+0.5
KTK1				eSG	Sg	15 03 40.4	-4.6
KTK1				AML	AML	15 03 41.4	
	comp=Z,25nm,0.3s						
SGF	**Sodankyl**	2.27	80	eP	Pn	15 03 13.6	-0.7
SGF				eS	Sn	15 03 41.4	-1.9
TRO	**Tromso**	2.60	346	eSB	Sb	15 03 53.0	-1.7
TRO				AML	AML	15 03 56.0	
	comp=Z,9.0nm,0.5s						
MOR8	**Moi Rana**	2.69	252	eSG	Sg	15 03 53.3	-11
MOR8				AML	AML	15 03 56.4	
	comp=Z,16nm,0.4s						
MELS	**Mels**	2.77	268	eSg	Sg	15 04 00.8	-6.5
LOF	**Lofoten**	2.93	293	eSG	Sg	15 04 08.0	-4.6
OUL	**Oulu**	2.94	132	eSG	Sg	15 04 05.1	-7.8
OUL				MSG		15 04 09.9	
	comp=Z,5.5nm,0.4s						
KEV	**Kevo**	3.50	38	eS	Sn	15 04 10.7	-3.9
KEV				eSG	Sg	15 04 23.4	-8.2
MSF	**Maaselka**	3.54	106	eS	Sn	15 04 10.1	-5.5
MSF				eSB	Sb	15 04 20.6	-1.6
KJN	**Kajaani**	4.21	133	eS	Sn	15 04 28.3	-4.3
KJN				eSG	Sg	15 04 44.1	-11
KJN				MSG		15 04 48.7	
	comp=Z,3.4nm,0.5s						
NSS	**Namsos**	4.46	238	eSG	Sg	15 04 54.2	-9.1

*NAO **24** 15:05:15.4±2.4, 67.63N×33.89E, ML2.7*

*IDC **24** 15:05:15.8±2.2, 67.73N×34.03E, mb1 3.5/4, mb1mx3.3/20, ML3.4/4, Error ellipse: s-maj=21.3km s-min=9.3km az=77.0*

HEL 24 15:05:16.0±0.4, **67.67N×33.87E, ML2.8, ML2.4**(BER), **ML2.7**(NAO), **Explosion, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
APA0	**Apatity Array**	0.34	260	i P	Pg	15 05 22.1	-0.7
APA0				i S	Sg	15 05 26.6	-0.7
APA0	**Apatity Array**	0.34	260	P	Pg	15 05 22.1	-0.7
	baz=100,slow=18						
APA0				Sg	Sg	15 05 26.6	-0.7
	baz=87,slow=37						
MSF	**Maaselka**	2.60	230	eP	Pn	15 05 59.8	-0.2
MSF				eS	Sn	15 06 31.6	-1.2
SGF	**Sodankyl**	2.83	269	eP	Pn	15 06 01.7	-1.5
SGF				eS	Sn	15 06 37.2	-1.4
SGF				MSG		15 06 44.9	
	comp=Z,45nm,0.2s						
KEV	**Kevo**	3.27	313	eP	Pn	15 06 09.1	-0.4
KEV				eS	Sn	15 06 47.1	-2.6
KEV				MSG		15 06 56.7	
	comp=Z,29nm,0.2s						
ARA0	**ARCESS Array S**	3.60	305	eP	Pn	15 06 12.6	-1.6
ARA0				ePG	Pg	15 06 20.6	-7.2
ARA0				eS	Sn	15 06 54.2	-3.7
ARA0				eSG	Sg	15 07 06.4	-9.3
ARA0	**ARCESS Array S**	3.60	305	Pn	Pn	15 06 12.6	-1.6
	baz=122,slow=16						
ARA0				Pg	Pg	15 06 20.6	-7.2
	baz=120,slow=16						
ARA0				Sn	Sn	15 06 54.2	-3.7
	baz=121,slow=22						
ARA0				Lg		15 07 06.4	
	baz=126,slow=37						
ARCES	**ARCESS Array B**	3.60	305	Pn	Pn	15 06 12.8	-1.3
	comp=Z,9.0nm,0.3s,baz=122,slow=15,SNR=148						
ARCES				Pg	Pg	15 06 21.0	-6.8
	comp=Z,3.2nm,0.3s,baz=115,slow=15,SNR=10						
ARCES				Sn	Sn	15 06 54.8	-3.2
	comp=Z,5.4nm,0.3s,baz=122,slow=26,SNR=10						
ARCES				Lg		15 07 07.0	
	comp=Z,15nm,0.3s,baz=114,slow=29,SNR=14						
OUL	**Oulu**	4.12	235	eP	Pn	15 06 20.9	-0.8
OUL				eSB	Sb	15 07 16.1	-4.0
OUL				MSG		15 07 26.4	
	comp=Z,22nm,0.2s						
KTK1	**Kautokeino**	4.17	294	eP	Pn	15 06 21.7	-0.6
KTK1				eS	Sn	15 07 09.9	-2.6
KTK1				AML	AML	15 07 28.8	
	comp=Z,23nm,0.1s						
KIF	**Kilpisjarvi**	5.03	292	eP	Pn	15 06 31.7	-2.8
KIF				eS	Sn	15 07 28.2	-6.0
TRO	**Tromso**	5.80	297	eS	Sn	15 07 45.7	-8.0
TRO				AML	AML	15 08 21.2	
	comp=Z,7.8nm,0.3s						
FIA0	**FINESS Array S**	7.09	212	Pn	Pn	15 06 58.6	-4.9
	baz=29,slow=14						
FIA0				Sn	Sn	15 08 18.0	-7.7
	baz=35,slow=22						
FIA0				Lg		15 08 50.9	
	baz=13,slow=28						
FIA0	**FINESS Array S**	7.09	212	eP	Pn	15 06 58.6	-4.9
FIA0				eS	Sn	15 08 18.0	-7.7
FIA0				eSG		15 08 50.9	
FINES	**FINESS Array B**	7.09	212	Pn	Pn	15 06 58.8	-4.8
	comp=Z,0.3nm,0.3s,baz=32,slow=13,SNR=10						
FINES				Pg	Pg	15 07 20.8	-17
	comp=Z,0.7nm,0.3s,baz=34,slow=14,SNR=6.5						
FINES				Sn	Sn	15 08 19.2	-6.5
	comp=Z,0.9nm,0.3s,baz=42,slow=22,SNR=4.0						
FINES				Lg		15 08 51.5	
	comp=Z,2.1nm,0.3s,baz=24,slow=23,SNR=6.6						
LOF	**Lofoten**	7.67	283	eS	Sn	15 08 32.1	-8.4
MOR8	**Moi Rana**	7.77	268	eS	Sn	15 08 29.8	-13
MOR8				AML	AML	15 08 36.8	
	comp=Z,4.6nm,0.5s						
MELS	**Mels**	7.84	273	e	Sn	15 08 35.4	-9.1
HFS	**Hagfors**	11.60	239	eP	P	15 07 58.8	-6.9
HFS				eS	S	15 10 05.0	-12
HFS	**Hagfors**	11.60	239	Pn	P	15 07 58.8	-6.9
	comp=Z,0.0nm,0.3s,baz=56,slow=11,SNR=5.5						
HFS				Sn	S	15 10 06.7	-11
	comp=Z,0.1nm,0.3s,baz=36,slow=26,SNR=4.4						
HFS				Lg		15 11 17.2	
	comp=Z,0.1nm,0.3s,baz=56,slow=31,SNR=3.0						
HFS	**Hagfors**	11.60	239	P	P	15 07 58.8	-6.9
	baz=48,slow=11						
HFS				Sn	S	15 10 05.0	-12

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	baz=50,slow=28						
SPA0	Spitsbergen Ar	11.66	342	Pn	P	15 08 00.1	-6.3
	baz=169,slow=18						
SPA0	Spitsbergen Ar	11.66	342	*e*P	P	15 08 00.1	-6.3
NOA	NORSAR Array B	11.79	247	Pn	P	15 08 01.7	-6.5
	comp=Z,0.3nm,0.3s,baz=41,slow=11,SNR=2.5						
NOA				Sn	S	15 10 09.2	-13
	comp=Z,0.2nm,0.3s,baz=145,slow=16,SNR=2.4						
NOA				Lg		15 11 28.0	
	comp=Z,0.3nm,0.3s,baz=320,slow=29,SNR=3.1						

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*NEIC **24** 15:17:40.4±2.5,20.08S×177.79W,h547^{km}±28^{km}, mb4.2/11,Error ellipse: s-maj=15.8km s-min=12.8km az=205.0*

*IDC **24** 15:17:42.4±2.2,20.22S×177.77W,h570^{km}±27^{km}, mb3.5/10,mb1 3.7/11,mb1mx3.6/17,Error ellipse: s-maj=26.6km s-min=11.4km az=155.0*

ISC 24 15:17:40.5±1.1,**20.2S**±0.1×**177.9W**±0.1,**h559**^{km}±12^{km}, **n38,**σ**0**^{s}.**90**/27,**mb4.0**/18,**2C-4D,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.56	301	P	P	15 19 08.1	+0.2
	345nm,0.5s,SNR=12						
URZ	Urewera	18.57	193	P	P	15 21 22.6	-1.1
	3.4nm,0.3s,baz=14,slow=20,SNR=18						
RPZ	Rata Peaks	25.27	199	P	P	15 22 24.1	-0.5
	40nm,1.4s,mb4.8,baz=138,slow=19,SNR=3.0						
CTA	Charters Tower	33.66	264	⇓*i*P	P	15 23 37.6	+0.8
	4.4nm,0.3s,mb4.5						
CTA	Charters Tower	33.66	264	P	P	15 23 37.6	+0.8
	7.5nm,0.4s,mb4.5,baz=98,slow=11,SNR=25						
CTAO	Charters Tower	33.66	264	*e*P	P	15 23 37.5	+0.7
	8.7nm,0.6s,mb4.5						
STKA	Stephens Creek	38.07	244	⇓*i*P	P	15 24 14.0	+1.0
	1.8nm,0.4s,mb4.0						
STKA	Stephens Creek	38.07	244	P	P	15 24 13.9	+0.9
	2.2nm,0.5s,mb4.0,baz=83,slow=9.2,SNR=7.9						
ASAR	Alice Springs	44.73	256	P	P	15 25 06.4	+0.3
	11nm,0.8s,mb4.4,baz=96,slow=7.5,SNR=163						
ASAR				PcP	PcP	15 26 36.5	-0.1
	1.2nm,0.5s,baz=107,slow=3.9,SNR=8.3						
ASAR				S	S	15 31 03.6	+0.8
	0.5nm,0.6s,baz=91,slow=16,SNR=9.6						
ASPA	Alice Springs	44.74	256	⇓*i*P	P	15 25 06.3	+0.2
WB2	Warramunga Arr	44.77	262	⇓*i*P	P	15 25 06.1	-0.4
WRAB	Tennant Creek	44.78	262	*e*P	P	15 25 05.9	-0.6
	7.1nm,0.7s,mb4.3						
WRA	Warramunga Arr	44.79	262	P	P	15 25 06.2	-0.3
	6.7nm,0.6s,mb4.4,baz=97,slow=7.9,SNR=275						
WRA				PcP	PcP	15 26 36.6	-0.2
	1.3nm,0.9s,baz=88,slow=3.8,SNR=5.5						
WRA				S	S	15 31 02.5	-1.1
	0.6nm,1.0s,baz=98,slow=13,SNR=5.2						
KAKA	Kakadu	48.15	271	*e*P	P	15 25 35.4	+3.2
	7.2nm,0.6s,mb4.4						
FORT	Forrest	49.56	246	*e*P	P	15 25 42.1	-0.5
	28nm,0.5s,mb5.0						
FITZ	Fitzroy Crossi	53.21	262	*e*P	P	15 26 08.9	-0.2
	2.9nm,0.4s,mb4.0						
MBWA	Marble Bar	58.06	257	*e*P	P	15 26 41.6	-1.1
	6.2nm,0.6s,mb4.0						
SBA	Scott Base	58.23	184	*e*P	P	15 26 43.8	+0.8
	0.8nm,0.6s,mb3.1						
QSPA	South Pole Qui	69.92	180	*e*P	P	15 27 57.2	+0.5
	0.9nm,0.4s,mb3.6						
MAJO	Matsushiro	70.01	324	*e*P	P	15 27 56.7	-1.2
	4.4nm,0.7s,mb4.1						
YBH	Yreka Blue Hor	79.93	39	P	P	15 28 53.6	+0.8
	1.7nm,0.6s,mb3.5,baz=157,slow=7.7,SNR=4.5						
NVAR	Mina Array Bea	80.67	43	P	P	15 28 57.3	+0.6
	0.7nm,0.8s,mb3.2,baz=203,slow=6.9,SNR=6.8						
ILAR	Eielson Array	87.94	13	P	P	15 29 30.0	-1.6
	1.1nm,0.6s,mb3.8,baz=219,slow=5.3,SNR=14						
PDAR	Pinedale Array	88.61	43	P	P	15 29 34.8	-0.5
	0.5nm,0.6s,mb3.5,baz=214,slow=4.8,SNR=5.2						
CMAR	Chiang Mai Arr	90.13	290	P	P	15 29 44.6	+1.8
	1.6nm,0.8s,mb3.9,baz=130,slow=2.6,SNR=12						
MKAR	Makanchi Array	111.06	314	Pdiff	Pdif	15 31 21.3	+5.6
	0.4nm,0.9s,baz=90,slow=8.6,SNR=3.3						
MKAR				PKiKP		15 35 10.8	
	0.5nm,0.6s,baz=149,slow=0.4,SNR=5.3						
ZRNK	Zerenda	119.74	320	*e*PKPdf	PKPdf	15 35 27.2	+0.3
ARCES	ARCESS Array B	128.60	350	PKP	PKPdf	15 35 44.0	+0.4
	3.6nm,1.0s,baz=45,slow=3.4,SNR=4.1						
KAF	Kangasniemi	134.85	344	*e*p	PKPdf	15 35 57.2	+1.7
	0.4nm,0.3s						
FINES	FINESS Array B	135.47	344	PKP	PKPdf	15 35 58.1	+1.5
	2.2nm,0.8s,baz=90,slow=1.9,SNR=5.2						
AKASG	Malin Array Be	142.77	331	PKhKP		15 36 08.0	
	2.4nm,0.3s,baz=40,slow=4.3,SNR=23						
MALT	Malatya	143.82	308	*e*PKPdf	PKPdf	15 36 13.7	+1.5
BRTR	Keskin Array B	146.70	313	PKPbc	PKPbc	15 36 21.1	+2.0
	2.0nm,0.5s,baz=141,slow=4.4,SNR=6.5						
CLL	Collm	147.75	347	*i* PKP1	PKPdf	15 36 23.8	+5.5
PRU	Pruhonice	148.63	345	⇑*e*PKPB		15 36 21.1	
EIL	Elat	148.86	294	*e*PKPbc	PKPdf	15 36 27.0	+6.2
KHC	Kasperske Hory	149.66	345	⇑*e*PKPB		15 36 28.5	
GERES	GERESS Array B	149.90	345	PKPbc	PKPdf	15 36 28.7	+6.9
	1.5nm,0.6s,baz=27,slow=3.0,SNR=16						

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*IDC **24** 15:27:11.9±2.0,28.22N×112.93W,mb3.8/2,mb1 4.1/5, mb1mx3.9/22,ML3.8/3,Error ellipse: s-maj=35.0km s-min=14.9km az=23.0*

*NEIC **24** 15:27:15.1±1.4,28.46N×112.75W,h10^{km},mb3.9/1,Error ellipse: s-maj=19.4km s-min=10.7km az=199.0*

ISC 24 15:27:18.2±0.9,**29.01N**±0.06×**112.57W**±0.04,**h10**^{km},**n23,** σ**1**^{s}.**29**/31,**mb3.6**/1,**Gulf of California**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TUC	Tucson	3.63	25	*e*Pn	Pn	15 28 15.1	-0.6
TUC				*e*Pg	Pg	15 28 30.5	-0.1
TUC				*e*Sg	Sg	15 29 21.0	+2.0
BAR	Barrett	5.08	317	*e*Pn	Pn	15 28 36.2	-0.2
BAR				*e*Sg	Sg	15 30 05.1	-2.3
PFO	Pinyon Flat Ob	5.66	325	*e*Pg	Pg	15 29 05.8	-5.5
PFO				*e*Sg	Sg	15 30 26.1	-0.7
LENM	Lemitar	7.01	41	*e*P	Pn	15 29 03.0	-0.5
LENM				*e*S	Sg	15 31 11.7	+0.1
LPM	Los Pinos Moun	7.31	42	Pn	Pn	15 29 05.1	-2.6
LPM				*e*Pg	Pg	15 29 42.9	-1.3
LPM				*e*Sg	Sg	15 31 21.7	0.0
GDL2	Guadalupe Moun	7.75	64	*e*Pn	Pn	15 29 15.1	+1.2
GDL2				*e*S	Sg	15 31 30.8	-5.4
TXAR	Lajitas Array	7.79	85	Pn	Pn	15 29 13.0	-1.4
	1.3nm,0.3s,baz=265,slow=13,SNR=20						
TXAR				Lg		15 31 31.3	
	0.6nm,0.3s,baz=265,slow=26,SNR=5.1						
ANMO	Albuquerque	7.87	40	*e*Pn	Pn	15 29 16.0	+0.5
ANMO				*e*Sg	Sg	15 31 37.5	-2.6
ARUT	Antelope Range	8.78	355	*e*Pn	P	15 29 28.3	+0.1
PV10	Paradox Valley	9.79	17	P	P	15 30 00.2	+18
NVAR	Mina Array Bea	10.53	335	Pn	P	15 29 53.1	+0.8
	0.1nm,0.3s,baz=158,slow=15,SNR=4.3						
NVAR				Lg		15 33 07.2	
	baz=110,slow=43,SNR=1.7						
NVAR	Mina Array Bea	10.53	335	Pn	P	15 29 53.1	+0.8
NVAR				Lg		15 33 07.2	
DUG	Dugway	11.16	359	*e*P	P	15 30 03.0	+2.1
ELK	Elko	11.91	350	*e*P	P	15 30 12.3	+1.2
PDAR	Pinedale Array	13.94	9	Pn	P	15 30 40.1	+2.1
	0.0nm,0.3s,baz=187,slow=12,SNR=5.6						
PDAR				Lg		15 34 52.7	
	0.1nm,0.3s,baz=166,slow=18,SNR=3.9						
MCMT	McKenzie Canyo	15.79	359	*e*P	P	15 31 08.7	+6.5
LNOR	Lincton Mounta	17.42	347	P	P	15 31 24.7	+1.8
DPW	Davenport	19.33	348	P	P	15 31 46.0	-0.2
NEW	Newport	19.54	351	P	P	15 31 49.4	+0.7
	1.7nm,0.4s,baz=141,slow=8.3,SNR=3.3						
NEW	Newport	19.54	351	*e*P	P	15 31 49.5	+0.9
	7.3nm,1.1s						
NLW	Nelson Butte	19.96	345	*e*P	P	15 31 53.3	-0.1
ILAR	Eielson Array	41.76	339	P	P	15 35 07.0	-1.8
	1.5nm,1.0s,mb3.6,baz=151,slow=6.9,SNR=5.2						
WRA	Warramunga Arr	119.13	262	PKP	PKPdf	15 46 03.1	-8.0
	0.6nm,1.0s,baz=61,slow=1.9,SNR=4.6						

CASC 24 15:45:57.3±2.0,**13.59N**×**91.39W,h64**^{km}±34^{km},**MD3.9, ML3.7,1C-3D,Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAT	Jato	0.76	342	⇓*e*P	P	15 46 12.7	+0.1
JAT				*e*S	S	15 46 24.4	+0.4
JAT				AML	AML	15 46 29.2	
	comp=N,11μm,0.3s						
IXG	Ixpaco	1.08	57	⇓*e*P	P	15 46 15.4	-1.4
IXG				*e*S	S	15 46 32.5	+1.2
IXG				AML	AML	15 46 37.8	
	comp=N,1μm,0.5s						
TP2	Tecpan 2	1.24	17	⇓*e*P	P	15 46 19.4	+0.5
TP2				*e*S	S	15 46 36.8	+1.8
TP2				AML	AML	15 46 38.4	
	comp=N,463nm,0.4s						
NBG	Las Nubes	1.42	46	*e*P	P	15 46 21.8	+0.3
NBG				*e*S	S	15 46 40.2	+0.9
NBG				AML	AML	15 46 46.7	
	comp=E,1μm,0.2s						
SBLS	San Blas	1.74	82	*e*P	P	15 46 24.8	-1.0
SBLS				*e*S	S	15 46 45.1	-1.8
SNJE	San Jose	1.76	81	*e*P	P	15 46 25.7	-0.4
BOQS	Boqueron	2.06	86	*e*P	P	15 46 29.9	-0.3
BOQS				*e*S	S	15 46 58.8	+4.1
LFRS	El Faro	2.27	89	⇑*e*P	P	15 46 33.1	-0.1
LFRS				*e*S	S	15 47 00.3	+0.3
LCBS	La Ceiba	2.35	88	*e*P	P	15 46 34.3	-0.1
SNVI	San Vicente	2.48	89	*e*P	P	15 46 38.0	+1.7
SNVI				*e*S	S	15 47 06.4	+1.0

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*LDG **24** 15:51:03.8±0.3,42.37N×2.16E,h4^{km},Md2.3/1,Ml2.1/5, Error ellipse: s-maj=6.5km s-min=3.0km az=156.0*

*STR **24** 15:51:09.2±0.0,42.72N×1.90E,h2^{km}±1^{km},Ml2.0,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*NEIC **24** 15:51:09.2,42.78N×1.88E,h10^{km},ML2.5(STR), ML2.1(LDG),After STR.*

ISC 24 15:51:04.3±1.1,**42.54N**±0.06×**2.08E**±0.05,**h10**^{km},**n10,** σ**1**^{s}.**18**/20,**Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPEF	Le Peyrat	0.43	343	Pg	Pg	15 51 13.7	+0.6
LPEF				Sg	Sg	15 51 17.0	-1.9
SALF	Salau	0.69	289	Pg	Pg	15 51 19.1	+0.9
SALF				Sg	Sg	15 51 26.4	-1.2
MTLF	Montolieu	0.81	7	*e*Pg	Pg	15 51 21.8	+1.2
MTLF				*e*Pn	Pn	15 51 23.1	+1.5
MTLF				*e*Sg	Sg	15 51 35.1	+3.7
	2.3nm,0.2s						
EPF	Esparros	1.37	292	*e*Pn	Pn	15 51 30.1	+0.5
EPF				*e*Pg	Pg	15 51 32.0	+0.3
EPF				*e*Sg	Sg	15 51 50.7	+0.6
	8.7nm,0.3s						
ETSF	Etsaut	1.98	281	*e*Pg	Pg	15 51 42.0	-1.8
LASF	Ste Croix	2.01	40	*e*Pn	Pn	15 51 38.5	-0.3
LASF				*e*Pg	Pg	15 51 42.5	-2.0
LASF				*e*Sg	Sg	15 52 10.2	-1.2
	3.1nm,0.2s						
CAF	Calviac	2.39	360	*e*Pn	Pn	15 51 44.4	+0.3
CAF				*e*Sg	Sg	15 52 24.2	+0.3
	1.0nm,0.2s						
SJPF	Ste Jean	2.50	284	*e*Pg	Pg	15 51 50.9	-3.3
LFF	La Frestale	2.59	338	*e*Pn	Pn	15 51 48.4	+1.4
RJF	Les Rejaudoux	2.80	352	*e*Pn	Pn	15 51 50.3	+0.3
RJF				*e*Sg	Sg	15 52 37.7	+0.2
	1.8nm,0.2s						

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*IDC **24** 15:58:20.1±4.4,22.43N×94.65E,h136^{km}±35^{km},mb3.2/3, mb1 3.2/4,mb1mx3.0/18,Error ellipse: s-maj=104.0km s-min=23.1km az=60.0*

ISC 24 15:58:00.3±1.5,**23.5N**±0.2×**93.7E**±0.2,**h62**^{km}±23^{km},**n10,** σ**0**^{s}.**79**/10,**mb3.8**/2,**Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SHL	Shillong	2.65	322	*e*P	P	15 58 44.2	+2.6
SHL				*e*S	S	15 59 11.5	-1.1
CMAR	Chiang Mai Arr	7.01	134	P	P	15 59 42.0	-0.6
	0.1nm,0.3s,baz=310,slow=13,SNR=4.9						
PKI	Pulchoki	8.51	300	*e*P	P	16 00 03.5	+0.3
	4.8nm,0.2s						
KKN	Kakani	8.71	301	*e*P	P	16 00 06.0	0.0
	7.6nm,0.2s						
DMN	Daman	8.77	300	*e*P	P	16 00 06.9	+0.2
	4.3nm,0.2s						
GKN	Gorkha	9.32	301	*e*P	P	16 00 14.1	-0.1
	26nm,0.3s						
KOLN	Koldanda	10.05	297	*e*P	P	16 00 23.9	-0.4
	6.5nm,0.3s						
MKAR	Makanchi Array	25.00	341	P	sP	16 03 42.8	+0.7
	0.4nm,0.7s,baz=170,slow=8.8,SNR=3.7						
WRA	Warramunga Arr	58.60	134	P	P	16 07 53.3	-0.2
	0.3nm,0.4s,mb3.7,baz=321,slow=7.5,SNR=15						
ASAR	Alice Springs	61.01	137	P	P	16 08 10.3	+0.4
	0.3nm,0.4s,mb3.8,baz=320,slow=6.7,SNR=14						

OTT 24 16:02:58.6±0.2,**52.80N**×**67.32W,MN2.6**/7,**Blast, Mount Wright, Qc Mining explosion.,Northern Quebec**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCHQ	Schefferville	2.06	8	PN	Pn	16 03 33.1	-1.7
SCHQ				SN	Sn	16 04 01.2	-0.4
SCHQ				Trac		16 04 05.2	
	comp=Z,17nm,0.1s						
MNQ	Manicouagan	2.44	202	PN	Pn	16 03 39.6	-0.7
MNQ				SN	Sn	16 04 12.9	+1.6
MNQ				Trac		16 04 20.9	
	comp=Z,7.8nm,0.1s						
SMQ	Clarke City	2.61	171	PN	Pn	16 03 41.5	-1.1
SMQ				SG	Sg	16 04 18.0	-7.3
SMQ				Trac		16 04 18.6	
	comp=Z,7.0nm,0.2s						
ICQ	Pointe Anglais	3.28	179	PN	Pn	16 03 50.3	-1.9
ICQ				SN	Sn	16 04 27.9	-4.6
ICQ				Trac		16 04 38.2	
	comp=Z,9.5nm,0.3s						
CNQ	Baie Comeau	3.53	188	PN	Pn	16 03 54.5	-1.3
CNQ				SN	Sn	16 04 36.9	-2.0
CNQ				SG	Sg	16 04 46.3	-10
CNQ				Trac		16 04 56.2	
	comp=Z,2.6nm,0.1s						
GSQ	Grosses Roches	3.89	178	PN	Pn	16 03 58.9	-2.0
GSQ				SN	Sn	16 04 42.4	-5.7
GSQ				SG	Sg	16 04 56.5	-12
GSQ				Trac		16 05 02.8	
	comp=Z,0.5nm,0.0s						
LG4Q	La Grande 4	4.16	284	PN	Pn	16 04 02.3	-2.4
LG4Q				PG	Pg	16 04 10.7	-11
LG4Q				SN	Sn	16 04 50.0	-4.8
LG4Q				SG	Sg	16 05 04.5	-12
LG4Q				Trac		16 05 13.2	
	comp=Z,3.9nm,0.2s						
LMQ	La Malbaie	5.60	201	PN	Pn	16 04 20.5	-4.5
DRLN	Deer Lake	7.13	116	PN	Pn	16 04 41.2	-5.5
DRLN				SN	Sn	16 05 58.9	-11
DRLN				LG		16 06 36.4	
LMN	Caledonia Moun	7.14	166	PN	Pn	16 04 43.5	-3.4
VLDQ	Val d’Or	7.98	238	PN	Pn	16 04 56.3	-2.4
MALO	McAlpine Lake	8.26	255	PN	P	16 04 58.0	-4.5
MALO				SN	Sn	16 06 26.4	-11
MALO				LG		16 07 09.8	
VIMO	Victor Mine	9.95	277	PN	P	16 05 20.0	-5.7
VIMO				SN	Sn	16 07 08.1	-11
SILO	Sutton Inlier	10.58	286	PN	P	16 05 27.8	-6.6
SILO				SN	S	16 07 19.8	-15

IDC 24 16:37:43.5±3.2,**29.13N**×**112.63W,mb3.4**/1,**mb1 3.8**/3, **mb1mx3.6**/20,**ML3.9**/2,**Error ellipse: s-maj=52.4km s-min=17.8km az=27.0,Gulf of California**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TXAR	Lajitas Array	7.83	86	Pn	Pn	16 39 39.1	-2.3
	1.0nm,0.3s,baz=270,slow=12,SNR=22						
TXAR				Lg		16 41 53.9	
	0.1nm,0.3s,baz=272,slow=29,SNR=2.8						
PDAR	Pinedale Array	13.83	9	Pn	P	16 41 04.9	+1.8
	0.0nm,0.3s,baz=176,slow=12,SNR=2.8						
ILAR	Eielson Array	41.63	339	P	P	16 45 33.8	-0.8
	0.4nm,0.8s,baz=153,slow=4.0,SNR=3.4						

IDC 24 16:42:08.8±7.0,**2.69N**×**126.09E,mb3.5**/3,**mb1 3.7**/3, **mb1mx3.5**/15,**Error ellipse: s-maj=165.0km s-min=109.2km az=71.0,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.90	161	P	P	16 47 26.2	+0.9
	0.7nm,0.3s,baz=339,slow=10,SNR=14						
ASAR	Alice Springs	27.28	164	P	P	16 47 54.7	-2.3
	0.3nm,0.7s,baz=346,slow=6.9,SNR=7.7						
STKA	Stephens Creek	37.40	158	P	P	16 49 22.0	-3.3
	0.4nm,0.4s,baz=0.9,slow=9.7,SNR=3.0						

NEIC 24 17:27:03.2,38.01N×**118.67W,h9**^{km},**ML3.5**(REN),**2D, After REN.,California-Nevada border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OMM	Old Mammoth Mi	0.47	213	⇓*i*P	Pg	17 27 12.4	-0.2
OMM				*e*S	Sg	17 27 18.5	-0.4
MNV	Mina	0.59	44	⇓*i*P	Pg	17 27 14.4	-0.6
MNV				*i* S	Sg	17 27 22.5	-0.5
MTUM	Tungsten Hills	0.66	172	*e*P	Pb	17 27 15.7	-0.7
MTUM				*e*S	Sg	17 27 25.1	-0.2
TPH	Tonopah	1.15	86	*e*P	Pb	17 27 24.7	-0.1
TPH				*e*S	Sb	17 27 40.7	+1.2
CMB	Columbia Colle	1.35	272	*e*P	Pb	17 27 27.5	-0.8
WCN	Washoe City	1.54	327	*e*P	Pn	17 27 31.3	+0.3
PAHR	Pah Rah Range	1.78	342	*e*P	Pn	17 27 34.4	-0.1
DAC	Darwin (Calif)	1.93	153	*e*Pn	Pn	17 27 36.4	-0.2
DAC				*e*Sg	Sg	17 28 04.3	-3.3
TPNV	Topopah Spring	2.20	118	*e*Pn	Pn	17 27 39.9	-0.5
BEKR	Beckwourth	2.27	325	*e*Pn	Pn	17 27 41.2	-0.2
LRV	Little Rabbit	2.45	231	*e*Pn	Pn	17 27 44.6	+0.6
SAO	San Andreas Ge	2.54	241	*e*Pn	Pn	17 27 44.0	-1.2
OHCM	Honcut	2.57	302	Pn	Pn	17 27 45.7	0.0
LKC	Lake Chabot	2.70	265	*e*Pn	Pn	17 27 47.1	-0.4
NSHM	Saint Helena R	3.14	281	*e*Pn	Pn	17 27 53.5	-0.3
MWC	Mount Wilson	3.81	172	Pn	Pn	17 28 03.1	-0.3
ELK	Elko	3.81	43	*e*Pn	Pn	17 28 02.2	-1.1
ELK				*e*Sg	Sg	17 29 02.4	-7.8
NEN	Nelson	3.87	126	*e*Pn	Pn	17 28 05.2	+1.0
WDC	Whiskeytown Da	3.95	312	Pn	Pn	17 28 03.7	-1.6
MOD	Modoc	4.08	343	Pn	Pn	17 28 07.6	+0.3
ARUT	Antelope Range	4.14	91	*e*Pn	Pn	17 28 07.5	-0.6
ARUT				*e*Pg	Pg	17 28 20.4	-5.5
WVOR	Wild Horse Val	4.42	0	Pn	Pn	17 28 09.6	-2.5
DUG	Dugway	5.05	63	*e*Pn	Pn	17 28 19.8	-1.2
DUG				*e*Pg	Pg	17 28 41.5	-2.6
DUG				*e*Sg	Sg	17 29 41.8	-10
MSU	Marysvale	5.14	82	Pn	Pn	17 28 21.7	-0.5
HLID	Hailey	6.42	29	Pn	Pn	17 28 38.1	-2.2

CASC 24 18:23:04.5±1.4,**13.51N**×**90.22W,h50**^{km}±17^{km},**MD3.6,8D, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CUSS	Cusmapa	0.48	34	*e*P	P	18 23 15.6	0.0
SBLS	San Blas	0.67	60	⇓*e*P	P	18 23 18.3	+0.4
SBLS				*e*S	S	18 23 29.1	+1.4
RTR	El Retiro	0.68	55	⇓*e*P	P	18 23 18.6	+0.6
RTR				*e*S	S	18 23 28.1	+0.1
IXG	Ixpaco	0.70	341	⇓*e*P	P	18 23 18.0	-0.3
IXG				*e*S	S	18 23 30.7	+2.2
SNJE	San Jose	0.70	59	⇓*e*P	P	18 23 18.7	+0.4
SNJE				*e*S	S	18 23 29.5	+1.1
BOQS	Boqueron	0.95	76	⇓*e*P	P	18 23 21.9	+0.2
BOQS				*e*S	S	18 23 35.1	+0.8
PCG	Pacaya	0.96	337	*e*S	S	18 23 35.3	+0.6
LFU	La Fuente	1.11	77	⇓*e*P	P	18 23 24.8	+0.9
FUG	Fuego 3	1.11	327	*e*P	P	18 23 23.6	-0.4
LFRS	El Faro	1.14	84	*e*P	P	18 23 24.1	-0.2
LFRS				*e*S	S	18 23 39.2	+0.2
LBRS	Las Brisas	1.17	78	*e*P	P	18 23 25.2	+0.5
LCBS	La Ceiba	1.22	83	*e*P	P	18 23 25.3	-0.2
LCBS				*e*S	S	18 23 41.1	0.0
MTO2	Montecristo 2	1.22	43	⇓*e*P	P	18 23 25.8	+0.3
MTO2				*e*S	S	18 23 41.3	+0.1
SNVI	San Vicente	1.35	85	*e*P	P	18 23 27.1	-0.4
SNVI				*e*S	S	18 23 45.2	+0.7
TP2	Tecpan 2	1.49	329	⇓*e*P	P	18 23 29.7	+0.4
TP2				*e*S	S	18 23 50.0	+2.2
JAT	Jato	1.59	301	*e*P	P	18 23 29.3	-1.5
JAT				*e*S	S	18 23 49.7	-0.7
CNCH	Conchagua	2.34	95	*e*P	P	18 23 41.4	+0.1
CNCH				*e*S	S	18 24 09.2	+0.3

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*NIED **24** 18:57:00,40.60N×144.00E,h8^{km},Mw4.4 Best double couple: $M_0$4.67×10^{15} NP1:ϕ_s39°,δ73°,λ114°. NP2:ϕ_s163°, δ29°,λ37°.*

*IDC **24** 18:57:26.1±0.7,40.64N×143.85E,mb4.1/15,mb1 4.3/18, mb1mx4.2/25,ML3.8/3,MS3.5/4,Ms1 3.5/4,ms1mx3.2/28, Error ellipse: s-maj=21.3km s-min=14.4km az=89.0*

*MOS **24** 18:57:27.8±1.4,40.71N×143.95E,h27^{km},mb4.5/14,Error ellipse: s-maj=16.8km s-min=8.0km az=95.2*

*JMA **24** 18:57:27.1±0.2,40.60N×144.02E,h36^{km},M4.2*

*BJI **24** 18:57:29.0,40.99N×144.06E,h41^{km},mB4.6,mb4.6, Ms4.0,Msz3.8*

*NEIC **24** 18:57:31.1±0.5,40.64N×143.82E,mb4.7/16, MW4.4(NIED),Error ellipse: s-maj=10.5km s-min=8.5km az=139.0*

ISC 24 18:57:26.4±1.1,**40.63N**±0.03×**144.00E**±0.05,**h21**^{km}±8^{km}, **h28**^{km}±2.9^{km}**:pP-P,n95,**σ**1**^{s}.**13**/112,**mb4.4**/36,**MS3.8**/12, **3C-2D,Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JEM	Erimo	1.53	336	P	Pn	18 57 53.6	+0.7
JEM				*e*S	Sn	18 58 13.2	+0.9
JTH	Tanohata	1.77	248	P	Pn	18 57 56.5	+0.1
JTH				*e*S	Sn	18 58 17.2	-1.3
JNBK	Urakawa-nobuka	1.90	331	P	Pn	18 57 59.0	+0.8
JNBK				*e*S	Sn	18 58 23.1	+1.4
JANG	Nango	1.92	263	P	Pn	18 57 58.4	0.0
JCH	Churui	2.04	347	P	Pn	18 58 00.8	+0.6
JOT	Ohata	2.36	290	P	Pn	18 58 05.4	+0.6
JOM	Ohasama	2.38	242	P	Pn	18 58 05.9	+0.9
JAK	Akkeshi	2.42	12	P	Pn	18 58 05.7	0.0
JAK				*e*S	Sn	18 58 34.0	-1.0
JKB	Kayabe	2.57	300	P	Pn	18 58 07.9	+0.1
JAR	Ashorobuto	2.67	356	P	Pn	18 58 08.7	-0.6
JAR				*e*S	Sn	18 58 39.1	-2.3
JMK	Ichinoseki	2.72	233	P	Pn	18 58 10.7	+0.8
JEW	Eniwo	2.92	320	P	Pn	18 58 14.0	+1.2
JEW				*e*S	Sn	18 58 48.1	+0.4
NEM2	Nemuro 2	3.03	25	P	Pn	18 58 14.1	-0.2
NEM2				*e*S	Sn	18 58 47.2	-3.1
JTKR	Abashiri--Toko	3.34	359	P	Pn	18 58 18.6	-0.2
JTKR				*e*S	Sn	18 58 56.0	-2.3
JHR	Hokuryu	3.55	332	P	Pn	18 58 23.7	+2.1
ASAJ	Asahikawa	3.64	344	Pn	Pn	18 58 23.2	+0.2
	3.4nm,0.3s,baz=232,slow=10,SNR=20						
ASAJ				Sn	Sn	18 59 05.7	-0.1
	5.5nm,0.3s,baz=3.8,slow=30,SNR=6.6						
ASAJ				LR	LR	19 00 31.0	
	comp=Z,750nm,18.6s,baz=175,slow=52						
ASAJ	Asahikawa	3.64	344	P	Pn	18 58 23.2	+0.2
ASAJ						18 59 05.7	
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASAJ				smax			
	comp=N,6.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,750nm,18.6s						
YUK	Yuzh-Kuril’sk	3.67	21	*e*P	Pn	18 58 23.0	-0.5
YUK				*i* S	Sn	18 59 02.3	-4.4
YUK				pmax	pmax		
	comp=Z,180nm,0.3s						
YUK				smax			
	comp=E,620nm,0.5s						
YUK				smax			
	comp=N,920nm,0.4s						
JOSM	Okushiri--Mats	3.71	295	P	Pn	18 58 23.7	-0.2
KUR	Kuril’sk	5.41	30	*i* P	Pn	18 58 46.0	-2.0

KUR				*i* S	**Sn**	**18 59 45.5**	**-4.9**
KUR				pmax	pmax		
	comp=Z,210nm,0.7s						
KUR				smax			
	comp=N,170nm,0.7s						
KUR				smax			
	comp=E,260nm,0.7s						
MAJO	**Matsushiro**	**6.10**	**230**	*e*Pn	**Pn**	**18 58 57.3**	**-0.5**
	comp=E,26nm,0.8s						
MAT	**Matsushiro**	**6.10**	**230**	P	**Pn**	**18 58 57.8**	**0.0**
MAT				S	**Sn**	**19 00 05.5**	**-2.3**
MAT	**Matsushiro**	**6.10**	**230**	*e*P	**Pn**	**18 58 58.0**	**+0.2**
	comp=E,16nm,0.7s						
YSS	**Yuzh-Sakhalins**	**6.39**	**352**	P	**Pn**	**18 59 02.8**	**+0.9**
YSS				*e*S	**Sn**	**19 00 09.6**	**-5.4**
YSS				MLR	MLR		
	comp=N,1μm,15.0s						
YSS				MLR	MLR		
	comp=Z,1μm,15.0s						
JHJ	**Hachijo jima 2**	**8.22**	**206**	Pn	**P**	**18 59 25.6**	**-1.9**
	comp=Z,6.5nm,0.3s,baz=240,slow=18,SNR=6.0						
JHJ				Sn	**Sn**	**19 00 49.8**	**-11**
	comp=Z,7.7nm,0.3s,baz=72,slow=3.2,SNR=3.2						
JHJ				LR	LR	19 03 18.4	
	comp=Z,385nm,18.1s,baz=335,slow=43						
MDJ	**Mudanjiang**	**11.34**	**295**	*e*Pn	**P**	**19 00 09.9**	**-0.5**
	comp=Z,9.0nm,0.8s						
KLR	**Kul’dur**	**12.21**	**319**	*e*P	**P**	**19 00 17.2**	**-4.9**
KLR				MLR	MLR		
	comp=N,500nm,13.0s						
KLR				MLR	MLR		
	comp=Z,600nm,13.0s						
CBIJ	**Chichi jima**	**13.58**	**187**	Pn	**P**	**19 00 39.5**	**-0.8**
	comp=Z,3.0nm,0.3s,baz=228,slow=20,SNR=2.7						
CN2	**Changchun**	**14.11**	**289**	*e*P	**P**	**19 00 46.1**	**-1.1**
CN2				*e*XP		19 00 56.0	
CN2				AMB	AMB		
	comp=Z,10.0nm,1.3s						
CN2				AMB	AMB		
	comp=Z,90nm,7.0s						
CN2				LR	LR		
	comp=N,400nm,16.0s						
CN2				LR	LR		
	comp=E,500nm,16.0s						
CN2				LR	LR		
	comp=Z,500nm,18.0s						
SNY	**Shenyang**	**15.42**	**281**	⇓P	**P**	**19 01 04.4**	**+0.1**
SNY				LR	LR		
	comp=N,210nm,12.6s						
SNY				LR	LR		
	comp=E,320nm,11.4s						
SNY				LR	LR		
	comp=Z,280nm,12.9s						
PET	**Petropavlovsk**	**15.91**	**34**	*e*P	**P**	**19 01 11.3**	**+0.8**
PET				*e*S	**S**	**19 04 01.3**	**-5.0**
PET				MLR	MLR		
	comp=Z,205nm,17.0s						
HIA	**Hailar**	**19.16**	**305**	*e*P	**P**	**19 01 48.5**	**-2.5**
	comp=Z,10nm,0.8s						
CLNS	**Chul’man**	**20.43**	**329**	*e*P	**P**	**19 02 02.6**	**-2.2**
CLNS				*e*		19 02 14.6	
CLNS				*e*PPP	PPP	19 02 22.2	-12
CLNS				*e*		19 06 30.8	
CLNS				pmax	pmax		
	comp=Z,13nm,0.7s						
CLNS				pmax	pmax		
	comp=N,9.0nm,1.2s						
CLNS				pmax	pmax		
	comp=E,4.0nm,0.8s						
CLNS				pmax	pmax		
	comp=Z,13nm,0.7s						
CLNS				pmax	pmax		
	comp=N,14nm,1.2s						
CLNS				pmax	pmax		
	comp=E,11nm,1.0s						
CLNS				MLR	MLR		
	comp=Z,300nm,14.0s,MS3.8						
CLNS				MLR	MLR		
	comp=N,200nm,15.0s,MS3.7						
CLNS				MLR	MLR		
	comp=E,100nm,14.0s,MS3.7						
SSE	**Sheshan**	**20.75**	**250**	P	**P**	**19 02 12.8**	**+4.5**
SSE				AP		19 02 20.9	
SSE				XP		19 02 25.5	
SSE				S	**S**	**19 05 53.8**	**-0.2**
SSE				AMB	AMB		
	comp=Z,15nm,1.4s						
SSE				LR	LR		
	comp=N,94nm,15.7s,MS3.4						
SSE				LR	LR		
	comp=E,64nm,15.7s,MS3.4						
SSE				LR	LR		
	comp=Z,71nm,15.1s,MS3.2						
SSE	**Sheshan**	**20.75**	**250**	P	**P**	**19 02 12.8**	**+4.5**
	comp=Z,15nm,1.4s						
SSE				pP		19 02 20.9	
SSE				sP		19 02 25.5	
SSE				S	**S**	**19 05 53.8**	**-0.2**
SSE				sS		19 06 06.7	
SSE				LR	LR		
	comp=Z,70nm,15.1s,MS3.1						
NJ2	**Nanjing**	**21.94**	**255**	*e*P	**P**	**19 02 24.3**	**+4.0**
NJ2				AP		19 02 33.3	
NJ2				XP		19 02 37.4	
NJ2				PP	PP	19 02 48.4	+2.4
NJ2				S	**S**	**19 06 15.0**	**-1.5**
NJ2				AMB	AMB		
	comp=Z,30nm,0.9s,mb4.7						
NJ2				LR	LR		
	comp=N,490nm,12.5s,MS4.3						
NJ2				LR	LR		
	comp=E,520nm,12.3s,MS4.3						
NJ2				LR	LR		
	comp=Z,460nm,11.4s,MS4.1						
YAK	**Yakutsk**	**23.12**	**343**	*e*P	**P**	**19 02 28.9**	**-2.8**
YAK				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.0						
WHN	**Wuhan**	**26.02**	**257**	*e*P	**P**	**19 03 00.0**	**+0.2**
SONM	**Songino Array**	**27.68**	**298**	P	**P**	**19 03 15.4**	**+0.6**
	comp=Z,2.4nm,0.6s,mb4.0,baz=98,slow=8.7,SNR=16						
LZH	**Lanzhou**	**31.62**	**275**	*e*P	**P**	**19 03 50.0**	**-0.1**
LZH				AP	pP	19 04 00.5	+4.3
LZH				XP	sP	19 04 07.0	+8.1
LZH				AMB	AMB		
	comp=Z,28nm,1.4s,mb4.9						
LZH	**Lanzhou**	**31.62**	**275**	*e*P	**P**	**19 03 50.0**	**-0.1**
	comp=Z,28nm,1.4s,mb4.9						
LZH				pP	pP	19 04 00.5	+4.3
LZH				sP	sP	19 04 07.0	+8.1
TIXI	**Tiksi**	**32.01**	**351**	*e*P	**P**	**19 03 52.3**	**-0.8**
TIXI				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.7						
TIXI				MLR	MLR		
	comp=Z,200nm,17.0s,MS3.9						
GTA	**Gaotai**	**33.60**	**283**	*e*P	**P**	**19 04 07.8**	**+0.5**
GTA				AP	pP	19 04 20.8	+7.4
GTA				XP	sP	19 04 25.9	+10
GTA				PP	PP	19 05 17.5	-2.5
GTA				S	**S**	**19 09 20.4**	**-7.1**
GTA				SCP		19 10 30.9	
GTA				PCS		19 10 36.6	
GTA				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.4						
GTA				AMB	AMB		
	comp=Z,28nm,5.3s						
GTA				LR	LR		
	comp=N,53nm,14.1s,MS3.7						
GTA				LR	LR		
	comp=E,78nm,12.9s,MS3.7						
GTA				LR	LR		
	comp=Z,81nm,14.1s,MS3.6						
CD2	**Chengdu**	**33.81**	**266**	P	**P**	**19 04 09.0**	**-0.2**
GYA	**Guiyang**	**33.91**	**257**	⇑*i*P	**P**	**19 04 10.1**	**0.0**
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
KMI	**Kunming**	**37.58**	**259**	*e*P	**P**	**19 04 42.3**	**+1.1**
KMI				AP	pP	19 04 51.4	+4.0
KMI				AMB	AMB		
	comp=Z,11nm,1.1s,mb4.5						
KMI				AMB	AMB		
	comp=Z,48nm,4.6s						
KMI				LR	LR		
	comp=N,140nm,24.8s						
KMI				LR	LR		
	comp=E,140nm,17.0s						
KMI				LR	LR		
	comp=Z,170nm,15.1s						
KMI	**Kunming**	**37.58**	**259**	*e*P	**P**	**19 04 42.2**	**+1.0**
	comp=Z,11nm,1.1s,mb4.5						
KMI				pP	pP	19 04 51.4	+4.0
KMI				S		19 10 47.4	
KMI				LR	LR		
	comp=Z,170nm,15.1s,MS4.0						
ZAL	**Zalesovo**	**41.11**	**309**	P	**P**	**19 05 11.5**	**+1.3**
	comp=Z,5.0nm,0.7s,mb4.2,baz=290,slow=9.0,SNR=30						
ZAL	**Zalesovo**	**41.11**	**309**	P	**P**	**19 05 11.5**	**+1.3**
ZAL				pmax	pmax		
	comp=Z,5.0nm,0.7s						
NVS	**Novosibirsk**	**41.92**	**311**	*e*P	**P**	**19 05 17.3**	**+0.5**
LSA	**Lhasa**	**43.98**	**273**	P	**P**	**19 05 33.0**	**-0.9**
MKAR	**Makanchi Array**	**44.02**	**299**	P	**P**	**19 05 34.5**	**+0.5**
	comp=Z,14nm,0.9s,mb4.7,baz=83,slow=9.4,SNR=78						
MKAR				LR	LR	19 24 01.1	
	comp=Z,32nm,19.9s,MS3.2,baz=219,slow=36						
MKAR	**Makanchi Array**	**44.02**	**299**	P	**P**	**19 05 34.5**	**+0.5**
MKAR				pmax	pmax		
	comp=Z,14nm,0.9s						
MKAR				MLR	MLR		
	comp=Z,32nm,19.9s						
CMAR	**Chiang Mai Arr**	**44.40**	**254**	P	**P**	**19 05 38.4**	**+0.9**
	comp=Z,1.7nm,0.8s,mb3.8,baz=41,slow=7.5,SNR=13						
CMAR				LR	LR	19 26 05.3	
	comp=Z,45nm,18.5s,MS3.4,baz=295,slow=39						
CMAR	**Chiang Mai Arr**	**44.40**	**254**	P	**P**	**19 05 38.4**	**+0.9**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
CMAR				MLR	MLR		
	comp=Z,45nm,18.5s						
ILAR	**Eielson Array**	**45.39**	**34**	P	**P**	**19 05 47.1**	**+2.4**
	comp=Z,0.8nm,0.7s,mb3.7,baz=267,slow=6.5,SNR=7.8						
ILAR	**Eielson Array**	**45.39**	**34**	P	**P**	**19 05 47.1**	**+2.4**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KURK	**Kurchatov**	**45.40**	**306**	*e*P	**P**	**19 05 44.7**	**-0.3**
KURK	**Kurchatov**	**45.40**	**306**	*e*P	**P**	**19 05 44.8**	**-0.2**
	comp=Z,16nm,0.8s,mb4.9						
KURK				*e*	pP	19 05 52.0	+0.7
KKN	**Kakani**	**49.39**	**274**	*e*P	**P**	**19 06 17.1**	**+0.5**
	comp=Z,21nm,0.9s,mb5.2						
PKI	**Pulchoki**	**49.41**	**274**	*e*P	**P**	**19 06 17.1**	**+0.4**
	comp=Z,12nm,0.7s,mb5.0						
DMN	**Daman**	**49.62**	**274**	*e*P	**P**	**19 06 18.9**	**+0.6**
	comp=Z,13nm,0.8s,mb5.0						
BRVK	**Borovoye**	**49.77**	**311**	*e*P	**P**	**19 06 19.0**	**-0.1**
	comp=Z,5.5nm,0.6s,mb4.8						
BRVK				*e*	pP	19 06 26.9	+1.4
GKN	**Gorkha**	**49.77**	**275**	*e*P	**P**	**19 06 19.1**	**-0.4**
	comp=Z,11nm,0.7s,mb5.0						
INK	**Inuvik**	**50.27**	**29**	P	**P**	**19 06 23.9**	**+1.1**
	comp=Z,2.3nm,0.6s,mb4.4,baz=95,slow=32,SNR=7.2						
INK	**Inuvik**	**50.27**	**29**	P	**P**	**19 06 23.9**	**+1.1**
INK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
INK	**Inuvik**	**50.27**	**29**	P	**P**	**19 06 23.7**	**+0.9**
	comp=Z,3.7nm,0.7s,mb4.5						
ZRNK	**Zerenda**	**50.54**	**311**	*e*P	**P**	**19 06 25.6**	**+0.6**
	comp=Z,7.8nm,1.0s,mb4.6						
ZRNK				*e*	pP	19 06 32.8	+1.5
AAK	**Ala-Archa**	**50.63**	**297**	*e*P	**P**	**19 06 25.3**	**-0.6**
AAK	**Ala-Archa**	**50.63**	**297**	*e*P	**P**	**19 06 25.5**	**-0.4**
	comp=Z,3.7nm,0.8s,mb4.4						
AAK				*e*	pP	19 06 32.4	+0.2
KOLN	**Koldanda**	**50.68**	**275**	*e*P	**P**	**19 06 24.2**	**-2.2**
	comp=Z,15nm,0.9s,mb4.9						
ARU	**Arti**	**55.05**	**317**	⇓*i*P	**P**	**19 07 06.0**	**+7.4**
ARU				*e*		19 09 07.8	
ARU				*e*S	**S**	**19 14 47.1**	**+9.1**
ARU				*e*		19 16 44.7	
ARU				*e*SS	SS	19 18 27.5	+5.8
ARU				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.6						
ARU				MLR	MLR		
	comp=Z,100nm,15.0s,MS4.0						
ARU				MLR	MLR		
	comp=E,70nm,16.0s						
WRA	**Warramunga Arr**	**60.92**	**190**	P	**P**	**19 07 40.0**	**-0.2**
	comp=E,0.8nm,0.6s,mb4.0,baz=9.3,slow=6.8,SNR=20						
WRA	**Warramunga Arr**	**60.92**	**190**	P	**P**	**19 07 40.0**	**-0.2**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ARCES	**ARCESS Array B**	**61.35**	**339**	P	**P**	**19 07 41.1**	**-1.4**
	comp=Z,5.0nm,0.9s,mb4.6,baz=21,slow=7.7,SNR=2.7						
ARCES	**ARCESS Array B**	**61.35**	**339**	P	**P**	**19 07 41.1**	**-1.4**
ARCES				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ASAR	**Alice Springs**	**64.65**	**190**	P	**P**	**19 08 05.4**	**+0.5**
	comp=Z,0.5nm,0.7s,mb3.6,baz=7.7,slow=5.3,SNR=9.4						
OBN	**Obninsk**	**66.43**	**323**	*e*P	**P**	**19 08 17.0**	**+1.2**
OBN				*e*		19 08 47.2	
OBN				*e*		19 10 40.1	
OBN				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4						
OBN				MLR	MLR		
	comp=Z,100nm,16.0s,MS4.1						
FINES	**FINESS Array B**	**66.58**	**332**	P	**P**	**19 08 16.7**	**0.0**
	comp=Z,2.1nm,0.6s,mb4.3,baz=45,slow=8.1,SNR=15						
FINES	**FINESS Array B**	**66.58**	**332**	*i* P	**P**	**19 08 17.0**	**+0.3**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KIV	**Kislovodsk**	**70.08**	**311**	*e*P	**P**	**19 08 40.6**	**+1.9**
KIV				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.8						
KIV				MLR	MLR		
	comp=Z,100nm,15.0s,MS4.2						
KIV	**Kislovodsk**	**70.08**	**311**	*e*P	**P**	**19 08 40.7**	**+1.9**
	comp=Z,15nm,1.1s,mb4.8						
KIV				*e*		19 08 50.0	
NOA	**NORSAR Array B**	**71.64**	**338**	P	**P**	**19 08 48.4**	**+0.5**
	comp=Z,2.2nm,0.9s,mb4.1,baz=209,slow=20,SNR=3.1						
NOA	**NORSAR Array B**	**71.64**	**338**	P	**P**	**19 08 48.4**	**+0.5**
NOA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
SOC	**Sochi**	**72.00**	**312**	*e*P	**P**	**19 08 48.2**	**-2.1**
SOC				*e*		19 09 13.0	
SOC				*e*PS	S	19 18 15.8	+6.5
SOC				*e*		19 18 44.1	
SOC				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
SOC				pmax	pmax		
	comp=N,13nm,0.8s						
SOC				pmax	pmax		
	comp=E,11nm,0.8s						
SOC				MLR	MLR		
	comp=Z,93nm,17.0s,MS4.1						
SOC				MLR	MLR		
	comp=N,100nm,16.0s,MS4.2						
SOC				MLR	MLR		
	comp=E,50nm,15.0s,MS4.2						
AKASG	**Malin Array Be**	**72.68**	**323**	P	**P**	**19 08 53.6**	**-0.6**
	comp=E,1.0nm,0.5s,mb4.0,baz=42,slow=5.7,SNR=9.1						
AKASG	**Malin Array Be**	**72.68**	**323**	P	**P**	**19 08 53.6**	**-0.6**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TPNV	**Topopah Spring**	**73.44**	**55**	P	**P**	**19 09 00.6**	**+1.6**
	comp=Z,3.5nm,1.0s,mb4.2						
TPNV				*e*		19 09 11.3	
BRTR	**Keskin Array B**	**77.96**	**312**	P	**P**	**19 09 27.0**	**+2.5**
	comp=Z,0.6nm,0.8s,mb3.6,baz=34,slow=5.2,SNR=2.6						
BRTR	**Keskin Array B**	**77.96**	**312**	P	**P**	**19 09 27.0**	**+2.5**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
GERES	**GERESS Array B**	**80.70**	**329**	P	**P**	**19 09 40.1**	**+1.1**
	comp=Z,0.4nm,0.7s,mb3.5,baz=18,slow=4.2,SNR=4.7						
TXAR	**Lajitas Array**	**86.35**	**54**	P	**P**	**19 10 11.5**	**+3.2**
	comp=Z,0.1nm,0.3s,mb3.5,baz=243,slow=2.0,SNR=2.3						
SNAA	**Sanae**	**144.77**	**197**	⇑*i*	PKPbc	19 17 01.6	+1.2
VNA2	**Neumayer--Watz**	**146.33**	**196**	⇑*i*	PKPbc	19 17 10.0	+5.7
PLCA	**Paso Flores**	**153.89**	**102**	PKPbc	PKPdf	19 17 28.6	+8.8
	comp=Z,0.9nm,0.5s,baz=287,slow=7.4,SNR=2.9						

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*LDG **24** 18:58:27.2±0.0, 43.02N×0.18W, h10^{km}, Md1.9/2, Ml1.1/1*
*STR **24** 18:58:27.2±0.1, 43.03N×0.18W, h5^{km}±1^{km}, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 24 18:58:26.8±0.7**, 43.06N**±0.07×**0.18W**±0.03**, h10^{km}, n7, σ0^{s}.71**/12**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
REYF	**Montagne du Re**	**0.16**	**274**	Pg	**Pg**	**18 58 30.9**	**+0.5**
REYF				Sg	**Sg**	**18 58 33.5**	**+0.7**
LABF	**Labassere**	**0.18**	**93**	Pg	**Pg**	**18 58 31.2**	**+0.4**
LABF				Sg	**Sg**	**18 58 34.3**	**+0.7**
VIEF	**Viey**	**0.23**	**140**	Pg	**Pg**	**18 58 31.6**	**-0.1**
VIEF				Sg	**Sg**	**18 58 34.9**	**0.0**
ETSF	**Etsaut**	**0.32**	**241**	*e*Pg	**Pg**	**18 58 33.5**	**0.0**
ETSF				*e*Sg	**Sg**	**18 58 37.3**	**-0.6**
	12nm,0.2s						
EPF	**Esparros**	**0.38**	**94**	*e*Pg	**Pg**	**18 58 34.7**	**+0.2**
EPF				*e*Sg	**Sg**	**18 58 40.2**	**+0.5**
	4.1nm,0.3s						
SJPF	**Ste Jean**	**0.77**	**274**	*e*Sg	**Sg**	**18 58 52.0**	**-0.6**
	0.6nm,0.2s						
MTLF	**Montolieu**	**1.77**	**80**	*e*Sg	**Sg**	**18 59 23.7**	**-2.2**
	0.2nm,0.2s						

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*LDG **24** 19:10:01.3±0.4, 49.14N×4.68W, h5^{km}, Ml2.1/4, Error ellipse: s-maj=7.9km s-min=5.5km az=7.0*
*BGS **24** 19:10:01.7±0.3, 49.34N×4.43W, h4^{km}±999^{km}, ML1.1*
ISC 24 19:09:59.7±1.4**, 49.21N**±0.07×**4.5W**±0.1**, h7^{km}**±19^{km}**, n10, σ0^{s}.46**/16**, North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CGH1	**Goonhilly**	**0.94**	**333**	*e*P	**Pb**	**19 10 18.4**	**+0.4**
CGH1				*e*S	**Sb**	**19 10 30.1**	**-0.3**
CMA1	**Manaccan**	**0.96**	**336**	*e*P	**Pb**	**19 10 17.9**	**-0.3**
CGW	**Gweek**	**1.00**	**333**	*e*P	**Pb**	**19 10 18.7**	**-0.3**
CRQ2	**Rosemanowes 2**	**1.05**	**336**	*e*P	**Pb**	**19 10 19.4**	**-0.4**
CRQ2				*e*S	**Sb**	**19 10 33.8**	**+0.2**
CRQ2				AML	AML	19 10 34.9	
	comp=N,5.5nm,0.1s						
CRQ2				AML	AML	19 10 35.1	
	comp=E,4.6nm,0.1s						
CCA1	**Carnmenellis**	**1.08**	**335**	*e*P	**Pb**	**19 10 20.8**	**+0.5**
CPZ	**Penzance**	**1.17**	**324**	*e*P	**Pb**	**19 10 22.2**	**+0.2**
ROSF	**Rostrenen**	**1.20**	**136**	*e*Pg	**Pg**	**19 10 24.6**	**+0.9**
ROSF				*e*Sg	**Sg**	**19 10 40.3**	**+0.6**
	comp=E,6.7nm,0.2s						
QUIF	**Quistinic**	**1.57**	**145**	*e*Pn	**Pn**	**19 10 28.4**	**+0.1**
QUIF				*e*Pg	**Pg**	**19 10 30.6**	**-0.6**
QUIF				*e*Sg	**Sg**	**19 10 51.3**	**-0.9**
	comp=E,2.8nm,0.2s						
SGMF	**Saint Gilles**	**1.61**	**126**	*e*Pg	**Pg**	**19 10 31.9**	**0.0**
SGMF				*e*Sg	**Sg**	**19 10 53.6**	**+0.2**
	comp=E,2.2nm,0.2s						
FLN	**La Foliniere**	**2.69**	**98**	*e*Sg	**Sg**	**19 11 29.1**	**-0.3**
	comp=E,1.0nm,0.2s						

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*IDC **24** 19:10:59.7±6.4, 35.11S×176.21E, h69^{km}±81^{km}, mb3.1/3, mb1 3.4/5, mb1mx3.4/10, ML3.9/2, Error ellipse: s-maj=56.9km s-min=48.6km az=91.0*
*NEIC **24** 19:10:59.3, 35.78S×178.18E, h256^{km}, After WEL.*
*WEL **24** 19:11:01.0±0.6, 35.68S×178.23E, h216^{km}±12^{km}, ML4.0/4, Error ellipse: s-maj=14.3km s-min=12.6km az=90.0*
ISC 24 19:11:00.1±1.0**, 36.0S**±0.1×**178.4E**±0.3**, h261^{km}**±14^{km}**, n30, σ0^{s}.80**/41**, mb2.8**/3**, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.56**	**184**	PN	**P**	**19 11 39.3**	**-0.9**
MXZ				SN	**S**	**19 12 09.2**	**-2.1**
MXZ	**Matakaoa Point**	**1.56**	**184**	*e*P	**P**	**19 11 39.9**	**-0.3**
PUZ	**Puketiti**	**2.07**	**184**	PN	**P**	**19 11 45.0**	**+0.7**
PUZ				SN	**S**	**19 12 18.7**	**0.0**
PUZ	**Puketiti**	**2.07**	**184**	*e*P	**P**	**19 11 45.0**	**+0.7**
MWZ	**Matawai**	**2.44**	**197**	PN	**P**	**19 11 48.4**	**+0.5**
MWZ				SN	**S**	**19 12 24.2**	**-0.8**
MWZ	**Matawai**	**2.44**	**197**	P	**P**	**19 11 48.7**	**+0.8**
URZ	**Urewera**	**2.49**	**205**	P	**P**	**19 11 48.7**	**+0.3**
	14nm,0.3s,baz=301,slow=2.7,SNR=129						
URZ				S	**S**	**19 12 25.7**	**-0.3**
	11nm,0.3s,baz=61,slow=23,SNR=28						
URZ	**Urewera**	**2.49**	**205**	PN	**P**	**19 11 48.7**	**+0.3**
URZ				SN	**S**	**19 12 26.1**	**+0.2**
URZ	**Urewera**	**2.49**	**205**	P	**P**	**19 11 48.7**	**+0.3**
KNZ	**Kokohu**	**3.07**	**191**	PN	**P**	**19 11 55.3**	**+0.8**
KNZ				SN	**S**	**19 12 38.5**	**+1.8**
KNZ	**Kokohu**	**3.07**	**191**	*e*P	**P**	**19 11 55.2**	**+0.8**
BKZ	**Black Stump Fm**	**3.52**	**206**	PN	**P**	**19 11 59.8**	**+0.4**
BKZ				SN	**S**	**19 12 46.8**	**+1.4**
BKZ	**Black Stump Fm**	**3.52**	**206**	*e*P	**P**	**19 11 59.8**	**+0.5**
MOVZ	**Moawhango**	**4.01**	**211**	PN	**P**	**19 12 04.9**	**-0.1**
WNVZ	**Wahianoa**	**4.01**	**213**	PN	**P**	**19 12 05.6**	**+0.6**
TSZ	**Takapari Road**	**4.50**	**205**	PN	**P**	**19 12 10.1**	**-0.6**
TSZ				SN	**S**	**19 13 06.4**	**+0.6**
TSZ	**Takapari Road**	**4.50**	**205**	P	**P**	**19 12 10.4**	**-0.3**
BFZ	**Birch Farm**	**4.98**	**200**	PN	**P**	**19 12 16.9**	**+0.4**
MRZ	**Mangatainoka R**	**5.17**	**205**	PN	**P**	**19 12 18.4**	**-0.4**
MRZ				SN	**S**	**19 13 20.2**	**-0.1**
MRZ	**Mangatainoka R**	**5.17**	**205**	*e*P	**P**	**19 12 18.4**	**-0.3**
KIW	**Kapiti Island**	**5.59**	**209**	PN	**P**	**19 12 23.7**	**-0.2**
KIW				SN	**S**	**19 13 29.5**	**0.0**
CAW	**Cannon Point**	**5.74**	**206**	PN	**P**	**19 12 25.0**	**-0.8**
NNZ	**Nelson**	**6.54**	**216**	SN	**S**	**19 13 51.0**	**+0.2**
THZ	**Tophouse**	**7.19**	**215**	PN	**P**	**19 12 44.1**	**+0.1**
KHZ	**Kahutara**	**7.45**	**209**	PN	**P**	**19 12 45.5**	**-1.6**
LTZ	**Lake Taylor**	**8.28**	**213**	PN	**P**	**19 12 56.9**	**-0.8**
RPZ	**Rata Peaks**	**9.57**	**214**	P	**P**	**19 13 13.4**	**-0.4**
	1.1nm,0.3s,baz=246,slow=10.0,SNR=6.7						
RPZ				S	**S**	**19 14 58.0**	**-1.0**
	0.4nm,0.3s,baz=286,slow=23,SNR=3.2						
STKA	**Stephens Creek**	**30.73**	**267**	P	**P**	**19 16 52.3**	**-0.7**
	1.0nm,0.8s,mb3.4,baz=107,slow=17,SNR=4.5						
ASAR	**Alice Springs**	**40.22**	**275**	P	**P**	**19 18 13.9**	**+0.9**
	0.3nm,0.7s,mb2.7,baz=118,slow=8.0,SNR=4.4						
WRA	**Warramunga Arr**	**41.74**	**280**	P	**P**	**19 18 26.1**	**+0.7**
	0.1nm,0.5s,mb2.3,baz=117,slow=8.1,SNR=7.4						

MAN 24 19:28:39.5, 9.70N×122.19E, h1^{km}, mb4.5, ML3.4, MS3.3, 2C, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AAP	**Anini-y**	**0.75**	**341**	*e*P	Pg	19 28 54.0	-0.6
GUIM	**Jordan**	**1.00**	**23**	*e*P	Pb	19 28 59.0	-0.2
GUIM				*e*S	Sb	19 29 13.1	+0.4
SNPH	**Sibulan**	**1.09**	**109**	⇑*i*P	Pb	19 29 01.5	+0.7
SNPH				*i* S	Sb	19 29 12.5	-2.9
DCPH	**Dipolog City**	**1.60**	**134**	*e*P	Pn	19 29 12.2	+3.2
CUYO	**Cuyo Island**	**1.62**	**315**	*e*P	Pn	19 29 09.9	+0.5
TBP	**Tagbilaran**	**1.65**	**90**	*e*P	Pn	19 29 08.3	-1.4
TBP				*e*S	Sb	19 29 34.1	+2.5
LLP	**Lapu-Lapu**	**1.85**	**71**	*e*P	Pn	19 29 10.5	-2.2
RCP	**Roxas**	**1.93**	**16**	⇑*e*P	Pn	19 29 14.6	+0.9
RCP				*e*S	Sn	19 29 40.4	+1.5
IPIL	**Ipil**	**1.94**	**169**	*e*P	Pn	19 29 14.4	+0.5
IPIL				*e*S	Sn	19 29 39.1	-0.1
PAGZ	**Pagadian**	**2.19**	**147**	*e*P	Pn	19 29 19.1	+1.7
OTRP	**Odiongan**	**2.65**	**356**	*e*P	Pn	19 29 23.9	-0.2
MSLP	**Maasin**	**2.66**	**80**	*e*P	Pn	19 29 24.6	+0.3
OCLP	**Ormoc**	**2.73**	**60**	*e*P	Pn	19 29 26.3	+1.0
SJMP	**San Jose**	**2.94**	**339**	*e*P	Pn	19 29 27.7	-0.5
ENPP	**El Nido**	**3.10**	**299**	*e*P	Pn	19 29 30.7	+0.1
BUKP	**Musuan**	**3.37**	**122**	*e*P	Pn	19 29 36.4	+2.1

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*UCR **24** 19:32:29.4, 12.58N×90.08W, h29^{km}, MD5.0*
*GCG **24** 19:32:29.2, 13.14N×89.71W, h10^{km}, MD4.1, ML4.0*
*SSS **24** 19:32:30.9, 13.23N×89.61W, h50^{km}, MD3.6, ML3.7*
CASC 24 19:32:30.4±2.0**, 13.14N×89.63W, h28^{km}**±5^{km}**, MD4.0, ML3.8, 3C-13D, El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNET	**Serv Nac Est T**	**0.67**	**36**	⇓*i*P	Pb	19 32 43.8	+0.3
SNET				*e*S	Sb	19 32 53.9	+1.5
SNET				*i*		19 32 56.2	
	comp=Z,3μm,0.2s						
BOQS	**Boqueron**	**0.68**	**30**	⇓*i*P	Pb	19 32 44.1	+0.4
BOQS				*e*S	Sb	19 32 54.4	+1.6
SBLS	**San Blas**	**0.69**	**1**	⇓*i*P	Pb	19 32 44.3	+0.4
SBLS				*e*S	Sb	19 32 54.5	+1.3
SNJE	**San Jose**	**0.72**	**2**	⇓*e*P	Pb	19 32 44.7	+0.3
LFRS	**El Faro**	**0.73**	**49**	⇓*i*P	Pb	19 32 44.5	0.0
LFRS				*e*S	Sb	19 32 55.0	+0.8
RTR	**El Retiro**	**0.75**	**359**	⇓*e*P	Pb	19 32 45.0	+0.2
LFU	**La Fuente**	**0.79**	**40**	⇓*e*P	Pb	19 32 45.5	+0.1
LCBS	**La Ceiba**	**0.82**	**51**	⇓*i*P	Pb	19 32 45.7	-0.2
LCBS				*e*S	Sb	19 32 57.1	+0.5
CUSS	**Cusmapa**	**0.82**	**338**	*e*P	Pb	19 32 45.6	-0.4

CUSS				*e*S	Sb	19 32 56.9	+0.1
LBRS	**Las Brisas**	**0.82**	**44**	⇓*e*P	Pb	19 32 45.8	-0.2
LBRS				*e*S	Sb	19 32 57.4	+0.6
SNVI	**San Vicente**	**0.90**	**59**	⇓*i*P	Pn	19 32 46.7	-0.6
SNVI				*e*P		19 32 46.8	
SNVI				*e*S	Sb	19 33 00.9	+1.9
MTO2	**Montecristo 2**	**1.28**	**12**	⇓*e*P	Pn	19 32 52.7	0.0
MTO2				*e*S	Sn	19 33 10.6	+1.6
IXG	**Ixpaco**	**1.30**	**322**	*e*P	Pn	19 32 52.0	-1.0
IXG				*e*S	Sn	19 33 09.7	+0.2
VSM	**San Miguel**	**1.35**	**78**	⇑*e*P	Pn	19 32 53.3	-0.4
VSM				*e*S	Sn	19 33 11.7	+0.9
BLLM	**Bellamira**	**1.39**	**77**	*e*P	Pn	19 32 53.9	-0.3
BLLM				*e*S	Sn	19 33 11.6	-0.2
CAHU	**Cacacuatique**	**1.52**	**65**	⇑*e*P	Pn	19 32 55.5	-0.5
NBG	**Las Nubes**	**1.60**	**334**	⇓*e*P	Pn	19 32 58.1	+0.9
NBG				*e*S	Sn	19 33 20.9	+3.9
NBG				AML	AML	19 33 22.0	
	comp=E,3µm,0.4s						
FUG	**Fuego 3**	**1.75**	**318**	*e*P	Pn	19 32 58.9	-0.5
FUG				*e*S	Sn	19 33 19.4	-1.6
CNCH	**Conchagua**	**1.76**	**85**	⇑*e*P	Pn	19 32 58.5	-1.0
CNCH				*e*S	Sn	19 33 21.8	+0.7
TP2	**Tecpan 2**	**2.12**	**321**	⇓*e*P	Pn	19 33 04.9	+0.2
TP2				*e*S	Sn	19 33 33.1	+2.8
TP2				AML	AML	19 33 36.6	
	comp=E,590nm,0.4s						
JAT	**Jato**	**2.27**	**301**	*e*P	Pn	19 33 06.2	-0.6
JAT				*e*S	Sn	19 33 33.9	-0.4
JCR	**Jicaral**	**5.51**	**126**	*e*P	Pn	19 33 51.0	-1.8
CGA2	**Cerro Gallo 2**	**5.94**	**121**	*e*P	Pn	19 33 58.3	-0.5
LAJ	**Bijagual**	**6.31**	**121**	*e*P	Pn	19 33 58.5	-5.6
LCR2	**La Lucha 2**	**6.47**	**121**	*e*P	Pn	19 34 06.2	-0.1
URSC	**Urasca**	**6.61**	**119**	*e*P	Pn	19 34 07.5	-0.9
URSC				*e*S	Sn	19 35 21.6	-1.9
BUS	**Buena Vista**	**6.77**	**121**	*e*P	Pn	19 34 09.7	-0.9
ACR	**Cerro Adams**	**7.76**	**124**	*e*P	Pn	19 34 22.9	-1.4

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*NEIC **24** 19:36:48.8±4.9, 20.12S×177.51W, h428^{km}±46^{km}, mb4.0/8, Error ellipse: s-maj=37.3km s-min=13.7km az=46.0*

*IDC **24** 19:36:56.6±2.9, 20.49S×177.69W, h502^{km}±30^{km}, mb3.4/7, mb1 3.5/8, mb1mx3.4/15, Error ellipse: s-maj=24.6km s-min=19.0km az=168.0*

ISC 24 19:36:54.9±3.5**, 20.5S**±0.2×**178.0W**±0.2**, h476**^{km}±32^{km}**, n31, σ0^{s}97**/22**, mb3.9**/12**, 3C, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	**Urewera**	**18.17**	**193**	P	**P**	**19 40 38.9**	**+1.2**
	0.6nm,0.3s,baz=161,slow=12,SNR=3.6						
RPZ	**Rata Peaks**	**24.87**	**199**	P	**P**	**19 41 39.0**	**-0.9**
	9.2nm,1.1s,mb4.1,baz=319,slow=22,SNR=2.5						
CTA	**Charters Tower**	**33.53**	**264**	*e*P	**P**	**19 42 56.1**	**+0.9**
	3.3nm,0.4s,mb4.1						
CTA	**Charters Tower**	**33.53**	**264**	P	**P**	**19 42 56.4**	**+1.2**
	4.4nm,0.5s,mb4.2,baz=94,slow=12,SNR=15						
CTAO	**Charters Tower**	**33.53**	**264**	*e*P	**P**	**19 42 55.4**	**+0.3**
	4.8nm,0.6s,mb4.1						
STKA	**Stephens Creek**	**37.81**	**244**	*e*P	**P**	**19 43 32.0**	**+1.3**
	2.7nm,1.0s,mb3.6						
STKA	**Stephens Creek**	**37.81**	**244**	P	**P**	**19 43 32.3**	**+1.6**
	2.0nm,0.6s,mb3.8,baz=89,slow=11,SNR=7.7						
ASAR	**Alice Springs**	**44.56**	**257**	P	**P**	**19 44 25.4**	**+0.5**
	4.8nm,0.7s,mb4.0,baz=99,slow=7.7,SNR=94						
ASAR				PcP	PcP	19 45 56.9	-1.6
	1.2nm,0.6s,baz=99,slow=3.8,SNR=7.8						
ASAR				S	**S**	**19 50 25.8**	**+0.5**
	0.5nm,0.8s,baz=89,slow=16,SNR=6.6						
ASPA	**Alice Springs**	**44.56**	**257**	*e*P	**P**	**19 44 25.3**	**+0.4**
WB2	**Warramunga Arr**	**44.63**	**262**	*e*P	**P**	**19 44 25.0**	**-0.5**
WRAB	**Tennant Creek**	**44.63**	**262**	*e*P	**P**	**19 44 24.5**	**-1.0**
	5.3nm,0.9s,mb4.0						
WRA	**Warramunga Arr**	**44.64**	**262**	P	**P**	**19 44 25.2**	**-0.5**
	0.9nm,0.3s,mb3.6,baz=97,slow=7.6,SNR=92						
SBA	**Scott Base**	**57.84**	**184**	P	**P**	**19 46 00.2**	**-1.0**
	1.7nm,0.5s,mb3.6						
MBWA	**Marble Bar**	**57.89**	**257**	*e*P	**P**	**19 46 01.0**	**-1.3**
	4.8nm,0.7s,mb3.9						
CASY	**Casey**	**63.95**	**205**	P	**P**	**19 46 40.2**	**-1.4**
	3.2nm,0.9s,mb3.9						
QSPA	**South Pole Qui**	**69.53**	**180**	*e*P	**P**	**19 47 15.3**	**-0.4**
	4.3nm,0.7s,mb4.1						
MAW	**Mawson**	**81.55**	**200**	P	**P**	**19 48 22.5**	**+0.1**
	0.6nm,0.4s,mb3.4,baz=113,slow=9.5,SNR=6.5						
SNAA	**Sanae**	**87.97**	**178**	⇑*i*	**P**	**19 48 49.8**	**-3.8**
VNA3	**Neumayer Olymp**	**88.10**	**176**	⇑*i*	**P**	**19 48 55.6**	**+1.4**
VNA2	**Neumayer--Watz**	**88.55**	**177**	⇑*i*	**P**	**19 48 57.3**	**+1.0**
CMAR	**Chiang Mai Arr**	**90.17**	**290**	P	**P**	**19 49 05.3**	**+0.3**
	1.4nm,0.8s,mb3.8,baz=117,slow=2.4,SNR=10						
MKAR	**Makanchi Array**	**111.26**	**313**	PKiKP		19 54 31.6	
	0.3nm,0.7s,baz=208,slow=2.9,SNR=2.8						
BVAR	**Borovoye Array**	**119.14**	**320**	PKP	PKPdf	19 54 45.9	-2.7
	0.3nm,0.4s,baz=135,slow=2.0,SNR=3.8						
ZRNK	**Zerenda**	**119.98**	**320**	*e*PKPdf	PKPdf	19 54 47.9	-2.4
AKASG	**Malin Array Be**	**143.07**	**331**	PKhKP		19 55 29.0	
	1.1nm,0.4s,baz=39,slow=4.3,SNR=12						
ASF	**Jabal al Asfar**	**146.84**	**298**	PKPbc	PKPbc	19 55 43.3	+0.9
	0.7nm,0.3s,baz=129,slow=4.7,SNR=3.8						
BRTR	**Keskin Array B**	**146.90**	**312**	PKPbc	PKPbc	19 55 42.1	-0.2
	1.0nm,0.5s,baz=143,slow=4.5,SNR=4.6						
CLL	**Collm**	**148.11**	**347**	*e*PKP1	PKPdf	19 55 45.0	+3.3
MLR	**Muntele Rosu**	**148.28**	**327**	PKPbc	PKPdf	19 55 46.2	+4.0
	0.8nm,0.6s,baz=159,slow=23,SNR=2.0						
EIL	**Elat**	**148.94**	**294**	PKPbc	PKPdf	19 55 48.3	+4.5
	2.4nm,0.8s,baz=351,slow=25,SNR=3.8						
GERES	**GERESS Array B**	**150.25**	**344**	PKPbc	PKPdf	19 55 50.2	+5.0
	0.9nm,0.8s,baz=333,slow=3.0,SNR=6.4						

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*NNC **24** 19:41:33.6±1.1, 42.76N×86.17E, mpv3.2, Error ellipse: s-maj=40.7km s-min=11.5km az=58.0*

BJI 24 19:41:36.5, 42.61N×85.82E, h14^{km}**, ML3.2, 2C-2D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**1.83**	**48**	⇓*i*PG	Pg	19 42 08.9	-4.2
WMQ				SG	Sg	19 42 32.9	-4.6
WMQ				Smax			
	comp=N,227nm,0.4s						
WMQ				Smax			
	comp=E,278nm,0.3s						
MK31	**Makanchi Array**	**4.88**	**330**	⇑Pn	Pn	19 42 51.1	-0.3
	comp=E,2.1nm,0.6s,baz=146,slow=14,SNR=37						
MK31				⇓Lg		19 44 07.0	
	comp=E,11nm,0.6s,baz=144,slow=30,SNR=9.5						
KURK	**Kurchatov**	**9.49**	**331**	⇑Lg		19 46 34.7	
	comp=E,2.8nm,0.9s,baz=284,slow=2.9,SNR=4.6						

IDC 24 19:51:52.5±6.5**, 5.25S×153.65E, mb3.6**/4**, mb1 3.9**/4**, mb1mx3.6**/13**, Error ellipse: s-maj=137.0km s-min=41.3km az=96.0, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.80**	**230**	P	P	19 57 08.0	0.0
	1.0nm,0.6s,baz=56,slow=9.9,SNR=21						
ASAR	**Alice Springs**	**26.41**	**224**	P	P	19 57 30.6	-2.2
	0.5nm,0.7s,baz=58,slow=7.4,SNR=7.2						
FITZ	**Fitzroy Crossi**	**30.20**	**243**	P	P	19 58 04.7	-2.4
	1.6nm,0.7s,baz=50,slow=7.9,SNR=7.9						
CMAR	**Chiang Mai Arr**	**58.83**	**295**	P	P	20 01 53.3	-2.3
	0.3nm,0.8s,baz=143,slow=4.5,SNR=3.5						

MAN 24 20:07:27.3, 15.22N×122.57E, h1^{km}**, mb4.7, ML3.5, MS3.4, 1D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
POLP	**Polilio Island**	**0.78**	**231**	*e*P	Pg	20 07 42.3	-0.5
POLP				*e*S	Sg	20 07 51.8	-1.4
BALP	**Baler**	**1.09**	**299**	*e*P	Pb	20 07 47.9	-0.7
BALP				*e*S	Sb	20 08 02.5	-0.7
GQP	**Guinayangan**	**1.31**	**185**	⇓*i*P	Pb	20 07 51.9	-0.4
GQP				*i* S	Sb	20 08 08.6	-0.9
LQP	**Lukban**	**1.48**	**222**	*e*P	Pn	20 07 54.9	-0.3
ARP	**Angono**	**1.52**	**244**	*e*P	Pn	20 07 55.5	-0.2
PALP	**Palanan**	**1.84**	**356**	*e*P	Pn	20 07 59.9	-0.4
CAUP	**Cauayan**	**1.86**	**338**	*e*P	Pn	20 08 00.5	-0.1
BOAC	**Boac**	**1.88**	**202**	*e*P	Pn	20 08 02.0	+1.1
BOAC				*e*S	Sn	20 08 25.7	+0.1
PVCP	**Virac**	**2.23**	**136**	*e*P	Pn	20 08 06.0	+0.1
APYP	**Conner**	**2.92**	**334**	*e*P	Pn	20 08 15.4	-0.4
ABRA	**Dolores**	**3.00**	**324**	*e*P	Pn	20 08 18.0	+1.1

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*IDC **24** 20:15:55.4±10.0, 15.03N×146.90E, mb3.6/4, mb1 3.7/4, mb1mx3.6/16, Error ellipse: s-maj=389.0km s-min=24.3km az=81.0*

*NEIC **24** 20:16:03.0±3.4, 14.91N×146.62E, h50^{km}±21^{km}, Error ellipse: s-maj=54.7km s-min=13.1km az=93.0*

ISC 24 20:16:04.9±3.0**, 14.95N**±0.10×**146.3E**±0.5**, h75**^{km}±15^{km}**, n9, σ0^{s}95**/9**, mb3.7**/5**, 1C-2D, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SAPN	**Saipan**	**0.55**	**298**	⇑*i*P	**P**	**20 16 21.0**	**+2.2**
ANAT	**Anatahan**	**1.50**	**338**	⇓*e*P	**P**	**20 16 29.7**	**-1.0**
ANAT				*e*		20 16 31.9	
SARN	**Sarigan**	**1.80**	**345**	⇓*e*P	**P**	**20 16 34.0**	**-0.5**
SARN				*e*		20 16 36.6	
GUMO	**Guam**	**1.91**	**225**	*e*Pn	**P**	**20 16 34.9**	**-1.1**
WRA	**Warramunga Arr**	**36.60**	**199**	P	**P**	**20 23 06.2**	**+0.4**
	0.6nm,1.0s,mb3.5,baz=24,slow=8.9,SNR=3.5						
ASAR	**Alice Springs**	**40.24**	**198**	P	**P**	**20 23 36.0**	**0.0**
	0.4nm,1.0s,mb3.2,baz=24,slow=8.9,SNR=2.9						
SONM	**Songino Array**	**46.42**	**323**	P	**P**	**20 24 26.9**	**+1.1**
	0.7nm,0.5s,mb3.6,baz=138,slow=6.1,SNR=4.4						
MKAR	**Makanchi Array**	**61.46**	**315**	P	**P**	**20 26 16.1**	**+0.2**
	1.1nm,0.5s,mb4.1,baz=94,slow=7.6,SNR=15						
KURK	**Kurchatov**	**64.42**	**319**	*e*P	**P**	**20 26 34.6**	**-0.8**
	6.2nm,1.3s,mb4.3						

CASC 24 20:16:38.0±1.3**, 12.61N×88.16W, h35**^{km}±999^{km}**, MD3.7, 2C-3D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.73**	**26**	⇓*e*P	P	20 16 52.2	+0.3
CNCH				*e*S	S	20 17 03.2	+1.1
VSM	**San Miguel**	**0.82**	**352**	*e*P	P	20 16 53.8	+0.7
VSM				*e*S	S	20 17 05.9	+1.7
BLLM	**Bellamira**	**0.83**	**355**	*e*P	P	20 16 53.5	+0.3
BLLM				*e*S	S	20 17 05.1	+0.7
SNVI	**San Vicente**	**1.20**	**327**	*e*P	P	20 16 58.4	0.0
SNVI				*e*S	S	20 17 14.4	+0.7
LEON	**Leon**	**1.25**	**99**	*e*P	P	20 16 59.3	+0.1
TELN	**Telica**	**1.30**	**90**	*e*P	P	20 17 00.3	+0.4
TELN				*e*S	S	20 17 16.6	+0.3
LCBS	**La Ceiba**	**1.31**	**323**	*e*P	P	20 17 00.1	-0.1
LCBS				*e*S	S	20 17 16.5	-0.1
LFRS	**El Faro**	**1.34**	**319**	⇑*e*P	P	20 17 00.3	-0.2
LFRS				*e*S	S	20 17 17.1	-0.2
MIRN	**Miramar**	**1.42**	**97**	*e*P	P	20 17 01.1	-0.7
MIRN				*e*S	S	20 17 19.2	-0.3
CNGN	**Cerro Negro**	**1.43**	**94**	*e*P	P	20 17 01.8	-0.1
CNGN				*e*S	S	20 17 19.9	+0.2
LFU	**La Fuente**	**1.46**	**321**	*e*P	P	20 17 02.3	0.0
LFU				*e*S	S	20 17 19.1	-1.4
BOQS	**Boqueron**	**1.56**	**316**	*e*P	P	20 17 04.2	+0.5
BOQS				*e*S	S	20 17 23.6	+0.6
COPN	**Copaltepe**	**1.59**	**105**	⇑*e*P	P	20 17 03.9	-0.2
COPN				*e*S	S	20 17 22.9	-0.8
MOMJ	**Momotombo**	**1.59**	**97**	⇓*e*P	P	20 17 04.0	-0.2
SOMN	**Somoto**	**1.71**	**62**	⇓*e*P	P	20 17 07.7	+1.9
SOMN				*e*S	S	20 17 29.9	+3.2
SBLS	**San Blas**	**1.88**	**311**	*e*P	P	20 17 08.8	+0.6
SBLS				*e*S	S	20 17 31.9	+1.0
MGAN	**Managua**	**1.93**	**104**	*e*S	S	20 17 31.6	-0.5
TICN	**Ticuantepe**	**1.97**	**107**	*e*S	S	20 17 32.7	-0.6
WILN	**Americas 2**	**1.98**	**103**	*e*S	S	20 17 32.7	-0.8
PYTN	**Playitas**	**2.05**	**92**	*e*P	P	20 17 10.7	0.0
PYTN				*e*S	S	20 17 34.8	-0.7

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*JMA **24** 20:45:26.5±0.4, 22.82N×121.58E, h26^{km}, M3.1*

TAP 24 20:45:25.5, 22.78N×121.44E, h17^{km}±1^{km}**, ML3.5, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**2.21**	**40**	P	Pn	20 46 01.0	-1.0
YOJ				*e*S	Sn	20 46 26.7	-2.4
HATJ	**Hateruma jima**	**2.52**	**59**	S	Sn	20 46 33.4	-3.6
IRIF	**Iriomote-Funau**	**2.61**	**53**	P	Pn	20 46 06.9	-0.8
IRIF				S	Sn	20 46 36.2	-3.1
JKRS	**Kuro-shima**	**2.77**	**58**	P	Pn	20 46 08.6	-1.4
JKRS				*e*S	Sn	20 46 41.0	-2.4
JIJ	**Ishigaki jima**	**2.94**	**57**	P	Pn	20 46 11.3	-1.1
JIJ				S	Sn	20 46 43.2	-4.4
JTJ	**Tarama**	**3.52**	**58**	*e*S	Sn	20 46 58.2	-4.1

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*NEIC **24** 21:41:40.1±2.9, 36.19N×71.10E, h160^{km}, mb4.0/4, Error ellipse: s-maj=61.9km s-min=10.4km az=65.0*

ISC 24 21:41:36.5±1.4**, 35.99N**±0.07×**70.7E**±0.2**, h160**^{km}±19^{km}**, n17, σ1^{s}01**/19**, 2C-1D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.39**	**155**	⇑P	**P**	**21 42 18.1**	**+0.8**
CHCP	**Chirah Chowk**	**3.15**	**137**	⇓P	**P**	**21 42 27.5**	**+0.6**
THW	**Thamme Wali**	**3.31**	**164**	P	**P**	**21 42 26.3**	**-2.6**
SARP	**Sargodha**	**4.38**	**157**	⇑P	**P**	**21 42 40.2**	**-2.6**
AML	**Almayashu**	**6.56**	**20**	P	**P**	**21 43 11.2**	**-0.5**
	SNR=52						
UCH	**Uchtor**	**6.90**	**24**	P	**P**	**21 43 16.0**	**-0.2**
	SNR=17						
EKS2	**Erkin-Say**	**7.08**	**19**	P	**P**	**21 43 18.6**	**0.0**
	SNR=14						
AAK	**Ala-Archa**	**7.26**	**23**	P	**P**	**21 43 21.4**	**+0.5**
	SNR=6.9						
AAK	**Ala-Archa**	**7.26**	**23**	*e*Pn	**P**	**21 43 19.5**	**-1.5**
	4.8nm,0.4s						
AAK				Sn	**S**	**21 44 34.2**	**-8.1**
CHMS	**Chumysh**	**7.67**	**23**	P	**P**	**21 43 27.1**	**+0.7**
	SNR=8.6						
TKM2	**Tokmak 2**	**7.89**	**27**	P	**P**	**21 43 29.3**	**0.0**
	SNR=15						
KOLN	**Koldanda**	**13.69**	**123**	*e*P	**P**	**21 44 44.8**	**-0.1**
	3.2nm,0.3s						
GKN	**Gorkha**	**14.26**	**120**	*e*P	**P**	**21 44 52.2**	**+0.1**
	7.3nm,0.3s						
GKN				*e*S	**S**	**21 47 24.8**	**-1.7**
DMN	**Daman**	**14.83**	**120**	*e*P	**P**	**21 44 59.6**	**+0.3**
	6.4nm,0.5s						
KKN	**Kakani**	**14.84**	**119**	*e*P	**P**	**21 45 00.9**	**+1.4**
	9.3nm,0.5s						
PKI	**Pulchoki**	**15.06**	**120**	*e*P	**P**	**21 45 03.7**	**+1.4**
	4.0nm,0.2s						
ZRNK	**Zerenda**	**17.00**	**357**	*e*P	**P**	**21 45 25.6**	**-0.3**
	0.9nm,0.6s						

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*IDC **24** 21:42:00.3±2.6, 25.68N×128.89E, mb3.3/4, mb1 3.5/4, mb1mx3.4/18, Error ellipse: s-maj=156.0km s-min=18.7km az=69.0*

*JMA **24** 21:42:02.7±0.3, 25.62N×128.76E, h54^{km}, M3.4*

ISC 24 21:42:03.3±0.6**, 25.68N**±0.04×**128.75E**±0.04**, h54**^{km}**, n17, σ1^{s}27**/29**, mb3.2**/4**, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JJT2	**Tamagusuku 2**	**1.01**	**297**	P	**P**	**21 42 21.6**	**+0.1**
JJT2				*e*S	**S**	**21 42 35.4**	**+0.4**
NAH1	**Naha**	**1.09**	**299**	P	**P**	**21 42 22.4**	**-0.2**
NAH1				*e*S	**S**	**21 42 36.8**	**-0.1**
JOW	**Kunigami**	**1.23**	**340**	Pn	**P**	**21 42 25.1**	**+0.6**
	103nm,0.3s,baz=144,slow=16,SNR=480						
JOW				Sn	**S**	**21 42 39.2**	**-1.0**
	40nm,0.3s,baz=106,slow=29,SNR=28						
JOW	**Kunigami**	**1.23**	**340**	P	**P**	**21 42 25.0**	**+0.5**
JOW				*e*S	**S**	**21 42 39.8**	**-0.4**
JIH	**Iheya**	**1.52**	**333**	P	**P**	**21 42 29.4**	**+0.7**
JIH				*e*S	**S**	**21 42 47.4**	**-0.1**
JAGN	**Aguni-jima**	**1.63**	**304**	P	**P**	**21 42 30.3**	**+0.1**
JAGN				*e*S	**S**	**21 42 50.7**	**+0.6**
JKE	**Kume jima 2**	**1.88**	**290**	P	**P**	**21 42 33.0**	**-0.7**
JKE				*e*S	**S**	**21 42 55.1**	**-1.1**
JTK	**Tokunoshima**	**2.11**	**5**	P	**P**	**21 42 37.5**	**+0.6**
JTK				S	**S**	**21 43 00.7**	**-1.2**
JMZ	**Minamidaito 2**	**2.23**	**86**	P	**P**	**21 42 37.6**	**-1.1**
JMZ				S	**S**	**21 43 02.5**	**-2.6**
JAM	**Amami Oshima**	**2.83**	**15**	P	**P**	**21 42 47.3**	**+0.2**
JAM				*e*S	**S**	**21 43 19.3**	**-0.9**
JZK	**Kikaishima**	**2.84**	**22**	P	**P**	**21 42 49.4**	**+2.0**
JZK				*e*S	**S**	**21 43 21.3**	**+0.7**
JTJ	**Tarama**	**3.81**	**255**	P	**P**	**21 42 58.9**	**-2.1**
JTJ				*e*S	**S**	**21 43 39.4**	**-5.6**
JIJ	**Ishigaki jima**	**4.38**	**254**	P	**P**	**21 43 06.7**	**-2.3**
SONM	**Songino Array**	**28.27**	**327**	P	**P**	**21 47 56.3**	**+2.8**
	0.3nm,0.6s,mb3.1,baz=127,slow=7.2,SNR=2.5						
MKAR	**Makanchi Array**	**42.25**	**312**	P	**P**	**21 49 55.5**	**+2.7**
	0.1nm,0.4s,mb2.8,baz=93,slow=10,SNR=3.1						
WRA	**Warramunga Arr**	**45.67**	**173**	P	**P**	**21 50 22.7**	**+1.9**
	0.6nm,0.8s,mb3.6,baz=354,slow=8.5,SNR=6.0						
ASAR	**Alice Springs**	**49.31**	**174**	P	**P**	**21 50 51.1**	**+2.0**
	0.2nm,0.4s,mb3.5,baz=5.2,slow=10.0,SNR=4.6						

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*NIED **24** 21:43:00, 34.60N×138.10E, h260^{km}, Mw4.0 Best double couple: M$_0$1.07×10^{15} NP1:φ$_s$351°, δ73°, λ-105°. NP2: φ$_s$213°, δ23°, λ-50°.*

*NEIC **24** 21:43:59.5±0.6, 34.49N×138.09E, h258^{km}±6^{km}, mb3.9/10, Error ellipse: s-maj=14.0km s-min=8.3km az=81.0*

*JMA **24** 21:43:59.3±0.2, 34.60N×138.11E, h271^{km}±2^{km}, M3.9*

*IDC **24** 21:44:00.4±1.3, 34.51N×138.18E, h266^{km}±15^{km}, mb3.4/12, mb1 3.6/14, mb1mx3.5/23, Error ellipse: s-maj=26.9km s-min=11.8km az=77.0*

ISC 24 21:43:59.2±0.3**, 34.59N**±0.04×**138.10E**±0.05**, h269**^{km}±2^{km}**, n55, σ0^{s}80**/73**, mb3.7**/21**, 4C-9D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OMA	**Omae zaki**	**0.10**	**80**	⇓P	**P**	**21 44 34.4**	**+0.6**
JSG	**Sagara**	**0.11**	**39**	⇓P	**P**	**21 44 34.5**	**+0.7**
JSG				S	**S**	**21 45 01.9**	**+1.1**
JKKG	**Kakegawa**	**0.23**	**332**	P	**P**	**21 44 34.0**	**0.0**
JKKG				*e*S	**S**	**21 45 00.6**	**-0.5**
TK04	**Tokai 4**	**0.27**	**223**	⇓P	**P**	**21 44 34.7**	**+0.6**
TK04				S	**S**	**21 45 02.3**	**+1.1**
TK03	**Tokai 3**	**0.43**	**195**	P	**P**	**21 44 35.1**	**+0.7**
TK03				S	**S**	**21 45 03.3**	**+1.5**
TK01	**Tokai 1**	**0.92**	**207**	P	**P**	**21 44 35.4**	**-0.7**
TK01				*e*S	**S**	**21 45 05.0**	**+0.1**
JYN	**Shimob**	**0.98**	**22**	⇓P	**P**	**21 44 36.7**	**+0.4**
JOD2	**Odawara 2**	**1.06**	**50**	⇓P	**P**	**21 44 37.0**	**+0.2**
JIM2	**Oshima 3**	**1.10**	**83**	⇓P	**P**	**21 44 37.2**	**+0.1**
JIE	**Ise**	**1.17**	**261**	⇑P	**P**	**21 44 37.7**	**+0.3**
JIE				*e*S	**S**	**21 45 05.8**	**-1.5**
JRY	**Ryogami san**	**1.57**	**24**	⇓P	**P**	**21 44 40.7**	**+0.5**
JRY				*e*S	**S**	**21 45 13.0**	**+1.0**
JGM	**Miyama**	**1.59**	**315**	⇑P	**P**	**21 44 40.8**	**+0.5**
JGM				*e*S	**S**	**21 45 11.8**	**-0.4**
MAJO	**Matsushiro**	**1.96**	**3**	⇓*e*Pn	**P**	**21 44 43.5**	**+0.3**
MAJO				*e*S	**S**	**21 45 15.7**	**-1.6**
MAT	**Matsushiro**	**1.96**	**3**	P	**P**	**21 44 43.4**	**+0.3**
MAT				S	**S**	**21 45 16.4**	**-0.9**
MAT	**Matsushiro**	**1.96**	**3**	P	**P**	**21 44 43.4**	**+0.3**
MAT				S	**S**	**21 45 16.2**	**-1.1**
MAT	**Matsushiro**	**1.96**	**3**	*e*P	**P**	**21 44 43.0**	**-0.1**
MAT				*e*S	**S**	**21 45 16.0**	**-1.3**
JHJ	**Hachijo jima 2**	**2.02**	**136**	P	**P**	**21 44 44.2**	**+0.5**
	38nm,0.3s,baz=68,slow=22,SNR=24						
JHJ				S	**S**	**21 45 22.6**	**+4.2**
	81nm,0.3s,baz=69,slow=23,SNR=15						
JHJ2	**Mitsune**	**2.05**	**135**	P	**P**	**21 44 44.0**	**0.0**
JWY	**Kouya**	**2.10**	**261**	⇑P	**P**	**21 44 44.8**	**+0.3**
JWY				S	**S**	**21 45 18.8**	**-0.9**
JAG	**Ashikaga**	**2.14**	**31**	⇓P	**P**	**21 44 44.3**	**-0.5**
JKG	**Kaga**	**2.22**	**320**	P	**P**	**21 44 45.7**	**+0.1**
JWZ	**Kozaga**	**2.24**	**243**	P	**P**	**21 44 45.4**	**-0.4**
JWZ				*e*S	**S**	**21 45 21.2**	**-0.8**
JWT	**Wachi**	**2.32**	**288**	⇑P	**P**	**21 44 46.7**	**+0.2**
BSO1	**Boso 1**	**2.37**	**88**	P	**P**	**21 44 45.8**	**-1.2**
BSO1				*e*S	**S**	**21 45 23.6**	**-0.6**
JSZ	**Suzu**	**2.92**	**348**	P	**P**	**21 44 52.8**	**+0.4**
JAI	**Aioi**	**3.13**	**256**	P	**P**	**21 44 54.3**	**-0.3**
CBIJ	**Chichi jima**	**8.25**	**154**	P	**P**	**21 45 51.6**	**-4.8**
	4.6nm,0.3s,baz=270,slow=20,SNR=4.3						
CBIJ				S	**S**	**21 47 18.4**	**-10**
	10nm,0.3s,baz=287,slow=19,SNR=5.9						
ASAJ	**Asahikawa**	**10.13**	**19**	P	**P**	**21 46 19.2**	**-0.7**
	1.2nm,0.3s,baz=245,slow=11,SNR=5.7						
ASAJ				S	**S**	**21 48 08.5**	**-2.4**
	1.1nm,0.3s,baz=272,slow=32,SNR=4.6						
YSS	**Yuzh-Sakhalins**	**12.85**	**14**	*e*P	**P**	**21 46 53.1**	**-0.6**
	22nm,0.4s						
SONM	**Songino Array**	**27.07**	**309**	P	**P**	**21 49 20.4**	**+1.5**
	1.9nm,0.8s,mb3.6,baz=109,slow=8.4,SNR=8.9						
CMAR	**Chiang Mai Arr**	**38.27**	**255**	P	**P**	**21 50 55.4**	**-0.1**
	0.7nm,0.7s,mb3.2,baz=50,slow=7.0,SNR=7.5						
ZAL	**Zalesovo**	**41.65**	**314**	P	**P**	**21 51 23.5**	**+0.8**
	1.0nm,0.3s,mb3.5,baz=271,slow=13,SNR=3.5						
MKAR	**Makanchi Array**	**43.19**	**304**	P	**P**	**21 51 35.6**	**+0.5**
	1.6nm,0.7s,mb3.4,baz=85,slow=10,SNR=23						
PKI	**Pulchoki**	**45.25**	**276**	*e*P	**P**	**21 51 51.2**	**-0.5**
KKN	**Kakani**	**45.27**	**276**	*e*P	**P**	**21 51 51.5**	**-0.4**
	12nm,0.8s,mb4.2						
KURK	**Kurchatov**	**45.37**	**310**	*e*P	**P**	**21 51 52.4**	**+0.1**
	4.5nm,0.7s,mb3.8						
DMN	**Daman**	**45.48**	**276**	*e*P	**P**	**21 51 53.1**	**-0.4**
GKN	**Gorkha**	**45.72**	**277**	*e*P	**P**	**21 51 54.6**	**-0.8**
	20nm,1.0s,mb4.4						
KOLN	**Koldanda**	**46.65**	**277**	*e*P	**P**	**21 52 02.4**	**-0.3**
AAK	**Ala-Archa**	**49.31**	**299**	*e*P	**P**	**21 52 21.9**	**-1.0**
	1.8nm,0.7s,mb3.5						
ZRNK	**Zerenda**	**51.10**	**313**	*e*P	**P**	**21 52 36.1**	**+0.1**
	1.1nm,0.5s,mb3.4						
WRAB	**Tennant Creek**	**54.33**	**184**	*e*P	**P**	**21 52 59.0**	**-1.1**
	2.0nm,0.6s,mb3.6						
WB2	**Warramunga Arr**	**54.34**	**184**	*e*P	**P**	**21 52 58.9**	**-1.2**
WRA	**Warramunga Arr**	**54.34**	**184**	P	**P**	**21 52 59.1**	**-1.0**
	1.2nm,0.5s,mb3.5,baz=0.9,slow=7.6,SNR=26						
ARU	**Arti**	**56.42**	**319**	*e*P	**P**	**21 53 14.5**	**0.0**
	3.2nm,0.5s,mb4.0						
ASAR	**Alice Springs**	**58.07**	**185**	P	**P**	**21 53 25.8**	**-0.7**
	0.5nm,0.4s,mb3.3,baz=353,slow=4.6,SNR=12						
KEV	**Kevo**	**64.76**	**339**	*e*p	**P**	**21 54 10.5**	**+0.3**
	0.5nm,0.3s,mb3.6						
ARCES	**ARCESS Array B**	**65.33**	**339**	P	**P**	**21 54 14.6**	**+0.8**
	1.1nm,0.5s,mb3.7,baz=56,slow=7.0,SNR=8.8						
KAF	**Kangasniemi**	**69.23**	**332**	*e*p	**P**	**21 54 38.2**	**+0.1**
	0.5nm,0.3s,mb3.7						
FINES	**FINESS Array B**	**69.70**	**332**	P	**P**	**21 54 41.7**	**+0.6**
	6.7nm,1.1s,mb4.3,baz=67,slow=6.3,SNR=14						
AKASG	**Malin Array Be**	**74.55**	**321**	P	**P**	**21 55 10.8**	**+1.0**
	1.2nm,0.7s,mb3.6,baz=46,slow=7.0,SNR=5.7						
NB2	**NORSAR Subarra**	**75.37**	**336**	P	**P**	**21 55 14.9**	**+0.6**
	1.1nm,0.5s,mb3.7,baz=42,slow=5.6						
NOA	**NORSAR Array B**	**75.37**	**336**	P	**P**	**21 55 15.1**	**+0.8**
	1.2nm,0.5s,mb3.8,baz=43,slow=5.8,SNR=5.0						
BRTR	**Keskin Array B**	**78.42**	**310**	P	**P**	**21 55 33.4**	**+1.9**
	0.6nm,0.6s,mb3.5,baz=45,slow=1.7,SNR=3.8						
GERES	**GERESS Array B**	**83.32**	**327**	P	**P**	**21 55 58.2**	**+1.4**
	0.5nm,0.5s,mb3.6,baz=27,slow=6.0,SNR=6.7						

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*ATH **24** 22:00:49.1, 39.28N×23.70E, h8^{km}, MD2.7/3*

*THE **24** 22:00:51.2, 39.36N×23.58E, h16^{km}, ML2.5*

ISC 24 22:00:50.0±0.8**, 39.33N**±0.04×**23.60E**±0.06**, h30**^{km}±11^{km}**, n11, σ1^{s}17**/16**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AOS	**Alonnisos**	**0.27**	**126**	*e*Pg	**Pb**	**22 00 57.2**	**+0.1**
AOS				*e*Sg	**Sb**	**22 01 02.8**	**+0.9**
NEO	**Neokhori**	**0.29**	**265**	*e*PB	**Pb**	**22 00 56.3**	**-1.0**
XOR	**Xorichti**	**0.32**	**276**	*e*Pg	**Pb**	**22 00 56.9**	**-0.7**
XOR				*e*Sg	**Sb**	**22 01 02.9**	**0.0**
PAIG	**Paliouri**	**0.60**	**6**	*e*Pg	**Pb**	**22 01 02.7**	**+0.7**
LKR	**Lokris**	**0.82**	**214**	*e*PB	**Pb**	**22 01 04.9**	**-0.8**
AGG	**Agios Georgios**	**1.03**	**253**	*e*Pg	**Pb**	**22 01 09.6**	**+0.4**
AGG				*e*Sg	**Sb**	**22 01 25.2**	**+2.8**
OUR	**Ouranopolis**	**1.04**	**16**	*e*Pg	**Pb**	**22 01 09.5**	**+0.1**
PLG	**Polygyros**	**1.04**	**354**	*e*PB	**Pb**	**22 01 09.5**	**+0.1**
LIT	**Litokhoron**	**1.15**	**312**	*e*Pg	**Pn**	**22 01 11.2**	**+0.9**
LIT				*e*Sg	**Sb**	**22 01 27.6**	**+1.9**
PTL	**Penteli**	**1.30**	**171**	*e*PB	**Pb**	**22 01 12.0**	**-1.7**
GRG	**Griva**	**1.86**	**331**	*e*Pb	**Pb**	**22 01 22.1**	**-1.1**
GRG				*e*Sb	**Sb**	**22 01 44.2**	**-2.0**

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*NEIC **24** 22:21:57.6±1.6, 7.35S×128.32E, h90^{km}±16^{km}, mb4.4/13, Error ellipse: s-maj=14.2km s-min=7.9km az=50.0*

IDC ***24*** *22:21:58.3±3.9, 7.47S×128.14E, h94^{km}±37^{km}, mb3.9/7, mb1 4.1/10, mb1mx4.0/14, Error ellipse: s-maj=35.0km s-min=15.4km az=59.0*

ISC 24 22:21:57.1±0.4**, 7.56S**±0.06×**127.98E**±0.10**, h100^{km}, n31, σ1^{s}06**/38**, mb4.4**/17**, 2D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	**Kakadu**	6.71	140	⇓*i*P	P	22 23 40.9	+6.3
	70nm,0.4s						
KAKA				*e*S	S	22 24 50.7	+0.6
FITZ	**Fitzroy Crossi**	10.72	192	*e*P	P	22 24 32.3	+3.4
	8.0nm,0.3s						
FITZ				*e*S	S	22 26 25.6	-1.9
FITZ	**Fitzroy Crossi**	10.72	192	P	P	22 24 31.9	+3.0
	2.0nm,0.3s,baz=22,slow=9.7,SNR=61						
FITZ				S	S	22 26 25.4	-2.0
	20nm,0.3s,baz=294,slow=12,SNR=9.6						
WRAB	**Tennant Creek**	13.76	154	*e*Pn	P	22 25 08.4	-0.7
	7.9nm,0.4s						
WRAB				*e*		22 25 16.1	
WRAB				*e*Sn	S	22 27 26.2	-14
WRA	**Warramunga Arr**	13.77	154	P	P	22 25 08.1	-1.0
	2.4nm,0.3s,baz=339,slow=13,SNR=88						
WRA				S	S	22 27 31.5	-8.3
	11nm,0.3s,baz=329,slow=21,SNR=13						
WB2	**Warramunga Arr**	13.77	154	*e*P	P	22 25 08.2	-1.0
WB2				*e*S	S	22 27 27.5	-12
MBWA	**Marble Bar**	15.69	210	*e*P	P	22 25 38.7	+5.0
	3.1nm,0.5s						
ASAR	**Alice Springs**	16.99	161	P	P	22 25 51.5	+1.7
	3.0nm,0.3s,baz=342,slow=11,SNR=160						
ASAR				S	S	22 28 48.9	-5.2
	1.5nm,0.3s,baz=332,slow=15,SNR=5.2						
ASPA	**Alice Springs**	16.99	161	*e*P	P	22 25 52.1	+2.2
ASPA				*e*S	S	22 28 45.3	-8.8
CTA	**Charters Tower**	21.65	127	P	P	22 26 40.8	0.0
	3.0nm,0.7s,mb3.7,baz=306,slow=13,SNR=7.4						
CTAO	**Charters Tower**	21.65	127	P	P	22 26 40.3	-0.4
	2.4nm,0.6s,mb3.7						
FORT	**Forrest**	23.10	180	*e*P	P	22 26 58.1	+3.3
	20nm,0.4s,mb4.8						
FORT				*e*S	Sx	22 31 17.6	
NWAO	**Narrogin (SRO)**	27.14	200	P	P	22 27 35.5	+2.6
	4.1nm,0.7s,mb4.1,baz=45,slow=10.0,SNR=3.6						
NWAO	**Narrogin (SRO)**	27.14	200	P	P	22 27 35.5	+2.6
STKA	**Stephens Creek**	27.32	154	⇓*i*P	P	22 27 34.4	-0.2
	4.4nm,0.5s,mb4.2						
STKA	**Stephens Creek**	27.32	154	P	P	22 27 34.5	-0.1
	5.4nm,0.5s,mb4.3,baz=324,slow=8.7,SNR=30						
CMAR	**Chiang Mai Arr**	38.59	312	P	P	22 29 13.1	+1.1
	1.3nm,0.9s,mb3.8,baz=134,slow=7.2,SNR=7.4						
BJT	**Baijiatuau**	48.58	348	*e*P	P	22 30 31.0	-1.4
	4.6nm,0.4s,mb4.8						
PKI	**Pulchoki**	53.99	312	*e*P	P	22 31 13.5	+0.2
	10.0nm,0.6s,mb5.0						
KKN	**Kakani**	54.20	312	*e*P	P	22 31 15.0	+0.2
DMN	**Daman**	54.23	312	*e*P	P	22 31 15.8	+0.8
	10nm,0.9s,mb4.9						
GKN	**Gorkha**	54.79	312	*e*P	P	22 31 19.3	+0.1
	7.9nm,0.4s,mb5.1						
KOLN	**Koldanda**	55.44	311	*e*P	P	22 31 24.2	+0.4
	3.4nm,0.3s,mb4.8						
SONM	**Songino Array**	58.36	343	P	P	22 31 43.7	-0.5
	2.7nm,0.7s,mb4.4,baz=167,slow=7.1,SNR=20						
MKAR	**Makanchi Array**	67.61	328	P	P	22 32 44.8	-0.5
	1.9nm,0.4s,mb4.3,baz=119,slow=8.4,SNR=62						
MKAR				pP	PcP	22 33 07.1	-4.4
	2.4nm,0.8s,baz=124,slow=7.8,SNR=3.8						
AAK	**Ala-Archa**	69.69	321	P	P	22 32 58.2	+0.2
	0.8nm,0.6s,mb3.7						
ZAL	**Zalesovo**	71.21	335	P	P	22 33 06.3	-0.7
	1.1nm,0.3s,mb4.2,baz=306,slow=2.9,SNR=4.9						
KURK	**Kurchatov**	71.96	330	*e*P	P	22 33 11.0	-0.6
	4.6nm,0.7s,mb4.4						
ZRNK	**Zerenda**	78.16	328	*e*P	P	22 33 46.3	-0.5
	2.1nm,0.8s,mb3.9						
QSPA	**South Pole Qui**	82.42	180	*e*P	P	22 34 09.6	+0.6
	1.1nm,0.6s,mb3.9						
LPAZ	**La Paz**	151.44	146	PKPbc	PKPdf	22 41 42.1	+8.3
	1.1nm,0.4s,baz=28,slow=3.1,SNR=8.0						
LPAZ				PKPab	PKPab	22 41 51.5	+0.5
	1.0nm,0.6s,baz=238,slow=2.4,SNR=5.3						

IDC 24 22:40:39.4±10.0**, 7.54S**×**129.55E, h123^{km}**±86^{km}**, mb3.2**/1**, mb1 3.3**/4**, mb1mx3.1**/12**, ML3.3**/3**, Error ellipse: s-maj=73.3km s-min=52.8km az=9.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	11.16	200	P	P	22 43 15.4	-1.1
	0.2nm,0.3s,baz=22,slow=10,SNR=7.5						
FITZ				S	S	22 45 20.9	+1.5
	0.3nm,0.3s,baz=164,slow=15,SNR=4.6						
WRA	**Warramunga Arr**	13.17	160	P	P	22 43 41.3	-1.4
	0.2nm,0.3s,baz=337,slow=13,SNR=7.2						
WRA				S	S	22 46 05.5	-1.2
	0.2nm,0.3s,baz=337,slow=22,SNR=3.2						
ASAR	**Alice Springs**	16.57	166	P	P	22 44 24.7	-1.2
	0.2nm,0.3s,baz=344,slow=9.1,SNR=14						
ASAR				S	S	22 47 31.1	+6.2
	0.1nm,0.3s,baz=348,slow=27,SNR=3.5						
STKA	**Stephens Creek**	26.69	157	P	P	22 46 07.2	-1.9
	0.8nm,0.8s,baz=344,slow=15,SNR=2.9						

NEIC ***24*** *22:55:32.9, 37.15N×3.49E, MG3.6(MDD), After MDD.*

MDD 24 22:55:31.1±1.7**, 36.93N**×**3.54E, h3^{km}**±18^{km}**, mb3.8**/8**, Error ellipse: s-maj=16.6km s-min=6.9km az=27.0, PRXIMO, Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ADJB	**Djebel Djouab**	0.78	186	P	Pg	22 55 45.8	-0.9
EMHD	**Djebel Mahouad**	0.87	213	P	Pb	22 55 47.0	-1.5
ECHF	**Ech Chlef**	1.94	247	P	Pn	22 55 54.0	-11
EANR	**'Ain N'Sour**	2.20	244	P	Pn	22 56 02.0	-7.0
ETRT	**Tiaret**	2.38	230	P	Pn	22 56 05.0	-6.6
CASM	**Ain Smara**	2.47	105	P	Pn	22 56 12.0	-0.8
EIBI	**Ibiza**	2.72	321	Pn	Pn	22 56 13.7	-2.8
	1.3nm,0.1s,SNR=11						
EIBI				Sn	Sn	22 56 44.2	-6.0
	6.1nm,0.1s,SNR=5.0						
EBEN	**Beniarda**	3.47	302	Pn	Pn	22 56 24.5	-2.6
	0.8nm,0.1s,SNR=7.2						
EBEN				Sn	Sn	22 57 03.1	-6.2
	27nm,0.9s,SNR=5.0						
ETOB	**Tobarra**	4.38	294	Pn	Pn	22 56 37.9	-2.2
	0.9nm,0.1s,SNR=11						
ETOB				Sn	Sn	22 57 26.4	-5.9
	1.4nm,0.2s,SNR=5.0						
EMOS	**Mosqueruela**	4.65	319	Pn	Pn	22 56 41.4	-2.5
	0.9nm,0.2s,SNR=9.3						
EMOS				Sn	Sn	22 57 31.3	-7.8
	0.5nm,0.2s,SNR=7.9						
EPOB	**Poblet**	4.81	337	Pn	Pn	22 56 42.8	-3.3
	0.9nm,0.2s,SNR=5.0						
EPOB				Sn	Sn	22 57 33.1	-10
	0.7nm,0.1s,SNR=7.9						
EMIR	**Miracle**	5.21	343	Pn	Pn	22 56 48.9	-2.9
	3.4nm,0.2s,SNR=10						
EMIR				Sn	Sn	22 57 44.8	-8.5
	SNR=5.0						
EMIR	**Miracle**	5.21	343	Pn	Pn	22 56 48.9	-2.9
EMIR				Sn	Sn	22 57 44.8	-8.5
EQES	**Quesada**	5.34	281	Pn	Pn	22 56 52.1	-1.5
	0.8nm,0.2s,SNR=5.0						
EQES				Sn	Sn	22 57 52.1	-4.4
	SNR=5.0						
EJON	**La Jonquera**	5.53	355	Pn	Pn	22 56 51.9	-4.5
	4.9nm,0.2s,SNR=17						
EJON				Sn	Sn	22 57 49.7	-12
	50nm,1.4s,SNR=5.0						
ESDC	**Sonseca Array**	6.50	297	Pn	Pn	22 57 06.3	-3.8
	0.6nm,0.2s,baz=109,slow=14,SNR=5.0						

MDD ***24*** *22:55:42.8±0.4, 42.85N×1.39W, h9^{km}±6^{km}, mbLg1.5/6, Error ellipse: s-maj=4.2km s-min=2.5km az=33.0, PRXIMO AftershockPLICA*

LDG ***24*** *22:55:44.8±0.5, 42.98N×1.31W, h9^{km}±1^{km}, Md2.2/1, Ml2.0/4, Error ellipse: s-maj=7.9km s-min=3.9km az=40.0*

ISC 24 22:55:40.4±0.6**, 42.83N**±0.03×**1.45W**±0.05**, h11^{km}**±6^{km}**, n17, σ1^{s}06**/27**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	0.33	31	*e*Pg	Pg	22 55 48.3	+1.0
SJPF				*e*Sg	Sg	22 55 51.1	-0.8
	43nm,0.3s						
EALK	**Alkurruntz**	0.39	354	Pg	Pg	22 55 49.4	+1.0
	2.1nm,0.1s,SNR=29						
EALK				Lg		22 55 55.8	
	14nm,0.1s,SNR=24						
LARF	**Larrau**	0.40	59	P	Pg	22 55 49.7	+1.1
LARF				S	Sg	22 55 55.1	+0.9
OSSF	**Osses**	0.45	18	P	Pg	22 55 50.3	+0.7
OSSF				S	Sg	22 55 55.0	-0.7
ETSF	**Etsaut**	0.66	84	*e*Pg	Pg	22 55 54.3	+0.5
ETSF				*e*Sg	Sg	22 56 02.8	+0.1
	4.5nm,0.3s						
ESAC	**San Caprasio**	1.33	146	Pg	Pg	22 56 07.3	+0.3
	4.7nm,0.2s,SNR=7.9						
ESAC				Lg		22 56 24.5	
	12nm,0.2s,SNR=7.9						
EPF	**Esparros**	1.33	81	*e*Pn	Pn	22 56 06.2	+1.2
EPF				*e*Pg	Pg	22 56 08.5	+1.4
EPF				*e*Sg	Sg	22 56 24.4	-0.5
	3.8nm,0.2s						
ELAN	**Lanestosa**	1.51	286	Pg	Pg	22 56 10.2	-0.3
	1.6nm,0.2s,SNR=8.5						
ELAN				Lg		22 56 31.4	
	1.1nm,0.1s,SNR=7.9						
ETOR	**Torete**	2.06	193	Pn	Pn	22 56 17.5	+2.1
	SNR=7.9						
ETOR				Pg	Pg	22 56 21.4	-0.1
	1.3nm,0.4s,SNR=6.9						
ETOR				Lg		22 56 45.6	
	0.9nm,0.2s,SNR=5.0						
EMIR	**Miracle**	2.39	112	Pg	Pg	22 56 27.6	-0.6
	SNR=7.9						
EPOB	**Poblet**	2.39	127	Pg	Pg	22 56 26.0	-2.2
	SNR=5.0						
EMOS	**Mosqueruela**	2.57	163	Pg	Pg	22 56 30.3	-1.5
	SNR=4.0						
LFF	**La Frestale**	2.64	36	*e*Pg	Pg	22 56 30.5	-2.6
LFF				*e*Sg	Sg	22 57 01.4	-6.9
	1.5nm,0.2s						
MTLF	**Montolieu**	2.74	78	*e*Pn	Pn	22 56 25.5	+0.4
MTLF				*e*Sg	Sg	22 57 05.8	-5.8
	1.5nm,0.3s						
RJF	**Les Rejaudoux**	3.27	40	*e*Pn	Pn	22 56 32.1	-0.6
CAF	**Calviac**	3.29	49	*e*Pn	Pn	22 56 32.4	-0.6
CAF				*e*Sn	Sn	22 57 08.1	-4.5
	0.7nm,0.3s						
MFF	**Saint Martin d**	3.88	13	*e*Pn	Pn	22 56 40.4	-1.0

BJI ***24*** *22:57:18.8, 40.49N×77.65E, h13^{km}, ML3.4*

NNC ***24*** *22:57:23.6±0.4, 40.56N×78.17E, h34^{km}±2^{km}, mpv3.4, Error ellipse: s-maj=4.2km s-min=1.2km az=146.0*

ISC 24 22:57:18.4±3.2**, 40.30N**±0.09×**78.1E**±0.1**, h28^{km}**±31^{km}**, n13, σ1^{s}43**/16**, 4C-1D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSH	**Kashi**	1.80	245	PG	Pn	22 57 47.9	-0.3
KSH				SG	Sn	22 58 10.4	+0.1
KSH				Smax			
	comp=N,220nm,0.4s						
KSH				Smax			
	comp=E,210nm,0.3s						
ULHL	**Ulahol**	2.39	325	P	Pn	22 57 54.6	-2.0
	SNR=9.0						
KZA	**Kyzart**	2.78	311	P	Pn	22 58 01.0	-1.2
	SNR=15						
TKM2	**Tokmak 2**	3.22	325	P	Pn	22 58 07.2	-1.1
	SNR=5.5						
UCH	**Uchtor**	3.31	307	P	Pn	22 58 08.2	-1.5
	SNR=6.7						
KBK	**Karagaybulak**	3.33	316	P	Pn	22 58 12.1	+2.1
	SNR=12						
AAK	**Ala-Archa**	3.56	312	⇑Pn	Pn	22 58 15.0	+1.6
	comp=E,5.7nm,0.3s						
AAK				⇑Sn	Sn	22 58 55.2	+0.2
	comp=E,48nm,0.8s						
AAK	**Ala-Archa**	3.56	312	P	Pn	22 58 15.1	+1.8
	SNR=13						
CHMS	**Chumysh**	3.68	318	P	Pn	22 58 17.6	+2.7
	SNR=15						
AML	**Almayashu**	3.78	300	P	Pn	22 58 19.8	+3.4
	SNR=8.5						
USP	**Ospenovka**	4.00	319	P	Pn	22 58 23.2	+3.8
	SNR=19						
EKS2	**Erkin-Say**	4.00	308	P	Pn	22 58 18.4	-1.2
	SNR=5.8						
MK31	**Makanchi Array**	7.17	24	⇑Pn	Pn	22 59 05.0	+0.7
	comp=E,2.2nm,1.2s,baz=204,slow=16,SNR=6.3						
MK31				⇓Sn	Sn	23 00 25.4	-0.3
	comp=E,0.6nm,0.5s,baz=246,slow=27,SNR=4.3						
MK31				⇑Lg		23 01 03.6	
	comp=E,2.1nm,0.7s,baz=208,slow=27,SNR=4.3						

NEIC ***24*** *23:05:18.3, 19.31N×102.65W, h75^{km}, MD3.6(MEX), After MEX.*

MEX 24 23:05:18.3±1.3**, 19.35N**×**102.65W, h72^{km}**±54^{km}**, MD3.6, Michoacan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFJM	**Santa Fe**	1.19	342	*i* P	P	23 05 38.0	-1.6
SFJM				*e*S	S	23 05 54.0	-1.5
SFJM	**Santa Fe**	1.19	342	*e*P	P	23 05 38.0	-1.6
SFJM				*e*S	S	23 05 55.0	-0.5
MOIG	**Morelia**	1.42	76	*e*P	P	23 05 39.5	-3.3
MOIG				*i* S	S	23 05 58.7	-2.2
ZIIG	**Zihuatanejo**	2.07	147	*e*P	P	23 05 51.2	-0.4
ZIIG				*i* S	S	23 06 12.7	-3.4
CJM	**Chamela**	2.26	274	*i* P	P	23 05 51.5	-2.8
CJM				*i* S	S	23 06 19.0	-2.0

HEL ***24*** *23:20:16.4±0.3, 67.81N×19.96E, ML1.9, ML1.9(BER), Explosion*

BER ***24*** *23:20:18.0±4.3, 67.84N×20.22E, ML1.8, Suspected explosion*

ISC 24 23:20:13.6±0.6**, 67.75N**±0.04×**19.76E**±0.09**, n14, σ1^{s}39**/20**, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KIF	**Kilpisjarvi**	1.32	17	*e*P	Pb	23 20 39.0	+0.1
KIF				*e*S	Sb	23 20 55.6	-0.7
KTK1	**Kautokeino**	1.81	44	*e*P	Pn	23 20 47.4	+1.1
KTK1				AML	AML	23 21 14.8	
	comp=Z,8.2nm,0.3s						
TRO	**Tromso**	1.92	351	*e*P	Pn	23 20 49.4	+1.6
TRO				*e*SG	Sg	23 21 14.0	-3.4
TRO				AML	AML	23 21 16.8	
	comp=Z,17nm,0.4s						
LOF	**Lofoten**	2.38	282	*e*	Sg	23 21 39.9	+7.1
LOF				AML	AML	23 21 41.9	
	comp=Z,11nm,0.5s						
LOF	**Lofoten**	2.38	282	*e*Sg	Sg	23 21 39.9	+7.1
LOF				AML	AML	23 21 41.9	
	comp=Z,11nm,0.5s						
MELS	**Mels**	2.50	252	*e*Sg	Sg	23 21 41.4	+4.4
SGF	**Sodankyl**	2.61	94	*e*P	Pn	23 20 59.8	+2.0
SGF				*e*S	Sn	23 21 29.4	-1.2
MOR8	**Moi Rana**	2.62	235	*e*	Sg	23 21 40.3	-0.7
MOR8				AML	AML	23 21 43.0	
	comp=Z,15nm,0.4s						
MOR8	**Moi Rana**	2.62	235	*e*Sg	Sg	23 21 40.3	-0.7
MOR8				AML	AML	23 21 43.0	
	comp=Z,15nm,0.4s						
KEV	**Kevo**	3.32	49	*e*P	Pn	23 21 08.5	+0.7
KEV				*e*S	Sn	23 21 45.6	-3.0
KEV				MSG		23 21 54.0	
	comp=Z,2.5nm,0.3s						
OUL	**Oulu**	3.64	134	*e*PG	Pg	23 21 21.1	-5.1
OUL				*e*SB	Sb	23 22 05.0	+1.3
OUL				MSG		23 22 06.8	
	comp=Z,3.6nm,0.4s						
MSF	**Maaselka**	4.11	112	*e*P	Pn	23 21 19.5	+0.5
MSF				*e*S	Sn	23 22 06.0	-2.5
MSF				MSG		23 22 25.5	
	comp=Z,1.9nm,0.4s						
NSS	**Namsos**	4.52	228	*e*	Sg	23 22 43.5	-0.7
NSS	**Namsos**	4.52	228	*e*Sg	Sg	23 22 43.5	-0.7

IDC ***24*** *23:31:30.1±1.1, 25.90N×141.70E, mb3.8/4, mb1 4.0/4, mb1mx3.6/19, MS5.0/1, Ms1 5.0/1, ms1mx3.1/23, Error ellipse: s-maj=70.5km s-min=17.2km az=103.0*

ISC 24 23:31:29.6±6.0**, 25.8N**±0.1×**141.6E**±0.4**, h5^{km}**±38^{km}**, n7, σ0^{s}32**/7**, mb3.9**/4**, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	1.37	23	Pn	Pn	23 31 55.4	0.0
	26nm,0.3s,baz=239,slow=21,SNR=18						
CBIJ				Sn	Sn	23 32 14.1	0.0
	78nm,0.3s,baz=283,slow=22,SNR=6.5						
JNU	**Nakatsue**	11.81	310	LR	LR	23 38 13.8	
	comp=Z,7µm,20.9s,baz=268,slow=34						
WB2	**Warramunga Arr**	46.04	189	*e*P	P	23 39 56.4	+0.2
WRA	**Warramunga Arr**	46.04	189	P	P	23 39 56.5	+0.2
	2.7nm,0.6s,mb4.3,baz=12,slow=8.5,SNR=20						
ASAR	**Alice Springs**	49.77	189	P	P	23 40 24.9	-0.3
	0.3nm,0.5s,mb3.6,baz=18,slow=11,SNR=4.4						
FINES	**FINESS Array B**	78.84	334	P	P	23 43 35.1	+0.3
	0.7nm,0.5s,mb3.8,baz=76,slow=7.9,SNR=4.2						
NOA	**NORSAR Array B**	84.58	338	P	P	23 44 04.4	-0.3
	1.3nm,1.0s,mb4.0,baz=31,slow=5.2,SNR=2.7						

IDC ***24*** *23:39:28.3±1.0, 31.18N×138.54E, h388^{km}±24^{km}, mb3.2/8, mb1 3.3/9, mb1mx3.1/21, Error ellipse: s-maj=71.3km s-min=13.1km az=75.0*

JMA ***24*** *23:39:29.4±0.3, 31.42N×138.87E, h406^{km}, M3.1*

ISC 24 23:39:27.7±0.6**, 31.26N**±0.08×**138.9E**±0.2**, h408^{km}**±7^{km}**, n23, σ0^{s}89**/27**, mb3.3**/8**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	2.01	23	P	P	23 40 25.1	+0.3
	22nm,0.3s,baz=91,slow=15,SNR=6.2						
JHJ				S	S	23 41 10.0	+0.4
	16nm,0.3s,baz=74,slow=20,SNR=3.0						
JHJ2	**Mitsune**	2.01	23	P	P	23 40 25.9	+1.1
JHJ2				S	S	23 41 09.7	0.0
JIE	**Ise**	3.61	330	P	P	23 40 37.0	-0.1
JAA	**Atsumi**	3.66	337	P	P	23 40 37.9	+0.4
HMMJ	**Hamamatsu 2**	3.71	345	P	P	23 40 38.6	+0.6
BSO1	**Boso 1**	3.82	27	P	P	23 40 39.0	0.0
BSO1				S	S	23 41 35.2	+0.1
TATJ	**Tateyama 2**	3.86	13	*e*S	S	23 41 33.6	-2.1
BSO4	**Boso 4**	3.92	18	*e*S	S	23 41 37.4	+0.6
JOD2	**Odawara 2**	3.99	3	P	P	23 40 40.6	-0.1
JAO	**Obara**	4.21	342	P	P	23 40 43.5	+0.7
JHU	**Hanno**	4.59	4	P	P	23 40 47.5	+1.0
JHU				*e*S	S	23 41 46.5	-1.9
JRY	**Ryogami san**	4.74	0	P	P	23 40 48.6	+0.5
JYT	**Yasato**	5.07	12	S	S	23 41 55.4	-1.7
JAG	**Ashikaga**	5.17	5	P	P	23 40 51.7	-0.7
JMK	**Ichinoseki**	7.91	13	S	S	23 42 54.7	+1.4
MKAR	**Makanchi Array**	45.63	307	P	P	23 47 10.4	-0.5
	0.3nm,0.7s,mb2.8,baz=100,slow=8.8,SNR=2.6						
FITZ	**Fitzroy Crossi**	50.70	196	P	P	23 47 48.4	-1.3
	2.0nm,0.5s,mb3.6,baz=1.6,slow=23,SNR=3.3						
WRA	**Warramunga Arr**	51.10	185	P	P	23 47 51.7	-0.9
	2.3nm,0.7s,mb3.5,baz=1.6,slow=7.8,SNR=20						
BVAR	**Borovoye Array**	53.03	315	P	P	23 48 05.9	-0.6
	0.6nm,0.6s,mb3.0,baz=101,slow=7.3,SNR=3.6						
ASAR	**Alice Springs**	54.82	186	P	P	23 48 20.1	+0.4
	0.9nm,0.5s,mb3.2,baz=15,slow=13,SNR=9.3						
STKA	**Stephens Creek**	62.85	177	P	P	23 49 13.7	0.0
	1.4nm,1.1s,mb3.4,slow=7.1,SNR=3.3						
FINES	**FINESS Array B**	72.93	332	P	P	23 50 16.0	+1.2
	1.9nm,0.9s,mb3.6,baz=90,slow=6.9,SNR=6.5						
AKASG	**Malin Array Be**	77.56	322	P	P	23 50 41.5	+0.6
	0.4nm,0.3s,mb3.5,baz=27,slow=2.8,SNR=3.6						

IDC ***24*** *23:42:55.3±8.7, 10.98S×124.31E, h143^{km}±102^{km}, mb3.5/2, mb1 3.2/5, mb1mx3.1/12, Error ellipse: s-maj=84.3km s-min=51.0km az=33.0*

ISC 24 23:42:56.3±2.3**, 11.0S**±0.1×**124.5E**±0.1**, h175^{km}**±27^{km}**, n7, σ1^{s}02**/12**, mb3.6**/2**, South of Timor**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	7.12	171	*e*P	P	23 44 38.3	-0.6
	0.8nm,0.3s						
FITZ				*e*S	S	23 45 58.3	-0.5
FITZ	**Fitzroy Crossi**	7.12	171	P	P	23 44 37.8	-1.1
	0.4nm,0.3s,baz=12,slow=11,SNR=29						
FITZ				S	S	23 45 59.2	+0.4
	1.6nm,0.3s,baz=168,slow=7.8,SNR=11						
KAKA	**Kakadu**	7.89	103	*e*P	P	23 44 49.6	+0.5
	4.3nm,0.8s						
KAKA				*e*S	S	23 46 16.6	-0.6
WRA	**Warramunga Arr**	12.96	134	P	P	23 45 55.5	+0.4
	0.0nm,0.3s,baz=310,slow=14,SNR=1.9						
WRA				S	S	23 48 15.4	-0.4
	0.3nm,0.3s,baz=308,slow=24,SNR=7.8						
ASAR	**Alice Springs**	15.43	146	P	P	23 46 28.9	+2.8
	0.1nm,0.3s,baz=318,slow=12,SNR=8.0						
ASAR				S	S	23 49 18.6	+6.7
	0.1nm,0.3s,baz=320,slow=22,SNR=5.7						
MKAR	**Makanchi Array**	68.81	330	P	P	23 53 42.2	-1.4
	0.8nm,0.9s,mb3.4,baz=124,slow=6.9,SNR=3.7						
ZAL	**Zalesovo**	72.94	337	P	P	23 54 09.1	+0.9
	0.6nm,0.3s,mb3.9,baz=79,slow=7.4,SNR=3.3						

NIED ***24*** *23:51:00, 32.90N×136.70E, h8^{km}, Mw4.0 Best double couple: $M_0$1.26×10^{15} NP1:ϕ_s5°, δ89°, λ124°. NP2:ϕ_s97°, δ34°, λ2°.*

JMA ***24*** *23:51:06.8±0.1, 32.90N×136.71E, h36^{km}, M3.5*

NEIC ***24*** *23:51:16.4±1.2, 33.31N×137.87E, h125^{km}±13^{km}, Error ellipse: s-maj=19.0km s-min=15.1km az=120.0*

IDC ***24*** *23:51:19.3±1.3, 33.23N×137.61E, h145^{km}±19^{km}, mb3.2/4, mb1 3.4/5, mb1mx3.2/21, MS3.3/2, Ms1 3.3/2, ms1mx2.8/21, Error ellipse: s-maj=32.4km s-min=17.3km az=35.0*

ISC 24 23:51:07.8±0.7**, 32.94N**±0.04×**136.73E**±0.04**, h33^{km}, n23, σ0^{s}72**/33**, mb3.5**/4**, MS3.5**/1**, 4C, Southeast of Shikoku**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JWZ	**Kozaga**	1.03	305	⇑P	P	23 51 25.3	-0.6
JWZ				S	S	23 51 38.5	-0.9
TK01	**Tokai 1**	1.09	41	P	P	23 51 26.4	-0.4
TK02	**Tokai 2**	1.32	40	P	P	23 51 29.8	-0.3
JKN	**Kiinagashima**	1.36	344	⇑P	P	23 51 30.8	+0.2
JKN				S	S	23 51 47.4	-0.3
JIE	**Ise**	1.45	359	⇑P	P	23 51 32.4	+0.5
JIE				S	S	23 51 49.4	-0.5
JWM	**Minabe**	1.46	309	⇑P	P	23 51 31.9	-0.2
JWM				S	S	23 51 49.5	-0.8
JWY	**Kouya**	1.58	324	P	P	23 51 34.4	+0.5
JWY				S	S	23 51 53.7	+0.3
TK04	**Tokai 4**	1.73	33	P	P	23 51 35.9	0.0
TK04				S	S	23 51 57.5	+0.4
TSUJ	**Tsu 2**	1.78	352	P	P	23 51 37.1	+0.4
TSUJ				S	S	23 51 58.6	+0.2
JHE	**Heguri**	1.91	333	P	P	23 51 39.1	+0.5
JHE				S	S	23 52 02.2	+0.5
JAI	**Aioi**	2.08	295	P	P	23 51 40.6	-0.4
JAI				S	S	23 52 04.9	-1.1
JAJ2	**Tsuna**	2.13	314	P	P	23 51 41.7	+0.1
JAJ2				S	S	23 52 07.8	+0.7
JHJ	**Hachijo jima 2**	2.58	85	P	P	23 51 53.1	+5.1
	11nm,0.3s,baz=238,slow=20,SNR=3.9						
JHJ				S	S	23 52 18.0	-0.5
	17nm,0.3s,baz=246,slow=23,SNR=4.3						
MAJO	**Matsushiro**	3.79	18	*e*Pn	Pn	23 52 05.8	+0.3
MAT	**Matsushiro**	3.79	18	P	P	23 52 05.8	+0.4
MAT				S	S	23 52 48.0	-1.5
MAT	**Matsushiro**	3.79	18	*e*P	P	23 52 06.0	+0.6
MAT				*e*S	S	23 52 48.0	-1.5
JNU	**Nakatsue**	4.91	274	P	Px	23 52 41.0	
	7.0nm,0.3s,baz=80,slow=2.1,SNR=1.8						
ASAJ	**Asahikawa**	12.06	21	LR	LR	23 58 57.2	
	comp=Z,97nm,19.2s,baz=238,slow=40						
SONM	**Songino Array**	27.26	312	P	P	23 56 52.4	+1.5
	0.7nm,0.8s,mb3.3,baz=112,slow=7.8,SNR=3.9						
ZAL	**Zalesovo**	42.01	316	LR	LR	00 17 52.9	
	comp=Z,64nm,19.7s,MS3.5,baz=53,slow=38						
MKAR	**Makanchi Array**	43.17	305	P	P	23 59 09.5	+2.5
	0.8nm,0.6s,mb3.6,baz=95,slow=9.5,SNR=5.7						
WRA	**Warramunga Arr**	52.63	183	P	P	00 00 20.3	-0.7
	0.4nm,0.6s,mb3.5,baz=360,slow=7.5,SNR=5.3						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**56.35**	**183**	P	**P**	**00 00 48.0**	**-0.1**
	0.3nm,0.6s,mb3.5,baz=8.5,slow=12,SNR=5.9						

DJA 25 00:02:48.0±1.0**, 8.39S**×**116.38E, h17**^{km}±3^{km}**, MD4.7**/2**,**
ML4.4/2**, 4C-3D, Error ellipse: s-maj=34.9km**
s-min=18.6km az=144.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**0.28**	**249**	⇑*i*Pg	Pb	00 02 54.6	+0.3
	2μm,0.2s						
KEDI				⇑*e*Sg	Sb	00 02 58.4	-0.2
RATI	**Rata**	**0.91**	**248**	⇓*i*Pn	Pn	00 03 02.9	-3.0
	576nm,0.1s						
RATI				⇓*e*Sn	Sn	00 03 14.3	-4.2
INGI	**Ingas**	**1.30**	**250**	⇑*e*Pn	Pn	00 03 09.3	-2.2
	462nm,0.2s						
INGI				⇓*e*Sn	Sn	00 03 25.1	-3.3
KELI	**Kelakatan**	**1.88**	**275**	⇑*e*Pn	Pn	00 03 17.2	-2.6

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*SKHL **25** 00:07:33.3±2.5, 49.40N×156.60E, h33^{km}, mb4.5/2*
*MOS **25** 00:07:35.9±1.0, 49.50N×155.77E, h40^{km}, mb4.4/7, Error ellipse: s-maj=20.2km s-min=7.6km az=76.3*
*KRSC **25** 00:07:35.3±2.0, 49.25N×156.39E, h20^{km}±6^{km}, ML4.8*
*IDC **25** 00:07:38.6±4.6, 49.54N×155.86E, h42^{km}±41^{km}, mb3.7/14, mb1 3.9/15, mb1mx3.8/21, ML4.1/1, MS3.3/2, Ms1 3.3/2, ms1mx3.0/20, Error ellipse: s-maj=23.1km s-min=18.0km az=109.0*
*NEIC **25** 00:07:38.2±1.1, 49.43N×155.88E, h43^{km}±9^{km}, mb4.5/10, Error ellipse: s-maj=10.8km s-min=7.7km az=123.0*
ISC 25 00:07:36.8±0.8**, 49.36N**±0.06×**156.1E**±0.1**, h48**^{km}±6^{km}**,**
n93, σ1^{s}**14**/114**, mb4.2**/26**, MS3.8**/2**, 3D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.33**	**2**	*i*P	**P**	**00 08 01.4**	**+1.9**
SKR	**Severo-Kuril's**	**1.33**	**2**	⇓*i*P	**P**	**00 07 54.4**	**-5.1**
SKR				AMB	AMB	00 07 54.9	
	120nm,0.5s						
SKR				AMB	AMB	00 07 54.9	
	370nm,0.5s						
SKR				AMB	AMB	00 07 54.9	
	190nm,0.3s						
SKR				AMB	AMB	00 07 55.6	
	1μm,2.0s						
SKR				*i* rx	rx	00 07 56.0	
SKR				*i* rx	rx	00 08 01.4	
SKR				*i* rx	rx	00 08 08.2	
SKR				*i* S	**S**	**00 08 10.2**	**-6.0**
SKR				A		00 08 11.9	
	2μm,0.4s						
SKR				A		00 08 11.9	
	1μm,0.4s						
SKR				A		00 08 11.9	
	5μm,0.2s						
SKR				A		00 08 17.0	
	4μm,2.0s						
SKR				A		00 08 17.0	
	5μm,2.0s						
SKR	**Severo-Kuril's**	**1.33**	**2**	⇓*i*PN	**P**	**00 07 54.4**	**-5.1**
SKR				*i* S	**S**	**00 08 10.2**	**-6.0**
SKR				pmax	pmax		
	comp=E,120nm,0.5s						
SKR				pmax	pmax		
	comp=Z,370nm,0.5s						
SKR				pmax	pmax		
	comp=N,190nm,0.3s						
SKR				pmax	pmax		
	comp=Z,1μm,2.0s						
SKR				smax			
	comp=N,2μm,0.4s						
SKR				smax			
	comp=E,5μm,0.3s						
SKR				smax			
	comp=N,4μm,2.0s						
SKR				smax			
	comp=E,5μm,2.0s						
ALID	**Alaid**	**1.55**	**348**	*i* P	**P**	**00 08 03.5**	**+1.0**
ALID				*e*S	**S**	**00 08 23.9**	**+2.3**
PAU	**Pauzhetka**	**2.17**	**13**	*e*P	**P**	**00 08 10.9**	**-0.4**
PAU				*i* S	**S**	**00 08 35.9**	**-1.1**
PAU				Smax			
	comp=E,2μm,0.2s						
MIPR	**Malaya Ipel'ka**	**2.96**	**8**	*e*P	**P**	**00 08 24.3**	**+1.8**
GRL	**Gorelyy**	**3.44**	**21**	*e*P	**P**	**00 08 28.9**	**-0.5**
GRL				*e*S	**S**	**00 09 07.6**	**-1.8**
RUS	**Russkaya**	**3.45**	**26**	P	**P**	**00 08 28.4**	**-1.1**
RUS				S	**S**	**00 09 06.0**	**-3.5**
RUS	**Russkaya**	**3.45**	**26**	*e*P	**P**	**00 08 28.0**	**-1.5**
RUS				*e*S	**S**	**00 09 07.5**	**-2.0**
APC	**Apacha**	**3.64**	**11**	*e*P	**P**	**00 08 33.1**	**+1.0**
APC				Smax			
	comp=E,80nm,0.8s						
PET	**Petropavlovsk**	**4.02**	**23**	P	**P**	**00 08 37.3**	**-0.2**
PET				S	**S**	**00 09 21.4**	**-2.5**
PET	**Petropavlovsk**	**4.02**	**23**	*e*P	**P**	**00 08 37.5**	**0.0**
PET				*e*S	**S**	**00 09 23.2**	**-0.7**
PET	**Petropavlovsk**	**4.02**	**23**	⇓*i*PN	**P**	**00 08 37.8**	**+0.3**
PET				*e*S	**S**	**00 09 23.4**	**-0.5**
PET				pmax	pmax		
	comp=Z,61nm,0.5s						
PET				smax			
	comp=E,381nm,0.5s						
PET				smax			
	comp=N,605nm,0.5s						
PET				MLR	MLR		
	comp=Z,124nm,18.0s						
PET	**Petropavlovsk**	**4.02**	**23**	*e*P	**P**	**00 08 36.4**	**-1.1**
PET				*e*S	**S**	**00 09 16.5**	**-7.4**
UGLR	**Uglovaya**	**4.23**	**23**	*i* P	**P**	**00 08 41.2**	**+0.7**
UGLR				*e*S	**S**	**00 09 30.6**	**+1.4**
AVH	**Avacha**	**4.26**	**22**	*e*P	**P**	**00 08 42.1**	**+1.2**
AVH				*e*S	**S**	**00 09 30.2**	**+0.3**
KOK	**Koryaka**	**4.26**	**21**	*e*P	**P**	**00 08 42.1**	**+1.2**
KOK				*e*S	**S**	**00 09 32.5**	**+2.6**
SMAR	**Somma**	**4.28**	**23**	*e*P	**P**	**00 08 41.7**	**+0.6**
SMAR				*e*S	**S**	**00 09 30.6**	**+0.3**
SDLR	**Sedlovina**	**4.31**	**23**	*i* P	**P**	**00 08 41.7**	**+0.1**
SDLR				*e*S	**S**	**00 09 29.1**	**-2.1**
NLC	**Nalytchevo**	**4.34**	**27**	P	**P**	**00 08 40.5**	**-1.6**
NLC	**Nalytchevo**	**4.34**	**27**	*e*P	**P**	**00 08 40.2**	**-1.9**
NLC				*e*S	**S**	**00 09 27.8**	**-4.2**
SPN	**Mys Shipunski**	**4.50**	**32**	P	**P**	**00 08 43.1**	**-1.2**
SPN				S	**S**	**00 09 31.6**	**-4.4**
SPN	**Mys Shipunski**	**4.50**	**32**	*e*P	**P**	**00 08 43.0**	**-1.3**
SPN				*e*S	**S**	**00 09 31.4**	**-4.6**
GNL	**Ganaly**	**4.50**	**14**	*e*P	**P**	**00 08 45.0**	**+0.7**
MKZ	**Mys Kozlova**	**6.28**	**32**	P	**P**	**00 09 06.7**	**-2.5**
MKZ				S	**S**	**00 10 11.7**	**-8.7**
MKZ	**Mys Kozlova**	**6.28**	**32**	*e*P	**P**	**00 09 06.7**	**-2.5**
MKZ				*e*S	**S**	**00 10 13.8**	**-6.6**
TUMR	**Tumrok**	**6.44**	**21**	*e*P	**P**	**00 09 11.9**	**+0.4**
ESO	**Esso**	**6.77**	**13**	*e*P	**P**	**00 09 16.5**	**+0.4**
KMNR	**Kamenistaya**	**6.90**	**20**	*e*P	**P**	**00 09 18.0**	**+0.1**
KUR	**Kuril'sk**	**6.92**	**237**	*e*P	**P**	**00 09 18.0**	**-0.2**
KPT	**Kopyto**	**7.09**	**19**	*e*P	**P**	**00 09 21.5**	**+1.0**
KOZ	**Kozyrevsk**	**7.10**	**18**	*e*P	**P**	**00 09 20.7**	**0.0**
KOZR	**Kozyr**	**7.11**	**18**	PN	**P**	**00 09 20.7**	**-0.2**
ZLN	**Zelenaya**	**7.27**	**22**	*e*P	**P**	**00 09 23.5**	**+0.5**
LGNR	**Loginova**	**7.30**	**21**	*e*P	**P**	**00 09 24.5**	**+1.1**
SRDR	**Sredinnyy**	**7.32**	**16**	*e*P	**P**	**00 09 23.7**	**0.0**
CIRR	**Tsirk**	**7.34**	**21**	*e*P	**P**	**00 09 25.2**	**+1.2**
KRSR	**Krestovskiy**	**7.39**	**20**	*e*P	**P**	**00 09 25.0**	**+0.2**
KBTR	**Krutoberegovo**	**7.99**	**28**	P	**P**	**00 09 30.9**	**-2.1**
KBTR				S	**S**	**00 10 54.9**	**-8.1**
KBTR	**Krutoberegovo**	**7.99**	**28**	*e*P	**P**	**00 09 30.5**	**-2.5**
KBTR				*e*S	**S**	**00 10 58.5**	**-4.5**
BKI	**Bering**	**8.44**	**42**	*e*P	**P**	**00 09 33.0**	**-6.2**
BKI				*e*S	**S**	**00 11 02.7**	**-11**
YSS	**Yuzh-Sakhalins**	**9.21**	**260**	*e*P	**P**	**00 09 53.2**	**+3.4**
YSS				AMB	AMB	00 09 54.3	
	comp=Z,20nm,0.9s						
ASAJ	**Asahikawa**	**10.61**	**245**	P	**P**	**00 10 07.5**	**-1.4**
	comp=Z,1.8nm,0.3s,baz=103,slow=31,SNR=4.6						
ASAJ				LR	LR	00 13 39.8	
	comp=Z,76nm,20.6s,baz=227,slow=34						
ASAJ	**Asahikawa**	**10.61**	**245**	PN	**P**	**00 10 07.5**	**-1.4**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,76nm,20.6s						
MA2	**Magadan**	**10.69**	**345**	*e*PN	**P**	**00 10 08.5**	**-1.4**
MA2				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MA2	**Magadan**	**10.69**	**345**	*e*P	**P**	**00 10 08.1**	**-1.8**
KLR	**Kul'dur**	**15.84**	**279**	*e*P	**P**	**00 11 14.2**	**-3.6**
MAJO	**Matsushiro**	**18.23**	**232**	*e*P	**P**	**00 11 46.1**	**-1.8**
YAK	**Yakutsk**	**19.36**	**321**	*i* P	**P**	**00 12 01.6**	**+0.8**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.6s						
TIXI	**Tiksi**	**25.59**	**340**	*e*P	**P**	**00 13 06.5**	**+3.9**
TIXI				*i*		00 13 34.5	
TIXI				*i*		00 16 40.7	
TIXI				pmax	pmax		
	comp=Z,18nm,1.5s,mb4.4						
SONM	**Songino Array**	**32.40**	**287**	PcP	PcP	00 16 50.7	+0.1
	comp=Z,0.8nm,0.9s,baz=90,slow=1.2,SNR=4.0						
DAWY	**Dawson**	**36.58**	**42**	*e*P	**P**	**00 14 39.2**	**-0.3**
INK	**Inuvik**	**38.39**	**34**	P	**P**	**00 14 55.3**	**+0.7**
	comp=Z,1.2nm,0.4s,mb3.9,baz=322,slow=8.7,SNR=5.2						
INK	**Inuvik**	**38.39**	**34**	P	**P**	**00 14 55.3**	**+0.7**
INK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZAL	**Zalesovo**	**42.74**	**304**	P	**P**	**00 15 29.6**	**-0.9**
	comp=Z,0.9nm,0.3s,mb3.9,baz=357,slow=1.8,SNR=3.4						
ZAL				PcP	PcP	00 17 22.6	+0.6
	comp=Z,0.9nm,0.4s,baz=7.1,slow=4.8,SNR=3.6						
ZAL	**Zalesovo**	**42.74**	**304**	P	**P**	**00 15 29.6**	**-0.9**
ZAL						00 17 22.6	
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR	**Makanchi Array**	**47.52**	**297**	P	**P**	**00 16 08.1**	**-0.6**
	comp=Z,0.4nm,0.5s,mb3.7,baz=33,slow=5.4,SNR=10						
MKAR				PcP	PcP	00 17 38.4	-0.3
	comp=Z,0.8nm,0.7s,baz=76,slow=6.7,SNR=3.9						
MKAR				LR	LR	00 36 38.7	
	comp=Z,60nm,18.7s,MS3.6,baz=224,slow=37						
MKAR	**Makanchi Array**	**47.52**	**297**	P	**P**	**00 16 08.1**	**-0.6**
MKAR						00 17 38.4	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR				MLR	MLR		
	comp=Z,60nm,18.7s						
BVAR	**Borovoye Array**	**50.74**	**309**	P	**P**	**00 16 32.0**	**-1.4**
	comp=Z,2.0nm,0.3s,mb4.5,baz=58,slow=8.7,SNR=28						
BVAR				PcP	PcP	00 17 50.1	-0.1
	comp=Z,0.8nm,0.3s,baz=60,slow=3.4,SNR=5.8						
BRVK	**Borovoye**	**50.77**	**309**	*e*P	**P**	**00 16 31.8**	**-1.9**
	comp=Z,1.5nm,0.4s,mb4.3						
ARCES	**ARCESS Array B**	**56.03**	**341**	P	**P**	**00 17 10.3**	**-2.0**
	comp=Z,0.6nm,0.4s,mb4.0,baz=39,slow=7.8,SNR=4.2						
ARCES	**ARCESS Array B**	**56.03**	**341**	P	**P**	**00 17 10.3**	**-2.0**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
PDAR	**Pinedale Array**	**61.64**	**57**	P	**P**	**00 17 52.4**	**+0.8**
	comp=Z,1.1nm,1.0s,mb4.0,baz=333,slow=3.3,SNR=4.5						
FINES	**FINESS Array B**	**62.50**	**335**	P	**P**	**00 17 55.4**	**-1.7**
	comp=Z,1.0nm,0.5s,mb4.2,baz=41,slow=9.6,SNR=12						
FINES	**FINESS Array B**	**62.50**	**335**	P	**P**	**00 17 55.4**	**-1.7**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	**FINESS Array B**	**62.50**	**335**	P	**P**	**00 17 55.4**	**-1.7**
NOA	**NORSAR Array B**	**66.37**	**342**	P	**P**	**00 18 20.4**	**-1.7**
	comp=Z,0.4nm,0.6s,mb3.6,baz=21,slow=4.6,SNR=3.0						
SCHQ	**Schefferville**	**70.13**	**25**	P	**P**	**00 18 45.4**	**-0.1**
	comp=Z,0.9nm,0.5s,mb4.0,baz=23,slow=3.1,SNR=5.7						
WRAB	**Tennant Creek**	**71.63**	**202**	P	**P**	**00 18 54.8**	**-0.3**
WRA	**Warramunga Arr**	**71.64**	**202**	P	**P**	**00 18 55.7**	**+0.5**
	comp=Z,1.3nm,0.6s,mb4.0,baz=16,slow=6.4,SNR=7.6						
WRA	**Warramunga Arr**	**71.64**	**202**	P	**P**	**00 18 55.7**	**+0.5**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SOC	**Sochi**	**72.00**	**317**	*e*P	**P**	**00 19 00.5**	**+3.6**
SOC				*e*		00 21 41.6	
SOC				*e*PPP	PPP	00 23 17.3	-3.7
SOC				*e*S	S	00 28 12.9	-0.6
SOC				*e*		00 28 57.4	
SOC				*e*SS	SS	00 32 57.3	+4.6
SOC				*e*SSS	SSS	00 36 03.4	+1.4
SOC				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.6						
SOC				pmax	pmax		
	comp=N,2.0nm,0.3s						
SOC				pmax	pmax		
	comp=E,3.0nm,0.6s						
SOC				MLR	MLR		
	comp=Z,73nm,15.0s,MS4.1						
SOC				MLR	MLR		
	comp=N,70nm,18.0s,MS4.0						
SOC				MLR	MLR		
	comp=E,27nm,15.0s,MS4.0						
ASAR	**Alice Springs**	**75.33**	**201**	P	**P**	**00 19 18.2**	**+1.6**
	comp=E,1.0nm,0.7s,mb3.8,baz=15,slow=5.6,SNR=12						
GERES	**GERESS Array B**	**76.94**	**336**	P	**P**	**00 19 25.2**	**0.0**
	comp=E,0.2nm,0.3s,mb3.5,baz=56,slow=4.8,SNR=4.4						
FLN	**La Foliniere**	**80.19**	**344**	*e*P	**P**	**00 19 43.0**	**0.0**
LDF	**La Druitiere**	**80.29**	**344**	*e*P	**P**	**00 19 43.5**	**-0.1**
	comp=E,5.4nm,0.5s,mb4.5						
GRR	**Gorron**	**80.61**	**345**	*e*P	**P**	**00 19 45.6**	**+0.3**
SGMF	**Saint Gilles**	**81.03**	**346**	*e*P	**P**	**00 19 47.5**	**0.0**
ROSF	**Rostrenen**	**81.06**	**346**	*e*P	**P**	**00 19 46.9**	**-0.8**
	comp=E,102nm,1.4s,mb5.3						
AVF	**Avril sur Loir**	**81.34**	**341**	*e*P	**P**	**00 19 49.5**	**+0.3**
	comp=E,3.3nm,0.6s,mb4.2						
BGF	**Bois d'Agland**	**81.67**	**342**	*e*P	**P**	**00 19 52.2**	**+1.3**
	comp=E,8.5nm,0.7s,mb4.5						
LPL	**La Plagne**	**81.80**	**339**	*e*P	**P**	**00 19 52.5**	**+0.9**
	comp=E,7.8nm,0.5s,mb4.6						
LPG	**La Plagne**	**81.81**	**339**	*e*P	**P**	**00 19 53.0**	**+1.4**
	comp=E,8.1nm,0.5s,mb4.6						
ASF	**Jabal al Asfar**	**82.48**	**312**	P	**P**	**00 19 56.0**	**+0.7**
	comp=E,1.7nm,0.7s,mb4.1,baz=69,slow=13,SNR=6.0						
MBDF	**Montbardon**	**82.53**	**338**	*e*P	**P**	**00 19 55.7**	**+0.4**
ORIF	**Oris-en-Rattie**	**82.56**	**339**	*e*P	**P**	**00 19 56.4**	**+0.9**
VIVF	**Saint-Julien-l**	**82.90**	**340**	*e*P	**P**	**00 19 57.6**	**+0.4**
	comp=E,5.6nm,0.7s,mb4.4						
CAF	**Calviac**	**83.39**	**342**	*e*P	**P**	**00 19 59.8**	**+0.1**
	comp=E,3.7nm,0.6s,mb4.3						
EPF	**Esparros**	**85.56**	**342**	*e*P	**P**	**00 20 11.1**	**+0.6**
	comp=E,2.7nm,0.6s,mb4.4						
ETSF	**Etsaut**	**85.86**	**343**	*e*P	**P**	**00 20 12.5**	**+0.5**
ESDC	**Sonseca Array**	**89.61**	**345**	P	**P**	**00 20 30.3**	**+0.2**
	comp=E,0.4nm,0.6s,mb3.9,baz=0.6,slow=4.0,SNR=4.7						
CPUP	**Villa Florida**	**145.47**	**61**	PKPbc	PKPbc	00 27 10.1	+0.2
	comp=E,1.3nm,0.7s,baz=3.8,slow=3.7,SNR=4.3						
CPUP	**Villa Florida**	**145.47**	**61**	PKIKP	PKPdf	00 27 10.1	+0.8
CPUP				pmax	pmax		
	comp=Z,1.0nm,0.7s						

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*IDC **25** 00:28:55.6±3.4, 10.10N×125.60E, mb3.6/3, mb1 3.8/3, mb1mx3.5/15, Error ellipse: s-maj=278.0km s-min=27.7km az=65.0*
*MAN **25** 00:29:02.5, 10.27N×125.89E, h22^{km}, mb4.4, ML3.2, MS3.0*
ISC 25 00:29:02.2±0.9**, 10.26N**±0.04×**125.95E**±0.09**, h68**^{km}±10^{km}**,**
n14, σ1^{s}**11**/20**, mb3.6**/3**, 1D, Leyte**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.66**	**224**	⇓*e*P	**P**	**00 29 15.1**	**-1.5**
SCPH				*e*S	**S**	**00 29 24.8**	**-2.6**
MSLP	**Maasin**	**1.08**	**263**	*e*P	**P**	**00 29 21.5**	**-0.4**
MSLP				*e*S	**S**	**00 29 35.9**	**-0.6**
PLP	**Palo**	**1.31**	**313**	*e*P	**P**	**00 29 24.5**	**-0.6**
PLP				*e*S	**S**	**00 29 41.4**	**-0.6**
BUTP	**Butuan**	**1.33**	**194**	*e*P	**P**	**00 29 27.1**	**+1.8**
BESP	**Borongan**	**1.42**	**339**	*e*P	**P**	**00 29 27.3**	**+0.7**
BESP				*e*S	**S**	**00 29 45.6**	**+1.0**
LLP	**Lapu-Lapu**	**1.96**	**272**	*e*P	**P**	**00 29 33.0**	**-0.8**
TBP	**Tagbilaran**	**2.14**	**255**	*e*P	**P**	**00 29 36.9**	**+0.6**
TBP				*e*S	**S**	**00 30 02.2**	**+0.6**
CGP	**Cagayan de Oro**	**2.19**	**215**	*e*P	**P**	**00 29 37.2**	**+0.2**
CGP				*e*S	**S**	**00 30 04.3**	**+1.5**
BUKP	**Musuan**	**2.53**	**200**	*e*P	**P**	**00 29 43.5**	**+1.7**
CNP	**Catarman**	**2.56**	**331**	*e*P	**P**	**00 29 43.0**	**+0.6**
PVCP	**Virac**	**3.75**	**332**	*e*P	**P**	**00 30 02.7**	**+3.7**
WRA	**Warramunga Arr**	**31.13**	**165**	P	**P**	**00 35 15.1**	**-1.6**
	0.2nm,0.4s,mb3.2,baz=344,slow=9.4,SNR=2.6						
ASAR	**Alice Springs**	**34.61**	**167**	P	**P**	**00 35 46.2**	**-0.6**
	0.4nm,0.3s,mb3.7,baz=350,slow=6.9,SNR=8.1						
MKAR	**Makanchi Array**	**51.84**	**323**	P	**P**	**00 38 05.0**	**-0.6**
	0.6nm,0.6s,mb3.8,baz=121,slow=7.1,SNR=4.6						

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*MDD **25** 00:33:16.8±0.7, 42.89N×1.41W, h7^{km}±14^{km}, mbLg1.3/4, Error ellipse: s-maj=7.6km s-min=2.8km az=22.0, PRXIMO AftershockPLICA*
LDG 25 00:33:16.1±1.3**, 42.85N**×**1.45W, h2**^{km}**, Md2.1**/2**, Ml2.2**/1**,**
Error ellipse: s-maj=23.7km s-min=14.6km az=57.0,
Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	**0.31**	**33**	*e*Pg	Pg	00 33 21.8	-0.5
SJPF				*e*Sg	Sg	00 33 24.4	-2.0
	59nm,0.3s						
EALK	**Alkurruntz**	**0.37**	**354**	Pg	Pg	00 33 23.1	-0.4
	4.9nm,0.4s,SNR=19						
EALK				Lg		00 33 28.7	
	16nm,0.2s,SNR=7.9						
LARF	**Larrau**	**0.39**	**61**	P	Pg	00 33 23.1	-0.8
LARF				S	Sg	00 33 29.1	+0.1
OSSF	**Osses**	**0.43**	**19**	P	Pg	00 33 23.9	-0.7
OSSF				S	Sg	00 33 29.2	-1.1
ETSF	**Etsaut**	**0.66**	**86**	*e*Pg	Pg	00 33 27.8	-1.5
ETSF				*e*Sg	Sg	00 33 36.7	-1.3
	6.8nm,0.4s						
EPF	**Esparros**	**1.33**	**82**	*e*Pn	Pn	00 33 39.6	-2.1
EPF				*e*Pg	Pg	00 33 41.8	-0.8
EPF				*e*Sg	Sg	00 33 58.9	-1.4
	4.4nm,0.2s						

IDC 25 00:55:25.6±32.0**, 17.31N**×**146.39E, mb3.8**/4**, mb1 4.0**/4**,**
mb1mx3.7/16**, Error ellipse: s-maj=594.0km**
s-min=131.2km az=11.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WB2	**Warramunga Arr**	**38.86**	**198**	*e*P	P	01 02 52.7	-1.9
WRA	**Warramunga Arr**	**38.87**	**198**	P	P	01 02 52.6	-2.0
	0.9nm,0.3s,baz=31,slow=9.0,SNR=20						
FITZ	**Fitzroy Crossi**	**40.68**	**211**	*e*P	P	01 03 07.7	-1.9
FITZ	**Fitzroy Crossi**	**40.68**	**211**	P	P	01 03 07.9	-1.7
	1.4nm,0.9s,baz=15,slow=6.7,SNR=16						
ASAR	**Alice Springs**	**42.51**	**197**	P	P	01 03 22.7	-2.0
	0.6nm,0.7s,baz=20,slow=6.6,SNR=7.0						
STKA	**Stephens Creek**	**49.12**	**185**	P	P	01 04 15.3	-1.8
	0.5nm,0.3s,baz=4.8,slow=5.3,SNR=4.5						

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*PRU **25** 01:02:12.1, 51.51N×16.05E*
WAR 25 01:02:11.6, 51.55N×16.06E, ML2.7, Mining Induced,
Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.72**	**168**	*e*PG	Pg	01 02 25.0	-1.1
KSP				*i* SG	Sg	01 02 34.5	-1.2
UPC	**Upice**	**1.04**	**182**	*e*PG	Pg	01 02 31.2	-1.3
DPC	**Dobruska-Polom**	**1.21**	**172**	*e*PG	Pg	01 02 33.7	-2.1
DPC				*e*SG	Sg	01 02 49.3	-2.7
PVCC	**Panska Ves**	**1.39**	**223**	*e*PG	Pg	01 02 37.5	-1.8
PRU	**Pruhonice**	**1.84**	**212**	PG	Pg	01 02 45.4	-2.9
PRU				*e*x	x	01 03 01.1	
PRU				SG	Sg	01 03 08.9	-3.8
	7.1nm,0.3s						
CLL	**Collm**	**1.93**	**264**	*e*PG	Pg	01 02 47.0	-3.1
CLL				*e*SG	Sg	01 03 12.0	-3.7
OKC	**Ostrava-Krasne**	**2.17**	**141**	*e*SG	Sg	01 03 20.3	-3.6
NKC	**Novy Kostel**	**2.64**	**241**	*e*PG	Pg	01 03 01.6	-2.7
NKC				*e*SG	Sg	01 03 35.0	-4.4
KHC	**Kasperske Hory**	**2.90**	**214**	*e*PG	Pg	01 03 05.0	-4.4
KHC				*e*SN	Sn	01 03 33.9	-2.0
KHC				*e*SG	Sg	01 03 42.3	-5.7

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*BJI **25** 01:15:23.8, 24.00N×142.00E, h55^{km}, mB4.7, mb4.5, Ms3.8, Msz3.9*
*IDC **25** 01:15:23.7±0.6, 24.01N×141.91E, h54^{km}±5^{km}, mb4.2/24, mb1 4.3/25, mb1mx4.3/28, MS3.6/12, Ms1 3.6/12, ms1mx3.5/22, Error ellipse: s-maj=18.2km s-min=8.5km az=92.0*
*NEIC **25** 01:15:23.9±0.2, 24.04N×142.04E, mb4.6/22, Error ellipse: s-maj=6.9km s-min=5.9km az=108.0*
ISC 25 01:15:22.6±1.5**, 23.99N**±0.05×**142.05E**±0.06**, h57**^{km}±12^{km}**,**
h55^{km}±.6^{km}**:pP-P, n102, σ1**^{s}**02**/97**, mb4.7**/50**, MS3.7**/10**,**
1C-1D, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.09**	**2**	P	**P**	**01 16 11.1**	**+0.8**
	86nm,0.3s,baz=1.0,slow=17,SNR=36						
CBIJ				S	**S**	**01 16 46.5**	**+0.3**
	199nm,0.3s,baz=254,slow=22,SNR=9.9						
CBIJ				LR	LR	01 17 04.1	
	comp=Z,398nm,21.1s,baz=328,slow=32						
JOW	**Kunigami**	**12.77**	**286**	LR	LR	01 22 25.6	
	comp=Z,304nm,20.4s,baz=6.0,slow=33						
MAJO	**Matsushiro**	**12.94**	**346**	*e*P	**P**	**01 18 33.3**	**+7.6**
	10nm,0.8s						
MAT	**Matsushiro**	**12.94**	**346**	P	**P**	**01 18 34.1**	**+8.4**
MAT				S	**S**	**01 20 58.7**	**+10**
MAT	**Matsushiro**	**12.94**	**346**	*e*P	**P**	**01 18 35.0**	**+9.3**
MAT				*e*S	**S**	**01 20 35.0**	**-14**
ASAJ	**Asahikawa**	**20.08**	**1**	P	**P**	**01 19 52.4**	**-1.5**
	3.5nm,0.3s,baz=151,slow=19,SNR=3.7						
ASAJ				LR	LR	01 27 42.2	
	comp=Z,120nm,21.8s,MS3.2,baz=178,slow=37						
CN2	**Changchun**	**24.00**	**329**	*e*P	**P**	**01 20 37.0**	**+4.1**
TIA	**Tai'an**	**24.69**	**305**	*e*P	**P**	**01 20 39.8**	**+0.1**
XAN	**Xi'an**	**30.53**	**297**	P	**P**	**01 21 33.0**	**+0.1**
XAN				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
GYA	**Guiyang**	**32.05**	**282**	P	**P**	**01 21 48.8**	**+2.6**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
LZH	**Lanzhou**	**34.99**	**299**	*e*P	**P**	**01 22 12.0**	**+0.5**
LZH				AP	pP	01 22 26.5	+0.5
LZH				XP	sP	01 22 33.5	+0.4
LZH				AMB	AMB		
	comp=Z,26nm,1.0s,mb5.1						
LZH	**Lanzhou**	**34.99**	**299**	*e*P	**P**	**01 22 12.0**	**+0.5**
	comp=Z,26nm,1.0s,mb5.1						
LZH				pP	pP	01 22 26.5	+0.5
LZH				sP	sP	01 22 33.5	+0.4
SONM	**Songino Array**	**36.92**	**319**	P	**P**	**01 22 26.2**	**-1.5**
	comp=Z,1.1nm,0.7s,mb3.8,baz=137,slow=6.4,SNR=8.3						
SONM				PcP	PcP	01 24 48.2	-0.4
	comp=Z,0.9nm,0.6s,baz=87,slow=1.9,SNR=5.5						
CMAR	**Chiang Mai Arr**	**40.44**	**271**	LR	LR	01 37 44.7	
	comp=Z,59nm,19.8s,MS3.5,baz=100,slow=33						
CTA	**Charters Tower**	**44.01**	**174**	*e*P	**P**	**01 23 26.0**	**-0.5**
	comp=Z,4.7nm,0.9s,mb4.2						
CTA	**Charters Tower**	**44.01**	**174**	P	**P**	**01 23 25.4**	**-1.2**
	comp=Z,5.1nm,0.8s,mb4.3,baz=356,slow=7.2,SNR=3.2						
WRAB	**Tennant Creek**	**44.30**	**190**	*e*P	**P**	**01 23 27.7**	**-1.2**
	comp=Z,36nm,0.8s,mb5.2						
WB2	**Warramunga Arr**	**44.31**	**190**	*e*P	**P**	**01 23 28.7**	**-0.3**
WRA	**Warramunga Arr**	**44.31**	**190**	P	**P**	**01 23 28.5**	**-0.5**
	comp=Z,21nm,0.8s,mb4.9,baz=11,slow=8.6,SNR=131						
WRA				PcP	PcP	01 25 12.5	-0.4
	comp=Z,3.6nm,0.8s,baz=7.5,slow=3.7,SNR=5.7						
WRA				LR	LR	01 39 34.1	
	comp=Z,74nm,20.1s,MS3.6,baz=235,slow=33						
FITZ	**Fitzroy Crossi**	**44.80**	**202**	*e*P	**P**	**01 23 33.4**	**+0.5**
	comp=Z,11nm,0.9s,mb4.7						
FITZ	**Fitzroy Crossi**	**44.80**	**202**	P	**P**	**01 23 33.1**	**+0.2**
	comp=Z,12nm,0.8s,mb4.8,baz=10,slow=8.7,SNR=26						
ASAR	**Alice Springs**	**48.03**	**190**	P	**P**	**01 23 57.4**	**-1.0**
	comp=Z,3.4nm,0.7s,mb4.5,baz=14,slow=7.7,SNR=33						
ASAR				PcP	PcP	01 25 25.1	-0.8
	comp=Z,2.3nm,1.2s,baz=5.5,slow=1.8,SNR=4.1						
ASPA	**Alice Springs**	**48.03**	**190**	*e*P	**P**	**01 23 59.3**	**+0.9**
WMQ	**Urumqi**	**48.33**	**308**	*e*P	**P**	**01 24 00.5**	**+0.1**
WMQ				AMB	AMB		
	comp=Z,4.0nm,1.2s,mb4.3						
PKI	**Pulchoki**	**50.76**	**287**	*e*P	**P**	**01 24 20.4**	**+1.2**
	comp=Z,5.9nm,0.6s,mb4.7						
KKN	**Kakani**	**50.83**	**287**	*e*P	**P**	**01 24 21.1**	**+1.3**
	comp=Z,3.8nm,0.3s,mb4.8						
DMN	**Daman**	**51.02**	**287**	*e*P	**P**	**01 24 22.4**	**+1.2**
	comp=Z,16nm,0.7s,mb5.1						
GKN	**Gorkha**	**51.36**	**287**	*e*P	**P**	**01 24 24.9**	**+1.1**
	comp=Z,32nm,0.9s,mb5.3						
ZAL	**Zalesovo**	**51.78**	**321**	P	**P**	**01 24 24.8**	**-1.8**
	comp=Z,1.7nm,0.4s,mb4.3,baz=272,slow=8.3,SNR=11						

ZAL				PcP	PcP	01 25 38.5	-0.7
	comp=Z,2.2nm,1.0s,baz=290,slow=5.0,SNR=4.8						
ZAL				LR	LR	01 46 18.2	
	comp=Z,36nm,21.2s,MS3.4,baz=1.6,slow=36						
ZAL	Zalesovo	51.78	321	P	P	01 24 24.8	-1.8
ZAL				PcP	PcP	01 25 38.5	-0.7
ZAL				LR	LR	01 46 18.1	
KOLN	Koldanda	52.30	287	eP	P	01 24 32.0	+1.1
	comp=Z,26nm,0.8s,mb5.2						
MKAR	Makanchi Array	52.39	311	P	P	01 24 30.1	-1.2
	comp=Z,3.1nm,0.6s,mb4.4,baz=86,slow=9.3,SNR=22						
MKAR				PcP	PcP	01 25 40.8	-0.7
	comp=Z,3.6nm,0.8s,baz=86,slow=5.9,SNR=7.7						
KURK	Kurchatov	55.10	316	eP	P	01 24 48.6	-2.5
	comp=Z,14nm,1.0s,mb4.9						
STKA	Stephens Creek	55.56	180	eP	P	01 24 52.9	-1.8
	comp=Z,5.9nm,0.8s,mb4.7						
STKA	Stephens Creek	55.56	180	P	P	01 24 52.9	-1.8
	comp=Z,6.0nm,0.7s,mb4.7,baz=338,slow=8.2,SNR=18						
STKA				LR	LR	01 48 14.1	
	comp=Z,144nm,19.4s,MS4.1,baz=26,slow=36						
FORT	Forrest	56.09	195	eP	P	01 24 57.8	-0.7
	comp=Z,89nm,0.7s						
SML	Sawmill	59.53	31	eP	P	01 25 21.1	-1.1
BRVK	Borovoye	60.32	319	eP	P	01 25 25.7	-2.1
	comp=Z,8.0nm,0.9s,mb4.8						
ILAR	Eielson Array	60.49	28	P	P	01 25 27.3	-1.5
	comp=Z,5.3nm,0.7s,mb4.7,baz=262,slow=5.6,SNR=53						
ILAR				pP	pP	01 25 42.3	-1.9
	comp=Z,9.8nm,0.8s,baz=262,slow=5.8,SNR=21						
ZRNK	Zerenda	61.10	319	eP	P	01 25 30.8	-2.3
	comp=Z,4.3nm,0.8s,mb4.6						
DAWY	Dawson	63.71	29	eP	P	01 25 49.6	-0.6
INK	Inuvik	65.90	24	P	P	01 26 03.2	-1.1
	comp=Z,3.9nm,0.8s,mb4.5,baz=230,slow=8.4,SNR=6.2						
INK				pP	pP	01 26 19.0	-1.0
	comp=Z,2.9nm,0.7s,baz=268,slow=5.6,SNR=2.7						
INK	Inuvik	65.90	24	P	P	01 26 03.2	-1.1
INK				pP	pP	01 26 19.0	-0.9
ARU	Arti	66.81	323	eP	P	01 26 08.1	-2.1
DLBC	Dease Lake	68.82	34	P	P	01 26 23.4	+0.7
	comp=Z,2.1nm,0.9s,mb4.0,baz=270,slow=9.1,SNR=3.1						
DLBC	Dease Lake	68.82	34	P	P	01 26 23.4	+0.7
URZ	Urewera	70.12	151	P	P	01 26 33.7	+2.6
	comp=Z,5.2nm,0.7s,mb4.6,baz=306,slow=19,SNR=3.4						
RPZ	Rata Peaks	72.45	158	P	P	01 26 43.5	-1.4
	comp=Z,12nm,0.9s,mb4.8,baz=56,slow=6.2,SNR=4.5						
YKA	Yellowknife Ar	74.92	28	P	P	01 26 58.7	-0.2
	comp=Z,3.1nm,0.7s,mb4.4,baz=293,slow=5.9,SNR=6.5						
YKA				pP	pP	01 27 14.1	-0.7
	comp=Z,2.0nm,0.5s,baz=294,slow=6.0,SNR=6.1						
YKA				LR	LR	01 58 47.3	
	comp=Z,57nm,18.1s,MS3.9,baz=305,slow=35						
YKA	Yellowknife Ar	74.92	28	P	P	01 26 58.7	-0.2
YKA				pP	pP	01 27 14.1	-0.7
YKA				LR	LR	01 58 47.3	
KEV	Kevo	75.86	341	ep	P	01 27 02.5	-1.6
	comp=Z,4.7nm,0.7s,mb4.5						
ARCES	ARCESS Array B	76.42	341	P	P	01 27 06.8	-0.6
	comp=Z,7.5nm,0.8s,mb4.7,baz=82,slow=8.6,SNR=18						
ARCES				LR	LR	02 05 30.5	
	comp=Z,57nm,18.0s,MS3.9,baz=209,slow=39						
NLW	Nelson Butte	77.37	43	P	P	01 27 13.1	0.0
YBH	Yreka Blue Hor	78.13	50	P	P	01 27 18.5	+1.1
	comp=Z,4.3nm,0.8s,mb4.4,baz=307,slow=2.1,SNR=11						
YBH				pP	pP	01 27 34.3	+0.9
	comp=Z,2.9nm,0.8s,baz=271,slow=2.9,SNR=3.5						
DPW	Davenport	78.77	43	eP	P	01 27 20.9	+0.1
NEW	Newport	79.28	42	eP	P	01 27 23.3	-0.2
	comp=Z,3.3nm,0.7s,mb4.4						
KAF	Kangasniemi	80.21	335	ep	P	01 27 26.9	-1.3
	comp=Z,3.2nm,0.7s,mb4.4,baz=55,slow=5.0						
BEKR	Beckwourth	80.49	51	eP	P	01 27 30.3	+0.1
FINES	FINESS Array B	80.67	334	P	P	01 27 30.1	-0.6
	comp=Z,3.0nm,0.6s,mb4.4,baz=87,slow=4.4,SNR=14						
CMB	Columbia Colle	81.20	52	eP	P	01 27 33.9	-0.1
	comp=Z,9.6nm,1.1s,mb4.6						
UMR	Umm Al-Rimmam	82.06	299	eP	P	01 27 39.5	+0.9
UMR				AMb	AMB	01 27 40.9	
	comp=Z,23nm,0.8s,mb5.1						
MIB	Mutribah	82.26	299	eP	P	01 27 40.5	+0.8
MIB				AMb	AMB	01 27 41.8	
	comp=Z,49nm,0.6s,mb5.6						
RDF	Al-Radifah	82.43	298	eP	P	01 27 42.0	+1.4
RDF				AMb	AMB	01 27 43.2	
	comp=Z,32nm,0.8s,mb5.3						
RST	Umm Al-Ruwaisa	82.65	299	eP	P	01 27 42.2	+0.5
RST				AMb	AMB	01 27 42.6	
	comp=Z,24nm,0.6s,mb5.4						
HLID	Hailey	82.99	45	eP	P	01 27 42.6	-0.4
	comp=Z,1.1nm,0.7s,mb4.0						
HRY	Holter Researc	83.19	42	eP	P	01 27 44.8	+0.8
ELK	Elko	83.69	48	eP	P	01 27 47.1	+0.4
	comp=Z,4.2nm,1.1s,mb4.5						
ELK				e	pP	01 28 03.0	+0.2
QLMT	Earthquake Lak	84.32	43	eP	P	01 27 50.7	+1.0
FFC	Flin Flon	84.43	32	eP	P	01 27 50.1	+0.1
	comp=Z,4.3nm,0.7s,mb4.7						
TPNV	Topopah Spring	84.64	52	eP	P	01 27 51.8	+0.3
	comp=Z,3.3nm,0.6s,mb4.6						
AKASG	Malin Array Be	85.04	324	P	P	01 27 52.6	-0.6
	comp=Z,1.0nm,0.5s,mb4.2,baz=44,slow=6.0,SNR=6.6						
AKASG				pP	pP	01 28 07.7	-1.7
	comp=Z,0.4nm,0.4s,baz=48,slow=4.7,SNR=3.4						
IMW	Indian Meadow	85.07	44	eP	P	01 27 54.8	+1.3
MALT	Malatya	85.40	310	eP	P	01 27 55.5	+0.2
	comp=Z,2.2nm,0.8s,mb4.3						
MALT				epP	pP	01 28 10.9	-0.6
DUG	Dugway	85.58	48	eP	P	01 27 56.2	+0.1
	comp=Z,4.5nm,0.6s,mb4.9						
HWUT	Hardware Ranch	85.76	46	eP	P	01 27 57.1	+0.1
NEN	Nelson	86.23	53	eP	P	01 28 00.1	+0.6
ARUT	Antelope Range	86.26	50	P	P	01 28 00.1	+0.6
RAYN	Ar Rayn	86.29	294	P	P	01 28 01.1	+1.1
	comp=Z,61nm,0.7s,SNR=9.8						
LDFC	Landfair	86.30	53	eP	P	01 27 59.7	0.0
MZLS	Mizel	86.33	295	P	P	01 28 01.6	+1.5
NB2	NORSAR Subarra	86.44	338	P	P	01 27 58.7	-1.1
	comp=Z,2.1nm,0.7s,mb4.5,baz=48,slow=4.8						
NOA	NORSAR Array B	86.44	338	P	P	01 27 58.6	-1.1
	comp=Z,4.1nm,0.9s,mb4.7,baz=48,slow=4.5,SNR=7.4						
NOA				LR	LR	02 11 12.9	
	comp=Z,33nm,18.1s,MS3.8,slow=39						
BW06	Boulder Array	86.50	44	eP	P	01 28 00.5	0.0
PDAR	Pinedale Array	86.50	44	P	P	01 28 01.4	+0.8
	comp=Z,1.2nm,0.9s,mb4.1,baz=288,slow=4.7,SNR=7.0						
PDAR				LR	LR	02 02 23.5	
	comp=Z,76nm,19.6s,MS4.1,baz=155,slow=33						
DAU	Daniels Canyon	86.53	47	eP	P	01 28 01.8	+1.0
HILS	Ha’il	87.70	299	P	P	01 28 07.7	+1.0
BRTR	Keskin Array B	88.02	313	P	P	01 28 07.4	-0.6
	comp=Z,2.9nm,0.7s,mb4.6,baz=90,slow=3.7,SNR=24						
BRTR				LR	LR	02 09 59.4	
	comp=Z,18nm,21.1s,MS3.5,baz=95,slow=37						
PV10	Paradox Valley	89.03	48	eP	P	01 28 14.0	+1.2
ASF	Jabal al Asfar	89.34	305	P	P	01 28 14.3	-0.1
	comp=Z,4.1nm,1.0s,mb4.7,baz=301,slow=7.3,SNR=5.9						
RW3	Ridgway	90.01	48	P	P	01 28 18.8	+1.4
RW3				e	pP	01 28 34.3	+0.6
KBRS	Khaybar	90.43	298	P	P	01 28 20.6	+0.9
JMQS	Jabal Moqyreh	91.67	303	P	P	01 28 25.4	+0.1
SDCO	Great Sand Dun	91.74	47	eP	P	01 28 25.7	+0.2
JMOS	Jabal al Moall	92.12	303	P	P	01 28 27.5	+0.1
HAQS	Haql	92.31	303	P	P	01 28 28.2	-0.1
GERES	GERESS Array B	94.09	329	P	P	01 28 35.0	-0.9
	comp=Z,0.8nm,0.7s,mb4.3,baz=34,slow=4.8,SNR=9.0						
GERES				pP	pP	01 28 51.3	-1.0
	comp=Z,0.4nm,0.5s,baz=45,slow=5.7,SNR=3.3						
VNA2	Neumayer--Watz	129.85	193	⇑i	PKPdf	01 34 27.9	+2.6
VNA3	Neumayer Olymp	130.03	192	⇓i	PKPdf	01 34 27.8	+2.2
SDV	Santo Domingo	134.32	48	ePKP	PKPdf	01 34 36.0	+0.8
LPAZ	La Paz	150.69	81	PKPbc	PKPdf	01 35 11.8	+8.3
	comp=Z,3.2nm,0.9s,baz=351,slow=5.0,SNR=8.1						
LPAZ	La Paz	150.69	81	PKPbc	PKPdf	01 35 11.8	+8.2
SAML	Samuel	151.63	62	ePKPbc	PKPdf	01 35 11.6	+6.6

*NAO **25** 01:32:15.7±2.6, 67.86N×20.62E, ML2.1*
*BER **25** 01:32:16.0±4.0, 67.89N×20.14E, ML2.0, ML2.1(NAO), Suspected explosion*
HEL 25 01:32:16.4±0.2, **67.87N**×**20.22E**, **ML2.1**, **ML2.2**(BER), **ML2.1**(NAO), **Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KIF	Kilpisjarvi	1.17	10	eP	Pb	01 32 38.6	-0.5
KIF				eS	Sb	01 32 53.6	-1.0
KTK1	Kautokeino	1.60	43	eP	Pn	01 32 45.3	-0.8
KTK1				eSN	Sn	01 33 07.5	-0.3
KTK1				AML	AML	01 33 09.8	
	comp=Z,18nm,0.2s						
TRO	Tromso	1.84	346	eP	Pn	01 32 46.5	-2.9
TRO				eSG	Sg	01 33 12.8	-4.7
TRO				AML	AML	01 33 15.6	
	comp=Z,22nm,0.5s						
SGF	Sodankyl	2.45	97	eP	Pn	01 32 58.1	-0.1
SGF				eS	Sn	01 33 28.1	-1.2
SGF				MSG		01 33 33.8	
	comp=Z,10nm,0.3s						
ARA0	ARCESS Array S	2.56	47	eP	Pn	01 32 57.3	-2.5
ARA0				eSB	Sb	01 33 32.0	-3.0
ARA0	ARCESS Array S	2.56	47	Pn	Pn	01 32 57.3	-2.5
	baz=230,slow=14						
ARA0				Lg		01 33 32.0	
	baz=228,slow=28						
MELS	Mels	2.71	251	eSg	Sg	01 33 38.5	-8.0
MOR8	Moi Rana	2.83	236	eSG	Sx	01 33 38.3	
MOR8				AML	AML	01 33 39.8	
	comp=Z,25nm,0.4s						
KEV	Kevo	3.11	49	eP	Pn	01 33 06.5	-1.2
KEV				eS	Sn	01 33 43.4	-2.7
KEV				MSG		01 33 50.1	
	comp=Z,6.4nm,0.3s						
STOK	Stokkvaagen	3.21	245	eSG	Sg	01 33 56.0	-7.2
OUL	Oulu	3.60	138	eP	Pn	01 33 13.5	-1.2
OUL				eS	Sn	01 33 56.5	-2.0
OUL				MSG		01 34 12.9	
	comp=Z,3.6nm,0.3s						
NSS	Namsos	4.73	229	eSG	Sx	01 34 41.9	
FIA0	FINESS Array S	6.92	156	Pn	Pn	01 33 56.5	-5.0
	baz=357,slow=14						
FIA0				Sn	Sn	01 35 13.7	-8.2
	baz=354,slow=22						
FIA0				Lg		01 35 48.9	
	baz=349,slow=28						
FIA0	FINESS Array S	6.92	156	eP	Pn	01 33 56.5	-5.0
FIA0				eS	Sn	01 35 13.7	-8.2
FIA0				eSG		01 35 48.9	
HFS	Hagfors	8.27	203	Pn	P	01 34 14.3	-6.1
	baz=7.8,slow=12						
HFS				Sn	Sn	01 35 46.8	-8.9
	baz=20,slow=28						
HFS	Hagfors	8.27	203	eP	P	01 34 14.3	-6.1
HFS				eS	Sn	01 35 46.8	-8.9

*IDC **25** 01:37:44.5±0.9, 32.74S×71.66W, mb4.3/4, mb1 4.4/6, mb1mx4.2/11, ML4.3/2, MS3.6/3, Ms1 3.6/3, ms1mx3.3/18, Error ellipse: s-maj=35.4km s-min=26.4km az=122.0*
*NEIC **25** 01:37:49.5, 32.72S×71.65W, h15^{km}, mb4.4/2, ML4.4(GUC), After GUC.*
NEIC Felt [III] at Quillota, Quintero, Puchuncavi, Valparaiso and Vina del Mar; [II] at Santiago.
*GUC **25** 01:37:49.5±0.7, 32.72S×71.65W, h15^{km}±3^{km}, MD4.5, ML4.4*
*SYO **25** 01:37:49.5, 32.72S×71.65W, h15^{km}, MB4.4*
ISC 25 01:37:47.4±0.8, **32.62S**±0.03×**71.71W**±0.05, **h27**^{km}±5^{km}, **n47**, σ**1^{s}03**/53, **mb4.2**/6, **MS3.8**/2, **9C-5D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IHA	Instituto Hidr	0.41	171	⇓iP	Pb	01 37 56.5	+0.2
IHA				i S	Sb	01 38 00.6	-1.6
LCCH	Las Cruces	0.87	172	⇑iP	Pb	01 38 03.1	-0.6
JACH	Jahuel	0.95	94	i P	Pb	01 38 05.8	+0.7
PEL	Peldehue	1.01	122	⇑iP	Pn	01 38 06.3	+0.4
PEL				i S	Sb	01 38 18.3	-0.8
PEL				AMP		01 38 20.9	
	comp=N,26µm,0.3s						
PUEX	Pudahuel	1.15	136	eP	Pn	01 38 09.3	+1.4
PUEX				i S	Sb	01 38 23.5	+0.4
RCDM	Rinconada Maip	1.16	139	eP	Pn	01 38 07.8	-0.2
RCDM				i S	Sn	01 38 21.5	-1.6
RCDM				AMP		01 38 27.9	
	comp=E,9µm,0.2s						
SAN	Santiago	1.22	134	eP	Pn	01 38 09.3	+0.4
SAN				i S	Sn	01 38 23.7	-0.9
TACH	Talagante	1.22	148	⇑iP	Pn	01 38 09.0	0.0
DSCH	Colegio Aleman	1.24	129	eP	Pn	01 38 09.7	+0.5
DSCH				i S	Sn	01 38 24.6	-0.6
DSCH				AMP		01 38 30.4	
	comp=E,20µm,0.6s						
CLCH	Cerro Calan	1.26	129	⇓iP	Pn	01 38 09.9	+0.4
CLCH				i S	Sn	01 38 25.2	-0.5
CLCH				AMP		01 38 34.5	
	comp=N,12µm,0.6s						
ANTU	Antumapu	1.31	137	eP	Pn	01 38 10.4	+0.1
ANTU				i S	Sn	01 38 26.3	-0.8
ANTU				AMP		01 38 29.8	
	comp=E,12µm,0.5s						
LNV	Longovilo	1.36	169	eP	Pn	01 38 10.2	-0.7
FCH	Farellones	1.39	121	⇓iP	Pn	01 38 12.4	+1.0
FCH				i S	Sn	01 38 29.7	+0.7
FCH				AMP		01 38 31.5	
	comp=E,7µm,0.2s						
PCH	Pirque	1.42	135	eP	Pn	01 38 12.3	+0.5
CMCH	Combarbala	1.56	23	eP	Pn	01 38 17.4	+3.6
CMCH				i S	Sn	01 38 38.6	+5.3
CMCH				AMP		01 38 41.9	
	comp=E,49µm,0.9s						
CHCH	Chadas Angostu	1.59	146	⇑iP	Pn	01 38 14.9	+0.7
CACH	El Canelo	1.77	148	⇑iP	Pn	01 38 18.2	+1.5
CACH				i S	Sn	01 38 40.4	+1.9
LMEL	Las Melosas	1.77	135	eP	Pn	01 38 17.9	+1.2
LMEL				i S	Sn	01 38 39.5	+1.0
LMEL				AMP		01 38 44.6	
	comp=N,9µm,0.6s						
CICH	Cipreses	2.02	148	⇓iP	Pn	01 38 21.4	+1.1
CICH				i S	Sn	01 38 46.1	+1.3
SFDO	San Fernando	2.08	164	i P	Pn	01 38 21.4	+0.2
TLL	Tololo Astrono	2.56	18	eP	Pn	01 38 31.9	+3.8
LSCH	La Serena	2.73	9	eP	Pn	01 38 30.2	-0.3
TALC	Talca	2.78	179	eP	Pn	01 38 30.5	-0.7
TRQA	Tornquist	9.63	127	eP	P	01 40 06.0	-1.4
	comp=N,34nm,1.0s						
LVC	Limon Verde	10.27	15	eP	P	01 40 12.0	-4.3
	comp=N,3.0nm,0.4s						
CPUP	Villa Florida	14.00	67	Pn	P	01 41 05.4	-1.0
	comp=N,1.0nm,0.3s,baz=261,slow=11,SNR=18						
CPUP				Sn	S	01 43 40.5	-1.3
	comp=N,0.3nm,0.3s,baz=291,slow=15,SNR=2.6						
CPUP				LR	LR	01 47 12.4	
	comp=N,130nm,20.3s,baz=263,slow=40						
LPAZ	La Paz	16.58	12	Pn	P	01 41 42.1	+2.4
	comp=N,0.2nm,0.3s,baz=168,slow=8.5,SNR=8.5						
EFI	East Falkland	21.50	156	P	P	01 42 34.2	-1.9
SAML	Samuel	24.84	20	eP	P	01 43 09.2	+0.1
	comp=N,4.6nm,0.9s,mb4.0						
BDFB	Brasilia	27.35	57	P	P	01 43 31.3	-1.1
	comp=N,4.9nm,0.6s,mb4.2,baz=232,slow=8.1,SNR=9.0						
BDFB				LR	LR	01 55 23.8	
	comp=N,198nm,21.8s,MS3.6,baz=283,slow=39						
BAO	Brasilia Array	27.37	57	P	P	01 43 31.5	-1.0
VNA3	Neumayer Olymp	50.54	158	⇑i	P	01 46 46.1	+1.0
VNA2	Neumayer--Watz	51.18	158	⇑i	P	01 46 51.0	+1.1
SNAA	Sanae	52.77	158	⇑i	P	01 47 00.4	-1.5
QSPA	South Pole Qui	57.62	180	eP	P	01 47 36.2	-0.7
	comp=N,6.9nm,0.9s,mb4.7						
SYO	Syowa Base	67.05	159	⇑P	P	01 48 30.4	-9.5
SYO	Syowa Base	67.05	159	⇓pP	pP	01 48 44.1	-4.1
MAW	Mawson	74.43	164	P	P	01 49 23.6	-0.7
	comp=N,2.4nm,0.6s,mb4.3,baz=212,slow=7.2,SNR=14						
MAW				LR	LR	02 25 45.2	
	comp=N,62nm,18.1s,MS3.9,baz=241,slow=39						
DBIC	Dimbokro	74.48	71	P	P	01 49 24.4	-1.2
	comp=N,4.8nm,0.8s,mb4.5,baz=253,slow=7.4,SNR=6.2						
PDAR	Pinedale Array	82.65	333	P	P	01 50 10.1	+0.4
	comp=N,0.3nm,0.5s,mb3.6,baz=146,slow=6.5,SNR=3.1						
AKASG	Malin Array Be	121.05	47	PKP	PKPdf	01 56 39.1	-3.1
	comp=N,0.1nm,0.3s,baz=266,slow=2.7,SNR=5.0						
WRA	Warramunga Arr	122.10	209	PKP	PKPdf	01 56 40.4	-4.5
	comp=N,0.3nm,0.6s,baz=162,slow=1.6,SNR=6.6						
ZRNK	Zerenda	145.32	42	ePKP	PKPdf	01 57 23.5	-3.5
BRVK	Borovoye	146.00	42	ePKP	PKPdf	01 57 25.1	-3.1
BVAR	Borovoye Array	146.08	42	PKPbc	PKPbc	01 57 26.2	+1.6
	comp=N,2.2nm,0.4s,baz=307,slow=3.0,SNR=20						
ZAL	Zalesovo	152.91	31	PKPbc	PKPdf	01 57 43.4	+4.5
	comp=N,4.0nm,0.8s,baz=93,slow=2.5,SNR=21						
MKAR	Makanchi Array	155.64	47	PKPab	PKPab	01 58 06.2	-0.5
	comp=N,1.5nm,0.6s,baz=290,slow=3.7,SNR=12						

*LDG **25** 01:59:40.1±0.2, 42.33N×2.20E, h2^{km}, Md2.4/1, Ml2.1/5, Error ellipse: s-maj=3.6km s-min=1.5km az=156.0*
*MDD **25** 01:59:40.5±0.4, 42.34N×2.15E, h0^{km}±12^{km}, mbLg1.4/7, Error ellipse: s-maj=3.7km s-min=2.5km az=158.0, PRXIMO AftershockPLICA*
ISC 25 01:59:38.8±0.7, **42.36N**±0.04×**2.16E**±0.04, **h10**^{km}, **n13**, σ**1^{s}19**/25, **Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VALF	Valcebollere	0.11	292	P	Pg	01 59 42.4	+0.7
VALF				S	Sg	01 59 44.1	+0.5
CARF	Carcanieres	0.36	354	P	Pg	01 59 47.6	+1.4
CARF				S	Sg	01 59 53.1	+2.0
FILF	Fillols	0.36	56	Pg	Pg	01 59 45.9	-0.2
FILF				Sg	Sg	01 59 50.1	-1.0
FILF	Fillols	0.36	56	P	Pg	01 59 46.0	-0.2
FILF				S	Sg	01 59 50.1	-1.0
EJON	La Jonquera	0.55	80	Pg	Pg	01 59 50.7	+0.9
	0.8nm,0.1s,SNR=5.0						
EJON				Lg		01 59 58.2	
	3.0nm,0.1s,SNR=7.9						
EMIR	Miracle	0.65	227	Pg	Pg	01 59 51.9	+0.1
	0.4nm,0.0s,SNR=7.2						
EMIR				Lg		02 00 01.5	
	7.4nm,0.2s,SNR=5.0						
MTLF	Montolieu	0.98	3	ePg	Pg	01 59 59.1	+0.6
MTLF				ePn	Pn	02 00 00.0	+1.5
MTLF				eSg	Sg	02 00 12.4	+0.8
	6.6nm,0.3s						
MTLF	Montolieu	0.98	3	Pg	Pg	01 59 59.1	+0.6
MTLF				Lg		02 00 12.4	
	3.3nm,0.3s						
EPOB	Poblet	1.29	219	Pg	Pg	02 00 03.7	-0.9
	1.1nm,0.1s,SNR=14						
EPOB				Lg		02 00 20.2	
	4.2nm,0.1s,SNR=5.0						
EPF	Esparros	1.50	297	ePn	Pn	02 00 07.2	+1.3
EPF				ePg	Pg	02 00 09.0	+0.3
EPF				eSg	Sg	02 00 28.5	-0.3
	2.6nm,0.2s						
ETSF	Etsaut	2.08	286	ePg	Pg	02 00 19.3	-1.0
ETSF				eSg	Sg	02 00 46.7	-1.3
	2.3nm,0.3s						
LASF	Ste Croix	2.12	35	ePn	Pn	02 00 15.8	+1.1
LASF				ePg	Pg	02 00 19.5	-1.6
LASF				eSg	Sg	02 00 47.4	-1.9
	1.0nm,0.3s						
LFF	La Frestale	2.78	339	ePg	Pg	02 00 32.5	-1.7
LFF				eSg	Sg	02 01 08.6	-2.7
	2.0nm,0.3s						

*MOS **25** 02:14:11.2±1.1, 0.02S×122.86E, h106^{km}, mb5.2/30, Error ellipse: s-maj=17.6km s-min=8.3km az=104.0*
*DJA **25** 02:14:11.7±1.0, 0.22S×123.40E, h28^{km}±5^{km}, MD5.0/3, ML5.6/1, Error ellipse: s-maj=64.2km s-min=21.3km az=134.0*
*SYO **25** 02:14:13.2, 0.06S×123.03E, h108^{km}, MB5.2*
*BJI **25** 02:14:15.7, 0.10S×123.00E, h130^{km}, mB5.2, mb5.4*
*IDC **25** 02:14:15.7±0.7, 0.14S×122.95E, h131^{km}±5^{km}, mb4.8/23, mb1 4.8/24, mb1mx4.8/25, MS3.7/3, Ms1 3.7/3, ms1mx3.1/20, Error ellipse: s-maj=17.9km s-min=7.1km az=69.0*
*HRVD **25** 02:14:15.7±0.3, 0.12S×123.14E, h110^{km}±3^{km}, MW5.0/57, Centroid moment Tensor Solution. LP body waves: s27,c31;Mantle waves: s57,c91; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M$_{rr}$1.67±.16; M$_{\theta\theta}$-0.47±.20; M$_{\phi\phi}$-1.20±.23; M$_{r\theta}$2.48±.09; M$_{\theta\phi}$-2.01±.13; M$_{\phi r}$-0.07±.12; Best double couple: M$_0$3.52×10^{16} NP1:φ$_s$187°,δ39°,λ29°. NP2:φ$_s$74°,δ72°,λ125°. Principal axes: T 3.61, Plg50°, Azm24°; N -.19, Plg33°, Azm242°; P -3.43, Plg20°, Azm138°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **25** 02:14:15.7±0.1, 0.12S×122.97E, mb5.2/46 Error ellipse: s-maj=6.8km s-min=4.0km az=77.0*
ISC 25 02:14:13.1±0.2, **0.14S**±0.02×**123.05E**±0.04, **h121**^{km}, **h121**^{km}±3.0^{km}**:pP-P, n285**, σ**1^{s}17**/231, **mb5.2**/88, **28C-16D, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BUNI	Buntu Taipa	4.43	218	⇑iPn	P	02 15 19.1	-0.4
BUNI				⇑eSn	S	02 16 08.0	-2.4
BUNI	Buntu Taipa	4.43	218	⇑iPn	P	02 15 19.1	-0.4
BUNI				eSn	S	02 16 08.1	-2.3
TANI	Tanete Lipujan	4.91	228	⇑ePn	P	02 15 26.6	+0.6
	701nm,0.3s						
TANI				⇑eSn	S	02 16 22.9	+0.8
TANI	Tanete Lipujan	4.91	228	⇑ePn	P	02 15 26.6	+0.6
TANI				eSn	S	02 16 21.9	-0.2
NINI	Niniconang	5.37	218	eP	P	02 15 34.7	+2.5
NINI				⇓eSn	S	02 16 32.5	-0.9
NINI	Niniconang	5.37	218	⇑ePn	P	02 15 33.5	+1.3
NINI				eSn	S	02 16 32.4	-1.0
KCP	Kidapawan	7.39	16	⇓eP	P	02 16 02.0	+2.3
IPIL	Ipil	7.89	357	eP	P	02 16 08.3	+1.8
PAGZ	Pagadian	7.95	2	eP	P	02 16 08.5	+1.3
BUKP	Musuan	8.22	14	eP	P	02 16 13.7	+2.8
DCPH	Dipolog City	8.67	2	⇑eP	P	02 16 20.5	+3.6
KKM	Kota Kinabalu	9.18	312	⇑eP	P	02 16 25.9	+2.2
	77nm,0.5s						
SNPH	Sibulan	9.43	1	eP	P	02 16 31.0	+4.0
TBP	Tagbilaran	9.80	5	eP	P	02 16 35.4	+3.3
CUYO	Cuyo Island	11.11	350	eP	P	02 16 57.3	+7.9
BUSP	Coron	12.39	347	eP	P	02 17 11.4	+5.0
SJMP	San Jose	12.67	351	eP	P	02 17 18.2	+8.2
BOAC	Boac	13.57	355	eP	P	02 17 31.4	+10
LUBP	Lubang	14.06	349	eP	P	02 17 35.1	+7.0
KAKA	Kakadu	15.55	144	eP	P	02 17 51.2	+4.3
	196nm,0.6s						
KAKA				eS	Sx	02 21 14.5	
KAKA				eSCP		02 26 07.9	
FITZ	Fitzroy Crossi	18.03	172	⇓iP	P	02 18 17.3	0.0
	175nm,0.7s						
FITZ				eSCP		02 26 09.3	
FITZ	Fitzroy Crossi	18.03	172	P	P	02 18 17.4	0.0
	16nm,0.3s,baz=4.6,slow=7.3,SNR=311						
MBWA	Marble Bar	21.14	189	⇓iP	P	02 18 50.0	+0.1
	75nm,0.8s,mb5.1						
WRAB	Tennant Creek	22.57	151	⇓eP	P	02 19 04.7	+0.6
	219nm,1.0s,mb5.4						
WRA	Warramunga Arr	22.57	151	P	P	02 19 04.7	+0.6
	138nm,1.0s,mb5.2,baz=332,slow=11,SNR=380						
WRA				PcP	PcP	02 22 55.4	+0.4
	5.3nm,0.7s,baz=317,slow=2.5,SNR=4.7						
WRA				S	S	02 23 01.4	+3.0
	9.2nm,0.9s,baz=338,slow=16,SNR=4.5						
WRA				ScP		02 26 20.1	
	8.4nm,0.8s,baz=336,slow=2.9,SNR=12						
WRA				PKP2ab		02 56 50.0	
	0.2nm,0.8s,baz=98,slow=5.5,SNR=4.6						
WRA	Warramunga Arr	22.57	151	P	P	02 19 04.7	+0.6
WRA						02 22 55.4	
WRA				S	S	02 23 01.4	+3.0
WRA				pmax	pmax		
	comp=Z,138nm,1.0s						
WRA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
WRA				smax			
	comp=N,9.0nm,0.9s						
WRA				pmax	pmax		
	comp=N,8.0nm,0.9s						
WB2	Warramunga Arr	22.58	151	⇓iP	P	02 19 04.6	+0.5
WB2				eS	S	02 23 00.2	+1.7
WB2				eSCP		02 26 19.9	
WB2				eSCS	ScS	02 30 00.2	-3.9
QIZ	Qiongzhong	23.04	326	P	P	02 19 10.3	+1.7
QIZ				PP	PP	02 19 46.3	+3.4
QIZ				S	S	02 23 11.0	+4.4
QIZ				AMB	AMB		
	comp=Z,59nm,1.0s,mb4.9						
QIZ	Qiongzhong	23.04	326	eP	P	02 19 10.0	+1.4
	comp=Z,68nm,1.0s,mb4.9						
UBT	Ubonrachathani	23.48	311	⇓P	P	02 19 15.5	+2.7
	comp=Z,451nm,1.0s,mb5.8						

SNG	**Songkhla**	**23.52**	**288**	P	**P**	**02 19 15.0**	**+1.7**
	comp=Z,120nm,0.7s,mb5.3						
GUMO	**Guam**	**25.56**	**57**	P	**P**	**02 19 32.0**	**-0.7**
	comp=Z,39nm,0.6s,mb5.0						
ASPA	**Alice Springs**	**25.65**	**156**	⇓*i*P	**P**	**02 19 33.7**	**+0.3**
ASPA				*e*PCP	PcP	02 23 02.2	+0.7
ASPA				*e*SCP		02 26 29.1	
ASPA				*e*SCS	ScS	02 30 15.4	-0.9
ASAR	**Alice Springs**	**25.65**	**156**	P	**P**	**02 19 33.4**	**0.0**
	comp=Z,52nm,0.9s,mb5.0,baz=344,slow=15,SNR=226						
ASAR				PcP	PcP	02 23 01.4	-0.1
	comp=Z,14nm,0.6s,baz=344,slow=2.1,SNR=14						
ASAR				S	**S**	**02 23 52.2**	**+1.7**
	comp=Z,5.7nm,1.1s,baz=350,slow=22,SNR=3.3						
ASAR				ScP		02 26 29.5	
	comp=Z,5.8nm,0.7s,baz=338,slow=2.5,SNR=14						
ASAR	**Alice Springs**	**25.65**	**156**	P	**P**	**02 19 33.4**	**0.0**
ASAR				PcP	PcP	02 23 01.4	-0.1
ASAR				S	**S**	**02 23 52.2**	**+1.7**
ASAR				ScP		02 26 29.5	
PMG	**Port Moresby**	**25.71**	**112**	*e*P	**P**	**02 19 34.8**	**+0.8**
	comp=Z,59nm,1.1s,mb4.9						
KKTK	**Khon Kaen**	**25.81**	**310**	P	**P**	**02 19 36.5**	**+1.6**
	comp=Z,802nm,0.5s						
JOW	**Kunigami**	**27.29**	**10**	P	**P**	**02 19 50.0**	**+1.6**
	comp=Z,32nm,0.6s,mb5.0,baz=179,slow=20,SNR=6.6						
BDT	**Bhumibol Dam**	**29.31**	**307**	P	**P**	**02 20 08.0**	**+1.3**
	comp=Z,42nm,0.7s,mb5.2						
CTA	**Charters Tower**	**30.15**	**132**	⇓*i*P	**P**	**02 20 14.7**	**+0.6**
	comp=Z,5.0nm,0.6s,mb4.3						
CTA	**Charters Tower**	**30.15**	**132**	P	**P**	**02 20 14.6**	**+0.5**
	comp=Z,6.6nm,0.7s,mb4.4,baz=316,slow=11,SNR=13						
CTA				PcP	PcP	02 23 13.7	+1.2
	comp=Z,5.9nm,0.9s,baz=354,slow=5.3,SNR=3.9						
CTA				ScP		02 26 43.7	
	comp=Z,3.3nm,0.8s,baz=37,slow=18,SNR=3.0						
CTA				LR	LR	02 33 20.0	
	comp=Z,87nm,21.1s,baz=235,slow=38						
CTA	**Charters Tower**	**30.15**	**132**	P	**P**	**02 20 14.6**	**+0.5**
CTA						02 23 13.7	
CTA				pmax	pmax		
	comp=Z,7.0nm,0.7s						
CTA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
CTA				pmax	pmax		
	comp=N,3.0nm,0.8s						
CTA				MLR	MLR		
	comp=Z,87nm,21.2s						
CTAO	**Charters Tower**	**30.15**	**132**	⇓*e*P	**P**	**02 20 14.6**	**+0.5**
	comp=Z,11nm,0.9s,mb4.5						
CHG	**Chiang Mai**	**30.25**	**310**	⇑P	**P**	**02 20 16.1**	**+1.1**
	comp=Z,133nm,0.9s,mb5.6						
GYA	**Guiyang**	**30.80**	**330**	⇑*i*P	**P**	**02 20 21.0**	**+1.2**
GYA				PCP	PcP	02 23 14.9	+0.8
GYA				S	**S**	**02 25 06.0**	**-6.9**
GYA				SCP		02 26 47.1	
GYA				SCS	ScS	02 30 38.9	-0.7
GYA				AMB	AMB		
	comp=Z,90nm,0.8s,mb5.5						
GYA				AMB	AMB		
	comp=Z,350nm,7.5s						
GYA				LR	LR		
	comp=N,170nm,15.3s						
GYA				LR	LR		
	comp=E,210nm,14.4s						
GYA				LR	LR		
	comp=Z,180nm,15.0s						
FORT	**Forrest**	**30.84**	**172**	*e*P	**P**	**02 20 19.3**	**-0.7**
	comp=Z,292nm,0.6s						
FORT				*e*PCP	PcP	02 23 14.3	+0.1
FORT				*e*SCP		02 26 47.6	
SSE	**Sheshan**	**31.12**	**357**	P	**P**	**02 20 21.9**	**-0.6**
SSE				PP	PP	02 21 32.3	+3.1
SSE				S	**S**	**02 25 20.4**	**+2.6**
SSE				AMB	AMB		
	comp=Z,31nm,0.9s,mb5.0						
SSE				AMB	AMB		
	comp=Z,124nm,9.0s						
SSE				LR	LR		
	comp=N,150nm,21.6s						
SSE				LR	LR		
	comp=E,57nm,21.6s						
SSE				LR	LR		
	comp=Z,180nm,21.0s						
SSE	**Sheshan**	**31.12**	**357**	P	**P**	**02 20 21.9**	**-0.6**
	comp=Z,31nm,0.9s,mb5.0						
SSE				pP	pP	02 20 42.5	-6.6
SSE				sP	sP	02 20 54.2	-8.9
SSE				PP	PP	02 21 32.3	+3.1
SSE				S	**S**	**02 25 20.4**	**+2.6**
SSE				sS		02 25 56.8	
SSE				SS	SS	02 27 35.3	+23
SSE				LR	LR		
	comp=Z,180nm,21.0s						
WHN	**Wuhan**	**31.62**	**346**	P	**P**	**02 20 28.5**	**+1.6**
WHN				AMB	AMB		
	comp=Z,37nm,1.0s,mb5.1						
KLBR	**Kellerberrin**	**31.68**	**189**	*e*P	**P**	**02 20 26.2**	**-1.2**
	comp=Z,21nm,0.4s,mb5.2						
KLBR				*e*PCP	PcP	02 23 14.9	-1.5
KMI	**Kunming**	**31.89**	**323**	⇑*i*P	**P**	**02 20 31.3**	**+2.1**
KMI				PP	PP	02 21 42.0	+3.2
KMI				PCP	PcP	02 23 19.3	+2.3
KMI				S	**S**	**02 25 36.1**	**+6.2**
KMI				SS	SS	02 27 31.0	+0.8
KMI				AMB	AMB		
	comp=Z,64nm,1.0s,mb5.3						
KMI				LR	LR		
	comp=N,122nm,17.9s						
KMI				LR	LR		
	comp=E,147nm,17.0s						
KMI				LR	LR		
	comp=Z,167nm,25.4s						
KMI	**Kunming**	**31.89**	**323**	⇑*i*P	**P**	**02 20 31.3**	**+2.1**
	comp=Z,64nm,1.0s,mb5.3						
KMI				pP	pP	02 20 50.9	-5.0
KMI				sP	sP	02 21 01.0	-9.0
KMI				PP	PP	02 21 42.0	+3.2
KMI				PcP	PcP	02 23 19.2	+2.2
KMI				S	**S**	**02 25 36.1**	**+6.2**
KMI				sS		02 26 11.8	
KMI				SS	SS	02 27 31.0	+0.8
KMI				LR	LR		
	comp=Z,170nm,25.4s						
NJ2	**Nanjing**	**32.27**	**353**	*e*P	**P**	**02 20 33.5**	**+1.0**
NJ2				PP	PP	02 21 42.5	-1.1
NJ2				PPP	PPP	02 21 56.4	-3.6
NJ2				S	**S**	**02 25 40.0**	**+4.2**
NJ2				AMB	AMB		
	comp=Z,70nm,0.8s,mb5.4						
NJ2				LR	LR		
	comp=N,4µm,21.6s						
NJ2				LR	LR		
	comp=E,2µm,22.0s						
NJ2				LR	LR		
	comp=Z,2µm,17.9s						
MUN	**Mundaring**	**32.32**	**191**	*e*P	**P**	**02 20 32.1**	**-0.8**
	comp=Z,6.0nm,0.4s,mb4.7						
CBIJ	**Chichi jima**	**32.74**	**33**	P	**P**	**02 20 35.3**	**-1.4**
	comp=Z,339nm,0.6s,baz=284,slow=0.7,SNR=16						
ENH	**Enshi**	**32.89**	**338**	⇑*i*P	**P**	**02 20 38.8**	**+1.0**
	comp=Z,461nm,0.9s						
NWAO	**Narrogin (SRO)**	**33.06**	**189**	P	**P**	**02 20 38.9**	**-0.5**
	comp=Z,18nm,0.5s,mb5.2,baz=18,slow=7.5,SNR=34						
NWAO	**Narrogin (SRO)**	**33.06**	**189**	P	**P**	**02 20 38.9**	**-0.5**
NWAO				pmax	pmax		
	comp=Z,18nm,0.5s						
CD2	**Chengdu**	**35.91**	**331**	⇓*i*P	**P**	**02 21 04.4**	**+0.9**
CD2				S	**S**	**02 26 30.8**	**-1.2**
CD2				LR	LR		
	comp=E,250nm,4.7s						
CD2				LR	LR		
	comp=Z,290nm,10.0s						
STKA	**Stephens Creek**	**36.11**	**153**	*e*P	**P**	**02 21 05.6**	**+0.4**
	comp=Z,24nm,0.4s,mb5.5						
STKA				*e*PP	PP	02 22 28.0	-3.1
STKA				*e*PCP	PcP	02 23 28.7	-0.3
STKA				*e*SCP		02 27 03.6	
STKA	**Stephens Creek**	**36.11**	**153**	P	**P**	**02 21 05.8**	**+0.5**
	comp=Z,29nm,0.4s,mb5.5,baz=327,slow=8.4,SNR=127						
STKA				PcP	PcP	02 23 28.7	-0.2
	comp=Z,10nm,0.5s,baz=337,slow=4.7,SNR=3.8						
STKA				ScP		02 27 03.2	
	comp=Z,4.7nm,0.7s,baz=330,slow=4.9,SNR=4.2						
XAN	**Xi'an**	**36.50**	**340**	P	**P**	**02 21 09.0**	**+0.5**
XAN				AMB	AMB		
	comp=Z,114nm,0.8s,mb5.8						
ADE	**Adelaide**	**37.61**	**159**	⇓*i*P	**P**	**02 21 19.0**	**+1.2**
MAJO	**Matsushiro**	**39.12**	**20**	⇑*e*P	**P**	**02 21 28.8**	**-1.5**
	comp=Z,89nm,0.9s,mb5.6						
MAT	**Matsushiro**	**39.12**	**20**	P	**P**	**02 21 29.0**	**-1.3**
MAT	**Matsushiro**	**39.12**	**20**	*e*P	**P**	**02 21 29.0**	**-1.3**
	comp=Z,102nm,1.0s,mb5.6						
SHL	**Shillong**	**39.48**	**313**	*e*P	**P**	**02 21 34.0**	**+0.6**
SHL				*e*		02 27 17.0	
LZH	**Lanzhou**	**40.23**	**336**	*e*P	**P**	**02 21 41.6**	**+2.2**
LZH				PP	PP	02 23 17.3	0.0
LZH				SCP		02 27 19.5	
LZH				PCS		02 27 27.0	
LZH				XS		02 28 31.3	
LZH				SCS	ScS	02 31 32.0	+1.2
LZH				AMB	AMB		
	comp=Z,140nm,1.0s,mb5.8						
LZH				AMB	AMB		
	comp=Z,350nm,4.0s						
LZH				LR	LR		
	comp=N,580nm,16.0s						
LZH				LR	LR		
	comp=Z,910nm,18.0s						
LZH	**Lanzhou**	**40.23**	**336**	*e*P	**P**	**02 21 41.6**	**+2.2**
	comp=Z,140nm,1.0s,mb5.8						
LZH				pP	pP	02 21 59.6	-7.4
LZH				sP	sP	02 22 11.7	-10
LZH				PP	PP	02 23 17.2	-0.1
LZH				PcP	PcP	02 23 37.0	-4.8
LZH				ScP		02 27 19.5	
LZH				PcS		02 27 27.0	
LZH				S	**S**	**02 27 52.0**	**+15**
LZH				sS		02 28 31.2	
LZH				SS	SS	02 30 56.3	+22
LZH				ScS	ScS	02 31 32.0	+1.2
LZH				LR	LR		
	comp=Z,910nm,18.0s						
BJT	**Baijiatuau**	**40.46**	**352**	*e*P	**P**	**02 21 41.3**	**-0.1**
	comp=Z,16nm,0.6s,mb5.0						
BJI	**Beijing**	**40.48**	**352**	*e*P	**P**	**02 21 41.5**	**0.0**
BJI				AMB	AMB		
	comp=Z,19nm,0.8s,mb5.0						
BJI				LR	LR		
	comp=Z,74nm,27.5s						
BJI	**Beijing**	**40.48**	**352**	*e*P	**P**	**02 21 41.5**	**0.0**
	comp=Z,19nm,0.8s,mb5.0						
BJI				S	**S**	**02 27 58.6**	**+18**
BJI				SS	SS	02 30 52.5	+13
BJI				LR	LR		
	comp=Z,70nm,27.5s						
SNY	**Shenyang**	**41.78**	**1**	⇑P	**P**	**02 21 51.1**	**-1.1**
SNY				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.1						
HHC	**Hu-ho-hao-te**	**42.12**	**347**	*e*P	**P**	**02 21 55.6**	**+0.7**
HHC				AP	pP	02 22 25.3	+2.7
HHC				XP	sP	02 22 42.5	+5.7
HHC				PP	PP	02 23 38.4	+1.3
HHC				PCP	PcP	02 23 47.3	-0.6
HHC				SCP		02 27 27.3	
HHC				*e*S	**S**	**02 28 05.4**	**+0.4**
HHC				SS	SS	02 31 10.4	-0.1
HHC				SCS	ScS	02 31 43.8	+1.7
HHC				AMB	AMB		
	comp=Z,21nm,0.7s,mb5.0						
TOO	**Toolangi**	**42.62**	**153**	*e*P	**P**	**02 22 01.1**	**+2.0**
	comp=Z,26nm,0.6s,mb5.1						
TOO				*e*PCP	PcP	02 23 51.4	+1.8
CNB	**Canberra Magne**	**42.74**	**148**	*e*P	**P**	**02 22 02.3**	**+2.2**
	comp=Z,18nm,0.5s,mb5.0						
CNB				*e*sP	sP	02 22 37.0	-4.9
VIS	**Vishakhapatnam**	**42.91**	**297**	*e*P	**P**	**02 22 02.1**	**+0.4**
VIS				*e*	pP	02 22 29.0	-0.4
CN2	**Changchun**	**43.80**	**3**	*e*P	**P**	**02 22 06.5**	**-2.1**
CN2				*e*S	**S**	**02 28 31.3**	**+1.8**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
GTA	**Gaotai**	**44.74**	**334**	P	**P**	**02 22 16.6**	**+0.5**
GTA				AP	pP	02 22 45.3	+1.3
GTA				XP	sP	02 23 00.1	+2.1
GTA				PCP	PcP	02 23 57.1	+0.3
GTA				PP	PP	02 24 03.9	+0.5
GTA				SCP		02 27 36.1	
GTA				PCS		02 27 48.6	
GTA				S	**S**	**02 28 43.3**	**+0.3**
GTA				XS		02 29 33.9	
GTA				SCS	ScS	02 31 58.5	0.0
GTA				SS	SS	02 31 59.5	+1.2
GTA				AMB	AMB		
	comp=Z,27nm,1.1s,mb4.9						
GTA				AMB	AMB		
	comp=Z,82nm,4.8s						
GTA				LR	LR		
	comp=N,76nm,17.5s						
GTA				LR	LR		
	comp=E,76nm,16.3s						
GTA				LR	LR		
	comp=Z,67nm,14.8s						
MDJ	**Mudanjiang**	**44.95**	**7**	⇑*i*P	**P**	**02 22 17.0**	**-0.7**
	comp=Z,97nm,0.8s,mb5.6						
PKI	**Pulchoki**	**45.43**	**310**	*e*P	**P**	**02 22 21.9**	**+0.1**
	comp=Z,34nm,0.4s,mb5.4						
KKN	**Kakani**	**45.64**	**311**	*e*P	**P**	**02 22 23.7**	**+0.3**
	comp=Z,63nm,0.6s,mb5.5						
DMN	**Daman**	**45.68**	**310**	*e*P	**P**	**02 22 24.2**	**+0.5**
GKN	**Gorkha**	**46.23**	**310**	*e*P	**P**	**02 22 28.5**	**+0.4**
	comp=Z,101nm,0.6s,mb5.7						
KOLN	**Koldanda**	**46.91**	**310**	*e*P	**P**	**02 22 33.8**	**+0.3**
	comp=Z,108nm,0.6s,mb5.7						
HYB	**Hyderabad**	**47.13**	**294**	*i* P	**P**	**02 22 35.5**	**+0.2**
HYB				*e*pP	pP	02 23 03.5	+0.1
ASAJ	**Asahikawa**	**47.39**	**19**	P	**P**	**02 22 37.4**	**+0.4**
	comp=Z,86nm,0.7s,mb5.6,baz=234,slow=11,SNR=49						
ASAJ	**Asahikawa**	**47.39**	**19**	P	**P**	**02 22 37.4**	**+0.4**
ASAJ				pmax	pmax		
	comp=Z,86nm,0.7s						
HIA	**Hailar**	**49.30**	**357**	*e*P	**P**	**02 22 50.9**	**-0.7**
	comp=Z,35nm,0.8s,mb5.3						
KLR	**Kul'dur**	**49.75**	**7**	*e*P	**P**	**02 22 50.2**	**-4.9**
SONM	**Songino Array**	**49.94**	**345**	P	**P**	**02 22 56.6**	**+0.1**
	comp=Z,71nm,0.7s,mb5.7,baz=162,slow=7.9,SNR=264						
SONM				pP	pP	02 23 27.5	+2.6
	comp=Z,14nm,0.7s,baz=164,slow=7.8,SNR=4.2						
SONM				PcP	PcP	02 24 13.2	-2.0
	comp=Z,11nm,0.8s,baz=157,slow=5.2,SNR=8.8						
SONM				ScP		02 27 58.1	
	comp=Z,4.7nm,0.8s,baz=162,slow=3.9,SNR=11						
YSS	**Yuzh-Sakhalins**	**49.98**	**18**	⇑*i*P	**P**	**02 22 55.0**	**-1.9**
YSS				*e*		02 23 17.5	
YSS				*e*		02 23 29.5	
YSS				pmax	pmax		
	comp=Z,70nm,1.1s,mb5.5						
YSS	**Yuzh-Sakhalins**	**49.98**	**18**	⇑*e*P	**P**	**02 22 56.0**	**-0.9**
	comp=Z,66nm,1.0s,mb5.5						
YSS				*e*PcP	PcP	02 24 15.3	0.0
BHPL	**Bhopal**	**50.03**	**301**	*e*P	**P**	**02 22 56.7**	**-0.9**
BHPL				*e*		02 22 59.5	
	comp=Z,20nm,1.1s						
KAD	**Karad**	**51.12**	**292**	*e*P	**P**	**02 23 07.0**	**+1.1**
AGRA	**Agra**	**51.14**	**306**	*e*P	**P**	**02 23 04.7**	**-1.3**
JOSI	**Joshimath**	**51.35**	**311**	*e*P	**P**	**02 23 06.9**	**-0.6**
JOSI				*e*		02 23 10.6	
	comp=Z,204nm,1.1s						
ASOR	**Ausora**	**51.92**	**308**	*e*P	**P**	**02 23 12.4**	**+0.6**
AYAN	**Aya Nagar**	**52.32**	**307**	*e*P	**P**	**02 23 14.0**	**-0.9**
AYAN				*e*		02 23 16.7	
	comp=Z,22nm,1.0s						
NDI	**New Delhi**	**52.34**	**307**	*e*P	**P**	**02 23 12.8**	**-2.1**
RTK	**Rohtak**	**53.12**	**307**	*e*P	**P**	**02 23 18.2**	**-2.5**
RTK				*e*		02 23 18.6	
	comp=Z,67nm,0.3s						
KHET	**Khetri**	**53.22**	**306**	*e*P	**P**	**02 23 20.2**	**-1.3**
KHET				*e*		02 23 22.2	
	comp=Z,20nm,0.6s						
WMQ	**Urumqi**	**53.94**	**329**	P	**P**	**02 23 26.9**	**+0.4**
WMQ				AMB	AMB		
	comp=Z,31nm,0.8s,mb5.4						
WMQ				LR	LR		
	comp=Z,55nm,22.6s						
MOY	**Mondy**	**54.88**	**343**	*e*P	**P**	**02 23 33.2**	**-0.1**
CLNS	**Chul'man**	**56.82**	**1**	*e*P	**P**	**02 23 44.4**	**-2.7**
CLNS				pmax	pmax		
	comp=N,19nm,0.8s						
CLNS				pmax	pmax		
	comp=E,19nm,0.8s						
CLNS				pmax	pmax		
	comp=Z,40nm,0.8s,mb5.5						
JASL	**Jaisalmer**	**56.85**	**303**	*e*P	**P**	**02 23 43.7**	**-4.1**
JASL				*e*		02 23 43.7	
KSH	**Kashi**	**58.31**	**318**	*e*P	**P**	**02 23 58.1**	**+0.3**
KSH				*e*PCP	PcP	02 24 48.3	+1.1
KSH				*e*PP	PP	02 26 10.3	+0.5
KSH				*e*PPP	PPP	02 27 23.5	-10
KSH				*e*SCP		02 28 40.3	
KSH				*e*PCS		02 28 49.3	
KSH				*e*S	**S**	**02 31 51.0**	**+2.3**
KSH				*e*PS	PS	02 32 18.0	-3.9
KSH				*e*SCS	ScS	02 33 27.8	-3.9
KSH				*e*SS	SS	02 35 48.3	+4.1
KSH				AMB	AMB		
	comp=Z,70nm,1.4s,mb5.5						
KSH				LR	LR		
	comp=N,220nm,5.5s						
KSH				LR	LR		
	comp=E,310nm,4.9s						
MKAR	**Makanchi Array**	**58.76**	**328**	P	**P**	**02 23 59.6**	**-1.1**
	comp=E,36nm,0.7s,mb5.5,baz=127,slow=8.5,SNR=245						
MKAR				pP	pP	02 24 31.8	+1.8
	comp=E,14nm,0.6s,baz=129,slow=7.8,SNR=4.8						
MKAR				PcP	PcP	02 24 47.5	-1.4
	comp=E,6.9nm,0.5s,baz=153,slow=3.4,SNR=10						
MKAR				ScP		02 28 35.3	
	comp=E,4.4nm,0.7s,baz=124,slow=4.4,SNR=8.3						
MKAR				LR	LR	02 48 25.8	
	comp=E,45nm,18.8s,baz=126,slow=35						
MKAR	**Makanchi Array**	**58.76**	**328**	P	**P**	**02 23 59.7**	**-1.1**
MKAR						02 24 47.5	
MKAR				pmax	pmax		
	comp=Z,36nm,0.7s						
MKAR				pmax	pmax		
	comp=N,14nm,0.6s						
MKAR				pmax	pmax		
	comp=Z,7.0nm,0.5s						
MKAR				pmax	pmax		
	comp=N,4.0nm,0.7s						
MKAR	**Makanchi Array**	**58.76**	**328**	P	**P**	**02 23 59.6**	**-1.1**
MKAR				pP	pP	02 24 31.8	+1.8
MKAR				PcP	PcP	02 24 47.5	-1.4
MKAR				ScP		02 28 35.3	
MKAR				LR	LR	02 48 25.8	
ULHL	**Ulahol**	**59.56**	**321**	P	**P**	**02 24 07.5**	**+1.1**
	SNR=5.2						
KZA	**Kyzart**	**60.10**	**320**	P	**P**	**02 24 11.3**	**+1.2**
	SNR=5.8						
TKM2	**Tokmak 2**	**60.33**	**321**	P	**P**	**02 24 10.6**	**-1.0**
	SNR=24						
KBK	**Karagaybulak**	**60.59**	**321**	P	**P**	**02 24 13.4**	**0.0**
	SNR=12						
UCH	**Uchtor**	**60.65**	**320**	P	**P**	**02 24 13.8**	**+0.1**
	SNR=18						
PET	**Petropavlovsk**	**60.72**	**24**	*e*P	**P**	**02 24 12.3**	**-1.8**
PET				pmax	pmax		
	comp=Z,67nm,1.1s,mb5.6						
PET	**Petropavlovsk**	**60.72**	**24**	*e*P	**P**	**02 24 12.8**	**-1.3**
	comp=Z,100nm,1.2s,mb5.7						
AAK	**Ala-Archa**	**60.87**	**321**	P	**P**	**02 24 16.2**	**+0.9**
	SNR=11						
RPZ	**Rata Peaks**	**60.87**	**142**	P	**P**	**02 24 15.4**	**+0.1**
	comp=Z,51nm,0.9s,mb5.6,baz=278,slow=0.8,SNR=19						
FRU	**Bishkek**	**60.89**	**321**	*e*P	**P**	**02 24 15.0**	**-0.4**
FRU				*e*		02 24 39.0	
FRU				pmax	pmax		
	comp=Z,60nm,2.0s,mb5.3						
AML	**Almayashu**	**61.13**	**320**	P	**P**	**02 24 16.9**	**-0.1**
	SNR=26						
USP	**Ospenovka**	**61.19**	**321**	P	**P**	**02 24 16.9**	**-0.5**
	SNR=18						
EKS2	**Erkin-Say**	**61.34**	**320**	P	**P**	**02 24 18.3**	**-0.2**
	SNR=17						
YAK	**Yakutsk**	**62.22**	**4**	*c* *i*P	**P**	**02 24 22.4**	**-1.6**
YAK				pmax	pmax		
	comp=Z,104nm,0.7s,mb6.0						
YAK	**Yakutsk**	**62.22**	**4**	*e*P	**P**	**02 24 22.4**	**-1.6**
	comp=Z,101nm,0.7s,mb6.0						
URZ	**Urewera**	**62.38**	**134**	P	**P**	**02 24 25.3**	**-0.2**
	comp=Z,11nm,0.4s,mb5.2,baz=241,slow=4.5,SNR=9.4						
ZAL	**Zalesovo**	**62.46**	**336**	P	**P**	**02 24 24.1**	**-1.7**
	comp=Z,11nm,1.0s,mb4.9,baz=258,slow=6.5,SNR=60						
ZAL				pP	pP	02 24 55.0	-0.3
	comp=Z,7.6nm,1.0s,baz=208,slow=7.7,SNR=3.8						
ZAL	**Zalesovo**	**62.46**	**336**	P	**P**	**02 24 24.1**	**-1.7**
ZAL				*PP	pP	02 24 55.1	-0.2
ZAL				pmax	pmax		
	comp=Z,11nm,1.0s						
ZAL				pmax	pmax		
	comp=N,8.0nm,1.0s						
KURK	**Kurchatov**	**63.12**	**330**	*i* P	**P**	**02 24 28.8**	**-1.4**
KURK				pmax	pmax		
	comp=Z,39nm,1.0s,mb5.3						
KURK	**Kurchatov**	**63.12**	**330**	⇑*i*P	**P**	**02 24 28.2**	**-2.0**
	comp=Z,76nm,0.9s,mb5.6						
MA2	**Magadan**	**63.36**	**15**	*c* *i*P	**P**	**02 24 31.2**	**-0.4**
MA2				pmax	pmax		
	comp=Z,143nm,0.9s,mb5.9						
MA2	**Magadan**	**63.36**	**15**	*e*P	**P**	**02 24 30.9**	**-0.8**
	comp=Z,127nm,0.9s,mb5.8						
NVS	**Novosibirsk**	**63.75**	**336**	*i* P	**P**	**02 24 31.2**	**-3.0**
NVS				*i*	pP	02 25 02.0	-1.9
NVS				*i*		02 26 49.8	
NVS				*i* S	**S**	**02 32 54.0**	**-3.4**
NVS				pmax	pmax		
	comp=N,24nm,1.1s						
NVS				pmax	pmax		
	comp=Z,30nm,1.1s,mb5.0						
NVS				pmax	pmax		
	comp=E,18nm,1.2s						
NVS				smax			
	comp=N,6.0nm,1.3s						
NVS				smax			
	comp=E,10.0nm,1.3s						
CASY	**Casey**	**66.59**	**185**	*e*P	**P**	**02 24 51.9**	**-0.4**
	comp=E,22nm,0.9s,mb5.0						
VOSK	**Vostochnaya**	**68.16**	**329**	P	**P**	**02 25 00.2**	**-2.1**
VOSK				pmax	pmax		
	comp=Z,24nm,1.4s,mb4.8						
BVA0	**Borovoye Array**	**68.63**	**329**	*i* P	**P**	**02 25 03.6**	**-1.5**
BVA0				pmax	pmax		
	comp=Z,2.0nm,1.0s						
BVAR	**Borovoye Array**	**68.63**	**329**	P	**P**	**02 25 03.6**	**-1.6**
	comp=Z,28nm,1.1s,mb5.0,baz=135,slow=6.3,SNR=60						
BVAR				pP	pP	02 25 34.9	-0.2
	comp=Z,13nm,0.9s,baz=135,slow=6.3,SNR=5.6						
BRVK	**Borovoye**	**68.70**	**329**	⇑*e*P	**P**	**02 25 03.9**	**-1.7**
	comp=Z,34nm,1.1s,mb5.1						
ZRNK	**Zerenda**	**69.31**	**328**	P	**P**	**02 25 07.6**	**-1.7**
ZRNK				pmax	pmax		
	comp=Z,55nm,1.4s,mb5.2						
ZRNK	**Zerenda**	**69.31**	**328**	*e*P	**P**	**02 25 07.2**	**-2.1**
	comp=Z,27nm,0.9s,mb5.1						
MIR	**Mirnyy**	**69.59**	**192**	⇑*e*P	**P**	**02 25 11.0**	**+0.2**
MIR				*e*	pP	02 25 39.5	-1.4
MIR				pmax	pmax		
	comp=Z,30nm,0.8s,mb5.2						
TIXI	**Tiksi**	**71.77**	**2**	*e*P	**P**	**02 25 22.3**	**-1.5**
TIXI				*e**PP	pP	02 25 51.1	-3.0
TIXI				*i* *SP	sP	02 26 03.8	-3.5
TIXI				S	S	02 34 33.7	+1.0
TIXI				pmax	pmax		
	comp=Z,48nm,0.7s,mb5.4						
TIXI				MLR	MLR		
	comp=Z,100nm,18.0s						
SVE	**Sverdlovsk**	**75.37**	**330**	⇑*i*P	**P**	**02 25 48.0**	**+3.1**
SVE				*e*		02 26 12.2	
SVE				pmax	pmax		
	comp=Z,80nm,1.2s,mb5.3						
ARU	**Arti**	**76.28**	**329**	⇑*i*P	**P**	**02 25 48.1**	**-1.9**
ARU				*e*		02 25 57.0	
ARU				*e*		02 28 39.9	
ARU				*e*PPP	PPP	02 30 25.6	-6.6
ARU				*e*S	S	02 35 22.7	-0.3
ARU				*e*SS	SS	02 40 23.5	+1.2
ARU				pmax	pmax		
	comp=Z,29nm,0.9s,mb5.0						
ARU	**Arti**	**76.28**	**329**	*e*P	**P**	**02 25 47.4**	**-2.6**
	comp=Z,56nm,1.3s,mb5.1						
MAW	**Mawson**	**78.88**	**200**	*e*P	**P**	**02 26 05.0**	**+0.9**
	comp=Z,3.4nm,0.8s,mb4.2						
MAW				*e*sP	pP	02 26 32.8	-2.2
MAW				*e*PKKP		02 44 55.2	
MAW	**Mawson**	**78.88**	**200**	P	**P**	**02 26 05.4**	**+1.2**

	comp=Z,3.3nm,0.5s,mb4.4,baz=41,slow=6.3,SNR=21						
MAW	**Mawson**	78.88	200	P	P	02 26 05.4	+1.3
MAW				pmax	pmax		
	comp=Z,3.0nm,0.5s						
DJNS	**Zahran al Janu**	80.04	288	P	P	02 26 12.8	+1.4
TATS	**Tathlith**	80.22	290	P	P	02 26 12.3	0.0
GNI	**Garni**	81.15	311	d *i*P	P	02 26 17.4	+0.5
GNI				pmax	pmax		
	comp=Z,13nm,1.0s						
GNI	**Garni**	81.15	311	*e*P	P	02 26 17.3	+0.4
	comp=Z,12nm,0.8s,mb4.8						
BLJS	**Baljurashi**	82.00	290	P	P	02 26 21.8	+0.1
HILS	**Ha'il**	82.30	298	P	P	02 26 22.8	-0.3
SDPT	**Sand Point**	82.44	34	*e*P	P	02 26 23.1	-0.1
GOF	**Gofitskoye**	83.04	315	*e*P	P	02 26 22.0	-4.5
KIV	**Kislovodsk**	83.15	314	*e*P	P	02 26 27.6	+0.5
KIV				*PP	pP	02 26 54.3	-3.9
KIV				S	S	02 36 38.0	+2.8
KIV				pmax	pmax		
	comp=Z,14nm,1.4s,mb4.6						
BEST	**Besiri**	83.59	308	*i* P	P	02 26 29.4	0.0
KBRS	**Khaybar**	84.46	296	P	P	02 26 34.7	+0.7
SOC	**Sochi**	85.26	314	*i* P	P	02 26 33.7	-3.9
SOC				*e*		02 29 55.5	
SOC				*e*S	S	02 36 53.6	-2.4
SOC				*e*SS	SS	02 42 25.6	-10
SOC				*e*SSS	SSS	02 46 01.1	-4.3
SOC				pmax	pmax		
	comp=Z,19nm,0.9s,mb5.0						
SOC				pmax	pmax		
	comp=N,20nm,1.2s						
SOC				pmax	pmax		
	comp=E,2.0nm,0.5s						
SOC				MLR	MLR		
	comp=Z,138nm,23.0s						
SOC				MLR	MLR		
	comp=N,95nm,25.0s						
SOC				MLR	MLR		
	comp=E,25nm,22.0s						
MALT	**Malatya**	85.86	308	*e*P	P	02 26 39.8	-0.9
	comp=E,14nm,1.0s,mb4.8						
UMJS	**Umm Lajj**	86.20	295	P	P	02 26 43.8	+1.2
GZT	**Gaziantep**	86.49	307	*i* P	P	02 26 43.3	-0.4
ASF	**Jabal al Asfar**	86.81	302	P	P	02 26 45.8	+0.3
	comp=E,7.5nm,0.9s,mb4.6,baz=90,slow=1.2,SNR=12						
TBKS	**Tabuk**	86.98	298	P	P	02 26 46.8	+0.5
ANN	**Anapa**	86.98	315	*e*P	P	02 26 45.7	-0.3
ANN				*e*		02 37 04.1	
ANN				pmax	pmax		
	comp=Z,50nm,0.7s,mb5.5						
KDAK	**Kodiak Island**	87.11	32	*e*P	P	02 26 46.2	0.0
	comp=Z,12nm,0.6s,mb5.0						
RSO	**Redoubt South**	87.25	30	*e*P	P	02 26 46.3	-0.6
IMA	**Indian Mountai**	87.39	24	*e*P	P	02 26 48.1	+0.7
SYO	**Syowa Base**	87.51	201	⇓P	P	02 26 48.6	+0.6
SYO	**Syowa Base**	87.51	201	⇑PcP	PcP	02 26 50.1	0.0
SYO	**Syowa Base**	87.51	201	⇓pP	pP	02 27 18.4	-1.0
SYO	**Syowa Base**	87.51	201	⇑sP	sP	02 27 28.1	-4.5
MOS	**Moscow**	87.53	326	*e*P	P	02 26 48.1	-0.2
MOS				pmax	pmax		
	comp=Z,61nm,1.6s,mb5.4						
JMQS	**Jabal Moqyreh**	87.59	299	P	P	02 26 49.0	-0.2
OBN	**Obninsk**	88.09	325	⇓*i*P	P	02 26 50.0	-1.1
OBN				*i* *PP	pP	02 27 20.0	-2.5
OBN				*i* *SP	sP	02 27 33.2	-2.5
OBN						02 30 17.0	
OBN				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.9						
AYUS	**'Aynunah**	88.11	298	P	P	02 26 51.6	-0.2
JMOS	**Jabal al Moall**	88.27	299	P	P	02 26 53.1	+0.6
ALWS	**Ilw as Safayha**	88.31	299	P	P	02 26 53.4	+0.7
SLKM	**Skilak Lake**	88.51	30	*e*P	P	02 26 51.9	-1.0
PWA	**Palmer West**	88.73	28	*e*P	P	02 26 53.3	-0.6
PMR	**Palmer**	89.08	29	*e*P	P	02 26 54.8	-0.7
	comp=Z,5.1nm,0.6s,mb4.7						
MCK	**McKinley**	89.25	26	*e*P	P	02 26 55.5	-0.8
	comp=Z,13nm,1.0s,mb4.9						
SML	**Sawmill**	89.47	28	*e*P	P	02 26 57.0	-0.4
BRTR	**Keskin Array B**	89.63	310	P	P	02 26 57.5	-1.2
	comp=Z,4.1nm,0.8s,mb4.6,baz=124,slow=4.7,SNR=21						
BRTR				PP	PP	02 30 34.6	+0.4
	comp=Z,1.7nm,0.8s,baz=101,slow=6.3,SNR=7.3						
BRTR	**Keskin Array B**	89.63	310	P	P	02 26 57.5	-1.2
BRTR						02 30 34.7	
BRTR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
QSPA	**South Pole Qui**	89.79	180	*e*P	P	02 27 00.1	+1.6
	comp=Z,4.1nm,0.7s,mb4.7						
THY	**Trims Highway**	90.67	27	*e*P	P	02 27 00.3	-2.7
KEV	**Kevo**	92.23	340	*e*p	P	02 27 10.8	+0.7
	comp=Z,0.7nm,0.3s,mb4.4						
KEV	**Kevo**	92.23	340	*e*P	P	02 27 10.8	+0.7
KEV				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.5						
AKASG	**Malin Array Be**	92.54	321	P	P	02 27 11.2	-0.7
	comp=Z,3.4nm,0.8s,mb4.7,baz=67,slow=4.8,SNR=10.0						
AKASG	**Malin Array Be**	92.54	321	P	P	02 27 11.2	-0.7
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ARCES	**ARCESS Array B**	92.78	340	P	P	02 27 10.8	-1.8
	comp=Z,5.6nm,0.6s,mb5.1,baz=88,slow=6.0,SNR=27						
ARCES				PKKPbc		02 44 23.8	
	comp=Z,5.1nm,1.1s,baz=252,slow=2.9,SNR=7.5						
ARCES				LR	LR	03 16 46.6	
	comp=Z,66nm,18.6s,baz=212,slow=40						
ARCES	**ARCESS Array B**	92.78	340	P	P	02 27 10.8	-1.8
ARCES						02 44 23.8	
ARCES				pmax	pmax		
	comp=Z,6.0nm,0.6s						
ARCES				pmax	pmax		
	comp=Z,5.0nm,1.2s						
ARCES	**ARCESS Array B**	92.78	340	P	P	02 27 10.8	-1.8
ARCES				PKKPbc		02 44 23.8	
ARCES				LR	LR	03 16 46.6	
KAF	**Kangasniemi**	93.29	332	*e*p	P	02 27 12.8	-2.3
	comp=Z,0.6nm,0.4s,mb4.3,baz=86,slow=4.5						
KAF	**Kangasniemi**	93.29	332	*e*P	P	02 27 12.8	-2.3
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.5						
DAWY	**Dawson**	93.45	26	*e*P	P	02 27 16.0	+0.3
FINES	**FINESS Array B**	93.47	331	P	P	02 27 14.7	-1.2
	comp=Z,2.6nm,0.7s,mb4.7,baz=66,slow=5.7,SNR=22						
FINES	**FINESS Array B**	93.47	331	P	P	02 27 14.7	-1.2
FINES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
INK	**Inuvik**	95.09	21	P	P	02 27 23.2	+0.1
	comp=Z,9.1nm,0.7s,mb5.3,baz=292,slow=2.7,SNR=43						
INK	**Inuvik**	95.09	21	P	P	02 27 23.2	+0.1
INK				pmax	pmax		
	comp=Z,9.0nm,0.7s						
INK	**Inuvik**	95.09	21	*e*P	P	02 27 22.5	-0.6
	comp=Z,3.6nm,0.4s,mb5.2						
MLR	**Muntele Rosu**	95.09	316	P	P	02 27 22.3	-1.3
	comp=Z,2.5nm,1.0s,mb4.6,baz=113,slow=19,SNR=3.3						
MLR	**Muntele Rosu**	95.09	316	P	P	02 27 22.3	-1.4
MLR				pmax	pmax		
	comp=Z,3.0nm,1.0s						
DLBC	**Dease Lake**	98.93	31	P	P	02 27 41.9	+1.1
	comp=Z,1.6nm,0.9s,mb4.6,baz=350,slow=1.4,SNR=4.5						
HFS	**Hagfors**	99.67	331	P	P	02 27 42.4	-1.7
	comp=Z,2.7nm,0.4s,mb5.2,baz=108,slow=4.7,SNR=29						
HFS	**Hagfors**	99.67	331	P	P	02 27 42.4	-1.7
HFS				pmax	pmax		
	comp=Z,3.0nm,0.4s						
SNAA	**Sanae**	100.55	195	*e*	PP	02 32 03.3	+4.9
SNAA	**Sanae**	100.55	195	*e*		02 32 28.2	
NB2	**NORSAR Subarra**	100.55	333	P	P	02 27 45.9	-2.2
	comp=Z,1.8nm,0.7s,baz=72,slow=4.3						
NB2	**NORSAR Subarra**	100.55	333	P	P	02 27 45.9	-2.2
	baz=72,slow=4.4						
NOA	**NORSAR Array B**	100.55	333	P	P	02 27 46.4	-1.6
	comp=Z,1.2nm,0.6s,baz=71,slow=4.4,SNR=4.0						
NOA	**NORSAR Array B**	100.55	333	P	P	02 27 46.4	-1.7
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA	**NORSAR Array B**	100.55	333	P	P	02 27 46.4	-1.6
VNA2	**Neumayer--Watz**	102.17	195	*e*		02 32 15.4	
VNA2	**Neumayer--Watz**	102.17	195	*e*		02 32 40.3	
VNA3	**Neumayer Olymp**	102.54	194	*e*		02 32 10.1	
VNA3	**Neumayer Olymp**	102.54	194	*e*		02 32 35.4	
GERES	**GERESS Array B**	102.75	320	P	Pdif	02 27 57.2	-0.9
	comp=Z,0.7nm,0.7s,baz=104,slow=5.5,SNR=5.4						
GERES				PP	PP	02 32 12.2	-3.4
	comp=Z,0.4nm,0.7s,baz=79,slow=6.8,SNR=4.3						
GERES	**GERESS Array B**	102.75	320	P	Pdif	02 27 57.2	-0.9
GERES						02 32 12.2	
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
HLID	**Hailey**	113.12	42	*e*PKP	PKPdf	02 32 38.8	+2.5
MCMT	**McKenzie Canyo**	113.62	40	*e*PKP	PKPdf	02 32 39.7	+2.5
ELK	**Elko**	113.64	45	*e*PKP	PKPdf	02 32 39.5	+2.1
TPNV	**Topopah Spring**	114.24	49	*e*PKP	PKPdf	02 32 41.0	+2.3
HVU	**Hansel Valley**	114.95	43	*e*PKP	PKPdf	02 32 42.1	+2.1
TPAW	**Teton Pass**	115.44	41	*e*PKP	PKPdf	02 32 43.0	+2.2
DUG	**Dugway**	115.56	45	*e*PKP	PKPdf	02 32 42.9	+1.7
SNOW	**Snow King Moun**	115.58	41	*e*PKP	PKPdf	02 32 43.8	+2.6
LOHW	**Long Hollow**	115.61	40	*e*PKP	PKPdf	02 32 43.4	+2.2
LDFC	**Landfair**	115.73	51	*e*PKP	PKPdf	02 32 44.8	+3.1
NEN	**Nelson**	115.75	50	*e*PKP	PKPdf	02 32 44.4	+2.8
HWUT	**Hardware Ranch**	115.85	43	*e*PKP	PKPdf	02 32 43.4	+1.6
ARUT	**Antelope Range**	116.04	47	PKP	PKPdf	02 32 45.5	+3.3
TCUT	**Toone Canyon**	116.16	43	*e*PKP	PKPdf	02 32 43.6	+1.3
JLU	**Jordanelle**	116.35	44	*e*PKP	PKPdf	02 32 45.0	+2.3
DAU	**Daniels Canyon**	116.56	44	*e*PKP	PKPdf	02 32 45.6	+2.5
PDAR	**Pinedale Array**	116.67	41	PKP	PKPdf	02 32 45.4	+2.1
	comp=Z,2.0nm,0.8s,baz=67,slow=1.2,SNR=13						
PDAR				PKKPbc		02 43 10.8	
	comp=Z,0.6nm,0.6s,baz=117,slow=6.6,SNR=3.9						
PDAR				PKKPab		02 43 16.4	
	comp=Z,1.1nm,0.8s,baz=117,slow=6.0,SNR=11						
MSU	**Marysvale**	116.68	46	*e*PKP	PKPdf	02 32 46.1	+2.7
LAO	**LASA Array**	116.81	36	*e*PKP	PKPdf	02 32 45.5	+2.0
SRU	**San Rafael**	117.62	45	*e*PKP	PKPdf	02 32 46.9	+1.8
ESDC	**Sonseca Array**	117.78	316	PKP	PKPdf	02 32 47.3	+1.9
	comp=Z,0.4nm,0.6s,baz=344,slow=2.1,SNR=4.4						
PV10	**Paradox Valley**	118.98	45	*e*PKP	PKPdf	02 32 50.3	+2.5
PV01	**Paradox Valley**	119.42	45	*e*PKP	PKPdf	02 32 51.0	+2.3
RSSD	**Black Hills**	119.48	37	*e*PKP	PKPdf	02 32 49.8	+1.1
TUC	**Tucson**	120.07	52	*e*PKP	PKPdf	02 32 52.6	+2.6
ULM	**Lac du Bonnet**	120.09	28	PKP	PKPdf	02 32 50.8	+1.2
	comp=Z,10nm,0.7s,baz=330,slow=4.0,SNR=9.7						
ISCO	**Idaho Springs**	120.69	42	*e*PKP	PKPdf	02 32 53.1	+2.0
LAZ	**Ladron**	122.06	49	*e*PKP	PKPdf	02 32 56.5	+2.6
LENM	**Lemitar**	122.29	49	*e*PKP	PKPdf	02 32 57.0	+2.7
ANMO	**Albuquerque**	122.33	48	*e*PKP	PKPdf	02 32 56.9	+2.5
LPM	**Los Pinos Moun**	122.48	48	*e*PKP	PKPdf	02 32 56.9	+2.2
BNM	**Barren Site**	122.55	49	*e*PKP	PKPdf	02 32 57.4	+2.6
SCHQ	**Schefferville**	124.89	7	PKP	PKPdf	02 32 59.5	+0.7
	comp=Z,7.6nm,0.7s,baz=6.0,slow=2.5,SNR=14						
GDL2	**Guadalupe Moun**	125.10	50	*e*PKP	PKPdf	02 33 02.0	+2.1
KSU1	**Kansas State U**	126.92	38	*e*PKP	PKPdf	02 33 04.6	+1.4
DBIC	**Dimbokro**	127.63	278	PKP	PKPdf	02 33 06.3	+1.1
	comp=Z,5.4nm,0.7s,baz=115,slow=7.2,SNR=10.0						
DBIC	**Dimbokro**	127.63	278	PKIKP	PKPdf	02 33 06.4	+1.2
DBIC				pmax	pmax		
	comp=Z,5.0nm,0.7s						
WMOK	**Wichita Mounta**	127.96	44	*e*PKP	PKPdf	02 33 06.7	+1.3
JCT	**Junction City**	129.36	49	*e*PKP	PKPdf	02 33 09.9	+1.8
CCM	**Cathedral Cave**	130.82	36	*e*PKP	PKPdf	02 33 10.8	+0.1
NATX	**Nacogdoches**	132.47	45	*e*PKP	PKPdf	02 33 16.2	+2.2
WVT	**Waverly**	134.13	35	*e*PKP	PKPdf	02 33 18.0	+1.0
OXF	**Oxford**	134.28	38	*e*PKP	PKPdf	02 33 18.7	+1.4
JCR	**Jicaral**	150.37	70	*e*P	PKPdf	02 33 55.3	+10
JTS	**JuntasAbangare**	150.39	69	*e*PKPdf	PKPdf	02 33 48.3	+2.5
JTS				*e*PKPbc	PKPdf	02 33 53.5	+7.6
LAJ	**Bijagual**	151.30	70	*e*P	PKPdf	02 33 57.6	+10
LCR2	**La Lucha 2**	151.44	70	*e*P	PKPdf	02 33 57.8	+10
ICR	**Volcan Irazu**	151.53	69	*e*P	PKPdf	02 33 59.5	+12
URSC	**Urasca**	151.63	69	*e*P	PKPdf	02 33 58.5	+11
BUS	**Buena Vista**	151.73	70	*e*P	PKPdf	02 33 58.5	+11
CPUP	**Villa Florida**	153.68	179	PKP	PKPdf	02 33 51.8	+1.6
	comp=Z,6.1nm,1.0s,baz=39,slow=0.5,SNR=13						
CPUP				PKPbc	PKPdf	02 33 59.9	+10
	comp=Z,8.1nm,0.8s,baz=104,slow=1.0,SNR=17						
CPUP				PKPab	PKPab	02 34 12.9	-1.0
	comp=Z,3.7nm,0.7s,baz=191,slow=5.9,SNR=6.7						
CPUP	**Villa Florida**	153.68	179	PKIKP	PKPdf	02 33 51.8	+1.6
CPUP						02 34 12.9	
CPUP				pmax	pmax		
	comp=Z,6.0nm,1.0s						
CPUP				pmax	pmax		
	comp=Z,8.0nm,0.8s						
CPUP				pmax	pmax		
	comp=Z,4.0nm,0.7s						
CPUP	**Villa Florida**	153.68	179	PKP	PKPdf	02 33 51.8	+1.6
CPUP				PKPbc	PKPdf	02 33 59.9	+10
CPUP				PKPab	PKPab	02 34 12.9	-1.0
OTAV	**Otavalo**	158.50	90	*e*PKP	PKPdf	02 34 01.2	+4.2
SJG	**San Juan**	159.99	26	PKPab	PKPab	02 34 40.0	-1.0
	comp=Z,10nm,0.5s,baz=15,slow=6.9,SNR=5.7						
SJG	**San Juan**	159.99	26	PKP2	PKPab	02 34 40.0	-1.0
SJG				pmax	pmax		
	comp=Z,11nm,0.5s						
HUMP	**Col San Antoni**	160.09	26	*e*PKPdf	PKPdf	02 34 00.6	+2.0
LPAZ	**La Paz**	160.30	146	PKP	PKPdf	02 34 02.9	+4.1
	comp=Z,3.6nm,0.8s,baz=23,slow=0.3,SNR=13						
LPAZ				PKPab	PKPab	02 34 41.8	-0.6
	comp=Z,2.6nm,0.6s,baz=206,slow=6.9,SNR=5.6						
LPAZ	**La Paz**	160.30	146	PKIKP	PKPdf	02 34 02.9	+4.1
LPAZ						02 34 41.8	
LPAZ				pmax	pmax		
	comp=Z,4.0nm,0.8s						
LPAZ				pmax	pmax		
	comp=Z,3.0nm,0.6s						
BDFB	**Brasilia**	162.00	209	PKP	PKPdf	02 34 03.2	+2.7
	comp=Z,2.3nm,0.6s,baz=180,slow=8.2,SNR=4.1						
BDFB	**Brasilia**	162.00	209	PKIKP	PKPdf	02 34 03.2	+2.7
BDFB				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ROSC	**El Rosal**	162.03	75	PKP	PKPdf	02 34 04.7	+4.0
	comp=Z,14nm,0.8s,baz=169,slow=22,SNR=9.1						
SDV	**Santo Domingo**	163.84	57	*e*PKP	PKPdf	02 34 04.1	+1.7
SAML	**Samuel**	169.04	146	*e*PKP	PKPdf	02 34 08.3	+1.9

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*STR **25** 02:18:37.4±0.4, 42.85N×1.53W, h5^{km}±1^{km}, Ml2.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **25** 02:18:38.6±0.3, 42.83N×1.47W, h7^{km}, Md2.8/1, Ml2.9/14, Error ellipse: s-maj=5.7km s-min=2.8km az=30.0*
*NEIC **25** 02:18:38.6, 42.83N×1.47W, h7^{km}, ML2.9(LDG), ML2.7(STR), MN2.5(MDD), After LDG.*
*MDD **25** 02:18:39.4±0.3, 42.89N×1.42W, h10^{km}±1^{km}, mbLg2.4/15, Error ellipse: s-maj=2.6km s-min=2.1km az=30.0, PRXIMO AftershockPLICA*
ISC 25 02:18:36.8±0.3**, 42.88N**±0.02×**1.50W**±0.02**, h14**^{km}±2^{km}**, n68,** σ**1**^{s}**28**/124**, 1C, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	0.31	41	*e*Pg	Pg	02 18 44.7	+1.2
SJPF				*e*Sg	Sg	02 18 47.6	-0.4
	442nm,0.3s						
EALK	**Alkurruntz**	0.34	360	⇑Pg	Pg	02 18 45.7	+1.7
	38nm,0.3s,SNR=18						
EALK				Lg		02 18 51.5	
	136nm,0.2s,SNR=5.0						
LARF	**Larrau**	0.41	67	Pg	Pg	02 18 45.8	+0.4
LARF				Sg	Sg	02 18 51.8	+0.6
LARF	**Larrau**	0.41	67	P	Pb	02 18 45.9	+0.6
LARF				S	Sb	02 18 52.0	+0.9
OSSF	**Osses**	0.42	25	Pg	Pg	02 18 46.6	+1.1
OSSF				Sg	Sg	02 18 52.5	+1.2
OSSF	**Osses**	0.42	25	P	Pb	02 18 46.6	+1.3
OSSF				S	Sb	02 18 52.1	+0.9
ORDF	**Ordiarp**	0.53	51	Pg	Pg	02 18 48.6	+0.8
ORDF				Sg	Sg	02 18 56.2	+1.1
ORDF	**Ordiarp**	0.53	51	P	Pb	02 18 48.7	+1.3
ORDF				S	Sb	02 18 56.3	+1.7
ATE	**Arette**	0.62	70	P	Pb	02 18 49.7	+0.8
ATE				S	Sb	02 18 58.3	+1.0
FDAF	**Les Forges d'A**	0.69	95	Pg	Pg	02 18 50.4	-0.5
FDAF				Sg	Sg	02 19 01.4	+1.2
FDAF	**Les Forges d'A**	0.69	95	P	Pb	02 18 50.5	+0.4
FDAF				S	Sb	02 19 00.5	+1.3
ETSF	**Etsaut**	0.69	88	*e*Pg	Pg	02 18 50.4	-0.5
ETSF				*e*Sg	Sg	02 18 59.7	-0.6
	48nm,0.3s						
REYF	**Montagne du Re**	0.84	76	Pg	Pg	02 18 53.5	-0.2
REYF				Sg	Sg	02 19 05.1	+0.1
REYF	**Montagne du Re**	0.84	76	P	Pb	02 18 53.6	+1.0
REYF				S	Sb	02 19 04.7	+1.2
VIEF	**Viey**	1.12	89	Pn	Pn	02 18 58.1	0.0
VIEF				Sg	Sg	02 19 14.4	-0.1
VIEF	**Viey**	1.12	89	P	Pb	02 18 58.2	+0.7
VIEF				S	Sb	02 19 13.0	+1.3
LABF	**Labassere**	1.17	81	Pg	Pg	02 18 59.5	-0.8
LABF	**Labassere**	1.17	81	P	Pb	02 18 59.5	+1.2
LABF				S	Sb	02 19 14.4	+1.3
RESF	**Ens**	1.36	92	Pn	Pn	02 19 02.3	+0.9
RESF				Sg	Sg	02 19 23.3	+1.1
RESF	**Ens**	1.36	92	P	Pn	02 19 02.4	+1.0
RESF				S	Sb	02 19 23.0	+4.4
EPF	**Esparros**	1.36	83	*e*Pn	Pn	02 19 02.2	+0.7
EPF				*e*Pg	Pg	02 19 03.9	-0.2
EPF				*e*Sn	Sn	02 19 19.4	+0.1
EPF				*e*Sg	Sg	02 19 21.9	-0.5
	30nm,0.2s						
ESAC	**San Caprasio**	1.39	146	Pg	Pg	02 19 03.5	-1.2
	30nm,0.2s,SNR=20						
ESAC				Lg		02 19 21.8	
	212nm,0.4s,SNR=5.0						
MELF	**Melles**	1.66	89	Pg	Pg	02 19 09.2	-0.9
MELF				Sg	Sg	02 19 30.4	-2.0
MELF	**Melles**	1.66	89	P	Pn	02 19 09.4	+3.6
MELF				S	Sn	02 19 30.4	+3.4
SALF	**Salau**	1.98	93	S	Sn	02 19 40.0	+4.8
ETOR	**Torete**	2.10	191	Pn	Pn	02 19 14.1	+2.0
	10nm,0.4s,SNR=17						
ETOR				Pg	Pg	02 19 17.7	-1.1
	7.7nm,0.2s,SNR=7.9						
ETOR				Sn	Sn	02 19 40.7	+2.7
	21nm,0.3s,SNR=7.9						
ETOR				Lg		02 19 45.1	
	37nm,0.4s,SNR=5.0						
ETOR	**Torete**	2.10	191	Pn	Pn	02 19 14.1	+2.0
ETOR				Pg	Pg	02 19 17.7	-1.1
ETOR				Sn	Sn	02 19 42.0	+3.9
ETOR				Lg		02 19 45.5	
EMIR	**Miracle**	2.44	112	Pn	Pn	02 19 17.3	+0.4
	SNR=4.0						
EMIR				Pg	Pg	02 19 22.6	-3.1
	2.9nm,0.1s,SNR=5.0						
EMIR				Lg		02 19 53.7	
	22nm,0.8s,SNR=5.0						
EPOB	**Poblet**	2.45	128	Pn	Pn	02 19 17.2	+0.1
	0.9nm,0.1s,SNR=7.9						
EPOB				Pg	Pg	02 19 24.8	-1.1
	1.5nm,0.2s,SNR=6.8						
EPOB				Sn	Sn	02 19 45.4	-1.7
	SNR=4.0						
EPOB				Lg		02 19 52.5	
	3.5nm,0.2s,SNR=5.0						
EBR	**Ebro Roquetas**	2.54	143	*e*SG	Sg	02 19 59.8	-1.7
LFF	**La Frestale**	2.62	37	*e*Pn	Pn	02 19 21.1	+1.6
LFF				*e*Pg	Pg	02 19 27.3	-1.9
LFF				*e*Sn	Sn	02 19 51.5	+0.2
	6.0nm,0.2s						
EMOS	**Mosqueruela**	2.63	163	Pn	Pn	02 19 21.8	+2.2
	SNR=4.0						
EMOS				Pg	Pg	02 19 27.9	-1.5
	6.1nm,0.5s,SNR=9.3						
EMOS				Lg		02 20 03.1	
	8.2nm,0.3s,SNR=4.0						
EARI	**Arriondas**	2.75	280	Pn	Pn	02 19 24.5	+3.2
	SNR=7.9						
EARI				Pg	Pg	02 19 32.2	+0.4
	15nm,1.1s,SNR=8.7						
EARI				Sn	Sn	02 19 57.8	+3.3
	2.5nm,0.2s,SNR=7.9						
EARI				Lg		02 20 06.6	
	0.5nm,0.2s,SNR=5.0						
MTLF	**Montolieu**	2.76	79	*e*Pn	Pn	02 19 21.9	+0.4
MTLF				*e*Sn	Sn	02 19 52.6	-2.4
	24nm,0.6s						
RJF	**Les Rejaudoux**	3.26	41	*e*Pn	Pn	02 19 28.9	+0.3
RJF				*e*Sn	Sn	02 20 04.7	-2.7
	9.0nm,0.3s						
EJON	**La Jonquera**	3.27	96	Pg	Pg	02 19 37.5	-4.6
	SNR=5.0						
EJON				Lg		02 20 20.7	
	3.0nm,0.2s,SNR=4.5						
CAF	**Calviac**	3.29	50	*e*Pn	Pn	02 19 29.4	+0.4
CAF				*e*Sn	Sn	02 20 06.5	-1.8
	6.2nm,0.3s						
ESDC	**Sonseca Array**	3.70	211	Pn	Pn	02 19 34.9	+0.1
	0.8nm,0.2s,baz=39,slow=14,SNR=4.2						
ESDC				Pg	Pg	02 19 47.1	-3.7
	1.4nm,0.3s,baz=33,slow=18,SNR=6.4						
ESDC				Lg		02 20 34.9	
	3.0nm,0.5s,baz=37,slow=30,SNR=5.9						
ESDC	**Sonseca Array**	3.70	211	Pn	Pn	02 19 34.9	+0.1
ESDC				Pg	Pg	02 19 47.1	-3.7
ESDC				Lg		02 20 34.9	
MFF	**Saint Martin d**	3.85	14	*e*Pn	Pn	02 19 36.0	-0.9
MFF				*e*Sn	Sn	02 20 20.4	-1.9
	2.8nm,0.2s						
ECAL	**Calabor**	3.99	258	Pn	Pn	02 19 40.0	+1.0
	0.7nm,0.1s,SNR=7.9						
ECAL				Pg	Pg	02 19 55.0	-1.4
	0.7nm,0.2s,SNR=8.1						
ECAL				Sn	Sn	02 20 28.9	+3.0
	1.4nm,0.2s,SNR=5.0						
ECAL				Lg		02 20 44.6	
	6.8nm,0.3s,SNR=5.0						
LASF	**Ste Croix**	4.08	71	*e*Pn	Pn	02 19 39.9	-0.4
LASF				*e*Sn	Sn	02 20 24.3	-4.0
	7.6nm,0.4s						
EPON	**Pontenova**	4.16	278	Pn	Pn	02 19 43.8	+2.4
	0.9nm,0.2s,SNR=7.9						
EPON				Sn	Sn	02 20 29.9	-0.4
	SNR=4.0						
EPON				Lg		02 20 56.8	
	SNR=4.0						
EPON	**Pontenova**	4.16	278	Pn	Pn	02 19 43.8	+2.4
ERUA	**La Rua**	4.19	265	Pn	Pn	02 19 43.2	+1.4
	2.0nm,0.2s,SNR=7.9						
ERUA				Sn	Sn	02 20 31.3	+0.3
	SNR=7.9						
ERUA				Lg		02 20 51.7	
	SNR=7.9						
ETOB	**Tobarra**	4.23	180	Pn	Pn	02 19 43.7	+1.4
	SNR=7.9						
ETOB				Pg	Pg	02 19 58.0	-3.3
	SNR=7.9						
ETOB	**Tobarra**	4.23	180	Pn	Pn	02 19 43.7	+1.4
ETOB				Pg	Pg	02 19 58.0	-3.3
EBEN	**Beniarda**	4.28	166	Pg	Pg	02 19 56.0	-6.3
	SNR=4.0						
EVIA	**Vianos**	4.30	190	Pn	Pn	02 19 44.6	+1.2
	2.9nm,0.2s,SNR=7.9						
EVIA				Pg	Pg	02 19 58.6	-4.2
	0.6nm,0.1s,SNR=6.5						
EVIA				Lg		02 20 52.9	
	3.6nm,0.3s,SNR=5.0						
TCF	**Toulx Ste Croi**	4.32	37	*e*Pn	Pn	02 19 43.5	-0.1
TCF				*e*Sn	Sn	02 20 31.7	-2.6
	4.4nm,0.3s						
EIBI	**Ibiza**	4.41	150	Pn	Pn	02 19 44.6	-0.4
	SNR=4.0						
BGF	**Bois d'Agland**	4.81	39	*e*Pn	Pn	02 19 49.0	-1.6
BGF				*e*Sn	Sn	02 20 43.0	-3.7
	9.7nm,0.4s						
VIVF	**Saint-Julien-l**	4.88	64	*e*Pn	Pn	02 19 51.0	-0.6
ELOB	**Lobios**	4.96	260	Lg		02 21 15.5	
	1.2nm,0.2s,SNR=5.0						
QUIF	**Quistinic**	5.17	348	*e*Pn	Pn	02 19 55.3	-0.4
QUIF				*e*Sn	Sn	02 20 52.1	-3.7
	2.1nm,0.3s						
EQES	**Quesada**	5.21	194	Pn	Pn	02 19 56.5	+0.2
	SNR=7.9						
EQES				Pg	Pg	02 20 15.2	-5.7
	0.6nm,0.2s,SNR=7.8						
EQES				Lg		02 21 23.9	
	2.0nm,0.3s,SNR=5.0						
AVF	**Avril sur Loir**	5.22	40	*e*Pn	Pn	02 19 56.6	+0.3
AVF				*e*Sn	Sn	02 20 51.3	-5.7
	4.1nm,0.7s						
EADA	**Adamuz**	5.26	207	Pn	Pn	02 19 56.6	-0.3
	0.7nm,0.1s,SNR=7.7						
EADA				Sn	Sn	02 20 55.1	-2.9
	0.6nm,0.2s,SNR=7.9						
EADA				Lg		02 21 25.4	
	2.2nm,0.3s,SNR=5.0						
HYF	**Humbligny**	5.28	32	*e*Pn	Pn	02 19 54.8	-2.4
SMF	**Signal de Mont**	5.35	43	*e*Pn	Pn	02 19 56.4	-1.9
SGMF	**Saint Gilles**	5.43	353	*e*Pn	Pn	02 19 58.6	-0.7
SGMF				*e*Pg	Pg	02 20 19.1	-6.1
SSF	**Saint Saulge**	5.49	39	*e*Pn	Pn	02 19 58.2	-1.9
SSF				*e*Sn	Sn	02 20 59.1	-4.6
	1.5nm,0.3s						
GRR	**Gorron**	5.53	4	*e*Pn	Pn	02 19 59.9	-0.8

ROSF	Rostrenen	5.60	348	ePn	Pn	02 20 01.2	-0.5
LDF	La Druitiere	5.80	9	eSn	Sn	02 21 07.9	-3.6
	2.1nm,0.3s						
LOR	Lormes	5.80	39	ePn	Pn	02 20 03.6	-1.0
EBAD	Badajoz	5.87	227	Pn	Pn	02 20 04.6	-0.9
	SNR=4.0						
FLN	La Foliniere	5.93	7	ePn	Pn	02 20 04.8	-1.6

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*NEIC **25** 02:24:05.8, 38.80N×21.19E, h11^{km}, MD3.4(ATH), After ATH.*
*ATH **25** 02:24:05.8, 38.80N×21.19E, h11^{km}±3^{km}, MD3.4/8*
*THE **25** 02:24:06.1, 38.81N×21.27E, h2^{km}, ML3.2*
ISC 25 02:24:05.6±0.5**, 38.77N**±0.03×**21.27E**±0.03**, h11**^{km}**, n22, σ1$\overset{s}{.}$00**/32**, Greece**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EVR	Evrytania	0.45	71	ePG	Pg	02 24 15.3	+0.6
EVR				eSB	Sb	02 24 22.9	+1.5
LKD	Levkas	0.48	263	ePg	Pg	02 24 15.2	-0.3
LKD				eSg	Sg	02 24 22.8	+0.8
RLS	Riolos of Patr	0.73	167	ePB	Pb	02 24 21.1	+1.3
VLS	Valsamata	0.80	222	ePB	Pb	02 24 20.8	-0.1
AGG	Agios Georgios	0.87	73	ePg	Pg	02 24 22.8	-0.2
AGG				eSg	Sg	02 24 34.5	-0.2
JAN	Janina	0.94	340	ePG	Pg	02 24 22.3	-2.2
IGT	Igoumenitsa	1.05	317	ePg	Pg	02 24 24.5	-2.1
IGT				eSg	Sg	02 24 40.2	-0.5
LKR	Lokris	1.36	95	ePG	Pg	02 24 31.8	-1.0
LSK	Leskovik	1.47	340	ePn	Pn	02 24 32.1	-0.1
LSK				i Sn	Sn	02 24 52.8	+1.3
KEK	Kerkira	1.48	310	ePB	Pb	02 24 33.2	+0.6
SRN	Sarande	1.48	319	i Pn	Pn	02 24 32.5	+0.2
SRN				i Sn	Sn	02 24 53.8	+2.1
XOR	Xorichti	1.61	68	ePb	Pb	02 24 35.4	+0.4
XOR				eSb	Sb	02 24 55.5	+0.4
NEO	Neokhori	1.62	70	ePG	Pg	02 24 36.5	-1.4
LIT	Litokhoron	1.63	35	ePb	Pb	02 24 34.5	-0.7
LIT				eSb	Sb	02 24 56.7	+0.9
ITM	Ithomi	1.67	162	ePG	Pg	02 24 38.5	-0.5
FNA	Florina	2.01	2	ePb	Pb	02 24 40.6	-1.1
FNA				eSb	Sb	02 25 06.3	-0.4
PTL	Penteli	2.17	109	ePB	Pb	02 24 44.0	-0.4
GRG	Griva	2.35	21	ePn	Pn	02 24 44.1	-0.7
GRG				eSn	Sn	02 25 15.1	+1.2
VLI	Veliai	2.44	147	ePN	Pn	02 24 49.5	+3.5
SOH	Sokhos	2.60	37	ePn	Pn	02 24 47.7	-0.7
SRS	Serrai	2.95	37	ePn	Pn	02 24 53.6	+0.4
SKO	Skopje	3.20	2	eP	Sg	02 26 00.1	+7.9

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*LDG **25** 02:26:13.0±0.7, 42.86N×1.47W, h2^{km}, Md2.2/2, Ml1.9/1, Error ellipse: s-maj=13.4km s-min=8.4km az=47.0*
*MDD **25** 02:26:14.4±0.8, 42.90N×1.40W, h8^{km}±8^{km}, mbLg0.9/3, Error ellipse: s-maj=7.7km s-min=2.8km az=34.0, PRXIMO AftershockPLICA*
ISC 25 02:26:13.6±2.6**, 42.9N**±0.1×**1.5W**±0.2**, h17**^{km}±11^{km}**, n7, σ0$\overset{s}{.}$93**/11**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJPF	Ste Jean	0.24	44	ePg	Pb	02 26 19.3	+0.2
SJPF				eSg	Sb	02 26 22.2	-0.7
	29nm,0.3s						
EALK	Alkurruntz	0.28	352	Pg	Pb	02 26 20.4	+0.6
	19nm,1.1s,SNR=14						
EALK				Lg		02 26 25.2	
	6.6nm,0.2s,SNR=17						
ETSF	Etsaut	0.66	93	ePg	Pb	02 26 25.3	-0.9
ETSF				eSg	Sb	02 26 34.3	-0.5
	3.1nm,0.3s						
EPF	Esparros	1.32	85	ePn	Pn	02 26 36.7	-0.6
EPF				ePg	Pn	02 26 38.7	+1.4
EPF				eSg	Sb	02 26 56.5	+2.6
	1.9nm,0.2s						
LFF	La Frestale	2.55	38	ePn	Pn	02 26 55.6	+0.7
RJF	Les Rejaudoux	3.19	41	ePn	Pn	02 27 03.2	-0.8
CAF	Calviac	3.22	51	ePn	Pn	02 27 03.9	-0.6

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*IDC **25** 02:32:43.0±0.9, 4.43S×138.28E, mb4.2/5, mb1 4.4/9, mb1mx4.3/12, ML4.4/4, Error ellipse: s-maj=39.9km s-min=20.1km az=74.0*
*NEIC **25** 02:32:44.9±0.5, 4.47S×138.42E, h15^{km}, mb4.2/6, Error ellipse: s-maj=12.4km s-min=10.0km az=74.0*
ISC 25 02:32:47.8±2.1**, 4.68S**±0.06×**138.3E**±0.1**, h46**^{km}±19^{km}**, n24, σ1$\overset{s}{.}$40**/27**, mb4.2**/6**, Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	Kakadu	9.85	216	eP	P	02 35 13.0	+3.2
	42nm,0.4s						
KAKA				eS	S	02 37 01.8	+1.7
PMG	Port Moresby	10.00	119	P	P	02 35 06.1	-5.6
WRAB	Tennant Creek	15.64	194	eP	P	02 36 25.9	-0.8
	25nm,0.7s						
WB2	Warramunga Arr	15.64	194	eP	P	02 36 25.1	-1.7
WB2				e		02 36 31.7	
WB2				eS	S	02 39 15.5	-3.3
WRA	Warramunga Arr	15.65	194	Pn	P	02 36 24.5	-2.4
	0.8nm,0.3s,baz=17,slow=13,SNR=29						
WRA				Sn	S	02 39 15.8	-3.0
	1.6nm,0.3s,baz=11,slow=22,SNR=5.3						
WRA				Lg		02 41 06.7	
	1.0nm,0.3s,baz=6.6,slow=30,SNR=6.9						
CTA	Charters Tower	17.18	154	eP	P	02 36 49.5	+3.3
	6.0nm,0.6s						
CTA				eS	Sx	02 40 20.8	
CTA	Charters Tower	17.18	154	Pn	P	02 36 46.9	+0.7
	1.2nm,0.3s,baz=328,slow=11,SNR=14						
CTA				Lg		02 41 55.7	
	0.3nm,0.3s,baz=259,slow=6.3,SNR=6.5						
CTAO	Charters Tower	17.18	154	eP	P	02 36 47.7	+1.5
	6.7nm,0.6s						
FITZ	Fitzroy Crossi	18.18	222	eP	P	02 36 58.8	+0.2
	4.1nm,0.3s						
FITZ				eS	S	02 40 11.8	-4.9
FITZ	Fitzroy Crossi	18.18	222	Pn	P	02 36 58.8	+0.1
	1.0nm,0.3s,baz=14,slow=4.7,SNR=24						
FITZ				Sn	S	02 40 11.5	-5.2
	2.6nm,0.3s,baz=179,slow=13,SNR=9.3						
ASAR	Alice Springs	19.34	192	Pn	P	02 37 13.7	+1.4
	3.5nm,0.3s,baz=15,slow=11,SNR=170						
ASAR				Sn	S	02 40 43.8	+1.1
	0.4nm,0.3s,baz=5.9,slow=28,SNR=3.8						
ASAR				Lg		02 43 03.6	
	baz=12,slow=30,SNR=3.2						
ASPA	Alice Springs	19.34	192	eP	P	02 37 13.6	+1.4
ASPA				eS	S	02 40 41.8	-0.9
STKA	Stephens Creek	27.24	174	eP	P	02 38 29.6	-0.1
	3.0nm,0.6s,mb4.0						
STKA	Stephens Creek	27.24	174	P	P	02 38 32.6	+2.8
	0.8nm,0.3s,mb3.7,baz=358,slow=12,SNR=7.5						
KLBR	Kellerberrin	32.98	213	eP	P	02 39 20.9	+0.3
	17nm,1.1s,mb4.9						
RPZ	Rata Peaks	48.45	148	P	P	02 41 27.9	+0.3
	15nm,0.8s,mb5.1,baz=57,slow=4.0,SNR=5.6						
MKAR	Makanchi Array	71.07	323	P	P	02 44 02.1	-1.1
	0.7nm,0.8s,mb3.6,baz=100,slow=7.4,SNR=3.6						
MAW	Mawson	80.15	202	P	P	02 44 55.6	+1.2
	1.6nm,0.7s,mb4.0,baz=68,slow=13,SNR=8.1						
BVAR	Borovoye Array	80.67	325	P	P	02 44 56.9	-0.5
	1.3nm,0.8s,mb3.9,baz=104,slow=6.1,SNR=5.3						
BRVK	Borovoye	80.74	325	P	P	02 44 57.3	-0.5
CPUP	Villa Florida	145.67	155	PKPbc	PKPbc	02 52 24.5	+1.8
	0.6nm,0.5s,baz=260,slow=14,SNR=2.2						
LPAZ	La Paz	146.60	129	PKPbc	PKPbc	02 52 27.7	+2.6
	2.3nm,0.9s,baz=218,slow=2.3,SNR=6.4						
ROSC	El Rosal	147.52	88	PKPbc	PKPdf	02 52 29.9	+4.5
	4.1nm,0.5s,baz=159,slow=17,SNR=4.3						
SDV	Santo Domingo	151.01	80	ePKPbc	PKPdf	02 52 37.9	+7.1

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*NEIC **25** 02:42:38.0±1.1, 13.84N×145.49E, h56^{km}±9^{km}, mb4.3/1, Error ellipse: s-maj=28.9km s-min=8.9km az=106.0*
*IDC **25** 02:42:53.8±21.0, 13.75N×145.53E, h211^{km}±196^{km}, mb3.3/7, mb1 3.5/7, mb1mx3.4/18, Error ellipse: s-maj=120.0km s-min=24.5km az=78.0*
ISC 25 02:42:37.2±1.3**, 13.85N**±0.09×**145.5E**±0.2**, h64**^{km}±9^{km}**, n12, σ0$\overset{s}{.}$65**/13**, mb4.0**/8**, 1C, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	Guam	0.63	245	eP	P	02 42 51.1	+0.2
GUMO				eS	S	02 43 00.9	-0.2
ANA2	Anatahan	2.48	6	⇑eP	P	02 43 16.6	+0.3
ANA2				e		02 43 17.3	
ANAT	Anatahan	2.49	4	eP	P	02 43 16.4	+0.1
ANAT				e		02 43 16.9	
SARN	Sarigan	2.85	6	eP	P	02 43 20.9	-0.4
WRAB	Tennant Creek	35.31	198	eP	P	02 49 27.8	-0.4
	2.8nm,0.7s,mb4.3						
WRA	Warramunga Arr	35.32	198	P	P	02 49 27.9	-0.5
	0.7nm,0.5s,mb3.9,baz=22,slow=9.7,SNR=12						
FITZ	Fitzroy Crossi	37.29	212	P	P	02 49 45.3	+0.4
	3.0nm,1.0s,mb4.1,baz=27,slow=11,SNR=4.6						
ASAR	Alice Springs	38.96	197	P	P	02 49 59.6	+0.8
	0.2nm,0.4s,mb3.2,baz=15,slow=4.9,SNR=3.3						
SONM	Songino Array	46.85	324	P	P	02 51 03.8	+1.3
	1.2nm,0.9s,mb3.8,baz=135,slow=6.4,SNR=5.7						
MKAR	Makanchi Array	61.70	316	P	P	02 52 50.1	-0.9
	0.4nm,0.4s,mb4.0,baz=94,slow=8.6,SNR=9.5						
BVAR	Borovoye Array	70.08	322	P	P	02 53 44.7	+0.5
	0.5nm,0.3s,mb3.9,baz=102,slow=7.5,SNR=4.0						
FINES	FINESS Array B	91.16	335	P	P	02 55 34.8	-1.2
	2.1nm,0.8s,mb4.5,baz=63,slow=4.3,SNR=6.5						

MAN 25 03:31:06.0, 16.56N×120.25E, h69^{km}**, mb4.3, ML3.1, MS2.9, 1D, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BCPH	Baguio City Da	0.36	119	⇓iP	P	03 31 19.4	+1.8
BCPH				i S	S	03 31 30.3	+4.1
BOLP	Bolinao	0.37	241	eP	P	03 31 19.9	+2.3
SCZP	Santa Cruz	0.84	203	eP	P	03 31 23.9	+1.2
ABRA	Dolores	1.17	22	eP	P	03 31 28.1	+1.2
BALP	Baler	1.51	122	eP	P	03 31 32.3	+0.6
APYP	Conner	1.61	36	eP	P	03 31 33.6	+0.7
APYP				eS	S	03 31 53.1	+0.4
LUBP	Lubang	2.81	180	eP	P	03 31 49.3	-0.4

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*INMG **25** 03:39:15.3±1.4, 36.33N×8.33W, h17^{km}±26^{km}, ML1.8, Error ellipse: s-maj=22.7km s-min=6.9km az=33.0*
MDD 25 03:39:16.1±1.6**, 36.39N×8.22W, h18**^{km}±26^{km}**, mbLg2.3**/8**, Error ellipse: s-maj=28.1km s-min=7.4km az=29.0, PRXIMO, West of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PTEO	Sao Teotonio	1.22	341	eP	Pb	03 39 36.5	-1.8
PTEO				eS	Sb	03 39 52.4	-1.2
	4.9nm,0.1s						
PTEO	Sao Teotonio	1.22	341	P	Pb	03 39 36.5	-1.8
PTEO				S	Sb	03 39 52.4	-1.2
	2.5nm,0.1s						
PALC	Alcoutim	1.23	29	eP	Pb	03 39 37.5	-0.9
PALC				eS	Sb	03 39 53.9	+0.1
	6.5nm,0.1s						
PALC	Alcoutim	1.23	29	P	Pb	03 39 37.5	-0.9
PALC				S	Sb	03 39 53.9	+0.1
	3.2nm,0.1s						
ERIP	Rio Piedras	1.25	38	P	Pb	03 39 37.7	-1.0
	1.0nm,0.0s,SNR=7.9						
ERIP				S	Sb	03 39 54.2	-0.3
	34nm,0.1s,SNR=7.9						
PBEJ	Beja	1.66	10	ePn	Pn	03 39 42.9	-1.8
PBEJ				eSn	Sn	03 40 02.9	-2.7
	4.6nm,0.1s						
PBEJ	Beja	1.66	10	Pn	Pn	03 39 42.9	-1.8
PBEJ				Sn	Sn	03 40 02.9	-2.7
	2.3nm,0.1s						
EMIN	Mina Concepcio	1.85	42	P	Pn	03 39 45.6	-1.8
	0.3nm,0.1s,SNR=7.0						
EMIN				S	Sn	03 40 07.4	-3.1
	5.7nm,0.1s,SNR=14						
ESPR	Espera	1.96	75	P	Pn	03 39 47.2	-1.8
	0.3nm,0.1s,SNR=6.8						
ESPR				S	Sn	03 40 10.4	-2.9
	8.1nm,0.3s,SNR=7.9						
MOE	Montemor	2.13	357	ePn	Pn	03 39 49.8	-1.6
MOE				eSn	Sn	03 40 15.0	-2.7
EBAD	Badajoz	2.55	22	P	Pn	03 39 55.1	-2.3
	0.3nm,0.1s,SNR=12						
EBAD				S	Sn	03 40 25.6	-2.7
	7.4nm,0.1s,SNR=6.7						
PLOU	Loures	2.60	344	ePn	Pn	03 39 57.2	-0.9
PLOU				eSn	Sn	03 40 27.7	-1.8
	7.2nm,0.6s						
PLOU	Loures	2.60	344	Pn	Pn	03 39 57.2	-0.9
PLOU				Sn	Sn	03 40 27.7	-1.8
	3.6nm,0.6s						
PTOM	Tomar	3.22	357	ePn	Pn	03 40 04.8	-2.2
PTOM				eSn	Sn	03 40 40.6	-4.8
	4.3nm,0.7s						
PTOM	Tomar	3.22	357	Pn	Pn	03 40 04.8	-2.2
PTOM				Sn	Sn	03 40 40.6	-4.8
	2.2nm,0.7s						
ELOJ	Sierra Loja	3.35	76	P	Pn	03 40 08.3	-0.6
	0.5nm,0.2s,SNR=4.0						
ELOJ				S	Sn	03 40 43.4	-5.3
	1.0nm,0.2s,SNR=4.0						
ELUQ	Luque	3.37	69	P	Pn	03 40 07.6	-1.5
	0.4nm,0.2s,SNR=4.0						
ELUQ				S	Sn	03 40 43.9	-5.3
	0.6nm,0.2s,SNR=4.0						
EADA	Adamuz	3.40	58	P	Pn	03 40 07.1	-2.5
	0.5nm,0.1s,SNR=11						
EADA				S	Sn	03 40 44.1	-5.8
	6.4nm,0.1s,SNR=5.0						
PCBR	Castelo Branco	3.49	9	ePn	Pn	03 40 08.1	-2.8
PCBR				eSn	Sn	03 40 47.9	-4.3
	2.1nm,0.3s						
PCBR	Castelo Branco	3.49	9	Pn	Pn	03 40 08.1	-2.8
PCBR				Sn	Sn	03 40 47.9	-4.3
	1.1nm,0.3s						
EQES	Quesada	4.35	70	P	Pn	03 40 20.7	-2.3
	SNR=7.9						
EQES				S	Sn	03 41 08.7	-5.2
	SNR=7.9						

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*ATH **25** 03:52:43.3, 39.12N×28.29E, h11^{km}, MD3.5/3*
*ISK **25** 03:52:46.1, 39.15N×28.15E, h5^{km}, MD3.2*
ISC 25 03:52:47.6±0.3**, 39.14N**±0.02×**28.12E**±0.04**, h10**^{km}**, n39, σ1$\overset{s}{.}$09**/42**, 1C, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKS	Akhisar	0.35	222	i PG	Pg	03 52 54.5	-0.4
BALB	Balikesir	0.53	340	PG	Pg	03 52 58.0	-0.4
BALB				SG	Sg	03 53 06.7	+1.1
DST	Dursunbey	0.61	40	PG	Pg	03 52 57.8	-2.1
BTOK	Tokmak	0.62	354	eP	Pb	03 53 00.1	0.0
MANT	Manisa	0.73	152	⇑iP	Pb	03 53 00.8	-1.3
KDAG	Bornova	0.99	222	i P	Pb	03 53 06.1	-0.4
IZM	Izmir	1.00	222	PG	Pg	03 53 06.1	-1.6
ORLT	Orhaneli	1.08	33	i PG	Pg	03 53 07.0	-2.4
ORLT				i SG	Sg	03 53 23.9	0.0
AYVA	Ayvalik	1.12	279	eP	Pb	03 53 10.8	+2.1
KCT	Karacabey	1.14	9	PN	Pn	03 53 07.8	-1.8
EDC	Edincik	1.22	351	PN	Pn	03 53 10.4	-0.4
BNT	Bandirma	1.22	353	PN	Pn	03 53 11.6	+0.8
ULDT	Uludag	1.27	38	i P	Pb	03 53 09.7	-1.6
KHL	Karahalli	1.37	126	PN	Pn	03 53 13.7	+0.8
PRK	Paraskevi	1.44	275	ePB	Pb	03 53 12.9	-1.2
PRK				eSB	Sb	03 53 34.4	+2.0
AYDN	Tasoluk	1.49	187	i P	Pn	03 53 15.1	+0.5
ALT	Altintas	1.55	93	PN	Pn	03 53 15.5	0.0
DENT	Denizli	1.56	152	PN	Pn	03 53 16.4	+0.8
LPK	Lapseki	1.61	320	PN	Pn	03 53 16.4	0.0
DNZL	Cakiroluk	1.62	153	i P	Pn	03 53 17.1	+0.6
YLV	Yalova	1.72	34	PN	Pn	03 53 17.3	-0.6
SMG	Samos	1.75	216	ePN	Pn	03 53 16.7	-1.6
MFT	Murefte	1.76	339	PN	Pn	03 53 19.1	+0.6
MLSB	Milas	1.86	188	PN	Pn	03 53 20.7	+0.7
BADT	Buyukada	1.87	24	ePN	Pn	03 53 19.9	-0.2
YER	Yerkesik	2.01	176	ePN	Pn	03 53 22.8	+0.8
CTT	Catalca	2.02	7	ePN	Pn	03 53 22.3	+0.1
GPA	Golpazari	2.04	55	ePN	Pn	03 53 23.3	+0.8
ISK	Istanbul-Kandi	2.05	20	ePN	Pn	03 53 22.8	+0.1
HRT	Hereke	2.06	35	ePN	Pn	03 53 22.8	+0.1
BDRM	Kayabasi	2.14	195	i P	Pn	03 53 23.5	-0.4
ESKT	Eskisehir	2.15	79	ePN	Pn	03 53 24.9	+0.8
ESKT	Eskisehir	2.15	79	eP	Pn	03 53 24.6	+0.5
HENT	Hendek	2.72	51	eP	Pn	03 53 34.6	+2.4
MDU	Mudurnu	2.73	60	ePN	Pn	03 53 32.8	+0.5
RDO	Rodhopi	2.81	316	ePN	Pn	03 53 32.2	-1.4
KIZT	Kizilcal	2.94	94	ePN	Pn	03 53 35.1	-0.3
SGKT	Sivrigoynuk	3.35	64	eP	Pn	03 53 43.8	+2.6
ELDT	Eldivan	4.30	70	eP	Pn	03 53 55.6	+0.8

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*NEIC **25** 03:58:18.7, 35.09S×70.55W, h3^{km}, ML2.6(GUC), After GUC.*
GUC 25 03:58:18.7±0.8**, 35.09S×70.55W, h3**^{km}**, MD3.5, ML2.6, 10C-4D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFDO	San Fernando	0.61	322	⇓iP	Pg	03 58 30.6	-0.2
SFDO				i S	Sg	03 58 40.2	+1.1
CICH	Cipreses	0.78	8	⇓iP	Pg	03 58 32.5	-1.8
CICH				i S	Sg	03 58 44.1	-0.6
TALC	Talca	0.94	251	⇑iP	Pb	03 58 36.5	-0.7
TALC				i S	Sb	03 58 50.4	+0.6
CACH	El Canelo	0.97	358	⇑iP	Pb	03 58 36.2	-1.7
CACH				i S	Sb	03 58 50.9	-0.1
CHCH	Chadas Angostu	1.16	356	⇓iP	Pb	03 58 39.7	-1.3
LMEL	Las Melosas	1.28	13	⇑iP	Pb	03 58 41.5	-1.5
LMEL				i S	Sb	03 58 59.6	-0.1
LMEL				AMP		03 59 02.3	
	comp=N,86nm,0.1s						
LNV	Longovilo	1.34	328	⇓iP	Pb	03 58 43.0	-1.0
LNV				i S	Sb	03 59 01.5	0.0
PCH	Pirque	1.47	1	⇑iP	Pn	03 58 45.3	-0.9
PCH				eS	Sb	03 59 05.3	0.0
TACH	Talagante	1.47	347	⇑iP	Pn	03 58 45.1	-1.1
ANTU	Antumapu	1.52	358	⇑iP	Pn	03 58 46.2	-0.8
RCDM	Rinconada Maip	1.61	352	eP	Pn	03 58 47.6	-0.6
RCDM				i S	Sb	03 59 09.5	0.0
RCDM				AMP		03 59 10.9	
	comp=E,224nm,0.1s						
CLCH	Cerro Calan	1.69	0	⇑iP	Pn	03 58 49.0	-0.4
CLCH				i S	Sb	03 59 12.3	+0.5
CLCH				AMP		03 59 20.4	
	comp=E,140nm,0.9s						
FCH	Farellones	1.77	7	⇑iP	Pn	03 58 50.4	-0.2
FCH				i S	Sn	03 59 15.2	+1.3
FCH				AMP		03 59 26.2	
	comp=N,99nm,0.1s						
LCCH	Las Cruces	1.82	332	⇑iP	Pn	03 58 51.0	-0.2
LCCH				i S	Sn	03 59 15.4	+0.4
JACH	Jahuel	2.41	359	⇑iP	Pn	03 59 00.5	+0.9

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*IDC **25** 04:02:17.3±4.8, 7.68S×123.55E, h246^{km}±51^{km}, mb4.0/2, mb1 4.3/5, mb1mx3.8/12, Error ellipse: s-maj=42.7km s-min=21.9km az=59.0*
*NEIC **25** 04:02:20.3±2.6, 7.82S×123.45E, h272^{km}±26^{km}, mb4.5/7, Error ellipse: s-maj=23.1km s-min=20.5km az=88.0*
ISC 25 04:02:15.3±1.9**, 7.6S**±0.1×**123.5E**±0.1**, h248**^{km}±18^{km}**, n16, σ1$\overset{s}{.}$16**/22**, mb4.3**/7**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	Kakadu	10.09	121	eP	P	04 04 41.1	+5.2
	28nm,0.5s						
KAKA				eS	S	04 06 28.4	+2.1
FITZ	Fitzroy Crossi	10.63	169	eP	P	04 04 43.3	+0.6
	24nm,0.6s						
FITZ				eS	S	04 06 40.7	+2.0
FITZ	Fitzroy Crossi	10.63	169	P	P	04 04 42.1	-0.7
	2.1nm,0.3s,baz=8.1,slow=8.6,SNR=32						
FITZ				S	S	04 06 42.4	+3.7
	2.9nm,0.3s,baz=178,slow=12,SNR=5.1						
WRA	Warramunga Arr	16.12	141	P	P	04 05 48.8	-1.4
	8.9nm,0.3s,baz=318,slow=12,SNR=225						
WRA				S	S	04 08 41.4	-0.2
	baz=310,slow=22,SNR=8.6						
WRAB	Tennant Creek	16.12	141	eP	P	04 05 48.4	-1.8
	54nm,0.6s						
WB2	Warramunga Arr	16.13	141	eP	P	04 05 49.0	-1.3
WB2				eS	S	04 08 39.3	-2.4
ASPA	Alice Springs	18.81	149	eP	P	04 06 18.7	+0.2
ASPA				e		04 06 23.6	
ASPA				eS	S	04 09 35.6	+1.0
ASAR	Alice Springs	18.81	149	P	P	04 06 19.1	+0.5
	2.6nm,0.3s,baz=335,slow=13,SNR=187						
FORT	Forrest	23.43	170	eP	P	04 07 03.6	-0.2
	26nm,0.6s,mb4.9						
KLBR	Kellerberrin	24.46	192	eP	P	04 07 13.1	-0.2
	39nm,1.5s,mb4.8						
MUN	Mundaring	25.18	195	eP	P	04 07 20.3	+0.3
	8.0nm,1.1s,mb4.3						
NWAO	Narrogin (SRO)	25.86	192	P	P	04 07 26.1	-0.1
	3.1nm,0.4s,mb4.3,baz=17,slow=7.6,SNR=7.3						
STKA	Stephens Creek	29.43	148	eP	P	04 07 57.7	-0.5
	6.6nm,0.7s,mb4.4						
STKA	Stephens Creek	29.43	148	P	P	04 07 57.8	-0.4
	5.7nm,0.5s,mb4.4,baz=322,slow=8.4,SNR=26						
TOO	Toolangi	35.86	150	eP	P	04 08 54.9	+1.5
	3.6nm,1.2s,mb3.8						
MKAR	Makanchi Array	65.38	330	P	P	04 12 34.0	+0.8
	0.4nm,0.4s,mb3.4,baz=130,slow=7.2,SNR=8.9						

IDC 25 04:27:47.7±1.9**, 2.55N×128.45E, mb3.7**/5**, mb1 3.9**/5**, mb1mx3.7**/14**, Error ellipse: s-maj=91.4km s-min=24.9km az=70.0, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	20.70	188	P	P	04 32 30.1	-2.1
	2.1nm,1.2s,baz=39,slow=13,SNR=3.0						
WRA	Warramunga Arr	23.09	166	P	P	04 32 56.1	-0.2
	1.5nm,0.3s,baz=344,slow=10,SNR=47						
WB2	Warramunga Arr	23.09	166	eP	P	04 32 56.1	-0.2
ASAR	Alice Springs	26.59	169	P	P	04 33 27.7	-2.0
	0.5nm,0.5s,baz=353,slow=7.5,SNR=11						
STKA	Stephens Creek	36.44	161	P	P	04 34 52.5	-3.7
	1.7nm,0.8s,baz=350,slow=11,SNR=3.3						
MKAR	Makanchi Array	59.50	325	P	P	04 37 53.3	-1.8
	0.3nm,0.6s,baz=119,slow=9.3,SNR=4.1						

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*IDC **25** 05:31:39.2±1.0, 35.95N×77.59E, mb3.9/8, mb1 4.0/10, mb1mx3.9/17, ML4.2/2, Error ellipse: s-maj=32.6km s-min=18.3km az=43.0*
*NEIC **25** 05:31:49.5±0.8, 36.16N×77.71E, h79^{km}±8^{km}, Error ellipse: s-maj=18.5km s-min=6.0km az=63.0*
*MOS **25** 05:31:52.2±1.3, 36.46N×77.99E, h119^{km}, mb3.8/5, Error ellipse: s-maj=49.7km s-min=20.3km az=98.3*
*BJI **25** 05:31:57.0, 36.85N×78.34E, h79^{km}, Ms3.9*
*NNC **25** 05:31:58.4±80.0, 36.97N×79.42E, Error ellipse: s-maj=859.8km s-min=749.3km az=101.0*
ISC 25 05:31:49.6±0.5**, 36.26N**±0.03×**78.01E**±0.07**, h99**^{km}±8^{km}**, n44, σ1$\overset{s}{.}$04**/58**, mb3.7**/8**, 3C-4D, Kashmir-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSH	Kashi	3.63	334	P	P	05 32 46.4	+1.5
KSH				S	S	05 33 26.4	-0.5
KSH				Smax			
	comp=N,150nm,0.3s						
KSH				Smax			
	comp=E,230nm,0.4s						
CHCP	Chirah Chowk	4.68	238	⇓P	P	05 33 00.4	+1.1
KLP	Kalpa	4.72	178	eP	P	05 33 03.2	+3.4
KLP				eS	S	05 33 53.2	-0.6
KLP				e		05 34 08.8	
	comp=E,1µm,0.9s						
CEP	Cherat	5.56	246	⇓P	P	05 33 10.4	-0.9
CEP				S	S	05 34 11.0	-3.6
JOSI	Joshimath	5.83	167	eP	P	05 33 18.5	+3.6
JOSI				eS	S	05 34 20.1	-1.1
JOSI				e		05 34 28.6	
	comp=E,738nm,0.5s						
ULHL	Ulahol	6.13	348	P	P	05 33 20.9	+1.8
	SNR=7.2						
KZA	Kyzart	6.19	341	P	P	05 33 20.9	+0.9
	SNR=8.6						
THW	Thamme Wali	6.22	238	⇓P	P	05 33 19.4	-1.0
UCH	Uchtor	6.55	337	P	P	05 33 25.5	+0.6
	SNR=28						

AML	Almayashu	6.75	332	P	P	05 33 28.1	+0.4
	SNR=10						
AAK	Ala-Archa	6.92	338	P	P	05 33 30.9	+0.8
	SNR=13						
AAK	Ala-Archa	6.92	338	*e*P	P	05 33 29.7	-0.3
	comp=E,8.4nm,0.4s						
SBDP	Sheikh Budin	7.15	239	⇓P	P	05 33 31.7	-1.5
RTK	Rohtak	7.33	191	*e*P	P	05 33 36.5	+0.8
AYAN	Aya Nagar	7.79	186	*e*P	P	05 33 42.6	+0.8
AYAN				*e*S	S	05 35 01.1	-7.9
AYAN				*e*		05 35 04.1	
	comp=Z,96nm,0.2s						
KHET	Khetri	8.37	194	*e*P	P	05 33 50.4	+0.6
KHET				*e*S	S	05 35 14.0	-9.3
KHET				*e*S	S	05 35 15.3	-8.0
KHET				*e*		05 35 17.4	
	comp=E,174nm,0.3s						
KHET				*e*		05 35 17.8	
	comp=N,152nm,0.4s						
KOLN	Koldanda	9.70	149	*e*P	P	05 34 07.0	-0.7
	comp=N,22nm,0.2s						
KOLN				*e*S	S	05 35 48.1	-7.4
GKN	Gorkha	9.96	144	*e*P	P	05 34 10.9	-0.3
	comp=N,36nm,0.3s						
KKN	Kakani	10.45	142	*e*P	P	05 34 18.0	+0.2
	comp=N,14nm,0.2s						
DMN	Daman	10.52	143	*e*P	P	05 34 18.2	-0.4
DMN				*e*S	S	05 36 09.7	-5.4
WMQ	Urumqi	10.58	42	⇑*i*P	P	05 34 19.6	+0.1
WMQ				S	S	05 36 13.0	-3.6
PKI	Pulchoki	10.70	142	*e*P	P	05 34 21.7	+0.6
	comp=N,12nm,0.2s						
MK31	Makanchi Array	11.00	16	⇑P	P	05 34 24.0	-1.0
	comp=N,10nm,0.8s,baz=197,slow=13,SNR=123						
MK31				⇑S	S	05 36 18.7	-7.9
	comp=N,11nm,0.7s,baz=192,slow=24,SNR=13						
MKAR	Makanchi Array	11.00	16	Pn	P	05 34 24.1	-1.0
	comp=N,3.1nm,0.3s,baz=202,slow=14,SNR=64						
MKAR				Sn	S	05 36 19.7	-6.9
	comp=N,4.5nm,0.3s,baz=192,slow=24,SNR=14						
MKAR	Makanchi Array	11.00	16	*e*P	P	05 34 23.9	-1.1
MKAR				S	S	05 36 18.7	-7.9
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.2s						
MKAR				smax			
	comp=Z,1.0nm,0.2s						
BHPL	Bhopal	12.98	182	*e*P	P	05 34 50.7	-0.7
BHPL				*e*		05 34 51.8	
	comp=Z,15nm,0.2s						
BHPL				*e*S	S	05 37 03.3	-11
BVAR	Borovoye Array	17.60	345	P	P	05 35 49.7	0.0
	comp=Z,0.3nm,0.3s,baz=155,slow=10,SNR=4.5						
NVS	Novosibirsk	18.93	9	*e*P	P	05 36 03.5	-1.4
SONM	Songino Array	23.90	52	P	P	05 36 59.4	+4.7
	comp=Z,1.3nm,0.4s,mb3.6,baz=248,slow=11,SNR=12						
AKASG	Malin Array Be	37.53	308	P	P	05 38 54.6	-0.6
	comp=Z,0.5nm,0.3s,mb3.8,baz=75,slow=7.0,SNR=4.3						
AKASG	Malin Array Be	37.53	308	P	P	05 38 54.7	-0.6
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	FINESS Array B	40.90	325	P	P	05 39 23.3	+0.2
	comp=Z,2.5nm,0.9s,mb4.0,baz=124,slow=6.9,SNR=9.2						
FINES	FINESS Array B	40.90	325	P	P	05 39 23.3	+0.2
FINES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
FINES	FINESS Array B	40.90	325	P	P	05 39 23.3	+0.2
ARCES	ARCESS Array B	43.59	336	P	P	05 39 45.5	+0.6
	comp=Z,1.1nm,0.4s,mb3.9,baz=102,slow=8.5,SNR=14						
ARCES	ARCESS Array B	43.59	336	P	P	05 39 45.5	+0.6
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NOA	NORSAR Array B	47.98	323	P	P	05 40 18.6	-1.2
	comp=Z,0.7nm,0.8s,mb3.6,baz=167,slow=19,SNR=2.7						
NOA	NORSAR Array B	47.98	323	P	P	05 40 18.6	-1.1
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
DAVOX	Davos	50.61	304	P	P	05 40 39.2	-0.9
	comp=Z,1.6nm,0.5s,mb4.3,baz=136,slow=8.9,SNR=4.1						
DAVOX	Davos	50.61	304	P	P	05 40 39.2	-0.9
WRA	Warramunga Arr	77.18	127	P	P	05 43 35.5	+1.2
	comp=Z,0.6nm,1.0s,mb3.3,baz=329,slow=5.5,SNR=7.5						
WRA	Warramunga Arr	77.18	127	P	P	05 43 35.5	+1.2
WRA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
WB2	Warramunga Arr	77.19	127	*e*P	P	05 43 35.7	+1.4
ASAR	Alice Springs	79.60	129	P	P	05 43 48.8	+1.3
	comp=Z,0.4nm,0.7s,mb3.4,baz=318,slow=6.0,SNR=9.0						

NIED ***25*** *06:05:00,40.10N×138.40E,h5^{km},Mw3.8 Best double couple: M$_0$5.03×10^{14} NP1:φ$_s$152°,δ87°,λ-34°. NP2: φ$_s$244°,δ56°,λ-177°.*
JMA ***25*** *06:05:01.4±0.1,40.08N×138.44E,h36^{km}±3^{km},M3.9*
IDC ***25*** *06:05:02.7±1.3,39.71N×138.84E,mb3.9/3,mb1 4.0/4, mb1mx3.5/21,ML3.4/1,MS2.9/1,Ms1 2.9/1,ms1mx2.7/17, Error ellipse: s-maj=70.9km s-min=26.0km az=93.0*
NEIC ***25*** *06:05:04.1±1.4,39.79N×139.61E,h15^{km},Error ellipse: s-maj=65.4km s-min=15.8km az=95.0*
ISC 25 06:05:02.5±1.5,**40.05N**±0.03×**138.50E**±0.06,**h32**^{km}±15^{km}, **n27,**σ**0**^{s}**57**/42,**mb3.9**/3,**Eastern Sea of Japan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JOG2	Oga 2	1.01	98	P	Pn	06 05 20.2	-0.3
JOG2				S	Sn	06 05 34.3	+0.7
JTB	Tobi-shima	1.19	136	P	Pn	06 05 22.6	-0.5
JIW	Iwasaki	1.27	64	P	Pn	06 05 24.0	-0.4
JIW				*e*S	Sn	06 05 40.6	+0.1
JYW	Yuwa	1.42	111	P	Pn	06 05 26.6	+0.2
JAH	Hinai	1.65	85	P	Pn	06 05 29.7	0.0
JAH				*e*S	Sn	06 05 49.3	-0.6
JAW	Awa shima	1.70	160	P	Pn	06 05 29.9	-0.5
JAW				*e*S	Sn	06 05 51.3	+0.1
JYA	Atsumi	1.74	147	P	Pn	06 05 30.5	-0.5
JYA				*e*S	Sn	06 05 52.4	+0.2
JYK	Kaneyama	1.83	128	P	Pn	06 05 32.0	-0.3
JYK				S	Sn	06 05 54.7	0.0
JSD	Sado	2.02	185	P	Pn	06 05 35.0	-0.1
JSD				*e*S	Sn	06 05 59.9	+0.5
JSR	Shiriuchi	2.08	44	P	Pn	06 05 35.5	-0.3
JSR				*e*S	Sn	06 06 00.2	-0.6
JOSM	Okushiri--Mats	2.16	20	P	Pn	06 05 35.9	-1.1
JOM	Ohasama	2.23	104	P	Pn	06 05 37.9	-0.2
JOM				S	Sn	06 06 05.2	+0.4
JNS	Sasagawa	2.32	164	P	Pn	06 05 38.9	-0.4
JNS				S	Sn	06 06 07.0	-0.1
JANG	Nango	2.33	81	P	Pn	06 05 39.6	+0.1
JANG				*e*S	Sn	06 06 07.8	+0.4
JOT	Ohata	2.35	55	P	Pn	06 05 40.0	+0.2
JOT				S	Sn	06 06 07.2	-0.6
JMK	Ichinoseki	2.38	117	P	Pn	06 05 40.5	+0.4
JHG	Hegura jima	2.52	210	P	Pn	06 05 42.7	+0.5
JKB	Kayabe	2.66	46	P	Pn	06 05 44.6	+0.5
JSZ	Suzu	2.75	199	P	Pn	06 05 45.8	+0.4
JSZ				*e*S	Sn	06 06 17.2	-0.7
JMM	Marumori	2.82	140	P	Pn	06 05 46.4	-0.1
MAJO	Matsushiro	3.51	184	*e*P	Pn	06 05 56.9	+0.6
MAT	Matsushiro	3.51	184	P	Pn	06 05 56.8	+0.5
MAT				S	Sn	06 06 35.9	-1.3
MAT	Matsushiro	3.51	184	*e*P	Pn	06 05 57.0	+0.7
MAT				*e*S	Sn	06 06 36.0	-1.2
ASAJ	Asahikawa	5.08	36	Pn	Pn	06 06 21.4	+2.9
	1.3nm,0.3s,baz=248,slow=11,SNR=4.6						
ASAJ				LR	LR	06 08 23.5	
	comp=Z,136nm,20.4s,baz=137,slow=38						
WRA	Warramunga Arr	59.81	185	P	P	06 15 07.3	+0.2
	0.6nm,0.5s,mb3.9,slow=6.7,SNR=30						
ASAR	Alice Springs	63.53	185	P	P	06 15 32.7	+0.6
	0.7nm,0.8s,mb3.7,baz=4.7,slow=4.7,SNR=6.3						
FINES	FINESS Array B	65.07	331	P	P	06 15 47.6	+6.1
	2.6nm,1.1s,mb4.2,baz=39,slow=8.9,SNR=4.3						

MDD ***25*** *06:08:08.6±0.4,42.34N×2.15E,h2^{km}±10^{km},mbLg1.4/7, Error ellipse: s-maj=3.6km s-min=2.6km az=166.0, PRXIMO AftershockPLICA*
LDG ***25*** *06:08:09.1±0.3,42.35N×2.17E,h4^{km},Md2.1/1,Ml2.1/4, Error ellipse: s-maj=7.7km s-min=2.5km az=161.0*
ISC 25 06:08:07.0±0.8,**42.33N**±0.04×**2.12E**±0.05,**h11**^{km}±6^{km}, **n13,**σ**0**^{s}**81**/22,**Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VALF	Valcebollere	0.11	315	Pg	Pg	06 08 10.3	+0.4
VALF				Sg	Sg	06 08 12.2	+0.3
VALF	Valcebollere	0.11	315	P	Pg	06 08 10.4	+0.5
VALF				S	Sg	06 08 12.2	+0.4
CARF	Carcanieres	0.39	358	P	Pg	06 08 15.5	+0.4
CARF				S	Sg	06 08 20.9	+0.5
EJON	La Jonquera	0.58	78	Pg	Pg	06 08 19.3	+0.4
	0.7nm,0.1s,SNR=7.9						
EJON				Lg		06 08 26.2	
	3.8nm,0.2s,SNR=11						
EMIR	Miracle	0.60	227	Pg	Pg	06 08 19.7	+0.5
	3.7nm,0.2s,SNR=6.1						
EMIR				Lg		06 08 28.9	
	11nm,0.7s,SNR=6.1						
MTLF	Montolieu	1.02	4	*e*Pg	Pg	06 08 27.2	-0.2
MTLF				*e*Pn	Pn	06 08 28.5	+1.3
MTLF				*e*Sg	Sg	06 08 41.1	0.0
	3.9nm,0.2s						
MTLF	Montolieu	1.02	4	Pg	Pg	06 08 27.2	-0.2
MTLF				Lg		06 08 41.1	
	1.9nm,0.2s						
EPOB	Poblet	1.25	219	Pg	Pg	06 08 31.6	-0.4
	2.1nm,0.1s,SNR=18						
EPOB				Lg		06 08 48.5	
	4.8nm,0.1s,SNR=13						
EPF	Esparros	1.49	299	*e*Pg	Pg	06 08 37.5	+0.6
EPF				*e*Sg	Sg	06 08 56.9	+0.1
	3.2nm,0.3s						
ETSF	Etsaut	2.06	287	*e*Pg	Pg	06 08 47.6	-0.6
ETSF				*e*Sg	Sg	06 09 14.5	-1.2
	3.1nm,0.3s						
LASF	Ste Croix	2.16	35	*e*Pn	Pn	06 08 43.9	+0.3
LASF				*e*Pg	Pg	06 08 48.0	-2.2
LASF				*e*Sg	Sg	06 09 15.7	-3.4
	2.1nm,0.3s						
CAF	Calviac	2.60	359	*e*Pn	Pn	06 08 49.9	+0.1
RJF	Les Rejaudoux	3.01	352	*e*Pn	Pn	06 08 55.4	-0.3

NNC ***25*** *06:46:35.7±1.2,43.34N×75.71E,mpv2.8,Error ellipse: s-maj=102.2km s-min=7.1km az=141.0*
KNET ***25*** *06:46:36.6±0.5,43.51N×75.38E,h10^{km}±3^{km},ml2.1,Error ellipse: s-maj=2.9km s-min=1.6km az=11.0*
ISC 25 06:46:35.5±0.7,**43.61N**±0.05×**75.45E**±0.06,**h10**^{km}**,n12,** σ**0**^{s}**89**/20,**18C-2D,Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TKM2	Tokmak 2	0.69	171	P	Pb	06 46 48.4	-0.8
	68nm,0.1s,SNR=251						
TKM2				⇑S	Sb	06 46 57.8	-0.8
	185nm,0.1s						
USP	Ospenovka	0.77	244	⇑P	Pb	06 46 49.6	-1.0
	26nm,0.1s,SNR=70						
USP				⇑S	Sb	06 46 59.8	-1.1
	86nm,0.2s						
CHMS	Chumysh	0.80	220	⇑P	Pb	06 46 50.1	-0.9
	25nm,0.2s,SNR=11						
CHMS				⇓S	Sb	06 47 00.6	-0.9
	40nm,0.2s						
KBK	Karagaybulak	1.02	201	⇑P	Pb	06 46 54.6	-0.2
	24nm,0.1s,SNR=60						
KBK				⇓S	Sb	06 47 08.6	+0.5
	54nm,0.2s						
AAK	Ala-Archa	1.20	216	⇑P	Pb	06 46 57.7	-0.2
	0.2nm,0.3s						
AAK				⇑S	Sb	06 47 13.1	-0.3
	0.3nm,0.4s						
AAK	Ala-Archa	1.20	216	⇑P	Pb	06 46 57.7	-0.2
	12nm,0.1s,SNR=29						
AAK				⇑S	Sb	06 47 13.9	+0.5
	22nm,0.2s						
ULHL	Ulahol	1.48	157	⇑P	Pn	06 47 02.9	+0.6
	18nm,0.1s,SNR=57						
KZA	Kyzart	1.54	186	⇑P	Pn	06 47 04.2	+1.0
	15nm,0.1s,SNR=19						
UCH	Uchtor	1.54	207	⇑P	Pn	06 47 03.9	+0.6
	11nm,0.2s,SNR=28						
EKS2	Erkin-Say	1.55	233	⇑P	Pn	06 47 04.0	+0.6
	36nm,0.2s,SNR=121						
EKS2				⇑S	Sb	06 47 24.6	+1.2
	72nm,0.2s						
AML	Almayashu	1.96	222	⇑P	Pn	06 47 11.6	+2.4
	38nm,0.2s,SNR=70						
MK31	Makanchi Array	5.79	54	⇑Pn	Pn	06 48 03.9	+0.3
	1.1nm,0.4s,baz=236,slow=18,SNR=61						
MK31				⇑Sn	Sn	06 49 10.3	-0.6
	0.4nm,0.3s,baz=230,slow=25,SNR=4.6						
MK31				⇑Lg		06 49 39.5	
	1.0nm,0.6s,baz=237,slow=29,SNR=4.1						

CASC 25 07:27:03.5±1.8,**9.27N**×**85.77W,h24**^{km}±6^{km}**,MD3.9, 8C-4D,Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VCR	Vista de Mar	0.86	9	⇑*e*P	Pb	07 27 18.4	-1.3
JCR	Jicaral	0.87	49	⇓*i*P	Pb	07 27 19.1	-0.7
JCR				*e*S	Sb	07 27 32.4	+1.3
CGA2	Cerro Gallo 2	1.49	60	⇓*e*P	Pn	07 27 28.5	-0.5
CGA2				*e*S	Sn	07 27 47.9	0.0
PRS1	Puriscal	1.61	64	⇑*e*P	Pn	07 27 28.9	-1.9
PRS1				*e*S	Sn	07 27 49.4	-1.5
FORC	Fortuna	1.61	42	⇑*e*P	Pn	07 27 30.6	-0.3
LAJ	Bijagual	1.73	70	⇓*e*P	Pn	07 27 24.8	-7.8
LAJ				*e*S	Sn	07 27 41.8	-12
VPS2	Volcan Poas 2	1.77	59	*e*P	Pn	07 27 33.2	+0.1
VPS2				*e*S	Sn	07 27 57.0	+2.0
LCR2	La Lucha 2	1.81	75	⇑*e*P	Pn	07 27 32.6	-1.0
LCR2				*e*S	Sn	07 27 55.9	-0.1
SJS	Escuela Geolog	1.82	68	*e*P	Pn	07 27 33.4	-0.4
SJS				*e*S	Sn	07 27 57.3	+1.0
BUS	Buena Vista	2.01	82	*e*P	Pn	07 27 36.4	-0.2
BUS				*e*S	Sn	07 28 01.7	+0.6
ICR	Volcan Irazu	2.04	70	*e*P	Pn	07 27 37.5	+0.5
ICR				*e*S	Sn	07 28 04.0	+2.1
URSC	Urasca	2.04	74	⇑*e*P	Pn	07 27 36.9	-0.2
URSC				*e*S	Sn	07 28 03.3	+1.3
TRTC	Tortuguero	2.41	57	⇑*e*P	Pn	07 27 42.2	-0.1
APON	Apoyo	2.64	354	*e*P	Pn	07 27 44.9	-0.7
APON				*e*S	Sn	07 28 16.9	-0.3
ACR	Cerro Adams	2.65	103	*e*P	Pn	07 27 45.2	-0.4
ACR				*e*S	Sn	07 28 15.2	-2.2
CRUN	El Crucero	2.74	349	*e*P	Pn	07 27 47.0	-0.1
TICN	Ticuantepe	2.78	351	*e*P	Pn	07 27 46.9	-0.7
TICN				*e*S	Sn	07 28 19.5	-1.3
MGAN	Managua	2.90	351	*e*P	Pn	07 27 48.1	-1.1
MGAN				*e*S	Sn	07 28 23.5	-0.1
COPN	Copaltepe	3.00	345	*e*P	Pn	07 27 49.5	-1.2
MOMJ	Momotombo	3.21	346	*e*P	Pn	07 27 52.9	-0.7
PYTN	Playitas	3.26	355	⇑*e*P	Pn	07 27 53.2	-1.1
MIRN	Miramar	3.28	344	⇑*e*P	Pn	07 27 53.4	-1.3
LEON	Leon	3.31	341	⇓*e*P	Pn	07 27 54.2	-1.0

NAO ***25*** *07:54:47.2±4.8,79.59N×4.54E,ML2.9*
BER ***25*** *07:54:48.7±6.4,79.35N×3.91E,ML2.9(NAO)*
ISC 25 07:54:47.2±2.7,**78.9N**±0.1×**3.4E**±0.8,**h10**^{km}**,n4,**σ**0**^{s}**61**/7, **Greenland Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KBS	Kingsbay	1.66	84	Pn	Pn	07 55 15.6	-1.0
KBS				Lg		07 55 35.9	
SPA0	Spitsbergen Ar	2.69	99	Pn	Pn	07 55 31.5	+0.1
	baz=279,slow=9.3						
SPA0				Sn	Sn	07 56 05.0	+0.7
	baz=285,slow=28						
HSP	Hornsund	3.16	120	*e*P	Pn	07 55 39.0	+0.8
HSP				*e*S	Sn	07 56 15.7	-0.6
ARA0	ARCESS Array S	11.02	136	Pn	P	07 57 27.9	+0.2
	baz=354,slow=14						
ARA0				Sn	S	07 59 31.9	-0.2
	baz=357,slow=22						

PRE 25 08:32:31.7±1.4,**26.44S**×**27.41E,h2**^{km}**,ML3.5,South Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSR	Koster	0.73	321	*e*P	Pg	08 32 45.0	-1.3
KSR				*e*S	Sg	08 32 54.4	-1.6
KSR				*e*		08 33 01.0	
	comp=Z,449nm,0.2s						
SLR	Silverton	1.05	49	*e*P	Pb	08 32 51.0	-1.3
SLR				*e*S	Sb	08 33 04.9	-1.4
SLR				*e*		08 33 09.8	
	comp=Z,1μm,0.2s						
NWL	Newcastle	2.61	120	*e*P	Pn	08 33 14.2	-1.4
NWL				*e*S	Sn	08 33 44.6	-3.6
NWL				*e*		08 33 54.0	
	comp=Z,421nm,0.5s						
UPI	Upington	5.80	249	*e*P	Pn	08 33 57.9	-2.9
UPI				*e*S	Sn	08 35 26.6	+18
UPI				*e*		08 35 32.6	
	comp=Z,43nm,0.5s						

IDC ***25*** *08:34:45.2±0.8,21.63S×68.15W,h137^{km}±5^{km},mb4.0/9, mb1 4.0/12,mb1mx4.0/15,MS3.6/3,Ms1 3.7/3, ms1mx3.5/17,Error ellipse: s-maj=26.6km s-min=15.0km az=52.0*
NEIC ***25*** *08:34:45.3±0.3,21.63S×68.07W,mb4.2/12,Error ellipse: s-maj=11.2km s-min=6.3km az=61.0*
ISC 25 08:34:43.8±0.3,**21.57S**±0.06×**68.06W**±0.08,**h136**^{km}**,** **h136**^{km}±1.0^{km}**:pP-P,n54,**σ**1**^{s}**07**/51,**mb4.2**/21,**5C,** **Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPAZ	La Paz	5.25	359	P	P	08 36 04.8	+3.5
	21nm,0.3s,baz=209,slow=7.1,SNR=125						
LPAZ				S	S	08 36 59.1	-2.1
	7.9nm,0.3s,baz=174,slow=6.9,SNR=8.6						
LPAZ				LR	LR	08 38 06.9	
	comp=Z,610nm,18.2s,baz=183,slow=38						
LPAZ	La Paz	5.25	359	*e*P	P	08 36 05.1	+3.8
LPAZ				S	S	08 36 59.1	-2.1
LPAZ				LR	LR	08 38 06.9	
ARE	Arequipa	6.03	327	⇑*i*P	P	08 36 09.3	-2.4
ARE				*e*S	S	08 37 04.0	-16
CPUP	Villa Florida	10.89	118	P	P	08 37 16.2	-0.5
	0.1nm,0.3s,baz=307,slow=11,SNR=11						
CPUP				LR	LR	08 42 12.8	
	comp=Z,236nm,21.1s,baz=325,slow=41						
SAML	Samuel	13.40	21	*e*P	P	08 37 50.3	+0.9
	7.3nm,1.0s						
TRQA	Tornquist	17.25	164	*e*P	P	08 38 34.7	-3.0
	12nm,0.8s						
BDFB	Brasilia	19.88	76	P	P	08 39 05.6	-0.9
	1.3nm,0.3s,baz=250,slow=13,SNR=17						
BAO	Brasilia Array	19.91	76	P	P	08 39 07.7	+0.8
OTAV	Otavalo	23.93	334	*e*P	P	08 39 48.7	+2.2
	10nm,1.1s,mb4.3						
ROSC	El Rosal	26.97	346	P	P	08 40 15.5	+0.7
	3.7nm,0.5s,mb4.3,baz=137,slow=23,SNR=4.4						
ROSC				LR	LR	08 53 02.2	
	comp=Z,191nm,18.5s,baz=143,slow=41						
JTS	JuntasAbangare	35.74	331	P	P	08 41 31.9	+0.5
	3.2nm,0.7s,mb4.1,baz=130,slow=12,SNR=5.1						
JTS	JuntasAbangare	35.74	331	P	P	08 41 31.9	+0.5
SJG	San Juan	39.48	3	P	P	08 42 01.1	-1.5
	12nm,0.8s,mb4.6,baz=327,slow=21,SNR=3.9						
SJG				pP	pP	08 42 33.2	+0.2
	18nm,0.8s,baz=253,slow=5.5,SNR=3.3						
SWET	Sewanee	58.96	343	*e*P	P	08 44 30.1	-1.2
VNA3	Neumayer Olymp	59.76	161	⇑*i*	P	08 44 36.6	+0.3
VNA1	Neumayer--Stat	59.96	161	⇑*i*	P	08 44 38.3	+0.7
JCT	Junction City	60.07	328	*e*P	P	08 44 37.6	-1.3
	4.8nm,0.6s,mb4.5						
VNA2	Neumayer--Watz	60.33	161	⇑*i*	P	08 44 40.2	+0.1
WVT	Waverly	60.36	342	*e*P	P	08 44 39.0	-1.8
	8.6nm,0.9s,mb4.6						
SNAA	Sanae	61.96	161	⇑*i*	P	08 44 49.3	-1.8
FVM	French Village	62.86	340	*e*P	P	08 44 50.0	-7.5
LAZ	Ladron	66.93	325	*e*P	P	08 45 24.0	+0.2
ANMO	Albuquerque	67.00	326	*e*P	P	08 45 23.7	-0.5
	3.5nm,0.9s,mb4.2						
LIC	Lamto	67.65	73	*e*P	P	08 45 28.6	0.0
	36nm,0.7s,mb5.2						
TIC	Toumodi	67.84	73	*e*P	P	08 45 30.1	+0.3
	11nm,0.2s,mb5.2						
KIC	Kosan Boka	67.96	73	*e*P	P	08 45 30.9	+0.3
	82nm,0.6s						
QSPA	South Pole Qui	68.62	180	*e*P	P	08 45 32.5	-1.1
	6.7nm,0.5s,mb4.6						
SDCO	Great Sand Dun	68.71	329	*e*P	P	08 45 34.3	-0.5
	3.3nm,0.8s,mb4.1						
SRU	San Rafael	72.27	327	*e*P	P	08 45 56.4	+0.3
MSU	Marysvale	72.69	325	*e*P	P	08 45 59.0	+0.4
ARUT	Antelope Range	72.84	324	*e*P	P	08 46 00.5	+0.9
DAU	Daniels Canyon	73.61	327	*e*P	P	08 46 04.9	+0.9
DAU				*e*pP	pP	08 46 38.6	+0.8
DUG	Dugway	74.25	326	*e*P	P	08 46 08.6	+0.9
	3.2nm,1.0s,mb4.0						
DUG				*e*pP	pP	08 46 42.4	+0.8
PDAR	Pinedale Array	74.57	330	P	P	08 46 08.7	-0.7
	0.6nm,0.6s,mb3.4,baz=126,slow=6.2,SNR=5.9						
PDAR				pP	pP	08 46 42.8	-0.5
	1.7nm,1.1s,baz=158,slow=8.0,SNR=4.8						
HWUT	Hardware Ranch	74.66	328	*e*P	P	08 46 10.1	+0.1
	1.8nm,0.8s,mb3.8						
HWUT				*e*pP	pP	08 46 44.1	+0.2
SPUT	South Promonto	74.88	327	*e*P	P	08 46 11.8	+0.6
OMM	Old Mammoth Mi	75.90	321	*e*P	P	08 46 18.2	+1.2
OMM				*e*pP	pP	08 46 51.7	+0.7
IMW	Indian Meadow	76.08	330	*e*P	P	08 46 19.1	+1.2
IMW				*e*pP	pP	08 46 53.0	+1.1
HLID	Hailey	77.52	327	*e*P	P	08 46 27.4	+1.5
	3.5nm,0.8s,mb4.0						
HLID				*e*pP	pP	08 47 01.3	+1.2
MCMT	McKenzie Canyo	77.68	329	*e*P	P	08 46 27.6	+0.7
MCMT				*e*pP	pP	08 47 01.1	+0.1
SUR	Sutherland	77.86	120	P	P	08 46 29.0	+0.9
	9.4nm,0.8s,mb4.4,baz=21,slow=2.1,SNR=5.9						
MOD	Modoc	79.50	323	*e*P	P	08 46 36.1	-0.7
	5.6nm,1.0s,mb4.2						
MOD				*e*pP	pP	08 47 11.8	+0.8
YBH	Yreka Blue Hor	80.75	322	P	P	08 46 42.6	-0.9
	0.5nm,0.4s,mb3.5,baz=112,slow=5.4,SNR=4.4						
YBH				pP	pP	08 47 16.6	-1.2
	1.9nm,1.0s,baz=109,slow=4.9,SNR=2.9						
DPW	Davenport	82.45	329	*e*P	P	08 46 52.6	+0.4
DPW				*e*pP	pP	08 47 27.4	+0.8
MAW	Mawson	84.04	163	P	P	08 46 59.7	0.0
	3.0nm,0.7s,mb4.1,baz=219,slow=6.6,SNR=18						
ESDC	Sonseca Array	85.33	44	P	P	08 47 08.5	+1.7
	0.4nm,0.4s,mb3.5,baz=252,slow=4.7,SNR=6.4						
ESDC				pP	pP	08 47 41.5	0.0
	0.5nm,0.5s,baz=300,slow=28,SNR=2.2						
YKA	Yellowknife Ar	91.52	340	P	P	08 47 35.0	-0.6
	2.3nm,0.6s,mb4.4,baz=129,slow=4.5,SNR=9.5						
YKA				pP	pP	08 48 10.1	-0.6
	1.9nm,0.7s,baz=135,slow=4.7,SNR=4.1						
YKA	Yellowknife Ar	91.52	340	P	P	08 47 35.0	-0.6
YKA				pP	pP	08 48 10.2	-0.6
ZRNK	Zerenda	134.69	35	*e*PKPdf	PKPdf	08 53 48.8	+2.7
ZRNK				*e*pP		08 54 27.3	
FITZ	Fitzroy Crossi	138.36	200	PKP	PKPdf	08 53 54.3	+0.5
	3.5nm,0.9s,baz=184,slow=20,SNR=3.8						
ZAL	Zalesovo	141.67	26	PKP	PKPdf	08 54 00.1	+1.4
	1.2nm,0.5s,baz=274,slow=6.2,SNR=4.0						
ZAL				pPKP		08 54 37.3	
	1.0nm,0.3s,baz=120,slow=6.4,SNR=1.8						
MKAR	Makanchi Array	145.22	37	PKPbc	PKPbc	08 54 07.5	+2.0
	1.3nm,0.5s,baz=307,slow=4.0,SNR=18						
MKAR				pPKPbc		08 54 43.5	
	3.8nm,0.8s,baz=333,slow=2.7,SNR=5.5						
SONM	Songino Array	153.41	8	PKP	PKPdf	08 54 20.3	+2.6
	0.3nm,0.3s,baz=328,slow=12,SNR=4.5						
SONM				PKPbc	PKPdf	08 54 27.8	+10
	0.4nm,0.6s,baz=45,slow=1.7,SNR=4.5						
BJI	Beijing	161.24	350	*e*P	PKPdf	08 54 25.4	-2.2

IDC ***25*** *08:37:28.5±0.7,2.42N×95.80E,h21^{km}±3^{km},mb4.2/13, mb1 4.4/14,mb1mx4.3/17,ML4.2/1,MS3.3/1,Ms1 3.5/1, ms1mx2.9/23,Error ellipse: s-maj=32.9km s-min=12.5km az=52.0*
MOS ***25*** *08:37:28.5±0.8,2.54N×95.89E,h33^{km},mb4.8/16,Error ellipse: s-maj=24.4km s-min=10.2km az=106.5*
NEIC ***25*** *08:37:29.0±0.4,2.43N×95.84E,mb4.8/17,Error ellipse: s-maj=15.0km s-min=6.9km az=58.0*
BJI ***25*** *08:37:30.7,2.83N×96.15E,h23^{km},mB4.7,mb4.8,Ms3.7, Msz3.7*
ISC 25 08:37:26.8±0.5,**2.47N**±0.07×**95.86E**±0.08,**h22**^{km},

h22^{km}±.5^{km}:pP-P,n76,σ1^{s}08/74,mb4.7/43,MS4.0/6,3C-2D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNG	Songkhla	6.66	45	P	Pn	08 39 05.0	-0.9
	164nm,0.9s						
KKTK	Khon Kaen	15.39	26	P	P	08 41 10.0	+5.4
	370nm,0.5s						
CMAR	Chiang Mai Arr	16.18	11	Pn	P	08 41 14.8	+0.1
	0.4nm,0.3s,baz=198,slow=11,SNR=28						
CMAR				LR	LR	08 47 15.9	
	comp=Z,105nm,19.0s,baz=203,slow=36						
CHG	Chiang Mai	16.52	10	⇑P	P	08 41 18.2	-0.9
	10nm,0.8s						
SHL	Shillong	23.28	351	*e*P	P	08 42 32.0	-2.1
KMI	Kunming	23.48	16	*e*P	P	08 42 38.5	+2.5
KMI				AP		08 42 47.5	
KMI				S	S	08 46 51.0	+6.3
KMI				AMB	AMB		
	comp=Z,19nm,0.8s,mb4.6						
KMI				AMB	AMB		
	comp=Z,94nm,4.4s						
KMI				LR	LR		
	comp=N,220nm,12.9s						
KMI				LR	LR		
	comp=E,226nm,18.7s						
KMI				LR	LR		
	comp=Z,256nm,14.8s,MS3.8						
KMI	Kunming	23.48	16	*e*P	P	08 42 38.5	+2.5
	comp=Z,19nm,0.8s,mb4.6						
KMI				pP		08 42 47.6	
KMI				S	S	08 46 51.0	+6.3
KMI				sS		08 47 05.6	
KMI				LR	LR		
	comp=Z,260nm,14.8s,MS3.8						
GYA	Guiyang	26.01	23	P	P	08 43 00.5	+0.3
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.3						
PKI	Pulchoki	26.89	339	*e*P	P	08 43 09.3	+1.0
	comp=Z,31nm,0.8s,mb4.9						
DMN	Daman	27.03	339	*e*P	P	08 43 11.8	+2.2
	comp=Z,17nm,0.6s,mb4.8						
GUN	Gumba	27.04	340	*e*P	P	08 43 11.1	+1.4
KKN	Kakani	27.14	339	*e*P	P	08 43 11.5	+1.0
	comp=Z,60nm,0.9s,mb5.1						
GKN	Gorkha	27.56	338	*e*P	P	08 43 15.3	+0.9
	comp=Z,30nm,0.6s,mb5.1						
KOLN	Koldanda	27.76	336	*e*P	P	08 43 17.2	+1.0
	comp=Z,34nm,0.8s,mb5.0						
CD2	Chengdu	29.26	14	P	P	08 43 28.5	-1.2
CD2				AMB	AMB		
	comp=Z,13nm,0.9s,mb4.7						
ENH	Enshi	30.52	24	*e*P	P	08 43 38.7	-2.3
	comp=Z,16nm,0.8s,mb4.9						
XAN	Xi'an	33.69	20	P	P	08 44 07.5	-1.1
XAN				AP	pP	08 44 13.8	-1.4
XAN				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
LZH	Lanzhou	34.26	12	*e*P	P	08 44 12.5	-1.0
LZH				AP	pP	08 44 19.5	-0.5
LZH				XP	sP	08 44 23.0	+0.2
LZH				AMB	AMB		
	comp=Z,26nm,1.0s,mb5.1						
LZH	Lanzhou	34.26	12	*e*P	P	08 44 12.5	-1.0
	comp=Z,26nm,1.0s,mb5.1						
LZH				pP	pP	08 44 19.5	-0.5
LZH				sP	sP	08 44 23.0	+0.2
FITZ	Fitzroy Crossi	35.75	126	*e*P	P	08 44 26.1	-0.3
	comp=Z,3.5nm,0.9s,mb4.3						
FITZ	Fitzroy Crossi	35.75	126	P	P	08 44 24.5	-1.9
	comp=Z,4.2nm,0.9s,mb4.4,baz=355,slow=1.6,SNR=8.6						
NJ2	Nanjing	36.53	34	*e*P	P	08 44 35.0	+2.2
NJ2				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.2						
GTA	Gaotai	36.95	5	P	P	08 44 36.5	+0.3
GTA				AP	pP	08 44 43.0	+0.2
GTA				XP	sP	08 44 46.0	+0.4
GTA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
SSE	Sheshan	37.19	37	P	P	08 44 41.0	+2.6
SSE				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.7						
SSE				AMB	AMB		
	comp=Z,101nm,3.7s						
SSE				LR	LR		
	comp=N,87nm,25.9s,MS3.6						
SSE				LR	LR		
	comp=E,79nm,25.9s,MS3.6						
SSE				LR	LR		
	comp=Z,155nm,28.6s,MS3.6						
BJT	Baijiatuau	41.67	24	*e*P	P	08 45 17.1	+1.5
	comp=Z,21nm,0.8s,mb4.8						
BJT				*e*pP	pP	08 45 23.0	+0.8
BJI	Beijing	41.69	24	*e*P	P	08 45 17.0	+1.3
BJI				AMB	AMB		
	comp=Z,25nm,0.9s,mb4.8						
BJI				LR	LR		
	comp=Z,137nm,27.9s,MS3.7						
BJI	Beijing	41.69	24	*e*P	P	08 45 17.0	+1.3
	comp=Z,25nm,0.9s,mb4.8						
BJI				LR	LR		
	comp=Z,140nm,27.9s,MS3.7						
WRA	Warramunga Arr	43.84	122	P	P	08 45 33.1	-0.3
	comp=Z,3.1nm,0.8s,mb4.1,baz=302,slow=9.0,SNR=24						
WRA	Warramunga Arr	43.84	122	P	P	08 45 33.1	-0.4
WRA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
WRAB	Tennant Creek	43.84	122	*e*P	P	08 45 33.8	+0.3
	comp=Z,13nm,1.1s,mb4.6						
WB2	Warramunga Arr	43.85	122	*e*P	P	08 45 34.0	+0.5
AAK	Ala-Archa	44.32	337	*d i*P	P	08 45 38.0	+0.9
AAK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
AAK	Ala-Archa	44.32	337	*e*P	P	08 45 37.7	+0.7
	comp=Z,4.2nm,0.8s,mb4.2						
ASAR	Alice Springs	45.22	127	P	P	08 45 44.6	0.0
	comp=Z,1.7nm,0.8s,mb3.9,baz=301,slow=7.5,SNR=18						
ASAR				PcP	PcP	08 47 25.2	+0.3
	comp=Z,0.5nm,0.8s,baz=330,slow=3.1,SNR=5.3						
MKAR	Makanchi Array	45.70	347	P	P	08 45 48.5	+0.4
	comp=Z,20nm,0.8s,mb5.1,baz=163,slow=7.9,SNR=138						
MKAR				pP	pP	08 45 55.2	+0.5
	comp=Z,4.4nm,0.5s,baz=159,slow=8.1,SNR=9.5						
MKAR	Makanchi Array	45.70	347	P	P	08 45 48.5	+0.4
MKAR				*PP	pP	08 45 55.2	+0.5
MKAR				pmax	pmax		
	comp=Z,20nm,0.8s						
MKAR				pmax	pmax		
	comp=N,4.0nm,0.5s						
MKAR	Makanchi Array	45.70	347	P	P	08 45 48.5	+0.4
MKAR				pP	pP	08 45 55.2	+0.5
SONM	Songino Array	46.10	10	P	P	08 45 51.4	+0.2
	comp=N,11nm,0.9s,mb4.8,baz=189,slow=8.6,SNR=61						
SONM				pP	pP	08 45 58.1	+0.3
	comp=N,3.1nm,0.5s,baz=192,slow=9.4,SNR=7.5						
SONM				PcP	PcP	08 47 28.0	+0.3
	comp=N,2.1nm,0.8s,baz=196,slow=3.2,SNR=5.0						
KURK	Kurchatov	50.24	346	*d i*P	P	08 46 24.0	+0.7
KURK	Kurchatov	50.24	346	*e*P	P	08 46 23.5	+0.2
	comp=N,6.2nm,0.8s,mb4.7						
ZAL	Zalesovo	52.10	352	P	P	08 46 37.5	0.0
	comp=N,5.5nm,0.6s,mb4.7,baz=200,slow=5.3,SNR=27						
ZAL	Zalesovo	52.10	352	P	P	08 46 37.5	+0.1
ZAL				pmax	pmax		
	comp=Z,6.0nm,0.6s						
NVS	Novosibirsk	53.21	351	*i* P	P	08 46 44.0	-1.7
VOSK	Vostochnaya	54.18	342	P	P	08 46 52.3	-0.5
VOSK				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.7						
CTA	Charters Tower	54.26	117	P	P	08 46 54.5	+0.6
	comp=Z,6.4nm,0.9s,mb4.6,baz=271,slow=6.4,SNR=8.0						
CTA	Charters Tower	54.26	117	P	P	08 46 54.5	+0.7
CTA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
CTA	Charters Tower	54.26	117	P	P	08 46 54.5	+0.6
BVA0	Borovoye Array	54.63	341	*i* P	P	08 46 55.6	-0.5
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.9						
BRVK	Borovoye	54.69	341	*e*P	P	08 46 55.3	-1.3
	comp=Z,8.9nm,0.7s,mb4.9						
ZRNK	Zerenda	55.01	341	P	P	08 46 58.4	-0.6
ZRNK				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.7						
ZRNK	Zerenda	55.01	341	*e*P	P	08 46 58.1	-0.8
	comp=Z,12nm,0.9s,mb4.9						
STKA	Stephens Creek	55.19	132	P	P	08 47 00.8	+0.3
	comp=Z,2.9nm,0.7s,mb4.4,baz=298,slow=7.1,SNR=7.1						
YSS	Yuzh-Sakhalins	60.08	35	*i* P	P	08 47 34.4	-0.3
YSS				pmax	pmax		
	comp=Z,14nm,1.0s,mb5.0						
YSS				MLR	MLR		
	comp=Z,200nm,27.0s,MS4.1						
SVE	Sverdlovsk	61.03	339	⇑*e*P	P	08 47 39.7	-1.3
ARU	Arti	61.51	337	⇑*i*P	P	08 47 43.4	-0.9
ARU				*e*		08 48 20.1	
ARU				*e*		08 50 00.0	
ARU				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.8						
KIV	Kislovodsk	62.48	319	*e*P	P	08 47 50.6	-0.4
KIV				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.8						
SOC	Sochi	64.29	318	*e*P	P	08 47 58.2	-4.8
SOC				*e*		08 50 25.9	
SOC				*e*PPP	PPP	08 51 55.4	-3.4
SOC				*e*		08 57 13.1	
SOC				*e**SS		08 57 54.3	
SOC				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.8						
SOC				pmax	pmax		
	comp=N,8.0nm,0.5s						
SOC				pmax	pmax		
	comp=E,5.0nm,0.4s						
YAK	Yakutsk	64.59	17	*e*P	P	08 48 03.9	-0.7
YAK				pmax	pmax		
	comp=Z,22nm,0.7s,mb5.3						
YAK				MLR	MLR		
	comp=Z,100nm,16.0s,MS4.1						
ANN	Anapa	66.27	319	*e*P	P	08 48 30.3	+15
ANN				*e*S	S	08 57 18.4	+16
ANN				pmax	pmax		
	comp=Z,30nm,1.4s,mb5.1						
BRTR	Keskin Array B	67.28	312	P	P	08 48 21.5	-0.7
	comp=Z,2.6nm,1.0s,mb4.2,baz=124,slow=8.9,SNR=6.1						
BRTR	Keskin Array B	67.28	312	P	P	08 48 21.5	-0.7
BRTR				pmax	pmax		
	comp=Z,3.0nm,1.0s						
OBN	Obninsk	70.84	328	*e*P	P	08 48 50.7	+6.8
OBN				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.9						
TIXI	Tiksi	72.18	10	*e*P	P	08 48 50.6	-1.1
TIXI				*e*		08 49 07.0	
TIXI				*e*		08 51 36.1	
TIXI				pmax	pmax		
	comp=Z,14nm,1.3s,mb4.7						
TIXI				MLR	MLR		
	comp=Z,200nm,20.0s,MS4.4						
AKASG	Malin Array Be	73.44	322	P	P	08 48 58.3	-1.1
	comp=Z,0.1nm,0.2s,baz=90,slow=5.1,SNR=5.9						
AKASG				pP	pP	08 49 05.5	-0.8
	comp=Z,1.0nm,0.6s,baz=86,slow=5.7,SNR=3.0						
AKASG	Malin Array Be	73.44	322	P	P	08 48 58.3	-1.1
AKASG				*PP	pP	08 49 05.5	-0.8
AKASG				pmax	pmax		
	comp=N,1.0nm,0.6s						
FINES	FINESS Array B	78.26	333	P	P	08 49 26.4	0.0
	comp=N,2.5nm,0.7s,mb4.3,baz=90,slow=5.7,SNR=7.3						
FINES				pP	pP	08 49 33.9	+0.5
	comp=N,1.4nm,0.6s,baz=108,slow=6.0,SNR=1.5						
FINES	FINESS Array B	78.26	333	P	P	08 49 26.4	0.0
FINES				*PP	pP	08 49 33.9	+0.5
FINES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
FINES				pmax	pmax		
	comp=N,1.0nm,0.6s						
FINES	FINESS Array B	78.26	333	P	P	08 49 26.4	0.0
FINES				pP	pP	08 49 33.9	+0.5
ARCES	ARCESS Array B	80.90	340	P	P	08 49 41.1	+0.6
	comp=N,2.1nm,0.6s,mb4.2,baz=94,slow=5.4,SNR=26						
ARCES				pP	pP	08 49 47.7	+0.2
	comp=N,1.1nm,0.6s,baz=90,slow=7.3,SNR=1.7						
ARCES	ARCESS Array B	80.90	340	P	P	08 49 41.1	+0.6
ARCES				*PP	pP	08 49 47.7	+0.2
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ARCES				pmax	pmax		
	comp=N,1.0nm,0.6s						
GERES	GERESS Array B	82.98	319	P	P	08 49 52.7	+1.0
	comp=N,1.6nm,0.7s,mb4.2,baz=90,slow=5.3,SNR=14						
GERES				pP	pP	08 49 59.8	+1.0
	comp=N,2.3nm,0.9s,baz=101,slow=6.8,SNR=6.9						
GERES	GERESS Array B	82.98	319	P	P	08 49 52.7	+1.0
GERES				*PP	pP	08 49 59.8	+1.0
GERES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
GERES				pmax	pmax		
	comp=N,2.0nm,0.9s						
JCT	Junction City	143.99	23	*e*P	PKPbc	08 57 01.7	+1.2
CPUP	Villa Florida	145.00	225	PKP	PKPdf	08 57 04.7	-2.9
	comp=N,1.4nm,0.7s,baz=112,slow=2.7,SNR=5.5						
CPUP				pPKP		08 57 12.0	
	comp=N,3.1nm,0.8s,baz=111,slow=4.7,SNR=6.9						
CPUP	Villa Florida	145.00	225	PKIKP	PKPdf	08 57 04.7	-2.9
CPUP						08 57 12.0	
CPUP				pmax	pmax		
	comp=Z,1.0nm,0.7s						
CPUP				pmax	pmax		
	comp=N,3.0nm,0.8s						
CPUP	Villa Florida	145.00	225	PKP	PKPdf	08 57 04.7	-2.9
CPUP				pPKP		08 57 12.0	

MEX 25 08:37:58.6±0.9,16.99N×98.87W,h16^{km}±12^{km},MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	Acapulco	1.01	263	*e*P	Pb	08 38 14.5	-2.7
ACX				*e*S	Sb	08 38 26.0	-4.0
VHO	Vista Hermosa	2.05	87	*i* P	Pn	08 38 29.2	-3.7
VHO				*i* S	Sn	08 38 52.8	-5.4
OXX	Oaxaca	2.06	87	*e*P	Pn	08 38 30.0	-3.0
OXX				*i* S	Sn	08 38 54.0	-4.5
PPM	Popocatepetl	2.08	6	*i* P	Pn	08 38 32.0	-1.3
PPM				*i* S	Sn	08 38 59.0	0.0
IISM	Ciudad Serdan	2.44	35	*e*P	Pn	08 38 36.0	-2.6
IISM				*i* S	Sn	08 39 07.0	-1.3
ZIIG	Zihuatanejo	2.55	284	*i* P	Pn	08 38 36.7	-3.4
ZIIG				*i* S	Sn	08 39 05.8	-5.3

IDC ***25*** *08:43:57.4±2.3,6.17S×148.89E,h56^{km}±18^{km},mb4.2/7, mb1 4.4/9,mb1mx4.4/11,ML4.5/2,MS4.0/10,Ms1 3.9/10, ms1mx3.9/11,Error ellipse: s-maj=27.9km s-min=11.8km az=118.0*

NEIC ***25*** *08:43:57.5±0.8,6.15S×149.13E,h66^{km}±8^{km},mb4.9/12, Error ellipse: s-maj=12.6km s-min=6.7km az=125.0*

HRVD ***25*** *08:43:57.5±0.6,6.33S×149.23E,h61^{km}±5^{km},MW4.8/29, Centroid moment Tensor Solution. LP body waves: s15,c19;Mantle waves: s29,c38; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.41±.23; $M_{\theta\theta}$-2.34±.14; $M_{\phi\phi}$0.94±.20; $M_{r\theta}$-0.09±.17; $M_{\theta\phi}$0.48±.15; $M_{\phi r}$-0.40±.18; Best double couple: $M_0$2.04×10^{16} NP1:ϕ_s126°,δ53°,λ132°. NP2:ϕ_s251°,δ54°,λ49°. Principal axes: T 1.67, Plg58°, Azm99°; N .75, Plg32°, Azm278°; P -2.41, Plg1°, Azm8°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 25 08:43:56.2±1.0,6.10S±0.07×149.08E±0.10,h69^{km}±9^{km}, n37,σ0^{s}90/33,mb4.5/15,1C,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAU	Wau	2.66	242	*e*P	P	08 44 37.0	-0.8
RAB	Rabaul	3.61	59	*e*P	P	08 44 51.6	+0.5
PMG	Port Moresby	3.80	210	*e*P	P	08 44 53.0	-0.7
PMG				*e*S	S	08 45 38.8	+1.3
CTA	Charters Tower	14.18	191	P	P	08 47 14.4	-0.6
	0.2nm,0.3s,baz=38,slow=16,SNR=5.0						
CTA				LR	LR	08 51 44.9	
	comp=Z,450nm,19.7s,baz=32,slow=33						
KAKA	Kakadu	17.71	247	*e*P	P	08 48 01.6	+1.7
	28nm,1.0s						
WRAB	Tennant Creek	19.85	225	*e*P	P	08 48 23.5	-0.8
	67nm,0.6s						
WB2	Warramunga Arr	19.86	225	*e*P	P	08 48 23.5	-0.9
WRA	Warramunga Arr	19.86	225	P	P	08 48 23.6	-0.8
	5.4nm,0.3s,baz=50,slow=11,SNR=170						
WRA				S	S	08 51 59.5	+0.3
	baz=40,slow=21,SNR=16						
WRA				PcP	PcP	08 52 39.0	-0.3
	0.3nm,0.3s,baz=38,slow=1.9,SNR=11						
WRA				ScP		08 56 12.0	
	0.0nm,0.3s,baz=56,slow=2.4,SNR=4.9						
WRA				LR	LR	08 57 08.2	
	comp=Z,428nm,18.0s,baz=55,slow=40						
ASAR	Alice Springs	22.77	218	P	P	08 48 54.3	+0.6
	18nm,0.9s,mb4.4,baz=52,slow=9.1,SNR=123						
ASAR				PcP	PcP	08 52 45.2	+0.2
	4.1nm,0.8s,baz=52,slow=2.4,SNR=11						
ASAR				S	S	08 52 59.2	+5.9
	11nm,1.0s,baz=30,slow=21,SNR=17						
ASAR				ScP		08 56 19.4	
	1.2nm,1.0s,baz=63,slow=2.0,SNR=4.8						
ASAR				LR	LR	08 57 59.4	
	comp=Z,246nm,21.7s,baz=38,slow=37						
ASPA	Alice Springs	22.77	218	*e*P	P	08 48 55.3	+1.6
ASPA				*e*S	S	08 52 58.6	+5.3
FITZ	Fitzroy Crossi	25.80	240	⇑*i*P	P	08 49 22.8	0.0
	34nm,0.8s,mb4.8						
FITZ				*e*S	S	08 53 50.9	+6.1
FITZ	Fitzroy Crossi	25.80	240	P	P	08 49 22.5	-0.4
	35nm,0.8s,mb4.8,baz=63,slow=4.2,SNR=65						
FITZ				LR	LR	08 59 54.8	
	comp=Z,167nm,21.7s,baz=86,slow=37						
STKA	Stephens Creek	26.59	194	*e*P	P	08 49 30.4	+0.4
	7.9nm,1.5s,mb4.0						
STKA	Stephens Creek	26.59	194	P	P	08 49 30.4	+0.4
	5.1nm,0.8s,mb4.1,baz=18,slow=12,SNR=6.1						
STKA				LR	LR	09 00 54.0	
	comp=Z,378nm,18.8s,baz=288,slow=38						
FORT	Forrest	31.50	216	*e*P	P	08 50 13.3	-0.6
	52nm,0.6s,mb5.4						
MBWA	Marble Bar	32.12	239	*e*P	P	08 50 18.6	-0.9
	13nm,0.8s,mb4.7						
MORW	Morawa	38.67	230	*e*P	P	08 51 15.2	+0.3
	25nm,1.5s,mb4.8						
KLBR	Kellerberrin	38.75	225	*e*P	P	08 51 15.0	-0.6
	11nm,0.5s,mb5.0						
MAT	Matsushiro	43.62	347	P	P	08 51 55.1	-0.6
MAT	Matsushiro	43.62	347	*e*P	P	08 51 55.0	-0.7
HIA	Hailar	60.78	338	*e*P	P	08 54 04.4	+1.0
	11nm,0.8s,mb4.9						
SONM	Songino Array	65.51	330	P	P	08 54 34.4	-0.1
	1.2nm,0.4s,mb4.1,baz=142,slow=6.5,SNR=10						
CASY	Casey	65.72	196	*e*P	P	08 54 34.5	-1.1
	7.3nm,0.7s,mb4.6						
MKAR	Makanchi Array	78.89	320	P	P	08 55 56.0	+2.2
	1.0nm,0.4s,mb4.0,baz=93,slow=8.7,SNR=11						
MKAR				LR	LR	09 28 56.4	
	comp=Z,54nm,18.7s,baz=181,slow=34						
ZAL	Zalesovo	80.21	327	P	P	08 55 59.5	-1.2
	1.9nm,0.6s,mb4.1,baz=60,slow=9.0,SNR=4.0						
ZAL				LR	LR	09 31 07.4	
	comp=Z,93nm,20.1s,baz=250,slow=35						
MAW	Mawson	82.96	203	P	P	08 56 14.9	+0.2
	3.6nm,0.9s,mb4.2,baz=94,slow=6.4,SNR=18						
MCK	McKinley	83.49	23	*e*P	P	08 56 17.1	-0.4
	4.8nm,0.9s,mb4.3						
QSPA	South Pole Qui	83.87	180	*e*P	P	08 56 20.0	+0.9
	9.2nm,0.6s,mb4.8						
INK	Inuvik	90.99	21	LR	LR	09 34 00.9	
	comp=Z,85nm,19.9s,baz=173,slow=33						
NEW	Newport	97.04	42	LR	LR	09 32 04.2	
	comp=Z,94nm,21.3s,baz=310,slow=30						
YKA	Yellowknife Ar	98.29	28	LR	LR	09 35 57.8	
	comp=Z,69nm,19.7s,baz=180,slow=32						
GERES	GERESS Array B	123.15	326	PKP	PKPdf	09 02 47.4	+2.2
	0.5nm,0.6s,slow=1.3,SNR=3.7						
CPUP	Villa Florida	138.83	143	PKP	PKPdf	09 03 15.6	+0.2
	4.2nm,0.9s,baz=252,slow=15,SNR=2.5						
SDV	Santo Domingo	140.54	83	*e*P	PKPdf	09 03 20.4	+1.4
SAML	Samuel	144.54	115	*e*PKPpre		09 03 24.1	
BDFB	Brasilia	152.56	142	PKP	PKPdf	09 03 39.9	+1.3
	4.0nm,0.8s,baz=324,slow=5.4,SNR=5.0						
BDFB				PKPbc	PKPdf	09 03 47.6	+9.0
	12nm,0.5s,baz=188,slow=2.1,SNR=17						
BAO	Brasilia Array	152.58	142	P	PKPdf	09 03 48.3	+10

NEIC ***25*** *08:58:07.6,30.83S×71.66W,h32^{km},ML4.1(GUC),After GUC.*

GUC 25 08:58:07.6±0.8,30.83S×71.66W,h32^{km}±3^{km},MD4.3, ML4.1,11C-6D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OVCH	Ovalle	0.46	61	⇑*i*P	Pb	08 58 17.3	-0.2
OVCH				*i* S	Sb	08 58 24.7	+0.5
OVCH				AMP		08 58 25.1	
	comp=E,14μm,0.3s						
CMCH	Combarbala	0.66	121	⇑*i*P	Pb	08 58 20.3	-0.4
CMCH				*i* S	Sb	08 58 29.7	-0.1
CMCH				AMP		08 58 31.1	
	comp=N,18μm,0.7s						
LSCH	La Serena	0.99	22	⇑*i*P	Pn	08 58 25.6	+0.2
LSCH				*i* S	Sn	08 58 38.4	+0.1
LSCH				AMP		08 58 42.1	
	comp=E,3μm,0.5s						
TLL	Tololo Astrono	0.99	48	⇓*i*P	Pn	08 58 25.9	+0.4
TLL				*i* S	Sn	08 58 39.9	+1.4
TLL				AMP		08 58 46.2	
	comp=N,4μm,0.5s						
JACH	Jahuel	2.06	154	⇑*i*P	Pn	08 58 41.6	+0.8
JACH				*i* S	Sn	08 59 07.8	+2.2
VACH	Vallenar	2.38	20	⇑*i*P	Pn	08 58 45.7	+0.3
VACH				*i* S	Sn	08 59 14.6	+0.8
PEL	Peldehue	2.45	160	*i* P	Pn	08 58 46.7	+0.4
DSCH	Colegio Aleman	2.72	160	⇑*i*P	Pn	08 58 50.8	+0.5
DSCH				*i* S	Sn	08 59 23.6	+1.2
DSCH				AMP		08 59 34.7	
	comp=N,3μm,0.4s						
CLCH	Cerro Calan	2.73	160	⇓*i*P	Pn	08 58 50.6	+0.3
CLCH				*i* S	Sn	08 59 23.7	+1.1
CLCH				AMP		08 59 35.6	
	comp=E,2μm,0.6s						
RCDM	Rinconada Maip	2.75	165	*e*P	Pn	08 58 50.5	0.0
RCDM				AMP		08 59 36.2	
	comp=N,903nm,0.5s						
FCH	Farellones	2.75	155	⇑*i*P	Pn	08 58 51.5	+0.9
FCH				AMP		08 59 38.2	
	comp=E,875nm,0.3s						
FSR	Penalolen	2.81	160	*i* P	Pn	08 58 52.0	+0.5
FSR				*i* S	Sn	08 59 25.6	+1.0
FSR				AMP		08 59 38.6	
	comp=E,1μm,0.5s						
ANTU	Antumapu	2.87	163	*e*P	Pn	08 58 52.5	+0.3
ANTU				AMP		08 59 37.2	
	comp=N,1μm,0.6s						
TACH	Talagante	2.88	168	⇓*i*P	Pn	08 58 52.3	-0.2
PCH	Pirque	2.95	161	⇑*i*P	Pn	08 58 53.8	+0.4
LNV	Longovilo	3.12	176	⇑*i*P	Pn	08 58 54.5	-1.4
CHCH	Chadas Angostu	3.21	165	⇓*i*P	Pn	08 58 57.1	0.0
LMEL	Las Melosas	3.25	158	⇓*i*P	Pn	08 58 58.7	+1.0
LMEL				*i* S	Sn	08 59 36.2	+0.4
CACH	El Canelo	3.40	165	⇑*i*P	Pn	08 59 00.3	+0.5
CICH	Cipreses	3.63	164	⇑*i*P	Pn	08 59 03.2	+0.1
SFDO	San Fernando	3.81	172	⇓*i*P	Pn	08 59 05.3	-0.3

MEX 25 09:16:15.6±1.0,16.21N×98.19W,h10^{km},MD3.6,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.20	19	*i* P	Pg	09 16 19.4	-0.5
PNIG				*i* S	Sg	09 16 22.0	-0.8
VHO	Vista Hermosa	1.64	58	*i* P	Pn	09 16 41.6	-3.2
VHO				*i* S	Sn	09 17 01.8	-4.3
OXX	Oaxaca	1.66	58	*i* P	Pn	09 16 40.0	-5.0
OXX				*i* S	Sn	09 17 02.0	-4.4

MDD ***25*** *09:18:00.8±1.7,36.75N×7.18W,h18^{km}±6^{km},mbLg2.2/7, Error ellipse: s-maj=13.9km s-min=8.9km az=31.0, PRXIMO*

INMG ***25*** *09:18:01.9±1.4,36.83N×7.13W,h14^{km}±5^{km},ML2.0,Error ellipse: s-maj=9.0km s-min=5.6km az=4.0*

ISC 25 09:18:00.5±1.9,36.77N±0.09×7.14W±0.07,h31^{km}±6^{km}, n12,σ0^{s}87/20,1C,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERIP	Rio Piedras	0.61	352	⇑P	Pb	09 18 12.5	-0.2
	25nm,0.1s,SNR=18						
ERIP				S	Sb	09 18 22.0	+0.9

	51nm,0.1s,SNR=7.9						
PALC	Alcoutim	0.74	339	ePg	Pb	09 18 14.0	-0.9
PALC				eSg	Sb	09 18 24.2	-0.5
	44nm,0.1s						
PALC	Alcoutim	0.74	339	Pg	Pb	09 18 14.0	-0.9
PALC				Lg		09 18 24.2	
	22nm,0.1s						
EMIN	Mina Concepcio	1.06	21	P	Pn	09 18 19.6	+0.1
	1.0nm,0.1s,SNR=26						
EMIN				S	Sn	09 18 33.6	+0.3
	2.4nm,0.1s,SNR=8.0						
PBEJ	Beja	1.38	336	eP	Pn	09 18 24.7	+0.7
PBEJ				eS	Sn	09 18 41.5	+0.2
	14nm,0.1s						
PBEJ	Beja	1.38	336	P	Pn	09 18 24.7	+0.7
PBEJ				S	Sn	09 18 41.5	+0.2
	7.2nm,0.1s						
PTEO	Sao Teotonio	1.48	302	eS	Sn	09 18 44.2	+0.3
	11nm,0.1s						
PTEO	Sao Teotonio	1.48	302	S	Sn	09 18 44.2	+0.3
	5.4nm,0.1s						
EBAD	Badajoz	1.98	3	P	Pn	09 18 33.2	+0.6
	1.0nm,0.1s,SNR=4.0						
EBAD				S	Sn	09 18 58.1	+1.4
	3.4nm,0.1s,SNR=9.7						
MOE	Montemor	1.99	332	eSn	Sn	09 18 56.1	-0.8
MOE				eSg	Sn	09 19 01.3	+4.4
EADA	Adamuz	2.47	55	P	Pn	09 18 40.1	+0.4
	0.4nm,0.1s,SNR=7.9						
EADA				S	Sn	09 19 08.0	-1.1
	1.5nm,0.1s,SNR=5.9						
PTOM	Tomar	3.01	341	eSn	Sn	09 19 20.5	-2.3

MAN 25 09:21:48.5, 10.22N×126.01E, h18^{km}, mb4.2, ML3.0, MS2.8, 3D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCPH	Surigao	0.67	229	⇓eP	Pb	09 22 01.5	+0.2
SCPH				eS	Sb	09 22 12.5	+2.4
MSLP	Maasin	1.13	266	eP	Pb	09 22 09.1	-0.1
BUTP	Butuan	1.30	197	eP	Pn	09 22 10.6	-1.3
PLP	Palo	1.38	313	eP	Pn	09 22 11.9	-1.1
PLP				eS	Sb	09 22 28.7	-1.9
BESP	Borongan	1.48	338	eP	Pn	09 22 13.8	-0.8
BESP				eS	Sn	09 22 35.0	+1.5
TBP	Tagbilaran	2.18	256	eP	Pn	09 22 24.4	-0.1
TBP				eS	Sn	09 22 51.4	+0.2
CGP	Cagayan de Oro	2.18	217	⇓eP	Pn	09 22 24.2	-0.4
CGP				eS	Sn	09 22 39.7	-12
CNP	Catarman	2.63	330	eP	Pn	09 22 29.5	-1.4
GUIM	Jordan	3.38	277	eP	Pn	09 22 41.7	0.0
RCP	Roxas	3.47	293	⇓eP	Pn	09 22 43.0	+0.1
PAGZ	Pagadian	3.50	228	eP	Pn	09 22 43.6	+0.2
PVCP	Virac	3.81	332	eP	Pn	09 22 46.6	-1.2

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*NEIC **25** 09:32:56.7, 16.75N×100.39W, h14^{km}, MD3.8(MEX), After MEX.*

MEX 25 09:32:57.2±0.6**, 16.85N×100.39W, h12^{km}±9^{km}, MD3.9, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ACX	Acapulco	0.45	88	iP	Pg	09 33 05.2	-1.3
ACX				iS	Sg	09 33 11.5	-1.2
ZIIG	Zihuatanejo	1.27	306	eP	Pb	09 33 16.9	-3.8
ZIIG				iS	Sb	09 33 32.8	-4.0
PLIG	Platanillo	1.75	29	eP	Pn	09 33 23.9	-3.8
PLIG				iS	Sn	09 33 45.8	-4.2
PNIG	Pinotepa	2.22	102	eP	Pn	09 33 31.4	-3.0
PNIG				iS	Sn	09 33 56.6	-5.2
YAIG	Yautepec	2.37	32	eP	Pn	09 33 33.0	-3.4
YAIG				iS	Sn	09 33 60.0	-5.7
YAIG	Yautepec	2.37	32	eP	Pn	09 33 31.9	-4.6
YAIG				iS	Sn	09 34 02.2	-3.4
UNM	Universidad Na	2.72	25	eP	Pn	09 33 37.4	-4.1
UNM				iS	Sn	09 34 09.6	-5.1
PPM	Popocatepetl	2.77	37	eP	Pn	09 33 38.0	-4.3
PPM				eS	Sn	09 34 13.0	-2.9
PPM	Popocatepetl	2.77	37	eP	Pn	09 33 41.0	-1.3
PPM				eS	Sn	09 34 15.0	-0.9
PBVM	Pinon	2.86	26	eP	Pn	09 33 40.1	-3.4
PBVM				iS	Sn	09 34 12.7	-5.5
MOIG	Morelia	2.91	345	eP	Pn	09 33 41.1	-3.2
MOIG				iS	Sn	09 34 14.9	-4.7
MOIG	Morelia	2.91	345	iP	Pn	09 33 43.5	-0.8
MOIG				iS	Sn	09 34 17.4	-2.1
VHO	Vista Hermosa	3.51	86	iP	Pn	09 33 50.4	-2.3
VHO				iS	Sn	09 34 29.7	-4.8
OXX	Oaxaca	3.52	86	eP	Pn	09 33 55.0	+2.1
OXX				iS	Sn	09 34 35.0	+0.2
IISM	Ciudad Serdan	3.57	53	eP	Pn	09 33 57.0	+3.4
IISM				iS	Sn	09 34 37.0	+0.8
SFJM	Santa Fe	4.40	326	eP	Pn	09 34 09.0	+3.5

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*LDG **25** 09:57:33.1±1.1, 42.90N×1.45W, h2^{km}, Md1.6/2, Ml1.6/1, Error ellipse: s-maj=20.3km s-min=10.6km az=50.0*

MDD 25 09:57:32.7±0.8**, 42.83N×1.42W, mbLg0.8**/2**, Error ellipse: s-maj=6.0km s-min=3.8km az=50.0, PRXIMO AftershockPLICA, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJPF	Ste Jean	0.32	27	ePg	Pg	09 57 38.6	-0.4
SJPF				eSg	Sg	09 57 41.5	-1.7
	7.9nm,0.3s						
EALK	Alkurruntz	0.39	351	Pg	Pg	09 57 40.1	-0.4
	SNR=7.9						
EALK				Lg		09 57 45.9	
	6.3nm,0.3s,SNR=8.5						
ETSF	Etsaut	0.64	84	ePg	Pg	09 57 44.3	-1.1
ETSF				eSg	Sg	09 57 53.6	-0.3
	1.6nm,0.3s						
EPF	Esparros	1.31	81	ePg	Pg	09 57 57.6	-1.2
EPF				eSg	Sg	09 58 15.8	-0.5
	1.6nm,0.4s						
ETOR	Torete	2.07	193	Pg	Pg	09 58 08.5	-5.4
	SNR=7.9						
ETOR				Lg		09 58 34.7	
	3.4nm,0.8s,SNR=5.6						

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*IDC **25** 10:45:10.8±2.0, 24.94N×123.21E, mb3.5/4, mb1 3.6/4, mb1mx3.5/17, Error ellipse: s-maj=155.0km s-min=21.6km az=65.0*

*JMA **25** 10:45:11.7±0.2, 24.91N×122.96E, h6^{km}, M2.4*

*TAP **25** 10:45:13.1, 24.71N×122.60E, h4^{km}, ML3.1*

ISC 25 10:45:12.9±1.8**, 24.8N**±0.1×**122.95E**±0.10**, h24^{km}**±13^{km}**, n8, σ0^{s}64**/10**, mb3.4**/4**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	Yonaguni jima	0.38	172	P	Pb	10 45 20.5	-0.5
YOJ				eS	Sb	10 45 26.8	+0.3
IRIF	Iriomote-Funau	0.86	125	P	Pb	10 45 29.2	+0.1
IRIF				eS	Sb	10 45 40.3	0.0
JKRS	Kuro-shima	1.13	121	P	Pn	10 45 33.7	+0.3
JIJ	Ishigaki jima	1.18	113	P	Pn	10 45 34.1	0.0
SONM	Songino Array	26.44	334	P	P	10 50 49.2	-0.5
	0.3nm,0.7s,mb2.9,baz=158,slow=7.8,SNR=2.8						
MKAR	Makanchi Array	39.01	315	P	P	10 52 40.0	+0.7
	0.7nm,0.8s,mb3.5,baz=117,slow=6.4,SNR=6.7						
WRA	Warramunga Arr	45.87	165	P	P	10 53 34.0	-1.4
	0.8nm,0.5s,mb3.9,baz=347,slow=8.7,SNR=6.7						
ASAR	Alice Springs	49.37	167	P	P	10 54 03.8	+1.0
	0.2nm,0.7s,mb3.3,baz=354,slow=8.2,SNR=3.7						

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*KISR **25** 10:48:51.2±0.9, 33.46N×49.42E, h33^{km}, ML3.2*

*THR **25** 10:48:52.5±0.7, 33.02N×49.89E, h14^{km}±12^{km}, ML3.3*

ISC 25 10:48:52.6±0.8**, 33.11N**±0.03×**49.69E**±0.10**, h10^{km}, n9, σ0^{s}70**/15**, Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAO	Ashtian	1.46	11	ePG	Pg	10 49 20.5	-1.3
ASAO				eSG	Sg	10 49 41.5	+0.2
ASAO				AMP		10 49 50.3	
	comp=E,434nm,0.7s						
ASAO				AMP		10 49 52.6	
	comp=N,334nm,0.6s						
SNGE	Sanandaj	2.77	316	ePN	Pn	10 49 41.5	+3.5
SNGE				eSG	Sg	10 50 24.6	-0.3
SNGE				AMP		10 50 29.4	
	comp=N,107nm,0.8s						
MIB	Mutribah	3.86	212	eP	Pn	10 49 53.4	0.0
MIB				eS	Sn	10 50 39.1	-0.3
MIB				AML	AML	10 50 47.9	
	comp=Z,39nm,0.5s						
UMR	Umm Al-Rimmam	3.93	206	eP	Pn	10 49 54.3	-0.1
UMR				eS	Sn	10 50 41.2	+0.1
UMR				AML	AML	10 50 43.7	
	comp=Z,30nm,0.5s						
RST	Umm Al-Ruwaisa	4.28	213	eP	Pn	10 49 58.5	-0.8
RST				AML	AML	10 50 46.2	
	comp=Z,21nm,0.5s						
KBD	Kabd	4.28	204	eP	Pn	10 49 58.9	-0.5
KBD				eS	Sn	10 50 50.0	-0.1
RDF	Al-Radifah	4.56	204	eP	Pn	10 50 03.8	+0.4
RDF				eS	Sn	10 50 57.2	+0.2
RDF				AML	AML	10 50 59.2	
	comp=Z,20nm,0.5s						
QRN	Al-Qurain	4.61	200	eP	Pn	10 50 05.1	+0.9
GRMI	Germi	5.87	346	ePN	Pn	10 50 22.8	+1.0

IDC 25 11:05:21.0±15.0**, 11.74N×140.00E, h260^{km}**±153^{km}**, mb3.3**/7**, mb1 3.5**/7**, mb1mx3.4**/15**, Error ellipse: s-maj=79.5km s-min=20.9km az=71.0, Western Caroline Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	31.97	190	P	P	11 11 21.3	-3.9
	0.4nm,1.0s,baz=6.8,slow=9.8,SNR=3.6						
ASAR	Alice Springs	35.69	190	P	P	11 11 56.7	0.0
	0.2nm,0.5s,baz=24,slow=13,SNR=2.9						
SONM	Songino Array	45.66	329	P	P	11 13 15.9	-1.7
	0.6nm,0.5s,baz=137,slow=8.8,SNR=8.2						
MKAR	Makanchi Array	59.58	318	P	P	11 14 58.1	-1.5
	1.1nm,0.7s,baz=103,slow=8.9,SNR=8.4						
YKA	Yellowknife Ar	86.66	27	P	P	11 17 35.4	-0.7
	1.5nm,0.6s,baz=289,slow=4.7,SNR=4.8						
ARCES	ARCESS Array B	87.34	341	P	P	11 17 38.3	-1.0
	1.3nm,0.8s,baz=59,slow=7.1,SNR=4.4						
FINES	FINESS Array B	90.78	334	P	P	11 17 53.7	-1.8
	2.5nm,1.0s,baz=90,slow=6.9,SNR=5.0						

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*NEIC **25** 11:14:10.8, 35.60N×22.66E, h4^{km}, ML3.9(ATH), After ATH.*

*THE **25** 11:14:14.6, 35.41N×22.67E, h20^{km}*

*IDC **25** 11:14:14.9±3.2, 36.13N×22.97E, mb3.9/6, mb1 3.9/8, mb1mx3.7/20, ML3.7/2, Error ellipse: s-maj=75.6km s-min=12.2km az=39.0*

*ATH **25** 11:14:15.1, 35.84N×22.86E, h20^{km}±2^{km}, MD3.7/16, ML3.7*

ISC 25 11:14:13.1±1.1**, 35.70N**±0.07×**22.75E**±0.06**, h6^{km}**±9^{km}**, n50, σ1^{s}35**/56**, mb3.8**/6**, 2C, Central Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KYTH	Kithira	0.62	22	⇑iPB	Pb	11 14 24.5	-1.4
VLI	Veliai	1.03	8	⇑iPN	Pn	11 14 32.1	-1.7
VAM	Vamos	1.22	104	ePN	Pn	11 14 37.5	+0.9
VAM	Vamos	1.22	104	ePn	Pn	11 14 37.2	+0.6
GVD	Gavdhos	1.39	128	ePb	Pb	11 14 34.5	-4.6
ITM	Ithomi	1.62	336	ePN	Pn	11 14 43.5	+1.2
ITM	Ithomi	1.62	336	ePb	Pb	11 14 43.4	+0.4
IDI	Anoyia	1.79	103	Pg	Pg	11 14 47.7	-1.1
	22nm,0.3s,baz=308,slow=16,SNR=99						
IDI				Lg		11 15 10.9	
	45nm,0.3s,baz=87,slow=22,SNR=4.1						
NAIG	Nisos Aigina	2.14	16	ePN	Pn	11 14 50.4	+0.7
NAIG	Nisos Aigina	2.14	16	ePn	Pn	11 14 48.5	-1.2
THR5	Thira Island,	2.22	70	ePn	Pn	11 14 51.3	+0.4
THR6	Thira Island,	2.24	72	ePn	Pn	11 14 51.9	+0.6
THR6				eSn	Sn	11 15 19.5	0.0
THR3	Thira Island,	2.26	71	ePn	Pn	11 14 51.8	+0.3
THR4	Thira Island,	2.27	70	ePn	Pn	11 14 52.1	+0.4
THR4				eSn	Sn	11 15 20.2	-0.1
NSAL	Nisos Salamina	2.27	14	ePN	Pn	11 14 52.3	+0.6
NSAL	Nisos Salamina	2.27	14	ePb	Pb	11 14 52.1	-2.1
SANT	Santorini	2.29	72	eP	Pn	11 14 52.1	+0.1
THR1	Thera Island	2.29	72	ePn	Pn	11 14 52.0	0.0
THR1				eSn	Sn	11 15 20.6	-0.2
NPS	Neapolis	2.38	100	ePN	Pn	11 14 54.0	+0.8
ATH	Athens Observa	2.40	19	ePB	Pb	11 14 52.9	-3.4
ATH	Athens Observa	2.40	19	ePn	Pn	11 14 55.2	+1.8
PTL	Penteli	2.51	21	ePN	Pn	11 14 54.1	-0.9
MKIT	Kithairon Oros	2.51	9	ePn	Pn	11 14 57.1	+2.0
MPAR	Parnis Oros	2.57	18	ePB	Pb	11 14 56.5	-2.7
MPAR	Parnis Oros	2.57	18	ePn	Pn	11 14 56.0	+0.1
APE	Apeiranthos	2.63	58	ePN	Pn	11 14 56.1	-0.6
APE	Apeiranthos	2.63	58	ePn	Pn	11 14 56.0	-0.7
VLS	Valsamata	3.02	326	ePN	Pn	11 15 03.1	+0.8
EVR	Evrytania	3.30	347	ePB	Pb	11 15 09.5	-2.2
AGG	Agios Georgios	3.33	354	ePn	Pn	11 15 08.9	+2.2
AGG				eSn	Sn	11 15 48.5	+1.3
KARP	Karpathos	3.60	91	ePN	Pn	11 15 12.3	+1.8
KARP	Karpathos	3.60	91	ePb	Pb	11 15 12.5	-4.3
XOR	Xorichti	3.68	5	ePn	Pn	11 15 13.1	+1.4
SMG	Samos	3.85	57	ePn	Pn	11 15 16.5	+2.4
JAN	Janina	4.23	340	ePN	Pn	11 15 20.6	+1.1
JAN	Janina	4.23	340	ePn	Pn	11 15 20.5	+1.0
MEV	Metsovon	4.25	344	ePn	Pn	11 15 21.9	+2.1
IGT	Igoumenitsa	4.28	334	ePn	Pn	11 15 20.9	+0.6
IGT				eSn	Sn	11 16 11.1	-0.1
LIT	Litokhoron	4.40	357	ePn	Pn	11 15 24.0	+2.0
KEK	Kerkira	4.64	331	ePN	Pn	11 15 25.6	+0.3
KEK	Kerkira	4.64	331	ePn	Pn	11 15 25.1	-0.2
FNA	Florina	5.19	348	ePn	Pn	11 15 33.2	+0.1
FNA				eSn	Sn	11 16 34.1	0.0
BRTR	Keskin Array B	9.52	62	Pn	P	11 16 33.6	-0.1
	0.3nm,0.3s,baz=232,slow=14,SNR=7.0						
GERES	GERESS Array B	14.73	336	Pn	P	11 17 40.4	-3.2
	0.2nm,0.3s,baz=151,slow=14,SNR=4.5						
HFS	Hagfors	25.14	349	P	P	11 19 36.9	-3.1
	1.1nm,0.5s,mb3.7,baz=169,slow=7.6,SNR=7.4						
FINES	FINESS Array B	25.85	4	P	P	11 19 44.5	-2.2
	2.6nm,0.9s,mb3.8,baz=172,slow=9.7,SNR=5.3						
NOA	NORSAR Array B	26.41	347	P	P	11 19 50.2	-1.6
	0.8nm,0.8s,mb3.3,baz=150,slow=6.2,SNR=3.2						
EKA	Eskdalemuir Ar	26.48	326	P	P	11 19 51.0	-1.5
	4.7nm,0.8s,mb4.1,baz=117,slow=9.3,SNR=11						
ARCES	ARCESS Array B	33.92	2	P	P	11 20 55.7	-2.9
	0.9nm,0.6s,mb3.9,baz=173,slow=9.8,SNR=7.3						
MKAR	Makanchi Array	45.12	57	P	P	11 22 29.8	-2.0
	1.0nm,0.4s,mb4.0,baz=275,slow=8.1,SNR=10						

OTT 25 11:49:10.9±1.2**, 72.98N×77.25W, h18^{km}, MN2.3**/2**, 1C, Baffin Island, Nu 40km northeast from Pond Inlet, Nu, Baffin Island region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PINU	Pond Inlet	0.36	218	⇑PG	Pb	11 49 03.9	-15
PINU				SG	Sb	11 49 09.8	-14
IGL	Igloolik	3.91	204	PN	Pn	11 50 09.2	-2.4
IGL				SN	Sn	11 50 52.1	-5.3
IGL				LG		11 51 10.8	
IGL				Trac		11 51 13.4	
	comp=Z,5.2nm,0.3s						
TULEG	Thule	4.21	28	PN	Pn	11 50 11.7	-4.1
TULEG				SN	Sn	11 50 59.5	-5.6
RES	Resolute Bay	5.21	297	PN	Pn	11 50 28.2	-1.8
RES				SN	Sn	11 51 23.4	-7.0
RES				LG		11 51 56.0	
RES				Trac		11 52 04.3	
	comp=Z,0.9nm,0.2s						
QILN	Qililugaq Expl	7.09	211	PN	Pn	11 50 53.0	-3.4
QILN				SN	Sn	11 52 09.0	-8.2
QILN				LG		11 52 47.9	
QILN				Trac		11 52 57.2	
	comp=Z,0.7nm,0.2s						
EUNU	Eureka	7.41	348	PN	Pn	11 50 58.0	-3.0
YRTN	Rankin Inlet	11.59	216	SN	S	11 53 58.6	-10
YRTN				LG		11 55 01.9	

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*NEIC **25** 11:51:38.0±1.0, 14.84S×71.71W, h124^{km}±10^{km}, mb4.5/3, Error ellipse: s-maj=22.0km s-min=13.8km az=212.0*

*IDC **25** 11:51:44.4±4.6, 15.13S×71.37W, h172^{km}±34^{km}, mb3.9/3, mb1 3.7/5, mb1mx3.4/15, Error ellipse: s-maj=47.3km s-min=27.7km az=122.0*

ISC 25 11:51:37.3±1.1**, 14.9S**±0.1×**71.78W**±0.09**, h135^{km}**±11^{km}**, n13, σ1^{s}09**/13**, mb4.1**/4**, 1D, Central Peru**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARE	Arequipa	1.57	170	⇓iP	P	11 52 07.3	+0.3
LPAZ	La Paz	3.77	112	P	P	11 52 36.4	+1.2
	1.2nm,0.3s,baz=292,slow=4.3,SNR=14						
LPAZ				S	S	11 53 19.7	+0.3
	0.7nm,0.3s,baz=31,slow=25,SNR=4.0						
LPAZ	La Paz	3.77	112	eP	P	11 52 35.8	+0.7
LPAZ				S	S	11 53 19.7	+0.3
NNA	Nana	5.72	300	eP	P	11 53 00.9	-0.2
	22nm,0.8s						
NNA				eS	S	11 54 00.7	-5.4
LVC	Limon Verde	8.13	161	eP	P	11 53 31.2	-2.4
	24nm,0.7s						
CPUP	Villa Florida	17.65	132	P	P	11 55 32.2	-4.0
	0.1nm,0.3s,baz=329,slow=14,SNR=5.0						
BDFB	Brasilia	22.93	95	P	P	11 56 29.3	-1.3
	5.9nm,0.8s,mb4.0,baz=263,slow=11,SNR=6.1						
PLCA	Paso Flores	25.75	178	P	P	11 56 57.4	+0.3
	2.6nm,0.7s,mb4.0,baz=337,slow=9.7,SNR=8.9						
DBIC	Dimbokro	69.70	77	P	P	12 02 35.0	-0.1
	7.4nm,1.1s,mb4.3,baz=241,slow=6.4,SNR=3.0						
QSPA	South Pole Qui	75.25	180	eP	P	12 03 08.1	+1.7
	1.8nm,0.4s,mb4.0						
MKAR	Makanchi Array	141.55	29	PKhKP		12 10 47.7	
	1.1nm,1.0s,slow=4.9,SNR=3.7						
MKAR	Makanchi Array	141.55	29	PKP		12 10 47.7	
SONM	Songino Array	147.13	2	PKPbc	PKPdf	12 11 07.3	+5.2
	1.1nm,0.6s,baz=338,slow=1.8,SNR=10						

CASC 25 11:58:07.3±1.9**, 11.31N×88.03W, h35^{km}**±13^{km}**, MD4.2, 6C-3D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
XAVN	Gruta Xavier	1.86	63	eP	P	11 58 36.0	-1.3
XAVN				eS	S	11 59 00.4	+0.6
TICN	Ticuantepe	1.90	68	eP	P	11 58 37.4	-0.4
TICN				eS	S	11 59 00.8	0.0
MGAN	Managua	1.93	64	eS	S	11 59 02.0	+0.4
CNCH	Conchagua	1.96	5	⇓eP	P	11 58 38.3	-0.4
CNCH				eS	S	11 59 02.4	+0.1
WILN	Americas 2	1.99	65	eS	S	11 59 03.4	+0.3
VSM	San Miguel	2.12	353	⇑eP	P	11 58 40.7	-0.2
VSM				eS	S	11 59 06.9	+0.6
BLLM	Bellamira	2.13	354	eP	P	11 58 41.0	-0.1
BLLM				eS	S	11 59 06.9	+0.3
PYTN	Playitas	2.28	58	eP	P	11 58 41.4	-1.9
PYTN				eS	S	11 59 09.7	-0.8
CONN	Concepcion	2.37	84	⇑eP	P	11 58 42.6	-1.9
CONN				eS	S	11 59 12.0	-0.7
SNVI	San Vicente	2.42	341	eP	P	11 58 44.6	-0.7
SNVI				eS	S	11 59 13.3	-0.7
CAHU	Cacacuatique	2.45	356	eP	P	11 58 46.0	+0.3
LCBS	La Ceiba	2.51	338	⇑eP	P	11 58 45.7	-0.8
LCBS				eS	S	11 59 15.6	-0.6
SOMN	Somoto	2.51	33	eP	P	11 58 47.7	+1.2
SOMN				eS	S	11 59 19.6	+3.4
LFRS	El Faro	2.51	336	⇑eP	P	11 58 45.6	-0.9
LFRS				eS	S	11 59 15.2	-1.1
LBRS	Las Brisas	2.61	338	eP	P	11 58 48.4	+0.5
LBRS				eS	S	11 59 19.4	+0.7
VCR	Vista de Mar	2.63	116	eP	P	11 58 45.9	-2.4
LFU	La Fuente	2.64	336	eP	P	11 58 48.2	-0.3
BOQS	Boqueron	2.70	333	eP	P	11 58 48.9	-0.4
BOQS				eS	S	11 59 21.5	+0.3
SBLS	San Blas	2.96	328	⇑eP	P	11 58 52.4	-0.5
SBLS				eS	S	11 59 27.3	-0.3
SNJE	San Jose	2.97	329	⇑eP	P	11 58 52.4	-0.8
SNJE				eS	S	11 59 28.9	+0.9
RTR	El Retiro	3.02	329	⇓eP	P	11 58 53.7	-0.1
RTR				eS	S	11 59 28.1	-1.1
JCR	Jicaral	3.21	117	eP	P	11 58 54.7	-1.9
MTO2	Montecristo 2	3.33	337	eP	P	11 58 58.3	0.0
CGA2	Cerro Gallo 2	3.73	110	eP	P	11 59 03.4	-0.6
CGA2				eS	S	11 59 45.8	-1.5
PRS1	Puriscal	3.88	110	eP	P	11 59 06.2	+0.1
LAJ	Bijagual	4.10	110	eP	P	11 59 03.6	-5.6
SJS	Escuela Geolog	4.14	109	eP	P	11 59 09.9	+0.2
LCR2	La Lucha 2	4.25	111	eP	P	11 59 11.0	-0.4
TRTC	Tortuguero	4.30	99	eP	P	11 59 11.2	-0.8
URSC	Urasca	4.43	109	eP	P	11 59 14.3	+0.5
BUS	Buena Vista	4.55	112	⇓eP	P	11 59 15.2	-0.3
ACR	Cerro Adams	5.47	118	eP	P	11 59 27.6	-0.9

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*NEIC **25** 12:04:20.7, 34.75S×71.77W, h38^{km}, MD4.0(GUC), After GUC.*

GUC 25 12:04:20.7±0.7**, 34.75S×71.77W, h38^{km}**±2^{km}**, MD4.0, ML3.7, 8C-4D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFDO	San Fernando	0.64	78	⇑iP	P	12 04 33.9	+0.6
TALC	Talca	0.65	170	⇓iP	P	12 04 33.7	+0.3
TALC				iS	S	12 04 43.1	+0.4
TALC				AMP		12 04 44.0	
	comp=N,12µm,0.1s						
LNV	Longovilo	0.85	21	⇓iP	P	12 04 36.6	+0.3
LNV				iS	S	12 04 48.3	+0.6
CACH	El Canelo	1.16	57	⇓iP	P	12 04 41.5	+0.9
CACH				iS	S	12 04 57.6	+2.1
CICH	Cipreses	1.20	69	⇑iP	P	12 04 41.8	+0.6
CICH				iS	S	12 04 57.1	+0.7
CHCH	Chadas Angostu	1.23	49	⇑iP	P	12 04 42.7	+1.0
CHCH				iS	S	12 04 58.9	+1.4
LCCH	Las Cruces	1.29	7	⇑iP	P	12 04 42.9	+0.4
TACH	Talagante	1.30	32	eP	P	12 04 43.4	+0.8
TACH				iS	S	12 05 00.6	+1.5
RCDM	Rinconada Maip	1.49	33	eP	P	12 04 46.0	+0.5
RCDM				iS	S	12 05 04.9	+0.9
RCDM				AMP		12 05 13.7	
	comp=E,2µm,0.1s						
ANTU	Antumapu	1.51	39	eP	P	12 04 46.6	+0.8
ANTU				iS	S	12 05 06.7	+2.2
ANTU				AMP		12 05 08.9	
	comp=E,2µm,0.2s						
PCH	Pirque	1.54	43	⇓iP	P	12 04 46.9	+0.8
PCH				iS	S	12 05 07.2	+2.2
LMEL	Las Melosas	1.58	56	⇑iP	P	12 04 47.6	+0.9
LMEL				iS	S	12 05 08.0	+1.9
LMEL				AMP		12 05 11.1	
	comp=N,2µm,0.1s						
FSR	Penalolen	1.64	39	eP	P	12 04 47.8	+0.3
FSR				iS	S	12 05 09.2	+1.6
FSR				AMP		12 05 15.7	
	comp=N,938nm,0.3s						
DSCH	Colegio Aleman	1.68	37	eP	P	12 04 49.3	+1.2
DSCH				iS	S	12 05 10.6	+1.9
DSCH				AMP		12 05 15.1	
	comp=N,2µm,0.3s						
CLCH	Cerro Calan	1.70	37	⇑iP	P	12 04 49.3	+0.9
CLCH				iS	S	12 05 11.1	+2.0
CLCH				AMP		12 05 18.4	
	comp=N,1µm,0.4s						
FCH	Farellones	1.88	41	⇑iP	P	12 04 51.9	+1.0
FCH				iS	S	12 05 16.3	+2.6
FCH				AMP		12 05 20.7	
	comp=N,1µm,0.4s						
JACH	Jahuel	2.29	26	⇑iP	P	12 04 57.2	+0.4

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*IDC **25** 12:06:33.9±3.2, 31.23S×178.70W, mb3.7/2, mb1 4.0/3, mb1mx3.8/11, ML3.8/1, Error ellipse: s-maj=69.2km s-min=36.3km az=105.0*

*NEIC **25** 12:06:38.0±4.0, 31.33S×178.59W, h34^{km}±37^{km}, Error ellipse: s-maj=47.5km s-min=12.9km az=115.0*

ISC 25 12:06:33.2±2.8**, 31.6S**±0.1×**177.5W**±0.6**, h79^{km}**±23^{km}**, n11, σ0^{s}66**/12**, mb3.5**/2**, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	Raoul Island	2.42	350	eP	P	12 07 11.4	0.0
PUZ	Puketiti	7.32	208	P	P	12 08 20.4	+1.0

MWZ	Matawai	7.84	210	P	P	12 08 26.7	+0.1
URZ	Urewera	7.96	213	Pn	P	12 08 28.7	+0.4
	1.3nm,0.3s,baz=7.5,slow=23,SNR=8.0						
URZ				Sn	S	12 09 57.6	+0.1
	2.2nm,0.3s,baz=150,slow=17,SNR=9.9						
URZ	Urewera	7.96	213	P	P	12 08 28.0	-0.3
BKZ	Black Stump Fm	8.98	212	P	P	12 08 41.0	-1.1
BFZ	Birch Farm	10.35	208	S	S	12 10 50.2	-5.5
MRZ	Mangatainoka R	10.61	210	P	P	12 09 00.2	-4.0
MRZ				S	S	12 10 54.0	-8.0
ASAR	Alice Springs	43.52	268	P	P	12 14 30.8	+0.1
	0.4nm,0.6s,mb3.3,baz=106,slow=7.6,SNR=6.7						
WRA	Warramunga Arr	44.62	273	P	P	12 14 39.7	+0.1
	1.0nm,0.5s,mb3.8,baz=112,slow=7.9,SNR=30						
FINES	FINESS Array B	146.47	340	PKPbc	PKPbc	12 26 13.0	+8.6
	5.9nm,1.2s,baz=34,slow=5.0,SNR=4.0						

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*IDC **25** 12:24:24.7±2.1, 30.84N×70.24E, mb3.6/4, mb1 3.7/5, mb1mx3.5/19, ML3.3/1, Error ellipse: s-maj=79.3km s-min=25.6km az=68.0*

*NEIC **25** 12:24:29.1±1.5, 30.88N×70.45E, h25^{km}, mb3.8/2, Error ellipse: s-maj=28.6km s-min=10.6km az=49.0*

ISC 25 12:24:28.7±1.4**, 30.9N**±0.1×**70.6E**±0.2**, h33**^{km}**, n13, σ1$\overset{s}{.}$14**/14**, mb3.6**/6**, Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KOLN	Koldanda	11.79	102	eP	P	12 27 19.2	+1.7
	12nm,0.6s						
KOLN				eS	S	12 29 35.6	+6.6
AAK	Ala-Archa	12.10	14	eP	P	12 27 20.9	-0.7
	3.3nm,0.5s						
GKN	Gorkha	12.60	100	eP	P	12 27 27.8	-0.6
	11nm,0.4s						
KKN	Kakani	13.20	100	eP	P	12 27 35.5	-0.9
	4.1nm,0.2s						
PKI	Pulchoki	13.38	101	eP	P	12 27 37.5	-1.2
MKAR	Makanchi Array	18.25	26	P	P	12 28 42.9	+1.9
	0.1nm,0.3s,baz=217,slow=12,SNR=4.8						
ZRNK	Zerenda	22.04	357	eP	P	12 29 23.0	+1.1
	5.3nm,1.0s,mb3.9						
BVAR	Borovoye Array	22.08	360	P	P	12 29 21.2	-1.1
	2.4nm,0.7s,mb3.7,baz=172,slow=10,SNR=11						
BRVK	Borovoye	22.11	360	eP	P	12 29 22.2	-0.4
	2.6nm,0.9s,mb3.7						
ARCES	ARCESS Array B	46.20	340	P	P	12 32 51.2	-0.7
	0.8nm,0.8s,mb3.7,baz=139,slow=8.3,SNR=4.7						
ARCES	ARCESS Array B	46.20	340	P	P	12 32 51.2	-0.7
WRA	Warramunga Arr	79.40	121	P	P	12 36 32.9	-0.6
	0.3nm,0.7s,mb3.4,baz=322,slow=5.0,SNR=6.2						
ASAR	Alice Springs	81.40	124	P	P	12 36 45.9	+1.9
	0.2nm,0.6s,mb3.2,baz=303,slow=4.9,SNR=3.7						

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*IDC **25** 12:26:03.9±2.1, 33.76N×24.61E, mb4.0/8, mb1 4.1/14, mb1mx4.0/24, ML4.3/5, Error ellipse: s-maj=38.4km s-min=20.5km az=41.0*

*NEIC **25** 12:26:14.2, 34.30N×25.12E, h38^{km}, mb3.6/2, MD3.8(ATH), After ATH.*

*ATH **25** 12:26:14.2, 34.30N×25.12E, h38^{km}±7^{km}, MD3.8/10*

ISC 25 12:26:09.9±0.6**, 33.93N**±0.05×**25.11E**±0.05**, h60**^{km}±7^{km}**, n70, σ1$\overset{s}{.}$10**/84**, mb3.8**/10**, Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
XRY	Khrisi	1.06	27	ePN	P	12 26 29.1	0.0
GVD	Gavdhos	1.24	317	ePN	P	12 26 33.0	+1.5
IDI	Anoyia	1.37	353	Pn	P	12 26 33.7	+0.3
	36nm,0.3s,baz=182,slow=11,SNR=164						
IDI				Sn	S	12 26 54.3	+3.6
	111nm,0.3s,baz=275,slow=18,SNR=11						
NPS	Neapolis	1.40	17	ePN	P	12 26 34.1	+0.4
VAM	Vamos	1.66	333	ePB	P	12 26 38.0	+0.7
KARP	Karpathos	2.34	46	ePN	P	12 26 48.7	+1.9
THR6	Thira Island,	2.44	6	eP	P	12 26 47.0	-1.2
SANT	Santorini	2.46	7	eP	P	12 26 47.4	-1.1
THR3	Thira Island,	2.49	5	eP	P	12 26 49.0	+0.1
THR5	Thira Island,	2.49	4	eP	P	12 26 48.7	-0.4
KYTH	Kithira	2.90	325	ePB	P	12 26 58.0	+3.2
APE	Apeiranthos	3.15	6	ePN	P	12 26 57.5	-0.9
VLI	Veliai	3.30	328	ePN	P	12 27 00.6	+0.2
ARG	Arkhangelos	3.37	46	ePN	P	12 27 03.0	+1.6
BDRM	Kayabasi	3.67	31	i P	P	12 27 06.0	+0.4
BDRM				i S	S	12 27 35.8	-12
ITM	Ithomi	4.15	322	ePN	P	12 27 15.1	+2.7
DNZL	Cakiroluk	4.93	39	i P	P	12 27 22.8	-0.5
DNZL				i S	S	12 28 16.6	-3.0
AGG	Agios Georgios	5.55	337	eP	P	12 27 31.3	-0.6
LIT	Litokhoron	6.51	342	eP	P	12 27 44.4	-0.8
IGT	Igoumenitsa	6.78	327	eP	P	12 27 48.3	-0.8
CSS	Prodhromos	6.87	79	eP	P	12 27 50.4	+0.1
	5.2nm,0.4s						
FNA	Florina	7.46	338	eP	P	12 27 56.0	-2.4
FNA				eS	S	12 29 13.7	-8.7
MEST	Erdemli	7.85	68	i P	P	12 28 04.0	+0.1
OFRI	‘Ofer	8.37	96	Pn	P	12 28 11.1	+0.1
KZIT	Kziot	8.41	108	Pn	P	12 28 10.6	-0.9
KZIT				Sn	S	12 29 38.0	-8.0
SOI	Samo	8.42	302	ePn	P	12 28 10.6	-1.0
HNTI	Hanita	8.45	93	Pn	P	12 28 12.7	+0.7
HNTI				Sn	S	12 29 41.2	-5.7
SLTI	Sal’it	8.50	99	Pn	P	12 28 12.2	-0.6
SLTI				Sn	S	12 29 40.1	-8.1
RTMM	Retamin	8.58	107	Pn	P	12 28 13.8	-0.1
MASH	Mash‘abbe Sade	8.68	107	Pn	P	12 28 15.1	-0.1
MMLI	Mount Malkishu	8.77	97	Pn	P	12 28 16.4	-0.1
PZI	Palazzolo	8.85	294	ePn	P	12 28 15.9	-1.7
PZI				eSn	S	12 29 45.5	-11
HRI	Mount Hermon	8.89	91	Pn	P	12 28 18.6	+0.5
HMDT	Nahal Hemdat	8.90	98	Pn	P	12 28 18.0	-0.2
BRTR	Keskin Array B	8.96	47	Pn	P	12 28 21.7	+2.7
	0.1nm,0.3s,baz=218,slow=14,SNR=2.9						
BRTR				Sn	S	12 29 53.4	-6.0
	0.1nm,0.3s,baz=219,slow=16,SNR=2.5						
BRTR	Keskin Array B	8.96	47	Pn	P	12 28 21.7	+2.7
BRTR				Sn	S	12 29 53.4	-6.0
DRGI	Dragot	8.97	102	Pn	P	12 28 19.2	0.0
KSHT	Keshet	8.99	93	Pn	P	12 28 19.4	-0.1
KMTI	Karmit	9.01	112	Pn	P	12 28 19.9	+0.2
KMTI				Sn	S	12 29 52.5	-8.2
MZDA	Masada	9.04	104	Pn	P	12 28 19.7	-0.4
PRNI	Paran	9.12	110	Pn	P	12 28 20.9	-0.3
PRNI				Sn	S	12 29 55.7	-7.6
ZFRI	Zfri	9.17	109	Pn	P	12 28 21.3	-0.6
MBH	Mount Berech	9.30	114	Pn	P	12 28 23.5	-0.2
EIL	Elat	9.39	114	Pn	P	12 28 24.3	-0.6
EIL	Elat	9.39	114	Pn	P	12 28 24.9	0.0
	2.5nm,0.3s,baz=257,slow=12,SNR=33						
EIL				Sn	S	12 30 04.5	-5.5
	3.3nm,0.3s,baz=49,slow=29,SNR=6.3						
AQBJ	Aqaba	9.44	114	Pn	P	12 28 25.1	-0.5
COBT	Iskenderun	9.48	71	i P	P	12 28 23.8	-2.4
ALWS	Ilw as Safayha	9.65	116	P	P	12 28 29.2	+0.6
HAQS	Haql	9.69	117	P	P	12 28 28.7	-0.3
TAYS	Tayyib Ism	9.93	120	P	P	12 28 31.9	-0.4
SLCN	Sala Consilina	9.94	313	ePn	P	12 28 32.1	-0.3
ASF	Jabal al Asfar	10.05	97	Pn	P	12 28 36.2	+2.3
	0.7nm,0.3s,baz=144,slow=6.6,SNR=2.3						
ASF				Sn	S	12 30 19.1	-7.0
	1.4nm,0.3s,baz=159,slow=1.8,SNR=3.7						
SGO	Sicignano	10.24	313	ePn	P	12 28 35.4	-1.1
JMQS	Jabal Moqyreh	10.48	116	P	P	12 28 40.6	+0.8
VRAC	Vranov	16.62	340	Pn	P	12 30 00.7	+0.7
	0.2nm,0.3s,baz=196,slow=8.9,SNR=3.5						
AKASG	Malin Array Be	17.03	9	P	P	12 30 05.8	+0.6
	1.9nm,0.3s,baz=202,slow=11,SNR=7.0						
GERES	GERESS Array B	17.16	334	P	P	12 30 08.5	+1.7
	0.6nm,0.3s,baz=144,slow=12,SNR=22						
KHC	Kasperske Hory	17.44	334	eP	P	12 30 13.5	+3.1
HFS	Hagfors	27.27	348	P	P	12 31 51.1	+0.8
	2.1nm,0.7s,mb3.8,baz=164,slow=10,SNR=7.9						
FINES	FINESS Array B	27.54	1	P	P	12 31 52.4	-0.3
	2.0nm,0.8s,mb3.8,baz=164,slow=11,SNR=11						
KAF	Kangasniemi	28.21	1	ep	P	12 31 57.7	-1.1
	0.2nm,0.3s,mb3.2,baz=177,slow=9.5						
NAO01	NORSAR Array S	28.47	345	eP	P	12 32 00.3	-0.8
	2.5nm,0.7s,mb4.0						
NOA	NORSAR Array B	28.58	346	P	P	12 32 02.7	+0.6
	0.4nm,0.5s,mb3.5,baz=146,slow=10,SNR=2.9						
EKA	Eskdalemuir Ar	29.03	326	P	P	12 32 05.3	-0.8
	0.7nm,0.4s,mb3.7,SNR=3.8						
EKA	Eskdalemuir Ar	29.03	326	P	P	12 32 05.3	-0.8
ARCES	ARCESS Array B	35.66	0	P	P	12 33 03.5	-0.3
	0.9nm,0.6s,mb3.9,baz=173,slow=9.5,SNR=11						
MKAR	Makanchi Array	44.50	55	P	P	12 34 20.1	+3.3
	1.4nm,0.3s,mb4.1,baz=270,slow=7.4,SNR=6.2						
ZAL	Zalesovo	45.88	45	P	P	12 34 30.6	+2.8
	1.9nm,0.3s,mb4.5,baz=67,slow=3.3,SNR=3.2						
SONM	Songino Array	60.30	50	P	P	12 36 17.4	+2.9
	0.5nm,0.5s,mb3.8,baz=297,slow=8.3,SNR=4.6						
SML	Sawmill	84.46	357	eP	P	12 38 41.0	+4.4

IDC 25 12:55:37.1±2.4**, 3.06N**×**95.58E, mb3.8**/7**, mb1 3.9**/7**, mb1mx3.7**/17**, MS3.1**/1**, Ms1 3.3**/1**, ms1mx2.7**/18**, Error ellipse: s-maj=106.0km s-min=21.7km az=56.0, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	15.66	12	LR	LR	13 06 17.0	
	comp=Z,58nm,18.1s,baz=180,slow=41						
WRA	Warramunga Arr	44.39	123	P	P	13 03 49.5	-2.1
	0.4nm,0.4s,baz=300,slow=9.3,SNR=6.3						
MKAR	Makanchi Array	45.07	347	P	P	13 03 55.0	-1.7
	1.0nm,0.6s,baz=162,slow=8.0,SNR=10.0						
SONM	Songino Array	45.57	10	P	P	13 03 58.6	-2.0
	0.7nm,0.7s,baz=190,slow=9.1,SNR=6.0						
ASAR	Alice Springs	45.80	128	P	P	13 04 01.4	-1.4
	0.2nm,0.5s,baz=292,slow=7.6,SNR=3.1						
ZAL	Zalesovo	51.48	352	P	P	13 04 44.5	-1.9
	1.3nm,0.6s,baz=212,slow=9.5,SNR=5.0						
BVAR	Borovoye Array	53.98	341	P	P	13 05 02.8	-2.2
	0.9nm,0.7s,baz=143,slow=7.4,SNR=6.5						
ARCES	ARCESS Array B	80.25	340	P	P	13 07 49.0	-1.9
	1.8nm,1.1s,baz=108,slow=3.8,SNR=4.5						

IDC 25 12:56:48.5±2.9**, 14.47S**×**167.50E, mb3.7**/4**, mb1 3.8**/4**, mb1mx3.6**/13**, Error ellipse: s-maj=110.0km s-min=47.3km az=144.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	29.33	229	P	P	13 02 53.8	-1.4
	1.6nm,0.6s,baz=36,slow=8.2,SNR=3.8						
WRA	Warramunga Arr	32.11	256	P	P	13 03 17.3	-2.5
	0.5nm,1.0s,baz=87,slow=8.7,SNR=3.1						
ASAR	Alice Springs	32.98	249	P	P	13 03 24.5	-2.8
	0.5nm,0.4s,baz=80,slow=8.8,SNR=13						
FITZ	Fitzroy Crossi	40.28	259	P	P	13 04 28.2	-1.0
	0.2nm,0.4s,baz=6.1,slow=23,SNR=3.2						
ARCES	ARCESS Array B	120.05	346	PKP	PKPdf	13 15 40.4	-2.1
	1.0nm,0.9s,baz=56,slow=3.3,SNR=4.4						

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*IDC **25** 13:33:11.8±1.8, 33.63N×24.36E, mb4.0/5, mb1 4.0/8, mb1mx3.8/20, ML4.1/3, Error ellipse: s-maj=37.3km s-min=18.4km az=88.0*

*NEIC **25** 13:33:23.4, 34.25N×25.08E, h37^{km}, MD3.5(ATH), After ATH.*

*ATH **25** 13:33:23.4, 34.25N×25.08E, h37^{km}±6^{km}, MD3.5/5*

ISC 25 13:33:20.6±1.8**, 33.9N**±0.2×**25.1E**±0.1**, h56**^{km}±10^{km}**, n14, σ1$\overset{s}{.}$13**/14**, mb3.8**/5**, Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
XRY	Khrisi	1.05	28	ePN	P	13 33 39.0	-0.5
GVD	Gavdhos	1.23	317	ePN	P	13 33 42.7	+0.9
IDI	Anoyia	1.35	353	Pg	P	13 33 43.1	-0.6
	14nm,0.3s,baz=156,slow=23,SNR=76						
IDI				Lg		13 34 06.2	
	40nm,0.3s,baz=306,slow=20,SNR=11						
NPS	Neapolis	1.38	18	ePN	P	13 33 44.1	-0.1
VAM	Vamos	1.64	333	ePB	P	13 33 47.5	-0.1
KARP	Karpathos	2.33	46	ePN	P	13 33 58.5	+1.1
EIL	Elat	9.40	114	Pn	P	13 35 34.9	-1.1
	1.3nm,0.3s,baz=256,slow=12,SNR=8.0						
AKASG	Malin Array Be	17.02	9	P	P	13 37 15.4	-0.5
	0.6nm,0.3s,baz=202,slow=10,SNR=4.2						
GERES	GERESS Array B	17.14	334	Pn	P	13 37 19.0	+1.5
	0.3nm,0.3s,baz=146,slow=12,SNR=15						
HFS	Hagfors	27.25	348	P	P	13 38 60.0	-1.2
	0.9nm,0.6s,mb3.5,baz=180,slow=8.6,SNR=3.1						
FINES	FINESS Array B	27.52	1	P	P	13 39 02.1	-1.5
	2.9nm,1.1s,mb3.8,baz=162,slow=18,SNR=4.2						
ARCES	ARCESS Array B	35.65	0	P	P	13 40 13.4	-1.3
	4.9nm,1.2s,mb4.3,baz=173,slow=9.8,SNR=8.3						
MKAR	Makanchi Array	44.50	55	P	P	13 41 30.0	+2.1
	1.3nm,0.4s,mb4.0,baz=274,slow=6.8,SNR=24						
SONM	Songino Array	60.30	50	P	P	13 43 27.2	+1.7
	0.3nm,0.5s,mb3.6,baz=279,slow=7.8,SNR=4.3						

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*NEIC **25** 14:10:49.7, 30.70S×71.68W, h17^{km}, ML3.7(GUC), After GUC.*

GUC 25 14:10:49.7±0.6**, 30.70S**×**71.68W, h17**^{km}±3^{km}**, MD4.0, ML3.7, 3C-3D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OVCH	Ovalle	0.42	78	⇓iP	Pb	14 10 58.4	+0.1
OVCH				i S	Sb	14 11 04.7	+0.6
OVCH				AMP		14 11 05.6	
	comp=E,7µm,0.4s						
CMCH	Combarbala	0.75	129	⇓iP	Pb	14 11 03.6	-0.3
CMCH				i S	Sb	14 11 13.9	+0.4
CMCH				AMP		14 11 14.3	
	comp=N,10µm,0.3s						
LSCH	La Serena	0.87	25	⇑iP	Pb	14 11 05.4	-0.6
LSCH				i S	Sb	14 11 16.8	-0.4
LSCH				AMP		14 11 20.2	
	comp=N,3µm,0.5s						
TLL	Tololo Astrono	0.92	55	⇓iP	Pb	14 11 06.7	-0.1
TLL				i S	Sb	14 11 19.4	+0.9
TLL				AMP		14 11 22.0	
	comp=N,4µm,0.3s						
JACH	Jahuel	2.18	155	⇑iP	Pn	14 11 26.6	+0.8
JACH				i S	Sn	14 11 54.4	+1.7
VACH	Vallenar	2.26	21	⇑iP	Pn	14 11 27.3	+0.4
VACH				i S	Sn	14 11 56.1	+1.5
PEL	Peldehue	2.58	161	i S	Sn	14 12 04.7	+1.9
FCH	Farellones	2.87	156	eP	Pn	14 11 36.4	+0.7
FCH				i S	Sn	14 12 11.8	+1.6
FCH				AMP		14 12 26.7	
	comp=E,215nm,0.6s						
RCDM	Rinconada Maip	2.88	165	eP	Pn	14 11 35.5	-0.2
RCDM				i S	Sn	14 12 11.0	+0.6
TACH	Talagante	3.01	168	eP	Pn	14 11 37.4	-0.2
CHCH	Chadas Angostu	3.34	165	eP	Pn	14 11 41.9	-0.4
LMEL	Las Melosas	3.38	159	eP	Pn	14 11 43.2	+0.3
LMEL				i S	Sn	14 12 23.7	+0.8
LMEL				AMP		14 12 35.5	
	comp=E,215nm,0.4s						
SFDO	San Fernando	3.94	172	eP	Pn	14 11 51.2	+0.3

DJA 25 14:26:28.1±0.9**, 9.61S**×**116.01E, h2**^{km}**, ML5.1**/4**, 4C-4D, Error ellipse: s-maj=19.0km s-min=12.4km az=164.0, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RATI	Rata	1.00	332	⇑ePn	Pn	14 26 45.7	-3.3
	3µm,77.5s						
RATI				⇓eSn	Sn	14 26 58.4	-5.4
KEDI	Kedomdong	1.12	5	⇑ePn	Pn	14 26 47.6	-3.1
	2µm,65.0s						
KEDI				⇑eSn	Sn	14 27 03.4	-3.5
INGI	Ingas	1.16	313	⇓ePn	Pn	14 26 47.8	-3.5
	5µm,62.0s						
INGI				⇓eSn	Sn	14 27 02.3	-5.6
KELI	Kelakatan	2.04	313	⇑ePn	Pn	14 27 01.9	-2.0
	496nm,85.0s						
KELI				⇓eSn	Sn	14 27 25.5	-4.8

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*ISK **25** 14:28:52.9, 38.41N×39.23E, h8^{km}, MD4.0, ML4.1*

*NEIC **25** 14:28:52.9, 38.41N×39.24E, h8^{km}, After ISK.*

*IDC **25** 14:28:53.9±1.5, 38.26N×39.31E, mb3.7/5, mb1 4.0/9, mb1mx3.8/20, ML3.3/3, MS3.2/2, Ms1 3.2/2, ms1mx2.5/17, Error ellipse: s-maj=31.9km s-min=19.9km az=167.0*

ISC 25 14:28:52.7±0.8**, 38.37N**±0.04×**39.27E**±0.03**, h2**^{km}±6^{km}**, n40, σ1$\overset{s}{.}$00**/48**, mb3.6**/5**, MS3.1**/1**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ELZG	Elazig	0.26	301	i P	Pg	14 28 57.8	-0.1
ELZG				i S	Sg	14 29 06.0	+4.6
PTK	Pertek	0.53	11	i PG	Pg	14 29 03.2	-0.2
PTK				i SG	Sg	14 29 10.6	+0.1
MALT	Malatya	0.66	266	i PG	Pg	14 29 05.6	-0.3
MALT				i SG	Sg	14 29 15.2	+0.4
MALT	Malatya	0.66	266	i P	Pg	14 29 05.4	-0.5
MALT				i S	Sg	14 29 16.1	+1.4
MALT	Malatya	0.66	266	Pg	Pg	14 29 05.6	-0.3
MALT				Sg	Sg	14 29 15.6	+0.8
MYA	Malataya	0.66	267	i PG	Pg	14 29 05.6	-0.4
MYA	Malataya	0.66	267	Pg	Pg	14 29 05.7	-0.3
DIY	Diyarbakir	0.89	122	PG	Pg	14 29 11.3	+0.8
BINT	Bingol	1.08	62	PN	Pn	14 29 13.4	-1.5
EZC	Erzincan	1.45	17	PN	Pn	14 29 17.9	-2.1
BEST	Besiri	1.65	106	i P	Pn	14 29 23.0	0.0
BEST				i S	Sb	14 29 45.8	+1.0
GZT	Gaziantep	1.68	234	i P	Pn	14 29 24.0	+0.6
GZT				i S	Sb	14 29 51.0	+5.2
BTMT	Batman	1.76	95	PN	Pn	14 29 23.0	-1.5
KELT	Kelkit	1.78	360	i P	Pn	14 29 25.8	+0.9
KELT				i S	Sn	14 29 54.8	+6.4
GAZ	Gaziantep	2.02	234	PN	Pn	14 29 28.5	+0.3
KAHT	Ahir Dag	2.03	250	i P	Pn	14 29 29.1	+0.7
KAHT				i S	Sn	14 29 54.8	+0.1
GUMT	Gumushane	2.10	4	PN	Pn	14 29 28.8	-0.6
EZM	Erzurum	2.24	46	PN	Pn	14 29 31.8	+0.4
ERZM	Erzurum	2.24	46	i P	Pn	14 29 32.7	+1.3
SVST	Sivas	2.28	309	i P	Pn	14 29 34.9	+2.9
SVSK	Karacayir	2.35	312	ePN	Pn	14 29 32.2	-0.7
TOKT	Tokat	2.87	314	ePN	Pn	14 29 39.4	-1.1
COBT	Iskenderun	3.02	233	i P	Pn	14 29 42.2	-0.4
VANB	Van	3.24	85	ePN	Pn	14 29 46.4	+0.7
HKR	Hakkari	3.62	101	ePN	Pn	14 29 50.8	-0.3
HKR	Hakkari	3.62	101	Pn	Pn	14 29 51.5	+0.4
BRTR	Keskin Array B	4.59	289	Pn	Pn	14 30 05.3	+0.6
	1.9nm,0.3s,baz=113,slow=15,SNR=38						
BRTR				Lg		14 31 26.3	
	0.7nm,0.3s,baz=318,slow=18,SNR=4.9						
BRTR				LR	LR	14 32 16.8	
	comp=Z,292nm,21.1s,baz=125,slow=44						
GNI	Garni	4.61	66	P	Pn	14 30 01.1	-4.0
HWQ	Hawqa	4.88	214	ePN	Pn	14 30 09.0	0.0
BHL	Bhannes	5.33	214	ePN	Pn	14 30 10.6	-4.7
CSS	Prodhromos	5.86	236	eP	Pn	14 30 22.3	-0.4
	12nm,0.6s						
ASF	Jabal al Asfar	6.48	198	Pn	Pn	14 30 30.5	-1.0
	0.3nm,0.3s,baz=255,slow=9.3,SNR=11						
ASF				Lg		14 32 23.3	
	1.4nm,0.3s,baz=73,slow=19,SNR=3.6						
IDI	Anoyia	11.92	259	Pn	P	14 31 45.7	-1.1
	0.3nm,0.3s,baz=81,slow=19,SNR=2.6						
VAE	Valguarnera	19.62	275	P	P	14 33 23.2	-2.0
	4.9nm,0.3s,baz=118,slow=13,SNR=5.1						
GERES	GERESS Array B	21.17	308	P	P	14 33 41.6	+0.1
	1.7nm,1.0s,mb3.4,baz=126,slow=12,SNR=7.8						
DAVOX	Davos	23.11	301	P	P	14 34 03.4	+2.5
	2.9nm,0.9s,mb3.7,baz=133,slow=13,SNR=2.7						
FINES	FINESS Array B	24.52	345	P	P	14 34 16.1	+1.8
	2.8nm,0.8s,mb3.9,baz=141,slow=8.9,SNR=4.3						
BVAR	Borovoye Array	25.96	45	P	P	14 34 28.1	0.0
	0.7nm,0.8s,mb3.3,baz=233,slow=7.2,SNR=4.5						
ARCES	ARCESS Array B	32.10	351	LR	LR	14 48 15.2	
	comp=Z,33nm,18.2s,MS3.1,baz=320,slow=36						
MKAR	Makanchi Array	32.44	61	P	P	14 35 25.7	-0.5
	0.9nm,0.8s,mb3.6,baz=252,slow=7.7,SNR=5.3						

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*IDC **25** 14:51:54.8±3.9, 51.53N×157.58E, mb3.5/3, mb1 3.9/3, mb1mx3.5/21, Error ellipse: s-maj=421.0km s-min=31.0km az=125.0*

*MOS **25** 14:51:55.7±2.5, 52.18N×156.20E, h33^{km}, mb4.3/1, Error ellipse: s-maj=21.2km s-min=9.7km az=62.1*

*KRSC **25** 14:51:57.1±1.1, 51.35N×158.37E, h20^{km}±5^{km}, ML4.5*

ISC 25 14:51:58.4±0.8**, 51.34N**±0.04×**158.39E**±0.07**, h34**^{km}±11^{km}**, n40, σ1$\overset{s}{.}$01**/66**, mb3.4**/3**, 1D, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PAU	Pauzhetka	1.00	278	i P	P	14 52 16.4	+0.3
PAU				eS	S	14 52 29.4	+0.2
PAU				Smax			
	200nm,0.4s						
RUS	Russkaya	1.09	4	P	P	14 52 16.2	-1.2
RUS				S	S	14 52 29.6	-2.0
RUS	Russkaya	1.09	4	eP	P	14 52 16.1	-1.3
RUS				eS	S	14 52 29.8	-1.8
GRL	Gorelyy	1.23	351	i P	P	14 52 19.3	0.0
GRL				eS	S	14 52 34.9	-0.1
MIPR	Malaya Ipel’ka	1.38	313	i P	P	14 52 22.2	+0.6
MIPR				eS	S	14 52 39.4	+0.6
SKR	Severo-Kuril’s	1.58	246	i P	P	14 52 23.0	-1.4
SKR				i S	S	14 52 43.0	-0.9
SKR	Severo-Kuril’s	1.58	246	⇓iPN	P	14 52 23.0	-1.4
SKR				i S	S	14 52 43.0	-0.9
SKR				pmax	pmax		
	comp=E,30nm,0.4s						
SKR				pmax	pmax		
	comp=Z,40nm,0.4s						
SKR				pmax	pmax		
	comp=N,30nm,0.2s						
SKR				smax			
	comp=N,2µm,2.0s						
SKR				smax			
	comp=E,2µm,1.0s						
SKR				smax			
	comp=N,2µm,0.5s						
SKR				smax			
	comp=E,2µm,0.5s						
PET	Petropavlovsk	1.69	5	P	P	14 52 25.4	-0.6
PET				S	S	14 52 45.6	-1.1
PET	Petropavlovsk	1.69	5	eP	P	14 52 25.3	-0.7
PET				eS	S	14 52 45.7	-1.0
ALID	Alaid	1.85	256	eP	P	14 52 28.6	+0.3
ALID				eS	S	14 52 51.2	+0.4
UGLR	Uglovaya	1.89	8	i P	P	14 52 28.6	-0.2
UGLR				eS	S	14 52 51.0	-0.7
NLC	Nalytchevo	1.92	17	P	P	14 52 30.7	+1.4
NLC				S	S	14 52 54.4	+1.9
AVH	Avacha	1.94	6	eP	P	14 52 29.4	-0.1
AVH				eS	S	14 52 51.9	-1.0
SMAR	Somma	1.94	7	eP	P	14 52 29.6	0.0
SMAR				eS	S	14 52 54.2	+1.2
KOK	Koryaka	1.96	4	eP	P	14 52 30.2	+0.4
KOK				eS	S	14 52 55.7	+2.3
SDLR	Sedlovina	1.96	9	eP	P	14 52 28.9	-1.0
SDLR				eS	S	14 52 53.5	0.0
SPN	Mys Shipunski	2.02	29	P	P	14 52 30.3	-0.5
SPN				S	S	14 52 54.0	-1.1
SPN	Mys Shipunski	2.02	29	eP	P	14 52 30.1	-0.7
SPN				eS	S	14 52 54.0	-1.1
GNL	Ganaly	2.37	354	eP	P	14 52 35.8	0.0
GNL				eS	S	14 53 03.9	-0.1
KII	Karymskiy	2.77	13	P	P	14 52 41.7	+0.2
KII				S	S	14 53 13.7	-0.5
KII	Karymskiy	2.77	13	eP	P	14 52 42.4	+0.9
KII				eS	S	14 53 14.4	+0.2
MKZ	Mys Kozlova	3.80	31	P	P	14 52 56.3	+0.2
MKZ				S	S	14 53 38.1	-2.1
MKZ	Mys Kozlova	3.80	31	eP	P	14 52 54.9	-1.2
MKZ				eS	S	14 53 36.8	-3.4
TUMR	Tumrok	4.08	14	P	P	14 53 01.3	+1.2
TUMR				eS	S	14 53 47.5	0.0
KMNR	Kamenistaya	4.56	13	eP	P	14 53 07.3	+0.5
ESO	Esso	4.59	2	eP	P	14 53 07.5	+0.1
ESO				eS	S	14 53 58.0	-2.3
KPT	Kopyto	4.76	13	eP	P	14 53 10.2	+0.5
KOZ	Kozyrevsk	4.81	10	P	P	14 53 08.2	-2.2
ZLN	Zelenaya	4.90	16	eP	P	14 53 12.9	+1.2
LGNR	Loginova	4.94	15	eP	P	14 53 14.7	+2.4
CIRR	Tsirk	4.98	15	P	P	14 53 13.4	+0.5
SRDR	Sredinnyy	5.04	8	eP	P	14 53 14.6	+0.9
KRSR	Krestovskiy	5.05	14	P	P	14 53 14.8	+1.0
KLY	Klyuchi	5.16	14	P	P	14 53 14.6	-0.7
KBTR	Krutoberegovo	5.54	27	P	P	14 53 22.5	+1.9
KBTR				S	S	14 54 24.5	+0.5
KBTR	Krutoberegovo	5.54	27	eP	P	14 53 20.2	-0.4
COLA	College	30.39	43	eP	P	14 58 08.3	-0.7
ILAR	Eielson Array	30.80	43	P	P	14 58 13.5	+0.8
	comp=E,0.3nm,0.7s,mb3.2,baz=270,slow=4.5,SNR=4.4						

WRA	Warramunga Arr	74.05	204	P	P	15 03 31.2	-1.3
	comp=E,0.4nm,0.5s,mb3.6,baz=18,slow=6.1,SNR=8.6						
ASAR	Alice Springs	77.73	203	P	P	15 03 54.2	+0.8
	comp=E,0.3nm,0.5s,mb3.5,baz=13,slow=5.4,SNR=7.1						

IDC ***25*** *15:10:42.3±2.9, 17.32S×129.09E, mb1 4.0/5, mb1mx3.7/11, ML3.7/4, Error ellipse: s-maj=36.6km s-min=14.3km az=9.0*
NEIC ***25*** *15:10:42.0, 16.78S×129.15E, h10^{km}, mb3.9/2, ML4.0(AUST), After AUST.*
AUST ***25*** *15:10:42.1, 16.78S×129.15E, h10^{km}, ML4.0*
ISC 25 15:10:36.7±0.6**, 17.04S**±0.04×**129.06E**±0.05**, h10^{km}, n19,** σ**1^{s}47**/35**, Northern Territory**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KNA	Kununurra	1.31	348	eP	Pb	15 11 01.2	+0.2
KNA				eS	Sb	15 11 15.6	-2.1
	141nm,0.3s						
FITZ	Fitzroy Crossi	3.43	251	eP	Pn	15 11 36.6	+5.2
	16nm,0.3s						
FITZ	Fitzroy Crossi	3.43	251	Pn	Pn	15 11 36.4	+5.0
	3.4nm,0.3s,baz=50,slow=6.2,SNR=71						
FITZ				Sn	Sn	15 12 18.8	+6.2
	19nm,0.3s,baz=192,slow=6.2,SNR=7.9						
FITZ				Lg		15 12 29.8	
	47nm,0.3s,baz=152,slow=11,SNR=14						
KAKA	Kakadu	5.38	37	eP	Pn	15 12 02.9	+3.8
KAKA				eS	Sn	15 13 03.6	+1.7
	89nm,0.4s						
KAKA	Kakadu	5.38	37	eP	Pn	15 12 02.9	+3.8
	89nm,0.4s						
KAKA				eS	Sn	15 13 03.6	+1.7
WRA	Warramunga Arr	5.78	121	Pn	Pn	15 12 06.1	+1.4
	1.1nm,0.3s,baz=297,slow=13,SNR=67						
WRA				Pg	Pg	15 12 30.0	-2.2
	5.1nm,0.3s,baz=302,slow=16,SNR=16						
WRA				Sn	Sn	15 13 11.9	0.0
	10nm,0.3s,baz=295,slow=26,SNR=8.3						
WRA				Lg		15 13 40.8	
	15nm,0.3s,baz=297,slow=28,SNR=11						
WRAB	Tennant Creek	5.79	121	ePn	Pn	15 12 05.4	+0.6
	5.1nm,0.4s						
WRAB				ePg	Pg	15 12 29.5	-2.8
WRAB				eSn	Sn	15 13 09.2	-2.8
WRAB				eSg	Sg	15 13 38.1	-11
WB2	Warramunga Arr	5.79	121	eP	Pn	15 12 06.4	+1.5
WB2				eS	Sn	15 13 11.6	-0.6
ASPA	Alice Springs	8.01	146	eP	Pn	15 12 37.8	+1.8
ASPA				eS	Sn	15 14 07.4	-0.1
ASAR	Alice Springs	8.01	146	Pn	Pn	15 12 37.7	+1.7
	2.1nm,0.3s,baz=322,slow=11,SNR=67						
ASAR				Sn	Sn	15 14 08.4	+0.9
	2.3nm,0.3s,baz=318,slow=24,SNR=13						
ASAR				Lg		15 14 51.5	
	4.4nm,0.3s,baz=323,slow=33,SNR=9.1						
MBWA	Marble Bar	9.73	244	eP	P	15 13 01.2	+1.3
QIS	Mount Isa	10.58	111	eP	P	15 13 10.5	-1.1
QIS				eS	S	15 15 02.0	-9.3
	5.8nm,0.4s						
QIS	Mount Isa	10.58	111	eP	P	15 13 10.5	-1.1
	5.8nm,0.4s						
QIS				eS	S	15 15 02.0	-9.3
MEEK	Meekatharra	13.61	224	eP	P	15 13 51.9	-0.5
KMBL	Kambalda	15.69	203	eP	P	15 14 18.3	-1.3
KMBL				eS	S	15 17 01.5	-12
	17nm,0.5s						
KMBL	Kambalda	15.69	203	eP	P	15 14 18.3	-1.3
	17nm,0.5s						
KMBL				eS	S	15 17 01.5	-12
CTAO	Charters Tower	16.58	103	eP	P	15 14 34.6	+3.5
	1.7nm,0.7s						
STKA	Stephens Creek	18.64	145	P	P	15 14 57.9	+1.1
	0.5nm,0.3s,baz=309,slow=12,SNR=9.1						
NWAO	Narrogin (SRO)	19.09	212	P	P	15 15 00.7	-1.3
	0.4nm,0.3s,baz=35,slow=11,SNR=3.9						

NAO ***25*** *15:42:19.8±4.8, 76.29N×12.19E, h39^{km}±69^{km}, ML2.1*
BER ***25*** *15:42:19.9±4.5, 76.32N×12.03E, h15^{km}±88^{km}, ML2.1(NAO)*
ISC 25 15:42:16.3±1.6**, 76.34N**±0.08×**12.0E**±0.5**, h10^{km}, n4,** σ**0^{s}92**/7**, Svalbard region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HSP	Hornsund	1.06	49	ePg	Pg	15 42 38.8	+1.2
HSP				eSg	Sg	15 42 51.3	-0.5
SPA0	Spitsbergen Ar	2.09	26	Pn	Pn	15 42 53.3	+1.4
	baz=189,slow=14						
SPA0				Sn	Sn	15 43 17.4	-0.7
	baz=216,slow=22						
KBS	Kingsbay	2.60	360	Pn	Pn	15 42 58.4	-0.8
ARA0	ARCESS Array S	7.88	143	Pn	Pn	15 44 13.2	-0.6
	baz=326,slow=12						
ARA0				Sn	Sn	15 45 35.0	-8.9
	baz=332,slow=22						

PRU ***25*** *15:48:11.4, 51.47N×16.08E*
WAR ***25*** *15:48:11.5, 51.51N×16.06E, ML2.9, Mining Induced*
NEIC ***25*** *15:48:14.7±1.2, 51.27N×15.75E, h5^{km}, ML2.7(VIE), Error ellipse: s-maj=15.3km s-min=7.3km az=196.0*
ISC 25 15:48:09.5±0.8**, 51.45N**±0.04×**16.06E**±0.04**, n16,** σ**1^{s}15**/36**, 2C-1D, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	Ksiaz	0.63	166	i PG	Pg	15 48 24.0	+2.0
KSP				eSG	Sg	15 48 33.0	+2.7
KSP	Ksiaz	0.63	166	⇓iPg	Pg	15 48 24.0	+2.0
KSP				eSg	Sg	15 48 32.8	+2.5
UPC	Upice	0.94	182	ePG	Pg	15 48 29.8	+1.5
DPC	Dobruska-Polom	1.11	171	ePG	Pg	15 48 32.7	+1.0
DPC				eSG	Sg	15 48 47.9	+1.4
	20nm,0.3s						
PVCC	Panska Ves	1.32	226	ePG	Pg	15 48 36.4	+0.7
BRG	Berggiesshubel	1.45	247	ePn	Pn	15 48 37.9	+0.9
BRG				i Pg	Pg	15 48 38.7	+0.3
BRG				i Sg	Sg	15 48 58.8	+1.1
PRU	Pruhonice	1.75	214	ePN	Pn	15 48 42.1	+0.8
PRU				ePG	Pg	15 48 43.5	-0.9
PRU				i x	x	15 48 45.9	
PRU				i x	x	15 49 00.7	
PRU				eSG	Sg	15 49 06.6	-1.1
	13nm,0.4s						
CLL	Collm	1.92	267	i PN	Pn	15 48 43.6	-0.1
CLL				i PG	Pg	15 48 46.9	-0.9
CLL				e		15 48 51.0	
CLL				i SG	Sg	15 49 12.2	-1.1
CLL	Collm	1.92	267	i Pn	Pn	15 48 43.6	-0.1
CLL				i Pg	Pg	15 48 46.9	-0.9
CLL				i Sg	Sg	15 49 12.2	-1.1
MORC	Moravsky Berou	1.92	150	ePn	Pn	15 48 44.0	+0.2
OKC	Ostrava-Krasne	2.09	140	ePG	Pg	15 48 51.0	-0.2
OKC				eSG	Sg	15 49 17.7	-1.4
NKC	Novy Kostel	2.59	243	ePN	Pn	15 48 54.5	+1.2
NKC				ePG	Pg	15 49 00.7	-0.5
NKC				eSG	Sg	15 49 35.1	-0.6
OJC	Ojcow	2.67	116	ePg	Pg	15 49 01.4	-1.4
OJC				eSg	Sg	15 49 36.9	-1.6
KHC	Kasperske Hory	2.81	215	ePN	Pn	15 48 57.3	+0.8
KHC				ePG	Pg	15 49 03.5	-2.1
KHC				eSN	Sn	15 49 32.0	+0.4
KHC				eSG	Sg	15 49 42.1	-1.0
MOA	Molln	3.79	199	⇑iPN	Pn	15 49 11.0	+0.7
MOA				i SG	Sg	15 50 14.2	-1.3
	3.6nm,0.5s						
ARSA	Arzberg	4.22	185	⇑iPN	Pn	15 49 16.7	+0.2
ARSA				i SG	Sg	15 50 26.4	-3.5
	1.8nm,0.4s						

CASC 25 15:52:33.5±2.1**, 13.14N**×**89.33W, h44^{km}**±29^{km}**, MD3.5, ML3.6, 5C-6D, El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LFRS	El Faro	0.55	29	⇑iP	P	15 52 45.3	+0.2
LFRS				eS	S	15 52 54.3	+0.9
SNET	Serv Nac Est T	0.56	10	eP	P	15 52 45.9	+0.7
SNET				eS	S	15 52 54.4	+0.8
SNET				i		15 52 55.6	
	comp=Z,1µm,0.3s						
BOQS	Boqueron	0.60	5	⇓eP	P	15 52 46.1	+0.4
BOQS				eS	S	15 52 56.0	+1.5
LCBS	La Ceiba	0.62	34	⇑eP	P	15 52 45.9	-0.1
LCBS				eS	S	15 52 55.8	+0.7
LFU	La Fuente	0.65	19	eP	P	15 52 46.9	+0.5
LBRS	Las Brisas	0.66	25	eP	P	15 52 46.9	+0.3
LBRS				eS	S	15 52 56.6	+0.5
SNVI	San Vicente	0.68	45	⇑iP	P	15 52 46.6	-0.1
SNVI				eS	S	15 52 57.0	+0.6
SBLS	San Blas	0.75	338	⇓eP	P	15 52 47.8	0.0
SBLS				eS	S	15 53 00.1	+1.8
SNJE	San Jose	0.78	340	⇓eP	P	15 52 48.0	-0.1
SNJE				eS	S	15 53 00.4	+1.6
RTR	El Retiro	0.82	338	eP	P	15 52 48.7	0.0
RTR				eS	S	15 53 00.7	+0.9
CUSS	Cusmapa	0.97	322	eP	P	15 52 50.1	-0.8
CUSS				eS	S	15 53 03.1	-0.7
VSM	San Miguel	1.07	74	⇓iP	P	15 52 52.7	+0.4
VSM				eS	S	15 53 07.9	+1.6
BLLM	Bellamira	1.11	74	eP	P	15 52 53.2	+0.4
BLLM				eS	S	15 53 08.3	+1.1
MTO2	Montecristo 2	1.26	359	⇓eP	P	15 52 54.4	-0.5
MTO2				eS	S	15 53 10.8	-0.2
CAHU	Cacacuatique	1.26	60	⇑eP	P	15 52 54.4	-0.7
CNCH	Conchagua	1.47	84	eP	P	15 52 57.2	-0.8
CNCH				eS	S	15 53 16.9	+0.7
IXG	Ixpaco	1.50	314	⇓eP	P	15 52 57.2	-1.2
IXG				eS	S	15 53 15.9	-1.2
IXG				AML	AML	15 53 17.3	
	comp=E,5µm,0.3s						
NBG	Las Nubes	1.75	326	⇑eP	P	15 53 01.7	-0.2
NBG				eS	S	15 53 26.4	+3.3
TP2	Tecpan 2	2.32	315	eP	P	15 53 11.1	+1.1
TP2				eS	S	15 53 40.0	+2.6
TP2				AML	AML	15 53 41.6	
	comp=E,107nm,0.4s						
JAT	Jato	2.53	298	eP	P	15 53 12.2	-0.9
JAT				eS	S	15 53 43.3	+0.5

SYO ***25*** *16:04:07.0, 7.70S×108.00E, h10^{km}, MB5.0*
MOS ***25*** *16:04:09.4±1.0, 7.73S×107.92E, h33^{km}, mb5.0/22, Error ellipse: s-maj=21.5km s-min=10.0km az=114.3*
IDC ***25*** *16:04:12.8±1.6, 7.73S×107.91E, h48^{km}±13^{km}, mb4.5/16, mb1 4.6/16, mb1mx4.6/17, MS4.0/12, Ms1 4.0/12, ms1mx3.9/14, Error ellipse: s-maj=25.2km s-min=12.0km az=56.0*
DJA ***25*** *16:04:15.6±0.4, 7.96S×108.08E, h33^{km}, MD5.2/5, ML5.7/5, Error ellipse: s-maj=18.4km s-min=3.7km az=19.0*
BJI ***25*** *16:04:16.9, 7.80S×108.00E, h86^{km}, mB5.0, mb4.9, Ms4.5, Msz4.1*
NEIC ***25*** *16:04:17.0±0.7, 7.75S×107.96E, h87^{km}±6^{km}, mb4.9/42, Error ellipse: s-maj=9.1km s-min=5.1km az=222.0*
NEIC Felt [III] at Garut and Wanaraja.
HRVD ***25*** *16:04:17.0±0.3, 8.22S×108.11E, h77^{km}±2^{km}, MW5.0/54, Centroid moment Tensor Solution. LP body waves: s45,c59;Mantle waves: s54,c91; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.73±.17; $M_{\theta\theta}$-4.27±.15; $M_{\phi\phi}$0.54±.20; $M_{r\theta}$1.72±.12; $M_{\theta\phi}$0.70±.14; $M_{\phi r}$-0.06±.14; Best double couple: $M_0$4.4×10^{16} NP1:ϕ_s281°, δ34°, λ95°. NP2:ϕ_s95°, δ57°, λ87°. Principal axes: T 4.09, Plg78°, Azm353°; N .63, Plg3°, Azm97°; P -4.72, Plg11°, Azm188°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 25 16:04:14.9±0.6**, 7.74S**±0.04×**108.07E**±0.04**, h81^{km}**±5^{km}**, h67^{km}**±5.5^{km}**:pP-P, n233,** σ**1^{s}12**/191**, mb4.8**/65**, 24C-35D, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KALI	Kaliastana	1.53	294	⇑eP	P	16 04 40.6	-0.6
KALI				⇓eS	S	16 04 58.1	-2.5
KALI	Kaliastana	1.53	294	⇑iPn	P	16 04 40.5	-0.7
	250nm,0.3s						
KALI				⇓iSn	S	16 04 59.8	-0.8
KALI	Kaliastana	1.53	294	⇓eP	P	16 04 40.9	-0.3
KALI				eS	S	16 04 58.1	-2.5
KALI				eSn	S	16 04 59.8	-0.8
PACI	Pancar Gunung	1.62	315	⇑iP	P	16 04 44.6	+2.3
PACI	Pancar Gunung	1.62	315	⇑iPn	P	16 04 44.6	+2.3
KELI	Kelakatan	6.38	95	epP		16 05 52.3	
KELI	Kelakatan	6.38	95	⇓eP	P	16 05 49.1	+1.0
KELI				⇓eS	S	16 07 00.8	+0.6
KELI	Kelakatan	6.38	95	⇑iPn	P	16 05 49.1	+1.0
	1µm,0.2s						
KELI	Kelakatan	6.38	95	⇓iP	P	16 05 51.7	+3.6
KELI				⇓iSn	S	16 06 56.9	-3.3
KELI	Kelakatan	6.38	95	⇓ePn	P	16 05 51.7	+3.6
KELI				⇑eP		16 05 52.1	
KELI				eS	S	16 07 00.8	+0.6
KELI				eSn	S	16 07 07.3	+7.1
INGI	Ingas	7.08	99	⇓eP	P	16 05 59.1	+1.2
	336nm,0.1s						
INGI				⇑iS	S	16 07 17.4	-0.2
INGI	Ingas	7.08	99	⇑iPn	P	16 05 59.1	+1.2
	884nm,0.2s						
INGI				⇓iSn	S	16 07 13.4	-4.2
INGI	Ingas	7.08	99	⇓ePn	P	16 05 59.1	+1.2
INGI				⇓eP		16 05 59.3	
INGI				i S	S	16 07 09.2	-8.4
INGI				eSn	S	16 07 11.5	-6.1
RATI	Rata	7.45	98	⇑eP	P	16 06 03.6	+0.7
RATI				⇑eS	S	16 07 23.1	-3.5
RATI	Rata	7.45	98	⇑iPn	P	16 06 03.5	+0.6
	1µm,0.2s						
RATI				⇓iSn	S	16 07 22.4	-4.2
RATI	Rata	7.45	98	⇓ePn	P	16 06 03.6	+0.7
RATI				⇓eP		16 06 03.9	
RATI				eSn	S	16 07 21.8	-4.8
RATI				eS	S	16 07 23.1	-3.5
KEDI	Kedomdong	8.00	96	epP		16 06 10.5	
KEDI	Kedomdong	8.00	96	⇓eP	P	16 06 08.8	-1.6
KEDI	Kedomdong	8.00	96	⇓iPn	P	16 06 08.7	-1.7
	353nm,0.3s						
KEDI	Kedomdong	8.00	96	⇓iP	P	16 06 10.0	-0.4
KEDI				⇓iSn	S	16 07 34.7	-5.4
KEDI	Kedomdong	8.00	96	⇓eP	P	16 06 10.0	-0.4
KEDI				eSn	S	16 07 35.8	-4.3
KGM	Kluang	10.78	334	⇑eP	P	16 06 49.8	+1.5
COCO	West Island	11.92	247	eP	P	16 06 55.4	-8.0
COCO				eS	S	16 08 51.7	-23
TANI	Tanete Lipujan	12.04	70	⇓iPn	P	16 07 09.7	+4.6
NINI	Niniconang	12.08	75	⇓iPn	P	16 07 11.0	+5.4
BUNI	Buntu Taipa	12.85	72	⇓iPn	P	16 07 21.3	+5.5
IPM	Ipoh	14.11	330	⇑eP	P	16 07 36.5	+4.2
KKM	Kota Kinabalu	15.92	31	⇑eP	P	16 08 02.7	+7.2
MBWA	Marble Bar	17.46	141	eP	P	16 08 11.4	-3.4
	23nm,0.6s						
MBWA				eS	S	16 11 06.2	-18
FITZ	Fitzroy Crossi	19.96	123	eP	P	16 08 43.0	-0.2
	30nm,0.6s						
FITZ				eS	S	16 12 13.7	-4.5
FITZ	Fitzroy Crossi	19.96	123	P	P	16 08 43.1	-0.1
	32nm,0.6s,baz=316,slow=4.4,SNR=90						
FITZ				S	S	16 12 12.9	-5.4
	7.0nm,0.6s,baz=180,slow=20,SNR=3.0						
FITZ				LR	LR	16 16 23.6	
	comp=Z,159nm,18.2s,baz=285,slow=36						
KAKA	Kakadu	24.44	104	eP	P	16 09 32.0	+4.5
	58nm,0.8s,mb5.0						
KLBR	Kellerberrin	25.40	160	eP	P	16 09 36.5	0.0
	49nm,1.5s,mb4.7						
KLBR				eS	S	16 14 15.1	+20
NWAO	Narrogin (SRO)	26.47	163	P	P	16 09 44.6	-1.9
	4.6nm,0.5s,mb4.2,baz=170,slow=7.9,SNR=7.5						
NWAO				LR	LR	16 19 39.9	
	comp=Z,512nm,18.5s,baz=322,slow=35						
NWAO	Narrogin (SRO)	26.47	163	P	P	16 09 44.6	-1.8
NWAO				pmax	pmax		
	comp=Z,5.0nm,0.5s						
NWAO				MLR	MLR		
	comp=Z,512nm,18.5s						
NWAO	Narrogin (SRO)	26.47	163	eP	P	16 09 43.2	-3.2
	comp=Z,18nm,1.2s,mb4.4						
QIZ	Qiongzhong	26.65	4	P	P	16 09 49.3	+1.1
QIZ				S	S	16 14 15.0	-0.4
QIZ				LR	LR		
	comp=E,295nm,21.2s						
QIZ				LR	LR		
	comp=Z,402nm,29.4s						
CM31	Chiang Mai Arr	27.54	341	eP	P	16 09 57.7	+1.4
	comp=Z,2.6nm,0.4s,mb4.1						
WRA	Warramunga Arr	28.19	118	P	P	16 10 01.4	-0.9
	comp=Z,5.6nm,0.4s,mb4.4,baz=288,slow=12,SNR=89						
WRA				LR	LR	16 22 50.9	
	comp=Z,136nm,19.2s,baz=340,slow=40						
WRA	Warramunga Arr	28.19	118	P	P	16 10 01.4	-0.8
WRA				pmax	pmax		
	comp=Z,6.0nm,0.4s						
WRA				MLR	MLR		
	comp=Z,136nm,19.2s						
WRAB	Tennant Creek	28.20	118	eP	P	16 10 01.4	-0.9
	comp=Z,33nm,0.7s,mb5.0						
WB2	Warramunga Arr	28.20	118	eP	P	16 10 01.8	-0.5
ASPA	Alice Springs	29.40	126	eP	P	16 10 13.3	+0.3
ASPA				eS	S	16 16 01.5	+62
ASAR	Alice Springs	29.40	126	P	P	16 10 12.8	-0.2
	comp=Z,4.9nm,0.7s,mb4.2,baz=300,slow=8.5,SNR=61						
ASAR				PcP	PcP	16 13 17.1	-0.2
	comp=Z,2.1nm,0.6s,baz=309,slow=2.3,SNR=5.3						
ASAR				ScP		16 16 54.6	
	comp=Z,7.6nm,1.2s,baz=297,slow=3.2,SNR=7.0						
ASAR				PKiKP		16 20 49.0	
	comp=Z,0.5nm,0.5s,baz=27,slow=0.5,SNR=6.1						
ASAR				LR	LR	16 22 23.0	
	comp=Z,215nm,19.4s,baz=300,slow=37						
FORT	Forrest	29.59	143	eP	P	16 10 15.3	+0.8
	comp=Z,56nm,0.7s,mb5.3						
FORT				eS	S	16 15 55.5	+53
KMI	Kunming	33.07	351	eP	P	16 10 58.2	+13
KMI				pP	pP	16 11 07.2	+2.9
KMI				sP	sP	16 11 11.3	-2.8
KMI				PP	tx	16 12 24.4	
KMI				S	tx	16 16 46.5	
KMI				sS		16 17 02.0	
KMI				LR	LR		
	comp=Z,530nm,19.8s						
GYA	Guiyang	34.02	358	P	P	16 10 55.5	+2.2
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
CUD	Cuddapah	36.49	307	eP	P	16 11 14.0	-0.4
SHL	Shillong	36.66	335	eP	P	16 11 15.0	-0.7
ENH	Enshi	37.81	2	P	P	16 11 22.5	-2.8
	comp=Z,9.0nm,0.8s,mb4.7						
HYB	Hyderabad	38.41	311	i P	P	16 11 30.0	-0.3
HYB	Hyderabad	38.41	311	eP	P	16 11 30.0	-0.3
PMG	Port Moresby	38.68	95	P	P	16 11 33.0	+0.5
	comp=Z,21nm,0.9s,mb5.0						
CTA	Charters Tower	38.94	112	P	P	16 11 37.4	+2.7
	comp=Z,12nm,1.0s,mb4.7,baz=292,slow=8.3,SNR=6.3						
CTA	Charters Tower	38.94	112	P	P	16 11 37.4	+2.7
CTA				pmax	pmax		
	comp=Z,12nm,1.0s						
CTAO	Charters Tower	38.94	112	eP	P	16 11 34.1	-0.6
	comp=Z,19nm,1.0s,mb4.9						
STKA	Stephens Creek	39.36	132	eP	P	16 11 38.6	+0.5
	comp=Z,37nm,0.6s,mb5.4						
STKA	Stephens Creek	39.36	132	P	P	16 11 38.6	+0.5
	comp=Z,48nm,0.6s,mb5.5,baz=309,slow=7.3,SNR=98						
STKA				LR	LR	16 28 49.6	
	comp=Z,228nm,18.8s,baz=232,slow=37						
SSE	Sheshan	40.60	17	P	P	16 11 48.3	-0.1
SSE				AP	pP	16 12 07.5	-0.5
SSE				PP	PP	16 13 25.0	-1.4
SSE				S	S	16 17 53.0	+1.3
SSE				XS		16 18 24.8	
SSE				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.0						
SSE				AMB	AMB		
	comp=Z,105nm,4.6s						
SSE				LR	LR		
	comp=N,143nm,32.3s						
SSE				LR	LR		
	comp=E,123nm,32.3s						
SSE				LR	LR		
	comp=Z,195nm,30.1s						
SSE	Sheshan	40.60	17	P	P	16 11 48.3	-0.1
	comp=Z,20nm,0.8s,mb5.0						
SSE				pP	pP	16 12 07.6	-0.4
SSE				sP	sP	16 12 16.1	-1.4
SSE				PP	PP	16 13 24.9	-1.5
SSE				S	S	16 17 53.1	+1.4
SSE				sS		16 18 24.7	
SSE				LR	LR		
	comp=Z,200nm,30.1s						
LSA	Lhasa	40.62	337	P	P	16 11 51.0	+2.5
NJ2	Nanjing	40.88	14	eP	P	16 11 50.8	+0.2
NJ2				AP	pP	16 12 08.3	-2.0
NJ2				PP	PP	16 13 29.0	-0.2
NJ2				PPP	PPP	16 14 00.5	+1.0
NJ2				S	S	16 17 57.0	+1.2
NJ2				XS		16 18 30.0	
NJ2				SS	SS	16 20 59.0	+3.4
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.1						
NJ2				LR	LR		
	comp=N,1µm,16.4s						
NJ2				LR	LR		
	comp=E,3µm,12.5s						
NJ2				LR	LR		
	comp=Z,1µm,14.8s						
PKI	Pulchoki	41.39	329	eP	P	16 11 55.0	+0.2
	comp=Z,6.3nm,0.4s,mb4.8						
XAN	Xi’an	41.55	1	P	P	16 11 55.0	-1.2
XAN				AMB	AMB		
	comp=Z,3.0nm,1.1s,mb3.9						
DMN	Daman	41.57	329	eP	P	16 11 56.6	+0.1
	comp=Z,22nm,0.6s,mb5.0						
KKN	Kakani	41.63	329	eP	P	16 11 56.7	-0.2
	comp=Z,9.2nm,0.5s,mb4.8						
GKN	Gorkha	42.13	328	eP	P	16 12 00.5	-0.6
	comp=Z,25nm,0.4s,mb5.3						
GUMO	Guam	42.23	60	P	P	16 12 01.8	-0.3
	comp=Z,49nm,0.9s,mb5.2						
KOLN	Koldanda	42.50	327	eP	P	16 12 03.5	-0.5
	comp=Z,30nm,0.5s,mb5.3						
POO	Poona	42.67	308	⇓eP	P	16 12 05.0	-0.6
POO	Poona	42.67	308	⇓iP	P	16 12 05.0	-0.6
	comp=Z,150nm,0.5s,mb6.0						
LZH	Lanzhou	43.77	355	eP	P	16 12 17.8	+3.5
LZH				AP	pP	16 12 34.5	+0.5
LZH				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.0						
LZH				AMB	AMB		
	comp=Z,170nm,5.0s						
LZH				LR	LR		
	comp=N,480nm,12.6s						
LZH				LR	LR		
	comp=Z,580nm,15.6s						
LZH	Lanzhou	43.77	355	eP	P	16 12 17.8	+3.5
	comp=Z,30nm,1.0s,mb5.0						
LZH				pP	pP	16 12 34.5	+0.5
LZH				sP	sP	16 12 40.8	-2.6
LZH				LR	LR		
	comp=Z,580nm,15.6s						
GTA	Gaotai	47.53	351	P	P	16 12 45.8	+1.8
GTA				AP	pP	16 13 11.0	+7.0
GTA				PCP	PcP	16 14 15.0	+1.7
GTA				PP	PP	16 14 38.3	+2.6
GTA				SCP		16 17 58.3	
GTA				PCS		16 18 09.0	
GTA				S	S	16 19 30.3	-1.4
GTA				XS		16 20 16.0	
GTA				AMB	AMB		
	comp=Z,72nm,6.5s						
GTA				LR	LR		
	comp=N,165nm,23.6s						
GTA				LR	LR		
	comp=E,147nm,21.3s						
GTA				LR	LR		
	comp=Z,217nm,23.9s						
BJT	Baijiatuau	48.10	8	eP	P	16 12 47.5	-1.0
	comp=Z,11nm,0.5s,mb4.9						
BJT				ePcP	PcP	16 14 14.8	-0.6
BJI	Beijing	48.12	8	eP	P	16 12 47.3	-1.4
BJI				S	S	16 19 40.5	+0.4
BJI				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
BJI				LR	LR		
	comp=N,219nm,18.6s						
BJI				LR	LR		

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       comp=E,162nm,14.4s
BJI                                   LR        LR
       comp=Z,287nm,29.0s
BJI    Beijing             48.12   8  eP        P         16 12 47.2 -1.5
       comp=Z,10.0nm,0.6s,mb4.8
BJI                                   S         S         16 19 40.6 +0.5
BJI                                   LR        LR
       comp=Z,290nm,29.0s
MAJO   Matsushiro          52.34  31  eP        P         16 13 21.9 +1.1
       comp=Z,23nm,1.3s,mb5.0
CN2    Changchun           53.66  16  eP        P         16 13 29.8 -0.7
CN2                                   AMB       AMB
       comp=Z,10.0nm,0.6s,mb5.0
CN2                                   AMB       AMB
       comp=Z,200nm,5.0s
CN2                                   LR        LR
       comp=N,200nm,15.0s
CN2                                   LR        LR
       comp=E,200nm,15.0s
CN2                                   LR        LR
       comp=Z,200nm,18.0s
SONM   Songino Array       55.35 359  P         P         16 13 42.6 -0.2
       comp=Z,3.2nm,0.6s,mb4.5,baz=176,slow=7.6,SNR=16
SONM                                  PcP       PcP       16 14 42.0 -0.1
       comp=Z,11nm,0.5s,baz=175,slow=3.6,SNR=15
MDJ    Mudanjiang          55.61  19  P         P         16 13 43.5 -1.2
       comp=Z,7.0nm,0.9s,mb4.7
CASY   Casey               58.48 179  eP        P         16 14 03.9 -0.7
       comp=Z,8.7nm,0.9s,mb4.8
CASY                                  e         pP        16 14 20.2 -5.1
AAK    Ala-Archa           58.73 331d iP        P         16 14 05.6 -1.1
AAK                                   pmax      pmax
       comp=Z,5.0nm,1.3s,mb4.4
AAK                                   MLR       MLR
       comp=Z,100nm,20.0s
AAK    Ala-Archa           58.73 331  eP        P         16 14 04.0 -2.7
       comp=Z,11nm,1.2s,mb4.8
MKAR   Makanchi Array      58.94 340  P         P         16 14 05.8 -2.3
       comp=Z,13nm,0.6s,mb5.2,baz=151,slow=6.5,SNR=102
MKAR                                  LR        LR        16 42 20.0
       comp=Z,116nm,19.4s,baz=143,slow=39
MKAR   Makanchi Array      58.94 340  P         P         16 14 05.8 -2.3
MKAR                                  pmax      pmax
       comp=Z,13nm,0.6s
MKAR                                  MLR       MLR
       comp=Z,116nm,19.4s
MIR    Mirnyy              59.63 187⇑eP        P         16 14 13.0 +0.4
MIR                                   pmax      pmax
       comp=Z,20nm,1.0s,mb5.1
KLR    Kul'dur             60.40  18  eP        P         16 14 13.8 -4.3
YSS    Yuzh-Sakhalins      62.56  26deP         P         16 14 33.4 +0.8
YSS                                   pmax      pmax
       comp=Z,14nm,1.0s,mb4.8
YSS    Yuzh-Sakhalins      62.56  26  eP        P         16 14 31.3 -1.4
       comp=Z,16nm,0.8s,mb5.0
KURK   Kurchatov           63.55 340d iP        P         16 14 38.1 -1.1
KURK   Kurchatov           63.55 340  eP        P         16 14 37.6 -1.5
       comp=Z,14nm,0.8s,mb4.8
ZAL    Zalesovo            64.50 345  P         P         16 14 44.3 -0.9
       comp=Z,2.3nm,0.3s,mb4.5,baz=256,slow=5.8,SNR=7.7
ZAL    Zalesovo            64.50 345  P         P         16 14 44.3 -1.0
ZAL                                   pmax      pmax
       comp=Z,2.0nm,0.3s
MAW    Mawson              66.98 197  P         P         16 15 00.5 -0.4
       comp=Z,7.4nm,0.6s,mb4.7,baz=59,slow=6.5,SNR=29
MAW                                   LR        LR        16 40 23.5
       comp=Z,61nm,18.4s,baz=189,slow=32
MAW    Mawson              66.98 197  P         P         16 15 00.5 -0.3
MAW                                   pmax      pmax
       comp=Z,7.0nm,0.6s
MAW                                   MLR       MLR
       comp=Z,61nm,18.4s
QRN    Al-Qurain           68.34 305  eP        P         16 15 09.3 -0.6
KAMS   Al Khamasin         68.34 295  P         P         16 15 09.1 -1.0
BVA0   Borovoye Array      68.46 337  P         P         16 15 09.2 -1.1
BRVK   Borovoye            68.52 337  eP        P         16 15 08.8 -1.9
       comp=Z,8.0nm,0.5s,mb4.8
KBD    Kabd                68.68 305  eP        P         16 15 10.7 -1.4
RDF    Al-Radifah          68.70 305  eP        P         16 15 11.4 -0.9
RDF                                   AMb       AMB       16 15 14.8
       comp=Z,34nm,0.7s,mb5.3
RST    Umm Al-Ruwaisa      69.37 305  eP        P         16 15 14.5 -1.8
RST                                   AMb       AMB       16 15 16.9
       comp=Z,54nm,0.5s,mb5.6
KMBO   Kilima Mbogo        70.84 271  eP        P         16 15 26.0 +0.5
       comp=Z,4.1nm,1.0s,mb4.2
BLJS   Baljurashi          70.90 294  P         P         16 15 27.1 +1.3
ARSS   Ar Rass             71.24 301  P         P         16 15 26.9 -0.8
YAK    Yakutsk             71.55  11  eP        P         16 15 29.0 +0.1
YAK                                   pmax      pmax
       comp=Z,9.0nm,0.9s,mb4.6
YAK                                   pmax      pmax
       comp=Z,11nm,0.9s,mb4.7
YAK                                   pmax      pmax
       comp=N,5.0nm,1.2s
YAK    Yakutsk             71.55  11  eP        P         16 15 25.7 -3.2
       comp=N,21nm,0.7s,mb5.1
HILS   Ha'il               72.94 302  P         P         16 15 37.7 -0.1
PET    Petropavlovsk       74.12  29  eP        P         16 15 43.8 -0.4
PET                                   eS        S         16 25 13.1 +3.9
PET                                   pmax      pmax
       comp=Z,45nm,17.8s
PET                                   smax
       comp=E,68nm,26.5s
PET                                   smax
       comp=N,62nm,18.4s
KBRS   Khaybar             74.62 299  P         P         16 15 48.0 +0.3
SVE    Sverdlovsk          75.12 335⇓eP        P         16 15 49.0 -0.8
SVE                                   e                   16 16 02.1
SVE                                   pmax      pmax
       comp=Z,60nm,1.9s,mb5.0
SYO    Syowa Base          75.18 200 ⇑P        P         16 15 49.3 -0.6
SYO    Syowa Base          75.18 200 ⇓pP       Px        16 15 56.6
SYO    Syowa Base          75.18 200 ⇓PcP      PcP       16 16 02.5 -0.9
MA2    Magadan             75.19  21  eP        P         16 15 49.7 -0.4
MA2                                   e                   16 26 21.9
MA2                                   pmax      pmax
       comp=Z,6.0nm,1.1s,mb4.2
MA2    Magadan             75.19  21  eP        P         16 15 49.6 -0.6
       comp=Z,14nm,1.1s,mb4.6
GNI    Garni               75.22 315  eP        P         16 15 50.5 -0.2
GNI                                   pmax      pmax
       comp=Z,5.0nm,1.1s
ARU    Arti                75.74 334  eP        P         16 15 53.7 +0.4
ARU                                   i                   16 16 04.1
ARU                                   e                   16 18 45.0
ARU                                   eS        S         16 25 33.4 +6.4
ARU    Arti                75.74 334  eP        P         16 15 51.6 -1.8
       comp=Z,17nm,0.8s,mb4.8
SBA    Scott Base          76.13 169  eP        P         16 15 55.7 +0.5
       comp=Z,12nm,1.0s,mb4.6
SBA                                   e                   16 16 09.5
TBKS   Tabuk               77.63 301  P         P         16 16 07.3 +2.8
KIV    Kislovodsk          78.13 318  eP        P         16 16 07.7 +0.8
KIV                                   e                   16 16 17.8
KIV                                   pmax      pmax
       comp=Z,15nm,0.9s,mb4.7
KIV    Kislovodsk          78.13 318  eP        P         16 16 07.0  0.0
       comp=Z,19nm,0.8s,mb4.9
LSZ    Lusaka              78.28 256  eP        P         16 16 07.3 -1.0
       comp=Z,13nm,0.8s,mb4.7
JMQS   Jabal Moqyreh       78.37 302  P         P         16 16 10.2 +1.6
BDAS   Al Bad'             78.91 301  P         P         16 16 12.8 +1.2
MALT   Malatya             79.12 311  eP        P         16 16 11.3 -1.3
       comp=Z,8.8nm,1.2s,mb4.5
GZT    Gaziantep           79.47 310  i P       P         16 16 15.8 +1.4
SOC    Sochi               79.99 317  eP        P         16 16 16.8 -0.3
SOC                                   e                   16 19 16.9
SOC                                   eS        S         16 26 17.0 +4.1
SOC                                   pmax      pmax
       comp=Z,28nm,0.8s,mb5.1
SOC                                   pmax      pmax
       comp=N,4.0nm,0.5s
SOC                                   pmax      pmax
       comp=E,16nm,0.7s
SOC                                   MLR       MLR
       comp=Z,72nm,20.0s
SOC                                   MLR       MLR
       comp=N,42nm,21.0s
SOC                                   MLR       MLR
       comp=E,28nm,18.0s
TIXI   Tiksi               80.41   7  eP        P         16 16 18.8  0.0
TIXI                                  i                   16 16 32.6
TIXI                                  pmax      pmax
       comp=Z,11nm,0.7s,mb4.8
TIXI                                  MLR       MLR
       comp=Z,100nm,18.0s
ANN    Anapa               81.95 317  eP        P         16 16 28.4 +1.1
ANN                                   e*PP      pP        16 16 42.4 -6.8
ANN                                   eS        S         16 26 36.8 +3.7
ANN                                   pmax      pmax
       comp=Z,10.0nm,0.7s,mb4.8
CSS    Prodhromos          82.07 307  eP        P         16 16 28.6 +0.4
       comp=Z,13nm,0.7s,mb4.9
BOYT   Boyabat             82.66 313  i P       P         16 16 32.3 +1.2
BRTR   Keskin Array B      83.11 312  P         P         16 16 33.0 -0.4
       comp=Z,4.2nm,0.7s,mb4.4,baz=133,slow=6.0,SNR=22
BRTR                                  LR        LR        16 56 01.2
       comp=Z,50nm,21.4s,baz=30,slow=38
BRTR   Keskin Array B      83.11 312  P         P         16 16 33.0 -0.4
BRTR                                  pmax      pmax
       comp=Z,4.0nm,0.7s
BRTR                                  MLR       MLR
       comp=Z,50nm,21.4s
VOR    Voronezh            83.25 324  eP        P         16 16 34.0 +0.2
VOR                                   pmax      pmax
       comp=Z,90nm,1.8s,mb5.3
SUR    Sutherland          83.61 238  eP        P         16 16 38.2 +2.1
       comp=Z,2.1nm,0.6s,mb4.1
BALT   Daday               83.79 313  i P       P         16 16 37.8 +1.1
SIM    Simferopol'         84.24 317  P         P         16 16 42.3 +3.4
SGKT   Sivrigoynuk         84.50 312  i P       P         16 16 41.8 +1.4
ESKT   Eskisehir           85.13 311  i P       P         16 16 44.9 +1.4
HENT   Hendek              85.42 312  i P       P         16 16 39.8 -5.1
MOS    Moscow              85.56 328  eP        P         16 16 44.9 -0.3
MOS                                   pmax      pmax
       comp=Z,52nm,0.7s,mb5.6
OBN    Obninsk             85.92 327  eP        P         16 16 47.0  0.0
OBN                                   pmax      pmax
       comp=Z,39nm,0.8s,mb5.4
OBN                                   MLR       MLR
       comp=Z,100nm,15.0s
OBN    Obninsk             85.92 327  eP        P         16 16 47.5 +0.6
       comp=Z,32nm,0.6s,mb5.4
ULDT   Uludag              86.56 311  i P       P         16 16 52.4 +1.8
TSUM   Tsumeb              87.95 251  LR        LR        16 49 41.4
       comp=Z,133nm,20.6s,baz=155,slow=31
TSUM   Tsumeb              87.95 251  eP        P         16 16 58.6 +0.9
       comp=Z,4.0nm,0.6s,mb4.6
AKASG  Malin Array Be      88.93 321  P         P         16 17 01.1 -0.5
       comp=Z,1.7nm,0.6s,mb4.3,baz=80,slow=5.1,SNR=10
AKASG                                 PP        PP        16 20 31.2 -2.9
       comp=Z,1.3nm,0.7s,baz=87,slow=6.7,SNR=4.1
AKASG  Malin Array Be      88.93 321  P         P         16 17 01.1 -0.5
AKASG                                                     16 20 31.3
AKASG                                 pmax      pmax
       comp=Z,2.0nm,0.6s
AKASG                                 pmax      pmax
       comp=Z,1.0nm,0.7s
SNAA   Sanae               89.14 197⇑i         P         16 17 02.8 +0.7
SNAA   Sanae               89.14 197⇑i         P         16 17 03.5 +1.4
SNAA   Sanae               89.14 197⇑i         pP        16 17 27.9 +3.5
SNAA   Sanae               89.14 197⇓iS        S         16 27 45.5 +3.3
VNA2   Neumayer--Watz      90.79 197            P         16 17 14.0 +4.1
VNA2   Neumayer--Watz      90.79 197⇑i         P         16 17 15.4 +5.5
VNA2   Neumayer--Watz      90.79 197⇑i         pP        16 17 32.9 +0.7
VNA2   Neumayer--Watz      90.79 197⇑i         pP        16 17 40.5 +8.3
VNA1   Neumayer--Stat      91.17 197⇓i         P         16 17 16.7 +5.0
VNA1   Neumayer--Stat      91.17 197⇑i         P         16 17 19.3 +7.6
VNA1   Neumayer--Stat      91.17 197⇓i         pP        16 17 35.0 +1.0
VNA3   Neumayer Olymp      91.30 197⇓i         P         16 17 16.1 +3.8
VNA3   Neumayer Olymp      91.30 197⇑i         pP        16 17 34.7 +0.1
VNA3   Neumayer Olymp      91.30 197            pP        16 17 41.3 +6.7
FINES  FINESS Array B      92.92 332  P         P         16 17 20.2 +0.3
       comp=Z,4.4nm,0.7s,mb4.9,baz=109,slow=7.9,SNR=22
FINES                                 LR        LR        17 04 01.1
       comp=Z,84nm,18.6s,baz=309,slow=39
FINES  FINESS Array B      92.92 332  P         P         16 17 20.2 +0.3
FINES                                 pmax      pmax
       comp=Z,4.0nm,0.7s
FINES                                 MLR       MLR
       comp=Z,84nm,18.6s
FINES  FINESS Array B      92.92 332  P         P         16 17 20.2 +0.3
FINES                                 LR        LR        17 04 01.1
KAF    Kangasniemi         92.94 332  ep        P         16 17 19.7 -0.3
       comp=Z,0.8nm,0.4s,mb4.4,baz=92,slow=4.6
KAF    Kangasniemi         92.94 332  eP        P         16 17 19.7 -0.3
KAF                                   pmax      pmax
       comp=Z,1.0nm,0.4s,mb4.5
ARCES  ARCESS Array B      94.59 340  P         P         16 17 27.3  0.0
       comp=Z,1.9nm,0.7s,mb4.7,baz=92,slow=5.2,SNR=18
ARCES                                 LR        LR        17 06 04.0
       comp=Z,103nm,18.3s,baz=42,slow=39
ARCES  ARCESS Array B      94.59 340  P         P         16 17 27.3  0.0
ARCES                                 pmax      pmax
       comp=Z,2.0nm,0.7s
ARCES                                 MLR       MLR
       comp=Z,103nm,18.3s
ARCES  ARCESS Array B      94.59 340  P         P         16 17 27.3  0.0
ARCES                                 LR        LR        17 06 04.0
GERES  GERESS Array B      98.64 318  P         P         16 17 46.9 +0.7
       comp=Z,0.8nm,0.6s,mb4.5,baz=117,slow=3.0,SNR=9.5
GERES  GERESS Array B      98.64 318  P         P         16 17 46.9 +0.7
GERES                                 pmax      pmax
       comp=Z,1.0nm,0.6s
CLL    Collm               99.15 321  P                   16 22 20.0
NOA    NORSAR Array B     100.04 331  P         P         16 17 52.3  0.0
       comp=Z,0.9nm,0.8s,baz=68,slow=6.1,SNR=2.5
NOA                                   LR        LR        17 06 56.8
       comp=Z,91nm,20.2s,baz=95,slow=38
NOA    NORSAR Array B     100.04 331  P         P         16 17 52.3  0.0
NOA                                   pmax      pmax
       comp=Z,1.0nm,0.8s
NOA                                   MLR       MLR
       comp=Z,91nm,20.2s
BBB    Bella Bella        116.42  35  PKP       PKPdf     16 22 51.4 +2.1
       comp=Z,3.9nm,0.7s,baz=17,slow=12,SNR=3.6
BBB    Bella Bella        116.42  35  PKP       PKPdf     16 22 51.4 +2.1
YKA    Yellowknife Ar     117.18  21  PKP       PKPdf     16 22 52.4 +1.9
       comp=Z,3.5nm,0.7s,baz=331,slow=1.5,SNR=16
YKA    Yellowknife Ar     117.18  21  PKIKP     PKPdf     16 22 52.4 +1.9
YKA                                   pmax      pmax
       comp=Z,4.0nm,0.7s
RMW    Rattlesnake Mo     122.11  38  ePKPdf    PKPdf     16 23 02.7 +2.3
HUMO   Hull Mountain      123.39  43  ePKPdf    PKPdf     16 23 05.6 +2.6
EDM    Edmonton           123.62  29  ePKPdf    PKPdf     16 23 04.4 +1.2
YBH    Yreka Blue Hor     123.90  44  PKP       PKPdf     16 23 07.0 +3.0
       comp=Z,0.6nm,0.3s,baz=325,slow=2.4,SNR=4.9
YBH    Yreka Blue Hor     123.90  44  PKIKP     PKPdf     16 23 07.0 +2.9
YBH                                   pmax      pmax
       comp=Z,1.0nm,0.4s
MSO    Missoula           127.07  35  ePKPdf    PKPdf     16 23 11.2 +1.2
CHMT   Chamberlain Mo     127.42  35  ePKPdf    PKPdf     16 23 12.9 +2.2
MCMT   McKenzie Canyo     128.82  37  ePKPdf    PKPdf     16 23 16.9 +3.4
BOZ    Bozeman (W)        129.06  35  ePKPdf    PKPdf     16 23 16.8 +2.9
ELK    Elko               129.41  42  ePKPdf    PKPdf     16 23 18.0 +3.3
LOHW   Long Hollow        130.84  37  ePKPdf    PKPdf     16 23 21.0 +3.7
PDAR   Pinedale Array     131.95  37  PKP       PKPdf     16 23 21.1 +1.6
       comp=Z,1.5nm,0.5s,baz=105,slow=0.5,SNR=13
PDAR                                  SKPbc               16 26 42.6
       comp=Z,1.5nm,1.0s,baz=315,slow=2.6,SNR=5.8
MSU    Marysvale          132.56  43  ePKPdf    PKPdf     16 23 20.4 -0.4
MSU                                   eSKP                16 26 45.2
SCHQ   Schefferville      132.86 356  PKP       PKPdf     16 23 21.8 +1.0
       comp=Z,2.4nm,0.5s,baz=74,slow=7.4,SNR=4.4
ULM    Lac du Bonnet      133.16  21  SKPbc               16 26 48.5
       comp=Z,3.1nm,0.6s,baz=309,slow=4.1,SNR=3.8
TRQA   Tornquist          133.51 191  ePKPdf    PKPdf     16 23 24.6 +2.1
RSSD   Black Hills        134.22  32  ePKPdf    PKPdf     16 23 26.1 +2.5
PV10   Paradox Valley     134.74  42  ePKPdf    PKPdf     16 23 23.0 -1.8
SDCO   Great Sand Dun     137.40  40  ePKPdf    PKPdf     16 23 33.6 +3.9
ANMO   Albuquerque        138.32  44  i PKIKP   PKPdf     16 23 36.5 +5.0
LOZ    Lake Ozonia        143.19   3  ePKPdf    PKPdf     16 23 37.5 -2.3
TXAR   Lajitas Array      143.24  50  PKP       PKPdf     16 23 40.8 +0.4
       comp=Z,2.6nm,0.4s,baz=319,slow=0.6,SNR=19
CPUP   Villa Florida      143.29 202  PKhKP               16 23 38.6
       comp=Z,1.4nm,0.6s,baz=164,slow=3.7,SNR=5.6
CPUP                                  PKP       PKPdf     16 23 41.6 +1.1
       comp=Z,1.4nm,0.6s,baz=117,slow=4.5,SNR=5.7
CPUP                                  SKP                 16 27 13.2
       comp=Z,1.7nm,1.1s,baz=205,slow=3.6,SNR=4.3
CPUP   Villa Florida      143.29 202  PKIKP     PKPdf     16 23 38.6 -1.9
CPUP                                  pmax      pmax
       comp=Z,1.0nm,0.6s
CPUP                                  pmax      pmax
       comp=Z,1.0nm,0.6s
CPUP                                  pmax      pmax
       comp=N,2.0nm,1.1s
WMOK   Wichita Mounta     143.51  39  ePKPdf    PKPdf     16 23 40.5 -0.2
NCB    Newcomb            143.85   3  ePKPdf    PKPdf     16 23 40.0 -0.9
ACCN   Adirondack Com     144.46   2  ePKPdf    PKPdf     16 23 41.8 -0.3
GENY   Geneseo            144.73   8  ePKPdf    PKPdf     16 23 42.6 +0.1
SLM    Saint Louis        145.09  25  ePKPdf    PKPdf     16 23 44.0 +0.7
CCM    Cathedral Cave     145.12  27  ePKPdf    PKPdf     16 23 44.9 +1.5
HRV    Harvard--Oak R     145.37 360  ePKPdf    PKPdf     16 23 45.5 +1.9
ALLY   Alegheny Colle     145.45  11  ePKPdf    PKPdf     16 23 45.7 +1.9
JCT    Junction City      145.47  45  ePKPdf    PKPdf     16 23 47.2 +3.0
BINY   Binghamton         145.49   5  ePKPdf    PKPdf     16 23 45.5 +1.6
FVM    French Village     145.55  26  ePKPdf    PKPdf     16 23 43.3 -0.8
QUA2   Belchertown        145.59   1  ePKPdf    PKPdf     16 23 49.1 +5.1
BRYW   Bryant College     145.96 359  ePKPdf    PKPdf     16 23 47.7 +3.0
BLO    Bloomington        146.06  21  ePKPdf    PKPdf     16 23 47.5 +2.5
ACSO   Alum Creek Sta     146.17  15  ePKPbc    PKPbc     16 23 48.6 +2.4
SSPA   Standing Stone     146.81   8  ePKPbc    PKPbc     16 23 49.5 +1.8
BDFB   Brasilia           146.82 226  PKPbc     PKPbc     16 23 51.1 +2.7
       comp=N,8.0nm,0.5s,baz=117,slow=3.1,SNR=17
BDFB                                  SKPbc               16 27 24.7
       comp=N,4.5nm,0.8s,baz=252,slow=3.2,SNR=3.9
BDFB   Brasilia           146.82 226  PKP2      PKPab     16 23 51.1 -1.3
BDFB                                  pmax      pmax
       comp=Z,8.0nm,0.5s
BDFB                                  pmax      pmax
       comp=N,5.0nm,0.8s
WCI    Wyandotte Cave     146.98  21  ePKPbc    PKPbc     16 23 49.8 +1.6
UALR   University of      147.19  32  ePKPbc    PKPdf     16 23 51.4 +4.4
NATX   Nacogdoches        148.07  38  ePKPbc    PKPdf     16 23 55.6 +7.1
WVT    Waverly            148.22  25  ePKPbc    PKPdf     16 23 54.0 +5.4
OXF    Oxford             148.87  29  ePKPbc    PKPdf     16 23 55.4 +5.7
PWV    Princeton          149.39  14  ePKPbc    PKPdf     16 23 55.8 +5.3
SWET   Sewanee            149.78  23  ePKPbc    PKPdf     16 23 57.2 +6.1
CPCT   Cooper Cave        150.10  21  ePKPbc    PKPdf     16 24 01.5  +10
LRAL   Lakeview Retre     151.21  27  ePKPbc    PKPdf     16 24 00.8 +7.4
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*BJI **25** 16:11:38.5, 63.76N×151.63W, $h5^{km}$, mB4.7, mb4.2, Ms4.2, Msz4.1*

*IDC **25** 16:11:38.1±0.8, 63.15N×151.49W, mb4.1/15, mb1 4.3/20, mb1mx4.3/24, ML4.0/5, MS3.3/5, Ms1 3.3/5, ms1mx3.1/21, Error ellipse: s-maj=17.4km s-min=11.7km az=31.0*

*NEIC **25** 16:11:39.9, 63.17N×151.31W, $h5^{km}$, mb4.3/13, ML4.6(PMR), ML4.3(AEIC), After AEIC.*

ISC 25 16:11:40.5±0.6, **63.26N**±0.02×**151.29W**±0.06, **$h24^{km}$**$\pm 4^{km}$, **n107**, σ**$0^{s}77$**/106, **mb4.2**/28, **MS3.1**/1, **Central Alaska**

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Code   Station Name          Δ°   AZ°    Phase ID             Time     Res
                                     Op        ISC        h  m  s    ISC
KTH    Kantishna Hill       0.34  29  P         Pb        16 11 48.1 +0.1
KTH                                   S         Sb        16 11 54.2 +0.9
TRF    Thorofare Moun       0.49  66  P         Pb        16 11 50.2 -0.4
MCK    McKinley             1.16  65  P         Pn        16 12 02.2 +0.8
BWN    Browne               1.23  41  P         Pn        16 12 05.0 +2.6
PWA    Palmer West          1.74 157  P         Pn        16 12 08.9 -0.8
STLK   Strandline Lak       1.78 188  P         Pn        16 12 10.3  0.0
DHY    Denali Highway       1.79  94  P         Pn        16 12 11.1 +0.7
GHO    Glory Hole Cre       1.85 143  P         Pn        16 12 10.9 -0.4
PMR    Palmer               1.95 148  P         Pn        16 12 12.4 -0.3
CGLM   Capps Glacier        1.99 190  P         Pn        16 12 13.1 -0.2
SML    Sawmill              2.00 135  P         Pn        16 12 13.0 -0.5
CRP    Crater Peak          2.04 192  P         Pn        16 12 14.0  0.0
BGL    Barrier Glacie       2.07 195  P         Pn        16 12 14.7 +0.3
CKN    Chakachatna No       2.08 192  P         Pn        16 12 15.0 +0.4
CKT    Bend                 2.11 192  P         Pn        16 12 15.1 +0.1
SPU    Mount Spurr          2.11 190  P         Pn        16 12 14.8 -0.3
CKL    Chakachamna La       2.13 194  P         Pn        16 12 15.6 +0.3
FIB    Fire Island          2.16 165  eP        Pn        16 12 15.5 -0.3
TT01   Tatalina             2.18 263  P         Pn        16 12 15.1 -1.0
COLA   College              2.22  41  eP        Pn        16 12 16.3 -0.3
BKG    Blockade Glaci       2.24 192  P         Pn        16 12 16.7 -0.2
HDA    Harding Lake         2.24  57  P         Pn        16 12 16.9  0.0
RC01   Rabbit Creek A       2.30 161  P         Pn        16 12 17.2 -0.5
SCM    Sheep Creek Mo       2.33 126  P         Pn        16 12 17.6 -0.5
ILAR   Eielson Array        2.46  50  Pn        Pn        16 12 19.7 -0.4
       11nm,0.3s,baz=233,slow=14,SNR=171
THY    Trims Highway        2.50  84  eP        Pn        16 12 19.6 -1.1
PAX    Paxson               2.66  94  P         Pn        16 12 23.5 +0.6
SLKM   Skilak Lake          2.81 169  P         Pn        16 12 25.4 +0.5
REF    Redoubt East F       2.86 194  P         Pn        16 12 26.1 +0.5
GCSA   Galena City Sc       2.88 304  P         Pn        16 12 27.2 +1.2
RSO    Redoubt South        2.89 194  P         Pn        16 12 26.7 +0.6
TZL    Tazlina              2.97 112  P         Pn        16 12 28.4 +1.1
IMA    Indian Mountai       3.00 341  eP        Pn        16 12 28.8 +1.0
VLZ    Valdez               3.16 130  P         Pn        16 12 30.1 +0.2
ILIM   Iliamna              3.29 195  P         Pn        16 12 32.2 +0.5
DIV    Divide               3.36 127  P         Pn        16 12 32.8 +0.1
IVS    Iliamna South        3.37 195  P         Pn        16 12 33.3 +0.3
CNPM   China Poot           3.75 180  P         Pn        16 12 38.1 -0.1
EYAK   Cordova Ski Ar       3.78 134  P         Pn        16 12 39.2 +0.5
BMRM   Bremner River        3.89 123  P         Pn        16 12 40.0 -0.4
GLB    Gilahina Butte       3.94 114  P         Pn        16 12 41.7 +0.7
BCA3   Beaver Creek A       4.32  88  P         Pn        16 12 46.3 -0.1
BALM   Baldy                4.75 114  P         Pn        16 12 52.3 -0.3
CTGM   Chitina Glacie       5.21 112  P         Pn        16 12 59.3 +0.3
DAWY   Dawson               5.36  76  eP        Pn        16 12 59.0 -2.2
ANCK   Angle Creek          5.48 204  P         Pn        16 13 02.4 -0.4
KDAK   Kodiak Island        5.53 187  eP        Pn        16 13 01.6 -2.0
KJL    Kejulik              5.63 204  P         Pn        16 13 04.8 -0.1
TNA    Tin City             7.56 295  P         Pn        16 13 31.2 -0.9
INK    Inuvik               8.86  47  Pn        P         16 13 48.7 -1.5
       1.0nm,0.3s,baz=222,slow=17,SNR=14
INK                                   Lg                  16 16 23.3
       0.3nm,0.3s,baz=320,slow=2.3,SNR=3.8
INK                                   LR        LR        16 18 02.8
       comp=Z,113nm,20.1s,baz=162,slow=43
INK    Inuvik               8.86  47  eP        P         16 13 47.9 -2.3
BESE   Bessie Mountai       9.27 113  P         P         16 13 53.6 -2.2
DLBC   Dease Lake          11.41 105  Pn        P         16 14 23.4 -1.6
       0.7nm,0.3s,baz=294,slow=15,SNR=7.7
DLBC                                  Lg                  16 17 48.1
       0.2nm,0.3s,baz=67,slow=25,SNR=5.1
DLBC                                  LR        LR        16 19 33.7
       comp=Z,66nm,18.6s,baz=322,slow=42
BBB    Bella Bella         16.51 121  Pn        P         16 15 32.2 +0.5
       0.6nm,0.3s,baz=289,slow=12,SNR=7.8
BBB                                   LR        LR        16 21 46.8
       comp=Z,85nm,18.2s,baz=213,slow=37
BBB    Bella Bella         16.51 121  Pn        P         16 15 32.2 +0.5
BBB                                   LR        LR        16 21 46.8
YKA    Yellowknife Ar      16.61  76  Pn        P         16 15 32.1 -0.8
       0.3nm,0.3s,baz=290,slow=10,SNR=7.2
YKA                                   LR        LR        16 22 25.9
       comp=Z,329nm,18.2s,baz=290,slow=39
PGC    Sidney              21.13 121  eP        P         16 16 25.6  0.0
       72nm,0.9s,mb5.0
OCWA   Octopus Mounta      21.59 123  eP        P         16 16 31.2 +0.9
EDM    Edmonton            22.01  99  eP        P         16 16 34.2 -0.3
RES    Resolute Bay        22.14  36  P         P         16 16 34.2 -1.4
NLW    Nelson Butte        22.82 117  eP        P         16 16 43.5 +1.2
LON    Longmire            23.32 121  P         P         16 16 48.1 +0.9
NEW    Newport             23.99 113  P         P         16 16 54.6 +0.9
       13nm,1.1s,mb4.3,baz=311,slow=7.0,SNR=10
NEW                                   LR        LR        16 25 59.2
       comp=Z,67nm,19.9s,MS3.1,baz=149,slow=36
NEW    Newport             23.99 113  eP        P         16 16 54.6 +0.9
       15nm,1.1s,mb4.3
VGB    Gordon Butte        24.75 121  eP        P         16 17 01.2 +0.2
LNOR   Lincton Mounta      25.43 118  eP        P         16 17 09.5 +1.9
MSO    Missoula            26.46 111  eP        P         16 17 16.7 -0.3
       1.1nm,0.5s,mb3.6
YBH    Yreka Blue Hor      27.28 129  P         P         16 17 24.2 -0.5
       8.7nm,1.3s,mb4.1,baz=348,slow=4.2,SNR=7.3
YBH    Yreka Blue Hor      27.28 129  eP        P         16 17 25.3 +0.7
       3.4nm,1.0s,mb3.8
WDC    Whiskeytown Da      28.36 130  P         P         16 17 35.1 +0.7
       4.3nm,0.9s,mb4.1
BOZ    Bozeman (W)         28.37 110  eP        P         16 17 34.5 +0.1
       4.2nm,1.1s,mb4.0
HLID   Hailey              28.90 115  eP        P         16 17 39.0 -0.2
       1.1nm,0.6s,mb3.8
QLMT   Earthquake Lak      29.11 110  P         P         16 17 41.2 +0.1
IMW    Indian Meadow       30.07 111  eP        P         16 17 50.6 +0.9
TPAW   Teton Pass          30.40 111  eP        P         16 17 53.5 +0.9
LOHW   Long Hollow         30.44 111  eP        P         16 17 53.0  0.0
ELK    Elko                30.94 120  eP        P         16 17 57.8 +0.3
       2.5nm,0.9s,mb4.0
BW06   Boulder Array       31.57 111  eP        P         16 18 03.0 +0.1
       5.8nm,1.1s,mb4.3
PDAR   Pinedale Array      31.58 111  P         P         16 18 03.2 +0.2
       3.4nm,1.0s,mb4.1,baz=323,slow=7.4,SNR=20
PDAR                                  PcP       PcP       16 20 53.9 -1.4
       1.2nm,0.6s,baz=75,slow=0.9,SNR=6.1
ULM    Lac du Bonnet       31.94  88  PcP       PcP       16 20 54.5 -1.6
       4.4nm,0.8s,baz=280,slow=2.7,SNR=4.0
TPNV   Topopah Spring      33.85 124  eP        P         16 18 21.9 -0.9
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MSU	Marysvale	34.07	118	eP	P	16 18 25.2	+0.5
PV01	Paradox Valley	35.86	114	eP	P	16 18 39.9	-0.1
SDCO	Great Sand Dun	37.47	111	eP	P	16 18 54.0	+0.4
	5.0nm,1.1s,mb4.3						
SCHQ	Schefferville	41.18	61	P	P	16 19 24.2	+0.1
	4.5nm,0.8s,mb4.1,baz=326,slow=9.4,SNR=4.1						
WMOK	Wichita Mounta	42.90	106	eP	P	16 19 38.1	-0.3
	4.7nm,0.8s,mb4.3						
LTX	Lajitas	45.50	115	eP	P	16 19 59.5	0.0
TXAR	Lajitas Array	45.50	115	P	P	16 19 59.9	+0.4
	1.9nm,0.6s,mb4.2,baz=329,slow=7.3,SNR=14						
TXAR				PcP	PcP	16 21 37.6	-1.0
	2.4nm,0.8s,baz=297,slow=2.8,SNR=7.3						
ALLY	Alegheny Colle	45.57	83	eP	P	16 19 59.8	0.0
JCT	Junction City	46.11	110	eP	P	16 20 04.0	-0.2
	6.5nm,0.6s,mb4.7						
BINY	Binghamton	46.99	79	eP	P	16 20 10.1	-0.9
HIA	Hailar	47.22	297	eP	P	16 20 13.0	+0.2
	8.5nm,0.8s,mb4.7						
ARCES	ARCESS Array B	47.47	2	P	P	16 20 14.9	+0.4
	1.5nm,0.7s,mb4.1,baz=352,slow=6.4,SNR=4.1						
CN2	Changchun	49.19	288	eP	P	16 20 27.8	-0.3
SONM	Songino Array	53.56	305	P	P	16 21 01.8	+0.7
	4.3nm,0.8s,mb4.4,baz=23,slow=6.4,SNR=12						
ZAL	Zalesovo	55.25	323	P	P	16 21 12.5	-0.9
	2.7nm,0.8s,mb4.3,baz=338,slow=8.5,SNR=8.6						
NOA	NORSAR Array B	55.32	10	P	P	16 21 13.3	-0.5
	0.5nm,0.7s,mb3.7,baz=350,slow=6.4,SNR=2.6						
NOA	NORSAR Array B	55.32	10	P	P	16 21 13.3	-0.5
FINES	FINESS Array B	55.60	2	P	P	16 21 15.2	-0.6
	2.8nm,0.9s,mb4.3,baz=11,slow=7.1,SNR=4.0						
BVAR	Borovoye Array	59.56	332	P	P	16 21 42.8	-1.0
	0.7nm,0.7s,mb3.8,baz=53,slow=7.2,SNR=2.8						
MKAR	Makanchi Array	62.39	321	P	P	16 22 01.5	-1.6
	1.8nm,0.6s,mb4.4,baz=44,slow=7.3,SNR=11						
GTA	Gaotai	63.23	305	P	P	16 22 08.8	+0.1
GTA				AP	pP	16 22 13.3	-3.0
GTA				XP	sP	16 22 15.8	-3.3
GTA				AMB	AMB		
	comp=Z,3.0nm,1.3s,mb4.3						
WMQ	Urumqi	63.47	316	eP	P	16 22 12.0	+1.7
WMQ				AP	pP	16 22 17.0	-0.9
WMQ				XP	sP	16 22 19.0	-1.6
WMQ				AMB	AMB		
	comp=Z,5.0nm,1.2s,mb4.5						
AKASG	Malin Array Be	66.39	360	P	P	16 22 28.6	-0.2
	comp=Z,2.4nm,0.7s,mb4.3,baz=0.4,slow=5.8,SNR=4.0						
ESDC	Sonseca Array	74.15	26	P	P	16 23 16.1	+0.1
	comp=Z,0.5nm,0.4s,mb3.8,baz=350,slow=5.7,SNR=5.8						
BRTR	Keskin Array B	77.29	356	P	P	16 23 34.5	+0.6
	comp=Z,0.4nm,0.4s,mb3.7,baz=270,slow=1.2,SNR=3.6						
QSPA	South Pole Qui	153.07	180	eP	PKPdf	16 31 34.5	+3.7
QSPA				e		16 34 56.6	

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*TIF **25** 16:33:18.9,42.04N×45.86E,h14^{km},Mpv4.0*
*MOS **25** 16:33:19.9±1.5,42.06N×45.96E,h9^{km},mb4.2/1,Error ellipse: s-maj=12.7km s-min=9.8km az=56.7*
ISC 25 16:33:20.1±0.4,**42.09N**±0.04×**45.96E**±0.03,**h9^{km},n17, σ1^{s}21**/30,**2C-4D,Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMKR	Kumukh	0.85	87	⇑iPG	Pg	16 33 36.7	-0.3
KMKR				i S	Sb	16 33 48.0	+0.3
KMKR				pmax	pmax		
	comp=Z,320nm,0.2s						
DUS	Dusheti	0.94	270	⇓iP	Pb	16 33 36.8	-1.2
DUS				i S	Sb	16 33 50.1	-0.2
MTA	Mtatsminda	0.96	246	⇑iP	Pb	16 33 37.6	-0.8
MTA				i S	Sb	16 33 51.2	+0.2
TI2	Plekhanov	0.97	249	i PG	Pg	16 33 37.6	-1.9
TI2				i S	Sb	16 33 51.4	0.0
TI2				smax			
	comp=N,500nm,0.6s						
TBLG	Delisi	0.98	249	i P	Pb	16 33 37.8	-1.0
TBLG				i S	Sb	16 33 51.6	0.0
KRNR	Karanay	1.01	43	⇓iPG	Pg	16 33 37.5	-2.9
KRNR				i S	Sb	16 33 51.2	-1.4
KRNR				pmax	pmax		
	comp=Z,80nm,0.2s						
DLMR	Dylym	1.09	27	⇓iPG	Pg	16 33 40.5	-1.5
DLMR				eS	Sb	16 33 56.3	+1.4
DLMR				pmax	pmax		
	comp=Z,359nm,0.6s						
DBC	Dubki	1.13	34	i PG	Pg	16 33 41.0	-1.6
DBC				i S	Sb	16 33 58.5	+2.6
DBC				pmax	pmax		
	comp=Z,119nm,0.3s						
URKR	Urkarakh	1.25	86	ePG	Pg	16 33 43.0	-2.0
URKR				eS	Sb	16 34 01.0	+1.7
MAK	Makhachkala	1.43	52	i PG	Pg	16 33 49.8	+1.1
MAK				i		16 34 09.0	
MAK				pmax	pmax		
	comp=E,700nm,0.6s						
MAK				smax			
	comp=E,748nm,0.9s						
STE	Stepanavan	1.60	228	i P	Pn	16 33 48.0	-0.7
STE				i S	Sb	16 34 11.0	+1.4
AKH	Akhalkalaki	1.97	251	eP	Pn	16 33 54.4	+0.4
AKH				i S	Sn	16 34 19.6	+0.6
GNI	Garni	2.15	206	d iPN	Pn	16 33 58.1	+1.5
GNI				eS	Sn	16 34 28.1	+4.5
SHAR	Shatzhatmas	2.93	305	PN	Pn	16 34 09.7	+2.0
KIV	Kislovodsk	3.04	309	PN	Pn	16 34 10.0	+0.7
KIV				e		16 34 17.6	
KIV				e		16 34 20.4	
KIV				S	Sn	16 34 46.0	-0.2
KIV				i		16 34 58.1	
KIV				e		16 34 59.2	
KIV				pmax	pmax		
	comp=Z,3.0nm,0.4s						
KIV				pmax	pmax		
	comp=Z,5.0nm,0.5s						
KIV				smax			
	comp=N,11nm,0.6s						
KIV				smax			
	comp=N,19nm,0.7s						
GUMR	Gum-Bashi	3.20	303	PN	Pn	16 34 12.2	+0.6
NAGR	Nagutskaya	3.32	316	PN	Pn	16 34 13.7	+0.5

IDC 25 17:12:25.9±33.0,**8.54S**×**163.01E,mb3.8**/4,**mb1 4.0**/4, **mb1mx3.8**/13,**Error ellipse: s-maj=576.0km s-min=83.1km az=58.0,Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	29.96	245	P	P	17 18 36.6	-1.7
	0.9nm,0.6s,baz=73,slow=9.8,SNR=6.2						
STKA	Stephens Creek	30.59	218	P	P	17 18 41.1	-2.6
	2.3nm,1.2s,baz=75,slow=16,SNR=2.3						
ASAR	Alice Springs	31.66	238	P	P	17 18 51.2	-2.0
	0.3nm,0.4s,baz=61,slow=10.0,SNR=8.2						
FITZ	Fitzroy Crossi	37.52	251	P	P	17 19 41.7	-1.8
	0.9nm,0.6s,baz=90,slow=20,SNR=3.9						

IDC 25 17:12:45.5±2.3,**1.19S**×**134.51E,mb3.4**/2,**mb1 3.6**/3, **mb1mx3.4**/12,**ML3.0**/1,**Error ellipse: s-maj=144.0km s-min=31.0km az=99.0,Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	18.64	180	P	P	17 17 03.7	-3.1
	0.1nm,0.3s,baz=359,slow=12,SNR=6.2						
ASAR	Alice Springs	22.35	181	P	P	17 17 46.0	-0.7
	0.4nm,0.9s,baz=7.2,slow=11,SNR=9.2						
ILAR	Eielson Array	86.22	25	P	P	17 25 28.6	-1.3
	0.4nm,0.4s,baz=249,slow=4.8,SNR=4.9						

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*IDC **25** 17:22:14.8±2.0,21.93N×144.29E,mb3.8/6,mb1 3.9/6, mb1mx3.7/20,Error ellipse: s-maj=110.0km s-min=21.4km az=83.0*
*NEIC **25** 17:22:16.9±1.9,21.86N×144.54E,h20^{km},mb4.0/1,Error ellipse: s-maj=97.3km s-min=14.6km az=79.0*
ISC 25 17:22:18.5±1.8,**21.9N**±0.1×**144.0E**±0.6,**h33^{km},n12, σ0^{s}65**/12,**mb3.7**/7,**Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	Guam	8.28	174	P	P	17 24 12.4	-6.7
	68nm,1.1s						
WB2	Warramunga Arr	42.62	193	eP	P	17 30 14.2	+0.6
WRA	Warramunga Arr	42.62	193	P	P	17 30 14.1	+0.5
	0.6nm,0.3s,mb3.8,baz=14,slow=9.5,SNR=40						
ASAR	Alice Springs	46.32	193	P	P	17 30 43.0	-0.2
	0.1nm,0.3s,mb3.2,baz=13,slow=6.9,SNR=6.4						
STKA	Stephens Creek	53.49	183	P	P	17 31 37.2	-0.9
	0.4nm,0.4s,mb3.7,baz=4.1,slow=14,SNR=2.9						
MKAR	Makanchi Array	55.13	312	P	P	17 31 50.2	+0.3
	0.3nm,0.4s,mb3.6,baz=83,slow=9.0,SNR=5.6						
MKAR	Makanchi Array	55.13	312	P	P	17 31 50.2	+0.3
BRVK	Borovoye	63.09	319	eP	P	17 32 44.3	-0.6
ZRNK	Zerenda	63.87	319	eP	P	17 32 49.6	-0.3
	0.6nm,0.5s,mb3.9						
ARCES	ARCESS Array B	78.99	342	P	P	17 34 21.4	+1.2
	2.0nm,0.8s,mb4.1,baz=68,slow=6.5,SNR=6.8						
ARCES	ARCESS Array B	78.99	342	P	P	17 34 21.4	+1.2
FINES	FINESS Array B	83.34	335	P	P	17 34 42.5	-0.6
	0.5nm,0.5s,mb3.8,baz=65,slow=6.9,SNR=7.9						

PRE 25 17:49:51.7±0.8,**26.23S**×**28.24E,h2^{km},ML3.8,South Africa**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SLR	Silverton	0.49	5	eP	Pg	17 50 00.5	-1.0
SLR				eS	Sg	17 50 06.9	-1.2
SLR				e		17 50 12.3	
	comp=Z,3µm,0.7s						
KSR	Koster	1.26	286	eP	Pb	17 50 14.9	-1.0
KSR				eS	Sb	17 50 33.9	+1.5
KSR				e		17 50 35.8	
	comp=Z,2µm,0.3s						
NWL	Newcastle	2.13	135	eP	Pn	17 50 28.0	-0.8
NWL				eS	Sn	17 50 54.1	-2.1
NWL				e		17 51 01.3	
	comp=Z,2µm,0.5s						
BOSA	Boshof	3.56	227	eP	Pn	17 50 46.9	-2.3
BOSA				eS	Sn	17 51 27.6	-4.8
UPI	Upington	6.57	250	eS	Sn	17 52 37.4	-11
UPI				e		17 53 13.9	
	comp=Z,16nm,0.6s						

GUC 25 18:47:59.8±0.6,**27.45S**×**70.83W,h53^{km}**±10^{km},**MD3.6, ML3.4,3C,Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CPCH	Copiapo	0.43	78	⇑iP	P	18 48 13.0	+2.4
CPCH				i S	S	18 48 21.4	+3.0
CPCH				AMP		18 48 23.2	
	comp=E,8µm,0.1s						
VACH	Vallenar	1.12	177	⇑iP	P	18 48 19.7	+0.1
VACH				i S	S	18 48 34.5	+0.3
VACH				AMP		18 48 37.0	
	comp=E,2µm,0.1s						
TLL	Tololo Astrono	2.71	179	i P	P	18 48 42.3	+0.3
TLL				AMP		18 49 24.5	
	comp=E,91nm,0.5s						
CPN1	Cerro Paranal	2.84	8	⇑iP	P	18 48 44.0	+0.2
CPN1				i S	S	18 49 17.1	+0.2
CPN1				AMP		18 49 37.0	
	comp=E,70nm,0.4s						

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*NEIC **25** 18:57:36.0±2.6,20.97S×177.29W,h368^{km}±27^{km}, mb4.3/20,Error ellipse: s-maj=16.2km s-min=11.8km az=177.0*
*IDC **25** 18:57:37.8±2.1,21.12S×177.23W,h384^{km}±23^{km}, mb3.6/12,mb1 3.8/13,mb1mx3.8/17,Error ellipse: s-maj=23.7km s-min=10.3km az=151.0*
*SYO **25** 18:57:38.6,20.65S×177.44W,h384^{km},MB4.2*
ISC 25 18:57:32.5±1.1,**20.87S**±0.08×**177.36W**±0.08, **h339^{km}**±10^{km},**n60,σ1^{s}06**/50,**mb4.1**/28,**5C-1D,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	Nonsavu	5.34	305	Pn	P	18 58 55.6	-0.4
	187nm,0.4s,SNR=24						
DZM	Mont Dzumac	15.12	263	eP	P	19 00 52.8	+1.3
DZM	Mont Dzumac	15.12	263	eP	P	19 00 52.8	+1.3
URZ	Urewera	17.98	194	P	P	19 01 19.1	-2.0
	7.1nm,0.3s,baz=64,slow=6.0,SNR=22						
URZ				S	S	19 04 30.9	+5.3
	1.0nm,0.3s,baz=293,slow=7.7,SNR=7.2						
URZ	Urewera	17.98	194	P	P	19 01 18.9	-2.2
MRZ	Mangatainoka R	20.62	195	P	P	19 01 45.6	-1.6
THZ	Tophouse	22.39	199	P	P	19 02 04.5	+0.3
RPZ	Rata Peaks	24.74	200	P	P	19 02 24.8	-0.9
	4.0nm,0.5s,mb3.9,baz=6.8,slow=19,SNR=3.9						
CTA	Charters Tower	34.05	265	eP	P	19 03 48.7	+1.2
	4.4nm,0.4s,mb4.0						
CTA	Charters Tower	34.05	265	P	P	19 03 48.8	+1.3
	5.1nm,0.4s,mb4.1,baz=90,slow=11,SNR=21						
CTAO	Charters Tower	34.05	265	eP	P	19 03 48.2	+0.7
	6.8nm,0.6s,mb4.0						
PMG	Port Moresby	36.01	283	eP	P	19 04 04.2	+0.3
	15nm,0.9s,mb4.2						
STKA	Stephens Creek	38.17	245	P	P	19 04 23.2	+1.5
	1.1nm,0.4s,mb3.4,baz=86,slow=12,SNR=7.2						
ASAR	Alice Springs	45.02	257	P	P	19 05 17.8	+0.6
	4.6nm,0.7s,mb3.7,baz=96,slow=8.1,SNR=84						
ASAR				S	S	19 11 28.9	-0.6
	0.4nm,0.7s,baz=92,slow=15,SNR=8.8						
ASPA	Alice Springs	45.02	257	eP	P	19 05 17.8	+0.6
ASPA				eS	S	19 11 30.2	+0.6
WB2	Warramunga Arr	45.13	262	eP	P	19 05 17.8	-0.3
WB2				eS	S	19 11 31.0	-0.2
WRAB	Tennant Creek	45.13	262	eP	P	19 05 17.7	-0.4
	6.4nm,0.8s,mb3.8						
WRA	Warramunga Arr	45.14	262	P	P	19 05 18.0	-0.2
	2.2nm,0.3s,mb3.7,baz=96,slow=7.7,SNR=117						
WRA				S	S	19 11 29.1	-2.2
	0.3nm,0.8s,baz=99,slow=11,SNR=3.4						
KAKA	Kakadu	48.62	271	eP	P	19 05 48.6	+3.5
	23nm,1.6s,mb4.2						
GUMO	Guam	50.50	309	eP	P	19 05 58.7	-0.4
	24nm,0.8s,mb4.5						
FITZ	Fitzroy Crossi	53.57	262	eP	P	19 06 22.1	+0.5
	4.0nm,1.1s,mb3.7						
FITZ	Fitzroy Crossi	53.57	262	P	P	19 06 22.1	+0.5
	1.3nm,0.4s,mb3.6,baz=135,slow=3.4,SNR=17						
QSPA	South Pole Qui	69.20	180	eP	P	19 08 07.1	+3.0
	1.2nm,0.6s,mb3.8						
MAJO	Matsushiro	70.86	323	eP	P	19 08 13.9	-0.9
	3.5nm,0.6s,mb4.3						
ASAJ	Asahikawa	74.34	331	P	P	19 08 35.8	+0.7
	10.0nm,0.8s,mb4.6,baz=223,slow=5.7,SNR=8.6						
YSS	Yuzh-Sakhalins	76.49	333	eP	P	19 08 47.0	-0.1
	12nm,0.9s,mb4.6						
YBH	Yreka Blue Hor	80.21	38	P	P	19 09 08.3	+1.1
	1.5nm,0.5s,mb4.0,baz=187,slow=1.2,SNR=8.1						
MDJ	Mudanjiang	81.17	325	eP	P	19 09 12.5	+0.5
	5.0nm,0.8s,mb4.3						
QIZ	Qiongzhong	81.55	294	P	P	19 09 13.4	-1.2
	16nm,1.0s,mb4.8						
HLID	Hailey	86.22	40	eP	P	19 09 38.1	+0.8
	0.8nm,0.8s,mb3.6						
SYO	Syowa Base	86.50	193	⇑P	P	19 09 33.8	-4.2
SYO	Syowa Base	86.50	193	⇑P	P	19 09 39.7	+1.7
SYO	Syowa Base	86.50	193	⇑pP	pP	19 11 07.5	+10
BJT	Baijiatuau	86.57	315	P	P	19 09 39.0	-0.1
ENH	Enshi	86.74	304	eP	P	19 09 40.5	+0.3
	9.3nm,0.9s,mb4.6						
TXAR	Lajitas Array	86.75	57	P	P	19 09 41.7	+1.5
	1.2nm,0.7s,mb3.8,baz=217,slow=6.3,SNR=6.6						
ANMO	Albuquerque	87.17	51	eP	P	19 09 43.1	+1.0
	1.1nm,0.6s,mb3.9						
MCK	McKinley	87.21	12	eP	P	19 09 39.2	-2.3
	4.2nm,1.1s,mb4.2						
NEW	Newport	87.33	36	P	P	19 09 42.4	-0.1
	2.8nm,1.1s,mb4.0,baz=149,slow=5.9,SNR=3.2						
NEW	Newport	87.33	36	P	P	19 09 41.9	-0.5
	1.8nm,0.7s,mb4.0						
COLA	College	88.44	12	P	P	19 09 45.6	-1.7
ILAR	Eielson Array	88.54	13	P	P	19 09 46.6	-1.2
	0.6nm,0.4s,mb3.8,baz=226,slow=5.4,SNR=5.8						
PDAR	Pinedale Array	88.82	43	P	P	19 09 49.9	+0.2
	0.8nm,0.9s,mb3.6,baz=207,slow=3.3,SNR=5.8						
CM31	Chiang Mai Arr	90.80	289	P	P	19 09 59.3	-0.1
	3.3nm,0.8s,mb4.3						
RSSD	Black Hills	93.01	44	eP	P	19 10 09.5	+0.4
	4.8nm,1.0s,mb4.5						
INK	Inuvik	94.48	15	P	P	19 10 13.9	-1.2
	4.5nm,1.0s,mb4.5						
MKAR	Makanchi Array	111.89	313	PKiKP		19 15 27.1	
	0.5nm,0.6s,baz=123,slow=1.5,SNR=5.1						
BVAR	Borovoye Array	119.75	320	PKP	PKPdf	19 15 42.7	+0.3
	1.0nm,0.4s,baz=123,slow=1.4,SNR=7.9						
ZRNK	Zerenda	120.59	320	ePKPdf	PKPdf	19 15 44.2	+0.2
ARCES	ARCESS Array B	129.39	350	PKP	PKPdf	19 16 01.3	+0.7
	0.8nm,0.7s,baz=22,slow=0.5,SNR=10						
ARCES	ARCESS Array B	129.39	350	PKP	PKPdf	19 16 01.3	+0.7
HFS	Hagfors	140.00	351	PKhKP		19 16 11.6	
	3.3nm,0.9s,baz=45,slow=2.0,SNR=5.9						
AKASG	Malin Array Be	143.63	331	PKP	PKPdf	19 16 24.9	-2.0
	1.5nm,0.4s,baz=41,slow=4.2,SNR=18						
EKA	Eskdalemuir Ar	145.32	6	PKPbc	PKPbc	19 16 30.8	+0.3
	0.6nm,0.4s,baz=308,slow=2.6,SNR=4.9						
BRTR	Keskin Array B	147.53	312	PKPbc	PKPdf	19 16 38.2	+4.4
	0.8nm,0.5s,baz=156,slow=5.4,SNR=5.6						
CLL	Collm	148.56	347	⇓iPKP1	PKPdf	19 16 40.4	+5.3
PRU	Pruhonice	149.45	345	⇑ePKPB		19 16 43.2	
GRA1	Grafenberg Arr	150.44	349	ePKP	PKPdf	19 16 45.7	+7.6
KHC	Kasperske Hory	150.48	345	⇑ePKPB		19 16 46.0	
GERES	GERESS Array B	150.72	345	PKPbc	PKPdf	19 16 45.9	+7.3
	1.6nm,0.8s,baz=27,slow=3.0,SNR=19						

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*NEIC **25** 19:00:57.7,62.68N×143.45W,h6^{km},ML3.6(AEIC),After AEIC.*
NEIC Felt along the Tok Cutoff.
PGC 25 19:00:59.7,62.68N×**143.13W,h10^{km},ML4.0**/2,**Eastern Alaska.,Central Alaska**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TMW	Tok Microwave	0.65	5	P	Pb	19 01 11.0	-1.6
TMW				S	Sb	19 01 20.3	-1.1
BCA3	Beaver Creek A	0.73	58	P	Pb	19 01 13.4	-0.6
WANC	Wrangell North	0.81	213	P	Pb	19 01 12.1	-3.4
DOT	Dot Lake	1.06	337	P	Pb	19 01 17.0	-2.6
DOT				S	Sb	19 01 31.3	-2.0
PAX	Paxson	1.11	286	P	Pb	19 01 15.4	-5.2
PAX				S	Sb	19 01 28.9	-6.0
SDG	Sourdough	1.13	263	P	Pb	19 01 16.0	-4.8
TZL	Tazlina	1.25	240	P	Pb	19 01 18.9	-4.0
GLB	Gilahina Butte	1.29	195	P	Pb	19 01 20.2	-3.4
THY	Trims Highway	1.40	303	eP	Pn	19 01 18.7	-6.7
BALM	Baldy	1.69	167	P	Pn	19 01 28.3	-1.3
KLU	Klutina	1.77	229	P	Pn	19 01 26.9	-3.8
BMRM	Bremner River	1.86	203	P	Pn	19 01 28.4	-3.5
BMRM				S	Sn	19 01 53.6	-2.1
CTGM	Chitina Glacie	1.93	153	P	Pn	19 01 32.0	-0.9
TGL	Tana Glacier	1.94	176	P	Pn	19 01 31.9	-1.2
DHY	Denali Highway	1.98	283	P	Pn	19 01 30.4	-3.3
DIV	Divide	2.00	220	P	Pn	19 01 30.2	-3.8
SCM	Sheep Creek Mo	2.14	248	P	Pn	19 01 32.6	-3.4
SCM				S	Sn	19 01 59.5	-3.4
VLZ	Valdez	2.17	226	P	Pn	19 01 32.6	-3.9
HDA	Harding Lake	2.43	317	P	Pn	19 01 36.9	-3.3
EYAK	Cordova Ski Ar	2.48	211	eP	Pn	19 01 39.0	-1.9
SML	Sawmill	2.59	252	P	Pn	19 01 39.3	-3.1
GLI	Glacier Island	2.61	228	P	Pn	19 01 40.1	-2.7
CFI	College Fiord	2.66	238	P	Pn	19 01 40.5	-2.9
IL1	Eielson Array	2.68	323	P	Pn	19 01 39.7	-4.0
MCK	McKinley	2.83	294	eP	Pn	19 01 40.2	-5.6
PMR	Palmer	3.02	251	eP	Pn	19 01 45.1	-3.5
PRP	Porcupine Dome	3.03	341	P	Pn	19 01 46.2	-2.5
COLA	College	3.04	318	P	Pn	19 01 44.6	-4.2
HYT	Haines Junctio	3.26	122	Pn	Pn	19 01 50.4	-1.6
HYT				Pg	Pg	19 01 57.1	-7.7
HYT				Sg	Sg	19 02 41.0	-7.4
HYT				Trac		19 02 50.3	
	comp=Z,209nm,0.6s						
SLKM	Skilak Lake	4.03	240	P	Pn	19 01 58.3	-4.6
WHY	Whitehorse	4.42	114	Pn	Pn	19 02 06.9	-1.6
WHY				Pg	Pg	19 02 20.1	-7.9
WHY				Sg	Sg	19 03 17.4	-10
WHY				Trac		19 03 32.5	
	comp=Z,97nm,0.6s						
SPU	Mount Spurr	4.48	254	eP	Pn	19 02 04.5	-4.8
BRLK	Bradley Lake	4.76	235	P	Pn	19 02 09.3	-3.9
BM3	Burnt Mountain	4.80	353	P	Pn	19 02 10.7	-3.1
CNPM	China Poot	5.05	235	P	Pn	19 02 13.3	-4.0
RSO	Redoubt South	5.11	248	P	Pn	19 02 13.8	-4.4
COLD	Coldfoot	5.46	330	P	Pn	19 02 19.1	-4.0
IM3	Indian Mountai	5.68	310	P	Pn	19 02 21.2	-5.0
IMA	Indian Mountai	5.70	311	eP	Pn	19 02 21.2	-5.3
INK	Inuvik	6.91	31	Pn	Pn	19 02 39.0	-4.6
INK				Sn	Sn	19 03 53.2	-10
INK				Sg	Sg	19 04 35.0	-15
INK				Trac		19 04 44.7	
	comp=Z,29nm,0.6s						
DLBC	Dease Lake	7.73	118	Trac		19 05 23.1	
	comp=Z,39nm,0.8s						
DLBC	Dease Lake	7.73	118	Sg	Sg	19 04 59.0	-18

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*ISK **25** 19:04:11.6,38.54N×26.38E,h21^{km},MD3.2*
*ATH **25** 19:04:12.6,38.69N×26.25E,h35^{km},MD3.3/3*
ISC 25 19:04:11.4±1.2,**38.61N**±0.03×**26.37E**±0.06,**h9^{km}**±10^{km}, **n27,σ0^{s}89**/35,**4C,Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PRK	Paraskevi	0.64	353	⇑iPN	Pn	19 04 24.5	-1.9
IZM	Izmir	0.73	106	i PG	Pg	19 04 26.0	-0.2
KDAG	Bornova	0.73	106	⇑iP	Pb	19 04 26.3	+0.3
KDAG				i S	Sb	19 04 36.0	+0.1
AYVA	Ayvalik	0.74	20	⇑iP	Pb	19 04 26.1	0.0
AYVA				i S	Sb	19 04 36.6	+0.5
SMG	Samos	0.97	157	ePN	Pn	19 04 32.9	+1.8
AKS	Akhisar	1.16	76	i PN	Pn	19 04 33.5	-0.4
AKS				i SN	Sn	19 04 48.5	-1.4
EZN	Ezine	1.22	358	i PN	Pn	19 04 34.4	-0.2
BOZC	Bozcaada	1.25	349	i P	Pb	19 04 34.8	-0.1
BOZC				i S	Sb	19 04 45.6	-5.4
AYDN	Tasoluk	1.52	128	i P	Pn	19 04 39.5	+0.4
AYDN				i S	Sb	19 04 57.4	-1.4
BALB	Balikesir	1.56	48	PN	Pn	19 04 40.4	+0.8
BALB				SN	Sn	19 05 00.4	+0.3
LOS	Limnos	1.66	323	eP	Pn	19 04 40.4	-0.5
APE	Apeiranthos	1.67	204	ePN	Pn	19 04 39.8	-1.4
APE	Apeiranthos	1.67	204	ePN	Pn	19 04 42.1	+0.9
MANT	Manisa	1.72	93	i P	Pn	19 04 41.6	-0.3
BTOK	Tokmak	1.73	48	i P	Sn	19 05 05.6	+1.2
BTOK				i S	Sn	19 05 05.6	+1.2
BDRM	Kayabasi	1.76	151	i P	Pn	19 04 43.5	+1.1
LPK	Lapseki	1.79	10	ePN	Pn	19 04 42.6	-0.2
YER	Yerkesik	2.11	134	ePN	Pn	19 04 46.0	-1.5
BNT	Bandirma	2.12	34	ePN	Pn	19 04 46.7	-0.8
KCT	Karacabey	2.26	42	PN	Pn	19 04 49.2	-0.4
MFT	Murefte	2.29	18	ePN	Pn	19 04 50.4	+0.5
ALN	Alexandroupoli	2.30	354	eP	Pn	19 04 50.3	+0.1
DNZL	Cakiroluk	2.30	113	i P	Pn	19 04 50.7	+0.5
THR3	Thira Island,	2.33	200	eP	Pn	19 04 54.4	+3.9
ORLT	Orhaneli	2.43	53	ePN	Pn	19 04 52.0	0.0
ULDT	Uludag	2.64	54	⇑iP	Pn	19 04 58.3	+3.3
ULDT				i S	Sn	19 05 34.3	+6.9
YLV	Yalova	3.04	49	ePN	Pn	19 05 01.2	+0.6

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*IDC **25** 19:11:05.8±2.5,25.63N×143.39E,mb3.7/4,mb1 3.8/4, mb1mx3.5/20,Error ellipse: s-maj=101.0km s-min=19.1km az=73.0*
ISC 25 19:11:05.2±6.1,**25.6N**±0.2×**143.7E**±0.4,**h14^{km}**±39^{km},**n6, σ1^{s}55**/7,**mb3.7**/4,**Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	Chichi jima	2.01	317	Pn	Pn	19 11 39.2	+0.2
	15nm,0.3s,baz=107,slow=19,SNR=11						
CBIJ				Sn	Sn	19 12 04.2	+0.1
	37nm,0.3s,baz=117,slow=23,SNR=9.1						
WB2	Warramunga Arr	46.21	192	eP	P	19 19 31.1	-0.6
WRA	Warramunga Arr	46.21	192	P	P	19 19 30.7	-0.9
	0.9nm,0.4s,mb4.0,baz=10,slow=8.5,SNR=21						
ASAR	Alice Springs	49.92	192	P	P	19 20 02.7	+2.2
	0.1nm,0.6s,mb3.0,baz=18,slow=8.6,SNR=3.2						
BVAR	Borovoye Array	60.05	318	P	P	19 21 12.2	-1.6
	0.6nm,0.5s,mb3.9,baz=79,slow=7.3,SNR=4.5						
FINES	FINESS Array B	79.86	334	P	P	19 23 15.2	+0.9
	0.7nm,0.6s,mb3.8,baz=78,slow=13,SNR=4.4						

*NEIC **25** 19:18:17.6, 62.67N×143.45W, h9^{km}, ML3.7(AEIC), After AEIC.*
NEIC Felt along the Tok Cutoff.
PGC 25 19:18:18.1, 62.68N×143.34W, h10^{km}, ML4.1/3, Eastern Alaska., Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TMW	**Tok Microwave**	**0.67**	**14**	P	Pb	19 18 30.8	-0.5
TMW				S	Sb	19 18 40.0	-0.3
WANC	**Wrangell North**	**0.76**	**207**	P	Pb	19 18 31.9	-1.1
BCA3	**Beaver Creek A**	**0.81**	**61**	P	Pb	19 18 33.1	-0.6
PAX	**Paxson**	**1.02**	**288**	P	Pb	19 18 35.2	-2.1
PAX				S	Sb	19 18 48.7	-1.9
DOT	**Dot Lake**	**1.03**	**342**	P	Pb	19 18 36.7	-0.7
DOT				S	Sb	19 18 53.0	+2.2
SDG	**Sourdough**	**1.03**	**262**	P	Pb	19 18 35.8	-1.7
TZL	**Tazlina**	**1.16**	**238**	P	Pb	19 18 38.6	-1.2
GLB	**Gilahina Butte**	**1.26**	**190**	P	Pb	19 18 39.8	-1.7
THY	**Trims Highway**	**1.32**	**305**	eP	Pb	19 18 38.5	-4.1
KLU	**Klutina**	**1.70**	**227**	P	Pn	19 18 46.8	-1.3
BALM	**Baldy**	**1.72**	**164**	P	Pn	19 18 48.0	-0.3
BMRM	**Bremner River**	**1.82**	**200**	P	Pn	19 18 48.2	-1.6
DHY	**Denali Highway**	**1.89**	**284**	P	Pn	19 18 50.5	-0.3
DIV	**Divide**	**1.94**	**218**	P	Pn	19 18 50.0	-1.4
DIV				S	Sn	19 19 15.9	-0.1
TGL	**Tana Glacier**	**1.95**	**173**	P	Pn	19 18 51.5	-0.1
CTGM	**Chitina Glacie**	**1.97**	**150**	P	Pn	19 18 51.6	-0.2
SCM	**Sheep Creek Mo**	**2.05**	**247**	P	Pn	19 18 51.9	-1.1
VLZ	**Valdez**	**2.10**	**224**	P	Pn	19 18 52.3	-1.5
DAWY	**Dawson**	**2.26**	**50**	Pn	Pn	19 18 55.1	-1.0
DAWY				Pg	Pg	19 18 59.2	-4.0
DAWY				Sn	Sn	19 19 22.9	-1.4
DAWY				Sg	Sg	19 19 29.6	-3.7
DAWY				Trac		19 19 31.0	
	comp=Z,585nm,0.2s						
HDA	**Harding Lake**	**2.37**	**319**	P	Pn	19 18 56.6	-1.1
EYAK	**Cordova Ski Ar**	**2.43**	**209**	eP	Pn	19 18 58.3	-0.1
SML	**Sawmill**	**2.49**	**252**	eP	Pn	19 18 58.6	-0.8
CFI	**College Fiord**	**2.58**	**236**	P	Pn	19 19 00.1	-0.5
IL1	**Eielson Array**	**2.62**	**325**	P	Pn	19 18 59.5	-1.8
MCK	**McKinley**	**2.75**	**295**	eP	Pn	19 19 03.3	+0.3
PMR	**Palmer**	**2.93**	**251**	eP	Pn	19 19 04.8	-0.8
COLA	**College**	**2.98**	**320**	P	Pn	19 19 04.2	-2.1
PRP	**Porcupine Dome**	**3.01**	**342**	P	Pn	19 19 05.9	-0.8
NEA	**Nenana**	**3.19**	**309**	P	Pn	19 19 07.4	-1.9
HYT	**Haines Junctio**	**3.34**	**121**	Pn	Pn	19 19 09.9	-1.6
HYT				Pg	Pg	19 19 16.9	-7.9
HYT				Sg	Sg	19 20 02.2	-7.2
HYT				Trac		19 20 09.9	
	comp=Z,232nm,0.6s						
SLKM	**Skilak Lake**	**3.94**	**240**	eP	Pn	19 19 19.2	-0.8
SPU	**Mount Spurr**	**4.38**	**254**	P	Pn	19 19 25.4	-0.9
WHY	**Whitehorse**	**4.51**	**113**	Pn	Pn	19 19 26.3	-1.8
WHY				Pg	Pg	19 19 39.5	-8.6
WHY				Sn	Sn	19 20 17.7	-3.6
WHY				Sg	Sg	19 20 37.9	-10
WHY				Trac		19 20 52.3	
	comp=Z,119nm,0.6s						
WHY	**Whitehorse**	**4.51**	**113**	P	Pn	19 19 26.8	-1.3
BM3	**Burnt Mountain**	**4.79**	**354**	P	Pn	19 19 30.4	-1.6
RSO	**Redoubt South**	**5.02**	**248**	eP	Pn	19 19 34.7	-0.6
COLD	**Coldfoot**	**5.41**	**330**	P	Pn	19 19 38.8	-2.1
IM3	**Indian Mountai**	**5.61**	**311**	P	Pn	19 19 41.0	-2.6
IMA	**Indian Mountai**	**5.63**	**312**	eP	Pn	19 19 39.6	-4.2
INK	**Inuvik**	**6.96**	**32**	Pn	Pn	19 19 58.9	-3.8
INK				Sn	Sn	19 21 12.1	-11
INK				Sg	Sg	19 21 53.8	-16
INK				Trac		19 22 04.4	
	comp=Z,34nm,0.6s						
INK	**Inuvik**	**6.96**	**32**	eP	Pn	19 19 58.5	-4.2
DLBC	**Dease Lake**	**7.81**	**117**	Pn	Pn	19 20 13.1	-1.5
DLBC				Pg	Pg	19 20 39.8	-14
DLBC				Sg	Sg	19 22 20.8	-17
DLBC				Trac		19 22 35.6	
	comp=Z,29nm,0.6s						
FNBB	**Fort Nelson**	**10.62**	**102**	Pn	P	19 20 49.7	-3.5
FNBB				Sg	S	19 23 46.1	+53
FNBB				Trac		19 24 05.5	
	comp=Z,14nm,1.0s						
YKW3	**Yellowknife Ar**	**13.17**	**78**	P	P	19 21 21.9	-5.7

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*NEIC **25** 19:19:22.4, 18.80N×99.04W, h56^{km}, MD3.7(MEX), After MEX.*
MEX 25 19:19:22.9±1.0**, 18.68N×98.94W, h47^{km}**±18^{km}**, MD3.7, Central Mexico**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YAIG	**Yautepec**	**0.22**	**328**	eP	P	19 19 29.8	-1.2
YAIG				eS	S	19 19 35.5	-1.3
PPM	**Popocatepetl**	**0.49**	**38**	eP	P	19 19 33.0	-0.9
PPM				eS	S	19 19 40.5	-1.2
IIZ	**Mezontepec**	**0.58**	**331**	eP	P	19 19 36.0	+1.0
IIZ				eS	S	19 19 44.0	+0.2
IIZ	**Mezontepec**	**0.58**	**331**	eP	P	19 19 36.5	+1.5
IIZ				eS	S	19 19 48.5	+4.7
PLIG	**Platanillo**	**0.60**	**242**	eP	P	19 19 33.5	-1.8
PLIG				eS	S	19 19 42.9	-1.4
PLIG	**Platanillo**	**0.60**	**242**	eP	P	19 19 33.5	-1.8
PLIG				eS	S	19 19 43.3	-1.0
IISM	**Ciudad Serdan**	**1.52**	**78**	eP	P	19 19 47.0	-1.1
IISM				eS	S	19 20 05.5	-1.3
ACX	**Acapulco**	**2.03**	**207**	eP	P	19 19 57.0	+1.7
ACX				eS	S	19 20 19.5	+0.1
VHO	**Vista Hermosa**	**2.64**	**127**	eP	P	19 20 02.5	-1.6
VHO				i S	S	19 20 31.3	-3.8
OXX	**Oaxaca**	**2.64**	**127**	eP	P	19 20 02.0	-2.1
OXX				eS	S	19 20 34.0	-1.1
OXX	**Oaxaca**	**2.64**	**127**	eP	P	19 20 05.0	+0.9
OXX				eS	S	19 20 35.0	-0.1

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*NEIC **25** 19:29:36.4±0.3, 21.19S×68.49W, mb4.4/21, Error ellipse: s-maj=10.5km s-min=7.1km az=62.0*
*SYO **25** 19:29:36.1, 21.20S×68.44W, h122^{km}, MB4.4*
*IDC **25** 19:29:37.2±0.8, 21.13S×68.58W, h124^{km}±5^{km}, mb4.3/6, mb1 4.4/8, mb1mx4.2/13, MS3.2/2, Ms1 3.2/2, ms1mx2.9/14, Error ellipse: s-maj=25.2km s-min=18.3km az=40.0*
ISC 25 19:29:35.1±0.3**, 21.14S**±0.06×**68.51W**±0.07**, h122^{km}, h122^{km}**±1.3^{km}**:pP-P, n61, σ1^{s}20**/55**, mb4.5**/25**, 4C-3D, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**1.52**	**194**	ePn	**P**	**19 30 01.7**	**-1.5**
LVC				eS	**S**	**19 30 18.2**	**-6.3**
LPAZ	**La Paz**	**4.84**	**4**	P	**P**	**19 30 49.7**	**+2.8**
	7.5nm,0.3s,baz=158,slow=0.9,SNR=49						
LPAZ	**La Paz**	**4.84**	**4**	ePn	**P**	**19 30 49.8**	**+2.8**
ARE	**Arequipa**	**5.44**	**328**	⇓iP	**P**	**19 30 52.9**	**-2.2**
ARE				eS	**S**	**19 31 51.0**	**-6.0**
CPUP	**Villa Florida**	**11.46**	**119**	P	**P**	**19 32 14.1**	**-2.0**
	0.9nm,0.3s,baz=313,slow=12,SNR=35						
CPUP				LR	LR	19 37 17.4	
	comp=Z,84nm,20.9s,baz=123,slow=40						
CPUP	**Villa Florida**	**11.46**	**119**	eP	**P**	**19 32 13.8**	**-2.2**
SAML	**Samuel**	**13.16**	**24**	eP	**P**	**19 32 38.1**	**-0.2**
	5.2nm,1.0s						
TRQA	**Tornquist**	**17.78**	**163**	eP	**P**	**19 33 33.4**	**-2.8**
	64nm,1.3s						
BDFB	**Brasilia**	**20.19**	**78**	P	**P**	**19 34 02.0**	**-0.3**
	57nm,0.4s,baz=260,slow=9.5,SNR=91						
BDFB				LR	LR	19 41 46.7	
	comp=Z,110nm,21.8s,baz=287,slow=36						
BAO	**Brasilia Array**	**20.21**	**78**	P	**P**	**19 34 03.0**	**+0.5**
BAO				i		19 34 06.0	
OTAV	**Otavalo**	**23.36**	**334**	eP	**P**	**19 34 36.3**	**+2.7**
	8.9nm,1.1s,mb4.0						
SDV	**Santo Domingo**	**29.91**	**356**	P	**P**	**19 35 31.0**	**-2.8**
	3.9nm,0.8s,mb4.1						
RCBR	**Riachuelo**	**35.06**	**69**	eP	**P**	**19 36 18.3**	**0.0**
	29nm,0.7s,mb5.2						
VNA3	**Neumayer Olymp**	**60.30**	**161**	⇑i	**P**	**19 39 34.8**	**+2.0**
TXAR	**Lajitas Array**	**60.55**	**325**	P	**P**	**19 39 33.9**	**-1.2**
	0.1nm,0.3s,baz=150,slow=7.3,SNR=4.4						
TXAR				pP	pP	19 40 03.4	-1.2
	1.0nm,0.9s,baz=146,slow=9.0,SNR=4.9						
TXAR	**Lajitas Array**	**60.55**	**325**	P	**P**	**19 39 33.9**	**-1.1**
TXAR				pP	pP	19 40 03.4	-1.2
VNA2	**Neumayer--Watz**	**60.87**	**161**	⇓i	**P**	**19 39 39.1**	**+2.4**
FVM	**French Village**	**62.31**	**341**	eP	**P**	**19 39 44.8**	**-2.0**
	11nm,0.8s,mb4.9						
SNAA	**Sanae**	**62.50**	**161**	⇑i	**P**	**19 39 46.5**	**-1.1**
ACSO	**Alum Creek Sta**	**62.52**	**348**	eP	**P**	**19 39 45.9**	**-2.3**
	14nm,0.9s,mb4.9						
WMOK	**Wichita Mounta**	**62.57**	**332**	P	**P**	**19 39 48.6**	**0.0**
	1.2nm,0.8s,mb3.9						
ANMO	**Albuquerque**	**66.41**	**327**	eP	**P**	**19 40 12.1**	**-1.4**
	1.5nm,0.8s,mb3.9						
LIC	**Lamto**	**67.92**	**74**	eP	**P**	**19 40 22.9**	**-0.3**
	77nm,1.7s,mb5.3						
TIC	**Toumodi**	**68.11**	**73**	eP	**P**	**19 40 24.5**	**+0.1**
	88nm,1.1s,mb5.5						
SDCO	**Great Sand Dun**	**68.13**	**329**	eP	**P**	**19 40 24.2**	**+0.1**
	9.7nm,1.2s,mb4.5						
SDCO				epP	pP	19 40 53.9	-0.3
SDCO				esP	sP	19 41 07.0	-0.4
KIC	**Kosan Boka**	**68.24**	**74**	eP	**P**	**19 40 24.9**	**-0.3**
	100nm,0.9s						
DBIC	**Dimbokro**	**68.27**	**73**	P	**P**	**19 40 25.4**	**0.0**
	16nm,0.7s,mb4.9,baz=226,slow=8.0,SNR=17						
DBIC	**Dimbokro**	**68.27**	**73**	eP	**P**	**19 40 24.9**	**-0.4**
	20nm,0.8s,mb5.0						
QSPA	**South Pole Qui**	**69.05**	**180**	eP	**P**	**19 40 29.2**	**+0.1**
	7.7nm,0.9s,mb4.5						
RW3	**Ridgway**	**69.59**	**328**	P	**P**	**19 40 33.4**	**+0.3**
PV01	**Paradox Valley**	**69.94**	**327**	eP	**P**	**19 40 35.7**	**+0.5**
PV01				epP	pP	19 41 05.3	-0.1
NEN	**Nelson**	**71.52**	**322**	eP	**P**	**19 40 44.8**	**0.0**
NEN				epP	pP	19 41 14.2	-0.9
NEN				esP	sP	19 41 29.4	+1.1
MSU	**Marysvale**	**72.10**	**325**	eP	**P**	**19 40 48.5**	**+0.4**
MSU				ePcP	PcP	19 41 06.7	+0.7
MSU				epP	pP	19 41 18.4	-0.1
MSU				esP	sP	19 41 32.4	+0.7
RSSD	**Black Hills**	**72.64**	**334**	eP	**P**	**19 40 50.9**	**-0.2**
	3.3nm,1.0s,mb4.1						
PDAR	**Pinedale Array**	**73.99**	**330**	P	**P**	**19 40 59.0**	**0.0**
	0.8nm,0.8s,mb3.5,baz=153,slow=6.6,SNR=6.6						
HWUT	**Hardware Ranch**	**74.08**	**328**	eP	**P**	**19 40 59.3**	**-0.2**
	4.7nm,0.7s,mb4.3						
HWUT				epP	pP	19 41 32.5	+2.3
HWUT				esP	sP	19 41 42.6	-0.8
TPH	**Tonopah**	**74.58**	**322**	eP	**P**	**19 41 03.0**	**+0.4**
	8.1nm,1.1s,mb4.4						
LOHW	**Long Hollow**	**75.12**	**330**	eP	**P**	**19 41 06.1**	**+0.6**
MOOW	**Moose Ponds**	**75.30**	**330**	eP	**P**	**19 41 06.0**	**-0.5**
MOOW				epP	pP	19 41 37.5	+0.3
SBA	**Scott Base**	**76.25**	**190**	eP	**P**	**19 41 12.9**	**+1.7**
	4.1nm,1.0s,mb4.1						
CMB	**Columbia Colle**	**76.40**	**320**	eP	**P**	**19 41 11.8**	**-1.1**
	1.8nm,0.7s,mb3.9						
SYO	**Syowa Base**	**76.71**	**159**	⇓P	**P**	**19 41 14.0**	**+0.1**
SYO	**Syowa Base**	**76.71**	**159**	⇑PcP	PcP	19 41 19.1	-6.0
SYO	**Syowa Base**	**76.71**	**159**	⇑pP	pP	19 41 42.0	-2.7
HLID	**Hailey**	**76.94**	**328**	eP	**P**	**19 41 16.6**	**+0.9**
	6.5nm,0.9s,mb4.4						
HLID				epP	pP	19 41 47.7	+1.2
MCMT	**McKenzie Canyo**	**77.10**	**329**	eP	**P**	**19 41 17.7**	**+1.1**
MCMT				esP	sP	19 42 01.7	+1.0
BEKR	**Beckwourth**	**77.59**	**322**	eP	**P**	**19 41 20.0**	**+0.6**
	16nm,1.4s,mb4.6						
SUR	**Sutherland**	**78.44**	**120**	eP	**P**	**19 41 25.9**	**+1.7**
	16nm,1.1s,mb4.7						
TSUM	**Tsumeb**	**79.78**	**107**	P	**P**	**19 41 33.4**	**+1.7**
	6.6nm,0.9s,mb4.5,baz=268,slow=6.0,SNR=7.0						
DPW	**Davenport**	**81.87**	**329**	eP	**P**	**19 41 42.5**	**+0.4**
DPW				epP	pP	19 42 13.7	+0.4
DPW				esP	sP	19 42 27.1	+0.3
NLW	**Nelson Butte**	**83.06**	**328**	eP	**P**	**19 41 48.8**	**+0.6**
NLW				epP	pP	19 42 19.4	0.0
BOSA	**Boshof**	**83.28**	**118**	P	**P**	**19 41 48.2**	**-1.6**
	9.5nm,1.1s,mb4.5						
MAW	**Mawson**	**84.57**	**163**	P	**P**	**19 41 56.2**	**+0.9**
	2.8nm,0.6s,mb4.4,baz=215,slow=5.4,SNR=18						
YKA	**Yellowknife Ar**	**90.97**	**340**	P	**P**	**19 42 26.6**	**+0.5**
	3.9nm,0.8s,mb4.6,baz=133,slow=4.4,SNR=14						
YKA				pP	pP	19 42 58.0	+0.2
	2.2nm,0.8s,baz=130,slow=4.8,SNR=5.5						
YKA	**Yellowknife Ar**	**90.97**	**340**	P	**P**	**19 42 26.6**	**+0.5**
YKA				pP	pP	19 42 58.0	+0.2
ASAR	**Alice Springs**	**130.41**	**207**	PKP	PKPdf	19 48 33.0	+1.1
	0.9nm,0.6s,baz=124,slow=1.7,SNR=17						
ASAR				pPKP		19 49 06.9	
	0.9nm,0.9s,baz=196,slow=3.3,SNR=4.3						
WRA	**Warramunga Arr**	**133.46**	**210**	PKP	PKPdf	19 48 39.2	+1.4
	1.1nm,0.6s,baz=153,slow=1.8,SNR=25						
FITZ	**Fitzroy Crossi**	**138.61**	**201**	PKP	PKPdf	19 48 50.9	+3.6
	2.2nm,0.7s,baz=184,slow=6.7,SNR=3.7						
ZAL	**Zalesovo**	**141.47**	**25**	PKP	PKPdf	19 48 53.9	+2.4
	1.4nm,0.7s,baz=86,slow=4.5,SNR=5.8						
MKAR	**Makanchi Array**	**145.12**	**36**	PKPbc	PKPbc	19 49 00.0	+1.6
	19nm,1.1s,baz=327,slow=3.1,SNR=33						
MKAR				pPKPbc		19 49 32.6	
	3.7nm,1.0s,baz=297,slow=2.7,SNR=3.1						
SONM	**Songino Array**	**153.05**	**8**	PKP	PKPdf	19 49 13.3	+3.0
	0.4nm,0.5s,slow=5.8,SNR=3.5						
SONM				PKPbc	PKPdf	19 49 20.3	+10
	0.7nm,0.8s,baz=18,slow=0.6,SNR=4.0						
SONM				PKPab	PKPab	19 49 37.8	+5.7
	1.4nm,0.6s,baz=3.1,slow=1.3,SNR=6.1						
SONM				pPKPbc		19 49 53.4	
	2.0nm,1.0s,baz=315,slow=3.5,SNR=3.2						

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*ISK **25** 19:43:50.1, 38.45N×39.23E, h5^{km}, MD3.6*
ISC 25 19:43:51.3±0.7**, 38.37N**±0.05×**39.26E**±0.04**, h5^{km}**±6^{km}**, n18, σ1^{s}01**/25**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ELZG	**Elazig**	**0.26**	**301**	i P	**Pg**	**19 43 56.0**	**-0.4**
ELZG				i S	**Sg**	**19 44 02.3**	**+2.4**
MALT	**Malatya**	**0.66**	**266**	i PG	**Pg**	**19 44 03.2**	**-1.3**
MALT				i SG	**Sg**	**19 44 14.3**	**+1.0**
MYA	**Malataya**	**0.66**	**267**	i PG	**Pg**	**19 44 03.8**	**-0.7**
DIY	**Diyarbakir**	**0.89**	**122**	i PG	**Pg**	**19 44 09.4**	**+0.3**
BINT	**Bingol**	**1.08**	**62**	i PG	**Pg**	**19 44 11.4**	**-1.6**
EZC	**Erzincan**	**1.44**	**17**	PN	**Pn**	**19 44 16.0**	**-2.2**
BEST	**Besiri**	**1.65**	**106**	i P	**Pn**	**19 44 21.1**	**0.0**
BEST				i S	**Sb**	**19 44 44.1**	**+1.3**
GZT	**Gaziantep**	**1.68**	**234**	i P	**Pn**	**19 44 21.9**	**+0.3**
GZT				i S	**Sn**	**19 44 42.7**	**-1.0**
BTMT	**Batman**	**1.76**	**95**	PN	**Pn**	**19 44 22.4**	**-0.3**
KELT	**Kelkit**	**1.78**	**360**	i P	**Pn**	**19 44 24.2**	**+1.2**
KELT				i S	**Sn**	**19 44 50.2**	**+4.0**
GAZ	**Gaziantep**	**2.02**	**234**	PN	**Pn**	**19 44 27.1**	**+0.7**
KAHT	**Ahir Dag**	**2.03**	**249**	i P	**Pn**	**19 44 26.8**	**+0.3**
KAHT				i S	**Sn**	**19 44 47.6**	**-4.9**
GUMT	**Gumushane**	**2.10**	**5**	PN	**Pn**	**19 44 27.6**	**+0.1**
EZM	**Erzurum**	**2.24**	**46**	PN	**Pn**	**19 44 29.4**	**-0.2**
ERZM	**Erzurum**	**2.24**	**46**	i P	**Pn**	**19 44 30.6**	**+1.0**
ERZM				i S	**Sn**	**19 44 52.0**	**-6.0**
SVSK	**Karacayir**	**2.34**	**312**	ePN	**Pn**	**19 44 29.9**	**-1.2**
TOKT	**Tokat**	**2.87**	**314**	ePN	**Pn**	**19 44 38.2**	**-0.4**
VANB	**Van**	**3.25**	**85**	ePN	**Pn**	**19 44 44.4**	**+0.5**

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*IDC **25** 19:53:26.8±1.2, 33.87N×89.26E, mb3.5/6, mb1 3.7/8, mb1mx3.6/19, ML3.3/2, Error ellipse: s-maj=37.5km s-min=22.8km az=50.0*
*NEIC **25** 19:53:31.9±3.8, 33.97N×89.10E, h31^{km}±31^{km}, mb4.0/3, Error ellipse: s-maj=13.6km s-min=12.0km az=69.0*
ISC 25 19:53:26.9±5.2**, 33.94N**±0.07×**89.4E**±0.2**, h14^{km}**±36^{km}**, n17, σ0^{s}90**/17**, mb3.8**/6**, Xizang**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KKN	**Kakani**	**7.06**	**211**	eP	**Pn**	**19 55 13.3**	**+0.9**
	6.9nm,0.7s						
GKN	**Gorkha**	**7.17**	**216**	eP	**Pn**	**19 55 13.1**	**-0.9**
	3.4nm,0.3s						
PKI	**Pulchoki**	**7.20**	**209**	eP	**Pn**	**19 55 14.5**	**+0.1**
	11nm,0.6s						
DMN	**Daman**	**7.29**	**211**	eP	**Pn**	**19 55 15.4**	**-0.3**
	8.8nm,0.5s						
KOLN	**Koldanda**	**7.89**	**220**	eP	**Pn**	**19 55 19.1**	**-4.9**
MKAR	**Makanchi Array**	**13.91**	**339**	Pn	**P**	**19 56 44.9**	**-1.0**
	0.1nm,0.3s,baz=210,slow=32,SNR=3.3						
AAK	**Ala-Archa**	**14.52**	**311**	P	**P**	**19 56 57.0**	**+3.1**
	1.3nm,0.7s						
ENH	**Enshi**	**17.45**	**97**	P	**P**	**19 57 37.2**	**+5.8**
	13nm,1.1s						
KURK	**Kurchatov**	**18.51**	**338**	P	**P**	**19 57 50.4**	**+5.8**
	1.8nm,1.0s						
SONM	**Songino Array**	**18.88**	**38**	P	**P**	**19 57 49.1**	**0.0**
	0.1nm,0.3s,baz=240,slow=12,SNR=5.2						
ZAL	**Zalesovo**	**20.25**	**352**	P	**P**	**19 58 03.8**	**-0.6**
	1.3nm,0.7s,baz=212,slow=8.6,SNR=9.5						
BVAR	**Borovoye Array**	**23.39**	**330**	P	**P**	**19 58 37.0**	**+1.2**
	0.6nm,0.6s,mb3.2,baz=130,slow=12,SNR=4.7						
BRTR	**Keskin Array B**	**44.36**	**294**	P	**P**	**20 01 38.3**	**-0.1**
	0.6nm,0.8s,mb3.4,baz=72,slow=9.1,SNR=3.2						
ARCES	**ARCESS Array B**	**49.52**	**335**	P	**P**	**20 02 19.8**	**+1.1**
	1.0nm,0.9s,mb3.8,baz=90,slow=6.1,SNR=4.0						
PSZ	**Piszkesteto**	**52.59**	**308**	P	**P**	**20 02 41.0**	**-1.2**
	14nm,1.7s,mb4.6						
GERES	**GERESS Array B**	**56.40**	**310**	P	**P**	**20 03 09.4**	**-0.6**
	0.8nm,0.8s,mb3.8,baz=72,slow=6.2,SNR=9.6						
WRA	**Warramunga Arr**	**68.61**	**134**	P	**P**	**20 04 32.0**	**+0.2**
	0.8nm,1.1s,mb3.6,baz=328,slow=6.8,SNR=5.5						

DJA 25 20:04:39.1±1.0**, 9.21S×114.28E, h80^{km}, MD4.9**/4**, ML4.1**/4**, 1C-3D, Error ellipse: s-maj=27.0km s-min=12.9km az=35.0, South of Bali**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
INGI	**Ingas**	**0.94**	**66**	⇓ePn	P	20 04 57.7	0.0
	442nm,0.2s						
INGI				eSn	S	20 05 10.1	-1.6
KELI	**Kelakatan**	**1.01**	**12**	⇑ePn	P	20 04 57.7	-0.8
	370nm,0.1s						
KELI				eSn	S	20 05 12.7	-0.4
RATI	**Rata**	**1.33**	**69**	⇓ePn	P	20 05 02.1	-0.7
	427nm,0.2s						
RATI				eSn	S	20 05 18.3	-2.0
KEDI	**Kedomdong**	**1.95**	**68**	⇓ePn	P	20 05 09.6	-1.3
	46nm,0.2s						
KEDI				eSn	S	20 05 25.5	-8.9

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*IDC **25** 20:27:19.4±0.7, 63.61N×23.97W, mb4.0/13, mb1 4.2/16, mb1mx4.1/25, ML3.2/3, MS3.7/11, Ms1 3.7/11, ms1mx3.5/20, Error ellipse: s-maj=20.7km s-min=12.6km az=7.0*
*MOS **25** 20:27:19.9±1.4, 63.50N×23.91W, h10^{km}, mb4.4/13, Error ellipse: s-maj=15.7km s-min=13.7km az=8.4*
*NEIC **25** 20:27:20.3±0.3, 63.50N×23.92W, h10^{km}, mb4.5/51, MS3.7/3, ML4.0(REY), Error ellipse: s-maj=8.8km s-min=4.8km az=209.0*
*ZUR_RM **25** 20:27:20, 63.50N×23.92W, h4^{km}, Mw4.4/15, Moment Tensor Solution. s15 Moment tensor: Scale 10^{15}Nm; M_{rr}-3.15; $M_{\theta\theta}$0.86; $M_{\phi\phi}$2.29; $M_{r\theta}$1.45; $M_{\theta\phi}$2.11; $M_{\phi r}$0.93; Best double couple: $M_0 3.89\times10^{15}$ NP1:ϕ_s227°, δ58°, λ-77°. NP2:ϕ_s23°, δ34°, λ-110°. Principal axes: T 4.155, Plg12°, Azm307°; N -.527, Plg11°, Azm40°; P -3.627, Plg73°, Azm170°;*
*CSEM **25** 20:27:44.1, 62.52N×19.93W, h33^{km}, mb4.5*
ISC 25 20:27:18.7±0.3**, 63.47N**±0.04×**23.98W**±0.08**, h10^{km}, n121, σ1^{s}23**/115**, mb4.3**/62**, MS3.6**/12**, Iceland region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BORG	**Borgarnes**	**1.73**	**41**	Pn	**Pn**	**20 27 47.4**	**-1.7**
	90nm,0.3s,baz=210,slow=9.8,SNR=9.7						
BORG				Sn	**Sn**	**20 28 10.8**	**-0.5**
	294nm,0.3s,baz=54,slow=12,SNR=18						
BORG	**Borgarnes**	**1.73**	**41**	ePn	**Pn**	**20 27 47.3**	**-1.7**
SCO	**Scoresbysund**	**7.09**	**6**	i P	**Pn**	**20 29 03.7**	**-1.3**
SUMG	**Summit**	**10.58**	**336**	ePn	**P**	**20 29 47.4**	**-5.9**
ESK	**Eskdalemuir**	**13.31**	**118**	eP	**P**	**20 30 31.0**	**+0.9**
	19nm,1.0s						
EKA	**Eskdalemuir Ar**	**13.32**	**118**	Pn	**P**	**20 30 30.4**	**+0.2**
	0.2nm,0.3s,baz=310,slow=13,SNR=10						
NOA	**NORSAR Array B**	**16.43**	**83**	Pn	**P**	**20 31 09.2**	**-1.4**
	0.1nm,0.3s,baz=204,slow=18,SNR=4.0						
NOA				LR	LR	20 36 41.6	
	comp=Z,68nm,18.1s,baz=295,slow=34						
HFS	**Hagfors**	**17.93**	**84**	P	**P**	**20 31 30.3**	**+1.0**
	0.0nm,0.3s,baz=301,slow=8.6,SNR=5.5						
ROSF	**Rostrenen**	**18.95**	**133**	eP	**P**	**20 31 41.4**	**-0.6**
	32nm,1.1s						
SGMF	**Saint Gilles**	**19.26**	**132**	eP	**P**	**20 31 44.6**	**-1.0**
	34nm,1.0s						
QUIF	**Quistinic**	**19.36**	**134**	eP	**P**	**20 31 46.2**	**-0.5**
	43nm,1.2s						
FRB	**Frobisher Bay**	**19.52**	**291**	LR	LR	20 38 27.2	
	comp=Z,354nm,20.2s,baz=105,slow=34						
FLN	**La Foliniere**	**19.54**	**128**	eP	**P**	**20 31 47.8**	**-1.0**
	18nm,0.8s						
FLN				eR			
	430nm,18.5s						
GRR	**Gorron**	**19.72**	**129**	eP	**P**	**20 31 50.4**	**-0.5**
	31nm,1.1s						
LDF	**La Druitiere**	**19.81**	**128**	eP	**P**	**20 31 51.2**	**-0.7**
	58nm,1.1s						
ARCES	**ARCESS Array B**	**20.11**	**51**	P	**P**	**20 31 54.0**	**-1.0**
	3.0nm,0.7s,baz=270,slow=8.5,SNR=9.4						
ARCES				LR	LR	20 38 11.7	
	comp=Z,114nm,19.8s,MS3.2,baz=35,slow=33						
ARCES	**ARCESS Array B**	**20.11**	**51**	P	**P**	**20 31 54.0**	**-1.0**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ARCES				MLR	MLR		
	comp=Z,114nm,19.8s						
ARCES	**ARCESS Array B**	**20.11**	**51**	P	**P**	**20 31 54.0**	**-1.0**
ARCES				LR	LR	20 38 11.7	
BAIF	**Baives**	**20.24**	**118**	eP	**P**	**20 31 55.2**	**-1.2**
	comp=Z,57nm,0.9s						
GIVF	**Givet**	**20.45**	**117**	eP	**P**	**20 31 57.3**	**-1.3**
KEV	**Kevo**	**20.60**	**50**	ep	**P**	**20 32 04.0**	**+3.9**
	comp=Z,8.5nm,0.8s						
KEV	**Kevo**	**20.60**	**50**	eP	**P**	**20 32 04.0**	**+3.9**
KEV				pmax	pmax		
	comp=Z,9.0nm,0.8s						
MFF	**Saint Martin d**	**21.51**	**131**	eP	**P**	**20 32 08.8**	**-0.7**
	comp=Z,59nm,1.3s,mb4.6						
MEZF	**Maizieres J'vi**	**21.82**	**120**	eP	**P**	**20 32 11.4**	**-1.2**
	comp=Z,44nm,1.0s,mb4.5						
HYF	**Humbligny**	**21.92**	**125**	eP	**P**	**20 32 12.7**	**-1.0**
LOR	**Lormes**	**22.38**	**123**	eP	**P**	**20 32 17.5**	**-0.7**
	comp=Z,92nm,1.3s,mb4.8						
LOR				eR			
	comp=Z,284nm,22.0s						
SSF	**Saint Saulge**	**22.42**	**124**	eP	**P**	**20 32 16.7**	**-1.9**
	comp=Z,69nm,1.5s,mb4.5						
KAF	**Kangasniemi**	**22.56**	**71**	ep	**P**	**20 32 18.8**	**-0.8**
	comp=Z,14nm,0.9s,mb4.4,baz=289,slow=11						
KAF	**Kangasniemi**	**22.56**	**71**	eP	**P**	**20 32 18.8**	**-0.8**
KAF				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.4						
AVF	**Avril sur Loir**	**22.59**	**125**	eP	**P**	**20 32 19.1**	**-1.0**
	comp=Z,48nm,1.2s,mb4.5						
BGF	**Bois d'Agland**	**22.60**	**126**	eP	**P**	**20 32 19.5**	**-0.8**
	comp=Z,95nm,1.1s,mb4.8						
TCF	**Toulx Ste Croi**	**22.60**	**127**	eP	**P**	**20 32 19.1**	**-1.2**
	comp=Z,69nm,1.4s,mb4.6						
HAU	**Haudompre**	**22.73**	**119**	eP	**P**	**20 32 20.5**	**-1.0**
	comp=Z,36nm,1.1s,mb4.4						
HAU				eR			
	comp=Z,194nm,21.0s						
FINES	**FINESS Array B**	**22.76**	**72**	P	**P**	**20 32 22.9**	**+1.3**
	comp=Z,12nm,1.0s,mb4.3,baz=243,slow=4.3,SNR=12						
FINES				LR	LR	20 40 29.8	
	comp=Z,75nm,19.3s,MS3.1,baz=142,slow=35						
FINES	**FINESS Array B**	**22.76**	**72**	P	**P**	**20 32 22.9**	**+1.3**
FINES				pmax	pmax		
	comp=Z,12nm,1.0s						
FINES				MLR	MLR		
	comp=Z,75nm,19.3s						
CDF	**Champ du Feu**	**22.77**	**117**	eP	**P**	**20 32 20.8**	**-1.1**
	comp=Z,36nm,1.3s,mb4.3						
MOX	**Moxa**	**22.86**	**107**	i P	**P**	**20 32 23.0**	**+0.3**
	comp=Z,logA/T=1.1,mb4.3						
MOX				pP		20 32 34.0	
MOX				L		20 41 51.0	
MOX	**Moxa**	**22.86**	**107**	eP	**P**	**20 32 23.0**	**+0.3**
MOX				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.3						
MOX				MLR	MLR		
	comp=Z,100nm,17.0s,MS3.3						
MOX	**Moxa**	**22.86**	**107**	eP	**P**	**20 32 23.0**	**+0.3**
	comp=Z,14nm,1.1s,mb4.3						
MOX				e		20 32 34.0	
MOX				LR	LR		
	comp=Z,100nm,17.0s,MS3.3						

SMF	**Signal de Mont**	**22.89**	**124**	*e*P	**P**	**20 32 22.0**	**-1.1**
	comp=Z,58nm,1.0s,mb4.7						
CLL	**Collm**	**22.97**	**105**	P	**P**	**20 32 25.6**	**+1.8**
CLL				*i*		20 32 31.4	
CLL				*i*		20 32 42.0	
CLL				*i* PP	PP	20 32 55.9	+2.4
CLL	**Collm**	**22.97**	**105**	*i* P	**P**	**20 32 25.6**	**+1.8**
CLL				*i*		20 32 31.4	
CLL				*i*		20 32 42.0	
HINF	**Hinteralfeld**	**23.08**	**118**	*e*P	**P**	**20 32 23.9**	**-1.0**
SCHQ	**Schefferville**	**23.19**	**268**	P	**P**	**20 32 25.9**	**0.0**
	comp=Z,6.2nm,0.8s,mb4.1,baz=50,slow=8.7,SNR=5.3						
SCHQ				LR	LR	20 40 14.4	
	comp=Z,119nm,19.7s,MS3.4,baz=104,slow=33						
SCHQ	**Schefferville**	**23.19**	**268**	P	**P**	**20 32 25.9**	**0.0**
SCHQ				LR	LR	20 40 14.4	
RJF	**Les Rejaudoux**	**23.21**	**130**	*e*P	**P**	**20 32 25.8**	**-0.4**
	comp=Z,53nm,1.2s,mb4.6						
RJF				*e*R			
	comp=Z,354nm,19.8s						
STU	**Stuttgart**	**23.27**	**114**	*e*P	**P**	**20 32 28.3**	**+1.6**
	comp=Z,17nm,0.9s,mb4.5						
GRA1	**Grafenberg Arr**	**23.40**	**110**	*e*P	**P**	**20 32 29.3**	**+1.3**
	comp=Z,7.0nm,0.9s,mb4.1						
GRF	**Grafenberg Arr**	**23.40**	**110**	*e*P	**P**	**20 32 29.3**	**+1.3**
GRF				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.1						
GRF				MLR	MLR		
	comp=Z,100nm,21.8s,MS3.2						
NKC	**Novy Kostel**	**23.52**	**107**	*e*P	**P**	**20 32 31.1**	**+2.0**
BRG	**Berggiesshubel**	**23.69**	**104**	*e*P	**P**	**20 32 32.0**	**+1.2**
BRG				pmax	pmax		
	comp=Z,17nm,1.2s,mb4.3						
BRG	**Berggiesshubel**	**23.69**	**104**	*e*P	**P**	**20 32 32.0**	**+1.2**
	comp=Z,17nm,1.2s,mb4.3						
CABF	**La Chapelle**	**23.77**	**121**	*e*P	**P**	**20 32 30.7**	**-0.9**
	comp=Z,53nm,1.4s,mb4.5						
PVCC	**Panska Ves**	**24.22**	**104**	*e*P	**P**	**20 32 37.4**	**+1.4**
PRU	**Pruhonice**	**24.60**	**105**	*e*P	**P**	**20 32 41.5**	**+1.8**
VIVF	**Saint-Julien-l**	**24.72**	**125**	*e*P	**P**	**20 32 40.6**	**-0.3**
	comp=Z,38nm,1.1s,mb4.5						
KHC	**Kasperske Hory**	**24.83**	**108**	*e*P	**P**	**20 32 42.2**	**+0.3**
UPC	**Upice**	**24.86**	**103**	*e*P	**P**	**20 32 44.1**	**+1.9**
LPL	**La Plagne**	**24.93**	**122**	*e*P	**P**	**20 32 42.2**	**-0.7**
	comp=Z,23nm,1.0s,mb4.3						
LPG	**La Plagne**	**24.95**	**122**	*e*P	**P**	**20 32 42.2**	**-0.9**
	comp=Z,22nm,1.0s,mb4.3						
LASF	**Ste Croix**	**25.10**	**128**	*e*P	**P**	**20 32 43.4**	**-1.1**
	comp=Z,220nm,1.7s,mb5.1						
GERES	**GERESS Array B**	**25.10**	**108**	P	**P**	**20 32 45.6**	**+1.1**
	comp=Z,1.3nm,0.8s,mb3.5,baz=307,slow=6.7,SNR=11						
GERES	**GERESS Array B**	**25.10**	**108**	P	**P**	**20 32 45.6**	**+1.1**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
DPC	**Dobruska-Polom**	**25.11**	**102**	*e*P	**P**	**20 32 47.3**	**+2.7**
ORIF	**Oris-en-Rattie**	**25.11**	**124**	*e*P	**P**	**20 32 43.5**	**-1.2**
	comp=Z,37nm,1.2s,mb4.5						
ORIF				*e*R			
	comp=Z,252nm,22.0s						
DAVOX	**Davos**	**25.13**	**116**	P	**P**	**20 32 47.0**	**+2.2**
	comp=Z,3.3nm,0.9s,mb3.8,baz=320,slow=13,SNR=4.7						
PUL	**Pulkovo**	**25.41**	**73**	P	**P**	**20 32 51.1**	**+3.8**
MBDF	**Montbardon**	**25.61**	**123**	*e*P	**P**	**20 32 48.6**	**-0.8**
	comp=Z,31nm,1.1s,mb4.5						
SUW	**Suwalki**	**25.64**	**89**	*e*P	**P**	**20 32 50.1**	**+0.6**
	comp=Z,63nm,1.3s,mb5.0						
RES	**Resolute Bay**	**25.79**	**325**	P	**P**	**20 32 45.1**	**-5.6**
	comp=Z,9.0nm,1.2s,mb4.2						
VRAC	**Vranov**	**26.00**	**104**	P	**P**	**20 32 53.8**	**+0.8**
	comp=Z,3.8nm,0.9s,mb4.0,baz=320,slow=11,SNR=5.4						
MORC	**Moravsky Berou**	**26.07**	**102**	*e*P	**P**	**20 32 54.9**	**+1.3**
	comp=Z,16nm,1.2s,mb4.4						
ESDC	**Sonseca Array**	**26.65**	**144**	P	**P**	**20 33 01.0**	**+2.1**
	comp=Z,4.1nm,1.1s,mb3.9,baz=344,slow=8.7,SNR=6.2						
ESDC				LR	LR	20 42 26.0	
	comp=Z,156nm,19.3s,MS3.6,baz=350,slow=34						
ESLA	**Sonseca Array**	**26.65**	**144**	*e*P	**P**	**20 32 59.1**	**+0.1**
	comp=Z,4.2nm,1.2s,mb3.8						
OJC	**Ojcow**	**26.74**	**99**	*e*P	**P**	**20 33 03.0**	**+3.3**
EVO	**Evora**	**26.76**	**151**	*e*P	**P**	**20 32 56.8**	**-3.2**
	comp=Z,68nm,1.7s,mb4.6						
EVO				*e*R			
	comp=Z,144nm,19.2s						
VYHS	**Vyhne**	**27.59**	**103**	*e*P	**P**	**20 33 09.0**	**+1.5**
VYHS				*e*		20 33 19.9	
PSZ	**Piszkesteto**	**28.49**	**102**	*e*P	**P**	**20 33 17.0**	**+1.4**
	comp=Z,9.8nm,1.2s,mb4.3						
KOLS	**Kolonicke sedl**	**28.78**	**98**	*e*P	**P**	**20 33 20.3**	**+2.1**
KOLS				*e*sP	sP	20 33 24.8	+2.3
AKASG	**Malin Array Be**	**30.61**	**89**	P	**P**	**20 33 33.3**	**-1.2**
	comp=Z,0.2nm,0.2s,mb3.5,baz=312,slow=8.9,SNR=6.3						
OBN	**Obninsk**	**30.89**	**77**	*e*P	**P**	**20 33 35.0**	**-1.9**
OBN				pmax	pmax		
	comp=Z,29nm,2.3s,mb4.7						
OBN				MLR	MLR		
	comp=Z,100nm,17.0s,MS3.5						
YKA	**Yellowknife Ar**	**37.90**	**311**	LR	LR	20 49 57.8	
	comp=Z,279nm,18.3s,MS4.1,baz=60,slow=36						
FFC	**Flin Flon**	**38.56**	**294**	*e*P	**P**	**20 34 43.4**	**+0.6**
	comp=Z,5.4nm,1.0s,mb4.2						
ARU	**Arti**	**39.16**	**61**	*e*P	**P**	**20 34 49.6**	**+1.8**
ARU				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.3						
ULM	**Lac du Bonnet**	**39.23**	**285**	LR	LR	20 49 21.9	
	comp=Z,116nm,18.1s,MS3.8,baz=46,slow=34						
INK	**Inuvik**	**39.32**	**326**	LR	LR	20 51 22.8	
	comp=Z,194nm,19.4s,MS4.0,baz=198,slow=37						
INK	**Inuvik**	**39.32**	**326**	P	**P**	**20 34 48.0**	**-0.9**
	comp=Z,3.1nm,0.8s,mb4.1						
GOF	**Gofitskoye**	**41.01**	**84**	*e*P	**P**	**20 35 06.0**	**+2.9**
GOF				pmax	pmax		
	comp=Z,30nm,1.2s,mb4.8						
BRTR	**Keskin Array B**	**41.04**	**97**	P	**P**	**20 35 05.0**	**+1.6**
	comp=Z,2.1nm,0.8s,mb3.8,baz=323,slow=6.2,SNR=11						
BRTR	**Keskin Array B**	**41.04**	**97**	P	**P**	**20 35 05.0**	**+1.6**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
TIXI	**Tiksi**	**43.87**	**12**	*e*P	**P**	**20 35 17.6**	**-8.3**
TIXI				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.5						
MALT	**Malatya**	**44.33**	**94**	*e*P	**P**	**20 35 31.9**	**+1.6**
	comp=Z,3.8nm,1.1s,mb4.0						
ILAR	**Eielson Array**	**45.35**	**330**	P	**P**	**20 35 39.0**	**+1.0**
	comp=Z,1.4nm,0.8s,mb3.9,baz=23,slow=6.8,SNR=11						
ILAR				PcP	PcP	20 37 16.8	-1.2
	comp=Z,0.8nm,0.9s,baz=9.4,slow=2.4,SNR=4.6						
ILAR	**Eielson Array**	**45.35**	**330**	P	**P**	**20 35 39.0**	**+1.0**
ILAR						20 37 16.8	
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
COLA	**College**	**45.48**	**330**	*e*P	**P**	**20 35 37.4**	**-1.6**
	comp=Z,12nm,1.1s,mb4.6						
ZRNK	**Zerenda**	**45.79**	**57**	*e*P	**P**	**20 35 40.0**	**-1.6**
	comp=Z,8.6nm,1.6s,mb4.4						
DLBC	**Dease Lake**	**46.00**	**315**	P	**P**	**20 35 38.4**	**-4.8**
BRVK	**Borovoye**	**46.19**	**57**	P	**P**	**20 35 44.6**	**-0.1**
BRVK	**Borovoye**	**46.19**	**57**	P	**P**	**20 35 44.5**	**-0.3**
	comp=Z,3.1nm,0.8s,mb4.3						
HRY	**Holter Researc**	**48.71**	**294**	*e*P	**P**	**20 36 05.6**	**+1.0**
NVS	**Novosibirsk**	**49.31**	**47**	*i* P	**P**	**20 36 10.5**	**+1.4**
NVS				pmax	pmax		
	comp=Z,44nm,2.6s,mb5.0						
NVS				pmax	pmax		
	comp=N,18nm,2.0s						
NEW	**Newport**	**49.59**	**299**	P	**P**	**20 36 12.0**	**+0.6**
	comp=N,1.6nm,0.9s,mb4.0						
PDAR	**Pinedale Array**	**50.95**	**289**	P	**P**	**20 36 21.5**	**-0.3**
	comp=N,2.6nm,0.8s,mb4.2,baz=46,slow=5.8,SNR=22						
PDAR				LR	LR	20 56 21.0	
	comp=N,122nm,18.8s,MS4.0,baz=54,slow=34						
KURK	**Kurchatov**	**51.14**	**53**	*e*P	**P**	**20 36 22.9**	**-0.2**
	comp=N,4.3nm,0.8s,mb4.4						
HWUT	**Hardware Ranch**	**52.75**	**290**	*e*P	**P**	**20 36 35.3**	**-0.1**
	comp=N,4.5nm,1.0s,mb4.3						
WMOK	**Wichita Mounta**	**52.86**	**274**	*e*P	**P**	**20 36 35.5**	**-0.8**
	comp=N,4.0nm,0.9s,mb4.3						
YAK	**Yakutsk**	**53.25**	**15**	P	**P**	**20 36 36.2**	**-2.7**
MSU	**Marysvale**	**55.59**	**288**	*e*P	**P**	**20 36 57.0**	**+0.7**
MKAR	**Makanchi Array**	**55.75**	**53**	P	**P**	**20 36 57.9**	**+0.5**
	comp=N,2.4nm,1.1s,mb4.2,baz=321,slow=7.8,SNR=5.5						
MKAR	**Makanchi Array**	**55.75**	**53**	P	**P**	**20 36 57.9**	**+0.6**
MKAR				pmax	pmax		
	comp=Z,2.0nm,1.1s						
ANMO	**Albuquerque**	**56.10**	**281**	*e*P	**P**	**20 37 00.8**	**+0.8**
	comp=Z,1.5nm,0.8s,mb4.1						
AAK	**Ala-Archa**	**56.35**	**61**	*e*P	**P**	**20 37 02.1**	**+0.4**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.3						
AAK	**Ala-Archa**	**56.35**	**61**	*e*P	**P**	**20 37 01.2**	**-0.5**
	comp=Z,4.6nm,1.2s,mb4.4						
JCT	**Junction City**	**56.92**	**273**	*e*P	**P**	**20 37 05.5**	**-0.4**
	comp=Z,13nm,0.9s,mb5.0						
TXAR	**Lajitas Array**	**59.62**	**275**	P	**P**	**20 37 25.6**	**+0.7**
	comp=Z,1.3nm,0.9s,mb4.0,baz=27,slow=2.8,SNR=5.0						
TXAR				LR	LR	21 01 22.6	
	comp=Z,66nm,21.7s,MS3.7,baz=250,slow=34						
SDV	**Santo Domingo**	**63.79**	**233**	*e*P	**P**	**20 37 56.8**	**+3.8**
	comp=Z,2.4nm,0.8s,mb4.3						
HIA	**Hailar**	**64.02**	**26**	P	**P**	**20 37 51.1**	**-2.8**
	comp=Z,2.2nm,0.8s,mb4.2						
SAML	**Samuel**	**78.13**	**220**	*e*P	**P**	**20 39 19.9**	**+0.5**
	comp=Z,2.9nm,1.0s,mb4.2						
ASAR	**Alice Springs**	**137.56**	**31**	PKP	PKPdf	20 46 43.6	-2.0
	comp=Z,0.6nm,0.8s,baz=347,slow=1.6,SNR=5.7						
MAW	**Mawson**	**144.67**	**139**	PKP	PKPdf	20 46 54.4	-2.3
	comp=Z,1.9nm,0.7s,baz=304,slow=8.4,SNR=6.1						
MAW	**Mawson**	**144.67**	**139**	PKIKP	PKPdf	20 46 54.4	-2.3
MAW				pmax	pmax		
	comp=Z,2.0nm,0.7s						

*NIED **25** 20:54:00, 40.80N×142.70E, h38^{km}, Mw4.1 Best double couple: $M_0$1.37×10^{15} NP1:ϕ_s19°, δ72°, λ94°. NP2:ϕ_s187°, δ18°, λ78°.*
*MOS **25** 20:54:49.8±0.7, 40.79N×143.20E, h64^{km}, mb4.2/9, Error ellipse: s-maj=32.4km s-min=10.7km az=89.3*
*JMA **25** 20:54:49.2±0.2, 40.76N×142.65E, h25^{km}, M4.4*
JMA Felt I J1.
*IDC **25** 20:54:51.7±0.8, 40.80N×142.60E, h50^{km}±4^{km}, mb3.7/12, mb1 3.9/14, mb1mx3.8/23, Error ellipse: s-maj=28.9km s-min=10.1km az=88.0*
*BJI **25** 20:54:52.8, 40.80N×142.50E, h60^{km}, mB4.4, mb4.6, Ms3.7, Msz3.3*
*NEIC **25** 20:54:52.8±1.1, 40.82N×142.54E, h60^{km}±9^{km}, mb4.5/10, MW4.1(NIED), Error ellipse: s-maj=16.4km s-min=7.9km az=96.0*
NEIC Recorded [1 JMA] in Aomori and Iwate Prefectures.

ISC 25 20:54:49.5±0.6**, 40.74N**±0.03×**142.74E**±0.07**, h52**^{km}±4^{km}**, h50**^{km}±1.1^{km}**:pP-P, n66,** σ**0**^{s}**91**/78**, mb4.4**/26**, MS3.4**/1**, 6D,**
Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JANG	**Nango**	**1.00**	**249**	⇓P	**P**	**20 55 06.7**	**-0.8**
JTH	**Tanohata**	**1.04**	**220**	⇓P	**P**	**20 55 07.3**	**-0.8**
JTH				*e*S	**S**	**20 55 20.2**	**-1.7**
JTM	**Tenmabayashi**	**1.27**	**272**	P	**P**	**20 55 10.6**	**-0.6**
JEM	**Erimo**	**1.31**	**14**	P	**P**	**20 55 12.5**	**+0.6**
JEM				*e*S	**S**	**20 55 29.5**	**+0.9**
JOT	**Ohata**	**1.43**	**297**	⇓P	**P**	**20 55 12.6**	**-1.0**
JNBK	**Urakawa-nobuka**	**1.54**	**0**	P	**P**	**20 55 15.7**	**+0.7**
JOM	**Ohasama**	**1.69**	**222**	P	**P**	**20 55 18.5**	**+1.4**
JAH	**Hinai**	**1.70**	**252**	⇓P	**P**	**20 55 17.7**	**+0.4**
JAH				*e*S	**S**	**20 55 38.6**	**+0.7**
JKB	**Kayabe**	**1.72**	**312**	⇓P	**P**	**20 55 16.8**	**-0.8**
JSR	**Shiriuchi**	**1.92**	**295**	⇓P	**P**	**20 55 20.3**	**-0.1**
JSR				*e*S	**S**	**20 55 43.4**	**0.0**
JCH	**Churui**	**1.93**	**14**	P	**P**	**20 55 21.2**	**+0.7**
JCH				*e*S	**S**	**20 55 44.0**	**+0.5**
JMK	**Ichinoseki**	**2.14**	**214**	P	**P**	**20 55 25.1**	**+1.6**
ASAJ	**Asahikawa**	**3.37**	**358**	P	**P**	**20 55 41.3**	**+0.3**
	8.9nm,0.3s,baz=231,slow=6.9,SNR=70						
ASAJ				S	**S**	**20 56 19.0**	**-1.1**
	12nm,0.3s,baz=328,slow=2.9,SNR=5.4						
ASAJ	**Asahikawa**	**3.37**	**358**	P	**P**	**20 55 41.3**	**+0.3**
ASAJ				S	**S**	**20 56 19.0**	**-1.1**
ASAJ				pmax	pmax		
	comp=Z,9.0nm,0.3s						
ASAJ				smax			
	comp=N,12nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**4.02**	**34**	P	**P**	**20 55 48.4**	**-1.7**
YUK				*i* S	**S**	**20 56 32.0**	**-4.5**
YUK				pmax	pmax		
	comp=Z,190nm,0.3s						
YUK				smax			
	comp=N,700nm,0.4s						
YUK				smax			
	comp=E,350nm,0.4s						
MAJO	**Matsushiro**	**5.49**	**222**	*e*Pn	**P**	**20 56 12.0**	**+1.2**
MAT	**Matsushiro**	**5.49**	**222**	P	**P**	**20 56 10.5**	**-0.2**
MAT				*e*S	**S**	**20 57 13.3**	**-0.1**
MAT	**Matsushiro**	**5.49**	**222**	*e*P	**P**	**20 56 12.0**	**+1.3**
	comp=E,11nm,0.6s						
MAT				*e*S	**S**	**20 57 20.0**	**+6.6**
KUR	**Kuril'sk**	**5.85**	**38**	*e*P	**P**	**20 56 12.0**	**-3.8**
KUR				S	**S**	**20 57 16.0**	**-6.4**
KUR				pmax	pmax		
	comp=Z,150nm,0.6s						
KUR				smax			
	comp=N,80nm,0.5s						
KUR				smax			
	comp=E,80nm,0.5s						
YSS	**Yuzh-Sakhalins**	**6.21**	**0**	*e*P	**P**	**20 56 20.0**	**-0.7**
YSS				*e*		20 57 38.0	
YSS	**Yuzh-Sakhalins**	**6.21**	**0**	P	**P**	**20 56 20.5**	**-0.3**
	comp=E,15nm,0.7s						
JHJ	**Hachijo jima 2**	**7.97**	**198**	P	**P**	**20 56 41.8**	**-3.4**
	comp=E,6.0nm,0.3s,baz=94,slow=20,SNR=5.1						
JHJ				S	**S**	**20 58 06.3**	**-8.6**
	comp=E,9.6nm,0.3s,baz=255,slow=18,SNR=3.6						
MDJ	**Mudanjiang**	**10.42**	**296**	P	**P**	**20 57 20.9**	**+2.0**
	comp=E,10nm,1.0s						
HIA	**Hailar**	**18.30**	**305**	*e*P	**P**	**20 58 57.7**	**-3.4**
	comp=E,14nm,1.5s						
YAK	**Yakutsk**	**22.73**	**344**	P	**P**	**20 59 42.5**	**-5.0**
	comp=E,13nm,0.8s,mb4.4						
HHC	**Hu-ho-hao-te**	**23.54**	**281**	*e*P	**P**	**20 59 57.5**	**+1.9**
HHC				AP		21 00 11.3	
HHC				XP		21 00 18.3	
HHC				S	**S**	**21 04 02.0**	**-0.5**
HHC				XS		21 04 27.5	
HHC				SS	SS	21 04 55.0	+1.7
HHC				AMB	AMB		
	comp=Z,11nm,0.6s,mb4.5						
HHC				AMB	AMB		
	comp=Z,53nm,5.1s						
HHC				LR	LR		
	comp=N,79nm,14.9s,MS3.5						
HHC				LR	LR		
	comp=E,109nm,14.3s,MS3.5						
HHC				LR	LR		
	comp=Z,78nm,16.1s,MS3.3						
GUMO	**Guam**	**27.12**	**175**	P	**P**	**21 00 19.9**	**-10**
GYA	**Guiyang**	**33.00**	**256**	P	**P**	**21 01 21.5**	**-0.2**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
MKAR	**Makanchi Array**	**43.12**	**299**	P	**P**	**21 02 45.8**	**-0.3**
	comp=Z,1.9nm,0.5s,mb4.1,baz=83,slow=11,SNR=24						
MKAR				pP	pP	21 02 58.5	-1.4
	comp=Z,1.7nm,0.5s,baz=85,slow=10,SNR=6.0						
MKAR	**Makanchi Array**	**43.12**	**299**	P	**P**	**21 02 45.8**	**-0.4**
MKAR				*PP	pP	21 02 58.5	-1.4
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MKAR				pmax	pmax		
	comp=N,2.0nm,0.5s						
MKAR	**Makanchi Array**	**43.12**	**299**	P	**P**	**21 02 45.8**	**-0.3**
MKAR				pP	pP	21 02 58.5	-1.4
KURK	**Kurchatov**	**44.54**	**305**	*e*P	**P**	**21 02 56.5**	**-1.0**
	comp=N,4.5nm,0.6s,mb4.5						
KKN	**Kakani**	**48.42**	**273**	*e*P	**P**	**21 03 28.4**	**-0.1**
	comp=N,23nm,0.7s,mb5.3						
PKI	**Pulchoki**	**48.44**	**273**	*e*P	**P**	**21 03 28.5**	**-0.1**
DMN	**Daman**	**48.65**	**273**	*e*P	**P**	**21 03 30.6**	**+0.4**
	comp=N,14nm,0.7s,mb5.1						
GKN	**Gorkha**	**48.80**	**274**	*e*P	**P**	**21 03 30.3**	**-1.1**
	comp=N,14nm,0.5s,mb5.3						
BVAR	**Borovoye Array**	**48.91**	**310**	P	**P**	**21 03 32.2**	**+0.4**
	comp=N,3.4nm,0.4s,mb4.8,baz=73,slow=9.4,SNR=21						
BVAR				pP	pP	21 03 45.1	-0.6
	comp=N,2.3nm,0.4s,baz=80,slow=7.6,SNR=7.8						
BRVK	**Borovoye**	**48.96**	**310**	*e*P	**P**	**21 03 32.2**	**0.0**
	comp=N,3.6nm,0.7s,mb4.5						
KOLN	**Koldanda**	**49.71**	**274**	*e*P	**P**	**21 03 38.6**	**+0.2**
	comp=N,5.4nm,0.5s,mb4.9						
ZRNK	**Zerenda**	**49.73**	**310**	*e*P	**P**	**21 03 38.2**	**0.0**
	comp=N,6.8nm,0.9s,mb4.7						
ZRNK				*e*	pP	21 03 50.8	-1.2
INK	**Inuvik**	**50.63**	**29**	P	**P**	**21 03 45.8**	**+1.0**
	comp=N,1.9nm,0.5s,mb4.3,baz=143,slow=3.8,SNR=4.3						
INK	**Inuvik**	**50.63**	**29**	P	**P**	**21 03 45.8**	**+1.0**
INK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
RES	**Resolute Bay**	**58.76**	**15**	P	**P**	**21 04 52.0**	**+8.1**
	comp=Z,6.2nm,0.8s,mb4.7						
WRAB	**Tennant Creek**	**60.87**	**189**	P	**P**	**21 04 58.5**	**-0.6**
	comp=Z,5.2nm,1.0s,mb4.6						
WRA	**Warramunga Arr**	**60.88**	**189**	P	**P**	**21 04 58.6**	**-0.5**
	comp=Z,0.7nm,0.6s,mb4.0,baz=5.7,slow=7.0,SNR=23						
WRA				pP	pP	21 05 13.2	-0.3
	comp=Z,0.9nm,0.6s,baz=5.8,slow=7.2,SNR=5.1						
WRA	**Warramunga Arr**	**60.88**	**189**	P	**P**	**21 04 58.6**	**-0.6**
WRA				*PP	pP	21 05 13.2	-0.3
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA				pmax	pmax		
	comp=N,1.0nm,0.6s						
ARCES	**ARCESS Array B**	**60.90**	**339**	P	**P**	**21 04 58.2**	**-0.5**
	comp=N,0.7nm,0.7s,mb3.9,baz=39,slow=7.8,SNR=7.0						
ARCES				pP	pP	21 05 12.8	-0.2
	comp=N,2.1nm,1.0s,baz=45,slow=8.6,SNR=2.7						
ARCES	**ARCESS Array B**	**60.90**	**339**	P	**P**	**21 04 58.2**	**-0.5**
ARCES				*PP	pP	21 05 12.8	-0.2
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ARCES				pmax	pmax		
	comp=N,2.0nm,1.0s						
ARCES	**ARCESS Array B**	**60.90**	**339**	P	**P**	**21 04 58.2**	**-0.5**
ARCES				pP	pP	21 05 12.8	-0.2
ASAR	**Alice Springs**	**64.60**	**189**	P	**P**	**21 05 24.1**	**+0.3**
	comp=N,0.6nm,0.6s,mb3.8,baz=1.4,slow=5.1,SNR=14						
ASAR				pP	pP	21 05 38.5	+0.2
	comp=N,0.6nm,0.6s,baz=14,slow=6.6,SNR=5.8						
KAF	**Kangasniemi**	**65.50**	**332**	*e*p	**P**	**21 05 28.2**	**-0.7**
	comp=N,0.4nm,0.4s,mb3.8,baz=48,slow=6.1						
FINES	**FINESS Array B**	**66.02**	**332**	P	**P**	**21 05 32.0**	**-0.2**
	comp=N,2.0nm,0.5s,mb4.4,baz=52,slow=6.6,SNR=28						
FINES				pP	pP	21 05 46.3	-0.6
	comp=N,2.4nm,0.5s,baz=42,slow=7.9,SNR=4.7						
FINES	**FINESS Array B**	**66.02**	**332**	P	**P**	**21 05 32.1**	**-0.2**
FINES				*PP	pP	21 05 46.3	-0.5
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
FINES				pmax	pmax		
	comp=N,2.0nm,0.5s						
FCC	**Fort Churchill**	**70.23**	**28**	*e*P	**P**	**21 06 09.0**	**+11**
	comp=N,18nm,1.1s,mb4.9						
HFS	**Hagfors**	**71.14**	**336**	P	**P**	**21 06 03.6**	**-0.3**
	comp=N,0.9nm,0.3s,mb4.1,baz=53,slow=7.4,SNR=13						
HFS	**Hagfors**	**71.14**	**336**	P	**P**	**21 06 03.6**	**-0.3**
HFS				pmax	pmax		
	comp=Z,1.0nm,0.3s						
NB2	**NORSAR Subarra**	**71.17**	**337**	P	**P**	**21 06 03.9**	**-0.2**
	comp=Z,1.3nm,0.6s,mb4.0,baz=36,slow=6.2						
NOA	**NORSAR Array B**	**71.17**	**337**	P	**P**	**21 06 03.9**	**-0.2**
	comp=Z,1.0nm,0.6s,mb3.9,baz=36,slow=6.0,SNR=4.7						
NOA				pP	pP	21 06 18.6	-0.1
	comp=Z,1.5nm,0.8s,baz=39,slow=5.9,SNR=3.1						
NOA	**NORSAR Array B**	**71.17**	**337**	P	**P**	**21 06 03.9**	**-0.2**
NOA				*PP	pP	21 06 18.6	-0.2
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA				pmax	pmax		
	comp=N,2.0nm,0.8s						
MCMT	**McKenzie Canyo**	**71.20**	**47**	*e*P	**P**	**21 06 12.6**	**+8.0**
AKASG	**Malin Array Be**	**72.00**	**322**	P	**P**	**21 06 08.9**	**-0.3**
	comp=N,0.3nm,0.3s,mb3.7,baz=44,slow=6.5,SNR=4.7						
AKASG				pP	pP	21 06 22.9	-1.0
	comp=N,0.8nm,0.3s,baz=45,slow=6.6,SNR=4.4						
AKASG	**Malin Array Be**	**72.00**	**322**	P	**P**	**21 06 08.9**	**-0.3**
AKASG				*PP	pP	21 06 22.9	-1.0
AKASG				pmax	pmax		
	comp=N,1.0nm,0.4s						
PDAR	**Pinedale Array**	**74.35**	**47**	pP	pP	21 06 40.9	+3.0
	comp=N,0.3nm,0.5s,baz=315,slow=2.1,SNR=3.4						
BRTR	**Keskin Array B**	**77.17**	**312**	P	**P**	**21 06 40.1**	**+0.9**
	comp=N,0.6nm,0.8s,mb3.5,baz=74,slow=6.8,SNR=3.3						
BRTR	**Keskin Array B**	**77.17**	**312**	P	**P**	**21 06 40.1**	**+0.9**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
GERES	**GERESS Array B**	**80.10**	**329**	P	**P**	**21 06 56.1**	**+1.1**
	comp=Z,0.4nm,0.8s,mb3.4,baz=60,slow=11,SNR=4.0						
GERES				pP	pP	21 07 10.9	+1.0
	comp=Z,0.4nm,0.4s,baz=40,slow=5.9,SNR=4.0						

*NEIC **25** 21:20:57.5±2.3, 5.15N×95.87E, h70^{km}±20^{km}, mb4.8/7, Error ellipse: s-maj=27.4km s-min=7.8km az=49.0*
*IDC **25** 21:21:02.5±8.9, 5.27N×95.91E, h117^{km}±81^{km}, mb3.7/11, mb1 3.8/12, mb1mx3.7/17, ML3.1/1, MS3.3/2, Ms1 3.3/2, ms1mx2.8/23, Error ellipse: s-maj=60.6km s-min=13.0km az=53.0*

ISC 25 21:21:03.4±3.9**, 5.3N**±0.1×**96.0E**±0.2**, h142**^{km}±36^{km}**, n26,** σ**0**^{s}**83**/26**, mb4.1**/18**, 1C, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IPM	**Ipoh**	**5.08**	**98**	⇑*e*P	**P**	**21 22 10.5**	**-8.2**
CM31	**Chiang Mai Arr**	**13.38**	**12**	P	**P**	**21 24 13.1**	**+4.5**
CM31				*e*		21 24 22.3	
CMAR	**Chiang Mai Arr**	**13.38**	**12**	P	**P**	**21 24 09.1**	**+0.4**
	0.0nm,0.3s,baz=198,slow=11,SNR=3.8						
CMAR				LR	LR	21 29 01.7	
	comp=Z,50nm,19.6s,baz=66,slow=36						
HYB	**Hyderabad**	**20.87**	**307**	*i* P	**P**	**21 25 35.0**	**-0.7**
HYB	**Hyderabad**	**20.87**	**307**	*e*P	**P**	**21 25 35.0**	**-0.7**
MBWA	**Marble Bar**	**35.15**	**139**	*e*P	**P**	**21 27 48.2**	**+2.8**
	23nm,1.3s,mb4.7						
FITZ	**Fitzroy Crossi**	**37.38**	**129**	*e*P	**P**	**21 28 03.2**	**-1.1**
	2.3nm,0.6s,mb4.0						
FITZ				*e*		21 28 08.5	
BJT	**Baijiatuau**	**39.05**	**25**	*e*P	**P**	**21 28 27.2**	**+9.3**
	11nm,1.1s,mb4.4						
MKAR	**Makanchi Array**	**42.98**	**346**	P	**P**	**21 28 50.0**	**-0.1**
	0.6nm,0.6s,mb3.4,baz=162,slow=7.7,SNR=5.9						
NWAO	**Narrogin (SRO)**	**43.05**	**153**	P	**P**	**21 28 50.5**	**-0.4**
	6.3nm,0.8s,mb4.3,baz=307,slow=5.1,SNR=2.7						
WRA	**Warramunga Arr**	**45.30**	**125**	P	**P**	**21 29 08.8**	**-0.2**
	3.0nm,0.6s,mb4.1,baz=302,slow=9.3,SNR=51						
WRAB	**Tennant Creek**	**45.31**	**125**	*e*P	**P**	**21 29 08.9**	**-0.1**
	9.5nm,0.9s,mb4.4						
WB2	**Warramunga Arr**	**45.31**	**125**	*e*P	**P**	**21 29 08.9**	**-0.2**
ASPA	**Alice Springs**	**46.88**	**129**	*e*P	**P**	**21 29 21.7**	**+0.3**
ASPA				*e*		21 29 27.2	
ASAR	**Alice Springs**	**46.88**	**129**	P	**P**	**21 29 21.4**	**0.0**
	2.9nm,0.5s,mb4.2,baz=300,slow=7.9,SNR=66						
ASAR				LR	LR	21 48 59.2	
	comp=Z,69nm,19.4s,baz=12,slow=36						
HIA	**Hailar**	**48.20**	**21**	P	**P**	**21 29 39.2**	**+7.9**
	4.2nm,0.9s,mb4.1						
BVAR	**Borovoye Array**	**51.99**	**341**	P	**P**	**21 29 59.5**	**-0.6**
	0.3nm,0.6s,mb3.1,baz=208,slow=35,SNR=3.2						
PMG	**Port Moresby**	**53.06**	**106**	*e*P	**P**	**21 30 09.1**	**+0.6**
	25nm,1.1s,mb4.8						
STKA	**Stephens Creek**	**57.03**	**134**	P	**P**	**21 30 36.8**	**-0.1**
	1.6nm,0.7s,mb4.0,baz=321,slow=9.2,SNR=5.0						
BRTR	**Keskin Array B**	**65.48**	**311**	P	**P**	**21 31 32.9**	**-0.7**
	1.7nm,0.5s,mb4.1,baz=130,slow=7.3,SNR=13						
MA2	**Magadan**	**68.20**	**27**	*e*P	**P**	**21 31 47.8**	**-2.5**
	43nm,1.5s,mb5.0						
IDI	**Anoyia**	**71.52**	**305**	P	**P**	**21 32 11.5**	**+0.7**
	4.4nm,0.7s,mb4.3,baz=84,slow=10,SNR=4.0						
FINES	**FINESS Array B**	**75.81**	**332**	P	**P**	**21 32 35.2**	**+0.1**
	2.4nm,0.8s,mb3.9,baz=159,slow=16,SNR=5.8						
ARCES	**ARCESS Array B**	**78.28**	**340**	P	**P**	**21 32 49.7**	**+1.0**
	0.9nm,0.8s,mb3.4,baz=98,slow=6.4,SNR=3.1						
ARCES	**ARCESS Array B**	**78.28**	**340**	P	**P**	**21 32 49.7**	**+1.0**
GERES	**GERESS Array B**	**80.94**	**318**	P	**P**	**21 33 04.4**	**+1.0**
	0.2nm,0.4s,mb3.1,baz=108,slow=4.2,SNR=5.9						

*IDC **25** 21:31:42.2±1.6, 0.84N×126.71E, mb3.8/4, mb1 3.9/5, mb1mx3.7/13, ML3.6/1, Error ellipse: s-maj=102.0km s-min=22.1km az=67.0*
*NEIC **25** 21:31:44.6±0.8, 0.73N×126.64E, h10^{km}, mb4.8/2, Error ellipse: s-maj=30.1km s-min=11.9km az=82.0*

ISC 25 21:31:45.6±0.9**, 0.71N**±0.09×**126.5E**±0.2**, h33**^{km}**, n10,** σ**1**^{s}**15**/10**, mb4.1**/6**, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.71**	**183**	P	**P**	**21 36 02.6**	**-1.4**

	0.1nm,0.3s,baz=53,slow=10,SNR=3.9						
WRA	**Warramunga Arr**	**21.91**	**160**	P	**P**	**21 36 38.0**	**+0.1**
	1.9nm,0.6s,mb3.7,baz=340,slow=11,SNR=40						
WB2	**Warramunga Arr**	**21.92**	**160**	*e*P	**P**	**21 36 38.5**	**+0.6**
PMG	**Port Moresby**	**22.89**	**117**	*e*P	**P**	**21 36 46.2**	**-1.5**
	25nm,1.0s,mb4.6						
ASAR	**Alice Springs**	**25.27**	**164**	P	**P**	**21 37 12.1**	**+1.3**
	0.7nm,0.3s,mb3.6,baz=341,slow=11,SNR=20						
ASPA	**Alice Springs**	**25.27**	**164**	*e*P	**P**	**21 37 13.1**	**+2.4**
STKA	**Stephens Creek**	**35.42**	**158**	P	**P**	**21 38 39.6**	**-1.2**
	2.9nm,1.2s,mb4.1,baz=323,slow=10,SNR=2.6						
MAJO	**Matsushiro**	**37.27**	**16**	*e*P	**P**	**21 38 56.5**	**+0.2**
	18nm,0.7s,mb5.0						
MAT	**Matsushiro**	**37.27**	**16**	*e*P	**P**	**21 38 57.0**	**+0.7**
MKAR	**Makanchi Array**	**59.91**	**326**	P	**P**	**21 41 50.1**	**-0.8**
	0.4nm,0.4s,mb3.8,baz=120,slow=7.6,SNR=8.8						

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*NEIC **25** 21:36:25.6±2.8,23.51S×179.97E,h530^{km}±29^{km}, mb4.2/10,Error ellipse: s-maj=27.6km s-min=13.5km az=53.0*

*IDC **25** 21:36:27.4±3.5,23.81S×179.76E,h526^{km}±25^{km},mb3.1/6, mb1 3.3/7,mb1mx3.2/12,Error ellipse: s-maj=44.5km s-min=25.3km az=46.0*

ISC 25 21:36:29.2±2.5,**23.7S**±0.1×**179.7E**±0.2,**h580**^{km}±30^{km}, **n21,**σ**0**^{s}**93**/20,**mb4.0**/15,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**14.69**	**188**	P	**P**	**21 39 33.4**	**-1.1**
	1.3nm,0.3s,baz=12,slow=17,SNR=7.4						
URZ				S	**S**	**21 42 03.0**	**-0.8**
	0.5nm,0.3s,baz=357,slow=19,SNR=5.8						
CTA	**Charters Tower**	**31.20**	**270**	P	**P**	**21 42 04.7**	**+1.0**
	4.8nm,0.4s,mb4.5,baz=98,slow=9.6,SNR=13						
CTAO	**Charters Tower**	**31.20**	**270**	*e*P	**P**	**21 42 04.5**	**+0.8**
	7.3nm,0.6s,mb4.5						
PMG	**Port Moresby**	**34.17**	**289**	*e*P	**P**	**21 42 29.4**	**+0.9**
	18nm,0.9s,mb4.7						
STKA	**Stephens Creek**	**34.55**	**248**	P	**P**	**21 42 33.3**	**+1.7**
	1.3nm,0.8s,mb3.6,baz=153,slow=16,SNR=2.9						
ASAR	**Alice Springs**	**41.80**	**260**	P	**P**	**21 43 31.1**	**+0.5**
	0.5nm,0.5s,mb3.3,baz=102,slow=7.0,SNR=10.0						
ASAR				ScP		21 48 15.2	
	0.7nm,0.6s,baz=107,slow=4.2,SNR=9.8						
WB2	**Warramunga Arr**	**42.14**	**266**	*e*P	**P**	**21 43 33.1**	**-0.2**
WRAB	**Tennant Creek**	**42.14**	**266**	*e*P	**P**	**21 43 32.6**	**-0.7**
	2.8nm,0.5s,mb4.0						
WRA	**Warramunga Arr**	**42.15**	**266**	P	**P**	**21 43 33.1**	**-0.3**
	1.4nm,0.5s,mb3.8,baz=91,slow=8.5,SNR=63						
WRA				ScP		21 48 16.6	
	0.4nm,0.7s,baz=95,slow=3.5,SNR=4.9						
WRA				S	**S**	**21 49 11.2**	**-1.6**
	0.4nm,0.8s,baz=99,slow=14,SNR=3.9						
FITZ	**Fitzroy Crossi**	**50.57**	**266**	P	**P**	**21 44 37.9**	**+0.5**
	0.8nm,0.7s,mb3.3,baz=153,slow=4.5,SNR=4.4						
SBA	**Scott Base**	**54.57**	**183**	P	**P**	**21 45 05.8**	**+0.7**
	6.8nm,0.9s,mb4.0						
MBWA	**Marble Bar**	**55.14**	**260**	P	**P**	**21 45 08.8**	**-1.0**
	6.4nm,1.0s,mb3.9						
CASY	**Casey**	**60.18**	**206**	*e*P	**P**	**21 45 42.4**	**-0.8**
	1.8nm,0.6s,mb3.5						
CASY				*e*		21 47 01.1	
QSPA	**South Pole Qui**	**66.39**	**180**	*e*P	**P**	**21 46 23.6**	**+1.1**
	7.6nm,0.6s,mb4.3						
MAJO	**Matsushiro**	**71.57**	**326**	P	**P**	**21 46 52.6**	**-1.3**
	4.2nm,0.9s,mb4.0						
MAW	**Mawson**	**77.85**	**200**	P	**P**	**21 47 29.6**	**+1.4**
	1.9nm,0.7s,mb3.7,baz=123,slow=7.3,SNR=11						
ENH	**Enshi**	**86.10**	**305**	P	**P**	**21 48 10.5**	**-0.2**
	12nm,1.1s,mb4.4						
MA2	**Magadan**	**86.31**	**346**	P	**P**	**21 48 10.3**	**-0.6**
	6.6nm,0.8s,mb4.3						
HFS	**Hagfors**	**142.29**	**349**	PKhKP		21 54 52.6	
	1.1nm,0.3s,baz=45,slow=2.0,SNR=14						
AKASG	**Malin Array Be**	**144.65**	**327**	PKP	PKPdf	21 55 01.5	+1.7
	0.4nm,0.3s,baz=44,slow=4.1,SNR=7.2						
BRTR	**Keskin Array B**	**147.24**	**307**	PKPbc	PKPdf	21 55 13.3	+8.8
	0.6nm,1.0s,baz=63,slow=2.8,SNR=3.6						

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*IDC **25** 21:48:44.8±2.4,16.04S×177.07W,mb4.0/5,mb1 4.2/5, mb1mx4.1/11,MS3.7/5,Ms1 3.8/5,ms1mx3.6/13,Error ellipse: s-maj=136.0km s-min=24.6km az=143.0*

ISC 25 21:48:48.6±2.0,**16.0S**±0.7×**177.2W**±0.5,**h33**^{km}**,n12,** σ**1**^{s}**14**/5,**mb4.0**/5,**MS3.8**/4,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAR	**Rarotonga**	**17.29**	**110**	LR	LR	21 58 01.7	
	comp=Z,217nm,19.3s,baz=272,slow=32						
CTA	**Charters Tower**	**34.96**	**258**	LR	LR	22 07 22.4	
	comp=Z,135nm,18.2s,MS3.7,baz=235,slow=32						
STKA	**Stephens Creek**	**40.59**	**240**	P	**P**	**21 56 27.7**	**+0.8**
	12nm,1.3s,mb4.3,baz=72,slow=6.4,SNR=2.8						
WRA	**Warramunga Arr**	**46.16**	**258**	P	**P**	**21 57 11.2**	**-1.1**
	0.9nm,1.0s,mb3.6,baz=92,slow=8.7,SNR=6.2						
ASAR	**Alice Springs**	**46.46**	**252**	P	**P**	**21 57 14.7**	**+0.1**
	2.6nm,0.6s,mb4.3,baz=84,slow=8.5,SNR=39						
ASAR				LR	LR	22 17 11.5	
	comp=Z,25nm,18.2s,MS3.2,baz=92,slow=37						
ILAR	**Eielson Array**	**83.78**	**13**	P	**P**	**22 01 16.4**	**+0.9**
	0.4nm,0.7s,mb3.7,baz=211,slow=5.3,SNR=4.0						
PDAR	**Pinedale Array**	**85.17**	**43**	P	**P**	**22 01 22.1**	**-0.8**
	0.2nm,0.3s,mb3.7,baz=214,slow=11,SNR=3.8						
CMAR	**Chiang Mai Arr**	**89.36**	**289**	LR	LR	22 41 44.2	
	comp=Z,48nm,19.4s,MS3.9,baz=180,slow=36						
YKA	**Yellowknife Ar**	**92.12**	**24**	LR	LR	22 40 43.5	
	comp=Z,103nm,18.9s,MS4.3,baz=250,slow=34						
BRTR	**Keskin Array B**	**144.24**	**317**	PKP	PKPdf	22 08 23.3	+1.9
	1.3nm,1.1s,baz=117,slow=3.2,SNR=2.9						
KHC	**Kasperske Hory**	**145.82**	**347**	*e*P	PKPdf	22 08 20.0	-3.8
GERES	**GERESS Array B**	**146.06**	**347**	PKPbc	PKPbc	22 08 26.3	+1.0
	0.3nm,0.8s,baz=9.5,slow=6.0,SNR=2.7						

CASC 25 21:55:29.7±2.2,**12.55N**×**88.05W,h52**^{km}±45^{km}**,MD4.1, ML3.9,6C-2D,Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CNCH	**Conchagua**	**0.75**	**16**⇓	*e*P	P	21 55 44.2	-0.1
CNCH				*e*S	S	21 55 56.3	+1.3
VSM	**San Miguel**	**0.90**	**346**	*e*P	P	21 55 46.7	+0.4
VSM				*e*S	S	21 56 00.7	+2.1
BLLM	**Bellamira**	**0.91**	**348**	*e*P	P	21 55 46.6	+0.3
BLLM				*e*S	S	21 55 59.9	+1.1
CAHU	**Cacacuatique**	**1.22**	**353**	*e*P	P	21 55 51.3	+0.5
CAHU				*e*S	S	21 56 08.2	+1.7
SNVI	**San Vicente**	**1.31**	**324**⇑	*e*P	P	21 55 51.7	-0.5
SNVI				*e*S	S	21 56 09.2	+0.5
LCBS	**La Ceiba**	**1.42**	**321**⇑	*e*P	P	21 55 53.3	-0.4
LCBS				*e*S	S	21 56 11.2	-0.3
LFRS	**El Faro**	**1.45**	**317**⇑	*i*P	P	21 55 53.4	-0.8
LFRS				*e*S	S	21 56 11.8	-0.4
LBRS	**Las Brisas**	**1.53**	**321**⇑	*e*P	P	21 55 55.0	-0.1
LBRS				*e*S	S	21 56 13.7	-0.3
LFU	**La Fuente**	**1.58**	**319**	*e*P	P	21 55 55.9	0.0
SOMN	**Somoto**	**1.65**	**58**	*e*P	P	21 55 58.7	+1.9
BOQS	**Boqueron**	**1.68**	**315**⇑	*e*P	P	21 55 57.0	-0.3
BOQS				*e*S	S	21 56 18.3	+0.6
XAVN	**Gruta Xavier**	**1.73**	**103**	*e*P	P	21 55 57.4	-0.6
MGAN	**Managua**	**1.81**	**103**	*e*P	P	21 55 58.3	-0.8
MGAN				*e*S	S	21 56 19.6	-1.2
MGAN				*i*		21 56 20.2	
	comp=E,1μm,0.6s						
MGAN				*e*S	S	21 56 20.8	0.0
TICN	**Ticuantepe**	**1.85**	**106**	*e*P	P	21 55 58.8	-0.9
TICN				*e*S	S	21 56 21.5	-0.4
WILN	**Americas 2**	**1.86**	**102**	*e*P	P	21 55 59.2	-0.6
WILN				*e*S	S	21 56 21.0	-1.1
MASN	**Masaya**	**1.94**	**107**	*e*P	P	21 55 59.9	-1.0
PYTN	**Playitas**	**1.95**	**90**	*e*P	P	21 56 00.2	-0.8
PYTN				*e*S	S	21 56 23.5	-0.7
SBLS	**San Blas**	**2.00**	**310**	*e*P	P	21 56 01.6	-0.1
SBLS				*e*S	S	21 56 26.7	+1.2
SNJE	**San Jose**	**2.00**	**311**⇓	*e*P	P	21 56 01.7	-0.1
RTR	**El Retiro**	**2.05**	**311**	*e*P	P	21 56 02.3	-0.1
MTO2	**Montecristo 2**	**2.24**	**325**	*e*P	P	21 56 04.8	-0.3
CUSS	**Cusmapa**	**2.29**	**306**	*e*P	P	21 56 04.7	-1.2
CUSS				*e*S	S	21 56 31.8	-1.1
VCR	**Vista de Mar**	**3.38**	**135**	*e*P	P	21 56 20.2	-1.1
JCR	**Jicaral**	**3.94**	**133**	*e*P	P	21 56 27.6	-1.6
CGA2	**Cerro Gallo 2**	**4.33**	**125**	*e*P	P	21 56 35.4	+0.8
PRS1	**Puriscal**	**4.47**	**124**	*e*P	P	21 56 34.7	-2.0
LAJ	**Bijagual**	**4.69**	**124**	*e*P	P	21 56 36.3	-3.5
LCR2	**La Lucha 2**	**4.85**	**125**	*e*P	P	21 56 42.3	+0.2
ICR	**Volcan Irazu**	**4.86**	**121**	*e*P	P	21 56 44.4	+2.2
URSC	**Urasca**	**4.99**	**122**	*e*P	P	21 56 45.8	+1.9
BUS	**Buena Vista**	**5.16**	**125**⇑	*e*P	P	21 56 47.0	+0.7

GUC 25 22:06:30.1±0.8,**27.47S**×**71.11W,h33**^{km}±6^{km}**,MD4.5, ML4.6,5C,Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CPCH	**Copiapo**	**0.68**	**81**	*e*P	Pn	22 06 43.4	0.0
CPCH				*i* S	Sb	22 06 52.9	+0.1
CPCH				AMP		22 06 55.7	
	comp=E,56μm,0.1s						
VACH	**Vallenar**	**1.14**	**164**⇑	*i*P	Pn	22 06 50.7	+0.6
VACH				*i* S	Sn	22 07 05.4	+0.7
VACH				AMP		22 07 09.0	
	comp=E,24μm,0.3s						
TLL	**Tololo Astrono**	**2.70**	**174**⇑	*i*P	Pn	22 07 13.5	+1.2
TLL				*i* S	Sn	22 07 46.2	+1.9
TLL				AMP		22 07 56.8	
	comp=E,2μm,0.5s						
CPN1	**Cerro Paranal**	**2.90**	**13**⇑	*i*P	Pn	22 07 15.8	+0.6
CPN1				AMP		22 08 05.7	
	comp=N,2μm,0.5s						
CMCH	**Combarbala**	**3.69**	**179**⇑	*i*P	Pn	22 07 26.0	-0.4
LVC	**Limon Verde**	**5.23**	**23**⇑	*i*P	Pn	22 07 48.2	0.0
LVC				*i* S	Sn	22 08 47.2	-0.9
FCH	**Farellones**	**5.88**	**173**	*e*P	Pn	22 07 57.1	-0.2

MEX 25 22:27:47.8±0.6,**15.58N**×**95.61W,h20**^{km}±66^{km}**,MD3.7, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.51**	**292**	*i* P	Pb	22 27 56.1	-1.9
HUIG				*i* S	Sb	22 28 03.0	-2.0
CMIG	**Matias Romero**	**1.66**	**25**	*i* P	Pn	22 28 13.1	-3.1
CMIG				*i* S	Sn	22 28 31.8	-5.3
OXX	**Oaxaca**	**1.83**	**325**	*i* P	Pn	22 28 16.0	-2.7
OXX				*i* S	Sn	22 28 37.0	-4.5

IDC 25 22:33:10.3±4.0,**15.38S**×**175.00W,mb4.3**/3,**mb1 4.7**/3, **mb1mx4.1**/11,**Error ellipse: s-maj=305.0km s-min=33.8km az=152.0,Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WB2	**Warramunga Arr**	**48.34**	**257**	*e*P	P	22 41 54.1	-1.9
WRA	**Warramunga Arr**	**48.35**	**257**	P	P	22 41 54.1	-1.9
	2.2nm,0.7s,baz=92,slow=7.7,SNR=48						
ASAR	**Alice Springs**	**48.65**	**252**	P	P	22 41 56.5	-1.9
	13nm,0.5s,baz=88,slow=7.3,SNR=288						
ASPA	**Alice Springs**	**48.66**	**252**	*e*P	P	22 41 56.4	-2.0
PDAR	**Pinedale Array**	**83.28**	**42**	P	P	22 45 39.4	-1.0
	0.6nm,0.8s,baz=218,slow=5.0,SNR=4.6						

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*IDC **25** 22:45:03.2±2.5,24.36S×179.82W,h485^{km}±23^{km},mb3.3/7, mb1 3.4/8,mb1mx3.3/13,Error ellipse: s-maj=30.3km s-min=19.6km az=34.0*

*NEIC **25** 22:45:05.2±3.6,24.39S×179.83W,h513^{km}±34^{km},mb3.9/7, Error ellipse: s-maj=38.2km s-min=15.0km az=222.0*

ISC 25 22:45:06.0±1.3,**24.4S**±0.1×**180.0E**±0.2,**h520**^{km}±19^{km}, **n21,**σ**0**^{s}**93**/21,**mb3.8**/11,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**6.90**	**345**	P	**P**	**22 46 53.4**	**+0.6**
	130nm,0.5s,SNR=17						
URZ	**Urewera**	**14.00**	**189**	P	**P**	**22 48 05.3**	**-0.4**
	0.9nm,0.3s,baz=331,slow=13,SNR=4.4						
URZ				S	**S**	**22 50 31.5**	**+1.0**
	0.5nm,0.3s,baz=326,slow=24,SNR=8.6						
RPZ	**Rata Peaks**	**20.57**	**199**	P	**P**	**22 49 08.4**	**-1.2**
	7.8nm,0.5s,baz=232,slow=2.9,SNR=6.6						
CTA	**Charters Tower**	**31.44**	**271**	P	**P**	**22 50 46.9**	**+1.0**
	2.4nm,0.4s,mb4.1,baz=90,slow=11,SNR=5.9						
CTA	**Charters Tower**	**31.44**	**271**	P	**P**	**22 50 46.9**	**+1.0**
CTAO	**Charters Tower**	**31.44**	**271**	*e*P	**P**	**22 50 46.8**	**+0.9**
	2.9nm,0.5s,mb4.1						
STKA	**Stephens Creek**	**34.49**	**249**	P	**P**	**22 51 10.6**	**-0.9**
	1.8nm,0.7s,mb3.7,baz=88,slow=10,SNR=5.8						
STKA	**Stephens Creek**	**34.49**	**249**	P	**P**	**22 51 10.6**	**-0.9**
ASAR	**Alice Springs**	**41.91**	**261**	P	**P**	**22 52 12.3**	**+0.3**
	0.5nm,0.4s,mb3.4,baz=98,slow=6.6,SNR=11						
ASAR				S	**S**	**22 57 56.0**	**+2.7**
	0.2nm,0.7s,baz=99,slow=15,SNR=4.1						
WB2	**Warramunga Arr**	**42.32**	**267**	*e*P	**P**	**22 52 15.3**	**0.0**
WRAB	**Tennant Creek**	**42.33**	**267**	*e*P	**P**	**22 52 14.9**	**-0.5**
	2.6nm,0.5s,mb4.0						
WRA	**Warramunga Arr**	**42.33**	**267**	P	**P**	**22 52 15.3**	**-0.1**
	1.4nm,0.4s,mb3.9,baz=100,slow=8.3,SNR=43						
WRA				ScP		22 57 02.8	
	0.6nm,0.7s,baz=103,slow=3.7,SNR=6.4						
FITZ	**Fitzroy Crossi**	**50.75**	**266**	*e*P	**P**	**22 53 19.8**	**+0.1**
	1.4nm,0.6s,mb3.5						
FITZ	**Fitzroy Crossi**	**50.75**	**266**	P	**P**	**22 53 19.6**	**-0.2**
	1.2nm,0.5s,mb3.5,baz=156,slow=8.8,SNR=6.7						
SBA	**Scott Base**	**53.85**	**183**	*e*P	**P**	**22 53 43.0**	**+1.8**
	5.7nm,0.9s,mb3.9						
MBWA	**Marble Bar**	**55.24**	**260**	P	**P**	**22 53 50.9**	**-0.9**
	2.2nm,0.7s,mb3.5						
CASY	**Casey**	**59.62**	**206**	*e*P	**P**	**22 54 19.0**	**-1.9**
	3.9nm,0.8s,mb3.8						
CASY				*e*		22 54 48.1	
QSPA	**South Pole Qui**	**65.65**	**180**	*e*P	**P**	**22 54 59.6**	**+0.1**
	4.1nm,0.7s,mb4.1						
MAW	**Mawson**	**77.24**	**200**	P	**P**	**22 56 07.2**	**+0.4**
	2.5nm,0.6s,mb3.8,baz=128,slow=6.5,SNR=15						
ARCES	**ARCESS Array B**	**132.40**	**348**	PKP	PKPdf	23 03 20.7	+0.6
	1.2nm,1.0s,baz=45,slow=1.3,SNR=4.8						
HFS	**Hagfors**	**143.06**	**349**	PKP	PKPdf	23 03 38.2	-1.2
	1.4nm,0.4s,baz=45,slow=4.1,SNR=10						

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*NIED **25** 22:48:00,40.10N×138.40E,h14^{km},Mw3.5 Best double couple: $M_0 2.02\times10^{14}$ NP1:ϕ_s241°,δ66°,λ-147°. NP2: ϕ_s137°,δ60°,λ-27°.*

*JMA **25** 22:48:18.0±0.2,40.07N×138.41E,h34^{km}±4^{km},M3.8*

ISC 25 22:48:17.7±0.9,**40.10N**±0.04×**138.38E**±0.09,**h58**^{km}±34^{km}, **n15,**σ**0**^{s}**65**/25,**Eastern Sea of Japan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JOG2	**Oga 2**	**1.10**	**99**	P	**P**	**22 48 37.2**	**-0.1**
JOG2				*e*S	**S**	**22 48 51.3**	**-0.6**
JTB	**Tobi-shima**	**1.28**	**134**	P	**P**	**22 48 39.5**	**-0.4**
JIW	**Iwasaki**	**1.34**	**68**	P	**P**	**22 48 40.8**	**+0.1**
JIW				*e*S	**S**	**22 48 57.8**	**+0.1**
JYW	**Yuwa**	**1.52**	**111**	P	**P**	**22 48 43.0**	**-0.1**
JYW				*e*S	**S**	**22 49 02.0**	**0.0**
JAH	**Hinai**	**1.73**	**86**	P	**P**	**22 48 46.6**	**+0.5**
JAH				*e*S	**S**	**22 49 07.9**	**+0.8**
JAW	**Awa shima**	**1.78**	**157**	P	**P**	**22 48 46.7**	**0.0**
JYA	**Atsumi**	**1.83**	**145**	P	**P**	**22 48 47.2**	**-0.2**
JYK	**Kaneyama**	**1.94**	**127**	P	**P**	**22 48 48.7**	**-0.2**
JYK				*e*S	**S**	**22 49 11.8**	**-0.2**
JSD	**Sado**	**2.06**	**183**	P	**P**	**22 48 51.6**	**+0.9**
JSR	**Shiriuchi**	**2.10**	**47**	P	**P**	**22 48 52.3**	**+1.0**
JSR				*e*S	**S**	**22 49 15.5**	**-0.7**
JOSM	**Okushiri--Mats**	**2.15**	**22**	P	**P**	**22 48 52.5**	**+0.6**
JOSM				*e*S	**S**	**22 49 15.8**	**-1.5**
JOM	**Ohasama**	**2.33**	**105**	P	**P**	**22 48 54.8**	**+0.3**
JOM				*e*S	**S**	**22 49 22.1**	**+0.1**
JNS	**Sasagawa**	**2.40**	**162**	P	**P**	**22 48 55.8**	**+0.4**
JNS				*e*S	**S**	**22 49 23.9**	**+0.3**
JMK	**Ichinoseki**	**2.48**	**117**	P	**P**	**22 48 56.7**	**+0.1**
MAT	**Matsushiro**	**3.56**	**182**	P	**P**	**22 49 12.4**	**+0.6**
MAT				*e*S	**S**	**22 49 50.9**	**-2.0**

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*MOS **25** 23:04:02.7±1.1,83.80N×1.96W,h10^{km},mb3.8/6,Error ellipse: s-maj=99.9km s-min=13.2km az=92.1*

*IDC **25** 23:04:03.4±0.7,83.83N×2.25W,mb3.7/14,mb1 3.9/15, mb1mx3.9/20,ML3.1/1,MS3.8/13,Ms1 3.8/13, ms1mx3.6/26,Error ellipse: s-maj=24.6km s-min=12.8km az=44.0*

*BJI **25** 23:04:04.9,83.70N×2.40W,h10^{km},mB5.0,mb4.6,Ms3.9, Msz3.7*

*ZUR_RM **25** 23:04:04,83.74N×2.43W,h4^{km},Mw4.5/7,Moment Tensor Solution. s7 Moment tensor: Scale 10^{15}Nm; M_{rr}-5.13; $M_{\theta\theta}$1.64; $M_{\phi\phi}$3.49; $M_{r\theta}$-2.28; $M_{\theta\phi}$2.16; $M_{\phi r}$-1.21; Best double couple: $M_0 5.63\times10^{15}$ NP1:ϕ_s45°,δ58°,λ-78°. NP2:ϕ_s203°,δ34°,λ-109°. Principal axes: T 5.414, Plg12°, Azm126°; N .441, Plg10°, Azm219°; P -5.855, Plg74°, Azm348°;*

*NEIC **25** 23:04:05.0±0.3,83.74N×2.43W,h10^{km},mb4.7/12 Error ellipse: s-maj=10.3km s-min=7.0km az=207.0*

ISC 25 23:04:03.4±0.3,**83.84N**±0.07×**2.3W**±0.5,**h10**^{km}**, (h16**^{km}±3.7^{km}**:pP-P),n53,**σ**1**^{s}**06**/49,**mb4.2**/29,**MS3.7**/14, **North of Svalbard**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SUMG	**Summit**	**13.04**	**232**	*e*P	**P**	**23 07 07.2**	**-3.8**
	14nm,0.6s						
ARCES	**ARCESS Array B**	**15.36**	**142**	Pn	**P**	**23 07 39.4**	**-1.9**
	0.1nm,0.3s,baz=355,slow=13,SNR=6.7						
ARCES				LR	LR	23 13 40.5	
	comp=Z,403nm,18.8s,baz=25,slow=38						
ARCES	**ARCESS Array B**	**15.36**	**142**	Pn	**P**	**23 07 39.4**	**-1.9**
TIXI	**Tiksi**	**23.01**	**38**	*e*P	**P**	**23 09 06.4**	**-2.2**
TIXI				pmax	pmax		
	comp=Z,20nm,1.5s,mb4.3						
TIXI				MLR	MLR		
	comp=Z,100nm,16.0s,MS3.4						
NOA	**NORSAR Array B**	**23.13**	**163**	P	**P**	**23 09 10.8**	**+0.9**
	comp=Z,1.3nm,1.0s,mb3.3,baz=70,slow=15,SNR=2.4						
NOA				LR	LR	23 16 47.2	
	comp=Z,85nm,18.8s,MS3.2,slow=33						
NOA	**NORSAR Array B**	**23.13**	**163**	P	**P**	**23 09 10.8**	**+1.0**
NOA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
NOA				MLR	MLR		
	comp=Z,85nm,18.8s						
FINES	**FINESS Array B**	**23.43**	**145**	P	**P**	**23 09 13.4**	**+0.7**
	comp=Z,0.9nm,0.7s,mb3.3,baz=14,slow=7.9,SNR=4.5						
FINES				LR	LR	23 18 19.9	
	comp=Z,122nm,19.6s,MS3.4,baz=329,slow=37						
FINES	**FINESS Array B**	**23.43**	**145**	P	**P**	**23 09 13.4**	**+0.7**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FINES				MLR	MLR		
	comp=Z,122nm,19.6s						
HFS	**Hagfors**	**24.12**	**160**	P	**P**	**23 09 18.6**	**-0.9**
	comp=Z,1.8nm,0.9s,mb3.5,baz=349,slow=15,SNR=3.1						
HFS	**Hagfors**	**24.12**	**160**	P	**P**	**23 09 18.6**	**-0.9**
HFS				pmax	pmax		
	comp=Z,2.0nm,0.9s						
HFS	**Hagfors**	**24.12**	**160**	P	**P**	**23 09 18.6**	**-0.9**
FRB	**Frobisher Bay**	**24.53**	**259**	LR	LR	23 19 04.8	
	comp=Z,188nm,18.5s,MS3.6,baz=304,slow=37						
INK	**Inuvik**	**26.32**	**321**	P	**P**	**23 09 40.1**	**-0.1**
	comp=Z,9.4nm,1.0s,mb4.3,baz=13,slow=18,SNR=4.0						
INK	**Inuvik**	**26.32**	**321**	P	**P**	**23 09 40.1**	**-0.1**
INK				pmax	pmax		
	comp=Z,9.0nm,1.0s						
INK	**Inuvik**	**26.32**	**321**	P	**P**	**23 09 39.8**	**-0.5**
	comp=Z,19nm,1.1s,mb4.5						
YKA	**Yellowknife Ar**	**30.53**	**302**	LR	LR	23 23 36.0	
	comp=Z,256nm,18.2s,MS3.9,baz=5.0,slow=38						
ILAR	**Eielson Array**	**30.64**	**331**	P	**P**	**23 10 18.8**	**-0.4**
	comp=Z,1.5nm,0.9s,mb3.8,slow=6.3,SNR=9.0						
ILAR	**Eielson Array**	**30.64**	**331**	P	**P**	**23 10 18.8**	**-0.4**
ILAR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
YAK	**Yakutsk**	**32.58**	**41**	*e*P	**P**	**23 10 35.6**	**-0.7**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
YAK				pmax	pmax		
	comp=N,11nm,1.2s						
YAK				pmax	pmax		
	comp=E,8.0nm,1.4s						
YAK	**Yakutsk**	**32.58**	**41**	*e*P	**P**	**23 10 35.5**	**-0.8**
	comp=E,41nm,1.0s,mb5.3						
AKASG	**Malin Array Be**	**34.32**	**144**	P	**P**	**23 10 50.9**	**-0.7**
	comp=E,0.2nm,0.3s,mb3.5,baz=350,slow=8.9,SNR=5.1						
GERES	**GERESS Array B**	**35.41**	**162**	P	**P**	**23 11 01.8**	**+0.9**
	comp=E,1.2nm,0.9s,mb3.8,baz=9.5,slow=8.1,SNR=4.6						
GERES	**GERESS Array B**	**35.41**	**162**	P	**P**	**23 11 01.8**	**+0.9**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.9s						
BRVK	**Borovoye**	**35.69**	**99**	P	**P**	**23 11 02.9**	**-0.3**
ZAL	**Zalesovo**	**36.39**	**84**	P	**P**	**23 11 10.0**	**+0.9**
	comp=Z,0.6nm,0.3s,mb3.9,baz=54,slow=20,SNR=3.1						
ZAL				LR	LR	23 29 36.8	
	comp=Z,176nm,19.8s,MS3.8,baz=50,slow=42						
ZAL	**Zalesovo**	**36.39**	**84**	P	**P**	**23 11 10.0**	**+1.0**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZAL				MLR	MLR		
	comp=Z,176nm,19.8s						
KURK	**Kurchatov**	**38.90**	**92**	*e*P	**P**	**23 11 28.3**	**-1.9**
	comp=Z,5.9nm,1.3s,mb4.2						
ULM	**Lac du Bonnet**	**40.73**	**281**	P	**P**	**23 11 45.9**	**+0.6**
	comp=Z,2.7nm,0.6s,mb4.0,baz=314,slow=1.8,SNR=2.3						
ULM				LR	LR	23 28 44.9	
	comp=Z,227nm,19.0s,MS4.0,baz=31,slow=36						
MKAR	**Makanchi Array**	**43.16**	**89**	P	**P**	**23 12 04.3**	**-0.8**
	comp=Z,0.5nm,0.7s,mb3.3,baz=197,slow=29,SNR=3.7						
MKAR				LR	LR	23 33 17.1	
	comp=Z,76nm,19.2s,MS3.6,baz=325,slow=41						
MKAR	**Makanchi Array**	**43.16**	**89**	P	**P**	**23 12 04.3**	**-0.8**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR				MLR	MLR		
	comp=Z,76nm,19.2s						
ESDC	**Sonseca Array**	**44.31**	**182**	P	**P**	**23 12 15.3**	**+0.8**
	comp=Z,0.8nm,0.8s,mb3.5,baz=349,slow=9.1,SNR=3.6						
NEW	**Newport**	**44.83**	**301**	P	**P**	**23 12 18.8**	**+0.2**
	comp=Z,5.8nm,1.1s,mb4.3						
BRTR	**Keskin Array B**	**45.54**	**141**	P	**P**	**23 12 22.6**	**-1.8**
	comp=Z,0.4nm,1.0s,mb3.3,baz=225,slow=16,SNR=2.4						
BRTR				LR	LR	23 33 08.2	
	comp=Z,85nm,18.4s,MS3.7,baz=10.0,slow=38						
AAK	**Ala-Archa**	**46.44**	**98**	*e*P	**P**	**23 12 32.9**	**+1.5**
	comp=Z,8.1nm,1.1s,mb4.6						
MALT	**Malatya**	**47.29**	**136**	*e*P	**P**	**23 12 41.1**	**+2.9**
	comp=Z,12nm,1.3s,mb4.7						
RSSD	**Black Hills**	**47.64**	**287**	P	**P**	**23 12 41.8**	**+0.9**
	comp=Z,6.1nm,1.0s,mb4.6						
RSSD				*e*	pP	23 12 46.3	+2.3
MCMT	**McKenzie Canyo**	**47.83**	**296**	*e*P	**P**	**23 12 43.1**	**+0.8**
PDAR	**Pinedale Array**	**49.54**	**292**	P	**P**	**23 12 55.6**	**0.0**
	comp=Z,0.7nm,0.9s,mb3.7,baz=342,slow=4.7,SNR=5.5						
PDAR				LR	LR	23 34 21.0	
	comp=Z,219nm,18.2s,MS4.2,baz=43,slow=37						
HHC	**Hu-ho-hao-te**	**52.08**	**62**	*e*P	**P**	**23 13 16.0**	**+1.1**
HHC				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.7						
HHC				AMB	AMB		
	comp=Z,118nm,5.7s						
GTA	**Gaotai**	**52.33**	**73**	*e*P	**P**	**23 13 17.5**	**+0.6**
GTA				AP	pP	23 13 29.8	+10
GTA				AMB	AMB		
	comp=Z,3.0nm,1.5s,mb4.0						
GTA				AMB	AMB		
	comp=Z,66nm,5.7s						
GTA				LR	LR		
	comp=N,51nm,16.4s,MS3.8						
GTA				LR	LR		
	comp=E,44nm,16.4s,MS3.8						
GTA				LR	LR		
	comp=Z,58nm,17.9s,MS3.7						
ASF	**Jabal al Asfar**	**53.28**	**138**	LR	LR	23 39 13.0	
	comp=Z,52nm,19.0s,MS3.6,baz=54,slow=40						
BJI	**Beijing**	**53.31**	**57**	*e*P	**P**	**23 13 24.8**	**+0.7**
BJI				AMB	AMB		
	comp=Z,12nm,1.4s,mb4.6						
BJI	**Beijing**	**53.31**	**57**	*e*P	**P**	**23 13 24.7**	**+0.6**
	comp=Z,12nm,1.4s,mb4.6						
PV01	**Paradox Valley**	**54.03**	**291**	*e*P	**P**	**23 13 29.6**	**+0.2**
MIAR	**Mount Ida**	**56.01**	**276**	*e*P	**P**	**23 13 43.2**	**-0.6**
	comp=Z,12nm,1.1s,mb4.8						
MIAR				*e*	pP	23 13 48.0	+1.1
LZH	**Lanzhou**	**56.03**	**70**	*e*P	**P**	**23 13 45.0**	**+1.0**
LZH				AP	pP	23 13 55.5	+8.4
LZH				XP	sP	23 13 59.0	+11
LZH				AMB	AMB		
	comp=Z,28nm,1.5s,mb5.1						
LZH	**Lanzhou**	**56.03**	**70**	*e*P	**P**	**23 13 45.0**	**+1.0**
	comp=Z,28nm,1.5s,mb5.1						
LZH				pP	pP	23 13 55.5	+8.4
LZH				sP	sP	23 13 59.0	+11

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
WMOK	**Wichita Mounta**	56.37	281	*e*P	P	23 13 46.3	-0.2
	comp=Z,6.1nm,1.0s,mb4.6						
WMOK				*e*	pP	23 13 50.8	+1.2
JCT	**Junction City**	60.70	281	*e*P	P	23 14 16.6	-0.1
	comp=Z,16nm,1.0s,mb5.1						
JCT				*e*	pP	23 14 20.9	+1.0
TXAR	**Lajitas Array**	62.23	285	P	P	23 14 25.4	-1.7
	comp=Z,0.6nm,0.6s,mb3.9,baz=303,slow=34,SNR=2.6						
TXAR				LR	LR	23 42 03.1	
	comp=Z,172nm,18.9s,MS4.2,slow=37						
TXAR	**Lajitas Array**	62.23	285	P	P	23 14 25.4	-1.7
GYA	**Guiyang**	65.85	68	P	P	23 14 51.3	+0.7
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
SJG	**San Juan**	69.37	246	LR	LR	23 42 47.3	
	comp=Z,62nm,19.1s,MS3.9,baz=102,slow=34						

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*NEIC **25** 23:19:28.1, 39.91S×177.06E, h29^{km}, ML3.9(WEL), After WEL.*

NEIC Felt at Hawkes Bay.

WEL 25 23:19:27.9±0.2**, 39.93S×177.04E, h29**^{km}±1^{km}**, ML3.8**/10**, 3C-3D, Error ellipse: s-maj=2.0km s-min=1.3km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PWZ	**Pawanui**	0.17	234	⇓P*	Pb	23 19 34.5	+0.9
PWZ				S*	Sb	23 19 38.2	+0.6
PWZ	**Pawanui**	0.17	234	P	Pb	23 19 34.5	+0.8
PWZ				S	Sb	23 19 39.6	+2.0
TSZ	**Takapari Road**	0.84	261	PN	Pn	23 19 43.0	-0.9
TSZ				SN	Sn	23 19 54.2	-1.2
TSZ	**Takapari Road**	0.84	261	P	Pb	23 19 43.0	-0.9
BKZ	**Black Stump Fm**	0.87	331	⇑PN	Pn	23 19 43.4	-1.0
BKZ				SN	Sn	23 19 55.1	-1.1
BKZ	**Black Stump Fm**	0.87	331	P	Pn	23 19 43.4	-1.0
BFZ	**Birch Farm**	0.97	219	⇓PN	Pn	23 19 45.2	-0.6
BFZ				SN	Sn	23 19 59.2	+0.7
BFZ	**Birch Farm**	0.97	219	P	Pn	23 19 45.2	-0.5
KNZ	**Kokohu**	1.03	29	⇓PN	Pn	23 19 46.0	-0.6
KNZ	**Kokohu**	1.03	29	P	Pn	23 19 46.0	-0.6
MOVZ	**Moawhango**	1.12	297	⇑PN	Pn	23 19 47.2	-0.7
MOVZ				SN	Sn	23 20 01.1	-1.4
MOVZ	**Moawhango**	1.12	297	P	Pn	23 19 47.2	-0.8
TUVZ	**Tukino**	1.26	301	⇑PN	Pn	23 19 49.7	-0.2
TUVZ				SN	Sn	23 20 06.1	+0.1
TUVZ	**Tukino**	1.26	301	P	Pn	23 19 49.7	-0.2
WNVZ	**Wahianoa**	1.27	298	PN	Pn	23 19 49.7	-0.3
WNVZ	**Wahianoa**	1.27	298	P	Pn	23 19 49.7	-0.3
DRZ	**Dome Shelter**	1.31	299	PN	Pn	23 19 51.0	+0.3
RITZ	**Rihia Road**	1.32	316	PN	Pn	23 19 50.8	0.0
MRZ	**Mangatainoka R**	1.34	236	PN	Pn	23 19 49.9	-1.1
MRZ	**Mangatainoka R**	1.34	236	P	Pn	23 19 49.9	-1.1
NGZ	**Ngauruhoe**	1.34	304	PN	Pn	23 19 50.5	-0.7
NGZ	**Ngauruhoe**	1.34	304	P	Pn	23 19 50.6	-0.5
KAVZ	**Karewarewa**	1.36	307	PN	Pn	23 19 51.7	+0.3
KAVZ	**Karewarewa**	1.36	307	P	Pn	23 19 51.7	+0.3
WPVZ	**Whakapapa**	1.36	302	PN	Pn	23 19 51.4	0.0
WPVZ	**Whakapapa**	1.36	302	P	Pn	23 19 51.4	0.0
CNZ	**Chateau**	1.36	302	PN	Pn	23 19 51.4	0.0
CNZ	**Chateau**	1.36	302	P	Pn	23 19 51.4	0.0
WTVZ	**West Tongariro**	1.39	305	PN	Pn	23 19 51.6	-0.1
WTVZ	**West Tongariro**	1.39	305	P	Pn	23 19 51.6	-0.1
KATZ	**Kakaramea**	1.41	312	PN	Pn	23 19 51.9	-0.2
RATZ	**Rangitukua**	1.45	317	PN	Pn	23 19 52.2	-0.4
MGZ	**Maungaku**	1.49	308	PN	Pn	23 19 52.8	-0.4
TWVZ	**Taurewa**	1.51	304	PN	Pn	23 19 53.2	-0.3
TWVZ	**Taurewa**	1.51	304	P	Pn	23 19 53.2	-0.3
WHTZ	**Whakaora**	1.52	326	PN	Pn	23 19 52.9	-0.6
WATZ	**Wairara**	1.58	320	PN	Pn	23 19 53.9	-0.7
MWZ	**Matawai**	1.64	14	PN	Pn	23 19 53.9	-1.4
MWZ	**Matawai**	1.64	14	P	Pn	23 19 53.9	-1.4
PATZ	**Paeroa**	1.66	338	PN	Pn	23 19 54.9	-0.8
URZ	**Urewera**	1.67	2	PN	Pn	23 19 54.3	-1.4
MTW	**Mount Morrison**	1.70	223	PN	Pn	23 19 54.1	-2.1
TAZ	**Tarawera**	1.74	346	PN	Pn	23 19 56.0	-0.9
TAZ	**Tarawera**	1.74	346	P	Pn	23 19 56.0	-0.8
PAWZ	**Paruwai Farm**	1.90	220	PN	Pn	23 19 56.8	-2.3
CAW	**Cannon Point**	1.91	231	PN	Pn	23 19 57.5	-1.8
VRZ	**Vera Road**	1.94	294	PN	Pn	23 20 01.1	+1.5
MSWZ	**Moikau Station**	2.02	222	*e*PN	Pn	23 19 58.0	-2.8
PUZ	**Puketiti**	2.08	27	SN	Sn	23 20 24.5	-2.4
RAEZ	**Rainy Point**	2.14	287	*e*PN	Pn	23 20 02.9	+0.3
MRW	**Makara Radio**	2.21	233	*e*PN	Pn	23 20 01.2	-2.3
HIZ	**Hauiti**	2.21	309	PN	Pn	23 20 02.7	-0.8
BHW	**Baring Head**	2.22	227	*e*PN	Pn	23 20 00.8	-2.8
NEZ	**North Egmont**	2.37	285	*e*PN	Pn	23 20 05.5	-0.3
MXZ	**Matakaoa Point**	2.56	23	PN	Pn	23 20 06.9	-1.6
MXZ	**Matakaoa Point**	2.56	23	*e*P	Pn	23 20 06.9	-1.6
TUWZ	**Tuamarina**	2.79	237	*e*PN	Pn	23 20 09.4	-2.4
NNZ	**Nelson**	3.07	244	PN	Pn	23 20 13.7	-2.1
QRZ	**Quartz Range**	3.56	254	*e*PN	Pn	23 20 19.5	-3.3
KHZ	**Kahutara**	3.63	226	SN	Sn	23 21 00.1	-6.0
THZ	**Tophouse**	3.63	238	*e*PN	Pn	23 20 19.3	-4.5
LTZ	**Lake Taylor**	4.58	230	*e*PN	Pn	23 20 32.7	-4.6
MQZ	**McQueen's Vall**	5.00	220	*e*PN	Pn	23 20 38.6	-4.5
MQZ				SN	Sn	23 21 31.0	-10

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*NEIC **25** 23:30:48.8, 35.00S×70.53W, h7^{km}, ML2.9(GUC), After GUC.*

GUC 25 23:30:48.8±0.9**, 35.00S×70.53W, h7**^{km}±3^{km}**, MD3.5, ML2.9, 9C-2D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFDO	**San Fernando**	0.55	314	⇓*i*P	Pg	23 31 00.1	+0.3
SFDO				*i* S	Sg	23 31 08.5	+1.3
CICH	**Cipreses**	0.68	8	⇑*i*P	Pg	23 31 01.7	-0.8
CICH				*i* S	Sg	23 31 11.4	-0.2
CACH	**El Canelo**	0.88	356	⇑*i*P	Pb	23 31 05.3	-0.7
CACH				*i* S	Sb	23 31 18.0	+0.2
TALC	**Talca**	0.98	246	⇑*i*P	Pb	23 31 06.9	-0.9
TALC				*i* S	Sb	23 31 21.0	+0.2
TALC				AMP		23 31 21.4	
	comp=N,3µm,0.1s						
CHCH	**Chadas Angostu**	1.07	355	⇓*i*P	Pb	23 31 09.0	-0.2
CHCH				*i* S	Sb	23 31 23.6	+0.5
LMEL	**Las Melosas**	1.18	13	⇑*i*P	Pb	23 31 10.5	-0.6
LMEL				*i* S	Sb	23 31 27.1	+0.6
LMEL				AMP		23 31 28.8	
	comp=N,165nm,0.2s						
LNV	**Longovilo**	1.27	325	⇑*i*P	Pb	23 31 12.2	-0.5
TACH	**Talagante**	1.38	346	⇑*i*P	Pb	23 31 14.3	-0.3
TACH				*i* S	Sb	23 31 32.3	0.0
RCDM	**Rinconada Maip**	1.52	351	⇑*i*P	Pn	23 31 16.9	+0.3
RCDM				*i* S	Sb	23 31 37.3	+0.9
RCDM				AMP		23 31 38.6	
	comp=E,220nm,0.1s						
FCH	**Farellones**	1.68	7	⇑*i*P	Pn	23 31 19.7	+0.9
FCH				*i* S	Sn	23 31 42.5	+1.7
FCH				AMP		23 31 44.5	
	comp=N,151nm,0.2s						
LCCH	**Las Cruces**	1.74	330	⇑*i*P	Pn	23 31 20.2	+0.5
LCCH				*i* S	Sn	23 31 43.8	+1.3

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*BER **25** 23:39:39.5±3.9, 76.24N×15.65E, h31^{km}±136^{km}, ML2.5(NAO)*

NAO 25 23:39:35.4±4.0**, 76.18N×15.01E, ML2.5, 1D, Svalbard region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HSP	**Hornsund**	0.85	8	⇓*i*Pg	Pg	23 39 53.8	+1.5
HSP				*e*Sg	Sg	23 39 59.9	-3.8
SPA0	**Spitsbergen Ar**	2.04	8	Pn	Pn	23 40 11.0	-0.3
	baz=174,slow=16						
KBS	**Kingsbay**	2.85	348	Pn	Pn	23 40 19.1	-3.8
ARA0	**ARCESS Array S**	7.34	150	Pn	Pn	23 41 23.4	-3.0
	baz=331,slow=12						
ARA0				Sn	Sn	23 42 40.0	-12
	baz=338,slow=22						

MEX 25 23:57:57.5±0.7**, 17.11N×99.89W, h20**^{km}±19^{km}**, MD3.6, Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ACX	**Acapulco**	0.24	186	*i* P	Pb	23 58 02.0	-1.3
ACX				*e*S	Sb	23 58 06.5	-0.7
PLIG	**Platanillo**	1.33	16	*i* P	Pn	23 58 18.1	-3.0
PLIG				*i* S	Sb	23 58 33.6	-4.6
IIZ	**Mezontepec**	2.15	16	*e*P	Pn	23 58 36.0	+3.0
IIZ				*i* S	Sn	23 59 03.0	+3.6
PPM	**Popocatepetl**	2.29	31	*e*P	Pn	23 58 32.0	-2.9
PPM				*i* S	Sn	23 59 01.0	-1.7
OXX	**Oaxaca**	3.03	90	*e*P	Pn	23 58 43.0	-2.4
OXX				*i* S	Sn	23 59 16.0	-5.5

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*STR **26** 00:01:39.6±0.1, 42.99N×0.31E, h5^{km}±1^{km}, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 26 00:01:39.0±0.1**, 43.01N×0.26E, h20**^{km}**, Md1.8**/3**, Ml1.7**/3**, Error ellipse: s-maj=1.5km s-min=0.6km az=165.0, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EPF	**Esparros**	0.06	66	*e*Pg	Pb	00 01 42.8	+0.2
EPF				*e*Sg	Sb	00 01 45.4	+0.4
	9.3nm,0.2s						
LABF	**Labassere**	0.14	287	Pg	Pb	00 01 43.6	+0.2
LABF				Sg	Sb	00 01 46.6	+0.3
VIEF	**Viey**	0.21	235	Pg	Pb	00 01 44.5	+0.2
VIEF				Sg	Sb	00 01 48.1	+0.2
ETSF	**Etsaut**	0.61	260	*e*Pg	Pb	00 01 51.3	+0.4
ETSF				*e*Sg	Sb	00 01 59.3	+0.3
	3.1nm,0.2s						
SJPF	**Ste Jean**	1.09	276	*e*Pg	Pb	00 01 59.7	+0.6
SJPF				*e*Sg	Sb	00 02 13.9	+1.0
	2.1nm,0.3s						
MTLF	**Montolieu**	1.47	76	*e*Pg	Pn	00 02 06.6	+1.9
MTLF				*e*Sg	Sn	00 02 25.6	+2.0
	1.6nm,0.3s						
RJF	**Les Rejaudoux**	2.47	21	*e*Sg	Sn	00 02 56.9	+7.9
	1.1nm,0.3s						

IDC 26 00:09:03.8±10.0**, 1.03S×137.57E, mb3.9**/2**, mb1 4.0**/3**, mb1mx3.7**/10**, ML3.5**/1**, Error ellipse: s-maj=145.0km s-min=92.2km az=171.0, Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	19.06	189	P	P	00 13 28.3	-2.0
	0.2nm,0.3s,baz=8.7,slow=12,SNR=11						
ASAR	**Alice Springs**	22.78	189	P	P	00 14 08.4	-1.0
	1.6nm,0.6s,baz=26,slow=11,SNR=18						
STKA	**Stephens Creek**	30.91	173	P	P	00 15 21.9	-2.7
	2.0nm,0.7s,baz=340,slow=15,SNR=4.2						

IDC 26 00:24:49.9±1.9**, 1.82N×127.28E, mb3.5**/3**, mb1 3.7**/4**, mb1mx3.6**/13**, ML3.6**/1**, Error ellipse: s-maj=114.0km s-min=22.6km az=70.0, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	19.86	185	P	P	00 29 23.4	-2.2
	0.1nm,0.3s,baz=355,slow=11,SNR=3.5						
WRA	**Warramunga Arr**	22.71	163	P	P	00 29 53.6	-1.2
	0.9nm,0.5s,baz=341,slow=11,SNR=14						
ASAR	**Alice Springs**	26.14	166	P	P	00 30 25.4	-2.3
	0.1nm,0.4s,baz=340,slow=7.3,SNR=4.2						
MKAR	**Makanchi Array**	59.43	326	P	P	00 34 54.5	-2.3
	0.7nm,0.4s,baz=117,slow=8.0,SNR=14						

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*KRSC **26** 00:45:19.9±1.3, 49.60N×156.30E, h21^{km}±7^{km}, ML4.7*

*MOS **26** 00:45:20.1±1.4, 49.85N×155.82E, h66^{km}, mb4.2/9, Error ellipse: s-maj=21.2km s-min=8.7km az=69.6*

*IDC **26** 00:45:23.9±4.1, 49.85N×155.71E, h81^{km}±36^{km}, mb3.7/18, mb1 3.9/19, mb1mx3.8/25, MS2.9/1, Ms1 2.9/1, ms1mx2.7/22, Error ellipse: s-maj=17.8km s-min=16.4km az=138.0*

*NEIC **26** 00:45:24.3±1.1, 49.86N×155.74E, h85^{km}±8^{km}, mb4.3/5, Error ellipse: s-maj=12.2km s-min=7.6km az=144.0*

ISC 26 00:45:21.4±0.7**, 49.72N**±0.06×**156.02E**±0.08**, h82**^{km}±6^{km}**, n80, σ1**^{s}**34**/100**, mb3.9**/24**, 2C, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	0.96	4	*i* P	**P**	**00 45 40.9**	**+0.6**
SKR				*e*S	**S**	**00 45 54.4**	**-0.1**
SKR	**Severo-Kuril's**	0.96	4	*e*PN	**P**	**00 45 34.5**	**-5.8**
SKR				*e*S	**S**	**00 45 48.0**	**-6.5**
SKR				pmax	pmax		
	comp=N,540nm,0.5s						
SKR				pmax	pmax		
	comp=Z,890nm,0.5s						
SKR				pmax	pmax		
	comp=E,240nm,0.4s						
SKR				smax			
	comp=N,4µm,0.5s						
SKR				smax			
	comp=E,3µm,0.5s						
SKR				smax			
	comp=Z,1µm,0.5s						
ALID	**Alaid**	1.19	345	*e*P	**P**	**00 45 43.0**	**-0.1**
ALID				*e*S	**S**	**00 46 00.4**	**+1.0**
PAU	**Pauzhetka**	1.82	16	*i* P	**P**	**00 45 51.1**	**-0.3**
PAU				*e*S	**S**	**00 46 13.1**	**-0.4**
PAU				Smax			
	comp=Z,4µm,0.2s						
MIPR	**Malaya Ipel'ka**	2.60	10	*e*P	**P**	**00 46 00.3**	**-2.0**
GRL	**Gorelyy**	3.11	24	*e*P	**P**	**00 46 09.6**	**+0.2**
GRL				*e*S	**S**	**00 46 45.1**	**-0.5**
RUS	**Russkaya**	3.13	29	P	**P**	**00 46 08.0**	**-1.7**
RUS				S	**S**	**00 46 42.9**	**-3.2**
RUS	**Russkaya**	3.13	29	*e*P	**P**	**00 46 08.0**	**-1.7**
RUS				*e*S	**S**	**00 46 43.2**	**-3.0**
APC	**Apacha**	3.28	12	*e*P	**P**	**00 46 12.6**	**+0.8**
APC				*e*S	**S**	**00 46 50.5**	**+0.6**
APC				Smax			
	comp=Z,130nm,0.7s						
PET	**Petropavlovsk**	3.69	26	*e*P	**P**	**00 46 17.4**	**-0.1**
PET				*e*S	**S**	**00 46 59.4**	**-0.6**
PET	**Petropavlovsk**	3.69	26	⇑*i*PN	**P**	**00 46 17.7**	**+0.2**
PET				*e*S	**S**	**00 46 59.7**	**-0.3**
PET				pmax	pmax		
	comp=Z,35nm,0.5s						
PET				smax			
	comp=N,341nm,0.5s						
PET				MLR	MLR		
	comp=Z,97nm,17.0s						
PET	**Petropavlovsk**	3.69	26	*e*Pn	**P**	**00 46 17.4**	**-0.1**
PET				*e*Sn	**S**	**00 46 58.0**	**-2.0**
UGLR	**Uglovaya**	3.90	26	*e*P	**P**	**00 46 20.8**	**+0.4**
UGLR				*e*S	**S**	**00 47 06.5**	**+1.2**
KOK	**Koryaka**	3.93	24	*e*P	**P**	**00 46 22.1**	**+1.4**
KOK				*e*S	**S**	**00 47 08.1**	**+2.2**
AVH	**Avacha**	3.93	25	*e*P	**P**	**00 46 21.8**	**+1.0**
AVH				*e*S	**S**	**00 47 06.9**	**+1.0**
SMAR	**Somma**	3.95	25	*e*P	**P**	**00 46 22.2**	**+1.2**
SMAR				*e*S	**S**	**00 47 07.2**	**+0.9**
SDLR	**Sedlovina**	3.98	26	*e*P	**P**	**00 46 21.2**	**-0.3**
SDLR				*e*S	**S**	**00 47 05.3**	**-1.9**
NLC	**Nalytchevo**	4.03	30	*e*P	**P**	**00 46 20.0**	**-2.1**
GNL	**Ganaly**	4.15	16	*e*P	**P**	**00 46 24.9**	**+1.1**
GNL				*e*S	**S**	**00 47 12.7**	**+1.2**
SPN	**Mys Shipunski**	4.21	35	*e*P	**P**	**00 46 23.5**	**-1.1**
SPN				*e*S	**S**	**00 47 10.0**	**-2.8**
MKZ	**Mys Kozlova**	5.98	34	P	**P**	**00 46 47.6**	**-1.3**
MKZ				S	**S**	**00 47 51.8**	**-5.0**
MKZ	**Mys Kozlova**	5.98	34	*e*P	**P**	**00 46 46.1**	**-2.8**
MKZ				*e*S	**S**	**00 47 53.6**	**-3.2**
TUMR	**Tumrok**	6.11	23	*e*P	**P**	**00 46 52.4**	**+1.6**
ESO	**Esso**	6.42	14	P	**P**	**00 46 52.5**	**-2.6**
KMNR	**Kamenistaya**	6.56	21	*e*P	**P**	**00 46 58.9**	**+1.8**
KPT	**Kopyto**	6.75	21	P	**P**	**00 47 01.2**	**+1.5**
ZLN	**Zelenaya**	6.93	23	*e*P	**P**	**00 47 03.5**	**+1.2**
LGNR	**Loginova**	6.96	22	*e*P	**P**	**00 47 04.2**	**+1.5**
CIRR	**Tsirk**	7.01	22	*e*P	**P**	**00 47 04.9**	**+1.6**
KRSR	**Krestovskiy**	7.06	21	P	**P**	**00 47 04.3**	**+0.3**
KUR	**Kuril'sk**	7.12	234	PN	**P**	**00 47 00.5**	**-4.4**
KBTR	**Krutoberegovo**	7.68	30	P	**P**	**00 47 10.9**	**-1.6**
KBTR	**Krutoberegovo**	7.68	30	*e*P	**P**	**00 47 11.0**	**-1.5**
KBTR				*e*S	**S**	**00 48 34.9**	**-3.7**
BKI	**Bering**	8.18	44	*e*P	**P**	**00 47 18.0**	**-1.4**
BKI				*e*S	**S**	**00 48 41.0**	**-10**
YSS	**Yuzh-Sakhalins**	9.26	258	⇑*e*PN	**P**	**00 47 34.8**	**+0.8**
YSS	**Yuzh-Sakhalins**	9.26	258	*e*Pn	**P**	**00 47 34.2**	**+0.2**
	comp=Z,7.4nm,0.5s						
MA2	**Magadan**	10.33	345	*e*Pn	**P**	**00 47 47.3**	**-1.0**
ASAJ	**Asahikawa**	10.76	244	P	**P**	**00 47 54.2**	**+0.1**
	comp=Z,1.6nm,0.3s,baz=90,slow=13,SNR=15						
ASAJ				LR	LR	00 51 38.7	
	comp=Z,61nm,20.2s,baz=108,slow=35						
ASAJ	**Asahikawa**	10.76	244	PN	**P**	**00 47 54.3**	**+0.2**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,61nm,20.2s						
FX1	**Attu Island--F**	11.19	67	*e*Pn	**P**	**00 47 57.5**	**-2.4**
FX1				*e*Sn	**S**	**00 49 46.6**	**-17**
KLR	**Kul'dur**	15.77	277	*e*P	**P**	**00 49 03.0**	**+3.4**
MAJO	**Matsushiro**	18.45	231	*e*P	**P**	**00 49 31.8**	**-0.9**
MCK	**McKinley**	32.14	43	P	**P**	**00 51 43.1**	**+0.5**
	comp=Z,1.3nm,0.6s,mb3.8						
ILAR	**Eielson Array**	33.02	41	P	**P**	**00 51 50.0**	**-0.3**
	comp=Z,1.3nm,0.5s,mb4.0,baz=260,slow=7.2,SNR=11						
ILAR	**Eielson Array**	33.02	41	P	**P**	**00 51 50.1**	**-0.2**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
INK	**Inuvik**	38.10	35	*e*P	**P**	**00 52 36.0**	**+2.7**
	comp=Z,1.1nm,0.5s,mb3.9						
MKAR	**Makanchi Array**	47.34	296	P	**P**	**00 53 47.5**	**-0.9**
	comp=Z,0.6nm,0.4s,mb3.6,baz=45,slow=5.1,SNR=5.2						
MKAR	**Makanchi Array**	47.34	296	P	**P**	**00 53 47.5**	**-0.9**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR	**Makanchi Array**	47.34	296	P	**P**	**00 53 47.5**	**-0.9**
KURK	**Kurchatov**	47.37	303	*e*P	**P**	**00 53 48.0**	**-0.6**
	comp=Z,2.5nm,0.4s,mb4.3						
BVAR	**Borovoye Array**	50.49	309	P	**P**	**00 54 11.3**	**-1.3**
	comp=Z,1.0nm,0.3s,mb4.2,baz=56,slow=7.7,SNR=9.1						
BVAR				PcP	PcP	00 55 29.8	0.0
	comp=Z,1.7nm,1.0s,slow=1.5,SNR=4.6						
BRVK	**Borovoye**	50.53	309	*e*P	**P**	**00 54 10.8**	**-2.2**
	comp=Z,2.2nm,0.6s,mb4.4						
ZRNK	**Zerenda**	51.23	309	*e*P	**P**	**00 54 17.0**	**-1.3**
	comp=Z,1.9nm,0.5s,mb4.4						
ARCES	**ARCESS Array B**	55.67	341	P	**P**	**00 54 48.6**	**-2.2**
	comp=Z,1.2nm,0.9s,mb3.9,baz=45,slow=8.2,SNR=7.1						
ARCES	**ARCESS Array B**	55.67	341	P	**P**	**00 54 48.6**	**-2.2**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.9s						
PDAR	**Pinedale Array**	61.45	57	P	**P**	**00 55 33.1**	**+1.9**
	comp=Z,1.1nm,0.8s,mb4.0,baz=353,slow=2.8,SNR=12						
FINES	**FINESS Array B**	62.16	335	P	**P**	**00 55 34.0**	**-1.7**
	comp=Z,1.9nm,1.0s,mb4.1,baz=44,slow=6.9,SNR=7.4						
FINES	**FINESS Array B**	62.16	335	P	**P**	**00 55 34.0**	**-1.7**
FINES				pmax	pmax		
	comp=Z,2.0nm,1.0s						
PV10	**Paradox Valley**	64.76	60	*e*P	**P**	**00 55 55.3**	**+2.3**
NOA	**NORSAR Array B**	66.02	342	P	**P**	**00 56 00.4**	**-0.3**
	comp=Z,0.7nm,0.8s,mb3.5,baz=16,slow=4.1,SNR=2.7						
NOA	**NORSAR Array B**	66.02	342	P	**P**	**00 56 00.4**	**-0.3**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
HFS	**Hagfors**	66.33	340	P	**P**	**00 56 02.9**	**+0.2**
	comp=Z,0.7nm,0.5s,mb3.8,baz=60,slow=12,SNR=4.8						
HFS	**Hagfors**	66.33	340	P	**P**	**00 56 02.9**	**+0.2**
HFS				pmax	pmax		
	comp=Z,1.0nm,0.5s						
SCHQ	**Schefferville**	69.80	25	P	**P**	**00 56 25.3**	**+1.0**
	comp=Z,1.9nm,0.5s,mb4.2,baz=209,slow=15,SNR=6.6						
AKASG	**Malin Array Be**	70.13	327	P	**P**	**00 56 25.1**	**-1.3**
	comp=Z,0.5nm,0.3s,mb3.8,baz=32,slow=6.4,SNR=4.5						
AKASG	**Malin Array Be**	70.13	327	P	**P**	**00 56 25.1**	**-1.3**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
WRA	**Warramunga Arr**	71.98	201	P	**P**	**00 56 38.0**	**0.0**
	comp=Z,1.4nm,0.6s,mb4.0,baz=15,slow=6.5,SNR=7.5						
WRA	**Warramunga Arr**	71.98	201	P	**P**	**00 56 38.0**	**0.0**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TXAR	**Lajitas Array**	74.37	63	P	**P**	**00 56 53.8**	**+2.0**
	comp=Z,2.2nm,0.7s,mb4.0,baz=298,slow=4.3,SNR=14						
ASAR	**Alice Springs**	75.66	201	P	**P**	**00 57 00.4**	**+1.1**
	comp=Z,1.5nm,0.8s,mb3.8,baz=15,slow=4.9,SNR=12						
MLR	**Muntele Rosu**	75.71	326	P	**P**	**00 57 00.1**	**+1.0**
	comp=Z,1.2nm,0.6s,mb3.8,baz=139,slow=19						
MLR	**Muntele Rosu**	75.71	326	P	**P**	**00 57 00.1**	**+1.0**
MLR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
GERES	**GERESS Array B**	76.60	335	P	**P**	**00 57 03.9**	**-0.1**
	comp=Z,0.3nm,0.7s,mb3.1,slow=4.0,SNR=3.5						
BRTR	**Keskin Array B**	77.51	318	P	**P**	**00 57 09.8**	**+0.5**
	comp=Z,0.4nm,0.5s,mb3.4,baz=353,slow=2.5,SNR=5.3						
DAVOX	**Davos**	79.50	337	P	**P**	**00 57 21.4**	**+1.3**
	comp=Z,2.3nm,0.9s,mb4.0,baz=31,slow=18,SNR=3.0						
ASF	**Jabal al Asfar**	82.23	312	P	**P**	**00 57 35.6**	**+0.8**
	comp=Z,2.5nm,0.8s,mb4.1,baz=97,slow=1.5,SNR=5.7						
IDI	**Anoyia**	84.94	322	P	**P**	**00 57 47.3**	**-1.0**
	comp=Z,2.8nm,0.7s,mb4.3,baz=41,slow=9.3,SNR=4.6						
CPUP	**Villa Florida**	145.30	60	PKPbc	PKPbc	01 04 52.4	+2.5
	comp=Z,2.0nm,0.9s,baz=245,slow=3.8,SNR=4.9						
CPUP	**Villa Florida**	145.30	60	PKIKP	PKPdf	01 04 52.4	+3.1
CPUP				pmax	pmax		
	comp=Z,2.0nm,0.9s						
CPUP	**Villa Florida**	145.30	60	PKPbc	PKPbc	01 04 52.4	+2.5
CPUP				*e*PKP	PKPdf	01 04 52.5	+3.2

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*IDC **26** 01:21:42.3±4.5, 9.45S×114.42E, mb3.3/3, mb1 3.6/4, mb1mx3.5/13, ML3.5/1, Error ellipse: s-maj=289.0km s-min=27.7km az=47.0*

*DJA **26** 01:21:45.9±1.0, 9.97S×114.12E, h15^{km}, MD5.1/4, ML4.9/4, Error ellipse: s-maj=20.8km s-min=15.6km az=22.0*

*NEIC **26** 01:21:47.8±1.5, 9.76S×114.25E, h40^{km}, Error ellipse: s-maj=25.4km s-min=13.7km az=77.0*

ISC 26 01:21:44.0±1.7**, 10.04S**±0.07×**114.2E**±0.1**, h53**^{km}±22^{km}**, n13, σ1**^{s}**10**/21**, mb3.3**/3**, 5C-2D, South of Bali**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
INGI	**Ingas**	1.53	38	⇓*e*Pn	**P**	**01 22 09.9**	**+0.4**
	1µm,0.2s						
INGI	**Ingas**	1.53	38	*e*Pg	**P**	**01 22 12.4**	**+2.9**
INGI				⇑*i*Sn	**S**	**01 22 26.2**	**-2.3**
INGI	**Ingas**	1.53	38	⇓*e*Pn	**P**	**01 22 09.9**	**+0.4**
INGI				*i* Sn	**S**	**01 22 26.4**	**-2.1**
KELI	**Kelakatan**	1.84	9	⇑*i*Pn	**P**	**01 22 14.3**	**+0.5**
	1µm,0.2s						
KELI				*e*Sn	**S**	**01 22 34.2**	**-1.7**
KELI	**Kelakatan**	1.84	9	⇑*i*Pn	**P**	**01 22 14.2**	**+0.4**
KELI				*e*Sn	**S**	**01 22 35.6**	**-0.3**
RATI	**Rata**	1.86	45	⇑*e*Pn	**P**	**01 22 14.9**	**+0.9**
	697nm,0.2s						
RATI				*e*Sn	**S**	**01 22 36.1**	**-0.2**
KEDI	**Kedomdong**	2.44	51	⇑*i*Pn	**P**	**01 22 23.6**	**+1.3**
	250nm,0.3s						
KEDI				*e*Sn	**S**	**01 22 51.5**	**+0.5**
MBWA	**Marble Bar**	12.27	155	*e*Pn	**P**	**01 24 36.6**	**-1.8**
MBWA				*e*S	**S**	**01 26 44.4**	**-10**
FITZ	**Fitzroy Crossi**	13.68	127	Pn	**P**	**01 24 57.5**	**+0.4**
	0.2nm,0.3s,baz=315,slow=10.0,SNR=4.9						
FITZ				Sn	**S**	**01 27 19.3**	**-9.0**
	0.1nm,0.3s,baz=165,slow=19,SNR=3.1						
WRA	**Warramunga Arr**	21.78	119	P	**P**	**01 26 37.5**	**+4.4**
	0.4nm,0.5s,mb3.1,baz=301,slow=10,SNR=11						
WRAB	**Tennant Creek**	21.78	119	P	**P**	**01 26 38.0**	**+4.9**
ASAR	**Alice Springs**	23.18	128	P	**P**	**01 26 52.7**	**+5.8**
	0.5nm,0.5s,mb3.2,baz=302,slow=10,SNR=16						
MKAR	**Makanchi Array**	63.35	336	P	**P**	**01 32 10.4**	**+0.3**
	0.2nm,0.5s,mb3.5,baz=149,slow=8.4,SNR=3.5						

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*LDG **26** 01:25:54.8±0.2, 42.36N×2.17E, h4^{km}, Md2.2/3, Ml2.0/10, Error ellipse: s-maj=3.3km s-min=1.5km az=152.0*

*MDD **26** 01:25:54.2±0.3, 42.34N×2.15E, h2^{km}±6^{km}, mbLg1.5/6, Error ellipse: s-maj=3.1km s-min=2.2km az=162.0, PRXIMO AftershockPLICA*

ISC 26 01:25:53.1±0.6**, 42.48N**±0.03×**2.12E**±0.04**, h3**^{km}±4^{km}**, n18, σ1**^{s}**27**/36**, 1D, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VALF	**Valcebollere**	0.11	227	Pg	**Pg**	**01 25 56.1**	**+0.7**
VALF				Sg	**Sg**	**01 25 58.0**	**+1.1**
VALF	**Valcebollere**	0.11	227	P	**Pg**	**01 25 56.2**	**+0.8**
VALF				S	**Sg**	**01 25 58.0**	**+1.1**
CARF	**Carcanieres**	0.24	357	P	**Pg**	**01 26 01.2**	**+3.2**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CARF				S	Sg	01 26 06.3	+5.1
EJON	La Jonquera	0.57	92	Pg	Pg	01 26 04.7	+0.2
	14nm,1.1s,SNR=6.2						
EJON				Lg		01 26 12.0	
	1.4nm,0.1s,SNR=17						
EMIR	Miracle	0.71	219	⇓Pg	Pg	01 26 05.5	-1.9
	11nm,0.8s,SNR=18						
EMIR				Lg		01 26 14.6	
	SNR=7.9						
MTLF	Montolieu	0.87	5	ePg	Pg	01 26 13.1	+2.6
MTLF				ePn	Pn	01 26 14.4	+2.4
MTLF				eSg	Sg	01 26 26.6	+4.6
	4.3nm,0.2s						
MTLF	Montolieu	0.87	5	Pg	Pg	01 26 13.1	+2.6
MTLF				Lg		01 26 26.6	
	2.2nm,0.2s						
EPOB	Poblet	1.37	215	Pg	Pg	01 26 17.3	-3.1
	14nm,1.1s,SNR=20						
EPOB				Lg		01 26 34.2	
	0.9nm,0.1s,SNR=6.8						
EPF	Esparros	1.43	293	ePn	Pn	01 26 21.3	+1.3
EPF				ePg	Pg	01 26 23.4	+1.8
EPF				eSn	Sn	01 26 40.2	+0.7
EPF				eSg	Sg	01 26 42.4	+1.8
	3.3nm,0.2s						
ETSF	Etsaut	2.02	283	ePg	Pg	01 26 33.2	-0.3
ETSF				eSn	Sn	01 26 53.8	-0.8
ETSF				eSg	Sg	01 27 00.1	-0.4
	2.4nm,0.2s						
LASF	Ste Croix	2.04	38	ePg	Pg	01 26 33.8	-0.1
LASF				eSg	Sg	01 27 01.2	+0.1
	1.3nm,0.2s						
ESAC	San Caprasio	2.07	250	Lg		01 26 59.2	
	3.9nm,0.2s,SNR=7.9						
CAF	Calviac	2.45	359	eSg	Sg	01 27 15.0	+0.3
	1.9nm,0.2s						
SJPF	Ste Jean	2.54	286	ePn	Pn	01 26 35.9	-0.1
SJPF				ePg	Pg	01 26 42.3	-1.7
SJPF				eSn	Sn	01 27 06.3	-1.6
SJPF				eSg	Sg	01 27 16.5	-1.4
	1.3nm,0.5s						
LFF	La Frestale	2.66	338	ePn	Pn	01 26 39.0	+1.4
LFF				ePg	Pg	01 26 46.5	+0.3
LFF				eSn	Sn	01 27 10.8	0.0
LFF				eSg	Sg	01 27 21.6	-0.1
	4.8nm,0.4s						
RJF	Les Rejaudoux	2.86	351	ePg	Pg	01 26 49.7	-0.6
RJF				eSg	Sg	01 27 27.9	-0.5
	1.2nm,0.2s						
VIVF	Saint-Julien-l	3.01	37	ePg	Pg	01 26 52.1	-1.2
VIVF				eSg	Sg	01 27 32.4	-1.1
	0.5nm,0.3s						
TCF	Toulx Ste Croi	3.81	1	eSg	Sg	01 27 58.0	-2.1

CASC 26 01:46:18.5±2.5**, 14.92N×89.70W, h1^{km}**±6^{km}**, MD3.7, ML3.4, 3C-2D, Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MTO2	Montecristo 2	0.61	148	eP	Pg	01 46 30.0	-0.6
MTO2				eS	Sg	01 46 39.0	+0.3
NBG	Las Nubes	0.71	242	eP	Pg	01 46 32.6	-0.1
NBG				eS	Sg	01 46 43.7	+1.6
NBG				AML	AML	01 46 49.6	
	comp=E,3µm,0.6s						
RTR	El Retiro	1.02	177	⇓eP	Pb	01 46 38.3	-0.2
RTR				eS	Sb	01 46 57.8	+5.5
CUSS	Cusmapa	1.03	194	eP	Pb	01 46 37.8	-1.0
IXG	Ixpaco	1.04	225	⇑eP	Pb	01 46 38.3	-0.6
IXG				eS	Sb	01 46 54.4	+1.4
SNJE	San Jose	1.05	175	⇓eP	Pb	01 46 38.7	-0.4
SNJE				eS	Sb	01 46 56.6	+3.5
SBLS	San Blas	1.07	176	⇑eP	Pb	01 46 39.0	-0.6
SBLS				eS	Sb	01 46 55.3	+1.3
BOQS	Boqueron	1.24	161	eP	Pb	01 46 42.0	-0.4
BOQS				eS	Sb	01 47 00.5	+1.7
TP2	Tecpan 2	1.29	264	eP	Pb	01 46 42.2	-0.9
TP2				eS	Sb	01 47 02.0	+1.9
TP2				AML	AML	01 47 09.2	
	comp=E,378nm,0.5s						
LFU	La Fuente	1.29	154	⇑eP	Pb	01 46 42.8	-0.5
LFU				eS	Sb	01 47 01.6	+1.3
LBRS	Las Brisas	1.33	152	eP	Pb	01 46 42.7	-1.3
LFRS	El Faro	1.43	154	eP	Pn	01 46 45.0	-0.6
LFRS				eS	Sb	01 47 04.5	+0.4
LCBS	La Ceiba	1.44	151	eP	Pn	01 46 44.9	-0.8
LCBS				eS	Sb	01 47 04.8	+0.3
SNVI	San Vicente	1.54	147	eP	Pn	01 46 47.3	+0.1
SNVI				eS	Sb	01 47 07.6	+0.1
CAHU	Cacacuatique	1.84	128	eP	Pn	01 46 51.5	+0.1
CAHU				eS	Sn	01 47 17.0	+1.3
JAT	Jato	1.97	253	eS	Sn	01 47 25.8	+6.7
CNCH	Conchagua	2.44	132	eP	Pn	01 47 00.4	+0.4

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*NEIC **26** 01:53:24.6±1.2, 4.99S×144.87E, h74^{km}±10^{km}, mb4.4/11, Error ellipse: s-maj=12.3km s-min=10.4km az=213.0*
*IDC **26** 01:53:29.0±6.7, 5.10S×144.59E, h106^{km}±59^{km}, mb4.0/10, mb1 4.2/12, mb1mx4.2/14, MS3.4/5, Ms1 3.4/5, ms1mx3.2/17, Error ellipse: s-maj=32.3km s-min=18.4km az=59.0*
ISC 26 01:53:23.5±1.3**, 5.00S**±0.07×**144.86E**±0.08**, h80^{km}**±11^{km}**, n32, σ0^{s}92**/31**, mb4.3**/15**, 1C-1D, Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PIAM	Paiam	1.76	255	eP	P	01 53 53.5	+0.7
WAU	Wau	2.97	142	eP	P	01 54 10.0	+0.4
PMG	Port Moresby	4.94	153	eP	P	01 54 35.0	-1.8
KAKA	Kakadu	14.49	237	eP	P	01 56 48.4	+2.5
	16nm,0.5s						
CTA	Charters Tower	15.06	175	eP	P	01 56 57.9	+4.7
	5.0nm,0.6s						
CTA				eS	S	01 59 38.9	+0.7
CTA	Charters Tower	15.06	175	P	P	01 56 57.2	+4.0
	0.8nm,0.3s,baz=359,slow=12,SNR=13						
CTAO	Charters Tower	15.06	175	eP	P	01 56 57.7	+4.5
	5.4nm,0.6s						
WRAB	Tennant Creek	18.03	214	eP	P	01 57 29.8	-0.5
	42nm,0.7s						
WB2	Warramunga Arr	18.03	214	eP	P	01 57 29.8	-0.6
WRA	Warramunga Arr	18.04	214	P	P	01 57 30.0	-0.5
	3.1nm,0.3s,baz=41,slow=12,SNR=261						
WRA				LR	LR	02 04 36.7	
	comp=Z,79nm,21.4s,baz=330,slow=38						
ASAR	Alice Springs	21.35	209	P	P	01 58 06.0	+0.1
	9.4nm,0.7s,mb4.2,baz=38,slow=9.9,SNR=108						
ASAR				LR	LR	02 06 52.9	
	comp=Z,113nm,18.5s,baz=40,slow=38						
ASPA	Alice Springs	21.36	209	eP	P	01 58 05.8	-0.2
FITZ	Fitzroy Crossi	22.86	234	⇓iP	P	01 58 19.3	-1.6
	14nm,0.4s,mb4.6						
FITZ	Fitzroy Crossi	22.86	234	P	P	01 58 19.8	-1.1
	14nm,0.5s,mb4.6,baz=41,slow=9.2,SNR=39						
FITZ				LR	LR	02 07 51.0	
	comp=Z,68nm,18.1s,baz=31,slow=38						
ARMA	Armidale	26.08	167	eP	P	01 58 52.1	+0.5
STKA	Stephens Creek	26.91	186	eP	P	01 58 59.0	-0.2
	5.2nm,0.3s,mb4.5						
STKA	Stephens Creek	26.91	186	P	P	01 58 58.8	-0.4
	6.0nm,0.4s,mb4.5,baz=351,slow=7.9,SNR=18						
MBWA	Marble Bar	29.20	234	eP	P	01 59 18.9	-1.0
	3.3nm,0.5s,mb4.2						
FORT	Forrest	30.13	210	eP	P	01 59 28.1	0.0
	43nm,0.6s,mb5.3						
FORT				e		01 59 35.1	
JHJ	Hachijo jima 2	38.21	353	LR	LR	02 14 22.8	
	comp=Z,50nm,19.3s,baz=0.4,slow=33						
URZ	Urewera	44.22	143	P	P	02 01 28.3	+1.6
	7.9nm,0.8s,mb4.5,baz=351,slow=8.0,SNR=3.5						
URZ				LR	LR	02 16 29.5	
	comp=Z,96nm,20.5s,baz=184,slow=31						
RPZ	Rata Peaks	44.95	153	P	P	02 01 32.8	+0.5
	11nm,0.8s,mb4.6,baz=278,slow=3.0,SNR=5.7						
SONM	Songino Array	62.51	332	P	P	02 03 41.3	+0.2
	0.4nm,0.5s,mb3.6,baz=153,slow=3.2,SNR=3.4						
CASY	Casey	65.67	194	⇑iP	P	02 04 00.6	-0.7
	1.6nm,0.5s,mb4.1						
MKAR	Makanchi Array	75.38	321	P	P	02 05 00.8	+0.6
	0.5nm,0.4s,mb3.6,baz=100,slow=8.3,SNR=11						
ZAL	Zalesovo	77.05	328	P	P	02 05 09.3	-0.2
	1.1nm,0.4s,mb4.0,baz=339,slow=7.0,SNR=4.1						
MAW	Mawson	82.35	203	eP	P	02 05 37.5	-0.2
	2.5nm,0.7s,mb4.2						
MAW	Mawson	82.35	203	P	P	02 05 38.1	+0.4
	3.2nm,0.6s,mb4.3,baz=91,slow=4.0,SNR=27						
BRVK	Borovoye	84.78	324	eP	P	02 05 51.1	+0.9
	1.7nm,0.6s,mb4.2						
QSPA	South Pole Qui	84.96	180	eP	P	02 05 51.2	+0.7
	13nm,0.9s,mb4.9						
ILAR	Eielson Array	85.41	24	P	P	02 05 51.3	-1.8
	1.3nm,0.8s,mb3.9,baz=242,slow=5.6,SNR=9.3						
DBIC	Dimbokro	149.83	275	PKPbc	PKPdf	02 13 07.1	+6.6
	5.9nm,0.6s,baz=133,slow=2.5,SNR=10						

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*LDG **26** 01:55:03.3±0.0, 45.95N×2.80E, h4^{km}, Md2.3/3, Ml2.2/15, Error ellipse: s-maj=1.0km s-min=0.7km az=110.0*
*STR **26** 01:55:03.9±0.5, 45.94N×2.86E, h5^{km}±1^{km}, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 26 01:55:01.4±0.3**, 45.94N**±0.02×**2.77E**±0.03**, h5^{km}**±5^{km}**, n21, σ1^{s}20**/43**, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PYM	Petit Puy Mans	0.25	139	Pg	Pg	01 55 08.3	+1.8
PYM				Sg	Sg	01 55 11.8	+1.9
AGO	Saint Agoulin	0.27	66	Pg	Pg	01 55 08.3	+1.3
AGO				Sg	Sg	01 55 11.8	+1.1
TCF	Toulx Ste Croi	0.52	312	ePg	Pg	01 55 13.5	+1.6
TCF				eSg	Sg	01 55 20.0	+1.1
	2.4nm,0.2s						
PLDF	La Plantade	0.59	87	Pg	Pg	01 55 14.4	+1.1
BGF	Bois d'Agland	0.62	5	ePg	Pg	01 55 15.0	+1.2
BGF				eSg	Sg	01 55 22.9	+0.8
	5.8nm,0.2s						
LBL	Lubilhac	0.78	155	Pg	Pg	01 55 18.5	+1.4
AVF	Avril sur Loir	0.94	25	ePg	Pg	01 55 20.7	+0.5
AVF				ePn	Pn	01 55 21.1	+0.1
AVF				eSg	Sg	01 55 31.9	-0.9
	3.0nm,0.2s						
SMF	Signal de Mont	1.02	46	ePn	Pn	01 55 22.3	+0.1
SMF				ePg	Pg	01 55 22.5	+0.6
SMF				eSg	Sg	01 55 35.5	0.0
	7.1nm,0.2s						
RJF	Les Rejaudoux	1.09	235	ePn	Pn	01 55 23.7	+0.6
RJF				ePg	Pg	01 55 24.5	+1.4
RJF				eSn	Sn	01 55 39.0	+0.3
	6.2nm,0.2s						
CAF	Calviac	1.13	206	ePn	Pn	01 55 24.6	+0.8
CAF				ePg	Pg	01 55 25.6	+1.6
CAF				eSn	Sn	01 55 40.0	+0.2
	4.8nm,0.2s						
SSF	Saint Saulge	1.23	24	ePg	Pg	01 55 26.0	0.0
SSF				eSg	Sg	01 55 41.6	-0.8
	5.9nm,0.3s						
HYF	Humbligny	1.33	356	ePg	Pg	01 55 27.3	-0.7
HYF				eSg	Sg	01 55 44.9	-0.9
	28nm,0.3s						
LOR	Lormes	1.52	29	ePg	Pg	01 55 31.3	-0.6
LOR				eSg	Sg	01 55 50.3	-1.9
	3.1nm,0.2s						
VIVF	Saint-Julien-l	1.72	128	ePg	Pg	01 55 34.9	-0.9
VIVF				eSg	Sg	01 55 57.6	-1.2
	1.6nm,0.3s						
LFF	La Frestale	1.75	236	ePg	Pg	01 55 36.2	-0.1
LFF				eSg	Sg	01 55 59.1	-0.5
	7.6nm,0.6s						
LASF	Ste Croix	2.02	157	ePg	Pg	01 55 40.7	-1.0
LASF				eSg	Sg	01 56 06.4	-2.2
	2.4nm,0.3s						
MFF	Saint Martin d	2.13	289	ePn	Pn	01 55 39.0	+0.9
MFF				ePg	Pg	01 55 43.0	-0.9
MFF				eSn	Sn	01 56 04.4	-0.7
MFF				eSg	Sg	01 56 10.3	-2.0
	2.0nm,0.2s						
CABF	La Chapelle	2.40	73	eSg	Sg	01 56 18.0	-3.2
	1.1nm,0.3s						
MTLF	Montolieu	2.63	189	ePg	Pg	01 55 52.0	-1.9
MTLF				eSg	Sg	01 56 26.5	-2.5
	4.4nm,0.8s						
MEZF	Maizieres J'vi	3.00	30	eSg	Sg	01 56 37.3	-3.9
	2.5nm,0.5s						
EPF	Esparros	3.39	212	eSg	Sg	01 56 50.4	-3.9
	0.6nm,0.2s						

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*NEIC **26** 01:55:02.2, 33.96S×69.03W, h17^{km}, ML3.3(GUC), After GUC.*
GUC 26 01:55:02.2±0.9**, 33.96S×69.03W, h17^{km}, MD4.0, ML3.3, 3C-5D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LMEL	Las Melosas	0.99	276	⇓iP	Pb	01 55 19.7	-0.8
LMEL				i S	Sb	01 55 32.4	-0.6
LMEL				AMP		01 55 33.4	
	comp=N,1µm,0.2s						
CICH	Cipreses	1.21	253	⇓iP	Pb	01 55 23.6	-0.6
CICH				i S	Sb	01 55 39.3	-0.2
FCH	Farellones	1.23	301	⇓iP	Pb	01 55 24.3	-0.3
FCH				i P		01 55 24.4	
FCH				i S	Sb	01 55 40.6	+0.5
FCH				AMP		01 55 41.2	
	comp=N,891nm,0.4s						
FCH	Farellones	1.23	301	P	Pb	01 55 24.4	-0.2
PCH	Pirque	1.28	285	eP	Pn	01 55 25.2	-0.3
PCH				eS	Sb	01 55 41.6	0.0
CACH	El Canelo	1.32	263	⇓iP	Pn	01 55 24.9	-1.1
CACH				i S	Sb	01 55 41.8	-0.7
CHCH	Chadas Angostu	1.35	271	⇓iP	Pn	01 55 26.1	-0.4
CHCH				i S	Sb	01 55 44.1	+0.5
CLCH	Cerro Calan	1.38	294	AMP		01 55 46.7	
	comp=N,1µm,0.5s						
DSCH	Colegio Aleman	1.40	293	⇑iP	Pn	01 55 27.6	+0.4
DSCH				i S	Sb	01 55 46.4	+1.3
DSCH				AMP		01 55 46.9	
	comp=N,2µm,0.4s						
RCDM	Rinconada Maip	1.56	287	i P	Pn	01 55 30.0	+0.6
RCDM				i S	Sn	01 55 50.6	+1.3
RCDM				AMP		01 55 51.9	
	comp=E,408nm,0.4s						
PEL	Peldehue	1.61	300	⇑iP	Pn	01 55 30.9	+0.8
PEL				i S	Sn	01 55 51.8	+1.2
PEL				AMP		01 55 53.1	
	comp=N,914nm,0.4s						
TACH	Talagante	1.62	280	eP	Pn	01 55 29.8	-0.5
LNV	Longovilo	1.98	270	⇑iP	Pn	01 55 36.6	+1.1
LNV				i S	Sn	01 56 01.9	+1.8
LCCH	Las Cruces	2.17	282	eP	Pn	01 55 38.9	+0.6
LCCH				eS	Sn	01 56 06.3	+1.3

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*IDC **26** 02:01:59.1±5.0, 18.92N×146.05E, h200^{km}±34^{km}, mb3.3/4, mb1 3.6/5, mb1mx3.3/18, Error ellipse: s-maj=117.0km s-min=17.6km az=82.0*
ISC 26 02:02:01.4±4.4**, 18.9N**±0.2×**145.4E**±1.0**, h222^{km}**±33^{km}**, n5, σ1^{s}35**/6**, mb3.4**/4**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBIJ	Chichi jima	8.72	341	P	P	02 04 05.8	+1.0
	3.7nm,0.3s,baz=292,slow=19,SNR=3.3						
CBIJ				S	S	02 05 40.2	-1.0
	3.6nm,0.3s,baz=287,slow=19,SNR=2.9						
WRA	Warramunga Arr	40.07	196	P	P	02 09 16.7	-0.1
	2.3nm,0.7s,mb3.8,baz=20,slow=8.9,SNR=12						
ASAR	Alice Springs	43.74	195	P	P	02 09 46.1	-0.6
	0.3nm,0.4s,mb3.0,baz=11,slow=7.0,SNR=3.8						
MKAR	Makanchi Array	58.17	314	P	P	02 11 35.2	+1.1
	0.4nm,0.8s,mb3.1,baz=84,slow=7.8,SNR=2.9						
FINES	FINESS Array B	86.63	335	P	P	02 14 20.1	-0.4
	1.9nm,1.0s,mb3.8,baz=63,slow=4.3,SNR=4.8						

IDC 26 02:04:20.4±11.0**, 7.51S×128.57E, h102^{km}**±123^{km}**, mb3.6**/1**, mb1 3.6**/4**, mb1mx3.4**/13**, ML3.6**/3**, Error ellipse: s-maj=75.4km s-min=58.7km az=19.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	10.90	195	P	P	02 06 54.4	-0.3
	0.4nm,0.3s,baz=18,slow=11,SNR=14						
FITZ				S	S	02 08 51.3	-3.9
	0.8nm,0.3s,baz=174,slow=16,SNR=7.3						
WRA	Warramunga Arr	13.56	156	P	P	02 07 27.4	-2.4
	0.4nm,0.3s,baz=340,slow=12,SNR=28						
WRA				S	S	02 09 48.9	-9.4
	1.0nm,0.3s,baz=335,slow=22,SNR=12						
ASAR	Alice Springs	16.86	163	P	P	02 08 12.0	+0.5
	0.3nm,0.3s,baz=340,slow=11,SNR=17						
ASAR				S	S	02 11 13.2	-1.1
	0.2nm,0.3s,baz=348,slow=26,SNR=6.7						
MKAR	Makanchi Array	67.88	328	P	P	02 15 08.0	-2.1
	0.9nm,0.7s,baz=128,slow=7.7,SNR=12						

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*BGR **26** 02:11:53.8±0.7, 51.52N×16.20E, h1^{km}, ML3.5/4, Error ellipse: s-maj=15.6km s-min=6.7km az=171.0*
*NEIC **26** 02:11:54.0±0.4, 51.57N×16.18E, h5^{km}, ML3.5(VIE), ML3.5(SZGRF), ML3.0(CLL), Error ellipse: s-maj=5.2km s-min=4.6km az=82.0*
*IDC **26** 02:11:55.5±0.7, 51.49N×16.07E, mb1 3.5/7, mb1mx3.4/21, ML3.2/6, Error ellipse: s-maj=10.5km s-min=6.4km az=118.0*
*PRU **26** 02:11:55.3, 51.51N×16.12E*
*WAR **26** 02:11:55.5, 51.52N×16.11E, ML3.5, Mining Induced*
ISC 26 02:11:52.9±0.3**, 51.47N**±0.02×**16.10E**±0.02**, n64, σ1^{s}32**/131**, 12C-2D, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	Ksiaz	0.64	169	i PG	Pg	02 12 08.0	+2.3
KSP				eSG	Sg	02 12 17.0	+2.8
KSP	Ksiaz	0.64	169	⇓iPg	Pg	02 12 08.0	+2.3
KSP				eSg	Sg	02 12 17.1	+2.9
KSP				e		02 12 22.3	
UPC	Upice	0.97	183	ePG	Pg	02 12 13.9	+1.7
DPC	Dobruska-Polom	1.13	173	ePG	Pg	02 12 16.8	+1.3
DPC				eSG	Sg	02 12 32.2	+1.6
	233nm,0.7s						
PVCC	Panska Ves	1.35	226	ePG	Pg	02 12 20.6	+0.7
BRG	Berggiesshubel	1.48	247	ePg	Pg	02 12 21.6	-1.0
BRG				eSg	Sg	02 12 43.5	+1.1
BRG	Berggiesshubel	1.48	247	i Pn	Pn	02 12 22.1	+1.1
BRG				i Pg	Pg	02 12 23.6	+1.0
BRG				i Sg	Sg	02 12 43.7	+1.3
RUE	Ruedersdorf	1.76	306	ePn	Pn	02 12 23.5	-1.3
RUE				eSg	Sg	02 12 50.8	-0.6
PRU	Pruhonice	1.78	214	i PN	Pn	02 12 26.3	+1.0
PRU				PG	Pg	02 12 28.6	0.0
PRU				ex	x	02 12 45.5	
PRU				SG	Sg	02 12 52.0	-0.3
	96nm,0.5s						
RAC	Raciborz	1.92	135	eP	Pn	02 12 31.0	+3.8
RAC				eS	Sn	02 12 59.0	+6.5
RAC	Raciborz	1.92	135	ePg	Pg	02 12 31.4	+0.1
RAC				eSg	Sg	02 12 58.7	+1.8
MORC	Moravsky Berou	1.93	151	ePn	Pn	02 12 27.8	+0.5
MORC				eSg	Sg	02 12 56.8	-0.4
GKP	Gorka Klasztor	1.93	21	ePN	Pn	02 12 28.0	+0.6
GKP				ePN	Pn	02 12 32.0	+4.6
GKP				eS	Sn	02 12 58.0	+5.3
GKP	Gorka Klasztor	1.93	21	ePn	Pn	02 12 28.3	+0.9
GKP				ePg	Pg	02 12 31.6	+0.1
GKP				ePP	PP	02 12 35.7	+1.7
GKP				eSg	Sg	02 12 57.7	+0.4
CLL	Collm	1.95	266	ePn	Pn	02 12 27.7	+0.1
CLL				eSg	Sg	02 12 58.1	+0.3
CLL	Collm	1.95	266	i PN	Pn	02 12 27.8	+0.2
	logA/T=1.5						
CLL				ePG	Pg	02 12 31.0	-0.8
CLL				i		02 12 35.1	
CLL				i SG	Sg	02 12 57.9	+0.1
CLL				i		02 13 03.7	
CLL	Collm	1.95	266	i Pn	Pn	02 12 27.8	+0.2
CLL				ePg	Pg	02 12 31.0	-0.8
CLL				i Sg	Sg	02 12 57.9	+0.1
OKC	Ostrava-Krasne	2.09	141	ePN	Pn	02 12 30.0	+0.4
OKC				ePG	Pg	02 12 34.4	-0.3
OKC				eSG	Sg	02 13 02.3	-0.2
VRAC	Vranov	2.19	172	Pn	Pn	02 12 33.4	+2.4
	2.9nm,0.3s,baz=339,slow=13,SNR=28						
VRAC				Lg		02 13 04.5	
	13nm,0.3s,baz=72,slow=23,SNR=8.3						
TANN	Tannenbergstha	2.53	247	ePn	Pn	02 12 37.5	+1.6
TANN				eSg	Sg	02 13 16.0	-1.3
WERD	Werda	2.61	248	ePn	Pn	02 12 37.7	+0.6
NKC	Novy Kostel	2.62	243	ePN	Pn	02 12 38.7	+1.4
NKC				ePG	Pg	02 12 44.8	-0.6
NKC				eSG	Sg	02 13 20.4	0.0
GUNZ	Gunzen	2.63	247	ePn	Pn	02 12 38.4	+1.1
GUNZ				eSg	Sg	02 13 18.4	-2.1
OJC	Ojcow	2.66	117	ePN	Pn	02 12 36.0	-1.8
OJC				i PG	Pg	02 12 45.1	-0.9
OJC				eSG	Sg	02 13 20.1	-1.3
OJC	Ojcow	2.66	117	ePn	Pn	02 12 36.3	-1.5
OJC				i Pg	Pg	02 12 45.1	-0.9
OJC				eSg	Sg	02 13 20.5	-0.9
KHC	Kasperske Hory	2.85	216	ePN	Pn	02 12 41.5	+1.0
KHC				ePG	Pg	02 12 48.0	-1.8
KHC				eSN	Sn	02 13 17.0	+1.1
KHC				eSG	Sg	02 13 28.0	+0.3
MOX	Moxa	2.95	255	ePn	Pn	02 12 42.5	+0.6
MOX				eSg	Sg	02 13 31.0	-0.1
MOX	Moxa	2.95	255	ePg	Pg	02 12 51.0	-0.8
MOX				eSg	Sg	02 13 30.2	-0.9
GEC2	GERESS Array S	3.05	211	ePn	Pn	02 12 44.6	+1.3
GEC2	GERESS Array S	3.05	211	ePn	Pn	02 12 44.6	+1.3
GERES	GERESS Array B	3.05	211	Pn	Pn	02 12 45.2	+1.9
	1.9nm,0.3s,baz=33,slow=12,SNR=87						
GERES				Pg	Pg	02 12 51.1	-2.7
	3.1nm,0.3s,baz=32,slow=15,SNR=48						
GERES				Sn	Sn	02 13 21.2	+0.1
	2.7nm,0.3s,baz=28,slow=19,SNR=5.2						
GERES				Lg		02 13 32.3	
	7.7nm,0.3s,baz=26,slow=28,SNR=13						
SMOL	Smolenice	3.08	163	ePG	Pg	02 12 53.6	-0.9
SMOL				eSG	Sg	02 13 37.3	+1.8
WET	Wettzell	3.11	223	ePn	Pn	02 12 45.1	+0.9
WET	Wettzell	3.11	223	ePn	Pn	02 12 45.1	+0.9
VKA	Vienna	3.21	177	⇑iPN	Pn	02 12 47.4	+1.7
VKA				i PG	Pg	02 12 55.0	-2.1
VKA				i SG	Sg	02 13 38.4	-1.5
KOLL	Kolacno	3.25	152	eSB	Sb	02 13 38.4	+6.6
ZST	Bratislava	3.34	168	ePG	Pg	02 12 57.1	-2.5
ZST				eSG	Sg	02 13 43.0	-1.2
NIE	Niedzica	3.39	126	ePN	Pn	02 12 48.0	-0.1
NIE				ePN	Pg	02 13 00.0	-0.5
NIE				eS	Sg	02 13 43.0	-2.7
VYHS	Vyhne	3.46	148	ePN	Pn	02 12 49.6	+0.4
VYHS				ePG	Pg	02 13 00.4	-1.7
VYHS				eSG	Sg	02 13 47.6	-0.6
GRA1	Grafenberg Arr	3.58	242	ePn	Pn	02 12 51.6	+0.7
GRF	Grafenberg Arr	3.58	242	ePn	Pn	02 12 51.6	+0.6
BSD	Bornholm Skovb	3.72	349	i P	Pn	02 12 51.1	-1.8
BSD				i S	Sn	02 13 31.1	-7.0
SOP	Sopron	3.80	175	e	Sn	02 13 51.0	+11
MOA	Molln	3.81	199	⇑iPN	Pn	02 12 55.3	+1.1
MOA				i SG	Sg	02 13 59.2	-0.8
	48nm,0.6s						
ARSA	Arzberg	4.24	185	⇑iPN	Pn	02 13 01.9	+1.6
ARSA				i SG	Sg	02 14 10.2	-3.9
	56nm,0.7s						
CRVS	Cervenica-Dubn	4.30	125	ePN	Pn	02 13 02.3	+1.2
CRVS				ePG	Pg	02 13 16.0	-2.7
CRVS				eSG	Sg	02 14 17.2	+1.2
PSZ	Piszkesteto	4.32	144	⇓iSn	Pn	02 13 02.4	+0.9
PSZ				e	Sn	02 14 13.6	+20
KWP	Kalwaria	4.60	111	ePN	Pn	02 13 04.0	-1.3
KWP				ePG	Pg	02 13 19.0	-5.7
KWP				eSG	Sg	02 14 32.0	+6.0
KWP	Kalwaria	4.60	111	ePn	Pn	02 13 03.6	-1.7
KWP				ePg	Pg	02 13 19.3	-5.4
KWP				eSg	Sg	02 14 32.3	+6.3
KOLS	Kolonicke sedl	4.71	120	ePN	Pn	02 13 06.2	-0.7
KOLS				ePG	Pg	02 13 24.5	-2.4
KBA	Koelnbreinsper	4.75	203	⇑iPN	Pn	02 13 07.9	+0.4
KBA				i SG	Sg	02 14 29.5	-1.6
	27nm,0.7s						
WATA	Walderalm	5.08	217	⇑iPN	Pn	02 13 13.3	+1.1
WATA				i SG	Sg	02 14 39.7	-2.5
	21nm,0.6s						
WATA	Walderalm	5.08	217	⇑iPn	Pn	02 13 13.3	+1.1
	21nm,0.6s						
WATA				i Sg	Sg	02 14 39.7	-2.5
WTTA	Wattenberg	5.12	216	⇑iPN	Pn	02 13 14.1	+1.3

WTTA				*i* SG	Sg	02 14 40.2	-3.2
	13nm,0.7s						
WTTA	Wattenberg	5.12	216	⇑*i*Pn	Pn	02 13 14.1	+1.3
	13nm,0.7s						
WTTA				*i* Sg	Sg	02 14 40.2	-3.2
MOTA	Moosalm	5.26	220	⇑*i*PN	Pn	02 13 15.4	+0.7
MOTA				*i* SG	Sg	02 14 45.8	-2.3
	16nm,0.7s						
MOTA	Moosalm	5.26	220	⇑*i*Pn	Pn	02 13 15.4	+0.7
	16nm,0.7s						
MOTA				*i* Sg	Sg	02 14 45.8	-2.3
SQTA	Sankt Quirin	5.32	219	⇑*i*PN	Pn	02 13 16.8	+1.2
SQTA				*i* SG	Sg	02 14 48.3	-1.8
	13nm,0.6s						
SQTA	Sankt Quirin	5.32	219	⇑*i*Pn	Pn	02 13 16.8	+1.2
	13nm,0.6s						
SQTA				*i* Sg	Sg	02 14 48.3	-1.8
DAVOX	Davos	6.22	223	Pn	Pn	02 13 29.8	+1.6
	0.3nm,0.3s,baz=21,slow=14,SNR=8.0						
DAVOX				Lg		02 15 13.2	
	0.7nm,0.3s,baz=356,slow=19,SNR=3.1						
AKASG	Malin Array Be	8.30	90	Pn	P	02 13 53.6	-3.8
	1.6nm,0.3s,baz=279,slow=12,SNR=13						
AKASG				Sn	Sn	02 15 24.4	-8.7
	0.6nm,0.3s,baz=278,slow=22,SNR=4.7						
AKASG				Lg		02 16 23.8	
	0.2nm,0.3s,baz=276,slow=28,SNR=4.0						
HFS	Hagfors	8.79	352	Pn	P	02 14 01.2	-3.1
	0.0nm,0.3s,baz=148,slow=14,SNR=2.9						
FINES	FINESS Array B	11.40	25	Pn	P	02 14 34.8	-5.2
	0.2nm,0.3s,baz=210,slow=11,SNR=7.4						
FINES				Sn	S	02 16 35.0	-14
	0.1nm,0.3s,baz=203,slow=21,SNR=3.4						
ARCES	ARCESS Array B	18.66	10	Pn	P	02 16 08.8	-5.2
	0.2nm,0.3s,baz=189,slow=12,SNR=13						

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*NEIC **26** 02:23:37.6,34.12S×70.09W,h6^{km},ML2.6(GUC),After GUC.*

GUC 26 02:23:37.6±0.7,34.12S×70.09W,h6^{km}±1^{km},MD3.7, ML2.6,8C-2D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LMEL	Las Melosas	0.29	340	⇑*i*P	Pg	02 23 43.8	+0.3
LMEL				*i* S	Sg	02 23 48.9	+1.4
LMEL				AMP		02 23 49.8	
	comp=N,1µm,0.2s						
CICH	Cipreses	0.34	234	⇑*i*P	Pg	02 23 44.8	+0.4
CICH				*i* S	Sg	02 23 50.1	+1.1
CACH	El Canelo	0.43	271	*e*P	Pg	02 23 46.3	+0.2
CACH				*i* S	Sg	02 23 53.1	+1.2
CHCH	Chadas Angostu	0.51	292	⇓*i*P	Pg	02 23 48.1	+0.4
CHCH				*i* S	Sg	02 23 56.1	+1.6
PCH	Pirque	0.61	324	⇓*i*P	Pg	02 23 49.9	0.0
PCH				*i* S	Sg	02 23 59.5	+1.4
ANTU	Antumapu	0.71	320	⇑*i*P	Pg	02 23 51.7	-0.2
ANTU				*e*S	Sg	02 24 02.3	+0.8
ANTU				AMP		02 24 02.8	
	comp=N,399nm,0.2s						
FCH	Farellones	0.81	348	⇑*i*P	Pb	02 23 53.0	-0.7
FCH				*i* S	Sg	02 24 05.5	+0.8
FCH				AMP		02 24 06.3	
	comp=E,595nm,0.3s						
CLCH	Cerro Calan	0.82	332	AMP		02 24 08.6	
	comp=E,612nm,0.7s						
DSCH	Colegio Aleman	0.83	331	⇑*i*P	Pb	02 23 53.9	-0.1
DSCH				*i* S	Sb	02 24 06.1	+1.0
DSCH				AMP		02 24 08.3	
	comp=E,488nm,0.5s						
TACH	Talagante	0.85	303	*e*P	Pb	02 23 53.9	-0.5
TACH				*i* S	Sb	02 24 06.5	+0.7
RCDM	Rinconada Maip	0.87	316	*e*P	Pb	02 23 54.4	-0.3
RCDM				*i* S	Sb	02 24 06.9	+0.5
RCDM				AMP		02 24 08.5	
	comp=E,398nm,0.2s						
SFDO	San Fernando	0.91	237	⇑*i*P	Pb	02 23 55.1	-0.3
SFDO				*i* S	Sb	02 24 07.9	+0.3
PEL	Peldehue	1.10	333	*e*P	Pb	02 23 58.4	-0.2
PEL				*i* S	Sb	02 24 14.0	+1.0
LNV	Longovilo	1.11	278	*e*P	Pb	02 23 58.3	-0.6
LNV				*i* S	Sb	02 24 13.6	+0.2
LCCH	Las Cruces	1.39	297	⇑*i*P	Pn	02 24 03.4	-0.3
LCCH				*i* S	Sb	02 24 22.3	+0.7
JACH	Jahuel	1.50	343	⇑*i*P	Pn	02 24 05.4	+0.3

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*NEIC **26** 02:37:15.2±2.3,36.40N×71.04E,h197^{km}±20^{km},mb4.1/3, Error ellipse: s-maj=20.6km s-min=11.4km az=216.0*

*IDC **26** 02:37:17.4±6.2,36.47N×71.09E,h218^{km}±58^{km},mb3.3/6, mb1 3.4/9,mb1mx3.2/19,Error ellipse: s-maj=32.8km s-min=18.9km az=24.0*

ISC 26 02:37:16.8±0.6,36.57N±0.06×71.0E±0.2,h225^{km}±8^{km}, n18,σ0^{s}63/20,mb3.6/7,3C-1D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CEP	Cherat	2.83	165	⇓P	P	02 38 07.0	+0.7
CEP				S	S	02 38 44.0	-0.7
CHCP	Chirah Chowk	3.43	147	⇑P	P	02 38 14.5	+1.2
THW	Thamme Wali	3.81	171	⇑P	P	02 38 18.1	+0.3
SBDP	Sheikh Budin	4.26	183	P	P	02 38 22.5	-0.8
SARP	Sargodha	4.83	163	⇑P	P	02 38 30.4	+0.1
AAK	Ala-Archa	6.62	23	*e*P	P	02 38 51.7	-1.3
	6.8nm,0.3s						
AAK				*e*S	S	02 39 51.4	-17
MKAR	Makanchi Array	13.22	36	P	P	02 40 17.8	+0.7
	0.1nm,0.3s,baz=209,slow=12,SNR=4.5						
ZRNK	Zerenda	16.44	356	*e*P	P	02 40 55.7	-0.5
	1.1nm,0.6s						
BVAR	Borovoye Array	16.46	359	P	P	02 40 56.2	-0.2
	0.3nm,0.3s,baz=180,slow=12,SNR=4.3						
ZAL	Zalesovo	19.82	25	P	P	02 41 32.0	+0.4
	1.0nm,0.3s,baz=156,slow=6.9,SNR=4.7						
BRTR	Keskin Array B	29.44	288	P	P	02 43 01.6	+0.1
	0.3nm,0.8s,mb3.0,baz=100,slow=8.8,SNR=2.9						
FINES	FINESS Array B	37.44	326	P	P	02 44 09.7	0.0
	2.3nm,1.0s,mb3.7,baz=162,slow=12,SNR=4.4						
ARCES	ARCESS Array B	41.09	338	P	P	02 44 40.4	+0.6
	0.4nm,0.4s,mb3.2,baz=115,slow=7.9,SNR=14						
YKA	Yellowknife Ar	81.17	3	P	P	02 49 08.9	+0.9
	0.8nm,0.4s,mb3.7,baz=347,slow=5.4,SNR=5.1						
WRA	Warramunga Arr	82.01	122	P	P	02 49 12.8	-0.4
	0.8nm,0.4s,mb3.7,baz=324,slow=4.9,SNR=29						
WRAB	Tennant Creek	82.01	122	*e*P	P	02 49 12.7	-0.5
	2.2nm,0.4s,mb4.1						
WB2	Warramunga Arr	82.02	122	*e*P	P	02 49 12.7	-0.5
ASAR	Alice Springs	84.27	125	P	P	02 49 24.4	-0.2
	0.6nm,0.6s,mb3.5,baz=312,slow=4.7,SNR=9.5						

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*NEIC **26** 02:39:47.5±1.8,23.13S×170.56E,mb4.1/1,Error ellipse: s-maj=65.9km s-min=30.2km az=2.0*

*IDC **26** 02:39:49.9±3.5,22.09S×170.16E,h28^{km}±6^{km},mb3.8/3, mb1 4.0/3,mb1mx3.7/11,MS3.1/1,Ms1 3.1/1,ms1mx2.9/12, Error ellipse: s-maj=144.0km s-min=36.4km az=153.0*

ISC 26 02:39:47.9±4.9,23.5S±0.8×170.3E±0.6,h33^{km}, (h30^{km}±.8^{km}:pP-P),n8,σ0^{s}60/8,mb3.9/3,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	3.84	290	*e*P	P	02 40 46.1	+0.1
DZM				*e*S	S	02 41 30.6	0.0
DZM	Mont Dzumac	3.84	290	*e*P	P	02 40 46.1	+0.1
DZM				*e*S	S	02 41 30.6	0.0
URZ	Urewera	15.87	160	LR	LR	02 48 27.9	
	comp=Z,77nm,21.7s,baz=178,slow=30						
ASAR	Alice Springs	33.33	262	P	P	02 46 25.4	+0.3
	1.9nm,0.6s,mb4.2,baz=86,slow=8.9,SNR=18						
ASAR				pP	pP	02 46 34.6	-0.1
	1.8nm,0.9s,baz=94,slow=9.8,SNR=7.4						
WRA	Warramunga Arr	33.57	269	P	P	02 46 26.0	-1.1
	0.2nm,0.4s,mb3.4,baz=99,slow=8.4,SNR=5.7						
WRA				pP	pP	02 46 34.9	-1.9
	0.3nm,0.5s,baz=100,slow=8.3,SNR=3.5						
FITZ	Fitzroy Crossi	41.99	269	*e*P	P	02 47 38.7	+0.8
	2.6nm,0.7s,mb4.0						
FITZ	Fitzroy Crossi	41.99	269	P	P	02 47 38.6	+0.7
	2.6nm,0.7s,mb4.0,baz=90,slow=20,SNR=6.6						
FITZ				pP	pP	02 47 47.7	0.0
	3.5nm,0.7s,baz=148,slow=8.0,SNR=5.0						
GERES	GERESS Array B	148.64	330	PKPbc	PKPdf	02 59 31.1	+3.5
	0.7nm,0.8s,baz=27,slow=2.2,SNR=5.2						
GERES				pPKPbc		02 59 39.0	
	1.0nm,0.9s,baz=56,slow=4.8,SNR=3.3						

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*BJI **26** 03:06:00.9,38.07N×23.73E,h35^{km},mB4.6,mb4.4,Ms4.1, Msz4.0*

*MED_RC **26** 03:06:00.0±0.2,38.24N×24.14E,h10^{km},MW4.4/14, Moment Tensor Solution. Body waves: s14,c20; Duration: 1^{s}0 Moment tensor: Scale 10^{15}Nm; M$_{rr}$-2.23±.14; M$_{\theta\theta}$3.69±.11; M$_{\phi\phi}$-1.46±.14; M$_{r\theta}$-0.64±.40; M$_{\theta\phi}$-2.14±.09; M$_{\phi r}$-2.44±.40; Best double couple: M$_0$4.61×10^{15} NP1:ϕ$_s$75°,δ58°,λ-146°. NP2:ϕ$_s$325°,δ62°, λ-37°. Principal axes: T 4.47, Plg2°, Azm21°; N .27, Plg45°, Azm113°; P -4.75, Plg45°, Azm288°; nsta1 refers to waves, cutoff=35s.*

*PDG **26** 03:06:01.9±0.6,38.27N×24.16E,h14^{km}±1^{km}*

*ATH **26** 03:06:01.5,38.31N×24.18E,h20^{km}±2^{km},MD4.2/19, ML4.2*

*MOS **26** 03:06:01.2±0.9,38.32N×23.97E,h10^{km},mb4.6/12,Error ellipse: s-maj=8.6km s-min=3.9km az=88.6*

*IDC **26** 03:06:01.0±0.6,38.32N×24.01E,mb4.3/17,mb1 4.3/25, mb1mx4.3/29,ML3.8/8,MS3.6/8,Ms1 3.6/8,ms1mx3.5/23, Error ellipse: s-maj=12.3km s-min=10.3km az=83.0*

*NEIC **26** 03:06:03.7±0.6,38.27N×24.04E,h18^{km}±4^{km},mb4.3/54, MD4.2(PDG),ML4.3(THE),ML4.2(ATH),Error ellipse: s-maj=2.9km s-min=1.9km az=205.0*

NEIC Felt at Athens and in Attiki and Evvoia, Greece.

*HRVD **26** 03:06:03.7±1.5,38.02N×24.05E,h18^{km},MW4.6/28, Centroid moment Tensor Solution. LP body waves: s7,c7; Mantle waves: s28,c34; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M$_{rr}$-0.21±.13; M$_{\theta\theta}$0.57±.10; M$_{\phi\phi}$-0.36±.09; M$_{r\theta}$-0.64±.27; M$_{\theta\phi}$-0.66±.09; M$_{\phi r}$0.12±.30; Best double couple: M$_0$1×10^{16} NP1:ϕ$_s$346°,δ53°,λ-2°. NP2:ϕ$_s$77°, δ88°,λ-143°. Principal axes: T 1.19, Plg24°, Azm205°; N -.39, Plg52°, Azm79°; P -.8, Plg27°, Azm308°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*ZUR_RM **26** 03:06:03,38.27N×24.04E,h15^{km},Mw4.5/22,Moment Tensor Solution. s22 Moment tensor: Scale 10^{15}Nm; M$_{rr}$-4.64; M$_{\theta\theta}$6.32; M$_{\phi\phi}$-1.68; M$_{r\theta}$-1.89; M$_{\theta\phi}$-3.82; M$_{\phi r}$-0.28; Best double couple: M$_0$6.68×10^{15} NP1:ϕ$_s$91°, δ57°,λ-119°. NP2:ϕ$_s$317°,δ43°,λ-53°. Principal axes: T 8.067, Plg7°, Azm201°; N -2.771, Plg24°, Azm108°; P -5.296, Plg64°, Azm307°;*

*CSEM **26** 03:06:04.7,38.31N×24.00E,h40^{km},mb4.5*

*THE **26** 03:06:05.5,38.34N×24.20E,h20^{km},ML4.3*

ISC 26 03:06:02.2±0.3,38.30N±0.01×24.03E±0.01,h19^{km}±3^{km}, h33^{km}±.4^{km}:pP-P,n399,σ1^{s}28/450,mb4.5/49,MS3.7/13, 24C-26D,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MPAR	Parnis Oros	0.28	238	*e*PB	Pb	03 06 09.5	+1.0
PTL	Penteli	0.28	208	⇑*i*PB	Pb	03 06 09.0	+0.4
ATH	Athens Observa	0.41	217	*e*PB	Pb	03 06 11.9	+1.2
ATH				*e*SB	Sb	03 06 17.8	+1.3
NSAL	Nisos Salamina	0.60	229	⇓*i*PN	Pn	03 06 15.1	-0.4
MKIT	Kithairon Oros	0.62	259	*e*PN	Pn	03 06 16.1	+0.3
NAIG	Nisos Aigina	0.69	219	*e*PN	Pn	03 06 16.7	-0.1
LKR	Lokris	0.88	294	*e*PN	Pn	03 06 20.0	+0.4
LKR				*e*SN	Sn	03 06 34.6	+2.7
NEO	Neokhori	1.19	328	*e*PN	Pn	03 06 25.5	+1.6
XOR	Xorichti	1.25	329	*e*Pb	Pb	03 06 26.3	+1.3
AGG	Agios Georgios	1.52	299	*e*Pb	Pb	03 06 30.6	+1.1
AGG				*e*Sb	Sb	03 06 51.9	+3.6
PAIG	Paliouri	1.65	351	*e*Pb	Pb	03 06 31.2	-0.5
APE	Apeiranthos	1.71	136	P	Pn	03 06 31.1	-0.3
APE	Apeiranthos	1.71	136	*e*PN	Pn	03 06 31.5	+0.1
APE	Apeiranthos	1.71	136	P	Pn	03 06 31.4	0.0
VLI	Veliai	1.80	209	⇑*i*PB	Pb	03 06 33.6	-0.8
LOS	Limnos	1.82	26	*e*Pb	Pb	03 06 33.3	-1.4
LIA	Limnos Island	1.83	29	*e*PN	Pn	03 06 32.8	-0.3
EVR	Evrytania	1.85	290	*e*PN	Pn	03 06 35.9	+2.5
PRK	Paraskevi	1.99	61	*e*PN	Pn	03 06 34.9	-0.5
ITM	Ithomi	2.01	237	*e*PN	Pn	03 06 37.9	+2.2
OUR	Ouranopolis	2.03	359	*e*Pn	Pn	03 06 36.7	+0.7
RLS	Riolos of Patr	2.04	264	*e*PB	Pb	03 06 38.0	-0.4
PLG	Polygyros	2.12	348	*e*PN	Pn	03 06 37.9	+0.6
THR4	Thira Island,	2.13	149	*e*Pn	Pn	03 06 37.7	+0.2
THR5	Thira Island,	2.15	150	*e*Pn	Pn	03 06 38.8	+1.0
LIT	Litokhoron	2.16	327	*e*Pn	Pn	03 06 38.9	+1.1
LIT				*e*Sn	Sn	03 07 05.8	+1.4
KYTH	Kithira	2.17	202	⇑*i*PB	Pb	03 06 38.5	-2.1
THR3	Thira Island,	2.18	150	*e*Pn	Pn	03 06 39.2	+1.0
BOZC	Bozcaada	2.20	45	*i* P	Pn	03 06 38.1	-0.4
BOZC				*i* S	Sn	03 07 12.4	+7.0
THR6	Thira Island,	2.23	150	*e*Pn	Pn	03 06 39.4	+0.6
SANT	Santorini	2.24	149	*e*Pn	Pn	03 06 38.6	-0.4
SANT				*e*		03 06 45.1	
SANT				*e*Sn	Sn	03 07 10.5	+4.3
THR1	Thera Island	2.24	149	*e*Pn	Pn	03 06 39.2	+0.2
SMG	Samos	2.29	104	*e*PN	Pn	03 06 39.9	+0.1
AYVA	Ayvalik	2.31	63	*i* P	Pn	03 06 39.8	-0.2
AYVA				*i* S	Sn	03 07 11.4	+3.3
EZN	Ezine	2.35	49	*e*P	Pn	03 06 40.0	-0.5
THE	Thessaloniki	2.47	341	*e*Pn	Pn	03 06 43.1	+0.8
IZM	Izmir	2.54	87	P	Pn	03 06 44.0	+0.7
KDAG	Bornova	2.54	87	*i* P	Pn	03 06 43.8	+0.5
KDAG				*i* S	Sn	03 07 15.0	+0.9
SOH	Sokhos	2.57	348	*e*Pn	Pn	03 06 45.1	+1.3
MEV	Metsovon	2.64	305	*e*Pn	Pn	03 06 46.7	+2.0
KZN	Kozani	2.66	319	⇓*i*PN	Pn	03 06 46.9	+1.8
LKD	Levkas	2.68	280	*e*Pn	Pn	03 06 48.2	+2.8
VLS	Valsamata	2.71	268	*e*PB	Pb	03 06 49.5	-0.4
JAN	Janina	2.83	300	*e*PB	Pb	03 06 50.9	-0.9
VAM	Vamos	2.89	177	*e*PN	Pn	03 06 49.0	+0.7
GRG	Griva	2.94	335	*e*Pn	Pn	03 06 49.9	+0.9
GRG				*e*Sn	Sn	03 07 24.3	+0.3
BDRM	Kayabasi	2.97	113	*i* P	Pn	03 06 49.4	-0.1
BDRM				*i* S	Sn	03 07 37.5	+13
NISR	Nisiros	2.98	123	*e*PB	Pb	03 06 52.5	-2.0
KNT	Kendrikon	2.99	343	*e*Pn	Pn	03 06 51.4	+1.7
AKS	Akhisar	3.02	78	P	Pn	03 06 50.4	+0.3
ALN	Alexandroupoli	3.02	30	*e*Pn	Pn	03 06 49.8	-0.4
NVR	Nevrokopi	3.05	358	*e*PN	Pn	03 06 50.7	+0.2
RDO	Rodhopi	3.07	22	*e*PN	Pn	03 06 49.9	-0.9
IDI	Anoyia	3.08	167	Pn	Pn	03 06 51.1	0.0
	19nm,0.3s,baz=343,slow=13,SNR=124						
IDI				Sn	Sn	03 07 31.7	+3.9
	45nm,0.3s,baz=328,slow=14,SNR=4.8						
IDI				Lg		03 07 39.3	
	109nm,0.3s,baz=88,slow=23,SNR=6.4						
MLSB	Milas	3.13	108	*e*P	Pn	03 06 51.9	+0.2
IGT	Igoumenitsa	3.14	294	*e*Pn	Pn	03 06 55.0	+3.2
FNA	Florina	3.22	321	*e*Pn	Pn	03 06 54.8	+1.8
VAY	Valandovo	3.22	340	*i* Pn	Pn	03 06 54.7	+1.7
VAY				*i* Pg	Pn	03 07 03.9	+11
VAY				*i* Sn	Sn	03 07 34.8	+3.6
VAY				*i* Sb	Sb	03 07 42.4	+4.7
VAY				*i* Sg	Sn	03 07 52.0	+21
LSK	Leskovik	3.24	306	*i* p	Pn	03 06 56.7	+3.4
BALB	Balikesir	3.28	65	*e*P	Pn	03 06 54.3	+0.4
NPS	Neapolis	3.29	157	*e*PN	Pn	03 06 53.4	-0.5
MMB	Musomiste	3.29	356	⇓*i*P	Pn	03 06 53.5	-0.5
RZN	Rozhen	3.42	9	⇓*i*P	Pn	03 06 56.0	+0.1
GVD	Gavdhos	3.46	179	*e*PB	Pb	03 06 58.5	-4.1
KDZ	Kurdzhali	3.51	17	⇑*i*P	Pn	03 06 56.0	-1.1
MFT	Murefte	3.53	44	*e*P	Pn	03 06 56.7	-0.7
MANT	Manisa	3.56	86	*i* P	Pn	03 06 57.1	-0.7
MANT				*i* S	Sn	03 07 53.6	+14
YER	Yerkesik	3.56	108	*i* P	Pn	03 06 58.5	+0.6
KEK	Kerkira	3.59	294	*e*PN	Pn	03 07 01.2	+3.0
EDC	Edincik	3.61	54	*e*P	Pn	03 06 58.4	0.0
ZKR	Zakros	3.63	150	P	Pn	03 07 02.2	+3.4
KKB	Krupnik	3.64	349	⇓*i*P	Pn	03 06 59.0	+0.1
BNT	Bandirma	3.65	55	*i* P	Pn	03 06 58.7	-0.3
XRY	Khrisi	3.67	158	*e*PN	Pn	03 06 59.6	+0.2
KARP	Karpathos	3.72	137	*e*PN	Pn	03 06 59.8	-0.3
OHR	Ohrid	3.75	319	⇑*i*Pn	Pn	03 07 02.8	+2.2
OHR				*i* Pb	Pb	03 07 11.6	+3.9
OHR				*i* Pg	Pn	03 07 16.6	+16
OHR				*i* Sn	Sn	03 07 43.6	-1.1
OHR				*i* Sb	Sb	03 07 56.0	+2.8
OHR				*i* Sg	Sn	03 08 07.7	+23
DST	Dursunbey	3.81	69	*e*P	Pn	03 07 02.2	+0.8
PLD	Plovdiv	3.83	7	P	Pn	03 07 02.0	+0.3
ARG	Arkhangelos	3.87	121	*e*PN	Pn	03 07 02.5	+0.3
KCT	Karacabey	3.89	58	P	Pn	03 07 02.3	-0.1
DIM	Dimitrovgrad	3.92	17	P	Pn	03 07 03.0	+0.1
DALT	Dalyan (Mudla)	3.97	111	*e*P	Pn	03 07 03.8	+0.2
DENT	Denizli	3.99	96	*e*P	Pn	03 07 04.6	+0.8
DNZL	Cakiroluk	4.01	97	*i* P	Pn	03 07 05.0	+0.9
EDRB	Edirne	4.11	30	*e*P	Pn	03 07 04.6	-1.0
ORLT	Orhaneli	4.16	64	*e*P	Pn	03 07 07.1	+0.7
SKO	Skopje	4.17	332	*i* Pn	Pn	03 07 07.7	+1.2
SKO				*i*		03 07 12.3	
SKO				*i* Pg	Pn	03 07 21.7	+15
SKO				*i* Sg	Sn	03 08 22.3	+27
PGB	Panagyurishte	4.25	1	P	Pn	03 07 07.3	-0.3
KHL	Karahalli	4.32	88	*e*P	Pn	03 07 10.1	+1.5
VTS	Vitosha	4.33	352	⇓*i*P	Pn	03 07 09.0	+0.2
VTS	Vitosha	4.33	352	P	Pn	03 07 09.7	+0.9
ULDT	Uludag	4.37	64	*i* P	Pn	03 07 09.9	+0.6
TIR	Tirane	4.42	315	*e*p	Pn	03 07 13.6	+3.6
CTT	Catalca	4.42	49	*i* P	Pn	03 07 08.9	-1.2
QSH	Qafa e Shtames	4.52	317	*i* p	Pn	03 07 16.0	+4.6
JMB	Yambol	4.59	24	P	Pn	03 07 11.0	-1.5
YLV	Yalova	4.71	60	*e*P	Pn	03 07 14.1	-0.1
ISK	Istanbul-Kandi	4.76	53	*e*P	Pn	03 07 14.9	+0.1
ALT	Altintas	4.82	79	*i* P	Pn	03 07 15.9	+0.3
BARS	Barje	4.82	340	⇓*i*Pn	Pn	03 07 16.2	+0.6
BARS				Sn	Sn	03 08 10.3	-1.3
ELL	Elmali	4.92	107	*e*P	Pn	03 07 17.3	+0.2
PVL	Pavlikeni	5.01	11	P	Pn	03 07 17.0	-1.4
LCI	Lecce	5.02	296	*e*Pn	Pn	03 07 19.4	+0.9
HRT	Hereke	5.03	58	P	Pn	03 07 18.9	+0.3
BCI	Bajram Curri	5.07	325	*e*p	Pn	03 07 20.9	+1.7
ISP	Isparta	5.13	93	*e*P	Pn	03 07 21.0	+0.9
SZH	Strazhica	5.17	16	P	Pn	03 07 20.0	-0.6
ULC	Ulcinj	5.18	316	⇓*i*Pn	Pn	03 07 21.8	+1.1
ULC				*e*Sn	Sn	03 08 22.4	+1.7
BCK	Bucak	5.25	97	*e*P	Pn	03 07 22.5	+0.7
GPA	Golpazari	5.26	66	*e*P	Pn	03 07 21.9	0.0
PVY	Plav	5.29	325	⇓*i*Pn	Pn	03 07 23.9	+1.6
PVY				*e*Sn	Sn	03 08 24.9	+1.4
ESKT	Eskisehir	5.46	75	P	Pn	03 07 26.1	+1.5
TTG	Podgorica	5.50	320	⇓*i*Pn	Pn	03 07 26.8	+1.5
TTG				*e*Sn	Sn	03 08 30.4	+1.6
IVA	Berane	5.54	327	⇓*i*Pn	Pn	03 07 27.2	+1.3
IVA				*e*Sn	Sn	03 08 31.1	+1.2
BOLS	Boljevac	5.74	345	⇓*i*Pn	Pn	03 07 28.4	-0.3
BOLS				Sn	Sn	03 08 33.7	-1.1
TIP	Timpagrande	5.75	281	⇓*e*Pn	Pn	03 07 29.4	+0.6
TIP				*e*Sn	Sn	03 08 33.5	-1.7
HENT	Hendek	5.87	62	*i* P	Pn	03 07 29.9	-0.7
MDU	Mudurnu	5.97	67	*e*P	Pn	03 07 31.8	-0.1
GRI	Girifalco	5.99	277	*e*Pn	Pn	03 07 32.8	+0.7
PLE	Pljevlja	6.13	326	⇓*i*Pn	Pn	03 07 35.6	+1.4
PLE				*e*Sn	Sn	03 08 45.2	+0.7
TDS	Terranova Siba	6.15	285	*e*Pn	Pn	03 07 35.4	+1.0
ORI	Oriolo Calabro	6.15	289	⇓*i*Pn	Pn	03 07 34.9	+0.5
NVSS	Nova Varos 2	6.15	329	⇑*i*Pn	Pn	03 07 34.6	+0.2
NVSS				Sn	Sn	03 08 44.8	-0.2
KIZT	Kizilcal	6.17	82	*e*P	Pn	03 07 34.8	0.0
BRY	Bratogost	6.21	319	⇓*i*Pn	Pn	03 07 36.2	+0.9
BRY				*e*Sn	Sn	03 08 47.6	+1.2
UPM	Unac-Piva	6.25	323	⇓*i*Pn	Pn	03 07 37.2	+1.3
UPM				*e*Sn	Sn	03 08 48.2	+0.7
SOI	Samo	6.29	270	⇑*i*Pn	Pn	03 07 36.8	+0.4
SVIS	Svilajnac	6.35	341	*e*Pn	Pn	03 07 36.1	-1.2
SVIS				Sn	Sn	03 08 43.6	-6.5
DJES	Djerdap	6.43	350	*e*Pn	Pn	03 07 37.4	-1.0
DJES				Sn	Sn	03 08 44.8	-7.2
DIVS	Divcibare	6.54	334	⇓*i*Pn	Pn	03 07 40.1	+0.1
DIVS				Sn	Sn	03 08 54.4	-0.4
SGKT	Sivrigoynuk	6.61	67	*i* P	Pn	03 07 40.9	-0.1
STON	Ston	6.64	315	*i* Pn	Pn	03 07 40.4	-0.9
MGR	Morigerati	6.83	288	*e*Pn	Pn	03 07 45.0	+0.9
SLCN	Sala Consilina	6.84	290	⇑*i*Pn	Pn	03 07 45.3	+1.2
ANTO	Ankara	6.99	74	*e*P	Pn	03 07 45.9	-0.4
MRLC	Muro Lucano	7.04	293	*e*Pn	Pn	03 07 47.2	+0.2
FGMS	Monte Sant’Ang	7.07	301	⇓*i*Pn	Pn	03 07 46.8	-0.6
SGO	Sicignano	7.12	291	⇓*i*Pn	Pn	03 07 48.3	+0.2
FG4	Candela	7.15	296	*e*Pn	Pn	03 07 49.7	+1.2
SAFT	Safranbolu	7.28	64	*e*P	Pn	03 07 49.2	-1.2
RGNG	Rignano Grg	7.31	300	⇓*i*Pn	Pn	03 07 49.7	-1.0
MLR	Muntele Rosu	7.33	11	Pn	Pn	03 07 50.8	-0.2
	baz=184,slow=9.8						
MLR				Sn	Sn	03 09 12.4	-2.0
	1.0nm,0.3s,baz=145,slow=19,SNR=1.4						
MLR				Lg		03 09 57.9	
	0.1nm,0.3s,baz=180,slow=18,SNR=1.7						
MLR				LR	LR	03 10 46.4	
	comp=Z,409nm,21.9s,baz=162,slow=39						
MNO	Monte Soro	7.37	270	*e*Pn	Pn	03 07 52.1	+0.5
FG5	Orsara di Pugl	7.38	297	⇑*i*Pn	Pn	03 07 52.0	+0.3
CSSN	Cassano Irpino	7.41	293	*e*Pn	Pn	03 07 54.2	+2.0
BRTR	Keskin Array B	7.61	76	Pn	Pn	03 07 55.2	+0.2
	0.5nm,0.3s,baz=256,slow=14,SNR=15						
BRTR				Lg		03 10 04.0	
	baz=278,slow=20,SNR=2.0						
BRTR	Keskin Array B	7.61	76	P	Pn	03 07 55.3	+0.3
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
FG2	Serracapriola	7.65	300	*e*Pn	Pn	03 07 54.7	-0.9
VAE	Valguarnera	7.65	267	Pn	Pn	03 07 56.2	+0.7
	comp=Z,2.1nm,0.3s,baz=19,slow=4.6,SNR=10.0						
VAE				Sn	Sn	03 09 22.6	+0.1
	comp=Z,3.4nm,0.3s,baz=29,slow=18,SNR=3.5						
VRI	Vrincioaia	7.82	14	P	Pn	03 07 58.8	+0.9
CSLB	Castelbuono	7.87	270	*e*Pn	Pn	03 08 00.1	+1.5
BALT	Daday	7.88	63	*i* P	Pn	03 07 58.1	-0.6
CPI2	Carpinone	8.15	297	*e*Pn	P	03 08 03.6	+1.1
CSS	Prodhromos	8.18	111	*e*Pn	P	03 08 03.9	+0.9
	comp=Z,8.4nm,0.5s						
CII	Carovilli	8.21	298	*e*Pn	P	03 08 04.3	+1.0
CLTB	Caltabellotta	8.58	269	*e*Pn	P	03 08 09.7	+1.2
CTKT	Corum	8.64	71	*i* P	P	03 08 09.3	+0.1
PKSM	Moragy	8.86	335	⇓*e*P	P	03 08 12.2	-0.1
PKSM				*e*S	Sn	03 09 51.1	-1.5
BOYT	Boyabat	8.92	66	*i* P	P	03 08 13.9	+0.7
PKS6	Bocsa	8.93	340	*e*P	P	03 08 11.3	-1.9
PTQR	Pietraquaria	8.95	298	*e*Pn	P	03 08 14.7	+1.2
RHK1	Bakonya	8.95	332	⇓*e*P	P	03 08 13.6	0.0
AQU	L’Aquila	9.07	300	*e*Pn	P	03 08 16.0	+0.8
	comp=Z,24nm,0.8s						
AQU				*e*Sn	Sn	03 09 52.4	-5.5
SISC	Sisak	9.16	324	*i* Pn	P	03 08 15.9	-0.6
PKS9	Tamasi	9.31	335	*e*P	P	03 08 18.8	+0.3
KIS	Kishinev	9.38	21	*e*P	P	03 08 21.0	+1.5
KIS				*e*S	Sn	03 10 10.0	+4.5
KIS				MLR	MLR		
	comp=Z,700nm,10.0s						
KIS				MLR	MLR		
	comp=Z,700nm,10.0s						
PKS8	Sarbogard	9.44	337	*e*P	P	03 08 19.7	-0.6
BOJS	Bojanci	9.72	321	*e*Pn	P	03 08 22.5	-1.7
BOJS				*e*Sn	Sn	03 10 14.9	+0.9
ARV	Arcevia	9.87	305	*e*Pn	P	03 08 24.8	-1.4
COBT	Iskenderun	9.89	97	*i* P	P	03 08 28.3	+1.8
GOLS	Golise	9.91	324	*e*Pn	P	03 08 25.1	-1.7
SIM	Simferopol’	10.05	45	P	P	03 08 31.0	+2.3
SIM				S	S	03 10 23.0	+1.0
SIM				pmax	pmax		
	comp=Z,9.0nm,0.9s						
SIM				MLR	MLR		
	comp=Z,210nm,14.4s						
FSSB	Fossombrone	10.07	306	*e*Pn	P	03 08 27.2	-1.7
PSZ	Piszkesteto	10.08	344	*e*Pn	P	03 08 28.7	-0.3
	comp=Z,15nm,1.0s						
VISS	Visnje	10.14	321	*e*Pn	P	03 08 28.0	-1.9
CEY	Cerknica	10.30	319	*i* Pn	P	03 08 30.5	-1.7
KMPD	K-Podol’skiy	10.41	9	P	P	03 08 34.0	+0.4
LJU	Ljubljana	10.46	321	*e*Pn	P	03 08 32.4	-2.0
PERS	Pernice	10.61	325	*e*Pn	P	03 08 34.5	-1.8
KOLS	Kolonicke sedl	10.71	354	*e*PN	P	03 08 39.3	+1.7
HRI	Mount Hermon	10.75	114	P	P	03 08 36.5	-1.8
VOY	Vojsko	10.78	319	*e*Pn	P	03 08 36.8	-1.8
OBKA	Obir	10.78	323	⇑*i*PN	P	03 08 36.6	-2.1
OBKA				*i* SN	S	03 10 30.7	-9.2
SOP	Sopron	10.85	332	P	P	03 08 40.5	+0.8
VYHS	Vyhne	10.86	341	*e*PN	P	03 08 39.7	-0.1
ARSA	Arzberg	10.91	328	⇓*i*PN	P	03 08 39.3	-1.1
ARSA				*i* SN	S	03 10 35.7	-7.2
KSHT	Keshet	10.95	115	P	P	03 08 39.1	-2.0

ZST	**Bratislava**	**11.10**	**335**	*e*PN	**P**	**03 08 42.9**	**-0.2**
ROBS	**Robic**	**11.12**	**319**	*i* Pn	**P**	**03 08 40.6**	**-2.7**
HMDT	**Nahal Hemdat**	**11.16**	**119**	P	**P**	**03 08 41.7**	**-2.2**
KZIT	**Kziot**	**11.28**	**128**	P	**P**	**03 08 42.2**	**-3.3**
PTCC	**Patocco-Chiusa**	**11.31**	**319**	*e*Pn	**P**	**03 08 44.4**	**-1.4**
KWP	**Kalwaria**	**11.37**	**356**	*e*Pn	**P**	**03 08 48.8**	**+2.1**
	comp=Z,18nm,1.0s						
VKA	**Vienna**	**11.43**	**333**	*e*(P)	**P**	**03 08 46.0**	**-1.5**
MASH	**Mash‘abbe Sade**	**11.46**	**126**	P	**P**	**03 08 45.5**	**-2.5**
DRGI	**Dragot**	**11.47**	**122**	P	**P**	**03 08 48.3**	**+0.2**
LVV	**L’vov**	**11.52**	**360**	*e*P	**P**	**03 09 00.9**	**+12**
LVV				*e*S	**S**	**03 11 06.2**	**+8.4**
MZDA	**Masada**	**11.63**	**123**	P	**P**	**03 08 48.0**	**-2.3**
FVI	**Forni Avoltri**	**11.73**	**319**	*e*Pn	**P**	**03 08 49.5**	**-2.1**
VLC	**Villacollemand**	**11.82**	**304**	*e*Pn	**P**	**03 08 53.5**	**+0.6**
MOA	**Molln**	**11.91**	**326**	⇑*i*Pn	**P**	**03 08 53.3**	**-0.7**
MOA				*i* Sn	**S**	**03 10 59.7**	**-7.7**
CTI	**Castel Tesino**	**12.00**	**314**	*e*Pn	**P**	**03 08 52.4**	**-2.9**
ZFRI	**Zfri**	**12.01**	**127**	P	**P**	**03 08 52.2**	**-3.2**
PRNI	**Paran**	**12.04**	**128**	P	**P**	**03 08 52.5**	**-3.3**
KMTI	**Karmit**	**12.04**	**130**	P	**P**	**03 08 54.2**	**-1.7**
ASF	**Jabal al Asfar**	**12.16**	**116**	Pn	**P**	**03 08 56.3**	**-1.2**
	comp=Z,0.6nm,0.3s,baz=153,slow=8.0,SNR=6.8						
PGF	**Pioggiola**	**12.21**	**295**	*e*P	**P**	**03 08 55.3**	**-2.9**
	comp=Z,169nm,1.5s						
VRAC	**Vranov**	**12.24**	**336**	Pn	**P**	**03 08 55.7**	**-2.8**
	comp=Z,0.1nm,0.3s,baz=156,slow=9.2,SNR=4.7						
OKC	**Ostrava-Krasne**	**12.28**	**342**	*e*P	**P**	**03 09 08.7**	**+10**
OKC				LR		03 14 30.0	
	comp=Z,0.6nm,12.3s						
OKC	**Ostrava-Krasne**	**12.28**	**342**	*e*P	**P**	**03 09 08.7**	**+10**
OJC	**Ojcow**	**12.29**	**347**	*e*P	**P**	**03 08 59.7**	**+0.5**
MBH	**Mount Berech**	**12.38**	**130**	P	**P**	**03 08 57.6**	**-2.8**
MORC	**Moravsky Berou**	**12.38**	**340**	*e*Pn	**P**	**03 08 59.7**	**-0.6**
	comp=Z,6.8nm,1.3s						
WTTA	**Wattenberg**	**12.76**	**319**	⇑*i*Pn	**P**	**03 09 04.4**	**-1.0**
WTTA				*i* Sn	**S**	**03 11 19.4**	**-8.5**
ALWS	**Ilw as Safayha**	**12.82**	**131**	P	**P**	**03 09 03.8**	**-2.5**
WATA	**Walderalm**	**12.84**	**319**	⇑*i*Pn	**P**	**03 09 05.0**	**-1.4**
WATA				*i* Sn	**S**	**03 11 21.4**	**-8.4**
GEC2	**GERESS Array S**	**12.92**	**328**	*e*P	**P**	**03 09 06.0**	**-1.5**
GERES	**GERESS Array B**	**12.92**	**328**	Pn	**P**	**03 09 06.8**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=146,slow=12,SNR=23						
HAQS	**Haql**	**12.93**	**132**	P	**P**	**03 09 04.8**	**-2.9**
AKASG	**Malin Array Be**	**12.94**	**15**	Pn	**P**	**03 09 04.7**	**-3.0**
	comp=Z,0.4nm,0.3s,baz=200,slow=12,SNR=6.8						
JMOS	**Jabal al Moall**	**12.95**	**131**	P	**P**	**03 09 05.1**	**-2.9**
SQTA	**Sankt Quirin**	**12.96**	**318**	⇑*i*Pn	**P**	**03 09 06.7**	**-1.3**
SQTA				*i* Sn	**S**	**03 11 24.7**	**-8.0**
BRMO	**Bormio**	**12.97**	**313**	*e*Pn	**P**	**03 09 08.3**	**+0.1**
SOC	**Sochi**	**12.97**	**61**	*e*P	**P**	**03 09 08.7**	**+0.4**
SOC				*e*S	**S**	**03 11 34.7**	**+1.6**
SOC				pmax	pmax		
	comp=Z,6.0nm,0.8s						
SOC				pmax	pmax		
	comp=N,27nm,1.5s						
SOC				pmax	pmax		
	comp=E,10.0nm,0.8s						
SOC				MLR	MLR		
	comp=Z,144nm,15.0s						
SOC				MLR	MLR		
	comp=N,131nm,13.0s						
SOC				MLR	MLR		
	comp=E,151nm,13.0s						
MOTA	**Moosalm**	**13.09**	**318**	⇑*i*Pn	**P**	**03 09 08.5**	**-1.3**
MOTA				*i* Sn	**S**	**03 11 27.7**	**-8.2**
KHC	**Kasperske Hory**	**13.19**	**329**	*e*P	**P**	**03 09 10.4**	**-0.7**
KHC				LR		03 14 50.0	
	comp=E,0.6nm,13.4s						
KHC	**Kasperske Hory**	**13.19**	**329**	*e*P	**P**	**03 09 10.4**	**-0.7**
DPC	**Dobruska-Polom**	**13.24**	**338**	*e*P	**P**	**03 09 19.4**	**+7.6**
DPC				LR		03 15 10.0	
	comp=E,0.6nm,10.2s						
TAYS	**Tayyib Ism**	**13.27**	**134**	P	**P**	**03 09 11.5**	**-0.8**
DAVOX	**Davos**	**13.43**	**314**	Pn	**P**	**03 09 12.6**	**-1.7**
	comp=E,0.5nm,0.3s,baz=127,slow=4.6,SNR=10						
DAVOX				Sn	**S**	**03 11 44.1**	**+0.2**
	comp=E,0.1nm,0.3s,baz=221,slow=19,SNR=3.0						
DAVOX	**Davos**	**13.43**	**314**	Pn	**P**	**03 09 12.6**	**-1.7**
DAVOX				Sn	**S**	**03 11 44.1**	**+0.2**
BDAS	**Al Bad‘**	**13.49**	**134**	P	**P**	**03 09 15.0**	**-0.2**
PRU	**Pruhonice**	**13.51**	**333**	*e*P	**P**	**03 09 14.9**	**-0.4**
PRU				L		03 16 30.0	
JMQS	**Jabal Moqyreh**	**13.61**	**130**	P	**P**	**03 09 16.6**	**-0.2**
VAI	**Varese**	**13.61**	**309**	*e*Pn	**P**	**03 09 15.4**	**-1.3**
SBF	**Sospel**	**13.69**	**299**	*e*P	**P**	**03 09 15.6**	**-2.1**
	comp=E,63nm,0.9s						
DAVA	**Damuels**	**13.72**	**315**	⇑*i*Pn	**P**	**03 09 17.4**	**-0.6**
DAVA				*i* Sn	**S**	**03 11 43.0**	**-7.8**
PVCC	**Panska Ves**	**13.96**	**334**	*e*P	**P**	**03 09 28.9**	**+7.8**
PVCC				L		03 15 10.0	
	comp=E,0.5nm,8.2s						
LLS	**Linth-Limmern**	**13.96**	**312**	⇑P	**P**	**03 09 23.3**	**+2.0**
FRF	**La Foret Royal**	**14.15**	**297**	*e*P	**P**	**03 09 21.7**	**-2.0**
	comp=E,42nm,0.8s						
MUO	**Muotathal**	**14.24**	**312**	⇑P	**P**	**03 09 26.6**	**+1.7**
MBDF	**Montbardon**	**14.43**	**302**	*e*P	**P**	**03 09 25.5**	**-1.8**
	comp=E,21nm,0.8s						
NKC	**Novy Kostel**	**14.51**	**329**	*e*P	**P**	**03 09 29.0**	**+0.6**
NKC				LR		03 15 50.0	
	comp=E,0.4nm,14.1s						
NKC	**Novy Kostel**	**14.51**	**329**	*e*P	**P**	**03 09 29.0**	**+0.6**
DIX	**Grande Dixence**	**14.55**	**308**	⇑P	**P**	**03 09 30.6**	**+1.6**
LKBD	**Leukerbad**	**14.56**	**309**	⇓P	**P**	**03 09 32.8**	**+3.8**
GRA1	**Grafenberg Arr**	**14.63**	**325**	*e*Pn	**P**	**03 09 36.0**	**+6.1**
GRF	**Grafenberg Arr**	**14.63**	**325**	*e*P	**P**	**03 09 36.0**	**+6.1**
LPG	**La Plagne**	**14.73**	**305**	*e*P	**P**	**03 09 29.9**	**-1.3**
	comp=E,51nm,0.9s						
LPL	**La Plagne**	**14.75**	**305**	*e*P	**P**	**03 09 30.0**	**-1.5**
	comp=E,39nm,0.9s						
SULZ	**Sulz-Cheisache**	**14.84**	**313**	⇓P	**P**	**03 09 35.0**	**+2.2**
STU	**Stuttgart**	**14.98**	**319**	P	**P**	**03 09 33.7**	**-0.8**
ORIF	**Oris-en-Rattie**	**15.09**	**302**	*e*P	**P**	**03 09 33.9**	**-2.1**
	comp=E,23nm,1.0s						
ORIF				*e*R			
	comp=E,446nm,21.2s						
ORIF	**Oris-en-Rattie**	**15.09**	**302**	*e*P	**P**	**03 09 41.9**	**+5.9**
	comp=E,12nm,1.0s						
KIV	**Kislovodsk**	**15.14**	**62**	*e*P	**P**	**03 09 37.7**	**+1.0**
KIV				pmax	pmax		
	comp=Z,9.0nm,1.2s						
KIV				MLR	MLR		
	comp=Z,112nm,17.0s						
KIV	**Kislovodsk**	**15.14**	**62**	Pn	**P**	**03 09 38.0**	**+1.4**
	comp=Z,14nm,1.1s						
CLL	**Collm**	**15.15**	**333**	P	**P**	**03 09 37.0**	**+0.2**
	comp=Z,logA/T=0.9						
CLL				*i*		03 09 42.9	
CLL				*i*		03 09 47.9	
CLL				*e*		03 11 31.0	
CLL	**Collm**	**15.15**	**333**	*e*P	**P**	**03 09 37.0**	**+0.2**
CLL				pmax	pmax		
	comp=Z,11nm,1.4s						
CLL	**Collm**	**15.15**	**333**	*e*P	**P**	**03 09 37.0**	**+0.2**
	comp=Z,11nm,1.4s						
CLL				*i*		03 09 42.9	
MOX	**Moxa**	**15.17**	**328**	*i* P	**P**	**03 09 38.2**	**+1.2**
	comp=Z,logA/T=1.0						
MOX				QM		03 14 53.0	
MOX				RM		03 16 35.0	
MOX	**Moxa**	**15.17**	**328**	*e*P	**P**	**03 09 38.2**	**+1.2**
MOX				pmax	pmax		
	comp=Z,12nm,1.1s						
MOX				MLR	MLR		
	comp=Z,500nm,14.0s						
MOX	**Moxa**	**15.17**	**328**	*e*P	**P**	**03 09 38.2**	**+1.2**
	comp=Z,12nm,1.1s						
BFO	**Black Forest**	**15.17**	**316**	*e*P	**P**	**03 09 34.5**	**-2.6**
CABF	**La Chapelle**	**15.61**	**308**	*e*P	**P**	**03 09 40.6**	**-2.1**
	comp=Z,51nm,0.8s						
GOF	**Gofitskoye**	**15.70**	**58**	*e*P	**P**	**03 09 47.0**	**+3.0**
HINF	**Hinteralfeld**	**15.72**	**313**	*e*P	**P**	**03 09 42.3**	**-1.9**
	comp=Z,19nm,0.8s						
SUW	**Suwalki**	**15.73**	**358**	*e*P	**P**	**03 09 46.8**	**+2.5**
	comp=Z,38nm,0.8s						
CDF	**Champ du Feu**	**15.80**	**315**	*e*P	**P**	**03 09 41.8**	**-3.4**
	comp=Z,28nm,1.2s						
RUE	**Ruedersdorf**	**15.88**	**337**	*e*P	**P**	**03 09 48.7**	**+2.6**
	comp=Z,40nm,1.4s						
VIVF	**Saint-Julien-l**	**15.88**	**301**	*e*P	**P**	**03 09 44.4**	**-1.9**
	comp=Z,26nm,1.0s						
VIVF	**Saint-Julien-l**	**15.88**	**301**	*e*P	**P**	**03 09 50.2**	**+3.9**
	comp=Z,13nm,1.0s						
HAU	**Haudompre**	**16.11**	**313**	*e*P	**P**	**03 09 47.3**	**-1.9**
	comp=Z,20nm,0.8s						
HAU				*e*R			
	comp=Z,238nm,22.2s						
GNI	**Garni**	**16.16**	**77**	P	**P**	**03 09 53.1**	**+3.3**
	comp=Z,16nm,1.2s						
LASF	**Ste Croix**	**16.23**	**297**	*e*P	**P**	**03 09 48.9**	**-1.9**
	comp=Z,48nm,1.3s						
LASF	**Ste Croix**	**16.23**	**297**	*e*P	**P**	**03 09 54.8**	**+4.0**
CLZ	**Clausthal**	**16.59**	**329**	*e*Pn	**P**	**03 09 56.3**	**+1.1**
SMF	**Signal de Mont**	**17.04**	**306**	*e*P	**P**	**03 09 58.5**	**-2.4**
	comp=Z,22nm,0.8s						
MEZF	**Maizieres J’vi**	**17.11**	**313**	*e*P	**P**	**03 10 00.1**	**-1.7**
	comp=Z,80nm,1.6s						
WLF	**Walferdange**	**17.12**	**317**	P	**P**	**03 10 02.4**	**+0.6**
	comp=Z,24nm,1.2s						
MTLF	**Montolieu**	**17.25**	**294**	*e*P	**P**	**03 10 01.0**	**-2.6**
	comp=Z,28nm,1.0s						
LOR	**Lormes**	**17.27**	**308**	*e*P	**P**	**03 10 02.7**	**-1.1**
	comp=Z,31nm,1.0s						
LOR				*e*R			
	comp=Z,321nm,19.2s						
AVF	**Avril sur Loir**	**17.40**	**306**	*e*P	**P**	**03 10 03.4**	**-2.1**
	comp=Z,73nm,1.0s						
SSF	**Saint Saulge**	**17.41**	**307**	*e*P	**P**	**03 10 03.7**	**-1.9**
	comp=Z,30nm,1.0s						
BGF	**Bois d’Agland**	**17.65**	**305**	*e*P	**P**	**03 10 06.8**	**-1.7**
	comp=Z,62nm,0.9s						
CAF	**Calviac**	**17.68**	**299**	*e*P	**P**	**03 10 07.0**	**-2.0**
	comp=Z,21nm,1.1s						
RGN	**Rugen**	**17.82**	**339**	*e*P	**P**	**03 10 10.9**	**+0.3**
	comp=Z,91nm,0.8s						
TCF	**Toulx Ste Croi**	**17.97**	**303**	*e*P	**P**	**03 10 10.4**	**-2.2**
	comp=Z,67nm,1.5s						
RJF	**Les Rejaudoux**	**18.15**	**300**	*e*P	**P**	**03 10 13.7**	**-1.2**
	comp=Z,30nm,1.2s						
RJF				*e*R			
	comp=Z,354nm,17.2s						
BSEG	**Bad Segeberg**	**18.25**	**333**	*e*P	**P**	**03 10 15.3**	**-0.7**
BAIF	**Baives**	**18.38**	**316**	*e*P	**P**	**03 10 16.3**	**-1.4**
	comp=Z,54nm,1.1s						
LFF	**La Frestale**	**18.60**	**298**	*e*P	**P**	**03 10 19.4**	**-1.0**
OBN	**Obninsk**	**18.84**	**23**	*e*P	**P**	**03 10 23.2**	**+0.1**
OBN				*e*S	**S**	**03 13 55.4**	**+6.2**
OBN				pmax	pmax		
	comp=Z,29nm,1.7s						
OBN				MLR	MLR		
	comp=Z,100nm,13.0s						
ETSF	**Etsaut**	**19.20**	**292**	*e*P	**P**	**03 10 25.5**	**-2.1**
	comp=Z,23nm,1.0s						
MFF	**Saint Martin d**	**19.62**	**303**	*e*P	**P**	**03 10 30.5**	**-1.8**
	comp=Z,16nm,0.9s						
MOS	**Moscow**	**19.69**	**23**	*e*P	**P**	**03 10 36.1**	**+3.1**
MOS				pmax	pmax		
	comp=Z,46nm,0.9s						
SJPF	**Ste Jean**	**19.71**	**292**	*e*P	**P**	**03 10 31.4**	**-2.0**
	comp=Z,66nm,1.3s						
ETOR	**Torete**	**20.25**	**285**	P	**P**	**03 10 39.6**	**+0.5**
	comp=Z,307nm,2.7s						
LDF	**La Druitiere**	**20.25**	**308**	*e*P	**P**	**03 10 37.5**	**-1.6**
	comp=Z,62nm,1.2s						
VSU	**Vasula**	**20.25**	**4**	*e*P	**P**	**03 10 38.8**	**-0.2**
ARSS	**Ar Rass**	**20.40**	**122**	P	**P**	**03 10 44.7**	**+4.0**
FLN	**La Foliniere**	**20.54**	**308**	*e*P	**P**	**03 10 40.3**	**-1.7**
FLN				*e*R			
	comp=Z,171nm,17.2s						
GRR	**Gorron**	**20.64**	**307**	*e*P	**P**	**03 10 41.3**	**-1.8**
	comp=Z,27nm,0.7s						
EVIA	**Vianos**	**20.76**	**279**	P	**P**	**03 10 45.8**	**+1.4**
	comp=Z,15nm,0.9s						
RST	**Umm Al-Ruwaisa**	**20.95**	**108**	*e*P	**P**	**03 10 49.3**	**+2.9**
RST				AMb	AMB	03 10 50.1	
	comp=Z,117nm,0.8s						
EQES	**Quesada**	**21.33**	**277**	P	**P**	**03 10 53.4**	**+3.2**
	comp=Z,335nm,3.1s						
ELAN	**Lanestosa**	**21.33**	**292**	P	**P**	**03 10 52.2**	**+2.0**
	comp=Z,72nm,1.5s,mb4.8						
UMR	**Umm Al-Rimmam**	**21.46**	**107**	*e*P	**P**	**03 10 55.0**	**+3.4**
UMR				AMb	AMB	03 10 56.1	
	comp=Z,174nm,0.6s,mb5.5						
AFFS	**‘Afif**	**21.60**	**126**	P	**P**	**03 10 54.8**	**+1.8**
KBD	**Kabd**	**21.63**	**108**	*e*P	**P**	**03 10 56.1**	**+2.8**
SGMF	**Saint Gilles**	**21.67**	**306**	*e*P	**P**	**03 10 50.9**	**-2.6**
	comp=Z,84nm,1.2s,mb4.7						
SGMF	**Saint Gilles**	**21.67**	**306**	*e*P	**P**	**03 10 54.7**	**+1.2**
	comp=Z,42nm,1.3s,mb4.7						
ESDC	**Sonseca Array**	**21.77**	**282**	P	**P**	**03 10 54.2**	**-0.4**
	comp=Z,13nm,0.8s,mb4.4,baz=78,slow=11,SNR=20						
ESDC				LR	LR	03 20 08.7	
	comp=Z,145nm,19.6s,MS3.4,baz=245,slow=39						
ESDC	**Sonseca Array**	**21.77**	**282**	P	**P**	**03 10 54.1**	**-0.6**
	comp=Z,12nm,0.9s,mb4.3						
PUL	**Pulkovo**	**21.86**	**9**	*e*P	**P**	**03 10 55.2**	**-0.2**
PUL				pmax	pmax		
	comp=Z,90nm,0.6s,mb5.4						
PUL				pmax	pmax		
	comp=N,192nm,1.5s						
PUL				pmax	pmax		
	comp=E,106nm,0.8s						
PUL				MLR	MLR		
	comp=Z,355nm,14.0s,MS3.9						
PUL	**Pulkovo**	**21.86**	**9**	*e*P	**P**	**03 10 55.9**	**+0.5**
QUIF	**Quistinic**	**21.96**	**305**	*e*P	**P**	**03 10 55.1**	**-1.4**
	comp=Z,93nm,1.0s,mb4.9						
ROSF	**Rostrenen**	**22.15**	**306**	*e*P	**P**	**03 10 56.6**	**-1.7**
	comp=Z,40nm,0.9s,mb4.5						
ELOJ	**Sierra Loja**	**22.29**	**276**	P	**P**	**03 11 01.0**	**+1.2**
	comp=Z,3.9nm,0.8s,mb3.9						
ELUQ	**Luque**	**22.30**	**277**	P	**P**	**03 10 58.9**	**-1.1**
	comp=Z,6.7nm,0.7s,mb4.2						
EADA	**Adamuz**	**22.44**	**279**	P	**P**	**03 11 01.7**	**+0.4**
	comp=Z,43nm,1.5s,mb4.7						
HFS	**Hagfors**	**22.82**	**347**	P	**P**	**03 11 04.2**	**-0.6**
	comp=Z,6.3nm,0.6s,mb4.2,baz=153,slow=9.9,SNR=12						
HFS	**Hagfors**	**22.82**	**347**	P	**P**	**03 11 04.2**	**-0.6**
HFS				pmax	pmax		
	comp=Z,6.0nm,0.6s						
EMIJ	**Mijas**	**22.90**	**275**	P	**P**	**03 11 07.1**	**+1.2**
	comp=Z,22nm,0.7s,mb4.7						
MZLS	**Mizel**	**22.96**	**122**	P	**P**	**03 11 12.8**	**+6.2**
FINES	**FINESS Array B**	**23.20**	**2**	P	**P**	**03 11 09.5**	**+1.0**
	comp=Z,9.8nm,0.9s,mb4.2,baz=158,slow=7.5,SNR=12						
FINES				LR	LR	03 19 50.0	
	comp=Z,90nm,19.8s,MS3.2,baz=355,slow=36						
FINES	**FINESS Array B**	**23.20**	**2**	P	**P**	**03 11 09.5**	**+1.0**
FINES				pmax	pmax		
	comp=Z,10.0nm,0.9s						
FINES				MLR	MLR		
	comp=Z,90nm,19.8s						
RAYN	**Ar Rayn**	**23.51**	**123**	P	**P**	**03 11 17.5**	**+5.6**
	comp=Z,91nm,1.0s,mb5.2,SNR=10						
ESPR	**Espera**	**23.68**	**276**	P	**P**	**03 11 14.0**	**+0.5**
	comp=Z,9.8nm,0.8s,mb4.3						
ECAL	**Calabor**	**23.74**	**289**	P	**P**	**03 11 15.0**	**+1.0**
	comp=Z,12nm,0.7s,mb4.4						
KAF	**Kangasniemi**	**23.88**	**3**	*e*p	**P**	**03 11 18.2**	**+3.1**
ERUA	**La Rua**	**24.04**	**290**	P	**P**	**03 11 19.4**	**+2.6**
NB2	**NORSAR Subarra**	**24.14**	**345**	P	**P**	**03 11 17.6**	**0.0**
	comp=Z,11nm,0.8s,mb4.3,baz=146,slow=10						
NOA	**NORSAR Array B**	**24.14**	**345**	P	**P**	**03 11 17.6**	**0.0**
	comp=Z,7.4nm,0.7s,mb4.2,baz=148,slow=9.7,SNR=16						
NOA				LR	LR	03 21 22.5	
	comp=Z,72nm,21.1s,MS3.1,baz=195,slow=38						
NOA	**NORSAR Array B**	**24.14**	**345**	P	**P**	**03 11 17.7**	**+0.1**
NOA				pmax	pmax		
	comp=Z,7.0nm,0.7s						
NOA				MLR	MLR		
	comp=Z,72nm,21.1s						
EMIN	**Mina Concepcio**	**24.14**	**278**	P	**P**	**03 11 18.5**	**+0.6**
	comp=Z,54nm,1.0s,mb4.9						
EBAD	**Badajoz**	**24.24**	**281**	P	**P**	**03 11 18.7**	**-0.2**
	comp=Z,26nm,1.1s,mb4.6						
ELOB	**Lobios**	**24.73**	**288**	P	**P**	**03 11 23.6**	**0.0**
EKA	**Eskdalemuir Ar**	**24.98**	**322**	P	**P**	**03 11 26.2**	**+0.4**
	comp=Z,21nm,0.8s,mb4.7,baz=121,slow=9.6,SNR=45						
EKA	**Eskdalemuir Ar**	**24.98**	**322**	P	**P**	**03 11 26.3**	**+0.5**
EKA				pmax	pmax		
	comp=Z,21nm,0.8s						
EVO	**Evora**	**25.05**	**281**	*e*P	**P**	**03 11 25.6**	**-1.0**
	comp=Z,38nm,1.4s,mb4.4						
TATS	**Tathlith**	**25.19**	**132**	P	**P**	**03 11 32.6**	**+4.5**
KAMS	**Al Khamasin**	**25.25**	**129**	P	**P**	**03 11 35.9**	**+7.2**
DJNS	**Zahran al Janu**	**26.68**	**135**	P	**P**	**03 11 47.9**	**+5.9**
ARU	**Arti**	**29.16**	**40**	⇑*i*P	**P**	**03 12 03.9**	**-0.1**
ARU				*e*		03 12 55.2	
ARU				*e*PPP	PPP	03 13 07.7	-4.1
ARU				*i*		03 15 10.0	
ARU				*e*S	**S**	**03 16 57.3**	**+3.5**
ARU				*e*SS	SS	03 18 21.4	-2.8
ARU				*e*		03 22 41.1	
ARU				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.3						
ARU				MLR	MLR		
	comp=Z,60nm,13.0s,MS3.4						
ARU				MLR	MLR		
	comp=E,60nm,14.0s						
ARU	**Arti**	**29.16**	**40**	*e*P	**P**	**03 12 02.8**	**-1.3**
	comp=E,6.6nm,0.9s,mb4.4						
SVE	**Sverdlovsk**	**30.37**	**40**	⇑*e*P	**P**	**03 12 15.0**	**+0.2**
ARCES	**ARCESS Array B**	**31.31**	**1**	P	**P**	**03 12 22.4**	**-0.6**
	comp=E,1.1nm,0.6s,mb3.8,baz=135,slow=6.9,SNR=10						
ARCES				LR	LR	03 25 09.0	
	comp=E,100nm,20.4s,MS3.5,baz=94,slow=37						
ARCES	**ARCESS Array B**	**31.31**	**1**	P	**P**	**03 12 22.4**	**-0.6**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ARCES				MLR	MLR		
	comp=Z,100nm,20.4s						
ZRNK	**Zerenda**	**34.09**	**50**	*e*P	**P**	**03 12 47.2**	**-0.1**
	comp=Z,4.8nm,1.2s,mb4.3						
BRVK	**Borovoye**	**34.87**	**50**	*e*P	**P**	**03 12 54.6**	**+0.5**
BVAR	**Borovoye Array**	**34.92**	**50**	P	**P**	**03 12 55.0**	**+0.4**
	comp=Z,0.4nm,0.7s,mb3.5,baz=309,slow=9.5,SNR=3.6						
AAK	**Ala-Archa**	**38.17**	**67**	*e*P	**P**	**03 13 23.8**	**+1.7**
AAK				pmax	pmax		
	comp=Z,10.0nm,2.2s,mb4.2						
AAK				MLR	MLR		
	comp=Z,100nm,18.0s,MS3.7						
MBAR	**Mbarara**	**39.20**	**169**	P	**P**	**03 13 30.2**	**-0.7**
	comp=Z,4.1nm,1.1s,mb4.1						
KURK	**Kurchatov**	**39.98**	**54**	*e*P	**P**	**03 13 37.7**	**+0.7**
KURK	**Kurchatov**	**39.98**	**54**	*e*P	**P**	**03 13 37.4**	**+0.4**
	comp=Z,3.9nm,1.1s,mb4.0						
DBIC	**Dimbokro**	**40.93**	**227**	P	**P**	**03 13 45.8**	**+0.5**
	comp=Z,10nm,0.7s,mb4.6,baz=20,slow=9.4,SNR=23						
DBIC	**Dimbokro**	**40.93**	**227**	P	**P**	**03 13 45.8**	**+0.6**
DBIC				pmax	pmax		
	comp=Z,11nm,0.7s						
TIC	**Toumodi**	**41.05**	**227**	*e*P	**P**	**03 13 46.4**	**+0.2**
	comp=Z,38nm,0.7s,mb5.1						
KIC	**Kosan Boka**	**41.12**	**227**	*e*P	**P**	**03 13 47.2**	**+0.5**
	comp=Z,86nm,1.0s,mb5.3						
LIC	**Lamto**	**41.39**	**227**	*e*P	**P**	**03 13 48.8**	**-0.2**
	comp=Z,14nm,0.5s,mb4.6						
LIC	**Lamto**	**41.39**	**227**	*e*P	**P**	**03 13 49.3**	**+0.3**
	comp=Z,62nm,0.8s,mb5.3						
NVS	**Novosibirsk**	**42.57**	**47**	*i* P	**P**	**03 13 58.6**	**+0.5**
NVS				pmax	pmax		
	comp=Z,13nm,1.9s,mb4.3						
NVS				pmax	pmax		
	comp=N,6.0nm,1.0s						
NVS				pmax	pmax		
	comp=E,6.0nm,1.0s						
MKAR	**Makanchi Array**	**42.87**	**59**	P	**P**	**03 14 01.1**	**+0.3**
	comp=E,3.3nm,0.4s,mb4.4,baz=271,slow=8.0,SNR=29						
MKAR				LR	LR	03 33 07.2	
	comp=E,70nm,21.1s,MS3.5,baz=101,slow=38						
MKAR	**Makanchi Array**	**42.87**	**59**	P	**P**	**03 14 01.1**	**+0.3**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.4s						
MKAR				MLR	MLR		
	comp=Z,70nm,21.1s						
ZAL	**Zalesovo**	**43.53**	**49**	P	**P**	**03 14 06.6**	**+0.6**
	comp=Z,1.8nm,0.4s,mb4.1,baz=122,slow=6.1,SNR=8.0						
ZAL	**Zalesovo**	**43.53**	**49**	P	**P**	**03 14 06.6**	**+0.6**
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ZAL	**Zalesovo**	**43.53**	**49**	P	**P**	**03 14 06.6**	**+0.6**
WMQ	**Urumqi**	**47.27**	**62**	*e*P	**P**	**03 14 38.3**	**+2.3**
WMQ				AP	pP	03 14 48.3	+6.4
WMQ				XP	sP	03 14 52.3	+8.1
WMQ				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.5						
WMQ				LR	LR		
	comp=E,75nm,18.0s						
WMQ				LR	LR		
	comp=Z,63nm,18.0s,MS3.6						
GTA	**Gaotai**	**57.32**	**63**	*e*P	**P**	**03 15 49.0**	**-2.2**
GTA				AP	pP	03 15 59.5	+2.3
GTA				XP	sP	03 16 03.3	+3.9
GTA				PP	PP	03 17 59.0	-1.0
GTA				S	**S**	**03 23 39.8**	**-4.7**
GTA				AMB	AMB		
	comp=Z,38nm,4.9s						
GTA				LR	LR		
	comp=N,66nm,20.5s,MS3.9						
GTA				LR	LR		
	comp=E,62nm,20.5s,MS3.9						
GTA				LR	LR		
	comp=Z,64nm,16.7s,MS3.8						
TSUM	**Tsumeb**	**57.52**	**187**	LR	LR	03 45 28.5	
	comp=Z,85nm,18.7s,MS3.9,baz=352,slow=41						
SONM	**Songino Array**	**58.23**	**52**	P	**P**	**03 15 57.0**	**-0.4**
	comp=Z,1.2nm,0.8s,mb4.0,baz=292,slow=8.7,SNR=6.2						
BOD	**Bodaibo**	**58.56**	**39**	*e*P	**P**	**03 15 58.1**	**-1.5**
SCHQ	**Schefferville**	**60.23**	**318**	P	**P**	**03 16 10.3**	**-0.8**
	comp=Z,4.2nm,0.8s,mb4.5,baz=171,slow=5.5,SNR=5.3						
LZH	**Lanzhou**	**61.66**	**65**	*e*P	**P**	**03 16 22.3**	**+1.1**
LZH				AP	pP	03 16 32.8	+5.6
LZH				XP	sP	03 16 39.5	+10
LZH				PP	PP	03 18 39.5	+0.3
LZH				AMB	AMB		
	comp=Z,22nm,1.5s,mb5.1						
LZH				LR	LR		
	comp=N,263nm,15.1s						
LZH				LR	LR		
	comp=Z,295nm,17.9s,MS4.5						
LZH	**Lanzhou**	**61.66**	**65**	*e*P	**P**	**03 16 22.3**	**+1.1**
	comp=Z,22nm,1.5s,mb5.1						
LZH				pP	pP	03 16 32.8	+5.6
LZH				sP	sP	03 16 39.5	+10
LZH				PP	PP	03 18 39.6	+0.4
LZH				LR	LR		
	comp=Z,290nm,17.9s,MS4.5						
HHC	**Hu-ho-hao-te**	**64.67**	**57**	*e*P	**P**	**03 16 38.0**	**-2.9**
HHC				PP	PP	03 19 02.5	-2.7
HHC				S	**S**	**03 25 12.5**	**-5.8**
HHC				AMB	AMB		
	comp=Z,88nm,3.8s						
ENH	**Enshi**	**68.68**	**68**	*e*P	**P**	**03 17 05.5**	**-1.0**
	comp=Z,13nm,1.0s,mb4.8						
CN2	**Changchun**	**71.76**	**48**	*e*P	**P**	**03 17 25.0**	**0.0**
MDJ	**Mudanjiang**	**73.66**	**46**	P	**P**	**03 17 34.8**	**-1.3**
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,36nm,4.8s						
NJ2	**Nanjing**	**74.35**	**61**	*e*P	**P**	**03 17 39.0**	**-1.4**
NJ2				AP	pP	03 17 49.3	+2.8
NJ2				XP	sP	03 17 54.0	+5.4
NJ2				PPP	PPP	03 22 11.0	-2.4
NJ2				S	S	03 27 08.0	-4.2
NJ2				XS		03 27 25.0	
NJ2				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.2						
SSE	**Sheshan**	**76.52**	**61**	*e*P	**P**	**03 17 50.5**	**-2.3**
SSE				AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.6						
SSE				AMB	AMB		
	comp=Z,109nm,4.9s						
ILAR	**Eielson Array**	**77.02**	**356**	P	**P**	**03 17 55.5**	**+0.7**
	comp=Z,0.7nm,0.8s,mb3.6,baz=352,slow=5.3,SNR=7.2						
ILAR	**Eielson Array**	**77.02**	**356**	P	**P**	**03 17 55.5**	**+0.7**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ULM	**Lac du Bonnet**	**77.21**	**325**	P	**P**	**03 17 55.7**	**-0.5**
	comp=Z,4.7nm,0.7s,mb4.6,baz=36,slow=7.1,SNR=3.9						
LAO	**LASA Array**	**84.39**	**328**	*e*P	**P**	**03 18 35.5**	**+1.3**
BDFB	**Brasilia**	**86.08**	**247**	P	**P**	**03 18 45.3**	**+2.0**
	comp=Z,1.9nm,0.7s,mb4.4,baz=338,slow=6.7,SNR=3.5						
BDFB				LR	LR	03 56 03.8	
	comp=Z,79nm,18.7s,MS4.1,baz=352,slow=35						
BDFB	**Brasilia**	**86.08**	**247**	P	**P**	**03 18 45.3**	**+2.0**
BDFB				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BDFB				MLR	MLR		
	comp=Z,79nm,18.7s						
HRY	**Holter Researc**	**86.60**	**331**	*e*P	**P**	**03 18 46.1**	**+1.0**
NEW	**Newport**	**87.15**	**335**	*e*P	**P**	**03 18 48.3**	**+0.5**
	comp=Z,11nm,1.2s,mb5.0						
PDAR	**Pinedale Array**	**88.97**	**328**	P	**P**	**03 18 56.9**	**+0.2**
	comp=Z,0.4nm,0.8s,mb3.8,slow=5.9,SNR=4.3						
RW3	**Ridgway**	**91.82**	**324**	*e*P	**P**	**03 19 11.5**	**+1.5**
PV01	**Paradox Valley**	**92.32**	**324**	*e*P	**P**	**03 19 13.5**	**+1.2**

PV10	Paradox Valley	92.33	325	*e*P	P	03 19 13.4	+1.1
TXAR	Lajitas Array	96.85	316	P	P	03 19 34.4	+1.1
	comp=Z,0.6nm,0.9s,mb4.0,baz=90,slow=1.3,SNR=5.0						
VNA1	Neumayer--Stat	111.11	191	⇑*i*P	Pdif	03 20 28.8	-6.9
VNA2	Neumayer--Watz	111.23	191	⇑*i*P	Pdif	03 20 34.5	-1.7
VNA3	Neumayer Olymp	111.86	191	⇑*i*P	Pdif	03 20 36.7	-2.2
WRA	Warramunga Arr	117.78	94	PKP	PKPdf	03 24 47.8	-3.9
	comp=Z,0.3nm,0.5s,baz=309,slow=1.7,SNR=5.9						
ASAR	Alice Springs	119.44	98	PKP	PKPdf	03 24 50.8	-4.0
	comp=Z,0.9nm,0.8s,baz=325,slow=1.1,SNR=8.1						

*FUNV **26** 03:09:54.5,10.99N×62.26W,h94^{km},MW2.9*

*TRN **26** 03:09:54.3,10.99N×62.24W,h101^{km},MD3.6*

ISC 26 03:09:52.7±0.7,**10.96N**±0.04×**62.30W**±0.03,**h102**^{km}±7^{km},**n18,**σ**0ˢ94**/32,**3C-2D,Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUIV	Guiria	0.32	167	⇑*e*P	P	03 10 08.4	+0.6
GUIV				*e*S	S	03 10 18.6	-0.6
ITEV	Isla Los Testi	0.91	296	⇓*i*P	P	03 10 13.0	+0.3
ITEV				*e*S	S	03 10 27.1	-0.5
TRN	Trinidad (W)	0.93	110	⇑*i*P	P	03 10 13.8	+0.9
TRN				*e*S	S	03 10 26.8	-1.2
CRUV	Carupano	0.97	253	*e*P	P	03 10 14.2	+1.0
CRUV				*e*S	S	03 10 28.1	-0.6
GUNV	Guanoco	1.02	219	*e*P	P	03 10 15.4	+1.6
GUNV				*e*S	S	03 10 30.4	+0.7
TPP	Pointe-a-Pierr	1.05	128	*e*P	P	03 10 15.9	+1.7
TPP				*e*S	S	03 10 31.4	+1.1
TBH	Brigand Hill	1.30	111	*e*P	P	03 10 17.2	+0.1
TBH				*e*S	S	03 10 35.0	-0.5
GRW	Mount Saint Ca	1.34	28	*e*P	P	03 10 18.4	+0.8
GRW				*e*S	S	03 10 35.4	-0.9
TPR	Prospect	1.51	81	⇑*i*P	P	03 10 20.1	+0.5
TPR				*e*S	S	03 10 38.5	-1.2
BOT	Bacolet	1.56	82	*e*P	P	03 10 20.6	+0.2
BOT				*e*S	S	03 10 40.6	-0.3
SVB	Belmont	2.51	24	*e*P	P	03 10 36.5	+3.6
SVB				*e*S	S	03 11 03.1	+0.2
SVV	Soufriere Volc	2.57	24	*e*P	P	03 10 37.8	+4.1
GURV	El Guri	3.28	194	*e*P	P	03 10 42.9	-0.4
GURV				*e*S	S	03 11 19.7	-1.9
CUPV	Cœpira	3.55	256	*e*P	P	03 10 47.9	+0.8
FDF	Fort de France	3.91	16	⇓*i*P	P	03 10 51.1	-0.9
CAOV	Caicara del Or	5.37	228	*e*P	P	03 11 11.8	-0.1
CAOV				*e*S	S	03 12 07.4	-5.6
TURV	Turiamo	5.47	265	*e*P	P	03 11 12.4	-0.8
BAUV	El Baul	6.00	251	*e*P	P	03 11 19.0	-1.4
BAUV				*e*S	S	03 12 22.7	-5.8

IGQ 26 03:13:12.8,2.67S×78.35W,h12^{km}±4^{km},mb4.0,8C-3D, Error ellipse: s-maj=11.3km s-min=3.8km az=174.5, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARRY	Arrayan	1.16	355	⇓P	Pb	03 13 34.3	0.0
ARRY				S	Sb	03 13 49.8	+0.7
PATA	Patacocha	1.16	356	⇑P	Pb	03 13 34.8	+0.5
IGUA	Igualata	1.21	346	⇓P	Pb	03 13 37.4	+2.3
ULBA	Ulba	1.21	357	⇑P	Pb	03 13 35.6	+0.3
ULBA				S	Sb	03 13 51.8	+1.2
RETU	Refugio	1.21	355	P	Pb	03 13 35.9	+0.7
CUSU	Cusua	1.22	354	P	Pb	03 13 36.0	+0.5
JUIV	Juive	1.24	355	P	Pb	03 13 36.5	+0.7
PISA	Pisayambo	1.60	359	⇓P	Pn	03 13 42.4	+1.2
PISA				S	Sn	03 14 04.7	+2.9
MARY	Rancho Maria	1.93	356	P	Pn	03 13 48.4	+2.5
TAMB	Tambo	1.96	359	⇑P	Pn	03 13 48.0	+1.6
TAMB				S	Sn	03 14 15.6	+4.6
VC1	Cotopaxi 1	2.01	358	⇑P	Pn	03 13 49.3	+2.2
VC1				S	Sn	03 14 17.5	+5.2
NAS1	Nasa	2.02	356	⇑P	Pn	03 13 49.9	+2.7
NAS1				S	Sn	03 14 19.6	+7.0
ANTI	Antisana	2.21	5	⇑P	Pn	03 13 50.9	+1.0
ANTI				S	Sn	03 14 19.2	+1.9
JUA2	San Juan 2	2.45	354	P	Pn	03 13 57.9	+4.6
CGGP	Crater GGP	2.49	354	P	Pn	03 13 58.1	+4.2
GGP	Refugio Guagua	2.49	354	P	Pn	03 13 58.6	+4.7
PINO	Pino	2.51	354	P	Pn	03 13 58.5	+4.4
EPALM	Reventador vol	2.51	14	P	Pn	03 13 55.5	+1.3
YANA	Yana	2.54	355	P	Pn	03 13 58.8	+4.2
YANA				S	Sn	03 14 33.5	+7.7
JOR1	San Jorge 1	2.67	354	P	Pn	03 13 57.8	+1.4
CONE	Cono NE Rev Vo	2.67	15	P	Pn	03 13 58.1	+1.5
CONE				S	Sn	03 14 32.2	+3.0
CAYR	Refugio Cayamb	2.69	7	⇑P	Pn	03 13 59.3	+2.6
CAYR				S	Sn	03 14 34.5	+5.0
CAYA	Cayambe	2.74	7	⇑P	Pn	03 14 00.1	+2.6
CAYA				S	Sn	03 14 37.1	+6.2

IDC 26 03:15:16.4±48.0,**16.51S×176.64W,mb3.9**/3,**mb1 4.0**/3, **mb1mx3.8**/11,**Error ellipse: s-maj=903.0km s-min=168.5km az=78.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	Stephens Creek	40.78	240	P	P	03 23 00.3	-0.8
	2.2nm,0.7s,baz=90,slow=4.0,SNR=3.2						
WRA	Warramunga Arr	46.56	258	P	P	03 23 46.0	-2.0
	0.3nm,0.8s,baz=96,slow=7.6,SNR=13						
ASAR	Alice Springs	46.80	253	P	P	03 23 47.7	-2.2
	2.3nm,0.6s,baz=85,slow=8.1,SNR=69						

*NEIC **26** 03:23:01.8,62.66N×143.40W,h1^{km},ML3.3(AEIC),After AEIC.*

PGC 26 03:23:02.8,62.67N×143.35W,h5^{km}**,ML3.7**/3**,Eastern Alaska.,Central Alaska**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TMW	Tok Microwave	0.67	14	P	Pg	03 23 15.5	-0.8
TMW				S	Sg	03 23 24.6	-0.6
BCA3	Beaver Creek A	0.82	61	P	Pb	03 23 17.9	-1.2
BCA3				S	Sg	03 23 28.7	-1.4
PAX	Paxson	1.02	288	P	Pb	03 23 19.8	-2.7
PAX				S	Sb	03 23 33.2	-2.8
SDG	Sourdough	1.02	263	P	Pb	03 23 20.4	-2.2
DOT	Dot Lake	1.03	342	P	Pb	03 23 21.4	-1.3
DOT				S	Sb	03 23 37.8	+1.4
TZL	Tazlina	1.16	238	P	Pb	03 23 23.3	-1.5
GLB	Gilahina Butte	1.26	190	P	Pb	03 23 24.7	-1.8
THY	Trims Highway	1.32	305	*e*P	Pb	03 23 23.3	-4.4
KLU	Klutina	1.69	227	P	Pn	03 23 31.7	-1.5
BALM	Baldy	1.71	163	P	Pn	03 23 32.6	-0.8
BMRM	Bremner River	1.81	200	P	Pn	03 23 33.7	-1.2
BMRM				S	Sn	03 23 57.2	-1.4
DHY	Denali Highway	1.89	284	P	Pn	03 23 35.1	-0.9
DHY				S	Sn	03 23 59.2	-1.2
DIV	Divide	1.93	218	P	Pn	03 23 34.9	-1.7
DIV				S	Sn	03 24 00.1	-1.4
TGL	Tana Glacier	1.94	172	P	Pn	03 23 36.1	-0.7
CTGM	Chitina Glacie	1.96	150	P	Pn	03 23 37.7	+0.6
SCM	Sheep Creek Mo	2.04	247	P	Pn	03 23 37.1	-1.1
VLZ	Valdez	2.10	224	P	Pn	03 23 37.1	-1.8
JPK	Jack Peak	2.24	225	P	Pn	03 23 39.4	-1.6
DAWY	Dawson	2.27	50	Pn	Pn	03 23 39.7	-1.7
DAWY				Pg	Pg	03 23 43.9	-4.1
DAWY				Sg	Sg	03 24 13.4	-4.8
DAWY				Trac		03 24 14.8	
	comp=Z,194nm,0.2s						
DAWY	Dawson	2.27	50	P	Pn	03 23 39.6	-1.8
DAWY				S	Sn	03 24 10.8	+0.8
HDA	Harding Lake	2.37	319	P	Pn	03 23 41.0	-1.9
EYAK	Cordova Ski Ar	2.42	209	P	Pn	03 23 43.7	+0.1
CVA	Cordova	2.42	209	P	Pn	03 23 43.8	+0.1
FID	Port Fidalgo	2.44	219	P	Pn	03 23 44.2	+0.3
YAH	Yahtse	2.44	161	P	Pn	03 23 44.7	+0.7
SML	Sawmill	2.49	252	P	Pn	03 23 43.7	-0.9
CFI	College Fiord	2.57	236	P	Pn	03 23 45.2	-0.6
IL1	Eielson Array	2.63	325	P	Pn	03 23 44.0	-2.6
KNK	Knik Glacier	2.72	245	P	Pn	03 23 48.3	+0.4
MCK	McKinley	2.74	295	P	Pn	03 23 48.7	+0.4
GHO	Glory Hole Cre	2.76	253	P	Pn	03 23 48.1	-0.4
PMR	Palmer	2.92	251	P	Pn	03 23 49.9	-1.0
COLA	College	2.98	320	P	Pn	03 23 48.7	-2.8
PRP	Porcupine Dome	3.01	343	P	Pn	03 23 50.6	-1.5
TRF	Thorofare Moun	3.25	287	P	Pn	03 23 55.5	0.0
HYT	Haines Junctio	3.34	121	Pn	Pn	03 23 52.5	-4.2
HYT				Pg	Pg	03 24 01.6	-7.9
HYT				Sg	Sg	03 24 47.4	-6.7
HYT				Trac		03 24 53.6	
	comp=Z,68nm,0.4s						
KTH	Kantishna Hill	3.55	288	P	Pn	03 23 59.6	-0.1
SLKM	Skilak Lake	3.94	240	*e*P	Pn	03 24 01.9	-3.3
SPU	Mount Spurr	4.38	254	P	Pn	03 24 09.1	-2.4
WHY	Whitehorse	4.51	113	Pn	Pn	03 24 11.5	-1.9
WHY				Pg	Pg	03 24 24.4	-8.4
WHY				Sg	Sg	03 25 22.6	-10
WHY				Trac		03 25 37.1	
	comp=Z,51nm,0.5s						
WHY	Whitehorse	4.51	113	P	Pn	03 24 11.2	-2.2
BM3	Burnt Mountain	4.79	354	P	Pn	03 24 15.1	-2.3
COLD	Coldfoot	5.42	331	P	Pn	03 24 24.0	-2.2
IM3	Indian Mountai	5.61	311	P	Pn	03 24 25.8	-3.1
TT01	Tatalina	5.82	278	P	Pn	03 24 29.9	-1.9
INK	Inuvik	6.97	32	Pn	Pn	03 24 43.5	-4.6
INK				Sn	Sn	03 25 57.8	-11
INK				Sg	Sg	03 26 39.3	-16
INK				Trac		03 26 56.3	
	comp=Z,16nm,0.7s						
DLBC	Dease Lake	7.81	117	Pn	Pn	03 24 57.6	-2.2
DLBC				Sg	Sg	03 27 06.7	-16
DLBC				Trac		03 27 20.4	
	comp=Z,13nm,0.6s						

*NEIC **26** 03:32:33.2±0.6,20.03S×177.88W,h500^{km},mb4.1/9, Error ellipse: s-maj=17.6km s-min=12.2km az=199.0*

*IDC **26** 03:32:36.0±3.2,20.12S×177.95W,h523^{km}±31^{km},mb3.5/4, mb1 3.7/4,mb1mx3.3/12,Error ellipse: s-maj=84.8km s-min=20.0km az=155.0*

ISC 26 03:32:33.5±3.7,**20.4S**±0.5×**178.1W**±0.2,**h489**^{km}±44^{km}, **n28,**σ**0ˢ72**/19,**mb4.1**/10,**4C-2D,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	Charters Tower	33.39	264	*e*P	P	03 38 32.8	+1.0
	4.8nm,0.4s,mb4.3						
CTA	Charters Tower	33.39	264	P	P	03 38 32.9	+1.2
	10.0nm,0.7s,mb4.4,baz=98,slow=10.0,SNR=18						
CTAO	Charters Tower	33.39	264	*e*P	P	03 38 32.6	+0.9
	6.1nm,0.4s,mb4.4						
STKA	Stephens Creek	37.73	244	*e*P	P	03 39 09.1	+1.4
	2.4nm,0.9s,mb3.6						
STKA	Stephens Creek	37.73	244	P	P	03 39 09.1	+1.5
	2.7nm,0.7s,mb3.8,baz=88,slow=8.7,SNR=5.6						
ASAR	Alice Springs	44.43	257	P	P	03 40 02.0	+0.5
	6.9nm,0.6s,mb4.2,baz=100,slow=7.7,SNR=35						
ASAR				PcP	PcP	03 41 33.6	-1.7
	1.5nm,0.5s,baz=106,slow=4.1,SNR=10						
ASAR				S	S	03 46 00.7	+0.3
	0.4nm,0.7s,baz=89,slow=15,SNR=6.8						
ASPA	Alice Springs	44.43	257	*e*P	P	03 40 01.7	+0.1
WB2	Warramunga Arr	44.49	262	*e*P	P	03 40 01.4	-0.7
WRAB	Tennant Creek	44.49	262	*e*P	P	03 40 01.7	-0.4
	4.7nm,0.7s,mb4.0						
WRA	Warramunga Arr	44.50	262	P	P	03 40 01.7	-0.5
	2.4nm,0.6s,mb3.8,baz=98,slow=8.3,SNR=52						
WRA				PcP	PcP	03 41 34.0	-1.7
	0.4nm,0.6s,baz=98,slow=3.5,SNR=5.6						
FORT	Forrest	49.23	247	*e*P	P	03 40 37.4	-0.7
	37nm,0.6s,mb4.9						
FITZ	Fitzroy Crossi	52.93	262	*e*P	P	03 41 04.8	-0.6
	1.6nm,0.5s,mb3.6						
SBA	Scott Base	57.95	184	*e*P	P	03 41 39.7	+0.1
	5.6nm,1.0s,mb3.9						
CASY	Casey	63.99	205	*e*P	P	03 42 18.4	-1.0
	2.9nm,0.5s,mb4.1						
QSPA	South Pole Qui	69.65	180	*e*P	P	03 42 53.1	-0.9
	4.2nm,0.7s,mb4.1						
VNA3	Neumayer Olymp	88.23	176	⇓*i*	P	03 44 32.3	+0.1
VNA2	Neumayer--Watz	88.67	177	⇑*i*	P	03 44 34.9	+0.6
VNA1	Neumayer--Stat	88.90	177	⇑*i*	P	03 44 36.2	+0.9
MKAR	Makanchi Array	111.06	313	PKiKP		03 50 08.4	
	0.6nm,0.6s,slow=1.2,SNR=5.2						
ARCES	ARCESS Array B	128.82	350	PKP	PKPdf	03 50 41.5	-2.6
	2.8nm,1.1s,baz=297,slow=2.7,SNR=6.2						
AKASG	Malin Array Be	142.89	331	PKhKP		03 51 05.7	
	1.7nm,0.4s,baz=41,slow=4.4,SNR=15						
BRTR	Keskin Array B	146.70	312	PKPbc	PKPbc	03 51 19.1	0.0
	1.5nm,0.6s,baz=144,slow=5.0,SNR=6.8						
CLL	Collm	147.96	347	⇓*i*PKP1	PKPdf	03 51 21.5	+2.8
BRG	Berggiesshubel	148.15	345	*e*P	PKPdf	03 51 21.8	+2.8
PRU	Pruhonice	148.82	344	⇑*e*PKPB	PKPdf	03 51 24.3	+4.2
KHC	Kasperske Hory	149.86	345	⇑*e*PKPB	PKPdf	03 51 27.0	+5.2
KHC	Kasperske Hory	149.86	345	*e*P	PKPdf	03 51 27.0	+5.2
GERES	GERESS Array B	150.09	344	PKPbc	PKPdf	03 51 26.8	+4.6
	1.0nm,0.8s,baz=45,slow=1.9,SNR=11						

*NNC **26** 03:51:55.7±1.1,44.07N×85.15E,mpv2.5,Error ellipse: s-maj=21.6km s-min=9.9km az=54.0*

BJI 26 03:52:02.9,44.18N×84.69E,h15^{km}**,ML2.9,2C-1D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WMQ	Urumqi	2.20	98	*e*P	Pn	03 52 38.8	-0.7
WMQ				SG	Sg	03 53 09.0	-7.2
WMQ				Smax			
	comp=N,43nm,0.3s						
WMQ				Smax			
	comp=E,36nm,0.3s						
MK31	Makanchi Array	3.11	328	⇓Pn	Pn	03 52 52.6	+0.1
	comp=E,0.2nm,0.3s,baz=144,slow=14,SNR=90						
MK31				⇑Pg	Pg	03 52 57.6	-7.5
	comp=E,2.2nm,0.5s,baz=143,slow=15,SNR=36						
MK31				⇑Lg		03 53 42.1	
	comp=E,3.6nm,0.3s,baz=141,slow=29,SNR=12						

*IDC **26** 04:00:09.8±1.1,16.02S×167.45E,mb4.4/9,mb1 4.5/9, mb1mx4.4/17,MS3.9/7,Ms1 3.9/7,ms1mx3.8/15,Error ellipse: s-maj=25.8km s-min=24.9km az=153.0*

*LDG **26** 04:00:11.9±0.2,16.05S×167.17E,h10^{km},Mb4.2/2,Error ellipse: s-maj=28.3km s-min=5.4km az=88.0*

*NEIC **26** 04:00:11.4±0.2,16.11S×167.48E,h10^{km},mb4.7/7,Error ellipse: s-maj=9.9km s-min=7.3km az=116.0*

*BJI **26** 04:00:12.5,15.59S×168.07E,h8^{km},mB5.2,mb4.6*

ISC 26 04:00:10.3±0.7,**16.16S**±0.09×**167.33E**±0.08,**h10**^{km}**,n53,** σ**0ˢ90**/28,**mb4.5**/12,**MS3.9**/7,**2C-2D,Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BKM	Butte a Klehm	1.73	150	⇑*i*P	Pn	04 00 40.8	0.0
DZM	Mont Dzumac	5.94	188	*e*P	Pn	04 01 38.7	-1.9
DZM				*e*S	Sn	04 02 42.8	-6.7
DZM	Mont Dzumac	5.94	188	*e*P	Pn	04 01 38.7	-1.9
DZM				*e*S	Sn	04 02 42.8	-6.7
ARMA	Armidale	20.20	223	*e*P	P	04 04 49.2	+1.0
CTA	Charters Tower	20.41	256	⇓*i*P	P	04 04 51.6	+1.2
	16nm,0.9s						
CTA	Charters Tower	20.41	256	P	P	04 04 51.8	+1.4
	19nm,0.8s,baz=74,slow=12,SNR=24						
CTAO	Charters Tower	20.41	256	*e*P	P	04 04 51.8	+1.4
	20nm,0.8s						
URZ	Urewera	23.64	161	P	P	04 05 24.0	+1.4
	21nm,0.9s,mb4.6,baz=45,slow=8.1,SNR=7.5						
URZ				LR	LR	04 13 46.7	
	comp=Z,302nm,18.1s,MS3.8,baz=63,slow=34						
RPZ	Rata Peaks	27.65	174	P	P	04 06 00.1	-0.2
	7.5nm,0.8s,mb4.4,baz=116,slow=11,SNR=4.3						
STKA	Stephens Creek	28.14	232	*e*P	P	04 06 05.1	+0.3
	7.5nm,0.9s,mb4.3						
STKA	Stephens Creek	28.14	232	P	P	04 06 05.2	+0.4
	6.2nm,1.0s,mb4.2,baz=52,slow=6.4,SNR=4.7						
STKA				LR	LR	04 17 20.4	
	comp=Z,218nm,19.1s,MS3.8,baz=23,slow=36						
WRA	Warramunga Arr	31.57	258	P	P	04 06 34.9	-0.6
	1.4nm,0.8s,mb3.8,baz=89,slow=9.1,SNR=4.0						
ASAR	Alice Springs	32.25	251	P	P	04 06 40.9	-0.5
	15nm,0.9s,mb4.8,baz=78,slow=8.8,SNR=84						
ASAR				LR	LR	04 20 02.3	
	comp=Z,159nm,18.1s,MS3.8,baz=70,slow=37						
ASPA	Alice Springs	32.25	251	⇑*i*P	P	04 06 41.1	-0.3
FITZ	Fitzroy Crossi	39.83	261	*e*P	P	04 07 45.7	-0.1
	6.2nm,1.1s,mb4.2						
FITZ	Fitzroy Crossi	39.83	261	P	P	04 07 45.9	+0.1
	8.6nm,1.0s,mb4.4,baz=147,slow=5.9,SNR=6.6						
FITZ				LR	LR	04 22 59.5	
	comp=Z,74nm,21.4s,MS3.5,baz=82,slow=34						
TBI	Tubuai	41.17	107	*e*S	S	04 14 11.8	+2.0
TBI				*e*R		04 19 22.8	
	149nm,27.0s						
PPT	Papeete	41.20	98	*e*S	S	04 14 09.5	-0.8
PPT				*e*L		04 17 45.2	
PPT				*e*R		04 19 29.3	
	195nm,28.8s						
SBA	Scott Base	61.71	180	*e*P	P	04 10 31.3	+0.5
	30nm,1.1s,mb5.3						
SBA				*e*		04 10 37.1	
CASY	Casey	62.23	202	*e*P	P	04 10 33.3	-1.1
QSPA	South Pole Qui	73.88	180	*e*P	P	04 11 47.1	+0.4
	31nm,1.1s,mb5.2						
KMI	Kunming	75.11	302	*e*P	P	04 12 01.8	+6.9
KMI				AMB	AMB		
	comp=Z,11nm,1.2s,mb4.7						
CMAR	Chiang Mai Arr	75.59	294	LR	LR	04 47 24.8	
	comp=Z,70nm,18.0s,MS4.0,baz=317,slow=38						
SONM	Songino Array	83.68	324	P	P	04 12 40.8	+0.1
	comp=Z,0.8nm,0.8s,mb3.9,baz=158,slow=7.8,SNR=2.5						
SHL	Shillong	84.30	299	⇓*i*P	P	04 12 45.0	+0.7
ILAR	Eielson Array	87.86	18	P	P	04 12 59.5	-1.4
	comp=Z,0.9nm,0.9s,mb4.0,baz=238,slow=5.7,SNR=5.7						
SNAA	Sanae	92.13	183	P	P	04 13 20.1	-0.6
	comp=Z,10.0nm,1.3s,mb5.0						
PDAR	Pinedale Array	95.87	47	LR	LR	04 52 38.8	
	comp=Z,119nm,18.8s,MS4.4,baz=39,slow=33						
MKAR	Makanchi Array	98.28	316	LR	LR	04 58 35.1	
	comp=Z,53nm,18.7s,MS4.1,baz=212,slow=36						
ARCES	ARCESS Array B	121.64	345	PKP	PKPdf	04 19 04.4	-2.8
	comp=Z,0.9nm,0.7s,baz=72,slow=3.8,SNR=7.9						
BRTR	Keskin Array B	133.48	310	PKP	PKPdf	04 19 29.3	-1.1
	comp=Z,0.5nm,1.0s,baz=45,slow=6.1,SNR=3.2						
GERES	GERESS Array B	140.94	332	PKP	PKPdf	04 19 41.7	-2.2
	comp=Z,0.9nm,0.9s,baz=56,slow=4.8,SNR=5.2						
CDF	Champ du Feu	143.91	337	*e*PKIKP	PKPdf	04 19 46.9	-2.1
HAU	Haudompre	144.59	338	*e*PKIKP	PKPdf	04 19 48.5	-1.7
	comp=Z,6.0nm,0.7s						
CABF	La Chapelle	145.86	337	*e*PKIKP	PKPdf	04 19 50.8	-1.6
LOR	Lormes	146.09	340	*e*PKIKP	PKPdf	04 19 50.6	-2.2
	comp=Z,17nm,1.1s						
SSF	Saint Saulge	146.39	340	*e*PKIKP	PKPdf	04 19 51.5	-1.8
	comp=Z,17nm,1.0s						
GRR	Gorron	146.43	346	*e*PKIKP	PKPdf	04 19 52.4	-1.0
	comp=Z,15nm,0.8s						
LPL	La Plagne	146.51	335	*e*PKIKP	PKPdf	04 19 51.6	-2.0
	comp=Z,29nm,1.4s						
LPG	La Plagne	146.52	335	*e*PKIKP	PKPdf	04 19 51.8	-1.8
	comp=Z,14nm,1.2s						
SMF	Signal de Mont	146.64	339	*e*PKIKP	PKPdf	04 19 52.6	-1.2
AVF	Avril sur Loir	146.68	340	*e*PKIKP	PKPdf	04 19 52.4	-1.4
BGF	Bois d'Agland	147.05	340	*e*PKIKP	PKPdf	04 19 52.9	-1.6
	comp=Z,32nm,1.1s						
MBDF	Montbardon	147.14	334	*e*PKIKP	PKPdf	04 19 53.1	-1.6
	comp=Z,12nm,1.1s						
ORIF	Oris-en-Rattie	147.35	335	*e*PKIKP	PKPdf	04 19 53.0	-2.0
TCF	Toulx Ste Croi	147.50	341	*e*PKIKP	PKPdf	04 19 54.3	-0.9
	comp=Z,12nm,0.9s						
SBF	Sospel	147.54	332	*e*PKIKP	PKPdf	04 19 53.2	-2.1
	comp=Z,73nm,1.2s						
PGF	Pioggiola	147.81	329	*e*PKIKP	PKPdf	04 19 53.9	-1.9
MFF	Saint Martin d	147.91	344	*e*PKIKP	PKPdf	04 19 54.5	-1.3
	comp=Z,22nm,0.9s						
SMRF	Simiane la Rot	148.25	335	*e*PKIKP	PKPdf	04 19 53.7	-2.8
RJF	Les Rejaudoux	148.59	341	*e*PKIKP	PKPdf	04 19 55.3	-1.7
CAF	Calviac	148.75	340	*e*PKIKP	PKPdf	04 19 55.3	-1.9
	comp=Z,27nm,1.5s						
LFF	La Frestale	149.16	341	*e*PKIKP	PKPdf	04 19 56.3	-1.6

IDC 26 04:06:54.2±1.5,**3.65N×127.38E,h44**^{km}±10^{km},**mb3.4**/3, **mb1 3.5**/3,**mb1mx3.3**/15,**Error ellipse: s-maj=111.0km s-min=16.8km az=67.0,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	24.42	164	P	P	04 12 09.3	-0.8
	1.1nm,0.8s,baz=343,slow=10,SNR=14						
WRA				pP		04 12 19.8	
	1.2nm,0.6s,baz=344,slow=9.9,SNR=8.7						
ASAR	Alice Springs	27.88	167	P	P	04 12 40.3	-2.1
	0.1nm,0.5s,baz=349,slow=7.4,SNR=3.3						
ASAR				pP	pP	04 12 52.2	-1.6
	0.3nm,0.6s,baz=357,slow=8.4,SNR=3.1						
MKAR	Makanchi Array	57.99	325	P	P	04 16 42.1	-2.8
	1.4nm,0.4s,baz=113,slow=8.1,SNR=29						
MKAR				pP	pP	04 16 55.4	-2.0
	0.9nm,0.6s,baz=117,slow=8.9,SNR=5.4						

*STR **26** 04:38:14.5±0.6,42.85N×1.48W,h5^{km}±1^{km},Ml2.6,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*NEIC **26** 04:38:14.5,42.85N×1.48W,h5^{km},ML2.8(LDG), ML2.6(STR),MN2.4(MDD),After STR.*

*LDG **26** 04:38:15.0±0.3,42.85N×1.47W,h7^{km},Md2.9/3,Ml2.8/22, Error ellipse: s-maj=5.6km s-min=3.0km az=41.0*

MDD 26 04:38:15.6±0.3,**42.87N×1.42W,h7**^{km}±3^{km},**mbLg2.3**/11, **3C,Error ellipse: s-maj=2.8km s-min=2.0km az=34.0, PRXIMO AftershockPLICA,Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJPF	Ste Jean	0.28	30	*e*Pg	Pg	04 38 21.1	-0.2
SJPF				*e*Sg	Sg	04 38 23.8	-1.3
	408nm,0.4s						
EALK	Alkurruntz	0.35	349	⇑Pg	Pg	04 38 22.2	-0.6
	32nm,0.3s,SNR=18						
EALK				Lg		04 38 27.8	
	114nm,0.3s,SNR=7.9						
EALK	Alkurruntz	0.35	349	⇑Pg	Pg	04 38 22.2	-0.6
EALK				Lg		04 38 28.1	
LARF	Larrau	0.36	62	P	Pg	04 38 22.4	-0.4
LARF				S	Sg	04 38 27.5	-0.1
OSSF	Osses	0.40	17	Pg	Pg	04 38 23.0	-0.7
OSSF				Sg	Sg	04 38 29.2	+0.1
OSSF	Osses	0.40	17	P	Pg	04 38 23.0	-0.7
OSSF				S	Sg	04 38 28.3	-0.8
ORDF	Ordiarp	0.49	46	Pg	Pg	04 38 25.0	-0.5
ORDF				Sg	Sg	04 38 32.3	+0.2
ORDF	Ordiarp	0.49	46	P	Pg	04 38 25.1	-0.4
ORDF				S	Sg	04 38 31.6	-0.4
ATE	Arette	0.57	68	P	Pg	04 38 26.2	-0.8
ATE				S	Sg	04 38 34.6	0.0
FDAF	Les Forges d'A	0.63	95	Pg	Pg	04 38 27.2	-1.0
FDAF				Sg	Sg	04 38 38.0	+1.4
FDAF	Les Forges d'A	0.63	95	P	Pg	04 38 27.3	-0.9
FDAF				S	Sg	04 38 36.1	-0.5
ETSF	Etsaut	0.63	87	*e*Pg	Pg	04 38 26.7	-1.6
ETSF				*e*Sg	Sg	04 38 35.6	-1.1
ETSF				*e*Sn	Sn	04 38 37.5	-3.5
	48nm,0.2s						
REYF	Montagne du Re	0.78	75	Pg	Pg	04 38 29.9	-1.3
REYF	Montagne du Re	0.78	75	P	Pb	04 38 30.1	-0.9
REYF				S	Sb	04 38 41.2	-0.3
VIEF	Viey	1.06	89	Pg	Pg	04 38 34.7	-2.1
VIEF				Sg	Sg	04 38 51.4	+0.5
VIEF	Viey	1.06	89	P	Pb	04 38 34.8	-1.1
VIEF				S	Sb	04 38 50.1	+0.3
LABF	Labassere	1.11	80	Pg	Pg	04 38 36.0	-1.8
LABF				Sg	Sg	04 38 51.7	-0.9
LABF	Labassere	1.11	80	P	Pb	04 38 36.1	-0.6
LABF				S	Sb	04 38 51.9	+0.8
RESF	Ens	1.29	92	Pg	Pg	04 38 40.4	-1.1
RESF				Sg	Sg	04 38 58.1	-0.6
RESF	Ens	1.29	92	P	Pb	04 38 40.1	+0.3
RESF				S	Sb	04 38 56.4	-0.1
EPF	Esparros	1.30	82	*e*Pn	Pn	04 38 39.0	-1.2
EPF				*e*Pg	Pg	04 38 41.7	+0.1
EPF				*e*Sg	Sg	04 38 57.0	-1.9
	39nm,0.2s						
ESAC	San Caprasio	1.35	148	⇑Pg	Pg	04 38 40.2	-2.4
	43nm,0.3s,SNR=18						
ESAC				Lg		04 38 57.9	
	70nm,0.3s,SNR=7.6						
ELAN	Lanestosa	1.52	284	Pg	Pg	04 38 43.4	-2.6
	4.9nm,0.5s,SNR=9.7						
ELAN				Lg		04 39 05.1	
	13nm,0.3s,SNR=7.9						
MELF	Melles	1.60	89	Pg	Pg	04 38 45.3	-2.3
MELF				Sg	Sg	04 39 07.3	-1.6
MELF	Melles	1.60	89	P	Pn	04 38 46.0	+1.5
MELF				S	Sb	04 39 07.6	+2.2

ETOR	**Torete**	**2.11**	**193**	Pn	Pn	04 38 50.4	-1.4
	11nm,0.5s,SNR=13						
ETOR				Pg	Pg	04 38 54.3	-3.4
	SNR=7.9						
ETOR				Lg		04 39 22.2	
	24nm,0.4s,SNR=7.9						
ETOR	**Torete**	**2.11**	**193**	Pn	Pn	04 38 50.4	-1.4
ETOR				Pg	Pg	04 38 54.3	-3.4
ETOR				Lg		04 39 23.5	
EMIR	**Miracle**	**2.38**	**113**	Pg	Pg	04 38 59.0	-4.2
	8.9nm,0.6s,SNR=8.1						
EMIR				Lg		04 39 31.5	
	13nm,0.3s,SNR=4.0						
EPOB	**Poblet**	**2.40**	**128**	Pn	Pn	04 38 53.9	-2.0
	SNR=7.9						
EPOB				Pg	Pg	04 38 58.7	-4.8
	5.6nm,0.6s,SNR=11						
EPOB				Sn	Sn	04 39 22.0	-3.9
	1.3nm,0.1s,SNR=7.9						
EPOB				Lg		04 39 29.2	
	9.9nm,0.3s,SNR=6.5						
EPOB	**Poblet**	**2.40**	**128**	Pn	Pn	04 38 53.9	-2.0
EPOB				Pg	Pg	04 38 58.7	-4.8
EPOB				Lg		04 39 29.2	
LFF	**La Frestale**	**2.59**	**36**	*e*Pn	Pn	04 38 56.2	-2.4
LFF				*e*Sn	Sn	04 39 27.0	-3.7
LFF				*e*Sg	Sg	04 39 35.7	-6.1
	12nm,0.3s						
CARF	**Carcanieres**	**2.60**	**92**	S	Sn	04 39 38.1	+7.2
EMOS	**Mosqueruela**	**2.61**	**164**	Pg	Pg	04 39 02.3	-5.4
	4.6nm,0.4s,SNR=4.0						
EMOS				Lg		04 39 38.2	
	SNR=7.9						
MTLF	**Montolieu**	**2.70**	**79**	*e*Pn	Pn	04 38 59.0	-1.3
MTLF				*e*Sn	Sn	04 39 30.9	-2.7
	7.3nm,0.4s						
EARI	**Arriondas**	**2.81**	**280**	Pn	Pn	04 39 00.1	-1.7
	SNR=7.9						
EARI				Sn	Sn	04 39 33.9	-2.4
	SNR=7.9						
EJON	**La Jonquera**	**3.20**	**96**	Pg	Pg	04 39 13.2	-6.4
	SNR=4.0						
EJON				Lg		04 39 56.7	
	7.9nm,0.9s,SNR=4.0						
RJF	**Les Rejaudoux**	**3.22**	**40**	*e*Pn	Pn	04 39 04.7	-2.9
RJF				*e*Sn	Sn	04 39 42.2	-4.5
	9.4nm,0.2s						
CAF	**Calviac**	**3.25**	**50**	*e*Pn	Pn	04 39 05.2	-2.8
CAF				*e*Sn	Sn	04 39 43.2	-4.2
	4.3nm,0.2s						
ESDC	**Sonseca Array**	**3.73**	**212**	Pn	Pn	04 39 12.2	-2.7
	0.2nm,0.3s,baz=36,slow=13,SNR=8.4						
ESLA	**Sonseca Array**	**3.73**	**212**	*e*Pn	Pn	04 39 11.7	-3.1
MFF	**Saint Martin d**	**3.84**	**13**	*e*Pn	Pn	04 39 13.5	-2.9
MFF				*e*Pg	Pg	04 39 25.3	-6.9
MFF				*e*Sn	Sn	04 39 56.9	-5.4
MFF				*e*Sg	Sg	04 40 15.8	-7.6
	5.2nm,0.4s						
LASF	**Ste Croix**	**4.02**	**71**	*e*Pn	Pn	04 39 16.3	-2.7
LASF				*e*Sn	Sn	04 40 02.8	-4.2
	4.6nm,0.3s						
ECAL	**Calabor**	**4.05**	**258**	Pn	Pn	04 39 14.4	-4.9
	SNR=7.9						
ECAL				Lg		04 40 17.4	
	SNR=7.9						
TCF	**Toulx Ste Croi**	**4.29**	**36**	*e*Pn	Pn	04 39 18.0	-4.8
TCF				*e*Sn	Sn	04 40 06.5	-7.2
	3.4nm,0.3s						
BGF	**Bois d'Agland**	**4.78**	**38**	*e*Pn	Pn	04 39 25.3	-4.4
BGF				*e*Sn	Sn	04 40 19.0	-7.0
	7.7nm,0.4s						
VIVF	**Saint-Julien-l**	**4.83**	**64**	*e*Pn	Pn	04 39 27.2	-3.3
VIVF				*e*Sn	Sn	04 40 20.3	-7.1
	1.2nm,0.3s						
AVF	**Avril sur Loir**	**5.18**	**39**	*e*Pn	Pn	04 39 30.8	-4.6
AVF				*e*Sn	Sn	04 40 28.4	-7.9
	1.3nm,0.3s						
QUIF	**Quistinic**	**5.19**	**347**	*e*Pn	Pn	04 39 32.5	-3.1
QUIF				*e*Sn	Sn	04 40 28.6	-7.9
	0.7nm,0.3s						
HYF	**Humbligny**	**5.25**	**32**	*e*Pn	Pn	04 39 32.6	-3.8
HYF				*e*Sn	Sn	04 40 31.2	-6.8
	18nm,0.2s						
SMF	**Signal de Mont**	**5.31**	**43**	*e*Pn	Pn	04 39 33.1	-4.2
SMF				*e*Sn	Sn	04 40 32.3	-7.3
	2.7nm,0.6s						
SSF	**Saint Saulge**	**5.45**	**38**	*e*Pn	Pn	04 39 34.1	-5.2
SSF				*e*Sn	Sn	04 40 34.2	-8.9
	1.7nm,0.4s						
GRR	**Gorron**	**5.53**	**4**	*e*Pn	Pn	04 39 35.2	-5.2
GRR				*e*Sn	Sn	04 40 36.8	-8.2
	1.7nm,0.3s						
ROSF	**Rostrenen**	**5.62**	**347**	*e*Pn	Pn	04 39 38.2	-3.4
ROSF				*e*Sn	Sn	04 40 38.6	-8.6
	1.1nm,0.2s						
ORIF	**Oris-en-Rattie**	**5.66**	**66**	*e*Pn	Pn	04 39 39.6	-2.5
ORIF				*e*Sn	Sn	04 40 39.8	-8.4
	1.2nm,0.4s						
LOR	**Lormes**	**5.77**	**39**	*e*Pn	Pn	04 39 38.4	-5.3
LOR				*e*Sn	Sn	04 40 42.8	-8.2
	2.0nm,0.5s						
LDF	**La Druitiere**	**5.79**	**9**	*e*Sn	Sn	04 40 43.8	-7.8
	3.2nm,0.5s						
FLN	**La Foliniere**	**5.93**	**6**	*e*Sn	Sn	04 40 46.0	-9.0
	0.9nm,0.3s						

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*THE **26** 05:09:26.7, 39.35N×21.62E, h7^{km}, ML3.1*
*NEIC **26** 05:09:26.5, 39.35N×21.66E, h14^{km}, MD3.3(ATH), After ATH.*
*ATH **26** 05:09:26.6, 39.36N×21.67E, h8^{km}±7^{km}, MD3.2/9*
ISC 26 05:09:25.7±0.6, **39.35N**±0.03×**21.63E**±0.04, **h1**^{km}±7^{km}, **n21**, σ**1**$\overset{s}{.}$**13**/27, **Greece**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EVR	**Evrytania**	**0.45**	**162**	*e*PB	**Pb**	**05 09 35.5**	**-0.6**
MEV	**Metsovon**	**0.54**	**325**	*e*Pg	**Pg**	**05 09 36.9**	**+0.5**
AGG	**Agios Georgios**	**0.63**	**121**	*e*Pg	**Pg**	**05 09 39.3**	**+0.9**
JAN	**Janina**	**0.68**	**297**	*e*PB	**Pb**	**05 09 39.2**	**-0.7**
JAN				*e*SB	**Sb**	**05 09 49.4**	**-0.2**
KZN	**Kozani**	**0.96**	**6**	*e*PG	**Pg**	**05 09 44.1**	**-0.8**
KZN				*e*SB	**Sb**	**05 09 58.7**	**+0.8**
LKD	**Levkas**	**0.99**	**230**	*e*Pg	**Pg**	**05 09 45.2**	**-0.3**
LIT	**Litokhoron**	**1.00**	**41**	*e*Pg	**Pg**	**05 09 44.8**	**-0.9**
LIT				*e*Sg	**Sg**	**05 10 00.9**	**+1.8**
IGT	**Igoumenitsa**	**1.02**	**281**	*e*Pg	**Pg**	**05 09 45.6**	**-0.4**
IGT				*e*Sg	**Sg**	**05 10 00.8**	**+1.2**
XOR	**Xorichti**	**1.21**	**89**	*e*Pb	**Pb**	**05 09 48.9**	**-0.2**
XOR				*e*Sb	**Sb**	**05 10 07.7**	**+2.6**
NEO	**Neokhori**	**1.24**	**91**	*e*PN	**Pn**	**05 09 49.1**	**-1.0**
LKR	**Lokris**	**1.27**	**123**	*e*PB	**Pb**	**05 09 50.5**	**+0.3**
RLS	**Riolos of Patr**	**1.29**	**186**	*e*PB	**Pb**	**05 09 52.0**	**+1.5**
VLS	**Valsamata**	**1.42**	**215**	*e*PG	**Pg**	**05 09 53.4**	**-0.7**
VLS	**Valsamata**	**1.42**	**215**	Pn	**Pn**	**05 09 52.1**	**-0.6**
FNA	**Florina**	**1.45**	**352**	*e*Pb	**Pb**	**05 09 52.5**	**-0.7**
FNA				*e*Sb	**Sb**	**05 10 12.7**	**+0.7**
KEK	**Kerkira**	**1.46**	**285**	*e*PB	**Pb**	**05 09 55.3**	**+1.9**
GRG	**Griva**	**1.71**	**20**	*e*Pb	**Pb**	**05 09 55.3**	**-2.4**
SOH	**Sokhos**	**1.98**	**41**	*e*Pn	**Pn**	**05 09 59.7**	**-0.9**
OUR	**Ouranopolis**	**2.06**	**61**	*e*Pn	**Pn**	**05 10 00.5**	**-1.4**
ITM	**Ithomi**	**2.18**	**174**	*e*PN	**Pn**	**05 10 05.5**	**+2.0**
VLI	**Veliai**	**2.82**	**158**	*e*Pn	**Pn**	**05 10 11.5**	**-1.2**

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*IDC **26** 05:30:10.9±4.4, 7.58S×123.16E, h172^{km}±45^{km}, mb3.1/1, mb1 3.4/4, mb1mx3.2/14, Error ellipse: s-maj=126.0km s-min=17.3km az=59.0*
ISC 26 05:30:02.3±2.9, **7.7S**±0.1×**122.7E**±0.2, **h107**^{km}±30^{km}, **n7**, σ**0**$\overset{s}{.}$**38**/12, **mb3.4**/1, **Flores Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**10.78**	**165**	*e*P	**P**	**05 32 39.6**	**+4.8**
	2.9nm,1.2s						
FITZ				*e*S	**S**	**05 34 34.4**	**+0.5**
FITZ	**Fitzroy Crossi**	**10.78**	**165**	P	**P**	**05 32 39.8**	**+5.0**
	0.1nm,0.3s,baz=340,slow=15,SNR=4.1						
FITZ				S	**S**	**05 34 33.8**	**-0.1**
	0.5nm,0.3s,baz=184,slow=5.4,SNR=8.4						
WRA	**Warramunga Arr**	**16.65**	**138**	P	**P**	**05 33 50.8**	**+0.2**
	0.4nm,0.3s,baz=315,slow=13,SNR=23						
WRA				S	**S**	**05 36 50.8**	**-0.2**
	0.1nm,0.3s,baz=314,slow=24,SNR=4.3						
WB2	**Warramunga Arr**	**16.66**	**138**	*e*P	**P**	**05 33 50.8**	**+0.1**
WB2				*e*S	**S**	**05 36 51.6**	**+0.4**
ASPA	**Alice Springs**	**19.23**	**147**	*e*P	**P**	**05 34 19.9**	**-0.8**
ASAR	**Alice Springs**	**19.23**	**147**	P	**P**	**05 34 20.3**	**-0.4**
	1.3nm,0.3s,baz=332,slow=13,SNR=56						
ASAR				S	**S**	**05 37 47.5**	**+0.1**
	0.0nm,0.3s,baz=326,slow=23,SNR=2.5						
MKAR	**Makanchi Array**	**65.00**	**331**	P	**P**	**05 40 33.5**	**+0.3**
	0.6nm,0.9s,mb3.4,baz=135,slow=6.9,SNR=3.8						

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*NAO **26** 05:38:09.0±5.9, 78.18N×7.88E, ML2.5*
*BER **26** 05:38:10.3±2.0, 78.32N×7.48E, ML2.5(NAO)*
ISC 26 05:38:08.1±3.1, **78.3N**±0.2×**7.7E**±0.9, **n3**, σ**0**$\overset{s}{.}$**72**/5, **Svalbard region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBS	**Kingsbay**	**1.09**	**49**	Pn	**Pn**	**05 38 30.1**	**-0.3**
KBS				Lg		05 38 42.7	
SPA0	**Spitsbergen Ar**	**1.78**	**88**	Pn	**Pn**	**05 38 41.3**	**+0.9**
	baz=274,slow=12						
SPA0				Sn	**Sn**	**05 39 03.9**	**-0.2**
	baz=271,slow=28						
HSP	**Hornsund**	**2.10**	**122**	*e*P	**Pn**	**05 38 44.6**	**-0.4**
HSP				*e*(S)	**Sn**	**05 39 03.7**	**-8.4**

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*IDC **26** 06:03:02.0±6.8, 7.20S×129.84E, mb4.0/1, mb1 3.5/4, mb1mx3.4/12, ML2.9/3, Error ellipse: s-maj=89.2km s-min=56.0km az=142.0*
ISC 26 06:03:01.6±4.3, **7.2S**±0.4×**129.9E**±0.2, **h11**^{km}±52^{km}, **n4**, σ**0**$\overset{s}{.}$**78**/6, **mb3.6**/1, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.59**	**201**	Pn	**P**	**06 05 50.3**	**+0.1**
	0.1nm,0.3s,baz=15,slow=12,SNR=5.0						
FITZ				Sn	**S**	**06 08 00.6**	**0.0**
	0.1nm,0.3s,baz=16,slow=20,SNR=3.6						
WRA	**Warramunga Arr**	**13.37**	**162**	Pn	**P**	**06 06 14.5**	**+0.6**
	0.1nm,0.3s,baz=337,slow=13,SNR=7.8						
WRA				Sn	**S**	**06 08 43.6**	**0.0**
	0.1nm,0.3s,baz=342,slow=20,SNR=7.6						
ASAR	**Alice Springs**	**16.81**	**167**	Pn	**P**	**06 06 57.8**	**-0.9**
	0.1nm,0.3s,baz=348,slow=11,SNR=5.7						
STKA	**Stephens Creek**	**26.86**	**158**	P	**P**	**06 08 44.4**	**+0.1**
	1.1nm,0.5s,mb3.6,baz=307,slow=5.1,SNR=3.6						

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*LDG **26** 06:10:29.9±0.1, 43.10N×0.48W, h2^{km}, Md2.5/3, Ml2.4/5, Error ellipse: s-maj=1.7km s-min=1.5km az=136.0*
*STR **26** 06:10:29.8±0.1, 43.09N×0.48W, h5^{km}±1^{km}, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*MDD **26** 06:10:30.6±0.2, 43.10N×0.47W, mbLg1.8/11, Error ellipse: s-maj=2.7km s-min=1.5km az=8.0, PRXIMO*
ISC 26 06:10:28.7±0.3, **43.20N**±0.02×**0.43W**±0.02, **h2**^{km}, **n35**, σ**1**$\overset{s}{.}$**18**/69, **Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
REYF	**Montagne du Re**	**0.14**	**167**	Pg	**Pg**	**06 10 32.3**	**+0.9**
REYF				Sg	**Sg**	**06 10 33.9**	**+0.7**
REYF	**Montagne du Re**	**0.14**	**167**	P	**Pg**	**06 10 32.3**	**+0.8**
REYF				S	**Sg**	**06 10 33.8**	**+0.5**
ATE	**Arette**	**0.23**	**239**	P	**Pg**	**06 10 33.7**	**+0.5**
ATE				S	**Sg**	**06 10 36.3**	**0.0**
ETSF	**Etsaut**	**0.32**	**197**	*e*Pg	**Pg**	**06 10 34.2**	**-0.8**
ETSF				*e*Sg	**Sg**	**06 10 36.7**	**-2.6**
	235nm,0.4s						
ORDF	**Ordiarp**	**0.37**	**272**	Pg	**Pg**	**06 10 37.2**	**+1.2**
ORDF				Sg	**Sg**	**06 10 42.3**	**+1.4**
ORDF	**Ordiarp**	**0.37**	**272**	P	**Pg**	**06 10 37.1**	**+1.1**
ORDF				S	**Sg**	**06 10 42.6**	**+1.7**
FDAF	**Les Forges d'A**	**0.40**	**194**	Pg	**Pg**	**06 10 35.7**	**-0.9**
FDAF				Sg	**Sg**	**06 10 39.9**	**-2.0**
FDAF	**Les Forges d'A**	**0.40**	**194**	P	**Pg**	**06 10 35.8**	**-0.8**
FDAF				S	**Sg**	**06 10 40.0**	**-1.9**
LABF	**Labassere**	**0.40**	**112**	Pg	**Pg**	**06 10 37.5**	**+0.8**
LABF				Sg	**Sg**	**06 10 43.6**	**+1.5**
LABF	**Labassere**	**0.40**	**112**	P	**Pg**	**06 10 37.6**	**+0.9**
LABF				S	**Sg**	**06 10 43.6**	**+1.5**
LARF	**Larrau**	**0.44**	**248**	P	**Pg**	**06 10 37.8**	**+0.3**
LARF				S	**Sg**	**06 10 43.4**	**+0.1**
VIEF	**Viey**	**0.46**	**133**	Pg	**Pg**	**06 10 37.9**	**0.0**
VIEF				Sg	**Sg**	**06 10 43.9**	**-0.2**
VIEF	**Viey**	**0.46**	**133**	P	**Pg**	**06 10 37.9**	**0.0**
VIEF				S	**Sg**	**06 10 43.9**	**-0.2**
SJPF	**Ste Jean**	**0.59**	**262**	*e*Pg	**Pg**	**06 10 40.0**	**-0.4**
SJPF				*e*Sg	**Sg**	**06 10 48.5**	**+0.3**
	14nm,0.2s						
EPF	**Esparros**	**0.59**	**107**	*e*Pg	**Pg**	**06 10 41.3**	**+0.8**
EPF				*e*Sg	**Sg**	**06 10 50.0**	**+1.6**
	17nm,0.2s						
OSSF	**Osses**	**0.61**	**275**	Pg	**Pg**	**06 10 40.2**	**-0.6**
OSSF	**Osses**	**0.61**	**275**	P	**Pg**	**06 10 40.4**	**-0.4**
OSSF				S	**Sg**	**06 10 48.9**	**0.0**
RESF	**Ens**	**0.69**	**125**	Pg	**Pg**	**06 10 42.2**	**-0.3**
RESF				Sg	**Sg**	**06 10 51.4**	**-0.3**
RESF	**Ens**	**0.69**	**125**	P	**Pg**	**06 10 42.3**	**-0.2**
RESF				S	**Sg**	**06 10 50.8**	**-0.9**
EALK	**Alkurruntz**	**0.79**	**272**	Pg	**Pg**	**06 10 45.1**	**+0.8**
	2.8nm,0.4s,SNR=9.6						
EALK				Lg		06 10 55.2	
	5.7nm,0.3s,SNR=9.2						
MELF	**Melles**	**0.94**	**110**	S	**Sg**	**06 10 59.1**	**-0.7**
SALF	**Salau**	**1.27**	**110**	Pg	**Pg**	**06 10 54.2**	**+0.1**
ESAC	**San Caprasio**	**1.48**	**181**	Pg	**Pg**	**06 10 56.3**	**-1.9**
	19nm,0.3s,SNR=25						
ESAC				Lg		06 11 14.8	
	21nm,0.3s,SNR=9.1						
LFF	**La Frestale**	**1.93**	**26**	*e*Pg	**Pg**	**06 11 07.8**	**+0.5**
LFF				*e*Sg	**Sg**	**06 11 34.2**	**+1.2**
	11nm,0.3s						
EMIR	**Miracle**	**1.94**	**131**	Pn	**Pn**	**06 11 05.2**	**+2.2**
	3.5nm,0.3s,SNR=12						
EMIR				Sn	**Sn**	**06 11 31.6**	**+3.4**
	12nm,0.6s,SNR=10						
EMIR				Lg		06 11 34.7	
	25nm,0.3s,SNR=7.9						
MTLF	**Montolieu**	**1.94**	**85**	*e*Pn	**Pn**	**06 11 03.6**	**+0.6**
MTLF				*e*Pg	**Pg**	**06 11 06.7**	**-0.7**
MTLF				*e*Sg	**Sg**	**06 11 32.1**	**-1.2**
	4.6nm,0.4s						
EPOB	**Poblet**	**2.16**	**148**	Pn	**Pn**	**06 11 08.4**	**+2.2**
	3.7nm,0.6s,SNR=16						
EPOB				Sn	**Sn**	**06 11 35.8**	**+1.9**
	7.4nm,0.5s,SNR=7.9						
ELAN	**Lanestosa**	**2.19**	**272**	Pn	**Pn**	**06 11 08.5**	**+1.9**
	0.4nm,0.2s,SNR=7.9						
ELAN				Sn	**Sn**	**06 11 35.0**	**+0.3**
	2.4nm,0.5s,SNR=7.9						
CAF	**Calviac**	**2.49**	**45**	*e*Pn	**Pn**	**06 11 10.9**	**0.0**
CAF				*e*Pg	**Pg**	**06 11 17.8**	**-0.6**
CAF				*e*Sn	**Sn**	**06 11 41.6**	**-0.7**
CAF				*e*Sg	**Sg**	**06 11 51.2**	**-0.5**
	4.0nm,0.3s						
RJF	**Les Rejaudoux**	**2.53**	**33**	*e*Pg	**Pg**	**06 11 18.7**	**-0.4**
RJF				*e*Sg	**Sg**	**06 11 52.1**	**-0.7**
	2.3nm,0.1s						
EJON	**La Jonquera**	**2.56**	**106**	Pg	**Pg**	**06 11 18.3**	**-1.5**
	SNR=7.9						
EJON				Sn	**Sn**	**06 11 52.4**	**+8.4**
	8.6nm,0.5s,SNR=7.9						
ETOR	**Torete**	**2.67**	**207**	Pn	**Pn**	**06 11 12.6**	**-0.8**
	0.5nm,0.2s,SNR=7.9						
ETOR				Pg	**Pg**	**06 11 18.5**	**-3.5**
	0.5nm,0.2s,SNR=7.9						
ETOR				Sn	**Sn**	**06 11 43.3**	**-3.5**
	1.7nm,0.2s,SNR=6.0						
EMOS	**Mosqueruela**	**2.84**	**181**	Pg	**Pg**	**06 11 20.4**	**-4.9**
	0.9nm,0.5s,SNR=7.9						
EMOS				Sn	**Sn**	**06 11 46.8**	**-4.2**
	3.6nm,0.4s,SNR=4.0						
MFF	**Saint Martin d**	**3.41**	**3**	*e*Pg	**Pg**	**06 11 33.9**	**-2.8**
MFF				*e*Sg	**Sg**	**06 12 19.0**	**-3.1**
	2.4nm,0.3s						
EARI	**Arriondas**	**3.49**	**273**	Pn	**Pn**	**06 11 25.9**	**+0.8**
	0.7nm,0.8s,SNR=4.0						
EARI				Sn	**Sn**	**06 12 04.5**	**-3.1**
	1.2nm,0.5s,SNR=7.9						

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*THE **26** 06:42:05.2, 39.01N×23.31E, h1^{km}, ML2.7*
*NEIC **26** 06:42:07.8, 39.12N×23.34E, h4^{km}, MD2.7(ATH), After ATH.*
*ATH **26** 06:42:07.8, 39.12N×23.35E, h4^{km}, MD2.7/6*
ISC 26 06:42:07.1±0.5, **39.10N**±0.03×**23.33E**±0.07, **h3**^{km}±8^{km}, **n13**, σ**1**$\overset{s}{.}$**07**/20, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NEO	**Neokhori**	**0.22**	**338**	*e*PG	**Pg**	**06 42 12.0**	**+0.5**
NEO				*e*SG	**Sg**	**06 42 15.0**	**+0.5**
XOR	**Xorichti**	**0.28**	**338**	*e*Pg	**Pg**	**06 42 13.1**	**+0.3**
AOS	**Alonnisos**	**0.43**	**81**	*e*Pg	**Pg**	**06 42 13.3**	**-2.4**
AGG	**Agios Georgios**	**0.78**	**264**	*e*Pg	**Pg**	**06 42 19.8**	**-2.9**
PAIG	**Paliouri**	**0.87**	**18**	*e*Pg	**Pg**	**06 42 23.6**	**-0.8**
PAIG				*e*Sg	**Sg**	**06 42 37.7**	**+1.7**
MKIT	**Kithairon Oros**	**0.92**	**183**	*e*PB	**Pg**	**06 42 25.5**	**+0.1**
MKIT				*e*SG	**Sg**	**06 42 38.1**	**+0.4**
MKIT	**Kithairon Oros**	**0.92**	**183**	*e*Pg	**Pg**	**06 42 25.5**	**+0.1**
MKIT				*e*Sg	**Sg**	**06 42 37.5**	**-0.2**
MPAR	**Parnis Oros**	**1.00**	**161**	*e*Pg	**Pg**	**06 42 27.2**	**+0.1**
MPAR				*e*Sg	**Sg**	**06 42 42.5**	**+2.1**
PTL	**Penteli**	**1.13**	**158**	*e*PG	**Pg**	**06 42 29.5**	**-0.2**
PTL				*e*SB	**Sb**	**06 42 44.5**	**+0.5**
LIT	**Litokhoron**	**1.19**	**327**	*e*Pb	**Pb**	**06 42 28.6**	**-1.4**
LIT				*e*Sb	**Sb**	**06 42 46.0**	**+0.4**
NSAL	**Nisos Salamina**	**1.20**	**175**	*e*PG	**Pg**	**06 42 30.4**	**-0.6**
EVR	**Evrytania**	**1.20**	**262**	*e*PB	**Pb**	**06 42 31.0**	**+0.8**
NAIG	**Nisos Aigina**	**1.35**	**175**	*e*Pb	**Pb**	**06 42 32.0**	**-0.7**

WEL 26 06:48:19.1±0.6, **45.86S**×**166.27E**, **h5**^{km}, **ML4.0**/6, **Error ellipse: s-maj=5.8km s-min=3.8km az=90.0**, **Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.73**	**58**	P*	Pb	06 48 33.6	-0.3
DCZ				S*	Sb	06 48 43.8	-0.1
WHZ	**Wether Hill Ro**	**1.17**	**92**	P*	Pb	06 48 40.9	-0.5
WHZ				S*	Sb	06 48 56.5	-0.2
MLZ	**Mavora Lakes**	**1.43**	**70**	PN	Pn	06 48 44.6	-1.2
MLZ				SN	Sn	06 49 03.7	-1.4
WKZ	**Wanaka**	**2.19**	**63**	PN	Pn	06 48 56.8	+0.1
TUZ	**Tuapeka**	**2.35**	**93**	PN	Pn	06 48 58.2	-0.7
LBZ	**Lake Benmore**	**3.14**	**63**	PN	Pn	06 49 09.8	-0.4
ODZ	**Otahua Downs**	**3.18**	**77**	PN	Pn	06 49 10.2	-0.6
ODZ				SN	Sn	06 49 48.9	-0.8
RPZ	**Rata Peaks**	**4.02**	**59**	PN	Pn	06 49 21.1	-1.7
RPZ				SN	Sn	06 50 08.8	-2.2
WVZ	**Waitaha Valley**	**4.24**	**50**	PN	Pn	06 49 26.4	+0.6
LTZ	**Lake Taylor**	**5.29**	**57**	PN	Pn	06 49 40.5	-0.2
DSZ	**Denniston Nort**	**5.74**	**46**	PN	Pn	06 49 46.6	-0.4
THZ	**Tophouse**	**6.31**	**52**	PN	Pn	06 49 57.0	+1.9
QRZ	**Quartz Range**	**6.79**	**44**	PN	Pn	06 50 02.7	+0.8

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*NEIC **26** 06:59:05.5, 15.49N×95.60W, h20^{km}, MD3.6(MEX), After MEX.*
MEX 26 06:59:04.8±1.1, **15.49N**×**95.56W**, **h16**^{km}±223^{km}, **MD3.6**, **1D**, **Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.60**	**298**⇓	*e*P	Pb	06 59 14.6	-1.8
HUIG				*e*S	Sb	06 59 21.6	-2.8
CMIG	**Matias Romero**	**1.72**	**22**	*e*P	Pn	06 59 30.2	-4.2
CMIG				*e*S	Sn	06 59 51.0	-5.1
VHO	**Vista Hermosa**	**1.94**	**325**	*e*P	Pn	06 59 35.8	-1.8
VHO				*e*S	Sn	06 59 56.3	-5.4
OXX	**Oaxaca**	**1.94**	**325**	*e*P	Pn	06 59 35.0	-2.6
OXX				*e*S	Sn	06 59 58.0	-3.7

CASC 26 07:01:09.0±2.2, **13.91N**×**89.71W**, **h2**^{km}±8^{km}, **MD3.7**, **ML3.2**, **7C-1D**, **El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RTR	**El Retiro**	**0.06**	**103**⇑	*i*P	Pg	07 01 11.3	+1.1
RTR				*e*S	Sg	07 01 13.0	+1.8
SNJE	**San Jose**	**0.11**	**114**⇑	*i*P	Pg	07 01 12.2	+1.0
SBLS	**San Blas**	**0.11**	**131**⇑	*i*P	Pg	07 01 11.9	+0.7
SBLS				*e*S	Sg	07 01 15.4	+2.8
BOQS	**Boqueron**	**0.45**	**113**⇑	*e*P	Pg	07 01 18.6	+0.6
SNET	**Serv Nac Est T**	**0.51**	**116**	*e*P	Pg	07 01 19.1	-0.1
SNET				*i*		07 01 30.7	
	comp=Z,395nm,0.2s						
LBRS	**Las Brisas**	**0.67**	**105**	*e*P	Pg	07 01 22.6	+0.3
LFRS	**El Faro**	**0.69**	**114**	*e*P	Pg	07 01 22.5	-0.2
LFRS				*e*S	Sg	07 01 33.8	+1.9
LCBS	**La Ceiba**	**0.75**	**110**⇑	*e*P	Pg	07 01 23.8	-0.2
IXG	**Ixpaco**	**0.77**	**290**⇓	*e*P	Pg	07 01 21.4	-3.0
IXG				*e*S	Sg	07 01 32.8	-2.0
SNVI	**San Vicente**	**0.89**	**109**	*e*P	Pb	07 01 26.2	-0.6
NBG	**Las Nubes**	**0.92**	**317**⇑	*e*P	Pb	07 01 24.6	-2.6
CAHU	**Cacacuatique**	**1.46**	**95**⇑	*e*P	Pn	07 01 36.1	-0.3
CAHU				*e*S	Sb	07 01 56.8	+1.4
JAT	**Jato**	**1.92**	**282**	*e*P	Pn	07 01 42.2	-0.8
JAT				*e*S	Sn	07 02 09.5	+1.6
JAT				AML	AML	07 02 12.3	
	comp=E,720nm,0.4s						

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*LDG **26** 07:10:10.0±0.1, 45.95N×7.92E, h2^{km}, Md2.1/3, Ml2.2/3, Error ellipse: s-maj=2.7km s-min=1.2km az=114.0*
*ZUR **26** 07:10:10.6, 46.00N×7.87E, h2^{km}, ML1.8/3*
ISC 26 07:10:09.5±1.0, **45.91N**±0.04×**7.90E**±0.08, **h2**^{km}, **n7**, σ**0**$\overset{s}{.}$**49**/15, **1C-2D**, **Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MMK	**Mattmark**	**0.15**	**17**⇑	*i*Pg	**Pg**	**07 10 12.9**	**+0.4**
MMK				*i* Sg	**Sg**	**07 10 14.3**	**-0.1**
DIX	**Grande Dixence**	**0.38**	**297**⇓	*i*Pg	**Pg**	**07 10 17.7**	**+0.6**
	3.8nm,0.4s						
DIX				*e*Sg	**Sg**	**07 10 22.7**	**+0.4**
	3.8nm,0.4s						
LKBD	**Leukerbad**	**0.51**	**338**⇓	*i*Pg	**Pg**	**07 10 19.6**	**-0.2**
	2.2nm,0.4s						
LKBD				*e*Sg	**Sg**	**07 10 25.5**	**-1.1**
	2.2nm,0.4s						
SENIN	**Lac Senin**	**0.62**	**317**	*e*Pg	**Pg**	**07 10 22.0**	**+0.2**
	0.7nm,0.2s						
LPG	**La Plagne**	**0.91**	**243**	*e*Pg	**Pg**	**07 10 28.1**	**+0.5**
LPG				*e*Pn	**Pn**	**07 10 29.6**	**+0.6**
LPG				*e*Sg	**Sg**	**07 10 39.5**	**-0.2**
	6.7nm,0.2s						
LPL	**La Plagne**	**0.91**	**245**	*e*Pg	**Pg**	**07 10 28.1**	**+0.4**
LPL				*e*Pn	**Pn**	**07 10 29.0**	**-0.1**
LPL				*e*Sg	**Sg**	**07 10 39.5**	**-0.3**
	4.8nm,0.3s						
MBDF	**Montbardon**	**1.43**	**214**	*e*Pg	**Pg**	**07 10 37.3**	**-0.7**
MBDF				*e*Sg	**Sg**	**07 10 56.5**	**-0.5**
	3.5nm,0.2s						

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*IDC **26** 07:30:34.7±3.4, 54.80S×27.83W, mb3.8/1, mb1 4.1/1, mb1mx3.6/10, MS3.5/1, Ms1 3.6/1, ms1mx3.1/8, Error ellipse: s-maj=320.0km s-min=48.4km az=29.0*
*NEIC **26** 07:30:35.6±0.6, 55.08S×28.12W, h10^{km}, mb3.9/2, Error ellipse: s-maj=38.0km s-min=9.3km az=64.0*
ISC 26 07:30:32.6±2.4, **54.9S**±0.5×**2 8W**± , **h10**^{km}, **n13**, σ**1**$\overset{s}{.}$**01**/8, **mb3.9**/3, **MS3.5**/1, **3C-1D**, **South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**17.98**	**159**⇑	*i*	**P**	**07 34 45.5**	**+1.7**
VNA3	**Neumayer Olymp**	**18.18**	**161**⇑	*i*	**P**	**07 34 45.5**	**-0.9**
VNA2	**Neumayer--Watz**	**18.38**	**159**⇑	*i*	**P**	**07 34 49.8**	**+1.0**
SNAA	**Sanae**	**19.92**	**157**⇓	*i*	**P**	**07 35 05.2**	**-1.7**
QSPA	**South Pole Qui**	**35.38**	**180**	*e*P	**P**	**07 37 29.6**	**-0.2**
	0.9nm,0.6s,mb3.9						
CPUP	**Villa Florida**	**35.87**	**311**	P	**P**	**07 37 34.4**	**0.0**
	1.6nm,1.0s,mb3.9,baz=181,slow=14,SNR=3.5						
CPUP	**Villa Florida**	**35.87**	**311**	P	**P**	**07 37 34.4**	**0.0**
LPAZ	**La Paz**	**49.51**	**305**	LR	LR	07 58 21.3	
	comp=Z,49nm,19.1s,MS3.5,baz=259,slow=34						
SAML	**Samuel**	**53.81**	**315**	*e*P	**P**	**07 39 57.7**	**+0.1**
	1.3nm,0.9s,mb3.9						
FINES	**FINESS Array B**	**123.44**	**28**	PKP	PKPdf	07 49 32.7	+0.6
	3.4nm,1.0s,baz=149,slow=11,SNR=4.6						
ARCES	**ARCESS Array B**	**129.93**	**22**	PKP	PKPdf	07 49 44.0	-0.3

	2.9nm,1.2s,baz=236,slow=3.3,SNR=3.6						
ILAR	**Eielson Array**	149.15	313	PKPbc	PKPdf	07 50 22.8	+4.4
	2.7nm,0.7s,baz=119,slow=2.0,SNR=29						
SONM	**Songino Array**	150.86	85	PKPbc	PKPdf	07 50 27.7	+6.2
	0.6nm,0.6s,baz=215,slow=3.3,SNR=3.6						

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*IDC **26** 07:36:48.6±1.4, 6.47S×154.38E, mb4.1/8, mb1 4.3/9, mb1mx4.2/14, ML3.6/1, Error ellipse: s-maj=49.4km s-min=20.9km az=112.0*

*NEIC **26** 07:36:50.5±0.9, 6.51S×154.30E, $h10^{km}$, mb4.6/4, Error ellipse: s-maj=27.1km s-min=15.3km az=127.0*

ISC 26 07:36:49.3±1.0**, 6.4S**±0.1×**154.2E**±0.2**, $h10^{km}$, n17, $\sigma 0\overset{s}{.}86$**/17**, mb4.1**/10**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	7.58	247	Pn	Pn	07 38 41.8	-0.8
	25nm,0.9s						
CTA	**Charters Tower**	15.62	209	*e*P	P	07 40 36.5	+5.2
	6.0nm,0.8s						
CTA	**Charters Tower**	15.62	209	Pn	P	07 40 31.9	+0.6
	0.1nm,0.3s,baz=18,slow=16,SNR=2.5						
CTAO	**Charters Tower**	15.62	209	*e*P	P	07 40 36.2	+4.9
	7.9nm,0.8s						
WRAB	**Tennant Creek**	23.50	233	*e*P	P	07 42 00.4	+0.1
	35nm,1.5s,mb4.6						
WB2	**Warramunga Arr**	23.50	233	*e*P	P	07 42 00.6	+0.2
WRA	**Warramunga Arr**	23.51	233	P	P	07 42 00.9	+0.4
	4.8nm,0.8s,mb4.0,baz=59,slow=10,SNR=54						
ASAR	**Alice Springs**	25.98	227	P	P	07 42 23.6	-0.5
	1.7nm,0.6s,mb3.8,baz=57,slow=8.8,SNR=21						
STKA	**Stephens Creek**	27.92	203	P	P	07 42 42.7	+0.9
	2.7nm,0.6s,mb4.1,baz=22,slow=14,SNR=6.9						
STKA	**Stephens Creek**	27.92	203	P	P	07 42 42.7	+0.9
FITZ	**Fitzroy Crossi**	30.18	245	*e*P	P	07 43 01.4	-0.8
	3.9nm,0.6s,mb4.3						
FITZ	**Fitzroy Crossi**	30.18	245	P	P	07 43 01.3	-0.9
	5.4nm,0.8s,mb4.4,baz=59,slow=6.7,SNR=13						
SONM	**Songino Array**	68.45	328	P	P	07 47 54.5	+0.9
	0.9nm,0.8s,mb3.9,baz=106,slow=5.0,SNR=4.6						
MKAR	**Makanchi Array**	82.47	319	P	P	07 49 14.8	+1.4
	1.4nm,0.7s,mb4.0,baz=101,slow=6.2,SNR=8.1						
ILAR	**Eielson Array**	83.14	22	P	P	07 49 14.5	-2.0
	0.3nm,0.6s,mb3.5,baz=246,slow=6.0,SNR=5.4						
QSPA	**South Pole Qui**	83.53	180	*e*P	P	07 49 18.0	-0.2
	4.7nm,0.9s,mb4.6						
MAW	**Mawson**	84.61	203	P	P	07 49 23.9	+0.1
	1.5nm,0.8s,mb4.2,baz=63,slow=5.4,SNR=8.9						

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*SNSN **26** 08:31:07.5, 23.87N×36.96E, $h3^{km}$, Ml3.4*

*HLW **26** 08:31:09.5, 23.77N×36.71E, $h23^{km}$, Mb3.4*

ISC 26 08:31:04.7±0.6**, 23.76N**±0.05×**36.75E**±0.05**, $h3^{km}$, n21, $\sigma 0\overset{s}{.}74$**/23**, 3C-7D, Red Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YNBS	**Yanbu‘ al Bahr**	1.28	63	P	Pb	08 31 27.7	-1.3
HSHL	**Bi’r Shalatayn**	1.40	243	⇑P	Pb	08 31 31.7	+0.6
HSHL				S	Sb	08 31 48.6	-0.6
UMJS	**Umm Lajj**	1.56	19	P	Pn	08 31 34.4	+1.0
HAGS	**Hagol**	1.72	291	⇑P	Pn	08 31 36.6	+0.8
HAGS				S	Sn	08 31 55.9	-2.6
EMRS	**Mersa Alam**	2.14	306	⇓P	Pn	08 31 42.2	+0.4
HADB		2.50	310	⇓P	Pn	08 31 47.3	+0.4
HQSR		2.92	313	⇑P	Pn	08 31 53.0	0.0
KBRS	**Khaybar**	3.05	48	P	Pn	08 31 53.3	-1.5
HSFG		3.79	318	⇓P	Pn	08 32 05.3	+0.1
TBKS	**Tabuk**	4.45	358	P	Pn	08 32 14.9	+0.2
HHRG	**Al Ghardaqah**	4.48	321	⇓P	Pn	08 32 14.9	-0.3
SHRM		4.74	331	⇓P	Pn	08 32 18.7	-0.1
LTHS	**Al Lith**	4.86	135	P	Pn	08 32 20.7	+0.3
TR1		4.92	330	⇓P	Pn	08 32 21.0	-0.4
TAYS	**Tayyib Ism**	5.06	341	P	Pn	08 32 23.6	+0.3
JMQS	**Jabal Moqyreh**	5.17	352	P	Pn	08 32 25.3	+0.5
TR2		5.35	330	⇓P	Pn	08 32 27.0	-0.4
HAQS	**Haql**	5.52	343	P	Pn	08 32 29.9	+0.1
JMOS	**Jabal al Moall**	5.58	345	P	Pn	08 32 30.9	+0.2
ALWS	**Ilw as Safayha**	5.73	345	P	Pn	08 32 33.4	+0.6
BLJS	**Baljurashi**	5.94	130	P	Pn	08 32 35.9	+0.3

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*IDC **26** 08:51:08.7±0.6, 17.05S×40.35E, mb4.3/18, mb1 4.4/18, mb1mx4.3/23, MS3.7/4, Ms1 3.7/4, ms1mx3.4/25, Error ellipse: s-maj=18.1km s-min=14.1km az=120.0*

*LDG **26** 08:51:10.3±0.6, 16.78S×40.46E, $h10^{km}$, Mb4.6/11, Ms3.3/1, Error ellipse: s-maj=35.8km s-min=11.2km az=3.0*

*NEIC **26** 08:51:10.8±0.3, 17.01S×40.34E, $h10^{km}$, mb4.5/14, Error ellipse: s-maj=9.0km s-min=8.6km az=76.0*

*BJI **26** 08:51:10.7, 16.58S×39.66E, $h24^{km}$, mB4.5, mb4.9, Ms4.7, Msz4.3*

*SYO **26** 08:51:11.3, 16.89S×40.22E, $h10^{km}$, MB4.4*

ISC 26 08:51:09.6±0.4**, 16.91S**±0.07×**40.26E**±0.08**, $h10^{km}$, n56, $\sigma 0\overset{s}{.}91$**/48**, mb4.4**/30**, MS3.9**/5**, 2C-2D, Mozambique**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LSZ	**Lusaka**	11.71	276	⇑*e*Pn	P	08 53 58.4	-1.5
	22nm,0.6s						
LSZ				*e*Sn	S	08 56 01.1	-11
KMBO	**Kilima Mbogo**	15.96	349	Sn	S	08 58 00.6	+7.5
	0.7nm,0.3s,baz=230,slow=22,SNR=2.8						
KMBO	**Kilima Mbogo**	15.96	349	*e*Pn	P	08 54 55.5	-0.6
	17nm,1.3s						
KMBO				*e*Sn	S	08 57 51.1	-2.1
MBAR	**Mbarara**	18.72	329	*e*P	P	08 55 29.7	-1.0
	8.8nm,0.5s						
TSUM	**Tsumeb**	21.68	261	P	P	08 56 02.5	-0.2
	13nm,0.6s,mb4.5,baz=76,slow=11,SNR=26						
TSUM				LR	LR	09 04 37.5	
	comp=Z,94nm,18.2s,MS3.2,baz=144,slow=37						
TSUM	**Tsumeb**	21.68	261	*e*P	P	08 56 03.0	+0.3
	10nm,0.6s,mb4.4						
TSUM				*e*		08 56 13.0	
SUR	**Sutherland**	23.39	225	P	P	08 56 19.4	-0.1
	8.1nm,0.5s,mb4.4,baz=178,slow=19,SNR=15						
SUR				S	S	09 00 33.9	+5.4
	10.0nm,1.0s,baz=220,slow=13,SNR=2.3						
SUR	**Sutherland**	23.39	225	*e*P	P	08 56 19.2	-0.3
	36nm,0.6s,mb5.0						
SUR				*e*		08 56 28.5	
ASF	**Jabal al Asfar**	48.90	356	P	P	08 59 58.2	+0.3
	6.2nm,0.8s,mb4.7,baz=41,slow=2.8,SNR=7.4						
ASF				LR	LR	09 21 14.7	
	comp=Z,56nm,19.1s,MS3.6,baz=227,slow=37						
LIC	**Lamto**	50.32	293	*e*P	P	09 00 10.0	+1.0
	23nm,0.9s,mb4.9						
DBIC	**Dimbokro**	50.38	294	P	P	09 00 09.1	-0.4
	5.5nm,0.6s,mb4.8,baz=113,slow=9.4,SNR=19						
SYO	**Syowa Base**	52.08	180	⇑P	P	09 00 23.2	+1.6
SYO	**Syowa Base**	52.08	180	⇓sP	sP	09 00 29.6	+3.7
SYO	**Syowa Base**	52.08	180	⇓PcP	PcP	09 01 31.5	-2.3
MAW	**Mawson**	52.73	169	P	P	09 00 24.1	-2.4
	0.5nm,0.7s,mb3.6,baz=342,slow=11,SNR=2.5						
BRTR	**Keskin Array B**	56.67	354	P	P	09 00 54.8	-0.9
	2.8nm,0.8s,mb4.4,baz=170,slow=9.7,SNR=15						
AKASG	**Malin Array Be**	68.01	352	P	P	09 02 10.6	-0.6
	0.4nm,0.4s,mb3.8,baz=162,slow=5.0,SNR=4.5						
MBDF	**Montbardon**	68.50	335	*e*P	P	09 02 16.1	+1.8
	16nm,1.1s,mb4.6						
LPG	**La Plagne**	69.15	335	*e*P	P	09 02 18.7	+0.4
	7.5nm,0.9s,mb4.3						
LPL	**La Plagne**	69.17	335	*e*P	P	09 02 18.8	+0.4
	3.8nm,0.6s,mb4.2						
LASF	**Ste Croix**	69.21	333	*e*P	P	09 02 20.5	+1.8
GERES	**GERESS Array B**	69.59	342	P	P	09 02 20.2	-0.8
	0.9nm,0.6s,mb3.9,baz=146,slow=4.8,SNR=11						
ESDC	**Sonseca Array**	69.77	325	P	P	09 02 22.6	+0.4
	8.8nm,0.9s,mb4.7,baz=139,slow=6.5,SNR=16						
NWAO	**Narrogin (SRO)**	70.26	119	LR	LR	09 30 16.9	
	comp=Z,74nm,18.7s,MS4.0,baz=290,slow=34						
ETSF	**Etsaut**	70.34	329	*e*P	P	09 02 26.8	+1.2
SMF	**Signal de Mont**	71.26	334	*e*P	P	09 02 31.2	+0.1
	5.4nm,0.7s,mb4.3						
EVO	**Evora**	71.31	322	*e*P	P	09 02 31.1	-0.5
	14nm,1.1s,mb4.5						
HAU	**Haudompre**	71.37	337	*e*P	P	09 02 32.0	+0.2
AVF	**Avril sur Loir**	71.58	334	*e*P	P	09 02 33.6	+0.5
TCF	**Toulx Ste Croi**	71.67	333	*e*P	P	09 02 34.5	+0.9
	8.1nm,0.8s,mb4.4						
MFF	**Saint Martin d**	72.94	332	*e*P	P	09 02 41.6	+0.4
MKAR	**Makanchi Array**	73.83	29	P	P	09 02 45.8	-0.5
	5.2nm,1.0s,mb4.4,baz=214,slow=6.8,SNR=17						
BVAR	**Borovoye Array**	74.35	18	P	P	09 02 48.4	-0.7
	3.1nm,0.5s,mb4.5,baz=210,slow=5.7,SNR=23						
WMQ	**Urumqi**	74.38	34	*e*P	P	09 02 50.3	+0.8
WMQ				AP	pP	09 02 55.3	+2.6
WMQ				XP	sP	09 02 57.3	+3.5
WMQ				AMB	AMB		
	comp=Z,4.0nm,1.1s,mb4.3						
ARU	**Arti**	74.66	10	*e*P	P	09 02 50.5	-0.4
	comp=Z,8.6nm,0.9s,mb4.7						
FLN	**La Foliniere**	74.74	333	*e*P	P	09 02 52.2	+0.7
	comp=Z,7.5nm,0.5s,mb4.5						
KURK	**Kurchatov**	75.28	24	*e*P	P	09 02 54.5	-0.1
	comp=Z,2.5nm,0.8s,mb4.2						
KURK				*e*		09 03 03.5	
FINES	**FINESS Array B**	78.90	353	P	P	09 03 13.2	-1.3
	comp=Z,3.9nm,1.1s,mb4.2,baz=217,slow=9.5,SNR=3.8						
LZH	**Lanzhou**	79.89	47	*e*P	P	09 03 21.5	+1.1
LZH				AP	pP	09 03 24.8	+1.2
LZH				PP	PP	09 06 24.8	+1.2
LZH				AMB	AMB		
	comp=Z,21nm,1.4s,mb4.9						
LZH				LR	LR		
	comp=N,275nm,15.2s						
LZH				LR	LR		
	comp=Z,393nm,18.1s,MS4.8						
ZAL	**Zalesovo**	80.19	25	P	P	09 03 21.4	-0.2
	comp=Z,2.4nm,0.6s,mb4.3,baz=170,slow=7.0,SNR=17						
FITZ	**Fitzroy Crossi**	80.64	106	*e*P	P	09 03 24.3	-0.4
	comp=Z,2.5nm,0.5s,mb4.4						
FITZ	**Fitzroy Crossi**	80.64	106	P	P	09 03 23.3	-1.5
	comp=Z,2.7nm,0.5s,mb4.5,baz=257,slow=3.5,SNR=9.6						
NOA	**NORSAR Array B**	81.09	346	P	P	09 03 26.6	+0.4
	comp=Z,1.1nm,0.9s,mb3.8,baz=146,slow=6.0,SNR=2.7						
ASAR	**Alice Springs**	86.59	114	P	P	09 03 54.1	-0.9
	comp=Z,0.8nm,0.4s,mb4.3,baz=266,slow=4.6,SNR=23						
ARCES	**ARCESS Array B**	86.84	355	P	P	09 03 55.7	+0.5
	comp=Z,1.2nm,0.5s,mb4.3,baz=157,slow=4.0,SNR=27						
WRA	**Warramunga Arr**	88.06	110	P	P	09 04 00.9	-1.2
	comp=Z,1.3nm,0.7s,mb4.3,baz=252,slow=3.0,SNR=22						
WRA				LR	LR	09 40 45.4	
	comp=Z,58nm,21.8s,MS4.0,baz=255,slow=34						
NJ2	**Nanjing**	89.53	56	*e*P	P	09 04 09.5	+0.5
CN2	**Changchun**	98.12	47	*e*P	P	09 04 48.8	+0.8
MDJ	**Mudanjiang**	101.21	47	P	P	09 05 02.8	+0.9
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.8s						
ILAR	**Eielson Array**	131.93	4	PKP	PKPdf	09 10 23.6	-2.7
	comp=Z,0.3nm,0.6s,baz=332,slow=3.4,SNR=5.3						
PDAR	**Pinedale Array**	143.60	321	PKP	PKPdf	09 10 46.5	-1.4
	comp=Z,0.6nm,0.7s,baz=45,slow=4.2,SNR=5.8						
TXAR	**Lajitas Array**	144.74	297	PKP	PKPdf	09 10 48.3	-2.0
	comp=Z,1.1nm,0.6s,baz=27,slow=5.6,SNR=6.1						
HWUT	**Hardware Ranch**	145.49	321	*e*PKPdf	PKPdf	09 10 50.1	-1.2
SRU	**San Rafael**	146.27	317	*e*PKPdf	PKPdf	09 10 51.5	-1.2
NEN	**Nelson**	151.04	315	*e*PKPbc	PKPdf	09 11 06.0	+5.6
TPH	**Tonopah**	151.09	321	*e*PKPbc	PKPdf	09 11 05.6	+5.2

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*ISK **26** 09:11:27.6, 37.72N×29.21E, $h5^{km}$, MD3.7, ML3.8*

*NEIC **26** 09:11:27.6, 37.72N×29.21E, $h5^{km}$, MD3.8(ATH), After ISK.*

*IDC **26** 09:11:28.6±1.7, 37.70N×29.30E, mb3.9/2, mb1 3.8/7, mb1mx3.6/23, ML3.6/5, Error ellipse: s-maj=28.0km s-min=21.8km az=15.0*

ISC 26 09:11:28.7±0.5**, 37.71N**±0.03×**29.19E**±0.03**, $h6^{km}$**$\pm 4^{km}$**, n52, $\sigma 0\overset{s}{.}81$**/62**, mb3.8**/2**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DNZL	**Cakiroluk**	0.12	260	*i* P	Pg	09 11 31.3	0.0
DNZL				*i* S	Sg	09 11 33.6	+0.6
DENT	**Denizli**	0.13	289	*i* PG	Pg	09 11 31.1	-0.5
KHL	**Karahalli**	0.67	23	*i* PG	Pg	09 11 40.9	-1.1
YER	**Yerkesik**	0.92	232	*i* PG	Pg	09 11 46.6	-0.5
MANT	**Manisa**	0.93	327	*i* P	Pb	09 11 45.9	-0.8
MANT				*i* S	Sb	09 11 58.5	-0.5
DALT	**Dalyan (Mudla)**	1.04	205	PG	Pg	09 11 48.6	-0.8
AYDN	**Tasoluk**	1.04	268	*i* P	Pb	09 11 48.2	-0.5
AYDN				*i* S	Sb	09 12 01.5	-0.8
ISP	**Isparta**	1.05	82	*i* PG	Pg	09 11 48.8	-0.9
ISP				*i* SG	Sg	09 12 04.5	+0.8
ISP	**Isparta**	1.05	82	Pg	Pg	09 11 48.8	-0.9
ISP				Sg	Sg	09 12 04.8	+1.1
ELL	**Elmali**	1.12	149	*e*PN	Pn	09 11 50.0	-0.7
BCK	**Bucak**	1.14	102	*e*PN	Pn	09 11 50.3	-0.7
MLSB	**Milas**	1.20	250	*e*PN	Pn	09 11 51.0	-0.9
ALT	**Altintas**	1.52	28	PN	Pn	09 11 56.7	+0.2
BDRM	**Kayabasi**	1.53	246	*i* P	Pn	09 11 56.7	+0.1
BDRM				*i* S	Sb	09 12 16.9	+0.3
KSL	**Kastellorizon**	1.59	169	*e*Pb	Pb	09 11 59.5	+1.5
KSL				Sb	Sb	09 12 22.5	+4.3
AKS	**Akhisar**	1.59	318	PN	Pn	09 11 58.2	+0.7
IZM	**Izmir**	1.67	295	*e*PN	Pn	09 12 00.0	+1.4
ARG	**Arkhangelos**	1.72	210	Pb	Pb	09 12 01.4	+1.2
ARG				Sb	Sb	09 12 26.9	+4.9
SMG	**Samos**	1.87	271	Pg	Pg	09 12 00.8	-5.2
SMG				Sb	Sb	09 12 25.9	-0.4
DST	**Dursunbey**	1.94	347	PN	Pn	09 12 02.7	+0.2
BALB	**Balikesir**	2.18	332	*e*PN	Pn	09 12 07.0	+1.0
ESKT	**Eskisehir**	2.23	35	*e*PN	Pn	09 12 07.5	+0.9
ORLT	**Orhaneli**	2.34	354	*e*PN	Pn	09 12 09.3	+1.0
KIZT	**Kizilcal**	2.42	60	PN	Pn	09 12 09.8	+0.5
KONT	**Konya--Tatoy**	2.52	84	*e*PN	Pn	09 12 10.7	-0.1
KARP	**Karpathos**	2.71	218	Pn	Pn	09 12 14.5	+1.1
GPA	**Golpazari**	2.72	18	*e*PN	Pn	09 12 13.5	-0.1
HDMB	**Hadim**	2.73	105	*e*PN	Pn	09 12 14.0	+0.2
PRK	**Paraskevi**	2.76	305	Pn	Pn	09 12 13.2	-1.0
YLV	**Yalova**	2.86	3	*e*PN	Pn	09 12 15.8	+0.2
APE	**Apeiranthos**	2.99	259	PN	Pn	09 12 18.1	+0.7
APE	**Apeiranthos**	2.99	259	*e*Pn	Pn	09 12 17.5	+0.1
HRT	**Hereke**	3.13	7	PN	Pn	09 12 20.4	+0.9
BADT	**Buyukada**	3.14	359	*e*PN	Pn	09 12 20.0	+0.4
MDU	**Mudurnu**	3.17	29	*e*PN	Pn	09 12 20.3	+0.3
LPK	**Lapseki**	3.27	325	*e*PN	Pn	09 12 22.3	+0.9
ISK	**Istanbul-Kandi**	3.35	358	*e*PN	Pn	09 12 22.9	+0.3
MFT	**Murefte**	3.41	335	*e*PN	Pn	09 12 23.2	-0.3
ANTO	**Ankara**	3.54	51	PN	Pn	09 12 26.5	+1.1
IKL	**Isikli**	3.89	111	*e*PN	Pn	09 12 30.6	+0.4
LEF	**Lefka**	3.95	130	*e*PN	Pn	09 12 31.1	0.0
BRTR	**Keskin Array B**	4.02	59	Pn	Pn	09 12 31.5	-0.6
	2.2nm,0.3s,baz=192,slow=21,SNR=23						
BRTR				Sn	Sn	09 13 19.1	-0.9
	2.6nm,0.3s,baz=229,slow=25,SNR=8.3						
IDI	**Anoyia**	4.22	236	Pn	Pn	09 12 35.1	+0.1
	3.4nm,0.3s,baz=44,slow=15,SNR=12						
CSS	**Prodhromos**	4.32	128	*e*Pn	Pn	09 12 36.2	-0.2
EDRB	**Edirne**	4.54	336	*e*PN	Pn	09 12 39.5	0.0
MLR	**Muntele Rosu**	8.15	344	Pn	P	09 13 29.6	-0.7
	0.5nm,0.3s,baz=121,slow=18,SNR=4.9						
ASF	**Jabal al Asfar**	8.40	129	Pn	P	09 13 31.0	-2.7
	0.4nm,0.3s,baz=349,slow=6.8,SNR=2.5						
GERES	**GERESS Array B**	15.81	320	Pn	P	09 15 16.9	+3.6
	0.1nm,0.3s,baz=135,slow=11,SNR=8.0						
HFS	**Hagfors**	24.52	341	P	P	09 16 48.5	-1.0
	5.2nm,1.1s,mb4.0,baz=146,slow=5.3,SNR=4.7						
HFS	**Hagfors**	24.52	341	P	P	09 16 48.5	-1.1
MKAR	**Makanchi Array**	39.67	59	P	P	09 19 01.4	-1.5
	0.6nm,0.6s,mb3.5,baz=275,slow=7.4,SNR=7.9						
MKAR	**Makanchi Array**	39.67	59	P	P	09 19 01.4	-1.5

NIED 26 09:27:00, 44.60N×148.90E, $h35^{km}$, Mw3.8 Best double couple: $M_0 5.69\times10^{14}$ **NP1:**ϕ_s25°**,** δ72°**,** λ111°. **NP2:** ϕ_s155°**,** δ28°**,** λ43°.**, Kuril Islands**

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*NEIC **26** 09:28:02.1±0.7, 41.57N×20.16E, $h10^{km}$, MD2.6(PDG), Error ellipse: s-maj=7.7km s-min=6.8km az=47.0*

*TIR **26** 09:28:03.4, 41.61N×20.02E, $h17^{km}$, Ml2.6*

*THE **26** 09:28:05.3, 41.53N×20.21E, $h21^{km}$, ML3.3*

*PDG **26** 09:28:09.6±0.1, 41.85N×19.73E, $h11^{km}$*

ISC 26 09:28:01.8±0.4**, 41.58N**±0.02×**20.18E**±0.03**, $h11^{km}$**$\pm 4^{km}$**, n25, $\sigma 1\overset{s}{.}17$**/42**, 1C-7D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TIR	**Tirane**	0.33	226	⇓*i*Pg	Pg	09 28 08.7	0.0
TIR				*i* Sg	Sg	09 28 13.8	+0.5
LACI	**Lac**	0.36	279	*i* Pg	Pg	09 28 09.4	+0.2
LACI				*i* Sg	Sg	09 28 14.9	+0.8
PRZA	**Preza**	0.41	249	*i* Pg	Pg	09 28 12.5	+2.3
PUK	**Puka**	0.51	335	*i* Pg	Pg	09 28 12.8	+0.6
PUK				*i* Sg	Sg	09 28 21.3	+2.2
OHR	**Ohrid**	0.66	135	*i* Pg	Pg	09 28 14.7	-0.4
OHR				*i* Sg	Sg	09 28 24.7	+0.7
SDA	**Shkodra**	0.69	313	*i* Pg	Pg	09 28 15.7	-0.1
SDA				*i* Sg	Sg	09 28 27.3	+2.2
ULC	**Ulcinj**	0.79	299	⇓*i*Pg	Pg	09 28 16.8	-1.0
ULC				*e*Sg	Sg	09 28 23.0	-5.4
SKO	**Skopje**	1.02	67	⇓*i*Pg	Pg	09 28 21.5	-0.8
SKO				⇓*i*Sg	Sg	09 28 35.5	-0.5
SKO				Lg		09 28 38.0	
	comp=Z,0.3nm,0.6s						
PVY	**Plav**	1.03	352	*e*Pg	Pg	09 28 23.9	+1.5
PVY				*e*Sg	Sg	09 28 36.3	+0.1
TTG	**Podgorica**	1.09	321	⇓*i*Pg	Pg	09 28 22.4	-1.3
TTG				*e*Sg	Sg	09 28 33.3	-5.0
FNA	**Florina**	1.20	131	*e*Pg	Pg	09 28 24.7	-1.2
FNA				*e*Sg	Sg	09 28 41.8	-0.2
IVA	**Berane**	1.31	351	*e*Pg	Pg	09 28 28.7	+0.7
IVA				*e*Sg	Sg	09 28 45.2	-0.3
BARS	**Barje**	1.74	44	⇑*i*Pn	Pn	09 28 32.8	+0.5
BARS				Sn	Sn	09 28 56.2	+1.6
GRG	**Griva**	1.79	110	*e*Pb	Pb	09 28 33.0	-1.1
BRY	**Bratogost**	1.79	318	*e*Pg	Pg	09 28 34.8	-2.9
BRY				*e*Sg	Sg	09 28 56.4	-5.2
PLE	**Pljevlja**	1.84	342	⇓*i*Pg	Pg	09 28 37.2	-1.4
PLE				*e*Sg	Sg	09 28 59.9	-3.4
UPM	**Unac-Piva**	1.88	330	⇓*i*Pg	Pg	09 28 37.0	-2.2
UPM				*e*Sg	Sg	09 28 59.3	-5.1
LIT	**Litokhoron**	2.29	129	*e*Pn	Pn	09 28 41.6	+1.5
LIT				*e*Sn	Sn	09 29 08.2	-0.3
THE	**Thessaloniki**	2.31	113	*e*Pn	Pn	09 28 41.4	+1.1
SRS	**Serrai**	2.61	99	*e*Pn	Pn	09 28 46.0	+1.3
AGG	**Agios Georgios**	3.04	146	*e*Pn	Pn	09 28 51.6	+0.8
AGG				*e*Sn	Sn	09 29 26.7	-0.7
MRLC	**Muro Lucano**	3.63	258	*e*Pn	Pn	09 28 59.4	+0.2
SLCN	**Sala Consilina**	3.64	252	*e*Pn	Pn	09 28 58.5	-0.8
SGO	**Sicignano**	3.82	256	*e*Pn	Pn	09 29 00.4	-1.4
SGG	**Gregorio Mates**	4.36	269	*e*Pn	Pn	09 29 08.8	-0.7

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*BJI **26** 09:32:26.7, 38.05N×134.68E, $h429^{km}$, mB4.4, mb4.6*

*JMA **26** 09:32:27.9±0.2, 38.13N×134.59E, $h420^{km}\pm 3^{km}$, M3.3*

*NEIC **26** 09:32:28.2±0.6, 38.05N×134.49E, $h404^{km}\pm 8^{km}$, mb4.1/3, Error ellipse: s-maj=15.0km s-min=10.0km az=61.0*

*IDC **26** 09:32:29.1±2.0, 38.12N×134.55E, $h412^{km}\pm 26^{km}$, mb3.0/7, mb1 3.2/9, mb1mx3.0/23, Error ellipse: s-maj=24.7km s-min=13.3km az=70.0*

ISC 26 09:32:27.8±0.4**, 38.13N**±0.06×**134.62E**±0.09**, $h420^{km}$**$\pm 6^{km}$**, n26, $\sigma 0\overset{s}{.}70$**/32**, mb3.4**/9**, Sea of Japan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHG	**Hegura jima**	1.84	98	P	P	09 33 25.1	0.0
JSZ	**Suzu**	2.28	106	P	P	09 33 27.9	+0.2
JKG	**Kaga**	2.30	143	P	P	09 33 28.1	+0.2
JTT	**Ttatey**	2.64	124	P	P	09 33 30.7	+0.5
JSD	**Sado**	2.88	91	P	P	09 33 32.1	+0.1
JSD				S	S	09 34 22.1	-0.5
JWT	**Wachi**	2.91	167	S	S	09 34 23.0	0.0
JNG	**Nsakai**	3.27	121	P	P	09 33 35.4	+0.3
JNG				S	S	09 34 29.4	+1.2
MAJO	**Matsushiro**	3.27	118	*e*Pn	P	09 33 34.8	-0.3
MAT	**Matsushiro**	3.27	118	P	P	09 33 34.4	-0.7
MAT				S	S	09 34 27.9	-0.3
MAT	**Matsushiro**	3.27	118	*e*P	P	09 33 34.0	-1.1
MAT				*e*S	S	09 34 28.0	-0.2
JHJ	**Hachijo jima 2**	6.53	138	P	P	09 34 08.9	+1.4
	2.8nm,0.3s,baz=73,slow=19,SNR=3.9						
JHJ				S	S	09 35 24.9	-1.3
	9.2nm,0.3s,baz=51,slow=17,SNR=3.4						
MDJ	**Mudanjiang**	7.50	331	P	P	09 34 18.5	+0.1
MDJ				AMB	AMB		
	comp=Z,14nm,1.0s						
MDJ				AMB	AMB		
	comp=Z,64nm,6.2s						
MDJ	**Mudanjiang**	7.50	331	*e*Pn	P	09 34 18.4	0.0
ASAJ	**Asahikawa**	8.49	43	P	P	09 34 29.6	+0.1
	comp=Z,5.3nm,0.3s,baz=238,slow=10,SNR=42						
ASAJ				S	S	09 36 04.6	-1.1
	comp=Z,0.4nm,0.3s,baz=72,slow=32,SNR=6.0						
CN2	**Changchun**	8.96	312	*e*P	P	09 34 35.0	+0.2
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s						
YSS	**Yuzh-Sakhalins**	10.66	32	*e*Pn	P	09 34 55.0	+0.7
HIA	**Hailar**	15.45	321	P	P	09 35 45.0	-0.8
	comp=Z,5.1nm,0.5s						
ENH	**Enshi**	22.17	257	*e*P	P	09 36 50.0	-1.7
	comp=Z,8.7nm,0.6s,mb4.4						
SONM	**Songino Array**	22.70	304	P	P	09 36 57.3	+0.8
	comp=Z,0.6nm,0.5s,mb3.3,baz=114,slow=10,SNR=5.3						
MKAR	**Makanchi Array**	38.93	300	P	P	09 39 16.5	+0.1
	comp=Z,1.3nm,0.8s,mb3.3,baz=85,slow=10,SNR=11						
KURK	**Kurchatov**	40.98	307	*e*P	P	09 39 32.3	-0.8
	comp=Z,1.5nm,0.6s,mb3.5						
ILAR	**Eielson Array**	51.47	32	P	P	09 40 54.1	+0.3
	comp=Z,0.4nm,1.1s,mb2.6,baz=274,slow=5.6,SNR=4.2						
WRA	**Warramunga Arr**	57.76	180	P	P	09 41 39.0	0.0
	comp=Z,0.6nm,0.4s,mb3.2,baz=356,slow=7.6,SNR=21						
ASAR	**Alice Springs**	61.47	181	P	P	09 42 03.7	+0.1
	comp=Z,0.3nm,0.5s,mb3.0,baz=356,slow=7.2,SNR=7.3						
FINES	**FINESS Array B**	65.25	330	P	P	09 42 28.3	+0.9
	comp=Z,2.4nm,1.0s,mb3.8,baz=104,slow=7.9,SNR=9.2						
AKASG	**Malin Array Be**	70.04	319	P	P	09 42 57.2	+0.3
	comp=Z,1.0nm,0.5s,mb3.6,baz=48,slow=6.3,SNR=7.1						

IDC 26 10:03:22.7±2.2**, 31.27S**×**121.94E, mb1 4.0**/5**, mb1mx3.8**/11**, ML3.6**/4**, Error ellipse: s-maj=59.1km s-min=19.4km az=150.0, Western Australia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	4.32	246	Pn	Pn	10 04 30.5	-0.7
	0.5nm,0.3s,baz=86,slow=14,SNR=5.5						
NWAO				Pg	Pg	10 04 39.9	-9.0
	2.7nm,0.3s,baz=79,slow=14,SNR=16						
NWAO				Lg		10 05 33.9	
	20nm,0.3s,baz=150,slow=21,SNR=14						
NWAO				Rg		10 05 54.0	
	51nm,0.5s,baz=119,slow=13,SNR=4.7						
ASAR	**Alice Springs**	13.04	57	Pn	P	10 06 31.1	-0.9
	0.7nm,0.3s,baz=227,slow=11,SNR=108						
ASAR				Sn	S	10 08 51.2	-7.8
	0.3nm,0.3s,baz=239,slow=22,SNR=7.7						
ASAR				Lg		10 10 14.8	
	0.2nm,0.3s,baz=234,slow=26,SNR=3.1						
FITZ	**Fitzroy Crossi**	13.53	15	Pn	P	10 06 37.0	-1.6
	0.5nm,0.3s,baz=207,slow=12,SNR=13						
FITZ				Sn	S	10 08 59.7	-11
	0.2nm,0.3s,baz=171,slow=22,SNR=3.6						
WRA	**Warramunga Arr**	15.87	48	Pn	P	10 07 06.3	-2.9
	0.3nm,0.3s,baz=225,slow=13,SNR=28						
WRA				Sn	S	10 09 52.7	-14
	0.1nm,0.3s,baz=220,slow=23,SNR=4.8						
WRA				Lg		10 11 45.4	
	baz=234,slow=30,SNR=2.8						
STKA	**Stephens Creek**	16.77	97	Pn	P	10 07 18.9	-1.7
	0.1nm,0.3s,baz=288,slow=13,SNR=2.2						
STKA				Sn	S	10 10 16.1	-11
	0.1nm,0.3s,baz=316,slow=20,SNR=3.3						
STKA				Lg		10 12 08.2	
	baz=196,slow=3.6,SNR=2.3						

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*NIED **26** 10:34:00, 36.70N×141.50E, $h20^{km}$, Mw3.9 Best double couple: $M_0 8.11\times10^{14}$ NP1:ϕ_s190°, δ87°, λ99°. NP2:ϕ_s299°, δ10°, λ20°.*

*JMA **26** 10:34:04.5±0.2, 36.72N×141.61E, $h42^{km}\pm 3^{km}$, M3.8*

*IDC **26** 10:34:05.4±4.5, 36.67N×141.51E, $h35^{km}\pm 37^{km}$, mb3.6/10, mb1 3.9/13, mb1mx3.8/25, ML3.6/3, Error ellipse: s-maj=27.1km s-min=14.7km az=94.0*

*NEIC **26** 10:34:08.7±1.6, 36.65N×141.43E, $h66^{km}\pm 14^{km}$, mb4.2/2, Error ellipse: s-maj=16.3km s-min=13.0km az=70.0*

ISC 26 10:34:03.6±1.1**, 36.68N**±0.04×**141.67E**±0.10**, $h38^{km}$**$\pm 10^{km}$**, n25, $\sigma 1\overset{s}{.}14$**/33**, mb3.9**/12**, 3C-4D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	0.82	301	⇑P	P	10 34 18.8	+0.1
JHO	**Hitachi**	0.89	266	⇓P	P	10 34 19.9	+0.2

JHO				*e*S	S	10 34 30.7	-0.9
JFK	Kawauchi	0.94	317	⇑P	P	10 34 20.4	0.0
JFK				*e*S	S	10 34 31.6	-1.1
JFT	Otama	1.36	308	P	P	10 34 27.7	+1.3
JMM	Marumori	1.37	330	⇑P	P	10 34 26.9	+0.2
JMM				*e*S	S	10 34 43.2	-0.7
JFY	Yanaizu	1.73	295	P	P	10 34 33.1	+1.3
MAJO	Matsushiro	2.79	268	⇓*e*Pn	P	10 34 48.3	+1.4
MAT	Matsushiro	2.79	268	⇓P	P	10 34 48.6	+1.7
MAT				S	S	10 35 22.5	+2.8
MAT	Matsushiro	2.79	268	⇓*i*P	P	10 34 48.6	+1.7
MAT				*e*S	S	10 35 23.0	+3.3
JHJ	Hachijo jima 2	3.88	204	Pn	P	10 35 02.3	0.0
	19nm,0.3s,baz=88,slow=23,SNR=13						
JHJ				Sn	S	10 35 45.4	-1.9
	36nm,0.3s,baz=259,slow=23,SNR=4.7						
ASAJ	Asahikawa	7.46	5	Pn	P	10 35 51.5	-1.1
	0.5nm,0.3s,baz=180,slow=15,SNR=4.4						
ASAJ				Sn	S	10 37 15.2	-1.7
	0.2nm,0.3s,baz=73,slow=34,SNR=1.8						
CBIJ	Chichi jima	9.57	177	Pn	P	10 36 16.9	-5.0
	3.2nm,0.3s,baz=152,slow=18,SNR=2.3						
CBIJ				Sn	S	10 37 58.0	-11
	5.2nm,0.3s,baz=292,slow=20,SNR=3.2						
JOW	Kunigami	15.03	233	Sn	S	10 40 09.1	-12
	1.7nm,0.3s,baz=130,slow=27,SNR=4.1						
SONM	Songino Array	28.16	304	P	P	10 39 53.0	-1.2
	1.3nm,0.6s,mb3.7,baz=101,slow=6.3,SNR=8.3						
ZAL	Zalesovo	42.32	313	P	P	10 41 54.6	-0.5
	0.9nm,0.4s,mb3.7,SNR=2.7						
MKAR	Makanchi Array	44.48	302	P	P	10 42 12.4	-0.3
	0.6nm,0.7s,mb3.4,baz=91,slow=9.1,SNR=7.2						
KURK	Kurchatov	46.31	308	P	P	10 42 26.1	-1.1
	3.1nm,0.6s,mb4.4						
ILAR	Eielson Array	49.68	32	P	P	10 42 53.9	+0.6
	1.0nm,0.9s,mb3.9,baz=270,slow=5.2,SNR=10						
FITZ	Fitzroy Crossi	56.55	198	P	P	10 43 43.9	-0.9
	1.4nm,0.5s,mb4.2,baz=30,slow=6.1,SNR=6.1						
WRA	Warramunga Arr	56.74	188	P	P	10 43 44.7	-1.4
	1.4nm,0.7s,mb4.1,baz=4.8,slow=7.3,SNR=13						
ASAR	Alice Springs	60.47	188	P	P	10 44 11.8	-0.2
	0.9nm,0.8s,mb3.9,baz=339,slow=4.4,SNR=4.3						
NOA	NORSAR Array B	74.59	337	P	P	10 45 40.4	+0.6
	1.2nm,0.9s,mb3.8,baz=37,slow=6.1,SNR=3.6						
TPNV	Topopah Spring	77.22	53	P	P	10 45 57.6	+2.3
	2.4nm,1.1s,mb4.0						
PDAR	Pinedale Array	77.76	46	P	P	10 45 59.9	+1.7
	0.4nm,0.7s,mb3.5,baz=270,slow=3.0,SNR=4.4						
GERES	GERESS Array B	83.12	328	P	P	10 46 27.6	+1.1
	0.5nm,0.7s,mb3.6,baz=34,slow=4.8,SNR=4.4						

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*IDC **26** 10:40:38.6±2.7,25.51S×137.15E,mb1 2.8/3, mb1mx2.8/9,ML2.6/3,Error ellipse: s-maj=34.7km s-min=20.0km az=52.0*

*AUST **26** 10:40:40.7,25.66S×137.04E,ML2.0*

ISC 26 10:40:36.6±1.0,**25.49S**±0.07×**137.10E**±0.06,**n7,**σ$1\overset{s}{.}$**23**/15, **Northern Territory**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAR	Alice Springs	3.43	301	Pn	Pn	10 41 34.5	+2.1
	0.3nm,0.3s,baz=118,slow=14,SNR=17						
ASAR				Pg	Pg	10 41 43.6	-1.4
	0.4nm,0.3s,baz=129,slow=15,SNR=14						
ASAR				Sn	Sn	10 42 14.0	-0.4
	0.7nm,0.3s,baz=130,slow=22,SNR=7.4						
ASAR				Lg		10 42 28.4	
	0.9nm,0.3s,baz=122,slow=28,SNR=8.3						
ASPA	Alice Springs	3.43	301	*e*P	Pn	10 41 34.2	+1.8
ASPA				*e*S	Sn	10 42 14.1	-0.3
QIS	Mount Isa	5.43	26	*e*P	Pn	10 42 01.8	+1.1
QIS				*e*S	Sn	10 43 04.4	-0.4
	0.7nm,0.1s						
WB2	Warramunga Arr	6.08	335	*e*P	Pn	10 42 11.4	+1.5
WB2				*e*S	Sn	10 43 20.4	-0.8
WRA	Warramunga Arr	6.08	335	Pn	Pn	10 42 10.4	+0.5
	0.1nm,0.3s,baz=165,slow=12,SNR=10						
WRA				Sn	Sn	10 43 19.9	-1.4
	0.2nm,0.3s,baz=158,slow=24,SNR=6.0						
WRA				Lg		10 43 53.2	
	0.4nm,0.3s,baz=161,slow=28,SNR=6.6						
STKA	Stephens Creek	7.48	149	*e*P	Pn	10 42 28.3	-1.4
STKA				*e*S	Sn	10 43 45.3	-11
	1.1nm,0.3s						
STKA	Stephens Creek	7.48	149	Pn	Pn	10 42 27.8	-1.9
	0.2nm,0.3s,baz=302,slow=16,SNR=4.7						
STKA				Sn	Sn	10 43 44.4	-12
	0.3nm,0.3s,baz=330,slow=14,SNR=3.0						

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*IDC **26** 10:42:57.7±15.0,0.09S×123.14E,h189^{km}±161^{km}, mb3.3/5,mb1 3.4/6,mb1mx3.3/16,ML4.3/1,Error ellipse: s-maj=98.5km s-min=24.4km az=60.0*

ISC 26 10:43:01.0±5.9,**0.3S**±0.2×**122.7E**±0.5,**h245**^{km}±63^{km},**n9,** σ$0\overset{s}{.}$**34**/9,**mb3.5**/5,**Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	Kakadu	15.62	142	*e*P	P	10 46 30.6	+0.3
	5.2nm,0.6s						
FITZ	Fitzroy Crossi	17.93	171	*e*P	P	10 46 55.7	+0.1
	2.7nm,0.6s						
FITZ	Fitzroy Crossi	17.93	171	P	P	10 46 55.2	-0.4
	0.8nm,0.3s,baz=356,slow=9.3,SNR=19						
WRA	Warramunga Arr	22.60	150	P	P	10 47 41.5	-0.5
	1.9nm,0.5s,mb3.9,baz=330,slow=10,SNR=27						
WB2	Warramunga Arr	22.61	150	*e*P	P	10 47 41.8	-0.3
ASAR	Alice Springs	25.64	156	P	P	10 48 10.6	+0.2
	0.7nm,0.7s,mb3.4,baz=343,slow=15,SNR=6.7						
STKA	Stephens Creek	36.13	152	P	P	10 49 42.1	+0.4
	0.8nm,0.4s,mb3.6,baz=335,slow=8.8,SNR=6.1						
SONM	Songino Array	50.00	346	P	P	10 51 32.1	-0.3
	0.7nm,0.7s,mb3.1,baz=154,slow=8.2,SNR=5.2						
MKAR	Makanchi Array	58.72	329	P	P	10 52 35.5	+0.3
	0.4nm,0.5s,mb3.4,baz=121,slow=8.3,SNR=7.9						

IDC 26 10:55:37.6±18.0,**23.44S**×**175.34W,mb4.2**/5,**mb1 4.3**/5, **mb1mx4.0**/13,**Error ellipse: s-maj=330.0km s-min=137.2km az=82.0,Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	35.76	268	*e*P	P	11 02 39.5	-0.9
	3.8nm,0.4s						
CTA	Charters Tower	35.76	268	P	P	11 02 38.9	-1.5
	5.7nm,0.5s,baz=96,slow=11,SNR=12						
STKA	Stephens Creek	38.85	248	P	P	11 03 04.8	-1.5
	1.4nm,0.5s,baz=83,slow=10,SNR=5.1						
ASAR	Alice Springs	46.32	259	P	P	11 04 05.2	-2.0
	0.5nm,0.5s,baz=93,slow=9.1,SNR=13						
WB2	Warramunga Arr	46.69	264	*e*P	P	11 04 07.9	-2.3
WRA	Warramunga Arr	46.70	264	P	P	11 04 07.9	-2.4
	2.5nm,0.5s,baz=104,slow=8.0,SNR=31						
FITZ	Fitzroy Crossi	55.12	264	P	P	11 05 12.4	-1.8
	2.4nm,0.7s,baz=137,slow=10,SNR=6.0						

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*IDC **26** 11:31:31.9±0.7,20.35N×146.84E,mb4.0/12,mb1 4.1/12, mb1mx4.1/21,MS3.5/4,Ms1 3.6/4,ms1mx3.2/21,Error ellipse: s-maj=35.0km s-min=15.0km az=90.0*

*NEIC **26** 11:31:33.6±0.5,20.36N×146.79E,h10^{km},mb4.4/6,Error ellipse: s-maj=21.3km s-min=8.6km az=91.0*

ISC 26 11:31:31.9±0.5,**20.33N**±0.06×**146.8E**±0.2,**h10**^{km},**n28,** σ$0\overset{s}{.}$**81**/24,**mb4.2**/20,**MS3.6**/2,**Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	Guam	6.95	195	Pn	Pn	11 33 16.5	+0.2
JHJ	Hachijo jima 2	14.17	335	LR	LR	11 39 15.0	
	comp=Z,77nm,21.5s,baz=360,slow=33						
JOW	Kunigami	18.13	294	LR	LR	11 41 49.4	
	comp=Z,273nm,18.3s,baz=175,slow=34						
ASAJ	Asahikawa	23.97	353	P	P	11 36 49.5	+2.2
	3.1nm,0.7s,mb3.9,baz=190,slow=18,SNR=4.1						
ASAJ				LR	LR	11 45 30.0	
	comp=Z,64nm,19.4s,MS3.1,baz=176,slow=35						
CTA	Charters Tower	40.17	181	P	P	11 39 11.6	+1.5
	3.4nm,1.0s,mb4.0,baz=348,slow=9.3,SNR=2.9						
WRAB	Tennant Creek	41.82	198	*e*P	P	11 39 24.3	+0.6
	2.5nm,0.6s,mb4.0						
WB2	Warramunga Arr	41.83	198	*e*P	P	11 39 23.9	+0.1
WRA	Warramunga Arr	41.84	198	P	P	11 39 23.8	0.0
	1.0nm,0.5s,mb3.7,baz=24,slow=8.9,SNR=24						
WRA				PcP	PcP	11 41 20.0	-0.5
	0.8nm,0.6s,baz=11,slow=3.2,SNR=6.8						
SONM	Songino Array	42.52	320	P	P	11 39 29.6	+0.5
	0.5nm,0.5s,mb3.5,baz=138,slow=7.6,SNR=4.5						
SONM				PcP	PcP	11 41 22.7	+0.3
	0.6nm,0.5s,baz=136,slow=3.2,SNR=4.6						
ASAR	Alice Springs	45.49	197	P	P	11 39 52.6	-0.8
	0.6nm,0.6s,mb3.6,baz=16,slow=8.0,SNR=16						
ASAR				PcP	PcP	11 41 33.2	+0.4
	0.5nm,0.6s,baz=8.4,slow=3.2,SNR=5.1						
STKA	Stephens Creek	52.15	186	P	P	11 40 44.0	-0.8
	1.0nm,0.5s,mb4.0,baz=39,slow=7.5,SNR=5.5						
MKAR	Makanchi Array	58.07	313	P	P	11 41 27.4	-0.2
	1.1nm,0.6s,mb4.1,baz=91,slow=8.9,SNR=14						
MKAR				PcP	PcP	11 42 19.1	-0.1
	1.4nm,0.5s,baz=78,slow=4.6,SNR=10						
KURK	Kurchatov	60.74	317	*e*P	P	11 41 45.3	-0.7
	2.1nm,0.6s,mb4.4						
KURK				*e*		11 41 51.1	
ILAR	Eielson Array	61.74	26	P	P	11 41 51.5	-1.0
	1.7nm,0.8s,mb4.2,baz=259,slow=5.6,SNR=17						
BRVK	Borovoye	65.93	320	*e*P	P	11 42 20.3	+0.2
	3.8nm,0.6s,mb4.6						
ZRNK	Zerenda	66.71	320	*e*P	P	11 42 24.8	-0.3
	1.1nm,0.5s,mb4.1						
INK	Inuvik	67.48	23	*e*P	P	11 42 29.6	-0.2
	3.5nm,0.8s,mb4.4						
KEV	Kevo	80.69	342	*e*p	P	11 43 49.3	+3.1
ARCES	ARCESS Array B	81.25	342	P	P	11 43 49.7	+0.6
	1.6nm,0.8s,mb4.0,baz=53,slow=6.1,SNR=6.8						
KAF	Kangasniemi	85.34	336	*e*p	P	11 44 09.4	-0.7
	1.4nm,0.6s,mb4.3,baz=53,slow=4.5						
FINES	FINESS Array B	85.82	336	P	P	11 44 12.3	-0.2
	3.5nm,0.6s,mb4.8,baz=68,slow=5.1,SNR=39						
FINES	FINESS Array B	85.82	336	P	P	11 44 12.3	-0.2
PDAR	Pinedale Array	85.97	46	P	P	11 44 13.6	-0.1
	0.4nm,0.6s,mb3.8,baz=270,slow=1.5,SNR=4.8						
MIB	Mutribah	87.86	301	*e*P	P	11 44 23.1	-0.1
MIB				AMb	AMB	11 44 24.3	
	comp=Z,15nm,0.7s,mb5.3						
RST	Umm Al-Ruwaisa	88.25	301	*e*P	P	11 44 24.4	-0.7
RST				AMb	AMB	11 44 25.0	
	comp=Z,8.5nm,0.7s,mb5.1						
NOA	NORSAR Array B	91.39	340	LR	LR	12 26 06.1	
	comp=Z,77nm,19.2s,MS4.2,baz=290,slow=36						
BRTR	Keskin Array B	93.69	315	P	P	11 44 49.5	-0.6
	comp=Z,0.6nm,0.6s,mb4.2,baz=90,slow=4.9,SNR=4.4						
SAML	Samuel	148.96	73	*e*PKPbc	PKPdf	11 51 23.6	+3.7

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*STR **26** 11:49:09.9±5.1,47.98N×1.13W,h5^{km}±1^{km},Ml2.8,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LDG **26** 11:49:12.4±0.0,47.64N×0.28W,h3^{km},Md3.0/3,Ml2.9/31, Error ellipse: s-maj=0.9km s-min=0.8km az=21.0*

*NEIC **26** 11:49:12.4,47.64N×0.28W,h3^{km},ML2.9(LDG), ML2.8(STR),After LDG.*

ISC 26 11:49:09.3±0.3,**47.65N**±0.02×**0.18W**±0.02,**h4**^{km}±2^{km},**n34,** σ$1\overset{s}{.}$**42**/95,**France**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GRR	Gorron	0.86	329	*e*Pg	Pg	11 49 28.4	+1.9
GRR				*e*Sg	Sg	11 49 38.9	+0.8
	81nm,0.2s						
LDF	La Druitiere	0.94	2	*e*Pg	Pg	11 49 30.8	+2.7
LDF				*e*Sg	Sg	11 49 42.2	+1.6
	77nm,0.2s						
MFF	Saint Martin d	1.05	179	*e*Pg	Pg	11 49 32.2	+1.9
MFF				*e*Pn	Pn	11 49 32.7	+2.1
MFF				*e*Sg	Sg	11 49 45.6	+1.3
	54nm,0.2s						
FLN	La Foliniere	1.13	350	*e*Pg	Pg	11 49 33.7	+1.9
FLN				*e*Sg	Sg	11 49 47.8	+1.0
	140nm,0.2s						
LRYF	La Roche-sur-Y	1.42	221	Pg	Pg	11 49 37.6	-0.1
LRYF				Sg	Sg	11 49 56.8	+0.1
SGMF	Saint Gilles	1.71	292	*e*Pn	Pn	11 49 40.9	+0.9
	31nm,0.3s						
SGMF				*e*Pg	Pg	11 49 42.8	-0.5
SGMF				*e*Sn	Sn	11 50 00.7	-1.8
SGMF				*e*Sg	Sg	11 50 04.2	-1.9
OLEF	Ile d’Oleron	1.89	206	Pg	Pg	11 49 47.0	0.0
HYF	Humbligny	1.95	100	*e*Pg	Pg	11 49 49.6	+1.4
HYF				*e*Sn	Sn	11 50 09.8	+1.1
HYF				*e*Sg	Sg	11 50 15.4	+1.1
QUIF	Quistinic	2.03	279	*e*Pn	Pn	11 49 44.9	+0.3
QUIF				*e*Pg	Pg	11 49 48.9	-0.9
QUIF				*e*Sg	Sg	11 50 13.1	-3.7
	21nm,0.2s						
TCF	Toulx Ste Croi	2.13	129	*e*Pn	Pn	11 49 48.2	+2.1
TCF				*e*Pg	Pg	11 49 52.8	+1.0
TCF				*e*Sn	Sn	11 50 13.6	+0.3
TCF				*e*Sg	Sg	11 50 21.0	+0.7
	11nm,0.2s						
ROSF	Rostrenen	2.19	289	*e*Pn	Pn	11 49 47.2	+0.3
ROSF				*e*Pg	Pg	11 49 51.6	-1.3
ROSF				*e*Sn	Sn	11 50 12.0	-2.7
ROSF				*e*Sg	Sg	11 50 18.9	-3.2
	11nm,0.2s						
BGF	Bois d’Agland	2.34	117	*e*Pn	Pn	11 49 49.8	+0.7
BGF				*e*Pg	Pg	11 49 57.2	+1.2
BGF				*e*Sn	Sn	11 50 19.1	+0.5
BGF				*e*Sg	Sg	11 50 27.8	+0.6
	44nm,0.4s						
AVF	Avril sur Loir	2.56	108	*e*Pn	Pn	11 49 54.4	+2.2
AVF				*e*Pg	Pg	11 50 01.4	+1.1
AVF				*e*Sn	Sn	11 50 24.4	+0.3
AVF				*e*Sg	Sg	11 50 34.5	0.0
	5.4nm,0.2s						
SSF	Saint Saulge	2.58	102	*e*Pn	Pn	11 49 54.3	+1.9
SSF				*e*Pg	Pg	11 50 01.2	+0.5
SSF				*e*Sn	Sn	11 50 25.2	+0.6
SSF				*e*Sg	Sg	11 50 34.8	-0.2
	8.7nm,0.2s						
RJF	Les Rejaudoux	2.63	153	*e*Pn	Pn	11 49 54.2	+1.1
RJF				*e*Pg	Pg	11 50 01.5	-0.2
RJF				*e*Sn	Sn	11 50 24.4	-1.5
RJF				*e*Sg	Sg	11 50 34.4	-2.3
	23nm,0.2s						
LOR	Lormes	2.77	97	*e*Pn	Pn	11 49 56.5	+1.3
LOR				*e*Pg	Pg	11 50 04.9	+0.4
	baz=276						
LOR				*e*Sn	Sn	11 50 29.6	+0.1
LOR				*e*Sg	Sg	11 50 41.2	-0.2
	14nm,0.2s						
AGO	Saint Agoulin	2.78	124	Pn	Pn	11 50 01.7	+6.3
LFF	La Frestale	2.79	166	*e*Pn	Pn	11 49 56.9	+1.4
LFF				*e*Pg	Pg	11 50 04.5	-0.4
LFF				*e*Sg	Sg	11 50 40.2	-1.9
	21nm,0.4s						
PYM	Petit Puy Mans	2.91	130	Pn	Pn	11 50 06.6	+9.5
SMF	Signal de Mont	2.92	109	*e*Pn	Pn	11 49 58.7	+1.3
SMF				*e*Pg	Pg	11 50 07.5	-0.1
SMF				*e*Sn	Sn	11 50 33.1	-0.3
SMF				*e*Sg	Sg	11 50 46.2	-0.4
	5.7nm,0.2s						
CAF	Calviac	3.14	149	*e*Pn	Pn	11 50 01.3	+0.8
CAF				*e*Sn	Sn	11 50 37.6	-1.3
CAF				*e*Sg	Sg	11 50 51.6	-2.2
	12nm,0.3s						
SFTF	Sexfontaines	3.55	79	*e*Pn	Pn	11 50 07.7	+1.4
SFTF				*e*Pg	Pg	11 50 20.6	+0.4
	baz=263						
SFTF				*e*Sn	Sn	11 50 48.0	-1.3
SFTF				*e*Sg	Sg	11 51 05.6	-2.0
	7.3nm,0.2s						
MEZF	Maizieres J’vi	3.61	74	*e*Pn	Pn	11 50 07.3	+0.2
MEZF				*e*Pg	Pg	11 50 19.0	-2.3
MEZF				*e*Sg	Sg	11 51 07.5	-2.0
	8.1nm,0.3s,baz=256						
BAIF	Baives	3.77	49	*e*Pn	Pn	11 50 10.9	+1.5
BAIF				*e*Sn	Sn	11 50 52.1	-2.7
	2.2nm,0.3s						
BAIF				*e*Sg	Sg	11 51 12.5	-2.2
	4.2nm,0.4s						
RFYF	Reffroy	3.91	73	*e*Pn	Pn	11 50 10.7	-0.7
RFYF				*e*Sg	Sg	11 51 17.0	-2.5
	8.5nm,0.3s						
GIVF	Givet	4.11	52	*e*Pn	Pn	11 50 15.2	+0.9
GIVF				*e*Sn	Sn	11 51 01.3	-2.2
GIVF				*e*Sg	Sg	11 51 22.4	-3.8
	4.7nm,0.3s						
VIVF	Saint-Julien-l	4.38	128	*e*Pn	Pn	11 50 18.3	+0.2
VIVF				*e*Sg	Sg	11 51 30.7	-4.3
	1.4nm,0.2s						
HAU	Haudompre	4.41	83	*e*Sn	Sn	11 51 08.2	-2.9
HAU				*e*Sg	Sg	11 51 32.2	-4.0
	5.0nm,0.2s						
SJPF	Ste Jean	4.60	190	*e*Pg	Pg	11 50 36.6	-4.5
SJPF				*e*Sn	Sn	11 51 09.5	-6.3
	2.5nm,0.5s						
SJPF				*e*Sg	Sg	11 51 35.6	-6.8
	2.7nm,0.3s						
MTLF	Montolieu	4.63	158	*e*Sg	Sg	11 51 38.2	-5.2
	4.4nm,0.5s						
EPF	Esparros	4.64	175	*e*Sn	Sn	11 51 12.3	-4.5
EPF				*e*Sg	Sg	11 51 37.8	-5.8
	2.9nm,0.3s						
HINF	Hinteralfeld	4.75	85	*e*Pg	Pg	11 50 41.4	-2.7
HINF				*e*Sn	Sn	11 51 16.8	-2.8
HINF				*e*Sg	Sg	11 51 44.3	-3.1
	3.7nm,0.3s						
ETSF	Etsaut	4.76	183	*e*Pn	Pn	11 50 22.6	-0.9
ETSF				*e*Pg	Pg	11 50 39.9	-4.4
ETSF				*e*Sg	Sg	11 51 41.1	-6.7
	0.9nm,0.2s						
CDF	Champ du Feu	5.06	79	*e*Pg	Pg	11 50 47.5	-2.8
CDF				*e*Sg	Sg	11 51 53.3	-4.5
	3.0nm,0.3s						

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*IDC **26** 12:12:53.8±7.2,34.98S×178.99E,h163^{km}±73^{km},mb3.9/4, mb1 4.0/5,mb1mx3.9/10,Error ellipse: s-maj=83.8km s-min=43.2km az=179.0*

*NEIC **26** 12:12:53.8±3.4,34.79S×178.95E,h161^{km}±21^{km},mb3.6/1, Error ellipse: s-maj=49.1km s-min=16.3km az=221.0*

*WEL **26** 12:13:03.2±0.8,35.66S×178.43E,h196^{km}±7^{km},ML4.2/10, Error ellipse: s-maj=9.5km s-min=8.3km az=90.0*

ISC 26 12:13:00.4±1.0,**35.67S**±0.08×**178.6E**±0.2,**h229**^{km}±8^{km}, **n57,**σ$1\overset{s}{.}$**32**/67,**mb3.8**/5,**1C-1D,Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.90	186	PN	P	12 13 40.4	-0.1
MXZ				SN	S	12 14 09.8	-1.7
WIZ	White Island	2.16	210	PN	P	12 13 44.8	+1.7
PUZ	Puketiti	2.41	186	PN	P	12 13 46.3	+0.6
PUZ				SN	S	12 14 17.8	-2.9
KUZ	Kuaotunu	2.54	244	PN	P	12 13 46.1	-0.8
MWZ	Matawai	2.79	197	PN	P	12 13 50.7	+1.1
MWZ				SN	S	12 14 30.7	+2.8
MWZ	Matawai	2.79	197	P	P	12 13 51.2	+1.5
URZ	Urewera	2.83	204	P	P	12 13 51.2	+1.0
	6.7nm,0.3s,baz=332,slow=17,SNR=10						
URZ				S	S	12 14 32.1	+3.3
	13nm,0.3s,baz=280,slow=23,SNR=12						
URZ	Urewera	2.83	204	PN	P	12 13 51.1	+0.9
URZ				SN	S	12 14 31.1	+2.2
URZ	Urewera	2.83	204	P	P	12 13 51.3	+1.1
EDRZ	Edgecumbe	2.84	210	PN	P	12 13 50.7	+0.5
KNZ	Kokohu	3.42	192	PN	P	12 13 57.3	+0.4
KNZ				SN	S	12 14 45.5	+4.7
KNZ	Kokohu	3.42	192	P	P	12 13 57.5	+0.6
BKZ	Black Stump Fm	3.86	205	PN	P	12 14 03.4	+1.3
BKZ				SN	S	12 14 54.4	+4.4
BKZ	Black Stump Fm	3.86	205	P	P	12 14 03.5	+1.4
MGZ	Maungaku	4.11	215	PN	P	12 14 07.0	+1.9
NGZ	Ngauruhoe	4.22	213	PN	P	12 14 07.9	+1.4
CNZ	Chateau	4.26	213	PN	P	12 14 08.9	+1.9
TUVZ	Tukino	4.27	212	PN	P	12 14 08.3	+1.1
WNVZ	Wahianoa	4.35	212	PN	P	12 14 09.1	+1.0
MOVZ	Moawhango	4.35	210	PN	P	12 14 08.1	+0.1
PWZ	Pawanui	4.56	197	PN	P	12 14 09.5	-1.1
PWZ				SN	S	12 15 06.0	+0.8
PWZ	Pawanui	4.56	197	*e*P	P	12 14 10.6	0.0
TSZ	Takapari Road	4.84	204	PN	P	12 14 13.8	-0.3
TSZ				SN	S	12 15 12.2	+0.7
TSZ	Takapari Road	4.84	204	P	P	12 14 14.3	+0.1
BFZ	Birch Farm	5.33	199	PN	P	12 14 19.6	-0.6
BFZ	Birch Farm	5.33	199	P	P	12 14 20.0	-0.2
MRZ	Mangatainoka R	5.51	204	PN	P	12 14 21.9	-0.7
MRZ				SN	S	12 15 27.6	+1.0
MRZ	Mangatainoka R	5.51	204	P	P	12 14 22.0	-0.6
MRZ				S	S	12 15 27.3	+0.7
KIW	Kapiti Island	5.93	208	PN	P	12 14 26.3	-1.5
MTW	Mount Morrison	5.98	203	PN	P	12 14 27.5	-1.0
CAW	Cannon Point	6.08	206	PN	P	12 14 28.4	-1.5
MSWZ	Moikau Station	6.30	203	PN	P	12 14 31.1	-1.5
MRW	Makara Radio	6.32	207	PN	P	12 14 31.5	-1.4
WEL	Wellington	6.35	207	PN	P	12 14 32.4	-0.8
SNZO	South Karori	6.39	207	PN	P	12 14 32.1	-1.6
SNZO	South Karori	6.39	207	*e*Pn	P	12 14 32.5	-1.3
SNZO				*e*S	S	12 15 48.3	+1.7
BHW	Baring Head	6.42	206	PN	P	12 14 32.5	-1.6
TUWZ	Tuamarina	6.79	211	PN	P	12 14 37.8	-1.1
NNZ	Nelson	6.87	215	PN	P	12 14 38.3	-1.6
QRZ	Quartz Range	7.00	221	PN	P	12 14 40.8	-0.7
BSWZ	Blackbirch Sta	7.06	210	PN	P	12 14 41.2	-1.1
THZ	Tophouse	7.52	214	PN	P	12 14 46.7	-1.6
KHZ	Kahutara	7.79	209	PN	P	12 14 50.5	-1.1
DSZ	Denniston Nort	8.04	219	PN	P	12 14 53.8	-1.1
LTZ	Lake Taylor	8.62	213	PN	P	12 15 01.7	-0.6
MQZ	McQueen’s Vall	9.23	208	PN	P	12 15 07.2	-2.9
STKA	Stephens Creek	30.84	266	P	P	12 18 59.3	+2.2
	0.6nm,0.3s,mb3.6,baz=106,slow=9.3,SNR=4.7						
ASAR	Alice Springs	40.29	275	P	P	12 20 17.3	+0.5
	6.7nm,0.4s,mb4.4,baz=114,slow=8.0,SNR=210						
ASPA	Alice Springs	40.29	275	*e*P	P	12 20 17.1	+0.3
WB2	Warramunga Arr	41.76	280	*e*P	P	12 20 28.4	-0.5
WRA	Warramunga Arr	41.77	280	P	P	12 20 28.5	-0.4
	6.2nm,0.5s,mb4.3,baz=118,slow=7.8,SNR=167						
FITZ	Fitzroy Crossi	49.74	276	P	P	12 21 31.9	+0.4
	1.8nm,0.9s,mb3.4,baz=128,slow=2.5,SNR=5.9						
QSPA	South Pole Qui	54.45	180	*e*P	P	12 22 08.8	+3.3
	0.9nm,0.8s,mb3.4						
VNA3	Neumayer Olymp	73.23	177	⇓*i*	P	12 24 12.1	+4.8
VNA2	Neumayer--Watz	73.62	178	⇑*i*	P	12 24 15.6	+6.0
ARCES	ARCESS Array B	143.01	345	PKhKP		12 32 01.3	
	0.7nm,0.9s,baz=56,slow=4.4,SNR=4.0						
FINES	FINESS Array B	148.88	335	PKPbc	PKPdf	12 32 19.1	+3.6
	0.7nm,0.5s,baz=63,slow=3.1,SNR=8.4						

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*NIED **26** 12:29:00,24.00N×123.60E,h35^{km},Mw4.1 Best double couple: $M_0$1.71×10^{15} NP1:ϕ_s53°,δ71°,λ77°. NP2:ϕ_s268°, δ23°,λ123°.*

*JMA **26** 12:29:06.7±0.2,23.96N×123.58E,h30^{km}±2^{km},M4.1*

JMA Felt I J1.

*NEIC **26** 12:29:09.6±3.2,23.95N×123.41E,h58^{km}±25^{km},mb4.1/2, Error ellipse: s-maj=61.3km s-min=10.9km az=66.0*

*IDC **26** 12:29:10.6±11.0,24.03N×123.60E,h69^{km}±105^{km}, mb3.5/9,mb1 3.7/9,mb1mx3.6/19,MS3.3/1,Ms1 3.5/1, ms1mx2.5/27,Error ellipse: s-maj=94.4km s-min=17.3km az=66.0*

ISC 26 12:29:05.9±0.8,**23.94N**±0.08×**123.57E**±0.05,**h41**^{km}±6^{km}, **n23,**σ$0\overset{s}{.}$**87**/29,**mb3.8**/11,**MS3.1**/1,**Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HATJ	Hateruma jima	0.24	62	P	P	12 29 13.0	-0.7
HATJ				S	S	12 29 17.8	-1.3
IRIF	Iriomote-Funau	0.42	21	P	P	12 29 15.3	-0.3
IRIF				S	S	12 29 21.5	-0.9
JKRS	Kuro-shima	0.50	54	P	P	12 29 16.7	+0.1
JKRS				S	S	12 29 24.0	-0.2
JIJ	Ishigaki jima	0.67	51	P	P	12 29 18.9	-0.1
JIJ				S	S	12 29 27.5	-1.0
YOJ	Yonaguni jima	0.73	316	P	P	12 29 20.5	+0.8
YOJ				S	S	12 29 30.8	+1.0
JTJ	Tarama	1.25	56	P	P	12 29 28.7	+1.6
JTJ				S	S	12 29 44.7	+1.7
JMJ	Miyako jima 2	1.80	61	S	S	12 29 57.7	+1.0
JOGS	Gusukube	1.86	64	P	P	12 29 39.5	+3.6
JOGS				S	S	12 30 03.3	+4.9
TATO	Taipei	2.16	299	*e*Pn	P	12 29 41.3	+1.2
CMAR	Chiang Mai Arr	23.58	261	LR	LR	12 44 38.2	
	comp=Z,66nm,18.9s,MS3.1,baz=195,slow=39						
SONM	Songino Array	27.48	334	P	P	12 34 50.2	-0.1
	0.6nm,0.9s,mb3.1,baz=155,slow=10,SNR=4.0						
MKAR	Makanchi Array	40.04	315	P	P	12 36 38.1	-0.4
	2.4nm,0.9s,mb3.9,baz=103,slow=10,SNR=15						
KURK	Kurchatov	43.68	319	*e*P	P	12 37 07.4	-1.0
	1.1nm,0.4s,mb3.9						

WRA	Warramunga Arr	44.86	166	P	P	12 37 18.3	0.0
	0.8nm,0.7s,mb3.7,baz=346,slow=9.1,SNR=8.2						
ASAR	Alice Springs	48.38	167	P	P	12 37 46.6	+0.8
	0.4nm,0.5s,mb3.7,baz=353,slow=15,SNR=12						
ZRNK	Zerenda	50.04	320	eP	P	12 37 57.2	-1.1
	1.4nm,0.6s,mb4.2						
ARCES	ARCESS Array B	70.57	338	P	P	12 40 17.7	-0.6
	0.5nm,0.8s,mb3.5,baz=56,slow=4.4,SNR=4.8						
FINES	FINESS Array B	72.75	330	P	P	12 40 30.6	-0.7
	3.6nm,1.1s,mb4.2,baz=45,slow=5.4,SNR=6.6						
BRTR	Keskin Array B	75.06	307	P	P	12 40 45.5	+0.3
	1.1nm,0.7s,mb3.9,baz=85,slow=6.7,SNR=7.7						
NB2	NORSAR Subarra	79.45	333	P	P	12 41 08.8	-0.4
	0.9nm,0.5s,mb4.0,baz=55,slow=5.6						
NOA	NORSAR Array B	79.45	333	P	P	12 41 08.8	-0.4
	1.1nm,0.5s,mb4.0,baz=56,slow=5.6,SNR=6.9						
NOA	NORSAR Array B	79.45	333	P	P	12 41 08.8	-0.4
GERES	GERESS Array B	84.40	321	P	P	12 41 35.2	0.0
	0.7nm,1.0s,mb3.8,baz=76,slow=5.5,SNR=4.6						

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*CASC **26** 12:43:45.6±1.5, 14.96N×92.51W, h28^{km}±8^{km}, MD4.2, ML4.6*

*MEX **26** 12:43:47.2±1.3, 14.87N×92.89W, h85^{km}±66^{km}, MD4.2*

ISC 26 12:43:42.3±0.6, **14.66N**±0.06×**92.82W**±0.04, **h79**^{km}±19^{km}, **n20**, σ**1$\overset{s}{.}$12**/35, **1C-4D, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAT	Jato	1.19	106	⇓eP	P	12 44 03.7	-0.2
JAT				eS	S	12 44 19.5	-0.6
JAT				AML	AML	12 44 23.5	
	comp=E,14µm,0.3s						
CCIG	Comitan	1.74	22	⇑iP	P	12 44 12.1	+0.8
CCIG				eS	S	12 44 33.3	+0.7
FUG	Fuego 3	1.92	96	eP	P	12 44 13.1	-0.6
SCX	San Cristobal	2.07	5	eP	P	12 44 17.0	+1.3
SCX				eS	S	12 44 39.0	-1.4
IXG	Ixpaco	2.34	102	⇓eP	P	12 44 19.5	0.0
IXG				AML	AML	12 44 48.5	
	comp=E,9µm,0.5s						
IXG				eS	S	12 44 49.4	+2.3
CMIG	Matias Romero	3.13	321	i P	P	12 44 31.6	+1.1
CMIG				i S	S	12 45 03.6	-3.3
RTR	El Retiro	3.17	103	eP	P	12 44 31.2	+0.1
SBLS	San Blas	3.20	104	⇓eP	P	12 44 32.1	+0.6
SBLS				eS	S	12 45 08.2	-0.5
SNJE	San Jose	3.21	104	eP	P	12 44 32.5	+0.9
SNJE				eS	S	12 45 08.5	-0.4
HUIG	Huatulco	3.36	290	i S	S	12 45 11.7	-1.0
BOQS	Boqueron	3.55	105	⇓eP	P	12 44 37.3	+0.9
BOQS				eS	S	12 45 17.1	-0.2
LBRS	Las Brisas	3.77	104	eP	P	12 44 39.8	+0.3
LFRS	El Faro	3.79	105	eP	P	12 44 40.1	+0.5
LFRS				eS	S	12 45 21.1	-2.1
LCBS	La Ceiba	3.85	105	eP	P	12 44 41.2	+0.6
LCBS				eS	S	12 45 23.4	-1.6
SNVI	San Vicente	4.00	105	eP	P	12 44 43.7	+1.2
SNVI				eS	S	12 45 28.0	-0.5
OXX	Oaxaca	4.46	303	i P	P	12 44 55.0	+6.0
OXX				i S	S	12 45 43.0	+2.9
VHO	Vista Hermosa	4.47	303	eP	P	12 44 48.0	-1.1
VHO				eS	S	12 45 39.1	-1.1
EVV	El Vigia	4.49	328	eP	P	12 44 54.0	+4.6
EVV				i S	S	12 45 37.0	-3.7
CNCH	Conchagua	5.03	105	eP	P	12 44 58.1	+1.3
CNCH				eS	S	12 45 52.8	-1.4
PPM	Popocatepetl	7.08	309	eP	P	12 45 31.0	+5.8

DJA 26 12:48:58.6±0.9, **8.80S**×**113.35E**, **h146**^{km}±12^{km}, **MD4.5**/1, **ML4.0**/2, **5C-2D, Error ellipse: s-maj=49.2km s-min=20.4km az=18.0, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KELI	Kelakatan	1.27	63	⇑ePn	P	12 49 25.4	-0.5
KELI				⇑iSn	S	12 49 45.6	-1.2
INGI	Ingas	1.78	91	ePn	P	12 49 31.5	+0.2
	296nm,0.2s						
INGI				⇑iSn	S	12 49 54.8	-1.6
RATI	Rata	2.16	88	⇓iPn	P	12 49 35.0	-0.9
RATI				⇓iSn	S	12 50 02.4	-2.0
KEDI	Kedomdong	2.75	84	⇑iPn	P	12 49 43.2	-0.2
	27nm,0.2s						
KEDI				⇑iSn	S	12 50 15.0	-2.6

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*FUNV **26** 12:51:31.7, 11.19N×62.01W, h119^{km}, MW3.0*

*TRN **26** 12:51:36.3, 11.21N×61.97W, h104^{km}, MD3.5*

ISC 26 12:51:31.4±0.7, **11.04N**±0.04×**62.19W**±0.03, **h129**^{km}±6^{km}, **n21**, σ**1$\overset{s}{.}$14**/38, **2C, Windward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUIV	Guiria	0.39	185	eP	P	12 51 49.7	-0.3
GUIV				eS	S	12 52 03.0	-1.0
TRN	Trinidad (W)	0.86	116	eP	P	12 51 54.8	+1.7
TRN				eS	S	12 52 08.6	-1.1
ITEV	Isla Los Testi	0.98	289	eP	P	12 51 54.3	+0.1
ITEV				eS	S	12 52 10.7	-0.8
TPP	Pointe-a-Pierr	1.02	134	eP	P	12 51 57.3	+2.6
TPP				eS	S	12 52 12.9	+0.6
CRUV	Carupano	1.09	251	eP	P	12 51 56.3	+0.9
CRUV				eS	S	12 52 14.2	+0.7
GUNV	Guanoco	1.14	220	eP	P	12 51 57.3	+1.4
GUNV				eS	S	12 52 16.1	+1.7
GRW	Mount Saint Ca	1.23	25	eP	P	12 51 57.2	+0.4
GRW				eS	S	12 52 12.2	-4.0
TBH	Brigand Hill	1.23	116	eP	P	12 51 58.7	+1.8
TBH				eS	S	12 52 15.3	-0.9
TPR	Prospect	1.40	84	eP	P	12 51 59.3	+0.6
TPR				eS	S	12 52 15.3	-4.2
BOT	Bacolet	1.45	85	eP	P	12 51 59.3	0.0
BOT				eS	S	12 52 17.0	-3.6
ORIV	Oritupano	2.29	212	eS	S	12 52 39.9	+1.4
IBAV	Isla La Blanqu	2.47	289	eP	P	12 52 11.9	0.0
IBAV				eS	S	12 52 41.9	-0.7
RIOV	Rio Grande	2.97	173	eP	P	12 52 18.4	0.0
RIOV				eS	S	12 52 52.7	-1.5
GURV	El Guri	3.37	195	eP	P	12 52 24.3	+0.6
GURV				eS	S	12 53 03.2	-0.6
CUPV	Cœpira	3.67	255	eP	P	12 52 28.4	+0.7
MERV	Las Mercedes	4.41	247	⇑eP	P	12 52 38.2	+0.5
MERV				eS	S	12 53 27.4	-1.2
LUEV	Luepa	5.21	172	eP	P	12 52 47.5	-0.9
LUEV				eS	S	12 53 43.7	-4.1
CAOV	Caicara del Or	5.50	228	eP	P	12 52 52.5	+0.3
CAOV				eS	S	12 53 52.2	-2.6
TURV	Turiamo	5.58	265	eP	P	12 52 53.0	-0.3
BAUV	El Baul	6.13	251	⇑eP	P	12 53 00.5	-0.2
BAUV				eS	S	12 54 06.4	-3.6
PAYV	Puerto Ayacuch	7.77	225	eP	P	12 53 22.2	-0.8

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*IDC **26** 14:15:47.1±2.9, 32.25S×178.15W, mb4.1/3, mb1 4.2/4, mb1mx4.0/13, ML3.5/1, Error ellipse: s-maj=63.2km s-min=44.9km az=125.0*

*NEIC **26** 14:15:49.4±1.0, 31.75S×178.24W, h10^{km}, mb4.4/2, Error ellipse: s-maj=32.8km s-min=18.3km az=214.0*

ISC 26 14:15:54.3±1.2, **32.41S**±0.09×**178.8W**±0.2, **h33**^{km}, **n15**, σ**1$\overset{s}{.}$06**/11, **mb4.1**/5, **3C-2D, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	6.72	209	Pn	Pn	14 17 31.9	-1.6
	0.8nm,0.3s,baz=343,slow=19,SNR=5.1						
URZ				Sn	Sn	14 18 50.3	+0.6
	1.5nm,0.3s,baz=98,slow=22,SNR=8.4						
CTA	Charters Tower	33.52	283	P	P	14 22 33.8	+0.8
	1.6nm,0.6s,mb4.1,baz=100,slow=12,SNR=4.6						
ASAR	Alice Springs	42.37	269	P	P	14 23 47.6	+0.4
	1.7nm,0.8s,mb3.7,baz=107,slow=7.7,SNR=16						
WB2	Warramunga Arr	43.53	275	eP	P	14 23 56.5	-0.3
WRAB	Tennant Creek	43.54	275	eP	P	14 23 56.4	-0.4
	5.6nm,0.9s,mb4.3						
WRA	Warramunga Arr	43.54	275	P	P	14 23 56.6	-0.2
	1.6nm,0.4s,mb4.1,baz=113,slow=7.9,SNR=47						
QSPA	South Pole Qui	57.70	180	P	P	14 25 45.3	+1.8
	1.7nm,0.6s,mb4.2						
SNAA	Sanae	76.17	179	⇓i	P	14 27 45.6	+5.5
SNAA	Sanae	76.17	179	⇓i	Px	14 27 58.9	
VNA3	Neumayer Olymp	76.35	176	⇑i	P	14 27 41.5	+0.3
VNA3	Neumayer Olymp	76.35	176	⇑i	Px	14 27 52.3	
VNA2	Neumayer--Watz	76.77	177	⇑i	P	14 27 41.2	-2.4
VNA2	Neumayer--Watz	76.77	177		Px	14 27 50.8	
KAF	Kangasniemi	146.20	339	ep	PKPdf	14 35 27.3	-2.1
FINES	FINESS Array B	146.78	338	PKPbc	PKPbc	14 35 29.7	-2.2
	1.5nm,0.6s,baz=45,slow=2.0,SNR=8.9						

MAN 26 14:18:04.3, 12.39N×122.86E, h44^{km}, mb3.9, ML2.7, MS2.3, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AUQP	San Andres	0.94	349	eP	P	14 18 21.8	+0.6
AUQP				eS	S	14 18 35.1	+1.3
BOAC	Boac	1.45	317	eP	P	14 18 28.4	-0.2
BOAC				eS	S	14 18 51.1	+4.5
GQP	Guinayangan	1.56	345	⇓iP	P	14 18 31.2	+1.2
GQP				i S	S	14 18 49.4	+0.2
PVCP	Virac	1.74	46	eP	P	14 18 32.8	+0.1
PVCP				eS	S	14 18 50.3	-3.5

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*LDG **26** 14:33:47.4±0.1, 46.60N×7.15E, h6^{km}, Md2.2/3, Ml2.1/13, Error ellipse: s-maj=1.6km s-min=1.0km az=104.0*

*STR **26** 14:33:48.9±0.8, 46.68N×7.25E, h10^{km}±1^{km}, Ml1.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ZUR 26 14:33:47.5, 46.60N×7.19E, h12^{km}, ML1.3/7, **7C, Switzerland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TORNY	Torny	0.23	318	ePg	Pg	14 33 52.5	-0.1
	5.0nm,0.2s						
TORNY				i Sg	Sg	14 33 56.1	0.0
	5.0nm,0.2s						
SENIN	Lac Senin	0.25	162	⇑iPg	Pg	14 33 52.8	-0.1
	1.3nm,0.2s						
SENIN				eSg	Sg	14 33 56.8	+0.3
	1.3nm,0.2s						
AIGLE	Aigle	0.30	212	⇑iPg	Pg	14 33 53.8	-0.1
	2.5nm,0.5s						
AIGLE				eSg	Sg	14 33 58.3	+0.1
	2.5nm,0.5s						
WIMIS	Wimmis	0.31	78	ePg	Pg	14 33 54.0	0.0
	2.5nm,0.7s						
WIMIS				eSg	Sg	14 33 58.3	0.0
	2.5nm,0.7s						
GRYON	Gryon	0.35	189	⇑iPg	Pg	14 33 54.7	-0.2
LKBD	Leukerbad	0.37	125	⇑iPg	Pg	14 33 55.0	-0.2
	2.9nm,0.6s						
LKBD				i Sg	Sg	14 34 00.5	+0.2
	2.9nm,0.6s						
SALAN	Lac Salanfe	0.48	198	⇑iPg	Pg	14 33 57.0	-0.3
DIX	Grande Dixence	0.54	163	eSg	Sg	14 34 06.1	+0.2
	0.2nm,0.3s						
EMV	Vieux Emosson	0.57	201	⇑iPg	Pg	14 33 58.6	-0.5
BRANT	Les Verrieres	0.60	305	ePg	Pg	14 33 59.2	-0.4
CABF	La Chapelle	0.76	271	ePg	Pg	14 34 02.4	-0.4
CABF				eSg	Sg	14 34 12.0	-1.0
	3.3nm,0.2s						
LOMF	Lomont	0.79	342	Pg	Pg	14 34 03.5	+0.1
LOMF				Sg	Sg	14 34 13.5	-0.6
BALST	Balsthal	0.81	25	⇑iPg	Pg	14 34 03.0	-0.9
	1.9nm,0.4s						
LPL	La Plagne	1.13	196	ePg	Pg	14 34 09.0	-1.1
LPL				eSg	Sg	14 34 24.1	-1.2
	4.5nm,0.3s						
LPG	La Plagne	1.14	196	ePg	Pg	14 34 09.3	-1.1
LPG				eSg	Sg	14 34 24.4	-1.3
	3.0nm,0.3s						
HINF	Hinteralfeld	1.24	349	ePn	Pn	14 34 09.7	-1.0
HINF				ePg	Pg	14 34 10.5	-1.8
HINF				eSg	Sg	14 34 26.3	-2.6
	4.1nm,0.2s						
MOF	Molkenrain	1.25	358	Pg	Pg	14 34 11.1	-1.5
MOF				Sg	Sg	14 34 28.0	-1.4
HAU	Haudompre	1.52	338	ePn	Pn	14 34 13.4	-1.3
HAU				ePg	Pg	14 34 15.4	-2.5
HAU				eSg	Sg	14 34 34.4	-3.8
	10nm,0.2s						
ECH	Echery	1.62	359	Pg	Pg	14 34 17.1	-2.7
ECH				Sg	Sg	14 34 38.3	-3.1
CDF	Champ du Feu	1.81	2	ePn	Pn	14 34 17.5	-1.4
CDF				ePg	Pg	14 34 21.0	-2.8
CDF				eSg	Sg	14 34 43.7	-4.3
	1.8nm,0.2s						
WLS	Welschbruch	1.82	3	Pg	Pg	14 34 21.3	-2.5
ORIF	Oris-en-Rattie	1.92	209	ePg	Pn	14 34 23.2	+2.8
ORIF				eSg	Sn	14 34 47.5	+2.9
	1.7nm,0.3s						
SMF	Signal de Mont	2.31	272	ePg	Pn	14 34 28.7	+2.7
SMF				eSg	Sn	14 34 59.0	+4.4
	2.2nm,0.2s						
LOR	Lormes	2.38	288	ePg	Pn	14 34 30.9	+3.9
LOR				eSg	Sn	14 35 00.4	+4.1
	1.7nm,0.2s						
VIVF	Saint-Julien-l	2.48	226	ePg	Pn	14 34 33.1	+4.6
VIVF				eSg	Sn	14 35 05.1	+6.2
	1.9nm,0.2s						
SSF	Saint Saulge	2.57	282	ePg	Pn	14 34 34.1	+4.3
SSF				eSg	Sn	14 35 07.0	+5.8
	1.6nm,0.3s						
AVF	Avril sur Loir	2.65	276	ePg	Pn	14 34 35.8	+5.0
AVF				eSg	Sn	14 35 09.2	+6.0
	0.5nm,0.2s						
BGF	Bois d'Agland	3.00	271	eSg	Sn	14 35 20.2	+8.2
	2.2nm,0.3s						

CASC 26 14:43:01.9±1.3, **13.85N**×**89.75W**, **h2**^{km}±4^{km}, **MD3.7, ML3.6, 3C-3D, El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RTR	El Retiro	0.12	63	⇑iP	Pg	14 43 04.8	+0.6
RTR				⇓eS	Sg	14 43 08.0	+2.3
SBLS	San Blas	0.12	93	eP	Pg	14 43 05.5	+1.1
SBLS				eS	Sg	14 43 07.3	+1.2
SNJE	San Jose	0.14	81	⇑eP	Pg	14 43 05.5	+0.8
SNJE				eS	Sg	14 43 08.4	+1.7
BOQS	Boqueron	0.47	103	⇓eP	Pg	14 43 12.2	+0.9
LFRS	El Faro	0.70	108	eP	Pg	14 43 16.3	+0.3
LFRS				eS	Sg	14 43 27.6	+2.2
IXG	Ixpaco	0.76	296	⇓eP	Pg	14 43 14.6	-2.5
IXG				eS	Sg	14 43 25.4	-1.7
IXG				AML	AML	14 43 26.4	
	comp=E,2µm,0.4s						
LCBS	La Ceiba	0.77	104	eP	Pg	14 43 17.0	-0.3
SNVI	San Vicente	0.92	105	eP	Pb	14 43 20.4	+0.2
CAHU	Cacacuatique	1.50	93	eP	Pn	14 43 29.9	0.0
CAHU				eS	Sb	14 43 50.4	+0.9
TP2	Tecpan 2	1.54	307	⇑eP	Pn	14 43 29.3	-1.2
JAT	Jato	1.89	285	eS	Sn	14 44 02.5	+2.3

IDC 26 15:06:37.2±3.0, **32.86S**×**179.10W**, **mb3.3**/2, **mb1 3.6**/3, **mb1mx3.5**/11, **ML3.7**/1, **MS3.0**/1, **Ms1 3.0**/1, **ms1mx2.7**/9, **Error ellipse: s-maj=69.1km s-min=46.1km az=116.0, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	6.21	209	Pn	Pn	15 08 10.1	-2.3
	1.6nm,0.3s,baz=172,slow=2.0,SNR=6.3						
URZ				Sn	Sn	15 09 17.4	-7.7
	1.5nm,0.3s,baz=296,slow=23,SNR=6.2						
RAR	Rarotonga	20.72	61	LR	LR	15 16 29.3	
	comp=Z,46nm,21.1s,baz=36,slow=29						
ASAR	Alice Springs	42.11	270	P	P	15 14 30.9	-1.8
	0.1nm,0.5s,baz=109,slow=7.2,SNR=5.1						
WRA	Warramunga Arr	43.32	275	P	P	15 14 41.2	-1.5
	0.2nm,0.3s,baz=116,slow=7.9,SNR=10						
FINES	FINESS Array B	147.09	338	PKPbc	PKPdf	15 26 20.5	-0.5
	0.9nm,0.7s,baz=63,slow=4.3,SNR=5.8						

MEX 26 15:14:33.2±0.3, **17.66N**×**95.40W**, **h88**^{km}±11^{km}, **MD3.5, 1D, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.75	139	⇓iP	P	15 14 48.9	-1.4
CMIG				i S	S	15 15 00.9	-2.0
OXX	Oaxaca	1.39	246	i P	P	15 14 56.2	-1.8
OXX				i S	S	15 15 14.5	-1.8
VHO	Vista Hermosa	1.40	246	eP	P	15 14 56.5	-1.6
VHO				i S	S	15 15 14.9	-1.7

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*IDC **26** 15:20:56.8±1.1, 13.47N×120.21E, mb3.6/4, mb1 3.8/4, mb1mx3.5/18, Error ellipse: s-maj=22.0km s-min=11.5km az=128.0*

*MAN **26** 15:20:58.9, 13.59N×120.24E, h7^{km}, mb4.4, ML3.3, MS3.1*

ISC 26 15:20:57.9±0.9, **13.53N**±0.04×**120.16E**±0.06, **h14**^{km}±5^{km}, **n22**, σ**1$\overset{s}{.}$02**/29, **mb3.6**/4, **1C-3D, Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LUBP	Lubang	0.22	23	⇓iP	Pg	15 21 02.3	-0.6
LUBP				eS	Sg	15 21 07.0	+0.7
PAZ	Puerto Azul	0.85	36	eP	Pb	15 21 14.6	+0.6
TGY	Tagaytay City	0.94	53	Pg	Pg	15 21 15.3	-1.6
	180nm,0.3s,baz=251,slow=13,SNR=9.1						
TGY				Lg		15 21 28.2	
	478nm,0.3s,baz=215,slow=19,SNR=21						
TGY	Tagaytay City	0.94	53	⇓eP	Pb	15 21 15.3	-0.2
TGY				i S	Sb	15 21 28.5	+0.8
LBPH	Los Banos	1.17	58	eP	Pb	15 21 19.0	-0.3
ARP	Angono	1.39	44	⇑iP	Pn	15 21 21.8	-1.2
SJMP	San Jose	1.42	139	eP	Pn	15 21 24.4	+1.0
SJMP				eS	Sb	15 21 45.4	+4.0
LQP	Lukban	1.46	67	⇓iP	Pn	15 21 23.4	-0.5
BUSP	Coron	1.52	179	eP	Pn	15 21 25.9	+1.1
BUSP				eS	Sb	15 21 49.2	+4.9
BOAC	Boac	1.64	92	eP	Pn	15 21 26.7	+0.1
BOAC				eS	Sn	15 21 48.2	+0.7
POLP	Polilio Island	2.10	55	eP	Pn	15 21 32.6	-0.5
POLP				eS	Sn	15 21 58.2	-1.0
OTRP	Odiongan	2.15	122	eP	Pn	15 21 38.1	+4.2
AUQP	San Andres	2.46	95	eP	Pn	15 21 44.6	+6.3
BALP	Baler	2.59	32	eP	Pn	15 21 41.0	+0.8
CUYO	Cuyo Island	2.79	162	eP	Pn	15 21 43.1	+0.1
CUYO				eS	Sn	15 22 16.6	-0.3
BOLP	Bolinao	2.84	355	eP	Pn	15 21 46.5	+2.7
CAUP	Cauayan	3.75	25	eP	Pn	15 21 57.6	+0.9
APYP	Conner	4.43	13	eP	Pn	15 22 11.7	+5.4
WRA	Warramunga Arr	36.07	157	P	P	15 27 59.1	-2.2
	1.4nm,0.7s,mb4.0,baz=335,slow=9.6,SNR=15						
SONM	Songino Array	36.07	344	P	P	15 28 00.1	-0.9
	0.4nm,0.6s,mb3.5,baz=162,slow=10,SNR=5.3						
ASAR	Alice Springs	39.34	160	P	P	15 28 27.8	-0.9
	0.4nm,0.5s,mb3.4,baz=339,slow=6.7,SNR=17						
MKAR	Makanchi Array	45.86	324	P	P	15 29 21.8	+0.4
	0.3nm,0.4s,mb3.5,baz=100,slow=8.8,SNR=7.6						

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*MDD **26** 15:22:04.8±1.9, 36.96N×8.42W, mb2.8/3, mbLg1.3/5, Error ellipse: s-maj=14.9km s-min=6.2km az=24.0, PRXIMO*

*INMG **26** 15:22:04.1±1.3, 36.93N×8.40W, h2^{km}±8^{km}, ML1.6, Error ellipse: s-maj=10.3km s-min=5.4km az=18.0*

ISC 26 15:22:04.2±2.1, **36.98N**±0.09×**8.40W**±0.07, **h2**^{km}, **n10**, σ**1$\overset{s}{.}$02**/18, **West of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PTEO	Sao Teotonio	0.62	336	ePg	Pg	15 22 15.8	-0.8
PTEO				eSg	Sg	15 22 25.6	+0.6
	17nm,0.3s						
PTEO	Sao Teotonio	0.62	336	Pg	Pg	15 22 15.8	-0.8
PTEO				Lg		15 22 25.6	
	8.6nm,0.3s						
PALC	Alcoutim	0.89	56	eP	Pb	15 22 21.0	-1.0
PALC				eS	Sg	15 22 32.8	-0.9
	8.6nm,0.2s						
PALC	Alcoutim	0.89	56	P	Pb	15 22 21.0	-1.0
PALC				S	Sg	15 22 32.8	-0.9
	4.3nm,0.2s						
PBEJ	Beja	1.13	22	eP	Pb	15 22 25.8	-0.4
PBEJ				eS	Sb	15 22 41.7	+0.5
	3.8nm,0.1s						
PBEJ	Beja	1.13	22	P	Pb	15 22 25.8	-0.4
PBEJ				S	Sb	15 22 41.7	+0.5
	1.9nm,0.1s						
MOE	Montemor	1.54	2	eS	Sb	15 22 52.4	-0.8
EMIN	Mina Concepcio	1.59	60	P	Pn	15 22 34.0	+0.5
	1.5nm,0.4s,SNR=8.2						
EMIN				S	Sb	15 22 55.2	+0.8
	1.7nm,0.4s						
ESPR	Espera	2.04	92	P	Pn	15 22 34.4	-5.6
	0.7nm,0.3s,SNR=4.0						
ESPR				S	Sn	15 23 00.1	-6.4
	2.0nm,0.7s,SNR=4.0						
EBAD	Badajoz	2.09	31	P	Pn	15 22 43.1	+2.4
	1.3nm,0.3s,SNR=4.0						
EBAD				S	Sn	15 23 11.6	+3.9
	SNR=4.0						

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*LDG **26** 15:22:21.8±0.1, 45.95N×7.92E, h2^{km}, Md2.0/3, Ml1.9/4, Error ellipse: s-maj=2.9km s-min=1.5km az=114.0*

*ZUR **26** 15:22:22.3, 46.00N×7.87E, h3^{km}, ML1.5/3*

ISC 26 15:22:21.3±0.9, **45.93N**±0.03×**7.88E**±0.07, **h3**^{km}, **n8**, σ**0$\overset{s}{.}$62**/15, **1C-1D, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MMK	Mattmark	0.14	25	⇑iPg	Pg	15 22 24.5	+0.4
MMK				i Sg	Sg	15 22 26.0	0.0
DIX	Grande Dixence	0.36	296	⇓iPg	Pg	15 22 29.4	+0.9
	1.5nm,0.3s						
DIX				i Sg	Sg	15 22 34.3	+1.0
	1.5nm,0.3s						
LKBD	Leukerbad	0.49	339	ePg	Pg	15 22 31.1	-0.1
	0.9nm,0.3s						
LKBD				eSg	Sg	15 22 37.1	-0.7
	0.9nm,0.3s						
EMV	Vieux Emosson	0.70	282	ePg	Pg	15 22 35.8	+0.6
LPG	La Plagne	0.90	242	ePg	Pg	15 22 39.6	+0.4
LPG				eSg	Sg	15 22 51.7	+0.5
	4.5nm,0.3s						
LPL	La Plagne	0.90	243	ePg	Pg	15 22 39.7	+0.4
LPL				eSg	Sg	15 22 51.0	-0.3
	2.5nm,0.3s						
CABF	La Chapelle	1.42	300	ePg	Pg	15 22 49.0	-0.6
CABF				eSg	Sg	15 23 07.4	-1.1
	1.6nm,0.3s						
MBDF	Montbardon	1.43	213	ePg	Pg	15 22 49.3	-0.5
MBDF				eSg	Sg	15 23 08.2	-0.7
	3.1nm,0.3s						

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*DJA **26** 15:23:53.6±1.6, 0.66N×123.84E, h200^{km}, ML5.6/2, Error ellipse: s-maj=108.9km s-min=33.0km az=122.0*

*BJI **26** 15:24:04.8, 0.83N×120.33E, h36^{km}, mB5.5, mb5.4, Ms4.8, Msz4.5*

*MOS **26** 15:24:05.6±0.9, 1.09N×120.36E, h33^{km}, mb5.5/30, MS4.5/18, Error ellipse: s-maj=18.4km s-min=7.2km az=114.9*

*NEIC **26** 15:24:06.4±0.2, 1.04N×120.31E, mb5.3/51, MS4.4/11, Error ellipse: s-maj=7.4km s-min=3.9km az=62.0*

*SYO **26** 15:24:06.3, 1.06N×120.29E, h28^{km}, MB5.2, MS4.4*

*HRVD **26** 15:24:06.4±0.2, 1.17N×120.42E, h22^{km}, MW5.1/59, Centroid moment Tensor Solution. LP body waves: s45,c65;Mantle waves: s59,c102; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.85±.15; $M_{\theta\theta}$2.89±.09; $M_{\phi\phi}$-0.05±.14; $M_{r\theta}$-4.76±.16; $M_{\theta\phi}$0.74±.09; $M_{\phi r}$-2.94±.23; Best double couple: $M_0$6.33×10^{16} NP1: ϕ_s272°, δ16°, λ-59°. NP2: ϕ_s61°, δ77°, λ-98°. Principal axes: T 6.31, Plg31°, Azm157°; N .03, Plg8°, Azm62°; P -6.35, Plg58°, Azm320°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*IDC **26** 15:24:08.9±2.6, 1.04N×120.34E, h47^{km}±24^{km}, mb5.0/23, mb1 5.0/25, mb1mx5.0/26, ML5.0/2, MS4.5/16, Ms1 4.5/16, ms1mx4.4/19 Error ellipse: s-maj=19.5km s-min=9.5km az=68.0*

ISC 26 15:24:04.1±0.9, **1.03N**±0.02×**120.35E**±0.03, **h24**^{km}±6^{km}, **h28**^{km}±1.6^{km}**:pP-P, n283**, σ**0$\overset{s}{.}$98**/289, **mb5.3**/102, **MS4.5**/49, **23C-30D, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TANI	Tanete Lipujan	4.54	192	⇑ePn	Pn	15 25 15.8	+2.5

	1µm,0.6s						
BUNI	**Buntu Taipa**	4.66	180	ePn	Pn	15 25 17.1	+2.1
	221nm,0.3s						
BUNI	**Buntu Taipa**	4.66	180	eP	Pn	15 25 22.1	+7.1
BUNI				eSn	Sn	15 26 14.9	+5.9
NINI	**Niniconang**	5.45	186	⇑ePn	Pn	15 25 30.0	+3.9
KKM	**Kota Kinabalu**	6.47	320	⇓eP	Pn	15 25 39.9	-0.5
	115nm,0.6s						
IPIL	**Ipil**	7.06	18	eP	Pn	15 25 47.5	-1.4
IPIL	**Ipil**	7.06	18	eP	Sn	15 27 04.4	-4.8
PAGZ	**Pagadian**	7.41	24	eP	Pn	15 25 52.4	-1.2
DCPH	**Dipolog City**	8.07	22	eP	Sn	15 27 32.1	-2.3
BATP	**Bataraza**	8.12	342	eP	P	15 26 01.4	-2.2
BUKP	**Musuan**	8.26	34	eP	P	15 26 07.0	+1.5
BUKP	**Musuan**	8.26	34	eP	Sn	15 27 29.5	-10
BUKP	**Musuan**	8.26	34	eP	Sn	15 27 35.4	-3.7
CUYO	**Cuyo Island**	9.77	4	eP	P	15 26 25.8	-0.8
GUIM	**Jordan**	9.79	13	eP	P	15 26 26.5	-0.2
MSLP	**Maasin**	10.09	26	eP	P	15 26 35.2	+4.2
BUSP	**Coron**	10.90	359	eP	P	15 26 41.6	-0.4
SJMP	**San Jose**	11.38	4	eP	P	15 26 49.1	+0.6
AUQP	**San Andres**	12.42	11	eP	P	15 27 09.2	+6.6
AUQP	**San Andres**	12.42	11	eP	P	15 27 16.6	+14
BOAC	**Boac**	12.43	7	eP	P	15 27 06.6	+3.9
BOAC	**Boac**	12.43	7	eP	P	15 27 13.5	+11
TGY	**Tagaytay City**	13.00	3	P	P	15 27 14.7	+4.5
	2.8nm,0.3s,baz=85,slow=20,SNR=3.3						
TGY	**Tagaytay City**	13.00	3	P	P	15 27 14.7	+4.5
TGY				pmax	pmax		
	comp=Z,3.0nm,0.3s						
PVCP	**Virac**	13.04	17	eP	P	15 27 14.6	+3.9
POLP	**Polilio Island**	13.70	6	eP	P	15 27 30.1	+11
SCZP	**Santa Cruz**	14.65	358	eP	P	15 27 39.2	+7.1
BALP	**Baler**	14.66	5	eP	P	15 27 36.2	+4.0
BOLP	**Bolinao**	15.26	358	eP	P	15 27 45.0	+5.0
CAUP	**Cauayan**	15.88	5	eP	P	15 27 52.1	+4.1
ABRA	**Dolores**	16.51	1	eP	P	15 28 08.5	+12
CVP	**Callao Caves**	16.63	5	eP	P	15 28 00.0	+2.5
	comp=Z,14µm,1.0s						
APYP	**Conner**	16.75	3	eP	P	15 28 02.5	+3.5
KGM	**Kluang**	17.05	273	⇑eP	P	15 28 02.5	-0.5
KAKA	**Kakadu**	18.14	139	⇑iP	P	15 28 21.9	+5.3
	comp=Z,133nm,0.9s						
BBP	**Basco**	19.35	5	eP	P	15 28 28.8	-2.3
BBP	**Basco**	19.35	5	eP	P	15 28 29.3	-1.7
IPM	**Ipoh**	19.62	281	⇑eP	P	15 28 34.0	-0.1
	comp=Z,88nm,0.8s						
FITZ	**Fitzroy Crossi**	19.71	165	⇑iP	P	15 28 35.1	0.0
	comp=Z,113nm,1.0s						
FITZ				eS	S	15 32 10.0	-0.4
FITZ	**Fitzroy Crossi**	19.71	165	P	P	15 28 35.0	-0.1
	comp=Z,7.6nm,0.3s,baz=2.9,slow=7.9,SNR=263						
FITZ				LR	LR	15 37 49.4	
	comp=Z,1µm,19.7s,baz=274,slow=42						
SNG	**Songkhla**	20.60	288	P	P	15 28 43.0	-1.5
	comp=Z,200nm,1.0s						
QIZ	**Qiongzhong**	20.64	331	P	P	15 28 44.0	-0.8
QIZ				PP	PP	15 29 05.8	-0.6
QIZ				S	S	15 32 31.5	+2.1
QIZ				LR	LR		
	comp=N,938nm,22.7s,MS4.2						
QIZ				LR	LR		
	comp=E,794nm,20.0s,MS4.2						
QIZ				LR	LR		
	comp=Z,2µm,23.6s,MS4.4						
QIZ	**Qiongzhong**	20.64	331	eP	P	15 28 43.8	-1.0
	comp=Z,49nm,0.9s						
QIZ				e		15 28 47.5	
UBT	**Ubonrachathani**	20.70	314	⇑P	P	15 28 45.5	0.0
MBWA	**Marble Bar**	22.07	182	⇑eP	P	15 28 58.7	-0.5
	comp=Z,58nm,0.9s,mb5.0						
GZH	**Guangzhou**	22.95	343	P	P	15 29 11.0	+2.9
GZH				S	S	15 33 13.0	+0.6
GZH				LR	LR		
	comp=N,1µm,18.0s,MS4.4						
GZH				LR	LR		
	comp=E,674nm,18.0s,MS4.4						
GZH				LR	LR		
	comp=Z,1µm,21.8s,MS4.3						
KKTK	**Khon Kaen**	23.01	312	⇓P	P	15 29 08.6	-0.1
	comp=Z,3µm,0.9s						
PIAM	**Paiam**	23.67	106	P	P	15 29 12.0	-3.1
TATO	**Taipei**	23.83	3	eP	P	15 29 16.6	+0.1
	comp=Z,138nm,1.1s,mb5.3						
NST	**Nakhon Sawan**	24.69	307	P	P	15 29 25.0	0.0
	comp=Z,217nm,1.0s,mb5.6						
WRAB	**Tennant Creek**	24.95	147	⇑iP	P	15 29 27.3	-0.2
	comp=Z,273nm,1.0s,mb5.7						
WRAB				e		15 29 36.3	
WRAB				LR	LR		
	comp=Z,401nm,19.0s,MS3.9						
WRA	**Warramunga Arr**	24.95	147	P	P	15 29 27.8	+0.3
	comp=Z,143nm,0.9s,mb5.5,baz=327,slow=10,SNR=251						
WRA				LR	LR	15 41 06.0	
	comp=Z,354nm,18.8s,MS3.9,baz=345,slow=41						
WRA	**Warramunga Arr**	24.95	147	P	P	15 29 27.8	+0.3
WRA				pmax	pmax		
	comp=Z,143nm,0.9s						
WRA				MLR	MLR		
	comp=Z,354nm,18.8s						
WB2	**Warramunga Arr**	24.96	147	⇑iP	P	15 29 27.6	0.0
WB2				eS	S	15 33 51.5	+4.5
WB2				eSCS	ScS	15 40 24.2	-2.4
BDT	**Bhumibol Dam**	26.47	309	P	P	15 29 42.0	+0.4
	comp=Z,16nm,0.8s,mb4.6						
JOW	**Kunigami**	26.76	16	P	P	15 29 45.0	+0.8
	comp=Z,34nm,1.1s,mb4.8,baz=196,slow=27,SNR=4.2						
JOW				LR	LR	15 39 54.7	
	comp=Z,2µm,19.3s,MS4.6,baz=215,slow=35						
CMAR	**Chiang Mai Arr**	27.23	311	P	P	15 29 48.5	-0.1
	comp=Z,21nm,0.9s,mb4.7,baz=133,slow=6.8,SNR=136						
CMAR				LR	LR	15 41 55.3	
	comp=Z,2µm,19.2s,MS4.6,baz=130,slow=39						
CMAR	**Chiang Mai Arr**	27.23	311	P	P	15 29 48.5	-0.1
CMAR				pmax	pmax		
	comp=Z,21nm,0.9s						
CMAR				MLR	MLR		
	comp=Z,2µm,19.2s						
CHG	**Chiang Mai**	27.44	311	⇓P	P	15 29 50.6	+0.1
	comp=Z,76nm,1.0s,mb5.2						
ASPA	**Alice Springs**	27.86	153	⇑iP	P	15 29 54.3	0.0
ASPA				eS	S	15 34 32.9	-1.7
ASPA				eSCP		15 36 47.9	
ASPA				eSCS	ScS	15 40 36.0	-3.0
ASAR	**Alice Springs**	27.86	153	P	P	15 29 54.4	+0.1
	comp=Z,74nm,1.1s,mb5.2,baz=332,slow=8.9,SNR=298						
ASAR				S	S	15 34 33.5	-1.1
	comp=Z,6.3nm,1.0s,baz=319,slow=14,SNR=5.1						
ASAR				ScP		15 36 47.5	
	comp=Z,10nm,1.0s,baz=340,slow=2.3,SNR=22						
ASAR				LR	LR	15 42 22.9	
	comp=Z,1µm,18.6s,MS4.4,baz=326,slow=39						
GYA	**Guiyang**	28.50	334	⇓iP	P	15 30 00.0	0.0
GYA				AP	pP	15 30 07.0	0.0
GYA				XP	sP	15 30 11.8	+1.7
GYA				S	S	15 34 35.3	-10
GYA				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.1						
GYA				LR	LR		
	comp=N,650nm,13.8s,MS4.5						
GYA				LR	LR		
	comp=E,700nm,15.7s,MS4.5						
GYA				LR	LR		
	comp=Z,990nm,16.2s,MS4.5						
PMG	**Port Moresby**	28.64	112	eP	P	15 30 01.3	-0.1
	comp=Z,36nm,1.1s,mb5.0						
PMG				LR	LR		
	comp=Z,617nm,20.0s,MS4.2						
KMI	**Kunming**	29.37	326	eP	P	15 30 08.8	+0.9
KMI				XP	sP	15 30 21.0	+3.0
KMI				S	S	15 35 00.8	+2.0
KMI				XS		15 35 16.0	
KMI				SS	SS	15 36 35.5	+4.4
KMI				AMB	AMB		
	comp=Z,47nm,1.2s,mb5.1						
KMI				LR	LR		
	comp=N,609nm,20.4s,MS4.4						
KMI				LR	LR		
	comp=E,582nm,19.6s,MS4.4						
KMI				LR	LR		
	comp=Z,981nm,23.6s,MS4.4						
KMI	**Kunming**	29.37	326	eP	P	15 30 08.8	+0.9
	comp=Z,47nm,1.2s,mb5.1						
KMI				sP	sP	15 30 21.0	+3.0
KMI				S	S	15 35 00.8	+2.0
KMI				sS		15 35 15.9	
KMI				SS	SS	15 36 35.4	+4.3
KMI				LR	LR		
	comp=Z,980nm,23.6s,MS4.4						
WHN	**Wuhan**	29.89	350	⇑P	P	15 30 14.0	+1.5
WHN				AMB	AMB		
	comp=Z,32nm,1.0s,mb5.0						
SSE	**Sheshan**	29.91	1	P	P	15 30 13.8	+1.2
SSE				XP	sP	15 30 26.3	+3.6
SSE				S	S	15 35 08.0	+0.8
SSE				XS		15 35 22.3	
SSE				AMB	AMB		
	comp=Z,33nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,424nm,5.3s						
SSE				LR	LR		
	comp=N,560nm,22.6s,MS4.2						
SSE				LR	LR		
	comp=E,184nm,22.6s,MS4.2						
SSE				LR	LR		
	comp=Z,717nm,24.5s,MS4.2						
SSE	**Sheshan**	29.91	1	P	P	15 30 13.7	+1.1
	comp=Z,33nm,0.7s,mb5.2						
SSE				sP	sP	15 30 26.3	+3.6
SSE				S	S	15 35 08.0	+0.8
SSE				sS		15 35 22.3	
SSE				LR	LR		
	comp=Z,720nm,24.5s,MS4.2						
ENH	**Enshi**	30.86	341	eP	P	15 30 20.9	-0.1
	comp=Z,73nm,1.1s,mb5.4						
ENH				LR	LR		
	comp=Z,624nm,20.0s,MS4.3						
NJ2	**Nanjing**	30.88	358	eP	P	15 30 21.5	+0.3
NJ2				AP	pP	15 30 32.0	+3.8
NJ2				XP	sP	15 30 36.3	+5.0
NJ2				PP	PP	15 31 27.8	+4.8
NJ2				PPP	PPP	15 31 48.5	+11
NJ2				S	S	15 35 23.0	+0.4
NJ2				XS		15 35 38.0	
NJ2				SS	SS	15 37 07.0	+0.6
NJ2				AMB	AMB		
	comp=Z,40nm,0.9s,mb5.2						
NJ2				LR	LR		
	comp=N,2µm,19.4s,MS4.8						
NJ2				LR	LR		
	comp=E,300nm,18.0s,MS4.8						
FORT	**Forrest**	32.48	168	⇑iP	P	15 30 34.7	-0.5
	comp=E,217nm,0.7s,mb6.1						
FORT				eSCP		15 37 02.2	
CTA	**Charters Tower**	32.94	131	⇑iP	P	15 30 39.9	+0.6
	comp=E,22nm,1.1s,mb5.0						
CTA				ePCP	PcP	15 33 33.5	+10
CTA	**Charters Tower**	32.94	131	P	P	15 30 39.4	+0.1
	comp=E,27nm,1.0s,mb5.1,baz=310,slow=10,SNR=16						
CTA				LR	LR	15 45 01.6	
	comp=E,1µm,19.5s,MS4.7,baz=329,slow=38						
CTA	**Charters Tower**	32.94	131	P	P	15 30 39.4	+0.1
CTA				pmax	pmax		
	comp=Z,27nm,1.0s						
CTA				MLR	MLR		
	comp=Z,1µm,19.5s						
CTAO	**Charters Tower**	32.94	131	eP	P	15 30 39.7	+0.4
	comp=Z,45nm,1.1s,mb5.3						
CTAO				e	pP	15 30 47.4	+1.0
CTAO				LR	LR		
	comp=Z,1µm,20.0s,MS4.7						
MUN	**Mundaring**	33.07	186	eP	P	15 30 39.5	-0.8
	comp=Z,24nm,0.8s,mb5.2						
CBIJ	**Chichi jima**	33.33	37	P	P	15 30 41.4	-1.3
	comp=Z,170nm,0.9s,mb6.0,baz=214,slow=3.8,SNR=5.3						
CBIJ				LR	LR	15 41 46.6	
	comp=Z,506nm,20.2s,MS4.2,baz=260,slow=32						
CD2	**Chengdu**	33.62	334	⇑iP	P	15 30 44.8	-0.3
CD2				LR	LR		
	comp=E,810nm,7.8s						
CD2				LR	LR		
	comp=Z,1µm,18.0s,MS4.6						
NWAO	**Narrogin (SRO)**	33.91	185	P	P	15 30 47.2	-0.4
	comp=Z,107nm,0.7s,mb5.9,baz=7.2,slow=8.6,SNR=70						
NWAO	**Narrogin (SRO)**	33.91	185	P	P	15 30 47.2	-0.4
NWAO				pmax	pmax		
	comp=Z,107nm,0.7s						
NWAO	**Narrogin (SRO)**	33.91	185	eP	P	15 30 47.2	-0.4
	comp=Z,128nm,0.9s,mb5.8						
NWAO				e	pP	15 30 54.3	-0.3
NWAO				LR	LR		
	comp=Z,1µm,20.0s,MS4.6						
XAN	**Xi'an**	34.53	343	P	P	15 30 51.5	-1.5
XAN				AMB	AMB		
	comp=Z,41nm,1.1s,mb5.3						
SHL	**Shillong**	36.72	314	⇓iP	P	15 31 11.7	+0.1
INCN	**Inchon**	36.73	8	eP	P	15 31 12.3	+0.7
	comp=Z,8.6nm,0.6s,mb4.8						
JHJ	**Hachijo jima 2**	36.77	28	LR	LR	15 44 08.0	
	comp=Z,550nm,20.1s,MS4.3,baz=161,slow=33						
DL2	**Dalian**	37.71	2	P	P	15 31 21.0	+1.2
DL2				LR	LR		
	comp=N,340nm,18.8s,MS4.3						
DL2				LR	LR		
	comp=E,300nm,20.2s,MS4.3						
DL2				LR	LR		
	comp=Z,410nm,15.6s,MS4.3						
LZH	**Lanzhou**	38.09	338	⇓P	P	15 31 24.5	+1.5
LZH				AP	pP	15 31 32.5	+2.4
LZH				XP	sP	15 31 35.5	+2.4
LZH				PP	PP	15 32 56.5	+3.0
LZH				eS	S	15 37 18.3	+4.2
LZH				XS		15 37 30.8	
LZH				SS	SS	15 39 58.5	+6.4
LZH				AMB	AMB		
	comp=Z,92nm,1.3s,mb5.3						
LZH				AMB	AMB		
	comp=Z,237nm,5.2s						
LZH				LR	LR		
	comp=N,956nm,13.2s						
LZH				LR	LR		
	comp=Z,2µm,17.0s,MS4.9						
LZH	**Lanzhou**	38.09	338	⇓P	P	15 31 24.4	+1.4
	comp=Z,92nm,1.3s,mb5.3						
LZH				pP	pP	15 31 32.5	+2.4
LZH				sP	sP	15 31 35.6	+2.5
LZH				PP	PP	15 32 56.5	+3.0
LZH				eS	S	15 37 18.2	+4.1
LZH				sS		15 37 30.7	
LZH				SS	SS	15 39 58.4	+6.3
LZH				LR	LR		
	comp=Z,2µm,17.0s,MS4.9						
STKA	**Stephens Creek**	38.43	150	⇑iP	P	15 31 26.7	+0.8
	comp=Z,73nm,1.0s,mb5.4						
STKA				eS	S	15 37 17.5	-1.6
STKA	**Stephens Creek**	38.43	150	P	P	15 31 26.7	+0.8
	comp=Z,72nm,0.8s,mb5.5,baz=322,slow=8.5,SNR=123						
STKA				LR	LR	15 50 37.3	
	comp=Z,832nm,18.3s,MS4.6,baz=116,slow=41						
BJT	**Baijiatuau**	38.99	355	eP	P	15 31 31.0	+0.5
	comp=Z,23nm,0.8s,mb5.0						
BJT				LR	LR		
	comp=Z,857nm,19.0s,MS4.6						
BJI	**Beijing**	39.01	355	P	P	15 31 31.5	+0.8
BJI				AMB	AMB		
	comp=Z,27nm,0.7s,mb5.1						
BJI				LR	LR		
	comp=N,573nm,21.6s,MS4.5						
BJI				LR	LR		
	comp=E,477nm,19.3s,MS4.5						
BJI				LR	LR		
	comp=Z,662nm,21.9s,MS4.4						
BJI	**Beijing**	39.01	355	P	P	15 31 31.4	+0.7
	comp=Z,27nm,0.7s,mb5.1						
BJI				S	S	15 37 49.5	+22
BJI				LR	LR		
	comp=Z,660nm,21.9s,MS4.4						
MAJO	**Matsushiro**	39.01	23	eP	P	15 31 30.0	-0.8
	comp=Z,69nm,1.2s,mb5.3						
MAJO				LR	LR		
	comp=Z,692nm,21.0s,MS4.5						
MAT	**Matsushiro**	39.01	23	P	P	15 31 28.4	-2.3
MAT				S		15 37 44.0	
MAT	**Matsushiro**	39.01	23	eP	P	15 31 28.0	-2.7
	comp=Z,43nm,1.0s,mb5.1						
MAT				eS		15 37 44.0	
MAT				LR	LR		
	comp=Z,350nm,20.0s,MS4.2						
ADE	**Adelaide**	39.72	156	eP	P	15 31 38.0	+1.3
LSA	**Lhasa**	39.81	318	P	P	15 31 39.3	+1.9
VIS	**Vishakhapatnam**	39.98	297	eP	P	15 31 39.0	+0.1
PALK	**Pallekele**	40.01	280	P	P	15 31 39.2	0.0
	comp=Z,36nm,1.3s,mb5.0						
HHC	**Hu-ho-hao-te**	40.42	350	eP	P	15 31 44.0	+1.6
HHC				AP	pP	15 31 52.5	+3.0
HHC				XP	sP	15 31 56.0	+3.6
HHC				PP	PP	15 33 19.3	+0.4
HHC				PCP	PcP	15 33 47.3	+1.6
HHC				PCS		15 37 36.8	
HHC				S	S	15 37 53.5	+4.4
HHC				XS		15 38 07.8	
HHC				SS	SS	15 40 46.8	+3.6
HHC				SCS	ScS	15 41 43.8	-1.0
HHC				AMB	AMB		
	comp=Z,52nm,1.2s,mb5.1						
HHC				AMB	AMB		
	comp=Z,206nm,5.9s						
HHC				LR	LR		
	comp=N,361nm,22.6s,MS4.2						
HHC				LR	LR		
	comp=E,165nm,22.0s,MS4.2						
HHC				LR	LR		
	comp=Z,391nm,20.2s,MS4.2						
BTO	**Baotou**	40.49	348	eP	P	15 31 44.0	+1.1
BTO				AMB	AMB		
	comp=Z,159nm,1.0s,mb5.7						
SNY	**Shenyang**	40.71	4	⇓P	P	15 31 45.3	+0.6
SNY				AP	pP	15 31 57.5	+5.7
SNY				XP	sP	15 32 02.5	+7.7
SNY				AMB	AMB		
	comp=Z,80nm,1.1s,mb5.3						
SNY				LR	LR		
	comp=N,640nm,17.7s						
SNY				LR	LR		
	comp=Z,640nm,18.0s,MS4.5						
KGD	**Kothagudem**	42.33	295	eP	P	15 31 56.7	-1.7
KGD				epP	pP	15 32 05.4	-0.1
KGD				ePP	PP	15 33 34.0	-5.4
KGD				eScP		15 37 38.9	
KGD				eS	S	15 38 16.5	-1.3
KGD				eSS	SS	15 41 26.3	+5.4
KGD				eScS	ScS	15 41 56.1	-0.5
GTA	**Gaotai**	42.55	336	⇓P	P	15 32 01.5	+1.6
GTA				AP	pP	15 32 10.5	+3.5
GTA				XP	sP	15 32 14.0	+4.0
GTA				PP	PP	15 33 42.8	+1.5
GTA				S	S	15 38 21.5	+0.9
GTA				SS	SS	15 41 22.5	-2.2
GTA				AMB	AMB		
	comp=Z,70nm,1.0s,mb5.3						
GTA				AMB	AMB		
	comp=Z,177nm,5.3s						
GTA				LR	LR		
	comp=N,149nm,19.0s,MS4.0						
GTA				LR	LR		
	comp=E,132nm,23.6s,MS4.0						
GTA				LR	LR		
	comp=Z,273nm,19.4s,MS4.2						
PKI	**Pulchoki**	42.62	311	eP	P	15 32 00.3	-0.3
	comp=Z,62nm,0.7s,mb5.5						
CN2	**Changchun**	42.82	5	⇓P	P	15 32 02.3	+0.3
CN2				eAP	pP	15 32 12.3	+3.1
CN2				eS	S	15 38 25.0	+0.4
CN2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.0						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,600nm,18.0s,MS4.7						
CN2				LR	LR		
	comp=E,500nm,18.0s,MS4.7						
CN2				LR	LR		
	comp=Z,800nm,21.0s,MS4.6						
KKN	**Kakani**	42.84	312	eP	P	15 32 02.0	-0.4
	comp=Z,214nm,1.3s,mb5.7						
DMN	**Daman**	42.87	311	eP	P	15 32 02.5	-0.2
	comp=Z,236nm,1.1s,mb5.8						
CUD	**Cuddapah**	43.21	290	⇓eP	P	15 32 06.0	+0.4
GKN	**Gorkha**	43.43	311	eP	P	15 32 06.8	-0.4
	comp=Z,390nm,1.1s,mb6.0						
KOLN	**Koldanda**	44.09	310	eP	P	15 32 12.4	-0.2
	comp=Z,174nm,0.7s,mb5.9						
MDJ	**Mudanjiang**	44.16	9	P	P	15 32 14.3	+1.4
MDJ				AP	pP	15 32 19.8	-0.2
MDJ				XP	sP	15 32 24.0	+1.0
MDJ				PP	PP	15 33 58.8	+1.5
MDJ				SCP		15 37 39.8	
MDJ				PCS		15 37 44.8	
MDJ				XS		15 39 08.0	
MDJ				SCS	ScS	15 42 08.5	+0.9
MDJ				AMB	AMB		
	comp=Z,136nm,4.7s						
MDJ				LR	LR		
	comp=E,332nm,19.9s,MS4.5						
MDJ				LR	LR		
	comp=N,462nm,21.2s,MS4.5						
MDJ				LR	LR		
	comp=Z,746nm,21.8s,MS4.6						
MDJ	**Mudanjiang**	44.16	9	eP	P	15 32 13.8	+0.9
	comp=Z,199nm,1.0s,mb5.8						
HYB	**Hyderabad**	44.20	294	⇓iP	P	15 32 13.5	0.0
	comp=Z,110nm,1.0s,mb5.5						
HYB				eS	S	15 38 46.0	+1.1
TOO	**Toolangi**	44.90	151	⇑iP	P	15 32 20.5	+1.5
	comp=Z,17nm,1.1s,mb4.8						
RIV	**Riverview**	45.18	143	eP	P	15 32 23.3	+2.1
BHPL	**Bhopal**	47.12	301	eP	P	15 32 36.4	-0.4
BHPL				e		15 32 39.0	
	comp=Z,72nm,1.2s						
ASAJ	**Asahikawa**	47.23	22	P	P	15 32 38.1	+0.8
	comp=Z,67nm,0.9s,mb5.6,baz=243,slow=11,SNR=46						
ASAJ	**Asahikawa**	47.23	22	P	P	15 32 38.2	+0.9
ASAJ				pmax	pmax		
	comp=Z,67nm,0.9s						
HIA	**Hailar**	48.05	359	eP	P	15 32 44.1	+0.5
	comp=Z,16nm,1.0s,mb5.0						
HIA				ePcP	PcP	15 34 11.4	-0.3
SONM	**Songino Array**	48.16	347	P	P	15 32 45.5	+1.0
	comp=Z,41nm,0.8s,mb5.5,baz=165,slow=8.5,SNR=287						
SONM				PcP	PcP	15 34 11.1	-1.0
	comp=Z,7.5nm,0.8s,baz=154,slow=2.8,SNR=4.2						
KAD	**Karad**	48.18	292	iP	P	15 32 44.0	-1.1
AGRA	**Agra**	48.28	306	eP	P	15 32 44.5	-1.2
JOSI	**Joshimath**	48.55	311	eP	P	15 32 47.1	-0.7
POO	**Poona**	48.80	294	eP	P	15 32 48.0	-1.8
KLR	**Kul'dur**	49.00	10	eP	P	15 32 47.8	-3.2
KLR				pmax	pmax		
	comp=Z,28nm,1.0s,mb5.2						
ASOR	**Ausora**	49.08	308	eP	P	15 32 51.3	-0.5
SONA	**Sohna**	49.40	307	eP	P	15 32 53.4	-1.0
SONA				e		15 32 55.4	
	comp=Z,135nm,0.9s						
AYAN	**Aya Nagar**	49.47	308	eP	P	15 32 53.4	-1.5
AYAN				e		15 32 55.6	
	comp=Z,113nm,1.0s						
NDI	**New Delhi**	49.48	308	eP	P	15 32 54.0	-1.0
	comp=Z,117nm,0.9s,mb5.9						
BHGR	**Bahadurgarh**	49.71	308	eP	P	15 32 55.2	-1.5
YSS	**Yuzh-Sakhalins**	49.74	20	⇓eP	P	15 32 55.6	-1.1
YSS				e		15 33 05.6	
YSS				S	S	15 40 02.0	-1.1
YSS				ePS	PS	15 40 19.0	+4.6
YSS				eSSS	SSS	15 44 56.0	-3.6
YSS				pmax	pmax		
	comp=N,50nm,1.2s						
YSS				pmax	pmax		
	comp=Z,90nm,1.2s,mb5.7						
YSS				MLR	MLR		
	comp=Z,300nm,18.0s,MS4.3						
YSS				MLR	MLR		
	comp=N,300nm,19.0s,MS4.5						
YSS				MLR	MLR		
	comp=E,300nm,18.0s,MS4.5						
YSS	**Yuzh-Sakhalins**	49.74	20	eP	P	15 32 56.5	-0.2
	comp=E,64nm,1.2s,mb5.5						
KUDL	**Kundal**	49.83	307	eP	P	15 32 56.4	-1.3
KUDL				e		15 32 58.4	
	comp=Z,86nm,1.0s						
KLP	**Kalpa**	50.00	312	eP	P	15 32 59.7	+0.8
KLP				e		15 33 02.5	
	comp=Z,239nm,1.0s						
RTK	**Rohtak**	50.27	308	eP	P	15 32 59.8	-1.2
RTK				e		15 33 01.9	
	comp=Z,204nm,1.0s						
KHET	**Khetri**	50.35	306	eP	P	15 33 00.7	-0.9
KHET				e		15 33 02.2	

	comp=Z,98nm,1.0s						
KKR	**Kurukshetra**	**50.36**	**309**	*e*P	**P**	**15 33 01.1**	**-0.6**
KKR				*e*		15 33 01.6	
	comp=Z,58nm,0.2s						
ZAK	**Zakamensk**	**51.27**	**346**	⇑*i*P	**P**	**15 33 07.7**	**-0.6**
ZAK				*e*		15 34 22.7	
WMQ	**Urumqi**	**51.56**	**330**	P	**P**	**15 33 11.0**	**+0.4**
WMQ				AP	pP	15 33 18.8	+0.9
WMQ				XP	sP	15 33 22.0	+1.3
WMQ				PP	PP	15 35 09.3	+0.6
WMQ				S	**S**	**15 40 29.0**	**+0.7**
WMQ				SS	SS	15 44 03.3	+0.8
WMQ				AMB	AMB		
	comp=Z,72nm,1.0s,mb5.6						
WMQ				LR	LR		
	comp=N,548nm,22.6s,MS4.6						
WMQ				LR	LR		
	comp=E,311nm,25.0s,MS4.6						
WMQ				LR	LR		
	comp=Z,509nm,26.0s,MS4.4						
MOY	**Mondy**	**53.02**	**345**	*e*P	**P**	**15 33 22.6**	**+1.2**
JASL	**Jaisalmer**	**53.95**	**303**	*e*P	**P**	**15 33 27.6**	**-1.0**
KSH	**Kashi**	**55.66**	**319**	⇓*i*P	**P**	**15 33 41.8**	**+0.9**
KSH				AP	pP	15 33 49.5	+1.3
KSH				XP	sP	15 33 53.0	+2.0
KSH				PCP	PcP	15 34 41.0	+0.9
KSH				PP	PP	15 35 47.3	+0.6
KSH				SCP		15 38 37.3	
KSH				PCS		15 38 40.5	
KSH				S	**S**	**15 41 24.5**	**+0.7**
KSH				SCS	ScS	15 43 26.0	+1.0
KSH				SS	SS	15 45 09.3	+0.2
KSH				AMB	AMB		
	comp=Z,110nm,1.4s,mb5.7						
KSH				LR	LR		
	comp=N,200nm,6.1s						
KSH				LR	LR		
	comp=E,270nm,5.8s						
CLNS	**Chul'man**	**55.75**	**3**	*e*P	**P**	**15 33 42.0**	**+0.7**
CLNS				*e*		15 34 35.9	
CLNS				*e*		15 35 44.7	
CLNS				*e*PPP	PPP	15 37 00.9	-1.3
CLNS				*e*S	**S**	**15 41 35.2**	**+10**
CLNS				pmax	pmax		
	comp=Z,28nm,1.0s,mb5.2						
CLNS				pmax	pmax		
	comp=N,23nm,1.2s						
CLNS				pmax	pmax		
	comp=E,11nm,0.8s						
CLNS				pmax	pmax		
	comp=N,7.0nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
CLNS				pmax	pmax		
	comp=E,5.0nm,1.2s						
CLNS				smax			
	comp=N,5.0nm,1.0s						
CLNS				smax			
	comp=E,4.0nm,0.9s						
CLNS				smax			
	comp=Z,2.0nm,0.9s						
CLNS				MLR	MLR		
	comp=Z,200nm,17.0s,MS4.3						
CLNS				MLR	MLR		
	comp=N,300nm,16.0s,MS4.5						
CLNS				MLR	MLR		
	comp=E,100nm,13.0s,MS4.5						
MKAR	**Makanchi Array**	**56.36**	**329**	P	**P**	**15 33 46.0**	**+0.1**
	comp=E,82nm,1.0s,mb5.7,baz=132,slow=7.6,SNR=376						
MKAR				PcP	PcP	15 34 42.1	-0.6
	comp=E,12nm,0.7s,baz=146,slow=4.4,SNR=6.0						
MKAR				LR	LR	15 59 57.9	
	comp=E,232nm,21.3s,MS4.2,baz=119,slow=38						
MKAR	**Makanchi Array**	**56.36**	**329**	P	**P**	**15 33 46.0**	**+0.1**
MKAR						15 34 42.2	
MKAR				pmax	pmax		
	comp=Z,82nm,1.0s						
MKAR				pmax	pmax		
	comp=Z,13nm,0.7s						
MKAR				MLR	MLR		
	comp=Z,232nm,21.3s						
BOD	**Bodaibo**	**56.84**	**356**	⇑*i*P	**P**	**15 33 49.2**	**+0.1**
ULHL	**Ulahol**	**56.97**	**322**	P	**P**	**15 33 51.0**	**+0.6**
	SNR=25						
KZA	**Kyzart**	**57.49**	**321**	P	**P**	**15 33 55.3**	**+1.3**
	SNR=33						
TKM2	**Tokmak 2**	**57.74**	**322**	P	**P**	**15 33 56.4**	**+0.7**
	SNR=35						
KBK	**Karagaybulak**	**58.00**	**322**	P	**P**	**15 33 58.5**	**+1.1**
	SNR=47						
UCH	**Uchtor**	**58.04**	**321**	P	**P**	**15 33 59.1**	**+1.3**
	SNR=6.6						
AAK	**Ala-Archa**	**58.27**	**321**	P	**P**	**15 34 00.2**	**+0.8**
	SNR=20						
AAK	**Ala-Archa**	**58.27**	**321**	*e*P	**P**	**15 33 58.8**	**-0.5**
	comp=Z,48nm,1.0s,mb5.5						
FRU	**Bishkek**	**58.30**	**322**	*e*P	**P**	**15 34 00.0**	**+0.4**
FRU				*e*		15 34 16.0	
FRU				pmax	pmax		
	comp=Z,80nm,2.0s,mb5.4						
CHMS	**Chumysh**	**58.30**	**322**	P	**P**	**15 33 59.6**	**0.0**
	SNR=11						
USP	**Ospenovka**	**58.60**	**322**	P	**P**	**15 34 02.0**	**+0.3**
	SNR=25						
EKS2	**Erkin-Say**	**58.73**	**321**	P	**P**	**15 34 03.2**	**+0.6**
	SNR=10						
ZAL	**Zalesovo**	**60.30**	**337**	P	**P**	**15 34 13.1**	**-0.2**
	comp=Z,31nm,1.0s,mb5.3,baz=258,slow=6.1,SNR=142						
ZAL				LR	LR	16 04 32.2	
	comp=Z,319nm,18.5s,MS4.5,baz=244,slow=40						
ZAL	**Zalesovo**	**60.30**	**337**	P	**P**	**15 34 13.1**	**-0.2**
ZAL				pmax	pmax		
	comp=Z,31nm,1.0s						
ZAL				MLR	MLR		
	comp=Z,319nm,18.5s						
PET	**Petropavlovsk**	**60.77**	**25**	*e*P	**P**	**15 34 22.6**	**+6.1**
PET				*e*S	**S**	**15 42 40.3**	**+10**
PET				pmax	pmax		
	comp=Z,128nm,16.4s						
PET				smax			
	comp=E,151nm,22.6s						
KURK	**Kurchatov**	**60.78**	**331**	P	**P**	**15 34 16.3**	**-0.2**
KURK				pmax	pmax		
	comp=Z,72nm,1.0s,mb5.8						
KURK	**Kurchatov**	**60.78**	**331**	⇓*i*P	**P**	**15 34 16.2**	**-0.3**
	comp=Z,130nm,0.9s,mb6.1						
YAK	**Yakutsk**	**61.25**	**5**	*e*P	**P**	**15 34 19.0**	**-0.6**
YAK				pmax	pmax		
	comp=Z,46nm,0.9s,mb5.6						
YAK				pmax	pmax		
	comp=N,16nm,1.0s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.1s						
YAK	**Yakutsk**	**61.25**	**5**	*e*P	**P**	**15 34 18.6**	**-1.1**
	comp=E,81nm,0.9s,mb5.8						
YAK				*e*pP	pP	15 34 31.0	+3.9
YAK				LR	LR		
	comp=Z,398nm,20.0s,MS4.6						
NVS	**Novosibirsk**	**61.59**	**337**	*i* P	**P**	**15 34 20.2**	**-1.8**
NVS				pmax	pmax		
	comp=N,51nm,1.1s						
NVS				pmax	pmax		
	comp=E,30nm,1.1s						
NVS				pmax	pmax		
	comp=Z,55nm,1.1s,mb5.6						
MA2	**Magadan**	**62.98**	**17**	*de*P	**P**	**15 34 31.6**	**+0.4**
MA2				*e*S	**S**	**15 42 57.6**	**-0.7**
MA2				pmax	pmax		
	comp=Z,20nm,0.9s,mb5.2						
MA2				MLR	MLR		
	comp=Z,430nm,20.0s,MS4.6						
RPZ	**Rata Peaks**	**63.46**	**141**	P	**P**	**15 34 34.4**	**-0.2**
	comp=Z,19nm,0.9s,mb5.2,baz=0.3,slow=4.3,SNR=8.2						
URZ	**Urewera**	**65.14**	**133**	P	**P**	**15 34 45.6**	**-0.1**
	comp=Z,8.1nm,0.8s,mb4.8,baz=152,slow=20,SNR=3.6						
VOSK	**Vostochnaya**	**65.78**	**330**	P	**P**	**15 34 48.8**	**-0.7**
VOSK				pmax	pmax		
	comp=Z,22nm,0.9s,mb5.2						
BVA0	**Borovoye Array**	**66.25**	**330**	P	**P**	**15 34 52.2**	**-0.3**
BVAR	**Borovoye Array**	**66.25**	**330**	P	**P**	**15 34 52.2**	**-0.3**
	comp=Z,18nm,0.8s,mb5.2,baz=141,slow=9.5,SNR=117						
BRVK	**Borovoye**	**66.32**	**330**	*e*P	**P**	**15 34 52.4**	**-0.5**
	comp=Z,46nm,1.0s,mb5.5						
ZRNK	**Zerenda**	**66.91**	**329**	P	**P**	**15 34 56.4**	**-0.3**
ZRNK				pmax	pmax		
	comp=Z,33nm,0.9s,mb5.4						
ZRNK	**Zerenda**	**66.91**	**329**	⇓*e*P	**P**	**15 34 56.2**	**-0.5**
	comp=Z,54nm,1.0s,mb5.5						
ZRNK				PcP	PcP	15 35 24.1	-1.0
CASY	**Casey**	**67.53**	**184**	*e*P	**P**	**15 34 59.3**	**-1.1**
	comp=Z,16nm,1.1s,mb5.0						
FX1	**Attu Island--F**	**67.64**	**31**	LR	LR	15 59 14.0	
	comp=Z,20nm,21.6s,slow=31						
MIR	**Mirnyy**	**70.18**	**191**	⇑*e*P	**P**	**15 35 16.6**	**-0.2**
MIR				pmax	pmax		
	comp=Z,40nm,0.8s,mb5.4						
MIR				MLR	MLR		
	comp=Z,600nm,16.0s,MS4.9						
TIXI	**Tiksi**	**70.72**	**3**	*e*P	**P**	**15 35 18.4**	**-1.6**
TIXI				pmax	pmax		
	comp=Z,22nm,1.3s,mb4.9						
TIXI				MLR	MLR		
	comp=Z,400nm,18.0s,MS4.7						
HASS	**Wahat al Ahsa'**	**72.08**	**296**	P	**P**	**15 35 28.2**	**-0.8**
SVE	**Sverdlovsk**	**73.01**	**330**	⇓*i*P	**P**	**15 35 33.0**	**-0.8**
SVE				pmax	pmax		
	comp=Z,160nm,2.1s,mb5.6						
ARU	**Arti**	**73.89**	**329**	⇓*i*P	**P**	**15 35 38.5**	**-0.4**
ARU				*e*		15 35 54.5	
ARU				*e*		15 38 19.8	
ARU				*e*PPP	PPP	15 40 09.3	-1.1
ARU				*e*S	S	15 45 08.8	+0.9
ARU				*e*SS	SS	15 49 51.6	-3.1
ARU				pmax	pmax		
	comp=Z,43nm,0.8s,mb5.4						
ARU	**Arti**	**73.89**	**329**	⇓*e*P	**P**	**15 35 38.2**	**-0.8**
	comp=Z,57nm,1.0s,mb5.5						
QRN	**Al-Qurain**	**74.12**	**299**	*e*P	**P**	**15 35 40.7**	**-0.2**
QRN				AMb	AMB	15 35 41.4	
	comp=Z,70nm,0.9s,mb5.6						
KBD	**Kabd**	**74.38**	**300**	*e*P	**P**	**15 35 42.4**	**0.0**
UMR	**Umm Al-Rimmam**	**74.41**	**300**	*e*P	**P**	**15 35 41.8**	**-0.7**
UMR				AMb	AMB	15 35 43.6	
	comp=Z,94nm,1.1s,mb5.6						
RDF	**Al-Radifah**	**74.47**	**300**	*e*P	**P**	**15 35 42.5**	**-0.4**
RDF				AMb	AMB	15 35 44.3	
	comp=Z,79nm,1.2s,mb5.5						
MIB	**Mutribah**	**74.77**	**301**	*e*P	**P**	**15 35 43.6**	**-0.9**
MIB				AMb	AMB	15 35 45.1	
	comp=Z,177nm,0.7s,mb6.1						
RST	**Umm Al-Ruwaisa**	**75.02**	**300**	*e*P	**P**	**15 35 44.6**	**-1.5**
RST				AMb	AMB	15 35 46.3	
	comp=Z,138nm,0.8s,mb5.9						
RAYN	**Ar Rayn**	**75.70**	**294**	P	**P**	**15 35 49.6**	**-0.5**
	comp=Z,163nm,0.9s,mb6.0,SNR=28						
MZLS	**Mizel**	**76.02**	**294**	P	**P**	**15 35 51.1**	**-0.8**
DJNS	**Zahran al Janu**	**77.12**	**288**	P	**P**	**15 35 58.3**	**+0.2**
ARSS	**Ar Rass**	**77.96**	**296**	P	**P**	**15 36 02.3**	**-0.3**
AFFS	**'Afif**	**78.02**	**294**	P	**P**	**15 36 02.7**	**-0.3**
GNI	**Garni**	**78.35**	**311**	*d i*P	**P**	**15 36 05.4**	**+1.0**
GNI				pmax	pmax		
	comp=Z,35nm,1.5s						
GNI				MLR	MLR		
	comp=Z,200nm,17.0s						
GNI	**Garni**	**78.35**	**311**	*e*P	**P**	**15 36 05.2**	**+0.8**
	comp=Z,29nm,1.1s,mb5.1						
BLJS	**Baljurashi**	**79.07**	**290**	P	**P**	**15 36 09.7**	**+0.9**
MAW	**Mawson**	**79.08**	**199**	P	**P**	**15 36 07.9**	**0.0**
	comp=Z,4.0nm,0.9s,mb4.3,baz=27,slow=7.9,SNR=8.0						
MAW				LR	LR	16 06 22.0	
	comp=Z,224nm,20.8s,MS4.5,baz=59,slow=32						
HILS	**Ha'il**	**79.37**	**298**	P	**P**	**15 36 10.7**	**+0.4**
GOF	**Gofitskoye**	**80.31**	**315**	⇓*i*P	**P**	**15 36 15.5**	**+0.5**
GOF				pmax	pmax		
	comp=Z,50nm,1.2s,mb5.3						
KIV	**Kislovodsk**	**80.41**	**314**	*d i*P	**P**	**15 36 15.8**	**+0.3**
KIV				*e*		15 39 18.3	
KIV				*e*S	S	15 46 21.4	+2.7
KIV				pmax	pmax		
	comp=Z,19nm,1.0s,mb5.0						
KIV	**Kislovodsk**	**80.41**	**314**	*e*P	**P**	**15 36 14.5**	**-1.0**
	comp=Z,16nm,0.8s,mb5.0						
KBRS	**Khaybar**	**81.53**	**296**	P	**P**	**15 36 22.6**	**+0.9**
SOC	**Sochi**	**82.50**	**314**	*i* P	**P**	**15 36 25.9**	**-0.5**
SOC				*e*		15 36 36.2	
SOC				*e*		15 39 40.8	
SOC				*e*S	S	15 46 38.7	-1.5
SOC				*e*SS	SS	15 52 01.5	-3.6
SOC				*e*SSS	SSS	15 55 28.5	-0.6
SOC				pmax	pmax		
	comp=Z,43nm,1.2s,mb5.2						
SOC				pmax	pmax		
	comp=N,11nm,0.9s						
SOC				pmax	pmax		
	comp=E,21nm,1.2s						
SOC				MLR	MLR		
	comp=Z,211nm,22.0s,MS4.5						
SOC				MLR	MLR		
	comp=N,237nm,21.0s,MS4.6						
SOC				MLR	MLR		
	comp=E,110nm,23.0s,MS4.6						
YNBS	**Yanbu' al Bahr**	**82.61**	**294**	P	**P**	**15 36 28.2**	**+0.8**
SBA	**Scott Base**	**82.62**	**171**	*e*P	**P**	**15 36 27.1**	**+0.8**
	comp=E,4.1nm,0.8s,mb4.5						
KMBO	**Kilima Mbogo**	**83.12**	**269**	P	**P**	**15 36 31.4**	**+1.1**
	comp=E,14nm,0.7s,mb5.1,baz=59,slow=8.2,SNR=70						
KMBO	**Kilima Mbogo**	**83.12**	**269**	⇓*e*P	**P**	**15 36 31.1**	**+0.9**
	comp=E,27nm,1.0s,mb5.2						
KMBO				LR	LR		
	comp=Z,209nm,21.0s,MS4.5						
UMJS	**Umm Lajj**	**83.26**	**295**	P	**P**	**15 36 32.0**	**+1.3**
VOR	**Voronezh**	**83.70**	**322**	⇓*i*P	**P**	**15 36 32.3**	**-0.1**
VOR				*e**PP	pP	15 36 40.0	0.0
VOR				pmax	pmax		
	comp=Z,170nm,1.1s,mb6.1						
VOR				pmax	pmax		
	comp=E,80nm,1.2s						
ASF	**Jabal al Asfar**	**83.91**	**302**	P	**P**	**15 36 35.4**	**+1.4**
	comp=E,35nm,0.8s,mb5.5,baz=336,slow=3.2,SNR=44						
TBKS	**Tabuk**	**84.05**	**298**	P	**P**	**15 36 36.2**	**+1.5**
ANN	**Anapa**	**84.24**	**315**	*e*P	**P**	**15 36 34.4**	**-0.9**
ANN				*e*S	S	15 46 53.9	-3.8
ANN				pmax	pmax		
	comp=Z,60nm,1.1s,mb5.6						
ANN				MLR	MLR		
	comp=Z,100nm,7.0s						
ANN				MLR	MLR		
	comp=N,60nm,10.0s						
ANN				MLR	MLR		
	comp=E,80nm,7.0s						
DBAS	**Duba**	**84.52**	**297**	P	**P**	**15 36 37.8**	**+0.6**
JMQS	**Jabal Moqyreh**	**84.66**	**299**	P	**P**	**15 36 38.7**	**+0.9**
HRI	**Mount Hermon**	**84.93**	**303**	P	**P**	**15 36 40.1**	**+1.0**
MOS	**Moscow**	**85.05**	**326**	*e*P	**P**	**15 36 38.8**	**-0.3**
MOS				*e*		15 39 52.9	
MOS				pmax	pmax		
	comp=Z,121nm,1.1s,mb5.9						
HMDT	**Nahal Hemdat**	**85.07**	**302**	P	**P**	**15 36 40.7**	**+0.9**
DRGI	**Dragot**	**85.16**	**301**	P	**P**	**15 36 41.1**	**+0.8**
MMLI	**Mount Malkishu**	**85.17**	**302**	P	**P**	**15 36 41.5**	**+1.2**
AQBJ	**Aqaba**	**85.41**	**300**	P	**P**	**15 36 42.4**	**+0.9**
PRNI	**Paran**	**85.46**	**300**	P	**P**	**15 36 42.8**	**+1.0**
EIL	**Elat**	**85.49**	**300**	P	**P**	**15 36 42.7**	**+0.7**
MBH	**Mount Berech**	**85.53**	**300**	P	**P**	**15 36 43.1**	**+1.0**
OBN	**Obninsk**	**85.59**	**325**	P	**P**	**15 36 41.9**	**+0.1**
	comp=Z,844nm,0.8s,SNR=15						
OBN	**Obninsk**	**85.59**	**325**	*d i*P	**P**	**15 36 41.4**	**-0.4**
OBN				*e*SS	SS	15 52 50.1	-0.1
OBN				pmax	pmax		
	comp=Z,169nm,1.2s,mb6.2						
OBN				MLR	MLR		
	comp=Z,200nm,20.0s,MS4.5						
OBN	**Obninsk**	**85.59**	**325**	⇓*e*P	**P**	**15 36 41.4**	**-0.5**
	comp=Z,144nm,1.0s,mb6.2						
KMTI	**Karmit**	**85.70**	**300**	P	**P**	**15 36 43.6**	**+0.6**
SIM	**Simferopol'**	**86.60**	**315**	*d i*P	**P**	**15 36 48.5**	**+1.4**
SIM				pmax	pmax		
	comp=Z,45µm,1.0s						
BRTR	**Keskin Array B**	**86.81**	**310**	P	**P**	**15 36 48.0**	**-0.2**
	comp=Z,14nm,0.9s,mb5.2,baz=124,slow=4.5,SNR=56						
BRTR				PP	PP	15 40 12.2	-1.0
	comp=Z,1.6nm,1.0s,baz=130,slow=9.6,SNR=3.7						
BRTR				LR	LR	16 19 37.0	
	comp=Z,134nm,21.3s,MS4.3,baz=85,slow=38						
BRTR	**Keskin Array B**	**86.81**	**310**	P	**P**	**15 36 48.0**	**-0.2**
BRTR						15 40 12.3	
BRTR				pmax	pmax		
	comp=Z,14nm,0.9s						
BRTR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
BRTR				MLR	MLR		
	comp=Z,135nm,21.3s						
CSS	**Prodhromos**	**86.97**	**305**	*e*P	**P**	**15 36 48.5**	**-0.6**
	comp=Z,33nm,1.0s,mb5.5						
SYO	**Syowa Base**	**87.64**	**201**	⇑P	**P**	**15 36 49.5**	**-2.0**
SYO	**Syowa Base**	**87.64**	**201**	⇓P	**P**	**15 36 52.6**	**+1.1**
SYO	**Syowa Base**	**87.64**	**201**	⇑PcP	PcP	15 36 55.9	+2.1
SYO	**Syowa Base**	**87.64**	**201**	⇓pP	pP	15 37 01.2	+2.0
APA	**Apatity**	**87.88**	**337**	⇑*i*P	**P**	**15 36 51.5**	**-1.2**
APA				pmax	pmax		
	comp=Z,16nm,1.0s,mb5.2						
MBAR	**Mbarara**	**89.62**	**269**	*e*P	**P**	**15 37 02.2**	**-0.1**
	comp=Z,16nm,1.0s,mb5.3						
AKASG	**Malin Array Be**	**89.92**	**321**	P	**P**	**15 37 01.5**	**-1.3**
	comp=Z,12nm,0.7s,mb5.3,baz=72,slow=4.4,SNR=58						
AKASG				PP	PP	15 40 39.1	+1.1
	comp=Z,0.2nm,0.3s,baz=74,slow=7.1,SNR=4.8						
AKASG				LR	LR	16 25 28.7	
	comp=Z,158nm,20.0s,MS4.4,baz=130,slow=41						
AKASG	**Malin Array Be**	**89.92**	**321**	P	**P**	**15 37 01.5**	**-1.3**
AKASG						15 40 39.1	
AKASG				pmax	pmax		
	comp=Z,12nm,0.7s						
AKASG				MLR	MLR		
	comp=Z,158nm,20.0s						
KEV	**Kevo**	**90.20**	**340**	*e*p	**P**	**15 37 02.1**	**-1.5**
ILAR	**Eielson Array**	**90.25**	**25**	P	**P**	**15 37 02.8**	**-1.2**
	comp=Z,1.0nm,0.8s,mb4.2,baz=255,slow=6.2,SNR=7.9						
ILAR	**Eielson Array**	**90.25**	**25**	P	**P**	**15 37 02.8**	**-1.2**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
PPT	**Papeete**	**90.38**	**107**	*e*S	S	15 48 04.7	+8.3
PPT				*e*R		16 06 30.7	
	comp=Z,145nm,25.2s						
TBI	**Tubuai**	**90.58**	**113**	*e*S	S	15 48 05.4	+7.4
TBI				*e*R		16 07 33.0	
	comp=Z,151nm,25.0s						
ARCES	**ARCESS Array B**	**90.74**	**339**	P	**P**	**15 37 05.7**	**-0.4**
	comp=Z,4.1nm,0.7s,mb4.9,baz=90,slow=4.9,SNR=19						
ARCES				LR	LR	16 22 03.1	
	comp=Z,296nm,19.1s,MS4.7,baz=86,slow=38						
KAF	**Kangasniemi**	**90.99**	**332**	*e*p	**P**	**15 37 05.8**	**-1.6**
	comp=Z,4.5nm,0.7s,mb4.9,baz=82,slow=4.2						
KAF	**Kangasniemi**	**90.99**	**332**	*e*P	**P**	**15 37 05.8**	**-1.6**
KAF				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb5.0						
VSU	**Vasula**	**91.03**	**328**	P	**P**	**15 37 07.2**	**-0.5**
FINES	**FINESS Array B**	**91.15**	**331**	P	**P**	**15 37 07.4**	**-0.8**
	comp=Z,3.3nm,0.7s,mb4.8,baz=72,slow=4.4,SNR=12						
FINES	**FINESS Array B**	**91.15**	**331**	P	**P**	**15 37 07.4**	**-0.8**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
SUW	**Suwalki**	**93.39**	**324**	*e*P	**P**	**15 37 18.2**	**-0.5**
SUW				MLR	MLR		
	comp=Z,400nm,26.3s,MS4.8						
KWP	**Kalwaria**	**94.18**	**320**	*e*P	**P**	**15 37 22.0**	**-0.4**
KWP				MLR	MLR		
	comp=Z,200nm,25.9s,MS4.5						
KOLS	**Kolonicke sedl**	**94.54**	**319**	*e*P	**P**	**15 37 24.1**	**0.0**
CRVS	**Cervenica-Dubn**	**95.08**	**319**	*e*P	**P**	**15 37 28.5**	**+2.0**
OJC	**Ojcow**	**95.96**	**321**	*e*P	**P**	**15 37 30.7**	**+0.1**
VYHS	**Vyhne**	**96.86**	**319**	*e*P	**P**	**15 37 34.4**	**-0.3**
MORC	**Moravsky Berou**	**97.47**	**320**	*e*P	**P**	**15 37 37.1**	**-0.3**
	comp=Z,4.1nm,0.9s,mb4.9						
KSP	**Ksiaz**	**98.06**	**322**	*e*P	**P**	**15 37 40.1**	**+0.1**
NB2	**NORSAR Subarra**	**98.27**	**332**	P	**P**	**15 37 38.7**	**-2.0**
	comp=Z,7.7nm,1.0s,mb5.2,baz=73,slow=4.5						
NB2	**NORSAR Subarra**	**98.27**	**332**	P	**P**	**15 37 38.7**	**-2.0**
	baz=72,slow=4.6						
NOA	**NORSAR Array B**	**98.27**	**332**	P	**P**	**15 37 39.7**	**-1.0**
	comp=Z,4.8nm,0.9s,mb5.0,baz=74,slow=4.5,SNR=10						
NOA				LR	LR	16 25 08.3	
	comp=Z,251nm,18.9s,MS4.7,baz=75,slow=37						
NOA	**NORSAR Array B**	**98.27**	**332**	P	**P**	**15 37 39.7**	**-1.0**
NOA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
NOA				MLR	MLR		
	comp=Z,251nm,18.9s						
NOA	**NORSAR Array B**	**98.27**	**332**	P	**P**	**15 37 39.7**	**-1.0**
NOA				LR	LR	16 25 08.3	
PRU	**Pruhonice**	**99.33**	**321**	*e*PDIF	**P**	**15 37 45.9**	**+0.1**
BRG	**Berggiesshubel**	**99.50**	**322**	*e*P	**P**	**15 37 46.7**	**+0.2**
BRG				pmax	pmax		
	comp=Z,13nm,1.2s,mb5.2						
BRG	**Berggiesshubel**	**99.50**	**322**	*e*P	**P**	**15 37 46.7**	**+0.2**
	comp=Z,13nm,1.1s,mb5.3						
GERES	**GERESS Array B**	**100.12**	**320**	P	P	15 37 48.6	-0.9
	comp=Z,0.7nm,0.7s,baz=90,slow=4.0,SNR=6.7						
GERES	**GERESS Array B**	**100.12**	**320**	P	P	15 37 48.6	-0.9
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KHC	**Kasperske Hory**	**100.14**	**320**	*e*P	P	15 37 50.0	+0.5
RSSD	**Black Hills**	**120.14**	**36**	*e*PKPdf	PKPdf	15 42 54.9	-3.0
SCHQ	**Schefferville**	**124.01**	**5**	PKP	PKPdf	15 43 02.2	-3.0
	comp=Z,13nm,0.8s,baz=276,slow=2.5,SNR=7.5						
SCHQ	**Schefferville**	**124.01**	**5**	PKP	PKPdf	15 43 02.2	-3.0
DBIC	**Dimbokro**	**124.79**	**279**	PKP	PKPdf	15 43 03.6	-4.2
	comp=Z,7.8nm,1.1s,baz=180,slow=3.0,SNR=3.5						
DBIC	**Dimbokro**	**124.79**	**279**	PKIKP	PKPdf	15 43 03.7	-4.1
DBIC				pmax	pmax		
	comp=Z,8.0nm,1.2s						
TXAR	**Lajitas Array**	**128.25**	**51**	PKP	PKPdf	15 43 10.9	-3.2
	comp=Z,0.3nm,0.7s,baz=342,slow=7.9,SNR=3.4						
CPUP	**Villa Florida**	**154.75**	**185**	PKP	PKPdf	15 43 56.0	-3.8
	comp=Z,2.9nm,0.9s,baz=160,slow=1.9,SNR=6.6						
CPUP				PKPbc	PKPdf	15 44 06.5	+6.7
	comp=Z,4.4nm,0.8s,baz=243,slow=1.1,SNR=8.9						
CPUP	**Villa Florida**	**154.75**	**185**	PKIKP	PKPdf	15 43 56.0	-3.8
CPUP						15 44 06.5	
CPUP				pmax	pmax		
	comp=Z,3.0nm,0.9s						
CPUP				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BDFB	**Brasilia**	**161.50**	**218**	PKP	PKPdf	15 44 05.8	-2.3
	comp=Z,2.7nm,1.0s,baz=154,slow=3.9,SNR=2.9						
BDFB				PKPbc	PKPdf	15 44 18.8	+11
	comp=Z,5.3nm,1.1s,baz=189,slow=5.8,SNR=4.1						
BDFB				PKPab	PKPab	15 44 49.7	-0.9
	comp=Z,2.2nm,0.7s,baz=311,slow=2.2,SNR=3.8						
BDFB	**Brasilia**	**161.50**	**218**	PKIKP	PKPdf	15 44 05.8	-2.3
BDFB						15 44 18.8	
BDFB						15 44 49.7	
BDFB				pmax	pmax		
	comp=Z,3.0nm,1.0s						
BDFB				pmax	pmax		
	comp=Z,5.0nm,1.1s						
BDFB				pmax	pmax		
	comp=Z,2.0nm,0.7s						
LPAZ	**La Paz**	**162.69**	**152**	PKP	PKPdf	15 44 07.5	-1.8
	comp=Z,3.9nm,1.1s,baz=295,slow=0.4,SNR=11						
LPAZ	**La Paz**	**162.69**	**152**	PKIKP	PKPdf	15 44 07.5	-1.8
LPAZ				pmax	pmax		
	comp=Z,4.0nm,1.1s						

DJA 26 15:33:48.8±1.0,9.79S×114.18E,h84^{km}±29^{km},MD5.1/4, ML4.1/3,2C-4D,Error ellipse: s-maj=52.3km s-min=17.4km az=25.0,South of Bali

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
INGI	**Ingas**	**1.36**	**45**	*e*Pn	P	15 34 12.7	-0.3
	219nm,0.2s						
INGI				⇓*i*Sn	S	15 34 29.2	-1.7
KELI	**Kelakatan**	**1.59**	**11**	⇑*i*Pn	P	15 34 15.2	-0.8
	141nm,0.3s						
KELI				⇓*i*Sn	S	15 34 35.2	-0.9
RATI	**Rata**	**1.71**	**52**	⇓*i*Pn	P	15 34 16.4	-1.1
	170nm,0.2s						
RATI				⇓*i*Sn	S	15 34 37.2	-1.4
KEDI	**Kedomdong**	**2.31**	**56**	⇑*i*Pn	P	15 34 25.0	-0.7

NEIC 26 15:54:05.4,36.17N×120.65W,MW3.7(BRK),1C,After NCEDC.,Central California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LRV	**Little Rabbit**	**0.39**	**311**	⇑*e*P	Pg	15 54 14.4	+1.1
SAO	**San Andreas Ge**	**0.88**	**313**	*e*P	Pg	15 54 22.7	-0.2
CMB	**Columbia Colle**	**1.88**	**6**	*e*Pn	Pn	15 54 38.0	-1.1
LKC	**Lake Chabot**	**1.94**	**325**	*e*Pn	Pn	15 54 39.0	-0.9
OMM	**Old Mammoth Mi**	**1.97**	**42**	*e*Pn	Pn	15 54 40.3	-0.1
SAC	**San Andreas**	**2.00**	**316**	*e*Pn	Pn	15 54 40.7	-0.1
MTUM	**Tungsten Hills**	**2.05**	**54**	*e*Pn	Pn	15 54 41.8	+0.1
MTUM				*e*Sg	Sg	15 55 10.2	-3.6
DAC	**Darwin (Calif)**	**2.48**	**87**	*e*Pn	Pn	15 54 46.9	-0.8

NSHM	Saint Helena R	2.82	327	*e*Pn	Pn	15 54 50.4	-2.2
MWC	Mount Wilson	2.88	132	*e*Pn	Pn	15 54 51.0	-2.4
MNV	Mina	3.02	41	*e*Pn	Pn	15 54 55.6	+0.2
WCN	Washoe City	3.21	13	*e*Pn	Pn	15 54 58.8	+0.7
OHCM	Honcut	3.23	348	*e*Pn	Pn	15 54 58.2	-0.2
TPH	Tonopah	3.34	54	*e*Pn	Pn	15 54 58.6	-1.3
TPNV	Topopah Spring	3.63	76	*e*Pn	Pn	15 55 02.7	-1.4
PAHR	Pah Rah Range	3.67	15	Pn	Pn	15 55 03.6	-1.1
BEKR	Beckwourth	3.70	4	*e*Pn	Pn	15 55 03.7	-1.4
PFO	Pinyon Flat Ob	4.29	125	*e*Pn	Pn	15 55 10.3	-3.1
LDFC	Landfair	4.64	102	*e*Pn	Pn	15 55 14.9	-3.6
WDC	Whiskeytown Da	4.65	342	Pn	Pn	15 55 16.4	-2.2
NEN	Nelson	4.74	95	*e*Pn	Pn	15 55 17.5	-2.4
BAR	Barrett	4.79	135	*e*Pn	Pn	15 55 16.3	-4.2
MOD	Modoc	5.74	3	Pn	Pn	15 55 32.0	-1.9
ARUT	Antelope Range	6.00	72	Pn	Pn	15 55 36.7	-0.9
ARUT				*e*Pg	Pg	15 55 59.0	-6.2
ELK	Elko	6.24	41	*e*Pn	Pn	15 55 37.0	-4.0
WVOR	Wild Horse Val	6.45	13	Pn	Pn	15 55 42.7	-1.4
MSU	Marysvale	7.15	68	*e*Pn	Pn	15 55 51.5	-2.3
DUG	Dugway	7.37	55	*e*Pn	Pn	15 55 53.4	-3.5
DAU	Daniels Canyon	8.52	57	Pn	P	15 56 08.1	-4.9
SRU	San Rafael	8.56	67	Pn	P	15 56 07.7	-5.8

*LDG **26** 16:00:41.2±0.3, 42.83N×1.52W, h2^{km}, Md2.3/3, Ml2.3/2, Error ellipse: s-maj=5.3km s-min=3.0km az=42.0*
*STR **26** 16:00:41.5±0.7, 42.86N×1.54W, h2^{km}±1^{km}, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*MDD **26** 16:00:42.7±0.5, 42.84N×1.43W, mbLg1.4/8, Error ellipse: s-maj=3.7km s-min=2.1km az=53.0, PRXIMO AftershockPLICA*
ISC 26 16:00:41.2±0.6**, 42.81N**±0.03×**1.42W**±0.05**, h2**^{km}**, n16, σ0**^{s}**.98**/25**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJPF	Ste Jean	0.34	25	*e*Pg	Pg	16 00 48.2	+0.3
SJPF				*e*Sg	Sg	16 00 52.4	0.0
	28nm,0.3s						
LARF	Larrau	0.39	54	P	Pg	16 00 49.4	+0.4
LARF				S	Sg	16 00 55.2	+0.9
EALK	Alkurruntz	0.42	351	Pg	Pg	16 00 49.5	0.0
	3.2nm,0.3s,SNR=13						
EALK				Lg		16 00 55.3	
	4.5nm,0.1s,SNR=26						
OSSF	Osses	0.46	15	Pg	Pg	16 00 50.2	-0.2
OSSF				Sg	Sg	16 00 56.1	-0.5
OSSF	Osses	0.46	15	P	Pg	16 00 50.3	-0.1
OSSF				S	Sg	16 00 56.2	-0.4
ORDF	Ordiarp	0.54	41	Pg	Pg	16 00 52.0	0.0
ORDF				Sg	Sg	16 01 00.2	+1.0
ORDF	Ordiarp	0.54	41	P	Pg	16 00 52.2	+0.2
ORDF				S	Sg	16 01 00.1	+0.9
ETSF	Etsaut	0.64	82	*e*Pg	Pg	16 00 54.0	0.0
ETSF				*e*Sg	Sg	16 01 03.6	+1.1
	4.6nm,0.2s						
ESAC	San Caprasio	1.29	147	Pg	Pg	16 01 07.5	+0.5
	SNR=7.9						
ESAC				Lg		16 01 25.4	
	6.5nm,0.2s,SNR=5.7						
EPF	Esparros	1.31	80	*e*Pg	Pg	16 01 07.5	+0.1
EPF				*e*Sg	Sg	16 01 25.3	+0.4
	5.5nm,0.2s						
EGRA	Graus	1.42	115	Pg	Pg	16 01 09.0	-0.6
	SNR=7.9						
EGRA				Lg		16 01 28.2	
	2.0nm,0.2s,SNR=7.9						
ELAN	Lanestosa	1.54	287	Pg	Pg	16 01 10.7	-1.2
	SNR=7.9						
ELAN				Lg		16 01 31.2	
	1.8nm,0.2s,SNR=7.9						
ETOR	Torete	2.04	194	Pn	Pn	16 01 18.1	+1.1
	1.2nm,0.3s,SNR=4.7						
ETOR				Sn	Sn	16 01 44.5	+1.1
	3.3nm,0.6s,SNR=4.5						
EPOB	Poblet	2.36	127	Sn	Sn	16 01 49.6	-1.9
	SNR=7.9						
EMOS	Mosqueruela	2.54	163	Lg		16 02 03.8	
	0.3nm,0.2s,SNR=7.9						
MTLF	Montolieu	2.72	77	*e*Pg	Pg	16 01 32.8	-2.7
MTLF				*e*Sg	Sg	16 02 08.9	-2.8
	2.3nm,0.5s						

CASC 26 16:16:07.5±3.4**, 11.96N**×**85.19W, MD3.5, 2C-2D, Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CONN	Concepcion	0.58	227	⇓*e*P	Pg	16 16 25.6	+6.4
APON	Apoyo	0.86	267	*e*P	Pg	16 16 24.9	+0.3
MASN	Masaya	0.94	272	*e*P	Pg	16 16 25.6	-0.7
WILN	Americas 2	1.00	282	*e*P	Pb	16 16 27.3	0.0
WILN				⇑*e*S	Sg	16 16 43.1	+2.5
WILN				*e*S	Sg	16 16 44.5	+3.9
TICN	Ticuantepe	1.02	274	*e*P	Pb	16 16 25.6	-2.2
TICN				*e*S	Sg	16 16 41.0	-0.5
MGAN	Managua	1.05	280	⇓*e*P	Pb	16 16 26.9	-1.4
MGAN				*e*S	Sb	16 16 42.3	-0.1
XAVN	Gruta Xavier	1.13	280	⇑*e*P	Pb	16 16 26.8	-2.8
XAVN				*e*S	Sb	16 16 44.7	+0.1

*MDD **26** 16:40:10.5±2.3, 34.75N×5.53W, mb3.5/7, Error ellipse: s-maj=20.8km s-min=13.6km az=5.0, PRXIMO*
*NEIC **26** 16:40:11.1, 34.80N×5.62W, MG3.5(MDD), After MDD.*
*INMG **26** 16:40:11.3±1.2, 34.83N×5.58W, ML2.1, Error ellipse: s-maj=7.8km s-min=6.4km az=162.0*
ISC 26 16:40:11.1±1.8**, 34.9N**±0.3×**5.59W**±0.07**, h11**^{km}±37^{km}**, n16, σ0**^{s}**.95**/29**, Morocco**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EMIJ	Mijas	1.81	21	Pn	Pn	16 40 42.7	+0.1
	2.7nm,0.2s,SNR=7.9						
EMIJ				Sn	Sn	16 41 07.1	+1.4
	8.3nm,0.5s,SNR=7.9						
ESPR	Espera	2.00	354	Pn	Pn	16 40 46.3	+1.0
	1.1nm,0.2s,SNR=7.9						
ESPR				Sn	Sn	16 41 11.3	+0.8
	5.9nm,0.4s,SNR=7.9						
ESPR	Espera	2.00	354	Pn	Pn	16 40 46.3	+1.0
ESPR				Sn	Sn	16 41 11.3	+0.8
ELUQ	Luque	2.88	21	Pn	Pn	16 40 58.6	+0.7
	1.2nm,0.3s,SNR=4.0						
ELUQ				Sn	Sn	16 41 38.8	+5.9
	1.7nm,0.3s,SNR=4.0						
PALC	Alcoutim	3.00	330	*e*P	Pn	16 40 59.6	0.0
PALC				*e*S	Sn	16 41 37.7	+1.8
	6.4nm,0.3s						
PALC	Alcoutim	3.00	330	P	Pn	16 40 59.6	0.0
PALC				S	Sn	16 41 37.7	+1.8
	3.2nm,0.3s						
EMIN	Mina Concepcio	3.01	343	Pn	Pn	16 40 59.0	-0.7
	4.9nm,0.5s,SNR=8.4						
EMIN				Sn	Sn	16 41 36.1	-0.1
	4.4nm,0.5s,SNR=7.9						
EADA	Adamuz	3.38	14	Pn	Pn	16 41 04.5	-0.5
	4.0nm,0.4s,SNR=7.9						
EADA				Sn	Sn	16 41 45.2	-0.4
	8.0nm,0.6s,SNR=7.9						
EQES	Quesada	3.56	34	Pn	Pn	16 41 08.2	+0.7
	5.0nm,0.6s,SNR=6.3						
EQES				Sn	Sn	16 41 48.8	-1.2
	1.8nm,0.4s,SNR=7.9						
PBEJ	Beja	3.64	330	*e*S	Sn	16 41 53.2	+1.1
	2.9nm,0.2s						
PBEJ	Beja	3.64	330	S	Sn	16 41 53.2	+1.1
	1.4nm,0.2s						
PTEO	Sao Teotonio	3.68	317	*e*P	Pn	16 41 08.9	-0.3
PTEO				*e*S	Sn	16 41 52.5	-0.5
	5.5nm,0.3s						
PTEO	Sao Teotonio	3.68	317	P	Pn	16 41 08.9	-0.3
PTEO				S	Sn	16 41 52.5	-0.5
	2.8nm,0.3s						
EBAD	Badajoz	4.04	344	Pn	Pn	16 41 13.7	-0.6
	1.0nm,0.1s,SNR=6.6						
EBAD				Sn	Sn	16 42 00.6	-1.5
	1.5nm,0.1s,SNR=7.9						
MOE	Montemor	4.26	329	*e*S	Sn	16 42 08.4	+0.5
PCBR	Castelo Branco	5.18	344	*e*P	Pn	16 41 30.1	-0.4
PCBR				*e*S	Sn	16 42 28.7	-2.2

*STR **26** 16:58:09.1±0.7, 42.83N×1.52W, h5^{km}±1^{km}, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **26** 16:58:10.2±0.3, 42.89N×1.52W, h6^{km}, Md2.6/3, Ml2.4/7, Error ellipse: s-maj=5.0km s-min=3.8km az=48.0*
*MDD **26** 16:58:11.0±0.4, 42.87N×1.43W, h7^{km}±4^{km}, mbLg1.7/8, Error ellipse: s-maj=3.3km s-min=2.3km az=33.0, PRXIMO AftershockPLICA*
ISC 26 16:58:09.0±0.6**, 42.86N**±0.03×**1.49W**±0.04**, h11**^{km}±3^{km}**, n28, σ1**^{s}**.18**/50**, 1C, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJPF	Ste Jean	0.32	37	*e*Pg	Pg	16 58 16.4	+0.7
SJPF				*e*Sg	Sg	16 58 19.2	-1.0
	78nm,0.3s						
EALK	Alkurruntz	0.36	358	⇑Pg	Pg	16 58 17.6	+1.1
	5.6nm,0.1s,SNR=18						
EALK				Lg		16 58 23.7	
	41nm,0.2s,SNR=7.9						
LARF	Larrau	0.41	63	P	Pg	16 58 17.6	+0.1
LARF				S	Sg	16 58 23.6	+0.5
OSSF	Osses	0.43	22	Pg	Pg	16 58 18.4	+0.6
OSSF				Sg	Sg	16 58 24.2	+0.4
OSSF	Osses	0.43	22	P	Pg	16 58 18.4	+0.5
OSSF				S	Sg	16 58 24.4	+0.6
ORDF	Ordiarp	0.54	48	Pg	Pg	16 58 20.3	+0.4
ORDF				Sg	Sg	16 58 28.1	+0.8
ORDF	Ordiarp	0.54	48	P	Pb	16 58 20.4	+0.4
ORDF				S	Sb	16 58 28.3	+0.9
ATE	Arette	0.62	68	P	Pb	16 58 21.4	0.0
ATE				S	Sb	16 58 30.0	+0.3
FDAF	Les Forges d'A	0.68	93	Pg	Pg	16 58 21.9	-0.8
FDAF				Sg	Sg	16 58 32.6	+0.8
FDAF	Les Forges d'A	0.68	93	P	Pb	16 58 22.1	-0.2
FDAF				S	Sb	16 58 32.1	+0.8
ETSF	Etsaut	0.68	86	*e*Pg	Pg	16 58 22.1	-0.7
ETSF				*e*Sg	Sg	16 58 32.6	+0.6
	17nm,0.2s						
VIEF	Viey	1.11	88	S	Sb	16 58 45.1	+1.1
LABF	Labassere	1.16	80	S	Sb	16 58 46.9	+1.5
RESF	Ens	1.34	91	S	Sb	16 58 53.1	+2.4
EPF	Esparros	1.35	82	*e*Pn	Pn	16 58 34.2	+0.4
EPF				*e*Pg	Pg	16 58 36.5	+0.4
EPF				*e*Sg	Sg	16 58 53.5	-0.7
	18nm,0.2s						
ESAC	San Caprasio	1.36	146	Pg	Pg	16 58 35.6	-0.6
	7.8nm,0.1s,SNR=8.9						
ESAC				Lg		16 58 52.9	
	28nm,0.3s,SNR=9.2						
ELAN	Lanestosa	1.48	285	Pg	Pg	16 58 38.8	+0.3
	1.0nm,0.1s,SNR=6.4						
ELAN				Lg		16 58 59.8	
	2.2nm,0.2s,SNR=5.0						
EGRA	Graus	1.49	116	Pg	Pg	16 58 37.0	-1.7
	4.6nm,0.2s,SNR=7.9						
EGRA				Lg		16 58 57.0	
	3.4nm,0.3s,SNR=7.9						
MELF	Melles	1.65	89	S	Sn	16 59 02.7	+3.3
ETOR	Torete	2.08	192	Pn	Pn	16 58 46.1	+1.9
	0.3nm,0.1s,SNR=7.9						
ETOR				Pg	Pg	16 58 50.0	-0.6
	1.8nm,0.2s,SNR=12						
ETOR				Sn	Sn	16 59 12.8	+2.5
	6.0nm,0.3s,SNR=5.0						
EMIR	Miracle	2.42	112	Pg	Pg	16 58 54.6	-2.7
	0.7nm,0.0s,SNR=7.9						
EMIR				Sn	Sn	16 59 18.9	-0.1
	4.5nm,0.0s,SNR=7.9						
EPOB	Poblet	2.43	127	Pn	Pn	16 58 49.2	0.0
	0.8nm,0.2s,SNR=7.9						
EPOB				Pg	Pg	16 58 54.4	-3.1
	0.7nm,0.1s,SNR=7.9						
EPOB				Sn	Sn	16 59 18.0	-1.2
	0.7nm,0.1s,SNR=7.9						
EPOB				Lg		16 59 24.5	
	1.0nm,0.2s,SNR=7.9						
EMOS	Mosqueruela	2.60	163	Sn	Sn	16 59 24.1	+0.5
	0.4nm,0.1s,SNR=4.0						
MTLF	Montolieu	2.76	79	*e*Pn	Pn	16 58 54.1	+0.2
MTLF				*e*Sn	Sn	16 59 25.7	-1.8
	2.5nm,0.4s						
RJF	Les Rejaudoux	3.27	40	*e*Pn	Pn	16 58 59.9	-1.3
RJF				*e*Sn	Sn	16 59 36.8	-3.6
	2.1nm,0.2s						
CAF	Calviac	3.30	50	*e*Pn	Pn	16 59 00.5	-1.1
CAF				*e*Sn	Sn	16 59 37.4	-3.8
	1.2nm,0.2s						
LASF	Ste Croix	4.08	71	*e*Pn	Pn	16 59 11.5	-1.2
LASF				*e*Sn	Sn	16 59 57.3	-3.6
	1.5nm,0.2s						
TCF	Toulx Ste Croi	4.33	36	*e*Pn	Pn	16 59 13.3	-3.0
TCF				*e*Sn	Sn	17 00 02.0	-5.3
	1.1nm,0.3s						

*IDC **26** 17:03:54.9±13.0, 4.20N×126.48E, h116^{km}±121^{km}, mb3.2/4, mb1 3.4/4, mb1mx3.1/16, Error ellipse: s-maj=168.0km s-min=25.0km az=63.0*
ISC 26 17:03:46.9±2.5**, 5.0N**±0.1×**127.9E**±0.3**, h81**^{km}±29^{km}**, n10, σ0**^{s}**.73**/10**, mb3.5**/4**, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KCP	Kidapawan	3.47	306	*e*P	P	17 04 39.8	-0.1
BUKP	Musuan	4.06	316	*e*P	P	17 04 49.3	+1.3
BUTP	Butuan	4.59	330	*e*P	P	17 04 56.4	+1.0
PAGZ	Pagadian	5.34	303	*e*P	P	17 05 04.7	-1.0
BESP	Borongan	7.04	340	*e*P	P	17 05 28.3	-1.0
PVCP	Virac	9.35	337	*e*P	P	17 06 00.2	-0.5
WRA	Warramunga Arr	25.54	166	P	P	17 09 09.8	-0.1
	0.5nm,0.3s,mb3.4,baz=340,slow=10,SNR=17						
ASAR	Alice Springs	29.04	169	P	P	17 09 41.3	-0.4
	0.3nm,0.7s,mb3.0,baz=351,slow=7.5,SNR=9.7						
ASAR				PcP	PcP	17 12 48.7	+0.4
	0.2nm,0.5s,baz=353,slow=2.3,SNR=4.7						
STKA	Stephens Creek	38.88	161	P	P	17 11 06.5	+0.4
	1.3nm,0.9s,mb3.8,baz=334,slow=9.6,SNR=3.6						
MKAR	Makanchi Array	57.24	324	P	P	17 13 28.6	+0.3
	0.5nm,0.8s,mb3.6,baz=122,slow=7.6,SNR=6.0						

*IDC **26** 17:12:39.8±2.1, 30.56S×177.41W, mb4.2/5, mb1 4.3/6, mb1mx4.1/14, ML3.4/1, Error ellipse: s-maj=52.6km s-min=31.9km az=129.0*
*NEIC **26** 17:12:42.0±1.3, 30.51S×177.52W, h10^{km}, mb4.5/4, Error ellipse: s-maj=26.5km s-min=17.4km az=66.0*
ISC 26 17:12:45.1±1.2**, 30.57S**±0.09×**178.2W**±0.2**, h10**^{km}**, n18, σ1**^{s}**.32**/16**, mb4.3**/7**, 3C, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	Urewera	8.58	205	Pn	P	17 14 50.0	-2.3
	0.4nm,0.3s,baz=84,slow=23,SNR=3.0						
URZ				Sn	Sn	17 16 31.2	+1.0
	1.6nm,0.3s,baz=226,slow=14,SNR=8.8						
CTA	Charters Tower	33.62	280	*e*P	P	17 19 29.5	+1.6
	2.8nm,0.5s,mb4.5						
CTA	Charters Tower	33.62	280	P	P	17 19 29.4	+1.4
	4.4nm,0.6s,mb4.5,baz=104,slow=12,SNR=13						
CTAO	Charters Tower	33.62	280	*e*P	P	17 19 28.9	+1.0
	3.6nm,0.5s,mb4.6						
STKA	Stephens Creek	34.24	257	P	P	17 19 34.3	+1.1
	2.0nm,0.7s,mb4.2,baz=105,slow=9.3,SNR=6.7						
ASAR	Alice Springs	42.89	267	P	P	17 20 45.4	-0.2
	0.8nm,0.5s,mb3.7,baz=105,slow=7.5,SNR=40						
WB2	Warramunga Arr	43.88	272	*e*P	P	17 20 53.9	+0.3
WRAB	Tennant Creek	43.89	272	*e*P	P	17 20 53.3	-0.4
	4.7nm,0.6s,mb4.4						
WRA	Warramunga Arr	43.90	272	P	P	17 20 52.9	-0.8
	2.1nm,0.3s,mb4.4,baz=110,slow=8.1,SNR=163						
FITZ	Fitzroy Crossi	52.15	270	P	P	17 21 57.4	-0.7
	1.6nm,0.7s,mb4.1,baz=167,slow=6.5,SNR=7.6						
CASY	Casey	54.90	208	*e*P	P	17 22 16.0	-1.8
	2.7nm,0.5s,mb4.5						
QSPA	South Pole Qui	59.55	180	*e*P	P	17 22 56.2	+5.7
SNAA	Sanae	78.00	179	⇑*i*	P	17 24 41.1	-3.5
VNA3	Neumayer Olymp	78.16	176	⇑*i*	P	17 24 46.9	+1.4
VNA2	Neumayer--Watz	78.59	177	⇑*i*	P	17 24 49.5	+1.7
FINES	FINESS Array B	145.23	340	PKPbc	PKPbc	17 32 18.5	-4.1
	1.9nm,0.5s,baz=50,slow=3.8,SNR=34						
FINES	FINESS Array B	145.23	340	PKPbc	PKPbc	17 32 18.5	-4.1
AKASG	Malin Array Be	151.30	322	PKPbc	PKPdf	17 32 35.5	+0.2
	1.2nm,0.6s,baz=43,slow=2.8,SNR=4.6						

*TIF **26** 17:15:23.4, 43.05N×43.77E, h8^{km}, Mpv4.5*
*MOS **26** 17:15:30.0±0.8, 42.91N×44.23E, h10^{km}, mb4.3/1, Error ellipse: s-maj=15.0km s-min=7.8km az=123.6*
ISC 26 17:15:30.2±0.5**, 43.02N**±0.03×**44.15E**±0.04**, h10**^{km}**, n20, σ1**^{s}**.44**/35**, 3C-2D, Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZEI	Tsey	0.31	217	*c* *i*PG	Pg	17 15 36.0	-0.7
ZEI				*i* S	Sg	17 15 42.0	+0.9
ZEI				pmax	pmax		
	comp=Z,500nm,2.0s						
ZEI				smax			
	comp=N,3μm,1.0s						
ZEI				smax			
	comp=E,3μm,1.0s						
KUBR	Kubataba	0.95	325	*i* PG	Pg	17 15 51.5	+2.2
KUBR				*e*		17 16 09.9	
DUS	Dusheti	1.01	156	⇑*i*P	Pb	17 15 47.3	-2.1
DUS				*i* S	Sb	17 16 05.3	+2.7
PYA	Pyatigorsk	1.29	322	*e*PG	Pg	17 15 56.2	+0.2
PYA				*e*S	Sb	17 16 17.3	+6.8
SHAR	Shatzhatmas	1.30	304	*i* PG	Pg	17 15 56.7	+0.4
SHAR				*e*S	Sb	17 16 17.8	+6.9
TBLG	Delisi	1.36	161	*i* P	Pb	17 15 53.0	-2.3
TBLG				*i* S	Sg	17 16 15.8	+0.2
	comp=E,2μm,1.0s						
TI2	Plekhanov	1.36	161	*i* PG	Pg	17 15 53.0	-4.4
TI2				*i* S	Sg	17 16 15.8	+0.2
TI2				pmax	pmax		
	comp=Z,500nm,0.4s						
TI2				pmax	pmax		
	comp=N,2μm,1.0s						
TI2				smax			
	comp=E,2μm,1.0s						
MTA	Mtatsminda	1.41	160	⇓*i*P	Pn	17 15 54.5	-1.5
MTA				*i* S	Sg	17 16 17.5	+0.3
KIV0	Kislovodsk Arr	1.41	312	*e*PG	Pg	17 15 57.6	-0.9
KIV0				*e*S	Sb	17 16 21.2	+7.0
KIV	Kislovodsk	1.42	312	*c* *i*PG	Pg	17 15 57.5	-1.1
KIV				pmax	pmax		
	comp=Z,204nm,1.1s						
AKH	Akhalkalaki	1.68	197	*e*P	Pn	17 16 00.2	+0.2
AKH				*i* S	Sg	17 16 24.6	-1.7
NAGR	Nagutskaya	1.75	325	*i* PN	Pn	17 16 03.0	+2.1
NAGR				*e*		17 16 30.1	
DLMR	Dylym	1.81	88	*e*PN	Pn	17 16 00.0	-1.9
DLMR				*i* S	Sn	17 16 25.0	-0.1
DLMR				pmax	pmax		
	comp=Z,584nm,0.5s						
XNZR	Khunzakh	1.94	103	*e*PN	Pn	17 16 03.5	-0.1
XNZR				*i* S	Sn	17 16 30.5	+2.3
XNZR				pmax	pmax		
	comp=Z,223nm,0.3s						
STE	Stepanavan	2.03	175	*i* P	Pn	17 16 04.0	-0.9
STE				*i* S	Sn	17 16 32.5	+2.0
KMKR	Kumukh	2.35	111	*e*PN	Pn	17 16 09.0	-0.5
KMKR				*e*S	Sn	17 16 43.0	+4.3
KMKR				pmax	pmax		
	comp=Z,213nm,0.4s						
MAK	Makhachkala	2.46	90	*e*PN	Pn	17 16 16.9	+5.8
MAK				*i*		17 16 21.0	
MAK				*i* S	Sn	17 16 49.0	+7.5
MAK				*i*		17 16 53.8	
MAK				pmax	pmax		
	comp=Z,330nm,1.0s						
MAK				smax			
	comp=E,1μm,1.0s						
GNI	Garni	2.90	171	*d* *i*PN	Pn	17 16 19.5	+2.1
SOC	Sochi	3.29	281	*e*PN	Pn	17 16 35.9	+13
SOC				*e*S	Sn	17 17 13.5	+11
SOC				pmax	pmax		
	comp=Z,24nm,0.9s						
SOC				pmax	pmax		
	comp=N,11nm,0.8s						
SOC				pmax	pmax		
	comp=E,29nm,1.0s						
SOC				MLR	MLR		
	comp=Z,113nm,10.0s						
SOC				MLR	MLR		
	comp=N,219nm,13.0s						
SOC				MLR	MLR		
	comp=E,142nm,11.0s						
MKAR	Makanchi Array	27.09	69	*i* P	P	17 21 12.6	-2.2

*BJI **26** 17:38:00.3, 36.62N×70.75E, h153^{km}*
*NEIC **26** 17:38:00.4±1.9, 36.27N×71.03E, h134^{km}±17^{km}, mb4.3/12, Error ellipse: s-maj=22.5km s-min=5.7km az=62.0*
*MOS **26** 17:38:05.1±1.0, 36.49N×71.11E, h189^{km}, mb3.8/5, Error ellipse: s-maj=44.7km s-min=20.9km az=83.5*
*IDC **26** 17:38:07.6±9.2, 36.57N×71.32E, h192^{km}±83^{km}, mb3.5/5, mb1 3.6/8, mb1mx3.3/20, Error ellipse: s-maj=58.0km s-min=18.7km az=40.0*
*NNC **26** 17:38:12.6±9.4, 37.30N×70.55E, h147^{km}±116^{km}, mpv4.3, Error ellipse: s-maj=144.2km s-min=92.5km az=110.0*
ISC 26 17:38:03.1±0.6**, 36.41N**±0.03×**71.22E**±0.09**, h175**^{km}±7^{km}**, n49, σ0**^{s}**.95**/52**, mb3.8**/7**, 7C-3D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CEP	Cherat	2.64	167	⇑P	P	17 38 48.1	+0.4
CHCP	Chirah Chowk	3.22	148	⇑P	P	17 38 56.1	+1.3
THW	Thamme Wali	3.63	173	⇓P	P	17 39 00.4	+0.4
SBDP	Sheikh Budin	4.12	185	⇓P	P	17 39 06.0	-0.2
SARP	Sargodha	4.64	165	P	P	17 39 12.8	-0.2
KSH	Kashi	4.87	49	⇑P	P	17 39 18.4	+2.4
KSH				S	S	17 40 12.5	+0.1
KSH				Smax			
	comp=N,180nm,0.6s						
KSH				Smax			
	comp=E,200nm,0.6s						
AML	Almayashu	6.03	18	P	P	17 39 29.8	-1.3
	SNR=136						
UCH	Uchtor	6.34	23	P	P	17 39 34.5	-0.9
	SNR=28						
KZA	Kyzart	6.46	28	P	P	17 39 36.8	-0.1
	SNR=8.4						
EKS2	Erkin-Say	6.55	17	P	P	17 39 37.7	-0.4
	SNR=17						
AAK	Ala-Archa	6.71	21	⇓P	P	17 39 41.0	+0.8
	comp=E,14nm,0.5s						
AAK				⇑S	S	17 40 50.7	-5.1
	comp=E,51nm,0.8s						
AAK	Ala-Archa	6.71	21	P	P	17 39 40.7	+0.5
	SNR=9.1						
AAK	Ala-Archa	6.71	21	*e*Pn	P	17 39 39.1	-1.1
	comp=E,25nm,0.6s						
AAK				*e*Sn	rx	17 40 35.1	
KBK	Karagaybulak	6.87	24	P	P	17 39 43.6	+1.3
	SNR=12						
CHMS	Chumysh	7.12	21	P	P	17 39 45.9	+0.3
	SNR=12						
USP	Ospenovka	7.30	19	P	P	17 39 47.4	-0.5
	SNR=7.7						
TKM2	Tokmak 2	7.32	26	P	P	17 39 49.2	+0.9
	SNR=52						
MK31	Makanchi Array	13.26	35	⇑P	P	17 41 10.1	+4.7
	comp=E,3.6nm,0.7s,baz=220,slow=12,SNR=54						
MKAR	Makanchi Array	13.26	35	P	P	17 41 05.3	-0.1
	comp=E,0.9nm,0.3s,baz=211,slow=10,SNR=18						
MKAR	Makanchi Array	13.26	35	P	P	17 41 05.3	-0.1
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR	Makanchi Array	13.26	35	P	P	17 41 05.3	-0.1
KOLN	Koldanda	13.57	126	*e*P	P	17 41 07.8	-1.6
	comp=Z,23nm,0.5s						
GKN	Gorkha	14.11	123	*e*P	P	17 41 14.8	-1.4
	comp=Z,46nm,0.4s						
DMN	Daman	14.68	123	*e*P	P	17 41 23.3	0.0
	comp=Z,20nm,0.4s						
KKN	Kakani	14.68	122	*e*P	P	17 41 22.6	-0.8
	comp=Z,31nm,0.4s						
PKI	Pulchoki	14.91	122	*e*P	P	17 41 25.3	-0.9
	comp=Z,32nm,0.6s						
KURK	Kurchatov	15.26	18	*e*P	P	17 41 31.6	+1.1
	comp=Z,2.6nm,0.8s						
VOSK	Vostochnaya	16.31	359	⇑P	P	17 41 41.8	-1.6
	comp=Z,1.2nm,0.5s						
ZRNK	Zerenda	16.61	355	⇑P	P	17 41 45.7	-1.3
	comp=Z,1.0nm,0.5s						
ZRNK	Zerenda	16.61	355	*e*P	P	17 41 46.4	-0.6

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
	comp=Z,1.5nm,0.4s						
BVAR	**Borovoye Array**	16.62	358	P	P	17 41 45.3	-1.9
	comp=Z,0.4nm,0.3s,baz=157,slow=11,SNR=7.2						
BVAR				S	S	17 44 45.3	+0.1
	comp=Z,0.2nm,0.3s,baz=164,slow=21,SNR=4.6						
BRVK	**Borovoye**	16.66	358	P	P	17 41 48.8	+1.1
	comp=Z,2.4nm,0.5s						
LSA	**Lhasa**	17.98	106	P	P	17 42 08.5	+5.6
ZAL	**Zalesovo**	19.91	24	P	P	17 42 23.3	+0.6
	comp=Z,2.8nm,0.3s,baz=156,slow=8.1,SNR=28						
ZAL	**Zalesovo**	19.91	24	P	P	17 42 23.3	+0.6
ZAL				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ZAL	**Zalesovo**	19.91	24	P	P	17 42 23.3	+0.6
NVS	**Novosibirsk**	20.20	20	*i* P	P	17 42 25.6	0.0
NVS				*e*		17 42 51.2	
NVS				pmax	pmax		
	comp=Z,8.0nm,0.9s						
NVS				pmax	pmax		
	comp=N,8.0nm,0.7s						
NVS				pmax	pmax		
	comp=E,4.0nm,0.9s						
FINES	**FINESS Array B**	37.66	326	P	P	17 45 02.6	+0.1
	comp=E,2.2nm,1.0s,mb3.7,baz=108,slow=6.0,SNR=4.0						
FINES	**FINESS Array B**	37.66	326	P	P	17 45 02.6	+0.1
FINES				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ARCES	**ARCESS Array B**	41.30	338	P	P	17 45 33.5	+1.1
	comp=Z,1.4nm,0.8s,mb3.7,baz=115,slow=9.3,SNR=13						
ARCES	**ARCESS Array B**	41.30	338	P	P	17 45 33.5	+1.1
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NB2	**NORSAR Subarra**	44.56	323	P	P	17 45 58.9	+0.2
	comp=Z,0.5nm,0.4s,mb3.5,baz=99,slow=7.4						
NOA	**NORSAR Array B**	44.56	323	P	P	17 45 58.4	-0.3
	comp=Z,1.5nm,0.8s,mb3.6,baz=97,slow=7.7,SNR=3.8						
NOA	**NORSAR Array B**	44.56	323	P	P	17 45 58.4	-0.3
NOA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BORG	**Borgarnes**	58.77	330	*e*P	P	17 47 43.7	-0.9
	comp=Z,4.7nm,0.6s,mb4.5						
WRA	**Warramunga Arr**	81.79	122	P	P	17 50 05.1	+1.1
	comp=Z,0.6nm,0.4s,mb3.6,baz=324,slow=4.8,SNR=16						
WRA	**Warramunga Arr**	81.79	122	P	P	17 50 05.1	+1.2
WRA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
WRAB	**Tennant Creek**	81.79	122	*e*P	P	17 50 04.0	0.0
	comp=Z,4.3nm,0.9s,mb4.1						
ASAR	**Alice Springs**	84.06	125	P	P	17 50 16.9	+1.5
	comp=Z,1.1nm,0.6s,mb3.8,baz=309,slow=4.8,SNR=17						

IDC 26 17:40:43.4±2.2, 24.08S×174.05W, mb3.6/2, mb1 4.1/3, mb1mx3.8/12, ML4.5/1, Error ellipse: s-maj=227.0km s-min=35.8km az=168.0, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAR	**Rarotonga**	13.49	81	Pn	P	17 43 54.5	-4.2
	2.3nm,0.3s,baz=273,slow=16,SNR=6.8						
ASAR	**Alice Springs**	47.36	259	P	P	17 49 20.1	-1.3
	1.1nm,0.8s,baz=96,slow=7.7,SNR=8.3						
WRA	**Warramunga Arr**	47.81	264	P	P	17 49 21.6	-3.3
	0.2nm,0.3s,baz=101,slow=8.1,SNR=8.3						
BRTR	**Keskin Array B**	151.94	310	PKPbc	PKPdf	18 00 42.0	+6.3
	0.4nm,0.8s,baz=27,slow=3.2,SNR=2.4						

GUC 26 17:44:19.8±0.9, 33.15S×70.25W, h3^{km}±3^{km}, MD3.5, ML2.3, 5C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FCH	**Farellones**	0.18	191	⇑*i*P	Pg	17 44 24.2	+0.8
FCH				*i* P		17 44 24.3	
FCH				*i* S	Sg	17 44 27.1	+1.3
FCH				AMP		17 44 27.8	
	comp=E,844nm,0.3s						
CLCH	**Cerro Calan**	0.34	225	AMP		17 44 37.1	
	comp=E,1µm,0.7s						
DSCH	**Colegio Aleman**	0.36	227	⇑*i*P	Pg	17 44 27.8	+0.8
DSCH				*i* S	Sg	17 44 33.2	+1.3
DSCH				AMP		17 44 33.9	
	comp=N,633nm,0.4s						
PCH	**Pirque**	0.52	205	⇓*i*P	Pg	17 44 30.6	+0.4
PCH				*i* S	Sg	17 44 38.2	+1.2
JACH	**Jahuel**	0.55	328	*i* P	Pg	17 44 30.6	-0.3
RCDM	**Rinconada Maip**	0.57	234	*e*P	Pg	17 44 31.5	+0.3
LMEL	**Las Melosas**	0.69	177	⇑*i*P	Pg	17 44 33.6	-0.1
LMEL				*i* S	Sg	17 44 43.6	+0.7
LMEL				AMP		17 44 44.8	
	comp=N,152nm,0.1s						
TACH	**Talagante**	0.76	229	⇑*i*P	Pg	17 44 34.8	-0.3
CHCH	**Chadas Angostu**	0.85	203	*i* P	Pg	17 44 36.5	-0.2
CACH	**El Canelo**	1.00	197	*i* P	Pb	17 44 39.6	+0.2
LCCH	**Las Cruces**	1.15	253	*i* P	Pb	17 44 41.3	-0.7
LCCH				*i* S	Sb	17 44 56.8	-0.4
CICH	**Cipreses**	1.17	187	⇑*i*P	Pb	17 44 42.3	0.0
CICH				*i* S	Sb	17 44 58.4	+0.6
LNV	**Longovilo**	1.26	230	*i* P	Pb	17 44 42.9	-0.9
CMCH	**Combarbala**	2.07	342	*e*P	Pn	17 44 55.7	-0.2
CMCH				*i* S	Sn	17 45 24.0	+1.4

WEL 26 18:06:00.4±0.3, 41.30S×172.68E, h168^{km}±2^{km}, ML3.5/6, Error ellipse: s-maj=2.0km s-min=1.9km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
QRZ	**Quartz Range**	0.48	346	PN	P	18 06 23.7	-0.6
QRZ				SN	S	18 06 40.8	-1.7
THZ	**Tophouse**	0.50	160	PN	P	18 06 24.1	-0.2
THZ				SN	S	18 06 41.3	-1.3
NNZ	**Nelson**	0.53	82	PN	P	18 06 24.2	-0.3
NNZ				SN	S	18 06 41.8	-1.1
DSZ	**Denniston Nort**	0.80	235	PN	P	18 06 25.2	-0.6
DSZ				SN	S	18 06 43.1	-2.3
TUWZ	**Tuamarina**	0.96	99	PN	P	18 06 27.0	+0.2
TUWZ				SN	S	18 06 46.2	-1.0
BSWZ	**Blackbirch Sta**	0.99	115	PN	P	18 06 27.0	-0.1
BSWZ				SN	S	18 06 46.8	-0.7
KHZ	**Kahutara**	1.29	151	PN	P	18 06 29.7	-0.1
KHZ				SN	S	18 06 50.1	-2.3
LTZ	**Lake Taylor**	1.52	192	PN	P	18 06 31.5	-0.4
LTZ				SN	S	18 06 54.4	-1.9
MRW	**Makara Radio**	1.52	88	PN	P	18 06 31.5	-0.6
MRW				SN	S	18 06 54.6	-1.8
SNZO	**South Karori**	1.52	91	PN	P	18 06 31.3	-0.8
BHW	**Baring Head**	1.65	95	PN	P	18 06 32.7	-0.6
KIW	**Kapiti Island**	1.74	76	PN	P	18 06 33.7	-0.5
KIW				SN	S	18 06 58.9	-1.4
CAW	**Cannon Point**	1.81	85	PN	P	18 06 34.3	-0.7
CAW				SN	S	18 06 59.9	-1.8
MSWZ	**Moikau Station**	1.94	94	PN	P	18 06 35.7	-0.7
MTW	**Mount Morrison**	2.13	87	PN	P	18 06 37.7	-0.8
CRLZ	**Canterbury Las**	2.28	181	PN	P	18 06 38.6	-1.8
MRZ	**Mangatainoka R**	2.28	75	PN	P	18 06 39.3	-1.1
MRZ				SN	S	18 07 09.2	-2.0
WVZ	**Waitaha Valley**	2.29	218	PN	P	18 06 38.8	-1.7
WAZ	**Wanganui**	2.33	50	SN	S	18 07 12.6	+0.4
MQZ	**McQueen's Vall**	2.41	181	PN	P	18 06 39.8	-2.1
MQZ				SN	S	18 07 09.6	-4.2
VRZ	**Vera Road**	2.69	37	SN	S	18 07 18.2	-1.6
TUVZ	**Tukino**	3.04	49	SN	S	18 07 26.1	-1.5
ODZ	**Otahua Downs**	4.03	201	PN	P	18 07 00.3	-2.0
ODZ				SN	S	18 07 45.7	-4.5

*NEIC **26** 18:13:21.7, 31.85S×69.87W, h141^{km}, MD3.3(GUC), After GUC.*

GUC 26 18:13:21.7±0.8, 31.85S×69.87W, h141^{km}±8^{km}, MD3.3, ML3.5, 1C-6D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JACH	**Jahuel**	1.03	216	⇑*i*P	P	18 13 46.4	+0.2
JACH				*i* S	S	18 14 05.2	+0.3
CMCH	**Combarbala**	1.18	305	⇓*i*P	P	18 13 48.6	+1.1
CMCH				*i* S	S	18 14 08.8	+1.3
CMCH				AMP		18 14 11.1	
	comp=E,1µm,0.3s						
PEL	**Peldehue**	1.47	208	*i* S	S	18 14 12.4	-0.4
PEL				*i* S	S	18 14 12.4	-0.4
PEL				AMP		18 14 13.8	
	comp=N,749nm,0.4s						
FCH	**Farellones**	1.52	193	⇓*i*P	P	18 13 51.7	+0.5
FCH				⇓*i*P		18 13 51.9	
FCH				*i* S	S	18 14 14.3	+0.5
FCH				AMP		18 14 15.1	
	comp=E,493nm,0.3s						
FCH	**Farellones**	1.52	193	P	P	18 13 51.9	+0.7
RCDM	**Rinconada Maip**	1.82	205	*i* P	P	18 13 54.9	+0.4
RCDM				*i* S	S	18 14 19.6	-0.1
RCDM				AMP		18 14 23.4	
	comp=E,587nm,0.1s						
PCH	**Pirque**	1.85	197	⇓*i*P	P	18 13 54.9	0.0
PCH				*i* S	S	18 14 20.4	0.0
TLL	**Tololo Astrono**	1.86	334	*i* P	P	18 13 56.1	+1.2
TLL				*e*S	S	18 14 20.8	+0.3
TLL				AMP		18 14 23.9	
	comp=N,118nm,0.6s						
TACH	**Talagante**	2.01	206	⇓*i*P	P	18 13 57.1	+0.3
TACH				*i* S	S	18 14 23.9	+0.2
LMEL	**Las Melosas**	2.02	188	*e*P	P	18 13 56.8	-0.1
LMEL				*e*S	S	18 14 24.4	+0.6
LMEL				AMP		18 14 31.4	
	comp=N,298nm,0.1s						
CHCH	**Chadas Angostu**	2.18	197	*i* P	P	18 13 59.3	+0.3
CHCH				*i* S	S	18 14 27.6	+0.2
CACH	**El Canelo**	2.34	195	*i* P	P	18 14 01.9	+0.9
CACH				*i* S	S	18 14 32.3	+1.2
LNV	**Longovilo**	2.47	211	*i* P	P	18 14 02.0	-0.6
LNV				*i* S	S	18 14 32.8	-1.1
CICH	**Cipreses**	2.51	190	*e*P	P	18 14 03.2	+0.1
CICH				*i* S	S	18 14 35.2	+0.5
SFDO	**San Fernando**	2.92	199	⇓*i*P	P	18 14 08.3	-0.2

*NEIC **26** 18:31:57.6, 36.17N×10.49W, MN2.6(MDD), After MDD.*
*INMG **26** 18:31:59.4±1.0, 36.01N×10.65W, h31^{km}, ML2.0, Error ellipse: s-maj=9.9km s-min=4.9km az=73.0*

MDD 26 18:31:57.9±3.3, 36.08N×10.57W, h14^{km}±102^{km}, mbLg2.6/5, Error ellipse: s-maj=114.0km s-min=21.9km az=47.0, PRXIMO, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PTEO	**Sao Teotonio**	2.08	45	*e*Sn	Sn	18 32 56.3	-2.5
	4.7nm,0.1s						
PTEO	**Sao Teotonio**	2.08	45	Sn	Sn	18 32 56.3	-2.5
	2.3nm,0.1s						
PALC	**Alcoutim**	2.84	60	*e*Pn	Pn	18 32 42.2	-1.6
PALC				*e*Sn	Sn	18 33 13.9	-4.2
	6.5nm,0.2s						
PALC	**Alcoutim**	2.84	60	Pn	Pn	18 32 42.2	-1.6
PALC				Sn	Sn	18 33 13.9	-4.2
	3.2nm,0.2s						
PBEJ	**Beja**	2.91	47	*e*Sn	Sn	18 33 15.9	-3.9
	3.5nm,0.1s						
PBEJ	**Beja**	2.91	47	Sn	Sn	18 33 15.9	-3.9
	1.8nm,0.1s						
MOE	**Montemor**	3.01	35	*e*Sn	Sn	18 33 19.1	-3.3
PLOU	**Loures**	3.02	22	*e*Sn	Sn	18 33 18.7	-3.9
	6.9nm,0.1s						
PLOU	**Loures**	3.02	22	Sn	Sn	18 33 18.7	-3.9
	3.5nm,0.1s						
EMIN	**Mina Concepcio**	3.55	61	P	Pn	18 32 51.4	-2.4
	0.7nm,0.2s,SNR=7.9						
EMIN				S	Sn	18 33 30.8	-5.2
	1.4nm,0.1s,SNR=7.9						
ESPR	**Espera**	3.88	77	P	Pn	18 32 56.5	-2.1
	4.5nm,0.2s,SNR=16						
ESPR				S	Sn	18 33 38.8	-5.6
	7.1nm,0.2s,SNR=4.5						
EBAD	**Badajoz**	3.89	46	P	Pn	18 32 55.8	-2.9
	0.5nm,0.2s,SNR=7.9						
EBAD				S	Sn	18 33 39.7	-4.9
	4.8nm,0.2s,SNR=7.3						
PTOM	**Tomar**	3.92	25	*e*Sn	Sn	18 33 40.1	-5.4
	4.0nm,0.1s						
PTOM	**Tomar**	3.92	25	Sn	Sn	18 33 40.1	-5.4
	2.0nm,0.1s						
PCBR	**Castelo Branco**	4.48	32	*e*Sn	Sn	18 33 52.8	-6.7
PVIS	**Viseu**	5.08	24	*e*Sn	Sn	18 34 07.6	-7.2
	1.7nm,0.1s						
PVIS	**Viseu**	5.08	24	Sn	Sn	18 34 07.6	-7.2
	0.9nm,0.1s						
EADA	**Adamuz**	5.22	65	P	Pn	18 33 14.5	-3.1
	0.8nm,0.2s,SNR=7.9						
EADA				S	Sn	18 34 11.3	-7.0
	1.2nm,0.1s,SNR=7.9						
ELOB	**Lobios**	6.10	18	S	Sn	18 34 31.3	-8.9
	2.1nm,0.3s,SNR=4.0						

BJI 26 19:06:14.0, 40.63N×122.72E, h31^{km}, ML3.8, 1C-1D, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNY	**Shenyang**	1.36	28	⇑*i*PG	Pn	19 06 37.8	+0.6
SNY				SG	Sn	19 06 55.0	+0.7
SNY				Smax			
	comp=N,3µm,0.4s						
SNY				Smax			
	comp=E,3µm,0.4s						
DL2	**Dalian**	1.92	206	⇓*i*PG	Pn	19 06 48.0	+2.8
DL2				SG	Sn	19 07 13.8	+5.4
DL2				Smax			
	comp=N,516nm,0.5s						
DL2				Smax			
	comp=E,833nm,0.5s						
CN2	**Changchun**	3.76	32	PG	Pn	19 07 20.3	+8.9
CN2				SG	Sn	19 08 09.0	+14
CN2				Smax			
	comp=N,200nm,0.6s						
CN2				Smax			
	comp=E,300nm,0.6s						
MDJ	**Mudanjiang**	6.45	50	PG	Pn	19 08 12.5	+23
MDJ				SG	Sn	19 09 29.3	+27
MDJ				Smax			
	comp=N,76nm,1.1s						
MDJ				Smax			
	comp=E,95nm,0.8s						

*DJA **26** 19:16:08.7±0.8, 7.58S×120.08E, h708^{km}±14^{km}, MD4.5/7, ML5.6/7, Error ellipse: s-maj=61.2km s-min=9.5km az=136.0*
*BJI **26** 19:16:14.1, 6.97S×120.86E, h591^{km}, mB4.7, mb4.3*
*MOS **26** 19:16:16.4±0.7, 7.23S×120.39E, h640^{km}, mb4.2/7, Error ellipse: s-maj=29.8km s-min=12.1km az=112.1*
*IDC **26** 19:16:17.4±1.4, 7.27S×120.33E, h624^{km}±18^{km}, mb3.7/13, mb1 3.8/15, mb1mx3.7/18, Error ellipse: s-maj=22.8km s-min=9.3km az=62.0*
*SYO **26** 19:16:17.3, 7.43S×120.08E, h626^{km}, MB4.6*
*NEIC **26** 19:16:17.3±0.3, 7.40S×120.14E, h624^{km}±4^{km}, mb4.6/11, MD4.5(DJA), Error ellipse: s-maj=12.0km s-min=6.4km az=53.0*

ISC 26 19:16:15.8±0.3, 7.41S±0.05×120.20E±0.06, h629^{km}±4^{km}, n87, σ1^{s}10/101, mb4.3/33, 15C-14D, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NINI	**Niniconang**	3.00	352	⇓*e*Pn	P	19 17 40.1	+2.5
	805nm,0.3s						
NINI				⇑*i*Sn	S	19 18 47.4	+4.6
NINI	**Niniconang**	3.00	352	⇓*e*Pn	P	19 17 40.1	+2.5
NINI				*i* Sn	S	19 18 47.3	+4.5
BUNI	**Buntu Taipa**	3.73	2	⇑*e*Pn	P	19 17 43.3	+1.2
	422nm,0.3s						
TANI	**Tanete Lipujan**	4.03	348	⇓*i*Pn	P	19 17 45.2	+1.2
	265nm,0.3s						
TANI				⇑*i*Sn	S	19 19 00.1	+6.0
TANI	**Tanete Lipujan**	4.03	348	⇓*i*Pn	P	19 17 45.2	+1.2
TANI				*i* Sn	S	19 18 54.8	+0.7
KEDI	**Kedomdong**	4.18	255	⇓*i*Pn	P	19 17 44.9	-0.1
	346nm,0.3s						
KEDI				⇓*i*Sn	S	19 18 46.2	-10
RATI	**Rata**	4.80	254	⇑*e*Pn	P	19 17 48.9	-0.5
	4µm,0.4s						
RATI				⇓*i*Sn	S	19 19 01.2	-2.6
INGI	**Ingas**	5.19	254	*e*Pn	P	19 17 52.2	-0.1
	4µm,0.3s						
INGI				⇓*i*Sn	S	19 19 06.4	-2.7
KELI	**Kelakatan**	5.71	262	⇑*e*Pn	P	19 17 56.7	+0.3
	2µm,0.3s						
KELI				⇓*i*Sn	S	19 19 15.1	-1.3
FITZ	**Fitzroy Crossi**	11.88	154	⇑*i*P	P	19 18 54.4	+1.1
	13nm,0.9s						
FITZ				*e*S	S	19 21 02.1	+2.4
FITZ	**Fitzroy Crossi**	11.88	154	P	P	19 18 54.4	+1.2
	2.3nm,0.3s,baz=355,slow=7.3,SNR=75						
FITZ				S	S	19 21 03.3	+3.6
	0.3nm,0.3s,baz=177,slow=14,SNR=9.4						
KAKA	**Kakadu**	13.11	115	⇑*i*P	P	19 19 09.9	+4.6
	92nm,0.6s						
KAKA				*e*S	S	19 21 28.1	+6.8
WRA	**Warramunga Arr**	18.53	134	P	P	19 19 56.5	-0.1
	4.0nm,0.3s,baz=308,slow=11,SNR=357						
WRA				S	S	19 22 53.0	-0.6
	baz=307,slow=16,SNR=3.3						
WRA	**Warramunga Arr**	18.53	134	P	P	19 19 56.5	0.0
WRA				S	S	19 22 53.0	-0.6
WRA				pmax	pmax		
	comp=Z,4.0nm,0.3s						
WRAB	**Tennant Creek**	18.53	134	⇑*i*P	P	19 19 56.5	0.0
	comp=Z,61nm,0.9s						
WB2	**Warramunga Arr**	18.54	134	⇑*i*P	P	19 19 56.6	0.0
WB2				*e*S	S	19 22 52.0	-1.7
WB2				*e*SCS	ScS	19 30 09.8	-1.8
ASPA	**Alice Springs**	20.84	142	⇑*i*P	P	19 20 17.5	-0.1
ASPA				*e*S	S	19 23 28.8	-2.6
ASPA				*e*SCS	ScS	19 30 17.2	-2.3
ASAR	**Alice Springs**	20.84	142	P	P	19 20 17.6	0.0
	comp=Z,9.2nm,0.3s,baz=322,slow=8.6,SNR=771						
ASAR				S	S	19 23 29.1	-2.3
	comp=Z,3.1nm,0.7s,baz=342,slow=26,SNR=5.1						
ASAR				PcP	PcP	19 23 57.9	-0.5
	comp=Z,2.3nm,0.8s,baz=337,slow=2.7,SNR=6.2						
ASAR				ScP		19 26 36.3	
	comp=Z,0.7nm,0.6s,baz=332,slow=1.9,SNR=4.4						
FORT	**Forrest**	24.39	163	*e*P	P	19 20 49.4	+0.2
	comp=Z,21nm,0.5s,mb5.0						
FORT				*e*S	S	19 24 25.4	-2.3
NWAO	**Narrogin (SRO)**	25.54	186	P	P	19 21 00.3	+1.0
	comp=Z,12nm,0.9s,mb4.6,baz=4.9,slow=8.5,SNR=6.2						
NWAO	**Narrogin (SRO)**	25.54	186	P	P	19 21 00.3	+1.0
NWAO				pmax	pmax		
	comp=Z,12nm,0.9s						
NWAO	**Narrogin (SRO)**	25.54	186	*e*P	P	19 20 59.6	+0.3
	comp=Z,9.4nm,0.8s,mb4.5						
CTA	**Charters Tower**	28.22	119	*e*P	P	19 21 22.8	+0.3
	comp=Z,14nm,0.8s,mb4.7						
CTA				*e*S	S	19 25 26.2	-1.3
CTA	**Charters Tower**	28.22	119	P	P	19 21 22.9	+0.4
	comp=Z,19nm,0.8s,mb4.8,baz=293,slow=10,SNR=19						
CTA	**Charters Tower**	28.22	119	P	P	19 21 22.9	+0.4
CTA				pmax	pmax		
	comp=Z,19nm,0.8s						
CTAO	**Charters Tower**	28.22	119	*e*P	P	19 21 22.7	+0.2
	comp=Z,20nm,0.9s,mb4.7						
STKA	**Stephens Creek**	31.47	144	⇑*i*P	P	19 21 50.8	+0.8
	comp=Z,14nm,0.3s,mb5.1						
STKA				*e*PCP	PcP	19 24 22.9	-0.6
STKA				*e*S	S	19 26 13.7	-3.6
STKA	**Stephens Creek**	31.47	144	P	P	19 21 50.9	+0.8
	comp=Z,16nm,0.3s,mb5.1,baz=324,slow=7.7,SNR=92						
STKA				S	S	19 26 15.9	-1.4
	comp=Z,3.4nm,1.0s,baz=227,slow=22,SNR=2.8						
CMAR	**Chiang Mai Arr**	33.17	321	P	P	19 22 05.3	+0.9
	comp=Z,1.8nm,0.7s,mb3.8,baz=147,slow=6.4,SNR=17						
CMAR	**Chiang Mai Arr**	33.17	321	P	P	19 22 05.3	+0.9
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NJ2	**Nanjing**	39.26	358	*e*P	P	19 22 47.5	-6.6
NJ2				AMB	AMB		
	comp=Z,30nm,0.8s,mb4.9						
LSA	**Lhasa**	46.27	324	P	P	19 23 49.8	+0.9
PKI	**Pulchoki**	48.39	317	*e*P	P	19 24 04.1	-0.7
	comp=Z,6.7nm,0.3s,mb4.7						
KKN	**Kakani**	48.62	317	*e*P	P	19 24 06.1	-0.4
	comp=Z,7.6nm,0.7s,mb4.2						
HHC	**Hu-ho-hao-te**	48.67	351	*e*P	P	19 24 02.0	-4.7
HHC				PCP	PcP	19 25 19.0	-0.8
HHC				AP	pP	19 25 49.0	-10
HHC				PP	PP	19 26 05.8	-1.6
HHC				XP	sP	19 26 57.0	-10
HHC				S	S	19 30 16.0	-8.4
HHC				SCS	ScS	19 32 49.8	-0.1
HHC				XS		19 33 30.5	
HHC				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.3						
HHC				AMB	AMB		
	comp=Z,98nm,5.5s						
GKN	**Gorkha**	49.19	317	*e*P	P	19 24 10.1	-0.6
	comp=Z,16nm,0.5s,mb4.7						
KOLN	**Koldanda**	49.75	316	*e*P	P	19 24 14.2	-0.6
	comp=Z,12nm,0.5s,mb4.6						
GTA	**Gaotai**	50.27	339	*e*P	P	19 24 19.0	+0.6
GTA				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.1						
GTA				AMB	AMB		
	comp=Z,44nm,4.6s						
SONM	**Songino Array**	56.34	349	P	P	19 25 00.6	-0.4
	comp=Z,3.9nm,0.6s,mb3.8,baz=166,slow=8.8,SNR=50						
SONM				PcP	PcP	19 25 48.4	-0.5
	comp=Z,3.8nm,1.2s,baz=159,slow=5.3,SNR=5.5						
YSS	**Yuzh-Sakhalins**	57.72	18	*e*P	P	19 25 07.3	-3.0
YSS				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb3.7						
ZAK	**Zakamensk**	59.40	348	⇓*i*P	P	19 25 20.5	-0.9
MKAR	**Makanchi Array**	63.61	332	P	P	19 25 48.7	0.0
	comp=Z,6.4nm,0.4s,mb4.3,baz=137,slow=6.4,SNR=75						
MKAR				PcP	PcP	19 26 17.9	-0.3
	comp=Z,1.1nm,0.4s,baz=171,slow=3.7,SNR=4.7						
MKAR	**Makanchi Array**	63.61	332	P	P	19 25 48.7	0.0
MKAR						19 26 17.9	
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.4s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR	**Makanchi Array**	63.61	332	P	P	19 25 48.7	0.0
MKAR				PcP	PcP	19 26 17.9	-0.4
KZA	**Kyzart**	64.09	324	P	P	19 25 52.9	+1.1
	SNR=8.4						
TKM2	**Tokmak 2**	64.42	325	P	P	19 25 54.2	+0.4
	SNR=6.1						
AAK	**Ala-Archa**	64.87	324	P	P	19 25 57.4	+0.7
	SNR=6.3						
AAK	**Ala-Archa**	64.87	324	*d i*P	P	19 25 56.1	-0.6
AAK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb3.9						
AAK	**Ala-Archa**	64.87	324	*e*P	P	19 25 56.1	-0.6
	comp=Z,9.1nm,0.8s,mb4.3						
AML	**Almayashu**	65.03	323	P	P	19 25 58.5	+0.8
	SNR=16						
BOD	**Bodaibo**	65.20	356	*e*P	P	19 25 56.6	-1.9
EKS2	**Erkin-Say**	65.30	324	P	P	19 25 59.8	+0.4
	SNR=9.0						
ZAL	**Zalesovo**	68.00	338	P	P	19 26 14.8	-0.7
	comp=Z,12nm,0.3s,mb4.7,baz=254,slow=4.3,SNR=36						
ZAL	**Zalesovo**	68.00	338	P	P	19 26 14.9	-0.7
ZAL				pmax	pmax		
	comp=Z,12nm,0.4s						
KURK	**Kurchatov**	68.11	333	P	P	19 26 15.7	-0.6
KURK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb3.9						
KURK	**Kurchatov**	68.11	333	*e*P	P	19 26 16.0	-0.3
	comp=Z,8.5nm,0.8s,mb4.2						
NVS	**Novosibirsk**	69.28	338	*e*P	P	19 26 20.9	-2.2
YAK	**Yakutsk**	69.62	5	*d i*P	P	19 26 24.2	-0.9
YAK				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.4						
MAW	**Mawson**	71.12	200	P	P	19 26 35.3	+1.5
	comp=Z,1.9nm,0.6s,mb3.8,baz=62,slow=9.6,SNR=6.1						
MAW	**Mawson**	71.12	200	P	P	19 26 35.3	+1.6
MAW				pmax	pmax		
	comp=Z,2.0nm,0.6s						
VOSK	**Vostochnaya**	73.00	331	P	P	19 26 44.0	-0.7
VOSK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.8						
BVA0	**Borovoye Array**	73.47	331	P	P	19 26 46.9	-0.5
BRVK	**Borovoye**	73.54	331	*e*P	P	19 26 47.0	-0.7
ZRNK	**Zerenda**	74.09	331	P	P	19 26 50.3	-0.5
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb3.8						
SBA	**Scott Base**	74.35	171	*e*P	P	19 26 53.5	+1.6
	comp=Z,2.1nm,0.8s,mb3.7						
QRN	**Al-Qurain**	78.24	301	*e*P	P	19 27 15.3	+1.4
QRN				AMb	AMB	19 27 15.9	
	comp=Z,40nm,0.3s,mb5.3						

RDF	Al-Radifah	78.60	301	eP	P	19 27 17.1	+1.3
RDF				AMb	AMB	19 27 17.7	
	comp=Z,26nm,0.5s,mb4.8						
UMR	Umm Al-Rimmam	78.62	302	eP	P	19 27 16.9	+1.0
UMR				AMb	AMB	19 27 17.7	
	comp=Z,19nm,0.3s,mb4.9						
MIB	Mutribah	79.00	302	eP	P	19 27 18.4	+0.6
TIXI	Tiksi	79.11	3	eP	P	19 27 17.1	-0.4
TIXI				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.2						
RST	Umm Al-Ruwaisa	79.21	302	eP	P	19 27 19.3	+0.3
RST				AMb	AMB	19 27 20.0	
	comp=Z,35nm,0.5s,mb5.0						
SYO	Syowa Base	79.75	201	⇑P	P	19 27 22.1	+1.2
SYO	Syowa Base	79.75	201	⇓PcP	PcP	19 27 27.8	+1.0
ARU	Arti	81.07	330	⇑iP	P	19 27 27.5	-0.4
ARU				eSS	SS	19 42 20.3	-4.7
ARU				eSSS	SSS	19 45 51.8	-3.7
ARU				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb3.5						
KMBO	Kilima Mbogo	82.86	270	P	P	19 27 40.1	+2.3
	comp=Z,2.1nm,0.9s,mb3.7,baz=96,slow=4.1,SNR=7.3						
BRTR	Keskin Array B	92.04	310	P	P	19 28 20.6	0.0
	comp=Z,0.6nm,0.5s,mb3.9,baz=104,slow=5.1,SNR=7.4						
SNAA	Sanae	92.84	195	⇓iP	P	19 28 24.8	+1.3
VNA2	Neumayer--Watz	94.47	195	⇑iP	P	19 28 35.9	+5.0
VNA3	Neumayer Olymp	94.84	194	⇑iP	P	19 28 37.7	+5.1
AKASG	Malin Array Be	96.29	320	P	P	19 28 38.4	-1.2
	comp=Z,0.5nm,0.6s,mb3.9,baz=82,slow=3.9,SNR=4.8						
ARCES	ARCESS Array B	98.54	339	P	P	19 28 49.0	-0.2
	comp=Z,0.3nm,0.6s,mb3.8,baz=83,slow=7.3,SNR=6.6						
EKA	Eskdalemuir Ar	114.63	328	PKP	PKPdf	19 33 48.0	+2.2
	comp=Z,3.3nm,1.0s,baz=45,slow=2.4,SNR=3.8						
TXAR	Lajitas Array	133.38	56	PKP	PKPdf	19 34 22.7	+0.2
	comp=Z,0.8nm,0.9s,baz=346,slow=5.2,SNR=3.7						
CPUP	Villa Florida	146.37	184	PKPbc	PKPbc	19 34 50.8	+3.1
	comp=Z,6.1nm,0.8s,baz=215,slow=2.3,SNR=12						
CPUP	Villa Florida	146.37	184	PKP2	PKPab	19 34 50.8	-3.1
CPUP				pmax	pmax		
	comp=Z,6.0nm,0.8s						
LPAZ	La Paz	155.05	161	PKPab	PKPab	19 35 31.6	+1.7
	comp=Z,2.7nm,0.8s,baz=189,slow=5.1,SNR=11						
LPAZ	La Paz	155.05	161	PKP2	PKPab	19 35 31.6	+1.7
LPAZ				pmax	pmax		
	comp=Z,3.0nm,0.8s						

PRU ***26*** *19:32:18.9,51.44N×16.14E*

WAR ***26*** *19:32:18.7,51.48N×16.10E,ML2.7,Mining Induced*

NEIC ***26*** *19:32:19.2±1.7,51.41N×16.01E,h5^{km},ML2.9(VIE), ML2.3(BRG),Error ellipse: s-maj=19.0km s-min=7.1km az=202.0*

ISC 26 19:32:16.1±0.8**,51.47N**±0.04×**16.11E**±0.04**,n16,**$\sigma 1^{s}$**21**/35**, 2C,Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	Ksiaz	0.64	169	ePG	Pg	19 32 31.0	+2.1
KSP				eSG	Sg	19 32 39.0	+1.6
KSP	Ksiaz	0.64	169	⇑iPg	Pg	19 32 30.6	+1.7
KSP				eSg	Sg	19 32 38.9	+1.5
UPC	Upice	0.97	184	ePG	Pg	19 32 36.6	+1.2
UPC				eSG	Sg	19 32 49.2	+0.9
DPC	Dobruska-Polom	1.13	173	ePG	Pg	19 32 39.4	+0.7
DPC				eSG	Sg	19 32 54.2	+0.5
	6.4nm,0.1s						
PVCC	Panska Ves	1.35	226	ePG	Pg	19 32 44.2	+1.1
PVCC				eSG	Sg	19 33 02.2	+1.0
BRG	Berggiesshubel	1.49	247	ePn	Pn	19 32 45.4	+1.3
BRG				i Pg	Pg	19 32 46.4	+0.6
BRG				i Sg	Sg	19 33 06.3	+0.7
PRU	Pruhonice	1.79	214	ePN	Pn	19 32 49.5	+1.1
PRU				PG	Pg	19 32 51.1	-0.7
PRU				i x	x	19 32 53.3	
PRU				ex	x	19 33 08.1	
PRU				SG	Sg	19 33 14.4	-1.2
	10nm,0.4s						
MORC	Moravsky Berou	1.93	151	ePn	Pn	19 32 51.1	+0.6
CLL	Collm	1.95	266	i SG	Sg	19 33 20.1	-0.9
CLL				i		19 33 29.4	
OKC	Ostrava-Krasne	2.09	141	ePG	Pg	19 32 55.9	-1.9
OKC				eSG	Sg	19 33 23.3	-2.3
NKC	Novy Kostel	2.63	243	ePN	Pn	19 33 01.9	+1.4
NKC				ePG	Pg	19 33 07.8	-0.8
NKC				eSG	Sg	19 33 43.3	-0.3
OJC	Ojcow	2.66	117	ePG	Pg	19 33 08.0	-1.1
OJC				eSG	Sg	19 33 44.0	-0.5
OJC	Ojcow	2.66	117	ePg	Pg	19 33 08.1	-1.0
OJC				eSg	Sg	19 33 43.6	-0.9
KHC	Kasperske Hory	2.85	216	ePN	Pn	19 33 04.5	+0.9
KHC				ePG	Pg	19 33 10.5	-2.5
KHC				ex	x	19 33 16.5	
KHC				ex	x	19 33 35.0	
KHC				eSN	Sn	19 33 39.5	+0.3
KHC				eSG	Sg	19 33 49.1	-1.8
MOX	Moxa	2.95	255	ePg	Pg	19 33 13.3	-1.7
MOX				eSg	Sg	19 33 53.5	-0.8
MOA	Molln	3.82	199	⇑iPN	Pn	19 33 18.3	+0.9
MOA				i SG	Sg	19 34 21.6	-1.6
	3.2nm,0.3s						

IDC ***26*** *19:37:48.5±14.0,36.29N×71.25E,h170^{km}±112^{km}, mb3.4/6,mb1 3.4/8,mb1mx3.1/22,Error ellipse: s-maj=178.0km s-min=59.8km az=158.0*

NEIC ***26*** *19:37:51.1±2.3,36.57N×71.05E,h172^{km}±26^{km},mb3.9/7, Error ellipse: s-maj=26.2km s-min=6.8km az=66.0*

ISC 26 19:37:51.7±0.5**,36.60N**±0.04×**71.1E**±0.1**,h196**^{km}±9^{km}**, n32,**$\sigma 0^{s}$**51**/35**,mb3.5**/5**,4C-1D,Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CEP	Cherat	2.84	167	⇑P	P	19 38 40.3	+0.5
CEP				S	S	19 39 17.0	0.0
CHCP	Chirah Chowk	3.42	149	⇑P	P	19 38 47.2	+0.4
THW	Thamme Wali	3.83	172	⇑P	P	19 38 52.2	+0.3
SBDP	Sheikh Budin	4.30	184	P	P	19 38 57.8	0.0
SARP	Sargodha	4.84	164	⇑P	P	19 39 04.0	-0.7
AML	Almayashu	5.87	19	P	P	19 39 18.1	+0.2
	SNR=89						
UCH	Uchtor	6.20	24	P	P	19 39 22.4	+0.1
	SNR=35						
KZA	Kyzart	6.33	29	P	P	19 39 23.5	-0.5
	SNR=13						
EKS2	Erkin-Say	6.39	18	P	P	19 39 24.8	+0.1
	SNR=13						
AAK	Ala-Archa	6.56	22	P	P	19 39 27.2	+0.2
	SNR=14						
AAK	Ala-Archa	6.56	22	⇓iPn	P	19 39 26.0	-1.0
	9.7nm,0.6s						
AAK				eSn	S	19 40 29.3	-12
KBK	Karagaybulak	6.73	25	P	P	19 39 29.9	+0.7
	SNR=13						
ULHL	Ulahol	6.89	34	P	P	19 39 31.2	0.0
	SNR=6.0						
CHMS	Chumysh	6.97	22	P	P	19 39 32.3	-0.1
	SNR=8.9						
USP	Ospenovka	7.14	20	P	P	19 39 34.0	-0.6
	SNR=5.5						
TKM2	Tokmak 2	7.19	27	P	P	19 39 35.1	-0.1
	SNR=30						
MKAR	Makanchi Array	13.15	36	P	P	19 40 51.6	-0.4
	0.2nm,0.3s,baz=212,slow=11,SNR=9.1						
KOLN	Koldanda	13.74	126	eP	P	19 40 58.9	-0.6
	3.0nm,0.3s						
GKN	Gorkha	14.27	123	eP	P	19 41 05.6	-0.5
	3.5nm,0.3s						
KKN	Kakani	14.84	122	eP	P	19 41 13.8	+0.6
	3.8nm,0.4s						
PKI	Pulchoki	15.07	123	eP	P	19 41 17.0	+1.0
	3.7nm,0.3s						
ZRNK	Zerenda	16.42	355	eP	P	19 41 31.9	-0.4
BVAR	Borovoye Array	16.43	358	P	P	19 41 32.1	-0.4
	0.4nm,0.3s,baz=157,slow=12,SNR=12						
BVAR				S	S	19 44 29.6	+1.5
	0.1nm,0.3s,baz=177,slow=26,SNR=3.6						
BRVK	Borovoye	16.47	358	eP	P	19 41 32.9	0.0
	2.0nm,0.6s						
ZAL	Zalesovo	19.76	24	P	P	19 42 07.6	-0.6
	1.5nm,0.3s,baz=145,slow=7.5,SNR=4.5						
AKASG	Malin Array Be	32.96	309	P	P	19 44 09.2	-0.5
	0.4nm,0.4s,mb3.3,baz=77,slow=7.6,SNR=4.6						
FINES	FINESS Array B	37.46	326	P	P	19 44 47.7	+0.2
	0.5nm,0.4s,mb3.4,baz=114,slow=11,SNR=7.4						
ARCES	ARCESS Array B	41.09	338	P	P	19 45 17.9	+0.5
	0.9nm,0.4s,mb3.5,baz=115,slow=8.2,SNR=21						
HFS	Hagfors	43.05	322	P	P	19 45 33.3	+0.1
	2.6nm,0.5s,mb3.9,baz=100,slow=9.0,SNR=14						
NB2	NORSAR Subarra	44.36	323	P	P	19 45 43.2	-0.5
	1.0nm,0.5s,mb3.4,baz=97,slow=7.4						
NOA	NORSAR Array B	44.36	323	P	P	19 45 43.5	-0.2
	0.9nm,0.4s,mb3.5,baz=100,slow=7.7,SNR=3.6						
NOA	NORSAR Array B	44.36	323	P	P	19 45 43.5	-0.2

RSPR 26 19:47:42.3,20.27N×70.00W,h15^{km}±35^{km}**,MD3.7**/5**, MD3.7**/5**,3C-3D,Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IDE	Isla Desecheo	3.03	128	⇓eP	Pn	19 48 27.4	-3.4
IDE	Isla Desecheo	3.03	128	eS	Sn	19 49 03.6	-3.4
LSP	Las Mesas	3.45	127	⇑eP	Pn	19 48 32.8	-3.9
LSP	Las Mesas	3.45	127	eS	Sn	19 49 12.2	-5.5
PORP	Portuguez	3.87	124	⇑eP	Pn	19 48 39.2	-3.5
PORP				eS	Sn	19 49 22.6	-5.7
CELP	Cerrillos	3.90	123	⇓eP	Pn	19 48 40.4	-2.7
CSB	Colonia Sabana	4.13	118	⇓eP	Pn	19 48 43.1	-3.3
CSB				eS	Sn	19 49 30.3	-4.6
CBYP	Canovanas	4.39	116	⇑eP	Pn	19 48 46.1	-4.0
CBYP	Canovanas	4.39	116	eS	Sn	19 49 35.2	-6.4

IDC 26 19:48:23.2±27.0**,22.17S×173.79W,mb4.0**/4**,mb1 4.2**/4**, mb1mx4.0**/13**,Error ellipse: s-maj=508.0km s-min=159.2km az=76.0,Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	37.26	266	P	P	19 55 38.0	-0.7
	1.7nm,0.3s,baz=89,slow=13,SNR=7.3						
STKA	Stephens Creek	40.67	246	P	P	19 56 03.8	-3.2
	1.1nm,0.7s,baz=120,slow=14,SNR=3.0						
ASAR	Alice Springs	47.98	258	P	P	19 57 04.2	-1.8
	0.6nm,0.5s,baz=93,slow=7.5,SNR=15						
WB2	Warramunga Arr	48.26	263	eP	P	19 57 06.3	-1.9
WRA	Warramunga Arr	48.27	263	P	P	19 57 06.4	-1.9
	1.3nm,0.3s,baz=96,slow=8.4,SNR=162						

BJI ***26*** *20:01:42.8,35.92N×22.95E,h30^{km},mB4.2,mb4.2,Ms4.4, Msz4.2*

NEIC ***26*** *20:01:45.8,35.88N×23.24E,h22^{km},mb4.0/26, ML3.8(ATH),After ATH.*

ATH ***26*** *20:01:45.8,35.88N×23.24E,h22^{km}±1^{km},MD3.9/18, ML3.8*

THE ***26*** *20:01:46.7,35.77N×23.15E,h16^{km},ML3.8*

MOS ***26*** *20:01:48.0±1.3,35.97N×23.16E,h33^{km},mb4.3/11,Error ellipse: s-maj=11.6km s-min=5.7km az=78.6*

IDC ***26*** *20:01:49.0±2.9,36.04N×23.29E,h27^{km}±22^{km},mb4.1/10, mb1 4.2/17,mb1mx4.0/28,ML3.9/7,MS3.1/1,Ms1 3.1/1, ms1mx2.4/28,Error ellipse: s-maj=20.4km s-min=13.4km az=39.0*

ISC 26 20:01:44.6±0.7**,35.79N**±0.03×**23.11E**±0.03**,h20**^{km}±5^{km}**, h41**^{km}±2.4^{km}**:pP-P,n162,**$\sigma 1^{s}$**24**/177**,mb4.2**/29**,MS3.9**/2**,5C, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KYTH	Kithira	0.49	353	ePB	Pb	20 01 55.0	+0.6
VLI	Veliai	0.93	352	ePB	Pb	20 02 02.0	+0.1
VLI				SN	Sn	20 02 14.8	-0.7
VAM	Vamos	0.97	113	ePN	Pn	20 02 03.1	-0.1
VAM				SN	Sn	20 02 17.0	+0.6
GVD	Gavdhos	1.24	140	ePn	Pn	20 02 08.4	+1.3
IDI	Anoyia	1.54	109	Pn	Pn	20 02 13.5	+2.2
	48nm,0.3s,baz=300,slow=15,SNR=186						
IDI				Lg		20 02 37.6	
	181nm,0.3s,baz=62,slow=23,SNR=16						
ITM	Ithomi	1.68	326	ePN	Pn	20 02 16.1	+2.8
THR5	Thira Island,	1.92	70	ePb	Pb	20 02 17.4	-1.4
THR6	Thira Island,	1.94	72	ePb	Pb	20 02 17.9	-1.2
THR3	Thira Island,	1.96	71	ePb	Pb	20 02 18.1	-1.4
THR4	Thira Island,	1.97	70	ePb	Pb	20 02 18.1	-1.5
SANT	Santorini	1.99	72	ePn	Pn	20 02 17.6	-0.1
THR1	Thera Island	1.99	72	ePb	Pb	20 02 18.6	-1.4
NPS	Neapolis	2.11	104	ePN	Pn	20 02 20.5	+1.0
ATH	Athens Observa	2.23	13	ePB	Pb	20 02 21.5	-2.5
PTL	Penteli	2.33	15	ePN	Pn	20 02 22.5	-0.2
APE	Apeiranthos	2.33	56	ePN	Pn	20 02 24.0	+1.3
APE	Apeiranthos	2.33	56	P	Pn	20 02 25.6	+2.9
RLS	Riolos of Patr	2.62	330	ePB	Pb	20 02 30.7	+0.1
LKR	Lokris	2.85	358	ePN	Pn	20 02 30.8	+0.7
AGG	Agios Georgios	3.28	349	ePn	Pn	20 02 38.0	+1.8
AGG				eSn	Sn	20 03 17.1	+2.0
EVR	Evrytania	3.29	342	ePN	Pn	20 02 39.0	+2.8
KARP	Karpathos	3.31	93	ePN	Pn	20 02 37.0	+0.4
AOS	Alonnisos	3.43	10	ePn	Pn	20 02 40.0	+1.7
NEO	Neokhori	3.51	1	ePN	Pn	20 02 40.1	+0.7
SMG	Samos	3.56	56	ePN	Pn	20 02 40.0	0.0
XOR	Xorichti	3.57	1	ePn	Pn	20 02 40.8	+0.5
ARG	Arkhangelos	4.09	83	ePN	Pn	20 02 48.8	+1.1
JAN	Janina	4.25	336	ePN	Pn	20 02 52.0	+2.1
PRK	Paraskevi	4.27	35	ePN	Pn	20 02 51.5	+1.3
LIT	Litokhoron	4.33	354	ePn	Pn	20 02 51.7	+0.7
IGT	Igoumenitsa	4.33	330	ePn	Pn	20 02 52.5	+1.4
IGT				eSn	Sn	20 03 42.5	+0.8
PLG	Polygyros	4.58	3	ePN	Pn	20 02 55.2	+0.6
OUR	Ouranopolis	4.59	8	ePn	Pn	20 02 54.6	-0.1
KZN	Kozani	4.63	347	ePN	Pn	20 02 57.5	+2.2
KEK	Kerkira	4.71	327	ePN	Pn	20 02 57.5	+1.1
SOH	Sokhos	5.03	2	ePn	Pn	20 03 00.9	+0.1
FNA	Florina	5.17	345	ePn	Pn	20 03 04.5	+1.6
FNA				eSn	Sn	20 04 04.6	+1.9
GRG	Griva	5.19	354	ePn	Pn	20 03 04.5	+1.3
SRS	Serrai	5.33	4	ePn	Pn	20 03 05.3	+0.1
KNT	Kendrikon	5.36	358	ePn	Pn	20 03 06.5	+0.8
ALN	Alexandroupoli	5.60	23	ePn	Pn	20 03 09.2	+0.2
MMB	Musomiste	5.81	5	i P	Pn	20 03 11.0	-0.9
LCI	Lecce	6.01	321	ePn	Pn	20 03 14.4	-0.3
LCI				eSn	Sn	20 04 25.4	+1.7
RZN	Rozhen	6.02	12	i P	Pn	20 03 14.0	-0.9
KKB	Krupnik	6.07	360	i P	Pn	20 03 15.0	-0.6
TIP	Timpagrande	6.07	306	ePn	Pn	20 03 15.2	-0.5
TIP				eSn	Sn	20 04 24.7	-0.7
SOI	Samo	6.09	294	ePn	Pn	20 03 16.0	+0.1
ISP	Isparta	6.28	69	P	Pn	20 03 22.0	+3.4
ISP	Isparta	6.28	69	ePn	Pn	20 03 19.4	+0.7
	18nm,0.6s						
TDS	Terranova Siba	6.61	308	ePn	Pn	20 03 23.8	+0.6
ORI	Oriolo Calabro	6.77	311	ePn	Pn	20 03 25.5	0.0
ORI				eSn	Sn	20 04 40.6	-2.3
VTS	Vitosha	6.79	1	i P	Pn	20 03 26.0	+0.2
VAE	Valguarnera	7.19	286	Pn	Pn	20 03 33.6	+2.3
	0.8nm,0.3s,baz=165,slow=17,SNR=2.9						
VAE				Sn	Sn	20 04 51.6	-1.7
	2.4nm,0.3s,baz=234,slow=16,SNR=3.4						
MGR	Morigerati	7.38	308	ePn	Pn	20 03 33.6	-0.4
SLCN	Sala Consilina	7.47	310	ePn	Pn	20 03 36.1	+0.8
SLCN				eSn	Sn	20 04 59.8	-0.5
SGO	Sicignano	7.77	310	ePn	Pn	20 03 38.4	-1.1
SGO				eSn	Sn	20 05 05.0	-2.7
MRLC	Muro Lucano	7.77	312	ePn	Pn	20 03 39.3	-0.3
CSSN	Cassano Irpino	8.12	311	ePn	P	20 03 44.6	+0.2
FG5	Orsara di Pugl	8.23	314	ePn	P	20 03 45.9	0.0
SGG	Gregorio Mates	8.82	312	ePn	P	20 03 54.6	+0.4
BRTR	Keskin Array B	9.22	62	Pn	P	20 04 02.2	+2.6
	0.4nm,0.3s,baz=233,slow=12,SNR=16						
MLR	Muntele Rosu	9.93	12	Pn	P	20 04 10.3	+1.0
	0.5nm,0.3s,baz=297,slow=10,SNR=15						
MLR				LR	LR	20 07 39.6	
	comp=Z,103nm,19.7s,baz=215,slow=36						
MLR	Muntele Rosu	9.93	12	P	P	20 04 10.3	+1.0
MLR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MLR				MLR	MLR		
	comp=Z,103nm,19.7s						
RHK1	Bakonya	10.97	341	⇑eP	P	20 04 19.8	-3.8
BOJS	Bojanci	11.38	331	i Pn	P	20 04 26.7	-2.5
CEY	Cerknica	11.91	329	ePn	P	20 04 33.9	-2.5
CEY				eSn	S	20 06 41.7	-8.0
ASF	Jabal al Asfar	12.00	104	Pn	P	20 04 38.4	+0.7
	comp=Z,0.4nm,0.3s,baz=158,slow=13,SNR=2.9						
LJU	Ljubljana	12.11	330	i Pn	P	20 04 35.2	-3.9
PERS	Pernice	12.38	333	i Pn	P	20 04 40.2	-2.5
OBKA	Obir	12.49	332	⇑iPn	P	20 04 40.9	-3.2
OBKA				i Sn	S	20 06 54.8	-8.9
ROBS	Robic	12.70	328	ePn	P	20 04 45.0	-1.9
ARSA	Arzberg	12.77	336	⇑iPn	P	20 04 44.7	-3.2
ARSA				i Sn	S	20 07 00.8	-10
MOA	Molln	13.72	334	⇑iPn	P	20 04 58.3	-2.1
MOA				i Sn	S	20 07 24.4	-8.7
KWP	Kalwaria	13.84	359	eP	P	20 05 04.2	+2.4
	comp=Z,6.0nm,0.3s						
VRAC	Vranov	14.33	343	Pn	P	20 05 08.0	-0.3
	comp=Z,0.3nm,0.3s,baz=153,slow=9.0,SNR=3.3						
SBF	Sospel	14.47	309	eP	P	20 05 09.6	-0.7
	comp=Z,39nm,1.1s						
MORC	Moravsky Berou	14.55	346	eP	P	20 05 12.5	+1.2
OJC	Ojcow	14.62	352	eP	P	20 05 18.6	+6.5
GERES	GERESS Array B	14.77	335	Pn	P	20 05 13.6	-0.5
	comp=Z,0.2nm,0.3s,baz=158,slow=14,SNR=6.6						
KHC	Kasperske Hory	15.05	335	eP	P	20 05 24.5	+6.7
MBDF	Montbardon	15.31	311	eP	P	20 05 20.7	-0.6
	comp=Z,32nm,1.4s						
PRU	Pruhonice	15.50	339	eP	P	20 05 22.0	-1.6
AKASG	Malin Array Be	15.54	15	Pn	P	20 05 22.7	-1.5
	comp=Z,2.2nm,0.3s,baz=210,slow=9.9,SNR=20						
AKASG	Malin Array Be	15.54	15	P	P	20 05 22.7	-1.5
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.3s						
LPG	La Plagne	15.72	313	eP	P	20 05 26.3	-0.3
LPL	La Plagne	15.74	313	eP	P	20 05 26.3	-0.5
	comp=Z,11nm,1.2s						
BRG	Berggiesshubel	16.46	339	eP	P	20 05 38.3	+2.4
BRG				pmax	pmax		
	comp=Z,6.0nm,1.0s						
BRG	Berggiesshubel	16.46	339	P	P	20 05 38.3	+2.4
	comp=Z,5.8nm,1.0s						
VIVF	Saint-Julien-l	16.69	308	eP	P	20 05 38.4	-0.5
	comp=Z,43nm,1.5s						
CABF	La Chapelle	16.72	315	eP	P	20 05 38.6	-0.7
	comp=Z,10nm,1.0s						
LASF	Ste Croix	16.90	305	eP	P	20 05 41.6	+0.1
	comp=Z,124nm,1.8s						
HINF	Hinteralfeld	17.02	320	eP	P	20 05 42.3	-0.7
CLL	Collm	17.12	338	P	P	20 05 43.0	-1.3
CLL	Collm	17.12	338	eP	P	20 05 47.0	+2.7
CDF	Champ du Feu	17.19	322	eP	P	20 05 44.3	-0.8
	comp=Z,4.5nm,0.7s						
HAU	Haudompre	17.41	320	eP	P	20 05 47.2	-0.6
	comp=Z,5.3nm,0.7s						
ZEI	Tsey	17.52	60	eP	P	20 05 50.0	+0.7
GNI	Garni	17.60	69	eP	P	20 05 52.3	+2.0
	comp=Z,3.4nm,0.7s						
MTLF	Montolieu	17.75	301	eP	P	20 05 50.6	-1.6
	comp=Z,17nm,1.1s						
MEZF	Maizieres J’vi	18.39	319	eP	P	20 06 00.2	0.0
	comp=Z,38nm,1.3s						
AVF	Avril sur Loir	18.41	313	eP	P	20 06 01.4	+1.0
SSF	Saint Saulge	18.46	314	eP	P	20 06 00.5	-0.5
	comp=Z,20nm,1.3s						
BGF	Bois d’Agland	18.61	312	eP	P	20 06 03.2	+0.4
	comp=Z,33nm,1.4s						
RJF	Les Rejaudoux	18.91	307	eP	P	20 06 07.7	+1.3
	comp=Z,20nm,1.2s						
EPF	Esparros	18.98	299	eP	P	20 06 08.8	+1.5
ETSF	Etsaut	19.59	298	eP	P	20 06 15.7	+1.3
	comp=Z,21nm,1.0s						
BAIF	Baives	19.79	322	eP	P	20 06 16.0	-0.5
SJPF	Ste Jean	20.12	299	eP	P	20 06 21.0	+1.0
	comp=Z,13nm,0.9s						
BSD	Bornholm Skovb	20.13	346	i P	P	20 06 17.7	-2.4
	comp=Z,5.0nm,0.4s						
MFF	Saint Martin d	20.49	309	eP	P	20 06 23.5	-0.3
	comp=Z,3.7nm,0.6s						
RST	Umm Al-Ruwaisa	21.05	101	eP	P	20 06 29.3	-0.5
RST				AMb	AMB	20 06 36.9	
	comp=Z,10.0nm,0.4s,mb4.5						
MIB	Mutribah	21.20	99	eP	P	20 06 30.7	-0.6
MIB				AMb	AMB	20 06 37.0	
	comp=Z,18nm,0.6s,mb4.6						
LDF	La Druitiere	21.34	314	eP	P	20 06 32.3	-0.3
	comp=Z,11nm,0.6s,mb4.1						
OBN	Obninsk	21.43	21	eP	P	20 06 32.1	-1.4
OBN				pmax	pmax		
	comp=Z,18nm,1.4s,mb4.2						
OBN				MLR	MLR		
	comp=Z,100nm,18.0s,MS3.2						
UMR	Umm Al-Rimmam	21.60	100	eP	P	20 06 35.1	-0.3
UMR				AMb	AMB	20 06 39.8	
	comp=Z,24nm,0.5s,mb4.9						
FLN	La Foliniere	21.63	314	eP	P	20 06 36.1	+0.6
	comp=Z,30nm,1.0s,mb4.4						
GRR	Gorron	21.68	313	eP	P	20 06 36.8	+0.8
	comp=Z,7.1nm,0.8s,mb3.9						
SGMF	Saint Gilles	22.65	311	eP	P	20 06 46.8	+1.2
VSU	Vasula	22.81	5	P	P	20 06 45.8	-1.2
QUIF	Quistinic	22.89	310	eP	P	20 06 48.7	+0.7
	comp=Z,35nm,1.2s,mb4.3						
ROSF	Rostrenen	23.12	311	eP	P	20 06 51.8	+1.6
EVO	Evora	24.89	286	eP	P	20 07 10.0	+2.5
	comp=Z,7.5nm,0.9s,mb3.9						
HFS	Hagfors	25.11	349	P	P	20 07 09.8	+0.5
	comp=Z,8.3nm,0.4s,mb4.6,baz=150,slow=12,SNR=73						
HFS	Hagfors	25.11	349	P	P	20 07 09.8	+0.5
HFS				pmax	pmax		
	comp=Z,8.0nm,0.4s						
FINES	FINESS Array B	25.74	3	P	P	20 07 14.2	-1.0
	comp=Z,1.4nm,0.3s,mb3.9,baz=164,slow=11,SNR=29						
FINES	FINESS Array B	25.74	3	P	P	20 07 14.2	-1.0
FINES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
NB2	NORSAR Subarra	26.38	347	P	P	20 07 20.2	-1.0
	comp=Z,3.8nm,0.7s,mb4.0,baz=149,slow=10						
NOA	NORSAR Array B	26.38	347	P	P	20 07 20.4	-0.7
	comp=Z,2.7nm,0.6s,mb4.0,baz=148,slow=9.8,SNR=7.9						
NOA	NORSAR Array B	26.38	347	P	P	20 07 20.5	-0.7
NOA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KAF	Kangasniemi	26.42	3	ep	P	20 07 20.4	-1.1
	comp=Z,1.1nm,0.5s,mb3.6,baz=183,slow=9.3						
KAF	Kangasniemi	26.42	3	eP	P	20 07 20.4	-1.1
KAF				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.6						
EKA	Eskdalemuir Ar	26.57	326	P	P	20 07 24.2	+1.4
	comp=Z,7.4nm,0.9s,mb4.2,baz=124,slow=8.4,SNR=13						
EKA	Eskdalemuir Ar	26.57	326	P	P	20 07 24.3	+1.4
EKA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
ARCES	ARCESS Array B	33.83	2	P	P	20 08 25.6	-1.6
	comp=Z,1.6nm,0.6s,mb4.1,baz=184,slow=8.8,SNR=22						
ARCES	ARCESS Array B	33.83	2	P	P	20 08 25.7	-1.6
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ZRNK	Zerenda	36.30	47	P	P	20 08 47.7	-0.8
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
ZRNK	Zerenda	36.30	47	eP	P	20 08 47.5	-1.0
	comp=Z,6.5nm,0.9s,mb4.6						
BRVK	Borovoye	37.08	47	P	P	20 08 54.9	-0.2
BRVK	Borovoye	37.08	47	eP	P	20 08 54.2	-0.9
	comp=Z,1.6nm,0.6s,mb4.0						
VOSK	Vostochnaya	37.45	48	P	P	20 08 57.1	-1.1
VOSK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.0						
DBIC	Dimbokro	38.70	228	P	P	20 09 13.1	+4.1
	comp=Z,3.6nm,0.8s,mb4.2,baz=5.5,slow=8.6,SNR=6.3						
DBIC	Dimbokro	38.70	228	P	P	20 09 13.1	+4.0
DBIC				pmax	pmax		
	comp=Z,4.0nm,0.8s						
AAK	Ala-Archa	39.88	64	⇑eP	P	20 09 19.7	+1.0
KURK	Kurchatov	42.09	51	i P	P	20 09 35.8	-0.8
KURK				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb3.9						
KURK	Kurchatov	42.09	51	eP	P	20 09 35.7	-0.9
	comp=Z,2.7nm,0.6s,mb4.0						
MKAR	Makanchi Array	44.83	57	P	P	20 09 58.3	-0.6
	comp=Z,4.2nm,0.6s,mb4.5,baz=269,slow=7.9,SNR=21						
MKAR	Makanchi Array	44.83	57	eP	P	20 09 58.4	-0.5
MKAR	Makanchi Array	44.83	57	P	P	20 09 58.3	-0.6
NVS	Novosibirsk	44.83	45	eP	P	20 09 58.1	-0.7
ZAL	Zalesovo	45.77	47	P	P	20 10 05.5	-0.8
	comp=Z,2.5nm,0.3s,mb4.6,baz=104,slow=4.6,SNR=12						
ZAL	Zalesovo	45.77	47	P	P	20 10 05.5	-0.8
ZAL				pmax	pmax		
	comp=Z,3.0nm,0.3s						
WMQ	Urumqi	49.14	60	eP	P	20 10 32.8	0.0
WMQ				AP	pP	20 10 45.3	+6.4

WMQ				AMB	AMB		
	comp=Z,5.0nm,1.4s,mb4.3						
GTA	**Gaotai**	**59.14**	**61**	eP	**P**	**20 11 40.3**	**-5.9**
GTA				AP	pP	20 11 52.5	+0.1
GTA				XP	sP	20 11 58.5	+3.8
GTA				AMB	AMB		
	comp=Z,1.0nm,1.1s,mb3.8						
SONM	**Songino Array**	**60.38**	**50**	P	**P**	**20 11 54.3**	**-0.2**
	comp=Z,0.9nm,0.7s,mb3.9,baz=277,slow=10.0,SNR=7.2						
LZH	**Lanzhou**	**63.42**	**63**	eP	**P**	**20 12 13.3**	**-1.8**
LZH				AP	pP	20 12 26.8	+5.4
LZH				XP	sP	20 12 31.3	+7.7
LZH				PP	PP	20 14 34.5	-1.8
LZH				AMB	AMB		
	comp=Z,25nm,1.5s,mb5.1						
LZH				LR	LR		
	comp=N,219nm,15.0s						
LZH				LR	LR		
	comp=Z,341nm,17.9s,MS4.6						
LZH	**Lanzhou**	**63.42**	**63**	eP	**P**	**20 12 13.2**	**-1.9**
	comp=Z,25nm,1.5s,mb5.1						
LZH				pP	pP	20 12 26.7	+5.3
LZH				sP	sP	20 12 31.2	+7.6
LZH				PP	PP	20 14 34.5	-1.8
LZH				LR	LR		
	comp=Z,340nm,17.9s,MS4.6						
CMAR	**Chiang Mai Arr**	**68.16**	**83**	P	**P**	**20 12 45.9**	**+0.1**
	comp=Z,0.6nm,0.7s,mb3.7,baz=298,slow=6.1,SNR=4.8						
CMAR	**Chiang Mai Arr**	**68.16**	**83**	P	**P**	**20 12 45.9**	**+0.1**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MDJ	**Mudanjiang**	**75.95**	**45**	P	**P**	**20 13 28.0**	**-3.6**
MDJ				AMB	AMB		
	comp=Z,6.0nm,1.7s,mb4.2						
NJ2	**Nanjing**	**76.21**	**60**	eP	**P**	**20 13 31.0**	**-2.4**
SSE	**Sheshan**	**78.39**	**60**	eP	**P**	**20 13 43.3**	**-2.1**
SSE	**Sheshan**	**78.39**	**60**	eP	**P**	**20 13 43.2**	**-2.2**
	comp=Z,19nm,0.8s,mb5.1						

HEL ***26*** *20:21:09.0±0.2, 67.77N×19.82E, ML2.1, ML1.9(BER), ML2.1(NAO), Explosion*
NAO ***26*** *20:21:11.6±3.2, 67.83N×20.79E, ML2.1*
BER ***26*** *20:21:11.0±3.4, 67.86N×20.23E, ML1.7, ML2.1(NAO), Suspected explosion*
ISC 26 20:21:08.2±0.6**, 67.77N**±0.04×**20.00E**±0.08**, n17, σ1^{s}02**/22**, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KIF	**Kilpisjarvi**	**1.28**	**13**	eP	**Pb**	**20 21 32.4**	**-0.5**
KIF				eS	**Sb**	**20 21 50.0**	**+0.2**
KTK1	**Kautokeino**	**1.73**	**42**	eP	**Pn**	**20 21 41.0**	**+1.2**
KTK1				AML	AML	20 22 05.1	
	comp=Z,9.6nm,0.3s						
TRO	**Tromso**	**1.92**	**349**	eP	**Pn**	**20 21 42.5**	**+0.1**
TRO				eSG	**Sg**	**20 22 07.9**	**-4.1**
TRO				AML	AML	20 22 10.6	
	comp=Z,9.6nm,0.4s						
LOF	**Lofoten**	**2.46**	**282**	e	**Sg**	**20 22 31.6**	**+1.3**
LOF				AML	AML	20 22 34.2	
	comp=Z,9.1nm,0.4s						
LOF	**Lofoten**	**2.46**	**282**	eSg	**Sg**	**20 22 31.6**	**+1.3**
LOF				AML	AML	20 22 34.2	
	comp=Z,9.1nm,0.4s						
SGF	**Sodankyl**	**2.52**	**94**	eP	**Pn**	**20 21 51.7**	**+0.6**
SGF				eS	**Sn**	**20 22 23.3**	**+0.3**
MELS	**Mels**	**2.60**	**253**	eSg	**Sg**	**20 22 34.2**	**-0.4**
ARA0	**ARCESS Array S**	**2.69**	**46**	eP	**Pn**	**20 21 52.7**	**-0.8**
ARA0				eS	**Sn**	**20 22 27.5**	**+0.3**
ARA0	**ARCESS Array S**	**2.69**	**46**	Pn	**Pn**	**20 21 52.7**	**-0.8**
	baz=231,slow=14						
ARA0				Lg		20 22 27.5	
	baz=226,slow=28						
MOR8	**Moi Rana**	**2.71**	**236**	e	**Sg**	**20 22 33.0**	**-5.4**
MOR8				AML	AML	20 22 34.8	
	comp=Z,12nm,0.4s						
MOR8	**Moi Rana**	**2.71**	**236**	eSg	**Sg**	**20 22 33.0**	**-5.4**
MOR8				AML	AML	20 22 34.8	
	comp=Z,12nm,0.4s						
KEV	**Kevo**	**3.24**	**49**	eP	**Pn**	**20 22 01.2**	**-0.1**
KEV				eS	**Sn**	**20 22 40.1**	**-1.1**
KEV				MSG		20 22 57.8	
	comp=Z,3.5nm,0.3s						
OUL	**Oulu**	**3.58**	**136**	ePG	**Pg**	**20 22 14.2**	**-5.6**
OUL				eSB	**Sb**	**20 22 57.1**	**+0.4**
OUL				MSG		20 23 08.1	
	comp=Z,4.2nm,0.3s						
MSF	**Maaselka**	**4.03**	**113**	eP	**Pn**	**20 22 13.3**	**+0.8**
MSF				eS	**Sn**	**20 23 00.1**	**-1.0**
KJN	**Kajaani**	**4.86**	**136**	eSG	**Sg**	**20 23 39.8**	**-10**
FIA0	**FINESS Array S**	**6.86**	**155**	Lg		20 24 44.3	
	baz=338,slow=37						
FIA0	**FINESS Array S**	**6.86**	**155**	Lg		20 24 44.3	
	baz=338,slow=37						

IDC 26 20:55:48.7±1.9**, 1.46S×134.50E, mb4.0**/3**, mb1 4.2**/5**, mb1mx3.9**/14**, ML4.0**/2**, Error ellipse: s-maj=74.5km s-min=23.6km az=77.0, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.37**	**180**	P	P	21 00 05.4	-1.4
	0.5nm,0.3s,baz=359,slow=12,SNR=50						
FITZ	**Fitzroy Crossi**	**18.69**	**207**	P	P	21 00 08.6	-2.1
	0.3nm,0.3s,baz=26,slow=9.0,SNR=11						
ASAR	**Alice Springs**	**22.08**	**181**	P	P	21 00 45.9	-1.4
	3.0nm,0.6s,baz=7.8,slow=12,SNR=42						
STKA	**Stephens Creek**	**30.98**	**168**	P	P	21 02 07.4	-2.7
	1.7nm,0.7s,baz=352,slow=6.9,SNR=4.5						
MKAR	**Makanchi Array**	**66.27**	**324**	P	P	21 06 38.9	-2.1
	0.8nm,0.6s,baz=103,slow=7.9,SNR=8.0						

MOS ***26*** *21:03:11.2±2.5, 38.15N×43.20E, h10^{km}, mb4.3/8, Error ellipse: s-maj=12.1km s-min=6.1km az=98.8*
BJI ***26*** *21:03:13.6, 38.97N×43.28E, h8^{km}, mB5.1, mb4.6, Msz5.2*
ISK ***26*** *21:03:14.0, 38.59N×43.16E, h9^{km}, MD4.1, ML4.0*
NEIC ***26*** *21:03:14.8±0.7, 38.61N×43.31E, h12^{km}±6^{km}, mb4.6/7, Error ellipse: s-maj=8.5km s-min=6.2km az=168.0*
ZUR_RM ***26*** *21:03:14, 38.61N×43.31E, h15^{km}, Mw4.5/11, Moment Tensor Solution. s11 Moment tensor: Scale 10^{15}Nm; M$_{rr}$6.59; M$_{\theta\theta}$-7.58; M$_{\phi\phi}$0.99; M$_{r\theta}$-1.06; M$_{\theta\phi}$-0.71; M$_{\phi r}$-0.34; Best double couple: M$_0$7.2×10^{15} NP1:ϕ_s263°,δ49°,λ87°. NP2:ϕ_s88°,δ41°,λ94°. Principal axes: T 6.684, Plg85°, Azm145°; N 1.039, Plg3°, Azm265°; P -7.723, Plg4°, Azm355°;*
IDC ***26*** *21:03:18.0±3.6, 38.62N×43.22E, h39^{km}±37^{km}, mb3.8/11, mb1 3.9/14, mb1mx3.8/23, ML3.3/4, MS3.7/5, Ms1 3.7/5, ms1mx3.2/31 Error ellipse: s-maj=26.5km s-min=16.9km az=18.0*
TIF ***26*** *21:03:22.2, 39.47N×43.18E, h4^{km}, Mpv5.0*
ISC 26 21:03:14.5±0.5**, 38.47N**±0.04×**43.22E**±0.04**, h14**^{km}±3^{km}**, n94, σ1^{s}53**/105**, mb4.2**/20**, MS3.6**/6**, 5C-7D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VANT	**Van**	**0.13**	**102**	i PG	**Pg**	**21 03 18.3**	**+0.1**
TVAN	**Van**	**0.15**	**69**	i P	**Pg**	**21 03 18.2**	**-0.3**
TVAN				i S	**Sg**	**21 03 24.5**	**+3.4**
VANB	**Van**	**0.18**	**47**	i PG	**Pg**	**21 03 18.2**	**-0.7**
VANB				i SG	**Sg**	**21 03 21.8**	**0.0**
VANB	**Van**	**0.18**	**47**	Pg	**Pg**	**21 03 18.2**	**-0.7**
VANB				Sg	**Sg**	**21 03 21.2**	**-0.6**
HKR	**Hakkari**	**0.98**	**155**	i PN	**Pn**	**21 03 35.5**	**+1.6**
BTMT	**Batman**	**1.39**	**259**	ePN	**Pn**	**21 03 41.6**	**+1.9**
BEST	**Besiri**	**1.65**	**250**	i P	**Pn**	**21 03 44.9**	**+1.6**
BEST				i S	**Sn**	**21 04 09.3**	**+5.0**
ERZM	**Erzurum**	**2.03**	**315**	i P	**Pn**	**21 03 47.9**	**-1.0**
ERZM				i S	**Sn**	**21 04 14.6**	**+0.4**
EZM	**Erzurum**	**2.03**	**315**	i PN	**Pn**	**21 03 47.9**	**-1.0**
GNI	**Garni**	**2.05**	**35**	PN	**Pn**	**21 03 48.1**	**-1.0**
GNI	**Garni**	**2.05**	**35**	d iP	**Pn**	**21 03 48.1**	**-1.0**
GNI				pmax	pmax		
	comp=Z,218nm,0.7s						
GNI	**Garni**	**2.05**	**35**	ePn	**Pn**	**21 03 47.8**	**-1.3**
KARS	**Kars**	**2.14**	**357**	PN	**Pn**	**21 03 48.7**	**-1.7**
BINT	**Bingol**	**2.18**	**281**	ePN	**Pn**	**21 03 50.8**	**-0.1**
DIY	**Diyarbakir**	**2.43**	**257**	PN	**Pn**	**21 03 54.8**	**+0.2**
VAD	**Vardenisi**	**2.59**	**48**	eP	**Pn**	**21 03 57.0**	**+0.1**
VAD				eS	**Sn**	**21 04 33.0**	**+4.6**
STE	**Stepanavan**	**2.68**	**19**	i P	**Pn**	**21 03 57.0**	**-1.2**
STE				eS	**Sn**	**21 04 23.0**	**-7.7**
AKH	**Akhalkalaki**	**2.94**	**4**	⇓iP	**Pn**	**21 04 03.7**	**+1.9**
EZC	**Erzincan**	**2.94**	**297**	ePN	**Pn**	**21 04 05.9**	**+4.1**
ELZG	**Elazig**	**3.33**	**272**	i P	**Pn**	**21 04 07.3**	**0.0**
ELZG				i S	**Sn**	**21 04 57.7**	**+11**
MTA	**Mtatsminda**	**3.44**	**20**	⇑iP	**Pn**	**21 04 06.9**	**-2.0**
TBLG	**Delisi**	**3.46**	**19**	i P	**Pn**	**21 04 13.0**	**+3.9**
TI2	**Plekhanov**	**3.46**	**19**	i P	**Pn**	**21 04 13.0**	**+3.8**
TI2				pmax	pmax		
	comp=Z,500nm,0.4s						
TI2				pmax	pmax		
	comp=N,2µm,1.0s						
KELT	**Kelkit**	**3.50**	**300**	i P	**Pn**	**21 04 16.8**	**+7.0**
GUMT	**Gumushane**	**3.51**	**306**	ePN	**Pn**	**21 04 08.8**	**-1.1**
MYA	**Malataya**	**3.77**	**269**	ePN	**Pn**	**21 04 13.5**	**-0.1**
DUS	**Dusheti**	**3.79**	**17**	⇑iP	**Pn**	**21 04 16.2**	**+2.4**
ZEI	**Tsey**	**4.32**	**7**	⇑iP	**Pn**	**21 04 29.0**	**+7.5**
ZEI				eS	**Sn**	**21 05 19.0**	**+6.7**
ZEI				pmax	pmax		
	comp=Z,100nm,2.0s						
ZEI				MLR	MLR		
	comp=Z,2µm,8.0s						
GZT	**Gaziantep**	**4.61**	**258**	i P	**Pn**	**21 04 25.3**	**-0.3**
GZT				i S	**Sn**	**21 05 29.8**	**+10**
GAZ	**Gaziantep**	**4.93**	**257**	ePN	**Pn**	**21 04 30.2**	**+0.1**
SVSK	**Karacayir**	**5.05**	**289**	ePN	**Pn**	**21 04 31.4**	**-0.3**
KAHT	**Ahir Dag**	**5.08**	**262**	i P	**Pn**	**21 04 30.6**	**-1.6**
KAHT				i S	**Sn**	**21 05 50.1**	**+19**
SHAR	**Shatzhatmas**	**5.28**	**356**	P	**Pn**	**21 04 36.9**	**+1.9**
KUBR	**Kubataba**	**5.32**	**1**	P	**Pn**	**21 04 36.9**	**+1.3**
KIV	**Kislovodsk**	**5.49**	**356**	deP	**Pn**	**21 04 41.4**	**+3.4**
KIV				pmax	pmax		
	comp=Z,6.0nm,0.9s						
SOC	**Sochi**	**5.75**	**334**	eP	**Pn**	**21 04 45.7**	**+4.0**
SOC				eS	**Sn**	**21 05 50.7**	**+2.5**
SOC				pmax	pmax		
	comp=Z,32nm,1.5s						
SOC				pmax	pmax		
	comp=N,27nm,0.9s						
SOC				pmax	pmax		
	comp=E,14nm,0.7s						
SOC				MLR	MLR		
	comp=Z,497nm,14.0s						
SOC				MLR	MLR		
	comp=N,436nm,11.0s						
SOC				MLR	MLR		
	comp=E,505nm,18.0s						
NAGR	**Nagutskaya**	**5.98**	**357**	P	**Pn**	**21 04 45.3**	**+0.4**
BRTR	**Keskin Array B**	**7.56**	**283**	Pn	**Pn**	**21 05 04.5**	**-2.6**
	comp=E,0.1nm,0.3s,baz=137,slow=13,SNR=2.6						
ANN	**Anapa**	**7.66**	**327**	eP	**Pn**	**21 05 19.2**	**+11**
ANN				pmax	pmax		
	comp=Z,20nm,1.3s						
ANN				MLR	MLR		
	comp=Z,510nm,15.0s						
ANN				MLR	MLR		
	comp=N,130nm,8.0s						
ANN				MLR	MLR		
	comp=E,210nm,12.0s						
ASF	**Jabal al Asfar**	**8.14**	**221**	Pn	**P**	**21 05 14.6**	**-0.5**
	comp=E,0.1nm,0.3s,baz=104,slow=10.0,SNR=3.3						
SIM	**Simferopol’**	**9.39**	**316**	P	**P**	**21 05 44.0**	**+11**
SIM				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ISP	**Isparta**	**10.03**	**270**	P	**P**	**21 05 48.3**	**+6.9**
VOR	**Voronezh**	**13.55**	**349**	P	**P**	**21 06 30.0**	**+1.2**
VOR				pmax	pmax		
	comp=Z,40nm,1.4s						
IDI	**Anoyia**	**15.01**	**263**	Pn	**P**	**21 06 50.6**	**+2.6**
	comp=Z,0.6nm,0.3s,baz=68,slow=9.2,SNR=6.4						
AKASG	**Malin Array Be**	**15.74**	**325**	Pn	**P**	**21 06 54.3**	**-3.0**
	comp=Z,0.5nm,0.3s,baz=134,slow=11,SNR=15						
AKASG	**Malin Array Be**	**15.74**	**325**	P	**P**	**21 06 54.3**	**-3.1**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KOLS	**Kolonicke sedl**	**18.34**	**311**	eP	**P**	**21 07 32.8**	**+2.6**
KWP	**Kalwaria**	**18.43**	**314**	eP	**P**	**21 07 28.4**	**-2.8**
	comp=Z,154nm,2.1s						
CRVS	**Cervenica-Dubn**	**18.81**	**311**	eP	**P**	**21 07 38.7**	**+2.8**
PKSM	**Moragy**	**19.69**	**301**	eP	**P**	**21 07 44.8**	**-1.4**
RHK1	**Bakonya**	**20.05**	**300**	⇑eP	**P**	**21 07 51.1**	**+1.1**
VYHS	**Vyhne**	**20.25**	**307**	eP	**P**	**21 07 49.9**	**-2.2**
ARU	**Arti**	**20.66**	**25**	⇓iP	**P**	**21 07 52.6**	**-3.7**
ARU				eS	**S**	**21 11 39.4**	**-2.3**
ARU				eSS		21 11 57.7	
ARU				pmax	pmax		
	comp=Z,20nm,1.2s						
ARU	**Arti**	**20.66**	**25**	eP	**P**	**21 07 50.8**	**-5.5**
	comp=Z,23nm,1.1s						
ZST	**Bratislava**	**21.25**	**306**	eP	**P**	**21 08 01.8**	**-0.6**
SVE	**Sverdlovsk**	**21.68**	**26**	⇓eP	**P**	**21 08 04.0**	**-2.6**
SVE				pmax	pmax		
	comp=Z,50nm,2.6s,mb4.5						
VRAC	**Vranov**	**21.92**	**308**	P	**P**	**21 08 08.9**	**-0.3**
	comp=Z,4.5nm,0.9s,mb3.9,baz=120,slow=10,SNR=3.7						
MOA	**Molln**	**22.99**	**303**	⇓iP	**P**	**21 08 21.3**	**+1.6**
	comp=Z,9.5nm,0.9s,mb4.2						
AML	**Almayashu**	**23.46**	**71**	P	**P**	**21 08 26.2**	**+1.9**
	SNR=6.2						
EKS2	**Erkin-Say**	**23.52**	**70**	P	**P**	**21 08 26.1**	**+1.3**
	SNR=6.4						
GERES	**GERESS Array B**	**23.60**	**306**	P	**P**	**21 08 24.8**	**-0.8**
	comp=Z,0.8nm,0.7s,mb3.3,baz=90,slow=8.0,SNR=6.7						
GERES	**GERESS Array B**	**23.60**	**306**	P	**P**	**21 08 24.8**	**-0.8**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BVAR	**Borovoye Array**	**23.71**	**43**	P	**P**	**21 08 25.3**	**-1.3**
	comp=Z,6.5nm,1.2s,mb3.9,baz=233,slow=7.4,SNR=14						
KHC	**Kasperske Hory**	**23.75**	**306**	eP	**P**	**21 08 30.5**	**+3.4**
AAK	**Ala-Archa**	**24.05**	**70**	eP	**P**	**21 08 29.6**	**-0.4**
AAK				pmax	pmax		
	comp=Z,11nm,1.6s,mb4.0						
AAK				MLR	MLR		
	comp=Z,100nm,15.0s,MS3.4						
AAK	**Ala-Archa**	**24.05**	**70**	eP	**P**	**21 08 28.5**	**-1.5**
	comp=Z,16nm,1.6s,mb4.2						
FRU	**Bishkek**	**24.14**	**70**	eP	**P**	**21 08 32.0**	**+1.1**
FRU				e		21 09 05.0	
FRU				pmax	pmax		
	comp=Z,60nm,2.0s,mb4.7						
CHMS	**Chumysh**	**24.23**	**69**	P	**P**	**21 08 32.4**	**+0.6**
	SNR=5.6						
KBK	**Karagaybulak**	**24.38**	**70**	P	**P**	**21 08 34.3**	**+1.0**
	SNR=7.1						
WTTA	**Wattenberg**	**24.62**	**301**	⇓iP	**P**	**21 08 35.9**	**+0.4**
	comp=Z,16nm,0.9s,mb4.6						
CLL	**Collm**	**24.76**	**311**	P	**P**	**21 08 39.0**	**+2.2**
CLL				e		21 09 01.0	
TKM2	**Tokmak 2**	**24.86**	**69**	P	**P**	**21 08 39.4**	**+1.6**
	SNR=5.8						
MOTA	**Moosalm**	**24.99**	**301**	⇑iP	**P**	**21 08 37.5**	**-1.6**
	comp=Z,21nm,0.9s,mb4.7						
FINES	**FINESS Array B**	**25.34**	**341**	P	**P**	**21 08 39.8**	**-2.5**
	comp=Z,1.8nm,0.8s,mb3.6,baz=135,slow=11,SNR=7.2						
FINES				LR	LR	21 19 48.2	
	comp=Z,135nm,21.1s,MS3.4,baz=301,slow=39						
FINES	**FINESS Array B**	**25.34**	**341**	P	**P**	**21 08 39.8**	**-2.4**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
FINES				MLR	MLR		
	comp=Z,135nm,21.1s						
DAVOX	**Davos**	**25.75**	**300**	P	**P**	**21 08 44.4**	**-1.8**
	comp=Z,2.9nm,0.6s,mb4.0,baz=132,slow=11,SNR=7.9						
HFS	**Hagfors**	**28.57**	**329**	P	**P**	**21 09 08.0**	**-3.8**
	comp=Z,7.4nm,0.9s,mb4.4,baz=146,slow=11,SNR=9.1						
HFS	**Hagfors**	**28.57**	**329**	P	**P**	**21 09 08.0**	**-3.8**
HFS				pmax	pmax		
	comp=Z,7.0nm,1.0s						
MKAR	**Makanchi Array**	**29.67**	**61**	P	**P**	**21 09 19.4**	**-2.5**
	comp=Z,0.9nm,0.7s,mb3.6,baz=268,slow=7.3,SNR=5.4						
MKAR	**Makanchi Array**	**29.67**	**61**	i P	**P**	**21 09 19.9**	**-2.0**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA	**NORSAR Array B**	**30.09**	**329**	P	**P**	**21 09 21.9**	**-3.6**
	comp=Z,0.9nm,0.6s,mb3.7,baz=125,slow=8.8,SNR=3.3						
NOA				LR	LR	21 23 28.9	
	comp=Z,103nm,18.2s,MS3.5,baz=105,slow=40						
NOA	**NORSAR Array B**	**30.09**	**329**	P	**P**	**21 09 21.9**	**-3.6**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA				MLR	MLR		
	comp=Z,103nm,18.2s						
ARCES	**ARCESS Array B**	**32.55**	**349**	P	**P**	**21 09 43.4**	**-3.5**
	comp=Z,1.7nm,0.7s,mb4.1,baz=153,slow=8.1,SNR=14						
ARCES				LR	LR	21 24 10.6	
	comp=Z,119nm,19.0s,MS3.6,baz=18,slow=39						
ARCES	**ARCESS Array B**	**32.55**	**349**	P	**P**	**21 09 43.4**	**-3.5**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ARCES				MLR	MLR		
	comp=Z,119nm,19.0s						
WMQ	**Urumqi**	**33.60**	**66**	eP	**P**	**21 09 55.0**	**-1.4**
WMQ				AP	pP	21 10 00.0	-0.4
WMQ				XP	sP	21 10 02.0	-0.2
WMQ				AMB	AMB		
	comp=Z,4.0nm,1.2s,mb4.2						
ESDC	**Sonseca Array**	**36.32**	**287**	P	**P**	**21 10 17.5**	**-2.1**
	comp=Z,1.4nm,0.8s,mb3.9,baz=69,slow=9.0,SNR=6.2						
JMIC	**Jan Mayen**	**41.87**	**337**	LR	LR	21 29 08.6	
	comp=Z,92nm,19.1s,MS3.7,baz=232,slow=37						
HHC	**Hu-ho-hao-te**	**51.43**	**64**	eP	**P**	**21 12 19.8**	**-1.4**
HHC				XP	sP	21 12 27.0	0.0
HHC				AMB	AMB		
	comp=Z,12nm,0.5s,mb5.1						
HHC				AMB	AMB		
	comp=Z,159nm,4.9s						
CMAR	**Chiang Mai Arr**	**52.08**	**96**	P	**P**	**21 12 24.4**	**-1.9**
	comp=Z,6.3nm,1.1s,mb4.5,baz=298,slow=7.7,SNR=21						
CMAR	**Chiang Mai Arr**	**52.08**	**96**	P	**P**	**21 12 24.4**	**-1.9**
CMAR				pmax	pmax		
	comp=Z,6.0nm,1.1s						
NJ2	**Nanjing**	**60.49**	**71**	eP	**P**	**21 13 28.0**	**+1.6**
SSE	**Sheshan**	**62.69**	**71**	eP	**P**	**21 13 41.0**	**-0.2**
SSE				AMB	AMB		
	comp=Z,19nm,0.8s,mb5.3						
SSE	**Sheshan**	**62.69**	**71**	eP	**P**	**21 13 40.9**	**-0.3**
	comp=Z,19nm,0.8s,mb5.3						
ASAJ	**Asahikawa**	**70.26**	**49**	LR	LR	21 49 25.0	
	comp=Z,105nm,18.1s,MS4.1,baz=182,slow=39						

NEIC ***26*** *21:13:36.3, 29.07S×71.13W, h61^{km}, MD3.8(GUC), After GUC.*
GUC 26 21:13:36.3±0.8**, 29.07S×71.13W, h61**^{km}±10^{km}**, MD3.8, ML3.7, 1C-1D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.59**	**34**	⇑iP	P	21 13 50.9	+1.4
VACH				i S	S	21 14 01.0	+1.9
VACH				AMP		21 14 02.2	
	comp=N,11µm,0.1s						
LSCH	**La Serena**	**0.84**	**187**	⇓iP	P	21 13 52.9	+0.4
LSCH				i S	S	21 14 04.6	+0.1
LSCH				AMP		21 14 05.8	
	comp=N,3µm,0.6s						
TLL	**Tololo Astrono**	**1.13**	**165**	eP	P	21 13 57.5	+1.1
TLL				i S	S	21 14 12.9	+1.6
TLL				AMP		21 14 14.6	
	comp=E,1µm,0.5s						
CPCH	**Copiapo**	**1.84**	**22**	eP	P	21 14 05.9	-0.3
CPCH				i S	S	21 14 28.7	+0.4
CMCH	**Combarbala**	**2.10**	**177**	eP	P	21 14 09.9	+0.1
CMCH				i S	S	21 14 34.9	+0.2
CMCH				AMP		21 14 49.6	
	comp=E,1µm,0.7s						
FCH	**Farellones**	**4.30**	**171**	eP	P	21 14 42.2	+1.3

NEIC ***26*** *21:36:26.8±1.0, 5.60S×148.46E, h172^{km}±9^{km}, mb4.6/11, Error ellipse: s-maj=11.7km s-min=8.3km az=98.0*
IDC ***26*** *21:36:27.4±1.9, 5.60S×148.45E, h178^{km}±17^{km}, mb4.1/13, mb1 4.3/16, mb1mx4.2/18, MS3.2/5, Ms1 3.2/5, ms1mx2.9/25, Error ellipse: s-maj=14.7km s-min=9.0km az=113.0*
ISC 26 21:36:25.6±1.2**, 5.61S**±0.07×**148.40E**±0.10**, h173**^{km}±11^{km}**, n43, σ0^{s}74**/40**, mb4.4**/23**, 1D, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WAU	**Wau**	**2.41**	**224**	i P	**P**	**21 37 07.7**	**+0.4**
PMG	**Port Moresby**	**3.97**	**198**	P	**P**	**21 37 26.7**	**-0.1**
	30nm,0.3s,baz=3.5,slow=5.9,SNR=59						
PMG				S	**S**	**21 38 12.8**	**-1.3**
	77nm,0.3s,baz=3.5,slow=12,SNR=5.5						
PMG				LR	LR	21 39 12.8	
	comp=Z,158nm,21.8s,baz=360,slow=41						
PMG	**Port Moresby**	**3.97**	**198**	⇓iPn	**P**	**21 37 26.6**	**-0.2**
CTA	**Charters Tower**	**14.55**	**188**	P	**P**	**21 39 46.3**	**+1.8**
	0.5nm,0.3s,baz=24,slow=13,SNR=12						
CTA				LR	LR	21 44 51.7	
	comp=Z,108nm,19.8s,baz=232,slow=35						
CTAO	**Charters Tower**	**14.55**	**188**	eP	**P**	**21 39 46.1**	**+1.6**
	15nm,0.9s						
WRAB	**Tennant Creek**	**19.74**	**223**	eP	**P**	**21 40 44.3**	**+0.3**
	109nm,0.6s						
WRA	**Warramunga Arr**	**19.75**	**223**	P	**P**	**21 40 44.7**	**+0.6**
	8.2nm,0.3s,baz=51,slow=11,SNR=402						
WRA				S	**S**	**21 44 17.5**	**+5.4**
	baz=35,slow=18,SNR=9.7						
WRA				LR	LR	21 48 46.0	
	comp=Z,53nm,18.0s,baz=95,slow=37						
ASAR	**Alice Springs**	**22.74**	**216**	P	**P**	**21 41 15.5**	**+1.8**
	31nm,0.7s,mb4.9,baz=50,slow=9.2,SNR=344						
ASAR				S	**S**	**21 45 11.9**	**+6.1**
	6.1nm,0.8s,baz=33,slow=22,SNR=6.2						
ASAR				LR	LR	21 49 55.2	
	comp=Z,79nm,19.3s,baz=97,slow=36						
FITZ	**Fitzroy Crossi**	**25.46**	**239**	P	**P**	**21 41 39.7**	**+0.3**
	114nm,0.4s,baz=52,slow=5.8,SNR=273						
FITZ				LR	LR	21 52 17.3	
	comp=Z,57nm,21.8s,baz=74,slow=37						
STKA	**Stephens Creek**	**26.90**	**193**	P	**P**	**21 41 51.9**	**-0.7**
	1.0nm,0.4s,mb3.8,baz=342,slow=14,SNR=6.1						
MBWA	**Marble Bar**	**31.80**	**238**	eP	**P**	**21 42 35.7**	**-0.4**
	11nm,0.6s,mb4.8						
NWAO	**Narrogin (SRO)**	**39.76**	**223**	eP	**P**	**21 43 42.8**	**-0.2**
	1.7nm,0.5s,mb3.9						
URZ	**Urewera**	**41.67**	**145**	P	**P**	**21 43 58.1**	**-0.7**
	11nm,0.9s,mb4.5,baz=100,slow=2.2,SNR=5.1						
RPZ	**Rata Peaks**	**42.88**	**156**	P	**P**	**21 44 08.7**	**+0.2**
	11nm,0.6s,mb4.7,baz=352,slow=14,SNR=9.5						
CM31	**Chiang Mai Arr**	**54.30**	**297**	eP	**P**	**21 45 36.0**	**-0.4**
	1.0nm,0.4s,mb3.9						
CMAR	**Chiang Mai Arr**	**54.30**	**297**	P	**P**	**21 45 36.2**	**-0.3**
	0.7nm,0.5s,mb3.7,baz=121,slow=6.2,SNR=11						
HIA	**Hailar**	**60.08**	**339**	eP	**P**	**21 46 16.9**	**+0.3**
	15nm,0.8s,mb4.9						
FX1	**Attu Island--F**	**61.93**	**17**	P	**P**	**21 46 28.5**	**-0.6**
	35nm,0.7s,mb5.3,baz=243,slow=7.4,SNR=8.6						
FX1	**Attu Island--F**	**61.93**	**17**	eP	**P**	**21 46 28.9**	**-0.1**
SONM	**Songino Array**	**64.75**	**330**	P	**P**	**21 46 48.2**	**+0.6**
	2.0nm,1.0s,mb3.9,baz=145,slow=5.7,SNR=11						
CASY	**Casey**	**66.01**	**196**	eP	**P**	**21 46 54.3**	**-1.1**
	2.4nm,0.4s,mb4.4						
MKAR	**Makanchi Array**	**78.08**	**320**	P	**P**	**21 48 06.8**	**0.0**
	1.4nm,0.5s,mb3.9,baz=93,slow=8.8,SNR=5.6						
MKAR	**Makanchi Array**	**78.08**	**320**	P	**P**	**21 48 06.8**	**0.0**
ZAL	**Zalesovo**	**79.43**	**327**	P	**P**	**21 48 13.2**	**-0.8**
	1.9nm,0.4s,mb4.1,baz=272,slow=6.6,SNR=5.8						
SLKM	**Skilak Lake**	**81.28**	**26**	eP	**P**	**21 48 24.3**	**+0.6**
PMR	**Palmer**	**82.25**	**25**	eP	**P**	**21 48 28.2**	**-0.4**
	7.5nm,0.8s,mb4.4						
SML	**Sawmill**	**82.69**	**25**	eP	**P**	**21 48 31.3**	**+0.4**
MCK	**McKinley**	**83.31**	**23**	eP	**P**	**21 48 34.0**	**0.0**
	27nm,0.9s,mb5.0						
COLA	**College**	**84.25**	**23**	eP	**P**	**21 48 38.1**	**-0.5**
	24nm,0.8s,mb5.0						
QSPA	**South Pole Qui**	**84.36**	**180**	eP	**P**	**21 48 39.4**	**+0.5**
	11nm,1.1s,mb4.5						
QSPA				e	pP	21 49 17.7	-4.2
ILAR	**Eielson Array**	**84.58**	**23**	P	**P**	**21 48 39.8**	**-0.5**
	24nm,0.6s,mb5.1,baz=252,slow=4.9,SNR=155						
BVAR	**Borovoye Array**	**87.27**	**324**	P	**P**	**21 48 52.4**	**-1.2**
	1.3nm,0.7s,mb3.9,baz=72,slow=4.7,SNR=4.6						
DAWY	**Dawson**	**87.33**	**25**	eP	**P**	**21 48 55.3**	**+1.7**
INK	**Inuvik**	**90.78**	**21**	P	**P**	**21 49 09.7**	**-0.1**
	6.6nm,0.9s,mb4.7,baz=295,slow=2.5,SNR=6.7						
YBH	**Yreka Blue Hor**	**92.86**	**49**	P	**P**	**21 49 19.5**	**-0.6**
	3.1nm,0.9s,mb4.4,baz=319,slow=3.8,SNR=4.5						
YKA	**Yellowknife Ar**	**98.18**	**28**	P	**P**	**21 49 44.4**	**+0.7**
	1.8nm,0.7s,mb4.6,baz=282,slow=5.7,SNR=4.2						
YKA	**Yellowknife Ar**	**98.18**	**28**	P	**P**	**21 49 44.4**	**+0.7**
GERES	**GERESS Array B**	**122.36**	**326**	PKP	PKPdf	21 54 59.8	-0.5
	0.6nm,0.5s,baz=90,slow=1.3,SNR=8.0						
EKA	**Eskdalemuir Ar**	**125.43**	**340**	PKP	PKPdf	21 55 06.8	+0.8
	2.1nm,0.6s,baz=22,slow=3.1,SNR=5.5						
TRQA	**Tornquist**	**128.19**	**149**	PKPdf	PKPdf	21 55 13.6	+1.7
HUMP	**Col San Antoni**	**144.33**	**67**	ePKPdf	PKPdf	21 55 41.1	-0.8

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SAML  Samuel          145.36 114 ePKPdf   PKPdf    21 55 44.5 +0.7
BDFB  Brasilia        153.36 143  PKPbc   PKPdf    21 56 04.6 +8.4
      4.1nm,0.5s,baz=222,slow=4.3,SNR=10
BDFB                              PKPab   PKPab    21 56 18.2  -0.9
      28nm,1.1s,baz=212,slow=2.7,SNR=18
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*NIED **26** 21:38:00, 32.30N×142.20E, $h5^{km}$, Mw4.2 Best double couple: $M_0 2.51\times10^{15}$ NP1: $\phi_s 156°$, $\delta 54°$, λ-99°. NP2: $\phi_s 351°$, $\delta 37°$, λ-78°.*

*IDC **26** 21:38:06.0±1.6, 32.35N×142.25E, mb4.2/18, mb1 4.4/21, mb1mx4.3/28, ML4.1/3, Error ellipse: s-maj=47.1km s-min=18.2km az=2.0*

*JMA **26** 21:38:08.3±0.4, 32.30N×142.21E, $h35^{km}$, M4.4*

*BJI **26** 21:38:11.2, 32.17N×142.18E, $h69^{km}$, mB4.6, mb4.3, Ms4.3, Msz4.0*

*NEIC **26** 21:38:12.7±2.3, 32.32N×142.12E, $h53^{km}\pm15^{km}$, mb4.6/19, MW4.2(NIED), Error ellipse: s-maj=23.1km s-min=10.1km az=166.0*

*MOS **26** 21:38:13.0±0.9, 32.92N×142.05E, $h40^{km}$, mb4.5/14, Error ellipse: s-maj=22.3km s-min=10.3km az=114.2*

ISC 26 21:38:08.6±1.5, **32.26N**±0.05×**142.16E**±0.06, **$h32^{km}$**$\pm10^{km}$, **n96, $\sigma 1^{s}04$**/106, **mb4.4**/41, **MS4.0**/4, **2C-2D, Southeast of Honshu**

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Code  Station Name      Δ°   AZ°    Phase ID          Time     Res
                                   Op      ISC       h  m  s   ISC
JHJ2  Mitsune           2.15 294   P       Pn       21 38 43.5 +0.5
JHJ2                              eS       Sn       21 39 09.4 +0.5
JHJ   Hachijo jima 2    2.18 294   Pn      Pn       21 38 43.8 +0.3
      147nm,0.3s,baz=159,slow=10,SNR=68
JHJ                                Sn      Sn       21 39 09.7 +0.1
      252nm,0.3s,baz=270,slow=24,SNR=10
BSO1  Boso 1            2.58 338   P       Pn       21 38 49.2  0.0
BSO3  Boso 3            2.88 332   P       Pn       21 38 53.8 +0.3
BSO4  Boso 4            3.12 331   P       Pn       21 38 57.0 +0.2
BSO4                              eS       Sn       21 39 33.8 +0.5
JKO   Kozu shima        3.18 308   P       Pn       21 38 58.8 +1.1
JKO                               eS       Sn       21 39 35.2 +0.3
JIM2  Oshima 3          3.34 318   P       Pn       21 38 59.8 -0.2
JOD2  Odawara 2         3.94 320   P       Pn       21 39 08.2 -0.2
JOD2                              eS       Sn       21 39 52.2 -1.9
JYN   Shimob            4.41 318   P       Pn       21 39 15.8 +0.6
JYN                               eS       Sn       21 40 07.2 +1.1
JRY   Ryogami san       4.62 325   P       Pn       21 39 17.7 -0.4
JRY                               eS       Sn       21 40 10.4 -0.9
JAG   Ashikaga          4.72 332   P       Pn       21 39 18.9 -0.6
JAG                               eS       Sn       21 40 11.6 -2.2
CBIJ  Chichi jima       5.15 180   Pn      Pn       21 39 22.4 -3.2
      9.1nm,0.3s,baz=269,slow=22,SNR=18
CBIJ                               Sn      Sn       21 40 17.8 -6.9
      28nm,0.3s,baz=69,slow=24,SNR=4.7
MAJO  Matsushiro        5.38 324  ePn      Pn       21 39 28.7 -0.1
      20nm,0.5s
MAT   Matsushiro        5.38 324   P       Pn       21 39 27.9 -0.9
MAT                                S       Sn       21 40 28.2 -2.1
MAT   Matsushiro        5.38 324   P       Pn       21 39 28.8  0.0
MAT                               eS       Sn       21 40 28.2 -2.1
MAT   Matsushiro        5.38 324  eP       Pn       21 39 29.0 +0.2
      19nm,0.8s
MAT                               eS       Sn       21 40 28.0 -2.3
ASAJ  Asahikawa        11.84   2   Pn      P        21 40 54.2 -4.1
      1.9nm,0.3s,baz=250,slow=15,SNR=7.4
ASAJ  Asahikawa        11.84   2   P       P        21 40 54.2 -4.1
ASAJ                               pmax    pmax
      comp=Z,2.0nm,0.3s
YSS   Yuzh-Sakhalins   14.68   2  eP       P        21 41 39.1 +3.3
MDJ   Mudanjiang       15.76 325   P       P        21 41 49.8  0.0
MDJ                                S       S        21 44 45.8 +2.3
MDJ                                PCP     PcP      21 46 48.5 -0.9
MDJ                                PCS              21 50 23.5
MDJ                                AMB     AMB
      comp=Z,6.0nm,0.8s
MDJ                                AMB     AMB
      comp=Z,50nm,5.9s
CN2   Changchun        17.46 316  eP       P        21 42 12.0 +0.7
SSE   Sheshan          17.89 272  eP       P        21 42 18.5 +1.7
SSE                                AMB     AMB
      comp=Z,21nm,0.9s
SSE                                AMB     AMB
      comp=Z,155nm,4.0s
SSE   Sheshan          17.89 272  eP       P        21 42 18.4 +1.6
      comp=Z,21nm,0.9s
NJ2   Nanjing          19.73 276  eP       P        21 42 39.5 +0.9
NJ2                                AMB     AMB
      comp=Z,20nm,0.8s
HIA   Hailar           23.88 322  eP       P        21 43 20.8 +0.8
      comp=Z,9.7nm,1.1s,mb4.2
SONM  Songino Array    31.16 310   P       P        21 44 27.9 +1.2
      comp=Z,2.3nm,0.9s,mb4.0,baz=107,slow=7.6,SNR=9.0
LZH   Lanzhou          31.79 288  eP       P        21 44 32.0 -0.4
LZH                                PP      PP       21 45 37.3 -0.8
LZH                                AMB     AMB
      comp=Z,23nm,1.3s,mb4.8
LZH                                LR      LR
      comp=N,319nm,13.4s
LZH                                LR      LR
      comp=Z,495nm,17.2s,MS4.2
LZH   Lanzhou          31.79 288  eP       P        21 44 32.1 -0.3
      comp=Z,23nm,1.3s,mb4.8
LZH                                pP      pP       21 44 39.2 -2.7
LZH                                sP      sP       21 44 42.5 -3.5
LZH                                PP      PP       21 45 37.3 -0.8
LZH                                LR      LR
      comp=Z,500nm,17.2s,MS4.3
BOD   Bodaibo          31.95 331  eP       P        21 44 30.7 -2.8
ZAK   Zakamensk        33.87 314⇓iP       P        21 44 50.8 +0.5
GTA   Gaotai           34.81 294  eP       P        21 44 56.0 -2.5
GTA                                PP      PP       21 46 15.0 -1.3
GTA                                S       S        21 50 26.3 +0.2
GTA                                SS      SS       21 52 42.0 +1.5
GTA                                AMB     AMB
      comp=Z,1.0nm,0.7s,mb3.9
GTA                                AMB     AMB
      comp=Z,63nm,6.1s
GTA                                LR      LR
      comp=N,85nm,18.3s,MS3.6
GTA                                LR      LR
      comp=E,54nm,16.0s,MS3.6
GTA                                LR      LR
      comp=Z,42nm,19.4s,MS3.2
WMQ   Urumqi           43.70 302  eP       P        21 46 13.0 +0.7
WMQ                                AMB     AMB
      comp=Z,5.0nm,1.2s,mb4.1
ZAL   Zalesovo         45.69 316   P       P        21 46 28.7 +0.7
      comp=Z,2.3nm,0.9s,mb4.1,baz=288,slow=7.8,SNR=13
ZAL   Zalesovo         45.69 316   P       P        21 46 28.7 +0.7
ZAL                                pmax    pmax
      comp=Z,2.0nm,0.9s
MKAR  Makanchi Array   47.30 306   P       P        21 46 41.4 +0.5
      comp=Z,5.2nm,0.8s,mb4.5,baz=91,slow=9.0,SNR=41
MKAR  Makanchi Array   47.30 306   P       P        21 46 41.4 +0.5
MKAR                               pmax    pmax
      comp=Z,5.0nm,0.8s
KKN   Kakani           48.97 280  eP       P        21 46 54.3 +0.2
      comp=Z,20nm,0.8s,mb5.2
DMN   Daman            49.17 280  eP       P        21 46 55.8 +0.1
      comp=Z,5.1nm,0.6s,mb4.8
GKN   Gorkha           49.43 281  eP       P        21 46 56.9 -0.8
      comp=Z,14nm,0.9s,mb5.0
KURK  Kurchatov        49.45 311  i P      P        21 46 57.1 -0.4
KURK                               pmax    pmax
      comp=Z,3.0nm,0.8s,mb4.4
KURK  Kurchatov        49.45 311  eP       P        21 46 57.0 -0.6
      comp=Z,7.1nm,0.8s,mb4.8
KOLN  Koldanda         50.37 281  eP       P        21 47 02.9 -2.0
      comp=Z,10nm,0.9s,mb4.8
ILAR  Eielson Array    53.24  30   P       P        21 47 24.9 -1.0
      comp=Z,1.7nm,0.7s,mb4.1,baz=270,slow=6.3,SNR=13
ILAR  Eielson Array    53.24  30   P       P        21 47 25.0 -1.0
ILAR                               pmax    pmax
      comp=Z,2.0nm,0.7s
AAK   Ala-Archa        53.41 302⇓eP       P        21 47 26.7 -0.8
AAK                                pmax    pmax
      comp=Z,4.0nm,1.1s,mb4.3
AAK                                MLR     MLR
      comp=Z,100nm,15.0s,MS4.0
AAK   Ala-Archa        53.41 302  eP       P        21 47 27.0 -0.5
      comp=Z,1.6nm,0.8s,mb4.0
VOSK  Vostochnaya      53.99 315   P       P        21 47 31.0 -0.6
VOSK                               pmax    pmax
      comp=Z,4.0nm,1.0s,mb4.3
BVA0  Borovoye Array   54.31 315  i P      P        21 47 33.5 -0.4
BVAR  Borovoye Array   54.31 315   P       P        21 47 34.0 +0.1
      comp=Z,2.0nm,0.7s,mb4.2,baz=90,slow=7.4,SNR=17
BVAR                               PP      PP       21 49 34.1 -3.2
      comp=Z,1.0nm,0.7s,baz=34,slow=5.2,SNR=4.3
BRVK  Borovoye         54.37 315  eP       P        21 47 33.5 -0.8
      comp=Z,2.2nm,0.7s,mb4.2
ZRNK  Zerenda          55.15 315   P       P        21 47 39.6 -0.5
ZRNK                               pmax    pmax
      comp=Z,2.0nm,0.7s,mb4.3
ZRNK  Zerenda          55.15 315  eP       P        21 47 39.4 -0.7
      comp=Z,2.0nm,0.8s,mb4.2
INK   Inuvik           58.38  26   P       P        21 48 01.9 -1.0
      comp=Z,4.2nm,1.0s,mb4.4,baz=267,slow=9.3,SNR=6.8
INK   Inuvik           58.38  26   P       P        21 48 01.9 -0.9
INK                                pmax    pmax
      comp=Z,4.0nm,1.0s
ARU   Arti             60.38 321⇑iP       P        21 48 16.1 -0.7
ARU                                pmax    pmax
      comp=Z,6.0nm,1.0s,mb4.6
YKA   Yellowknife Ar   67.64  29   P       P        21 49 03.8 -0.3
      comp=Z,1.2nm,0.8s,mb4.0,baz=298,slow=5.9,SNR=3.8
YKA   Yellowknife Ar   67.64  29   P       P        21 49 03.8 -0.3
YKA                                pmax    pmax
      comp=Z,1.0nm,0.8s
ARCES ARCESS Array B   68.68 340   P       P        21 49 10.6 +0.1
      comp=Z,0.7nm,0.6s,mb3.8,baz=63,slow=7.4,SNR=5.5
ARCES ARCESS Array B   68.68 340   P       P        21 49 10.6 +0.1
ARCES                              pmax    pmax
      comp=Z,1.0nm,0.6s
ARCES ARCESS Array B   68.68 340   P       P        21 49 10.6 +0.1
YBH   Yreka Blue Hor   72.81  51   P       P        21 49 37.1 +1.2
      comp=Z,1.7nm,0.7s,mb4.1,baz=44,slow=7.3,SNR=4.4
YBH   Yreka Blue Hor   72.81  51   P       P        21 49 37.1 +1.2
YBH                                pmax    pmax
      comp=Z,2.0nm,0.7s
KAF   Kangasniemi      72.83 334  ep       P        21 49 35.0 -0.6
      comp=Z,1.5nm,0.5s,mb4.2,baz=51,slow=5.6
KAF   Kangasniemi      72.83 334  eP       P        21 49 35.0 -0.6
KAF                                pmax    pmax
      comp=Z,2.0nm,0.5s,mb4.3
FINES FINESS Array B   73.33 333   P       P        21 49 38.4 -0.1
      comp=Z,2.9nm,0.8s,mb4.3,baz=45,slow=5.4,SNR=7.8
FINES FINESS Array B   73.33 333   P       P        21 49 38.4 -0.1
FINES                              pmax    pmax
      comp=Z,3.0nm,0.8s
ZEI   Tsey             74.35 311  eP       P        21 49 44.0 -0.8
ZEI                               eS       S        21 59 05.0  -10
ZEI                                MLR     MLR
      comp=Z,200nm,16.0s,MS4.5
KIV   Kislovodsk       74.53 312c iP       P        21 49 47.6 +1.8
KIV                                pmax    pmax
      comp=Z,7.0nm,0.8s,mb4.6
KIV                                pmax    pmax
      comp=N,5.0nm,0.9s
AKASG Malin Array Be   78.46 323   P       P        21 50 07.9 +0.2
      comp=N,0.9nm,0.5s,mb4.0,baz=46,slow=6.0,SNR=10
AKASG Malin Array Be   78.46 323   P       P        21 50 07.9 +0.2
AKASG                              pmax    pmax
      comp=Z,1.0nm,0.5s
HFS   Hagfors          78.69 336   P       P        21 50 09.1 +0.3
      comp=Z,6.4nm,1.0s,mb4.5,baz=90,slow=3.0,SNR=5.2
HFS   Hagfors          78.69 336   P       P        21 50 09.1 +0.3
HFS                                pmax    pmax
      comp=Z,6.0nm,1.0s
NOA   NORSAR Array B   78.82 338   P       P        21 50 09.8 +0.3
      comp=Z,2.5nm,0.8s,mb4.2,baz=40,slow=5.2,SNR=6.5
NOA   NORSAR Array B   78.82 338   P       P        21 50 09.8 +0.3
NOA                                pmax    pmax
      comp=Z,3.0nm,0.8s
PDAR  Pinedale Array   80.58  45   P       P        21 50 20.1 +0.8
      comp=Z,2.0nm,0.6s,mb4.2,slow=5.9,SNR=3.5
BRTR  Keskin Array B   82.50 312   P       P        21 50 30.7 +1.3
      comp=Z,2.3nm,1.0s,mb4.1,baz=108,slow=3.9,SNR=9.8
BRTR  Keskin Array B   82.50 312   P       P        21 50 30.7 +1.3
BRTR                               pmax    pmax
      comp=Z,2.0nm,1.0s
RW3   Ridgway          84.39  48  eP       P        21 50 41.0 +1.9
ASF   Jabal al Asfar   84.70 305   P       P        21 50 42.6 +1.8
      comp=Z,1.5nm,0.5s,mb4.4,baz=68,slow=2.2,SNR=5.1
VRAC  Vranov           85.46 328   P       P        21 50 45.6 +1.4
      comp=Z,1.3nm,0.5s,mb4.3,baz=80,slow=5.1,SNR=3.1
CLL   Collm            85.54 331   P       P        21 50 45.0 +0.5
SDCO  Great Sand Dun   86.07  47  eP       P        21 50 49.1 +1.7
      comp=Z,1.6nm,0.7s,mb4.4
CDF   Champ du Feu     90.12 332  eP       P        21 51 06.0 -0.6
CABF  La Chapelle      92.05 331  eP       P        21 51 15.2 -0.3
      comp=Z,54nm,1.6s,mb5.3
LOR   Lormes           92.40 333  eP       P        21 51 16.1 -1.0
TXAR  Lajitas Array    92.52  53   P       P        21 51 19.5 +1.4
      comp=Z,1.4nm,0.7s,mb4.5,baz=297,slow=2.8,SNR=7.6
LPL   La Plagne        92.67 330  eP       P        21 51 18.0 -0.4
      comp=Z,4.7nm,0.8s,mb4.7
LPG   La Plagne        92.68 330  eP       P        21 51 18.2 -0.2
      comp=Z,4.5nm,0.6s,mb4.8
SSF   Saint Saulge     92.70 333  eP       P        21 51 17.4 -1.1
      comp=Z,7.9nm,1.1s,mb4.8
AVF   Avril sur Loir   92.99 333  eP       P        21 51 19.3 -0.5
      comp=Z,28nm,1.3s,mb5.2
BGF   Bois d'Agland    93.37 333  eP       P        21 51 19.7 -1.9
CAF   Calviac          95.04 333  eP       P        21 51 28.5 -0.8
      comp=Z,22nm,1.2s,mb5.1
SAML  Samuel          146.99  51 ePKPbc   PKPdf    21 57 50.1 -1.8
LPAZ  La Paz          148.28  67  PKPbc   PKPdf    21 57 53.7 -0.2
      comp=Z,2.4nm,0.2s,baz=360,slow=3.5,SNR=5.3
LPAZ  La Paz          148.28  67  PKIKP   PKPdf    21 57 53.7 -0.2
LPAZ                               pmax    pmax
      comp=Z,2.0nm,0.3s
LPAZ  La Paz          148.28  67  PKPbc   PKPdf    21 57 53.7 -0.2
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*NEIC **26** 21:40:50.7, 31.60S×71.54W, $h38^{km}$, MD3.9(GUC), After GUC.*

GUC 26 21:40:50.7±0.5, **31.60S×71.54W, $h38^{km}$**$\pm2^{km}$, **MD3.9, ML3.0, 1C-1D, Near coast of central Chile**

```
Code  Station Name      Δ°   AZ°    Phase ID          Time     Res
                                   Op      ISC       h  m  s   ISC
CMCH  Combarbala        0.63  48⇑iP       P        21 41 03.4 +0.3
CMCH                              i S      S        21 41 12.8 +0.7
CMCH                               AMP              21 41 16.5
      comp=N,1µm,0.8s
JACH  Jahuel            1.35 143  eP       P        21 41 14.4 +1.0
JACH                              i S      S        21 41 32.7 +2.4
TLL   Tololo Astrono    1.56  24  eP       P        21 41 17.9 +1.4
TLL                               i S      S        21 41 38.5 +2.8
TLL                                AMP              21 41 40.8
      comp=E,284nm,0.1s
PEL   Peldehue          1.70 155  eP       P        21 41 19.3 +0.9
PEL                               i S      S        21 41 41.0 +1.8
PEL                                AMP              21 41 43.8
      comp=N,293nm,0.2s
RCDM  Rinconada Maip    1.98 162⇓iP       P        21 41 23.0 +0.6
RCDM                              i S      S        21 41 48.0 +1.7
RCDM                               AMP              21 41 57.1
      comp=E,225nm,0.5s
FCH   Farellones        2.02 149  eP       P        21 41 24.4 +1.3
FCH                               i S      S        21 41 49.6 +2.4
FCH                                AMP              21 41 52.6
      comp=E,154nm,0.2s
TACH  Talagante         2.11 166  eP       P        21 41 24.7 +0.4
LNV   Longovilo         2.35 177  eP       P        21 41 26.8 -0.9
CICH  Cipreses          2.87 161  eP       P        21 41 37.2 +2.0
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*IDC **26** 21:41:39.6±2.9, 6.24N×126.25E, $h73^{km}\pm23^{km}$, mb4.0/11, mb1 4.1/11, mb1mx3.8/21, Error ellipse: s-maj=67.9km s-min=12.5km az=72.0*

*MAN **26** 21:41:39.5, 6.23N×126.48E, $h44^{km}$, mb5.3, ML4.3, MS4.5*

*NEIC **26** 21:41:42.6±0.4, 6.18N×126.08E, $h100^{km}$, mb4.7/4, Error ellipse: s-maj=30.1km s-min=7.3km az=74.0*

ISC 26 21:41:39.6±0.7, **6.27N**±0.06×**126.45E**±0.08, **$h92^{km}$**$\pm6^{km}$, **n29, $\sigma 1^{s}04$**/36, **mb4.3**/15, **1C-1D, Mindanao**

```
Code  Station Name      Δ°   AZ°    Phase ID          Time     Res
                                   Op      ISC       h  m  s   ISC
MATI  Mati              0.70 344  eP       P        21 41 54.9 -1.7
MATI                              eS       S        21 42 08.4 -0.8
KCP   Kidapawan         1.54 299⇑iP       P        21 42 05.8 -0.6
KCP                               i S      S        21 42 25.7 -0.6
BUKP  Musuan            2.12 319  eP       P        21 42 14.0  0.0
BUKP                              eS       S        21 42 40.1 +0.6
CTBH  Cotabato--PC H    2.39 294  eP       P        21 42 18.0 +0.3
CTBH                              i S      S        21 42 47.5 +1.3
BUTP  Butuan            2.81 343  eP       P        21 42 25.2 +1.6
BUTP                              eS       S        21 43 02.3 +5.7
PAGZ  Pagadian          3.43 297  eP       P        21 42 32.3 +0.2
SCPH  Surigao           3.62 345⇓eP       P        21 42 34.9 +0.1
IPIL  Ipil              4.14 292  eP       P        21 42 42.3 +0.4
IPIL                              eS       S        21 43 39.6  +10
MSLP  Maasin            4.16 338  eP       P        21 42 41.2 -0.9
MSLP                              eS       S        21 43 30.1 +0.3
BESP  Borongan          5.40 349  eP       P        21 43 01.6 +2.6
FITZ  Fitzroy Crossi   24.22 182   P       P        21 46 48.9 -0.1
      13nm,1.0s,mb4.2,baz=25,slow=4.8,SNR=7.9
WRAB  Tennant Creek    27.17 164  eP       P        21 47 17.7 +1.1
WRA   Warramunga Arr   27.17 164   P       P        21 47 18.1 +1.6
      5.6nm,0.8s,mb4.1,baz=341,slow=9.8,SNR=7.3
WRA                                ScP              21 54 08.7
      0.8nm,1.0s,baz=337,slow=3.2,SNR=4.9
ASAR  Alice Springs    30.62 167   P       P        21 47 46.5 -0.9
      1.3nm,0.5s,mb4.0,baz=344,slow=7.0,SNR=7.3
ASAR                               PcP     PcP      21 50 43.5 -0.1
      1.3nm,0.7s,baz=342,slow=2.1,SNR=6.8
ASAR                               ScP              21 54 20.4
      0.8nm,0.8s,baz=351,slow=1.9,SNR=5.2
MUN   Mundaring        39.26 194  eP       P        21 49 00.3 -0.5
      10.0nm,0.6s,mb4.8
NWAO  Narrogin (SRO)   39.95 192   P       P        21 49 06.4 -0.1
      8.5nm,0.6s,mb4.8,baz=14,slow=8.9,SNR=12
STKA  Stephens Creek   40.59 160   P       P        21 49 12.1 +0.4
      4.5nm,0.6s,mb4.5,baz=331,slow=8.7,SNR=9.2
SONM  Songino Array    44.83 341   P       P        21 49 45.7 -0.3
      0.7nm,0.8s,mb3.5,baz=153,slow=6.7,SNR=4.7
MKAR  Makanchi Array   55.34 324   P       P        21 51 04.2 -1.9
      3.0nm,0.6s,mb4.5,baz=126,slow=8.2,SNR=14
MKAR  Makanchi Array   55.34 324   P       P        21 51 04.2 -1.9
ZAL   Zalesovo         58.23 332   P       P        21 51 26.6 +0.1
      0.7nm,0.5s,mb4.0,baz=267,slow=7.2,SNR=4.4
KURK  Kurchatov        59.48 327  eP       P        21 51 34.6 -0.5
      7.7nm,1.0s,mb4.7
BVAR  Borovoye Array   65.06 326   P       P        21 52 12.6 +0.2
      2.9nm,0.8s,mb4.2,baz=112,slow=8.0,SNR=14
BRVK  Borovoye         65.14 326  eP       P        21 52 11.2 -1.6
      4.8nm,0.9s,mb4.3
ZRNK  Zerenda          65.80 326  eP       P        21 52 15.7 -1.4
      6.3nm,0.9s,mb4.5
RAYN  Ar Rayn          79.25 293   P       P        21 53 35.2 -1.6
      61nm,0.7s,SNR=11
DAWY  Dawson           86.23  26   P       P        21 54 14.4 +2.8
ARCES ARCESS Array B   87.99 340   P       P        21 54 20.2 +0.2
      1.6nm,0.8s,mb4.1,baz=90,slow=7.3,SNR=10.0
FINES FINESS Array B   89.48 332   P       P        21 54 28.4 +1.2
      0.9nm,0.7s,mb3.9,baz=76,slow=7.9,SNR=4.5
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*IDC **26** 21:46:46.4±2.2, 47.52N×114.60W, $h28^{km}\pm21^{km}$, mb3.1/1, mb1 3.7/3, mb1mx3.3/21, ML3.9/2, Error ellipse: s-maj=32.0km s-min=10.6km az=43.0*

NEIC 26 21:46:43.0, 47.57N×114.31W, $h17^{km}$, ML3.7, ML3.8(BUT), **2D, After BUT., Montana**

```
Code  Station Name      Δ°   AZ°    Phase ID          Time     Res
                                   Op      ISC       h  m  s   ISC
MSO   Missoula          0.78 161⇓iP       Pb       21 46 57.5 -0.2
CHMT  Chamberlain Mo    0.97 132⇓iP       Pb       21 47 01.1  0.0
HRY   Holter Researc    1.90 116  ePn      Pn       21 47 15.8 +0.7
NEW   Newport           2.01 291   Pn      Pn       21 47 16.5 -0.2
      4.9nm,0.3s,baz=104,slow=10,SNR=49
NEW                                Pg      Pn       21 47 20.5 +3.8
      20nm,0.3s,baz=101,slow=13,SNR=90
NEW                                Lg               21 47 45.7
      87nm,0.3s,baz=211,slow=23,SNR=29
NEW   Newport           2.01 291  ePn      Pn       21 47 16.6 -0.1
DPW   Davenport         2.65 278  ePn      Pn       21 47 24.9 -0.9
DPW                               eSg      Sn       21 48 04.1 +6.4
BOZ   Bozeman (W)       2.67 135  ePn      Pn       21 47 26.1  0.0
MCMT  McKenzie Canyo    2.92 159  ePn      Pn       21 47 29.8  0.0
LNOR  Lincton Mounta    3.22 240  ePn      Pn       21 47 34.6 +0.7
QLMT  Earthquake Lak    3.39 143  ePn      Pn       21 47 36.2 -0.1
GCMT  Greycliff         3.66 117  ePn      Pn       21 47 40.1 -0.1
YMR   Madison River     3.72 140  ePn      Pn       21 47 40.4 -0.6
HAWA  Hanford           3.76 254  ePn      Pn       21 47 40.6 -1.1
HLID  Hailey            4.01 181  ePn      Pn       21 47 44.5 -0.7
NLW   Nelson Butte      4.09 279  ePn      Pn       21 47 43.9 -2.4
IMW   Indian Meadow     4.37 146  ePn      Pn       21 47 50.4 +0.2
MOOW  Moose Ponds       4.57 146  ePn      Pn       21 47 53.6 +0.6
TPAW  Teton Pass        4.71 149  ePn      Pn       21 47 56.4 +1.3
LOHW  Long Hollow       4.74 145  ePn      Pn       21 47 56.8 +1.3
WUWY  Wally Ulrich      4.75 147  ePn      Pn       21 47 55.1 -0.5
REDW  Red Top Meadow    4.86 149  ePn      Pn       21 47 59.1 +1.9
VGB   Gordon Butte      4.91 248  ePn      Pn       21 47 57.4 -0.6
RMW   Rattlesnake Mo    5.08 272   Pn      Pn       21 47 58.4 -1.9
LON   Longmire          5.18 264  ePn      Pn       21 48 00.0 -1.7
AHID  Auburn Hatcher    5.31 154  ePn      Pn       21 48 04.8 +1.2
      2.7nm,0.4s
LAO   LASA Array        5.59  96   Pn      Pn       21 48 04.5 -3.0
      48nm,0.7s
LAO                               eSg      Sn       21 49 36.0  +24
EDM   Edmonton          5.69   6   Pn      Pn       21 48 02.7 -6.2
GNW   Green Mountain    5.76 273   Pn      Pn       21 48 08.5 -1.4
GNW                               eSg      Sn       21 49 44.3  +28
PDAR  Pinedale Array    5.86 143   Pn      Pn       21 48 15.3 +4.0
      0.3nm,0.3s,baz=334,slow=9.5,SNR=27
HVU   Hansel Valley     5.89 169   Pn      Pn       21 48 14.5 +2.7
WVOR  Wild Horse Val    5.98 212  ePn      Pn       21 48 13.3 +0.3
      1.3nm,0.4s
BMW   Boistfort Moun    6.20 263   Pn      Pn       21 48 13.7 -2.3
BMW                               eSg      Sn       21 49 56.2  +29
PGC   Sidney            6.22 283  eSg      Sn       21 49 57.8  +30
      54nm,0.7s
SSOR  Sweet Springs     6.27 247  ePn      Pn       21 48 18.1 +0.9
HWUT  Hardware Ranch    6.28 161  ePn      Pn       21 48 19.5 +2.3
OCWA  Octopus Mounta    6.67 275   Pn      Pn       21 48 27.2 +4.5
DGMT  Dagmar            6.84  79   Pn      Pn       21 48 25.3 +0.1
DGMT                              ePg      Pn       21 48 45.3  +20
DGMT                              eSg      Sn       21 50 11.8  +28
ELK   Elko              6.86 186  ePn      Pn       21 48 25.9 +0.5
ELK                               ePg      Pn       21 48 47.4  +22
ELK                               eSg      Sn       21 50 14.7  +31
DAU   Daniels Canyon    7.49 162   P       Pn       21 48 36.7 +2.5
YKA   Yellowknife Ar   14.96 359   Pn      P        21 50 10.3 -4.7
      0.3nm,0.3s,baz=174,slow=13,SNR=5.8
ILAR  Eielson Array    24.58 326   P       P        21 52 05.0 +2.2
      0.3nm,0.6s,baz=126,slow=7.8,SNR=3.9
KDAK  Kodiak Island    25.02 308   P       P        21 52 06.0 -1.1
      284nm,0.4s,SNR=63
```

CASC 26 21:59:29.5±2.0, **12.02N×87.82W, $h35^{km}$**$\pm22^{km}$, **MD3.7, 1C, Near coast of Nicaragua**

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Code  Station Name      Δ°   AZ°    Phase ID          Time     Res
                                   Op      ISC       h  m  s   ISC
CNCH  Conchagua         1.25 359⇑eP       P        21 59 50.1 -0.5
CNCH                              eS       S        22 00 06.4 -0.1
BLLM  Bellamira         1.47 344  eP       P        21 59 52.6 -1.3
BLLM                              eS       S        22 00 11.9 -0.2
MGAN  Managua           1.54  85  eP       P        21 59 54.6 -0.3
MGAN                              eS       S        22 00 13.6 -0.4
TICN  Ticuantepe        1.55  89  eP       P        21 59 54.6 -0.4
TICN                              eS       S        22 00 14.3 +0.1
WILN  Americas 2        1.60  85  eP       P        21 59 55.4 -0.3
WILN                              eS       S        22 00 15.4  0.0
CAHU  Cacacuatique      1.78 348  eP       P        21 59 58.9 +0.6
CAHU                              eS       S        22 00 21.5 +1.6
PYTN  Playitas          1.79  73  eP       P        21 59 57.5 -1.0
PYTN                              eS       S        22 00 21.8 +1.4
SNVI  San Vicente       1.87 328  eP       P        22 00 01.3 +1.7
SNVI                              eS       S        22 00 21.8 -0.4
LCBS  La Ceiba          1.98 325  eP       P        22 00 01.1  0.0
LCBS                              eS       S        22 00 25.5 +0.5
LFRS  El Faro           2.00 323  eP       P        22 00 01.8 +0.3
LFRS                              eS       S        22 00 25.8 +0.2
CONN  Concepcion        2.19 102  eP       P        22 00 03.0 -1.2
SBLS  San Blas          2.52 316  eP       P        22 00 07.6 -1.4
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*IDC **26** 22:50:00.9±0.8, 37.61N×31.85W, mb3.9/12, mb1 4.1/12, mb1mx4.0/22, MS4.1/22, Ms1 4.1/22, ms1mx4.0/25, Error ellipse: s-maj=25.9km s-min=18.5km az=161.0*

*NEIC **26** 22:50:02.5±0.5, 37.55N×31.78W, $h10^{km}$, mb4.7/4, Error ellipse: s-maj=15.8km s-min=8.6km az=180.0*

*ZUR_RM **26** 22:50:02, 37.55N×31.78W, $h12^{km}$, Mw5.0/5, Moment Tensor Solution. s5 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.04; $M_{\theta\theta}$1.58; $M_{\phi\phi}$1.46; $M_{r\theta}$-1.79; $M_{\theta\phi}$0.13; $M_{\phi r}$-0.91; Best double couple: $M_0 3.09\times10^{16}$ NP1: $\phi_s 62°$, $\delta 65°$, λ-89°. NP2: $\phi_s 240°$, $\delta 25°$, λ-91°. Principal axes: T 2.406, Plg20°,* *Azm152°; N 1.373, Plg1°, Azm242°; P -3.78, Plg70°, Azm333°;*

ISC 26 22:50:00.1±0.6**, 37.5N**±0.1×**31.56W**±0.06**, h10^{km}, n46, σ1^{s}20**/32**, mb4.1**/16**, MS4.1**/22**, Azores Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CALA	Caldeira	2.50	63	eS	Pn	22 50 40.8	-0.8
PICO	Pico	2.67	67	eS	Pn	22 50 43.3	-0.7
PID	Ribeirinha	2.88	70	e-	Pn	22 50 44.4	-2.5
SET2	Ginetes	4.58	84	eS	Pn	22 51 09.9	-1.1
SET4	Mosteiros	4.58	83	eS	Pn	22 51 09.5	-1.7
CML	Cha da Macela	4.78	85	eS	Pn	22 51 14.1	+0.2
PVER	Pico Vermelho	4.81	85	eS	Pn	22 51 13.7	-0.6
LFA	Lagoa do Fogo	4.83	85	eS	Pn	22 51 14.2	-0.4
MESC	Monte Escuro	4.86	85	eS	Pn	22 51 14.5	-0.6
SFS	San Fernando	20.27	85	eP	P	22 54 28.8	-10
ESDC	Sonseca Array	21.65	76	P	P	22 54 54.4	+1.8
	4.9nm,1.1s,mb3.8,baz=286,slow=9.6,SNR=12						
ESDC				LR	LR	23 01 39.7	
	comp=Z,353nm,19.4s,MS3.8,baz=255,slow=32						
ESLA	Sonseca Array	21.65	76	eP	P	22 54 54.1	+1.5
	7.4nm,1.4s,mb3.9						
SCHQ	Schefferville	29.54	317	LR	LR	23 06 20.7	
	comp=Z,827nm,21.2s,MS4.3,baz=283,slow=33						
GRA1	Grafenberg Arr	32.86	54	eP	P	22 56 37.0	+1.1
	12nm,1.5s,mb4.6						
GERES	GERESS Array B	34.42	56	P	P	22 56 52.3	+2.8
	0.6nm,0.9s,mb3.5,baz=256,slow=4.0,SNR=3.3						
NOA	NORSAR Array B	35.55	35	LR	LR	23 09 14.4	
	comp=Z,118nm,18.8s,MS3.7,baz=270,slow=32						
JMIC	Jan Mayen	35.66	13	LR	LR	23 08 01.8	
	comp=Z,500nm,21.4s,MS4.2,baz=140,slow=30						
SJG	San Juan	35.90	247	LR	LR	23 07 33.4	
	comp=Z,174nm,21.9s,MS3.8,baz=82,slow=30						
SADO	Sadowa	36.14	297	LR	LR	23 09 25.3	
	comp=Z,335nm,21.1s,MS4.1,baz=94,slow=32						
DBIC	Dimbokro	39.12	135	P	P	22 57 32.5	+2.9
	3.6nm,1.2s,mb4.0,baz=334,slow=11,SNR=3.5						
DBIC				LR	LR	23 12 36.2	
	comp=Z,368nm,18.4s,MS4.2,baz=270,slow=34						
DBIC	Dimbokro	39.12	135	eP	P	22 57 32.7	+3.2
DBIC				LR	LR	23 12 36.2	
FINES	FINESS Array B	42.60	37	LR	LR	23 14 22.6	
	comp=Z,152nm,19.3s,MS3.9,baz=245,slow=34						
ARCES	ARCESS Array B	43.99	25	P	P	22 58 09.9	+1.1
	1.2nm,0.8s,mb3.7,baz=270,slow=12,SNR=3.1						
ARCES				LR	LR	23 12 25.3	
	comp=Z,185nm,20.9s,MS4.0,baz=115,slow=31						
AKASG	Malin Array Be	44.38	53	P	P	22 58 12.8	+0.6
	0.5nm,0.7s,mb3.4,baz=271,slow=8.4,SNR=4.4						
ULM	Lac du Bonnet	46.69	307	LR	LR	23 17 53.9	
	comp=Z,287nm,19.4s,MS4.2,baz=67,slow=36						
BRTR	Keskin Array B	49.97	66	LR	LR	23 19 12.8	
	comp=Z,73nm,19.9s,MS3.7,baz=305,slow=35						
ROSC	El Rosal	50.74	241	LR	LR	23 18 21.6	
	comp=Z,170nm,20.5s,MS4.0,baz=59,slow=34						
YKA	Yellowknife Ar	54.44	325	LR	LR	23 20 47.5	
	comp=Z,247nm,18.0s,MS4.3,baz=65,slow=34						
JTS	JuntasAbangare	54.95	255	LR	LR	23 18 21.8	
	comp=Z,181nm,19.6s,MS4.2,baz=358,slow=31						
BDFB	Brasilia	55.07	199	LR	LR	23 19 45.4	
	comp=Z,210nm,18.7s,MS4.2,baz=202,slow=32						
PDAR	Pinedale Array	57.87	302	P	P	22 59 52.0	-2.2
	2.0nm,1.1s,mb4.1,baz=63,slow=6.6,SNR=9.0						
PDAR				LR	LR	23 23 23.7	
	comp=Z,468nm,21.0s,MS4.6,baz=79,slow=35						
TXAR	Lajitas Array	59.42	285	P	P	23 00 04.5	-0.8
	5.9nm,1.3s,mb4.5,baz=90,slow=6.3,SNR=5.9						
TXAR				LR	LR	23 23 04.7	
	comp=Z,192nm,18.6s,MS4.3,baz=65,slow=34						
DAU	Daniels Canyon	60.00	300	P	P	23 00 09.6	+0.5
NEW	Newport	60.53	310	LR	LR	23 24 51.1	
	comp=Z,142nm,18.7s,MS4.1,baz=225,slow=35						
NEW	Newport	60.53	310	eP	P	23 00 12.0	-0.6
	31nm,1.8s,mb5.1						
DUG	Dugway	61.17	300	eP	P	23 00 16.7	-0.3
	11nm,1.4s,mb4.8						
MSU	Marysvale	61.48	298	P	P	23 00 19.4	+0.3
LPAZ	La Paz	63.61	220	P	P	23 00 34.0	+0.4
	6.0nm,1.1s,mb4.5,baz=22,slow=12,SNR=12						
LPAZ				LR	LR	23 24 42.3	
	comp=Z,98nm,19.7s,MS4.0,baz=54,slow=33						
LPAZ	La Paz	63.61	220	eP	P	23 00 32.8	-0.9
	7.6nm,1.0s,mb4.7						
LPAZ				LR	LR	23 24 42.3	
WVOR	Wild Horse Val	64.06	305	eP	P	23 00 35.7	-0.5
DAWY	Dawson	64.07	332	P	P	23 00 34.6	-1.3
ILAR	Eielson Array	66.31	335	P	P	23 00 49.9	-0.4
	0.5nm,0.8s,mb3.6,baz=43,slow=5.2,SNR=4.2						
CPUP	Villa Florida	67.95	205	LR	LR	23 26 45.5	
	comp=Z,74nm,20.3s,MS3.9,baz=234,slow=32						
ZAL	Zalesovo	73.74	33	P	P	23 01 37.1	+1.4
	0.5nm,0.3s,mb3.9,baz=297,slow=4.9,SNR=3.5						
ZAL				LR	LR	23 33 18.0	
	comp=Z,88nm,18.4s,MS4.1,baz=180,slow=35						
MKAR	Makanchi Array	77.33	40	P	P	23 01 57.9	+1.6
	1.0nm,1.0s,mb3.7,baz=90,slow=1.2,SNR=3.9						
MKAR				LR	LR	23 36 19.0	
	comp=Z,128nm,18.0s,MS4.3,baz=330,slow=36						
SONM	Songino Array	87.14	27	P	P	23 02 48.3	+1.2
	1.5nm,1.1s,mb4.1,baz=326,slow=4.5,SNR=6.7						

IDC 26 22:50:43.3±3.0**, 16.06S**×**174.28W, mb3.8**/4**, mb1 4.2**/4**, mb1mx3.9**/11**, MS3.7**/1**, Ms1 3.7**/1**, ms1mx3.0**/19**, Error ellipse: s-maj=165.0km s-min=28.1km az=147.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	37.67	258	LR	LR	23 11 14.2	
	comp=Z,100nm,18.6s,baz=227,slow=33						
WRA	Warramunga Arr	48.87	257	P	P	22 59 30.8	-2.2
	0.1nm,0.4s,baz=93,slow=6.7,SNR=6.3						
ASAR	Alice Springs	49.10	252	P	P	22 59 33.0	-1.8
	1.6nm,0.6s,baz=88,slow=8.2,SNR=23						
ILAR	Eielson Array	83.25	11	P	P	23 03 11.2	-1.5
	0.6nm,0.5s,baz=219,slow=5.8,SNR=4.7						
PDAR	Pinedale Array	83.32	42	P	P	23 03 12.5	-1.0
	1.1nm,0.7s,baz=180,slow=1.5,SNR=7.8						
BRTR	Keskin Array B	146.12	320	PKPbc	PKPbc	23 10 25.3	-0.4
	0.6nm,0.8s,baz=133,slow=1.6,SNR=4.9						

IDC 26 22:53:04.2±10.0**, 6.19S**×**149.70E, mb3.4**/4**, mb1 3.6**/4**, mb1mx3.5**/11**, Error ellipse: s-maj=168.0km s-min=66.9km az=38.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	20.24	226	P	P	22 57 42.1	-1.8
	0.3nm,0.4s,baz=52,slow=10,SNR=5.4						
ASAR	Alice Springs	23.08	220	P	P	22 58 11.4	-1.4
	0.1nm,0.5s,baz=49,slow=9.6,SNR=3.4						
FITZ	Fitzroy Crossi	26.29	241	P	P	22 58 41.6	-1.9
	0.9nm,0.3s,baz=53,slow=9.6,SNR=7.5						
STKA	Stephens Creek	26.65	196	P	P	22 58 44.8	-1.9
	0.9nm,0.5s,baz=14,slow=8.3,SNR=4.0						

*NEIC **26** 22:56:54.2±1.5, 6.99S×129.71E, h56^{km}±15^{km}, mb4.6/6, Error ellipse: s-maj=16.9km s-min=9.2km az=59.0*

*IDC **26** 22:56:55.2±4.3, 7.02S×129.67E, h64^{km}±38^{km}, mb3.8/8, mb1 4.0/9, mb1mx3.9/12, ML4.8/3, Error ellipse: s-maj=49.3km s-min=17.1km az=65.0*

ISC 26 22:57:04.5±2.5**, 7.58S**±0.09×**129.58E**±0.10**, h191**^{km}±28^{km}**, n26, σ0^{s}84**/27**, mb4.0**/13**, 1C, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.14	200	P	P	22 59 39.0	-0.5
	8.2nm,0.3s,baz=18,slow=10,SNR=141						
FITZ				S	S	23 01 39.8	-1.4
	7.4nm,0.3s,baz=165,slow=17,SNR=8.3						
WRAB	Tennant Creek	13.12	160	⇑eP	P	23 00 04.6	-0.1
	26nm,0.4s						
WRAB				eS	S	23 02 23.5	-3.3
WRA	Warramunga Arr	13.13	160	P	P	23 00 04.5	-0.3
	7.4nm,0.3s,baz=343,slow=14,SNR=153						
WRA				S	S	23 02 26.7	-0.2
	4.1nm,0.3s,baz=333,slow=23,SNR=10.0						
MBWA	Marble Bar	16.52	214	eP	P	23 00 48.8	+1.9
MBWA				eS	S	23 03 44.1	+0.6
ASAR	Alice Springs	16.53	166	P	P	23 00 49.3	+2.3
	2.0nm,0.3s,baz=341,slow=9.9,SNR=80						
ASAR				S	S	23 03 49.9	+6.3
	1.4nm,0.3s,baz=317,slow=18,SNR=7.7						
STKA	Stephens Creek	26.64	157	P	P	23 02 33.4	+5.9
	0.9nm,0.4s,mb3.8,baz=330,slow=14,SNR=2.1						
STKA	Stephens Creek	26.64	157	P	P	23 02 33.4	+5.9
NWAO	Narrogin (SRO)	27.70	203	P	P	23 02 43.0	+5.9
CM31	Chiang Mai Arr	39.79	311	eP	P	23 04 20.4	-0.3
	1.2nm,0.5s,mb3.8						
CMAR	Chiang Mai Arr	39.79	311	P	P	23 04 20.5	-0.1
	2.0nm,0.6s,mb3.9,baz=137,slow=7.0,SNR=16						
PKI	Pulchoki	55.19	311	eP	P	23 06 19.7	-0.1
	9.7nm,0.6s,mb4.7						
KKN	Kakani	55.40	311	eP	P	23 06 21.1	-0.2
	7.4nm,0.6s,mb4.6						
DMN	Daman	55.43	311	eP	P	23 06 22.2	+0.7
GKN	Gorkha	55.99	311	eP	P	23 06 24.7	-0.8
	9.4nm,0.2s						
KOLN	Koldanda	56.65	310	eP	P	23 06 29.6	-0.6
	5.9nm,0.3s,mb4.8						
SONM	Songino Array	58.86	342	P	P	23 06 44.8	-0.5
	0.4nm,0.4s,mb3.6,baz=160,slow=6.9,SNR=7.3						
MKAR	Makanchi Array	68.48	327	P	P	23 07 48.1	+0.1
	4.3nm,0.5s,mb4.5,baz=116,slow=8.4,SNR=69						
MKAR				PcP	PcP	23 08 13.1	+1.1
	1.4nm,0.8s,baz=140,slow=3.3,SNR=4.2						
ZAL	Zalesovo	71.92	334	P	P	23 08 08.3	-0.3
	0.6nm,0.5s,mb3.6,baz=247,slow=11,SNR=3.2						
MAW	Mawson	74.26	201	P	P	23 08 27.4	+5.4
	1.2nm,0.6s,mb3.8,baz=96,slow=11,SNR=4.0						
BVAR	Borovoye Array	78.33	328	P	P	23 08 45.6	+0.7
	0.7nm,0.4s,mb3.6,baz=132,slow=11,SNR=6.7						
ZRNK	Zerenda	79.02	328	eP	P	23 08 48.3	-0.3
	2.2nm,0.9s,mb3.8						
ILAR	Eielson Array	94.04	25	P	P	23 10 02.1	+0.5
	0.3nm,0.6s,mb3.6,baz=270,slow=4.5,SNR=4.3						
CPUP	Villa Florida	145.63	169	PKPbc	PKPbc	23 16 29.0	+7.4
	1.0nm,0.6s,baz=155,slow=4.2,SNR=7.0						
CPUP	Villa Florida	145.63	169	ePKPbc	PKPbc	23 16 29.1	+7.5
LPAZ	La Paz	150.51	144	PKPbc	PKPab	23 16 42.6	-1.3
	3.2nm,0.3s,baz=51,slow=4.0,SNR=18						
LPAZ	La Paz	150.51	144	ePKPbc	PKPab	23 16 42.8	-1.2

*IDC **26** 23:03:49.0±3.7, 7.49N×76.98W, h87^{km}±36^{km}, mb3.4/5, mb1 3.7/6, mb1mx3.5/18, MS3.1/2, Ms1 3.1/2, ms1mx2.7/24, Error ellipse: s-maj=51.6km s-min=23.8km az=67.0*

*NEIC **26** 23:03:48.5±1.5, 7.38N×77.06W, h88^{km}±16^{km}, mb3.9/2, Error ellipse: s-maj=22.2km s-min=12.6km az=60.0*

ISC 26 23:03:44.3±2.1**, 7.52N**±0.09×**76.89W**±0.09**, h59**^{km}±23^{km}**, n15, σ0^{s}96**/13**, mb3.7**/7**, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ROSC	El Rosal	3.67	136	P	P	23 04 44.5	+4.6
	6.0nm,0.3s,baz=80,slow=19,SNR=11						
ROSC				Lg		23 05 46.0	
	15nm,0.3s,baz=52,slow=23,SNR=4.5						
ROSC				LR	LR	23 06 28.0	
	comp=Z,298nm,18.1s,baz=246,slow=43						
SDV	Santo Domingo	6.34	77	ePn	P	23 05 18.8	+1.6
	8.2nm,0.3s						
SDV				eSn	S	23 06 28.1	-0.9
OTAV	Otavalo	7.39	192	eP	P	23 05 31.4	-0.6
	6.3nm,0.6s						
JTS	JuntasAbangare	8.43	290	LR	LR	23 09 00.0	
	comp=Z,93nm,19.9s,baz=349,slow=37						
SAML	Samuel	21.30	140	eP	P	23 08 26.9	-1.2
	3.1nm,0.9s,mb3.6						
LPAZ	La Paz	25.19	160	P	P	23 09 07.5	+1.4
	0.8nm,0.8s,mb3.3,baz=346,slow=8.3,SNR=3.4						
CCM	Cathedral Cave	33.07	339	P	P	23 10 15.4	-1.1
	4.1nm,0.9s,mb4.4						
TXAR	Lajitas Array	33.26	314	P	P	23 10 18.3	+0.1
	0.3nm,0.7s,mb3.3,baz=106,slow=6.6,SNR=2.4						
SDCO	Great Sand Dun	39.72	324	eP	P	23 11 13.4	+0.8
PDAR	Pinedale Array	45.37	326	P	P	23 11 58.3	-0.3
	0.6nm,0.7s,mb3.5,baz=131,slow=9.6,SNR=3.1						
ILAR	Eielson Array	74.77	335	P	P	23 15 19.1	-0.4
	0.6nm,0.7s,mb3.7,baz=114,slow=4.0,SNR=4.9						
ARCES	ARCESS Array B	87.32	20	P	P	23 16 26.3	+0.8
	0.9nm,0.6s,mb4.2,baz=281,slow=6.2,SNR=11						
ARCES	ARCESS Array B	87.32	20	P	P	23 16 26.3	+0.8
ASAR	Alice Springs	146.39	238	PKPbc	PKPbc	23 23 20.2	+0.9
	0.9nm,0.5s,baz=118,slow=3.7,SNR=15						
WRA	Warramunga Arr	147.32	245	PKPbc	PKPdf	23 23 21.7	+1.9
	0.8nm,0.7s,baz=99,slow=2.3,SNR=8.5						

*BER **26** 23:19:06.4±4.0, 67.80N×20.14E, ML1.6, Suspected explosion*

HEL 26 23:19:05.8±0.1**, 67.83N**×**20.22E, ML1.7, ML2.3**(UPP)**, ML1.8**(BER)**, Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUA	Kurravaara	0.14	19	i P	Pg	23 19 08.2	-0.3
KUA				i S	Sg	23 19 10.2	-0.1
NIKU	Nikkaluokta	0.45	276	i P	Pg	23 19 13.5	-1.3
DUNU	Dundret	0.72	169	i P	Pg	23 19 18.5	-1.6
MASU	Masugnsbyn	0.78	118	i P	Pg	23 19 19.7	-1.6
KIF	Kilpisjarvi	1.20	10	eP	Pb	23 19 28.3	-0.9
KIF				eS	Sb	23 19 44.4	-0.8
KTK1	Kautokeino	1.63	42	eP	Pn	23 19 36.8	+0.8
KTK1				eSN	Sn	23 19 57.8	-0.2
KTK1				AML	AML	23 20 01.9	
	comp=Z,7.8nm,0.3s						
TRO	Tromso	1.88	346	eP	Pn	23 19 38.3	-1.2
TRO				eSN	Sn	23 20 03.4	-0.8
TRO				AML	AML	23 20 05.8	
	comp=Z,6.7nm,0.4s						
SGF	Sodankyl	2.44	96	eP	Pn	23 19 46.6	-0.9
SGF				eS	Sn	23 20 16.3	-2.3
LOF	Lofoten	2.54	280	eSG	Sg	23 20 27.3	-2.9
MELS	Mels	2.69	252	eSg	Sg	23 20 27.6	-7.9
MOR8	Moi Rana	2.81	236	eSG	Sg	23 20 27.9	-12
MOR8				AML	AML	23 20 29.2	
	comp=Z,9.0nm,0.4s						
KEV	Kevo	3.14	49	eP	Pn	23 19 56.5	-1.0
KEV				eS	Sn	23 20 32.9	-3.3
KEV				MSG		23 20 41.7	
	comp=Z,2.3nm,0.3s						
BURU	Burvik	3.29	171	eP	Pn	23 19 59.2	-0.4
SVAU	Svanoeiden	3.36	185	eP	Pn	23 20 00.5	-0.1
OUL	Oulu	3.57	138	eSG	Sg	23 20 55.3	-9.4
MSF	Maaselka	3.98	115	eSG	Sg	23 21 06.2	-12
MSF				MSG		23 21 13.3	
	comp=Z,0.9nm,0.3s						
BREU	Bredtraesk	4.01	190	eP	Pn	23 20 09.0	-0.8
NSS	Namsos	4.70	229	eSG	Sg	23 21 30.6	-12

MEX 26 23:31:53.1±0.4**, 15.91N**×**97.73W, h16**^{km}±25^{km}**, MD3.5, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.61	322	i P	Pb	23 32 02.8	-2.1
PNIG				i S	Sb	23 32 10.9	-2.1
VHO	Vista Hermosa	1.50	40	i P	Pn	23 32 16.0	-3.6
VHO				i S	Sb	23 32 33.4	-5.3
OXX	Oaxaca	1.51	40	i P	Pn	23 32 15.0	-4.7
OXX				i S	Sb	23 32 33.0	-6.1

*NEIC **27** 00:07:15.6±1.1, 30.85S×178.03W, h50^{km}, mb4.4/3, Error ellipse: s-maj=33.9km s-min=21.8km az=212.0*

*IDC **27** 00:07:16.1±8.9, 31.63S×178.00W, h59^{km}±81^{km}, mb4.0/4, mb1 4.2/6, mb1mx3.9/13, ML3.6/2, Error ellipse: s-maj=62.2km s-min=47.9km az=0.0*

ISC 27 00:07:19.6±2.4**, 31.76S**±0.10×**178.9W**±0.2**, h50**^{km}±19^{km}**, n22, σ0^{s}86**/20**, mb4.3**/6**, 2C, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	6.22	201	eP	P	00 08 51.5	+0.4
MWZ	Matawai	7.18	203	eP	P	00 09 04.0	-0.5
MWZ				S	S	00 10 32.6	+7.1
URZ	Urewera	7.26	206	P	P	00 09 05.8	+0.2
	0.8nm,0.3s,baz=302,slow=9.5,SNR=6.7						
URZ				S	S	00 10 32.7	+5.3
	7.7nm,0.3s,baz=182,slow=22,SNR=13						
URZ	Urewera	7.26	206	eP	P	00 09 05.7	+0.1
NGZ	Ngauruhoe	8.64	210	eP	P	00 09 23.7	-1.0
KIW	Kapiti Island	10.35	207	eS	S	00 11 43.2	-0.6
NNZ	Nelson	11.29	211	S	S	00 12 06.8	+0.4
RPZ	Rata Peaks	14.31	211	P	P	00 10 42.2	+1.3
	0.3nm,0.3s,baz=17,slow=19,SNR=2.1						
RPZ				S	S	00 13 13.8	-5.2
	0.4nm,0.3s,baz=50,slow=16,SNR=3.3						
CTA	Charters Tower	33.26	282	P	P	00 13 55.8	+1.3
	2.8nm,0.7s,mb4.3,baz=86,slow=12,SNR=3.2						
CTAO	Charters Tower	33.26	282	P	P	00 13 55.2	+0.8
	1.6nm,0.5s,mb4.2						
STKA	Stephens Creek	33.42	259	P	P	00 13 57.4	+1.7
	1.1nm,0.4s,mb4.1,baz=93,slow=12,SNR=5.9						
ASAR	Alice Springs	42.26	269	P	P	00 15 09.4	-0.5
	1.9nm,0.6s,mb3.9,baz=111,slow=7.6,SNR=15						
WRAB	Tennant Creek	43.37	274	eP	P	00 15 17.8	-1.2
	6.0nm,0.6s,mb4.5						
WRA	Warramunga Arr	43.38	274	P	P	00 15 18.0	-1.0
	4.2nm,0.4s,mb4.5,baz=113,slow=7.8,SNR=16						
QSPA	South Pole Qui	58.36	180	eP	P	00 17 11.9	+0.4
	1.5nm,0.5s,mb4.3						
VNA3	Neumayer Olymp	77.01	176	e	Px	00 19 14.0	
VNA3	Neumayer Olymp	77.01	176	⇑iP	P	00 19 07.4	-0.8
VNA3				e		00 19 14.0	
VNA2	Neumayer--Watz	77.43	177	e	Px	00 19 17.8	
VNA2	Neumayer--Watz	77.43	177	⇑iP	P	00 19 11.0	+0.4
VNA2				e		00 19 17.8	
ARCES	ARCESS Array B	139.74	347	PKP	PKPdf	00 26 33.6	-7.6
	0.8nm,0.9s,baz=45,slow=1.7,SNR=3.6						
KAF	Kangasniemi	145.54	339	ep	PKPdf	00 26 45.8	-5.6
FINES	FINESS Array B	146.13	339	PKPbc	PKPbc	00 26 48.9	-4.7
	2.9nm,0.5s,baz=48,slow=4.1,SNR=27						

CASC 27 00:23:08.3±1.7**, 13.34N**×**90.20W, h27**^{km}±5^{km}**, MD3.6, 3C-2D, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SBLS	San Blas	0.75	48	⇑eP	Pb	00 23 23.2	+0.5
SBLS				eS	Sb	00 23 33.9	+1.3
RTR	El Retiro	0.77	44	⇑eP	Pb	00 23 23.6	+0.5
RTR				eS	Sb	00 23 35.0	+1.8
SNJE	San Jose	0.78	48	⇑eP	Pb	00 23 23.6	+0.4
SNJE				eS	Sb	00 23 35.0	+1.5
IXG	Ixpaco	0.87	344	⇓eP	Pb	00 23 24.1	-0.6
IXG				eS	Sb	00 23 36.6	+0.7
BOQS	Boqueron	0.98	66	eP	Pn	00 23 26.0	-0.4
BOQS				eS	Sb	00 23 40.6	+1.6
LFRS	El Faro	1.14	76	eP	Pn	00 23 27.9	-0.8
LFRS				eS	Sn	00 23 43.6	0.0
LBRS	Las Brisas	1.19	70	eP	Pn	00 23 29.4	0.0
LBRS				eS	Sn	00 23 46.4	+1.5
LCBS	La Ceiba	1.23	75	eP	Pn	00 23 29.2	-0.7
LCBS				eS	Sn	00 23 46.1	+0.4
SNVI	San Vicente	1.35	78	⇓eP	Pn	00 23 31.8	+0.1
SNVI				eS	Sn	00 23 49.6	+0.7
TP2	Tecpan 2	1.64	331	eP	Pn	00 23 35.8	0.0
TP2				eS	Sn	00 23 57.4	+1.2
JAT	Jato	1.70	305	eP	Pn	00 23 35.5	-1.2
JAT				eS	Sn	00 23 59.2	+1.4
BLLM	Bellamira	1.91	87	eP	Pn	00 23 40.9	+1.2
CAHU	Cacacuatique	1.98	77	eP	Pn	00 23 40.2	-0.5
CNCH	Conchagua	2.31	91	eP	Pn	00 23 43.9	-1.5
CNCH				eS	Sn	00 24 13.4	+0.3

*STR **27** 00:45:29.2±0.5, 42.33N×2.14E, h5^{km}±1^{km}, Ml2.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*NEIC **27** 00:45:29.2, 42.33N×2.14E, h5^{km}, ML2.6(STR), ML2.4(LDG), MN1.9(MDD), After STR.*

*MDD **27** 00:45:30.0±0.2, 42.34N×2.15E, h4^{km}±2^{km}, mbLg2.1/18, Error ellipse: s-maj=1.9km s-min=1.4km az=177.0, PRXIMO AftershockPLICA*

*LDG **27** 00:45:30.3±0.2, 42.35N×2.15E, h4^{km}, Md2.7/3, Ml2.4/22, Error ellipse: s-maj=2.9km s-min=1.7km az=177.0*

ISC 27 00:45:28.2±0.3**, 42.44N**±0.02×**2.17E**±0.02**, h7**^{km}±2^{km}**, n56, σ1^{s}42**/121**, 1D, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VALF	Valcebollere	0.12	249	Pg	Pg	00 45 31.8	+1.0
VALF				Sg	Sg	00 45 33.5	+0.9
VALF	Valcebollere	0.12	249	P	Pg	00 45 31.9	+1.0
VALF				S	Sg	00 45 33.5	+0.8
CLLI	Llivia	0.15	284	Pg	Pg	00 45 33.2	+1.8
CLLI				Lg		00 45 35.9	
	100nm,0.1s						
CBRU	Bruguera	0.16	176	Pg	Pg	00 45 31.0	-0.6
CBRU				Lg		00 45 32.3	
	225nm,0.1s						
CARF	Carcanieres	0.28	351	P	Pg	00 45 37.0	+3.2
CARF				S	Sg	00 45 42.2	+4.6
FILF	Fillols	0.31	68	Pg	Pg	00 45 35.4	+0.8
FILF				Sg	Sg	00 45 39.5	+0.7
FILF	Fillols	0.31	68	P	Pg	00 45 35.4	+0.9
FILF				S	Sg	00 45 39.5	+0.7
SJAF	Saint Jean de	0.53	85	Pg	Pg	00 45 40.0	+1.1
SJAF	Saint Jean de	0.53	85	P	Pg	00 45 40.2	+1.4
SJAF				S	Sg	00 45 47.9	+1.9
EJON	La Jonquera	0.54	89	Pg	Pg	00 45 40.3	+1.4
	2.6nm,0.1s,SNR=22						
EJON				Lg		00 45 47.9	
	5.2nm,0.1s,SNR=7.9						
EJON	La Jonquera	0.54	89	Pg	Pg	00 45 40.4	+1.4
EJON				Lg		00 45 47.9	
LRDF	Laroque-de-Fa	0.56	29	Pg	Pg	00 45 42.3	+2.8
LRDF				Sg	Sg	00 45 52.3	+5.2
LRDF	Laroque-de-Fa	0.56	29	P	Pg	00 45 42.4	+2.9
LRDF				S	Sg	00 45 52.0	+4.9
GRBF	Gourbit	0.61	311	P	Pg	00 45 42.9	+2.5
CORG	Organya	0.66	252	Pg	Pg	00 45 41.2	-0.3
CORG				Lg		00 45 50.3	
	3.7nm,0.0s						
EMIR	Miracle	0.71	222	⇓Pg	Pg	00 45 41.4	-1.0
	3.3nm,0.1s,SNR=18						
EMIR				Lg		00 45 50.6	
	14nm,0.1s,SNR=5.0						
CSOR	Sort	0.77	265	Pg	Pg	00 45 43.6	+0.1
CSOR				Lg		00 45 53.9	
	8.8nm,0.2s						
SALF	Salau	0.79	294	Pg	Pg	00 45 45.2	+1.3
SALF	Salau	0.79	294	P	Pb	00 45 45.3	+1.5
SALF				S	Sb	00 45 55.8	+1.4
MTLF	Montolieu	0.90	2	ePg	Pg	00 45 48.3	+2.2
MTLF				ePn	Pn	00 45 49.3	+2.3
MTLF				eSg	Sg	00 46 01.8	+3.7
	22nm,0.3s						
MTLF	Montolieu	0.90	2	Pg	Pg	00 45 48.3	+2.2
MTLF				Lg		00 46 01.8	
	11nm,0.3s						
MELF	Melles	1.12	293	Pg	Pg	00 45 51.6	+1.0
MELF	Melles	1.12	293	P	Pb	00 45 51.2	+1.7
MELF				S	Sb	00 46 06.3	+2.2
CAVN	Les Avellanes	1.19	242	Pg	Pg	00 45 50.6	-1.4
CAVN				Lg		00 46 06.2	
	35nm,0.1s						
EPOB	Poblet	1.36	217	Pg	Pg	00 45 53.1	-2.3
	3.0nm,0.1s,SNR=37						
EPOB				Lg		00 46 09.8	
	16nm,0.1s,SNR=7.9						
CGAR	Garraf	1.38	214	Pg	Pg	00 45 49.6	-6.2
CGAR				Lg		00 46 03.6	
	8.9nm,0.1s						
RESF	Ens	1.40	286	S	Sb	00 46 18.1	+6.0
EPF	Esparros	1.47	294	ePn	Pn	00 45 56.4	+1.2
EPF				ePg	Pg	00 45 58.5	+1.0
EPF				eSn	Sn	00 46 15.2	+0.4
EPF				eSg	Sg	00 46 17.4	+0.3
	8.0nm,0.2s						
VIEF	Viey	1.64	286	S	Sn	00 46 22.0	+2.9
LASF	Ste Croix	2.05	37	ePn	Pn	00 46 04.2	+0.7
LASF				ePg	Pg	00 46 09.5	+0.4
LASF				eSn	Sn	00 46 30.9	+1.4
LASF				eSg	Sg	00 46 38.0	+1.7
	1.7nm,0.2s						
EBR	Ebro Roquetas	2.05	218	eSN	Sn	00 46 31.5	+1.9
ETSF	Etsaut	2.06	284	ePg	Pg	00 46 08.5	-0.8
ETSF				eSn	Sn	00 46 28.9	-0.9
ETSF				eSg	Sg	00 46 35.3	-1.5
	10nm,0.4s						
ESAC	San Caprasio	2.09	251	Pn	Pn	00 46 05.0	+0.9
	SNR=7.9						
ESAC				Pg	Pg	00 46 08.4	-1.6
	2.1nm,0.1s,SNR=7.9						
ESAC				Lg		00 46 34.1	

	30nm,0.2s,SNR=7.9						
CAF	**Calviac**	**2.48**	**358**	*e*Pn	**Pn**	**00 46 10.9**	**+1.2**
CAF				*e*Pg	**Pg**	**00 46 17.8**	**+0.1**
CAF				*e*Sn	**Sn**	**00 46 41.7**	**+1.1**
CAF				*e*Sg	**Sg**	**00 46 50.2**	**-0.6**
	3.7nm,0.2s						
SJPF	**Ste Jean**	**2.58**	**286**	*e*Pn	**Pn**	**00 46 11.2**	**+0.1**
SJPF				*e*Pg	**Pg**	**00 46 17.4**	**-2.4**
SJPF				*e*Sn	**Sn**	**00 46 41.5**	**-1.7**
SJPF				*e*Sg	**Sg**	**00 46 51.9**	**-2.3**
	2.8nm,0.2s						
LFF	**La Frestale**	**2.70**	**338**	*e*Pn	**Pn**	**00 46 14.6**	**+1.8**
LFF				*e*Pg	**Pg**	**00 46 21.9**	**-0.2**
LFF				*e*Sn	**Sn**	**00 46 46.1**	**0.0**
LFF				*e*Sg	**Sg**	**00 46 57.6**	**-0.5**
	7.5nm,0.3s						
EALK	**Alkurruntz**	**2.81**	**287**	Pn	**Pn**	**00 46 18.4**	**+4.1**
	SNR=7.9						
EALK				Pg	**Pg**	**00 46 23.7**	**-0.6**
	0.9nm,0.4s,SNR=4.0						
EALK				Sn	**Sn**	**00 46 54.2**	**+5.3**
	1.0nm,0.3s,SNR=7.9						
EALK				Lg		00 47 01.7	
	3.2nm,0.4s,SNR=7.9						
EMOS	**Mosqueruela**	**2.87**	**225**	Pn	**Pn**	**00 46 16.4**	**+1.2**
	0.6nm,0.4s,SNR=7.9						
EMOS				Pg	**Pg**	**00 46 22.7**	**-2.8**
	0.9nm,0.3s,SNR=7.9						
EMOS				Sn	**Sn**	**00 46 48.9**	**-1.6**
	0.7nm,0.2s,SNR=7.9						
EMOS				Lg		00 46 57.2	
	0.9nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**2.87**	**225**	Pn	**Pn**	**00 46 16.4**	**+1.2**
EMOS				Pg	**Pg**	**00 46 22.7**	**-2.8**
EMOS				Sn	**Sn**	**00 46 48.9**	**-1.6**
EMOS				Lg		00 46 57.2	
RJF	**Les Rejaudoux**	**2.90**	**351**	*e*Pn	**Pn**	**00 46 15.9**	**+0.3**
RJF				*e*Pg	**Pg**	**00 46 25.3**	**-0.7**
RJF				*e*Sn	**Sn**	**00 46 51.5**	**+0.4**
RJF				*e*Sg	**Sg**	**00 47 03.2**	**-1.5**
	4.3nm,0.2s						
SMRF	**Simiane la Rot**	**2.92**	**57**	*e*Pn	**Pn**	**00 46 17.4**	**+1.4**
SMRF				*e*Pg	**Pg**	**00 46 26.3**	**-0.3**
SMRF				*e*Sn	**Sn**	**00 46 50.5**	**-1.3**
SMRF				*e*Sg	**Sg**	**00 47 02.6**	**-3.0**
	0.6nm,0.3s						
VIVF	**Saint-Julien-l**	**3.02**	**36**	*e*Pn	**Pn**	**00 46 17.5**	**+0.1**
VIVF				*e*Pg	**Pg**	**00 46 27.5**	**-1.0**
VIVF				*e*Sn	**Sn**	**00 46 54.1**	**-0.1**
VIVF				*e*Sg	**Sg**	**00 47 07.4**	**-1.4**
	1.2nm,0.2s						
LMR	**La Mourre**	**3.31**	**73**	*e*Pn	**Pn**	**00 46 22.0**	**+0.5**
LMR				*e*Sn	**Sn**	**00 47 00.0**	**-1.6**
	7.7nm,0.8s						
FRF	**La Foret Royal**	**3.47**	**70**	*e*Pn	**Pn**	**00 46 24.7**	**+0.9**
FRF				*e*Sn	**Sn**	**00 47 04.0**	**-1.6**
ETOR	**Torete**	**3.56**	**244**	Pn	**Pn**	**00 46 25.2**	**+0.2**
	0.1nm,0.1s,SNR=4.0						
ETOR				Sn	**Sn**	**00 47 06.6**	**-1.2**
	1.0nm,0.2s,SNR=7.9						
ETOR				Lg		00 47 20.3	
	0.6nm,0.2s,SNR=7.9						
ORIF	**Oris-en-Rattie**	**3.66**	**46**	*e*Pn	**Pn**	**00 46 27.4**	**+1.0**
ORIF				*e*Sn	**Sn**	**00 47 08.8**	**-1.5**
	0.8nm,0.3s						
TCF	**Toulx Ste Croi**	**3.84**	**0**	*e*Pg	**Pg**	**00 46 43.1**	**-1.8**
TCF				*e*Sg	**Sg**	**00 47 34.4**	**-1.8**
	1.9nm,0.3s						
MBDF	**Montbardon**	**4.05**	**54**	*e*Pn	**Pn**	**00 46 31.7**	**-0.3**
MBDF				*e*Sn	**Sn**	**00 47 17.0**	**-3.3**
	0.5nm,0.3s						
SBF	**Sospel**	**4.11**	**68**	*e*Pn	**Pn**	**00 46 33.1**	**+0.3**
SBF				*e*Sn	**Sn**	**00 47 18.3**	**-3.4**
	1.4nm,0.3s						
BGF	**Bois d'Agland**	**4.14**	**7**	*e*Pn	**Pn**	**00 46 34.0**	**+0.7**
BGF				*e*Pg	**Pg**	**00 46 48.6**	**-2.3**
BGF				*e*Sg	**Sg**	**00 47 43.0**	**-3.1**
	6.9nm,0.3s						
SMF	**Signal de Mont**	**4.37**	**15**	*e*Pn	**Pn**	**00 46 36.6**	**+0.1**
SMF				*e*Pg	**Pg**	**00 46 53.5**	**-1.9**
SMF				*e*Sg	**Sg**	**00 47 48.9**	**-4.7**
	1.2nm,0.3s						
AVF	**Avril sur Loir**	**4.43**	**11**	*e*Pn	**Pn**	**00 46 38.1**	**+0.7**
AVF				*e*Pg	**Pg**	**00 46 54.2**	**-2.4**
AVF				*e*Sg	**Sg**	**00 47 52.4**	**-3.2**
	0.7nm,0.2s						
MFF	**Saint Martin d**	**4.47**	**339**	*e*Pn	**Pn**	**00 46 39.5**	**+1.5**
MFF				*e*Pg	**Pg**	**00 46 55.4**	**-2.1**
MFF				*e*Sn	**Sn**	**00 47 28.8**	**-2.2**
MFF				*e*Sg	**Sg**	**00 47 52.5**	**-4.6**
	1.0nm,0.3s						
PGF	**Pioggiola**	**5.05**	**87**	*e*Pn	**Pn**	**00 46 43.9**	**-2.3**
PGF				*e*Sn	**Sn**	**00 47 39.0**	**-6.6**
	1.1nm,0.2s						
ESDC	**Sonseca Array**	**5.40**	**241**	Pn	**Pn**	**00 46 49.6**	**-1.4**
	0.3nm,0.1s,baz=63,slow=14,SNR=3.5						
ESDC				Sn	**Sn**	**00 47 47.5**	**-6.8**
	0.3nm,0.2s,baz=129,slow=15,SNR=4.7						
ESDC				Lg		00 48 15.8	
	0.4nm,0.4s,SNR=7.9						
ROSF	**Rostrenen**	**7.03**	**329**	*e*Pn	**Pn**	**00 47 13.9**	**-0.1**
ROSF				*e*Pg	**Pg**	**00 47 39.3**	**-9.1**
ROSF				*e*Sn	**Sn**	**00 48 29.4**	**-5.6**
	0.4nm,0.2s						

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*NIED **27** 00:59:00, 32.30N×142.20E, h50^{km}, Mw4.3 Best double couple: M$_0$2.76×10^{15} NP1:φ$_s$132°, δ86°, λ106°. NP2: φ$_s$237°, δ16°, λ16°.*

*IDC **27** 00:59:07.4±1.0, 32.17N×142.27E, mb3.9/7, mb1 4.0/9, mb1mx3.8/20, ML3.7/2, Error ellipse: s-maj=28.0km s-min=21.6km az=74.0*

*NEIC **27** 00:59:09.0±0.7, 32.16N×142.23E, h10^{km}, mb4.1/2, Error ellipse: s-maj=18.0km s-min=11.8km az=46.0*

*JMA **27** 00:59:11.7±0.4, 32.34N×142.16E, h94^{km}, M3.5*

ISC 27 00:59:08.8±1.9**, 32.25N**±0.06×**142.20E**±0.08**, h20**^{km}±15^{km}**, n25, σ1^{s}14**/33**, mb3.9**/9**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.18**	**294**	P	**Pn**	**00 59 46.0**	**+1.3**
JHJ2				S	**Sn**	**01 00 13.2**	**+1.8**
JHJ	**Hachijo jima 2**	**2.21**	**294**	Pn	**Pn**	**00 59 45.9**	**+0.8**
	25nm,0.3s,baz=64,slow=21,SNR=11						
JHJ				Sn	**Sn**	**01 00 08.7**	**-3.4**
	65nm,0.3s,baz=241,slow=22,SNR=7.3						
BSO1	**Boso 1**	**2.60**	**337**	P	**Pn**	**00 59 51.4**	**+0.7**
BSO3	**Boso 3**	**2.91**	**331**	P	**Pn**	**00 59 56.2**	**+1.2**
BSO4	**Boso 4**	**3.14**	**331**	*e*S	**Sn**	**01 00 35.6**	**0.0**
JKO	**Kozu shima**	**3.21**	**308**	*e*S	**Sn**	**01 00 37.3**	**-0.1**
JOD2	**Odawara 2**	**3.96**	**320**	P	**Pn**	**01 00 10.0**	**0.0**
JOD2				S	**Sn**	**01 00 55.1**	**-1.4**
JRY	**Ryogami san**	**4.64**	**325**	P	**Pn**	**01 00 19.9**	**+0.2**
JRY				S	**Sn**	**01 01 12.8**	**-0.9**
JAG	**Ashikaga**	**4.74**	**332**	P	**Pn**	**01 00 21.2**	**+0.1**
CBIJ	**Chichi jima**	**5.14**	**180**	Pn	**Pn**	**01 00 24.4**	**-2.4**
	8.6nm,0.3s,baz=292,slow=21,SNR=15						
CBIJ				Sn	**Sn**	**01 01 19.8**	**-6.4**
	12nm,0.3s,baz=286,slow=20,SNR=3.0						
MAJO	**Matsushiro**	**5.40**	**323**	*e*Pn	**Pn**	**01 00 30.9**	**+0.5**
	16nm,0.4s						
MAT	**Matsushiro**	**5.40**	**323**	P	**Pn**	**01 00 31.1**	**+0.7**
MAT				S	**Sn**	**01 01 29.9**	**-2.9**
MAT	**Matsushiro**	**5.40**	**323**	P	**Pn**	**01 00 31.2**	**+0.8**
MAT				*e*S	**Sn**	**01 01 30.5**	**-2.3**
MAT	**Matsushiro**	**5.40**	**323**	*e*P	**Pn**	**01 00 31.0**	**+0.6**
MAT				*e*S	**Sn**	**01 01 30.0**	**-2.8**
JMM	**Marumori**	**5.72**	**349**	P	**Pn**	**01 00 33.6**	**-1.2**
JMK	**Ichinoseki**	**6.73**	**353**	P	**Pn**	**01 00 47.4**	**-1.7**
SONM	**Songino Array**	**31.19**	**310**	P	**P**	**01 05 29.7**	**+1.0**
	1.0nm,0.7s,mb3.7,baz=106,slow=8.3,SNR=6.8						
MKAR	**Makanchi Array**	**47.33**	**306**	P	**P**	**01 07 43.9**	**+0.9**
	8.9nm,1.2s,mb4.6,baz=89,slow=9.6,SNR=12						
KURK	**Kurchatov**	**49.48**	**312**	*e*P	**P**	**01 07 59.1**	**-0.5**
	2.6nm,0.8s,mb4.3						
WRA	**Warramunga Arr**	**52.44**	**189**	P	**P**	**01 08 21.1**	**-1.4**
	1.2nm,0.9s,mb3.8,baz=6.8,slow=8.1,SNR=8.5						
ILAR	**Eielson Array**	**53.23**	**30**	P	**P**	**01 08 27.4**	**-0.3**
	0.4nm,0.5s,mb3.6,baz=260,slow=6.8,SNR=7.0						
ARCES	**ARCESS Array B**	**68.70**	**340**	P	**P**	**01 10 12.5**	**0.0**
	0.7nm,0.7s,mb3.7,baz=73,slow=9.4,SNR=3.0						
FINES	**FINESS Array B**	**73.35**	**333**	P	**P**	**01 10 40.9**	**+0.3**
	0.6nm,0.5s,mb3.8,baz=63,slow=4.3,SNR=4.7						
BOZ	**Bozeman (W)**	**77.70**	**44**	*e*P	**P**	**01 11 06.9**	**+1.3**
	0.7nm,0.6s,mb3.8						
PDAR	**Pinedale Array**	**80.56**	**45**	P	**P**	**01 11 22.6**	**+1.4**
	0.7nm,0.8s,mb3.6,baz=308,slow=4.2,SNR=4.5						

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*IDC **27** 01:22:49.8±4.1, 35.89N×29.86E, mb4.0/2, mb1 3.8/4, mb1mx3.5/17, ML3.5/2, MS4.0/2, Ms1 4.0/2, ms1mx3.3/21, Error ellipse: s-maj=66.2km s-min=39.9km az=9.0*

*ATH **27** 01:22:50.3, 36.19N×29.87E, h14^{km}, MD3.5/4*

*NEIC **27** 01:22:51.6±2.2, 36.08N×29.81E, h3^{km}±13^{km}, mb3.9/1, MD3.5(ATH), Error ellipse: s-maj=20.4km s-min=9.3km az=158.0*

*ISK **27** 01:22:52.9, 36.41N×29.62E, h5^{km}, MD3.6, ML3.5*

ISC 27 01:22:52.3±0.5**, 36.22N**±0.04×**29.66E**±0.03**, h3**^{km}**, n41, σ1^{s}16**/48**, mb3.8**/3**, MS4.0**/2**, 4C, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSL	**Kastellorizon**	**0.09**	**222**	*e*PG	**Sg**	**01 22 55.5**	**+0.1**
ELL	**Elmali**	**0.57**	**21**	*i* PG	**Pg**	**01 23 01.5**	**-2.1**
DALT	**Dalyan (Mudla)**	**0.99**	**304**	*i* PG	**Pg**	**01 23 10.6**	**-1.4**
DALT				*i* SG	**Sg**	**01 23 24.0**	**-1.2**
ARG	**Arkhangelos**	**1.24**	**270**	*e*PB	**Pb**	**01 23 17.0**	**+1.1**
YER	**Yerkesik**	**1.44**	**310**	*i* PN	**Pn**	**01 23 18.8**	**-0.4**
BCK	**Bucak**	**1.45**	**31**	*i* PN	**Pn**	**01 23 19.3**	**-0.1**
DNZL	**Cakiroluk**	**1.55**	**342**	⇑*i*P	**Pn**	**01 23 20.5**	**-0.4**
DNZL				*i* S	**Sb**	**01 23 45.2**	**+4.1**
DENT	**Denizli**	**1.61**	**342**	*i* PN	**Pn**	**01 23 20.9**	**-0.9**
ISP	**Isparta**	**1.76**	**23**	*i* PN	**Pn**	**01 23 23.8**	**-0.1**
ISP	**Isparta**	**1.76**	**23**	*e*Pn	**Pn**	**01 23 24.2**	**+0.3**
ISP				*e*S	**Sn**	**01 23 47.6**	**+0.5**
MLSB	**Milas**	**1.85**	**306**	PN	**Pn**	**01 23 25.5**	**+0.3**
BDRM	**Kayabasi**	**1.97**	**296**	⇑*i*P	**Pn**	**01 23 27.7**	**+0.8**
BDRM				*i* S	**Sn**	**01 23 56.6**	**+4.2**
AYDN	**Tasoluk**	**2.03**	**316**	⇑*i*P	**Pn**	**01 23 29.5**	**+1.8**
AYDN				*i* S	**Sn**	**01 23 57.1**	**+3.3**
KHL	**Karahalli**	**2.10**	**357**	PN	**Pn**	**01 23 28.0**	**-0.8**
KARP	**Karpathos**	**2.13**	**252**	*e*PN	**Pn**	**01 23 30.0**	**+0.8**
HDMB	**Hadim**	**2.40**	**71**	*e*PN	**Pn**	**01 23 34.5**	**+1.6**
MANT	**Manisa**	**2.43**	**339**	*i* P	**Pn**	**01 23 35.5**	**+2.0**
MANT				*i* S	**Sn**	**01 24 05.1**	**+1.0**
SMG	**Samos**	**2.71**	**304**	*e*PN	**Pn**	**01 23 38.0**	**+0.6**
KONT	**Konya--Tatoy**	**2.76**	**51**	*e*PN	**Pn**	**01 23 38.9**	**+0.7**
ALT	**Altintas**	**2.85**	**7**	*e*PN	**Pn**	**01 23 39.2**	**-0.3**
IZM	**Izmir**	**2.90**	**319**	*e*PN	**Pn**	**01 23 39.1**	**-1.0**
KDAG	**Bornova**	**2.90**	**320**	*i* P	**Pn**	**01 23 39.0**	**-1.1**
AKS	**Akhisar**	**3.03**	**332**	*e*PN	**Pn**	**01 23 40.7**	**-1.4**
KIZT	**Kizilcal**	**3.19**	**33**	*e*PN	**Pn**	**01 23 44.3**	**0.0**
CSS	**Prodhromos**	**3.25**	**112**	*i* P	**Pn**	**01 23 44.1**	**-1.0**
IKL	**Isikli**	**3.26**	**88**	*e*PN	**Pn**	**01 23 47.5**	**+2.3**
ESKT	**Eskisehir**	**3.43**	**16**	*e*PN	**Pn**	**01 23 46.4**	**-1.3**
ESKT	**Eskisehir**	**3.43**	**16**	*i* P	**Pn**	**01 23 46.3**	**-1.3**
ESKT				*i* S	**Sn**	**01 24 30.8**	**+1.4**
MEST	**Erdemli**	**3.64**	**83**	*i* P	**Pn**	**01 23 51.0**	**+0.4**
ULDT	**Uludag**	**3.94**	**354**	*i* P	**Pn**	**01 23 54.7**	**-0.3**
KAMT	**Kaman**	**4.50**	**44**	*e*PN	**Pn**	**01 24 02.3**	**-0.5**
BRTR	**Keskin Array B**	**4.71**	**41**	Pn	**Pn**	**01 24 04.2**	**-1.6**
	1.3nm,0.3s,baz=206,slow=15,SNR=49						
BRTR				Sn	**Sn**	**01 25 02.5**	**+0.7**
	1.9nm,0.3s,baz=205,slow=26,SNR=14						
AVNT	**Avonos**	**4.86**	**57**	*i* P	**Pn**	**01 24 09.4**	**+1.4**
COBT	**Iskenderun**	**5.33**	**85**	⇑*i*P	**Pn**	**01 24 13.8**	**-0.9**
COBT				*i* S	**Sn**	**01 25 12.9**	**-4.6**
GZT	**Gaziantep**	**6.45**	**78**	*i* P	**Pn**	**01 24 30.9**	**+0.5**
GERES	**GERESS Array B**	**17.20**	**322**	P	**P**	**01 26 55.4**	**+0.4**
	0.1nm,0.3s,baz=135,slow=11,SNR=5.0						
FINES	**FINESS Array B**	**25.35**	**356**	P	**P**	**01 28 21.6**	**0.0**
	2.4nm,0.8s,mb3.8,baz=153,slow=13,SNR=3.6						
KURK	**Kurchatov**	**37.66**	**52**	*e*P	**P**	**01 30 07.9**	**-2.3**
	1.9nm,0.8s,mb3.9						
KMBO	**Kilima Mbogo**	**37.82**	**168**	LR	LR	01 48 49.0	
	comp=Z,74nm,18.0s,MS3.5,baz=282,slow=42						
MKAR	**Makanchi Array**	**40.12**	**58**	P	**P**	**01 30 27.4**	**-3.3**
	1.5nm,0.8s,mb3.8,baz=267,slow=6.7,SNR=7.7						
JHJ	**Hachijo jima 2**	**85.04**	**52**	LR	LR	02 19 10.5	
	comp=Z,227nm,20.6s,MS4.5,baz=320,slow=40						

NEIC 27 01:26:17.4, 63.18N×151.24W, h5^{km}**, ML3.7**(PMR)**, ML3.5**(AEIC)**, After AEIC., Central Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KTH	**Kantishna Hill**	**0.40**	**21**	P	Pg	01 26 25.3	-0.1
KTH				S	Sg	01 26 31.1	+0.3
TRF	**Thorofare Moun**	**0.51**	**57**	P	Pg	01 26 27.6	0.0
TRF				S	Sg	01 26 35.0	+0.6
CUT	**Chulitna**	**0.90**	**150**	P	Pb	01 26 34.6	-0.5
RND	**Reindeer**	**1.10**	**77**	P	Pb	01 26 37.9	-0.6
RND				S	Sb	01 26 52.8	-0.2
MCK	**McKinley**	**1.17**	**61**	P	Pb	01 26 39.0	-0.8
MCK				S	Sb	01 26 56.9	+1.8
BWN	**Browne**	**1.27**	**38**	P	Pb	01 26 41.0	-0.4
PWA	**Palmer West**	**1.66**	**157**	P	Pn	01 26 46.2	-1.2
NEA	**Nenana**	**1.70**	**33**	P	Pn	01 26 48.2	+0.3
NEA				S	Sn	01 27 09.0	-1.2
STLK	**Strandline Lak**	**1.71**	**190**	P	Pn	01 26 47.5	-0.6
STLK				S	Sn	01 27 10.5	-0.1
DHY	**Denali Highway**	**1.76**	**92**	P	Pn	01 26 48.6	-0.2
GHO	**Glory Hole Cre**	**1.78**	**142**	P	Pn	01 26 48.4	-0.7
GHO				S	Sn	01 27 11.8	-0.5
MLY	**Manley**	**1.87**	**7**	P	Pn	01 26 48.8	-1.6
PMR	**Palmer**	**1.87**	**147**	P	Pn	01 26 49.5	-0.9
PMR				S	Sn	01 27 13.6	-1.1
SML	**Sawmill**	**1.93**	**134**	P	Pn	01 26 50.6	-0.7
SML				S	Sn	01 27 15.3	-0.8
BGL	**Barrier Glacie**	**2.00**	**196**	P	Pn	01 26 52.4	+0.1
BGL				S	Sn	01 27 19.4	+1.5
CKN	**Chakachatna No**	**2.01**	**193**	P	Pn	01 26 52.6	+0.1
CKN				S	Sn	01 27 20.2	+1.9
SPU	**Mount Spurr**	**2.04**	**191**	P	Pn	01 26 53.1	+0.2
SPU				S	Sn	01 27 20.4	+1.4
BKG	**Blockade Glaci**	**2.17**	**193**	P	Pn	01 26 54.4	-0.3
BKG				S	Sn	01 27 24.1	+1.8
KNK	**Knik Glacier**	**2.20**	**143**	P	Pn	01 26 55.7	+0.6
RC01	**Rabbit Creek A**	**2.22**	**161**	P	Pn	01 26 54.8	-0.5
COLA	**College**	**2.26**	**40**	P	Pn	01 26 54.5	-1.4
THY	**Trims Highway**	**2.49**	**82**	*e*P	Pn	01 26 57.0	-2.2
SLKM	**Skilak Lake**	**2.73**	**169**	*e*P	Pn	01 27 02.1	-0.5
RSO	**Redoubt South**	**2.82**	**195**	*e*P	Pn	01 27 04.3	+0.3
IMA	**Indian Mountai**	**3.08**	**341**	*e*P	Pn	01 27 05.8	-1.9
VLZ	**Valdez**	**3.09**	**130**	P	Pn	01 27 07.5	-0.3
DIV	**Divide**	**3.29**	**126**	P	Pn	01 27 10.1	-0.5
EYAK	**Cordova Ski Ar**	**3.71**	**133**	*e*P	Pn	01 27 16.2	-0.3
GLB	**Gilahina Butte**	**3.88**	**113**	P	Pn	01 27 18.8	-0.2
DAWY	**Dawson**	**5.36**	**75**	*e*P	Pn	01 27 36.2	-3.7

IDC 27 01:33:31.8±1.9**, 0.24S**×**127.06E, mb3.5**/3**, mb1 3.7**/4**, mb1mx3.5**/14**, ML3.5**/1**, Error ellipse: s-maj=112.0km s-min=24.5km az=69.0, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**17.80**	**184**	P	P	01 37 41.2	-1.6
	0.1nm,0.3s,baz=332,slow=11,SNR=4.3						
WRA	**Warramunga Arr**	**20.84**	**160**	P	P	01 38 13.7	-4.1
	0.5nm,0.6s,baz=338,slow=12,SNR=6.6						
ASAR	**Alice Springs**	**24.21**	**165**	P	P	01 38 51.2	-0.1
	0.9nm,0.5s,baz=344,slow=6.4,SNR=11						
MKAR	**Makanchi Array**	**61.00**	**326**	P	P	01 43 47.3	-2.1
	0.3nm,0.4s,baz=119,slow=8.1,SNR=6.3						

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*NEIC **27** 01:39:26.6±0.7, 6.76N×72.97W, h168^{km}±8^{km}, mb3.9/2, Error ellipse: s-maj=14.5km s-min=11.1km az=105.0*

*IDC **27** 01:39:27.2±2.4, 6.72N×73.04W, h172^{km}±24^{km}, mb3.4/4, mb1 3.7/5, mb1mx3.3/19, Error ellipse: s-maj=43.5km s-min=30.7km az=93.0*

ISC 27 01:39:25.7±0.7**, 6.84N**±0.10×**73.0W**±0.1**, h168**^{km}±9^{km}**, n9, σ0^{s}40**/10**, mb3.7**/5**, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.38**	**214**	P	**P**	**01 40 07.2**	**+0.4**
	76nm,0.3s,baz=301,slow=13,SNR=253						
ROSC				S	**S**	**01 40 38.2**	**-0.2**
	59nm,0.3s,baz=68,slow=20,SNR=8.4						
SDV	**Santo Domingo**	**3.09**	**49**	*e*Pn	**P**	**01 40 16.3**	**+0.7**
SDV				*e*Sn	**S**	**01 40 53.3**	**-0.6**
SAML	**Samuel**	**18.48**	**148**	*e*Pn	**P**	**01 43 31.2**	**-0.3**
	1.4nm,0.5s						
SAML				*e*		01 43 57.1	
CCM	**Cathedral Cave**	**35.21**	**335**	*e*P	**P**	**01 46 05.4**	**-0.3**
	3.3nm,0.5s,mb4.2						
TXAR	**Lajitas Array**	**36.55**	**312**	P	**P**	**01 46 16.8**	**-0.3**
	0.3nm,0.4s,mb3.3,baz=123,slow=8.9,SNR=4.2						
SCHQ	**Schefferville**	**48.11**	**5**	P	**P**	**01 47 50.7**	**+0.5**
	3.7nm,0.7s,mb4.1,baz=257,slow=16,SNR=4.0						
PDAR	**Pinedale Array**	**48.14**	**324**	P	**P**	**01 47 50.5**	**-0.1**
	0.3nm,0.4s,mb3.3,baz=117,slow=10,SNR=3.5						
ARCES	**ARCESS Array B**	**86.61**	**20**	P	**P**	**01 51 50.9**	**+0.2**
	1.6nm,1.0s,mb3.8,baz=281,slow=4.6,SNR=2.9						
WRA	**Warramunga Arr**	**150.46**	**241**	PKPbc	PKPdf	01 58 58.9	+6.3
	0.2nm,0.4s,baz=106,slow=2.6,SNR=8.7						

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*IDC **27** 01:43:47.8±2.1, 30.42S×177.50W, mb4.3/5, mb1 4.4/6, mb1mx4.2/14, ML3.4/1, Error ellipse: s-maj=57.8km s-min=35.3km az=142.0*

*NEIC **27** 01:43:56.3±1.8, 30.06S×178.51W, h10^{km}, mb4.5/3, Error ellipse: s-maj=51.8km s-min=28.7km az=209.0*

ISC 27 01:44:01.1±2.0**, 30.54S**±0.09×**179.0W**±0.3**, h33**^{km}**, n15, σ1^{s}13**/12**, mb4.2**/5**, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	**Urewera**	**8.34**	**201**	Pn	**P**	**01 45 58.1**	**-4.4**
	0.4nm,0.3s,baz=139,slow=20,SNR=4.7						
URZ				Sn	**Sn**	**01 47 36.5**	**-0.1**
	1.3nm,0.3s,baz=200,slow=18,SNR=8.0						
CTA	**Charters Tower**	**32.94**	**280**	*e*P	**P**	**01 50 36.3**	**+1.4**
	2.9nm,0.4s,mb4.6						
CTA	**Charters Tower**	**32.94**	**280**	P	**P**	**01 50 36.4**	**+1.5**
	3.7nm,0.4s,mb4.6,baz=109,slow=10,SNR=10.0						
CTAO	**Charters Tower**	**32.94**	**280**	*e*P	**P**	**01 50 35.9**	**+1.0**
	3.5nm,0.5s,mb4.5						
STKA	**Stephens Creek**	**33.58**	**257**	*e*P	**P**	**01 50 42.2**	**+2.0**
	3.6nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**33.58**	**257**	P	**P**	**01 50 42.5**	**+2.2**
	5.5nm,0.8s,mb4.5,baz=97,slow=9.2,SNR=14						
ASAR	**Alice Springs**	**42.21**	**268**	P	**P**	**01 51 53.1**	**+0.4**
	0.8nm,0.3s,mb3.8,baz=106,slow=7.6,SNR=14						
WB2	**Warramunga Arr**	**43.20**	**273**	*e*P	**P**	**01 51 59.6**	**-1.3**
WRA	**Warramunga Arr**	**43.21**	**273**	P	**P**	**01 52 00.2**	**-0.8**
	2.2nm,0.3s,mb4.4,baz=110,slow=8.1,SNR=56						
FITZ	**Fitzroy Crossi**	**51.47**	**271**	P	**P**	**01 53 04.2**	**-1.4**
	1.3nm,0.9s,mb3.9,baz=107,slow=11,SNR=3.1						
QSPA	**South Pole Qui**	**59.57**	**180**	*e*P	**P**	**01 54 03.6**	**+0.2**
ARCES	**ARCESS Array B**	**138.53**	**347**	PKP	PKPdf	02 03 20.7	-2.1
	1.1nm,0.9s,baz=63,slow=2.0,SNR=3.9						
ARCES	**ARCESS Array B**	**138.53**	**347**	PKP	PKPdf	02 03 20.7	-2.1
FINES	**FINESS Array B**	**144.96**	**339**	PKPbc	PKPbc	02 03 26.1	-8.2
	2.1nm,0.7s,baz=44,slow=4.8,SNR=16						
AKASG	**Malin Array Be**	**150.86**	**322**	PKPbc	PKPdf	02 03 43.2	-0.8
	0.6nm,0.4s,baz=44,slow=2.8,SNR=6.1						

PGC 27 01:44:24.1, 58.34N×**133.49W, h1**^{km}**, ML3.1**/4**, Near Mt. Ogden, British Columbia - Alaska border., Southeastern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DLBC	**Dease Lake**	**1.83**	**85**	Pn	Pn	01 44 55.5	-1.5
DLBC				Pg	Pg	01 44 57.0	-3.6
DLBC				Sn	Sn	01 45 19.7	-1.4
DLBC				Sg	Sg	01 45 21.9	-3.1
DLBC				Trac		01 45 22.6	
	comp=Z,121nm,0.5s						
WHY	**Whitehorse**	**2.44**	**344**	Pn	Pn	01 45 04.2	-1.5
WHY				Pg	Pg	01 45 08.2	-4.6
WHY				Sg	Sg	01 45 39.0	-6.3
WHY				Trac		01 45 47.1	
	comp=Z,100nm,0.7s						
HYT	**Haines Junctio**	**3.22**	**322**	Pn	Pn	01 45 16.4	-0.5
HYT				Pg	Pg	01 45 22.3	-6.2
HYT				Sg	Sg	01 46 03.9	-7.6
HYT				Trac		01 46 08.2	
	comp=Z,21nm,0.3s						
RUBB	**Prince Rupert**	**4.41**	**154**	Trac		01 46 49.3	
	comp=Z,17nm,0.7s						
RUBB	**Prince Rupert**	**4.41**	**154**	Sg	Sg	01 46 41.6	-9.2
DAWY	**Dawson**	**6.41**	**336**	Trac		01 47 48.8	
	comp=Z,23nm,0.7s						
DAWY	**Dawson**	**6.41**	**336**	Sg	Sg	01 47 44.2	-13
INK	**Inuvik**	**10.01**	**360**	P	P	01 46 47.5	-4.5

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*MOS **27** 01:58:03.2±1.6, 44.81N×147.78E, h115^{km}, mb4.2/2, Error ellipse: s-maj=35.9km s-min=27.8km az=49.6*

*JMA **27** 01:58:03.2±0.5, 44.50N×148.11E, h82^{km}, M4.6*

*IDC **27** 01:58:06.4±3.6, 44.89N×147.74E, h122^{km}±31^{km}, mb3.3/7, mb1 3.5/8, mb1mx3.3/19, Error ellipse: s-maj=28.0km s-min=18.9km az=96.0*

ISC 27 01:58:03.4±1.2**, 44.7N**±0.1×**147.8E**±0.2**, h115**^{km}±10^{km}**, n28, σ1^{s}11**/32**, mb3.5**/7**, 3C-2D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**1.54**	**246**	⇑*i*PN	**P**	**01 58 30.5**	**-0.9**
YUK				*i* S	**S**	**01 58 52.0**	**-0.6**
YUK				pmax	pmax		
	comp=Z,2μm,0.4s						
YUK				pmax	pmax		
	comp=N,430nm,0.2s						
YUK				pmax	pmax		
	comp=E,430nm,0.2s						
YUK				pmax	pmax		
	comp=Z,2μm,0.2s						
YUK				smax			
	comp=N,5μm,0.3s						
YUK				smax			
	comp=E,5μm,0.6s						
YUK				smax			
	comp=N,2μm,0.4s						
YUK				smax			
	comp=E,3μm,0.4s						
NEM2	**Nemuro 2**	**1.99**	**229**	P	**P**	**01 58 36.4**	**-0.5**
NEM2				*e*S	**S**	**01 59 01.4**	**-0.8**
JRA	**Rausu**	**2.07**	**250**	P	**P**	**01 58 38.5**	**+0.5**
JNK	**Nakash**	**2.48**	**245**	P	**P**	**01 58 44.2**	**+0.7**
JNK				*e*S	**S**	**01 59 16.0**	**+2.2**
JAK	**Akkeshi**	**2.82**	**234**	P	**P**	**01 58 47.6**	**-0.4**
JAK				*e*S	**S**	**01 59 20.3**	**-1.4**
JTKR	**Abashiri--Toko**	**2.89**	**257**	P	**P**	**01 58 49.0**	**0.0**
JAR	**Ashorobuto**	**3.23**	**246**	P	**P**	**01 58 54.8**	**+1.3**
JAR				*e*S	**S**	**01 59 34.6**	**+3.0**
JKK2	**Kamakawa 2**	**3.73**	**259**	P	**P**	**01 59 01.6**	**+1.4**
ASAJ	**Asahikawa**	**3.78**	**263**	P	**P**	**01 59 02.7**	**+1.7**
	comp=E,3.9nm,0.3s,baz=82,slow=15,SNR=5.0						
ASAJ	**Asahikawa**	**3.78**	**263**	PN	**P**	**01 59 02.7**	**+1.7**
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
JCH	**Churui**	**3.84**	**239**	P	**P**	**01 59 01.2**	**-0.5**
JCH				*e*S	**S**	**01 59 46.0**	**-0.2**
JNBK	**Urakawa-nobuka**	**4.40**	**239**	P	**P**	**01 59 09.3**	**0.0**
JNBK				*e*S	**S**	**01 59 59.8**	**-0.1**
JKB	**Kayabe**	**5.68**	**243**	P	**P**	**01 59 26.5**	**-0.2**
JKB				*e*S	**S**	**02 00 28.1**	**-3.1**
JOT	**Ohata**	**5.96**	**239**	P	**P**	**01 59 29.5**	**-0.8**
JOT				*e*S	**S**	**02 00 32.4**	**-5.4**
SONM	**Songino Array**	**28.56**	**291**	P	**P**	**02 03 49.4**	**-0.8**
	comp=Z,0.3nm,0.4s,mb3.2,baz=78,slow=8.2,SNR=4.1						
ILAR	**Eielson Array**	**40.45**	**37**	P	**P**	**02 05 31.5**	**0.0**
	comp=Z,0.3nm,0.5s,mb3.4,baz=276,slow=8.5,SNR=7.8						
MKAR	**Makanchi Array**	**44.58**	**297**	P	**P**	**02 06 05.4**	**+0.2**
	comp=Z,0.4nm,0.5s,mb3.4,baz=78,slow=7.2,SNR=3.6						
MKAR				PcP	PcP	02 07 47.4	+0.7
	comp=Z,0.4nm,0.4s,baz=63,slow=2.7,SNR=3.5						
ARCES	**ARCESS Array B**	**58.53**	**340**	P	**P**	**02 07 48.8**	**-0.5**
	comp=Z,3.6nm,1.2s,mb4.3,baz=63,slow=8.1,SNR=4.3						
ARCES	**ARCESS Array B**	**58.53**	**340**	P	**P**	**02 07 48.8**	**-0.6**
ARCES				pmax	pmax		
	comp=Z,4.0nm,1.2s						
FINES	**FINESS Array B**	**64.26**	**333**	P	**P**	**02 08 25.2**	**-2.6**
	comp=Z,1.4nm,0.8s,mb3.9,baz=34,slow=5.0,SNR=10						
FINES	**FINESS Array B**	**64.26**	**333**	P	**P**	**02 08 25.2**	**-2.6**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRA	**Warramunga Arr**	**65.48**	**194**	P	**P**	**02 08 37.2**	**+0.7**
	comp=Z,0.4nm,0.6s,mb3.5,baz=7.5,slow=6.7,SNR=8.4						
ASAR	**Alice Springs**	**69.20**	**194**	P	**P**	**02 09 01.2**	**+1.7**
	comp=Z,0.2nm,0.6s,mb3.1,baz=6.2,slow=5.9,SNR=4.2						
TXAR	**Lajitas Array**	**81.74**	**57**	pP	pP	02 10 37.0	-3.0
	comp=Z,1.2nm,0.6s,baz=293,slow=3.5,SNR=8.0						

SNAA	**Sanae**	**149.49**	**198**	⇓*i*	PKPdf	02 17 40.9	+8.1
VNA2	**Neumayer--Watz**	**151.02**	**197**	⇑*i*	PKPdf	02 17 46.8	+12
VNA3	**Neumayer Olymp**	**151.20**	**195**	⇓*i*	PKPdf	02 17 47.1	+12
VNA1	**Neumayer--Stat**	**151.41**	**196**	⇑*i*	PKPdf	02 17 44.1	+8.3

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*TIR **27** 02:00:46.3,42.11N×19.27E,h29^{km}*
*PDG **27** 02:00:49.0±0.0,42.12N×19.31E,h3^{km}±2^{km}*
ISC 27 02:00:47.7±1.4,**42.07N**±0.06×**19.22E**±0.09,**h19**^{km}±11^{km},**n8,**σ**0^{s}.69**/15,**2C,Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ULC	**Ulcinj**	**0.11**	**167**	⇑*i*Pg	**Pb**	**02 00 52.0**	**+0.3**
ULC				*e*Sg	**Sb**	**02 00 54.6**	**+0.4**
SDA	**Shkodra**	**0.21**	**96**	*i* pg?	**Pb**	**02 00 57.2**	**+4.3**
TTG	**Podgorica**	**0.36**	**5**	⇑*i*Pg	**Pb**	**02 00 54.5**	**-0.7**
TTG				*e*Sg	**Sb**	**02 00 59.8**	**-0.6**
PUK	**Puka**	**0.51**	**93**	*i* Pg	**Pb**	**02 00 57.2**	**-0.6**
PUK				*i* Sg	**Sb**	**02 01 04.8**	**+0.2**
BCI	**Bajram Curri**	**0.70**	**65**	*i* Pg	**Pb**	**02 01 00.3**	**-0.7**
BCI				*i* Sg	**Sb**	**02 01 10.1**	**-0.1**
PVY	**Plav**	**0.77**	**47**	*e*Pg	**Pb**	**02 01 01.5**	**-0.6**
PVY				*e*Sg	**Sb**	**02 01 12.3**	**+0.1**
IVA	**Berane**	**0.94**	**32**	*e*Pg	**Pb**	**02 01 05.1**	**-0.2**
IVA				*e*Sg	**Sb**	**02 01 18.7**	**+1.4**
PLE	**Pljevlja**	**1.26**	**6**	*e*Pg	**Pn**	**02 01 11.3**	**+0.8**
PLE				*e*Sg	**Sb**	**02 01 30.3**	**+3.8**

IDC 27 02:13:57.5±6.9,**30.68S**×**178.75W,mb3.9**/2,**mb1 4.2**/2,**mb1mx3.8**/9,**Error ellipse: s-maj=285.0km s-min=56.2km az=156.0,Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.45**	**268**	P	P	02 21 54.1	-1.7
	0.7nm,0.4s,baz=106,slow=7.5,SNR=8.8						
WRA	**Warramunga Arr**	**43.46**	**273**	P	P	02 22 02.5	-1.7
	1.0nm,0.5s,baz=111,slow=8.1,SNR=23						
FINES	**FINESS Array B**	**145.18**	**339**	PKPbc	PKPbc	02 33 35.0	-1.5
	2.2nm,0.9s,baz=45,slow=2.7,SNR=7.2						

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*NEIC **27** 02:23:03.0±0.6,26.13N×92.15E,mb4.2/4,Error ellipse: s-maj=19.2km s-min=11.1km az=50.0*
*IDC **27** 02:23:03.3±0.7,26.28N×92.37E,h38^{km}±5^{km},mb3.6/7, mb1 3.9/8,mb1mx3.7/18,ML4.2/1,Error ellipse: s-maj=39.6km s-min=13.8km az=54.0*
ISC 27 02:23:05.8±0.7,**26.08N**±0.07×**91.90E**±0.07,**h92**^{km}±6^{km},**h35**^{km}±1.5^{km}**:pP-P,n23,**σ**1^{s}.34**/24,**mb3.9**/10,**Northeastern India**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SHL	**Shillong**	**0.51**	**182**	*e*P	**P**	**02 23 21.0**	**-0.1**
SHL				*e*		02 23 33.0	
	comp=N,3μm,0.1s						
SHL				*e*		02 23 33.0	
	comp=E,6μm,0.2s						
SHL				*e*S	**S**	**02 23 33.0**	**+0.6**
IMP	**Imphal**	**2.25**	**125**	*e*P	**P**	**02 23 41.0**	**-1.0**
IMP				*e*		02 23 50.0	
AGT	**Agartala**	**2.27**	**195**	*e*	**S**	**02 24 02.0**	**-7.3**
BWNR	**Bhubaneshwar**	**8.04**	**225**	*e*P	**P**	**02 25 03.4**	**+1.8**
BWNR				*e*S	**S**	**02 26 28.9**	**-2.7**
CMAR	**Chiang Mai Arr**	**10.00**	**138**	Pn	**P**	**02 25 32.4**	**+4.2**
	comp=E,0.6nm,0.3s,baz=333,slow=14,SNR=3.8						
JOSI	**Joshimath**	**11.75**	**295**	*e*	**S**	**02 27 59.5**	**-1.8**
JOSI				*e*		02 28 23.5	
	comp=N,240nm,1.0s						
JOSI				*e*		02 28 25.8	
	comp=E,144nm,1.1s						
KLP	**Kalpa**	**13.14**	**298**	*e*P	**P**	**02 26 02.7**	**-7.3**
KLP				*e*S	**S**	**02 28 23.0**	**-11**
KLP				AML	AML	02 29 03.0	
	comp=E,16nm,1.2s						
KLP				AML	AML	02 29 03.4	
	comp=N,18nm,0.3s						
SONA	**Sohna**	**13.37**	**283**	*e*S	**S**	**02 28 31.2**	**-8.4**
SONA				AML	AML	02 29 17.4	
	comp=N,12nm,0.3s						
SONA				AML	AML	02 29 28.3	
	comp=E,14nm,0.3s						
BHPL	**Bhopal**	**13.46**	**261**	*e*P	**P**	**02 26 15.9**	**+1.7**
ENH	**Enshi**	**16.06**	**71**	*e*P	**P**	**02 26 43.6**	**-3.7**
	comp=E,15nm,0.5s						
MKAR	**Makanchi Array**	**22.04**	**342**	P	**P**	**02 27 53.8**	**+0.1**
	comp=E,2.3nm,0.5s,mb3.7,baz=145,slow=13,SNR=18						
MKAR				pP		02 28 04.7	
	comp=E,5.5nm,0.6s,baz=148,slow=11,SNR=20						
SONM	**Songino Array**	**24.53**	**24**	P	**P**	**02 28 16.1**	**-1.7**
	comp=E,0.7nm,0.6s,mb3.3,baz=196,slow=10.0,SNR=6.9						
BVAR	**Borovoye Array**	**31.37**	**335**	pP	pP	02 29 31.1	-10
	comp=E,0.7nm,0.7s,baz=129,slow=9.5,SNR=3.7						
ZRNK	**Zerenda**	**31.85**	**334**	P	**P**	**02 29 25.7**	**+1.8**
	comp=E,0.9nm,0.4s,mb3.9						
ZRNK				*e*pP	pP	02 29 35.0	-10
BRTR	**Keskin Array B**	**49.97**	**301**	P	**P**	**02 31 55.9**	**+3.5**
	comp=E,0.4nm,0.4s,mb3.7,baz=84,slow=6.2,SNR=3.8						
MBWA	**Marble Bar**	**54.16**	**147**	*e*P	**P**	**02 32 24.2**	**+0.1**
	comp=E,1.0nm,0.6s,mb4.0						
ARCES	**ARCESS Array B**	**57.59**	**338**	P	**P**	**02 32 48.1**	**+0.1**
	comp=E,0.8nm,0.8s,mb3.8,baz=67,slow=6.9,SNR=2.8						
WRA	**Warramunga Arr**	**61.56**	**134**	P	**P**	**02 33 16.0**	**+0.2**
	comp=E,3.2nm,0.6s,mb4.5,baz=323,slow=7.2,SNR=23						
WRA				pP	pP	02 33 27.2	-12
	comp=E,1.8nm,0.5s,baz=323,slow=7.3,SNR=10						
WRAB	**Tennant Creek**	**61.56**	**134**	*e*P	**P**	**02 33 15.3**	**-0.6**
	comp=E,5.3nm,0.7s,mb4.7						
WB2	**Warramunga Arr**	**61.57**	**134**	*e*P	**P**	**02 33 15.6**	**-0.3**
GERES	**GERESS Array B**	**63.27**	**314**	P	**P**	**02 33 29.3**	**+2.5**
	comp=E,0.7nm,0.6s,mb3.8,baz=71,slow=6.2,SNR=7.8						
GERES				pP	pP	02 33 40.6	-10
	comp=E,0.7nm,0.7s,baz=79,slow=6.8,SNR=4.9						
ASAR	**Alice Springs**	**64.01**	**137**	P	**P**	**02 33 32.5**	**+0.4**
	comp=E,1.2nm,0.6s,mb3.9,baz=321,slow=6.7,SNR=9.6						
ASAR				pP	pP	02 33 43.6	-12
	comp=E,0.9nm,0.6s,baz=322,slow=6.8,SNR=6.2						
ASAR				sP	sP	02 33 48.0	-18
	comp=E,1.4nm,0.7s,baz=315,slow=6.7,SNR=6.8						
ILAR	**Eielson Array**	**78.74**	**22**	pP	pP	02 35 11.4	-12
	comp=E,0.5nm,0.7s,baz=311,slow=5.6,SNR=4.6						

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*IDC **27** 02:25:32.0±1.1,0.58N×126.31E,mb3.8/6,mb1 3.9/7, mb1mx3.8/16,ML3.2/1,Error ellipse: s-maj=101.0km s-min=17.2km az=69.0*
*NEIC **27** 02:25:33.5±0.7,0.64N×126.53E,h10^{km},mb4.0/1,Error ellipse: s-maj=59.1km s-min=10.4km az=70.0*
ISC 27 02:25:31.4±0.8,**0.7N**±0.2×**126.5E**±0.4,**h10**^{km}**,n10,**σ**0^{s}.85**/10,**mb3.9**/7,**Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.65**	**182**	P	**P**	**02 29 51.4**	**-0.2**
	0.1nm,0.3s,baz=313,slow=10.0,SNR=1.8						
WRAB	**Tennant Creek**	**21.86**	**160**	*e*P	**P**	**02 30 26.1**	**-0.1**
	4.8nm,0.7s,mb4.0						
WRA	**Warramunga Arr**	**21.86**	**160**	P	**P**	**02 30 25.4**	**-0.9**
	1.2nm,0.4s,mb3.7,baz=336,slow=11,SNR=30						
WB2	**Warramunga Arr**	**21.87**	**160**	*e*P	**P**	**02 30 27.1**	**+0.8**
ASAR	**Alice Springs**	**25.22**	**164**	P	**P**	**02 31 00.8**	**+1.7**
	1.5nm,0.5s,mb3.8,baz=345,slow=11,SNR=15						
STKA	**Stephens Creek**	**35.37**	**157**	P	**P**	**02 32 28.2**	**-1.2**
	1.8nm,0.8s,mb4.0,baz=342,slow=9.6,SNR=3.5						
STKA	**Stephens Creek**	**35.37**	**157**	P	**P**	**02 32 28.2**	**-1.2**
SONM	**Songino Array**	**50.13**	**342**	P	**P**	**02 34 29.1**	**+0.2**
	0.6nm,0.5s,mb3.9,baz=162,slow=8.0,SNR=5.2						
MKAR	**Makanchi Array**	**59.95**	**326**	P	**P**	**02 35 39.5**	**-0.7**
	0.9nm,0.5s,mb4.1,baz=116,slow=8.8,SNR=7.9						
BVAR	**Borovoye Array**	**69.76**	**328**	P	**P**	**02 36 44.3**	**+0.6**
	0.5nm,0.5s,mb3.7,baz=127,slow=7.4,SNR=4.3						

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*MDD **27** 03:10:44.9±1.4,35.02N×3.96W,mb3.5/13,Error ellipse: s-maj=14.6km s-min=5.6km az=11.0,PRXIMO*
*INMG **27** 03:10:45.0±0.9,35.05N×3.97W,ML2.1,Error ellipse: s-maj=5.7km s-min=2.9km az=4.0*
ISC 27 03:10:44.3±0.9,**35.10N**±0.05×**4.03W**±0.04,**h10**^{km}**,n29,**σ**1^{s}.13**/52,**Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EMEL	**Melilla**	**0.90**	**77**	P	**Pb**	**03 11 00.7**	**-0.8**
	SNR=24						
EMEL				S	**Sb**	**03 11 12.9**	**-0.5**
	232nm,0.1s						
EMIJ	**Mijas**	**1.58**	**338**	P	**Pn**	**03 11 12.6**	**+0.1**
	1.2nm,0.2s,SNR=7.9						
EMIJ				S	**Sb**	**03 11 33.2**	**+0.1**
	17nm,0.3s,SNR=7.9						
ERON	**Agron**	**1.92**	**5**	P	**Pn**	**03 11 18.5**	**+1.1**
	1.9nm,0.2s,SNR=5.0						
ERON				S	**Sn**	**03 11 43.4**	**+1.5**
	3.7nm,0.3s,SNR=5.0						
ELOJ	**Sierra Loja**	**2.04**	**357**	P	**Pn**	**03 11 21.4**	**+2.1**
	3.1nm,0.2s,SNR=9.4						
ELOJ				S	**Sn**	**03 11 45.6**	**+0.6**
	9.8nm,0.7s,SNR=5.0						
LIJA	**Lijar**	**2.12**	**329**	P	**Pn**	**03 11 24.5**	**+4.2**
LIJA				S	**Sn**	**03 11 49.0**	**+2.1**
ESPR	**Espera**	**2.30**	**320**	P	**Pn**	**03 11 25.1**	**+2.2**
	1.3nm,0.2s,SNR=5.9						
ESPR				S	**Sn**	**03 11 55.2**	**+3.6**
	5.8nm,0.4s,SNR=7.9						
EQES	**Quesada**	**2.80**	**16**	P	**Pn**	**03 11 31.2**	**+1.1**
	1.9nm,0.1s,SNR=30						
EQES				S	**Sn**	**03 12 05.2**	**+0.9**
	8.1nm,0.4s						
EADA	**Adamuz**	**3.09**	**352**	P	**Pn**	**03 11 35.1**	**+0.9**
	1.0nm,0.2s,SNR=9.6						
EADA				S	**Sn**	**03 12 13.5**	**+1.9**
	4.4nm,0.4s						
EMIN	**Mina Concepcio**	**3.41**	**322**	P	**Pn**	**03 11 38.8**	**+0.1**
	0.6nm,0.1s,SNR=16						
EMIN				S	**Sn**	**03 12 17.7**	**-1.9**
	1.8nm,0.4s						
PALC	**Alcoutim**	**3.65**	**311**	*e*Pn	**Pn**	**03 11 42.8**	**+0.7**
PALC				*e*Sn	**Sn**	**03 12 24.6**	**-1.1**
	3.2nm,0.4s						
PALC	**Alcoutim**	**3.65**	**311**	Pn	**Pn**	**03 11 42.8**	**+0.7**
PALC				Sn	**Sn**	**03 12 24.6**	**-1.1**
	1.6nm,0.4s						
ETOB	**Tobarra**	**4.06**	**29**	P	**Pn**	**03 11 48.4**	**+0.5**
	0.9nm,0.2s,SNR=10						
ETOB				S	**Sn**	**03 12 34.2**	**-1.8**
	1.7nm,0.4s,SNR=5.0						
PBEJ	**Beja**	**4.25**	**314**	*e*Pn	**Pn**	**03 11 50.6**	**0.0**
PBEJ				*e*Sn	**Sn**	**03 12 40.2**	**-0.7**
	1.5nm,0.5s						
PBEJ	**Beja**	**4.25**	**314**	Pn	**Pn**	**03 11 50.6**	**0.0**
PBEJ				Sn	**Sn**	**03 12 40.2**	**-0.7**
	0.8nm,0.5s						
EBAD	**Badajoz**	**4.36**	**328**	P	**Pn**	**03 11 51.9**	**-0.3**
	0.7nm,0.2s,SNR=10						
EBAD				S	**Sn**	**03 12 41.1**	**-2.6**
	3.9nm,0.2s,SNR=7.9						
PTEO	**Sao Teotonio**	**4.51**	**304**	*e*Pn	**Pn**	**03 11 54.8**	**+0.5**
PTEO				*e*Sn	**Sn**	**03 12 46.5**	**-1.0**
	3.2nm,0.6s						
PTEO	**Sao Teotonio**	**4.51**	**304**	Pn	**Pn**	**03 11 54.8**	**+0.5**
PTEO				Sn	**Sn**	**03 12 46.5**	**-1.0**
	1.6nm,0.6s						
ESDC	**Sonseca Array**	**4.56**	**1**	P	**Pn**	**03 11 55.2**	**+0.1**
	0.7nm,0.1s,baz=178,slow=12,SNR=5.0						
ESDC				S	**Sn**	**03 12 47.6**	**-1.3**
	0.4nm,0.2s,baz=182,slow=22,SNR=5.0						
PCBR	**Castelo Branco**	**5.47**	**331**	*e*Pn	**Pn**	**03 12 07.9**	**0.0**
PCBR				*e*Sn	**Sn**	**03 13 07.1**	**-4.5**
	1.3nm,0.5s						
PCBR	**Castelo Branco**	**5.47**	**331**	Pn	**Pn**	**03 12 07.9**	**0.0**
PCBR				Sn	**Sn**	**03 13 07.1**	**-4.5**
	0.6nm,0.5s						
PTOM	**Tomar**	**5.70**	**324**	*e*Pn	**Pn**	**03 12 11.3**	**+0.2**
EIBI	**Ibiza**	**5.81**	**46**	P	**Pn**	**03 12 11.9**	**-0.8**
	1.7nm,0.4s,SNR=7.9						
ETOR	**Torete**	**5.92**	**15**	S	**Sn**	**03 13 21.1**	**-1.8**
	0.3nm,0.2s,SNR=7.9						
PVRL	**Vila Real**	**6.81**	**336**	*e*Pn	**Pn**	**03 12 26.1**	**-0.7**
PVRL				*e*Sn	**Sn**	**03 13 40.3**	**-5.0**
	2.2nm,0.2s						
PVRL	**Vila Real**	**6.81**	**336**	Pn	**Pn**	**03 12 26.1**	**-0.7**
PVRL				Sn	**Sn**	**03 13 40.3**	**-5.0**
	1.1nm,0.2s						
PBRG	**Braganca**	**7.02**	**343**	*e*Pn	**Pn**	**03 12 29.2**	**-0.6**
ECAL	**Calabor**	**7.15**	**344**	P	**Pn**	**03 12 31.6**	**0.0**
	3.7nm,0.4s,SNR=5.0						
ELOB	**Lobios**	**7.46**	**336**	P	**Pn**	**03 12 34.9**	**-0.9**
	0.5nm,0.3s,SNR=5.0						
ELOB				S	**Sn**	**03 13 56.2**	**-5.2**
	0.6nm,0.3s,SNR=5.0						
ERUA	**La Rua**	**7.67**	**342**	P	**Pn**	**03 12 38.5**	**-0.4**
	0.7nm,0.3s,SNR=5.0						

DJA 27 03:13:50.3±1.1,**9.59S**×**115.26E,h17**^{km}±41^{km}**,ML3.7**/3,**5C,Error ellipse: s-maj=90.3km s-min=11.9km az=1.0, South of Bali**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RATI	**Rata**	**0.90**	**18**	⇑*e*Pn	Pn	03 14 05.3	-2.8
	431nm,0.2s						
RATI				⇑*i*Sn	Sn	03 14 16.8	-3.8
KEDI	**Kedomdong**	**1.38**	**38**	*e*Pn	Pn	03 14 12.3	-2.7
	30nm,0.2s						
KEDI				⇑*i*Sn	Sn	03 14 28.0	-4.9
KELI	**Kelakatan**	**1.56**	**331**	⇑*i*Pn	Pn	03 14 14.9	-2.6
	47nm,0.2s						
KELI				⇑*i*Sn	Sn	03 14 32.9	-4.5

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*NEIC **27** 04:05:59.3,36.03N×28.07E,h90^{km},mb4.0/13,After ATH.*
*ATH **27** 04:05:59.3,36.03N×28.07E,h90^{km}±4^{km}*
*IDC **27** 04:06:00.3±1.5,35.98N×27.93E,h80^{km}±17^{km},mb3.7/5, mb1 3.8/11,mb1mx3.6/21,Error ellipse: s-maj=27.4km s-min=12.3km az=163.0*
*ISK **27** 04:06:00.0,36.10N×27.94E,h88^{km},MD3.7,ML3.6*
*NIC **27** 04:06:07.2±0.5,36.00N×28.49E,h25^{km},mb4.4,ML4.0, MW3.3*
*THE **27** 04:06:10.0,36.05N×27.15E,h6^{km},ML3.3*
ISC 27 04:05:59.0±0.2,**35.97N**±0.02×**28.07E**±0.02,**h93**^{km}±3^{km},**n111,**σ**1^{s}.02**/137,**mb3.9**/10,**Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.25**	**10**	*e*P	**P**	**04 06 12.8**	**+0.2**
KARP	**Karpathos**	**0.85**	**241**	*e*P	**P**	**04 06 18.5**	**+0.9**
DALT	**Dalyan (Mudla)**	**0.92**	**29**	*i* PG	**P**	**04 06 18.9**	**+0.6**
DALT				*i* SG	**S**	**04 06 32.2**	**-0.5**
DALT	**Dalyan (Mudla)**	**0.92**	**29**	Pg	**P**	**04 06 18.9**	**+0.6**
DALT				Sg	**S**	**04 06 32.9**	**+0.2**
YER	**Yerkesik**	**1.18**	**8**	*i* PG	**P**	**04 06 21.5**	**+0.1**
BDRM	**Kayabasi**	**1.21**	**335**	*i* P	**P**	**04 06 21.5**	**-0.2**
BDRM				*i* S	**S**	**04 06 36.2**	**-2.5**
KSL	**Kastellorizon**	**1.24**	**81**	*e*P	**P**	**04 06 23.5**	**+1.3**
KSL				*e*S	**S**	**04 06 39.0**	**-0.4**
MLSB	**Milas**	**1.35**	**350**	*i* PN	**P**	**04 06 23.4**	**0.0**
MLSB				*i* SN	**S**	**04 06 39.4**	**-2.2**
ELL	**Elmali**	**1.67**	**62**	*i* PN	**P**	**04 06 29.6**	**+2.0**
AYDN	**Tasoluk**	**1.70**	**355**	*i* P	**P**	**04 06 28.2**	**+0.4**
AYDN				*i* S	**S**	**04 06 47.8**	**-1.3**
DNZL	**Cakiroluk**	**1.89**	**24**	*i* P	**P**	**04 06 31.2**	**+0.9**
DNZL				*i* S	**S**	**04 06 53.9**	**+0.4**
DENT	**Denizli**	**1.94**	**23**	*i* PN	**P**	**04 06 31.7**	**+0.6**
SMG	**Samos**	**2.00**	**331**	*e*P	**P**	**04 06 32.0**	**+0.2**
NPS	**Neapolis**	**2.12**	**251**	*e*P	**P**	**04 06 34.2**	**+0.6**
SANT	**Santorini**	**2.15**	**282**	*e*Pn	**P**	**04 06 34.2**	**+0.3**
THR1	**Thera Island**	**2.15**	**282**	*e*Pb	**P**	**04 06 34.5**	**+0.6**
THR1				*e*Sb	**S**	**04 06 53.8**	**-6.0**
THR6	**Thira Island,**	**2.20**	**281**	*e*Pb	**P**	**04 06 35.0**	**+0.4**
THR6				*e*Sb	**S**	**04 06 54.5**	**-6.4**
THR3	**Thira Island,**	**2.21**	**282**	*e*Pb	**P**	**04 06 35.3**	**+0.6**
THR3				*e*Sb	**S**	**04 06 55.3**	**-5.8**
THR4	**Thira Island,**	**2.22**	**284**	*e*Pb	**P**	**04 06 35.5**	**+0.6**
THR4				*e*Sb	**S**	**04 06 54.9**	**-6.5**
XRY	**Khrisi**	**2.23**	**241**	*e*P	**P**	**04 06 36.2**	**+1.2**
THR5	**Thira Island,**	**2.25**	**282**	*e*Pb	**P**	**04 06 35.4**	**+0.1**
THR5				*e*Sb	**S**	**04 06 55.8**	**-6.4**
APE	**Apeiranthos**	**2.32**	**299**	PN	**P**	**04 06 35.5**	**-0.8**
APE	**Apeiranthos**	**2.32**	**299**	*e*P	**P**	**04 06 36.7**	**+0.4**
IZM	**Izmir**	**2.51**	**345**	PN	**P**	**04 06 38.3**	**-0.6**
BCK	**Bucak**	**2.51**	**53**	PN	**P**	**04 06 40.5**	**+1.6**
KDAG	**Bornova**	**2.52**	**345**	*i* P	**P**	**04 06 38.1**	**-0.9**
MANT	**Manisa**	**2.55**	**9**	*i* P	**P**	**04 06 39.2**	**-0.2**
MANT				*i* S	**S**	**04 07 07.7**	**-1.8**
KHL	**Karahalli**	**2.62**	**26**	PN	**P**	**04 06 41.0**	**+0.6**
IDI	**Anoyia**	**2.68**	**256**	P	**P**	**04 06 41.5**	**+0.3**
	16nm,0.3s,baz=62,slow=13,SNR=132						
IDI				S	**S**	**04 07 10.6**	**-2.2**
	57nm,0.3s,baz=319,slow=20,SNR=20						
ISP	**Isparta**	**2.71**	**45**	PN	**P**	**04 06 41.9**	**+0.3**
ISP	**Isparta**	**2.71**	**45**	*e*Pn	**P**	**04 06 42.1**	**+0.5**
AKS	**Akhisar**	**2.91**	**356**	PN	**P**	**04 06 43.8**	**-0.7**
VAM	**Vamos**	**3.20**	**261**	*e*P	**P**	**04 06 48.8**	**+0.3**
GVD	**Gavdhos**	**3.44**	**252**	Pn	**P**	**04 06 51.5**	**-0.3**
ALT	**Altintas**	**3.48**	**27**	PN	**P**	**04 06 52.6**	**+0.3**
AKMC	**Akamas**	**3.60**	**104**	P	**P**	**04 06 56.4**	**+2.5**
PPCY	**Paphos**	**3.65**	**106**	P	**P**	**04 06 56.6**	**+2.0**
DST	**Dursunbey**	**3.66**	**7**	PN	**P**	**04 06 53.7**	**-1.0**
BALB	**Balikesir**	**3.67**	**358**	*e*PN	**P**	**04 06 54.1**	**-0.8**
HDMB	**Hadim**	**3.69**	**73**	*e*PN	**P**	**04 06 57.1**	**+1.9**
ALFC	**Alevga**	**3.78**	**101**	P	**P**	**04 06 57.3**	**+0.9**
	14nm,0.2s						
ALFC				S	**S**	**04 07 38.7**	**-1.2**
BTOK	**Tokmak**	**3.79**	**360**	*i* P	**P**	**04 06 56.4**	**-0.1**
BTOK				*i* S	**S**	**04 07 37.7**	**-2.5**
KONT	**Konya--Tatoy**	**3.96**	**59**	*e*PN	**P**	**04 07 00.1**	**+1.2**
SZAC	**Souni-Zanaja**	**4.11**	**106**	P	**P**	**04 07 02.9**	**+1.9**
	16nm,0.2s						
SZAC				S	**S**	**04 07 46.7**	**-1.5**
ESKT	**Eskisehir**	**4.17**	**31**	*e*PN	**P**	**04 07 01.9**	**+0.1**
KIZT	**Kizilcal**	**4.20**	**45**	*e*PN	**P**	**04 07 02.8**	**+0.6**
KCT	**Karacabey**	**4.30**	**3**	*e*PN	**P**	**04 07 02.4**	**-1.1**
CSS	**Prodhromos**	**4.41**	**102**	P	**P**	**04 07 07.5**	**+2.5**
	3.9nm,0.5s						
CSS				S	**S**	**04 07 53.7**	**-1.8**
IKL	**Isikli**	**4.55**	**85**	*e*PN	**P**	**04 07 08.1**	**+1.1**
PHNC	**Paralimni**	**4.96**	**99**	P	**P**	**04 07 16.3**	**+3.8**
AGG	**Agios Georgios**	**5.49**	**305**	*e*Pn	**P**	**04 07 26.0**	**+6.2**
KAMT	**Kaman**	**5.62**	**51**	*e*PN	**P**	**04 07 22.2**	**+0.7**
NIG	**Nigde**	**5.65**	**66**	*e*PN	**P**	**04 07 23.2**	**+1.2**
BRTR	**Keskin Array B**	**5.79**	**48**	P	**P**	**04 07 24.4**	**+0.6**
	2.5nm,0.3s,baz=212,slow=14,SNR=77						
BRTR				S	**S**	**04 08 27.9**	**-1.6**
	0.7nm,0.3s,baz=221,slow=24,SNR=5.1						
ELDT	**Eldivan**	**6.18**	**41**	*i* P	**P**	**04 07 30.2**	**+0.9**
LKD	**Levkas**	**6.51**	**297**	*e*Pn	**P**	**04 07 35.5**	**+1.5**
	comp=Z,8.0nm,0.3s						
HNTI	**Hanita**	**6.53**	**114**	Sn	**S**	**04 08 41.8**	**-5.9**
OFRI	**‘Ofer**	**6.62**	**118**	Pn	**P**	**04 07 34.5**	**-1.0**
HRI	**Mount Hermon**	**6.87**	**111**	Pn	**P**	**04 07 38.4**	**-0.4**
SLTI	**Sal’it**	**6.87**	**121**	Pn	**P**	**04 07 38.0**	**-0.9**
SLTI				Sn	**S**	**04 08 49.5**	**-6.6**
MMLI	**Mount Malkishu**	**7.03**	**118**	Pn	**P**	**04 07 40.9**	**-0.2**
IGT	**Igoumenitsa**	**7.09**	**302**	*e*Pn	**P**	**04 07 44.8**	**+2.9**
IGT				*e*Sn	**S**	**04 08 57.5**	**-4.0**
FNA	**Florina**	**7.12**	**314**	*e*Pn	**P**	**04 07 46.2**	**+3.9**
HMDT	**Nahal Hemdat**	**7.21**	**119**	Pn	**P**	**04 07 43.0**	**-0.5**
KZIT	**Kziot**	**7.31**	**132**	Pn	**P**	**04 07 44.2**	**-0.7**
KZIT				Sn	**S**	**04 08 59.5**	**-7.3**
DRGI	**Dragot**	**7.49**	**124**	Pn	**P**	**04 07 46.9**	**-0.5**
MZDA	**Masada**	**7.65**	**125**	Pn	**P**	**04 07 49.0**	**-0.5**
PRNI	**Paran**	**8.07**	**132**	Pn	**P**	**04 07 54.2**	**-1.0**
PRNI				Sn	**S**	**04 09 17.8**	**-7.7**
KMTI	**Karmit**	**8.08**	**134**	Pn	**P**	**04 07 54.1**	**-1.3**
KMTI				Sn	**S**	**04 09 18.1**	**-7.8**
ASF	**Jabal al Asfar**	**8.24**	**115**	P	**P**	**04 07 57.4**	**-0.1**
	0.6nm,0.3s,baz=205,slow=3.0,SNR=3.5						
ASF				S	**S**	**04 09 27.7**	**-2.0**
	2.0nm,0.3s,baz=86,slow=20,SNR=3.9						
MBH	**Mount Berech**	**8.43**	**135**	Pn	**P**	**04 07 59.5**	**-0.5**
AQBJ	**Aqaba**	**8.55**	**135**	Pn	**P**	**04 08 01.0**	**-0.7**
ALWS	**Ilw as Safayha**	**8.88**	**136**	P	**P**	**04 08 06.1**	**0.0**
ALWS				S	**S**	**04 09 39.3**	**-5.9**
HAQS	**Haql**	**9.00**	**138**	P	**P**	**04 08 07.6**	**-0.2**
JMOS	**Jabal al Moall**	**9.01**	**137**	P	**P**	**04 08 07.4**	**-0.5**
TAYS	**Tayyib Ism**	**9.37**	**140**	P	**P**	**04 08 12.1**	**-0.7**
BDAS	**Al Bad‘**	**9.58**	**140**	P	**P**	**04 08 15.3**	**-0.4**
MLR	**Muntele Rosu**	**9.65**	**351**	P	**P**	**04 08 17.8**	**+1.2**
	0.1nm,0.3s,baz=226,slow=7.9,SNR=4.4						
JMQS	**Jabal Moqyreh**	**9.66**	**135**	P	**P**	**04 08 16.9**	**+0.2**
AYUS	**‘Aynunah**	**9.87**	**140**	P	**P**	**04 08 19.1**	**-0.4**
ORI	**Oriolo Calabro**	**10.04**	**298**	*e*Pn	**P**	**04 08 21.6**	**-0.2**
PZI	**Palazzolo**	**10.62**	**280**	*e*Pn	**P**	**04 08 28.3**	**-1.3**
MGR	**Morigerati**	**10.71**	**297**	*e*Pn	**P**	**04 08 28.9**	**-2.0**
SLCN	**Sala Consilina**	**10.74**	**298**	*e*Pn	**P**	**04 08 31.2**	**-0.1**
SGO	**Sicignano**	**11.03**	**298**	*e*Pn	**P**	**04 08 34.4**	**-0.8**
VRAC	**Vranov**	**15.76**	**331**	P	**P**	**04 09 39.5**	**+2.9**
	0.3nm,0.3s,baz=151,slow=6.8,SNR=4.2						
GERES	**GERESS Array B**	**16.64**	**325**	P	**P**	**04 09 49.0**	**+1.4**
	0.1nm,0.3s,baz=139,slow=12,SNR=6.4						
SBF	**Sospel**	**17.66**	**303**	*e*P	**P**	**04 10 00.1**	**-0.2**
	24nm,0.8s						
FRF	**La Foret Royal**	**18.10**	**301**	*e*P	**P**	**04 10 05.1**	**-0.5**
	32nm,1.1s						
LMR	**La Mourre**	**18.13**	**300**	*e*P	**P**	**04 10 05.5**	**-0.4**
MBDF	**Montbardon**	**18.40**	**305**	*e*P	**P**	**04 10 08.5**	**-0.5**
	18nm,0.6s						
LPG	**La Plagne**	**18.71**	**307**	*e*P	**P**	**04 10 12.9**	**+0.4**
	4.1nm,0.3s						
LPL	**La Plagne**	**18.73**	**307**	*e*P	**P**	**04 10 13.2**	**+0.5**
	8.7nm,0.5s						
ORIF	**Oris-en-Rattie**	**19.07**	**305**	*e*P	**P**	**04 10 16.5**	**+0.1**
	4.4nm,0.5s						
CABF	**La Chapelle**	**19.58**	**310**	*e*P	**P**	**04 10 21.8**	**-0.1**
	35nm,0.8s						
VIVF	**Saint-Julien-l**	**19.85**	**304**	*e*P	**P**	**04 10 24.8**	**0.0**
HAU	**Haudompre**	**20.06**	**314**	*e*P	**P**	**04 10 26.9**	**0.0**
	7.7nm,0.5s						
SMF	**Signal de Mont**	**21.02**	**308**	*e*P	**P**	**04 10 36.7**	**0.0**
	6.0nm,0.4s,mb4.0						
LOR	**Lormes**	**21.25**	**310**	*e*P	**P**	**04 10 39.3**	**+0.3**
	4.8nm,0.6s,mb3.7						
AVF	**Avril sur Loir**	**21.38**	**308**	*e*P	**P**	**04 10 40.2**	**-0.1**
	7.9nm,0.8s,mb3.8						
SSF	**Saint Saulge**	**21.39**	**309**	*e*P	**P**	**04 10 40.7**	**+0.3**
	14nm,0.9s,mb4.0						
BGF	**Bois d’Agland**	**21.63**	**307**	*e*P	**P**	**04 10 42.6**	**-0.2**
	7.4nm,0.6s,mb3.9						
CAF	**Calviac**	**21.65**	**302**	*e*P	**P**	**04 10 42.7**	**-0.3**
LFF	**La Frestale**	**22.56**	**302**	*e*P	**P**	**04 10 51.6**	**-0.3**
MFF	**Saint Martin d**	**23.60**	**305**	*e*P	**P**	**04 11 01.9**	**+0.1**
ESDC	**Sonseca Array**	**25.50**	**288**	P	**P**	**04 11 21.3**	**+1.2**
	1.2nm,0.4s,mb3.6,baz=81,slow=9.4,SNR=12						
FINES	**FINESS Array B**	**25.53**	**358**	P	**P**	**04 11 20.0**	**-0.2**
	1.5nm,0.9s,mb3.4,baz=216,slow=12,SNR=2.8						
FINES				PcP	PcP	04 14 51.2	+1.2
	1.0nm,0.6s,baz=180,slow=1.9,SNR=4.5						
FINES	**FINESS Array B**	**25.53**	**358**	P	**P**	**04 11 20.0**	**-0.2**
FINES				PcP	PcP	04 14 51.2	+1.2
ARCES	**ARCESS Array B**	**33.65**	**358**	P	**P**	**04 12 32.2**	**-0.2**
	4.6nm,1.3s,mb4.2,baz=178,slow=8.9,SNR=6.8						
MKAR	**Makanchi Array**	**41.34**	**58**	P	**P**	**04 13 39.6**	**+2.6**
	0.7nm,0.6s,mb3.7,baz=271,slow=8.6,SNR=5.2						
SCHQ	**Schefferville**	**64.10**	**320**	P	**P**	**04 16 23.8**	**-1.3**
	4.7nm,1.0s,mb4.3,baz=61,slow=10,SNR=2.3						

IDC 27 04:23:17.1±4.4,**22.22S**×**148.10E,mb1 3.3**/4,**mb1mx3.3**/11,**ML3.0**/4,**Error ellipse: s-maj=43.6km s-min=23.4km az=75.0,Queensland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**2.73**	**320**	Pn	Pn	04 24 03.1	+0.2
	1.8nm,0.3s,baz=128,slow=16,SNR=36						
CTA				Lg		04 24 44.0	
	10nm,0.3s,baz=72,slow=21,SNR=16						
STKA	**Stephens Creek**	**11.23**	**210**	Pn	P	04 25 58.1	-3.9
	0.1nm,0.3s,baz=30,slow=16,SNR=3.0						
STKA				Sn	S	04 27 59.0	-10
	0.1nm,0.3s,baz=285,slow=19,SNR=2.6						
WRA	**Warramunga Arr**	**13.05**	**277**	Pn	P	04 26 22.3	-4.2
	0.1nm,0.3s,baz=96,slow=11,SNR=7.1						
WRA				Sn	S	04 28 49.4	-4.2
	0.1nm,0.3s,baz=98,slow=25,SNR=3.0						
WRA				Lg		04 30 12.0	
	0.1nm,0.3s,baz=101,slow=26,SNR=7.9						
ASAR	**Alice Springs**	**13.16**	**261**	Pn	P	04 26 26.6	-1.4
	0.1nm,0.3s,baz=86,slow=13,SNR=3.4						
ASAR				Lg		04 30 15.6	
	0.1nm,0.3s,baz=94,slow=28,SNR=3.6						
FITZ	**Fitzroy Crossi**	**21.48**	**277**	Lg		04 34 43.5	
	4.8nm,1.1s,baz=219,slow=6.9,SNR=4.0						

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*IDC **27** 04:24:26.7±45.0,15.20S×177.58E,mb3.9/3,mb1 4.0/3, mb1mx3.8/11,Error ellipse: s-maj=802.0km s-min=150.9km az=74.0*

ISC 27 04:25:59.2±3.0**,18.7S**±0.1×**168.4E**±0.5**,h136**^{km}±11^{km}**,n6, σ0^{s}52**/9**,mb3.7**/3**,1C,Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BKM	Butte a Klehm	0.99	352	⇑iP	P	04 26 22.4	-0.4
BKM				S	S	04 26 41.0	+0.2
DZM	Mont Dzumac	3.86	208	eP	P	04 26 58.4	+0.2
DZM				eS	S	04 27 42.3	-1.0
NOUC	Port Laguerre	3.94	209	eP	P	04 26 59.7	+0.4
NOUC				eS	S	04 27 46.1	+0.7
STKA	Stephens Creek	27.48	236	P	P	04 31 34.5	-0.3
	1.1nm,0.7s,mb3.6,baz=97,slow=2.9,SNR=2.9						
WRA	Warramunga Arr	32.13	262	P	P	04 32 15.7	-0.3
	0.2nm,0.3s,mb3.3,baz=89,slow=8.5,SNR=5.5						
ASAR	Alice Springs	32.49	255	P	P	04 32 19.6	+0.5
	2.6nm,0.5s,mb4.2,baz=81,slow=8.4,SNR=23						

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*IDC **27** 04:58:12.0±1.5,21.83N×142.65E,h296^{km}±14^{km},mb3.4/9, mb1 3.5/10,mb1mx3.4/20,Error ellipse: s-maj=25.0km s-min=10.7km az=92.0*

*NEIC **27** 04:58:16.4±4.6,21.77N×142.66E,h343^{km}±49^{km},mb3.9/2, Error ellipse: s-maj=20.9km s-min=9.5km az=89.0*

ISC 27 04:58:11.1±1.3**,21.80N**±0.08×**142.7E**±0.2**,h303**^{km}±13^{km}**, n17,σ0^{s}80**/16**,mb3.6**/11**,1D,Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBIJ	Chichi jima	5.29	355	P	P	04 59 34.1	+1.4
	30nm,0.3s,baz=182,slow=23,SNR=11						
CBIJ				S	S	05 00 35.5	-1.3
	5.6nm,0.3s,baz=287,slow=19,SNR=4.5						
FX1	Attu Island--F	38.83	29	eP	P	05 05 10.0	+1.3
SONM	Songino Array	38.96	321	P	P	05 05 10.8	+1.0
	0.7nm,0.6s,mb3.3,baz=127,slow=9.2,SNR=5.1						
WRAB	Tennant Creek	42.26	192	eP	P	05 05 37.3	+0.2
	8.0nm,0.6s,mb4.1						
WB2	Warramunga Arr	42.27	192	⇓iP	P	05 05 37.2	+0.1
WRA	Warramunga Arr	42.27	192	P	P	05 05 37.3	+0.1
	5.2nm,0.6s,mb3.9,baz=13,slow=8.4,SNR=70						
FITZ	Fitzroy Crossi	43.02	204	P	P	05 05 42.8	-0.3
	1.0nm,0.5s,mb3.3,baz=16,slow=8.1,SNR=6.7						
ASAR	Alice Springs	45.99	191	P	P	05 06 06.3	-0.2
	1.5nm,0.6s,mb3.5,baz=17,slow=11,SNR=17						
STKA	Stephens Creek	53.38	181	P	P	05 07 01.4	-0.5
	2.6nm,0.5s,mb3.8,baz=9.2,slow=6.9,SNR=7.0						
STKA	Stephens Creek	53.38	181	P	P	05 07 01.4	-0.5
MKAR	Makanchi Array	54.28	313	P	P	05 07 08.4	+0.2
	0.5nm,0.5s,mb3.1,baz=89,slow=9.9,SNR=4.0						
MKAR				ScP		05 11 34.5	
	0.6nm,0.9s,baz=91,slow=5.5,SNR=3.6						
ILAR	Eielson Array	62.17	27	P	P	05 08 00.8	-1.3
	0.8nm,0.7s,mb3.4,baz=258,slow=5.4,SNR=9.2						
BRVK	Borovoye	62.35	319	P	P	05 08 02.8	-0.8
	1.8nm,0.7s,mb3.8						
ARCES	ARCESS Array B	78.68	341	P	P	05 09 41.5	+0.6
	1.4nm,0.7s,mb3.8,baz=67,slow=9.2,SNR=6.6						
FINES	FINESS Array B	82.89	334	P	P	05 10 02.4	-0.5
	1.0nm,0.7s,mb3.8,baz=76,slow=7.9,SNR=6.4						
LPAZ	La Paz	150.40	85	PKPbc	PKPdf	05 17 30.6	+8.9
	1.4nm,0.5s,baz=352,slow=7.1,SNR=13						
LPAZ				PKPab	PKPab	05 17 38.4	+1.1
	1.4nm,0.4s,baz=22,slow=5.4,SNR=12						
LPAZ	La Paz	150.40	85	ePKPbc	PKPdf	05 17 30.1	+8.4
LPAZ				ePKPab	PKPab	05 17 37.8	+0.6

IDC 27 05:26:38.5±49.0**,23.13S**×**174.81W,mb3.9**/3**,mb1 4.1**/3**, mb1mx3.9**/11**,Error ellipse: s-maj=918.0km s-min=172.1km az=87.0,Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	39.42	247	P	P	05 34 08.7	-3.3
	0.6nm,0.4s,baz=82,slow=11,SNR=4.4						
ASAR	Alice Springs	46.86	259	P	P	05 35 10.9	-1.5
	0.5nm,0.4s,baz=94,slow=7.2,SNR=13						
WRA	Warramunga Arr	47.22	264	P	P	05 35 14.3	-1.0
	1.1nm,0.3s,baz=100,slow=7.1,SNR=26						

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*NEIC **27** 05:53:46.8,36.83N×12.22W,MG4.1(MDD),After MDD.*

*INMG **27** 05:53:48.3±1.5,36.65N×12.40W,h31^{km},ML2.8,Error ellipse: s-maj=6.4km s-min=5.1km az=62.0*

*IGIL **27** 05:53:49.0,36.77N×12.13W,h0^{km},ML3.4*

MDD 27 05:53:46.8±1.8**,36.80N**×**12.21W,mb4.2**/11**,Error ellipse: s-maj=15.9km s-min=12.4km az=47.0,PRXIMO, Azores-Cape St. Vincent Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PTEO	Sao Teotonio	2.88	74	ePn	Pn	05 54 32.7	-2.1
PTEO				eSn	Sn	05 55 06.2	-4.5
	44nm,0.3s						
PTEO	Sao Teotonio	2.88	74	Pn	Pn	05 54 32.7	-2.1
PTEO				Sn	Sn	05 55 06.2	-4.5
	22nm,0.3s						
PLOU	Loures	3.19	48	ePn	Pn	05 54 37.8	-1.5
PLOU				eSn	Sn	05 55 15.1	-3.5
	48nm,0.1s						
PLOU	Loures	3.19	48	Pn	Pn	05 54 37.8	-1.5
PLOU				Sn	Sn	05 55 15.1	-3.5
	24nm,0.1s						
PBEJ	Beja	3.67	69	ePn	Pn	05 54 44.0	-2.0
PBEJ				eSn	Sn	05 55 24.9	-5.7
	19nm,0.2s						
PBEJ	Beja	3.67	69	Pn	Pn	05 54 44.0	-2.0
PBEJ				Sn	Sn	05 55 24.9	-5.7
	9.6nm,0.2s						
ALMR	Almeirim	3.71	50	eP	Pn	05 54 44.5	-2.1
ALMR				eS	Sn	05 55 27.2	-4.5
ALMR				eS	Sn	05 55 27.3	-4.4
ALMR				AML	AML	05 55 29.4	
	comp=N,95nm,0.4s						
ALMR				AML	AML	05 55 30.7	
	comp=E,116nm,0.6s						
PALC	Alcoutim	3.84	79	ePn	Pn	05 54 46.0	-2.4
PALC				eSn	Sn	05 55 28.9	-6.1
	comp=E,21nm,0.2s						
PALC	Alcoutim	3.84	79	Pn	Pn	05 54 46.0	-2.4
PALC				Sn	Sn	05 55 28.9	-6.1
	comp=E,10nm,0.2s						
ERIP	Rio Piedras	4.00	80	Pn	Pn	05 54 48.0	-2.7
	comp=E,1.5nm,0.1s,SNR=7.9						
ERIP				Sn	Sn	05 55 33.6	-5.5
	comp=E,13nm,0.1s,SNR=7.9						
ERIP	Rio Piedras	4.00	80	P	Pn	05 54 48.0	-2.7
ERIP				S	Sn	05 55 33.6	-5.5
PTOM	Tomar	4.11	46	ePn	Pn	05 54 50.0	-2.3
PTOM				eSn	Sn	05 55 36.9	-4.9
	comp=E,15nm,0.1s						
PTOM	Tomar	4.11	46	Pn	Pn	05 54 50.0	-2.3
PTOM				Sn	Sn	05 55 36.9	-4.9
	comp=E,7.6nm,0.1s						
EMIN	Mina Concepcio	4.52	76	Pn	Pn	05 54 54.9	-3.2
	comp=E,0.7nm,0.3s,SNR=13						
EMIN				Sn	Sn	05 55 45.1	-7.1
	comp=E,8.2nm,0.3s,SNR=14						
EBAD	Badajoz	4.55	63	Pn	Pn	05 54 55.8	-2.8
	comp=E,1.7nm,0.3s,SNR=17						
EBAD				Sn	Sn	05 55 46.8	-6.4
	comp=E,7.8nm,0.3s,SNR=11						
PCBR	Castelo Branco	4.80	49	ePn	Pn	05 54 59.3	-2.8
PCBR				eSn	Sn	05 55 52.6	-6.7
	comp=E,5.8nm,0.2s						
PCBR	Castelo Branco	4.80	49	Pn	Pn	05 54 59.3	-2.8
PCBR				Sn	Sn	05 55 52.6	-6.7
	comp=E,2.9nm,0.2s						
ESPR	Espera	5.09	87	Pn	Pn	05 55 03.3	-3.0
	comp=E,7.1nm,0.4s,SNR=8.1						
ESPR				Sn	Sn	05 55 59.7	-7.1
	comp=E,17nm,0.3s,SNR=9.0						
MTE	Manteigas	5.13	44	ePn	Pn	05 55 03.8	-2.9
MTE				eSn	Sn	05 56 00.6	-6.9
	comp=E,12nm,0.7s						
MTE	Manteigas	5.13	44	Pn	Pn	05 55 03.8	-2.9
MTE				Sn	Sn	05 56 00.6	-6.9
	comp=E,5.8nm,0.7s						
PVIS	Viseu	5.16	39	ePn	Pn	05 55 04.2	-3.0
PVIS				eSn	Sn	05 56 01.5	-6.9
	comp=E,6.4nm,0.1s						
PVIS	Viseu	5.16	39	Pn	Pn	05 55 04.2	-3.0
PVIS				Sn	Sn	05 56 01.5	-6.9
	comp=E,3.2nm,0.1s						
PVRL	Vila Real	5.68	37	ePn	Pn	05 55 11.7	-2.8
EMIJ	Mijas	5.98	90	Sn	Sn	05 56 21.3	-7.7
	comp=E,3.2nm,0.3s,SNR=5.0						
EZAM	Zamans	6.00	26	Pn	Pn	05 55 15.1	-3.9
	comp=E,2.4nm,0.3s,SNR=5.0						
EZAM				Sn	Sn	05 56 20.6	-8.7
	comp=E,2.3nm,0.3s,SNR=7.9						
ELOB	Lobios	6.00	31	Pn	Pn	05 55 15.6	-3.3
	comp=E,3.2nm,0.3s,SNR=14						
ELOB				Sn	Sn	05 56 20.3	-9.0
	comp=E,0.7nm,0.1s,SNR=7.9						
EADA	Adamuz	6.22	75	Pn	Pn	05 55 18.3	-3.9
	comp=E,1.2nm,0.3s,SNR=6.2						
EADA				Sn	Sn	05 56 25.7	-9.2
	comp=E,5.9nm,0.3s,SNR=11						
PBRG	Braganca	6.55	39	ePn	Pn	05 55 22.9	-4.0
PBRG				eSn	Sn	05 56 34.6	-8.7
	comp=E,1.7nm,0.1s						
PBRG	Braganca	6.55	39	Pn	Pn	05 55 22.9	-4.0
PBRG				Sn	Sn	05 56 34.6	-8.7
	comp=E,0.9nm,0.1s						
EMAZ	Mazaricos	6.63	21	Pn	Pn	05 55 23.7	-4.2
	comp=E,1.9nm,0.2s,SNR=7.9						
EMAZ				Sn	Sn	05 56 32.0	-13
	comp=E,4.6nm,0.4s,SNR=4.9						
ECAL	Calabor	6.66	38	Pn	Pn	05 55 24.5	-3.8
	comp=E,10nm,0.4s,SNR=9.2						
ECAL				Sn	Sn	05 56 36.5	-9.4
	comp=E,3.2nm,0.4s,SNR=5.7						
ERUA	La Rua	6.82	33	Pn	Pn	05 55 23.6	-6.9
	comp=E,3.5nm,0.1s,SNR=5.0						
ERUA				Sn	Sn	05 56 39.0	-11
	comp=E,2.9nm,0.6s,SNR=5.0						
ESDC	Sonseca Array	7.10	64	Pn	Pn	05 55 30.1	-4.4
	comp=E,3.2nm,0.3s,baz=251,slow=13,SNR=5.0						
ESDC				Sn	Sn	05 56 46.3	-11
	comp=E,1.2nm,0.3s,baz=249,slow=23,SNR=7.9						
EQES	Quesada	7.35	79	Pn	Pn	05 55 34.7	-3.3
	comp=E,1.0nm,0.2s,SNR=7.9						
EQES				Sn	Sn	05 56 52.5	-11
	comp=E,3.1nm,0.3s,SNR=4.6						
EPON	Pontenova	7.59	29	Pn	Pn	05 55 36.9	-4.4
	comp=E,2.9nm,0.4s,SNR=7.0						
EPON				Sn	Sn	05 56 57.8	-11
	comp=E,6.8nm,0.9s,SNR=7.9						
EVIA	Vianos	7.91	74	Sn	Sn	05 57 06.4	-11
	comp=E,3.2nm,0.4s,SNR=5.0						
EARI	Arriondas	8.42	37	Pn	P	05 55 49.3	-3.7
	comp=E,1.2nm,0.4s,SNR=5.0						
EARI				Sn	Sn	05 57 18.1	-12
	comp=E,5.0nm,0.7s,SNR=4.0						
ETOB	Tobarra	8.65	74	Sn	Sn	05 57 24.1	-11
	comp=E,2.1nm,0.5s,SNR=5.0						
ETOR	Torete	8.88	60	Pn	P	05 55 55.3	-4.1
	comp=E,2.2nm,0.3s,SNR=17						
ETOR				Sn	Sn	05 57 29.0	-12
	comp=E,8.9nm,0.5s,SNR=5.9						
EMOS	Mosqueruela	9.85	65	Pn	P	05 56 08.6	-4.2
	comp=E,0.5nm,0.2s,SNR=7.9						
EMOS				Sn	Sn	05 57 52.6	-13
	comp=E,3.1nm,0.6s,SNR=7.9						
ESAC	San Caprasio	10.34	58	Sn	S	05 58 03.8	-14
	comp=E,16nm,0.4s,SNR=7.9						

IDC 27 05:59:52.2±3.0**,30.37S**×**138.23E,mb1 3.2**/4**, mb1mx3.2**/10**,ML2.7**/4**,Error ellipse: s-maj=76.9km s-min=19.9km az=44.0,South Australia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	3.25	118	Pn	Pn	06 00 43.6	-1.8
	0.4nm,0.3s,baz=296,slow=13,SNR=5.8						
STKA				Pg	Pg	06 00 52.2	-4.8
	1.8nm,0.3s,baz=301,slow=12,SNR=19						
STKA				Sn	Sn	06 01 22.4	-3.0
	1.4nm,0.3s,baz=298,slow=15,SNR=5.1						
ASAR	Alice Springs	7.71	329	Pn	Pn	06 01 44.5	-4.0
	0.1nm,0.3s,baz=149,slow=13,SNR=2.6						
ASAR				Sn	Sn	06 03 19.1	+1.5
	0.1nm,0.3s,baz=157,slow=22,SNR=4.2						
WRA	Warramunga Arr	10.97	340	Pn	P	06 02 31.6	-1.9
	0.1nm,0.3s,baz=155,slow=13,SNR=7.9						
WRA				Sn	S	06 04 35.1	-3.1
	0.1nm,0.3s,baz=161,slow=24,SNR=3.2						
FITZ	Fitzroy Crossi	16.75	314	Pn	P	06 03 49.0	-0.9
	0.1nm,0.3s,baz=167,slow=12,SNR=2.6						

DJA 27 06:32:49.4±1.0**,9.31S**×**116.05E,h2**^{km}**,MD5.9**/3**,ML4.3**/1**, 2C-4D,Error ellipse: s-maj=24.0km s-min=12.3km az=154.0,Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RATI	Rata	0.77	319	⇓iPn	Pn	06 33 03.3	-3.7
	274nm,0.2s						
RATI				⇓iSn	Sn	06 33 15.1	-4.2
KEDI	Kedomdong	0.82	5	⇑iPn	Pn	06 33 04.9	-2.8
	275nm,0.2s						
KEDI				⇓iSn	Sn	06 33 17.6	-3.0
INGI	Ingas	1.01	299	⇑iPn	Pn	06 33 08.1	-2.4
	469nm,0.2s						
INGI				⇓iSn	Sn	06 33 19.1	-6.4

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*ROM **27** 07:01:54.9±0.3,46.49N×12.91E,h5^{km},MD2.9/7,ML2.4/4, Error ellipse: s-maj=3.5km s-min=2.8km az=0.0*

*LDG **27** 07:01:55.8±1.2,46.56N×13.07E,h10^{km},Ml3.1/5,Error ellipse: s-maj=24.6km s-min=14.4km az=79.0*

*PRU **27** 07:01:55.4,46.55N×12.88E*

*NEIC **27** 07:01:55.0,46.49N×12.91E,h5^{km},MD2.9(ROM), ML3.1(VIE),ML3.1(LDG),After ROM.*

ISC 27 07:01:54.2±0.2**,46.54N**±0.01×**12.85E**±0.02**,h10**^{km}±2^{km}**, n69,σ1^{s}01**/119**,21C-12D,Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FVI	Forni Avoltri	0.07	318	⇑iPG	Pg	07 01 57.6	+1.1
FVI	Forni Avoltri	0.07	318	⇑iPg	Pg	07 01 57.6	+1.1
ZOU	Zoufplan	0.09	81	⇑iPg	Pg	07 01 57.6	+0.9
ZOU				eSg	Sg	07 01 59.4	+1.0
CSMI	Casera Mimoias	0.14	257	⇑ePg	Pg	07 01 58.3	+0.7
CSMI				eSg	Sg	07 02 00.5	+0.8
PLRO	Paularo	0.21	88	⇑ePg	Pg	07 01 59.3	+0.6
PLRO				eSg	Sg	07 02 02.5	+0.7
BOO	Bordano	0.28	142	⇓ePg	Pg	07 02 00.0	-0.1
BOO				eSg	Sg	07 02 04.4	+0.3
MPRI	Monte Prat	0.32	162	⇑ePg	Pg	07 02 00.6	-0.2
MPRI				eSg	Sg	07 02 05.4	+0.2
PTCC	Patocco-Chiusa	0.38	112	⇓iPG	Pg	07 02 01.9	0.0
PTCC				SG	Sg	07 02 07.8	+0.8
PTCC	Patocco-Chiusa	0.38	112	⇓iPn	Pn	07 02 01.9	-3.4
PTCC				eSn	Sn	07 02 07.8	-4.7
BUA	Buia	0.38	150	⇑ePg	Pg	07 02 01.8	-0.2
GMNA	Gemona	0.38	135	⇓iPG	Pg	07 02 01.0	-1.0
GMNA				SG	Sg	07 02 05.9	-1.3
	1µm,0.3s						
GMNA	Gemona	0.38	135	⇓iPg	Pg	07 02 01.0	-1.0
GMNA				eSg	Sg	07 02 06.0	-1.3
BAD	Bernadia	0.41	138	⇓ePg	Pg	07 02 02.2	-0.4
BAD				eSg	Sg	07 02 08.3	+0.1
MLNI	Malnisio	0.43	203	⇓ePg	Pg	07 02 02.7	-0.3
MLNI				eSg	Sg	07 02 09.1	+0.4
CSO	Casso	0.45	234	⇑ePg	Pg	07 02 03.2	-0.2
CSO				eSg	Sg	07 02 09.4	-0.2
AFL	Alpe Faloria	0.46	269	⇓ePg	Pg	07 02 04.3	+0.7
LSR	Lussari	0.47	98	⇓ePg	Pg	07 02 03.6	-0.2
LSR				eSg	Sg	07 02 11.0	+0.7
ROBS	Robic	0.55	123	i Pg	Pg	07 02 04.4	-0.8
ROBS				eSg	Sg	07 02 13.1	+0.5
	comp=Z,32nm,0.1s						
COLI	Coloredo	0.55	138	⇑ePg	Pg	07 02 04.9	-0.5
COLI				eSg	Sg	07 02 13.1	+0.3
CAE	Caneva	0.61	208	⇑ePg	Pg	07 02 06.0	-0.5
CAE				eSg	Sg	07 02 15.4	+0.7
KBA	Koelnbreinsper	0.63	32	⇓iPG	Pg	07 02 07.6	+0.6
KBA				i SG	Sg	07 02 16.1	+0.6
	comp=Z,158nm,0.2s						
TLI	Talmassons	0.65	164	⇑ePg	Pg	07 02 06.5	-0.7
DRE	Drenchia	0.66	124	⇑ePg	Pg	07 02 06.7	-0.8
DRE				eSg	Sg	07 02 16.9	+0.4
FAU	Forcella Aurin	0.68	243	⇑ePg	Pg	07 02 07.9	0.0
CADS	Cadrg	0.69	117	i Pg	Pg	07 02 07.2	-0.9
CADS				i Sg	Sg	07 02 17.9	+0.5
	comp=Z,32nm,0.1s						
VOY	Vojsko	0.89	125	eSg	Sg	07 02 24.5	+0.6
CTI	Castel Tesino	0.97	240	ePG	Pg	07 02 13.2	-0.4
CTI				SG	Sg	07 02 27.7	+1.1
	comp=Z,134nm,0.3s						
CTI	Castel Tesino	0.97	240	ePn	Pg	07 02 13.2	-0.4
CTI				eSn	Sn	07 02 27.7	+0.2
CGRP	Cima Grappa	0.99	228	⇑ePg	Pg	07 02 13.9	-0.1
CGRP				eSg	Sg	07 02 30.4	+3.2
IESO	Jesolo	1.04	192	⇑ePg	Pg	07 02 15.2	+0.1
TRI	Trieste	1.05	142	ePG	Pg	07 02 13.9	-1.3
	comp=Z,99nm,0.2s						
TRI	Trieste	1.05	142	ePn	Pn	07 02 13.9	-1.0
JAVS	Javornik	1.06	127	i Pg	Pg	07 02 13.5	-2.1
	comp=Z,85nm,0.2s						
WTTA	Wattenberg	1.10	311	⇑iPG	Pg	07 02 15.9	-0.3
WTTA				i SG	Sg	07 02 31.0	0.0
	comp=Z,33nm,0.2s						
OBKA	Obir	1.17	91	⇓iPG	Pg	07 02 16.5	-1.2
OBKA				i SG	Sg	07 02 32.1	-1.3
	comp=Z,37nm,0.2s						
WATA	Walderalm	1.18	313	⇑iPG	Pg	07 02 17.5	-0.3
WATA				i SG	Sg	07 02 33.7	+0.2
	comp=Z,38nm,0.2s						
LJU	Ljubljana	1.27	113	ePg	Pg	07 02 19.4	-0.2
LJU				eSg	Sg	07 02 36.8	+0.3
SQTA	Sankt Quirin	1.31	302	⇑iPG	Pg	07 02 19.8	-0.7
SQTA				i SG	Sg	07 02 37.7	-0.3
	comp=Z,33nm,0.3s						
MOTA	Moosalm	1.44	304	⇑iPG	Pg	07 02 22.1	-0.9
MOTA				i SG	Sg	07 02 42.0	-0.2
	comp=Z,26nm,0.3s						
MOA	Molln	1.62	36	⇑iPG	Pg	07 02 26.0	-0.7
MOA				i SG	Sg	07 02 49.1	+0.7
	comp=Z,33nm,0.4s						
MABI	Malga Bissina	1.69	254	ePN	Pn	07 02 26.5	+2.4
MABI				SN	Sn	07 02 49.3	+3.4
MABI	Malga Bissina	1.69	254	ePn	Pn	07 02 26.5	+2.4
MABI				eSn	Sn	07 02 49.3	+3.4
BRMO	Bormio	1.71	269	ePN	Pn	07 02 26.9	+2.5
	comp=Z,18nm,0.3s						
BRMO	Bormio	1.71	269	ePn	Pn	07 02 26.9	+2.6
ARSA	Arzberg	1.96	68	⇓iPN	Pn	07 02 27.5	-0.5
ARSA				i SN	Sn	07 02 53.4	+0.5
ARSA				i SG	Sg	07 02 58.7	-1.0
	comp=Z,10.0nm,0.4s						
VBY	Vinica-Bojanci	1.97	121	eSn	Sn	07 02 54.8	+1.7
VBY				e		07 02 55.7	
DAVA	Damuels	2.17	291	⇑iPN	Pn	07 02 30.7	-0.2
DAVA				i PG	Pg	07 02 35.7	-1.8
DAVA				i SN	Sn	07 02 58.5	+0.5
DAVA				i SG	Sg	07 03 06.2	-0.2
	comp=Z,48nm,0.5s						
GEC2	GERESS Array S	2.37	14	ePn	Pn	07 02 36.2	+2.4
WET	Wettzell	2.60	0	ePn	Pn	07 02 38.6	+1.5
KHC	Kasperske Hory	2.63	10	ePN	Pn	07 02 39.0	+1.4
KHC				i x	x	07 02 40.0	
KHC				ePG	Pg	07 02 44.3	-2.5
KHC				ex	x	07 02 49.0	
KHC				eSG	Sg	07 03 18.5	-3.5
PRU	Pruhonice	3.63	18	PN	Pn	07 02 53.8	+2.1
PRU				PG	Pg	07 03 03.3	-3.3
PRU				SG	Sg	07 03 50.0	-5.0
	comp=Z,31nm,0.5s						
NKC	Novy Kostel	3.70	356	ePN	Pn	07 02 54.2	+1.5
NKC				ex	x	07 03 02.0	
NKC				eSG	Sg	07 03 52.4	-5.1
PVCC	Panska Ves	4.15	15	eSG	Sg	07 04 07.2	-5.1
MOX	Moxa	4.18	349	i P	Pn	07 02 59.6	0.0
MOX				e		07 03 48.0	
MOX				S	Sn	07 04 09.0	+20
MOX	Moxa	4.18	349	ePn	Pn	07 02 59.6	0.0
MOX				e		07 03 48.2	
MOX				eSn	Sn	07 04 09.0	+20
CDF	Champ du Feu	4.22	298	ePn	Pn	07 03 00.8	+0.7
CDF				eSn	Sn	07 03 48.8	-1.2
	comp=Z,4.2nm,0.3s						
HINF	Hinteralfeld	4.28	289	ePn	Pn	07 03 01.4	+0.4
HINF				eSn	Sn	07 03 51.2	-0.4
	comp=Z,12nm,0.3s						
BRG	Berggiesshubel	4.39	9	ePn	Pn	07 03 02.8	+0.2
BRG				i		07 03 17.6	
BRG				i Sg	Sg	07 04 15.1	-5.4
DPC	Dobruska-Polom	4.46	30	ePG	Pg	07 03 15.3	-7.9
DPC				eSG	Sg	07 04 14.5	-8.1
UPC	Upice	4.49	27	eSG	Sg	07 04 16.6	-7.1
MBDF	Montbardon	4.63	249	ePn	Pn	07 03 05.6	-0.4
HAU	Haudompre	4.66	291	ePn	Pn	07 03 06.8	+0.4
HAU				eSn	Sn	07 03 59.2	-2.0
	comp=Z,16nm,0.5s						
CABF	La Chapelle	4.66	273	ePn	Pn	07 03 07.6	+1.2
SBF	Sospel	4.67	237	ePn	Pn	07 03 06.8	+0.3
SBF				eSn	Sn	07 03 59.6	-1.9
	comp=Z,5.5nm,0.3s						
CLL	Collm	4.77	1	i PN	Pn	07 03 08.6	+0.7
CLL				eSG	Sg	07 04 29.0	-4.0
CLL	Collm	4.77	1	i Pn	Pn	07 03 08.6	+0.7
CLL				eSg	Sg	07 04 27.0	-6.0
ORIF	Oris-en-Rattie	5.14	254	ePn	Pn	07 03 13.0	-0.2
ORIF				eSn	Sn	07 04 11.8	-1.5
	comp=Z,3.2nm,0.5s						
VIVF	Saint-Julien-l	5.97	257	ePn	Pn	07 03 24.7	-0.1
AVF	Avril sur Loir	6.54	276	ePn	Pn	07 03 32.3	-0.6

DJA 27 07:10:17.8±0.9**,8.67S**×**116.08E,h117**^{km}±6^{km}**,MD5.1**/4**, ML4.0**/2**,4C-4D,Error ellipse: s-maj=30.4km s-min=14.0km az=174.0,Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEDI	Kedomdong	0.19	9	⇓ePn	P	07 10 33.9	-0.2
	49nm,0.1s						
KEDI				⇑iSn	S	07 10 45.7	-0.6
RATI	Rata	0.55	265	⇓ePn	P	07 10 35.7	-0.1
	208nm,0.2s						
RATI				⇑iSn	S	07 10 48.0	-1.5
INGI	Ingas	0.94	261	⇓ePn	P	07 10 38.7	-0.6
	339nm,0.2s						
INGI				⇑iSn	S	07 10 55.1	-0.2
KELI	Kelakatan	1.64	286	⇓ePn	P	07 10 46.9	-0.2
	92nm,0.2s						
KELI				⇑iSn	S	07 11 07.7	-1.6

IDC 27 07:12:29.9±2.1**,5.45S**×**152.31E,mb3.7**/4**,mb1 4.0**/4**, mb1mx3.7**/13**,Error ellipse: s-maj=127.0km s-min=26.3km az=131.0,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.65	229	P	P	07 17 33.3	-0.9
	0.5nm,0.5s,baz=54,slow=9.7,SNR=8.6						
ASAR	Alice Springs	25.34	223	P	P	07 17 58.9	-1.4
	1.1nm,0.8s,baz=59,slow=9.0,SNR=6.0						
FITZ	Fitzroy Crossi	28.92	242	P	P	07 18 30.3	-2.7
	1.0nm,0.5s,slow=8.1,SNR=3.8						
ILAR	Eielson Array	82.94	22	P	P	07 24 56.7	-1.1
	0.8nm,0.6s,baz=248,slow=4.9,SNR=10						

ISC 27 07:25:05.9±0.4**,46.54N**±0.02×**12.84E**±0.03**,h10**^{km}**,n17, σ0^{s}59**/32**,2C-2D,Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZOU	Zoufplan	0.10	79	ePg	Pg	07 25 09.1	+0.6
ZOU				eSg	Sg	07 25 10.9	+0.6
CSMI	Casera Mimoias	0.13	258	ePg	Pg	07 25 09.8	+0.7
CSMI				eSg	Sg	07 25 12.0	+0.9
PLRO	Paularo	0.21	87	ePg	Pg	07 25 10.8	+0.3
PLRO				eSg	Sg	07 25 14.2	+0.6
BOO	Bordano	0.28	140	⇑iPg	Pg	07 25 11.6	-0.2
MPRI	Monte Prat	0.32	161	ePg	Pg	07 25 12.1	-0.3
MPRI				eSg	Sg	07 25 16.9	+0.1
BUA	Buia	0.38	148	ePg	Pg	07 25 13.4	-0.2
BAD	Bernadia	0.41	137	ePg	Pg	07 25 13.8	-0.5
BAD				eSg	Sg	07 25 19.8	-0.1
MLNI	Malnisio	0.42	202	ePg	Pg	07 25 14.3	-0.1
MLNI				eSg	Sg	07 25 20.7	+0.5
CSO	Casso	0.44	233	ePg	Pg	07 25 15.0	+0.1
CSO				eSg	Sg	07 25 20.3	-0.7
ROBS	Robic	0.55	122	i Pg	Pg	07 25 16.1	-0.8
ROBS				i Sg	Sg	07 25 24.8	+0.3
	comp=Z,3.0nm,0.1s						

COLI	Coloredo	0.55	137	*e*Pg	Pg	07 25 16.2	-0.8
COLI				*e*Sg	Sg	07 25 25.0	+0.5
KBA	Koelnbreinsper	0.64	33	⇓*i*PG	Pg	07 25 19.1	+0.3
KBA				*i* SG	Sg	07 25 27.6	+0.1
	comp=Z,12nm,0.1s						
DRE	Drenchia	0.67	123	*e*Pg	Pg	07 25 18.2	-1.1
DRE				*e*Sg	Sg	07 25 28.5	+0.3
CADS	Cadrg	0.70	116	*i* Pg	Pg	07 25 19.0	-0.9
CADS				*e*Sg	Sg	07 25 30.3	+1.0
	comp=Z,4.0nm,0.1s						
VOY	Vojsko	0.89	124	*e*Pg	Pg	07 25 23.8	+0.1
VOY				*e*Sg	Sg	07 25 36.5	+0.8
VOY				*e*		07 25 40.0	
WTTA	Wattenberg	1.10	312	⇓*i*PG	Pg	07 25 27.5	-0.3
WTTA				*i* SG	Sg	07 25 42.5	0.0
	comp=Z,2.7nm,0.2s						
OBKA	Obir	1.18	91	⇑*i*PG	Pg	07 25 28.6	-0.9
OBKA				*i* SG	Sg	07 25 44.4	-0.9
	comp=Z,2.1nm,0.2s						

IDC 27 07:41:05.2±23.0**,2.26N**×**98.40E,h126**^{km}±198^{km}**,mb3.3**/3**, mb1 3.5**/4**,mb1mx3.2**/17**,ML4.1**/1**,Error ellipse: s-maj=256.0km s-min=22.2km az=56.0,Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	16.11	2	P	P	07 44 44.5	-1.1
	0.2nm,0.3s,baz=194,slow=10,SNR=6.2						
WRA	Warramunga Arr	41.60	124	P	P	07 48 40.8	-1.8
	1.3nm,0.8s,baz=303,slow=9.2,SNR=11						
ASAR	Alice Springs	43.09	129	P	P	07 48 53.2	-1.5
	0.5nm,0.5s,baz=301,slow=7.7,SNR=9.0						
MKAR	Makanchi Array	46.52	345	P	P	07 49 19.8	-1.9
	0.3nm,0.4s,baz=148,slow=8.8,SNR=6.5						

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*MAN **27** 07:43:27.2, 6.98N×126.03E, h1^{km}, mb4.6, ML3.5, MS3.5*

*IDC **27** 07:43:36.7±15.0, 6.44N×125.59E, h157^{km}±152^{km}, mb3.7/8, mb1 3.8/8, mb1mx3.6/21, MS3.2/1, Ms1 3.4/1, ms1mx2.7/20, Error ellipse: s-maj=72.3km s-min=25.7km az=67.0*

ISC 27 07:43:21.4±1.1**,6.6N**±0.2×**125.8E**±0.5**,h33**^{km}**,n11, σ0**^{s}**74**/10**,mb4.1**/8**,MS3.1**/1**,Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	24.55	180	*e*P	P	07 48 39.4	-0.3
	3.8nm,0.6s,mb4.1						
FITZ	Fitzroy Crossi	24.55	180	P	P	07 48 39.8	+0.1
	4.1nm,0.6s,mb4.1,baz=355,slow=8.2,SNR=9.1						
WRA	Warramunga Arr	27.70	162	P	P	07 49 10.5	+1.5
	1.2nm,0.7s,mb3.6,baz=339,slow=10,SNR=11						
CMAR	Chiang Mai Arr	28.65	297	LR	LR	08 01 10.0	
	comp=Z,48nm,18.7s,MS3.1,baz=195,slow=37						
ASAR	Alice Springs	31.12	165	P	P	07 49 38.3	-1.1
	1.1nm,0.9s,mb3.7,baz=345,slow=7.0,SNR=10						
FORT	Forrest	37.23	177	*e*P	P	07 50 31.3	-0.6
	25nm,0.6s						
NWAO	Narrogin (SRO)	40.14	191	P	P	07 50 56.4	+0.4
	7.5nm,0.8s,mb4.5,baz=18,slow=7.1,SNR=3.5						
MKAR	Makanchi Array	54.66	325	P	P	07 52 49.3	-0.2
	1.5nm,0.5s,mb4.3,baz=115,slow=6.7,SNR=20						
BVAR	Borovoye Array	64.40	327	P	P	07 53 57.2	+0.8
	1.0nm,0.5s,mb4.1,baz=101,slow=7.3,SNR=4.7						
ARCES	ARCESS Array B	87.43	340	P	P	07 56 06.2	-0.1
	1.5nm,1.0s,mb4.2,baz=82,slow=6.4,SNR=5.3						
FINES	FINESS Array B	88.86	332	P	P	07 56 12.7	-0.6
	1.9nm,1.0s,mb4.4,baz=72,slow=6.0,SNR=5.6						

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*IDC **27** 08:21:23.8±5.4, 29.54S×178.94W, mb3.3/2, mb1 3.6/2, mb1mx3.5/10, Error ellipse: s-maj=289.0km s-min=80.8km az=166.0*

*NEIC **27** 08:22:12.0±2.8, 31.33S×179.60E, h387^{km}±13^{km}, mb3.6/1, Error ellipse: s-maj=45.5km s-min=21.8km az=63.0*

ISC 27 08:22:06.7±1.1**,31.31S**±0.10×**179.4W**±0.3**,h431**^{km}±14^{km}**, n60,σ1**^{s}**05**/70**,mb3.0**/3**,Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	6.53	197	*e*P	P	08 23 46.2	-0.6
MXZ				S	S	08 25 05.6	-0.2
MXZ	Matakaoa Point	6.53	197	P	P	08 23 47.3	+0.5
MXZ				S	S	08 25 07.1	+1.3
PUZ	Puketiti	7.03	196	*e*P	P	08 23 51.2	-1.0
PUZ				S	S	08 25 14.2	-1.4
PUZ	Puketiti	7.03	196	*e*P	P	08 23 53.3	+1.1
PUZ				S	S	08 25 16.2	+0.6
MWZ	Matawai	7.46	199	*e*P	P	08 23 55.8	-1.2
MWZ				S	S	08 25 24.6	+0.4
MWZ	Matawai	7.46	199	*e*P	P	08 23 56.0	-1.0
URZ	Urewera	7.52	202	P	P	08 23 55.5	-2.1
URZ	Urewera	7.52	202	*e*P	P	08 23 55.7	-1.9
KNZ	Kokohu	8.07	197	*e*P	P	08 24 04.5	+0.7
KNZ				S	S	08 25 37.0	+0.7
KNZ	Kokohu	8.07	197	P	P	08 24 05.8	+2.0
BKZ	Black Stump Fm	8.54	202	*e*P	P	08 24 08.8	-0.3
BKZ	Black Stump Fm	8.54	202	*e*P	P	08 24 08.9	-0.2
HIZ	Hauiti	8.61	212	*e*P	P	08 24 12.9	+3.0
NGZ	Ngauruhoe	8.86	206	*e*P	P	08 24 12.6	-0.1
NGZ	Ngauruhoe	8.86	206	P	P	08 24 14.3	+1.6
CNZ	Chateau	8.90	206	*e*P	P	08 24 14.6	+1.4
CNZ	Chateau	8.90	206	P	P	08 24 15.4	+2.2
TUVZ	Tukino	8.92	206	*e*P	P	08 24 13.9	+0.5
TUVZ	Tukino	8.92	206	P	P	08 24 14.2	+0.8
MOVZ	Moawhango	9.01	205	P	P	08 24 14.4	0.0
PWZ	Pawanui	9.22	198	*e*P	P	08 24 15.9	-0.9
PWZ	Pawanui	9.22	198	*e*P	P	08 24 17.6	+0.8
TSZ	Takapari Road	9.52	202	*e*P	P	08 24 20.4	+0.3
TSZ				S	S	08 26 05.6	-0.3
TSZ	Takapari Road	9.52	202	P	P	08 24 18.9	-1.2
WAZ	Wanganui	9.60	207	*e*P	P	08 24 20.0	-1.0
WAZ	Wanganui	9.60	207	*e*P	P	08 24 21.5	+0.5
BFZ	Birch Farm	10.00	200	P	P	08 24 27.1	+1.6
MRZ	Mangatainoka R	10.19	202	*e*P	P	08 24 26.2	-1.5
MRZ				S	S	08 26 17.6	-2.0
MRZ	Mangatainoka R	10.19	202	*e*P	P	08 24 27.1	-0.6
KIW	Kapiti Island	10.60	204	*e*P	P	08 24 32.8	+0.5
KIW	Kapiti Island	10.60	204	P	P	08 24 32.9	+0.6
MTW	Mount Morrison	10.66	201	*e*P	P	08 24 32.2	-0.9
MTW				S	S	08 26 29.9	+0.6
MTW	Mount Morrison	10.66	201	P	P	08 24 33.5	+0.4
CAW	Cannon Point	10.76	203	*e*P	P	08 24 33.8	-0.3
CAW	Cannon Point	10.76	203	P	P	08 24 33.9	-0.2
MSWZ	Moikau Station	10.98	202	P	P	08 24 36.8	+0.2
MRW	Makara Radio	10.99	204	*e*P	P	08 24 36.7	-0.1
MRW	Makara Radio	10.99	204	P	P	08 24 36.8	+0.1
SNZO	South Karori	11.06	204	*e*P	P	08 24 36.3	-1.2
SNZO				*e*S	S	08 26 33.4	-4.2
BHW	Baring Head	11.10	203	*e*P	P	08 24 38.2	+0.3
BHW	Baring Head	11.10	203	P	P	08 24 38.6	+0.7
NNZ	Nelson	11.49	209	*e*P	P	08 24 40.6	-1.6
NNZ				S	S	08 26 45.2	-1.1
NNZ	Nelson	11.49	209	*e*P	P	08 24 41.2	-1.0
QRZ	Quartz Range	11.54	212	*e*P	P	08 24 42.4	-0.3
QRZ	Quartz Range	11.54	212	*e*P	P	08 24 42.5	-0.2
BSWZ	Blackbirch Sta	11.72	206	P	P	08 24 45.0	+0.3
THZ	Tophouse	12.14	209	*e*P	P	08 24 47.6	-1.8
THZ				S	S	08 26 58.9	-0.6
THZ	Tophouse	12.14	209	*e*P	P	08 24 49.1	-0.3
KHZ	Kahutara	12.45	205	*e*P	P	08 24 51.3	-1.5
KHZ				S	S	08 27 06.7	+1.0
KHZ	Kahutara	12.45	205	*e*P	P	08 24 51.8	-1.0
LTZ	Lake Taylor	13.25	208	*e*P	P	08 25 01.9	+0.5
LTZ	Lake Taylor	13.25	208	*e*P	P	08 25 02.0	+0.6
MQZ	McQueen's Vall	13.89	205	S	S	08 27 36.0	+1.9
MQZ	McQueen's Vall	13.89	205	*e*P	P	08 25 08.5	+0.2
ASAR	Alice Springs	41.91	269	P	P	08 29 20.5	+1.6
	0.1nm,0.5s,mb2.4,baz=105,slow=8.1,SNR=2.8						
WRA	Warramunga Arr	42.98	274	P	P	08 29 26.6	-0.9
	0.5nm,0.6s,mb3.0,baz=111,slow=8.1,SNR=9.6						
QSPA	South Pole Qui	58.80	180	*e*P	P	08 31 32.1	+8.9
	1.4nm,0.5s,mb3.5						
ARCES	ARCESS Array B	139.22	347	PKhKP		08 40 42.8	
	1.5nm,0.8s,slow=0.9,SNR=3.5						
FINES	FINESS Array B	145.58	339	PKP	PKPdf	08 41 00.2	+6.7
	2.0nm,0.4s,baz=56,slow=5.0,SNR=30						
FINES	FINESS Array B	145.58	339	PKP	PKPdf	08 41 00.2	+6.7

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*NEIC **27** 08:32:55.3, 35.06S×70.41W, h5^{km}, ML2.5(GUC), After GUC.*

GUC 27 08:32:55.3±0.6**,35.06S**×**70.41W,h5**^{km}**,MD3.6,ML2.5,2D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CICH	Cipreses	0.74	359	⇓*i*P	Pg	08 33 10.0	-0.1
CICH				*i* S	Sg	08 33 21.2	+1.2
CACH	El Canelo	0.96	350	⇓*i*P	Pb	08 33 13.6	-0.3
CHCH	Chadas Angostu	1.14	350	*e*P	Pb	08 33 16.5	-0.6
CHCH				*i* S	Sb	08 33 32.8	+0.6
LMEL	Las Melosas	1.22	8	*e*P	Pb	08 33 18.9	+0.4
LMEL				*i* S	Sb	08 33 36.5	+2.1
LNV	Longovilo	1.38	323	*i* P	Pb	08 33 20.2	-1.0
LNV				*i* S	Sb	08 33 38.8	-0.2
RCDM	Rinconada Maip	1.60	348	*e*P	Pn	08 33 25.1	+0.6
RCDM				*i* S	Sb	08 33 46.5	+1.0
RCDM				AMP		08 33 48.1	
	comp=E,123nm,0.1s						
FCH	Farellones	1.73	3	*e*P	Pn	08 33 27.7	+1.4
FCH				*i* S	Sn	08 33 51.4	+2.3
FCH				AMP		08 33 53.5	
	comp=N,66nm,0.3s						

IDC 27 08:41:52.8±2.9**,10.06S**×**161.53E,mb3.6**/4**,mb1 3.8**/4**, mb1mx3.7**/13**,Error ellipse: s-maj=105.0km s-min=30.2km az=131.0,Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	28.00	246	P	P	08 47 44.2	-3.5
	0.2nm,0.5s,baz=76,slow=8.8,SNR=5.8						
ASAR	Alice Springs	29.63	239	P	P	08 48 01.4	-0.9
	0.1nm,0.5s,baz=58,slow=10,SNR=2.8						
SONM	Songino Array	75.46	325	P	P	08 53 39.4	-1.1
	0.8nm,0.5s,baz=124,slow=4.5,SNR=5.9						
ILAR	Eielson Array	83.94	20	P	P	08 54 24.1	-1.6
	0.6nm,1.0s,baz=230,slow=5.8,SNR=5.3						

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*IDC **27** 08:58:39.7±1.5, 40.83S×174.71E, h53^{km}±27^{km}, mb3.4/2, mb1 3.7/4, mb1mx3.5/10, ML3.3/2, Error ellipse: s-maj=67.0km s-min=8.5km az=130.0*

*NEIC **27** 08:58:43.3, 40.80S×174.72E, h73^{km}, mb4.1/1, ML4.2(WEL), After WEL.*

NEIC Felt at Palmerston North, Paraparaumu and Wanganui.

*WEL **27** 08:58:43.6±0.1, 40.79S×174.74E, h70^{km}±1^{km}, ML4.2/11, Error ellipse: s-maj=1.0km s-min=0.5km az=90.0*

WEL Felt from Wanganui to Wellington, maximum reported intensity MM 4.

ISC 27 08:58:40.5±0.4**,40.88S**±0.03×**174.80E**±0.06**,h93**^{km}±4^{km}**, n98,σ1**^{s}**09**/116**,mb3.8**/3**,3C-5D,Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KIW	Kapiti Island	0.09	77	⇓PN	P	08 58 53.8	+0.2
KIW				SN	S	08 59 01.4	-2.0
KIW	Kapiti Island	0.09	77	P	P	08 58 53.8	+0.2
KIW				S	S	08 59 01.4	-2.0
CAW	Cannon Point	0.30	138	⇓PN	P	08 58 55.3	+1.1
CAW				SN	S	08 59 04.2	-0.5
CAW	Cannon Point	0.30	138	P	P	08 58 55.3	+1.0
CAW				S	S	08 59 04.5	-0.2
MRW	Makara Radio	0.36	192	PN	P	08 58 55.4	+0.9
MRW				SN	S	08 59 04.1	-1.1
MRW	Makara Radio	0.36	192	P	P	08 58 55.4	+0.8
WEL	Wellington	0.41	183	PN	P	08 58 55.8	+0.9
WEL				SN	S	08 59 05.2	-0.5
WEL	Wellington	0.41	183	P	P	08 58 55.9	+1.0
WEL				S	S	08 59 05.3	-0.5
SNZO	South Karori	0.43	190	PN	P	08 58 56.0	+0.8
SNZO				SN	S	08 59 05.3	-0.8
SNZO	South Karori	0.43	190	P	P	08 58 55.9	+0.8
SNZO				S	S	08 59 05.6	-0.5
BHW	Baring Head	0.53	174	PN	P	08 58 57.0	+1.1
BHW				SN	S	08 59 07.0	-0.4
BHW	Baring Head	0.53	174	P	P	08 58 57.1	+1.2
MTW	Mount Morrison	0.60	118	⇓PN	P	08 58 58.0	+1.5
MTW	Mount Morrison	0.60	118	P	P	08 58 57.9	+1.4
MRZ	Mangatainoka R	0.63	70	⇓PN	P	08 58 57.4	+0.6
MRZ				SN	S	08 59 07.8	-1.1
MRZ	Mangatainoka R	0.63	70	P	P	08 58 57.4	+0.6
MSWZ	Moikau Station	0.63	148	PN	P	08 58 58.4	+1.6
MSWZ	Moikau Station	0.63	148	P	P	08 58 58.5	+1.7
PAWZ	Paruwai Farm	0.69	137	PN	P	08 58 59.1	+1.7
PAWZ				SN	S	08 59 10.6	+0.7
TUWZ	Tuamarina	0.85	229	PN	P	08 58 59.6	+0.6
TUWZ				SN	S	08 59 11.4	-1.2
CMWZ	Cape Campbell	0.97	207	SN	S	08 59 17.4	+2.3
BSWZ	Blackbirch Sta	1.09	220	PN	P	08 59 02.7	+1.1
BSWZ	Blackbirch Sta	1.09	220	P	P	08 59 02.7	+1.1
BFZ	Birch Farm	1.12	80	PN	P	08 59 03.3	+1.3
BFZ	Birch Farm	1.12	80	P	P	08 59 03.2	+1.2
WAZ	Wanganui	1.13	7	⇑PN	P	08 59 02.7	+0.5
WAZ	Wanganui	1.13	7	P	P	08 59 02.8	+0.6
TSZ	Takapari Road	1.21	48	PN	P	08 59 03.5	+0.3
TSZ				SN	S	08 59 19.0	-1.1
TSZ	Takapari Road	1.21	48	P	P	08 59 03.5	+0.3
TSZ				S	S	08 59 19.5	-0.6
RAEZ	Rainy Point	1.62	349	PN	P	08 59 09.1	+0.8
RAEZ	Rainy Point	1.62	349	P	P	08 59 09.3	+1.0
DFE	Dawson Falls	1.64	341	PN	P	08 59 09.2	+0.6
DFE	Dawson Falls	1.64	341	P	P	08 59 09.4	+0.8
MOVZ	Moawhango	1.64	27	PN	P	08 59 08.6	0.0
MOVZ				SN	S	08 59 28.7	-0.7
MOVZ	Moawhango	1.64	27	P	P	08 59 08.6	0.0
WNVZ	Wahianoa	1.67	22	PN	P	08 59 09.7	+0.7
WNVZ	Wahianoa	1.67	22	P	P	08 59 09.7	+0.8
THZ	Tophouse	1.68	238	PN	P	08 59 09.5	+0.4
THZ	Tophouse	1.68	238	P	P	08 59 09.5	+0.4
DRZ	Dome Shelter	1.71	20	P	P	08 59 10.5	+1.1
QRZ	Quartz Range	1.72	271	⇓PN	P	08 59 09.1	-0.5
QRZ	Quartz Range	1.72	271	P	P	08 59 09.1	-0.6
TUVZ	Tukino	1.74	22	PN	P	08 59 10.5	+0.7
TUVZ	Tukino	1.74	22	P	P	08 59 10.5	+0.7
VRZ	Vera Road	1.75	359	⇑PN	P	08 59 10.5	+0.5
VRZ	Vera Road	1.75	359	P	P	08 59 10.5	+0.5
NWEZ	Newall Road	1.76	336	PN	P	08 59 10.4	+0.3
NWEZ	Newall Road	1.76	336	P	P	08 59 10.5	+0.4
WPVZ	Whakapapa	1.77	19	PN	P	08 59 11.0	+0.8
WPVZ	Whakapapa	1.77	19	P	P	08 59 11.0	+0.8
CNZ	Chateau	1.77	19	PN	P	08 59 11.0	+0.7
CNZ	Chateau	1.77	19	P	P	08 59 11.1	+0.8
PWZ	Pawanui	1.79	62	PN	P	08 59 10.6	+0.1
PWZ	Pawanui	1.79	62	P	P	08 59 10.7	+0.2
KHZ	Kahutara	1.80	211	⇑PN	P	08 59 12.0	+1.3
KHZ	Kahutara	1.80	211	P	P	08 59 12.0	+1.3
NGZ	Ngauruhoe	1.81	20	PN	P	08 59 11.4	+0.7
NGZ				SN	S	08 59 33.0	-0.1
NGZ	Ngauruhoe	1.81	20	P	P	08 59 11.5	+0.7
WTVZ	West Tongariro	1.86	19	PN	P	08 59 12.0	+0.6
WTVZ	West Tongariro	1.86	19	P	P	08 59 12.0	+0.5
TWVZ	Taurewa	1.87	15	PN	P	08 59 11.8	+0.2
MGZ	Maungaku	1.96	17	PN	P	08 59 13.1	+0.3
MGZ	Maungaku	1.96	17	P	P	08 59 13.2	+0.5
RATZ	Rangitukua	2.14	21	PN	P	08 59 15.6	+0.3
BKZ	Black Stump Fm	2.15	38	PN	P	08 59 15.0	-0.4
BKZ	Black Stump Fm	2.15	38	P	P	08 59 15.1	-0.2
WATZ	Wairara	2.28	19	*e*PN	P	08 59 17.0	-0.2
HIZ	Hauiti	2.36	1	PN	P	08 59 18.3	0.0
DSZ	Denniston Nort	2.42	248	PN	P	08 59 18.6	-0.5
DSZ	Denniston Nort	2.42	248	P	P	08 59 18.6	-0.5
LTZ	Lake Taylor	2.68	224	PN	P	08 59 22.5	-0.2
LTZ	Lake Taylor	2.68	224	P	P	08 59 22.6	-0.1
KNZ	Kokohu	2.88	51	PN	P	08 59 23.8	-1.7
KNZ	Kokohu	2.88	51	*e*P	P	08 59 23.9	-1.6
CRLZ	Canterbury Las	3.14	210	*e*PN	P	08 59 27.9	-1.2
CRLZ	Canterbury Las	3.14	210	*e*P	P	08 59 28.6	-0.5
URZ	Urewera	3.17	35	P	P	08 59 27.4	-2.0
	4.6nm,0.3s,baz=228,slow=7.2,SNR=33						
URZ				S	S	09 00 03.9	-2.4
	36nm,0.3s,baz=88,slow=18,SNR=32						
URZ	Urewera	3.17	35	PN	P	08 59 27.2	-2.2
URZ	Urewera	3.17	35	P	P	08 59 27.4	-2.0
MQZ	McQueen's Vall	3.24	209	PN	P	08 59 29.1	-1.4
MQZ	McQueen's Vall	3.24	209	*e*P	P	08 59 29.2	-1.3
MWZ	Matawai	3.30	41	*e*PN	P	08 59 29.0	-2.3
MWZ	Matawai	3.30	41	P	P	08 59 29.3	-2.0
WVZ	Waitaha Valley	3.74	233	PN	P	08 59 36.0	-1.3
WVZ	Waitaha Valley	3.74	233	*e*P	P	08 59 36.3	-1.0
PUZ	Puketiti	3.88	45	PN	P	08 59 36.4	-2.8
PUZ	Puketiti	3.88	45	P	P	08 59 36.5	-2.6
RPZ	Rata Peaks	3.97	223	P	P	08 59 39.3	-1.1
	1.3nm,0.3s,baz=100,slow=2.7,SNR=16						
RPZ				S	S	09 00 23.2	-2.8
	25nm,0.3s,baz=204,slow=4.1,SNR=25						
MXZ	Matakaoa Point	4.29	41	PN	P	08 59 42.4	-2.5
MXZ	Matakaoa Point	4.29	41	P	P	08 59 42.6	-2.2
ODZ	Otahua Downs	5.16	215	*e*P	P	08 59 55.1	-1.6
TUZ	Tuapeka	6.32	215	*e*PN	P	09 00 10.5	-2.1
TUZ	Tuapeka	6.32	215	*e*P	P	09 00 10.9	-1.7
WHZ	Wether Hill Ro	7.07	223	SN	S	09 01 34.7	-7.9
ASAR	Alice Springs	38.21	284	P	P	09 05 53.7	+0.9
	0.5nm,0.9s,mb3.3,baz=135,slow=8.8,SNR=6.9						
WRAB	Tennant Creek	40.20	289	*e*P	P	09 06 10.0	+0.7
	0.9nm,0.3s,mb4.1						
WRA	Warramunga Arr	40.20	289	P	P	09 06 10.4	+1.1
	0.7nm,0.4s,mb3.9,baz=126,slow=8.3,SNR=30						
ARCES	ARCESS Array B	147.10	341	PKPbc	PKPdf	09 18 14.5	+5.4
	1.9nm,1.0s,baz=56,slow=3.3,SNR=4.0						

DJA 27 09:09:57.5±0.9**,8.87S**×**114.61E,h111**^{km}±6^{km}**,MD4.7**/3**, ML4.1**/2**,4C-4D,Error ellipse: s-maj=30.3km s-min=11.2km az=22.0,Bali region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
INGI	Ingas	0.53	84	⇑*i*Pn	P	09 10 14.4	-0.4
INGI				⇓*i*Sn	S	09 10 26.7	-1.2
KELI	Kelakatan	0.66	350	⇑*i*Pn	P	09 10 15.4	-0.3
	2µm,0.2s						
KELI				⇓*i*Sn	S	09 10 29.2	-0.4
RATI	Rata	0.92	81	⇑*i*Pn	P	09 10 18.2	-0.1
	516nm,0.2s						
RATI				⇓*i*Sn	S	09 10 32.8	-1.1
KEDI	Kedomdong	1.54	76	⇑*i*Pn	P	09 10 24.4	-0.8
	99nm,0.1s						
KEDI				⇓*i*Sn	S	09 10 43.8	-2.3

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*BGS **27** 09:15:54.4±1.9, 44.31N×28.46E, h33^{km}, mb4.9*

*CSEM **27** 09:16:22.8, 45.73N×26.66E, h150^{km}, mb4.7*

*BUC **27** 09:16:22.3±0.4, 45.70N×26.45E, h166^{km}±3^{km}, MD5.1, Error ellipse: s-maj=3.2km s-min=2.0km az=122.0*

*MOS **27** 09:16:22.8±0.9, 45.70N×26.45E, h147^{km}, mb5.0/15, Error ellipse: s-maj=6.0km s-min=3.8km az=103.7*

MOS Felt (III-IV) at Kishinev, Kagul.

*PDG **27** 09:16:23.1±0.1, 45.66N×26.48E, h150^{km}±5^{km}*

*MED_RC **27** 09:16:23.9±0.2, 45.64N×26.60E, h146^{km}±2^{km}, MW4.8/24, Moment Tensor Solution. Body waves: s24,c29; Duration: 1^{s}0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.83±.07; $M_{\theta\theta}$-0.96±.06; $M_{\phi\phi}$-0.87±.05; $M_{r\theta}$0.53±.07; $M_{\theta\phi}$-0.40±.08; $M_{\phi r}$0.06±.06; Best double couple: $M_0$1.65×10^{16} NP1: ϕ_s223°,δ37°,λ79°. NP2:ϕ_s57°,δ53°,λ98°. Principal axes: T 1.93, Plg80°, Azm2°; N -.55, Plg7°, Azm232°; P -1.38, Plg8°, Azm141°; nsta1 refers to waves, cutoff=35s.*

*ZUR_RM **27** 09:16:23, 45.70N×26.48E, h150^{km}, Mw4.8/28, Moment Tensor Solution. s28 Moment tensor: Scale 10^{16}Nm; M_{rr}2.13; $M_{\theta\theta}$-1.14; $M_{\phi\phi}$-0.99; $M_{r\theta}$0.73; $M_{\theta\phi}$-0.10; $M_{\phi r}$0.69; Best double couple: $M_0$1.94×10^{16} NP1:ϕ_s52°,δ60°,λ87°. NP2:ϕ_s238°,δ30°,λ95°. Principal axes: T 2.413, Plg74°, Azm315°; N -.953, Plg2°, Azm54°; P -1.46, Plg15°, Azm144°;*

*HRVD **27** 09:16:23.9±0.4, 45.74N×26.56E, h154^{km}±5^{km}, MW4.8/54, Centroid moment Tensor Solution. LP body waves: s11,c11;Mantle waves: s54,c67; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.07±.09; $M_{\theta\theta}$-0.86±.21; $M_{\phi\phi}$-1.21±.18; $M_{r\theta}$0.62±.15; $M_{\theta\phi}$-0.17±.16; $M_{\phi r}$0.07±.14; Best double couple: $M_0$1.75×10^{16} NP1:ϕ_s198°,δ40°,λ75°. NP2:ϕ_s37°,δ52°,λ102°. Principal axes: T 2.2, Plg79°, Azm357°; N -.88, Plg10°, Azm210°; P -1.31, Plg6°, Azm118°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **27** 09:16:23.9±0.1, 45.70N×26.48E, mb4.8/119, MD5.2(BUC) Error ellipse: s-maj=2.8km s-min=1.8km az=37.0*

NEIC Felt in the Bucharest area. Felt [IV] at Cahul and Chisinau, Moldova.

*BJI **27** 09:16:23.9, 45.70N×26.50E, h145^{km}, mB5.2, mb5.1*

*IDC **27** 09:16:24.0±0.2, 45.66N×26.24E, h148^{km}±2^{km}, mb4.5/20, mb1 4.6/32, mb1mx4.6/33, MS3.4/3, Ms1 3.4/3, ms1mx2.9/25, Error ellipse: s-maj=9.4km s-min=8.2km az=147.0*

*SOF **27** 09:16:28.0, 45.24N×26.27E, h20^{km}, MD3.7*

ISC 27 09:16:23.2±0.1**,45.67N**±0.01×**26.43E**±0.01**,h151**^{km}±1^{km}**, h145**^{km}±1.4^{km}**:pP-P,n713,σ1**^{s}**14**/749**,mb4.8**/102**, 111C-53D,Romania**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLOR	Plostina	0.24	41	⇑*i*P	P	09 16 44.3	+0.2
PLOR	Plostina	0.24	41	S	S	09 16 59.2	-0.9
VRI	Vrincioaia	0.28	47	⇑*e*P	P	09 16 44.5	+0.2
VRI				*i* S	S	09 17 00.3	-0.1
VRI	Vrincioaia	0.28	47	⇑*i*P	P	09 16 44.6	+0.3
VRI	Vrincioaia	0.28	47	⇑*i*P	P	09 16 44.7	+0.4
VRI				*i* S	S	09 17 00.2	-0.1
MLR	Muntele Rosu	0.39	242	P	P	09 16 45.6	+1.0
	8µm,0.3s,baz=344,slow=4.7						
MLR				S	S	09 17 01.1	0.0
	16µm,0.3s,baz=79,slow=22,SNR=36						
MLR	Muntele Rosu	0.39	242	⇑*i*P	P	09 16 45.2	+0.5
MLR				*i* S	S	09 17 01.5	+0.4
MLR	Muntele Rosu	0.39	242	⇑*i*P	P	09 16 45.4	+0.7
MLR	Muntele Rosu	0.39	242	P	P	09 16 45.6	+0.9
MLR				S	S	09 17 01.1	0.0
MLR	Muntele Rosu	0.39	242	⇑*i*P	P	09 16 45.4	+0.7
MLR				*i* S	S	09 17 01.5	+0.4
BRD	Bordesti	0.44	106	⇑*i*P	P	09 16 46.2	+1.3
BRD	Bordesti	0.44	106	P	P	09 16 46.3	+1.4
BRD	Bordesti	0.44	106	⇑*i*P	P	09 16 46.2	+1.3
GRER		0.48	127	⇑*i*P	P	09 16 46.3	+1.2
GRER		0.48	127	S	S	09 17 03.8	+2.0
ISR	Istrita	0.56	172	⇑*i*P	P	09 16 46.0	+0.6
ISR	Istrita	0.56	172	P	P	09 16 46.1	+0.7
ISR				S	S	09 17 03.5	+1.0
ISR	Istrita	0.56	172	⇑*i*P	P	09 16 46.0	+0.6
OZUR		0.62	314	⇑*i*P	P	09 16 45.8	+0.1
OZUR		0.62	314	S	S	09 17 02.2	-0.8
SECR		0.69	202	⇑*i*P	P	09 16 47.0	+0.9
SECR		0.69	202	S	S	09 17 04.6	+0.9
SNX	Sinaia	0.72	244	⇑*i*P	P	09 16 47.4	+1.1
SNX	Sinaia	0.72	244	⇑*i*P	P	09 16 47.4	+1.1
FULR		0.79	179	⇑*i*P	P	09 16 47.5	+0.8
FULR		0.79	179	S	S	09 17 05.8	+1.0
GHRR		0.79	60	⇑*i*P	P	09 16 47.5	+0.8
GHRR		0.79	60	S	S	09 17 04.7	-0.1
TESR		0.85	10	⇓*i*P	P	09 16 49.3	+2.1
TESR		0.85	10	S	S	09 16 55.7	-10
PGOR	Pogoanele	0.86	153	⇑*i*P	P	09 16 48.0	+0.8
PGOR	Pogoanele	0.86	153	S	S	09 17 06.6	+0.9
TUDR		0.87	95	⇑*i*P	P	09 16 47.4	+0.1
TUDR		0.87	95	S	S	09 17 04.7	-1.1
ONCR	Oncesti	0.98	36	⇓*i*P	P	09 16 48.5	+0.4
ONCR	Oncesti	0.98	36	S	S	09 17 06.5	-0.7
VOIR		1.00	257	⇑*i*P	P	09 16 48.8	+0.6
VOIR		1.00	257	S	S	09 17 07.0	-0.4
VOIR		1.00	257	S	S	09 17 07.0	-0.4
VARR		1.02	78	⇑*i*P	P	09 16 48.9	+0.5
VARR		1.02	78	S	S	09 17 06.1	-1.7
MTUR	Matau	1.06	246	⇑*i*P	P	09 16 49.9	+1.1
MTUR	Matau	1.06	246	⇓*i*P	P	09 16 50.1	+1.3
MTUR				*i* S	S	09 17 11.3	+2.8
STFR	Stefanesti	1.15	188	⇑*i*P	P	09 16 50.3	+0.7
STFR	Stefanesti	1.15	188	S	S	09 17 10.0	0.0
MOGR	Mogosoaia	1.16	197	⇑*i*P	P	09 16 50.4	+0.7
MOGR	Mogosoaia	1.16	197	S	S	09 17 10.6	+0.4
CNCR	Cernica	1.23	186	⇑*i*P	P	09 16 50.9	+0.4
CNCR	Cernica	1.23	186	S	S	09 17 11.2	-0.3
BLHR	Bucharest-Stef	1.24	191	⇑*i*P	P	09 16 51.1	+0.6
BLHR	Bucharest-Stef	1.24	191	S	S	09 17 11.6	0.0
BGMR	Bucharest-Geol	1.24	191	⇑*i*P	P	09 16 51.0	+0.5

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BGMR  Bucharest-Geol   1.24 191   S     S     09 17 11.6  0.0
BBIR  Bucharest-INCE   1.25 189⇑iP      P     09 16 50.9 +0.3
BBIR  Bucharest-INCE   1.25 189   S     S     09 17 10.8 -0.9
RBAR  Bucharest-INCE   1.25 189⇑eP      P     09 16 51.0 +0.4
RBAR  Bucharest-INCE   1.25 189   S     S     09 17 11.4 -0.3
BSTR  Bucharest-Scie   1.25 191⇑iP      P     09 16 51.1 +0.5
BSTR  Bucharest-Scie   1.25 191   S     S     09 17 11.6 -0.2
BTMR  Bucharest-Geot   1.26 191⇑iP      P     09 16 51.1 +0.4
BTMR  Bucharest-Geot   1.26 191   S     S     09 17 11.3 -0.6
BVCR  Bucharest-Old    1.26 191⇑eP      P     09 16 51.3 +0.5
BVCR  Bucharest-Old    1.26 191   S     S     09 17 11.6 -0.4
CIOR  Ciorogarla       1.28 198⇑iP      P     09 16 51.4 +0.4
CIOR  Ciorogarla       1.28 198   S     S     09 17 12.0 -0.4
BAPR  Bucharest-Chil   1.29 190⇓iP      P     09 16 51.6 +0.6
BAPR  Bucharest-Chil   1.29 190   S     S     09 17 12.1 -0.3
GOLR                   1.33 232⇑iP      P     09 16 52.3 +0.9
GOLR                   1.33 232   S     S     09 17 13.6 +0.4
BUC1  Bucharest        1.35 192⇑eP      P     09 16 52.3 +0.6
BUC1                             i S    S     09 17 13.4 -0.3
BUC1  Bucharest        1.35 192   P     P     09 16 52.5 +0.8
BUC1                              S     S     09 17 12.5 -1.2
BUC1  Bucharest        1.35 192⇓iP      P     09 16 52.4 +0.7
BUC1                             i S    S     09 17 13.4 -0.2
SCHRR Schitu           1.60 196⇑iP      P     09 16 54.4 +0.2
SCHRR Schitu           1.60 196   S     S     09 17 17.1 -1.0
IAS   Iasi             1.71  27⇓eP      P     09 16 55.6 +0.2
IAS                              i S    S     09 17 18.8 -1.5
IAS   Iasi             1.71  27⇑iP      P     09 16 55.9 +0.5
IAS   Iasi             1.71  27⇑iP      P     09 16 55.9 +0.4
IAS                              i S    S     09 17 18.8 -1.5
TLCR                   1.75 105⇓iP      P     09 16 55.8 -0.1
TLCR                   1.75 105   S     S     09 17 19.2 -1.8
TIRR  Tirgusor         1.86 130⇓iP      P     09 16 57.2 +0.1
TIRR  Tirgusor         1.86 130⇓iP      P     09 16 57.2 +0.1
TIRR                             i S    S     09 17 21.3 -1.9
MSAB  Monastry St. A   1.87 147⇑iP      P     09 16 57.3 +0.1
MSAB  Monastry St. A   1.87 147   S     S     09 17 21.5 -1.9
KIS   Kishinev         2.12  50κ iP     P     09 16 59.0 -1.2
KIS                              i S    S     09 17 26.0 -2.6
KIS                               pmax  pmax
      comp=N,6µm,0.4s
KIS                               pmax  pmax
      comp=E,7µm,0.4s
KIS                               pmax  pmax
      comp=Z,11µm,0.4s
KIS                               pmax  pmax
      comp=N,6µm,0.4s
KIS                               pmax  pmax
      comp=E,6µm,0.4s
KIS                               pmax  pmax
      comp=Z,11µm,0.4s
KIS                               smax
      comp=N,58µm,0.5s
KIS                               smax
      comp=E,68µm,0.5s
ZIMR                   2.15 201⇑iP      P     09 17 00.8 +0.2
ZIMR                   2.15 201   S     S     09 17 27.9 -1.4
CRAR  CRAIOVA          2.30 235⇑eP      P     09 17 02.5 +0.1
CRAR  CRAIOVA          2.30 235⇓iP      P     09 17 02.7 +0.3
CRAR  CRAIOVA          2.30 235   S     S     09 17 30.8 -1.7
PSN   Preselentsi      2.35 147  i P    P     09 17 03.0 -0.1
PSN   Preselentsi      2.35 147⇓iP      P     09 17 03.0 -0.1
SZH   Strazhica        2.43 189  i P    P     09 17 04.0 -0.1
SZH   Strazhica        2.43 189  i P    P     09 17 03.0 -1.1
PRD   Provadia         2.57 164  i P    P     09 17 06.0 +0.2
PVL   Pavlikeni        2.58 198  i P    P     09 17 07.0 +1.1
PVL   Pavlikeni        2.58 198⇓iP      P     09 17 07.0 +1.1
KMPD  K-Podol'skiy     2.89   0   P     P     09 17 10.0 +0.1
DJES  Djerdap          2.95 251⇓iPn     P     09 17 10.0 -0.7
DJES                              Sn    S     09 17 44.3 -2.7
PGB   Panagyurishte    3.52 208  i P    P     09 17 18.0 -0.1
PGB   Panagyurishte    3.52 208⇓iP      P     09 17 18.0 -0.1
BOLS  Boljevac         3.68 242⇓iPn     P     09 17 19.2 -0.9
BOLS                              Sn    S     09 17 51.9  -12
DIM   Dimitrovgrad     3.68 190  i P    P     09 17 19.0 -1.1
DIM   Dimitrovgrad     3.68 190⇓iP      P     09 17 19.0 -1.1
PLD   Plovdiv          3.78 200  i P    P     09 17 20.0 -1.4
EDRB  Edirne           3.83 176   P     P     09 17 22.3 +0.2
EDRB  Edirne           3.83 176   P     P     09 17 21.9 -0.2
VTS   Vitosha          3.85 218  i P    P     09 17 21.0 -1.4
VTS   Vitosha          3.85 218⇓iP      P     09 17 21.9 -0.5
VTS   Vitosha          3.85 218  i P    P     09 17 22.0 -0.4
SVIS  Svilajnac        3.94 251⇓iPn     P     09 17 23.4 -0.2
SVIS                              Sn    S     09 18 02.7 -7.3
KDZ   Kurdzhali        4.09 191  i P    P     09 17 25.0 -0.5
UZH   Uzhgorod         4.09 318  i P    P     09 17 23.0 -2.5
UZH                              eS     S     09 18 08.5 -4.9
UZH   Uzhgorod         4.09 318  i P    P     09 17 26.0 +0.5
RZN   Rozhen           4.17 198  i P    P     09 17 26.0 -0.6
RZN   Rozhen           4.17 198⇓iP      P     09 17 26.0 -0.6
KOLS  Kolonicke sedl   4.32 321  i PN   P     09 17 29.4 +0.9
BARS  Barje            4.37 231⇑iPn     P     09 17 29.2  0.0
GRUS  Gruza            4.44 248⇑iPn     P     09 17 29.7 -0.4
GRUS                              Sn    S     09 18 13.3 -8.3
LVV   L'vov            4.45 340d iP     P     09 17 30.7 +0.4
LVV                              i S    S     09 18 16.0 -5.9
LVV                               MLR   MLR
      comp=Z,350nm,9.0s
KKB   Krupnik          4.51 214  i P    P     09 17 30.0 -1.0
KKB   Krupnik          4.51 214⇓iP      P     09 17 30.0 -1.0
MMB   Musomiste        4.53 207  i P    P     09 17 31.0 -0.3
MMB   Musomiste        4.53 207⇓iP      P     09 17 31.0 -0.3
SLVT  Silivri          4.63 163   P     P     09 17 32.6  0.0
CRVS  Cervenica-Dubn   4.67 315  i PN   P     09 17 33.4 +0.2
KWP   Kalwaria         4.69 329⇓eP      P     09 17 34.2 +0.8
KWP                              eSN    S     09 18 25.7 -1.9
PKSN  Nyarlorinc       4.71 287⇓eP      P     09 17 34.3 +0.6
TKR   Tekirdag         4.75 170  eP     P     09 17 36.1 +1.9
CTT   Catalca          4.75 161  i P    P     09 17 33.6 -0.6
CTT   Catalca          4.75 161   P     P     09 17 33.5 -0.7
ALN   Alexandroupoli   4.78 183  eP     P     09 17 33.9 -0.7
BGKT  Bogazkoy         4.80 158  i P    P     09 17 34.3 -0.6
KLYT  Kilyos           4.81 156  i P    P     09 17 34.3 -0.7
DIVS  Divcibare        4.84 253⇑iPn     P     09 17 35.0 -0.4
DIVS                              Sn    S     09 18 25.9 -5.1
PKS6  Bocsa            4.86 283⇑iP      P     09 17 35.8 +0.1
MFT   Murefte          4.92 172  i P    P     09 17 35.7 -0.8
MFT   Murefte          4.92 172   P     P     09 17 35.7 -0.8
KECS  Kecovo           4.94 307  i PN   P     09 17 37.1 +0.4
ISK   Istanbul-Kandi   4.99 156   P     P     09 17 37.1 -0.2
ISK   Istanbul-Kandi   4.99 156   P     P     09 17 37.1 -0.3
SRS   Serrai           5.00 205  eP     P     09 17 37.3 -0.2
PSZ   Piszkesteto      5.02 299⇓iPn     P     09 17 37.4 -0.3
SILT  Sile             5.09 151  i P    P     09 17 38.2 -0.5
SKO   Skopje           5.17 226⇓iPn     P     09 17 39.9 +0.2
SKO                              i            09 18 26.1
SKO                               Lg          09 18 36.0
      comp=Z,0.2nm,0.8s
SKO   Skopje           5.17 226  i Pn   P     09 17 39.9 +0.2
      comp=Z,190nm,0.8s
SKO                              i            09 18 26.1
SKO                               Lg          09 18 36.0
VAY   Valandovo        5.18 214⇓iPn     P     09 17 39.8  0.0
VAY                              i            09 18 30.0
VAY                              i Sn   S     09 18 44.7 +5.6
KNT   Kendrikon        5.19 211  eP     P     09 17 40.4 +0.4
BADT  Buyukada         5.20 157  i P    P     09 17 39.9 -0.3
BADT  Buyukada         5.20 157   P     P     09 17 39.9 -0.2
NVSS  Nova Varos 2     5.27 248⇑iPn     P     09 17 40.3 -0.7
NVSS                              Sn    Sx    09 18 21.3
LPK   Lapseki          5.30 177  i P    P     09 17 41.2 -0.3
LPK   Lapseki          5.30 177   P     P     09 17 41.2 -0.3
SOH   Sokhos           5.34 206  eP     P     09 17 41.8 -0.2
PENC  Penc             5.35 296⇑iP      P     09 17 42.1  0.0
KIEV  Kiev             5.36  19   P     P     09 17 40.0 -2.2
AKASG Malin Array Be   5.37  19   P     P     09 17 41.9 -0.5
      comp=Z,353nm,0.3s,baz=204,slow=13,SNR=364
AKASG                             S     S     09 18 53.0 +9.4
      comp=Z,68nm,0.3s,baz=200,slow=25,SNR=4.1
HRT   Hereke           5.39 153  i P    P     09 17 42.9 +0.2
HRT   Hereke           5.39 153   P     P     09 17 42.9 +0.2
ARMT  Armutlu          5.41 160  eP     P     09 17 44.9 +2.0
BUD   Budapest         5.42 292  ePnc         09 17 43.5
BUD   Budapest         5.42 292⇑eP      P     09 17 43.5 +0.5
BNT   Bandirma         5.42 168  i P    P     09 17 42.6 -0.5
EDC   Edincik          5.43 168  i P    P     09 17 42.9 -0.2
EDC   Edincik          5.43 168   P     P     09 17 42.9 -0.2
PKSM  Moragy           5.46 278⇓eP      P     09 17 44.1 +0.5
IVA   Berane           5.46 241⇑iPn     P     09 17 44.5 +0.9
IVA                              eSn    S     09 18 44.8 -1.1
SIM   Simferopol'      5.47  95d iP     P     09 17 44.3 +0.6
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SIM                              i S    S     09 18 44.2 -1.9
SIM                               pmax  pmax
      comp=Z,1µm,0.3s
SIM                               MLR   MLR
      comp=Z,160nm,7.1s
PKS8  Sarbogard        5.51 285⇓eP      P     09 17 44.1 -0.1
YLV   Yalova           5.54 156  i P    P     09 17 43.8 -0.8
YLV   Yalova           5.54 156   P     P     09 17 43.8 -0.8
PLE   Pljevlja         5.55 248⇑iPn     P     09 17 45.6 +0.8
PLE                              eSn    S     09 18 46.7 -1.3
PVY   Plav             5.57 239⇑iPn     P     09 17 46.2 +1.1
PVY                              eSn    S     09 18 47.3 -1.3
KCT   Karacabey        5.59 165  eP     P     09 17 44.6 -0.7
KCT   Karacabey        5.59 165   P     P     09 17 44.6 -0.7
BCI   Bajram Curri     5.65 236⇑iPn     P     09 17 45.0 -1.1
RHK3  Tenkes           5.72 275⇓eP      P     09 17 48.3 +1.2
PKS9  Tamasi           5.74 282⇑iP      P     09 17 48.2 +0.9
EYL   Eskiyayla        5.79 151  eP     P     09 17 47.2 -0.7
PKSG                   5.81 290⇓eP      P     09 17 48.2  0.0
BOZC  Bozcaada         5.83 183  i P    P     09 17 47.7 -0.8
HENT  Hendek           5.84 144  i P    P     09 17 47.5 -1.2
RHK1  Bakonya          5.85 277⇑iP      P     09 17 50.2 +1.4
ULDT  Uludag           5.87 159  i P    P     09 17 48.8 -0.3
VYHS  Vyhne            5.90 301  ePN    P     09 17 49.6 +0.1
ORLT  Orhaneli         5.91 161  i P    P     09 17 49.5  0.0
ORLT  Orhaneli         5.91 161   P     P     09 17 49.5 -0.1
UPM   Unac-Piva        5.92 248⇑iPn     P     09 17 50.5 +0.8
UPM                              eSn    S     09 18 55.9 -1.0
BIA   Bitola           5.96 220⇑iPn     P     09 17 50.5 +0.3
BIA                              i            09 18 06.1
BIA                              i            09 18 15.4
BIA                              i Sn   S     09 18 47.0  -11
BIA                              i Sb   S     09 19 00.3 +2.5
LIKS  Likavka          6.01 307  ePN    P     09 17 50.9  0.0
BTOK  Tokmak           6.03 168  i P    P     09 17 50.2 -0.9
GPA   Golpazari        6.09 151   P     P     09 17 52.4 +0.5
GPA   Golpazari        6.09 151   P     P     09 17 52.4 +0.5
PAIG  Paliouri         6.09 200  eP     P     09 17 50.8 -1.1
TTG   Podgorica        6.10 240⇑iPn     P     09 17 53.1 +1.0
TTG                              eSn    S     09 18 59.9 -1.3
BALB  Balikesir        6.12 169  eP     P     09 17 51.8 -0.6
BALB  Balikesir        6.12 169   P     P     09 17 51.8 -0.7
OHR   Ohrid            6.13 224⇓iPn     P     09 17 53.1 +0.6
OHR                              i Sn   S     09 19 02.0  0.0
OHR                              i Sb   rx    09 19 24.6
KOLL  Kolacno          6.20 301  i PN   P     09 17 54.0 +0.5
MDU   Mudurnu          6.27 144   P     P     09 17 54.4 -0.1
MDU   Mudurnu          6.27 144   P     P     09 17 54.4 -0.1
DST   Dursunbey        6.28 164  i P    P     09 17 54.1 -0.4
DST   Dursunbey        6.28 164   P     P     09 17 54.1 -0.4
QSH   Qafa e Shtames   6.30 231  i Pn   P     09 17 55.2 +0.4
QSH                              i Sn   Sx    09 18 39.2
BRY   Bratogost        6.30 247⇑iPn     P     09 17 55.8 +1.0
BRY                              eSn    S     09 19 04.2 -1.8
LACI  Lac              6.33 233  i Pn   P     09 17 52.4 -2.8
SAFT  Safranbolu       6.35 132  i P    P     09 17 54.0 -1.5
AYVA  Ayvalik          6.36 178  i P    P     09 17 54.1 -1.6
OJC   Ojcow            6.37 318⇓iP      P     09 17 55.0 -0.7
ULC   Ulcinj           6.38 237⇑iPn     P     09 17 57.4 +1.5
ULC                              eSn    S     09 19 06.8 -1.2
TIR   Tirane           6.44 230  ePn    P     09 17 58.8 +2.1
TIR                              i Sn   S     09 18 59.0  -10
BALT  Daday            6.53 127  i P    P     09 17 55.8 -2.1
SGKT  Sivrigoynuk      6.55 139  i P    P     09 17 57.9 -0.3
BZK   Bozkurt          6.62 121  i P    P     09 17 57.1 -2.0
BZK   Bozkurt          6.62 121   P     P     09 17 57.1 -1.9
XOR   Xorichti         6.74 202  eP     P     09 17 59.8 -0.9
JAVC  Velka Javorina   6.76 301   P     P     09 18 01.7 +0.7
SMOL  Smolenice        6.77 298  i PN   P     09 18 01.6 +0.5
SMOL                             e            09 18 07.8
AKS   Akhisar          6.87 171   P     P     09 18 01.2 -1.2
AKS   Akhisar          6.87 171   P     P     09 18 01.2 -1.3
ZST   Bratislava       6.87 295  ePN    P     09 18 02.7 +0.3
ESKT  Eskisehir        6.96 151  i P    P     09 18 03.9 +0.2
ESKT  Eskisehir        6.96 151  i P    P     09 18 03.5 -0.1
ESKT  Eskisehir        6.96 151   P     P     09 18 03.9 +0.2
OKC   Ostrava-Krasne   6.96 310  ePN    P     09 18 02.6 -1.1
OKC                              ex     x     09 18 11.4
RAC   Raciborz         7.08 312  eP     P     09 18 04.5 -0.8
SOP   Sopron           7.08 290   P     P     09 18 05.8 +0.5
ALT   Altintas         7.15 156   P     P     09 18 06.1 -0.2
TOS   Tosya            7.22 127  i P    P     09 18 06.0 -1.1
TOS   Tosya            7.22 127   P     P     09 18 06.0 -1.1
MORC  Moravsky Berou   7.26 308  ePn    P     09 18 06.4 -1.4
      comp=Z,24nm,0.6s
ELDT  Eldivan          7.28 133  i P    P     09 18 07.2 -0.8
KDAG  Bornova          7.29 175  i P    P     09 18 06.8 -1.3
IZM   Izmir            7.30 175  eP     P     09 18 07.2 -1.0
IZM   Izmir            7.30 175   P     P     09 18 07.2 -1.0
CANT  Cankiri          7.30 131  i P    P     09 18 07.8 -0.4
CANT  Cankiri          7.30 131   P     P     09 18 07.8 -0.5
MANT  Manisa           7.35 167  i P    P     09 18 07.6 -1.3
BYBT  Boyabat          7.37 122  i P    P     09 18 08.2 -1.0
VKA   Vienna           7.39 294⇓iP      P     09 18 09.0 -0.4
      comp=Z,373nm,2.0s
ANTO  Ankara           7.45 139  eP     P     09 18 09.2 -1.1
ANTO  Ankara           7.45 139   P     P     09 18 09.2 -1.1
WAR   Warsaw           7.47 334  eP     P     09 18 22.1  +12
BOYT  Boyabat          7.48 122  i P    P     09 18 08.5 -2.1
VRAC  Vranov           7.59 302   P     P     09 18 12.2 +0.1
      comp=Z,3.4nm,0.3s,baz=110,slow=13,SNR=126
VRAC                              S     S     09 19 21.1  -16
      comp=Z,0.9nm,0.3s,baz=137,slow=18,SNR=1.5
KRUC  Moravsky         7.61 300   P     P     09 18 12.1 -0.3
ARSA  Arzberg          7.70 286⇑iP      P     09 18 14.6 +1.1
      comp=Z,36nm,0.7s
KHL   Karahalli        7.70 162  eP     P     09 18 12.2 -1.3
KHL   Karahalli        7.70 162   P     P     09 18 12.2 -1.3
ANN   Anapa            7.82  92d iP     P     09 18 11.0 -4.2
ANN                              i S    S     09 19 36.1 -6.3
ANN                               pmax  pmax
      comp=Z,150nm,1.1s
ANN                               pmax  pmax
      comp=N,20nm,0.7s
ANN                               pmax  pmax
      comp=E,20nm,0.5s
ANN                               smax
      comp=Z,130nm,0.9s
ANN                               smax
      comp=N,160nm,0.8s
ANN                               smax
      comp=E,210nm,0.8s
ANN                               MLR   MLR
      comp=N,360nm,2.0s
ANN                               MLR   MLR
      comp=Z,430nm,2.0s
ANN                               MLR   MLR
      comp=E,260nm,1.0s
BOJS  Bojanci          7.84 273  i P    P     09 18 16.6 +1.1
KIZT  Kizilcal         7.90 147   P     P     09 18 16.5 +0.3
KIZT  Kizilcal         7.90 147   P     P     09 18 16.5 +0.3
CTKT  Corum            7.92 127  i P    P     09 18 15.5 -1.1
BRTR  Keskin Array B   7.97 136   P     P     09 18 16.6 -0.5
      comp=E,5.1nm,0.3s,baz=322,slow=10,SNR=251
BRTR                              LR    LR    09 22 08.3
      comp=E,112nm,19.0s,baz=235,slow=43
BRTR  Keskin Array B   7.97 136   P     P     09 18 16.7 -0.5
BRTR                              pmax  pmax
      comp=Z,5.0nm,0.3s
BRTR                              MLR   MLR
      comp=Z,112nm,19.0s
VISS  Visnje           8.11 275  eP     P     09 18 20.2 +1.2
DNZL  Cakiroluk        8.21 165  i P    P     09 18 19.2 -1.2
DPC   Dobruska-Polom   8.23 308  ePN    P     09 18 19.8 -0.9
DPC                              ex     x     09 18 29.5
KAMT  Kaman            8.28 137  i P    P     09 18 21.1 -0.2
KAMT  Kaman            8.28 137   P     P     09 18 21.1 -0.2
OBKA  Obir             8.30 280⇑iP      P     09 18 22.2 +0.6
      comp=Z,22nm,0.6s
LJU   Ljubljana        8.32 277  i P    P     09 18 23.6 +1.8
ISP   Isparta          8.39 157   P     P     09 18 23.0 +0.2
ISP   Isparta          8.39 157   P     P     09 18 22.6 -0.2
ISP   Isparta          8.39 157   P     P     09 18 22.9 +0.1
UPC   Upice            8.48 309  ePN    P     09 18 23.4 -0.6
KSP   Ksiaz            8.51 311  eP     P     09 18 23.0 -1.3
KSP                              e            09 18 27.9
KSP                              ePP    PP    09 18 34.5 +1.2
SUW   Suwalki          8.61 347  eP     P     09 18 23.4 -2.2
APE   Apeiranthos      8.62 185  eP     P     09 18 22.9 -2.9
APE   Apeiranthos      8.62 185   P     P     09 18 24.3 -1.5
MOA   Molln            8.63 289⇑iP      P     09 18 27.3 +1.4
      comp=Z,12nm,0.7s
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BDRM  Kayabasi         8.63 175  i P    P     09 18 24.9 -1.1
JAVS  Javornik         8.65 276  i P    P     09 18 27.4 +1.3
VOY   Vojsko           8.76 277  eP     P     09 18 28.3 +0.7
BCK   Bucak            8.78 158  eP     P     09 18 29.7 +1.8
MNK   Minsk            8.88   5⇓eP      P     09 18 22.0 -7.3
MNK                               pmax  pmax
      comp=Z,430nm,1.0s
MNK                               pmax  pmax
      comp=N,510nm,1.5s
KONT  Konya--Tatoy     8.90 148   P     P     09 18 30.4 +0.9
KONT  Konya--Tatoy     8.90 148   P     P     09 18 30.4 +0.9
PRU   Pruhonice        9.09 303  ePN    P     09 18 31.4 -0.5
PRU                              ex     x     09 18 40.4
PRU                              i x    x     09 19 09.6
PTCC  Patocco-Chiusa   9.13 279  eP     P     09 18 34.3 +1.8
KBA   Koelnbreinsper   9.16 284⇓iP      P     09 18 34.7 +1.8
      comp=N,23nm,0.6s
GERES GERESS Array B   9.22 295   P     P     09 18 35.0 +1.3
      comp=N,1.8nm,0.3s,baz=108,slow=14,SNR=137
GERES GERESS Array B   9.22 295   P     P     09 18 35.0 +1.3
GERES                             pmax  pmax
      comp=Z,2.0nm,0.3s
ELL   Elmali           9.29 162   P     P     09 18 35.1 +0.4
ELL   Elmali           9.29 162   P     P     09 18 35.1 +0.4
AVNT  Avonos           9.30 135  i P    P     09 18 34.8 +0.1
PVCC  Panska Ves       9.30 306  ePN    P     09 18 33.9 -0.9
PVCC                             ex     x     09 18 53.5
KHC   Kasperske Hory   9.38 296  ePN    P     09 18 36.4 +0.6
KHC                              ex     x     09 18 45.2
MRLC  Muro Lucano      9.38 242  eP     P     09 18 39.1 +3.4
FVI   Forni Avoltri    9.52 280  eP     P     09 18 40.7 +3.1
TDS   Terranova Siba   9.55 235  eP     P     09 18 37.6 -0.5
SGO   Sicignano        9.60 242  eP     P     09 18 40.4 +1.7
TIP   Timpagrande      9.65 231⇓ePn     P     09 18 38.5 -0.8
SVSK  Karacayir        9.66 123  eP     P     09 18 39.1 -0.4
SVSK  Karacayir        9.66 123   P     P     09 18 39.5  0.0
GKP   Gorka Klasztor   9.67 325  eP     P     09 18 38.0 -1.5
SOC   Sochi            9.70  98  eP     P     09 18 40.4 +0.4
SOC                              eS     S     09 20 26.8 -0.4
SOC                               pmax  pmax
      comp=Z,63nm,0.6s
SOC                               pmax  pmax
      comp=N,63nm,0.9s
SOC                               pmax  pmax
      comp=E,72nm,0.7s
SOC                               MLR   MLR
      comp=Z,132nm,10.0s
SOC                               MLR   MLR
      comp=N,214nm,23.0s
SOC                               MLR   MLR
      comp=E,39nm,11.0s
MGR   Morigerati       9.71 239  eP     P     09 18 41.2 +1.2
NIG   Nigde            9.71 138  eP     P     09 18 40.1  0.0
NIG   Nigde            9.71 138   P     P     09 18 40.1  0.0
SVST  Sivas            9.73 124  i P    P     09 18 40.4 +0.1
BNN   Bunyan           9.75 131  eP     P     09 18 41.4 +0.8
BNN   Bunyan           9.75 131   P     P     09 18 42.9 +2.3
BRG   Berggiesshubel   9.81 307  eP     P     09 18 40.8 -0.6
BRG                               pmax  pmax
      comp=Z,27nm,1.5s
BRG   Berggiesshubel   9.81 307  eP     P     09 18 40.8 -0.6
      comp=Z,27nm,1.5s
HDMB  Hadim            9.82 150  eP     P     09 18 39.4 -2.1
HDMB  Hadim            9.82 150   P     P     09 18 39.4 -2.2
AQU   L'Aquila         9.95 255  ePn    P     09 18 44.2 +0.9
      comp=Z,74nm,1.0s
NRCA  Norcia           9.97 258  eP     P     09 18 43.8 +0.4
CTI   Castel Tesino   10.32 277  eP     P     09 18 50.2 +2.1
WTTA  Wattenberg      10.33 284⇑iP      P     09 18 50.4 +2.2
      comp=Z,16nm,0.6s
WATA  Walderalm       10.38 285⇓iP      P     09 18 51.0 +2.2
      comp=Z,16nm,0.7s
VOR   Voronezh        10.38  50   P     P     09 18 47.0 -1.9
VOR                               pmax  pmax
      comp=N,130nm,1.2s
VOR                               pmax  pmax
      comp=E,190nm,1.2s
VOR                               pmax  pmax
      comp=Z,250nm,1.2s
IDI   Anoyia          10.44 187   P     P     09 18 48.7 -1.1
      comp=Z,0.8nm,0.3s,baz=345,slow=17,SNR=8.5
CRE   Caprese Michel  10.52 264  eP     P     09 18 51.4 +0.6
CLL   Collm           10.54 307 ⇑P      P     09 18 50.0 -1.0
      comp=Z,logA/T=1.2
CLL                              e            09 18 55.0
CLL                              e            09 18 58.0
CLL                              e*PP         09 19 11.0
CLL   Collm           10.54 307⇑iP      P     09 18 50.0 -1.0
CLL                               pmax  pmax
      comp=Z,12nm,0.7s
CLL   Collm           10.54 307⇑iP      P     09 18 50.0 -1.0
      comp=Z,12nm,0.7s
RUE   Ruedersdorf     10.72 314  eP     P     09 18 50.4 -3.0
MEST  Erdemli         10.78 145  i P    P     09 18 54.7 +0.5
SOI   Samo            10.83 229  eP     P     09 18 54.0 -0.9
GUMT  Gumushane       10.87 114  i P    P     09 18 55.0 -0.4
GUMT  Gumushane       10.87 114   P     P     09 18 55.0 -0.4
IKL   Isikli          10.90 147  eP     P     09 18 58.7 +2.9
IKL   Isikli          10.90 147   P     P     09 18 58.7 +2.9
KELT  Kelkit          10.90 116  i P    P     09 18 55.9 +0.2
GRA1  Grafenberg Arr  11.01 297  eP     P     09 18 57.4 +0.3
      comp=Z,34nm,0.9s
GRF   Grafenberg Arr  11.01 297  eP     P     09 18 57.4 +0.3
GRF                               pmax  pmax
      comp=Z,34nm,0.9s
MOX   Moxa            11.07 302  eP     P     09 18 56.0 -1.9
BRMO  Bormio          11.19 280  eP     P     09 18 56.6 -2.9
KAHT  Ahir Dag        11.20 132  i P    P     09 19 01.8 +2.1
BDI   Bagni Di Lucca  11.35 267  eP     P     09 19 07.1 +5.4
ERBM  Eremo           11.40 269  eP     P     09 19 11.3 +9.0
OBN   Obninsk         11.44  31   Pn    P     09 18 59.7 -3.1
      comp=Z,757nm,0.4s,SNR=11
OBN   Obninsk         11.44  31c iP     P     09 18 59.2 -3.6
OBN                              i S    S     09 21 00.2 -7.9
OBN                               pmax  pmax
      comp=Z,65nm,0.6s
OBN                               MLR   MLR
      comp=Z,100nm,13.0s
OBN   Obninsk         11.44  31  ePn    P     09 18 58.9 -3.9
      comp=Z,100nm,0.4s
EZC   Erzincan        11.49 116  eP     P     09 19 00.1 -3.3
PII   Pisa            11.49 266  eP     P     09 19 08.4 +4.9
DAVOX Davos           11.52 281   P     P     09 19 06.9 +3.0
      comp=Z,4.5nm,0.3s,baz=98,slow=9.6,SNR=11
DAVA  Damuels         11.53 284⇓iP      P     09 19 06.0 +2.1
      comp=Z,28nm,0.6s
MYA   Malataya        11.55 125  eP     P     09 19 07.4 +3.2
MYA   Malataya        11.55 125   P     P     09 19 15.2  +11
GRAM                  11.63 270   P     P     09 19 14.2 +9.0
VINC  Vinca           11.65 268   P     P     09 19 13.9 +8.5
BACM                  11.67 269   P     P     09 19 14.9 +9.1
KIV   Kislovodsk      11.68  93  eP     P     09 19 05.0 -0.9
KIV                              eS     S     09 21 13.3 -0.4
KIV                               pmax  pmax
      comp=N,18nm,0.9s
KIV                               pmax  pmax
      comp=Z,52nm,0.9s
KIV                               pmax  pmax
      comp=E,20nm,1.0s
KIV   Kislovodsk      11.68  93  ePn    P     09 19 05.2 -0.7
      comp=E,34nm,0.6s
GOF   Gofitskoye      11.70  87⇓iP      P     09 19 05.0 -1.2
GOF                              i S    S     09 21 17.0 +2.8
GOF                               pmax  pmax
      comp=Z,150nm,1.3s
GOF                               smax
      comp=E,240nm,1.7s
GAZ   Gaziantep       11.72 133  eP     P     09 19 08.8 +2.3
ELZG  Elazig          11.76 123  i P    P     09 19 08.4 +1.5
COBT  Iskenderun      11.76 138  i P    P     09 19 09.2 +2.2
GZT   Gaziantep       11.77 131  i P    P     09 19 08.9 +1.8
BCA   Borcka          11.80 106  eP     P     09 19 03.7 -3.8
BCA   Borcka          11.80 106   P     P     09 19 03.7 -3.9
CODM                  11.80 270   P     P     09 19 15.5 +8.0
CSS   Prodhromos      11.92 151  ePn    P     09 19 10.8 +1.8
      comp=E,68nm,1.0s
BSD   Bornholm Skovb  11.95 326  i P    P     09 19 05.9 -3.5
BSD                              i S    rx    09 19 16.5
LLS   Linth-Limmern   12.12 282 ⇑P      P     09 19 14.1 +2.5
STU   Stuttgart       12.12 291   P     P     09 19 08.4 -3.3
      comp=E,28nm,0.9s
VAE   Valguarnera     12.15 232   P     P     09 19 24.9  +13
      comp=E,10nm,0.3s,baz=19,slow=1.9,SNR=8.6
MOS   Moscow          12.31  31  eP     P     09 19 11.0 -3.0
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MOS				eS	S	09 21 17.9	-10
MOS				pmax	pmax		
	comp=Z,155nm,1.1s						
SPAK	Spaichingen	12.31	288	eP	P	09 19 13.8	-0.3
VAI	Varese	12.34	277	eP	P	09 19 21.0	+6.5
TOD	Tromm	12.52	295	eP	P	09 19 17.6	+0.8
PCP	Pian Castagno	12.69	271	P	P	09 19 24.8	+5.8
CLTB	Caltabellotta	12.76	235	eP	P	09 19 26.2	+6.3
VSU	Vasula	12.81	1	P	P	09 19 17.8	-2.7
FELD	Feldberg	12.82	287	eP	P	09 19 26.5	+5.8
ZEI	Tsey	12.86	97	⇓iP	P	09 19 22.0	+0.7
ZEI				eS	S	09 21 41.0	-0.4
ZEI				pmax	pmax		
	comp=Z,100nm,2.0s						
ZEI				MLR	MLR		
	comp=Z,200nm,14.0s						
PGF	Pioggiola	12.91	262	eP	P	09 19 20.5	-1.4
	comp=Z,91nm,0.9s						
PGF	Pioggiola	12.91	262	eP	P	09 19 26.4	+4.5
	comp=Z,46nm,0.9s						
ORO	Oropa	12.91	276	eP	P	09 19 27.6	+5.7
FIN	Finale Ligure	12.99	270	P	P	09 19 27.0	+4.1
LANF	Langenberg	13.06	291	eP	P	09 19 27.3	+3.6
TRAV		13.09	276	P	P	09 19 27.2	+3.1
RORO		13.12	270	P	P	09 19 28.3	+3.8
ROB	Roburent	13.21	271	P	P	09 19 29.6	+3.9
DIX	Grande Dixence	13.26	279	⇓P	P	09 19 30.4	+4.0
IMI	Imperia	13.29	269	P	P	09 19 30.5	+3.8
WLS	Welschbruch	13.29	289	eP	P	09 19 26.2	-0.6
CDF	Champ du Feu	13.35	289	eP	P	09 19 26.7	-0.7
	comp=Z,18nm,0.8s						
COP	Copenhagen	13.36	324	i P	P	09 19 23.5	-4.1
COP				i S	rx	09 19 38.9	
COP				i		09 19 47.6	
MOF	Molkenrain	13.41	286	eP	P	09 19 31.4	+3.2
ECH	Echery	13.41	288	eP	P	09 19 27.6	-0.6
NEGI	Negi	13.43	269	P	P	09 19 31.8	+3.2
RSP	Reno Superiore	13.48	275	P	P	09 19 31.4	+2.2
SAOF	Saorge	13.50	270	eP	P	09 19 33.8	+4.4
LSD	Ceresole Reale	13.51	276	P	P	09 19 32.3	+2.9
BHB	Bricherasio	13.53	273	P	P	09 19 31.9	+2.1
ENR	Entracque	13.54	271	P	P	09 19 33.0	+3.1
AUTN	L’Aution	13.59	270	eP	P	09 19 35.8	+5.3
HINF	Hinteralfeld	13.59	286	eP	P	09 19 30.0	-0.5
	comp=Z,21nm,0.7s						
LOMF	Lomont	13.60	284	eP	P	09 19 34.0	+3.4
STV2	Anna di Valdie	13.61	271	P	P	09 19 33.0	+2.3
STV	Sta Anna Valdi	13.61	271	P	P	09 19 33.2	+2.6
SBF	Sospel	13.62	269	eP	P	09 19 29.9	-0.9
	comp=Z,40nm,0.7s						
FENE	Fenestrelle	13.64	274	P	P	09 19 32.9	+1.9
PZZ	Prazzo	13.71	272	P	P	09 19 33.4	+1.4
TOUF	Mont Tournerai	13.71	270	eP	P	09 19 34.1	+2.1
OG01	Vacheresse	13.74	280	eP	P	09 19 36.4	+4.0
LPG	La Plagne	13.79	276	eP	P	09 19 32.8	-0.1
	comp=Z,160nm,0.9s						
LPL	La Plagne	13.80	276	eP	P	09 19 33.4	+0.3
	comp=Z,52nm,0.5s						
RRL	Cesana Torines	13.85	274	P	P	09 19 35.9	+2.1
MBDF	Montbardon	13.89	273	eP	P	09 19 35.3	+0.9
	comp=Z,55nm,0.7s						
BNI	Bardonecchia	13.90	275	eP	P	09 19 35.7	+1.3
	comp=Z,25nm,1.1s						
SURF	Saint Ours	13.91	272	eP	P	09 19 39.2	+4.6
HAU	Haudompre	13.94	287	eP	P	09 19 34.8	-0.1
	comp=Z,10nm,0.6s						
HAU				eR			
	comp=Z,257nm,21.2s						
HAU	Haudompre	13.94	287	eP	P	09 19 38.1	+3.2
	comp=Z,5.3nm,0.6s						
CALN	Calern	14.03	269	eP	P	09 19 41.1	+5.1
CABF	La Chapelle	14.13	281	eP	P	09 19 36.1	-1.3
	comp=Z,78nm,0.5s						
FRF	La Foret Royal	14.25	269	eP	P	09 19 37.9	-0.9
	comp=Z,69nm,0.9s						
FRF	La Foret Royal	14.25	269	eP	P	09 19 43.0	+4.2
	comp=Z,34nm,0.9s						
HRI	Mount Hermon	14.31	147	P	P	09 19 42.2	+2.5
WTSB	Winterswijk	14.36	303	⇓iP	P	09 19 44.9	+4.7
	comp=Z,35nm,1.1s						
LMR	La Mourre	14.41	268	eP	P	09 19 39.1	-1.7
	comp=Z,56nm,0.9s						
LMR	La Mourre	14.41	268	eP	P	09 19 44.4	+3.6
	comp=Z,28nm,0.9s						
ORIF	Oris-en-Rattie	14.48	274	eP	P	09 19 41.8	0.0
	comp=Z,85nm,0.9s						
ORIF				eR			
	comp=Z,258nm,20.1s						
GNI	Garni	14.50	106	eP	P	09 19 44.7	+2.6
GNI	Garni	14.50	106	P	P	09 19 44.0	+1.9
	comp=Z,2.4nm,0.3s,baz=354,slow=5.1,SNR=16						
GNI	Garni	14.50	106	P	P	09 19 44.0	+1.9
GNI				pmax	pmax		
	comp=Z,2.0nm,0.3s						
GNI	Garni	14.50	106	eP	P	09 19 45.1	+3.0
	comp=Z,114nm,1.3s						
GRN	Grenoble	14.52	276	eP	P	09 19 45.1	+2.8
HGN	Heimansgroeve	14.57	298	⇓iP	P	09 19 47.4	+4.6
	comp=Z,19nm,1.0s						
OFRI	‘Ofer	14.61	150	P	P	09 19 44.7	+1.1
OG05	Jujurieux	14.62	279	eP	P	09 19 46.2	+2.7
MEZF	Maizieres J’vi	14.83	289	eP	P	09 19 46.3	+0.2
SMRF	Simiane la Rot	14.89	271	eP	P	09 19 46.7	-0.3
	comp=Z,42nm,0.8s						
SMRF	Simiane la Rot	14.89	271	eP	P	09 19 49.9	+2.9
	comp=Z,42nm,0.8s						
MMLI	Mount Malkishu	14.93	149	P	P	09 19 50.2	+2.6
HMDT	Nahal Hemdat	15.14	149	P	P	09 19 51.7	+1.6
GIVF	Givet	15.14	295	eP	P	09 19 50.6	+0.6
MAK	Makhachkala	15.32	93	eP	P	09 19 57.0	+4.6
VIVF	Saint-Julien-l	15.34	275	eP	P	09 19 52.0	-0.6
	comp=Z,18nm,0.4s						
BAIF	Baives	15.53	294	eP	P	09 19 55.3	+0.4
LOR	Lormes	15.63	284	eP	P	09 19 56.8	+0.7
	comp=Z,26nm,0.6s						
LOR				eR			
	comp=Z,247nm,21.7s						
SMF	Signal de Mont	15.68	282	eP	P	09 19 56.4	-0.3
	comp=Z,96nm,1.1s						
ASF	Jabal al Asfar	15.73	145	P	P	09 19 59.4	+1.9
	comp=Z,0.4nm,0.3s,baz=180,slow=2.3,SNR=26						
FINES	FINESS Array B	15.80	359	P	P	09 19 54.1	-4.1
	comp=Z,2.1nm,0.3s,baz=172,slow=12,SNR=27						
FINES				S	S	09 22 54.6	+6.0
	comp=Z,0.5nm,0.3s,baz=180,slow=19,SNR=5.0						
FINES				LR	LR	09 25 57.3	
	comp=Z,161nm,19.7s,baz=250,slow=36						
FINES	FINESS Array B	15.80	359	P	P	09 19 54.1	-4.1
FINES				S	S	09 22 54.6	+6.1
FINES				pmax	pmax		
	comp=Z,2.0nm,0.3s						
FINES				smax			
	comp=N,1.0nm,0.3s						
FINES				MLR	MLR		
	comp=Z,161nm,19.7s						
SSF	Saint Saulge	15.88	283	eP	P	09 19 59.0	-0.2
	comp=Z,36nm,0.8s						
AVF	Avril sur Loir	16.00	282	eP	P	09 20 00.9	+0.2
	comp=Z,37nm,0.6s						
LASF	Ste Croix	16.07	272	eP	P	09 20 03.6	+1.9
	comp=Z,56nm,0.8s						
LBL	Lubilhac	16.27	277	eP	P	09 20 05.9	+1.8
HFS	Hagfors	16.35	337	P	P	09 20 02.0	-3.0
	comp=Z,0.8nm,0.3s,baz=160,slow=13,SNR=37						
HFS	Hagfors	16.35	337	P	P	09 20 02.0	-3.0
HFS				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PYM	Petit Puy Mans	16.35	279	eP	P	09 20 06.7	+1.6
BGF	Bois d’Agland	16.37	282	eP	P	09 20 05.8	+0.5
	comp=Z,25nm,0.6s						
HYF	Humbligny	16.45	284	eP	P	09 20 07.2	+0.8
KAF	Kangasniemi	16.47	360	ep	P	09 20 02.0	-4.5
	baz=176,slow=12						
TCF	Toulx Ste Croi	16.83	281	eP	P	09 20 11.5	+0.5
	comp=Z,19nm,0.6s						
KMTI	Karmit	16.85	154	P	P	09 20 12.5	+1.2
OSL	Oslo	17.08	332	eP	P	09 20 12.3	-1.6
CAF	Calviac	17.15	276	eP	P	09 20 15.3	+0.5
	comp=Z,16nm,0.6s						
MTLF	Montolieu	17.41	271	eP	P	09 20 18.8	+0.8
	comp=Z,28nm,0.6s						
RJF	Les Rejaudoux	17.46	278	eP	P	09 20 19.7	+1.2
	comp=Z,53nm,0.8s						
RJF				eR			
	comp=Z,372nm,20.5s						
NB2	NORSAR Subarra	17.80	335	P	P	09 20 20.2	-2.1
	comp=Z,12nm,0.4s,baz=148,slow=11						
NB2	NORSAR Subarra	17.80	335	P	P	09 20 20.2	-2.1
	baz=148,slow=12						
NOA	NORSAR Array B	17.80	335	P	P	09 20 20.0	-2.3
	comp=Z,4.2nm,0.3s,baz=143,slow=11,SNR=34						
NOA	NORSAR Array B	17.80	335	P	P	09 20 20.0	-2.3
NOA				pmax	pmax		
	comp=Z,4.0nm,0.3s						
NOA	NORSAR Array B	17.80	335	P	P	09 20 20.0	-2.3
JMOS	Jabal al Moall	17.84	154	P	P	09 20 23.9	+0.9
HAQS	Haql	17.89	155	P	P	09 20 24.3	+0.6
LFF	La Frestale	18.07	277	eP	P	09 20 25.6	+0.2
	comp=Z,68nm,0.6s						
BLS5	Blasjo	18.25	326	eP	P	09 20 26.9	-0.4
BLS5				AMb	AMB	09 20 32.5	
	comp=Z,58nm,1.7s						
BLS5	Blasjo	18.25	326	eP	P	09 20 26.9	-0.4
	comp=Z,58nm,1.7s						
LDF	La Druitiere	18.27	289	eP	P	09 20 25.4	-2.1
	comp=Z,44nm,0.5s						
JMQS	Jabal Moqyreh	18.34	153	P	P	09 20 29.2	+0.7
TAYS	Tayyib Ism	18.35	156	P	P	09 20 29.3	+0.7
MFF	Saint Martin d	18.41	282	eP	P	09 20 27.4	-1.7
	comp=Z,82nm,0.8s						
FLN	La Foliniere	18.50	289	eP	P	09 20 27.6	-2.5
	comp=Z,30nm,0.4s						
FLN				eR			
	comp=Z,248nm,20.9s						
BDAS	Al Bad‘	18.53	155	P	P	09 20 31.2	+0.8
GRR	Gorron	18.76	288	eP	P	09 20 31.0	-1.8
EPF	Esparros	18.82	271	eP	P	09 20 32.4	-1.0
	comp=Z,17nm,0.5s						
EPOB	Poblet	18.86	266	P	P	09 20 33.4	-0.4
	comp=Z,136nm,1.4s						
TBKS	Tabuk	19.17	152	P	P	09 20 38.5	+1.3
DOMB	Dombas	19.22	335	eP	P	09 20 37.1	-0.4
DOMB				AMb	AMB	09 20 38.9	
	comp=Z,78nm,1.5s						
DOMB	Dombas	19.22	335	eP	P	09 20 37.1	-0.4
	comp=Z,78nm,1.5s						
EGD	Espegrend	19.27	327	eP	P	09 20 38.2	+0.1
BER	Bergen	19.31	327	eP	P	09 20 38.5	+0.1
RUND	Rundenannen	19.31	327	eP	P	09 20 38.7	+0.2
ASK	Askoy	19.42	327	eP	P	09 20 39.7	+0.1
EBR	Ebro Roquetas	19.47	265	eP	P	09 20 39.7	-0.5
EIBI	Ibiza	19.65	259	P	P	09 20 42.3	+0.3
	comp=Z,66nm,0.9s						
ESAC	San Caprasio	19.81	268	P	P	09 20 42.7	-1.0
	comp=Z,99nm,0.8s						
SGMF	Saint Gilles	19.90	288	eP	P	09 20 43.1	-1.5
	comp=Z,30nm,0.6s						
HAE	Alders End	20.01	299	⇑eP	P	09 20 44.7	-1.1
HAE				AMb	AMB	09 20 47.7	
	comp=Z,149nm,1.8s						
EALK	Alkurruntz	20.06	273	P	P	09 20 45.5	-0.7
	comp=Z,48nm,1.8s						
MOL	Molde	20.09	334	eP	P	09 20 50.1	+3.7
MOL				AMb	AMB	09 20 52.1	
	comp=Z,256nm,1.2s						
MOL	Molde	20.09	334	eP	P	09 20 50.1	+3.7
	comp=Z,256nm,1.2s						
HGH	Gray Hill	20.13	298	⇑eP	P	09 20 46.1	-0.8
HGH				AMb	AMB	09 20 49.1	
	comp=Z,158nm,1.1s						
HLM1	Long Mynd	20.28	300	⇑eP	P	09 20 47.5	-0.9
HLM1				AMb	AMB	09 20 51.3	
	comp=Z,84nm,1.3s						
MCH1	Michaelchurch	20.29	299	⇑eP	P	09 20 47.6	-0.8
EMOS	Mosqueruela	20.32	264	P	P	09 20 48.7	-0.2
	comp=Z,68nm,0.7s						
QUIF	Quistinic	20.33	287	eP	P	09 20 47.0	-1.9
	comp=Z,22nm,0.3s						
ROSF	Rostrenen	20.37	288	eP	P	09 20 46.8	-2.6
	comp=Z,23nm,0.6s						
SSP1	Stoney Pound	20.41	300	⇑eP	P	09 20 50.0	+0.3
NSS	Namsos	20.53	342	eP	P	09 20 49.1	-1.8
NSS				epP		09 21 15.7	
CDU1	Dunnerdale	20.79	305	⇑eP	P	09 20 54.0	+0.5
CKE	Keswick	20.79	306	⇑eP	P	09 20 53.3	-0.3
CSF	Scaffel	20.84	306	⇑eP	P	09 20 54.5	+0.6
EBEN	Beniarda	20.88	260	P	P	09 20 55.7	+1.2
	comp=Z,55nm,0.7s						
WPM1	Penmaenmawr	21.00	302	eP	P	09 20 55.7	+0.1
WPM1				AMb	AMB	09 20 57.7	
	comp=Z,119nm,1.1s,mb5.1						
EKA	Eskdalemuir Ar	21.01	308	P	P	09 20 55.4	-0.3
	comp=Z,17nm,0.7s,mb4.5,baz=100,slow=9.3,SNR=33						
EKA				PcP	PcP	09 24 55.9	-1.8
	comp=Z,3.1nm,0.7s,baz=188,slow=1.0,SNR=6.6						
EKA	Eskdalemuir Ar	21.01	308	P	P	09 20 55.4	-0.2
EKA						09 24 55.9	
EKA				pmax	pmax		
	comp=Z,17nm,0.7s						
EKA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ESK	Eskdalemuir	21.03	308	eP	P	09 20 54.5	-1.3
	comp=Z,39nm,1.1s,mb4.7						
SBD	Saint Breward	21.25	295	⇑eP	P	09 20 51.0	-7.0
ETOR	Torete	21.25	267	P	P	09 20 58.4	+0.3
	comp=Z,36nm,2.1s,mb4.3						
WME	Myndd Eilian	21.26	302	eP	P	09 20 58.1	0.0
WME				AMb	AMB	09 21 06.7	
	comp=Z,16nm,1.3s,mb4.2						
YRC	Rhoscolyn	21.40	302	eP	P	09 21 00.3	+0.8
ELAN	Lanestosa	21.40	274	P	P	09 20 59.3	-0.3
	comp=Z,80nm,0.8s,mb5.1						
MOR8	Moi Rana	21.54	347	eP	P	09 21 01.9	+1.1
MOR8				AMb	AMB	09 21 05.6	
	comp=Z,82nm,1.5s,mb5.0						
MOR8				epP		09 21 26.0	
MOR8	Moi Rana	21.54	347	eP	P	09 21 01.9	+1.1
	comp=Z,82nm,1.5s,mb4.9						
PCA1	Carrot	21.70	309	⇑eP	P	09 21 02.4	-0.1
ETOB	Tobarra	21.82	261	P	P	09 21 04.7	+1.0
	comp=Z,40nm,0.8s,mb4.9						
HILS	Ha’il	21.97	141	P	P	09 21 06.7	+1.4
EMUR	La Murta	22.00	259	P	P	09 21 05.8	+0.3
PMSU	Muirshiel	22.01	309	⇑eP	P	09 21 05.6	+0.2
APA	Apatity	22.26	7	⇑iP	P	09 21 07.0	-0.8
APA				eS	S	09 25 05.0	+7.3
APA				pmax	pmax		
	comp=Z,76nm,1.2s,mb5.0						
KBRS	Khaybar	22.36	148	P	P	09 21 11.2	+2.1
GMM	Mts of Mourne	22.36	304	eP	P	09 21 09.0	+0.1
GMK	Mull of Kintyr	22.36	307	⇑eP	P	09 21 08.6	-0.3
DSB	Dublin	22.47	302	eP	P	09 21 10.4	+0.4
	comp=Z,29nm,0.8s,mb4.8						
EVIA	Vianos	22.49	262	P	P	09 21 11.1	+0.8
	comp=Z,48nm,0.6s,mb5.1						
DLF	Lyons Farm	22.57	302	eP	P	09 21 10.4	-0.5
GCL	Cushendall	22.61	306	eP	P	09 21 11.7	+0.5
EARI	Arriondas	22.62	275	P	P	09 21 11.3	-0.2
	comp=Z,240nm,1.7s,mb5.3						
ARU	Arti	22.68	50	⇓iP	P	09 21 12.9	+1.1
ARU				e		09 21 40.5	
ARU				eS	S	09 25 10.8	+5.9
ARU				pmax	pmax		
	comp=Z,25nm,0.6s,mb4.8						
ARU	Arti	22.68	50	eP	P	09 21 12.3	+0.5
	comp=Z,41nm,0.4s,mb5.2						
LVZ	Lovozero	22.69	8	c iP	P	09 21 12.3	+0.4
LVZ				pmax	pmax		
	comp=Z,68nm,0.8s,mb5.1						
DMUB	Kingscourt	22.87	303	eP	P	09 21 13.0	-0.7
DCN	Croghan	23.02	302	eP	P	09 21 14.7	-0.5
ESDC	Sonseca Array	23.05	266	P	P	09 21 15.2	-0.5
	comp=Z,32nm,1.0s,mb4.7,baz=60,slow=9.4,SNR=46						
ESDC	Sonseca Array	23.05	266	P	P	09 21 15.1	-0.5
	comp=Z,35nm,0.9s,mb4.8						
YNBS	Yanbu‘ al Bahr	23.25	152	P	P	09 21 20.8	+3.1
EQES	Quesada	23.28	261	P	P	09 21 17.6	-0.3
	comp=Z,37nm,2.0s,mb4.5						
KTK1	Kautokeino	23.46	357	eP	P	09 21 20.7	+1.4
KTK1				epP		09 21 48.5	
KBD	Kabd	23.48	127	eP	P	09 21 22.9	+3.0
LOF	Lofoten	23.49	348	eP	P	09 21 21.6	+2.0
LOF				AMb	AMB	09 21 26.5	
	comp=Z,114nm,1.7s,mb5.0						
LOF				epP		09 21 48.7	
LOF	Lofoten	23.49	348	eP	P	09 21 21.6	+2.0
	comp=Z,114nm,1.7s,mb5.0						
RDF	Al-Radifah	23.59	128	eP	P	09 21 23.6	+2.6
SVE	Sverdlovsk	23.88	50	⇓iP	P	09 21 25.0	+1.5
SVE				e		09 21 57.0	
SVE				pmax	pmax		
	comp=Z,80nm,1.9s,mb4.9						
ARCES	ARCESS Array B	23.93	359	P	P	09 21 23.7	-0.1
	comp=Z,10nm,0.4s,mb4.7,baz=181,slow=9.2,SNR=162						
ARCES				pP		09 21 51.6	
	comp=Z,16nm,0.5s,baz=180,slow=9.7,SNR=5.6						
ARCES	ARCESS Array B	23.93	359	P	P	09 21 23.7	-0.1
ARCES				*PP		09 21 51.6	
ARCES				pmax	pmax		
	comp=Z,11nm,0.4s						
ARCES				pmax	pmax		
	comp=N,16nm,0.5s						
QRN	Al-Qurain	23.93	128	eP	P	09 21 27.3	+3.0
EPON	Pontenova	23.97	276	P	P	09 21 22.3	-2.1
	comp=N,100nm,1.1s,mb5.3						
ECAL	Calabor	24.12	273	P	P	09 21 25.1	-0.8
	comp=N,69nm,0.9s,mb5.2						
EADA	Adamuz	24.15	263	P	P	09 21 25.4	-0.8
	comp=N,23nm,0.9s,mb4.7						
KEV	Kevo	24.15	0	ep	P	09 21 25.5	-0.4
	comp=N,18nm,0.6s,mb4.8						
KEV	Kevo	24.15	0	eP	P	09 21 25.5	-0.4
KEV				pmax	pmax		
	comp=Z,18nm,0.6s,mb4.8						
PBRG	Braganca	24.17	273	eP	P	09 21 25.5	-0.9
	comp=Z,32nm,0.7s,mb5.0						
ERON	Agron	24.18	260	P	P	09 21 25.3	-1.1
	comp=Z,21nm,0.8s,mb4.7						
ELUQ	Luque	24.23	261	P	P	09 21 25.6	-1.3
ERUA	La Rua	24.25	274	P	P	09 21 26.2	-1.0
	comp=Z,31nm,1.0s,mb4.8						
TRO	Tromso	24.32	354	eP	P	09 21 26.4	-1.0
TRO				AMb	AMB	09 21 31.6	
	comp=Z,41nm,1.7s,mb4.7						
TRO				epP		09 21 55.5	
TRO	Tromso	24.32	354	eP	P	09 21 26.4	-1.0
	comp=Z,41nm,1.7s,mb4.7						
ELOJ	Sierra Loja	24.35	260	P	P	09 21 26.8	-1.3
	comp=Z,13nm,0.7s,mb4.6						
PVRL	Vila Real	25.05	272	eP	P	09 21 33.5	-1.1
	comp=Z,39nm,1.0s,mb4.9						
EMIJ	Mijas	25.07	260	P	P	09 21 33.0	-1.9
	comp=Z,21nm,0.8s,mb4.7						
ELOB	Lobios	25.08	274	P	P	09 21 32.3	-2.6
STS	Santiago	25.08	276	P	P	09 21 32.9	-2.0
	comp=Z,98nm,1.8s,mb5.0						
MTE	Manteigas	25.26	270	eP	P	09 21 35.1	-1.5
	comp=Z,32nm,1.2s,mb4.7						
MTE	Manteigas	25.26	270	eP	P	09 21 34.9	-1.7
	comp=Z,16nm,0.8s,mb4.6						
EMAZ	Mazaricos	25.36	277	P	P	09 21 35.4	-2.1
	comp=Z,69nm,0.8s,mb5.2						
PVIS	Viseu	25.38	271	eP	P	09 21 36.4	-1.4
	comp=Z,47nm,1.4s,mb4.8						
PCBR	Castelo Branco	25.44	269	eP	P	09 21 36.9	-1.4
	comp=Z,36nm,1.0s,mb4.8						
EBAD	Badajoz	25.58	266	P	P	09 21 37.2	-2.5
ESPR	Espera	25.67	261	P	P	09 21 38.2	-2.2
	comp=Z,21nm,0.9s,mb4.8						
EMIN	Mina Concepcio	25.80	264	P	P	09 21 39.3	-2.4
	comp=Z,19nm,1.2s,mb4.6						
EVO	Evora	26.38	267	eP	P	09 21 44.9	-2.1
	comp=Z,7.5nm,0.6s,mb4.2						
PALC	Alcoutim	26.50	264	eP	P	09 21 47.2	-0.9
	comp=Z,27nm,1.7s,mb4.6						
PBEJ	Beja	26.51	265	eP	P	09 21 46.0	-2.2
	comp=Z,11nm,1.1s,mb4.4						
BRVK	Borovoye	29.11	59	⇑eP	P	09 22 11.7	+0.2
	comp=Z,13nm,0.5s,mb4.9						
BRVK				epP	pP	09 22 40.3	-2.9
BVAR	Borovoye Array	29.18	59	P	P	09 22 12.7	+0.6
	comp=Z,7.3nm,0.6s,mb4.6,baz=270,slow=7.4,SNR=45						
BVAR				pP	pP	09 22 42.6	-1.2
	comp=Z,6.5nm,0.6s,baz=278,slow=10,SNR=7.0						
BORG	Borgarnes	32.19	323	P	P	09 22 39.5	+1.1
	comp=Z,16nm,0.7s,mb4.9,baz=93,slow=8.7,SNR=6.7						
BORG	Borgarnes	32.19	323	eP	P	09 22 39.5	+1.1
	comp=Z,41nm,1.0s,mb5.1						
EKS2	Erkin-Say	33.71	78	P	P	09 22 53.1	+1.5
	SNR=23						
AML	Almayashu	33.85	79	P	P	09 22 54.5	+1.6
	SNR=15						
USP	Ospenovka	33.98	76	P	P	09 22 54.7	+0.8
	SNR=7.2						
AAK	Ala-Archa	34.21	78	P	P	09 22 57.6	+1.7
	SNR=15						
AAK	Ala-Archa	34.21	78	c iP	P	09 22 56.3	+0.4
AAK	Ala-Archa	34.21	78	⇑eP	P	09 22 56.3	+0.4
	comp=Z,30nm,1.1s,mb4.9						
AAK				epP	pP	09 23 26.2	-2.5
FRU	Bishkek	34.22	77	⇓iP	P	09 22 58.0	+2.0
FRU				pmax	pmax		
	comp=Z,40nm,1.4s,mb5.0						
UCH	Uchtor	34.38	78	P	P	09 22 59.8	+2.4
	SNR=10						
KURK	Kurchatov	34.55	62	c iP	P	09 22 58.9	+0.2
KURK	Kurchatov	34.55	62	⇑eP	P	09 22 58.7	0.0
	comp=Z,7.7nm,0.3s,mb4.8						
TKM2	Tokmak 2	34.86	77	P	P	09 23 03.6	+2.2
	SNR=11						
KZA	Kyzart	34.94	78	P	P	09 23 04.5	+2.4
	SNR=14						
KSH	Kashi	36.51	82	eP	P	09 23 19.3	+4.0
KSH				eAP	pP	09 23 50.0	+1.6
KSH				eXP	sP	09 24 06.0	-0.1
KSH				ePCP	PcP	09 25 38.5	+2.4
KSH				eS	S	09 28 52.3	+6.7
KSH				eXS		09 29 46.3	
KSH				LR	LR		
	comp=N,210nm,6.0s						
KSH				LR	LR		
	comp=E,230nm,7.4s						
NVS	Novosibirsk	36.52	54	i P	P	09 23 15.7	+0.5
NVS				i	pP	09 23 46.2	-2.1
NVS				pmax	pmax		
	comp=Z,22nm,0.5s,mb5.0						
NVS				pmax	pmax		
	comp=E,12nm,0.6s						
ZAL	Zalesovo	37.59	56	P	P	09 23 25.5	+1.3
	comp=E,42nm,0.4s,mb5.5,baz=92,slow=6.4,SNR=79						
ZAL				pP	pP	09 23 56.7	-0.7
	comp=E,6.6nm,0.4s,baz=107,slow=5.4,SNR=3.5						
ZAL	Zalesovo	37.59	56	P	P	09 23 25.5	+1.3
ZAL				*PP	pP	09 23 56.7	-0.7
ZAL				pmax	pmax		
	comp=Z,42nm,0.4s						
ZAL				pmax	pmax		
	comp=N,7.0nm,0.4s						
MKAR	Makanchi Array	37.96	68	P	P	09 23 28.4	+0.9
	comp=N,13nm,0.5s,mb4.8,baz=272,slow=8.2,SNR=115						
MKAR				pP	pP	09 23 59.9	-0.8
	comp=N,8.7nm,0.5s,baz=286,slow=7.7,SNR=7.6						
MKAR	Makanchi Array	37.96	68	P	P	09 23 28.4	+0.9
MKAR				*PP	pP	09 23 59.9	-0.8
MKAR				pmax	pmax		
	comp=Z,13nm,0.5s						
MKAR				pmax	pmax		
	comp=N,9.0nm,0.5s						
WMQ	Urumqi	42.61	70	eP	P	09 24 07.5	+1.9
WMQ				AP	pP	09 24 39.0	-0.3
WMQ				XP	sP	09 24 55.0	-2.0
WMQ				AMB	AMB		
	comp=Z,17nm,0.8s,mb4.7						
MBAR	Mbarara	46.23	174	eP	P	09 24 33.5	-1.4
	comp=Z,7.8nm,0.8s,mb4.4						
DBIC	Dimbokro	47.35	225	P	P	09 24 42.3	-1.3
	comp=Z,68nm,0.4s,mb5.7,baz=8.8,slow=8.8,SNR=372						
DBIC	Dimbokro	47.35	225	P	P	09 24 42.3	-1.3
DBIC				pmax	pmax		
	comp=Z,68nm,0.4s						
TIC	Toumodi	47.46	225	⇑iP	P	09 24 43.3	-1.1
	comp=Z,124nm,0.7s,mb5.7						
KIC	Kosan Boka	47.56	224	⇑iP	P	09 24 44.1	-1.2
	comp=Z,308nm,0.5s						
KMBO	Kilima Mbogo	47.58	165	P	P	09 24 45.1	-0.2
	comp=Z,1.9nm,0.8s,mb3.8,baz=7.6,slow=8.5,SNR=4.8						
KMBO				PcP	PcP	09 26 12.3	-0.9
	comp=Z,4.6nm,1.0s,baz=25,slow=8.5,SNR=7.3						
KMBO	Kilima Mbogo	47.58	165	eP	P	09 24 46.0	+0.6
	comp=Z,2.2nm,0.9s,mb3.8						
LIC	Lamto	47.82	224	⇑iP	P	09 24 46.0	-1.3
	comp=Z,241nm,0.5s						
LIC	Lamto	47.82	224	eP	P	09 24 46.0	-1.3
	comp=Z,68nm,0.5s,mb5.5						
KOLN	Koldanda	48.14	91	eP	P	09 24 50.2	+0.6
	comp=Z,101nm,1.0s,mb5.4						
GKN	Gorkha	48.73	90	eP	P	09 24 54.5	+0.4

	comp=Z,52nm,0.3s,mb5.6						
DMN	Daman	49.30	90	eP	P	09 24 59.3	+0.8
	comp=Z,40nm,0.4s,mb5.4						
KKN	Kakani	49.31	90	eP	P	09 24 58.8	+0.2
	comp=Z,98nm,0.6s,mb5.6						
ZAK	Zakamensk	49.47	55	⇑iP	P	09 25 00.6	+1.1
ZAK				e	pP	09 25 33.1	-0.9
PKI	Pulchoki	49.53	90	eP	P	09 25 00.4	+0.1
	comp=Z,32nm,0.8s,mb5.0						
TIXI	Tiksi	51.06	23	⇓iP	P	09 25 11.6	+0.3
TIXI				e*PP	pP	09 25 41.7	-4.3
TIXI				pmax	pmax		
	comp=Z,19nm,1.1s,mb4.6						
BOD	Bodaibo	51.82	43	eP	P	09 25 11.6	-5.5
LSA	Lhasa	52.27	84	P	P	09 25 22.3	+1.4
SONM	Songino Array	52.47	57	P	P	09 25 22.6	+0.5
	comp=Z,15nm,0.4s,mb4.9,baz=298,slow=8.5,SNR=169						
SONM				pP	pP	09 25 56.6	-0.4
	comp=Z,8.3nm,0.6s,baz=297,slow=8.3,SNR=8.2						
SONM				PcP	PcP	09 26 30.4	-0.3
	comp=Z,2.1nm,0.6s,baz=290,slow=3.7,SNR=4.3						
GTA	Gaotai	52.69	69	⇑P	P	09 25 24.3	+0.4
GTA				AP	pP	09 25 58.3	-0.5
GTA				XP	sP	09 26 11.8	-3.6
GTA				PP	PP	09 27 27.0	+1.3
GTA				PCS		09 30 29.3	
GTA				S	S	09 32 40.5	+2.5
GTA				XS		09 33 36.8	
GTA				SS	SS	09 36 18.3	+0.5
GTA				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.4						
GTA				AMB	AMB		
	comp=Z,55nm,4.9s						
GTA				LR	LR		
	comp=N,76nm,14.8s						
GTA				LR	LR		
	comp=E,66nm,12.9s						
GTA				LR	LR		
	comp=Z,53nm,17.9s						
RES	Resolute Bay	53.81	344	eP	P	09 25 31.1	-0.6
SHL	Shillong	55.31	88	⇑iP	P	09 25 42.0	-1.2
SCHQ	Schefferville	56.05	316	P	P	09 25 45.9	-2.3
	comp=Z,16nm,0.8s,mb4.9,baz=59,slow=5.1,SNR=26						
YAK	Yakutsk	56.43	33	eP	P	09 25 49.3	-1.4
YAK				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.8						
YAK				pmax	pmax		
	comp=N,2.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.3s						
LZH	Lanzhou	57.19	70	⇑P	P	09 25 56.5	+0.1
LZH				AP	pP	09 26 29.8	-2.0
LZH				XP	sP	09 26 45.3	-3.1
LZH				PP	PP	09 28 06.5	0.0
LZH				eS	S	09 33 38.5	+0.5
LZH				AMB	AMB		
	comp=Z,53nm,1.3s,mb5.2						
LZH				AMB	AMB		
	comp=Z,176nm,4.8s						
LZH	Lanzhou	57.19	70	⇑P	P	09 25 56.5	+0.1
	comp=Z,53nm,1.3s,mb5.2						
LZH				pP	pP	09 26 29.8	-2.0
LZH				sP	sP	09 26 45.3	-3.1
LZH				PP	PP	09 28 06.5	0.0
LZH				eS	S	09 33 38.6	+0.6
LZH				sS		09 34 46.7	
LSZ	Lusaka	60.68	178	eP	P	09 26 20.5	-0.2
	comp=Z,4.0nm,0.5s,mb4.5						
XAN	Xi’an	61.75	69	P	P	09 26 27.3	-0.4
XAN				AMB	AMB		
	comp=Z,21nm,1.0s,mb4.9						
KMI	Kunming	63.16	81	eP	P	09 26 37.0	-0.2
KMI				AP	pP	09 27 12.5	-0.8
KMI				AMB	AMB		
	comp=Z,28nm,0.9s,mb5.1						
KMI	Kunming	63.16	81	eP	P	09 26 37.0	-0.2
	comp=Z,28nm,0.9s,mb5.1						
KMI				pP	pP	09 27 12.4	-0.9
ENH	Enshi	64.47	72	eP	P	09 26 45.1	-0.5
	comp=Z,26nm,0.8s,mb5.1						
ENH				epP	pP	09 27 19.8	-2.1
CHG	Chiang Mai	64.65	89	⇑P	P	09 26 46.4	-0.5
	comp=Z,40nm,0.7s,mb5.4						
CMAR	Chiang Mai Arr	64.89	89	P	P	09 26 47.9	-0.6
	comp=Z,26nm,0.8s,mb5.1,baz=305,slow=7.5,SNR=124						
CMAR				pP	pP	09 27 24.6	-0.1
	comp=Z,8.7nm,0.9s,baz=305,slow=7.5,SNR=3.8						
CMAR	Chiang Mai Arr	64.89	89	P	P	09 26 47.9	-0.6
CMAR				*PP	pP	09 27 24.6	-0.1
CMAR				pmax	pmax		
	comp=Z,27nm,0.8s						
CMAR				pmax	pmax		
	comp=N,9.0nm,0.9s						
GYA	Guiyang	65.00	77	⇑iP	P	09 26 48.3	-0.8
GYA				AP	pP	09 27 22.5	-2.9
GYA				XP	sP	09 27 37.5	-4.4
GYA				PP	PP	09 29 14.5	-1.0
GYA				S	S	09 35 16.0	-1.1
GYA				PS	PS	09 35 58.3	-2.6
GYA				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.0						
GYA				LR	LR		
	comp=N,160nm,16.7s						
GYA				LR	LR		
	comp=E,250nm,17.0s						
GYA				LR	LR		
	comp=Z,320nm,16.5s						
TSUM	Tsumeb	65.06	189	P	P	09 26 47.6	-1.9
	comp=Z,3.0nm,0.6s,mb4.3,baz=326,slow=7.1,SNR=7.1						
INK	Inuvik	65.35	352	P	P	09 26 49.5	-1.1
	comp=Z,16nm,0.4s,mb5.2,baz=28,slow=5.7,SNR=212						
INK	Inuvik	65.35	352	P	P	09 26 49.6	-1.0
INK				pmax	pmax		
	comp=Z,16nm,0.4s						
INK	Inuvik	65.35	352	⇑eP	P	09 26 49.1	-1.5
	comp=Z,14nm,0.4s,mb5.1						
KLR	Kul’dur	65.36	44	eP	P	09 26 47.8	-3.2
KLR				e	pP	09 27 22.8	-4.5
KLR				pmax	pmax		
	comp=Z,24nm,1.4s,mb4.8						
MA2	Magadan	65.64	27	eP	P	09 26 53.0	+0.4
CN2	Changchun	65.66	52	eP	P	09 26 53.0	0.0
CN2				eAP	pP	09 27 29.0	-0.3
CN2				eS	S	09 35 24.3	-0.5
CN2				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.2						
CN2				AMB	AMB		
	comp=Z,300nm,4.0s						
CN2				LR	LR		
	comp=N,300nm,14.0s						
CN2				LR	LR		
	comp=E,200nm,14.0s						
CN2				LR	LR		
	comp=Z,200nm,15.0s						
BDT	Bhumibol Dam	65.75	90	P	P	09 26 52.5	-1.5
WHN	Wuhan	67.51	69	eP	P	09 27 05.0	+0.1
YKA	Yellowknife Ar	67.77	342	P	P	09 27 04.8	-1.1
	comp=Z,6.4nm,0.5s,mb4.6,baz=23,slow=5.6,SNR=25						
YKA				pP	pP	09 27 40.1	-2.4
	comp=Z,5.3nm,0.7s,baz=20,slow=6.7,SNR=5.3						
YKA	Yellowknife Ar	67.77	342	P	P	09 27 04.8	-1.1
YKA				*PP	pP	09 27 40.1	-2.3
YKA				pmax	pmax		
	comp=Z,6.0nm,0.5s						
YKA				pmax	pmax		
	comp=N,5.0nm,0.7s						
YKA	Yellowknife Ar	67.77	342	P	P	09 27 04.8	-1.1
YKA				pP	pP	09 27 40.1	-2.3
NJ2	Nanjing	69.43	65	eP	P	09 27 16.5	-0.1
NJ2				AP	pP	09 27 50.5	-2.8
NJ2				XP	sP	09 28 06.0	-3.8
NJ2				PP	PP	09 29 53.5	0.0
NJ2				S	S	09 36 12.0	+2.1
NJ2				XS		09 37 12.0	
NJ2				AMB	AMB		
	comp=Z,60nm,0.6s,mb5.5						
NJ2				AMB	AMB		
	comp=Z,360nm,7.5s						
NJ2				LR	LR		
	comp=N,630nm,22.0s						
NJ2				LR	LR		
	comp=E,2µm,20.7s						
NJ2				LR	LR		
	comp=Z,9µm,25.0s						
COLA	College	69.70	357	eP	P	09 27 18.1	+0.4
ILAR	Eielson Array	69.77	357	P	P	09 27 17.7	-0.4
	comp=Z,3.7nm,0.9s,mb4.1,baz=354,slow=5.2,SNR=38						
ILAR				PKP2bc		09 55 19.9	
	comp=Z,0.5nm,0.9s,baz=223,slow=3.0,SNR=5.4						
ILAR	Eielson Array	69.77	357	P	P	09 27 17.7	-0.4
ILAR				⇑e		09 55 19.9	
DAWY	Dawson	70.03	353	⇑eP	P	09 27 19.7	-0.1
MCK	McKinley	70.88	358	eP	P	09 27 24.5	-0.4
	comp=Z,8.8nm,0.8s,mb4.5						
SSE	Sheshan	71.55	64	eP	P	09 27 29.0	-0.4
SSE				AMB	AMB		
	comp=Z,34nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,551nm,5.1s						
SSE	Sheshan	71.55	64	eP	P	09 27 29.1	-0.3
	comp=Z,34nm,0.7s,mb5.2						
YSS	Yuzh-Sakhalins	72.16	40	⇑iP	P	09 27 32.0	-0.7
YSS				e	pP	09 28 09.0	-0.6
YSS				pmax	pmax		
	comp=Z,60nm,1.0s,mb5.3						
YSS	Yuzh-Sakhalins	72.16	40	eP	P	09 27 33.1	+0.4
	comp=Z,29nm,0.8s,mb5.1						
ULM	Lac du Bonnet	72.17	325	P	P	09 27 31.2	-1.5
	comp=Z,13nm,0.6s,mb4.8,baz=39,slow=6.6,SNR=8.8						
PWA	Palmer West	72.99	358	eP	P	09 27 37.2	0.0
PMR	Palmer	73.03	358	eP	P	09 27 37.2	-0.2
	comp=Z,23nm,1.2s,mb4.8						
ASAJ	Asahikawa	74.22	42	LR	LR	10 03 58.8	
	comp=Z,44nm,19.3s,baz=1.1,slow=38						
EDM	Edmonton	75.65	336	⇑eP	P	09 27 51.8	-0.8
LAO	LASA Array	79.04	329	⇑iP	P	09 28 11.8	+0.4
	comp=Z,58nm,1.0s,mb5.2						
LAO				epP	pP	09 28 49.4	+0.4
CCM	Cathedral Cave	79.59	315	eP	P	09 28 13.3	-1.3
	comp=Z,5.8nm,0.6s,mb4.4						
RSSD	Black Hills	80.39	326	eP	P	09 28 18.3	-0.4
	comp=Z,6.3nm,0.4s,mb4.6						
HRY	Holter Researc	80.95	332	eP	P	09 28 21.2	-0.4
GCMT	Greycliff	81.03	331	eP	P	09 28 22.5	+0.5
NEW	Newport	81.16	336	eP	P	09 28 22.8	+0.1
	comp=Z,3.6nm,0.6s,mb4.2						
LRAL	Lakeview Retre	81.22	309	eP	P	09 28 21.8	-1.5
	comp=Z,12nm,0.5s,mb4.8						
CHMT	Chamberlain Mo	81.22	333	eP	P	09 28 22.3	-0.7
KSU1	Kansas State U	81.35	319	eP	P	09 28 22.8	-1.1
MSO	Missoula	81.51	334	eP	P	09 28 23.9	-0.6
	comp=Z,5.2nm,1.0s,mb4.1						
BOZ	Bozeman (W)	81.82	332	eP	P	09 28 25.9	-0.3
	comp=Z,2.2nm,0.8s,mb3.8						
DPW	Davenport	81.82	337	eP	P	09 28 26.6	+0.5
YMR	Madison River	82.46	331	eP	P	09 28 30.3	+0.8
QLMT	Earthquake Lak	82.47	331	eP	P	09 28 30.6	+1.1
MCMT	McKenzie Canyo	82.95	332	eP	P	09 28 32.1	+0.2
IMW	Indian Meadow	83.12	330	⇑eP	P	09 28 34.1	+1.2
RMW	Rattlesnake Mo	83.15	339	P	P	09 28 32.9	-0.1
MOOW	Moose Ponds	83.19	330	eP	P	09 28 34.0	+0.8
LOHW	Long Hollow	83.26	330	⇑eP	P	09 28 34.4	+0.8
GNW	Green Mountain	83.31	340	⇑eP	P	09 28 34.2	+0.4
GNW				epP	pP	09 29 10.9	-0.8
WUWY	Wally Ulrich	83.37	330	P	P	09 28 35.2	+1.0
TPAW	Teton Pass	83.49	330	eP	P	09 28 35.9	+1.2
HAWA	Hanford	83.54	337	⇑eP	P	09 28 35.3	+0.4
	comp=Z,25nm,1.2s,mb4.8						
REDW	Red Top Meadow	83.56	330	eP	P	09 28 35.9	+0.8
PDAR	Pinedale Array	83.62	329	P	P	09 28 35.5	+0.1
	comp=Z,5.2nm,0.7s,mb4.4,baz=65,slow=4.4,SNR=39						
PDAR				PKKPbc		09 46 50.8	
	comp=Z,0.5nm,0.6s,baz=157,slow=1.7,SNR=5.3						
LNOR	Lincton Mounta	83.67	336	eP	P	09 28 35.6	+0.1
HLID	Hailey	84.58	333	eP	P	09 28 40.3	+0.2
	comp=Z,1.6nm,0.6s,mb3.9						
HWUT	Hardware Ranch	85.36	330	eP	P	09 28 44.2	+0.2
	comp=Z,9.4nm,0.9s,mb4.5						
HWUT				epP	pP	09 29 22.6	+0.4
HVU	Hansel Valley	85.63	331	eP	P	09 28 45.6	+0.3
WMOK	Wichita Mounta	85.90	318	eP	P	09 28 45.6	-1.2
	comp=Z,2.0nm,0.6s,mb4.0						
DUG	Dugway	87.05	330	eP	P	09 28 52.7	+0.5
	comp=Z,7.4nm,0.9s,mb4.5						
SRU	San Rafael	87.17	328	eP	P	09 28 52.2	-0.7
HUMO	Hull Mountain	87.97	338	eP	P	09 28 57.1	+0.5
	comp=Z,5.2nm,1.0s,mb4.3						
MSU	Marysvale	88.31	329	eP	P	09 28 58.8	+0.5
SDV	Santo Domingo	88.61	281	eP	P	09 29 00.3	+0.1
	comp=Z,8.7nm,0.8s,mb4.7						
BNM	Barren Site	89.92	323	eP	P	09 29 05.6	-0.4
WCN	Washoe City	90.13	334	eP	P	09 29 06.8	0.0
BAO	Brasilia Array	90.55	248	iP	P	09 29 10.2	+0.9
BAO				e		09 29 19.1	
BAO				e	pP	09 29 50.2	+2.3
BAO				e	pP	09 29 53.3	+5.4
BDFB	Brasilia	90.56	248	P	P	09 29 10.4	+1.0
	comp=Z,8.4nm,0.8s,mb4.8,baz=55,slow=4.0,SNR=11						
BDFB				pP	pP	09 29 47.1	-0.9
	comp=Z,3.4nm,0.6s,baz=56,slow=6.9,SNR=2.5						
BDFB	Brasilia	90.56	248	P	P	09 29 10.4	+1.0
BDFB				*PP	pP	09 29 47.1	-0.8
BDFB				pmax	pmax		
	comp=Z,8.0nm,0.8s						
BDFB				pmax	pmax		
	comp=N,3.0nm,0.6s						
NEN	Nelson	91.82	329	eP	P	09 29 15.4	+0.6
TXAR	Lajitas Array	92.68	318	P	P	09 29 18.4	-0.5
	comp=N,1.0nm,0.5s,mb4.2,baz=56,slow=4.5,SNR=12						
TXAR				pP	pP	09 29 57.2	-0.3
	comp=N,2.1nm,1.1s,baz=45,slow=5.3,SNR=3.1						
TXAR				PKKPbc		09 46 29.0	
	comp=N,0.2nm,0.5s,baz=194,slow=4.5,SNR=4.1						
MAW	Mawson	116.26	165	PKP	PKPdf	09 34 48.3	+0.8
	comp=N,6.6nm,0.6s,baz=30,slow=1.1,SNR=21						
MAW	Mawson	116.26	165	PKIKP	PKPdf	09 34 48.3	+0.8
MAW				pmax	pmax		
	comp=Z,7.0nm,0.6s						
WRA	Warramunga Arr	116.40	92	PKP	PKPdf	09 34 49.4	+0.5
	comp=Z,1.6nm,0.6s,baz=306,slow=2.1,SNR=12						
WRA				PKKPbc		09 45 17.3	
	comp=Z,0.6nm,0.7s,baz=126,slow=3.4,SNR=5.1						
WRA	Warramunga Arr	116.40	92	PKIKP	PKPdf	09 34 49.4	+0.6
WRA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WB2	Warramunga Arr	116.41	92	eP	PKPdf	09 34 49.1	+0.2
ASAR	Alice Springs	118.53	95	PKP	PKPdf	09 34 53.4	+0.5
	comp=Z,3.5nm,0.7s,baz=317,slow=1.4,SNR=27						
ASAR				pPKP		09 35 33.8	
	comp=Z,0.8nm,0.5s,baz=286,slow=1.4,SNR=3.2						
ASAR				PKKPbc		09 45 10.4	
	comp=Z,0.5nm,0.7s,baz=132,slow=4.0,SNR=4.8						
VNA1	Neumayer--Stat	118.69	192	⇓iP	PKPdf	09 34 56.4	+4.3
VNA2	Neumayer--Watz	118.81	192	⇑iP	PKPdf	09 34 55.0	+2.7
SNAA	Sanae	118.87	190	⇑iP	PKPdf	09 34 53.1	+0.6
VNA3	Neumayer Olymp	119.43	193	⇑iP	PKPdf	09 34 55.5	+2.0
CTA	Charters Tower	124.83	83	eP	PKPdf	09 35 06.6	+1.4
	comp=Z,5.1nm,0.8s						
CTA	Charters Tower	124.83	83	PKP	PKPdf	09 35 06.5	+1.3
	comp=Z,7.1nm,0.8s,baz=308,slow=4.2,SNR=8.5						
CTA				pPKP		09 35 46.6	
	comp=Z,2.8nm,0.6s,baz=288,slow=8.8,SNR=3.0						
CTA	Charters Tower	124.83	83	PKIKP	PKPdf	09 35 06.5	+1.3
CTA						09 35 46.6	
CTA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
CTA				pmax	pmax		
	comp=N,3.0nm,0.6s						
STKA	Stephens Creek	128.93	98	eP	PKPdf	09 35 12.4	-0.4
	comp=N,3.3nm,0.6s						
STKA	Stephens Creek	128.93	98	PKP	PKPdf	09 35 13.9	+1.1
	comp=N,3.5nm,0.5s,baz=330,slow=3.3,SNR=17						

IDC ***27*** *09:26:17.3±6.1, 17.52S×178.84W, h609^{km}±79^{km}, mb3.2/9, mb1 3.5/9, mb1mx3.4/15, Error ellipse: s-maj=70.4km s-min=27.4km az=157.0*
NEIC ***27*** *09:26:18.7±3.1, 17.65S×178.80W, h632^{km}±39^{km}, mb3.8/10, Error ellipse: s-maj=41.7km s-min=14.1km az=155.0*
ISC 27 09:26:22.4±1.0, **17.7S**±0.4×**179.0W**±0.3, **h700**^{km}**, n24, σ0^{s}32**/22**, mb3.7**/17**, 1D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	32.91	260	P	P	09 32 05.5	0.0
	1.0nm,0.4s,mb3.7,baz=83,slow=12,SNR=8.2						
CTAO	Charters Tower	32.91	260	eP	P	09 32 05.9	+0.4
	3.8nm,0.7s,mb4.0						
STKA	Stephens Creek	38.23	241	eP	P	09 32 48.8	0.0
	3.8nm,1.0s,mb3.9						
STKA	Stephens Creek	38.23	241	P	P	09 32 48.9	+0.1
	3.1nm,0.6s,mb4.0,baz=78,slow=8.4,SNR=10						
WB2	Warramunga Arr	44.09	259	eP	P	09 33 35.0	+0.1
WRAB	Tennant Creek	44.09	259	eP	P	09 33 34.7	-0.2
	3.4nm,0.6s,mb4.0						
WRA	Warramunga Arr	44.10	259	P	P	09 33 35.1	+0.1
	2.8nm,0.8s,mb3.8,baz=96,slow=7.1,SNR=44						
ASAR	Alice Springs	44.29	254	P	P	09 33 36.6	+0.2
	9.9nm,0.6s,mb4.4,baz=88,slow=8.6,SNR=175						
ASPA	Alice Springs	44.30	254	⇓iP	P	09 33 36.5	+0.1
KAKA	Kakadu	47.05	269	eP	P	09 34 01.9	+4.6
	5.5nm,0.4s,mb4.3						
FITZ	Fitzroy Crossi	52.49	260	P	P	09 34 35.9	-0.8
	0.9nm,0.5s,mb3.4,baz=117,slow=2.3,SNR=5.1						
MBWA	Marble Bar	57.56	256	eP	P	09 35 11.5	+0.2
	1.2nm,0.5s,mb3.4						
YBH	Yreka Blue Hor	78.72	39	P	P	09 37 17.1	+0.1
	0.7nm,0.6s,mb3.3,baz=188,slow=7.1,SNR=4.2						
ELK	Elko	82.90	43	eP	P	09 37 38.0	-0.1
	1.7nm,0.9s,mb3.5						
HLID	Hailey	84.85	41	eP	P	09 37 47.9	+0.2
	1.4nm,0.7s,mb3.5						
COLA	College	85.69	13	eP	P	09 37 51.3	+0.1
	0.9nm,0.5s,mb3.6						
ILAR	Eielson Array	85.81	13	P	P	09 37 51.8	+0.1
	0.7nm,0.5s,mb3.5,baz=222,slow=5.0,SNR=22						
TXAR	Lajitas Array	86.37	58	P	P	09 37 55.7	+0.5
	1.6nm,0.7s,mb3.7,baz=219,slow=6.3,SNR=16						
ANMO	Albuquerque	86.42	52	eP	P	09 37 54.7	-0.6
	1.8nm,1.0s,mb3.6						
MCMT	McKenzie Canyo	86.45	41	eP	P	09 37 55.5	+0.3
BW06	Boulder Array	87.59	44	eP	P	09 38 00.2	-0.5
	1.0nm,0.7s,mb3.5						
PDAR	Pinedale Array	87.59	44	P	P	09 38 00.6	-0.1
	1.1nm,0.6s,mb3.5,baz=234,slow=2.6,SNR=13						
ARCES	ARCESS Array B	126.00	350	PKP	PKPdf	09 44 09.9	+2.6
	1.7nm,1.1s,baz=90,slow=1.8,SNR=4.0						
GERES	GERESS Array B	147.25	344	PKPbc	PKPdf	09 44 53.4	+7.2
	0.9nm,0.5s,slow=2.7,SNR=7.5						

KISR ***27*** *09:36:22.9±0.8, 32.99N×48.67E, h33^{km}, ML3.1*
THR ***27*** *09:36:25.3±0.7, 32.73N×48.86E, h14^{km}±15^{km}, ML3.2*
SNSN ***27*** *09:36:29.6, 32.19N×48.54E*
ISC 27 09:36:25.0±0.7**, 32.70N**±0.05×**48.8E**±0.1**, h10**^{km}**, n14, σ0^{s}98**/17**, Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAO	Ashtian	2.11	29	ePG	Pg	09 37 02.6	-4.5
ASAO				AMP		09 37 42.1	
	comp=N,151nm,0.6s						
ASAO				AMP		09 37 42.9	
	comp=E,178nm,0.8s						
SNGE	Sanandaj	2.67	334	ePN	Pn	09 37 10.1	+1.3
SNGE				AMP		09 37 57.6	
	comp=N,96nm,0.5s						
MIB	Mutribah	3.14	204	eP	Pn	09 37 15.7	+0.1
MIB				eS	Sn	09 37 54.4	+0.8
MIB				AML	AML	09 37 58.0	
	comp=Z,40nm,0.4s						
NASN	Na’in	3.39	87	ePN	Pn	09 37 19.1	0.0
RST	Umm Al-Ruwaisa	3.54	206	eP	Pn	09 37 20.3	-0.9
RST				AML	AML	09 38 13.8	
	comp=Z,24nm,0.5s						
KBD	Kabd	3.64	195	eP	Pn	09 37 23.2	+0.6
KBD				eS	Sn	09 38 06.7	+0.6
RDF	Al-Radifah	3.91	196	eP	Pn	09 37 26.2	-0.3
RDF				eS	Sn	09 38 13.2	+0.2
RDF				AML	AML	09 38 16.0	
	comp=Z,31nm,0.4s						
DAMV	Damavand	3.94	41	ePN	Pn	09 37 27.2	+0.3
QRN	Al-Qurain	4.01	191	eP	Pn	09 37 27.7	-0.3
QRN				AML	AML	09 38 16.4	
	comp=Z,16nm,0.2s						
GRMI	Germi	6.14	353	ePN	Pn	09 37 57.5	-0.5
HILS	Ha’il	8.05	231	S	Sn	09 39 49.4	-7.5
HILS				P		09 38 21.5	
ARSS	Ar Rass	8.35	217	P	P	09 38 25.4	-3.6
MZLS	Mizel	9.20	201	P	P	09 38 36.9	-3.8
AFFS	‘Afif	10.12	212	P	P	09 38 48.1	-5.4

JMA 27 09:46:54.0±0.4**, 32.37N×142.24E, h8**^{km}**, M3.6, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHJ2	Mitsune	2.17	291	P	Pn	09 47 31.2	+0.2
JHJ2				S	Sn	09 47 58.9	+0.6
JHO	Hitachi	4.45	342	P	Pn	09 48 03.4	0.0
JHO				S	Sn	09 48 53.2	-2.8
JRY	Ryogami san	4.57	324	P	Pn	09 48 06.0	+0.9
JAG	Ashikaga	4.66	331	P	Pn	09 48 06.4	+0.1
JAG				S	Sn	09 48 59.2	-2.0
JMK	Ichinoseki	6.62	353	S	Sn	09 49 45.3	-5.2

IDC ***27*** *09:52:50.5±2.3, 4.94S×135.70E, mb4.0/3, mb1 4.0/6, mb1mx3.8/13, ML3.5/3, Error ellipse: s-maj=97.8km s-min=29.7km az=81.0*
NEIC ***27*** *09:53:01.9±1.3, 5.42S×133.77E, h45^{km}, mb3.7/1, Error ellipse: s-maj=35.1km s-min=14.9km az=79.0*
ISC 27 09:53:03.4±3.4**, 5.59S**±0.10×**133.6E**±0.2**, h74**^{km}±34^{km}**, n13, σ1^{s}25**/16**, mb3.7**/3**, Aru Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	Kakadu	7.17	190	eP	P	09 54 53.9	+6.3
	2.7nm,0.2s						
WRAB	Tennant Creek	14.28	177	ePn	P	09 56 22.7	-0.6
	4.9nm,0.6s						
WRAB				eSn	S	09 58 58.8	-1.4
WRA	Warramunga Arr	14.28	177	Pn	P	09 56 23.0	-0.4
	0.2nm,0.3s,baz=6.9,slow=13,SNR=13						
WB2	Warramunga Arr	14.28	177	eP	P	09 56 22.9	-0.5
FITZ	Fitzroy Crossi	14.67	211	eP	P	09 56 29.3	+0.8
	3.1nm,0.6s						
FITZ				eS	S	09 59 09.2	-0.4
FITZ	Fitzroy Crossi	14.67	211	Pn	P	09 56 28.2	-0.3
	0.4nm,0.3s,baz=15,slow=5.9,SNR=15						
ASAR	Alice Springs	17.97	179	P	P	09 57 10.8	+0.9
	0.1nm,0.3s,baz=359,slow=12,SNR=30						
ASPA	Alice Springs	17.97	179	eP	P	09 57 14.2	+4.3
ASPA				eS	S	10 00 36.3	+12
MBWA	Marble Bar	20.51	220	eP	P	09 57 40.5	+2.7
STKA	Stephens Creek	27.20	165	eP	P	09 58 45.1	+2.8
	2.3nm,1.1s,mb3.6						
STKA	Stephens Creek	27.20	165	P	P	09 58 44.3	+2.0
	1.8nm,0.8s,mb3.6,baz=341,slow=9.3,SNR=5.5						
MKAR	Makanchi Array	69.08	325	P	P	10 04 02.5	-1.0
	0.5nm,0.6s,mb3.5,baz=123,slow=8.0,SNR=5.0						
BVAR	Borovoye Array	78.83	327	P	P	10 04 58.9	-1.0
	1.7nm,0.9s,mb3.9,baz=284,slow=38,SNR=2.8						

BJI ***27*** *09:55:11.2, 0.76S×124.14E, h154^{km}, mb4.5*
IDC ***27*** *09:55:20.8±2.6, 0.16N×123.53E, h159^{km}±23^{km}, mb4.0/16, mb1 4.1/17, mb1mx4.0/20, Error ellipse: s-maj=21.2km s-min=9.2km az=68.0*
NEIC ***27*** *09:55:20.4±1.9, 0.12N×123.52E, h155^{km}±17^{km}, mb4.7/8, Error ellipse: s-maj=21.6km s-min=6.9km az=57.0*
DJA ***27*** *09:55:22.5±2.2, 0.88S×121.84E, h500^{km}, MD5.0/3, ML4.6/1, Error ellipse: s-maj=141.1km s-min=18.8km az=92.0*
ISC 27 09:55:18.8±1.6**, 0.15N**±0.07×**123.6E**±0.1**, h155**^{km}±15^{km}**, n47, σ1^{s}03**/47**, mb4.4**/25**, 3C-5D, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCI	Palu	3.89	254	ePn	P	09 56 29.5	+11
BUNI	Buntu Taipa	4.99	221	⇓iPn	P	09 56 30.9	-2.1
	220nm,0.3s						
BUNI	Buntu Taipa	4.99	221	⇓iPn	P	09 56 30.9	-2.1
BUNI				iSn	S	09 57 23.2	-7.2
TANI	Tanete Lipujan	5.50	230	⇑iPn	P	09 56 40.0	+0.2
NINI	Niniconang	5.94	220	⇓iPn	P	09 56 46.5	+1.0
NINI				⇓iSn	S	09 57 44.4	-8.5
NINI	Niniconang	5.94	220	⇑iPn	P	09 56 46.6	+1.1
NINI				iSn	S	09 57 44.4	-8.5

KKM	**Kota Kinabalu**	**9.40**	**309**	*i*P	**P**	**09 57 38.0**	**+6.4**
	76nm,0.2s						
FITZ	**Fitzroy Crossi**	**18.25**	**174**	*e*P	**P**	**09 59 22.0**	**-1.2**
	9.8nm,1.0s						
FITZ	**Fitzroy Crossi**	**18.25**	**174**	P	**P**	**09 59 21.5**	**-1.7**
	1.8nm,0.3s,baz=356,slow=12,SNR=16						
WRA	**Warramunga Arr**	**22.58**	**153**	P	**P**	**10 00 07.3**	**+0.4**
	6.5nm,0.5s,mb4.3,baz=337,slow=10,SNR=28						
WRA				PcP	PcP	10 03 56.1	-0.5
	1.1nm,0.5s,baz=328,slow=2.3,SNR=7.8						
WB2	**Warramunga Arr**	**22.59**	**153**	*e*P	**P**	**10 00 07.5**	**+0.5**
WB2				*e*S	**S**	**10 04 00.7**	**+1.5**
ASAR	**Alice Springs**	**25.71**	**158**	P	**P**	**10 00 36.5**	**-0.2**
	1.8nm,0.7s,mb3.8,baz=328,slow=8.5,SNR=15						
ASAR				PcP	PcP	10 04 03.1	-0.2
	3.9nm,0.5s,baz=349,slow=2.2,SNR=26						
ASAR				ScP		10 07 27.3	
	0.4nm,0.4s,baz=335,slow=2.8,SNR=5.6						
KKTK	**Khon Kaen**	**26.03**	**309**	P	**P**	**10 00 42.0**	**+2.3**
	494nm,0.8s						
BDT	**Bhumibol Dam**	**29.56**	**306**	P	**P**	**10 01 12.0**	**+0.5**
CTA	**Charters Tower**	**29.96**	**133**	P	**P**	**10 01 15.0**	**0.0**
	2.7nm,0.8s,mb4.0,baz=297,slow=6.8,SNR=2.7						
CMAR	**Chiang Mai Arr**	**30.27**	**308**	P	**P**	**10 01 18.4**	**+0.6**
	4.4nm,0.7s,mb4.3,baz=136,slow=7.2,SNR=19						
CHG	**Chiang Mai**	**30.48**	**309**	⇓P	**P**	**10 01 20.0**	**+0.4**
	12nm,1.0s,mb4.6						
FORT	**Forrest**	**31.05**	**173**	*e*P	**P**	**10 01 23.4**	**-1.1**
	27nm,0.6s,mb5.2						
CBIJ	**Chichi jima**	**32.21**	**32**	P	**P**	**10 01 34.5**	**-0.1**
	39nm,0.3s,mb5.6,baz=242,slow=9.2,SNR=6.9						
ENH	**Enshi**	**32.82**	**337**	*e*P	**P**	**10 01 41.3**	**+1.4**
	18nm,0.8s,mb4.8						
STKA	**Stephens Creek**	**36.13**	**153**	⇑*i*P	**P**	**10 02 08.3**	**+0.4**
	5.0nm,0.6s,mb4.3						
STKA	**Stephens Creek**	**36.13**	**153**	P	**P**	**10 02 08.4**	**+0.5**
	6.6nm,0.7s,mb4.4,baz=324,slow=7.8,SNR=16						
STKA				PcP	PcP	10 04 30.4	-0.2
	4.0nm,0.6s,baz=319,slow=4.2,SNR=6.1						
ARMA	**Armidale**	**40.44**	**141**	*e*P	**P**	**10 02 45.7**	**+2.0**
GTA	**Gaotai**	**44.71**	**334**	*e*P	**P**	**10 03 19.8**	**+1.5**
GTA				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.3						
PKI	**Pulchoki**	**45.65**	**310**	*e*P	**P**	**10 03 26.0**	**+0.2**
DMN	**Daman**	**45.90**	**310**	*e*P	**P**	**10 03 28.5**	**+0.7**
GKN	**Gorkha**	**46.45**	**310**	*e*P	**P**	**10 03 32.4**	**+0.2**
	comp=Z,31nm,0.8s,mb5.0						
ASAJ	**Asahikawa**	**46.94**	**19**	P	**P**	**10 03 36.4**	**+0.6**
	comp=Z,8.4nm,1.0s,mb4.3,baz=259,slow=6.0,SNR=5.5						
KOLN	**Koldanda**	**47.14**	**309**	*e*P	**P**	**10 03 37.9**	**+0.4**
	comp=Z,60nm,0.8s,mb5.3						
SONM	**Songino Array**	**49.79**	**345**	P	**P**	**10 03 57.4**	**-0.2**
	comp=Z,4.3nm,0.6s,mb4.3,baz=161,slow=8.3,SNR=38						
SONM				PcP	PcP	10 05 15.6	-0.7
	comp=Z,1.6nm,0.6s,baz=169,slow=5.1,SNR=6.0						
MKAR	**Makanchi Array**	**58.79**	**328**	P	**P**	**10 05 01.9**	**-1.2**
	comp=Z,4.1nm,0.3s,mb4.7,baz=125,slow=8.5,SNR=59						
MKAR				PcP	PcP	10 05 49.4	-1.4
	comp=Z,2.6nm,0.4s,baz=154,slow=3.1,SNR=14						
MKAR	**Makanchi Array**	**58.79**	**328**	P	**P**	**10 05 01.9**	**-1.2**
MKAR				PcP	PcP	10 05 49.4	-1.3
URZ	**Urewera**	**62.20**	**134**	P	**P**	**10 05 26.0**	**-0.4**
	comp=Z,5.5nm,0.7s,mb4.5,baz=261,slow=6.7,SNR=3.9						
ZAL	**Zalesovo**	**62.42**	**335**	P	**P**	**10 05 26.6**	**-1.0**
	comp=Z,2.5nm,0.6s,mb4.2,baz=270,slow=4.9,SNR=13						
KURK	**Kurchatov**	**63.14**	**330**	*e*P	**P**	**10 05 30.5**	**-1.8**
	comp=Z,12nm,0.5s,mb5.0						
BVAR	**Borovoye Array**	**68.65**	**329**	P	**P**	**10 06 05.8**	**-1.6**
	comp=Z,1.0nm,0.5s,mb3.8,baz=129,slow=9.5,SNR=5.2						
MAW	**Mawson**	**79.33**	**200**	P	**P**	**10 07 08.8**	**+0.3**
	comp=Z,4.0nm,0.8s,mb4.1,baz=50,slow=5.7,SNR=9.1						
KMBO	**Kilima Mbogo**	**86.33**	**269**	P	**P**	**10 07 45.0**	**-0.4**
	comp=Z,1.5nm,0.8s,mb3.8,slow=5.1,SNR=5.2						
ILAR	**Eielson Array**	**89.67**	**25**	P	**P**	**10 07 59.4**	**-0.7**
	comp=Z,0.6nm,0.5s,mb3.8,baz=252,slow=4.3,SNR=26						
QSPA	**South Pole Qui**	**90.08**	**180**	*e*P	**P**	**10 08 02.6**	**+0.9**
	comp=Z,1.8nm,0.7s,mb4.1						
ARCES	**ARCESS Array B**	**92.69**	**340**	P	**P**	**10 08 12.6**	**-1.4**
	comp=Z,2.2nm,0.7s,mb4.4,baz=90,slow=3.6,SNR=7.6						
ARCES	**ARCESS Array B**	**92.69**	**340**	P	**P**	**10 08 12.6**	**-1.4**
FINES	**FINESS Array B**	**93.47**	**331**	P	**P**	**10 08 16.2**	**-1.5**
	comp=Z,3.6nm,0.9s,mb4.5,baz=92,slow=4.4,SNR=4.0						
PDAR	**Pinedale Array**	**116.10**	**41**	PKP	PKPdf	10 13 45.7	+1.9
	comp=Z,0.3nm,0.5s,baz=146,slow=1.7,SNR=4.3						
SCHQ	**Schefferville**	**124.53**	**7**	PKP	PKPdf	10 14 01.7	+1.9
	comp=Z,3.2nm,0.6s,baz=348,slow=6.5,SNR=9.3						
CPUP	**Villa Florida**	**153.96**	**178**	PKPbc	PKPdf	10 15 02.4	+10
	comp=Z,1.0nm,0.5s,baz=138,slow=5.2,SNR=3.6						
CPUP				PKPab	PKPab	10 15 15.8	-0.9
	comp=Z,1.3nm,0.7s,baz=190,slow=4.7,SNR=4.0						
LPAZ	**La Paz**	**160.24**	**145**	PKPab	PKPab	10 15 44.9	+1.0
	comp=Z,1.1nm,0.7s,baz=211,slow=3.5,SNR=3.9						

IDC 27 10:18:03.0±8.0**, 6.42S**×**147.55E, h61**^{km}±55^{km}**, mb3.6**/3**, mb1 3.8**/5**, mb1mx3.5**/13**, ML3.3**/2**, Error ellipse: s-maj=71.7km s-min=48.2km az=67.0, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.99**	**187**	P	P	10 18 48.3	-0.9
	7.5nm,0.3s,baz=330,slow=5.8,SNR=24						
PMG				S	S	10 19 23.3	-0.7
	6.0nm,0.3s,baz=11,slow=8.6,SNR=4.0						
WB2	**Warramunga Arr**	**18.57**	**222**	*e*P	P	10 22 14.4	-3.2
WRA	**Warramunga Arr**	**18.58**	**222**	P	P	10 22 14.7	-3.0
	0.3nm,0.3s,baz=47,slow=11,SNR=20						
ASAR	**Alice Springs**	**21.59**	**216**	P	P	10 22 48.0	-1.4
	2.7nm,0.5s,baz=50,slow=9.2,SNR=59						
ASPA	**Alice Springs**	**21.59**	**216**	*e*P	P	10 22 47.8	-1.7
FITZ	**Fitzroy Crossi**	**24.32**	**240**	*e*P	P	10 23 15.1	-1.2
	1.7nm,0.6s						
FITZ	**Fitzroy Crossi**	**24.32**	**240**	P	P	10 23 15.1	-1.2
	1.3nm,0.4s,baz=50,slow=7.7,SNR=11						
STKA	**Stephens Creek**	**25.93**	**192**	P	P	10 23 29.9	-1.6
	0.6nm,0.4s,baz=15,slow=11,SNR=4.4						

IDC 27 10:48:59.3±8.2**, 7.98S**×**129.20E, h260**^{km}±97^{km}**, mb2.9**/1**, mb1 3.0**/4**, mb1mx2.8**/13**, Error ellipse: s-maj=60.4km s-min=42.1km az=28.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.64**	**199**	P	P	10 51 25.1	-1.6
	0.1nm,0.3s,baz=32,slow=13,SNR=6.0						
FITZ				S	S	10 53 26.4	+3.8
	0.3nm,0.3s,baz=167,slow=9.1,SNR=5.3						
WRA	**Warramunga Arr**	**12.89**	**158**	P	P	10 51 54.4	-0.3
	0.3nm,0.3s,baz=337,slow=12,SNR=26						
WRA				S	S	10 54 14.8	+1.4
	0.2nm,0.3s,baz=334,slow=24,SNR=6.4						
ASAR	**Alice Springs**	**16.24**	**164**	P	P	10 52 33.0	-1.8
	0.2nm,0.3s,baz=348,slow=11,SNR=13						
MKAR	**Makanchi Array**	**68.61**	**327**	P	P	10 59 34.4	-1.7
	0.2nm,0.5s,baz=122,slow=7.7,SNR=4.2						

IDC 27 10:57:52.2±41.0**, 17.19S**×**65.49E, mb3.6**/3**, mb1 3.8**/3**, mb1mx3.5**/16**, MS3.8**/1**, Ms1 4.0**/1**, ms1mx3.2**/18**, Error ellipse: s-maj=1348.0km s-min=39.0km az=59.0, Mauritius - Reunion region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**48.35**	**44**	LR	LR	11 24 29.2	
	comp=Z,94nm,18.8s,baz=165,slow=33						
ASAR	**Alice Springs**	**63.92**	**108**	P	P	11 08 27.5	-2.2
	0.5nm,0.8s,baz=264,slow=5.6,SNR=4.9						
WRA	**Warramunga Arr**	**64.91**	**104**	P	P	11 08 34.1	-2.1
	0.9nm,1.1s,baz=272,slow=6.4,SNR=5.6						
MKAR	**Makanchi Array**	**65.46**	**13**	P	P	11 08 37.0	-2.2
	0.4nm,0.8s,baz=210,slow=12,SNR=2.8						

OTT 27 11:29:39.4±1.1**, 67.64N**×**63.75W, h18**^{km}**, MN2.9**/4**, 15km northeast from Qikiqtarjuaq, Nu Eastern Arctic Background Seismic Zone., Baffin Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FRB	**Frobisher Bay**	**4.38**	**209**	PN	Pn	11 30 44.4	-2.3
FRB				SN	Sn	11 31 33.7	-4.2
FRB				LG		11 31 50.7	
FRB				Trac		11 31 53.0	
	comp=Z,16nm,0.3s						
IGL	**Igloolik**	**6.85**	**293**	PN	Pn	11 31 18.2	-3.4
IGL				SN	Sn	11 32 33.6	-6.3
IGL				SG	Sn	11 33 05.7	+26
IGL				Trac		11 33 21.4	
	comp=Z,4.3nm,0.3s						
IGLN	**Igloolik**	**6.86**	**293**	PN	Pn	11 31 18.6	-3.0
IGLN				SN	Sn	11 32 31.4	-8.6
IGLN				LG		11 33 06.9	
IGLN				Trac		11 33 12.6	
	comp=Z,4.9nm,0.4s						
PINU	**Pond Inlet**	**7.00**	**323**	PN	Pn	11 31 06.9	-17
PINU				SN	Sn	11 32 22.0	-22
QILN	**Qililugaq Expl**	**8.84**	**274**	PN	P	11 31 45.5	-3.8
QILN				SN	Sn	11 33 18.0	-12
QILN				LG		11 34 07.5	
QILN				Trac		11 34 15.9	
	comp=Z,6.7nm,0.7s						
KUQ	**Kuujjuuaa**	**9.79**	**195**	SN	Sn	11 33 36.7	-16
RES	**Resolute Bay**	**12.12**	**319**	PN	P	11 32 31.1	-2.9
RES				SN	S	11 34 30.6	-19
SCHQ	**Schefferville**	**12.93**	**188**	PN	P	11 32 38.5	-6.4
SCHQ				SN	S	11 34 52.9	-16
SCHQ				Trac		11 35 05.0	
	comp=Z,0.6nm,0.3s						
SILO	**Sutton Inlier**	**16.57**	**228**	PN	P	11 33 28.1	-3.8
SILO				SN	S	11 36 15.3	-19
VIMO	**Victor Mine**	**17.73**	**223**	PN	P	11 33 44.2	-2.3
VIMO				SN	S	11 36 42.2	-19

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*BJI **27** 11:33:24.3, 31.10S×179.00W, h10^{km}, mB5.1, mb4.9*
*NEIC **27** 11:33:24.4±0.3, 31.10S×178.97W, h10^{km}, mb5.1/20, Error ellipse: s-maj=10.8km s-min=8.2km az=151.0*
*HRVD **27** 11:33:24.4±0.9, 31.00S×178.60W, h30^{km}±1^{km}, MW4.9/30, Centroid moment Tensor Solution. LP body waves: s7,c7; Mantle waves: s30,c39; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.79±.33; $M_{\theta\theta}$0.89±.19; $M_{\phi\phi}$1.90±.24; $M_{r\theta}$0.36±.29; $M_{\theta\phi}$0.11±.13; $M_{\phi r}$-0.84±.34; Best double couple: $M_0$2.51×10^{16} NP1:ϕ_s190°, δ36°, λ-80°. NP2: ϕ_s357°, δ55°, λ-97°. Principal axes: T 2.05, Plg10°, Azm92°; N .92, Plg6°, Azm1°; P -2.97, Plg79°, Azm241°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **27** 11:33:31.0±3.8, 31.34S×179.03W, h65^{km}±33^{km}, mb4.3/8, mb1 4.4/10, mb1mx4.3/14, ML4.0/2, MS4.0/11, Ms1 4.0/11, ms1mx3.8/19 Error ellipse: s-maj=23.7km s-min=18.7km az=178.0*

ISC 27 11:33:25.6±3.6**, 31.14S**±0.06×**179.07W**±0.08**, h25**^{km}±25^{km}**, n65, σ1^{s}07**/49**, mb4.9**/26**, MS4.0**/8**, 5C-3D, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.13**	**28**	*e*Pn	**Pn**	**11 33 57.3**	**-3.0**
URZ	**Urewera**	**7.77**	**203**	P	**Pn**	**11 35 17.4**	**-2.6**
	3.1nm,0.3s,baz=14,slow=4.6,SNR=20						
URZ				S	**Sn**	**11 36 48.8**	**+0.8**
	1.9nm,0.3s,baz=316,slow=21,SNR=3.6						
URZ				LR	LR	11 37 55.6	
	comp=Z,1µm,21.4s,baz=29,slow=35						
RPZ	**Rata Peaks**	**14.79**	**209**	LR	LR	11 42 47.1	
	comp=Z,946nm,18.1s,baz=28,slow=38						
DZM	**Mont Dzumac**	**15.78**	**301**	*e*P	**P**	**11 37 08.8**	**+1.0**
DZM	**Mont Dzumac**	**15.78**	**301**	*e*P	**P**	**11 37 08.8**	**+1.0**
NOUC	**Port Laguerre**	**15.86**	**301**	*e*P	**P**	**11 37 11.2**	**+2.2**
NOUC	**Port Laguerre**	**15.86**	**301**	*e*P	**P**	**11 37 11.2**	**+2.2**
RAR	**Rarotonga**	**19.91**	**65**	P	**P**	**11 37 58.9**	**+0.5**
	0.4nm,0.3s,baz=230,slow=4.0,SNR=4.1						
RAR				LR	LR	11 43 23.0	
	comp=Z,396nm,20.6s,baz=63,slow=30						
TBI	**Tubuai**	**27.39**	**81**	*e*L		11 44 33.0	
TBI				*e*R		11 45 40.8	
	394nm,29.8s,baz=242						
TOO	**Toolangi**	**29.83**	**248**	⇑*i*P	**P**	**11 39 34.3**	**+1.4**
	14nm,1.1s,mb4.6						
PPT	**Papeete**	**29.96**	**70**	*e*L		11 45 23.2	
	179nm,22.8s						
PPT				*e*R		11 46 46.6	
	414nm,26.5s,baz=232						
CTA	**Charters Tower**	**33.02**	**281**	⇑*i*P	**P**	**11 40 01.8**	**+0.7**
	12nm,1.0s,mb4.8						
CTA	**Charters Tower**	**33.02**	**281**	P	**P**	**11 40 01.2**	**+0.1**
	10nm,0.9s,mb4.8,baz=103,slow=13,SNR=11						
CTA				LR	LR	11 50 38.2	
	comp=Z,132nm,21.3s,MS3.6,baz=37,slow=31						
CTAO	**Charters Tower**	**33.02**	**281**	*e*P	**P**	**11 40 01.3**	**+0.2**
	64nm,1.5s,mb5.3						
CTAO				LR	LR		
	comp=Z,284nm,19.0s,MS4.0						
STKA	**Stephens Creek**	**33.42**	**258**	*e*P	**P**	**11 40 05.2**	**+0.7**
	comp=Z,12nm,0.8s,mb4.9						
STKA	**Stephens Creek**	**33.42**	**258**	P	**P**	**11 40 04.7**	**+0.3**
	comp=Z,14nm,0.8s,mb5.0,baz=97,slow=9.4,SNR=30						
STKA				LR	LR	11 51 46.2	
	comp=Z,238nm,18.1s,MS4.0,baz=166,slow=33						
ASAR	**Alice Springs**	**42.16**	**268**	P	**P**	**11 41 17.6**	**-0.3**
	comp=Z,10nm,0.9s,mb4.5,baz=103,slow=7.5,SNR=82						
ASAR				LR	LR	11 58 54.0	
	comp=Z,141nm,18.9s,MS3.9,baz=114,slow=36						
ASPA	**Alice Springs**	**42.16**	**268**	⇓*i*P	**P**	**11 41 17.5**	**-0.4**
WB2	**Warramunga Arr**	**43.20**	**274**	*e*P	**P**	**11 41 25.7**	**-0.7**
WRAB	**Tennant Creek**	**43.21**	**274**	*e*P	**P**	**11 41 25.8**	**-0.6**
	comp=Z,34nm,0.8s,mb5.1						
WRA	**Warramunga Arr**	**43.21**	**274**	P	**P**	**11 41 25.8**	**-0.7**
	comp=Z,18nm,0.8s,mb4.8,baz=111,slow=8.1,SNR=81						
WRA				LR	LR	11 57 51.9	
	comp=Z,158nm,18.9s,MS3.9,baz=110,slow=34						
FORT	**Forrest**	**44.97**	**256**	*e*P	**P**	**11 41 39.7**	**-0.9**
	comp=Z,116nm,1.2s,mb5.6						
SBA	**Scott Base**	**47.24**	**184**	*e*P	**P**	**11 41 58.8**	**+0.9**
	comp=Z,81nm,1.7s,mb5.4						
SBA				*e*PcP	PcP	11 43 28.2	-1.2
KAKA	**Kakadu**	**48.20**	**281**	*e*P	**P**	**11 42 09.2**	**+3.0**
	comp=Z,12nm,0.6s,mb5.1						
FITZ	**Fitzroy Crossi**	**51.44**	**271**	⇓*i*P	**P**	**11 42 30.3**	**-0.7**
	comp=Z,30nm,1.0s,mb5.2						
FITZ	**Fitzroy Crossi**	**51.44**	**271**	LR	LR	12 03 09.3	
	comp=Z,81nm,20.3s,MS3.7,baz=108,slow=34						
KLBR	**Kellerberrin**	**53.24**	**252**	*e*P	**P**	**11 42 43.8**	**-0.5**
	comp=Z,50nm,1.5s,mb5.2						
MBWA	**Marble Bar**	**55.23**	**265**	*e*P	**P**	**11 42 57.1**	**-2.0**
	comp=Z,50nm,1.4s,mb5.3						
QSPA	**South Pole Qui**	**58.98**	**180**	*e*P	**P**	**11 43 24.4**	**-0.4**
	comp=Z,18nm,0.6s,mb5.3						
MAW	**Mawson**	**71.30**	**201**	*e*P	**P**	**11 44 41.8**	**-2.6**
	comp=Z,3.7nm,1.6s,mb4.1						
MAW	**Mawson**	**71.30**	**201**	P	**P**	**11 44 41.6**	**-2.8**
	comp=Z,2.1nm,0.8s,mb4.1,baz=84,slow=8.1,SNR=3.9						
MAW				LR	LR	12 13 51.3	
	comp=Z,138nm,19.9s,MS4.2,baz=66,slow=34						
SNAA	**Sanae**	**77.44**	**179**	⇑*i*	**P**	**11 45 18.9**	**-0.8**
SNAA	**Sanae**	**77.44**	**179**	P	**P**	**11 45 18.2**	**-1.5**
	comp=Z,7.2nm,1.3s,mb4.4,baz=198,slow=4.4,SNR=15						
VNA3	**Neumayer Olymp**	**77.63**	**177**	⇑*i*	**P**	**11 45 21.6**	**+0.9**
VNA2	**Neumayer--Watz**	**78.05**	**177**	⇑*i*	**P**	**11 45 24.8**	**+1.7**
VNA1	**Neumayer--Stat**	**78.29**	**177**	⇓*i*	**P**	**11 45 26.0**	**+1.6**
OHCM	**Honcut**	**88.19**	**41**	P	**P**	**11 46 15.5**	**-0.1**
MTUM	**Tungsten Hills**	**88.53**	**44**	*e*P	**P**	**11 46 17.7**	**+0.3**
MDJ	**Mudanjiang**	**88.72**	**326**	P	**P**	**11 46 19.0**	**+1.0**
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.2s,mb4.9						
MDJ				AMB	AMB		
	comp=Z,83nm,5.8s						
LDFC	**Landfair**	**89.18**	**47**	*e*P	**P**	**11 46 21.3**	**+0.8**
TPNV	**Topopah Spring**	**89.67**	**45**	*e*P	**P**	**11 46 23.0**	**+0.3**
	comp=Z,10nm,1.3s,mb5.0						
NEN	**Nelson**	**89.71**	**47**	*e*P	**P**	**11 46 23.3**	**+0.3**
TPH	**Tonopah**	**89.81**	**44**	*e*P	**P**	**11 46 23.2**	**-0.2**
	comp=Z,12nm,1.1s,mb5.1						
CN2	**Changchun**	**90.18**	**323**	*e*P	**P**	**11 46 23.0**	**-1.9**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.5s,mb4.9						
TUC	**Tucson**	**90.29**	**52**	*e*P	**P**	**11 46 26.5**	**+0.8**
	comp=Z,21nm,1.4s,mb5.3						
MOD	**Modoc**	**90.60**	**40**	*e*P	**P**	**11 46 26.4**	**-0.5**
	comp=Z,11nm,1.3s,mb5.0						
WVOR	**Wild Horse Val**	**91.87**	**40**	*e*P	**P**	**11 46 32.6**	**-0.1**
	comp=Z,14nm,1.4s,mb5.1						
ELK	**Elko**	**92.71**	**43**	*e*P	**P**	**11 46 36.2**	**-0.5**
	comp=Z,7.6nm,1.5s,mb4.9						
MSU	**Marysvale**	**93.16**	**46**	*e*P	**P**	**11 46 39.1**	**+0.4**
TXAR	**Lajitas Array**	**93.56**	**58**	P	**P**	**11 46 40.1**	**-0.8**
	comp=Z,1.1nm,1.0s,mb4.2,baz=211,slow=7.3,SNR=8.5						
TXAR				LR	LR	12 20 08.0	
	comp=Z,64nm,19.2s,MS4.1,baz=310,slow=30						
HLID	**Hailey**	**94.96**	**41**	*e*P	**P**	**11 46 47.0**	**+0.1**
	comp=Z,2.3nm,1.0s,mb4.6						
PDAR	**Pinedale Array**	**97.30**	**44**	P	**P**	**11 46 57.1**	**-0.4**
	comp=Z,0.3nm,0.7s,mb3.9,baz=207,slow=3.3,SNR=3.8						
PDAR				LR	LR	12 21 19.6	
	comp=Z,84nm,19.8s,MS4.2,baz=306,slow=29						
MKAR	**Makanchi Array**	**117.54**	**310**	PKP	PKPdf	11 52 07.5	-6.3
	comp=Z,0.9nm,0.9s,baz=45,slow=5.1,SNR=4.2						
BRVK	**Borovoye**	**126.35**	**315**	*e*PKPdf	PKPdf	11 52 25.1	-5.5
ZRNK	**Zerenda**	**127.11**	**315**	*e*PKPdf	PKPdf	11 52 26.7	-5.4
ARCES	**ARCESS Array B**	**139.11**	**347**	PKP	PKPdf	11 52 51.8	-2.4
	comp=Z,1.2nm,0.7s,baz=338,slow=6.5,SNR=3.7						
KAF	**Kangasniemi**	**144.92**	**339**	*e*p	PKPbc	11 52 56.1	-3.8
OBN	**Obninsk**	**145.24**	**324**	*e*PKPdf	PKPdf	11 53 00.6	-4.5
FINES	**FINESS Array B**	**145.51**	**339**	PKPbc	PKPbc	11 53 01.9	+0.5
	comp=Z,9.1nm,0.9s,baz=100,slow=12,SNR=12						
NOA	**NORSAR Array B**	**149.33**	**350**	PKPbc	PKPdf	11 53 12.7	+1.0
	comp=Z,2.1nm,0.8s,baz=14,slow=4.1,SNR=3.7						
AKASG	**Malin Array Be**	**151.31**	**321**	PKPbc	PKPdf	11 53 16.8	+1.8
	comp=Z,4.0nm,0.8s,baz=50,slow=2.1,SNR=19						
BRTR	**Keskin Array B**	**152.12**	**297**	PKPbc	PKPdf	11 53 18.8	+2.1
	comp=Z,1.7nm,0.6s,baz=108,slow=3.9,SNR=11						
DBIC	**Dimbokro**	**155.06**	**166**	PKPbc	PKPdf	11 53 23.7	+2.3
	comp=Z,4.3nm,0.9s,baz=103,slow=11,SNR=3.4						
DBIC				PKPab	PKPab	11 53 42.8	-0.9
	comp=Z,4.9nm,1.0s,baz=42,slow=7.2,SNR=4.0						
CLL	**Collm**	**157.95**	**340**	*e*PKP2	PKPab	11 53 54.0	-1.0
CLL				*e**PPKP2		11 54 08.0	
GERES	**GERESS Array B**	**159.84**	**335**	PKPab	PKPab	11 54 01.7	-1.5
	comp=Z,0.4nm,0.5s,baz=39,slow=8.5,SNR=5.1						

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*NEIC **27** 11:53:19.2±0.4, 31.22S×68.22W, h98^{km}±4^{km}, mb4.2/18, Error ellipse: s-maj=7.5km s-min=4.7km az=95.0*
NEIC Felt [III] at San Juan.
*GUC **27** 11:53:19.4±0.8, 31.21S×68.53W, h150^{km}±15^{km}, ML4.4*
*IDC **27** 11:53:20.1±0.7, 31.13S×68.48W, h102^{km}±5^{km}, mb4.0/6, mb1 4.1/8, mb1mx4.0/14, Error ellipse: s-maj=28.8km s-min=16.7km az=82.0*

ISC 27 11:53:18.3±0.6**, 31.19S**±0.03×**68.25W**±0.06**, h99**^{km}±5^{km}**, n67, σ0^{s}97**/73**, mb4.2**/24**, 10C-4D, San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TLL	**Tololo Astrono**	**2.42**	**294**	⇑*i*P	**P**	**11 53 58.5**	**+1.3**
TLL				*i*S	**S**	**11 54 27.8**	**+1.6**
TLL				AMP		11 54 33.7	
	comp=E,2µm,0.4s						
JACH	**Jahuel**	**2.49**	**233**	⇓*i*P	**P**	**11 53 58.7**	**+0.7**
JACH				*i*S	**S**	**11 54 28.2**	**+0.4**
FCH	**Farellones**	**2.75**	**218**	⇑*i*P	**P**	**11 54 02.8**	**+1.1**
FCH				*i*S	**S**	**11 54 35.7**	**+1.5**
FCH				AMP		11 54 42.6	
	comp=E,672nm,0.4s						
PEL	**Peldehue**	**2.84**	**226**	*i*P	**P**	**11 54 03.1**	**+0.2**
PEL				*i*S	**S**	**11 54 36.5**	**+0.1**
PEL				AMP		11 54 38.7	
	comp=N,2µm,0.4s						
LSCH	**La Serena**	**2.88**	**295**	*i*P	**P**	**11 54 03.2**	**-0.2**
LSCH				*i*S	**S**	**11 54 36.0**	**-1.3**
DSCH	**Colegio Aleman**	**2.96**	**221**	*e*P	**P**	**11 54 05.0**	**+0.6**
DSCH				*i*S	**S**	**11 54 39.1**	**-0.1**
DSCH				AMP		11 54 41.3	
	comp=N,2µm,0.5s						
SAN	**Santiago**	**3.05**	**221**	AMP		11 54 51.9	
	comp=E,792nm,0.3s						
PCH	**Pirque**	**3.09**	**218**	*e*P	**P**	**11 54 06.9**	**+0.5**
PCH				*i*S	**S**	**11 54 42.4**	**-0.2**
ANTU	**Antumapu**	**3.12**	**220**	AMP		11 54 46.8	
	comp=E,868nm,0.3s						
LMEL	**Las Melosas**	**3.13**	**211**	*i*P	**P**	**11 54 07.3**	**+0.5**
LMEL				*i*S	**S**	**11 54 43.8**	**+0.4**
LMEL				AMP		11 54 55.4	
	comp=N,537nm,0.3s						
RCDM	**Rinconada Maip**	**3.16**	**223**	*e*P	**P**	**11 54 07.3**	**+0.1**
RCDM				*i*S	**S**	**11 54 43.6**	**-0.5**
RCDM				AMP		11 54 47.0	
	comp=N,1µm,0.4s						
TACH	**Talagante**	**3.35**	**222**	⇑*i*P	**P**	**11 54 09.3**	**-0.6**
TACH				*i*S	**S**	**11 54 47.6**	**-1.2**
VACH	**Vallenar**	**3.39**	**319**	⇑*i*P	**P**	**11 54 11.1**	**+0.7**
CHCH	**Chadas Angostu**	**3.41**	**216**	⇓*i*P	**P**	**11 54 10.6**	**-0.1**
CHCH				*i*S	**S**	**11 54 49.5**	**-0.8**
LCCH	**Las Cruces**	**3.62**	**230**	⇑*i*P	**P**	**11 54 12.4**	**-1.2**
LCCH				*i*S	**S**	**11 54 53.4**	**-2.2**
CICH	**Cipreses**	**3.62**	**210**	⇑*i*P	**P**	**11 54 14.2**	**+0.6**
CICH				*i*S	**S**	**11 54 54.9**	**-0.6**
CPCH	**Copiapo**	**4.23**	**334**	*i*P	**P**	**11 54 22.5**	**+0.6**
CPCH				*i*S	**S**	**11 55 10.1**	**-0.4**
TALC	**Talca**	**5.07**	**213**	⇑*i*P	**P**	**11 54 29.8**	**-3.5**
TALC				*i*S	**S**	**11 55 25.2**	**-5.9**
LVC	**Limon Verde**	**8.56**	**356**	⇓*i*P	**P**	**11 55 20.0**	**-1.0**
LVC				*i*S	**S**	**11 56 53.5**	**-3.1**
TRQA	**Tornquist**	**8.58**	**145**	*e*Pn	**P**	**11 55 19.7**	**-1.6**
	comp=N,42nm,0.4s						
CPUP	**Villa Florida**	**10.73**	**66**	P	**P**	**11 55 49.5**	**-0.8**
	comp=N,0.5nm,0.3s,baz=272,slow=11,SNR=7.0						
CPUP				S	**S**	**11 57 54.2**	**+5.2**
	comp=N,0.7nm,0.3s,baz=324,slow=18,SNR=2.6						
CPUP	**Villa Florida**	**10.73**	**66**	*e*Pn	**P**	**11 55 49.5**	**-0.8**
	comp=N,3.2nm,0.9s						
LPAZ	**La Paz**	**14.83**	**0**	P	**P**	**11 56 44.3**	**+0.2**
	comp=N,1.0nm,0.3s,baz=176,slow=9.7,SNR=36						
LPAZ	**La Paz**	**14.83**	**0**	*e*P	**P**	**11 56 44.4**	**+0.4**
	comp=N,8.6nm,0.7s						
ARE	**Arequipa**	**14.95**	**348**	*e*P	**P**	**11 56 48.0**	**+2.4**
SAML	**Samuel**	**22.62**	**13**	*e*P	**P**	**11 58 08.5**	**-3.1**
	comp=N,14nm,1.1s,mb4.2						
SAML				*e*pP		11 58 35.2	
SAML				*e*sP		11 58 49.1	
USHA	**Ushuaia**	**23.64**	**180**	P	**P**	**11 58 22.3**	**+1.4**
	comp=N,16nm,0.6s,mb4.5,baz=347,slow=7.5,SNR=16						
BDFB	**Brasilia**	**24.10**	**55**	P	**P**	**11 58 27.0**	**+1.2**
	comp=N,1.4nm,0.4s,mb3.7,baz=328,slow=8.5,SNR=2.6						
VNA3	**Neumayer Olymp**	**50.80**	**159**	⇑*i*	**P**	**12 02 15.8**	**+5.7**
VNA1	**Neumayer--Stat**	**51.05**	**158**	⇑*i*	**P**	**12 02 20.1**	**+8.1**
VNA2	**Neumayer--Watz**	**51.40**	**158**	⇓*i*	**P**	**12 02 19.2**	**+4.6**
SNAA	**Sanae**	**53.02**	**159**	⇑*i*	**P**	**12 02 30.1**	**+3.4**
SNAA	**Sanae**	**53.02**	**159**	P	**P**	**12 02 28.5**	**+1.8**
	comp=N,0.8nm,0.3s,mb4.2,baz=265,slow=7.2,SNR=13						
QSPA	**South Pole Qui**	**59.05**	**180**	*e*P	**P**	**12 03 09.6**	**0.0**
	comp=N,2.1nm,0.8s,mb4.2						
JCT	**Junction City**	**68.26**	**331**	*e*P	**P**	**12 04 09.6**	**-0.9**
	comp=N,6.2nm,0.5s,mb4.7						
LTX	**Lajitas**	**68.98**	**327**	P	**P**	**12 04 14.5**	**-0.5**
	comp=N,1.9nm,0.7s,mb4.0						
TXAR	**Lajitas Array**	**68.98**	**327**	P	**P**	**12 04 14.8**	**-0.3**
	comp=N,1.4nm,0.6s,mb4.0,baz=150,slow=8.1,SNR=18						
TXAR	**Lajitas Array**	**68.98**	**327**	P	**P**	**12 04 14.8**	**-0.3**
WVT	**Waverly**	**69.44**	**343**	*e*P	**P**	**12 04 16.2**	**-1.5**
	comp=N,9.9nm,0.6s,mb4.8						
WCI	**Wyandotte Cave**	**71.08**	**345**	P	**P**	**12 04 25.5**	**-2.1**
	comp=N,7.5nm,0.7s,mb4.6						
GDL2	**Guadalupe Moun**	**71.72**	**328**	*e*P	**P**	**12 04 31.3**	**-0.2**
ANMO	**Albuquerque**	**74.97**	**328**	*e*P	**P**	**12 04 50.7**	**+0.3**
	comp=N,1.0nm,0.4s,mb3.9						
SDCO	**Great Sand Dun**	**76.90**	**330**	*e*P	**P**	**12 05 01.6**	**+0.4**
	comp=N,2.3nm,0.8s,mb4.0						
ISCO	**Idaho Springs**	**78.68**	**332**	*e*P	**P**	**12 05 11.6**	**+0.5**
	comp=N,3.0nm,0.8s,mb4.2						
MSU	**Marysvale**	**80.52**	**327**	*e*P	**P**	**12 05 21.9**	**+0.9**
TPNV	**Topopah Spring**	**81.31**	**323**	*e*P	**P**	**12 05 25.8**	**+0.6**
	comp=N,2.2nm,0.9s,mb4.0						
RSSD	**Black Hills**	**81.76**	**335**	*e*P	**P**	**12 05 27.4**	**+0.1**
DUG	**Dugway**	**82.16**	**327**	*e*P	**P**	**12 05 29.3**	**-0.1**
	comp=N,1.0nm,0.6s,mb3.8						
HWUT	**Hardware Ranch**	**82.72**	**329**	*e*P	**P**	**12 05 31.9**	**-0.4**
	comp=N,2.2nm,0.7s,mb4.1						
BW06	**Boulder Array**	**82.79**	**331**	*e*P	**P**	**12 05 32.7**	**0.0**
	comp=N,1.9nm,0.7s,mb4.0						
PDAR	**Pinedale Array**	**82.79**	**331**	P	**P**	**12 05 32.5**	**-0.1**
	comp=N,1.5nm,0.7s,mb3.9,baz=126,slow=6.0,SNR=18						
PDAR				sP	sP	12 06 09.3	-0.4
	comp=N,0.6nm,0.8s,baz=123,slow=7.4,SNR=2.7						
ELK	**Elko**	**83.73**	**326**	*e*P	**P**	**12 05 37.5**	**0.0**
	comp=N,2.5nm,0.9s,mb4.0						
ULM	**Lac du Bonnet**	**84.70**	**343**	P	**P**	**12 05 40.5**	**-1.5**
	comp=N,3.7nm,0.8s,mb4.4,baz=164,slow=4.2,SNR=3.0						
HLID	**Hailey**	**85.55**	**328**	*e*P	**P**	**12 05 46.9**	**+0.5**
	comp=N,3.6nm,0.9s,mb4.3						
DGMT	**Dagmar**	**85.57**	**337**	*e*P	**P**	**12 05 46.7**	**+0.3**
	comp=N,8.3nm,0.6s,mb4.8						

MCMT	**McKenzie Canyo**	**85.86**	**330**	*e*P	**P**	**12 05 49.0**	**+1.2**
BOZ	**Bozeman (W)**	**86.00**	**331**	*e*P	**P**	**12 05 48.5**	**-0.1**
	comp=N,1.0nm,0.6s,mb3.9						
WVOR	**Wild Horse Val**	**86.67**	**325**	*e*P	**P**	**12 05 52.5**	**+0.6**
	comp=N,2.9nm,1.2s,mb4.1						
ASAR	**Alice Springs**	**121.48**	**204**	PKP	PKPdf	12 11 59.7	-0.8
	comp=N,0.5nm,0.5s,baz=132,slow=1.5,SNR=10						
WRA	**Warramunga Arr**	**124.73**	**206**	PKP	PKPdf	12 12 06.8	-0.1
	comp=N,1.3nm,0.5s,baz=167,slow=1.6,SNR=36						
WRA				pPKP		12 12 35.8	
	comp=N,0.2nm,0.3s,baz=158,slow=1.8,SNR=2.2						
WRAB	**Tennant Creek**	**124.74**	**206**	*e*PKPdf	PKPdf	12 12 07.1	+0.1
AAK	**Ala-Archa**	**148.33**	**58**	*e*PKPbc	PKPdf	12 12 54.4	+5.2
KURK	**Kurchatov**	**148.65**	**42**	*e*PKPbc	PKPdf	12 12 54.8	+5.4
ZAL	**Zalesovo**	**150.14**	**33**	PKPbc	PKPdf	12 12 58.8	+7.1
	comp=N,3.0nm,0.4s,baz=32,slow=2.2,SNR=15						
ZAL				PKPab	PKPab	12 13 05.2	-0.2
	comp=N,1.6nm,0.9s,baz=81,slow=4.8,SNR=2.6						
ZAL				pPKPbc		12 13 27.0	
	comp=N,1.4nm,0.8s,baz=105,slow=6.8,SNR=2.2						
MKAR	**Makanchi Array**	**152.51**	**47**	PKPbc	PKPdf	12 13 03.8	+8.4
	comp=N,3.6nm,0.8s,baz=315,slow=1.6,SNR=18						
MKAR				PKPab	PKPab	12 13 15.1	-0.5
	comp=N,2.4nm,0.5s,baz=294,slow=4.2,SNR=13						
MKAR				pPKPbc		12 13 31.7	
	comp=N,1.4nm,0.6s,baz=321,slow=2.1,SNR=4.2						
MKAR	**Makanchi Array**	**152.51**	**47**	PKPbc	PKPdf	12 13 03.8	+8.4
MKAR				PKPab	PKPab	12 13 15.1	-0.5
MKAR				pPKPbc		12 13 31.7	
SONM	**Songino Array**	**162.87**	**12**	PKPab	PKPab	12 13 60.0	0.0
	comp=N,0.4nm,0.9s,baz=326,slow=4.5,SNR=4.7						

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*MOS **27** 12:20:25.9±1.6, 49.27N×155.58E, h79^{km}, mb4.3/5, Error ellipse: s-maj=26.3km s-min=8.2km az=70.5*
*KRSC **27** 12:20:25.4±1.6, 48.92N×156.41E, h43^{km}±15^{km}, ML4.9*
*IDC **27** 12:20:26.1±0.6, 49.35N×155.19E, h50^{km}±5^{km}, mb3.8/11, mb1 4.2/13, mb1mx3.9/23, MS2.8/1, Ms1 2.8/1, ms1mx2.0/31, Error ellipse: s-maj=20.6km s-min=13.9km az=139.0*
*NEIC **27** 12:20:29.9±1.1, 49.45N×155.19E, h81^{km}±10^{km}, mb4.3/13, Error ellipse: s-maj=13.5km s-min=6.3km az=149.0*
ISC 27 12:20:25.1±0.4**, 49.07N**±0.04×**155.8E**±0.1**, h49**^{km}**, h49**^{km}±1.5^{km}**:pP-P, n78,** σ1^{s}**02**/100**, mb4.2**/25**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.63**	**8**	*i* P	**P**	**12 20 53.4**	**+1.4**
SKR				*e*S	**S**	**12 21 12.3**	**+0.4**
SKR	**Severo-Kuril's**	**1.63**	**8**	*e*PN	**P**	**12 20 49.0**	**-3.0**
SKR				*e*S	**S**	**12 21 07.9**	**-4.0**
SKR				pmax	pmax		
	comp=N,120nm,0.5s						
SKR				pmax	pmax		
	comp=E,80nm,0.5s						
SKR				pmax	pmax		
	comp=Z,190nm,0.5s						
SKR				smax			
	comp=N,2µm,0.5s						
SKR				smax			
	comp=Z,1µm,0.5s						
SKR				smax			
	comp=E,1µm,0.3s						
SKR				smax			
	comp=N,1µm,2.0s						
SKR				smax			
	comp=E,1µm,2.0s						
PAU	**Pauzhetka**	**2.50**	**15**	*e*P	**P**	**12 21 04.0**	**-0.2**
PAU				*i* S	**S**	**12 21 32.0**	**-1.5**
PAU				Smax			
	comp=E,2µm,0.3s						
GRL	**Gorelyy**	**3.79**	**22**	*e*P	**P**	**12 21 23.2**	**+0.8**
GRL				*e*S	**S**	**12 22 06.5**	**+0.3**
RUS	**Russkaya**	**3.80**	**26**	P	**P**	**12 21 22.0**	**-0.6**
RUS				S	**S**	**12 22 03.0**	**-3.5**
RUS	**Russkaya**	**3.80**	**26**	*e*P	**P**	**12 21 21.9**	**-0.7**
RUS				*e*S	**S**	**12 22 02.4**	**-4.1**
APC	**Apacha**	**3.96**	**12**	*i* P	**P**	**12 21 27.4**	**+2.5**
APC				*e*S	**S**	**12 22 12.7**	**+2.0**
APC				Smax			
	comp=E,120nm,0.8s						
PET	**Petropavlovsk**	**4.36**	**24**	P	**P**	**12 21 31.1**	**+0.5**
PET				S	**S**	**12 22 18.1**	**-2.7**
PET	**Petropavlovsk**	**4.36**	**24**	*e*P	**P**	**12 21 30.8**	**+0.2**
PET				*e*S	**S**	**12 22 18.0**	**-2.8**
PET	**Petropavlovsk**	**4.36**	**24**	*e*Pn	**P**	**12 21 29.6**	**-0.9**
PET				*e*Sn	**S**	**12 22 14.6**	**-6.1**
UGLR	**Uglovaya**	**4.57**	**24**	*e*P	**P**	**12 21 34.5**	**+0.9**
UGLR				*e*S	**S**	**12 22 24.8**	**-1.3**
KOK	**Koryaka**	**4.60**	**22**	*e*P	**P**	**12 21 35.6**	**+1.6**
KOK				*e*S	**S**	**12 22 27.6**	**+0.8**
AVH	**Avacha**	**4.60**	**23**	*e*P	**P**	**12 21 35.1**	**+1.1**
AVH				*e*S	**S**	**12 22 26.7**	**-0.1**
SMAR	**Somma**	**4.62**	**23**	*e*P	**P**	**12 21 35.3**	**+1.1**
SMAR				*e*S	**S**	**12 22 25.0**	**-2.2**
SDLR	**Sedlovina**	**4.65**	**24**	*e*P	**P**	**12 21 35.2**	**+0.5**
SDLR				*e*S	**S**	**12 22 27.7**	**-0.3**
NLC	**Nalytchevo**	**4.69**	**27**	*e*P	**P**	**12 21 33.9**	**-1.3**
NLC				*e*S	**S**	**12 22 22.8**	**-6.2**
GNL	**Ganaly**	**4.83**	**16**	*e*P	**P**	**12 21 37.8**	**+0.6**
SPN	**Mys Shipunski**	**4.85**	**32**	P	**P**	**12 21 36.6**	**-0.8**
SPN				S	**S**	**12 22 28.0**	**-5.0**
SPN	**Mys Shipunski**	**4.85**	**32**	*e*P	**P**	**12 21 36.7**	**-0.7**
SPN				*e*S	**S**	**12 22 28.0**	**-5.0**
MKZ	**Mys Kozlova**	**6.63**	**32**	P	**P**	**12 21 59.7**	**-2.6**
MKZ				S	**S**	**12 23 08.6**	**-8.7**
MKZ	**Mys Kozlova**	**6.63**	**32**	*e*P	**P**	**12 21 59.8**	**-2.5**
MKZ				*e*S	**S**	**12 23 10.2**	**-7.1**
TUMR	**Tumrok**	**6.78**	**22**	*e*P	**P**	**12 22 04.8**	**+0.3**
ESO	**Esso**	**7.10**	**14**	*e*P	**P**	**12 22 10.0**	**+1.1**
KMNR	**Kamenistaya**	**7.24**	**21**	*e*P	**P**	**12 22 10.9**	**+0.1**
KPT	**Kopyto**	**7.43**	**20**	*e*P	**P**	**12 22 13.9**	**+0.5**
KOZ	**Kozyrevsk**	**7.44**	**18**	P	**P**	**12 22 14.6**	**+1.0**
KOZ	**Kozyrevsk**	**7.44**	**18**	*e*P	**P**	**12 22 14.7**	**+1.1**
KOZR	**Kozyr**	**7.45**	**18**	PN	**P**	**12 22 14.6**	**+0.9**
ZLN	**Zelenaya**	**7.61**	**22**	*e*P	**P**	**12 22 16.3**	**+0.4**
LGNR	**Loginova**	**7.64**	**21**	*e*P	**P**	**12 22 17.1**	**+0.7**
CIRR	**Tsirk**	**7.68**	**21**	*e*P	**P**	**12 22 17.4**	**+0.4**
KRSR	**Krestovskiy**	**7.73**	**20**	*e*P	**P**	**12 22 17.4**	**-0.3**
KLY	**Klyuchi**	**7.84**	**20**	*e*P	**P**	**12 22 19.3**	**+0.1**
SVLR	**Shiveluch**	**8.21**	**22**	*e*P	**P**	**12 22 24.2**	**-0.1**
KBTR	**Krutoberegovo**	**8.34**	**28**	P	**P**	**12 22 23.9**	**-2.1**
KBTR	**Krutoberegovo**	**8.34**	**28**	*e*P	**P**	**12 22 24.1**	**-1.9**
KBTR				*e*S	**S**	**12 23 53.1**	**-6.7**
BKI	**Bering**	**8.78**	**42**	*e*S	**S**	**12 23 57.5**	**-13**
BKI				Smax			
	comp=E,30nm,0.3s						
YSS	**Yuzh-Sakhalins**	**8.97**	**261**	*e*Pn	**P**	**12 22 34.1**	**-0.6**
	comp=E,11nm,0.4s						
ASAJ	**Asahikawa**	**10.32**	**246**	P	**P**	**12 22 53.0**	**-0.1**
	comp=E,4.1nm,0.3s,baz=89,slow=12,SNR=29						
ASAJ				LR	LR	12 25 39.3	
	comp=E,64nm,21.9s,baz=91,slow=31						
ASAJ	**Asahikawa**	**10.32**	**246**	PN	**P**	**12 22 53.1**	**0.0**
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,64nm,21.9s						
FX1	**Attu Island--F**	**11.62**	**64**	P	**P**	**12 23 08.3**	**-2.3**
	comp=Z,6.2nm,0.3s,baz=132,slow=3.4,SNR=36						
FX1				S	**S**	**12 25 10.7**	**-9.1**
	comp=Z,8.7nm,0.3s,baz=315,slow=23,SNR=8.4						
FX1	**Attu Island--F**	**11.62**	**64**	Pn	**P**	**12 23 08.4**	**-2.3**
MAT	**Matsushiro**	**17.90**	**232**	P	**P**	**12 24 31.7**	**-0.3**
MAT	**Matsushiro**	**17.90**	**232**	P	**P**	**12 24 32.0**	**0.0**
COLA	**College**	**33.22**	**40**	*e*P	**P**	**12 26 58.4**	**-0.6**
	comp=Z,9.8nm,0.8s,mb4.8						
ILAR	**Eielson Array**	**33.63**	**41**	P	**P**	**12 27 01.8**	**-0.8**
	comp=Z,2.2nm,0.8s,mb4.2,baz=257,slow=5.7,SNR=28						
ILAR	**Eielson Array**	**33.63**	**41**	P	**P**	**12 27 01.8**	**-0.7**
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
INK	**Inuvik**	**38.74**	**34**	*e*P	**P**	**12 27 45.7**	**0.0**
	comp=Z,5.3nm,0.6s,mb4.5						
MKAR	**Makanchi Array**	**47.47**	**297**	P	**P**	**12 28 52.3**	**-4.3**
	comp=Z,0.4nm,0.4s,mb3.7,baz=72,slow=7.9,SNR=3.5						
MKAR				pP	pP	12 29 06.5	-3.2
	comp=Z,0.6nm,0.6s,baz=18,slow=7.7,SNR=3.8						
KURK	**Kurchatov**	**47.58**	**303**	*e*P	**P**	**12 28 53.2**	**-4.2**
CMAR	**Chiang Mai Arr**	**54.63**	**257**	P	**P**	**12 29 49.3**	**-1.8**
	comp=Z,3.1nm,0.7s,mb4.4,baz=30,slow=7.6,SNR=24						
CMAR				pP	pP	12 30 01.2	-3.4
	comp=Z,0.7nm,0.6s,baz=30,slow=10.0,SNR=2.3						
CMAR	**Chiang Mai Arr**	**54.63**	**257**	P	**P**	**12 29 49.3**	**-1.8**
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
CMAR				pmax	pmax		
	comp=N,1.0nm,0.6s						
ARCES	**ARCESS Array B**	**56.24**	**341**	P	**P**	**12 29 56.9**	**-5.1**
	comp=N,1.9nm,0.9s,mb4.1,baz=14,slow=7.4,SNR=3.3						
ARCES	**ARCESS Array B**	**56.24**	**341**	P	**P**	**12 29 56.9**	**-5.1**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
WVOR	**Wild Horse Val**	**57.06**	**62**	*e*P	**P**	**12 30 08.6**	**+0.2**
	comp=Z,3.1nm,0.9s,mb4.3						
HLID	**Hailey**	**58.76**	**58**	*e*P	**P**	**12 30 20.6**	**+0.5**
	comp=Z,1.7nm,1.0s,mb4.0						
MCMT	**McKenzie Canyo**	**58.81**	**56**	*e*P	**P**	**12 30 20.6**	**+0.1**
BOZ	**Bozeman (W)**	**58.95**	**55**	*e*P	**P**	**12 30 21.9**	**+0.5**
	comp=Z,4.1nm,0.7s,mb4.6						
ELK	**Elko**	**60.10**	**61**	*e*P	**P**	**12 30 29.4**	**0.0**
	comp=Z,2.2nm,0.9s,mb4.2						
HWUT	**Hardware Ranch**	**61.62**	**58**	*e*P	**P**	**12 30 40.1**	**+0.4**
	comp=Z,1.4nm,0.6s,mb4.3						
DUG	**Dugway**	**61.86**	**60**	*e*P	**P**	**12 30 41.5**	**+0.2**
	comp=Z,3.3nm,0.9s,mb4.5						
PDAR	**Pinedale Array**	**61.96**	**56**	P	**P**	**12 30 42.5**	**+0.6**
	comp=Z,3.8nm,0.8s,mb4.6,baz=322,slow=2.9,SNR=35						
PDAR				pP	pP	12 30 56.2	+0.5
	comp=Z,0.6nm,0.6s,baz=286,slow=1.6,SNR=3.2						
TPNV	**Topopah Spring**	**62.01**	**65**	*e*P	**P**	**12 30 42.6**	**+0.3**
	comp=Z,2.6nm,1.0s,mb4.3						
FINES	**FINESS Array B**	**62.69**	**335**	P	**P**	**12 30 41.4**	**-5.2**
	comp=Z,1.1nm,0.5s,mb4.2,baz=45,slow=5.4,SNR=8.0						
FINES	**FINESS Array B**	**62.69**	**335**	P	**P**	**12 30 41.4**	**-5.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
SRU	**San Rafael**	**63.89**	**60**	*e*P	**P**	**12 30 54.9**	**+0.2**
RSSD	**Black Hills**	**63.98**	**52**	*e*P	**P**	**12 30 55.1**	**-0.1**
	comp=Z,4.3nm,0.7s,mb4.6						
ISCO	**Idaho Springs**	**66.16**	**56**	*e*P	**P**	**12 31 10.1**	**+0.8**
	comp=Z,4.7nm,0.9s,mb4.5						
SDCO	**Great Sand Dun**	**67.67**	**58**	*e*P	**P**	**12 31 19.5**	**+0.6**
	comp=Z,1.3nm,0.7s,mb4.1						
ANMO	**Albuquerque**	**69.12**	**61**	*e*P	**P**	**12 31 28.7**	**+0.8**
	comp=Z,1.0nm,0.8s,mb3.8						
SCHQ	**Schefferville**	**70.47**	**25**	P	**P**	**12 31 34.9**	**-0.9**
	comp=Z,8.9nm,1.1s,mb4.6,baz=343,slow=3.0,SNR=9.6						
WRA	**Warramunga Arr**	**71.30**	**201**	P	**P**	**12 31 40.2**	**-1.1**
	comp=Z,0.6nm,0.6s,mb3.7,baz=18,slow=6.3,SNR=4.7						
WRA				pP	pP	12 31 54.4	-0.9
	comp=Z,1.2nm,0.7s,baz=20,slow=6.4,SNR=6.6						
WRA	**Warramunga Arr**	**71.30**	**201**	P	**P**	**12 31 40.2**	**-1.1**
WRA				*PP	pP	12 31 54.4	-1.0
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA				pmax	pmax		
	comp=N,1.0nm,0.7s						
WMOK	**Wichita Mounta**	**73.57**	**56**	*e*P	**P**	**12 31 54.5**	**0.0**
	comp=N,2.9nm,0.8s,mb4.3						
TXAR	**Lajitas Array**	**74.83**	**63**	P	**P**	**12 32 02.5**	**+0.6**
	comp=N,1.7nm,0.7s,mb4.1,baz=295,slow=4.1,SNR=21						
TXAR				pP	pP	12 32 16.7	+0.8
	comp=N,0.9nm,0.5s,baz=299,slow=4.6,SNR=7.8						
TXAR	**Lajitas Array**	**74.83**	**63**	P	**P**	**12 32 02.5**	**+0.6**
TXAR				pP	pP	12 32 16.7	+0.8
ASAR	**Alice Springs**	**74.99**	**201**	P	**P**	**12 32 02.7**	**-0.2**
	comp=N,0.8nm,0.8s,mb3.7,baz=14,slow=5.5,SNR=12						
ASAR				pP	pP	12 32 16.9	0.0
	comp=N,0.7nm,0.5s,baz=12,slow=5.1,SNR=5.4						
GERES	**GERESS Array B**	**77.12**	**335**	P	**P**	**12 32 10.1**	**-4.3**
	comp=N,0.4nm,0.3s,mb3.8,baz=34,slow=4.8,SNR=3.6						

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*NEIC **27** 12:32:03.8, 16.04N×98.31W, h27^{km}, MD3.6(MEX), After MEX.*
MEX 27 12:32:05.2±0.5**, 16.06N×98.11W, h11**^{km}±7^{km}**, MD3.7, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.33**	**357**	*i* P	Pg	12 32 11.2	-0.8
PNIG				*i* S	Sg	12 32 16.5	-0.1
VHO	**Vista Hermosa**	**1.66**	**53**	*i* P	Pn	12 32 31.2	-3.2
VHO				*i* S	Sn	12 32 50.7	-5.1
VHO	**Vista Hermosa**	**1.66**	**53**	*i* P	Pn	12 32 32.3	-2.1
VHO				*i* S	Sn	12 32 53.2	-2.6
OXX	**Oaxaca**	**1.67**	**52**	*e*P	Pn	12 32 36.0	+1.4
OXX				*i* S	Sn	12 32 54.5	-1.7
OXX	**Oaxaca**	**1.67**	**52**	*i* P	Pn	12 32 36.7	+2.1
OXX				*i* S	Sn	12 32 54.5	-1.7
CMIG	**Matias Romero**	**3.26**	**71**	*i* P	Pn	12 32 53.8	-3.5
CMIG				*i* S	Sn	12 33 32.7	-3.7
CMIG	**Matias Romero**	**3.26**	**71**	*i* P	Pn	12 32 53.8	-3.5
CMIG				*i* S	Sn	12 33 31.0	-5.4

MEX 27 12:45:18.2±0.7**, 16.93N×95.33W, h119**^{km}±18^{km}**, MD3.7, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OXX	**Oaxaca**	**1.34**	**277**	*i* P	P	12 45 42.7	-1.5
OXX				*i* S	S	12 46 01.8	-2.1
VHO	**Vista Hermosa**	**1.35**	**276**	*i* P	P	12 45 42.9	-1.4
VHO				*i* S	S	12 46 01.6	-2.4
HUIG	**Huatulco**	**1.37**	**213**	*i* P	P	12 45 42.4	-2.1
HUIG				*i* S	S	12 46 01.8	-2.6
EVV	**El Vigia**	**1.52**	**359**	*e*P	P	12 45 45.0	-1.3
EVV				*i* S	S	12 46 04.0	-3.5
IISM	**Ciudad Serdan**	**2.83**	**317**	*e*P	P	12 46 01.0	-2.1
IISM				*i* S	S	12 46 31.0	-6.0

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*NEIC **27** 12:55:27.8, 63.17N×151.44W, h16^{km}, ML4.1(PMR), ML3.9(AEIC), After AEIC.*
*IDC **27** 12:55:28.5±2.4, 63.07N×151.78W, h19^{km}±14^{km}, mb3.8/9, mb1 4.0/14, mb1mx3.9/24, ML3.8/5, MS3.1/2, Ms1 3.1/2, ms1mx2.9/21, Error ellipse: s-maj=17.4km s-min=13.3km az=175.0*
ISC 27 12:55:27.9±0.6**, 63.20N**±0.02×**151.46W**±0.06**, h23**^{km}±5^{km}**, n76,** σ**0**^{s}**93**/93**, mb3.9**/9**, Central Alaska**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KTH	**Kantishna Hill**	**0.43**	**35**	P	**Pb**	**12 55 36.7**	**0.0**
KTH				S	**Sb**	**12 55 43.9**	**+1.1**
TRF	**Thorofare Moun**	**0.59**	**64**	P	**Pb**	**12 55 39.4**	**+0.1**
TRF				S	**Sb**	**12 55 47.8**	**+0.5**
CUT	**Chulitna**	**0.97**	**145**	P	**Pb**	**12 55 44.1**	**-1.7**
RND	**Reindeer**	**1.20**	**79**	P	**Pn**	**12 55 49.1**	**-0.3**
RND				S	**Sb**	**12 56 05.5**	**+0.7**
MCK	**McKinley**	**1.25**	**64**	P	**Pn**	**12 55 50.5**	**+0.3**
MCK				S	**Sn**	**12 56 07.8**	**+1.3**
BWN	**Browne**	**1.32**	**42**	P	**Pn**	**12 55 52.2**	**+1.0**
STLK	**Strandline Lak**	**1.72**	**186**	P	**Pn**	**12 55 56.1**	**-0.7**
STLK				S	**Sn**	**12 56 17.9**	**-0.4**
PWA	**Palmer West**	**1.72**	**154**	P	**Pn**	**12 55 56.1**	**-0.8**
PWA				S	**Sn**	**12 56 17.5**	**-1.0**
NEA	**Nenana**	**1.74**	**36**	P	**Pn**	**12 55 56.8**	**-0.4**
GHO	**Glory Hole Cre**	**1.86**	**139**	P	**Pn**	**12 55 58.0**	**-0.9**
DHY	**Denali Highway**	**1.86**	**92**	P	**Pn**	**12 55 59.2**	**+0.3**
MLY	**Manley**	**1.86**	**10**	P	**Pn**	**12 55 59.5**	**+0.5**
PMR	**Palmer**	**1.95**	**145**	P	**Pn**	**12 55 59.3**	**-0.8**
PMR				S	**Sn**	**12 56 25.4**	**+1.3**
BGL	**Barrier Glacie**	**2.00**	**193**	P	**Pn**	**12 56 01.0**	**+0.2**
SML	**Sawmill**	**2.02**	**133**	P	**Pn**	**12 56 02.0**	**+0.8**
SML				S	**Sn**	**12 56 27.1**	**+1.2**
SPU	**Mount Spurr**	**2.05**	**188**	P	**Pn**	**12 56 00.7**	**-0.9**
SPU				S	**Sn**	**12 56 28.1**	**+1.4**
CKL	**Chakachamna La**	**2.06**	**192**	P	**Pn**	**12 56 01.7**	**0.0**
CKL				S	**Sn**	**12 56 27.3**	**+0.4**
TT01	**Tatalina**	**2.10**	**264**	P	**Pn**	**12 56 01.1**	**-1.2**
TT01				S	**Sn**	**12 56 29.4**	**+1.5**
FIB	**Fire Island**	**2.13**	**163**	*e*P	**Pn**	**12 56 03.7**	**+0.9**
BKG	**Blockade Glaci**	**2.17**	**190**	P	**Pn**	**12 56 02.6**	**-0.8**
BKG				S	**Sn**	**12 56 32.4**	**+2.5**
RC01	**Rabbit Creek A**	**2.27**	**158**	P	**Pn**	**12 56 05.2**	**+0.4**
KNK	**Knik Glacier**	**2.28**	**141**	P	**Pn**	**12 56 05.2**	**+0.3**
COLA	**College**	**2.31**	**42**	P	**Pn**	**12 56 05.0**	**-0.4**
HDA	**Harding Lake**	**2.34**	**57**	P	**Pn**	**12 56 05.2**	**-0.5**
SCM	**Sheep Creek Mo**	**2.36**	**124**	P	**Pn**	**12 56 05.0**	**-1.1**
SCM				S	**Sn**	**12 56 35.0**	**+0.4**
IL1	**Eielson Array**	**2.56**	**50**	P	**Pn**	**12 56 08.0**	**-0.9**
ILAR	**Eielson Array**	**2.56**	**50**	Pn	**Pn**	**12 56 08.1**	**-0.9**
	5.6nm,0.3s,baz=236,slow=14,SNR=142						
ILAR				Pg	**Pn**	**12 56 18.1**	**+9.2**
	25nm,0.3s,baz=232,slow=17,SNR=61						
ILAR				Sn	**Sn**	**12 56 42.6**	**+2.9**
	36nm,0.3s,baz=144,slow=4.3,SNR=9.0						
ILAR				Lg		12 56 49.4	
	128nm,0.3s,baz=181,slow=34,SNR=20						
ILAR	**Eielson Array**	**2.56**	**50**	Pn	**Pn**	**12 56 08.1**	**-0.9**
ILAR				Pg	**Pn**	**12 56 18.1**	**+9.2**
ILAR				Sn	**Sn**	**12 56 42.6**	**+2.9**
ILAR				Lg		12 56 49.4	
THY	**Trims Highway**	**2.59**	**83**	*e*P	**Pn**	**12 56 08.2**	**-1.1**
PAX	**Paxson**	**2.74**	**92**	P	**Pn**	**12 56 11.7**	**+0.3**
SLKM	**Skilak Lake**	**2.77**	**167**	*e*P	**Pn**	**12 56 11.5**	**-0.4**
PWL	**Port Wells**	**2.78**	**147**	P	**Pn**	**12 56 11.8**	**-0.2**
SDG	**Sourdough**	**2.80**	**101**	P	**Pn**	**12 56 12.2**	**-0.1**
RSO	**Redoubt South**	**2.82**	**193**	P	**Pn**	**12 56 12.6**	**0.0**
GCSA	**Galena City Sc**	**2.85**	**305**	P	**Pn**	**12 56 14.4**	**+1.4**
IM3	**Indian Mountai**	**2.96**	**342**	P	**Pn**	**12 56 15.4**	**+0.8**
TZL	**Tazlina**	**3.02**	**110**	P	**Pn**	**12 56 16.1**	**+0.6**
IMA	**Indian Mountai**	**3.03**	**343**	*e*P	**Pn**	**12 56 16.2**	**+0.6**
KLU	**Klutina**	**3.10**	**121**	P	**Pn**	**12 56 16.8**	**+0.2**
VLZ	**Valdez**	**3.18**	**129**	P	**Pn**	**12 56 17.5**	**-0.3**
ILW	**Iliamna West**	**3.25**	**195**	P	**Pn**	**12 56 19.7**	**+0.9**
IVS	**Iliamna South**	**3.30**	**194**	P	**Pn**	**12 56 20.8**	**+1.4**
DOT	**Dot Lake**	**3.36**	**79**	P	**Pn**	**12 56 21.4**	**+1.2**
DIV	**Divide**	**3.38**	**125**	P	**Pn**	**12 56 20.1**	**-0.5**
FID	**Port Fidalgo**	**3.41**	**134**	P	**Pn**	**12 56 20.8**	**-0.1**
BRLK	**Bradley Lake**	**3.46**	**175**	P	**Pn**	**12 56 21.4**	**-0.3**
CNPM	**China Poot**	**3.69**	**178**	P	**Pn**	**12 56 24.6**	**-0.4**
EYAK	**Cordova Ski Ar**	**3.80**	**132**	P	**Pn**	**12 56 26.7**	**+0.2**
CVA	**Cordova**	**3.80**	**132**	P	**Pn**	**12 56 26.8**	**+0.3**
TMW	**Tok Microwave**	**3.83**	**84**	P	**Pn**	**12 56 27.3**	**+0.4**
BMRM	**Bremner River**	**3.93**	**122**	P	**Pn**	**12 56 28.9**	**+0.6**
GLB	**Gilahina Butte**	**3.98**	**113**	P	**Pn**	**12 56 29.2**	**0.0**
COLD	**Coldfoot**	**4.08**	**7**	P	**Pn**	**12 56 30.8**	**+0.3**
BCA3	**Beaver Creek A**	**4.39**	**87**	P	**Pn**	**12 56 34.6**	**-0.4**
BALM	**Baldy**	**4.80**	**113**	P	**Pn**	**12 56 39.7**	**-1.0**
BM3	**Burnt Mountain**	**5.12**	**31**	P	**Pn**	**12 56 44.1**	**-1.0**
ANCK	**Angle Creek**	**5.40**	**203**	P	**Pn**	**12 56 48.3**	**-0.8**
YAH	**Yahtse**	**5.42**	**117**	P	**Pn**	**12 56 48.8**	**-0.6**
DAWY	**Dawson**	**5.45**	**76**	P	**Pn**	**12 56 48.6**	**-1.3**
INK	**Inuvik**	**8.96**	**47**	Pn	**P**	**12 57 37.1**	**-1.9**
	0.4nm,0.3s,baz=242,slow=18,SNR=13						
INK				LR	LR	13 02 02.0	
	comp=Z,58nm,18.4s,baz=143,slow=43						
INK	**Inuvik**	**8.96**	**47**	*e*P	**P**	**12 57 35.9**	**-3.1**
DLBC	**Dease Lake**	**11.47**	**105**	Pn	**P**	**12 58 11.3**	**-1.9**
	0.5nm,0.3s,baz=284,slow=11,SNR=6.6						
BBB	**Bella Bella**	**16.54**	**121**	Pn	**P**	**12 59 22.8**	**+3.1**
	0.1nm,0.3s,baz=313,slow=16,SNR=3.6						
BBB				LR	LR	13 05 19.6	
	comp=Z,120nm,18.6s,baz=345,slow=36						
YKA	**Yellowknife Ar**	**16.69**	**76**	Pn	**P**	**12 59 22.0**	**+0.4**
	0.4nm,0.3s,baz=283,slow=9.4,SNR=6.9						
EDM	**Edmonton**	**22.08**	**99**	*e*P	**P**	**13 00 21.4**	**-1.2**
NEW	**Newport**	**24.04**	**112**	P	**P**	**13 00 43.4**	**+1.6**
	2.0nm,0.8s,mb3.6,baz=310,slow=12,SNR=3.6						
PDAR	**Pinedale Array**	**31.63**	**110**	P	**P**	**13 01 50.8**	**-0.2**
	1.5nm,0.8s,mb3.9,baz=315,slow=6.3,SNR=13						
PDAR				PcP	PcP	13 04 40.7	-2.3
	0.2nm,0.5s,baz=63,slow=2.0,SNR=3.6						
MSU	**Marysvale**	**34.11**	**118**	*e*P	**P**	**13 02 12.5**	**-0.1**
SCHQ	**Schefferville**	**41.27**	**61**	P	**P**	**13 03 12.1**	**-0.4**
	3.4nm,0.8s,mb4.0,baz=304,slow=11,SNR=4.3						
TXAR	**Lajitas Array**	**45.55**	**115**	P	**P**	**13 03 47.5**	**+0.2**
	1.3nm,0.7s,mb4.0,baz=334,slow=5.7,SNR=12						
TXAR				PcP	PcP	13 05 25.0	-1.3
	1.3nm,1.0s,baz=288,slow=5.7,SNR=3.6						
TXAR	**Lajitas Array**	**45.55**	**115**	P	**P**	**13 03 47.5**	**+0.2**
TXAR				PcP	PcP	13 05 25.0	-1.3
SONM	**Songino Array**	**53.53**	**305**	P	**P**	**13 04 48.9**	**+0.6**
	1.5nm,0.9s,mb3.9,baz=35,slow=5.8,SNR=6.1						
ZAL	**Zalesovo**	**55.25**	**323**	P	**P**	**13 04 59.6**	**-1.3**
	1.3nm,0.4s,mb4.3,baz=5.8,slow=14,SNR=4.4						
BVAR	**Borovoye Array**	**59.57**	**332**	P	**P**	**13 05 30.2**	**-1.3**
	0.3nm,0.4s,mb3.7,baz=315,slow=4.2,SNR=3.8						
MKAR	**Makanchi Array**	**62.38**	**321**	P	**P**	**13 05 48.4**	**-2.2**
	0.6nm,0.5s,mb4.0,baz=28,slow=8.7,SNR=5.1						
CMAR	**Chiang Mai Arr**	**82.17**	**295**	P	**P**	**13 07 48.6**	**+0.6**
	0.8nm,1.0s,mb3.6,baz=18,slow=8.3,SNR=4.4						

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*BJI **27** 13:01:04.7, 3.00S×153.20E, h91^{km}, mb4.6*
*IDC **27** 13:01:06.4±5.7, 2.95S×153.23E, h88^{km}±50^{km}, mb4.0/10, mb1 4.1/12, mb1mx4.1/16, ML3.3/2, MS3.6/5, Ms1 3.6/5, ms1mx3.4/16, Error ellipse: s-maj=41.8km s-min=22.7km az=99.0*
*NEIC **27** 13:01:06.8±2.5, 2.96S×153.22E, h92^{km}±20^{km}, mb4.7/16, Error ellipse: s-maj=21.5km s-min=10.5km az=88.0*
ISC 27 13:01:04.9±3.9**, 2.98S**±0.10×**153.2E**±0.2**, h90**^{km}±32^{km}**, n34,** σ**0**^{s}**90**/33**, mb4.4**/23**, 1C, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**8.77**	**223**	P	**P**	**13 03 11.0**	**+0.3**
	1.9nm,0.3s,baz=14,slow=7.9,SNR=7.2						
PMG				LR	LR	13 06 26.2	
	comp=Z,371nm,19.7s,baz=232,slow=36						
CTA	**Charters Tower**	**18.31**	**201**	*e*P	**P**	**13 05 13.9**	**-0.4**
	3.6nm,0.6s						
CTA	**Charters Tower**	**18.31**	**201**	P	**P**	**13 05 14.2**	**-0.1**
	0.1nm,0.3s,baz=21,slow=14,SNR=2.7						
CTAO	**Charters Tower**	**18.31**	**201**	*e*P	**P**	**13 05 13.9**	**-0.5**
	6.9nm,0.8s						
KAKA	**Kakadu**	**22.75**	**244**	*e*P	**P**	**13 06 03.5**	**+3.2**
	30nm,0.6s,mb4.8						
WRAB	**Tennant Creek**	**24.96**	**226**	*e*P	**P**	**13 06 22.1**	**+0.5**
	33nm,0.6s,mb4.9						
WB2	**Warramunga Arr**	**24.97**	**226**	⇑*i*P	**P**	**13 06 21.9**	**+0.2**
WRA	**Warramunga Arr**	**24.98**	**226**	P	**P**	**13 06 22.5**	**+0.7**
	17nm,0.6s,mb4.7,baz=48,slow=9.2,SNR=159						
WRA				LR	LR	13 16 48.3	
	comp=Z,80nm,20.5s,baz=25,slow=38						
ASAR	**Alice Springs**	**27.78**	**221**	P	**P**	**13 06 47.3**	**-0.3**
	3.1nm,0.6s,mb4.0,baz=53,slow=8.6,SNR=74						
ASAR				LR	LR	13 18 28.8	
	comp=Z,87nm,21.5s,baz=128,slow=38						
ASPA	**Alice Springs**	**27.78**	**221**	*e*P	**P**	**13 06 47.7**	**+0.1**
STKA	**Stephens Creek**	**30.75**	**200**	P	**P**	**13 07 14.6**	**+0.6**
	1.5nm,0.5s,mb4.0,baz=34,slow=11,SNR=5.7						
FITZ	**Fitzroy Crossi**	**30.92**	**239**	*e*P	**P**	**13 07 13.8**	**-1.7**
	2.2nm,0.6s,mb4.1						
FITZ	**Fitzroy Crossi**	**30.92**	**239**	P	**P**	**13 07 13.6**	**-1.9**
	1.2nm,0.5s,mb3.9,baz=111,slow=2.4,SNR=8.3						
FITZ				LR	LR	13 21 10.3	
	comp=Z,80nm,21.1s,baz=75,slow=39						
FORT	**Forrest**	**36.46**	**218**	*e*P	**P**	**13 08 01.7**	**-1.3**
	45nm,0.6s						
MBWA	**Marble Bar**	**37.25**	**238**	P	**P**	**13 08 08.1**	**-1.7**
	6.0nm,0.8s,mb4.6						
ENH	**Enshi**	**53.24**	**312**	*e*P	**P**	**13 10 15.5**	**-1.2**
	10nm,0.8s,mb4.9						
CMAR	**Chiang Mai Arr**	**57.50**	**294**	P	**P**	**13 10 47.9**	**+0.4**
	4.0nm,0.8s,mb4.5,baz=105,slow=5.1,SNR=32						
GTA	**Gaotai**	**64.62**	**316**	*e*P	**P**	**13 11 35.5**	**+0.2**
GTA				AMB	AMB		
	comp=Z,3.0nm,1.0s,mb4.1						
SONM	**Songino Array**	**65.02**	**327**	P	**P**	**13 11 36.9**	**-0.8**
	comp=Z,0.8nm,0.6s,mb3.8,baz=139,slow=6.0,SNR=7.5						
CASY	**Casey**	**69.86**	**197**	P	**P**	**13 12 07.1**	**-0.6**
	comp=Z,11nm,1.2s,mb4.6						
PKI	**Pulchoki**	**71.87**	**300**	*e*P	**P**	**13 12 21.2**	**+0.8**
KKN	**Kakani**	**72.03**	**300**	*e*P	**P**	**13 12 22.2**	**+0.8**
	comp=Z,18nm,0.8s,mb4.9						
DMN	**Daman**	**72.14**	**300**	*e*P	**P**	**13 12 23.1**	**+1.1**
	comp=Z,35nm,0.9s,mb5.2						
GKN	**Gorkha**	**72.64**	**300**	*e*P	**P**	**13 12 25.5**	**+0.5**
	comp=Z,39nm,1.1s,mb5.2						
KOLN	**Koldanda**	**73.48**	**300**	*e*P	**P**	**13 12 30.4**	**+0.5**
	comp=Z,20nm,0.9s,mb5.0						
MKAR	**Makanchi Array**	**79.24**	**319**	P	**P**	**13 13 02.4**	**+0.5**
	comp=Z,2.0nm,0.8s,mb4.0,baz=101,slow=6.2,SNR=11						
ZAL	**Zalesovo**	**79.89**	**326**	P	**P**	**13 13 05.1**	**-0.1**
	comp=Z,0.7nm,0.3s,mb4.0,baz=85,slow=3.5,SNR=3.3						
ILAR	**Eielson Array**	**80.33**	**22**	P	**P**	**13 13 07.2**	**-0.2**
	comp=Z,0.7nm,0.8s,mb3.5,baz=247,slow=5.5,SNR=4.8						
KURK	**Kurchatov**	**82.60**	**322**	P	**P**	**13 13 18.7**	**-0.8**
QSPA	**South Pole Qui**	**86.97**	**180**	*e*P	**P**	**13 13 43.4**	**+2.8**
	comp=Z,12nm,1.0s,mb4.8						
BVAR	**Borovoye Array**	**88.04**	**323**	P	**P**	**13 13 46.3**	**+0.1**
	comp=Z,4.5nm,1.0s,mb4.5,baz=104,slow=6.1,SNR=15						
BRVK	**Borovoye**	**88.11**	**323**	*e*P	**P**	**13 13 46.3**	**-0.3**
	comp=Z,2.1nm,0.8s,mb4.2						
ZRNK	**Zerenda**	**88.86**	**323**	*e*P	**P**	**13 13 49.5**	**-0.6**

	comp=Z,2.3nm,0.8s,mb4.3						
PDAR	Pinedale Array	97.32	47	LR	LR	13 57 40.2	
	comp=Z,90nm,18.1s,baz=176,slow=35						

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*NEIC **27** 13:21:25.7,28.58S×71.17W,h46^{km},MD3.8(GUC),After GUC.*

GUC 27 13:21:25.7±0.5**,28.58S×71.17W,h46^{km}±2^{km},MD3.8, ML3.9,2C,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VACH	Vallenar	0.36	90	⇑iP	P	13 21 35.3	+0.2
VACH				i S	S	13 21 42.4	+0.8
VACH				AMP		13 21 43.3	
	comp=E,28µm,0.4s						
LSCH	La Serena	1.33	183	eP	P	13 21 48.6	+0.3
LSCH				i S	S	13 22 05.2	+0.2
CPCH	Copiapo	1.41	31	⇑iP	P	13 21 49.6	+0.2
CPCH				i S	S	13 22 07.8	+0.7
CPCH				AMP		13 22 11.7	
	comp=E,3µm,0.1s						
TLL	Tololo Astrono	1.61	169	eP	P	13 21 53.2	+1.0
TLL				i S	S	13 22 13.8	+1.8
TLL				AMP		13 22 21.7	
	comp=N,521nm,0.6s						
CMCH	Combarbala	2.59	177	eP	P	13 22 05.6	-0.5
CMCH				AMP		13 22 52.0	
	comp=N,1µm,0.5s						

HLW 27 13:30:53.6,23.50N×31.94E,h16^{km},Mb3.7,3C,Egypt

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HMSM	Jabal Masmas	0.62	184	P	Pb	13 31 05.1	-0.4
APRS		1.42	308	P	Pn	13 31 19.2	+0.2
APRS				S	Sb	13 31 37.9	+1.0
AADN	Adndan	1.42	195	P	Pn	13 31 18.9	-0.1
HEDF	Idfu	1.95	35	P	Pn	13 31 26.1	-0.4
HNKL	Nakhl	6.66	15	⇑P	Pn	13 32 30.8	-2.5
SWA1		8.01	317	⇑P	P	13 32 47.7	-4.5
SWA2		8.15	316	⇑P	P	13 32 50.0	-4.3

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*IDC **27** 13:52:10.3±1.5,31.51S×72.95W,mb4.1/4,mb1 4.0/5, mb1mx3.9/13,ML3.5/1,Error ellipse: s-maj=57.8km s-min=28.5km az=111.0*

*NEIC **27** 13:52:15.5,31.50S×72.52W,h28^{km},mb4.4/1, ML3.7(GUC),After GUC.*

*GUC **27** 13:52:15.5±0.9,31.50S×72.52W,h28^{km}±14^{km},MD3.8, ML3.7*

ISC 27 13:52:15.3±1.2**,31.52S**±0.04×**72.72W**±0.10**,h43^{km}**±11^{km}**, n23,σ0^{s}54**/32**,mb4.0**/5**,6C-4D,Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LSCH	La Serena	2.04	39	AMP		13 53 11.8	
	comp=E,415nm,0.6s						
TLL	Tololo Astrono	2.13	51	⇓iP	P	13 52 48.9	-0.2
TLL				i S	S	13 53 14.7	+0.3
TLL				AMP		13 53 18.4	
	comp=E,620nm,0.5s						
JACH	Jahuel	2.14	123	⇓iP	P	13 52 49.5	+0.1
JACH				i S	S	13 53 14.3	-0.6
PEL	Peldehue	2.36	134	⇑iP	P	13 52 52.4	-0.1
PEL				i S	S	13 53 20.5	0.0
PEL				AMP		13 53 21.7	
	comp=N,1µm,0.3s						
RCDM	Rinconada Maip	2.54	141	⇑iP	P	13 52 55.0	-0.1
RCDM				i S	S	13 53 25.2	+0.2
RCDM				AMP		13 53 26.8	
	comp=E,505nm,0.1s						
TACH	Talagante	2.61	145	i P	P	13 52 55.6	-0.4
TACH				i S	S	13 53 26.8	+0.2
FCH	Farellones	2.73	132	⇑iP	P	13 52 58.0	+0.2
FCH				i S	S	13 53 29.9	+0.1
FCH				AMP		13 53 37.2	
	comp=E,245nm,0.2s						
PCH	Pirque	2.80	139	⇑iP	P	13 52 59.1	+0.3
PCH				i S	S	13 53 31.3	-0.3
CHCH	Chadas Angostu	2.97	145	eP	P	13 53 01.2	0.0
CHCH				i S	S	13 53 35.7	-0.2
CACH	El Canelo	3.15	146	⇓iP	P	13 53 04.3	+0.6
CACH				i S	S	13 53 41.9	+1.6
LMEL	Las Melosas	3.15	138	⇑iP	P	13 53 03.9	+0.2
LMEL				i S	S	13 53 40.3	-0.1
LMEL				AMP		13 53 43.4	
	comp=E,419nm,0.4s						
CICH	Cipreses	3.40	146	⇓iP	P	13 53 07.1	-0.1
CICH				i S	S	13 53 46.9	+0.1
SFDO	San Fernando	3.40	156	⇑iP	P	13 53 07.1	-0.2
SFDO				i S	S	13 53 46.6	-0.3
TRQA	Tornquist	10.97	129	ePn	P	13 54 50.0	-2.6
LPAZ	La Paz	15.73	16	Pn	P	13 55 55.3	-0.2
	comp=E,0.1nm,0.3s,baz=198,slow=9.2,SNR=5.6						
LPAZ	La Paz	15.73	16	eP	P	13 55 55.8	+0.4
BDFB	Brasilia	27.52	61	P	P	13 58 00.3	+0.2
	comp=E,1.4nm,0.4s,mb4.0,baz=186,slow=9.2,SNR=2.3						
SNAA	Sanae	54.09	158	P	P	14 01 37.2	-0.4
	comp=E,0.3nm,0.5s,mb3.5,baz=286,slow=8.8,SNR=6.2						
QSPA	South Pole Qui	58.71	180	eP	P	14 02 10.1	-0.3
	comp=E,2.8nm,0.9s,mb4.3						
DBIC	Dimbokro	74.95	72	P	P	14 03 54.4	+0.3
	comp=E,3.2nm,0.7s,mb4.4,baz=137,slow=5.5,SNR=3.4						
MAW	Mawson	75.72	164	P	P	14 03 58.0	+0.6
	comp=E,0.9nm,0.5s,mb3.9,baz=222,slow=8.4,SNR=4.2						
WRA	Warramunga Arr	122.63	211	PKP	PKPdf	14 11 07.4	+0.5
	comp=E,0.2nm,0.5s,baz=150,slow=1.4,SNR=8.3						
ZAL	Zalesovo	152.39	29	PKPbc	PKPdf	14 12 08.5	+9.4
	comp=E,2.0nm,0.6s,baz=80,slow=3.7,SNR=7.5						

MAN 27 14:36:58.6,11.67N×126.34E,h53^{km},mb4.4,ML3.3, MS3.1,Philippine Islands region

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*WAR **27** 14:40:54.8,50.06N×18.45E,ML2.4,Mining Induced*

*PRU **27** 14:40:55.2,50.10N×18.41E*

ISC 27 14:40:53.6±0.5**,50.11N**±0.04×**18.43E**±0.04**,n11,σ1^{s}17**/22**, Poland**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAC	Raciborz	0.15	261	ePG	Pg	14 40 59.0	+2.3
RAC				eSG	Sg	14 41 02.0	+3.2
OKC	Ostrava-Krasne	0.33	214	ePG	Pg	14 41 00.9	+0.7
OKC				eSG	Sg	14 41 05.9	+1.4
OJC	Ojcow	0.89	82	ePG	Pg	14 41 12.0	+0.7
OJC				eSG	Sg	14 41 24.0	+0.9
LIKS	Likavka	1.15	157	ePG	Pg	14 41 16.0	-0.5
LIKS				eSN	Sn	14 41 34.9	+1.4
DPC	Dobruska-Polom	1.38	281	ePG	Pg	14 41 20.8	-0.3
DPC				eSG	Sg	14 41 39.2	-0.2
	40nm,0.7s						
NIE	Niedzica	1.40	119	ePG	Pg	14 41 21.0	-0.6
NIE				e(SG)	Sg	14 41 39.0	-1.3
KSP	Ksiaz	1.55	299	ePG	Pg	14 41 26.0	+1.4
KSP				eSG	Sg	14 41 45.0	-0.2
UPC	Upice	1.60	285	ePG	Pg	14 41 25.5	-0.1
UPC				eSG	Sg	14 41 46.2	-0.7
VYHS	Vyhne	1.64	171	ePN	Pn	14 41 23.6	-0.2
VYHS				eSN	Sn	14 41 44.9	-1.0
PRU	Pruhonice	2.51	269	eSG	Sg	14 42 12.5	-4.7
	8.4nm,0.6s						
KHC	Kasperske Hory	3.30	255	ePN	Pn	14 41 45.0	-2.6
KHC				ex	x	14 42 07.5	
KHC				eSN	Sn	14 42 26.5	-1.7
KHC				eSG	Sg	14 42 38.1	-5.5

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*GUC **27** 14:43:08.7±0.8,37.05S×72.53W,h63^{km}±9^{km},ML4.3*

*NEIC **27** 14:43:12.0±1.5,36.83S×72.25W,h61^{km}±13^{km},mb4.0/1, Error ellipse: s-maj=31.1km s-min=12.3km az=84.0*

NEIC Felt [III] at Angol.

ISC 27 14:43:06.9±1.0**,36.89S**±0.04×**72.9W**±0.1**,h41^{km}**±12^{km}**, n20,σ0^{s}98**/31**,mb3.9**/1**,5C-3D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CCHI	Chillan	0.73	67	⇓iP	P	14 43 22.1	+1.3
CCHI				i S	S	14 43 31.4	+0.4
CCHI				AMP		14 43 32.5	
	comp=N,25µm,0.3s						
TALC	Talca	1.81	35	⇓iP	P	14 43 37.5	+1.2
TALC				i S	S	14 43 58.8	+0.6
TALC				AMP		14 44 07.1	
	comp=E,4µm,0.3s						
TMCH	Temuco	1.87	173	eP	P	14 43 37.1	0.0
TMCH				i S	S	14 43 58.1	-1.6
SFDO	San Fernando	2.75	35	⇑iP	P	14 43 49.7	+0.2
SFDO				i S	S	14 44 21.6	-0.3
LNV	Longovilo	3.17	23	eP	P	14 43 56.4	+0.7
LNV				i S	S	14 44 34.1	+1.4
CICH	Cipreses	3.27	39	eP	P	14 43 57.6	+0.5
CICH				i S	S	14 44 34.5	-0.7
CACH	El Canelo	3.35	35	eP	P	14 43 58.2	+0.1
CACH				i S	S	14 44 36.9	-0.3
LCCH	Las Cruces	3.58	18	eP	P	14 44 00.2	-1.2
TACH	Talagante	3.61	27	eP	P	14 44 01.6	-0.2
LMEL	Las Melosas	3.76	37	eP	P	14 44 04.3	+0.4
LMEL				⇑iP		14 44 04.4	
LMEL				i S	S	14 44 47.1	-0.4
LMEL	Las Melosas	3.76	37	⇑iP	P	14 44 04.4	+0.5
LMEL				i S	S	14 44 47.1	-0.4
RCDM	Rinconada Maip	3.81	28	eP	P	14 44 03.7	-0.9
RCDM				i S	S	14 44 46.8	-2.0
RCDM				AMP		14 45 03.1	
	comp=E,368nm,0.4s						
FCH	Farellones	4.15	32	eP	P	14 44 09.3	-0.2
FCH				i S	S	14 44 56.9	-0.6
PEL	Peldehue	4.16	27	eP	P	14 44 09.5	-0.1
TRQA	Tornquist	8.78	101	ePn	P	14 45 08.2	-6.0
LPAZ	La Paz	20.95	13	P	P	14 47 48.9	+0.2
	comp=E,1.5nm,0.8s						
PMSA	Palmer Station	28.42	172	eP	P	14 49 00.9	+1.4
	comp=E,1.0nm,0.3s,mb3.9						
VNA3	Neumayer Olymp	46.98	157	⇑i	P	14 51 37.5	+2.2
VNA2	Neumayer--Watz	47.65	156	⇓i	P	14 51 40.6	0.0
SNAA	Sanae	49.20	157	⇑i	P	14 51 49.9	-2.7

IDC 27 14:54:00.4±4.0**,27.71N×112.23W,mb3.3**/1**,mb1 3.7**/3**, mb1mx3.6**/19**,ML4.0**/2**,MS3.5**/3**,Ms1 3.5**/3**,ms1mx3.4**/5**, Error ellipse: s-maj=60.1km s-min=22.6km az=15.0, Baja California**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TXAR	Lajitas Array	7.71	76	Pn	Pn	14 55 54.2	-2.3
	0.5nm,0.3s,baz=257,slow=14,SNR=6.5						
TXAR				Lg		14 58 04.9	
	0.6nm,0.3s,baz=257,slow=27,SNR=7.6						
TXAR				LR	LR	14 58 54.7	
	comp=Z,625nm,20.5s,baz=270,slow=38						
PDAR	Pinedale Array	15.18	8	Pn	P	14 57 40.7	+2.9
	0.1nm,0.3s,baz=186,slow=8.2,SNR=3.5						
PDAR				Lg		15 01 49.8	
	0.1nm,0.3s,baz=155,slow=26,SNR=2.2						
ULM	Lac du Bonnet	25.74	25	LR	LR	15 08 58.1	
	comp=Z,59nm,18.9s,baz=48,slow=35						
YKA	Yellowknife Ar	34.82	358	LR	LR	15 15 41.9	
	comp=Z,90nm,19.0s,baz=180,slow=37						
ILAR	Eielson Array	43.08	339	P	P	15 02 02.1	-1.3
	0.4nm,0.9s,baz=150,slow=7.6,SNR=4.6						

IDC 27 14:55:54.4±25.0**,18.89S×174.46W,mb4.0**/4**,mb1 4.1**/4**, mb1mx3.8**/14**,1C-1D,Error ellipse: s-maj=466.0km s-min=143.2km az=74.0,Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	Charters Tower	36.99	261	P	P	15 03 07.0	-0.6
	1.3nm,0.4s,baz=86,slow=14,SNR=4.7						
STKA	Stephens Creek	41.48	243	P	P	15 03 43.1	-1.7
	3.3nm,1.2s,baz=84,slow=9.2,SNR=3.0						
ASAR	Alice Springs	48.14	255	P	P	15 04 35.9	-2.6
	1.2nm,0.6s,baz=88,slow=8.5,SNR=27						
WRA	Warramunga Arr	48.14	260	P	P	15 04 36.3	-2.1
	0.8nm,0.8s,baz=97,slow=7.7,SNR=22						
VNA3	Neumayer Olymp	89.49	175	⇑i	P	15 09 07.7	+14
VNA2	Neumayer--Watz	89.97	176	⇓i	P	15 09 10.6	+14

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*PDG **27** 15:07:28.0±0.1,42.21N×19.50E,h15^{km}±1^{km}*

*TIR **27** 15:07:27.0,42.23N×19.49E,h20^{km}*

ISC 27 15:07:27.9±0.5**,42.20N**±0.02×**19.51E**±0.04**,h12^{km}**±5^{km}**, n13,σ1^{s}13**/24**,4C-3D,Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SDA	Shkodra	0.14	184	i Pg	Pg	15 07 31.8	+0.3
SDA				i Sg	Sg	15 07 35.4	+1.5
TTG	Podgorica	0.30	322	⇑iPg	Pg	15 07 33.7	-0.6
TTG				eSg	Sg	15 07 38.9	+0.4
ULC	Ulcinj	0.30	220	⇑iPg	Pg	15 07 34.1	-0.2
ULC				eSg	Sg	15 07 39.5	+0.9
BCI	Bajram Curri	0.45	67	i Pg	Pg	15 07 36.6	-0.5
BCI				i Sg	Sg	15 07 44.6	+1.4
PVY	Plav	0.53	40	⇑iPg	Pg	15 07 37.8	-0.8
PVY				eSg	Sg	15 07 46.5	+0.7
IVA	Berane	0.73	23	⇓iPg	Pg	15 07 41.6	-1.1
IVA				eSg	Sg	15 07 53.2	+0.6
QSH	Qafa e Shtames	0.73	156	i pg?	Pg	15 07 39.0	-3.8
QSH				i Sg	Sg	15 07 51.0	-1.6
TIR	Tirane	0.89	163	i Pg	Pg	15 07 46.0	+0.2
BRY	Bratogost	1.00	315	⇑iPg	Pg	15 07 46.5	-1.7
BRY				eSg	Sg	15 08 02.2	+0.6
UPM	Unac-Piva	1.10	336	⇓iPg	Pg	15 07 48.1	-1.9
UPM				eSg	Sg	15 08 05.5	+0.7
PLE	Pljevlja	1.14	356	⇓iPg	Pg	15 07 48.8	-1.9
PLE				eSg	Sg	15 08 06.7	+0.7
SKO	Skopje	1.45	98	ePn	Pn	15 07 56.6	+2.4
STON	Ston	1.50	297	i Pn	Pn	15 07 54.6	-0.3
STON				i Sn	Sn	15 08 15.7	+1.2

IDC 27 15:09:50.4±2.1**,6.87S×129.06E,mb3.9**/1**,mb1 3.9**/4**, mb1mx3.6**/13**,ML3.5**/3**,Error ellipse: s-maj=103.0km s-min=26.6km az=75.0,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	11.65	196	Pn	P	15 12 38.7	-2.4
	0.5nm,0.3s,baz=38,slow=7.3,SNR=22						
FITZ				Sn	S	15 14 34.1	-19
	0.8nm,0.3s,baz=164,slow=18,SNR=7.2						
WRA	Warramunga Arr	13.97	159	Pn	P	15 13 10.0	-2.2
	0.3nm,0.3s,baz=331,slow=14,SNR=27						
WRA				Sn	S	15 15 35.2	-14
	1.1nm,0.3s,baz=333,slow=21,SNR=11						
ASAR	Alice Springs	17.34	165	P	P	15 13 53.4	-2.2
	0.2nm,0.3s,baz=347,slow=13,SNR=14						
ASAR				S	S	15 16 54.4	-13
	0.2nm,0.3s,baz=345,slow=26,SNR=5.1						
MKAR	Makanchi Array	67.61	327	P	P	15 20 49.1	-2.1
	0.5nm,0.4s,baz=121,slow=7.7,SNR=14						

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*NEIC **27** 15:32:48.3±3.7,37.25N×72.09E,h117^{km}±30^{km},mb4.0/2, Error ellipse: s-maj=47.6km s-min=17.3km az=154.0*

*IDC **27** 15:32:49.9±6.8,37.91N×71.54E,h68^{km}±65^{km},mb3.7/5, mb1 3.7/8,mb1mx3.4/22,ML3.5/2,Error ellipse: s-maj=71.9km s-min=40.5km az=142.0*

*NNC **27** 15:32:58.8±2.8,38.23N×75.81E,h305^{km}±11^{km},mpv3.5, Error ellipse: s-maj=284.7km s-min=23.1km az=77.0*

ISC 27 15:32:48.3±0.6**,37.44N**±0.03×**72.7E**±0.1**,h171^{km}**±12^{km}**, n28,σ1^{s}61**/38**,mb3.9**/6**,3C,Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CEP	Cherat	3.67	190	P	P	15 33 47.3	+1.7
CHCP	Chirah Chowk	3.80	173	P	P	15 33 51.0	+3.7
THW	Thamme Wali	4.70	190	P	P	15 33 58.8	-0.2
AAK	Ala-Archa	5.36	14	⇑P	P	15 34 10.6	+2.9
	4.0nm,0.4s						
AAK				⇑S	S	15 35 09.5	+0.3
	15nm,0.5s						
DRP	Derazinda	6.05	201	⇑P	P	15 34 15.5	-1.1
BHK	Bhakra	6.74	152	e	Sx	15 35 47.4	
KLP	Kalpa	7.46	141	eP	P	15 34 38.1	+2.8
KLP				eS	S	15 36 02.6	+3.8
KLP				e		15 36 12.1	
	comp=N,522nm,0.8s						
KLP				e		15 36 12.1	
	comp=E,462nm,0.5s						
JOSI	Joshimath	8.91	138	e	P	15 35 01.2	+6.6
JOSI				eS	S	15 36 32.8	-0.5
AYAN	Aya Nagar	9.67	156	eP	P	15 35 02.8	-1.7
AYAN				eS	S	15 36 51.1	0.0
AYAN				e		15 36 57.2	
	comp=Z,22nm,0.3s						
KHET	Khetri	9.70	164	eP	P	15 35 02.5	-2.3
KHET				eS	S	15 36 46.8	-4.9
KUDL	Kundal	9.80	160	eP	P	15 35 08.6	+2.5
KUDL				eS	S	15 36 53.7	-0.4
KUDL				e		15 36 57.9	
	comp=Z,16nm,0.6s						
SONA	Sohna	9.87	157	eP	P	15 35 06.4	-0.8
SONA				eS	S	15 36 56.1	+0.3
SONA				AML	AML	15 36 59.0	
	comp=E,38nm,0.4s						
SONA				AML	AML	15 37 01.3	
	comp=N,20nm,0.4s						
MKAR	Makanchi Array	11.73	34	P	P	15 35 37.2	+5.9
	baz=233,slow=14,SNR=2.4						
MKAR	Makanchi Array	11.73	34	P	P	15 35 37.2	+5.9
BHPL	Bhopal	14.72	163	e	P	15 36 07.6	-1.8
BHPL				e		15 38 44.0	
VOSK	Vostochnaya	15.33	356	P	P	15 36 15.4	-1.4
VOSK				S	S	15 38 57.7	-4.0
BVA0	Borovoye Array	15.67	355	P	P	15 36 20.0	-0.9
	baz=162,slow=13						
BVA0				S	S	15 39 02.3	-7.0
	baz=161,slow=19						
BVAR	Borovoye Array	15.67	355	P	P	15 36 19.3	-1.6
	comp=N,0.2nm,0.3s,baz=153,slow=9.7,SNR=3.7						
BVAR				S	S	15 39 06.1	-3.2
	comp=N,0.2nm,0.3s,baz=167,slow=23,SNR=5.0						
ZRNK	Zerenda	15.72	352	P	P	15 36 20.0	-1.6
ZRNK				S	S	15 39 08.3	-2.2
ZRNK	Zerenda	15.72	352	eP	P	15 36 24.8	+3.2
	comp=N,5.7nm,0.7s						
ZAL	Zalesovo	18.49	23	P	P	15 36 59.3	+5.7
	comp=N,0.3nm,0.3s,baz=140,slow=5.4,SNR=4.2						
GNI	Garni	21.93	286	P	P	15 37 27.8	-0.6
	comp=N,6.3nm,0.6s,mb4.2						
BRTR	Keskin Array B	30.47	287	P	P	15 38 46.8	-0.3
	comp=N,0.6nm,0.4s,mb3.6,baz=94,slow=8.6,SNR=3.6						
AKASG	Malin Array Be	33.44	307	P	P	15 39 13.7	+1.0
	comp=N,1.6nm,0.5s,mb4.0,baz=111,slow=8.1,SNR=7.2						
FINES	FINESS Array B	37.48	325	P	P	15 39 48.9	+2.2
	comp=N,1.1nm,0.3s,mb3.9,baz=122,slow=8.6,SNR=17						
ARCES	ARCESS Array B	40.81	337	P	P	15 40 17.6	+3.6
	comp=N,0.7nm,0.4s,mb3.6,baz=115,slow=8.2,SNR=15						
NB2	NORSAR Subarra	44.46	322	P	P	15 40 45.5	+1.9
	comp=N,1.1nm,0.5s,mb3.7,baz=92,slow=7.9						
NOA	NORSAR Array B	44.46	322	P	P	15 40 46.0	+2.4
	comp=N,0.9nm,0.4s,mb3.8,baz=94,slow=7.6,SNR=3.4						

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*NIED **27** 15:37:00,33.00N×137.30E,h5^{km},Mw4.3 Best double couple: $M_0$2.97×10^{15} NP1:ϕ_s329°,δ85°,λ120°. NP2:ϕ_s68°, δ30°,λ9°.*

*IDC **27** 15:37:41.1±1.0,32.94N×137.52E,mb3.7/6,mb1 3.8/6, mb1mx3.6/22,MS3.6/2,Ms1 3.6/2,ms1mx3.2/25,Error ellipse: s-maj=26.9km s-min=19.8km az=39.0*

*NEIC **27** 15:37:42.3±0.6,32.99N×137.67E,h10^{km},Error ellipse: s-maj=23.3km s-min=9.2km az=90.0*

*JMA **27** 15:37:42.1±0.1,32.99N×137.30E,h41^{km}±2^{km},M3.6*

ISC 27 15:37:42.5±1.1**,33.02N**±0.03×**137.29E**±0.03**,h33^{km}**±9^{km}**, n29,σ0^{s}71**/46**,mb3.6**/6**,MS3.6**/1**,Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TK01	Tokai 1	0.79	19	P	Pn	15 37 57.1	-0.3
TK01				eS	Sb	15 38 08.5	+0.2
TK02	Tokai 2	1.01	23	P	Pn	15 38 00.2	-0.4
TK03	Tokai 3	1.28	26	P	Pn	15 38 04.1	-0.3
TK03				eS	Sn	15 38 21.1	+0.5
JWZ	Kozaga	1.42	292	P	Pn	15 38 06.0	-0.4
JWZ				S	Sn	15 38 23.2	-0.8
TK04	Tokai 4	1.45	20	P	Pn	15 38 06.7	-0.2
TK04				S	Sn	15 38 25.3	+0.3
JIE	Ise	1.46	341	P	Pn	15 38 07.3	+0.3
JIE				S	Sn	15 38 25.7	+0.6
JKN	Kiinagashima	1.50	325	P	Pn	15 38 07.6	0.0
JKN				S	Sn	15 38 25.1	-1.1
JWM	Minabe	1.82	298	P	Pn	15 38 12.1	-0.1
JWM				S	Sn	15 38 33.8	-0.5
TSUJ	Tsu 2	1.84	337	P	Pn	15 38 12.6	+0.2
TSUJ				S	Sn	15 38 34.4	-0.4
JWY	Kouya	1.85	311	P	Pn	15 38 13.3	+0.6
JWY				eS	Sn	15 38 35.3	+0.1
JHJ	Hachijo jima 2	2.10	86	Pn	Pn	15 38 15.8	-0.3
	14nm,0.3s,baz=185,slow=20,SNR=7.9						
JHJ				Sn	Sn	15 38 40.2	-1.2
	42nm,0.3s,baz=251,slow=22,SNR=9.5						
JHJ2	Mitsune	2.13	87	P	Pn	15 38 16.8	+0.2
JHJ2				eS	Sn	15 38 40.4	-1.7
JIM2	Oshima 3	2.46	46	P	Pn	15 38 22.1	+0.7
JAI	Aioi	2.50	289	P	Pn	15 38 22.0	+0.1
JAI				eS	Sn	15 38 50.4	-1.1
JYN	Shimob	2.69	22	P	Pn	15 38 24.5	-0.1
JYN				eS	Sn	15 38 56.4	+0.1
JOD2	Odawara 2	2.69	33	P	Pn	15 38 24.4	-0.3
JOD2				eS	Sn	15 38 56.6	+0.1
JGM	Miyama	2.72	350	P	Pn	15 38 25.4	+0.4
JGM				eS	Sn	15 38 57.5	+0.3
JWT	Wachi	2.75	326	P	Pn	15 38 25.8	+0.3
JWT				eS	Sn	15 38 57.3	-0.7
JMN	Monobe	2.94	285	P	Pn	15 38 27.7	-0.5
MAJO	Matsushiro	3.60	12	ePn	Pn	15 38 37.4	-0.1
MAT	Matsushiro	3.60	12	P	Pn	15 38 37.6	+0.1
MAT				S	Sn	15 39 19.6	+0.2
MAT	Matsushiro	3.60	12	eP	Pn	15 38 38.0	+0.5
MAT				eS	Sn	15 39 20.0	+0.6
ASAJ	Asahikawa	11.83	19	LR	LR	15 45 32.7	
	comp=Z,233nm,18.8s,baz=45,slow=40						
SONM	Songino Array	27.56	312	P	P	15 43 31.2	+2.7
	0.8nm,0.8s,mb3.4,baz=124,slow=8.9,SNR=5.7						
MKAR	Makanchi Array	43.52	305	P	P	15 45 48.2	+3.7
	0.6nm,0.7s,mb3.4,baz=90,slow=9.7,SNR=5.5						
WRA	Warramunga Arr	52.73	183	P	P	15 46 56.8	+0.1
	1.2nm,0.9s,mb3.8,baz=1.3,slow=7.6,SNR=12						
ASAR	Alice Springs	56.45	184	P	P	15 47 24.5	+0.7
	0.4nm,0.7s,mb3.5,baz=12,slow=13,SNR=7.2						
ASAR				LR	LR	16 09 01.3	
	comp=Z,52nm,18.6s,MS3.6,baz=200,slow=33						
STKA	Stephens Creek	64.67	176	P	P	15 48 20.4	+0.8
	0.7nm,0.7s,mb3.8,baz=311,slow=8.4,SNR=3.2						
BRTR	Keskin Array B	78.91	310	P	P	15 49 47.8	+3.5
	0.8nm,0.7s,mb3.8,baz=117,slow=5.5,SNR=5.1						

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*NEIC **27** 15:53:51.8±0.8,20.13N×70.46W,h39^{km}±10^{km},mb4.2/13, Error ellipse: s-maj=8.5km s-min=6.5km az=202.0*

*IDC **27** 15:53:53.4±3.4,20.17N×70.53W,h53^{km}±32^{km},mb3.8/10, mb1 4.1/13,mb1mx4.0/21,ML4.3/3,MS3.8/12,Ms1 3.7/12, ms1mx3.6/24,Error ellipse: s-maj=19.6km s-min=18.1km az=20.0*

ISC 27 15:53:49.2±2.7**,20.15N**±0.07×**70.43W**±0.05**,h32^{km}**±21^{km}**, n51,σ0^{s}96**/44**,mb4.1**/23**,MS3.8**/11**,Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AGP	Aguadilla	3.55	119	ePn	Pn	15 54 44.6	+1.0
MGP	Maguayo	3.81	123	ePn	Pn	15 54 47.2	0.0
AOPR	Arecibo Observ	3.91	117	ePn	Pn	15 54 48.5	-0.1
SJG	San Juan	4.52	116	P	Pn	15 55 00.6	+3.2
	3.8nm,0.3s,baz=341,slow=18,SNR=5.5						
SJG				S	Sn	15 55 47.3	-2.2
	14nm,0.3s,baz=305,slow=23,SNR=6.0						
SJG	San Juan	4.52	116	P	Pn	15 55 00.6	+3.2
SJG				S	Sn	15 55 47.3	-2.2
HUMP	Col San Antoni	4.76	114	ePn	Pn	15 55 00.3	-0.5
SDV	Santo Domingo	11.20	181	ePn	P	15 56 29.1	-1.3
	9.2nm,0.9s						
SDV				eSn	S	15 58 27.8	-7.6
ROSC	El Rosal	15.66	195	P	P	15 57 29.8	+0.3
	4.2nm,0.3s,baz=150,slow=20,SNR=5.5						
ROSC				LR	LR	16 04 33.7	
	comp=Z,139nm,18.8s,baz=49,slow=41						

JTS	JuntasAbangare	17.09	237	P	P	15 57 49.0	+1.5
	0.8nm,0.3s,baz=40,slow=5.7,SNR=24						
BLA	Blacksburg	19.11	335	P	P	15 58 12.1	-0.1
LRAL	Lakeview Retre	19.57	314	P	P	15 58 17.1	-0.4
OTAV	Otavalo	21.29	203	*e*P	P	15 58 35.2	-0.3
	15nm,0.9s,mb4.3						
WVT	Waverly	22.06	320	*e*P	P	15 58 42.8	-0.2
	6.5nm,0.7s,mb4.2						
NATX	Nacogdoches	24.61	303	*e*P	P	15 59 07.9	-0.1
	15nm,0.5s,mb4.8						
SADO	Sadowa	25.60	346	LR	LR	16 09 27.7	
	comp=Z,109nm,18.8s,MS3.4,baz=222,slow=37						
WMOK	Wichita Mounta	28.94	306	*e*P	P	15 59 46.5	-1.3
	4.0nm,0.8s,mb4.2						
LTX	Lajitas	31.46	293	*e*P	P	16 00 09.4	-0.8
	6.2nm,0.8s,mb4.5						
TXAR	Lajitas Array	31.46	293	P	P	16 00 09.8	-0.3
	4.6nm,0.8s,mb4.4,baz=110,slow=11,SNR=33						
SCHQ	Schefferville	34.74	4	LR	LR	16 13 34.9	
	comp=Z,134nm,18.5s,MS3.7,baz=289,slow=34						
SDCO	Great Sand Dun	35.09	308	*e*P	P	16 00 41.4	-0.2
	3.6nm,1.0s,mb4.3						
LENM	Lemitar	35.19	301	*e*P	P	16 00 40.5	-2.0
ISCO	Idaho Springs	35.92	311	*e*P	P	16 00 49.0	+0.4
	12nm,1.3s,mb4.7						
ULM	Lac du Bonnet	36.18	332	LR	LR	16 15 20.5	
	comp=Z,113nm,18.1s,MS3.7,baz=286,slow=36						
LPAZ	La Paz	36.28	176	P	P	16 00 53.9	+2.1
	0.6nm,0.7s,mb3.6,baz=302,slow=0.9,SNR=2.9						
LPAZ				LR	LR	16 17 01.1	
	comp=Z,103nm,19.8s,MS3.6,baz=341,slow=38						
LPAZ	La Paz	36.28	176	P	P	16 00 53.9	+2.1
LPAZ				LR	LR	16 17 01.1	
TUC	Tucson	37.97	297	*e*P	P	16 01 06.3	+0.4
	1.8nm,0.6s,mb4.0						
PDAR	Pinedale Array	39.80	313	P	P	16 01 20.1	-1.0
	0.7nm,0.8s,mb3.4,baz=108,slow=9.4,SNR=5.9						
PDAR				PcP	PcP	16 03 26.6	-0.8
	0.4nm,0.8s,baz=108,slow=4.7,SNR=4.0						
DAU	Daniels Canyon	40.19	309	*e*P	P	16 01 25.1	+0.8
DAU				*e*		16 01 30.0	
DUG	Dugway	41.27	308	*e*P	P	16 01 33.5	+0.3
	7.8nm,1.3s,mb4.2						
DUG				*e*		16 01 40.4	
NEN	Nelson	41.82	301	*e*P	P	16 01 38.4	+0.6
BDFB	Brasilia	41.83	147	P	P	16 01 37.0	-1.1
	5.4nm,0.9s,mb4.2,baz=320,slow=12,SNR=4.0						
BDFB				LR	LR	16 17 30.1	
	comp=Z,85nm,19.4s,MS3.6,baz=307,slow=34						
LVC	Limon Verde	42.52	178	*e*P	P	16 01 39.3	-4.5
	3.2nm,0.9s,mb4.0						
TPNV	Topopah Spring	43.16	303	*e*P	P	16 01 49.4	+0.7
	2.2nm,0.8s,mb3.9						
ELK	Elko	43.20	309	*e*P	P	16 01 48.9	-0.1
	2.5nm,0.9s,mb3.9						
MNV	Mina	44.90	305	*e*P	P	16 02 03.2	+0.4
	4.8nm,0.9s,mb4.3						
OHCM	Honcut	47.61	305	P	P	16 02 23.8	-0.5
CPUP	Villa Florida	47.91	164	LR	LR	16 23 10.0	
	comp=Z,62nm,21.4s,MS3.6,baz=240,slow=37						
YKA	Yellowknife Ar	51.97	336	LR	LR	16 25 24.0	
	comp=Z,129nm,18.1s,MS4.0,baz=135,slow=36						
BBB	Bella Bella	54.62	320	LR	LR	16 27 02.6	
	comp=Z,85nm,19.3s,MS3.8,baz=229,slow=36						
ESDC	Sonseca Array	59.52	55	P	P	16 03 52.5	+0.6
	0.3nm,0.3s,mb3.9,baz=272,slow=7.1,SNR=4.5						
INK	Inuvik	61.58	338	LR	LR	16 30 25.4	
	comp=Z,104nm,21.9s,MS4.0,baz=2.2,slow=36						
ILAR	Eielson Array	66.20	333	P	P	16 04 34.5	-1.3
	1.3nm,0.7s,mb4.1,baz=95,slow=5.3,SNR=11						
KHC	Kasperske Hory	71.18	44	*e*P	P	16 05 08.5	+1.6
GERES	GERESS Array B	71.31	44	P	P	16 05 07.4	-0.3
	0.7nm,0.8s,mb3.6,baz=270,slow=4.0,SNR=5.2						
ARCES	ARCESS Array B	73.36	21	P	P	16 05 19.4	0.0
	2.3nm,0.8s,mb4.2,baz=297,slow=2.7,SNR=6.4						
USHA	Ushuaia	74.69	179	LR	LR	16 37 10.3	
	comp=Z,71nm,21.8s,MS3.9,baz=48,slow=35						
FINES	FINESS Array B	75.58	30	P	P	16 05 32.4	+0.2
	1.3nm,0.6s,mb4.0,baz=225,slow=5.4,SNR=4.1						
FINES				LR	LR	16 34 54.8	
	comp=Z,152nm,18.1s,MS4.3,baz=326,slow=33						
FINES	FINESS Array B	75.58	30	P	P	16 05 32.4	+0.2
FINES				LR	LR	16 34 54.8	
BRTR	Keskin Array B	87.60	48	P	P	16 06 37.7	+2.0
	2.6nm,1.0s,mb4.4,baz=288,slow=3.9,SNR=8.7						
STKA	Stephens Creek	149.06	241	PKPbc	PKPdf	16 13 35.2	-0.5
	2.5nm,0.9s,baz=227,slow=3.4,SNR=4.0						
ASAR	Alice Springs	157.16	257	PKP	PKPdf	16 13 43.3	-4.2
	0.6nm,1.0s,baz=142,slow=1.1,SNR=6.2						
ASAR				PKPab	PKPab	16 14 13.2	-2.1
	1.4nm,1.0s,baz=112,slow=3.9,SNR=5.8						

*DJA **27** 15:59:26.1±1.0,8.39S×109.63E,h240^{km},MD4.7/3,ML4.9/3,Error ellipse: s-maj=150.0km s-min=22.5km az=1.0*

*IDC **27** 16:00:12.3±20.0,5.08S×117.77E,mb3.5/3,mb1 3.7/3,mb1mx3.4/15,Error ellipse: s-maj=469.0km s-min=199.1km az=14.0*

ISC 27 15:59:29.1±2.5,**4.9S**±0.5×**111.2E**±0.4,**h10**^{km}**,n7,**σ**1**$\overset{s}{.}$**09**/10,**mb3.5**/3,**1C-6D,Java Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KELI	Kelakatan	4.65	136	⇑*e*Pn	Pn	16 00 41.1	0.0
	158nm,0.2s						
KELI				⇓*i*Sn	Sn	16 01 36.2	+0.4
RATI	Rata	5.74	132	⇓*i*Pn	Pn	16 00 54.3	-2.2
	159nm,0.2s						
RATI				⇓*i*Sn	Sn	16 01 59.3	-3.9
KEDI	Kedomdong	6.04	127	⇓*e*Pn	Pn	16 01 00.2	-0.5
	65nm,0.1s						
KEDI	Kedomdong	6.04	127	⇓*i*P	Pn	16 01 01.0	+0.3
KEDI				⇓*i*Sn	Sn	16 02 11.1	+0.4
WRA	Warramunga Arr	27.03	126	P	P	16 05 06.7	-6.9
	1.1nm,0.9s,mb3.4,baz=306,slow=11,SNR=8.3						
ASAR	Alice Springs	28.76	133	P	P	16 05 30.6	+1.3
	0.2nm,0.3s,mb3.3,baz=323,slow=8.8,SNR=23						
STKA	Stephens Creek	39.13	137	P	P	16 07 04.6	+5.9
	0.6nm,0.4s,mb3.7,baz=323,slow=8.8,SNR=5.1						

*IDC **27** 16:23:18.7±4.8,19.09S×69.51W,h97^{km}±39^{km},mb3.8/3,mb1 4.0/5,mb1mx3.8/14,Error ellipse: s-maj=46.3km s-min=24.2km az=57.0*

*NEIC **27** 16:23:20.2±0.9,19.03S×69.41W,h110^{km}±9^{km},mb4.0/2,Error ellipse: s-maj=17.3km s-min=10.1km az=66.0*

ISC 27 16:23:19.9±0.7,**18.97S**±0.05×**69.55W**±0.09,**h125**^{km}±9^{km}**,n15,**σ**0**$\overset{s}{.}$**88**/14,**mb4.1**/2,**1C,Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	La Paz	2.98	27	P	P	16 24 07.2	+0.2
	9.2nm,0.3s,baz=213,slow=8.0,SNR=159						
LPAZ				S	S	16 24 42.9	0.0
	2.2nm,0.3s,baz=136,slow=7.4,SNR=3.6						
ARE	Arequipa	3.10	323	⇑*i*P	P	16 24 08.9	+0.3
ARE				*i* S	S	16 24 45.0	-0.6
LVC	Limon Verde	3.68	171	*e*Pn	P	16 24 15.8	-0.4
LVC				*e*Sn	S	16 25 00.4	+1.1
SAML	Samuel	11.71	33	*e*Pn	P	16 25 57.2	-6.9
	1.3nm,0.6s						
CPUP	Villa Florida	13.45	125	P	P	16 26 22.5	-4.1
	0.3nm,0.3s,baz=320,slow=13,SNR=5.2						
CPUP	Villa Florida	13.45	125	*e*Pn	P	16 26 22.4	-4.2
TRQA	Tornquist	20.14	162	*e*P	P	16 27 44.3	-1.8
	7.7nm,0.6s						
BDFB	Brasilia	20.82	84	P	P	16 27 53.0	-0.2
	3.9nm,0.5s,baz=270,slow=11,SNR=6.1						
TXAR	Lajitas Array	58.22	325	P	P	16 33 03.7	+0.2
	0.2nm,0.3s,mb3.6,baz=140,slow=7.0,SNR=2.8						
TXAR	Lajitas Array	58.22	325	P	P	16 33 03.7	+0.2
YKA	Yellowknife Ar	88.61	341	P	P	16 36 00.8	+1.4
	2.9nm,0.5s,mb4.6,baz=132,slow=4.8,SNR=14						
ASAR	Alice Springs	131.85	209	PKP	PKPdf	16 42 21.1	+1.9
	0.3nm,0.6s,baz=132,slow=1.7,SNR=13						
WRA	Warramunga Arr	134.79	212	PKP	PKPdf	16 42 27.2	+2.5
	0.4nm,0.5s,baz=151,slow=1.7,SNR=10						
ZAL	Zalesovo	139.90	23	PKP	PKPdf	16 42 36.0	+2.9
	0.7nm,0.3s,baz=318,slow=3.5,SNR=3.2						
SONM	Songino Array	151.01	6	PKPbc	PKPdf	16 43 00.7	+8.8
	2.1nm,0.4s,baz=296,slow=1.3,SNR=25						
SONM				PKPab	PKPab	16 43 07.9	-0.2
	1.0nm,0.9s,baz=318,slow=4.0,SNR=3.7						

IDC 27 16:55:46.8±2.2,**6.07S**×**130.29E,mb3.5**/2,**mb1 4.0**/5,**mb1mx3.7**/13,**ML3.8**/3,**MS3.9**/1,**Ms1 3.9**/1,**ms1mx2.5**/19,**Error ellipse: s-maj=80.7km s-min=25.3km az=73.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	12.79	200	Pn	P	16 58 49.9	-2.8
	0.9nm,0.3s,baz=27,slow=10.0,SNR=29						
FITZ				Sn	S	17 01 02.7	-14
	0.8nm,0.3s,baz=191,slow=15,SNR=3.9						
WRA	Warramunga Arr	14.34	164	Pn	P	16 59 10.9	-2.4
	0.4nm,0.3s,baz=345,slow=14,SNR=12						
WRA				Sn	S	17 01 38.4	-16
	1.0nm,0.3s,baz=347,slow=22,SNR=9.5						
ASAR	Alice Springs	17.83	169	P	P	16 59 56.7	-1.4
	0.3nm,0.3s,baz=354,slow=11,SNR=30						
ASAR				S	S	17 03 04.0	-11
	0.2nm,0.3s,baz=353,slow=23,SNR=5.2						
CMAR	Chiang Mai Arr	39.37	309	P	P	17 03 19.1	-0.9
	0.4nm,0.7s,baz=138,slow=7.7,SNR=5.4						
ASAJ	Asahikawa	51.18	11	LR	LR	17 22 47.0	
	comp=Z,114nm,20.8s,baz=282,slow=32						
MKAR	Makanchi Array	67.62	326	P	P	17 06 44.9	-2.7
	0.3nm,0.3s,baz=115,slow=7.6,SNR=3.8						

MAN 27 16:59:05.9,12.90N×121.27E,h22^{km}**,mb4.5,ML3.3,MS3.2,Mindoro**

*NAO **27** 17:01:49.9±1.9,67.06N×20.83E,ML2.4*

*HEL **27** 17:01:50.4±0.1,67.08N×20.95E,ML2.1,ML2.7(UPP),ML2.2(BER),Explosion*

*IDC **27** 17:01:50.5±0.8,67.06N×21.00E,mb1 3.2/4,mb1mx3.1/20,ML2.8/4,Error ellipse: s-maj=15.6km s-min=6.3km az=113.0*

*BER **27** 17:01:52.4±3.7,67.06N×20.86E,ML1.9,ML2.4(NAO),Suspected explosion*

ISC 27 17:01:48.3±0.3,**67.02N**±0.02×**20.85E**±0.06,**n32,**σ**1**$\overset{s}{.}$**42**/53,**Sweden**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DUNU	Dundret	0.15	313	*i* P	Pg	17 01 52.9	+1.6
DUNU				*i* S	Sg	17 01 55.4	+2.2
MASU	Masugnsbyn	0.63	45	*i* P	Pg	17 02 00.4	-0.4
ERTU	Ertsjaerv	0.71	131	*i* P	Pg	17 02 02.8	+0.3
PAJU	Pajala	0.89	89	*i* P	Pg	17 02 05.4	-0.7
KUA	Kurravaara	0.96	348	*e*P	Pg	17 02 06.5	-0.9
NIKU	Nikkaluokta	1.10	321	*e*P	Pb	17 02 09.6	-0.3
SJUU	Sjulsmark	1.55	168	*e*P	Pn	17 02 18.9	+1.6
LILU	Lilltraesk	1.79	194	*e*P	Pn	17 02 23.0	+2.3
KIF	Kilpisjarvi	1.99	360	*e*P	Pn	17 02 25.1	+1.5
KIF				*e*S	Sn	17 02 50.5	+0.9
KTK1	Kautokeino	2.19	23	*e*P	Pn	17 02 28.4	+2.0
KTK1				*e*SG	Sg	17 02 57.0	-4.2
KTK1				AML	AML	17 02 58.5	
	comp=Z,19nm,0.2s						
SGF	Sodankyl	2.25	77	*e*P	Pn	17 02 28.4	+1.1
SGF				*e*S	Sn	17 02 56.5	+0.4
SGF				*e*SG	Sg	17 02 58.3	-4.9
SGF				MSG		17 02 59.1	
	comp=Z,9.7nm,0.2s						
BURU	Burvik	2.46	175	*e*P	Pn	17 02 32.6	+2.4
MOR8	Moi Rana	2.70	254	*e*SG	Sg	17 03 10.5	-7.5
MOR8				AML	AML	17 03 14.0	
	comp=Z,11nm,0.4s						
TRO	Tromso	2.72	346	*e*S	Sn	17 03 07.6	-0.5
MELS	Mels	2.81	270	*e*Sg	Sg	17 03 19.4	-2.4
OUL	Oulu	2.83	131	*e*P	Pn	17 02 37.6	+2.0
OUL				*e*S	Sn	17 03 13.2	+2.2
LOF	Lofoten	3.01	295	*e*	Sg	17 03 28.1	-0.5
LOF	Lofoten	3.01	295	*e*Sg	Sg	17 03 28.1	-0.5
ARA0	ARCESS Array S	3.06	32	Pn	Pn	17 02 38.6	-0.3
	baz=207,slow=14						
ARA0				Sn	Sn	17 03 15.9	-0.9
	baz=215,slow=22						
ARA0	ARCESS Array S	3.06	32	*e*P	Pn	17 02 38.6	-0.3
ARA0				*e*S	Sn	17 03 15.9	-0.9
ARCES	ARCESS Array B	3.06	32	Pn	Pn	17 02 38.5	-0.4
	comp=Z,1.6nm,0.3s,baz=210,slow=12,SNR=132						
ARCES				Sn	Sn	17 03 15.5	-1.3
	comp=Z,1.9nm,0.3s,baz=215,slow=22,SNR=11						
ARCES				Lg		17 03 26.6	
	comp=Z,1.9nm,0.3s,baz=213,slow=25,SNR=6.9						
MSF	Maaselka	3.47	105	*e*P	Pn	17 02 45.2	+0.5
MSF				*e*S	Sn	17 03 26.2	-0.9
KEV	Kevo	3.57	37	*e*P	Pn	17 02 45.0	-1.0
KEV				*e*S	Sn	17 03 26.9	-2.7
SUF	Sumiainen	4.88	150	*e*P	Pn	17 03 05.4	+0.8
SUF				*e*S	Sn	17 04 00.8	-1.9
KEF	Keuruu	5.17	159	*e*P	Pn	17 03 09.9	+1.1
KEF				*e*S	Sn	17 04 07.5	-2.6
FIA0	FINESS Array S	6.04	155	Pn	Pn	17 03 21.8	+0.7
	baz=348,slow=14						
FIA0				Sn	Sn	17 04 28.5	-3.5
	baz=344,slow=28						
FIA0				Lg		17 05 00.1	
	baz=340,slow=37						
FIA0	FINESS Array S	6.04	155	*e*P	Pn	17 03 21.8	+0.7
FIA0				*e*S	Sn	17 04 28.5	-3.5
FIA0				*e*SG	Sg	17 05 00.1	-9.5
FINES	FINESS Array B	6.04	155	Pn	Pn	17 03 21.7	+0.6
	comp=Z,0.2nm,0.3s,baz=348,slow=13,SNR=9.8						
FINES				Sn	Sn	17 04 30.1	-1.9
	comp=Z,0.4nm,0.3s,baz=343,slow=24,SNR=7.2						
FINES				Lg		17 05 01.6	
	comp=Z,0.4nm,0.3s,baz=340,slow=26,SNR=6.4						
NOA	NORSAR Array B	7.33	220	Pn	Pn	17 03 38.6	-0.8
	comp=Z,0.1nm,0.3s,baz=156,slow=10,SNR=2.3						
HFS	Hagfors	7.61	208	Pn	Pn	17 03 42.0	-1.2
	baz=8.6,slow=12						
HFS				Sn	Sn	17 05 07.3	-3.8
	baz=31,slow=28						
HFS				Lg		17 05 46.2	
	baz=12,slow=37						
HFS	Hagfors	7.61	208	*e*P	Pn	17 03 42.0	-1.2
HFS				*e*S	Sn	17 05 07.3	-3.8
HFS				*e*SG	Sg	17 05 46.2	-15
HFS	Hagfors	7.61	208	Pn	Pn	17 03 42.0	-1.2
	comp=Z,0.0nm,0.3s,baz=24,slow=12,SNR=9.3						
HFS				Sn	Sn	17 05 06.5	-4.6
	comp=Z,0.0nm,0.3s,baz=45,slow=28,SNR=2.9						
HFS				Lg		17 05 47.8	
	comp=Z,0.1nm,0.3s,baz=49,slow=31,SNR=3.3						

*NEIC **27** 17:05:38.0±1.5,29.77N×95.52E,h14^{km}±9^{km},mb5.3/70,Error ellipse: s-maj=4.1km s-min=2.9km az=205.0*

*LDG **27** 17:05:38.1±0.3,29.92N×95.00E,h10^{km},Mb5.3/39,Ms4.2/8,Error ellipse: s-maj=13.5km s-min=6.1km az=132.0*

*BJI **27** 17:05:38.8,29.84N×95.52E,h30^{km},mB5.2,mb5.2,ML4.9,Ms4.9,Msz4.7*

*HRVD **27** 17:05:38.0±0.4,29.78N×95.70E,h31^{km}±1^{km},MW5.0/48,Centroid moment Tensor Solution. LP body waves: s18,c21;Mantle waves: s48,c77; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.46±.24; $M_{\theta\theta}$-2.36±.16; $M_{\phi\phi}$3.81±.16; $M_{r\theta}$-0.13±.25; $M_{\theta\phi}$-1.06±.14; $M_{\phi r}$-0.48±.22; Best double couple: $M_0$3.3×10^{16} NP1:ϕ_s126°,δ79°,λ-176°. NP2:ϕ_s35°,δ86°,λ-11°. Principal axes: T 4.02, Plg5°, Azm81°; N -1.46, Plg78°, Azm194°; P -2.57, Plg11°, Azm350°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*MOS **27** 17:05:38.5±0.8,29.76N×95.59E,h33^{km},mb5.3/29,MS4.3/18 Error ellipse: s-maj=12.4km s-min=5.2km az=121.3*

*IDC **27** 17:05:39.4±2.7,29.74N×95.57E,h24^{km}±17^{km},mb4.7/24,mb1 4.8/27,mb1mx4.8/31,ML5.0/3,MS4.2/14,Ms1 4.3/14,ms1mx4.0/27,Error ellipse: s-maj=19.1km s-min=8.9km az=51.0*

ISC 27 17:05:36.3±0.9,**29.81N**±0.02×**95.55E**±0.02,**h14**^{km}±5^{km}**, h20**^{km}±2.5^{km}**:pP-P,n410,**σ**0**$\overset{s}{.}$**89**/430,**mb5.2**/137,**MS4.4**/35,**18C-103D,Eastern Xizang-India border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LSA	Lhasa	3.83	269	P	Pn	17 06 39.5	+3.4
LSA				S	Sn	17 07 26.8	+5.5
LSA				Smax			
	comp=N,2µm,0.9s						
LSA				Smax			
	comp=E,2µm,0.7s						
IMP	Imphal	5.21	196	*i* P	Pn	17 06 56.0	+0.2
IMP				*e*		17 08 02.0	
IMP				*i*		17 08 03.0	
SHL	Shillong	5.33	218	*e*P	Pn	17 06 59.0	+1.5
SHL				*e*SB	Sb	17 08 20.0	+6.5
AGT	Agartala	7.04	214	*i*	Pb	17 07 37.0	-1.2
AGT				*i*		17 08 14.0	
CD2	Chengdu	7.18	79	P	Pn	17 07 25.8	+2.3
KMI	Kunming	7.91	124	*e*P	Pn	17 07 35.0	+1.3
KMI				S	Sn	17 09 07.5	+3.6
KMI				LR	LR		
	comp=N,4µm,9.0s						
KMI				LR	LR		
	comp=E,5µm,9.7s						
KMI				LR	LR		
	comp=Z,6µm,11.7s						
PKI	Pulchoki	9.18	258	*e*P	P	17 07 49.4	-1.9
	comp=Z,336nm,0.6s						
PKI				*e*S	Sn	17 09 27.9	-7.5
KKN	Kakani	9.23	260	*e*P	P	17 07 49.4	-2.6
	comp=Z,146nm,0.4s						
LZH	Lanzhou	9.36	46	⇑P	P	17 07 55.5	+1.7
LZH				AP		17 07 59.0	
LZH				XP		17 08 01.5	
LZH				*e*S	Sn	17 09 41.5	+1.6
LZH				XS		17 09 46.3	
LZH				AMB	AMB		
	comp=Z,106nm,1.3s						
LZH				AMB	AMB		
	comp=Z,405nm,4.5s						
LZH				LR	LR		
	comp=N,11µm,9.5s						
LZH				LR	LR		
	comp=Z,13µm,12.0s						
DMN	Daman	9.43	259	*e*P	P	17 07 52.3	-2.4
	comp=Z,143nm,0.5s						
CAL	Calcutta	9.72	223	*e*P	P	17 07 58.0	-0.8
CAL				*e*		17 10 08.5	
GKN	Gorkha	9.73	262	*e*P	P	17 07 55.6	-3.4
	comp=Z,96nm,0.4s						
GKN				*e*S	Sn	17 09 40.4	-8.6
GTA	Gaotai	10.20	19	*e*P	P	17 08 04.8	-0.5
GTA				AP		17 08 11.5	
GTA				PP	PP	17 08 13.8	+0.5
GTA				XP		17 08 16.0	
GTA				S	S	17 10 00.0	-0.4
GTA				XS		17 10 08.5	
GTA				LG1		17 10 55.5	
GTA				LG2		17 11 10.8	
GTA				LR	LR		
	comp=N,1µm,11.8s						
GTA				LR	LR		
	comp=E,4µm,11.8s						
GTA				LR	LR		
	comp=Z,982nm,9.5s						
GYA	Guiyang	10.37	106	⇑*i*P	P	17 08 07.3	-0.4
GYA				AMB	AMB		
	comp=Z,180nm,1.0s						
GYA				AMB	AMB		
	comp=Z,460nm,4.5s						
GYA				LR	LR		
	comp=N,7µm,15.0s						
GYA				LR	LR		
	comp=E,3µm,12.9s						
GYA				LR	LR		
	comp=Z,4µm,9.6s						
KOLN	Koldanda	10.68	262	*e*P	P	17 08 08.2	-3.7
	comp=Z,254nm,0.7s						
KOLN				*e*S	S	17 10 02.3	-10
CHG	Chiang Mai	11.38	163	⇓P	P	17 08 23.3	+1.8
	comp=Z,48nm,0.9s						
CM31	Chiang Mai Arr	11.72	164	*e*Pn	P	17 08 25.7	-0.4
	comp=Z,36nm,0.9s						
CMAR	Chiang Mai Arr	11.72	164	Pn	P	17 08 25.9	-0.3
	comp=Z,0.4nm,0.3s,baz=337,slow=12,SNR=41						
CMAR				Lg		17 11 46.2	
	baz=352,slow=26,SNR=3.2						
NANT	Nan	11.93	156	P	P	17 08 30.0	+1.1
ENH	Enshi	12.09	84	*e*Pn	P	17 08 30.0	-1.1
	comp=Z,232nm,0.8s						
XAN	Xi’an	12.12	66	P	P	17 08 31.3	-0.2
XAN				AP		17 08 36.3	
XAN				AMB	AMB		
	comp=Z,27nm,0.9s						
XAN				LR	LR		
	comp=E,797nm,13.6s						
XAN				LR	LR		
	comp=Z,4µm,14.0s						
BDT	Bhumibol Dam	12.91	165	P	P	17 08 43.0	+0.9
JOSI	Joshimath	13.85	277	*e*P	P	17 08 50.3	-4.2
JOSI				*e*S	Px	17 11 09.7	
BLSP	Bilaspur	14.28	241	*e*P	P	17 08 57.2	-3.0
BLSP				*e*		17 11 32.5	
NST	Nakhon Sawan	14.69	162	P	P	17 09 09.0	+3.3
	comp=Z,58nm,1.0s						
KKTK	Khon Kaen	14.98	152	PN	P	17 09 05.0	-4.5
KKTK				SG	Px	17 09 22.5	
KLP	Kalpa	14.99	281	*e*P	P	17 09 07.0	-2.4
KLP				*e*		17 09 20.6	
	comp=Z,28nm,0.7s						
WMQ	Urumqi	15.32	338	*e*P	P	17 09 12.3	-1.4
WMQ				XP		17 09 25.0	
WMQ				LR	LR		
	comp=N,422nm,14.2s						
WMQ				LR	LR		
	comp=E,1µm,21.4s						
WMQ				LR	LR		
	comp=Z,677nm,20.0s						
BTO	Baotou	15.97	44	*e*P	P	17 09 26.0	+3.9
BTO				AMB	AMB		
	comp=Z,133nm,0.9s						
BTO				LR	LR		
	comp=N,7µm,13.3s						
BTO				LR	LR		
	comp=E,6µm,12.8s						
NDI	New Delhi	16.04	270	*e*P	P	17 09 19.5	-3.6
NDI				*e*S	S	17 12 05.0	-16
AYAN	Aya Nagar	16.15	270	*e*P	P	17 09 19.2	-5.3
AYAN				*e*		17 09 27.3	
	comp=Z,28nm,1.2s						
AYAN				*e*S	S	17 12 05.3	-18
SONA	Sohna	16.23	269	*e*P	P	17 09 20.6	-4.9
SONA				*e*		17 09 29.8	
	comp=Z,42nm,0.8s						
SONA				*e*S	S	17 12 09.1	-16
WHN	Wuhan	16.28	83	P	P	17 09 24.5	-1.6
WHN				LR	LR		
	comp=N,1µm,10.6s						
WHN				LR	LR		
	comp=E,4µm,10.3s						
WHN				LR	LR		
	comp=Z,5µm,12.4s						
VIS	Vishakhapatnam	16.41	226	*e*	P	17 09 31.0	+3.1
VIS				*e*		17 12 33.0	
BHK	Bhakra	16.55	280	*e*	P	17 09 34.8	+5.3
KUDL	Kundal	16.76	269	*e*P	P	17 09 28.6	-3.7
KUDL				*e*		17 09 35.5	
	comp=Z,16nm,1.3s						
KUDL				*e*S	S	17 12 19.6	-18
QIZ	Qiongzhong	16.86	126	P	P	17 09 33.0	-0.5
QIZ				*e*S	S	17 12 42.3	+2.8
QIZ				LR	LR		
	comp=N,4µm,12.5s						
QIZ				LR	LR		
	comp=E,3µm,13.0s						
QIZ				LR	LR		
	comp=Z,5µm,12.7s						
QIZ	Qiongzhong	16.86	126	*e*P	P	17 09 34.0	+0.6
	comp=Z,67nm,1.0s						
UBT	Ubonrachathani	16.92	147	P	P	17 09 26.0	-8.3
HHC	Hu-ho-hao-te	17.06	46	*e*P	P	17 09 35.3	-0.6
HHC				AP		17 09 40.0	
HHC				PP	PP	17 09 48.0	-2.3
HHC				LR	LR		
	comp=N,3µm,13.1s						
HHC				LR	LR		
	comp=E,2µm,14.9s						
HHC				LR	LR		
	comp=Z,1µm,10.1s						
NGP	Nagpur	17.20	244	*e*P	P	17 09 38.9	+1.2

NGP				*e*		17 12 52.5	
KHET	**Khetri**	**17.37**	**269**	*e*P	**P**	**17 09 35.7**	**-4.2**
KHET				*e*		17 09 43.9	
	comp=Z,50nm,1.4s						
KHET				*e*S	**S**	**17 12 35.5**	**-16**
BHPL	**Bhopal**	**17.48**	**252**	*e*P	**P**	**17 09 38.0**	**-3.2**
BHPL				*e*		17 09 45.3	
	comp=Z,165nm,1.2s						
BHPL				*e*S	**S**	**17 12 35.7**	**-18**
KGD	**Kothagudem**	**18.26**	**231**	*e*P	**P**	**17 09 52.1**	**+1.0**
KGD				*e*S	**S**	**17 13 02.1**	**-9.4**
KGD				*e*		17 13 20.7	
AJM	**Ajmer**	**18.73**	**265**	⇑*i*P	**P**	**17 09 54.0**	**-2.8**
KSH	**Kashi**	**18.75**	**306**	*e*P	**P**	**17 09 57.3**	**+0.3**
KSH				*e*AP		17 10 04.5	
KSH				*e*XP		17 10 09.0	
KSH				AMB	AMB		
	comp=Z,50nm,0.9s						
KSH				AMB	AMB		
	comp=Z,460nm,4.2s						
KSH				LR	LR		
	comp=N,1µm,8.7s						
KSH				LR	LR		
	comp=E,2µm,9.3s						
AKL	**Akola**	**19.04**	**246**	*i* P	**P**	**17 10 00.3**	**-0.2**
	comp=E,88nm,0.9s						
AKL				*i*		17 13 22.6	
TIA	**Tai'an**	**19.17**	**65**	*e*P	**P**	**17 10 01.5**	**-0.4**
TIA				AMB	AMB		
	comp=Z,74nm,1.4s						
BJT	**Baijiatuau**	**19.70**	**53**	*e*P	**P**	**17 10 07.7**	**-0.2**
	comp=Z,80nm,1.2s						
BJI	**Beijing**	**19.71**	**53**	P	**P**	**17 10 08.0**	**-0.1**
BJI				S	**S**	**17 13 40.5**	**-3.4**
BJI				AMB	AMB		
	comp=Z,59nm,1.2s						
BJI				LR	LR		
	comp=N,5µm,17.7s						
BJI				LR	LR		
	comp=E,3µm,15.7s						
BJI				LR	LR		
	comp=Z,898nm,18.9s						
BJI	**Beijing**	**19.71**	**53**	P	**P**	**17 10 07.9**	**-0.2**
	comp=Z,59nm,1.2s						
BJI				S	**S**	**17 13 40.4**	**-3.5**
HYB	**Hyderabad**	**19.84**	**235**	*i* P	**P**	**17 10 09.5**	**-0.2**
HYB				*e*S	**S**	**17 13 49.0**	**+2.2**
HYB	**Hyderabad**	**19.84**	**235**	*e*P	**P**	**17 10 09.5**	**-0.2**
HYB				*e*S	**S**	**17 13 49.0**	**+2.2**
MKAR	**Makanchi Array**	**19.84**	**332**	P	**P**	**17 10 09.1**	**-0.5**
	comp=Z,12nm,0.3s,baz=140,slow=13,SNR=274						
MKAR				ScP		17 18 01.1	
	comp=Z,0.1nm,0.3s,baz=124,slow=4.4,SNR=7.0						
MKAR				LR	LR	17 18 39.2	
	comp=Z,753nm,18.2s,baz=145,slow=39						
SONM	**Songino Array**	**19.84**	**22**	P	**P**	**17 10 09.0**	**-0.5**
	comp=Z,4.4nm,0.3s,baz=202,slow=9.9,SNR=142						
ULHL	**Ulahol**	**19.89**	**314**	P	**P**	**17 10 10.8**	**+0.7**
	SNR=8.1						
NJ2	**Nanjing**	**20.11**	**78**	*e*P	**P**	**17 10 11.0**	**-1.5**
NJ2				AP		17 10 20.0	
NJ2				XP		17 10 24.3	
NJ2				PP	PP	17 10 30.5	-1.7
NJ2				S	**S**	**17 13 52.0**	**-0.5**
NJ2				XS		17 14 04.0	
NJ2				AMB	AMB		
	comp=Z,70nm,0.7s						
NJ2				AMB	AMB		
	comp=Z,240nm,5.3s						
NJ2				LR	LR		
	comp=N,3µm,13.0s						
NJ2				LR	LR		
	comp=E,4µm,28.0s						
NJ2				LR	LR		
	comp=Z,2µm,14.6s,MS4.5						
KZA	**Kyzart**	**20.43**	**312**	P	**P**	**17 10 17.0**	**+1.3**
	SNR=99						
TKM2	**Tokmak 2**	**20.65**	**315**	P	**P**	**17 10 19.1**	**+1.0**
	SNR=60						
KBK	**Karagaybulak**	**20.92**	**313**	P	**P**	**17 10 22.4**	**+1.6**
	SNR=229						
UCH	**Uchtor**	**20.98**	**312**	P	**P**	**17 10 22.8**	**+1.4**
	SNR=114						
AAK	**Ala-Archa**	**21.19**	**313**	P	**P**	**17 10 25.2**	**+1.6**
	SNR=150						
FRU	**Bishkek**	**21.22**	**313**	⇓*i*P	**P**	**17 10 25.0**	**+1.2**
FRU				pmax	pmax		
	comp=Z,360nm,1.2s,mb5.6						
CHMS	**Chumysh**	**21.22**	**314**	P	**P**	**17 10 24.7**	**+0.9**
	SNR=5.2						
ZAK	**Zakamensk**	**21.36**	**14**	⇓*i*P	**P**	**17 10 25.8**	**+0.6**
AML	**Almayashu**	**21.47**	**311**	P	**P**	**17 10 27.8**	**+1.5**
	SNR=92						
USP	**Ospenovka**	**21.52**	**314**	P	**P**	**17 10 27.8**	**+1.0**
	SNR=6.8						
EKS2	**Erkin-Say**	**21.67**	**312**	P	**P**	**17 10 29.9**	**+1.6**
	SNR=145						
JASL	**Jaisalmer**	**21.87**	**268**	*e*P	**P**	**17 10 36.1**	**+5.6**
SSE	**Sheshan**	**22.13**	**80**	P	**P**	**17 10 33.0**	**-0.1**
SSE				XP		17 10 45.3	
SSE				S	**S**	**17 14 29.8**	**-1.6**
SSE				XS		17 14 45.8	
SSE				AMB	AMB		
	comp=Z,60nm,0.9s,mb5.0						
SSE				LR	LR		
	comp=N,669nm,17.3s,MS4.1						
SSE				LR	LR		
	comp=E,130nm,17.3s,MS4.1						
SSE				LR	LR		
	comp=Z,784nm,14.5s,MS4.3						
SSE	**Sheshan**	**22.13**	**80**	P	**P**	**17 10 33.1**	**0.0**
	comp=Z,60nm,0.9s,mb5.0						
SSE				sP		17 10 45.3	
SSE				S	**S**	**17 14 29.7**	**-1.7**
SSE				sS		17 14 45.8	
SSE				LR	LR		
	comp=Z,780nm,14.5s,MS4.3						
POO	**Poona**	**22.72**	**245**	*e*	**P**	**17 10 42.0**	**+2.9**
POO				*i* S	**S**	**17 14 43.0**	**+0.7**
KAD	**Karad**	**23.16**	**242**	*e*	**P**	**17 10 45.3**	**+2.0**
KAD				*e*		17 15 03.3	
DL2	**Dalian**	**23.30**	**60**	P	**P**	**17 10 45.0**	**+0.5**
DL2				S	**S**	**17 14 59.5**	**+7.1**
DL2				AMB	AMB		
	comp=Z,100nm,0.9s,mb5.2						
DL2				LR	LR		
	comp=N,520nm,18.9s,MS4.1						
DL2				LR	LR		
	comp=E,390nm,16.2s,MS4.1						
DL2				LR	LR		
	comp=Z,340nm,12.9s,MS4.0						
IRK	**Irkutsk**	**23.32**	**14**	*e*P	**P**	**17 10 46.6**	**+2.0**
IRK				*e*		17 10 53.8	
BOM	**Bombay**	**23.35**	**247**	*e*	**P**	**17 10 45.2**	**0.0**
BOM				*i*		17 10 47.0	
BOM				*e*		17 10 58.3	
BOM				*e*		17 17 35.5	
KURK	**Kurchatov**	**24.44**	**333**	P	**P**	**17 10 56.3**	**+0.8**
KURK				pmax	pmax		
	comp=Z,53nm,0.7s,mb5.1						
ZAL	**Zalesovo**	**25.34**	**345**	P	**P**	**17 11 05.0**	**+0.9**
	comp=Z,26nm,0.5s,mb5.0,baz=218,slow=7.7,SNR=96						
ZAL				LR	LR	17 22 06.0	
	comp=Z,346nm,18.2s,MS3.9,baz=178,slow=39						
ZAL	**Zalesovo**	**25.34**	**345**	P	**P**	**17 11 05.0**	**+1.0**
ZAL				pmax	pmax		
	comp=Z,26nm,0.5s						
ZAL				MLR	MLR		
	comp=Z,346nm,18.2s						
ZAL	**Zalesovo**	**25.34**	**345**	P	**P**	**17 11 05.0**	**+0.9**
ZAL				LR	LR	17 22 06.0	
SNY	**Shenyang**	**25.58**	**54**	⇑P	**P**	**17 11 06.3**	**-0.1**
SNY				AP	pP	17 11 18.0	+7.4
SNY				S	**S**	**17 15 38.8**	**+7.6**
SNY				AMB	AMB		
	comp=Z,40nm,1.1s,mb4.9						
SNY				LR	LR		
	comp=N,2µm,14.4s,MS4.8						
SNY				LR	LR		
	comp=E,810nm,17.2s,MS4.8						
SNY				LR	LR		
	comp=Z,630nm,16.6s,MS4.2						
NVS	**Novosibirsk**	**26.54**	**344**	*i* P	**P**	**17 11 14.4**	**-0.7**
NVS				*i* S	**S**	**17 15 55.2**	**+8.3**
NVS				pmax	pmax		
	comp=N,68nm,1.1s						
NVS				pmax	pmax		
	comp=E,46nm,1.1s						
NVS				pmax	pmax		
	comp=Z,112nm,1.1s,mb5.3						
NVS				smax			
	comp=N,35nm,2.0s						
NVS				smax			
	comp=E,57nm,2.0s						
HIA	**Hailar**	**26.74**	**37**	*e*P	**P**	**17 11 17.8**	**+0.7**
	comp=E,36nm,1.4s,mb4.7						
HIA				LR	LR		
	comp=Z,558nm,21.0s,MS4.1						
INCN	**Inchon**	**26.90**	**65**	*e*P	**P**	**17 11 17.6**	**-1.0**
	comp=Z,53nm,1.1s,mb5.0						
INCN				LR	LR		
	comp=Z,457nm,21.0s,MS4.0						
CN2	**Changchun**	**27.54**	**51**	*e*P	**P**	**17 11 25.0**	**+0.6**
CN2				*e*AP	pP	17 11 33.0	+4.4
CN2				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.8						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,3µm,11.0s,MS5.2						
CN2				LR	LR		
	comp=E,1µm,11.0s,MS5.2						
CN2				LR	LR		
	comp=Z,1µm,12.0s,MS4.7						
TGY	**Tagaytay City**	**28.17**	**118**	LR	LR	17 22 17.2	
	comp=Z,556nm,18.5s,MS4.2,baz=309,slow=36						
VOSK	**Vostochnaya**	**29.14**	**329**	P	**P**	**17 11 38.8**	**0.0**
VOSK				pmax	pmax		
	comp=Z,24nm,1.1s,mb4.8						
BVAR	**Borovoye Array**	**29.61**	**329**	P	**P**	**17 11 43.2**	**+0.2**
	comp=Z,14nm,0.7s,mb4.8,baz=130,slow=12,SNR=80						
BVAR				PcP	PcP	17 14 48.1	+0.3
	comp=Z,5.1nm,0.7s,baz=135,slow=4.1,SNR=3.9						
BRVK	**Borovoye**	**29.68**	**329**	P	**P**	**17 11 43.8**	**+0.1**
BRVK				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.6						
ZRNK	**Zerenda**	**30.20**	**327**	P	**P**	**17 11 48.0**	**-0.3**
ZRNK				pmax	pmax		
	comp=Z,34nm,1.3s,mb4.9						
ZRNK	**Zerenda**	**30.20**	**327**	*e*P	**P**	**17 11 48.0**	**-0.3**
	comp=Z,5.0nm,0.5s,mb4.5						
KKM	**Kota Kinabalu**	**30.64**	**136**	⇓*e*P	**P**	**17 11 52.1**	**-0.4**
BOD	**Bodaibo**	**30.79**	**19**	*e*P	**P**	**17 11 53.2**	**-0.2**
BOD				*e*	pP	17 11 58.8	+1.2
KLR	**Kul'dur**	**33.56**	**44**	*e*P	**P**	**17 12 13.5**	**-4.2**
KLR				MLR	MLR		
	comp=N,2µm,11.0s,MS5.2						
KLR				MLR	MLR		
	comp=E,1µm,11.0s,MS5.2						
KLR				MLR	MLR		
	comp=E,800nm,11.0s						
KLR				MLR	MLR		
	comp=Z,1µm,11.0s,MS4.9						
CLNS	**Chul'man**	**33.94**	**29**	*e*P	**P**	**17 12 20.2**	**-0.7**
CLNS				*e**PP	pP	17 12 26.9	+1.7
CLNS				*e*PPP	Px	17 13 30.4	
CLNS				pmax	pmax		
	comp=N,7.0nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.8						
CLNS				pmax	pmax		
	comp=E,4.0nm,0.8s						
CLNS				pmax	pmax		
	comp=N,7.0nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
CLNS				pmax	pmax		
	comp=E,7.0nm,0.9s						
CLNS				MLR	MLR		
	comp=Z,400nm,13.0s,MS4.3						
CLNS				MLR	MLR		
	comp=N,400nm,12.0s,MS4.4						
CLNS				MLR	MLR		
	comp=E,100nm,13.0s,MS4.4						
SVE	**Sverdlovsk**	**36.39**	**328**	⇓*i*P	**P**	**17 12 42.3**	**+0.5**
SVE				*e*		17 14 13.7	
SVE				pmax	pmax		
	comp=Z,100nm,2.2s,mb5.4						
SVE				MLR	MLR		
	comp=N,400nm,13.0s,MS4.6						
SVE				MLR	MLR		
	comp=E,500nm,13.0s,MS4.6						
SVE				MLR	MLR		
	comp=Z,700nm,13.0s,MS4.6						
ARU	**Arti**	**37.16**	**326**	⇓*i*P	**P**	**17 12 48.5**	**+0.2**
ARU				*i*		17 14 13.0	
ARU				*e*PPP	PPP	17 14 29.9	-5.7
ARU				*e*		17 15 09.0	
ARU				*e*S	**S**	**17 18 32.5**	**-1.2**
ARU				*e*SS	SS	17 21 10.2	+6.0
ARU				*e*		17 23 03.4	
ARU				pmax	pmax		
	comp=Z,25nm,0.7s,mb5.2						
ARU				MLR	MLR		
	comp=Z,400nm,17.0s,MS4.3						
ARU				MLR	MLR		
	comp=N,80nm,16.0s,MS4.0						
ARU				MLR	MLR		
	comp=E,200nm,16.0s,MS4.0						
YAK	**Yakutsk**	**39.16**	**25**	*e*P	**P**	**17 13 05.2**	**+0.2**
YAK				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.7						
YAK				pmax	pmax		
	comp=N,4.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.0s						
YAK	**Yakutsk**	**39.16**	**25**	*e*P	**P**	**17 13 05.0**	**+0.1**
	comp=E,34nm,0.6s,mb5.2						
YAK				LR	LR		
	comp=Z,329nm,20.0s,MS4.2						
ASAJ	**Asahikawa**	**39.68**	**56**	P	**P**	**17 13 10.2**	**+0.7**
	comp=Z,20nm,0.8s,mb4.9,baz=259,slow=13,SNR=8.8						
ASAJ	**Asahikawa**	**39.68**	**56**	P	**P**	**17 13 10.2**	**+0.7**
ASAJ				pmax	pmax		
	comp=Z,20nm,0.8s						
YSS	**Yuzh-Sakhalins**	**40.11**	**51**	⇓*i*P	**P**	**17 13 13.0**	**0.0**
YSS				*e*	pP	17 13 18.7	+1.4
YSS				*e*		17 15 20.0	
YSS				*e*S	**S**	**17 19 18.0**	**-0.5**
YSS				pmax	pmax		
	comp=Z,40nm,1.2s,mb5.0						
YSS				MLR	MLR		
	comp=Z,600nm,15.0s,MS4.6						
YSS	**Yuzh-Sakhalins**	**40.11**	**51**	*e*P	**P**	**17 13 13.6**	**+0.6**
	comp=Z,32nm,1.0s,mb5.0						
YSS				LR	LR		
	comp=Z,333nm,19.0s,MS4.2						
UMR	**Umm Al-Rimmam**	**41.32**	**282**	*e*P	**P**	**17 13 23.2**	**+0.1**
UMR				AMb	AMB	17 13 28.7	
	comp=Z,53nm,0.9s,mb5.2						
KBD	**Kabd**	**41.42**	**281**	*e*P	**P**	**17 13 24.8**	**+0.8**
MIB	**Mutribah**	**41.58**	**282**	*e*P	**P**	**17 13 26.0**	**+0.7**
MIB				AMb	AMB	17 13 31.7	
	comp=Z,78nm,0.9s,mb5.3						
RDF	**Al-Radifah**	**41.60**	**281**	*e*P	**P**	**17 13 25.9**	**+0.5**
RDF				AMb	AMB	17 13 31.4	
	comp=Z,77nm,1.0s,mb5.3						
RST	**Umm Al-Ruwaisa**	**41.94**	**282**	*e*P	**P**	**17 13 27.4**	**-0.8**
RST				AMb	AMB	17 13 33.1	
	comp=Z,61nm,0.9s,mb5.2						
GNI	**Garni**	**42.38**	**298**	P	**P**	**17 13 33.6**	**+1.8**
	comp=Z,7.0nm,0.8s,mb4.3,baz=18,slow=23,SNR=5.8						
GNI	**Garni**	**42.38**	**298**	*d* *i*P	**P**	**17 13 33.2**	**+1.5**
GNI				pmax	pmax		
	comp=Z,32nm,1.0s						
ZEI	**Tsey**	**42.97**	**302**	*e*P	**P**	**17 13 37.0**	**+0.5**
ZEI				*e*S	**S**	**17 19 54.0**	**-6.8**
ZEI				MLR	MLR		
	comp=Z,300nm,20.0s,MS4.2						
GOF	**Gofitskoye**	**43.63**	**305**	⇑*i*P	**P**	**17 13 43.0**	**+1.2**
GOF				pmax	pmax		
	comp=Z,70nm,1.5s,mb5.2						
KIV	**Kislovodsk**	**43.85**	**304**	*e*P	**P**	**17 13 44.4**	**+0.7**
KIV				pmax	pmax		
	comp=Z,24nm,1.0s,mb4.9						
KIV				pmax	pmax		
	comp=N,5.0nm,0.8s						
KIV				MLR	MLR		
	comp=Z,188nm,20.0s,MS4.0						
ERZM	**Erzurum**	**44.98**	**298**	P	**P**	**17 13 54.6**	**+1.8**
BEST	**Besiri**	**45.25**	**295**	P	**P**	**17 13 55.3**	**+0.3**
TIXI	**Tiksi**	**45.63**	**14**	*e*P	**P**	**17 13 56.3**	**-1.3**
TIXI				*e*		17 14 05.4	
TIXI				*e*S	**S**	**17 20 37.3**	**-1.7**
TIXI				pmax	pmax		
	comp=Z,25nm,1.7s,mb4.9						
TIXI				MLR	MLR		
	comp=Z,300nm,17.0s,MS4.3						
SOC	**Sochi**	**46.01**	**303**	*e*P	**P**	**17 14 00.8**	**-0.1**
SOC				*e*PPP	PPP	17 16 31.1	-1.6
SOC				*e*S	**S**	**17 20 42.3**	**-2.4**
SOC				*e*SS	SS	17 23 47.0	-15
SOC				pmax	pmax		
	comp=Z,23nm,0.7s,mb5.2						
SOC				pmax	pmax		
	comp=N,10.0nm,1.1s						
SOC				pmax	pmax		
	comp=E,4.0nm,0.5s						
SOC				MLR	MLR		
	comp=Z,311nm,21.0s,MS4.2						
SOC				MLR	MLR		
	comp=N,426nm,19.0s,MS4.5						
SOC				MLR	MLR		
	comp=E,285nm,20.0s,MS4.5						
ARSS	**Ar Rass**	**46.10**	**278**	P	**P**	**17 14 01.3**	**-0.6**
KELT	**Kelkit**	**46.58**	**299**	P	**P**	**17 14 07.2**	**+1.7**
VOR	**Voronezh**	**46.62**	**315**	*e*P	**P**	**17 14 05.0**	**-0.6**
VOR				pmax	pmax		
	comp=Z,110nm,1.0s,mb5.7						
HILS	**Ha'il**	**46.91**	**281**	P	**P**	**17 14 08.2**	**0.0**
ELZG	**Elazig**	**46.97**	**296**	P	**P**	**17 14 06.1**	**-2.4**
ANN	**Anapa**	**47.61**	**305**	*d* *i*P	**P**	**17 14 12.6**	**-0.9**
ANN				*e*		17 15 45.6	
ANN				*e*S	**S**	**17 21 07.5**	**+0.1**
ANN				pmax	pmax		
	comp=Z,20nm,0.6s,mb5.3						
ANN				MLR	MLR		
	comp=Z,380nm,17.0s,MS4.4						
ANN				MLR	MLR		
	comp=N,720nm,21.0s						
ANN				MLR	MLR		
	comp=E,100nm,13.0s						
MOS	**Moscow**	**48.01**	**320**	*e*P	**P**	**17 14 16.8**	**+0.3**
MOS				*e*		17 14 25.6	
MOS				*e*		17 16 08.2	
MOS				pmax	pmax		
	comp=Z,53nm,0.9s,mb5.6						
GZT	**Gaziantep**	**48.24**	**295**	P	**P**	**17 14 19.0**	**+0.5**
OBN	**Obninsk**	**48.53**	**319**	*e*P	**P**	**17 14 20.4**	**-0.1**
OBN				*i*		17 14 31.1	
OBN				*e*		17 16 14.0	
OBN				*e*S	**S**	**17 21 19.6**	**-0.7**
OBN				pmax	pmax		
	comp=Z,38nm,1.6s,mb5.2						
OBN				MLR	MLR		
	comp=Z,300nm,17.0s,MS4.3						
KAHT	**Ahir Dag**	**48.74**	**296**	P	**P**	**17 14 23.2**	**+0.8**
COBT	**Iskenderun**	**49.41**	**294**	P	**P**	**17 14 27.9**	**+0.2**
BLJS	**Baljurashi**	**49.57**	**271**	P	**P**	**17 14 30.6**	**+1.6**
BOYT	**Boyabat**	**49.73**	**301**	P	**P**	**17 14 30.2**	**+0.3**
CTKT	**Corum**	**49.91**	**300**	P	**P**	**17 14 31.6**	**+0.2**
SIM	**Simferopol'**	**49.95**	**305**	*e*P	**P**	**17 14 32.6**	**+1.0**
SIM				*e*S	**S**	**17 21 41.4**	**+1.1**
SIM				pmax	pmax		
	comp=Z,19nm,0.6s,mb5.3						
AVNT	**Avonos**	**50.13**	**297**	P	**P**	**17 14 33.2**	**+0.1**
FRSS	**Farasan al Kab**	**50.38**	**268**	P	**P**	**17 14 37.9**	**+2.6**
BALT	**Daday**	**50.84**	**301**	P	**P**	**17 14 38.7**	**+0.2**
BRTR	**Keskin Array B**	**50.91**	**299**	P	**P**	**17 14 38.7**	**-0.3**
	comp=Z,3.4nm,0.7s,mb4.4,baz=112,slow=6.7,SNR=20						
BRTR				LR	LR	17 40 58.4	
	comp=Z,81nm,18.4s,MS3.8,baz=25,slow=42						
BRTR	**Keskin Array B**	**50.91**	**299**	P	**P**	**17 14 38.7**	**-0.3**
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BRTR				MLR	MLR		
	comp=Z,81nm,18.4s						
ELDT	**Eldivan**	**50.96**	**300**	P	**P**	**17 14 39.6**	**+0.2**
MEST	**Erdemli**	**51.07**	**295**	P	**P**	**17 14 39.7**	**-0.5**
YNBS	**Yanbu' al Bahr**	**51.09**	**278**	P	**P**	**17 14 40.8**	**+0.2**
TBKS	**Tabuk**	**51.12**	**284**	P	**P**	**17 14 40.9**	**+0.1**
UMJS	**Umm Lajj**	**51.39**	**280**	P	**P**	**17 14 43.6**	**+0.8**
SGKT	**Sivrigoynuk**	**51.98**	**300**	P	**P**	**17 14 47.1**	**0.0**
HAQS	**Haql**	**52.24**	**285**	P	**P**	**17 14 48.6**	**-0.6**
BDAS	**Al Bad'**	**52.28**	**284**	P	**P**	**17 14 48.8**	**-0.7**
TAYS	**Tayyib Ism**	**52.44**	**285**	P	**P**	**17 14 49.7**	**-1.0**
HENT	**Hendek**	**52.80**	**301**	P	**P**	**17 14 52.5**	**-0.8**
AKASG	**Malin Array Be**	**52.87**	**313**	P	**P**	**17 14 52.0**	**-1.6**
	comp=Z,15nm,0.5s,mb5.2,baz=76,slow=6.8,SNR=76						
AKASG				S	**S**	**17 22 21.0**	**+0.8**
	comp=Z,1.5nm,0.7s,baz=105,slow=22,SNR=5.1						
AKASG	**Malin Array Be**	**52.87**	**313**	P	**P**	**17 14 52.0**	**-1.6**
AKASG				S	**S**	**17 22 21.0**	**+0.8**
AKASG				pmax	pmax		
	comp=Z,15nm,0.5s						
AKASG				smax			
	comp=N,2.0nm,0.7s						
ESKT	**Eskisehir**	**53.07**	**299**	*e*P	**P**	**17 15 00.1**	**+4.9**
ULDT	**Uludag**	**54.25**	**300**	P	**P**	**17 15 01.1**	**-2.8**
KAF	**Kangasniemi**	**54.45**	**327**	*e*p	**P**	**17 15 08.3**	**+3.2**
FINES	**FINESS Array B**	**54.53**	**326**	P	**P**	**17 15 05.5**	**-0.1**
	comp=N,3.6nm,0.6s,mb4.6,baz=86,slow=8.1,SNR=26						
FINES	**FINESS Array B**	**54.53**	**326**	P	**P**	**17 15 05.5**	**-0.2**
FINES				pmax	pmax		
	comp=Z,4.0nm,0.6s						
KEV	**Kevo**	**54.94**	**337**	*e*p	**P**	**17 15 08.4**	**-0.2**
VRI	**Vrincioaia**	**55.02**	**307**	⇑*i*P	**P**	**17 15 10.2**	**+0.7**
KAKA	**Kakadu**	**55.21**	**135**	*e*P	**P**	**17 15 14.1**	**+2.8**
	comp=Z,14nm,1.0s,mb4.9						
ISR	**Istrita**	**55.26**	**306**	⇓*i*P	**P**	**17 15 12.4**	**+1.1**
ARCES	**ARCESS Array B**	**55.43**	**336**	P	**P**	**17 15 12.2**	**0.0**
	comp=Z,3.6nm,0.7s,mb4.5,baz=81,slow=8.2,SNR=18						
ARCES				LR	LR	17 41 41.5	
	comp=Z,403nm,18.2s,MS4.5,baz=275,slow=39						
ARCES	**ARCESS Array B**	**55.43**	**336**	P	**P**	**17 15 12.2**	**0.0**
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ARCES				MLR	MLR		
	comp=Z,403nm,18.2s						
MLR	**Muntele Rosu**	**55.62**	**307**	P	**P**	**17 15 14.3**	**+0.5**
	comp=Z,28nm,0.9s,mb5.3,baz=155,slow=1.3,SNR=50						
MLR	**Muntele Rosu**	**55.62**	**307**	P	**P**	**17 15 14.3**	**+0.4**
MLR				pmax	pmax		
	comp=Z,28nm,0.9s						
FITZ	**Fitzroy Crossi**	**55.77**	**145**	⇑*i*P	**P**	**17 15 14.0**	**-1.3**
	comp=Z,7.2nm,0.7s,mb4.8						
FITZ	**Fitzroy Crossi**	**55.77**	**145**	P	**P**	**17 15 14.1**	**-1.2**
	comp=Z,9.2nm,0.7s,mb4.9,baz=352,slow=5.5,SNR=28						
LVV	**L'vov**	**56.27**	**312**	*c* *i*P	**P**	**17 15 17.4**	**-1.0**
SUW	**Suwalki**	**56.31**	**317**	*e*P	**P**	**17 15 18.1**	**-0.6**
KWP	**Kalwaria**	**57.14**	**312**	*e*P	**P**	**17 15 24.6**	**-0.1**
KWP				MLR	MLR		
	comp=Z,500nm,22.5s,MS4.6						
KOLS	**Kolonicke sedl**	**57.53**	**312**	*i* P	**P**	**17 15 27.3**	**-0.2**
CRVS	**Cervenica-Dubn**	**58.07**	**312**	*e*P	**P**	**17 15 32.5**	**+1.3**
KECS	**Kecovo**	**58.78**	**311**	*e*P	**P**	**17 15 35.5**	**-0.7**
OJC	**Ojcow**	**58.90**	**313**	*e*P	**P**	**17 15 36.8**	**-0.2**
PSZ	**Piszkesteto**	**59.28**	**311**	⇑*i*P	**P**	**17 15 39.8**	**+0.2**
GRUS	**Gruza**	**59.59**	**306**	⇓*i*P	**P**	**17 15 41.5**	**-0.4**
VYHS	**Vyhne**	**59.85**	**312**	*e*P	**P**	**17 15 43.5**	**-0.1**
GKP	**Gorka Klasztor**	**59.92**	**317**	*e*P	**P**	**17 15 43.6**	**-0.4**
OKC	**Ostrava-Krasne**	**60.02**	**313**	*e*P	**P**	**17 15 44.9**	**+0.2**
MORC	**Moravsky Berou**	**60.41**	**313**	*e*P	**P**	**17 15 47.3**	**-0.1**
	comp=Z,10nm,0.6s,mb5.0						
PKSM	**Moragy**	**60.48**	**309**	⇓*e*P	**P**	**17 15 47.1**	**-0.8**
RHK1	**Bakonya**	**60.90**	**309**	⇑*i*P	**P**	**17 15 50.1**	**-0.6**
KSP	**Ksiaz**	**60.97**	**315**	*e*P	**P**	**17 15 51.2**	**0.0**
KSP				*e**PP	pP	17 15 59.4	+3.8
ZST	**Bratislava**	**61.05**	**311**	*i* P	**P**	**17 15 51.6**	**-0.1**
DPC	**Dobruska-Polom**	**61.06**	**314**	*e*P	**P**	**17 15 52.2**	**+0.4**
VRAC	**Vranov**	**61.12**	**313**	P	**P**	**17 15 52.6**	**+0.4**
	comp=Z,17nm,0.7s,mb5.3,baz=71,slow=8.0,SNR=20						
UPC	**Upice**	**61.22**	**314**	⇓*e*P	**P**	**17 15 53.0**	**+0.2**
NB2	**NORSAR Subarra**	**61.71**	**327**	P	**P**	**17 15 55.0**	**-1.1**
	comp=Z,18nm,0.8s,mb5.2,baz=80,slow=6.5						
NB2	**NORSAR Subarra**	**61.71**	**327**	P	**P**	**17 15 55.0**	**-1.1**
	baz=80,slow=6.9						
NB2	**NORSAR Subarra**	**61.71**	**327**	P	**P**	**17 15 55.0**	**-1.1**
	comp=Z,18nm,0.8s,mb5.2						
NOA	**NORSAR Array B**	**61.71**	**327**	P	**P**	**17 15 55.3**	**-0.7**
	comp=Z,14nm,0.7s,mb5.2,baz=80,slow=6.7,SNR=36						
NOA				LR	LR	17 43 57.5	
	comp=Z,242nm,18.3s,MS4.4,baz=75,slow=37						
NOA	**NORSAR Array B**	**61.71**	**327**	P	**P**	**17 15 55.3**	**-0.8**
NOA				pmax	pmax		

	comp=Z,14nm,0.7s						
NOA				MLR	MLR		
	comp=Z,242nm,18.3s						
WRA	Warramunga Arr	61.99	138	P	P	17 15 57.8	-0.8
	comp=Z,15nm,0.8s,mb5.2,baz=325,slow=7.4,SNR=135						
WRA	Warramunga Arr	61.99	138	P	P	17 15 57.8	-0.7
WRA				pmax	pmax		
	comp=Z,15nm,0.8s						
WB2	Warramunga Arr	62.00	138	eP	P	17 15 57.6	-1.0
PVCC	Panska Ves	62.11	315	⇓eP	P	17 15 59.1	+0.2
PRU	Pruhonice	62.26	314	⇓iP	P	17 15 59.9	0.0
	comp=Z,31nm,1.0s,mb5.4						
PRU				i pP	pP	17 16 04.0	-0.3
PRU	Pruhonice	62.26	314	⇓iP	P	17 15 59.9	0.0
PRU				pmax	pmax		
	comp=Z,31nm,1.0s,mb5.4						
ARSA	Arzberg	62.31	311	⇓iP	P	17 15 59.9	-0.4
	comp=Z,13nm,1.1s,mb5.0						
BRG	Berggiesshubel	62.41	315	i P	P	17 16 00.9	0.0
BRG				pmax	pmax		
	comp=Z,24nm,0.6s,mb5.5						
BRG				MLR	MLR		
	comp=N,380nm,20.6s						
BRG				MLR	MLR		
	comp=E,350nm,29.6s						
BRG				MLR	MLR		
	comp=Z,610nm,24.8s,MS4.7						
BRG	Berggiesshubel	62.41	315	i P	P	17 16 00.9	0.0
	comp=Z,24nm,0.6s,mb5.5						
BRG				LR	LR		
	comp=Z,610nm,24.8s,MS4.7						
GROS	Grobnik	62.53	310	i P	P	17 16 01.4	-0.3
CLL	Collm	62.88	316	⇓P	P	17 16 03.2	-0.8
	comp=Z,logA/T=1.2,mb5.1						
CLL	Collm	62.88	316	⇓iP	P	17 16 03.2	-0.8
CLL				pmax	pmax		
	comp=Z,15nm,0.9s,mb5.1						
CLL	Collm	62.88	316	⇓iP	P	17 16 03.2	-0.8
	comp=Z,15nm,0.9s,mb5.1						
MOA	Molln	62.98	312	⇑iP	P	17 16 04.5	-0.1
	comp=Z,32nm,1.1s,mb5.4						
GERES	GERESS Array B	63.08	313	P	P	17 16 05.6	+0.3
	comp=Z,18nm,0.5s,mb5.5,baz=67,slow=5.8,SNR=132						
GERES	GERESS Array B	63.08	313	P	P	17 16 05.6	+0.3
GERES				pmax	pmax		
	comp=Z,19nm,0.5s						
KHC	Kasperske Hory	63.08	313	eP	P	17 16 05.2	-0.1
KHC				epP	pP	17 16 09.0	-0.8
PMG	Port Moresby	63.11	120	P	P	17 16 03.7	-2.3
	comp=Z,14nm,0.8s,mb5.2,baz=122,slow=16,SNR=4.1						
PMG				LR	LR	17 43 13.4	
	comp=Z,127nm,21.9s,MS4.0,baz=219,slow=36						
PMG	Port Moresby	63.11	120	P	P	17 16 03.7	-2.3
PMG				pmax	pmax		
	comp=Z,14nm,0.8s						
PMG				MLR	MLR		
	comp=Z,127nm,21.9s						
OBKA	Obir	63.15	310	⇓iP	P	17 16 05.5	-0.3
	comp=Z,33nm,1.4s,mb5.3						
VISS	Visnje	63.15	309	i P	P	17 16 05.7	-0.1
KMBO	Kilima Mbogo	63.45	252	P	P	17 16 07.8	-0.5
	comp=Z,1.4nm,0.6s,mb4.3,baz=60,slow=21,SNR=6.4						
NKC	Novy Kostel	63.50	315	eP	P	17 16 08.2	+0.2
CADS	Cadrg	63.77	310	i P	P	17 16 09.1	-0.8
KBA	Koelnbreinsper	63.79	311	⇓iP	P	17 16 09.5	-0.5
	comp=Z,27nm,1.4s,mb5.1						
MOX	Moxa	63.90	315	i P	P	17 16 10.4	-0.3
	comp=Z,logA/T=1.4,mb5.2						
MOX				L		17 45 29.0	
MOX	Moxa	63.90	315	eP	P	17 16 10.4	-0.3
MOX				pmax	pmax		
	comp=Z,30nm,1.3s,mb5.2						
MOX				MLR	MLR		
	comp=Z,400nm,17.0s,MS4.7						
MOX	Moxa	63.90	315	eP	P	17 16 10.4	-0.3
	comp=Z,30nm,1.3s,mb5.2						
MOX				LR	LR		
	comp=Z,400nm,17.0s,MS4.7						
FVI	Forni Avoltri	64.30	311	eP	P	17 16 12.8	-0.5
GRA1	Grafenberg Arr	64.41	314	eP	P	17 16 14.7	+0.7
	comp=Z,44nm,0.9s,mb5.5						
GRF	Grafenberg Arr	64.41	314	eP	P	17 16 14.7	+0.7
GRF				pmax	pmax		
	comp=Z,44nm,0.9s,mb5.5						
MUN	Mundaring	64.51	161	eP	P	17 16 13.6	-1.4
	comp=Z,11nm,0.7s,mb5.0						
ASPA	Alice Springs	64.69	141	⇑iP	P	17 16 15.7	-0.6
ASAR	Alice Springs	64.70	141	P	P	17 16 15.8	-0.6
	comp=Z,12nm,0.7s,mb5.1,baz=325,slow=6.6,SNR=188						
WTTA	Wattenberg	64.85	312	⇑iP	P	17 16 16.5	-0.4
	comp=Z,24nm,1.0s,mb5.2						
WATA	Walderalm	64.87	312	⇓iP	P	17 16 16.4	-0.6
	comp=Z,12nm,1.1s,mb4.8						
SQTA	Sankt Quirin	65.14	312	⇓iP	P	17 16 18.4	-0.4
	comp=Z,14nm,0.8s,mb5.0						
MOTA	Moosalm	65.17	312	⇓iP	P	17 16 18.5	-0.5
	comp=Z,18nm,1.0s,mb5.1						
PTQR	Pietraquaria	65.27	306	eP	P	17 16 19.8	+0.1
HDH	Heidenheim	65.37	313	eP	P	17 16 20.3	+0.1
SIND	Sindeldorf	65.52	314	⇓eP	P	17 16 21.1	0.0
NWAO	Narrogin (SRO)	65.70	160	P	P	17 16 20.4	-2.2
	comp=Z,11nm,1.1s,mb4.8,baz=338,slow=19,SNR=3.0						
NWAO	Narrogin (SRO)	65.70	160	P	P	17 16 20.4	-2.2
NWAO				pmax	pmax		
	comp=Z,11nm,1.1s						
UBR	Uberruh	65.71	312	⇓eP	P	17 16 22.2	-0.2
TOD	Tromm	65.93	315	eP	P	17 16 23.9	+0.1
TOD	Tromm	65.93	315	⇓eP	P	17 16 23.7	-0.1
VMG	Vicchio	65.94	308	eP	P	17 16 25.0	+1.1
FUORN	Ofenpass	65.94	311	⇓iP	P	17 16 23.7	-0.2
	comp=Z,47nm,1.0s,mb5.5						
STU	Stuttgart	65.95	314	eP	P	17 16 24.3	+0.3
	comp=Z,22nm,0.6s,mb5.4						
BUCH	Bad Urach	65.95	313	⇓eP	P	17 16 24.3	+0.4
DAVA	Damuels	65.98	312	⇓iP	P	17 16 23.9	-0.3
	comp=Z,41nm,1.2s,mb5.3						
SWS	Schriesheim	66.04	315	eP	P	17 16 24.4	-0.1
DAVOX	Davos	66.14	311	P	P	17 16 25.2	0.0
	comp=Z,36nm,0.6s,mb5.6,baz=100,slow=6.1,SNR=39						
DAVOX	Davos	66.14	311	⇓iP	P	17 16 25.1	-0.1
	comp=Z,81nm,1.0s,mb5.7						
BERNI	Berninapass	66.17	311	⇓iP	P	17 16 25.1	-0.3
	comp=Z,40nm,1.0s,mb5.4						
GUT	Gutenstein	66.22	313	⇓eP	P	17 16 25.6	-0.1
KAMOR	Kamor	66.23	312	⇓iP	P	17 16 25.5	-0.3
	comp=Z,40nm,1.0s,mb5.4						
KAMOR	Kamor	66.23	312	⇓iP	P	17 16 25.4	-0.4
LBG	Lerchenberg	66.24	314	⇓eP	P	17 16 26.1	+0.3
PLONS	Plons	66.38	312	⇓iP	P	17 16 26.4	-0.3
	comp=Z,85nm,1.0s,mb5.7						
WTSB	Winterswijk	66.40	318	eP	P	17 16 27.4	+0.6
	comp=Z,22nm,0.8s,mb5.3						
SPAK	Spaichingen	66.42	313	eP	P	17 16 26.9	-0.1
SPAK	Spaichingen	66.42	313	eP	P	17 16 27.1	+0.1
GSCL	Gusciola	66.46	309	eP	P	17 16 27.9	+0.6
VDL	Val di Lei	66.50	311	⇓iP	P	17 16 27.5	0.0
	comp=Z,13µm,1.0s						
ERBM	Eremo	66.56	309	eP	P	17 16 29.3	+1.4
WILA	Wila	66.57	312	⇓iP	P	17 16 27.5	-0.4
	comp=Z,33nm,1.0s,mb5.3						
BFO	Black Forest	66.64	313	P	P	17 16 28.0	-0.3
	comp=Z,134nm,0.9s,mb6.0,SNR=8.8						
VLC	Villacollemand	66.66	309	eP	P	17 16 28.5	-0.1
LLS	Linth-Limmern	66.69	312	⇓iP	P	17 16 28.5	-0.2
	comp=Z,17µm,1.0s						
VALM		66.69	309	P	P	17 16 29.1	+0.3
SLE	Schleitheim	66.72	313	⇓iP	P	17 16 28.7	-0.2
	comp=Z,49nm,1.0s,mb5.5						
FLACH	Flaach	66.73	313	⇓iP	P	17 16 28.6	-0.4
	comp=Z,55nm,1.0s,mb5.5						
LANF	Langenberg	66.75	314	⇓eP	P	17 16 29.2	+0.1
BACM		66.83	309	P	P	17 16 30.1	+0.4
MUO	Muotathal	66.89	312	⇓iP	P	17 16 29.9	-0.1
	comp=Z,80nm,1.0s,mb5.7						
CODM		66.95	309	P	P	17 16 29.9	-0.5
MUGIO	Muggio	66.97	311	⇓iP	P	17 16 29.4	-1.1
	comp=Z,77nm,1.0s,mb5.7						
RUP	Ruppelstein	66.98	315	eP	P	17 16 31.0	+0.5
RUP	Ruppelstein	66.98	315	⇓eP	P	17 16 30.9	+0.4
FELD	Feldberg	66.99	313	⇓eP	P	17 16 30.6	0.0
FELD	Feldberg	66.99	313	⇓eP	P	17 16 30.7	+0.1
KIZ	Kirchzarten	67.02	313	⇓eP	P	17 16 30.6	-0.2
SULZ	Sulz-Cheisache	67.04	313	⇓iP	P	17 16 30.6	-0.3
	comp=Z,135nm,1.0s,mb5.9						
FUSIO	Fusio	67.04	311	⇓iP	P	17 16 30.7	-0.3
	comp=Z,36nm,1.0s,mb5.3						
BNALP	Bannalp	67.06	312	⇓iP	P	17 16 30.9	-0.1
	comp=Z,13µm,1.0s						
BOB	Bobbio (Coli)	67.09	310	eP	P	17 16 31.9	+0.6
LIBD	Limburg	67.16	313	eP	P	17 16 31.4	-0.2
VAI	Varese	67.17	311	eP	P	17 16 30.8	-1.0
WLS	Welschbruch	67.22	314	⇓eP	P	17 16 31.9	-0.2
CDF	Champ du Feu	67.27	314	⇓iP	P	17 16 32.3	-0.1
	comp=Z,40nm,0.7s,mb5.2						
HASLI	Hasliberg	67.27	312	⇓iP	P	17 16 32.1	-0.3
	comp=Z,39nm,1.0s,mb5.4						
HGN	Heimansgroeve	67.31	316	⇓iP	P	17 16 32.3	-0.2
	comp=Z,14nm,1.3s,mb4.8						
BALST	Balsthal	67.37	313	⇓iP	P	17 16 32.7	-0.3
	comp=Z,95nm,1.0s,mb5.8						
ECH	Echery	67.41	314	⇓eP	P	17 16 33.1	-0.2
BBS	Basel-Blauen	67.45	313	eP	P	17 16 33.1	-0.4
WLF	Walferdange	67.55	315	eP	P	17 16 34.9	+0.9
	comp=Z,107nm,1.0s,mb5.8						
MOF	Molkenrain	67.55	313	⇓eP	P	17 16 34.1	-0.1
MMK	Mattmark	67.64	311	⇓iP	P	17 16 34.7	0.0
	comp=Z,9µm,1.0s						
WIMIS	Wimmis	67.64	312	⇓iP	P	17 16 34.7	-0.1
	comp=Z,147nm,1.0s,mb6.0						
MCGN	Macugnaga	67.65	311	eP	P	17 16 34.6	-0.2
FORT	Forrest	67.73	150	eP	P	17 16 35.9	+0.3
	comp=Z,35nm,0.8s,mb5.4						
HINF	Hinteralfeld	67.74	313	eP	P	17 16 34.9	-0.4
	comp=Z,26nm,0.6s,mb5.1						
PCP	Pian Castagno	67.77	310	P	P	17 16 34.6	-1.0
LOMF	Lomont	67.92	313	eP	P	17 16 35.8	-0.7
SENIN	Lac Senin	67.96	312	⇓iP	P	17 16 36.9	+0.2
	comp=Z,13µm,1.0s						
TRAV		67.97	311	P	P	17 16 35.5	-1.2
DIX	Grande Dixence	67.99	311	⇓iP	P	17 16 37.7	+0.8
	comp=Z,52µm,1.0s						
HAU	Haudompre	68.00	314	eP	P	17 16 36.7	-0.2
HAU				eR			
	comp=Z,239nm,17.0s						
TORNY	Torny	68.04	312	⇓iP	P	17 16 37.2	0.0
	comp=Z,60nm,1.0s,mb5.6						
FIN	Finale Ligure	68.12	309	P	P	17 16 36.5	-1.2
GRYON	Gryon	68.12	312	⇓iP	P	17 16 37.8	+0.1
	comp=Z,41nm,1.0s,mb5.4						
THEF	They Montfort	68.14	314	⇓eP	P	17 16 37.5	-0.4
PGF	Pioggiola	68.17	307	⇓iP	P	17 16 37.6	-0.5
	comp=Z,32nm,0.8s,mb5.1						
AIGLE	Aigle	68.19	312	⇓iP	P	17 16 38.1	-0.1
	comp=Z,49nm,1.0s,mb5.5						
GIVF	Givet	68.20	316	eP	P	17 16 38.4	+0.2
	comp=Z,49nm,0.9s,mb5.2						
RORO		68.25	309	P	P	17 16 37.5	-1.1
SALAN	Lac Salanfe	68.25	312	⇓iP	P	17 16 38.7	+0.2
	comp=Z,37nm,1.0s,mb5.4						
ROB	Roburent	68.31	309	P	P	17 16 38.2	-0.8
EMV	Vieux Emosson	68.33	311	⇓iP	P	17 16 39.3	+0.3
	comp=Z,11µm,1.0s						
EMV	Vieux Emosson	68.33	311	⇓iP	P	17 16 39.2	+0.2
OG01	Vacheresse	68.37	312	⇓eP	P	17 16 39.3	0.0
LSD	Ceresole Reale	68.37	311	P	P	17 16 39.8	+0.4
RSP	Reno Superiore	68.42	310	P	P	17 16 37.8	-1.8
IMI	Imperia	68.44	309	eP	P	17 16 39.8	0.0
MONE	Monesi	68.47	309	P	P	17 16 39.5	-0.4
BHB	Bricherasio	68.52	310	P	P	17 16 38.5	-1.8
NEGI	Negi	68.58	309	P	P	17 16 39.6	-1.1
BAIF	Baives	68.59	316	eP	P	17 16 40.8	+0.2
FENE	Fenestrelle	68.59	310	P	P	17 16 39.5	-1.1
LPG	La Plagne	68.62	311	⇓iP	P	17 16 41.5	+0.6
LPL	La Plagne	68.63	311	⇓iP	P	17 16 41.5	+0.6
	comp=Z,98nm,0.6s,mb5.6						
MEZF	Maizieres J'vi	68.63	314	eP	P	17 16 41.2	+0.3
	comp=Z,116nm,0.9s,mb5.5						
SAOF	Saorge	68.64	309	⇓eP	P	17 16 41.0	0.0
ENR	Entracque	68.64	310	P	P	17 16 39.6	-1.4
CABF	La Chapelle	68.66	312	⇓iP	P	17 16 40.9	-0.1
	comp=Z,21nm,0.7s,mb4.9						
STV2	Anna di Valdie	68.69	310	P	P	17 16 39.6	-1.7
STV	Sta Anna Valdi	68.70	310	P	P	17 16 39.4	-1.9
AUTN	L'Aution	68.72	309	⇓eP	P	17 16 41.9	+0.4
PZZ	Prazzo	68.75	310	P	P	17 16 39.7	-2.0
SBF	Sospel	68.76	309	⇓iP	P	17 16 41.5	-0.2
	comp=Z,82nm,0.8s,mb5.4						
RRL	Cesana Torines	68.81	310	P	P	17 16 41.5	-0.5
AURF	Auriere	68.82	309	⇓eP	P	17 16 42.1	0.0
TOUF	Mont Tournerai	68.83	309	⇓eP	P	17 16 42.4	+0.2
BNI	Bardonecchia	68.83	311	eP	P	17 16 41.9	-0.3
	comp=Z,18nm,0.8s,mb5.0						
MBDF	Montbardon	68.89	310	⇓iP	P	17 16 41.7	-0.8
	comp=Z,40nm,0.7s,mb5.2						
SURF	Saint Ours	68.95	310	eP	P	17 16 43.0	+0.1
OG05	Jujurieux	69.27	312	⇓eP	P	17 16 44.9	+0.1
GRN	Grenoble	69.38	311	eP	P	17 16 45.9	+0.4
FRF	La Foret Royal	69.40	309	⇓iP	P	17 16 45.1	-0.6
	comp=Z,28nm,0.8s,mb4.9						
ORIF	Oris-en-Rattie	69.41	311	⇓iP	P	17 16 45.5	-0.2
	comp=Z,31nm,0.6s,mb5.1						
ORIF				eR			
	comp=Z,494nm,21.5s						
LMR	La Mourre	69.58	309	⇓iP	P	17 16 46.5	-0.3
	comp=Z,23nm,0.6s,mb5.0						
CTA	Charters Tower	69.61	129	eP	P	17 16 46.7	-0.6
	comp=Z,7.0nm,0.9s,mb4.6						
CTA	Charters Tower	69.61	129	P	P	17 16 46.8	-0.6
	comp=Z,8.3nm,0.9s,mb4.7,baz=304,slow=10,SNR=5.8						
CTA	Charters Tower	69.61	129	P	P	17 16 46.8	-0.5
CTA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
TAVF	Tavernes	69.78	309	eP	P	17 16 48.0	0.0
LOR	Lormes	69.83	314	⇓iP	P	17 16 47.8	-0.4
	comp=Z,37nm,0.7s,mb5.2						
LOR				eR			
	comp=Z,297nm,22.5s						
VILF	Villemus	69.92	310	eP	P	17 16 48.7	-0.1
SMRF	Simiane la Rot	69.97	310	eP	P	17 16 49.5	+0.4
SMF	Signal de Mont	70.08	313	⇓iP	P	17 16 49.6	-0.2
	comp=Z,82nm,0.6s,mb5.5						
SSF	Saint Saulge	70.13	313	⇓iP	P	17 16 50.0	-0.1
	comp=Z,107nm,0.8s,mb5.5						
VIVF	Saint-Julien-l	70.23	311	⇓iP	P	17 16 50.7	0.0
	comp=Z,67nm,1.1s,mb5.2						
PRAF	Pradon	70.30	310	eP	P	17 16 51.4	+0.2
AVF	Avril sur Loir	70.33	313	⇓iP	P	17 16 51.3	0.0
	comp=Z,90nm,0.9s,mb5.4						
HYF	Humbligny	70.60	314	eP	P	17 16 53.4	+0.5
EKA	Eskdalemuir Ar	70.68	323	P	P	17 16 53.6	+0.4
	comp=Z,8.9nm,0.6s,mb4.9,baz=60,slow=5.4,SNR=34						
EKA	Eskdalemuir Ar	70.68	323	P	P	17 16 53.7	+0.4
EKA				pmax	pmax		
	comp=Z,9.0nm,0.6s						
BGF	Bois d'Agland	70.75	313	⇓iP	P	17 16 53.7	-0.1
	comp=Z,30nm,0.5s,mb5.2						
PYM	Petit Puy Mans	70.96	312	eP	P	17 16 55.4	+0.2
LBL	Lubilhac	71.01	312	eP	P	17 16 55.9	+0.4
LASF	Ste Croix	71.07	310	⇓iP	P	17 16 56.1	+0.3
	comp=Z,39nm,0.8s,mb5.1						
TCF	Toulx Ste Croi	71.26	313	⇓iP	P	17 16 57.3	+0.4
	comp=Z,58nm,0.6s,mb5.4						
LDF	La Druitiere	71.77	316	⇓iP	P	17 16 59.9	0.0
	comp=Z,42nm,0.6s,mb5.2						
CAF	Calviac	71.90	312	⇓iP	P	17 17 01.3	+0.5
	comp=Z,30nm,0.6s,mb5.1						
FLN	La Foliniere	71.91	316	eP	P	17 17 01.0	+0.2
	comp=Z,30nm,0.7s,mb5.0						
FLN				eR			
	comp=Z,440nm,22.8s						
RJF	Les Rejaudoux	72.10	312	⇓iP	P	17 17 02.7	+0.7
	comp=Z,58nm,0.7s,mb5.3						
RJF				eR			
	comp=Z,234nm,21.8s						
GRR	Gorron	72.30	316	eP	P	17 17 03.1	0.0
	comp=Z,95nm,0.6s,mb5.6						
MTLF	Montolieu	72.45	310	⇓iP	P	17 17 04.2	+0.1
	comp=Z,30nm,0.8s,mb5.0						
MFF	Saint Martin d	72.61	314	⇓iP	P	17 17 05.0	0.0
LFF	La Frestale	72.75	312	eP	P	17 17 06.5	+0.7
	comp=Z,56nm,0.5s,mb5.4						
SUMG	Summit	73.16	347	eP	P	17 17 07.7	0.0
	comp=Z,18nm,0.9s,mb5.0						
SGMF	Saint Gilles	73.38	316	⇓iP	P	17 17 09.9	+0.5
	comp=Z,57nm,0.8s,mb5.3						
COLA	College	73.67	23	eP	P	17 17 09.8	-1.0
COLA	College	73.67	23	eP	P	17 17 11.4	+0.7
	comp=Z,14nm,0.8s,mb4.9						
ROSF	Rostrenen	73.77	317	⇓iP	P	17 17 12.3	+0.6
	comp=Z,76nm,0.8s,mb5.4						
EPF	Esparros	73.83	311	eP	P	17 17 13.1	+1.0
	comp=Z,6.7nm,0.6s,mb4.4						
QUIF	Quistinic	73.89	316	eP	P	17 17 12.6	+0.2
	comp=Z,20nm,0.7s,mb4.9						
ILAR	Eielson Array	74.06	23	P	P	17 17 13.2	+0.1
	comp=Z,3.2nm,0.9s,mb4.2,baz=290,slow=5.4,SNR=14						
ILAR				PP	PP	17 20 02.6	+2.4
	comp=Z,3.0nm,1.2s,baz=296,slow=7.2,SNR=4.3						
ILAR	Eielson Array	74.06	23	P	P	17 17 13.2	+0.2
ILAR						17 20 02.7	
ILAR				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ILAR				pmax	pmax		
	comp=Z,3.0nm,1.2s						
ETSF	Etsaut	74.48	311	⇓iP	P	17 17 16.8	+0.9
	comp=Z,37nm,0.6s,mb5.2						
SJPF	Ste Jean	74.82	311	⇓iP	P	17 17 18.9	+1.0
	comp=Z,19nm,0.6s,mb4.9						
PMR	Palmer	75.13	27	eP	P	17 17 18.5	-0.7
	comp=Z,29nm,1.0s,mb5.2						
SML	Sawmill	75.31	26	eP	P	17 17 21.3	+1.0
STKA	Stephens Creek	75.33	141	⇑iP	P	17 17 20.4	-0.7
	comp=Z,10.0nm,1.6s,mb4.5						
STKA	Stephens Creek	75.33	141	P	P	17 17 20.1	-0.9
	comp=Z,6.7nm,0.9s,mb4.6,baz=338,slow=6.1,SNR=13						
DAWY	Dawson	77.01	22	eP	P	17 17 30.4	+0.6
ESDC	Sonseca Array	78.25	309	P	P	17 17 37.8	+0.7
	comp=Z,2.0nm,0.6s,mb4.2,baz=48,slow=6.3,SNR=11						
ESDC				LR	LR	17 56 20.2	
	comp=Z,120nm,20.7s,MS4.2,baz=345,slow=39						
ESLA	Sonseca Array	78.25	309	eP	P	17 17 37.6	+0.5
LSZ	Lusaka	78.85	245	eP	P	17 17 40.1	-0.8
	comp=Z,4.7nm,0.7s,mb4.5						
PBRG	Braganca	79.03	312	eP	P	17 17 42.3	+0.9
MTE	Manteigas	80.27	311	eP	P	17 17 49.3	+1.2
	comp=Z,20nm,1.3s,mb4.9						
PVIS	Viseu	80.34	311	eP	P	17 17 50.0	+1.6
	comp=Z,19nm,1.9s,mb4.7						
PCBR	Castelo Branco	80.51	310	eP	P	17 17 51.1	+1.7
EVO	Evora	81.54	310	eP	P	17 17 56.2	+1.4
	comp=Z,12nm,0.8s,mb4.6						
EVO				eR			
	comp=Z,190nm,18.2s						
PBEJ	Beja	81.71	309	eP	P	17 17 56.8	+1.1
	comp=Z,9.9nm,1.3s,mb4.6						
YKA	Yellowknife Ar	84.88	14	LR	LR	17 59 50.2	
	comp=Z,103nm,20.8s,MS4.2,baz=255,slow=38						
TSUM	Tsumeb	89.45	248	LR	LR	18 01 04.9	
	comp=Z,99nm,19.0s,MS4.3,baz=162,slow=37						
SUR	Sutherland	94.02	235	LR	LR	17 57 26.4	
	comp=Z,220nm,18.8s,MS4.6,baz=24,slow=33						
SCHQ	Schefferville	94.35	350	LR	LR	18 04 13.3	
	comp=Z,196nm,18.1s,MS4.6,baz=305,slow=37						
NEW	Newport	96.94	21	LR	LR	18 06 33.9	
	comp=Z,129nm,18.3s,MS4.4,baz=152,slow=38						
ULM	Lac du Bonnet	99.65	7	LR	LR	18 07 30.0	
	comp=Z,191nm,18.3s,MS4.6,baz=337,slow=37						
TXAR	Lajitas Array	118.39	19	PKP	PKPdf	17 24 25.3	-1.9
	comp=Z,0.7nm,0.7s,baz=153,slow=0.9,SNR=6.5						
TXAR				PKKPab		17 34 48.6	
	comp=Z,0.2nm,0.4s,baz=162,slow=5.7,SNR=4.1						
QSPA	South Pole Qui	119.60	180	eP	PKPdf	17 24 29.8	+1.4
SNAA	Sanae	120.62	201	⇑iPKPdf	PKPdf	17 24 28.5	-2.1
SNAA				e		17 26 04.1	
VNA2	Neumayer--Watz	122.08	202	⇑iPKPdf	PKPdf	17 24 32.0	-1.4
VNA2				e		17 26 07.9	
VNA1	Neumayer--Stat	122.38	203	⇑iPKPdf	PKPdf	17 24 32.3	-1.7
VNA1				e		17 26 08.2	
VNA3	Neumayer Olymp	122.81	202	⇑iPKPdf	PKPdf	17 24 34.5	-0.2
VNA3				e		17 26 09.6	
BDFB	Brasilia	143.72	285	PKP	PKPdf	17 25 11.0	-4.0
	comp=Z,3.3nm,0.6s,baz=103,slow=3.7,SNR=4.5						
ROSC	El Rosal	144.19	343	PKP	PKPdf	17 25 13.5	-2.5
	comp=Z,16nm,0.6s,baz=340,slow=21,SNR=6.6						
OTAV	Otavalo	149.57	348	ePKPab	PKPab	17 25 32.4	-0.9
SAML	Samuel	151.24	312	ePKPdf	PKPdf	17 25 25.8	-1.7
SAML				ePKPbc	PKPdf	17 25 31.7	+4.2

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*IDC **27** 17:28:43.5±1.7,31.63S×179.93E,h373^{km}±16^{km},mb3.5/4, mb1 3.7/5,mb1mx3.6/11,Error ellipse: s-maj=25.1km s-min=14.9km az=162.0*

*NEIC **27** 17:28:44.0±1.4,31.82S×179.97W,h381^{km}±11^{km},mb4.1/8, Error ellipse: s-maj=18.9km s-min=13.9km az=50.0*

ISC 27 17:28:43.6±0.9**,31.77S**±0.07×**179.7E**±0.1**,h369**^{km}±9^{km}**, n80,**$\sigma 1\overset{s}{.}$**22**/82**,mb3.9**/10**,4C,Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	Matakaoa Point	5.90	191	eP	P	17 30 15.3	+0.8
MXZ				S	S	17 31 27.9	+2.0
MXZ	Matakaoa Point	5.90	191	P	P	17 30 15.5	+1.0
MXZ				S	S	17 31 28.1	+2.2
PUZ	Puketiti	6.41	190	eP	P	17 30 20.1	-0.2
PUZ	Puketiti	6.41	190	eP	P	17 30 20.6	+0.3
MWZ	Matawai	6.79	195	eP	P	17 30 24.5	-0.3
MWZ				S	S	17 31 47.8	+3.4
MWZ	Matawai	6.79	195	eP	P	17 30 25.5	+0.7
URZ	Urewera	6.82	197	P	P	17 30 26.3	+1.2
	14nm,0.3s,baz=317,slow=3.2,SNR=71						
URZ				S	S	17 31 48.2	+3.2
	44nm,0.3s,baz=83,slow=23,SNR=15						
KNZ	Kokohu	7.43	192	eP	P	17 30 32.1	-0.1
KNZ				S	S	17 31 58.9	+1.3
HIZ	Hauiti	7.82	209	eP	P	17 30 42.9	+6.2
BKZ	Black Stump Fm	7.84	199	eP	P	17 30 38.0	+1.0
BKZ				S	S	17 32 08.1	+1.9
BKZ	Black Stump Fm	7.84	199	eP	P	17 30 38.2	+1.2
MGZ	Maungaku	7.98	204	eP	P	17 30 41.5	+2.9
MGZ	Maungaku	7.98	204	P	P	17 30 41.2	+2.6
NGZ	Ngauruhoe	8.12	203	eP	P	17 30 42.3	+2.1
NGZ	Ngauruhoe	8.12	203	P	P	17 30 43.3	+3.1
MOVZ	Moawhango	8.28	202	P	P	17 30 42.7	+0.6
PWZ	Pawanui	8.56	195	P	P	17 30 44.0	-1.5
PWZ				S	S	17 32 21.1	-0.5
PWZ	Pawanui	8.56	195	eP	P	17 30 44.5	-1.0
PWZ				S	S	17 32 21.1	-0.5
TSZ	Takapari Road	8.82	199	eP	P	17 30 47.0	-1.5
TSZ	Takapari Road	8.82	199	P	P	17 30 48.3	-0.2
BFZ	Birch Farm	9.33	196	eP	P	17 30 53.9	-0.6
BFZ				S	S	17 32 37.6	-0.3
BFZ	Birch Farm	9.33	196	eP	P	17 30 54.0	-0.5
KIW	Kapiti Island	9.87	202	eP	P	17 30 59.2	-1.7
KIW				S	S	17 32 50.2	+0.7
KIW	Kapiti Island	9.87	202	P	P	17 31 00.2	-0.7
MTW	Mount Morrison	9.97	199	eP	P	17 31 00.6	-1.5
MTW	Mount Morrison	9.97	199	P	P	17 31 01.6	-0.5
CAW	Cannon Point	10.04	201	P	P	17 31 01.2	-1.8
CAW				S	S	17 32 53.5	+0.2
CAW	Cannon Point	10.04	201	P	P	17 31 01.6	-1.4
MRW	Makara Radio	10.27	202	eP	P	17 31 03.9	-1.8
MRW	Makara Radio	10.27	202	P	P	17 31 04.6	-1.1
MSWZ	Moikau Station	10.27	199	P	P	17 31 04.8	-1.0
WEL	Wellington	10.30	201	eP	P	17 31 04.4	-1.7
WEL	Wellington	10.30	201	P	P	17 31 04.5	-1.6
SNZO	South Karori	10.34	201	eP	P	17 31 06.0	-0.5
SNZO	South Karori	10.34	201	P	P	17 31 04.8	-1.7
BHW	Baring Head	10.38	201	eP	P	17 31 06.3	-0.7
BHW				S	S	17 33 00.4	-0.1
BHW	Baring Head	10.38	201	P	P	17 31 06.8	-0.2
NNZ	Nelson	10.72	207	eP	P	17 31 08.8	-2.3
NNZ				S	S	17 33 08.1	+0.3
NNZ	Nelson	10.72	207	eP	P	17 31 09.6	-1.5
BSWZ	Blackbirch Sta	10.97	204	P	P	17 31 14.1	0.0
THZ	Tophouse	11.37	207	eP	P	17 31 17.4	-1.3
THZ				S	S	17 33 21.8	+0.1
THZ	Tophouse	11.37	207	eP	P	17 31 17.8	-0.9
KHZ	Kahutara	11.71	203	eP	P	17 31 20.2	-2.6
KHZ	Kahutara	11.71	203	eP	P	17 31 20.8	-2.0
LTZ	Lake Taylor	12.48	206	eP	P	17 31 30.6	-1.2
LTZ	Lake Taylor	12.48	206	eP	P	17 31 30.1	-1.7
MQZ	McQueen's Vall	13.16	203	eP	P	17 31 38.6	-1.0
MQZ				S	S	17 33 57.9	-1.8
MQZ	McQueen's Vall	13.16	203	eP	P	17 31 38.2	-1.4
CTA	Charters Tower	32.13	283	eP	P	17 34 41.1	+1.5
	9.9nm,0.8s,mb4.1						
CTAO	Charters Tower	32.13	283	eP	P	17 34 40.6	+1.0
	15nm,0.8s,mb4.3						
STKA	Stephens Creek	32.27	260	eP	P	17 34 43.1	+2.3
	7.5nm,1.2s,mb3.8						
STKA	Stephens Creek	32.27	260	P	P	17 34 42.4	+1.6
	2.3nm,0.3s,mb3.8,baz=88,slow=9.5,SNR=21						
ASAR	Alice Springs	41.10	270	P	P	17 35 54.4	+0.2
	3.3nm,0.7s,mb3.7,baz=106,slow=7.4,SNR=56						
ASAR				PcP	PcP	17 37 44.5	-1.9

	0.6nm,0.5s,baz=115,slow=4.7,SNR=6.5						
ASAR				ScP		17 40 58.1	
	4.7nm,0.8s,baz=116,slow=4.2,SNR=28						
ASAR				S	S	17 41 41.2	+1.6
	0.2nm,0.7s,baz=116,slow=14,SNR=2.4						
ASPA	Alice Springs	41.10	270	*e*P	P	17 35 54.7	+0.5
ASPA				*e*SCP		17 40 58.3	
WB2	Warramunga Arr	42.20	275	⇑*i*P	P	17 36 03.0	-0.2
WB2				*e*SCP		17 41 03.9	
WRA	Warramunga Arr	42.22	275	P	P	17 36 03.0	-0.3
	2.1nm,0.3s,mb3.7,baz=111,slow=8.1,SNR=47						
WRA				PcP	PcP	17 37 47.1	-3.2
	0.5nm,0.5s,baz=112,slow=7.4,SNR=5.6						
WRA				ScP		17 41 03.3	
	3.9nm,0.8s,baz=113,slow=4.1,SNR=24						
WRA				S	S	17 41 54.9	-1.0
	0.5nm,0.9s,baz=111,slow=14,SNR=2.8						
FORT	Forrest	43.81	257	*e*P	P	17 36 16.5	+0.6
	31nm,0.5s,mb4.7						
SBA	Scott Base	46.54	184	*e*P	P	17 36 38.7	+2.0
	2.2nm,0.7s,mb3.5						
FITZ	Fitzroy Crossi	50.41	272	*e*P	P	17 37 06.4	-0.4
	3.5nm,0.6s,mb3.8						
FITZ				*e*SCP		17 41 38.5	
FITZ	Fitzroy Crossi	50.41	272	ScP		17 41 38.1	
	4.5nm,0.9s,baz=152,slow=5.2,SNR=6.4						
CASY	Casey	53.01	208	*e*P	P	17 37 24.4	-0.9
	3.8nm,0.7s,mb3.8						
QSPA	South Pole Qui	58.35	180	*e*P	P	17 38 03.9	+1.3
	10nm,0.6s,mb4.3						
MAW	Mawson	70.33	201	P	P	17 39 19.1	0.0
	0.8nm,0.6s,mb3.6,baz=55,slow=8.8,SNR=3.6						
SNAA	Sanae	76.84	179	⇑*i*	P	17 39 56.1	-0.2
VNA2	Neumayer--Watz	77.48	178		P	17 40 03.1	+3.3
VNA1	Neumayer--Stat	77.72	177	⇑*i*	P	17 40 05.3	+4.2
MKAR	Makanchi Array	117.14	310	PKP	PKPdf	17 46 43.7	-1.2
	0.9nm,0.7s,baz=108,slow=3.8,SNR=4.9						
MKAR	Makanchi Array	117.14	310	PKP	PKPdf	17 46 43.7	-1.2
BVAR	Borovoye Array	125.99	315	PKP	PKPdf	17 47 01.5	-0.4
	1.1nm,0.5s,baz=63,slow=3.3,SNR=6.6						
ZRNK	Zerenda	126.82	315	*e*PKPdf	PKPdf	17 47 02.1	-1.3
ARCES	ARCESS Array B	139.47	346	PKhKP		17 47 17.4	
	1.0nm,0.8s,baz=44,slow=1.3,SNR=8.0						
ARCES				PKP	PKPdf	17 47 25.7	-0.9
	2.0nm,0.7s,SNR=9.5						
ARCES	ARCESS Array B	139.47	346	PKP	PKPdf	17 47 17.4	-9.2
ARCES				PKP	PKPdf	17 47 25.7	-0.9
KAF	Kangasniemi	145.13	338	*e*pkp	PKPdf	17 47 35.8	-0.7
	baz=46,slow=3.1						
FINES	FINESS Array B	145.70	338	PKPbc	PKPbc	17 47 37.7	-1.0
	15nm,0.7s,baz=50,slow=4.1,SNR=60						
NB2	NORSAR Subarra	149.75	349	PKP		17 47 48.1	
	3.3nm,0.6s,baz=18,slow=4.1						
NB2	NORSAR Subarra	149.75	349	⇑PKPab	PKPdf	17 47 48.1	+4.0
NOA	NORSAR Array B	149.75	349	PKPbc	PKPdf	17 47 48.6	+4.5
	3.1nm,0.6s,baz=16,slow=4.2,SNR=8.8						
AKASG	Malin Array Be	151.12	320	PKPbc	PKPdf	17 47 52.5	+6.0
	2.3nm,0.6s,baz=55,slow=2.5,SNR=13						
AKASG				PKPab	PKPab	17 48 00.4	-4.0
	1.4nm,0.6s,baz=51,slow=4.6,SNR=7.3						
BRTR	Keskin Array B	151.46	296	PKPbc	PKPdf	17 47 54.6	+7.3
	0.9nm,0.9s,baz=111,slow=5.3,SNR=3.7						
BRTR				PKPab	PKPab	17 48 02.7	-3.5
	1.4nm,0.8s,baz=124,slow=4.5,SNR=7.1						
GERES	GERESS Array B	159.93	332	PKPab	PKPab	17 48 39.8	-2.1
	0.7nm,0.7s,baz=34,slow=4.8,SNR=4.6						

NEIC ***27*** *17:38:42.8±1.8, 6.69S×147.35E, h49^{km}±15^{km}, mb4.3/4, Error ellipse: s-maj=21.2km s-min=15.9km az=104.0*

IDC ***27*** *17:38:45.4±2.1, 6.83S×147.50E, h81^{km}±23^{km}, mb3.8/7, mb1 4.0/10, mb1mx3.9/14, MS3.4/3, Ms1 3.4/3, ms1mx3.2/14, Error ellipse: s-maj=37.2km s-min=13.5km az=109.0*

ISC 27 17:38:41.3±1.9**, 6.65S**±0.09×**147.4E**±0.2**, h52**^{km}±15^{km}**, n20,** σ**1^{s}09**/23**, mb4.1**/8**, MS3.3**/2**, 1C, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WAU	Wau	0.94	223	⇑*i*P	P	17 38 59.3	+0.9
PMG	Port Moresby	2.74	184	P	P	17 39 23.4	-0.6
	38nm,0.3s,baz=353,slow=8.7,SNR=120						
PMG				S	S	17 39 56.7	+0.7
	46nm,0.3s,baz=67,slow=20,SNR=7.8						
PMG	Port Moresby	2.74	184	*e*P	P	17 39 23.2	-0.7
CTA	Charters Tower	13.40	184	*e*P	P	17 41 52.1	+1.4
	4.6nm,1.0s						
CTA	Charters Tower	13.40	184	P	P	17 41 51.0	+0.3
	0.6nm,0.3s,baz=11,slow=16,SNR=8.0						
CTAO	Charters Tower	13.40	184	P	P	17 41 50.9	+0.2
	2.6nm,0.4s						
KAKA	Kakadu	15.92	247	*e*P	P	17 42 29.2	+5.7
	13nm,0.6s						
WB2	Warramunga Arr	18.28	222	*e*P	P	17 42 51.8	-1.2
WRA	Warramunga Arr	18.29	222	P	P	17 42 51.7	-1.4
	0.6nm,0.3s,baz=51,slow=11,SNR=14						
WRA				LR	LR	17 50 12.5	
	comp=Z,104nm,18.8s,baz=15,slow=38						
ASAR	Alice Springs	21.30	216	P	P	17 43 25.1	-0.5
	4.1nm,0.5s,mb4.0,baz=52,slow=9.3,SNR=132						
ASAR				S	S	17 47 17.2	+3.1
	0.8nm,0.7s,baz=33,slow=22,SNR=4.6						
ASAR				LR	LR	17 52 09.8	
	comp=Z,124nm,18.4s,MS3.3,baz=31,slow=38						
ASPA	Alice Springs	21.30	216	*e*P	P	17 43 25.2	-0.5
ASPA				*e*S	S	17 47 20.6	+6.4
FITZ	Fitzroy Crossi	24.04	240	*e*P	P	17 43 53.6	+0.9
	5.2nm,0.3s,mb4.4						
FITZ	Fitzroy Crossi	24.04	240	P	P	17 43 53.8	+1.1
	5.8nm,0.6s,mb4.2,baz=55,slow=3.7,SNR=35						
FITZ				LR	LR	17 52 40.2	
	comp=Z,84nm,19.3s,MS3.2,baz=91,slow=35						
STKA	Stephens Creek	25.67	191	*e*P	P	17 44 07.9	-0.2
	2.5nm,0.4s,mb4.1						
STKA	Stephens Creek	25.67	191	P	P	17 44 06.3	-1.9
	3.4nm,0.6s,mb4.1,baz=10,slow=9.1,SNR=15						
MBWA	Marble Bar	30.37	239	*e*P	P	17 44 50.4	-0.4
	7.2nm,0.8s,mb4.5						
CMAR	Chiang Mai Arr	53.87	298	P	P	17 48 03.5	+1.6
	1.3nm,0.6s,mb4.0,baz=122,slow=6.3,SNR=16						
MKAR	Makanchi Array	78.22	320	P	P	17 50 36.7	-0.4
	0.6nm,0.5s,mb3.8,baz=106,slow=8.3,SNR=8.0						
ZAL	Zalesovo	79.76	328	P	P	17 50 44.0	-1.3
	1.2nm,0.4s,mb4.2,baz=58,slow=1.0,SNR=5.4						
ILAR	Eielson Array	85.94	23	P	P	17 51 18.1	+1.5
	0.2nm,0.5s,mb3.6,baz=195,slow=2.5,SNR=4.5						

IDC ***27*** *17:42:42.2±0.6, 17.02S×167.47E, mb4.9/15, mb1 5.0/15, mb1mx4.9/19, MS4.1/10, Ms1 4.1/10, ms1mx4.1/13, Error ellipse: s-maj=21.0km s-min=17.3km az=90.0*

LDG ***27*** *17:42:45.2±0.2, 16.98S×166.59E, h10^{km}, Mb5.0/3, Ms4.5/2, Error ellipse: s-maj=24.6km s-min=5.1km az=86.0*

NEIC ***27*** *17:42:46.4±4.0, 17.01S×167.47E, h29^{km}±26^{km}, mb5.0/24, Error ellipse: s-maj=12.7km s-min=8.5km az=48.0*

HRVD ***27*** *17:42:46.4±0.5, 17.18S×167.26E, h34^{km}±1^{km}, MW4.8/31, Centroid moment Tensor Solution. LP body waves: s21,c26;Mantle waves: s31,c36; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M$_{rr}$2.34±.20; M$_{\theta\theta}$-1.18±.15; M$_{\phi\phi}$-1.16±.14; M$_{r\theta}$-0.28±.17; M$_{\theta\phi}$0.80±.08; M$_{\phi r}$0.87±.11; Best double couple: M$_0$2.33×10^{16} NP1:φ$_s$128°,δ35°,λ77°. NP2:φ$_s$324°,δ56°,λ99°. Principal axes: T 2.55, Plg77°, Azm264°; N -.43, Plg8°, Azm139°; P -2.12, Plg10°, Azm47°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

BJI ***27*** *17:42:52.9, 16.13S×166.59E, h37^{km}, mB4.8, mb5.0, Ms4.9*

ISC 27 17:42:45.9±0.4**, 17.07S**±0.05×**167.35E**±0.08**, h33**^{km}**, n222,** σ**0^{s}92**/70**, mb4.9**/37**, MS4.1**/11**, 14C-8D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BKM	Butte a Klehm	1.04	125	⇓*i*P	P	17 43 03.6	-0.6
DZM	Mont Dzumac	5.05	190	⇓*e*P	P	17 43 60.0	-1.4
DZM				*e*S	S	17 44 54.4	-5.0
DZM	Mont Dzumac	5.05	190	⇓*e*P	P	17 43 60.0	-1.4
DZM				*e*S	S	17 44 54.4	-5.0
NOUC	Port Laguerre	5.11	191	⇑*e*P	P	17 44 01.7	-0.4
NOUC				*e*S	S	17 44 55.6	-5.1
NOUC	Port Laguerre	5.11	191	⇑*e*P	P	17 44 01.7	-0.4
NOUC				*e*S	S	17 44 55.6	-5.1
CTA	Charters Tower	20.22	258	⇑*i*P	P	17 47 22.4	+1.5
	19nm,0.6s						
CTA	Charters Tower	20.22	258	P	P	17 47 21.8	+0.9
	25nm,0.7s,baz=85,slow=12,SNR=35						
CTAO	Charters Tower	20.22	258	*e*P	P	17 47 22.1	+1.2
	15nm,0.6s						
PMG	Port Moresby	21.06	289	LR	LR	17 54 27.8	
	comp=Z,598nm,18.8s,MS4.0,baz=236,slow=33						
URZ	Urewera	22.79	160	P	P	17 47 48.1	+1.4
	23nm,0.7s,mb4.7,baz=346,slow=5.1,SNR=14						
URZ				LR	LR	17 55 33.2	
	comp=Z,610nm,20.0s,MS4.0,baz=332,slow=34						
CNB	Canberra Magne	24.23	218	*e*P	P	17 48 02.8	+1.9
	29nm,0.6s,mb4.9						
CNB				*e*PP	PP	17 48 28.6	-7.5
RPZ	Rata Peaks	26.75	174	P	P	17 48 23.5	-1.0
	6.9nm,0.8s,mb4.2,baz=293,slow=6.0,SNR=3.4						
STKA	Stephens Creek	27.60	233	*e*P	P	17 48 32.8	+0.4
	18nm,0.6s,mb4.9						
STKA				*e*PCP	PcP	17 51 49.0	-0.7
STKA	Stephens Creek	27.60	233	P	P	17 48 32.9	+0.5
	22nm,0.7s,mb4.9,baz=56,slow=7.6,SNR=44						
STKA				PcP	PcP	17 51 48.9	-0.8
	8.8nm,0.7s,baz=30,slow=3.1,SNR=8.0						
STKA				LR	LR	17 59 39.7	
	comp=Z,536nm,18.3s,MS4.2,baz=3.8,slow=37						
RAR	Rarotonga	31.30	103	LR	LR	17 59 31.9	
	comp=Z,153nm,20.7s,MS3.6,baz=159,slow=32						
WB2	Warramunga Arr	31.39	260	*e*P	P	17 49 05.3	-1.0
WB2				*e*PCP	PcP	17 51 59.0	-0.5
WB2				*e*PCS		17 55 41.6	
WRA	Warramunga Arr	31.41	260	P	P	17 49 05.4	-1.1
	11nm,0.7s,mb4.8,baz=89,slow=8.5,SNR=64						
WRA				PcP	PcP	17 51 58.7	-0.8
	4.8nm,0.8s,baz=87,slow=2.8,SNR=11						
WRA				LR	LR	18 01 08.9	
	comp=Z,307nm,20.0s,MS4.0,baz=90,slow=35						
ASAR	Alice Springs	31.98	253	P	P	17 49 10.8	-0.6
	21nm,0.5s,mb5.2,baz=80,slow=8.3,SNR=483						
ASAR				PcP	PcP	17 52 00.1	-0.9
	5.7nm,0.7s,baz=99,slow=2.8,SNR=13						
ASAR				LR	LR	18 01 23.1	
	comp=Z,499nm,18.9s,MS4.2,baz=76,slow=35						
ASPA	Alice Springs	31.98	253	*e*P	P	17 49 10.6	-0.9
ASPA				*e*PCP	PcP	17 51 59.9	-1.2
ASPA				*e*PCS		17 55 43.7	
KAKA	Kakadu	34.02	272	*e*P	P	17 49 32.7	+3.5
	6.1nm,0.6s,mb4.7						
FORT	Forrest	38.22	242	*e*P	P	17 50 04.6	+0.1
	68nm,0.6s,mb5.5						
FITZ	Fitzroy Crossi	39.71	262	⇑*i*P	P	17 50 17.5	+0.4
	34nm,0.9s,mb5.1						
FITZ				*e*PCP	PcP	17 52 23.9	0.0
FITZ	Fitzroy Crossi	39.71	262	P	P	17 50 17.6	+0.5
	36nm,0.8s,mb5.2,baz=124,slow=4.4,SNR=58						
FITZ				PcP	PcP	17 52 23.6	-0.3
	11nm,1.1s,baz=146,slow=3.6,SNR=3.3						
FITZ				LR	LR	18 05 30.0	
	comp=Z,233nm,18.2s,MS4.1,baz=98,slow=34						
MBWA	Marble Bar	45.05	257	*e*P	P	17 51 00.9	+0.2
	58nm,0.9s,mb5.4						
KLBR	Kellerberrin	47.06	243	*e*P	P	17 51 15.7	-0.8
	19nm,0.6s,mb5.2						
NWAO	Narrogin (SRO)	47.65	241	LR	LR	18 09 48.7	
	comp=Z,277nm,18.1s,MS4.3,baz=222,slow=34						
NWAO	Narrogin (SRO)	47.65	241	*e*P	P	17 51 20.5	-0.6
	30nm,0.8s,mb5.4						
MUN	Mundaring	48.41	242	*e*P	P	17 51 26.5	-0.6
	13nm,0.8s,mb5.0						
MAJO	Matsushiro	60.01	333	*e*P	P	17 52 50.1	-1.7
	11nm,0.9s,mb4.9						
MAT	Matsushiro	60.01	333	P	P	17 52 50.6	-1.3
MAT	Matsushiro	60.01	333	*e*P	P	17 52 51.0	-0.9
	8.4nm,0.9s,mb4.8						
ASAJ	Asahikawa	64.95	341	P	P	17 53 24.6	0.0
	13nm,0.8s,mb5.0,baz=213,slow=7.6,SNR=5.1						
YSS	Yuzh-Sakhalins	67.46	342	*e*P	P	17 53 40.6	+0.1
	20nm,1.0s,mb5.1						
WHN	Wuhan	69.56	313	⇓P	P	17 53 53.5	-0.3
ENH	Enshi	72.91	310	*e*P	P	17 54 13.1	-0.9
	9.0nm,0.8s,mb4.8						
QSPA	South Pole Qui	72.97	180	*e*P	P	17 54 13.3	-0.1
	43nm,0.9s,mb5.4						
GYA	Guiyang	73.11	305	⇑*i*P	P	17 54 15.5	+0.2
GYA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
BJI	Beijing	74.13	322	P	P	17 54 20.5	-0.4
BJI				AMB	AMB		
	comp=Z,16nm,1.2s,mb4.8						
BJI				LR	LR		
	comp=N,149nm,15.6s,MS4.7						
BJI				LR	LR		
	comp=E,237nm,15.1s,MS4.7						
BJI	Beijing	74.13	322	P	P	17 54 20.5	-0.4
	comp=E,16nm,1.2s,mb4.8						
BJI				S	tx	18 02 47.9	
BJI				LR	LR		
	comp=Z,130nm,27.7s,MS4.1						
XAN	Xi'an	75.32	313	P	P	17 54 28.0	+0.1
XAN				AMB	AMB		
	comp=Z,14nm,0.8s,mb4.9						
KMI	Kunming	75.60	302	*e*P	P	17 54 30.0	+0.3
KMI				AMB	AMB		
	comp=Z,16nm,1.2s,mb4.8						
KMI	Kunming	75.60	302	*e*P	P	17 54 30.0	+0.3
	comp=Z,16nm,1.2s,mb4.8						
CM31	Chiang Mai Arr	75.97	295	*e*P	P	17 54 33.2	+1.3
	comp=Z,17nm,1.2s,mb4.8						
CMAR	Chiang Mai Arr	75.97	295	P	P	17 54 32.4	+0.5
	comp=Z,5.2nm,0.8s,mb4.5,baz=124,slow=4.4,SNR=37						
CMAR				LR	LR	18 27 34.9	
	comp=Z,53nm,18.5s,MS3.9,baz=343,slow=35						
HHC	Hu-ho-hao-te	77.41	320	*e*P	P	17 54 40.3	+0.7
HHC				AMB	AMB		
	comp=Z,19nm,0.7s,mb5.1						
HHC				AMB	AMB		
	comp=Z,66nm,5.8s						
MAW	Mawson	79.76	202	*e*P	P	17 54 52.4	+0.5
	comp=Z,6.0nm,0.8s,mb4.6						
MAW	Mawson	79.76	202	P	P	17 54 52.4	+0.5
	comp=Z,7.4nm,0.8s,mb4.7,baz=108,slow=6.5,SNR=17						
LZH	Lanzhou	79.94	313	⇑P	P	17 54 54.5	+1.0
LZH				XP	sP	17 55 13.8	+6.3
LZH				AMB	AMB		
	comp=Z,49nm,1.3s,mb5.3						
LZH	Lanzhou	79.94	313	⇑P	P	17 54 54.6	+1.1
	comp=Z,49nm,1.3s,mb5.3						
LZH				pP	pP	17 55 13.7	+10
LZH				sP	sP	17 55 19.2	+12
GTA	Gaotai	84.33	314	*e*P	P	17 55 17.3	+1.1
GTA				AP	pP	17 55 28.8	+2.1
GTA				XP	sP	17 55 35.0	+4.8
GTA				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.8						
SONM	Songino Array	84.41	324	P	P	17 55 16.8	+0.4
	comp=Z,5.0nm,0.9s,mb4.7,baz=150,slow=7.6,SNR=30						
SYO	Syowa Base	86.50	197	⇓P	P	17 55 26.1	-0.1
SYO	Syowa Base	86.50	197	⇑P	pP	17 55 43.3	+6.6
DLBC	Dease Lake	90.96	28	P	P	17 55 46.5	-1.1
	comp=Z,5.8nm,0.7s,mb5.0,baz=225,slow=17,SNR=8.6						
DLBC	Dease Lake	90.96	28	P	P	17 55 46.5	-1.2
KKN	Kakani	91.05	299	*e*P	P	17 55 48.8	0.0
DMN	Daman	91.14	298	*e*P	P	17 55 49.3	+0.1
	comp=Z,20nm,0.9s,mb5.4						
SNAA	Sanae	91.23	183		P	17 55 48.4	-0.2
SNAA	Sanae	91.23	183		P	17 55 55.2	+6.6
SNAA	Sanae	91.23	183	P	P	17 55 48.6	0.0
	comp=Z,4.5nm,0.9s,mb4.8,baz=194,slow=4.4,SNR=38						
SNAA	Sanae	91.23	183	P	P	17 55 48.4	-0.2
GKN	Gorkha	91.66	299	*e*P	P	17 55 50.6	-1.0
	comp=Z,9.9nm,0.9s,mb5.2						
VNA3	Neumayer Olymp	91.89	181	⇑*i*	P	17 55 53.8	+2.1
VNA3	Neumayer Olymp	91.89	181		P	17 56 01.0	+9.3
VNA2	Neumayer--Watz	92.16	182	⇑*i*	P	17 55 55.4	+2.5
VNA2	Neumayer--Watz	92.16	182	⇓*i*	P	17 56 02.3	+9.4
KOLN	Koldanda	92.46	298	*e*P	P	17 55 55.5	+0.2
	comp=Z,5.6nm,0.8s,mb5.0						
VNA1	Neumayer--Stat	92.46	181	⇑*i*	P	17 55 56.8	+2.5
PDAR	Pinedale Array	96.47	47	PKKPbc		18 12 57.8	
	comp=Z,1.3nm,1.1s,baz=90,slow=5.9,SNR=6.8						
PDAR				LR	LR	18 32 17.7	
	comp=Z,108nm,18.5s,MS4.4,baz=260,slow=31						
MKAR	Makanchi Array	98.93	316	P	P	17 56 24.7	+0.5
	comp=Z,0.7nm,0.7s,mb4.3,baz=129,slow=5.6,SNR=3.4						
ZAL	Zalesovo	99.32	324	P	P	17 56 25.4	-0.4
	comp=Z,0.7nm,0.3s,mb4.6,baz=207,slow=4.4,SNR=3.4						
ARCES	ARCESS Array B	122.52	345	PKP	PKPdf	18 01 38.2	+0.5
	comp=Z,6.1nm,0.7s,baz=78,slow=1.1,SNR=39						
QRN	Al-Qurain	123.52	293	AMb	AMB	18 01 43.6	
	comp=Z,50nm,0.8s						
UMR	Umm Al-Rimmam	123.72	294	AMb	AMB	18 01 44.5	
	comp=Z,36nm,1.2s						
KBD	Kabd	123.73	294	*e*P	PKPdf	18 01 43.1	+2.1
RDF	Al-Radifah	123.85	294	*e*P	PKPdf	18 01 43.0	+1.7
RDF				AMb	AMB	18 01 44.1	
	comp=Z,41nm,1.0s						
MIB	Mutribah	124.06	295	*e*P	PKPdf	18 01 43.5	+1.8
MIB				AMb	AMB	18 01 45.6	
	comp=Z,32nm,0.9s						
RST	Umm Al-Ruwaisa	124.35	294	*e*P	PKPdf	18 01 42.7	+0.5
RST				AMb	AMB	18 01 44.0	
	comp=Z,40nm,0.7s						
GNI	Garni	125.62	307	PKP	PKPdf	18 01 47.1	+2.7
	comp=Z,3.0nm,0.5s,baz=50,slow=2.1,SNR=5.3						
GNI	Garni	125.62	307	*e*PKPdf	PKPdf	18 01 45.8	+1.4
GNI				PKP	PKPdf	18 01 47.1	+2.7
KAF	Kangasniemi	127.38	338	*e*pkp	PKPdf	18 01 47.2	0.0
	baz=28,slow=1.5						
KMBO	Kilima Mbogo	127.61	255	PKP	PKPdf	18 01 51.0	+2.0
	comp=Z,2.3nm,1.1s,baz=270,slow=9.2,SNR=4.5						
FINES	FINESS Array B	127.90	338	PKP	PKPdf	18 01 49.1	+0.9
	comp=Z,9.1nm,1.1s,baz=135,slow=5.4,SNR=9.2						
SJG	San Juan	129.14	80	*e*PKPdf	PKPdf	18 01 51.1	-0.6
HUMP	Col San Antoni	129.43	80	*e*PKPdf	PKPdf	18 01 52.2	-0.1
AKASG	Malin Array Be	132.69	325	PKP	PKPdf	18 01 58.3	+0.7
	comp=Z,0.2nm,0.3s,baz=62,slow=2.7,SNR=5.1						
NOA	NORSAR Array B	132.88	344	PKP	PKPdf	18 01 59.3	+1.6
	comp=Z,1.8nm,0.8s,baz=334,slow=2.0,SNR=4.0						
ASF	Jabal al Asfar	132.91	298	PKP	PKPdf	18 02 00.3	+1.7
	comp=Z,3.2nm,0.7s,baz=343,slow=5.5,SNR=5.4						
BRTR	Keskin Array B	134.06	309	PKP	PKPdf	18 02 01.5	+1.0
	comp=Z,1.7nm,0.8s,baz=135,slow=1.7,SNR=10						
MOX	Moxa	141.27	335	PPP2		18 00 08.0	
KHC	Kasperske Hory	141.58	332	*e*PKPDF	PKPdf	18 02 09.5	-4.4
KHC				*e*x	x	18 02 18.0	
KHC				*e*x	x	18 02 33.5	
GERES	GERESS Array B	141.74	332	PKhKP		18 02 09.3	
	comp=Z,0.7nm,0.7s,baz=45,slow=3.8,SNR=5.4						
GERES				PKP	PKPdf	18 02 15.0	+0.9
	comp=Z,1.0nm,0.7s,baz=63,slow=2.2,SNR=8.3						
IDI	Anoyia	142.02	306	PKP	PKPdf	18 02 17.1	+2.0
	comp=Z,6.5nm,0.9s,baz=86,slow=13,SNR=3.3						
FUR	Furstenfeldbru	143.32	333	*e*PKP	PKPdf	18 02 16.5	-0.3
RUP	Ruppelstein	143.75	338	*e*P	PKPbc	18 02 17.0	+0.6
FVI	Forni Avoltri	143.79	330	*e*PKP	PKPdf	18 02 16.4	-1.3
WTTA	Wattenberg	143.84	332	⇑*i*P	PKPbc	18 02 17.4	+0.7
BUCH	Bad Urach	143.91	335	*e*P	PKPbc	18 02 17.0	+0.1
LBG	Lerchenberg	143.96	336	*e*P	PKPbc	18 02 17.4	+0.4
MOTA	Moosalm	144.02	332	⇓*i*P	PKPbc	18 02 18.2	+0.9
SQTA	Sankt Quirin	144.06	332	⇓*i*P	PKPbc	18 02 18.5	+1.1
LANF	Langenberg	144.08	337	PKP	PKPdf	18 02 17.9	-0.2
WLF	Walferdange	144.10	339	*e*PKPdf	PKPdf	18 02 18.8	+0.7
GIVF	Givet	144.16	341	*e*PKP1	PKPbc	18 02 19.0	+1.4
UBR	Uberruh	144.20	333	*e*P	PKPbc	18 02 17.8	0.0
BAIF	Baives	144.39	341	*e*PKP1	PKPbc	18 02 18.5	+0.3
	comp=Z,47nm,1.4s						
BFO	Black Forest	144.41	336	*e*PKP	PKPdf	18 02 19.2	+0.5
SPAK	Spaichingen	144.41	335	*e*P	PKPbc	18 02 18.9	+0.5
SPAK	Spaichingen	144.41	335	PKP	PKPdf	18 02 19.0	+0.2
DAVA	Damuels	144.60	333	⇑*i*P	PKPbc	18 02 20.0	+1.1
WLS	Welschbruch	144.72	337	PKP	PKPdf	18 02 20.2	+0.9
CTI	Castel Tesino	144.73	330	*e*PKP	PKPdf	18 02 20.0	+0.6
CDF	Champ du Feu	144.75	337	*e*PKP1	PKPbc	18 02 20.2	+0.9
	comp=Z,169nm,1.0s						
LIBD	Limburg	144.84	336	*e*P	PKPdf	18 02 20.7	+1.2
LIBD	Limburg	144.84	336	PKP	PKPdf	18 02 20.4	+0.9
KIZ	Kirchzarten	144.88	336	⇑*e*P	PKPdf	18 02 20.3	+0.7
FELD	Feldberg	144.91	336	⇑*e*P	PKPdf	18 02 20.4	+0.8
ECH	Echery	144.96	337	PKP	PKPdf	18 02 20.4	+0.7
BRMO	Bormio	145.00	332	*e*PKP	PKPdf	18 02 21.4	+1.5
MOF	Molkenrain	145.27	336	PKP	PKPdf	18 02 21.5	+1.2
THEF	They Montfort	145.38	338	PKP	PKPdf	18 02 21.7	+1.3
HINF	Hinteralfeld	145.40	337	*e*PKP1	PKPbc	18 02 22.0	+1.0
	comp=Z,72nm,0.9s						
HAU	Haudompre	145.43	337	*e*PKP1	PKPbc	18 02 22.3	+1.2
	comp=Z,184nm,1.1s						
BBS	Basel-Blauen	145.44	336	*e*P	PKPdf	18 02 22.2	+1.6
MEZF	Maizieres J'vi	145.47	339	*e*PKP1	PKPbc	18 02 22.8	+1.6
	comp=Z,259nm,1.2s						
LOMF	Lomont	145.80	336	PKP	PKPdf	18 02 23.4	+2.2
FSSB	Fossombrone	145.83	326	*e*PKP	PKPdf	18 02 24.3	+3.0
ARV	Arcevia	145.88	326	*e*PKP	PKPdf	18 02 24.2	+2.8
SFI	Santa Sofia	146.17	327	*e*PKP	PKPdf	18 02 25.6	+3.6
VAI	Varese	146.19	333	*e*PKP	PKPdf	18 02 24.1	+2.2
TIP	Timpagrande	146.22	317	*e*PKPbc	PKPbc	18 02 25.4	+2.1
NRCA	Norcia	146.23	325	*e*PKP	PKPdf	18 02 24.9	+2.9
TDS	Terranova Siba	146.23	318	*e*PKP	PKPdf	18 02 25.2	+3.0
VMG	Vicchio	146.29	328	*e*PKP	PKPdf	18 02 26.2	+4.0
ZCCA	Zocca	146.29	329	*e*PKP	PKPdf	18 02 26.2	+4.1
CRE	Caprese Michel	146.32	327	*e*PKP	PKPdf	18 02 25.5	+3.3
CSSN	Cassano Irpino	146.36	321	*e*PKP	PKPdf	18 02 24.3	+1.9
SGO	Sicignano	146.37	320	*e*PKP	PKPdf	18 02 24.7	+2.3
AQU	L'Aquila	146.38	324	*e*PKP	PKPdf	18 02 26.2	+3.9
MCGN	Macugnaga	146.45	334	*e*PKP	PKPdf	18 02 26.0	+3.7
MGR	Morigerati	146.46	319	*e*PKP	PKPdf	18 02 24.3	+1.7
GSCL	Gusciola	146.48	329	*e*PKP	PKPdf	18 02 26.4	+3.9
ERBM	Eremo	146.52	329	*e*PKP	PKPdf	18 02 26.2	+3.7
GRAM		146.63	330	P	PKPdf	18 02 26.0	+3.3
VALM		146.65	329	P	PKPdf	18 02 25.7	+2.9
BDI	Bagni Di Lucca	146.69	329	*e*PKP	PKPdf	18 02 25.0	+2.2
OG01	Vacheresse	146.69	335	PKP	PKPdf	18 02 26.3	+3.6
CABF	La Chapelle	146.69	336	*e*PKP1	PKPbc	18 02 26.4	+2.3
	comp=Z,91nm,1.2s						
ORO	Oropa	146.72	333	*e*PKP	PKPdf	18 02 25.7	+2.9
BOB	Bobbio (Coli)	146.72	331	*e*PKP	PKPdf	18 02 26.6	+3.8
CSNT	Castellina Chi	146.76	327	*e*PKP	PKPdf	18 02 25.4	+2.4
MNS	Montasola	146.76	325	*e*PKP	PKPdf	18 02 25.8	+2.8
BACM		146.79	330	P	PKPdf	18 02 25.7	+2.8
MSC	Monte Massico	146.79	322	*e*PKP	PKPdf	18 02 25.8	+2.7
CODM		146.81	330	P	PKPdf	18 02 25.6	+2.6
FLN	La Foliniere	146.87	345	*e*PKP1	PKPbc	18 02 26.0	+1.5
	comp=Z,75nm,0.8s						
TRAV		146.91	333	P	PKPdf	18 02 25.7	+2.6
LDF	La Druitiere	146.93	345	*e*PKP1	PKPbc	18 02 26.7	+2.1
	comp=Z,35nm,0.7s						
LOR	Lormes	146.94	339	*e*PKP1	PKPbc	18 02 26.7	+2.0
	comp=Z,43nm,0.9s						
PII	Pisa	146.97	328	*e*PKP	PKPdf	18 02 25.7	+2.4
LSD	Ceresole Reale	147.20	334	P	PKPdf	18 02 28.1	+4.5
SSF	Saint Saulge	147.24	339	*e*PKP1	PKPdf	18 02 27.6	+4.0
	comp=Z,55nm,0.9s						
SOI	Samo	147.27	315	*e*PKP	PKPdf	18 02 28.1	+4.2
GRR	Gorron	147.31	345	*e*PKP1	PKPdf	18 02 27.6	+3.9
	comp=Z,79nm,1.1s						
PCP	Pian Castagno	147.31	331	P	PKPdf	18 02 27.1	+3.2
LPL	La Plagne	147.33	334	*e*PKP1	PKPdf	18 02 28.4	+4.6
	comp=Z,38nm,1.0s						
LPG	La Plagne	147.34	334	*e*PKP1	PKPdf	18 02 28.6	+4.8
	comp=Z,32nm,0.9s						
RSP	Reno Superiore	147.40	333	P	PKPdf	18 02 27.4	+3.4
OG05	Jujurieux	147.41	336	PKP	PKPdf	18 02 28.2	+4.3
SMF	Signal de Mont	147.49	339	*e*PKP1	PKPdf	18 02 28.0	+4.0
	comp=Z,85nm,0.9s						
AVF	Avril sur Loir	147.53	339	*e*PKP1	PKPdf	18 02 27.9	+3.8
	comp=Z,102nm,1.3s						
FENE	Fenestrelle	147.58	333	P	PKPdf	18 02 28.4	+4.1
BHB	Bricherasio	147.65	333	P	PKPdf	18 02 28.2	+3.9
FIN	Finale Ligure	147.72	331	P	PKPdf	18 02 27.6	+3.2
BNI	Bardonecchia	147.73	334	*e*PKPbc	PKPdf	18 02 29.1	+4.6
RRL	Cesana Torines	147.79	334	P	PKPdf	18 02 29.0	+4.4
ROB	Roburent	147.81	332	P	PKPdf	18 02 28.2	+3.5
SGMF	Saint Gilles	147.81	347	*e*PKP1	PKPdf	18 02 28.7	+4.2
	comp=Z,65nm,1.0s						
RORO		147.86	331	P	PKPdf	18 02 28.6	+3.9
ROSF	Rostrenen	147.88	348	*e*PKP1	PKPdf	18 02 28.6	+4.0
	comp=Z,102nm,1.4s						
BGF	Bois d'Agland	147.90	340	*e*PKP1	PKPdf	18 02 29.3	+4.6
	comp=Z,34nm,0.7s						
MBDF	Montbardon	147.95	333	*e*PKP1	PKPdf	18 02 29.4	+4.6
	comp=Z,38nm,1.1s						
PZZ	Prazzo	147.99	333	P	PKPdf	18 02 29.0	+4.2
MONE	Monesi	148.03	332	P	PKPdf	18 02 29.3	+4.3
ENR	Entracque	148.06	332	P	PKPdf	18 02 28.9	+3.9
STV2	Anna di Valdie	148.09	332	P	PKPdf	18 02 29.1	+4.0
STV	Sta Anna Valdi	148.09	332	P	PKPdf	18 02 28.9	+3.8
IMI	Imperia	148.10	331	P	PKPdf	18 02 29.0	+4.0
ORIF	Oris-en-Rattie	148.17	335	*e*PKP1	PKPdf	18 02 30.3	+5.1
	comp=Z,22nm,0.7s						
SAOF	Saorge	148.19	332	PKP	PKPdf	18 02 30.0	+4.8
NEGI	Negi	148.23	331	P	PKPdf	18 02 29.3	+4.0

AUTN	L'Aution	148.24	332	PKP	PKPdf	18 02 30.3	+5.0
QUIF	Quistinic	148.26	348	*e*PKP1	PKPdf	18 02 29.5	+4.3
	comp=Z,12nm,0.7s						
TOUF	Mont Tournerai	148.31	332	PKP	PKPdf	18 02 30.3	+4.9
SBF	Sospel	148.34	332	*e*PKP1	PKPdf	18 02 30.2	+4.7
	comp=Z,92nm,1.0s						
TCF	Toulx Ste Croi	148.35	340	*e*PKP1	PKPdf	18 02 30.5	+5.1
	comp=Z,24nm,0.9s						
MVIF	Mont Vial	148.44	332	PKP	PKPdf	18 02 30.7	+5.1
OG25	Le Caire	148.53	334	PKP	PKPdf	18 02 30.9	+5.1
PYM	Petit Puy Mans	148.55	339	PKP	PKPdf	18 02 31.4	+5.6
PGF	Pioggiola	148.59	328	*e*PKP1	PKPdf	18 02 31.2	+5.3
	comp=Z,142nm,0.9s						
CALN	Calern	148.67	332	PKP	PKPdf	18 02 31.5	+5.5
VIVF	Saint-Julien-l	148.70	336	*e*PKP1	PKPdf	18 02 31.5	+5.5
	comp=Z,24nm,1.0s						
MFF	Saint Martin d	148.77	343	*e*PKP1	PKPdf	18 02 31.4	+5.3
	comp=Z,42nm,0.8s						
LBL	Lubilhac	148.92	338	PKP	PKPdf	18 02 32.6	+6.2
FRF	La Foret Royal	148.93	332	*e*PKP1	PKPdf	18 02 30.8	+4.4
	comp=Z,80nm,1.2s						
SMRF	Simiane la Rot	149.06	334	*e*PKP1	PKPdf	18 02 30.9	+4.3
	comp=Z,36nm,0.9s						
LMR	La Mourre	149.17	332	*e*PKP1	PKPdf	18 02 32.4	+5.6
	comp=Z,83nm,1.2s						
PUYF	Puyloubier	149.37	333	PKP	PKPdf	18 02 33.1	+6.0
PRAF	Pradon	149.37	334	PKP	PKPdf	18 02 33.5	+6.4
RJF	Les Rejaudoux	149.45	340	*e*PKP1	PKPdf	18 02 33.3	+6.1
	comp=Z,29nm,1.0s						
BERF	Bertagne	149.55	333	PKP	PKPdf	18 02 34.0	+6.6
CAF	Calviac	149.60	339	*e*PKP1	PKPdf	18 02 33.9	+6.4
	comp=Z,59nm,1.3s						
LASF	Ste Croix	149.68	336	*e*PKP1	PKPdf	18 02 34.1	+6.5
	comp=Z,45nm,0.8s						
LFF	La Frestale	150.02	341	*e*PKP1	PKPdf	18 02 34.7	+6.6
	comp=Z,52nm,0.9s						
MTLF	Montolieu	150.92	337	*e*PKP1	PKPdf	18 02 36.9	+7.4
	comp=Z,26nm,0.7s						
EPF	Esparros	151.85	340	*e*PKP1	PKPdf	18 02 39.4	+8.5
	comp=Z,14nm,0.7s						
ETSF	Etsaut	152.26	341	*e*PKP1	PKPdf	18 02 40.5	+8.9
	comp=Z,23nm,0.7s						
SJPF	Ste Jean	152.28	342	*e*PKP1	PKPdf	18 02 39.9	+8.3
	comp=Z,15nm,0.8s						
KIC	Kosan Boka	166.84	217	*e*PKP2	PKPab	18 03 49.4	-4.8
	comp=Z,64nm,1.2s						
LIC	Lamto	166.90	216	*e*PKP2	PKPab	18 03 50.6	-3.8
	comp=Z,61nm,1.3s						
DBIC	Dimbokro	167.16	217	PKPab	PKPab	18 03 55.0	-0.6
	comp=Z,2.6nm,0.7s,baz=135,slow=3.0,SNR=6.1						
TIC	Toumodi	167.24	217	*e*PKP2	PKPab	18 03 49.3	-6.6
	comp=Z,88nm,1.1s						

IDC 27 18:01:17.8±16.0**, 15.78S**×**174.12W, mb4.3**/5**, mb1 4.4**/5**, mb1mx4.1**/13**, Error ellipse: s-maj=312.0km s-min=142.8km az=78.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	Charters Tower	37.88	257	P	P	18 08 37.8	-0.8
	2.2nm,0.9s,baz=103,slow=12,SNR=3.7						
STKA	Stephens Creek	43.25	240	*e*P	P	18 09 21.3	-1.5
	1.6nm,0.6s						
STKA	Stephens Creek	43.25	240	P	P	18 09 20.9	-1.9
	2.6nm,0.7s,baz=98,slow=11,SNR=7.1						
WB2	Warramunga Arr	49.07	257	*e*P	P	18 10 06.8	-2.3
WRA	Warramunga Arr	49.09	257	P	P	18 10 06.7	-2.5
	1.4nm,0.3s,baz=92,slow=7.4,SNR=79						
ASAR	Alice Springs	49.34	252	P	P	18 10 08.8	-2.2
	12nm,0.6s,baz=88,slow=8.4,SNR=254						
ASPA	Alice Springs	49.34	252	*e*P	P	18 10 09.0	-2.1
KAKA	Kakadu	51.82	266	*e*P	P	18 10 34.0	+3.9
	18nm,1.5s						
FORT	Forrest	54.63	243	*e*P	P	18 10 47.2	-3.5
	15nm,0.5s						
FITZ	Fitzroy Crossi	57.46	258	*e*P	P	18 11 09.5	-1.7
	2.0nm,0.9s						
FITZ	Fitzroy Crossi	57.46	258	P	P	18 11 09.3	-2.0
	1.5nm,0.8s,baz=198,slow=10,SNR=6.0						

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*IDC **27** 18:07:48.5±2.3, 32.12S×178.31W, mb4.1/6, mb1 4.2/7, mb1mx4.1/13, ML3.4/1, Error ellipse: s-maj=52.3km s-min=30.8km az=126.0*

*NEIC **27** 18:07:51.2±0.8, 32.11S×178.47W, h10^{km}, mb4.4/3, Error ellipse: s-maj=18.7km s-min=13.4km az=55.0*

ISC 27 18:07:50.8±5.5**, 32.21S**±0.09×**178.6W**±0.2**, h13**^{km}±34^{km}**, n19, σ0**^{s}**.76**/15**, mb4.1**/9**, 5C, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	Urewera	6.98	209	Pn	Pn	18 09 35.0	-0.3
	0.6nm,0.3s,baz=27,slow=9.0,SNR=5.6						
URZ				Sn	Sn	18 10 55.2	-0.1
	5.2nm,0.3s,baz=140,slow=21,SNR=15						
STKA	Stephens Creek	33.60	260	P	P	18 14 33.8	+0.8
	1.5nm,0.7s,mb4.0,baz=98,slow=12,SNR=5.0						
CTA	Charters Tower	33.62	282	P	P	18 14 33.3	+0.1
	2.3nm,0.7s,mb4.2,baz=68,slow=19,SNR=2.4						
ASAR	Alice Springs	42.52	269	P	P	18 15 47.6	-0.2
	1.0nm,0.7s,mb3.6,baz=104,slow=7.6,SNR=13						
WB2	Warramunga Arr	43.66	274	*e*P	P	18 15 57.9	+0.8
WRA	Warramunga Arr	43.67	274	P	P	18 15 56.6	-0.6
	2.4nm,0.8s,mb4.0,baz=114,slow=7.6,SNR=18						
FITZ	Fitzroy Crossi	51.85	272	P	P	18 17 01.1	0.0
	1.4nm,0.7s,mb4.0,baz=151,slow=5.7,SNR=3.2						
CASY	Casey	53.30	208	*e*P	P	18 17 10.1	-1.2
	3.1nm,0.8s,mb4.3						
QSPA	South Pole Qui	57.91	180	P	P	18 17 45.9	+1.5
	5.9nm,1.0s,mb4.6						
SNAA	Sanae	76.37	179	⇑*i*	P	18 19 43.1	+2.2
SNAA	Sanae	76.37	179	⇑*i*	PcP	18 19 52.7	-0.4
SNAA	Sanae	76.37	179	*e*P	P	18 19 40.7	-0.1
	3.4nm,1.2s,mb4.2						
VNA3	Neumayer Olymp	76.55	176	⇑*i*	P	18 19 41.4	-0.4
VNA3	Neumayer Olymp	76.55	176		PcP	18 19 51.0	-2.8
VNA2	Neumayer--Watz	76.97	177	⇑*i*	P	18 19 44.0	-0.2
VNA2	Neumayer--Watz	76.97	177	⇑*i*	PcP	18 19 53.0	-2.7
ILAR	Eielson Array	99.80	13	P	P	18 21 34.8	-0.7
	0.4nm,0.4s,mb4.2,baz=0.6,slow=5.2,SNR=4.1						
FINES	FINESS Array B	146.64	339	PKPbc	PKPbc	18 27 29.2	-2.1
	4.2nm,0.9s,baz=180,slow=1.9,SNR=5.5						
FINES	FINESS Array B	146.64	339	PKPbc	PKPbc	18 27 29.2	-2.1

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*IDC **27** 18:35:12.5±1.5, 32.61S×71.58W, mb4.0/3, mb1 4.0/5, mb1mx3.9/13, ML3.6/2, MS3.7/4, Ms1 3.7/4, ms1mx3.5/18, Error ellipse: s-maj=53.2km s-min=25.3km az=110.0*

*NEIC **27** 18:35:16.9, 32.67S×71.72W, h30^{km}, mb4.3/5, ML4.0(GUC), After GUC.*

NEIC Felt [IV] at Valparaiso and Vina del Mar; [III] at Puchuncavi and Quillota; [II] at La Ligua and Panquehue.

*GUC **27** 18:35:16.9±0.8, 32.67S×71.72W, h30^{km}±3^{km}, MD4.4, ML4.0*

*SYO **27** 18:35:17.4, 32.65S×71.46W, h30^{km}, MB4.3*

ISC 27 18:35:15.8±0.7**, 32.61S**±0.03×**71.79W**±0.05**, h26**^{km}±5^{km}**, n45, σ0**^{s}**.91**/58**, mb4.2**/6**, MS3.9**/3**, 9C-6D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IHA	Instituto Hidr	0.43	164	⇓*i*P	Pb	18 35 25.0	+0.2
IHA				*i* S	Sb	18 35 31.0	0.0
LCCH	Las Cruces	0.88	168	⇑*i*P	Pb	18 35 31.9	-0.4
LCCH				*i* S	Sb	18 35 42.8	-0.8
JACH	Jahuel	1.01	94	⇑*i*P	Pn	18 35 34.1	-0.2
JACH				*i* S	Sb	18 35 46.8	-0.5
PEL	Peldehue	1.06	120	⇑*i*P	Pn	18 35 35.2	+0.1
PEL				*i* S	Sb	18 35 48.5	-0.5
PEL				AMP		18 35 51.3	
	comp=N,13µm,0.4s						
RCDM	Rinconada Maip	1.20	137	*e*P	Pn	18 35 36.7	-0.3
RCDM				*i* S	Sn	18 35 51.8	-0.8
RCDM				AMP		18 35 56.8	
	comp=N,4µm,0.4s						
TACH	Talagante	1.26	146	*i* P	Pn	18 35 37.7	-0.1
TACH				*i* S	Sn	18 35 53.6	-0.4
SAN	Santiago	1.26	132	*e*P	Pn	18 35 38.0	+0.1
SAN				*i* S	Sn	18 35 53.3	-0.8
DSCH	Colegio Aleman	1.29	128	*e*P	Pn	18 35 38.2	0.0
DSCH				*i* S	Sn	18 35 54.1	-0.7
DSCH				AMP		18 35 56.4	
	comp=N,7µm,0.6s						
CLCH	Cerro Calan	1.31	127	⇓*i*P	Pn	18 35 38.8	+0.3
CLCH				*i* S	Sn	18 35 55.3	0.0
CLCH				AMP		18 35 57.1	
	comp=N,6µm,0.4s						
ANTU	Antumapu	1.36	135	*e*P	Pn	18 35 39.6	+0.3
ANTU				*i* S	Sn	18 35 56.5	0.0
ANTU				AMP		18 36 01.6	
	comp=N,4µm,0.3s						
LNV	Longovilo	1.38	167	*e*P	Pn	18 35 39.2	-0.4
LNV				*i* S	Sn	18 35 56.3	-0.7
FCH	Farellones	1.44	120	⇓*i*P	Pn	18 35 41.0	+0.5
FCH				*i* S	Sn	18 35 59.3	+0.5
FCH				AMP		18 36 01.0	
	comp=E,3µm,0.3s						
PCH	Pirque	1.47	134	⇑*i*P	Pn	18 35 41.2	+0.4
PCH				*i* S	Sn	18 35 59.0	-0.3
CHCH	Chadas Angostu	1.62	145	⇑*i*P	Pn	18 35 43.9	+0.8
CHCH				*i* S	Sn	18 36 03.7	+0.4
CACH	El Canelo	1.80	147	⇑*i*P	Pn	18 35 47.1	+1.6
CACH				*i* S	Sn	18 36 10.3	+2.5
LMEL	Las Melosas	1.81	133	*e*P	Pn	18 35 46.6	+0.8
LMEL				*i* S	Sn	18 36 09.2	+1.2
LMEL				AMP		18 36 14.7	
	comp=N,4µm,0.2s						
CICH	Cipreses	2.05	147	*e*P	Pn	18 35 49.8	+0.6
SFDO	San Fernando	2.10	162	⇓*i*P	Pn	18 35 50.2	+0.3
NICH	Los Niches	2.43	169	*e*P	Pn	18 35 54.6	0.0
TLL	Tololo Astrono	2.58	19	*e*P	Pn	18 35 58.2	+1.5
TALC	Talca	2.78	177	*e*P	Pn	18 35 59.2	-0.4
CCHI	Chillan	3.99	183	*e*P	Pn	18 36 18.2	+1.5
TRQA	Tornquist	9.67	127	*e*Pn	P	18 37 31.2	-5.3
	comp=N,22nm,1.1s						
LVC	Limon Verde	10.28	15	*e*Pn	P	18 37 46.1	+1.2
	comp=N,5.5nm,0.8s						
LVC				*e*Sn	S	18 39 46.7	+6.4
CPUP	Villa Florida	14.06	67	Pn	P	18 38 32.8	-2.7
	comp=N,0.1nm,0.3s,baz=229,slow=11,SNR=2.0						
CPUP				Sn	S	18 41 07.5	-4.0
	comp=N,0.1nm,0.3s,baz=238,slow=6.8,SNR=4.4						
CPUP				LR	LR	18 44 14.6	
	comp=N,144nm,21.4s,baz=268,slow=39						
CPUP	Villa Florida	14.06	67	P	P	18 38 31.3	-4.2
CPUP				*e*S	S	18 41 06.2	-5.3
LPAZ	La Paz	16.59	12	Pn	P	18 39 06.5	-1.7
	comp=N,0.1nm,0.3s,baz=189,slow=6.1,SNR=9.6						
LPAZ	La Paz	16.59	12	*e*P	P	18 39 08.2	-0.1
	comp=N,2.4nm,0.8s						
SAML	Samuel	24.86	21	*e*P	P	18 40 36.8	-1.0
	comp=N,5.5nm,1.0s,mb4.0						
BDFB	Brasilia	27.40	58	P	P	18 40 57.6	-3.6
	comp=N,2.6nm,0.9s,mb3.8,baz=259,slow=8.0,SNR=5.0						
BDFB				LR	LR	18 52 51.3	
	comp=N,276nm,20.0s,MS3.8,baz=343,slow=39						
PMSA	Palmer Station	32.54	174	P	P	18 41 45.1	-1.3
	comp=N,20nm,1.2s,mb4.9						
VNA3	Neumayer Olymp	50.56	158	⇑*i*	P	18 44 15.1	+1.4
VNA1	Neumayer--Stat	50.87	157	⇑*i*	P	18 44 21.3	+5.3
VNA2	Neumayer--Watz	51.21	158	⇑*i*	P	18 44 19.8	+1.3
SNAA	Sanae	52.79	158	⇓*i*	P	18 44 29.3	-1.2
SNAA	Sanae	52.79	158	P	P	18 44 28.7	-1.8
	comp=N,0.6nm,0.8s,mb3.6,baz=288,slow=7.8,SNR=6.5						
SNAA				PcP	PcP	18 45 37.9	-1.8
	comp=N,0.5nm,0.8s,baz=252,slow=8.9,SNR=3.3						
SNAA	Sanae	52.79	158	*e*P	P	18 44 28.0	-2.5
	comp=N,4.6nm,1.2s,mb4.3						
QSPA	South Pole Qui	57.62	180	*e*P	P	18 45 03.7	-1.6
	comp=N,6.2nm,1.0s,mb4.6						
SYO	Syowa Base	67.08	159	⇓PcP	PcP	18 46 36.5	0.0
MAW	Mawson	74.45	164	P	P	18 46 51.7	-1.1
	comp=N,3.3nm,1.0s,mb4.2,baz=246,slow=7.2,SNR=5.6						
DBIC	Dimbokro	74.54	71	LR	LR	19 18 48.1	
	comp=N,72nm,20.8s,MS4.0,baz=23,slow=35						
TSUM	Tsumeb	79.39	106	LR	LR	19 18 01.3	
	comp=N,57nm,18.9s,MS3.9,baz=4.1,slow=32						
ZRNK	Zerenda	145.36	42	*e*PKPbc	PKPbc	18 54 51.6	+0.4
ZAL	Zalesovo	152.94	31	PKPbc	PKPdf	18 55 11.2	+3.8
	comp=N,2.2nm,0.5s,baz=89,slow=1.8,SNR=14						
MKAR	Makanchi Array	155.68	47	PKPab	PKPab	18 55 33.8	-1.5
	comp=N,1.0nm,0.6s,baz=296,slow=3.4,SNR=7.3						

MEX 27 18:46:43.7±0.5**, 16.62N**×**98.53W, h49**^{km}±13^{km}**, MD3.6, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	Pinotepa	0.44	120	*i* P	P	18 46 52.9	-1.4
PNIG				*i* S	S	18 46 60.0	-1.8
ACX	Acapulco	1.36	281	*i* P	P	18 47 05.0	-1.7
ACX				*i* S	S	18 47 20.0	-3.8
VHO	Vista Hermosa	1.77	75	*e*P	P	18 47 10.5	-2.1
VHO				*i* S	S	18 47 32.0	-2.0
OXX	Oaxaca	1.79	75	*i* P	P	18 47 10.0	-2.7
PPM	Popocatepetl	2.44	358	*e*P	P	18 47 20.0	-2.0
IISM	Ciudad Serdan	2.60	25	*e*P	P	18 47 22.0	-2.3

DJA 27 18:54:10.7±0.8**, 9.68S**×**114.91E, h33**^{km}**, MD4.6**/2**, ML4.5**/4**, 1C-9D, Error ellipse: s-maj=18.0km s-min=10.9km az=11.0, South of Bali**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
INGI	Ingas	0.89	15	⇓*e*Pn	Pn	18 54 25.7	-1.2
	2µm,0.2s						
INGI	Ingas	0.89	15	⇓*i*P	P	18 54 26.3	-0.4
INGI				⇓*i*Sn	Sn	18 54 36.5	-2.2
RATI	Rata	1.13	33	⇓*i*Pn	Pn	18 54 29.3	-1.1
	876nm,0.2s						
RATI	Rata	1.13	33	⇓*i*P	P	18 54 29.9	-0.3
RATI				⇓*i*Sn	Sn	18 54 42.1	-2.8
KELI	Kelakatan	1.51	344	⇑*e*Pn	Pn	18 54 34.9	-1.0
	369nm,0.1s						
KELI				⇓*i*Sn	Sn	18 54 52.6	-1.9
KEDI	Kedomdong	1.68	45	⇓*e*Pn	Pn	18 54 37.2	-1.1
	168nm,0.2s						
KEDI				⇓*i*Sn	Sn	18 54 56.4	-2.4

CASC 27 19:05:50.1±3.0**, 11.32N**×**86.82W, h5**^{km}±11^{km}**, MD4.0, ML3.5, 3C-5D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
COPN	Copaltepe	0.88	15	⇑*e*P	Pb	19 06 07.5	0.0
COPN				*e*S	Sb	19 06 20.6	+1.2
TICN	Ticuantepe	0.91	39	*e*P	Pb	19 06 07.8	-0.3
MASN	Masaya	0.93	45	*e*P	Pb	19 06 08.5	+0.2
APON	Apoyo	0.95	51	⇑*e*P	Pb	19 06 08.0	-0.6
XAVN	Gruta Xavier	0.95	30	*e*P	Pb	19 06 08.4	-0.3
MGAN	Managua	0.99	34	*e*P	Pb	19 06 08.9	-0.5
MGAN				*e*S	Sb	19 06 21.0	-1.6
MGAN				*i*		19 06 26.8	
	comp=E,1µm,0.4s						
WILN	Americas 2	1.04	36	⇓*e*P	Pb	19 06 09.3	-0.9
WILN				*e*S	Sb	19 06 23.6	-0.3
LEON	Leon	1.09	356	⇓*e*P	Pb	19 06 10.6	-0.4
MOMJ	Momotombo	1.12	14	*e*P	Pb	19 06 10.6	-0.9
MIRN	Miramar	1.12	5	⇑*e*P	Pb	19 06 11.1	-0.5
CNGN	Cerro Negro	1.18	6	⇓*e*P	Pb	19 06 11.7	-0.8
CNGN				*e*S	Sb	19 06 29.7	+1.8
CONN	Concepcion	1.20	78	⇓*e*P	Pb	19 06 11.3	-1.5
CONN				*e*S	Sb	19 06 29.6	+1.1
CRZC	La Cruz	1.25	107	*e*P	Pb	19 06 11.8	-2.0
TELN	Telica	1.28	359	*e*P	Pb	19 06 11.6	-2.6
CRIN	San Cristobal	1.39	351	*e*P	Pb	19 06 15.0	-1.2
CRIN				*e*S	Sb	19 06 34.0	-0.1
PYTN	Playitas	1.42	32	⇓*e*P	Pn	19 06 14.6	-2.0
VCR	Vista de Mar	1.66	135	*e*P	Pn	19 06 17.7	-2.4
CNCH	Conchagua	2.18	333	*e*P	Pn	19 06 26.7	-0.8
CNCH				*e*S	Sn	19 06 55.0	-0.2
JCR	Jicaral	2.23	131	*e*P	Pn	19 06 25.4	-2.7
CGA2	Cerro Gallo 2	2.65	119	*e*P	Pn	19 06 34.4	+0.2
CAHU	Cacacuatique	2.79	331	*e*P	Pn	19 06 35.4	-0.8
PRS1	Puriscal	2.80	118	*e*P	Pn	19 06 36.8	+0.4
SNVI	San Vicente	3.01	319	*e*P	Pn	19 06 38.9	-0.5
SNVI				*e*S	Sn	19 07 19.3	+3.0
LAJ	Bijagual	3.02	118	*e*P	Pn	19 06 34.7	-4.8
LCBS	La Ceiba	3.14	318	*e*P	Pn	19 06 39.7	-1.4
LCBS				*e*S	Sn	19 07 16.4	-3.0
TRTC	Tortuguero	3.14	103	*e*P	Pn	19 06 39.3	-1.9
LFRS	El Faro	3.17	316	*e*P	Pn	19 06 40.8	-0.8
LCR2	La Lucha 2	3.18	119	*e*P	Pn	19 06 43.3	+1.5
URSC	Urasca	3.33	116	*e*P	Pn	19 06 44.0	0.0
SBLS	San Blas	3.71	313	*e*P	Pn	19 06 52.2	+2.9

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*IDC **27** 19:06:58.0±1.1, 28.16N×54.34E, mb4.1/12, mb1 4.2/13, mb1mx4.0/24, ML1.4/1, Error ellipse: s-maj=28.4km s-min=18.8km az=32.0*

*THR **27** 19:07:02.8±0.5, 28.45N×54.28E, h14^{km}±5^{km}, ML3.8*

*NEIC **27** 19:07:04.8±2.9, 28.23N×54.32E, h49^{km}±27^{km}, mb3.8/2, Error ellipse: s-maj=15.9km s-min=10.5km az=176.0*

ISC 27 19:06:57.2±0.5**, 28.01N**±0.06×**54.28E**±0.06**, h10**^{km}**, n35, σ1**^{s}**.11**/36**, mb3.9**/12**, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GHIR	Ghir-Karzin	1.17	284	*e*PG	Pg	19 07 24.2	+3.6
GHIR				AMP		19 07 48.2	
	comp=N,2µm,0.6s						
GHIR				AMP		19 07 50.1	
	comp=E,2µm,0.5s						
KRBR	Kerman	2.93	47	*e*PN	Pn	19 07 47.6	+2.8
KRBR				*e*SG	Sg	19 08 26.1	-8.8
KRBR				AMP		19 08 38.7	
	comp=E,356nm,0.8s						
KRBR				AMP		19 08 43.3	
	comp=N,425nm,0.6s						
NASN	Na'in	4.94	345	*e*PN	Pn	19 08 13.5	+0.2
ASAO	Ashtian	7.46	332	*e*PN	Pn	19 08 48.3	-0.5
DAMV	Damavand	7.85	346	*e*PN	Pn	19 08 53.1	-1.1
MZLS	Mizel	9.07	246	P	P	19 09 11.8	+0.6
RAYN	Ar Rayn	9.08	242	Pn	P	19 09 11.9	+0.6
	comp=N,88nm,0.6s,SNR=23						
ARSS	Ar Rass	10.08	260	P	P	19 09 23.4	-1.7
HILS	Ha'il	11.08	270	P	P	19 09 36.5	-2.4
KAMS	Al Khamasin	11.70	231	P	P	19 09 46.0	-1.4
TATS	Tathlith	12.98	232	P	P	19 10 03.3	-1.3
KBRS	Khaybar	13.58	264	P	P	19 10 12.2	-0.2
DJNS	Zahran al Janu	14.24	226	P	P	19 10 21.3	+0.2
GNI	Garni	14.44	329	Pn	P	19 10 28.4	+4.7
	comp=N,0.5nm,0.3s,baz=159,slow=8.2,SNR=4.0						
GNI	Garni	14.44	329	*e*Pn	P	19 10 23.7	0.0
GZT	Gaziantep	16.86	308	P	P	19 10 57.9	+3.1
COBT	Iskenderun	17.42	304	P	P	19 11 03.0	+1.0
CSS	Prodhromos	19.14	296	P	P	19 11 23.8	+0.7
	comp=N,3.9nm,0.5s						
CTKT	Corum	20.38	313	P	P	19 11 37.6	+0.9
BRTR	Keskin Array B	20.69	310	P	P	19 11 40.0	+0.1
	comp=N,3.8nm,0.7s,baz=129,slow=12,SNR=20						
ELDT	Eldivan	21.20	311	P	P	19 11 45.6	+0.4
SGKT	Sivrigoynuk	22.16	310	P	P	19 11 55.4	+0.6
IDI	Anoyia	25.98	294	P	P	19 12 32.8	+0.9
	comp=N,1.9nm,0.5s,mb3.9,baz=77,slow=6.4,SNR=5.1						
ZRNK	Zerenda	27.21	20	*e*P	P	19 12 42.3	-0.6
	comp=N,1.9nm,0.8s,mb3.7						
BVAR	Borovoye Array	27.70	21	P	P	19 12 46.0	-1.4
	comp=N,2.3nm,0.7s,mb3.9,baz=217,slow=7.4,SNR=16						
BVAR				PcP	PcP	19 16 04.3	-0.3
	comp=N,0.8nm,0.5s,baz=225,slow=2.1,SNR=5.7						
MKAR	Makanchi Array	28.87	42	P	P	19 12 57.2	-0.7
	comp=N,0.8nm,0.5s,mb3.8,baz=230,slow=9.4,SNR=9.3						
MKAR	Makanchi Array	28.87	42	P	P	19 12 57.2	-0.7
ZAL	Zalesovo	34.20	32	P	P	19 13 43.8	-1.0
	comp=N,2.3nm,0.4s,mb4.5,baz=140,slow=6.3,SNR=8.7						
FINES	FINESS Array B	38.36	339	P	P	19 14 18.9	-1.0
	comp=N,3.4nm,1.0s,mb4.0,baz=158,slow=10,SNR=4.2						
CMAR	Chiang Mai Arr	41.94	93	P	P	19 14 51.6	+1.7
	comp=N,1.4nm,0.6s,mb3.8,baz=289,slow=8.8,SNR=12						
SONM	Songino Array	44.69	49	P	P	19 15 11.2	-0.7
	comp=N,1.5nm,1.1s,mb3.7,baz=319,slow=11,SNR=7.3						
ARCES	ARCESS Array B	44.77	346	P	P	19 15 11.7	-0.7
	comp=N,1.3nm,0.9s,mb3.8,baz=164,slow=6.6,SNR=3.4						
FITZ	Fitzroy Crossi	82.85	115	P	P	19 19 24.5	+0.9
	comp=N,1.3nm,0.7s,mb4.1,baz=328,slow=9.5,SNR=3.6						
WRA	Warramunga Arr	90.85	112	P	P	19 20 03.2	+0.5
	comp=N,0.5nm,0.6s,mb4.1,baz=316,slow=4.1,SNR=13						
ASAR	Alice Springs	92.32	115	P	P	19 20 10.0	+0.7
	comp=N,0.6nm,0.6s,mb4.1,baz=304,slow=4.6,SNR=12						

IDC 27 19:14:57.9±17.0**, 16.76S**×**176.31W, mb4.0**/5**, mb1 4.1**/5**, mb1mx3.8**/14**, Error ellipse: s-maj=322.0km s-min=149.1km az=78.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	Charters Tower	35.62	259	P	P	19 21 59.2	-0.5
	2.8nm,0.4s,baz=100,slow=11,SNR=8.8						
STKA	Stephens Creek	40.94	241	P	P	19 22 43.0	-0.9
	0.5nm,0.5s,baz=163,slow=21,SNR=2.6						
WB2	Warramunga Arr	46.81	258	*e*P	P	19 23 29.1	-2.4
WRA	Warramunga Arr	46.82	258	P	P	19 23 28.9	-2.8
	0.3nm,0.3s,baz=95,slow=7.3,SNR=73						
ASAR	Alice Springs	47.04	253	P	P	19 23 29.6	-3.8
	2.3nm,0.8s,baz=77,slow=8.5,SNR=28						
FITZ	Fitzroy Crossi	55.20	259	*e*P	P	19 24 34.6	-0.6
	3.4nm,1.3s						
FITZ	Fitzroy Crossi	55.20	259	P	P	19 24 34.2	-1.0
	2.1nm,1.0s,baz=104,slow=17,SNR=5.1						

ISC 27 19:23:29.7±1.9**, 38.21N**±0.08×**26.8E**±0.1**, h9**^{km}±12^{km}**, n6, σ0**^{s}**.32**/12**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IZM	Izmir	0.41	63	*i* PG	Pg	19 23 38.3	+0.1
IZM				*i* SG	Sg	19 23 44.2	+0.4
KDAG	Bornova	0.42	63	*i* P	Pg	19 23 38.2	-0.1
KDAG				*i* S	Sg	19 23 43.8	-0.1
AYDN	Tasoluk	1.02	122	*i* P	Pb	19 23 49.1	-0.1
AYDN				*i* S	Sb	19 24 02.6	0.0
AKS	Akhisar	1.04	50	PG	Pg	19 23 49.9	-0.7
AKS				SG	Sg	19 24 04.6	+0.1
BDRM	Kayabasi	1.26	155	*i* P	Pb	19 23 53.4	+0.2
BDRM				*i* S	Sb	19 24 09.2	-0.2
MANT	Manisa	1.42	78	*i* P	Pn	19 23 56.5	+0.6
MANT				*i* S	Sb	19 24 13.7	-0.3

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*BJI **27** 19:27:38.4, 24.59N×99.08E, h25^{km}, mb4.3, ML4.4, Ms4.2, Msz3.7*

*NEIC **27** 19:27:40.5±3.8, 24.81N×98.98E, h12^{km}±26^{km}, mb4.5/3, Error ellipse: s-maj=10.5km s-min=8.4km az=203.0*

*IDC **27** 19:27:42.9±5.3, 24.83N×99.27E, h26^{km}±38^{km}, mb3.9/10, mb1 4.1/11, mb1mx3.8/23, ML4.1/1, MS3.1/2, Ms1 3.2/2, ms1mx3.0/29, Error ellipse: s-maj=38.9km s-min=13.7km az=62.0*

ISC 27 19:27:38.8±0.4**, 24.84N**±0.04×**99.18E**±0.04**, h10**^{km}**, n37, σ1**^{s}**.28**/49**, mb4.1**/10**, MS3.3**/2**, Yunnan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMI	Kunming	3.24	84	*e*P	Pn	19 28 33.8	+3.0
KMI				PG	Pg	19 28 43.0	-0.6
KMI				SG	Sg	19 29 25.5	-1.3
KMI				Smax			
	comp=N,2µm,0.9s						
KMI				Smax			
	comp=E,1µm,0.8s						
KMI				LR	LR		
	comp=N,4µm,5.3s						
KMI				LR	LR		
	comp=E,2µm,4.4s						
KMI				LR	LR		
	comp=Z,709nm,4.2s						
KMI	Kunming	3.24	84	*e*Pn	Pn	19 28 33.7	+2.9
KMI				Pb	Pb	19 28 37.4	+1.3
KMI				Pg	Pg	19 28 43.1	-0.5
KMI				Sg	Sg	19 29 25.6	-1.2
IMP	Imphal	4.77	270	*e*	Pn	19 28 54.0	+1.5
CHG	Chiang Mai	6.00	182	PN	Pn	19 29 13.6	+3.7
CHG				PG	Pg	19 29 33.1	-5.5
CHG				SG	Sg	19 30 48.8	-10
NANT	Nan	6.17	166	PN	Pn	19 29 12.3	0.0
NANT				PG	Pg	19 29 36.5	-5.6
NANT				SG	Sg	19 30 54.5	-10
CM31	Chiang Mai Arr	6.36	182	*e*Pn	Pn	19 29 15.0	+0.1
	comp=Z,5.2nm,0.6s						
CM31				*e*		19 29 38.4	
CM31				*e*		19 31 01.9	
CMAR	Chiang Mai Arr	6.36	182	Pn	Pn	19 29 15.4	+0.5
	comp=Z,1.1nm,0.3s,baz=357,slow=13,SNR=34						
CMAR				Pg	Pg	19 29 39.4	-6.4
	comp=Z,3.3nm,0.3s,baz=355,slow=18,SNR=34						
CMAR				Lg		19 31 02.9	

	comp=Z,8.4nm,0.3s,baz=16,slow=18,SNR=7.3						
CMAR				LR	LR	19 31 59.0	
	comp=Z,125nm,19.1s,baz=340,slow=40						
SHL	**Shillong**	6.65	278	*e*P	Pn	19 29 18.0	-1.1
SHL				*e*S	Sn	19 30 44.8	+9.1
GYA	**Guiyang**	6.94	75	P	Pn	19 29 24.5	+1.3
GYA				S	Sn	19 30 40.5	-2.5
GYA				Smax			
	comp=N,50nm,0.8s						
GYA				Smax			
	comp=E,50nm,0.9s						
GYA				LR	LR		
	comp=N,3μm,10.2s						
GYA				LR	LR		
	comp=E,1μm,9.6s						
GYA				LR	LR		
	comp=Z,510nm,9.9s						
CD2	**Chengdu**	7.28	33	*e*P	Pn	19 29 28.3	+0.4
CD2				PG	Pg	19 29 55.0	-9.1
CD2				SG	Sg	19 31 34.0	-7.1
CD2				Smax			
	comp=N,59nm,1.2s						
CD2				Smax			
	comp=E,113nm,1.2s						
BDT	**Bhumibol Dam**	7.56	181	P	Pn	19 29 31.5	-0.3
	comp=E,82nm,0.8s						
LSA	**Lhasa**	8.63	306	P	P	19 29 46.3	-0.4
KKTK	**Khon Kaen**	9.12	157	P	P	19 29 55.0	+1.5
NST	**Nakhon Sawan**	9.16	174	P	Px	19 30 32.0	
	comp=E,58nm,1.0s						
ENH	**Enshi**	10.62	57	*e*Pn	P	19 30 13.9	-0.4
	comp=E,7.8nm,0.6s						
ENH				*e*Sn	S	19 32 10.3	-4.1
PKI	**Pulchoki**	12.66	285	*e*P	P	19 30 38.2	-3.7
	comp=E,20nm,0.5s						
KKN	**Kakani**	12.81	286	*e*P	P	19 30 39.9	-3.9
	comp=E,42nm,0.9s						
DMN	**Daman**	12.93	285	*e*P	P	19 30 41.4	-4.1
	comp=E,12nm,0.5s						
GKN	**Gorkha**	13.41	287	*e*P	P	19 30 47.7	-4.1
	comp=E,17nm,0.4s						
KOLN	**Koldanda**	14.28	285	*e*P	P	19 30 59.1	-4.2
	comp=E,24nm,0.9s						
WHN	**Wuhan**	14.58	64	*e*P	P	19 31 10.0	+2.7
BJT	**Baijiatuau**	20.79	39	*e*P	P	19 32 23.6	+0.9
	comp=E,21nm,1.0s						
BJI	**Beijing**	20.81	39	P	P	19 32 23.5	+0.6
BJI				AMB	AMB		
	comp=Z,17nm,1.0s						
BJI				LR	LR		
	comp=N,224nm,16.8s,MS3.9						
BJI				LR	LR		
	comp=E,335nm,14.6s,MS3.9						
BJI				LR	LR		
	comp=Z,132nm,27.7s						
BJI	**Beijing**	20.81	39	P	P	19 32 23.5	+0.6
	comp=Z,17nm,1.0s						
BJI				S	Px	19 35 54.9	
BJI				LR	LR		
	comp=Z,130nm,27.7s,MS3.2						
TGY	**Tagaytay City**	23.09	114	LR	LR	19 41 16.0	
	comp=Z,56nm,20.6s,MS3.0,baz=21,slow=35						
SONM	**Songino Array**	23.65	12	P	P	19 32 52.0	+0.9
	comp=Z,3.2nm,0.8s,mb3.8,baz=195,slow=9.2,SNR=21						
MKAR	**Makanchi Array**	25.73	333	P	P	19 33 12.2	+1.2
	comp=Z,4.7nm,0.6s,mb4.2,baz=141,slow=11,SNR=33						
ZAL	**Zalesovo**	30.99	343	P	P	19 33 58.4	0.0
	comp=Z,0.8nm,0.3s,mb4.0,baz=216,slow=8.4,SNR=3.3						
BVAR	**Borovoye Array**	35.52	330	P	P	19 34 37.6	-0.2
	comp=Z,1.2nm,0.6s,mb4.0,baz=121,slow=8.6,SNR=11						
GNI	**Garni**	47.68	303	P	P	19 36 18.9	+1.5
	comp=Z,1.3nm,0.4s,mb4.3,baz=358,slow=21,SNR=4.5						
GNI	**Garni**	47.68	303	*e*P	P	19 36 17.5	+0.1
	comp=Z,14nm,1.4s,mb4.8						
FITZ	**Fitzroy Crossi**	49.86	146	P	P	19 36 31.5	-3.0
	comp=Z,1.9nm,0.9s,mb4.1,baz=46,slow=5.8,SNR=4.4						
WRA	**Warramunga Arr**	56.14	139	P	P	19 37 20.5	-0.7
	comp=Z,3.6nm,0.8s,mb4.5,baz=328,slow=7.7,SNR=26						
AKASG	**Malin Array Be**	58.64	316	P	P	19 37 37.2	-1.2
	comp=Z,1.1nm,0.5s,mb4.1,baz=78,slow=6.5,SNR=6.1						
ASAR	**Alice Springs**	58.80	142	P	P	19 37 39.5	-0.4
	comp=Z,1.2nm,0.8s,mb4.0,baz=322,slow=6.7,SNR=9.0						
NOA	**NORSAR Array B**	67.63	328	P	P	19 38 36.7	-1.0
	comp=Z,1.5nm,0.9s,mb4.0,baz=106,slow=9.3,SNR=2.6						
SDV	**Santo Domingo**	145.04	342	*e*PKPdf	PKPdf	19 47 17.1	-3.2

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*STR **27** 19:33:27.7±0.3, 42.33N×2.13E, h5^{km}±1^{km}, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*NEIC **27** 19:33:27.7, 42.33N×2.13E, h5^{km}, ML2.5(STR), ML2.3(LDG), MN2.0(MDD), After STR.*

*LDG **27** 19:33:28.4±0.2, 42.35N×2.15E, h4^{km}, Md2.6/1, Ml2.3/11, Error ellipse: s-maj=4.4km s-min=2.1km az=174.0*

*MDD **27** 19:33:28.4±0.3, 42.35N×2.14E, mbLg2.0/7, Error ellipse: s-maj=3.0km s-min=1.8km az=166.0, PRXIMO AftershockPLICA*

ISC 27 19:33:26.5±0.4**, 42.37N**±0.02×**2.17E**±0.02**, h10**^{km}±2^{km}**, n34,** σ1^{s}**46**/68**, 2C, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VALF	**Valcebollere**	0.12	285	Pg	Pg	19 33 30.3	+0.8
VALF				Sg	Sg	19 33 32.0	+0.5
VALF	**Valcebollere**	0.12	285	P	Pg	19 33 30.4	+0.8
VALF				S	Sg	19 33 32.0	+0.4
FILF	**Fillols**	0.34	56	Pg	Pg	19 33 33.8	+0.1
FILF				Sg	Sg	19 33 37.9	-0.5
FILF	**Fillols**	0.34	56	P	Pg	19 33 33.9	+0.2
FILF				S	Sg	19 33 37.7	-0.7
CARF	**Carcanieres**	0.35	352	P	Pg	19 33 35.4	+1.7
CARF				S	Sg	19 33 40.2	+1.7
EJON	**La Jonquera**	0.54	81	⇑Pg	Pg	19 33 38.6	+1.2
	1.7nm,0.3s,SNR=18						
EJON				Lg		19 33 46.6	
	9.2nm,0.1s,SNR=18						
SJAF	**Saint Jean de**	0.54	78	Pg	Pg	19 33 38.4	+1.0
SJAF				Sg	Sg	19 33 46.9	+2.2
SJAF	**Saint Jean de**	0.54	78	P	Pg	19 33 38.6	+1.1
SJAF				S	Sg	19 33 46.0	+1.3
LRDF	**Laroque-de-Fa**	0.63	25	Pg	Pg	19 33 40.7	+1.5
LRDF				Sg	Sg	19 33 50.5	+2.8
LRDF	**Laroque-de-Fa**	0.63	25	P	Pb	19 33 40.8	+1.7
LRDF				S	Sb	19 33 50.1	+2.5
EMIR	**Miracle**	0.66	227	⇑Pg	Pg	19 33 39.9	0.0
	3.9nm,0.1s,SNR=18						
EMIR				Lg		19 33 49.3	
	20nm,0.3s,SNR=5.0						
SALF	**Salau**	0.82	299	Pg	Pg	19 33 43.5	+0.4
SALF				Sg	Sg	19 33 54.3	+0.2
SALF	**Salau**	0.82	299	P	Pb	19 33 43.6	+1.1
SALF				S	Sb	19 33 53.6	+0.3
MTLF	**Montolieu**	0.97	2	*e*Pg	Pg	19 33 46.7	+0.7
MTLF				*e*Pn	Pn	19 33 48.2	+2.2
MTLF				*e*Sg	Sg	19 34 00.4	+1.4
	21nm,0.4s						
MELF	**Melles**	1.16	296	Pg	Pg	19 33 49.7	0.0
MELF	**Melles**	1.16	296	P	Pb	19 33 49.9	+1.8
MELF				S	Sb	19 34 04.0	+1.1
EPOB	**Poblet**	1.30	219	Pg	Pg	19 33 51.5	-1.2
	3.6nm,0.1s,SNR=31						
EPOB				Lg		19 34 08.2	
	17nm,0.1s,SNR=22						
RESF	**Ens**	1.42	289	S	Sb	19 34 14.1	+3.4
EPF	**Esparros**	1.50	297	*e*Pn	Pn	19 33 55.0	+1.4
EPF				*e*Pg	Pg	19 33 57.1	+0.5
EPF				*e*Sg	Sg	19 34 16.3	-0.3
	8.3nm,0.2s						
EBR	**Ebro Roquetas**	2.00	220	*e*Rs		19 34 35.0	
ESAC	**San Caprasio**	2.07	253	Pg	Pg	19 34 04.2	-3.7
	6.5nm,0.1s,SNR=8.8						
ESAC				Lg		19 34 32.2	
	19nm,0.3s,SNR=5.0						
ETSF	**Etsaut**	2.08	286	*e*Pg	Pg	19 34 07.0	-1.2
ETSF				*e*Sg	Sg	19 34 34.3	-1.6
	6.1nm,0.3s						
LASF	**Ste Croix**	2.10	35	*e*Pn	Pn	19 34 03.5	+1.3
LASF				*e*Pg	Pg	19 34 07.7	-0.9
LASF				*e*Sn	Sn	19 34 26.9	-1.8
LASF				*e*Sg	Sg	19 34 35.2	-1.4
	1.9nm,0.3s						
CAF	**Calviac**	2.56	358	*e*Pn	Pn	19 34 09.7	+1.0
CAF				*e*Pg	Pg	19 34 15.8	-1.8
CAF				*e*Sn	Sn	19 34 40.2	+0.1
CAF				*e*Sg	Sg	19 34 49.2	-2.5
	3.5nm,0.2s						
SJPF	**Ste Jean**	2.61	288	*e*Sg	Sg	19 34 50.3	-3.2
	2.1nm,0.3s						
LFF	**La Frestale**	2.77	338	*e*Pn	Pn	19 34 12.9	+1.1
LFF				*e*Sg	Sg	19 34 56.3	-2.5
	5.2nm,0.3s						
EMOS	**Mosqueruela**	2.82	226	Pg	Pg	19 34 21.1	-1.8
	3.8nm,0.8s,SNR=5.0						
EMOS				Sn	Sn	19 34 46.6	-0.3
	0.8nm,0.3s,SNR=7.9						
EMOS				Lg		19 34 57.2	
	1.3nm,0.3s,SNR=7.9						
EALK	**Alkurruntz**	2.84	289	Pn	Pn	19 34 15.8	+3.1
	1.1nm,0.3s,SNR=7.9						
EALK				Pg	Pg	19 34 20.5	-2.7
	SNR=7.9						
EALK				Lg		19 35 00.3	
	2.4nm,0.3s,SNR=7.9						
SMRF	**Simiane la Rot**	2.96	56	*e*Pn	Pn	19 34 12.0	-2.5
RJF	**Les Rejaudoux**	2.97	351	*e*Pn	Pn	19 34 15.0	+0.4
RJF				*e*Sn	Sn	19 34 49.4	-1.3
RJF				*e*Sg	Sg	19 35 02.6	-2.9
	1.4nm,0.2s						
VIVF	**Saint-Julien-l**	3.08	35	*e*Pn	Pn	19 34 16.1	-0.1
VIVF				*e*Pg	Pg	19 34 25.4	-2.6
VIVF				*e*Sn	Sn	19 34 52.4	-1.0
VIVF				*e*Sg	Sg	19 35 06.2	-2.8
	1.0nm,0.3s						
LMR	**La Mourre**	3.33	72	*e*Pn	Pn	19 34 20.4	+0.6
LMR				*e*Sn	Sn	19 34 58.1	-1.7
	0.9nm,0.2s						
FRF	**La Foret Royal**	3.49	69	*e*Pn	Pn	19 34 23.1	+1.0
FRF				*e*Sn	Sn	19 35 01.3	-2.6
	1.1nm,0.3s						
ETOR	**Torete**	3.53	245	Pn	Pn	19 34 23.8	+1.2
	0.3nm,0.2s,SNR=7.9						
ETOR				Pg	Pg	19 34 35.2	-1.7
	SNR=7.9						
ETOR				Sn	Sn	19 35 04.6	-0.2
	1.2nm,0.4s,SNR=7.9						
ETOR				Lg		19 35 20.8	
	4.7nm,0.6s,SNR=5.0						

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*IDC **27** 19:46:23.4±0.5, 3.71S×151.29E, mb4.7/20, mb1 4.9/22, mb1mx4.9/23, ML4.0/2, MS4.5/17, Ms1 4.6/17, ms1mx4.5/19, Error ellipse: s-maj=18.6km s-min=12.7km az=98.0*

*BJI **27** 19:46:24.5, 3.45S×151.84E, h13^{km}, mB5.3, mb5.1, Ms5.0, Msz4.8*

*NEIC **27** 19:46:25.8±0.2, 3.75S×151.28E, h10^{km}, mb5.2/40, MS4.8/19, Error ellipse: s-maj=7.9km s-min=5.4km az=103.0*

*HRVD **27** 19:46:25.8±0.2, 3.61S×151.37E, h12^{km}, MW5.3/72, Centroid moment Tensor Solution. LP body waves: s47,c85;Mantle waves: s72,c138; Half duration: 1^{s}1 Moment tensor: Scale 10^{17}Nm; M$_{rr}$-0.23±.02; M$_{\theta\theta}$1.23±.02; M$_{\phi\phi}$-1.00±.02; M$_{r\theta}$-0.03±.05; M$_{\theta\phi}$0.37±.02; M$_{\phi r}$-0.05±.06; Best double couple: M$_0$1.18×10^{17} NP1: ϕ_s306°, δ87°, λ-1°. NP2: ϕ_s36°, δ89°, λ-177°. Principal axes: T 1.29, Plg1°, Azm171°; N -.23, Plg86°, Azm59°; P -1.06, Plg3°, Azm261°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*SYO **27** 19:46:26.2, 3.71S×151.25E, h10^{km}, MB5.2, MS4.8*

*MOS **27** 19:46:27.4±1.1, 3.72S×151.19E, h33^{km}, mb4.9/15, MS4.6/13, Error ellipse: s-maj=18.1km s-min=10.7km az=75.5*

ISC 27 19:46:24.2±0.2**, 3.78S**±0.03×**151.28E**±0.04**, h10**^{km}**, (h15**^{km}±.7^{km}**:pP-P), n197,** σ1^{s}**36**/182**, mb5.1**/67**, MS4.7**/48**, 7C-4D, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WAU	**Wau**	5.76	232	*e*P	Pn	19 47 54.4	+2.5
PMG	**Port Moresby**	6.93	216	Pn	Pn	19 48 08.9	+0.6
	8.5nm,0.3s,baz=35,slow=7.5,SNR=28						
PMG				LR	LR	19 50 47.6	
	comp=Z,7μm,22.0s,baz=32,slow=38						
PMG	**Port Moresby**	6.93	216	P	Pn	19 48 08.9	+0.5
PMG				pmax	pmax		
	comp=Z,9.0nm,0.3s						
PMG				MLR	MLR		
	comp=Z,7μm,22.0s						
PMG	**Port Moresby**	6.93	216	*e*P	Pn	19 48 10.1	+1.7
CTA	**Charters Tower**	16.93	196	⇑*i*P	P	19 50 24.8	+1.7
	comp=Z,101nm,1.5s						
CTA	**Charters Tower**	16.93	196	Pn	P	19 50 24.9	+1.8
	comp=Z,0.6nm,0.3s,baz=18,slow=12,SNR=28						
CTA				LR	LR	19 56 39.3	
	comp=Z,2μm,18.9s,baz=17,slow=36						
CTA	**Charters Tower**	16.93	196	P	P	19 50 24.9	+1.8
CTA				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CTA				MLR	MLR		
	comp=Z,2μm,18.9s						
CTAO	**Charters Tower**	16.93	196	*e*P	P	19 50 25.0	+1.9
	comp=Z,485nm,1.6s						
GUMO	**Guam**	18.39	340	*e*P	P	19 50 40.8	-0.5
	comp=Z,240nm,0.9s						
SAPN	**Saipan**	19.65	344	⇑*e*P	P	19 50 53.8	-2.4
KAKA	**Kakadu**	20.66	243	*e*P	P	19 51 09.6	+2.6
	comp=Z,70nm,0.6s						
SARN	**Sarigan**	21.06	345	P	P	19 51 09.4	-1.6
WB2	**Warramunga Arr**	23.03	224	*e*P	P	19 51 30.4	-0.4
WB2				*e*S	S	19 55 43.7	+6.7
WRA	**Warramunga Arr**	23.04	224	P	P	19 51 30.1	-0.8
	comp=Z,18nm,0.8s,mb4.5,baz=48,slow=10,SNR=103						
WRA	**Warramunga Arr**	23.04	224	P	P	19 51 30.1	-0.8
WRA				pmax	pmax		
	comp=Z,18nm,0.8s						
NOUC	**Port Laguerre**	23.33	143	*e*P	P	19 51 33.3	-0.4
DZM	**Mont Dzumac**	23.39	142	⇑*e*P	P	19 51 33.9	-0.4
DZM	**Mont Dzumac**	23.39	142	⇑*e*P	P	19 51 33.9	-0.4
ASAR	**Alice Springs**	25.93	219	P	P	19 51 57.9	-0.8
	comp=Z,28nm,1.0s,mb4.7,baz=54,slow=8.2,SNR=74						
ASPA	**Alice Springs**	25.93	219	*e*P	P	19 51 58.2	-0.5
ASPA				*e*S	S	19 56 41.6	+15
FITZ	**Fitzroy Crossi**	28.85	239	*e*P	P	19 52 24.2	-1.1
	comp=Z,38nm,1.3s,mb5.0						
FITZ				*e*S	S	19 57 31.1	+17
FITZ	**Fitzroy Crossi**	28.85	239	P	P	19 52 24.3	-1.0
	comp=Z,12nm,0.8s,mb4.7,baz=64,slow=5.4,SNR=29						
FITZ				LR	LR	20 04 27.2	
	comp=Z,426nm,21.9s,MS4.0,baz=79,slow=38						
STKA	**Stephens Creek**	29.39	197	*e*P	P	19 52 28.0	-2.1
	comp=Z,13nm,0.8s,mb4.7						
STKA	**Stephens Creek**	29.39	197	P	P	19 52 28.3	-1.7
	comp=Z,10nm,0.9s,mb4.6,baz=359,slow=9.1,SNR=20						
STKA				LR	LR	20 05 06.8	
	comp=Z,1μm,18.2s,MS4.6,baz=14,slow=38						
FORT	**Forrest**	34.66	217	*e*P	P	19 53 14.5	-1.6
	comp=Z,66nm,0.6s,mb5.7						
TGY	**Tagaytay City**	34.94	301	LR	LR	20 06 02.3	
	comp=Z,686nm,18.6s,MS4.4,baz=119,slow=34						
MBWA	**Marble Bar**	35.19	238	*e*P	P	19 53 22.2	+1.4
	comp=Z,45nm,1.1s,mb5.3						
MBWA				LR	LR		
	comp=Z,685nm,21.0s,MS4.4						
KKM	**Kota Kinabalu**	36.35	285	⇑*e*P	P	19 53 29.7	-0.9
JHJ	**Hachijo jima 2**	38.28	344	P	P	19 53 43.8	-2.9
	comp=Z,117nm,0.8s,mb5.7,baz=55,slow=22,SNR=2.4						
TATO	**Taipei**	40.67	316	P	P	19 54 06.4	-0.2
TATO				LR	LR		
	comp=Z,2μm,20.0s,MS5.0						
JNU	**Nakatsue**	41.47	334	P	P	19 54 12.9	-0.2
	comp=Z,17nm,0.4s,mb5.0,baz=148,slow=2.7,SNR=2.1						
URZ	**Urewera**	41.63	149	P	P	19 54 14.5	+0.1
	comp=Z,17nm,0.8s,mb4.8,baz=337,slow=5.9,SNR=4.5						
URZ				LR	LR	20 09 35.7	
	comp=Z,913nm,19.3s,MS4.7,baz=16,slow=33						
MAJO	**Matsushiro**	41.93	344	*e*P	P	19 54 16.8	-0.1
	comp=Z,23nm,1.0s,mb4.8						
MAJO				LR	LR		
	comp=Z,895nm,19.0s,MS4.7						
MAT	**Matsushiro**	41.93	344	P	P	19 54 12.4	-4.5
MAT				S	S	20 00 30.0	-5.0
MAT	**Matsushiro**	41.93	344	*e*P	P	19 54 12.0	-4.9
MAT				*e*S	S	20 00 30.0	-5.0
MAT				LR	LR		
	comp=Z,710nm,20.0s,MS4.5						
NWAO	**Narrogin (SRO)**	43.05	224	P	P	19 54 25.0	-1.1
	comp=Z,5.0nm,0.6s,mb4.4,baz=25,slow=7.7,SNR=6.6						
NWAO	**Narrogin (SRO)**	43.05	224	P	P	19 54 25.0	-1.1
NWAO				pmax	pmax		
	comp=Z,5.0nm,0.6s						
NWAO	**Narrogin (SRO)**	43.05	224	P	P	19 54 25.7	-0.4
	comp=Z,4.6nm,0.6s,mb4.4						
NWAO				LR	LR		
	comp=Z,1μm,21.0s,MS4.7						
MUN	**Mundaring**	43.23	225	*e*P	P	19 54 29.9	+2.3
	comp=Z,9.3nm,0.8s,mb4.6						
RPZ	**Rata Peaks**	43.45	159	P	P	19 54 28.0	-1.3
	comp=Z,31nm,1.1s,mb4.9,baz=9.9,slow=14,SNR=3.8						
QIZ	**Qiongzhong**	46.65	301	P	P	19 54 57.5	+2.4
QIZ				S	S	20 01 47.5	+4.0
QIZ				LR	LR		
	comp=N,697nm,25.8s						
QIZ				LR	LR		
	comp=Z,505nm,37.6s						
INCN	**Inchon**	47.01	333	*e*P	P	19 54 56.7	-1.1
	comp=Z,153nm,1.1s,mb5.8						
NJ2	**Nanjing**	47.10	322	*e*P	P	19 55 00.5	+2.0
NJ2				AP	pP	19 55 05.0	+3.4
NJ2				XP	sP	19 55 07.5	+4.7
NJ2				PP	PP	19 56 49.0	0.0
NJ2				S	S	20 01 52.0	+2.2
NJ2				XS		20 01 59.0	
NJ2				AMB	AMB		
	comp=Z,30nm,0.5s,mb5.5						
NJ2				AMB	AMB		
	comp=Z,250nm,6.5s						
NJ2				LR	LR		
	comp=N,1μm,13.2s,MS5.4						
NJ2				LR	LR		
	comp=E,3μm,18.2s,MS5.4						
NJ2				LR	LR		
	comp=Z,3μm,20.9s,MS5.2						
DL2	**Dalian**	50.53	330	P	P	19 55 29.0	+4.1
DL2				S	S	20 02 42.0	+4.3
DL2				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
DL2				LR	LR		
	comp=N,230nm,21.0s,MS4.4						
DL2				LR	LR		
	comp=E,320nm,20.8s,MS4.4						
DL2				LR	LR		
	comp=Z,570nm,23.6s,MS4.5						
RAR	**Rarotonga**	50.58	114	P	P	19 55 25.3	-0.3
	comp=Z,22nm,0.7s,mb5.2,baz=79,slow=12,SNR=3.0						
RAR				LR	LR	20 14 27.0	
	comp=Z,210nm,19.2s,MS4.2,baz=160,slow=33						
RAR	**Rarotonga**	50.58	114	P	P	19 55 25.3	-0.3
RAR				pmax	pmax		
	comp=Z,22nm,0.7s						
RAR				MLR	MLR		
	comp=Z,210nm,19.2s						
YSS	**Yuzh-Sakhalins**	51.07	353	*e*P	P	19 55 27.5	-1.4
YSS				*e*S	S	20 02 44.0	-1.0
YSS				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.2						
YSS				MLR	MLR		
	comp=Z,300nm,17.0s,MS4.4						
YSS	**Yuzh-Sakhalins**	51.07	353	*e*P	P	19 55 28.8	-0.1
SNY	**Shenyang**	51.91	334	⇓P	P	19 55 38.5	+3.1
SNY				XP	sP	19 55 44.5	+4.8
SNY				S	S	20 02 48.5	-8.2
SNY				SS	SS	20 06 34.8	+3.1
SNY				AMB	AMB		
	comp=Z,20nm,1.1s,mb5.0						
SNY				LR	LR		
	comp=N,520nm,18.6s,MS4.7						
SNY				LR	LR		
	comp=E,390nm,15.1s,MS4.7						
SNY				LR	LR		
	comp=Z,1μm,28.0s						
MDJ	**Mudanjiang**	51.95	340	P	P	19 55 34.3	-1.3
MDJ				XP	sP	19 55 39.0	-0.9
MDJ				S	S	20 02 52.0	-5.1
MDJ				SCS	ScS	20 05 26.3	+3.5
MDJ				SS	SS	20 06 29.0	-3.1
MDJ				AMB	AMB		
	comp=Z,12nm,1.1s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,203nm,5.2s						
MDJ				LR	LR		
	comp=N,609nm,37.3s						
MDJ				LR	LR		
	comp=E,507nm,29.4s						
MDJ				LR	LR		
	comp=Z,1μm,31.6s						
MDJ	**Mudanjiang**	51.95	340	*e*P	P	19 55 33.7	-1.9
	comp=Z,39nm,1.0s,mb5.3						
MDJ				LR	LR		
	comp=Z,560nm,22.0s,MS4.5						
ENH	**Enshi**	52.35	313	P	P	19 55 39.3	+0.4
	comp=Z,20nm,1.0s,mb5.0						
ENH				LR	LR		
	comp=Z,909nm,22.0s,MS4.8						
GYA	**Guiyang**	52.57	308	⇑*i*P	P	19 55 45.5	+4.9
GYA				AP	pP	19 55 50.8	+7.2
GYA				XP	sP	19 55 52.5	+7.7
GYA				S	S	20 03 14.5	+8.6
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.1						
GYA				LR	LR		
	comp=N,160nm,16.4s,MS4.3						
GYA				LR	LR		
	comp=E,180nm,17.0s,MS4.3						
GYA				LR	LR		
	comp=Z,240nm,16.5s,MS4.3						
CN2	**Changchun**	52.76	337	*e*P	P	19 55 39.5	-2.2
CN2				*e*AP	pP	19 55 44.5	-0.3
CN2				PP	PP	19 57 39.8	-2.7
CN2				*e*S	S	20 03 11.0	+2.8
CN2				AMB	AMB		
	comp=Z,20nm,1.4s,mb4.8						
CN2				AMB	AMB		
	comp=Z,400nm,5.0s						
CN2				LR	LR		
	comp=N,700nm,21.0s,MS4.8						
CN2				LR	LR		
	comp=E,600nm,21.0s,MS4.8						
CN2				LR	LR		
	comp=Z,1μm,24.0s,MS4.9						
NST	**Nakhon Sawan**	54.16	292	P	P	19 55 53.0	+0.6
	comp=Z,42nm,0.6s,mb5.5						
BJT	**Baijiatuau**	54.20	327	*e*P	P	19 55 53.2	+0.8
	comp=Z,5.6nm,0.4s,mb4.8						
BJI	**Beijing**	54.21	327	P	P	19 55 55.3	+2.9
BJI				S	S	20 03 29.8	+1.8
BJI				AMB	AMB		
	comp=Z,17nm,1.5s,mb4.8						
BJI				LR	LR		
	comp=N,594nm,22.2s,MS4.7						
BJI				LR	LR		
	comp=E,389nm,19.3s,MS4.7						
BJI				LR	LR		
	comp=Z,1μm,32.9s						
BJI	**Beijing**	54.21	327	P	P	19 55 55.2	+2.8
	comp=Z,17nm,1.5s,mb4.8						
BJI				S	S	20 03 29.7	+1.7
BJI				LR	LR		
	comp=Z,1μm,32.9s,MS4.7						
NANT	**Nan**	54.60	296	P	P	19 55 55.0	-0.6
XAN	**Xi'an**	54.84	317	P	P	19 55 55.5	-1.7
XAN				AP	pP	19 56 00.0	-0.2
KMI	**Kunming**	55.16	304	*e*P	P	19 56 03.5	+3.9
KMI				XP	sP	19 56 14.0	+10
KMI				S	S	20 03 46.0	+5.1
KMI				AMB	AMB		
	comp=Z,17nm,1.3s,mb4.9						
KMI				LR	LR		
	comp=N,501nm,17.2s,MS4.8						
KMI				LR	LR		
	comp=E,497nm,16.8s,MS4.8						
KMI				LR	LR		
	comp=Z,578nm,27.2s						
KMI	**Kunming**	55.16	304	*e*P	P	19 56 03.6	+4.0
	comp=Z,17nm,1.3s,mb4.9						
KMI				sP	sP	19 56 14.0	+10
KMI				S	S	20 03 46.1	+5.2
KMI				LR	LR		
	comp=Z,580nm,27.2s,MS4.5						
KLR	**Kul'dur**	55.45	345	*e*P	P	19 55 55.7	-5.7
KLR				MLR	MLR		
	comp=E,600nm,15.0s						
CM31	**Chiang Mai Arr**	56.07	295	*e*P	P	19 56 06.4	+0.2
	comp=E,52nm,0.8s,mb5.6						
CMAR	**Chiang Mai Arr**	56.07	295	P	P	19 56 06.1	-0.2

	comp=E,7.6nm,0.7s,mb4.8,baz=117,slow=5.9,SNR=66						
CMAR				LR	LR	20 16 50.5	
	comp=E,382nm,20.6s,MS4.5,baz=115,slow=33						
CMAR	**Chiang Mai Arr**	**56.07**	**295**	P	**P**	**19 56 06.1**	**-0.2**
CMAR				pmax	pmax		
	comp=Z,8.0nm,0.7s						
CMAR				MLR	MLR		
	comp=Z,382nm,20.6s						
CHG	**Chiang Mai**	**56.18**	**296**	⇑P	**P**	**19 56 07.1**	**+0.1**
	comp=Z,28nm,1.1s,mb5.2						
CD2	**Chengdu**	**56.92**	**311**	*e*P	**P**	**19 56 11.0**	**-1.3**
PET	**Petropavlovsk**	**56.93**	**5**	*e*P	**P**	**19 56 16.5**	**+4.5**
PET				*e*S	**S**	**20 04 06.6**	**+2.6**
PET				pmax	pmax		
	comp=Z,21nm,0.5s,mb5.4						
PET				smax			
	comp=E,263nm,15.1s						
PET				smax			
	comp=N,628nm,21.2s						
PET				MLR	MLR		
	comp=Z,551nm,21.0s,MS4.6						
HHC	**Hu-ho-hao-te**	**57.34**	**325**	*e*P	**P**	**19 56 19.3**	**+4.2**
HHC				AP	pP	19 56 24.0	+5.9
HHC				XP	sP	19 56 25.5	+6.2
HHC				PCP	PcP	19 57 12.0	+3.0
HHC				PP	PP	19 58 28.0	+4.0
HHC				PCS		20 01 11.3	
HHC				S	**S**	**20 04 14.0**	**+4.4**
HHC				PS	PS	20 04 32.3	+9.0
HHC				SCS	ScS	20 06 05.3	+4.3
HHC				AMB	AMB		
	comp=Z,20nm,1.2s,mb5.0						
HHC				AMB	AMB		
	comp=Z,241nm,6.2s						
HHC				LR	LR		
	comp=N,316nm,19.0s						
HHC				LR	LR		
	comp=E,285nm,25.0s						
HHC				LR	LR		
	comp=Z,482nm,20.8s,MS4.6						
BTO	**Baotou**	**58.08**	**324**	*e*P	**P**	**19 56 23.8**	**+3.6**
BTO				AMB	AMB		
	comp=Z,46nm,1.0s,mb5.5						
LZH	**Lanzhou**	**59.44**	**316**	⇑P	**P**	**19 56 34.5**	**+4.7**
LZH				PP	PP	19 58 48.0	+5.0
LZH				*e*S	**S**	**20 04 42.5**	**+5.3**
LZH				XS		20 04 49.8	
LZH				SS	SS	20 08 39.8	+6.0
LZH				AMB	AMB		
	comp=Z,42nm,1.3s,mb5.3						
LZH				AMB	AMB		
	comp=Z,236nm,5.2s						
LZH				LR	LR		
	comp=E,957nm,15.0s						
LZH				LR	LR		
	comp=Z,2µm,17.5s,MS5.2						
PPT	**Papeete**	**59.48**	**108**	*e*S	**S**	**20 04 37.1**	**-0.8**
PPT				*e*L		20 11 27.2	
PPT				*e*R		20 14 22.5	
	comp=Z,490nm,24.8s						
HIA	**Hailar**	**59.49**	**337**	*e*P	**P**	**19 56 28.3**	**-1.7**
	comp=Z,42nm,1.2s,mb5.3						
HIA				LR	LR		
	comp=Z,525nm,22.0s,MS4.6						
TBI	**Tubuai**	**60.36**	**115**	*e*S	**S**	**20 04 48.6**	**-0.5**
TBI				*e*R		20 14 35.9	
	comp=Z,932nm,30.2s						
MA2	**Magadan**	**63.16**	**360**	*e*P	Px	19 57 06.4	
MA2				*e*S	Sx	20 05 47.3	
MA2				*e*SS	SS	20 09 26.8	-5.4
MA2				pmax	pmax		
	comp=Z,70nm,2.5s,mb5.3						
MA2				MLR	MLR		
	comp=Z,910nm,22.0s,MS4.9						
MA2	**Magadan**	**63.16**	**360**	*e*P	**P**	**19 56 53.4**	**-1.1**
GTA	**Gaotai**	**63.88**	**318**	*e*P	**P**	**19 57 04.5**	**+4.9**
GTA				AP	pP	19 57 07.8	+5.0
GTA				XP	sP	19 57 11.3	+7.4
GTA				PP	PP	19 59 27.0	+5.1
GTA				S	**S**	**20 05 40.0**	**+6.5**
GTA				XS		20 05 49.3	
GTA				AMB	AMB		
	comp=Z,43nm,4.9s						
GTA				LR	LR		
	comp=N,147nm,24.3s						
GTA				LR	LR		
	comp=E,150nm,30.0s						
GTA				LR	LR		
	comp=Z,372nm,22.8s,MS4.5						
CLNS	**Chul’man**	**64.11**	**344**	*e*P	**P**	**19 57 01.8**	**+1.0**
CLNS				pmax	pmax		
	comp=Z,33nm,1.0s,mb5.3						
CLNS				pmax	pmax		
	comp=N,19nm,1.2s						
CLNS				pmax	pmax		
	comp=E,10.0nm,1.0s						
SHL	**Shillong**	**64.48**	**301**	*e*P	**P**	**19 57 03.5**	**-0.3**
SONM	**Songino Array**	**64.66**	**328**	P	**P**	**19 57 02.7**	**-1.9**
	comp=E,3.4nm,0.7s,mb4.5,baz=148,slow=5.8,SNR=20						
LSA	**Lhasa**	**66.41**	**305**	P	**P**	**19 57 17.5**	**+1.4**
UNV	**Unalaska Valle**	**67.35**	**26**	P	**P**	**19 57 23.1**	**+1.4**
	comp=E,88nm,0.9s,mb5.8						
YAK	**Yakutsk**	**67.69**	**349**	*e*P	**P**	**19 57 21.4**	**-2.2**
YAK				pmax	pmax		
	comp=Z,10.0nm,1.5s,mb4.6						
YAK				pmax	pmax		
	comp=N,5.0nm,1.3s						
YAK				pmax	pmax		
	comp=E,2.0nm,1.1s						
YAK	**Yakutsk**	**67.69**	**349**	*e*P	**P**	**19 57 21.6**	**-2.0**
	comp=E,77nm,1.1s,mb5.6						
YAK				LR	LR		
	comp=Z,753nm,22.0s,MS4.9						
ZAK	**Zakamensk**	**67.84**	**329**	*e*P	**P**	**19 57 23.5**	**-1.3**
BOD	**Bodaibo**	**68.31**	**340**	*e*P	**P**	**19 57 25.3**	**-2.3**
BOD				*e*		19 57 30.9	
CASY	**Casey**	**68.55**	**196**	*e*P	**P**	**19 57 27.2**	**-1.7**
	comp=Z,29nm,1.1s,mb5.1						
CASY				LR	LR		
	comp=Z,809nm,21.0s,MS4.9						
PKI	**Pulchoki**	**70.61**	**301**	*e*P	**P**	**19 57 42.0**	**-0.2**
	comp=Z,90nm,1.1s,mb5.6						
KKN	**Kakani**	**70.78**	**301**	*e*P	**P**	**19 57 42.7**	**-0.5**
	comp=Z,75nm,0.8s,mb5.7						
DMN	**Daman**	**70.88**	**301**	*e*P	**P**	**19 57 43.6**	**-0.3**
	comp=Z,149nm,1.0s,mb5.9						
GKN	**Gorkha**	**71.38**	**301**	*e*P	**P**	**19 57 46.2**	**-0.7**
	comp=Z,120nm,0.9s,mb5.8						
KOLN	**Koldanda**	**72.21**	**301**	*e*P	**P**	**19 57 50.7**	**-1.2**
	comp=Z,112nm,0.8s,mb5.8						
WMQ	**Urumqi**	**73.97**	**318**	*e*P	**P**	**19 58 03.5**	**+1.6**
WMQ				AP	pP	19 58 08.5	+3.5
WMQ				XP	sP	19 58 10.5	+4.4
WMQ				PP	PP	20 00 50.5	+1.8
WMQ				*e*S	S	20 07 33.8	+1.1
WMQ				SS	SS	20 12 20.0	+0.4
WMQ				AMB	AMB		
	comp=Z,23nm,1.0s,mb5.1						
WMQ				LR	LR		
	comp=N,369nm,22.3s,MS4.8						
WMQ				LR	LR		
	comp=E,329nm,22.1s,MS4.8						
WMQ				LR	LR		
	comp=Z,455nm,24.0s,MS4.7						
CUD	**Cuddapah**	**74.08**	**286**	*e*P	**P**	**19 58 07.6**	**+4.5**
MIR	**Mirnyy**	**74.33**	**201**	⇓*e*P	**P**	**19 58 03.0**	**-0.5**
MIR				pmax	pmax		
	comp=Z,85nm,1.6s,mb5.4						
MIR				MLR	MLR		
	comp=Z,700nm,16.0s,MS5.0						
SBA	**Scott Base**	**74.47**	**177**	*e*P	**P**	**19 58 04.9**	**+0.7**
	comp=Z,19nm,1.4s,mb4.8						
SBA				LR	LR		
	comp=Z,404nm,21.0s,MS4.7						
HYB	**Hyderabad**	**74.72**	**289**	*i* P	**P**	**19 58 11.0**	**+4.2**
HYB	**Hyderabad**	**74.72**	**289**	*e*P	**P**	**19 58 11.0**	**+4.2**
JOSI	**Joshimath**	**76.30**	**303**	*e*P	**P**	**19 58 16.1**	**+0.6**
TIXI	**Tiksi**	**76.70**	**353**	*e*P	**P**	**19 58 17.0**	**+0.1**
BHPL	**Bhopal**	**76.73**	**295**	*e*P	**P**	**19 58 16.8**	**-1.2**
BHPL				*e*		19 58 23.5	
	comp=Z,26nm,1.0s						
ASOR	**Ausora**	**77.44**	**300**	*e*P	**P**	**19 58 24.6**	**+2.7**
KLP	**Kalpa**	**77.60**	**303**	*e*P	**P**	**19 58 22.1**	**-0.6**
KLP				*e*		19 58 30.0	
	comp=Z,52nm,0.8s						
SONA	**Sohna**	**77.94**	**300**	*e*P	**P**	**19 58 23.4**	**-1.2**
SONA				*e*		19 58 30.5	
	comp=Z,30nm,0.5s						
AYAN	**Aya Nagar**	**77.94**	**300**	*e*P	**P**	**19 58 23.3**	**-1.3**
AYAN				*e*		19 58 30.2	
	comp=Z,35nm,0.9s						
BHGR	**Bahadurgarh**	**78.15**	**300**	*e*	**P**	**19 58 30.0**	**+4.2**
SLKM	**Skilak Lake**	**78.40**	**26**	*e*P	**P**	**19 58 26.6**	**+0.1**
KUDL	**Kundal**	**78.43**	**300**	*e*P	**P**	**19 58 26.1**	**-1.3**
KUDL				*e*		19 58 32.9	
	comp=Z,15nm,1.0s						
KKR	**Kurukshetra**	**78.49**	**301**	*e*P	**P**	**19 58 29.4**	**+1.8**
MKAR	**Makanchi Array**	**78.56**	**319**	P	**P**	**19 58 27.2**	**-0.4**
	comp=Z,8.3nm,1.0s,mb4.6,baz=103,slow=7.9,SNR=18						
MKAR				LR	LR	20 32 19.9	
	comp=Z,394nm,19.5s,MS4.8,baz=106,slow=35						
MKAR	**Makanchi Array**	**78.56**	**319**	P	**P**	**19 58 27.3**	**-0.4**
MKAR				pmax	pmax		
	comp=Z,8.0nm,1.0s						
MKAR				MLR	MLR		
	comp=Z,394nm,19.5s						
RTK	**Rohtak**	**78.66**	**300**	*e*P	**P**	**19 58 29.4**	**+0.8**
KHET	**Khetri**	**79.01**	**299**	*e*P	**P**	**19 58 29.8**	**-0.8**
KHET				*e*		19 58 36.2	
	comp=Z,30nm,1.0s						
PMR	**Palmer**	**79.39**	**25**	*e*P	**P**	**19 58 32.0**	**+0.1**
ZAL	**Zalesovo**	**79.47**	**327**	P	**P**	**19 58 30.4**	**-2.1**
	comp=Z,1.6nm,0.7s,mb4.0,baz=263,slow=3.3,SNR=8.8						
ZAL				LR	LR	20 32 09.3	
	comp=Z,669nm,20.7s,MS5.0,baz=266,slow=35						
ZAL	**Zalesovo**	**79.47**	**327**	P	**P**	**19 58 30.4**	**-2.1**
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ZAL				MLR	MLR		
	comp=Z,669nm,20.7s						
SML	**Sawmill**	**79.83**	**25**	*e*P	**P**	**19 58 34.1**	**-0.2**
IMA	**Indian Mountai**	**80.01**	**20**	*e*P	**P**	**19 58 35.4**	**+0.3**
	comp=Z,90nm,1.2s,mb5.6						
MCK	**McKinley**	**80.51**	**23**	*e*P	**P**	**19 58 36.5**	**-1.3**
	comp=Z,29nm,1.1s,mb5.1						
MCK				LR	LR		
	comp=Z,385nm,20.0s,MS4.8						
DIV	**Divide**	**80.62**	**26**	*e*P	**P**	**19 58 40.1**	**+1.7**
NVS	**Novosibirsk**	**80.65**	**327**	*i* P	**P**	**19 58 40.2**	**+1.4**
NVS				pmax	pmax		
	comp=N,27nm,1.7s						
NVS				pmax	pmax		
	comp=E,57nm,1.7s						
NVS				pmax	pmax		
	comp=Z,74nm,1.7s,mb5.3						
KSH	**Kashi**	**81.12**	**311**	*e*P	**P**	**19 58 44.0**	**+2.4**
KSH				*e*AP	pP	19 58 48.5	+3.7
KSH				*e*XP	sP	19 58 51.3	+5.5
KSH				*e*PP	PP	20 01 52.0	+3.0
KSH				*e*S	S	20 08 53.0	+3.1
KSH				*e*SKS	SKS	20 08 58.3	-2.6
KSH				*e*XS		20 09 01.3	
KSH				*e*PS	PS	20 09 43.3	+4.5
KSH				*e*SS	SS	20 14 12.3	+4.3
KSH				LR	LR		
	comp=N,360nm,8.3s						
KSH				LR	LR		
	comp=E,280nm,6.6s						
COLA	**College**	**81.48**	**22**	*e*P	**P**	**19 58 43.3**	**+0.4**
	comp=E,11nm,0.7s,mb4.9						
COLA				LR	LR		
	comp=Z,367nm,19.0s,MS4.8						
ILAR	**Eielson Array**	**81.80**	**22**	P	**P**	**19 58 43.0**	**-1.5**
	comp=Z,4.1nm,0.7s,mb4.5,baz=247,slow=5.3,SNR=23						
ILAR	**Eielson Array**	**81.80**	**22**	P	**P**	**19 58 43.1**	**-1.4**
ILAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
TKM2	**Tokmak 2**	**82.13**	**314**	P	**P**	**19 58 53.2**	**+6.5**
	SNR=7.5						
KZA	**Kyzart**	**82.20**	**313**	P	**P**	**19 58 54.3**	**+7.2**
	SNR=8.0						
KBK	**Karagaybulak**	**82.54**	**314**	P	**P**	**19 58 55.1**	**+6.2**
	SNR=5.8						
CHMS	**Chumysh**	**82.76**	**314**	P	**P**	**19 58 55.7**	**+5.7**
	SNR=6.9						
UCH	**Uchtor**	**82.77**	**313**	P	**P**	**19 58 57.3**	**+7.2**
	SNR=14						
FRU	**Bishkek**	**82.82**	**314**	*e*P	**P**	**19 58 56.0**	**+5.7**
FRU				pmax	pmax		
	comp=N,30nm,1.4s						
USP	**Ospenovka**	**82.99**	**314**	P	**P**	**19 58 57.5**	**+6.3**
	SNR=6.3						
AML	**Almayashu**	**83.35**	**313**	P	**P**	**19 59 00.5**	**+7.5**
	SNR=6.1						
EKS2	**Erkin-Say**	**83.39**	**314**	P	**P**	**19 58 59.7**	**+6.4**
	SNR=5.3						
DAWY	**Dawson**	**84.49**	**24**	*e*P	**P**	**19 59 00.6**	**+2.2**
MAW	**Mawson**	**85.92**	**203**	*e*P	**P**	**19 59 05.9**	**+0.5**
	comp=N,3.4nm,1.1s,mb4.5						
MAW	**Mawson**	**85.92**	**203**	P	**P**	**19 59 04.4**	**-1.0**
	comp=N,1.8nm,0.8s,mb4.3,baz=83,slow=5.6,SNR=5.0						
MAW				LR	LR	20 34 42.5	
	comp=N,668nm,21.2s,MS5.0,baz=84,slow=34						
MAW	**Mawson**	**85.92**	**203**	P	**P**	**19 59 04.4**	**-1.0**
MAW				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MAW				MLR	MLR		
	comp=Z,669nm,21.2s						
QSPA	**South Pole Qui**	**86.17**	**180**	*e*P	**P**	**19 59 05.7**	**-0.8**
	comp=Z,15nm,1.0s,mb5.2						
QSPA				LR	LR		
	comp=Z,200nm,19.3s,MS4.5						
BBB	**Bella Bella**	**87.21**	**37**	LR	LR	20 32 39.4	
	comp=Z,403nm,18.5s,MS4.9,baz=99,slow=32						
DLBC	**Dease Lake**	**87.29**	**31**	LR	LR	20 33 05.6	
	comp=Z,616nm,19.4s,MS5.0,baz=280,slow=32						
DLBC	**Dease Lake**	**87.29**	**31**	*e*P	**P**	**19 59 14.5**	**+2.2**
BVAR	**Borovoye Array**	**87.52**	**323**	P	**P**	**19 59 12.4**	**-1.2**
	comp=Z,6.4nm,0.8s,baz=104,slow=6.1,SNR=21						
BVAR				LR	LR	20 40 26.1	
	comp=Z,8.6nm,18.6s,baz=160,slow=37						
INK	**Inuvik**	**88.05**	**21**	P	**P**	**19 59 13.6**	**-2.1**
	comp=Z,8.2nm,1.1s,mb4.9,baz=20,slow=3.2,SNR=3.7						
INK				LR	LR	20 37 01.8	
	comp=Z,457nm,19.1s,MS4.9,baz=249,slow=34						
INK	**Inuvik**	**88.05**	**21**	P	**P**	**19 59 13.6**	**-2.1**
INK				pmax	pmax		
	comp=Z,8.0nm,1.1s						
INK				MLR	MLR		
	comp=Z,457nm,19.1s						
INK	**Inuvik**	**88.05**	**21**	*e*P	**P**	**19 59 15.1**	**-0.6**
	comp=Z,18nm,1.2s,mb5.2						
ZRNK	**Zerenda**	**88.33**	**323**	*e*P	**P**	**19 59 15.8**	**-1.6**
	comp=Z,14nm,1.0s,mb5.1						
HUMO	**Hull Mountain**	**89.41**	**47**	*e*P	**P**	**19 59 24.7**	**+1.8**
	comp=Z,10nm,1.0s,mb5.1						
YBH	**Yreka Blue Hor**	**89.51**	**48**	P	**P**	**19 59 23.7**	**+0.4**
	comp=Z,0.8nm,0.4s,mb4.4,baz=284,slow=12,SNR=4.0						
YBH	**Yreka Blue Hor**	**89.51**	**48**	P	**P**	**19 59 23.7**	**+0.4**
YBH				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MOD	**Modoc**	**91.32**	**48**	*e*P	**P**	**19 59 32.8**	**+1.1**
	comp=Z,9.9nm,1.0s,mb5.1						
MOD				LR	LR		
	comp=Z,606nm,20.0s,MS5.0						
WVOR	**Wild Horse Val**	**92.59**	**48**	P	**P**	**19 59 38.0**	**+0.5**
WVOR				LR	LR		
	comp=Z,571nm,19.0s,MS5.0						
DAC	**Darwin (Calif)**	**93.12**	**54**	*e*P	**P**	**19 59 41.5**	**+1.3**
	comp=Z,8.9nm,1.1s,mb5.1						
NEW	**Newport**	**93.86**	**42**	*e*P	**P**	**19 59 43.9**	**+0.7**
NEW				LR	LR		
	comp=Z,432nm,20.0s,MS4.9						
SYO	**Syowa Base**	**94.12**	**200**	⇓P	**P**	**19 59 44.8**	**+0.9**
SYO	**Syowa Base**	**94.12**	**200**	⇓pP	pP	19 59 51.7	+4.6
TPNV	**Topopah Spring**	**94.23**	**53**	*e*P	**P**	**19 59 47.0**	**+1.8**
	comp=Z,3.4nm,0.8s,mb4.8						
TPNV				LR	LR		
	comp=Z,393nm,20.0s,MS4.9						
ARU	**Arti**	**94.63**	**326**	*e*P	**P**	**19 59 49.8**	**+3.3**
ELK	**Elko**	**95.08**	**50**	*e*P	**P**	**19 59 51.2**	**+2.2**
ELK				LR	LR		
	comp=Z,371nm,19.0s,MS4.9						
YKA	**Yellowknife Ar**	**95.23**	**28**	P	**P**	**19 59 49.4**	**+0.2**
	comp=Z,1.8nm,0.8s,mb4.5,baz=264,slow=6.2,SNR=3.4						
YKA				LR	LR	20 40 03.3	
	comp=Z,308nm,18.8s,MS4.8,baz=285,slow=34						
YKA	**Yellowknife Ar**	**95.23**	**28**	P	**P**	**19 59 49.4**	**+0.2**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
YKA				MLR	MLR		
	comp=Z,308nm,18.8s						
EDM	**Edmonton**	**96.23**	**37**	*e*P	**P**	**19 59 53.6**	**-0.3**
MCMT	**McKenzie Canyo**	**96.81**	**45**	*e*P	**P**	**19 59 57.5**	**+0.7**
PDAR	**Pinedale Array**	**99.28**	**47**	P	**P**	**20 00 07.0**	**-0.9**
	comp=Z,0.5nm,0.8s,mb4.1,baz=34,slow=5.3,SNR=3.9						
PDAR				LR	LR	20 44 44.4	
	comp=Z,311nm,18.6s,MS4.8,baz=270,slow=35						
PV10	**Paradox Valley**	**99.93**	**52**	P	**P**	**20 00 11.1**	**0.0**
AKASG	**Malin Array Be**	**112.78**	**324**	PKiKP		20 05 01.8	
	comp=Z,0.6nm,0.6s,baz=26,slow=2.1,SNR=2.9						
AKASG	**Malin Array Be**	**112.78**	**324**	*i* PKIKP	PKPdf	20 05 01.8	-2.5
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRG	**Berggiesshubel**	**121.03**	**330**	*e*PKIKP	PKPdf	20 05 23.5	+3.1
BRG				pmax	pmax		
	comp=Z,3.0nm,0.9s						
CLL	**Collm**	**121.23**	**331**	*e*PKIKP	PKPdf	20 05 21.0	+0.2
KHC	**Kasperske Hory**	**122.28**	**328**	*e*PKP	PKPdf	20 05 23.5	+0.7
GERES	**GERESS Array B**	**122.39**	**328**	PKP	PKPdf	20 05 20.9	-2.1
	comp=Z,2.0nm,0.7s,baz=70,slow=0.5,SNR=8.4						
GERES	**GERESS Array B**	**122.39**	**328**	PKIKP	PKPdf	20 05 20.9	-2.1
GERES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
CABF	**La Chapelle**	**127.75**	**330**	*e*PKIKP	PKPdf	20 05 37.0	+3.5
	comp=Z,13nm,0.9s						
LPL	**La Plagne**	**128.17**	**329**	*e*PKIKP	PKPdf	20 05 37.0	+2.6
	comp=Z,6.4nm,0.9s						
LPG	**La Plagne**	**128.18**	**329**	*e*PKIKP	PKPdf	20 05 37.3	+2.9
	comp=Z,3.2nm,0.4s						
LOR	**Lormes**	**128.36**	**332**	*e*PKIKP	PKPdf	20 05 38.3	+3.6
SMF	**Signal de Mont**	**128.82**	**332**	*e*PKIKP	PKPdf	20 05 39.0	+3.4
ORIF	**Oris-en-Rattie**	**129.02**	**329**	*e*PKIKP	PKPdf	20 05 36.5	+0.5
	comp=Z,5.9nm,0.8s						
BGF	**Bois d’Agland**	**129.35**	**332**	*e*PKIKP	PKPdf	20 05 40.2	+3.6
TCF	**Toulx Ste Croi**	**129.85**	**332**	*e*PKIKP	PKPdf	20 05 41.0	+3.5
	comp=Z,7.8nm,0.9s						
MFF	**Saint Martin d**	**130.66**	**334**	*e*PKIKP	PKPdf	20 05 42.0	+2.9
RJF	**Les Rejaudoux**	**130.90**	**332**	*e*PKIKP	PKPdf	20 05 39.6	0.0
LPAZ	**La Paz**	**136.24**	**118**	PKP	PKPdf	20 05 55.4	+5.3
	comp=Z,0.8nm,0.6s,baz=270,slow=2.0,SNR=4.7						
LPAZ	**La Paz**	**136.24**	**118**	PKIKP	PKPdf	20 05 55.4	+5.3
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CPUP	**Villa Florida**	**139.23**	**139**	PKP	PKPdf	20 05 53.5	-2.0
	comp=Z,1.3nm,0.7s,baz=308,slow=1.1,SNR=2.9						
CPUP	**Villa Florida**	**139.23**	**139**	PKIKP	PKPdf	20 05 53.5	-2.0
CPUP				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SAML	**Samuel**	**143.39**	**110**	*e*PKPdf	PKPdf	20 06 01.9	-1.3
BDFB	**Brasilia**	**152.85**	**136**	PKPbc	PKPdf	20 06 24.1	+5.8
	comp=Z,3.7nm,0.8s,baz=270,slow=2.0,SNR=3.0						
BDFB	**Brasilia**	**152.85**	**136**	PKIKP	PKPdf	20 06 24.1	+5.8
BDFB				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BAO	**Brasilia Array**	**152.88**	**136**	P	PKPdf	20 06 28.5	+10
BAO				*e*		20 06 33.6	
BAO				*i*		20 06 40.4	
KIC	**Kosan Boka**	**155.98**	**277**	*e*PKP1	PKPab	20 06 48.0	-1.3
	comp=Z,336nm,1.1s						
DBIC	**Dimbokro**	**156.06**	**278**	PKPab	PKPab	20 06 48.5	-1.2
	comp=Z,25nm,0.7s,baz=0.6,slow=2.6,SNR=17						
DBIC	**Dimbokro**	**156.06**	**278**	PKP2	PKPab	20 06 48.5	-1.2
DBIC				pmax	pmax		
	comp=Z,25nm,0.7s						
TIC	**Toumodi**	**156.23**	**278**	*e*PKP1	PKPab	20 06 48.9	-1.5
	comp=Z,113nm,0.8s						
LIC	**Lamto**	**156.27**	**277**	*e*PKP2	PKPab	20 06 54.7	+4.1
	comp=Z,56nm,0.8s						
LIC	**Lamto**	**156.27**	**277**	*e*PKP1	PKPab	20 06 49.0	-1.6
	comp=Z,83nm,0.8s						

IDC 27 19:58:24.1±4.7**, 6.28S**×**147.06E, mb3.3**/2**, mb1 3.4**/4**,**
mb1mx3.3/12**, ML2.8**/2**, MS3.2**/1**, Ms1 3.2**/1**, ms1mx3.1**/9**,**
Error ellipse: s-maj=64.7km s-min=52.7km az=61.0,
Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	 ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.11**	**178**	Pn	Pn	19 59 15.3	0.0
	3.4nm,0.3s,baz=24,slow=12,SNR=5.6						
PMG				Sn	Sn	19 59 55.2	+1.5
	4.3nm,0.3s,baz=205,slow=17,SNR=4.0						
PMG				LR	LR	20 00 47.2	
	comp=Z,380nm,19.4s,baz=314,slow=46						
WRA	**Warramunga Arr**	**18.36**	**221**	P	P	20 02 40.2	-1.9
	0.1nm,0.3s,baz=48,slow=11,SNR=4.8						
ASAR	**Alice Springs**	**21.42**	**215**	P	P	20 03 13.3	-2.7
	0.4nm,0.7s,baz=51,slow=9.4,SNR=7.1						
STKA	**Stephens Creek**	**25.97**	**191**	P	P	20 03 58.4	-1.8
	1.0nm,0.8s,baz=352,slow=14,SNR=2.3						

DJA 27 20:02:17.5±0.9**, 9.11S**×**115.15E, h92**^{km}±6^{km}**, MD4.5**/2**,**
ML3.8/2**, 2C-5D, Error ellipse: s-maj=29.0km**
s-min=9.9km az=9.0, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	 ISC	Time h m s	Res ISC
INGI	**Ingas**	**0.29**	**360**	⇓*e*Pg	P	20 02 30.8	-0.4
INGI				⇓*i*Sg	S	20 02 40.8	-0.7
RATI	**Rata**	**0.54**	**45**	⇑*i*Pg	P	20 02 32.6	-0.4
	2µm,0.2s						
RATI				⇓*i*Sg	S	20 02 43.0	-1.5
KELI	**Kelakatan**	**1.10**	**324**	Pn	P	20 02 38.2	-0.6
	73nm,0.2s						
KELI				⇓*i*Sn	S	20 02 53.6	-1.1
KEDI	**Kedomdong**	**1.14**	**57**	⇑*e*Pn	P	20 02 38.5	-0.8
	239nm,0.2s						
KEDI				⇓*i*Sn	S	20 02 54.0	-1.6

IDC ***27*** *20:05:58.5±0.7, 35.38S×106.09W, mb4.2/9, mb1 4.3/9,*
mb1mx4.2/15, MS4.4/11, Ms1 4.3/11, ms1mx4.2/22, Error
ellipse: s-maj=26.6km s-min=22.3km az=91.0
BJI ***27*** *20:06:02.4, 35.30S×105.70W, h10*^{km}*, mB5.1, Ms5.3,*
Msz5.3
NEIC ***27*** *20:06:02.5±0.5, 35.26S×105.74W, h10*^{km}*, mb4.6/7, Error*
ellipse: s-maj=17.6km s-min=11.7km az=80.0
SYO ***27*** *20:06:02.3, 35.40S×105.87W, h10*^{km}*, MB4.7*
ISC 27 20:06:00.5±0.5**, 35.31S**±0.08×**105.8W**±0.1**, h10**^{km}**, n66,**
σ1§11/32**, mb4.3**/16**, MS4.5**/13**, 14C-5D, Southern East**
Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	 ISC	Time h m s	Res ISC
USHA	**Ushuaia**	**32.26**	**139**	LR	LR	20 22 38.8	
	comp=Z,810nm,19.8s,MS4.4,baz=236,slow=31						
LVC	**Limon Verde**	**34.44**	**78**	*e*P	**P**	**20 12 51.3**	**+0.9**
LPAZ	**La Paz**	**38.52**	**70**	P	**P**	**20 13 24.1**	**-0.7**
	1.6nm,1.0s,mb3.7,baz=253,slow=11,SNR=3.0						
LPAZ				LR	LR	20 25 54.0	
	comp=Z,160nm,18.9s,MS3.9,baz=247,slow=31						
CPUP	**Villa Florida**	**42.20**	**92**	P	**P**	**20 13 55.3**	**+0.2**
	1.2nm,0.8s,mb3.6,baz=267,slow=11,SNR=2.4						
CPUP				LR	LR	20 28 08.0	
	comp=Z,201nm,21.4s,MS4.0,baz=275,slow=31						
SAML	**Samuel**	**46.85**	**66**	*e*P	**P**	**20 14 33.0**	**+0.3**
	3.7nm,1.1s,mb4.2						
RAR	**Rarotonga**	**49.05**	**272**	LR	LR	20 29 33.0	
	comp=Z,326nm,18.6s,MS4.3,baz=137,slow=29						
ROSC	**El Rosal**	**49.69**	**43**	P	**P**	**20 14 55.1**	**+0.4**
	3.8nm,0.3s,mb4.9,baz=65,slow=23,SNR=2.4						
ROSC				LR	LR	20 32 09.9	
	comp=Z,435nm,18.7s,MS4.5,baz=119,slow=32						
QSPA	**South Pole Qui**	**54.89**	**180**	*e*P	**P**	**20 15 32.6**	**-0.3**
	7.7nm,1.0s,mb4.7						
BDFB	**Brasilia**	**54.92**	**85**	P	**P**	**20 15 33.6**	**-0.3**
	4.1nm,1.1s,mb4.4,baz=254,slow=12,SNR=2.9						
BDFB				LR	LR	20 37 07.8	
	comp=Z,251nm,18.2s,MS4.3,baz=74,slow=34						
SDV	**Santo Domingo**	**55.06**	**44**	P	**P**	**20 15 33.6**	**-1.4**
VNA3	**Neumayer Olymp**	**58.91**	**158**		**P**	**20 16 04.2**	**+2.6**
VNA3	**Neumayer Olymp**	**58.91**	**158**	⇑*i*	**P**	**20 16 10.7**	**+9.1**
VNA3	**Neumayer Olymp**	**58.91**	**158**	⇑*i*P	**P**	**20 16 03.0**	**+1.4**
VNA3				P	pP	20 16 04.2	-0.5
VNA3				⇑*i*P		20 16 10.7	
VNA1	**Neumayer--Stat**	**59.54**	**157**	⇓*i*	**P**	**20 16 08.8**	**+2.9**
VNA1	**Neumayer--Stat**	**59.54**	**157**	⇑*i*	**P**	**20 16 15.6**	**+10**
VNA1	**Neumayer--Stat**	**59.54**	**157**	⇑*i*P	**P**	**20 16 07.7**	**+1.8**
VNA1				⇓*i*P		20 16 08.8	
VNA1				⇑*i*P		20 16 15.6	
VNA2	**Neumayer--Watz**	**59.71**	**158**	⇑*i*	**P**	**20 16 08.9**	**+1.8**
VNA2	**Neumayer--Watz**	**59.71**	**158**	⇑*i*	**P**	**20 16 16.4**	**+9.3**
VNA2	**Neumayer--Watz**	**59.71**	**158**	⇑*i*P	**P**	**20 16 08.0**	**+0.9**

VNA2				⇑*i*P		20 16 08.9	
VNA2				⇑*i*P		20 16 16.4	
URZ	Urewera	60.12	242	LR	LR	20 35 18.3	
	comp=Z,335nm,20.3s,MS4.5,baz=273,slow=29						
SNAA	Sanae	60.79	159		P	20 16 14.0	-0.5
SNAA	Sanae	60.79	159	⇑*i*	P	20 16 22.0	+7.5
SNAA	Sanae	60.79	159	P	P	20 16 12.2	-2.3
	1.9nm,0.9s,mb4.2,baz=272,slow=8.2,SNR=13						
SNAA	Sanae	60.79	159	⇑*i*P	P	20 16 13.3	-1.2
SNAA				⇑*i*P		20 16 22.0	
RPZ	Rata Peaks	62.18	234	LR	LR	20 37 07.3	
	comp=Z,364nm,19.1s,MS4.6,baz=117,slow=30						
TXAR	Lajitas Array	64.33	2	P	P	20 16 37.1	-1.6
	1.3nm,0.7s,mb4.1,baz=185,slow=10.0,SNR=5.4						
TXAR				LR	LR	20 39 01.9	
	comp=Z,230nm,20.0s,MS4.4,baz=300,slow=31						
DRV	Dumont d'Urvil	66.79	203	R		20 17 00.0	
TPNV	Topopah Spring	72.55	351	*e*P	P	20 17 30.4	+0.9
	2.6nm,0.8s,mb4.2						
SYO	Syowa Base	72.88	168	⇓P	P	20 17 29.8	-1.1
SYO	Syowa Base	72.88	168	⇓pP	pP	20 17 34.0	0.0
SYO	Syowa Base	72.88	168	⇓PcP	PcP	20 17 43.0	-5.2
TPH	Tonopah	73.79	351	*e*P	P	20 17 38.6	+1.9
	7.7nm,1.1s,mb4.5						
MNV	Mina	74.27	350	*e*P	P	20 17 40.6	+1.1
	5.0nm,0.9s,mb4.4						
DAU	Daniels Canyon	75.52	356	*e*P	P	20 17 46.9	+0.1
MAW	Mawson	77.04	176	P	P	20 17 53.7	-1.0
	1.4nm,0.7s,mb4.0,baz=187,slow=8.1,SNR=3.4						
BW06	Boulder Array	77.78	357	*e*P	P	20 18 00.5	+1.2
	9.7nm,0.9s,mb4.7						
PDAR	Pinedale Array	77.78	357	P	P	20 17 58.0	-1.3
	2.3nm,0.7s,mb4.2,baz=159,slow=7.7,SNR=10.0						
YBH	Yreka Blue Hor	78.23	347	P	P	20 18 00.3	-1.5
	0.9nm,0.5s,mb4.0,baz=169,slow=13,SNR=2.5						
HLID	Hailey	78.90	354	*e*P	P	20 18 05.5	+0.2
	6.8nm,0.8s,mb4.6						
STKA	Stephens Creek	88.02	232	LR	LR	20 51 09.9	
	comp=Z,286nm,19.8s,MS4.7,baz=205,slow=31						
ASAR	Alice Springs	98.57	233	LR	LR	20 59 24.0	
	comp=Z,218nm,18.4s,MS4.7,baz=54,slow=33						
MDJ	Mudanjiang	137.29	300	PKP	PKPdf	20 25 27.5	+0.5
CN2	Changchun	140.16	298	*e*PKP	PKPdf	20 25 33.0	+0.6
NJ2	Nanjing	142.97	278	*e*PKP	PKPdf	20 25 32.3	-5.2
HIA	Hailar	144.12	307	*e*PKP	PKPdf	20 25 40.3	+1.3
AKASG	Malin Array Be	144.27	50	PKP	PKPdf	20 25 33.5	-5.7
	1.5nm,0.8s,baz=274,slow=3.4,SNR=3.9						
ULDT	Uludag	144.29	69	P	PKPbc	20 25 32.1	-3.9
ESKT	Eskisehir	145.53	70	P	PKPbc	20 25 40.0	+0.7
HENT	Hendek	145.70	68	P	PKPbc	20 25 40.4	+0.6
SGKT	Sivrigoynuk	146.56	68	P	PKPbc	20 25 43.0	+1.2
CSS	Prodhromos	146.71	79	*e*PKP	PKPdf	20 25 43.6	-0.3
ELDT	Eldivan	147.59	68	P	PKPdf	20 25 46.2	+1.0
BALT	Daday	147.62	67	P	PKPdf	20 25 45.4	+0.2
MEST	Erdemli	147.68	76	P	PKPdf	20 25 46.6	+1.1
BRTR	Keskin Array B	147.69	70	PKP	PKPdf	20 25 41.1	-4.2
	0.3nm,0.5s,baz=353,slow=10.0,SNR=2.4						
BRTR				PKPbc	PKPdf	20 25 46.2	+0.8
	2.7nm,0.8s,baz=207,slow=2.8,SNR=13						
AVNT	Avonos	148.54	72	P	PKPdf	20 25 48.6	+1.9
CTKT	Corum	148.64	68	P	PKPdf	20 25 48.4	+1.5
COBT	Iskenderun	149.34	76	P	PKPdf	20 25 49.9	+1.8
KAHT	Ahir Dag	149.99	74	P	PKPdf	20 25 52.0	+2.9
GZT	Gaziantep	150.50	75	P	PKPdf	20 25 54.0	+4.1
ELZG	Elazig	151.73	73	P	PKPdf	20 25 56.6	+4.9
CMAR	Chiang Mai Arr	152.42	239	PKPbc	PKPdf	20 25 55.1	+1.9
	0.8nm,1.0s,baz=182,slow=1.0,SNR=5.4						
CMAR				PKPab	PKPab	20 26 05.5	-4.2
	1.3nm,0.9s,baz=175,slow=0.9,SNR=8.5						
SONM	Songino Array	153.09	308	PKP	PKPdf	20 25 50.0	-3.3
	0.3nm,0.7s,baz=257,slow=28,SNR=2.5						
SONM				PKPbc	PKPdf	20 25 57.0	+3.7
	1.1nm,0.7s,baz=90,slow=1.4,SNR=6.9						
LZH	Lanzhou	155.98	281	*e*PKP	PKPdf	20 25 56.5	-1.1
LZH				APKP		20 25 59.0	
LZH				XPKP		20 26 01.3	
LZH				*e*PP	PP	20 30 05.0	+2.2
LZH				SKKS		20 36 51.5	
LZH				SS	SS	20 49 47.5	-1.1
LZH				PP	PP		
	comp=Z,118nm,8.1s						
LZH				LR	LR		
	comp=N,145nm,18.0s						
LZH				LR	LR		
	comp=Z,249nm,20.1s,MS5.0						
GTA	Gaotai	159.29	289	PKP	PKPdf	20 25 59.0	-2.7
GTA				APKP		20 26 05.0	
GTA				XPKP		20 26 09.0	
GTA				PKP2	PKPab	20 26 35.0	-3.4
GTA				PP	PP	20 30 17.0	-3.3
GTA				SKS	SKS	20 33 03.5	-2.9
GTA				SKKS		20 37 03.5	
GTA				SS	SS	20 50 22.0	-1.5
GTA				PP	PP		
	comp=Z,126nm,7.2s						
GTA				LR	LR		
	comp=N,64nm,17.5s,MS4.8						
GTA				LR	LR		
	comp=E,85nm,13.7s,MS4.8						
GTA				LR	LR		
	comp=Z,69nm,17.9s,MS4.5						
WMQ	Urumqi	166.60	313	*e*PKP	PKPdf	20 26 07.5	-1.1

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*IDC **27** 20:17:55.4±4.5, 18.51S×177.25W, mb4.4/5, mb1 4.6/5, mb1mx4.2/13, Error ellipse: s-maj=91.1km s-min=46.1km az=75.0*

ISC 27 20:17:58.7±3.4, 18.6S±0.3×177.3W±0.5, h33^{km}, n12, σ0^{s}66/12, mb4.7/8, 2D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	Urewera	20.16	193	P	P	20 22 33.1	+0.1
	5.1nm,0.8s,baz=234,slow=11,SNR=3.3						
CTA	Charters Tower	34.41	261	*e*P	P	20 24 49.8	+4.6
	6.7nm,0.4s,mb4.9						
STKA	Stephens Creek	39.24	242	*e*P	P	20 25 25.8	0.0
	2.6nm,0.5s,mb4.2						
STKA	Stephens Creek	39.24	242	P	P	20 25 25.8	0.0
	4.9nm,0.7s,mb4.3,baz=90,slow=9.6,SNR=17						
WB2	Warramunga Arr	45.56	260	⇓*i*P	P	20 26 18.2	+0.6
WRA	Warramunga Arr	45.57	260	P	P	20 26 18.2	+0.5
	3.7nm,0.3s,mb4.8,baz=97,slow=7.6,SNR=359						
ASAR	Alice Springs	45.65	255	P	P	20 26 18.4	+0.1
	7.3nm,0.5s,mb4.9,baz=95,slow=7.5,SNR=228						
ASPA	Alice Springs	45.65	255	⇓*i*P	P	20 26 18.3	0.0
KAKA	Kakadu	48.70	269	*e*P	P	20 26 48.4	+6.1
	3.1nm,0.3s,mb4.8						
FORT	Forrest	50.68	245	*e*P	P	20 26 53.8	-3.5
	24nm,0.6s,mb5.3						
FITZ	Fitzroy Crossi	53.98	261	*e*P	P	20 27 21.2	-0.9
	2.2nm,0.4s,mb4.4						
CMAR	Chiang Mai Arr	90.15	289	P	P	20 30 57.6	+0.1
	0.7nm,0.9s,mb4.0,baz=128,slow=4.2,SNR=4.6						

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*NIED **27** 20:27:00, 41.50N×142.10E, h44^{km}, Mw4.0 Best double couple: M$_0$9.58×10^{14} NP1:φ$_s$12°, δ67°, λ90°. NP2:φ$_s$192°, δ23°, λ91°.*
*MOS **27** 20:27:18.4±1.0, 41.43N×142.03E, h61^{km}, mb4.1/6, Error ellipse: s-maj=37.5km s-min=18.1km az=77.7*
*IDC **27** 20:27:21.9±2.9, 41.56N×142.05E, h65^{km}±27^{km}, mb3.5/9, mb1 3.7/9, mb1mx3.5/23, Error ellipse: s-maj=22.7km s-min=18.9km az=88.0*
*JMA **27** 20:27:21.2±0.1, 41.55N×142.07E, h66^{km}±3^{km}, M3.6 Broadband fault plane solution: P waves. NP1:φ$_s$150°, δ14°, λ40°. NP2:φ$_s$22°, δ81°, λ101°. Principal axes: T Plg53°, Azm305°; N Plg11°, Azm200°; P Plg35°, Azm102°;*
JMA Felt I J1.

ISC 27 20:27:20.6±0.4, 41.54N±0.04×142.06E±0.05, h71^{km}±4^{km}, n33, σ0^{s}68/44, mb3.7/9, 3C-8D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JOT	Ohata	0.77	258	⇓P	P	20 27 36.9	+0.3
JOT				*e*S	S	20 27 48.6	+0.2
JKB	Kayabe	0.84	295	⇓P	P	20 27 37.3	0.0
JKB				*e*S	S	20 27 49.3	-0.5
JNBK	Urakawa-nobuka	0.90	35	⇑P	P	20 27 37.7	-0.4
JNBK				S	S	20 27 51.5	+0.4
JEM	Erimo	0.95	60	⇑P	P	20 27 38.7	0.0
JEM				*e*S	S	20 27 51.1	-1.1
JNB	Noboribetsu	1.20	321	⇓P	P	20 27 41.7	-0.2
JNB				*e*S	S	20 27 56.7	-1.2
JSR	Shiriuchi	1.23	270	⇓P	P	20 27 42.9	+0.5
JANG	Nango	1.24	200	⇑P	P	20 27 42.9	+0.4
JANG				*e*S	S	20 27 58.4	-0.4
JBT2	Biratori 2	1.26	10	P	P	20 27 43.1	+0.3
JEW	Eniwo	1.37	341	⇓P	P	20 27 44.8	+0.4
JEW				*e*S	S	20 28 01.2	-0.9
JYM2	Yakumo 2	1.39	295	⇓P	P	20 27 45.3	+0.7
JCH	Churui	1.45	42	⇓P	P	20 27 46.1	+0.7
JCH				*e*S	S	20 28 05.2	+1.5
JFR	Furan	1.67	14	P	P	20 27 48.6	+0.2
JOSM	Okushiri--Mats	2.00	287	⇓P	P	20 27 52.9	0.0
JSK	Shakotan	2.15	328	P	P	20 27 55.5	+0.5
JAR	Ashorobuto	2.17	35	P	P	20 27 55.4	+0.2
ASAJ	Asahikawa	2.60	9	P	P	20 28 01.9	+0.5
ASAJ				S	S	20 28 32.0	+0.2
	9.9nm,0.3s,baz=68,slow=2.9,SNR=5.6						
ASAJ	Asahikawa	2.60	9	P	P	20 28 01.9	+0.5
ASAJ				S	S	20 28 32.1	+0.2
ASAJ				smax			
	comp=N,10.0nm,0.3s						
YUK	Yuzh-Kuril'sk	3.75	47	*e*P	P	20 28 15.5	-1.9
YUK				*e*S	S	20 28 55.5	-5.1
YUK				pmax	pmax		
	comp=Z,220nm,0.4s						
YUK				pmax	pmax		
	comp=N,370nm,0.7s						
YUK				pmax	pmax		
	comp=E,140nm,0.5s						
YUK				smax			
	comp=N,2μm,0.7s						
YUK				smax			
	comp=E,2μm,0.7s						
YUK				smax			
	comp=N,460nm,0.5s						
YUK				smax			
	comp=E,880nm,0.5s						
SONM	Songino Array	25.96	296	P	P	20 32 48.6	+0.7
	comp=E,0.3nm,0.4s,mb3.1,baz=90,slow=7.4,SNR=5.4						
ZAL	Zalesovo	39.39	308	P	P	20 34 44.3	-0.2
	comp=E,1.6nm,1.0s,mb3.8,baz=348,slow=1.7,SNR=6.3						
ZAL	Zalesovo	39.39	308	P	P	20 34 44.3	-0.2
ZAL				pmax	pmax		
	comp=Z,2.0nm,1.0s						
MKAR	Makanchi Array	42.29	298	P	P	20 35 08.3	-0.1
	comp=Z,2.2nm,0.9s,mb3.9,baz=108,slow=3.8,SNR=7.2						
MKAR	Makanchi Array	42.29	298	P	P	20 35 08.3	-0.1
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ILAR	Eielson Array	45.47	35	P	P	20 35 34.5	+0.7
	comp=Z,1.2nm,1.0s,mb3.6,baz=279,slow=7.7,SNR=10.0						
ILAR	Eielson Array	45.47	35	P	P	20 35 34.5	+0.7
ILAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
BVAR	Borovoye Array	48.00	310	P	P	20 35 54.5	+0.6
	comp=Z,1.1nm,0.4s,mb4.1,baz=78,slow=8.9,SNR=17						
INK	Inuvik	50.18	29	P	P	20 36 09.8	-0.6
	comp=Z,2.0nm,0.6s,mb4.2,baz=304,slow=7.3,SNR=2.7						
INK	Inuvik	50.18	29	P	P	20 36 09.8	-0.7
INK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
WRA	Warramunga Arr	61.59	188	P	P	20 37 31.7	-1.2
	comp=Z,0.8nm,0.9s,mb3.8,baz=6.0,slow=5.9,SNR=10						
WRA	Warramunga Arr	61.59	188	P	P	20 37 31.7	-1.2
WRA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
FINES	FINESS Array B	65.08	332	P	P	20 37 54.2	-1.0
	comp=Z,1.6nm,0.7s,mb4.0,baz=45,slow=8.1,SNR=6.6						
FINES	FINESS Array B	65.08	332	P	P	20 37 54.2	-1.0
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ASAR	Alice Springs	65.31	188	P	P	20 37 57.8	+0.4
	comp=Z,0.4nm,0.8s,mb3.3,slow=4.5,SNR=4.7						

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*LDG **27** 20:35:56.0±0.1, 43.52N×0.59W, h3^{km}, Md2.1/2, Ml2.1/2, Error ellipse: s-maj=3.2km s-min=2.2km az=136.0*
*STR **27** 20:35:57.5±0.4, 43.44N×0.61W, h5^{km}±1^{km}, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*MDD **27** 20:35:57.4±0.5, 43.45N×0.61W, h17^{km}±11^{km}, mbLg1.3/6, Error ellipse: s-maj=6.0km s-min=2.7km az=13.0, PRXIMO*

ISC 27 20:35:54.5±0.5, 43.56N±0.03×0.56W±0.04, h5^{km}±6^{km}, n24, σ0^{s}97/44, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ORDF	Ordiarp	0.44	219	Pg	Pg	20 36 03.9	+0.6
ORDF				Sg	Sg	20 36 09.8	+0.7
ORDF	Ordiarp	0.44	219	P	Pg	20 36 04.1	+0.8
ORDF				S	Sg	20 36 08.4	-0.7
ATE	Arette	0.48	192	P	Pg	20 36 04.2	+0.1
ATE				S	Sg	20 36 09.7	-0.9
REYF	Montagne du Re	0.50	166	Pg	Pg	20 36 04.7	+0.2
REYF				Sg	Sg	20 36 10.9	-0.4
REYF	Montagne du Re	0.50	166	P	Pg	20 36 04.9	+0.4
REYF				S	Sg	20 36 10.4	-0.9
OSSF	Osses	0.59	240	Pg	Pg	20 36 07.1	+0.8
OSSF	Osses	0.59	240	P	Pg	20 36 07.2	+0.9
OSSF				S	Sg	20 36 15.2	+0.9
LARF	Larrau	0.60	211	Pg	Pg	20 36 06.7	+0.1
LARF				Sg	Sg	20 36 13.8	-0.8
LARF	Larrau	0.60	211	P	Pg	20 36 07.0	+0.5
LARF				S	Sg	20 36 14.0	-0.6
SJPF	Ste Jean	0.66	228	*e*Pg	Pg	20 36 08.1	+0.5
SJPF				*e*Sg	Sg	20 36 14.8	-1.6
	4.6nm,0.2s						
ETSF	Etsaut	0.66	180	*e*Pg	Pg	20 36 07.5	-0.1
ETSF				*e*Sg	Sg	20 36 14.7	-1.7
	9.4nm,0.2s						
LABF	Labassere	0.69	137	Pg	Pg	20 36 10.0	+1.7
LABF				Sg	Sg	20 36 19.1	+1.7
LABF	Labassere	0.69	137	P	Pg	20 36 10.0	+1.8
LABF				S	Sg	20 36 19.6	+2.1
FDAF	Les Forges d'A	0.74	180	Pg	Pg	20 36 08.8	-0.4
FDAF				Sg	Sg	20 36 17.7	-1.4
FDAF	Les Forges d'A	0.74	180	P	Pb	20 36 09.1	-0.2
FDAF				S	Sg	20 36 17.8	-1.3
EALK	Alkurruntz	0.77	244	Pg	Pg	20 36 11.2	+1.3
	2.6nm,0.5s,SNR=9.7						
EALK				Lg		20 36 21.1	
	7.6nm,0.3s,SNR=5.0						
VIEF	Viey	0.80	147	Pg	Pg	20 36 11.1	+0.7
VIEF	Viey	0.80	147	P	Pb	20 36 11.4	+1.0
VIEF				S	Sb	20 36 21.9	+0.7
EPF	Esparros	0.84	128	*e*Pg	Pg	20 36 12.5	+1.2
EPF				*e*Sg	Sg	20 36 23.1	+0.5
EPF				*e*Sn	Sn	20 36 25.6	+0.1
	5.5nm,0.2s						
LFF	La Frestale	1.67	34	*e*Pn	Pn	20 36 24.5	-0.1
LFF				*e*Pg	Pg	20 36 27.4	-0.4
LFF				*e*Sg	Sg	20 36 49.6	-0.5
	3.9nm,0.2s						
ESAC	San Caprasio	1.83	178	Pg	Pg	20 36 30.4	-0.7
	8.2nm,0.3s,SNR=4.9						
ESAC				Lg		20 36 52.4	
	17nm,0.8s,SNR=5.0						
MTLF	Montolieu	2.04	95	*e*Pn	Pn	20 36 29.7	-0.1
MTLF				*e*P		20 36 32.1	
MTLF				*e*Sg	Sg	20 37 00.4	-1.9
	2.5nm,0.4s						
MTLF	Montolieu	2.04	95	Pn	Pn	20 36 29.7	-0.1
MTLF				Lg		20 37 00.4	
	1.2nm,0.4s						
CAF	Calviac	2.33	53	*e*Pn	Pn	20 36 32.1	-1.9

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*MDD **27** 20:46:19.3±1.6, 39.46N×4.17E, mb3.5/2, Error ellipse: s-maj=21.6km s-min=8.8km az=148.0, PRXIMO*
*LDG **27** 20:46:27.7±1.0, 39.98N×4.03E, h10^{km}, Ml2.3/6, Error ellipse: s-maj=22.1km s-min=8.5km az=166.0*

ISC 27 20:46:17.7±1.3, 39.5N±0.1×4.22E±0.09, h10^{km}, n25, σ1^{s}06/32, Balearic Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EIBI	Ibiza	2.28	260	Pn	Pn	20 46 56.0	+0.1
	SNR=7.9						
EJON	La Jonquera	3.14	342	Pn	Pn	20 47 08.5	+0.3
	SNR=7.9						
EMIR	Miracle	3.19	321	Pn	Pn	20 47 08.8	0.0
	SNR=7.9						
EBEN	Beniarda	3.54	259	Pn	Pn	20 47 13.2	-0.8
	SNR=7.9						
EMOS	Mosqueruela	3.72	285	Pn	Pn	20 47 16.4	0.0
	3.8nm,0.8s,SNR=7.4						
MTLF	Montolieu	4.15	339	*e*Pn	Pn	20 47 22.2	-0.3
MTLF				*e*Sn	Sn	20 48 00.6	-11
	1.2nm,0.4s						
ESAC	San Caprasio	4.22	304	Pn	Pn	20 47 23.8	+0.3
	4.6nm,0.3s,SNR=5.7						
LMR	La Mourre	4.22	23	*e*Pn	Pn	20 47 23.7	+0.1
LMR				*e*Sn	Sn	20 48 09.0	-4.6
	2.3nm,0.3s						
FRF	La Foret Royal	4.47	23	*e*Pn	Pn	20 47 27.9	+0.7
FRF				*e*Sn	Sn	20 48 13.8	-6.1
	2.0nm,0.3s						
ETOB	Tobarra	4.56	261	Pn	Pn	20 47 28.5	0.0
	1.3nm,0.3s,SNR=9.0						
EPF	Esparros	4.60	322	*e*Pn	Pn	20 47 29.9	+0.9
EPF				*e*Pg	Pg	20 47 42.0	-7.6
LASF	Ste Croix	4.61	357	*e*Pn	Pn	20 47 28.9	-0.2
LASF				*e*Sn	Sn	20 48 11.6	-12
	0.3nm,0.2s						
SMRF	Simiane la Rot	4.61	12	*e*Pn	Pn	20 47 30.4	+1.3
PGF	Pioggiola	4.75	48	*e*Pn	Pn	20 47 31.6	+0.6
PGF				*e*Sn	Sn	20 48 23.4	-3.4
	0.7nm,0.3s						
ETSF	Etsaut	4.97	315	*e*Pn	Pn	20 47 34.2	0.0
SBF	Sospel	5.00	28	*e*Pn	Pn	20 47 34.9	+0.2
SBF				*e*Sn	Sn	20 48 25.4	-7.9
	1.4nm,0.2s						
VIVF	Saint-Julien-l	5.39	3	*e*Pn	Pn	20 47 39.3	-0.8
SJPF	Ste Jean	5.48	313	*e*Pn	Pn	20 47 39.8	-1.6
ORIF	Oris-en-Rattie	5.58	12	*e*Pn	Pn	20 47 42.1	-0.7
MBDF	Montbardon	5.58	19	*e*Pn	Pn	20 47 43.9	+1.1
EALK	Alkurruntz	5.71	313	Pn	Pn	20 47 45.5	+0.9
	SNR=7.9						
LPG	La Plagne	6.31	16	*e*Pn	Pn	20 47 54.7	+1.7
LPL	La Plagne	6.32	16	*e*Pn	Pn	20 47 55.0	+1.8
HINF	Hinteralfeld	8.56	12	*e*Pn	P	20 48 22.4	-2.1
HAU	Haudompre	8.67	10	*e*Pn	P	20 48 23.9	-2.2

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*MDD **27** 21:01:23.9±3.4, 39.50N×4.19E, h28^{km}±37^{km}, mb3.4/6, Error ellipse: s-maj=23.5km s-min=8.0km az=144.0, PRXIMO*
*LDG **27** 21:01:28.0±1.2, 39.89N×4.08E, h10^{km}, Ml2.0/4, Error ellipse: s-maj=29.0km s-min=9.9km az=164.0*

ISC 27 21:01:19.7±1.2, 39.5N±0.1×4.18E±0.09, h10^{km}, n23, σ0^{s}84/28, Balearic Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EIBI	Ibiza	2.25	259	Pn	Pn	21 01 58.1	+0.5
	16nm,0.7s,SNR=7.9						
EIBI				Sn	Sn	21 02 24.8	-0.9
	SNR=4.0						
EJON	La Jonquera	3.10	342	Pn	Pn	21 02 09.2	-0.5
	0.3nm,0.1s,SNR=7.9						
EMIR	Miracle	3.14	321	Pn	Pn	21 02 11.3	+1.0
	2.0nm,0.1s,SNR=7.9						
EBEN	Beniarda	3.52	258	Pn	Pn	21 02 15.8	+0.1
	0.2nm,0.1s,SNR=7.9						
EMOS	Mosqueruela	3.68	285	Pn	Pn	21 02 18.0	+0.1
	0.5nm,0.1s,SNR=7.0						
MTLF	Montolieu	4.11	340	*e*Pn	Pn	21 02 23.8	-0.2
MTLF				*e*Sn	Sn	21 03 01.5	-11
	0.2nm,0.2s						
LMR	La Mourre	4.21	24	*e*Pn	Pn	21 02 25.2	-0.3
LMR				*e*Sn	Sn	21 03 10.2	-5.1
	1.3nm,0.2s						
FRF	La Foret Royal	4.46	24	*e*Pn	Pn	21 02 28.7	-0.3
FRF				*e*Sn	Sn	21 03 15.5	-6.0
	2.2nm,0.3s						
ETOB	Tobarra	4.54	261	Pn	Pn	21 02 30.2	0.0
	0.7nm,0.1s,SNR=14						
EPF	Esparros	4.56	322	*e*Pn	Pn	21 02 31.2	+0.8
LASF	Ste Croix	4.57	357	*e*Pn	Pn	21 02 30.6	-0.1
LASF				*e*Sn	Sn	21 03 13.0	-12
	0.3nm,0.3s						
SMRF	Simiane la Rot	4.59	13	*e*Pn	Pn	21 02 31.6	+0.7
PGF	Pioggiola	4.75	49	*e*Pn	Pn	21 02 33.1	0.0
ETSF	Etsaut	4.92	315	*e*Pn	Pn	21 02 36.0	+0.4
SBF	Sospel	4.99	28	*e*Pn	Pn	21 02 36.2	-0.4
VIVF	Saint-Julien-l	5.36	4	*e*Pn	Pn	21 02 40.7	-1.1
SJPF	Ste Jean	5.43	313	*e*Pn	Pn	21 02 41.5	-1.3
ORIF	Oris-en-Rattie	5.56	13	*e*Pn	Pn	21 02 43.5	-1.0
MBDF	Montbardon	5.56	19	*e*Pn	Pn	21 02 45.2	+0.6
EALK	Alkurruntz	5.66	313	Pn	Pn	21 02 46.8	+0.8
	0.1nm,0.2s,SNR=7.9						
LPG	La Plagne	6.28	17	*e*Pn	Pn	21 02 56.1	+1.3
LPL	La Plagne	6.30	17	*e*Pn	Pn	21 02 56.5	+1.5
HINF	Hinteralfeld	8.53	12	*e*Pn	P	21 03 24.0	-2.3

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*MDD **27** 21:05:20.3±5.8, 39.52N×4.18E, h28^{km}±74^{km}, mb3.3/4, Error ellipse: s-maj=25.3km s-min=9.9km az=146.0, PRXIMO*
*LDG **27** 21:05:25.1±1.1, 39.98N×4.04E, h10^{km}, Ml2.1/5, Error ellipse: s-maj=26.0km s-min=10.5km az=165.0*

ISC 27 21:05:16.8±1.3, 39.6N±0.1×4.17E±0.10, h10^{km}, n20, σ1^{s}03/25, Balearic Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EIBI	Ibiza	2.27	256	Pn	Pn	21 05 54.6	-0.4
	1.5nm,0.2s,SNR=7.9						
EJON	La Jonquera	3.01	342	Pn	Pn	21 06 05.7	+0.1
	0.6nm,0.1s,SNR=7.9						
EBEN	Beniarda	3.53	257	Pn	Pn	21 06 12.3	-0.7
	SNR=7.9						
EMOS	Mosqueruela	3.65	284	Pn	Pn	21 06 15.0	+0.4
	0.1nm,0.1s,SNR=7.9						
MTLF	Montolieu	4.02	339	*e*Pn	Pn	21 06 19.7	-0.2
MTLF				*e*Sn	Sn	21 06 58.2	-9.4
	0.6nm,0.3s						
LMR	La Mourre	4.13	24	*e*Pn	Pn	21 06 21.1	-0.3
LMR				*e*Sn	Sn	21 07 06.4	-3.9
	1.5nm,0.3s						
FRF	La Foret Royal	4.37	24	*e*Pn	Pn	21 06 25.0	+0.1
FRF				*e*Sn	Sn	21 07 11.1	-5.5
	1.1nm,0.2s						
LASF	Ste Croix	4.48	357	*e*Pn	Pn	21 06 26.5	0.0
LASF				*e*Sn	Sn	21 07 09.3	-10
	0.2nm,0.2s						
EPF	Esparros	4.48	321	*e*Pn	Pn	21 06 27.5	+1.0
SMRF	Simiane la Rot	4.50	13	*e*Pn	Pn	21 06 27.8	+1.1
PGF	Pioggiola	4.69	50	*e*Pn	Pn	21 06 29.2	-0.2
ETSF	Etsaut	4.86	314	*e*Pn	Pn	21 06 31.9	+0.1
SBF	Sospel	4.91	29	*e*Pn	Pn	21 06 32.3	-0.3
SBF				*e*Sn	Sn	21 07 22.5	-7.7
	1.0nm,0.2s						
VIVF	Saint-Julien-l	5.27	4	*e*Pn	Pn	21 06 36.6	-1.0
SJPF	Ste Jean	5.37	313	*e*Pn	Pn	21 06 37.2	-1.8
ORIF	Oris-en-Rattie	5.47	13	*e*Pn	Pn	21 06 39.4	-1.0
MBDF	Montbardon	5.48	20	*e*Pn	Pn	21 06 41.5	+1.0
EALK	Alkurruntz	5.60	312	Pn	Pn	21 06 43.1	+0.9
	0.5nm,0.2s,SNR=7.9						
LPG	La Plagne	6.20	17	*e*Pn	Pn	21 06 52.0	+1.3
LPL	La Plagne	6.21	17	*e*Pn	Pn	21 06 52.4	+1.5

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*MDD **27** 21:07:25.7±2.4, 39.52N×4.16E, h32^{km}±77^{km}, mb3.5/4, Error ellipse: s-maj=24.5km s-min=10.8km az=150.0, PRXIMO*
*LDG **27** 21:07:30.0±1.0, 39.97N×4.06E, h10^{km}, Ml2.1/6, Error ellipse: s-maj=23.9km s-min=9.2km az=166.0*

ISC 27 21:07:21.1±1.3, 39.5N±0.1×4.22E±0.09, h10^{km}, n20, σ1^{s}06/26, Balearic Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EIBI	Ibiza	2.29	258	Pn	Pn	21 07 59.8	+0.2
	1.5nm,0.2s,SNR=7.9						
EJON	La Jonquera	3.08	341	Pn	Pn	21 08 10.8	0.0
	0.5nm,0.1s,SNR=7.9						
EBEN	Beniarda	3.55	258	Pn	Pn	21 08 17.1	-0.4
	SNR=7.9						
EMOS	Mosqueruela	3.70	284	Pn	Pn	21 08 19.4	-0.2
	0.4nm,0.2s,SNR=7.9						
MTLF	Montolieu	4.09	339	*e*Pn	Pn	21 08 24.7	-0.5
MTLF				*e*Sn	Sn	21 09 03.3	-10
	0.8nm,0.3s						
LMR	La Mourre	4.17	24	*e*Pn	Pn	21 08 26.0	-0.3
LMR				*e*Sn	Sn	21 09 10.7	-4.9
	0.7nm,0.2s						

FRF	La Foret Royal	4.41	24	ePn	Pn	21 08 30.0	+0.2
FRF				eSn	Sn	21 09 16.2	-5.7
	0.6nm,0.2s						
LASF	Ste Croix	4.54	357	ePn	Pn	21 08 31.4	-0.2
LASF				eSn	Sn	21 09 14.3	-11
	0.3nm,0.2s						
SMRF	Simiane la Rot	4.55	12	ePn	Pn	21 08 32.9	+1.2
EPF	Esparros	4.55	321	ePn	Pn	21 08 32.6	+0.9
PGF	Pioggiola	4.70	49	ePn	Pn	21 08 34.0	+0.1
PGF				eSn	Sn	21 09 25.6	-3.6
	0.5nm,0.2s						
ETSF	Etsaut	4.92	315	ePn	Pn	21 08 36.7	-0.3
SBF	Sospel	4.95	28	ePn	Pn	21 08 37.3	-0.1
SBF				eSn	Sn	21 09 27.8	-7.6
	0.7nm,0.2s						
VIVF	Saint-Julien-l	5.33	3	ePn	Pn	21 08 42.4	-0.3
SJPF	Ste Jean	5.44	313	ePn	Pn	21 08 42.3	-1.9
ORIF	Oris-en-Rattie	5.52	12	ePn	Pn	21 08 44.8	-0.6
MBDF	Montbardon	5.52	19	ePn	Pn	21 08 46.1	+0.6
EALK	Alkurruntz	5.66	312	Pn	Pn	21 08 48.1	+0.6
	1.1nm,0.3s,SNR=7.9						
LPG	La Plagne	6.24	17	ePn	Pn	21 08 57.1	+1.5
LPL	La Plagne	6.26	16	ePn	Pn	21 08 57.6	+1.8

IDC 27 21:07:55.0±2.0, 6.32S×129.47E, mb3.6/1, mb1 3.9/4, mb1mx3.6/13, ML3.5/3, Error ellipse: s-maj=81.2km s-min=27.6km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	12.29	197	Pn	P	21 10 52.7	-1.7
	0.6nm,0.3s,baz=15,slow=11,SNR=17						
FITZ				Sn	S	21 12 54.9	-18
	0.3nm,0.3s,baz=168,slow=21,SNR=3.1						
WRA	Warramunga Arr	14.34	161	Pn	P	21 11 18.3	-3.3
	0.3nm,0.3s,baz=339,slow=13,SNR=23						
WRA				Sn	S	21 13 44.4	-18
	0.3nm,0.3s,baz=338,slow=19,SNR=5.2						
ASAR	Alice Springs	17.76	167	P	P	21 12 03.8	-1.7
	0.1nm,0.3s,baz=345,slow=8.5,SNR=12						
ASAR				S	S	21 15 07.6	-15
	0.1nm,0.3s,baz=158,slow=37,SNR=2.6						
MKAR	Makanchi Array	67.37	327	P	P	21 18 52.2	-2.1
	0.3nm,0.4s,baz=114,slow=8.2,SNR=7.1						

MAN 27 21:11:13.8, 10.89N×122.46E, h23^{km}, mb3.9, ML2.7, MS2.2, Panay

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IDC 27 21:11:17.8±2.1, 5.77S×130.65E, mb4.0/2, mb1 4.3/5, mb1mx4.0/12, ML4.1/3, Error ellipse: s-maj=79.9km s-min=25.5km az=74.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	13.19	201	Pn	P	21 14 26.3	-2.9
	1.7nm,0.3s,baz=26,slow=10.0,SNR=7.8						
FITZ				Sn	S	21 16 36.6	-21
	0.7nm,0.3s,baz=47,slow=4.9,SNR=3.3						
WRA	Warramunga Arr	14.53	166	Pn	P	21 14 43.9	-3.0
	1.3nm,0.3s,baz=349,slow=13,SNR=11						
WRA				Sn	S	21 17 11.8	-18
	0.7nm,0.3s,baz=331,slow=24,SNR=5.2						
ASAR	Alice Springs	18.06	170	P	P	21 15 30.9	-1.1
	0.3nm,0.3s,baz=344,slow=10,SNR=6.1						
ASAR				S	S	21 18 35.7	-16
	0.1nm,0.3s,baz=346,slow=15,SNR=3.0						
CMAR	Chiang Mai Arr	39.46	308	P	P	21 18 50.2	-1.6
	0.5nm,0.6s,baz=136,slow=7.1,SNR=5.3						
MKAR	Makanchi Array	67.56	326	P	P	21 22 16.1	-2.2
	1.6nm,0.5s,baz=121,slow=8.0,SNR=30						

MAN 27 21:41:27.0, 10.30N×122.09E, h12^{km}, mb4.2, ML3.0, MS2.7, Panay

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IDC 27 21:50:33.1±33.0, 37.41S×51.59E, mb3.6/3, mb1 3.9/3, mb1mx3.6/16, Error ellipse: s-maj=897.0km s-min=68.4km az=76.0, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	Alice Springs	70.18	105	P	P	22 01 48.1	-1.6
	0.5nm,0.6s,baz=232,slow=5.8,SNR=9.5						
CMAR	Chiang Mai Arr	71.23	48	P	P	22 01 54.4	-1.9
	0.5nm,0.8s,baz=240,slow=7.3,SNR=4.5						
WRA	Warramunga Arr	72.56	102	P	P	22 02 02.2	-2.0
	0.5nm,1.0s,baz=233,slow=5.2,SNR=6.1						

IDC 27 21:58:07.0±2.0, 0.87N×125.91E, mb3.4/3, mb1 3.7/3, mb1mx3.4/14, Error ellipse: s-maj=177.0km s-min=26.2km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	22.27	159	P	P	22 03 04.1	-3.3
	1.4nm,0.8s,baz=337,slow=11,SNR=7.5						
ASAR	Alice Springs	25.59	163	P	P	22 03 39.5	-0.2
	0.2nm,0.3s,baz=345,slow=12,SNR=4.9						
MKAR	Makanchi Array	59.45	327	P	P	22 08 11.6	-2.4
	0.2nm,0.4s,baz=117,slow=7.8,SNR=5.0						

KRSC 27 22:25:05.2±0.6, 49.85N×156.68E, ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	Severo-Kuril's	0.91	337	eP	Pg	22 25 21.6	-1.7
SKR				i S	Sg	22 25 36.1	+0.6
ALID	Alaid	1.25	325	i P	Pb	22 25 30.9	+1.5
ALID				i S	Sb	22 25 48.9	+3.0
PAU	Pauzhetka	1.62	3	eP	Pn	22 25 36.6	+1.4
PAU				i S	Sb	22 25 59.1	+2.4
RUS	Russkaya	2.83	23	eP	Pn	22 25 52.4	-0.1
RUS				eS	Sn	22 26 26.2	-1.7
GRL	Gorelyy	2.84	17	eP	Pn	22 25 54.2	+1.5
GRL				eS	Sn	22 26 29.5	+1.4
APC	Apacha	3.09	5	eP	Pn	22 25 57.7	+1.5
APC				eS	Sn	22 26 34.9	+0.4
PET	Petropavlovsk	3.41	20	eS	Sn	22 26 43.4	+0.9
UGLR	Uglovaya	3.62	21	eP	Pn	22 26 05.5	+1.8
AVH	Avacha	3.65	20	eP	Pn	22 26 05.0	+0.8
AVH				eS	Sn	22 26 48.8	+0.2
KOK	Koryaka	3.66	19	eP	Pn	22 26 05.9	+1.7
KOK				eS	Sn	22 26 50.0	+1.3
SMAR	Somma	3.67	20	eP	Pn	22 26 06.5	+2.2
SDLR	Sedlovina	3.70	21	eP	Pn	22 26 05.2	+0.4
SDLR				eS	Sn	22 26 47.8	-2.0
NLC	Nalytchevo	3.72	26	eS	Sn	22 26 46.7	-3.6
SPN	Mys Shipunski	3.87	31	eP	Pn	22 26 07.4	+0.2
SPN				eS	Sn	22 26 51.4	-2.6
GNL	Ganaly	3.93	11	eP	Pn	22 26 09.2	+1.1
MKZ	Mys Kozlova	5.64	31	eP	Pn	22 26 29.9	-2.5
KBTR	Krutoberegovo	7.36	28	eP	Pn	22 26 53.9	-2.7

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*DJA **27** 22:34:08.1±0.9, 8.14S×117.32E, h33^{km}, MD4.5/2, ML4.7/4, Error ellipse: s-maj=37.0km s-min=19.7km az=170.0*

ISC 27 22:34:09.4±2.2, 8.0S±0.3×117.1E±0.1, h45^{km}±33^{km}, n6, σ0^{s}53/9, 2C-6D, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KEDI	Kedomdong	1.09	246	⇑ePn	P	22 34 27.8	-0.7
	512nm,0.2s						
RATI	Rata	1.71	247	⇓ePn	P	22 34 37.0	-0.4
	973nm,0.2s						
RATI	Rata	1.71	247	⇓iP	P	22 34 38.2	+0.8
RATI				⇓iSn	S	22 34 59.0	+0.8
INGI	Ingas	2.10	248	⇑ePn	P	22 34 42.9	0.0
	1µm,0.2s						
INGI				⇓iSn	S	22 35 07.5	-0.5
KELI	Kelakatan	2.61	266	⇓ePn	P	22 34 50.8	+0.6
	46nm,0.2s						
KELI				⇓iSn	S	22 35 20.5	-0.4
WB2	Warramunga Arr	20.45	127	eP	P	22 38 45.8	-0.1

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*INMG **27** 22:39:36.3±1.6, 34.02N×6.19W, h31^{km}, ML2.4, Error ellipse: s-maj=14.8km s-min=10.5km az=60.0*

MDD 27 22:39:36.1±2.2, 34.19N×6.06W, mb3.4/7, 2C, Error ellipse: s-maj=19.2km s-min=14.3km az=6.0, PRXIMO, Morocco

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EMIJ	Mijas	2.60	24	Pn	Pn	22 40 17.4	-2.7
	0.5nm,0.1s,SNR=7.9						
EMIJ				Sn	Sn	22 40 49.5	-3.3
	4.9nm,0.3s,SNR=7.9						
ESPR	Espera	2.68	4	Pn	Pn	22 40 19.7	-1.7
	1.4nm,0.3s,SNR=4.0						
ESPR				Sn	Sn	22 40 51.1	-4.0
	8.0nm,0.3s,SNR=4.0						
PALC	Alcoutim	3.47	341	ePn	Pn	22 40 30.1	-2.4
PALC				eSn	Sn	22 41 09.9	-5.0
	15nm,0.5s						
PALC	Alcoutim	3.47	341	Pn	Pn	22 40 30.1	-2.4
PALC				Sn	Sn	22 41 09.9	-5.0
	7.7nm,0.5s						
EMIN	Mina Concepcio	3.61	352	⇑Pn	Pn	22 40 31.4	-3.1
	1.0nm,0.1s,SNR=18						
EMIN				Sn	Sn	22 41 13.1	-5.4
	1.8nm,0.2s,SNR=6.6						
ELUQ	Luque	3.67	23	Pn	Pn	22 40 33.4	-2.0
	0.6nm,0.3s,SNR=5.0						
ELUQ				Sn	Sn	22 41 15.7	-4.3
	1.6nm,0.2s,SNR=7.9						
PTEO	Sao Teotonio	3.99	328	ePn	Pn	22 40 37.4	-2.5
PTEO				eSn	Sn	22 41 22.2	-5.9
PBEJ	Beja	4.10	340	ePn	Pn	22 40 38.8	-2.7
PBEJ				eSn	Sn	22 41 24.3	-6.7
EADA	Adamuz	4.15	16	Pn	Pn	22 40 38.8	-3.4
	0.4nm,0.1s,SNR=7.5						
EADA				Sn	Sn	22 41 25.0	-7.2
	2.2nm,0.1s						
EQES	Quesada	4.35	33	Pn	Pn	22 40 43.8	-1.2
	0.5nm,0.2s,SNR=5.7						
EQES				Sn	Sn	22 41 33.1	-4.1
	1.3nm,0.2s,SNR=5.0						
EBAD	Badajoz	4.63	351	⇑Pn	Pn	22 40 46.6	-2.4
	4.1nm,0.2s,SNR=18						
EBAD				Sn	Sn	22 41 37.0	-7.2
	5.5nm,0.3s,SNR=7.9						
MOE	Montemor	4.71	338	ePn	Pn	22 40 47.7	-2.4
MOE				eSn	Sn	22 41 40.8	-5.4
ESDC	Sonseca Array	5.73	16	Pn	Pn	22 41 00.3	-4.2
	0.1nm,0.2s,baz=202,slow=13,SNR=3.9						
ESDC				Sn	Sn	22 42 02.2	-10
	1.3nm,0.2s,baz=198,slow=23,SNR=7.9						
PTOM	Tomar	5.74	342	ePn	Pn	22 41 01.9	-2.8
PTOM				eSn	Sn	22 42 05.7	-6.5
PCBR	Castelo Branco	5.76	349	ePn	Pn	22 41 01.8	-3.1
PCBR				eSn	Sn	22 42 04.6	-8.1
	2.7nm,0.4s						
PCBR	Castelo Branco	5.76	349	Pn	Pn	22 41 01.8	-3.1
PCBR				Sn	Sn	22 42 04.6	-8.1
	1.4nm,0.4s						
MTE	Manteigas	6.32	350	eSn	Sn	22 42 19.0	-7.6
	3.5nm,0.6s						
MTE	Manteigas	6.32	350	Sn	Sn	22 42 19.0	-7.6
	1.8nm,0.6s						
PVRL	Vila Real	7.20	350	eSn	Sn	22 42 40.1	-8.6

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*IDC **27** 22:45:55.9±0.9, 18.97N×64.60W, mb3.9/7, mb1 4.2/8, mb1mx4.0/19, ML3.3/1, MS3.6/2, Ms1 3.6/2, ms1mx3.1/22, Error ellipse: s-maj=29.8km s-min=20.4km az=70.0*

*RSPR **27** 22:46:00.7, 19.02N×64.90W, h20^{km}±21^{km}, MD3.8/11, MD3.8/11*

*NEIC **27** 22:46:00.7, 19.02N×64.90W, h20^{km}, MD3.8(RSPR), After RSPR.*

ISC 27 22:45:59.0±1.8, 18.94N±0.06×64.89W±0.03, h29^{km}±14^{km}, n31, σ1^{s}05/39, mb3.9/7, MS4.1/1, 8C, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBYP	Canovanas	1.13	234	⇑iP	Pn	22 46 19.2	0.0
CBYP				eS	Sn	22 46 34.3	+0.4
HUMP	Col San Antoni	1.21	229	⇑eP	Pn	22 46 20.3	+0.1
HUMP				eS	Sn	22 46 36.1	+0.3
CSB	Colonia Sabana	1.36	242	⇑iP	Pn	22 46 22.2	-0.2
SJG	San Juan	1.45	236	⇑eP	Pn	22 46 24.0	+0.2
SJG				eS	Sn	22 46 41.5	-0.4
SJG	San Juan	1.45	236	⇑iP	Pn	22 46 23.6	-0.1
SJG				eS	Sn	22 46 41.6	-0.4
CELP	Cerrillos	1.82	242	⇑iP	Pn	22 46 29.2	+0.2
CELP				eS	Sn	22 46 50.5	-0.8
OBIP	Obispado Ponce	1.86	242	⇑eP	Pn	22 46 29.6	+0.1
OBIP	Obispado Ponce	1.86	242	eS	Sn	22 46 52.2	-0.1
AOPR	Arecibo Observ	1.86	252	⇑iP	Pn	22 46 29.4	-0.2
AOPR	Arecibo Observ	1.86	252	eS	Sn	22 46 51.3	-1.1
AOPR	Arecibo Observ	1.86	252	eP	Pn	22 46 29.2	-0.4
PORP	Portuguez	1.88	242	⇑eP	Pn	22 46 29.9	+0.1
PORP				eS	Sn	22 46 52.5	-0.3
STMA	St. Maarten, A	1.91	118	eP	Pn	22 46 29.5	-0.7
STMA				eS	Sn	22 46 56.1	+2.6
LRS	Lares	1.96	251	⇑iP	Pn	22 46 30.6	-0.4
LSP	Las Mesas	2.22	250	⇑eP	Pn	22 46 35.0	+0.3
MGP	Maguayo	2.29	246	⇑eP	Pn	22 46 35.8	+0.2
MGP				eS	Sn	22 47 03.1	0.0
STAT	Sint Eustatius	2.31	128	e	Pn	22 46 34.5	-1.6
STAT	Sint Eustatius	2.31	128	e	Pn	22 46 40.6	+4.5
STAT				eS	Sn	22 47 03.1	-0.8
SEG	Port Louis	4.09	128	eP	Pn	22 47 03.7	+2.3
DOG	Dongo Capester	4.25	132	eP	Pn	22 47 02.0	-1.7
DEG	La Desirade	4.49	125	eP	Pn	22 47 05.9	-1.1
SDV	Santo Domingo	11.44	210	eP	P	22 48 45.0	+1.3
ROSC	El Rosal	16.76	215	Pn	P	22 49 56.3	+2.8
	2.4nm,0.3s,baz=290,slow=22,SNR=6.3						
ROSC				LR	LR	22 57 03.0	
	comp=Z,60nm,18.1s,baz=224,slow=39						
LPAZ	La Paz	35.15	185	P	P	22 52 54.1	+1.5
	0.7nm,0.3s,mb4.1,baz=4.2,slow=6.6,SNR=3.9						
TXAR	Lajitas Array	36.72	294	P	P	22 53 07.4	+1.6
	0.7nm,0.8s,mb3.5,baz=108,slow=12,SNR=5.0						
PDAR	Pinedale Array	44.44	312	P	P	22 54 10.8	+1.4
	0.8nm,0.8s,mb3.5,baz=114,slow=11,SNR=2.6						
CPUP	Villa Florida	45.59	170	P	P	22 54 15.8	-2.9
	2.3nm,0.7s,mb4.2,baz=358,slow=10,SNR=6.0						
ILAR	Eielson Array	69.64	333	P	P	22 57 06.2	-1.3
	0.6nm,0.6s,mb3.7,baz=124,slow=5.2,SNR=4.9						
ARCES	ARCESS Array B	72.56	22	P	P	22 57 24.4	-0.6
	1.2nm,0.9s,mb3.8,baz=292,slow=4.9,SNR=4.8						
BRTR	Keskin Array B	84.43	50	P	P	22 58 30.1	-0.3
	1.5nm,1.0s,mb4.1,baz=276,slow=5.1,SNR=4.7						
GNI	Garni	92.09	46	LR	LR	23 33 24.5	
	comp=Z,81nm,21.2s,MS4.1,baz=162,slow=31						

MAN 27 22:50:15.1, 11.24N×126.02E, h9^{km}, mb4.3, ML3.2, MS2.9, Philippine Islands region

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*IDC **27** 22:58:23.9±1.5, 32.74S×71.68W, h23^{km}±8^{km}, mb5.0/13, mb1 5.1/15, mb1mx5.0/16, ML4.9/2, MS5.0/11, Ms1 5.0/11, ms1mx5.0/14, Error ellipse: s-maj=14.1km s-min=7.7km az=79.0*

*NEIC **27** 22:58:24.6, 32.69S×71.74W, h33^{km}, mb5.2/85, MS5.1/12, ML5.3(GUC), After GUC.*

NEIC Felt [V] at San Antonio, Valparaiso and Vina del Mar; [IV] at Cabildo, La Ligua and Quilpue; [III] at Los Andes, Quillota and Santiago.

*GUC **27** 22:58:24.6±0.7, 32.69S×71.74W, h33^{km}±3^{km}, ML5.3*

*HRVD **27** 22:58:24.6±0.2, 32.72S×72.02W, h33^{km}±1^{km}, MW5.5/66, Centroid moment Tensor Solution. LP body waves: s66,c103;Mantle waves: s55,c94; Half duration: 1^{s}4 Moment tensor: Scale 10^{17}Nm; M$_{rr}$1.29±.04; M$_{\theta\theta}$0.28±.04; M$_{\phi\phi}$-1.57±.04; M$_{r\theta}$0.12±.04; M$_{\theta\phi}$-0.19±.03; M$_{\phi r}$-1.72±.08; Best double couple: M$_0$2.25×10^{17} NP1:ϕ_s17°,δ21°,λ109°. NP2:ϕ_s177°,δ70°,λ83°. Principal axes: T 2.12, Plg64°, Azm76°; N .26, Plg6°, Azm180°; P -2.38, Plg25°, Azm273°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*SYO **27** 22:58:24.6, 32.69S×71.74W, h33^{km}, MB5.2*

*BJI **27** 22:58:25.6, 32.70S×71.70W, h32^{km}, mB5.2, Ms5.2, Msz5.3*

*MOS **27** 22:58:25.4±0.9, 32.70S×71.30W, h33^{km}, mb5.6/13, MS5.2/5, Error ellipse: s-maj=24.0km s-min=14.5km az=62.3*

ISC 27 22:58:25.1±0.5, 32.63S±0.03×71.69W±0.05, h41^{km}±4^{km}, h40^{km}±2.7^{km}:pP-P, n358, σ0^{s}95/203, mb5.2/87, MS5.1/22, 28C-20D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IHA	Instituto Hidr	0.39	174	⇓iP	P	22 58 32.8	-1.8
LCCH	Las Cruces	0.85	173	⇑iP	P	22 58 39.5	-1.2
JACH	Jahuel	0.93	93	⇑iP	P	22 58 41.7	0.0
RCDM	Rinconada Maip	1.13	139	i P	P	22 58 44.5	-0.2
RCDM				i S	S	22 58 59.5	+0.3
RCDM				AMP		22 59 05.1	
	comp=N,65µm,0.5s						
SAN	Santiago	1.19	134	eP	P	22 58 45.7	+0.2
SAN				i S	S	22 59 01.4	+0.6
TACH	Talagante	1.20	148	⇑iP	P	22 58 45.5	-0.1
CLCH	Cerro Calan	1.23	129	⇓iP	P	22 58 46.5	+0.3
CLCH				i S	S	22 59 02.9	+1.1
CLCH				AMP		22 59 06.5	
	comp=N,142µm,0.6s						
ANTU	Antumapu	1.29	137	eP	P	22 58 47.3	+0.3
ANTU				AMP		22 59 11.4	
	comp=N,158µm,0.4s						
FSR	Penalolen	1.29	131	eP	P	22 58 47.3	+0.3
FSR				i S	S	22 59 04.6	+1.2
FSR				AMP		22 59 10.0	
	comp=N,104µm,0.6s						
LNV	Longovilo	1.34	170	⇓iP	P	22 58 46.7	-1.1
FCH	Farellones	1.36	121	⇓iP	P	22 58 48.7	+0.6
FCH				i S	S	22 59 07.6	+2.4
FCH				AMP		22 59 11.3	
	comp=N,99µm,0.9s						
PCH	Pirque	1.39	135	⇑iP	P	22 58 48.8	+0.2
CHCH	Chadas Angostu	1.56	147	eP	P	22 58 51.2	+0.3
CACH	El Canelo	1.74	149	eP	P	22 58 54.6	+1.2
CICH	Cipreses	1.99	148	eP	P	22 58 57.4	+0.4
SFDO	San Fernando	2.05	164	⇓iP	P	22 58 57.8	-0.1
OVCH	Ovalle	2.06	12	eP	P	22 58 59.3	+1.3
TLL	Tololo Astrono	2.57	17	eP	P	22 59 06.7	+1.4
TLL				i S	S	22 59 36.4	+0.8
LSCH	La Serena	2.74	8	eP	P	22 59 08.8	+1.0
TALC	Talca	2.76	179	eP	P	22 59 06.9	-1.0
COCH	Cobquecura	3.61	194	eP	P	22 59 17.6	-2.4
CCHI	Chillan	3.97	185	eP	P	22 59 23.5	-1.6
TRQA	Tornquist	9.60	127	eP	P	23 00 42.1	-1.6
LVC	Limon Verde	10.28	15	ePn	P	23 00 47.9	-5.2
LPA	La Plata	11.67	105	ceP	P	23 01 09.0	-3.0
LPA				epP		23 01 15.0	
LPA				ePP	PP	23 01 17.0	-4.0
LPA				eS	S	23 03 16.0	-5.9
LPA				eSS	SS	23 03 34.0	-2.6
CPUP	Villa Florida	13.99	67	Pn	P	23 01 39.4	-3.4
	comp=N,1.4nm,0.3s,baz=256,slow=11,SNR=22						
CPUP				Sn	S	23 04 15.4	-2.2
	comp=N,8.4nm,0.3s,baz=192,slow=4.8,SNR=5.2						
CPUP				Lg		23 05 49.2	
	comp=N,8.6nm,0.3s,baz=158,slow=17,SNR=3.2						
CPUP				LR	LR	23 07 57.7	
	comp=N,3µm,18.9s,baz=265,slow=41						
CPUP	Villa Florida	13.99	67	P	P	23 01 39.4	-3.4
CPUP						23 04 15.4	
CPUP				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CPUP				smax			
	comp=N,8.0nm,0.3s						
CPUP				MLR	MLR		
	comp=Z,3µm,18.9s						
CPUP	Villa Florida	13.99	67	eP	P	23 01 39.1	-3.7
	comp=Z,0.5nm,0.3s						
ARE	Arequipa	16.10	1	eP	P	23 02 13.0	+2.8
ARE				e		23 02 16.0	
LPAZ	La Paz	16.59	12	Pn	P	23 02 16.9	+0.6
	comp=Z,1.5nm,0.3s,baz=185,slow=8.9,SNR=72						
LPAZ				Sn	S	23 05 22.4	+3.9
	comp=Z,0.2nm,0.3s,baz=333,slow=20,SNR=3.7						
LPAZ	La Paz	16.59	12	P	P	23 02 17.0	+0.7
LPAZ						23 05 22.4	
LPAZ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
LPAZ	La Paz	16.59	12	eP	P	23 02 15.9	-0.4
	comp=Z,47nm,0.8s						
NNA	Nana	21.09	346	eP	P	23 03 08.2	-0.2
	comp=Z,39nm,1.2s,mb4.6						
EFI	East Falkland	21.48	156	P	P	23 03 11.5	-0.5
	comp=Z,686nm,1.0s,mb5.9,SNR=31						
EFI	East Falkland	21.48	156	eP	P	23 03 11.1	-0.9
	comp=Z,95nm,0.8s,mb5.2						
USHA	Ushuaia	22.31	175	P	P	23 03 19.9	-0.4
	comp=Z,74nm,1.1s,mb5.0,baz=335,slow=6.6,SNR=12						
USHA				S	S	23 07 20.9	+2.7
	comp=Z,9.2nm,0.9s,baz=36,slow=11,SNR=1.7						
USHA				LR	LR	23 12 13.1	
	comp=Z,2µm,20.2s,MS4.6,baz=342,slow=37						
SAML	Samuel	24.85	20	⇑eP	P	23 03 44.7	-0.7
	comp=Z,150nm,1.1s,mb5.4						
BDFB	Brasilia	27.34	57	P	P	23 04 07.0	-1.4
	comp=Z,174nm,1.0s,mb5.5,baz=235,slow=7.2,SNR=101						
BDFB				S	S	23 08 47.9	+4.3
	comp=Z,7.2nm,0.9s,baz=145,slow=18,SNR=1.5						
BDFB				LR	LR	23 16 00.1	
	comp=Z,12µm,21.6s,MS5.4,baz=233,slow=39						
BDFB	Brasilia	27.34	57	P	P	23 04 07.0	-1.5
BDFB				S	S	23 08 47.9	+4.3
BDFB				pmax	pmax		
	comp=Z,174nm,1.0s						
BDFB				smax			
	comp=N,7.0nm,0.9s						
BDFB				MLR	MLR		
	comp=Z,12µm,21.6s						
BAO	Brasilia Array	27.36	57	eP	P	23 04 07.2	-1.4
BAO				e	pP	23 04 20.5	+0.9
BAO				e		23 09 34.1	
CAM4	Nova Friburgo	27.71	76	⇓iP	P	23 04 10.8	-1.0
CAM4				i		23 04 13.6	
CAM4				i		23 04 24.8	
CAM4				i		23 04 43.9	
CAM4				i		23 12 04.8	
CAM4				i		23 12 43.9	
CAM4				i		23 12 47.7	
CAM4				i		23 13 02.3	
CAM4	Nova Friburgo	27.71	76	⇓iP	P	23 04 10.8	-1.0
CAM4				i		23 04 13.6	
CAM4				i		23 04 24.8	
CAM4				i		23 04 43.9	
CAM4				i		23 12 04.8	
CAM4				i		23 12 43.9	
CAM4				i		23 12 47.7	
CAM4				i		23 13 02.3	
PMSA	Palmer Station	32.51	174	P	P	23 04 52.5	-1.4
	comp=Z,54nm,1.2s,mb5.3						
OTAV	Otavalo	33.31	348	P	P	23 05 01.0	-0.4
	comp=Z,16nm,1.2s,mb4.8						
ROSC	El Rosal	37.37	356	P	P	23 05 36.7	+0.8
	comp=Z,58nm,0.9s,mb5.4,baz=144,slow=8.5,SNR=17						
ROSC				S	S	23 11 26.9	+6.4
	comp=Z,4.9nm,0.4s,baz=99,slow=21,SNR=1.8						
ROSC				LR	LR	23 21 18.4	
	comp=Z,2µm,18.6s,MS4.9,baz=193,slow=37						
SDV	Santo Domingo	41.30	2	eP	P	23 06 07.7	-0.8
	comp=Z,46nm,0.8s,mb5.2						
JTS	JuntasAbangare	44.52	341	P	P	23 06 33.2	-1.6
	comp=Z,1.8nm,0.4s,mb4.3,baz=328,slow=21,SNR=3.0						
JTS				S	S	23 13 13.5	+6.7
	comp=Z,4.0nm,0.9s,baz=286,slow=23,SNR=1.9						
VNA3	Neumayer Olymp	50.51	158	⇑i	pP	23 07 30.8	-1.6
VNA3	Neumayer Olymp	50.51	158		sP	23 07 33.6	-3.7
VNA3	Neumayer Olymp	50.51	158	⇑i	PcP	23 08 38.3	-0.3
VNA3	Neumayer Olymp	50.51	158	⇑i	PP	23 09 20.3	+2.7
VNA3	Neumayer Olymp	50.51	158	⇑iP	P	23 07 23.0	+2.1
VNA3				⇑iP		23 07 30.8	
VNA3				P	pP	23 07 33.6	+1.2
MGP	Maguayo	50.54	6	eP	P	23 07 20.4	-1.4
SJG	San Juan	50.73	7	eP	P	23 07 21.2	-2.1
	comp=Z,72nm,1.0s,mb5.6						
HUMP	Col San Antoni	50.80	7	eP	P	23 07 21.9	-1.8
VNA1	Neumayer--Stat	50.82	157	⇓i	pP	23 07 33.1	-1.7
VNA1	Neumayer--Stat	50.82	157	⇑i	sP	23 07 35.7	-3.9
VNA1	Neumayer--Stat	50.82	157	⇓i	PcP	23 08 41.7	+1.9
VNA1	Neumayer--Stat	50.82	157	⇑iP	P	23 07 25.9	+2.7
VNA1				⇓iP		23 07 33.1	
VNA1				⇑iP	pP	23 07 35.7	+0.9
VNA2	Neumayer--Watz	51.16	158	⇑i	pP	23 07 35.6	-1.8
VNA2	Neumayer--Watz	51.16	158	⇑i	sP	23 07 38.6	-3.6

```
VNA2  Neumayer--Watz   51.16 158⇑i     PcP      23 08 42.3 +1.3
VNA2  Neumayer--Watz   51.16 158⇑i     PP       23 09 25.6 +2.2
VNA2  Neumayer--Watz   51.16 158⇑iP    P        23 07 27.9 +2.1
VNA2                            ⇑iP             23 07 35.6
VNA2                            ⇑iP    pP       23 07 38.6 +1.2
SNAA  Sanae            52.74 158⇑i     P        23 07 44.2 +6.6
SNAA  Sanae            52.74 158⇓i     P        23 07 47.4  +10
SNAA  Sanae            52.74 158⇑i     PcP      23 08 43.3 -3.6
SNAA  Sanae            52.74 158⇓iS    S        23 15 03.1 +1.9
SNAA  Sanae            52.74 158  P    P        23 07 36.5 -1.2
      comp=Z,25nm,1.1s,mb5.1,baz=281,slow=6.0,SNR=78
SNAA                              S    S        23 15 04.9 +3.7
      comp=Z,0.8nm,1.2s,baz=336,slow=12,SNR=2.2
SNAA  Sanae            52.74 158  P    P        23 07 36.5 -1.1
SNAA                              S    S        23 15 04.9 +3.7
SNAA                              pmax pmax
      comp=Z,25nm,1.1s
SNAA                              smax
      comp=N,1.0nm,1.3s
SNAA  Sanae            52.74 158⇓iP    P        23 07 37.3 -0.3
SNAA                            ⇑iP             23 07 44.2
SNAA                            ⇓iP    pP       23 07 47.4 -1.9
RKT   Rikitea          56.03 263 eS    S        23 15 39.3 -6.8
RKT                              eR             23 24 21.2
      comp=N,2μm,24.0s
MAIT  Maitri           57.43 157 eP    P        23 08 11.0 -0.6
QSPA  South Pole Qui   57.60 180 eP    P        23 08 12.3 -0.5
      comp=N,100nm,1.0s,mb5.8
QSPA                              LR   LR
      comp=Z,870nm,21.8s,MS4.8
SBA   Scott Base       64.47 192 eP    P        23 08 59.2 +0.1
      comp=Z,20nm,1.2s,mb5.0
LRAL  Lakeview Retre   66.89 346 eP    P        23 09 14.0 -1.3
      comp=Z,25nm,1.1s,mb5.2
SYO   Syowa Base       67.03 159 ⇓P    P        23 09 13.9 -1.6
SYO   Syowa Base       67.03 159 ⇓P    P        23 09 22.9 +7.4
TBI   Tubuai           67.93 256 eS    S        23 18 06.9 -9.4
TBI                              eR             23 29 47.7
      baz=109
TXAR  Lajitas Array    68.69 330  P    P        23 09 26.4 -0.3
      comp=Z,1.7nm,0.5s,mb4.3,baz=149,slow=7.3,SNR=20
TXAR                              S    S        23 18 27.8 +2.5
      comp=Z,0.1nm,0.3s,baz=226,slow=6.9,SNR=3.3
TXAR                              LR   LR       23 35 23.7
      comp=Z,1μm,18.4s,MS5.2,baz=120,slow=32
CPCT  Cooper Cave      68.79 349 eP    P        23 09 28.4 +1.3
SWET  Sewanee          68.80 348 eP    P        23 09 26.3 -0.9
OXF   Oxford           68.84 344 eP    P        23 09 26.1 -1.3
      comp=Z,131nm,1.0s,mb5.8
UALR  University of    69.80 342 eP    P        23 09 32.4 -1.0
      comp=Z,12nm,0.9s,mb4.8
MIAR  Mount Ida        69.92 341 eP    P        23 09 33.3 -0.7
      comp=Z,37nm,1.3s,mb5.2
MIAR                              LR   LR
      comp=Z,558nm,19.0s,MS4.8
WVT   Waverly          70.05 346 eP    P        23 09 33.0 -1.9
      comp=Z,102nm,0.9s,mb5.8
PWV   Princeton        70.15 352 eP    P        23 09 34.5 -0.9
HALT  Halls            70.16 345 eP    P        23 09 34.4 -1.0
UTMT  University of    70.47 345 eP    P        23 09 36.9 -0.5
      comp=Z,66nm,0.6s,mb5.7
CLNB  Carlsbad         71.34 332  P    P        23 09 42.8 +0.1
GDL2  Guadalupe Moun   71.49 331 eP    P        23 09 43.3 -0.2
WMOK  Wichita Mounta   71.69 337 eP    P        23 09 42.6 -2.1
      comp=Z,23nm,1.4s,mb4.9
USIN  University of    71.80 347 eP    P        23 09 44.0 -1.3
      comp=Z,112nm,1.1s,mb5.7
WCI   Wyandotte Cave   71.80 348 eP    P        23 09 43.4 -1.8
      comp=Z,20nm,0.9s,mb5.0
FVM   French Village   72.39 345 eP    P        23 09 47.5 -1.4
      comp=Z,66nm,1.1s,mb5.5
CCM   Cathedral Cave   72.65 344 eP    P        23 09 49.5 -0.8
      comp=Z,52nm,0.9s,mb5.5
SLM   Saint Louis      72.97 345 eP    P        23 09 51.4 -0.8
      comp=Z,16nm,0.4s,mb5.3
SSPA  Standing Stone   73.13 355 eP    P        23 09 52.4 -0.7
      comp=Z,23nm,1.0s,mb5.1
LIC   Lamto            74.06  72 eP    P        23 09 58.2 -0.9
      comp=Z,186nm,1.1s,mb5.9
BNM   Barren Site      74.11 330 eP    P        23 09 59.5 +0.5
BRYW  Bryant College   74.18   0 eP    P        23 09 59.6 +0.4
      comp=Z,82nm,1.1s,mb5.6
LPM   Los Pinos Moun   74.25 330 eP    P        23 10 00.4 +0.6
LENM  Lemitar          74.27 330 eP    P        23 10 01.5 +1.6
LENM                             e     pP       23 10 13.8 +1.8
TIC   Toumodi          74.32  71 eP    P        23 09 59.7 -0.9
      comp=Z,232nm,1.1s,mb6.0
ALLY  Alegheny Colle   74.33 353 eP    P        23 09 59.8 -0.2
KIC   Kosan Boka       74.38  72 eP    P        23 10 00.2 -0.7
      comp=Z,349nm,1.0s,mb6.3
TUC   Tucson           74.39 326 eP    P        23 10 00.8 +0.2
      comp=Z,13nm,1.3s,mb4.7
MAW   Mawson           74.41 164 eP    P        23 09 59.9 -0.1
      comp=Z,46nm,1.0s,mb5.4
MAW   Mawson           74.41 164  P    P        23 09 59.7 -0.3
      comp=Z,72nm,1.0s,mb5.5,baz=220,slow=7.0,SNR=84
MAW                               S    S        23 19 30.0 -0.2
      comp=Z,20nm,0.9s,baz=234,slow=22,SNR=4.9
MAW                               LR   LR       23 46 05.9
      comp=Z,2μm,18.2s,MS5.5,baz=224,slow=38
MAW   Mawson           74.41 164  P    P        23 09 59.7 -0.3
MAW                               S    S        23 19 30.0 -0.2
MAW                               pmax pmax
      comp=Z,72nm,1.0s
MAW                               smax
      comp=N,20nm,0.9s
MAW                               MLR  MLR
      comp=Z,2μm,18.2s
DBIC  Dimbokro         74.47  71  P    P        23 10 00.8 -0.7
      comp=Z,47nm,0.8s,mb5.5,baz=210,slow=5.7,SNR=39
DBIC                              S    S        23 19 35.8 +3.8
      comp=Z,4.3nm,1.1s,baz=92,slow=5.5,SNR=2.4
DBIC                              LR   LR       23 42 55.1
      comp=Z,977nm,18.5s,MS5.1,baz=215,slow=36
DBIC  Dimbokro         74.47  71  P    P        23 10 00.8 -0.6
DBIC                              S    S        23 19 35.8 +3.8
DBIC                              pmax pmax
      comp=Z,47nm,0.8s
DBIC                              smax
      comp=N,4.0nm,1.1s
DBIC                              MLR  MLR
      comp=Z,977nm,18.5s
LAZ   Ladron           74.54 330  P    P        23 10 02.4 +0.9
QUA2  Belchertown      74.55 359  P    P        23 10 01.2 -0.2
      comp=Z,43nm,0.9s,mb5.4
BINY  Binghamton       74.57 357 eP    P        23 10 01.2 -0.2
      comp=Z,26nm,1.1s,mb5.1
ANMO  Albuquerque      74.73 331 eP    P        23 10 03.5 +0.9
ANMO  Albuquerque      74.73 331 eP    P        23 10 03.1 +0.5
      comp=Z,20nm,1.2s,mb4.9
ANMO                              LR   LR
      comp=Z,2μm,21.0s,MS5.3
HRV   Harvard--Oak R   74.77   0 eP    P        23 10 02.9 +0.3
      comp=Z,26nm,0.8s,mb5.2
SUR   Sutherland       75.23 119 eP    P        23 10 06.5 +1.0
      comp=Z,57nm,0.9s,mb5.5
GENY  Geneseo          75.24 355 eP    P        23 10 04.8 -0.5
ACCN  Adirondack Com   75.67 359 eP    P        23 10 07.8 +0.1
FFD   Franklin Falls   75.73   0 eP    P        23 10 08.8 +0.6
      comp=Z,60nm,0.8s,mb5.6
HNH   Hanover          75.97 360 eP    P        23 10 09.6 +0.2
      comp=Z,3.0nm,1.0s,mb4.2
NCB   Newcomb          76.27 358 eP    P        23 10 10.5 -0.6
      comp=Z,15nm,0.9s,mb4.9
LOZ   Lake Ozonia      76.93 358 eP    P        23 10 13.8 -1.0
EMMW  East Machias     77.07   3 eP    P        23 10 15.1 -0.6
      comp=Z,163nm,0.9s,mb6.0
JFWS  Jewell Farm      77.08 346 eP    P        23 10 15.0 -0.7
      comp=Z,118nm,1.5s,mb5.6
RW3   Ridgway          78.08 332 eP    P        23 10 22.3 +1.0
PFO   Pinyon Flat Ob   78.21 323 eP    P        23 10 23.6 +1.5
      comp=Z,25nm,1.2s,mb5.0
PV01  Paradox Valley   78.33 331 eP    P        23 10 23.3 +0.5
ISCO  Idaho Springs    78.62 334 eP    P        23 10 24.8 +0.5
      comp=Z,33nm,1.4s,mb5.1
ISCO                              LR   LR
      comp=Z,641nm,21.0s,MS4.9
PV10  Paradox Valley   78.73 331 eP    P        23 10 25.1 +0.1
NEN   Nelson           79.05 325 eP    P        23 10 27.0 +0.3
TSUM  Tsumeb           79.30 106 eP    P        23 10 28.8 +0.4
      comp=Z,105nm,1.0s,mb5.7
SRU   San Rafael       79.97 330 eP    P        23 10 31.8 +0.2
ARUT  Antelope Range   80.14 328 eP    P        23 10 33.8 +1.2
MSU   Marysvale        80.17 329 eP    P        23 10 33.6 +0.9
MVU   Marysvale        80.18 329 eP    P        23 10 33.5 +0.7
      comp=Z,14nm,1.1s,mb4.8
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TPNV  Topopah Spring   80.77 325 eP    P        23 10 36.9 +1.0
      comp=Z,14nm,1.1s,mb4.8
TPNV                              LR   LR
      comp=Z,971nm,19.0s,MS5.2
DAC   Darwin (Calif)   80.89 324 eP    P        23 10 37.1 +0.5
      comp=Z,15nm,1.0s,mb4.9
NLU   North Lily Min   81.33 330 eP    P        23 10 39.6 +0.8
DAU   Daniels Canyon   81.37 331  P    P        23 10 39.6 +0.6
CASY  Casey            81.39 181 eP    P        23 10 38.9 +0.3
      comp=Z,64nm,1.1s,mb5.5
JLU   Jordanelle       81.61 331 eP    P        23 10 40.8 +0.5
RSSD  Black Hills      81.89 337 eP    P        23 10 41.6 -0.1
      comp=Z,21nm,1.1s,mb5.0
TCUT  Toone Canyon     82.02 331 eP    P        23 10 42.4  0.0
TPH   Tonopah          82.13 325 eP    P        23 10 43.9 +0.9
      comp=Z,24nm,1.1s,mb5.0
MTUM  Tungsten Hills   82.22 324 eP    P        23 10 43.9 +0.4
HWUT  Hardware Ranch   82.50 331 eP    P        23 10 44.9 +0.1
      comp=Z,18nm,1.1s,mb4.9
HWUT                              LR   LR
      comp=Z,2μm,19.0s,MS5.5
BGU   Big Grassy Mou   82.54 330 eP    P        23 10 45.0  0.0
SPUT  South Promonto   82.61 330 eP    P        23 10 45.1 -0.3
OMM   Old Mammoth Mi   82.64 324 eP    P        23 10 46.5 +0.9
BW06  Boulder Array    82.68 333 eP    P        23 10 45.7  0.0
      comp=Z,16nm,1.4s,mb4.9
BW06                             e     pP       23 10 59.9 +1.8
BW06                              LR   LR
      comp=Z,1μm,21.0s,MS5.2
PDAR  Pinedale Array   82.68 333  P    P        23 10 45.3 -0.4
      comp=Z,5.1nm,1.1s,mb4.5,baz=135,slow=4.2,SNR=24
PDAR                              S    S        23 21 02.9 +4.1
      comp=Z,0.1nm,0.4s,baz=243,slow=45,SNR=2.1
PDAR                              PKKPbc        23 29 10.5
      comp=Z,0.6nm,0.6s,baz=315,slow=1.3,SNR=6.0
PDAR                              LR   LR       23 44 04.9
      comp=Z,940nm,20.1s,MS5.2,baz=145,slow=33
MNV   Mina             82.86 325 eP    P        23 10 47.3 +0.5
      comp=Z,8.3nm,1.1s,mb4.7
HVU   Hansel Valley    83.14 330 eP    P        23 10 48.0  0.0
ELK   Elko             83.36 328 eP    P        23 10 49.7 +0.5
      comp=Z,15nm,1.1s,mb4.9
ELK                               LR   LR
      comp=Z,668nm,19.0s,MS5.0
CMB   Columbia Colle   83.66 323 eP    P        23 10 51.2 +0.5
      comp=Z,10nm,1.2s,mb4.8
CMB                               LR   LR
      comp=Z,462nm,19.0s,MS4.9
REDW  Red Top Meadow   83.69 332 eP    P        23 10 51.0 +0.2
TPAW  Teton Pass       83.83 332 eP    P        23 10 51.8 +0.3
IMW   Indian Meadow    84.17 333 eP    P        23 10 53.5 +0.3
YMR   Madison River    84.83 333 eP    P        23 10 57.8 +1.3
RPZ   Rata Peaks       84.87 220  P    P        23 10 57.7 +0.9
      comp=Z,28nm,0.9s,mb5.4,baz=356,slow=7.2,SNR=4.9
RPZ                               LR   LR       23 41 07.4
      comp=Z,1μm,19.5s,MS5.2,baz=138,slow=30
BEKR  Beckwourth       85.05 325 eP    P        23 10 58.6 +0.9
      comp=Z,5.3nm,0.9s,mb4.7
QLMT  Earthquake Lak   85.15 333 eP    P        23 10 59.8 +1.7
OHCM  Honcut           85.20 324 eP    P        23 10 59.4 +0.9
ULM   Lac du Bonnet    85.26 345  P    P        23 10 58.1 -0.4
      comp=Z,15nm,0.8s,mb5.2,baz=155,slow=3.8,SNR=9.7
ULM                               S    S        23 21 20.6 -3.6
      comp=Z,1.6nm,0.4s,baz=56,slow=14,SNR=1.9
HLID  Hailey           85.29 330 eP    P        23 10 59.8 +1.0
      comp=Z,16nm,1.3s,mb5.0
HLID                              LR   LR
      comp=Z,605nm,22.0s,MS4.9
GCMT  Greycliff        85.30 334 eP    P        23 10 59.3 +0.6
MCMT  McKenzie Canyo   85.70 332 eP    P        23 11 01.8 +1.0
DGMT  Dagmar           85.81 339 eP    P        23 11 01.8 +0.6
      comp=Z,74nm,1.1s,mb5.8
BOZ   Bozeman (W)      85.91 333 eP    P        23 11 01.6 -0.2
      comp=Z,9.1nm,1.2s,mb4.9
WVOR  Wild Horse Val   86.24 327 eP    P        23 11 03.8 +0.3
      comp=Z,13nm,1.2s,mb5.0
MOD   Modoc            86.60 326 eP    P        23 11 06.1 +0.9
      comp=Z,10nm,0.9s,mb5.1
HRY   Holter Researc   86.88 334 eP    P        23 11 06.7 +0.2
SCHQ  Schefferville    87.21   3  P    P        23 11 07.8  0.0
      comp=Z,32nm,1.1s,mb5.5,baz=179,slow=3.5,SNR=9.7
SCHQ                              S    S        23 21 31.8  -11
      comp=Z,2.2nm,0.8s,baz=233,slow=16,SNR=2.1
SCHQ                              LR   LR       23 49 37.1
      comp=Z,433nm,20.0s,MS4.9,baz=134,slow=35
CHMT  Chamberlain Mo   87.59 333 eP    P        23 11 09.8 -0.1
YBH   Yreka Blue Hor   87.63 324  S    S        23 21 39.6 -7.6
      comp=Z,0.4nm,0.3s,baz=93,slow=22,SNR=1.9
YBH   Yreka Blue Hor   87.63 324 eP    P        23 11 09.8 -0.5
      comp=Z,7.0nm,1.0s,mb4.8
VGB   Gordon Butte     89.61 328 eP    P        23 11 20.5 +0.9
LSZ   Lusaka           89.95 108 eP    P        23 11 22.4 +0.6
      comp=Z,62nm,1.1s,mb5.8
DPW   Davenport        90.33 331 eP    P        23 11 22.4 -0.5
EVO   Evora            92.26  45 eP    P        23 11 32.5 +0.4
      comp=Z,14nm,1.0s,mb5.0
EVO                              eR
      comp=Z,1μm,22.2s
ESPR  Espera           92.50  47  P    P        23 11 33.7 +0.5
      comp=Z,8.2nm,1.0s,mb5.0
EMIN  Mina Concepcio   92.57  46  P    P        23 11 33.2 -0.3
      comp=Z,15nm,1.2s,mb5.3
EDM   Edmonton         92.85 336 eP    P        23 11 32.8 -1.6
EMIJ  Mijas            92.98  48  P    P        23 11 35.0 -0.4
      comp=Z,11nm,1.1s,mb5.2
EBAD  Badajoz          93.00  45  P    P        23 11 35.2 -0.3
      comp=Z,9.7nm,1.3s,mb5.1
ELOJ  Sierra Loja      93.73  48  P    P        23 11 38.5 -0.3
      comp=Z,3.6nm,1.0s,mb4.8
ELUQ  Luque            93.92  47  P    P        23 11 39.3 -0.4
      comp=Z,10nm,1.1s,mb5.2
EADA  Adamuz           94.10  47  P    P        23 11 40.9 +0.4
      comp=Z,7.3nm,1.0s,mb5.1
EQES  Quesada          94.81  48  P    P        23 11 43.3 -0.4
      comp=Z,9.6nm,1.0s,mb5.2
ECAL  Calabor          95.21  43  P    P        23 11 45.1 -0.3
      comp=Z,5.7nm,0.9s,mb5.0
ERUA  La Rua           95.27  42  P    P        23 11 45.3 -0.4
ESDC  Sonseca Array    95.42  46  P    P        23 11 46.2 -0.3
      comp=Z,4.5nm,1.0s,mb4.9,baz=251,slow=4.1,SNR=12
ESDC                              LR   LR       23 51 35.5
      comp=Z,589nm,20.8s,MS5.0,baz=220,slow=33
ESDC  Sonseca Array    95.42  46  P    P        23 11 46.5 +0.1
      comp=Z,3.6nm,0.8s,mb4.8
ETOB  Tobarra          96.28  48  P    P        23 11 51.0 +0.6
      comp=Z,9.4nm,0.9s,mb5.2
ETOR  Torete           97.27  46  P    P        23 11 54.5 -0.4
      comp=Z,8.7nm,1.0s,mb5.1
ELAN  Lanestosa        97.92  43  P    P        23 11 58.5 +0.8
      comp=Z,14nm,0.8s,mb5.5
SJPF  Ste Jean         99.14  44 eP    P        23 12 04.6 +1.4
      comp=Z,20nm,0.9s,mb5.3
ETSF  Etsaut           99.41  45 eP    P        23 12 05.8 +1.4
      comp=Z,12nm,0.9s,mb5.1
EPF   Esparros        100.02  45 eP    P        23 12 08.4 +1.1
QUIF  Quistinic       100.91  40 eP    P        23 12 11.1  0.0
      comp=Z,56nm,1.3s
MTLF  Montolieu       101.33  46 eP    P        23 12 13.7 +0.6
LFF   La Frestale     101.36  44 eP    P        23 12 13.9 +0.7
      comp=Z,7.4nm,0.7s
SGMF  Saint Gilles    101.44  40 eP    P        23 12 14.0 +0.5
MFF   Saint Martin d  101.80  42 eP    P        23 12 15.1 -0.1
GRR   Gorron          102.44  40 eP    Pdif     23 12 18.9 +1.0
FLN   La Foliniere    102.86  40 eP    Pdif     23 12 20.1 +0.3
FLN                              eR
      comp=Z,1μm,22.0s
LDF   La Druitiere    102.96  40 eP    Pdif     23 12 20.6 +0.4
      comp=Z,24nm,1.0s
TCF   Toulx Ste Croi  102.97  43 eP    Pdif     23 12 20.8 +0.5
      comp=Z,4.4nm,0.8s
BGF   Bois d’Agland   103.48  43 eP    Pdif     23 12 23.2 +0.6
      comp=Z,18nm,1.1s
VIVF  Saint-Julien-l  103.64  45 eP    Pdif     23 12 24.5 +1.2
SMRF  Simiane la Rot  103.71  46 eP    Pdif     23 12 24.7 +1.0
      comp=Z,36nm,1.4s
AVF   Avril sur Loir  103.90  43 eP    Pdif     23 12 25.1 +0.7
SMF   Signal de Mont  104.11  43 eP    Pdif     23 12 25.2 -0.1
SSF   Saint Saulge    104.14  43 eP    Pdif     23 12 25.8 +0.3
FRF   La Foret Royal  104.15  47 eP    Pdif     23 12 26.2 +0.6
ORIF  Oris-en-Rattie  104.39  46 eP    Pdif     23 12 27.2 +0.5
ORIF                             eR
      comp=Z,1μm,21.8s
LOR   Lormes          104.45  43 eP    Pdif     23 12 27.2 +0.4
      comp=Z,13nm,1.0s
LOR                              eR
      comp=Z,2μm,21.8s
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MBDF  Montbardon      104.84  46 eP      Pdif   23 12 29.0 +0.4
      comp=Z,13nm,1.2s
PGF   Pioggiola       105.11  49 eP      Pdif   23 12 31.1 +1.2
      comp=Z,28nm,1.1s
LPL   La Plagne       105.22  46 eP      Pdif   23 12 32.3 +2.0
      comp=Z,7.0nm,0.9s
LPG   La Plagne       105.22  46 eP      Pdif   23 12 32.4 +2.1
      comp=Z,8.5nm,0.9s
BAIF  Baives          106.13  41 eP      Pdif   23 12 35.0 +0.9
GERES GERESS Array B  110.98  45  PKiKP         23 16 54.9
      comp=Z,3.7nm,1.1s,baz=180,slow=2.0,SNR=11
GERES GERESS Array B  110.98  45 i PKIKP PKPdf  23 16 54.9 +1.3
GERES                             pmax   pmax
      comp=Z,4.0nm,1.1s
KHC   Kasperske Hory  111.03  45 ePDIF   Pdif   23 13 32.0  +36
CLL   Collm           111.64  42 ePKIKP  PKPdf  23 16 58.0 +3.1
CLL                              ePKKP   PKKP   23 28 07.0 +6.2
PRU   Pruhonice       111.97  44 ePKP    PKPdf  23 17 10.1  +15
BRG   Berggiesshubel  111.99  43 ePKIKP  PKPdf  23 16 56.6 +1.0
BRG                               pmax   pmax
      comp=Z,2.0nm,0.6s
ILAR  Eielson Array   113.11 333  PKiKP         23 16 58.4
      comp=Z,0.9nm,0.9s,baz=153,slow=2.0,SNR=6.4
ILAR                              PKKPbc        23 27 43.6
      comp=Z,1.1nm,1.0s,baz=300,slow=4.4,SNR=4.8
ILAR  Eielson Array   113.11 333 i PKIKP PKPdf  23 16 58.4 +1.0
ILAR                              pmax   pmax
      comp=Z,1.0nm,0.9s
ILAR                              pmax   pmax
      comp=Z,1.0nm,1.0s
DPC   Dobruska-Polom  113.16  44 ePKP    PKPdf  23 17 00.2 +2.4
COLA  College         113.53 333 i PKIKP PKPdf  23 16 59.5 +1.3
OKC   Ostrava-Krasne  114.04  45 ePKP    PKPdf  23 17 01.1 +1.5
KDAG  Bornova         115.80  60  P      tx     23 17 36.4
KWP   Kalwaria        116.73  47 ePKP    PKPdf  23 17 06.3 +1.5
MLR   Muntele Rosu    117.41  52  PKiKP         23 17 07.1
      baz=284,slow=4.2
MLR                               PP     PP     23 18 15.9 -7.1
      comp=Z,14nm,1.2s,baz=225,slow=2.9,SNR=8.0
MLR   Muntele Rosu    117.41  52 i PKIKP PKPdf  23 17 07.1 +0.9
MLR                                             23 18 15.9
MLR                               pmax   pmax
      comp=Z,14nm,1.3s
SUW   Suwalki         118.39  42 ePKIKP  PKPdf  23 17 08.7 +0.8
ESKT  Eskisehir       118.81  60  P      PKPdf  23 17 10.4 +1.3
ASAR  Alice Springs   118.92 207  PKKPbc        23 27 25.1
      comp=Z,1.8nm,1.0s,baz=352,slow=2.5,SNR=10
SGKT  Sivrigoynuk     120.03  59  P      PKPdf  23 17 13.0 +1.5
ASF   Jabal al Asfar  120.83  69  PKP    PKPdf  23 17 15.6 +2.4
      comp=Z,1.4nm,0.8s,baz=198,slow=4.2,SNR=4.5
BRTR  Keskin Array B  120.91  60  PKP    PKPdf  23 17 13.8 +0.6
      comp=Z,4.3nm,0.8s,baz=207,slow=2.8,SNR=23
BRTR  Keskin Array B  120.91  60  PKIKP  PKPdf  23 17 13.8 +0.6
BRTR                              pmax   pmax
      comp=Z,4.0nm,0.8s
AKASG Malin Array Be  121.05  47  PKP    PKPdf  23 17 12.8 -0.4
      comp=Z,6.7nm,0.8s,baz=266,slow=2.9,SNR=29
AKASG                             PP     PP     23 18 40.7 -6.6
      comp=Z,1.8nm,0.8s,baz=251,slow=7.8,SNR=5.1
AKASG Malin Array Be  121.05  47  PKIKP  PKPdf  23 17 12.8 -0.4
AKASG                                           23 18 40.7
AKASG                             pmax   pmax
      comp=Z,7.0nm,0.8s
AKASG                             pmax   pmax
      comp=Z,2.0nm,0.8s
BALT  Daday           121.28  58  P      PKPdf  23 17 14.8 +0.9
FINES FINESS Array B  121.70  34  PKP    PKPdf  23 17 14.8 +0.6
      comp=Z,5.4nm,1.0s,baz=166,slow=7.9,SNR=5.7
FINES FINESS Array B  121.70  34  PKIKP  PKPdf  23 17 14.8 +0.6
FINES                             pmax   pmax
      comp=Z,5.0nm,1.0s
KAF   Kangasniemi     121.93  33 epkp    PKPdf  23 17 14.6  0.0
      baz=268,slow=1.7
CTKT  Corum           122.02  59  P      PKPdf  23 17 16.6 +1.3
WRA   Warramunga Arr  122.10 209  PKKPbc        23 27 13.5
      comp=Z,1.7nm,1.0s,baz=337,slow=3.5,SNR=6.9
ARCES ARCESS Array B  122.65  24  PKP    PKPdf  23 17 16.3 +0.4
      comp=Z,2.4nm,0.9s,baz=252,slow=3.8,SNR=5.9
ARCES ARCESS Array B  122.65  24  PKIKP  PKPdf  23 17 16.3 +0.4
ARCES                             pmax   pmax
      comp=Z,2.0nm,0.9s
KAHT  Ahir Dag        122.65  63  P      PKPdf  23 17 18.7 +2.1
SIM   Simferopol’     122.75  54 i PKIKP PKPdf  23 17 18.0 +1.3
GZT   Gaziantep       123.09  64  P      PKPdf  23 17 18.9 +1.4
ELZG  Elazig          124.50  63  P      PKPdf  23 17 22.2 +2.1
ANN   Anapa           125.00  55 ePKIKP  PKPdf  23 17 21.4 +0.4
ANN                              e              23 24 23.0
ANN                               pmax   pmax
      comp=Z,20nm,0.9s
KELT  Kelkit          125.16  61  P      PKPdf  23 17 10.4  -11
BEST  Besiri          126.06  64  P      PKPdf  23 17 24.9 +1.7
OBN   Obninsk         126.24  43 i PKIKP PKPdf  23 17 22.8 -0.2
OBN                               pmax   pmax
      comp=Z,39nm,1.3s
SOC   Sochi           126.33  57 i PKIKP PKPdf  23 17 24.5 +1.0
SOC                              e              23 19 23.3
SOC                              e              23 24 36.9
SOC                              eSS     SS     23 36 24.6 +3.9
SOC                               pmax   pmax
      comp=Z,19nm,0.8s
SOC                               pmax   pmax
      comp=N,7.0nm,0.7s
SOC                               pmax   pmax
      comp=E,8.0nm,0.6s
RST   Umm Al-Ruwaisa  128.03  76 eP      PKPdf  23 17 28.2 +1.0
RST                               AMb    AMB    23 17 30.4
      comp=Z,75nm,0.8s
RDF   Al-Radifah      128.28  77 eP      PKPdf  23 17 29.2 +1.5
MIB   Mutribah        128.41  76 eP      PKPdf  23 17 29.9 +1.9
MIB                               AMb    AMB    23 17 32.1
      comp=Z,28nm,1.0s
UMR   Umm Al-Rimmam   128.63  76 eP      PKPdf  23 17 29.5 +1.1
UMR                               AMb    AMB    23 17 31.9
      comp=Z,60nm,0.8s
GOF   Gofitskoye      128.96  56⇓iPKIKP  PKPdf  23 17 29.0 +0.4
GOF                               pmax   pmax
      comp=Z,34nm,1.2s
ZEI   Tsey            129.16  59 i PKIKP PKPdf  23 17 28.0 -1.0
ZEI                              e              23 24 36.0
ZEI                               MLR    MLR
      comp=Z,500nm,20.0s,MS5.2
GNI   Garni           129.24  62  PKP    PKPdf  23 17 30.8 +1.5
      comp=Z,2.0nm,0.6s,baz=203,slow=19,SNR=8.3
GNI   Garni           129.24  62  PKIKP  PKPdf  23 17 30.8 +1.6
GNI                               pmax   pmax
      comp=Z,2.0nm,0.6s
GNI   Garni           129.24  62  PKP    PKPdf  23 17 30.8 +1.5
ARU   Arti            138.51  40 i PKIKP PKPdf  23 17 47.6 +1.6
ARU                              e              23 20 39.5
ARU                              eSS     SS     23 38 54.0 +6.1
ARU                               MLR    MLR
      comp=Z,500nm,19.0s,MS5.3
ARU                               MLR    MLR
      comp=N,200nm,20.0s,MS5.2
ARU                               MLR    MLR
      comp=E,400nm,18.0s,MS5.2
ARU   Arti            138.51  40 ePKP    PKPdf  23 17 47.1 +1.0
TIXI  Tiksi           139.40 350⇓iPKIKP  PKPdf  23 17 49.4 +2.1
TIXI                              pmax   pmax
      comp=Z,11nm,1.2s
SVE   Sverdlovsk      139.52  39⇓ePKHKP         23 17 42.3
SVE                               pmax   pmax
      comp=Z,60nm,2.8s
PALK  Pallekele       144.02 128 ePKP    PKPdf  23 17 56.4 -0.5
ZRNK  Zerenda         145.32  42  PKIKP  PKPdf  23 17 59.5 +1.5
ZRNK                              pmax   pmax
      comp=Z,173nm,1.0s
ZRNK  Zerenda         145.32  42 ePKP    PKPdf  23 17 59.5 +1.5
KAD   Karad           145.68 108⇑iPKP    PKPdf  23 18 01.5 +1.8
BRVK  Borovoye        146.00  42  PKP2   PKPab  23 18 01.9 -0.7
BRVK                              pmax   pmax
      comp=Z,48nm,1.3s
BRVK  Borovoye        146.00  42 ePKP    PKPdf  23 18 00.9 +1.7
POO   Poona           146.06 106 i PKP   PKPdf  23 18 03.0 +2.7
POO   Poona           146.06 106⇑iP      PKPdf  23 18 03.0 +2.7
BVAR  Borovoye Array  146.07  42  PKPbc  PKPbc  23 18 01.4 +1.0
      comp=Z,22nm,0.6s,baz=270,slow=3.0,SNR=98
BVAR                              PP     PP     23 21 25.4 -0.8
      comp=Z,0.7nm,0.7s,baz=242,slow=16,SNR=2.2
VOSK  Vostochnaya     146.52  42  PKIKP  PKPdf  23 18 01.9 +1.8
VOSK                              pmax   pmax
      comp=Z,48nm,0.9s
JASL  Jaisalmer       147.15  90 ePKP    PKPdf  23 18 04.1 +2.2
YAK   Yakutsk         147.54 341 ePKIKP  PKPdf  23 18 05.0 +3.6
YAK                               pmax   pmax
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	comp=Z,96nm,1.0s						
YAK				pmax	pmax		
	comp=N,15nm,1.4s						
YAK				pmax	pmax		
	comp=E,7.0nm,1.1s						
YAK	**Yakutsk**	**147.54**	**341**	*e*PKPbc	PKPdf	23 18 05.1	+3.7
CUD	**Cuddapah**	**147.60**	**117**	*e*P	PKPdf	23 18 06.9	+3.9
LATR	**Latur**	**148.18**	**109**	*e*	tx	23 18 38.8	
	comp=E,85nm,1.1s						
HYB	**Hyderabad**	**149.21**	**112**	*i* PKP	PKPdf	23 18 07.0	+1.6
HYB				*e*PKPAB	PKPab	23 18 11.0	-5.4
HYB				*e*pPKP		23 18 15.5	
HYB				*e*pPKPAB		23 18 19.5	
HYB				*e*sPKPAB		23 18 24.5	
HYB				*e*		23 18 52.5	
HYB				*e*PP	PP	23 21 46.0	+1.1
HYB	**Hyderabad**	**149.21**	**112**	*e*P	PKPdf	23 18 07.0	+1.6
HYB				*e*		23 18 52.5	
KGD	**Kothagudem**	**150.93**	**114**	*e*PKiK		23 18 13.5	
KGD				*e*PP	PP	23 21 50.5	-4.8
KGD				*e*		23 23 52.1	
EKS2	**Erkin-Say**	**151.06**	**60**	P	PKPdf	23 18 10.8	+3.2
	SNR=7.4						
AML	**Almayashu**	**151.07**	**61**	P	PKPdf	23 18 16.4	+8.8
	SNR=19						
BHPL	**Bhopal**	**151.24**	**101**	*e*PKP	PKPdf	23 18 11.6	+3.2
BHPL				*e*		23 18 17.7	
	comp=Z,55nm,0.9s						
USP	**Ospenovka**	**151.48**	**58**	P	PKPdf	23 18 16.2	+8.0
	SNR=22						
AAK	**Ala-Archa**	**151.58**	**60**	P	PKPdf	23 18 17.1	+8.7
	SNR=33						
AAK	**Ala-Archa**	**151.58**	**60**	*e*PKPdf	PKPdf	23 18 10.3	+1.9
AAK				*e*PKPbc	PKPdf	23 18 15.7	+7.3
NVS	**Novosibirsk**	**151.62**	**31**	*e*PKIKP	PKPdf	23 18 08.6	+0.6
NVS				pmax	pmax		
	comp=N,22nm,1.4s						
NVS				pmax	pmax		
	comp=E,45nm,1.4s						
NVS				pmax	pmax		
	comp=Z,212nm,1.4s						
FRU	**Bishkek**	**151.64**	**59**⇓	*i*PKIKP	PKPdf	23 18 17.5	+9.0
FRU				pmax	pmax		
	comp=Z,140nm,1.2s						
KHET	**Khetri**	**151.65**	**91**	*e*PKP	PKPdf	23 18 10.8	+1.9
KHET				*e*		23 18 18.3	
	comp=Z,36nm,1.0s						
UCH	**Uchtor**	**151.66**	**61**	P	PKPdf	23 18 11.7	+3.2
	SNR=7.3						
KURK	**Kurchatov**	**151.67**	**42**	*i* PKIKP	PKPdf	23 18 15.6	+7.4
KURK	**Kurchatov**	**151.67**	**42**	*e*PKPdf	PKPdf	23 18 09.9	+1.7
KURK				*e*PKPbc	PKPdf	23 18 15.7	+7.5
CHMS	**Chumysh**	**151.71**	**59**	P	PKPdf	23 18 16.9	+8.4
	SNR=27						
KBK	**Karagaybulak**	**151.91**	**59**	P	PKPdf	23 18 17.8	+8.9
	SNR=16						
KZA	**Kyzart**	**152.22**	**61**	P	PKPdf	23 18 19.3	+10
	SNR=16						
KUDL	**Kundal**	**152.25**	**91**	*e*PKP	PKPdf	23 18 11.8	+2.0
KUDL				*e*		23 18 20.0	
	comp=Z,64nm,0.9s						
TKM2	**Tokmak 2**	**152.33**	**59**	P	PKPdf	23 18 11.6	+2.2
	SNR=6.5						
RTK	**Rohtak**	**152.43**	**89**	*e*PKP	PKPdf	23 18 12.2	+2.1
RTK				*e*		23 18 20.3	
	comp=Z,85nm,1.0s						
SONA	**Sohna**	**152.78**	**91**	*e*PKP	PKPdf	23 18 12.6	+2.0
SONA				*e*		23 18 20.7	
	comp=Z,23nm,1.2s						
AYAN	**Aya Nagar**	**152.88**	**90**	*e*PKP	PKPdf	23 18 12.3	+1.6
AYAN				*e*		23 18 21.0	
	comp=Z,20nm,1.6s						
ZAL	**Zalesovo**	**152.91**	**31**	PKP	PKPdf	23 18 11.1	+1.2
	comp=Z,12nm,1.2s,baz=101,slow=2.3,SNR=27						
ZAL				PKPbc	PKPdf	23 18 18.9	+9.0
	comp=Z,32nm,0.8s,baz=87,slow=2.9,SNR=70						
ZAL				PKPab	PKPab	23 18 30.9	+0.1
	comp=Z,19nm,0.8s,baz=106,slow=2.7,SNR=12						
ZAL	**Zalesovo**	**152.91**	**31**	PKIKP	PKPdf	23 18 11.1	+1.2
ZAL						23 18 18.9	
ZAL				pmax	pmax		
	comp=Z,12nm,1.2s						
ZAL				pmax	pmax		
	comp=Z,32nm,0.8s						
ZAL				pmax	pmax		
	comp=Z,19nm,0.8s						
ULHL	**Ulahol**	**152.92**	**60**	P	PKPdf	23 18 20.2	+10
	SNR=5.2						
NDI	**New Delhi**	**153.01**	**90**	*e*PKP	PKPdf	23 18 12.5	+1.6
VIS	**Vishakhapatnam**	**153.04**	**117**	*e*PKP	PKPdf	23 18 12.7	+1.5
AGRA	**Agra**	**153.19**	**94**	*e*PKP	PKPdf	23 18 13.7	+2.6
AGRA				*e*		23 18 18.9	
	comp=Z,39nm,0.4s						
CLNS	**Chul’man**	**153.23**	**340**	*e*PKIKP	PKPdf	23 18 18.2	+7.9
CLNS				pmax	pmax		
	comp=Z,34nm,1.1s						
CLNS				pmax	pmax		
	comp=N,10.0nm,0.8s						
CLNS				pmax	pmax		
	comp=E,6.0nm,0.9s						
BOD	**Bodaibo**	**154.51**	**353**	*e*PKIKP	PKPdf	23 18 10.7	-1.3
BOD				*e*		23 18 20.8	
BOD				*e*		23 18 33.9	
KLP	**Kalpa**	**154.54**	**84**	*e*PKP	PKPdf	23 18 14.6	+1.7
KLP				*e*		23 18 26.3	
	comp=Z,29nm,1.3s						
JOSI	**Joshimath**	**155.45**	**87**	*e*PKP	PKPdf	23 18 16.8	+2.7
MKAR	**Makanchi Array**	**155.63**	**47**	PKP	PKPdf	23 18 15.1	+1.3
	comp=Z,5.8nm,0.9s,baz=315,slow=1.7,SNR=17						
MKAR				PKPab	PKPab	23 18 41.7	-0.8
	comp=Z,21nm,0.7s,baz=286,slow=2.7,SNR=18						
MKAR				PP	PP	23 22 19.7	-1.0
	comp=Z,4.0nm,0.8s,baz=278,slow=8.1,SNR=3.9						
MKAR	**Makanchi Array**	**155.63**	**47**	PKIKP	PKPdf	23 18 15.1	+1.3
MKAR						23 22 19.7	
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.9s						
MKAR				pmax	pmax		
	comp=Z,21nm,0.7s						
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KLR	**Kul’dur**	**155.89**	**320**	*e*PKIKP	PKPdf	23 18 10.5	-3.5
KOLN	**Koldanda**	**158.12**	**96**	*e*P	PKPdf	23 18 19.1	+1.4
	comp=Z,50nm,1.4s						
GKN	**Gorkha**	**159.06**	**97**	*e*P	PKPdf	23 18 20.4	+1.6
	comp=Z,49nm,1.2s						
DMN	**Daman**	**159.33**	**98**	*e*P	PKPdf	23 18 20.8	+1.7
	comp=Z,41nm,1.4s						
KKN	**Kakani**	**159.53**	**98**	*e*P	PKPdf	23 18 21.2	+1.9
PKI	**Pulchoki**	**159.57**	**98**	*e*P	PKPdf	23 18 21.0	+1.6
WMQ	**Urumqi**	**160.38**	**49**	*e*PKP	PKPdf	23 18 21.5	+1.8
WMQ				APKP		23 18 32.3	
WMQ				XPKP		23 18 35.8	
WMQ				PP	PP	23 22 47.0	+0.8
WMQ				SKKS		23 29 30.0	
WMQ				PP	PP		
	comp=Z,99nm,12.0s						
WMQ				LR	LR		
	comp=N,423nm,22.0s						
WMQ				LR	LR		
	comp=E,449nm,21.0s						
WMQ				LR	LR		
	comp=Z,506nm,21.4s						
ZAK	**Zakamensk**	**161.88**	**10**	*e*PKP2	PKPab	23 19 07.8	-1.6
BDT	**Bhumibol Dam**	**162.52**	**149**	P	PKPdf	23 18 24.0	+1.4
CN2	**Changchun**	**162.55**	**315**	*e*PKP	PKPdf	23 18 22.3	+0.4
CN2				PP	PP		
	comp=Z,200nm,7.0s						
CN2				LR	LR		
	comp=Z,500nm,24.0s						
CMAR	**Chiang Mai Arr**	**163.56**	**147**	PKP	PKPdf	23 18 24.9	+1.3
	comp=Z,3.7nm,1.1s,baz=252,slow=2.2,SNR=18						
CMAR				PKPab	PKPab	23 19 16.2	-1.4
	comp=Z,4.2nm,1.1s,baz=220,slow=5.1,SNR=9.1						
CMAR				PP	PP	23 23 02.1	-2.0
	comp=Z,2.0nm,1.0s,baz=217,slow=4.5,SNR=4.8						
CMAR	**Chiang Mai Arr**	**163.56**	**147**	PKIKP	PKPdf	23 18 24.9	+1.3
CMAR						23 19 16.2	
CMAR						23 23 02.1	
CMAR				pmax	pmax		
	comp=Z,4.0nm,1.1s						
CMAR				pmax	pmax		
	comp=Z,4.0nm,1.1s						
CMAR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
SHL	**Shillong**	**164.02**	**112**	*e*PKP	PKPdf	23 18 26.0	+2.1
SONM	**Songino Array**	**164.75**	**5**	PKP	PKPdf	23 18 26.2	+2.2
	comp=Z,1.0nm,0.8s,SNR=5.8						
SONM				PKPab	PKPab	23 19 20.3	-1.5
	comp=Z,6.2nm,0.9s,baz=342,slow=3.9,SNR=14						
SONM				PP	PP	23 23 08.2	-1.3
	comp=Z,1.3nm,0.9s,baz=342,slow=4.6,SNR=3.7						
LSA	**Lhasa**	**165.02**	**97**	PKP	PKPdf	23 18 27.3	+2.5
LSA	**Lhasa**	**165.02**	**97**	PKP	PKPdf	23 18 25.2	+0.4
BJT	**Baijiatuau**	**170.28**	**322**	*e*PKPdf	PKPdf	23 18 30.1	+2.1
BJT				*e*PKPdif		23 19 00.9	
GTA	**Gaotai**	**170.35**	**43**	PKP	PKPdf	23 18 30.5	+2.4
GTA				APKP		23 18 39.3	
GTA				XPKP		23 18 44.5	
GTA				PKP2	PKPab	23 19 47.3	+0.5
GTA				PKS	PKS	23 22 01.3	+1.6
GTA				PP	PP	23 23 38.3	+0.4
GTA				SKS	SKS	23 25 29.5	+3.7
GTA				SKKS		23 30 20.0	
GTA				SS	SS	23 44 30.5	-2.2
GTA				PP	PP		
	comp=Z,110nm,9.1s						
GTA				LR	LR		
	comp=N,187nm,20.1s						
GTA				LR	LR		
	comp=E,180nm,19.0s						
GTA				LR	LR		
	comp=Z,264nm,20.5s						
KMI	**Kunming**	**171.07**	**145**	*e*PKP	PKPdf	23 18 34.8	+5.8
KMI				LR	LR		
	comp=Z,526nm,21.2s						
KMI	**Kunming**	**171.07**	**145**	*e*PKP	PKPdf	23 18 34.8	+5.8
KMI				PKPab	PKPab	23 19 51.0	+0.6
KMI				PP	PP	23 23 39.2	-2.7
KMI				PcPP’		23 27 02.5	
KMI				LR	LR		
	comp=Z,530nm,21.2s						
HHC	**Hu-ho-hao-te**	**171.40**	**343**	*e*PKP	PKPdf	23 18 31.8	+3.1
HHC				APKP		23 18 42.3	
HHC				XPKP		23 18 45.8	
HHC				PP	PP		
	comp=Z,231nm,6.5s						
HHC				LR	LR		
	comp=N,125nm,28.0s						
HHC				LR	LR		
	comp=E,169nm,28.5s						
HHC				LR	LR		
	comp=Z,139nm,25.0s						
TIA	**Tai’an**	**171.89**	**299**	*e*PKP	PKPdf	23 18 30.5	+1.4
GYA	**Guiyang**	**173.68**	**166**	PKP	PKPdf	23 18 31.5	+1.3
GYA				PP	PP		
	comp=Z,160nm,8.6s						
GYA				LR	LR		
	comp=N,160nm,20.7s						
GYA				LR	LR		
	comp=E,240nm,19.8s						
GYA				LR	LR		
	comp=Z,180nm,20.4s						
WHN	**Wuhan**	**174.44**	**250**	PKP	PKPdf	23 18 31.5	+1.2
LZH	**Lanzhou**	**174.95**	**46**	⇑PKP	PKPdf	23 18 32.0	+1.7
LZH				APKP		23 18 39.3	
LZH				XPKP		23 18 41.5	
LZH				PP	PP		
	comp=Z,158nm,8.3s						
LZH				LR	LR		
	comp=N,435nm,18.4s						
LZH				LR	LR		
	comp=Z,757nm,20.1s						
LZH	**Lanzhou**	**174.95**	**46**	⇑PKP	PKPdf	23 18 32.0	+1.7
LZH				pPKP		23 18 39.2	
LZH				sPKP		23 18 41.6	
CD2	**Chengdu**	**175.76**	**113**	*e*PKP	PKPdf	23 18 33.0	+2.3
ENH	**Enshi**	**177.44**	**203**	*e*PKP	PKPdf	23 18 32.7	+1.7
XAN	**Xi’an**	**178.51**	**340**	PKP	PKPdf	23 18 32.8	+1.8

MOS ***27*** *23:06:45.4±1.2, 15.08S×174.77W, h163^{km}, mb4.8/8, Error ellipse: s-maj=17.0km s-min=13.9km az=23.9*

BJI ***27*** *23:06:49.5, 14.41S×174.61W, h184^{km}, mB5.2, mb5.1*

IDC ***27*** *23:06:50.8±0.5, 15.29S×174.73W, h203^{km}±3^{km}, mb4.5/15, mb1 4.6/16, mb1mx4.6/17, Error ellipse: s-maj=13.5km s-min=8.4km az=145.0*

SYO ***27*** *23:06:50.6, 15.11S×174.91W, h201^{km}, MB4.7*

NEIC ***27*** *23:06:50.5±0.1, 15.23S×174.76W, mb4.8/36, Error ellipse: s-maj=7.9km s-min=4.2km az=150.0*

ISC 27 23:06:47.4±1.9**, 15.22S**±0.06×**174.78W**±0.04**, h184**^{km}±17^{km}**, h201**^{km}±1.0^{km}**:pP-P, n465,** σ**1**^{s}**04**/144**, mb4.9**/55**, 23C-74D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**7.32**	**249**	Pn	**P**	**23 08 41.7**	**+9.0**
	4μm,1.0s,SNR=20						
RAR	**Rarotonga**	**15.45**	**115**	P	**P**	**23 10 17.2**	**+0.1**
	0.6nm,0.3s,baz=65,slow=14,SNR=3.6						
RAR				S	**S**	**23 13 07.1**	**+4.3**
	0.7nm,0.3s,baz=62,slow=22,SNR=1.7						
RAR	**Rarotonga**	**15.45**	**115**	P	**P**	**23 10 17.2**	**+0.1**
RAR				S	**S**	**23 13 07.1**	**+4.3**
RAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
RAR				smax			
	comp=N,1.0nm,0.3s						
DZM	**Mont Dzumac**	**19.05**	**246**	*e*P	**P**	**23 10 58.4**	**+0.6**
DZM	**Mont Dzumac**	**19.05**	**246**	*e*P	**P**	**23 10 58.4**	**+0.6**
NOUC	**Port Laguerre**	**19.18**	**246**	*e*P	**P**	**23 10 59.7**	**+0.5**
NOUC				*e*S	**S**	**23 14 39.2**	**+17**
PUZ	**Puketiti**	**23.59**	**194**	P	**P**	**23 11 44.2**	**+1.6**
URZ	**Urewera**	**24.05**	**196**	P	**P**	**23 11 45.2**	**-1.8**
	comp=N,140nm,0.9s,mb5.5,baz=1.6,slow=4.8,SNR=36						
URZ				S	**S**	**23 15 52.9**	**+5.1**
	comp=N,9.1nm,0.9s,baz=355,slow=18,SNR=2.3						
URZ	**Urewera**	**24.05**	**196**	P	**P**	**23 11 45.0**	**-1.9**
PAE	**Paea**	**24.28**	**99**	*e*P	**P**	**23 11 48.9**	**-0.5**
	comp=N,167nm,1.4s,mb5.4						
PPT	**Papeete**	**24.28**	**99**	P	**P**	**23 11 47.4**	**-2.0**
	comp=N,25nm,0.6s,mb4.9,baz=54,slow=15,SNR=3.8						
PPT	**Papeete**	**24.28**	**99**	*e*P	**P**	**23 11 49.1**	**-0.3**
PPT	**Papeete**	**24.28**	**99**	*e*S	**S**	**23 15 39.4**	**-13**
	comp=N,935nm,28.5s						
PPT	**Papeete**	**24.28**	**99**	P	**P**	**23 11 47.4**	**-2.0**
PPT				pmax	pmax		
	comp=Z,25nm,0.6s						
TIAR	**Tiarei**	**24.50**	**99**	*e*P	**P**	**23 11 52.5**	**+1.1**
TVO	**Taravao**	**24.60**	**100**	*e*P	**P**	**23 11 51.7**	**-0.6**
TBI	**Tubuai**	**25.20**	**113**	*e*S	**S**	**23 15 53.3**	**-14**
MEH	**Mehetia**	**25.73**	**100**	*e*P	**P**	**23 12 00.2**	**-2.7**
PMOR	**Pomariorio Ree**	**25.95**	**93**	*e*P	**P**	**23 12 04.1**	**-0.8**
VAH	**Vaihoa**	**26.19**	**94**	*e*P	**P**	**23 12 05.4**	**-1.7**
RPZ	**Rata Peaks**	**30.87**	**200**	P	**P**	**23 12 48.4**	**-0.2**
	comp=Z,24nm,0.8s,mb5.0,baz=25,slow=22,SNR=9.6						
CTA	**Charters Tower**	**37.39**	**257**	*e*P	**P**	**23 13 44.7**	**+0.3**
	comp=Z,18nm,0.9s,mb4.7						
CTA				*e*		23 14 33.4	
CTA				*e*PCP	PcP	23 15 59.9	+0.2
CTA	**Charters Tower**	**37.39**	**257**	P	**P**	**23 13 44.7**	**+0.3**
CTA				PcP	PcP	23 15 59.3	-0.4
	comp=Z,17nm,0.8s,baz=6.4,slow=1.3,SNR=8.2						
CTA				ScP		23 19 27.8	
	comp=Z,5.6nm,0.9s,baz=139,slow=6.3,SNR=3.2						
CTA	**Charters Tower**	**37.39**	**257**	P	**P**	**23 13 44.7**	**+0.3**
CTA						23 15 59.3	
CTA						23 19 27.8	
CTA				pmax	pmax		
	comp=Z,17nm,0.8s						
CTA				pmax	pmax		
	comp=N,6.0nm,1.0s						
CTAO	**Charters Tower**	**37.39**	**257**	*e*P	**P**	**23 13 44.5**	**+0.1**
	comp=N,30nm,0.9s,mb4.9						
CTAO				*e*pP	pP	23 14 33.2	+9.5
CTAO				*e*PcP	PcP	23 15 59.5	-0.2
PMG	**Port Moresby**	**37.60**	**274**	P	**P**	**23 13 45.9**	**-0.2**
	comp=N,15nm,0.7s,mb4.7,baz=215,slow=16,SNR=3.7						
PMG				PcP	PcP	23 16 00.0	-0.3
	comp=N,17nm,0.8s,baz=109,slow=24,SNR=2.9						
PMG	**Port Moresby**	**37.60**	**274**	P	**P**	**23 13 45.9**	**-0.2**
PMG						23 16 00.0	
PMG				pmax	pmax		
	comp=Z,15nm,0.7s						
PMG				pmax	pmax		
	comp=Z,17nm,0.8s						
CNB	**Canberra Magne**	**37.82**	**231**	*e*P	**P**	**23 13 47.8**	**0.0**
	comp=Z,49nm,0.9s,mb5.1						
WAU	**Wau**	**38.51**	**277**	*e*P	**P**	**23 13 56.2**	**+2.4**
TOO	**Toolangi**	**41.56**	**230**	*e*P	**P**	**23 14 18.7**	**+0.1**
	comp=Z,31nm,1.2s,mb4.8						
STKA	**Stephens Creek**	**42.98**	**239**	*e*P	**P**	**23 14 30.2**	**0.0**
	comp=Z,25nm,1.0s,mb4.8						
STKA				*e*		23 15 16.6	
STKA				*e*PCP	PcP	23 16 17.9	+0.2
STKA				*e*S		23 20 09.8	
STKA	**Stephens Creek**	**42.98**	**239**	P	**P**	**23 14 30.3**	**+0.1**
	comp=Z,36nm,1.0s,mb5.0,baz=79,slow=7.9,SNR=45						
STKA				pP	pP	23 15 14.4	+4.2
	comp=Z,7.6nm,0.9s,baz=61,slow=5.9,SNR=1.4						
STKA				PcP	PcP	23 16 17.2	-0.5
	comp=Z,12nm,0.8s,baz=60,slow=2.5,SNR=5.5						
STKA				ScP		23 19 50.9	
	comp=Z,4.4nm,1.1s,baz=359,slow=5.2,SNR=2.9						
WB2	**Warramunga Arr**	**48.58**	**257**	*e*P	**P**	**23 15 13.5**	**-0.9**
WB2				*e*PCP	PcP	23 16 37.4	-0.1
WB2				*e*PCS		23 20 31.8	
WRAB	**Tennant Creek**	**48.58**	**257**	*e*P	**P**	**23 15 12.8**	**-1.6**
	comp=Z,43nm,1.0s,mb5.0						
WRAB				*e*PcP	PcP	23 16 36.7	-0.8
WRA	**Warramunga Arr**	**48.59**	**257**	P	**P**	**23 15 13.6**	**-0.9**
	comp=Z,14nm,0.8s,mb4.7,baz=88,slow=7.2,SNR=75						
WRA				pP	pP	23 15 58.4	+3.0
	comp=Z,1.4nm,0.7s,baz=111,slow=16,SNR=1.3						
WRA				PcP	PcP	23 16 36.7	-0.9
	comp=Z,17nm,0.9s,baz=87,slow=4.2,SNR=10.0						
WRA				S	**S**	**23 21 58.7**	**-2.1**
	comp=Z,0.3nm,0.5s,baz=91,slow=10,SNR=3.6						
WRA	**Warramunga Arr**	**48.59**	**257**	P	**P**	**23 15 13.6**	**-0.9**
WRA						23 16 36.7	
WRA				S	**S**	**23 21 58.7**	**-2.2**
WRA				pmax	pmax		
	comp=Z,14nm,0.8s						
WRA				pmax	pmax		
	comp=N,1.0nm,0.7s						
WRA				pmax	pmax		
	comp=Z,17nm,0.9s						
ASAR	**Alice Springs**	**48.91**	**252**	P	**P**	**23 15 16.6**	**-0.2**
	comp=Z,152nm,0.5s,mb5.9,baz=87,slow=7.8,SNR=1240						
ASAR				PcP	PcP	23 16 38.2	-0.4
	comp=Z,13nm,0.5s,baz=99,slow=4.0,SNR=8.5						
ASAR				ScP		23 20 15.8	
	comp=Z,4.3nm,1.2s,baz=101,slow=3.6,SNR=4.2						
ASAR				S	**S**	**23 22 01.8**	**-3.4**
	comp=Z,3.1nm,1.1s,baz=83,slow=15,SNR=8.1						
ASPA	**Alice Springs**	**48.91**	**252**	*e*P	**P**	**23 15 16.6**	**-0.2**
ASPA				*e*PCP	PcP	23 16 36.1	-2.6
ASPA				*e*PCS		23 20 32.8	
ASPA				*e*S	**S**	**23 22 02.3**	**-2.9**
KAKA	**Kakadu**	**51.23**	**266**	*e*P	**P**	**23 15 38.4**	**+3.9**
	comp=Z,29nm,0.9s,mb4.9						
KAKA				*e*PCP	PcP	23 16 51.2	+3.9
FORT	**Forrest**	**54.31**	**243**	*e*P	**P**	**23 15 55.7**	**-1.4**
	comp=Z,134nm,1.2s,mb5.5						
FORT				*e*PCP	PcP	23 16 57.3	-1.4
FITZ	**Fitzroy Crossi**	**56.95**	**258**	*e*P	**P**	**23 16 16.0**	**0.0**
	comp=Z,8.4nm,1.1s,mb4.5						
MBWA	**Marble Bar**	**62.13**	**254**	*e*P	**P**	**23 16 50.1**	**-1.4**
	comp=Z,28nm,0.9s,mb5.1						
KLBR	**Kellerberrin**	**63.15**	**242**	*e*P	**P**	**23 16 57.5**	**-0.6**
	comp=Z,60nm,1.2s,mb5.3						
SBA	**Scott Base**	**63.33**	**184**	*e*P	**P**	**23 16 60.0**	**+1.3**
	comp=Z,152nm,0.9s,mb5.8						
BUNI	**Buntu Taipa**	**64.84**	**273**⇓	*i*P	**P**	**23 17 10.4**	**+1.1**
	comp=Z,27nm,0.5s,mb5.3						
NINI	**Niniconang**	**65.19**	**272**⇓	*i*P	**P**	**23 17 12.1**	**+0.5**
TANI	**Tanete Lipujan**	**65.80**	**273**⇓	*i*P	**P**	**23 17 14.3**	**-1.2**
KEDI	**Kedomdong**	**67.74**	**267**⇓	*i*P	**P**	**23 17 25.3**	**-2.4**
MAJO	**Matsushiro**	**67.95**	**321**	*e*P	**P**	**23 17 27.9**	**-0.7**
	comp=Z,20nm,1.4s,mb4.7						
MAT	**Matsushiro**	**67.95**	**321**	P	**P**	**23 17 27.4**	**-1.2**
MAT				*e*S	S	23 25 55.0	-16
MAT	**Matsushiro**	**67.95**	**321**	*e*P	**P**	**23 17 27.0**	**-1.6**
	comp=Z,19nm,1.2s,mb4.7						
MAT				S	tx	23 25 08.0	
INGI	**Ingas**	**68.60**	**266**⇓	*i*P	**P**	**23 17 32.1**	**-0.9**
FX1	**Attu Island--F**	**68.61**	**352**	P	**P**	**23 17 30.5**	**-1.8**
	comp=Z,50nm,1.0s,mb5.2,baz=158,slow=5.4,SNR=4.8						
FX1	**Attu Island--F**	**68.61**	**352**	P	**P**	**23 17 30.5**	**-1.9**
FX1				pmax	pmax		
	comp=Z,50nm,1.0s						
CASY	**Casey**	**70.02**	**205**	*e*P	**P**	**23 17 40.2**	**-0.5**
	comp=Z,98nm,1.0s,mb5.5						
YSS	**Yuzh-Sakhalins**	**72.67**	**331**	*i* P	**P**	**23 17 55.5**	**-1.4**
YSS				*e*		23 18 20.0	
YSS	**Yuzh-Sakhalins**	**72.67**	**331**	*e*P	**P**	**23 17 56.6**	**-0.2**
	comp=Z,26nm,0.8s,mb5.0						
YBH	**Yreka Blue Hor**	**74.26**	**38**	P	**P**	**23 18 06.8**	**+0.5**
	comp=Z,6.5nm,0.6s,mb4.5,baz=180,slow=2.1,SNR=19						
YBH				pP	pP	23 18 53.4	+2.8
	comp=Z,8.3nm,0.9s,baz=173,slow=3.8,SNR=5.1						
YBH	**Yreka Blue Hor**	**74.26**	**38**	P	**P**	**23 18 06.8**	**+0.6**
YBH				pmax	pmax		
	comp=Z,7.0nm,0.6s						
YBH				pmax	pmax		
	comp=N,8.0nm,0.9s						
YBH	**Yreka Blue Hor**	**74.26**	**38**	*e*P	**P**	**23 18 06.3**	**+0.1**
	comp=N,4.1nm,0.7s,mb4.3						
YBH				*e*pP	pP	23 18 54.0	+3.4
MTUM	**Tungsten Hills**	**74.32**	**43**	*e*P	**P**	**23 18 06.2**	**-0.4**
MTUM				*e*pP	pP	23 18 54.3	+3.2
BEKR	**Beckwourth**	**74.58**	**40**	*e*P	**P**	**23 18 08.2**	**+0.1**
	comp=N,2.4nm,0.5s,mb4.1						
BEKR				*e*pP	pP	23 18 55.5	+3.0
HUMO	**Hull Mountain**	**74.66**	**37**	*e*P	**P**	**23 18 08.6**	**+0.2**
	comp=N,4.4nm,0.8s,mb4.1						
QSPA	**South Pole Qui**	**74.83**	**180**⇓	*e*P	**P**	**23 18 09.9**	**+1.2**
	comp=N,230nm,1.2s,mb5.7						
LDFC	**Landfair**	**75.48**	**47**	*e*P	**P**	**23 18 13.0**	**-0.3**
TPNV	**Topopah Spring**	**75.66**	**45**	*e*P	**P**	**23 18 12.2**	**-2.0**
	comp=N,12nm,0.9s,mb4.5						
TPNV				*e*pP	pP	23 19 02.1	+3.3
MOD	**Modoc**	**75.81**	**39**	*e*P	**P**	**23 18 14.7**	**-0.3**
	comp=N,8.0nm,0.7s,mb4.5						
MOD				*e*pP	pP	23 19 02.5	+3.0
NEN	**Nelson**	**75.96**	**47**	*e*P	**P**	**23 18 15.8**	**-0.1**
MIR	**Mirnyy**	**77.05**	**204**⇓	*e*P	**P**	**23 18 22.0**	**+0.7**
MIR				*e*		23 19 01.0	
MIR				pmax	pmax		
	comp=Z,170nm,1.3s,mb5.5						
TUC	**Tucson**	**77.31**	**51**	*e*P	**P**	**23 18 23.9**	**+0.4**
	comp=Z,9.4nm,1.2s,mb4.3						
TUC				*e*pP	pP	23 19 12.5	+4.3
ARUT	**Antelope Range**	**78.01**	**45**	*e*P	**P**	**23 18 27.6**	**+0.4**
MDJ	**Mudanjiang**	**78.08**	**323**	PKP	**P**	**23 18 20.5**	**-6.9**
ELK	**Elko**	**78.33**	**42**	*e*P	**P**	**23 18 28.7**	**-0.2**
	comp=Z,8.1nm,1.2s,mb4.2						
ELK				*e*pP	pP	23 19 16.5	+2.8
NJ2	**Nanjing**	**79.00**	**308**	*e*P	**P**	**23 18 32.0**	**-0.7**
NJ2				AP	pP	23 19 22.0	+4.4
NJ2				PP	PP	23 21 35.3	-0.3
NJ2				S	S	23 28 12.0	-2.5
NJ2				AMB	AMB		
	comp=Z,250nm,5.5s						
NJ2				LR	LR		
	comp=N,21μm,21.0s						
NJ2				LR	LR		
	comp=E,31μm,20.1s						
NJ2				LR	LR		
	comp=Z,12μm,24.6s						
MVU	**Marysvale**	**79.21**	**45**	*e*P	**P**	**23 18 34.1**	**+0.5**
	comp=Z,9.3nm,1.3s,mb4.2						
MSU	**Marysvale**	**79.23**	**45**	*e*P	**P**	**23 18 34.6**	**+0.8**
MSU				*e*pP	pP	23 19 23.1	+4.3
CN2	**Changchun**	**80.10**	**321**	*e*P	**P**	**23 18 38.8**	**+0.5**
CN2				*e*S	S	23 28 28.0	+2.2
CN2				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.0						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
SRU	**San Rafael**	**80.65**	**45**	*e*P	**P**	**23 18 41.6**	**+0.2**
LAZ	**Ladron**	**80.97**	**51**	*e*P	**P**	**23 18 43.9**	**+0.7**
LAZ				*e*pP	pP	23 19 33.2	+5.0
TCUT	**Toone Canyon**	**81.02**	**43**	*e*P	**P**	**23 18 42.3**	**-1.0**
MCK	**McKinley**	**81.20**	**11**	*e*P	**P**	**23 18 42.7**	**-1.0**
	comp=Z,13nm,1.0s,mb4.5						
MCK				*e*pP	pP	23 19 32.0	+3.1
BNM	**Barren Site**	**81.24**	**51**	*e*P	**P**	**23 18 45.3**	**+0.7**
BNM				*e*pP	pP	23 19 34.4	+4.6
LPM	**Los Pinos Moun**	**81.31**	**51**	*e*P	**P**	**23 18 45.4**	**+0.4**
LPM				*e*pP	pP	23 19 34.9	+4.9
PV10	**Paradox Valley**	**81.34**	**46**	*e*P	**P**	**23 18 45.1**	**+0.1**
PV10				*e*pP	pP	23 19 34.0	+3.8

THY	Trims Highway	81.56	13	*e*P	P	23 18 44.3	-1.3
THY				*e*pP	pP	23 19 33.7	+3.0
PV01	Paradox Valley	81.56	47	*e*P	P	23 18 46.1	0.0
TXAR	Lajitas Array	81.62	57	P	P	23 18 47.2	+0.6
	comp=Z,6.0nm,1.1s,mb4.1,baz=225,slow=5.3,SNR=30						
TXAR				pP	pP	23 19 35.3	+3.5
	comp=Z,0.5nm,0.9s,baz=252,slow=5.7,SNR=0.8						
TXAR	Lajitas Array	81.62	57	P	P	23 18 47.2	+0.6
TXAR				pP	pP	23 19 35.3	+3.5
ANMO	Albuquerque	81.71	50	*e*P	P	23 18 47.4	+0.4
	comp=Z,20nm,1.4s,mb4.5						
ANMO				*e*pP	pP	23 19 36.5	+4.4
MCMT	McKenzie Canyo	81.95	39	*e*P	P	23 18 48.4	+0.5
GDL2	Guadalupe Moun	82.18	54	*e*P	P	23 18 49.8	+0.4
RW3	Ridgway	82.24	47	*e*P	P	23 18 50.8	+1.2
COLA	College	82.44	11	*e*P	P	23 18 49.0	-1.1
	comp=Z,16nm,0.8s,mb4.7						
COLA				*e*pP	pP	23 19 38.5	+3.2
COLA				*e*		23 19 45.8	
TPAW	Teton Pass	82.47	41	*e*P	P	23 18 51.4	+0.7
ILAR	Eielson Array	82.53	12	P	P	23 18 49.5	-1.1
	comp=Z,4.3nm,0.5s,mb4.5,baz=223,slow=5.8,SNR=40						
ILAR				pP	pP	23 19 39.5	+3.6
	comp=Z,46nm,1.4s,baz=214,slow=5.7,SNR=6.2						
ILAR	Eielson Array	82.53	12	P	P	23 18 49.5	-1.0
ILAR				pmax	pmax		
	comp=Z,4.0nm,0.5s						
ILAR				pmax	pmax		
	comp=N,46nm,1.4s						
CLNB	Carlsbad	82.58	54	P	P	23 18 51.7	+0.2
IMW	Indian Meadow	82.67	41	*e*P	P	23 18 52.4	+0.7
LOHW	Long Hollow	82.75	41	*e*P	P	23 18 52.3	+0.2
QLMT	Earthquake Lak	82.83	40	*e*P	P	23 18 53.3	+0.8
BW06	Boulder Array	83.02	42	*e*P	P	23 18 52.8	-0.7
	comp=N,10.0nm,1.1s,mb4.5						
PDAR	Pinedale Array	83.02	42	P	P	23 18 53.5	0.0
	comp=N,3.4nm,0.6s,mb4.3,baz=217,slow=3.0,SNR=32						
PDAR				pP	pP	23 19 42.8	+4.0
	comp=N,1.0nm,0.8s,baz=243,slow=2.0,SNR=1.6						
PDAR				PKKPbc		23 37 15.1	
	comp=N,2.1nm,0.9s,baz=90,slow=3.0,SNR=10.0						
PDAR	Pinedale Array	83.02	42	P	P	23 18 53.5	0.0
PDAR				pP	pP	23 19 42.8	+4.0
PDAR				PKKPbc		23 37 15.1	
HRY	Holter Researc	83.52	38	*e*P	P	23 18 55.9	-0.1
DAWY	Dawson	83.58	15	*e*P	P	23 18 55.7	-0.2
DAWY				*e*pP	pP	23 19 45.1	+3.9
BJI	Beijing	84.38	314	P	P	23 19 01.3	+0.9
BJI				AMB	AMB		
	comp=Z,33nm,1.2s,mb4.9						
BJI				LR	LR		
	comp=N,273nm,27.1s						
BJI				LR	LR		
	comp=E,174nm,30.5s						
BJI				LR	LR		
	comp=Z,1µm,32.9s						
BJI	Beijing	84.38	314	P	P	23 19 01.2	+0.8
	comp=Z,33nm,1.2s,mb4.9						
BJI				S	Sx	23 28 35.6	
BJI				LR	LR		
	comp=Z,1µm,32.9s						
UBT	Ubonrachathani	84.81	287	⇓P	P	23 19 05.0	+1.9
ENH	Enshi	85.70	303	*e*P	P	23 19 07.8	+0.6
	comp=Z,36nm,1.2s,mb5.0						
HIA	Hailar	86.25	323	*e*P	P	23 19 06.8	-2.6
	comp=Z,16nm,1.0s,mb4.7						
GYA	Guiyang	86.79	298	⇓*i*P	P	23 19 14.0	+1.5
GYA				PP	PP	23 22 43.5	+3.9
GYA				SKS	SKS	23 29 19.5	+0.4
GYA				S	S	23 29 24.3	-8.2
GYA				AMB	AMB		
	comp=Z,30nm,1.1s,mb5.0						
XAN	Xi’an	87.45	306	P	P	23 19 16.5	+1.0
XAN				AMB	AMB		
	comp=Z,44nm,1.2s,mb5.2						
MAW	Mawson	87.54	199	*e*P	P	23 19 16.2	+1.1
	comp=Z,115nm,0.8s,mb5.8						
MAW	Mawson	87.54	199	P	P	23 19 16.3	+1.2
	comp=Z,129nm,0.8s,mb5.8,baz=127,slow=6.2,SNR=330						
MAW	Mawson	87.54	199	P	P	23 19 16.3	+1.2
MAW				pmax	pmax		
	comp=Z,129nm,0.8s						
HHC	Hu-ho-hao-te	87.93	313	*e*P	P	23 19 19.0	+1.4
HHC				AP	pP	23 20 08.0	+4.6
HHC				PP	PP	23 22 52.0	+3.4
HHC				SKS	SKS	23 29 26.5	+0.4
HHC				S	S	23 29 45.5	+2.6
HHC				AMB	AMB		
	comp=Z,32nm,1.6s,mb4.9						
HHC				AMB	AMB		
	comp=Z,117nm,4.5s						
BTO	Baotou	88.93	313	*e*P	P	23 19 24.0	+1.7
KMI	Kunming	89.75	296	*e*P	P	23 19 28.8	+2.2
KMI				AP	pP	23 20 16.8	+4.3
KMI				XP	sP	23 20 35.5	+3.4
KMI				AMB	AMB		
	comp=Z,26nm,1.1s,mb5.1						
KMI	Kunming	89.75	296	*e*P	P	23 19 28.8	+2.2
	comp=Z,26nm,1.1s,mb5.1						
KMI				pP	pP	23 20 16.8	+4.3
KMI				sP	sP	23 20 35.6	+3.5
YKA	Yellowknife Ar	90.46	24	P	P	23 19 28.5	-0.4
	comp=Z,4.6nm,1.1s,mb4.3,baz=232,slow=4.4,SNR=4.2						
YKA	Yellowknife Ar	90.46	24	P	P	23 19 28.5	-0.5
YKA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
CD2	Chengdu	90.58	302	*e*P	P	23 19 33.0	+2.7
CMAR	Chiang Mai Arr	91.30	289	P	P	23 19 35.2	+1.3
	comp=Z,17nm,0.8s,mb5.1,baz=108,slow=2.9,SNR=46						
CMAR	Chiang Mai Arr	91.30	289	P	P	23 19 35.2	+1.3
CMAR				pmax	pmax		
	comp=Z,17nm,0.8s						
LZH	Lanzhou	92.05	307	⇓P	P	23 19 37.5	+0.5
LZH				AP	pP	23 20 28.3	+5.3
LZH				PP	PP	23 23 22.5	+1.1
LZH				AMB	AMB		
	comp=Z,36nm,1.5s,mb5.2						
LZH				AMB	AMB		
	comp=Z,176nm,4.7s						
LZH	Lanzhou	92.05	307	⇓P	P	23 19 37.5	+0.5
	comp=Z,36nm,1.5s,mb5.2						
LZH				pP	pP	23 20 28.3	+5.3
LZH				sP	sP	23 20 50.1	+7.5
LZH				PP	PP	23 23 22.6	+1.2
SYO	Syowa Base	92.51	192	⇑P	P	23 19 37.8	-0.5
SYO	Syowa Base	92.51	192	⇓PcP	PcP	23 19 39.4	+0.3
SNAA	Sanae	93.15	177	⇑*i*	P	23 19 49.7	+8.5
SNAA	Sanae	93.15	177	P	P	23 19 41.4	+0.1
	comp=Z,5.0nm,0.9s,mb4.6,baz=204,slow=3.8,SNR=24						
SNAA	Sanae	93.15	177	P	P	23 19 41.4	+0.2
SNAA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
SNAA	Sanae	93.15	177	⇓*i*P	P	23 19 41.6	+0.4
SNAA				⇑*i*P		23 19 49.7	
VNA3	Neumayer Olymp	93.15	175	⇑*i*P	P	23 19 44.7	+3.5
VNA3				⇑*i*P		23 19 53.1	
VNA2	Neumayer--Watz	93.64	176	⇑*i*P	P	23 19 47.2	+3.8
VNA2				⇑*i*P		23 19 55.6	
SONM	Songino Array	93.83	319	P	P	23 19 45.1	+0.3
	comp=Z,2.3nm,0.8s,mb4.3,baz=118,slow=1.6,SNR=4.0						
VNA1	Neumayer--Stat	93.84	176	⇑*i*P	P	23 19 48.2	+3.9
VNA1				⇑*i*P		23 19 56.3	
MAIT	Maitri	94.11	182	*e*P	P	23 19 45.7	+0.2
ZAL	Zalesovo	108.28	322	PKiKP		23 24 54.2	
	comp=Z,1.4nm,0.4s,baz=228,slow=1.5,SNR=4.0						
MKAR	Makanchi Array	109.75	315	PKiKP		23 24 56.6	
	comp=Z,7.0nm,0.8s,baz=135,slow=0.9,SNR=25						
BVAR	Borovoye Array	116.92	322	PKP	PKPdf	23 25 10.2	+0.2
	comp=Z,5.9nm,0.5s,baz=123,slow=1.5,SNR=34						
BRVK	Borovoye	116.98	322	*e*PKP	PKPdf	23 25 10.0	-0.2
ZRNK	Zerenda	117.76	322	*e*PKP	PKPdf	23 25 11.3	-0.3
SVE	Sverdlovsk	121.28	328	⇓*e*PKIKP	PKPdf	23 25 18.9	+0.5
SVE				pmax	pmax		
	comp=Z,40nm,1.9s						
ARU	Arti	122.49	328	*e*PKIKP	PKPdf	23 25 21.2	+0.5
ARU	Arti	122.49	328	*e*PKP	PKPdf	23 25 20.8	+0.1
ARCES	ARCESS Array B	124.24	352	PKP	PKPdf	23 25 24.3	+0.4
	comp=Z,11nm,0.7s,slow=1.2,SNR=38						
ARCES				PKKPbc		23 35 09.6	
	comp=Z,3.8nm,0.9s,baz=214,slow=4.4,SNR=7.1						
ARCES	ARCESS Array B	124.24	352	PKIKP	PKPdf	23 25 24.3	+0.4
ARCES				pmax	pmax		
	comp=Z,11nm,0.7s						
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
FINES	FINESS Array B	131.47	347	PKhKP		23 25 26.9	
	comp=Z,1.0nm,0.6s,slow=1.9,SNR=6.5						
FINES				PKP	PKPdf	23 25 38.0	+0.2
	comp=Z,6.2nm,0.9s,baz=45,slow=2.7,SNR=8.4						
FINES	FINESS Array B	131.47	347	PKHKP		23 25 27.0	
FINES						23 25 38.0	
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES				pmax	pmax		
	comp=Z,6.0nm,0.9s						
OBN	Obninsk	133.41	336	*i* PKIKP	PKPdf	23 25 41.9	+0.2
OBN				pmax	pmax		
	comp=Z,21nm,1.1s						
NOA	NORSAR Array B	134.04	356	PKP	PKPdf	23 25 44.8	+2.1
	comp=Z,3.5nm,1.0s,baz=14,slow=4.0,SNR=3.5						
NOA	NORSAR Array B	134.04	356	PKIKP	PKPdf	23 25 44.8	+2.2
NOA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
HFS	Hagfors	134.73	354	PKP	PKPdf	23 25 44.3	+0.4
	comp=Z,24nm,1.3s,baz=129,slow=9.5,SNR=4.2						
HFS	Hagfors	134.73	354	PKIKP	PKPdf	23 25 44.3	+0.4
HFS				pmax	pmax		
	comp=Z,25nm,1.3s						
GNI	Garni	137.59	314	PKP	PKPdf	23 25 51.8	+2.1
	comp=Z,9.2nm,0.9s,baz=316,slow=3.6,SNR=9.4						
GNI	Garni	137.59	314	PKIKP	PKPdf	23 25 51.8	+2.0
GNI				pmax	pmax		
	comp=Z,9.0nm,0.9s						
GNI	Garni	137.59	314	*e*PKP	PKPdf	23 25 51.3	+1.5
TVAN	Van	139.20	312	P	PKPdf	23 25 49.2	-3.6
EKA	Eskdalemuir Ar	139.45	7	PKP	PKPdf	23 25 55.3	+2.6
	comp=Z,1.8nm,0.7s,baz=304,slow=2.6,SNR=4.4						
EKA	Eskdalemuir Ar	139.45	7	PKIKP	PKPdf	23 25 55.3	+2.6
EKA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
AKASG	Malin Array Be	139.65	336	PKhKP		23 25 48.2	
	comp=Z,0.5nm,0.3s,baz=35,slow=4.1,SNR=5.3						
AKASG				PKP	PKPdf	23 25 53.9	+0.6
	comp=Z,2.5nm,0.7s,baz=30,slow=1.9,SNR=15						
AKASG	Malin Array Be	139.65	336	PKHKP		23 25 48.2	
AKASG						23 25 53.9	
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ERZM	Erzurum	140.03	315	P	PKPdf	23 25 51.1	-3.1
BEST	Besiri	140.99	312	*i* P	PKPdf	23 25 58.0	+1.9
KELT	Kelkit	141.33	317	P	PKPdf	23 25 55.5	-1.0
MZLS	Mizel	141.44	290	P	PKPdf	23 25 54.0	-3.2
LSZ	Lusaka	142.15	218	*e*PKP	PKPdf	23 25 54.3	-4.2
KAMS	Al Khamasin	142.24	284	P	PKPdf	23 25 57.1	-1.5
ELZG	Elazig	142.32	314	P	PKPdf	23 25 56.8	-1.4
KWP	Kalwaria	142.83	341	*e*PKIKP	PKPdf	23 25 56.4	-2.3
ARSS	Ar Rass	142.98	293	P	PKPdf	23 25 58.4	-1.4
OJC	Ojcow	143.14	344	*e*PKIKP	PKPdf	23 25 57.6	-1.7
DJNS	Zahran al Janu	143.21	279	P	PKPbc	23 26 00.9	+2.2
CLZ	Clausthal	143.23	355	*e*PKPbc	PKPbc	23 25 57.3	-0.5
TATS	Tathlith	143.29	282	D	PKPdf	23 26 00.4	-0.1
WTSB	Winterswijk	143.32	358	*e*PKP	PKPdf	23 25 57.7	-1.8
	comp=Z,11nm,2.0s						
KSP	Ksiaz	143.36	348	*e*PKIKP	PKPdf	23 25 58.3	-1.3
BOYT	Boyabat	143.39	321	*i* P	PKPbc	23 26 00.0	+1.4
CLL	Collm	143.46	352	⇑*i*PKIKP	PKPdf	23 25 58.0	-1.8
	comp=Z,logA/T=1.2						
CLL				*e*		23 26 05.0	
CLL				*i*		23 26 18.7	
CLL	Collm	143.46	352	*i* PKIKP	PKPdf	23 25 58.0	-1.8
CLL				pmax	pmax		
	comp=Z,14nm,0.9s						
CLL				MLR	MLR		
	comp=Z,2µm,21.9s						
CLL	Collm	143.46	352	*i* PKP	PKPdf	23 25 58.0	-1.8
CLL				*e*		23 26 05.0	
CLL				LR	LR		
	comp=Z,2µm,21.9s						
KOLS	Kolonicke sedl	143.58	341	*e*PKP	PKPdf	23 25 59.9	-0.2
RAC	Raciborz	143.66	346	*e*PKIKP	PKPdf	23 25 59.7	-0.5
TSUM	Tsumeb	143.70	200	*e*PKP	PKPdf	23 26 00.1	-1.1
UPC	Upice	143.73	348	⇓*e*PKP	PKPdf	23 25 59.5	-0.8
BRG	Berggiesshubel	143.75	351	*e*PKIKP	PKPdf	23 25 59.3	-1.0
BRG				pmax	pmax		
	comp=Z,11nm,1.0s						
BRG				MLR	MLR		
	comp=N,700nm,20.0s						
BRG				MLR	MLR		
	comp=E,720nm,20.0s						
BRG				MLR	MLR		
	comp=Z,870nm,17.1s						
DPC	Dobruska-Polom	143.82	348	⇓*i*PKP	PKPdf	23 25 59.7	-0.8
GZT	Gaziantep	143.86	314	*i* P	PKPbc	23 26 01.3	+1.1
CRVS	Cervenica-Dubn	143.86	342	*e*PKP	PKPdf	23 26 00.7	+0.1
OKC	Ostrava-Krasne	143.90	346	⇓*i*PKP	PKPdf	23 25 59.7	-0.9
CTKT	Corum	143.93	320	*i* P	PKPbc	23 26 01.4	+1.1
HILS	Ha’il	143.98	296	P	PKPbc	23 26 02.0	+1.3
PVCC	Panska Ves	143.98	350	⇓*i*PKP	PKPdf	23 26 00.2	-0.5
MORC	Moravsky Berou	144.10	346	*e*PKP	PKPdf	23 26 00.2	-0.8
KAHT	Ahir Dag	144.20	315	*i* P	PKPbc	23 26 02.2	+1.1
BALT	Daday	144.22	323	*i* P	PKPbc	23 26 02.1	+1.0
MOX	Moxa	144.29	353	*e*PKHKP		23 25 56.2	
MOX				pmax	pmax		
	comp=Z,56nm,1.6s						
MOX				MLR	MLR		
	comp=Z,500nm,22.0s						
KMBO	Kilima Mbogo	144.41	246	PKP	PKPdf	23 26 04.3	+1.7
	comp=Z,57nm,0.9s,baz=73,slow=4.7,SNR=172						
KMBO	Kilima Mbogo	144.41	246	*e*PKP	PKPdf	23 26 03.7	+1.0
PRU	Pruhonice	144.50	350	⇓*i*PKP	PKPdf	23 26 01.3	-0.4
	comp=Z,69nm,1.1s						
PRU				*e*pPKP		23 26 56.4	
PRU	Pruhonice	144.50	350	⇓*i*PKIKP	PKPdf	23 26 01.3	-0.4
PRU				*e*		23 26 56.4	
PRU				pmax	pmax		
	comp=Z,69nm,1.1s						
KECS	Kecovo	144.53	342	*i* PKP	PKPdf	23 26 02.3	+0.6
FRSS	Farasan al Kab	144.53	278	P	PKPbc	23 26 04.9	+2.3
HGN	Heimansgroeve	144.54	359	*e*PKP	PKPdf	23 26 01.8	+0.1
	comp=Z,14nm,2.0s						
NKC	Novy Kostel	144.59	352	⇓*i*PKP	PKPdf	23 26 01.7	-0.1
VRAC	Vranov	144.75	347	PKP	PKPdf	23 26 03.0	+0.9
	comp=Z,54nm,1.0s,baz=19,slow=3.8,SNR=59						
VRAC				pPKP		23 26 56.2	
	comp=Z,6.3nm,0.9s,baz=50,slow=2.5,SNR=1.1						
ELDT	Eldivan	144.84	321	*i* P	PKPdf	23 26 04.0	+1.5
AVNT	Avonos	144.94	318	*i* P	PKPdf	23 26 04.3	+1.5
VYHS	Vyhne	144.97	344	*i* PKP	PKPdf	23 26 03.7	+1.2
VYHS				*e*		23 26 19.2	
VYHS				*e*		23 26 58.4	
VYHS	Vyhne	144.97	344	*i* PKIKP	PKPdf	23 26 03.7	+1.2
VYHS				*e*		23 26 58.4	
KOLL	Kolacno	145.01	345	*i* PKP	PKPdf	23 26 03.9	+1.3
KOLL				*e*		23 26 10.9	
BLJS	Baljurashi	145.05	283	P	PKPdf	23 26 06.3	+2.8
MLR	Muntele Rosu	145.14	334	PKPbc	PKPbc	23 26 03.9	+0.5
	comp=Z,54nm,0.6s,baz=179,slow=2.9,SNR=121						
MLR	Muntele Rosu	145.14	334	PKIKP	PKPdf	23 26 03.9	+1.0
MLR				pmax	pmax		
	comp=Z,54nm,0.6s						
BRTR	Keskin Array B	145.17	320	PKPbc	PKPbc	23 26 04.3	+0.6
	comp=Z,33nm,0.8s,baz=135,slow=1.7,SNR=171						
BRTR				pPKPbc		23 26 57.3	
	comp=Z,13nm,0.9s,baz=90,slow=2.5,SNR=2.5						
BRTR	Keskin Array B	145.17	320	PKIKP	PKPdf	23 26 04.4	+1.2
BRTR				pmax	pmax		
	comp=Z,33nm,0.9s						
BRTR				pmax	pmax		
	comp=N,13nm,0.9s						
COBT	Iskenderun	145.18	313	*i* P	PKPdf	23 26 05.3	+2.0
GIVF	Givet	145.21	0	*e*PKP1	PKPbc	23 26 03.8	+0.4
	comp=N,88nm,1.0s						
PSZ	Piszkesteto	145.21	343	*e*PKP	PKPdf	23 26 04.4	+1.5
BAIF	Baives	145.24	1	*e*PKP1	PKPbc	23 26 04.2	+0.7
	comp=N,89nm,0.9s						
GRA1	Grafenberg Arr	145.27	353	*e*PKPbc	PKPbc	23 26 04.8	+1.2
GRF	Grafenberg Arr	145.27	353	*e*PKIKP	PKPdf	23 26 04.8	+1.8
SMOL	Smolenice	145.31	346	*i* PKP	PKPdf	23 26 05.7	+2.6
ABH	Alteburg	145.38	357	PKP	PKPdf	23 26 04.6	+1.4
KHC	Kasperske Hory	145.49	350	⇓*e*pPKP		23 26 57.7	
PSN	Preselentsi	145.53	330	*e*P	PKPdf	23 26 05.0	+1.4
RUP	Ruppelstein	145.58	358	*e*P	PKPdf	23 26 05.7	+2.2
RUP	Ruppelstein	145.58	358	PKP	PKPdf	23 26 05.2	+1.7
TOD	Tromm	145.58	356	⇓*e*P	PKPdf	23 26 05.3	+1.8
TOD	Tromm	145.58	356	PKP	PKPdf	23 26 05.2	+1.7
WET	Wettzell	145.59	351	*e*PKPbc	PKPbc	23 26 05.3	+0.9
WET				*e*pPKPbc		23 27 00.2	
SGKT	Sivrigoynuk	145.61	323	*i* P	PKPdf	23 26 05.2	+1.3
WLF	Walferdange	145.64	359	*e*PKP	PKPdf	23 26 05.5	+1.8
ZST	Bratislava	145.68	346	*i* PKP	PKPdf	23 26 06.3	+2.6
ZST				*e*		23 26 15.8	
ZST				*e*		23 27 00.1	
SWS	Schriesheim	145.71	356	*e*P	PKPdf	23 26 05.7	+2.0
GEC2	GERESS Array S	145.75	350	*e*PKPbc	PKPbc	23 26 05.0	+0.2
GEC2				*e*pPKPbc		23 27 00.7	
GERES	GERESS Array B	145.75	350	PKPbc	PKPbc	23 26 05.3	+0.5
	comp=N,39nm,1.1s,baz=32,slow=2.9,SNR=92						
GERES				pPKP		23 26 58.1	
	comp=N,3.7nm,1.1s,baz=135,slow=7.5,SNR=1.3						
GERES	GERESS Array B	145.75	350	PKP2	PKPab	23 26 05.3	-2.3
GERES				pmax	pmax		
	comp=Z,39nm,1.1s						
GERES				pmax	pmax		
	comp=N,4.0nm,1.1s						
SIND	Sindeldorf	145.77	355	⇓*e*P	PKPdf	23 26 05.8	+1.9
KTD	Kalmit	145.91	357	PKP	PKPdf	23 26 07.1	+3.0
HENT	Hendek	146.12	324	P	PKPdf	23 26 07.0	+2.2
LTHS	Al Lith	146.16	284	P	PKPdf	23 26 09.1	+3.8
FLN	La Foliniere	146.22	7	*e*PKP1	PKPbc	23 26 06.7	+0.7
	comp=N,87nm,0.9s						
ROSF	Rostrenen	146.24	10	*e*PKP1	PKPbc	23 26 07.2	+1.2
	comp=N,47nm,0.9s						
LANF	Langenberg	146.26	357	PKP	PKPdf	23 26 07.3	+2.6
SOP	Sopron	146.29	346	⇑*i*P	PKPdf	23 26 08.1	+3.3
STU	Stuttgart	146.38	355	*e*PKP	PKPdf	23 26 06.4	+1.5
LDF	La Druitiere	146.43	6	*e*PKP1	PKPbc	23 26 07.0	+0.5
	comp=N,39nm,0.7s						
SGMF	Saint Gilles	146.44	9	*e*PKP1	PKPbc	23 26 07.1	+0.6
	comp=N,84nm,0.9s						
HDH	Heidenheim	146.47	354	⇓*e*P	PKPdf	23 26 08.2	+3.2
LBG	Lerchenberg	146.52	356	⇓*e*P	PKPdf	23 26 08.3	+3.2
KBRS	Khaybar	146.52	294	P	PKPdf	23 26 09.7	+3.9
GRR	Gorron	146.54	7	*e*PKP1	PKPbc	23 26 07.9	+1.2
	comp=N,68nm,0.7s						
QURS	Qurayyt al Mil	146.57	304	P	PKPdf	23 26 10.8	+5.0
MEST	Erdemli	146.60	315	*i* P	PKPdf	23 26 08.9	+3.2
MOA	Molln	146.61	349	⇑*i*P	PKPdf	23 26 06.7	+1.4
MOA				*i*		23 26 08.8	
MOA				*i*		23 27 01.6	
ASF	Jabal al Asfar	146.61	306	PKPbc	PKPbc	23 26 09.6	+2.1
	comp=N,19nm,0.8s,baz=306,slow=1.6,SNR=30						
STR	Strasbourg	146.66	357	PKP	PKPdf	23 26 09.0	+3.7
QUIF	Quistinic	146.66	10	*e*PKP1	PKPbc	23 26 07.9	+0.9
	comp=N,88nm,1.0s						
BUCH	Bad Urach	146.69	355	⇓*e*P	PKPdf	23 26 09.1	+3.7
FUR	Furstenfeldbru	146.77	353	*e*PKIKP	PKPdf	23 26 07.0	+1.5
FUR				*e*		23 27 02.6	
MEZF	Maizieres J’vi	146.81	0	*e*PKP1	PKPbc	23 26 08.7	+1.4
	comp=N,36nm,0.8s						
WLS	Welschbruch	146.85	357	PKP	PKPdf	23 26 09.2	+3.5
CDF	Champ du Feu	146.86	357	*e*PKP1	PKPbc	23 26 08.9	+1.4
	comp=N,87nm,1.0s						
BFO	Black Forest	146.88	356	*e*PKIKP	PKPdf	23 26 07.0	+1.3
BFO				*e*		23 27 02.1	
SZH	Strazhica	146.90	332	*e*P	PKPdf	23 26 09.0	+3.1
ARSA	Arzberg	146.93	347	⇑*i*P	PKPdf	23 26 07.2	+1.4
ARSA				*i*		23 26 09.7	
ARSA				*i*		23 27 03.0	
ESKT	Eskisehir	146.99	322	*i* P	PKPdf	23 26 08.1	+1.9
ECH	Echery	147.06	358	PKP	PKPdf	23 26 09.2	+3.2
HRI	Mount Hermon	147.06	309	P	PKPdf	23 26 10.8	+4.3
SPAK	Spaichingen	147.08	356	⇓*e*P	PKPdf	23 26 09.8	+3.8
SPAK	Spaichingen	147.08	356	PKP	PKPdf	23 26 09.9	+3.9
THEF	They Montfort	147.08	359	PKP	PKPdf	23 26 09.5	+3.5
GUT	Gutenstein	147.08	355	⇓*e*P	PKPdf	23 26 09.7	+3.6
LIBD	Limburg	147.10	357	PKP	PKPdf	23 26 09.2	+3.1
DJES	Djerdap	147.22	337	*e*P	PKPdf	23 26 08.4	+2.0
PVL	Pavlikeni	147.22	332	*e*P	PKPdf	23 26 09.0	+2.6
KIZ	Kirchzarten	147.28	357	⇓*e*P	PKPdf	23 26 10.1	+3.7
HAU	Haudompre	147.29	359	*e*PKP1	PKPdf	23 26 10.2	+3.8
	comp=N,83nm,1.0s						
FELD	Feldberg	147.35	357	⇓*e*P	PKPdf	23 26 10.5	+4.0
UBR	Uberruh	147.38	354	*e*P	PKPdf	23 26 10.3	+3.7
SLE	Schleitheim	147.43	356	⇓*i*PKPbc	PKPdf	23 26 10.4	+3.7
	comp=N,34nm,1.2s						
HINF	Hinteralfeld	147.47	358	*e*PKP1	PKPdf	23 26 10.3	+3.6
	comp=N,23nm,0.9s						
KBA	Koelnbreinsper	147.52	350	⇑*i*P	PKPdf	23 26 08.0	+1.2
KBA				*i*		23 26 10.8	
KBA				*i*		23 27 04.9	
WATA	Walderalm	147.54	352	⇑*i*P	PKPdf	23 26 08.3	+1.4
WATA				*i*		23 26 11.0	
WATA				*i*		23 27 06.3	
HNTI	Hanita	147.56	309	P	PKPdf	23 26 11.7	+4.3
ULDT	Uludag	147.57	325	*i* P	PKPdf	23 26 11.5	+4.4
MOTA	Moosalm	147.60	353	⇑*i*P	PKPdf	23 26 08.0	+1.1
MOTA				*i*		23 26 11.2	
MOTA				*i*		23 26 17.9	
MOTA				*i*		23 27 06.8	
WTTA	Wattenberg	147.61	352	⇑*i*P	PKPdf	23 26 08.6	+1.6
WTTA				*i*		23 26 11.6	
WTTA				*i*		23 27 04.7	
HMDT	Nahal Hemdat	147.65	307	P	PKPdf	23 26 12.5	+5.0
HMDT	Nahal Hemdat	147.65	307	⇓P	PKPdf	23 26 12.5	+5.0
MMLI	Mount Malkishu	147.65	307	P	PKPdf	23 26 12.5	+5.0
MMLI	Mount Malkishu	147.65	307	⇓P	PKPdf	23 26 12.5	+5.0
SULZ	Sulz-Cheisache	147.69	356	⇓*i*PKPbc	PKPdf	23 26 11.4	+4.3
	comp=N,19µm,1.2s						
SQTA	Sankt Quirin	147.71	352	⇑*i*P	PKPdf	23 26 08.7	+1.6
SQTA				*i*		23 26 11.5	
SQTA				*i*		23 27 06.8	
WILA	Wila	147.75	355	⇓*i*PKPbc	PKPdf	23 26 11.5	+4.3
	comp=N,58nm,1.2s						
BBS	Basel-Blauen	147.79	357	*e*P	PKPdf	23 26 11.8	+4.5
DAVA	Damuels	147.79	354	⇑*i*P	PKPdf	23 26 08.6	+1.3
DAVA				*i*		23 26 12.0	
DAVA				*i*		23 27 06.5	
BEO	Belgrade	147.79	339	⇑*i*P	PKPdf	23 26 11.4	+4.0
ZUR	Zurich	147.82	356	⇓*i*PKPbc	PKPdf	23 26 11.8	+4.5
	comp=N,15µm,1.2s						
KAMOR	Kamor	147.83	355	⇓*i*PKPbc	PKPdf	23 26 11.9	+4.6
	comp=N,87nm,1.2s						
OBKA	Obir	147.84	348	⇑*i*P	PKPdf	23 26 08.6	+1.2
OBKA				*i*		23 26 11.7	
OBKA				*i*		23 27 04.6	
BOURR	Bourrignon	147.88	357	⇓*i*PKPdf	PKPdf	23 26 12.2	+4.8
	comp=N,21µm,1.2s						
BOURR	Bourrignon	147.88	357	⇓*i*P	PKPdf	23 26 12.1	+4.7
OFRI	‘Ofer	147.91	308	P	PKPdf	23 26 13.2	+5.3
BALST	Balsthal	147.91	357	⇓*i*PKPdf	PKPdf	23 26 12.2	+4.7
	comp=N,112nm,1.2s						
LOMF	Lomont	147.93	358	PKP	PKPdf	23 26 12.0	+4.5
HYF	Humbligny	147.97	3	*e*PKP1	PKPdf	23 26 12.2	+4.6
CSS	Prodhromos	148.01	313	*e*PKPbc	PKPdf	23 26 12.1	+4.0
DRGI	Dragot	148.02	306	P	PKPdf	23 26 13.2	+5.0
DRGI	Dragot	148.02	306	⇓P	PKPdf	23 26 13.2	+5.0
LOR	Lormes	148.02	2	*e*PKP1	PKPdf	23 26 12.1	+4.5
	comp=N,42nm,0.7s						
SLTI	Sal’it	148.03	307	P	PKPdf	23 26 13.2	+5.1
SLTI	Sal’it	148.03	307	⇓P	PKPdf	23 26 13.2	+5.1
PLONS	Plons	148.07	355	⇓*i*PKPbc	PKPdf	23 26 12.4	+4.7
	comp=N,50nm,1.2s						
MZDA	Masada	148.15	305	P	PKPdf	23 26 13.5	+5.1
MZDA	Masada	148.15	305	⇓P	PKPdf	23 26 13.5	+5.1
MUO	Muotathal	148.22	356	⇓*i*PKPdf	PKPdf	23 26 13.2	+5.2
	comp=N,96nm,1.2s						
SSF	Saint Saulge	148.22	2	*e*PKP1	PKPdf	23 26 12.6	+4.6
	comp=N,96nm,1.1s						
ISP	Isparta	148.26	320	*e*PKPbc	PKPdf	23 26 12.3	+4.0
TBKS	Tabuk	148.26	299	P	PKPdf	23 26 14.1	+5.4
PGB	Panagyurishte	148.26	333	*e*P	PKPdf	23 26 13.0	+4.8
LJU	Ljubljana	148.29	348	*e*PKPdf	PKPdf	23 26 09.7	+1.5
LJU				*e*PKPbc	PKPdf	23 26 12.7	+4.6
LJU				*e*pPKPbc		23 27 07.3	
DAVOX	Davos	148.29	354	PKP	PKPdf	23 26 08.8	+0.7
	comp=N,26nm,0.6s,baz=183,slow=3.4,SNR=6.9						
DAVOX				PKPbc	PKPdf	23 26 13.5	+5.4
	comp=N,31nm,0.6s,baz=328,slow=2.3,SNR=24						
DAVOX	Davos	148.29	354	⇓*i*PKPdf	PKPdf	23 26 13.5	+5.4
	comp=N,94nm,1.2s						
LLS	Linth-Limmern	148.31	355	⇓*i*PKPdf	PKPdf	23 26 13.2	+5.1
	comp=N,12µm,1.2s						
BNALP	Bannalp	148.33	356	⇓*i*PKPdf	PKPdf	23 26 13.4	+5.2
	comp=N,19µm,1.2s						
BNALP	Bannalp	148.33	356	⇓*i*P	PKPdf	23 26 13.5	+5.3
BRANT	Les Verrieres	148.36	358	⇓*i*PKPdf	PKPdf	23 26 13.5	+5.3
	comp=N,45nm,1.2s						
UMJS	Umm Lajj	148.36	293	P	PKPdf	23 26 14.6	+5.7
MFF	Saint Martin d	148.39	7	*e*PKP1	PKPdf	23 26 12.8	+4.5

	comp=N,31nm,0.7s						
KDZ	**Kurdzhali**	**148.40**	**330**	*e*P	PKPdf	23 26 10.0	+1.6
FUORN	**Ofenpass**	**148.41**	**353**	⇓*i*PKPdf	PKPdf	23 26 14.1	+5.8
	comp=N,267nm,1.2s						
VOY	**Vojsko**	**148.43**	**348**	*e*PKPdf	PKPdf	23 26 12.2	+3.9
VISS	**Visnje**	**148.46**	**347**	*e*PKPbc	PKPdf	23 26 13.1	+4.7
HASLI	**Hasliberg**	**148.46**	**356**	⇓*i*PKPdf	PKPdf	23 26 13.7	+5.3
	comp=N,59nm,1.2s						
AVF	**Avril sur Loir**	**148.48**	**2**	*e*PKP1	PKPdf	23 26 12.9	+4.5
	comp=N,52nm,0.9s						
TORNY	**Torny**	**148.51**	**358**	⇓*i*PKPdf	PKPdf	23 26 14.0	+5.6
	comp=N,93nm,1.2s						
GRUS	**Gruza**	**148.52**	**338**	⇑*i*P	PKPdf	23 26 13.7	+5.1
WIMIS	**Wimmis**	**148.58**	**357**	⇓*i*PKPdf	PKPdf	23 26 14.1	+5.5
	comp=N,50nm,1.2s						
DIVS	**Divcibare**	**148.59**	**339**	⇑*i*P	PKPdf	23 26 13.2	+4.5
ZFRI	**Zfri**	**148.59**	**304**	P	PKPdf	23 26 14.8	+5.7
ZFRI	**Zfri**	**148.59**	**304**	⇓P	PKPdf	23 26 14.8	+5.7
CEY	**Cerknica**	**148.60**	**348**	*e*PKPdf	PKPdf	23 26 09.9	+1.3
CEY				*e*PKPbc	PKPdf	23 26 13.5	+4.9
CEY				*e*pPKPbc		23 27 08.0	
VDL	**Val di Lei**	**148.62**	**354**	⇓*i*PKPdf	PKPdf	23 26 14.2	+5.6
	comp=N,17µm,1.2s						
BERNI	**Berninapass**	**148.64**	**354**	⇓*i*PKPdf	PKPdf	23 26 14.5	+5.8
	comp=N,161nm,1.2s						
VTS	**Vitosha**	**148.64**	**334**	*e*P	PKPdf	23 26 14.0	+5.2
SMF	**Signal de Mont**	**148.65**	**2**	*e*PKP1	PKPdf	23 26 13.4	+4.7
	comp=N,62nm,1.1s						
ALN	**Alexandroupoli**	**148.66**	**329**	*e*P	PKPdf	23 26 13.2	+4.3
BGF	**Bois d'Agland**	**148.69**	**3**	*e*PKP1	PKPdf	23 26 13.8	+5.1
	comp=N,107nm,1.0s						
CABF	**La Chapelle**	**148.69**	**359**	*e*PKP1	PKPdf	23 26 14.6	+5.9
	comp=N,131nm,0.9s						
RZN	**Rozhen**	**148.70**	**331**	*e*P	PKPdf	23 26 14.0	+5.1
FUSIO	**Fusio**	**148.72**	**355**	⇓*i*PKPdf	PKPdf	23 26 14.5	+5.7
	comp=N,79nm,1.2s						
GIMEL	**Gimel**	**148.77**	**359**	⇓*i*PKPdf	PKPdf	23 26 15.0	+6.1
	comp=N,78nm,1.2s						
PRNI	**Paran**	**148.81**	**304**	P	PKPdf	23 26 15.4	+5.9
PRNI	**Paran**	**148.81**	**304**	⇓P	PKPdf	23 26 15.4	+5.9
LKBD	**Leukerbad**	**148.86**	**357**	⇓*i*PKPdf	PKPdf	23 26 14.9	+5.9
	comp=N,71nm,1.2s						
SENIN	**Lac Senin**	**148.90**	**357**	⇓*i*PKPdf	PKPdf	23 26 15.3	+6.2
	comp=N,15µm,1.2s						
SENIN	**Lac Senin**	**148.90**	**357**	⇓*i*P	PKPdf	23 26 15.2	+6.1
TCF	**Toulx Ste Croi**	**148.92**	**4**	*e*PKP1	PKPdf	23 26 14.0	+4.9
	comp=N,59nm,1.2s						
AIGLE	**Aigle**	**148.94**	**358**	⇓*i*PKPdf	PKPdf	23 26 15.1	+6.0
	comp=N,52nm,1.2s						
AQBJ	**Aqaba**	**149.00**	**303**	P	PKPdf	23 26 15.8	+6.0
MANT	**Manisa**	**149.01**	**323**	*i* P	PKPdf	23 26 15.3	+5.8
GRYON	**Gryon**	**149.02**	**357**	⇓*i*PKPdf	PKPdf	23 26 15.4	+6.1
	comp=N,44nm,1.2s						
DBAS	**Duba**	**149.03**	**298**	P	PKPdf	23 26 15.9	+6.0
KZIT	**Kziot**	**149.07**	**305**	P	PKPdf	23 26 15.9	+6.0
KZIT	**Kziot**	**149.07**	**305**	⇓P	PKPdf	23 26 15.9	+6.0
MBH	**Mount Berech**	**149.09**	**303**	P	PKPdf	23 26 16.0	+6.1
MBH	**Mount Berech**	**149.09**	**303**	⇓P	PKPdf	23 26 16.0	+6.1
EIL	**Elat**	**149.10**	**303**	P	PKPdf	23 26 16.0	+6.1
EIL	**Elat**	**149.10**	**303**	⇓P	PKPdf	23 26 16.0	+6.1
KMTI	**Karmit**	**149.12**	**304**	P	PKPdf	23 26 15.8	+5.8
KMTI	**Karmit**	**149.12**	**304**	⇓P	PKPdf	23 26 15.8	+5.8
SALAN	**Lac Salanfe**	**149.13**	**358**	⇓*i*PKPdf	PKPdf	23 26 15.7	+6.2
	comp=N,47nm,1.2s						
JMOS	**Jabal al Moall**	**149.15**	**302**	P	PKPdf	23 26 16.1	+6.1
MMK	**Mattmark**	**149.18**	**356**	⇓*i*PKPdf	PKPdf	23 26 16.0	+6.5
	comp=N,15µm,1.2s						
DIX	**Grande Dixence**	**149.18**	**357**	⇓*i*PKPdf	PKPdf	23 26 16.2	+6.7
	comp=N,12µm,1.2s						
AGO	**Saint Agoulin**	**149.21**	**3**	PKP	PKPdf	23 26 18.2	+8.6
MUGIO	**Muggio**	**149.22**	**355**	⇓*i*PKPdf	PKPdf	23 26 14.9	+5.3
	comp=N,100nm,1.2s						
MMB	**Musomiste**	**149.23**	**332**	*e*P	PKPdf	23 26 15.0	+5.2
DNZL	**Cakiroluk**	**149.25**	**321**	*i* P	PKPdf	23 26 16.3	+6.4
OG05	**Jujurieux**	**149.27**	**360**	PKP	PKPdf	23 26 15.8	+6.1
KKB	**Krupnik**	**149.29**	**333**	*e*P	PKPdf	23 26 15.0	+5.2
HAQS	**Haql**	**149.34**	**302**	P	PKPdf	23 26 16.6	+6.3
BDAS	**Al Bad'**	**149.40**	**300**	P	PKPdf	23 26 16.6	+6.1
BOZC	**Bozcaada**	**149.45**	**327**	*i* P	PKPdf	23 26 15.7	+5.5
AYVA	**Ayvalik**	**149.50**	**326**	*i* P	PKPdf	23 26 15.9	+5.6
PYM	**Petit Puy Mans**	**149.50**	**3**	PKP	PKPdf	23 26 16.5	+6.4
TAYS	**Tayyib Ism**	**149.56**	**301**	P	PKPdf	23 26 16.9	+6.2
SRS	**Serrai**	**149.67**	**332**	*e*P	PKPdf	23 26 14.8	+4.4
TRAV		**149.72**	**356**	P	PKPdf	23 26 15.9	+5.5
LPL	**La Plagne**	**149.77**	**358**	*e*PKP1	PKPdf	23 26 17.6	+7.1
	comp=N,59nm,0.9s						
LPG	**La Plagne**	**149.79**	**358**	*e*PKP1	PKPdf	23 26 17.7	+7.2
	comp=N,94nm,1.1s						
LSD	**Ceresole Reale**	**149.81**	**357**	P	PKPdf	23 26 17.7	+7.2
KDAG	**Bornova**	**149.81**	**324**	*i* P	PKPdf	23 26 16.7	+5.9
RJF	**Les Rejaudoux**	**149.85**	**5**	*e*PKP1	PKPdf	23 26 16.5	+5.9
SKO	**Skopje**	**149.89**	**335**	*i* PKP	PKPdf	23 26 17.0	+6.2
AYDN	**Tasoluk**	**149.97**	**322**	*i* P	PKPdf	23 26 18.0	+7.0
SOH	**Sokhos**	**150.01**	**332**	*e*P	PKPdf	23 26 16.0	+5.0
LBL	**Lubilhac**	**150.03**	**3**	PKP	PKPdf	23 26 18.0	+7.1
RSP	**Reno Superiore**	**150.11**	**357**	P	PKPdf	23 26 17.4	+6.4
LFF	**La Frestale**	**150.13**	**6**	*e*PKP1	PKPdf	23 26 17.5	+6.5
	comp=N,75nm,0.9s						
BNI	**Bardonecchia**	**150.24**	**358**	*e*PKPdf	PKPdf	23 26 12.8	+1.6
BNI				*e*PKPbc	PKPdf	23 26 18.3	+7.1
BNI				*e*PKPab	PKPab	23 26 24.9	-0.8
FENE	**Fenestrelle**	**150.24**	**357**	P	PKPdf	23 26 17.9	+6.6
CAF	**Calviac**	**150.27**	**5**	*e*PKP1	PKPdf	23 26 17.8	+6.5
	comp=N,52nm,1.1s						
MBAR	**Mbarara**	**150.28**	**240**	*e*PKPdf	PKPdf	23 26 13.6	+1.4
MBAR				*e*PKPbc	PKPdf	23 26 18.6	+6.4
RRL	**Cesana Torines**	**150.36**	**358**	P	PKPdf	23 26 18.9	+7.5
ORIF	**Oris-en-Rattie**	**150.39**	**359**	*e*PKP1	PKPdf	23 26 18.5	+7.1
	comp=N,39nm,1.0s						
BHB	**Bricherasio**	**150.42**	**357**	P	PKPdf	23 26 17.5	+6.0
VIVF	**Saint-Julien-l**	**150.45**	**1**	*e*PKP1	PKPdf	23 26 18.7	+7.2
	comp=N,58nm,1.0s						
GRAM		**150.53**	**353**	P	PKPdf	23 26 18.4	+6.7
MBDF	**Montbardon**	**150.56**	**358**	*e*PKP1	PKPdf	23 26 19.1	+7.4
	comp=N,37nm,0.9s						
PAIG	**Paliouri**	**150.57**	**330**	*e*P	PKPdf	23 26 17.6	+5.7
BDRM	**Kayabasi**	**150.62**	**322**	*i* P	PKPdf	23 26 18.5	+6.5
PCP	**Pian Castagno**	**150.63**	**355**	P	PKPdf	23 26 17.9	+6.1
VALM		**150.65**	**353**	P	PKPdf	23 26 18.6	+6.8
CODM		**150.66**	**353**	P	PKPdf	23 26 17.7	+5.8
GENL	**Genova Univers**	**150.73**	**355**	P	PKPdf	23 26 17.6	+5.6
OCF	**Saint Nazaire**	**150.74**	**360**	PKP	PKPdf	23 26 19.8	+7.8
OG26	**St.-Nazaire-De**	**150.74**	**360**	PKP	PKPdf	23 26 19.8	+7.8
BACM		**150.74**	**353**	P	PKPdf	23 26 18.1	+6.1
PZZ	**Prazzo**	**150.76**	**357**	P	PKPdf	23 26 18.1	+6.0
VINC	**Vinca**	**150.87**	**353**	P	PKPdf	23 26 18.1	+5.9
FNA	**Florina**	**150.91**	**334**	*e*P	PKPdf	23 26 18.9	+6.6
ROB	**Roburent**	**150.93**	**356**	P	PKPdf	23 26 18.8	+6.5
LIT	**Litokhoron**	**150.98**	**332**	*e*P	PKPdf	23 26 18.2	+5.7
FIN	**Finale Ligure**	**150.99**	**356**	P	PKPdf	23 26 18.7	+6.4
STV2	**Anna di Valdie**	**151.01**	**357**	P	PKPdf	23 26 18.3	+5.9
STV	**Sta Anna Valdi**	**151.01**	**357**	P	PKPdf	23 26 18.5	+6.1
ENR	**Entracque**	**151.03**	**357**	P	PKPdf	23 26 18.3	+5.9
RORO		**151.10**	**356**	P	PKPdf	23 26 19.1	+6.6
MONE	**Monesi**	**151.15**	**356**	P	PKPdf	23 26 19.6	+7.0
LASF	**Ste Croix**	**151.21**	**2**	*e*PKP1	PKPdf	23 26 20.4	+7.7
	comp=N,71nm,1.2s						
XOR	**Xorichti**	**151.24**	**330**	*e*P	PKPdf	23 26 19.0	+6.1
AUTN	**L'Aution**	**151.26**	**357**	PKP	PKPdf	23 26 20.2	+7.4
SAOF	**Saorge**	**151.26**	**356**	PKP	PKPdf	23 26 20.1	+7.3
IMI	**Imperia**	**151.31**	**356**	P	PKPdf	23 26 20.1	+7.2
SMRF	**Simiane la Rot**	**151.34**	**359**	*e*PKP1	PKPdf	23 26 21.0	+8.1
	comp=N,65nm,1.0s						
AURF	**Auriere**	**151.37**	**357**	PKP	PKPdf	23 26 21.5	+8.6
SBF	**Sospel**	**151.39**	**357**	*e*PKP1	PKPdf	23 26 20.0	+7.0
	comp=N,35nm,0.8s						
CALN	**Calern**	**151.53**	**357**	PKP	PKPdf	23 26 21.1	+7.9
SJPF	**Ste Jean**	**151.66**	**10**	*e*PKP1	PKPdf	23 26 20.9	+7.5
	comp=N,15nm,0.7s						
FRF	**La Foret Royal**	**151.73**	**358**	*e*PKP1	PKPdf	23 26 21.0	+7.5
	comp=N,23nm,1.0s						
LARF	**Larrau**	**151.77**	**10**	PKP	PKPdf	23 26 22.1	+8.5
MEV	**Metsovon**	**151.80**	**333**	*e*P	PKPdf	23 26 23.1	+9.4
MTLF	**Montolieu**	**151.85**	**5**	*e*PKP1	PKPdf	23 26 21.6	+7.9
	comp=N,27nm,1.0s						
AGG	**Agios Georgios**	**151.92**	**331**	*e*P	PKPdf	23 26 20.9	+7.0
LMR	**La Mourre**	**151.96**	**358**	*e*PKP1	PKPdf	23 26 21.5	+7.7
	comp=N,46nm,1.2s						
EPF	**Esparros**	**151.97**	**8**	*e*PKP1	PKPdf	23 26 21.4	+7.5
	comp=N,9.7nm,0.8s						
ETSF	**Etsaut**	**151.97**	**9**	*e*PKP1	PKPdf	23 26 22.2	+8.3
	comp=N,35nm,0.7s						
FDAF	**Les Forges d'A**	**152.05**	**9**	PKP	PKPdf	23 26 22.8	+8.8
VIEF	**Viey**	**152.07**	**8**	PKP	PKPdf	23 26 22.7	+8.7
SANT	**Santorini**	**152.26**	**323**	*e*PKPdf	PKPdf	23 26 14.4	-0.1
SANT				*e*PKPbc	PKPdf	23 26 20.6	+6.1
MTE	**Manteigas**	**152.55**	**21**	*e*PKPdf	PKPdf	23 26 16.0	+1.2
MTE				*e*PKPbc	PKPdf	23 26 23.3	+8.5
MTE	**Manteigas**	**152.55**	**21**	*e*PKPdf	PKPdf	23 26 15.9	+1.1
MTE				*e*PKPbc	PKPdf	23 26 22.4	+7.6
PGF	**Pioggiola**	**152.57**	**354**	*e*PKP1	PKPdf	23 26 22.8	+8.1
	comp=N,40nm,0.9s						
IDI	**Anoyia**	**153.34**	**322**	PKPbc	PKPdf	23 26 24.9	+8.9
	comp=N,15nm,0.8s,baz=213,slow=11,SNR=10						
EVO	**Evora**	**154.01**	**24**	*e*PKIKP	PKPdf	23 26 18.4	+1.6
	comp=N,15nm,1.1s						
TIP	**Timpagrande**	**154.07**	**339**	*e*PKPbc	PKPdf	23 26 26.0	+9.2
TIP				*e*PKPab	PKPab	23 26 40.1	-1.8
ESDC	**Sonseca Array**	**154.34**	**17**	PKP	PKPdf	23 26 17.2	0.0
	comp=N,1.0nm,0.8s,baz=314,slow=1.9,SNR=5.3						
ESDC				PKPbc	PKPdf	23 26 27.4	+10
	comp=N,2.7nm,0.7s,baz=331,slow=2.6,SNR=13						
ESDC				PKPab	PKPab	23 26 42.4	-0.6
	comp=N,2.6nm,0.7s,baz=334,slow=4.1,SNR=12						
ESDC				pPKPbc		23 27 21.0	
	comp=N,0.4nm,0.7s,baz=351,slow=38,SNR=1.6						
PBEJ	**Beja**	**154.50**	**25**	*e*PKPdf	PKPdf	23 26 19.6	+2.1
PBEJ				*e*PKPbc	PKPdf	23 26 28.0	+11
PTEO	**Sao Teotonio**	**154.55**	**26**	*e*PKPdf	PKPdf	23 26 19.0	+1.4
PTEO				*e*PKPbc	PKPdf	23 26 28.0	+10
DBIC	**Dimbokro**	**166.96**	**130**	PKP	PKPdf	23 26 32.0	+0.5
	comp=N,11nm,1.2s,baz=161,slow=4.1,SNR=4.8						
DBIC				PKPab	PKPab	23 27 36.4	-1.9
	comp=N,7.3nm,0.9s,baz=210,slow=6.6,SNR=4.8						
DBIC	**Dimbokro**	**166.96**	**130**	PKIKP	PKPdf	23 26 32.1	+0.5
DBIC						23 27 36.4	
DBIC				pmax	pmax		
	comp=Z,11nm,1.2s						
DBIC				pmax	pmax		
	comp=Z,7.0nm,0.9s						
DBIC	**Dimbokro**	**166.96**	**130**	PKP	PKPdf	23 26 32.0	+0.5
DBIC				PKPab	PKPab	23 27 36.4	-1.9

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*NEIC **27** 23:19:13.6, 32.69S×71.78W, h29^{km}, ML4.2(GUC), After GUC.*

GUC 27 23:19:13.6±0.7**, 32.69S×71.78W, h29**^{km}±3^{km}**, MD4.1, ML4.2, 10C-7D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.36**	**161**	⇑*i*P	Pb	23 19 21.5	-0.3
IHA				*i* S	Sb	23 19 27.9	+0.5
LCCH	**Las Cruces**	**0.81**	**167**	⇓*i*P	Pb	23 19 28.5	-0.5
LCCH				*i* S	Sb	23 19 39.2	-0.3
JACH	**Jahuel**	**1.00**	**90**	⇑*i*P	Pn	23 19 31.1	-0.7
PEL	**Peldehue**	**1.03**	**117**	⇑*i*P	Pn	23 19 32.1	0.0
PEL				*i* S	Sn	23 19 46.0	+0.3
PUEX	**Pudahuel**	**1.14**	**132**	⇑*i*P	Pn	23 19 35.1	+1.3
PUEX				*i* S	Sn	23 19 50.2	+1.6
PUEX				AMP		23 19 55.9	
	comp=N,15µm,0.5s						
RCDM	**Rinconada Maip**	**1.14**	**135**	*e*P	Pn	23 19 33.6	-0.2
RCDM				*i* S	Sn	23 19 48.6	-0.1
RCDM				AMP		23 19 51.6	
	comp=E,7µm,0.2s						
TACH	**Talagante**	**1.20**	**144**	⇑*i*P	Pn	23 19 34.6	0.0
SAN	**Santiago**	**1.21**	**129**	*i* P	Pn	23 19 35.1	+0.3
SAN				*i* S	Sn	23 19 50.9	+0.6
SAN				AMP		23 19 57.7	
	comp=N,6µm,0.3s						
STL	**Santa Lucia**	**1.21**	**128**	⇑*i*P	Pn	23 19 34.9	+0.1
STL				*i* S	Sn	23 19 50.9	+0.5
STL				AMP		23 19 51.7	
	comp=N,3µm,0.2s						
DSCH	**Colegio Aleman**	**1.24**	**125**	⇑*i*P	Pn	23 19 35.5	+0.2
DSCH				*i* S	Sn	23 19 51.7	+0.6
DSCH				AMP		23 19 53.1	
	comp=E,18µm,0.2s						
CLCH	**Cerro Calan**	**1.26**	**124**	⇓*i*P	Pn	23 19 35.7	+0.2
CLCH				*i* S	Sn	23 19 52.3	+0.7
CLCH				AMP		23 19 53.7	
	comp=E,10µm,0.2s						
CLCH				AMP		23 19 54.2	
	comp=E,11µm,0.2s						
ANTU	**Antumapu**	**1.30**	**133**	*e*P	Pn	23 19 36.6	+0.5
ANTU				*i* S	Sn	23 19 53.4	+0.7
ANTU				AMP		23 19 57.3	
	comp=N,6µm,0.7s						
LNV	**Longovilo**	**1.30**	**166**	⇑*i*P	Pn	23 19 35.5	-0.6
FSR	**Penalolen**	**1.31**	**127**	⇑*i*P	Pn	23 19 36.8	+0.5
FSR				*i* S	Sn	23 19 53.8	+0.8
FSR				AMP		23 20 00.1	
	comp=N,7µm,0.3s						
FCH	**Farellones**	**1.41**	**117**	⇓*i*P	Pn	23 19 37.9	+0.3
FCH				*i* S	Sn	23 19 56.5	+1.2
FCH				AMP		23 19 57.4	
	comp=E,13µm,0.2s						
PCH	**Pirque**	**1.41**	**132**	⇓*i*P	Pn	23 19 38.3	+0.6
PCH				*i* S	Sn	23 19 57.0	+1.5
CHCH	**Chadas Angostu**	**1.56**	**143**	⇓*i*P	Pn	23 19 40.7	+0.9
CHCH				*i* S	Sn	23 20 01.1	+1.9
CACH	**El Canelo**	**1.73**	**146**	⇑*i*P	Pn	23 19 43.8	+1.5
CACH				*i* S	Sn	23 20 07.3	+3.6
CICH	**Cipreses**	**1.99**	**145**	⇓*i*P	Pn	23 19 46.8	+0.9
CICH				*i* S	Sn	23 20 12.3	+2.3
SFDO	**San Fernando**	**2.03**	**162**	⇓*i*P	Pn	23 19 46.8	+0.3

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*NEIC **27** 23:34:12.1, 32.68S×71.74W, h22^{km}, ML3.1(GUC), After GUC.*

GUC 27 23:34:12.1±0.7**, 32.68S×71.74W, h22**^{km}±14^{km}**, MD3.6, ML3.1, 7C-2D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.36**	**166**	*e*P	Pb	23 34 19.7	-0.1
IHA				*i* S	Sb	23 34 25.5	+0.5
LCCH	**Las Cruces**	**0.81**	**170**	⇑*i*P	Pb	23 34 26.8	-0.6
LCCH				*i* S	Sb	23 34 37.5	-0.4
JACH	**Jahuel**	**0.97**	**91**	⇑*i*P	Pb	23 34 29.3	-0.8
JACH				*i* S	Sb	23 34 42.7	+0.3
PEL	**Peldehue**	**1.00**	**118**	⇑*i*P	Pb	23 34 30.1	-0.6
PEL				*i* S	Sb	23 34 44.0	+0.6
RCDM	**Rinconada Maip**	**1.13**	**136**	⇑*i*P	Pn	23 34 31.7	-1.0
RCDM				*i* S	Sb	23 34 46.7	-0.3
RCDM				AMP		23 34 47.4	
	comp=N,597nm,0.1s						
TACH	**Talagante**	**1.18**	**146**	⇑*i*P	Pn	23 34 32.9	-0.7
TACH				*i* S	Sb	23 34 48.1	-0.5
DSCH	**Colegio Aleman**	**1.22**	**126**	⇑*i*P	Pn	23 34 33.6	-0.4
DSCH				*i* S	Sb	23 34 49.6	-0.1
DSCH				AMP		23 34 51.2	
	comp=E,1µm,0.2s						
CLCH	**Cerro Calan**	**1.24**	**126**	⇑*i*P	Pn	23 34 33.8	-0.5
CLCH				*i* S	Sb	23 34 50.5	+0.2
CLCH				AMP		23 34 51.8	
	comp=E,620nm,0.2s						
ANTU	**Antumapu**	**1.29**	**134**	*i* P	Pn	23 34 34.7	-0.3
ANTU				*i* S	Sb	23 34 51.6	+0.1
ANTU				AMP		23 34 54.6	
	comp=N,408nm,0.3s						
FCH	**Farellones**	**1.38**	**118**	⇓*i*P	Pn	23 34 36.2	-0.1
FCH				*i* S	Sn	23 34 54.6	+0.6
FCH				AMP		23 34 55.5	
	comp=E,626nm,0.2s						
PCH	**Pirque**	**1.40**	**133**	⇓*i*P	Pn	23 34 36.5	-0.1
PCH				*i* S	Sn	23 34 54.9	+0.5
CHCH	**Chadas Angostu**	**1.55**	**144**	*e*P	Pn	23 34 38.9	+0.1
CHCH				*i* S	Sn	23 34 59.6	+1.2
CACH	**El Canelo**	**1.72**	**147**	*e*P	Pn	23 34 42.2	+1.0
CICH	**Cipreses**	**1.98**	**146**	*e*P	Pn	23 34 45.7	+0.8
SFDO	**San Fernando**	**2.02**	**163**	*e*P	Pn	23 34 45.1	-0.5

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*NEIC **27** 23:39:25.9, 32.68S×71.70W, h25^{km}, ML3.3(GUC), After GUC.*

GUC 27 23:39:25.9±0.7**, 32.68S×71.70W, h25**^{km}±3^{km}**, MD3.8, ML3.3, 2C-3D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.35**	**172**	*e*P	Pb	23 39 33.7	0.0
IHA				*i* S	Sb	23 39 39.1	+0.1
LCCH	**Las Cruces**	**0.80**	**172**	*e*P	Pb	23 39 40.3	-0.8
LCCH				*i* S	Sb	23 39 50.8	-0.7
JACH	**Jahuel**	**0.93**	**91**	*e*P	Pb	23 39 42.6	-0.7
JACH				*i* S	Sb	23 39 55.3	+0.1
PEL	**Peldehue**	**0.97**	**119**	*e*P	Pb	23 39 43.6	-0.4
PEL				*i* S	Sb	23 39 56.9	+0.5
PEL				AMP		23 39 59.2	
	comp=N,4µm,0.3s						
PUEX	**Pudahuel**	**1.10**	**134**	*e*PG	Pn	23 39 45.3	-0.6
PUEX				*e*P		23 39 45.3	
PUEX				*i* S	Sb	23 40 00.2	+0.2
PUEX				AMP		23 40 02.9	
	comp=E,2µm,0.4s						
PUEX	**Pudahuel**	**1.10**	**134**	*e*P	Pn	23 39 45.3	-0.6
PUEX				*i* S	Sb	23 40 00.2	+0.2
RCDM	**Rinconada Maip**	**1.10**	**137**	*e*P	Pn	23 39 45.0	-0.9
RCDM				*i* S	Sb	23 39 59.8	-0.3
RCDM				AMP		23 40 07.6	
	comp=E,1µm,0.2s						
TACH	**Talagante**	**1.16**	**147**	*e*P	Pn	23 39 46.4	-0.5
TACH				*i* S	Sb	23 40 01.1	-0.9
STL	**Santa Lucia**	**1.17**	**131**	⇓*i*P	Pn	23 39 46.5	-0.3
STL				*i* S	Sb	23 40 01.7	-0.3
STL				AMP		23 40 03.2	
	comp=N,427nm,0.2s						
DSCH	**Colegio Aleman**	**1.19**	**127**	*e*P	Pn	23 39 46.8	-0.4
DSCH				*i* S	Sn	23 40 02.4	-0.3
DSCH				AMP		23 40 04.0	
	comp=E,2µm,0.4s						
CLCH	**Cerro Calan**	**1.21**	**127**	⇑*i*P	Pn	23 39 47.3	-0.2
CLCH				*i* S	Sn	23 40 03.0	-0.2
CLCH				AMP		23 40 10.0	
	comp=E,738nm,0.7s						
ANTU	**Antumapu**	**1.26**	**135**	*e*P	Pn	23 39 48.0	-0.2
ANTU				*i* S	Sn	23 40 04.2	-0.2
ANTU				AMP		23 40 07.8	
	comp=N,1µm,0.4s						
FSR	**Penalolen**	**1.27**	**129**	⇑*i*P	Pn	23 39 48.1	-0.2
FSR				*i* S	Sn	23 40 04.8	+0.2
FSR				AMP		23 40 06.5	
	comp=N,813nm,0.3s						
LNV	**Longovilo**	**1.30**	**169**	*e*P	Pn	23 39 47.7	-1.0
FCH	**Farellones**	**1.35**	**119**	⇓*i*P	Pn	23 39 49.5	0.0
FCH				*i* S	Sn	23 40 07.1	+0.4
FCH				AMP		23 40 08.2	
	comp=E,953nm,0.1s						
PCH	**Pirque**	**1.37**	**134**	*e*P	Pn	23 39 49.5	-0.2
PCH				*i* S	Sn	23 40 07.9	+0.7
CHCH	**Chadas Angostu**	**1.53**	**145**	*e*P	Pn	23 39 52.3	+0.3
CHCH				*i* S	Sn	23 40 12.3	+1.0
CACH	**El Canelo**	**1.71**	**148**	*e*P	Pn	23 39 55.8	+1.2
CICH	**Cipreses**	**1.96**	**147**	⇓*i*P	Pn	23 39 58.8	+0.7
CICH				*i* S	Sn	23 40 24.3	+2.2
SFDO	**San Fernando**	**2.02**	**164**	*e*P	Pn	23 39 58.9	-0.1
TLL	**Tololo Astrono**	**2.62**	**17**	*e*P	Pn	23 40 08.3	+0.7

IGQ 27 23:46:49.9, 1.24S×80.22W, h12^{km}±8^{km}**, mb4.0, 6C-3D, Error ellipse: s-maj=10.0km s-min=2.6km az=126.2, Near coast of Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.38**	**299**	⇑P	Pg	23 46 57.5	-0.3
QIL1	**Quilotoa**	**1.34**	**73**	P	Pb	23 47 14.8	+0.3
IGUA	**Igualata**	**1.60**	**99**	P	Pn	23 47 19.6	+1.3
JUIV	**Juive**	**1.76**	**96**	P	Pn	23 47 22.3	+1.7
ARRY	**Arrayan**	**1.78**	**99**	⇓P	Pn	23 47 22.1	+1.3
ARRY				S	Sn	23 47 46.8	+3.2
RETU	**Refugio**	**1.78**	**97**	P	Pn	23 47 23.4	+2.5
PATA	**Patacocha**	**1.80**	**98**	⇑P	Pn	23 47 23.0	+1.8
PATA				S	Sn	23 47 48.8	+4.6
ULBA	**Ulba**	**1.82**	**97**	⇑P	Pn	23 47 23.4	+2.0
ULBA				S	Sn	23 47 48.4	+3.9
NAS1	**Nasa**	**1.84**	**71**	P	Pn	23 47 25.2	+3.5
PISA	**Pisayambo**	**1.84**	**84**	P	Pn	23 47 24.3	+2.6
JUA2	**San Juan 2**	**1.91**	**58**	P	Pn	23 47 24.3	+1.6
VC1	**Cotopaxi 1**	**1.91**	**72**	P	Pn	23 47 26.2	+3.5
CGGP	**Crater GGP**	**1.93**	**57**	P	Pn	23 47 25.6	+2.7
TAMB	**Tambo**	**1.93**	**74**	⇑P	Pn	23 47 26.3	+3.3
PINO	**Pino**	**1.93**	**56**	⇓P	Pn	23 47 24.4	+1.3
GGP	**Refugio Guagua**	**1.94**	**57**	⇑P	Pn	23 47 24.8	+1.7
YANA	**Yana**	**1.99**	**56**	⇑P	Pn	23 47 25.2	+1.4
YANA				S	Sn	23 47 54.8	+6.0
JOR1	**San Jorge 1**	**2.00**	**52**	P	Pn	23 47 23.4	-0.6
ANTI	**Antisana**	**2.20**	**69**	⇓P	Pn	23 47 30.0	+3.1
COTA	**Cotacachi**	**2.44**	**50**	P	Pn	23 47 33.0	+2.6
CAYR	**Refugio Cayamb**	**2.54**	**61**	P	Pn	23 47 35.8	+4.2
CAYA	**Cayambe**	**2.58**	**60**	P	Pn	23 47 36.4	+4.1

IDC 27 23:46:54.2±6.0**, 22.00S×175.90W, mb3.9**/3**, mb1 4.1**/3**, mb1mx3.8**/12**, Error ellipse: s-maj=237.0km s-min=55.0km az=141.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.94**	**246**	P	P	23 54 22.1	-1.7
	0.5nm,0.5s,baz=89,slow=9.0,SNR=2.8						
ASAR	**Alice Springs**	**46.10**	**258**	P	P	23 55 21.1	-1.1
	5.0nm,1.1s,baz=99,slow=7.7,SNR=18						
WRA	**Warramunga Arr**	**46.35**	**263**	P	P	23 55 21.4	-2.7
	0.8nm,0.5s,baz=102,slow=7.7,SNR=5.7						
AKASG	**Malin Array Be**	**145.26**	**332**	PKPbc	PKPbc	00 06 32.6	-1.5
	0.2nm,0.2s,baz=42,slow=3.6,SNR=4.9						

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*NEIC **27** 23:51:55.6, 32.69S×71.70W, h36^{km}, MD3.7(GUC), After GUC.*

GUC 27 23:51:55.6±0.8**, 32.69S×71.70W, h36**^{km}±4^{km}**, MD3.7, ML3.2, 1C, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LCCH	**Las Cruces**	**0.79**	**172**	⇑*i*P	P	23 52 10.1	-0.2
JACH	**Jahuel**	**0.94**	**90**	*e*P	P	23 52 12.5	+0.1
JACH				*i* S	S	23 52 25.8	+1.0
PEL	**Peldehue**	**0.97**	**118**	*e*P	P	23 52 13.6	+0.8
PEL				*i* S	S	23 52 26.5	+1.0
PEL				AMP		23 52 30.0	
	comp=N,722nm,0.3s						
RCDM	**Rinconada Maip**	**1.09**	**137**	*e*P	P	23 52 15.3	+0.7
RCDM				*i* S	S	23 52 29.9	+1.1
RCDM				AMP		23 52 33.9	
	comp=N,418nm,0.1s						
TACH	**Talagante**	**1.15**	**146**	*e*P	P	23 52 16.3	+0.9
TACH				*i* S	S	23 52 31.1	+0.8
CLCH	**Cerro Calan**	**1.21**	**126**	*e*P	P	23 52 17.3	+1.1
CLCH				*i* S	S	23 52 33.5	+1.9
CLCH				AMP		23 52 44.2	
	comp=E,271nm,0.6s						
LNV	**Longovilo**	**1.28**	**169**	*e*P	P	23 52 17.8	+0.5
FCH	**Farellones**	**1.34**	**118**	*e*P	P	23 52 19.6	+1.3
FCH				*i* S	S	23 52 37.7	+2.6
FCH				AMP		23 52 39.1	
	comp=E,9µm,0.2s						
PCH	**Pirque**	**1.36**	**133**	*e*P	P	23 52 19.9	+1.4
PCH				*i* S	S	23 52 38.0	+2.4
CHCH	**Chadas Angostu**	**1.52**	**145**	*e*P	P	23 52 22.1	+1.3
CACH	**El Canelo**	**1.69**	**147**	*e*P	P	23 52 24.7	+1.5
SFDO	**San Fernando**	**2.00**	**163**	*e*P	P	23 52 28.5	+0.9
SFDO				*i* S	S	23 52 53.0	+1.4

GUC 28 00:10:52.1±0.7**, 32.67S×71.69W, h15**^{km}±12^{km}**, MD3.7, ML2.4, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LCCH	**Las Cruces**	**0.81**	**173**	*e*P	Pb	00 11 06.4	-0.9
LCCH				*i* S	Sb	00 11 17.6	-0.1
JACH	**Jahuel**	**0.93**	**91**	*e*P	Pb	00 11 08.6	-0.8
JACH				*i* S	Sb	00 11 21.4	+0.2
RCDM	**Rinconada Maip**	**1.10**	**138**	*e*P	Pb	00 11 12.0	-0.4
RCDM				*i* S	Sb	00 11 26.0	-0.3
RCDM				AMP		00 11 30.8	
	comp=E,163nm,0.2s						
TACH	**Talagante**	**1.17**	**147**	*e*P	Pb	00 11 12.5	-0.9
TACH				*i* S	Sb	00 11 27.6	-0.5
CLCH	**Cerro Calan**	**1.21**	**127**	*e*P	Pb	00 11 13.2	-1.0
CLCH				*i* S	Sb	00 11 29.6	+0.2
CLCH				AMP		00 11 37.2	
	comp=N,149nm,0.6s						
PCH	**Pirque**	**1.37**	**134**	*e*P	Pn	00 11 15.8	-0.9
PCH				*i* S	Sb	00 11 34.6	+0.6

CHCH	Chadas Angostu	1.53	146	eP	Pn	00 11 18.3	-0.7
CHCH				i S	Sb	00 11 37.9	-0.8
CICH	Cipreses	1.96	147	eP	Pn	00 11 25.3	+0.1
CICH				i S	Sn	00 11 50.4	+0.8

IDC 28 00:11:45.7±27.0**,22.18S**×**173.62W,mb4.3**/4**,mb1 4.4**/4**, mb1mx4.1**/14**,Error ellipse: s-maj=493.0km s-min=154.8km az=76.0,Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	Charters Tower	37.41	266	P	P	00 19 01.2	-1.2
	5.6nm,0.4s,baz=91,slow=11,SNR=11						
STKA	Stephens Creek	40.80	247	P	P	00 19 29.3	-1.2
	0.9nm,0.5s,baz=92,slow=9.4,SNR=2.9						
ASAR	Alice Springs	48.13	258	P	P	00 20 27.2	-2.3
	1.1nm,0.4s,baz=98,slow=7.8,SNR=17						
WRA	Warramunga Arr	48.42	263	P	P	00 20 29.6	-2.3
	1.8nm,0.4s,baz=102,slow=8.3,SNR=19						
FORT	Forrest	52.40	248	eP	P	00 20 59.8	-2.3
	15nm,0.6s						

TAP 28 00:27:49.2,23.10N×**121.32E,h16**^{km}±1^{km}**,ML3.6, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHKT	Chengkung	0.04	91	P	Pb	00 27 52.8	+0.6
CHKT				S	Sb	00 27 55.0	+0.8
TWF1	Yuli	0.25	355	i P	Pb	00 27 55.5	+0.5
TWF1				S	Sb	00 27 59.5	+0.7
ELDTW	Lidau	0.29	288	P	Pb	00 27 56.0	+0.3
ELDTW				S	Sb	00 28 00.1	+0.2
TWG	Pinlang	0.36	219	eP	Pb	00 27 57.3	+0.6
TWG				S	Sb	00 28 03.0	+1.1
EHY	Hungye	0.40	0	P	Pb	00 27 57.7	+0.2
EHY				S	Sb	00 28 02.9	-0.2
STYT	Tauyuan	0.52	277	P	Pb	00 28 00.0	+0.5
STYT				S	Sb	00 28 07.6	+1.0
ECL	Taimali	0.60	214	eP	Pb	00 28 00.6	-0.4
ECL				S	Sb	00 28 09.1	+0.2
ALS	Alishan	0.62	311	eP	Pb	00 28 02.3	+1.0
ALS				S	Sb	00 28 10.4	+0.8
WTP	Ta-pu	0.67	283	P	Pb	00 28 03.1	+1.1
WTP				S	Sb	00 28 13.0	+2.3
SGST	Jiashian	0.68	269	eP	Pb	00 28 03.0	+0.7
SGST				S	Sb	00 28 13.4	+2.3
CHN4	Tsaushan	0.71	291	eP	Pb	00 28 04.2	+1.4
CHN4				S	Sb	00 28 14.8	+2.7
ESL	Shilin	0.72	8	eP	Pb	00 28 03.0	+0.1
SSD	Sandimen	0.73	241	P	Pb	00 28 03.3	+0.3
SSD				S	Sb	00 28 12.6	+0.2
CHN1	Nanshi	0.73	277	P	Pb	00 28 04.7	+1.5
CHN1				S	Sb	00 28 16.0	+3.4
CHN5	Tsauling	0.77	310	P	Pb	00 28 05.2	+1.4
CHN5				S	Sb	00 28 14.8	+1.1
TWK	Hsinying	0.78	282	eP	Pb	00 28 05.3	+1.3
TWK				S	Sb	00 28 16.3	+2.2
SMLT	Sun Moon Lake	0.87	334	eP	Pb	00 28 06.4	+0.9
SMLT				S	Sb	00 28 17.5	+0.8
TWM1	Shoushan	0.87	252	eP	Pb	00 28 07.6	+2.1
TYC	Yuchr	0.91	332	eP	Pb	00 28 07.4	+1.3
TYC				S	Sb	00 28 20.6	+2.9
WGK	Gukeng	0.91	310	eP	Pb	00 28 07.8	+1.6
WGK				S	Sb	00 28 21.0	+3.3
CHY	Chiayi	0.91	296	eP	Pb	00 28 07.7	+1.5
CHY				S	Sb	00 28 20.8	+2.9
WNT	Mingjian	0.97	323	eP	Pb	00 28 09.1	+2.0
WNT				S	Sb	00 28 22.2	+2.7
SCZT	Fangliau	0.97	222	eP	Pb	00 28 07.2	0.0
TWD	Chiawan	1.01	14	eP	Pb	00 28 07.8	0.0
TWD				S	Sb	00 28 22.9	+2.3
CHN8	Yiju	1.05	284	S	Sb	00 28 25.5	+3.7
NNS	Nan Shan	1.33	2	eP	Pn	00 28 13.9	+0.6
NSY	Sanyi	1.41	339	eP	Pn	00 28 15.5	+1.1
NSY				S	Sb	00 28 34.8	+2.6
ENTT	Nioudou	1.55	8	eP	Pn	00 28 15.1	-1.3
NSTT	Nanjuang	1.55	349	eP	Pn	00 28 16.3	-0.1
PNG	Penghu	1.69	286	eP	Pn	00 28 17.0	-1.4
PNG				S	Sn	00 28 38.1	-1.6
NWF	Wu-fen Shan	2.01	12	eP	Pn	00 28 23.9	+1.0

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*NDI **28** 00:39:42.2±5.7,30.40N×79.97E,h7^{km}±33^{km},MD3.2, ML3.5*
*NEIC **28** 00:39:44.5±2.5,29.97N×79.67E,h83^{km}±29^{km},mb3.7/1, Error ellipse: s-maj=21.5km s-min=13.5km az=76.0*
*IDC **28** 00:39:45.9±9.0,30.14N×79.96E,h83^{km}±81^{km},mb3.3/7, mb1 3.5/8,mb1mx3.3/22,ML3.5/1,Error ellipse: s-maj=51.9km s-min=19.6km az=52.0*
ISC 28 00:39:38.9±1.3**,30.42N**±0.05×**80.04E**±0.06**,h12**^{km}±7^{km}**, n24,**σ**1**^{s}**39**/27**,mb3.6**/7**,Western Xizang-India border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JOSI	Joshimath	0.44	288	eP	Pg	00 39 48.0	+0.1
JOSI				eS	Sg	00 39 55.9	+1.8
JOSI				e		00 40 02.7	
	comp=E,11μm,0.8s						
JOSI				e		00 40 02.7	
	comp=N,10μm,0.6s						
PTH	Pithoragarh	0.88	170	eP	Px	00 39 40.8	
PTH				eS	Sx	00 39 51.8	
DDI	Dehra Dun	1.72	267	eP	Pn	00 40 06.8	-2.1
DDI				eS	Sn	00 40 29.2	-1.7
KLP	Kalpa	1.90	306	eP	Pg	00 40 15.3	-1.6
KLP				eS	Sg	00 40 41.3	-0.9
NDI	New Delhi	3.01	236	eP	Pb	00 40 32.0	0.0
NDI				e		00 40 53.0	
AYAN	Aya Nagar	3.19	234	eP	Pn	00 40 30.9	+1.0
BHK	Bhakra	3.27	289	e	Sn	00 41 13.4	+3.2
SONA	Sohna	3.37	231	eP	Pn	00 40 33.4	+0.9
SONA				eS	Sn	00 41 13.3	+0.6
SONA				e		00 41 15.7	
	comp=N,137nm,0.3s						
SONA				e		00 41 16.1	
	comp=E,167nm,0.3s						
KUDL	Kundal	3.84	235	eP	Pn	00 40 40.7	+1.5
KHET	Khetri	4.38	239	eP	Pn	00 40 47.4	+0.6
KHET				eS	Sn	00 41 35.1	-3.2
KHET				e		00 41 44.4	
	comp=N,105nm,0.4s						
KHET				e		00 41 46.0	
	comp=E,58nm,0.4s						
AJM	Ajmer	6.17	232	eP	Pn	00 41 16.0	+4.0
BHPL	Bhopal	7.52	199	e	Px	00 41 18.7	
BHPL				e		00 42 34.8	
BHPL				e		00 42 35.5	
HYB	Hyderabad	13.02	186	i P	Px	00 42 31.5	
HYB				eS	Sx	00 44 42.5	
POO	Poona	13.11	207	eP	Px	00 42 40.0	
MKAR	Makanchi Array	16.44	5	P	P	00 43 36.0	+5.1
	comp=E,0.2nm,0.3s,baz=180,slow=13,SNR=5.1						
MKAR				S	S	00 46 35.8	+3.0
	comp=E,0.1nm,0.3s,baz=181,slow=25,SNR=2.5						
MKAR	Makanchi Array	16.44	5	P	P	00 43 36.0	+5.1
MKAR				S	S	00 46 35.8	+3.0
CMAR	Chiang Mai Arr	20.89	120	P	P	00 44 21.6	-1.9
	comp=E,0.6nm,0.4s,baz=312,slow=12,SNR=5.4						
BVAR	Borovoye Array	23.67	345	P	P	00 44 50.6	-0.2
	comp=E,0.5nm,0.7s,mb3.0,baz=141,slow=9.2,SNR=2.9						
ZAL	Zalesovo	23.75	7	P	P	00 44 52.5	+0.9
	comp=E,0.9nm,0.3s,mb3.6,baz=167,slow=6.7,SNR=3.7						
ZRNK	Zerenda	23.92	343	eP	P	00 44 52.3	-0.9
	comp=E,2.4nm,0.8s,mb3.7						
SONM	Songino Array	26.64	42	P	P	00 45 20.4	+1.3
	comp=E,0.3nm,0.4s,mb3.1,baz=247,slow=11,SNR=3.5						
FINES	FINESS Array B	46.69	328	P	P	00 48 07.6	-1.3
	comp=E,0.8nm,0.5s,mb3.9,baz=117,slow=8.5,SNR=11						
ARCES	ARCESS Array B	49.62	338	P	P	00 48 31.0	-0.7
	comp=E,1.6nm,0.7s,mb4.2,baz=121,slow=7.1,SNR=9.3						
WRA	Warramunga Arr	72.33	127	P	P	00 51 00.6	-6.1
	comp=E,0.2nm,0.3s,mb3.5,baz=320,slow=5.6,SNR=2.6						

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*NEIC **28** 00:54:08.6,32.68S×71.75W,h29^{km},ML2.8(GUC),After GUC.*
GUC 28 00:54:08.6±0.7**,32.68S**×**71.75W,h29**^{km}±4^{km}**,MD3.6, ML2.8,1C-2D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LCCH	Las Cruces	0.81	169	⇓iP	Pb	00 54 23.5	-0.5
LCCH				i S	Sb	00 54 34.3	-0.2
JACH	Jahuel	0.98	90	⇑iP	Pn	00 54 26.0	-0.6
JACH				i S	Sb	00 54 39.4	0.0
PEL	Peldehue	1.01	117	eP	Pn	00 54 26.8	-0.2
PEL				i S	Sb	00 54 40.5	+0.3
PEL				AMP		00 54 43.4	
	comp=N,740nm,0.3s						
RCDM	Rinconada Maip	1.13	136	eP	Pn	00 54 28.6	-0.1
RCDM				i S	Sn	00 54 43.2	-0.2
RCDM				AMP		00 54 46.1	
	comp=N,311nm,0.1s						
TACH	Talagante	1.19	145	i P	Pn	00 54 29.7	+0.1
TACH				i S	Sn	00 54 44.9	+0.1
CLCH	Cerro Calan	1.25	125	eP	Pn	00 54 30.4	+0.1
CLCH				i S	Sn	00 54 47.2	+0.9
CLCH				AMP		00 54 48.7	
	comp=E,254nm,0.3s						
FCH	Farellones	1.39	118	⇓iP	Pn	00 54 33.0	+0.6
FCH				AMP		00 54 52.3	
	comp=E,282nm,0.3s						
PCH	Pirque	1.40	132	eP	Pn	00 54 33.2	+0.6
CACH	El Canelo	1.73	146	eP	Pn	00 54 38.6	+1.4
CICH	Cipreses	1.98	146	eP	Pn	00 54 41.8	+1.0
CICH				i S	Sn	00 55 07.0	+2.1
SFDO	San Fernando	2.02	162	eP	Pn	00 54 42.0	+0.5

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*NEIC **28** 00:57:50.4,32.73S×71.67W,h34^{km},ML3.1(GUC),After GUC.*
GUC 28 00:57:50.4±0.8**,32.73S**×**71.67W,h34**^{km}±3^{km}**,MD4.0, ML3.1,3D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IHA	Instituto Hidr	0.30	176	⇓iP	P	00 57 58.0	-0.1
IHA				i S	S	00 58 03.3	-0.3
LCCH	Las Cruces	0.75	174	eP	P	00 58 04.6	+0.1
LCCH				i S	S	00 58 15.0	+0.2
JACH	Jahuel	0.91	87	i P	P	00 58 07.1	+0.4
JACH				i S	S	00 58 19.2	+0.4
PEL	Peldehue	0.92	117	⇓iP	P	00 58 08.0	+1.0
PEL				i S	S	00 58 20.8	+1.6
PEL				AMP		00 58 24.1	
	comp=N,1μm,0.3s						
RCDM	Rinconada Maip	1.05	137	eP	P	00 58 09.2	+0.4
RCDM				i S	S	00 58 24.1	+1.7
RCDM				AMP		00 58 26.6	
	comp=N,813nm,0.4s						
TACH	Talagante	1.11	147	eP	P	00 58 10.5	+0.9
TACH				i S	S	00 58 24.9	+1.1
STL	Santa Lucia	1.11	130	eP	P	00 58 10.0	+0.3
STL				i S	S	00 58 25.6	+1.6
STL				AMP		00 58 28.1	
	comp=N,410nm,0.3s						
DSCH	Colegio Aleman	1.14	126	eP	P	00 58 11.4	+1.4
DSCH				i S	S	00 58 26.8	+2.1
DSCH				AMP		00 58 28.8	
	comp=N,2μm,0.3s						
CLCH	Cerro Calan	1.16	125	eP	P	00 58 11.3	+1.0
CLCH				i S	S	00 58 27.0	+1.8
CLCH				AMP		00 58 33.4	
	comp=E,1μm,0.4s						
ANTU	Antumapu	1.21	134	eP	P	00 58 12.5	+1.5
ANTU				i S	S	00 58 28.8	+2.4
ANTU				AMP		00 58 32.3	
	comp=N,957nm,0.4s						
FSR	Penalolen	1.21	128	eP	P	00 58 11.8	+0.7
FSR				i S	S	00 58 27.9	+1.3
FSR				AMP		00 58 33.5	
	comp=N,644nm,0.4s						
LNV	Longovilo	1.24	170	eP	P	00 58 11.9	+0.4
FCH	Farellones	1.30	118	⇓iP	P	00 58 13.9	+1.5
FCH				i S	S	00 58 31.5	+2.7
FCH				AMP		00 58 33.3	
	comp=E,761nm,0.2s						
PCH	Pirque	1.31	133	eP	P	00 58 13.9	+1.4
CHCH	Chadas Angostu	1.47	145	eP	P	00 58 16.8	+1.9
CHCH				i S	S	00 58 35.5	+2.4
CACH	El Canelo	1.65	148	eP	P	00 58 19.4	+2.0
CACH				i S	S	00 58 41.0	+3.4
CICH	Cipreses	1.90	147	eP	P	00 58 22.8	+1.9
SFDO	San Fernando	1.96	164	eP	P	00 58 22.8	+1.0
TLL	Tololo Astrono	2.66	16	eP	P	00 58 32.8	+1.0

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*NEIC **28** 01:27:34.8,32.71S×71.73W,h33^{km},ML3.1(GUC),After GUC.*
GUC 28 01:27:34.8±0.7**,32.71S**×**71.73W,h33**^{km}±4^{km}**,MD4.0, ML3.1,2C-2D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IHA	Instituto Hidr	0.33	166	eP	P	01 27 42.4	-0.5
IHA				i S	S	01 27 48.9	+0.3
LCCH	Las Cruces	0.78	170	⇑iP	P	01 27 49.3	0.0
LCCH				i S	S	01 28 00.1	+0.1
JACH	Jahuel	0.96	89	⇑iP	P	01 27 52.1	+0.2
JACH				i S	S	01 28 05.6	+1.0
PEL	Peldehue	0.98	117	eP	P	01 27 52.6	+0.3
PEL				AMP		01 28 09.1	
	comp=N,2μm,0.3s						
RCDM	Rinconada Maip	1.10	135	⇓iP	P	01 27 54.5	+0.6
RCDM				AMP		01 28 13.3	
	comp=N,691nm,0.1s						
TACH	Talagante	1.16	145	eP	P	01 27 55.1	+0.4
TACH				i S	S	01 28 10.0	+0.5
CLCH	Cerro Calan	1.22	125	eP	P	01 27 56.4	+0.9
CLCH				i S	S	01 28 12.9	+1.8
CLCH				AMP		01 28 17.2	
	comp=N,774nm,0.5s						
ANTU	Antumapu	1.26	133	eP	P	01 27 57.0	+0.8
ANTU				AMP		01 28 17.9	
	comp=N,898nm,0.6s						
FSR	Penalolen	1.27	128	eP	P	01 27 57.2	+0.9
FSR				AMP		01 28 18.9	
	comp=N,514nm,0.6s						
LNV	Longovilo	1.27	168	eP	P	01 27 56.5	+0.1
FCH	Farellones	1.36	117	⇓iP	P	01 27 59.0	+1.3
FCH				i S	S	01 28 17.3	+2.6
FCH				AMP		01 28 18.4	
	comp=E,656nm,0.3s						
CHCH	Chadas Angostu	1.52	144	eP	P	01 28 01.2	+1.3
CACH	El Canelo	1.69	146	eP	P	01 28 04.3	+1.9
CICH	Cipreses	1.95	146	eP	P	01 28 07.4	+1.4

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*NEIC **28** 01:32:15.5,51.78N×174.11W,h41^{km},ML3.2(AEIC),After AEIC.*
*IDC **28** 01:32:30.9±27.0,51.88N×169.20W,mb3.4/2,mb1 3.9/3, mb1mx3.5/22,ML4.1/1,MS3.0/1,Ms1 3.0/1,ms1mx2.1/19, Error ellipse: s-maj=512.0km s-min=73.3km az=86.0*
ISC 28 01:32:14.7±1.2**,52.0N**±0.3×**174.1W**±0.1**,h64**^{km}±9^{km}**,n13,** σ**0**^{s}**59**/18**,mb3.3**/2**,Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATKA	Atka Island	0.20	346	P	P	01 32 24.5	-0.1
ATKA				S	S	01 32 32.3	+0.4
GSIG	Igitkin Island	1.12	269	P	P	01 32 34.1	-0.6
GSIG				S	S	01 32 48.7	-0.9
GSMY	Great Sitkin M	1.20	272	P	P	01 32 35.5	-0.3
GSMY				S	S	01 32 50.4	-1.1
GSTR	Great Sitkin T	1.20	275	P	P	01 32 36.1	+0.3
GSTD	Great Sitkin T	1.25	273	P	P	01 32 36.5	-0.1
GSTD				S	S	01 32 52.2	-0.6
ADAG	Mount Adagdak	1.54	270	P	P	01 32 40.9	+0.4
ADAG				S	S	01 33 00.6	+1.0
KIWB	Kanaga Island	1.89	266	P	P	01 32 45.6	+0.3
KIWB				S	S	01 33 09.0	+1.2
KIKV	Kanaga Island	1.89	267	P	P	01 32 46.0	+0.7
KIMD	Kanaga Island	1.95	264	P	P	01 32 46.0	-0.1
ILAR	Eielson Array	18.95	37	P	P	01 36 32.9	+0.1
	0.3nm,0.3s,baz=219,slow=9.4,SNR=15						
INK	Inuvik	25.28	35	LR	LR	01 47 03.1	
	comp=Z,32nm,18.5s,baz=44,slow=37						
PDAR	Pinedale Array	43.33	76	P	P	01 40 11.6	-0.1
	0.2nm,0.5s,mb3.1,baz=303,slow=4.5,SNR=3.8						
TXAR	Lajitas Array	55.69	85	P	P	01 41 46.0	-0.4
	0.5nm,0.8s,mb3.6,baz=299,slow=5.0,SNR=5.9						

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*BJI **28** 01:33:40.8,24.16S×67.28W,h187^{km},mB5.0*
*NEIC **28** 01:33:41.8±0.5,23.99S×66.74W,h181^{km}±5^{km},mb4.5/16, Error ellipse: s-maj=7.4km s-min=5.7km az=71.0*
*SYO **28** 01:33:41.4,23.92S×66.48W,h180^{km},MB4.5*
*GUC **28** 01:33:42.2±1.3,24.03S×67.31W,h242^{km}±24^{km},MD4.1, ML4.8*
*IDC **28** 01:33:44.4±1.7,23.87S×66.67W,h202^{km}±14^{km},mb4.0/12, mb1 4.2/15,mb1mx4.2/17,Error ellipse: s-maj=17.1km s-min=10.0km az=60.0*
ISC 28 01:33:41.0±0.5**,24.04S**±0.03×**66.80W**±0.05**,h189**^{km}±5^{km}**, h175**^{km}±1.8^{km}**:pP-P,n87,**σ**1**^{s}**16**/84**,mb4.5**/27**,9C-3D,Salta Province**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	Limon Verde	2.41	306	⇑iP	P	01 34 26.4	+2.7
LVC				i S	S	01 34 58.5	+1.9
LVC				AMP		01 34 60.0	
	comp=E,3μm,0.5s						
LVC	Limon Verde	2.41	306	ePn	P	01 34 26.0	+2.3
LVC				eS	S	01 34 58.0	+1.4
ANCH	Antofagasta	3.33	275	⇑iP	P	01 34 33.5	-1.1
ANCH				i S	S	01 35 12.9	-3.2
CPN1	Cerro Paranal	3.34	259	⇑iP	P	01 34 36.6	+1.8
CPN1				i S	S	01 35 16.3	-0.1
CPCH	Copiapo	4.60	223	⇑iP	P	01 34 50.5	-0.3
CPCH				i S	S	01 35 44.0	-0.8
VACH	Vallenar	5.75	217	⇑iP	P	01 35 05.7	+0.1
VACH				i S	S	01 36 10.2	-1.1
LSCH	La Serena	7.06	213	i P	P	01 35 24.1	+1.2
LSCH				i S	S	01 36 40.1	-2.1
TLL	Tololo Astrono	7.07	209	i P	P	01 35 23.0	+0.1
TLL				i S	S	01 36 41.3	-1.1
LPAZ	La Paz	7.81	351	P	P	01 35 33.8	+1.1
	comp=E,4.1nm,0.3s,baz=169,slow=9.3,SNR=48						
LPAZ				S	S	01 37 00.2	+0.2
	comp=E,1.5nm,0.3s,baz=243,slow=24,SNR=4.3						
LPAZ	La Paz	7.81	351	P	P	01 35 33.8	+1.1
LPAZ				S	S	01 37 00.2	+0.2
ARE	Arequipa	8.73	329	eP	P	01 35 45.0	+0.3
ARE				eS	S	01 37 16.0	-5.4
CPUP	Villa Florida	8.87	107	P	P	01 35 47.5	+0.9
	comp=E,0.9nm,0.3s,baz=306,slow=11,SNR=28						
TRQA	Tornquist	14.56	165	eP	P	01 36 58.7	-0.6
	comp=E,9.9nm,0.6s						
NNA	Nana	15.32	320	eP	P	01 37 09.3	+0.4
	comp=E,24nm,0.7s						
SAML	Samuel	15.40	14	eP	P	01 37 08.0	-1.9
	comp=E,11nm,0.6s						
BDFB	Brasilia	19.53	68	P	P	01 37 55.3	-0.7
	comp=E,11nm,0.3s,baz=245,slow=9.4,SNR=209						
BAO	Brasilia Array	19.55	68	eP	P	01 37 55.9	-0.3
CAM4	Nova Friburgo	22.33	91	eP	P	01 38 23.1	-0.6
CAM4				i		01 38 25.3	
CAM4				i		01 38 32.7	
CAM4				i		01 38 42.1	
CAM4	Nova Friburgo	22.33	91	eP	P	01 38 23.1	-0.6
CAM4				i		01 38 25.3	
CAM4				i		01 38 32.6	
CAM4				i		01 38 42.1	
OTAV	Otavalo	26.65	333	P	P	01 39 03.7	-0.7
	comp=E,9.0nm,0.9s,mb4.4						
USHA	Ushuaia	30.78	182	P	P	01 39 43.0	+2.3
	comp=E,3.7nm,0.7s,mb4.3,baz=38,slow=8.1,SNR=2.8						
JTS	JuntasAbangare	38.46	330	P	P	01 40 47.3	+0.9
	comp=E,9.9nm,0.6s,mb4.6,baz=286,slow=23,SNR=8.7						
JTS	JuntasAbangare	38.46	330	P	P	01 40 46.8	+0.4
	comp=E,11nm,0.6s,mb4.7						
SJG	San Juan	41.90	1	P	P	01 41 11.3	-3.3
	comp=E,4.2nm,0.3s,mb4.5,baz=322,slow=15,SNR=4.7						
SJG	San Juan	41.90	1	P	P	01 41 11.3	-3.4
TEIG	Tepich	48.72	333	P	P	01 42 07.1	-1.4
	comp=E,0.0nm,0.3s,baz=140,slow=24,SNR=2.1						
VNA3	Neumayer Olymp	57.05	161	⇑iP	P	01 43 11.7	+2.6
VNA3				e	pP	01 43 52.9	+0.6
VNA3				e		01 44 01.8	
VNA3				e		01 44 10.2	
VNA3				e		01 45 21.6	
VNA1	Neumayer--Stat	57.25	160	⇑iP	P	01 43 13.3	+2.9
VNA1				e	pP	01 43 53.0	-0.7
VNA1				e		01 44 02.3	
VNA1				e		01 44 10.6	
VNA1				e		01 45 23.2	
VNA2	Neumayer--Watz	57.62	160	⇓iP	P	01 43 15.8	+2.8
VNA2				e		01 45 20.1	
SNAA	Sanae	59.25	161	P	P	01 43 24.7	+0.3
	comp=E,1.7nm,0.7s,mb4.0,baz=279,slow=6.4,SNR=36						
SNAA	Sanae	59.25	161	⇑iP	P	01 43 24.1	-0.2
SNAA				e	pP	01 44 04.9	-3.1
SNAA				e		01 44 13.0	
SNAA				e		01 44 20.8	
SNAA				e		01 45 34.8	
SWET	Sewanee	61.66	342	eP	P	01 43 38.9	-2.2
JCT	Junction City	62.78	328	eP	P	01 43 47.1	-1.5
	comp=E,16nm,0.6s,mb5.0						
TXAR	Lajitas Array	63.82	324	P	P	01 43 54.7	-0.7
	comp=E,2.5nm,0.7s,mb4.2,baz=153,slow=8.4,SNR=37						
FVM	French Village	65.57	340	eP	P	01 44 04.5	-2.0
	comp=E,17nm,0.6s,mb5.1						
CCM	Cathedral Cave	65.90	339	eP	P	01 44 06.8	-1.8
	comp=E,27nm,0.6s,mb5.3						
QSPA	South Pole Qui	66.16	180	eP	P	01 44 11.2	+1.5
	comp=E,2.3nm,0.6s,mb4.2						
CLNB	Carlsbad	66.25	326	eP	P	01 44 11.1	+0.1
GDL2	Guadalupe Moun	66.45	326	eP	P	01 44 11.5	-0.7
LIC	Lamto	67.28	72	eP	P	01 44 15.6	-2.1
	comp=E,52nm,1.6s,mb5.1						
TIC	Toumodi	67.49	71	eP	P	01 44 17.6	-1.4
	comp=E,100nm,1.5s,mb5.4						
KIC	Kosan Boka	67.59	72	eP	P	01 44 17.6	-2.1
	comp=E,30nm,0.5s,mb5.3						
DBIC	Dimbokro	67.64	71	P	P	01 44 18.2	-1.8
	comp=E,4.6nm,0.5s,mb4.5,baz=221,slow=7.5,SNR=17						
LPM	Los Pinos Moun	69.28	325	eP	P	01 44 30.0	+0.3
ANMO	Albuquerque	69.69	326	eP	P	01 44 32.5	+0.3
	comp=E,5.5nm,0.6s,mb4.5						
SDCO	Great Sand Dun	71.42	328	eP	P	01 44 43.0	+0.5
	comp=E,6.4nm,0.6s,mb4.5						
RW3	Ridgway	72.88	327	eP	P	01 44 52.3	+1.1
SYO	Syowa Base	73.44	159	⇓P	P	01 44 54.5	+0.6
SYO	Syowa Base	73.44	159	⇑PcP	PcP	01 45 08.3	-0.9
PV10	Paradox Valley	73.65	327	eP	P	01 44 55.3	-0.3
NEN	Nelson	74.77	321	eP	P	01 45 02.8	+0.7
SRU	San Rafael	74.96	326	eP	P	01 45 03.2	+0.1
MSU	Marysvale	75.37	325	eP	P	01 45 06.2	+0.8
MVU	Marysvale	75.38	325	eP	P	01 45 05.8	+0.2
	comp=E,4.9nm,0.9s,mb4.1						
TPNV	Topopah Spring	76.49	321	eP	P	01 45 12.9	+1.2
	comp=E,4.6nm,0.6s,mb4.3						
JLU	Jordanelle	76.55	327	eP	P	01 45 12.3	+0.3
PDAR	Pinedale Array	77.28	329	P	P	01 45 16.1	+0.2
	comp=E,1.5nm,0.5s,mb3.9,baz=127,slow=7.5,SNR=20						
HWUT	Hardware Ranch	77.36	327	eP	P	01 45 15.8	-0.7
	comp=E,5.2nm,0.6s,mb4.3						
ULM	Lac du Bonnet	78.32	341	P	P	01 45 20.9	-0.7
	comp=E,8.0nm,0.6s,mb4.5,baz=153,slow=6.4,SNR=7.2						
REDW	Red Top Meadow	78.34	329	eP	P	01 45 21.7	-0.1
LOHW	Long Hollow	78.42	329	⇓eP	P	01 45 22.6	+0.4
SCHQ	Schefferville	78.55	360	P	P	01 45 22.0	-0.7
	comp=E,3.4nm,0.7s,mb4.1,baz=217,slow=14,SNR=5.5						
IMW	Indian Meadow	78.79	329	eP	P	01 45 24.9	+0.7
DGMT	Dagmar	79.57	336	eP	P	01 45 28.4	+0.1
	comp=E,26nm,0.7s,mb5.0						
GCMT	Greycliff	79.67	331	eP	P	01 45 29.4	+0.6
HLID	Hailey	80.22	327	eP	P	01 45 32.9	+1.0
	comp=E,9.7nm,1.0s,mb4.4						
MCMT	McKenzie Canyo	80.39	329	eP	P	01 45 33.9	+1.2
HRY	Holter Researc	81.33	330	eP	P	01 45 38.5	+0.8
MAW	Mawson	81.34	163	eP	P	01 45 38.7	+1.4
	comp=E,1.6nm,0.6s,mb3.8						
MAW	Mawson	81.34	163	P	P	01 45 38.4	+1.1
	comp=E,2.5nm,0.7s,mb4.0,baz=235,slow=5.5,SNR=12						
DPW	Davenport	85.16	328	eP	P	01 45 57.1	+0.1
ESDC	Sonseca Array	86.30	43	P	P	01 46 03.6	+0.8
	comp=E,0.5nm,0.6s,mb3.5,baz=270,slow=6.4,SNR=4.3						
NLW	Nelson Butte	86.34	327	eP	P	01 46 03.0	+0.3
YKA	Yellowknife Ar	94.23	340	P	P	01 46 39.0	-0.1
	comp=E,2.7nm,0.5s,mb4.6,baz=135,slow=4.6,SNR=32						
ASAR	Alice Springs	128.50	204	PKP	PKPdf	01 52 27.1	+1.1
	comp=E,0.8nm,0.5s,baz=148,slow=2.1,SNR=12						

WRA	**Warramunga Arr**	131.67	207	PKP	PKPdf	01 52 33.6	+1.4
	comp=E,0.5nm,0.3s,baz=163,slow=1.6,SNR=9.8						
WRA				SKPbc		01 55 40.0	
	comp=E,3.2nm,0.8s,baz=154,slow=3.5,SNR=17						
WRAB	**Tennant Creek**	131.68	207	ePKPdf	PKPdf	01 52 33.8	+1.6
ZRNK	**Zerenda**	135.99	37	PKPdf	PKPdf	01 52 40.4	+1.1
ZAL	**Zalesovo**	143.34	28	PKP	PKPdf	01 52 52.8	+0.5
	comp=E,1.3nm,0.4s,baz=49,slow=2.1,SNR=4.4						
MKAR	**Makanchi Array**	146.44	40	PKPbc	PKPbc	01 53 00.4	+1.0
	comp=E,2.2nm,0.6s,baz=305,slow=3.3,SNR=14						
HYB	**Hyderabad**	146.99	95	iPKP	PKPdf	01 53 06.0	+6.4
WMQ	**Urumqi**	151.26	40	ePKP	PKPdf	01 53 08.5	+2.9
SONM	**Songino Array**	155.65	11	PKPab	PKPab	01 53 41.1	-0.1
	comp=E,0.3nm,0.5s,baz=304,slow=4.5,SNR=4.4						
CN2	**Changchun**	157.87	336	ePKP	PKPdf	01 53 18.0	+3.5
LZH	**Lanzhou**	165.53	32	ePKP	PKPdf	01 53 23.5	+0.8
LZH				APKP		01 54 11.5	
LZH				XPKP		01 54 30.0	
CMAR	**Chiang Mai Arr**	165.60	110	PKPab	PKPab	01 54 25.2	+0.2
	comp=E,2.6nm,0.9s,baz=255,slow=4.8,SNR=7.9						
NJ2	**Nanjing**	170.59	329	ePKP	PKPdf	01 53 29.0	+2.9

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*NEIC **28** 01:43:02.4, 32.70S×71.75W, h15^{km}, ML3.4(GUC), After GUC.*

GUC 28 01:43:02.4±0.7**, 32.70S×71.75W, h15^{km}**±3^{km}**, MD3.7, ML3.4, 5C-3D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LCCH	**Las Cruces**	0.79	169	⇑iP	Pb	01 43 16.9	-0.4
LCCH				iS	Sb	01 43 27.3	-0.3
JACH	**Jahuel**	0.98	89	⇑iP	Pb	01 43 19.6	-0.9
JACH				iS	Sb	01 43 33.1	+0.2
PEL	**Peldehue**	1.00	117	iP	Pb	01 43 20.4	-0.5
PEL				iS	Sb	01 43 34.1	+0.4
PEL				AMP		01 43 38.2	
	comp=N,2µm,0.3s						
RCDM	**Rinconada Maip**	1.12	135	iP	Pb	01 43 22.0	-0.9
RCDM				iS	Sb	01 43 36.6	-0.5
RCDM				AMP		01 43 45.1	
	comp=E,757nm,0.1s						
TACH	**Talagante**	1.17	145	⇑iP	Pb	01 43 23.0	-0.9
DSCH	**Colegio Aleman**	1.22	126	iP	Pb	01 43 23.8	-0.8
DSCH				iS	Sb	01 43 39.9	0.0
DSCH				AMP		01 43 40.9	
	comp=E,2µm,0.3s						
CLCH	**Cerro Calan**	1.24	125	⇓iP	Pb	01 43 24.1	-0.9
CLCH				iS	Sb	01 43 40.5	0.0
CLCH				AMP		01 43 45.6	
	comp=E,1µm,0.3s						
ANTU	**Antumapu**	1.28	133	⇑iP	Pb	01 43 25.6	-0.1
ANTU				iS	Sb	01 43 42.6	+0.9
ANTU				AMP		01 43 46.2	
	comp=E,926nm,0.5s						
FCH	**Farellones**	1.38	118	⇓iP	Pn	01 43 26.3	-1.0
FCH				iS	Sb	01 43 44.8	+0.2
FCH				AMP		01 43 46.9	
	comp=E,587nm,0.3s						
CMCH	**Combarbala**	1.65	23	⇓iP	Pn	01 43 30.4	-0.7
CMCH				iS	Sn	01 43 51.8	-0.2
CMCH				AMP		01 43 55.8	
	comp=E,3µm,0.5s						
CACH	**El Canelo**	1.71	146	eP	Pn	01 43 32.1	+0.1
CACH				iS	Sn	01 43 55.4	+1.7
CICH	**Cipreses**	1.96	146	⇑iP	Pn	01 43 35.5	-0.1
CICH				iS	Sn	01 44 01.0	+0.9
SFDO	**San Fernando**	2.01	162	iP	Pn	01 43 36.5	+0.2
SFDO				iS	Sn	01 44 01.8	+0.5
TLL	**Tololo Astrono**	2.65	18	iP	Pn	01 43 46.5	+1.2
TLL				iS	Sn	01 44 19.1	+1.7
TLL				AMP		01 44 31.8	
	comp=E,342nm,0.5s						

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*IDC **28** 01:47:48.6±1.0, 31.89S×178.10W, mb4.3/6, mb1 4.4/9, mb1mx4.3/16, ML3.9/3, Error ellipse: s-maj=40.2km s-min=23.2km az=162.0*

*NEIC **28** 01:47:52.3±4.9, 31.82S×178.13W, h25^{km}±35^{km}, mb4.6/8, Error ellipse: s-maj=14.7km s-min=11.7km az=173.0*

ISC 28 01:47:50.8±0.6**, 31.80S**±0.09×**178.1W**±0.1**, h27^{km}, h27^{km}**±.8^{km}**:pP-P, n36, σ1^{s}03**/27**, mb4.5**/10**, 2C-3D, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	**Raoul Island**	2.55	4	ePn	Pn	01 48 31.9	+0.5
URZ	**Urewera**	7.53	210	Pn	Pn	01 49 35.4	-6.4
	2.1nm,0.3s,baz=240,slow=8.2,SNR=9.7						
URZ				Sn	Sn	01 50 57.8	-9.3
	3.7nm,0.3s,baz=320,slow=22,SNR=7.3						
RPZ	**Rata Peaks**	14.63	213	Pn	P	01 51 09.5	-8.4
	0.5nm,0.3s,baz=49,slow=11,SNR=2.8						
RPZ				Sn	S	01 53 40.6	-19
	0.4nm,0.3s,baz=37,slow=18,SNR=3.8						
RAR	**Rarotonga**	19.50	62	P	P	01 52 18.0	-0.9
	0.4nm,0.3s,baz=118,slow=24,SNR=2.6						
CTA	**Charters Tower**	33.93	281	eP	P	01 54 35.8	+1.8
	4.4nm,0.7s,mb4.5						
CTA	**Charters Tower**	33.93	281	P	P	01 54 35.4	+1.4
	5.1nm,0.7s,mb4.6,baz=100,slow=9.5,SNR=8.7						
CTAO	**Charters Tower**	33.93	281	eP	P	01 54 35.0	+1.0
	7.5nm,0.7s,mb4.7						
STKA	**Stephens Creek**	34.07	259	eP	P	01 54 35.5	+0.4
	5.7nm,1.8s,mb4.2						
STKA	**Stephens Creek**	34.07	259	P	P	01 54 36.0	+0.9
	2.4nm,0.7s,mb4.3,baz=133,slow=6.2,SNR=4.0						
ASAR	**Alice Springs**	42.93	268	P	P	01 55 49.0	-0.1
	2.9nm,0.6s,mb4.2,baz=104,slow=7.4,SNR=29						
ASPA	**Alice Springs**	42.94	268	eP	P	01 55 50.2	+1.0
WB2	**Warramunga Arr**	44.04	274	eP	P	01 55 57.2	-1.0
WB2				e		01 56 08.8	
WRAB	**Tennant Creek**	44.04	274	eP	P	01 55 57.8	-0.4
	12nm,0.6s,mb4.8						
WRA	**Warramunga Arr**	44.05	274	P	P	01 55 58.3	0.0
	4.9nm,0.7s,mb4.3,baz=114,slow=7.8,SNR=13						
FORT	**Forrest**	45.59	256	eP	P	01 56 08.7	-1.7
	22nm,0.7s,mb5.2						
SBA	**Scott Base**	46.64	184	P	P	01 56 17.0	-1.1
	1.9nm,0.6s,mb4.2						
FITZ	**Fitzroy Crossi**	52.25	271	eP	P	01 57 01.4	-0.7
	2.3nm,0.9s,mb4.1						
FITZ	**Fitzroy Crossi**	52.25	271	P	P	01 57 01.1	-1.0
	1.5nm,0.5s,mb4.2,baz=174,slow=1.6,SNR=6.3						
QSPA	**South Pole Qui**	58.31	180	eP	P	01 57 46.1	+1.0
	13nm,0.7s,mb5.1						
MAW	**Mawson**	70.96	201	P	P	01 59 07.3	-0.1
	0.7nm,0.7s,mb3.7,baz=130,slow=5.5,SNR=2.8						
SNAA	**Sanae**	76.76	178	e	pP	01 59 48.9	-0.6
SNAA	**Sanae**	76.76	178	⇓iP	P	01 59 40.0	-0.9
SNAA				e	pP	01 59 48.9	-0.6
VNA3	**Neumayer Olymp**	76.92	176	e	pP	01 59 51.9	+1.5
VNA3	**Neumayer Olymp**	76.92	176	⇓iP	P	01 59 42.9	+1.1
VNA3				e	pP	01 59 51.9	+1.5
VNA2	**Neumayer--Watz**	77.35	177	e	pP	01 59 55.8	+3.0
VNA2	**Neumayer--Watz**	77.35	177	⇑iP	P	01 59 46.9	+2.7
VNA2				e	pP	01 59 55.8	+3.0
VNA1	**Neumayer--Stat**	77.58	177	⇓i	P	01 59 52.2	+6.8
VNA1	**Neumayer--Stat**	77.58	177	e	pP	02 00 00.0	+5.9
VNA1	**Neumayer--Stat**	77.58	177	⇑iP	P	01 59 52.2	+6.8
VNA1				e	pP	02 00 00.0	+5.9
ARCES	**ARCESS Array B**	139.93	347	PKhKP		02 07 11.2	
	1.1nm,0.9s,baz=72,slow=2.9,SNR=4.3						
ARCES				PKP	PKPdf	02 07 18.3	-2.4
	1.1nm,0.7s,slow=1.8,SNR=4.5						
ARCES	**ARCESS Array B**	139.93	347	PKP		02 07 11.2	
ARCES				PKP	PKPdf	02 07 18.3	-2.4
KAF	**Kangasniemi**	145.82	340	epkp	PKPdf	02 07 27.4	-3.6
	3.3nm,0.8s,baz=70,slow=3.1						
FINES	**FINESS Array B**	146.41	339	PKPbc	PKPbc	02 07 30.6	+2.1
	3.7nm,0.6s,baz=45,slow=4.1,SNR=19						
NOA	**NORSAR Array B**	150.11	351	PKPab	PKPab	02 07 46.8	+0.4
	2.5nm,0.9s,baz=18,slow=2.8,SNR=4.6						
AKASG	**Malin Array Be**	152.32	321	PKPbc	PKPdf	02 07 45.5	+3.8
	0.3nm,0.4s,baz=45,slow=2.4,SNR=4.1						
BRTR	**Keskin Array B**	153.13	296	PKPbc	PKPdf	02 07 47.7	+4.6
	0.8nm,0.5s,baz=124,slow=4.1,SNR=0.7						

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*PDG **28** 01:52:27.4±0.3, 42.55N×20.95E, h5^{km}±1^{km}*

*NEIC **28** 01:52:27.4, 42.55N×20.95E, h5^{km}, ML3.5(CSEM), ML3.4(PDG), After PDG.*

*TIR **28** 01:52:27.1, 42.56N×20.82E, h19^{km}, Ml3.0*

*THE **28** 01:52:28.3, 42.43N×21.08E, h10^{km}, ML3.8*

*BEO **28** 01:52:28.2±1.0, 42.54N×20.95E, h17^{km}±2^{km}*

*SOF **28** 01:52:29.9, 42.46N×21.24E, h19^{km}, MD3.5*

ISC 28 01:52:26.4±0.3**, 42.51N**±0.01×**20.97E**±0.02**, h6^{km}**±2^{km}**, n88, σ1^{s}15**/134**, 23C-10D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKO	**Skopje**	0.64	146	⇑iPg	Pg	01 52 38.1	-1.2
SKO				iSg	Sg	01 52 46.2	-1.6
SKO				Smax		01 52 47.0	
	comp=E,5.9nm,0.4s						
SKO				Smax		01 52 47.0	
	comp=N,6.6nm,0.4s						
SKO				Smax		01 52 52.0	
	comp=Z,0.8nm,0.4s						
BCI	**Bajram Curri**	0.68	258	iPg	Pg	01 52 39.3	-0.7
BCI				iSg	Sg	01 52 52.3	+3.2
BARS	**Barje**	0.71	63	⇑iPg	Pg	01 52 41.6	+1.0
BARS				Sg	Sg	01 52 51.4	+1.4
PVY	**Plav**	0.74	277	⇑iPg	Pg	01 52 40.3	-0.9
PVY				eSg	Sg	01 52 52.2	+1.1
IVA	**Berane**	0.87	295	⇑iPg	Pg	01 52 43.0	-0.7
IVA				eSg	Sg	01 52 55.9	+0.5
PUK	**Puka**	0.92	240	iPg	Pg	01 52 44.3	-0.6
PUK				iSg	Sg	01 52 58.8	+1.6
SDA	**Shkodra**	1.18	248	iPg	Pg	01 52 50.1	+0.1
SDA				iSg	Sg	01 53 06.7	+1.0
TTG	**Podgorica**	1.26	267	⇑iPg	Pg	01 52 50.2	-1.5
TTG				eSg	Sg	01 53 09.9	+1.4
LACI	**Lac**	1.28	227	iPg	Pg	01 52 51.2	-0.8
LACI				iSg	Sg	01 53 09.3	+0.3
NVSS	**Nova Varos 2**	1.36	318	⇓iPg	Pg	01 52 50.9	-2.8
NVSS				Sg	Sg	01 53 07.5	-4.4
ULC	**Ulcinj**	1.39	247	⇓iPg	Pg	01 52 53.2	-0.9
ULC				eSg	Sg	01 53 15.0	+2.4
GRUS	**Gruza**	1.39	353	⇓iPn	Pn	01 52 53.7	+1.3
GRUS				Sn	Sn	01 53 13.5	+2.2
OHR	**Ohrid**	1.40	185	iPn	Pn	01 52 51.7	-0.9
OHR				⇑i		01 52 52.5	
OHR				iSg	Sg	01 53 10.4	-2.7
PLE	**Pljevlja**	1.42	306	⇑iPg	Pg	01 52 53.2	-1.5
PLE				eSg	Sg	01 53 14.4	+0.8
TIR	**Tirane**	1.42	216	iPn	Pn	01 52 52.7	-0.1
TIR				iSn	Sn	01 53 12.6	+0.6
PRZA	**Preza**	1.45	222	ipn?	Pn	01 52 56.0	+2.8
BOLS	**Boljevac**	1.51	28	⇑iPg	Pg	01 52 56.6	0.0
BOLS				Sg	Sg	01 53 14.9	-1.8
BIA	**Bitola**	1.51	170	⇑iPn	Pn	01 52 53.2	-0.9
BIA				i		01 52 55.7	
BIA				⇑iSg	Sg	01 53 13.1	-3.6
VTS	**Vitosha**	1.66	86	iP	Pn	01 52 57.0	+0.7
UPM	**Unac-Piva**	1.66	295	⇑iPn	Pn	01 52 58.1	+1.8
UPM				eSn	Sn	01 53 21.8	+3.6
VAY	**Valandovo**	1.69	134	⇑iPn	Pn	01 52 57.2	+0.6
VAY				i		01 52 58.6	
VAY				i		01 53 00.6	
VAY				iSg	Sg	01 53 19.5	-3.1
KKB	**Krupnik**	1.70	111	iP	Pn	01 52 58.0	+1.2
DIVS	**Divcibare**	1.74	336	⇓iPn	Pn	01 52 58.4	+1.0
DIVS				Sg	Sg	01 53 21.4	-3.0
FNA	**Florina**	1.75	170	ePb	Pb	01 52 57.4	-1.2
	comp=Z,16nm,0.5s						
FNA				eSb	Sb	01 53 21.4	+0.7
SVIS	**Svilajnac**	1.80	6	⇑iPn	Pn	01 52 58.9	+0.6
SVIS				Sn	Sn	01 53 21.7	+0.1
BRY	**Bratogost**	1.83	283	⇑iPn	Pn	01 53 00.3	+1.6
BRY				eSn	Sn	01 53 26.1	+3.7
MMB	**Musomiste**	2.25	113	iP	Pn	01 53 05.5	+0.7
BEO	**Belgrade**	2.34	351	⇓iPn	Pn	01 53 12.3	+6.2
BEO				Sg	Sg	01 53 43.7	-0.7
THE	**Thessaloniki**	2.40	141	ePn	Pn	01 53 07.2	+0.3
SRS	**Serrai**	2.41	124	ePn	Pn	01 53 06.9	0.0
SRS				eSn	Sn	01 53 36.7	-0.4
DJES	**Djerdap**	2.41	28	ePn	Pn	01 53 09.9	+2.9
DJES				Sn	Sn	01 53 39.6	+2.5
STON	**Ston**	2.44	280	iPn	Pn	01 53 09.5	+2.1
STON				iSn	Sn	01 53 42.2	+4.4
SOH	**Sokhos**	2.46	132	ePn	Pn	01 53 07.7	0.0
LIT	**Litokhoron**	2.66	154	ePn	Pn	01 53 10.8	+0.2
SRN	**Sarande**	2.72	196	ePn	Pn	01 53 12.9	+1.4
MEV	**Metsovon**	2.73	176	ePn	Pn	01 53 14.5	+3.0
	comp=Z,9.5nm,0.5s						
PLD	**Plovdiv**	2.80	97	iP	Pn	01 53 16.0	+3.4
PVL	**Pavlikeni**	3.29	76	iP	Pn	01 53 21.0	+1.5
PAIG	**Paliouri**	3.29	141	ePn	Pn	01 53 19.1	-0.5
XOR	**Xorichti**	3.56	151	ePn	Pn	01 53 22.6	-0.8
AGG	**Agios Georgios**	3.63	163	ePn	Pn	01 53 24.4	0.0
	comp=Z,3.5nm,0.5s						
AGG				eSn	Sn	01 54 07.6	-0.5
RHK3	**Tenkes**	3.90	331	⇓eP	Pn	01 53 28.4	+0.1
PKSM	**Moragy**	4.06	337	⇓iP	Pn	01 53 30.5	0.0
PKSM				eS	Sn	01 54 17.2	-1.8
ALN	**Alexandroupoli**	4.13	111	ePn	Pn	01 53 31.2	-0.3
RHK1	**Bakonya**	4.14	331	⇓eP	Pn	01 53 31.6	-0.1
RHK1				eS	Sn	01 54 20.0	-1.1
PKS6	**Bocsa**	4.21	347	eP	Pn	01 53 32.4	-0.3
PKSN	**Nyarlorinc**	4.46	350	eP	Pn	01 53 36.7	+0.5
PKS9	**Tamasi**	4.51	336	⇑eP	Pn	01 53 36.9	0.0
SLCN	**Sala Consilina**	4.53	244	ePn	Pn	01 53 38.2	+1.0
SGO	**Sicignano**	4.67	247	ePn	Pn	01 53 39.2	+0.1
SGO				eSn	Sn	01 54 33.8	-0.7
MGR	**Morigerati**	4.71	242	ePn	Pn	01 53 39.7	-0.1
CSSN	**Cassano Irpino**	4.74	252	ePn	Pn	01 53 39.5	-0.7
CII	**Carovilli**	5.02	263	ePn	Pn	01 53 45.6	+1.6
CII				eSn	Sn	01 54 42.2	-0.9
SGG	**Gregorio Mates**	5.04	259	ePn	Pn	01 53 45.1	+0.8
SGG				eSn	Sn	01 54 41.2	-2.5
BOJS	**Bojanci**	5.09	308	ePn	Pn	01 53 45.8	+0.7
CRES	**Cresnjevec ost**	5.17	312	ePn	Pn	01 53 46.2	0.0
PKSG		5.21	340	⇓eP	Pn	01 53 46.6	-0.3
AYVA	**Ayvalik**	5.39	124	P	Pn	01 53 46.8	-2.5
PSZ	**Piszkesteto**	5.46	352	⇑ePn	Pn	01 53 49.9	-0.5
PSZ				eSn	Sn	01 54 50.5	-3.9
PSZ	**Piszkesteto**	5.46	352	⇑iP	Pn	01 53 49.9	-0.5
PSZ				eS	Sn	01 54 50.5	-3.9
VISS	**Visnje**	5.50	309	ePn	Pn	01 53 51.0	+0.1
PTQR	**Pietraquaria**	5.63	268	ePn	Pn	01 53 54.0	+1.2
CEY	**Cerknica**	5.71	307	iPn	Pn	01 53 54.1	+0.3
NRCA	**Norcia**	5.80	276	ePn	Pn	01 53 55.5	+0.4
NRCA				eSn	Sn	01 54 59.3	-3.4
SOI	**Samo**	5.81	222	ePn	Pn	01 53 54.2	-1.0
SOI				eSn	Sn	01 54 58.4	-4.5
LJU	**Ljubljana**	5.82	310	ePn	Pn	01 53 55.5	+0.2
KECS	**Kecovo**	5.99	357	ePN	Pn	01 53 58.1	+0.4
OBKA	**Obir**	6.09	313	⇑iPN	Pn	01 53 59.0	-0.2
OBKA				iSN	Sn	01 55 01.8	-8.2
ARSA	**Arzberg**	6.12	323	⇑iPN	Pn	01 53 59.4	-0.2
ARSA				iSN	Sn	01 55 02.3	-8.5
MNS	**Montasola**	6.13	272	ePn	Pn	01 54 00.4	+0.6
MNS				eSn	Sn	01 55 09.5	-1.6
VYHS	**Vyhne**	6.17	347	ePN	Pn	01 54 00.5	+0.1
VOY	**Vojsko**	6.18	307	ePn	Pn	01 54 00.4	-0.1
VOY				eSn	Sn	01 55 10.4	-1.9
ZST	**Bratislava**	6.31	336	eSN	Sn	01 55 13.0	-2.5
KDAG	**Bornova**	6.32	128	P	Pn	01 54 02.4	0.0
CRVS	**Cervenica-Dubn**	6.41	3	iPN	Pn	01 54 03.8	+0.1
KOLS	**Kolonicke sedl**	6.49	8	ePN	Pn	01 54 05.2	+0.3
ROBS	**Robic**	6.52	308	ePn	Pn	01 54 05.0	-0.2
GMNA	**Gemona**	6.70	307	ePn	Pn	01 54 08.0	+0.2
PTCC	**Patocco-Chiusa**	6.70	308	ePn	Pn	01 54 07.4	-0.3
SFI	**Santa Sofia**	6.81	285	ePn	Pn	01 54 10.2	+0.9
KBA	**Koelnbreinsper**	7.09	313	⇑iPN	Pn	01 54 12.2	-1.1
KBA				iSN	Sn	01 55 26.9	-8.2
FVI	**Forni Avoltri**	7.13	308	ePn	Pn	01 54 14.0	+0.1
MOA	**Molln**	7.14	321	⇑iPN	Pn	01 54 13.8	-0.1
MOA				iSN	Sn	01 55 27.5	-8.7
ESKT	**Eskisehir**	8.05	108	P	P	01 54 27.1	+0.5
WTTA	**Wattenberg**	8.15	309	⇓iPN	P	01 54 26.6	-1.5
WTTA				iSN	Sn	01 55 52.7	-8.9
SQTA	**Sankt Quirin**	8.38	308	⇑iPN	P	01 54 29.9	-1.4
SQTA				iSN	Sn	01 55 57.9	-9.4
KHC	**Kasperske Hory**	8.39	325	ePN	P	01 54 32.2	+0.7
KHC				ex	x	01 54 41.0	
KHC				ePG	Px	01 55 15.0	
KHC				ex	x	01 56 00.2	
KHC				ex	x	01 56 22.5	
KHC				ex	x	01 57 14.0	
DAVA	**Damuels**	9.20	305	⇑iPN	P	01 54 41.5	-1.2
DAVA				iSN	Sn	01 56 18.9	-8.8

GUC 28 01:53:14.0±0.9**, 32.68S×71.75W, h34^{km}**±7^{km}**, MD3.6, ML2.8, 4C-4D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LCCH	**Las Cruces**	0.81	169	⇓iP	P	01 53 29.0	+0.1
LCCH				iS	S	01 53 39.8	-0.1
JACH	**Jahuel**	0.97	90	⇑iP	P	01 53 31.5	+0.2
JACH				iS	S	01 53 44.8	+0.7
PEL	**Peldehue**	1.01	118	eP	P	01 53 32.1	+0.3
PEL				iS	S	01 53 46.4	+1.4
PEL				AMP		01 53 48.7	
	comp=N,652nm,0.3s						
RCDM	**Rinconada Maip**	1.13	136	⇑iP	P	01 53 34.2	+0.7
RCDM				eS	S	01 53 49.1	+1.0
RCDM				AMP		01 53 52.2	
	comp=N,223nm,0.2s						
TACH	**Talagante**	1.18	145	⇓iP	P	01 53 35.0	+0.7
TACH				iS	S	01 53 50.2	+0.7
CLCH	**Cerro Calan**	1.24	125	⇑iP	P	01 53 36.1	+1.0
CLCH				iS	S	01 53 52.9	+1.9
CLCH				AMP		01 53 58.2	
	comp=E,182nm,0.4s						
LNV	**Longovilo**	1.30	168	iS	S	01 53 53.5	+1.1
FCH	**Farellones**	1.38	118	⇓iP	P	01 53 38.4	+1.2
FCH				iP		01 53 38.5	
FCH				iS	S	01 53 56.7	+2.2
FCH				AMP		01 53 57.5	
	comp=E,255nm,0.1s						
PCH	**Pirque**	1.40	133	⇓iP	P	01 53 38.7	+1.3
PCH				eS	S	01 53 57.6	+2.7
CHCH	**Chadas Angostu**	1.55	144	eP	P	01 53 40.9	+1.4
CHCH				iS	S	01 54 00.9	+2.2
CMCH	**Combarbala**	1.63	23	⇑iP	P	01 53 42.0	+1.3
CMCH				iS	S	01 54 03.1	+2.4
CMCH				AMP		01 54 07.4	
	comp=E,361nm,0.7s						
CACH	**El Canelo**	1.73	147	eS	S	01 54 06.8	+3.7
SFDO	**San Fernando**	2.02	163	eP	P	01 53 46.9	+0.5

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*LDG **28** 02:02:39.7±0.1, 43.12N×0.70W, h4^{km}, Md2.9/2, Ml2.1/6, Error ellipse: s-maj=1.4km s-min=1.1km az=2.0*

*STR **28** 02:02:39.5±0.2, 43.11N×0.70W, h5^{km}±1^{km}, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*MDD **28** 02:02:40.0±0.2, 43.13N×0.71W, h11^{km}, mbLg1.8/13, Error ellipse: s-maj=3.0km s-min=1.4km az=18.0, PRXIMO*

ISC 28 02:02:38.2±0.3**, 43.23N**±0.02×**0.65W**±0.02**, h5^{km}**±4^{km}**, n41, σ1^{s}20**/75**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ATE	**Arette**	0.15	193	P	Pg	02 02 42.5	+1.2
ATE				S	Sg	02 02 44.4	+0.9
ORDF	**Ordiarp**	0.21	264	Pg	Pg	02 02 44.4	+2.0
ORDF				Sg	Sg	02 02 47.5	+2.3
ORDF	**Ordiarp**	0.21	264	P	Pg	02 02 44.3	+1.9
ORDF				S	Sg	02 02 47.5	+2.3
REYF	**Montagne du Re**	0.25	131	Pg	Pg	02 02 44.8	+1.5
REYF				Sg	Sg	02 02 48.6	+1.9
REYF	**Montagne du Re**	0.25	131	P	Pg	02 02 45.0	+1.7
REYF				S	Sg	02 02 48.6	+1.9
LARF	**Larrau**	0.31	231	Pg	Pg	02 02 44.7	+0.2
LARF				Sg	Sg	02 02 48.5	-0.2
LARF	**Larrau**	0.31	231	P	Pg	02 02 44.7	+0.2
LARF				S	Sg	02 02 48.5	-0.2
ETSF	**Etsaut**	0.34	168	ePg	Pg	02 02 44.9	-0.2
ETSF				eSg	Sg	02 02 47.8	-1.9
	126nm,0.3s						
FDAF	**Les Forges d’A**	0.42	171	Pg	Pg	02 02 45.9	-0.7
FDAF				Sg	Sg	02 02 50.1	-2.1
FDAF	**Les Forges d’A**	0.42	171	P	Pg	02 02 45.9	-0.7
FDAF				S	Sg	02 02 50.1	-2.1
SJPF	**Ste Jean**	0.44	254	ePg	Pg	02 02 47.1	+0.2
SJPF				eSg	Sg	02 02 52.3	-0.5
	23nm,0.2s						
OSSF	**Osses**	0.45	273	Pg	Pg	02 02 47.5	+0.4
OSSF				Sg	Sg	02 02 52.5	-0.6
OSSF	**Osses**	0.45	273	P	Pg	02 02 47.5	+0.4
OSSF				S	Sg	02 02 53.0	0.0
LABF	**Labassere**	0.56	109	Pg	Pg	02 02 50.7	+1.2
LABF				Sg	Sg	02 02 59.4	+2.4
LABF	**Labassere**	0.56	109	P	Pg	02 02 50.8	+1.4
LABF				S	Sg	02 02 58.3	+1.3
VIEF	**Viey**	0.61	125	Pg	Pg	02 02 50.7	+0.4
VIEF				Sg	Sg	02 02 58.2	-0.2
VIEF	**Viey**	0.61	125	P	Pg	02 02 50.8	+0.5
VIEF				S	Sg	02 02 58.0	-0.4
EALK	**Alkurruntz**	0.62	269	Pg	Pg	02 02 50.6	-0.1
	6.5nm,0.1s,SNR=52						
EALK				Lg		02 02 58.3	
	24nm,0.2s,SNR=23						
EPF	**Esparros**	0.75	105	ePg	Pg	02 02 54.3	+1.0
EPF				eSg	Sg	02 03 04.3	+1.0
	18nm,0.3s						
RESF	**Ens**	0.84	120	Pg	Pg	02 02 55.0	0.0
RESF				Sg	Sg	02 03 05.8	-0.5
RESF	**Ens**	0.84	120	P	Pb	02 02 55.0	+0.1
RESF				S	Sg	02 03 05.8	-0.5
MELF	**Melles**	1.10	109	Pg	Pg	02 03 00.0	-0.1
MELF				Sg	Sg	02 03 14.9	+0.2
MELF	**Melles**	1.10	109	P	Pb	02 03 00.1	+0.8
MELF				S	Sb	02 03 15.1	+1.4
SALF	**Salau**	1.43	109	P	Pn	02 03 06.4	+1.5
SALF				S	Sb	02 03 24.3	+0.8
ESAC	**San Caprasio**	1.52	175	Pg	Pg	02 03 06.6	-1.9
	13nm,0.3s,SNR=13						
ESAC				Lg		02 03 24.2	
	84nm,0.3s,SNR=15						
LFF	**La Frestale**	1.98	30	ePn	Pn	02 03 14.1	+1.4
LFF				eSn	Sn	02 03 38.6	+0.4
LFF				eSg	Sg	02 03 45.6	+1.6
	3.7nm,0.3s						
ELAN	**Lanestosa**	2.03	271	Pg	Pg	02 03 16.8	-1.9
	1.0nm,0.3s,SNR=4.0						
ELAN				Lg		02 03 42.6	
	2.3nm,0.2s,SNR=4.0						
EMIR	**Miracle**	2.08	129	Pg	Pg	02 03 17.8	-1.9
	3.7nm,0.1s,SNR=8.7						
EMIR				Lg		02 03 45.4	
	SNR=7.9						
CARF	**Carcanieres**	2.09	103	S	Sn	02 03 46.9	+5.9
MTLF	**Montolieu**	2.10	86	ePn	Pn	02 03 14.2	-0.3
MTLF				ePg	Pg	02 03 19.3	-0.8
MTLF				eSn	Sn	02 03 40.2	-1.1
MTLF				eSg	Sg	02 03 47.1	-0.9
	1.9nm,0.2s						
VALF	**Valcebollere**	2.13	112	S	Sn	02 03 48.2	+6.0
EPOB	**Poblet**	2.28	145	Pg	Pg	02 03 20.8	-2.8
	1.0nm,0.1s,SNR=7.9						
EPOB				Lg		02 03 48.2	
	1.3nm,0.1s,SNR=7.9						
CAF	**Calviac**	2.59	48	ePn	Pn	02 03 22.1	+0.6
RJF	**Les Rejaudoux**	2.59	36	ePn	Pn	02 03 21.8	+0.3
RJF				eSn	Sn	02 03 52.9	-0.9
RJF				eSg	Sg	02 04 04.5	+0.1
	2.0nm,0.3s						
ETOR	**Torete**	2.63	204	Pn	Pn	02 03 25.9	+3.8
	0.3nm,0.2s,SNR=7.9						
ETOR				Sn	Sn	02 03 50.6	-4.1
	0.7nm,0.2s,SNR=5.0						
ETOR				Lg		02 04 00.5	
	1.1nm,0.2s,SNR=5.0						
EJON	**La Jonquera**	2.72	106	Pg	Pg	02 03 29.9	-2.6
	0.4nm,0.1s,SNR=5.0						
EJON				Lg		02 04 05.6	
	0.1nm,0.0s,SNR=5.0						
EMOS	**Mosqueruela**	2.87	177	Pn	Pn	02 03 25.9	+0.3
	0.1nm,0.1s,SNR=7.9						
EMOS				Pg	Pg	02 03 31.8	-3.7
	0.2nm,0.1s,SNR=7.9						
EMOS				Lg		02 04 03.3	
	1.7nm,0.2s,SNR=7.9						
LASF	**Ste Croix**	3.38	74	ePn	Pn	02 03 32.3	-0.4
LASF				eSg	Sg	02 04 27.9	-2.8
	0.7nm,0.3s						
MFF	**Saint Martin d**	3.39	6	ePn	Pn	02 03 32.1	-0.7
MFF				eSg	Sg	02 04 29.4	-1.5
	0.5nm,0.2s						
BGF	**Bois d’Agland**	4.15	36	eSg	Sg	02 04 52.8	-3.5

	2.5nm,0.4s						
VIVF	Saint-Julien-l	4.17	65	ePn	Pn	02 03 43.0	-0.9

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*MOS **28** 02:10:42.7±1.8,56.22N×163.43E,h13^{km},mb3.9/1,Error ellipse: s-maj=26.8km s-min=14.5km az=58.3*

*KRSC **28** 02:10:42.2±0.7,56.15N×163.38E,ML4.1*

*IDC **28** 02:10:54.0±3.5,58.86N×162.16E,mb3.4/3,mb1 3.7/3,mb1mx3.4/21,Error ellipse: s-maj=143.0km s-min=31.0km az=176.0*

ISC 28 02:10:42.6±0.5**,56.14N**±0.04×**163.51E**±0.05**,n41,σ0^{s}89**/68**,mb3.5**/3**,Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KBTR	Krutoberegovo	0.40	280	P	Pg	02 10 49.9	-0.6
KBTR	Krutoberegovo	0.40	280	iP	Pg	02 10 50.0	-0.5
KBTR				eS	Sg	02 10 55.0	-0.7
KBG	Krutoberegovo	0.47	285	iP	Pg	02 10 52.0	+0.1
KBG				eS	Sg	02 11 02.3	+4.2
KBG				Smax			
	14µm,0.3s						
SVLR	Shiveluch	1.35	290	iP	Pb	02 11 07.6	-0.8
SVLR				eS	Sb	02 11 26.4	+0.2
ZLN	Zelenaya	1.52	267	iP	Pn	02 11 10.9	-0.3
ZLN				eS	Sb	02 11 32.2	+1.0
CIRR	Tsirk	1.55	270	iP	Pn	02 11 11.2	-0.3
CIRR				eS	Sb	02 11 32.3	+0.4
LGNR	Loginova	1.58	269	iP	Pn	02 11 11.9	-0.1
LGNR				eS	Sb	02 11 33.3	+0.4
KLY	Klyuchi	1.61	277	P	Pn	02 11 09.7	-2.7
KLY				S	Sb	02 11 28.3	-5.4
KLY	Klyuchi	1.61	277	iP	Pn	02 11 09.8	-2.6
KLY				eS	Sb	02 11 29.9	-3.8
KRSR	Krestovskiy	1.65	274	eP	Pn	02 11 12.1	-0.9
KRSR				eS	Sb	02 11 33.8	-1.1
BKI	Bering	1.68	123	iP	Pn	02 11 14.0	+0.6
BKI				eS	Sb	02 11 36.3	+0.6
BKI				Smax			
	150nm,0.8s						
KPT	Kopyto	1.85	266	eP	Pn	02 11 16.1	+0.2
KPT				eS	Sn	02 11 40.5	+0.1
KMNR	Kamenistaya	1.88	260	eP	Pn	02 11 16.9	+0.6
KMNR				eS	Sn	02 11 40.8	-0.3
MKZ	Mys Kozlova	1.89	213	P	Pn	02 11 15.8	-0.6
MKZ				S	Sn	02 11 39.0	-2.2
MKZ	Mys Kozlova	1.89	213	eP	Pn	02 11 15.8	-0.6
MKZ				eS	Sn	02 11 40.1	-1.1
KOZR	Kozyr	2.03	269	PN	Pn	02 11 19.2	+0.8
KOZR				S	Sn	02 11 44.4	-0.4
KOZ	Kozyrevsk	2.04	269	P	Pn	02 11 19.2	+0.6
KOZ				S	Sn	02 11 44.4	-0.7
KOZ	Kozyrevsk	2.04	269	iP	Pn	02 11 19.2	+0.6
KOZ				eS	Sn	02 11 46.7	+1.6
TUMR	Tumrok	2.09	247	eP	Pn	02 11 20.1	+0.8
TUMR				eS	Sn	02 11 47.8	+1.4
SRDR	Sredinnyy	2.13	276	eP	Pn	02 11 20.0	+0.2
SRDR				eS	Sn	02 11 47.5	+0.2
ESO	Esso	2.71	267	eP	Pn	02 11 28.8	+0.7
ESO				eS	Sn	02 12 03.6	+1.5
ESO				Smax			
	90nm,0.7s						
KII	Karymskiy	3.15	230	eP	Pn	02 11 33.2	-1.2
SPN	Mys Shipunski	3.66	215	P	Pn	02 11 40.4	-1.3
SPN				S	Sn	02 12 21.3	-4.9
SPN	Mys Shipunski	3.66	215	eP	Pn	02 11 40.4	-1.3
SPN				eS	Sn	02 12 23.0	-3.2
NLC	Nalytchevo	3.83	221	P	Pn	02 11 44.5	+0.4
NLC				S	Sn	02 12 27.7	-2.9
NLC	Nalytchevo	3.83	221	eP	Pn	02 11 44.1	0.0
NLC				eS	Sn	02 12 28.7	-1.9
SDLR	Sedlovina	3.93	225	eP	Pn	02 11 45.7	+0.2
SDLR				eS	Sn	02 12 32.0	-1.0
SMAR	Somma	3.97	225	eP	Pn	02 11 46.5	+0.4
SMAR				eS	Sn	02 12 34.2	+0.1
AVH	Avacha	4.00	226	eP	Pn	02 11 47.6	+1.2
UGLR	Uglovaya	4.00	225	eP	Pn	02 11 46.7	+0.2
KOK	Koryaka	4.02	227	eP	Pn	02 11 48.2	+1.5
GNL	Ganaly	4.04	235	eP	Pn	02 11 48.1	+1.0
PET	Petropavlovsk	4.21	224	P	Pn	02 11 49.1	-0.4
PET	Petropavlovsk	4.21	224	P	Pn	02 11 50.6	+1.1
PET				eS	Sn	02 12 40.0	-0.2
GRL	Gorelyy	4.80	224	P	Pn	02 11 57.7	-0.2
APC	Apacha	4.91	232	eP	Pn	02 12 00.3	+1.0
KAMR	Kamenskoye	6.49	11	eP	Pn	02 12 20.7	-0.9
ILAR	Eielson Array	25.29	50	P	P	02 16 10.9	-0.6
	0.3nm,0.5s,mb3.2,baz=273,slow=9.6,SNR=6.4						
MKAR	Makanchi Array	48.64	295	P	P	02 19 25.3	-4.3
	0.5nm,0.5s,mb3.8,baz=61,slow=6.7,SNR=5.9						
MKAR	Makanchi Array	48.64	295	P	P	02 19 25.3	-4.3
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TXAR	Lajitas Array	67.68	71	P	P	02 21 52.1	+8.8
	comp=Z,0.2nm,0.6s,mb3.5,baz=297,slow=2.8,SNR=4.0						

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*NEIC **28** 02:12:27.3,32.66S×71.79W,h26^{km},ML2.6(GUC),After GUC.*

GUC 28 02:12:27.3±0.8**,32.66S**×**71.79W,h26**^{km}±11^{km}**,MD3.5,ML2.6,1D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LCCH	Las Cruces	0.84	168	iP	Pb	02 12 42.6	-0.5
LCCH				iS	Sb	02 12 53.6	-0.4
JACH	Jahuel	1.01	92	iP	Pn	02 12 45.3	-0.6
JACH				iS	Sb	02 12 58.9	+0.1
PEL	Peldehue	1.05	118	iS	Sb	02 13 00.3	+0.4
PEL				iS	Sb	02 13 00.4	+0.4
PEL				AMP		02 13 03.1	
	comp=N,351nm,0.5s						
RCDM	Rinconada Maip	1.17	136	eP	Pn	02 12 48.0	-0.1
RCDM				AMP		02 13 05.6	
	comp=E,170nm,0.2s						
TACH	Talagante	1.22	145	eP	Pn	02 12 48.6	-0.3
TACH				iS	Sn	02 13 04.2	-0.6
CLCH	Cerro Calan	1.28	125	eP	Pn	02 12 49.8	0.0
CLCH				iS	Sn	02 13 06.6	+0.3
CLCH				AMP		02 13 10.6	
	comp=N,130nm,0.5s						
FCH	Farellones	1.42	118	⇓iP	Pn	02 12 52.4	+0.6
FCH				iS	Sn	02 13 10.0	+0.1
FCH				AMP		02 13 11.5	
	comp=E,234nm,0.2s						
CHCH	Chadas Angostu	1.59	144	eP	Pn	02 12 55.2	+1.0
CHCH				iS	Sn	02 13 15.1	+1.1
CMCH	Combarbala	1.62	25	eP	Pn	02 12 55.5	+0.8
CMCH				eS	Sn	02 13 15.7	+0.8
CMCH				AMP		02 13 21.7	
	comp=E,290nm,0.5s						
CICH	Cipreses	2.01	146	eP	Pn	02 13 01.0	+0.7

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*THE **28** 02:20:10.1,38.92N×23.13E,h11^{km},ML2.8*

*NEIC **28** 02:20:10.0,38.99N×23.25E,h23^{km},ML3.0(ATH),After ATH.*

*ATH **28** 02:20:10.0,38.99N×23.25E,h23^{km}±1^{km},MD2.8/9,ML3.0*

ISC 28 02:20:09.4±0.9**,38.93N**±0.03×**23.17E**±0.06**,h9**^{km}±7^{km}**,n14,σ0^{s}82**/23**,Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NEO	Neokhori	0.38	6	ePB	Pb	02 20 17.0	-0.7
NEO				eSB	Sb	02 20 22.5	-0.8
AGG	Agios Georgios	0.66	278	ePg	Pg	02 20 21.7	-1.0
	comp=Z,9.5nm,0.4s						
AGG				eSg	Sg	02 20 31.7	+0.1
MKIT	Kithairon Oros	0.75	175	ePN	Pn	02 20 24.5	-1.4
MKIT				eSN	Sn	02 20 36.0	-1.4
MPAR	Parnis Oros	0.90	150	ePN	Pn	02 20 28.0	0.0
MPAR				eSN	Sn	02 20 40.5	-0.6
PTL	Penteli	1.04	148	ePN	Pn	02 20 30.0	0.0
PTL				eSN	Sn	02 20 44.5	-0.2
NSAL	Nisos Salamina	1.05	167	ePN	Pn	02 20 30.5	+0.3
NSAL				eSN	Sn	02 20 46.0	+1.0
ATH	Athens Observa	1.05	156	ePN	Pn	02 20 31.0	+0.8
ATH				eSN	Sn	02 20 45.8	+0.8
EVR	Evrytania	1.06	270	ePN	Pn	02 20 31.5	+1.2
PAIG	Paliouri	1.07	22	ePg	Pg	02 20 30.4	-0.4
PAIG				eSg	Sg	02 20 46.4	+1.3
NAIG	Nisos Aigina	1.20	168	ePN	Pn	02 20 33.5	+1.2
LIT	Litokhoron	1.28	336	ePb	Pb	02 20 32.9	-0.3
	comp=Z,3.5nm,0.5s						
LIT				eSb	Sb	02 20 50.7	+1.1
PLG	Polygyros	1.45	8	ePN	Pn	02 20 35.5	-0.5
SRS	Serrai	2.21	8	ePn	Pn	02 20 46.0	-0.7
FNA	Florina	2.31	324	ePn	Pn	02 20 48.2	+0.1

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*IDC **28** 02:41:17.0±0.8,39.57N×74.90E,mb4.0/16,mb1 4.2/19,mb1mx4.1/27,ML3.6/3,MS3.5/1,Ms1 3.5/1,ms1mx2.5/20,Error ellipse: s-maj=18.6km s-min=14.8km az=10.0*

*NNC **28** 02:41:18.2±9.0,39.41N×74.94E,mpv4.8,Error ellipse: s-maj=315.3km s-min=73.6km az=82.0*

*BJI **28** 02:41:21.3,39.62N×74.83E,h37^{km},mB4.9,mb4.6,ML4.1,Ms4.8,Msz4.3*

*MOS **28** 02:41:21.0±1.5,39.65N×74.66E,h33^{km},mb4.2/11,Error ellipse: s-maj=18.0km s-min=9.9km az=86.9*

*NEIC **28** 02:41:23.8±1.2,39.64N×74.84E,h48^{km}±11^{km},mb4.5/6,Error ellipse: s-maj=10.7km s-min=7.1km az=210.0*

ISC 28 02:41:23.5±0.5**,39.61N**±0.03×**74.85E**±0.05**,h63**^{km}±5^{km}**,n83,σ1^{s}07**/91**,mb4.1**/22**,10C-5D,Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSH	Kashi	0.88	96	⇑iP	P	02 41 36.3	-4.0
KSH				S	S	02 41 52.3	-0.4
KSH				Smax			
	comp=N,6µm,0.8s						
KSH				Smax			
	comp=E,5µm,0.8s						
KZA	Kyzart	2.48	7	P	P	02 42 03.3	+0.8
	SNR=78						
UCH	Uchtor	2.62	355	P	P	02 42 05.5	+0.9
	SNR=79						
AML	Almayashu	2.66	341	P	P	02 42 05.7	+0.6
	SNR=72						
ULHL	Ulahol	2.83	21	P	P	02 42 08.3	+0.7
	SNR=35						
AAK	Ala-Archa	3.03	355	⇑Pn	P	02 42 11.2	+0.9
	comp=E,188nm,0.6s						
AAK				⇑Sn	S	02 42 50.8	+5.3
	comp=E,510nm,1.2s						
AAK	Ala-Archa	3.03	355	P	P	02 42 11.2	+1.0
	SNR=120						
AAK	Ala-Archa	3.03	355	ePn	P	02 42 10.0	-0.2
AAK				eS	S	02 42 50.4	+4.9
KBK	Karagaybulak	3.04	1	P	P	02 42 11.5	+1.0
	SNR=112						
EKS2	Erkin-Say	3.15	346	P	P	02 42 12.4	+0.4
	SNR=64						
TKM2	Tokmak 2	3.35	9	P	P	02 42 15.7	+0.9
	SNR=141						
CHMS	Chumysh	3.38	359	P	P	02 42 16.0	+0.7
	SNR=54						
USP	Ospenovka	3.66	356	P	P	02 42 19.4	+0.3
	SNR=25						
AAA	Alma-Ata	3.98	23	ePN	P	02 42 23.7	+0.1
AAA				e		02 42 31.7	
AAA				e		02 43 22.7	
AAA				pmax	pmax		
	comp=Z,230nm,1.5s						
AAA				smax			
	comp=N,900nm,2.0s						
CHCP	Chirah Chowk	6.08	193	P	P	02 42 54.0	+1.2
CEP	Cherat	6.24	203	P	P	02 42 55.0	-0.1
CEP				S	S	02 44 07.0	+1.2
THW	Thamme Wali	7.25	201	⇓P	P	02 43 07.8	-1.4
SBDP	Sheikh Budin	8.00	205	⇓P	P	02 43 17.7	-1.7
DRP	Derazinda	8.71	207	P	P	02 43 27.9	-1.3
MKAR	Makanchi Array	9.00	35	Pn	P	02 43 29.7	-3.5
	comp=N,0.3nm,0.3s,baz=214,slow=37,SNR=4.3						
MKAR				Lg		02 46 03.1	
	comp=N,0.2nm,0.3s,baz=225,slow=26,SNR=2.7						
MKAR	Makanchi Array	9.00	35	iP	P	02 43 28.5	-4.7
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WMQ	Urumqi	10.48	62	eP	P	02 43 50.0	-3.4
WMQ				S	S	02 45 49.0	-1.1
KURK	Kurchatov	11.41	12	⇑Pn	P	02 44 03.8	-2.1
	comp=Z,2.8nm,1.1s,baz=255,slow=12,SNR=3.3						
KURK				⇓Lg		02 47 21.9	
	comp=Z,32nm,1.3s,baz=121,slow=16,SNR=3.4						
KURK	Kurchatov	11.41	12	eP	P	02 44 03.7	-2.2
KURK				pmax	pmax		
	comp=Z,2.0nm,1.1s						
KURK	Kurchatov	11.41	12	eP	P	02 44 04.0	-1.9
VOSK	Vostochnaya	13.38	350	⇑Pn	P	02 44 31.3	-0.7
	comp=Z,5.7nm,1.4s						
VOSK				⇓Lg		02 48 21.5	
	comp=Z,27nm,2.1s						
BVA0	Borovoye Array	13.76	349	⇑Pn	P	02 44 33.9	-3.0
	comp=Z,0.5nm,0.8s						
BVA0				⇑Lg		02 48 32.9	
	comp=Z,2.8nm,1.4s						
BVA0	Borovoye Array	13.76	349	P	P	02 44 33.8	-3.1
BVAR	Borovoye Array	13.76	349	Pn	P	02 44 32.0	-4.8
	comp=Z,0.2nm,0.3s,baz=180,slow=18,SNR=6.3						
BVAR				Lg		02 48 21.0	
	baz=163,slow=20,SNR=3.2						
BRVK	Borovoye	13.81	348	P	P	02 44 35.5	-2.0
	comp=Z,1.4nm,0.7s						
KOLN	Koldanda	13.87	146	eP	P	02 44 32.5	-6.0
	comp=Z,9.2nm,0.6s						
KOLN				eS	S	02 47 04.5	-6.8
ZRNK	Zerenda	13.93	345	⇑Pn	P	02 44 37.2	-1.9
	comp=Z,5.3nm,1.1s						
ZRNK				⇑Lg		02 48 32.0	
	comp=Z,18nm,1.8s						
ZRNK	Zerenda	13.93	345	eP	P	02 44 36.4	-2.7
	comp=Z,4.8nm,0.9s						
GKN	Gorkha	14.14	142	eP	P	02 44 35.9	-6.1
	comp=Z,12nm,0.3s						
KKN	Kakani	14.63	141	eP	P	02 44 43.1	-5.3
	comp=Z,13nm,0.5s						
DMN	Daman	14.70	141	eP	P	02 44 43.5	-5.8
	comp=Z,8.9nm,0.5s						
DMN				eS	S	02 47 22.3	-8.7
PKI	Pulchoki	14.88	141	eP	P	02 44 46.0	-5.6
	comp=Z,14nm,0.7s						
ZAL	Zalesovo	15.84	22	Pn	P	02 45 04.1	+0.3
	comp=Z,0.9nm,0.3s,baz=152,slow=19,SNR=5.8						
ZAL				Lg		02 49 42.7	
	comp=Z,0.4nm,0.3s,baz=56,slow=20,SNR=1.9						
ZAL				LR	LR	02 52 08.8	
	comp=Z,171nm,18.1s,baz=205,slow=41						
ZAL	Zalesovo	15.84	22	Pn	P	02 45 04.1	+0.3
ZAL				Lg		02 49 42.7	
GTA	Gaotai	19.25	83	eP	P	02 45 45.8	+0.4
GTA				AP		02 45 50.5	
SVE	Sverdlovsk	19.58	336	⇑eP	P	02 45 40.9	-8.0
ARU	Arti	19.95	333	eP	P	02 45 53.2	+0.3
HYB	Hyderabad	22.35	171	iP	P	02 46 18.5	+1.2
HYB	Hyderabad	22.35	171	eP	P	02 46 18.5	+1.2
ZAK	Zakamensk	22.67	52	eP	P	02 46 24.1	+4.0
GNI	Garni	23.06	281	P	P	02 46 25.7	+1.7
	comp=Z,4.5nm,0.6s,mb4.1,baz=25,slow=9.7,SNR=3.4						
GNI	Garni	23.06	281	P	P	02 46 25.7	+1.7
GNI				pmax	pmax		
	comp=Z,5.0nm,0.6s						
SONM	Songino Array	24.11	60	P	P	02 46 35.3	+1.3
	comp=Z,0.6nm,0.8s,mb3.1,baz=252,slow=9.1,SNR=2.8						
KMI	Kunming	27.50	113	eP	P	02 47 06.0	-0.1
KMI				AP	pP	02 47 18.0	-3.2
KMI				AMB	AMB		
	comp=Z,6.0nm,0.5s,mb4.4						
KMI	Kunming	27.50	113	eP	P	02 47 06.1	0.0
	comp=Z,6.0nm,0.5s,mb4.4						
KMI				pP	pP	02 47 18.0	-3.2
HHC	Hu-ho-hao-te	27.93	76	eP	P	02 47 10.5	+0.6
HHC				AP	pP	02 47 21.5	-3.5
HHC				XP	sP	02 47 28.3	-4.3
HHC				PP	PP	02 47 58.0	-3.2
HHC				S	S	02 51 47.0	-0.5
HHC				SS	SS	02 53 12.0	-0.7
HHC				AMB	AMB		
	comp=Z,7.0nm,0.6s,mb4.5						
HHC				AMB	AMB		
	comp=Z,161nm,4.9s						
HHC				LR	LR		
	comp=N,113nm,15.5s						
HHC				LR	LR		
	comp=E,113nm,16.6s						
BRTR	Keskin Array B	31.52	284	P	P	02 47 41.2	-0.5
	comp=E,1.3nm,0.7s,mb3.8,baz=101,slow=8.5,SNR=4.1						
BRTR	Keskin Array B	31.52	284	P	P	02 47 41.2	-0.5
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AKASG	Malin Array Be	33.52	305	P	P	02 47 58.0	-0.9
	comp=Z,0.6nm,0.5s,mb3.8,baz=81,slow=8.2,SNR=4.3						
AKASG	Malin Array Be	33.52	305	P	P	02 47 58.1	-0.9
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	FINESS Array B	36.72	323	P	P	02 48 25.5	-0.6
	comp=Z,2.1nm,0.7s,mb4.1,baz=113,slow=9.2,SNR=12						
FINES	FINESS Array B	36.72	323	P	P	02 48 25.5	-0.6
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
CN2	Changchun	37.53	67	eP	P	02 48 34.0	+1.0
CN2				eXP	sP	02 48 45.0	-11
CN2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.8						
CN2				AMB	AMB		
	comp=Z,300nm,3.0s						
CN2				LR	LR		
	comp=N,600nm,13.0s						
CN2				LR	LR		
	comp=E,400nm,13.0s						
CN2				LR	LR		
	comp=Z,400nm,15.0s						
IDI	Anoyia	39.48	280	P	P	02 48 50.4	+1.0
	comp=Z,4.2nm,0.7s,mb4.3,baz=25,slow=20,SNR=3.6						
ARCES	ARCESS Array B	39.51	335	P	P	02 48 49.5	+0.2
	comp=Z,1.3nm,0.5s,mb3.9,baz=113,slow=9.2,SNR=17						
ARCES	ARCESS Array B	39.51	335	P	P	02 48 49.5	+0.3
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
VRAC	Vranov	41.74	303	P	P	02 49 09.3	+1.6
	comp=Z,2.7nm,0.3s,mb4.3,baz=109,slow=15,SNR=2.7						
HFS	Hagfors	42.58	320	P	P	02 49 14.2	-0.3
	comp=Z,2.1nm,0.6s,mb4.1,baz=98,slow=10,SNR=12						
HFS	Hagfors	42.58	320	P	P	02 49 14.2	-0.3
HFS				pmax	pmax		
	comp=Z,2.0nm,0.6s						
GERES	GERESS Array B	43.70	303	P	P	02 49 23.3	-0.5
	comp=Z,1.3nm,0.7s,mb3.8,baz=68,slow=7.2,SNR=13						
GERES	GERESS Array B	43.70	303	P	P	02 49 23.3	-0.4
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NB2	NORSAR Subarra	43.80	321	P	P	02 49 23.6	-0.8
	comp=Z,5.9nm,1.1s,mb4.2,baz=91,slow=7.9						
NOA	NORSAR Array B	43.80	321	P	P	02 49 23.9	-0.5
	comp=Z,1.3nm,0.5s,mb3.9,baz=90,slow=8.0,SNR=4.9						
NOA	NORSAR Array B	43.80	321	P	P	02 49 23.9	-0.5
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
DAVOX	Davos	46.69	301	P	P	02 49 47.0	-0.6
	comp=Z,2.0nm,0.6s,mb4.2,baz=94,slow=12,SNR=5.5						
DAVOX	Davos	46.69	301	P	P	02 49 47.0	-0.6
MBAR	Mbarara	56.77	236	P	P	02 51 01.8	-1.9
	comp=Z,4.2nm,0.8s,mb4.5						
LSZ	Lusaka	69.79	228	P	P	02 52 24.6	-4.7
	comp=Z,3.9nm,0.7s,mb4.5						
ILAR	Eielson Array	70.93	18	P	P	02 52 34.3	-1.2
	comp=Z,0.7nm,0.9s,mb3.6,baz=326,slow=3.3,SNR=5.1						
ILAR	Eielson Array	70.93	18	P	P	02 52 34.3	-1.2
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
YKA	Yellowknife Ar	77.96	4	P	P	02 53 16.3	+0.4
	comp=Z,0.5nm,0.6s,mb3.6,baz=347,slow=5.7,SNR=4.5						
YKA	Yellowknife Ar	77.96	4	P	P	02 53 16.3	+0.4
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA	Warramunga Arr	81.16	125	P	P	02 53 34.5	+0.5
	comp=Z,2.7nm,0.7s,mb4.3,baz=326,slow=5.1,SNR=47						
WRA	Warramunga Arr	81.16	125	P	P	02 53 34.5	+0.5
WRA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
WRAB	Tennant Creek	81.16	125	eP	P	02 53 34.3	+0.3
	comp=Z,5.4nm,0.6s,mb4.7						
WB2	Warramunga Arr	81.17	125	⇓iP	P	02 53 34.4	+0.3
ASAR	Alice Springs	83.64	128	P	P	02 53 47.1	+0.5
	comp=Z,1.5nm,0.8s,mb4.2,baz=315,slow=5.1,SNR=22						
FORT	Forrest	85.71	136	eP	P	02 53 57.4	+0.6
	comp=Z,18nm,0.6s						

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*NEIC **28** 03:03:01.9±1.1,51.45N×16.13E,h5^{km},ML2.7(SZGRF),ML2.7(VIE),ML2.3(BRG),Error ellipse: s-maj=13.0km s-min=5.4km az=200.0*

*PRU **28** 03:03:02.7,51.42N×16.15E*

*WAR **28** 03:03:02.4,51.45N×16.17E,ML2.7,Mining Induced*

ISC 28 03:03:01.1±0.8**,51.39N**±0.04×**16.08E**±0.05**,n16,σ1^{s}18**/34**,1C,Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	Ksiaz	0.57	166	ePG	Pg	03 03 14.0	+1.6
KSP				eSG	Sg	03 03 22.0	+2.1
KSP	Ksiaz	0.57	166	ePg	Pg	03 03 13.6	+1.2
KSP				eSg	Sg	03 03 21.9	+2.0
UPC	Upice	0.89	183	ePG	Pg	03 03 19.8	+1.0
DPC	Dobruska-Polom	1.05	172	ePG	Pg	03 03 22.5	+0.4
DPC				eSG	Sg	03 03 37.0	+0.8
	15nm,0.3s						
PVCC	Panska Ves	1.29	228	ePG	Pg	03 03 27.9	+1.1
BRG	Berggiesshubel	1.45	250	ePn	Pn	03 03 28.8	+0.3
BRG				iPg	Pg	03 03 30.1	+0.2
BRG				iSg	Sg	03 03 50.8	+1.6
PRU	Pruhonice	1.71	215	PN	Pn	03 03 33.5	+1.1
PRU				PG	Pg	03 03 34.6	-0.7
PRU				ix	x	03 03 38.4	
PRU				ex	Sn	03 03 52.7	-2.6
PRU				SG	Sg	03 03 58.2	+0.1
	26nm,0.3s						
MORC	Moravsky Berou	1.87	150	ePn	Pn	03 03 34.4	-0.1
CLL	Collm	1.93	269	iPG	Pg	03 03 39.0	-0.7
CLL				iSG	Sg	03 04 05.6	+0.2
NKC	Novy Kostel	2.58	245	ePN	Pn	03 03 45.3	+0.5
NKC				ePG	Pg	03 03 52.5	-0.1
OJC	Ojcow	2.63	115	ePG	Pg	03 03 53.0	-0.7
OJC				eSG	Sg	03 04 26.0	-2.7
OJC	Ojcow	2.63	115	ePg	Pg	03 03 52.7	-0.9
OJC				eSg	Sg	03 04 26.5	-2.2
KHC	Kasperske Hory	2.78	216	ePN	Pn	03 03 48.5	+0.9
KHC				ePG	Pg	03 03 54.1	-2.4
KHC				eSN	Sn	03 04 21.0	-1.3
KHC				eSG	Sg	03 04 33.0	-0.5
MOX	Moxa	2.92	257	ePg	Pg	03 03 58.3	-1.0
MOX				eSg	Sg	03 04 38.0	-0.2
GEC2	GERESS Array S	2.98	212	ePn	Pn	03 03 52.4	+2.0
GEC2				eSg	Sg	03 04 36.9	-3.2
MOA	Molln	3.74	199	⇑iPN	Pn	03 04 01.1	-0.2
MOA				iSG	Sg	03 05 04.3	-1.2
	3.9nm,0.5s						

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*NEIC **28** 03:44:08.6±1.1,19.97S×70.47W,h49^{km}±12^{km},mb4.2/2,Error ellipse: s-maj=18.7km s-min=9.2km az=77.0*

*IDC **28** 03:44:16.3±4.8,20.19S×69.89W,h91^{km}±42^{km},mb3.3/4,mb1 3.6/6,mb1mx3.4/14,MS3.1/3,Ms1 3.1/3,ms1mx3.1/5,Error ellipse: s-maj=51.0km s-min=25.7km az=61.0*

ISC 28 03:44:12.5±2.0**,20.27S**±0.09×**70.1W**±0.2**,h74**^{km}±18^{km}**,n12,σ1^{s}08**/11**,mb3.7**/5**,1C,Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	Limon Verde	2.60	154	⇑iPn	P	03 44 53.6	+0.4
ARE	Arequipa	4.00	341	eP	P	03 45 03.0	-10
LPAZ	La Paz	4.40	26	P	P	03 45 17.3	-1.1
	5.4nm,0.3s,baz=207,slow=3.4,SNR=49						
LPAZ				LR	LR	03 47 21.3	
	comp=Z,181nm,19.2s,baz=292,slow=44						
SAML	Samuel	13.11	32	eP	P	03 47 10.1	-7.1
	6.6nm,1.5s						
CPUP	Villa Florida	13.22	120	P	P	03 47 20.2	+1.7
	0.2nm,0.3s,baz=36,slow=8.1,SNR=3.5						
CPUP				LR	LR	03 53 15.9	
	comp=Z,66nm,21.2s,baz=74,slow=41						
TRQA	Tornquist	19.09	160	eP	P	03 48 30.6	-1.2
	3.2nm,0.6s						
BDFB	Brasilia	21.54	81	P	P	03 48 57.2	-0.2
	2.1nm,0.4s,mb3.8,baz=258,slow=13,SNR=4.7						
BDFB				LR	LR	03 59 05.2	
	comp=Z,96nm,18.9s,baz=299,slow=42						
PMSA	Palmer Station	44.66	176	P	P	03 52 18.8	-0.5
	10nm,0.7s,mb4.7						
TXAR	Lajitas Array	58.97	326	P	P	03 54 08.7	+1.9

	0.1nm,0.6s,mb3.0,baz=158,slow=9.7,SNR=2.6						
SNAA	Sanae	63.81	161	P	P	03 54 38.0	-0.7
	0.7nm,0.9s,mb3.5,baz=279,slow=6.7,SNR=6.4						
YKA	Yellowknife Ar	89.65	341	P	P	03 57 09.1	+6.1
	0.3nm,0.6s,mb3.6,baz=142,slow=4.3,SNR=4.1						
MKAR	Makanchi Array	145.29	34	PKPbc	PKPbc	04 03 40.6	-1.6
	1.9nm,0.6s,baz=294,slow=4.1,SNR=8.7						

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*IDC **28** 03:57:43.4±5.0, 6.03S×148.70E, mb3.5/3, mb1 3.7/5, mb1mx3.6/13, ML3.4/2, Error ellipse: s-maj=75.9km s-min=55.1km az=71.0*

ISC 28 03:57:44.1±7.4**, 5.9S**±0.2×**148.5E**±0.4**, h22**^{km}±59^{km}**, n6, σ1**^{s}**31**/7**, mb3.3**/3**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	3.77	201	Pn	Pn	03 58 43.0	+0.6
	7.5nm,0.3s,baz=6.4,slow=8.1,SNR=17						
PMG				Sn	Sn	03 59 26.6	+0.2
	6.8nm,0.3s,baz=41,slow=22,SNR=7.1						
WB2	Warramunga Arr	19.63	223	*e*P	P	04 02 13.3	-1.1
WRA	Warramunga Arr	19.64	223	P	P	04 02 13.5	-1.0
	0.3nm,0.3s,baz=49,slow=11,SNR=13						
ASAR	Alice Springs	22.61	217	P	P	04 02 44.5	-0.4
	0.3nm,0.6s,mb2.9,baz=59,slow=9.4,SNR=5.6						
FITZ	Fitzroy Crossi	25.43	239	P	P	04 03 14.1	+1.9
	1.2nm,0.5s,mb3.6,baz=35,slow=9.2,SNR=6.3						
STKA	Stephens Creek	26.67	193	P	P	04 03 23.5	-0.1
	0.7nm,0.7s,mb3.3,baz=356,slow=14,SNR=2.2						

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*NEIC **28** 04:02:37.2±1.4, 21.40S×179.75W, h600^{km}, mb4.0/2, Error ellipse: s-maj=93.6km s-min=20.9km az=159.0*
*IDC **28** 04:02:38.6±67.0, 20.91S×179.89W, h618^{km}±395^{km}, mb2.8/4, mb1 2.9/4, mb1mx2.8/12, Error ellipse: s-maj=801.0km s-min=114.4km az=76.0*

ISC 28 04:02:36.2±1.9**, 21.3S**±0.8×**179.8W**±0.4**, h600**^{km}**, n7, σ0**^{s}**45**/7**, mb3.6**/5**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	Charters Tower	31.73	266	P	P	04 08 14.6	+0.5
	3.1nm,0.7s,mb4.0,baz=88,slow=13,SNR=4.4						
CTAO	Charters Tower	31.73	266	*e*P	P	04 08 14.2	+0.1
	5.2nm,0.8s,mb4.2						
STKA	Stephens Creek	35.90	245	P	P	04 08 48.6	-0.1
	0.3nm,0.4s,mb3.1,baz=79,slow=10,SNR=3.2						
ASAR	Alice Springs	42.68	258	P	P	04 09 43.9	+0.5
	3.0nm,0.9s,mb3.8,baz=86,slow=8.4,SNR=26						
WRA	Warramunga Arr	42.81	263	P	P	04 09 43.7	-0.8
	0.3nm,0.4s,mb3.2,baz=96,slow=7.6,SNR=7.8						
TUC	Tucson	84.83	53	*e*P	P	04 14 09.8	0.0
	1.3nm,0.6s,mb3.7						
MSU	Marysvale	86.90	47	P	P	04 14 25.3	+5.7

GUC 28 04:04:03.9±0.9**, 35.05S**×**70.44W, h10**^{km}**, MD3.5, ML2.6, 1D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFDO	San Fernando	0.64	313	*i* P	Pb	04 04 15.7	-1.0
SFDO				*i* S	Sb	04 04 24.8	-0.6
CICH	Cipreses	0.73	1	⇓*i*P	Pb	04 04 17.4	-0.9
CICH				*i* S	Sb	04 04 28.2	+0.2
CACH	El Canelo	0.94	352	*i* P	Pb	04 04 20.8	-1.1
CACH				*i* S	Sb	04 04 34.1	0.0
CHCH	Chadas Angostu	1.13	351	*i* P	Pb	04 04 24.6	-0.4
CHCH				*i* S	Sb	04 04 39.5	-0.1
LNV	Longovilo	1.35	324	*i* P	Pb	04 04 27.2	-1.7
LNV				*i* S	Sb	04 04 46.1	0.0
TACH	Talagante	1.45	344	*i* P	Pn	04 04 29.9	-0.5
RCDM	Rinconada Maip	1.59	349	AMP		04 05 00.8	
	comp=E,132nm,0.2s						
LCCH	Las Cruces	1.83	329	*i* P	Pn	04 04 36.2	+0.5
LCCH				*i* S	Sn	04 05 00.2	+1.1

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*IDC **28** 04:19:23.7±0.6, 28.71S×65.83W, mb4.2/11, mb1 4.3/13, mb1mx4.2/17, ML4.0/2, MS3.5/3, Ms1 3.4/3, ms1mx3.1/13, Error ellipse: s-maj=20.6km s-min=16.0km az=69.0*
*BJI **28** 04:19:27.4, 28.50S×66.10W, h33^{km}, mB4.1, Ms4.9, Msz4.9*
*NEIC **28** 04:19:27.4, 28.50S×66.10W, h33^{km}, mb4.4/8, MD4.4(SJA), After SJA.*
NEIC Felt [III] at Catamarca.
*SYO **28** 04:19:27.4, 28.50S×66.10W, h33^{km}, MB4.4*

ISC 28 04:19:23.1±4.2**, 28.63S**±0.06×**65.8W**±0.1**, h7**^{km}±26^{km}**, n53, σ1**^{s}**31**/37**, mb4.3**/16**, MS3.3**/2**, 4C-3D, Santiago del Estero Province**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	Limon Verde	6.62	334	*e*Pn	Pn	04 21 05.8	+2.6
	7.4nm,0.4s						
LVC				*e*S	Sn	04 22 08.8	-11
CPUP	Villa Florida	7.87	75	Pn	Pn	04 21 19.6	-1.1
	1.2nm,0.3s,baz=275,slow=10.0,SNR=27						
CPUP				Lg		04 23 37.1	
	9.6nm,0.3s,baz=192,slow=19,SNR=8.3						
CPUP				LR	LR	04 24 46.5	
	comp=Z,258nm,18.1s,baz=280,slow=41						
TRQA	Tornquist	9.93	162	*e*P	P	04 21 47.5	-1.7
	8.2nm,0.6s						
TRQA				*e*S	Sn	04 23 27.8	-14
LPAZ	La Paz	12.47	350	Pn	P	04 22 25.6	+1.5
	0.1nm,0.3s,baz=161,slow=15,SNR=12						
NNA	Nana	19.51	326	*e*P	P	04 23 48.5	-5.3
	15nm,0.8s						
SAML	Samuel	19.74	8	*e*P	P	04 23 54.2	-2.2
	1.5nm,0.4s						
BDFB	Brasilia	20.91	56	P	P	04 24 09.3	+0.6
	3.7nm,0.7s,baz=233,slow=9.3,SNR=8.9						
BDFB				LR	LR	04 32 13.6	
	comp=Z,94nm,21.4s,MS3.1,baz=202,slow=37						
BAO	Brasilia Array	20.93	56	*e*P	P	04 24 09.5	+0.5
BAO				*e*		04 28 15.0	
CAM4	Nova Friburgo	21.87	79	(P)	P	04 24 19.7	+1.3
USHA	Ushuaia	26.25	183	P	P	04 24 59.1	-1.3
	5.7nm,0.8s,mb4.2,baz=236,slow=6.5,SNR=4.4						
OTAV	Otavalo	31.16	335	P	P	04 25 42.3	-2.7
	4.0nm,1.0s,mb4.2						
ROSC	El Rosal	34.29	345	LR	LR	04 41 33.8	
	comp=Z,97nm,19.6s,MS3.5,baz=165,slow=39						
SDV	Santo Domingo	37.59	352	P	P	04 26 36.8	-3.5
JTS	JuntasAbangare	42.89	332	P	P	04 27 25.8	+1.6
	2.9nm,0.8s,mb4.1,baz=322,slow=22,SNR=2.5						
JTS	JuntasAbangare	42.89	332	P	P	04 27 25.8	+1.6
VNA3	Neumayer Olymp	52.44	160	⇑*i*	P	04 28 40.0	+1.8
VNA1	Neumayer--Stat	52.65	159	⇑*i*	P	04 28 42.0	+2.3
VNA2	Neumayer--Watz	53.01	159		P	04 28 43.7	+1.3
SNAA	Sanae	54.64	160	⇓*i*	P	04 28 53.7	-0.7
SNAA	Sanae	54.64	160	P	P	04 28 54.2	-0.1
	2.7nm,0.7s,mb4.4,baz=285,slow=7.0,SNR=38						
QSPA	South Pole Qui	61.59	180	*e*P	P	04 29 42.9	-0.1
	3.1nm,0.6s,mb4.6						
WVT	Waverly	67.67	341	*e*P	P	04 30 21.0	-2.2
	7.4nm,0.6s,mb4.9						
TXAR	Lajitas Array	68.06	325	P	P	04 30 24.9	-0.8
	0.3nm,0.5s,mb3.5,baz=153,slow=5.6,SNR=6.2						
DBIC	Dimbokro	68.34	69	P	P	04 30 25.9	-1.8
	4.8nm,0.9s,mb4.5,baz=159,slow=6.0,SNR=5.8						
SYO	Syowa Base	68.86	158	⇓P	P	04 30 29.9	-0.1
SYO	Syowa Base	68.86	158	⇑pP	pP	04 30 35.2	+3.0
SYO	Syowa Base	68.86	158	⇓sP	sP	04 30 41.0	+8.1
SYO	Syowa Base	68.86	158	⇑PcP	PcP	04 30 50.0	-4.6
SUR	Sutherland	72.66	118	P	P	04 30 53.3	-0.3
	4.3nm,0.9s,mb4.4,baz=90,slow=7.4,SNR=2.5						
SUR	Sutherland	72.66	118	P	P	04 30 53.3	-0.3
ANMO	Albuquerque	73.98	326	P	P	04 30 59.9	-1.3
	1.1nm,0.6s,mb4.0						
MAW	Mawson	76.71	162	P	P	04 31 16.9	+0.7
	2.6nm,0.7s,mb4.2,baz=211,slow=5.7,SNR=10						
MSU	Marysvale	79.62	325	*e*P	P	04 31 33.5	+0.8
JLU	Jordanelle	80.86	327	*e*P	P	04 31 38.9	-0.4
PDAR	Pinedale Array	81.66	329	P	P	04 31 43.7	+0.3
	0.5nm,0.5s,mb3.7,baz=123,slow=7.3,SNR=8.0						
ULM	Lac du Bonnet	82.94	341	P	P	04 31 50.0	+0.1
	3.8nm,0.7s,mb4.6,baz=22,slow=0.4,SNR=2.8						
SCHQ	Schefferville	83.13	359	P	P	04 31 51.8	+1.1
	3.6nm,1.1s,mb4.3,baz=280,slow=11,SNR=2.6						
HLID	Hailey	84.54	327	*e*P	P	04 31 57.8	-0.4
	2.4nm,1.0s,mb4.3						
LSZ	Lusaka	86.23	105	*e*P	P	04 32 07.9	+0.7
	4.9nm,0.9s,mb4.7						
ASAR	Alice Springs	124.65	202	PKP	PKPdf	04 38 24.7	-2.1
	0.4nm,0.5s,baz=133,slow=1.8,SNR=6.3						
WRA	Warramunga Arr	127.94	204	PKP	PKPdf	04 38 31.4	-1.8
	0.4nm,0.4s,baz=172,slow=1.7,SNR=10						
WRAB	Tennant Creek	127.94	204	*e*PKPdf	PKPdf	04 38 30.9	-2.3
AAK	Ala-Archa	145.17	56	*e*PKPdf	PKPdf	04 39 02.0	-2.1
ZAL	Zalesovo	146.85	32	PKPbc	PKPbc	04 39 07.5	+2.1
	7.1nm,0.8s,baz=93,slow=4.2,SNR=24						
MKAR	Makanchi Array	149.22	45	PKP	PKPdf	04 39 10.2	-0.4
	3.5nm,0.7s,baz=321,slow=25,SNR=7.6						
MKAR				PKPbc	PKPdf	04 39 13.7	+3.1
	3.5nm,0.7s,baz=320,slow=2.1,SNR=16						
KOLN	Koldanda	153.05	84	*e*P	PKPdf	04 39 22.2	+5.3
	6.6nm,0.8s						
WMQ	Urumqi	153.94	47	*e*PKP	PKPdf	04 39 14.8	-2.8
GKN	Gorkha	154.00	84	*e*P	PKPdf	04 39 25.2	+7.0
	9.0nm,0.7s						
DMN	Daman	154.35	85	*e*P	PKPdf	04 39 26.3	+7.6
	6.8nm,0.7s						
KKN	Kakani	154.53	85	*e*P	PKPdf	04 39 26.2	+7.3
PKI	Pulchoki	154.61	85	*e*P	PKPdf	04 39 26.6	+7.6
	2.4nm,0.5s						
SONM	Songino Array	159.90	15	PKPab	PKPab	04 40 03.8	-0.2
	1.3nm,0.8s,baz=322,slow=3.9,SNR=5.2						
CN2	Changchun	162.38	332	*e*PKP	PKPdf	04 39 24.5	-3.2

IDC 28 04:32:27.6±43.0**, 15.13S**×**175.32W, mb3.8**/3**, mb1 4.0**/3**, mb1mx3.7**/12**, MS2.9**/1**, Ms1 2.9**/1**, ms1mx2.5**/13**, Error ellipse: s-maj=822.0km s-min=171.4km az=77.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	37.07	274	LR	LR	04 50 15.8	
	comp=Z,19nm,20.9s,baz=226,slow=29						
STKA	Stephens Creek	42.58	239	P	P	04 40 25.3	-1.8
	1.0nm,0.9s,baz=69,slow=9.7,SNR=5.0						
WRA	Warramunga Arr	48.10	257	P	P	04 41 09.1	-2.3
	0.5nm,1.0s,baz=91,slow=7.4,SNR=4.8						
ASAR	Alice Springs	48.44	252	P	P	04 41 12.3	-1.6
	2.1nm,0.4s,baz=89,slow=8.1,SNR=49						

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*JMA **28** 04:46:09.0±0.3, 25.10N×122.30E, M2.7*
*TAP **28** 04:46:13.4, 24.51N×122.02E, h10^{km}±1^{km}, ML3.4*
TAP Felt III J at Nanau.

ISC 28 04:46:11.9±0.5**, 24.49N**±0.02×**122.16E**±0.02**, h9**^{km}±3^{km}**, n37, σ0**^{s}**83**/71**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ENA	Nanau	0.39	261	P	Pg	04 46 19.8	-0.1
ENA				S	Sg	04 46 24.6	-0.6
ILA	Ilan	0.47	306	*e*P	Pg	04 46 21.7	+0.3
ILA				S	Sg	04 46 27.6	-0.1
TWE	Neicheng	0.51	297	P	Pg	04 46 22.4	+0.3
TWE				S	Sg	04 46 28.0	-1.0
TWB1	Santiao Chiao	0.54	343	*e*P	Pg	04 46 23.6	+0.8
TWB1				S	Sg	04 46 31.0	+1.0
ENTT	Nioudou	0.56	286	P	Pg	04 46 23.3	0.0
ENTT				S	Sg	04 46 29.7	-1.2
TWD	Chiawan	0.66	232	P	Pb	04 46 24.6	-0.4
TWD				S	Sb	04 46 34.5	+0.4
NWF	Wu-fen Shan	0.68	329	*e*P	Pb	04 46 26.1	+0.7
NWF				S	Sb	04 46 34.7	+0.2
TWA	Mucha	0.72	313	P	Pb	04 46 26.9	+0.8
TWA				S	Sb	04 46 35.4	-0.4
HWA	Hwalien	0.72	225	*e*P	Pb	04 46 26.8	+0.6
HWA				S	Sb	04 46 36.7	+0.8
NNS	Nan Shan	0.72	266	P	Pb	04 46 25.3	-0.8
NNS				S	Sb	04 46 34.1	-1.7
YOJ	Yonaguni jima	0.77	92	P	Pb	04 46 26.7	-0.3
YOJ				*e*S	Sb	04 46 39.5	+2.2
TAP1	Taipei	0.80	313	*e*P	Pb	04 46 28.3	+0.9
TAP1				S	Sb	04 46 38.4	+0.2
TAP	Taipei	0.81	313	*e*P	Pb	04 46 27.9	+0.3
TAP				S	Sb	04 46 38.2	-0.3
TWS1	Kuangyinshan	0.91	312	P	Pb	04 46 29.5	+0.1
TWS1				S	Sb	04 46 41.7	+0.3
TWY	Chenhua	0.94	327	*e*P	Pb	04 46 30.3	+0.5
TWY				S	Sb	04 46 42.7	+0.6
ESL	Shilin	0.95	225	*e*P	Pb	04 46 29.7	-0.3
ESL				S	Sb	04 46 43.9	+1.5
NSTT	Nanjuang	1.07	278	*e*P	Pb	04 46 31.5	-0.6
NSTT				S	Sb	04 46 45.0	-0.9
NSY	Sanyi	1.28	267	*e*P	Pb	04 46 35.5	-0.2
NSY				S	Sb	04 46 52.1	0.0
SMLT	Sun Moon Lake	1.30	243	*e*P	Pb	04 46 36.1	+0.1
SMLT				S	Sb	04 46 53.6	+0.9
TYC	Yuchr	1.33	244	*e*P	Pb	04 46 36.2	-0.3
TYC				S	Sb	04 46 53.7	+0.3
TWF1	Yuli	1.38	215	*e*P	Pn	04 46 35.9	-1.5
TWF1				S	Sb	04 46 55.6	+0.6
TCU	Taichung	1.40	256	*e*P	Pn	04 46 37.5	-0.1
TCU				S	Sb	04 46 55.1	-0.4
IRIF	Iriomote-Funau	1.44	96	P	Pn	04 46 37.3	-0.9
IRIF				*e*S	Sb	04 46 57.0	+0.4
HATJ	Hateruma jima	1.56	106	P	Pn	04 46 40.5	+0.6
HATJ				*e*S	Sb	04 47 02.8	+2.7
ALS	Alishan	1.58	232	*e*P	Pn	04 46 40.4	+0.2
ALS				S	Sb	04 47 01.1	+0.3
CHN5	Tsauling	1.62	237	*e*P	Pn	04 46 41.5	+0.7
CHN5				S	Sn	04 47 02.1	+0.1
ELDTW	Lidau	1.67	219	*e*P	Pn	04 46 39.5	-2.0
JKRS	Kuro-shima	1.70	98	P	Pn	04 46 41.4	-0.6
JKRS				*e*S	Sn	04 47 02.9	-1.1
JIJ	Ishigaki jima	1.81	94	P	Pn	04 46 42.8	-0.7
JIJ				*e*S	Sn	04 47 04.6	-2.1
CHN4	Tsaushan	1.83	232	*e*P	Pn	04 46 44.1	+0.3
CHN4				S	Sn	04 47 07.1	-0.2
STYT	Tauyuan	1.84	225	*e*P	Pn	04 46 44.2	+0.1
STYT				S	Sn	04 47 07.5	-0.1
WTP	Ta-pu	1.88	229	*e*P	Pn	04 46 44.9	+0.3
WTP				S	Sn	04 47 09.7	+1.1
TWG	Pinlang	1.94	211	*e*P	Pn	04 46 44.0	-1.4
TWK	Hsinying	1.96	232	*e*P	Pn	04 46 46.9	+1.2
TWK				S	Sn	04 47 10.2	-0.3
CHN1	Nanshi	1.98	229	*e*P	Pn	04 46 46.2	+0.2
CHN1				S	Sn	04 47 10.4	-0.8
SGST	Jiashian	2.02	226	*e*P	Pn	04 46 46.8	+0.3
SGST				S	Sn	04 47 12.5	+0.5
JTJ	Tarama	2.32	86	*e*S	Sn	04 47 17.5	-2.1

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*STR **28** 05:27:27.7±0.4, 42.83N×1.45W, h5^{km}±1^{km}, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **28** 05:27:28.7±0.5, 42.88N×1.43W, h4^{km}, Md2.1/2, Ml1.9/2, Error ellipse: s-maj=7.5km s-min=5.3km az=39.0*
*MDD **28** 05:27:28.9±0.5, 42.85N×1.40W, mbLg1.4/5, Error ellipse: s-maj=3.5km s-min=2.2km az=52.0, PRXIMO AftershockPLICA*

ISC 28 05:27:27.1±0.7**, 42.82N**±0.03×**1.44W**±0.05**, h4**^{km}**, n16, σ0**^{s}**99**/24**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJPF	Ste Jean	0.33	28	*e*Pg	Pg	05 27 34.4	+0.6
SJPF				*e*Sg	Sg	05 27 37.1	-1.1
	55nm,0.3s						
LARF	Larrau	0.40	57	Pg	Pg	05 27 35.4	+0.3
LARF				Sg	Sg	05 27 41.1	+0.7
LARF	Larrau	0.40	57	P	Pg	05 27 35.8	+0.7
LARF				S	Sg	05 27 41.2	+0.9
EALK	Alkurruntz	0.40	353	Pg	Pg	05 27 35.6	+0.4
	0.9nm,0.1s,SNR=12						
EALK				Lg		05 27 41.3	
	5.4nm,0.2s,SNR=19						
OSSF	Osses	0.45	17	Pg	Pg	05 27 36.2	0.0
OSSF	Osses	0.45	17	P	Pg	05 27 36.5	+0.3
OSSF				S	Sg	05 27 42.3	0.0
ORDF	Ordiarp	0.54	43	Pg	Pg	05 27 38.2	+0.3
ORDF				Sg	Sg	05 27 45.6	+0.5
ORDF	Ordiarp	0.54	43	P	Pg	05 27 38.4	+0.5
ORDF				S	Sg	05 27 45.7	+0.6
ETSF	Etsaut	0.65	83	*e*Pg	Pg	05 27 40.3	+0.2
ETSF				*e*Sg	Sg	05 27 48.9	0.0
ESAC	San Caprasio	1.31	146	Pg	Pg	05 27 52.2	-1.2
	5.4nm,0.2s,SNR=5.7						
ESAC				Lg		05 28 11.6	
	6.4nm,0.2s,SNR=6.6						
EPF	Esparros	1.32	80	*e*Pg	Pg	05 27 54.8	+1.2
EPF				*e*Sg	Sg	05 28 10.2	-1.0
	1.4nm,0.2s						
ELAN	Lanestosa	1.52	286	Pg	Pg	05 27 56.7	-0.8
	0.6nm,0.2s,SNR=5.0						
ELAN				Lg		05 28 16.9	
	1.3nm,0.2s,SNR=5.0						
ETOR	Torete	2.05	193	Pg	Pg	05 28 07.1	-1.0
	0.3nm,0.2s,SNR=7.9						
ETOR				Sn	Sn	05 28 31.6	+2.5
	2.4nm,0.4s,SNR=7.9						
ETOR				Lg		05 28 35.4	
	0.9nm,0.2s,SNR=4.6						
EMOS	Mosqueruela	2.56	163	Lg		05 28 51.6	
	0.7nm,0.2s,SNR=7.9						
LFF	La Frestale	2.64	36	*e*Sg	Sg	05 28 49.0	-6.0
	2.2nm,0.3s						
LASF	Ste Croix	4.06	70	*e*Pn	Pn	05 28 29.2	-2.2

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*NIED **28** 05:33:00, 32.30N×141.70E, h23^{km}, Mw4.3 Best double couple: M$_0$3.52×10^{15} NP1: φ$_s$270°, δ71°, λ-152°. NP2: φ$_s$171°, δ64°, λ-21°.*
*JMA **28** 05:33:49.0±0.4, 32.35N×141.73E, M4.4*
*BJI **28** 05:33:51.9, 32.26N×141.81E, h46^{km}, mB4.8, mb4.6, Ms4.4, Msz4.0*
*IDC **28** 05:33:51.5±0.6, 32.39N×141.45E, mb4.2/17, mb1 4.4/19, mb1mx4.3/23, ML4.1/2, MS3.6/6, Ms1 3.6/6, ms1mx3.3/29, Error ellipse: s-maj=18.3km s-min=13.6km az=78.0*
*MOS **28** 05:33:54.8±0.8, 32.88N×141.23E, h17^{km}, mb4.6/12, Error ellipse: s-maj=24.7km s-min=9.4km az=109.9*
*NEIC **28** 05:33:58.0±1.3, 32.38N×141.32E, h47^{km}±11^{km}, mb4.6/21, MW4.3(NIED), Error ellipse: s-maj=8.4km s-min=7.1km az=110.0*

ISC 28 05:33:52.6±1.3**, 32.28N**±0.03×**141.44E**±0.05**, h22**^{km}±8^{km}**, n113, σ1**^{s}**02**/119**, mb4.6**/46**, MS3.7**/6**, 1C-2D, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ2	Mitsune	1.60	302	P	Pn	05 34 21.2	+1.1
JHJ	Hachijo jima 2	1.63	301	Pn	Pn	05 34 20.8	+0.3
	256nm,0.3s,baz=87,slow=17,SNR=37						
JHJ				Sn	Sn	05 34 43.7	+2.7
	309nm,0.3s,baz=238,slow=20,SNR=5.8						
JHJ				LR	LR	05 34 44.4	
	comp=Z,1µm,20.8s,baz=155,slow=34						
BSO1	Boso 1	2.40	351	P	Pn	05 34 30.6	-0.9
BSO2	Boso 2	2.54	347	S	Sn	05 35 04.3	+0.4
BSO3	Boso 3	2.64	343	P	Pn	05 34 34.2	-0.7
JKO	Kozu shima	2.71	315	P	Pn	05 34 36.2	+0.2
BSO4	Boso 4	2.86	342	P	Pn	05 34 37.7	-0.3
JOD2	Odawara 2	3.57	327	P	Pn	05 34 47.6	-0.5
JOD2				S	Sn	05 35 30.9	+0.9
JYN	Shimob	4.02	324	P	Pn	05 34 55.3	+0.8
JRY	Ryogami san	4.29	331	P	Pn	05 34 58.6	+0.3
JAG	Ashikaga	4.45	339	P	Pn	05 34 59.7	-1.0
JIE	Ise	4.49	299	P	Pn	05 35 02.4	+1.2
MAJO	Matsushiro	5.03	329	*e*Pn	Pn	05 35 09.4	+0.7
MAT	Matsushiro	5.03	329	P	Pn	05 35 08.6	-0.2
MAT				S	Sn	05 36 06.4	-0.5
MAT	Matsushiro	5.03	329	P	Pn	05 35 09.2	+0.4
MAT	Matsushiro	5.03	329	*e*P	Pn	05 35 09.0	+0.2
MAT				*e*S	Sn	05 36 03.0	-3.9
CBIJ	Chichi jima	5.20	173	Pn	Pn	05 35 12.5	+1.2
	9.4nm,0.3s,baz=290,slow=13,SNR=13						
CBIJ				Sn	Sn	05 36 09.1	-2.3
	9.5nm,0.3s,baz=288,slow=19,SNR=3.2						
CBIJ				LR	LR	05 37 17.2	
	comp=Z,387nm,18.9s,baz=309,slow=39						
CBIJ	Chichi jima	5.20	173	P	Pn	05 35 11.3	0.0
ASAJ	Asahikawa	11.86	4	Pn	P	05 36 38.6	-4.9
	2.0nm,0.3s,baz=158,slow=21,SNR=5.0						
ASAJ				Sn	S	05 38 46.2	-10
	2.1nm,0.3s,baz=236,slow=30,SNR=2.5						
ASAJ	Asahikawa	11.86	4	P	P	05 36 38.7	-4.8
ASAJ						05 38 46.3	
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				smax			
	comp=N,2.0nm,0.3s						
JOW	Kunigami	12.68	248	LR	LR	05 41 34.1	
	comp=N,294nm,20.1s,baz=124,slow=36						
MDJ	Mudanjiang	15.40	326	P	P	05 37 29.8	-0.5
MDJ				AP		05 37 38.5	
MDJ				S	S	05 40 17.8	-3.0
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.0s						
MDJ				AMB	AMB		
	comp=Z,46nm,4.6s						
MDJ				LR	LR		
	comp=E,157nm,13.7s						
MDJ				LR	LR		
	comp=Z,182nm,16.1s						
CN2	Changchun	17.03	317	*e*P	P	05 37 53.0	+2.0
SSE	Sheshan	17.28	271	*e*P	P	05 37 53.8	-0.5
SSE				S	S	05 41 03.0	-1.2
SSE				AMB	AMB		
	comp=Z,24nm,0.7s						
SSE				AMB	AMB		
	comp=Z,442nm,3.9s						
SSE	Sheshan	17.28	271	*e*P	P	05 37 53.7	-0.6
	comp=Z,24nm,0.7s						
SSE				sP		05 38 07.3	
SSE				S	S	05 41 03.1	-1.1
SSE				sS		05 41 21.3	
KLR	Kul’dur	18.43	340	*e*P	P	05 38 02.0	-6.5
NJ2	Nanjing	19.12	275	*e*P	P	05 38 17.5	+0.6
NJ2				AP		05 38 25.8	
NJ2				PP	PP	05 38 34.3	+0.6
NJ2				S	S	05 41 47.0	+1.0
NJ2				AMB	AMB		
	comp=Z,310nm,5.6s						
NJ2				LR	LR		
	comp=N,1µm,14.8s						
NJ2				LR	LR		
	comp=E,1µm,14.1s						
NJ2				LR	LR		
	comp=Z,1µm,14.2s						
BJT	Baijiatuau	21.77	298	P	P	05 38 43.5	-1.3
	comp=Z,9.7nm,0.4s,mb4.6						
WHN	Wuhan	23.17	273	*e*P	P	05 38 58.5	-0.1
HIA	Hailar	23.49	323	P	P	05 39 00.7	-0.9
	comp=Z,8.7nm,0.6s,mb4.4						
HHC	Hu-ho-hao-te	25.38	298	*e*P	P	05 39 17.8	-2.1
HHC				AP	pP	05 39 30.8	+4.5
HHC				PP	PP	05 39 55.3	-3.6
HHC				S	S	05 43 35.3	-7.2
HHC				AMB	AMB		
	comp=Z,13nm,0.7s,mb4.6						
HHC				AMB	AMB		
	comp=Z,103nm,5.2s						
SONM	Songino Array	30.69	311	P	P	05 40 08.9	+1.0
	comp=Z,4.6nm,0.9s,mb4.3,baz=111,slow=8.9,SNR=19						
BOD	Bodaibo	31.65	332	*e*P	P	05 40 14.3	-2.0
ZAK	Zakamensk	33.42	314	*e*P	P	05 40 34.1	+2.4
GTA	Gaotai	34.25	294	*e*P	P	05 40 38.8	-0.3
GTA				AMB	AMB		
	comp=Z,3.0nm,0.8s,mb4.3						
GTA				LR	LR		
	comp=N,73nm,16.7s,MS3.7						
GTA				LR	LR		
	comp=E,86nm,15.2s,MS3.7						
GTA				LR	LR		
	comp=Z,66nm,16.0s,MS3.5						
TIXI	Tiksi	40.01	354	*e*P	P	05 41 26.4	-0.8
TIXI				*e*S	S	05 47 31.8	+0.5
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.8						
CMAR	Chiang Mai Arr	40.53	261	LR	LR	05 57 38.1	
	comp=Z,50nm,18.6s,MS3.4,baz=200,slow=35						
NVS	Novosibirsk	46.24	317	*e*P	P	05 42 16.2	-1.6
NVS				*e*S	S	05 49 12.9	+11
NVS				pmax	pmax		
	comp=N,16nm,1.1s						
NVS				pmax	pmax		
	comp=E,8.0nm,1.1s						
NVS				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.6						
NVS				smax			
	comp=N,12nm,1.3s						
NVS				smax			

	comp=E,5.0nm,1.3s						
MKAR	Makanchi Array	46.80	306	P	P	05 42 22.5	+0.2
	comp=E,4.9nm,0.5s,mb4.7,baz=88,slow=9.4,SNR=35						
MKAR				LR	LR	06 02 22.0	
	comp=E,64nm,19.8s,MS3.6,baz=218,slow=37						
MKAR	Makanchi Array	46.80	306	eP	P	05 42 21.4	-0.9
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
GUN	Gumba	47.83	280	eP	P	05 42 30.7	0.0
	comp=Z,35nm,0.8s,mb5.5						
PKI	Pulchoki	48.33	280	eP	P	05 42 34.1	-0.5
	comp=Z,14nm,0.8s,mb5.0						
KKN	Kakani	48.37	280	eP	P	05 42 34.4	-0.5
	comp=Z,30nm,0.9s,mb5.3						
DMN	Daman	48.57	280	eP	P	05 42 36.2	-0.3
GKN	Gorkha	48.83	281	eP	P	05 42 38.2	-0.2
	comp=Z,25nm,0.7s,mb5.3						
KURK	Kurchatov	48.99	311	iP	P	05 42 38.5	-0.9
KURK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
KURK	Kurchatov	48.99	311	eP	P	05 42 38.5	-0.8
	comp=Z,6.9nm,0.6s,mb4.9						
KOLN	Koldanda	49.77	281	eP	P	05 42 45.7	0.0
	comp=Z,20nm,0.9s,mb5.1						
FITZ	Fitzroy Crossi	52.33	199	eP	P	05 43 05.7	+0.5
	comp=Z,1.0nm,0.5s,mb4.0						
FITZ	Fitzroy Crossi	52.33	199	P	P	05 43 04.8	-0.4
	comp=Z,1.3nm,0.7s,mb3.9,baz=22,slow=11,SNR=3.8						
WRAB	Tennant Creek	52.35	188	eP	P	05 43 04.7	-0.7
	comp=Z,10nm,0.8s,mb4.8						
WB2	Warramunga Arr	52.36	188	eP	P	05 43 00.0	-5.5
WB2				e	pP	05 43 05.3	-6.9
WRA	Warramunga Arr	52.36	188	P	P	05 43 05.3	-0.2
	comp=Z,3.4nm,0.5s,mb4.5,baz=6.8,slow=7.8,SNR=80						
WRA	Warramunga Arr	52.36	188	P	P	05 43 05.3	-0.2
WRA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
ILAR	Eielson Array	53.54	30	P	P	05 43 12.6	-1.0
	comp=Z,1.8nm,0.8s,mb4.1,baz=274,slow=6.5,SNR=15						
ILAR	Eielson Array	53.54	30	P	P	05 43 12.6	-1.0
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BRVK	Borovoye	53.93	315	eP	P	05 43 15.2	-1.3
	comp=Z,4.8nm,0.8s,mb4.5						
ZRNK	Zerenda	54.71	315	eP	P	05 43 21.5	-0.8
	comp=Z,4.2nm,0.7s,mb4.6						
ZRNK				ePcP	PcP	05 44 23.9	-0.9
ASAR	Alice Springs	56.09	188	P	P	05 43 33.4	+0.6
	comp=Z,1.7nm,0.7s,mb4.2,baz=17,slow=11,SNR=11						
ASPA	Alice Springs	56.09	188	eP	P	05 43 33.5	+0.8
MBWA	Marble Bar	57.05	204	eP	P	05 43 39.4	-0.3
	comp=Z,10nm,0.9s,mb4.9						
INK	Inuvik	58.63	26	P	P	05 43 49.6	-0.4
	comp=Z,4.4nm,0.8s,mb4.6,baz=298,slow=9.3,SNR=6.2						
INK	Inuvik	58.63	26	P	P	05 43 49.7	-0.4
INK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
INK	Inuvik	58.63	26	eP	P	05 43 49.3	-0.8
	comp=Z,5.6nm,0.8s,mb4.7						
SVE	Sverdlovsk	58.78	321	⇓eP	P	05 43 50.6	-0.6
ARU	Arti	59.99	320	⇑iP	P	05 43 58.9	-0.7
ARU				e		05 44 44.5	
ARU				e		05 46 09.7	
ARU				eS	S	05 52 09.7	+0.7
ARU				eSS	SS	05 56 07.7	+0.9
ARU				pmax	pmax		
	comp=Z,22nm,1.4s,mb5.0						
ARU	Arti	59.99	320	eP	P	05 43 58.0	-1.6
	comp=Z,20nm,0.6s,mb5.3						
STKA	Stephens Creek	63.80	180	P	P	05 44 27.6	+2.1
	comp=Z,0.6nm,0.5s,mb3.9,baz=345,slow=14,SNR=2.6						
YKA	Yellowknife Ar	67.92	29	P	P	05 44 50.9	-0.5
	comp=Z,1.6nm,0.7s,mb4.2,baz=296,slow=6.4,SNR=8.8						
YKA	Yellowknife Ar	67.92	29	P	P	05 44 50.9	-0.5
YKA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ARCES	ARCESS Array B	68.46	340	P	P	05 44 54.1	-0.5
	comp=Z,1.1nm,0.7s,mb4.0,baz=51,slow=7.8,SNR=4.2						
ARCES	ARCESS Array B	68.46	340	P	P	05 44 54.2	-0.4
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MOS	Moscow	71.10	325	eP	P	05 45 10.0	-1.0
OBN	Obninsk	71.94	324	eP	P	05 45 16.0	0.0
OBN						05 45 33.0	
OBN				pmax	pmax		
	comp=Z,11nm,0.6s,mb5.0						
KAF	Kangasniemi	72.55	334	ep	P	05 45 18.9	-0.5
	comp=Z,0.7nm,0.3s,mb4.1						
KAF	Kangasniemi	72.55	334	eP	P	05 45 18.9	-0.5
KAF				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.2						
FINES	FINESS Array B	73.04	333	P	P	05 45 21.9	-0.4
	comp=Z,1.3nm,0.6s,mb4.1,baz=56,slow=6.0,SNR=9.1						
FINES	FINESS Array B	73.04	333	P	P	05 45 22.0	-0.3
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ZEI	Tsey	73.88	311	eP	P	05 45 28.0	+0.4
ZEI				e		05 48 20.0	
ZEI				pmax	pmax		
	comp=Z,50nm,5.0s						
GNI	Garni	74.60	308	LR	LR	06 19 18.3	
	comp=Z,50nm,19.1s,MS3.8,baz=172,slow=37						
GNI	Garni	74.60	308	eP	P	05 45 33.0	+1.2
GNI				pmax	pmax		
	comp=Z,9.0nm,0.9s						
GNI				MLR	MLR		
	comp=Z,100nm,19.0s						
SOC	Sochi	76.11	313	eP	P	05 45 39.3	-1.1
SOC				e		05 45 52.7	
SOC				ePPP	PPP	05 50 20.5	+0.3
SOC				eS	S	05 55 15.8	-5.6
SOC				e		05 56 00.4	
SOC				eSSS	SSS	06 03 24.4	-8.6
SOC				pmax	pmax		
	comp=Z,13nm,0.5s,mb5.1						
SOC				pmax	pmax		
	comp=N,6.0nm,0.4s						
SOC				pmax	pmax		
	comp=E,9.0nm,0.6s						
SOC				MLR	MLR		
	comp=Z,62nm,17.0s,MS4.0						
SOC				MLR	MLR		
	comp=N,62nm,18.0s,MS4.1						
SOC				MLR	MLR		
	comp=E,34nm,13.0s,MS4.1						
ANN	Anapa	76.87	315	eP	P	05 45 44.0	-0.6
ANN				pmax	pmax		
	comp=Z,50nm,1.7s,mb5.2						
HLID	Hailey	77.62	46	P	P	05 45 49.9	+1.2
	comp=Z,1.9nm,0.9s,mb4.0						
UMR	Umm Al-Rimmam	77.71	297	eP	P	05 45 49.5	0.0
UMR				AMb	AMB	05 45 50.4	
	comp=Z,40nm,0.4s,mb5.7						
MIB	Mutribah	77.87	298	eP	P	05 45 51.2	+0.8
MIB				AMb	AMB	05 45 52.0	
	comp=Z,33nm,0.4s,mb5.6						
KBD	Kabd	77.92	297	eP	P	05 45 51.7	+1.0
AKASG	Malin Array Be	78.09	323	P	P	05 45 51.0	-0.2
	comp=Z,1.9nm,0.5s,mb4.3,baz=49,slow=5.8,SNR=9.2						
AKASG	Malin Array Be	78.09	323	P	P	05 45 51.0	-0.2
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
RDF	Al-Radifah	78.15	297	eP	P	05 45 52.6	+0.6
RDF				AMb	AMB	05 45 53.6	
	comp=Z,43nm,0.6s,mb5.6						
RST	Umm Al-Ruwaisa	78.28	297	eP	P	05 45 52.2	-0.5
RST				AMb	AMB	05 45 53.1	
	comp=Z,25nm,0.7s,mb5.3						
NB2	NORSAR Subarra	78.58	338	P	P	05 45 53.2	-0.5
	comp=Z,1.5nm,0.6s,mb4.1,baz=41,slow=5.3						
NOA	NORSAR Array B	78.58	338	P	P	05 45 53.0	-0.6
	comp=Z,3.3nm,0.8s,mb4.3,baz=41,slow=5.5,SNR=7.2						
NOA	NORSAR Array B	78.58	338	P	P	05 45 53.1	-0.6
NOA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
TPNV	Topopah Spring	80.02	53	eP	P	05 46 02.5	+0.6
	comp=Z,3.2nm,0.7s,mb4.4						
DUG	Dugway	80.47	48	eP	P	05 46 02.5	-1.8
	comp=Z,4.3nm,1.0s,mb4.3						
PDAR	Pinedale Array	81.00	45	P	P	05 46 08.6	+1.5
	comp=Z,1.0nm,1.1s,mb3.7,baz=291,slow=7.7,SNR=3.6						
MSU	Marysvale	81.83	49	eP	P	05 46 12.7	+1.2
BRTR	Keskin Array B	82.04	312	P	P	05 46 13.4	+1.0
	comp=Z,7.5nm,0.7s,mb4.7,baz=108,slow=4.4,SNR=35						
BRTR				LR	LR	06 25 09.0	
	comp=Z,34nm,19.0s,MS3.7,baz=45,slow=38						
BRTR	Keskin Array B	82.04	312	P	P	05 46 13.5	+1.0
BRTR				pmax	pmax		
	comp=Z,8.0nm,0.7s						
BRTR				MLR	MLR		
	comp=Z,34nm,19.0s						
RAYN	Ar Rayn	82.50	293	P	P	05 46 16.4	+1.2
	comp=Z,112nm,0.6s,SNR=17						
OJC	Ojcow	83.00	327	eP	P	05 46 17.0	-0.3
PV10	Paradox Valley	83.91	48	eP	P	05 46 24.6	+2.4
KSP	Ksiaz	84.16	329	eP	P	05 46 23.0	-0.1
RW3	Ridgway	84.84	48	eP	P	05 46 27.6	+0.8
CLL	Collm	85.23	330	⇓P	P	05 46 29.1	+0.7
	comp=Z,logA/T=1.0,mb4.9						
GERES	GERESS Array B	86.77	328	P	P	05 46 39.4	+3.3
	comp=Z,0.3nm,0.2s,mb4.1,baz=45,slow=2.8,SNR=3.1						
TXAR	Lajitas Array	93.00	52	P	P	05 47 07.7	+1.8
	comp=Z,0.4nm,0.7s,mb4.0,baz=302,slow=3.2,SNR=6.9						
SDV	Santo Domingo	128.88	42	PKPdf	PKPdf	05 53 02.0	-1.8
SAML	Samuel	147.45	50	ePKPbc	PKPdf	05 53 36.8	-0.5
LPAZ	La Paz	148.84	66	PKPbc	PKPdf	05 53 42.9	+3.4
	comp=Z,1.6nm,0.3s,baz=342,slow=3.2,SNR=12						
LPAZ	La Paz	148.84	66	PKP2	PKPab	05 53 42.9	-2.2
LPAZ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
LPAZ	La Paz	148.84	66	ePKPbc	PKPdf	05 53 42.5	+3.1

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*MDD **28** 06:02:45.6±0.4, 38.91N×8.22W, mbLg1.6/7, Error ellipse: s-maj=4.0km s-min=3.0km az=96.0, PRXIMO*

*INMG **28** 06:02:45.5±1.3, 38.91N×8.21W, h1^{km}±8^{km}, ML1.6, Error ellipse: s-maj=4.3km s-min=2.3km az=91.0*

ISC 28 06:02:44.3±0.7, **38.90N**±0.03×**8.20W**±0.05, **h1**^{km}±8^{km}, **n16**, σ**0**^{s}.**70**/22, **Portugal**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MOE	Montemor	0.40	197	ePg	Pg	06 02 52.7	+0.5
MOE				eSg	Sg	06 02 57.9	+0.4
PTOM	Tomar	0.73	347	ePg	Pg	06 02 59.0	+0.1
PTOM				eSg	Sg	06 03 08.4	-0.3
	31nm,0.2s						
PTOM	Tomar	0.73	347	Pg	Pg	06 02 59.0	+0.1
PTOM				Lg		06 03 08.4	
	16nm,0.2s						
PLOU	Loures	0.74	269	ePg	Pg	06 02 59.4	+0.3
PLOU				eSg	Sg	06 03 08.8	-0.3
	13nm,0.1s						
PLOU	Loures	0.74	269	Pg	Pg	06 02 59.4	+0.3
PLOU				Lg		06 03 08.8	
	6.6nm,0.1s						
PBEJ	Beja	0.91	163	eS	Sg	06 03 14.7	0.0
	4.8nm,0.2s						
PBEJ	Beja	0.91	163	S	Sg	06 03 14.7	0.0
	2.4nm,0.2s						
EBAD	Badajoz	0.94	99	Pg	Pg	06 03 03.5	+0.5
	1.2nm,0.5s,SNR=6.3						
EBAD				Lg		06 03 16.1	
	5.1nm,0.3s,SNR=51						
PCBR	Castelo Branco	1.09	31	eP	Pb	06 03 05.8	+0.2
PCBR				eS	Sb	06 03 20.0	-0.1
	4.2nm,0.1s						
PCBR	Castelo Branco	1.09	31	P	Pb	06 03 05.8	+0.2
PCBR				S	Sb	06 03 20.0	-0.1
	2.1nm,0.1s						
PTEO	Sao Teotonio	1.42	197	eS	Sb	06 03 28.7	-0.9
	6.9nm,0.4s						
PTEO	Sao Teotonio	1.42	197	S	Sb	06 03 28.7	-0.9
	3.5nm,0.4s						
PALC	Alcoutim	1.54	158	eP	Pn	06 03 14.5	+1.5
PALC				eS	Sb	06 03 33.2	-0.1
	5.5nm,0.2s						
PALC	Alcoutim	1.54	158	P	Pn	06 03 14.5	+1.5
PALC				S	Sb	06 03 33.2	-0.1
	2.8nm,0.2s						
EMIN	Mina Concepcio	1.65	133	Pg	Pg	06 03 15.4	-1.8
	SNR=7.9						
EMIN				Lg		06 03 37.4	
	0.9nm,0.5s,SNR=7.6						
EADA	Adamuz	2.93	103	Lg		06 04 19.1	
	SNR=7.9						

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*NEIC **28** 06:12:47.7, 45.03S×167.52E, h102^{km}, After WEL.*

WEL 28 06:12:48.1±0.3, **45.07S×167.44E, h95**^{km}±3^{km}, **ML3.7**/4, **3C, Error ellipse: s-maj=2.6km s-min=2.4km az=90.0, South Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DCZ	Deep Cove	0.46	206	PN	P	06 13 02.7	-0.5
DCZ				SN	S	06 13 13.8	-0.7
MLZ	Mavora Lakes	0.59	119	⇑PN	P	06 13 03.8	-0.5
MLZ				SN	S	06 13 15.6	-0.7
MLZ	Mavora Lakes	0.59	119	P	P	06 13 03.8	-0.5
MLZ				S	S	06 13 15.6	-0.7
WHZ	Wether Hill Ro	0.90	157	PN	P	06 13 07.2	-0.1
WHZ				SN	S	06 13 21.1	-0.5
WHZ	Wether Hill Ro	0.90	157	P	P	06 13 07.2	-0.1
WHZ				S	S	06 13 21.1	-0.6
WKZ	Wanaka	1.15	79	PN	P	06 13 09.6	-0.6
WKZ				SN	S	06 13 26.3	-0.4
TUZ	Tuapeka	1.78	121	PN	P	06 13 17.4	-0.7
TUZ				SN	S	06 13 37.8	-2.5
TUZ	Tuapeka	1.78	121	P	P	06 13 17.4	-0.7
LBZ	Lake Benmore	2.07	72	⇑PN	P	06 13 19.5	-2.4
LBZ				SN	S	06 13 42.9	-4.0
ODZ	Otahua Downs	2.27	91	⇑PN	P	06 13 23.0	-1.7
ODZ				SN	S	06 13 47.4	-4.5
ODZ	Otahua Downs	2.27	91	P	P	06 13 23.0	-1.7
ODZ				S	S	06 13 47.7	-4.2
RPZ	Rata Peaks	2.92	64	PN	P	06 13 30.0	-3.7
RPZ				SN	S	06 14 02.8	-5.1
RPZ	Rata Peaks	2.92	64	eP	P	06 13 30.0	-3.7

IDC 28 06:45:39.6±7.0, **17.74S×175.53W, mb3.8**/3, **mb1 4.1**/3, **mb1mx3.7**/12, **Error ellipse: s-maj=301.0km s-min=37.1km az=142.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	47.35	259	P	P	06 54 15.9	-1.7
	0.5nm,0.4s,baz=96,slow=7.5,SNR=33						
ASAR	Alice Springs	47.47	254	P	P	06 54 16.4	-2.0
	1.5nm,0.6s,baz=86,slow=8.5,SNR=17						
ILAR	Eielson Array	85.14	12	P	P	06 58 17.1	-1.3
	0.2nm,0.6s,baz=227,slow=6.0,SNR=5.7						

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*STR **28** 07:12:36.5±0.3, 42.33N×2.14E, h5^{km}±1^{km}, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LDG **28** 07:12:37.2±0.2, 42.34N×2.14E, h4^{km}, Md2.2/1, Ml2.4/7, Error ellipse: s-maj=4.4km s-min=2.0km az=169.0*

*MDD **28** 07:12:37.2±0.3, 42.34N×2.15E, h3^{km}±4^{km}, mbLg1.7/11, Error ellipse: s-maj=3.1km s-min=1.8km az=166.0, PRXIMO AftershockPLICA*

ISC 28 07:12:35.5±0.5, **42.32N**±0.03×**2.16E**±0.03, **h8**^{km}±3^{km}, **n30**, σ**1**^{s}.**06**/56, **Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VALF	Valcebollere	0.13	307	Pg	Pg	07 12 39.3	+0.9
VALF				Sg	Sg	07 12 41.1	+0.7
VALF	Valcebollere	0.13	307	P	Pg	07 12 39.4	+0.9
VALF				S	Sg	07 12 41.1	+0.7
FILF	Fillols	0.38	52	Pg	Pg	07 12 42.6	-0.6
FILF				Sg	Sg	07 12 46.7	-1.7
FILF	Fillols	0.38	52	P	Pg	07 12 42.6	-0.6
FILF				S	Sg	07 12 46.7	-1.7
CARF	Carcanieres	0.39	355	P	Pg	07 12 44.4	+0.9
CARF				S	Sg	07 12 49.8	+1.0
EJON	La Jonquera	0.56	77	Pg	Pg	07 12 47.8	+1.1
	3.0nm,0.3s,SNR=6.4						
EJON				Lg		07 12 55.1	
	8.9nm,0.1s,SNR=24						
SJAF	Saint Jean de	0.56	73	Pg	Pg	07 12 47.7	+0.9
SJAF				Sg	Sg	07 12 54.9	+0.6
SJAF	Saint Jean de	0.56	73	P	Pg	07 12 47.7	+0.9
SJAF				S	Sg	07 12 55.2	+0.9
EMIR	Miracle	0.62	229	Pg	Pg	07 12 48.7	+0.8
	4.2nm,0.1s,SNR=7.9						
EMIR				Lg		07 12 56.9	
	6.1nm,0.1s,SNR=7.9						
LRDF	Laroque-de-Fa	0.68	25	Pg	Pg	07 12 49.8	+0.8
LRDF				Sg	Sg	07 12 59.3	+1.2
LRDF	Laroque-de-Fa	0.68	25	P	Pg	07 12 49.8	+0.8
LRDF				S	Sg	07 12 59.4	+1.3
SALF	Salau	0.84	302	Pg	Pg	07 12 52.3	+0.1
SALF				Sg	Sg	07 13 03.2	-0.2
SALF	Salau	0.84	302	P	Pb	07 12 52.4	+0.6
SALF				S	Sb	07 13 03.1	+0.1
MTLF	Montolieu	1.02	3	ePg	Pg	07 12 55.6	-0.2
MTLF				ePn	Pn	07 12 56.8	+0.9
MTLF				eSg	Sg	07 13 09.2	-0.2
	9.2nm,0.2s						
MTLF	Montolieu	1.02	3	Pg	Pg	07 12 55.6	-0.2
MTLF				Lg		07 13 09.2	
	4.6nm,0.2s						
MELF	Melles	1.17	298	P	Pb	07 12 58.6	+1.1
MELF				S	Sb	07 13 13.9	+1.3
EPOB	Poblet	1.26	220	Pg	Pg	07 13 00.3	-0.4
	6.8nm,0.1s,SNR=28						
EPOB				Lg		07 13 17.2	
	2.4nm,0.3s,SNR=8.4						
RESF	Ens	1.43	290	S	Sb	07 13 26.3	+6.2
EPF	Esparros	1.51	298	ePn	Pn	07 13 03.6	+0.6
EPF				ePg	Pg	07 13 05.8	+0.1
EPF				eSg	Sg	07 13 25.4	-0.5
	7.7nm,0.3s						
ESAC	San Caprasio	2.05	254	Pn	Pn	07 13 11.4	+0.8
	3.7nm,0.2s,SNR=7.9						
ESAC				Pg	Pg	07 13 15.6	-0.8
	4.6nm,0.2s,SNR=7.9						
ESAC				Sn	Sn	07 13 36.8	+0.2
	13nm,0.3s,SNR=7.9						
ESAC				Lg		07 13 42.6	
	14nm,0.3s,SNR=7.9						
ETSF	Etsaut	2.08	287	ePg	Pg	07 13 15.6	-1.5
ETSF				eSg	Sg	07 13 42.7	-2.2
	6.4nm,0.3s						
LASF	Ste Croix	2.15	35	ePn	Pn	07 13 12.4	+0.3
LASF				ePg	Pg	07 13 16.5	-1.9
LASF				eSg	Sg	07 13 43.7	-3.3
	3.6nm,0.3s						
SJPF	Ste Jean	2.61	289	ePg	Pg	07 13 24.9	-2.8
SJPF				eSg	Sg	07 13 58.6	-3.9
	3.3nm,0.3s						
LFF	La Frestale	2.81	339	ePn	Pn	07 13 21.9	+0.4
RJF	Les Rejaudoux	3.02	351	ePn	Pn	07 13 24.2	-0.3
RJF				eSn	Sn	07 13 57.6	-3.6
RJF				eSg	Sg	07 14 11.2	-4.7
	2.4nm,0.2s						
VIVF	Saint-Julien-l	3.12	35	ePn	Pn	07 13 24.9	-1.1
VIVF				eSg	Sg	07 14 14.9	-4.5
	2.6nm,0.3s						
LMR	La Mourre	3.36	71	ePn	Pn	07 13 28.4	-0.9
ETOR	Torete	3.50	246	Pn	Pn	07 13 33.1	+1.8
	1.5nm,0.4s,SNR=4.0						
ETOR				Sn	Sn	07 14 12.2	-1.2
	1.1nm,0.3s,SNR=4.0						
FRF	La Foret Royal	3.52	68	ePn	Pn	07 13 31.1	-0.6
MFF	Saint Martin d	4.58	340	ePn	Pn	07 13 46.6	-0.1

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*NIED **28** 07:57:00, 23.80N×121.80E, h41^{km}, Mw4.3 Best double couple: M$_0$2.68×10^{15} NP1:φ$_s$261°, δ82°, λ-87°. NP2:φ$_s$58°, δ9°, λ-112°.*

*TAP **28** 07:57:24.1, 23.70N×121.78E, h31^{km}, ML4.0*

TAP Felt I J at Hualien, II J at Shilin, I J at Hungye, I J at Nanau.

*JMA **28** 07:57:24.6±0.2, 23.84N×121.76E, h80^{km}, M3.7*

ISC 28 07:57:23.9±0.3, **23.72N**±0.02×**121.76E**±0.02, **h28**^{km}±2^{km}, **n53**, σ**0**^{s}.**75**/92, **13C-6D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HWA	Hwalien	0.30	331	⇓iP	Pb	07 57 32.1	+1.0
HWA				S	Sb	07 57 38.2	+2.1
ESL	Shilin	0.32	288	⇓iP	Pb	07 57 32.0	+0.6
ESL				S	Sb	07 57 37.5	+0.9
TWD	Chiawan	0.39	337	⇓iP	Pb	07 57 32.9	+0.4
TWD				S	Sb	07 57 39.5	+1.2
EHY	Hungye	0.46	243	⇑iP	Pb	07 57 33.7	+0.2
EHY				S	Sb	07 57 40.5	+0.5
TWF1	Yuli	0.56	230	⇑iP	Pb	07 57 35.3	+0.1
TWF1				S	Sb	07 57 43.0	+0.1
ENA	Nanau	0.71	358	⇓iP	Pb	07 57 37.2	-0.4
ENA				S	Sb	07 57 46.7	-0.3
CHKT	Chengkung	0.72	211	⇓P	Pb	07 57 37.4	-0.4
CHKT				S	Sb	07 57 46.5	-0.7
NNS	Nan Shan	0.80	334	eP	Pb	07 57 38.6	-0.5
NNS				S	Sb	07 57 48.5	-1.3
SMLT	Sun Moon Lake	0.81	282	⇑iP	Pb	07 57 38.9	-0.4
SMLT				S	Sb	07 57 49.7	-0.1
TYC	Yuchr	0.85	283	⇑iP	Pb	07 57 39.3	-0.7
TYC				S	Sb	07 57 49.5	-1.5
ELDTW	Lidau	0.86	233	⇑iP	Pb	07 57 39.3	-0.9
ELDTW				S	Sb	07 57 50.2	-1.2
ALS	Alishan	0.90	257	⇑iP	Pn	07 57 40.8	0.0
ALS				S	Sb	07 57 51.9	-0.6
ENTT	Nioudou	0.94	349	⇓P	Pn	07 57 40.6	-0.7
WNT	Mingjian	1.00	279	⇑iP	Pn	07 57 42.4	+0.2
WNT				S	Sb	07 57 55.5	+0.1
CHN5	Tsauling	1.00	263	⇑P	Pn	07 57 42.2	0.0
CHN5				S	Sb	07 57 55.5	+0.1
TWE	Neicheng	1.00	355	eP	Pn	07 57 41.7	-0.5
TWE				S	Sb	07 57 54.8	-0.6
STYT	Tauyuan	1.08	239	⇑iP	Pn	07 57 43.2	-0.1
STYT				S	Sn	07 57 56.9	-0.5
TCU	Taichung	1.08	294	⇑iP	Pn	07 57 43.6	+0.2
TCU				S	Sn	07 57 58.1	+0.5
TWG	Pinlang	1.10	216	eP	Pn	07 57 41.6	-2.0
WGK	Gukeng	1.10	269	eP	Pn	07 57 43.3	-0.3
WGK				S	Sn	07 57 58.5	+0.5
CHN4	Tsaushan	1.14	252	eP	Pn	07 57 44.3	+0.2
CHN4				S	Sn	07 57 59.9	+1.0
NSTT	Nanjuang	1.15	323	eP	Pn	07 57 44.3	0.0
NSTT				S	Sn	07 57 58.0	-1.2
NSY	Sanyi	1.15	307	⇑P	Pn	07 57 44.4	+0.1
NSY				S	Sn	07 57 59.6	+0.4
WTP	Ta-pu	1.16	246	⇑iP	Pn	07 57 44.5	+0.1
WTP				S	Sn	07 57 59.5	+0.1
CHY	Chiayi	1.25	260	eP	Pn	07 57 45.6	-0.1
CHY				S	Sn	07 58 01.7	-0.1
CHN1	Nanshi	1.25	245	eP	Pn	07 57 46.0	+0.2
CHN1				S	Sn	07 58 02.4	+0.5
TWK	Hsinying	1.25	249	eP	Pn	07 57 46.0	+0.1
TWK				S	Sn	07 58 02.4	+0.5
SGST	Jiashian	1.26	240	⇑P	Pn	07 57 46.4	+0.5
SGST				S	Sn	07 58 02.7	+0.7
TWA	Mucha	1.27	353	eP	Pn	07 57 46.1	0.0
HSN	Hsinchu	1.30	326	eP	Pn	07 57 46.7	+0.2
TWB1	Santiao Chiao	1.30	9	eP	Pn	07 57 46.5	0.0
TAP1	Taipei	1.33	351	eP	Pn	07 57 47.7	+0.7
TAP	Taipei	1.34	350	eP	Pn	07 57 47.5	+0.5
ECL	Taimali	1.34	214	eP	Pn	07 57 47.9	+0.8
NWF	Wu-fen Shan	1.35	1	eP	Pn	07 57 47.4	+0.2
NWF				S	Sn	07 58 05.1	+0.8
YOJ	Yonaguni jima	1.36	57	P	Pn	07 57 47.6	+0.3
YOJ				S	Sn	07 58 04.5	-0.1
WTCT	Ta-ch’eng	1.37	276	eP	Pn	07 57 47.3	-0.1
WTCT				S	Sn	07 58 05.3	+0.6
TWS1	Kuangyinshan	1.41	347	eP	Pn	07 57 47.8	-0.3
WSF	Szhu	1.42	267	eP	Pn	07 57 47.8	-0.4
WSF				S	Sn	07 58 06.5	+0.5
SSD	Sandimen	1.42	227	eP	Pn	07 57 48.6	+0.4
SSD				S	Sn	07 58 07.0	+0.9
CHN8	Yiju	1.47	256	eP	Pn	07 57 48.4	-0.5
CHN8				S	Sn	07 58 07.0	-0.4
TWM1	Shoushan	1.52	234	eP	Pn	07 57 50.8	+1.1
TWY	Chenhua	1.56	355	eP	Pn	07 57 51.5	+1.3
SCZT	Fangliau	1.70	218	eP	Pn	07 57 53.1	+0.8
SCZT				S	Sn	07 58 14.3	+1.0
HATJ	Hateruma jima	1.90	79	P	Pn	07 57 55.3	+0.3
HATJ				S	Sn	07 58 18.3	+0.1
IRIF	Iriomote-Funau	1.90	71	P	Pn	07 57 55.3	+0.2
IRIF				S	Sn	07 58 18.7	+0.4
TWK1	Hengchun	1.97	207	eP	Pn	07 57 56.4	+0.2
WDGT	Dungji	1.98	257	eP	Pn	07 57 54.9	-1.4
PNG	Penghu	2.03	266	eP	Pn	07 57 55.4	-1.5
PNG				S	Sn	07 58 18.7	-2.9
JKRS	Kuro-shima	2.12	75	P	Pn	07 57 58.5	+0.3
JKRS				S	Sn	07 58 24.8	+1.0
JIJ	Ishigaki jima	2.27	73	P	Pn	07 58 00.0	-0.3

JIJ				S	Sn	07 58 26.7	-0.9
JTJ	Tarama	2.84	70	P	Pn	07 58 07.8	-0.6
JTJ				S	Sn	07 58 40.8	-1.3
KNM	Kinmen	3.12	284	eP	Pn	07 58 10.0	-2.5

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*GRAL **28** 08:02:55.7±10.0, 37.42N×35.69E, h18^{km}±999^{km}, MD3.8*
*BJI **28** 08:02:57.9, 36.80N×34.30E, h8^{km}, mb4.7*
*NIC **28** 08:02:57.3±0.4, 36.99N×34.55E, h56^{km}, mb4.5, ML4.2, MW3.6*
*IDC **28** 08:02:57.1±1.0, 36.72N×33.97E, mb3.9/11, mb1 4.1/19, mb1mx4.0/26, ML4.4/6, MS3.0/3, Ms1 3.0/3, ms1mx2.7/22, Error ellipse: s-maj=26.7km s-min=18.9km az=59.0*
*MOS **28** 08:02:57.2±1.4, 36.63N×34.27E, h10^{km}, mb4.2/8, Error ellipse: s-maj=11.6km s-min=7.0km az=101.7*
*ISK **28** 08:02:58.6, 36.79N×34.36E, h10^{km}, MD4.0, ML4.2*
*NEIC **28** 08:02:58.9, 36.82N×34.34E, h8^{km}, mb4.2/14, ML4.2(NIC), After ISK.*
NEIC Felt in Icel Province.
*DUSS **28** 08:03:03.4±0.3, 36.67N×34.09E, h15^{km}, ML4.5, MS3.6*
ISC 28 08:02:59.8±0.5**, 36.77N**±0.01×**34.34E**±0.02**, h15**^{km}±3^{km}**, n167, σ1§13**/201**, mb4.1**/21**, 4C-2D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MEST	Erdemli	0.24	220	i P	Pg	08 03 05.5	+0.2
MEST				i S	Sg	08 03 11.0	+2.0
IKL	Isikli	0.75	225	i PG	Pg	08 03 14.1	-0.9
IKL				i SG	Sg	08 03 24.8	-0.4
IKL	Isikli	0.75	225	Pg	Pg	08 03 14.2	-0.8
IKL				Sg	Sg	08 03 26.2	+1.0
CEYT	Ceyhan	1.15	78	i PN	Pn	08 03 21.2	-0.2
CEYT				i SN	Sn	08 03 36.4	-0.5
CEYT	Ceyhan	1.15	78	Pn	Pn	08 03 21.0	-0.4
CEYT				Sg	Sg	08 03 38.0	-0.4
NIG	Nigde	1.35	9	i PN	Pn	08 03 22.7	-1.5
NIG	Nigde	1.35	9	Pn	Pn	08 03 22.5	-1.7
HDMB	Hadim	1.50	278	i PN	Pn	08 03 26.5	+0.2
HDMB				i SN	Sn	08 03 46.3	+0.7
HDMB	Hadim	1.50	278	Pn	Pn	08 03 26.6	+0.3
HDMB				Sg	Sg	08 03 47.6	-2.3
COBT	Iskenderun	1.56	99	i P	Pn	08 03 26.4	-0.8
COBT				i S	Sn	08 03 50.9	+3.6
HTY	Hatay	1.59	114	PN	Pn	08 03 27.8	+0.2
HTY	Hatay	1.59	114	Pn	Pn	08 03 28.6	+1.0
PHNC	Paralimni	1.78	188	⇑P	Pn	08 03 30.2	-0.2
PHNC				S	Sn	08 03 54.0	+1.1
PHNC	Paralimni	1.78	188	⇑eP	Pn	08 03 30.2	-0.2
PHNC				S	Sn	08 03 54.0	+1.1
MAMC	Mammari	1.84	210	P	Pn	08 03 32.5	+1.3
KONT	Konya--Tatoy	1.96	307	PN	Pn	08 03 33.0	0.0
KONT	Konya--Tatoy	1.96	307	Pn	Pn	08 03 33.3	+0.3
CSS	Prodhromos	1.98	205	⇓P	Pn	08 03 32.2	-1.1
	11nm,0.4s						
CSS				S	Sn	08 04 00.1	+2.1
CSS	Prodhromos	1.98	205	⇓iP	Pn	08 03 32.2	-1.1
CSS				S	Sn	08 04 00.1	+2.1
LEF	Lefka	2.03	216	PN	Pn	08 03 33.3	-0.6
LEF	Lefka	2.03	216	Pn	Pn	08 03 33.8	-0.1
AVNT	Avonos	2.04	11	i P	Pn	08 03 34.8	+0.7
AVNT				i S	Sn	08 04 02.2	+2.7
ALFC	Alevga	2.14	222	P	Pn	08 03 34.7	-0.9
	27nm,0.5s						
ALFC				S	Sn	08 04 04.8	+2.7
GAZ	Gaziantep	2.33	79	PN	Pn	08 03 38.5	+0.2
GAZ	Gaziantep	2.33	79	Pn	Pn	08 03 38.0	-0.3
SZAC	Souni-Zanaja	2.34	211	⇑P	Pn	08 03 41.1	+2.8
	19nm,0.3s						
SZAC				S	Sn	08 04 14.9	+8.0
SZAC	Souni-Zanaja	2.34	211	⇑iP	Pn	08 03 41.1	+2.8
SZAC				S	Sn	08 04 14.9	+8.0
BNN	Bunyan	2.39	29	PN	Pn	08 03 38.9	-0.2
BNN	Bunyan	2.39	29	Pn	Pn	08 03 39.7	+0.6
PPCY	Paphos	2.49	221	P	Pn	08 03 44.1	+3.6
KAMT	Kaman	2.64	349	ePN	Pn	08 03 42.4	-0.2
KAMT	Kaman	2.64	349	Pn	Pn	08 03 42.1	-0.5
GZT	Gaziantep	2.64	76	i P	Pn	08 03 42.4	-0.3
GZT				i S	Sn	08 04 22.3	+7.6
HWQ	Hawqa	2.81	152	ePN	Pn	08 03 45.8	+0.6
	baz=43,slow=3.3						
HWQ				SN	Sn	08 04 19.6	+0.5
KIZT	Kizilcal	2.87	318	ePN	Pn	08 03 46.0	+0.1
BRTR	Keskin Array B	3.00	350	Pn	Pn	08 03 47.4	-0.4
	2.9nm,0.3s,baz=192,slow=9.8,SNR=29						
BRTR				LR	LR	08 04 56.5	
	comp=Z,208nm,20.3s,baz=145,slow=40						
BRTR	Keskin Array B	3.00	350	P	Pn	08 03 47.4	-0.3
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
BRTR				MLR	MLR		
	comp=Z,208nm,20.3s						
BHL	Bhannes	3.06	159	ePN	Pn	08 03 48.1	-0.5
BHL				SN	Sn	08 04 25.2	-0.1
BCK	Bucak	3.08	284	ePN	Pn	08 03 49.3	+0.5
BCK	Bucak	3.08	284	Pn	Pn	08 03 49.2	+0.4
ISP	Isparta	3.23	290	ePN	Pn	08 03 51.2	+0.1
ISP	Isparta	3.23	290	P	Pn	08 03 51.5	+0.4
ISP	Isparta	3.23	290	Pn	Pn	08 03 51.3	+0.2
ANTO	Ankara	3.32	339	ePN	Pn	08 03 52.5	+0.2
ANTO	Ankara	3.32	339	Pn	Pn	08 03 52.3	0.0
LOD	Lodumlu	3.35	339	ePN	Pn	08 03 53.2	+0.5
ELL	Elmali	3.56	271	ePN	Pn	08 03 55.8	+0.1
ELL	Elmali	3.56	271	Pn	Pn	08 03 56.7	+1.0
MYA	Malataya	3.60	63	ePN	Pn	08 03 56.4	+0.1
MYA	Malataya	3.60	63	Pn	Pn	08 03 55.7	-0.6
DUSS	Damascus Unive	3.63	153	i P	Pn	08 03 58.9	+2.3
DUSS				i P		08 03 58.9	
DUSS				i P		08 03 59.0	
DUSS				e		08 03 59.1	
	baz=331,slow=11						
DUSS				eS	Sn	08 04 40.0	+0.4
DUSS				AML	AML	08 04 42.8	
	comp=E,4μm,0.6s						
DUSS				AML	AML	08 04 45.1	
	comp=N,4μm,0.7s						
DUSS				AML	AML	08 04 57.3	
	comp=Z,2μm,0.8s						
DUSS				AMS	AMS	08 05 44.9	
	comp=E,3μm,17.0s						
DUSS				AMS	AMS	08 06 28.4	
	comp=N,5μm,17.0s						
DUSS				AMS	AMS	08 06 31.9	
	comp=Z,4μm,16.1s						
SVST	Sivas	3.63	34	i P	Pn	08 03 58.1	+1.3
SVST				i S	Sn	08 04 41.9	+2.1
HRI	Mount Hermon	3.68	161	P	Pn	08 03 57.5	0.0
HNTI	Hanita	3.75	169	P	Pn	08 03 57.5	-0.9
HNTI				S	Sn	08 04 39.8	-2.8
SVSK	Karacayir	3.77	33	ePN	Pn	08 03 58.1	-0.6
SVSK	Karacayir	3.77	33	Pn	Pn	08 03 58.6	-0.1
ELDT	Eldivan	3.78	349	i P	Pn	08 03 58.1	-0.8
ELDT				i S	Sn	08 04 57.4	+14
CTKT	Corum	3.86	5	i P	Pn	08 04 00.9	+1.0
CTKT				i S	Sn	08 04 37.5	-8.0
CANT	Cankiri	3.87	352	ePN	Pn	08 04 00.2	+0.1
ESKT	Eskisehir	3.88	316	ePN	Pn	08 04 00.3	0.0
TOKT	Tokat	3.94	25	ePN	Pn	08 04 01.0	-0.1
TOKT	Tokat	3.94	25	Pn	Pn	08 04 00.6	-0.5
HAF	Haifa	4.03	172	P	Pn	08 04 01.7	-0.6
ALT	Altintas	4.05	306	PN	Pn	08 04 01.9	-0.7
ELZG	Elazig	4.07	64	i P	Pn	08 04 02.8	-0.1
OFRI	‘Ofer	4.18	173	P	Pn	08 04 03.9	-0.6
GLH	Golan-Tel Qazi	4.19	165	P	Pn	08 04 05.0	+0.3
SGKT	Sivrigoynuk	4.19	335	i P	Pn	08 04 04.9	+0.2
TOS	Tosya	4.26	357	ePN	Pn	08 04 06.3	+0.6
DNZL	Cakiroluk	4.32	284	i P	Pn	08 04 07.7	+1.2
DENT	Denizli	4.34	285	ePN	Pn	08 04 07.1	+0.2
MMLI	Mount Malkishu	4.42	168	P	Pn	08 04 07.6	-0.3
MDU	Mudurnu	4.42	327	ePN	Pn	08 04 07.2	-0.8
SLTI	Sal’it	4.56	173	P	Pn	08 04 10.0	+0.1
DALT	Dalyan (Mudla)	4.58	272	ePN	Pn	08 04 10.9	+0.7
DALT	Dalyan (Mudla)	4.58	272	Pn	Pn	08 04 10.8	+0.6
HMDT	Nahal Hemdat	4.62	167	P	Pn	08 04 10.7	0.0
SAFT	Safranbolu	4.64	344	ePN	Pn	08 04 11.4	+0.3
BOYT	Boyabat	4.66	5	i P	Pn	08 04 12.6	+1.2
BOYT				i S	Sn	08 05 23.9	+18
BALT	Daday	4.81	351	i P	Pn	08 04 14.3	+0.8
BALT				i S	Px	08 04 25.8	
HENT	Hendek	4.85	327	i P	Pn	08 04 14.3	+0.2
MANT	Manisa	4.90	292	i P	Pn	08 04 14.8	+0.1
ASF	Jabal al Asfar	5.05	155	Pn	Pn	08 04 17.3	+0.4
	comp=Z,3.4nm,0.3s,baz=210,slow=9.2,SNR=24						
ASF				Sn	Sn	08 05 17.0	+1.4
	comp=Z,1.8nm,0.3s,baz=72,slow=16,SNR=3.2						
ASF				LR	LR	08 06 46.7	
	comp=Z,127nm,19.6s,baz=197,slow=45						
AYDN	Tasoluk	5.23	282	i P	Pn	08 04 20.3	+0.8
AYDN				i S	Sn	08 05 24.6	+4.4
DRGI	Dragot	5.24	170	P	Pn	08 04 19.5	-0.1
MLSB	Milas	5.28	278	ePN	Pn	08 04 21.0	+0.9
ULDT	Uludag	5.29	311	i P	Pn	08 04 20.3	0.0
YLV	Yalova	5.42	316	ePN	Pn	08 04 22.5	+0.3
GUMT	Gumushane	5.45	46	ePN	Pn	08 04 22.4	-0.2
MZDA	Masada	5.52	171	P	Pn	08 04 23.6	+0.2
BDRM	Kayabasi	5.53	275	i P	Pn	08 04 24.9	+1.3
BDRM				i S	Sn	08 05 28.6	+0.9
AKS	Akhisar	5.58	294	ePN	Pn	08 04 24.5	+0.2
BEST	Besiri	5.63	77	i P	Pn	08 04 24.0	-1.1
BEST				i S	Sn	08 05 23.8	-6.4
KDAG	Bornova	5.85	288	i P	Pn	08 04 28.1	0.0
KDAG				i S	Px	08 04 40.2	
IZM	Izmir	5.85	288	ePN	Pn	08 04 29.3	+1.2
KZIT	Kziot	5.85	180	P	Pn	08 04 28.6	+0.4
KZIT				S	Sn	08 05 33.1	-2.6
PRNI	Paran	6.43	175	P	Pn	08 04 35.7	-0.6
AYVA	Ayvalik	6.54	295	i P	Pn	08 04 40.2	+2.3
KMTI	Karmit	6.66	177	P	Pn	08 04 39.4	-0.2
KMTI				S	Sn	08 05 54.0	-1.9
MBH	Mount Berech	6.98	176	P	Pn	08 04 44.2	+0.1
APE	Apeiranthos	7.06	275	P	Pn	08 04 46.3	+1.1
SANT	Santorini	7.16	269	eP	Pn	08 04 45.0	-1.6
	comp=Z,22nm,0.4s						
BOZC	Bozcaada	7.20	298	i P	Pn	08 04 45.6	-1.5
IDI	Anoyia	7.80	262	Pn	Pn	08 04 53.9	-1.6
	comp=Z,23nm,0.3s,baz=75,slow=14,SNR=80						
IDI				Sn	Sn	08 06 16.9	-7.4
	baz=294,slow=20,SNR=1.4						
SOC	Sochi	7.95	30	eP	Pn	08 04 58.6	+1.0
SOC				eS	Sn	08 06 31.2	+3.1
SOC				pmax	pmax		
	comp=Z,5.0nm,0.4s						
SOC				pmax	pmax		
	comp=N,2.0nm,0.3s						
SOC				pmax	pmax		
	comp=E,7.0nm,0.6s						
SOC				MLR	MLR		
	comp=N,73nm,12.0s						
SOC				MLR	MLR		
	comp=E,72nm,12.0s						
SOC				MLR	MLR		
	comp=Z,86nm,12.0s						
GVD	Gavdhos	8.55	260	eP	P	08 05 04.8	-1.2
	comp=Z,79nm,0.8s						
ZEI	Tsey	9.48	48	eP	P	08 05 20.0	+1.1
ZEI				e		08 07 10.0	
ZEI				MLR	MLR		
	comp=Z,200nm,15.0s						
KIV	Kislovodsk	9.59	39	eP	P	08 05 20.5	+0.2
KIV				pmax	pmax		
	comp=Z,2.0nm,0.4s						
MLR	Muntele Rosu	10.76	327	Pn	P	08 05 36.2	-0.2
	comp=Z,0.3nm,0.3s,baz=163,slow=12,SNR=2.2						
MLR				LR	LR	08 10 21.3	
	comp=Z,163nm,20.2s,baz=148,slow=42						
AKASG	Malin Array Be	14.40	347	Pn	P	08 06 25.7	+0.7
	comp=Z,0.6nm,0.3s,baz=156,slow=12,SNR=12						
AKASG	Malin Array Be	14.40	347	P	P	08 06 25.7	+0.8
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
LVV	L’vov	15.02	333	eP	P	08 06 37.7	+4.6
KWP	Kalwaria	15.37	330	P	P	08 06 42.7	+5.0
	comp=Z,24nm,0.5s						
PSZ	Piszkesteto	15.40	321	eP	P	08 06 38.0	0.0
	comp=Z,11nm,1.1s						
VAE	Valguarnera	15.91	279	Pn	P	08 06 43.1	-1.6
	comp=Z,4.3nm,0.3s,baz=86,slow=7.7,SNR=2.4						
VRAC	Vranov	17.98	320	P	P	08 07 12.3	+1.6
	baz=130,slow=21,SNR=3.3						
OBN	Obninsk	18.41	4	eP	P	08 07 17.3	+1.3
OBN				pmax	pmax		
	comp=Z,7.0nm,0.7s						
SUW	Suwalki	18.89	339	P	P	08 07 21.6	-0.3
	comp=Z,21nm,0.3s						
GEC2	GERESS Array S	19.29	315	eP	P	08 07 25.7	-0.9
GEC2				pmax	pmax		
	comp=Z,8.0nm,1.0s						
GEC2	GERESS Array S	19.29	315	eP	P	08 07 25.7	-0.9
	comp=Z,8.0nm,1.0s						
GERES	GERESS Array B	19.29	315	P	P	08 07 25.1	-1.4
	comp=Z,0.8nm,0.3s,baz=104,slow=5.5,SNR=21						
GERES	GERESS Array B	19.29	315	P	P	08 07 25.1	-1.5
GERES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PRU	Pruhonice	19.45	319	eP	P	08 07 26.9	-1.6
KHC	Kasperske Hory	19.50	316	eP	P	08 07 27.0	-2.1
WET	Wettzell	19.91	315	eP	P	08 07 31.6	-2.0
WET				pmax	pmax		
	comp=Z,18nm,1.3s						
WET	Wettzell	19.91	315	eP	P	08 07 31.6	-2.0
	comp=Z,18nm,1.3s						
PGF	Pioggiola	20.31	294	eP	P	08 07 42.4	+4.6
	comp=Z,8.5nm,0.8s						
DAVOX	Davos	20.73	306	P	P	08 07 41.8	-0.3
	comp=Z,1.2nm,0.3s,baz=166,slow=21,SNR=2.6						
GRA1	Grafenberg Arr	21.12	315	eP	P	08 07 44.7	-1.4
	comp=Z,11nm,0.7s,mb4.3						
GRF	Grafenberg Arr	21.12	315	eP	P	08 07 44.7	-1.4
GRF				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.3						
MOX	Moxa	21.38	318	eP	P	08 07 48.0	-0.8
VSU	Vasula	22.27	349	P	P	08 07 58.2	+0.6
MBDF	Montbardon	22.27	299	eP	P	08 07 55.8	-1.9
	comp=Z,26nm,1.1s,mb4.3						
LPG	La Plagne	22.45	301	eP	P	08 08 01.8	+2.4
LPL	La Plagne	22.46	301	eP	P	08 08 01.4	+1.8
CLZ	Clausthal	22.68	319	eP	P	08 07 59.8	-1.8
	comp=Z,9.0nm,0.8s,mb4.2						
ORIF	Oris-en-Rattie	22.93	300	eP	P	08 08 05.4	+1.2
CDF	Champ du Feu	22.94	309	eP	P	08 07 59.0	-5.3
	comp=Z,4.0nm,0.2s,mb4.1						
SMF	Signal de Mont	24.68	303	eP	P	08 08 19.9	-1.2
	comp=Z,6.5nm,0.6s,mb4.0						
LOR	Lormes	24.81	305	eP	P	08 08 20.5	-1.9
	comp=Z,6.4nm,0.7s,mb3.9						
AVF	Avril sur Loir	25.04	303	eP	P	08 08 23.7	-0.9
	comp=Z,14nm,1.1s,mb4.1						
FINES	FINESS Array B	25.23	351	P	P	08 08 23.9	-2.4
	comp=Z,1.7nm,0.4s,mb3.9,baz=151,slow=11,SNR=16						
FINES	FINESS Array B	25.23	351	P	P	08 08 23.9	-2.4
FINES				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ARU	Arti	25.52	32	eP	P	08 08 28.1	-0.9
ARU	Arti	25.52	32	P	P	08 08 29.2	+0.2
	comp=Z,10nm,1.3s,mb4.2						
KAF	Kangasniemi	25.86	351	ep	P	08 08 29.6	-2.5
	comp=Z,0.5nm,0.3s,mb3.5						
KAF	Kangasniemi	25.86	351	eP	P	08 08 29.6	-2.5
KAF				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb3.8						
HFS	Hagfors	26.86	337	P	P	08 08 39.2	-2.2
	comp=Z,3.0nm,0.9s,mb3.8,baz=120,slow=12,SNR=4.3						
HFS	Hagfors	26.86	337	P	P	08 08 39.2	-2.2
HFS				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BVAR	Borovoye Array	29.87	46	P	P	08 09 10.8	+2.1
	comp=Z,0.4nm,0.4s,mb3.5,baz=225,slow=6.1,SNR=3.4						
ARCES	ARCESS Array B	33.17	354	P	P	08 09 34.3	-3.1
	comp=Z,1.2nm,0.6s,mb4.0,baz=172,slow=9.6,SNR=11						
ARCES	ARCESS Array B	33.17	354	P	P	08 09 34.3	-3.1
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	Makanchi Array	36.62	59	P	P	08 10 07.5	+0.4
	comp=Z,1.1nm,0.7s,mb3.8,baz=260,slow=7.4,SNR=4.1						
MKAR	Makanchi Array	36.62	59	P	P	08 10 07.5	+0.3
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
DBIC	Dimbokro	46.62	240	P	P	08 11 24.4	-5.0
	comp=Z,2.6nm,1.0s,mb4.1,baz=135,slow=4.3,SNR=1.9						
DBIC	Dimbokro	46.62	240	P	P	08 11 24.4	-5.0
DBIC				pmax	pmax		
	comp=Z,3.0nm,1.0s						
SONM	Songino Array	52.62	54	P	P	08 12 15.3	+0.2
	comp=Z,0.4nm,0.6s,mb3.5,baz=297,slow=8.3,SNR=4.6						
HHC	Hu-ho-hao-te	58.46	60	eP	P	08 12 56.5	-0.8
HHC				XP	sP	08 13 02.3	-1.4
HHC				PCP	PcP	08 13 47.8	0.0
HHC				PP	PP	08 15 10.5	+1.9
HHC				PCS		08 17 49.0	
HHC				S	S	08 20 58.3	+0.1
HHC				PS	PS	08 21 12.3	-1.5
HHC				SCS	ScS	08 22 42.8	-0.3
HHC				SS	SS	08 24 51.0	-1.4
HHC				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.8						
CMAR	Chiang Mai Arr	59.04	89	P	P	08 12 59.7	-1.9
	comp=Z,0.7nm,0.4s,mb4.0,baz=293,slow=8.5,SNR=5.6						
CMAR	Chiang Mai Arr	59.04	89	P	P	08 12 59.7	-1.9
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
WHN	Wuhan	65.07	70	eP	P	08 13 43.3	+1.4
CN2	Changchun	66.43	52	eP	P	08 13 49.8	-0.5
SCHQ	Schefferville	66.66	322	P	P	08 13 48.3	-3.3
	comp=Z,8.1nm,1.2s,mb4.6,baz=67,slow=7.7,SNR=4.6						
NJ2	Nanjing	67.67	66	eP	P	08 13 57.0	-1.4
SSE	Sheshan	69.87	66	eP	P	08 14 10.5	-1.5
SSE	Sheshan	69.87	66	eP	P	08 14 10.4	-1.6
	comp=Z,23nm,0.7s,mb5.2						
ILAR	Eielson Array	78.78	1	P	P	08 15 02.9	+0.1
	comp=Z,0.2nm,0.7s,mb3.2,slow=0.9,SNR=4.1						

DJA 28 08:42:39.1±0.5**, 8.06S×115.27E, h2**^{km}**, MD5.6**/3**, ML3.1**/1**, 4C-2D, Error ellipse: s-maj=11.5km s-min=3.9km az=14.0, Bali region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RATI	Rata	0.71	159	⇓iPg	Pg	08 42 57.4	+4.1
	220nm,0.2s						
RATI				⇑eSg	Sg	08 43 09.5	+6.8
KELI	Kelakatan	0.79	258	⇑ePg	Pg	08 42 59.1	+4.2
KELI				⇑eSg	Sg	08 43 12.7	+7.3
KEDI	Kedomdong	0.93	117	⇑ePg	Pg	08 43 01.8	+4.0
	35nm,0.2s						
KEDI				⇓eSg	Sg	08 43 17.2	+7.0

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*NEIC **28** 08:47:07.4, 16.65N×99.07W, h16^{km}, mb4.2/14, MD4.5(MEX), After MEX.*
*MEX **28** 08:47:07.5±0.8, 16.71N×99.07W, h15^{km}±6^{km}, MD4.7*
*IDC **28** 08:47:11.3±4.9, 16.95N×98.81W, h62^{km}±44^{km}, mb3.7/11, mb1 3.9/13, mb1mx3.9/21, ML3.6/1, MS3.3/2, Ms1 3.3/2, ms1mx3.0/19, Error ellipse: s-maj=37.5km s-min=15.4km az=56.0*
ISC 28 08:47:04.8±0.7**, 16.71N**±0.03×**99.05W**±0.02**, h27**^{km}±6^{km}**, n94, σ1§19**/125**, mb4.1**/17**, MS3.4**/1**, 1C-2D, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ACX	Acapulco	0.85	281	⇑iP	Pb	08 47 20.9	+0.1
ACX				i S	Sb	08 47 30.3	-1.5
ACX	Acapulco	0.85	281	i P	Pb	08 47 20.6	-0.2
ACX				i S	Sb	08 47 30.7	-1.1
PNIG	Pinotepa	0.94	110	⇓iP	Pb	08 47 22.9	+0.6
PNIG				i S	Sb	08 47 34.5	+0.1
PLIG	Platanillo	1.73	345	⇓iP	Pn	08 47 33.6	+0.1
PLIG				i S	Sn	08 47 54.5	-0.4
YAIG	Yautepec	2.14	359	eP	Pn	08 47 39.4	-0.1
YAIG	Yautepec	2.14	359	eP	Pn	08 47 38.5	-1.0
VHO	Vista Hermosa	2.24	81	eP	Pn	08 47 41.6	+0.7
VHO				i S	Sn	08 48 08.1	+0.1
OXX	Oaxaca	2.25	80	i P	Pn	08 47 42.1	+0.9
OXX				i S	Sn	08 48 08.1	-0.2
OXX	Oaxaca	2.25	80	i P	Pn	08 47 41.2	+0.1
IIB	San Bernardino	2.34	17	eP	Pn	08 47 43.4	+1.1
IIB				i S	Sn	08 48 11.1	+0.7
IIB	San Bernardino	2.34	17	i P	Pn	08 47 41.5	-0.8
IIB				eP		08 47 45.4	
PPM	Popocatepetl	2.38	10	eP	Pn	08 47 43.0	+0.1
PPM				i P		08 47 43.7	
PPM				i S	Sn	08 48 12.1	+0.8
PPM				i S	Sn	08 48 14.0	+2.7
PPM	Popocatepetl	2.38	10	eP	Pn	08 47 41.7	-1.2
PPM				i P		08 47 45.4	
IIZ	Mezontepec	2.47	356	i P	Pn	08 47 44.7	+0.5
ZIIG	Zihuatanejo	2.48	291	eP	Pn	08 47 44.9	+0.6
ZIIG				eS	Sn	08 48 13.3	-0.6
ZIIG	Zihuatanejo	2.48	291	eP	Pn	08 47 44.9	+0.6
ZIIG				eS	Sn	08 48 15.5	+1.5
UNM	Universidad Na	2.60	357	eP	Pn	08 47 45.3	-0.8
UNM				i P		08 47 47.0	
UNM				eP		08 47 47.0	
UNM				i S	Sn	08 48 14.8	-2.4
UNM				i S	Sn	08 48 19.0	+1.8
UNM				eS	Sn	08 48 19.6	+2.4
UNM	Universidad Na	2.60	357	eP	Pn	08 47 45.3	-0.8
UNM				eP		08 47 47.0	
UNM				eP		08 47 47.5	
UNM				i P		08 47 48.0	
UNM				i S	Sn	08 48 19.5	+2.3
UNM				eS	Sn	08 48 19.6	+2.4
UNM				i S	Sn	08 48 22.5	+5.3
PBVM	Pinon	2.71	359	eP	Pn	08 47 46.8	-0.8
PBVM				i S	Sn	08 48 18.7	-1.2
PBVM	Pinon	2.71	359	eP	Pn	08 47 46.5	-1.2
PBVM				i S	Sn	08 48 17.5	-2.4
IISM	Ciudad Serdan	2.77	35	eP	Pn	08 47 46.5	-1.9
IISM	Ciudad Serdan	2.77	35	i P	Pn	08 47 45.8	-2.6
IISM				eP		08 47 46.0	
PTVM	Pico Tres Padr	2.87	359	i P	Pn	08 47 49.4	-0.4
PTVM				i S	Sn	08 48 24.1	+0.3
PTVM	Pico Tres Padr	2.87	359	i P	Pn	08 47 50.1	+0.2
IIO	Organos	2.88	6	i P	Pn	08 47 51.1	+1.1
IIO				i S	Sn	08 48 24.6	+0.4
IIO	Organos	2.88	6	i P	Pn	08 47 52.1	+2.1
HUIG	Huatulco	2.98	108	eP	Pn	08 47 51.7	+0.3
HUIG				i S	Sn	08 48 27.1	+0.5
HUIG	Huatulco	2.98	108	eP	Pn	08 47 51.7	+0.3
HUIG				eS	Sn	08 48 24.0	-2.6
IIC	Rita Coyotepec	3.04	356	eP	Pn	08 47 48.8	-3.5
IIC				i S	Sn	08 48 28.2	-0.1
IIJ	Jocotitlan	3.08	348	i P	Pn	08 47 52.9	+0.1
IIJ				i S	Sn	08 48 28.9	-0.1
IIJ	Jocotitlan	3.08	348	i P	Pn	08 47 51.1	-1.7
MOIG	Morelia	3.58	326	eP	Pn	08 48 00.1	+0.1
MOIG				eS	Sn	08 48 41.0	-1.0
MOIG	Morelia	3.58	326	eP	Pn	08 48 02.1	+2.1
MOIG				eS	Sn	08 48 44.0	+2.0
LVIG	Laguna Verde	3.90	39	eP	Pn	08 48 06.1	+1.6
LVIG				eS	Sn	08 48 50.5	+0.6
EVV	El Vigia	3.93	63	eP	Pn	08 48 07.5	+2.5
EVV	El Vigia	3.93	63	i P	Pn	08 48 09.0	+4.1
EVV				i P		08 48 09.7	
CMIG	Matias Romero	4.00	84	eP	Pn	08 48 05.3	-0.7
CMIG				eS	Sn	08 48 52.6	0.0
TUIG	Tuzandepetl	4.61	73	i P	Pn	08 48 14.0	-0.6
TUIG				i S	Sn	08 49 07.6	-0.3
TUIG	Tuzandepetl	4.61	73	i P	Pn	08 48 13.6	-0.9
TUIG				i S	Sn	08 49 02.4	-5.5
SFJM	Santa Fe	5.33	315	eP	Pn	08 48 26.8	+2.1
SFJM				i S	Sn	08 49 25.0	-1.1
SFJM	Santa Fe	5.33	315	eP	Pn	08 48 26.8	+2.1
SFJM				i P		08 48 28.8	
CCIG	Comitan	6.64	93	eP	Pn	08 48 44.3	+1.1
CCIG				eS	Sn	08 49 57.0	-1.9
CCIG	Comitan	6.64	93	eP	Pn	08 48 39.5	-3.8
CCIG				eS	Sn	08 50 02.7	+3.8
TEIG	Tepich	10.80	69	P	P	08 49 45.1	+4.2
	0.0nm,0.3s,baz=297,slow=24,SNR=4.1						
TEIG				S	S	08 51 29.4	-13
	0.0nm,0.3s,baz=180,slow=20,SNR=2.2						
TXAR	Lajitas Array	13.26	342	P	P	08 50 13.8	-0.1
	0.1nm,0.3s,baz=160,slow=15,SNR=13						
TXAR				LR	LR	08 55 50.8	
	comp=Z,132nm,21.8s,baz=85,slow=40						
TXAR	Lajitas Array	13.26	342	P	P	08 50 13.8	-0.1
JTS	JuntasAbangare	15.11	113	P	P	08 50 41.7	+3.3
	0.8nm,0.3s,baz=323,slow=20,SNR=4.2						
JTS	JuntasAbangare	15.11	113	P	P	08 50 41.8	+3.4
	8.5nm,0.7s						
CLNB	Carlsbad	16.09	345	eP	P	08 50 51.2	+0.3
GDL2	Guadalupe Moun	16.16	344	eP	P	08 50 52.1	+0.4
WMOK	Wichita Mounta	17.95	1	eP	P	08 51 14.0	-0.3
	6.2nm,0.7s						
BNM	Barren Site	18.65	340	eP	P	08 51 23.0	+0.1

TUC	Tucson	18.82	328	eP	P	08 51 24.3	-0.6
	3.3nm,0.8s						
UALR	University of	18.96	17	eP	P	08 51 24.1	-2.5
	16nm,0.9s						
ANMO	Albuquerque	19.34	341	eP	P	08 51 28.6	-2.3
	6.2nm,1.0s						
LRAL	Lakeview Retre	19.56	32	P	P	08 51 34.7	+1.2
	12nm,0.9s						
WVT	Waverly	21.76	25	eP	P	08 51 51.7	-4.6
	13nm,0.7s,mb4.5						
SWET	Sewanee	21.84	30	eP	P	08 51 56.2	-0.8
CCM	Cathedral Cave	22.34	16	eP	P	08 52 01.1	-1.0
	6.4nm,0.6s,mb4.2						
RW3	Ridgway	22.76	342	eP	P	08 52 07.2	+1.0
PV01	Paradox Valley	22.92	340	eP	P	08 52 07.4	-0.4
PV10	Paradox Valley	23.30	340	eP	P	08 52 10.6	-0.9
NEN	Nelson	23.53	326	eP	P	08 52 16.9	+3.1
WCI	Wyandotte Cave	24.19	25	P	P	08 52 18.4	-1.7
	22nm,0.8s,mb4.6						
WCI				e		08 52 27.4	
SRU	San Rafael	24.47	338	eP	P	08 52 23.4	+0.6
ARUT	Antelope Range	24.52	332	eP	P	08 52 25.0	+1.6
MSU	Marysvale	24.58	335	eP	P	08 52 25.8	+1.9
MVU	Marysvale	24.59	335	eP	P	08 52 26.1	+2.1
	3.4nm,0.9s,mb3.9						
BLO	Bloomington	24.91	24	P	P	08 52 29.0	+2.0
	28nm,0.7s,mb4.9						
TPNV	Topopah Spring	25.25	326	eP	P	08 52 33.7	+3.4
	6.9nm,1.0s,mb4.1						
NLU	North Lily Min	25.78	337	eP	P	08 52 35.7	+0.5
HWUT	Hardware Ranch	27.05	339	eP	P	08 52 46.8	-0.1
	3.5nm,0.6s,mb4.1						
PDAR	Pinedale Array	27.48	343	P	P	08 52 50.2	-0.5
	2.9nm,0.8s,mb3.9,baz=143,slow=7.4,SNR=25						
TPAW	Teton Pass	28.54	342	eP	P	08 52 58.5	-1.9
LOHW	Long Hollow	28.55	342	eP	P	08 52 59.1	-1.3
SDV	Santo Domingo	28.75	102	P	P	08 53 10.5	+8.0
MCMT	McKenzie Canyo	30.34	340	P	P	08 53 18.0	+1.5
YBH	Yreka Blue Hor	32.17	326	P	P	08 53 32.6	+0.1
	0.6nm,0.6s,mb3.6,baz=253,slow=17,SNR=2.5						
SADO	Sadowa	32.60	27	P	P	08 53 33.7	-2.6
	7.9nm,1.0s,mb4.6,baz=275,slow=2.2,SNR=2.7						
SADO	Sadowa	32.60	27	P	P	08 53 33.7	-2.6
EDM	Edmonton	38.12	346	eP	P	08 54 22.7	-0.5
SAML	Samuel	43.69	123	P	P	08 55 07.9	-1.7
	1.0nm,0.6s,mb3.7						
LPAZ	La Paz	44.77	136	P	P	08 55 18.9	+0.6
	0.3nm,0.4s,mb3.5,baz=50,slow=11,SNR=2.5						
LPAZ	La Paz	44.77	136	P	P	08 55 18.9	+0.6
SCHQ	Schefferville	45.40	26	P	P	08 55 20.5	-2.2
	3.6nm,0.7s,mb4.3,baz=203,slow=6.6,SNR=7.8						
YKA	Yellowknife Ar	47.02	350	P	P	08 55 35.7	+0.3
	1.7nm,0.7s,mb4.1,baz=156,slow=7.4,SNR=6.8						
YKA				LR	LR	09 16 35.7	
	comp=Z,42nm,18.3s,MS3.4,baz=55,slow=38						
YKA	Yellowknife Ar	47.02	350	P	P	08 55 35.7	+0.3
ILAR	Eielson Array	57.73	338	P	P	08 56 55.0	-0.5
	0.6nm,0.8s,mb3.7,baz=140,slow=4.3,SNR=8.0						
CPUP	Villa Florida	58.95	136	P	P	08 57 05.2	+0.8
	1.0nm,0.5s,mb4.1,baz=329,slow=1.4,SNR=4.4						
BDFB	Brasilia	59.73	120	P	P	08 57 09.8	-0.1
	1.8nm,0.4s,mb4.5,baz=283,slow=2.9,SNR=3.7						
ESDC	Sonseca Array	83.33	51	P	pP	08 59 40.8	+1.3
	0.2nm,0.3s,baz=295,slow=4.1,SNR=4.8						
ARCES	ARCESS Array B	85.62	17	P	pP	08 59 52.6	+2.2
	1.4nm,0.9s,baz=315,slow=3.4,SNR=4.1						
WRA	Warramunga Arr	129.39	258	PKP	PKPdf	09 06 13.7	-3.1
	1.0nm,0.8s,baz=80,slow=2.6,SNR=12						
ASAR	Alice Springs	130.05	253	PKP	PKPdf	09 06 14.3	-3.7
	0.7nm,1.0s,baz=108,slow=1.6,SNR=4.9						

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*IDC **28** 08:54:01.7±0.6,39.50N×74.79E,mb4.2/20,mb1 4.4/22, mb1mx4.3/25,ML3.4/2,MS3.6/7,Ms1 3.6/7,ms1mx3.2/33, Error ellipse: s-maj=14.8km s-min=13.1km az=7.0*

*NNC **28** 08:54:03.8±4.1,39.55N×73.46E,mpv5.0,Error ellipse: s-maj=71.3km s-min=26.5km az=113.0*

*MOS **28** 08:54:05.8±1.2,39.60N×74.72E,h33^{km},mb4.5/18,Error ellipse: s-maj=12.9km s-min=8.1km az=105.5*

*BJI **28** 08:54:06.0,39.71N×74.89E,h27^{km},mB4.5,mb4.4,ML4.4, Ms3.6,Msz3.8*

*NEIC **28** 08:54:08.4±1.1,39.60N×74.81E,h49^{km}±10^{km},mb4.4/11, Error ellipse: s-maj=8.7km s-min=6.9km az=206.0*

ISC 28 08:54:06.5±0.4**,39.46N**±0.02×**74.88E**±0.04**,h50**^{km}±4^{km}**, n120,**σ**1**^{s}**39**/130**,mb4.3**/35**,MS3.6**/12**,7C-8D,Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	Kashi	0.85	86	⇑iPG	P	08 54 20.5	-1.8
KSH				SG	S	08 54 36.3	+2.3
KSH				Smax			
	comp=N,12µm,0.7s						
KSH				Smax			
	comp=E,10µm,1.0s						
KZA	Kyzart	2.63	6	P	P	08 54 48.0	+0.5
	SNR=84						
UCH	Uchtor	2.78	354	P	P	08 54 49.8	+0.2
	SNR=189						
AML	Almayashu	2.82	342	P	P	08 54 49.4	-0.7
	SNR=102						
ULHL	Ulahol	2.97	20	P	P	08 54 52.9	+0.5
	SNR=84						
AAK	Ala-Archa	3.19	355	⇓Pn	P	08 54 55.5	+0.1
	comp=E,523nm,0.9s						
AAK				⇓Sn	S	08 55 35.1	+2.7
	comp=E,870nm,1.1s						
AAK	Ala-Archa	3.19	355	P	P	08 54 55.6	+0.2
	SNR=272						
AAK	Ala-Archa	3.19	355	ePn	P	08 54 54.5	-0.9
AAK				eS	S	08 55 34.2	+1.8
KBK	Karagaybulak	3.19	1	P	P	08 54 56.2	+0.7
	SNR=119						
EKS2	Erkin-Say	3.31	346	P	P	08 54 56.4	-0.7
	SNR=185						
TKM2	Tokmak 2	3.50	9	P	P	08 55 00.2	+0.3
	SNR=244						
CHMS	Chumysh	3.54	358	P	P	08 55 01.0	+0.6
	SNR=34						
USP	Ospenovka	3.81	356	P	P	08 55 04.8	+0.5
	SNR=86						
AAA	Alma-Ata	4.11	22	ePN	P	08 55 08.0	-0.5
AAA				e		08 55 15.1	
AAA				e		08 56 07.5	
AAA				pmax	pmax		
	comp=Z,600nm,1.5s						
AAA				smax			
	comp=N,2µm,2.0s						
CHCP	Chirah Chowk	5.93	193	⇑P	P	08 55 37.9	+4.0
CEP	Cherat	6.11	204	⇓P	P	08 55 38.9	+2.5
CEP				S	S	08 56 50.0	+4.1
THW	Thamme Wali	7.12	202	P	P	08 55 51.6	+1.0
THW				S	S	08 57 16.0	+5.1
SARP	Sargodha	7.73	194	P	P	08 55 59.0	0.0
SBDP	Sheikh Budin	7.87	206	P	P	08 56 01.3	+0.3
SBDP				S	S	08 57 32.0	+2.4
KLP	Kalpa	8.37	160	eP	P	08 56 10.0	+2.1
DRP	Derazinda	8.59	208	P	P	08 56 11.4	+0.6
MKAR	Makanchi Array	9.11	34	Pn	P	08 56 16.5	-1.5
	comp=N,0.3nm,0.3s,baz=205,slow=14,SNR=17						
MKAR				Lg		08 58 48.0	
	comp=N,0.5nm,0.3s,baz=217,slow=29,SNR=3.8						
MKAR				LR	LR	09 00 27.9	
	comp=N,109nm,18.5s,baz=285,slow=42						
JOSI	Joshimath	9.67	155	eP	P	08 56 27.0	+1.2
JOSI				AML	AML	08 58 26.0	
	comp=N,182nm,0.5s						
JOSI				AML	AML	08 58 37.4	
	comp=E,230nm,0.8s						
RTK	Rohtak	10.48	173	eP	P	08 56 35.6	-1.2
WMQ	Urumqi	10.53	61	eP	P	08 56 33.3	-4.2
WMQ				S	S	08 58 29.0	-6.0
NDI	New Delhi	10.92	169	eP	P	08 56 40.5	-2.3
NDI				e		08 58 44.0	
ASOR	Ausora	10.94	166	eP	P	08 56 41.3	-1.8
AYAN	Aya Nagar	11.11	170	eP	P	08 56 43.7	-1.6
SONA	Sohna	11.33	170	eP	P	08 56 46.8	-1.5
SONA				AML	AML	08 58 55.8	
	comp=E,24nm,0.3s						
SONA				AML	AML	08 58 60.0	
	comp=N,23nm,0.8s						
KUDL	Kundal	11.37	173	eP	P	08 56 47.6	-1.2
KUDL				e		08 56 51.4	
KHET	Khetri	11.38	176	eP	P	08 56 47.3	-1.8
KHET				AML	AML	08 58 59.3	
	comp=N,19nm,0.5s						
KHET				AML	AML	08 58 59.8	
	comp=E,14nm,0.7s						
KURK	Kurchatov	11.56	12	i P	P	08 56 49.0	-2.4
KURK	Kurchatov	11.56	12	eP	P	08 56 48.1	-3.3
	comp=E,5.9nm,0.9s						
AGRA	Agra	12.46	167	eP	P	08 57 02.8	-0.7
JASL	Jaisalmer	12.93	196	eP	P	08 57 07.3	-2.6
VOSK	Vostochnaya	13.54	350	⇓Pn	P	08 57 12.6	-4.9
	comp=E,7.6nm,0.9s						
VOSK				⇑Lg		09 01 05.4	
	comp=E,62nm,1.6s						
KOLN	Koldanda	13.73	146	eP	P	08 57 17.8	-2.4
	comp=E,9.5nm,0.3s						
BVA0	Borovoye Array	13.92	349	⇓Pn	P	08 57 17.8	-4.7
	comp=E,1.6nm,0.8s,baz=163,slow=14,SNR=6.0						
BVA0				⇑Lg		09 01 15.6	
	comp=E,7.0nm,1.4s,baz=151,slow=24,SNR=4.0						
BVAR	Borovoye Array	13.92	349	Pn	P	08 57 17.9	-4.6
	comp=E,0.2nm,0.3s,baz=164,slow=11,SNR=15						
BVAR				Lg		09 01 14.8	
	comp=E,0.2nm,0.3s,baz=155,slow=24,SNR=4.1						
BRVK	Borovoye	13.96	348	P	P	08 57 19.1	-4.0
BRVK	Borovoye	13.96	348	eP	P	08 57 18.0	-5.1
	comp=E,6.3nm,0.9s						
GKN	Gorkha	14.00	142	eP	P	08 57 20.9	-2.9
	comp=E,20nm,0.3s						
ZRNK	Zerenda	14.09	345	⇓Pn	P	08 57 20.0	-4.7
	comp=E,10.0nm,1.0s						
ZRNK				⇓Lg		09 01 18.8	
	comp=E,36nm,1.4s						
ZRNK	Zerenda	14.09	345	eP	P	08 57 19.9	-4.8
	comp=E,12nm,0.9s						
KKN	Kakani	14.49	140	eP	P	08 57 28.0	-2.3
	comp=E,20nm,0.5s						
PKI	Pulchoki	14.74	140	eP	P	08 57 30.8	-2.6
	comp=E,12nm,0.5s						
NVS	Novosibirsk	16.38	17	eP	P	08 57 49.1	-5.2
LSA	Lhasa	16.54	121	eP	P	08 57 59.3	+2.9
GTA	Gaotai	19.25	82	eP	P	08 58 31.0	+1.6
GTA				AP		08 58 35.3	
GTA				AMB	AMB		
	comp=Z,7.0nm,1.6s						
GTA				AMB	AMB		
	comp=Z,36nm,3.8s						
GTA				LR	LR		
	comp=N,79nm,15.6s						
GTA				LR	LR		
	comp=E,73nm,16.4s						
GTA				LR	LR		
	comp=Z,81nm,11.8s						
SVE	Sverdlovsk	19.73	336	⇑eP	P	08 58 32.0	-2.5
SVE				eSSS	S	09 02 14.0	+4.9
SVE				pmax	pmax		
	comp=Z,70nm,3.0s						
SVE				MLR	MLR		
	comp=Z,600nm,11.0s						
SVE				MLR	MLR		
	comp=N,400nm,12.0s						
SVE				MLR	MLR		
	comp=E,400nm,12.0s						
SHL	Shillong	19.89	129	eP	P	08 58 34.5	-1.9
SHL				e		09 02 06.0	
ARU	Arti	20.10	333	⇓iP	P	08 58 37.8	-0.7
ARU				eS	S	09 02 17.8	+1.2
ARU				pmax	pmax		
	comp=Z,11nm,0.9s						
ARU				MLR	MLR		
	comp=Z,200nm,16.0s,MS3.6						
ARU				MLR	MLR		
	comp=N,100nm,19.0s,MS3.3						
ARU				MLR	MLR		
	comp=E,60nm,15.0s,MS3.3						
ARU	Arti	20.10	333	eP	P	08 58 37.2	-1.2
	comp=E,8.5nm,0.6s						
POO	Poona	20.88	183	eP	P	08 58 47.0	+0.3
HYB	Hyderabad	22.19	171	i P	P	08 59 04.0	+4.1
HYB	Hyderabad	22.19	171	eP	P	08 59 04.0	+4.1
ZAK	Zakamensk	22.75	52	eP	P	08 59 06.4	+1.4
LZH	Lanzhou	23.10	89	⇑P	P	08 59 11.5	+2.9
LZH				AP		08 59 20.5	
LZH				XP		08 59 24.5	
LZH				AMB	AMB		
	comp=Z,25nm,1.5s,mb4.4						
LZH	Lanzhou	23.10	89	⇑P	P	08 59 11.6	+3.0
	comp=Z,25nm,1.5s,mb4.4						
LZH				pP		08 59 20.5	
LZH				sP		08 59 24.6	
GNI	Garni	23.11	281	P	P	08 59 10.1	+1.3
	comp=Z,11nm,0.8s,mb4.3,baz=345,slow=16,SNR=6.3						
GNI	Garni	23.11	281	P	P	08 59 10.1	+1.4
GNI				pmax	pmax		
	comp=Z,11nm,0.8s						
GNI	Garni	23.11	281	eP	P	08 59 10.4	+1.7
	comp=Z,24nm,0.8s,mb4.7						
ZEI	Tsey	23.51	288	eP	P	08 59 14.0	+1.5
ZEI				pmax	pmax		
	comp=Z,50nm,4.0s						
ZEI				MLR	MLR		
	comp=Z,200nm,17.0s,MS3.6						
SONM	Songino Array	24.16	59	P	P	08 59 20.0	+1.2
	comp=Z,1.5nm,0.9s,mb3.4,baz=263,slow=12,SNR=4.5						
KIV	Kislovodsk	24.36	291	eP	P	08 59 22.7	+1.9
KIV				MLR	MLR		
	comp=Z,44nm,17.0s,MS3.0						
MIB	Mutribah	24.54	255	eP	P	08 59 24.2	+1.5
MIB				AMb	AMB	08 59 25.3	
	comp=Z,18nm,0.9s,mb4.6						
KBD	Kabd	24.60	254	eP	P	08 59 25.0	+1.7
RDF	Al-Radifah	24.84	253	eP	P	08 59 25.6	+0.1
RDF				AMb	AMB	08 59 32.9	
	comp=Z,17nm,1.2s,mb4.4						
RST	Umm Al-Ruwaisa	24.95	255	eP	P	08 59 26.1	-0.6
RST				AMb	AMB	08 59 31.2	
	comp=Z,32nm,0.9s,mb4.8						
SOC	Sochi	26.52	290	eP	P	08 59 39.0	-2.2
SOC				e		09 00 22.7	
SOC				eS	S	09 04 04.1	-5.8
SOC				eSSS	SSS	09 05 40.5	-0.9
SOC				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.1						
SOC				pmax	pmax		
	comp=N,3.0nm,0.4s						
SOC				pmax	pmax		
	comp=E,3.0nm,0.4s						
SOC				MLR	MLR		
	comp=Z,115nm,22.0s,MS3.4						
SOC				MLR	MLR		
	comp=N,106nm,23.0s,MS3.4						
SOC				MLR	MLR		
	comp=E,66nm,23.0s,MS3.4						
MOS	Moscow	29.48	316	eP	P	09 00 06.3	-1.4
MOS				pmax	pmax		
	comp=Z,102nm,1.0s,mb5.5						
CMAR	Chiang Mai Arr	29.52	128	P	P	09 00 19.2	+11
	comp=Z,0.9nm,0.4s,mb3.9,baz=320,slow=11,SNR=5.1						
CMAR				LR	LR	09 14 38.0	
	comp=Z,45nm,20.0s,MS3.1,baz=199,slow=42						
CMAR	Chiang Mai Arr	29.52	128	P	P	09 00 19.2	+11
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
CMAR				MLR	MLR		
	comp=Z,45nm,20.0s						
BRTR	Keskin Array B	31.58	284	P	P	09 00 25.1	-1.3
	comp=Z,2.6nm,0.6s,mb4.2,baz=100,slow=7.5,SNR=15						
BRTR	Keskin Array B	31.58	284	P	P	09 00 25.2	-1.3
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
AKASG	Malin Array Be	33.63	305	P	P	09 00 42.7	-1.4
	comp=Z,1.9nm,0.6s,mb4.2,baz=78,slow=7.3,SNR=8.2						
AKASG	Malin Array Be	33.63	305	P	P	09 00 42.7	-1.4
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
FINES	FINESS Array B	36.86	323	P	P	09 01 10.2	-1.2
	comp=Z,1.1nm,0.4s,mb4.0,baz=112,slow=9.7,SNR=11						
FINES				LR	LR	09 17 45.2	
	comp=Z,83nm,19.2s,MS3.5,baz=195,slow=39						
FINES	FINESS Array B	36.86	323	P	P	09 01 10.3	-1.2
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES				MLR	MLR		
	comp=Z,83nm,19.2s						
CN2	Changchun	37.57	67	eP	P	09 01 18.3	+0.7
SSE	Sheshan	38.37	88	eP	P	09 01 31.3	+6.9
SSE				AMB	AMB		
	comp=Z,14nm,0.7s,mb4.8						
SSE	Sheshan	38.37	88	eP	P	09 01 31.3	+6.9
	comp=Z,14nm,0.7s,mb4.8						
ARCES	ARCESS Array B	39.66	335	P	P	09 01 33.7	-1.1
	comp=Z,2.3nm,0.6s,mb4.1,baz=108,slow=7.7,SNR=12						
ARCES				LR	LR	09 20 50.7	
	comp=Z,108nm,21.2s,MS3.7,baz=181,slow=41						
ARCES	ARCESS Array B	39.66	335	P	P	09 01 33.7	-1.1
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ARCES				MLR	MLR		
	comp=Z,108nm,21.2s						
ARCES	ARCESS Array B	39.66	335	P	P	09 01 33.7	-1.1
MDJ	Mudanjiang	40.32	64	P	P	09 01 39.8	-0.7
MDJ				XP	sP	09 01 57.0	-2.7
MDJ				S	S	09 07 42.8	-1.6
MDJ				AMB	AMB		
	comp=Z,4.0nm,1.2s,mb4.0						
MDJ				LR	LR		
	comp=N,67nm,23.9s,MS3.4						
MDJ				LR	LR		
	comp=E,26nm,25.5s,MS3.4						
MDJ				LR	LR		
	comp=Z,55nm,19.1s						
MORC	Moravsky Berou	41.17	304	P	P	09 01 46.8	-0.6
	comp=Z,2.7nm,0.9s,mb3.9						
TIXI	Tiksi	41.88	23	eP	P	09 01 54.2	+1.3
TIXI				e		09 03 54.1	
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.1						
TIXI				MLR	MLR		
	comp=Z,400nm,17.0s,MS4.4						
BRG	Berggiesshubel	43.28	306	eP	P	09 02 04.6	-0.1
BRG				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.0						
BRG	Berggiesshubel	43.28	306	P	P	09 02 04.6	-0.1
	comp=Z,2.8nm,0.8s,mb4.0						
GERES	GERESS Array B	43.80	303	P	P	09 02 08.6	-0.3
	comp=Z,2.7nm,0.7s,mb4.1,baz=68,slow=7.2,SNR=18						
GERES	GERESS Array B	43.80	303	P	P	09 02 08.6	-0.3
GERES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KHC	Kasperske Hory	43.83	304	eP	P	09 02 08.0	-1.1
NB2	NORSAR Subarra	43.94	321	P	P	09 02 06.6	-3.2
	comp=Z,2.9nm,0.9s,mb4.0,baz=90,slow=7.9						
NOA	NORSAR Array B	43.94	321	P	P	09 02 08.5	-1.3
	comp=Z,3.5nm,0.9s,mb4.1,baz=90,slow=8.0,SNR=5.4						
NOA				LR	LR	09 20 57.3	
	comp=Z,116nm,18.3s,MS3.8,baz=5.0,slow=37						
NOA	NORSAR Array B	43.94	321	P	P	09 02 08.5	-1.3
NOA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
NOA				MLR	MLR		
	comp=Z,116nm,18.3s						
JNU	Nakatsue	44.97	80	P	P	09 02 18.8	+0.4
	comp=Z,25nm,0.8s,mb5.1,baz=293,slow=3.5,SNR=3.2						
GRA1	Grafenberg Arr	45.22	305	eP	P	09 02 20.8	+0.6
	comp=Z,6.0nm,0.9s,mb4.4						
GRF	Grafenberg Arr	45.22	305	eP	P	09 02 20.8	+0.6
GRF				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.4						
KMBO	Kilima Mbogo	53.08	230	P	P	09 03 21.9	+0.6
	comp=Z,0.7nm,0.6s,mb3.8,baz=12,slow=14,SNR=4.0						
ESDC	Sonseca Array	58.80	298	P	P	09 04 00.7	-1.2
	comp=Z,0.5nm,0.4s,mb3.9,baz=43,slow=7.6,SNR=3.5						
LSZ	Lusaka	69.71	228	eP	P	09 05 14.2	+0.9
	comp=Z,8.5nm,0.9s,mb4.7						
INK	Inuvik	70.46	11	P	P	09 05 18.3	+1.3
	comp=Z,2.6nm,0.7s,mb4.3,baz=328,slow=3.4,SNR=4.5						
INK	Inuvik	70.46	11	P	P	09 05 18.3	+1.3
INK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
COLA	College	70.76	18	P	P	09 05 18.2	-0.6
	comp=Z,6.1nm,1.0s,mb4.5						
ILAR	Eielson Array	71.07	18	P	P	09 05 20.1	-0.7
	comp=Z,1.4nm,0.9s,mb3.9,baz=317,slow=5.5,SNR=16						
ILAR	Eielson Array	71.07	18	P	P	09 05 20.1	-0.6
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
FITZ	Fitzroy Crossi	74.32	130	P	P	09 05 42.2	+1.6
	comp=Z,3.2nm,1.0s,mb4.2,baz=350,slow=9.9,SNR=4.2						
DBIC	Dimbokro	77.87	269	P	P	09 06 01.1	+0.2
	comp=Z,4.0nm,1.0s,mb4.3,baz=335,slow=5.6,SNR=2.6						
DBIC	Dimbokro	77.87	269	P	P	09 06 01.1	+0.2
DBIC				pmax	pmax		
	comp=Z,4.0nm,1.0s						
YKA	Yellowknife Ar	78.11	4	P	P	09 06 01.4	+0.2
	comp=Z,1.2nm,0.6s,mb4.0,baz=350,slow=5.7,SNR=8.7						
YKA				LR	LR	09 43 49.9	
	comp=Z,55nm,18.5s,MS3.9,baz=10.0,slow=38						
YKA	Yellowknife Ar	78.11	4	P	P	09 06 01.4	+0.2
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA				MLR	MLR		
	comp=Z,55nm,18.5s						
YKA	Yellowknife Ar	78.11	4	P	P	09 06 01.4	+0.2
SCHQ	Schefferville	80.52	339	P	P	09 06 14.8	+0.4
	comp=Z,1.9nm,0.8s,mb4.1,baz=54,slow=16,SNR=2.6						
WRA	Warramunga Arr	81.06	125	P	P	09 06 18.8	+0.9
	comp=Z,3.9nm,0.7s,mb4.5,baz=320,slow=4.4,SNR=39						
WRA	Warramunga Arr	81.06	125	P	P	09 06 18.8	+0.9
WRA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
WRA	Warramunga Arr	81.06	125	P	P	09 06 18.8	+0.9
WRAB	Tennant Creek	81.06	125	eP	P	09 06 19.1	+1.1
	comp=Z,16nm,0.9s,mb4.9						
ASAR	Alice Springs	83.53	128	P	P	09 06 32.0	+1.4
	comp=Z,3.3nm,0.8s,mb4.5,baz=322,slow=5.4,SNR=27						
PDAR	Pinedale Array	98.06	3	LR	LR	09 52 35.5	
	comp=Z,42nm,19.1s,MS4.0,baz=66,slow=36						

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*NIED **28** 09:24:00,33.30N×138.10E,h340^{km},Mw4.7 Best double couple: M$_0$1.42×10^{16} NP1:ϕ_s341°,δ89°,λ-99°. NP2: ϕ_s245°,δ9°,λ-6°.*

*JMA **28** 09:24:28.2±0.3,33.35N×138.07E,h342^{km}±3^{km},M4.7*

JMA Felt I J1.

*BJI **28** 09:24:29.1,33.36N×137.94E,h336^{km},mB4.8,mb5.0*

*MOS **28** 09:24:29.5±0.8,33.50N×137.78E,h313^{km},mb4.5/19, Error ellipse: s-maj=15.5km s-min=8.5km az=93.6*

*IDC **28** 09:24:30.7±0.4,33.28N×137.93E,h322^{km}±3^{km},mb4.2/23, mb1 4.3/27,mb1mx4.2/31,Error ellipse: s-maj=8.8km s-min=8.1km az=32.0*

*NEIC **28** 09:24:30.4±0.4,33.28N×137.84E,h318^{km}±4^{km},mb4.9/51, MW4.7(NIED),Error ellipse: s-maj=4.7km s-min=3.2km az=143.0*

NEIC Felt at Tokyo. Recorded [1 JMA] in Tochigi and Tokyo Prefectures.

*SYO **28** 09:24:30.0,33.28N×137.81E,h315^{km},MB4.9*

ISC 28 09:24:30.0±0.2**,33.30N**±0.03×**137.85E**±0.03**,h325**^{km}±1^{km}**, h318**^{km}±2.9^{km}**:pP-P,n265,**σ**0**^{s}**95**/285**,mb4.7**/95**,38C-29D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK01	Tokai 1	0.51	335	P	P	09 25 11.6	-0.1
TK01				S	S	09 25 44.9	+0.5
TK02	Tokai 2	0.65	353	⇑P	P	09 25 12.2	+0.2
TK02				S	S	09 25 46.7	+1.7
TK03	Tokai 3	0.87	6	P	P	09 25 13.2	+0.5
TK03				S	S	09 25 47.9	+1.7
TK04	Tokai 4	1.08	1	⇑P	P	09 25 14.0	+0.4
TK04				S	S	09 25 49.3	+1.5
OMA	Omae zaki	1.33	13	P	P	09 25 15.0	0.0
OMA				S	S	09 25 50.9	+0.7
JKO	Kozu shima	1.39	50	⇓P	P	09 25 14.6	-0.7
JIE	Ise	1.44	319	⇑P	P	09 25 15.9	+0.3
JIE				S	S	09 25 51.7	+0.4
JHJ	Hachijo jima 2	1.63	96	P	P	09 25 15.8	-1.0
	535nm,0.3s,baz=52,slow=5.0,SNR=133						
JHJ				S	S	09 25 54.0	+0.7
	268nm,0.3s,baz=265,slow=22,SNR=6.4						
JHJ2	Mitsune	1.66	96	P	P	09 25 15.2	-1.8
JWZ	Kozaga	1.80	278	⇑P	P	09 25 18.2	+0.3
JIM2	Oshima 3	1.93	43	⇓P	P	09 25 17.2	-1.6
JWY	Kouya	2.09	297	⇑P	P	09 25 21.0	+1.0
JWY				S	S	09 26 00.6	+1.5
JOD2	Odawara 2	2.21	27	⇓P	P	09 25 19.5	-1.5
JOD2				eS	S	09 25 59.8	-1.0
JYN	Shimob	2.26	15	⇓P	P	09 25 20.7	-0.7
JGM	Miyama	2.57	339	⇑P	P	09 25 24.2	+0.2
JGM				S	S	09 26 06.6	+0.4
JWT	Wachi	2.83	315	P	P	09 25 26.7	+0.4

JWT				S	**S**	**09 26 11.0**	**+0.6**
JRY	**Ryogami san**	**2.84**	**17**	⇓P	**P**	**09 25 25.5**	**-0.9**
JRY				*e*S	**S**	**09 26 09.5**	**-1.1**
JAI	**Aioi**	**2.88**	**281**	⇑P	**P**	**09 25 27.6**	**+0.8**
BSO1	**Boso 1**	**2.93**	**62**	⇓P	**P**	**09 25 23.0**	**-4.2**
BSO1				*e*S	**S**	**09 26 06.5**	**-5.5**
JKG	**Kaga**	**3.22**	**338**	P	**P**	**09 25 29.8**	**-0.2**
MAJO	**Matsushiro**	**3.25**	**5**	*e*Pn	**P**	**09 25 28.9**	**-1.4**
MAT	**Matsushiro**	**3.25**	**5**	⇓P	**P**	**09 25 29.2**	**-1.1**
MAT				S	**S**	**09 26 14.7**	**-2.8**
MAT	**Matsushiro**	**3.25**	**5**	P	**P**	**09 25 29.2**	**-1.1**
MAT				S	**S**	**09 26 14.8**	**-2.7**
MAT	**Matsushiro**	**3.25**	**5**	⇓*i*P	**P**	**09 25 29.2**	**-1.1**
MAT				*e*S	**S**	**09 26 13.0**	**-4.5**
JAG	**Ashikaga**	**3.38**	**22**	⇓P	**P**	**09 25 28.8**	**-2.8**
JAG				*e*S	**S**	**09 26 14.4**	**-5.5**
JTO	**Tosashimizu**	**4.26**	**265**	⇑P	**P**	**09 25 41.9**	**+1.1**
JHS	**Saijyo**	**4.27**	**295**	⇑P	**P**	**09 25 42.1**	**+1.2**
JHS				S	**S**	**09 26 39.3**	**+2.7**
JNU	**Nakatsue**	**5.85**	**270**	P	**P**	**09 25 59.2**	**+0.4**
	2.7nm,0.3s,baz=86,slow=15,SNR=7.3						
JNU				S	**S**	**09 27 14.6**	**+6.0**
	2.1nm,0.3s,baz=18,slow=43,SNR=3.1						
CBIJ	**Chichi jima**	**7.23**	**148**	P	**P**	**09 26 09.3**	**-6.0**
	7.2nm,0.3s,baz=277,slow=17,SNR=44						
CBIJ				S	**S**	**09 27 28.9**	**-9.2**
	152nm,0.3s,baz=297,slow=22,SNR=18						
INCN	**Inchon**	**10.06**	**298**	⇓*e*P	**P**	**09 26 51.0**	**+1.4**
	98nm,0.6s						
JOW	**Kunigami**	**10.50**	**235**	P	**P**	**09 26 55.8**	**+0.9**
	15nm,0.3s,baz=47,slow=8.5,SNR=17						
ASAJ	**Asahikawa**	**11.41**	**18**	P	**P**	**09 27 02.9**	**-3.1**
	9.5nm,0.3s,baz=236,slow=12,SNR=32						
ASAJ				S	**S**	**09 29 03.5**	**-5.9**
	4.8nm,0.3s,baz=51,slow=27,SNR=5.2						
ASAJ	**Asahikawa**	**11.41**	**18**	P	**P**	**09 27 02.9**	**-3.1**
ASAJ				S	**S**	**09 29 03.5**	**-5.9**
ASAJ				pmax	pmax		
	comp=Z,10.0nm,0.3s						
ASAJ				smax			
	comp=N,5.0nm,0.3s						
YUK	**Yuzh-Kuril’sk**	**12.40**	**28**	*e*P	**P**	**09 27 16.0**	**-2.0**
YUK				*e*S	**S**	**09 29 26.5**	**-4.6**
YUK				pmax	pmax		
	comp=N,210nm,0.5s						
YUK				pmax	pmax		
	comp=E,100nm,0.5s						
YUK				pmax	pmax		
	comp=Z,220nm,0.5s						
YUK				smax			
	comp=N,840nm,0.5s						
YUK				smax			
	comp=E,730nm,0.5s						
YUK				smax			
	comp=N,2µm,0.8s						
YUK				smax			
	comp=E,2µm,1.0s						
MDJ	**Mudanjiang**	**12.99**	**333**	P	**P**	**09 27 24.5**	**-0.6**
MDJ				XP		09 28 35.8	
MDJ				S	**S**	**09 29 47.5**	**+3.6**
MDJ				SCS	ScS	09 39 05.5	-2.3
MDJ				AMB	AMB		
	comp=Z,19nm,0.7s						
MDJ				AMB	AMB		
	comp=Z,39nm,4.2s						
MDJ	**Mudanjiang**	**12.99**	**333**	*e*P	**P**	**09 27 23.9**	**-1.2**
	comp=Z,22nm,0.7s						
YSS	**Yuzh-Sakhalins**	**14.14**	**14**	*e*P	**P**	**09 27 37.0**	**-1.5**
YSS				*e*S	**S**	**09 30 05.0**	**-3.9**
YSS				pmax	pmax		
	comp=N,50nm,0.6s						
YSS				pmax	pmax		
	comp=Z,100nm,0.6s						
YSS				smax			
	comp=E,100nm,0.9s						
YSS	**Yuzh-Sakhalins**	**14.14**	**14**	*e*P	**P**	**09 27 37.1**	**-1.5**
	comp=E,79nm,0.5s						
SNY	**Shenyang**	**14.15**	**311**	⇓P	**P**	**09 27 37.8**	**-0.9**
SNY				AMB	AMB		
	comp=Z,30nm,0.9s						
KUR	**Kuril’sk**	**14.20**	**30**	⇓*i*P	**P**	**09 27 39.0**	**-0.3**
KUR				*e*S	**S**	**09 30 14.0**	**+3.7**
KUR				pmax	pmax		
	comp=E,90nm,0.7s						
KUR				pmax	pmax		
	comp=Z,120nm,0.7s						
KUR				smax			
	comp=N,100nm,0.7s						
KUR				smax			
	comp=E,150nm,0.7s						
CN2	**Changchun**	**14.27**	**321**	*e*P	**P**	**09 27 38.5**	**-1.5**
CN2				*e*S	**S**	**09 30 09.8**	**-1.8**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.2s						
SSE	**Sheshan**	**14.28**	**266**	P	**P**	**09 27 40.8**	**+0.5**
SSE				AMB	AMB		
	comp=Z,34nm,0.6s						
SSE				AMB	AMB		
	comp=Z,447nm,4.6s						
SSE	**Sheshan**	**14.28**	**266**	P	**P**	**09 27 40.8**	**+0.5**
	comp=Z,34nm,0.6s						
NJ2	**Nanjing**	**16.05**	**271**	*e*P	**P**	**09 27 59.8**	**+0.3**
NJ2				XP		09 29 20.0	
NJ2				S	**S**	**09 30 49.0**	**+1.3**
NJ2				PCP	PcP	09 32 35.0	-0.7
NJ2				AMB	AMB		
	comp=Z,540nm,4.7s						
NJ2				LR	LR		
	comp=N,2µm,14.8s						
NJ2				LR	LR		
	comp=E,1µm,14.6s						
NJ2				LR	LR		
	comp=Z,1µm,15.0s						
KLR	**Kul’dur**	**16.55**	**346**	*e*P	**P**	**09 27 59.0**	**-5.7**
TIA	**Tai’an**	**17.27**	**285**	P	**P**	**09 28 11.5**	**-0.8**
TIA				AMB	AMB		
	comp=Z,81nm,0.8s						
BJI	**Beijing**	**18.62**	**297**	P	**P**	**09 28 25.0**	**-0.9**
BJI				XP		09 29 52.3	
BJI				S	**S**	**09 31 38.8**	**+2.4**
BJI				AMB	AMB		
	comp=Z,34nm,0.6s						
BJI	**Beijing**	**18.62**	**297**	P	**P**	**09 28 24.9**	**-1.0**
	comp=Z,34nm,0.6s						
BJI				sP		09 29 52.3	
BJI				S	**S**	**09 31 38.7**	**+2.3**
BJT	**Baijiatuau**	**18.62**	**297**	*e*P	**P**	**09 28 25.1**	**-0.8**
	comp=Z,32nm,0.7s						
WHN	**Wuhan**	**20.13**	**269**	⇓P	**P**	**09 28 41.0**	**+0.2**
WHN				AMB	AMB		
	comp=Z,268nm,0.7s						
HIA	**Hailar**	**20.88**	**325**	*e*P	**P**	**09 28 47.2**	**-0.8**
	comp=Z,34nm,0.6s						
SKR	**Severo-Kuril’s**	**21.94**	**32**	*e*P	**P**	**09 28 51.1**	**-7.2**
SKR				pmax	pmax		
	comp=Z,40nm,0.5s,mb4.9						
SKR				pmax	pmax		
	comp=N,120nm,1.0s						
SKR				pmax	pmax		
	comp=E,120nm,1.0s						
HHC	**Hu-ho-hao-te**	**22.23**	**297**	*e*P	**P**	**09 29 01.3**	**+0.3**
HHC				XP		09 30 34.8	
HHC				S	**S**	**09 32 40.3**	**+0.8**
HHC				PCP	PcP	09 32 46.8	+0.2
HHC				SCP		09 35 53.0	
HHC				PCS		09 36 25.8	
HHC				AMB	AMB		
	comp=Z,49nm,0.9s,mb4.7						
HHC				AMB	AMB		
	comp=Z,82nm,7.8s						
BTO	**Baotou**	**23.34**	**296**	*e*P	**P**	**09 29 11.3**	**-0.1**
BTO				AMB	AMB		
	comp=Z,184nm,0.6s,mb5.5						
ENH	**Enshi**	**24.27**	**271**	⇓*e*P	**P**	**09 29 19.2**	**-0.8**
	comp=Z,348nm,0.4s,mb5.9						
PET	**Petropavlovsk**	**24.71**	**31**	*e*P	**P**	**09 29 22.7**	**-1.1**
PET				pmax	pmax		
	comp=Z,33nm,0.7s,mb4.7						
SONM	**Songino Array**	**27.73**	**311**	P	**P**	**09 29 51.4**	**+0.3**
	comp=Z,23nm,0.8s,mb4.5,baz=108,slow=8.3,SNR=44						
SONM				pP		09 30 52.4	
	comp=Z,4.6nm,0.9s,baz=117,slow=8.3,SNR=2.1						
SONM				ScP		09 36 12.9	
	comp=Z,0.4nm,0.4s,baz=137,slow=4.0,SNR=3.7						
GYA	**Guiyang**	**27.82**	**264**	⇓*i*P	**P**	**09 29 50.5**	**-1.6**
GYA				AP		09 30 50.5	
GYA				PCP	PcP	09 32 58.5	-0.7
GYA				S	**S**	**09 34 09.3**	**-0.9**
GYA				SCP		09 36 07.5	
GYA				AMB	AMB		
	comp=Z,80nm,0.6s,mb5.1						
CD2	**Chengdu**	**28.90**	**275**	⇓*i*P	**P**	**09 30 00.5**	**-1.2**
YAK	**Yakutsk**	**29.22**	**352**	*e*P	**P**	**09 30 02.4**	**-1.7**
YAK				pmax	pmax		
	comp=Z,9.0nm,0.5s,mb4.3						
ZAK	**Zakamensk**	**30.54**	**314**	*e*P	**P**	**09 30 15.5**	**-0.2**
GTA	**Gaotai**	**31.07**	**292**	*e*P	**P**	**09 30 20.0**	**-0.4**
GTA				AP	pP	09 31 22.5	-0.4
GTA				XP	sP	09 31 57.0	-3.3
GTA				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb3.9						
KMI	**Kunming**	**31.59**	**264**	⇑*e*P	**P**	**09 30 24.5**	**-0.5**
KMI				AMB	AMB		
	comp=Z,75nm,0.7s,mb5.0						
KMI	**Kunming**	**31.59**	**264**	⇑*e*P	**P**	**09 30 24.5**	**-0.5**
	comp=Z,75nm,0.7s,mb5.0						
KMI				pP	PP	09 31 44.7	+0.4
NANT	**Nan**	**36.16**	**256**	⇓P	**P**	**09 31 03.5**	**-0.2**
	comp=Z,148nm,0.5s,mb5.5						
CHG	**Chiang Mai**	**37.58**	**257**	⇑P	**P**	**09 31 15.2**	**-0.4**
	comp=Z,28nm,0.8s,mb4.5						
CMAR	**Chiang Mai Arr**	**37.76**	**257**	P	**P**	**09 31 17.1**	**0.0**
	comp=Z,16nm,0.6s,mb4.4,baz=48,slow=8.0,SNR=62						
CMAR				ScP		09 36 44.5	
	comp=Z,3.9nm,1.1s,baz=25,slow=2.7,SNR=13						
CMAR	**Chiang Mai Arr**	**37.76**	**257**	P	**P**	**09 31 17.1**	**0.0**
CMAR						09 36 44.5	
CMAR				pmax	pmax		
	comp=Z,16nm,0.6s						
CMAR				pmax	pmax		
	comp=N,4.0nm,1.1s						
BDT	**Bhumibol Dam**	**38.34**	**255**	P	**P**	**09 31 21.5**	**-0.4**
	comp=N,22nm,0.6s,mb4.6						
TIXI	**Tiksi**	**38.71**	**355**	*e*P	**P**	**09 31 23.6**	**-0.7**
TIXI				*i*		09 33 30.6	
TIXI				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.2						
TIXI				MLR	MLR		
	comp=Z,300nm,21.0s						
WMQ	**Urumqi**	**40.05**	**300**	P	**P**	**09 31 36.8**	**+1.2**
WMQ				AP	pP	09 32 40.8	-0.1
WMQ				XP	sP	09 33 16.5	-0.6
WMQ				AMB	AMB		
	comp=Z,17nm,0.8s,mb4.3						
SNG	**Songkhla**	**43.16**	**241**	P	**P**	**09 32 02.0**	**+0.9**
NVS	**Novosibirsk**	**43.42**	**317**	*i* P	**P**	**09 32 01.5**	**-1.1**
NVS				pmax	pmax		
	comp=N,4.0nm,0.6s						
NVS				pmax	pmax		
	comp=E,13nm,0.6s						
NVS				pmax	pmax		
	comp=Z,20nm,0.6s,mb4.4						
MKAR	**Makanchi Array**	**43.74**	**305**	P	**P**	**09 32 05.3**	**0.0**
	comp=Z,12nm,0.4s,mb4.3,baz=90,slow=9.7,SNR=33						
MKAR				pP	pP	09 33 12.2	+0.8
	comp=Z,3.8nm,0.8s,baz=83,slow=12,SNR=1.9						
MKAR				ScP		09 37 04.8	
	comp=Z,3.6nm,0.8s,baz=90,slow=6.1,SNR=7.5						
MKAR	**Makanchi Array**	**43.74**	**305**	P	**P**	**09 32 05.3**	**0.0**
MKAR				*PP	pP	09 33 12.2	+0.8
MKAR				pmax	pmax		
	comp=Z,12nm,0.4s						
MKAR				pmax	pmax		
	comp=N,4.0nm,0.8s						
MKAR				pmax	pmax		
	comp=N,4.0nm,0.8s						
MKAR	**Makanchi Array**	**43.74**	**305**	P	**P**	**09 32 05.3**	**0.0**
MKAR				pP	pP	09 33 12.2	+0.8
MKAR				ScP		09 37 04.8	
PKI	**Pulchoki**	**45.19**	**277**	*e*P	**P**	**09 32 16.6**	**-0.4**
	comp=N,33nm,0.5s,mb4.7						
KKN	**Kakani**	**45.22**	**278**	*e*P	**P**	**09 32 17.1**	**-0.1**
	comp=N,26nm,0.4s,mb4.7						
DMN	**Daman**	**45.43**	**277**	*e*P	**P**	**09 32 18.6**	**-0.3**
	comp=N,41nm,0.8s,mb4.6						
GKN	**Gorkha**	**45.68**	**278**	*e*P	**P**	**09 32 20.5**	**-0.3**
	comp=N,23nm,0.3s,mb4.8						
KURK	**Kurchatov**	**46.03**	**311**	*d i*P	**P**	**09 32 22.6**	**-0.7**
KURK	**Kurchatov**	**46.03**	**311**	⇓*e*P	**P**	**09 32 22.7**	**-0.6**
	comp=N,26nm,0.6s,mb4.5						
KAKA	**Kakadu**	**46.04**	**187**	⇓*i*P	**P**	**09 32 26.6**	**+2.8**
	comp=N,16nm,0.6s,mb4.3						
KOLN	**Koldanda**	**46.62**	**278**	*e*P	**P**	**09 32 28.0**	**-0.1**
	comp=N,18nm,0.3s,mb4.8						
USP	**Ospenovka**	**49.64**	**301**	P	**P**	**09 32 50.5**	**-0.5**
	SNR=5.3						
AAK	**Ala-Archa**	**49.76**	**300**	P	**P**	**09 32 51.6**	**-0.3**
	SNR=5.4						
AAK	**Ala-Archa**	**49.76**	**300**	*e*P	**P**	**09 32 50.2**	**-1.7**
	comp=N,7.4nm,0.6s,mb4.1						
UCH	**Uchtor**	**49.83**	**300**	P	**P**	**09 32 53.2**	**+0.8**
	SNR=5.4						
EKS2	**Erkin-Say**	**50.28**	**300**	P	**P**	**09 32 55.1**	**-0.7**
	SNR=5.5						
AML	**Almayashu**	**50.45**	**300**	P	**P**	**09 32 57.7**	**+0.7**
	SNR=12						
BVAR	**Borovoye Array**	**50.99**	**314**	P	**P**	**09 33 00.1**	**-0.7**
	comp=N,8.0nm,0.5s,mb4.2,baz=104,slow=7.3,SNR=51						
BVAR				PcP	PcP	09 34 10.8	-1.5
	comp=N,1.2nm,0.4s,baz=135,slow=4.1,SNR=2.0						
BVAR				ScP		09 37 35.6	
	comp=N,2.9nm,0.6s,baz=93,slow=4.8,SNR=9.7						
VIS	**Vishakhapatnam**	**51.05**	**266**	*e*	**P**	**09 33 00.0**	**-1.8**
BRVK	**Borovoye**	**51.05**	**314**	⇓*e*P	**P**	**09 33 00.4**	**-0.9**
	comp=N,12nm,0.7s,mb4.2						
IMA	**Indian Mountai**	**51.37**	**29**	*e*P	**P**	**09 33 03.7**	**+0.2**
RSO	**Redoubt South**	**51.63**	**36**	*e*P	**P**	**09 33 05.2**	**-0.3**
KDAK	**Kodiak Island**	**51.83**	**40**	P	**P**	**09 33 05.0**	**-2.0**
	comp=N,786nm,0.5s						
KDAK	**Kodiak Island**	**51.83**	**40**	⇑*e*P	**P**	**09 33 05.9**	**-1.0**
	comp=N,107nm,0.6s,mb5.3						
ZRNK	**Zerenda**	**51.83**	**314**	⇓*e*P	**P**	**09 33 06.0**	**-1.0**
	comp=N,13nm,0.6s,mb4.4						
FITZ	**Fitzroy Crossi**	**52.43**	**195**	⇓*i*P	**P**	**09 33 11.0**	**-0.9**
	comp=N,7.5nm,0.4s,mb4.4						
PWA	**Palmer West**	**52.99**	**35**	*e*P	**P**	**09 33 14.5**	**-0.9**
WRAB	**Tennant Creek**	**53.04**	**184**	*e*P	**P**	**09 33 15.0**	**-1.4**
	comp=N,28nm,0.4s,mb4.9						
WB2	**Warramunga Arr**	**53.05**	**184**	⇓*i*P	**P**	**09 33 14.9**	**-1.5**
WB2				*e*		09 33 55.8	
WB2				*e*S	**S**	**09 40 17.9**	**-2.0**
WRA	**Warramunga Arr**	**53.05**	**184**	P	**P**	**09 33 15.0**	**-1.5**
	comp=N,18nm,0.3s,mb4.8,baz=0.1,slow=7.6,SNR=338						
WRA				pP	pP	09 34 21.9	-3.6
	comp=N,1.0nm,0.5s,baz=2.2,slow=7.5,SNR=0.9						
WRA				ScP		09 37 45.2	
	comp=N,0.8nm,0.6s,slow=5.5,SNR=4.3						
WRA	**Warramunga Arr**	**53.05**	**184**	P	**P**	**09 33 15.0**	**-1.4**
WRA				*PP	pP	09 34 21.9	-3.7
WRA				pmax	pmax		
	comp=Z,18nm,0.4s						
WRA				pmax	pmax		
	comp=N,1.0nm,0.5s						
WRA				pmax	pmax		
	comp=N,1.0nm,0.6s						
WRA	**Warramunga Arr**	**53.05**	**184**	P	**P**	**09 33 15.0**	**-1.5**
WRA				pP	pP	09 34 21.9	-3.6
WRA				ScP		09 37 45.2	
MCK	**McKinley**	**53.34**	**32**	⇑*e*P	**P**	**09 33 16.9**	**-1.0**
	comp=N,9.8nm,0.6s,mb4.3						
PMR	**Palmer**	**53.35**	**35**	*e*P	**P**	**09 33 17.0**	**-1.0**
SML	**Sawmill**	**53.72**	**34**	⇑*e*P	**P**	**09 33 19.8**	**-0.9**
COLA	**College**	**53.78**	**31**	*d i*P	**P**	**09 33 21.0**	**-0.1**
COLA	**College**	**53.78**	**31**	*e*P	**P**	**09 33 21.5**	**+0.4**
ILAR	**Eielson Array**	**54.19**	**31**	P	**P**	**09 33 22.8**	**-1.3**
	comp=N,12nm,0.7s,mb4.4,baz=260,slow=5.1,SNR=216						
ILAR	**Eielson Array**	**54.19**	**31**	P	**P**	**09 33 22.8**	**-1.3**
ILAR				pmax	pmax		
	comp=Z,12nm,0.7s						
THY	**Trims Highway**	**54.78**	**32**	*e*P	**P**	**09 33 26.5**	**-1.8**
DIV	**Divide**	**55.00**	**35**	⇑*e*P	**P**	**09 33 29.5**	**-0.3**
	comp=Z,98nm,0.6s,mb5.3						
HYB	**Hyderabad**	**55.19**	**269**	*i* P	**P**	**09 33 30.5**	**-1.3**
HYB	**Hyderabad**	**55.19**	**269**	*e*P	**P**	**09 33 30.5**	**-1.3**
SVE	**Sverdlovsk**	**56.06**	**320**	⇓*e*P	**P**	**09 33 36.0**	**-1.4**
ASAR	**Alice Springs**	**56.77**	**184**	P	**P**	**09 33 41.6**	**-1.2**
	comp=Z,8.5nm,0.5s,mb4.3,baz=16,slow=9.6,SNR=85						
ASAR				ScP		09 38 02.7	
	comp=Z,0.5nm,0.5s,baz=3.0,slow=4.6,SNR=5.0						
ASPA	**Alice Springs**	**56.77**	**184**	⇓*i*P	**P**	**09 33 41.6**	**-1.3**
ASPA				*e*S	**S**	**09 41 08.0**	**-1.0**
MBWA	**Marble Bar**	**56.85**	**200**	*e*P	**P**	**09 33 41.9**	**-1.4**
	comp=Z,38nm,0.5s,mb5.0						
ARU	**Arti**	**57.26**	**320**	*e*P	**P**	**09 33 44.7**	**-1.0**
ARU				*e*	pP	09 34 53.3	-2.9
ARU	**Arti**	**57.26**	**320**	*e*P	**P**	**09 33 44.7**	**-1.0**
	comp=Z,23nm,0.4s,mb4.9						
DAWY	**Dawson**	**57.51**	**31**	⇑*e*P	**P**	**09 33 46.8**	**-0.5**
POO	**Poona**	**58.60**	**273**	*e*	**P**	**09 33 54.0**	**-1.6**
INK	**Inuvik**	**59.02**	**26**	P	**P**	**09 33 57.1**	**-0.7**
	comp=Z,11nm,0.4s,mb4.7,baz=293,slow=6.2,SNR=74						
INK	**Inuvik**	**59.02**	**26**	P	**P**	**09 33 57.1**	**-0.7**
INK				pmax	pmax		
	comp=Z,11nm,0.4s						
INK	**Inuvik**	**59.02**	**26**	⇑*e*P	**P**	**09 33 56.8**	**-1.0**
	comp=Z,13nm,0.4s,mb4.7						
FORT	**Forrest**	**64.40**	**189**	*e*P	**P**	**09 34 32.9**	**-0.8**
	comp=Z,120nm,0.6s,mb5.7						
STKA	**Stephens Creek**	**64.93**	**176**	*e*P	**P**	**09 34 36.4**	**-0.6**
	comp=Z,4.2nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**64.93**	**176**	P	**P**	**09 34 36.6**	**-0.3**
	comp=Z,4.7nm,0.6s,mb4.3,baz=340,slow=6.9,SNR=13						
KEV	**Kevo**	**65.89**	**339**	*e*p	**P**	**09 34 41.8**	**-0.6**
	comp=Z,0.6nm,0.3s,mb3.8						
KEV	**Kevo**	**65.89**	**339**	*e*P	**P**	**09 34 41.8**	**-0.6**
KEV				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.0						
ARCES	**ARCESS Array B**	**66.45**	**339**	P	**P**	**09 34 45.8**	**-0.1**
	comp=Z,1.9nm,0.5s,mb4.1,baz=63,slow=7.4,SNR=21						
ARCES	**ARCESS Array B**	**66.45**	**339**	P	**P**	**09 34 45.8**	**-0.1**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
RES	**Resolute Bay**	**66.92**	**13**	⇑*e*P	**P**	**09 34 48.4**	**-0.4**
	comp=Z,34nm,0.4s,mb5.4						
KLBR	**Kellerberrin**	**67.28**	**199**	⇓*i*P	**P**	**09 34 50.4**	**-1.4**
	comp=Z,16nm,0.8s,mb4.8						
MUN	**Mundaring**	**68.06**	**200**	*e*P	**P**	**09 34 57.2**	**+0.6**
	comp=Z,4.8nm,0.5s,mb4.5						
YKA	**Yellowknife Ar**	**68.48**	**28**	P	**P**	**09 34 58.1**	**-0.5**
	comp=Z,3.9nm,0.5s,mb4.4,baz=304,slow=6.2,SNR=28						
YKA				PcP	PcP	09 35 21.2	-0.7
	comp=Z,1.5nm,0.6s,baz=304,slow=3.6,SNR=4.0						
YKA	**Yellowknife Ar**	**68.48**	**28**	P	**P**	**09 34 58.1**	**-0.5**
YKA						09 35 21.2	
YKA				pmax	pmax		
	comp=Z,4.0nm,0.5s						
YKA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NWAO	**Narrogin (SRO)**	**68.68**	**199**	*e*P	**P**	**09 34 59.6**	**-0.7**
	comp=Z,19nm,0.5s,mb5.1						
DAG	**Danmarks Havn**	**69.21**	**354**	⇑*i*P	PcP	09 35 22.8	-2.1
	comp=Z,6.3nm,0.5s						
OBN	**Obninsk**	**69.32**	**323**	*e*P	**P**	**09 35 03.9**	**+0.1**
OBN				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.7						
OBN				MLR	MLR		
	comp=Z,100nm,17.0s						
KAF	**Kangasniemi**	**70.26**	**332**	*e*p	**P**	**09 35 08.5**	**-1.0**
	comp=Z,1.8nm,0.3s,mb4.3						
KAF	**Kangasniemi**	**70.26**	**332**	*e*P	**P**	**09 35 08.5**	**-1.0**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.3						
FINES	**FINESS Array B**	**70.73**	**332**	P	**P**	**09 35 12.0**	**-0.3**
	comp=Z,4.1nm,0.6s,mb4.4,baz=64,slow=5.4,SNR=35						
FINES	**FINESS Array B**	**70.73**	**332**	P	**P**	**09 35 12.0**	**-0.3**
FINES				pmax	pmax		
	comp=Z,4.0nm,0.6s						
KIV	**Kislovodsk**	**71.12**	**311**	*e*P	**P**	**09 35 15.6**	**+0.7**
KIV				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.6						
GNI	**Garni**	**71.57**	**306**	P	**P**	**09 35 18.7**	**+1.0**
	comp=Z,2.0nm,0.3s,mb4.3,baz=44,slow=20,SNR=2.5						
GNI	**Garni**	**71.57**	**306**	*e*P	**P**	**09 35 19.1**	**+1.5**
GNI				pmax	pmax		
	comp=Z,12nm,1.1s						
GNI	**Garni**	**71.57**	**306**	P	**P**	**09 35 18.7**	**+1.0**
GNW	**Green Mountain**	**71.93**	**45**	*e*P	**P**	**09 35 20.1**	**+0.5**
NLW	**Nelson Butte**	**73.12**	**43**	*e*P	**P**	**09 35 26.9**	**+0.3**
SOC	**Sochi**	**73.18**	**311**	*e*P	**P**	**09 35 27.9**	**+0.8**
SOC				*e*		09 35 45.2	
SOC				*e*		09 38 14.8	
SOC				*e*		09 45 03.8	
SOC				*e*SS	SS	09 49 19.0	+0.2
SOC				pmax	pmax		
	comp=N,3.0nm,0.4s						
SOC				pmax	pmax		
	comp=Z,5.0nm,0.4s,mb4.6						
SOC				pmax	pmax		
	comp=E,3.0nm,0.3s						
SSOR	**Sweet Springs**	**73.51**	**47**	*e*P	**P**	**09 35 29.6**	**+0.6**
HSO	**Harness Mounta**	**73.80**	**48**	P	**P**	**09 35 33.3**	**+2.6**
EDM	**Edmonton**	**74.08**	**36**	⇑*e*P	**P**	**09 35 31.7**	**-0.4**
SUMG	**Summit**	**74.38**	**359**	*e*P	**P**	**09 35 34.5**	**+1.0**
	comp=E,17nm,0.6s,mb4.9						
DPW	**Davenport**	**74.45**	**43**	*e*P	**P**	**09 35 34.4**	**+0.1**
UMR	**Umm Al-Rimmam**	**74.55**	**295**	*e*P	**P**	**09 35 34.6**	**-0.6**
UMR				AMb	AMB	09 35 35.2	
	comp=Z,42nm,0.4s,mb5.5						
MIB	**Mutribah**	**74.71**	**296**	*e*P	**P**	**09 35 36.2**	**0.0**
MIB				AMb	AMB	09 35 36.7	
	comp=Z,62nm,0.6s,mb5.5						
KHMM	**Horse Mountain**	**74.74**	**51**	*e*P	**P**	**09 35 36.9**	**+0.8**
KBD	**Kabd**	**74.75**	**295**	*e*P	**P**	**09 35 35.9**	**-0.6**
QRN	**Al-Qurain**	**74.79**	**294**	*e*P	**P**	**09 35 36.7**	**0.0**
QRN				AMb	AMB	09 35 37.3	
	comp=Z,59nm,0.6s,mb5.5						
NEW	**Newport**	**74.84**	**42**	*e*P	**P**	**09 35 36.4**	**-0.1**
	comp=Z,11nm,0.7s,mb4.7						
YBH	**Yreka Blue Hor**	**74.95**	**50**	⇑*e*P	**P**	**09 35 38.0**	**+0.7**
	comp=Z,14nm,0.7s,mb4.8						
RDF	**Al-Radifah**	**74.98**	**295**	*e*P	**P**	**09 35 37.6**	**-0.2**
RDF				AMb	AMB	09 35 38.9	
	comp=Z,90nm,0.5s,mb5.8						
RST	**Umm Al-Ruwaisa**	**75.12**	**296**	*e*P	**P**	**09 35 37.3**	**-1.2**
RST				AMb	AMB	09 35 37.8	
	comp=Z,60nm,0.6s,mb5.5						
AKASG	**Malin Array Be**	**75.42**	**321**	P	**P**	**09 35 39.0**	**-0.8**
	comp=Z,2.3nm,0.5s,mb4.2,baz=48,slow=6.1,SNR=12						
AKASG				pP	pP	09 36 51.9	-2.5
	comp=Z,1.2nm,0.6s,baz=47,slow=6.7,SNR=1.7						
AKASG	**Malin Array Be**	**75.42**	**321**	P	**P**	**09 35 39.0**	**-0.8**
AKASG				*PP	pP	09 36 51.9	-2.5
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AKASG				pmax	pmax		
	comp=N,1.0nm,0.6s						
LNOR	**Lincton Mounta**	**75.48**	**44**	*e*P	**P**	**09 35 40.5**	**+0.3**
MOD	**Modoc**	**76.39**	**49**	⇑*e*P	**P**	**09 35 45.7**	**+0.3**
	comp=N,18nm,0.7s,mb4.9						
NB2	**NORSAR Subarra**	**76.46**	**336**	P	**P**	**09 35 44.7**	**-0.6**
	comp=N,2.6nm,0.5s,mb4.2,baz=46,slow=5.6						
NOA	**NORSAR Array B**	**76.46**	**336**	P	**P**	**09 35 45.5**	**+0.2**
	comp=N,2.2nm,0.5s,mb4.1,baz=44,slow=5.5,SNR=8.5						
NOA	**NORSAR Array B**	**76.46**	**336**	P	**P**	**09 35 45.5**	**+0.2**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
NSHM	**Saint Helena R**	**76.70**	**53**	*e*P	**P**	**09 35 47.3**	**+0.1**
MSO	**Missoula**	**77.43**	**42**	*e*P	**P**	**09 35 50.7**	**-0.2**
	comp=Z,4.0nm,0.5s,mb4.4						
CHMT	**Chamberlain Mo**	**77.77**	**42**	*e*P	**P**	**09 35 52.7**	**0.0**
WCN	**Washoe City**	**78.16**	**51**	⇑*e*P	**P**	**09 35 55.5**	**+0.5**
	comp=Z,331nm,1.2s,mb5.9						
PAHR	**Pah Rah Range**	**78.17**	**50**	⇑*e*P	**P**	**09 35 55.6**	**+0.5**
	comp=Z,18nm,0.5s,mb5.0						
SAO	**San Andreas Ge**	**78.42**	**54**	*e*P	**P**	**09 35 56.4**	**-0.1**
	comp=Z,20nm,0.9s,mb4.8						
CMB	**Columbia Colle**	**78.44**	**52**	⇑*e*P	**P**	**09 35 56.6**	**+0.1**
	comp=Z,23nm,0.5s,mb5.2						
HRY	**Holter Researc**	**78.67**	**41**	*e*P	**P**	**09 35 58.0**	**+0.4**
HLID	**Hailey**	**79.06**	**45**	⇑*e*P	**P**	**09 36 00.5**	**+0.8**
	comp=Z,11nm,0.8s,mb4.6						
BRTR	**Keskin Array B**	**79.09**	**310**	P	**P**	**09 36 00.1**	**+0.2**
	comp=Z,3.3nm,0.7s,mb4.2,baz=108,slow=4.3,SNR=17						
BRTR				pP	pP	09 37 13.3	-2.0
	comp=Z,1.5nm,0.8s,baz=90,slow=3.7,SNR=2.9						
BRTR	**Keskin Array B**	**79.09**	**310**	P	**P**	**09 36 00.1**	**+0.2**
BRTR				*PP	pP	09 37 13.3	-2.0
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BRTR				pmax	pmax		
	comp=N,2.0nm,0.8s						
BRTR	**Keskin Array B**	**79.09**	**310**	P	**P**	**09 36 00.1**	**+0.2**
BRTR				pP	pP	09 37 13.3	-2.0
MCMT	**McKenzie Canyo**	**79.22**	**43**	*e*P	**P**	**09 36 00.7**	**+0.2**
MZLS	**Mizel**	**79.28**	**292**	P	**P**	**09 36 01.6**	**+0.3**
RAYN	**Ar Rayn**	**79.32**	**291**	P	**P**	**09 36 01.1**	**-0.3**
	comp=N,208nm,0.6s,SNR=7.9						

KWP	Kalwaria	79.41	323	eP	P	09 36 02.7	+1.3
BOZ	Bozeman (W)	79.42	42	⇑eP	P	09 36 02.1	+0.5
	comp=N,18nm,0.6s,mb5.0						
OMM	Old Mammoth Mi	79.59	52	eP	P	09 36 03.2	+0.6
URZ	Urewera	80.01	150	P	P	09 36 03.5	-1.3
	comp=N,16nm,1.0s,mb4.7,baz=142,slow=13,SNR=3.0						
MTUM	Tungsten Hills	80.02	52	eP	P	09 36 05.4	+0.5
QLMT	Earthquake Lak	80.03	43	eP	P	09 36 05.7	+0.9
HILS	Ha'il	80.13	296	P	P	09 36 06.3	+0.6
ELK	Elko	80.20	48	⇑eP	P	09 36 06.8	+1.1
	comp=N,14nm,0.6s,mb4.8						
YMR	Madison River	80.39	42	eP	P	09 36 08.1	+1.4
GCMT	Greycliff	80.42	41	eP	P	09 36 07.3	+0.5
TPH	Tonopah	80.48	51	eP	P	09 36 07.9	+0.5
	comp=N,30nm,0.9s,mb5.0						
IMW	Indian Meadow	80.88	43	⇑eP	P	09 36 10.8	+1.5
MOOW	Moose Ponds	81.08	43	eP	P	09 36 11.5	+1.3
HVU	Hansel Valley	81.09	46	eP	P	09 36 11.5	+1.2
ASF	Jabal al Asfar	81.10	303	P	P	09 36 11.1	+0.4
	comp=N,3.3nm,0.6s,mb4.3,baz=243,slow=2.3,SNR=6.7						
TPAW	Teton Pass	81.12	43	eP	P	09 36 11.7	+1.2
LOHW	Long Hollow	81.25	43	eP	P	09 36 12.1	+1.0
REDW	Red Top Meadow	81.26	43	eP	P	09 36 12.0	+0.8
DAC	Darwin (Calif)	81.27	52	eP	P	09 36 11.1	-0.3
	comp=N,9.8nm,0.7s,mb4.7						
BGU	Big Grassy Mou	81.45	46	eP	P	09 36 13.2	+1.0
SPUT	South Promonto	81.57	46	eP	P	09 36 13.0	+0.1
DGMT	Dagmar	81.57	36	eP	P	09 36 12.3	-0.4
	comp=N,29nm,0.8s,mb5.2						
LAO	LASA Array	81.70	39	P	P	09 36 14.1	+0.6
	comp=N,36nm,1.0s,mb5.2						
TPNV	Topopah Spring	81.76	51	⇑eP	P	09 36 14.6	+0.6
	comp=N,34nm,0.6s,mb5.4						
HWUT	Hardware Ranch	81.91	45	⇑eP	P	09 36 15.7	+1.0
	comp=N,25nm,0.9s,mb5.0						
NOQ	North Oquirrh	82.16	46	⇑eP	P	09 36 17.1	+1.1
TCUT	Toone Canyon	82.31	45	eP	P	09 36 16.4	-0.3
CTU	Camp Tracy	82.36	46	⇑eP	P	09 36 17.8	+0.9
PDAR	Pinedale Array	82.37	43	P	P	09 36 17.4	+0.4
	comp=N,13nm,0.8s,mb4.8,baz=287,slow=3.0,SNR=120						
JLU	Jordanelle	82.60	46	eP	P	09 36 19.0	+0.8
NLU	North Lily Min	82.61	47	eP	P	09 36 19.3	+1.0
BRG	Berggiesshubel	82.72	328	eP	P	09 36 26.3	+7.8
BRG				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
CLL	Collm	82.82	329	P	P	09 36 20.0	+1.0
	comp=Z,logA/T=0.8,mb4.4						
CLL				i PCP	PcP	09 36 26.3	+2.8
CLL	Collm	82.82	329	eP	P	09 36 20.0	+1.0
CLL				e		09 36 26.0	
DAU	Daniels Canyon	82.83	46	eP	P	09 36 20.6	+1.3
MPU	Maple Canyon	82.84	46	eP	P	09 36 20.5	+1.1
KBRS	Khaybar	82.89	296	P	P	09 36 20.8	+0.8
TATS	Tathlith	83.02	289	P	P	09 36 21.5	+0.9
ARUT	Antelope Range	83.07	49	eP	P	09 36 21.4	+0.8
MVU	Marysvale	83.41	48	⇑eP	P	09 36 23.6	+1.3
	comp=Z,23nm,0.8s,mb5.0						
MSU	Marysvale	83.43	48	eP	P	09 36 24.0	+1.6
NEN	Nelson	83.44	52	eP	P	09 36 23.0	+0.4
PFO	Pinyon Flat Ob	83.57	54	⇑eP	P	09 36 23.4	+0.2
	comp=Z,29nm,0.7s,mb5.2						
LDFC	Landfair	83.61	52	eP	P	09 36 23.4	0.0
JMQS	Jabal Moqyreh	83.67	300	P	P	09 36 24.1	+0.3
DJNS	Zahran al Janu	83.96	287	P	P	09 36 26.9	+1.3
BAR	Barrett	83.96	55	eP	P	09 36 25.1	-0.1
SRU	San Rafael	84.08	47	⇑eP	P	09 36 26.5	+0.8
ULM	Lac du Bonnet	84.21	31	P	P	09 36 25.8	-0.3
	comp=Z,5.5nm,0.6s,mb4.6,baz=342,slow=8.9,SNR=4.6						
GERES	GERESS Array B	84.28	327	P	P	09 36 26.8	+0.4
	comp=Z,0.9nm,0.7s,mb3.7,baz=51,slow=6.3,SNR=5.6						
GERES	GERESS Array B	84.28	327	P	P	09 36 26.8	+0.4
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BLJS	Baljurashi	84.32	290	P	P	09 36 28.7	+1.4
SRS	Serrai	84.38	316	eP	P	09 36 38.7	+12
BDAS	Al Bad'	84.49	300	P	P	09 36 28.2	+0.2
RSSD	Black Hills	84.56	40	eP	P	09 36 28.1	+0.2
	comp=Z,8.4nm,0.6s,mb4.8						
PV10	Paradox Valley	85.44	46	eP	P	09 36 33.6	+1.2
PV01	Paradox Valley	85.88	46	eP	P	09 36 35.4	+0.9
RW3	Ridgway	86.34	46	eP	P	09 36 38.1	+1.4
ISCO	Idaho Springs	86.55	44	⇑eP	P	09 36 38.8	+1.1
	comp=Z,9.6nm,0.6s,mb4.8						
ANMO	Albuquerque	89.23	48	eP	P	09 36 51.1	+0.7
	comp=Z,3.4nm,0.7s,mb4.3						
SCHQ	Schefferville	89.69	14	P	P	09 36 52.1	0.0
	comp=Z,3.2nm,0.7s,mb4.4,baz=317,slow=5.6,SNR=6.7						
CLNB	Carlsbad	92.62	48	eP	P	09 37 06.6	+0.3
TXAR	Lajitas Array	94.73	50	P	P	09 37 16.6	+0.7
	comp=Z,5.1nm,0.7s,mb4.7,baz=295,slow=3.0,SNR=80						
TXAR				pP	pP	09 38 32.4	-1.0
	comp=Z,0.4nm,0.6s,baz=284,slow=3.7,SNR=2.3						
QSPA	South Pole Qui	123.05	180	ePKP	PKPdf	09 42 47.9	+0.9
SYO	Syowa Base	123.58	205	⇓Pdiff	Pdif	09 39 25.6	+2.9
DBIC	Dimbokro	126.78	311	PKP	PKPdf	09 42 56.7	+1.0
	comp=Z,1.9nm,0.8s,baz=212,slow=15,SNR=2.2						
DBIC	Dimbokro	126.78	311	PKIKP	PKPdf	09 42 56.7	+1.0
DBIC				pmax	pmax		
	comp=Z,2.0nm,0.9s						
DBIC	Dimbokro	126.78	311	PKP	PKPdf	09 42 56.7	+1.0
SAML	Samuel	148.95	43	ePKPbc	PKPdf	09 43 40.7	+5.1
LPAZ	La Paz	151.08	60	PKPbc	PKPdf	09 43 47.2	+8.5
	comp=Z,18nm,1.0s,baz=356,slow=4.7,SNR=54						
LPAZ	La Paz	151.08	60	PKIKP	PKPdf	09 43 47.3	+8.6
LPAZ				pmax	pmax		
	comp=Z,19nm,1.0s						
USHA	Ushuaia	151.66	147	PKPbc	PKPdf	09 43 47.2	+8.7
	comp=Z,4.1nm,0.6s,baz=282,slow=9.6,SNR=4.6						
BDFB	Brasilia	161.63	18	PKPab	PKPab	09 44 40.9	-0.4
	comp=Z,3.3nm,0.6s,baz=340,slow=6.6,SNR=5.2						
BDFB	Brasilia	161.63	18	PKP2	PKPab	09 44 40.9	-0.4
BDFB				pmax	pmax		
	comp=Z,3.0nm,0.6s						
CPUP	Villa Florida	165.11	66	PKPab	PKPab	09 44 55.7	-0.5
	comp=Z,0.5nm,0.4s,baz=301,slow=3.2,SNR=3.1						
CPUP	Villa Florida	165.11	66	PKP2	PKPab	09 44 55.7	-0.5
CPUP				pmax	pmax		
	comp=Z,1.0nm,0.4s						

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*LDG **28** 09:25:35.3±0.6, 42.96N×1.34W, h2^{km}, Md2.2/1, Ml2.0/2, Error ellipse: s-maj=8.4km s-min=3.6km az=46.0*

MDD 28 09:25:34.7±0.7**, 42.90N×1.37W, mbLg1.2**/5**, Error ellipse: s-maj=5.6km s-min=2.9km az=44.0, PRXIMO AftershockPLICA, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	Ste Jean	0.24	25	ePg	Pg	09 25 39.0	-0.5
SJPF				eSg	Sg	09 25 41.7	-1.0
	22nm,0.3s						
LARF	Larrau	0.31	63	P	Pg	09 25 40.4	-0.5
LARF				S	Sg	09 25 45.7	+0.7
EALK	Alkurruntz	0.34	342	Pg	Pg	09 25 40.5	-1.0
	SNR=7.9						
EALK				Lg		09 25 46.1	
	4.3nm,0.3s,SNR=9.2						
ETSF	Etsaut	0.59	89	ePg	Pg	09 25 44.3	-2.2
ETSF				eSg	Sg	09 25 53.7	-0.7
	1.5nm,0.3s						
EPF	Esparros	1.26	83	ePg	Pg	09 25 59.4	-0.4
EPF				eSg	Sg	09 26 14.7	-1.9
	2.5nm,0.3s						
ESAC	San Caprasio	1.35	150	Pg	Pg	09 25 59.5	-2.0
	SNR=7.9						
ESAC				Lg		09 26 18.1	
	8.7nm,0.4s,SNR=4.0						
LFF	La Frestale	2.55	36	eSg	Sg	09 26 53.1	-6.4
	2.8nm,0.2s						

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*PRU **28** 09:47:08.3, 51.43N×16.18E*

WAR 28 09:47:08.8, 51.45N×16.16E, ML2.8, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	Ksiaz	0.61	172	ePG	Pg	09 47 20.0	-1.0
KSP				eSG	Sg	09 47 28.0	-1.1
UPC	Upice	0.95	186	ePG	Pg	09 47 26.2	-1.5
DPC	Dobruska-Polom	1.10	175	ePG	Pg	09 47 28.9	-1.9
DPC				eSG	Sg	09 47 43.0	-2.5
	15nm,0.3s						
PVCC	Panska Ves	1.36	228	ePG	Pg	09 47 34.4	-1.6
PRU	Pruhonice	1.79	216	PG	Pg	09 47 40.9	-3.6
PRU				i x	x	09 47 44.8	
PRU				SG	Sg	09 48 04.6	-3.7
	12nm,0.4s						
CLL	Collm	1.99	267	i PG	Pg	09 47 44.8	-3.6
CLL				eSG	Sg	09 48 12.0	-2.9
NKC	Novy Kostel	2.65	244	ePG	Pg	09 47 57.1	-4.6
NKC				eSG	Sg	09 48 32.2	-4.8
KHC	Kasperske Hory	2.85	217	ePN	Pn	09 47 54.0	-2.4
KHC				ePG	Pg	09 48 00.0	-5.7
KHC				eSN	Sn	09 48 29.5	-2.4
KHC				ex	x	09 48 34.5	

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*NEIC **28** 09:47:41.2±0.5, 51.52N×16.22E, h5^{km}, ML2.3(BRG), ML3.3(VIE), ML2.9(SZGRF), Error ellipse: s-maj=6.5km s-min=5.2km az=98.0*

*IDC **28** 09:47:43.2±0.7, 51.43N×16.01E, mb1 3.5/7, mb1mx3.4/22, ML3.1/7, Error ellipse: s-maj=14.0km s-min=7.0km az=106.0*

*PRU **28** 09:47:43.5, 51.41N×16.18E*

*WAR **28** 09:47:43.3, 51.45N×16.16E, ML3.0, Mining Induced*

ISC 28 09:47:38.8±0.5**, 51.53N**±0.03×**16.21E**±0.04**, n25, σ1^{s}14**/40**, 1C, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	Ksiaz	0.69	176	i PG	Pg	09 47 54.5	+1.8
KSP				eSG	Sg	09 48 03.5	+1.6
KSP	Ksiaz	0.69	176	ePg	Pg	09 47 54.5	+1.8
KSP				eSg	Sg	09 48 02.6	+0.7
KSP				e		09 48 06.8	
UPC	Upice	1.04	187	ePG	Pg	09 48 00.6	+1.1
UPC				eSG	Sg	09 48 13.3	0.0
DPC	Dobruska-Polom	1.19	177	ePG	Pg	09 48 03.3	+0.8
DPC				eSG	Sg	09 48 17.7	-0.7
	40nm,0.5s						
PVCC	Panska Ves	1.45	227	ePG	Pg	09 48 08.9	+1.2
PVCC				eSG	Sg	09 48 27.3	+0.3
BRG	Berggiesshubel	1.57	246	i Pg	Pg	09 48 11.2	+1.0
BRG				i Sg	Sg	09 48 31.6	+0.4
PRU	Pruhonice	1.88	215	SG	Sg	09 48 39.4	-1.9
	40nm,0.4s						
CLL	Collm	2.02	265	ePG	Pg	09 48 20.0	+0.8
CLL				i SG	Sg	09 48 47.2	+1.0
OKC	Ostrava-Krasne	2.10	143	eSG	Sg	09 48 47.2	-1.4
VRAC	Vranov	2.24	174	Pn	Pn	09 48 18.1	+0.4
	1.8nm,0.3s,baz=104,slow=20,SNR=4.9						
VRAC				Lg		09 48 49.1	
	3.4nm,0.3s,baz=257,slow=21,SNR=8.8						
OJC	Ojcow	2.62	119	ePG	Pg	09 48 32.0	+0.8
OJC				eSG	Sg	09 49 07.0	+0.8
OJC	Ojcow	2.62	119	ePg	Pg	09 48 32.1	+0.9
OJC				eSg	Sg	09 49 07.2	+1.0
NKC	Novy Kostel	2.72	243	eSG	Sg	09 49 08.4	-0.9
KHC	Kasperske Hory	2.94	216	ex	x	09 48 51.0	
KHC				eSG	Sg	09 49 12.0	-4.7
MOX	Moxa	3.03	255	Pg	Pg	09 48 40.0	+0.6
MOX				Sg	Sg	09 49 19.0	-0.8
MOX	Moxa	3.03	255	ePg	Pg	09 48 39.5	+0.1
MOX				eSg	Sg	09 49 19.2	-0.6
GEC2	GERESS Array S	3.14	212	ePn	Pn	09 48 38.8	+8.3
GEC2				eSg	Sg	09 49 17.4	-5.9
GERES	GERESS Array B	3.14	212	Pn	Pn	09 48 32.7	+2.2
	0.6nm,0.3s,baz=27,slow=15,SNR=5.0						
GERES				Pg	Pg	09 48 38.5	-3.0
	2.6nm,0.3s,baz=35,slow=16,SNR=22						
GERES				Lg		09 49 16.8	
	2.7nm,0.3s,baz=31,slow=26,SNR=4.8						
ZST	Bratislava	3.39	170	eSG	Sg	09 49 29.6	-2.1
MOA	Molln	3.90	200	⇑iPN	Pn	09 48 39.8	-1.5
MOA				i SG	Sg	09 49 43.7	-4.9
	13nm,0.5s						
AKASG	Malin Array Be	8.23	91	Pn	P	09 49 43.1	+0.8
	0.4nm,0.3s,baz=278,slow=12,SNR=3.8						
HFS	Hagfors	8.73	352	Pn	P	09 49 49.1	-0.3
	0.0nm,0.3s,baz=174,slow=14,SNR=3.3						
NOA	NORSAR Array B	9.92	346	Pn	P	09 50 04.6	-1.0
	0.1nm,0.3s,baz=8.7,slow=13,SNR=2.3						
FINES	FINESS Array B	11.31	25	Pn	P	09 50 23.9	-0.8
	0.2nm,0.3s,baz=207,slow=12,SNR=5.5						
FINES				Sn	S	09 52 26.1	-6.9
	0.2nm,0.3s,baz=191,slow=30,SNR=3.6						
ARCES	ARCESS Array B	18.59	10	Pn	P	09 51 57.5	-1.5
	0.3nm,0.3s,baz=200,slow=11,SNR=9.4						

DJA 28 09:52:16.2±0.9**, 8.76S×115.30E, h65^{km}±6^{km}, MD5.3**/4**, 5C-3D, Error ellipse: s-maj=25.3km s-min=7.4km az=3.0, Bali region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
INGI	Ingas	0.17	250	⇑ePg	P	09 52 25.6	-0.4
	451nm,0.2s						
INGI				⇑eSg	S	09 52 32.9	-0.3
RATI	Rata	0.23	80	⇑ePg	P	09 52 26.0	-0.4
	634nm,0.2s						
RATI				⇑eSg	S	09 52 32.8	-1.1
KEDI	Kedomdong	0.85	71	⇓ePg	P	09 52 31.8	-0.8
	174nm,0.2s						
KEDI				⇓eSg	S	09 52 43.2	-1.7
KELI	Kelakatan	0.97	304	⇓ePg	P	09 52 33.6	-0.7
KELI				⇑eSg	S	09 52 46.3	-1.4

TIF 28 09:53:40.9, 41.38N×43.95E, h3^{km}, Mpv3.8, 2D, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AKH	Akhalkalaki	0.34	275	⇓iP	Pg	09 53 48.2	+0.4
AKH				i S	Sg	09 53 53.2	+0.8
STE	Stepanavan	0.51	138	i P	Pg	09 53 51.5	+0.4
STE				i S	Sg	09 53 58.0	+0.1
TBLG	Delisi	0.69	59	i S	Sg	09 54 05.5	+1.7
MTA	Mtatsminda	0.71	63	eP	Pg	09 53 55.2	+0.2
MTA				i S	Sg	09 54 05.2	+0.8
DUS	Dusheti	0.91	38	⇓iP	Pb	09 53 59.4	+0.5
DUS				i S	Sg	09 54 13.8	+2.7

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*NEIC **28** 10:01:46.4, 37.27S×177.39E, h130^{km}, After WEL.*

WEL 28 10:01:46.6±0.1**, 37.26S×177.39E, h127^{km}±1^{km}, ML4.3**/8**, 1C, Error ellipse: s-maj=0.8km s-min=0.7km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.79	113	PN	P	10 02 07.4	-0.2
MXZ				SN	S	10 02 23.1	-0.3
MXZ	Matakaoa Point	0.79	113	P	P	10 02 07.4	-0.1
MXZ				S	S	10 02 23.5	0.0
URZ	Urewera	1.03	192	⇑PN	P	10 02 09.5	-0.3
URZ				SN	S	10 02 27.0	-0.3
URZ	Urewera	1.03	192	P	P	10 02 09.5	-0.3
PUZ	Puketiti	1.07	140	PN	P	10 02 09.9	-0.3
PUZ				SN	S	10 02 27.3	-0.7
PUZ	Puketiti	1.07	140	P	P	10 02 09.9	-0.3
PUZ				S	S	10 02 27.3	-0.7
MWZ	Matawai	1.08	174	PN	P	10 02 10.0	-0.4
MWZ				SN	S	10 02 28.2	-0.1
MWZ	Matawai	1.08	174	eP	P	10 02 10.0	-0.4
KUZ	Kuaotunu	1.43	290	PN	P	10 02 13.7	-0.5
KUZ	Kuaotunu	1.43	290	eP	P	10 02 13.7	-0.5
KNZ	Kokohu	1.78	173	PN	P	10 02 17.5	-0.6
KNZ				SN	S	10 02 41.1	-1.0
KNZ	Kokohu	1.78	173	eP	P	10 02 17.2	-1.0
BKZ	Black Stump Fm	2.04	200	PN	P	10 02 20.4	-1.0
BKZ				SN	S	10 02 46.5	-1.2
BKZ	Black Stump Fm	2.04	200	eP	P	10 02 20.7	-0.6
MGZ	Maungaku	2.27	219	PN	P	10 02 24.9	+0.5
MGZ	Maungaku	2.27	219	P	P	10 02 24.9	+0.5
TUVZ	Tukino	2.43	214	PN	P	10 02 25.9	-0.7
WNVZ	Wahianoa	2.50	214	PN	P	10 02 26.7	-0.8
WNVZ	Wahianoa	2.50	214	P	P	10 02 26.7	-0.8
MOVZ	Moawhango	2.51	210	PN	P	10 02 25.9	-1.6
MOVZ	Moawhango	2.51	210	P	P	10 02 26.1	-1.4
PWZ	Pawanui	2.80	188	PN	P	10 02 28.7	-2.7
TSZ	Takapari Road	3.02	201	PN	P	10 02 31.3	-2.9
TSZ	Takapari Road	3.02	201	eP	P	10 02 31.3	-2.9
WAZ	Wanganui	3.13	216	PN	P	10 02 34.6	-1.2
WAZ	Wanganui	3.13	216	eP	P	10 02 34.6	-1.1
BFZ	Birch Farm	3.54	194	eP	P	10 02 37.5	-3.7
MRZ	Mangatainoka R	3.68	202	PN	P	10 02 39.2	-3.9
MRZ				SN	S	10 03 20.5	-5.8
MRZ	Mangatainoka R	3.68	202	eP	P	10 02 39.3	-3.8
KIW	Kapiti Island	4.09	207	PN	P	10 02 44.4	-4.1
KIW				SN	S	10 03 30.4	-5.6
KIW	Kapiti Island	4.09	207	P	P	10 02 44.5	-4.0
MTW	Mount Morrison	4.17	200	PN	P	10 02 44.7	-4.9
MTW	Mount Morrison	4.17	200	P	P	10 02 44.7	-4.9
CAW	Cannon Point	4.25	204	PN	P	10 02 46.1	-4.7
CAW	Cannon Point	4.25	204	P	P	10 02 46.1	-4.6
PAWZ	Paruwai Farm	4.39	200	PN	P	10 02 47.6	-5.1
MSWZ	Moikau Station	4.47	201	PN	P	10 02 48.5	-5.2
MSWZ	Moikau Station	4.47	201	P	P	10 02 48.3	-5.4
MRW	Makara Radio	4.49	207	PN	P	10 02 49.1	-4.8
MRW				eSN	S	10 03 39.6	-5.9
MRW	Makara Radio	4.49	207	P	P	10 02 49.1	-4.8
SNZO	South Karori	4.55	206	PN	P	10 02 49.9	-4.9
SNZO				SN	S	10 03 40.6	-6.6
SNZO	South Karori	4.55	206	eP	P	10 02 49.8	-5.0
TUWZ	Tuamarina	4.95	212	PN	P	10 02 54.8	-5.3
TUWZ				SN	S	10 03 49.8	-7.0
NNZ	Nelson	5.04	217	ePN	P	10 02 56.1	-5.1
NNZ				SN	S	10 03 52.7	-6.1
QRZ	Quartz Range	5.20	225	PN	P	10 02 59.4	-4.0
BSWZ	Blackbirch Sta	5.22	210	ePN	P	10 02 59.1	-4.6
BSWZ	Blackbirch Sta	5.22	210	eP	P	10 02 59.2	-4.5
THZ	Tophouse	5.68	216	PN	P	10 03 05.3	-4.6
THZ				SN	S	10 04 07.9	-6.6
THZ	Tophouse	5.68	216	eP	P	10 03 05.4	-4.5
KHZ	Kahutara	5.95	209	PN	P	10 03 08.3	-5.2
LTZ	Lake Taylor	6.78	214	ePN	P	10 03 17.8	-7.0
LTZ	Lake Taylor	6.78	214	eP	P	10 03 18.2	-6.6
MQZ	McQueen's Vall	7.39	208	ePN	P	10 03 25.1	-8.0
MQZ				SN	S	10 04 42.7	-13
ODZ	Otahua Downs	9.29	211	ePN	P	10 03 51.9	-6.7
ODZ				SN	S	10 05 29.0	-13

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*IDC **28** 10:09:08.6±0.7, 27.49S×71.15W, mb4.2/7, mb1 4.3/9, mb1mx4.2/15, ML3.8/2, MS4.0/4, Ms1 4.0/4, ms1mx3.5/17, Error ellipse: s-maj=28.0km s-min=21.0km az=76.0, Putative timing error at ZAL*

*NEIC **28** 10:09:13.2, 27.52S×71.16W, h43^{km}, mb4.6/5, MD4.2(GUC), After GUC.*

*GUC **28** 10:09:13.2±0.6, 27.52S×71.16W, h43^{km}±4^{km}, MD4.2, ML4.6*

*SYO **28** 10:09:13.2, 27.52S×71.16W, h43^{km}, MB4.5*

ISC 28 10:09:11.9±1.8**, 27.43S**±0.03×**71.2W**±0.1**, h31^{km}**±13^{km}**, n40, σ1^{s}13**/36**, mb4.3**/11**, MS4.0**/3**, 6C-1D, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CPCH	Copiapo	0.79	85	⇓iP	Pb	10 09 27.6	+0.4
CPCH				i S	Sb	10 09 38.4	+0.8
CPCH				AMP		10 09 39.3	
	comp=N,82μm,0.1s						
VACH	Vallenar	1.22	160	⇑iP	Pn	10 09 33.4	+0.3
VACH				i S	Sn	10 09 48.4	-0.2
VACH				AMP		10 09 51.8	
	comp=E,18μm,0.4s						
LSCH	La Serena	2.47	180	i P	Pn	10 09 50.5	-0.5
LSCH				i S	Sn	10 10 18.7	-1.7
LSCH				AMP		10 10 36.8	
	comp=N,2μm,0.4s						
TLL	Tololo Astrono	2.76	172	⇑iP	Pn	10 09 55.2	+0.1
TLL				i S	Sn	10 10 27.2	-0.5
TLL				AMP		10 10 53.3	
	comp=E,2μm,0.5s						
CPN1	Cerro Paranal	2.89	15	AMP		10 10 54.3	
	comp=N,2μm,0.5s						
ANCH	Antofagasta	3.80	12	AMP		10 11 20.0	
	comp=E,704nm,0.8s						
LVC	Limon Verde	5.24	24	ePn	Pn	10 10 29.8	-0.4
	comp=E,10nm,0.3s						
ARE	Arequipa	10.91	359	eP	P	10 11 47.0	-2.2
ARE				eS	S	10 13 44.0	-7.2
LPAZ	La Paz	11.45	15	Pn	P	10 11 54.5	-2.0
	comp=E,0.6nm,0.3s,baz=196,slow=7.4,SNR=20						
LPAZ	La Paz	11.45	15	eP	P	10 11 54.1	-2.5
	comp=E,6.7nm,0.6s						
CPUP	Villa Florida	12.46	88	Pn	P	10 12 06.5	-3.7
	comp=E,0.1nm,0.3s,baz=97,slow=18,SNR=1.8						
CPUP				LR	LR	10 17 31.6	
	comp=E,464nm,18.1s,baz=287,slow=41						
TRQA	Tornquist	13.15	146	eP	P	10 12 21.4	+2.3
	comp=E,8.2nm,0.8s						
SAML	Samuel	19.89	24	eP	P	10 13 42.5	-1.4
	comp=E,4.5nm,0.7s						
BDFB	Brasilia	24.53	66	P	P	10 14 29.0	-1.1
	comp=E,2.3nm,0.8s,mb3.8,baz=259,slow=8.0,SNR=2.4						
BDFB				LR	LR	10 25 25.9	
	comp=E,546nm,18.0s,MS4.1,baz=257,slow=40						
BAO	Brasilia Array	24.55	66	P	P	10 14 31.2	+0.9
BAO				i		10 14 38.1	
USHA	Ushuaia	27.46	176	LR	LR	10 26 03.7	
	comp=E,241nm,20.7s,MS3.8,baz=29,slow=37						
JTS	JuntasAbangare	39.78	339	P	P	10 16 48.6	+4.6
	comp=E,3.2nm,0.7s,mb4.2,baz=137,slow=20,SNR=1.3						
VNA3	Neumayer Olymp	55.22	160	⇑i	P	10 18 44.6	+0.7
VNA2	Neumayer--Watz	55.84	159	⇑i	P	10 18 49.1	+0.8
SNAA	Sanae	57.44	160	⇑i	P	10 18 58.3	-1.5
SNAA	Sanae	57.44	160	P	P	10 18 58.4	-1.4
	comp=E,4.8nm,0.8s,mb4.6,baz=283,slow=6.3,SNR=44						
QSPA	South Pole Qui	62.79	180	eP	P	10 19 35.8	-0.4
	comp=E,8.5nm,1.0s,mb4.8						
TXAR	Lajitas Array	64.42	329	P	P	10 19 48.1	+0.5
	comp=E,0.7nm,0.7s,mb3.8,baz=150,slow=8.9,SNR=11						
CCM	Cathedral Cave	67.78	343	eP	P	10 20 07.5	-1.4
	comp=E,9.5nm,0.7s,mb4.9						
SYO	Syowa Base	71.73	159	⇑P	P	10 20 26.4	-6.2
DBIC	Dimbokro	72.49	73	P	P	10 20 37.5	-0.5
	comp=E,4.3nm,0.7s,mb4.5,baz=175,slow=7.4,SNR=7.5						
PV10	Paradox Valley	74.41	330	eP	P	10 20 49.8	+1.0
JLU	Jordanelle	77.30	330	eP	P	10 21 06.4	+1.3
HWUT	Hardware Ranch	78.16	330	eP	P	10 21 10.7	+0.9
	comp=E,5.2nm,0.6s,mb4.6						
PDAR	Pinedale Array	78.25	332	P	P	10 21 10.6	+0.3
	comp=E,0.6nm,0.6s,mb3.7,baz=124,slow=5.3,SNR=5.8						
MAW	Mawson	79.27	164	P	P	10 21 15.3	-0.1
	comp=E,5.9nm,0.8s,mb4.6,baz=213,slow=6.1,SNR=20						
TSUM	Tsumeb	80.38	107	LR	LR	10 52 54.0	
	comp=E,85nm,18.1s,MS4.1,baz=142,slow=33						
HLID	Hailey	80.99	330	eP	P	10 21 26.9	+1.9
	comp=E,2.5nm,0.7s,mb4.2						
MCMT	McKenzie Canyo	81.31	331	eP	P	10 21 28.4	+1.8
CASY	Casey	86.58	181	eP	P	10 21 53.1	+0.3
	comp=E,79nm,0.5s						
ASAR	Alice Springs	123.70	208	PKP	PKPdf	10 28 07.8	-4.5
	comp=E,1.5nm,1.0s,baz=145,slow=1.8,SNR=12						
WRA	Warramunga Arr	126.79	210	PKP	PKPdf	10 28 14.2	-4.2
	comp=E,2.2nm,0.7s,baz=161,slow=1.7,SNR=29						
KURK	Kurchatov	147.39	36	ePKPbc	PKPdf	10 28 52.4	-2.6
AAK	Ala-Archa	148.35	52	ePKPbc	PKPdf	10 28 57.2	+0.4
MKAR	Makanchi Array	151.59	40	PKPbc	PKPdf	10 29 04.5	+2.8
	comp=E,20nm,1.1s,baz=320,slow=2.0,SNR=28						
MKAR				PKPab	PKPab	10 29 12.9	-0.7
	comp=E,2.8nm,0.6s,baz=337,slow=2.7,SNR=7.1						

IDC 28 10:16:36.4±29.0**, 18.53S×175.51W, mb3.8**/4**, mb1 3.9**/4**, mb1mx3.8**/13**, Error ellipse: s-maj=530.0km s-min=146.2km az=75.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	36.07	261	P	P	10 23 41.4	-0.5
	2.4nm,0.8s,baz=83,slow=8.1,SNR=3.3						
STKA	Stephens Creek	40.77	242	P	P	10 24 19.2	-1.8
	0.8nm,0.8s,baz=75,slow=2.4,SNR=2.2						
WRA	Warramunga Arr	47.23	260	P	P	10 25 11.0	-2.4
	0.3nm,0.3s,baz=97,slow=7.7,SNR=23						
ASAR	Alice Springs	47.28	255	P	P	10 25 11.7	-2.0
	0.8nm,0.5s,baz=83,slow=9.0,SNR=9.9						

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*NEIC **28** 10:17:13.2, 32.14S×69.38W, h117^{km}, MD3.1(GUC), After GUC.*

GUC 28 10:17:13.2±0.7**, 32.14S×69.38W, h117^{km}**±8^{km}**, MD3.1, ML3.5, 1C-6D, Mendoza Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JACH	**Jahuel**	**1.16**	**242**	⇓*i*P	P	10 17 37.0	0.0
JACH				*i* S	S	10 17 55.5	+0.7
FCH	**Farellones**	**1.41**	**213**	⇓*i*P	P	10 17 40.2	+0.3
FCH				*i* S	S	10 18 00.8	+0.8
FCH				AMP		10 18 01.4	
	comp=E,552nm,0.4s						
PEL	**Peldehue**	**1.49**	**227**	AMP		10 18 01.8	
	comp=N,980nm,0.5s						
CLCH	**Cerro Calan**	**1.59**	**218**	⇓*i*P	P	10 17 41.9	0.0
CLCH				*i* S	S	10 18 03.8	+0.2
CLCH				AMP		10 18 04.8	
	comp=E,611nm,0.3s						
DSCH	**Colegio Aleman**	**1.61**	**218**	*i* P	P	10 17 42.4	+0.2
DSCH				*i* S	S	10 18 03.9	-0.1
DSCH				AMP		10 18 05.8	
	comp=N,550nm,0.8s						
PCH	**Pirque**	**1.76**	**213**	*i* P	P	10 17 44.2	+0.2
PCH				*i* S	S	10 18 07.5	+0.3
RCDM	**Rinconada Maip**	**1.81**	**221**	⇓*i*P	P	10 17 44.2	-0.3
RCDM				*i* S	S	10 18 08.2	+0.1
RCDM				AMP		10 18 08.9	
	comp=E,509nm,0.1s						
TACH	**Talagante**	**2.00**	**221**	⇑*i*P	P	10 17 46.6	-0.4
TACH				*i* S	S	10 18 12.3	-0.1
CHCH	**Chadas Angostu**	**2.08**	**211**	⇓*i*P	P	10 17 48.0	-0.1
CHCH				*i* S	S	10 18 14.5	+0.2
CACH	**El Canelo**	**2.22**	**207**	*i* S	S	10 18 18.3	+0.7
LCCH	**Las Cruces**	**2.28**	**234**	*i* P	P	10 17 50.4	-0.3
LCCH				*i* S	S	10 18 18.7	-0.2
CICH	**Cipreses**	**2.34**	**202**	*i* P	P	10 17 51.8	+0.3
CICH				*i* S	S	10 18 21.1	+0.7
SFDO	**San Fernando**	**2.82**	**209**	⇓*i*P	P	10 17 57.5	-0.4
SFDO				*i* S	S	10 18 31.4	-0.4

NIED ***28*** *10:41:00,32.50N×141.60E,h23^{km},Mw5.2 Best double couple: $M_0$5.96×10^{16} NP1:ϕ_s266°,δ84°,λ-146°. NP2: ϕ_s172°,δ57°,λ-7°.*

JMA ***28*** *10:41:42.7±0.9,32.49N×141.63E,M5.0*

IDC ***28*** *10:41:44.3±0.5,32.36N×141.35E,mb4.6/22,mb1 4.7/24, mb1mx4.7/26,ML4.5/2,MS4.4/4,Ms1 4.5/4,ms1mx4.1/18, Error ellipse: s-maj=15.0km s-min=12.5km az=87.0, Putative timing error at ZAL*

MOS ***28*** *10:41:49.0±1.0,32.62N×141.26E,h33^{km},mb5.1/23, MS4.6/14,Error ellipse: s-maj=14.6km s-min=6.9km az=109.9*

BJI ***28*** *10:41:50.3,32.46N×141.41E,h60^{km},mB5.1,mb4.9, Ms4.9,Msz4.8*

NEIC ***28*** *10:41:50.5±0.7,32.43N×141.20E,h44^{km}±6^{km},mb5.0/74, MW5.2(NIED),Error ellipse: s-maj=4.1km s-min=3.5km az=163.0*

HRVD ***28*** *10:41:50.5±0.3,32.44N×141.40E,h16^{km},MW5.3/62, Centroid moment Tensor Solution. LP body waves: s46,c78;Mantle waves: s62,c113; Half duration: 1^{s}0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.34±.02; $M_{\theta\theta}$0.06±.02; $M_{\phi\phi}$-0.40±.02; $M_{r\theta}$0.66±.05; $M_{\theta\phi}$-0.27±.01; $M_{\phi r}$0.54±.05; Best double couple: M_0.96×10^{17} NP1:ϕ_s175°,δ20°,λ38°. NP2:ϕ_s49°,δ78°,λ106°. Principal axes: T .93, Plg54°, Azm338°; N .07, Plg15°, Azm225°; P -1, Plg31°, Azm126°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 28 10:41:48.5±0.2**,32.38N**±0.02×**141.25E**±0.03**,h38**^{km}**,** **h38**^{km}±1.6^{km}**:pP-P,n325,**σ**0**^{s}**99**/335**,mb5.0**/105**,MS4.8**/22**, 16C-7D,Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.41**	**301**	P	**P**	**10 42 13.1**	**+1.0**
JHJ	**Hachijo jima 2**	**1.44**	**301**	Pn	**P**	**10 42 13.1**	**+0.6**
	373nm,0.3s,baz=184,slow=7.4,SNR=90						
JHJ				Sn	**S**	**10 42 34.5**	**+4.2**
	1µm,0.3s,baz=223,slow=23,SNR=11						
JHJ				LR	LR	10 42 37.4	
	comp=Z,11µm,20.4s,baz=113,slow=36						
JMY	**Miyakejima3**	**2.23**	**320**	P	**P**	**10 42 23.8**	**+0.1**
BSO1	**Boso 1**	**2.27**	**354**	P	**P**	**10 42 22.0**	**-2.4**
BSO2	**Boso 2**	**2.40**	**350**	*e*S	**S**	**10 42 52.4**	**-2.2**
BSO3	**Boso 3**	**2.49**	**346**	P	**P**	**10 42 25.5**	**-2.0**
JKO	**Kozu shima**	**2.52**	**316**	⇑P	**P**	**10 42 28.7**	**+0.7**
NJJJ	**Nii jima 2**	**2.60**	**321**	P	**P**	**10 42 29.6**	**+0.5**
BSO4	**Boso 4**	**2.71**	**344**	P	**P**	**10 42 29.1**	**-1.5**
JIM2	**Oshima 3**	**2.78**	**327**	P	**P**	**10 42 30.4**	**-1.2**
JYO	**Yokosk**	**3.12**	**335**	*e*S	**S**	**10 43 15.0**	**+1.9**
JOD2	**Odawara 2**	**3.39**	**329**	P	**P**	**10 42 39.0**	**-1.3**
JOD2				*e*S	**S**	**10 43 22.5**	**+2.7**
JYN	**Shimob**	**3.83**	**325**	P	**P**	**10 42 47.6**	**+1.0**
JRY	**Ryogami san**	**4.11**	**332**	P	**P**	**10 42 49.8**	**-0.8**
JRY				*e*S	**S**	**10 43 40.9**	**+2.8**
JAG	**Ashikaga**	**4.30**	**340**	P	**P**	**10 42 51.5**	**-1.7**
JAG				*e*S	**S**	**10 43 41.1**	**-1.6**
JIE	**Ise**	**4.30**	**299**	P	**P**	**10 42 55.1**	**+1.9**
JIE				*e*S	**S**	**10 43 49.1**	**+6.4**
JWZ	**Kozaga**	**4.79**	**285**	P	**P**	**10 43 03.1**	**+2.9**
MAJO	**Matsushiro**	**4.85**	**330**	*e*P	**P**	**10 43 01.3**	**+0.3**
MAT	**Matsushiro**	**4.85**	**330**	P	**P**	**10 43 00.0**	**-1.0**
MAT				S	**S**	**10 43 54.0**	**-2.7**
MAT	**Matsushiro**	**4.85**	**330**	P	**P**	**10 43 02.1**	**+1.1**
MAT	**Matsushiro**	**4.85**	**330**	*e*P	**P**	**10 43 00.0**	**-1.0**
MAT				*e*S	**S**	**10 43 54.0**	**-2.7**
JFK	**Kawauchi**	**4.98**	**357**	P	**P**	**10 42 58.8**	**-4.0**
JGM	**Miyama**	**5.01**	**313**	P	**P**	**10 43 05.3**	**+2.1**
JWY	**Kouya**	**5.08**	**293**	P	**P**	**10 43 05.3**	**+1.1**
CBIJ	**Chichi jima**	**5.33**	**171**	Pn	**P**	**10 43 04.1**	**-3.6**
	31nm,0.3s,baz=298,slow=20,SNR=34						
CBIJ				Sn	**S**	**10 44 01.1**	**-7.7**
	52nm,0.3s,baz=316,slow=20,SNR=2.7						
CBIJ	**Chichi jima**	**5.33**	**171**	P	**P**	**10 43 05.2**	**-2.5**
JMM	**Marumori**	**5.48**	**356**	P	**P**	**10 43 06.2**	**-3.6**
JMM				*e*S	**S**	**10 44 05.1**	**-7.4**
JNS	**Sasagawa**	**5.65**	**344**	P	**P**	**10 43 10.7**	**-1.4**
JNS				*e*S	**S**	**10 44 14.9**	**-1.8**
JHHJ	**Haha-jima-NKT**	**5.79**	**172**	P	**P**	**10 43 10.2**	**-3.9**
JHHJ				*e*S	**S**	**10 44 17.3**	**-3.0**
JMK	**Ichinoseki**	**6.55**	**360**	P	**P**	**10 43 20.4**	**-4.5**
JMK				*e*S	**S**	**10 44 30.1**	**-9.2**
MIYJ	**Miyakonagasawa**	**7.19**	**4**	P	**P**	**10 43 28.5**	**-5.3**
ASAJ	**Asahikawa**	**11.76**	**5**	Pn	**P**	**10 44 30.2**	**-6.4**
	4.3nm,0.3s,baz=251,slow=6.9,SNR=20						
ASAJ				LR	LR	10 49 03.6	
	comp=Z,1µm,20.7s,baz=200,slow=37						
ASAJ	**Asahikawa**	**11.76**	**5**	P	**P**	**10 44 30.2**	**-6.4**
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,1µm,20.7s						
VLA	**Vladivostok**	**13.02**	**328**	*e*P	**P**	**10 44 54.0**	**+0.6**
VLA				*e*		10 47 19.0	
VLA				pmax	pmax		
	comp=N,700nm,8.0s						
VLA				pmax	pmax		
	comp=Z,500nm,8.0s						
VLA				pmax	pmax		
	comp=E,600nm,5.0s						
VLA				MLR	MLR		
	comp=Z,3µm,16.0s						
VLA				MLR	MLR		
	comp=N,2µm,15.0s						
INCN	**Inchon**	**13.02**	**297**	*e*P	**P**	**10 44 58.0**	**+4.4**
	comp=N,14nm,0.6s						
KUR	**Kuril'sk**	**13.82**	**20**	*e*P	**P**	**10 45 00.5**	**-3.4**
KUR				pmax	pmax		
	comp=Z,90nm,0.7s						
YSS	**Yuzh-Sakhalins**	**14.60**	**4**	*e*P	**P**	**10 45 05.7**	**-8.4**
YSS				MLR	MLR		
	comp=Z,2µm,16.0s						
YSS				MLR	MLR		
	comp=E,3µm,17.0s						
YSS	**Yuzh-Sakhalins**	**14.60**	**4**	*e*P	**P**	**10 45 07.8**	**-6.3**
	comp=E,12nm,0.6s						
MDJ	**Mudanjiang**	**15.23**	**327**	P	**P**	**10 45 21.5**	**-0.8**
MDJ				AMB	AMB		
	comp=Z,25nm,1.1s						
MDJ				AMB	AMB		
	comp=Z,147nm,7.0s						
MDJ				LR	LR		
	comp=N,1µm,23.7s						
MDJ				LR	LR		
	comp=E,2µm,20.1s						
MDJ				LR	LR		
	comp=Z,3µm,21.3s						
MDJ	**Mudanjiang**	**15.23**	**327**	*e*P	**P**	**10 45 21.4**	**-0.9**
	comp=Z,26nm,0.7s						
UGL	**Uglegorsk**	**16.69**	**2**	*e*P	**P**	**10 45 46.0**	**+5.1**
UGL				*e*		10 48 40.0	
UGL				pmax	pmax		
	comp=Z,450nm,2.0s						
UGL				MLR	MLR		
	comp=N,3µm,18.0s						
UGL				MLR	MLR		
	comp=E,2µm,18.0s						
UGL				MLR	MLR		
	comp=Z,4µm,18.0s						
CN2	**Changchun**	**16.84**	**317**	*e*P	**P**	**10 45 42.8**	**0.0**
CN2				AMB	AMB		
	comp=Z,20nm,0.9s						
CN2				AMB	AMB		
	comp=Z,700nm,10.0s						
CN2				LR	LR		
	comp=N,2µm,16.0s						
CN2				LR	LR		
	comp=E,2µm,16.0s						
CN2				LR	LR		
	comp=Z,2µm,19.0s						
SNY	**Shenyang**	**16.93**	**309**	⇓P	**P**	**10 45 46.3**	**+2.3**
SNY				LR	LR		
	comp=E,2µm,17.3s						
SNY				LR	LR		
	comp=Z,3µm,18.1s						
SSE	**Sheshan**	**17.12**	**271**	*e*P	**P**	**10 45 46.3**	**-0.1**
SSE				XP		10 46 07.8	
SSE				AMB	AMB		
	comp=Z,21nm,0.7s						
SSE				AMB	AMB		
	comp=Z,662nm,7.6s						
SSE				LR	LR		
	comp=N,708nm,18.7s						
SSE				LR	LR		
	comp=E,1µm,18.7s						
SSE				LR	LR		
	comp=Z,2µm,18.3s						
SSE	**Sheshan**	**17.12**	**271**	*e*P	**P**	**10 45 46.2**	**-0.2**
	comp=Z,21nm,0.7s						
SSE				sP		10 46 07.8	
SSE				S	**S**	**10 48 52.0**	**-2.0**
SSE				sS		10 49 19.7	
DL2	**Dalian**	**17.21**	**298**	PR		10 45 51.3	
DL2				LR	LR		
	comp=N,870nm,17.7s						
DL2				LR	LR		
	comp=E,3µm,15.2s						
DL2				LR	LR		
	comp=Z,4µm,15.4s						
KLR	**Kul'dur**	**18.27**	**340**	*e*P	**P**	**10 45 55.0**	**-5.7**
KLR				pmax	pmax		
	comp=Z,64nm,1.6s						
KLR				MLR	MLR		
	comp=N,1µm,13.0s						
KLR				MLR	MLR		
	comp=Z,2µm,13.0s						
NJ2	**Nanjing**	**18.95**	**275**	*e*P	**P**	**10 46 11.0**	**+2.0**
NJ2				AP		10 46 21.0	
NJ2				XP		10 46 29.0	
NJ2				AMB	AMB		
	comp=Z,40nm,0.7s						
NJ2				AMB	AMB		
	comp=Z,850nm,6.0s						
NJ2				LR	LR		
	comp=N,3µm,18.3s						
NJ2				LR	LR		
	comp=E,2µm,22.2s						
NJ2				LR	LR		
	comp=Z,5µm,23.8s						
GUMO	**Guam**	**19.00**	**169**	⇑*e*P	**P**	**10 46 10.3**	**+0.6**
	comp=Z,740nm,1.2s						
TIA	**Tai'an**	**20.28**	**288**	*e*P	**P**	**10 46 22.8**	**-0.7**
SKR	**Severo-Kuril's**	**21.33**	**27**	*e*P	**P**	**10 46 32.5**	**-1.6**
SKR				*e*		10 46 58.0	
SKR				*e*S	**S**	**10 50 22.0**	**-1.8**
SKR				*e*SS	SS	10 51 16.0	+17
SKR				pmax	pmax		
	comp=N,240nm,1.5s						
SKR				pmax	pmax		
	comp=E,280nm,1.5s						
SKR				pmax	pmax		
	comp=Z,400nm,1.5s,mb5.5						
SKR				smax			
	comp=N,1µm,14.0s						
SKR				smax			
	comp=E,2µm,14.0s						
SKR				MLR	MLR		
	comp=N,1µm,14.0s,MS4.5						
SKR				MLR	MLR		
	comp=E,1µm,14.0s,MS4.5						
SKR				MLR	MLR		
	comp=Z,2µm,14.0s,MS4.6						
BJI	**Beijing**	**21.58**	**298**	P	**P**	**10 46 34.8**	**-1.9**
BJI				AMB	AMB		
	comp=Z,394nm,5.8s						
BJI				LR	LR		
	comp=N,1µm,17.7s,MS4.7						
BJI				LR	LR		
	comp=E,2µm,16.6s,MS4.7						
BJI				LR	LR		
	comp=Z,4µm,20.9s,MS4.8						
BJI	**Beijing**	**21.58**	**298**	P	**P**	**10 46 34.7**	**-2.0**
	comp=Z,8.0nm,1.2s,mb4.0						
BJI				sP		10 46 51.4	
BJI				S	**S**	**10 50 24.4**	**-4.2**
BJT	**Baijiatuau**	**21.58**	**298**	*e*P	**P**	**10 46 34.6**	**-2.1**
	comp=Z,26nm,0.8s,mb4.7						
WHN	**Wuhan**	**23.00**	**273**	*e*P	**P**	**10 46 51.0**	**+0.2**
WHN				LR	LR		
	comp=Z,4µm,15.9s,MS4.9						
HIA	**Hailar**	**23.31**	**323**	*e*P	**P**	**10 46 52.8**	**-0.8**
	comp=Z,36nm,0.7s,mb4.9						
PET	**Petropavlovsk**	**24.15**	**26**	*e*P	**P**	**10 47 02.3**	**+0.6**
PET				*e*		10 47 41.8	
PET				pmax	pmax		
	comp=Z,160nm,7.8s						
PET				pmax	pmax		
	comp=Z,36nm,1.3s,mb4.6						
PET				pmax	pmax		
	comp=Z,190nm,10.1s						
PET				MLR	MLR		
	comp=Z,1µm,21.0s,MS4.3						
HHC	**Hu-ho-hao-te**	**25.19**	**298**	*e*P	**P**	**10 47 12.0**	**+0.1**
HHC				AP	pP	10 47 23.3	+1.0
HHC				PP	PP	10 47 50.5	-0.2
HHC				AMB	AMB		
	comp=Z,278nm,5.5s						
HHC				LR	LR		
	comp=N,586nm,19.0s,MS4.5						
HHC				LR	LR		
	comp=E,1µm,17.2s,MS4.5						
HHC				LR	LR		
	comp=Z,2µm,16.6s,MS4.6						
BTO	**Baotou**	**26.31**	**297**	*e*P	**P**	**10 47 22.3**	**-0.1**
BTO				AMB	AMB		
	comp=Z,38nm,1.2s,mb4.8						
BTO				LR	LR		
	comp=N,3µm,15.5s,MS5.3						
BTO				LR	LR		
	comp=E,6µm,15.6s,MS5.3						
CLNS	**Chul'man**	**26.94**	**340**	*e*P	**P**	**10 47 27.0**	**-1.0**
CLNS				*e**PP	pP	10 47 32.5	-6.0
CLNS				*e*		10 48 07.4	
CLNS				*e*SS	SS	10 53 31.5	+16
CLNS				*e*		10 58 13.4	
CLNS				pmax	pmax		
	comp=Z,49nm,1.3s,mb4.9						
CLNS				pmax	pmax		
	comp=N,44nm,1.4s						
CLNS				pmax	pmax		
	comp=E,9.0nm,1.3s						
CLNS				pmax	pmax		
	comp=Z,26nm,0.9s,mb4.8						
CLNS				pmax	pmax		
	comp=N,18nm,1.1s						
CLNS				pmax	pmax		
	comp=E,13nm,1.0s						
XAN	**Xi'an**	**27.04**	**282**	P	**P**	**10 47 27.5**	**-1.7**
XAN				AMB	AMB		
	comp=Z,19nm,1.4s,mb4.4						
ENH	**Enshi**	**27.16**	**274**	*e*P	**P**	**10 47 28.5**	**-1.9**
	comp=Z,27nm,0.8s,mb4.8						
SONM	**Songino Array**	**30.50**	**311**	P	**P**	**10 48 01.6**	**+1.6**
	comp=Z,18nm,1.0s,mb4.8,baz=112,slow=9.0,SNR=36						
YAK	**Yakutsk**	**30.59**	**349**	*e*P	**P**	**10 47 59.0**	**-1.6**
YAK				pmax	pmax		
	comp=Z,28nm,0.8s,mb5.1						
YAK				MLR	MLR		
	comp=Z,2µm,18.0s,MS4.8						
YAK	**Yakutsk**	**30.59**	**349**	*e*P	**P**	**10 47 58.7**	**-1.9**
	comp=Z,40nm,0.7s,mb5.4						
GYA	**Guiyang**	**30.61**	**268**	P	**P**	**10 47 59.8**	**-1.4**
GYA				PP	PP	10 49 02.0	-0.3
GYA				S	**S**	**10 52 56.8**	**-2.6**
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.0						
GYA				AMB	AMB		
	comp=Z,180nm,3.9s						
GYA				LR	LR		
	comp=N,710nm,16.5s,MS4.5						
GYA				LR	LR		
	comp=E,510nm,16.0s,MS4.5						
GYA				LR	LR		
	comp=Z,1µm,16.4s,MS4.7						
LZH	**Lanzhou**	**31.02**	**287**	⇑P	**P**	**10 48 03.5**	**-1.2**
LZH				PP	PP	10 49 06.8	-0.7
LZH				AMB	AMB		
	comp=Z,37nm,1.3s,mb5.0						
LZH				AMB	AMB		
	comp=Z,187nm,5.3s						
LZH				LR	LR		
	comp=E,1µm,13.0s						
LZH				LR	LR		
	comp=Z,2µm,17.2s,MS4.9						
LZH	**Lanzhou**	**31.02**	**287**	⇑P	**P**	**10 48 03.5**	**-1.2**
	comp=Z,37nm,1.3s,mb5.0						
LZH				pP	pP	10 48 15.6	+0.1
LZH				sP	sP	10 48 20.8	+0.4
LZH				PP	PP	10 49 06.7	-0.8
LZH				*e*S	**S**	**10 53 03.4**	**-2.4**
LZH				sS		10 53 24.7	
LZH				SS	SS	10 54 50.2	-1.3
QIZ	**Qiongzhong**	**31.14**	**252**	P	**P**	**10 48 11.3**	**+5.3**
QIZ				XP	sP	10 48 29.3	+7.7
QIZ				PP	PP	10 49 16.0	+6.8
QIZ				S	**S**	**10 53 12.3**	**+4.5**
QIZ				XS		10 53 38.0	
QIZ				LR	LR		
	comp=N,826nm,19.6s,MS4.5						
QIZ				LR	LR		
	comp=E,634nm,17.8s,MS4.5						
QIZ				LR	LR		
	comp=Z,1µm,22.5s,MS4.5						
SEY	**Seymchan**	**31.38**	**10**	*e*P	**P**	**10 48 13.5**	**+5.9**
SEY				*e*		10 53 05.9	
BOD	**Bodaibo**	**31.48**	**332**	*e*P	**P**	**10 48 05.7**	**-2.8**
CD2	**Chengdu**	**31.85**	**278**	*e*P	**P**	**10 48 10.3**	**-1.8**
CD2				PP	PP	10 49 19.0	+0.8
CD2				S	**S**	**10 53 24.8**	**+6.0**
CD2				LR	LR		
	comp=E,3µm,15.6s						
CD2				LR	LR		
	comp=Z,4µm,14.4s,MS5.2						
ZAK	**Zakamensk**	**33.23**	**314**	*e*P	**P**	**10 48 23.4**	**-0.5**
GTA	**Gaotai**	**34.06**	**294**	*e*P	**P**	**10 48 30.8**	**-0.3**
GTA				AP	pP	10 48 43.0	+1.1
GTA				PP	PP	10 49 44.8	-1.1
GTA				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.6						
GTA				AMB	AMB		
	comp=Z,118nm,6.1s						
GTA				LR	LR		
	comp=N,412nm,18.2s,MS4.6						
GTA				LR	LR		
	comp=E,1µm,16.3s,MS4.6						
GTA				LR	LR		
	comp=Z,1µm,15.2s,MS4.7						
KMI	**Kunming**	**34.39**	**268**	*e*P	**P**	**10 48 33.3**	**-0.8**
KMI				LR	LR		
	comp=N,1µm,14.1s						
KMI				LR	LR		
	comp=E,1µm,19.2s						
KMI				LR	LR		
	comp=Z,2µm,19.2s						
KMI	**Kunming**	**34.39**	**268**	*e*P	**P**	**10 48 33.2**	**-0.9**
KMI				S	**S**	**10 53 57.2**	**-1.2**
NANT	**Nan**	**38.76**	**260**	P	**P**	**10 49 10.0**	**-1.0**
TIXI	**Tiksi**	**39.88**	**354**	*e*P	**P**	**10 49 20.5**	**+0.7**
TIXI				*e*		10 51 23.7	
TIXI				*e*S	**S**	**10 55 21.6**	**-0.2**
TIXI				pmax	pmax		
	comp=Z,14nm,2.0s,mb4.3						
TIXI				MLR	MLR		
	comp=Z,700nm,20.0s,MS4.5						
CHG	**Chiang Mai**	**40.22**	**261**	⇑P	**P**	**10 49 22.3**	**-0.8**
CMAR	**Chiang Mai Arr**	**40.39**	**260**	P	**P**	**10 49 24.1**	**-0.5**
	comp=Z,0.9nm,0.6s,baz=49,slow=7.9,SNR=6.3						
CMAR				LR	LR	11 08 21.3	
	comp=Z,599nm,19.7s,baz=70,slow=40						
CMAR	**Chiang Mai Arr**	**40.39**	**260**	P	**P**	**10 49 24.1**	**-0.4**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CMAR				MLR	MLR		
	comp=Z,599nm,19.7s						
LSA	**Lhasa**	**42.70**	**280**	P	**P**	**10 49 44.5**	**+1.1**
WMQ	**Urumqi**	**42.98**	**301**	P	**P**	**10 49 46.5**	**+0.9**
WMQ				AP	pP	10 49 58.8	+2.2
WMQ				PP	PP	10 51 29.0	+1.2
WMQ				AMB	AMB		
	comp=Z,35nm,1.2s,mb5.0						
WMQ				AMB	AMB		
	comp=Z,81nm,10.0s						
WMQ				LR	LR		
	comp=N,444nm,18.2s						
WMQ				LR	LR		
	comp=E,649nm,24.0s						
WMQ				LR	LR		
	comp=Z,858nm,22.6s,MS4.6						
SHL	**Shillong**	**43.41**	**274**	*e*P	**P**	**10 49 48.5**	**-0.8**
ZAL	**Zalesovo**	**45.06**	**316**	P	**P**	**10 50 03.5**	**+1.3**
ZAL				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KAKA	**Kakadu**	**45.62**	**192**	*e*P	**P**	**10 50 07.9**	**+0.7**
	comp=Z,8.4nm,0.6s,mb4.8						
NVS	**Novosibirsk**	**46.05**	**317**	*e*P	**P**	**10 50 09.1**	**-0.9**
NVS				pmax	pmax		
	comp=E,38nm,1.4s						
NVS				pmax	pmax		
	comp=Z,40nm,1.4s,mb5.2						
MKAR	**Makanchi Array**	**46.60**	**306**	P	**P**	**10 50 14.8**	**+0.3**
	comp=Z,13nm,0.5s,mb5.1,baz=90,slow=9.3,SNR=71						
MKAR				PcP	PcP	10 51 48.5	0.0
	comp=Z,6.2nm,0.8s,baz=79,slow=11,SNR=4.3						
MKAR	**Makanchi Array**	**46.60**	**306**	P	**P**	**10 50 14.8**	**+0.3**
MKAR						10 51 48.5	
MKAR				pmax	pmax		
	comp=Z,13nm,0.5s						
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
MKAR	**Makanchi Array**	**46.60**	**306**	P	**P**	**10 50 14.8**	**+0.3**
MKAR				PcP	PcP	10 51 48.5	0.0
PKI	**Pulchoki**	**48.15**	**280**	*e*P	**P**	**10 50 26.5**	**-0.4**
	comp=Z,64nm,1.0s,mb5.6						
KKN	**Kakani**	**48.19**	**280**	*e*P	**P**	**10 50 26.8**	**-0.4**
	comp=Z,53nm,0.8s,mb5.7						
DMN	**Daman**	**48.39**	**280**	*e*P	**P**	**10 50 28.6**	**-0.2**
	comp=Z,34nm,0.9s,mb5.4						
GKN	**Gorkha**	**48.65**	**280**	*e*P	**P**	**10 50 30.3**	**-0.5**
	comp=Z,54nm,0.8s,mb5.7						
KURK	**Kurchatov**	**48.80**	**311**	*c i*P	**P**	**10 50 31.2**	**-0.4**
KURK	**Kurchatov**	**48.80**	**311**	⇑*e*P	**P**	**10 50 30.9**	**-0.7**
	comp=Z,28nm,0.8s,mb5.3						
KOLN	**Koldanda**	**49.59**	**281**	*e*P	**P**	**10 50 37.7**	**-0.3**
	comp=Z,45nm,0.9s,mb5.5						
TKM2	**Tokmak 2**	**51.84**	**302**	P	**P**	**10 50 55.5**	**+0.7**
	SNR=6.8						
KZA	**Kyzart**	**52.26**	**301**	P	**P**	**10 50 59.8**	**+1.8**
	SNR=8.3						
KSH	**Kashi**	**52.30**	**297**	*e*P	**P**	**10 50 59.0**	**+0.7**
KSH				*e*AP	pP	10 51 11.3	+1.8
KSH				*e*PCP	PcP	10 52 10.0	+0.7
KSH				LR	LR		
	comp=N,630nm,11.2s,MS5.1						
KSH				LR	LR		
	comp=E,1µm,15.8s,MS5.1						
KBK	**Karagaybulak**	**52.36**	**301**	P	**P**	**10 50 59.6**	**+0.8**
	SNR=6.3						

FITZ	Fitzroy Crossi	52.38	199	*e*P	P	10 50 58.8	-0.4
	comp=E,4.4nm,0.6s,mb4.6						
FITZ	Fitzroy Crossi	52.38	199	P	P	10 50 58.7	-0.5
	comp=E,3.5nm,0.6s,mb4.5,baz=5.5,slow=8.5,SNR=18						
WRAB	Tennant Creek	52.44	188	*e*P	P	10 50 58.3	-1.4
	comp=E,22nm,0.8s,mb5.1						
WB2	Warramunga Arr	52.45	188	*e*P	P	10 50 58.0	-1.7
WRA	Warramunga Arr	52.45	188	P	P	10 50 58.4	-1.3
	comp=E,13nm,0.5s,mb5.1,baz=5.0,slow=7.6,SNR=114						
WRA	Warramunga Arr	52.45	188	P	P	10 50 58.4	-1.3
WRA				pmax	pmax		
	comp=Z,13nm,0.5s						
USP	Ospenovka	52.56	302	P	P	10 51 00.2	0.0
	SNR=5.7						
MCK	McKinley	52.61	32	*e*P	P	10 50 59.2	-1.1
	comp=Z,17nm,1.3s,mb4.8						
AAK	Ala-Archa	52.69	302	*e*P	P	10 51 00.0	-1.2
	comp=Z,8.5nm,0.8s,mb4.7						
COLA	College	53.12	30	*e*P	P	10 51 03.9	-0.2
AML	Almayashu	53.38	301	P	P	10 51 07.2	+0.8
	SNR=20						
ILAR	Eielson Array	53.53	30	P	P	10 51 05.1	-2.0
	comp=Z,5.7nm,0.8s,mb4.5,baz=265,slow=5.6,SNR=58						
ILAR	Eielson Array	53.53	30	P	P	10 51 05.1	-2.0
ILAR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
BRVK	Borovoye	53.74	315	⇑*e*P	P	10 51 08.0	-0.8
	comp=Z,12nm,0.8s,mb4.9						
ZRNK	Zerenda	54.52	315	*e*P	P	10 51 13.9	-0.6
	comp=Z,9.7nm,0.6s,mb5.0						
ASAR	Alice Springs	56.17	188	P	P	10 51 25.6	-1.3
	comp=Z,3.9nm,0.6s,mb4.6,baz=8.4,slow=8.4,SNR=46						
ASAR				PKP2bc		11 21 38.0	
	comp=Z,0.7nm,0.8s,baz=202,slow=1.7,SNR=9.2						
ASAR	Alice Springs	56.17	188	P	P	10 51 25.6	-1.3
ASAR				⇑*e*		11 21 38.0	
ASPA	Alice Springs	56.17	188	*e*P	P	10 51 25.7	-1.2
DAWY	Dawson	56.81	31	*e*P	P	10 51 30.5	-0.5
HYB	Hyderabad	58.06	271	*i* P	P	10 51 39.5	-0.8
HYB				*e*	pP	10 51 48.5	-3.2
HYB	Hyderabad	58.06	271	*e*P	P	10 51 39.5	-0.8
SVE	Sverdlovsk	58.59	321	⇑*i*P	P	10 51 42.8	-0.8
SVE				pmax	pmax		
	comp=Z,40nm,2.1s,mb5.1						
INK	Inuvik	58.60	26	P	P	10 51 42.2	-1.3
	comp=Z,7.1nm,0.7s,mb4.8,baz=292,slow=7.1,SNR=15						
INK	Inuvik	58.60	26	P	P	10 51 42.2	-1.3
INK				pmax	pmax		
	comp=Z,7.0nm,0.7s						
INK	Inuvik	58.60	26	*e*P	P	10 51 41.7	-1.8
	comp=Z,10nm,0.8s,mb4.9						
ARU	Arti	59.80	320	*c i*P	P	10 51 51.0	-0.9
ARU				pmax	pmax		
	comp=Z,26nm,0.6s,mb5.4						
ARU				MLR	MLR		
	comp=Z,900nm,18.0s,MS5.0						
ARU	Arti	59.80	320	*e*P	P	10 51 50.8	-1.1
	comp=Z,32nm,0.6s,mb5.5						
POO	Poona	61.52	275	*e*P	P	10 52 04.0	-0.1
DLBC	Dease Lake	62.40	36	P	P	10 52 10.4	+1.0
	comp=Z,7.8nm,1.1s,mb4.7,baz=315,slow=8.5,SNR=3.7						
DLBC	Dease Lake	62.40	36	P	P	10 52 10.3	+0.8
STKA	Stephens Creek	63.91	180	*e*P	P	10 52 19.0	-0.8
	comp=Z,4.3nm,0.8s,mb4.5						
STKA	Stephens Creek	63.91	180	P	P	10 52 19.1	-0.7
	comp=Z,7.3nm,1.1s,mb4.6,baz=358,slow=7.3,SNR=9.4						
FORT	Forrest	64.05	193	*e*P	P	10 52 20.6	-0.1
	comp=Z,42nm,0.5s,mb5.7						
APA	Apatity	66.88	337	⇑*e*P	P	10 52 30.0	-8.2
APA				*i*		10 52 37.6	
APA				*i*		10 53 05.0	
RES	Resolute Bay	67.13	14	*e*P	P	10 52 38.6	-1.2
	comp=Z,15nm,0.8s,mb5.1						
YKA	Yellowknife Ar	67.91	29	P	P	10 52 43.8	-0.9
	comp=Z,4.4nm,0.7s,mb4.6,baz=294,slow=6.5,SNR=19						
YKA	Yellowknife Ar	67.91	29	P	P	10 52 43.8	-1.0
YKA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ARCES	ARCESS Array B	68.30	340	P	P	10 52 46.8	-0.3
	comp=Z,4.6nm,1.0s,mb4.5,baz=53,slow=6.1,SNR=7.9						
ARCES	ARCESS Array B	68.30	340	P	P	10 52 46.8	-0.3
ARCES				pmax	pmax		
	comp=Z,5.0nm,1.0s						
NWAO	Narrogin (SRO)	68.80	202	*e*P	P	10 52 50.1	-0.7
	comp=Z,20nm,0.6s,mb5.2						
KTK1	Kautokeino	69.27	340	*e*P	P	10 52 53.4	+0.3
MOS	Moscow	70.92	324	*e*P	P	10 53 02.3	-1.1
OBN	Obninsk	71.76	324	α*i*P	P	10 53 08.1	-0.2
OBN				*e*		10 53 15.4	
OBN				*e*		10 53 28.8	
OBN				*e*S	S	11 02 26.6	+2.2
OBN				*e*		11 03 14.8	
OBN				*e*SSS	SSS	11 10 11.3	+0.4
OBN				pmax	pmax		
	comp=Z,21nm,0.8s,mb5.1						
OBN				MLR	MLR		
	comp=Z,1µm,19.0s,MS5.2						
NLW	Nelson Butte	71.80	44	*e*P	P	10 53 08.1	-0.7
KAF	Kangasniemi	72.38	333	*e*p	P	10 53 11.0	-0.9
	comp=Z,4.6nm,0.6s,mb4.6,baz=52,slow=5.7						
KAF	Kangasniemi	72.38	333	*e*P	P	10 53 11.0	-0.9
KAF				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
FINES	FINESS Array B	72.87	333	P	P	10 53 14.7	-0.1
	comp=Z,3.8nm,0.5s,mb4.6,baz=57,slow=6.6,SNR=24						
FINES	FINESS Array B	72.87	333	*e*P	P	10 53 14.0	-0.8
EDM	Edmonton	73.09	37	*e*P	P	10 53 15.6	-0.7
GOF	Gofitskoye	73.12	313	⇓*i*P	P	10 53 17.5	+0.9
GOF				pmax	pmax		
	comp=Z,40nm,1.0s,mb5.3						
DPW	Davenport	73.15	44	*e*P	P	10 53 16.7	0.0
YBH	Yreka Blue Hor	73.33	51	P	P	10 53 18.5	+0.6
	comp=Z,3.3nm,0.9s,mb4.3,baz=313,slow=5.9,SNR=4.4						
YBH	Yreka Blue Hor	73.33	51	P	P	10 53 18.5	+0.6
YBH				pmax	pmax		
	comp=Z,3.0nm,0.9s						
YBH	Yreka Blue Hor	73.33	51	*e*P	P	10 53 18.4	+0.5
	comp=Z,8.1nm,0.9s,mb4.7						
NEW	Newport	73.59	43	*e*P	P	10 53 19.2	-0.1
	comp=Z,15nm,0.9s,mb4.9						
MOR8	Moi Rana	73.68	340	*e*P	P	10 53 18.8	-0.6
ZEI	Tsey	73.69	310	⇑*i*P	P	10 53 20.0	0.0
ZEI				*e*S	S	11 02 46.0	-0.6
ZEI				pmax	pmax		
	comp=Z,50nm,2.0s,mb5.1						
ZEI				MLR	MLR		
	comp=Z,1µm,18.0s,MS5.3						
KIV	Kislovodsk	73.88	312	*c i*P	P	10 53 21.0	0.0
KIV				*e*		10 53 36.9	
KIV				*e*		10 56 06.1	
KIV				*e*S	S	11 02 51.6	+2.9
KIV				pmax	pmax		
	comp=Z,57nm,0.7s,mb5.6						
KIV				pmax	pmax		
	comp=N,34nm,0.8s						
KIV				pmax	pmax		
	comp=E,14nm,0.6s						
KIV				MLR	MLR		
	comp=Z,751nm,20.0s,MS5.0						
KIV				MLR	MLR		
	comp=E,538nm,21.0s						
KIV	Kislovodsk	73.88	312	*e*P	P	10 53 21.8	+0.7
	comp=E,80nm,0.7s,mb5.8						
WDC	Whiskeytown Da	74.00	52	*e*P	P	10 53 20.7	-1.1
	comp=E,19nm,1.4s,mb4.8						
LNOR	Lincton Mounta	74.10	46	*e*P	P	10 53 22.6	+0.3
GNI	Garni	74.41	308	*e*P	P	10 53 25.6	+1.4
GNI				pmax	pmax		
	comp=Z,23nm,1.0s						
GNI				MLR	MLR		
	comp=Z,700nm,18.0s						
GNI	Garni	74.41	308	*e*P	P	10 53 25.3	+1.2
	comp=Z,101nm,1.2s,mb5.6						
MOD	Modoc	74.82	50	*e*P	P	10 53 26.6	+0.1
	comp=Z,11nm,0.9s,mb4.8						
OHCM	Honcut	75.31	53	*e*P	P	10 53 29.1	-0.4
SUMG	Summit	75.33	360	*e*P	P	10 53 29.8	+0.9
	comp=Z,18nm,1.0s,mb4.9						
SUMG				*e*	pP	10 53 41.5	+1.1
BEKR	Beckwourth	75.80	52	*e*P	P	10 53 31.7	-0.5
	comp=Z,16nm,1.1s,mb4.9						
SOC	Sochi	75.92	313	*i* P	P	10 53 33.1	+0.3
SOC				*e*	pP	10 53 46.6	+2.2
SOC				*e*S	S	11 03 08.3	-3.1
SOC				*e*		11 03 42.6	
SOC				*e*SSS	SSS	11 11 19.7	-2.5
SOC				pmax	pmax		
	comp=Z,23nm,0.4s,mb5.5						
SOC				pmax	pmax		
	comp=N,1.0nm,0.2s						
SOC				pmax	pmax		
	comp=E,5.0nm,0.5s						
SOC				MLR	MLR		
	comp=Z,559nm,22.0s,MS4.8						
SOC				MLR	MLR		
	comp=N,328nm,25.0s,MS4.8						
SOC				MLR	MLR		
	comp=E,372nm,21.0s,MS4.8						
WCN	Washoe City	76.49	52	*e*P	P	10 53 36.7	+0.6
	comp=E,12nm,1.0s,mb4.8						
CHMT	Chamberlain Mo	76.52	43	*e*P	P	10 53 35.3	-0.8
ANN	Anapa	76.68	315	*e*P	P	10 53 37.0	-0.1
ANN				pmax	pmax		
	comp=Z,70nm,1.4s,mb5.4						
CMB	Columbia Colle	76.71	53	*e*P	P	10 53 37.4	0.0
	comp=Z,12nm,0.8s,mb4.9						
ERZM	Erzurum	76.77	309	*i* P	P	10 53 39.1	+1.4
HRY	Holter Researc	77.45	42	*e*P	P	10 53 41.7	+0.3
HLID	Hailey	77.66	46	*e*P	P	10 53 42.9	+0.4
	comp=Z,12nm,1.4s,mb4.7						
KBD	Kabd	77.73	297	*e*P	P	10 53 44.2	+1.0
QRN	Al-Qurain	77.77	296	*e*P	P	10 53 44.4	+0.9
QRN				AML	AML	10 55 37.3	
	comp=Z,18nm,0.3s						
URZ	Urewera	77.81	152	LR	LR	11 23 04.3	
	comp=Z,439nm,20.9s,MS4.8,baz=20,slow=32						
OMM	Old Mammoth Mi	77.87	53	*e*P	P	10 53 44.5	+0.6
AKASG	Malin Array Be	77.90	323	P	P	10 53 43.6	-0.2
	comp=Z,5.7nm,0.6s,mb4.7,baz=49,slow=5.8,SNR=22						
AKASG	Malin Array Be	77.90	323	P	P	10 53 43.6	-0.1
AKASG				pmax	pmax		
	comp=Z,6.0nm,0.6s						
MCMT	McKenzie Canyo	77.91	44	*e*P	P	10 53 43.9	0.0
RDF	Al-Radifah	77.96	297	*e*P	P	10 53 45.2	+0.7
RDF				AML	AML	10 55 38.7	
	comp=Z,30nm,0.4s						
RST	Umm Al-Ruwaisa	78.09	297	AML	AML	10 55 37.7	
	comp=Z,14nm,0.4s						
BOZ	Bozeman (W)	78.16	43	*e*P	P	10 53 45.5	+0.2
	comp=Z,15nm,1.1s,mb4.8						
MTUM	Tungsten Hills	78.30	53	*e*P	P	10 53 46.2	0.0
NB2	NORSAR Subarra	78.42	338	P	P	10 53 45.4	-1.0
	comp=Z,9.9nm,0.8s,mb4.8,baz=41,slow=5.3						
NB2	NORSAR Subarra	78.42	338	P	P	10 53 45.4	-1.0
	baz=41,slow=5.3						
NOA	NORSAR Array B	78.42	338	P	P	10 53 46.4	0.0
	comp=Z,8.4nm,0.7s,mb4.8,baz=41,slow=5.4,SNR=30						
NOA	NORSAR Array B	78.42	338	P	P	10 53 46.4	0.0
NOA				pmax	pmax		
	comp=Z,8.0nm,0.7s						
SIM	Simferopol’	78.56	316	*e*P	P	10 53 49.0	+1.5
SIM				pmax	pmax		
	comp=Z,19nm,0.7s,mb5.1						
ELK	Elko	78.68	49	*e*P	P	10 53 48.0	-0.2
	comp=Z,8.0nm,0.8s,mb4.7						
QLMT	Earthquake Lak	78.74	44	*e*P	P	10 53 49.0	+0.5
TPH	Tonopah	78.82	52	*e*P	P	10 53 49.3	+0.3
	comp=Z,10nm,0.9s,mb4.8						
ELZG	Elazig	79.08	309	*i* P	P	10 53 51.2	+0.8
GCMT	Greycliff	79.21	42	*e*P	P	10 53 51.6	+0.6
DAC	Darwin (Calif)	79.53	54	*e*P	P	10 53 53.0	0.0
	comp=Z,12nm,1.0s,mb4.8						
IMW	Indian Meadow	79.56	44	*e*P	P	10 53 53.6	+0.6
HVU	Hansel Valley	79.65	47	*e*P	P	10 53 54.3	+0.8
MOOW	Moose Ponds	79.76	44	*e*P	P	10 53 54.5	+0.4
TPAW	Teton Pass	79.79	45	*e*P	P	10 53 54.3	+0.1
LOHW	Long Hollow	79.92	45	*e*P	P	10 53 55.4	+0.5
BGU	Big Grassy Mou	79.97	48	*e*P	P	10 53 55.8	+0.6
TPNV	Topopah Spring	80.08	53	*e*P	P	10 53 55.8	-0.1
	comp=Z,36nm,0.8s,mb5.4						
TPNV				*e*	pP	10 54 07.1	-0.5
BOYT	Boyabat	80.08	313	*i* P	P	10 53 57.2	+1.4
SPUT	South Promonto	80.12	47	*e*P	P	10 53 55.9	-0.1
HWUT	Hardware Ranch	80.50	47	*e*P	P	10 53 58.6	+0.6
	comp=Z,43nm,1.3s,mb5.2						
GZT	Gaziantep	80.65	308	*i* P	P	10 53 59.5	+0.6
NOQ	North Oquirrh	80.70	48	*e*P	P	10 53 59.5	+0.4
TCUT	Toone Canyon	80.87	47	*e*P	P	10 53 58.0	-2.1
CTU	Camp Tracy	80.91	47	*e*P	P	10 54 00.4	+0.2
BALT	Daday	80.95	314	*i* P	P	10 54 01.1	+0.7
PDAR	Pinedale Array	81.04	45	P	P	10 54 01.0	+0.2
	comp=Z,1.6nm,0.8s,mb4.0,baz=285,slow=2.3,SNR=13						
NLU	North Lily Min	81.12	48	*e*P	P	10 54 02.2	+0.9
JLU	Jordanelle	81.14	47	*e*P	P	10 54 02.3	+0.8
MPU	Maple Canyon	81.37	48	*e*P	P	10 54 02.8	+0.2
DAU	Daniels Canyon	81.37	47	*e*P	P	10 54 03.5	+0.8
ARUT	Antelope Range	81.48	51	*e*P	P	10 54 03.9	+0.7
ELDT	Eldivan	81.53	313	*i* P	P	10 54 04.3	+0.8
NEN	Nelson	81.74	53	*e*P	P	10 54 04.8	+0.2
PFO	Pinyon Flat Ob	81.76	55	*e*P	P	10 54 04.0	-0.8
	comp=Z,18nm,0.9s,mb5.0						
KWP	Kalwaria	81.83	325	*e*P	P	10 54 05.5	+0.7
BRTR	Keskin Array B	81.84	312	P	P	10 54 06.7	+1.5
	comp=Z,20nm,0.8s,mb5.1,baz=111,slow=4.3,SNR=79						
BRTR	Keskin Array B	81.84	312	P	P	10 54 06.7	+1.6
BRTR				pmax	pmax		
	comp=Z,20nm,0.8s						
MVU	Marysvale	81.86	49	*e*P	P	10 54 05.4	+0.2
	comp=Z,17nm,1.2s,mb4.8						
LDFC	Landfair	81.88	54	*e*P	P	10 54 05.8	+0.4
MSU	Marysvale	81.88	49	*e*P	P	10 54 06.3	+1.0
COBT	Iskenderun	81.98	308	*i* P	P	10 54 06.9	+1.0
MZLS	Mizel	82.28	293	P	P	10 54 08.7	+1.0
RAYN	Ar Rayn	82.31	293	P	P	10 54 08.0	+0.2
	comp=Z,232nm,0.6s,SNR=59						
SGKT	Sivrigoynuk	82.33	313	*i* P	P	10 54 08.7	+1.1
KOLS	Kolonicke sedl	82.51	324	*i* P	P	10 54 09.1	+0.8
SRU	San Rafael	82.59	48	*e*P	P	10 54 09.2	+0.2
OJC	Ojcow	82.83	326	*e*P	P	10 54 09.6	-0.3
HILS	Ha’il	83.10	298	P	P	10 54 12.8	+1.1
ESKT	Eskisehir	83.70	313	*i* P	P	10 54 14.3	-0.3
OKC	Ostrava-Krasne	83.86	327	*e*P	P	10 54 15.8	+0.7
PV10	Paradox Valley	83.96	48	*e*P	P	10 54 17.2	+1.3
KSP	Ksiaz	83.98	328	*e*P	P	10 54 16.3	+0.6
KSP				*e**PP	pP	10 54 27.8	+0.3
AFFS	‘Afif	84.04	294	P	P	10 54 17.7	+1.0
MORC	Moravsky Berou	84.18	327	*e*P	P	10 54 17.4	+0.6
	comp=Z,7.9nm,0.7s,mb5.0						
DPC	Dobruska-Polom	84.32	328	*e*P	P	10 54 18.4	+1.0
DPC				*e*pP	pP	10 54 29.4	+0.1
DPC				*e*PP	PP	10 57 43.9	+10
UPC	Upice	84.35	328	*e*P	P	10 54 18.5	+0.9
UPC				*e*PP	PP	10 57 44.8	+10
PSZ	Piszkesteto	84.36	325	*e*P	P	10 54 18.5	+0.8
PSZ				*i*		10 56 11.3	
ULDT	Uludag	84.37	314	*i* P	P	10 54 19.2	+1.2
PV01	Paradox Valley	84.40	48	*e*P	P	10 54 18.3	+0.2
VYHS	Vyhne	84.47	326	*i* P	P	10 54 19.5	+1.2
KAMS	Al Khamasin	84.74	291	P	P	10 54 20.9	+0.6
CSS	Prodhromos	84.82	308	*e*P	P	10 54 20.8	+0.4
	comp=Z,24nm,0.6s,mb5.5						
RW3	Ridgway	84.88	48	*e*P	P	10 54 21.7	+1.2
PVCC	Panska Ves	84.97	329	*e*P	P	10 54 21.3	+0.7
BRG	Berggiesshubel	84.98	330	*e*P	P	10 54 21.5	+0.8
BRG				*e*	pP	10 54 33.0	+0.5
BRG				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb5.0						
BRG	Berggiesshubel	84.98	330	*e*P	P	10 54 21.5	+0.8
	comp=Z,9.1nm,0.7s,mb5.0						
BRG				*e*	pP	10 54 33.0	+0.5
CLL	Collm	85.06	330	⇓P	P	10 54 21.7	+0.6
	comp=Z,logA/T=1.5,mb5.4						
CLL	Collm	85.06	330	⇓*i*P	P	10 54 21.7	+0.6
CLL				pmax	pmax		
	comp=Z,23nm,0.8s,mb5.4						
CLL	Collm	85.06	330	⇓*i*P	P	10 54 21.7	+0.6
	comp=Z,23nm,0.8s,mb5.4						
ISCO	Idaho Springs	85.20	45	*e*P	P	10 54 22.6	+0.6
	comp=Z,4.9nm,0.8s,mb4.7						
PRU	Pruhonice	85.38	329	*e*P	P	10 54 23.4	+0.7
PRU				*e*pP	pP	10 54 34.0	-0.5
PRU				*e*PP	PP	10 57 51.3	+8.7
CLZ	Clausthal	85.73	332	*e*P	P	10 54 25.1	+0.7
KBRS	Khaybar	85.86	298	P	P	10 54 27.2	+1.5
TATS	Tathlith	86.03	290	P	P	10 54 28.2	+1.6
NKC	Novy Kostel	86.10	330	*e*P	P	10 54 26.6	+0.4
NKC				*e*pP	pP	10 54 37.9	-0.1
MOX	Moxa	86.14	331	*e*P	P	10 54 26.0	-0.4
KHC	Kasperske Hory	86.43	329	*e*P	P	10 54 28.3	+0.4
KHC				*e*pP	pP	10 54 39.9	+0.2
KHC				*e*PP	PP	10 57 50.2	-1.3
GERES	GERESS Array B	86.59	328	P	P	10 54 28.2	-0.4
	comp=Z,0.5nm,0.3s,mb4.2,baz=63,slow=3.0,SNR=7.8						
GERES	GERESS Array B	86.59	328	P	P	10 54 28.2	-0.4
GERES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
GRA1	Grafenberg Arr	87.03	330	*e*P	P	10 54 32.3	+1.5
	comp=Z,6.0nm,1.0s,mb4.8						
GRF	Grafenberg Arr	87.03	330	*e*P	P	10 54 32.3	+1.5
GRF				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.8						
MOA	Molln	87.07	327	⇓*i*P	P	10 54 28.4	-2.6
	comp=Z,6.0nm,1.2s,mb4.7						
HAQS	Haql	87.17	303	P	P	10 54 32.4	+0.4
BLJS	Baljurashi	87.32	292	P	P	10 54 34.1	+1.2
BDAS	Al Bad‘	87.41	302	P	P	10 54 33.3	+0.2
UMJS	Umm Lajj	87.63	298	P	P	10 54 35.4	+1.2
ANMO	Albuquerque	87.69	50	*e*P	P	10 54 35.3	+1.0
	comp=Z,4.9nm,1.1s,mb4.7						
DAVA	Damuels	89.44	329	⇓*i*P	P	10 54 38.6	-3.8
	comp=Z,9.2nm,1.0s,mb5.1						
CDF	Champ du Feu	89.65	331	*e*P	P	10 54 43.4	+0.1
SCHQ	Schefferville	89.84	16	P	P	10 54 45.2	+1.1
	comp=Z,2.8nm,0.8s,mb4.6,baz=262,slow=15,SNR=2.3						
SCHQ	Schefferville	89.84	16	P	P	10 54 45.2	+1.1
KSU1	Kansas State U	90.89	41	*e*P	P	10 54 49.4	0.0
GRAM		91.52	327	P	P	10 54 52.2	0.0
VALM		91.55	327	P	P	10 54 53.3	+1.0
CABF	La Chapelle	91.58	331	*e*P	P	10 54 52.4	0.0
CODM		91.69	327	P	P	10 54 52.7	-0.3
TRAV		91.75	329	P	P	10 54 52.2	-1.0
LOR	Lormes	91.94	333	*e*P	P	10 54 54.0	0.0
	comp=Z,9.0nm,0.8s,mb4.8						
LSD	Ceresole Reale	92.05	330	P	P	10 54 55.5	+1.0
PCP	Pian Castagno	92.17	328	P	P	10 54 55.3	+0.2
LPL	La Plagne	92.18	330	*e*P	P	10 54 55.6	+0.4
	comp=Z,15nm,0.8s,mb5.1						
LPG	La Plagne	92.19	330	*e*P	P	10 54 55.7	+0.5
	comp=Z,17nm,0.8s,mb5.2						
SSF	Saint Saulge	92.25	333	*e*P	P	10 54 55.6	+0.2
	comp=Z,7.0nm,0.8s,mb4.8						
RSP	Reno Superiore	92.25	329	P	P	10 54 55.6	+0.1
FENE	Fenestrelle	92.43	329	P	P	10 54 56.3	0.0
SMF	Signal de Mont	92.45	332	*e*P	P	10 54 56.4	0.0
	comp=Z,9.6nm,0.8s,mb4.9						
BHB	Bricherasio	92.49	329	P	P	10 54 56.4	-0.2
AVF	Avril sur Loir	92.53	333	*e*P	P	10 54 56.9	+0.2
	comp=Z,21nm,0.8s,mb5.3						
BNI	Bardonecchia	92.58	330	*e*P	P	10 54 57.2	+0.2
	comp=Z,11nm,0.8s,mb5.3						
FIN	Finale Ligure	92.58	328	P	P	10 54 56.2	-0.8
WMOK	Wichita Mounta	92.62	46	*e*P	P	10 54 56.8	-0.6
	comp=Z,9.2nm,1.1s,mb5.1						
RRL	Cesana Torines	92.64	329	P	P	10 54 57.0	-0.2
ROB	Roburent	92.66	328	P	P	10 54 56.6	-0.8
RORO		92.72	328	P	P	10 54 56.1	-1.6
MBDF	Montbardon	92.80	329	*e*P	P	10 54 57.6	-0.4
	comp=Z,11nm,0.7s,mb5.1						
MONE	Monesi	92.88	328	P	P	10 54 58.2	-0.2
STV2	Anna di Valdie	92.94	329	P	P	10 54 57.2	-1.5
ORIF	Oris-en-Rattie	93.02	330	*e*P	P	10 54 59.1	0.0
	comp=Z,9.2nm,0.6s,mb5.1						
TXAR	Lajitas Array	93.06	52	P	P	10 55 00.2	+0.6
	comp=Z,4.1nm,1.1s,mb4.8,baz=307,slow=3.2,SNR=28						
TXAR				LR	LR	11 31 01.6	
	comp=Z,217nm,21.3s,MS4.6,baz=275,slow=32						
TXAR	Lajitas Array	93.06	52	P	P	10 55 00.2	+0.6
SBF	Sospel	93.19	328	*e*P	P	10 54 59.2	-0.6
	comp=Z,17nm,0.8s,mb5.2						
TCF	Toulx Ste Croi	93.39	333	*e*P	P	10 55 01.0	+0.3
	comp=Z,7.4nm,0.7s,mb4.9						
VIVF	Saint-Julien-l	93.58	331	*e*P	P	10 55 01.7	+0.1
	comp=Z,15nm,0.8s,mb5.2						
ROSF	Rostrenen	93.60	337	*e*P	P	10 55 01.8	+0.2
	comp=Z,9.7nm,0.9s,mb5.0						
FRF	La Foret Royal	93.78	329	*e*P	P	10 55 01.9	-0.6
SMRF	Simiane la Rot	93.91	330	*e*P	P	10 55 03.3	+0.2
	comp=Z,12nm,0.9s,mb5.0						
MFF	Saint Martin d	94.01	334	*e*P	P	10 55 02.8	-0.6
	comp=Z,7.6nm,0.8s,mb4.9						
RJF	Les Rejaudoux	94.47	333	*e*P	P	10 55 06.0	+0.4
	comp=Z,12nm,0.9s,mb5.0						
LASF	Ste Croix	94.55	331	*e*P	P	10 55 05.1	-0.9
	comp=Z,14nm,1.0s,mb5.0						
QSPA	South Pole Qui	122.14	180	*e*PKP	PKPdf	11 00 39.3	+1.0
DBIC	Dimbokro	129.50	314	PKP	PKPdf	11 00 55.4	+1.3
	comp=Z,2.5nm,0.9s,baz=326,slow=9.6,SNR=5.3						
DBIC	Dimbokro	129.50	314	PKIKP	PKPdf	11 00 55.4	+1.3
DBIC				pmax	pmax		
	comp=Z,3.0nm,0.9s						
SAML	Samuel	147.51	50	*e*PKPbc	PKPdf	11 01 29.9	+3.4
LPAZ	La Paz	148.94	66	PKP	PKPdf	11 01 31.9	+3.2
	comp=Z,3.3nm,0.8s,baz=318,slow=1.1,SNR=9.7						
LPAZ				PKPbc	PKPdf	11 01 35.0	+6.3
	comp=Z,3.2nm,0.6s,baz=4.6,slow=5.2,SNR=15						
LPAZ	La Paz	148.94	66	PKIKP	PKPdf	11 01 31.9	+3.2
LPAZ						11 01 35.0	
LPAZ				pmax	pmax		
	comp=Z,3.0nm,0.9s						
LPAZ				pmax	pmax		
	comp=Z,3.0nm,0.6s						
LPAZ	La Paz	148.94	66	PKP	PKPdf	11 01 31.9	+3.2
LPAZ				PKPbc	PKPdf	11 01 35.0	+6.4
LVC	Limon Verde	151.61	78	*e*PKPbc	PKPdf	11 01 41.5	+8.9

NIED ***28*** *10:43:00, 32.40N×141.70E, h14^{km}, Mw5.1 Best double couple: $M_0$4.85×10^{16} NP1:ϕ_s28°,δ71°,λ95°. NP2:ϕ_s193°, δ19°,λ76°.*

JMA ***28*** *10:43:36.8±0.5, 32.40N×141.69E, h18^{km}, M5.1*

IDC ***28*** *10:43:40.0±4.2, 32.37N×141.44E, h20^{km}±26^{km}, mb4.5/22, mb1 4.6/24, mb1mx4.6/26, ML4.4/2, MS4.6/7, Ms1 4.5/7, ms1mx4.2/20, Error ellipse: s-maj=16.8km s-min=13.9km az=83.0, Putative timing error at ZAL*

BJI ***28*** *10:43:41.6, 32.39N×141.50E, h68^{km}, mB5.1, mb5.0, Ms4.9, Msz4.6*

MOS ***28*** *10:43:42.7±1.1, 32.91N×141.38E, h33^{km}, mb5.1/24, MS4.8/11, Error ellipse: s-maj=16.9km s-min=7.3km az=111.0*

NEIC ***28*** *10:43:43.2±0.8, 32.41N×141.31E, h47^{km}±7^{km}, mb5.1/65, MW5.1(NIED), Error ellipse: s-maj=4.8km s-min=4.2km az=162.0*

HRVD ***28*** *10:43:43.2±0.3, 32.41N×141.50E, h19^{km}, MW5.2/65, Centroid moment Tensor Solution. LP body waves: s42,c56;Mantle waves: s65,c122; Half duration: 1^{s}0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.57±.22; $M_{\theta\theta}$0.62±.19; $M_{\phi\phi}$-4.19±.17; $M_{r\theta}$4.96±.45; $M_{\theta\phi}$-2.49±.14; $M_{\phi r}$3.16±.38; Best double couple: $M_0$7.49×10^{16} NP1:ϕ_s174°,δ28°,λ36°. NP2:ϕ_s51°,δ74°,λ113°. Principal axes: T 7.38, Plg55°, Azm350°; N .22, Plg22°, Azm224°; P -7.6, Plg26°, Azm123°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 28 10:43:40.3±0.5**, 32.32N**±0.03×**141.36E**±0.03**, h36**^{km}±4^{km}**,**
h35^{km}±1.3^{km}**:pP-P, n260, σ0^{s}99**/271**, mb5.0**/98**, MS4.8**/19**,**
17C-2D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHJ2	Mitsune	1.52	302	P	P	10 44 06.3	+0.8
JHJ	Hachijo jima 2	1.55	301	Pn	P	10 44 07.0	+1.1
	615nm,0.3s,baz=162,slow=13,SNR=8.5						
JHJ				Sn	S	10 44 28.6	+3.6
	1µm,0.3s,baz=71,slow=22,SNR=4.5						
JKO	Kozu shima	2.63	316	P	P	10 44 21.2	-0.2
JKO				*e*S	S	10 44 55.9	+3.5
BSO4	Boso 4	2.79	342	*e*S	S	10 44 57.3	+0.8
JIM2	Oshima 3	2.88	326	P	P	10 44 24.5	-0.4
JOD2	Odawara 2	3.49	328	P	P	10 44 33.2	-0.4
JYN	Shimob	3.94	324	P	P	10 44 42.1	+2.2
JYN				*e*S	S	10 45 30.1	+4.5
JRY	Ryogami san	4.21	332	P	P	10 44 44.4	+0.6
JAG	Ashikaga	4.38	339	P	P	10 44 45.4	-0.9
MAJO	Matsushiro	4.95	329	*e*P	P	10 44 53.6	-0.7
MAT	Matsushiro	4.95	329	P	P	10 44 54.2	-0.1
MAT	Matsushiro	4.95	329	P	P	10 44 54.6	+0.3
MAT	Matsushiro	4.95	329	*e*P	P	10 44 54.0	-0.3
JGM	Miyama	5.12	312	P	P	10 44 57.3	+0.7
JGM				*e*S	S	10 45 58.1	+2.8
JWY	Kouya	5.19	293	P	P	10 45 00.1	+2.5
CBIJ	Chichi jima	5.26	172	Pn	P	10 44 58.0	-0.6

	17nm,0.3s,baz=301,slow=19,SNR=3.8						
CBIJ				Sn	**S**	**10 45 54.2**	**-4.6**
	14nm,0.3s,baz=259,slow=23,SNR=2.5						
CBIJ	**Chichi jima**	**5.26**	**172**	P	**P**	**10 44 57.1**	**-1.5**
JMM	**Marumori**	**5.55**	**355**	P	**P**	**10 44 59.7**	**-2.9**
JMM				*e*S	**S**	**10 45 57.8**	**-8.3**
JHHJ	**Haha-jima-NKT**	**5.72**	**173**	P	**P**	**10 45 04.3**	**-0.7**
JHHJ				*e*S	**S**	**10 46 10.2**	**-0.2**
JMK	**Ichinoseki**	**6.62**	**359**	P	**P**	**10 45 15.4**	**-2.3**
JMK				*e*S	**S**	**10 46 22.2**	**-11**
JNU	**Nakatsue**	**8.87**	**278**	LR	LR	10 48 59.7	
	comp=Z,6µm,18.9s,baz=42,slow=36						
ASAJ	**Asahikawa**	**11.81**	**4**	Pn	**P**	**10 46 22.3**	**-7.0**
	5.9nm,0.3s,baz=248,slow=6.8,SNR=6.8						
ASAJ				Sn	**S**	**10 48 26.0**	**-15**
	2.1nm,0.3s,baz=277,slow=24,SNR=3.0						
ASAJ	**Asahikawa**	**11.81**	**4**	P	**P**	**10 46 22.3**	**-7.0**
ASAJ						10 48 26.0	
ASAJ				pmax	pmax		
	comp=Z,6.0nm,0.3s						
ASAJ				smax			
	comp=N,2.0nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**12.21**	**16**	*e*P	**P**	**10 46 31.4**	**-3.3**
YUK				*e*S	**S**	**10 48 31.4**	**-19**
YUK				pmax	pmax		
	comp=N,210nm,0.4s						
YUK				pmax	pmax		
	comp=Z,230nm,0.4s						
YUK				pmax	pmax		
	comp=E,460nm,0.6s						
YUK				smax			
	comp=N,2µm,1.0s						
YUK				smax			
	comp=E,1µm,0.8s						
YUK				smax			
	comp=N,370nm,0.6s						
YUK				smax			
	comp=E,570nm,0.7s						
YUK				MLR	MLR		
	comp=N,2µm,16.0s						
YUK				MLR	MLR		
	comp=E,3µm,16.0s						
JOW	**Kunigami**	**12.63**	**248**	LR	LR	10 50 36.9	
	comp=E,4µm,19.6s,baz=134,slow=33						
YSS	**Yuzh-Sakhalins**	**14.65**	**4**	P	**P**	**10 47 02.3**	**-4.4**
MDJ	**Mudanjiang**	**15.33**	**327**	P	**P**	**10 47 14.5**	**-1.1**
MDJ				AP		10 47 23.8	
MDJ				AMB	AMB		
	comp=Z,26nm,1.1s						
MDJ				AMB	AMB		
	comp=Z,186nm,6.2s						
MDJ	**Mudanjiang**	**15.33**	**327**	*e*P	**P**	**10 47 14.7**	**-0.9**
	comp=Z,10nm,0.6s						
CN2	**Changchun**	**16.95**	**317**	*e*P	**P**	**10 47 35.0**	**-1.2**
CN2				*e*S	**S**	**10 50 41.8**	**-0.3**
CN2				AMB	AMB		
	comp=Z,700nm,8.0s						
CN2				LR	LR		
	comp=N,3µm,15.0s						
CN2				LR	LR		
	comp=E,3µm,15.0s						
CN2				LR	LR		
	comp=Z,3µm,19.0s						
SSE	**Sheshan**	**17.21**	**271**	*e*P	**P**	**10 47 40.3**	**+0.7**
SSE				XP		10 47 57.3	
SSE				S	**S**	**10 50 47.5**	**-0.8**
SSE				XS		10 51 12.3	
SSE				LR	LR		
	comp=N,708nm,18.7s						
SSE				LR	LR		
	comp=E,1µm,18.7s						
SSE				LR	LR		
	comp=Z,2µm,18.2s						
SSE	**Sheshan**	**17.21**	**271**	*e*P	**P**	**10 47 40.2**	**+0.6**
	comp=Z,18nm,0.7s						
SSE				sP		10 47 57.3	
SSE				S	**S**	**10 50 47.5**	**-0.8**
SSE				sS		10 51 12.2	
DL2	**Dalian**	**17.32**	**298**	PR		10 47 44.5	
DL2				S	**S**	**10 50 55.8**	**+5.1**
DL2				AMB	AMB		
	comp=Z,370nm,8.3s						
DL2				LR	LR		
	comp=N,800nm,13.7s						
DL2				LR	LR		
	comp=E,2µm,15.3s						
DL2				LR	LR		
	comp=Z,2µm,15.3s						
GUMO	**Guam**	**18.92**	**169**	*e*P	**P**	**10 48 02.5**	**+1.7**
	comp=Z,410nm,0.9s						
NJ2	**Nanjing**	**19.05**	**275**	*e*P	**P**	**10 48 02.0**	**-0.2**
NJ2				PP	PP	10 48 20.5	+1.5
NJ2				S	**S**	**10 51 31.0**	**+1.2**
NJ2				AMB	AMB		
	comp=Z,1µm,5.0s						
NJ2				LR	LR		
	comp=N,3µm,16.9s						
NJ2				LR	LR		
	comp=E,2µm,17.8s						
NJ2				LR	LR		
	comp=Z,2µm,14.4s						
BJI	**Beijing**	**21.69**	**298**	P	**P**	**10 48 24.5**	**-5.4**
BJI				XP		10 48 51.5	
BJI				AMB	AMB		
	comp=Z,480nm,6.7s						
BJI				LR	LR		
	comp=N,2µm,14.0s,MS4.7						
BJI				LR	LR		
	comp=E,1µm,14.7s,MS4.7						
BJI				LR	LR		
	comp=Z,3µm,21.7s						
BJI	**Beijing**	**21.69**	**298**	P	**P**	**10 48 24.4**	**-5.5**
	comp=Z,8.0nm,1.4s,mb4.0						
BJI				sP		10 48 51.4	
HIA	**Hailar**	**23.41**	**323**	*e*P	**P**	**10 48 45.6**	**-1.1**
	comp=Z,25nm,0.7s,mb4.8						
HHC	**Hu-ho-hao-te**	**25.30**	**298**	*e*P	**P**	**10 49 03.5**	**-1.6**
HHC				AP	pP	10 49 16.0	+1.1
HHC				PP	PP	10 49 41.5	-2.6
HHC				PCP	PcP	10 52 37.0	-1.3
HHC				S	**S**	**10 53 22.0**	**-4.1**
HHC				AMB	AMB		
	comp=Z,28nm,1.1s,mb4.7						
HHC				AMB	AMB		
	comp=Z,351nm,4.3s						
HHC				LR	LR		
	comp=N,634nm,16.1s,MS4.7						
HHC				LR	LR		
	comp=E,2µm,13.7s,MS4.7						
HHC				LR	LR		
	comp=Z,1µm,17.8s,MS4.5						
CLNS	**Chul'man**	**27.03**	**340**	*e*P	**P**	**10 49 19.9**	**-1.0**
CLNS				*e**PP	pP	10 49 26.7	-4.2
CLNS				*e*PPP	PPP	10 50 09.3	-10
CLNS				*e*S	**S**	**10 53 52.2**	**-2.1**
CLNS				*e*SS	SS	10 55 02.4	-7.2
CLNS				*e*SSS	SSS	10 55 22.3	-5.7
CLNS				*e*		11 00 06.4	
CLNS				pmax	pmax		
	comp=Z,57nm,1.2s,mb5.0						
CLNS				pmax	pmax		
	comp=N,54nm,1.5s						
CLNS				pmax	pmax		
	comp=E,18nm,0.8s						
CLNS				pmax	pmax		
	comp=Z,35nm,1.0s,mb4.8						
CLNS				pmax	pmax		
	comp=N,11nm,0.7s						
CLNS				pmax	pmax		
	comp=E,27nm,1.0s						
CLNS				smax			
	comp=N,520nm,13.0s						
CLNS				smax			
	comp=Z,299nm,11.5s						
CLNS				smax			
	comp=E,53nm,10.3s						
XAN	**Xi'an**	**27.15**	**283**	P	**P**	**10 49 20.5**	**-1.8**
XAN				AMB	AMB		
	comp=Z,30nm,1.4s,mb4.6						
ENH	**Enshi**	**27.26**	**274**	*e*P	**P**	**10 49 22.2**	**-1.2**
	comp=Z,31nm,0.9s,mb4.8						
SONM	**Songino Array**	**30.61**	**311**	P	**P**	**10 49 54.6**	**+1.6**
	comp=Z,13nm,1.0s,mb4.7,baz=112,slow=6.7,SNR=9.2						
YAK	**Yakutsk**	**30.66**	**349**	*e*P	**P**	**10 49 52.1**	**-1.3**
YAK				pmax	pmax		
	comp=Z,55nm,2.0s,mb5.0						
LZH	**Lanzhou**	**31.13**	**287**	⇑P	**P**	**10 49 57.0**	**-0.8**
LZH				PP	PP	10 51 00.5	-0.4
LZH				*e*S	**S**	**10 54 57.0**	**-2.8**
LZH				SS	SS	10 56 43.8	-2.4
LZH				AMB	AMB		
	comp=Z,41nm,1.3s,mb5.1						
LZH				AMB	AMB		
	comp=Z,178nm,5.5s						
LZH				LR	LR		
	comp=E,1µm,13.2s						
LZH				LR	LR		
	comp=Z,3µm,17.1s,MS4.9						
LZH	**Lanzhou**	**31.13**	**287**	⇑P	**P**	**10 49 57.1**	**-0.7**
	comp=Z,41nm,1.3s,mb5.1						
LZH				pP	pP	10 50 08.1	+0.1
LZH				sP	sP	10 50 13.8	+1.2
LZH				PP	PP	10 51 00.6	-0.3
LZH				*e*S	**S**	**10 54 57.0**	**-2.8**
LZH				sS		10 55 17.6	
LZH				SS	SS	10 56 43.7	-2.5
BOD	**Bodaibo**	**31.58**	**332**	*e*P	**P**	**10 50 00.8**	**-0.7**
ZAK	**Zakamensk**	**33.34**	**314**	*e*P	**P**	**10 50 17.4**	**+0.5**
GTA	**Gaotai**	**34.17**	**294**	P	**P**	**10 50 23.3**	**-0.9**
GTA				PP	PP	10 51 40.8	+1.4
GTA				S	**S**	**10 55 45.5**	**-1.7**
GTA				SS	SS	10 58 00.0	+3.0
GTA				AMB	AMB		
	comp=Z,134nm,8.0s						
GTA				LR	LR		
	comp=N,414nm,13.3s,MS4.7						
GTA				LR	LR		
	comp=E,840nm,16.0s,MS4.7						
GTA				LR	LR		
	comp=Z,823nm,15.6s,MS4.6						
KMI	**Kunming**	**34.48**	**268**	*e*P	**P**	**10 50 28.0**	**+1.0**
	comp=Z,4.0nm,1.0s,mb4.3						
TIXI	**Tiksi**	**39.95**	**354**	*e*P	**P**	**10 51 14.8**	**+2.3**
TIXI				*e*		10 52 43.6	
TIXI				pmax	pmax		
	comp=Z,20nm,1.5s,mb4.6						
TIXI				MLR	MLR		
	comp=Z,600nm,17.0s,MS4.5						
CMAR	**Chiang Mai Arr**	**40.47**	**261**	P	**P**	**10 51 22.3**	**+5.0**
	comp=Z,2.8nm,1.0s,mb4.0,baz=47,slow=7.1,SNR=4.6						
CMAR				PcP	PcP	10 53 22.4	+2.1
	comp=Z,0.5nm,0.4s,baz=27,slow=2.0,SNR=3.0						
CMAR	**Chiang Mai Arr**	**40.47**	**261**	P	**P**	**10 51 22.3**	**+5.0**
CMAR						10 53 22.4	
CMAR				pmax	pmax		
	comp=Z,3.0nm,1.0s						
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
LSA	**Lhasa**	**42.80**	**280**	P	**P**	**10 51 37.3**	**+0.9**
WMQ	**Urumqi**	**43.09**	**301**	P	**P**	**10 51 39.3**	**+0.7**
WMQ				AP	pP	10 51 51.5	+2.5
WMQ				PP	PP	10 53 21.8	+0.8
WMQ				S	**S**	**10 58 00.5**	**-1.3**
WMQ				SS	SS	11 01 05.5	-2.8
WMQ				AMB	AMB		
	comp=Z,47nm,1.4s,mb5.0						
WMQ				AMB	AMB		
	comp=Z,94nm,10.0s						
WMQ				LR	LR		
	comp=N,648nm,18.4s,MS4.7						
WMQ				LR	LR		
	comp=E,647nm,19.0s,MS4.7						
WMQ				LR	LR		
	comp=Z,787nm,20.4s,MS4.6						
ZAL	**Zalesovo**	**45.17**	**316**	P	**P**	**10 51 56.0**	**+0.8**
ZAL				pmax	pmax		
	comp=Z,4.0nm,0.9s						
NVS	**Novosibirsk**	**46.16**	**317**	*e*P	**P**	**10 52 00.1**	**-2.9**
NVS				pmax	pmax		
	comp=Z,26nm,1.1s,mb5.1						
NVS				pmax	pmax		
	comp=E,31nm,1.2s						
MKAR	**Makanchi Array**	**46.72**	**306**	P	**P**	**10 52 07.8**	**+0.3**
	comp=E,19nm,0.7s,mb5.2,baz=90,slow=9.7,SNR=7.3						
MKAR	**Makanchi Array**	**46.72**	**306**	P	**P**	**10 52 07.8**	**+0.3**
MKAR				pmax	pmax		
	comp=Z,19nm,0.7s						
PKI	**Pulchoki**	**48.26**	**280**	*e*P	**P**	**10 52 19.0**	**-0.9**
	comp=Z,79nm,1.1s,mb5.7						
KKN	**Kakani**	**48.29**	**280**	*e*P	**P**	**10 52 19.7**	**-0.4**
	comp=Z,88nm,0.9s,mb5.8						
DMN	**Daman**	**48.50**	**280**	*e*P	**P**	**10 52 20.9**	**-0.8**
	comp=Z,49nm,1.0s,mb5.5						
GKN	**Gorkha**	**48.76**	**281**	*e*P	**P**	**10 52 22.0**	**-1.7**
	comp=Z,164nm,1.2s,mb5.9						
KURK	**Kurchatov**	**48.91**	**311**	*c i*P	**P**	**10 52 23.6**	**-0.9**
KURK	**Kurchatov**	**48.91**	**311**	*e*P	**P**	**10 52 23.9**	**-0.7**
	comp=Z,52nm,1.1s,mb5.5						
KOLN	**Koldanda**	**49.70**	**281**	*e*P	**P**	**10 52 30.3**	**-0.7**
	comp=Z,140nm,1.4s,mb5.8						
CTA	**Charters Tower**	**52.32**	**174**	LR	LR	11 14 19.3	
	comp=Z,540nm,20.5s,MS4.6,baz=6.4,slow=35						
CTAO	**Charters Tower**	**52.32**	**174**	*e*P	**P**	**10 52 49.2**	**-1.7**
	comp=Z,9.0nm,0.9s,mb4.7						
FITZ	**Fitzroy Crossi**	**52.35**	**199**	*e*P	**P**	**10 52 51.2**	**+0.1**
	comp=Z,5.8nm,0.6s,mb4.7						
FITZ	**Fitzroy Crossi**	**52.35**	**199**	P	**P**	**10 52 50.6**	**-0.5**
	comp=Z,17nm,1.3s,mb4.8,baz=9.4,slow=7.3,SNR=2.9						
WRAB	**Tennant Creek**	**52.39**	**188**	*e*P	**P**	**10 52 51.1**	**-0.3**
	comp=Z,46nm,0.8s,mb5.5						
WB2	**Warramunga Arr**	**52.40**	**188**	*e*P	**P**	**10 52 50.7**	**-0.8**
WRA	**Warramunga Arr**	**52.40**	**188**	P	**P**	**10 52 50.8**	**-0.7**
	comp=Z,14nm,0.7s,mb5.0,baz=3.9,slow=7.5,SNR=8.3						
WRA				ScP		10 57 57.8	
	comp=Z,2.3nm,0.8s,baz=3.1,slow=4.5,SNR=7.6						
WRA				LR	LR	11 15 34.2	
	comp=Z,434nm,18.8s,MS4.5,baz=345,slow=36						
WRA	**Warramunga Arr**	**52.40**	**188**	P	**P**	**10 52 50.8**	**-0.7**
WRA				pmax	pmax		
	comp=Z,14nm,0.7s						
WRA				pmax	pmax		
	comp=N,2.0nm,0.8s						
WRA				MLR	MLR		
	comp=Z,434nm,18.8s						
KSH	**Kashi**	**52.41**	**297**	*e*P	**P**	**10 52 51.0**	**-0.3**
KSH				*e*AP	pP	10 53 04.0	+2.1
KSH				*e*PCP	PcP	10 54 02.0	+0.1
KSH				*e*PP	PP	10 54 51.0	-0.2
KSH				*e*SCP		10 57 54.3	
KSH				*e*PCS		10 57 59.5	
KSH				*e*S	**S**	**11 00 12.5**	**-0.8**
KSH				*e*PS	PS	11 00 27.3	-0.7
KSH				*e*SCS	ScS	11 02 34.0	-1.0
KSH				*e*SS	SS	11 03 47.5	-2.3
KSH				AMB	AMB		
	comp=Z,190nm,4.0s						
KSH				LR	LR		
	comp=N,650nm,12.1s,MS5.1						
KSH				LR	LR		
	comp=E,1µm,15.8s,MS5.1						
MCK	**McKinley**	**52.61**	**32**	P	**P**	**10 52 52.1**	**-0.3**
	comp=E,8.4nm,1.0s,mb4.6						
ILAR	**Eielson Array**	**53.53**	**30**	P	**P**	**10 52 57.2**	**-2.1**
	comp=E,4.3nm,0.7s,mb4.5,baz=262,slow=5.1,SNR=8.3						
ILAR	**Eielson Array**	**53.53**	**30**	P	**P**	**10 52 57.2**	**-2.1**
ILAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BRVK	**Borovoye**	**53.84**	**315**	⇑*e*P	**P**	**10 53 00.8**	**-1.0**
	comp=Z,23nm,1.0s,mb5.1						
ZRNK	**Zerenda**	**54.62**	**315**	⇑*e*P	**P**	**10 53 06.4**	**-1.1**
	comp=Z,30nm,1.1s,mb5.2						
ASAR	**Alice Springs**	**56.13**	**188**	P	**P**	**10 53 18.4**	**-0.3**
	comp=Z,9.6nm,1.1s,mb4.7,baz=9.3,slow=6.4,SNR=5.8						
ASPA	**Alice Springs**	**56.13**	**188**	*e*P	**P**	**10 53 18.7**	**-0.1**
DAWY	**Dawson**	**56.81**	**31**	*e*P	**P**	**10 53 20.7**	**-2.4**
HYB	**Hyderabad**	**58.15**	**271**	*i* P	**P**	**10 53 32.5**	**-0.6**
HYB				*e*	pP	10 53 42.0	-1.8
HYB	**Hyderabad**	**58.15**	**271**	*e*P	**P**	**10 53 32.5**	**-0.6**
INK	**Inuvik**	**58.62**	**26**	P	**P**	**10 53 34.5**	**-1.2**
	comp=Z,6.6nm,0.6s,mb4.8,baz=287,slow=5.2,SNR=9.2						
INK				LR	LR	11 22 07.4	
	comp=Z,481nm,18.4s,MS4.7,baz=89,slow=39						
INK	**Inuvik**	**58.62**	**26**	P	**P**	**10 53 34.5**	**-1.2**
INK				pmax	pmax		
	comp=Z,7.0nm,0.6s						
INK				MLR	MLR		
	comp=Z,481nm,18.5s						
INK	**Inuvik**	**58.62**	**26**	*e*P	**P**	**10 53 34.1**	**-1.6**
	comp=Z,7.5nm,0.6s,mb4.9						
SVE	**Sverdlovsk**	**58.70**	**321**	⇑*i*P	**P**	**10 53 35.2**	**-1.3**
SVE				*e*		11 01 44.0	
SVE				pmax	pmax		
	comp=Z,60nm,2.4s,mb5.2						
SVE				MLR	MLR		
	comp=N,500nm,17.0s,MS5.0						
SVE				MLR	MLR		
	comp=E,1µm,17.0s,MS5.0						
SVE				MLR	MLR		
	comp=Z,1µm,17.0s,MS5.0						
ARU	**Arti**	**59.91**	**320**	⇑*i*P	**P**	**10 53 43.5**	**-1.3**
ARU				*e*		10 54 29.8	
ARU				*e*		10 55 53.4	
ARU				*e*S	**S**	**11 01 48.2**	**-4.3**
ARU				*e*SS	SS	11 05 49.8	-0.4
ARU				pmax	pmax		
	comp=Z,44nm,1.1s,mb5.4						
ARU	**Arti**	**59.91**	**320**	*e*P	**P**	**10 53 43.1**	**-1.7**
	comp=Z,51nm,0.9s,mb5.6						
DLBC	**Dease Lake**	**62.40**	**36**	P	**P**	**10 54 02.0**	**+0.4**
	comp=Z,16nm,1.4s,mb5.0,baz=316,slow=10,SNR=2.8						
STKA	**Stephens Creek**	**63.85**	**180**	*e*P	**P**	**10 54 00.7**	**-11**
	comp=Z,5.4nm,1.1s,mb4.5						
STKA	**Stephens Creek**	**63.85**	**180**	P	**P**	**10 54 11.7**	**+0.1**
	comp=Z,10nm,1.1s,mb4.8,baz=357,slow=7.5,SNR=3.9						
FORT	**Forrest**	**64.01**	**193**	*e*P	**P**	**10 54 11.9**	**-0.7**
	comp=Z,71nm,0.7s,mb5.8						
APA	**Apatity**	**66.97**	**337**	⇑*i*P	**P**	**10 54 31.5**	**+0.6**
APA				*i*	pP	10 54 41.6	-0.3
APA				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.9						
RES	**Resolute Bay**	**67.17**	**14**	*e*P	**P**	**10 54 30.8**	**-1.3**
	comp=Z,17nm,0.8s,mb5.1						
YKA	**Yellowknife Ar**	**67.92**	**29**	P	**P**	**10 54 35.7**	**-1.3**
	comp=Z,3.2nm,0.7s,mb4.5,baz=296,slow=6.4,SNR=8.6						
YKA	**Yellowknife Ar**	**67.92**	**29**	P	**P**	**10 54 35.7**	**-1.3**
YKA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
YKA	**Yellowknife Ar**	**67.92**	**29**	P	**P**	**10 54 35.7**	**-1.3**
ARCES	**ARCESS Array B**	**68.39**	**340**	P	**P**	**10 54 39.5**	**-0.4**
	comp=Z,8.9nm,1.2s,mb4.7,baz=72,slow=7.7,SNR=4.3						
ARCES	**ARCESS Array B**	**68.39**	**340**	P	**P**	**10 54 39.5**	**-0.3**
ARCES				pmax	pmax		
	comp=Z,9.0nm,1.2s						
ARCES	**ARCESS Array B**	**68.39**	**340**	P	**P**	**10 54 39.5**	**-0.4**
NWAO	**Narrogin (SRO)**	**68.78**	**202**	*e*P	**P**	**10 54 47.1**	**+4.2**
	comp=Z,24nm,0.9s,mb5.1						
MOS	**Moscow**	**71.03**	**324**	*e*P	**P**	**10 54 54.9**	**-1.3**
MOS				*e*		10 57 31.4	
NLW	**Nelson Butte**	**71.77**	**44**	*e*P	**P**	**10 55 00.4**	**-0.3**
OBN	**Obninsk**	**71.86**	**324**	κ *i*P	**P**	**10 55 01.0**	**-0.1**
OBN				*i*	pP	10 55 11.6	-0.4
OBN						10 55 24.0	
OBN				SS	SS	11 08 51.0	-5.5
OBN				pmax	pmax		
	comp=Z,36nm,1.3s,mb5.1						
OBN				MLR	MLR		
	comp=Z,800nm,17.0s,MS5.0						
KAF	**Kangasniemi**	**72.48**	**333**	*e*p	**P**	**10 55 03.9**	**-0.8**
	comp=Z,2.1nm,0.4s,mb4.4						
KAF	**Kangasniemi**	**72.48**	**333**	*e*P	**P**	**10 55 03.9**	**-0.8**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.4						
FINES	**FINESS Array B**	**72.97**	**333**	P	**P**	**10 55 06.2**	**-1.3**
	comp=Z,4.2nm,0.8s,mb4.5,baz=90,slow=5.7,SNR=5.0						
FINES	**FINESS Array B**	**72.97**	**333**	P	**P**	**10 55 06.2**	**-1.3**
FINES				pmax	pmax		
	comp=Z,4.0nm,0.8s						
EDM	**Edmonton**	**73.09**	**37**	*e*P	**P**	**10 55 07.8**	**-0.6**
DPW	**Davenport**	**73.13**	**44**	*e*P	**P**	**10 55 09.5**	**+0.7**
GOF	**Gofitskoye**	**73.23**	**313**	⇑*i*P	**P**	**10 55 10.0**	**+0.6**
GOF				pmax	pmax		
	comp=Z,50nm,1.3s,mb5.3						
YBH	**Yreka Blue Hor**	**73.30**	**51**	P	**P**	**10 55 10.9**	**+1.0**
	comp=Z,3.1nm,0.8s,mb4.3,baz=168,slow=8.1,SNR=3.8						
YBH	**Yreka Blue Hor**	**73.30**	**51**	P	**P**	**10 55 10.9**	**+1.0**
YBH				pmax	pmax		
	comp=Z,3.0nm,0.8s						
NEW	**Newport**	**73.56**	**43**	*e*P	**P**	**10 55 11.0**	**-0.3**
	comp=Z,18nm,0.9s,mb5.0						
ZEI	**Tsey**	**73.80**	**311**	*e*P	**P**	**10 55 26.0**	**+13**
ZEI				*e*	pP	10 55 36.0	+12
ZEI				*e*		11 04 44.0	
ZEI				MLR	MLR		
	comp=Z,1µm,16.0s,MS5.2						
WDC	**Whiskeytown Da**	**73.96**	**52**	*e*P	**P**	**10 55 14.4**	**+0.6**
	comp=Z,10nm,1.0s,mb4.7						
KIV	**Kislovodsk**	**73.99**	**312**	*c i*P	**P**	**10 55 14.5**	**+0.7**
KIV				pmax	pmax		
	comp=Z,73nm,1.0s,mb5.6						
KIV	**Kislovodsk**	**73.99**	**312**	*e*P	**P**	**10 55 15.0**	**+1.2**
	comp=Z,80nm,1.0s,mb5.6						
LNOR	**Lincton Mounta**	**74.08**	**46**	*e*P	**P**	**10 55 15.2**	**+1.0**
GNI	**Garni**	**74.52**	**308**	*c i*P	**P**	**10 55 18.3**	**+1.3**
GNI				pmax	pmax		
	comp=Z,52nm,1.2s						
GNI	**Garni**	**74.52**	**308**	*e*P	**P**	**10 55 17.9**	**+0.9**
	comp=Z,82nm,1.2s,mb5.5						
MOD	**Modoc**	**74.79**	**50**	*e*P	**P**	**10 55 17.8**	**-0.7**
	comp=Z,4.5nm,0.7s,mb4.5						
OHCM	**Honcut**	**75.28**	**53**	*e*P	**P**	**10 55 21.1**	**-0.2**
SUMG	**Summit**	**75.39**	**360**	*e*P	**P**	**10 55 20.8**	**-0.5**
	comp=Z,15nm,1.0s,mb4.9						
BEKR	**Beckwourth**	**75.77**	**52**	*e*P	**P**	**10 55 23.4**	**-0.7**
	comp=Z,16nm,1.2s,mb4.8						
SOC	**Sochi**	**76.03**	**313**	*i* P	**P**	**10 55 24.5**	**-1.1**
SOC				*e*		10 55 38.6	
SOC				*e*		10 58 18.3	
SOC				*e*S	S	11 04 56.6	-8.4
SOC				*e*		11 05 35.7	
SOC				*e*SS	SS	11 09 56.5	-4.7
SOC				pmax	pmax		
	comp=Z,26nm,0.6s,mb5.3						
SOC				pmax	pmax		
	comp=N,4.0nm,0.4s						
SOC				pmax	pmax		
	comp=E,6.0nm,0.5s						
SOC				MLR	MLR		
	comp=Z,620nm,18.0s,MS5.0						
SOC				MLR	MLR		
	comp=N,298nm,16.0s,MS4.8						
SOC				MLR	MLR		
	comp=E,388nm,21.0s,MS4.8						
WCN	**Washoe City**	**76.45**	**52**	*e*P	**P**	**10 55 28.9**	**+0.8**
	comp=E,22nm,1.3s,mb4.9						
CHMT	**Chamberlain Mo**	**76.50**	**43**	*e*P	**P**	**10 55 27.8**	**-0.4**
CMB	**Columbia Colle**	**76.67**	**53**	*e*P	**P**	**10 55 29.5**	**+0.2**
	comp=E,13nm,1.2s,mb4.8						
ANN	**Anapa**	**76.79**	**315**	*ce*P	**P**	**10 55 29.5**	**-0.4**
ANN				*e*S	S	11 05 02.9	-10
ANN				pmax	pmax		
	comp=Z,50nm,0.8s,mb5.5						
ANN				MLR	MLR		
	comp=Z,480nm,16.0s,MS4.9						
ANN				MLR	MLR		
	comp=N,820nm,18.0s						
ERZM	**Erzurum**	**76.88**	**309**	*i* P	**P**	**10 55 31.6**	**+1.1**
HRY	**Holter Researc**	**77.43**	**42**	*e*P	**P**	**10 55 33.4**	**0.0**
HLID	**Hailey**	**77.63**	**46**	*e*P	**P**	**10 55 34.9**	**+0.3**
	comp=N,7.5nm,0.9s,mb4.6						
OMM	**Old Mammoth Mi**	**77.83**	**53**	*e*P	**P**	**10 55 36.3**	**+0.5**
KBD	**Kabd**	**77.84**	**297**	*e*P	**P**	**10 55 36.7**	**+0.7**
QRN	**Al-Qurain**	**77.88**	**296**	*e*P	**P**	**10 55 36.8**	**+0.5**
AKASG	**Malin Array Be**	**78.01**	**323**	P	**P**	**10 55 36.2**	**-0.3**
	comp=N,2.6nm,0.4s,mb4.5,baz=45,slow=6.0,SNR=9.1						
AKASG	**Malin Array Be**	**78.01**	**323**	P	**P**	**10 55 36.2**	**-0.3**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.4s						
RDF	**Al-Radifah**	**78.07**	**297**	*e*P	**P**	**10 55 37.5**	**+0.2**
RDF				AMb	AMB	10 55 39.0	
	comp=Z,90nm,0.5s,mb5.9						
BOZ	**Bozeman (W)**	**78.14**	**43**	*e*P	**P**	**10 55 37.7**	**+0.4**
	comp=Z,11nm,0.9s,mb4.8						
RST	**Umm Al-Ruwaisa**	**78.20**	**297**	*e*P	**P**	**10 55 38.1**	**+0.1**
RST				AMb	AMB	10 55 39.5	
	comp=Z,56nm,0.5s,mb5.7						
MTUM	**Tungsten Hills**	**78.26**	**53**	*e*P	**P**	**10 55 37.0**	**-1.2**
NB2	**NORSAR Subarra**	**78.51**	**338**	P	**P**	**10 55 38.2**	**-0.8**
	comp=Z,18nm,1.0s,mb5.0,baz=41,slow=5.3						
NB2	**NORSAR Subarra**	**78.51**	**338**	P	**P**	**10 55 38.2**	**-0.8**
	baz=41,slow=5.6						
NOA	**NORSAR Array B**	**78.51**	**338**	P	**P**	**10 55 38.5**	**-0.5**
	comp=Z,9.5nm,1.0s,mb4.7,baz=47,slow=4.8,SNR=6.5						
NOA	**NORSAR Array B**	**78.51**	**338**	P	**P**	**10 55 38.5**	**-0.5**
NOA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
ELK	**Elko**	**78.64**	**49**	*e*P	**P**	**10 55 40.8**	**+0.6**
	comp=Z,7.9nm,0.8s,mb4.7						

SIM	**Simferopol’**	**78.67**	**316**	eP	**P**	**10 55 43.0**	**+2.7**
SIM				eS	S	11 05 41.0	+7.5
SIM				pmax	pmax		
	comp=Z,17nm,0.9s,mb5.0						
QLMT	**Earthquake Lak**	**78.72**	**44**	eP	**P**	**10 55 41.4**	**+0.9**
TPH	**Tonopah**	**78.78**	**52**	eP	**P**	**10 55 39.3**	**-1.8**
	comp=Z,27nm,1.3s,mb5.0						
GCMT	**Greycliff**	**79.19**	**42**	eP	**P**	**10 55 43.6**	**+0.6**
ELZG	**Elazig**	**79.19**	**309**	i P	**P**	**10 55 44.8**	**+1.5**
DAC	**Darwin (Calif)**	**79.49**	**54**	eP	**P**	**10 55 44.1**	**-0.8**
	comp=Z,11nm,1.2s,mb4.7						
IMW	**Indian Meadow**	**79.54**	**44**	eP	**P**	**10 55 45.4**	**+0.4**
HVU	**Hansel Valley**	**79.62**	**47**	eP	**P**	**10 55 45.8**	**+0.2**
MOOW	**Moose Ponds**	**79.74**	**44**	eP	**P**	**10 55 46.5**	**+0.5**
TPAW	**Teton Pass**	**79.76**	**45**	eP	**P**	**10 55 47.5**	**+1.2**
LOHW	**Long Hollow**	**79.90**	**45**	eP	**P**	**10 55 47.6**	**+0.6**
BGU	**Big Grassy Mou**	**79.94**	**48**	eP	**P**	**10 55 47.6**	**+0.3**
TPNV	**Topopah Spring**	**80.04**	**53**	eP	**P**	**10 55 47.9**	**0.0**
	comp=Z,20nm,1.0s,mb5.0						
BOYT	**Boyabat**	**80.19**	**313**	i P	**P**	**10 55 49.6**	**+1.0**
HWUT	**Hardware Ranch**	**80.47**	**47**	eP	**P**	**10 55 50.7**	**+0.6**
	comp=Z,23nm,1.1s,mb5.0						
NOQ	**North Oquirrh**	**80.67**	**48**	eP	**P**	**10 55 52.6**	**+1.5**
GZT	**Gaziantep**	**80.76**	**308**	i P	**P**	**10 55 53.0**	**+1.3**
TCUT	**Toone Canyon**	**80.84**	**47**	eP	**P**	**10 55 50.0**	**-2.0**
CTU	**Camp Tracy**	**80.88**	**47**	eP	**P**	**10 55 52.8**	**+0.6**
PDAR	**Pinedale Array**	**81.01**	**45**	P	**P**	**10 55 53.2**	**+0.4**
	comp=Z,1.6nm,1.0s,mb3.9,baz=270,slow=3.0,SNR=5.0						
PDAR				LR	LR	11 29 12.1	
	comp=Z,119nm,19.8s,MS4.2,baz=91,slow=34						
BALT	**Daday**	**81.06**	**314**	i P	**P**	**10 55 54.2**	**+1.0**
NLU	**North Lily Min**	**81.09**	**48**	eP	**P**	**10 55 53.7**	**+0.4**
JLU	**Jordanelle**	**81.11**	**47**	eP	**P**	**10 55 54.1**	**+0.6**
MPU	**Maple Canyon**	**81.34**	**48**	eP	**P**	**10 55 54.7**	**0.0**
DAU	**Daniels Canyon**	**81.34**	**47**	eP	**P**	**10 55 55.7**	**+1.1**
ARUT	**Antelope Range**	**81.44**	**51**	eP	**P**	**10 55 55.4**	**+0.2**
ELDT	**Eldivan**	**81.64**	**313**	i P	**P**	**10 55 57.1**	**+0.9**
NEN	**Nelson**	**81.70**	**53**	eP	**P**	**10 55 57.0**	**+0.4**
PFO	**Pinyon Flat Ob**	**81.72**	**56**	eP	**P**	**10 55 56.7**	**0.0**
	comp=Z,15nm,1.0s,mb4.9						
MVU	**Marysvale**	**81.83**	**49**	eP	**P**	**10 55 58.0**	**+0.8**
	comp=Z,7.1nm,0.8s,mb4.7						
MSU	**Marysvale**	**81.85**	**49**	eP	**P**	**10 55 58.1**	**+0.8**
BRTR	**Keskin Array B**	**81.95**	**312**	P	**P**	**10 55 58.5**	**+0.7**
	comp=Z,8.7nm,0.7s,mb4.8,baz=108,slow=3.9,SNR=9.0						
BRTR	**Keskin Array B**	**81.95**	**312**	P	**P**	**10 55 58.6**	**+0.7**
BRTR				pmax	pmax		
	comp=Z,9.0nm,0.7s						
COBT	**Iskenderun**	**82.09**	**308**	i P	**P**	**10 55 59.0**	**+0.4**
RAYN	**Ar Rayn**	**82.42**	**293**	P	**P**	**10 56 01.0**	**+0.4**
	comp=Z,198nm,0.5s,SNR=13						
SGKT	**Sivrigoynuk**	**82.44**	**314**	i P	**P**	**10 56 00.7**	**+0.4**
SRU	**San Rafael**	**82.56**	**48**	eP	**P**	**10 56 01.2**	**+0.3**
KOLS	**Kolonicke sedl**	**82.61**	**324**	eP	**P**	**10 56 01.9**	**+0.9**
OJC	**Ojcow**	**82.93**	**327**	eP	**P**	**10 56 02.8**	**+0.2**
CRVS	**Cervenica-Dubn**	**83.03**	**325**	e	**P**	**10 56 08.9**	**+5.8**
ESKT	**Eskisehir**	**83.81**	**313**	i P	**P**	**10 56 06.5**	**-0.8**
PV10	**Paradox Valley**	**83.93**	**48**	eP	**P**	**10 56 09.0**	**+1.1**
OKC	**Ostrava-Krasne**	**83.96**	**327**	eP	**P**	**10 56 07.9**	**+0.1**
OKC				epP	pP	10 56 19.5	+0.6
OKC				LR		11 36 20.0	
	comp=Z,0.8nm,18.0s						
KSP	**Ksiaz**	**84.08**	**329**	eP	**P**	**10 56 08.9**	**+0.5**
KSP				e*PP	pP	10 56 19.6	+0.1
MORC	**Moravsky Berou**	**84.28**	**327**	eP	**P**	**10 56 09.4**	**-0.1**
	comp=Z,19nm,1.0s,mb5.2						
HRI	**Mount Hermon**	**84.29**	**306**	P	**P**	**10 56 10.9**	**+1.0**
PV01	**Paradox Valley**	**84.37**	**48**	eP	**P**	**10 56 11.5**	**+1.3**
DPC	**Dobruska-Polom**	**84.42**	**328**	eP	**P**	**10 56 10.8**	**+0.7**
DPC				epP	pP	10 56 21.9	+0.7
DPC				ePP	PP	10 59 36.5	+9.4
DPC				LR		11 38 40.0	
	comp=Z,0.5nm,18.0s						
DPC	**Dobruska-Polom**	**84.42**	**328**	eP	**P**	**10 56 10.8**	**+0.7**
DPC				e*PP	pP	10 56 21.9	+0.7
DPC				MLR	MLR		
	comp=Z,500nm,18.0s,MS4.9						
UPC	**Upice**	**84.45**	**328**	eP	**P**	**10 56 11.1**	**+0.9**
UPC				epP	pP	10 56 21.8	+0.4
PSZ	**Piszkesteto**	**84.47**	**325**	eP	**P**	**10 56 10.9**	**+0.5**
	comp=Z,44nm,1.1s,mb5.5						
ULDT	**Uludag**	**84.48**	**315**	i P	**P**	**10 56 11.3**	**+0.7**
VYHS	**Vyhne**	**84.58**	**326**	i P	**P**	**10 56 12.0**	**+1.1**
VYHS				e		10 56 19.2	
VYHS				e	pP	10 56 23.1	+1.0
VYHS				e		10 56 32.4	
VYHS	**Vyhne**	**84.58**	**326**	i P	**P**	**10 56 12.0**	**+1.1**
VYHS				e	pP	10 56 23.1	+1.0
HNTI	**Hanita**	**84.78**	**306**	P	**P**	**10 56 13.4**	**+1.0**
RW3	**Ridgway**	**84.85**	**48**	eP	**P**	**10 56 14.4**	**+1.8**
CSS	**Prodhromos**	**84.93**	**308**	eP	**P**	**10 56 14.3**	**+1.2**
	comp=Z,28nm,0.8s,mb5.4						
HMDT	**Nahal Hemdat**	**85.02**	**305**	P	**P**	**10 56 14.5**	**+1.0**
PVCC	**Panska Ves**	**85.07**	**329**	eP	**P**	**10 56 13.7**	**+0.4**
PVCC				epP	pP	10 56 25.1	+0.6
PVCC				LR		11 36 30.0	
	comp=Z,0.7nm,19.0s						
BRG	**Berggiesshubel**	**85.08**	**330**	eP	**P**	**10 56 14.4**	**+1.0**
BRG				e	pP	10 56 24.9	+0.4
BRG				pmax	pmax		
	comp=Z,15nm,1.5s,mb4.9						
BRG				MLR	MLR		
	comp=N,440nm,20.5s,MS5.0						
BRG				MLR	MLR		
	comp=E,440nm,20.5s,MS5.0						
BRG				MLR	MLR		
	comp=Z,620nm,19.3s,MS5.0						
BRG	**Berggiesshubel**	**85.08**	**330**	eP	**P**	**10 56 14.4**	**+1.0**
	comp=Z,15nm,1.5s,mb4.9						
BRG				e	pP	10 56 24.9	+0.4
BRG				e		10 57 39.9	
BRG				e		10 59 40.2	
CLL	**Collm**	**85.16**	**330**	⇑P	**P**	**10 56 13.5**	**-0.2**
	comp=Z,logA/T=1.2,mb5.1						
CLL				i *PP	pP	10 56 25.0	+0.1
CLL	**Collm**	**85.16**	**330**	⇑iP	**P**	**10 56 13.5**	**-0.2**
CLL				i *PP	pP	10 56 25.0	+0.1
CLL				pmax	pmax		
	comp=Z,21nm,1.2s,mb5.1						
CLL	**Collm**	**85.16**	**330**	⇑iP	**P**	**10 56 13.5**	**-0.2**
	comp=Z,21nm,1.2s,mb5.1						
CLL				i pP	pP	10 56 25.0	+0.1
ISCO	**Idaho Springs**	**85.17**	**45**	eP	**P**	**10 56 15.3**	**+1.2**
	comp=Z,3.7nm,0.8s,mb4.6						
PRU	**Pruhonice**	**85.47**	**329**	eP	**P**	**10 56 15.5**	**+0.2**
PRU				epP	pP	10 56 26.9	+0.4
PRU				ePP	PP	10 59 33.7	-1.8
PRU				L		11 40 20.0	
TATS	**Tathlith**	**86.14**	**291**	P	**P**	**10 56 20.7**	**+1.4**
NKC	**Novy Kostel**	**86.20**	**330**	eP	**P**	**10 56 21.8**	**+2.9**
NKC				epP	pP	10 56 30.0	0.0
MOX	**Moxa**	**86.23**	**331**	eP	**P**	**10 56 18.0**	**-1.0**
MOX				L		11 39 39.0	
KHC	**Kasperske Hory**	**86.53**	**329**	eP	**P**	**10 56 21.0**	**+0.5**
KHC				epP	pP	10 56 31.9	+0.2
KHC				ePP	PP	10 59 42.8	-1.7
KHC				LR		11 42 10.0	
	comp=Z,0.5nm,19.8s						
GERES	**GERESS Array B**	**86.69**	**328**	P	**P**	**10 56 21.8**	**+0.5**
	comp=Z,1.0nm,0.8s,mb4.1,baz=284,slow=4.0,SNR=3.6						
GERES				PP	PP	10 59 46.9	+1.0
	comp=Z,0.4nm,0.4s,baz=63,slow=6.0,SNR=3.5						
GERES	**GERESS Array B**	**86.69**	**328**	P	**P**	**10 56 21.8**	**+0.5**
GERES						10 59 46.9	
GERES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
GERES	**GERESS Array B**	**86.69**	**328**	P	**P**	**10 56 21.8**	**+0.5**
GERES				PP	PP	10 59 46.9	+1.0
GRA1	**Grafenberg Arr**	**87.12**	**330**	eP	**P**	**10 56 24.4**	**+1.0**
	comp=Z,7.0nm,1.1s,mb4.8						
GRA1				epP	pP	10 56 35.9	+1.3
GRF	**Grafenberg Arr**	**87.12**	**330**	eP	**P**	**10 56 24.4**	**+1.0**
GRF				e*PP	pP	10 56 35.9	+1.3
GRF				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.8						
MOA	**Molln**	**87.17**	**327**	⇑iP	**P**	**10 56 20.6**	**-3.1**
	comp=Z,7.8nm,1.4s,mb4.8						
BLJS	**Baljurashi**	**87.43**	**292**	P	**P**	**10 56 26.9**	**+1.3**
BDAS	**Al Bad‘**	**87.52**	**302**	P	**P**	**10 56 26.7**	**+0.8**
ANMO	**Albuquerque**	**87.66**	**50**	eP	**P**	**10 56 26.3**	**-0.1**
	comp=Z,4.8nm,1.1s,mb4.6						
DAVA	**Damuels**	**89.54**	**329**	⇑iP	**P**	**10 56 34.1**	**-0.9**
	comp=Z,11nm,1.1s,mb5.1						
CDF	**Champ du Feu**	**89.75**	**331**	eP	**P**	**10 56 35.6**	**-0.4**
SCHQ	**Schefferville**	**89.87**	**16**	P	**P**	**10 56 37.4**	**+1.0**
	comp=Z,2.7nm,0.8s,mb4.7,baz=344,slow=12,SNR=3.4						
CABF	**La Chapelle**	**91.67**	**331**	eP	**P**	**10 56 44.7**	**-0.3**
LOR	**Lormes**	**92.03**	**333**	eP	**P**	**10 56 46.1**	**-0.5**
LPL	**La Plagne**	**92.28**	**330**	eP	**P**	**10 56 47.9**	**+0.1**
LPG	**La Plagne**	**92.29**	**330**	eP	**P**	**10 56 48.0**	**+0.2**
	comp=Z,22nm,1.0s,mb5.2						
SSF	**Saint Saulge**	**92.34**	**333**	eP	**P**	**10 56 47.7**	**-0.3**
	comp=Z,15nm,1.0s,mb5.0						
SMF	**Signal de Mont**	**92.55**	**332**	eP	**P**	**10 56 48.7**	**-0.3**
WMOK	**Wichita Mounta**	**92.60**	**46**	eP	**P**	**10 56 47.8**	**-1.8**
	comp=Z,6.5nm,1.0s,mb5.0						
AVF	**Avril sur Loir**	**92.62**	**333**	eP	**P**	**10 56 49.1**	**-0.3**
	comp=Z,21nm,0.9s,mb5.3						
BNI	**Bardonecchia**	**92.67**	**330**	eP	**P**	**10 56 50.5**	**+0.8**
	comp=Z,15nm,0.9s,mb5.4						
GRR	**Gorron**	**92.83**	**336**	eP	**P**	**10 56 50.1**	**-0.2**
	comp=Z,13nm,0.8s,mb5.1						
MBDF	**Montbardon**	**92.89**	**329**	eP	**P**	**10 56 49.9**	**-0.8**
	comp=Z,35nm,1.2s,mb5.4						
TXAR	**Lajitas Array**	**93.02**	**52**	P	**P**	**10 56 52.5**	**+0.9**
	comp=Z,2.2nm,0.7s,mb4.7,baz=296,slow=2.9,SNR=6.5						
TXAR				LR	LR	11 41 17.0	
	comp=Z,221nm,18.8s,MS4.6,baz=315,slow=37						
ORIF	**Oris-en-Rattie**	**93.12**	**330**	eP	**P**	**10 56 51.4**	**-0.3**
	comp=Z,11nm,0.8s,mb5.0						
SBF	**Sospel**	**93.29**	**329**	eP	**P**	**10 56 51.4**	**-1.1**
	comp=Z,30nm,0.9s,mb5.4						
TCF	**Toulx Ste Croi**	**93.48**	**333**	eP	**P**	**10 56 53.1**	**-0.2**
	comp=Z,12nm,1.0s,mb5.0						
VIVF	**Saint-Julien-l**	**93.68**	**331**	eP	**P**	**10 56 54.0**	**-0.2**
	comp=Z,21nm,0.9s,mb5.3						
FRF	**La Foret Royal**	**93.88**	**329**	eP	**P**	**10 56 54.1**	**-1.0**
SMRF	**Simiane la Rot**	**94.01**	**330**	eP	**P**	**10 56 55.5**	**-0.2**
MFF	**Saint Martin d**	**94.10**	**335**	eP	**P**	**10 56 55.1**	**-0.9**
RJF	**Les Rejaudoux**	**94.57**	**333**	eP	**P**	**10 56 58.2**	**0.0**
	comp=Z,34nm,1.3s,mb5.3						
LASF	**Ste Croix**	**94.65**	**331**	eP	**P**	**10 56 57.6**	**-1.0**
QSPA	**South Pole Qui**	**122.08**	**180**	ePKP	PKPdf	11 02 31.7	+1.3
DBIC	**Dimbokro**	**129.61**	**314**	PKP	PKPdf	11 02 48.0	+1.5
	comp=Z,1.6nm,0.7s,baz=67,slow=3.6,SNR=4.1						
DBIC	**Dimbokro**	**129.61**	**314**	PKIKP	PKPdf	11 02 48.0	+1.5
DBIC				pmax	pmax		
	comp=Z,2.0nm,0.7s						
DBIC	**Dimbokro**	**129.61**	**314**	PKP	PKPdf	11 02 48.0	+1.5
SAML	**Samuel**	**147.47**	**50**	ePKPbc	PKPdf	11 03 22.4	+3.8
LPAZ	**La Paz**	**148.88**	**66**	PKPbc	PKPdf	11 03 27.8	+7.0
	comp=Z,4.1nm,0.7s,baz=13,slow=5.9,SNR=4.8						
LPAZ	**La Paz**	**148.88**	**66**	PKP2	PKPab	11 03 27.8	-3.1
LPAZ				pmax	pmax		
	comp=Z,4.0nm,0.7s						
LVC	**Limon Verde**	**151.53**	**78**	ePKPbc	PKPdf	11 03 34.3	+10

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*JMA **28** 10:46:30.6±0.4, 21.91N×123.52E, M4.1*

ISC 28 10:46:28.6±0.6**, 21.59N**±0.05×**123.4E**±0.1**, h33^{km}, n13, σ1^{s}19**/24**, Southeast of Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**2.49**	**9**	P	**P**	**10 47 08.6**	**+1.1**
HATJ				S	**S**	**10 47 36.4**	**-0.6**
JKRS	**Kuro-shima**	**2.70**	**12**	P	**P**	**10 47 11.9**	**+1.3**
JKRS				eS	**S**	**10 47 42.0**	**-0.4**
IRIF	**Iriomote-Funau**	**2.75**	**7**	P	**P**	**10 47 12.6**	**+1.3**
IRIF				eS	**S**	**10 47 43.3**	**-0.4**
JIJ	**Ishigaki jima**	**2.85**	**14**	P	**P**	**10 47 13.3**	**+0.6**
JIJ				eS	**S**	**10 47 44.6**	**-1.6**
YOJ	**Yonaguni jima**	**2.88**	**353**	P	**P**	**10 47 15.0**	**+1.9**
YOJ				eS	**S**	**10 47 45.9**	**-1.0**
JTJ	**Tarama**	**3.27**	**22**	P	**P**	**10 47 20.2**	**+1.5**
JTJ				eS	**S**	**10 47 56.2**	**-0.8**
JMJ	**Miyako jima 2**	**3.66**	**28**	P	**P**	**10 47 25.6**	**+1.3**
JMJ				eS	**S**	**10 48 06.9**	**0.0**
JOGS	**Gusukube**	**3.67**	**30**	P	**P**	**10 47 25.5**	**+1.2**
JOGS				eS	**S**	**10 48 06.6**	**-0.4**
CVP	**Callao Caves**	**4.14**	**201**	eP	**P**	**10 47 30.0**	**-1.0**
CVP				eS	**S**	**10 48 15.0**	**-3.9**
APYP	**Conner**	**4.22**	**209**	eP	**P**	**10 47 31.5**	**-0.7**
APYP				eS	**S**	**10 48 18.9**	**-2.1**
ABRA	**Dolores**	**4.66**	**213**	eP	**P**	**10 47 42.5**	**+4.1**
CAUP	**Cauayan**	**4.85**	**198**	eP	**P**	**10 47 42.0**	**+0.9**
JKE	**Kume jima 2**	**5.65**	**33**	P	**P**	**10 47 51.8**	**-0.6**
JKE				eS	**S**	**10 48 54.8**	**-2.3**

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*IDC **28** 11:00:00.8±0.6, 32.40N×141.40E, mb4.0/15, mb1 4.2/17, mb1mx4.1/22, ML4.0/2, Error ellipse: s-maj=20.1km s-min=14.3km az=67.0, Putative timing error at ZAL*

*NIED **28** 11:00:00, 32.50N×141.50E, h5^{km}, Mw4.3 Best double couple: M$_0$2.74×10^{15} NP1:ϕ_s16°, δ75°, λ102°. NP2:ϕ_s158°, δ19°, λ53°.*

*JMA **28** 11:00:01.4±0.4, 32.54N×141.46E, M4.2*

*BJI **28** 11:00:05.6, 32.40N×141.30E, h42^{km}, mB4.9, mb4.3, Ms4.0, Msz3.6*

*NEIC **28** 11:00:06.7±1.3, 32.40N×141.33E, h42^{km}±12^{km}, mb4.4/11, Error ellipse: s-maj=10.2km s-min=8.2km az=91.0*

*MOS **28** 11:00:08.6±1.3, 33.25N×141.30E, h33^{km}, mb4.2/9, Error ellipse: s-maj=29.2km s-min=13.0km az=107.9*

ISC 28 11:00:02.6±1.5**, 32.39N**±0.04×**141.51E**±0.06**, h28**^{km}±11^{km}**, n73, σ1^{s}15**/83**, mb4.2**/28**, MS3.9**/2**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.60**	**297**	P	**Pn**	**11 00 29.7**	**+0.2**
JHJ	**Hachijo jima 2**	**1.63**	**297**	Pn	**Pn**	**11 00 29.6**	**-0.3**
	124nm,0.3s,baz=64,slow=21,SNR=38						
JHJ				Sn	**Sn**	**11 00 51.8**	**+1.6**
	276nm,0.3s,baz=64,slow=23,SNR=12						
BSO1	**Boso 1**	**2.31**	**349**	P	**Pn**	**11 00 39.4**	**-0.2**
BSO1				eS	**Sn**	**11 01 06.0**	**-1.4**
BSO3	**Boso 3**	**2.55**	**341**	P	**Pn**	**11 00 43.6**	**+0.5**
BSO3				eS	**Sn**	**11 01 13.8**	**+0.2**
JKO	**Kozu shima**	**2.68**	**313**	P	**Pn**	**11 00 44.8**	**-0.2**
JKO				eS	**Sn**	**11 01 17.4**	**+0.5**
NJJJ	**Nii jima 2**	**2.74**	**318**	eS	**Sn**	**11 01 19.8**	**+1.4**
BSO4	**Boso 4**	**2.78**	**340**	P	**Pn**	**11 00 46.1**	**-0.2**
JIM2	**Oshima 3**	**2.90**	**324**	P	**Pn**	**11 00 47.4**	**-0.7**
JIM2				S	**Sn**	**11 01 24.1**	**+1.6**
JOD2	**Odawara 2**	**3.51**	**326**	P	**Pn**	**11 00 56.9**	**+0.2**
JOD2				eS	**Sn**	**11 01 36.5**	**-1.3**
JYN	**Shimob**	**3.96**	**322**	P	**Pn**	**11 01 05.7**	**+2.5**
JRY	**Ryogami san**	**4.22**	**330**	P	**Pn**	**11 01 06.4**	**-0.4**
JRY				eS	**Sn**	**11 01 54.6**	**-1.2**
JAG	**Ashikaga**	**4.37**	**338**	P	**Pn**	**11 01 08.7**	**-0.3**
MAJO	**Matsushiro**	**4.96**	**328**	ePn	**Pn**	**11 01 17.8**	**+0.4**
MAT	**Matsushiro**	**4.96**	**328**	P	**Pn**	**11 01 17.3**	**-0.1**
MAT				S	**Sn**	**11 02 12.6**	**-2.0**
MAT	**Matsushiro**	**4.96**	**328**	P	**Pn**	**11 01 17.9**	**+0.5**
MAT				eS	**Sn**	**11 02 14.4**	**-0.2**
MAT	**Matsushiro**	**4.96**	**328**	eP	**Pn**	**11 01 17.0**	**-0.4**
MAT				eS	**Sn**	**11 02 13.0**	**-1.6**
CBIJ	**Chichi jima**	**5.30**	**173**	Pn	**Pn**	**11 01 22.2**	**0.0**
	13nm,0.3s,baz=317,slow=16,SNR=12						
CBIJ				Sn	**Sn**	**11 02 20.1**	**-3.0**
	14nm,0.3s,baz=304,slow=22,SNR=6.2						
CBIJ	**Chichi jima**	**5.30**	**173**	P	**Pn**	**11 01 23.3**	**+1.1**
JMM	**Marumori**	**5.50**	**354**	P	**Pn**	**11 01 22.7**	**-2.2**
JMM				S	**Sn**	**11 02 19.9**	**-8.1**
ASAJ	**Asahikawa**	**11.74**	**4**	Pn	**P**	**11 02 46.4**	**-5.1**
	1.3nm,0.3s,baz=270,slow=15,SNR=8.2						
ASAJ				Sn	**S**	**11 04 47.1**	**-15**
	0.5nm,0.3s,baz=122,slow=32,SNR=2.3						
ASAJ	**Asahikawa**	**11.74**	**4**	P	**P**	**11 02 46.4**	**-5.0**
ASAJ						11 04 47.2	
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				smax			
	comp=N,1.0nm,0.3s						
CN2	**Changchun**	**16.99**	**317**	eP	**P**	**11 04 01.5**	**+1.6**
HIA	**Hailar**	**23.44**	**322**	P	**P**	**11 05 03.9**	**-6.5**
	comp=N,6.5nm,0.5s,mb4.3						
HHC	**Hu-ho-hao-te**	**25.38**	**298**	eP	**P**	**11 05 30.0**	**+0.8**
HHC				AP	pP	11 05 45.0	+7.8
HHC				PP	PP	11 06 10.5	+2.3
HHC				PCP	PcP	11 09 03.0	+1.0
HHC				S	**S**	**11 09 48.3**	**-3.0**
HHC				XS		11 10 11.5	
HHC				SS	SS	11 10 53.3	-0.5
HHC				PCS		11 12 41.5	
HHC				AMB	AMB		
	comp=Z,6.0nm,0.5s,mb4.4						
HHC				AMB	AMB		
	comp=Z,256nm,7.4s						
HHC				LR	LR		
	comp=N,162nm,14.3s,MS3.9						
HHC				LR	LR		
	comp=E,229nm,14.9s,MS3.9						
HHC				LR	LR		
	comp=Z,147nm,16.1s,MS3.6						
SONM	**Songino Array**	**30.66**	**311**	P	**P**	**11 06 15.8**	**-1.1**
	comp=Z,1.5nm,0.7s,mb3.9,baz=117,slow=8.3,SNR=6.0						
ZAK	**Zakamensk**	**33.39**	**314**	eP	**P**	**11 06 41.2**	**+0.5**
KMI	**Kunming**	**34.61**	**268**	eP	**P**	**11 06 46.4**	**-5.1**
	comp=Z,4.0nm,1.2s,mb4.2						
TIXI	**Tiksi**	**39.91**	**354**	eP	**P**	**11 07 32.9**	**-2.7**
TIXI				e		11 09 02.4	
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb3.9						
TIXI				MLR	MLR		
	comp=Z,200nm,16.0s,MS4.0						
ZAL	**Zalesovo**	**45.22**	**316**	P	**P**	**11 08 20.4**	**+1.5**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**46.78**	**306**	P	**P**	**11 08 31.8**	**+0.4**
	comp=Z,3.2nm,0.7s,mb4.3,baz=88,slow=9.9,SNR=21						
MKAR	**Makanchi Array**	**46.78**	**306**	P	**P**	**11 08 31.8**	**+0.4**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
PKI	**Pulchoki**	**48.37**	**280**	eP	**P**	**11 08 43.0**	**-1.1**
	comp=Z,5.2nm,0.5s,mb4.8						
KKN	**Kakani**	**48.41**	**280**	eP	**P**	**11 08 43.4**	**-1.0**
	comp=Z,10.0nm,0.7s,mb5.0						
DMN	**Daman**	**48.61**	**280**	eP	**P**	**11 08 45.0**	**-1.0**
GKN	**Gorkha**	**48.87**	**281**	eP	**P**	**11 08 47.1**	**-0.8**
	comp=Z,6.2nm,0.5s,mb4.9						
KURK	**Kurchatov**	**48.96**	**311**	eP	**P**	**11 08 48.6**	**+0.3**
KURK	**Kurchatov**	**48.96**	**311**	eP	**P**	**11 08 48.2**	**-0.1**
	comp=Z,2.8nm,0.6s,mb4.5						
KOLN	**Koldanda**	**49.81**	**281**	eP	**P**	**11 08 54.3**	**-0.9**
	comp=Z,4.6nm,0.5s,mb4.8						
FITZ	**Fitzroy Crossi**	**52.45**	**199**	eP	**P**	**11 09 15.4**	**+0.1**
	comp=Z,3.0nm,1.5s,mb4.0						
WRAB	**Tennant Creek**	**52.47**	**189**	eP	**P**	**11 09 14.7**	**-0.8**
	comp=Z,6.1nm,0.6s,mb4.7						
WB2	**Warramunga Arr**	**52.48**	**189**	eP	**P**	**11 09 14.8**	**-0.7**
WRA	**Warramunga Arr**	**52.48**	**189**	P	**P**	**11 09 14.9**	**-0.7**
	comp=Z,3.3nm,0.6s,mb4.5,baz=4.5,slow=7.5,SNR=49						
ILAR	**Eielson Array**	**53.41**	**30**	P	**P**	**11 09 21.5**	**-0.3**
	comp=Z,0.8nm,0.7s,mb3.7,baz=266,slow=6.6,SNR=9.6						
ILAR	**Eielson Array**	**53.41**	**30**	P	**P**	**11 09 21.5**	**-0.3**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BRVK	**Borovoye**	**53.89**	**315**	P	**P**	**11 09 30.4**	**+4.9**
ZRNK	**Zerenda**	**54.67**	**315**	P	**P**	**11 09 26.4**	**-4.8**
	comp=Z,3.4nm,0.9s,mb4.4						
ASAR	**Alice Springs**	**56.21**	**188**	P	**P**	**11 09 43.2**	**+0.5**
	comp=Z,0.8nm,0.6s,mb3.9,baz=16,slow=12,SNR=14						
ASPA	**Alice Springs**	**56.21**	**188**	eP	**P**	**11 09 43.7**	**+0.9**
ARU	**Arti**	**59.94**	**320**	eP	**P**	**11 10 06.6**	**-1.8**
STKA	**Stephens Creek**	**63.91**	**180**	P	**P**	**11 10 34.9**	**-0.5**
	comp=Z,0.9nm,0.8s,mb3.9,baz=7.8,slow=14,SNR=2.4						
YKA	**Yellowknife Ar**	**67.80**	**29**	P	**P**	**11 11 00.3**	**+0.5**
	comp=Z,1.1nm,0.9s,mb3.9,baz=292,slow=11,SNR=3.8						
YKA	**Yellowknife Ar**	**67.80**	**29**	P	**P**	**11 11 00.3**	**+0.5**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ARCES	**ARCESS Array B**	**68.38**	**340**	P	**P**	**11 11 03.2**	**-0.1**
	comp=Z,1.4nm,0.7s,mb4.1,baz=59,slow=26,SNR=3.7						
ARCES	**ARCESS Array B**	**68.38**	**340**	P	**P**	**11 11 03.2**	**-0.1**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FINES	**FINESS Array B**	**72.97**	**333**	P	**P**	**11 11 30.6**	**-0.4**
	comp=Z,1.8nm,0.9s,mb4.0,baz=56,slow=6.9,SNR=4.1						
FINES	**FINESS Array B**	**72.97**	**333**	P	**P**	**11 11 30.6**	**-0.5**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KIV	**Kislovodsk**	**74.04**	**312**	eP	**P**	**11 11 38.9**	**+1.3**
KIV				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.8						
KIV				pmax	pmax		
	comp=E,2.0nm,0.6s						
AKASG	**Malin Array Be**	**78.03**	**323**	P	**P**	**11 12 00.4**	**+0.4**
	comp=E,0.6nm,0.5s,mb3.8,baz=44,slow=6.5,SNR=2.4						
AKASG	**Malin Array Be**	**78.03**	**323**	P	**P**	**11 12 00.4**	**+0.4**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NOA	**NORSAR Array B**	**78.50**	**338**	P	**P**	**11 12 02.6**	**+0.2**
	comp=Z,1.2nm,0.8s,mb3.9,baz=41,slow=5.7,SNR=4.1						
NOA	**NORSAR Array B**	**78.50**	**338**	P	**P**	**11 12 02.6**	**+0.2**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TPNV	**Topopah Spring**	**79.90**	**53**	eP	**P**	**11 12 11.5**	**+1.0**
	comp=Z,1.2nm,0.5s,mb4.1						
PDAR	**Pinedale Array**	**80.88**	**45**	P	**P**	**11 12 18.7**	**+3.1**
	comp=Z,0.3nm,0.7s,mb3.3,baz=304,slow=3.3,SNR=3.1						
MSU	**Marysvale**	**81.71**	**50**	eP	**P**	**11 12 22.2**	**+2.2**
BRTR	**Keskin Array B**	**82.01**	**312**	P	**P**	**11 12 22.9**	**+1.4**
	comp=Z,2.2nm,0.4s,mb4.4,baz=34,slow=5.2,SNR=14						
BRTR	**Keskin Array B**	**82.01**	**312**	P	**P**	**11 12 22.9**	**+1.4**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
SRU	**San Rafael**	**82.42**	**48**	P	**P**	**11 12 25.5**	**+1.9**
PV10	**Paradox Valley**	**83.79**	**48**	eP	**P**	**11 12 28.3**	**-2.4**
TXAR	**Lajitas Array**	**92.89**	**53**	P	**P**	**11 13 16.8**	**+2.4**
	comp=Z,0.3nm,0.6s,mb3.9,baz=309,slow=2.9,SNR=6.8						
SAML	**Samuel**	**147.34**	**50**	ePKPbc	PKPdf	11 19 46.4	-0.4
LPAZ	**La Paz**	**148.74**	**66**	PKPbc	PKPdf	11 19 51.6	+2.7
	comp=Z,0.8nm,0.4s,baz=336,slow=3.5,SNR=5.0						
LPAZ	**La Paz**	**148.74**	**66**	PKIKP	PKPdf	11 19 51.6	+2.7
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.4s						
LPAZ	**La Paz**	**148.74**	**66**	ePKPbc	PKPdf	11 19 51.8	+2.8

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*NIED **28** 11:12:00, 32.50N×141.50E, h5^{km}, Mw4.3 Best double couple: M$_0$2.86×10^{15} NP1:ϕ_s6°, δ83°, λ85°. NP2:ϕ_s219°, δ9°, λ123°.*

*IDC **28** 11:12:24.6±0.6, 32.38N×141.44E, mb4.1/15, mb1 4.2/17, mb1mx4.2/23, ML4.1/2, MS3.2/1, Ms1 3.2/1, ms1mx2.5/25, Error ellipse: s-maj=22.2km s-min=14.5km az=78.0, Putative timing error at ZAL*

*JMA **28** 11:12:25.3±0.7, 32.48N×141.50E, h9^{km}, M4.1*

*MOS **28** 11:12:27.5±1.6, 32.47N×141.58E, h33^{km}, mb4.4/10, Error ellipse: s-maj=33.2km s-min=15.1km az=97.1*

*BJI **28** 11:12:30.7, 32.40N×141.30E, h44^{km}, mB4.7, mb4.2, Ms4.0, Msz3.6*

*NEIC **28** 11:12:30.8±1.4, 32.36N×141.32E, h45^{km}±13^{km}, mb4.5/14, MW4.3(NIED), Error ellipse: s-maj=12.3km s-min=8.6km az=87.0*

ISC 28 11:12:26.0±1.6**, 32.35N**±0.04×**141.41E**±0.07**, h24**^{km}±11^{km}**, n77, σ1^{s}00**/85**, mb4.3**/28**, MS3.7**/1**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.54**	**300**	P	**Pn**	**11 12 53.7**	**+1.3**
JHJ	**Hachijo jima 2**	**1.57**	**300**	Pn	**Pn**	**11 12 53.5**	**+0.7**
	159nm,0.3s,baz=83,slow=18,SNR=41						
JHJ				Sn	**Sn**	**11 13 11.2**	**-1.3**
	165nm,0.3s,baz=251,slow=23,SNR=8.2						
BSO1	**Boso 1**	**2.32**	**351**	P	**Pn**	**11 13 03.4**	**-0.2**
BSO1				eS	**Sn**	**11 13 32.2**	**+0.5**
BSO3	**Boso 3**	**2.56**	**343**	P	**Pn**	**11 13 05.9**	**-1.0**
JKO	**Kozu shima**	**2.64**	**314**	P	**Pn**	**11 13 08.7**	**+0.5**
BSO4	**Boso 4**	**2.78**	**342**	P	**Pn**	**11 13 10.3**	**+0.2**
JIM2	**Oshima 3**	**2.88**	**326**	P	**Pn**	**11 13 11.6**	**0.0**
JOD2	**Odawara 2**	**3.49**	**327**	P	**Pn**	**11 13 19.5**	**-0.7**
JOD2				eS	**Sn**	**11 13 57.3**	**-3.9**
JHU	**Hanno**	**3.91**	**334**	P	**Pn**	**11 13 25.7**	**-0.5**
JYN	**Shimob**	**3.94**	**324**	P	**Pn**	**11 13 27.4**	**+0.8**
JRY	**Ryogami san**	**4.20**	**331**	P	**Pn**	**11 13 30.8**	**+0.4**
JAG	**Ashikaga**	**4.37**	**339**	P	**Pn**	**11 13 32.4**	**-0.4**
JAG				eS	**Sn**	**11 14 22.0**	**-1.6**
MAJO	**Matsushiro**	**4.95**	**329**	ePn	**Pn**	**11 13 41.6**	**+0.7**
MAT	**Matsushiro**	**4.95**	**329**	P	**Pn**	**11 13 41.1**	**+0.2**
MAT				S	**Sn**	**11 14 37.4**	**-0.7**
MAT	**Matsushiro**	**4.95**	**329**	P	**Pn**	**11 13 41.6**	**+0.7**
MAT	**Matsushiro**	**4.95**	**329**	eP	**Pn**	**11 13 42.0**	**+1.1**
MAT				eS	**Sn**	**11 14 37.0**	**-1.1**
CBIJ	**Chichi jima**	**5.28**	**172**	Pn	**Pn**	**11 13 44.2**	**-1.4**
	21nm,0.3s,baz=85,slow=22,SNR=22						
CBIJ				Sn	**Sn**	**11 14 41.5**	**-5.1**
	16nm,0.3s,baz=280,slow=22,SNR=6.4						
CBIJ				LR	LR	11 15 47.2	

	comp=Z,240nm,19.7s,baz=319,slow=38						
CBIJ	**Chichi jima**	**5.28**	**172**	P	**Pn**	**11 13 46.0**	**+0.4**
CBIJ				*e*S	**Sn**	**11 14 44.0**	**-2.5**
JMM	**Marumori**	**5.52**	**355**	P	**Pn**	**11 13 46.5**	**-2.5**
JMM				*e*S	**Sn**	**11 14 45.6**	**-7.0**
ASAJ	**Asahikawa**	**11.78**	**4**	Pn	**P**	**11 15 11.0**	**-4.7**
	1.1nm,0.3s,baz=205,slow=8.3,SNR=7.4						
ASAJ				Sn	**S**	**11 17 14.9**	**-13**
	0.4nm,0.3s,baz=15,slow=30,SNR=3.0						
ASAJ	**Asahikawa**	**11.78**	**4**	P	**P**	**11 15 11.0**	**-4.7**
ASAJ						11 17 14.9	
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MDJ	**Mudanjiang**	**15.33**	**326**	P	**P**	**11 16 02.3**	**-0.2**
MDJ				AMB	AMB		
	comp=Z,6.0nm,0.9s						
MDJ				AMB	AMB		
	comp=Z,174nm,5.2s						
MDJ	**Mudanjiang**	**15.33**	**326**	P	**P**	**11 16 03.7**	**+1.2**
	comp=Z,8.3nm,0.9s						
CN2	**Changchun**	**16.95**	**317**	*e*P	**P**	**11 16 25.5**	**+2.2**
BJT	**Baijiatuau**	**21.71**	**298**	P	**P**	**11 17 11.9**	**-5.5**
	comp=Z,9.9nm,0.5s,mb4.5						
HIA	**Hailar**	**23.41**	**323**	P	**P**	**11 17 34.2**	**+0.2**
	comp=Z,4.8nm,0.6s,mb4.1						
HHC	**Hu-ho-hao-te**	**25.32**	**298**	*e*P	**P**	**11 17 52.0**	**-0.5**
HHC				AP	pP	11 18 06.5	+7.1
HHC				PP	PP	11 18 30.3	-1.0
HHC				PCP	PcP	11 21 27.5	+1.6
HHC				S	**S**	**11 22 08.5**	**-6.1**
HHC				XS		11 22 35.3	
HHC				SS	SS	11 23 11.0	-5.5
HHC				PCS		11 25 07.5	
HHC				SCS	ScS	11 28 47.3	-2.4
HHC				AMB	AMB		
	comp=Z,13nm,0.7s,mb4.6						
HHC				AMB	AMB		
	comp=Z,109nm,4.3s						
HHC				LR	LR		
	comp=N,140nm,16.1s,MS3.8						
HHC				LR	LR		
	comp=E,207nm,14.9s,MS3.8						
HHC				LR	LR		
	comp=Z,129nm,13.7s,MS3.6						
SONM	**Songino Array**	**30.62**	**311**	P	**P**	**11 18 41.9**	**+1.5**
	comp=Z,1.7nm,0.6s,mb4.1,baz=122,slow=8.9,SNR=8.2						
SONM	**Songino Array**	**30.62**	**311**	P	**P**	**11 18 41.9**	**+1.4**
ZAL	**Zalesovo**	**45.18**	**316**	P	**P**	**11 20 44.6**	**+2.0**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR	**Makanchi Array**	**46.73**	**306**	P	**P**	**11 20 55.2**	**+0.2**
	comp=Z,2.3nm,0.5s,mb4.4,baz=91,slow=9.8,SNR=17						
MKAR	**Makanchi Array**	**46.73**	**306**	P	**P**	**11 20 55.2**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MKAR	**Makanchi Array**	**46.73**	**306**	P	**P**	**11 20 55.2**	**+0.2**
PKI	**Pulchoki**	**48.29**	**280**	*e*P	**P**	**11 21 06.8**	**-0.7**
	comp=Z,8.2nm,0.8s,mb4.8						
KKN	**Kakani**	**48.33**	**280**	*e*P	**P**	**11 21 07.4**	**-0.3**
	comp=Z,18nm,1.0s,mb5.1						
DMN	**Daman**	**48.53**	**280**	*e*P	**P**	**11 21 08.6**	**-0.7**
	comp=Z,2.6nm,0.5s,mb4.6						
GKN	**Gorkha**	**48.79**	**281**	*e*P	**P**	**11 21 10.8**	**-0.5**
KURK	**Kurchatov**	**48.92**	**311**	*e*P	**P**	**11 21 08.0**	**-4.0**
	comp=Z,3.7nm,0.6s,mb4.6						
KOLN	**Koldanda**	**49.73**	**281**	*e*P	**P**	**11 21 18.1**	**-0.5**
	comp=Z,12nm,0.9s,mb4.9						
FITZ	**Fitzroy Crossi**	**52.39**	**199**	*e*P	**P**	**11 21 38.8**	**-0.1**
	comp=Z,2.0nm,1.1s,mb4.0						
WRAB	**Tennant Creek**	**52.43**	**188**	*e*P	**P**	**11 21 37.3**	**-1.8**
	comp=Z,5.8nm,0.6s,mb4.7						
WB2	**Warramunga Arr**	**52.44**	**188**	*e*P	**P**	**11 21 38.4**	**-0.8**
WRA	**Warramunga Arr**	**52.44**	**188**	P	**P**	**11 21 38.3**	**-0.9**
	comp=Z,1.7nm,0.4s,mb4.3,baz=3.9,slow=7.5,SNR=38						
WRA	**Warramunga Arr**	**52.44**	**188**	P	**P**	**11 21 38.3**	**-0.9**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ILAR	**Eielson Array**	**53.48**	**30**	P	**P**	**11 21 45.8**	**-0.6**
	comp=Z,1.2nm,0.8s,mb3.9,baz=270,slow=5.9,SNR=12						
ILAR	**Eielson Array**	**53.48**	**30**	P	**P**	**11 21 45.8**	**-0.5**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ZRNK	**Zerenda**	**54.63**	**315**	*e*P	**P**	**11 21 54.2**	**-0.7**
	comp=Z,2.1nm,0.6s,mb4.3						
ASAR	**Alice Springs**	**56.16**	**188**	P	**P**	**11 22 07.0**	**+0.6**
	comp=Z,0.9nm,0.5s,mb4.0,baz=18,slow=14,SNR=18						
ASPA	**Alice Springs**	**56.16**	**188**	*e*P	**P**	**11 22 07.3**	**+0.9**
INK	**Inuvik**	**58.57**	**26**	P	**P**	**11 22 22.9**	**+0.1**
	comp=Z,3.7nm,0.9s,mb4.4,baz=290,slow=8.6,SNR=3.9						
INK	**Inuvik**	**58.57**	**26**	P	**P**	**11 22 22.9**	**+0.1**
INK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
INK	**Inuvik**	**58.57**	**26**	P	**P**	**11 22 22.0**	**-0.8**
	comp=Z,4.8nm,1.0s,mb4.5						
ARU	**Arti**	**59.91**	**320**	*e*P	**P**	**11 22 31.1**	**-1.1**
	comp=Z,3.9nm,0.4s,mb4.8						
STKA	**Stephens Creek**	**63.88**	**180**	P	**P**	**11 22 59.5**	**+0.3**
	comp=Z,1.1nm,0.7s,mb4.0,baz=338,slow=9.4,SNR=2.7						
STKA	**Stephens Creek**	**63.88**	**180**	P	**P**	**11 22 59.5**	**+0.2**
YKA	**Yellowknife Ar**	**67.87**	**29**	P	**P**	**11 23 23.8**	**-0.4**
	comp=Z,0.5nm,0.9s,mb3.6,baz=298,slow=6.5,SNR=4.5						
YKA	**Yellowknife Ar**	**67.87**	**29**	P	**P**	**11 23 23.8**	**-0.4**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
YKA	**Yellowknife Ar**	**67.87**	**29**	P	**P**	**11 23 23.8**	**-0.4**
ARCES	**ARCESS Array B**	**68.38**	**340**	P	**P**	**11 23 27.9**	**+0.7**
	comp=Z,1.2nm,0.8s,mb4.0,baz=63,slow=8.1,SNR=2.8						
ARCES	**ARCESS Array B**	**68.38**	**340**	P	**P**	**11 23 27.9**	**+0.6**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BMW	**Boistfort Moun**	**70.72**	**47**	*e*P	**P**	**11 23 39.1**	**-2.8**
FINES	**FINESS Array B**	**72.96**	**333**	P	**P**	**11 23 55.1**	**+0.2**
	comp=Z,2.2nm,0.7s,mb4.2,baz=50,slow=5.6,SNR=11						
FINES	**FINESS Array B**	**72.96**	**333**	P	**P**	**11 23 55.2**	**+0.2**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KIV	**Kislovodsk**	**74.00**	**312**	*e*P	**P**	**11 24 02.5**	**+1.1**
KIV				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.8						
KIV				pmax	pmax		
	comp=E,4.0nm,0.6s						
AKASG	**Malin Array Be**	**78.01**	**323**	P	**P**	**11 24 24.1**	**+0.2**
	comp=E,0.8nm,0.3s,mb4.1,baz=50,slow=5.9,SNR=6.8						
AKASG	**Malin Array Be**	**78.01**	**323**	P	**P**	**11 24 24.1**	**+0.2**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NOA	**NORSAR Array B**	**78.50**	**338**	P	**P**	**11 24 26.5**	**+0.1**
	comp=Z,0.7nm,0.5s,mb3.8,baz=56,slow=6.3,SNR=3.6						
NOA	**NORSAR Array B**	**78.50**	**338**	P	**P**	**11 24 26.5**	**+0.1**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TPNV	**Topopah Spring**	**79.99**	**53**	*e*P	**P**	**11 24 36.2**	**+1.3**
	comp=Z,2.8nm,0.7s,mb4.3						
BRTR	**Keskin Array B**	**81.97**	**312**	P	**P**	**11 24 46.5**	**+1.3**
	comp=Z,2.5nm,0.5s,mb4.4,baz=119,slow=4.1,SNR=16						
BRTR	**Keskin Array B**	**81.97**	**312**	P	**P**	**11 24 46.6**	**+1.3**
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
RAYN	**Ar Rayn**	**82.45**	**293**	P	**P**	**11 24 49.0**	**+0.9**
	comp=Z,48nm,0.6s,SNR=8.4						
CLL	**Collm**	**85.15**	**330**	P	**P**	**11 25 02.0**	**+0.8**
TXAR	**Lajitas Array**	**92.97**	**52**	P	**P**	**11 25 40.3**	**+1.4**
	comp=Z,0.3nm,0.7s,mb3.8,baz=291,slow=3.2,SNR=4.5						
SAML	**Samuel**	**147.42**	**50**	PKPbc	PKPdf	11 32 11.3	+0.7
LPAZ	**La Paz**	**148.83**	**66**	PKPbc	PKPdf	11 32 16.2	+3.5
	comp=Z,0.6nm,0.5s,baz=267,slow=6.7,SNR=3.7						
LPAZ	**La Paz**	**148.83**	**66**	PKP2	PKPab	11 32 16.2	-2.0
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.5s						

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*NAO **28** 11:53:40.6±5.1, 57.57N×7.52E, h8^{km}±27^{km}, ML3.0*

*NEIC **28** 11:53:40.7, 57.49N×6.95E, h16^{km}, ML2.9(BER), After BER.*

BER 28 11:53:40.0±3.8**, 57.50N×7.17E, h13**^{km}±11^{km}**, MD3.0, ML2.9, MW2.9, ML3.0**(NAO)**, North Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MUD	**Monsted U'grnd**	**1.52**	**133**	*i* P	Pn	11 54 10.2	+3.2
MUD				*i* S	Sb	11 54 32.1	+5.6
STAV	**Stavanger**	**1.64**	**332**	*e*P	Pn	11 54 06.2	-2.6
STAV				*e*Pg	Pg	11 54 07.7	-5.1
STAV				*e*Sg	Sg	11 54 27.9	-6.8
BLS5	**Blasjo**	**1.97**	**349**	*e*P	Pn	11 54 12.2	-1.2
BLS5				*e*Sg	Sg	11 54 39.0	-6.6
BLS5				AML	AML	11 54 39.6	
	comp=Z,332nm,0.3s						
KMY	**Karmoy**	**2.00**	**330**	*e*P	Pn	11 54 11.0	-2.9
KMY				*e*Pg	Pg	11 54 11.9	-8.0
KMY				*e*S	Sn	11 54 33.6	-5.2
ODD1	**Odda**	**2.44**	**354**	*e*P	Pn	11 54 17.2	-3.0
ODD1				*e*S	Sn	11 54 45.1	-4.9
ODD1				*e*Sg	Sg	11 54 51.3	-10
ODD1				AML	AML	11 54 51.8	
	comp=Z,169nm,0.3s						
EGD	**Espegrend**	**2.96**	**341**	*e*P	Pn	11 54 24.6	-3.0
EGD				*e*S	Sn	11 54 58.0	-5.3
EGD				*e*Sg	Sg	11 55 08.0	-11
BER	**Bergen**	**3.05**	**343**	*e*P	Pn	11 54 26.3	-2.5
BER				*e*Sg	Sg	11 55 10.6	-11
RUND	**Rundenannen**	**3.07**	**343**	*e*P	Pn	11 54 26.5	-2.7
RUND				*e*S	Sn	11 55 00.5	-5.6
ASK	**Askoy**	**3.16**	**342**	*e*P	Pn	11 54 27.2	-3.3
ASK				*e*S	Sn	11 55 02.6	-5.9
ASK				*e*Sg	Sg	11 55 13.6	-12
HYA	**Hoyanger**	**3.71**	**353**	*e*P	Pn	11 54 36.9	-1.4
HYA				*e*Sg	Sg	11 55 31.7	-12
HYA				AML	AML	11 55 46.3	
	comp=Z,36nm,0.4s						
SUE	**Sulen**	**3.78**	**342**	*e*P	Pn	11 54 36.1	-3.2
SUE				*e*S	Sn	11 55 15.8	-8.2
SUE				*e*Sg	Sg	11 55 33.0	-13
SUE				AML	AML	11 55 37.7	
	comp=Z,33nm,0.3s						
NAO01	**NORSAR Array S**	**3.86**	**28**	*e*Pn	Pn	11 54 38.5	-1.9
NAO01				*e*S	Sg	11 55 34.7	-14
NC6	**NORSAR Subarra**	**3.94**	**32**	Pn	Pn	11 54 38.6	-2.8
NC6				Sn	Sn	11 55 23.9	-4.1
NC6				Lg		11 55 40.6	
NB2	**NORSAR Subarra**	**4.11**	**29**	Pn	Pn	11 54 41.1	-2.9
NB2				Lg		11 55 43.9	
FOO	**Floro**	**4.25**	**346**	*e*P	Pn	11 54 42.4	-3.6
FOO				*e*Sg	Sg	11 55 46.9	-15
FOO				AML	AML	11 55 54.0	
	comp=Z,35nm,0.3s						
HFS	**Hagfors**	**4.30**	**49**	Pn	Pn	11 54 44.2	-2.5
	baz=234,slow=16						
HFS				Sn	Sn	11 55 31.3	-5.9
	baz=227,slow=28						
HFS				Lg		11 55 51.3	
	baz=235,slow=37						
DOMB	**Dombas**	**4.66**	**11**	*e*P	Pn	11 54 49.8	-1.9
DOMB				*e*Sg	Sg	11 55 59.0	-16
DOMB				AML	AML	11 56 03.6	
	comp=Z,93nm,0.2s						
BSD	**Bornholm Skovb**	**4.93**	**116**	*i* P	Pn	11 54 54.5	-1.1
BSD				*i*		11 55 00.3	
BSD				*i* S	Sn	11 55 49.0	-4.1
MOL	**Molde**	**5.09**	**2**	*e*P	Pn	11 54 56.2	-1.7
MOL				*e*Sg	Sg	11 56 14.7	-15
MOL				AML	AML	11 56 23.5	
	comp=Z,39nm,0.6s						
FIA0	**FINESS Array S**	**10.38**	**60**	Sn	S	11 57 55.0	-14
	baz=253,slow=22						
FIA0				Lg		11 59 01.1	
	baz=266,slow=28						
ARA0	**ARCESS Array S**	**14.49**	**26**	Lg		12 01 03.6	
	baz=226,slow=37						
ARA0	**ARCESS Array S**	**14.49**	**26**	Lg		12 01 03.6	
	baz=226,slow=37						

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*MOS **28** 12:51:27.4±2.6, 49.90N×87.84E, h10^{km}, mb4.1/1, Error ellipse: s-maj=24.8km s-min=13.9km az=112.3*

*NNC **28** 12:51:29.9±5.8, 50.06N×88.00E, h20^{km}±41^{km}, mpv3.8, Error ellipse: s-maj=56.1km s-min=29.3km az=53.0*

ISC 28 12:51:30.1±1.2**, 50.02N**±0.07×**87.6E**±0.1**, h10**^{km}**, n13, σ1**^{s}**12**/19**, 7C-3D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AKAR	**Aktash**	**0.31**	**8**	*i* PG	**Pg**	**12 51 36.4**	**0.0**
AKAR				*e*S	**Sg**	**12 51 44.4**	**+3.7**
UKR	**Ust'-Kan**	**2.00**	**298**	*e*PN	**Pg**	**12 52 10.5**	**+0.4**
UKR				*e*S	**Sg**	**12 52 43.5**	**+6.7**
TASR	**Tashtagol**	**2.75**	**4**	*e*PN	**Pn**	**12 52 15.6**	**+0.5**
MK31	**Makanchi Array**	**4.76**	**229**	⇑Pn	**Pn**	**12 52 44.1**	**+0.4**
	10nm,0.7s,baz=54,slow=14,SNR=203						
MKAR	**Makanchi Array**	**4.76**	**229**	PN	**Pn**	**12 52 44.0**	**+0.3**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.2s						
NVS	**Novosibirsk**	**5.51**	**333**	*e*PN	**Pn**	**12 52 53.5**	**-0.7**
NVS				*e*		12 53 11.7	
NVS				*e*		12 53 59.8	
KURK	**Kurchatov**	**5.76**	**280**	⇑Pn	**Pn**	**12 52 59.0**	**+1.2**
	comp=Z,4.2nm,0.5s,baz=89,slow=9.3,SNR=34						
KURK				⇓Sn	**Sn**	**12 54 07.8**	**+3.0**
	comp=Z,4.8nm,0.5s,baz=59,slow=16,SNR=5.9						
KURK				⇑Lg		12 54 39.3	
	comp=Z,18nm,0.6s,baz=170,slow=16,SNR=4.4						
KURK	**Kurchatov**	**5.76**	**280**	*i* PN	**Pn**	**12 52 58.9**	**+1.1**
KURK						12 54 07.7	
KURK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
VOSK	**Vostochnaya**	**10.71**	**291**	⇑Pn	**P**	**12 54 05.0**	**-1.5**
	comp=Z,4.0nm,1.9s						
VOSK				⇑Sn	**S**	**12 56 07.2**	**-0.3**
	comp=Z,1.4nm,0.6s						
VOSK	**Vostochnaya**	**10.71**	**291**	P	**P**	**12 54 04.9**	**-1.6**
VOSK						12 56 07.1	
BVA0	**Borovoye Array**	**11.11**	**292**	⇑Pn	**P**	**12 54 09.4**	**-2.6**
	comp=Z,0.3nm,0.8s,baz=109,slow=15,SNR=12						
BVA0				⇓Sn	**S**	**12 56 16.6**	**-0.8**
	comp=Z,0.4nm,0.5s,baz=100,slow=25,SNR=4.0						
BVA0	**Borovoye Array**	**11.11**	**292**	*e*P	**P**	**12 54 09.3**	**-2.7**
BVA0				*e*		12 56 16.5	
ZRNK	**Zerenda**	**11.93**	**291**	⇓Pn	**P**	**12 54 22.8**	**-0.3**
	comp=Z,1.7nm,0.8s						
ZRNK				⇑Sn	**S**	**12 56 37.7**	**+0.4**
	comp=Z,4.6nm,1.6s						

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*NEIC **28** 12:57:15.3, 30.33S×71.60W, h28^{km}, ML3.9(GUC), After GUC.*

GUC 28 12:57:15.3±0.6**, 30.33S×71.60W, h28**^{km}±7^{km}**, MD3.3, ML3.9, 1C-3D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OVCH	**Ovalle**	**0.44**	**129**	⇓*i*P	Pb	12 57 24.5	-0.3
OVCH				*i* S	Sb	12 57 31.5	+0.3
OVCH				AMP		12 57 31.9	
	comp=E,9μm,0.3s						
LSCH	**La Serena**	**0.52**	**36**	⇓*i*P	Pb	12 57 25.5	-0.4
LSCH				*i* S	Sb	12 57 33.2	0.0
LSCH				AMP		12 57 34.7	
	comp=N,2μm,0.4s						
TLL	**Tololo Astrono**	**0.70**	**77**	⇓*i*P	Pb	12 57 29.1	+0.2
TLL				*i* S	Sb	12 57 39.5	+1.1
TLL				AMP		12 57 44.4	
	comp=E,4μm,0.4s						
CMCH	**Combarbala**	**0.99**	**149**	⇑*i*P	Pn	12 57 33.2	-0.2
CMCH				*i* S	Sb	12 57 46.4	0.0
CMCH				AMP		12 57 48.3	
	comp=E,16μm,0.7s						
VACH	**Vallenar**	**1.89**	**23**	*i* P	Pn	12 57 48.6	+2.3
VACH				*i* S	Sn	12 58 13.1	+3.6
VACH				AMP		12 58 17.4	
	comp=N,1μm,0.5s						
PEL	**Peldehue**	**2.91**	**165**	AMP		12 58 55.1	
	comp=N,787nm,0.4s						
CLCH	**Cerro Calan**	**3.19**	**164**	AMP		12 58 55.9	
	comp=E,662nm,0.6s						
FCH	**Farellones**	**3.19**	**160**	AMP		12 58 54.3	
	comp=N,240nm,0.3s						
RCDM	**Rinconada Maip**	**3.22**	**168**	AMP		12 58 55.1	
	comp=E,336nm,0.4s						

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*NIED **28** 13:02:00, 31.80N×141.90E, h5^{km}, Mw4.5 Best double couple: M$_0$5.73×10^{15} NP1:φ$_s$328°, δ83°, λ81°. NP2:φ$_s$200°, δ11°, λ141°.*

*IDC **28** 13:02:27.7±0.6, 31.80N×141.73E, mb4.3/15, mb1 4.4/19, mb1mx4.4/25, ML3.9/4, MS3.8/4, Ms1 3.8/4, ms1mx3.3/28, Error ellipse: s-maj=18.4km s-min=14.3km az=83.0, Putative timing error at ZAL*

*BJI **28** 13:02:28.1, 31.82N×141.53E, h15^{km}, mB4.9, mb4.2, Ms4.1, Msz3.5*

*JMA **28** 13:02:28.9±0.2, 31.82N×141.92E, h68^{km}, M3.8*

*NEIC **28** 13:02:31.0±3.5, 31.81N×141.66E, h26^{km}±24^{km}, mb4.6/19, MW4.5(NIED), Error ellipse: s-maj=10.2km s-min=8.0km az=115.0*

*MOS **28** 13:02:30.3±1.2, 31.91N×141.80E, h33^{km}, mb4.6/14, Error ellipse: s-maj=22.5km s-min=10.8km az=110.5*

ISC 28 13:02:27.3±1.2**, 31.79N**±0.03×**141.67E**±0.05**, h12**^{km}±7^{km}**, n100, σ1**^{s}**07**/113**, mb4.5**/35**, MS4.0**/8**, 2C, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.05**	**311**	P	**Pn**	**13 03 03.6**	**+1.6**
JHJ2				S	**Sn**	**13 03 30.3**	**+2.7**
JHJ	**Hachijo jima 2**	**2.07**	**310**	Pn	**Pn**	**13 03 03.6**	**+1.3**
	61nm,0.3s,baz=253,slow=21,SNR=60						
JHJ				Sn	**Sn**	**13 03 30.2**	**+2.0**
	59nm,0.3s,baz=39,slow=21,SNR=3.7						
BSO1	**Boso 1**	**2.92**	**349**	P	**Pn**	**13 03 14.4**	**0.0**
BSO1				S	**Sn**	**13 03 48.7**	**-0.9**
BSO3	**Boso 3**	**3.16**	**342**	P	**Pn**	**13 03 18.3**	**+0.5**
BSO3				S	**Sn**	**13 03 56.7**	**+1.0**
JKO	**Kozu shima**	**3.20**	**319**	P	**Pn**	**13 03 19.9**	**+1.5**
JOD2	**Odawara 2**	**4.08**	**329**	P	**Pn**	**13 03 31.0**	**+0.1**
JHU	**Hanno**	**4.51**	**335**	P	**Pn**	**13 03 36.3**	**-0.8**
JHU				S	**Sn**	**13 04 28.7**	**-1.4**
JYT	**Yasato**	**4.59**	**345**	P	**Pn**	**13 03 38.4**	**+0.2**
CBIJ	**Chichi jima**	**4.70**	**174**	Pn	**Pn**	**13 03 40.0**	**+0.2**
	16nm,0.3s,baz=249,slow=12,SNR=25						
CBIJ				Sn	**Sn**	**13 04 34.0**	**-0.8**
	22nm,0.3s,baz=310,slow=21,SNR=3.9						
CBIJ				LR	LR	13 05 26.0	
	comp=Z,287nm,19.1s,baz=83,slow=38						
CBIJ	**Chichi jima**	**4.70**	**174**	P	**Pn**	**13 03 38.3**	**-1.4**
JRY	**Ryogami san**	**4.80**	**332**	P	**Pn**	**13 03 42.1**	**+0.9**
JRY				S	**Sn**	**13 04 37.0**	**-0.4**
JHO	**Hitachi**	**4.89**	**350**	P	**Pn**	**13 03 41.1**	**-1.4**
JAG	**Ashikaga**	**4.97**	**339**	P	**Pn**	**13 03 43.9**	**+0.3**
JAG				S	**Sn**	**13 04 41.2**	**-0.5**
MAJO	**Matsushiro**	**5.54**	**330**	*e*Pn	**Pn**	**13 03 52.1**	**+0.5**
MAT	**Matsushiro**	**5.54**	**330**	P	**Pn**	**13 03 52.3**	**+0.7**
MAT				S	**Sn**	**13 04 53.8**	**-2.1**
MAT	**Matsushiro**	**5.54**	**330**	P	**Pn**	**13 03 52.6**	**+1.0**
MAT	**Matsushiro**	**5.54**	**330**	*e*P	**Pn**	**13 03 52.0**	**+0.4**
MAT				*e*S	**Sn**	**13 04 56.0**	**+0.1**
JFK	**Kawauchi**	**5.60**	**354**	P	**Pn**	**13 03 49.8**	**-2.7**
JFK				S	**Sn**	**13 04 49.9**	**-7.6**
JMK	**Ichinoseki**	**7.16**	**357**	P	**Pn**	**13 04 11.8**	**-2.6**
JMK				S	**Sn**	**13 05 27.5**	**-8.9**
ASAJ	**Asahikawa**	**12.33**	**3**	Pn	**P**	**13 05 22.2**	**-3.3**
	0.8nm,0.3s,baz=192,slow=9.3,SNR=5.5						
ASAJ				Sn	**S**	**13 07 31.1**	**-13**
	0.5nm,0.3s,baz=76,slow=32,SNR=4.4						
ASAJ	**Asahikawa**	**12.33**	**3**	P	**P**	**13 05 22.2**	**-3.3**
ASAJ						13 07 31.2	
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				smax			
	comp=N,1.0nm,0.3s						
JOW	**Kunigami**	**12.68**	**250**	Pn	**P**	**13 05 28.7**	**-1.6**
	comp=N,2.0nm,0.3s,baz=197,slow=23,SNR=2.4						
MDJ	**Mudanjiang**	**15.91**	**327**	P	**P**	**13 06 12.5**	**-0.1**
MDJ				AP		13 06 19.8	
MDJ				XP		13 06 24.8	
MDJ				S	**S**	**13 09 07.8**	**-1.2**
MDJ				AMB	AMB		
	comp=Z,6.0nm,1.0s						
MDJ				AMB	AMB		
	comp=Z,76nm,3.7s						
MDJ				LR	LR		
	comp=E,175nm,17.9s						
MDJ				LR	LR		
	comp=Z,171nm,17.0s						
SSE	**Sheshan**	**17.49**	**273**	*e*P	**P**	**13 06 30.0**	**-2.6**
SSE				AP		13 06 39.8	
SSE				S	**S**	**13 09 39.5**	**-5.9**
SSE				AMB	AMB		
	comp=Z,20nm,0.7s						
SSE				AMB	AMB		
	comp=Z,290nm,5.6s						
SSE				LR	LR		
	comp=N,52nm,18.0s						
SSE				LR	LR		
	comp=E,106nm,18.0s						
SSE				LR	LR		
	comp=Z,126nm,18.2s						
SSE	**Sheshan**	**17.49**	**273**	*e*P	**P**	**13 06 30.1**	**-2.5**
	comp=Z,20nm,0.7s						
SSE				pP		13 06 39.7	
SSE				S	**S**	**13 09 39.4**	**-6.0**
SSE				sS		13 09 59.7	
NJ2	**Nanjing**	**19.36**	**277**	*e*P	**P**	**13 06 55.0**	**-0.5**
NJ2				AP		13 07 05.0	
NJ2				XP		13 07 08.0	
NJ2				PP	PP	13 07 13.5	+0.6
NJ2				S	**S**	**13 10 23.0**	**-4.8**
NJ2				AMB	AMB		
	comp=Z,1μm,5.2s						
NJ2				LR	LR		
	comp=N,1μm,14.6s						
NJ2				LR	LR		
	comp=E,950nm,15.6s						
NJ2				LR	LR		
	comp=Z,630nm,19.6s						
BJI	**Beijing**	**22.17**	**299**	P	**P**	**13 07 23.3**	**-1.4**
BJI				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.0						
BJI				LR	LR		
	comp=N,151nm,11.2s,MS4.0						
BJI				LR	LR		
	comp=E,273nm,12.2s,MS4.0						
BJI				LR	LR		
	comp=Z,162nm,17.1s,MS3.5						
BJI	**Beijing**	**22.17**	**299**	P	**P**	**13 07 23.3**	**-1.4**
	comp=Z,6.0nm,1.0s,mb4.0						
HIA	**Hailar**	**23.99**	**323**	*e*P	**P**	**13 07 41.5**	**-0.9**
	comp=Z,5.8nm,0.6s,mb4.2						
SONM	**Songino Array**	**31.15**	**311**	P	**P**	**13 08 49.5**	**+1.6**
	comp=Z,3.9nm,0.9s,mb4.2,baz=116,slow=8.6,SNR=14						
YAK	**Yakutsk**	**31.24**	**349**	*e*P	**P**	**13 08 47.5**	**-1.0**
YAK				pmax	pmax		
	comp=Z,23nm,1.3s,mb4.8						
YAK				MLR	MLR		
	comp=Z,100nm,16.0s,MS3.6						
ZAK	**Zakamensk**	**33.90**	**315**	*e*P	**P**	**13 09 00.6**	**-11**
ZAK				*e*		13 09 12.1	
TIXI	**Tiksi**	**40.51**	**354**	*i* P	**P**	**13 10 08.0**	**+0.6**
TIXI				*e*S	**S**	**13 16 14.0**	**-1.8**
TIXI				pmax	pmax		
	comp=Z,7.0nm,1.5s,mb4.1						
TIXI				MLR	MLR		
	comp=Z,300nm,21.0s,MS4.1						
CMAR	**Chiang Mai Arr**	**40.64**	**261**	P	**P**	**13 10 10.1**	**+1.2**
	comp=Z,0.3nm,0.5s,mb3.2,baz=33,slow=32,SNR=2.0						
CMAR				PcP	PcP	13 12 13.1	+1.6
	comp=Z,0.5nm,0.8s,baz=9.2,slow=1.9,SNR=4.6						
CMAR				LR	LR	13 29 27.0	
	comp=Z,86nm,20.0s,MS3.6,baz=25,slow=40						
CMAR	**Chiang Mai Arr**	**40.64**	**261**	P	**P**	**13 10 10.1**	**+1.2**
CMAR						13 12 13.1	
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
CMAR				MLR	MLR		
	comp=Z,86nm,20.0s						
WMQ	**Urumqi**	**43.59**	**302**	*e*P	**P**	**13 10 34.5**	**+1.7**
ZAL	**Zalesovo**	**45.73**	**316**	P	**P**	**13 10 51.5**	**+1.7**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NVS	**Novosibirsk**	**46.73**	**317**	*e*P	**P**	**13 10 56.9**	**-0.8**
MKAR	**Makanchi Array**	**47.24**	**306**	P	**P**	**13 11 02.2**	**+0.4**
	comp=Z,6.5nm,0.8s,mb4.6,baz=93,slow=9.7,SNR=30						
MKAR	**Makanchi Array**	**47.24**	**306**	P	**P**	**13 11 02.3**	**+0.4**
MKAR				pmax	pmax		
	comp=Z,7.0nm,0.8s						
PKI	**Pulchoki**	**48.60**	**280**	*e*P	**P**	**13 11 12.2**	**-0.6**
	comp=Z,4.6nm,0.8s,mb4.6						
KKN	**Kakani**	**48.64**	**281**	*e*P	**P**	**13 11 13.1**	**+0.1**
	comp=Z,10nm,0.8s,mb4.9						
DMN	**Daman**	**48.84**	**280**	*e*P	**P**	**13 11 14.0**	**-0.6**
GKN	**Gorkha**	**49.11**	**281**	*e*P	**P**	**13 11 16.2**	**-0.4**
	comp=Z,17nm,1.0s,mb5.0						
KURK	**Kurchatov**	**49.45**	**312**	*i* P	**P**	**13 11 19.1**	**+0.1**

KURK				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.7						
KURK	Kurchatov	49.45	312	eP	P	13 11 18.8	-0.2
	comp=Z,21nm,0.9s,mb5.2						
KOLN	Koldanda	50.05	281	eP	P	13 11 23.7	-0.2
	comp=Z,14nm,1.1s,mb4.9						
WRAB	Tennant Creek	51.90	189	eP	P	13 11 37.5	-0.6
	comp=Z,23nm,0.8s,mb5.2						
WB2	Warramunga Arr	51.91	189	eP	P	13 11 37.9	-0.2
WRA	Warramunga Arr	51.91	189	P	P	13 11 37.8	-0.4
	comp=Z,10nm,0.8s,mb4.8,baz=7.9,slow=7.9,SNR=81						
WRA				PcP	PcP	13 12 52.1	+1.2
	comp=Z,1.6nm,0.7s,baz=3.3,slow=4.0,SNR=3.4						
WRA	Warramunga Arr	51.91	189	P	P	13 11 37.8	-0.3
WRA						13 12 52.1	
WRA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
WRA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ILAR	Eielson Array	53.86	30	P	P	13 11 51.0	-1.0
	comp=Z,2.9nm,0.8s,mb4.2,baz=262,slow=6.1,SNR=32						
ILAR	Eielson Array	53.86	30	P	P	13 11 51.0	-1.0
ILAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
VOSK	Vostochnaya	54.03	315	P	P	13 11 52.7	-0.6
VOSK				pmax	pmax		
	comp=Z,8.0nm,1.5s,mb4.4						
BVA0	Borovoye Array	54.35	315	i P	P	13 11 55.8	+0.1
BRVK	Borovoye	54.41	315	eP	P	13 11 55.4	-0.7
	comp=Z,7.7nm,1.1s,mb4.5						
ZRNK	Zerenda	55.19	315	P	P	13 12 01.2	-0.7
ZRNK				pmax	pmax		
	comp=Z,7.0nm,1.4s,mb4.5						
ZRNK	Zerenda	55.19	315	eP	P	13 12 01.1	-0.8
	comp=Z,9.4nm,1.3s,mb4.7						
ASAR	Alice Springs	55.64	189	P	P	13 12 05.3	-0.3
	comp=Z,1.9nm,0.7s,mb4.2,baz=14,slow=12,SNR=24						
ASAR				LR	LR	13 37 12.0	
	comp=Z,58nm,19.0s,MS3.7,baz=323,slow=37						
ASPA	Alice Springs	55.64	189	eP	P	13 12 05.6	0.0
INK	Inuvik	58.98	26	P	P	13 12 28.4	-0.2
	comp=Z,6.4nm,1.1s,mb4.6,baz=252,slow=10,SNR=4.2						
INK	Inuvik	58.98	26	P	P	13 12 28.4	-0.2
INK				pmax	pmax		
	comp=Z,6.0nm,1.1s						
INK	Inuvik	58.98	26	P	P	13 12 27.5	-1.2
	comp=Z,8.4nm,1.0s,mb4.7						
ARU	Arti	60.48	321	⇑iP	P	13 12 38.2	-0.8
ARU				e		13 13 21.1	
ARU				e		13 14 50.2	
ARU				eS	S	13 20 53.0	+0.6
ARU				eSS	SS	13 24 51.2	-0.6
ARU				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
ARU	Arti	60.48	321	eP	P	13 12 37.5	-1.5
	comp=Z,3.8nm,0.6s,mb4.6						
FINES	FINESS Array B	73.56	333	P	P	13 14 03.0	+1.6
	comp=Z,3.0nm,0.9s,mb4.2,baz=72,slow=4.4,SNR=3.0						
FINES	FINESS Array B	73.56	333	P	P	13 14 03.0	+1.5
FINES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ZEI	Tsey	74.34	311	eP	P	13 14 02.0	-4.4
ZEI				MLR	MLR		
	comp=Z,100nm,18.0s,MS4.2						
KIV	Kislovodsk	74.54	312	eP	P	13 14 08.1	+0.6
KIV				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.5						
SOC	Sochi	76.58	313	eP	P	13 14 19.0	-0.2
SOC				e		13 14 31.6	
SOC				eS	S	13 23 58.6	-5.1
SOC				ePS	PS	13 24 21.7	-22
SOC				e		13 24 29.8	
SOC				eSS	SS	13 28 53.4	-8.6
SOC				eSSS	SSS	13 32 19.9	+2.3
SOC				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.8						
SOC				pmax	pmax		
	comp=N,8.0nm,0.5s						
SOC				pmax	pmax		
	comp=E,9.0nm,0.8s						
SOC				MLR	MLR		
	comp=Z,89nm,14.0s,MS4.2						
SOC				MLR	MLR		
	comp=N,130nm,17.0s,MS4.3						
SOC				MLR	MLR		
	comp=E,34nm,17.0s,MS4.3						
HRY	Holter Researc	77.65	42	eP	P	13 14 24.1	-0.9
HLID	Hailey	77.81	46	eP	P	13 14 27.1	+1.2
	comp=E,2.0nm,0.8s,mb4.1						
AKASG	Malin Array Be	78.59	323	P	P	13 14 30.5	+0.5
	comp=E,1.1nm,0.6s,mb4.0,baz=44,slow=5.4,SNR=4.5						
AKASG	Malin Array Be	78.59	323	P	P	13 14 30.5	+0.5
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NB2	NORSAR Subarra	79.10	338	P	P	13 14 30.7	-1.9
	comp=Z,5.1nm,1.0s,mb4.4,baz=42,slow=5.6						
NOA	NORSAR Array B	79.10	338	P	P	13 14 31.7	-1.0
	comp=Z,1.9nm,0.8s,mb4.1,baz=40,slow=5.3,SNR=4.5						
NOA	NORSAR Array B	79.10	338	P	P	13 14 31.7	-0.9
NOA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
IMW	Indian Meadow	79.74	45	P	P	13 14 35.1	-1.3
HWUT	Hardware Ranch	80.65	47	eP	P	13 14 42.6	+1.3
	comp=Z,5.2nm,0.9s,mb4.5						
PDAR	Pinedale Array	81.21	45	P	P	13 14 45.2	+1.0
	comp=Z,1.3nm,0.8s,mb3.9,baz=297,slow=3.3,SNR=11						
NEN	Nelson	81.81	53	eP	P	13 14 47.6	0.0
MVU	Marysvale	81.98	50	eP	P	13 14 49.5	+1.1
	comp=Z,3.0nm,1.0s,mb4.2						
MSU	Marysvale	82.00	50	eP	P	13 14 49.8	+1.4
BRTR	Keskin Array B	82.50	312	P	P	13 14 52.6	+1.6
	comp=Z,0.9nm,0.7s,mb3.9,baz=104,slow=5.1,SNR=7.2						
BRTR	Keskin Array B	82.50	312	P	P	13 14 52.6	+1.5
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SRU	San Rafael	82.72	48	P	P	13 14 52.5	+0.3
PV10	Paradox Valley	84.09	48	eP	P	13 14 59.4	+0.2
PV01	Paradox Valley	84.53	48	eP	P	13 15 01.4	0.0
RW3	Ridgway	85.02	48	eP	P	13 15 04.2	+0.3
SCHQ	Schefferville	90.31	16	P	P	13 15 30.7	+1.7
	comp=Z,1.8nm,0.7s,mb4.5,baz=219,slow=17,SNR=3.1						
SCHQ	Schefferville	90.31	16	P	P	13 15 30.7	+1.7
WMOK	Wichita Mounta	92.78	46	P	P	13 15 40.1	-0.8
	comp=Z,1.9nm,0.7s,mb4.6						
LTX	Lajitas	93.14	53	eP	P	13 15 43.8	+1.1
	comp=Z,8.3nm,0.8s,mb5.2						
TXAR	Lajitas Array	93.14	53	P	P	13 15 44.1	+1.5
	comp=Z,3.8nm,0.8s,mb4.9,baz=297,slow=2.8,SNR=27						
VAE	Valguarnera	95.31	321	LR	LR	14 01 48.3	
	comp=Z,230nm,18.2s,MS4.7,baz=351,slow=37						
SNAA	Sanae	135.78	195	⇑i	PKPdf	13 22 01.8	+11
VNA2	Neumayer--Watz	137.33	194		PKPdf	13 22 04.2	+11
SAML	Samuel	147.62	51	ePKPbc	PKPdf	13 22 13.3	+0.6
LPAZ	La Paz	148.85	67	PKPbc	PKPdf	13 22 18.6	+3.9
	comp=Z,1.6nm,0.9s,baz=249,slow=2.9,SNR=6.2						
LPAZ	La Paz	148.85	67	PKP2	PKPab	13 22 18.6	-2.8
LPAZ				pmax	pmax		
	comp=Z,2.0nm,0.9s						

MEX 28 13:17:20.8±0.6**, 15.89N**×**95.70W, h52**^{km}±14^{km}**, MD3.7, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HUIG	Huatulco	0.41	253	i P	P	13 17 29.7	-1.6
HUIG				i S	S	13 17 36.8	-2.1
CMIG	Matias Romero	1.43	33	i P	P	13 17 43.1	-1.8
CMIG				i S	S	13 17 59.7	-3.0
OXX	Oaxaca	1.54	320	i P	P	13 17 43.0	-3.4
OXX				i S	S	13 18 03.0	-2.4

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*IDC **28** 13:24:13.0±3.2, 24.68S×179.96E, h486^{km}±31^{km}, mb3.6/8, mb1 3.8/9, mb1mx3.7/13, Error ellipse: s-maj=25.2km s-min=20.1km az=35.0*

*NEIC **28** 13:24:18.1±2.3, 24.71S×179.75E, h541^{km}±23^{km}, mb4.2/14, Error ellipse: s-maj=22.3km s-min=11.2km az=216.0*

ISC 28 13:24:17.6±3.1**, 24.6S**±0.1×**179.7E**±0.2**, h549**^{km}±35^{km}**, n29,** σ**0**^{s}.**89**/28**, mb4.1**/18**, 3D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	Urewera	13.76	189	P	P	13 27 13.7	-0.5
	0.6nm,0.3s,baz=28,slow=18,SNR=3.2						
URZ				S	S	13 29 37.9	+1.4
	1.0nm,0.3s,baz=67,slow=16,SNR=6.6						
RPZ	Rata Peaks	20.31	198	P	P	13 28 15.7	-1.6
	34nm,1.2s,baz=24,slow=5.1,SNR=4.4						
CNB	Canberra Magne	28.25	241	eP	P	13 29 29.2	+0.8
	18nm,1.4s,mb4.5						
CTA	Charters Tower	31.22	272	eP	P	13 29 54.8	+0.9
	11nm,0.3s,mb4.8						
CTA				ePKPPKP		14 03 01.1	
CTAO	Charters Tower	31.22	272	eP	P	13 29 54.6	+0.7
	19nm,0.4s,mb5.0						
TOO	Toolangi	31.83	238	eP	P	13 29 59.6	+0.7
	1.8nm,0.6s,mb3.8						
STKA	Stephens Creek	34.20	249	⇓iP	P	13 30 19.6	+0.7
	2.9nm,0.4s,mb4.2						
STKA				i PKPPKP		14 02 38.2	
STKA	Stephens Creek	34.20	249	P	P	13 30 19.6	+0.7
	5.2nm,0.6s,mb4.3,baz=88,slow=9.0,SNR=20						
ASAR	Alice Springs	41.65	262	P	P	13 31 19.9	+0.3
	2.3nm,0.4s,mb4.0,baz=88,slow=7.0,SNR=75						
ASPA	Alice Springs	41.66	261	eP	P	13 31 19.8	+0.1
WB2	Warramunga Arr	42.08	267	⇓iP	P	13 31 22.9	-0.2
WRAB	Tennant Creek	42.09	267	eP	P	13 31 22.6	-0.5
	7.0nm,0.4s,mb4.5						
WRA	Warramunga Arr	42.09	267	P	P	13 31 23.0	-0.2
	6.8nm,0.4s,mb4.5,baz=103,slow=8.0,SNR=17						
WRA				ScP		13 36 11.2	
	0.8nm,0.7s,baz=98,slow=3.8,SNR=9.2						
FORT	Forrest	45.81	250	⇓iP	P	13 31 51.1	-0.9
	42nm,0.6s,mb5.1						
KAKA	Kakadu	46.15	276	eP	P	13 31 58.3	+3.5
	22nm,1.2s,mb4.5						
FITZ	Fitzroy Crossi	50.51	266	eP	P	13 32 27.3	-0.1
	4.7nm,0.6s,mb4.0						
FITZ				ePKPPKP		14 02 40.5	
FITZ	Fitzroy Crossi	50.51	266	P	P	13 32 28.2	+0.8
	7.8nm,0.8s,mb4.1,baz=169,slow=5.8,SNR=23						
SBA	Scott Base	53.63	183	P	P	13 32 49.2	+0.1
	2.6nm,1.0s,mb3.5						
KLBR	Kellerberrin	54.46	248	eP	P	13 32 54.6	-0.9
	7.5nm,0.8s,mb4.1						
NWAO	Narrogin (SRO)	54.69	246	P	P	13 32 55.3	-1.8
	2.0nm,0.7s,mb3.5						
MBWA	Marble Bar	54.98	261	eP	P	13 32 58.4	-1.0
	3.8nm,0.6s,mb3.8						
QSPA	South Pole Qui	65.45	180	eP	P	13 34 07.3	-0.2
	1.6nm,0.7s,mb3.6						
MAW	Mawson	76.97	201	eP	P	13 35 14.8	+0.4
	1.2nm,0.5s,mb3.6						
MAW	Mawson	76.97	201	P	P	13 35 14.8	+0.4
	1.7nm,0.6s,mb3.6,baz=127,slow=7.5,SNR=13						
SNAA	Sanae	83.94	179	P	P	13 35 50.0	-0.2
	0.1nm,0.5s,baz=290,slow=0.6,SNR=3.3						
CMAR	Chiang Mai Arr	89.53	290	P	P	13 36 19.6	+1.6
	1.2nm,0.9s,mb3.7,baz=150,slow=2.0,SNR=6.5						
TXAR	Lajitas Array	91.05	58	P	P	13 36 25.1	+0.3
	0.2nm,0.3s,mb3.5,baz=231,slow=5.8,SNR=3.3						
AKASG	Malin Array Be	145.44	326	PKPbc	PKPbc	13 42 54.8	+1.1
	0.7nm,0.5s,baz=42,slow=4.3,SNR=4.9						
BRTR	Keskin Array B	147.80	306	PKPbc	PKPdf	13 43 02.8	+6.0
	1.0nm,0.6s,baz=135,slow=1.7,SNR=2.8						

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*IDC **28** 13:29:40.3±0.6, 12.92S×14.52W, mb4.2/15, mb1 4.3/15, mb1mx4.2/20, MS3.9/2, Ms1 3.9/2, ms1mx3.6/22, Error ellipse: s-maj=21.2km s-min=15.9km az=139.0*

*NEIC **28** 13:29:41.7±0.3, 12.85S×14.52W, h10^{km}, mb4.7/13, MS4.5/1, Error ellipse: s-maj=10.6km s-min=7.4km az=127.0*

ISC 28 13:29:40.0±0.5**, 12.74S**±0.08×**14.50W**±0.09**, h10**^{km}**, n46,** σ**0**^{s}.**94**/42**, mb4.4**/30**, MS3.9**/2**, Southern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LIC	Lamto	21.06	27	eP	P	13 34 25.6	-1.3
	61nm,1.4s,mb4.8						
LIC	Lamto	21.06	27	eP	P	13 34 27.7	+0.8
	32nm,1.4s,mb4.5						
KIC	Kosan Boka	21.31	28	eP	P	13 34 28.1	-1.3
	48nm,1.0s,mb4.8						
TIC	Toumodi	21.44	27	eP	P	13 34 26.1	-4.6
	65nm,1.1s,mb4.9						
DBIC	Dimbokro	21.54	27	P	P	13 34 34.3	+2.7
	4.3nm,0.9s,mb3.9,baz=188,slow=13,SNR=4.1						
DBIC				LR	LR	13 41 00.5	
	comp=Z,609nm,19.9s,MS4.0,baz=186,slow=31						
TSUM	Tsumeb	31.48	106	P	P	13 36 04.6	+0.3
	0.6nm,0.5s,mb3.7,baz=105,slow=24,SNR=3.1						
BDFB	Brasilia	32.60	261	P	P	13 36 13.4	-0.7
	14nm,1.1s,mb4.8,baz=87,slow=7.4,SNR=6.0						
SUR	Sutherland	37.77	127	P	P	13 36 52.3	-5.8
	25nm,1.1s,mb4.9						
LSZ	Lusaka	41.45	99	P	P	13 37 29.1	+0.3
	8.1nm,1.1s,mb4.3						
CPUP	Villa Florida	42.37	245	P	P	13 37 36.9	+0.6
	1.5nm,0.8s,mb3.7,baz=94,slow=12,SNR=3.1						
SAML	Samuel	47.91	269	eP	P	13 38 16.6	-4.2
	7.5nm,1.1s,mb4.6						
LPAZ	La Paz	51.92	259	P	P	13 38 51.7	+0.2
	2.2nm,1.0s,mb4.0,baz=85,slow=10,SNR=6.8						
LPAZ	La Paz	51.92	259	P	P	13 38 51.7	+0.2
ETSF	Etsaut	56.82	12	eP	P	13 39 27.2	+0.1
	42nm,1.8s,mb4.9						
SJPF	Ste Jean	56.90	12	eP	P	13 39 27.4	-0.2
LMR	La Mourre	59.02	18	eP	P	13 39 42.1	-0.4
SNAA	Sanae	59.32	176	P	P	13 39 41.2	-3.0
	2.1nm,1.0s,mb4.1,baz=348,slow=7.8,SNR=9.7						
SNAA				LR	LR	13 59 08.3	
	comp=Z,61nm,20.5s,MS3.7,baz=167,slow=30						
RJF	Les Rejaudoux	59.56	13	eP	P	13 39 46.0	-0.2
	4.7nm,0.5s,mb4.5						
RJF				eR			
	318nm,19.2s						
SDV	Santo Domingo	59.76	288	P	P	13 39 47.9	0.0
	5.2nm,0.9s,mb4.6						
SBF	Sospel	59.78	18	eP	P	13 39 46.4	-1.3
ORIF	Oris-en-Rattie	60.29	17	eP	P	13 39 50.9	-0.3
	9.5nm,0.8s,mb4.5						
ORIF				eR			
	406nm,22.2s						
MBDF	Montbardon	60.37	17	eP	P	13 39 51.4	-0.3
	5.0nm,0.8s,mb4.3						
IDI	Anoyia	60.60	37	P	P	13 39 52.4	-1.0
	14nm,1.1s,mb5.0,baz=248,slow=5.4,SNR=2.9						
TCF	Toulx Ste Croi	60.65	13	eP	P	13 39 53.0	-0.6
LPG	La Plagne	61.07	17	eP	P	13 39 56.6	+0.2
LPL	La Plagne	61.08	17	eP	P	13 39 56.2	-0.3
SMF	Signal de Mont	61.37	14	eP	P	13 39 57.8	-0.7
AVF	Avril sur Loir	61.38	14	eP	P	13 39 58.0	-0.6
	6.5nm,0.7s,mb4.6						
ROSF	Rostrenen	61.62	8	eP	P	13 40 00.0	-0.2
	152nm,1.6s,mb5.6						
CABF	La Chapelle	61.91	16	eP	P	13 40 01.4	-0.7
	24nm,1.1s,mb5.0						
ROSC	El Rosal	61.95	283	P	P	13 40 02.6	-0.3
	7.5nm,0.5s,mb5.1,baz=140,slow=18,SNR=2.7						
GERES	GERESS Array B	66.20	20	P	P	13 40 31.2	+1.1
	0.3nm,0.3s,mb3.9,baz=202,slow=7.2,SNR=5.0						
MOX	Moxa	67.12	18	eP	P	13 40 36.0	0.0
BRTR	Keskin Array B	68.74	38	P	P	13 40 48.2	+2.0
	1.1nm,0.9s,mb3.8,baz=196,slow=9.0,SNR=5.1						
MAW	Mawson	73.49	157	P	P	13 41 14.1	-0.2
	4.8nm,1.1s,mb4.3,baz=288,slow=6.7,SNR=4.7						
MAW	Mawson	73.49	157	ePKIKP	P	13 41 13.6	-0.7
AKASG	Malin Array Be	73.78	27	P	P	13 41 16.4	+0.1
	1.5nm,0.6s,mb4.1,baz=228,slow=6.3,SNR=11						
NOA	NORSAR Array B	76.33	13	P	P	13 41 32.3	+1.6
	2.5nm,1.1s,mb4.1,baz=89,slow=2.9,SNR=2.9						
QSPA	South Pole Qui	77.41	180	eP	P	13 41 36.9	+0.4
	6.9nm,0.7s,mb4.7						
FINES	FINESS Array B	80.57	18	P	P	13 41 55.6	+1.7
	2.1nm,0.7s,mb4.2,baz=236,slow=5.0,SNR=3.3						
TXAR	Lajitas Array	95.42	299	P	P	13 43 08.1	+1.5
	0.3nm,0.7s,mb3.8,baz=135,slow=6.4,SNR=3.0						
TXAR	Lajitas Array	95.42	299	P	P	13 43 08.1	+1.5
CMAR	Chiang Mai Arr	115.94	76	PKP	PKPdf	13 48 25.6	-1.4
	0.4nm,0.3s,baz=225,slow=4.5,SNR=4.1						
FITZ	Fitzroy Crossi	130.14	127	PKP	PKPdf	13 48 53.2	-1.3
	4.4nm,1.2s,baz=307,slow=5.5,SNR=4.5						
ASAR	Alice Springs	132.42	139	PKP	PKPdf	13 48 57.8	-1.0
	0.6nm,0.7s,baz=215,slow=1.6,SNR=8.5						
WRA	Warramunga Arr	135.33	136	PKP	PKPdf	13 49 02.3	-1.9
	0.3nm,0.7s,baz=242,slow=2.3,SNR=7.7						

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*IDC **28** 13:39:49.0±0.5, 12.86S×14.66W, mb4.3/20, mb1 4.3/20, mb1mx4.3/22, MS4.4/4, Ms1 4.4/4, ms1mx4.1/18, Error ellipse: s-maj=17.0km s-min=14.9km az=142.0*

*BJI **28** 13:39:49.5, 12.80S×14.70W, h10^{km}, mB5.4, Ms4.7, Msz4.7*

*NEIC **28** 13:39:50.6±0.3, 12.83S×14.69W, h10^{km}, mb4.9/20, Error ellipse: s-maj=10.1km s-min=7.8km az=123.0*

*HRVD **28** 13:39:50.6±0.3, 12.87S×14.65W, h12^{km}, MW5.1/69, Centroid moment Tensor Solution. LP body waves: s37,c58;Mantle waves: s69,c115; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M$_{rr}$-4.83±.19; M$_{\theta\theta}$0.02±.22; M$_{\phi\phi}$4.81±.17; M$_{r\theta}$0.32±.61; M$_{\theta\phi}$-0.61±.17; M$_{\phi r}$1.58±.50; Best double couple: M$_0$5.12×10^{16} NP1: φ$_s$347°,δ37°,λ-99°. NP2:φ$_s$179°,δ54°,λ-83°. Principal axes: T 5.12, Plg9°, Azm264°; N -.01, Plg6°, Azm355°; P -5.12, Plg80°, Azm117°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*SYO **28** 13:39:50.5, 12.80S×14.73W, h10^{km}, MB4.8*

ISC 28 13:39:48.9±0.3**, 12.77S**±0.06×**14.67W**±0.07**, h10**^{km}**, n64,** σ**0**^{s}.**95**/54**, mb4.5**/41**, MS4.5**/5**, 2C-2D, Southern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LIC	Lamto	21.16	27	eP	P	13 44 37.6	+0.8
	286nm,1.8s,mb5.0						
LIC	Lamto	21.16	27	ePKIKP	P	13 44 38.7	+1.9
	196nm,1.8s,mb5.1						
KIC	Kosan Boka	21.41	28	ePKIKP	P	13 44 38.8	-0.5
	291nm,1.6s,mb5.3						
TIC	Toumodi	21.54	27	ePKIKP	P	13 44 38.9	-1.7
	128nm,1.2s,mb5.2						
DBIC	Dimbokro	21.63	27	P	P	13 44 41.6	+0.1
	5.2nm,0.7s,mb4.0,baz=191,slow=15,SNR=7.7						
DBIC	Dimbokro	21.63	27	P	P	13 44 38.9	-2.6
	8.5nm,0.8s,mb4.2						
BDFB	Brasilia	32.43	261	P	P	13 46 22.4	+0.7
	11nm,1.0s,mb4.6,baz=85,slow=6.3,SNR=7.9						
SUR	Sutherland	37.89	127	P	P	13 47 07.0	-1.1
	7.9nm,1.1s,mb4.4,baz=14,slow=21,SNR=2.5						
SUR				LR	LR	13 58 59.8	
	comp=Z,821nm,21.7s,MS4.5,baz=45,slow=30						
LSZ	Lusaka	41.61	99	eP	P	13 47 39.5	+0.4
	7.6nm,1.3s,mb4.2						
CPUP	Villa Florida	42.21	245	P	P	13 47 44.7	+0.7
	2.7nm,0.9s,mb3.9,baz=95,slow=7.4,SNR=4.6						
CPUP	Villa Florida	42.21	245	eP	P	13 47 44.1	+0.1
	7.3nm,1.0s,mb4.3						
NWL	Newcastle	44.18	117	eP	P	13 48 01.5	+1.5
NWL				eS	Px	13 48 22.9	
NWL				e		13 48 25.6	
	comp=Z,125nm,0.3s						
SAML	Samuel	47.74	269	P	P	13 48 23.1	-5.4
	comp=Z,12nm,1.2s,mb4.8						
EVO	Evora	51.41	7	eP	P	13 48 56.2	-0.1
	comp=Z,7.2nm,0.7s,mb4.4						
LPAZ	La Paz	51.76	259	P	P	13 48 59.2	0.0
	comp=Z,1.3nm,0.8s,mb3.9,baz=77,slow=16,SNR=4.5						
LPAZ	La Paz	51.76	259	P	P	13 48 59.2	0.0
KMBO	Kilima Mbogo	52.71	82	P	P	13 49 06.7	+0.3
	comp=Z,1.0nm,0.7s,mb3.9,baz=42,slow=23,SNR=4.1						
ESDC	Sonseca Array	53.11	10	P	P	13 49 09.3	+0.2
	comp=Z,0.4nm,0.3s,mb3.8,baz=180,slow=5.9,SNR=4.3						
MTE	Manteigas	53.30	7	eP	P	13 49 08.8	-1.7
	comp=Z,26nm,1.2s,mb5.0						
SJPF	Ste Jean	56.95	12	eP	P	13 49 37.0	+0.1
	comp=Z,6.3nm,0.7s,mb4.5						
SNAA	Sanae	59.31	176	⇓i	P	13 49 50.8	-2.3
SNAA	Sanae	59.31	176	P	P	13 49 51.3	-1.8
	comp=Z,1.3nm,0.9s,mb3.9,baz=340,slow=6.8,SNR=11						
SJG	San Juan	59.34	300	P	P	13 49 52.9	-1.0
	comp=Z,16nm,0.2s,mb5.7,baz=306,slow=17,SNR=1.8						
FRF	La Foret Royal	59.34	18	eP	P	13 49 53.8	+0.2
	comp=Z,12nm,0.6s,mb4.8						
SDV	Santo Domingo	59.61	288	eP	P	13 49 53.1	-2.8
	comp=Z,25nm,1.4s,mb5.0						
ORIF	Oris-en-Rattie	60.36	17	eP	P	13 50 00.8	+0.2
MBDF	Montbardon	60.44	17	eP	P	13 50 01.5	+0.3
	comp=Z,8.3nm,0.8s,mb4.5						
TCF	Toulx Ste Croi	60.71	13	eP	P	13 50 02.8	-0.2
	comp=Z,7.3nm,0.8s,mb4.6						
LPG	La Plagne	61.14	17	eP	P	13 50 06.5	+0.6
LPL	La Plagne	61.15	17	eP	P	13 50 06.7	+0.7
SSF	Saint Saulge	61.74	14	eP	P	13 50 09.5	-0.4
ROSC	El Rosal	61.80	283	P	P	13 50 10.0	-0.8
	comp=Z,6.6nm,0.3s,mb5.2,baz=179,slow=20,SNR=2.7						
CABF	La Chapelle	61.98	16	eP	P	13 50 10.9	-0.6
	comp=Z,25nm,1.0s,mb5.0						
LOR	Lormes	62.02	14	eP	P	13 50 11.2	-0.6
	comp=Z,27nm,1.3s,mb4.9						
GRR	Gorron	62.11	10	eP	P	13 50 11.8	-0.6
SYO	Syowa Base	65.79	161	⇓P	P	13 50 34.1	-2.0
SYO	Syowa Base	65.79	161	⇑pP	pP	13 50 35.7	-3.5
SYO	Syowa Base	65.79	161	⇑sP	sP	13 50 36.6	-3.7
GRA1	Grafenberg Arr	66.23	18	eP	P	13 50 39.5	+0.2
	comp=Z,4.0nm,0.8s,mb4.5						
GERES	GERESS Array B	66.28	20	P	P	13 50 39.0	-0.6
	comp=Z,0.3nm,0.3s,mb3.8,baz=117,slow=3.0,SNR=4.8						
MOX	Moxa	67.19	18	i P	P	13 50 45.5	+0.1
	comp=Z,logA/T=1.2,mb5.0						
MOX	Moxa	67.19	18	eP	P	13 50 45.5	+0.1
	comp=Z,32nm,2.0s,mb5.0						
EKA	Eskdalemuir Ar	68.53	7	P	P	13 50 53.6	0.0
	comp=Z,4.0nm,0.9s,mb4.3,baz=180,slow=5.0,SNR=4.9						
BRTR	Keskin Array B	68.86	38	P	P	13 50 57.5	+1.5
	comp=Z,1.2nm,0.9s,mb3.8,baz=191,slow=6.3,SNR=6.0						
JTS	JuntasAbangare	73.44	285	P	P	13 51 24.4	+0.3
	comp=Z,2.0nm,0.4s,mb4.4,baz=312,slow=22,SNR=2.3						
MAW	Mawson	73.53	157	P	P	13 51 23.6	+0.1
	comp=Z,1.9nm,0.8s,mb4.1,baz=267,slow=9.2,SNR=6.8						
AKASG	Malin Array Be	73.88	27	P	P	13 51 25.3	-0.5
	comp=Z,3.3nm,0.9s,mb4.3,baz=227,slow=6.4,SNR=6.9						
NOA	NORSAR Array B	76.39	13	P	P	13 51 40.8	+0.8
	comp=Z,1.1nm,0.8s,mb3.8,baz=104,slow=20,SNR=2.5						
QSPA	South Pole Qui	77.39	180	eP	P	13 51 45.9	+0.7
	comp=Z,13nm,1.3s,mb4.7						
SCHQ	Schefferville	80.38	332	P	P	13 52 02.1	+0.1
	comp=Z,5.8nm,1.0s,mb4.5,baz=281,slow=7.9,SNR=2.5						
FINES	FINESS Array B	80.64	19	P	P	13 52 04.7	+1.5
	comp=Z,3.6nm,1.0s,mb4.2,baz=207,slow=4.3,SNR=4.4						
FINES				LR	LR	14 29 22.7	
	comp=Z,174nm,19.6s,MS4.4,baz=218,slow=37						
ARCES	ARCESS Array B	86.75	13	LR	LR	14 30 08.2	
	comp=Z,242nm,18.6s,MS4.6,baz=216,slow=35						
CCM	Cathedral Cave	87.48	310	eP	P	13 52 39.0	+0.6
	comp=Z,24nm,1.2s,mb5.3						
SBA	Scott Base	89.54	180	eP	P	13 52 48.0	+0.7
	comp=Z,8.7nm,1.0s,mb5.0						
WMOK	Wichita Mounta	92.41	305	P	P	13 53 01.2	-0.3
	comp=Z,3.6nm,1.0s,mb4.7						
TXAR	Lajitas Array	95.28	299	P	P	13 53 16.1	+1.2
	comp=Z,1.0nm,0.9s,mb4.2,baz=112,slow=6.7,SNR=4.6						
TXAR				LR	LR	14 34 24.4	
	comp=Z,116nm,20.4s,MS4.3,baz=50,slow=34						
SDCO	Great Sand Dun	98.34	307	eP	P	13 53 30.5	+2.0
	comp=Z,7.7nm,1.4s,mb5.0						
STKA	Stephens Creek	130.12	153	PKP	PKPdf	13 58 59.0	-4.1
	comp=Z,1.0nm,0.7s,baz=36,slow=4.9,SNR=2.5						
STKA	Stephens Creek	130.12	153	PKP	PKPdf	13 58 59.0	-4.1
ASAR	Alice Springs	132.51	140	PKP	PKPdf	13 59 06.0	-1.8
	comp=Z,0.4nm,0.7s,baz=216,slow=1.1,SNR=5.4						
CN2	Changchun	133.91	40	ePKP	PKPdf	13 59 09.0	-0.7
WRA	Warramunga Arr	135.43	136	PKhKP		13 59 08.4	
	comp=Z,0.5nm,0.8s,baz=224,slow=2.6,SNR=3.5						
WRAB	Tennant Creek	135.44	136	PKPdf	PKPdf	13 59 13.0	-0.3
MDJ	Mudanjiang	135.99	37	PKP	PKPdf	13 59 10.0	-3.7
MDJ				PP	PP	14 01 50.0	-3.6
MDJ				PP	PP		
	comp=Z,87nm,4.6s						
MDJ				LR	LR		
	comp=E,97nm,24.1s						
MDJ				LR	LR		
	comp=Z,138nm,22.7s,MS4.6						

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*IDC **28** 13:43:25.4±0.5, 13.04S×15.24W, mb4.5/24, mb1 4.6/24, mb1mx4.6/24, MS4.6/14, Ms1 4.6/14, ms1mx4.5/19, Error ellipse: s-maj=18.2km s-min=15.3km az=124.0*

*MOS **28** 13:43:25.5±1.1, 12.98S×15.21W, h10^{km}, mb5.0/18, MS4.7/9, Error ellipse: s-maj=20.2km s-min=8.8km az=65.2*

*SYO **28** 13:43:25.5, 13.30S×15.02W, h10^{km}, MB5.4, MS4.8*

BJI **28** *13:43:26.1, 13.20S×15.10W, h10^km^, mB5.3, Ms5.1, Msz5.1*

HRVD **28** *13:43:26.1±0.2, 12.86S×14.55W, h12km, MW5.2/69, Centroid moment Tensor Solution. LP body waves: s47,c72;Mantle waves: s69,c132; Half duration:* $1^{s}0$ *Moment tensor: Scale* 10^{17}*Nm;* M_{rr}*-0.79±.02;* $M_{\theta\theta}$*-0.04±.02;* $M_{\phi\phi}$*0.83±.02;* $M_{r\theta}$*0.16±.07;* $M_{\theta\phi}$*-0.09±.02;* $M_{\phi r}$*-0.06±.06; Best double couple:* M_0*.83×*10^{17} *NP1:* ϕ_s*185°,δ43°,λ-74°. NP2:*ϕ_s*343°,δ49°,λ-105°. Principal axes: T .84, Plg3°, Azm84°; N -.02, Plg11°, Azm353°; P -.82, Plg78°, Azm188°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC **28** *13:43:26.1±0.2, 13.24S×15.06W, h10km, mb5.4/79, MS4.8/18 Error ellipse: s-maj=7.9km s-min=5.4km az=122.0*

ISC 28 13:43:24.6±0.3**, 13.12S**±0.05×**15.10W**±0.06**, h10km, n247,** σ **$0^{s}97$**/225**, mb5.2**/108**, MS4.7**/29**, 6C-5D, Southern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LIC	**Lamto**	21.66	28	*e*P	P	13 48 17.3	-0.2
	649nm,1.9s,mb5.7						
LIC	**Lamto**	21.66	28	*e*P	P	13 48 17.9	+0.4
	222nm,1.4s,mb5.4						
RCBR	**Riachuelo**	21.75	288	*e*P	P	13 48 18.8	+0.4
	241nm,1.7s,mb5.3						
KIC	**Kosan Boka**	21.91	29	*e*P	P	13 48 17.5	-2.5
	914nm,1.8s,mb5.9						
TIC	**Toumodi**	22.04	28	*e*P	P	13 48 14.1	-7.2
	187nm,0.9s,mb5.5						
DBIC	**Dimbokro**	22.13	28	P	P	13 48 19.4	-2.8
	14nm,1.0s,mb4.4,baz=186,slow=11,SNR=10.0						
DBIC				LR	LR	13 54 47.0	
	comp=Z,2µm,19.7s,MS4.4,baz=185,slow=31						
DBIC	**Dimbokro**	22.13	28	*e*P	P	13 48 18.4	-3.8
	52nm,0.9s,mb5.0						
DBIC				*e*		13 48 29.9	
TSUM	**Tsumeb**	31.93	105	P	P	13 49 51.5	-1.5
	3.6nm,0.9s,mb4.2,baz=286,slow=9.4,SNR=3.8						
TSUM				LR	LR	13 59 37.9	
	comp=Z,1µm,21.1s,MS4.6,baz=296,slow=30						
TSUM	**Tsumeb**	31.93	105	*e*P	P	13 49 52.2	-0.7
	8.1nm,1.1s,mb4.5						
BDFB	**Brasilia**	31.97	261	P	P	13 49 52.6	-0.7
	5.5nm,0.9s,mb4.4,baz=79,slow=5.5,SNR=4.1						
BDFB				LR	LR	14 00 31.6	
	comp=Z,2µm,19.6s,MS4.7,baz=81,slow=32						
SUR	**Sutherland**	38.02	126	P	P	13 50 45.2	+0.4
	13nm,1.0s,mb4.6,baz=197,slow=3.7,SNR=3.7						
SUR	**Sutherland**	38.02	126	*e*P	P	13 50 42.7	-2.1
	26nm,1.1s,mb4.9						
SUR				LR	LR		
	comp=Z,350nm,20.0s,MS4.2						
CPUP	**Villa Florida**	41.68	245	P	P	13 51 13.9	-1.4
	comp=Z,3.3nm,1.1s,mb3.9,baz=202,slow=2.6,SNR=2.8						
CPUP				LR	LR	14 06 36.2	
	comp=Z,1µm,18.1s,MS4.8,baz=113,slow=33						
CPUP	**Villa Florida**	41.68	245	P	P	13 51 15.5	+0.2
	comp=Z,44nm,1.5s,mb4.9						
LSZ	**Lusaka**	41.97	98	P	P	13 51 11.4	-6.4
	comp=Z,15nm,0.9s,mb4.6						
LSZ				LR	LR		
	comp=Z,1µm,21.0s,MS4.8						
MBAR	**Mbarara**	47.07	78	P	P	13 51 56.2	-2.7
	comp=Z,56nm,1.6s,mb5.2						
SAML	**Samuel**	47.33	270	*e*P	P	13 52 01.0	+0.2
	comp=Z,70nm,1.6s,mb5.3						
TRQA	**Tornquist**	48.39	230	P	P	13 52 08.7	-0.1
	comp=Z,52nm,1.5s,mb5.3						
EMIJ	**Mijas**	50.36	11	P	P	13 52 23.0	-1.0
	comp=Z,77nm,1.5s,mb5.5						
ESPR	**Espera**	50.47	10	P	P	13 52 24.4	-0.4
	comp=Z,88nm,1.6s,mb5.5						
ERON	**Agron**	50.98	12	P	P	13 52 29.5	+0.8
	comp=Z,18nm,1.0s,mb5.0						
ELOJ	**Sierra Loja**	51.04	11	P	P	13 52 29.9	+0.8
	comp=Z,9.4nm,1.0s,mb4.7						
EMIN	**Mina Concepcio**	51.23	9	P	P	13 52 28.5	-2.1
	comp=Z,57nm,1.4s,mb5.3						
LPAZ	**La Paz**	51.28	260	P	P	13 52 31.1	-0.2
	comp=Z,1.9nm,1.0s,mb4.0,baz=76,slow=9.7,SNR=5.7						
LPAZ				LR	LR	14 11 51.6	
	comp=Z,464nm,21.6s,MS4.5,baz=91,slow=33						
LPAZ	**La Paz**	51.28	260	*e*P	P	13 52 31.2	0.0
	comp=Z,13nm,1.2s,mb4.7						
LPAZ				*e*		13 52 38.8	
ELUQ	**Luque**	51.42	11	P	P	13 52 31.7	-0.3
ELUQ				pP	pP	13 52 39.7	+4.6
EVO	**Evora**	51.80	7	*e*P	P	13 52 35.5	+0.6
	comp=Z,156nm,1.5s,mb5.4						
EVO				*e*R			
	comp=Z,267nm,18.5s						
EQES	**Quesada**	51.89	12	P	P	13 52 35.0	-0.6
EADA	**Adamuz**	51.95	11	P	P	13 52 35.7	-0.4
	comp=Z,69nm,1.5s,mb5.4						
EBAD	**Badajoz**	52.15	8	P	P	13 52 37.2	-0.3
	comp=Z,62nm,1.5s,mb5.3						
EMUR	**La Murta**	52.33	14	P	P	13 52 40.7	+1.8
	comp=Z,52nm,1.7s,mb5.2						
EVIA	**Vianos**	52.81	12	P	P	13 52 42.6	+0.1
	comp=Z,7.3nm,0.9s,mb4.6						
KMBO	**Kilima Mbogo**	53.17	81	P	P	13 52 45.7	+0.1
	comp=Z,3.1nm,1.0s,mb4.2,baz=244,slow=8.5,SNR=6.4						
KMBO				LR	LR	14 11 02.0	
	comp=Z,960nm,21.4s,MS4.8,baz=278,slow=31						
EBEN	**Beniarda**	53.39	14	P	P	13 52 48.1	+1.4
	comp=Z,94nm,2.7s,mb5.2						
ESDC	**Sonseca Array**	53.53	11	P	P	13 52 47.8	0.0
	comp=Z,1.2nm,0.6s,mb4.0,baz=188,slow=7.3,SNR=7.9						
ESDC				LR	LR	14 15 42.6	
	comp=Z,187nm,19.3s,MS4.2,baz=30,slow=36						
ESDC	**Sonseca Array**	53.53	11	P	P	13 52 47.2	-0.6
ESDC				pP	pP	13 52 55.2	+4.3
MTE	**Manteigas**	53.70	7	P	P	13 52 47.1	-1.9
	comp=Z,36nm,1.0s,mb5.3						
EIBI	**Ibiza**	54.09	16	P	P	13 52 54.2	+2.3
	comp=Z,52nm,1.2s,mb5.3						
EMOS	**Mosqueruela**	54.91	14	P	P	13 52 58.7	+0.7
	comp=Z,55nm,1.6s,mb5.3						
ETOR	**Torete**	55.00	12	P	P	13 52 58.0	-0.6
	comp=Z,45nm,1.6s,mb5.2						
ELOB	**Lobios**	55.09	6	P	P	13 52 59.3	+0.1
	comp=Z,151nm,1.4s,mb5.8						
STS	**Santiago**	56.05	6	P	P	13 53 05.3	-0.8
EMAZ	**Mazaricos**	56.07	5	P	P	13 53 06.1	-0.1
	comp=Z,114nm,1.5s,mb5.7						
ESAC	**San Caprasio**	56.21	13	P	P	13 53 07.0	-0.3
	comp=Z,82nm,1.5s,mb5.5						
EPOB	**Poblet**	56.22	15	P	P	13 53 07.2	-0.1
	comp=Z,68nm,1.6s,mb5.4						
EPON	**Pontenova**	56.63	7	P	P	13 53 09.8	-0.5
EMIR	**Miracle**	56.86	15	P	P	13 53 12.4	+0.5
EARI	**Arriondas**	56.86	9	P	P	13 53 12.4	+0.4
	comp=Z,117nm,1.8s,mb5.6						
ELAN	**Lanestosa**	57.08	10	P	P	13 53 13.7	+0.2
	comp=Z,59nm,1.2s,mb5.5						
ETSF	**Etsaut**	57.31	13	*e*P	P	13 53 15.1	0.0
	comp=Z,117nm,1.6s,mb5.4						
SJPF	**Ste Jean**	57.38	12	*e*P	P	13 53 15.5	-0.1
	comp=Z,56nm,1.2s,mb5.2						
VAE	**Valguarnera**	57.46	28	P	P	13 53 19.5	+3.3
	comp=Z,7.6nm,0.4s,mb5.1,baz=115,slow=6.2,SNR=2.7						
MELF	**Melles**	57.58	14	*e*P	P	13 53 17.7	+0.7
LABF	**Labassere**	57.59	13	*e*P	P	13 53 16.7	-0.4
EPF	**Esparros**	57.63	13	*e*P	P	13 53 17.4	0.0
VNA1	**Neumayer--Stat**	57.66	177	⇑*i*	P	13 53 24.7	+7.5
EJON	**La Jonquera**	57.71	16	P	P	13 53 19.6	+1.7
	comp=Z,33nm,1.3s,mb5.2						
MLS	**Moulis**	57.74	14	*e*P	P	13 53 18.7	+0.6
VNA2	**Neumayer--Watz**	57.97	177	⇑*i*	P	13 53 25.0	+5.6
VNA3	**Neumayer Olymp**	58.19	178	⇑*i*	P	13 53 28.4	+7.5
MTLF	**Montolieu**	58.37	15	*e*P	P	13 53 21.5	-1.0
SNAA	**Sanae**	59.00	176	⇑*i*	P	13 53 29.3	+2.8
SNAA	**Sanae**	59.00	176	P	P	13 53 28.4	+1.9
	comp=Z,7.1nm,1.1s,mb4.6,baz=344,slow=4.6,SNR=18						
SNAA	**Sanae**	59.00	176	P	P	13 53 28.4	+1.9
SNAA				pmax	pmax		
	comp=Z,7.0nm,1.1s						
SNAA	**Sanae**	59.00	176	P	P	13 53 23.1	-3.4
	comp=Z,46nm,1.3s,mb5.3						
SJG	**San Juan**	59.15	301	P	P	13 53 30.8	+2.5
	comp=Z,7.4nm,0.3s,mb5.2,baz=40,slow=21,SNR=4.2						
SJG	**San Juan**	59.15	301	P	P	13 53 30.8	+2.5
SJG				pmax	pmax		
	comp=Z,7.0nm,0.3s						
SJG	**San Juan**	59.15	301	P	P	13 53 30.8	+2.5
SDV	**Santo Domingo**	59.32	289	P	P	13 53 29.1	-0.5
	comp=Z,62nm,1.3s,mb5.5						
LASF	**Ste Croix**	59.48	16	*e*P	P	13 53 29.6	-0.6
	comp=Z,51nm,1.4s,mb5.1						
LFF	**La Frestale**	59.54	13	*e*P	P	13 53 30.1	-0.5
LMR	**La Mourre**	59.55	18	*e*P	P	13 53 30.0	-0.7
	comp=Z,26nm,1.0s,mb4.9						
PGF	**Pioggiola**	59.65	20	*e*P	P	13 53 30.6	-0.8
	comp=Z,79nm,1.7s,mb5.2						
FRF	**La Foret Royal**	59.80	18	*e*P	P	13 53 31.9	-0.5
CAF	**Calviac**	59.83	14	*e*P	P	13 53 31.8	-0.8
	comp=Z,118nm,1.7s,mb5.3						
SMRF	**Simiane la Rot**	59.86	17	*e*P	P	13 53 32.8	-0.1
CALN	**Calern**	60.05	18	*e*P	P	13 53 34.1	0.0
RJF	**Les Rejaudoux**	60.06	13	*e*P	P	13 53 33.5	-0.7
	comp=Z,142nm,1.5s,mb5.5						
RJF				*e*R			
	comp=Z,684nm,21.2s						
MVIF	**Mont Vial**	60.26	18	*e*P	P	13 53 37.6	+2.0
AURF	**Auriere**	60.30	19	*e*P	P	13 53 36.5	+0.6
TOLF	**Tolfa**	60.31	23	*e*P	P	13 53 35.9	-0.1
SBF	**Sospel**	60.31	19	*e*P	P	13 53 35.4	-0.6
	comp=Z,116nm,1.5s,mb5.4						
LBL	**Lubilhac**	60.40	15	*e*P	P	13 53 37.0	+0.5
VIVF	**Saint-Julien-l**	60.42	16	*e*P	P	13 53 36.5	-0.2
	comp=Z,158nm,1.7s,mb5.5						
AUTN	**L'Aution**	60.43	19	*e*P	P	13 53 37.1	+0.3
SAOF	**Saorge**	60.46	19	*e*P	P	13 53 37.1	+0.1
MRLC	**Muro Lucano**	60.63	26	*e*P	P	13 53 38.0	-0.1
ORIF	**Oris-en-Rattie**	60.81	17	*e*P	P	13 53 39.4	+0.1
	comp=Z,72nm,1.3s,mb5.3						
ORIF				*e*R			
	comp=Z,1µm,20.8s						
PTQR	**Pietraquaria**	60.82	24	*e*P	P	13 53 41.4	+2.0
PYM	**Petit Puy Mans**	60.83	14	*e*P	P	13 53 40.0	+0.6
FIN	**Finale Ligure**	60.87	19	*e*P	P	13 53 40.3	+0.6
MBDF	**Montbardon**	60.90	18	*e*P	P	13 53 40.2	+0.3
	comp=Z,120nm,1.5s,mb5.5						
MFF	**Saint Martin d**	60.94	12	*e*P	P	13 53 39.5	-0.7
	comp=Z,132nm,1.5s,mb5.5						
AQU	**L'Aquila**	61.10	24	*e*P	P	13 53 40.8	-0.5
	comp=Z,190nm,1.4s,mb6.0						
TCF	**Toulx Ste Croi**	61.15	14	*e*P	P	13 53 41.4	-0.2
	comp=Z,156nm,1.6s,mb5.6						
BNI	**Bardonecchia**	61.16	17	P	P	13 53 37.2	-4.5
	comp=Z,62nm,1.4s,mb5.5						
CSNT	**Castellina Chi**	61.26	22	*e*P	P	13 53 42.1	-0.3
ROSC	**El Rosal**	61.47	283	P	P	13 53 44.0	-0.2
	comp=Z,7.4nm,0.3s,mb5.3,baz=126,slow=21,SNR=2.8						
ROSC				LR	LR	14 20 26.1	
	comp=Z,2µm,18.4s,MS5.3,baz=144,slow=36						
BDI	**Bagni Di Lucca**	61.53	21	*e*P	P	13 53 43.6	-0.6
BGF	**Bois d'Agland**	61.55	14	*e*P	P	13 53 43.9	-0.4
LPG	**La Plagne**	61.59	17	*e*P	P	13 53 44.7	+0.1
LPL	**La Plagne**	61.60	17	*e*P	P	13 53 45.1	+0.4
QUIF	**Quistinic**	61.68	9	*e*P	P	13 53 44.7	-0.5
	comp=Z,96nm,1.6s,mb5.4						
ERBM	**Eremo**	61.78	21	*e*P	P	13 53 48.5	+2.5
SMF	**Signal de Mont**	61.87	15	*e*P	P	13 53 46.0	-0.5
	comp=Z,146nm,1.6s,mb5.6						
AVF	**Avril sur Loir**	61.89	14	*e*P	P	13 53 46.2	-0.4
	comp=Z,146nm,1.8s,mb5.5						
ARV	**Arcevia**	61.89	23	*e*P	P	13 53 49.7	+3.0
BST	**Brest**	61.92	8	*e*P	P	13 53 38.5	-8.3
ROSF	**Rostrenen**	62.07	9	*e*P	P	13 53 47.5	-0.3
	comp=Z,74nm,1.3s,mb5.3						
SGMF	**Saint Gilles**	62.10	9	*e*P	P	13 53 47.1	-0.9
	comp=Z,114nm,1.4s,mb5.5						
SSF	**Saint Saulge**	62.18	14	*e*P	P	13 53 48.1	-0.4
	comp=Z,131nm,1.4s,mb5.6						
CABF	**La Chapelle**	62.42	16	*e*P	P	13 53 49.5	-0.7
	comp=Z,121nm,1.2s,mb5.6						
LOR	**Lormes**	62.46	14	*e*P	P	13 53 49.8	-0.6
	comp=Z,124nm,1.6s,mb5.5						
LOR				*e*R			
	comp=Z,881nm,21.8s						
GRR	**Gorron**	62.52	11	*e*P	P	13 53 50.4	-0.4
	comp=Z,240nm,1.6s,mb5.8						
LDF	**La Druitiere**	62.85	11	*e*P	P	13 53 52.6	-0.4
FLN	**La Foliniere**	62.95	11	*e*P	P	13 53 52.8	-0.8
FLN				*e*R			
	comp=Z,469nm,19.8s						
LOMF	**Lomont**	63.30	17	*e*P	P	13 53 57.7	+1.7
BRMO	**Bormio**	63.58	19	*e*P	P	13 53 59.4	+1.6
BBS	**Basel-Blauen**	63.60	17	*e*P	P	13 53 57.9	0.0
CTI	**Castel Tesino**	63.63	20	*e*P	P	13 53 59.4	+1.3
HINF	**Hinteralfeld**	63.74	16	*e*P	P	13 53 57.8	-1.0
HAU	**Haudompre**	63.77	16	*e*P	P	13 53 58.2	-0.9
	comp=Z,116nm,1.4s,mb5.4						
HAU				*e*R			
	comp=Z,583nm,20.8s						
MOF	**Molkenrain**	63.85	16	*e*P	P	13 53 58.8	-0.8
THEF	**They Montfort**	63.88	16	*e*P	P	13 54 00.1	+0.3
MEZF	**Maizieres J'vi**	63.90	15	*e*P	P	13 53 59.5	-0.4
FELD	**Feldberg**	64.11	17	*e*P	P	13 54 01.2	-0.1
OTAV	**Otavalo**	64.15	277	P	P	13 54 05.4	+3.3
	comp=Z,4.7nm,0.6s,mb4.7						
KNDS	**Knezji Dol**	64.16	23	*e*P	P	13 54 03.0	+1.3
SKO	**Skopje**	64.31	30	*e*P	P	13 54 02.0	-0.7
GMNA	**Gemona**	64.38	21	*e*P	P	13 54 03.3	+0.2
CDF	**Champ du Feu**	64.40	16	*e*P	P	13 54 02.1	-1.0
	comp=Z,48nm,1.3s,mb5.0						
VOY	**Vojsko**	64.41	22	*e*P	P	13 54 03.3	0.0
WLS	**Welschbruch**	64.42	16	*e*P	P	13 54 02.9	-0.4
ROBS	**Robic**	64.45	22	*e*P	P	13 54 03.5	0.0
BOJS	**Bojanci**	64.47	23	*e*P	P	13 54 03.5	-0.2
FVI	**Forni Avoltri**	64.50	21	*e*P	P	13 54 04.0	+0.2
SPAK	**Spaichingen**	64.54	17	*e*P	P	13 54 04.0	-0.1
BFO	**Black Forest**	64.62	17	P	P	13 54 01.2	-3.4
	comp=Z,140nm,1.2s,mb5.9,SNR=9.5						
LJU	**Ljubljana**	64.65	22	*e*P	P	13 54 05.4	+0.5
LANF	**Langenberg**	65.06	16	*e*P	P	13 54 07.0	-0.4
MMB	**Musomiste**	65.15	31	*i* P	P	13 54 08.5	+0.4
BAIF	**Baives**	65.15	14	*e*P	P	13 54 07.1	-0.9
	comp=Z,80nm,1.2s,mb5.3						
WLF	**Walferdange**	65.25	15	*e*P	P	13 54 05.9	-2.7
	comp=Z,114nm,1.6s,mb5.7						
DIVS	**Divcibare**	65.29	27	⇑*i*P	P	13 54 09.0	0.0
GIVF	**Givet**	65.33	14	*e*P	P	13 54 08.3	-0.9
	comp=Z,136nm,1.5s,mb5.5						
GROS	**Grobnik**	65.37	23	*e*P	P	13 54 10.0	+0.5
PERS	**Pernice**	65.37	22	*e*P	P	13 54 09.9	+0.4
GRUS	**Gruza**	65.45	28	⇑*i*P	P	13 54 10.2	+0.2
RUP	**Ruppelstein**	65.52	16	*e*P	P	13 54 10.5	+0.1
SYO	**Syowa Base**	65.59	161	⇓P	P	13 54 06.1	-4.4
SYO	**Syowa Base**	65.59	161	⇓pP	pP	13 54 11.8	-1.8
VTS	**Vitosha**	65.64	30	P	P	13 54 12.0	+0.8
BEO	**Belgrade**	66.06	27	⇓*i*P	P	13 54 14.6	+0.7
PGB	**Panagyurishte**	66.08	31	P	P	13 54 16.3	+2.2
HGN	**Heimansgroeve**	66.21	14	*e*P	P	13 54 14.7	-0.1
	comp=Z,9.5nm,1.5s,mb4.6						
PKSM	**Moragy**	66.40	25	*e*P	P	13 54 16.5	+0.5
GRA1	**Grafenberg Arr**	66.69	18	*e*P	P	13 54 17.3	-0.5
	comp=Z,46nm,1.4s,mb5.3						
GRA1				LR	LR		
	comp=Z,600nm,19.3s,MS4.8						
GRF	**Grafenberg Arr**	66.69	18	*e*P	P	13 54 17.3	-0.5
GRF				pmax	pmax		
	comp=Z,46nm,1.4s,mb5.3						
GERES	**GERESS Array B**	66.75	20	P	P	13 54 18.1	-0.1
	comp=Z,1.6nm,0.7s,mb4.2,baz=194,slow=5.5,SNR=11						
GERES				PP	PP	13 56 45.8	-1.4
	comp=Z,0.3nm,0.3s,baz=207,slow=9.0,SNR=4.5						
GERES	**GERESS Array B**	66.75	20	P	P	13 54 18.1	-0.1
GERES						13 56 45.8	
GERES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KHC	**Kasperske Hory**	66.95	20	*e*P	P	13 54 19.0	-0.5
KHC				LR		14 19 00.0	
	comp=Z,0.6nm,22.0s						
WTSB	**Winterswijk**	67.53	14	*e*P	P	13 54 23.2	+0.1
	comp=Z,18nm,1.2s,mb5.0						
NKC	**Novy Kostel**	67.55	19	*e*P	P	13 54 23.6	+0.3
NKC				LR		14 23 20.0	
	comp=Z,0.6nm,18.0s						
ESKT	**Eskisehir**	67.60	37	*i* P	P	13 54 23.9	+0.1
MOX	**Moxa**	67.65	18	*i* P	P	13 54 23.9	0.0
	comp=Z,logA/T=1.4,mb5.2						
MOX				L		14 24 41.0	
MOX	**Moxa**	67.65	18	*e*P	P	13 54 23.9	0.0
MOX				pmax	pmax		
	comp=Z,45nm,1.6s,mb5.2						
MOX				MLR	MLR		
	comp=Z,400nm,18.0s,MS4.7						
MOX	**Moxa**	67.65	18	*e*P	P	13 54 23.9	0.0
	comp=Z,45nm,1.6s,mb5.2						
MOX				LR	LR		
	comp=Z,400nm,18.0s,MS4.7						
PRU	**Pruhonice**	68.01	20	*e*P	P	13 54 25.7	-0.5
	comp=Z,40nm,1.5s,mb5.2						
PRU				L		14 21 50.0	
PRU	**Pruhonice**	68.01	20	*e*P	P	13 54 25.7	-0.5
PRU				pmax	pmax		
	comp=Z,40nm,1.5s,mb5.2						
KOLL	**Kolacno**	68.22	23	*e*P	P	13 54 27.9	+0.4
PSZ	**Piszkesteto**	68.28	25	*e*P	P	13 54 25.8	-2.1
	comp=Z,26nm,1.1s,mb5.2						
VYHS	**Vyhne**	68.32	24	*e*P	P	13 54 28.0	-0.2
VYHS				*e*		13 54 34.2	
PVCC	**Panska Ves**	68.48	20	*e*P	P	13 54 28.4	-0.7
PVCC				LR		14 22 00.0	
	comp=Z,0.5nm,20.9s						
CLL	**Collm**	68.66	19	P	P	13 54 32.0	+1.8
	comp=Z,logA/T=1.3,mb5.0						
CLL				*e*PP	PP	13 56 57.0	-7.0
CLL	**Collm**	68.66	19	*e*P	P	13 54 32.0	+1.8
CLL				pmax	pmax		
	comp=Z,40nm,1.8s,mb5.0						
CLL				MLR	MLR		
	comp=Z,700nm,18.7s,MS4.9						
CLL	**Collm**	68.66	19	*e*P	P	13 54 32.0	+1.8
	comp=Z,40nm,1.8s,mb5.0						
CLL				LR	LR		
	comp=Z,700nm,18.7s,MS4.9						
MORC	**Moravsky Berou**	68.89	22	*e*P	P	13 54 27.9	-3.7
	comp=Z,43nm,1.4s,mb5.2						
EKA	**Eskdalemuir Ar**	68.92	7	P	P	13 54 32.3	+0.6
	comp=Z,14nm,1.1s,mb4.8,baz=187,slow=6.7,SNR=9.2						
EKA	**Eskdalemuir Ar**	68.92	7	P	P	13 54 32.3	+0.6
EKA				pmax	pmax		
	comp=Z,14nm,1.1s						
DPC	**Dobruska-Polom**	68.93	21	*e*P	P	13 54 31.9	0.0
DPC				LR		14 20 20.0	
	comp=Z,0.7nm,20.4s						
UPC	**Upice**	68.95	21	*e*P	P	13 54 31.5	-0.5
SGKT	**Sivrigoynuk**	68.99	37	*i* P	P	13 54 32.2	-0.2
COBT	**Iskenderun**	69.11	42	*i* P	P	13 54 33.8	+0.6
OKC	**Ostrava-Krasne**	69.16	22	*e*P	P	13 54 33.7	+0.4
OKC				LR		14 22 10.0	
	comp=Z,0.5nm,21.7s						
KSP	**Ksiaz**	69.33	21	*e*P	P	13 54 34.4	+0.1
BRTR	**Keskin Array B**	69.39	38	P	P	13 54 35.5	+0.6
	comp=Z,3.4nm,0.8s,mb4.3,baz=198,slow=7.8,SNR=14						
BRTR	**Keskin Array B**	69.39	38	P	P	13 54 35.5	+0.6
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
RAYN	**Ar Rayn**	69.54	59	P	P	13 54 36.8	+0.7
	comp=Z,62nm,1.2s,mb5.4,SNR=9.4						
CRVS	**Cervenica-Dubn**	69.70	25	*e*P	P	13 54 40.0	+3.4
ELDT	**Eldivan**	69.74	38	*i* P	P	13 54 37.8	+0.7
KOLS	**Kolonicke sedl**	70.06	25	*e*P	P	13 54 38.9	+0.1
OJC	**Ojcow**	70.09	23	*e*P	P	13 54 38.5	-0.5
BALT	**Daday**	70.37	37	*i* P	P	13 54 40.7	-0.2
BOYT	**Boyabat**	71.19	37	*i* P	P	13 54 45.7	-0.1
JTS	**JuntasAbangare**	73.13	285	P	P	13 54 57.2	-0.7
	comp=Z,2.4nm,0.3s,mb4.5,baz=172,slow=23,SNR=2.3						
JTS				LR	LR	14 25 31.6	
	comp=Z,595nm,21.0s,MS4.8,baz=266,slow=35						
JTS	**JuntasAbangare**	73.13	285	P	P	13 54 57.1	-0.7
JTS				LR	LR	14 25 31.6	
MAW	**Mawson**	73.38	157	P	P	13 54 59.6	+1.4
	comp=Z,7.2nm,0.7s,mb4.7,baz=266,slow=9.6,SNR=20						
MAW				LR	LR	14 20 31.1	
	comp=Z,489nm,18.9s,MS4.8,baz=275,slow=30						
MAW	**Mawson**	73.38	157	*e*PKKP	P	13 55 00.6	+2.3
AKASG	**Malin Array Be**	74.38	27	P	P	13 55 04.0	-0.4
	comp=Z,9.6nm,0.9s,mb4.7,baz=228,slow=6.4,SNR=28						
AKASG				LR	LR	14 25 33.9	
	comp=Z,272nm,19.9s,MS4.5,baz=230,slow=34						
NB2	**NORSAR Subarra**	76.81	13	P	P	13 55 18.9	+0.9
	comp=Z,24nm,1.2s,mb5.0,baz=209,slow=5.8						
NB2	**NORSAR Subarra**	76.81	13	P	P	13 55 18.9	+0.9
	baz=209,slow=6.2						
NOA	**NORSAR Array B**	76.81	13	P	P	13 55 19.5	+1.4
	comp=Z,3.8nm,0.9s,mb4.3,baz=205,slow=6.1,SNR=6.4						
NOA	**NORSAR Array B**	76.81	13	P	P	13 55 19.5	+1.5
NOA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
QSPA	**South Pole Qui**	77.04	180	P	P	13 55 17.7	-1.3
	comp=Z,24nm,0.7s,mb5.2						
QSPA				*e*P		13 55 23.5	
KIV	**Kislovodsk**	77.34	39	*d* *i*P	P	13 55 22.1	+0.8
GOF	**Gofitskoye**	78.14	38	*e*P	P	13 55 26.0	+0.3
GOF				pmax	pmax		
	comp=Z,60nm,1.8s,mb5.2						
NCB	**Newcomb**	78.17	321	P	P	13 55 23.9	-2.0
	comp=Z,35nm,1.4s,mb5.1						
SCHQ	**Schefferville**	80.49	333	P	P	13 55 41.5	+3.3
	comp=Z,5.0nm,0.7s,mb4.5,baz=107,slow=7.8,SNR=4.9						
SCHQ				LR	LR	14 25 11.4	
	comp=Z,261nm,19.6s,MS4.6,baz=126,slow=31						
SCHQ	**Schefferville**	80.49	333	P	P	13 55 41.5	+3.3
SCHQ				LR	LR	14 25 11.4	
OBN	**Obninsk**	80.64	27	*e*P	P	13 55 37.7	-1.3
OBN				*e*		13 55 45.8	
OBN				*e*SS	SS	14 10 59.6	-1.1
OBN				pmax	pmax		
	comp=Z,12nm,0.7s,mb4.9						
OBN				MLR	MLR		
	comp=Z,300nm,17.0s,MS4.7						
FINES	**FINESS Array B**	81.10	19	P	P	13 55 42.5	+1.2
	comp=Z,2.5nm,0.7s,mb4.3,baz=194,slow=5.7,SNR=6.4						
FINES	**FINESS Array B**	81.10	19	P	P	13 55 42.5	+1.2
FINES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MOS	**Moscow**	81.50	27	*e*P	P	13 55 43.8	+0.3
MOS				pmax	pmax		
	comp=Z,73nm,1.4s,mb5.4						
LRAL	**Lakeview Retre**	82.42	306	P	P	13 55 46.4	-2.3
	comp=Z,27nm,1.3s,mb5.0						
LRAL				LR	LR		
	comp=Z,527nm,21.0s,MS4.9						
MIR	**Mirnyy**	85.10	158	⇓*e*P	P	13 56 05.0	+3.4
MIR				pmax	pmax		
	comp=Z,40nm,1.8s,mb5.2						
SUMG	**Summit**	86.88	353	*e*P	P	13 56 11.7	+1.4
	comp=Z,26nm,1.2s,mb5.3						
ARCES	**ARCESS Array B**	87.19	13	P	P	13 56 13.9	+2.1
	comp=Z,2.8nm,0.9s,mb4.5,baz=243,slow=2.7,SNR=6.2						
ARCES				LR	LR	14 39 22.0	
	comp=Z,211nm,19.2s,MS4.6,baz=31,slow=38						
ARCES	**ARCESS Array B**	87.19	13	P	P	13 56 14.0	+2.2
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ARCES				MLR	MLR		
	comp=Z,211nm,19.2s						
SBA	**Scott Base**	89.19	180	*e*P	P	13 56 20.4	-1.0
	comp=Z,33nm,1.0s,mb5.6						
CASY	**Casey**	91.34	161	P	P	13 56 30.5	-1.0
	comp=Z,14nm,1.5s,mb5.1						
ARU	**Arti**	92.02	32	*e*P	P	13 56 28.4	-6.4
ARU	**Arti**	92.02	32	P	P	13 56 30.1	-4.7
	comp=Z,40nm,1.5s,mb5.5						
ULM	**Lac du Bonnet**	94.16	321	P	P	13 56 47.8	+2.9
	comp=Z,4.9nm,0.9s,mb4.9,baz=207,slow=7.8,SNR=2.2						
ULM				LR	LR	14 32 56.5	
	comp=Z,278nm,20.0s,MS4.7,baz=69,slow=32						
LTX	**Lajitas**	95.09	299	P	P	13 56 50.4	+0.8
	comp=Z,2.6nm,0.4s,mb5.0						
LTX				LR	LR		
	comp=Z,349nm,22.0s,MS4.8						
TXAR	**Lajitas Array**	95.09	299	P	P	13 56 48.3	-1.3
	comp=Z,0.3nm,0.4s,mb4.0,baz=205,slow=26,SNR=5.0						
ANMO	**Albuquerque**	98.49	304	P	P	13 57 05.9	+1.1
	comp=Z,4.2nm,1.1s,mb4.9						
DGMT	**Dagmar**	99.09	318	PFAKE		13 57 20.0	+13
DGMT				LR	LR		
	comp=Z,404nm,19.0s,MS4.9						
HLID	**Hailey**	105.63	312	PFAKE		14 02 00.0	
HLID				LR	LR		
	comp=Z,366nm,19.0s,MS4.9						
WMQ	**Urumqi**	108.16	48	*e*PDIF	Pdif	13 57 46.3	-1.4
WMQ				PP	PP	14 02 18.8	-1.8
WMQ				PP	PP		
	comp=Z,19nm,7.6s						
WMQ				LR	LR		
	comp=N,118nm,32.0s,MS4.5						
WMQ				LR	LR		
	comp=E,164nm,34.0s,MS4.5						

WMQ				LR	LR		
	comp=Z,211nm,34.0s,MS4.5						
CMAR	**Chiang Mai Arr**	116.59	76	PKP	PKPdf	14 02 12.2	-0.6
	comp=Z,2.3nm,1.1s,baz=269,slow=2.9,SNR=8.0						
CMAR	**Chiang Mai Arr**	116.59	76	PKIKP	PKPdf	14 02 12.3	-0.5
CMAR				pmax	pmax		
	comp=Z,2.0nm,1.1s						
ILAR	**Eielson Array**	118.81	339	PKP	PKPdf	14 02 15.5	-0.5
	comp=Z,0.3nm,0.8s,baz=207,slow=3.2,SNR=3.9						
KMI	**Kunming**	120.50	68	*e*PKP	PKPdf	14 02 18.3	-2.0
KMI	**Kunming**	120.50	68	*e*P	PKPdf	14 02 18.2	-2.1
SONM	**Songino Array**	120.63	42	PKP	PKPdf	14 02 20.0	+0.1
	comp=Z,0.9nm,0.8s,baz=225,slow=1.7,SNR=5.3						
LZH	**Lanzhou**	120.94	56	*e*PKP	PKPdf	14 02 17.3	-3.6
LZH				XPKP		14 02 22.0	
LZH				*e*PP	PP	14 03 49.5	-1.5
LZH				SKKS		14 10 42.3	
LZH				SS	SS	14 20 18.5	-1.3
LZH				PP	PP		
	comp=Z,156nm,7.5s						
LZH				LR	LR		
	comp=N,435nm,18.1s						
LZH				LR	LR		
	comp=Z,598nm,20.0s,MS5.2						
LZH	**Lanzhou**	120.94	56	*e*PKP	PKPdf	14 02 17.2	-3.7
LZH				pPKP		14 02 20.5	
LZH				sPKP		14 02 21.9	
LZH				*e*PP	PP	14 03 49.5	-1.5
LZH				SKKS		14 10 42.3	
LZH				SS	SS	14 20 18.5	-1.3
LZH				LR	LR		
	comp=Z,600nm,20.0s,MS5.2						
STKA	**Stephens Creek**	130.00	154	PKP	PKPdf	14 02 39.1	+0.6
	comp=Z,5.1nm,1.1s,baz=144,slow=3.6,SNR=4.1						
ASAR	**Alice Springs**	132.51	140	PKP	PKPdf	14 02 44.3	+0.8
	comp=Z,1.5nm,0.8s,baz=208,slow=1.2,SNR=15						
CN2	**Changchun**	134.44	40	*e*PKP	PKPdf	14 02 43.0	-3.5
CN2				*e*PP	PP	14 05 16.8	-3.2
CN2				LR	LR		
	comp=N,200nm,21.0s,MS4.9						
CN2				LR	LR		
	comp=E,100nm,21.0s,MS4.9						
CN2				LR	LR		
	comp=Z,300nm,22.0s,MS5.0						
WRA	**Warramunga Arr**	135.46	137	PKhKP		14 02 39.9	
	comp=Z,0.4nm,0.7s,baz=229,slow=2.6,SNR=4.7						
WRA				PKP	PKPdf	14 02 48.6	-0.4
	comp=Z,1.6nm,0.8s,baz=240,slow=2.4,SNR=9.8						
WRA	**Warramunga Arr**	135.46	137	PKHKP		14 02 39.9	
WRA						14 02 48.6	
WRA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
WRA	**Warramunga Arr**	135.46	137	PKP	PKPdf	14 02 48.6	-0.4
WRAB	**Tennant Creek**	135.47	137	PFAKE		14 03 00.0	+11
WRAB				LR	LR		
	comp=Z,127nm,19.0s,MS4.7						
MDJ	**Mudanjiang**	136.52	37	PKP	PKPdf	14 02 48.5	-1.7
MDJ				PS	PS	14 15 50.8	-1.6
MDJ				SS	SS	14 23 29.5	-2.9
MDJ				PP	PP		
	comp=Z,87nm,4.6s						
MDJ				LR	LR		
	comp=E,98nm,25.5s						
MDJ				LR	LR		
	comp=Z,155nm,24.4s,MS4.7						
MAT	**Matsushiro**	146.58	41	PKP	PKPdf	14 03 08.2	-0.1
MAT	**Matsushiro**	146.58	41	*e*P	PKPbc	14 03 08.0	+1.4

IDC 28 14:05:01.1±19.0, 17.60S×177.92W, h444^{km}±208^{km}, mb2.7/4, mb1 2.9/4, mb1mx2.9/12, Error ellipse: s-maj=132.0km s-min=72.9km az=137.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	39.19	241	P	P	14 11 49.2	-1.3
	0.8nm,0.7s,baz=80,slow=11,SNR=2.5						
WRA	**Warramunga Arr**	45.15	259	P	P	14 12 36.2	-2.0
	0.2nm,0.3s,baz=95,slow=7.1,SNR=9.6						
ASAR	**Alice Springs**	45.33	254	P	P	14 12 38.5	-1.1
	0.6nm,0.7s,baz=88,slow=8.4,SNR=13						
ILAR	**Eielson Array**	85.48	13	P	P	14 16 50.4	-0.9
	0.3nm,0.9s,baz=216,slow=5.0,SNR=5.6						
GERES	**GERESS Array B**	147.44	346	PKPbc	PKPdf	14 23 53.5	+3.1
	0.3nm,0.4s,baz=11,slow=5.0,SNR=4.1						

IDC 28 14:05:37.4±6.2, 22.82S×177.69E, mb3.9/3, mb1 4.0/3, mb1mx3.7/10, 1D, Error ellipse: s-maj=161.0km s-min=98.3km az=146.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	33.18	246	P	P	14 12 16.6	-1.3
	0.3nm,0.3s,baz=92,slow=4.2,SNR=3.1						
ASAR	**Alice Springs**	40.12	260	P	P	14 13 14.8	-1.9
	0.7nm,0.4s,baz=97,slow=7.4,SNR=10						
WB2	**Warramunga Arr**	40.35	266	⇓*i*P	P	14 13 16.8	-1.9
WRA	**Warramunga Arr**	40.36	266	P	P	14 13 17.0	-1.8
	0.9nm,0.3s,baz=102,slow=8.3,SNR=30						
FITZ	**Fitzroy Crossi**	48.79	265	*e*P	P	14 14 21.9	-4.6
	2.0nm,1.3s						
AKASG	**Malin Array Be**	142.91	327	PKP	PKPdf	14 25 12.7	-1.9
	0.4nm,0.3s,baz=51,slow=6.1,SNR=4.4						

IDC 28 14:14:57.4±4.2, 31.21S×68.55W, h95^{km}±36^{km}, mb3.7/6, mb1 3.8/8, mb1mx3.7/14, Error ellipse: s-maj=34.2km s-min=17.9km az=82.0

NEIC 28 14:14:57.1±1.6, 31.22S×68.53W, h91^{km}±15^{km}, mb4.2/2, Error ellipse: s-maj=24.4km s-min=10.0km az=78.0

GUC 28 14:14:58.8±0.7, 31.25S×68.90W, h150^{km}, MD3.9, ML4.2

ISC 28 14:14:56.6±0.7, 31.20S±0.03×68.46W±0.08, h98^{km}±9^{km}, n37, σ0^{s}96/39, mb3.9/8, 2C-8D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMCH	**Combarbala**	2.18	270	⇓*i*P	**P**	**14 15 32.9**	**+0.8**
CMCH				*i* S	**S**	**14 15 58.6**	**+0.1**
TLL	**Tololo Astrono**	2.27	296	⇑*i*P	**P**	**14 15 34.8**	**+1.4**
TLL				*i* S	**S**	**14 16 01.1**	**+0.4**
TLL				AMP		14 16 05.5	
	comp=N,2µm,1.0s						
JACH	**Jahuel**	2.34	230	⇓*i*P	**P**	**14 15 35.0**	**+0.8**
JACH				*e*S	**S**	**14 16 02.3**	**-0.1**
FCH	**Farellones**	2.63	216	⇑*i*P	**P**	**14 15 39.5**	**+1.3**
FCH				*i* S	**S**	**14 16 10.5**	**+1.1**
FCH				AMP		14 16 15.3	
	comp=E,501nm,0.3s						
PEL	**Peldehue**	2.71	224	AMP		14 16 14.5	
	comp=N,1µm,0.4s						
LSCH	**La Serena**	2.73	297	*e*P	**P**	**14 15 39.8**	**+0.2**
LSCH				*i* S	**S**	**14 16 10.1**	**-1.8**
LSCH				AMP		14 16 11.6	
	comp=E,828nm,0.4s						
CLCH	**Cerro Calan**	2.81	218	⇓*i*P	**P**	**14 15 41.7**	**+1.0**
CLCH				AMP		14 16 16.4	
	comp=E,947nm,1.0s						
FSR	**Penalolen**	2.87	217	*e*P	**P**	**14 15 42.0**	**+0.4**
FSR				AMP		14 16 20.1	
	comp=N,743nm,0.5s						
PCH	**Pirque**	2.97	215	*e*P	**P**	**14 15 43.2**	**+0.2**
ANTU	**Antumapu**	2.99	217	*e*P	**P**	**14 15 43.6**	**+0.3**
ANTU				AMP		14 16 19.8	
	comp=E,551nm,0.2s						
RCDM	**Rinconada Maip**	3.03	220	*e*P	**P**	**14 15 43.7**	**0.0**
RCDM				*i* S	**S**	**14 16 18.0**	**-1.1**
RCDM				AMP		14 16 23.5	
	comp=E,679nm,0.2s						
TACH	**Talagante**	3.22	220	⇓*i*P	**P**	**14 15 45.7**	**-0.6**
VACH	**Vallenar**	3.29	322	*i* S	**S**	**14 16 25.6**	**-0.1**
CHCH	**Chadas Angostu**	3.29	214	⇓*i*P	**P**	**14 15 47.4**	**+0.1**
CHCH				*e*S	**S**	**14 16 24.0**	**-1.8**
CACH	**El Canelo**	3.42	211	⇓*i*P	**P**	**14 15 50.0**	**+0.8**
LCCH	**Las Cruces**	3.48	228	*e*P	**P**	**14 15 48.3**	**-1.6**
CICH	**Cipreses**	3.52	208	⇓*i*P	**P**	**14 15 51.3**	**+0.8**
LNV	**Longovilo**	3.71	221	⇓*i*P	**P**	**14 15 50.8**	**-2.2**
LNV				*i* S	**S**	**14 16 31.6**	**-4.3**
LVC	**Limon Verde**	8.56	357	*e*Pn	**P**	**14 16 58.5**	**-0.8**
	comp=E,20nm,0.5s						
TRQA	**Tornquist**	8.67	144	*e*Pn	**P**	**14 17 00.0**	**-0.8**
	comp=E,35nm,0.8s						
CPUP	**Villa Florida**	10.90	66	P	**P**	**14 17 30.1**	**-0.7**
	comp=E,0.2nm,0.3s,baz=263,slow=13,SNR=8.7						
LPAZ	**La Paz**	14.85	1	P	**P**	**14 18 22.7**	**0.0**
	comp=E,0.2nm,0.3s,baz=172,slow=9.2,SNR=20						
LPAZ	**La Paz**	14.85	1	P	**P**	**14 18 22.7**	**0.0**
SAML	**Samuel**	22.68	14	*e*P	**P**	**14 19 53.9**	**+3.4**
	comp=E,7.2nm,1.0s,mb4.0						
USHA	**Ushuaia**	23.62	180	P	**P**	**14 20 00.6**	**+1.5**
	comp=E,4.9nm,0.7s,mb4.0,baz=0.5,slow=9.1,SNR=3.3						
SNAA	**Sanae**	53.06	159	P	**P**	**14 24 04.8**	**-0.7**
	comp=E,0.5nm,0.9s,mb3.5,baz=306,slow=7.8,SNR=6.2						
QSPA	**South Pole Qui**	59.03	180	*e*P	**P**	**14 24 47.7**	**-0.2**
	comp=E,3.1nm,0.8s,mb4.4						
TXAR	**Lajitas Array**	68.89	327	P	**P**	**14 25 51.8**	**-1.1**
	comp=E,1.6nm,0.9s,mb3.8,baz=147,slow=9.0,SNR=8.0						
TXAR	**Lajitas Array**	68.89	327	P	**P**	**14 25 51.8**	**-1.1**
DBIC	**Dimbokro**	71.40	70	P	**P**	**14 26 08.7**	**+0.4**
	comp=E,2.4nm,0.7s,mb4.1,baz=179,slow=7.4,SNR=3.5						
MAW	**Mawson**	74.97	163	P	**P**	**14 26 27.8**	**-0.3**
	comp=E,1.2nm,0.6s,mb3.8,baz=220,slow=7.5,SNR=8.3						
PDAR	**Pinedale Array**	82.72	331	P	**P**	**14 27 11.7**	**+1.0**
	comp=E,0.8nm,0.8s,mb3.6,baz=135,slow=4.2,SNR=5.3						
ASAR	**Alice Springs**	121.39	204	PKP	PKPdf	14 33 38.4	-0.4
	comp=E,0.5nm,0.5s,baz=128,slow=1.6,SNR=13						
WRA	**Warramunga Arr**	124.64	206	PKP	PKPdf	14 33 45.0	-0.2
	comp=E,1.0nm,0.6s,baz=169,slow=1.7,SNR=43						
MKAR	**Makanchi Array**	152.65	47	PKPbc	PKPdf	14 34 42.4	+8.4
	comp=E,1.9nm,0.7s,baz=309,slow=1.4,SNR=10						
MKAR				PKPab	PKPab	14 34 54.1	-0.4
	comp=E,1.2nm,0.6s,baz=272,slow=2.1,SNR=8.5						
MKAR	**Makanchi Array**	152.65	47	PKPbc	PKPdf	14 34 42.4	+8.4
MKAR				PKPab	PKPab	14 34 54.1	-0.4
SONM	**Songino Array**	162.93	12	PKPab	PKPab	14 35 38.4	-0.2
	comp=E,0.5nm,0.8s,baz=45,slow=2.0,SNR=3.2						

IDC 28 14:28:50.4±47.0, 18.55S×173.68W, mb3.7/3, mb1 3.9/3, mb1mx3.7/13, Error ellipse: s-maj=900.0km s-min=178.4km az=82.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	42.30	243	P	P	14 36 45.6	-2.0
	0.5nm,0.5s,baz=97,slow=8.1,SNR=2.9						
WB2	**Warramunga Arr**	48.93	259	*e*P	P	14 37 38.8	-1.7
WRA	**Warramunga Arr**	48.94	259	P	P	14 37 38.8	-1.8
	0.4nm,0.2s,baz=97,slow=7.0,SNR=31						
ASAR	**Alice Springs**	48.95	254	P	P	14 37 38.9	-1.8
	0.5nm,0.5s,baz=87,slow=8.3,SNR=24						

NEIC 28 14:29:33.2, 39.40N×16.24E, h5^{km}, MD3.1(ROM), After ROM.

ROM 28 14:29:33.2±0.1, 39.40N×16.24E, h5^{km}, MD3.1/3, ML2.2/8, Error ellipse: s-maj=2.1km s-min=1.1km az=90.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TDS	**Terranova Siba**	0.27	16	*e*PG	Pg	14 29 38.8	+0.2
TDS				SG	Sg	14 29 44.0	+1.8
TDS	**Terranova Siba**	0.27	16	*e*Pg	Pg	14 29 38.8	+0.2
TDS				*e*Sg	Sg	14 29 44.0	+1.9
GRI	**Girifalco**	0.60	167	*e*PG	Pg	14 29 45.4	+0.3
GRI				SG	Sg	14 29 56.2	+3.1
	214nm,0.4s						
GRI	**Girifalco**	0.60	167	*e*Pg	Pg	14 29 45.4	+0.2
GRI				*e*Sg	Sg	14 29 56.2	+3.1
ORI	**Oriolo Calabro**	0.68	13	*e*PG	Pg	14 29 47.0	+0.2
ORI				SG	Sg	14 29 58.4	+2.6
	107nm,0.3s						
ORI	**Oriolo Calabro**	0.68	13	*e*Pg	Pg	14 29 47.0	+0.2
ORI				*e*Sg	Sg	14 29 58.4	+2.5
MGR	**Morigerati**	0.91	324	*e*PG	Pg	14 29 51.6	+0.3
MGR				SG	Sg	14 30 05.4	+2.0
	90nm,0.2s						
MGR	**Morigerati**	0.91	324	*e*Pg	Pg	14 29 51.6	+0.3
MGR				*e*Sg	Sg	14 30 05.4	+2.0
SLCN	**Sala Consilina**	1.09	335	*e*PN	Pn	14 29 55.1	0.0
	59nm,0.3s						
SLCN	**Sala Consilina**	1.09	335	*e*Pg	Pg	14 29 55.1	+0.1
SCLL	**Scilla**	1.22	200	*e*PN	Pn	14 29 57.6	+0.8
	65nm,0.5s						
SCLL	**Scilla**	1.22	200	*e*Pg	Pg	14 29 57.6	0.0
SOI	**Samo**	1.34	186	*e*PN	Pn	14 29 57.9	-0.7
	43nm,0.5s						
SOI	**Samo**	1.34	186	*e*Pg	Pg	14 29 57.9	-2.0
SGO	**Sicignano**	1.36	328	*e*PN	Pn	14 29 58.0	-0.9
SGO	**Sicignano**	1.36	328	*e*Pg	Pg	14 29 58.0	-2.4
MRLC	**Muro Lucano**	1.47	337	*e*PN	Pn	14 30 00.8	+0.3
	22nm,0.3s						
MRLC	**Muro Lucano**	1.47	337	*e*Pg	Pg	14 30 00.8	-1.8
CSSN	**Cassano Irpino**	1.73	328	*e*PN	Pn	14 30 03.8	-0.4
	11nm,0.3s						
CSSN	**Cassano Irpino**	1.73	328	*e*Pg	Pg	14 30 03.8	-4.0
ISOR	**Termini**	1.88	309	*e*PN	Pn	14 30 05.9	-0.4

IDC 28 14:49:39.8±2.5, 7.29S×128.12E, mb3.5/1, mb1 3.4/3, mb1mx3.3/12, ML3.2/2, Error ellipse: s-maj=297.0km s-min=32.2km az=65.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	13.95	155	Pn	P	14 52 57.6	-3.7
	0.2nm,0.3s,baz=333,slow=13,SNR=20						
WRA				Sn	S	14 55 22.0	-16
	0.3nm,0.3s,baz=333,slow=22,SNR=9.8						
ASAR	**Alice Springs**	17.21	162	P	P	14 53 42.9	-0.4
	0.1nm,0.3s,baz=334,slow=9.5,SNR=7.5						
ASAR				S	S	14 56 42.3	-12
	0.1nm,0.3s,baz=350,slow=25,SNR=4.8						
MKAR	**Makanchi Array**	67.46	328	P	P	15 00 37.5	-2.1
	0.3nm,0.6s,baz=117,slow=8.1,SNR=4.9						

BER 28 14:56:08.7±0.9, 59.45N×10.77E, ML2.1(NAO), Suspected explosion

NAO 28 14:56:05.9±1.9, 59.38N×10.70E, ML2.1, Southern Norway

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NC6	**NORSAR Subarra**	1.43	15	Pn	Pn	14 56 32.7	-0.5
NC6				Lg		14 56 50.0	
NB2	**NORSAR Subarra**	1.69	9	Pn	Pn	14 56 36.5	-0.4
NB2				Lg		14 56 58.5	
HFS	**Hagfors**	1.70	62	Pn	Pn	14 56 37.1	+0.2
	baz=245,slow=16						
HFS				Lg		14 56 59.1	
	baz=241,slow=28						

NIED 28 15:09:00, 32.50N×141.60E, h17^{km}, Mw4.6 Best double couple: M$_0$1.05×10^{16} NP1:φ$_s$265°, δ81°, λ-154°. NP2: φ$_s$171°, δ64°, λ-10°.

JMA 28 15:09:12.9±0.6, 32.46N×141.61E, M4.5

IDC 28 15:09:13.7±0.5, 32.44N×141.38E, mb4.5/25, mb1 4.6/28, mb1mx4.6/30, ML4.3/2, MS4.0/2, Ms1 4.0/2, ms1mx3.3/36, Error ellipse: s-maj=14.2km s-min=11.5km az=81.0, Putative timing error at ZAL

BJI 28 15:09:14.6, 32.35N×141.76E, h44^{km}, mB5.0, mb4.6, Ms4.5, Msz4.1

NEIC 28 15:09:19.9±1.0, 32.42N×141.24E, h44^{km}±8^{km}, mb4.9/45, MW4.7(NIED), Error ellipse: s-maj=6.6km s-min=5.7km az=92.0

HRVD 28 15:09:19.9±0.8, 32.32N×141.59E, h32^{km}±1^{km}, MW4.9/28, Centroid moment Tensor Solution. LP body waves: s10,c11;Mantle waves: s28,c47; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M$_{rr}$2.03±.28; M$_{\theta\theta}$0.29±.16; M$_{\phi\phi}$-2.31±.18; M$_{r\theta}$0.74±.21; M$_{\theta\phi}$-0.31±.09; M$_{\phi r}$0.82±.17; Best double couple: M$_0$2.46×10^{16} NP1:φ$_s$170°, δ36°, λ62°. NP2:φ$_s$23°, δ58°, λ109°. Principal axes: T 2.4, Plg70°, Azm335°; N .14, Plg16°, Azm193°; P -2.53, Plg12°, Azm99°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

MOS 28 15:09:21.0±0.8, 33.05N×141.34E, h37^{km}, mb4.8/19 Error ellipse: s-maj=19.2km s-min=6.9km az=110.5

ISC 28 15:09:17.3±0.6, 32.36N±0.03×141.37E±0.04, h36^{km}±4^{km}, h39^{km}±3.0^{km}:pP-P, n192, σ1^{s}17/214, mb4.8/74, MS4.3/12, 11C-2D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	1.51	300	P	**P**	**15 09 43.7**	**+1.3**
JHJ	**Hachijo jima 2**	1.54	300	Pn	**P**	**15 09 43.2**	**+0.5**
	184nm,0.3s,baz=159,slow=10,SNR=18						
JHJ				Sn	**S**	**15 10 02.6**	**+0.9**
	306nm,0.3s,baz=107,slow=20,SNR=6.0						
JHJ				LR	LR	15 10 07.4	
	comp=Z,2µm,19.8s,baz=328,slow=36						
JMY	**Miyakejima3**	2.31	318	P	**P**	**15 09 56.5**	**+2.8**
BSO1	**Boso 1**	2.31	352	P	**P**	**15 09 52.7**	**-1.1**
BSO3	**Boso 3**	2.54	344	P	**P**	**15 09 56.1**	**-1.0**
JKO	**Kozu shima**	2.61	315	P	**P**	**15 09 58.2**	**+0.1**
JKO				*e*S	**S**	**15 10 32.2**	**+3.3**
BSO4	**Boso 4**	2.76	342	P	**P**	**15 09 59.8**	**-0.5**
JIM2	**Oshima 3**	2.86	326	P	**P**	**15 10 01.1**	**-0.5**
JOD2	**Odawara 2**	3.46	327	P	**P**	**15 10 10.2**	**0.0**
JOD2				*e*S	**S**	**15 10 53.0**	**+2.4**
JYN	**Shimob**	3.92	324	P	**P**	**15 10 17.7**	**+1.1**
JRY	**Ryogami san**	4.18	331	P	**P**	**15 10 20.8**	**+0.4**
JAG	**Ashikaga**	4.36	339	P	**P**	**15 10 21.8**	**-1.1**
MAJO	**Matsushiro**	4.92	329	*e*Pn	**P**	**15 10 30.8**	**-0.1**
MAT	**Matsushiro**	4.92	329	P	**P**	**15 10 30.4**	**-0.5**
MAT				S	**S**	**15 11 23.0**	**-4.5**
MAT	**Matsushiro**	4.92	329	P	**P**	**15 10 31.3**	**+0.4**
MAT	**Matsushiro**	4.92	329	*e*P	**P**	**15 10 30.0**	**-0.9**
MAT				*e*S	**S**	**15 11 24.0**	**-3.5**
CBIJ	**Chichi jima**	5.29	172	Pn	**P**	**15 10 36.0**	**0.0**
	19nm,0.3s,baz=284,slow=22,SNR=24						
CBIJ				Sn	**S**	**15 11 31.4**	**-5.3**
	25nm,0.3s,baz=290,slow=22,SNR=5.6						
CBIJ				LR	LR	15 12 39.8	
	comp=Z,2µm,18.6s,baz=132,slow=38						
CBIJ	**Chichi jima**	5.29	172	P	**P**	**15 10 35.9**	**-0.1**
JMM	**Marumori**	5.52	355	⇑P	**P**	**15 10 35.5**	**-3.7**
JHHJ	**Haha-jima-NKT**	5.75	173	P	**P**	**15 10 41.3**	**-1.2**
JMK	**Ichinoseki**	6.58	359	P	**P**	**15 10 50.2**	**-4.0**
ASAJ	**Asahikawa**	11.78	4	Pn	**P**	**15 12 00.3**	**-5.5**
	2.5nm,0.3s,baz=212,slow=9.1,SNR=14						
ASAJ				Sn	**S**	**15 14 02.1**	**-15**
	0.8nm,0.3s,baz=320,slow=30,SNR=3.6						
ASAJ	**Asahikawa**	11.78	4	P	**P**	**15 12 00.4**	**-5.4**
ASAJ						15 14 02.1	
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASAJ				smax			
	comp=N,1.0nm,0.3s						
KS15	**Wonju Array Si**	12.17	298	P	**P**	**15 12 15.1**	**+3.9**
JOW	**Kunigami**	12.65	248	Pn	**P**	**15 12 14.7**	**-2.9**
	baz=121,slow=22,SNR=1.9						
JOW				Sn	**S**	**15 14 26.7**	**-11**
JOW				LR	LR	15 16 56.9	
	comp=N,683nm,19.3s,baz=62,slow=36						
YSS	**Yuzh-Sakhalins**	14.62	4	*e*P	**P**	**15 12 38.0**	**-5.3**
YSS				MLR	MLR		
	comp=Z,400nm,16.0s						
YSS	**Yuzh-Sakhalins**	14.62	4	*e*P	**P**	**15 12 38.0**	**-5.3**
	comp=Z,12nm,0.8s						
MDJ	**Mudanjiang**	15.30	326	P	**P**	**15 12 52.0**	**-0.3**
MDJ				AP		15 12 59.0	
MDJ				XP		15 13 04.3	
MDJ				S	**S**	**15 15 39.5**	**-1.5**
MDJ				SS	SS	15 15 55.8	-3.5
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.0s						
MDJ				AMB	AMB		
	comp=Z,30nm,3.5s						
MDJ				LR	LR		
	comp=N,419nm,18.0s						
MDJ				LR	LR		
	comp=E,383nm,18.8s						
MDJ				LR	LR		
	comp=Z,511nm,18.0s						
MDJ	**Mudanjiang**	15.30	326	*e*P	**P**	**15 12 52.0**	**-0.3**
	comp=Z,14nm,0.7s						
CN2	**Changchun**	16.93	317	*e*P	**P**	**15 13 12.5**	**-0.4**
CN2				*e*AP		15 13 21.0	
CN2				*e*S	**S**	**15 16 20.0**	**+1.4**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
CN2				AMB	AMB		
	comp=Z,300nm,5.0s						
CN2				LR	LR		
	comp=N,500nm,12.0s						
CN2				LR	LR		
	comp=E,500nm,12.0s						
CN2				LR	LR		
	comp=Z,400nm,16.0s						
SSE	**Sheshan**	17.22	271	*e*P	**P**	**15 13 19.0**	**+2.4**
SSE				XP		15 13 35.5	
SSE				S	**S**	**15 16 28.8**	**+3.5**
SSE				AMB	AMB		
	comp=Z,19nm,0.7s						
SSE				AMB	AMB		
	comp=Z,247nm,3.6s						
SSE				LR	LR		
	comp=N,73nm,18.8s						
SSE				LR	LR		
	comp=E,211nm,18.6s						
SSE				LR	LR		
	comp=Z,264nm,19.9s						
SSE	**Sheshan**	17.22	271	*e*P	**P**	**15 13 19.0**	**+2.4**
	comp=Z,19nm,0.7s						
SSE				sP		15 13 35.4	
SSE				S	**S**	**15 16 28.7**	**+3.4**
SSE				sS		15 16 53.5	
DL2	**Dalian**	17.31	298	*e*P	**P**	**15 13 20.0**	**+2.2**
DL2				S	**S**	**15 16 34.5**	**+7.1**
DL2				LR	LR		
	comp=E,490nm,14.7s						
DL2				LR	LR		
	comp=Z,630nm,15.2s						
KLR	**Kul'dur**	18.34	340	*e*P	**P**	**15 13 24.7**	**-5.8**
GUMO	**Guam**	18.95	169	*e*P	**P**	**15 13 38.5**	**+0.3**
	comp=Z,491nm,0.9s						
NJ2	**Nanjing**	19.05	275	*e*P	**P**	**15 13 39.8**	**+0.6**
NJ2				AP		15 13 50.0	
NJ2				XP		15 13 56.5	
NJ2				PP	PP	15 13 57.8	+1.8
NJ2				S	**S**	**15 17 07.0**	**+0.2**
NJ2				AMB	AMB		
	comp=Z,850nm,5.0s						
NJ2				LR	LR		
	comp=N,870nm,15.0s						
NJ2				LR	LR		
	comp=E,850nm,14.8s						
NJ2				LR	LR		
	comp=Z,870nm,13.5s						
BJI	**Beijing**	21.68	298	P	**P**	**15 14 04.5**	**-2.3**
BJI				AP		15 14 15.8	
BJI				XP		15 14 21.0	
BJI				S	**S**	**15 17 59.0**	**-0.6**
BJI				AMB	AMB		
	comp=Z,7.0nm,0.7s,mb4.2						
BJI				AMB	AMB		
	comp=Z,104nm,4.5s						
BJI				LR	LR		
	comp=N,316nm,16.3s,MS4.0						
BJI				LR	LR		
	comp=E,461nm,16.3s,MS4.0						
BJI				LR	LR		
	comp=Z,576nm,21.3s,MS4.0						
BJI	**Beijing**	21.68	298	P	**P**	**15 14 04.6**	**-2.2**
	comp=Z,7.0nm,0.7s,mb4.2						
BJI				pP		15 14 15.7	
BJI				sP		15 14 21.1	
BJI				S	**S**	**15 17 58.9**	**-0.7**
WHN	**Wuhan**	23.10	273	*e*P	**P**	**15 14 22.0**	**+1.1**
HIA	**Hailar**	23.39	323	*e*P	**P**	**15 14 22.0**	**-1.5**
	comp=Z,22nm,0.9s,mb4.6						
HHC	**Hu-ho-hao-te**	25.29	298	*e*P	**P**	**15 14 44.8**	**+2.9**
HHC				AP	pP	15 14 57.5	+5.6
HHC				PP	PP	15 15 21.3	+0.4
HHC				S	**S**	**15 19 01.3**	**-1.5**
HHC				XS		15 19 25.0	
HHC				AMB	AMB		
	comp=Z,13nm,1.3s,mb4.3						
HHC				AMB	AMB		
	comp=Z,140nm,5.6s						
HHC				LR	LR		
	comp=N,177nm,17.8s,MS3.8						
HHC				LR	LR		
	comp=E,230nm,20.2s,MS3.8						
HHC				LR	LR		
	comp=Z,236nm,20.2s,MS3.7						

BTO	**Baotou**	**26.41**	**297**	*e*P	**P**	**15 14 52.3**	**-0.1**
BTO				AMB	AMB		
	comp=Z,24nm,0.8s,mb4.8						
BTO				LR	LR		
	comp=N,489nm,13.7s,MS4.5						
BTO				LR	LR		
	comp=E,1µm,17.7s,MS4.5						
CLNS	**Chul'man**	**27.00**	**340**	*e*P	**P**	**15 14 56.5**	**-1.1**
CLNS				pmax	pmax		
	comp=Z,42nm,1.1s,mb4.9						
CLNS				pmax	pmax		
	comp=N,29nm,1.2s						
CLNS				pmax	pmax		
	comp=E,9.0nm,0.9s						
XAN	**Xi'an**	**27.15**	**282**	P	**P**	**15 14 57.5**	**-1.7**
XAN				AP	pP	15 15 05.0	-4.3
XAN				AMB	AMB		
	comp=Z,19nm,1.3s,mb4.5						
SONM	**Songino Array**	**30.59**	**311**	P	**P**	**15 15 29.9**	**+0.1**
	comp=Z,11nm,0.9s,mb4.7,baz=108,slow=7.8,SNR=44						
YAK	**Yakutsk**	**30.63**	**349***c*	*i*P	**P**	**15 15 28.3**	**-1.8**
YAK				pmax	pmax		
	comp=Z,33nm,1.0s,mb5.1						
YAK				MLR	MLR		
	comp=Z,200nm,16.0s,MS3.9						
YAK	**Yakutsk**	**30.63**	**349**	*e*P	**P**	**15 15 28.3**	**-1.8**
	comp=Z,23nm,0.7s,mb5.1						
GYA	**Guiyang**	**30.71**	**268**	P	**P**	**15 15 34.0**	**+2.8**
GYA				AP	pP	15 15 46.8	+5.4
GYA				XP	sP	15 15 51.5	+5.3
GYA				PP	PP	15 16 36.5	+4.0
GYA				S	**S**	**15 20 33.3**	**+3.1**
GYA				XS		15 20 53.8	
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
GYA				LR	LR		
	comp=N,740nm,16.0s,MS4.6						
GYA				LR	LR		
	comp=E,860nm,15.8s,MS4.6						
GYA				LR	LR		
	comp=Z,1µm,16.2s,MS4.6						
LZH	**Lanzhou**	**31.12**	**287**	*e*P	**P**	**15 15 32.5**	**-2.2**
LZH				AP	pP	15 15 44.0	-1.0
LZH				XP	sP	15 15 49.3	-0.5
LZH				PP	PP	15 16 35.5	-2.3
LZH				*e*S	**S**	**15 20 32.5**	**-4.1**
LZH				XS		15 20 52.8	
LZH				AMB	AMB		
	comp=Z,29nm,1.4s,mb4.9						
LZH				AMB	AMB		
	comp=Z,138nm,5.0s						
LZH				LR	LR		
	comp=N,1µm,13.4s						
LZH				LR	LR		
	comp=Z,2µm,17.0s,MS4.8						
LZH	**Lanzhou**	**31.12**	**287**	*e*P	**P**	**15 15 32.4**	**-2.3**
	comp=Z,29nm,1.4s,mb4.9						
LZH				pP	pP	15 15 44.0	-1.0
LZH				sP	sP	15 15 49.2	-0.6
LZH				PP	PP	15 16 35.4	-2.4
LZH				*e*S	**S**	**15 20 32.5**	**-4.1**
LZH				sS		15 20 52.7	
LZH				SS	SS	15 22 18.5	-4.6
BOD	**Bodaibo**	**31.55**	**332**	*e*P	**P**	**15 15 35.7**	**-2.5**
BOD				*e*	pP	15 15 43.2	-5.3
ZAK	**Zakamensk**	**33.32**	**314**⇑	*e*P	**P**	**15 15 53.4**	**-0.3**
GTA	**Gaotai**	**34.16**	**294**	*e*P	**P**	**15 16 00.0**	**-1.1**
GTA				AP	pP	15 16 10.3	-1.2
GTA				XP	sP	15 16 17.3	+1.1
GTA				PP	PP	15 17 15.0	-1.2
GTA				PCP	PcP	15 18 38.8	+1.0
GTA				S	**S**	**15 21 18.5**	**-5.5**
GTA				SCP		15 22 19.5	
GTA				AMB	AMB		
	comp=Z,4.0nm,1.1s,mb4.3						
GTA				AMB	AMB		
	comp=Z,26nm,4.1s						
GTA				LR	LR		
	comp=N,79nm,14.1s,MS4.0						
GTA				LR	LR		
	comp=E,176nm,14.5s,MS4.0						
GTA				LR	LR		
	comp=Z,178nm,15.3s,MS3.9						
KMI	**Kunming**	**34.49**	**268**	*e*P	**P**	**15 16 05.5**	**+1.5**
KMI				S	**S**	**15 21 28.0**	**-1.2**
KMI				LR	LR		
	comp=N,316nm,5.0s						
KMI				LR	LR		
	comp=E,268nm,6.5s						
KMI				LR	LR		
	comp=Z,309nm,16.3s,MS4.1						
KMI	**Kunming**	**34.49**	**268**	*e*P	**P**	**15 16 05.5**	**+1.5**
KMI				S	**S**	**15 21 28.1**	**-1.1**
TIXI	**Tiksi**	**39.92**	**354**	*i*P	**P**	**15 16 48.0**	**-1.2**
CMAR	**Chiang Mai Arr**	**40.48**	**261**	P	**P**	**15 16 52.9**	**-1.5**
	comp=Z,0.5nm,0.6s,baz=46,slow=8.3,SNR=6.0						
CMAR				PcP	PcP	15 18 57.8	+0.5
	comp=Z,0.8nm,0.9s,baz=324,slow=1.9,SNR=4.1						
CMAR	**Chiang Mai Arr**	**40.48**	**261**	P	**P**	**15 16 52.9**	**-1.5**
CMAR						15 18 57.8	
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CMAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
LSA	**Lhasa**	**42.80**	**280**	P	**P**	**15 17 14.3**	**+0.9**
WMQ	**Urumqi**	**43.08**	**301**	P	**P**	**15 17 16.5**	**+1.0**
WMQ				AP	pP	15 17 28.8	+2.8
WMQ				XP	sP	15 17 34.3	+3.8
WMQ				AMB	AMB		
	comp=Z,17nm,1.4s,mb4.6						
WMQ				LR	LR		
	comp=N,187nm,21.6s,MS4.1						
WMQ				LR	LR		
	comp=E,144nm,20.0s,MS4.1						
WMQ				LR	LR		
	comp=Z,158nm,20.0s,MS3.9						
ZAL	**Zalesovo**	**45.15**	**316**	P	**P**	**15 17 32.8**	**+0.8**
ZAL				pmax	pmax		
	comp=Z,6.0nm,1.1s						
NVS	**Novosibirsk**	**46.14**	**317**	*e*P	**P**	**15 17 38.4**	**-1.4**
NVS				pmax	pmax		
	comp=E,13nm,1.1s						
NVS				pmax	pmax		
	comp=Z,18nm,1.1s,mb4.9						
MKAR	**Makanchi Array**	**46.70**	**306**	P	**P**	**15 17 44.3**	**-0.1**
	comp=Z,8.7nm,0.8s,mb4.7,baz=88,slow=9.1,SNR=35						
MKAR	**Makanchi Array**	**46.70**	**306**	*i*P	**P**	**15 17 44.4**	**+0.1**
MKAR				pmax	pmax		
	comp=Z,9.0nm,0.8s						
PKI	**Pulchoki**	**48.26**	**280**	*e*P	**P**	**15 17 56.1**	**-0.7**
	comp=Z,50nm,1.2s,mb5.4						
KKN	**Kakani**	**48.29**	**280**	*e*P	**P**	**15 17 56.6**	**-0.5**
	comp=Z,52nm,1.0s,mb5.5						
DMN	**Daman**	**48.50**	**280**	*e*P	**P**	**15 17 58.1**	**-0.6**
	comp=Z,39nm,1.1s,mb5.3						
GKN	**Gorkha**	**48.76**	**280**	*e*P	**P**	**15 18 00.1**	**-0.5**
	comp=Z,66nm,1.1s,mb5.6						
KURK	**Kurchatov**	**48.89**	**311**	*e*P	**P**	**15 18 00.3**	**-1.1**
KURK	**Kurchatov**	**48.89**	**311**	*e*P	**P**	**15 18 00.6**	**-0.8**
	comp=Z,36nm,1.1s,mb5.3						
KOLN	**Koldanda**	**49.70**	**281**	*e*P	**P**	**15 18 07.6**	**-0.3**
	comp=Z,49nm,1.2s,mb5.4						
CTA	**Charters Tower**	**52.36**	**174**	P	**P**	**15 18 29.5**	**+1.4**
	comp=Z,20nm,1.5s,mb4.8,baz=184,slow=19,SNR=2.2						
CTA	**Charters Tower**	**52.36**	**174**	P	**P**	**15 18 29.5**	**+1.4**
CTA				pmax	pmax		
	comp=Z,20nm,1.5s						
FITZ	**Fitzroy Crossi**	**52.38**	**199**	*e*P	**P**	**15 18 28.3**	**0.0**
	comp=Z,4.5nm,1.4s,mb4.2						
FITZ	**Fitzroy Crossi**	**52.38**	**199**	P	**P**	**15 18 28.0**	**-0.3**
	comp=Z,2.6nm,0.9s,mb4.2,baz=11,slow=13,SNR=3.1						
KSH	**Kashi**	**52.40**	**297**	*e*P	**P**	**15 18 29.0**	**+0.8**
KSH				*e*AP	pP	15 18 41.5	+2.6
KSH				*e*XP	sP	15 18 46.5	+3.2
KSH				*e*PCP	PcP	15 19 40.5	+1.7
KSH				*e*PP	PP	15 20 29.3	+1.3
KSH				*e*SCP		15 23 32.5	
KSH				*e*PCS		15 23 37.0	
KSH				*e*S	**S**	**15 25 49.5**	**-0.6**
KSH				*e*PS	PS	15 26 04.8	-0.1
KSH				*e*XS		15 26 10.3	
KSH				*e*SCS	ScS	15 28 11.0	-0.8
KSH				*e*SS	SS	15 29 25.0	-1.6
KSH				LR	LR		
	comp=N,150nm,6.0s						
KSH				LR	LR		
	comp=E,150nm,4.8s						
WRAB	**Tennant Creek**	**52.42**	**188**	*e*P	**P**	**15 18 27.7**	**-0.9**
	comp=E,22nm,0.9s,mb5.1						
WB2	**Warramunga Arr**	**52.43**	**188**⇑	*i*P	**P**	**15 18 27.5**	**-1.2**
WRA	**Warramunga Arr**	**52.44**	**188**	P	**P**	**15 18 27.6**	**-1.1**
	comp=E,15nm,1.1s,mb4.8,baz=6.4,slow=7.7,SNR=51						
MCK	**McKinley**	**52.58**	**32**	P	**P**	**15 18 27.6**	**-1.6**
	comp=E,4.5nm,1.0s,mb4.3						
ILAR	**Eielson Array**	**53.50**	**30**	P	**P**	**15 18 34.3**	**-1.7**
	comp=E,6.5nm,0.9s,mb4.5,baz=268,slow=6.1,SNR=43						
ILAR	**Eielson Array**	**53.50**	**30**	P	**P**	**15 18 34.3**	**-1.7**
ILAR				pmax	pmax		
	comp=Z,7.0nm,1.0s						
BVAR	**Borovoye Array**	**53.77**	**315**	P	**P**	**15 18 37.3**	**-0.8**
	comp=Z,5.5nm,0.9s,mb4.5,baz=90,slow=7.4,SNR=25						
BVAR				PcP	PcP	15 19 43.3	-0.4
	comp=Z,3.8nm,0.8s,baz=90,slow=5.9,SNR=5.1						
BRVK	**Borovoye**	**53.83**	**315**	P	**P**	**15 18 38.3**	**-0.3**
BRVK	**Borovoye**	**53.83**	**315**	*e*P	**P**	**15 18 37.3**	**-1.3**
	comp=Z,8.9nm,0.9s,mb4.7						
ZRNK	**Zerenda**	**54.61**	**315**	*e*P	**P**	**15 18 43.4**	**-0.9**
	comp=Z,8.3nm,1.1s,mb4.7						
ASAR	**Alice Springs**	**56.16**	**188**	P	**P**	**15 18 55.3**	**-0.6**
	comp=Z,5.7nm,1.2s,mb4.5,baz=3.3,slow=6.6,SNR=24						
ASPA	**Alice Springs**	**56.16**	**188**	*e*P	**P**	**15 18 55.5**	**-0.4**
INK	**Inuvik**	**58.58**	**26**	P	**P**	**15 19 11.1**	**-1.3**
	comp=Z,2.7nm,0.7s,mb4.4,baz=302,slow=10,SNR=4.3						
INK	**Inuvik**	**58.58**	**26**	P	**P**	**15 19 11.1**	**-1.3**
INK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
SVE	**Sverdlovsk**	**58.68**	**321**⇑	*e*P	**P**	**15 19 12.5**	**-0.7**
SVE				*e*		15 20 02.3	
SVE				pmax	pmax		
	comp=Z,40nm,1.2s,mb5.3						
ARU	**Arti**	**59.88**	**320**⇓	*i*P	**P**	**15 19 20.6**	**-1.0**
ARU				*e*		15 20 06.3	
ARU				*e*		15 21 30.7	
ARU				*e*S	**S**	**15 27 32.3**	**+3.2**
ARU				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.3						
ARU				MLR	MLR		
	comp=N,70nm,18.0s,MS4.1						
ARU				MLR	MLR		
	comp=E,100nm,18.0s,MS4.1						
ARU				MLR	MLR		
	comp=Z,100nm,18.0s,MS4.0						
ARU	**Arti**	**59.88**	**320**	*e*P	**P**	**15 19 20.5**	**-1.1**
	comp=Z,29nm,0.9s,mb5.3						
DLBC	**Dease Lake**	**62.37**	**36**	P	**P**	**15 19 38.5**	**+0.2**
	comp=Z,2.9nm,0.8s,mb4.4,baz=172,slow=24,SNR=3.4						
STKA	**Stephens Creek**	**63.89**	**180**	*e*P	**P**	**15 19 47.9**	**-0.9**
	comp=Z,2.1nm,0.8s,mb4.2						
STKA	**Stephens Creek**	**63.89**	**180**	P	**P**	**15 19 48.2**	**-0.6**
	comp=Z,3.2nm,1.0s,mb4.3,baz=326,slow=5.1,SNR=4.8						
FORT	**Forrest**	**64.05**	**193**	*e*P	**P**	**15 19 49.5**	**-0.3**
	comp=Z,25nm,0.8s,mb5.3						
RES	**Resolute Bay**	**67.14**	**14**	*e*P	**P**	**15 20 08.0**	**-0.9**
	comp=Z,26nm,1.0s,mb5.2						
YKA	**Yellowknife Ar**	**67.88**	**29**	P	**P**	**15 20 12.5**	**-1.2**
	comp=Z,4.8nm,0.8s,mb4.6,baz=296,slow=6.0,SNR=8.5						
YKA	**Yellowknife Ar**	**67.88**	**29**	P	**P**	**15 20 12.5**	**-1.2**
YKA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ARCES	**ARCESS Array B**	**68.36**	**340**	P	**P**	**15 20 15.9**	**-0.7**
	comp=Z,4.3nm,1.0s,mb4.4,baz=59,slow=7.1,SNR=6.6						
ARCES	**ARCESS Array B**	**68.36**	**340**	P	**P**	**15 20 15.9**	**-0.7**
ARCES				pmax	pmax		
	comp=Z,4.0nm,1.0s						
OBN	**Obninsk**	**71.84**	**324***j*	*i*P	**P**	**15 20 37.9**	**0.0**
OBN				*e*	pP	15 20 48.3	-0.7
OBN						15 20 57.0	
OBN				S	S	15 29 46.0	-8.7
OBN				pmax	pmax		
	comp=Z,17nm,1.1s,mb4.9						
FINES	**FINESS Array B**	**72.94**	**333**	P	**P**	**15 20 43.3**	**-1.0**
	comp=Z,4.1nm,0.8s,mb4.4,baz=45,slow=5.4,SNR=9.1						
FINES	**FINESS Array B**	**72.94**	**333**	P	**P**	**15 20 43.3**	**-1.0**
FINES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
EDM	**Edmonton**	**73.06**	**37**	*e*P	**P**	**15 20 45.1**	**0.0**
DPW	**Davenport**	**73.10**	**44**	*e*P	**P**	**15 20 46.0**	**+0.5**
GOF	**Gofitskoye**	**73.22**	**313**⇑	*i*P	**P**	**15 20 47.0**	**+0.7**
GOF				pmax	pmax		
	comp=Z,50nm,1.0s,mb5.4						
YBH	**Yreka Blue Hor**	**73.27**	**51**	P	**P**	**15 20 47.9**	**+1.2**
	comp=Z,4.2nm,1.2s,mb4.2,baz=285,slow=2.5,SNR=2.9						
YBH	**Yreka Blue Hor**	**73.27**	**51**	P	**P**	**15 20 47.9**	**+1.2**
YBH				pmax	pmax		
	comp=Z,4.0nm,1.2s						
KIV	**Kislovodsk**	**73.97**	**312**	*e*P	**P**	**15 20 50.7**	**0.0**
KIV				pmax	pmax		
	comp=Z,53nm,1.0s,mb5.4						
KIV				MLR	MLR		
	comp=Z,700nm,18.0s,MS5.0						
KIV	**Kislovodsk**	**73.97**	**312**	*e*P	**P**	**15 20 50.5**	**-0.2**
	comp=Z,72nm,1.0s,mb5.5						
GNI	**Garni**	**74.50**	**308***c*	*i*P	**P**	**15 20 55.6**	**+1.8**
GNI				pmax	pmax		
	comp=Z,43nm,1.5s						
SUMG	**Summit**	**75.35**	**360**	*e*P	**P**	**15 20 58.7**	**+0.6**
	comp=Z,12nm,1.0s,mb4.8						
SOC	**Sochi**	**76.02**	**313**	*i*P	**P**	**15 21 02.3**	**-0.1**
SOC				*e*	pP	15 21 14.7	+1.2
SOC				*e*PPP	PPP	15 25 39.5	-2.5
SOC				*e*S	S	15 30 39.9	-1.8
SOC				*e*		15 31 05.2	
SOC				*e*SS	SS	15 35 37.9	+0.1
SOC				pmax	pmax		
	comp=Z,31nm,0.9s,mb5.2						
SOC				pmax	pmax		
	comp=N,13nm,1.1s						
SOC				pmax	pmax		
	comp=E,4.0nm,0.5s						
SOC				MLR	MLR		
	comp=Z,927nm,14.0s,MS5.2						
SOC				MLR	MLR		
	comp=N,2µm,17.0s,MS5.4						
SOC				MLR	MLR		
	comp=E,336nm,15.0s,MS5.4						
HRY	**Holter Researc**	**77.40**	**42**	*e*P	**P**	**15 21 09.6**	**-0.6**
HLID	**Hailey**	**77.61**	**46**	*e*P	**P**	**15 21 11.1**	**-0.3**
	comp=E,3.1nm,0.8s,mb4.3						
FFC	**Flin Flon**	**77.67**	**32**	*e*P	**P**	**15 21 11.7**	**+0.2**
	comp=E,22nm,1.0s,mb5.0						
AKASG	**Malin Array Be**	**77.98**	**323**	P	**P**	**15 21 13.1**	**-0.2**
	comp=E,14nm,1.2s,mb4.8,baz=41,slow=5.6,SNR=5.3						
AKASG	**Malin Array Be**	**77.98**	**323**	P	**P**	**15 21 13.1**	**-0.2**
AKASG				pmax	pmax		
	comp=Z,14nm,1.2s						
NB2	**NORSAR Subarra**	**78.48**	**338**	P	**P**	**15 21 15.0**	**-0.8**
	comp=Z,2.4nm,0.7s,mb4.2,baz=40,slow=5.6						
NOA	**NORSAR Array B**	**78.48**	**338**	P	**P**	**15 21 15.4**	**-0.4**
	comp=Z,6.8nm,0.9s,mb4.6,baz=40,slow=5.3,SNR=12						
NOA	**NORSAR Array B**	**78.48**	**338**	P	**P**	**15 21 15.4**	**-0.4**
NOA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
ELK	**Elko**	**78.62**	**49**	*e*P	**P**	**15 21 18.2**	**+1.2**
	comp=Z,6.1nm,0.9s,mb4.5						
QLMT	**Earthquake Lak**	**78.69**	**44**	*e*P	**P**	**15 21 18.4**	**+1.2**
IMW	**Indian Meadow**	**79.51**	**44**	*e*P	**P**	**15 21 23.7**	**+1.9**
MOOW	**Moose Ponds**	**79.71**	**45**	*e*P	**P**	**15 21 24.3**	**+1.4**
LOHW	**Long Hollow**	**79.87**	**45**	*e*P	**P**	**15 21 25.1**	**+1.3**
TPNV	**Topopah Spring**	**80.02**	**53**	*e*P	**P**	**15 21 24.8**	**+0.1**
	comp=Z,10nm,0.8s,mb4.8						
RPZ	**Rata Peaks**	**80.42**	**159**	P	**P**	**15 21 28.3**	**+1.6**
	comp=Z,13nm,1.1s,mb4.8,baz=333,slow=4.5,SNR=3.4						
HWUT	**Hardware Ranch**	**80.44**	**47**	*e*P	**P**	**15 21 28.1**	**+1.2**
	comp=Z,17nm,1.3s,mb4.8						
PDAR	**Pinedale Array**	**80.99**	**45**	P	**P**	**15 21 30.1**	**+0.4**
	comp=Z,1.2nm,0.8s,mb3.9,baz=304,slow=5.3,SNR=9.9						
DAU	**Daniels Canyon**	**81.32**	**47**	*e*P	**P**	**15 21 32.7**	**+1.2**
ARUT	**Antelope Range**	**81.42**	**51**	*e*P	**P**	**15 21 32.7**	**+0.7**
NEN	**Nelson**	**81.68**	**53**	*e*P	**P**	**15 21 33.7**	**+0.3**
MVU	**Marysvale**	**81.81**	**49**	*e*P	**P**	**15 21 35.3**	**+1.3**
	comp=Z,4.4nm,0.9s,mb4.4						
MSU	**Marysvale**	**81.82**	**49**	*e*P	**P**	**15 21 35.5**	**+1.4**
KWP	**Kalwaria**	**81.91**	**325**	*e*P	**P**	**15 21 35.5**	**+1.2**
BRTR	**Keskin Array B**	**81.94**	**312**	P	**P**	**15 21 36.0**	**+1.3**
	comp=Z,7.3nm,1.1s,mb4.5,baz=97,slow=21,SNR=22						
BRTR	**Keskin Array B**	**81.94**	**312**	P	**P**	**15 21 36.0**	**+1.3**
BRTR				pmax	pmax		
	comp=Z,7.0nm,1.1s						
KOLS	**Kolonicke sedl**	**82.59**	**324**	*e*P	**P**	**15 21 39.2**	**+1.4**
KOLS				*e*		15 21 44.7	
OJC	**Ojcow**	**82.90**	**327**	*e*P	**P**	**15 21 40.5**	**+1.1**
CRVS	**Cervenica-Dubn**	**83.01**	**325**	*e*P	**P**	**15 21 44.0**	**+4.1**
ULM	**Lac du Bonnet**	**83.43**	**33**	P	**P**	**15 21 42.5**	**+0.4**
	comp=Z,2.7nm,0.5s,mb4.6,baz=342,slow=6.4,SNR=2.4						
KECS	**Kecovo**	**83.77**	**325**	*e*P	**P**	**15 21 45.4**	**+1.6**
PV10	**Paradox Valley**	**83.90**	**48**	*e*P	**P**	**15 21 46.5**	**+1.7**
OKC	**Ostrava-Krasne**	**83.94**	**327**	*e*P	**P**	**15 21 45.6**	**+1.0**
KSP	**Ksiaz**	**84.06**	**329**	*e*P	**P**	**15 21 46.0**	**+0.8**
MORC	**Moravsky Berou**	**84.26**	**327**	*e*P	**P**	**15 21 47.3**	**+1.1**
	comp=Z,9.3nm,1.1s,mb4.8						
PV01	**Paradox Valley**	**84.34**	**48**	*e*P	**P**	**15 21 48.2**	**+1.3**
DPC	**Dobruska-Polom**	**84.40**	**328**	*e*P	**P**	**15 21 48.0**	**+1.1**
UPC	**Upice**	**84.42**	**328**	*e*P	**P**	**15 21 48.0**	**+0.9**
PSZ	**Piszkesteto**	**84.44**	**325**	*e*P	**P**	**15 21 48.6**	**+1.4**
	comp=Z,18nm,0.9s,mb5.2						
VYHS	**Vyhne**	**84.55**	**326**	*i*P	**P**	**15 21 48.9**	**+1.1**
RW3	**Ridgway**	**84.83**	**48**	*e*P	**P**	**15 21 50.7**	**+1.3**
PVCC	**Panska Ves**	**85.04**	**329**	*e*P	**P**	**15 21 51.4**	**+1.3**
BRG	**Berggiesshubel**	**85.06**	**330**	*e*P	**P**	**15 21 51.1**	**+0.9**
BRG				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.6						
BRG				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.2						
BRG				MLR	MLR		
	comp=N,8µm,29.9s						
BRG				MLR	MLR		
	comp=E,4µm,29.9s						
BRG				MLR	MLR		
	comp=Z,9µm,28.0s						
BRG	**Berggiesshubel**	**85.06**	**330**	*e*Pdif	**P**	**15 21 51.1**	**+0.9**
	comp=Z,5.4nm,1.0s,mb4.6						
CLL	**Collm**	**85.13**	**330**	⇑P	**P**	**15 21 50.7**	**+0.1**
	comp=Z,logA/T=1.3,mb5.2						
CLL	**Collm**	**85.13**	**330**⇑	*i*P	**P**	**15 21 50.7**	**+0.1**
CLL				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.2						
CLL	**Collm**	**85.13**	**330**⇑	*i*P	**P**	**15 21 50.7**	**+0.1**
	comp=Z,20nm,1.0s,mb5.2						
PRU	**Pruhonice**	**85.45**	**329**	*e*P	**P**	**15 21 53.0**	**+0.8**
NKC	**Novy Kostel**	**86.17**	**330**	*e*P	**P**	**15 21 56.3**	**+0.6**
MOX	**Moxa**	**86.21**	**331**	*e*P	**P**	**15 21 54.0**	**-1.8**
	comp=Z,113nm,2.3s,mb5.7						
KHC	**Kasperske Hory**	**86.51**	**329**	*e*P	**P**	**15 21 57.6**	**+0.3**
GEC2	**GERESS Array S**	**86.66**	**328**	*e*P	**P**	**15 21 58.1**	**0.0**
GEC2				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.7						
GEC2	**GERESS Array S**	**86.66**	**328**	*e*P	**P**	**15 21 58.1**	**0.0**
	comp=Z,6.0nm,1.3s,mb4.7						
GERES	**GERESS Array B**	**86.66**	**328**	P	**P**	**15 21 58.8**	**+0.7**
	comp=Z,1.1nm,0.9s,mb4.1,baz=63,slow=3.0,SNR=6.6						
GERES	**GERESS Array B**	**86.66**	**328**	P	**P**	**15 21 58.8**	**+0.7**
GERES				pmax	pmax		
	comp=Z,1.0nm,1.0s						
WET	**Wettzell**	**86.80**	**329**	*e*P	**P**	**15 21 59.8**	**+1.0**
WET				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.6						
WET	**Wettzell**	**86.80**	**329**	*e*P	**P**	**15 21 59.8**	**+1.0**
	comp=Z,4.0nm,1.1s,mb4.6						
GRA1	**Grafenberg Arr**	**87.10**	**330**	*e*P	**P**	**15 22 01.6**	**+1.4**
	comp=Z,10.0nm,1.1s,mb5.0						
GRF	**Grafenberg Arr**	**87.10**	**330**	*e*P	**P**	**15 22 01.6**	**+1.4**
GRF				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb5.0						
CABF	**La Chapelle**	**91.65**	**331**	*e*P	**P**	**15 22 20.6**	**-1.2**
LOR	**Lormes**	**92.01**	**333**	*e*P	**P**	**15 22 22.1**	**-1.3**
LPL	**La Plagne**	**92.26**	**330**	*e*P	**P**	**15 22 23.5**	**-1.1**
LPG	**La Plagne**	**92.26**	**330**	*e*P	**P**	**15 22 23.5**	**-1.2**
	comp=Z,11nm,0.8s,mb4.9						
SSF	**Saint Saulge**	**92.31**	**333**	*e*P	**P**	**15 22 23.4**	**-1.5**
	comp=Z,9.3nm,0.9s,mb4.8						
SMF	**Signal de Mont**	**92.53**	**332**	*e*P	**P**	**15 22 24.4**	**-1.4**
AVF	**Avril sur Loir**	**92.60**	**333**	*e*P	**P**	**15 22 24.6**	**-1.6**
	comp=Z,19nm,1.0s,mb5.2						
GRR	**Gorron**	**92.80**	**336**	*e*P	**P**	**15 22 25.6**	**-1.5**
MBDF	**Montbardon**	**92.87**	**329**	*e*P	**P**	**15 22 26.0**	**-1.5**
	comp=Z,5.0nm,0.7s,mb4.8						
TXAR	**Lajitas Array**	**93.00**	**52**	P	**P**	**15 22 29.0**	**+0.6**
	comp=Z,2.0nm,0.9s,mb4.5,baz=270,slow=2.5,SNR=9.0						
TXAR	**Lajitas Array**	**93.00**	**52**	P	**P**	**15 22 29.0**	**+0.6**
ORIF	**Oris-en-Rattie**	**93.10**	**330**	*e*P	**P**	**15 22 26.9**	**-1.6**
	comp=Z,6.8nm,0.8s,mb4.8						
PGF	**Pioggiola**	**93.59**	**327**	*e*P	**P**	**15 22 29.5**	**-1.3**
VIVF	**Saint-Julien-l**	**93.65**	**331**	*e*P	**P**	**15 22 29.6**	**-1.4**
LMR	**La Mourre**	**94.09**	**329**	*e*P	**P**	**15 22 31.6**	**-1.4**
	comp=Z,28nm,1.2s,mb5.3						
LASF	**Ste Croix**	**94.62**	**331**	*e*P	**P**	**15 22 34.3**	**-1.1**
	comp=Z,14nm,1.0s,mb5.0						
VNA2	**Neumayer--Watz**	**137.81**	**195**		PKPdf	15 28 45.2	+8.0
SAML	**Samuel**	**147.45**	**50**	*e*PKPdf	PKPdf	15 28 57.7	+2.1
LPAZ	**La Paz**	**148.86**	**66**	PKPbc	PKPdf	15 29 04.3	+6.7
	baz=270,slow=20						

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*JMA **28** 15:21:38.3±0.5, 32.29N×141.78E, h28^{km}, M3.5*

*IDC **28** 15:21:43.1±2.3, 31.89N×140.47E, mb3.6/6, mb1 3.7/7, mb1mx3.5/22, ML3.3/1, Error ellipse: s-maj=102.0km s-min=14.2km az=69.0*

ISC 28 15:21:39.8±2.5,**32.47N**±0.06×**141.8E**±0.1,**h23**^{km}±21^{km}, **n23**,σ**0^{s}90**/26,**mb3.7**/6,**Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**1.79**	**292**	P	**Pn**	**15 22 08.9**	**-1.0**
JHJ	**Hachijo jima 2**	**1.82**	**291**	Pn	**Pn**	**15 22 09.2**	**-1.1**
	24nm,0.3s,baz=225,slow=19,SNR=23						
JHJ				Sn	**Sn**	**15 22 26.9**	**-5.9**
	37nm,0.3s,baz=270,slow=24,SNR=6.4						
BSO1	**Boso 1**	**2.29**	**343**	P	**Pn**	**15 22 17.4**	**+0.4**
BSO3	**Boso 3**	**2.57**	**336**	P	**Pn**	**15 22 21.3**	**+0.4**
BSO4	**Boso 4**	**2.80**	**335**	P	**Pn**	**15 22 24.8**	**+0.6**
JKO	**Kozu shima**	**2.82**	**308**	P	**Pn**	**15 22 24.8**	**+0.3**
JOD2	**Odawara 2**	**3.59**	**322**	P	**Pn**	**15 22 34.8**	**-0.7**
JHU	**Hanno**	**3.97**	**329**	P	**Pn**	**15 22 41.1**	**+0.2**
JHU				*e*S	**Sn**	**15 23 26.9**	**-0.4**
JYT	**Yasato**	**3.98**	**341**	P	**Pn**	**15 22 41.6**	**+0.6**
JYN	**Shimob**	**4.06**	**319**	P	**Pn**	**15 22 43.5**	**+1.4**
JHO	**Hitachi**	**4.26**	**347**	P	**Pn**	**15 22 44.3**	**-0.7**
JRY	**Ryogami san**	**4.28**	**327**	P	**Pn**	**15 22 46.4**	**+1.1**
JAG	**Ashikaga**	**4.40**	**334**	P	**Pn**	**15 22 46.9**	**-0.1**
JFK	**Kawauchi**	**4.95**	**351**	P	**Pn**	**15 22 53.6**	**-1.2**
MAT	**Matsushiro**	**5.04**	**325**	P	**Pn**	**15 22 56.5**	**+0.5**
CBIJ	**Chichi jima**	**5.36**	**176**	Pn	**Pn**	**15 23 00.8**	**+0.3**
	2.3nm,0.3s,baz=270,slow=20,SNR=6.1						
CBIJ				Sn	**Sn**	**15 23 56.7**	**-5.7**
	4.2nm,0.3s,baz=256,slow=16,SNR=3.3						
JMK	**Ichinoseki**	**6.49**	**356**	P	**Pn**	**15 23 15.3**	**-1.2**
SONM	**Songino Array**	**30.80**	**310**	P	**P**	**15 27 58.2**	**+2.4**
	0.2nm,0.3s,mb3.4,baz=140,slow=11,SNR=2.7						
MKAR	**Makanchi Array**	**46.94**	**306**	P	**P**	**15 30 09.6**	**-0.8**
	0.5nm,0.5s,mb3.8,baz=88,slow=9.1,SNR=8.9						
CTA	**Charters Tower**	**52.43**	**175**	P	**P**	**15 30 53.4**	**+0.5**
	1.1nm,0.4s,mb4.1,baz=57,slow=4.8,SNR=2.2						
WRA	**Warramunga Arr**	**52.60**	**189**	P	**P**	**15 30 52.8**	**-1.4**
	0.4nm,0.6s,mb3.6,baz=4.5,slow=7.6,SNR=9.6						
ASAR	**Alice Springs**	**56.32**	**189**	P	**P**	**15 31 21.6**	**+0.2**
	0.2nm,0.7s,mb3.3,baz=7.1,slow=7.3,SNR=4.2						
STKA	**Stephens Creek**	**63.99**	**180**	P	**P**	**15 32 17.6**	**+3.9**
	0.9nm,0.8s,mb3.9,slow=13,SNR=3.2						

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*IDC **28** 15:29:51.4±0.3, 52.42S×28.12E, mb5.5/22, mb1 5.6/22, mb1mx5.6/22, MS6.0/18, Ms1 6.0/18, ms1mx5.8/21, Error ellipse: s-maj=12.2km s-min=8.0km az=47.0, Putative timing error at ZAL*

*BJI **28** 15:29:53.8, 52.50S×28.00E, h10^{km}, mB6.2, mb6.2, Ms6.2, Msz5.9*

*NEIC **28** 15:29:53.8±0.1, 52.52S×28.02E, h10^{km}, mb5.9/68, ME6.8, MS6.0/104, MW6.3, Error ellipse: s-maj=5.9km s-min=4.7km az=82.0, Moment Tensor Solution. s15 Moment tensor: Scale 10^{18}Nm; M$_{rr}$0.34; M$_{\theta\theta}$2.65; M$_{\phi\phi}$-2.99; M$_{r\theta}$0.26; M$_{\theta\phi}$1.69; M$_{\phi r}$-0.68; Best double couple: M$_0$3.4×10^{18} NP1:φ$_s$30°,δ82°,λ-174°. NP2:φ$_s$299°,δ84°,λ-8°. Principal axes: T 3.12, Plg1°, Azm345°; N .47, Plg79°, Azm82°; P -3.59, Plg10°, Azm254°; Broadband fault plane solution: P waves. NP1:φ$_s$205°,δ85°,λ180°. NP2:φ$_s$115°,δ90°,λ-5°. Principal axes: T Plg4°, Azm160°; N Plg0°, Azm0°; P Plg4°, Azm70°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

*HRVD **28** 15:29:53.8±0.1, 52.44S×28.59E, h12^{km}, MW6.3/79, Centroid moment Tensor Solution. LP body waves: s79,c191;Mantle waves: s73,c146; Half duration: 3^{s}6*

Moment tensor: Scale 10^{18}Nm; M_{rr}-0.20±.02; $M_{\theta\theta}$2.69±.03; $M_{\phi\phi}$-2.48±.03; $M_{r\theta}$0.14±.07; $M_{\theta\phi}$2.85±.03; $M_{\phi r}$0.27±.07; Best double couple: $M_0$3.86×10^{18} NP1: ϕ_s111°,δ85°,λ0°. NP2:ϕ_s21°,δ90°,λ175°. Principal axes: T 3.97, Plg3°, Azm336°; N -.21, Plg85°, Azm199°; P -3.75, Plg3°, Azm66°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to mantle waves, cutoff=125s.

*SYO **28** 15:29:53.7,52.44S×27.99E,h10km,MB5.9,MS6.0*

*MOS **28** 15:29:58.8±1.9,52.12S×29.50E,h33km,mb5.8/25, MS6.0/26,Error ellipse: s-maj=28.5km s-min=9.8km az=95.9*

*DUSS **28** 15:30:13.6±0.3,48.92S×27.95E,h15km,MS7.3*

ISC 28 15:29:52.6±0.1,**52.50S**±0.03×**28.05E**±0.07,**h10km, (h8km**±1.1km**:pP-P),n730,σ0.97**/386,**mb5.8**/89,**MS6.0**/138, **45C-33D,South of Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SYO	**Syowa Base**	17.44	166	⇓Pn	P	15 33 56.1	-1.1
SYO	**Syowa Base**	17.44	166	⇓P	P	15 33 58.1	+0.9
SYO	**Syowa Base**	17.44	166	⇓Pn	P	15 33 59.8	+2.6
SYO	**Syowa Base**	17.44	166	⇓pP		15 34 00.5	
NVL	**N'lazarevskaya**	19.75	196	⇑eP	P	15 34 25.0	-0.1
NVL				eS	S	15 38 07.0	+5.4
NVL				pmax	pmax		
	comp=Z,22µm,3.3s						
NVL				MLR	MLR		
	comp=Z,88µm,10.0s						
MAIT	**Maitri**	19.77	196	⇑iP	P	15 34 22.6	-2.7
MAIT				iS	S	15 38 07.8	+5.6
SUR	**Sutherland**	20.79	343	P	P	15 34 34.2	-2.0
	comp=Z,660nm,1.0s,baz=161,slow=9.4,SNR=121						
SUR				S	S	15 38 24.4	+1.2
	comp=Z,32nm,0.6s,baz=235,slow=20,SNR=5.1						
SUR				LR	LR	15 40 44.3	
	comp=Z,68µm,22.0s,MS6.0,baz=149,slow=32						
SUR	**Sutherland**	20.79	343	⇑eP	P	15 34 33.5	-2.7
	comp=Z,2µm,1.2s						
SUR				LR	LR		
	comp=Z,20µm,22.0s,MS5.5						
MAW	**Mawson**	22.59	145	⇑iP	P	15 34 54.4	+0.4
	comp=Z,759nm,0.9s,mb6.1						
MAW				eS	S	15 38 54.9	-1.7
MAW	**Mawson**	22.59	145	P	P	15 34 54.4	+0.5
	comp=Z,547nm,0.7s,mb6.1,baz=291,slow=11,SNR=184						
MAW				S	S	15 39 04.1	+7.5
	comp=Z,188nm,0.5s,baz=241,slow=16,SNR=7.9						
MAW				LR	LR	15 42 00.4	
	comp=Z,43µm,18.8s,MS5.9,baz=299,slow=32						
MAW	**Mawson**	22.59	145	P	P	15 34 54.4	+0.4
MAW				S	S	15 39 04.1	+7.5
MAW				pmax	pmax		
	comp=Z,547nm,0.7s						
MAW				smax			
	comp=N,188nm,0.5s						
MAW				MLR	MLR		
	comp=Z,43µm,18.8s						
SNAA	**Sanae**	23.55	204	⇑i	P	15 35 08.5	+5.2
SNAA	**Sanae**	23.55	204	⇑i	P	15 35 10.3	+7.0
SNAA	**Sanae**	23.55	204	⇓iS	S	15 39 19.4	+5.8
SNAA	**Sanae**	23.55	204	P	P	15 35 04.8	+1.4
	comp=Z,192nm,0.7s,mb5.6,baz=58,slow=10,SNR=339						
SNAA				S	S	15 39 18.9	+5.3
	comp=Z,11nm,0.8s,baz=93,slow=19,SNR=2.2						
SNAA				LR	LR	15 41 53.8	
	comp=Z,21µm,21.6s,MS5.6,baz=49,slow=31						
SNAA	**Sanae**	23.55	204	P	P	15 35 04.8	+1.5
SNAA				S	S	15 39 18.9	+5.3
SNAA				pmax	pmax		
	comp=Z,192nm,0.7s						
SNAA				smax			
	comp=N,11nm,0.8s						
SNAA	**Sanae**	23.55	204	⇑iP	P	15 35 05.8	+2.5
SNAA				⇑iP		15 35 08.5	
SNAA				⇑iP		15 35 10.3	
VNA2	**Neumayer--Watz**	24.34	208		P	15 35 18.6	+7.6
VNA2	**Neumayer--Watz**	24.34	208	⇑i	P	15 35 19.9	+8.9
VNA2	**Neumayer--Watz**	24.34	208	⇓iP	P	15 35 15.7	+4.7
VNA2				⇑iP		15 35 19.9	
VNA1	**Neumayer--Stat**	24.45	208	⇑i	P	15 35 17.6	+5.5
VNA1	**Neumayer--Stat**	24.45	208	⇑i	P	15 35 19.5	+7.4
VNA1	**Neumayer--Stat**	24.45	208	⇑i	P	15 35 22.6	+11
VNA1	**Neumayer--Stat**	24.45	208	⇓i	Px	15 38 54.3	
VNA1	**Neumayer--Stat**	24.45	208	P	P	15 35 16.4	+4.3
VNA1				⇑iP		15 35 17.6	
VNA3	**Neumayer Olymp**	25.14	208	⇑iP	P	15 35 22.3	+3.6
VNA3	**Neumayer Olymp**	25.14	208	⇓i	P	15 35 23.9	+5.2
VNA3	**Neumayer Olymp**	25.14	208	⇑i	P	15 35 27.1	+8.4
VNA3	**Neumayer Olymp**	25.14	208	⇑i	P	15 35 30.6	+12
VNA3	**Neumayer Olymp**	25.14	208	⇑iS	S	15 39 45.5	+4.8
TRIS	**Tristan da Cun**	32.05	283	PFAKE		15 36 30.0	+8.5
TRIS				LR	LR		
	comp=Z,10µm,21.0s,MS5.5						
MIR	**Mirnyy**	34.03	140	αiP	P	15 36 38.7	+0.4
MIR				e		15 39 26.0	
MIR				eS	S	15 42 02.0	-0.6
MIR				pmax	pmax		
	comp=Z,720nm,1.4s,mb6.4						
MIR				pmax	pmax		
	comp=Z,4µm,3.6s						
MIR				smax			
	comp=N,8µm,16.0s						
MIR				smax			
	comp=E,9µm,17.0s						
MIR				MLR	MLR		
	comp=Z,24µm,12.0s,MS6.1						
MIR				MLR	MLR		
	comp=E,13µm,12.0s						
TSUM	**Tsumeb**	34.22	342	LR	LR	15 49 10.4	
	comp=E,57µm,19.1s,MS6.3,baz=165,slow=34						
TSUM	**Tsumeb**	34.22	342	⇑eP	P	15 36 38.0	-2.5
	comp=E,124nm,0.7s,mb6.0						
TSUM				e	pP	15 36 41.5	-1.9
TSUM				LR	LR		
	comp=Z,62µm,20.0s,MS6.3						
LSZ	**Lusaka**	37.14	0	⇑iP	P	15 37 02.8	-2.4
	comp=Z,290nm,1.0s,mb6.1						
LSZ				LR	LR		
	comp=Z,43µm,20.0s,MS6.2						
QSPA	**South Pole Qui**	37.72	180	eP	P	15 37 09.3	-0.2
	comp=Z,85nm,1.0s,mb5.4						
QSPA				e		15 38 21.0	
QSPA				LR	LR		
	comp=Z,29µm,21.1s,MS6.1						
CASY	**Casey**	40.88	142	⇑iP	P	15 37 36.8	+0.9
CASY				iS	S	15 43 49.3	+2.3
PMSA	**Palmer Station**	45.14	217	⇓eP	P	15 38 10.6	+0.2
	comp=Z,362nm,1.3s,mb6.0						
PMSA				LR	LR		
	comp=Z,8µm,20.0s,MS5.7						
SBA	**Scott Base**	47.46	169	⇑eP	P	15 38 29.4	+0.8
	comp=Z,594nm,0.9s,mb6.5						
SBA				LR	LR		
	comp=Z,27µm,22.0s,MS6.2						
EFI	**East Falkland**	49.83	234	eP	P	15 38 46.2	-1.0
	comp=Z,213nm,1.1s,mb6.1						
EFI				LR	LR		
	comp=Z,2µm,21.0s,MS5.2						
DRV	**Dumont d'Urvil**	50.59	151	P	P	15 38 51.0	-1.9
DRV	**Dumont d'Urvil**	50.59	151	PP	PP	15 40 42.0	-7.8
DRV				S	S	15 46 01.0	-5.0
DRV				R		15 53 00.0	
MBAR	**Mbarara**	51.77	3	⇑eP	P	15 39 00.8	-1.7
	comp=Z,247nm,1.6s,mb5.9						
MBAR				LR	LR		
	comp=Z,5µm,20.0s,MS5.6						
KMBO	**Kilima Mbogo**	51.77	12	P	P	15 39 02.4	-0.1
	comp=Z,24nm,0.9s,mb5.1,baz=185,slow=7.0,SNR=35						
KMBO				PP	PP	15 40 59.9	-1.1
	comp=Z,6.9nm,1.0s,baz=178,slow=16,SNR=2.3						
KMBO				LR	LR	15 58 35.4	
	comp=Z,22µm,19.6s,MS6.2,baz=174,slow=33						
KMBO	**Kilima Mbogo**	51.77	12	eP	P	15 39 02.2	-0.4
	comp=Z,182nm,1.6s,mb5.8						
KMBO				ePP	PP	15 41 03.5	+2.4
KMBO				LR	LR		
	comp=Z,22µm,19.0s,MS6.2						
MSEY	**Mahe Island**	52.78	35	P	P	15 39 09.8	-0.3
	comp=Z,429nm,1.4s,mb6.2,SNR=8.7						
LPA	**La Plata**	60.92	250	deP	P	15 40 05.0	-2.7
LPA				esP	sP	15 40 14.0	+2.0
LPA				ePP	PP	15 42 21.0	-3.1
LPA				eS	S	15 48 26.0	+2.0
LPA				esS		15 48 31.0	
LPA				ePS	PS	15 48 38.0	-2.4
	comp=Z,7µm,18.0s						
TRQA	**Tornquist**	60.95	245	eP	P	15 40 06.5	-1.4
	comp=Z,542nm,1.4s,mb6.5						
TRQA				LR	LR		
	comp=Z,10µm,20.0s,MS6.0						
NWAO	**Narrogin (SRO)**	64.19	111	P	P	15 40 28.8	-0.7
	comp=Z,23nm,0.8s,mb5.3,baz=222,slow=5.1,SNR=18						
NWAO				S	S	15 49 02.9	-2.1
	comp=Z,3.2nm,0.9s,baz=186,slow=10,SNR=2.1						
NWAO				LR	LR	16 00 45.4	
	comp=Z,7µm,20.7s,MS5.8,baz=128,slow=29						
NWAO	**Narrogin (SRO)**	64.19	111	P	P	15 40 28.8	-0.6
NWAO				S	S	15 49 02.9	-2.2
NWAO				pmax	pmax		
	comp=Z,23nm,0.8s						
NWAO				smax			
	comp=N,3.0nm,0.9s						
NWAO	**Narrogin (SRO)**	64.19	111	eP	P	15 40 28.6	-0.9
	comp=N,94nm,1.0s,mb5.8						
NWAO				LR	LR		
	comp=Z,7µm,19.0s,MS5.9						
MUN	**Mundaring**	64.29	109	eP	P	15 40 29.8	-0.4
	comp=Z,84nm,1.5s,mb5.5						
MUN				iS	S	15 49 07.9	+1.5
MUN				ePKPPKP		16 09 26.3	
LIC	**Lamto**	64.91	323	eP	P	15 40 31.7	-2.7
	comp=Z,1µm,1.9s,mb6.6						
LIC	**Lamto**	64.91	323	⇑iP	P	15 40 31.7	-2.7
	comp=Z,481nm,1.6s,mb6.3						
KIC	**Kosan Boka**	64.93	324	eP	P	15 40 31.8	-2.8
	comp=Z,2µm,1.9s,mb6.8						
DBIC	**Dimbokro**	65.26	324	P	P	15 40 34.0	-2.7
	comp=Z,78nm,0.8s,mb5.8,baz=136,slow=8.2,SNR=74						
DBIC				S	S	15 49 14.7	-3.8
	comp=Z,3.0nm,1.0s,baz=201,slow=14,SNR=2.3						
DBIC				LR	LR	16 02 54.3	
	comp=Z,10µm,21.3s,MS6.0,baz=147,slow=30						
DBIC				PKP2bc		16 09 20.4	
	comp=Z,4.4nm,0.9s,baz=191,slow=10,SNR=4.1						
DBIC	**Dimbokro**	65.26	324	P	P	15 40 34.0	-2.7
DBIC				S	S	15 49 14.7	-3.8
DBIC				pmax	pmax		
	comp=Z,78nm,0.9s						
DBIC				smax			
	comp=N,3.0nm,1.0s						
DBIC				pmax	pmax		
	comp=Z,4.0nm,0.9s						
DBIC	**Dimbokro**	65.26	324	eP	P	15 40 33.7	-3.0
	comp=Z,266nm,1.1s,mb6.2						
TIC	**Toumodi**	65.30	323	eP	P	15 40 34.4	-2.5
	comp=Z,2µm,1.3s,mb6.9						
KLBR	**Kellerberrin**	65.47	110	eP	P	15 40 36.7	-1.0
	comp=Z,132nm,1.1s,mb5.9						
KLBR				eS	S	15 49 17.4	-3.4
KLBR				ePKPPKP		16 09 09.9	
CPUP	**Villa Florida**	66.84	257	P	P	15 40 45.0	-1.6
	comp=Z,101nm,0.9s,mb5.9,baz=149,slow=5.4,SNR=133						
CPUP				S	S	15 49 38.0	+0.4
	comp=Z,1.6nm,1.1s,baz=203,slow=13,SNR=1.7						
CPUP				LR	LR	16 03 31.5	
	comp=Z,9µm,21.6s,MS6.0,baz=159,slow=30						
CPUP				PKPPKP		16 09 17.2	
	comp=Z,1.8nm,1.1s,baz=270,slow=3.3,SNR=3.9						
CPUP	**Villa Florida**	66.84	257	P	P	15 40 45.0	-1.6
CPUP				S	S	15 49 38.0	+0.4
CPUP				LR	LR	16 03 31.5	
CPUP				P'P'		16 09 17.2	
COCO	**West Island**	67.52	81	PFAKE		15 41 00.0	+8.9
COCO				LR	LR		
	comp=Z,3µm,22.0s,MS5.4						
LBOS		67.75	18	⇑eP	P	15 40 52.7	+0.2
DHBB	**Dhamar BB**	68.26	17	⇓eP	P	15 40 57.6	+1.9
FCH	**Farellones**	68.99	243	⇑iP	P	15 40 57.4	-2.5
BAO	**Brasilia Array**	69.27	271	eP	P	15 41 01.4	-0.4
BAO				i		15 41 06.7	
BDFB	**Brasilia**	69.28	271	P	P	15 41 01.5	-0.4
	comp=Z,82nm,0.8s,mb5.7,baz=136,slow=3.9,SNR=76						
BDFB				S	S	15 50 07.7	+0.9
	comp=Z,3.7nm,0.9s,baz=145,slow=19,SNR=2.1						
BDFB				LR	LR	16 04 54.6	
	comp=Z,16µm,20.2s,MS6.2,baz=138,slow=30						
BDFB				PKPPKP		16 09 11.5	
	comp=Z,5.4nm,1.0s,baz=330,slow=2.8,SNR=4.0						
PEL	**Peldehue**	69.34	242	eP	P	15 41 00.6	-1.5
RCBR	**Riachuelo**	69.70	288	eP	P	15 41 04.8	+0.2
	comp=Z,126nm,0.9s,mb5.8						
RCBR				LR	LR		
	comp=Z,8µm,20.0s,MS6.0						
DJNS	**Zahran al Janu**	71.20	16	P	P	15 41 14.3	+0.7
TAU	**Tasmania Unive**	71.50	137	P	P	15 41 16.3	+1.2
	comp=Z,658nm,1.2s,mb6.4,SNR=11						
TAU	**Tasmania Unive**	71.50	137	eP	P	15 41 14.2	-0.9
	comp=Z,271nm,1.3s,mb6.0						
TAU				LR	LR		
	comp=Z,3µm,21.0s,MS5.5						
FORT	**Forrest**	71.85	117	eP	P	15 41 17.4	+0.1
	comp=Z,173nm,0.6s,mb6.2						
FORT				iS	S	15 50 35.2	-1.4
TATS	**Tathlith**	72.98	15	P	P	15 41 24.3	+0.1
BLJS	**Baljurashi**	73.03	13	P	P	15 41 26.0	+1.6
ADE	**Adelaide**	74.08	127	⇓iP	P	15 41 31.0	+0.8
PALK	**Pallekele**	74.43	55	⇓eP	P	15 41 31.7	-1.0
	comp=Z,55nm,1.0s,mb5.4						
PALK				LR	LR		
	comp=Z,4µm,21.0s,MS5.7						
MBWA	**Marble Bar**	74.50	104	eP	P	15 41 32.1	-0.9
	comp=Z,204nm,1.2s,mb5.9						
MBWA				LR	LR		
	comp=Z,9µm,22.0s,MS6.0						
TOO	**Toolangi**	75.13	133	eP	P	15 41 36.6	+0.3
	comp=Z,52nm,0.9s,mb5.5						
TOO				eS	S	15 51 16.8	+3.4
LVC	**Limon Verde**	76.46	251	⇓eP	P	15 41 43.8	-0.4
	comp=Z,124nm,1.0s,mb5.8						
LVC				LR	LR		
	comp=Z,3µm,21.0s,MS5.6						
MLZ	**Mavora Lakes**	76.69	152	eP	P	15 41 45.1	+0.2
YNBS	**Yanbu' al Bahr**	77.00	9	P	P	15 41 47.2	+0.1
RAYN	**Ar Rayn**	77.22	16	P	P	15 41 47.7	-0.6
	comp=Z,423nm,1.5s,mb6.2,SNR=45						
WKZ	**Wanaka**	77.40	153	P	P	15 41 49.3	+0.4
MZLS	**Mizel**	77.66	16	P	P	15 41 51.2	+0.4
UMJS	**Umm Lajj**	77.82	9	P	P	15 41 52.6	+1.0
STKA	**Stephens Creek**	77.99	127	eP	P	15 41 52.4	0.0
	comp=Z,80nm,1.0s,mb5.6						
STKA				iSKS	S	15 51 43.8	-0.8
STKA				eSS	Sx	15 56 33.9	
STKA	**Stephens Creek**	77.99	127	P	P	15 41 52.5	+0.1
	comp=Z,87nm,1.0s,mb5.6,baz=208,slow=5.4,SNR=94						
STKA				PP	PP	15 44 46.8	-3.9
	comp=Z,22nm,1.3s,baz=225,slow=11,SNR=1.5						
STKA				S	S	15 51 45.6	+1.0
	comp=Z,1.1nm,0.8s,baz=278,slow=16,SNR=5.1						
STKA				PKPPKP		16 08 53.0	
	comp=Z,1.1nm,0.8s,baz=340,slow=3.0,SNR=3.1						
STKA				LR	LR	16 10 10.4	
	comp=Z,6µm,18.8s,MS5.9,baz=205,slow=31						
GOA	**Goa**	78.40	45	iP	P	15 41 55.2	+0.3
GOA				iS	S	15 51 56.0	+6.6
KBRS	**Khaybar**	78.57	10	P	P	15 41 56.0	+0.3
CNB	**Canberra Magne**	78.72	135	eP	P	15 41 57.4	+1.0
	comp=Z,207nm,1.4s,mb5.9						
ARSS	**Ar Rass**	79.17	14	P	P	15 41 58.8	-0.2
MDRS	**Chennai**	79.20	52	iP	P	15 41 59.0	-0.3
MDRS				iS	S	15 51 58.0	+0.1
HASS	**Wahat al Ahsa'**	79.64	20	P	P	15 42 00.6	-1.0
DBAS	**Duba**	79.67	7	P	P	15 42 01.7	+0.1
CUD	**Cuddapah**	79.72	50	⇓eP	P	15 42 00.2	-1.9
CUD				e		15 43 26.7	
CUD				eS	S	15 51 59.9	-3.4
CUD				e		15 52 47.6	
CUD				e		15 57 06.8	
CUD				eS	SS	15 57 11.7	-3.3
CUD				e		16 02 57.4	
LTZ	**Lake Taylor**	80.19	154	P	P	15 42 03.7	-0.4
FITZ	**Fitzroy Crossi**	80.35	107	eP	P	15 42 04.2	-1.3
	comp=Z,40nm,0.6s,mb5.5						
FITZ				iSKS	S	15 52 06.9	-2.9
FITZ	**Fitzroy Crossi**	80.35	107	P	P	15 42 05.1	-0.4
	comp=Z,20nm,0.8s,mb5.1,baz=199,slow=6.6,SNR=39						
FITZ				S	S	15 52 07.8	-2.1
	comp=Z,1.4nm,0.8s,baz=90,slow=3.0,SNR=1.9						
FITZ				LR	LR	16 11 46.5	
	comp=Z,3µm,18.4s,MS5.7,baz=252,slow=31						
HILS	**Ha'il**	80.45	12	P	P	15 42 06.1	+0.2
AYUS	**'Aynunah**	80.59	6	P	P	15 42 06.8	+0.2
ASPA	**Alice Springs**	80.63	117	eP	P	15 42 06.5	-0.4
ASPA				eSKS	S	15 52 10.2	-2.5
ASAR	**Alice Springs**	80.63	117	P	P	15 42 06.5	-0.4
	comp=Z,34nm,0.8s,mb5.3,baz=212,slow=4.6,SNR=131						
ASAR				PP	PP	15 45 09.2	-3.4
	comp=Z,4.2nm,0.9s,baz=214,slow=6.5,SNR=2.4						
ASAR				S	S	15 52 11.6	-1.1
	comp=Z,1.9nm,1.2s,baz=215,slow=11,SNR=2.2						
ASAR				PKKPbc		16 00 46.2	
	comp=Z,1.0nm,1.1s,baz=14,slow=2.0,SNR=5.3						
ASAR				PKPPKP		16 08 49.9	
	comp=Z,0.9nm,0.9s,baz=48,slow=1.9,SNR=5.2						
ASAR				LR	LR	16 10 55.0	
	comp=Z,6µm,18.9s,MS6.0,baz=206,slow=31						
TBKS	**Tabuk**	80.72	8	P	P	15 42 07.6	+0.3
RIV	**Riverview**	80.76	135	⇓iP	P	15 42 09.5	+2.1
BDAS	**Al Bad'**	80.82	6	P	P	15 42 08.0	+0.2
TAYS	**Tayyib Ism**	80.92	6	P	P	15 42 08.6	+0.3
LPAZ	**La Paz**	80.95	255	P	P	15 42 08.7	+0.1
	comp=Z,14nm,0.8s,mb5.0						
LPAZ	**La Paz**	80.95	255	P	P	15 42 08.7	+0.1
LPAZ				pmax	pmax		
	comp=Z,14nm,0.8s						
BOM	**Bombay**	81.01	42	eP	P	15 42 07.0	-1.9
BOM				e		15 42 19.4	
BOM				i		15 42 30.2	
BOM				eS	S	15 52 16.8	+0.1
POO	**Poona**	81.12	44	⇓iP	P	15 42 07.5	-2.0
POO				iS	S	15 52 20.5	+2.7
POO	**Poona**	81.12	44	⇓iP	P	15 42 07.5	-2.0
	comp=Z,1µm,1.0s,mb6.8						
THZ	**Tophouse**	81.31	154	P	P	15 42 10.0	0.0
INGI	**Ingas**	81.31	93	eP	P	15 42 11.7	+1.1
JMQS	**Jabal Moqyreh**	81.33	7	P	P	15 42 11.0	+0.6
KELI	**Kelakatan**	81.38	92	⇑eP	P	15 42 12.2	+1.2
HAQS	**Haql**	81.43	6	P	P	15 42 11.6	+0.6
JMOS	**Jabal al Moall**	81.55	6	P	P	15 42 12.4	+0.8
RATI	**Rata**	81.62	93	⇑eP	P	15 42 13.6	+1.4
	comp=Z,346nm,1.1s,mb6.2						
ALWS	**Ilw as Safayha**	81.69	6	P	P	15 42 13.0	+0.7
NNZ	**Nelson**	81.94	154	eP	P	15 42 13.2	-0.2
EIL	**Elat**	82.04	6	P	P	15 42 14.3	+0.2
AQBJ	**Aqaba**	82.11	6	P	P	15 42 14.5	+0.1
KEDI	**Kedomdong**	82.16	94	⇑eP	P	15 42 15.8	+0.8
	comp=Z,141nm,1.0s,mb5.8						
MBH	**Mount Berech**	82.16	6	P	P	15 42 14.9	+0.2
LATR	**Latur**	82.18	46	eP	P	15 42 13.5	-1.5
HYB	**Hyderabad**	82.19	48	iP	P	15 42 14.0	-1.1
	comp=Z,385nm,1.6s,mb6.1						
HYB				e		15 42 27.5	
HYB				eS	S	15 52 28.0	-0.9
HYB				ePS	PS	15 53 18.0	-1.9
HYB				eSS	SS	15 57 48.0	-4.0
HYB				LR	LR	16 10 14.0	
	comp=Z,16nm,22.0s						
HYB	**Hyderabad**	82.19	48	eP	P	15 42 14.0	-1.1
	comp=Z,385nm,1.6s,mb6.1						
HYB				e		15 42 27.5	
HYB				eS	S	15 52 28.0	-0.9
SNZO	**South Karori**	82.20	155	PFAKE		15 42 30.0	+15
SNZO				LR	LR		
	comp=Z,8µm,19.0s,MS6.1						
KMTI	**Karmit**	82.46	6	P	P	15 42 16.4	+0.1
PRNI	**Paran**	82.72	6	P	P	15 42 18.0	+0.4
QRN	**Al-Qurain**	82.75	18	eP	P	15 42 17.6	-0.2
QRN				AMb	AMB	15 42 23.1	
	comp=Z,135nm,1.4s,mb5.8						
RDF	**Al-Radifah**	82.86	17	eP	P	15 42 18.1	-0.2
RDF				AMb	AMB	15 42 31.5	
	comp=Z,471nm,1.3s,mb6.4						
ZFRI	**Zfri**	82.94	6	P	P	15 42 19.0	+0.3
KBD	**Kabd**	83.12	17	eP	P	15 42 19.8	+0.1
KZIT	**Kziot**	83.24	5	P	P	15 42 20.6	+0.3
KGD	**Kothagudem**	83.30	50	eP	P	15 42 19.5	-1.4
KGD				ePP	PP	15 45 31.4	-3.1
KGD				ePKiK		15 47 37.8	
KGD				eS	S	15 52 41.0	+0.9
KGD				eScS	ScS	15 52 54.6	+2.2
KGD				eSS	SS	15 58 06.4	-1.9
RST	**Umm Al-Ruwaisa**	83.32	17	eP	P	15 42 20.7	-0.1
RST				AMb	AMB	15 42 30.3	
	comp=Z,197nm,1.2s,mb6.0						
MASH	**Mash'abbe Sade**	83.35	6	P	P	15 42 20.9	0.0
UMR	**Umm Al-Rimmam**	83.50	17	eP	P	15 42 20.9	-0.8
UMR				AMb	AMB	15 42 34.0	
	comp=Z,404nm,1.1s,mb6.3						
MZDA	**Masada**	83.70	6	P	P	15 42 22.7	+0.1
SAML	**Samuel**	83.72	264	⇓eP	P	15 42 22.2	-0.8
	comp=Z,726nm,1.4s,mb6.6						
SAML				LR	LR		
	comp=Z,15µm,20.0s,MS6.4						
WRA	**Warramunga Arr**	83.86	115	P	P	15 42 23.7	0.0
	comp=Z,48nm,1.0s,mb5.6,baz=213,slow=4.1,SNR=129						
WRA				PP	PP	15 45 33.6	-5.2
	comp=Z,4.9nm,0.9s,baz=216,slow=4.8,SNR=2.4						
WRA				S	S	15 52 43.3	-2.3
	comp=Z,4.5nm,1.3s,baz=223,slow=9.5,SNR=10.0						
WRA				PKKPbc		16 00 47.1	
	comp=Z,5.0nm,1.0s,baz=26,slow=2.4,SNR=13						
WRA				PKPPKP		16 08 45.9	
	comp=Z,2.5nm,1.0s,baz=18,slow=2.9,SNR=8.8						
WRA				LR	LR	16 14 33.7	
	comp=Z,10µm,18.3s,MS6.2,baz=205,slow=32						
WRA	**Warramunga Arr**	83.86	115	P	P	15 42 23.7	+0.1
WRA						15 45 33.6	
WRA				S	S	15 52 43.3	-2.3
WRA				pmax	pmax		
	comp=Z,48nm,1.0s						
WRA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
WRA				smax			
	comp=N,5.0nm,1.3s						
WRA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
WRA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
WB2	**Warramunga Arr**	83.86	115	⇑iP	P	15 42 23.8	+0.1
WB2				iSKS	SKS	15 52 42.6	-5.1
WB2				ePKPPKP		16 08 45.8	
WRAB	**Tennant Creek**	83.87	115	eP	P	15 42 23.5	-0.2
	comp=Z,401nm,1.2s,mb6.4						
WRAB				LR	LR		
	comp=Z,3µm,21.0s,MS5.7						
ARMA	**Armidale**	83.88	134	eP	P	15 42 24.4	+0.9
DRGI	**Dragot**	83.98	6	P	P	15 42 24.1	+0.1
AKL	**Akola**	84.40	45	⇑i	P	15 42 32.3	+6.0
	comp=Z,263nm,1.9s,mb6.0						
AKL				i		15 42 40.5	
SLTI	**Sal'it**	84.60	6	P	P	15 42 27.3	+0.2
HMDT	**Nahal Hemdat**	84.65	6	P	P	15 42 27.5	+0.2
ASF	**Jabal al Asfar**	84.67	8	P	P	15 42 27.4	-0.1
	comp=Z,31nm,1.1s,mb5.4,baz=56,slow=1.7,SNR=36						
VIS	**Vishakhapatnam**	84.69	52	iP	P	15 42 27.0	-0.9
MMLI	**Mount Malkishu**	84.82	6	P	P	15 42 28.6	+0.4
OFRI	**'Ofer**	84.98	6	P	P	15 42 29.1	+0.1
GLH	**Golan-Tel Qazi**	85.11	6	P	P	15 42 30.1	+0.5
SNG	**Songkhla**	85.21	72	P	P	15 42 28.5	-2.0
HNTI	**Hanita**	85.45	6	P	P	15 42 33.3	+2.0
HRI	**Mount Hermon**	85.67	6	P	P	15 42 32.7	+0.3
NGP	**Nagpur**	85.68	47	eP	P	15 42 32.6	-0.1
NGP				eS	S	15 52 55.4	-8.2
DUSS	**Damascus Unive**	85.95	7	iP	P	15 42 34.3	+0.5
DUSS				iP		15 42 34.6	
DUSS				iP		15 42 34.9	
DUSS				e	pP	15 42 36.2	-0.8
	baz=186,slow=2.4						
DUSS				eS	S	15 52 49.9	-16
DUSS				AMS	AMS	16 21 18.5	
	comp=E,167µm,18.4s						
DUSS				AMS	AMS	16 21 26.7	
	comp=N,128µm,17.5s						
DUSS				AMS	AMS	16 22 59.0	
	comp=Z,117µm,19.9s						
BHPL	**Bhopal**	86.81	44	eP	P	15 42 38.4	+0.1
BHPL				e		15 42 56.4	
	comp=Z,227nm,1.2s						
GVD	**Gavdhos**	87.04	357	eP	P	15 42 39.0	-0.1
	comp=Z,75nm,1.0s,mb5.9						
CSS	**Prodhromos**	87.22	4	eP	P	15 42 39.8	-0.2
	comp=Z,81nm,1.2s,mb5.8						
IDI	**Anoyia**	87.46	357	P	P	15 42 40.9	-0.2
	comp=Z,6.1nm,0.7s,mb5.0,baz=134,slow=6.4,SNR=10						
IDI				PP	PP	15 46 05.4	-2.9

	comp=Z,0.2nm,0.3s,baz=193,slow=14,SNR=2.8						
JASL	**Jaisalmer**	**87.50**	**37**	*e*P	**P**	**15 42 40.9**	**-0.6**
NINI	**Niniconang**	**87.57**	**94**	⇓*e*P	**P**	**15 42 43.5**	**+1.4**
TANI	**Tanete Lipujan**	**88.11**	**93**	⇓*e*P	**P**	**15 42 45.0**	**+0.3**
AJM	**Ajmer**	**88.53**	**41**	*i* P	**P**	**15 42 46.0**	**-0.5**
KAKA	**Kakadu**	**88.57**	**109**	*e*P	**P**	**15 42 51.0**	**+4.1**
	comp=Z,33nm,0.7s,mb5.8						
ELL	**Elmali**	**88.89**	**1**	*e*P	**P**	**15 42 49.1**	**+1.1**
ELL	**Elmali**	**88.89**	**1**	P	**P**	**15 42 49.1**	**+1.2**
DALT	**Dalyan (Mudla)**	**88.90**	**0**	P	**P**	**15 42 48.3**	**+0.3**
DALT	**Dalyan (Mudla)**	**88.90**	**0**	P	**P**	**15 42 48.3**	**+0.3**
COBT	**Iskenderun**	**88.94**	**7**	*i* P	**P**	**15 42 47.9**	**-0.3**
NNT	**Nongplab**	**89.07**	**68**	P	**P**	**15 42 50.0**	**+0.7**
HDMB	**Hadim**	**89.18**	**4**	P	**P**	**15 42 49.5**	**+0.2**
HDMB	**Hadim**	**89.18**	**4**	P	**P**	**15 42 49.5**	**+0.2**
APE	**Apeiranthos**	**89.22**	**358**	*e*P	**P**	**15 42 51.9**	**+2.4**
YER	**Yerkesik**	**89.26**	**0**	*e*P	**P**	**15 42 49.7**	**0.0**
YER	**Yerkesik**	**89.26**	**0**	P	**P**	**15 42 49.7**	**0.0**
MLSB	**Milas**	**89.42**	**360**	P	**P**	**15 42 50.4**	**-0.1**
MLSB	**Milas**	**89.42**	**360**	P	**P**	**15 42 50.4**	**-0.1**
NNA	**Nana**	**89.45**	**251**	*e*P	**P**	**15 42 50.1**	**-1.0**
	comp=Z,44nm,1.0s,mb5.8						
NNA				LR	LR		
	comp=Z,905nm,20.0s,MS5.2						
BCK	**Bucak**	**89.62**	**2**	*e*P	**P**	**15 42 51.8**	**+0.4**
BCK	**Bucak**	**89.62**	**2**	P	**P**	**15 42 51.8**	**+0.5**
GAZ	**Gaziantep**	**89.66**	**7**	*e*P	**P**	**15 42 52.6**	**+1.0**
GAZ	**Gaziantep**	**89.66**	**7**	P	**P**	**15 42 52.6**	**+1.0**
DNZL	**Cakiroluk**	**89.82**	**1**	*i* P	**P**	**15 42 52.9**	**+0.6**
GZT	**Gaziantep**	**89.87**	**8**	*i* P	**P**	**15 42 52.1**	**-0.4**
DENT	**Denizli**	**89.89**	**1**	*e*P	**P**	**15 42 54.4**	**+1.8**
DENT	**Denizli**	**89.89**	**1**	P	**P**	**15 42 54.4**	**+1.8**
ISP	**Isparta**	**90.00**	**2**	P	**P**	**15 42 51.9**	**-1.2**
ISP	**Isparta**	**90.00**	**2**	P	**P**	**15 42 51.9**	**-1.2**
CTA	**Charters Tower**	**90.08**	**124**	⇓*i*P	**P**	**15 42 54.4**	**+0.5**
	comp=Z,28nm,1.0s,mb5.5						
CTA				*i* SKS	S	15 53 45.3	+0.5
CTA	**Charters Tower**	**90.08**	**124**	P	**P**	**15 42 53.9**	**0.0**
	comp=Z,32nm,1.0s,mb5.6,baz=233,slow=4.1,SNR=19						
CTA	**Charters Tower**	**90.08**	**124**	P	**P**	**15 42 53.9**	**0.0**
CTA				pmax	pmax		
	comp=Z,32nm,1.0s						
CTAO	**Charters Tower**	**90.08**	**124**	⇑*e*P	**P**	**15 42 53.4**	**-0.5**
	comp=Z,295nm,1.7s,mb6.3						
CTAO				LR	LR		
	comp=Z,9µm,19.0s,MS6.2						
VAE	**Valguarnera**	**90.39**	**349**	P	**P**	**15 42 56.2**	**+1.2**
	comp=Z,8.8nm,0.4s,mb5.5,baz=233,slow=3.6,SNR=2.8						
VAE				LR	LR	16 26 50.0	
	comp=Z,28µm,18.1s,MS6.7,baz=281,slow=38						
NIG	**Nigde**	**90.42**	**5**	P	**P**	**15 42 49.5**	**-5.6**
KHET	**Khetri**	**90.42**	**41**	*e*P	**P**	**15 42 54.2**	**-1.1**
IZM	**Izmir**	**90.53**	**359**	*e*P	**P**	**15 42 55.9**	**+0.3**
IZM	**Izmir**	**90.53**	**359**	P	**P**	**15 42 55.9**	**+0.3**
KDAG	**Bornova**	**90.53**	**359**	*i* P	**P**	**15 42 55.2**	**-0.4**
AGRA	**Agra**	**90.55**	**43**	*e*P	**P**	**15 42 55.0**	**-0.9**
AGRA				*e*	pP	15 42 56.9	-2.2
	comp=Z,32nm,0.3s						
MANT	**Manisa**	**90.62**	**0**	*i* P	**P**	**15 42 56.4**	**+0.5**
HKR	**Hakkari**	**90.74**	**12**	*e*P	**P**	**15 42 57.6**	**+1.0**
HKR	**Hakkari**	**90.74**	**12**	P	**P**	**15 42 57.6**	**+1.1**
BEST	**Besiri**	**90.75**	**10**	*i* P	**P**	**15 42 56.1**	**-0.5**
KUDL	**Kundal**	**90.75**	**41**	*e*P	**P**	**15 42 56.3**	**-0.5**
KUDL				*e*		15 43 02.7	
	comp=Z,105nm,1.4s						
CSLB	**Castelbuono**	**90.89**	**349**	*e*P	**P**	**15 42 58.9**	**+1.7**
MYA	**Malataya**	**90.90**	**8**	*e*P	**P**	**15 42 50.2**	**-7.1**
AKS	**Akhisar**	**91.00**	**360**	P	**P**	**15 42 58.3**	**+0.6**
AKS	**Akhisar**	**91.00**	**360**	P	**P**	**15 42 58.3**	**+0.5**
KIZT	**Kizilcal**	**91.07**	**3**	P	**P**	**15 42 57.8**	**-0.2**
KIZT	**Kizilcal**	**91.07**	**3**	P	**P**	**15 42 57.8**	**-0.2**
BTMT	**Batman**	**91.08**	**11**	*e*P	**P**	**15 42 58.6**	**+0.5**
SONA	**Sohna**	**91.09**	**42**	*e*P	**P**	**15 42 57.6**	**-0.8**
SONA				*e*		15 43 04.0	
	comp=Z,102nm,1.3s						
AVNT	**Avonos**	**91.10**	**5**	*i* P	**P**	**15 42 57.6**	**-0.6**
ELZG	**Elazig**	**91.12**	**9**	*i* P	**P**	**15 42 58.4**	**+0.1**
ALT	**Altintas**	**91.20**	**2**	P	**P**	**15 42 59.5**	**+0.9**
ALT	**Altintas**	**91.20**	**2**	P	**P**	**15 42 59.5**	**+0.9**
BNN	**Bunyan**	**91.23**	**6**	*e*P	**P**	**15 42 58.7**	**-0.1**
BNN	**Bunyan**	**91.23**	**6**	P	**P**	**15 42 58.7**	**-0.1**
AYAN	**Aya Nagar**	**91.31**	**42**	*e*P	**P**	**15 42 58.2**	**-1.2**
AYAN				*e*		15 43 04.9	
	comp=Z,71nm,1.1s						
BHGR	**Bahadurgarh**	**91.42**	**41**	*e*P	**P**	**15 42 58.8**	**-1.1**
RTK	**Rohtak**	**91.51**	**41**	*e*P	**P**	**15 42 59.7**	**-0.7**
RTK				*e*	pP	15 43 02.0	-1.5
	comp=Z,61nm,0.6s						
NDI	**New Delhi**	**91.53**	**42**	*e*P	**P**	**15 43 00.0**	**-0.4**
NDI				*e*		15 54 00.0	
PTK	**Pertek**	**91.55**	**9**	*e*P	**P**	**15 43 00.5**	**+0.2**
KAMT	**Kaman**	**91.63**	**4**	*e*P	**P**	**15 42 59.9**	**-0.7**
ESKT	**Eskisehir**	**91.68**	**2**	P	**P**	**15 43 01.3**	**+0.5**
ESKT	**Eskisehir**	**91.68**	**2**	*i* P	**P**	**15 43 01.1**	**+0.3**
ESKT	**Eskisehir**	**91.68**	**2**	P	**P**	**15 43 01.3**	**+0.5**
VANB	**Van**	**91.70**	**12**	P	**P**	**15 43 01.5**	**+0.6**
NST	**Nakhon Sawan**	**91.79**	**66**	P	**P**	**15 43 02.0**	**+0.2**
BRTR	**Keskin Array B**	**91.98**	**4**	P	**P**	**15 43 01.4**	**-0.8**
	comp=Z,13nm,0.9s,mb5.2,baz=169,slow=6.3,SNR=22						
BRTR				PP	PP	15 46 35.9	-8.5
	comp=Z,2.3nm,1.0s,baz=180,slow=8.6,SNR=3.4						
BRTR	**Keskin Array B**	**91.98**	**4**	P	**P**	**15 43 01.4**	**-0.8**
BRTR				pmax	pmax		
	comp=Z,13nm,1.0s						
BRTR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
VRT	**Varto**	**92.01**	**10**	*e*P	**P**	**15 43 03.7**	**+1.4**
VRT	**Varto**	**92.01**	**10**	P	**P**	**15 43 03.7**	**+1.4**
ANTO	**Ankara**	**92.09**	**4**	P	**P**	**15 43 02.6**	**-0.1**
ANTO	**Ankara**	**92.09**	**4**	P	**P**	**15 43 02.6**	**-0.1**
LOD	**Lodumlu**	**92.10**	**4**	*e*P	**P**	**15 43 03.2**	**+0.4**
LOD	**Lodumlu**	**92.10**	**4**	P	**P**	**15 43 03.2**	**+0.5**
ULDT	**Uludag**	**92.27**	**1**	*i* P	**P**	**15 43 03.3**	**-0.2**
TDS	**Terranova Siba**	**92.35**	**351**	*e*P	**P**	**15 43 04.3**	**+0.4**
SVSK	**Karacayir**	**92.37**	**7**	P	**P**	**15 43 03.9**	**-0.1**
SVSK	**Karacayir**	**92.37**	**7**	P	**P**	**15 43 03.9**	**-0.1**
RPN	**Rapa Nui**	**92.41**	**217**	P	**P**	**15 43 06.9**	**+2.5**
	comp=Z,401nm,1.7s,mb6.5						
RPN				LR	LR		
	comp=Z,941nm,19.0s,MS5.3						
BDT	**Bhumibol Dam**	**92.44**	**65**	P	**P**	**15 43 04.0**	**-0.8**
EZC	**Erzincan**	**92.44**	**9**	*e*P	**P**	**15 43 04.5**	**+0.2**
BNT	**Bandirma**	**92.48**	**360**	*e*P	**P**	**15 43 05.0**	**+0.5**
BNT	**Bandirma**	**92.48**	**360**	P	**P**	**15 43 05.0**	**+0.6**
KKR	**Kurukshetra**	**92.50**	**41**	*e*P	**P**	**15 43 04.1**	**-0.8**
MDU	**Mudurnu**	**92.63**	**2**	*e*P	**P**	**15 43 05.6**	**+0.4**
MDU	**Mudurnu**	**92.63**	**2**	P	**P**	**15 43 05.6**	**+0.5**
YLV	**Yalova**	**92.70**	**1**	*e*P	**P**	**15 43 04.1**	**-1.4**
ELDT	**Eldivan**	**92.73**	**4**	*i* P	**P**	**15 43 04.8**	**-0.8**
ERZM	**Erzurum**	**92.75**	**10**	*i* P	**P**	**15 43 06.7**	**+0.9**
EZM	**Erzurum**	**92.75**	**10**	*e*P	**P**	**15 43 06.9**	**+1.1**
SGKT	**Sivrigoynuk**	**92.76**	**3**	*i* P	**P**	**15 43 05.5**	**-0.3**
KELT	**Kelkit**	**92.78**	**9**	*i* P	**P**	**15 43 11.1**	**+5.2**
CANT	**Cankiri**	**92.86**	**4**	*e*P	**P**	**15 43 08.3**	**+2.1**
CANT	**Cankiri**	**92.86**	**4**	P	**P**	**15 43 08.3**	**+2.1**
MGR	**Morigerati**	**92.90**	**350**	*e*P	**P**	**15 43 06.4**	**0.0**
MFT	**Murefte**	**92.91**	**359**	*e*P	**P**	**15 43 10.3**	**+3.8**
MFT	**Murefte**	**92.91**	**359**	P	**P**	**15 43 10.3**	**+3.8**
CTKT	**Corum**	**92.93**	**5**	*i* P	**P**	**15 43 05.9**	**-0.6**
HRT	**Hereke**	**92.95**	**1**	*e*P	**P**	**15 43 06.1**	**-0.6**
HRT	**Hereke**	**92.95**	**1**	P	**P**	**15 43 06.1**	**-0.5**
HENT	**Hendek**	**92.98**	**2**	*i* P	**P**	**15 43 05.3**	**-1.5**
ISK	**Istanbul-Kandi**	**93.19**	**1**	*e*P	**P**	**15 43 08.0**	**+0.3**
CTT	**Catalca**	**93.27**	**0**	*e*P	**P**	**15 43 08.1**	**0.0**
CTT	**Catalca**	**93.27**	**0**	P	**P**	**15 43 08.1**	**0.0**
TOS	**Tosya**	**93.30**	**5**	*e*P	**P**	**15 43 09.7**	**+1.4**
TOS	**Tosya**	**93.30**	**5**	P	**P**	**15 43 09.7**	**+1.5**
SGO	**Sicignano**	**93.34**	**350**	*e*P	**P**	**15 43 09.9**	**+1.4**
CM31	**Chiang Mai Arr**	**93.39**	**64**	*e*P	**P**	**15 43 08.4**	**-0.8**
	comp=Z,33nm,1.0s,mb5.7						
CMAR	**Chiang Mai Arr**	**93.39**	**64**	P	**P**	**15 43 08.3**	**-0.8**
	comp=Z,10.0nm,1.0s,mb5.2,baz=226,slow=5.7,SNR=31						
CMAR				PP	PP	15 46 52.2	-3.8
	comp=Z,2.7nm,1.1s,baz=225,slow=7.7,SNR=3.5						
CMAR				LR	LR	16 22 37.1	
	comp=Z,2µm,18.4s,MS5.7,baz=220,slow=34						
CMAR	**Chiang Mai Arr**	**93.39**	**64**	P	**P**	**15 43 08.4**	**-0.7**
CMAR						15 46 52.3	
CMAR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CMAR				pmax	pmax		
	comp=Z,3.0nm,1.1s						
GNI	**Garni**	**93.41**	**13**	P	**P**	**15 43 08.2**	**-0.5**
GNI	**Garni**	**93.41**	**13**	P	**P**	**15 43 08.1**	**-0.7**
	comp=Z,7.6nm,0.7s,mb5.3,baz=200,slow=8.2,SNR=5.5						
GNI				PP	PP	15 46 48.7	-7.1
	comp=Z,3.2nm,0.4s,baz=52,slow=18,SNR=1.8						
GNI				LR	LR	16 23 51.8	
	comp=Z,5µm,18.8s,MS6.0,baz=18,slow=35						
GNI	**Garni**	**93.41**	**13**	P	**P**	**15 43 08.9**	**+0.2**
GNI				SKSac		15 53 43.8	
GNI				S	S	15 54 18.6	+4.9
GNI	**Garni**	**93.41**	**13**	P	**P**	**15 43 08.1**	**-0.6**
GNI						15 46 48.7	
GNI				pmax	pmax		
	comp=Z,8.0nm,0.7s						
GNI				pmax	pmax		
	comp=Z,3.0nm,0.4s						
GNI				MLR	MLR		
	comp=Z,5µm,18.8s						
GNI	**Garni**	**93.41**	**13**	*e*P	**P**	**15 43 08.3**	**-0.4**
	comp=Z,132nm,1.6s,mb6.1						
GNI				*e*PP	PP	15 46 49.0	-6.8
GNI				LR	LR		
	comp=Z,5µm,19.0s,MS6.0						
SAFT	**Safranbolu**	**93.45**	**4**	*e*P	**P**	**15 43 08.6**	**-0.3**
SAFT	**Safranbolu**	**93.45**	**4**	P	**P**	**15 43 08.6**	**-0.4**
KOLN	**Koldanda**	**93.46**	**47**	*e*P	**P**	**15 43 08.5**	**-0.8**
	comp=Z,508nm,1.5s,mb6.7						
MRLC	**Muro Lucano**	**93.52**	**350**	*e*P	**P**	**15 43 13.8**	**+4.5**
PTH	**Pithoragarh**	**93.53**	**44**	*e*P	**P**	**15 43 08.0**	**-1.6**
PTH				*e*		15 47 10.0	
BHK	**Bhakra**	**93.63**	**40**	*e*	**P**	**15 43 14.2**	**+4.2**
KKM	**Kota Kinabalu**	**93.63**	**85**	⇓*e*P	**P**	**15 43 11.0**	**+0.6**
CHG	**Chiang Mai**	**93.68**	**64**	⇓P	**P**	**15 43 10.0**	**-0.5**
	comp=Z,29nm,1.0s,mb5.7						
BOYT	**Boyabat**	**93.73**	**5**	*i* P	**P**	**15 43 09.7**	**-0.5**
BALT	**Daday**	**93.77**	**4**	*i* P	**P**	**15 43 10.1**	**-0.3**
MMB	**Musomiste**	**93.79**	**357**	*i* P	**P**	**15 43 10.0**	**-0.5**
AGT	**Agartala**	**93.80**	**55**	⇓*i*	**P**	**15 43 20.0**	**+9.1**
AGT				*i*		15 43 58.0	
VAN	**Vannovskaya**	**93.80**	**23**	⇓*i*P	**P**	**15 43 10.0**	**-0.6**
VAN				SKS	SKS	15 53 44.0	-4.7
VAN				*e*		15 54 15.0	
VAN	**Vannovskaya**	**93.80**	**23**	*e*P	**P**	**15 43 10.0**	**-0.6**
KKTK	**Khon Kaen**	**93.84**	**68**	P	**P**	**15 43 11.0**	**-0.3**
	comp=Z,278nm,1.0s,mb6.6						
RZN	**Rozhen**	**93.86**	**357**	*i* P	**P**	**15 43 11.3**	**+0.5**
EDRB	**Edirne**	**93.98**	**359**	P	**P**	**15 43 11.0**	**-0.3**
EDRB	**Edirne**	**93.98**	**359**	P	**P**	**15 43 11.0**	**-0.3**
DMN	**Daman**	**94.00**	**48**	*e*P	**P**	**15 43 10.8**	**-1.0**
	comp=Z,145nm,1.2s,mb6.3						
KKB	**Krupnik**	**94.09**	**356**	P	**P**	**15 43 11.5**	**-0.3**
PKI	**Pulchoki**	**94.11**	**49**	*e*P	**P**	**15 43 11.2**	**-1.1**
	comp=Z,218nm,1.5s,mb6.4						
GKN	**Gorkha**	**94.13**	**48**	*e*P	**P**	**15 43 11.2**	**-1.2**
	comp=Z,392nm,1.6s,mb6.6						
JOSI	**Joshimath**	**94.13**	**43**	*e*P	**P**	**15 43 12.6**	**+0.2**
KKN	**Kakani**	**94.24**	**48**	*e*P	**P**	**15 43 11.8**	**-1.1**
	comp=Z,136nm,1.4s,mb6.2						
SKO	**Skopje**	**94.27**	**355**	*i* P	**P**	**15 43 12.5**	**-0.2**
BCA	**Borcka**	**94.31**	**10**	*e*P	**P**	**15 43 12.7**	**-0.1**
BCA	**Borcka**	**94.31**	**10**	P	**P**	**15 43 12.7**	**-0.2**
KLP	**Kalpa**	**94.46**	**41**	*e*P	**P**	**15 43 14.4**	**+0.6**
KLP				*e*	pP	15 43 17.7	+0.7
	comp=Z,153nm,1.5s						
NANT	**Nan**	**94.63**	**65**	P	**P**	**15 43 14.9**	**0.0**
SDI	**San Donato**	**94.64**	**349**	*e*P	**P**	**15 43 19.0**	**+4.6**
PGB	**Panagyurishte**	**94.73**	**357**	P	**P**	**15 43 16.5**	**+1.7**
VTS	**Vitosha**	**94.81**	**356**	P	**P**	**15 43 15.0**	**-0.1**
TI2	**Plekhanov**	**94.97**	**12**	*e*P	**P**	**15 43 14.0**	**-1.9**
TI2				*i*		15 47 08.4	
TI2				*e*		15 53 51.0	
TI2				*i*		15 55 52.4	
TI2				pmax	pmax		
	comp=Z,1µm,6.0s						
TI2				pmax	pmax		
	comp=Z,6µm,6.0s						
TI2				pmax	pmax		
	comp=N,2µm,8.0s						
TI2				MLR	MLR		
	comp=N,4µm,17.0s,MS6.0						
TI2				MLR	MLR		
	comp=E,2µm,17.0s,MS6.0						
TI2				MLR	MLR		
	comp=Z,4µm,17.0s,MS6.0						
AQU	**L'Aquila**	**95.32**	**349**	P	**P**	**15 43 09.3**	**-8.2**
AQU				*e*		15 43 17.5	
AQU				pmax	pmax		
	comp=Z,56nm,1.3s,mb5.8						
AQU	**L'Aquila**	**95.32**	**349**	P	**P**	**15 43 09.3**	**-8.2**
	comp=Z,56nm,1.4s,mb5.8						
AQU				*e*		15 43 17.5	
STON	**Ston**	**95.41**	**352**	*i* P	**P**	**15 43 20.2**	**+2.3**
ZEI	**Tsey**	**95.88**	**12**	⇓*i*P	**P**	**15 43 21.0**	**+1.0**
ZEI				*i*		15 47 20.0	
ZEI				*i*		15 54 00.0	
ZEI				*e*S	S	15 54 33.0	-1.7
ZEI				*i* PS	PS	15 56 05.0	+4.7
ZEI				pmax	pmax		
	comp=Z,200nm,8.0s						
ZEI				pmax	pmax		
	comp=Z,2µm,8.0s						
ZEI				MLR	MLR		
	comp=Z,6µm,19.0s,MS6.1						
IMP	**Imphal**	**95.90**	**57**	*e*P	**P**	**15 43 21.0**	**+0.4**
ESDC	**Sonseca Array**	**95.92**	**336**	P	**P**	**15 43 20.2**	**-0.1**
	comp=Z,3.9nm,0.6s,mb5.0,baz=167,slow=4.1,SNR=10						
ESDC				PP	PP	15 47 12.6	-2.3
	comp=Z,0.3nm,0.3s,baz=164,slow=4.6,SNR=2.7						
ESDC				LR	LR	16 30 34.6	
	comp=Z,6µm,18.0s,MS6.1,baz=155,slow=38						
EVO	**Evora**	**95.93**	**332**	*e*P	**P**	**15 43 21.4**	**+1.0**
	comp=Z,64nm,1.2s,mb5.6						
EVO				*e*R			
	comp=Z,6µm,21.5s						
EBR	**Ebro Roquetas**	**95.97**	**339**	*e*Ts		15 43 32.5	
PGF	**Pioggiola**	**96.09**	**346**	*e*P	**P**	**15 43 20.3**	**-0.7**
	comp=Z,48nm,1.1s,mb5.5						
BOLS	**Boljevac**	**96.10**	**356**	⇑*i*P	**P**	**15 43 20.7**	**-0.3**
GRUS	**Gruza**	**96.22**	**355**	⇑*i*P	**P**	**15 43 21.9**	**+0.4**
SOC	**Sochi**	**96.23**	**9**	*i* P	**P**	**15 43 21.3**	**-0.3**
SOC				*e*		15 43 28.8	
SOC				*e*		15 47 13.2	
SOC				*e*PPP	PPP	15 49 18.0	-4.5
SOC				*e*		15 53 55.3	
SOC				*e*S	S	15 54 33.7	-4.0
SOC				*e*SS	SS	16 01 10.8	-3.0
SOC				pmax	pmax		
	comp=Z,20nm,1.1s,mb5.5						
SOC				pmax	pmax		
	comp=N,10.0nm,0.8s						
SOC				pmax	pmax		
	comp=E,14nm,0.8s						
SOC				MLR	MLR		
	comp=Z,4µm,18.0s,MS5.9						
SOC				MLR	MLR		
	comp=N,2µm,22.0s,MS5.8						
SOC				MLR	MLR		
	comp=E,3µm,24.0s,MS5.8						
GRFL	**Gerfalco**	**96.41**	**348**	*e*P	**P**	**15 43 22.3**	**-0.1**
DIVS	**Divcibare**	**96.47**	**354**	⇓*i*P	**P**	**15 43 22.9**	**+0.2**
MAK	**Makhachkala**	**96.56**	**14**	*e*P	**P**	**15 43 23.0**	**-0.1**
MAK				*e*		15 47 21.0	
MAK				*e*PPP	PPP	15 49 22.0	-3.5
MAK				*e*		15 53 59.0	
MAK				*i* S	S	15 54 32.0	-8.5
MAK				pmax	pmax		
	comp=Z,1µm,8.0s						
MAK				pmax	pmax		
	comp=N,1µm,9.0s						
MAK				pmax	pmax		
	comp=Z,2µm,9.0s						
MAK				pmax	pmax		
	comp=N,3µm,7.0s						
MAK				pmax	pmax		
	comp=E,1µm,7.0s						
MAK				smax			
	comp=N,2µm,6.0s						
MAK				MLR	MLR		
	comp=Z,4µm,16.0s,MS6.0						
MAK				MLR	MLR		
	comp=N,5µm,16.0s,MS6.2						
MAK				MLR	MLR		
	comp=E,4µm,16.0s,MS6.2						
KIV	**Kislovodsk**	**96.90**	**11**	*de*P	**P**	**15 43 24.7**	**+0.1**
KIV				*e*		15 47 21.4	
KIV				*i*		15 53 59.3	
KIV				*e*SS	SS	16 01 31.1	+7.9
KIV				pmax	pmax		
	comp=Z,15nm,1.4s,mb5.2						
KIV				pmax	pmax		
	comp=E,5.0nm,0.7s						
KIV				pmax	pmax		
	comp=N,266nm,3.2s						
KIV				MLR	MLR		
	comp=N,3µm,18.0s						
KIV				MLR	MLR		
	comp=Z,3µm,18.0s,MS5.8						
KIV	**Kislovodsk**	**96.90**	**11**	*e*P	**P**	**15 43 24.6**	**-0.1**
	comp=Z,38nm,1.3s,mb5.7						
KIV				LR	LR		
	comp=Z,771nm,19.0s,MS5.2						
PII	**Pisa**	**97.03**	**347**	*e*P	**P**	**15 43 26.5**	**+1.3**
SIM	**Simferopol'**	**97.21**	**4**	*e*P	**P**	**15 43 34.5**	**+8.5**
SIM				*e*		15 47 29.0	
SIM				*e*		15 54 05.0	
SIM				*e*SS	SS	16 01 29.0	+1.6
SIM				pmax	pmax		
	comp=Z,400nm,9.0s						
SIM				MLR	MLR		
	comp=Z,3µm,19.0s,MS5.8						
LMR	**La Mourre**	**97.25**	**344**	*e*P	**P**	**15 43 25.9**	**-0.3**
	comp=Z,74nm,1.1s,mb5.7						
ANN	**Anapa**	**97.26**	**7**	*e*P	**P**	**15 43 29.5**	**+3.3**
ANN				*e*		15 47 19.9	
ANN				*e*		15 54 05.1	
ANN				*e*S	S	15 54 48.9	+2.5
ANN				*e*SS	SS	16 01 18.6	-9.5
ANN				pmax	pmax		
	comp=Z,60nm,1.5s,mb5.8						
ANN				pmax	pmax		
	comp=Z,180nm,7.6s						
NOUC	**Port Laguerre**	**97.29**	**141**	*e*P	**P**	**15 43 27.3**	**+0.3**
NVLJ	**Novalja**	**97.35**	**351**	*i* Pdiff	**P**	**15 43 29.7**	**+3.1**
DZM	**Mont Dzumac**	**97.38**	**142**	*e*P	**P**	**15 43 23.7**	**-3.5**
DZM	**Mont Dzumac**	**97.38**	**142**	*e*P	**P**	**15 43 23.7**	**-3.5**
FRF	**La Foret Royal**	**97.45**	**344**	*e*P	**P**	**15 43 26.9**	**-0.2**
	comp=Z,34nm,1.1s,mb5.4						
MTE	**Manteigas**	**97.54**	**333**	P	**P**	**15 43 26.1**	**-1.6**
	comp=Z,25nm,1.3s,mb5.6						
SBF	**Sospel**	**97.62**	**345**	*e*P	**P**	**15 43 26.7**	**-1.2**
MLR	**Muntele Rosu**	**97.63**	**359**	P	**P**	**15 43 27.7**	**-0.2**
	comp=Z,5.8nm,0.9s,mb5.1,baz=182,slow=4.3,SNR=13						
MLR				PP	PP	15 47 26.1	-2.4
	comp=Z,6.8nm,1.1s,baz=156,slow=5.5,SNR=3.0						
MLR				LR	LR	16 28 36.6	
	comp=Z,14µm,21.3s,MS6.4,baz=179,slow=36						
MLR	**Muntele Rosu**	**97.63**	**359**	P	**P**	**15 43 27.7**	**-0.2**
MLR						15 47 26.1	
MLR				pmax	pmax		
	comp=Z,6.0nm,0.9s						
MLR				pmax	pmax		
	comp=Z,7.0nm,1.1s						
MLR				MLR	MLR		
	comp=Z,14µm,21.3s						
GOF	**Gofitskoye**	**98.03**	**11**	*e*P	**P**	**15 43 28.5**	**-1.2**
GOF				*i*		15 47 34.0	
GOF				*e*	SKS	15 54 06.0	-5.2
GOF				*e*PS	tx	15 56 55.0	
GOF				pmax	pmax		
	comp=Z,30nm,1.6s,mb5.6						
GOF				pmax	pmax		
	comp=Z,500nm,7.0s						
GOF				pmax	pmax		
	comp=Z,2µm,7.0s						
SMRF	**Simiane la Rot**	**98.03**	**344**	*e*P	**P**	**15 43 30.6**	**+0.9**
MTLF	**Montolieu**	**98.03**	**341**	*e*P	**P**	**15 43 30.7**	**+0.9**
	comp=Z,37nm,1.3s,mb5.5						
PPR	**Puerto Princes**	**98.08**	**85**	*e*P	**P**	**15 43 31.9**	**+1.3**
EPF	**Esparros**	**98.12**	**340**	*e*P	**P**	**15 43 30.9**	**+0.8**
	comp=Z,46nm,1.2s,mb5.6						
ETSF	**Etsaut**	**98.18**	**339**	*e*P	**P**	**15 43 30.0**	**-0.4**
	comp=Z,76nm,1.4s,mb5.7						
BOJS	**Bojanci**	**98.24**	**351**	*e*Pdiff	**P**	**15 43 34.4**	**+3.7**
BOJS				*e*PP	PP	15 47 31.6	-1.5
BOJS				*e*SKSac		15 54 04.4	
BOJS				*e*S	S	15 55 02.6	+8.0
BOJS				*e*PS	PS	15 56 28.4	+3.2
BOJS				*e*SS	SS	16 01 28.9	-13
KNDS	**Knezji Dol**	**98.35**	**350**	*e*Pdiff	**P**	**15 43 34.7**	**+3.6**
KNDS				*e*PP	PP	15 47 33.1	-0.8
LASF	**Ste Croix**	**98.43**	**343**	*e*P	**P**	**15 43 32.3**	**+0.8**
	comp=Z,140nm,1.9s,mb5.9						
SJPF	**Ste Jean**	**98.53**	**339**	*e*P	**P**	**15 43 33.3**	**+1.3**
MBDF	**Montbardon**	**98.57**	**345**	*e*P	**P**	**15 43 33.2**	**+1.1**
	comp=Z,54nm,1.4s,mb5.6						
LSA	**Lhasa**	**98.59**	**52**	P	**P**	**15 43 32.5**	**-0.1**
PKSM	**Moragy**	**98.66**	**353**	⇓*e*P	**P**	**15 43 32.8**	**+0.3**
PKSM				*e*S	tx	15 47 19.4	
LJU	**Ljubljana**	**98.85**	**351**	*e*Pdiff	**P**	**15 43 37.1**	**+3.7**
LJU				*e*PP	PP	15 47 36.1	-1.2
LJU				*e*		15 51 25.6	
LJU				*e*S	S	15 55 09.9	+10
LJU				*e*PS	PS	15 56 33.8	+2.0
LJU				*e*SS	SS	16 01 40.9	-9.5
LJU	**Ljubljana**	**98.85**	**351**	*e*Pdif	**P**	**15 43 37.1**	**+3.7**
LJU				*e*PP	PP	15 47 36.1	-1.2
LJU				*e*S	S	15 55 09.9	+10
LJU				*e*PS	PS	15 56 33.8	+2.0
LJU				*e*SS	SS	16 01 40.9	-9.5
ORIF	**Oris-en-Rattie**	**98.90**	**344**	*e*P	**P**	**15 43 35.0**	**+1.4**
	comp=Z,21nm,1.1s,mb5.3						
ORIF				*e*R			
	comp=Z,11µm,22.2s						
BNI	**Bardonecchia**	**98.90**	**345**	*e*P	**P**	**15 43 34.3**	**+0.7**
BNI				pmax	pmax		
	comp=Z,39nm,1.3s,mb5.8						
BNI	**Bardonecchia**	**98.90**	**345**	*e*P	**P**	**15 43 34.3**	**+0.7**
	comp=Z,39nm,1.3s,mb5.8						
VOY	**Vojsko**	**98.90**	**350**	*e*Pdiff	**P**	**15 43 34.3**	**+0.7**
VIVF	**Saint-Julien-l**	**99.04**	**343**	*e*P	**P**	**15 43 34.1**	**-0.2**
KIS	**Kishinev**	**99.12**	**1**	*e*P	**P**	**15 43 34.0**	**-0.6**
KIS				*e*		15 47 35.0	
KIS				*e*		15 54 10.0	
KIS				*e*S	S	15 55 08.0	+6.0
KIS				*e*PS	PS	15 56 40.0	+5.4
KIS				MLR	MLR		
	comp=Z,3µm,18.0s,MS5.8						
KIS				MLR	MLR		
	comp=Z,3µm,18.0s						
OBKA	**Obir**	**99.31**	**351**	⇓*i*P	**P**	**15 43 39.2**	**+3.8**
	comp=Z,375nm,6.1s						
OBKA				*i*		15 47 39.5	
	comp=Z,915nm,6.0s						
LPG	**La Plagne**	**99.32**	**345**	*e*P	**P**	**15 43 36.9**	**+1.4**
	comp=Z,32nm,1.2s,mb5.4						
PTCC	**Patocco-Chiusa**	**99.33**	**350**	*e*P	**P**	**15 43 40.5**	**+5.0**
LPL	**La Plagne**	**99.34**	**345**	*e*P	**P**	**15 43 37.1**	**+1.5**
	comp=Z,38nm,1.1s,mb5.5						
PERS	**Pernice**	**99.38**	**351**	*e*Pdiff	**P**	**15 43 40.5**	**+4.8**
PERS				*e*PP	PP	15 47 40.6	-0.7
PMG	**Port Moresby**	**99.50**	**119**	P	**P**	**15 43 36.6**	**-0.4**
	comp=Z,10nm,0.8s,mb5.4,baz=206,slow=10,SNR=3.2						
PMG				PP	PP	15 47 40.9	-2.1
	comp=Z,7.2nm,0.7s,baz=251,slow=10.0,SNR=3.4						
PMG	**Port Moresby**	**99.50**	**119**	P	**P**	**15 43 36.6**	**-0.4**
PMG						15 47 40.9	
PMG				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PMG				pmax	pmax		
	comp=Z,7.0nm,0.7s						
CAF	**Calviac**	**99.59**	**342**	*e*P	**P**	**15 43 37.5**	**+0.7**
ARSA	**Arzberg**	**99.95**	**351**	⇑*i*P	**P**	**15 43 33.4**	**-5.0**
	comp=Z,242nm,4.3s						
ARSA				*i*		15 47 41.9	
	comp=Z,794nm,4.2s						
QIZ	**Qiongzhong**	**100.02**	**72**	P	**P**	**15 43 42.0**	**+2.7**
QIZ				PP	PP	15 47 46.8	-0.3
QIZ				SKS	SKS	15 54 19.5	-2.2
QIZ				S	S	15 55 09.5	-0.6
QIZ				PS	PS	15 56 42.3	-1.9
QIZ				LR	LR		
	comp=N,2µm,18.1s,MS5.8						
QIZ				LR	LR		
	comp=E,2µm,17.8s,MS5.8						
QIZ				LR	LR		
	comp=Z,4µm,18.1s,MS5.9						
RJF	**Les Rejaudoux**	**100.06**	**341**	*e*P	P	15 43 39.9	+1.0
RJF				*e*R			

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      comp=Z,17µm,20.8s
DAVOX Davos           100.12 347  P       P       15 43 40.9  +1.8
      comp=Z,2.7nm,0.9s,baz=180,slow=20,SNR=3.2
DAVOX                             PP      PP      15 47 43.0  -4.3
      comp=Z,10nm,1.2s,baz=223,slow=9.7,SNR=3.4
OTAV  Otavalo         100.19 257 ePdif    P       15 43 44.5  +4.3
      comp=Z,26nm,1.4s
OTAV                              LR      LR
      comp=Z,5µm,20.0s,MS6.0
SOP   Sopron          100.29 352 eP       P       15 43 43.8  +3.9
WTTA  Wattenberg      100.37 349⇑iP       P       15 43 39.8  -0.5
      comp=Z,253nm,4.7s
WTTA                             i                15 47 46.5
      comp=Z,992nm,4.2s
PTCN  Pitcairn Islan  100.43 200  PFAKE           15 43 50.0  +8.9
PTCN                              LR      LR
      comp=Z,8µm,20.0s,MS6.2
CABF  La Chapelle     100.51 345 eP       P       15 43 42.3  +1.4
      comp=Z,32nm,1.1s
KSH   Kashi           100.64  36 eP       P       15 43 41.0  -0.7
KSH                              ePP      PP      15 47 50.0  -1.7
KSH                              eSKS     SKS     15 54 18.0  -6.3
KSH                              eS       S       15 55 13.3  -1.6
KSH                               LR      LR
      comp=N,3µm,17.6s,MS6.0
KSH                               LR      LR
      comp=E,2µm,15.8s,MS6.0
MOA   Molln           100.66 351⇑iP       P       15 43 42.7  +1.1
      comp=E,433nm,6.4s
MOA                              i                15 47 39.6
      comp=E,2µm,8.6s
ZST   Bratislava      100.75 353 ePP      PP      15 47 47.9  -4.4
ZST                              eSDIF            15 55 25.4
ZST                              eSP      SP      15 56 52.4  +2.0
ZST                              eSS      SS      16 02 03.6   -13
KMI   Kunming         100.83  63 eP       P       15 43 43.8  +0.9
KMI                               SKS     SKS     15 54 19.0  -6.5
KMI                               S       S       15 55 09.5  -7.3
KMI                               LR      LR
      comp=N,3µm,21.2s,MS5.9
KMI                               LR      LR
      comp=E,2µm,19.8s,MS5.9
KMI                               LR      LR
      comp=Z,4µm,22.5s,MS5.9
KMI   Kunming         100.83  63 eP       P       15 43 43.7  +0.8
KMI                               PP      PP      15 47 47.6  -5.9
KMI                               SKS     SKS     15 54 19.0  -6.5
KMI                               S       S       15 55 09.6  -7.2
KMI                               PS      PS      15 56 48.1  -4.9
KMI                               SS      SS      16 02 00.8   -18
TCF   Toulx Ste Croi  100.87 342 eP       P       15 43 43.8  +1.2
SMF   Signal de Mont  100.92 343 eP       P       15 43 44.4  +1.6
      comp=Z,30nm,1.1s
VYHS  Vyhne           100.92 354 eP       P       15 43 43.4  +0.7
VYHS                             e                15 47 50.4
VYHS                             e                15 54 23.4
VYHS                             eS       S       15 55 22.1  +5.0
VYHS                             eSP      SP      15 56 55.6  +3.4
VYHS                             eSS      SS      16 02 10.9  -8.4
VYHS  Vyhne           100.92 354 eP       P       15 43 43.4  +0.7
VYHS                             ePP      PP      15 47 50.4  -3.3
VYHS                             e                15 54 23.4
VYHS                             eS       S       15 55 22.1  +5.0
VYHS                             eSP      SP      15 56 55.6  +3.4
VYHS                             e                16 00 18.1
VYHS                             eSS      SS      16 02 10.9  -8.4
VYHS                             e                16 07 57.1
KOLL  Kolacno         101.04 353 ePP      PP      15 47 51.2  -3.4
AVF   Avril sur Loir  101.15 343 eP       P       15 43 44.9  +1.1
      comp=Z,48nm,1.4s
CRVS  Cervenica-Dubn  101.18 356 ePP      PP      15 47 59.5  +3.9
CRVS                             e        SKS     15 54 22.5  -4.2
CRVS                             eSS      SS      16 02 14.1  -8.8
PDA   Ponta Delgada   101.28 319 i -              15 57 04.6
PDA                              eLR      LR      16 11 26.0
ROSC  El Rosal        101.37 263  P       P       15 43 45.3  -0.3
      comp=Z,5.3nm,0.3s,baz=100,slow=23,SNR=2.6
ROSC                              PP      PP      15 47 54.2  -3.6
      comp=Z,6.9nm,0.5s,baz=155,slow=22,SNR=6.6
SSF   Saint Saulge    101.38 343 eP       P       15 43 46.0  +1.2
      comp=Z,2.3nm,0.4s
LOR   Lormes          101.52 343 eP       P       15 43 46.6  +1.2
LOR                              eR
      comp=Z,9µm,17.0s
HINF  Hinteralfeld    101.56 346 eP       P       15 43 46.9  +1.3
GERES GERESS Array B  101.70 350  P       P       15 43 46.5  +0.3
      comp=Z,0.3nm,0.6s,baz=190,slow=6.0,SNR=2.9
GERES                             PP      PP      15 47 55.1  -4.1
      comp=Z,1.8nm,0.8s,baz=180,slow=9.3,SNR=5.8
GERES                             PKKP    PKKP    15 59 56.5  +2.5
      comp=Z,0.9nm,0.9s,baz=45,slow=1.9,SNR=4.0
GERES GERESS Array B  101.70 350  P       P       15 43 46.5  +0.3
GERES                                             15 47 55.1
GERES                             pmax    pmax
      comp=Z,2.0nm,0.8s
GERES                             pmax    pmax
      comp=Z,1.0nm,0.9s
HAU   Haudompre       101.83 345 eP       P       15 43 48.3  +1.5
HAU                              eR
      comp=Z,16µm,22.8s
VRAC  Vranov          101.90 352  P       P       15 43 47.7  +0.6
      comp=Z,1.0nm,0.5s,baz=180,slow=10,SNR=2.5
VRAC                              PP      PP      15 47 52.4  -8.2
      comp=Z,1.1nm,0.5s,baz=171,slow=4.8,SNR=3.6
KHC   Kasperske Hory  102.00 350 ePDIF    P       15 43 52.5  +5.0
KHC                              ex       x       15 44 17.0
KHC                              ePP      PP      15 47 58.4  -2.9
KHC                              ex       x       15 51 53.4
KHC                              eSKS     SKS     15 54 28.8  -1.8
KHC                              ePS      PS      15 57 05.1  +0.8
KHC                              eSS      SS      16 02 36.2  +1.8
KHC                               LR              16 32 00.0
      comp=Z,7.5nm,18.9s
KHC   Kasperske Hory  102.00 350 eP       P       15 43 52.5  +5.0
KHC                              e                15 47 58.4
KHC                              e                15 54 28.8
KHC                              ePS      PS      15 57 05.1  +0.8
KHC                              eSS      SS      16 02 36.2  +1.8
KHC                               MLR     MLR
      comp=Z,8µm,18.9s,MS6.2
LVV   L’vov           102.00 357 eP       P       15 43 53.9  +6.4
LVV                              e                15 47 59.6
LVV                              e                15 57 50.0
LVV                               MLR     MLR
      comp=Z,4µm,21.2s,MS5.9
CDF   Champ du Feu    102.08 346 eP       Pdif    15 43 49.4  +1.4
STU   Stuttgart       102.16 347 eP       Pdif    15 43 59.0   +11
SDV   Santo Domingo   102.28 269  PFAKE           15 44 00.0   +10
SDV                               LR      LR
      comp=Z,10µm,20.0s,MS6.3
OKC   Ostrava-Krasne  102.31 353 ePDIF    Pdif    15 43 52.0  +3.1
OKC                              ePP      PP      15 47 59.4  -4.3
OKC                              ex       x       15 57 16.9
OKC                              ex       x       15 57 56.3
OKC                              eSS      SS      16 02 33.1  -5.6
OKC                               LR              16 27 40.0
      comp=Z,4.0nm,20.3s
OKC   Ostrava-Krasne  102.31 353 eP       Pdif    15 43 52.0  +3.1
OKC                              e                15 47 59.4
OKC                              e                15 57 56.3
OKC                              eSS      SS      16 02 33.1  -5.6
OKC                               MLR     MLR
      comp=Z,4µm,20.3s,MS5.9
MEZF  Maizieres J’vi  102.51 345 eP       Pdif    15 43 50.9  +1.0
      comp=Z,11nm,0.4s
OJC   Ojcow           102.58 355 eP       Pdif    15 43 52.0  +1.9
OJC                              e                15 48 00.2
OJC                              ePS      PS      15 57 15.9  +5.2
OJC                              eSS      SS      16 02 40.2  -2.3
OJC                               MLR     MLR
      comp=Z,6µm,20.8s,MS6.1
OJC   Ojcow           102.58 355 eP       Pdif    15 43 52.0  +1.9
OJC                              ePP      PP      15 48 00.2  -5.7
OJC                              eS       S       15 55 38.1  +7.2
OJC                              ePS      PS      15 57 15.9  +5.2
OJC                              eSS      SS      16 02 40.2  -2.3
OJC                               LR      LR
      comp=Z,6µm,20.8s,MS6.1
PRU   Pruhonice       102.75 351 ePDIF    Pdif    15 43 53.9  +3.0
PRU                              ePP      PP      15 48 03.2  -4.1
PRU                              ex       x       15 52 02.8
PRU                              eSKS     SKS     15 54 33.5  -0.6
PRU                              ePS      PS      15 57 14.6  +2.1
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PRU                              eSS      SS      16 02 39.5  -5.4
PRU                               LR              16 26 10.0
      comp=Z,3.9nm,14.0s
PRU   Pruhonice       102.75 351 eP       Pdif    15 43 53.9  +3.0
PRU                              e                15 48 03.2
PRU                              e                15 54 33.5
PRU                              ePS      PS      15 57 14.6  +2.1
PRU                              eSS      SS      16 02 39.5  -5.4
PRU                               MLR     MLR
      comp=Z,4µm,14.0s,MS6.1
GRA1  Grafenberg Arr  102.81 349 ePdif    Pdif    15 43 53.8  +2.6
GRA1                             e                15 46 32.5
GRA1                             ePP      PP      15 48 02.8  -5.0
GRA1                             ePKKP    PKKP    16 00 08.9   +17
GRA1                             eSKKP            16 04 02.0
GRA1                              LR      LR
      comp=Z,10µm,21.0s,MS6.3
GRF   Grafenberg Arr  102.81 349 eP       Pdif    15 43 53.8  +2.6
GRF                              e                15 48 02.8
GRF                               MLR     MLR
      comp=Z,10µm,21.0s,MS6.3
AKASG Malin Array Be  102.83   1  P       Pdif    15 43 51.0  -0.2
      comp=Z,0.3nm,0.4s,baz=194,slow=4.4,SNR=2.9
AKASG                             PP      PP      15 48 03.6  -4.2
      comp=Z,0.2nm,0.3s,baz=192,slow=7.3,SNR=4.3
AKASG                             PKKPbc          15 59 47.7
      comp=Z,1.0nm,0.7s,baz=359,slow=2.6,SNR=2.6
AAK   Ala-Archa       102.90  33 ePdif    Pdif    15 43 49.9  -1.8
      comp=Z,54nm,1.5s
AAK                               LR      LR
      comp=Z,807nm,20.0s,MS5.2
DPC   Dobruska-Polom  102.95 352 ePDIF    Pdif    15 44 02.8   +11
DPC                              ePP      PP      15 48 07.8  -1.1
DPC                              eSKS     SKS     15 54 35.7  +0.7
DPC                              ePS      PS      15 57 18.5  +3.7
DPC                              eSS      SS      16 02 40.4  -7.3
DPC                               LR              16 33 20.0
      comp=Z,5.3nm,18.6s
FRU   Bishkek         103.11  33 eP       Pdif    15 43 54.0  +1.3
UPC   Upice           103.14 352 ePDIF    Pdif    15 44 04.3   +12
UPC                              ePP      PP      15 48 03.4  -6.8
NKC   Novy Kostel     103.21 350 ePDIF    Pdif    15 43 59.7  +6.8
NKC                              ePP      PP      15 48 07.5  -3.2
NKC                              eSKS     SKS     15 54 36.7  +0.5
NKC                              ex       x       15 57 28.3
NKC                              eSS      SS      16 02 42.7  -8.3
NKC                               LR              16 29 20.0
      comp=Z,5.5nm,22.6s
NKC   Novy Kostel     103.21 350 eP       Pdif    15 43 59.7  +6.8
NKC                              e                15 48 07.5
NKC                              e                15 54 36.7
NKC                              eSS      SS      16 02 42.7  -8.3
NKC                               MLR     MLR
      comp=Z,6µm,22.6s,MS6.0
RKT   Rikitea         103.26 196 eS       S       15 55 43.6  +6.4
RKT                              eSS      SS      16 02 52.3  -0.1
RKT                              eL               16 12 45.7
RKT                              eR               16 19 04.1
      comp=Z,10µm,25.5s
PVCC  Panska Ves      103.28 351 ePP      PP      15 48 10.1  -1.1
PVCC                             eSKS     SKS     15 54 37.6  +1.0
PVCC                             ePS      PS      15 57 16.6  -1.5
PVCC                             eSS      SS      16 02 46.6  -5.4
PVCC                              LR              16 35 10.0
      comp=Z,4.9nm,17.0s
PVCC  Panska Ves      103.28 351 ePP      PP      15 48 10.1  -1.1
PVCC                             eSKS     SKS     15 54 37.6  +1.0
KSP   Ksiaz           103.45 352 eP       Pdif    15 43 54.3  +0.4
KSP                              e                15 48 10.0
KSP                              e                15 54 33.0
KSP                              eS       S       15 55 43.0  +4.9
KSP                              eSP      SP      15 57 20.5  +2.0
KSP                               MLR     MLR
      comp=Z,10µm,25.4s,MS6.2
KSP   Ksiaz           103.45 352 ePdif    Pdif    15 43 54.3  +0.4
KSP                              ePP      PP      15 48 10.0  -2.4
KSP                              eSKS     SKS     15 54 33.0  -4.3
KSP                              eSdif            15 55 43.0
KSP                              eSP      SP      15 57 20.5  +2.0
KSP                              eSS      SS      16 02 35.0   -19
KSP                               LR      LR
      comp=Z,10µm,25.4s,MS6.2
GRR   Gorron          103.48 341 eP       Pdif    15 43 54.7  +0.5
      comp=Z,111nm,1.6s
QUIF  Quistinic       103.52 339 eP       Pdif    15 43 55.4  +1.1
      comp=Z,29nm,1.1s
LDF   La Druitiere    103.53 341 eP       Pdif    15 43 55.7  +1.3
      comp=Z,126nm,1.7s
BRG   Berggiesshubel  103.69 351 ePP      PP      15 48 09.9  -4.1
MOX   Moxa            103.70 349 ePP      PP      15 48 10.3  -3.9
SGMF  Saint Gilles    103.71 339 eP       Pdif    15 43 56.1  +0.9
      comp=Z,18nm,0.9s
FLN   La Foliniere    103.77 341 eP       Pdif    15 43 56.7  +1.3
FLN                              eR
      comp=Z,13µm,20.5s
GIVF  Givet           104.10 345 eP       Pdif    15 43 58.2  +1.4
BAIF  Baives          104.16 344 eP       Pdif    15 43 58.4  +1.3
CLL   Collm           104.21 350 ePDIF    Pdif    15 44 01.0  +3.7
CLL                              e                15 46 42.0
CLL                              e                15 48 01.0
CLL                              ePP      PP      15 48 14.0  -3.9
CLL                              e                15 48 45.0
CLL                              e                15 50 05.0
CLL                              ePPP     PPP     15 50 36.0  +4.1
CLL                              e                15 54 38.0
CLL                              e                15 55 25.0
CLL                              eS       S       15 55 56.0   +12
CLL                              ePS      PS      15 57 24.0  -3.3
CLL                              ePPS     PPS     15 58 25.0  +2.9
CLL                              ePKKP    PKKP    16 00 02.8   +13
CLL                              eSS      SS      16 02 50.0   -14
CLL                              e                16 04 39.0
CLL                              eSSS     tx      16 06 42.0
CLL                              e                16 10 24.0
CLL   Collm           104.21 350 eP       Pdif    15 44 01.0  +3.7
CLL                              e                15 48 14.0
CLL                              e                15 55 25.0
CLL                               MLR     MLR
      comp=Z,5µm,16.1s,MS6.1
CLL   Collm           104.21 350 eP       Pdif    15 44 01.0  +3.7
CLL                              ePP      PP      15 48 14.0  -3.9
CLL                              eSKKS            15 55 25.0
CLL                              eS       S       15 55 56.0   +12
CLL                              ePKKP    PKKP    16 00 02.8   +13
CLL                               LR      LR
      comp=Z,5µm,16.1s,MS6.1
TBI   Tubuai          104.45 182 ePP      PP      15 48 18.5  -2.0
TBI                              eS       S       15 55 49.2  +2.2
TBI                              eSS      SS      16 03 06.0  -2.2
TBI                              eR               16 19 08.6
      comp=Z,14µm,34.0s,baz=1.2
HGN   Heimansgroeve   104.57 346 ePP      PP      15 48 17.5  -3.4
HGN                              eScS             15 54 01.1
HGN                              ePS      tx      15 56 04.5
HGN                              ePPS     tx      15 57 12.0
HGN                              ex       x       15 58 04.8
HGN                              ePKKP    PKKP    16 00 00.8   +12
HGN                              i SS     SS      16 02 55.5   -14
WTSB  Winterswijk     105.62 347 ePP      PP      15 48 24.0  -4.6
GKP   Gorka Klasztor  105.79 353 eSKS     SKS     15 54 45.8  -2.0
GKP                               LR      LR
      comp=Z,5µm,20.8s,MS6.1
SUW   Suwalki         106.22 357 eSKS     SKS     15 54 50.8  +1.1
SUW                              eSP      SP      15 57 50.3  +4.1
SUW                              eSS      SS      16 03 25.9  -6.2
RAR   Rarotonga       106.29 172  PFAKE           15 48 30.0
RAR                               LR      LR
      comp=Z,6µm,20.0s,MS6.1
PAYG  Puerto Ayora    106.31 246  PFAKE           15 48 30.0
PAYG                              LR      LR
      comp=Z,3µm,19.0s,MS5.8
SJG   San Juan        106.69 278  PFAKE           15 48 30.0
SJG                               LR      LR
      comp=Z,5µm,21.0s,MS6.0
OBN   Obninsk         107.48   5  PFAKE           15 48 30.0
OBN                               LR      LR
      comp=Z,1µm,20.0s,MS5.4
BSD   Bornholm Skovb  107.80 352⇑iP       PP      15 48 39.9  -4.8
BSD                              i S              15 56 25.0
BSD                              i                15 57 58.9
BSD                              i                16 03 54.8
      comp=Z,4µm,19.0s
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ENH   Enshi           108.55  64  PP      PP      15 48 44.5  -6.7
COP   Copenhagen      108.59 351⇑iP       PP      15 48 46.7  -4.1
COP                              i                15 54 16.3
COP                              i                15 58 06.5
COP                              i                16 04 07.3
      comp=Z,2µm,19.0s
WMQ   Urumqi          108.81  41 ePDIF    Pdif    15 44 18.5  +0.8
WMQ                               PP      PP      15 48 53.8  +0.9
WMQ                               PPP     PPP     15 51 11.5  +0.6
WMQ                               SS      SS      16 04 08.5  +1.5
WMQ                               PP      PP
      comp=Z,608nm,6.4s
WMQ                               LR      LR
      comp=N,6µm,28.0s
WMQ                               LR      LR
      comp=Z,7µm,26.0s,MS6.1
MKAR  Makanchi Array  109.24  36  Pdiff   Pdif    15 44 19.5   0.0
      comp=Z,0.5nm,0.6s,baz=236,slow=5.2,SNR=1.9
MKAR                              PKiKP           15 48 24.6
      comp=Z,1.0nm,0.9s,baz=197,slow=2.8,SNR=5.0
MKAR                              PP      PP      15 48 49.8  -6.2
      comp=Z,4.7nm,1.0s,baz=90,slow=1.2,SNR=4.7
MKAR                              PKKPab          15 59 32.9
      comp=Z,1.6nm,0.8s,baz=45,slow=5.1,SNR=5.0
MKAR  Makanchi Array  109.24  36  P       Pdif    15 44 19.5   0.0
MKAR                                              15 48 49.8
MKAR                              pmax    pmax
      comp=Z,1.0nm,0.6s
MKAR                              pmax    pmax
      comp=Z,1.0nm,0.9s
MKAR                              pmax    pmax
      comp=Z,5.0nm,1.0s
MKAR                              pmax    pmax
      comp=Z,2.0nm,0.8s
MKAR  Makanchi Array  109.24  36  Pdif    Pdif    15 44 19.5   0.0
MKAR                              PKPdf           15 48 24.6
MKAR                              PP      PP      15 48 49.8  -6.2
MKAR                              PKKPab          15 59 32.9
MUD   Monsted U’grnd  109.70 349⇑iP       PP      15 48 58.7  -0.3
MUD                              e                15 58 29.0
MUD                              i                15 58 58.4
MUD                              i                16 04 10.3
      comp=Z,3µm,17.0s
LZH   Lanzhou         110.03  57  PKP     PKPdf   15 48 22.5  -4.2
LZH                               XPKP            15 48 27.3
LZH                               PP      PP
      comp=Z,556nm,7.8s
LZH                               LR      LR
      comp=N,4µm,18.0s
LZH                               LR      LR
      comp=Z,6µm,20.2s,MS6.1
LZH   Lanzhou         110.03  57 ePdif    Pdif    15 44 21.5  -1.8
LZH                               PKP     PKPdf   15 48 22.5  -4.2
LZH                               pPKP            15 48 25.9
LZH                               sPKP            15 48 27.3
LZH                               PP      PP      15 48 58.0  -3.9
LZH                               SKS     tx      15 55 30.5
LZH                               S       tx      15 56 27.1
LZH                               PS      PS      15 58 21.2  -3.8
LZH                               SS      SS      16 04 15.3  -8.8
LZH                               LR      LR
      comp=Z,6µm,20.2s,MS6.1
PPT   Papeete         110.20 182 ePP      PP      15 48 55.4  -8.0
PPT                              eSS      SS      16 04 40.4   +14
PPT                              eL               16 15 21.4
PPT                              eR               16 22 01.2
      comp=Z,23µm,33.2s,baz=5.3
ESK   Eskdalemuir     110.52 342  PFAKE           15 48 40.0   +13
ESK                               LR      LR
      comp=Z,2µm,19.0s,MS5.6
EKA   Eskdalemuir Ar  110.53 342  PP      PP      15 49 01.8  -3.0
      comp=Z,13nm,1.1s,baz=157,slow=6.4,SNR=8.6
BVAR  Borovoye Array  110.96  26  Pdiff   Pdif    15 44 25.8  -1.1
      comp=Z,0.3nm,0.4s,baz=153,slow=6.4,SNR=4.1
BVAR                              PKiKP           15 48 26.0
      comp=Z,0.6nm,0.6s,baz=274,slow=39,SNR=4.1
BVAR                              PKKPbc          15 59 20.6
      baz=45,slow=2.0
BVAR                              PKKPab          15 59 32.4
      comp=Z,5.4nm,0.7s,baz=45,slow=2.1,SNR=4.3
BVAR  Borovoye Array  110.96  26  Pdif    Pdif    15 44 25.8  -1.1
BVAR                              PKPdf   PKPdf   15 48 26.0  -2.1
BVAR                              PKKPbc          15 59 20.6
BVAR                              PKKPab          15 59 32.4
BRVK  Borovoye        110.96  26  PFAKE           15 48 40.0   +12
BRVK                              LR      LR
      comp=Z,850nm,22.0s,MS5.3
XAN   Xi’an           111.12  62  PKP     PKPdf   15 48 31.8  +2.9
KURK  Kurchatov       111.35  32  PFAKE           15 48 40.0   +11
KURK                              LR      LR
      comp=Z,798nm,20.0s,MS5.3
ARU   Arti            111.43  18⇓iPKIKP   PKPdf   15 48 33.1  +4.2
ARU                              i PPP    PPP     15 51 36.2  +3.6
ARU                              i PS     PS      15 58 41.0  +3.0
ARU                              i SS     SS      16 04 32.9  -8.9
ARU                              i SSS    SSS     16 08 51.7  -1.0
ARU                               pmax    pmax
      comp=Z,20nm,1.8s
ARU                               MLR     MLR
      comp=N,2µm,19.0s,MS5.8
ARU                               MLR     MLR
      comp=E,2µm,19.0s,MS5.8
ARU                               MLR     MLR
      comp=Z,2µm,19.0s,MS5.8
ARU   Arti            111.43  18  PFAKE           15 48 40.0   +11
ARU                               LR      LR
      comp=Z,742nm,20.0s,MS5.3
TATO  Taipei          111.44  77  PFAKE           15 48 40.0   +10
TATO                              LR      LR
      comp=Z,4µm,22.0s,MS6.0
PUL   Pulkovo         111.93   1 i PKIKP  PKPdf   15 48 34.6  +4.9
PUL                              e                15 49 09.8
PUL                              e                15 58 39.0
PUL                              eSS      SS      16 04 49.5  +1.3
PUL                              e                16 04 50.0
JTS   JuntasAbangare  112.06 258  PFAKE           15 48 40.0  +8.9
JTS                               LR      LR
      comp=Z,613nm,19.0s,MS5.2
SVE   Sverdlovsk      112.20  19⇑iP       Pdif    15 44 43.5   +11
SVE                              e                15 51 40.0
SVE                              e                15 55 15.0
SVE                              eSS      SS      16 04 45.0  -7.0
KONO  Kongsberg       112.78 350  PFAKE           15 48 40.0  +8.5
KONO                              LR      LR
      comp=Z,6µm,20.0s,MS6.2
HFS   Hagfors         112.87 352  PKKPab          15 59 20.4
      comp=Z,2.3nm,0.6s,baz=333,slow=3.3,SNR=8.3
FINES FINESS Array B  113.61 359  PKiKP           15 48 33.4
      comp=Z,5.2nm,0.8s,baz=162,slow=4.4,SNR=5.2
FINES                             PKKPbc          15 59 14.1
      comp=Z,4.4nm,0.9s,baz=243,slow=8.5,SNR=3.8
FINES FINESS Array B  113.61 359 i PKIKP  PKPdf   15 48 33.4  +0.2
FINES                             pmax    pmax
      comp=Z,5.0nm,0.8s
FINES                             pmax    pmax
      comp=Z,4.0nm,0.9s
NB2   NORSAR Subarra113.99 351  PKPdf   PKPdf   15 48 32.4  -1.5
      comp=Z,6.6nm,1.1s,baz=169,slow=1.9
NB2   NORSAR Subarra113.99 351  PKPd            15 48 32.4
      baz=169,slow=1.9
NOA   NORSAR Array B  113.99 351  PKiKP           15 48 33.0
      comp=Z,0.7nm,0.7s,baz=14,slow=16,SNR=2.7
NOA                               PP      PP      15 49 25.4  -4.5
      comp=Z,2.7nm,1.0s,baz=168,slow=6.3,SNR=2.9
NOA   NORSAR Array B  113.99 351 i PKIKP  PKPdf   15 48 33.1  -0.8
NOA                                               15 49 25.4
NOA                               pmax    pmax
      comp=Z,1.0nm,0.7s
NOA                               pmax    pmax
      comp=Z,3.0nm,1.0s
NOA   NORSAR Array B  113.99 351  PKPdf   PKPdf   15 48 33.0  -0.9
NOA                               PP      PP      15 49 25.4  -4.5
NJ2   Nanjing         115.17  70 ePKP     PKPdf   15 48 32.0  -4.8
NJ2                               PP      PP      15 49 38.0  -0.9
NJ2                               PKS     PKS     15 52 07.0  -2.5
NJ2                               LR      LR
      comp=N,5µm,20.1s
NJ2                               LR      LR
      comp=E,4µm,26.1s
NJ2                               LR      LR
      comp=Z,4µm,24.0s,MS6.0
SSE   Sheshan         115.81  72 ePKP     PKPdf   15 48 34.5  -3.7
SSE                               PP      PP      15 49 45.0  +1.6
SSE                               PP      PP
      comp=Z,305nm,3.9s
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SSE				LR	LR		
	comp=N,2µm,18.1s,MS6.0						
SSE				LR	LR		
	comp=E,2µm,18.1s,MS6.0						
SSE				LR	LR		
	comp=Z,3µm,18.4s,MS6.0						
SSE	**Sheshan**	**115.81**	**72**	*e*PKP	PKPdf	15 48 34.6	-3.6
SSE				PP	PP	15 49 44.9	+1.5
SSE				SS	SS	16 05 55.4	+15
SSE				LR	LR		
	comp=Z,3µm,18.4s,MS6.0						
ZAL	**Zalesovo**	**116.11**	**33**	PKIKP	PKPdf	15 48 36.6	-1.6
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NVS	**Novosibirsk**	**116.34**	**32**	*e*P	Pdif	15 44 50.3	-0.2
NVS				*e*		15 48 38.6	
BBSR	**BB Station**	**116.52**	**289**	PFAKE		15 48 50.0	+10
BBSR				LR	LR		
	comp=Z,2µm,22.0s,MS5.8						
GUMO	**Guam**	**116.93**	**103**	PFAKE		15 48 50.0	+9.3
GUMO				LR	LR		
	comp=Z,1µm,20.0s,MS5.5						
BJI	**Beijing**	**119.45**	**62**	PKP	PKPdf	15 48 47.3	+2.3
BJI				SS	SS	16 06 34.5	+7.0
BJI				LR	LR		
	comp=N,2µm,19.5s,MS5.9						
BJI				LR	LR		
	comp=E,1µm,19.5s,MS5.9						
BJI				LR	LR		
	comp=Z,4µm,26.5s						
BJI	**Beijing**	**119.45**	**62**	PKP	PKPdf	15 48 47.2	+2.2
BJI				PP	PP	15 49 59.9	-8.4
BJI				SKKS		15 57 07.3	
BJI				SS	SS	16 06 34.4	+6.9
BJI				LR	LR		
	comp=Z,4µm,26.5s,MS5.9						
APA	**Apatity**	**119.81**	**2**	⇓*i*PKIKP	Px	15 48 30.5	
APA				*e*		15 55 39.0	
APA				*i* PS	PS	16 00 00.0	+4.8
APA				*e*SS	SS	16 06 43.0	+11
APA				MLR	MLR		
	comp=Z,2µm,14.0s,MS6.0						
SONM	**Songino Array**	**120.11**	**50**	PKP	PKPdf	15 48 42.9	-3.1
	comp=Z,5.8nm,1.0s,baz=235,slow=1.7,SNR=13						
SONM				PKKPbc		15 58 52.4	
	comp=Z,1.5nm,0.8s,baz=27,slow=2.8,SNR=4.9						
SONM	**Songino Array**	**120.11**	**50**	PKP	PKPdf	15 48 42.9	-3.1
SONM				PKKPbc		15 58 52.4	
ULN	**Ulaanbaatar**	**120.43**	**50**	PFAKE		15 49 00.0	+13
ULN				LR	LR		
	comp=Z,1µm,20.0s,MS5.5						
MOY	**Mondy**	**120.50**	**44**	*e*PKIKP	PKPdf	15 48 47.9	+1.2
ZAK	**Zakamensk**	**120.54**	**46**	*e*PKIKP	PKPdf	15 48 42.9	-4.0
ARE0	**ARCESS Array S**	**121.74**	**359**	*e*PKPdf	PKPdf	15 48 46.2	-2.6
ARCES	**ARCESS Array B**	**121.74**	**359**	PKP	PKPdf	15 48 46.6	-2.1
	comp=Z,13nm,1.1s,baz=194,slow=5.0,SNR=17						
ARCES				PKKPbc		15 58 43.7	
	comp=Z,4.0nm,0.9s,baz=34,slow=4.4,SNR=6.2						
ARCES	**ARCESS Array B**	**121.74**	**359**	PKIKP	PKPdf	15 48 46.6	-2.2
ARCES				pmax	pmax		
	comp=Z,13nm,1.1s						
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BORG	**Borgarnes**	**122.97**	**337**	PFAKE		15 49 00.0	+8.9
BORG				LR	LR		
	comp=Z,2µm,22.0s,MS5.6						
DWPF	**Disney**	**123.44**	**274**	PFAKE		15 49 00.0	+7.0
DWPF				LR	LR		
	comp=Z,1µm,22.0s,MS5.5						
INCN	**Inchon**	**123.51**	**71**	*e*PKPdf	PKPdf	15 48 50.9	-2.0
INCN				LR	LR		
	comp=Z,3µm,19.0s,MS6.0						
SNY	**Shenyang**	**124.74**	**65**	⇑PKP	PKPdf	15 48 57.8	+2.7
SNY				LR	LR		
	comp=E,1µm,5.5s						
SNY				LR	LR		
	comp=Z,680nm,5.5s						
KWAJ	**Kwajalein Atol**	**125.46**	**128**	PFAKE		15 49 10.0	+13
KWAJ				LR	LR		
	comp=Z,926nm,19.0s,MS5.5						
JMIC	**Jan Mayen**	**125.93**	**346**	PKP	PKPdf	15 48 56.5	-0.2
	comp=Z,52nm,0.6s,baz=169,slow=15,SNR=2.4						
NHSC	**New Hope**	**126.21**	**279**	PFAKE		15 49 10.0	+12
NHSC				LR	LR		
	comp=Z,5µm,19.0s,MS6.2						
EMMW	**East Machias**	**126.63**	**298**	PFAKE		15 49 10.0	+11
EMMW				LR	LR		
	comp=Z,10µm,19.0s,MS6.5						
BRYW	**Bryant College**	**127.06**	**293**	*e*PKPdf	PKPdf	15 48 57.6	-1.9
CN2	**Changchun**	**127.07**	**64**	*e*PKP	PKPdf	15 48 59.0	-0.4
CN2				SKS	SKS	15 56 05.3	-0.6
CN2				*e*SS	SS	16 08 05.3	+1.0
CN2				PP	PP		
	comp=Z,400nm,5.0s						
CN2				LR	LR		
	comp=N,2µm,21.0s,MS6.0						
CN2				LR	LR		
	comp=E,2µm,21.0s,MS6.0						
CN2				LR	LR		
	comp=Z,3µm,21.0s,MS6.0						
WES	**Weston**	**127.25**	**293**	PKIKP	PKPdf	15 49 04.2	+4.3
WES	**Weston**	**127.25**	**293**	*e*PKPdf	PKPdf	15 48 57.8	-2.1
WES				LR	LR		
	comp=Z,5µm,20.0s,MS6.2						
HRV	**Harvard--Oak R**	**127.46**	**293**	PKIKP	PKPdf	15 49 04.9	+4.6
HRV	**Harvard--Oak R**	**127.46**	**293**	PKPdf	PKPdf	15 48 56.5	-3.8
HRV				*e*		15 49 04.6	
HRV				LR	LR		
	comp=Z,4µm,21.0s,MS6.1						
HIA	**Hailar**	**127.57**	**56**	*e*PKPdf	PKPdf	15 48 54.8	-5.6
WVL	**Waterville**	**127.74**	**296**	PKPdf	PKPdf	15 48 58.2	-2.6
WVL				*e*		15 49 05.5	
WVL				LR	LR		
	comp=Z,14µm,22.0s,MS6.6						
CBN	**Corbin**	**127.99**	**286**	PFAKE		15 49 10.0	+8.5
CBN				LR	LR		
	comp=Z,5µm,21.0s,MS6.2						
PQI	**Presque Isle**	**128.19**	**299**	PFAKE		15 49 10.0	+8.3
PQI				LR	LR		
	comp=Z,12µm,20.0s,MS6.6						
LUPA	**Lehigh Univers**	**128.39**	**289**	*e*PKPdf	PKPdf	15 48 58.6	-3.6
LUPA				*e*		15 49 06.5	
ACCN	**Adirondack Com**	**129.21**	**293**	PKPdf	PKPdf	15 49 02.4	-1.3
MAJO	**Matsushiro**	**129.70**	**79**	PFAKE		15 49 10.0	+5.2
MAJO				LR	LR		
	comp=Z,3µm,21.0s,MS6.0						
MAT	**Matsushiro**	**129.70**	**79**	PKP	PKPdf	15 49 00.4	-4.4
MAT	**Matsushiro**	**129.70**	**79**	*e*PKP	PKPdf	15 49 00.0	-4.8
BINY	**Binghamton**	**129.78**	**290**	*e*PKPdf	PKPdf	15 49 03.9	-0.9
BINY				LR	LR		
	comp=Z,3µm,21.0s,MS5.9						
SSPA	**Standing Stone**	**129.88**	**288**	*e*PKPdf	PKPdf	15 49 02.7	-2.3
SSPA				LR	LR		
	comp=Z,582nm,22.0s,MS5.2						
MDJ	**Mudanjiang**	**129.89**	**66**	PKP	PKPdf	15 49 03.0	-1.9
MDJ				SKS	SKS	15 56 11.0	-2.5
MDJ				PS	PS	16 01 25.8	+2.4
MDJ				SS	SS	16 08 41.8	+2.7
MDJ				PP	PP		
	comp=Z,305nm,3.9s						
MDJ				LR	LR		
	comp=N,2µm,28.4s,MS5.7						
MDJ				LR	LR		
	comp=E,2µm,27.4s,MS5.7						
MDJ				LR	LR		
	comp=Z,3µm,26.5s,MS5.8						
MDJ	**Mudanjiang**	**129.89**	**66**	*e*PKPdf	PKPdf	15 49 02.3	-2.7
NCB	**Newcomb**	**129.89**	**293**	*e*PKPdf	PKPdf	15 49 03.1	-1.9
NCB				LR	LR		
	comp=Z,3µm,20.0s,MS6.0						
MYNC	**Murphy**	**129.94**	**278**	PFAKE		15 49 10.0	+4.7
MYNC				LR	LR		
	comp=Z,4µm,22.0s,MS6.1						
BOD	**Bodaibo**	**130.20**	**44**	*e*PKIKP	PKPdf	15 49 01.2	-3.9
LRAL	**Lakeview Retre**	**130.30**	**274**	PFAKE		15 49 20.0	+14
LRAL				LR	LR		
	comp=Z,3µm,21.0s,MS6.0						
MCWV	**Mont Chateau**	**130.40**	**285**	PFAKE		15 49 20.0	+14
MCWV				LR	LR		
	comp=Z,3µm,21.0s,MS6.0						
LOZ	**Lake Ozonia**	**130.50**	**294**	*e*P	PKPdf	15 49 10.1	+4.0
SWET	**Sewanee**	**131.13**	**277**	*e*PKPdf	PKPdf	15 49 07.2	-0.4
DAG	**Danmarks Havn**	**132.34**	**347**	*i* P	PKPdf	15 49 06.0	-2.8
	comp=Z,10.0nm,1.0s						
DAG	**Danmarks Havn**	**132.34**	**347**	*e*P	PKPdf	15 49 06.0	-2.8
SCHQ	**Schefferville**	**132.50**	**309**	PKP	PKPdf	15 49 06.4	-3.2
	comp=Z,6.4nm,0.7s,baz=202,slow=1.6,SNR=9.5						
SCHQ	**Schefferville**	**132.50**	**309**	*e*PKPdf	PKPdf	15 49 06.8	-2.8
SCHQ				*e*		15 49 16.3	
SCHQ				LR	LR		
	comp=Z,6µm,20.0s,MS6.3						
OXF	**Oxford**	**132.77**	**273**	PKIKP	PKPdf	15 49 14.2	+3.5
OXF	**Oxford**	**132.77**	**273**	*e*PKPdf	PKPdf	15 49 07.9	-2.8
OXF				LR	LR		
	comp=Z,4µm,22.0s,MS6.1						
WVT	**Waverly**	**132.89**	**276**	PFAKE		15 49 20.0	+9.1
WVT				LR	LR		
	comp=Z,3µm,22.0s,MS5.9						
SUMG	**Summit**	**132.94**	**338**	*e*PKPdf	PKPdf	15 49 09.1	-0.9
WCI	**Wyandotte Cave**	**133.32**	**279**	*e*PKIKP	PKPdf	15 49 13.4	+1.8
WCI	**Wyandotte Cave**	**133.32**	**279**	*e*PKPdf	PKPdf	15 49 10.9	-0.6
WCI				LR	LR		
	comp=Z,616nm,20.0s,MS5.3						
KLR	**Kul'dur**	**133.83**	**62**	*e*PKIKP	PKPdf	15 49 10.5	-1.6
WAKE	**Wake Island**	**133.87**	**120**	PFAKE		15 49 20.0	+7.0
WAKE				LR	LR		
	comp=Z,92µm,20.0s						
CLNS	**Chul'man**	**134.52**	**50**	*e*PKIKP	PKPdf	15 49 05.6	-7.7
CLNS				pmax	pmax		
	comp=Z,33nm,1.0s						
CLNS				pmax	pmax		
	comp=N,13nm,0.8s						
CLNS				pmax	pmax		
	comp=E,11nm,0.8s						
UALR	**University of**	**134.74**	**271**	*e*PKPdf	PKPdf	15 49 13.4	-0.9
FVM	**French Village**	**135.67**	**276**	PKIKP	PKPdf	15 49 17.3	+1.3
FVM	**French Village**	**135.67**	**276**	*e*PKPdf	PKPdf	15 49 14.8	-1.1
SLM	**Saint Louis**	**135.97**	**277**	PKIKP	PKPdf	15 49 18.3	+1.8
ERM	**Erimo**	**136.14**	**77**	PFAKE		15 49 30.0	+13
ERM				LR	LR		
	comp=Z,111nm,21.0s						
CCM	**Cathedral Cave**	**136.21**	**276**	PKHKP		15 49 07.7	
CCM	**Cathedral Cave**	**136.21**	**276**	*e*PKPpre		15 49 03.2	
CCM				*e*PKPdf	PKPdf	15 49 16.0	-0.9
CCM				LR	LR		
	comp=Z,627nm,20.0s,MS5.3						
ASAJ	**Asahikawa**	**137.05**	**74**	PKhKP		15 49 06.0	
	comp=Z,3.4nm,0.4s,baz=145,slow=13,SNR=5.0						
ASAJ	**Asahikawa**	**137.05**	**74**	PKHKP		15 49 06.0	
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.4s						
LTX	**Lajitas**	**137.81**	**256**	PFAKE		15 49 30.0	+10
LTX				LR	LR		
	comp=Z,2µm,22.0s,MS5.8						
TXAR	**Lajitas Array**	**137.81**	**256**	PKhKP		15 49 05.5	
	comp=Z,0.3nm,0.5s,baz=135,slow=7.1,SNR=4.1						
TXAR				PKP	PKPdf	15 49 18.1	-2.1
	comp=Z,3.6nm,0.7s,baz=146,slow=4.5,SNR=22						
TXAR	**Lajitas Array**	**137.81**	**256**	PKP	PKPdf	15 49 18.1	-2.1
JFWS	**Jewell Farm**	**138.57**	**282**	PFAKE		15 49 30.0	+8.9
JFWS				LR	LR		
	comp=Z,3µm,21.0s,MS6.0						
WMOK	**Wichita Mounta**	**138.65**	**266**	PFAKE		15 49 30.0	+8.5
WMOK				LR	LR		
	comp=Z,2µm,20.0s,MS5.9						
YSS	**Yuzh-Sakhalins**	**138.72**	**71**	*e*PKIKP	PKPdf	15 49 23.0	+1.7
YSS				*i*		15 49 35.6	
YSS				PPS	PPS	16 04 25.0	-1.8
YSS				*e*SS	tx	16 10 51.0	
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS				pmax	pmax		
	comp=Z,60nm,1.0s						
YSS				MLR	MLR		
	comp=Z,1µm,23.0s,MS5.6						
YSS				MLR	MLR		
	comp=E,1µm,22.0s						
YSS	**Yuzh-Sakhalins**	**138.72**	**71**	PFAKE		15 49 30.0	+8.7
YSS				LR	LR		
	comp=Z,2µm,20.0s,MS5.9						
YAK	**Yakutsk**	**139.11**	**45**	PKIKP	PKPdf	15 49 15.3	-6.3
YAK	**Yakutsk**	**139.11**	**45**	*e*PKPdf	PKPdf	15 49 14.6	-7.0
YAK				LR	LR		
	comp=Z,4µm,21.0s,MS6.2						
CLNB	**Carlsbad**	**140.04**	**259**	*e*PKPdf	PKPdf	15 49 19.5	-4.6
KSU1	**Kansas State U**	**140.14**	**273**	*e*PKPpre		15 49 15.9	
KSU1				*e*PKPdf	PKPdf	15 49 20.7	-3.3
GDL2	**Guadalupe Moun**	**140.29**	**258**	*e*PKPdf	PKPdf	15 49 22.8	-1.7
TIXI	**Tiksi**	**141.90**	**30**	*e*PKHKP		15 49 17.9	
TIXI				pmax	pmax		
	comp=Z,25nm,0.8s						
TIXI				pmax	pmax		
	comp=Z,35nm,0.8s						
TIXI	**Tiksi**	**141.90**	**30**	PFAKE		15 49 40.0	+14
TIXI				LR	LR		
	comp=Z,8µm,20.0s,MS6.5						
EYMN	**Ely**	**142.04**	**288**	PFAKE		15 49 40.0	+13
EYMN				LR	LR		
	comp=Z,12nm,20.0s						
BNM	**Barren Site**	**143.00**	**259**	*e*PKPpre		15 49 23.9	
LPM	**Los Pinos Moun**	**143.12**	**259**	*e*PKPdf	PKPdf	15 49 24.1	-5.2
LENM	**Lemitar**	**143.22**	**258**	*e*PKPpre		15 49 21.5	
LENM				*e*PKPdf	PKPdf	15 49 25.0	-4.5
ANMO	**Albuquerque**	**143.45**	**260**	*e*PKPdf	PKPdf	15 49 24.5	-5.3
ANMO				LR	LR		
	comp=Z,3µm,19.0s,MS6.0						
LAZ	**Ladron**	**143.48**	**258**	*e*PKPdf	PKPdf	15 49 28.7	-1.2
TUC	**Tucson**	**144.16**	**252**	PKPdf	PKPdf	15 49 27.0	-4.2
TUC	**Tucson**	**144.16**	**252**	*e*PKPdf	PKPdf	15 49 27.1	-4.0
TUC				LR	LR		
	comp=Z,33µm,20.0s,MS7.1						
SDCO	**Great Sand Dun**	**144.72**	**264**	*e*PKPdf	PKPdf	15 49 28.0	-4.0
SDCO				LR	LR		
	comp=Z,4µm,21.0s,MS6.2						
ULM	**Lac du Bonnet**	**145.67**	**289**	PKPbc	PKPbc	15 49 31.9	+1.0
	comp=Z,69nm,1.0s,baz=108,slow=2.8,SNR=22						
ULM	**Lac du Bonnet**	**145.67**	**289**	*e*PKPdf	PKPdf	15 49 29.6	-3.6
ULM				LR	LR		
	comp=Z,6µm,20.0s,MS6.3						
ISCO	**Idaho Springs**	**146.07**	**267**	*e*PKPdf	PKPdf	15 49 32.9	-1.3
ISCO				LR	LR		
	comp=Z,3µm,20.0s,MS6.1						
RW3	**Ridgway**	**146.37**	**263**	PKHKP		15 49 34.6	
RW3	**Ridgway**	**146.37**	**263**	*e*PKPdf	PKPdf	15 49 33.9	-0.9
PV01	**Paradox Valley**	**146.83**	**262**	*e*PKPdf	PKPdf	15 49 36.0	+0.4
KKH	**Kailua Kona**	**147.07**	**173**	PKP2	PKPab	15 49 40.1	+0.9
KKH	**Kailua Kona**	**147.07**	**173**	*e*PKP	PKPdf	15 49 37.5	+1.0
POHA	**Pohakuloa**	**147.20**	**174**	*e*PKPbc	PKPdf	15 49 37.9	+1.1
POHA				LR	LR		
	comp=Z,6µm,20.0s,MS6.4						
PV10	**Paradox Valley**	**147.27**	**262**	*e*PKPdf	PKPdf	15 49 35.8	-0.5
RSSD	**Black Hills**	**147.58**	**275**	PKHKP		15 49 35.1	
RSSD	**Black Hills**	**147.58**	**275**	*e*PKPdf	PKPdf	15 49 35.7	-0.8
RSSD				*e*PKPbc	PKPdf	15 49 38.6	+2.0
RSSD				LR	LR		
	comp=Z,656nm,20.0s,MS5.4						
FCC	**Fort Churchill**	**147.66**	**304**	PKIKP	PKPdf	15 49 37.9	+1.7
FCC	**Fort Churchill**	**147.66**	**304**	*e*PKPbc	PKPdf	15 49 36.2	0.0
BAR	**Barrett**	**147.79**	**246**	*e*PKPbc	PKPdf	15 49 38.5	+1.2
HKL	**Haleakala**	**148.09**	**172**	PKP2	PKPab	15 49 45.7	+2.5
MA2	**Magadan**	**148.15**	**54**	*i* PKP2	PKPab	15 49 37.9	-4.3
MA2				*e*PPP	PPP	15 56 44.6	+15
MA2				*e*		16 05 49.5	
MA2				*e*SS	SS	16 11 59.4	-14
MA2				pmax	pmax		
	comp=Z,180nm,1.2s						
MA2	**Magadan**	**148.15**	**54**	*e*PKPbc	PKPdf	15 49 38.3	+1.3
MA2				LR	LR		
	comp=Z,3µm,21.0s,MS6.0						
SKR	**Severo-Kuril's**	**148.25**	**72**	*e*PKIKP	PKPdf	15 49 35.5	-1.9
SKR				*e*		15 49 51.0	
SKR				pmax	pmax		
	comp=N,110nm,1.0s						
SKR				pmax	pmax		
	comp=E,90nm,1.0s						
SKR				pmax	pmax		
	comp=Z,220nm,1.0s						
SKR				pmax	pmax		
	comp=N,1µm,4.0s						
SKR				pmax	pmax		
	comp=E,1µm,4.0s						
SKR				pmax	pmax		
	comp=Z,2µm,4.0s						
SKR				MLR	MLR		
	comp=N,1µm,18.0s,MS6.1						
SKR				MLR	MLR		
	comp=Z,2µm,18.0s,MS6.0						
SKR				MLR	MLR		
	comp=E,2µm,20.0s,MS6.1						
RES	**Resolute Bay**	**148.35**	**335**	*e*PKHKP		15 49 33.2	
RES				*e*		15 49 38.9	
PFO	**Pinyon Flat Ob**	**148.36**	**247**	PKHKP		15 49 40.1	
PFO	**Pinyon Flat Ob**	**148.36**	**247**	*e*PKPbc	PKPdf	15 49 40.8	+2.6
PFO				LR	LR		
	comp=Z,4µm,21.0s,MS6.2						
HON	**Honolulu**	**148.53**	**169**	PKP2	PKPab	15 49 46.0	+1.0
HON	**Honolulu**	**148.53**	**169**	*e*PKPbc	PKPdf	15 49 39.4	+0.6
HON				*e*PKPab	PKPab	15 49 44.8	-0.2
KIP	**Kipapa**	**148.62**	**169**	PKP2	PKPab	15 49 42.5	-2.9
KIP	**Kipapa**	**148.62**	**169**	*e*PKPbc	PKPdf	15 49 41.8	+2.9
KIP				LR	LR		
	comp=Z,7µm,21.0s,MS6.5						
SRU	**San Rafael**	**148.63**	**261**	PKIKP	PKPdf	15 49 37.8	-0.6
SRU	**San Rafael**	**148.63**	**261**	*e*PKPdf	PKPdf	15 49 37.7	-0.7
SRU				*e*PKPbc	PKPdf	15 49 40.8	+2.3
LDFC	**Landfair**	**148.65**	**251**	*e*PKPbc	PKPdf	15 49 40.9	+2.3
NEN	**Nelson**	**148.90**	**252**	*e*PKPbc	PKPdf	15 49 41.3	+2.3
MSU	**Marysvale**	**149.24**	**259**	*e*PKPbc	PKPdf	15 49 40.1	+0.6
MIDW	**Midway**	**149.26**	**132**	*e*PKPbc	PKPdf	15 49 41.6	+1.8
MIDW				*e*PKPab	PKPab	15 49 46.8	-1.0
MIDW				LR	LR		
	comp=Z,3µm,20.0s,MS6.0						
MVU	**Marysvale**	**149.26**	**259**	*e*PKPbc	PKPdf	15 49 40.2	+0.7
MVU				LR	LR		
	comp=Z,64µm,22.0s						
SEY	**Seymchan**	**149.48**	**48**	*e*PKP2	PKPab	15 49 42.3	-5.3
SEY				*e*		15 53 21.7	
SEY				pmax	pmax		
	comp=Z,460nm,1.1s						
SEY				pmax	pmax		
	comp=E,90nm,0.9s						
ARUT	**Antelope Range**	**149.53**	**257**	*e*PKIKP	PKPdf	15 49 39.9	0.0
ARUT	**Antelope Range**	**149.53**	**257**	*e*PKPab	PKPab	15 49 46.6	-2.0
MWC	**Mount Wilson**	**149.71**	**246**	PKIKP	PKPdf	15 49 44.0	+3.7
MWC	**Mount Wilson**	**149.71**	**246**	*e*PKPbc	PKPdf	15 49 43.1	+2.7
DGMT	**Dagmar**	**149.79**	**282**	*e*PKPdf	PKPdf	15 49 37.8	-2.2
DGMT				*e*PKPbc	PKPdf	15 49 42.3	+2.3
DGMT				LR	LR		
	comp=Z,9µm,21.0s,MS6.5						
MPU	**Maple Canyon**	**149.86**	**262**	*e*PKPbc	PKPdf	15 49 43.4	+3.0
MPU				*e*PKPab	PKPab	15 49 49.0	-0.9
DAU	**Daniels Canyon**	**149.88**	**263**	PKIKP	PKPdf	15 49 40.8	+0.4
DAU	**Daniels Canyon**	**149.88**	**263**	*e*PKPbc	PKPdf	15 49 44.2	+3.8
NLU	**North Lily Min**	**150.09**	**261**	*e*PKPbc	PKPdf	15 49 44.4	+3.7
JLU	**Jordanelle**	**150.11**	**263**	*e*PKPbc	PKPdf	15 49 44.1	+3.4
LAO	**LASA Array**	**150.20**	**277**	*e*PKPbc	PKPdf	15 49 43.8	+3.1
LAO				LR	LR		
	comp=Z,10µm,20.0s,MS6.6						
BW06	**Boulder Array**	**150.21**	**268**	*e*PKPdf	PKPdf	15 49 38.5	-2.3
BW06				LR	LR		
	comp=Z,42µm,20.0s						
PDAR	**Pinedale Array**	**150.21**	**268**	PKP	PKPdf	15 49 38.5	-2.3
	comp=Z,21nm,0.9s,baz=135,slow=1.9,SNR=26						
PDAR				PKPbc	PKPdf	15 49 43.0	+2.2
	comp=Z,31nm,1.1s,baz=135,slow=2.6,SNR=54						
TCUT	**Toone Canyon**	**150.39**	**264**	*e*PKPdf	PKPdf	15 49 39.5	-1.7
NOQ	**North Oquirrh**	**150.54**	**262**	*e*PKPbc	PKPdf	15 49 44.5	+3.1
NOQ				*e*PKPab	PKPab	15 49 52.1	-0.7
PET	**Petropavlovsk**	**150.58**	**69**	PKPdf	PKPdf	15 49 44.0	+3.0
PET	**Petropavlovsk**	**150.58**	**69**	*e*PKHKP		15 49 43.8	
PET				pmax	pmax		
	comp=Z,228nm,1.1s						
PET				pmax	pmax		
	comp=Z,216nm,1.2s						
PET	**Petropavlovsk**	**150.58**	**69**	*e*PKPbc	PKPdf	15 49 44.0	+2.9
PET				LR	LR		
	comp=Z,3µm,22.0s,MS6.0						
TPNV	**Topopah Spring**	**150.62**	**252**	*e*PKPdf	PKPdf	15 49 41.4	-0.3
TPNV				LR	LR		
	comp=Z,203µm,22.0s						
FFC	**Flin Flon**	**150.77**	**295**	*e*PKPbc	PKPdf	15 49 44.2	+2.9
FFC				*e*PKPab	PKPab	15 49 52.3	-1.0
FFC				LR	LR		
	comp=Z,2µm,22.0s,MS5.9						
HWUT	**Hardware Ranch**	**150.78**	**264**	*e*PKPbc	PKPdf	15 49 44.6	+2.9
HWUT				LR	LR		
	comp=Z,4µm,22.0s,MS6.2						
DAC	**Darwin (Calif)**	**150.93**	**250**	PKIKP	PKPdf	15 49 42.8	+0.7
DAC	**Darwin (Calif)**	**150.93**	**250**	*e*PKPbc	PKPdf	15 49 46.3	+4.2
DAC				LR	LR		
	comp=Z,208µm,19.0s						
SPUT	**South Promonto**	**151.14**	**263**	*e*PKPdf	PKPdf	15 49 41.8	-0.4
AHID	**Auburn Hatcher**	**151.16**	**267**	PFAKE		15 49 50.0	+7.8
AHID				LR	LR		
	comp=Z,43µm,19.0s						
BGU	**Big Grassy Mou**	**151.26**	**262**	*e*PKPdf	PKPdf	15 49 41.9	-0.6
LOHW	**Long Hollow**	**151.32**	**269**	*e*PKPdf	PKPdf	15 49 42.0	-0.5
REDW	**Red Top Meadow**	**151.33**	**268**	*e*PKPdf	PKPdf	15 49 40.7	-1.8
WUWY	**Wally Ulrich**	**151.36**	**268**	*e*PKPdf	PKPdf	15 49 39.7	-2.8
TPAW	**Teton Pass**	**151.46**	**268**	PKPbc	PKPdf	15 49 46.2	+3.5
MOOW	**Moose Ponds**	**151.48**	**269**	*e*PKPdf	PKPdf	15 49 41.4	-1.3
HVU	**Hansel Valley**	**151.61**	**264**	PKIKP	PKPdf	15 49 42.9	-0.1
HVU	**Hansel Valley**	**151.61**	**264**	*e*PKPbc	PKPdf	15 49 46.1	+3.2
IMW	**Indian Meadow**	**151.68**	**269**	*e*PKPdf	PKPdf	15 49 42.6	-0.4
GCMT	**Greycliff**	**151.87**	**273**	*e*PKPdf	PKPdf	15 49 39.2	-4.0
TPH	**Tonopah**	**151.95**	**253**	PKIKP	PKPdf	15 49 44.0	+0.4
TPH	**Tonopah**	**151.95**	**253**	*e*PKPbc	PKPdf	15 49 48.0	+4.4
TPH				LR	LR		
	comp=Z,3µm,22.0s,MS6.1						
YMR	**Madison River**	**152.10**	**270**	PKPbc	PKPdf	15 49 49.6	+6.0
MTUM	**Tungsten Hills**	**152.24**	**250**	*e*PKPbc	PKPdf	15 49 48.9	+4.9
QLMT	**Earthquake Lak**	**152.46**	**270**	PKPdf	PKPdf	15 49 43.7	-0.4
QLMT				*e*PKPbc	PKPdf	15 49 50.0	+5.9
ELK	**Elko**	**152.48**	**259**	PKIKP	PKPdf	15 49 44.6	+0.3
ELK	**Elko**	**152.48**	**259**	*e*PKPdf	PKPdf	15 49 44.4	+0.2
ELK				*e*PKPbc	PKPdf	15 49 51.4	+7.2
ELK				LR	LR		
	comp=Z,25µm,20.0s,MS7.0						
OMM	**Old Mammoth Mi**	**152.66**	**250**	*e*PKPdf	PKPdf	15 49 43.7	-1.0
MNV	**Mina**	**152.73**	**252**	PFAKE		15 49 50.0	+5.3
MNV				LR	LR		
	comp=Z,240µm,20.0s						
LRV	**Little Rabbit**	**152.97**	**246**	*e*PKPab	PKPab	15 50 01.4	-1.6
BOZ	**Bozeman (W)**	**153.00**	**272**	PKIKP	PKPdf	15 49 42.4	-2.4
BOZ	**Bozeman (W)**	**153.00**	**272**	*e*PKPdf	PKPdf	15 49 41.2	-3.6
BOZ				LR	LR		
	comp=Z,4µm,19.0s,MS6.3						
MCMT	**McKenzie Canyo**	**153.33**	**269**	*e*PKPdf	PKPdf	15 49 44.1	-1.2
SAO	**San Andreas Ge**	**153.46**	**246**	PKIKP	PKPdf	15 49 49.2	+3.5
SAO	**San Andreas Ge**	**153.46**	**246**	*e*PKPbc	PKPdf	15 49 49.0	+3.3
SAO				LR	LR		
	comp=Z,4µm,20.0s,MS6.2						
HLID	**Hailey**	**153.62**	**265**	*e*PKPdf	PKPdf	15 49 44.4	-1.4
HLID				LR	LR		
	comp=Z,87µm,21.0s						
HRY	**Holter Researc**	**153.62**	**274**	*e*PKPdf	PKPdf	15 49 43.6	-2.0
CMB	**Columbia Colle**	**153.75**	**249**	PKIKP	PKPdf	15 49 47.2	+1.1
CMB	**Columbia Colle**	**153.75**	**249**	*e*PKPdf	PKPdf	15 49 43.7	-2.4
CMB				LR	LR		
	comp=Z,269µm,21.0s						
WCN	**Washoe City**	**154.24**	**252**	PKIKP	PKPdf	15 49 51.4	+4.7
WCN	**Washoe City**	**154.24**	**252**	*e*PKPbc	PKPdf	15 49 55.6	+8.9
PAHR	**Pah Rah Range**	**154.29**	**253**	*e*PKPdf	PKPdf	15 49 45.2	-1.6
CHMT	**Chamberlain Mo**	**154.59**	**273**	*e*PKPdf	PKPdf	15 49 45.1	-1.8
CHMT				*e*PP	PP	15 53 44.2	-1.9
BEKR	**Beckwourth**	**154.97**	**252**	*e*PKPdf	PKPdf	15 49 47.2	-0.4
MSO	**Missoula**	**154.97**	**272**	*e*PKPdf	PKPdf	15 49 46.2	-1.2
MSO				LR	LR		
	comp=Z,57µm,19.0s						
OHCM	**Honcut**	**155.26**	**250**	*e*PKPdf	PKPdf	15 49 47.3	-0.8
HOPS	**Hopland**	**155.94**	**247**	PKPdf	PKPdf	15 49 45.0	-3.9
HOPS				LR	LR		
	comp=Z,180µm,22.0s						
MOD	**Modoc**	**156.21**	**256**	*e*PKPdf	PKPdf	15 49 48.5	-0.7
MOD				LR	LR		
	comp=Z,198µm,19.0s						
WDC	**Whiskeytown Da**	**156.70**	**251**	PKIKP	PKPdf	15 49 49.5	-0.4
WDC	**Whiskeytown Da**	**156.70**	**251**	*e*PKPdf	PKPdf	15 49 48.7	-1.3
WDC				LR	LR		
	comp=Z,253µm,20.0s						
EDM	**Edmonton**	**156.87**	**287**	PKIKP	PKPdf	15 49 53.0	+3.2
EDM	**Edmonton**	**156.87**	**287**	*e*PKPdif		15 49 58.2	
YBH	**Yreka Blue Hor**	**157.53**	**253**	PKIKP	PKPdf	15 49 52.4	+1.4
YBH	**Yreka Blue Hor**	**157.53**	**253**	*e*PKPdf	PKPdf	15 49 49.7	-1.3
YBH				LR	LR		
	comp=Z,6µm,21.0s,MS6.4						
NEW	**Newport**	**157.53**	**273**	PKIKP	PKPdf	15 49 48.9	-1.9
NEW	**Newport**	**157.53**	**273**	*e*PKPdf	PKPdf	15 49 48.3	-2.5
NEW				*e*PKPab	PKPab	15 50 21.0	-1.1
NEW				LR	LR		
	comp=Z,103µm,19.0s						
KHMM	**Horse Mountain**	**157.57**	**250**	*e*PKPdf	PKPdf	15 49 49.4	-1.7

YKW3	**Yellowknife Ar**	**157.90**	**312**	*e*PKPdf	PKPdf	15 49 54.4	+3.5
YKW3				*e*PKPdif		15 50 06.9	
YKW3				*e*PP	PP	15 54 02.0	-2.1
YKA	**Yellowknife Ar**	**157.91**	**312**	PKP	PKPdf	15 49 47.8	-3.0
	comp=Z,2.1nm,0.8s,baz=67,slow=1.7,SNR=3.1						
YKA				PP	PP	15 54 02.4	-1.7
	comp=Z,3.1nm,0.8s,baz=73,slow=5.9,SNR=5.0						
YKA	**Yellowknife Ar**	**157.91**	**312**	PKIKP	PKPdf	15 49 47.8	-3.0
YKA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
YKA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
YKA	**Yellowknife Ar**	**157.91**	**312**	PKP	PKPdf	15 49 47.9	-3.0
YKA				PP	PP	15 54 02.4	-1.7
DPW	**Davenport**	**158.03**	**271**	PKIKP	PKPdf	15 49 49.8	-1.6
DPW	**Davenport**	**158.03**	**271**	*e*PKPdf	PKPdf	15 49 49.1	-2.4
HUMO	**Hull Mountain**	**158.21**	**255**	*e*PKPdf	PKPdf	15 49 50.0	-1.9
HUMO				LR	LR		
	comp=Z,140μm,19.0s						
VGB	**Gordon Butte**	**158.51**	**264**	*e*PKPdif		15 50 01.5	
FX1	**Attu Island--F**	**158.97**	**75**	PKPab	PKPab	15 50 25.4	-2.7
	comp=Z,22nm,0.8s,baz=290,slow=6.9,SNR=2.5						
FX1	**Attu Island--F**	**158.97**	**75**	PKP2	PKPab	15 50 25.4	-2.7
FX1				pmax	pmax		
	comp=Z,22nm,0.8s						
SSOR	**Sweet Springs**	**159.19**	**260**	PKPdf	PKPdf	15 49 48.1	-4.8
NLW	**Nelson Butte**	**159.42**	**270**	*e*PKPdf	PKPdf	15 49 51.5	-1.6
SMY	**Shemya**	**159.49**	**76**	PFAKE		15 50 00.0	+7.0
SMY				LR	LR		
	comp=Z,9μm,20.0s,MS6.6						
COR	**Corvallis**	**159.55**	**259**	PFAKE		15 50 00.0	+6.7
COR				LR	LR		
	comp=Z,20μm,20.0s,MS7.0						
SHW	**Mount Saint He**	**159.73**	**264**	*e*PKIKP	PKPdf	15 49 56.9	+3.4
LON	**Longmire**	**159.74**	**266**	*e*PKIKP	PKPdf	15 49 52.6	-0.9
LON	**Longmire**	**159.74**	**266**	*e*PKPdf	PKPdf	15 49 52.4	-1.1
GNW	**Green Mountain**	**160.72**	**267**	PKPdf	PKPdf	15 49 53.3	-1.2
GNW				*e*PP	PP	15 54 17.4	-2.0
OCWA	**Octopus Mounta**	**161.63**	**266**	PFAKE		15 50 00.0	+4.7
OCWA				LR	LR		
	comp=Z,231μm,19.0s						
INK	**Inuvik**	**161.86**	**338**	*e*PKPdif		15 50 03.8	
TNA	**Tin City**	**164.61**	**26**	PFAKE		15 50 10.0	+12
TNA				LR	LR		
	comp=Z,3μm,20.0s						
DLBC	**Dease Lake**	**166.25**	**304**	PP	PP	15 54 45.4	-2.6
	comp=Z,2.8nm,0.9s,baz=161,slow=16,SNR=2.2						
DLBC	**Dease Lake**	**166.25**	**304**	*e*PKPab	PKPab	15 51 03.5	+3.9
IMA	**Indian Mountai**	**166.36**	**3**	*e*PKPdf	PKPdf	15 49 56.7	-2.6
DAWY	**Dawson**	**166.69**	**335**	*e*PKPdf	PKPdf	15 49 59.1	-0.5
COLA	**College**	**167.41**	**352**	*e*PKIKP	PKPdf	15 50 02.4	+2.3
COLA	**College**	**167.41**	**352**	PFAKE		15 50 10.0	+10
COLA				LR	LR		
	comp=Z,14μm,22.0s						
ILAR	**Eielson Array**	**167.42**	**350**	PKP	PKPdf	15 49 58.4	-1.7
	comp=Z,1.8nm,1.1s,baz=320,slow=1.8,SNR=9.2						
ILAR				PKPab	PKPab	15 51 03.1	-1.3
	comp=Z,3.3nm,0.8s,baz=330,slow=3.7,SNR=4.3						
ILAR				PP	PP	15 54 58.7	+5.0
	comp=Z,4.5nm,1.2s,baz=34,slow=3.3,SNR=2.6						
ILAR	**Eielson Array**	**167.42**	**350**	PKIKP	PKPdf	15 49 58.4	-1.7
ILAR						15 51 03.1	
ILAR						15 54 58.7	
ILAR				pmax	pmax		
	comp=Z,2.0nm,1.1s						
ILAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ILAR				pmax	pmax		
	comp=Z,5.0nm,1.2s						
MCK	**McKinley**	**168.63**	**353**	PFAKE		15 50 10.0	+9.2
MCK				LR	LR		
	comp=Z,9μm,19.0s						
SIT	**Sitka**	**169.38**	**302**	PFAKE		15 50 10.0	+8.6
SIT				LR	LR		
	comp=Z,18μm,20.0s						
SML	**Sawmill**	**170.47**	**350**	PKIKP	PKPdf	15 50 07.7	+5.7
DIV	**Divide**	**170.72**	**341**	PKPdf	PKPdf	15 50 02.7	+0.6
DIV				LR	LR		
	comp=Z,35μm,20.0s						
PMR	**Palmer**	**170.76**	**352**	PKIKP	PKPdf	15 50 05.5	+3.4
PMR	**Palmer**	**170.76**	**352**	PKPdf	PKPdf	15 49 55.2	-6.9
PMR				LR	LR		
	comp=Z,14μm,19.0s						
UNV	**Unalaska Valle**	**171.15**	**75**	PFAKE		15 50 10.0	+7.4
UNV				LR	LR		
	comp=Z,37μm,20.0s						
FIB	**Fire Island**	**171.26**	**354**	PFAKE		15 50 10.0	+7.6
FIB				LR	LR		
	comp=Z,6μm,22.0s						
SPU	**Mount Spurr**	**171.30**	**0**	*e*PKPdf	PKPdf	15 49 59.7	-2.8
KDAK	**Kodiak Island**	**174.69**	**4**	PFAKE		15 50 10.0	+6.0
KDAK				LR	LR		
	comp=Z,11μm,19.0s						

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*LDG **28** 16:04:25.9±0.1, 43.18N×1.22W, h2^{km}, Md1.9/2, Error ellipse: s-maj=3.1km s-min=2.0km az=50.0*

*STR **28** 16:04:25.8±0.2, 43.17N×1.23W, h2^{km}±1^{km}, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*MDD **28** 16:04:26.8±0.6, 43.18N×1.20W, mbLg0.7/3, Error ellipse: s-maj=5.4km s-min=3.2km az=24.0, PRXIMO SIN SOLUCIN*

ISC 28 16:04:26.0±1.3, **43.18N**±0.05×**1.20W**±0.05, **h7**^{km}±12^{km}, **n6**, σ**0^{s}37**/12, **Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	**0.07**	**193**	*e*Pg	**Pg**	**16 04 27.7**	**-0.2**
SJPF				*e*Sg	**Sg**	**16 04 29.1**	**-0.1**
	31nm,0.2s						
OSSF	**Osses**	**0.09**	**329**	Pg	**Pg**	**16 04 27.7**	**-0.4**
OSSF				Sg	**Sg**	**16 04 29.4**	**-0.1**
ORDF	**Ordiarp**	**0.20**	**81**	Pg	**Pg**	**16 04 29.9**	**-0.2**
ORDF				Sg	**Sg**	**16 04 33.5**	**+0.6**
LARF	**Larrau**	**0.21**	**132**	Pg	**Pg**	**16 04 30.2**	**-0.2**
LARF				Sg	**Sg**	**16 04 33.7**	**+0.3**
EALK	**Alkurruntz**	**0.23**	**280**	P	**Pg**	**16 04 31.0**	**+0.3**
	SNR=7.9						
EALK				S	**Sg**	**16 04 34.3**	**+0.5**
	1.9nm,0.1s,SNR=7.9						
ETSF	**Etsaut**	**0.55**	**121**	*e*Pg	**Pg**	**16 04 36.4**	**-0.7**
ETSF				*e*Sg	**Sg**	**16 04 44.7**	**+0.3**
	2.0nm,0.2s						

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*BJI **28** 16:14:38.7, 38.20N×73.80E, h66^{km}, mb4.0, ML4.2*

*NEIC **28** 16:14:38.8±2.5, 38.17N×73.82E, h66^{km}±21^{km}, mb4.2/6, Error ellipse: s-maj=23.1km s-min=12.8km az=213.0*

*IDC **28** 16:14:40.3±4.9, 38.13N×73.87E, h82^{km}±44^{km}, mb3.6/10, mb1 3.8/13, mb1mx3.7/23, ML3.9/3, Error ellipse: s-maj=24.7km s-min=17.2km az=30.0, Putative timing error at ZAL*

ISC 28 16:14:42.8±0.4, **38.34N**±0.03×**74.23E**±0.07, **h119**^{km}±6^{km}, **n58**, σ**1^{s}26**/65, **mb3.8**/12, **5C-1D, Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.80**	**49**	⇓*i*P	**P**	**16 15 17.5**	**+3.4**
KSH				S	**S**	**16 15 42.3**	**+4.5**
KSH				Smax			
	comp=N,3μm,0.4s						
KSH				Smax			
	comp=E,2μm,0.6s						
AML	**Almayashu**	**3.81**	**354**	P	**P**	**16 15 40.5**	**-0.3**
	SNR=1257						
KZA	**Kyzart**	**3.81**	**12**	P	**P**	**16 15 41.5**	**+0.7**
	SNR=147						
UCH	**Uchtor**	**3.89**	**3**	P	**P**	**16 15 42.4**	**+0.6**
	SNR=421						
ULHL	**Ulahol**	**4.19**	**21**	P	**P**	**16 15 46.9**	**+0.9**
	SNR=138						
AAK	**Ala-Archa**	**4.29**	**3**	P	**P**	**16 15 47.8**	**+0.5**
	SNR=31						
AAK	**Ala-Archa**	**4.29**	**3**	*e*Pn	**P**	**16 15 46.5**	**-0.8**
EKS2	**Erkin-Say**	**4.33**	**356**	P	**P**	**16 15 47.6**	**-0.2**
	SNR=357						
KBK	**Karagaybulak**	**4.34**	**7**	P	**P**	**16 15 48.6**	**+0.6**
	SNR=60						
CHMS	**Chumysh**	**4.67**	**5**	P	**P**	**16 15 52.2**	**-0.2**
	SNR=29						
TKM2	**Tokmak 2**	**4.69**	**12**	P	**P**	**16 15 53.3**	**+0.6**
	SNR=35						
CHCP	**Chirah Chowk**	**4.74**	**190**	⇑P	**P**	**16 15 56.3**	**+2.9**
CEP	**Cherat**	**4.89**	**203**	⇑P	**P**	**16 15 57.1**	**+1.8**
USP	**Ospenovka**	**4.92**	**2**	P	**P**	**16 15 55.4**	**-0.5**
	SNR=6.6						
THW	**Thamme Wali**	**5.89**	**201**	⇑P	**P**	**16 16 09.8**	**+0.9**
SARP	**Sargodha**	**6.53**	**192**	⇑P	**P**	**16 16 17.6**	**-0.1**
SBDP	**Sheikh Budin**	**6.65**	**206**	⇑P	**P**	**16 16 19.2**	**-0.1**
BHK	**Bhakra**	**7.14**	**165**	*e*	**S**	**16 17 45.0**	**-1.1**
DRP	**Derazinda**	**7.36**	**208**	P	**P**	**16 16 29.2**	**+0.2**
KLP	**Kalpa**	**7.55**	**153**	*e*P	**P**	**16 16 32.6**	**+1.0**
KLP				*e*S	**S**	**16 17 54.6**	**-1.5**
KLP				*e*		16 18 07.6	
	comp=E,692nm,1.0s						
KLP				*e*		16 18 07.9	
	comp=N,1μm,0.9s						
JOSI	**Joshimath**	**8.93**	**149**	*e*P	**P**	**16 16 50.0**	**0.0**
JOSI				*e*S	**S**	**16 18 26.9**	**-2.4**
NDI	**New Delhi**	**9.95**	**165**	*e*P	**P**	**16 17 05.0**	**+1.3**
NDI				*e*		16 18 50.0	
AYAN	**Aya Nagar**	**10.13**	**165**	*e*P	**P**	**16 17 06.2**	**+0.1**
AYAN				*e*S	**S**	**16 18 51.2**	**-6.9**
MKAR	**Makanchi Array**	**10.32**	**33**	P	**P**	**16 17 09.7**	**+1.1**
	comp=N,0.6nm,0.3s,baz=208,slow=15,SNR=31						
MKAR				Lg		16 20 17.9	
	comp=N,0.1nm,0.3s,baz=221,slow=31,SNR=2.8						
KHET	**Khetri**	**10.33**	**172**	*e*P	**P**	**16 17 07.7**	**-1.0**
KHET				*e*S	**S**	**16 18 52.6**	**-10**
KHET				*e*		16 19 02.3	
	comp=N,22nm,0.2s						
KHET				*e*		16 19 02.4	
	comp=E,23nm,0.3s						
SONA	**Sohna**	**10.35**	**166**	*e*P	**P**	**16 17 08.8**	**-0.1**
SONA				*e*S	**S**	**16 18 55.7**	**-7.6**
SONA				*e*		16 19 03.4	
	comp=N,41nm,0.6s						
SONA				*e*		16 19 03.9	
	comp=E,61nm,0.3s						
KUDL	**Kundal**	**10.35**	**169**	*e*P	**P**	**16 17 08.2**	**-0.7**
KUDL				*e*S	**S**	**16 18 56.9**	**-6.4**
KURK	**Kurchatov**	**12.76**	**13**	*e*P	**P**	**16 17 38.2**	**-2.5**
KURK				*e*		16 17 47.8	
KOLN	**Koldanda**	**13.14**	**141**	*e*P	**P**	**16 17 44.9**	**-0.9**
	comp=E,15nm,0.3s						
KOLN				*e*S	**S**	**16 20 03.3**	**-6.2**
GKN	**Gorkha**	**13.49**	**137**	*e*P	**P**	**16 17 49.6**	**-0.7**
	comp=E,63nm,0.4s						
KKN	**Kakani**	**14.01**	**135**	*e*P	**P**	**16 17 55.8**	**-1.1**
DMN	**Daman**	**14.06**	**136**	*e*P	**P**	**16 17 56.5**	**-1.0**
	comp=E,17nm,0.4s						
PKI	**Pulchoki**	**14.25**	**136**	*e*P	**P**	**16 17 58.7**	**-1.4**
	comp=E,12nm,0.3s						
BVAR	**Borovoye Array**	**14.92**	**351**	P	**P**	**16 18 06.2**	**-2.2**
	comp=E,0.3nm,0.3s,baz=153,slow=13,SNR=16						
BVAR				S	**S**	**16 20 59.7**	**+9.0**
	comp=E,0.2nm,0.3s,baz=155,slow=21,SNR=2.9						
BVAR				Lg		16 22 32.6	
	comp=E,0.1nm,0.3s,baz=170,slow=25,SNR=2.7						
BRVK	**Borovoye**	**14.97**	**351**	*e*P	**P**	**16 18 06.7**	**-2.4**
	comp=E,30nm,0.7s						
BRVK				*e*		16 18 12.4	
ZRNK	**Zerenda**	**15.05**	**348**	*e*P	**P**	**16 18 07.8**	**-2.2**
	comp=E,16nm,0.6s						
ZRNK				*e*		16 18 12.8	
BHPL	**Bhopal**	**15.30**	**169**	*e*P	**P**	**16 18 15.7**	**+2.3**
BHPL				*e*		16 18 16.8	
	comp=Z,6.1nm,0.4s						
BHPL				*e*		16 20 54.9	
SHL	**Shillong**	**19.62**	**125**	*e*	**P**	**16 19 06.2**	**+2.1**
GTA	**Gaotai**	**19.93**	**79**	*e*P	**P**	**16 19 11.3**	**+4.0**
GTA				AMB	AMB		
	comp=Z,3.0nm,0.8s						
ARU	**Arti**	**20.88**	**335**	*e*P	**P**	**16 19 14.9**	**-1.9**
	comp=Z,14nm,0.9s						
HYB	**Hyderabad**	**21.19**	**169**	*i* P	**P**	**16 19 22.0**	**+1.9**
SONM	**Songino Array**	**25.18**	**57**	P	**P**	**16 20 01.8**	**+3.4**
	comp=Z,1.6nm,0.9s,mb3.4,baz=259,slow=9.2,SNR=7.6						
CMAR	**Chiang Mai Arr**	**29.26**	**126**	tx	tx	16 20 52.5	
	comp=Z,0.7nm,0.7s,baz=311,slow=9.9,SNR=5.9						
FINES	**FINESS Array B**	**37.45**	**324**	P	**P**	**16 21 45.4**	**-0.4**
	comp=Z,1.1nm,0.4s,mb4.1,baz=117,slow=9.5,SNR=14						
FINES				tx	tx	16 22 13.3	
	comp=Z,1.0nm,0.5s,baz=112,slow=10,SNR=5.0						
FINES	**FINESS Array B**	**37.45**	**324**	P	**P**	**16 21 45.4**	**-0.4**
KAF	**Kangasniemi**	**37.53**	**325**	*e*p	**P**	**16 21 47.4**	**+0.9**
	comp=Z,0.2nm,0.3s,mb3.4						
ARCES	**ARCESS Array B**	**40.47**	**336**	P	**P**	**16 22 11.0**	**+0.3**
	comp=Z,2.1nm,0.5s,mb4.2,baz=110,slow=8.5,SNR=28						
HFS	**Hagfors**	**43.24**	**321**	P	**P**	**16 22 33.0**	**-0.4**
	comp=Z,5.5nm,0.8s,mb4.3,baz=97,slow=12,SNR=14						
GERES	**GERESS Array B**	**44.00**	**304**	tx	tx	16 23 08.4	
	comp=Z,0.4nm,0.6s,baz=76,slow=5.5,SNR=5.3						
NB2	**NORSAR Subarra**	**44.49**	**322**	P	**P**	**16 22 42.7**	**-0.7**
	comp=Z,1.1nm,0.7s,mb3.7,baz=90,slow=7.9						
NOA	**NORSAR Array B**	**44.49**	**322**	P	**P**	**16 22 42.6**	**-0.8**
	comp=Z,1.3nm,0.7s,mb3.8,baz=91,slow=7.7,SNR=4.6						
DAVOX	**Davos**	**46.94**	**302**	P	**P**	**16 23 02.8**	**-0.1**
	comp=Z,2.4nm,0.8s,mb4.0,baz=31,slow=15,SNR=3.3						
KMBO	**Kilima Mbogo**	**51.97**	**230**	P	**P**	**16 23 38.5**	**-3.5**
	comp=Z,0.8nm,0.5s,mb4.0,baz=59,slow=23,SNR=2.9						
INK	**Inuvik**	**71.65**	**11**	P	**P**	**16 25 53.7**	**+1.1**
	comp=Z,2.0nm,0.8s,mb4.0,baz=332,slow=14,SNR=2.5						
INK	**Inuvik**	**71.65**	**11**	P	**P**	**16 25 53.7**	**+1.1**
WRA	**Warramunga Arr**	**80.84**	**124**	P	**P**	**16 26 46.1**	**+1.1**
	comp=Z,0.3nm,0.5s,mb3.4,baz=325,slow=5.1,SNR=13						
WRAB	**Tennant Creek**	**80.84**	**124**	*e*P	**P**	**16 26 46.4**	**+1.3**
	comp=Z,1.7nm,0.6s,mb4.0						
ASAR	**Alice Springs**	**83.26**	**127**	P	**P**	**16 26 58.5**	**+1.1**
	comp=Z,0.1nm,0.5s,mb2.9,baz=326,slow=4.5,SNR=5.0						

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*NEIC **28** 16:27:01.7±4.2, 8.07S×119.85E, h147^{km}±44^{km}, mb3.9/2, Error ellipse: s-maj=43.1km s-min=19.8km az=215.0*

*DJA **28** 16:27:02.2±0.9, 7.79S×119.45E, h160^{km}, MD4.7/4, ML4.9/3, Error ellipse: s-maj=76.1km s-min=19.0km az=169.0*

*IDC **28** 16:27:07.4±2.9, 8.45S×119.63E, h213^{km}±32^{km}, mb3.3/3, mb1 3.3/5, mb1mx3.1/16, Error ellipse: s-maj=89.3km s-min=13.7km az=50.0*

ISC 28 16:27:02.7±1.9, **8.4S**±0.2×**119.4E**±0.2, **h186**^{km}±22^{km}, **n11**, σ**0^{s}96**/18, **mb3.7**/2, **3C-4D, Flores region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**3.24**	**269**	*e*Pn	**P**	**16 27 55.6**	**+0.5**
	372nm,0.2s						
KEDI				⇓*e*Sn	**S**	**16 28 35.4**	**-0.2**
RATI	**Rata**	**3.82**	**265**	⇑*e*Pn	**P**	**16 28 03.5**	**+1.1**
	186nm,0.2s						
RATI				⇑*e*Sn	**S**	**16 28 48.2**	**-0.4**
INGI	**Ingas**	**4.21**	**264**	⇓*e*Pn	**P**	**16 28 09.0**	**+1.6**
	244nm,0.2s						
INGI				⇓*e*Sn	**S**	**16 28 57.0**	**-0.4**
KELI	**Kelakatan**	**4.85**	**272**	⇓*e*Pn	**P**	**16 28 16.1**	**+0.5**
KELI				⇑*e*Sn	**S**	**16 29 10.5**	**-1.5**
FITZ	**Fitzroy Crossi**	**11.38**	**148**	P	**P**	**16 29 40.7**	**-0.2**
	0.3nm,0.3s,baz=335,slow=11,SNR=8.9						
FITZ				S	**S**	**16 31 39.3**	**-5.8**
	0.5nm,0.3s,baz=190,slow=19,SNR=9.7						
MBWA	**Marble Bar**	**12.67**	**179**	*e*P	**P**	**16 30 01.4**	**+4.0**
	7.7nm,0.9s						
WRA	**Warramunga Arr**	**18.46**	**130**	P	**P**	**16 31 04.8**	**-2.0**
	0.2nm,0.3s,baz=302,slow=12,SNR=11						
WRA				S	**S**	**16 34 23.3**	**+0.4**
	0.1nm,0.3s,baz=305,slow=20,SNR=3.3						
WRAB	**Tennant Creek**	**18.46**	**130**	*e*P	**P**	**16 31 05.8**	**-1.1**
	2.0nm,0.6s						
ASAR	**Alice Springs**	**20.57**	**139**	P	**P**	**16 31 28.4**	**0.0**
	1.0nm,0.3s,baz=310,slow=9.1,SNR=58						
ASAR				S	**S**	**16 35 05.0**	**+2.3**
	0.2nm,0.8s,baz=315,slow=18,SNR=5.0						
STKA	**Stephens Creek**	**31.16**	**142**	P	**P**	**16 33 06.6**	**+0.3**
	1.1nm,0.4s,mb3.9,baz=316,slow=11,SNR=6.1						
MKAR	**Makanchi Array**	**64.12**	**333**	P	**P**	**16 37 19.4**	**+0.2**
	0.4nm,0.5s,mb3.5,baz=134,slow=8.0,SNR=4.8						

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*NEIC **28** 16:31:41.1±5.5, 7.99S×147.49E, h132^{km}±13^{km}, mb3.7/1, Error ellipse: s-maj=78.6km s-min=29.3km az=218.0*

*IDC **28** 16:31:42.9±3.7, 8.19S×147.35E, h126^{km}±15^{km}, mb3.1/3, mb1 3.2/5, mb1mx3.1/12, Error ellipse: s-maj=45.0km s-min=43.5km az=48.0*

ISC 28 16:31:47.7±1.7, **8.7S**±0.1×**147.1E**±0.3, **h135**^{km}±12^{km}, **n9**, σ**1^{s}02**/10, **mb3.3**/2, **Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**0.73**	**177**	P	**P**	**16 32 08.7**	**-0.5**
	1.4nm,0.3s,baz=15,slow=14,SNR=14						
PMG				S	**S**	**16 32 26.2**	**+0.5**
	3.5nm,0.3s,baz=41,slow=11,SNR=9.0						
PMG	**Port Moresby**	**0.73**	**177**	*e*P	**S**	**16 32 22.9**	**-2.9**
	24nm,0.4s						
WAU	**Wau**	**1.38**	**343**	*e*P	**P**	**16 32 15.7**	**+0.5**
CTA	**Charters Tower**	**11.38**	**184**	P	**P**	**16 34 29.5**	**+2.3**
	0.1nm,0.3s,baz=352,slow=7.4,SNR=2.1						
WRAB	**Tennant Creek**	**16.68**	**226**	P	**P**	**16 35 35.4**	**+0.6**
	2.6nm,0.7s						
WRA	**Warramunga Arr**	**16.69**	**226**	P	**P**	**16 35 35.3**	**+0.4**
	0.2nm,0.3s,baz=50,slow=11,SNR=5.1						
ASAR	**Alice Springs**	**19.56**	**219**	P	**P**	**16 36 06.5**	**-0.8**
	0.6nm,0.3s,baz=51,slow=8.7,SNR=22						
FITZ	**Fitzroy Crossi**	**22.88**	**244**	P	**P**	**16 36 39.6**	**-0.7**
	1.3nm,0.9s,mb3.4,baz=69,slow=8.6,SNR=6.9						
STKA	**Stephens Creek**	**23.66**	**192**	P	**P**	**16 36 47.0**	**-0.8**
	0.4nm,0.4s,mb3.3,slow=9.1,SNR=2.8						

IDC 28 16:38:44.1±28.0, **23.08S**×**178.97W**, **h476**^{km}±99^{km}, **mb3.2**/5, **mb1 3.4**/5, **mb1mx3.2**/13, **1D, Error ellipse: s-maj=368.0km s-min=91.0km az=81.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**32.43**	**269**	P	P	16 44 34.6	-0.4
	5.3nm,0.3s,baz=95,slow=11,SNR=18						
STKA	**Stephens Creek**	**35.91**	**247**	P	P	16 45 02.4	-1.6
	0.4nm,0.3s,baz=95,slow=12,SNR=2.4						
ASAR	**Alice Springs**	**43.10**	**260**	P	P	16 46 00.9	-1.7
	1.3nm,0.6s,baz=96,slow=7.3,SNR=7.7						
ASAR				ScP		16 50 45.9	
	0.5nm,0.7s,baz=99,slow=4.4,SNR=7.0						
ASPA	**Alice Springs**	**43.11**	**260**	*e*P	P	16 46 01.1	-1.5
WB2	**Warramunga Arr**	**43.40**	**265**	⇓*i*P	P	16 46 02.9	-2.1
WRA	**Warramunga Arr**	**43.41**	**265**	P	P	16 46 03.2	-1.8
	1.0nm,0.3s,baz=95,slow=8.3,SNR=56						
FITZ	**Fitzroy Crossi**	**51.84**	**265**	P	P	16 47 07.9	-1.2
	0.6nm,0.3s,baz=116,slow=6.8,SNR=7.7						

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*KISR **28** 16:52:44.1±1.0, 26.99N×54.54E, h33^{km}, ML4.3*

*THR **28** 16:53:15.4±0.5, 28.00N×51.92E, h6^{km}±7^{km}, ML3.8*

*NEIC **28** 16:53:20.9±0.7, 27.90N×52.05E, h50^{km}, mb4.2/9, Error ellipse: s-maj=15.9km s-min=9.9km az=190.0*

*IDC **28** 16:53:23.4±9.7, 27.96N×52.08E, h71^{km}±86^{km}, mb3.7/14, mb1 3.9/15, mb1mx3.7/23, ML4.0/1, Error ellipse: s-maj=33.7km s-min=20.7km az=173.0*

ISC 28 16:53:16.8±1.7, **27.84N**±0.05×**51.98E**±0.05, **h30**^{km}±13^{km}, **n42**, σ**0^{s}97**/43, **mb4.0**/21, **2C-1D, Persian Gulf**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**0.99**	**63**	*e*PG	**Pn**	**16 53 34.4**	**-0.4**
GHIR				*e*SG	**Sn**	**16 53 48.6**	**+0.7**
GHIR				AMP		16 53 54.9	
	comp=E,4μm,0.7s						
GHIR				AMP		16 54 01.6	
	comp=N,4μm,0.6s						
QRN	**Al-Qurain**	**3.69**	**285**	*e*P	**Pn**	**16 54 14.1**	**+0.7**
QRN				*e*S	Sx	16 55 22.2	
KBD	**Kabd**	**4.00**	**290**	*e*P	**Pn**	**16 54 18.5**	**+0.8**
RDF	**Al-Radifah**	**4.05**	**286**	*e*P	**Pn**	**16 54 20.3**	**+1.8**
RDF				*e*S	Sx	16 55 29.9	
RDF				AML	AML	16 55 36.5	
	comp=Z,90nm,0.5s						
RST	**Umm Al-Ruwaisa**	**4.68**	**292**	*e*P	**Pn**	**16 54 28.6**	**+1.2**
RST				AML	AML	16 55 56.3	
	comp=Z,39nm,0.7s						
KRBR	**Kerman**	**4.70**	**62**	*e*PN	**Pn**	**16 54 29.1**	**+1.4**
KRBR				AMP		16 55 29.2	
	comp=E,60nm,0.4s						
KRBR				AMP		16 55 56.7	
	comp=N,52nm,0.6s						
NASN	**Na'in**	**4.99**	**8**	*e*PN	**Pn**	**16 54 31.0**	**-0.7**
ASAO	**Ashtian**	**6.89**	**346**	*e*PN	**Pn**	**16 54 57.4**	**-1.2**
MZLS	**Mizel**	**7.18**	**240**	P	**Pn**	**16 55 03.6**	**+1.0**
RAYN	**Ar Rayn**	**7.25**	**235**	Pn	**Pn**	**16 55 04.6**	**+1.0**
	comp=N,41nm,0.4s,SNR=18						
ARSS	**Ar Rass**	**8.05**	**258**	P	**P**	**16 55 13.9**	**-0.8**
SNGE	**Sanandaj**	**8.24**	**332**	*e*PN	**P**	**16 55 15.9**	**-1.4**
AFFS	**'Afif**	**8.98**	**246**	P	**P**	**16 55 27.5**	**-0.1**
HILS	**Ha'il**	**9.05**	**269**	P	**P**	**16 55 27.0**	**-1.5**
KAMS	**Al Khamasin**	**10.09**	**224**	P	**P**	**16 55 41.9**	**-1.1**
TATS	**Tathlith**	**11.35**	**225**	P	**P**	**16 55 59.2**	**-1.0**
DJNS	**Zahran al Janu**	**12.73**	**219**	P	**P**	**16 56 18.2**	**-0.6**
BRTR	**Keskin Array B**	**19.27**	**313**	P	**P**	**16 57 42.2**	**+0.4**
	comp=N,0.5nm,0.3s,baz=130,slow=12,SNR=13						
AAK	**Ala-Archa**	**23.48**	**45**	*e*P	**P**	**16 58 26.7**	**+2.0**
	comp=N,3.9nm,0.8s,mb3.9						
MLR	**Muntele Rosu**	**27.14**	**317**	P	**P**	**16 59 00.9**	**+1.7**
	comp=N,2.9nm,0.8s,mb3.9,baz=107,slow=22,SNR=8.8						
ZRNK	**Zerenda**	**28.09**	**22**	*e*P	**P**	**16 59 06.6**	**-1.1**
	comp=N,1.5nm,0.8s,mb3.7						
AKASG	**Malin Array Be**	**28.62**	**329**	P	**P**	**16 59 11.5**	**-1.1**
	comp=N,0.9nm,0.5s,mb3.7,baz=138,slow=8.6,SNR=6.6						
BVAR	**Borovoye Array**	**28.62**	**23**	P	**P**	**16 59 12.3**	**-0.3**
	comp=N,0.9nm,0.3s,mb3.9,baz=226,slow=7.5,SNR=10						
MKAR	**Makanchi Array**	**30.36**	**43**	P	**P**	**16 59 27.1**	**-1.1**
	comp=N,1.3nm,0.8s,mb3.7,baz=232,slow=11,SNR=9.0						
MORC	**Moravsky Berou**	**34.19**	**319**	*e*P	**P**	**16 59 59.2**	**-2.4**
	comp=N,1.6nm,0.5s,mb4.2						
GERES	**GERESS Array B**	**36.10**	**316**	P	**P**	**17 00 17.1**	**-0.7**
	comp=N,0.3nm,0.5s,mb3.5,baz=108,slow=9.3,SNR=3.2						
WTTA	**Wattenberg**	**36.88**	**313**	⇓*i*P	**P**	**17 00 25.1**	**+0.7**
	comp=N,4.8nm,0.6s,mb4.5						
SQTA	**Sankt Quirin**	**37.15**	**313**	⇑*i*P	**P**	**17 00 27.3**	**+0.6**
	comp=N,5.0nm,0.4s,mb4.7						
MOTA	**Moosalm**	**37.25**	**313**	⇑*i*P	**P**	**17 00 27.8**	**+0.2**
	comp=N,1.8nm,0.3s,mb4.4						
FINES	**FINESS Array B**	**37.80**	**340**	P	**P**	**17 00 31.9**	**-0.1**
	comp=N,3.6nm,0.7s,mb4.2,baz=145,slow=9.1,SNR=25						
DAVOX	**Davos**	**37.91**	**311**	P	**P**	**17 00 33.6**	**+0.6**
	comp=N,1.8nm,0.4s,mb4.2,baz=331,slow=20,SNR=5.6						
KAF	**Kangasniemi**	**38.25**	**341**	*e*p	**P**	**17 00 35.6**	**-0.2**
	comp=N,0.3nm,0.3s,mb3.5,baz=140,slow=8.4						
NB2	**NORSAR Subarra**	**42.92**	**332**	P	**P**	**17 01 14.1**	**-0.1**
	comp=N,1.5nm,0.5s,mb4.0,baz=122,slow=7.9						
NOA	**NORSAR Array B**	**42.92**	**332**	P	**P**	**17 01 13.6**	**-0.6**
	comp=N,2.1nm,0.5s,mb4.1,baz=121,slow=8.1,SNR=12						
ARCES	**ARCESS Array B**	**44.46**	**347**	P	**P**	**17 01 27.0**	**+0.3**
	comp=N,0.6nm,0.4s,mb3.7,baz=148,slow=7.1,SNR=14						
DBIC	**Dimbokro**	**57.67**	**260**	P	**P**	**17 03 07.9**	**+0.7**
	comp=N,2.1nm,0.4s,mb4.5,baz=29,slow=8.6,SNR=6.1						
DBIC	**Dimbokro**	**57.67**	**260**	*e*P	**P**	**17 03 07.8**	**+0.6**
	comp=N,2.9nm,0.4s,mb4.7						
SCHQ	**Schefferville**	**82.41**	**329**	P	**P**	**17 05 38.3**	**+1.1**
	comp=N,1.1nm,0.4s,mb4.2,baz=37,slow=10,SNR=4.3						
ILAR	**Eielson Array**	**86.52**	**8**	P	**P**	**17 05 57.0**	**-0.7**
	comp=N,0.4nm,0.6s,mb3.8,baz=314,slow=3.8,SNR=4.0						
RSO	**Redoubt South**	**89.71**	**12**	*e*P	**P**	**17 06 12.8**	**-0.2**
WRA	**Warramunga Arr**	**92.68**	**111**	P	**P**	**17 06 27.9**	**+0.3**
	comp=N,0.6nm,1.1s,mb4.0,baz=315,slow=3.5,SNR=3.2						
ASAR	**Alice Springs**	**94.09**	**114**	P	**P**	**17 06 33.6**	**-0.4**
	comp=N,0.1nm,0.4s,mb3.6,baz=303,slow=4.6,SNR=4.7						

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*NEIC **28** 17:00:20.1±2.8, 38.16N×73.75E, h75^{km}±35^{km}, mb3.8/3, Error ellipse: s-maj=47.1km s-min=6.4km az=66.0*

*IDC **28** 17:00:27.7±12.0, 38.64N×74.09E, h125^{km}±106^{km}, mb3.8/2, mb1 3.6/4, mb1mx3.1/21, ML3.1/2, MS2.4/1, Ms1 2.4/1, ms1mx2.3/34, Error ellipse: s-maj=127.0km s-min=84.0km az=153.0*

ISC 28 17:00:23.5±1.0, **38.34N**±0.06×**74.3E**±0.1, **h131**^{km}±13^{km}, **n23**, σ**0^{s}80**/25, **mb4.0**/2, **Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.81**	**354**	P	**P**	**17 01 21.0**	**-0.7**
	SNR=143						
KZA	**Kyzart**	**3.81**	**11**	P	**P**	**17 01 22.1**	**+0.3**
	SNR=27						
UCH	**Uchtor**	**3.89**	**3**	P	**P**	**17 01 23.0**	**+0.2**
	SNR=60						
ULHL	**Ulahol**	**4.19**	**21**	P	**P**	**17 01 27.5**	**+0.7**
	SNR=19						
AAK	**Ala-Archa**	**4.29**	**2**	P	**P**	**17 01 28.1**	**-0.1**
	SNR=15						
AAK	**Ala-Archa**	**4.29**	**2**	*e*Pn	**P**	**17 01 26.8**	**-1.3**

EKS2	Erkin-Say	4.33	355	P	P	17 01 28.4	-0.3
	SNR=14						
KBK	Karagaybulak	4.34	7	P	P	17 01 29.6	+0.8
	SNR=6.2						
CHMS	Chumysh	4.67	5	P	P	17 01 33.2	0.0
	SNR=6.5						
TKM2	Tokmak 2	4.69	12	P	P	17 01 34.0	+0.5
	SNR=6.9						
MKAR	Makanchi Array	10.32	32	P	P	17 02 50.2	+1.4
	0.1nm,0.3s,baz=211,slow=14,SNR=5.6						
MKAR				S	S	17 04 41.9	-0.8
	0.0nm,0.3s,baz=214,slow=33,SNR=2.4						
KOLN	Koldanda	13.13	141	eP	P	17 03 25.8	0.0
	2.5nm,0.2s						
KOLN				eS	S	17 05 44.6	-4.5
GKN	Gorkha	13.48	137	eP	P	17 03 30.4	+0.1
KKN	Kakani	14.00	135	eP	P	17 03 36.2	-0.7
	6.9nm,0.5s						
DMN	Daman	14.04	136	eP	P	17 03 37.3	-0.2
	3.9nm,0.3s						
PKI	Pulchoki	14.24	136	eP	P	17 03 40.2	+0.2
	8.2nm,0.8s						
BVAR	Borovoye Array	14.93	351	P	P	17 03 47.4	-1.2
	0.1nm,0.3s,baz=172,slow=10,SNR=2.8						
BVAR				LR	LR	17 10 37.4	
	comp=Z,14nm,18.6s,baz=200,slow=42						
BRVK	Borovoye	14.97	351	eP	P	17 03 52.8	+3.6
	8.4nm,0.6s						
ZRNK	Zerenda	15.06	348	eP	P	17 03 48.4	-1.9
	2.8nm,0.5s						
ZRNK				e		17 03 53.4	
ARU	Arti	20.89	335	eP	P	17 04 56.8	+0.3
	2.5nm,0.5s						
FINES	FINESS Array B	37.46	324	P	P	17 07 25.8	+0.4
	12nm,1.3s,mb4.4,baz=120,slow=10.0,SNR=5.9						
FINES	FINESS Array B	37.46	324	P	P	17 07 25.8	+0.4
ARCES	ARCESS Array B	40.48	336	P	P	17 07 51.0	+0.7
	0.8nm,0.5s,mb3.6,baz=106,slow=8.8,SNR=10						

*ECX **28** 17:15:22.8±0.6, 35.96N×120.43W, h4^{km}±5^{km}, ML5.8*

*BJI **28** 17:15:23.6, 35.86N×120.28W, h10^{km}, mB5.8, mb5.2, Ms6.0, Msz5.8*

*IDC **28** 17:15:24.5±0.5, 35.85N×120.09W, mb4.9/26, mb1 4.9/29, mb1mx4.9/29, ML4.4/4, MS5.8/27, Ms1 5.8/27, ms1mx5.8/31, Error ellipse: s-maj=12.3km s-min=8.5km az=74.0, Putative timing error at ZAL*

*NEIC **28** 17:15:24.2, 35.82N×120.36W, h9^{km}, mb5.4/121, MS5.8/98, MW6.0(BRK), After NCEDC.*

NEIC Minor damage [VI] at Parkfield, San Miguel and Shandon. Felt [V] at Avenal, Bradley, Coalinga, King City, Lockwood, Paso Robles and Templeton. Felt in much of California from Sacramento, Santa Rosa and San Francisco south as far as Los Angeles and Orange County. Also felt at Las Vegas and Reno, Nevada.

*MOS **28** 17:15:24.2±1.2, 35.79N×120.39W, h10^{km}, mb5.4/33, MS6.1/40, Error ellipse: s-maj=6.7km s-min=4.5km az=76.9*

*HRVD **28** 17:15:24.2±0.1, 35.92N×120.54W, h12^{km}, MW6.0/81, Centroid moment Tensor Solution. LP body waves: s60,c120;Mantle waves: s81,c189; Half duration: 2^{s}4 Moment tensor: Scale 10^{18}Nm; M$_{rr}$-0.11±.01; M$_{\theta\theta}$-0.99±.01; M$_{\phi\phi}$1.11±.01; M$_{r\theta}$0.26±.03; M$_{\theta\phi}$0.22±.01; M$_{\phi r}$0.22±.03; Best double couple: M$_0$1.13×10^{18} NP1: φ$_s$321°,δ72°,λ-178°. NP2:φ$_s$230°,δ88°,λ-18°. Principal axes: T 1.18, Plg11°, Azm277°; N -.1, Plg72°, Azm44°; P -1.08, Plg14°, Azm184°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 28 17:15:24.2±0.2**, 35.79N**±0.02×**120.29W**±0.03**, h9^{km}, (h12^{km}**±1.4^{km}**:pP-P), n602, σ1^{s}31**/520**, mb5.2**/168**, MS5.8**/143**, 16C-5D, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LRV	Little Rabbit	0.86	317	eP	Pb	17 15 39.8	-1.1
SAO	San Andreas Ge	1.34	316	P	Pb	17 15 46.8	-2.3
SAO	San Andreas Ge	1.34	316	eP	Pb	17 15 47.0	-2.1
MTUM	Tungsten Hills	2.09	41	ePn	Pn	17 16 00.4	+0.6
OMM	Old Mammoth Mi	2.10	30	ePn	Pn	17 16 00.1	+0.1
CMB	Columbia Colle	2.24	358	ePn	Pn	17 16 00.5	-1.5
DAC	Darwin (Calif)	2.24	77	P	Pn	17 16 01.9	-0.1
DAC	Darwin (Calif)	2.24	77	ePn	Pn	17 16 02.0	-0.1
LKC	Lake Chabot	2.41	324	ePn	Pn	17 16 01.9	-2.5
MWC	Mount Wilson	2.41	130	ePn	Pn	17 16 04.3	-0.2
SAC	San Andreas	2.47	317	P	Pn	17 16 02.3	-3.0
SAC	San Andreas	2.47	317	ePn	Pn	17 16 01.9	-3.4
NSHM	Saint Helena R	3.29	327	ePn	Pn	17 16 13.9	-3.0
TPH	Tonopah	3.35	46	P	Pn	17 16 17.8	-0.1
TPH	Tonopah	3.35	46	ePn	Pn	17 16 17.7	-0.2
TPNV	Topopah Spring	3.46	69	P	Pn	17 16 19.8	+0.4
TPNV	Topopah Spring	3.46	69	ePn	Pn	17 16 19.7	+0.3
WCN	Washoe City	3.53	7	P	Pn	17 16 20.1	-0.3
WCN	Washoe City	3.53	7	ePn	Pn	17 16 19.9	-0.4
OHCM	Honcut	3.66	345	ePn	Pn	17 16 20.4	-1.8
PFO	Pinyon Flat Ob	3.84	123	P	Pn	17 16 23.7	-1.1
PFO	Pinyon Flat Ob	3.84	123	⇑ePn	Pn	17 16 23.6	-1.2
HOPS	Hopland	3.88	326	ePn	Pn	17 16 22.0	-3.4
PAHR	Pah Rah Range	3.97	10	ePn	Pn	17 16 25.0	-1.7
BEKR	Beckwourth	4.07	359	ePn	Pn	17 16 26.9	-1.1
LDFC	Landfair	4.29	98	ePn	Pn	17 16 28.5	-2.7
BAR	Barrett	4.32	135	ePn	Pn	17 16 29.9	-1.8
NEN	Nelson	4.44	90	ePn	Pn	17 16 31.7	-1.6
TRCR	Troy Canyon	4.55	54	ePn	Pn	17 16 34.6	-0.2
CBX	Cerro Bola	4.60	138	eP	Pn	17 16 34.1	-1.4
RMX	La Rumorosa	4.73	131	eP	Pn	17 16 35.8	-1.6
RMX				⇑e		17 18 12.8	
	comp=E,6μm,1.0s						
RMX				⇑e		17 18 12.9	
	comp=N,6μm,0.9s						
ENX	Ensenada	4.93	141	eP	Pn	17 16 38.0	-2.3
PBX	Punta Banda	5.02	143	eP	Pn	17 16 39.1	-2.4
WDC	Whiskeytown Da	5.09	340	P	Pn	17 16 40.0	-2.6
WDC				pmax	pmax		
	comp=Z,140nm,1.0s						
WDC	Whiskeytown Da	5.09	340	ePn	Pn	17 16 39.7	-2.9
ECNX	Esteban Cantu	5.15	142	⇑eP	Pn	17 16 41.3	-2.1
ECNX				⇑eP		17 16 38.6	
RDX	Rancho Dowling	5.28	136	⇑e	Sg	17 18 17.1	-3.0
	comp=E,5μm,0.8s						
RDX				⇓e		17 18 17.5	
	comp=N,4μm,1.1s						
CPBX	Cerro Prieto	5.34	128	eP	Pn	17 16 43.6	-2.4
EMX	El Mayor	5.66	131	eP	Pn	17 16 48.3	-2.3
KHMM	Horse Mountain	5.75	333	ePn	Pn	17 16 50.5	-1.3
ARUT	Antelope Range	5.85	68	P	Pn	17 16 53.6	+0.4
ARUT	Antelope Range	5.85	68	ePn	Pn	17 16 52.8	-0.4
MOD	Modoc	6.10	360	ePn	Pn	17 16 55.7	-1.1
YBH	Yreka Blue Hor	6.22	343	Pn	Pn	17 16 58.7	+0.2
	comp=N,1.7nm,0.3s,baz=182,slow=8.0,SNR=20						
YBH				Sn	Sn	17 18 09.7	-0.8
	comp=N,4.6nm,0.3s,baz=177,slow=14,SNR=3.4						
YBH				Lg		17 18 43.3	
	comp=N,5.5nm,0.3s,baz=125,slow=14,SNR=3.4						
YBH	Yreka Blue Hor	6.22	343	P	Pn	17 16 58.7	+0.2
YBH						17 18 09.7	
YBH				pmax	pmax		
	comp=Z,2.0nm,0.3s						
YBH				smax			
	comp=N,5.0nm,0.3s						
YBH	Yreka Blue Hor	6.22	343	ePn	Pn	17 16 57.0	-1.5
ELK	Elko	6.34	37	P	Pn	17 16 59.7	-0.5
ELK				pmax	pmax		
	comp=Z,74nm,1.0s						
ELK	Elko	6.34	37	ePn	Pn	17 16 59.2	-1.0
KRMB	Red Mountain	6.38	335	ePn	Pn	17 16 58.1	-2.6
MVU	Marysvale	7.00	65	ePn	Pn	17 17 09.2	-0.3
MSU	Marysvale	7.03	65	P	Pn	17 17 10.6	+0.8
MSU	Marysvale	7.03	65	ePn	Pn	17 17 09.4	-0.4
HUMO	Hull Mountain	7.11	344	ePn	Pn	17 17 08.8	-2.2
DUG	Dugway	7.36	51	ePn	Pn	17 17 13.9	-0.6
BGU	Big Grassy Mou	7.67	46	ePn	Pn	17 17 18.1	-0.7
NLU	North Lily Min	7.71	55	ePn	Pn	17 17 19.6	+0.2
KEBM	Edson Butte	7.73	337	ePn	Pn	17 17 17.5	-2.2
HSO	Harness Mounta	8.02	345	P	P	17 17 29.1	+5.4
HSO	Harness Mounta	8.02	345	Pn	P	17 17 22.2	-1.5
TMUT	Trail Mountain	8.02	61	ePn	P	17 17 25.2	+1.5
MPU	Maple Canyon	8.04	56	Pn	P	17 17 22.1	-1.9
NOQ	North Oquirrh	8.05	51	Pn	P	17 17 22.0	-2.2
SPUT	South Promonto	8.25	46	ePn	P	17 17 26.7	-0.2
CTU	Camp Tracy	8.31	51	Pn	P	17 17 28.4	+0.6
HVU	Hansel Valley	8.38	42	P	P	17 17 29.5	+0.8
HVU	Hansel Valley	8.38	42	ePn	P	17 17 28.3	-0.4
SRU	San Rafael	8.45	64	P	P	17 17 32.5	+2.9
SRU	San Rafael	8.45	64	ePn	P	17 17 31.5	+1.9
JLU	Jordanelle	8.45	53	ePn	P	17 17 32.1	+2.3
DAU	Daniels Canyon	8.48	54	P	P	17 17 33.4	+3.2
DAU	Daniels Canyon	8.48	54	ePn	P	17 17 32.3	+2.1
TUC	Tucson	8.62	111	P	P	17 17 28.6	-3.5
TUC	Tucson	8.62	111	ePn	P	17 17 28.3	-3.8
TCUT	Toone Canyon	8.76	50	ePn	P	17 17 34.6	+0.5
HWUT	Hardware Ranch	8.96	47	ePn	P	17 17 37.5	+0.7
HLID	Hailey	8.98	28	ePn	P	17 17 37.3	+0.2
COR	Corvallis	9.08	346	ePn	P	17 17 40.8	+2.4
SSOR	Sweet Springs	9.20	350	P	P	17 17 42.1	+2.0
SSOR	Sweet Springs	9.20	350	ePn	P	17 17 41.1	+1.0
VGB	Gordon Butte	9.72	358	P	P	17 17 50.5	+3.3
VGB	Gordon Butte	9.72	358	Pn	P	17 17 46.9	-0.3
LNOR	Lincton Mounta	10.18	8	P	P	17 17 55.2	+1.6
LNOR	Lincton Mounta	10.18	8	ePn	P	17 17 54.7	+1.1
RW3	Ridgway	10.37	73	P	P	17 17 57.4	+1.1
RW3	Ridgway	10.37	73	ePn	P	17 17 56.0	-0.3
SHW	Mount Saint He	10.49	353	P	P	17 18 06.7	+8.9
SHW	Mount Saint He	10.49	353	Pn	P	17 17 56.3	-1.5
REDW	Red Top Meadow	10.49	41	ePn	P	17 17 59.2	+1.4
TPAW	Teton Pass	10.53	40	ePn	P	17 17 59.5	+1.1
HAWA	Hanford	10.60	3	ePn	P	17 17 58.5	-0.8
WUWY	Wally Ulrich	10.67	41	Pn	P	17 17 58.8	-1.5
BW06	Boulder Array	10.84	47	ePn	P	17 18 02.5	-0.2
PDAR	Pinedale Array	10.84	47	Pn	P	17 18 03.8	+1.1
	comp=Z,0.4nm,0.3s,baz=247,slow=11,SNR=20						
PDAR				Lg		17 21 06.3	
	comp=Z,0.1nm,0.3s,baz=215,slow=22,SNR=3.0						
PDAR				LR	LR	17 22 18.6	
	comp=Z,31μm,19.9s,baz=244,slow=39						
BMW	Boistfort Moun	10.90	349	P	P	17 18 08.5	+5.1
BMW	Boistfort Moun	10.90	349	ePn	P	17 18 03.1	-0.2
LON	Longmire	11.01	355	P	P	17 18 05.9	+1.0
LON	Longmire	11.01	355	ePn	P	17 18 04.8	0.0
LENM	Lemitar	11.05	95	ePn	P	17 18 05.1	-0.4
YFT	Old Faithful	11.27	37	Pn	P	17 18 04.2	-4.3
QLMT	Earthquake Lak	11.27	34	Pn	P	17 18 06.2	-2.4
LPM	Los Pinos Moun	11.30	94	ePn	P	17 18 09.2	+0.3
ANMO	Albuquerque	11.33	90	P	P	17 18 11.4	+2.1
ANMO				pmax	pmax		
	comp=Z,270nm,1.4s						
ANMO	Albuquerque	11.33	90	ePn	P	17 18 09.3	0.0
BNM	Barren Site	11.33	94	ePn	P	17 18 09.8	+0.5
YMR	Madison River	11.37	36	Pn	P	17 18 09.1	-0.7
YNR	Norris Junctio	11.54	37	Pn	P	17 18 12.0	-0.2
BOZ	Bozeman (W)	11.83	31	P	P	17 18 17.7	+1.7
BOZ				pmax	pmax		
	comp=Z,120nm,1.3s						
BOZ	Bozeman (W)	11.83	31	ePn	P	17 18 15.5	-0.5
GNW	Green Mountain	11.91	352	ePn	P	17 18 14.9	-2.2
MSO	Missoula	12.01	21	ePn	P	17 18 18.4	-0.1
SDCO	Great Sand Dun	12.02	76	ePn	P	17 18 17.7	-1.0
DPW	Davenport	12.17	7	P	P	17 18 23.3	+2.7
DPW	Davenport	12.17	7	Pn	P	17 18 19.5	-1.2
NLW	Nelson Butte	12.28	360	ePn	P	17 18 22.4	+0.3
ISCO	Idaho Springs	12.28	67	P	P	17 18 24.4	+2.2
ISCO				pmax	pmax		
	comp=Z,170nm,1.4s						
ISCO	Idaho Springs	12.28	67	ePn	P	17 18 23.8	+1.7
OCWA	Octopus Mounta	12.29	348	ePn	P	17 18 23.0	+0.7
CHMT	Chamberlain Mo	12.30	23	ePn	P	17 18 21.6	-0.8
HRY	Holter Researc	12.62	28	ePn	P	17 18 26.9	+0.2
RPW	Rockport	12.68	356	Pn	P	17 18 29.8	+2.4
NEW	Newport	12.68	10	P	P	17 18 30.9	+3.4
NEW				pmax	pmax		
	comp=Z,66nm,0.8s						
NEW	Newport	12.68	10	ePn	P	17 18 29.4	+1.9
GCMT	Greycliff	12.81	36	ePn	P	17 18 31.5	+2.2
PGC	Sidney	13.06	351	ePn	P	17 18 32.4	-0.1
GDL2	Guadalupe Moun	13.69	101	ePn	P	17 18 43.3	+2.3
CLNB	Carlsbad	14.06	100	ePn	P	17 18 47.5	+1.6
RSSD	Black Hills	14.97	51	ePn	P	17 19 00.1	+2.5
LAO	LASA Array	15.16	40	ePn	P	17 19 04.1	+4.1
TXAR	Lajitas Array	15.42	110	Pn	P	17 19 04.8	+1.2
	comp=Z,0.8nm,0.3s,baz=288,slow=7.9,SNR=389						
TXAR				Sn	S	17 21 55.6	+0.4
	comp=Z,0.1nm,0.3s,baz=114,slow=12,SNR=2.4						
TXAR				Lg		17 23 32.5	
	comp=Z,0.0nm,0.3s,baz=294,slow=33,SNR=2.2						
TXAR				LR	LR	17 25 43.8	
	comp=Z,17μm,18.6s,baz=325,slow=40						
BBB	Bella Bella	17.31	344	P	P	17 19 27.4	-0.1
	comp=Z,0.2nm,0.3s,baz=162,slow=16,SNR=3.2						
BBB				LR	LR	17 26 51.0	
	comp=Z,47μm,18.2s,baz=163,slow=40						
DGMT	Dagmar	17.36	38	ePn	P	17 19 28.0	-0.1
	comp=Z,112nm,1.1s						
WMOK	Wichita Mounta	17.60	87	P	P	17 19 31.9	+0.6
WMOK				pmax	pmax		
	comp=Z,300nm,1.2s						
WMOK	Wichita Mounta	17.60	87	ePn	P	17 19 31.6	+0.4
	comp=Z,301nm,1.3s						
JCT	Junction City	17.95	101	ePn	P	17 19 35.8	+0.1
EDM	Edmonton	18.10	14	P	P	17 19 38.3	+0.9
EDM	Edmonton	18.10	14	ePn	P	17 19 36.8	-0.5
KSU1	Kansas State U	19.08	73	eP	P	17 19 49.0	-0.5
NATX	Nacogdoches	21.66	93	eP	P	17 20 16.7	-0.4
	comp=Z,595nm,1.5s,mb5.8						
FFC	Flin Flon	22.78	28	eP	P	17 20 26.2	-1.6
	comp=Z,101nm,0.8s						
FFC				LR	LR		
	comp=Z,2μm,22.0s						
UALR	University of	22.81	84	eP	P	17 20 27.7	-0.8
	comp=Z,67nm,1.1s,mb5.0						
ULM	Lac du Bonnet	22.83	43	P	P	17 20 26.5	-1.9
	comp=Z,43nm,0.7s,mb5.0,baz=240,slow=9.9,SNR=14						
ULM				S	S	17 24 35.7	+2.6
	comp=Z,12nm,1.0s,baz=97,slow=7.8,SNR=2.3						
ULM				LR	LR	17 28 40.7	
	comp=Z,16μm,22.0s,MS5.4,baz=237,slow=35						
ULM	Lac du Bonnet	22.83	43	eP	P	17 20 26.6	-1.8
	comp=Z,114nm,0.6s,mb5.5						
ULM				LR	LR		
	comp=Z,23μm,20.0s,MS5.6						
MOIG	Morelia	23.25	129	i P	P	17 20 35.7	+2.9
CCM	Cathedral Cave	23.29	76	P	P	17 20 32.9	-0.2
CCM				pmax	pmax		
	comp=Z,220nm,1.4s,mb5.4						
CCM				MLR	MLR		
	comp=Z,6μm,20.0s,MS5.1						
CCM	Cathedral Cave	23.29	76	eP	P	17 20 32.4	-0.7
	comp=Z,217nm,1.4s,mb5.4						
CCM				LR	LR		
	comp=Z,6μm,20.0s,MS5.1						
DLBC	Dease Lake	23.55	347	P	P	17 20 37.4	+2.0
	comp=Z,29nm,1.0s,mb4.7,baz=171,slow=9.5,SNR=18						
DLBC				S	S	17 24 54.1	+8.4
	comp=Z,2.5nm,0.6s,baz=218,slow=18,SNR=2.1						
DLBC				LR	LR	17 30 50.2	
	comp=Z,63μm,19.6s,MS6.1,baz=162,slow=39						
DLBC	Dease Lake	23.55	347	eP	P	17 20 37.2	+1.9
SIT	Sitka	23.55	339	P	P	17 20 35.9	+0.5
SIT				LR	LR		
	comp=Z,13μm,20.0s,MS5.4						
FVM	French Village	23.94	76	eP	P	17 20 39.2	-0.2
	comp=Z,35nm,1.0s,mb4.7						
HBAR	Harrisburg	24.04	82	eP	P	17 20 40.2	-0.2
SLM	Saint Louis	24.06	74	P	P	17 20 41.4	+0.9
SLM				pmax	pmax		
	comp=Z,25nm,0.4s,mb5.0						
SLM	Saint Louis	24.06	74	eP	P	17 20 40.4	-0.1
	comp=Z,25nm,0.4s,mb5.0						
JFWS	Jewell Farm	24.21	64	eP	P	17 20 40.9	-1.0
	comp=Z,75nm,0.8s,mb5.2						
JFWS				LR	LR		
	comp=Z,31μm,21.0s,MS5.8						
ZIIG	Zihuatanejo	24.64	132	eP	P	17 20 44.7	-1.7
MET	Memphis--Engin	24.70	83	P	P	17 20 46.7	-0.1
GLAT	Glass	25.03	80	eP	P	17 20 49.5	-0.5
HALT	Halls	25.04	81	eP	P	17 20 49.9	-0.2
OXF	Oxford	25.24	84	eP	P	17 20 52.6	+0.7
OXF				pmax	pmax		
	comp=Z,76nm,0.3s,mb5.7						
OXF				MLR	MLR		
	comp=Z,32μm,22.0s,MS5.8						
OXF	Oxford	25.24	84	eP	P	17 20 51.4	-0.5
	comp=Z,76nm,0.3s,mb5.7						
OXF				LR	LR		
	comp=Z,32μm,22.0s,MS5.8						
USIN	University of	26.12	75	eP	P	17 20 58.5	-1.6
	comp=Z,69nm,0.8s,mb5.2						
WVT	Waverly	26.22	80	P	P	17 21 00.6	-0.5
WVT				pmax	pmax		
	comp=Z,13nm,0.7s,mb4.6						
WVT				MLR	MLR		
	comp=Z,18μm,21.0s,MS5.6						
WVT	Waverly	26.22	80	eP	P	17 21 00.0	-1.0
	comp=Z,13nm,0.7s,mb4.6						
WVT				LR	LR		
	comp=Z,18μm,21.0s,MS5.6						
LVIG	Laguna Verde	26.41	121	eP	P	17 20 59.3	-3.7
BLO	Bloomington	26.92	73	eP	P	17 21 05.5	-2.0
	comp=Z,18nm,0.6s,mb4.8						
YKA	Yellowknife Ar	26.96	6	P	P	17 21 05.9	-1.7
	comp=Z,4.4nm,0.9s,baz=199,slow=8.0,SNR=7.6						
YKA				S	S	17 25 47.8	+4.8
	comp=Z,0.9nm,0.7s,baz=149,slow=39,SNR=2.7						
YKA				LR	LR	17 33 50.8	
	comp=Z,58μm,19.1s,baz=205,slow=41						
YKA	Yellowknife Ar	26.96	6	P	P	17 21 05.9	-1.7
YKA				S	S	17 25 47.8	+4.8
YKA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
YKA				smax			
	comp=N,1.0nm,0.7s						
YKA				MLR	MLR		
	comp=Z,58μm,19.1s						
YKW3	Yellowknife Ar	27.02	6	eP	P	17 21 06.4	-1.8
WCI	Wyandotte Cave	27.17	75	PFAKE		17 21 20.0	+10
WCI				LR	LR		
	comp=Z,7μm,20.0s,MS5.2						
LRAL	Lakeview Retre	27.53	86	eP	P	17 21 11.1	-2.0
	comp=Z,12nm,0.8s,mb4.6						
LRAL				LR	LR		
	comp=Z,37μm,21.0s,MS5.9						
SWET	Sewanee	27.90	81	eP	P	17 21 14.3	-2.2
VHO	Vista Hermosa	28.03	126	i P	P	17 21 19.8	+2.0
TUIG	Tuzandepetl	28.93	121	eP	P	17 21 26.1	+0.2
CPCT	Cooper Cave	28.98	80	eP	P	17 21 26.5	+0.3
MYNC	Murphy	29.38	81	PFAKE		17 21 40.0	+10
MYNC				LR	LR		
	comp=Z,3μm,21.0s,MS5.0						
ACSO	Alum Creek Sta	29.58	70	eP	P	17 21 29.4	-2.1
	comp=Z,90nm,1.0s,mb5.5						
DIV	Divide	30.08	335	eP	P	17 21 35.2	-0.5
	comp=Z,30nm,0.8s,mb5.1						
DIV				LR	LR		
	comp=Z,35μm,20.0s,MS6.0						
DAWY	Dawson	30.59	344	eP	P	17 21 40.1	-0.2
KDAK	Kodiak Island	30.70	326	eP	P	17 21 40.5	-0.7
	comp=Z,54nm,1.3s,mb5.2						
KDAK				LR	LR		
	comp=Z,11μm,19.0s,MS5.5						
SML	Sawmill	31.44	335	P	P	17 21 45.5	-2.2
SML	Sawmill	31.44	335	eP	P	17 21 44.2	-3.5
PMR	Palmer	31.57	334	eP	P	17 21 48.4	-0.5
	comp=Z,41nm,0.9s,mb5.3						
PMR				LR	LR		
	comp=Z,14μm,19.0s,MS5.7						
ALLY	Alegheny Colle	31.65	67	eP	P	17 21 47.6	-2.3
FIB	Fire Island	31.68	333	PFAKE		17 22 00.0	+10
FIB				LR	LR		
	comp=Z,6μm,22.0s,MS5.2						
PWA	Palmer West	31.88	334	eP	P	17 21 51.5	-0.1
MCWV	Mont Chateau	32.03	71	eP	P	17 21 51.4	-1.8
	comp=Z,60nm,1.1s,mb5.3						
MCWV				LR	LR		
	comp=Z,10μm,20.0s,MS5.5						
RSO	Redoubt South	32.26	330	eP	P	17 21 55.0	+0.1
SADO	Sadowa	32.36	61	LR	LR	17 35 54.4	
	comp=Z,20μm,18.4s,MS5.8,baz=283,slow=38						
SPU	Mount Spurr	32.40	332	eP	P	17 21 55.8	-0.4
MCK	McKinley	32.97	337	eP	P	17 22 00.7	-0.4
	comp=Z,12nm,0.9s,mb4.8						
MCK				LR	LR		
	comp=Z,9μm,19.0s,MS5.5						
NHSC	New Hope	33.03	83	PFAKE		17 22 10.0	+8.1
NHSC				LR	LR		
	comp=Z,9μm,19.0s,MS5.5						
ILAR	Eielson Array	33.10	339	P	P	17 22 01.9	-0.3
	comp=Z,7.7nm,0.7s,mb4.8,baz=156,slow=7.2,SNR=55						
ILAR				PcP	PcP	17 24 46.8	+1.2
	comp=Z,2.6nm,0.8s,baz=146,slow=3.3,SNR=3.8						
ILAR	Eielson Array	33.10	339	P	P	17 22 01.9	-0.3
ILAR						17 24 46.8	
ILAR				pmax	pmax		
	comp=Z,8.0nm,0.7s						
ILAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
GENY	Geneseo	33.33	65	eP	P	17 22 01.9	-2.6
INK	Inuvik	33.41	351	P	P	17 22 04.3	-0.5
	comp=Z,42nm,1.0s,mb5.3,baz=164,slow=9.7,SNR=24						
INK				LR	LR	17 36 53.3	
	comp=Z,63μm,19.5s,MS6.3,baz=160,slow=39						
INK	Inuvik	33.41	351	P	P	17 22 04.4	-0.4
INK				pmax	pmax		
	comp=Z,42nm,1.0s						
INK				MLR	MLR		
	comp=Z,63μm,19.5s						
INK	Inuvik	33.41	351	eP	P	17 22 03.7	-1.1
	comp=Z,177nm,1.1s,mb5.9						
SSPA	Standing Stone	33.43	69	eP	P	17 22 02.5	-2.8
	comp=Z,26nm,1.1s,mb5.1						
SSPA				LR	LR		
	comp=Z,6μm,20.0s,MS5.3						
COLA	College	33.46	339	eP	P	17 22 05.3	0.0
COLA				MLR	MLR		
	comp=Z,21μm,17.0s,MS5.9						
CBN	Corbin	34.14	73	PFAKE		17 22 20.0	+8.5
CBN				LR	LR		
	comp=Z,26μm,19.0s,MS6.0						
BINY	Binghamton	34.72	66	eP	P	17 22 14.0	-2.5
	comp=Z,33nm,0.9s,mb5.3						
BINY				LR	LR		
	comp=Z,38μm,20.0s,MS6.1						
POHA	Pohakuloa	34.81	252	PFAKE		17 22 30.0	+13
POHA				LR	LR		
	comp=Z,14μm,19.0s,MS5.7						
LOZ	Lake Ozonia	35.61	61	eP	P	17 22 21.7	-2.3
KIP	Kipapa	35.84	257	eP	P	17 22 25.1	-1.1
	comp=Z,32nm,0.7s,mb5.4						
KIP				LR	LR		
	comp=Z,12μm,19.0s,MS5.7						
NCB	Newcomb	35.89	62	eP	P	17 22 24.0	-2.4
	comp=Z,9.3nm,0.6s,mb4.9						
NCB				LR	LR		
	comp=Z,30μm,21.0s,MS6.0						
IMA	Indian Mountai	36.05	338	eP	P	17 22 27.8	+0.3
ACCN	Adirondack Com	36.33	63	eP	P	17 22 27.5	-2.6
UNV	Unalaska Valle	36.64	314	P	P	17 22 33.7	+1.1
	comp=Z,472nm,1.3s,mb6.2						
UNV				LR	LR		
	comp=Z,37μm,20.0s,MS6.2						
HNH	Hanover	37.31	63	eP	P	17 22 36.9	-1.5
	comp=Z,3.2nm,1.0s						
FFD	Franklin Falls	37.79	63	P	P	17 22 43.3	+1.0
	comp=Z,25nm,0.8s,mb5.0						
HRV	Harvard--Oak R	37.96	65	eP	P	17 22 41.7	-2.1
	comp=Z,35nm,1.1s,mb5.0						
HRV				LR	LR		
	comp=Z,26μm,21.0s,MS6.0						
BRYW	Bryant College	38.04	66	P	P	17 22 43.2	-1.3
	comp=Z,58nm,1.1s,mb5.2						
WES	Weston	38.14	65	PFAKE		17 23 00.0	+15
WES				LR	LR		
	comp=Z,31μm,20.0s,MS6.1						
WVL	Waterville	39.12	61	PFAKE		17 23 00.0	+6.4
WVL				LR	LR		
	comp=Z,65μm,19.0s,MS6.5						
PQI	Presque Isle	40.12	58	PFAKE		17 23 10.0	+8.3
PQI				LR	LR		
	comp=Z,63μm,21.0s,MS6.4						
EMMW	East Machias	40.67	61	PFAKE		17 23 20.0	+14
EMMW				LR	LR		
	comp=Z,46μm,20.0s,MS6.3						
TNA	Tin City	40.76	332	PFAKE		17 23 20.0	+13
TNA				LR	LR		
	comp=Z,4μm,20.0s,MS5.3						
RES	Resolute Bay	40.84	10	eP	P	17 23 06.7	-0.8
	comp=Z,65nm,0.9s,mb5.3						
JTS	JuntasAbangare	40.89	120	LR	LR	17 40 59.5	
	comp=Z,5μm,20.9s,MS5.4,baz=308,slow=38						
JTS	JuntasAbangare	40.89	120	eP	P	17 23 07.3	-1.0
	comp=Z,32nm,1.0s,mb4.9						
SCHQ	Schefferville	40.98	45	P	P	17 23 07.4	-1.3
	comp=Z,11nm,0.8s,mb4.5,baz=266,slow=7.8,SNR=6.6						

SCHQ				LR	LR	17 40 15.4	
	comp=Z,20µm,18.0s,MS6.0,baz=266,slow=36						
SCHQ	**Schefferville**	**40.98**	**45**	*e*P	**P**	**17 23 06.7**	**-2.0**
	comp=Z,86nm,1.2s,mb5.2						
SCHQ				LR	LR		
	comp=Z,18µm,19.0s,MS6.0						
FRB	**Frobisher Bay**	**41.81**	**32**	LR	LR	17 41 12.3	
	comp=Z,36µm,18.5s,MS6.3,baz=255,slow=37						
KIWB	**Kanaga Island**	**42.91**	**310**	*e*P	**P**	**17 23 24.7**	**+0.2**
BBSR	**BB Station**	**45.66**	**78**	PFAKE		17 24 00.0	+13
BBSR				LR	LR		
	comp=Z,5µm,21.0s,MS5.4						
PAYG	**Puerto Ayora**	**45.80**	**136**	PFAKE		17 24 00.0	+12
PAYG				LR	LR		
	comp=Z,3µm,19.0s,MS5.2						
SMY	**Shemya**	**48.21**	**312**	PFAKE		17 24 20.0	+13
SMY				LR	LR		
	comp=Z,13µm,19.0s,MS5.9						
MIDW	**Midway**	**48.41**	**278**	PFAKE		17 24 20.0	+11
MIDW				LR	LR		
	comp=Z,13µm,19.0s,MS6.0						
AOPR	**Arecibo Observ**	**50.13**	**96**	*e*P	**P**	**17 24 19.9**	**-2.1**
SJG	**San Juan**	**50.74**	**95**	*e*P	**P**	**17 24 24.9**	**-1.7**
	comp=Z,18nm,0.3s,mb5.5						
SJG				LR	LR		
	comp=Z,4µm,20.0s,MS5.5						
HUMP	**Col San Antoni**	**50.97**	**95**	*e*P	**P**	**17 24 26.2**	**-2.2**
ROSC	**El Rosal**	**52.26**	**115**	P	**P**	**17 24 39.3**	**+1.1**
	comp=Z,29nm,1.0s,mb5.2,baz=45,slow=23,SNR=16						
ROSC				LR	LR	17 49 43.6	
	comp=Z,6µm,21.8s,MS5.6,baz=325,slow=40						
SDV	**Santo Domingo**	**52.46**	**108**	*e*P	**P**	**17 24 37.8**	**-1.9**
	comp=Z,29nm,1.2s,mb5.1						
SDV				LR	LR		
	comp=Z,2µm,22.0s,MS5.2						
OTAV	**Otavalo**	**52.55**	**123**	*e*P	**P**	**17 24 40.3**	**-0.1**
	comp=Z,34nm,1.2s,mb5.2						
OTAV				LR	LR		
	comp=Z,2µm,21.0s,MS5.1						
SUMG	**Summit**	**53.84**	**22**	*e*P	**P**	**17 24 48.3**	**-0.9**
	comp=Z,83nm,0.9s,mb5.7						
PET	**Petropavlovsk**	**57.29**	**315**	*e*P	**P**	**17 25 18.5**	**+4.2**
PET				*e*S	**S**	**17 33 10.9**	**+2.2**
PET				*e*SS	SS	17 37 00.3	+0.9
PET				pmax	pmax		
	comp=Z,56nm,1.2s,mb5.5						
PET				smax			
	comp=N,3µm,19.6s						
PET				smax			
	comp=E,4µm,31.3s						
PET				MLR	MLR		
	comp=Z,3µm,19.0s,MS5.5						
PET	**Petropavlovsk**	**57.29**	**315**	P	**P**	**17 25 13.6**	**-0.8**
	comp=Z,72nm,1.2s,mb5.6						
PET				LR	LR		
	comp=Z,5µm,22.0s,MS5.6						
SEY	**Seymchan**	**57.65**	**327**	*e*P	**P**	**17 25 20.9**	**+4.2**
SEY				*e*		17 26 09.1	
SEY				*e*PPP	PPP	17 28 42.0	-5.5
SEY				*e*S	**S**	**17 33 20.9**	**+7.6**
SEY				*e*SS	SS	17 37 11.9	+6.9
SEY				pmax	pmax		
	comp=E,150nm,1.6s						
SEY				pmax	pmax		
	comp=Z,250nm,1.6s,mb6.0						
SEY				smax			
	comp=N,12µm,24.5s						
SEY				MLR	MLR		
	comp=Z,26µm,18.0s,MS6.4						
SEY				MLR	MLR		
	comp=E,16µm,16.0s						
DAG	**Danmarks Havn**	**58.07**	**15**	*i* P	**P**	**17 25 18.0**	**-1.5**
	comp=E,8.0nm,0.6s,mb4.9						
	comp=Z,48µm,18.0s						
DAG	**Danmarks Havn**	**58.07**	**15**	*e*P	**P**	**17 25 18.0**	**-1.5**
	comp=Z,8.0nm,0.6s,mb4.9						
DAG				LR	LR		
	comp=Z,48µm,18.0s,MS6.7						
MA2	**Magadan**	**59.41**	**324**	PFAKE		17 25 40.0	+11
MA2				LR	LR		
	comp=Z,6µm,20.0s,MS5.7						
SCO	**Scoresbysund**	**59.42**	**23**	*i* P	**P**	**17 25 18.5**	**-10**
MEH	**Mehetia**	**59.51**	**211**	*e*P	**P**	**17 25 40.1**	**+10**
TIAR	**Tiarei**	**59.77**	**212**	*e*P	**P**	**17 25 43.7**	**+12**
PPT	**Papeete**	**59.88**	**213**	P	**P**	**17 25 33.3**	**+0.4**
	comp=Z,7.5nm,0.3s,mb5.2,baz=18,slow=16,SNR=2.3						
PPT	**Papeete**	**59.88**	**213**	*e*P	**P**	**17 25 45.5**	**+13**
PPT	**Papeete**	**59.88**	**213**	*e*S	**S**	**17 33 53.3**	**+10**
	comp=Z,5µm,26.2s						
PPT				*e*L		17 39 56.4	
	comp=Z,12µm,25.2s						
PPT				*e*R		17 42 35.9	
	comp=Z,11µm,27.2s						
PPT	**Papeete**	**59.88**	**213**	P	**P**	**17 25 33.3**	**+0.4**
PPT				pmax	pmax		
	comp=Z,8.0nm,0.3s						
TVO	**Taravao**	**59.93**	**212**	*e*P	**P**	**17 25 45.2**	**+12**
PAE	**Paea**	**59.97**	**213**	*e*P	**P**	**17 25 45.5**	**+12**
	comp=Z,140nm,1.4s,mb5.8						
RKT	**Rikitea**	**60.22**	**196**	*e*S	**S**	**17 34 00.2**	**+13**
	comp=Z,11µm,29.5s						
RKT				*e*L		17 40 46.1	
	comp=Z,6µm,28.5s						
PTCN	**Pitcairn Islan**	**61.24**	**190**	PFAKE		17 25 50.0	+8.0
PTCN				LR	LR		
	comp=Z,6µm,19.0s,MS5.8						
BORG	**Borgarnes**	**61.86**	**29**	PFAKE		17 26 00.0	+14
BORG				LR	LR		
	comp=Z,6µm,20.0s,MS5.7						
TIXI	**Tiksi**	**62.57**	**341**	*e*P	**P**	**17 25 48.9**	**-1.4**
TIXI				*e*		17 28 03.2	
TIXI				*e*S	**S**	**17 34 17.3**	**+0.8**
TIXI				pmax	pmax		
	comp=Z,61nm,1.3s,mb5.6						
TIXI				MLR	MLR		
	comp=Z,10µm,18.0s,MS6.0						
TIXI	**Tiksi**	**62.57**	**341**	*e*P	**P**	**17 25 48.9**	**-1.4**
TIXI				LR	LR		
	comp=Z,10µm,19.0s,MS6.0						
JMIC	**Jan Mayen**	**63.17**	**20**	LR	LR	17 54 17.1	
	comp=Z,16µm,19.5s,MS6.2,baz=316,slow=37						
TBI	**Tubuai**	**64.98**	**210**	*e*S	**S**	**17 34 58.3**	**+11**
	comp=Z,5µm,29.8s						
TBI				*e*L		17 42 06.8	
	comp=Z,7µm,35.8s						
TBI				*e*R		17 45 03.1	
	comp=Z,10nm,30.5s						
YAK	**Yakutsk**	**67.53**	**331**	*e*P	**P**	**17 26 21.2**	**-1.2**
YAK				*e*		17 28 48.0	
YAK				*e*PPP	PPP	17 30 30.2	+0.1
YAK				*e*S	S	17 35 20.7	+3.2
YAK				*e*		17 36 12.0	
YAK				*e*SS	SS	17 39 45.4	+5.9
YAK				pmax	pmax		
	comp=Z,23nm,1.1s,mb5.1						
YAK				pmax	pmax		
	comp=N,11nm,1.2s						
YAK				pmax	pmax		
	comp=E,8.0nm,1.1s						
YAK				pmax	pmax		
	comp=N,12nm,1.4s						
YAK				smax			
	comp=N,8.0nm,1.5s						
YAK				pmax	pmax		
	comp=N,3µm,26.8s						
YAK				pmax	pmax		
	comp=E,2µm,20.2s						
YAK				MLR	MLR		
	comp=Z,5µm,15.0s,MS5.9						
YAK				MLR	MLR		
	comp=N,3µm,16.0s,MS5.9						
YAK				MLR	MLR		
	comp=E,5µm,15.0s,MS5.9						
YAK	**Yakutsk**	**67.53**	**331**	*e*P	**P**	**17 26 20.4**	**-2.0**
	comp=E,36nm,0.9s,mb5.4						
YAK				LR	LR		
	comp=Z,6µm,21.0s,MS5.8						
RAR	**Rarotonga**	**67.91**	**220**	P	**P**	**17 26 27.3**	**+1.8**
	comp=Z,23nm,1.2s,mb5.1,baz=68,slow=22,SNR=2.1						
RAR				LR	LR	17 52 01.4	
	comp=Z,3µm,18.0s,MS5.5,baz=32,slow=32						
RAR	**Rarotonga**	**67.91**	**220**	P	**P**	**17 26 27.3**	**+1.8**
RAR				pmax	pmax		
	comp=Z,23nm,1.2s						
RAR				MLR	MLR		
	comp=Z,3µm,18.0s						
YSS	**Yuzh-Sakhalins**	**69.10**	**313**	*e*P	**P**	**17 26 31.0**	**-1.4**
YSS				pmax	pmax		
	comp=Z,40nm,1.0s,mb5.3						
YSS				MLR	MLR		
	comp=N,2µm,15.0s,MS5.6						
YSS				MLR	MLR		
	comp=Z,3µm,15.0s,MS5.7						
YSS				MLR	MLR		
	comp=E,2µm,16.0s,MS5.6						
YSS	**Yuzh-Sakhalins**	**69.10**	**313**	*e*P	**P**	**17 26 31.1**	**-1.3**
	comp=E,35nm,1.1s,mb5.2						
YSS				LR	LR		
	comp=Z,4µm,20.0s,MS5.6						
SAML	**Samuel**	**69.75**	**118**	*e*P	**P**	**17 26 34.2**	**-2.8**
	comp=Z,22nm,1.3s,mb4.9						
SAML				LR	LR		
	comp=Z,4µm,22.0s,MS5.6						
KWAJ	**Kwajalein Atol**	**70.39**	**267**	PFAKE		17 26 50.0	+9.1
KWAJ				LR	LR		
	comp=Z,2µm,22.0s,MS5.3						
ASAJ	**Asahikawa**	**70.64**	**311**	P	**P**	**17 26 41.5**	**-0.5**
	comp=Z,17nm,1.1s,mb4.9,baz=22,slow=14,SNR=3.6						
ASAJ	**Asahikawa**	**70.64**	**311**	P	**P**	**17 26 41.5**	**-0.4**
ASAJ				pmax	pmax		
	comp=Z,17nm,1.1s						
TRO	**Tromso**	**70.74**	**14**	*e*P	**P**	**17 26 40.6**	**-1.4**
TRO				AMb	AMB	17 26 52.1	
	comp=Z,54nm,1.2s,mb5.4						
ADH	**Angra Heroismo**	**70.84**	**56**	*e*-		17 30 44.0	
ADH				*e*PKKS		17 50 29.5	
ADH				*e*LQ		17 57 11.0	
LPAZ	**La Paz**	**71.54**	**127**	P	**P**	**17 26 47.3**	**-0.5**
	comp=Z,14nm,0.9s,mb4.9,baz=336,slow=6.5,SNR=31						
LPAZ				LR	LR	17 58 32.3	
	comp=Z,2µm,21.8s,MS5.4,baz=84,slow=36						
LPAZ	**La Paz**	**71.54**	**127**	P	**P**	**17 26 47.3**	**-0.5**
LPAZ				pmax	pmax		
	comp=Z,14nm,0.9s						
LPAZ				MLR	MLR		
	comp=Z,2µm,21.8s						
ARCES	**ARCESS Array B**	**72.03**	**12**	P	**P**	**17 26 48.4**	**-1.5**
	comp=Z,16nm,1.0s,mb4.9,baz=321,slow=7.8,SNR=21						
ARCES				LR	LR	18 00 06.7	
	comp=Z,23µm,19.9s,MS6.5,baz=342,slow=37						
ARCES	**ARCESS Array B**	**72.03**	**12**	P	**P**	**17 26 48.4**	**-1.4**
ARCES				pmax	pmax		
	comp=Z,16nm,1.0s						
ARCES				MLR	MLR		
	comp=Z,23µm,19.9s						
KEV	**Kevo**	**72.08**	**11**	*e*p	**P**	**17 26 46.2**	**-3.9**
	comp=Z,10nm,0.8s,mb4.8						
KEV	**Kevo**	**72.08**	**11**	*e*P	**P**	**17 26 46.2**	**-3.9**
KEV				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.8						
KTK1	**Kautokeino**	**72.08**	**13**	*e*P	**P**	**17 26 49.3**	**-0.8**
KTK1				AMb	AMB	17 27 07.0	
	comp=Z,87nm,1.6s,mb5.4						
PDA	**Ponta Delgada**	**72.37**	**56**	*e*LQ		17 57 00.2	
PDA				*e*LR	LR	18 02 03.0	
MOR8	**Moi Rana**	**72.57**	**18**	*e*P	**P**	**17 26 52.2**	**-0.8**
CLNS	**Chul'man**	**72.61**	**328**	*e*P	**P**	**17 26 49.4**	**-4.0**
CLNS				*e*		17 41 04.5	
CLNS				pmax	pmax		
	comp=Z,42nm,1.1s,mb5.3						
CLNS				pmax	pmax		
	comp=N,10.0nm,1.0s						
CLNS				pmax	pmax		
	comp=E,14nm,0.9s						
CLNS				pmax	pmax		
	comp=N,626nm,15.1s						
CLNS				pmax	pmax		
	comp=Z,487nm,14.9s						
CLNS				pmax	pmax		
	comp=E,320nm,16.2s						
CLNS				MLR	MLR		
	comp=Z,6µm,19.0s,MS5.9						
CLNS				MLR	MLR		
	comp=N,2µm,16.0s,MS5.5						
CLNS				MLR	MLR		
	comp=E,1µm,17.0s,MS5.5						
NSS	**Namsos**	**73.22**	**20**	*e*P	**P**	**17 26 55.8**	**-1.1**
MOL	**Molde**	**73.44**	**22**	*e*P	**P**	**17 26 56.9**	**-1.2**
MOL				AMb	AMB	17 27 22.5	
	comp=Z,142nm,1.6s,mb5.7						
VAL	**Valentia**	**73.46**	**37**	⇓*i*P	**P**	**17 27 07.8**	**+9.4**
DCN	**Croghan**	**74.01**	**35**	⇑*i*P	**P**	**17 26 58.7**	**-2.9**
DLF	**Lyons Farm**	**74.39**	**35**	⇑*i*P	**P**	**17 27 01.1**	**-2.7**
DSB	**Dublin**	**74.50**	**35**	*e*P	**P**	**17 27 02.8**	**-1.7**
ESK	**Eskdalemuir**	**74.56**	**32**	PFAKE		17 27 10.0	+5.2
ESK				LR	LR		
	comp=Z,3µm,20.0s,MS5.6						
LVZ	**Lovozero**	**74.92**	**10**	⇓*e*P	**P**	**17 27 06.3**	**-0.3**
LVZ				*e*S	S	17 36 42.3	-0.4
LVZ				pmax	pmax		
	comp=Z,52nm,0.9s,mb5.5						
LVZ				pmax	pmax		
	comp=N,19nm,1.0s						
LVZ				pmax	pmax		
	comp=E,14nm,1.0s						
LVZ				MLR	MLR		
	comp=Z,13µm,18.0s,MS6.3						
LVZ				MLR	MLR		
	comp=N,6µm,18.0s,MS6.1						
LVZ				MLR	MLR		
	comp=E,8µm,21.0s,MS6.1						
ODD1	**Odda**	**75.11**	**25**	*e*P	**P**	**17 27 07.6**	**-0.3**
ODD1				AMb	AMB	17 27 18.4	
	comp=Z,68nm,1.5s,mb5.4						
BLS5	**Blasjo**	**75.42**	**25**	*e*P	**P**	**17 27 10.1**	**+0.5**
BLS5				AMb	AMB	17 27 24.8	
	comp=Z,29nm,1.7s,mb4.9						
NB2	**NORSAR Subarra**	**75.73**	**22**	P	**P**	**17 27 10.8**	**-0.6**
	comp=Z,23nm,1.0s,mb5.1,baz=320,slow=5.8						
NB2	**NORSAR Subarra**	**75.73**	**22**	P	**P**	**17 27 10.8**	**-0.6**
	baz=320,slow=5.9						
NB2	**NORSAR Subarra**	**75.73**	**22**	P	**P**	**17 27 10.8**	**-0.6**
	comp=Z,23nm,1.0s,mb5.1						
NOA	**NORSAR Array B**	**75.73**	**22**	P	**P**	**17 27 11.1**	**-0.3**
	comp=Z,4.5nm,0.9s,mb4.4,baz=320,slow=5.9,SNR=7.0						
NOA				LR	LR	18 00 46.5	
	comp=Z,8µm,21.8s,MS6.0,baz=310,slow=36						
NOA	**NORSAR Array B**	**75.73**	**22**	P	**P**	**17 27 11.1**	**-0.3**
NOA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
NOA				MLR	MLR		
	comp=Z,8µm,21.8s						
LVC	**Limon Verde**	**75.74**	**132**	*e*P	**P**	**17 27 12.3**	**+0.1**
	comp=Z,30nm,1.3s,mb5.1						
LVC				LR	LR		
	comp=Z,1µm,20.0s,MS5.2						
BOD	**Bodaibo**	**76.23**	**333**	*e*P	**P**	**17 27 11.6**	**-2.7**
KONO	**Kongsberg**	**76.30**	**24**	PFAKE		17 27 20.0	+5.4
KONO				LR	LR		
	comp=Z,14µm,20.0s,MS6.3						
MAJO	**Matsushiro**	**77.60**	**306**	*e*P	**P**	**17 27 21.3**	**-1.1**
	comp=Z,36nm,1.1s,mb5.2						
MAJO				LR	LR		
	comp=Z,3µm,21.0s,MS5.6						
MAT	**Matsushiro**	**77.60**	**306**	P	**P**	**17 27 18.8**	**-3.5**
MAT				S	S	17 37 11.0	-1.7
MAT	**Matsushiro**	**77.60**	**306**	*e*P	**P**	**17 27 19.0**	**-3.3**
MAT				*e*S	S	17 37 11.0	-1.7
MAT				LR	LR		
	comp=Z,3µm,20.0s,MS5.6						
MDJ	**Mudanjiang**	**78.00**	**317**	P	**P**	**17 27 24.0**	**-0.3**
MDJ				AP	pP	17 27 29.3	+2.2
MDJ				XP	sP	17 27 32.8	+4.7
MDJ				PP	PP	17 30 16.8	-5.8
MDJ				AMB	AMB		
	comp=Z,613nm,5.9s						
MDJ				LR	LR		
	comp=E,4µm,19.4s						
MDJ				LR	LR		
	comp=Z,5µm,20.6s,MS5.8						
JHJ	**Hachijo jima 2**	**78.52**	**302**	LR	LR	17 57 49.1	
	comp=Z,4µm,19.0s,MS5.8,baz=131,slow=32						
MUD	**Monsted U'grnd**	**78.61**	**26**	*i* P	**P**	**17 27 28.4**	**+1.0**
	comp=Z,40nm,1.1s,mb5.3						
	comp=Z,10µm,19.0s						
MUD	**Monsted U'grnd**	**78.61**	**26**	*e*P	**P**	**17 27 28.4**	**+1.0**
	comp=Z,40nm,1.1s,mb5.3						
KAF	**Kangasniemi**	**78.77**	**15**	*e*p	**P**	**17 27 24.0**	**-4.2**
	comp=Z,9.5nm,0.7s,mb4.8						
KAF	**Kangasniemi**	**78.77**	**15**	*e*P	**P**	**17 27 24.0**	**-4.2**
KAF				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.8						
BST	**Brest**	**78.84**	**38**	*e*P	**P**	**17 27 31.9**	**+3.0**
ROSF	**Rostrenen**	**79.21**	**37**	*e*P	**P**	**17 27 30.7**	**-0.2**
	comp=Z,43nm,1.1s,mb5.0						
FINES	**FINESS Array B**	**79.32**	**16**	P	**P**	**17 27 30.3**	**-0.9**
	comp=Z,8.7nm,0.8s,mb4.7,slow=5.7,SNR=16						
FINES				LR	LR	18 04 33.7	
	comp=Z,11µm,20.5s,MS6.2,baz=150,slow=37						
FINES	**FINESS Array B**	**79.32**	**16**	P	**P**	**17 27 30.3**	**-0.9**
FINES				pmax	pmax		
	comp=Z,9.0nm,0.8s						
FINES				MLR	MLR		
	comp=Z,11µm,20.5s						
QUIF	**Quistinic**	**79.55**	**38**	*e*P	**P**	**17 27 32.9**	**+0.2**
	comp=Z,112nm,1.2s,mb5.4						
SGMF	**Saint Gilles**	**79.61**	**37**	*e*P	**P**	**17 27 32.9**	**-0.2**
EMAZ	**Mazaricos**	**79.73**	**44**	P	**P**	**17 27 39.9**	**+6.1**
	comp=Z,66nm,1.7s,mb5.3						
HIA	**Hailar**	**79.98**	**325**	*e*P	**P**	**17 27 33.8**	**-1.2**
	comp=Z,36nm,1.4s,mb5.1						
STS	**Santiago**	**80.01**	**44**	P	**P**	**17 27 41.5**	**+6.2**
	comp=Z,9.1nm,0.7s,mb4.8						
FLN	**La Foliniere**	**80.26**	**36**	*e*P	**P**	**17 27 36.8**	**+0.3**
	comp=Z,51nm,1.1s,mb5.1						
FLN				*e*R			
	comp=Z,14µm,18.5s						
CBIJ	**Chichi jima**	**80.27**	**296**	LR	LR	17 55 59.9	
	comp=Z,4µm,21.3s,MS5.7,baz=46,slow=30						
GRR	**Gorron**	**80.34**	**36**	*e*P	**P**	**17 27 37.5**	**+0.5**
	comp=Z,114nm,1.1s,mb5.4						
COP	**Copenhagen**	**80.36**	**25**	*i* P	PcP	17 27 57.0	+13
	comp=Z,50nm,1.1s						
COP				*i*		17 38 20.5	
	comp=Z,6µm,21.0s						
COP	**Copenhagen**	**80.36**	**25**	*e*P	PcP	17 27 57.0	+13
COP				*i*		17 38 20.5	
COP				LR	LR		
	comp=Z,6µm,21.0s,MS5.9						
EPON	**Pontenova**	**80.51**	**43**	P	**P**	**17 27 42.0**	**+4.0**
LDF	**La Druitiere**	**80.55**	**36**	*e*P	**P**	**17 27 38.3**	**+0.2**
	comp=Z,86nm,1.2s,mb5.3						
CN2	**Changchun**	**80.81**	**318**	*e*P	**P**	**17 27 36.5**	**-3.0**
CN2				*e*AP	pP	17 27 41.3	-1.0
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
CN2				AMB	AMB		
	comp=Z,500nm,5.0s						
CN2				LR	LR		
	comp=N,3µm,18.0s,MS5.8						
CN2				LR	LR		
	comp=E,2µm,18.0s,MS5.8						
CN2				LR	LR		
	comp=Z,4µm,21.0s,MS5.8						
ELOB	**Lobios**	**80.94**	**44**	P	**P**	**17 27 45.0**	**+4.7**
	comp=Z,56nm,1.9s,mb5.2						
BSEG	**Bad Segeberg**	**80.99**	**27**	*e*P	**P**	**17 27 41.3**	**+1.1**
BSEG				pmax	pmax		
	comp=Z,56nm,0.9s,mb5.5						
ERUA	**La Rua**	**81.12**	**44**	P	**P**	**17 27 46.6**	**+5.4**
	comp=Z,30nm,0.9s,mb5.2						
WTSB	**Winterswijk**	**81.14**	**30**	*e*P	**P**	**17 27 42.5**	**+1.4**
	comp=Z,6.5nm,1.2s,mb4.4						
BAIF	**Baives**	**81.47**	**32**	*e*P	**P**	**17 27 43.4**	**+0.6**
	comp=Z,89nm,1.1s,mb5.3						
PVRL	**Vila Real**	**81.53**	**45**	*e*P	**P**	**17 27 44.6**	**+1.3**
	comp=Z,19nm,1.0s,mb5.0						
EARI	**Arriondas**	**81.59**	**42**	P	**P**	**17 27 50.2**	**+6.6**
	comp=Z,62nm,1.1s,mb5.5						
ECAL	**Calabor**	**81.64**	**44**	P	**P**	**17 27 50.1**	**+6.2**
	comp=Z,78nm,1.2s,mb5.5						
BSD	**Bornholm Skovb**	**81.66**	**24**	*i* P	**P**	**17 27 54.9**	**+11**
BSD				*i*		17 28 57.8	
	comp=Z,10µm,22.0s						
BSD	**Bornholm Skovb**	**81.66**	**24**	*e*P	**P**	**17 27 54.9**	**+11**
BSD				*i*		17 28 57.8	
HGN	**Heimansgroeve**	**81.68**	**31**	*e*P	**P**	**17 27 43.2**	**-0.7**
	comp=Z,5.4nm,1.6s,mb4.2						
HGN				*e*S	Sx	17 36 45.3	
GIVF	**Givet**	**81.70**	**32**	*e*P	**P**	**17 27 44.7**	**+0.6**
	comp=Z,99nm,1.1s,mb5.4						
PBRG	**Braganca**	**81.73**	**44**	*e*P	**P**	**17 27 46.1**	**+1.7**
	comp=Z,30nm,1.4s,mb5.0						
PVIS	**Viseu**	**81.79**	**45**	*e*P	**P**	**17 27 46.4**	**+1.7**
	comp=Z,33nm,1.0s,mb5.2						
MFF	**Saint Martin d**	**81.94**	**37**	*e*P	**P**	**17 27 45.7**	**+0.3**
	comp=Z,72nm,1.0s,mb5.3						
MTE	**Manteigas**	**82.19**	**45**	*e*P	**P**	**17 27 46.8**	**0.0**
	comp=Z,23nm,1.2s,mb5.0						
MTE				*e*S	S	17 38 02.1	+1.4
MTE				*e*LQ		17 50 17.3	
MTE				*e*LR	LR	17 53 42.0	
	comp=Z,6µm,19.5s						
MTE	**Manteigas**	**82.19**	**45**	*e*P	**P**	**17 27 47.3**	**+0.4**
	comp=Z,24nm,1.0s,mb5.1						
PTOM	**Tomar**	**82.20**	**46**	*e*P	**P**	**17 27 49.1**	**+2.2**
	comp=Z,26nm,1.1s,mb5.1						
PLOU	**Loures**	**82.23**	**47**	*e*P	**P**	**17 27 47.4**	**+0.4**
	comp=Z,35nm,0.7s,mb5.4						
ELAN	**Lanestosa**	**82.59**	**41**	P	**P**	**17 27 54.5**	**+5.6**
	comp=Z,83nm,1.9s,mb5.4						
PCBR	**Castelo Branco**	**82.60**	**46**	*e*P	**P**	**17 27 49.8**	**+0.9**
	comp=Z,15nm,1.1s,mb4.9						
WLF	**Walferdange**	**82.60**	**32**	*e*P	**P**	**17 27 49.3**	**+0.6**
	comp=Z,27nm,0.9s,mb5.3						
CLZ	**Clausthal**	**82.65**	**28**	*e*P	**P**	**17 27 50.6**	**+1.7**
	comp=Z,134nm,1.9s,mb5.7						
HYF	**Humbligny**	**82.80**	**35**	*e*P	**P**	**17 27 50.3**	**+0.5**
RUP	**Ruppelstein**	**82.96**	**31**	*e*P	**P**	**17 27 53.8**	**+3.2**
MEZF	**Maizieres J'vi**	**82.99**	**33**	*e*P	**P**	**17 27 51.4**	**+0.6**
EVO	**Evora**	**83.14**	**47**	*e*P	**P**	**17 27 52.4**	**+0.6**
	comp=Z,90nm,1.2s,mb5.4						
EVO				*e*R			
	comp=Z,7µm,18.8s						
SNY	**Shenyang**	**83.15**	**317**	⇑P	**P**	**17 27 55.5**	**+3.8**
SNY				LR	LR		
	comp=N,1µm,10.8s,MS5.8						
SNY				LR	LR		
	comp=E,2µm,11.2s,MS5.8						
TCF	**Toulx Ste Croi**	**83.31**	**36**	*e*P	**P**	**17 27 52.8**	**+0.4**
	comp=E,164nm,1.2s,mb5.6						
PTEO	**Sao Teotonio**	**83.35**	**48**	*e*P	**P**	**17 27 53.4**	**+0.5**
	comp=E,50nm,1.7s,mb5.3						
SSF	**Saint Saulge**	**83.35**	**35**	*e*P	**P**	**17 27 53.1**	**+0.4**
	comp=E,153nm,1.3s,mb5.6						
LOR	**Lormes**	**83.36**	**35**	*e*P	**P**	**17 27 53.2**	**+0.5**
	comp=E,183nm,1.2s,mb5.7						
LOR				*e*R			
	comp=E,23µm,21.5s						
BGF	**Bois d'Agland**	**83.41**	**36**	*e*P	**P**	**17 27 53.3**	**+0.3**
	comp=E,189nm,1.1s,mb5.7						
AVF	**Avril sur Loir**	**83.48**	**35**	*e*P	**P**	**17 27 53.5**	**+0.2**
	comp=E,118nm,1.1s,mb5.5						
PBEJ	**Beja**	**83.56**	**47**	*e*P	**P**	**17 27 56.4**	**+2.5**
	comp=E,17nm,1.8s,mb4.9						
LFF	**La Frestale**	**83.56**	**38**	*e*P	**P**	**17 27 54.5**	**+0.8**
	comp=E,265nm,1.2s,mb5.9						
EBAD	**Badajoz**	**83.58**	**46**	P	**P**	**17 27 59.0**	**+5.0**
	comp=E,95nm,2.3s,mb5.5						
THEF	**They Montfort**	**83.61**	**33**	*e*P	**P**	**17 27 54.2**	**+0.3**
EALK	**Alkurruntz**	**83.62**	**40**	P	**P**	**17 27 58.8**	**+4.7**
	comp=E,147nm,1.6s,mb5.9						
EGOM	**La Gomera**	**83.64**	**60**	P	**P**	**17 28 07.0**	**+12**
RJF	**Les Rejaudoux**	**83.68**	**37**	*e*P	**P**	**17 27 54.7**	**+0.4**
	comp=E,188nm,1.4s,mb5.7						
RJF				*e*R			
	comp=E,15µm,22.2s						
TOD	**Tromm**	**83.76**	**31**	*e*P	**P**	**17 27 55.3**	**+0.7**
SMF	**Signal de Mont**	**83.81**	**35**	*e*P	**P**	**17 27 55.2**	**+0.2**
	comp=E,109nm,1.2s,mb5.6						
LANF	**Langenberg**	**83.83**	**31**	*e*P	**P**	**17 27 57.0**	**+2.0**
SJPF	**Ste Jean**	**83.84**	**40**	*e*P	**P**	**17 27 55.7**	**+0.5**
	comp=E,89nm,1.4s,mb5.4						
HAU	**Haudompre**	**83.94**	**33**	*e*P	**P**	**17 27 56.0**	**+0.4**
	comp=E,128nm,1.1s,mb5.7						
HAU				*e*R			
	comp=E,17µm,20.5s						
GKP	**Gorka Klasztor**	**83.95**	**24**	*e*P	**P**	**17 27 56.9**	**+1.4**
GKP				*e**PP	pP	17 27 59.2	+0.9
GKP				*e*		17 28 02.7	
GKP				MLR	MLR		
	comp=Z,14µm,20.0s,MS6.3						
GKP	**Gorka Klasztor**	**83.95**	**24**	*e*P	**P**	**17 27 56.9**	**+1.4**
GKP				*e*pP	pP	17 27 59.2	+0.9
GKP				*e*PcP	PcP	17 28 02.7	+2.7
GKP				*e*S	S	17 38 31.6	+13
GKP				LR	LR		
	comp=Z,14µm,20.0s,MS6.3						
EBAJ	**Bajamar**	**84.01**	**59**	P	**P**	**17 27 54.8**	**-1.7**

LARF	**Larrau**	**84.02**	**40**	*e*P	**P**	**17 27 58.0**	**+1.9**
CCAN	**Las Canadas**	**84.02**	**60**	P	**P**	**17 28 05.0**	**+8.5**
	comp=Z,57nm,1.1s,mb5.6						
CDF	**Champ du Feu**	**84.03**	**32**	*e*P	**P**	**17 27 56.5**	**+0.5**
	comp=Z,91nm,1.1s,mb5.5						
WLS	**Welschbruch**	**84.07**	**32**	*e*P	**P**	**17 27 57.7**	**+1.5**
CLL	**Collm**	**84.07**	**27**	P	**P**	**17 27 56.7**	**+0.5**
	comp=Z,logA/T=1.2,mb5.1						
CLL				*i*		17 28 02.9	
CLL				*i*		17 28 06.3	
CLL				*i*		17 28 26.7	
CLL				*e*PP	PP	17 31 24.0	+12
CLL				*e*S	S	17 38 18.0	-1.3
CLL	**Collm**	**84.07**	**27**	*i* P	**P**	**17 27 56.7**	**+0.5**
CLL				*i*		17 28 02.9	
CLL				*e*S	S	17 38 18.0	-1.3
CLL				pmax	pmax		
	comp=Z,19nm,1.2s,mb5.1						
CLL				MLR	MLR		
	comp=Z,10µm,20.5s,MS6.2						
CLL	**Collm**	**84.07**	**27**	*i* P	**P**	**17 27 56.7**	**+0.5**
	comp=Z,19nm,1.2s,mb5.1						
CLL				*i*		17 28 02.9	
CLL				*e*S	S	17 38 18.0	-1.3
CLL				LR	LR		
	comp=Z,10µm,20.5s,MS6.2						
MOX	**Moxa**	**84.07**	**28**	*i* P	**P**	**17 27 57.1**	**+0.9**
	comp=Z,logA/T=1.7,mb5.6						
MOX				L		18 07 32.0	
MOX	**Moxa**	**84.07**	**28**	*e*P	**P**	**17 27 57.1**	**+0.9**
MOX				pmax	pmax		
	comp=Z,83nm,1.6s,mb5.6						
MOX				MLR	MLR		
	comp=Z,12µm,18.0s,MS6.3						
MOX	**Moxa**	**84.07**	**28**	*e*P	**P**	**17 27 57.1**	**+0.9**
	comp=Z,83nm,1.6s,mb5.6						
MOX				LR	LR		
	comp=Z,12µm,18.0s,MS6.3						
PYM	**Petit Puy Mans**	**84.08**	**36**	*e*P	**P**	**17 27 57.2**	**+0.9**
ECH	**Echery**	**84.13**	**32**	*e*P	**P**	**17 27 57.9**	**+1.3**
PALC	**Alcoutim**	**84.16**	**47**	*e*P	**P**	**17 27 58.0**	**+1.0**
	comp=Z,36nm,1.4s,mb5.3						
CAF	**Calviac**	**84.22**	**37**	*e*P	**P**	**17 27 57.5**	**+0.4**
	comp=Z,194nm,1.2s,mb5.8						
INCN	**Inchon**	**84.30**	**313**	PFAKE		17 28 10.0	+12
INCN				LR	LR		
	comp=Z,2µm,20.0s,MS5.6						
HINF	**Hinteralfeld**	**84.30**	**33**	*e*P	**P**	**17 27 57.7**	**+0.3**
	comp=Z,94nm,1.1s,mb5.5						
REYF	**Montagne du Re**	**84.31**	**40**	*e*P	**P**	**17 28 01.2**	**+3.6**
ETSF	**Etsaut**	**84.34**	**40**	*e*P	**P**	**17 27 58.6**	**+0.9**
	comp=Z,130nm,1.1s,mb5.7						
MOF	**Molkenrain**	**84.40**	**33**	*e*P	**P**	**17 27 59.9**	**+2.0**
EMIN	**Mina Concepcio**	**84.44**	**47**	P	**P**	**17 28 03.2**	**+4.9**
JNU	**Nakatsue**	**84.46**	**307**	P	**P**	**17 28 00.9**	**+2.4**
	comp=Z,28nm,0.5s,mb5.7,baz=225,slow=0.3,SNR=3.0						
BFO	**Black Forest**	**84.55**	**32**	*e*P	**P**	**17 27 59.2**	**+0.6**
BFO				pmax	pmax		
	comp=Z,37nm,1.0s,mb5.5						
BFO	**Black Forest**	**84.55**	**32**	*e*P	**P**	**17 27 59.2**	**+0.6**
	comp=Z,37nm,1.0s,mb5.5						
LABF	**Labassere**	**84.56**	**39**	*e*P	**P**	**17 28 04.2**	**+5.3**
STU	**Stuttgart**	**84.57**	**31**	P	**P**	**17 27 59.6**	**+0.9**
LBL	**Lubilhac**	**84.57**	**36**	*e*P	**P**	**17 27 59.7**	**+0.9**
VIEF	**Viey**	**84.65**	**40**	*e*P	**P**	**17 28 01.5**	**+2.2**
GRA1	**Grafenberg Arr**	**84.67**	**29**	*e*P	**P**	**17 28 00.9**	**+1.7**
	comp=Z,108nm,1.1s,mb5.9						
GRA1				LR	LR		
	comp=Z,15µm,19.3s,MS6.4						
GRF	**Grafenberg Arr**	**84.67**	**29**	*e*P	**P**	**17 28 00.9**	**+1.7**
GRF				pmax	pmax		
	comp=Z,108nm,1.1s,mb5.9						
GRF				MLR	MLR		
	comp=Z,15µm,19.3s,MS6.4						
EPF	**Esparros**	**84.71**	**39**	*e*P	**P**	**17 28 00.3**	**+0.7**
	comp=Z,149nm,1.4s,mb5.6						
NKC	**Novy Kostel**	**84.72**	**28**	*e*P	**P**	**17 27 59.7**	**+0.2**
NKC				*e*x	x	17 38 31.1	
NKC				LR		18 00 30.0	
	comp=Z,14nm,26.1s						
ESDC	**Sonseca Array**	**84.72**	**44**	P	**P**	**17 28 00.7**	**+0.9**
	comp=Z,3.3nm,0.7s,mb4.6,baz=308,slow=4.8,SNR=15						
ESDC				LR	LR	18 03 09.6	
	comp=Z,7µm,18.4s,MS6.1,baz=330,slow=34						
FELD	**Feldberg**	**84.76**	**32**	*e*P	**P**	**17 28 01.8**	**+2.1**
BRG	**Berggiesshubel**	**84.77**	**27**	*i* P	**P**	**17 28 00.9**	**+1.2**
BRG				*i*		17 28 06.9	
BRG				pmax	pmax		
	comp=Z,66nm,1.0s,mb5.7						
BRG				MLR	MLR		
	comp=N,19µm,20.9s,MS6.6						
BRG				MLR	MLR		
	comp=E,18µm,20.9s,MS6.6						
BRG				MLR	MLR		
	comp=Z,9µm,24.6s,MS6.1						
BRG	**Berggiesshubel**	**84.77**	**27**	*i* P	**P**	**17 28 00.9**	**+1.2**
	comp=Z,66nm,1.0s,mb5.7						
BRG				*i*		17 28 06.9	
BRG				*e*S	S	17 38 43.0	+17
BRG				LR	LR		
	comp=Z,9µm,24.6s,MS6.1						
CABF	**La Chapelle**	**84.87**	**34**	*e*P	**P**	**17 28 01.0**	**+0.7**
	comp=Z,64nm,1.2s,mb5.3						
SPAK	**Spaichingen**	**84.92**	**31**	*e*P	**P**	**17 28 02.5**	**+2.0**
ETOR	**Torete**	**85.00**	**42**	P	**P**	**17 28 04.4**	**+3.4**
	comp=Z,11nm,0.8s,mb5.0						
SUW	**Suwalki**	**85.16**	**21**	*e*P	**P**	**17 28 01.5**	**0.0**
SUW				e*PP	pP	17 28 03.6	-0.7
SUW				*e*	pP	17 28 05.2	+0.9
SUW				*e*		17 31 15.5	
SUW				MLR	MLR		
	comp=Z,19µm,21.0s,MS6.5						
ESAC	**San Caprasio**	**85.22**	**41**	P	**P**	**17 28 07.9**	**+5.7**
BDFB	**Brasilia**	**85.27**	**113**	P	**P**	**17 28 02.9**	**-0.1**
	comp=Z,3.5nm,0.6s,mb4.7,baz=272,slow=6.7,SNR=5.0						
BDFB				LR	LR	18 12 28.5	
	comp=Z,3µm,18.4s,MS5.7,baz=313,slow=40						
BDFB	**Brasilia**	**85.27**	**113**	P	**P**	**17 28 02.9**	**-0.1**
BDFB				pmax	pmax		
	comp=Z,4.0nm,0.6s						
BDFB				MLR	MLR		
	comp=Z,3µm,18.4s						
PVCC	**Panska Ves**	**85.28**	**27**	*e*P	**P**	**17 28 03.7**	**+1.5**
PVCC				*e*x	x	17 38 46.3	
PVCC				LR		18 08 40.0	
	comp=Z,7.2nm,18.0s						
PVCC	**Panska Ves**	**85.28**	**27**	*e*P	**P**	**17 28 03.7**	**+1.5**
PVCC				MLR	MLR		
	comp=Z,7µm,18.0s,MS6.1						
BAO	**Brasilia Array**	**85.29**	**113**	P	**P**	**17 28 04.0**	**+1.0**
EADA	**Adamuz**	**85.40**	**45**	P	**P**	**17 28 04.8**	**+1.7**
	comp=Z,5.9nm,0.8s,mb4.8						
MTLF	**Montolieu**	**85.44**	**38**	*e*P	**P**	**17 28 03.8**	**+0.6**
	comp=Z,174nm,1.3s,mb5.7						
ESPR	**Espera**	**85.52**	**47**	P	**P**	**17 28 10.0**	**+6.2**
VIVF	**Saint-Julien-l**	**85.53**	**36**	*e*P	**P**	**17 28 04.3**	**+0.7**
	comp=Z,37nm,1.0s,mb5.3						
EFAM	**Famara**	**85.59**	**57**	P	**P**	**17 28 19.5**	**+15**
KSP	**Ksiaz**	**85.65**	**26⇑**	*e*P	**P**	**17 28 05.3**	**+1.2**
KSP				e*PP	pP	17 28 10.0	+3.1
KSP				*e*S	S	17 38 43.0	+8.1
KSP				MLR	MLR		
	comp=Z,27µm,20.1s,MS6.6						
KSP	**Ksiaz**	**85.65**	**26⇑**	*e*P	**P**	**17 28 05.3**	**+1.2**
KSP				*e*pP	pP	17 28 10.0	+3.1
KSP				*e*S	S	17 38 43.0	+8.1
KSP				*e*SS	SS	17 43 58.0	-16
KSP				LR	LR		
	comp=Z,27µm,20.1s,MS6.6						
MOY	**Mondy**	**85.69**	**336**	*e*P	**P**	**17 28 11.2**	**+6.9**
CPUP	**Villa Florida**	**85.71**	**127**	P	**P**	**17 28 04.5**	**-0.4**
	comp=Z,8.8nm,0.9s,mb5.0,baz=345,slow=5.8,SNR=12						
CPUP				LR	LR	18 08 54.7	
	comp=Z,736nm,22.0s,MS5.0,baz=354,slow=38						
CPUP	**Villa Florida**	**85.71**	**127**	P	**P**	**17 28 04.6**	**-0.4**
CPUP				pmax	pmax		
	comp=Z,9.0nm,0.9s						
CPUP				MLR	MLR		
	comp=Z,736nm,22.0s						
PRU	**Pruhonice**	**85.71**	**27**	P	**P**	**17 28 05.6**	**+1.2**
	comp=Z,43nm,1.1s,mb5.6						
PRU				*e*PP	PP	17 31 27.7	+2.5
PRU				*e*S	S	17 38 48.2	+13
PRU				LR		18 03 00.0	
	comp=Z,6.2nm,16.0s						
PRU	**Pruhonice**	**85.71**	**27**	P	**P**	**17 28 05.6**	**+1.2**
PRU				*e*		17 31 27.7	
PRU				pmax	pmax		
	comp=Z,43nm,1.1s,mb5.6						
PRU				MLR	MLR		
	comp=Z,6µm,16.0s,MS6.1						
LASF	**Ste Croix**	**85.72**	**37**	*e*P	**P**	**17 28 05.4**	**+0.8**
	comp=Z,116nm,1.3s,mb5.7						
WET	**Wettzell**	**85.76**	**29**	*e*P	**P**	**17 28 05.7**	**+1.0**
WET				pmax	pmax		
	comp=Z,25nm,1.2s,mb5.3						
WET	**Wettzell**	**85.76**	**29**	*e*P	**P**	**17 28 05.7**	**+1.0**
	comp=Z,25nm,1.2s,mb5.3						
UPC	**Upice**	**85.83**	**26**	*e*P	**P**	**17 28 06.3**	**+1.3**
MNK	**Minsk**	**85.97**	**18**	*e*P	**P**	**17 28 04.0**	**-1.6**
MNK				*e*		17 38 34.0	
MNK				MLR	MLR		
	comp=Z,14µm,18.0s,MS6.4						
MNK				MLR	MLR		
	comp=N,6µm,18.0s,MS6.1						
MNK				MLR	MLR		
	comp=E,4µm,18.0s,MS6.1						
ZAK	**Zakamensk**	**85.97**	**334⇓**	*i*P	**P**	**17 28 05.7**	**0.0**
ELUQ	**Luque**	**85.99**	**46**	P	**P**	**17 28 11.6**	**+5.5**
	comp=E,3.6nm,0.3s,mb5.1						
LPL	**La Plagne**	**86.00**	**34**	*e*P	**P**	**17 28 07.2**	**+1.3**
	comp=E,13nm,0.8s,mb4.9						
LPG	**La Plagne**	**86.02**	**34**	*e*P	**P**	**17 28 07.4**	**+1.4**
	comp=E,32nm,1.1s,mb5.2						
GUMO	**Guam**	**86.03**	**284**	PFAKE		17 28 20.0	+13
GUMO				LR	LR		
	comp=Z,2µm,22.0s,MS5.5						
KHC	**Kasperske Hory**	**86.05**	**28**	*e*P	**P**	**17 28 07.0**	**+0.9**
KHC				*e*x	x	17 28 16.5	
KHC				*e*PP	PP	17 31 29.2	+1.3
KHC				*e*x	x	17 38 51.5	
KHC				LR		18 01 10.0	
	comp=Z,16nm,25.9s						
KHC	**Kasperske Hory**	**86.05**	**28**	*e*P	**P**	**17 28 07.0**	**+0.9**
KHC				*e*		17 31 29.2	
KHC				MLR	MLR		
	comp=Z,16µm,25.9s,MS6.3						
WAR	**Warsaw**	**86.05**	**23**	*e*P	**P**	**17 28 03.6**	**-2.4**
WAR				MLR	MLR		
	comp=Z,10µm,20.3s,MS6.2						
ORIF	**Oris-en-Rattie**	**86.05**	**35**	*e*P	**P**	**17 28 07.7**	**+1.5**
	comp=Z,17nm,0.8s,mb5.0						
ORIF				*e*R			
	comp=Z,17µm,21.8s						
DPC	**Dobruska-Polom**	**86.07**	**26**	*e*P	**P**	**17 28 07.5**	**+1.3**
DPC				*e*x	x	17 38 53.0	
DPC				LR		18 07 10.0	
	comp=Z,15nm,19.3s						
DPC	**Dobruska-Polom**	**86.07**	**26**	*e*P	**P**	**17 28 07.5**	**+1.3**
DPC				MLR	MLR		
	comp=Z,15µm,19.3s,MS6.4						
EMIR	**Miracle**	**86.12**	**39**	P	**P**	**17 28 07.8**	**+1.2**
	comp=Z,7.2nm,0.6s,mb5.1						
EMOS	**Mosqueruela**	**86.17**	**42**	P	**P**	**17 28 10.6**	**+3.6**
	comp=Z,24nm,0.9s,mb5.4						
MCGN	**Macugnaga**	**86.23**	**33**	*e*P	**P**	**17 28 13.4**	**+6.3**
EVIA	**Vianos**	**86.26**	**44**	P	**P**	**17 28 12.1**	**+4.7**
	comp=Z,7.7nm,0.8s,mb5.0						
EPOB	**Poblet**	**86.30**	**40**	P	**P**	**17 28 09.8**	**+2.3**
BNI	**Bardonecchia**	**86.32**	**35**	*e*P	**P**	**17 28 07.8**	**+0.2**
	comp=Z,2.4nm,0.6s,mb4.6						
GEC2	**GERESS Array S**	**86.33**	**28**	*e*P	**P**	**17 28 09.2**	**+1.7**
GEC2				pmax	pmax		
	comp=Z,45nm,1.8s,mb5.4						
GEC2	**GERESS Array S**	**86.33**	**28**	*e*P	**P**	**17 28 09.2**	**+1.7**
	comp=Z,45nm,1.8s,mb5.4						
GERES	**GERESS Array B**	**86.33**	**28**	P	**P**	**17 28 07.7**	**+0.2**
	comp=Z,4.3nm,1.1s,mb4.6,baz=323,slow=6.7,SNR=14						
GERES	**GERESS Array B**	**86.33**	**28**	P	**P**	**17 28 07.7**	**+0.2**
GERES				pmax	pmax		
	comp=Z,4.0nm,1.2s						
ELOJ	**Sierra Loja**	**86.34**	**46**	P	**P**	**17 28 14.8**	**+6.9**
EMIJ	**Mijas**	**86.37**	**47**	P	**P**	**17 28 12.7**	**+4.7**
EBR	**Ebro Roquetas**	**86.37**	**41**	*e*Ts		17 28 17.5	
EBR				*e*SNSN		17 55 58.0	
EJON	**La Jonquera**	**86.43**	**38**	P	**P**	**17 28 18.7**	**+11**
ORO	**Oropa**	**86.48**	**33**	*e*P	**P**	**17 28 12.7**	**+4.4**
EQES	**Quesada**	**86.51**	**45**	P	**P**	**17 28 11.4**	**+2.7**
ULN	**Ulaanbaatar**	**86.58**	**330**	PFAKE		17 28 20.0	+11
ULN				LR	LR		
	comp=Z,10µm,20.0s,MS6.2						
MBDF	**Montbardon**	**86.61**	**35**	*e*P	**P**	**17 28 09.7**	**+0.7**
	comp=Z,20nm,0.8s,mb5.1						
SMRF	**Simiane la Rot**	**86.62**	**36**	*e*P	**P**	**17 28 10.0**	**+1.0**
ERON	**Agron**	**86.63**	**46**	P	**P**	**17 28 13.4**	**+4.1**
VAI	**Varese**	**86.64**	**33**	*e*P	**P**	**17 28 17.7**	**+8.6**
EHUE	**Huescar**	**86.78**	**45**	P	**P**	**17 28 15.4**	**+5.4**
BRMO	**Bormio**	**86.86**	**32**	*e*P	**P**	**17 28 14.4**	**+4.2**
SONM	**Songino Array**	**86.87**	**331**	P	**P**	**17 28 10.7**	**+0.5**
	comp=Z,4.5nm,0.9s,mb4.7,baz=34,slow=4.5,SNR=9.9						
MOS	**Moscow**	**86.90**	**12**	*e*P	**P**	**17 28 11.4**	**+1.3**
MOS				*e*		17 31 34.8	
MOS				*e*PPP	PPP	17 33 39.6	+7.2
MOS				*e*		17 38 49.7	
MOS				*e*		17 39 46.8	
MOS				MLR	MLR		
	comp=Z,10µm,19.1s,MS6.2						
MOS				MLR	MLR		
	comp=N,8µm,19.2s						
MORC	**Moravsky Berou**	**86.98**	**26**	*e*P	**P**	**17 28 10.3**	**-0.3**
	comp=N,32nm,1.5s,mb5.3						
OKC	**Ostrava-Krasne**	**87.14**	**25**	*e*P	**P**	**17 28 13.5**	**+2.1**
OKC				*e*x	x	17 39 06.1	
OKC				LR		18 08 30.0	
	comp=N,10nm,18.3s						
OKC	**Ostrava-Krasne**	**87.14**	**25**	*e*P	**P**	**17 28 13.5**	**+2.1**
OKC				MLR	MLR		
	comp=Z,10µm,18.3s,MS6.3						
OBN	**Obninsk**	**87.30**	**13**	*e*P	**P**	**17 28 12.4**	**+0.3**
OBN				*e*		17 28 18.4	
OBN				*e*		17 31 37.1	
OBN				*i*		17 38 53.6	
OBN				pmax	pmax		
	comp=Z,40nm,1.6s,mb5.4						
OBN				MLR	MLR		
	comp=Z,8µm,15.0s,MS6.2						
OBN	**Obninsk**	**87.30**	**13**	*e*P	**P**	**17 28 11.2**	**-0.8**
	comp=Z,54nm,1.1s,mb5.7						
OBN				LR	LR		
	comp=Z,2µm,20.0s,MS5.6						
MOA	**Molln**	**87.36**	**29⇑**	*i*P	**P**	**17 28 16.7**	**+4.2**
	comp=Z,25nm,1.6s,mb5.2						
OJC	**Ojcow**	**87.39**	**24**	*e*P	**P**	**17 28 14.1**	**+1.5**
OJC				MLR	MLR		
	comp=Z,10µm,18.5s,MS6.2						
OJC	**Ojcow**	**87.39**	**24**	*e*P	**P**	**17 28 14.1**	**+1.5**
OJC				*e*S	Sx	17 39 33.5	
OJC				LR	LR		
	comp=Z,10µm,18.5s,MS6.2						
FRF	**La Foret Royal**	**87.44**	**36**	*e*P	**P**	**17 28 13.5**	**+0.5**
	comp=Z,34nm,1.1s,mb5.2						
AUTN	**L’Aution**	**87.47**	**35**	*e*P	**P**	**17 28 23.2**	**+10**
EBEN	**Beniarda**	**87.48**	**43**	P	**P**	**17 28 17.6**	**+4.2**
NVS	**Novosibirsk**	**87.49**	**347**	*e*P	**P**	**17 28 11.5**	**-1.5**
NVS				pmax	pmax		
	comp=Z,165nm,2.4s,mb5.8						
NVS				pmax	pmax		
	comp=N,48nm,1.5s						
NVS				pmax	pmax		
	comp=E,71nm,2.1s						
SAOF	**Saorge**	**87.54**	**35**	*e*P	**P**	**17 28 24.5**	**+11**
LMR	**La Mourre**	**87.55**	**36**	*e*P	**P**	**17 28 14.0**	**+0.5**
	comp=E,47nm,1.1s,mb5.3						
SBF	**Sospel**	**87.58**	**35**	*e*P	**P**	**17 28 14.1**	**+0.4**
SVE	**Sverdlovsk**	**87.74**	**359⇑**	*e*P	**P**	**17 28 14.0**	**-0.1**
SVE				pmax	pmax		
	comp=Z,80nm,2.7s,mb5.5						
SVE				MLR	MLR		
	comp=N,3µm,17.0s,MS5.8						
SVE				MLR	MLR		
	comp=E,2µm,17.0s,MS5.8						
SVE				MLR	MLR		
	comp=Z,8µm,17.0s,MS6.2						
CTI	**Castel Tesino**	**87.74**	**31**	*e*P	**P**	**17 28 19.5**	**+5.1**
SMOL	**Smolenice**	**88.00**	**27**	*e*P	**P**	**17 28 24.0**	**+8.4**
ZAL	**Zalesovo**	**88.04**	**345**	P	**P**	**17 28 17.0**	**+1.4**
ZAL				pmax	pmax		
	comp=Z,8.0nm,1.2s						
EIBI	**Ibiza**	**88.11**	**42**	P	**P**	**17 28 20.0**	**+3.7**
ARU	**Arti**	**88.13**	**1⇑**	*i*P	**P**	**17 28 16.3**	**+0.3**
ARU				*i*		17 31 43.0	
ARU				*e*S	S	17 38 44.4	-14
ARU				*i* SP	SP	17 40 00.2	-2.6
ARU				*e*SS	SS	17 44 52.5	+2.2
ARU				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb5.0						
ARU				MLR	MLR		
	comp=N,11µm,19.0s,MS6.3						
ARU				MLR	MLR		
	comp=Z,13µm,19.0s,MS6.3						
ARU				MLR	MLR		
	comp=E,3µm,18.0s,MS6.3						
ARU	**Arti**	**88.13**	**1**	*e*P	**P**	**17 28 15.4**	**-0.6**
	comp=E,18nm,1.2s,mb5.2						
ARU				LR	LR		
	comp=Z,3µm,20.0s,MS5.8						
ZST	**Bratislava**	**88.14**	**27**	*e*P	**P**	**17 28 22.7**	**+6.4**
ZST				*e*S	Sx	17 39 35.0	
ARSA	**Arzberg**	**88.33**	**28⇑**	*i*P	**P**	**17 28 19.7**	**+2.5**
	comp=Z,11nm,1.1s,mb5.0						
ROBS	**Robic**	**88.36**	**30**	*e*P	**P**	**17 28 25.6**	**+8.3**
BJI	**Beijing**	**88.38**	**320**	P	**P**	**17 28 16.3**	**-1.3**
BJI				SKS	SKS	17 38 43.5	-5.6
BJI				S	S	17 39 03.8	+2.8
BJI				SS	SS	17 44 56.0	+1.8
BJI				LR	LR		
	comp=N,3µm,19.7s,MS5.8						
BJI				LR	LR		
	comp=E,2µm,23.6s,MS5.8						
BJI				LR	LR		
	comp=Z,4µm,23.8s,MS5.8						
BJI	**Beijing**	**88.38**	**320**	P	**P**	**17 28 16.2**	**-1.4**
	comp=Z,4.0nm,0.9s,mb4.7						
BJI				SKS	SKS	17 38 43.6	-5.5
BJI				S	S	17 39 03.8	+2.8
BJI				SS	SS	17 44 55.9	+1.7
BJI				LR	LR		
	comp=Z,4µm,23.8s,MS5.8						
VYHS	**Vyhne**	**88.52**	**26**	*e*P	**P**	**17 28 24.4**	**+6.3**
VYHS				*e*S	S	17 39 10.9	+8.8
RCBR	**Riachuelo**	**88.84**	**98**	PFAKE		17 28 30.0	+10
RCBR				LR	LR		
	comp=Z,3µm,21.0s,MS5.7						
KWP	**Kalwaria**	**88.84**	**23**	*e*P	**P**	**17 28 18.6**	**-1.0**
KWP				e*PP	pP	17 28 22.2	-0.2
KWP				*e*		17 28 26.8	
KWP				MLR	MLR		
	comp=Z,10µm,20.8s,MS6.2						
JAVS	**Javornik**	**88.87**	**30**	*e*P	**P**	**17 28 32.5**	**+13**
CRVS	**Cervenica-Dubn**	**89.07**	**24**	*e*P	**P**	**17 28 29.0**	**+8.3**
CRVS				*e*S	Sx	17 39 37.5	
LVV	**L’vov**	**89.09**	**22**	*e*P	**P**	**17 28 19.5**	**-1.3**
LVV				*e*		17 31 53.2	
LVV				*e*		17 33 49.6	
LVV				*e*S	S	17 38 54.1	-13
LVV				MLR	MLR		
	comp=E,5µm,18.6s,MS6.3						
LVV				MLR	MLR		
	comp=N,8µm,18.0s,MS6.3						
LVV				MLR	MLR		
	comp=Z,9µm,18.0s,MS6.3						
KECS	**Kecovo**	**89.10**	**25**	*e*P	**P**	**17 28 28.5**	**+7.6**
VISS	**Visnje**	**89.25**	**30**	*e*P	**P**	**17 28 30.4**	**+8.7**
KOLS	**Kolonicke sedl**	**89.31**	**24**	*e*P	**P**	**17 28 28.5**	**+6.7**
VMG	**Vicchio**	**89.36**	**33**	*e*P	**P**	**17 28 35.1**	**+13**
PSZ	**Piszkesteto**	**89.38**	**26**	*e*P	**P**	**17 28 21.4**	**-0.8**
	comp=Z,25nm,1.0s,mb5.5						
SFI	**Santa Sofia**	**89.54**	**32**	*e*P	**P**	**17 28 27.0**	**+4.0**
BOJS	**Bojanci**	**89.67**	**30**	*e*P	**P**	**17 28 32.8**	**+9.3**
AKASG	**Malin Array Be**	**89.78**	**19**	P	**P**	**17 28 23.4**	**-0.6**
	comp=Z,2.2nm,0.7s,mb4.6,baz=323,slow=3.9,SNR=8.4						
AKASG				LR	LR	18 10 47.0	
	comp=Z,10µm,19.6s,MS6.2,baz=345,slow=37						
AKASG	**Malin Array Be**	**89.78**	**19**	P	**P**	**17 28 23.4**	**-0.6**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.7s						
AKASG				MLR	MLR		
	comp=Z,10µm,19.6s						
DZM	**Mont Dzumac**	**90.02**	**243**	*e*P	**P**	**17 28 27.5**	**+1.7**
DZM	**Mont Dzumac**	**90.02**	**243**	*e*P	**P**	**17 28 27.5**	**+1.7**
HHC	**Hu-ho-hao-te**	**90.09**	**323**	*e*P	**P**	**17 28 27.3**	**+1.6**
HHC				AP	pP	17 28 30.5	+2.0
HHC				XP	sP	17 28 31.8	+2.4
HHC				PP	PP	17 32 05.0	+3.6
HHC				AMB	AMB		
	comp=Z,21nm,2.5s,mb5.0						
HHC				AMB	AMB		
	comp=Z,342nm,4.5s						
HHC				LR	LR		
	comp=N,2µm,19.0s,MS5.8						
HHC				LR	LR		
	comp=E,3µm,16.7s,MS5.8						
HHC				LR	LR		
	comp=Z,2µm,19.0s,MS5.7						
NOUC	**Port Laguerre**	**90.14**	**243**	*e*P	**P**	**17 28 28.6**	**+2.2**
NOUC	**Port Laguerre**	**90.14**	**243**	*e*P	**P**	**17 28 28.6**	**+2.2**
JOW	**Kunigami**	**90.23**	**304**	LR	LR	18 04 40.6	
	comp=Z,5µm,19.8s,MS5.9,baz=124,slow=33						
PKSM	**Moragy**	**90.38**	**27**	*e*P	**P**	**17 28 27.0**	**+0.1**
TIA	**Tai’an**	**90.66**	**317**	*e*P	**P**	**17 28 28.5**	**+0.1**
VOR	**Voronezh**	**91.01**	**13**	P	**P**	**17 28 29.0**	**-0.6**
VOR				*e*		17 28 38.0	
VOR				pmax	pmax		
	comp=Z,50nm,1.8s,mb5.5						
BRVK	**Borovoye**	**91.04**	**354**	*e*P	**P**	**17 28 30.3**	**+0.6**
	comp=Z,13nm,0.9s,mb5.3						
BRVK				LR	LR		
	comp=Z,4µm,19.0s,MS5.8						
BVAR	**Borovoye Array**	**91.06**	**354**	P	**P**	**17 28 30.1**	**+0.3**
	comp=Z,5.5nm,1.0s,mb4.8,SNR=19						
BVAR				LR	LR	18 10 00.4	
	comp=Z,60nm,20.9s,baz=5.0,slow=36						
MNS	**Montasola**	**91.12**	**33**	*e*P	**P**	**17 28 41.0**	**+11**
TRQA	**Tornquist**	**91.17**	**138**	PFAKE		17 28 40.0	+9.3
TRQA				LR	LR		
	comp=Z,2µm,19.0s,MS5.5						
ZRNK	**Zerenda**	**91.25**	**354**	*e*P	**P**	**17 28 30.6**	**-0.1**
	comp=Z,19nm,1.0s,mb5.4						
SSE	**Sheshan**	**91.93**	**311**	*e*P	**P**	**17 28 30.8**	**-3.6**
SSE				S	S	17 39 31.3	-2.1
SSE				SS	SS	17 45 38.0	-7.2
SSE				AMB	AMB		
	comp=Z,17nm,0.7s,mb5.5						
SSE				AMB	AMB		
	comp=Z,250nm,4.4s						
SSE				LR	LR		
	comp=N,2µm,16.7s,MS5.9						
SSE				LR	LR		
	comp=E,3µm,16.7s,MS5.9						
SSE				LR	LR		
	comp=Z,2µm,14.4s,MS5.6						
SSE	**Sheshan**	**91.93**	**311**	*e*P	**P**	**17 28 30.8**	**-3.6**
	comp=Z,17nm,0.7s,mb5.5						
SSE				sP	sP	17 28 35.5	-2.6
SSE				S	S	17 39 31.3	-2.1
SSE				sS		17 39 37.8	
SSE				SS	SS	17 45 38.0	-7.2
SSE				LR	LR		
	comp=Z,2µm,14.4s,MS5.6						
SDI	**San Donato**	**92.16**	**33**	*e*P	**P**	**17 28 44.3**	**+9.1**
KURK	**Kurchatov**	**92.26**	**348**	*e*P	**P**	**17 28 35.9**	**+0.5**
KURK	**Kurchatov**	**92.26**	**348**	*e*P	**P**	**17 28 34.0**	**-1.4**
	comp=Z,14nm,1.0s,mb5.2						
KURK				LR	LR		
	comp=Z,2µm,19.0s,MS5.5						
NJ2	**Nanjing**	**92.67**	**313**	*e*P	**P**	**17 28 36.0**	**-1.8**
NJ2				AP	pP	17 28 39.0	-1.6
NJ2				XP	sP	17 28 43.0	+1.5
NJ2				PP	PP	17 32 20.0	-2.2
NJ2				S	S	17 39 36.0	-3.8
NJ2				LR	LR		
	comp=N,980nm,13.6s						
NJ2				LR	LR		
	comp=E,2µm,24.2s						
NJ2				LR	LR		
	comp=Z,2µm,21.0s						
DIVS	**Divcibare**	**92.68**	**27⇓**	*i*P	**P**	**17 28 38.1**	**+0.6**
KIS	**Kishinev**	**93.04**	**21**	*e*P	**P**	**17 28 44.0**	**+4.9**
KIS				*e*		17 28 52.0	
KIS				*e*		17 39 33.0	
KIS				MLR	MLR		
	comp=Z,12µm,23.0s,MS6.3						
KIS				MLR	MLR		
	comp=N,13µm,21.0s,MS6.4						
KIS				MLR	MLR		

	comp=E,5µm,19.0s,MS6.4						
KIS				MLR	MLR		
	comp=Z,10µm,23.0s						
URZ	**Urewera**	**93.70**	**224**	P	**P**	**17 28 43.5**	**+1.2**
	comp=Z,10nm,0.9s,mb5.3,baz=7.6,slow=15,SNR=2.2						
SKO	**Skopje**	**95.05**	**28**	*e*P	**P**	**17 28 55.0**	**+6.5**
MKAR	**Makanchi Array**	**95.32**	**345**	P	**P**	**17 28 48.9**	**-0.6**
	comp=Z,1.9nm,1.0s,mb4.5,baz=342,slow=3.8,SNR=5.6						
MKAR				LR	LR	18 15 08.8	
	comp=Z,6µm,20.0s,MS6.1,baz=9.2,slow=38						
MKAR	**Makanchi Array**	**95.32**	**345**	P	**P**	**17 28 48.9**	**-0.7**
MKAR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
MKAR				MLR	MLR		
	comp=Z,6µm,20.0s						
MKAR	**Makanchi Array**	**95.32**	**345**	P	**P**	**17 28 48.9**	**-0.7**
MKAR				LR	LR	18 15 08.8	
TATO	**Taipei**	**95.99**	**306**	PFAKE		17 29 00.0	+6.8
TATO				LR	LR		
	comp=Z,3µm,20.0s,MS5.8						
SIM	**Simferopol’**	**96.36**	**18**	*e*P	**P**	**17 28 54.0**	**-0.4**
SIM				*e*S	S	17 40 15.0	+3.9
SIM				*e*PS	PS	17 41 39.0	+1.3
SIM				MLR	MLR		
	comp=Z,21µm,19.0s,MS6.6						
XAN	**Xi’an**	**96.69**	**321**	P	**P**	**17 28 59.0**	**+2.8**
WMQ	**Urumqi**	**96.77**	**340**	*e*P	**P**	**17 28 55.5**	**-0.8**
WMQ				AP	pP	17 29 00.5	+1.4
WMQ				LR	LR		
	comp=N,4µm,25.0s,MS5.9						
WMQ				LR	LR		
	comp=E,3µm,24.8s,MS5.9						
WMQ				LR	LR		
	comp=Z,5µm,28.0s,MS5.8						
SNZO	**South Karori**	**97.13**	**223**	PFAKE		17 29 10.0	+12
SNZO				LR	LR		
	comp=Z,2µm,21.0s,MS5.6						
PMG	**Port Moresby**	**97.48**	**264**	P	**P**	**17 29 01.3**	**+1.1**
	comp=Z,9.8nm,0.8s,mb5.3,baz=236,slow=13,SNR=2.1						
PMG				LR	LR	18 05 09.9	
	comp=Z,5µm,21.9s,MS5.9,baz=37,slow=31						
PMG	**Port Moresby**	**97.48**	**264**	P	**P**	**17 29 01.3**	**+1.2**
PMG				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PMG				MLR	MLR		
	comp=Z,5µm,21.9s						
LZH	**Lanzhou**	**97.54**	**325**	*e*P	**P**	**17 28 59.5**	**-0.4**
LZH				AP	pP	17 29 02.0	-0.7
LZH				LR	LR		
	comp=N,4µm,14.9s						
LZH				LR	LR		
	comp=Z,8µm,18.1s,MS6.2						
LZH	**Lanzhou**	**97.54**	**325**	*e*P	**P**	**17 28 59.5**	**-0.4**
	comp=Z,78nm,1.4s,mb6.0						
LZH				pP	pP	17 29 02.0	-0.7
LZH				sP	sP	17 29 03.1	-0.5
LZH				PP	PP	17 32 59.2	-0.9
LZH				SKS	SKS	17 39 35.7	-5.2
LZH				*e*S	S	17 40 20.5	-0.8
LZH				sS		17 40 24.6	
LZH				SS	SS	17 47 01.4	-3.1
LZH				LR	LR		
	comp=Z,8µm,18.1s,MS6.2						
GOF	**Gofitskoye**	**98.12**	**12**	*e*P	**P**	**17 29 10.0**	**+7.7**
SOC	**Sochi**	**98.93**	**15**	*e*P	**P**	**17 29 04.3**	**-1.7**
SOC				*e*		17 29 09.8	
SOC				*e*		17 33 11.4	
SOC				*e*PPP	PPP	17 35 15.1	-3.9
SOC				*e*S	S	17 40 26.6	-6.2
SOC				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb5.2						
SOC				pmax	pmax		
	comp=N,5.0nm,0.5s						
SOC				pmax	pmax		
	comp=E,3.0nm,0.5s						
SOC				MLR	MLR		
	comp=Z,13µm,21.0s,MS6.4						
SOC				MLR	MLR		
	comp=N,12µm,22.0s,MS6.4						
SOC				MLR	MLR		
	comp=E,6µm,20.0s,MS6.4						
KIV	**Kislovodsk**	**99.13**	**12**	*e*P	**P**	**17 29 06.9**	**0.0**
KIV				*e*PPP	PPP	17 35 15.5	-5.2
KIV				*e*		17 39 45.1	
KIV				*e*SS	SS	17 47 26.5	-0.1
KIV				pmax	pmax		
	comp=N,4.0nm,0.8s						
KIV				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb5.0						
KIV	**Kislovodsk**	**99.13**	**12**	*i* P	**P**	**17 29 07.3**	**+0.4**
KIV				LR	LR		
	comp=Z,2µm,22.0s,MS5.5						
AAK	**Ala-Archa**	**100.79**	**349**	PFAKE		17 29 20.0	+5.5
AAK				LR	LR		
	comp=Z,2µm,19.0s,MS5.6						
BRTR	**Keskin Array B**	**101.10**	**20**	P	P	17 29 17.2	+1.2
	comp=Z,0.3nm,0.4s,baz=270,slow=5.8,SNR=2.2						
EFI	**East Falkland**	**102.69**	**146**	PFAKE		17 29 30.0	+7.2
EFI				LR	LR		
	comp=Z,535nm,19.0s,MS5.1						
GNI	**Garni**	**103.18**	**12**	PFAKE		17 29 40.0	+15
GNI				LR	LR		
	comp=Z,5µm,19.0s,MS6.0						
CTAO	**Charters Tower**	**104.17**	**255**	PFAKE		17 29 40.0	+10
CTAO				LR	LR		
	comp=Z,7µm,21.0s,MS6.2						
CSS	**Prodhromos**	**105.43**	**22**	PKP		17 33 52.1	
DBIC	**Dimbokro**	**106.24**	**69**	Pdiff	Pdif	17 29 40.5	+1.2
	comp=Z,12nm,1.3s,baz=268,slow=3.6,SNR=3.1						
DBIC	**Dimbokro**	**106.24**	**69**	P	Pdif	17 29 40.5	+1.2
DBIC				pmax	pmax		
	comp=Z,12nm,1.3s						
KMI	**Kunming**	**107.03**	**320**	*e*P		17 33 48.5	
KMI				PP	PP	17 34 09.3	-3.0
KMI				SS	SS	17 49 12.3	-3.3
KMI				LR	LR		
	comp=N,3µm,18.4s,MS5.9						
KMI				LR	LR		
	comp=E,2µm,15.9s,MS5.9						
KMI				LR	LR		
	comp=Z,4µm,17.0s,MS6.0						
KMI	**Kunming**	**107.03**	**320**	*e*PKP		17 33 48.5	
KMI				PP	PP	17 34 09.3	-3.0
KMI				SKS		17 41 00.2	
KMI				PS	PS	17 43 26.5	-1.8
QIZ	**Qiongzhong**	**107.71**	**310**	*e*PDIF	Pdif	17 29 40.0	-5.6
QIZ				*e*S		17 41 40.0	
QIZ				LR	LR		
	comp=N,1µm,27.5s,MS5.6						
QIZ				LR	LR		
	comp=E,2µm,25.3s,MS5.6						
QIZ				LR	LR		
	comp=Z,3µm,24.7s,MS5.8						
PMSA	**Palmer Station**	**109.42**	**158**	PFAKE		17 34 10.0	
PMSA				LR	LR		
	comp=Z,2µm,20.0s,MS5.6						
KKN	**Kakani**	**112.31**	**336**	*e*PKIKP	PKPdf	17 34 20.0	+17
GKN	**Gorkha**	**112.33**	**336**	*e*PKIKP	PKPdf	17 34 20.1	+17
	comp=Z,23nm,1.4s						
PKI	**Pulchoki**	**112.47**	**335**	*e*PKIKP	PKPdf	17 34 20.6	+17
	comp=Z,6.5nm,1.0s						
DMN	**Daman**	**112.54**	**336**	*e*PKIKP	PKPdf	17 34 20.7	+17
	comp=Z,4.6nm,0.9s						
KOLN	**Koldanda**	**112.88**	**337**	*e*PKIKP	PKPdf	17 34 21.2	+17
WRAB	**Tennant Creek**	**113.57**	**262**	*e*PKP	PKPdf	17 34 03.2	-2.9
WRAB				LR	LR		
	comp=Z,959nm,19.0s,MS5.4						
WB2	**Warramunga Arr**	**113.58**	**262**	*e*PKP	PKPdf	17 34 06.4	+0.3
WRA	**Warramunga Arr**	**113.58**	**262**	PKiKP		17 34 03.7	
	comp=Z,2.0nm,0.8s,baz=57,slow=1.9,SNR=11						
WRA	**Warramunga Arr**	**113.58**	**262**	*i* PKIKP	PKPdf	17 34 03.7	-2.5
WRA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
STKA	**Stephens Creek**	**113.80**	**247**	PKiKP		17 34 06.2	
	comp=Z,1.6nm,0.8s,baz=150,slow=3.0,SNR=3.3						
STKA	**Stephens Creek**	**113.80**	**247**	PKPdf	PKPdf	17 34 06.2	-0.1
CMAR	**Chiang Mai Arr**	**114.48**	**319**	PKP	PKPdf	17 34 07.2	-0.6
	comp=Z,2.5nm,1.1s,baz=337,slow=2.0,SNR=6.3						
CMAR	**Chiang Mai Arr**	**114.48**	**319**	PKIKP	PKPdf	17 34 07.3	-0.6
CMAR				pmax	pmax		
	comp=Z,3.0nm,1.2s						
TAU	**Tasmania Unive**	**114.83**	**234**	PFAKE		17 34 20.0	+12
TAU				LR	LR		
	comp=Z,592nm,20.0s,MS5.2						
ASPA	**Alice Springs**	**115.81**	**259**	*e*PKP	PKPdf	17 34 08.3	-2.1
FITZ	**Fitzroy Crossi**	**119.68**	**268**	*e*PKP	PKPdf	17 34 16.2	-1.7
	comp=Z,3.7nm,0.9s						
SBA	**Scott Base**	**121.24**	**194**	PFAKE		17 34 30.0	+10
SBA				LR	LR		
	comp=Z,2µm,19.0s,MS5.8						
TRIS	**Tristan da Cun**	**123.38**	**114**	PFAKE		17 34 30.0	+5.3
TRIS				LR	LR		
	comp=Z,1µm,19.0s,MS5.7						
QSPA	**South Pole Qui**	**125.62**	**180**	PFAKE		17 34 40.0	+12
QSPA				LR	LR		
	comp=Z,2µm,20.0s,MS5.8						
MBWA	**Marble Bar**	**126.02**	**269**	PFAKE		17 34 40.0	+10
MBWA				LR	LR		
	comp=Z,2µm,20.0s,MS5.9						
SNAA	**Sanae**	**132.14**	**158**	PKP	PKPdf	17 34 39.0	-1.7
	comp=Z,2.2nm,1.1s,baz=302,slow=1.7,SNR=10						
SNAA	**Sanae**	**132.14**	**158**	PKIKP	PKPdf	17 34 39.0	-1.6
SNAA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
SNAA	**Sanae**	**132.14**	**158**	*e*PKP	PKPdf	17 34 38.9	-1.7
PALK	**Pallekele**	**132.82**	**331**	PFAKE		17 34 50.0	+6.5
PALK				LR	LR		
	comp=Z,1µm,20.0s,MS5.6						
NWAO	**Narrogin (SRO)**	**133.01**	**256**	PFAKE		17 34 50.0	+6.7
NWAO				LR	LR		
	comp=Z,6µm,21.0s,MS6.3						
MBAR	**Mbarara**	**135.83**	**44**	PFAKE		17 35 00.0	+11
MBAR				LR	LR		
	comp=Z,936nm,21.0s,MS5.5						
CASY	**Casey**	**137.75**	**208**	PFAKE		17 35 00.0	+8.9
CASY				LR	LR		
	comp=Z,2µm,20.0s,MS5.8						
COCO	**West Island**	**139.10**	**296**	PFAKE		17 35 00.0	+5.1
COCO				LR	LR		
	comp=Z,332nm,20.0s,MS5.1						
TSUM	**Tsumeb**	**139.49**	**77**	PKP	PKPdf	17 34 52.5	-3.0
	comp=Z,0.5nm,0.3s,baz=117,slow=4.5,SNR=1.9						
TSUM	**Tsumeb**	**139.49**	**77**	PKP	PKPdf	17 34 52.5	-3.0
TSUM				LR	LR		
	comp=Z,4µm,21.0s,MS6.2						
KMBO	**Kilima Mbogo**	**139.69**	**36**	PKP	PKPdf	17 34 55.2	-0.9
	comp=Z,2.0nm,0.9s,baz=35,slow=24,SNR=2.5						
KMBO	**Kilima Mbogo**	**139.69**	**36**	PKP	PKPdf	17 34 55.2	-0.9
KMBO				LR	LR		
	comp=Z,3µm,21.0s,MS6.0						
MIR	**Mirnyy**	**143.66**	**202**	⇑*e*PKIKP	PKPdf	17 35 03.6	+2.2
MIR				pmax	pmax		
	comp=Z,35nm,1.5s						
MIR				MLR	MLR		
	comp=Z,2µm,17.0s,MS6.0						
LSZ	**Lusaka**	**145.22**	**62**	*e*PKP	PKPdf	17 35 03.8	-1.8
LSZ				LR	LR		
	comp=Z,4µm,20.0s,MS6.2						
SUR	**Sutherland**	**147.75**	**95**	PKPbc	PKPdf	17 35 10.9	+1.4
	comp=Z,18nm,1.0s,baz=315,slow=1.9,SNR=9.3						
SUR	**Sutherland**	**147.75**	**95**	*e*PKPbc	PKPdf	17 35 11.1	+1.7
SUR				LR	LR		
	comp=Z,812nm,20.0s,MS5.5						
MAW	**Mawson**	**148.09**	**182**	*e*PKP	PKPdf	17 35 10.3	+1.4
	comp=Z,41nm,0.9s						
MAW				*e*PKKP	PKKP	17 44 00.9	+3.3
MAW	**Mawson**	**148.09**	**182**	PKPbc	PKPdf	17 35 10.3	+1.4
	comp=Z,29nm,0.8s,baz=154,slow=3.7,SNR=19						
MAW	**Mawson**	**148.09**	**182**	PKP2	PKPab	17 35 10.3	-3.8
MAW				pmax	pmax		
	comp=Z,29nm,0.8s						

NEIC ***28*** *17:19:06.8, 35.86N×120.41W, h9^{km}, ML4.2(NCEDC), After NCEDC.*

ISC 28 17:19:04.5±1.7**, 35.80N**±0.07×**120.43W**±0.07**, h5**^{km}±12^{km}**, n27, σ0^{s}93**/27**, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LRV	**Little Rabbit**	**0.78**	**323**	*e*P	**Pg**	**17 19 20.5**	**+0.4**
SAO	**San Andreas Ge**	**1.27**	**320**	*e*P	**Pb**	**17 19 29.1**	**+0.7**
OMM	**Old Mammoth Mi**	**2.15**	**32**	*e*Pn	**Pn**	**17 19 41.7**	**+0.2**
MTUM	**Tungsten Hills**	**2.16**	**44**	*e*Pn	**Pn**	**17 19 41.1**	**-0.4**
CMB	**Columbia Colle**	**2.23**	**1**	*e*Pn	**Pn**	**17 19 42.5**	**-0.1**
LKC	**Lake Chabot**	**2.34**	**326**	*e*Pn	**Pn**	**17 19 44.0**	**-0.1**
DAC	**Darwin (Calif)**	**2.35**	**78**	*e*Pn	**Pn**	**17 19 44.6**	**+0.4**
SAC	**San Andreas**	**2.39**	**319**	*e*Pn	**Pn**	**17 19 44.3**	**-0.6**
MWC	**Mount Wilson**	**2.50**	**128**	*e*Pn	**Pn**	**17 19 47.2**	**+0.7**
NSHM	**Saint Helena R**	**3.22**	**328**	Pn	**Pn**	**17 19 55.8**	**-1.0**
TPH	**Tonopah**	**3.43**	**48**	Pn	**Pn**	**17 19 59.9**	**+0.3**
WCN	**Washoe City**	**3.53**	**8**	Pn	**Pn**	**17 20 02.9**	**+1.7**
TPNV	**Topopah Spring**	**3.56**	**70**	*e*Pn	**Pn**	**17 20 01.7**	**+0.1**
OHCM	**Honcut**	**3.63**	**347**	Pn	**Pn**	**17 20 03.4**	**+0.9**
HOPS	**Hopland**	**3.82**	**327**	*e*Pn	**Pn**	**17 20 03.9**	**-1.3**
PFO	**Pinyon Flat Ob**	**3.94**	**123**	*e*Pn	**Pn**	**17 20 07.2**	**+0.3**
PAHR	**Pah Rah Range**	**3.98**	**12**	Pn	**Pn**	**17 20 08.0**	**+0.4**
BEKR	**Beckwourth**	**4.06**	**1**	Pn	**Pn**	**17 20 09.0**	**+0.3**
BAR	**Barrett**	**4.40**	**134**	*e*Pn	**Pn**	**17 20 12.6**	**-0.9**
LDFC	**Landfair**	**4.40**	**98**	Pn	**Pn**	**17 20 13.1**	**-0.4**
NEN	**Nelson**	**4.55**	**90**	Pn	**Pn**	**17 20 15.8**	**+0.2**
TRCR	**Troy Canyon**	**4.63**	**55**	*e*Pn	**Pn**	**17 20 13.9**	**-2.9**
MOD	**Modoc**	**6.09**	**1**	Pn	**Pn**	**17 20 35.8**	**-1.6**
MDJ	**Mudanjiang**	**77.92**	**317**	P	**P**	**17 31 07.0**	**+2.2**
MDJ				XP	sP	17 31 18.5	+12
MDJ				S	S	17 40 57.3	0.0
MDJ				SKS	SKS	17 41 15.8	-2.4
MDJ				PS	PS	17 41 37.5	-1.1
MDJ				SS	SS	17 45 58.3	-2.5
CN2	**Changchun**	**80.73**	**318**	*e*P	**P**	**17 31 18.5**	**-1.5**
WMQ	**Urumqi**	**96.72**	**340**	*e*P	**P**	**17 32 37.0**	**0.0**
WMQ				AP	pP	17 32 42.0	+3.4
WMQ				XP	sP	17 32 45.0	+5.8
WMQ				PP	PP	17 36 34.5	+0.2
LZH	**Lanzhou**	**97.47**	**325**	*e*P	**P**	**17 32 41.3**	**+0.8**
LZH				PP	PP	17 36 40.0	-0.4

BJI ***28*** *17:24:13.3, 35.80N×120.30W, h6^{km}, mB5.1, mb4.7, Ms5.0, Msz4.8*

IDC ***28*** *17:24:15.4±0.9, 35.77N×120.21W, mb4.2/13, mb1 4.4/16, mb1mx4.2/26, ML3.6/3, Error ellipse: s-maj=20.4km s-min=13.1km az=56.0*

NEIC ***28*** *17:24:15.3, 35.81N×120.35W, h7^{km}, MW4.8(BRK), After NCEDC.*

ISC 28 17:24:13.5±0.6**, 35.73N**±0.05×**120.46W**±0.06**, h7**^{km}**, n54, σ1^{s}26**/53**, mb4.3**/15**, MS4.9**/1**, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LRV	**Little Rabbit**	**0.83**	**327**	*e*P	**Pb**	**17 24 31.2**	**+1.3**
SAO	**San Andreas Ge**	**1.31**	**323**	*e*P	**Pb**	**17 24 38.5**	**+0.5**
OMM	**Old Mammoth Mi**	**2.22**	**32**	*e*Pn	**Pn**	**17 24 51.4**	**0.0**
MTUM	**Tungsten Hills**	**2.23**	**43**	*e*Pn	**Pn**	**17 24 51.6**	**+0.2**
CMB	**Columbia Colle**	**2.30**	**1**	*e*Pn	**Pn**	**17 24 51.4**	**-1.0**
LKC	**Lake Chabot**	**2.38**	**328**	*e*Pn	**Pn**	**17 24 53.8**	**+0.1**
DAC	**Darwin (Calif)**	**2.38**	**76**	*e*Pn	**Pn**	**17 24 53.2**	**-0.5**
SAC	**San Andreas**	**2.43**	**320**	*e*Pn	**Pn**	**17 24 53.3**	**-1.0**
MWC	**Mount Wilson**	**2.48**	**127**	*e*Pn	**Pn**	**17 24 54.9**	**-0.1**
NSHM	**Saint Helena R**	**3.27**	**329**	*e*Pn	**Pn**	**17 25 05.0**	**-1.3**
TPH	**Tonopah**	**3.49**	**47**	*e*Pn	**Pn**	**17 25 08.8**	**-0.6**
TPNV	**Topopah Spring**	**3.61**	**69**	*e*Pn	**Pn**	**17 25 10.6**	**-0.5**
WCN	**Washoe City**	**3.61**	**9**	Pn	**Pn**	**17 25 10.1**	**-1.0**
OHCM	**Honcut**	**3.69**	**348**	*e*Pn	**Pn**	**17 25 11.6**	**-0.7**
HOPS	**Hopland**	**3.87**	**328**	*e*Pn	**Pn**	**17 25 13.7**	**-1.1**
PFO	**Pinyon Flat Ob**	**3.92**	**122**	*e*Pn	**Pn**	**17 25 14.4**	**-1.1**
PAHR	**Pah Rah Range**	**4.06**	**12**	Pn	**Pn**	**17 25 19.4**	**+1.9**
BEKR	**Beckwourth**	**4.13**	**1**	*e*Pn	**Pn**	**17 25 17.0**	**-1.5**
BAR	**Barrett**	**4.37**	**133**	*e*Pn	**Pn**	**17 25 20.7**	**-1.2**
LDFC	**Landfair**	**4.42**	**97**	*e*Pn	**Pn**	**17 25 18.9**	**-3.7**
NEN	**Nelson**	**4.57**	**89**	*e*Pn	**Pn**	**17 25 23.9**	**-0.8**
TRCR	**Troy Canyon**	**4.69**	**55**	Pn	**Pn**	**17 25 27.6**	**+1.1**
ARUT	**Antelope Range**	**6.00**	**68**	Pn	**Pn**	**17 25 49.3**	**+4.4**
MOD	**Modoc**	**6.17**	**1**	Pn	**Pn**	**17 25 46.3**	**-0.9**
YBH	**Yreka Blue Hor**	**6.25**	**344**	Pn	**Pn**	**17 25 51.0**	**+2.6**
	0.2nm,0.3s,baz=194,slow=4.2,SNR=3.1						
YBH				Lg		17 27 32.1	
	0.3nm,0.3s,baz=169,slow=12,SNR=2.7						
ELK	**Elko**	**6.47**	**38**	*e*Pn	**Pn**	**17 25 50.3**	**-1.3**
HUMO	**Hull Mountain**	**7.14**	**345**	Pn	**Pn**	**17 25 58.0**	**-3.0**
MVU	**Marysvale**	**7.14**	**65**	Pn	**Pn**	**17 26 01.9**	**+0.8**
MSU	**Marysvale**	**7.17**	**65**	Pn	**Pn**	**17 26 04.4**	**+3.0**
PDAR	**Pinedale Array**	**10.98**	**47**	Pn	**P**	**17 26 55.8**	**+1.7**
	0.0nm,0.3s,baz=252,slow=9.4,SNR=3.2						
PDAR				Lg		17 29 56.9	
	baz=227,slow=28,SNR=2.5						
PDAR	**Pinedale Array**	**10.98**	**47**	Pn	**P**	**17 26 55.8**	**+1.7**
PDAR				Lg		17 29 56.9	
TXAR	**Lajitas Array**	**15.52**	**110**	Pn	**P**	**17 27 57.3**	**+2.8**
	0.2nm,0.3s,baz=278,slow=8.8,SNR=11						
ULM	**Lac du Bonnet**	**22.96**	**43**	P	**P**	**17 29 18.2**	**-1.2**
	7.3nm,0.8s,mb4.1,baz=196,slow=12,SNR=3.0						
DLBC	**Dease Lake**	**23.59**	**347**	P	**P**	**17 29 28.7**	**+3.3**
	6.1nm,1.1s,mb4.0,baz=58,slow=22,SNR=3.4						
DLBC	**Dease Lake**	**23.59**	**347**	P	**P**	**17 29 28.7**	**+3.3**
YKA	**Yellowknife Ar**	**27.04**	**6**	P	**P**	**17 29 57.6**	**-0.3**
	1.9nm,0.9s,mb3.6,baz=220,slow=48,SNR=3.1						
SADO	**Sadowa**	**32.51**	**61**	P	**P**	**17 30 44.5**	**-2.3**
	14nm,1.1s,mb4.8,baz=327,slow=10.0,SNR=2.4						
ILAR	**Eielson Array**	**33.12**	**340**	P	**P**	**17 30 53.3**	**+1.3**
	2.5nm,0.9s,mb4.2,baz=153,slow=7.6,SNR=14						
INK	**Inuvik**	**33.45**	**351**	P	**P**	**17 30 55.7**	**+0.9**
	7.6nm,0.9s,mb4.6,baz=157,slow=7.5,SNR=5.4						
INK	**Inuvik**	**33.45**	**351**	P	**P**	**17 30 55.7**	**+0.9**
JTS	**JuntasAbangare**	**40.97**	**119**	P	**P**	**17 31 58.8**	**0.0**
	1.3nm,0.3s,mb4.0,baz=331,slow=23,SNR=1.6						
FRB	**Frobisher Bay**	**41.93**	**32**	P	**P**	**17 32 07.1**	**+1.1**
	12nm,0.8s,mb4.6,baz=232,slow=8.5,SNR=3.4						
LPAZ	**La Paz**	**71.61**	**127**	P	**P**	**17 35 38.5**	**+0.6**
	3.6nm,1.2s,mb4.2,baz=342,slow=7.0,SNR=4.9						
LPAZ	**La Paz**	**71.61**	**127**	P	**P**	**17 35 38.5**	**+0.6**
ARCES	**ARCESS Array B**	**72.12**	**12**	P	**P**	**17 35 40.3**	**+0.3**
	2.5nm,0.8s,mb4.2,baz=297,slow=2.7,SNR=4.9						
FINES	**FINESS Array B**	**79.42**	**16**	P	**P**	**17 36 21.6**	**+0.2**
	2.2nm,0.8s,mb4.2,slow=3.8,SNR=4.8						
CN2	**Changchun**	**80.77**	**318**	*e*P	**P**	**17 36 27.5**	**-1.5**
ESDC	**Sonseca Array**	**84.86**	**44**	P	**P**	**17 36 52.6**	**+2.5**
	0.3nm,0.4s,mb3.8,baz=297,slow=5.7,SNR=2.9						
SONM	**Songino Array**	**86.86**	**331**	P	**P**	**17 37 03.1**	**+3.3**
	0.6nm,0.6s,mb4.0,baz=63,slow=3.2,SNR=1.9						
HHC	**Hu-ho-hao-te**	**90.06**	**323**	*e*P	**P**	**17 37 19.5**	**+4.3**
HHC				AMB	AMB		
	comp=Z,8.0nm,0.5s,mb5.3						
HHC				AMB	AMB		
	comp=Z,230nm,5.2s						
WMQ	**Urumqi**	**96.78**	**340**	*e*P	**P**	**17 37 46.0**	**0.0**
WMQ				AP	pP	17 37 51.0	+2.8
WMQ				AMB	AMB		
	comp=Z,8.0nm,1.0s,mb5.1						
LZH	**Lanzhou**	**97.51**	**325**	*e*P	**P**	**17 37 49.8**	**+0.3**
LZH				PP	PP	17 41 48.5	-1.1
LZH				LR	LR		
	comp=E,263nm,15.2s						
LZH				LR	LR		
	comp=Z,376nm,17.9s,MS4.9						
LZH	**Lanzhou**	**97.51**	**325**	*e*P	**P**	**17 37 49.8**	**+0.3**
	comp=Z,23nm,1.5s						
LZH				pP	pP	17 37 52.1	+0.5
LZH				sP	sP	17 37 53.2	+0.9
LZH				PP	PP	17 41 48.5	-1.1
LZH				LR	LR		
	comp=Z,380nm,17.9s						
MAW	**Mawson**	**148.02**	**182**	PKPbc	PKPdf	17 44 00.7	+2.5
	comp=Z,2.2nm,0.7s,baz=140,slow=3.8,SNR=4.6						

MAN 28 17:25:22.5, 8.52N×123.71E, h32^{km}, mb4.0, ML2.8, MS2.5, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DCPH	**Dipolog City**	**0.35**	**280**	⇑*i*P	Pb	17 25 33.0	+2.1
DCPH				*i* S	Sb	17 25 38.5	+1.9
SNPH	**Sibulan**	**0.94**	**330**	*i* P	Sn	17 25 50.0	-2.0
TBP	**Tagbilaran**	**1.17**	**8**	*e*P	Pn	17 25 42.1	-0.8
TBP				*e*S	Sn	17 25 54.9	-3.0
GUIM	**Jordan**	**2.36**	**332**	*e*P	Pn	17 25 59.7	-0.3
GUIM				*e*S	Sn	17 26 28.4	+0.2
CUYO	**Cuyo Island**	**3.52**	**311**	*e*P	Pn	17 26 17.0	+0.6

NEIC ***28*** *17:27:04.4±3.2, 25.87S×179.74E, h474^{km}±32^{km}, mb4.3/6, Error ellipse: s-maj=34.7km s-min=15.1km az=222.0*

IDC ***28*** *17:27:05.3±6.2, 25.87S×179.69E, h485^{km}±62^{km}, mb3.5/5, mb1 3.6/6, mb1mx3.4/13, Error ellipse: s-maj=49.5km s-min=22.6km az=51.0*

ISC 28 17:27:00.4±5.6**, 25.7S**±0.2×**179.9E**±0.3**, h442**^{km}±55^{km}**, n19, σ1^{s}04**/14**, mb4.0**/9**, 1C-1D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	**Urewera**	**12.71**	**190**	P	**P**	**17 29 48.5**	**-0.5**
	0.7nm,0.3s,baz=127,slow=3.2,SNR=2.5						
URZ				S	**S**	**17 32 04.8**	**+0.8**
	0.5nm,0.3s,baz=89,slow=17,SNR=6.5						
CTA	**Charters Tower**	**31.40**	**273**	⇓*i*P	**P**	**17 32 45.5**	**+0.7**
	5.5nm,0.4s,mb4.2						
CTAO	**Charters Tower**	**31.40**	**273**	*e*P	**P**	**17 32 45.5**	**+0.7**
	8.9nm,0.4s,mb4.5						
STKA	**Stephens Creek**	**33.95**	**251**	*e*P	**P**	**17 33 06.0**	**-0.4**
	1.9nm,0.4s,mb3.8						
STKA	**Stephens Creek**	**33.95**	**251**	P	**P**	**17 33 05.8**	**-0.6**
	2.2nm,0.4s,mb3.8,baz=97,slow=10,SNR=12						
PMG	**Port Moresby**	**35.00**	**292**	P	**P**	**17 33 16.7**	**+1.4**
	13nm,0.9s,mb4.3,baz=132,slow=9.9,SNR=2.7						
ASAR	**Alice Springs**	**41.64**	**263**	P	**P**	**17 34 09.0**	**-0.8**
	3.3nm,0.5s,mb3.9,baz=92,slow=8.6,SNR=47						
WRAB	**Tennant Creek**	**42.17**	**268**	P	**P**	**17 34 12.9**	**-1.2**
	5.3nm,0.8s,mb3.9						
WRA	**Warramunga Arr**	**42.18**	**268**	P	**P**	**17 34 12.8**	**-1.4**
	6.1nm,0.7s,mb4.0,baz=101,slow=8.2,SNR=23						
WRA	**Warramunga Arr**	**42.18**	**268**	P	**P**	**17 34 12.8**	**-1.4**
KAKA	**Kakadu**	**46.41**	**277**	*e*P	**P**	**17 34 50.1**	**+2.8**
	24nm,1.5s,mb4.3						
QSPA	**South Pole Qui**	**64.37**	**180**	*e*P	**P**	**17 36 52.1**	**-0.3**
	3.7nm,0.6s,mb4.1						
SNAA	**Sanae**	**82.86**	**179**	P	**P**	**17 38 37.7**	**+0.2**
	0.5nm,0.9s,mb3.2,baz=242,slow=23,SNR=3.4						
FINES	**FINESS Array B**	**140.12**	**341**	PKhKP		17 45 30.8	
	3.5nm,1.1s,baz=135,slow=5.4,SNR=3.7						
NB2	**NORSAR Subarra**	**143.85**	**351**	PKP		17 45 43.2	
	0.4nm,0.4s,baz=16,slow=3.1						
NB2	**NORSAR Subarra**	**143.85**	**351**	⇑PKPab	PKPab	17 45 43.2	-1.7
NOA	**NORSAR Array B**	**143.85**	**351**	PKP	PKPdf	17 45 43.8	+0.6
	3.1nm,0.9s,baz=21,slow=2.6,SNR=7.7						
HFS	**Hagfors**	**144.30**	**348**	PKP	PKPdf	17 45 44.4	+0.4
	1.8nm,0.3s,baz=61,slow=3.7,SNR=30						
AKASG	**Malin Array Be**	**146.41**	**326**	PKPbc	PKPbc	17 45 49.5	-0.2
	1.0nm,0.5s,baz=42,slow=3.9,SNR=4.5						

DJA 28 17:33:28.6±0.8**, 8.33S×116.33E, h15**^{km}**, MD5.2**/4**, ML4.2**/3**, 1C-8D, Error ellipse: s-maj=20.0km s-min=13.9km az=137.0, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**0.26**	**235**	⇓*e*Pg	Pg	17 33 34.7	+0.2
	1µm,0.2s						
KEDI				⇓*e*Sg	Sg	17 33 38.4	-0.1
RATI	**Rata**	**0.88**	**244**	⇓*e*Pg	Pg	17 33 43.5	-2.9
	1µm,0.2s						
RATI				⇓*e*Sg	Sg	17 33 56.0	-2.3
INGI	**Ingas**	**1.27**	**248**	⇓*e*Pg	Pg	17 33 49.7	-4.4
	418nm,0.2s						
INGI	**Ingas**	**1.27**	**248**	⇓*e*Pn	Pn	17 33 50.1	-1.7
INGI				⇑*e*Sg	Sg	17 34 07.2	-3.9
KELI	**Kelakatan**	**1.83**	**274**	⇓*e*Pn	Pn	17 33 57.2	-2.6
	45nm,0.2s						
KELI				⇓*e*Sn	Sn	17 34 18.2	-4.6

NEIC 28 17:33:55.5, 35.82N×120.36W, h7^{km}**, ML3.7**(NCEDC)**, After NCEDC., Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LRV	**Little Rabbit**	**0.81**	**319**	*e*P	Pb	17 34 11.0	-0.4
SAO	**San Andreas Ge**	**1.29**	**317**	*e*P	Pb	17 34 18.6	-1.1
MTUM	**Tungsten Hills**	**2.11**	**43**	*e*P	Pn	17 34 31.8	+0.2
OMM	**Old Mammoth Mi**	**2.11**	**31**	*e*P	Pn	17 34 31.3	-0.3
CMB	**Columbia Colle**	**2.21**	**359**	*e*Pn	Pn	17 34 32.1	-1.0
DAC	**Darwin (Calif)**	**2.29**	**78**	*e*Pn	Pn	17 34 33.7	-0.4
LKC	**Lake Chabot**	**2.36**	**325**	*e*Pn	Pn	17 34 34.0	-1.2
SAC	**San Andreas**	**2.42**	**317**	*e*Pn	Pn	17 34 33.1	-2.9
MWC	**Mount Wilson**	**2.47**	**129**	*e*Pn	Pn	17 34 35.6	-1.2
MNV	**Mina**	**3.15**	**33**	Pn	Pn	17 34 45.0	-1.5
NSHM	**Saint Helena R**	**3.24**	**327**	*e*Pn	Pn	17 34 46.0	-1.8
TPH	**Tonopah**	**3.37**	**47**	*e*Pn	Pn	17 34 49.2	-0.4
TPNV	**Topopah Spring**	**3.50**	**70**	*e*Pn	Pn	17 34 50.9	-0.6
WCN	**Washoe City**	**3.51**	**8**	*e*Pn	Pn	17 34 50.7	-0.9
OHCM	**Honcut**	**3.62**	**346**	*e*Pn	Pn	17 34 52.1	-1.1
HOPS	**Hopland**	**3.84**	**327**	*e*Pn	Pn	17 34 54.1	-2.2

PFO	**Pinyon Flat Ob**	**3.90**	**123**	*e*Pn	Pn	17 34 54.6	-2.4
PAHR	**Pah Rah Range**	**3.96**	**11**	Pn	Pn	17 35 00.8	+2.9
BEKR	**Beckwourth**	**4.04**	**360**	*e*Pn	Pn	17 34 58.7	-0.4
BAR	**Barrett**	**4.37**	**135**	*e*Pn	Pn	17 35 00.9	-2.9
NEN	**Nelson**	**4.49**	**91**	*e*Pn	Pn	17 35 03.0	-2.5
WDC	**Whiskeytown Da**	**5.06**	**341**	Pn	Pn	17 35 12.5	-1.0
ARUT	**Antelope Range**	**5.89**	**68**	Pn	Pn	17 35 25.8	+0.6
MOD	**Modoc**	**6.08**	**0**	Pn	Pn	17 35 25.3	-2.7
MVU	**Marysvale**	**7.04**	**65**	Pn	Pn	17 35 42.9	+1.4
MSU	**Marysvale**	**7.06**	**65**	Pn	Pn	17 35 45.0	+3.2

NEIC 28 17:35:17.8, 35.95N×120.49W, h10^{km}, ML3.5(NCEDC), **After NCEDC., Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LRV	**Little Rabbit**	**0.64**	**318**	*e*P	Pb	17 35 30.2	-0.4
SAO	**San Andreas Ge**	**1.12**	**317**	*e*P	Pb	17 35 38.3	-0.5
MTUM	**Tungsten Hills**	**2.09**	**47**	*e*Pn	Pn	17 35 52.8	-0.6
LKC	**Lake Chabot**	**2.19**	**325**	*e*Pn	Pn	17 35 53.9	-0.9
SAC	**San Andreas**	**2.25**	**317**	Pn	Pn	17 35 54.5	-1.1
NSHM	**Saint Helena R**	**3.08**	**327**	Pn	Pn	17 36 06.5	-0.9
MNV	**Mina**	**3.10**	**36**	Pn	Pn	17 36 06.6	-1.2
TPNV	**Topopah Spring**	**3.56**	**72**	*e*Pn	Pn	17 36 12.9	-1.4
WDC	**Whiskeytown Da**	**4.90**	**341**	Pn	Pn	17 36 31.8	-1.5

IDC ***28*** *17:41:43.3±0.7, 48.07N×103.51E, mb4.0/10, mb1 4.2/10, mb1mx4.0/22, ML2.6/1, Error ellipse: s-maj=23.2km s-min=11.1km az=23.0*
MOS ***28*** *17:41:43.5±1.2, 48.07N×103.57E, h16^{km}, mb4.3/8, Error ellipse: s-maj=15.7km s-min=7.9km az=89.7*
BYKL ***28*** *17:41:43.6±0.3, 48.09N×103.42E, h6^{km}±19^{km}*
BJI ***28*** *17:41:46.3, 48.06N×103.67E, h39^{km}, mb4.1, ML4.2, Ms4.0*
NEIC ***28*** *17:41:48.9±1.0, 48.14N×103.65E, h43^{km}±11^{km}, mb4.2/10, Error ellipse: s-maj=10.7km s-min=6.2km az=208.0*
ISC 28 17:41:43.9±0.3, **48.08N**±0.03×**103.61E**±0.05, **h16^{km}, n87,** σ**1^{s}28**/133, **mb4.2**/22, **MS5.0**/3, **11C-4D, Mongolia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLGM	**Bulgan**	**0.72**	**356**	*e*Pg	**Pb**	**17 41 55.3**	**-2.2**
BLGM				*e*Sg	**Sb**	**17 42 04.3**	**-2.6**
TTS	**Tsetserleg**	**1.58**	**249**	*e*Pg	**Pn**	**17 42 10.9**	**-0.6**
TTS				*e*Sg	**Sn**	**17 42 28.6**	**-3.1**
SONM	**Songino Array**	**1.89**	**96**	Pn	**Pn**	**17 42 18.6**	**+2.7**
	266nm,0.3s,baz=277,slow=19,SNR=983						
SONM				Lg		17 42 45.6	
	2µm,0.3s,baz=274,slow=30,SNR=70						
ZAK	**Zakamensk**	**2.32**	**355**	*e*Pn	**Pn**	**17 42 23.4**	**+1.3**
ZAK				⇑*i*Pg	**Pn**	**17 42 25.3**	**+3.2**
ZAK				Pmax		17 42 30.0	
	697nm,0.6s						
ZAK				*e*Sn	**Sn**	**17 42 51.1**	**+0.6**
ZAK				*e*Sg	**Sn**	**17 42 55.2**	**+4.7**
ZAK				Smax		17 43 02.7	
	2µm,0.5s						
ZAK	**Zakamensk**	**2.32**	**355**	*e*PN	**Pn**	**17 42 23.2**	**+1.1**
ZAK				*e*		17 42 25.2	
ZAK				*e*S	**Sn**	**17 42 55.2**	**+4.7**
ZAK				pmax	pmax		
	comp=Z,723nm,0.9s						
ZAK				smax			
	comp=E,2µm,0.5s						
ULN	**Ulaanbaatar**	**2.33**	**94**	*e*Pn	**Pn**	**17 42 21.9**	**-0.3**
ULN				*e*Pg	**Pn**	**17 42 24.8**	**+2.6**
ULN				*e*Sg	**Sn**	**17 42 57.7**	**+7.0**
TLY	**Talaya**	**3.61**	**0**	*e*Pn	**Pn**	**17 42 41.4**	**+0.9**
TLY				⇑*i*Pg	**Pn**	**17 42 48.2**	**+7.7**
TLY				Pmax		17 42 56.0	
	comp=E,417nm,0.7s						
TLY				*e*Sn	**Sn**	**17 43 21.7**	**-1.4**
TLY				*e*Sg	**Sn**	**17 43 35.4**	**+12**
TLY				Smax		17 43 44.2	
	comp=E,1µm,0.8s						
TLY	**Talaya**	**3.61**	**0**	*e*PN	**Pn**	**17 42 41.4**	**+0.9**
TLY				*e*		17 42 48.1	
TLY				*e*		17 43 36.2	
TLY				pmax	pmax		
	comp=Z,410nm,0.7s						
TLY				smax			
	comp=N,2µm,0.8s						
TSC	**Tosontsengel**	**3.63**	**283**	*e*Pn	**Pn**	**17 42 39.3**	**-1.5**
TSC				*e*Pg	**Pb**	**17 42 46.4**	**-0.9**
TSC				*e*Sg	**Sn**	**17 43 31.4**	**+7.6**
LSTR	**Listvyanka**	**3.88**	**11**	*e*Pg	**Pn**	**17 42 52.8**	**+8.5**
LSTR				Pmax		17 42 59.9	
	comp=N,176nm,0.6s						
LSTR				*e*		17 43 23.2	
LSTR				*e*Sg	**Sn**	**17 43 43.8**	**+14**
LSTR				Smax		17 43 49.9	
	comp=N,983nm,1.0s						
LSTR	**Listvyanka**	**3.88**	**11**	*e*PN	**Pn**	**17 42 52.9**	**+8.6**
LSTR				*e*		17 43 44.4	
LSTR				pmax	pmax		
	comp=Z,176nm,0.7s						
LSTR				smax			
	comp=E,1µm,1.0s						
BTMB	**Babushkin**	**3.90**	**21**	⇑*i*Pn	**Pn**	**17 42 45.0**	**+0.4**
BTMB				⇑*i*Pg	**Pn**	**17 42 54.0**	**+9.4**
BTMB				Pmax		17 42 59.9	
	comp=E,332nm,0.5s						
BTMB				*e*Sg	**Sn**	**17 43 44.4**	**+14**
BTMB				Smax		17 43 52.1	
	comp=E,3µm,0.8s						
ARS	**Arshan**	**3.92**	**349**	*e*Pn	**Pn**	**17 42 45.8**	**+0.9**
ARS				*e*Pg	**Pn**	**17 42 54.6**	**+10**
ARS				Pmax		17 43 01.8	
	comp=E,244nm,0.8s						
ARS				*e*Sg	**Sn**	**17 43 44.7**	**+14**
ARS				Smax		17 43 57.5	
	comp=E,1µm,1.6s						
ARS	**Arshan**	**3.92**	**349**	*e*PN	**Pn**	**17 42 45.4**	**+0.5**
ARS				*e*		17 42 54.6	
ARS				*e*		17 43 44.5	
ARS				pmax	pmax		
	comp=Z,249nm,0.6s						
ARS				smax			
	comp=N,1µm,1.1s						
MOY	**Mondy**	**3.97**	**336**	*e*Pn	**Pn**	**17 42 45.8**	**+0.2**
MOY				⇑*i*Pg	**Pn**	**17 42 54.0**	**+8.4**
MOY				Pmax		17 42 59.4	
	comp=N,108nm,0.6s						
MOY				*e*Sg	**Sn**	**17 43 46.4**	**+14**
MOY				Smax		17 43 56.5	
	comp=N,920nm,1.1s						
MOY	**Mondy**	**3.97**	**336**	*e*PN	**Pn**	**17 42 42.6**	**-3.0**
MOY				*e*		17 42 54.1	
MOY				*e*S	**Sn**	**17 43 46.4**	**+14**
MOY				pmax	pmax		
	comp=Z,108nm,0.4s						
MOY				smax			
	comp=E,920nm,1.2s						
HRMR	**Khuramsha**	**4.16**	**30**	*e*Pn	**Pn**	**17 42 49.2**	**+0.8**
HRMR				*e*		17 42 53.8	
HRMR				*e*Pg	**Pn**	**17 42 59.4**	**+11**
HRMR				Pmax		17 43 06.3	
	comp=E,596nm,0.6s						
HRMR				*e*Sn	**Sn**	**17 43 38.2**	**+1.0**
HRMR				*e*Sg	**Sn**	**17 43 53.8**	**+17**
HRMR				Smax		17 43 59.9	
	comp=E,6µm,0.7s						
IRK	**Irkutsk**	**4.19**	**6**	*e*Pn	**Pn**	**17 42 48.5**	**-0.3**
IRK				⇑*i*Pg	**Pn**	**17 42 59.2**	**+10**
IRK				Pmax		17 43 05.9	
	comp=E,496nm,0.6s						
IRK				*e*Sg	**Sn**	**17 43 52.3**	**+14**
IRK				Smax		17 44 00.5	
	comp=E,3µm,1.0s						
IRK	**Irkutsk**	**4.19**	**6**	*e*PN	**Pn**	**17 42 58.9**	**+10**
IRK				*e*		17 43 52.6	
IRK				pmax	pmax		
	comp=Z,501nm,0.4s						
IRK				smax			
	comp=E,3µm,0.9s						
KAB	**Kabansk**	**4.44**	**25**	*e*Pn	**Pn**	**17 42 52.9**	**+0.7**
KAB				*e*Pg	**Pn**	**17 43 04.9**	**+13**
KAB				Pmax		17 43 22.8	
	comp=E,311nm,0.8s						
KAB				*e*Sg	**Sn**	**17 44 02.4**	**+18**
KAB				Smax		17 44 18.1	
	comp=E,5µm,0.9s						
KAB	**Kabansk**	**4.44**	**25**	*e*PN	**Pn**	**17 43 03.1**	**+11**
FFNB	**Fofonovo**	**4.46**	**26**	*e*Pn	**Pn**	**17 42 54.5**	**+1.9**
FFNB				*e*Pg	**Pn**	**17 43 04.2**	**+12**
FFNB				Pmax		17 43 09.6	
	comp=E,49nm,0.1s						
FFNB				*e*Sg	**Sn**	**17 44 02.8**	**+18**
FFNB				Smax		17 44 07.1	
	comp=E,3µm,1.3s						
DZD	**Dalandzadgad**	**4.54**	**173**	*e*Pn	**Pn**	**17 42 52.9**	**-0.8**
DZD				*e*Pg	**Pb**	**17 43 06.0**	**+3.2**
DZD				*e*Sg	**Sb**	**17 44 05.5**	**+7.8**
TRTB	**Turuntaevo**	**4.90**	**30**	*e*Pn	**Pn**	**17 42 59.1**	**+0.3**
TRTB				⇑*i*		17 43 03.7	
TRTB				⇑*i*Pg	**Pn**	**17 43 11.9**	**+13**
TRTB				⇑*i*		17 43 15.8	
TRTB				max		17 43 16.0	
	comp=E,409nm,0.6s						
TRTB				*e*Sg	**Sn**	**17 44 15.6**	**+20**
TRTB				Smax		17 44 31.3	
	comp=E,864nm,1.0s						
TRG	**Tyrgan**	**5.01**	**19**	*e*Pn	**Pn**	**17 43 00.4**	**+0.1**
TRG				*e*		17 43 05.3	
TRG				⇑*i*Pg	**Pn**	**17 43 13.5**	**+13**
TRG				Pmax		17 43 22.3	
	comp=E,82nm,1.4s						
TRG				*e*Sg	**Sn**	**17 44 19.2**	**+21**
TRG				Smax		17 44 39.9	
	comp=E,361nm,1.0s						
TRG	**Tyrgan**	**5.01**	**19**	*e*PN	**Pn**	**17 43 00.5**	**+0.2**
TRG				*e*		17 43 14.2	
TRG				*e*S	**Sn**	**17 43 56.9**	**-1.6**
TRG				*e*		17 44 17.8	
TRG				pmax	pmax		
	comp=Z,65nm,0.6s						
TRG				smax			
	comp=N,343nm,0.6s						
ORL	**Orlik**	**5.09**	**333**	*e*Pn	**Pn**	**17 43 01.4**	**0.0**
ORL				*e*Pg	**Pn**	**17 43 14.9**	**+13**
ORL				Pmax		17 43 20.3	
	comp=N,43nm,1.0s						
ORL				*e*Sg	**Sn**	**17 44 20.0**	**+20**
ORL				Smax		17 44 35.4	
	comp=N,239nm,1.0s						
ORL	**Orlik**	**5.09**	**333**	*e*PN	**Pn**	**17 43 15.1**	**+14**
ORL				*e*		17 44 20.1	
ORL				pmax	pmax		
	comp=Z,47nm,1.1s						
ORL				smax			
	comp=E,240nm,1.1s						
KPC	**Khapcheranga**	**6.01**	**71**	⇓*i*Pn	**Pn**	**17 43 13.5**	**-1.0**
KPC				⇓*i*Pg	**Pn**	**17 43 34.1**	**+20**
KPC				Pmax		17 43 38.9	
	comp=E,109nm,1.4s						
KPC				*e*Sn	**Sn**	**17 44 21.5**	**-2.2**
KPC				*e*Sg	Sn	17 44 52.9	+29
KPC				Smax		17 45 02.3	
	comp=E,814nm,1.3s						
KPC	**Khapcheranga**	**6.01**	**71**	*e*PN	**Pn**	**17 43 13.5**	**-1.0**
KPC				*e*		17 43 36.1	
KPC				*e*S	**Sn**	**17 44 21.5**	**-2.2**
KPC				*e*		17 44 52.9	
KPC				pmax	pmax		
	comp=Z,109nm,1.7s						
KPC				smax			
	comp=N,814nm,1.3s						
OGRR	**Ongureny**	**6.12**	**23**	*e*Pn	**Pn**	**17 43 14.9**	**-1.1**
OGRR				*e*		17 43 20.5	
OGRR				max		17 43 21.4	
	comp=N,67nm,0.9s						
OGRR				*e*		17 43 29.2	
OGRR				*e*Pg	Px	17 43 34.5	
OGRR				*e*Sg	Sx	17 44 55.3	
OGRR				Smax		17 45 12.2	
	comp=N,297nm,1.1s						
SYVR	**Suvo**	**6.90**	**34**	*e*Pn	**Pn**	**17 43 25.3**	**-1.7**
SYVR				*e*Pg	Px	17 43 48.6	
SYVR				Pmax		17 43 54.5	
	comp=N,73nm,1.0s						
SYVR				*e*Sg	Sx	17 45 20.6	
SYVR				Smax		17 45 29.0	
	comp=N,635nm,1.4s						
SYVR	**Suvo**	**6.90**	**34**	*e*PG	Px	17 43 48.1	
SYVR				*e*		17 45 17.2	
SYVR				pmax	pmax		
	comp=Z,47nm,0.5s						
SYVR				smax			
	comp=N,283nm,1.0s						
CIT	**Chita**	**7.52**	**55**	*e*Pg	Px	17 44 00.9	
CIT				*e*Sg	Sx	17 45 39.9	
CIT				Smax		17 46 04.1	
	comp=N,272nm,1.1s						
YLYR	**Ulyunkhan**	**8.28**	**32**	*i* Pn	**P**	**17 43 45.6**	**-0.7**
YLYR				*e*Pg	Px	17 44 13.4	
YLYR				Pmax		17 44 21.4	
	comp=N,29nm,0.8s						
YLYR				*e*Sn	**Sn**	**17 45 16.3**	**-4.1**
YLYR				*e*Sg	Sx	17 46 02.7	
YLYR				Smax		17 46 14.4	
	comp=N,241nm,2.3s						
YLYR	**Ulyunkhan**	**8.28**	**32**	*e*PN	**P**	**17 43 45.7**	**-0.6**
YLYR				*e*		17 44 13.5	
YLYR				*e*S	**Sn**	**17 45 16.5**	**-3.9**
YLYR				*e*		17 45 59.1	
YLYR				pmax	pmax		
	comp=Z,29nm,0.7s						
YLYR				smax			
	comp=N,243nm,2.0s						
NIZ	**Nizh Angarsk**	**8.53**	**23**	⇓*i*Pn	**P**	**17 43 49.4**	**-0.4**
NIZ				*e*Pg	Px	17 44 18.7	
NIZ				Pmax		17 44 18.9	
	comp=N,12nm,1.1s						
NIZ				*e*Sn	**Sn**	**17 45 20.8**	**-5.9**
NIZ				*e*Sg	Sn	17 46 10.2	+43
NIZ				Smax		17 46 29.8	
	comp=N,127nm,1.6s						
NIZ	**Nizh Angarsk**	**8.53**	**23**	*e*PN	**P**	**17 43 49.6**	**-0.2**
NIZ				*e*		17 44 18.8	
NIZ				*e*S	**Sn**	**17 45 20.6**	**-6.1**
GTA	**Gaotai**	**9.09**	**199**	*e*P	**P**	**17 43 58.5**	**+1.0**
GTA				AP		17 44 01.8	
GTA				S	**Sn**	**17 45 31.8**	**-8.6**
GTA				AMB	AMB		
	comp=Z,2.0nm,0.9s						
GTA				LR	LR		
	comp=E,170nm,5.4s						
KMO	**Kumora**	**9.11**	**28**	*e*Pn	**P**	**17 43 58.1**	**+0.3**
KMO				*e*Pg	Px	17 44 28.1	
KMO				Pmax		17 44 33.4	
	comp=E,11nm,0.6s						
KMO				*e*Sg	Sn	17 46 26.8	+46
KMO				Smax		17 46 55.0	
	comp=E,245nm,1.5s						
HHC	**Hu-ho-hao-te**	**9.19**	**139**	P	**P**	**17 43 58.8**	**-0.1**
HHC				S	**Sn**	**17 45 38.5**	**-4.5**
HHC				Smax			
	comp=N,64nm,1.0s						
HHC				Smax			
	comp=E,58nm,0.8s						
HHC				LR	LR		
	comp=N,585nm,15.5s						
HHC				LR	LR		
	comp=E,356nm,14.9s						
YOA	**Uoyan**	**9.48**	**29**	*e*Sg	Sx	17 46 40.6	
YOA				Smax		17 47 35.1	
	comp=E,829nm,2.0s						
UKT	**Uakit**	**9.67**	**36**	*e*Pn	**P**	**17 44 04.8**	**-0.6**
UKT				*e*	Px	17 44 17.6	
UKT				*e*		17 44 26.3	
UKT				⇓*i*Pg	P	17 44 39.6	+34
UKT				Pmax		17 44 43.2	
	comp=E,34nm,0.7s						
UKT				*e*Sg	Sn	17 46 45.2	+51
UKT				Smax		17 46 55.4	
	comp=E,154nm,1.5s						
SVKR	**Severomuysk**	**10.11**	**33**	*e*Sg	Sx	17 46 59.1	
SVKR				Smax		17 47 11.4	
	comp=E,463nm,1.4s						
NLYR	**Nelyaty**	**11.21**	**37**	*e*Pn	**P**	**17 44 25.7**	**-0.7**
NLYR				*e*Pg	Px	17 45 07.7	
NLYR				Pmax		17 45 13.0	
	comp=E,8.0nm,0.8s						
NLYR				*e*Sg	Sx	17 47 34.6	
NLYR				Smax		17 47 50.5	
	comp=E,278nm,1.0s						
BOD	**Bodaibo**	**11.58**	**29**	*e*Sg	Sx	17 47 44.4	
BOD				Smax		17 48 06.8	
	comp=E,59nm,2.3s						
TUP	**Tupik**	**12.04**	**52**	*e*Pn	**P**	**17 44 37.0**	**-0.7**
TUP				*e*Pg	Px	17 45 23.2	
TUP				*e*Sn	**S**	**17 46 47.3**	**-5.3**
TUP				*e*Sg	Sx	17 47 58.2	
TUP				Smax		17 48 34.3	
	comp=E,195nm,2.3s						
CRS	**Chara**	**12.54**	**40**	*e*Pn	**P**	**17 44 46.8**	**+2.3**
CRS				*e*Pg	Px	17 45 30.6	
CRS				*e*Sn	Sx	17 47 39.1	
CRS				*e*Sg	Sx	17 48 13.2	
CRS				Smax		17 48 41.9	
	comp=E,268nm,1.4s						
MKAR	**Makanchi Array**	**14.48**	**273**	Pn	**P**	**17 45 10.4**	**+0.4**
	comp=E,0.0nm,0.3s,baz=87,slow=16,SNR=2.0						
MKAR				Lg		17 49 18.3	
	comp=E,0.3nm,0.3s,baz=88,slow=30,SNR=10						
KURK	**Kurchatov**	**16.46**	**289**	*i* P	**P**	**17 45 38.4**	**+2.9**
KURK	**Kurchatov**	**16.46**	**289**	*e*P	**P**	**17 45 39.1**	**+3.5**
	comp=E,5.4nm,0.6s						
NJ2	**Nanjing**	**19.75**	**139**	*e*P	**P**	**17 46 14.0**	**-1.9**
YAK	**Yakutsk**	**20.25**	**37**	*e*P	**P**	**17 46 20.8**	**-0.2**
YAK				pmax	pmax		
	comp=Z,13nm,0.8s						
KS15	**Wonju Array Si**	**20.67**	**112**	*e*P	**P**	**17 46 25.3**	**-0.2**
AAK	**Ala-Archa**	**21.10**	**266**	*e*P	**P**	**17 46 30.1**	**+0.2**
	comp=Z,10.0nm,1.0s,mb4.1						
BVAR	**Borovoye Array**	**21.55**	**296**	P	**P**	**17 46 33.6**	**-0.8**
	comp=Z,1.8nm,0.6s,mb3.7,baz=90,slow=12,SNR=8.5						
BRVK	**Borovoye**	**21.62**	**296**	P	**P**	**17 46 34.8**	**-0.3**
SSE	**Sheshan**	**21.62**	**135**	*e*P	**P**	**17 46 34.5**	**-0.8**
SSE				XP		17 46 46.5	
SSE				S	**S**	**17 50 23.0**	**-6.1**
SSE				AMB	AMB		
	comp=Z,20nm,0.7s,mb4.7						
SSE				LR	LR		
	comp=N,960nm,22.4s,MS4.3						
SSE				LR	LR		
	comp=E,982nm,22.4s,MS4.3						
SSE	**Sheshan**	**21.62**	**135**	*e*P	**P**	**17 46 34.6**	**-0.7**
	comp=E,20nm,0.7s,mb4.7						
SSE				sP		17 46 46.6	
SSE				S	**S**	**17 50 22.9**	**-6.2**
SSE				sS		17 50 35.9	
ZRNK	**Zerenda**	**22.39**	**296**	*e*P	**P**	**17 46 42.6**	**-0.2**
	comp=E,7.9nm,0.7s,mb4.2						
KKN	**Kakani**	**24.76**	**222**	*e*P	**P**	**17 47 08.1**	**+2.0**
	comp=E,12nm,0.7s,mb4.6						
GKN	**Gorkha**	**24.87**	**223**	*e*P	**P**	**17 47 08.8**	**+1.7**
	comp=E,13nm,0.8s,mb4.5						
PKI	**Pulchoki**	**24.90**	**221**	*e*P	**P**	**17 47 08.4**	**+1.1**
	comp=E,9.5nm,0.5s,mb4.6						
DMN	**Daman**	**25.00**	**222**	*e*P	**P**	**17 47 09.0**	**+0.7**
	comp=E,15nm,0.8s,mb4.5						
KOLN	**Koldanda**	**25.55**	**225**	*e*P	**P**	**17 47 09.5**	**-4.0**
	comp=E,6.6nm,0.9s,mb4.2						
TIXI	**Tiksi**	**26.40**	**18**	*e*P	**P**	**17 47 21.8**	**+0.9**
TIXI				S	**S**	**17 51 50.1**	**-1.4**
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.0						
TIXI				MLR	MLR		
	comp=Z,9µm,17.0s,MS5.4						
CMAR	**Chiang Mai Arr**	**29.79**	**189**	P	**P**	**17 47 51.4**	**-0.7**
	comp=Z,0.4nm,0.7s,mb3.3,baz=355,slow=10.0,SNR=3.6						
KIV	**Kislovodsk**	**41.54**	**288**	*e*P	**P**	**17 49 33.6**	**+1.7**
KIV				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.2						
SOC	**Sochi**	**43.61**	**289**	*e*P	**P**	**17 49 49.4**	**+0.6**
SOC				*e*		17 51 33.1	
SOC				*e*S	**S**	**17 56 18.1**	**+1.0**
SOC				*e*SS	SS	17 59 24.8	-0.2
SOC				*e*SSS	SSS	18 00 19.2	+2.5
SOC				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.4						
SOC				pmax	pmax		
	comp=N,3.0nm,0.4s						
SOC				pmax	pmax		
	comp=E,10.0nm,1.1s						
SOC				MLR	MLR		
	comp=Z,6µm,29.0s,MS5.3						
SOC				MLR	MLR		
	comp=N,3µm,27.0s,MS5.5						
SOC				MLR	MLR		
	comp=E,6µm,25.0s,MS5.5						
FINES	**FINESS Array B**	**43.93**	**317**	P	**P**	**17 49 50.8**	**-0.4**
	comp=E,2.3nm,0.8s,mb4.0,baz=172,slow=27,SNR=2.7						
FINES	**FINESS Array B**	**43.93**	**317**	P	**P**	**17 49 50.8**	**-0.4**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ANN	**Anapa**	**44.45**	**292**	*ce*P	**P**	**17 50 01.1**	**+5.5**
ANN				*e*		17 50 08.3	
ANN				pmax	pmax		
	comp=Z,50nm,1.4s,mb5.0						
ANN				pmax	pmax		
	comp=Z,60nm,0.8s						
AKASG	**Malin Array Be**	**46.58**	**303**	P	**P**	**17 50 11.8**	**-0.6**
	comp=Z,1.2nm,0.5s,mb4.1,baz=56,slow=8.5,SNR=3.9						
AKASG	**Malin Array Be**	**46.58**	**303**	P	**P**	**17 50 11.9**	**-0.5**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BRTR	**Keskin Array B**	**49.51**	**288**	P	**P**	**17 50 35.6**	**+0.2**
	comp=Z,2.0nm,0.7s,mb4.2,baz=79,slow=6.3,SNR=8.5						
BRTR	**Keskin Array B**	**49.51**	**288**	P	**P**	**17 50 35.6**	**+0.2**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
HFS	**Hagfors**	**50.01**	**319**	P	**P**	**17 50 38.3**	**-0.6**
	comp=Z,1.9nm,0.6s,mb4.3,baz=63,slow=6.4,SNR=7.0						
HFS	**Hagfors**	**50.01**	**319**	P	**P**	**17 50 38.3**	**-0.6**
HFS				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NB2	**NORSAR Subarra**	**50.62**	**321**	P	**P**	**17 50 42.7**	**-0.9**
	comp=Z,1.5nm,0.7s,mb4.0,baz=59,slow=7.4						
NOA	**NORSAR Array B**	**50.62**	**321**	P	**P**	**17 50 42.9**	**-0.8**
	comp=Z,1.2nm,0.6s,mb4.0,baz=62,slow=7.5,SNR=4.8						
NOA	**NORSAR Array B**	**50.62**	**321**	P	**P**	**17 50 42.9**	**-0.7**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FITZ	**Fitzroy Crossi**	**68.77**	**157**	P	**P**	**17 52 49.0**	**-0.3**
	comp=Z,2.3nm,0.6s,mb4.3,baz=351,slow=16,SNR=3.7						
WRA	**Warramunga Arr**	**73.09**	**150**	P	**P**	**17 53 15.0**	**-0.3**
	comp=Z,1.3nm,0.7s,mb4.0,baz=345,slow=6.8,SNR=13						
WRA	**Warramunga Arr**	**73.09**	**150**	P	**P**	**17 53 15.0**	**-0.3**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ASAR	**Alice Springs**	**76.42**	**152**	P	**P**	**17 53 34.8**	**+0.5**
	comp=Z,1.4nm,0.8s,mb3.9,baz=345,slow=6.4,SNR=17						
LPAZ	**La Paz**	**147.58**	**345**	PKPbc	PKPdf	18 01 29.2	+0.7
	comp=Z,0.9nm,0.8s,baz=108,slow=2.9,SNR=3.1						
LPAZ	**La Paz**	**147.58**	**345**	PKP2	PKPab	18 01 29.2	-2.6
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.8s						

IDC ***28*** *17:49:00.7±0.6, 9.33N×126.26E, mb4.2/16, mb1 4.3/17, mb1mx4.1/27, ML4.8/1, Error ellipse: s-maj=27.1km s-min=12.1km az=69.0*
NEIC ***28*** *17:49:02.8±0.4, 9.39N×126.34E, h15^{km}, mb4.3/12, Error ellipse: s-maj=19.0km s-min=7.2km az=61.0*
MAN ***28*** *17:49:03.7, 9.39N×126.44E, h1^{km}, mb4.9, ML3.8, MS3.9*
ISC 28 17:49:06.3±0.7, **9.38N**±0.03×**126.51E**±0.06, **h58^{km}**±6^{km}, **n56,** σ**1^{s}22**/64, **mb4.3**/26, **4C-1D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.97**	**245**	*e*P	**P**	**17 49 21.5**	**-2.5**
SCPH	**Surigao**	**1.09**	**292**	⇑*e*P	**P**	**17 49 24.3**	**-1.4**
SCPH				*e*S	**S**	**17 49 38.1**	**-2.0**
SCPH	**Surigao**	**1.09**	**292**	⇓*e*P	**P**	**17 49 24.3**	**-1.4**
BIPH	**Bislig**	**1.19**	**187**	⇑*i*P	**P**	**17 49 26.6**	**-0.5**
BIPH				*i* S	**S**	**17 49 42.0**	**-0.6**
MSLP	**Maasin**	**1.79**	**295**	*e*P	**P**	**17 49 35.4**	**-0.2**
MSLP				*e*S	**S**	**17 49 53.8**	**-3.4**
BUKP	**Musuan**	**2.06**	**224**	*e*P	**P**	**17 49 39.5**	**+0.2**
BUKP				*e*S	**S**	**17 50 01.1**	**-2.8**
PLP	**Palo**	**2.33**	**320**	*e*P	**P**	**17 49 44.1**	**+1.0**
PLP				*e*S	**S**	**17 50 11.6**	**+1.0**
MATI	**Mati**	**2.43**	**186**	*e*P	**P**	**17 49 44.9**	**+0.5**
BESP	**Borongan**	**2.45**	**335**	*e*P	**P**	**17 49 42.7**	**-2.1**
OCLP	**Ormoc**	**2.50**	**312**	*e*P	**P**	**17 49 47.5**	**+1.9**
TBP	**Tagbilaran**	**2.63**	**277**	*i* P	**P**	**17 49 47.5**	**+0.2**
TBP				*e*S	**S**	**17 50 18.4**	**+0.3**

LLP	Lapu-Lapu	2.68	291	eP	P	17 49 47.5	-0.5
LLP				iS	S	17 50 22.0	+2.7
KCP	Kidapawan	2.74	211	⇑eP	P	17 49 50.1	+1.2
KCP				iS	S	17 50 22.5	+1.5
DCPH	Dipolog City	3.22	256	eP	P	17 49 58.0	+2.3
SNPH	Sibulan	3.23	270	eP	P	17 49 56.5	+0.6
PAGZ	Pagadian	3.45	244	eP	P	17 49 59.8	+0.9
CNP	Catarman	3.60	330	eP	P	17 50 01.2	+0.1
GUIM	Jordan	4.06	288	eP	P	17 50 07.4	0.0
IPIL	Ipil	4.20	248	eP	P	17 50 11.0	+1.5
RCP	Roxas	4.29	301	⇑eP	P	17 50 12.5	+1.7
KALP	Kalibo	4.70	300	eP	P	17 50 16.2	-0.2
PVCP	Virac	4.79	331	eP	P	17 50 17.6	-0.1
TGY	Tagaytay City	7.20	311	Pn	P	17 50 43.2	-8.1
	19nm,0.3s,baz=139,slow=11,SNR=3.0						
CAUP	Cauayan	8.80	329	eP	P	17 51 12.1	-1.2
KAKA	Kakadu	22.70	165	eP	P	17 54 09.8	+5.7
	9.9nm,0.6s,mb4.4						
FITZ	Fitzroy Crossi	27.32	182	eP	P	17 54 47.6	-0.3
	5.2nm,0.9s,mb4.1						
FITZ	Fitzroy Crossi	27.32	182	P	P	17 54 47.5	-0.3
	4.9nm,0.6s,mb4.2,baz=358,slow=7.7,SNR=23						
PMG	Port Moresby	27.76	132	P	P	17 54 52.7	+0.7
	6.7nm,0.8s,mb4.3,baz=271,slow=7.6,SNR=6.1						
CMAR	Chiang Mai Arr	28.20	292	P	P	17 54 55.2	-0.7
	0.3nm,0.8s,baz=93,slow=15,SNR=3.7						
WRAB	Tennant Creek	30.13	165	eP	P	17 55 11.9	-1.1
	3.1nm,0.7s,mb4.2						
WRA	Warramunga Arr	30.14	165	P	P	17 55 11.1	-2.0
	0.8nm,0.7s,mb3.6,baz=347,slow=9.4,SNR=6.8						
WB2	Warramunga Arr	30.14	165	eP	P	17 55 11.4	-1.7
MBWA	Marble Bar	31.07	192	eP	P	17 55 20.5	-0.8
	2.7nm,0.5s,mb4.3						
ASAR	Alice Springs	33.62	168	P	P	17 55 42.6	-0.9
	0.6nm,0.3s,mb3.9,baz=343,slow=7.4,SNR=14						
ASAR				PcP	PcP	17 58 22.6	-0.2
	0.4nm,0.7s,baz=19,slow=1.7,SNR=4.2						
CTA	Charters Tower	35.14	147	P	P	17 55 57.7	+1.1
	4.2nm,1.1s,mb4.3,baz=352,slow=18,SNR=4.0						
ASAJ	Asahikawa	37.33	19	P	P	17 56 16.6	+1.8
	2.1nm,0.4s,mb4.3,baz=311,slow=13,SNR=2.4						
FORT	Forrest	39.95	178	eP	P	17 56 37.1	+0.4
	28nm,0.7s,mb5.1						
MUN	Mundaring	42.28	193	eP	P	17 56 56.8	+0.8
	4.6nm,0.7s,mb4.2						
PKI	Pulchoki	42.73	301	eP	P	17 56 59.7	+0.1
KKN	Kakani	42.90	301	eP	P	17 57 01.4	+0.3
NWAO	Narrogin (SRO)	42.98	191	P	P	17 57 02.4	+0.6
	6.2nm,0.8s,mb4.4,baz=49,slow=7.7,SNR=6.0						
DMN	Daman	42.99	301	eP	P	17 57 01.8	0.0
	2.3nm,0.5s,mb4.1						
STKA	Stephens Creek	43.48	161	eP	P	17 57 05.9	+0.1
	0.9nm,0.3s,mb4.0						
STKA	Stephens Creek	43.48	161	P	P	17 57 05.4	-0.3
	1.2nm,0.4s,mb4.0,baz=321,slow=14,SNR=7.1						
GKN	Gorkha	43.50	301	eP	P	17 57 05.5	-0.5
	2.6nm,0.3s,mb4.4						
KOLN	Koldanda	44.32	300	eP	P	17 57 11.9	-0.7
	8.0nm,0.7s,mb4.5						
MKAR	Makanchi Array	52.88	323	P	P	17 58 18.1	-0.5
	1.4nm,0.6s,mb4.1,baz=118,slow=7.1,SNR=13						
KURK	Kurchatov	56.94	326	eP	P	17 58 46.4	-1.6
	1.1nm,0.4s,mb4.2						
BVAR	Borovoye Array	62.53	326	P	P	17 59 25.1	-1.1
	0.5nm,0.5s,mb3.9,baz=117,slow=9.7,SNR=5.6						
BRVK	Borovoye	62.60	326	P	P	17 59 23.3	-3.4
	1.4nm,0.5s,mb4.3						
ZRNK	Zerenda	63.28	325	eP	P	17 59 29.5	-1.7
	2.6nm,0.7s,mb4.5						
RPZ	Rata Peaks	66.51	146	P	P	17 59 53.8	+1.6
	6.3nm,0.7s,mb4.8,baz=353,slow=17,SNR=4.0						
ILAR	Eielson Array	80.14	26	P	P	18 01 14.4	+2.9
	0.7nm,0.6s,mb3.7,baz=252,slow=4.7,SNR=5.0						
INK	Inuvik	85.03	22	P	P	18 01 38.1	+1.7
	1.6nm,0.8s,mb4.2,baz=180,slow=1.0,SNR=3.6						
ARCES	ARCESS Array B	85.11	340	P	P	18 01 37.3	+0.5
	1.9nm,0.6s,mb4.4,baz=80,slow=6.0,SNR=25						
FINES	FINESS Array B	86.79	332	P	P	18 01 45.3	+0.2
	1.4nm,0.6s,mb4.3,baz=90,slow=5.7,SNR=7.8						

*LDG **28** 17:53:45.4±1.5, 42.84N×1.45W, h2^{km}, Md2.1/2, Ml2.0/1, Error ellipse: s-maj=28.8km s-min=17.5km az=56.0*

MDD 28 17:53:46.1±0.7**, 42.86N×1.37W, h6**^{km}±13^{km}**, mbLg1.3**/7**, Error ellipse: s-maj=6.1km s-min=3.5km az=34.0, PRXIMO AftershockPLICA, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	Ste Jean	0.28	22	ePg	Pg	17 53 51.4	-0.3
SJPF				eSg	Sg	17 53 54.2	-1.2
	30nm,0.5s						
EALK	Alkurruntz	0.38	344	Pg	Pg	17 53 53.0	-0.7
	0.8nm,0.1s,SNR=7.9						
EALK				Lg		17 53 58.8	
	15nm,0.2s,SNR=7.9						
ETSF	Etsaut	0.59	86	ePg	Pg	17 53 57.1	-0.9
ETSF				eSg	Sg	17 54 05.7	-0.3
	5.0nm,0.4s						
EPF	Esparros	1.27	82	ePn	Pn	17 54 08.6	-1.8
EPF				ePg	Pg	17 54 11.5	+0.1
EPF				eSg	Sg	17 54 27.8	-0.4
	4.6nm,0.4s						
ESAC	San Caprasio	1.32	149	Pg	Pg	17 54 08.8	-3.6
	SNR=4.0						
ESAC				Lg		17 54 27.9	
	6.2nm,0.2s,SNR=7.9						
ELAN	Lanestosa	1.56	285	Pg	Pg	17 54 14.3	-2.9
	SNR=4.0						
ELAN				Lg		17 54 36.4	
	1.2nm,0.2s,SNR=7.9						
ETOR	Torete	2.10	194	Lg		17 54 48.8	
	1.4nm,0.2s,SNR=7.9						

*STR **28** 17:54:32.9±0.3, 42.83N×1.45W, h5^{km}±1^{km}, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LDG **28** 17:54:34.4±0.4, 42.87N×1.39W, h7^{km}, Md2.9/2, Ml2.6/8, Error ellipse: s-maj=6.6km s-min=3.9km az=31.0*

*NEIC **28** 17:54:34.4, 42.87N×1.39W, h7^{km}, ML2.6(LDG), ML2.5(STR), MN2.0(MDD), After LDG.*

*MDD **28** 17:54:34.2±0.3, 42.86N×1.40W, h6^{km}±3^{km}, mbLg2.0/11, Error ellipse: s-maj=2.9km s-min=2.1km az=27.0, PRXIMO AftershockPLICA*

ISC 28 17:54:32.4±0.4**, 42.87N**±0.02×**1.45W**±0.03**, h13**^{km}±2^{km}**, n42, σ1^{s}12**/75**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	Ste Jean	0.29	34	ePg	Pg	17 54 39.6	+1.0
SJPF				eSg	Sg	17 54 42.3	-0.5
	253nm,0.4s						
EALK	Alkurruntz	0.35	353	Pg	Pg	17 54 41.1	+1.3
	SNR=20						
EALK				Lg		17 54 46.9	
	78nm,0.2s,SNR=7.9						
LARF	Larrau	0.38	64	Pg	Pg	17 54 40.5	+0.2
LARF				Sg	Sg	17 54 46.6	+1.1
LARF	Larrau	0.38	64	P	Pg	17 54 40.6	+0.3
LARF				S	Sg	17 54 46.5	+1.0
OSSF	Osses	0.41	20	Pg	Pg	17 54 41.6	+0.8
OSSF				Sg	Sg	17 54 47.7	+1.3
OSSF	Osses	0.41	20	P	Pg	17 54 41.6	+0.8
OSSF				S	Sg	17 54 47.4	+1.0
ORDF	Ordiarp	0.51	48	Pg	Pg	17 54 43.4	+0.6
ORDF				Sg	Sg	17 54 50.7	+1.0
ORDF	Ordiarp	0.51	48	P	Pg	17 54 43.4	+0.6
ORDF				S	Sb	17 54 50.4	+0.8
ATE	Arette	0.59	69	P	Pb	17 54 44.4	+0.3
ATE				S	Sb	17 54 52.8	+0.9
FDAF	Les Forges d’A	0.65	95	S	Sb	17 54 54.4	+0.6
ETSF	Etsaut	0.66	88	ePg	Pg	17 54 45.2	-0.5
ETSF				eSg	Sg	17 54 54.1	-0.4
	31nm,0.3s						
REYF	Montagne du Re	0.80	75	Pg	Pg	17 54 48.0	-0.5
REYF				Sg	Sg	17 54 59.4	+0.1
REYF	Montagne du Re	0.80	75	P	Pb	17 54 48.0	+0.3
REYF				S	Sb	17 54 59.1	+1.0
VIEF	Viey	1.08	89	Pg	Pg	17 54 52.8	-1.3
VIEF				Sg	Sg	17 55 08.8	+0.2
VIEF	Viey	1.08	89	P	Pb	17 54 52.8	+0.3
VIEF				S	Sb	17 55 07.3	+1.0
LABF	Labassere	1.13	81	Pg	Pg	17 54 54.3	-0.8
LABF				Sg	Sg	17 55 09.8	-0.5
LABF	Labassere	1.13	81	P	Pb	17 54 54.2	+0.9
LABF				S	Sb	17 55 09.6	+1.8
RESF	Ens	1.32	92	Pg	Pg	17 54 58.2	-0.6
RESF	Ens	1.32	92	P	Pb	17 54 57.8	+1.3
RESF				S	Sb	17 55 13.8	+0.7
EPF	Esparros	1.32	83	ePn	Pn	17 54 57.3	+0.7
EPF				ePg	Pg	17 54 59.7	+0.8
EPF				eSg	Sg	17 55 15.2	-1.4
	26nm,0.3s						
ESAC	San Caprasio	1.36	147	Pg	Pg	17 54 58.1	-1.6
	31nm,0.3s,SNR=13						
ESAC				Lg		17 55 15.5	
	75nm,0.3s,SNR=7.9						
ESAC	San Caprasio	1.36	147	Pg	Pg	17 54 58.1	-1.6
ESAC				Lg		17 55 15.5	
ELAN	Lanestosa	1.50	284	Pg	Pg	17 55 02.2	-0.2
	3.3nm,0.2s,SNR=12						
ELAN				Lg		17 55 23.0	
	1.5nm,0.2s,SNR=7.9						
MELF	Melles	1.62	89	P	Pn	17 55 04.5	+3.6
MELF				S	Sn	17 55 25.9	+4.1
SALF	Salau	1.94	92	P	Pn	17 55 08.5	+2.9
SALF				S	Sn	17 55 34.8	+4.8
ETOR	Torete	2.10	193	Pn	Pn	17 55 09.1	+1.3
	1.5nm,0.2s,SNR=7.9						
ETOR				Pg	Pg	17 55 13.0	-1.4
	1.5nm,0.1s,SNR=7.9						
ETOR				Sn	Sn	17 55 35.4	+1.4
	1.1nm,0.2s,SNR=7.9						
ETOR				Lg		17 55 41.1	
	3.5nm,0.2s,SNR=7.9						
EPOB	Poblet	2.42	128	Pn	Pn	17 55 12.1	-0.2
	0.3nm,0.1s,SNR=7.9						
EPOB				Pg	Pg	17 55 16.8	-3.9
	1.8nm,0.1s,SNR=7.9						
EPOB				Lg		17 55 49.1	
	2.3nm,0.1s,SNR=4.0						
LFF	La Frestale	2.60	37	ePn	Pn	17 55 14.6	-0.3
LFF				eSg	Sg	17 55 54.0	-5.1
	8.9nm,0.4s						
EMOS	Mosqueruela	2.61	163	Pn	Pn	17 55 15.6	+0.5
	0.4nm,0.2s,SNR=7.9						
EMOS				Pg	Pg	17 55 22.2	-2.4
	1.4nm,0.2s,SNR=7.9						
EMOS				Sn	Sn	17 55 47.0	+0.1
	0.6nm,0.1s,SNR=7.9						
EMOS				Lg		17 55 56.9	
	2.1nm,0.3s,SNR=7.9						
MTLF	Montolieu	2.73	79	ePn	Pn	17 55 17.4	+0.7
MTLF				eSn	Sn	17 55 49.4	-0.4
	3.8nm,0.3s						
EARI	Arriondas	2.79	280	Pn	Pn	17 55 19.0	+1.4
	0.1nm,0.1s,SNR=7.9						
EARI				Sn	Sn	17 55 53.2	+1.9
	0.2nm,0.2s,SNR=7.9						
EARI				Lg		17 56 04.8	
	0.3nm,0.1s,SNR=7.9						
RJF	Les Rejaudoux	3.23	40	ePn	Pn	17 55 23.3	-0.7
RJF				eSn	Sn	17 56 00.6	-2.1
	3.3nm,0.2s						
CAF	Calviac	3.26	50	ePn	Pn	17 55 23.8	-0.6
CAF				eSn	Sn	17 56 01.6	-1.8
	3.9nm,0.2s						
MFF	Saint Martin d	3.84	14	ePn	Pn	17 55 32.0	-0.6
ECAL	Calabor	4.03	258	Pn	Pn	17 55 35.6	+0.5
	1.2nm,0.2s,SNR=7.9						
ECAL				Sn	Sn	17 56 21.5	-1.2
	0.9nm,0.2s,SNR=7.9						
ECAL				Lg		17 56 43.2	
	1.2nm,0.2s,SNR=7.9						
LASF	Ste Croix	4.04	71	ePn	Pn	17 55 34.9	-0.6
LASF				eSn	Sn	17 56 21.5	-1.7
	1.9nm,0.3s						
TCF	Toulx Ste Croi	4.30	36	ePn	Pn	17 55 36.6	-2.5
BGF	Bois d’Agland	4.79	38	ePn	Pn	17 55 43.8	-2.2
BGF				eSn	Sn	17 56 37.3	-4.7
	3.2nm,0.3s						
VIVF	Saint-Julien-l	4.85	64	ePn	Pn	17 55 46.1	-0.8
QUIF	Quistinic	5.19	347	ePn	Pn	17 55 51.1	-0.5
SSF	Saint Saulge	5.47	38	ePn	Pn	17 55 52.4	-3.2
ROSF	Rostrenen	5.61	347	ePn	Pn	17 55 56.6	-1.0

JMA 28 18:05:43.9±0.5**, 32.08N×142.31E, h45**^{km}**, M3.7, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHJ2	Mitsune	2.34	297	P	P	18 06 21.4	+0.6
BSO1	Boso 1	2.80	337	P	P	18 06 27.7	+0.4
JHO	Hitachi	4.74	343	P	P	18 06 54.6	-0.2
JAG	Ashikaga	4.94	332	P	P	18 06 58.1	+0.6
JFK	Kawauchi	5.41	348	P	P	18 07 03.4	-0.6
JMM	Marumori	5.91	348	P	P	18 07 10.7	-0.3
JMK	Ichinoseki	6.91	353	P	P	18 07 25.4	+0.2
JOM	Ohasama	7.42	354	P	P	18 07 32.3	0.0

*BJI **28** 18:27:59.8, 52.05N×175.62W, h50^{km}, mB4.9, mb5.0, Ms5.2, Msz5.0*

*MOS **28** 18:28:02.3±1.1, 51.99N×176.04W, h51^{km}, mb4.5/11, Error ellipse: s-maj=16.9km s-min=10.9km az=93.9*

*IDC **28** 18:28:03.5±0.4, 51.98N×176.16W, h48^{km}±3^{km}, mb4.3/25, mb1 4.5/26, mb1mx4.4/29, Error ellipse: s-maj=15.0km s-min=8.8km az=155.0, Putative timing error at ZAL*

*HRVD **28** 18:28:03.2±0.9, 51.64N×176.35W, h41^{km}±2^{km}, MW5.2/20, Centroid moment Tensor Solution. LP body waves: s20,c22;Mantle waves: s19,c23; Half duration: 1^{s}0 Moment tensor: Scale 10^{17}Nm; M_{rr}1.03±.10; $M_{\theta\theta}$-0.69±.07; $M_{\phi\phi}$-0.34±.07; $M_{r\theta}$-0.09±.08; $M_{\theta\phi}$-0.16±.04; $M_{\phi r}$0.28±.04; Best double couple: M_0.92×10^{17} NP1:ϕ_s261°, δ46°, λ107°. NP2:ϕ_s57°, δ47°, λ73°. Principal axes: T 1.09, Plg78°, Azm251°; N -.34, Plg12°, Azm69°; P -.75, Plg0°, Azm159°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **28** 18:28:03.2±0.2, 51.62N×175.98W, mb4.8/61, MS4.7/4, ML5.0(AEIC) Error ellipse: s-maj=6.5km s-min=3.2km az=179.0*

ISC 28 18:28:04.2±0.3**, 51.88N**±0.05×**176.02W**±0.03**, h67**^{km}±2^{km}**, h46**^{km}±.6^{km}**:pP-P, n259, σ0^{s}98**/246**, mb4.7**/87**, 9C-4D, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GSIG	Igitkin Island	0.12	29	P	P	18 28 13.4	-0.6
GSCK	Great Sitkin C	0.16	326	P	P	18 28 14.5	+0.3
GSMY	Great Sitkin M	0.17	352	P	P	18 28 14.4	+0.2
GSTD	Great Sitkin T	0.19	336	P	P	18 28 14.9	+0.5
GSTR	Great Sitkin T	0.21	353	P	P	18 28 15.3	+0.8
GSSP	Great Sitkin S	0.23	335	P	P	18 28 15.5	+0.9
ETKA	Kagalaska Isla	0.24	266	P	P	18 28 14.2	-0.5
ETKA				S	S	18 28 21.3	-1.2
ADAG	Mount Adagdak	0.38	286	P	P	18 28 16.6	+0.9
KIRH	Kanaga Island	0.67	272	P	P	18 28 19.4	+0.8
KINC	Kanaga Island	0.69	275	P	P	18 28 19.8	+0.9
KIWB	Kanaga Island	0.70	268	P	P	18 28 19.5	+0.5
KIKV	Kanaga Island	0.71	270	P	P	18 28 19.9	+0.7
KIMD	Kanaga Island	0.77	262	P	P	18 28 19.6	-0.1
ATKA	Atka Island	1.17	73	P	P	18 28 24.1	-0.9
ATKA				S	S	18 28 39.0	-1.6
NIKO	Nikolski	4.52	73	P	P	18 29 10.3	-1.4
MTBL	Makushin Table	6.02	66	P	P	18 29 31.3	-1.2
UNV	Unalaska Valle	6.09	67	P	P	18 29 33.3	-0.2
SMY	Shemya	6.12	282	P	P	18 29 34.0	+0.1
SPIA	Saint Paul Isl	6.28	30	P	P	18 29 37.2	+1.0
FX1	Attu Island--F	6.70	283	P	P	18 29 41.6	-0.5
	102nm,0.3s,baz=150,slow=8.5,SNR=115						
FX1				S	S	18 30 58.1	+0.5
	13nm,0.3s,baz=256,slow=20,SNR=2.0						
FX1	Attu Island--F	6.70	283	P	P	18 29 41.6	-0.5
FX1				S	S	18 30 58.1	+0.4
FX1				pmax	pmax		
	comp=Z,102nm,0.3s						
FX1				smax			
	comp=N,13nm,0.3s						
FX1	Attu Island--F	6.70	283	P	P	18 29 41.7	-0.3
WTUG	Tugumak	7.57	62	P	P	18 29 53.2	-0.8
DRIA	Deer Island	8.78	64	P	P	18 30 09.1	-1.5
SDPT	Sand Point	9.87	63	P	P	18 30 23.8	-1.6
KDAK	Kodiak Island	14.70	57	eP	P	18 31 27.4	-1.9
	comp=N,8.6nm,0.5s						
PET	Petropavlovsk	15.46	284	eP	P	18 31 43.9	+4.7
PET				pmax	pmax		
	comp=Z,57nm,1.2s						
PET	Petropavlovsk	15.46	284	eP	P	18 31 39.6	+0.4
	comp=Z,55nm,1.3s						
RSO	Redoubt South	15.47	47	eP	P	18 31 42.0	+2.7
SPU	Mount Spurr	16.08	45	eP	P	18 31 50.0	+3.1
SLKM	Skilak Lake	16.65	49	P	P	18 31 56.5	+2.4
PMR	Palmer	17.53	46	eP	P	18 32 08.1	+2.9
	comp=Z,14nm,0.9s						
SML	Sawmill	17.96	46	eP	P	18 32 10.9	+0.4
IMA	Indian Mountai	18.13	30	eP	P	18 32 15.5	+3.0
MCK	McKinley	18.50	40	eP	P	18 32 16.9	0.0
	comp=Z,21nm,0.7s						
DIV	Divide	18.92	49	eP	P	18 32 20.1	-1.7
	comp=Z,30nm,0.6s						
COLA	College	19.45	37	eP	P	18 32 27.9	+0.3
ILAR	Eielson Array	19.77	38	P	P	18 32 28.8	-2.2
	comp=Z,1.0nm,0.3s,baz=241,slow=10,SNR=49						
ILAR				PcP	PcP	18 36 44.9	-1.9
	comp=Z,0.3nm,0.3s,baz=283,slow=3.6,SNR=10						
ILAR				pPcP		18 36 59.0	
	comp=Z,0.1nm,0.3s,baz=272,slow=3.6,SNR=4.4						
ILAR				ScP		18 40 15.2	
	baz=266,slow=3.2,SNR=7.4						
SEY	Seymchan	20.07	316	eP	P	18 32 36.7	+2.6
DAWY	Dawson	22.55	43	eP	P	18 32 59.8	+0.9
INK	Inuvik	26.05	35	P	P	18 33 31.6	-0.8
	comp=Z,3.3nm,0.4s,mb4.1,baz=237,slow=11,SNR=13						
INK				PcP	PcP	18 36 58.5	-0.8
	comp=Z,15nm,0.7s,baz=257,slow=2.8,SNR=14						
INK				pPcP		18 37 12.1	
	comp=Z,4.4nm,0.6s,baz=286,slow=2.4,SNR=3.7						
INK	Inuvik	26.05	35	P	P	18 33 31.6	-0.8
INK						18 36 58.5	
INK				pmax	pmax		
	comp=Z,3.0nm,0.4s						
INK				pmax	pmax		
	comp=Z,15nm,0.7s						
INK				pmax	pmax		
	comp=N,4.0nm,0.6s						
INK	Inuvik	26.05	35	eP	P	18 33 31.4	-1.1
	comp=N,11nm,0.9s,mb4.3						
DLBC	Dease Lake	26.63	58	P	P	18 33 37.4	-0.4
	comp=N,2.5nm,0.9s,mb3.8,baz=283,slow=9.3,SNR=3.1						
DLBC				PcP	PcP	18 37 00.6	-0.2
	comp=N,2.7nm,0.7s,baz=270,slow=4.0,SNR=3.6						
DLBC				pPcP		18 37 14.8	
	comp=N,2.1nm,0.7s,baz=89,slow=11,SNR=3.1						
DLBC	Dease Lake	26.63	58	P	P	18 33 37.4	-0.4
DLBC				PcP	PcP	18 37 00.6	-0.2
DLBC				pPcP		18 37 14.8	
YSS	Yuzh-Sakhalins	27.00	276	⇓iP	P	18 33 42.0	+0.7
YSS				e	pP	18 33 54.0	-3.2
YSS				pmax	pmax		
	comp=Z,40nm,1.1s,mb4.9						
YSS	Yuzh-Sakhalins	27.00	276	eP	P	18 33 41.9	+0.6
	comp=Z,44nm,1.2s,mb4.9						
ASAJ	Asahikawa	28.44	271	P	P	18 33 54.1	-0.3
	comp=Z,30nm,0.7s,mb4.9,baz=52,slow=5.1,SNR=20						
ASAJ	Asahikawa	28.44	271	P	P	18 33 54.1	-0.3
ASAJ				pmax	pmax		
	comp=Z,31nm,0.7s						
BBB	Bella Bella	29.05	70	P	P	18 34 00.3	+0.6
	comp=Z,20nm,0.9s,mb4.7,baz=239,slow=5.8,SNR=4.5						
BBB	Bella Bella	29.05	70	P	P	18 34 00.3	+0.6
YAK	Yakutsk	30.40	311	eP	P	18 34 10.0	-1.6
YAK				pmax	pmax		
	comp=Z,100nm,3.0s						
YAK				MLR	MLR		
	comp=Z,800nm,21.0s						
YAK	Yakutsk	30.40	311	eP	P	18 34 10.1	-1.5
	comp=Z,17nm,0.8s,mb4.7						
TIXI	Tiksi	31.06	330	eP	P	18 34 10.7	-6.7
TIXI				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.4						
KLR	Kul’dur	32.71	286	eP	P	18 34 27.8	-4.2
YKA	Yellowknife Ar	33.62	47	P	P	18 34 39.3	-0.4
	comp=Z,4.1nm,0.6s,mb4.5,baz=283,slow=8.8,SNR=9.0						
YKA				pP	pP	18 34 51.2	-5.0
	comp=Z,1.5nm,0.5s,baz=276,slow=8.9,SNR=4.4						
YKA				PcP	PcP	18 37 18.5	-0.3
	comp=Z,14nm,0.6s,baz=286,slow=3.3,SNR=28						
YKA				pPcP		18 37 32.8	
	comp=Z,4.6nm,0.6s,baz=286,slow=3.4,SNR=7.7						
YKA	Yellowknife Ar	33.62	47	P	P	18 34 39.3	-0.4
YKA				*PP	pP	18 34 51.2	-5.0
YKA						18 37 18.5	
YKA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
YKA				pmax	pmax		
	comp=N,2.0nm,0.5s						
YKA				pmax	pmax		
	comp=Z,14nm,0.6s						
YKA				pmax	pmax		
	comp=N,5.0nm,0.6s						
YKA	Yellowknife Ar	33.62	47	P	P	18 34 39.4	-0.4
YKA				pP	pP	18 34 51.2	-5.0
YKA				PcP	PcP	18 37 18.5	-0.2
YKA				pPcP		18 37 32.8	
GNW	Green Mountain	34.02	76	eP	P	18 34 44.1	+0.8
BMW	Boistfort Moun	34.29	78	eP	P	18 34 46.2	+0.6
RPW	Rockport	34.40	74	P	P	18 34 47.5	+1.0
LON	Longmire	35.01	76	eP	P	18 34 52.5	+0.7
NLW	Nelson Butte	35.27	74	eP	P	18 34 54.6	+0.6
SSOR	Sweet Springs	35.56	80	eP	P	18 34 57.9	+1.4
MAJO	Matsushiro	35.57	263	eP	P	18 34 56.6	-0.1
	comp=N,34nm,1.0s,mb5.2						
MAT	Matsushiro	35.57	263	P	P	18 34 54.8	-1.9
MAT	Matsushiro	35.57	263	eP	P	18 34 55.0	-1.7
	comp=N,39nm,1.2s,mb5.2						
MDJ	Mudanjiang	36.19	280	P	P	18 35 01.0	-0.8
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,114nm,7.3s						
VGB	Gordon Butte	36.25	78	eP	P	18 35 02.9	+0.6
HUMO	Hull Mountain	36.46	83	eP	P	18 35 06.0	+1.9
	comp=Z,6.0nm,0.8s,mb4.6						
HAWA	Hanford	36.56	76	eP	P	18 35 05.9	+1.0
	comp=Z,17nm,0.7s,mb5.1						
DPW	Davenport	36.63	73	eP	P	18 35 05.7	+0.2
JHJ	Hachijo jima 2	36.90	257	P	P	18 35 07.4	-0.5
	comp=Z,302nm,1.1s,baz=74,slow=18,SNR=2.7						
EDM	Edmonton	37.05	62	eP	P	18 35 10.7	+1.8
NEW	Newport	37.08	72	eP	P	18 35 09.2	0.0
	comp=Z,26nm,0.8s,mb5.2						
YBH	Yreka Blue Hor	37.10	84	P	P	18 35 09.8	+0.3
	comp=Z,3.9nm,0.9s,mb4.3,baz=307,slow=7.3,SNR=6.8						
YBH				pP	pP	18 35 23.3	-2.9
	comp=Z,17nm,0.9s,baz=302,slow=5.7,SNR=13						
YBH	Yreka Blue Hor	37.10	84	P	P	18 35 09.8	+0.3
YBH				*PP	pP	18 35 23.3	-2.8
YBH				pmax	pmax		
	comp=Z,4.0nm,0.9s						
YBH				pmax	pmax		
	comp=N,17nm,0.9s						
YBH	Yreka Blue Hor	37.10	84	eP	P	18 35 09.7	+0.2
LNOR	Lincton Mounta	37.57	76	eP	P	18 35 13.4	+0.1
WDC	Whiskeytown Da	37.87	86	eP	P	18 35 17.1	+1.2
	comp=N,11nm,1.0s,mb4.7						
MOD	Modoc	38.48	82	eP	P	18 35 21.4	+0.5
	comp=N,4.4nm,0.6s,mb4.5						
CN2	Changchun	39.15	282	eP	P	18 35 27.8	+1.3
OHCM	Honcut	39.26	87	eP	P	18 35 26.5	-0.9
BEKR	Beckwourth	39.63	85	eP	P	18 35 31.3	+0.8
	comp=N,2.2nm,0.7s,mb4.1						
BEKR				e	pP	18 35 44.2	-3.1
CHMT	Chamberlain Mo	40.03	71	eP	P	18 35 33.6	-0.2
HRY	Holter Researc	40.97	71	eP	P	18 35 41.6	+0.1
HLID	Hailey	41.14	76	eP	P	18 35 43.3	+0.4
	comp=N,8.9nm,1.0s,mb4.5						
HLID				e	pP	18 35 55.5	-4.2
MCMT	McKenzie Canyo	41.37	74	eP	P	18 35 45.4	+0.5
KS15	Wonju Array Si	41.39	272	eP	P	18 35 45.2	+0.1
SNY	Shenyang	41.40	281	⇓P	P	18 35 46.3	+1.2
SNY				AMB	AMB		
	comp=Z,30nm,1.2s,mb5.0						
BOZ	Bozeman (W)	41.65	72	eP	P	18 35 47.3	+0.3
	comp=Z,26nm,1.0s,mb4.9						
MNV	Mina	41.87	85	eP	P	18 35 49.0	+0.1
	comp=Z,4.4nm,0.9s,mb4.2						
INCN	Inchon	42.14	273	eP	P	18 35 51.3	+0.2
	comp=Z,136nm,1.2s,mb5.5						
QLMT	Earthquake Lak	42.22	73	eP	P	18 35 52.0	+0.4
QLMT				epP	pP	18 36 03.9	-4.6

ELK	**Elko**	**42.26**	**80**	*e*P	**P**	**18 35 52.9**	**+0.8**
	comp=Z,8.3nm,0.8s,mb4.5						
ELK				*e*pP	pP	18 36 05.2	-3.8
MTUM	**Tungsten Hills**	**42.28**	**87**	*e*P	**P**	**18 35 51.7**	**-0.7**
YMR	**Madison River**	**42.58**	**73**	*e*P	**P**	**18 35 55.5**	**+0.9**
TPH	**Tonopah**	**42.66**	**85**	*e*P	**P**	**18 35 55.9**	**+0.5**
	comp=Z,3.6nm,0.7s,mb4.2						
TPH				*e*pP	pP	18 36 08.7	-3.5
YNR	**Norris Junctio**	**42.72**	**73**	*e*P	**P**	**18 35 56.6**	**+0.8**
YNR				*e*pP	pP	18 36 08.4	-4.3
GCMT	**Greycliff**	**42.73**	**71**	*e*P	**P**	**18 35 56.4**	**+0.5**
YFT	**Old Faithful**	**42.78**	**73**	*e*P	**P**	**18 35 57.2**	**+0.9**
IMW	**Indian Meadow**	**43.03**	**74**	*e*P	**P**	**18 35 59.1**	**+0.8**
HVU	**Hansel Valley**	**43.15**	**78**	*e*P	**P**	**18 35 59.5**	**+0.2**
MOOW	**Moose Ponds**	**43.23**	**74**	*e*P	**P**	**18 36 00.2**	**+0.2**
MOOW				*e*pP	pP	18 36 12.7	-4.2
TPAW	**Teton Pass**	**43.26**	**74**	*e*P	**P**	**18 36 01.1**	**+1.0**
REDW	**Red Top Meadow**	**43.39**	**74**	*e*P	**P**	**18 36 01.2**	**0.0**
LOHW	**Long Hollow**	**43.39**	**74**	*e*P	**P**	**18 36 01.8**	**+0.5**
BGU	**Big Grassy Mou**	**43.50**	**79**	*e*P	**P**	**18 36 02.6**	**+0.4**
SPUT	**South Promonto**	**43.62**	**78**	*e*P	**P**	**18 36 03.4**	**+0.2**
TPNV	**Topopah Spring**	**43.97**	**85**	*e*P	**P**	**18 36 06.5**	**+0.4**
	comp=Z,7.0nm,0.7s,mb4.5						
TPNV				*e*pP	pP	18 36 20.0	-3.0
HWUT	**Hardware Ranch**	**43.98**	**77**	*e*P	**P**	**18 36 06.6**	**+0.5**
	comp=Z,7.0nm,0.8s,mb4.4						
NOQ	**North Oquirrh**	**44.22**	**78**	P	**P**	**18 36 09.2**	**+1.2**
LAO	**LASA Array**	**44.23**	**68**	*e*P	**P**	**18 36 08.0**	**-0.1**
	comp=Z,18nm,0.6s,mb5.0						
TCUT	**Toone Canyon**	**44.37**	**77**	*e*P	**P**	**18 36 08.7**	**-0.5**
CTU	**Camp Tracy**	**44.42**	**78**	*e*P	**P**	**18 36 09.9**	**+0.3**
BW06	**Boulder Array**	**44.51**	**74**	*e*P	**P**	**18 36 10.5**	**+0.2**
	comp=Z,27nm,1.0s,mb4.9						
PDAR	**Pinedale Array**	**44.51**	**74**	P	**P**	**18 36 10.7**	**+0.4**
	comp=Z,16nm,0.7s,mb4.8,baz=306,slow=3.6,SNR=130						
PDAR				pP	pP	18 36 23.2	-4.0
	comp=Z,31nm,0.6s,baz=297,slow=4.0,SNR=27						
JLU	**Jordanelle**	**44.65**	**78**	*e*P	**P**	**18 36 11.9**	**+0.4**
NLU	**North Lily Min**	**44.66**	**79**	*e*P	**P**	**18 36 12.0**	**+0.4**
DAU	**Daniels Canyon**	**44.88**	**78**	*e*P	**P**	**18 36 14.4**	**+1.0**
MPU	**Maple Canyon**	**44.90**	**79**	*e*P	**P**	**18 36 13.9**	**+0.4**
ARUT	**Antelope Range**	**45.17**	**83**	*e*P	**P**	**18 36 13.8**	**-1.9**
ARUT				*e*pP	pP	18 36 29.0	-3.6
MVU	**Marysvale**	**45.48**	**81**	*e*P	**P**	**18 36 18.9**	**+0.8**
	comp=Z,5.4nm,0.9s,mb4.3						
MVU				*e*pP	pP	18 36 31.0	-4.1
MSU	**Marysvale**	**45.49**	**81**	*e*P	**P**	**18 36 18.6**	**+0.4**
TMUT	**Trail Mountain**	**45.60**	**79**	*e*P	**P**	**18 36 19.8**	**+0.8**
NEN	**Nelson**	**45.68**	**86**	*e*P	**P**	**18 36 19.4**	**-0.3**
SRU	**San Rafael**	**46.13**	**79**	*e*P	**P**	**18 36 23.6**	**+0.4**
RSSD	**Black Hills**	**46.96**	**70**	*e*P	**P**	**18 36 28.8**	**-1.0**
	comp=Z,17nm,1.0s,mb4.7						
ULM	**Lac du Bonnet**	**47.95**	**58**	P	**P**	**18 36 36.7**	**-0.7**
	comp=Z,3.4nm,0.6s,mb4.3,baz=288,slow=3.5,SNR=3.5						
ULM				PcP	PcP	18 38 04.0	-1.1
	comp=Z,11nm,0.6s,baz=312,slow=5.0,SNR=5.1						
ULM	**Lac du Bonnet**	**47.95**	**58**	P	**P**	**18 36 36.7**	**-0.7**
ULM				PcP	PcP	18 38 04.0	-1.1
SONM	**Songino Array**	**47.96**	**298**	P	**P**	**18 36 37.1**	**-0.4**
	comp=Z,1.9nm,0.7s,mb4.0,baz=45,slow=8.2,SNR=4.6						
SONM				PcP	PcP	18 38 03.3	-1.9
	comp=Z,6.1nm,0.9s,baz=47,slow=1.9,SNR=9.0						
SONM				ScP		18 41 52.3	
	comp=Z,1.3nm,0.8s,baz=56,slow=4.5,SNR=3.6						
ZAK	**Zakamensk**	**48.17**	**302**	*e*P	**P**	**18 36 38.8**	**-0.3**
ZAK				*e*		18 37 01.4	
RW3	**Ridgway**	**48.40**	**78**	*e*P	**P**	**18 36 40.8**	**-0.1**
RW3				*e*pP	pP	18 36 54.1	-4.0
ISCO	**Idaho Springs**	**48.67**	**75**	*e*P	**P**	**18 36 43.1**	**0.0**
	comp=Z,2.4nm,0.6s,mb4.3						
TIA	**Tai'an**	**48.81**	**279**	*e*P	**P**	**18 36 44.0**	**-0.2**
HHC	**Hu-ho-hao-te**	**49.21**	**287**	*e*P	**P**	**18 36 50.0**	**+2.8**
HHC				AP	pP	18 37 01.8	-2.5
HHC				XP	sP	18 37 07.0	-4.9
HHC				PP	PP	18 38 45.3	+3.5
HHC				S	**S**	**18 43 52.3**	**+5.7**
HHC				XS		18 44 14.8	
HHC				SCS	ScS	18 46 35.3	+5.5
HHC				AMB	AMB		
	comp=Z,13nm,0.9s,mb4.9						
HHC				LR	LR		
	comp=N,398nm,22.0s						
HHC				LR	LR		
	comp=E,381nm,19.6s						
HHC				LR	LR		
	comp=Z,520nm,17.8s						
SSE	**Sheshan**	**49.73**	**271**	P	**P**	**18 36 51.8**	**+0.4**
SSE				AMB	AMB		
	comp=Z,42nm,1.0s,mb5.3						
SSE	**Sheshan**	**49.73**	**271**	P	**P**	**18 36 51.8**	**+0.4**
	comp=Z,42nm,1.0s,mb5.3						
SDCO	**Great Sand Dun**	**50.04**	**77**	*e*P	**P**	**18 36 53.8**	**+0.1**
	comp=Z,10nm,0.9s,mb4.8						
SDCO				*e*pP	pP	18 37 06.8	-4.0
NJ2	**Nanjing**	**50.52**	**273**	*e*P	**P**	**18 36 57.3**	**-0.1**
NJ2				AP	pP	18 37 09.5	-5.1
NJ2				XP	sP	18 37 15.5	-6.7
NJ2				PP	PP	18 38 55.0	+0.6
NJ2				LR	LR		
	comp=N,3µm,14.9s						
NJ2				LR	LR		
	comp=E,2µm,16.0s						
NJ2				LR	LR		
	comp=Z,3µm,14.9s						
LAZ	**Ladron**	**51.24**	**82**	*e*P	**P**	**18 37 03.3**	**+0.5**
LAZ				*e*pP	pP	18 37 16.3	-3.8
ANMO	**Albuquerque**	**51.29**	**81**	*e*P	**P**	**18 37 03.2**	**0.0**
ANMO				*e*pP	pP	18 37 16.5	-4.0
LENM	**Lemitar**	**51.50**	**82**	*e*P	**P**	**18 37 05.4**	**+0.6**
LPM	**Los Pinos Moun**	**51.62**	**81**	*e*P	**P**	**18 37 06.0**	**+0.3**
LPM				*e*pP	pP	18 37 18.9	-4.0
BNM	**Barren Site**	**51.73**	**81**	*e*P	**P**	**18 37 06.9**	**+0.4**
SUMG	**Summit**	**52.38**	**15**	*e*P	**P**	**18 37 10.1**	**-0.8**
	comp=Z,10nm,1.0s,mb4.8						
GDL2	**Guadalupe Moun**	**54.44**	**82**	*e*P	**P**	**18 37 26.0**	**-0.6**
CLNB	**Carlsbad**	**54.69**	**81**	*e*P	**P**	**18 37 27.4**	**-1.1**
ZAL	**Zalesovo**	**54.95**	**315**	P	**P**	**18 37 31.1**	**+1.1**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NVS	**Novosibirsk**	**55.02**	**316**	*e*P	**P**	**18 37 28.6**	**-1.9**
XAN	**Xi'an**	**55.26**	**282**	P	**P**	**18 37 31.3**	**-1.2**
XAN				AMB	AMB		
	comp=Z,14nm,1.4s,mb4.8						
WMOK	**Wichita Mounta**	**56.09**	**75**	*e*P	**P**	**18 37 37.4**	**-1.1**
	comp=Z,6.9nm,0.8s,mb4.7						
WMOK				*e*pP	pP	18 37 50.8	-5.2
WMOK				LR	LR		
	comp=Z,567nm,19.0s						
TXAR	**Lajitas Array**	**56.87**	**84**	P	**P**	**18 37 43.3**	**-0.8**
	comp=Z,6.9nm,0.7s,mb4.8,baz=297,slow=5.6,SNR=53						
TXAR				pP	pP	18 37 56.7	-5.0
	comp=Z,13nm,0.5s,baz=304,slow=5.8,SNR=30						
TXAR				sP	sP	18 38 03.5	-5.9
	comp=Z,29nm,1.1s,baz=297,slow=5.4,SNR=7.9						
TXAR	**Lajitas Array**	**56.87**	**84**	P	**P**	**18 37 43.3**	**-0.8**
TXAR				pP	pP	18 37 56.7	-5.0
TXAR				sP	sP	18 38 03.5	-5.9
LZH	**Lanzhou**	**56.90**	**288**	*e*P	**P**	**18 37 45.0**	**+0.8**
LZH				AP	pP	18 37 57.8	-4.0
LZH				XP	sP	18 38 03.3	-6.1
LZH				PCP	PcP	18 38 40.3	+1.5
LZH				PP	PP	18 39 53.0	+0.3
LZH				*e*S	**S**	**18 45 33.0**	**+2.0**
LZH				XS		18 45 54.8	
LZH				SS	SS	18 49 22.5	+1.3
LZH				AMB	AMB		
	comp=Z,21nm,1.4s,mb5.0						
LZH				AMB	AMB		
	comp=Z,117nm,5.3s						
LZH				LR	LR		
	comp=E,351nm,13.1s						
LZH				LR	LR		
	comp=Z,647nm,17.2s						
LZH	**Lanzhou**	**56.90**	**288**	*e*P	**P**	**18 37 45.1**	**+0.9**
	comp=Z,21nm,1.4s,mb5.0						
LZH				sP	sP	18 38 03.2	-6.2
LZH				PcP	PcP	18 38 40.3	+1.5
LZH				PP	PP	18 39 53.1	+0.4
LZH				*e*S	**S**	**18 45 33.0**	**+2.0**
LZH				sS		18 45 54.7	
LZH				SS	SS	18 49 22.4	+1.2
LZH				LR	LR		
	comp=Z,650nm,17.2s						
GTA	**Gaotai**	**56.98**	**293**	*e*P	**P**	**18 37 44.8**	**0.0**
GTA				AP	pP	18 37 57.5	-4.8
GTA				XP	sP	18 38 03.3	-6.7
GTA				PCP	PcP	18 38 38.5	-0.6
GTA				PP	PP	18 39 53.0	-0.4
GTA				S	**S**	**18 45 34.8**	**+2.8**
GTA				AMB	AMB		
	comp=Z,2.0nm,0.7s,mb4.3						
GTA				LR	LR		
	comp=N,275nm,16.4s						
GTA				LR	LR		
	comp=E,221nm,15.7s						
GTA				LR	LR		
	comp=Z,216nm,16.4s						
ARCES	**ARCESS Array B**	**57.88**	**351**	P	**P**	**18 37 49.5**	**-1.2**
	comp=Z,1.2nm,0.5s,mb4.2,baz=27,slow=8.1,SNR=11						
ARCES	**ARCESS Array B**	**57.88**	**351**	P	**P**	**18 37 49.5**	**-1.2**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
CCM	**Cathedral Cave**	**58.25**	**68**	*e*P	**P**	**18 37 51.2**	**-2.4**
	comp=Z,11nm,0.6s,mb5.1						
SCHQ	**Schefferville**	**58.52**	**40**	P	**P**	**18 37 54.7**	**-0.6**
	comp=Z,11nm,1.2s,mb4.8,baz=34,slow=13,SNR=5.8						
SCHQ				pP	pP	18 38 07.5	-5.5
	comp=Z,5.3nm,0.8s,baz=276,slow=9.2,SNR=3.2						
SCHQ	**Schefferville**	**58.52**	**40**	P	**P**	**18 37 54.7**	**-0.6**
SCHQ				pP	pP	18 38 07.5	-5.5
FVM	**French Village**	**58.77**	**67**	*e*P	**P**	**18 37 55.0**	**-2.3**
	comp=Z,30nm,0.6s,mb5.5						
KURK	**Kurchatov**	**59.91**	**315**	*e*P	**P**	**18 38 04.0**	**-1.0**
KURK	**Kurchatov**	**59.91**	**315**	*e*P	**P**	**18 38 03.7**	**-1.3**
	comp=Z,10nm,0.6s,mb5.0						
KURK				LR	LR		
	comp=Z,121nm,20.0s						
WMQ	**Urumqi**	**60.51**	**304**	*e*P	**P**	**18 38 07.8**	**-1.4**
WMQ				AP	pP	18 38 20.5	-6.4
WMQ				XP	sP	18 38 26.0	-8.6
WMQ				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
CD2	**Chengdu**	**60.56**	**283**	P	**P**	**18 38 10.0**	**+0.3**
WCI	**Wyandotte Cave**	**60.93**	**64**	*e*P	**P**	**18 38 10.5**	**-1.6**
WCI				*e*pP	pP	18 38 22.1	-7.7
MKAR	**Makanchi Array**	**61.06**	**310**	P	**P**	**18 38 10.9**	**-2.0**
	comp=Z,5.7nm,0.7s,mb4.7,baz=47,slow=5.6,SNR=28						
MKAR	**Makanchi Array**	**61.06**	**310**	P	**P**	**18 38 10.9**	**-2.0**
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.7s						
WVT	**Waverly**	**61.54**	**67**	*e*P	**P**	**18 38 14.2**	**-2.0**
	comp=Z,7.6nm,0.6s,mb4.9						
OXF	**Oxford**	**61.78**	**69**	*e*P	**P**	**18 38 16.6**	**-1.3**
	comp=Z,162nm,1.1s						
OXF				*e*pP	pP	18 38 29.6	-6.0
GYA	**Guiyang**	**61.98**	**278**	⇑*i*P	**P**	**18 38 18.5**	**-0.8**
GYA				XP	sP	18 38 36.8	-8.0
GYA				PP	PP	18 40 37.5	-1.2
GYA				S	**S**	**18 46 38.5**	**+1.7**
GYA				SS	SS	18 50 43.5	+1.6
GYA				AMB	AMB		
	comp=Z,50nm,0.8s,mb5.6						
GYA				LR	LR		
	comp=N,810nm,16.7s						
GYA				LR	LR		
	comp=E,830nm,17.9s						
GYA				LR	LR		
	comp=Z,890nm,16.8s						
SVE	**Sverdlovsk**	**62.09**	**329**	⇓*e*P	**P**	**18 38 17.8**	**-1.8**
GENY	**Geneseo**	**62.24**	**55**	*e*P	**P**	**18 38 18.4**	**-2.4**
ARU	**Arti**	**63.07**	**329**	*e*P	**P**	**18 38 25.4**	**-0.8**
SWET	**Sewanee**	**63.27**	**66**	*e*P	**P**	**18 38 25.9**	**-2.0**
SSPA	**Standing Stone**	**63.75**	**57**	*e*P	**P**	**18 38 29.2**	**-1.5**
	comp=Z,9.2nm,0.9s,mb4.6						
SSPA				*e*pP	pP	18 38 40.9	-7.7
SSPA				LR	LR		
	comp=Z,723nm,20.0s						
CPCT	**Cooper Cave**	**63.91**	**65**	*e*P	**P**	**18 38 32.6**	**+0.7**
KMI	**Kunming**	**65.36**	**280**	*e*P	**P**	**18 38 41.3**	**-0.2**
KMI				AP	pP	18 38 54.3	-5.1
KMI				AMB	AMB		
	comp=Z,34nm,1.2s,mb5.0						
KMI	**Kunming**	**65.36**	**280**	*e*P	**P**	**18 38 41.3**	**-0.2**
	comp=Z,34nm,1.2s,mb5.0						
KMI				pP	pP	18 38 54.2	-5.2
FINES	**FINESS Array B**	**65.66**	**349**	P	**P**	**18 38 41.3**	**-1.5**
	comp=Z,2.1nm,0.8s,mb4.0,baz=34,slow=6.9,SNR=3.0						
FINES	**FINESS Array B**	**65.66**	**349**	P	**P**	**18 38 41.3**	**-1.4**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NOA	**NORSAR Array B**	**67.28**	**356**	P	**P**	**18 38 51.1**	**-1.8**
	comp=Z,0.8nm,0.8s,mb3.6,baz=5.2,slow=6.1,SNR=2.8						
NOA				pP	pP	18 39 05.1	-5.9
	comp=Z,0.7nm,0.8s,baz=3.9,slow=5.5,SNR=2.1						
NOA	**NORSAR Array B**	**67.28**	**356**	P	**P**	**18 38 51.1**	**-1.9**
NOA				*PP	pP	18 39 05.1	-5.9
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NOA				pmax	pmax		
	comp=N,1.0nm,0.8s						
NHSC	**New Hope**	**68.06**	**64**	*e*P	**P**	**18 38 58.4**	**0.0**
PMG	**Port Moresby**	**68.76**	**219**	P	**P**	**18 39 02.5**	**-0.5**
	comp=N,14nm,0.8s,mb4.9,baz=160,slow=3.3,SNR=3.4						
PMG	**Port Moresby**	**68.76**	**219**	P	**P**	**18 39 02.5**	**-0.5**
PMG				pmax	pmax		
	comp=Z,14nm,0.8s						
OBN	**Obninsk**	**69.99**	**341**	P	**P**	**18 39 18.0**	**+8.2**
NANT	**Nan**	**71.33**	**277**	P	**P**	**18 39 17.5**	**-1.0**
KKTK	**Khon Kaen**	**71.89**	**273**	P	**P**	**18 39 22.0**	**+0.1**
CHG	**Chiang Mai**	**72.40**	**278**	⇑P	**P**	**18 39 24.6**	**-0.3**
	comp=Z,18nm,1.0s,mb4.9						
CMAR	**Chiang Mai Arr**	**72.67**	**278**	P	**P**	**18 39 26.4**	**0.0**
	comp=Z,18nm,0.8s,mb5.0,baz=26,slow=7.0,SNR=114						
CMAR				pP	pP	18 39 39.7	-5.0
	comp=Z,7.2nm,1.0s,baz=30,slow=7.8,SNR=5.7						
CMAR	**Chiang Mai Arr**	**72.67**	**278**	P	**P**	**18 39 26.4**	**0.0**
CMAR				*PP	pP	18 39 39.7	-5.0
CMAR				pmax	pmax		
	comp=Z,18nm,0.8s						
CMAR				pmax	pmax		
	comp=N,7.0nm,1.0s						
BDT	**Bhumibol Dam**	**73.56**	**277**	P	**P**	**18 39 31.5**	**-0.1**
KKN	**Kakani**	**73.69**	**294**	*e*P	**P**	**18 39 32.4**	**+0.2**
	comp=N,24nm,0.6s,mb5.1						
PKI	**Pulchoki**	**73.78**	**294**	*e*P	**P**	**18 39 32.6**	**-0.2**
	comp=N,11nm,0.6s,mb4.8						
GKN	**Gorkha**	**73.89**	**295**	*e*P	**P**	**18 39 33.2**	**-0.2**
	comp=N,28nm,0.6s,mb5.2						
DMN	**Daman**	**73.93**	**294**	*e*P	**P**	**18 39 33.5**	**-0.1**
	comp=N,14nm,0.7s,mb4.8						
KOLN	**Koldanda**	**74.65**	**295**	*e*P	**P**	**18 39 37.6**	**-0.2**
	comp=N,35nm,1.2s,mb5.0						
AKASG	**Malin Array Be**	**75.58**	**344**	P	**P**	**18 39 41.0**	**-1.6**
	comp=N,3.2nm,0.9s,mb4.1,baz=20,slow=5.8,SNR=7.1						
AKASG	**Malin Array Be**	**75.58**	**344**	P	**P**	**18 39 41.0**	**-1.6**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.9s						
GOF	**Gofitskoye**	**77.74**	**333**	*e*P	**P**	**18 39 55.0**	**+0.1**
KAKA	**Kakadu**	**78.20**	**231**	⇑*i*P	**P**	**18 40 02.1**	**+4.1**
	comp=Z,25nm,0.6s,mb5.1						
GRA1	**Grafenberg Arr**	**78.62**	**355**	*e*P	**P**	**18 39 59.4**	**-0.2**
	comp=Z,4.0nm,1.0s,mb4.2						
GRF	**Grafenberg Arr**	**78.62**	**355**	*e*P	**P**	**18 39 59.4**	**-0.2**
GRF				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.2						
CTA	**Charters Tower**	**78.88**	**216**	*e*P	**P**	**18 40 01.4**	**-0.2**
	comp=Z,12nm,1.0s,mb4.7						
CTA	**Charters Tower**	**78.88**	**216**	P	**P**	**18 40 01.0**	**-0.6**
	comp=Z,27nm,1.1s,mb5.0,baz=22,slow=7.0,SNR=8.6						
CTA	**Charters Tower**	**78.88**	**216**	P	**P**	**18 40 01.0**	**-0.6**
CTA				pmax	pmax		
	comp=Z,27nm,1.2s						
KHC	**Kasperske Hory**	**79.03**	**354**	*e*P	**P**	**18 40 01.5**	**-0.4**
GERES	**GERESS Array B**	**79.31**	**353**	P	**P**	**18 40 02.6**	**-0.8**
	comp=Z,0.7nm,0.7s,mb3.6,baz=18,slow=4.2,SNR=6.4						
GERES	**GERESS Array B**	**79.31**	**353**	P	**P**	**18 40 02.6**	**-0.8**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
LDF	**La Druitiere**	**79.84**	**3**	*e*P	**P**	**18 40 06.1**	**-0.2**
	comp=Z,10nm,0.8s,mb4.4						
GRR	**Gorron**	**80.03**	**3**	*e*P	**P**	**18 40 08.0**	**+0.7**
	comp=Z,12nm,0.8s,mb4.5						
LOR	**Lormes**	**81.23**	**0**	*e*P	**P**	**18 40 14.6**	**+0.9**
	comp=Z,7.8nm,0.8s,mb4.3						
SSF	**Saint Saulge**	**81.44**	**0**	*e*P	**P**	**18 40 15.3**	**+0.6**
	comp=Z,7.4nm,0.8s,mb4.2						
AVF	**Avril sur Loir**	**81.71**	**0**	*e*P	**P**	**18 40 17.0**	**+0.9**
	comp=Z,5.9nm,0.8s,mb4.2						
MFF	**Saint Martin d**	**81.83**	**3**	*e*P	**P**	**18 40 17.9**	**+1.1**
	comp=Z,22nm,1.0s,mb4.6						
SMF	**Signal de Mont**	**81.86**	**0**	*e*P	**P**	**18 40 17.2**	**+0.3**
	comp=Z,9.6nm,0.8s,mb4.4						
TCF	**Toulx Ste Croi**	**82.20**	**1**	*e*P	**P**	**18 40 19.5**	**+0.8**
	comp=Z,16nm,1.2s,mb4.4						
RJF	**Les Rejaudoux**	**83.17**	**2**	*e*P	**P**	**18 40 23.7**	**0.0**
LFF	**La Frestale**	**83.52**	**2**	*e*P	**P**	**18 40 26.7**	**+1.4**
WRAB	**Tennant Creek**	**83.58**	**226**	*e*P	**P**	**18 40 24.7**	**-1.5**
	comp=Z,32nm,1.1s,mb5.1						
WRAB				*e*pP	pP	18 40 38.1	-6.7
WB2	**Warramunga Arr**	**83.59**	**226**	⇑*i*P	**P**	**18 40 25.6**	**-0.6**
WRA	**Warramunga Arr**	**83.59**	**226**	P	**P**	**18 40 25.5**	**-0.8**
	comp=Z,8.9nm,0.7s,mb4.7,baz=33,slow=5.7,SNR=77						
WRA				pP	pP	18 40 39.2	-5.7
	comp=Z,3.3nm,0.7s,baz=32,slow=5.7,SNR=5.7						
WRA	**Warramunga Arr**	**83.59**	**226**	P	**P**	**18 40 25.5**	**-0.8**
WRA				*PP	pP	18 40 39.2	-5.7
WRA				pmax	pmax		
	comp=Z,9.0nm,0.7s						
WRA				pmax	pmax		
	comp=N,3.0nm,0.7s						
MBDF	**Montbardon**	**83.74**	**358**	*e*P	**P**	**18 40 27.7**	**+1.2**
	comp=N,2.6nm,0.6s,mb4.0						
MTLF	**Montolieu**	**85.15**	**1**	*e*P	**P**	**18 40 34.9**	**+1.4**
	comp=N,6.6nm,0.9s,mb4.3						
BRTR	**Keskin Array B**	**85.18**	**337**	P	**P**	**18 40 32.9**	**-0.8**
	comp=N,1.4nm,0.6s,mb4.1,baz=31,slow=2.4,SNR=7.4						
BRTR	**Keskin Array B**	**85.18**	**337**	P	**P**	**18 40 32.9**	**-0.8**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
HYB	**Hyderabad**	**85.64**	**293**	*i* P	**P**	**18 40 36.0**	**-0.5**
FITZ	**Fitzroy Crossi**	**86.15**	**234**	⇑*i*P	**P**	**18 40 39.5**	**+0.5**
	comp=Z,17nm,1.0s,mb4.9						
ASAR	**Alice Springs**	**87.05**	**225**	P	**P**	**18 40 43.6**	**+0.3**
	comp=Z,18nm,1.0s,mb5.0,baz=29,slow=4.9,SNR=95						
ASAR				pP	pP	18 40 56.9	-5.2
	comp=Z,6.1nm,0.8s,baz=29,slow=4.8,SNR=9.5						
ASPA	**Alice Springs**	**87.05**	**225**	⇑*i*P	**P**	**18 40 43.6**	**+0.3**
STKA	**Stephens Creek**	**91.31**	**215**	*e*P	**P**	**18 41 03.7**	**+0.5**
	comp=Z,7.4nm,0.8s,mb4.9						
STKA	**Stephens Creek**	**91.31**	**215**	P	**P**	**18 41 03.6**	**+0.3**
	comp=Z,8.0nm,0.7s,mb5.0,baz=358,slow=6.0,SNR=22						
SDV	**Santo Domingo**	**92.41**	**72**	*e*P	**P**	**18 41 09.1**	**+0.4**
	comp=Z,6.6nm,0.8s,mb4.9						
SDV				LR	LR		
	comp=Z,272nm,19.0s						
DBIC	**Dimbokro**	**121.19**	**10**	PKP	PKPdf	18 46 50.2	+0.7
	comp=Z,2.9nm,0.5s,baz=9.4,slow=2.4,SNR=11						
DBIC				pPKP		18 47 04.8	
	comp=Z,2.4nm,0.9s,baz=291,slow=6.5,SNR=2.3						
DBIC	**Dimbokro**	**121.19**	**10**	PKIKP	PKPdf	18 46 50.2	+0.6
DBIC						18 47 04.9	
DBIC				pmax	pmax		
	comp=Z,3.0nm,0.5s						
DBIC				pmax	pmax		
	comp=N,2.0nm,0.9s						
DBIC	**Dimbokro**	**121.19**	**10**	PKP	PKPdf	18 46 50.2	+0.7
DBIC				pPKP		18 47 04.8	
KMBO	**Kilima Mbogo**	**122.24**	**320**	PKP	PKPdf	18 46 53.4	+1.8
	comp=N,5.2nm,0.9s,baz=45,slow=24,SNR=13						
KMBO				pPKP		18 47 06.9	
	comp=N,2.7nm,1.0s,baz=28,slow=14,SNR=3.5						
BDFB	**Brasilia**	**125.31**	**68**	PKP	PKPdf	18 46 58.4	+1.0
	comp=N,4.3nm,0.9s,baz=85,slow=4.1,SNR=4.9						
BDFB				pPKP		18 47 13.2	
	comp=N,1.4nm,0.3s,baz=294,slow=1.6,SNR=2.3						
BDFB	**Brasilia**	**125.31**	**68**	PKIKP	PKPdf	18 46 58.4	+1.0
BDFB						18 47 13.2	
BDFB				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BDFB				pmax	pmax		
	comp=N,1.0nm,0.4s						
CPUP	**Villa Florida**	**127.82**	**85**	PKP	PKPdf	18 47 02.7	+0.7
	comp=N,2.3nm,0.9s,baz=0.6,slow=3.8,SNR=5.7						
CPUP				pPKP		18 47 18.0	
	comp=N,2.7nm,0.9s,baz=243,slow=2.7,SNR=3.2						
CPUP	**Villa Florida**	**127.82**	**85**	PKIKP	PKPdf	18 47 02.7	+0.7
CPUP						18 47 18.0	
CPUP				pmax	pmax		
	comp=Z,2.0nm,0.9s						
CPUP				pmax	pmax		
	comp=N,3.0nm,0.9s						
QSPA	**South Pole Qui**	**141.64**	**180**	*e*PKP	PKPdf	18 47 21.8	-4.2
TSUM	**Tsumeb**	**145.68**	**337**	*e*PKP	PKPdf	18 47 35.9	+1.2
MAW	**Mawson**	**147.94**	**218**	*e*P	PKPdf	18 47 41.8	+4.8
	comp=N,20nm,0.9s						
MAW	**Mawson**	**147.94**	**218**	PKP	PKPdf	18 47 38.0	+1.0
	comp=N,52nm,1.2s,baz=43,slow=5.0,SNR=20						
MAW				PKPbc	PKPdf	18 47 41.8	+4.8
	comp=N,21nm,0.8s,baz=88,slow=2.1,SNR=62						
MAW				pPKPbc		18 47 56.8	
	comp=N,13nm,0.7s,baz=86,slow=5.5,SNR=7.9						
MAW	**Mawson**	**147.94**	**218**	PKIKP	PKPdf	18 47 38.0	+1.0
MAW						18 47 41.8	
MAW						18 47 56.8	
MAW				pmax	pmax		
	comp=Z,52nm,1.2s						
MAW				pmax	pmax		
	comp=Z,21nm,0.8s						
MAW				pmax	pmax		
	comp=N,13nm,0.7s						
MAW	**Mawson**	**147.94**	**218**	*e*PKPdf	PKPdf	18 47 37.8	+0.8
MAW				*e*PKPbc	PKPdf	18 47 41.5	+4.5
VNA3	**Neumayer Olymp**	**159.62**	**167**	⇑*i*P	PKPdf	18 47 48.5	-4.6
SNAA	**Sanae**	**159.91**	**174**	P	PKPdf	18 47 53.7	+0.3
SNAA	**Sanae**	**159.91**	**174**	⇑*i*P	PKPab	18 48 33.6	-1.8
SNAA	**Sanae**	**159.91**	**174**	⇓*i*		18 48 49.4	
VNA2	**Neumayer--Watz**	**160.20**	**169**	P	PKPdf	18 47 49.3	-4.4
VNA2	**Neumayer--Watz**	**160.20**	**169**	P	PKPab	18 48 38.3	+1.6
VNA2	**Neumayer--Watz**	**160.20**	**169**			18 48 52.6	
VNA1	**Neumayer--Stat**	**160.35**	**168**	⇑*i*P	PKPdf	18 47 51.1	-2.8

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*BJI **28** 18:43:12.3, 3.45S×135.90E, h24km, mb4.8, Ms4.4, Msz4.3*

*NEIC **28** 18:43:15.8±0.6, 3.91S×135.21E, h30km, mb4.6/13, Error ellipse: s-maj=17.7km s-min=8.5km az=63.0*

NEIC Felt [III] at Nabire.

*IDC **28** 18:43:22.0±4.8, 3.64S×135.73E, h101km±45km, mb3.8/7, mb1 3.9/11, mb1mx3.9/15, Error ellipse: s-maj=32.7km s-min=17.4km az=72.0*

ISC 28 18:43:14.1±2.1**, 3.79S**±0.05×**135.43E**±0.10**, h39**km±20km**,**
n34, σ1.40/38**, mb4.6**/15**, MS4.3**/1**, 2C, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**9.34**	**199**	*e*P	**P**	**18 45 33.7**	**+4.5**
	73nm,0.6s						
KAKA				*e*S	**S**	**18 47 15.7**	**+1.6**
PMG	**Port Moresby**	**12.92**	**116**	P	**P**	**18 46 18.5**	**+0.7**
	0.3nm,0.3s,baz=194,slow=17,SNR=2.7						
WRAB	**Tennant Creek**	**16.07**	**184**	*e*P	**P**	**18 46 56.8**	**-2.3**
	82nm,0.6s						
WRAB				*e*		18 47 04.7	
WRAB				*e*S	**S**	**18 49 44.6**	**-11**
WRAB				*e*		18 51 58.0	
WB2	**Warramunga Arr**	**16.09**	**184**	*e*P	**P**	**18 46 56.9**	**-2.2**
WB2				*e*		18 47 04.9	
WB2				*e*S	**S**	**18 49 49.7**	**-6.3**
WRA	**Warramunga Arr**	**16.09**	**184**	P	**P**	**18 46 56.4**	**-2.7**
	1.5nm,0.3s,baz=5.4,slow=13,SNR=54						
WRA				S	**S**	**18 49 50.0**	**-6.0**
	1.2nm,0.3s,baz=6.3,slow=23,SNR=7.7						
FITZ	**Fitzroy Crossi**	**17.15**	**213**	*e*P	**P**	**18 47 12.1**	**-0.4**
	8.5nm,0.4s						
FITZ				*e*S	**S**	**18 50 15.9**	**-4.5**
FITZ	**Fitzroy Crossi**	**17.15**	**213**	P	**P**	**18 47 12.1**	**-0.4**
	1.5nm,0.3s,baz=31,slow=11,SNR=36						
FITZ				S	**S**	**18 50 16.3**	**-4.1**
	2.9nm,0.3s,baz=191,slow=15,SNR=7.2						
CTA	**Charters Tower**	**19.33**	**148**	*e*P	**P**	**18 47 40.7**	**+1.6**
	8.3nm,0.8s						
CTA				*e*S	PcP	18 51 54.9	-5.1
CTA	**Charters Tower**	**19.33**	**148**	P	**P**	**18 47 41.2**	**+2.2**
	0.4nm,0.3s,baz=324,slow=14,SNR=5.9						
CTAO	**Charters Tower**	**19.33**	**148**	*e*P	**P**	**18 47 40.1**	**+1.0**
	14nm,0.8s						
ASAR	**Alice Springs**	**19.81**	**184**	P	**P**	**18 47 46.3**	**+2.0**
	6.9nm,0.3s,baz=9.0,slow=11,SNR=1050						
ASPA	**Alice Springs**	**19.81**	**184**	*e*P	**P**	**18 47 46.4**	**+2.1**
ASPA				*e*S	**S**	**18 51 18.8**	**-1.3**
FORT	**Forrest**	**27.73**	**194**	*e*P	**P**	**18 49 03.2**	**+2.0**
	20nm,0.6s,mb4.9						
STKA	**Stephens Creek**	**28.53**	**169**	*e*P	**P**	**18 49 08.7**	**+0.3**
	3.1nm,0.9s,mb4.0						
STKA	**Stephens Creek**	**28.53**	**169**	P	**P**	**18 49 08.4**	**0.0**
	4.2nm,0.9s,mb4.2,baz=345,slow=6.5,SNR=9.6						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**42.20**	**303**	P	**P**	**18 51 05.5**	**+0.2**
	0.5nm,0.8s,baz=132,slow=6.8,SNR=5.0						
ASAJ	**Asahikawa**	**48.13**	**7**	P	**P**	**18 51 50.5**	**-1.8**
	2.4nm,0.5s,mb4.5,baz=29,slow=10,SNR=3.4						
LZH	**Lanzhou**	**49.46**	**326**	⇑P	**P**	**18 52 04.0**	**+1.3**
LZH				AP	pP	18 52 13.5	-0.3
LZH				XP	sP	18 52 17.5	-1.0
LZH				AMB	AMB		
	comp=Z,32nm,1.3s,mb5.2						
LZH	**Lanzhou**	**49.46**	**326**	⇑P	**P**	**18 52 03.9**	**+1.2**
	comp=Z,32nm,1.3s,mb5.2						
LZH				pP	pP	18 52 13.5	-0.3
LZH				sP	sP	18 52 17.6	-0.9
GTA	**Gaotai**	**54.06**	**326**	P	**P**	**18 52 37.8**	**+0.5**
GTA				AP	pP	18 52 44.0	-4.6
GTA				XP	sP	18 52 47.0	-6.1
GTA				S	**S**	**19 00 17.5**	**+8.4**
GTA				AMB	AMB		
	comp=Z,3.0nm,1.0s,mb4.2						
GTA				LR	LR		
	comp=N,125nm,16.1s,MS4.2						
GTA				LR	LR		
	comp=E,133nm,16.4s,MS4.2						
GTA				LR	LR		
	comp=Z,184nm,14.1s,MS4.3						
PKI	**Pulchoki**	**57.39**	**306**	*e*P	**P**	**18 53 01.3**	**-0.1**
	comp=Z,6.3nm,0.9s,mb4.7						
KKN	**Kakani**	**57.59**	**306**	*e*P	**P**	**18 53 02.9**	**+0.1**
	comp=Z,9.1nm,0.8s,mb4.9						
DMN	**Daman**	**57.65**	**306**	*e*P	**P**	**18 53 03.5**	**+0.3**
	comp=Z,7.8nm,0.6s,mb4.9						
GKN	**Gorkha**	**58.19**	**306**	*e*P	**P**	**18 53 07.1**	**+0.1**
	comp=Z,15nm,0.8s,mb5.1						
KOLN	**Koldanda**	**58.94**	**306**	*e*P	**P**	**18 53 12.7**	**+0.5**
	comp=Z,12nm,0.8s,mb5.0						
MKAR	**Makanchi Array**	**68.68**	**324**	P	**P**	**18 54 15.9**	**+0.2**
	comp=Z,1.6nm,0.6s,mb4.2,baz=114,slow=7.8,SNR=8.8						
BVAR	**Borovoye Array**	**78.35**	**326**	P	**P**	**18 55 11.7**	**-0.3**
	comp=Z,6.5nm,1.1s,mb4.5,baz=117,slow=6.6,SNR=14						
BRVK	**Borovoye**	**78.42**	**326**	*e*P	**P**	**18 55 11.0**	**-1.5**
	comp=Z,7.1nm,0.9s,mb4.6						
MAW	**Mawson**	**79.90**	**202**	P	**P**	**18 55 21.7**	**+1.5**
	comp=Z,1.2nm,0.8s,mb3.9,baz=119,slow=10,SNR=3.8						
ILAR	**Eielson Array**	**88.18**	**25**	P	**P**	**18 55 59.5**	**-2.4**
	comp=Z,0.6nm,0.7s,mb3.9,baz=230,slow=7.0,SNR=3.9						
ARCES	**ARCESS Array B**	**100.43**	**340**	P	P	18 56 56.1	-2.0
	comp=Z,0.8nm,0.6s,baz=80,slow=7.4,SNR=5.2						
CPUP	**Villa Florida**	**147.61**	**158**	PKPbc	PKPdf	19 02 55.0	+2.6
	comp=Z,1.5nm,0.6s,baz=244,slow=5.6,SNR=4.8						
CPUP	**Villa Florida**	**147.61**	**158**	PKPbc	PKPdf	19 02 59.5	+7.1
LPAZ	**La Paz**	**149.33**	**131**	PKPbc	PKPdf	19 02 59.0	+3.6
	comp=Z,0.3nm,0.3s,baz=247,slow=3.7,SNR=2.4						

MDD ***28*** *18:54:40.2±0.3, 41.48N×7.86W, mbLg1.2/8, Error ellipse: s-maj=4.9km s-min=2.2km az=68.0, PRXIMO*

INMG ***28*** *18:54:40.2±1.1, 41.49N×7.85W, ML1.0, Error ellipse: s-maj=4.1km s-min=1.6km az=80.0*

ISC 28 18:54:38.9±0.6**, 41.52N**±0.03×**7.84W**±0.06**, h2**^{km}±11^{km}**, n14, σ1**^{s}.**00**/18**, Portugal**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PVRL	**Vila Real**	**0.26**	**159**	*e*Pg	**Pg**	**18 54 44.2**	**+0.1**
PVRL				*e*Sg	**Sg**	**18 54 47.6**	**+0.1**
	11nm,0.2s						
PVRL	**Vila Real**	**0.26**	**159**	Pg	**Pg**	**18 54 44.2**	**+0.1**
PVRL				Lg		18 54 47.6	
	5.6nm,0.2s						
ELOB	**Lobios**	**0.39**	**335**	Pg	**Pg**	**18 54 47.5**	**+0.9**
	2.9nm,0.2s,SNR=11						
ELOB				Lg		18 54 53.6	
	5.8nm,0.2s,SNR=7.9						
PVIS	**Viseu**	**0.80**	**183**	*e*Pg	**Pg**	**18 54 54.5**	**-0.4**
PVIS				*e*Sg	**Sg**	**18 55 07.3**	**+1.7**
PBRG	**Braganca**	**0.87**	**70**	*e*P	**Pb**	**18 54 56.9**	**+0.5**
PBRG				*e*S	**Sg**	**18 55 08.1**	**+0.2**
	3.5nm,0.2s						
PBRG	**Braganca**	**0.87**	**70**	P	**Pb**	**18 54 56.9**	**+0.5**
PBRG				S	**Sg**	**18 55 08.1**	**+0.2**
	1.8nm,0.2s						
EZAM	**Zamans**	**0.90**	**315**	Pg	**Pg**	**18 54 57.8**	**+0.9**
	0.6nm,0.1s,SNR=7.9						
EZAM				Lg		18 55 10.2	
	1.3nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**0.93**	**62**	Pg	**Pg**	**18 54 57.9**	**+0.5**
	1.5nm,0.1s,SNR=8.1						
ECAL				Lg		18 55 11.7	
	5.8nm,0.3s,SNR=7.9						
ERUA	**La Rua**	**1.02**	**30**	Pg	**Pg**	**18 54 59.6**	**+0.3**
	4.4nm,0.1s,SNR=7.9						
ERUA				Lg		18 55 14.7	
	3.0nm,0.3s,SNR=7.9						
MTE	**Manteigas**	**1.14**	**169**	*e*S	**Sb**	**18 55 15.9**	**-0.1**
	3.7nm,0.2s						
MTE	**Manteigas**	**1.14**	**169**	S	**Sb**	**18 55 15.9**	**-0.1**
	1.9nm,0.2s						
EMAZ	**Mazaricos**	**1.66**	**330**	Pg	**Pg**	**18 55 10.7**	**-1.4**
	1.8nm,0.2s,SNR=7.9						
EMAZ				Lg		18 55 33.5	
	3.2nm,0.2s,SNR=7.9						
PCBR	**Castelo Branco**	**1.70**	**171**	*e*Sg	**Sg**	**18 55 33.1**	**-2.3**
EPON	**Pontenova**	**1.88**	**16**	Pg	**Pg**	**18 55 14.8**	**-1.7**
	0.2nm,0.1s,SNR=7.9						
EPON				Lg		18 55 40.3	
	0.5nm,0.1s,SNR=7.9						

STR ***28*** *18:59:03.0±0.5, 42.87N×1.44W, h5*^{km}*±1*^{km}*, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

MDD ***28*** *18:59:03.9±0.5, 42.86N×1.38W, h3*^{km}*±8*^{km}*, mbLg1.5/5, Error ellipse: s-maj=3.5km s-min=2.8km az=40.0, PRXIMO AftershockPLICA*

LDG ***28*** *18:59:04.0±0.7, 42.90N×1.41W, h7*^{km}*, Md2.5/2, Ml2.0/2, Error ellipse: s-maj=11.8km s-min=6.6km az=57.0*

ISC 28 18:59:02.2±0.6**, 42.84N**±0.04×**1.42W**±0.04**, h7**^{km}±6^{km}**, n18, σ0**^{s}.**74**/34**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	**0.31**	**28**	*e*Pg	**Pg**	**18 59 09.1**	**+0.6**
SJPF				*e*Sg	**Sg**	**18 59 11.7**	**-1.1**
	38nm,0.3s						
LARF	**Larrau**	**0.38**	**58**	Pg	**Pg**	**18 59 10.0**	**+0.2**
LARF				Sg	**Sg**	**18 59 15.6**	**+0.7**
LARF	**Larrau**	**0.38**	**58**	P	**Pg**	**18 59 10.1**	**+0.3**
LARF				S	**Sg**	**18 59 15.3**	**+0.4**
EALK	**Alkurruntz**	**0.39**	**351**	Pg	**Pg**	**18 59 10.6**	**+0.6**
	2.4nm,0.1s,SNR=7.9						
EALK				Lg		18 59 16.6	
	20nm,0.2s,SNR=7.9						
OSSF	**Osses**	**0.43**	**16**	Pg	**Pg**	**18 59 11.1**	**+0.2**
OSSF				Sg	**Sg**	**18 59 17.1**	**+0.3**
OSSF	**Osses**	**0.43**	**16**	P	**Pg**	**18 59 11.2**	**+0.3**
OSSF				S	**Sg**	**18 59 17.1**	**+0.4**
ORDF	**Ordiarp**	**0.52**	**44**	Pg	**Pg**	**18 59 12.8**	**+0.2**
ORDF				Sg	**Sg**	**18 59 19.5**	**-0.1**
ORDF	**Ordiarp**	**0.52**	**44**	P	**Pg**	**18 59 12.9**	**+0.3**
ORDF				S	**Sg**	**18 59 19.5**	**-0.1**
ATE	**Arette**	**0.58**	**65**	P	**Pg**	**18 59 13.9**	**-0.1**
ATE				S	**Sg**	**18 59 22.1**	**+0.3**
FDAF	**Les Forges d’A**	**0.63**	**92**	Pg	**Pg**	**18 59 14.9**	**0.0**
FDAF				Sg	**Sg**	**18 59 24.9**	**+1.6**
FDAF	**Les Forges d’A**	**0.63**	**92**	P	**Pg**	**18 59 15.2**	**+0.3**
FDAF				S	**Sg**	**18 59 23.8**	**+0.5**
ETSF	**Etsaut**	**0.64**	**84**	*e*Pg	**Pg**	**18 59 14.6**	**-0.4**
ETSF				*e*Sg	**Sg**	**18 59 23.2**	**-0.4**
	8.8nm,0.3s						
VIEF	**Viey**	**1.06**	**87**	S	**Sb**	**18 59 37.2**	**+0.8**
EPF	**Esparros**	**1.31**	**81**	*e*Pn	**Pn**	**18 59 26.7**	**-0.2**
EPF				*e*Pg	**Pg**	**18 59 29.3**	**+0.9**
EPF				*e*Sg	**Sg**	**18 59 44.8**	**-1.0**
	6.7nm,0.3s						
ESAC	**San Caprasio**	**1.32**	**147**	Pg	**Pg**	**18 59 27.7**	**-0.9**
	8.2nm,0.3s,SNR=7.9						
ESAC				Lg		18 59 46.1	
	11nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**1.52**	**286**	Pg	**Pg**	**18 59 31.8**	**-0.9**
	0.4nm,0.1s,SNR=7.9						
ELAN				Lg		18 59 53.3	
	0.8nm,0.2s,SNR=7.9						
ETOR	**Torete**	**2.07**	**193**	Pn	**Pn**	**18 59 38.7**	**+0.9**
	0.4nm,0.2s,SNR=7.9						
ETOR				Pg	**Pg**	**18 59 42.6**	**-1.0**
	0.8nm,0.3s,SNR=7.9						
ETOR				Sn	**Sn**	**19 00 05.0**	**+0.9**
	1.2nm,0.2s,SNR=7.9						
ETOR				Lg		19 00 10.1	
	0.8nm,0.2s,SNR=7.9						
MTLF	**Montolieu**	**2.71**	**78**	*e*Pn	**Pn**	**18 59 46.9**	**-0.1**
MTLF				*e*Sn	**Sn**	**19 00 18.4**	**-2.0**
	0.6nm,0.3s						

ISK ***28*** *19:11:08.8, 38.25N×25.22E, h5*^{km}*, MD3.2*

ATH ***28*** *19:11:09.7, 38.38N×25.45E, h63*^{km}*±14*^{km}*, ML3.2*

ISC 28 19:11:10.4±0.8**, 38.25N**±0.06×**25.30E**±0.05**, h5**^{km}**, n7, σ0**^{s}.**97**/11**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PTL	**Penteli**	**1.15**	**261**	*e*P	**Pb**	**19 11 31.5**	**-0.8**
PTL				*e*S	**Sb**	**19 11 48.7**	**+1.3**
APE	**Apeiranthos**	**1.19**	**171**	PN	**Pn**	**19 11 32.4**	**-1.2**
APE				SN	**Sn**	**19 11 49.3**	**-1.0**
APE	**Apeiranthos**	**1.19**	**171**	*e*P	**Pb**	**19 11 33.0**	**0.0**
APE				*e*S	**Sb**	**19 11 50.0**	**+1.4**
PRK	**Paraskevi**	**1.25**	**37**	*e*P	**Pb**	**19 11 29.8**	**-4.3**
ATH	**Athens Observa**	**1.28**	**258**	*e*P	**Pb**	**19 11 34.5**	**-0.1**
IZM	**Izmir**	**1.55**	**84**	*e*PN	**Pn**	**19 11 38.1**	**-0.7**
IZM				*e*SN	**Sn**	**19 12 00.8**	**+1.3**
AKS	**Akhisar**	**2.07**	**71**	*e*PN	**Pn**	**19 11 46.2**	**0.0**

IDC ***28*** *19:18:40.5±1.6, 25.83S×69.62E, mb3.8/8, mb1 3.8/8, mb1mx3.7/17, Error ellipse: s-maj=57.1km s-min=23.0km az=40.0*

NEIC ***28*** *19:18:42.5±0.7, 25.74S×69.71E, h10*^{km}*, mb4.1/3, Error ellipse: s-maj=26.4km s-min=13.7km az=199.0*

ISC 28 19:18:40.7±0.9**, 25.7S**±0.2×**69.8E**±0.1**, h10**^{km}**, n13, σ0**^{s}.**78**/13**, mb3.8**/11**, Indian Ocean Triple Junction**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LSZ	**Lusaka**	**40.16**	**277**	P	**P**	**19 26 18.6**	**-0.2**
	1.2nm,0.6s,mb3.8						
MBAR	**Mbarara**	**45.15**	**297**	*e*P	**P**	**19 27 00.4**	**+0.8**
	2.7nm,0.9s,mb4.1						
CMAR	**Chiang Mai Arr**	**52.29**	**36**	P	**P**	**19 27 55.3**	**+0.4**
	0.2nm,0.5s,mb3.3,baz=247,slow=6.9,SNR=3.1						
ASAR	**Alice Springs**	**57.79**	**103**	P	**P**	**19 28 34.9**	**+0.2**
	0.3nm,0.9s,mb3.3,baz=246,slow=6.7,SNR=4.6						
WRA	**Warramunga Arr**	**59.29**	**99**	P	**P**	**19 28 46.0**	**+0.8**
	0.4nm,1.0s,mb3.4,baz=245,slow=10,SNR=3.1						
WRA	**Warramunga Arr**	**59.29**	**99**	P	**P**	**19 28 46.0**	**+0.8**
STKA	**Stephens Creek**	**62.21**	**114**	P	**P**	**19 29 04.0**	**-1.0**
	0.7nm,0.7s,mb3.9,baz=233,slow=5.1,SNR=1.8						
STKA	**Stephens Creek**	**62.21**	**114**	P	**P**	**19 29 04.0**	**-1.0**
MKAR	**Makanchi Array**	**73.07**	**9**	P	**P**	**19 30 12.2**	**-0.6**
	1.5nm,0.6s,mb4.1,baz=202,slow=7.1,SNR=11						
BRTR	**Keskin Array B**	**73.32**	**332**	P	**P**	**19 30 14.5**	**+0.1**
	0.8nm,0.8s,mb3.7,baz=158,slow=7.8,SNR=3.4						
IDI	**Anoyia**	**74.06**	**323**	P	**P**	**19 30 18.6**	**-0.1**
	3.9nm,0.9s,mb4.3,baz=70,slow=6.1,SNR=2.7						
KURK	**Kurchatov**	**76.51**	**6**	*e*P	**P**	**19 30 30.8**	**-1.6**
	4.5nm,1.1s,mb4.3						
SONM	**Songino Array**	**80.29**	**24**	P	**P**	**19 30 54.3**	**+1.1**
	0.5nm,0.9s,mb3.5,baz=194,slow=5.9,SNR=3.0						

IDC ***28*** *19:18:44.5±2.7, 12.74N×57.47E, mb3.7/5, mb1 3.9/5, mb1mx3.6/19, Error ellipse: s-maj=67.6km s-min=33.1km az=53.0*

NEIC ***28*** *19:18:46.0±1.8, 12.75N×57.47E, h10*^{km}*, mb3.9/1, Error ellipse: s-maj=44.1km s-min=20.7km az=53.0*

ISC 28 19:18:44.3±2.4**, 12.8N**±0.3×**57.4E**±0.4**, h10**^{km}**, n7, σ0**^{s}.**26**/7**, mb3.6**/6**, Owen Fracture Zone region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**39.86**	**27**	P	**P**	**19 26 19.4**	**-0.3**
	0.9nm,0.6s,mb3.7,baz=208,slow=8.5,SNR=7.3						
MKAR	**Makanchi Array**	**39.86**	**27**	P	**P**	**19 26 19.4**	**-0.3**
CMAR	**Chiang Mai Arr**	**40.33**	**77**	P	**P**	**19 26 23.7**	**-0.2**
	0.7nm,0.8s,mb3.4,baz=277,slow=9.5,SNR=5.7						
ZRNK	**Zerenda**	**41.14**	**11**	P	**P**	**19 26 30.2**	**+0.1**
	2.2nm,0.9s,mb3.8						
BVAR	**Borovoye Array**	**41.47**	**12**	P	**P**	**19 26 33.4**	**+0.5**
	0.6nm,0.7s,mb3.4,baz=187,slow=12,SNR=3.9						
FINES	**FINESS Array B**	**53.63**	**342**	P	**P**	**19 28 07.6**	**-0.3**
	2.5nm,1.0s,mb4.1,baz=135,slow=14,SNR=4.9						
WRA	**Warramunga Arr**	**82.35**	**112**	P	**P**	**19 31 08.4**	**+0.1**
	0.5nm,0.8s,mb3.5,baz=301,slow=4.2,SNR=5.2						

BJI ***28*** *19:25:00.5, 52.40S×26.60E, h10*^{km}*, mB5.6, mb5.7, Msz5.3*

IDC ***28*** *19:25:01.1±0.5, 52.62S×26.49E, mb5.0/16, mb1 5.1/16, mb1mx5.1/16, MS4.6/15, Ms1 4.6/15, ms1mx4.5/24, Error ellipse: s-maj=18.8km s-min=12.1km az=57.0*

NEIC ***28*** *19:25:02.5±0.1, 52.43S×26.56E, h10*^{km}*, mb5.3/37, MS4.8/30, Error ellipse: s-maj=7.5km s-min=6.3km az=49.0*

HRVD ***28*** *19:25:02.5±0.3, 52.59S×26.62E, h12*^{km}*, MW5.2/59, Centroid moment Tensor Solution. LP body waves: s38,c53;Mantle waves: s59,c97; Half duration: 1*^{s}*.0 Moment tensor: Scale 10*^{17}*Nm;* M_{rr}*-0.93±.03;* $M_{\theta\theta}$*0.75±.02;* $M_{\phi\phi}$*0.18±.03;* $M_{r\theta}$*0.14±.08;* $M_{\theta\phi}$*-0.28±.02;* $M_{\phi r}$*-0.19±.08; Best double couple:* M_0*.93×10*^{17} *NP1:* ϕ_s*105°, δ39°, λ-101°. NP2:* ϕ_s*299°, δ52°, λ-81°. Principal axes: T .88, Plg7°, Azm23°; N .08, Plg7°, Azm114°; P -.97, Plg81°, Azm250°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

SYO ***28*** *19:25:02.4, 52.41S×26.57E, h10*^{km}*, MB5.3, MS4.8*

ISC 28 19:25:01.2±0.2**, 52.63S**±0.05×**26.3E**±0.1**, h10**^{km}**, n183, σ1**^{s}.**13**/102**, mb5.2**/51**, MS4.7**/41**, 8C-6D, South of Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SYO	**Syowa Base**	**17.59**	**164**	⇓Pn	**P**	**19 29 07.2**	**-0.5**
SYO	**Syowa Base**	**17.59**	**164**	⇓P	**P**	**19 29 08.9**	**+1.2**
SYO	**Syowa Base**	**17.59**	**164**	⇓Pn	**P**	**19 29 10.5**	**+2.8**
MAIT	**Maitri**	**19.37**	**195**	*e*P	**P**	**19 29 31.0**	**+1.6**
SUR	**Sutherland**	**20.62**	**347**	P	**P**	**19 29 43.0**	**-0.2**
	186nm,1.2s,baz=167,slow=9.3,SNR=26						
SUR				S	**S**	**19 33 14.8**	**-14**
	7.1nm,0.9s,baz=270,slow=20,SNR=4.2						
SUR				LR	LR	19 35 50.0	
	comp=Z,3µm,21.9s,MS4.7,baz=166,slow=31						
SUR	**Sutherland**	**20.62**	**347**	*e*P	**P**	**19 29 42.2**	**-1.0**
	311nm,1.3s						
SUR				LR	LR		
	comp=Z,932nm,22.0s,MS4.1						
SNAA	**Sanae**	**23.01**	**203**	⇑*i*	**P**	**19 30 11.0**	**+4.3**
SNAA	**Sanae**	**23.01**	**203**	⇑*i*	**P**	**19 30 14.7**	**+8.0**
SNAA	**Sanae**	**23.01**	**203**	P	**P**	**19 30 09.5**	**+2.8**
	comp=Z,12nm,0.8s,mb4.4,baz=59,slow=9.5,SNR=106						
SNAA				LR	LR	19 36 58.7	
	comp=Z,1µm,21.4s,MS4.2,baz=359,slow=31						
SNAA	**Sanae**	**23.01**	**203**	⇑*i*P	**P**	**19 30 11.0**	**+4.3**
MAW	**Mawson**	**23.10**	**144**	P	**P**	**19 30 09.0**	**+1.4**
	comp=Z,160nm,0.9s,mb5.5,baz=284,slow=8.6,SNR=94						
MAW				S	**S**	**19 34 19.3**	**+5.0**
	comp=Z,2.0nm,0.4s,baz=121,slow=19,SNR=4.2						
MAW				LR	LR	19 37 21.6	
	comp=Z,978nm,19.6s,MS4.3,baz=293,slow=32						
MAW	**Mawson**	**23.10**	**144**	*e*P	**P**	**19 30 08.6**	**+1.0**
	comp=Z,392nm,1.1s,mb5.8						
VNA2	**Neumayer--Watz**	**23.74**	**207**	⇑*i*	**P**	**19 30 20.9**	**+7.1**
VNA2	**Neumayer--Watz**	**23.74**	**207**	⇑*i*	**P**	**19 30 24.5**	**+11**
VNA1	**Neumayer--Stat**	**23.84**	**208**	⇑*i*	**P**	**19 30 21.2**	**+6.5**
VNA3	**Neumayer Olymp**	**24.54**	**207**	⇑*i*	**P**	**19 30 26.7**	**+5.2**
VNA3	**Neumayer Olymp**	**24.54**	**207**	⇑*i*	**P**	**19 30 31.1**	**+10**
TSUM	**Tsumeb**	**34.04**	**345**	P	**P**	**19 31 47.1**	**-0.5**
	comp=Z,52nm,0.8s,mb5.5,baz=160,slow=9.1,SNR=83						
TSUM				LR	LR	19 43 55.7	
	comp=Z,2µm,20.6s,MS4.8,baz=159,slow=33						
TSUM	**Tsumeb**	**34.04**	**345**	*e*P	**P**	**19 31 46.5**	**-1.0**
	comp=Z,71nm,0.8s,mb5.7						
TSUM				LR	LR		
	comp=Z,2µm,19.0s,MS4.8						
LSZ	**Lusaka**	**37.29**	**3**	*e*P	**P**	**19 32 13.9**	**-1.2**
	comp=Z,22nm,0.9s,mb5.0						
QSPA	**South Pole Qui**	**37.60**	**180**	*e*P	**P**	**19 32 18.0**	**+0.9**
	comp=Z,120nm,0.9s,mb5.6						
QSPA				*e*		19 33 43.9	
QSPA				LR	LR		
	comp=Z,2µm,20.4s,MS5.0						
CASY	**Casey**	**41.43**	**143**	*e*P	**P**	**19 32 49.0**	**0.0**
	comp=Z,34nm,1.1s,mb4.9						
CASY				LR	LR		
	comp=Z,720nm,20.0s,MS4.5						
PMSA	**Palmer Station**	**44.39**	**218**	*e*P	**P**	**19 33 11.2**	**-1.7**
	comp=Z,54nm,1.1s,mb5.2						
SBA	**Scott Base**	**47.53**	**169**	*e*P	**P**	**19 33 39.0**	**+1.2**
	comp=Z,104nm,1.4s,mb5.7						
USHA	**Ushuaia**	**51.87**	**227**	LR	LR	19 51 17.8	
	comp=Z,1µm,19.1s,MS5.0,baz=87,slow=30						
MBAR	**Mbarara**	**51.97**	**6**	PFAKE		19 34 20.0	+7.3
MBAR				LR	LR		
	comp=Z,394nm,20.0s,MS4.4						
KMBO	**Kilima Mbogo**	**52.13**	**14**	P	**P**	**19 34 14.7**	**+0.9**
	comp=Z,2.5nm,0.8s,mb4.2,baz=41,slow=23,SNR=5.7						
KMBO				LR	LR	19 54 35.5	
	comp=Z,1µm,19.1s,MS5.0,baz=279,slow=34						
KMBO	**Kilima Mbogo**	**52.13**	**14**	*e*P	**P**	**19 34 14.7**	**+0.9**
	comp=Z,11nm,1.2s,mb4.7						
KMBO				LR	LR		
	comp=Z,1µm,19.0s,MS5.0						
CAM4	**Nova Friburgo**	**59.79**	**272**	⇓*i*P	**P**	**19 35 09.2**	**+0.4**
CAM4				*i*		19 35 18.3	
TRQA	**Tornquist**	**59.93**	**246**	*e*P	**P**	**19 35 09.1**	**-0.5**
	comp=Z,83nm,1.2s,mb5.6						
LIC	**Lamto**	**64.39**	**325**	*e*P	**P**	**19 35 37.7**	**-1.9**
	comp=Z,94nm,1.1s,mb5.4						
LIC	**Lamto**	**64.39**	**325**	*e*P	**P**	**19 35 38.0**	**-1.6**
	comp=Z,113nm,1.1s,mb5.8						
KIC	**Kosan Boka**	**64.41**	**325**	*e*P	**P**	**19 35 38.1**	**-1.7**
	comp=Z,76nm,1.2s,mb5.6						
DBIC	**Dimbokro**	**64.74**	**325**	P	**P**	**19 35 40.4**	**-1.5**
	comp=Z,24nm,0.9s,mb5.2,baz=136,slow=8.4,SNR=18						
DBIC				LR	LR	19 59 58.1	
	comp=Z,292nm,18.5s,MS4.5,baz=144,slow=32						
DBIC	**Dimbokro**	**64.74**	**325**	*e*P	**P**	**19 35 39.7**	**-2.3**
	comp=Z,41nm,0.9s,mb5.5						
DBIC				LR	LR		
	comp=Z,520nm,21.0s,MS4.7						
TIC	**Toumodi**	**64.78**	**325**	*e*P	**P**	**19 35 40.7**	**-1.5**
	comp=Z,203nm,0.9s,mb6.2						
NWAO	**Narrogin (SRO)**	**65.13**	**112**	*e*P	**P**	**19 35 42.5**	**-1.7**
	comp=Z,16nm,0.7s,mb5.2						
MUN	**Mundaring**	**65.25**	**111**	*e*P	**P**	**19 35 43.9**	**-1.0**
	comp=Z,19nm,1.5s,mb4.9						
CPUP	**Villa Florida**	**65.77**	**258**	P	**P**	**19 35 48.3**	**-0.1**
	comp=Z,17nm,0.8s,mb5.1,baz=148,slow=5.2,SNR=38						
CPUP				LR	LR	19 59 49.9	
	comp=Z,341nm,18.7s,MS4.6,baz=170,slow=32						
CPUP	**Villa Florida**	**65.77**	**258**	*e*P	**P**	**19 35 48.0**	**-0.4**
	comp=Z,29nm,0.8s,mb5.4						
CPUP				LR	LR		
	comp=Z,478nm,21.0s,MS4.7						
KLBR	**Kellerberrin**	**66.42**	**111**	*e*P	**P**	**19 35 50.7**	**-1.7**
	comp=Z,23nm,1.0s,mb5.2						
BAO	**Brasilia Array**	**68.21**	**273**	P	**P**	**19 36 04.5**	**+0.5**
BDFB	**Brasilia**	**68.22**	**273**	P	**P**	**19 36 04.8**	**+0.8**
	comp=Z,15nm,0.8s,mb5.1,baz=134,slow=3.8,SNR=19						
BDFB				LR	LR	19 59 47.9	
	comp=Z,457nm,21.6s,MS4.7,baz=143,slow=30						
DJNS	**Zahran al Janu**	**71.62**	**17**	P	**P**	**19 36 26.0**	**+1.3**
FORT	**Forrest**	**72.74**	**118**	*e*P	**P**	**19 36 30.3**	**-0.8**
	comp=Z,61nm,0.7s,mb5.6						
TATS	**Tathlith**	**73.40**	**17**	P	**P**	**19 36 36.0**	**+0.8**
BLJS	**Baljurashi**	**73.42**	**15**	P	**P**	**19 36 37.0**	**+1.7**
LTHS	**Al Lith**	**73.62**	**14**	P	**P**	**19 36 36.9**	**+0.4**
KAMS	**Al Khamasin**	**74.35**	**18**	P	**P**	**19 36 41.0**	**+0.3**
LVC	**Limon Verde**	**75.42**	**252**	*e*P	**P**	**19 36 45.3**	**-1.5**
	comp=Z,32nm,1.2s,mb5.1						
LVC				LR	LR		
	comp=Z,242nm,21.0s,MS4.5						
MBWA	**Marble Bar**	**75.50**	**106**	*e*P	**P**	**19 36 45.7**	**-1.6**
	comp=Z,34nm,0.9s,mb5.3						
TOO	**Toolangi**	**75.81**	**134**	*e*P	**P**	**19 36 49.1**	**+0.3**
	comp=Z,13nm,1.0s,mb4.8						
YNBS	**Yanbu‘ al Bahr**	**77.31**	**11**	P	**P**	**19 36 58.5**	**+1.1**
AFFS	**‘Afif**	**77.61**	**16**	P	**P**	**19 36 59.6**	**+0.5**
RAYN	**Ar Rayn**	**77.65**	**18**	P	**P**	**19 36 59.4**	**+0.1**
	comp=Z,70nm,1.0s,mb5.5,SNR=15						
MZLS	**Mizel**	**78.09**	**18**	P	**P**	**19 37 02.3**	**+0.6**
UMJS	**Umm Lajj**	**78.12**	**10**	P	**P**	**19 37 02.8**	**+0.9**
STKA	**Stephens Creek**	**78.75**	**128**	⇓*i*P	**P**	**19 37 05.2**	**0.0**
	comp=Z,20nm,0.8s,mb5.1						
STKA	**Stephens Creek**	**78.75**	**128**	P	**P**	**19 37 05.2**	**0.0**
	comp=Z,22nm,0.8s,mb5.1,baz=193,slow=3.6,SNR=56						
KBRS	**Khaybar**	**78.89**	**12**	P	**P**	**19 37 07.2**	**+1.1**
RPZ	**Rata Peaks**	**79.34**	**155**	LR	LR	20 10 22.2	
	comp=Z,419nm,19.3s,MS4.8,baz=192,slow=34						
ARSS	**Ar Rass**	**79.56**	**15**	P	**P**	**19 37 10.0**	**+0.3**
LPAZ	**La Paz**	**79.88**	**257**	P	**P**	**19 37 13.2**	**+1.6**
	comp=Z,2.1nm,0.7s,mb4.2,baz=123,slow=3.9,SNR=10						
LPAZ				LR	LR	20 10 26.6	
	comp=Z,181nm,18.5s,MS4.5,baz=139,slow=34						
HILS	**Ha’il**	**80.81**	**14**	P	**P**	**19 37 17.0**	**+0.7**
AYUS	**‘Aynunah**	**80.85**	**8**	P	**P**	**19 37 17.6**	**+1.0**
TBKS	**Tabuk**	**81.00**	**9**	P	**P**	**19 37 18.7**	**+1.4**
BDAS	**Al Bad‘**	**81.08**	**8**	P	**P**	**19 37 19.1**	**+1.4**
TAYS	**Tayyib Ism**	**81.17**	**8**	P	**P**	**19 37 19.2**	**+0.9**
FITZ	**Fitzroy Crossi**	**81.33**	**108**	*e*P	**P**	**19 37 18.7**	**-0.5**
	comp=Z,16nm,0.9s,mb4.9						
ASPA	**Alice Springs**	**81.52**	**118**	*e*P	**P**	**19 37 19.9**	**-0.2**
ASAR	**Alice Springs**	**81.52**	**118**	P	**P**	**19 37 19.9**	**-0.3**
	comp=Z,25nm,0.7s,mb5.3,baz=212,slow=4.9,SNR=310						
ASAR				PKiKP		19 42 43.1	
	comp=Z,0.5nm,0.8s,baz=186,slow=0.5,SNR=4.0						
ASAR				PKKPbc		19 55 52.3	
	comp=Z,0.7nm,0.8s,baz=28,slow=2.1,SNR=6.9						
JMQS	**Jabal Moqyreh**	**81.59**	**8**	P	**P**	**19 37 21.5**	**+1.1**
HAQS	**Haql**	**81.68**	**8**	P	**P**	**19 37 22.3**	**+1.5**
JMOS	**Jabal al Moall**	**81.81**	**8**	P	**P**	**19 37 23.2**	**+1.7**
ALWS	**Ilw as Safayha**	**81.94**	**8**	P	**P**	**19 37 23.8**	**+1.6**
SAML	**Samuel**	**82.65**	**265**	*e*P	**P**	**19 37 26.1**	**0.0**
	comp=Z,21nm,1.0s,mb5.1						
SAML				LR	LR		
	comp=Z,199nm,19.0s,MS4.5						
HYB	**Hyderabad**	**83.08**	**49**	*i* P	**P**	**19 37 28.0**	**-0.3**
HYB	**Hyderabad**	**83.08**	**49**	*e*P	**P**	**19 37 28.0**	**-0.3**
RDF	**Al-Radifah**	**83.30**	**19**	*e*P	**P**	**19 37 29.6**	**+0.4**
RDF				AMb	AMB	19 37 31.6	
	comp=Z,78nm,1.0s,mb5.7						
KBD	**Kabd**	**83.57**	**19**	*e*P	**P**	**19 37 31.4**	**+0.8**
RST	**Umm Al-Ruwaisa**	**83.75**	**18**	*e*P	**P**	**19 37 32.0**	**+0.5**
RST				AMb	AMB	19 37 34.0	
	comp=Z,52nm,1.2s,mb5.5						
UMR	**Umm Al-Rimmam**	**83.94**	**19**	*e*P	**P**	**19 37 32.3**	**-0.2**
UMR				AMb	AMB	19 37 34.1	
	comp=Z,84nm,1.0s,mb5.8						
MIB	**Mutribah**	**84.11**	**18**	*e*P	**P**	**19 37 33.8**	**+0.5**
MIB				AMb	AMB	19 37 35.8	
	comp=Z,51nm,1.2s,mb5.5						
WRA	**Warramunga Arr**	**84.77**	**116**	P	**P**	**19 37 36.4**	**-0.3**
	comp=Z,30nm,0.8s,mb5.4,baz=212,slow=4.0,SNR=181						
WRA				PKKPbc		19 55 45.0	
	comp=Z,0.4nm,0.6s,baz=23,slow=2.2,SNR=7.4						
WB2	**Warramunga Arr**	**84.77**	**116**	⇓*i*P	**P**	**19 37 36.4**	**-0.4**
WRAB	**Tennant Creek**	**84.78**	**116**	*e*P	**P**	**19 37 36.0**	**-0.8**
	comp=Z,90nm,0.9s,mb5.9						
WRAB				LR	LR		
	comp=Z,176nm,20.0s,MS4.5						
ASF	**Jabal al Asfar**	**84.94**	**9**	P	**P**	**19 37 38.1**	**+0.7**
	comp=Z,10nm,0.9s,mb5.0,baz=57,slow=4.1,SNR=14						
URZ	**Urewera**	**85.99**	**157**	LR	LR	20 13 42.1	
	comp=Z,684nm,20.1s,MS5.0,baz=216,slow=34						
KAKA	**Kakadu**	**89.53**	**110**	*e*P	**P**	**19 38 04.0**	**+4.0**
	comp=Z,8.6nm,0.6s,mb5.3						
CTA	**Charters Tower**	**90.88**	**125**	*e*P	**P**	**19 38 06.1**	**-0.1**
	comp=Z,7.0nm,1.0s,mb5.0						
BRTR	**Keskin Array B**	**92.19**	**6**	P	**P**	**19 38 11.9**	**+0.2**
	comp=Z,4.7nm,0.9s,mb4.8,baz=180,slow=7.4,SNR=22						
BRTR				LR	LR	20 23 30.0	
	comp=Z,220nm,20.1s,MS4.6,baz=325,slow=38						
GNI	**Garni**	**93.77**	**14**	LR	LR	20 19 01.6	
	comp=Z,327nm,21.0s,MS4.8,baz=226,slow=35						
KOLN	**Koldanda**	**94.33**	**48**	*e*P	**P**	**19 38 20.9**	**-1.0**
	comp=Z,30nm,1.3s,mb5.6						
CMAR	**Chiang Mai Arr**	**94.40**	**65**	P	**P**	**19 38 22.0**	**-0.4**
	comp=Z,0.9nm,0.9s,mb4.2,baz=226,slow=4.8,SNR=6.2						
CMAR				LR	LR	20 15 48.9	
	comp=Z,137nm,18.3s,MS4.5,baz=260,slow=32						
DMN	**Daman**	**94.89**	**50**	*e*P	**P**	**19 38 23.5**	**-0.9**
	comp=Z,11nm,1.0s,mb5.2						
PKI	**Pulchoki**	**95.00**	**50**	*e*P	**P**	**19 38 23.4**	**-1.6**
	comp=Z,27nm,1.5s,mb5.5						
KKN	**Kakani**	**95.12**	**50**	*e*P	**P**	**19 38 24.3**	**-1.2**
	comp=Z,36nm,1.4s,mb5.6						
ESDC	**Sonseca Array**	**95.61**	**337**	P	**P**	**19 38 28.2**	**+0.7**

	comp=Z,1.5nm,0.7s,mb4.5,baz=166,slow=4.8,SNR=5.9						
PGF	**Pioggiola**	**95.97**	**347**	*e*P	**P**	**19 38 24.7**	**-4.4**
	comp=Z,28nm,1.3s,mb5.2						
LMR	**La Mourre**	**97.09**	**346**	*e*P	**P**	**19 38 30.2**	**-3.9**
	comp=Z,13nm,1.0s,mb5.0						
MTLF	**Montolieu**	**97.82**	**343**	*e*P	**P**	**19 38 34.9**	**-2.5**
	comp=Z,13nm,1.2s,mb5.0						
ETSF	**Etsaut**	**97.93**	**340**	*e*P	**P**	**19 38 34.2**	**-3.7**
	comp=Z,14nm,1.2s,mb5.1						
ORIF	**Oris-en-Rattie**	**98.74**	**345**	*e*P	**P**	**19 38 39.3**	**-2.2**
OTAV	**Otavalo**	**99.12**	**258**	PFAKE		19 39 00.0	+16
OTAV				LR	LR		
	comp=Z,246nm,20.0s,MS4.7						
LPG	**La Plagne**	**99.17**	**346**	*e*P	**P**	**19 38 41.5**	**-1.9**
	comp=Z,13nm,1.2s,mb5.0						
LPL	**La Plagne**	**99.20**	**346**	*e*P	**P**	**19 38 41.3**	**-2.2**
	comp=Z,7.4nm,1.0s,mb4.8						
LSA	**Lhasa**	**99.51**	**53**	PFAKE		19 39 00.0	+15
LSA				LR	LR		
	comp=Z,280nm,22.0s,MS4.7						
AVF	**Avril sur Loir**	**100.97**	**344**	*e*P	P	19 38 49.1	-2.4
	comp=Z,7.6nm,1.1s						
SDV	**Santo Domingo**	**101.21**	**270**	PFAKE		19 39 10.0	+17
SDV				LR	LR		
	comp=Z,348nm,21.0s,MS4.8						
ENH	**Enshi**	**109.57**	**66**	PFAKE		19 43 40.0	
ENH				LR	LR		
	comp=Z,298nm,21.0s,MS4.8						
MKAR	**Makanchi Array**	**109.98**	**37**	PKiKP		19 43 33.5	
	comp=Z,0.9nm,0.9s,baz=225,slow=2.0,SNR=2.6						
LZH	**Lanzhou**	**111.00**	**58**	*e*PKP	PKPdf	19 43 36.3	-0.9
LZH				XPKP		19 43 40.8	
LZH				*e*PP	PP	19 44 19.8	+2.6
LZH				PP	PP		
	comp=Z,116nm,7.1s						
LZH				LR	LR		
	comp=Z,757nm,20.0s,MS5.3						
LZH	**Lanzhou**	**111.00**	**58**	*e*PKP	PKPdf	19 43 36.2	-1.0
LZH				pPKP		19 43 39.5	
LZH				sPKP		19 43 40.7	
LZH				*e*PP	PP	19 44 19.8	+2.6
LZH				PKS	tx	19 49 11.5	
LZH				SKKS		19 51 13.6	
LZH				SS	SS	20 00 00.5	+15
LZH				LR	LR		
	comp=Z,760nm,20.0s,MS5.3						
BRVK	**Borovoye**	**111.54**	**27**	PFAKE		19 43 50.0	+12
BRVK				LR	LR		
	comp=Z,72nm,21.0s,MS4.2						
ARU	**Arti**	**111.88**	**19**	PFAKE		19 43 50.0	+12
ARU				LR	LR		
	comp=Z,79nm,22.0s,MS4.3						
KURK	**Kurchatov**	**112.02**	**33**	PFAKE		19 43 50.0	+11
KURK				LR	LR		
	comp=Z,52nm,20.0s,MS4.1						
FINES	**FINESS Array B**	**113.72**	**360**	PKKPab		19 54 29.1	
	comp=Z,1.5nm,0.7s,baz=297,slow=4.3,SNR=3.8						
HHC	**Hu-ho-hao-te**	**118.57**	**59**	*e*PKP	PKPdf	19 43 43.8	-8.1
HHC				XPKP		19 43 51.5	
HHC				LR	LR		
	comp=Z,113nm,26.8s,MS4.4						
BJT	**Baijiatuau**	**120.44**	**63**	PFAKE		19 44 00.0	+4.5
BJT				LR	LR		
	comp=Z,325nm,19.0s,MS5.0						
SONM	**Songino Array**	**121.00**	**51**	PKP	PKPdf	19 43 55.0	-1.5
	comp=Z,1.4nm,1.0s,baz=270,slow=2.9,SNR=4.1						
ARCES	**ARCESS Array B**	**121.85**	**360**	PKP	PKPdf	19 43 54.2	-3.3
	comp=Z,1.8nm,0.6s,baz=180,slow=2.4,SNR=10						
ARCES	**ARCESS Array B**	**121.85**	**360**	PKP	PKPdf	19 43 54.2	-3.3
HIA	**Hailar**	**128.53**	**57**	PFAKE		19 44 20.0	+9.2
HIA				LR	LR		
	comp=Z,416nm,20.0s,MS5.1						
SCHQ	**Schefferville**	**131.75**	**309**	PKP	PKPdf	19 44 14.4	-2.3
	comp=Z,5.1nm,0.8s,baz=57,slow=7.1,SNR=5.0						
LTX	**Lajitas**	**136.75**	**258**	PFAKE		19 44 40.0	+13
LTX				LR	LR		
	comp=Z,379nm,19.0s,MS5.2						
TXAR	**Lajitas Array**	**136.75**	**258**	PKhKP		19 44 20.6	
	comp=Z,1.2nm,0.8s,baz=117,slow=2.8,SNR=3.9						
TXAR				PKP	PKPdf	19 44 25.8	-0.8
	comp=Z,2.6nm,0.7s,baz=153,slow=4.0,SNR=16						
ANMO	**Albuquerque**	**142.38**	**261**	*e*PKPdf	PKPdf	19 44 33.6	-3.0
ANMO				LR	LR		
	comp=Z,292nm,20.0s,MS5.0						
TUC	**Tucson**	**143.11**	**254**	*e*PKPdf	PKPdf	19 44 33.2	-4.7
SDCO	**Great Sand Dun**	**143.65**	**265**	*e*PKPdf	PKPdf	19 44 34.4	-4.2
SDCO				LR	LR		
	comp=Z,426nm,20.0s,MS5.2						
ULM	**Lac du Bonnet**	**144.71**	**290**	PKP	PKPdf	19 44 37.2	-2.9
	comp=Z,12nm,0.7s,baz=117,slow=2.4,SNR=11						
ULM	**Lac du Bonnet**	**144.71**	**290**	*e*PKPdf	PKPdf	19 44 35.6	-4.5
ISCO	**Idaho Springs**	**145.00**	**268**	*e*PKPdf	PKPdf	19 44 38.8	-2.2
ISCO				LR	LR		
	comp=Z,362nm,20.0s,MS5.2						
RW3	**Ridgway**	**145.29**	**264**	*e*PKPdf	PKPdf	19 44 40.4	-1.2
SRU	**San Rafael**	**147.56**	**263**	*e*PKPdf	PKPdf	19 44 43.1	-2.2
SRU				*e*PKPbc	PKPdf	19 44 46.6	+1.3
NEN	**Nelson**	**147.85**	**254**	*e*PKPbc	PKPdf	19 44 47.9	+2.0
RES	**Resolute Bay**	**148.01**	**335**	*e*PKPbc	PKPdf	19 44 46.9	+1.9
TMUT	**Trail Mountain**	**148.09**	**262**	*e*PKPdf	PKPdf	19 44 44.7	-1.4
TMUT				*e*PKPbc	PKPdf	19 44 48.8	+2.6
MSU	**Marysvale**	**148.18**	**260**	*e*PKPdf	PKPdf	19 44 46.4	+0.1
MSU				*e*PKPbc	PKPdf	19 44 49.5	+3.2
MVU	**Marysvale**	**148.19**	**260**	*e*PKPdf	PKPdf	19 44 46.3	0.0
MVU				*e*PKPbc	PKPdf	19 44 49.3	+3.0
DGMT	**Dagmar**	**148.78**	**283**	*e*PKPdf	PKPdf	19 44 46.4	-0.5
DGMT				*e*PKPbc	PKPdf	19 44 49.7	+2.7
DGMT				LR	LR		
	comp=Z,239nm,19.0s,MS5.0						
MPU	**Maple Canyon**	**148.79**	**263**	*e*PKPbc	PKPdf	19 44 50.0	+2.8
DAU	**Daniels Canyon**	**148.81**	**264**	*e*PKPdf	PKPdf	19 44 47.0	-0.3
DAU				*e*PKPbc	PKPdf	19 44 50.6	+3.4
NLU	**North Lily Min**	**149.02**	**263**	*e*PKPdf	PKPdf	19 44 46.4	-1.2
NLU				*e*PKPbc	PKPdf	19 44 51.0	+3.4
JLU	**Jordanelle**	**149.04**	**264**	*e*PKPdf	PKPdf	19 44 46.6	-1.0
JLU				*e*PKPbc	PKPdf	19 44 51.1	+3.4
PDAR	**Pinedale Array**	**149.15**	**269**	PKP	PKPdf	19 44 45.5	-2.3
	comp=Z,13nm,0.8s,baz=95,slow=4.4,SNR=38						
PDAR				PKPbc	PKPdf	19 44 50.0	+2.3
	comp=Z,13nm,0.8s,baz=117,slow=4.0,SNR=51						
LAO	**LASA Array**	**149.16**	**278**	*e*PKPdf	PKPdf	19 44 46.2	-1.4
LAO				*e*PKPbc	PKPdf	19 44 50.7	+3.1
CTU	**Camp Tracy**	**149.27**	**264**	*e*PKPdf	PKPdf	19 44 47.2	-0.8
CTU				*e*PKPbc	PKPdf	19 44 51.4	+3.4
TCUT	**Toone Canyon**	**149.32**	**265**	*e*PKPdf	PKPdf	19 44 48.2	+0.1
TPNV	**Topopah Spring**	**149.56**	**254**	*e*PKPdf	PKPdf	19 44 48.3	-0.3
TPNV				*e*PKPbc	PKPdf	19 44 52.6	+4.0
TPNV				LR	LR		
	comp=Z,290nm,19.0s,MS5.1						
DUG	**Dugway**	**149.62**	**262**	*e*PKPdf	PKPdf	19 44 47.8	-0.8
DUG				*e*PKPbc	PKPdf	19 44 52.5	+3.9
HWUT	**Hardware Ranch**	**149.71**	**266**	*e*PKPdf	PKPdf	19 44 47.0	-1.6
HWUT				*e*PKPbc	PKPdf	19 44 51.6	+2.9
FFC	**Flin Flon**	**149.86**	**295**	*e*PKPbc	PKPdf	19 44 51.4	+2.9
FFC				*e*PKPab	PKPab	19 44 57.9	-0.1
DAC	**Darwin (Calif)**	**149.88**	**252**	*e*PKPbc	PKPdf	19 44 53.4	+4.3
SPUT	**South Promonto**	**150.07**	**264**	*e*PKPdf	PKPdf	19 44 48.2	-1.1
SPUT				*e*PKPbc	PKPdf	19 44 53.0	+3.8
BGU	**Big Grassy Mou**	**150.19**	**263**	*e*PKPdf	PKPdf	19 44 48.5	-1.0
BGU				*e*PKPbc	PKPdf	19 44 53.4	+3.9
LOHW	**Long Hollow**	**150.25**	**270**	*e*PKPdf	PKPdf	19 44 48.4	-1.1
LOHW				*e*PKPbc	PKPdf	19 44 53.4	+3.9
REDW	**Red Top Meadow**	**150.27**	**269**	*e*PKPdf	PKPdf	19 44 48.3	-1.2
REDW				*e*PKPbc	PKPdf	19 44 53.4	+3.9
WUWY	**Wally Ulrich**	**150.30**	**270**	*e*PKPdf	PKPdf	19 44 48.4	-1.1
TPAW	**Teton Pass**	**150.40**	**269**	*e*PKPdf	PKPdf	19 44 48.5	-1.2
TPAW				*e*PKPbc	PKPdf	19 44 53.2	+3.6
MOOW	**Moose Ponds**	**150.41**	**270**	*e*PKPdf	PKPdf	19 44 48.3	-1.4
MOOW				*e*PKPbc	PKPdf	19 44 53.5	+3.8
HVU	**Hansel Valley**	**150.54**	**265**	*e*PKPdf	PKPdf	19 44 48.8	-1.1
HVU				*e*PKPbc	PKPdf	19 44 54.0	+4.0
IMW	**Indian Meadow**	**150.61**	**270**	*e*PKPdf	PKPdf	19 44 49.1	-0.9
IMW				*e*PKPbc	PKPdf	19 44 54.5	+4.5
GCMT	**Greycliff**	**150.81**	**274**	*e*PKPdf	PKPdf	19 44 49.8	-0.4
GCMT				*e*PKPbc	PKPdf	19 44 54.6	+4.4
YFT	**Old Faithful**	**150.84**	**271**	*e*PKPbc	PKPdf	19 44 55.5	+5.2
YNR	**Norris Junctio**	**150.88**	**272**	*e*PKPdf	PKPdf	19 44 50.1	-0.3
TPH	**Tonopah**	**150.89**	**255**	*e*PKPdf	PKPdf	19 44 50.4	-0.2
TPH				*e*PKPbc	PKPdf	19 44 55.8	+5.2
MTUM	**Tungsten Hills**	**151.19**	**252**	*e*PKPdf	PKPdf	19 44 51.1	+0.1
MTUM				*e*PKPbc	PKPdf	19 44 56.7	+5.6
QLMT	**Earthquake Lak**	**151.40**	**271**	*e*PKPdf	PKPdf	19 44 50.8	-0.3
QLMT				*e*PKPbc	PKPdf	19 44 57.2	+6.1
ELK	**Elko**	**151.41**	**261**	*e*PKPdf	PKPdf	19 44 51.1	-0.2
ELK				*e*PKPbc	PKPdf	19 44 57.1	+5.8
ELK				*e*PKPab	PKPab	19 45 04.4	-0.6
OMM	**Old Mammoth Mi**	**151.62**	**252**	*e*PKPdf	PKPdf	19 44 51.3	-0.4
MNV	**Mina**	**151.68**	**254**	*e*PKPdf	PKPdf	19 44 51.4	-0.4
MNV				*e*PKPbc	PKPdf	19 44 57.7	+5.9
BOZ	**Bozeman (W)**	**151.94**	**273**	*e*PKPdf	PKPdf	19 44 50.8	-1.1
BOZ				*e*PKPbc	PKPdf	19 44 57.4	+5.5
BOZ				LR	LR		
	comp=Z,331nm,21.0s,MS5.1						
LRV	**Little Rabbit**	**151.94**	**248**	*e*PKPdf	PKPdf	19 44 53.1	+0.9
LRV				*e*PKPbc	PKPdf	19 44 59.4	+7.2
MCMT	**McKenzie Canyo**	**152.26**	**270**	*e*PKPdf	PKPdf	19 44 51.5	-1.0
MCMT				*e*PKPbc	PKPdf	19 44 58.6	+6.2
SAO	**San Andreas Ge**	**152.43**	**248**	*e*PKPdf	PKPdf	19 44 51.8	-1.1
SAO				*e*PKPbc	PKPdf	19 44 59.3	+6.3
SAO				LR	LR		
	comp=Z,125nm,19.0s,MS4.7						
HLID	**Hailey**	**152.54**	**267**	*e*PKPdf	PKPdf	19 44 51.6	-1.3
HLID				*e*PKPbc	PKPdf	19 44 59.4	+6.6
HLID				LR	LR		
	comp=Z,308nm,20.0s,MS5.1						
HRY	**Holter Researc**	**152.57**	**274**	*e*PKPdf	PKPdf	19 44 51.6	-1.2
HRY				*e*PKPbc	PKPdf	19 44 59.1	+6.3
CMB	**Columbia Colle**	**152.71**	**251**	*e*PKPdf	PKPdf	19 44 52.9	-0.3
CMB				*e*PKPbc	PKPdf	19 44 59.0	+5.8
CHMT	**Chamberlain Mo**	**153.53**	**274**	*e*PKPdf	PKPdf	19 44 52.2	-1.9
CHMT				*e*PKPbc	PKPdf	19 45 00.7	+6.6
WDC	**Whiskeytown Da**	**155.65**	**253**	*e*PKPdf	PKPdf	19 44 55.4	-1.7
DPW	**Davenport**	**156.97**	**272**	*e*PKPdf	PKPdf	19 44 56.5	-2.1
DPW				*e*PKPab	PKPab	19 45 28.5	+0.2
DPW				*e*PP	PP	19 49 08.1	+0.5
YKA	**Yellowknife Ar**	**157.19**	**311**	PKPab	PKPab	19 45 28.1	-0.7
	comp=Z,6.1nm,0.8s,baz=81,slow=5.0,SNR=11						
ILAR	**Eielson Array**	**167.33**	**347**	PKPab	PKPab	19 46 12.9	+0.3
	comp=Z,3.0nm,1.0s,baz=348,slow=4.4,SNR=9.8						

CASC 28 19:30:02.9±2.3**,13.26N**×**91.36W,h4**^{km}±14^{km}**,MD4.1,**
ML3.9,3C-2D,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**1.08**	**345⇓**	*e*P	Pb	19 30 22.5	-1.3
JAT				*e*S	Sb	19 30 39.0	+0.8
JAT				AML	AML	19 30 44.0	
	comp=N,2µm,0.3s						
IXG	**Ixpaco**	**1.26**	**44⇑**	*e*P	Pb	19 30 25.4	-1.4
IXG				*e*S	Sb	19 30 44.7	+1.5
IXG				AML	AML	19 30 55.1	
	comp=E,3µm,0.4s						
CUSS	**Cusmapa**	**1.51**	**65**	*e*P	Pn	19 30 30.1	-0.7
TP2	**Tecpan 2**	**1.55**	**12⇑**	*e*P	Pn	19 30 29.7	-1.6
TP2				*e*S	Sb	19 30 46.7	-4.8
TP2				AML	AML	19 30 49.0	
	comp=N,2µm,0.6s						
NBG	**Las Nubes**	**1.64**	**37⇓**	*e*P	Pn	19 30 31.9	-0.7
NBG				*e*S	Sb	19 30 56.7	+2.4
NBG				AML	AML	19 31 01.5	
	comp=E,2µm,0.4s						
RTR	**El Retiro**	**1.78**	**69**	*e*P	Pn	19 30 34.1	-0.5
SBLS	**San Blas**	**1.78**	**71**	*e*P	Pn	19 30 34.1	-0.5
SBLS				*e*S	Sn	19 30 58.5	+0.5
SNJE	**San Jose**	**1.80**	**70**	*e*P	Pn	19 30 34.1	-0.9
SNJE				*e*S	Sn	19 30 58.5	-0.1
MTO2	**Montecristo 2**	**2.24**	**59**	*e*P	Pn	19 30 40.8	-0.5
MTO2				*e*S	Sn	19 31 11.0	+1.3
LFRS	**El Faro**	**2.26**	**81**	*e*P	Pn	19 30 41.9	+0.3
LFRS				*e*S	Sn	19 31 09.3	-0.9
LCBS	**La Ceiba**	**2.34**	**80⇑**	*e*P	Pn	19 30 42.8	+0.1
SNVI	**San Vicente**	**2.47**	**82**	*e*P	Pn	19 30 45.5	+0.9
CNCH	**Conchagua**	**3.43**	**89**	*e*P	Pn	19 30 57.7	-0.5
CNCH				*e*S	Sn	19 31 39.1	-0.7

*BJI **28** 19:31:25.8,35.80N×120.40W,h9^{km},mb4.7,Ms4.8,*
Msz4.4
*NEIC **28** 19:31:27.8,35.84N×120.39W,h9^{km},MW4.1(BRK),After*
NCEDC.
ISC 28 19:31:26.1±3.1**,35.78N**±0.06×**120.45W**±0.06**,**
h13^{km}±23^{km}**,n35,**σ**1**^{s}**03**/35**,Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LRV	**Little Rabbit**	**0.79**	**324**	*e*P	**Pb**	**19 31 42.8**	**+1.7**
SAO	**San Andreas Ge**	**1.27**	**321**	*e*Pn	**Pn**	**19 31 50.0**	**+0.5**
OMM	**Old Mammoth Mi**	**2.17**	**32**	*e*Pn	**Pn**	**19 32 03.4**	**+0.9**
MTUM	**Tungsten Hills**	**2.18**	**44**	*e*Pn	**Pn**	**19 32 03.9**	**+1.2**
CMB	**Columbia Colle**	**2.25**	**1**	*e*Pn	**Pn**	**19 32 03.6**	**0.0**
LKC	**Lake Chabot**	**2.34**	**327**	*e*Pn	**Pn**	**19 32 05.4**	**+0.5**
DAC	**Darwin (Calif)**	**2.37**	**77**	*e*Pn	**Pn**	**19 32 05.4**	**+0.1**
SAC	**San Andreas**	**2.39**	**319**	*e*Pn	**Pn**	**19 32 05.5**	**-0.2**
MWC	**Mount Wilson**	**2.51**	**128**	*e*Pn	**Pn**	**19 32 07.4**	**+0.2**
MNV	**Mina**	**3.22**	**34**	Pn	**Pn**	**19 32 17.9**	**+0.5**
NSHM	**Saint Helena R**	**3.23**	**328**	*e*Pn	**Pn**	**19 32 17.5**	**-0.1**
TPH	**Tonopah**	**3.45**	**48**	*e*Pn	**Pn**	**19 32 21.3**	**+0.6**
WCN	**Washoe City**	**3.55**	**9**	*e*Pn	**Pn**	**19 32 22.3**	**+0.1**
TPNV	**Topopah Spring**	**3.58**	**70**	*e*Pn	**Pn**	**19 32 22.9**	**+0.4**
OHCM	**Honcut**	**3.64**	**347**	*e*Pn	**Pn**	**19 32 24.1**	**+0.7**
HOPS	**Hopland**	**3.82**	**328**	*e*Pn	**Pn**	**19 32 25.2**	**-0.7**
PFO	**Pinyon Flat Ob**	**3.94**	**122**	*e*Pn	**Pn**	**19 32 27.7**	**0.0**
PAHR	**Pah Rah Range**	**4.01**	**12**	*e*Pn	**Pn**	**19 32 26.6**	**-1.9**
BEKR	**Beckwourth**	**4.08**	**1**	Pn	**Pn**	**19 32 30.0**	**+0.4**
BAR	**Barrett**	**4.40**	**134**	*e*Pn	**Pn**	**19 32 33.6**	**-0.7**
LDFC	**Landfair**	**4.42**	**98**	Pn	**Pn**	**19 32 33.6**	**-0.9**
NEN	**Nelson**	**4.56**	**90**	*e*Pn	**Pn**	**19 32 35.4**	**-1.2**
WDC	**Whiskeytown Da**	**5.06**	**342**	*e*Pn	**Pn**	**19 32 41.8**	**-1.8**
ARUT	**Antelope Range**	**5.97**	**68**	Pn	**Pn**	**19 32 59.0**	**+2.6**
MOD	**Modoc**	**6.11**	**1**	*e*Pn	**Pn**	**19 32 57.2**	**-1.2**
ELK	**Elko**	**6.43**	**38**	*e*Pn	**Pn**	**19 33 01.7**	**-1.1**
MVU	**Marysvale**	**7.12**	**65**	*e*Pn	**Pn**	**19 33 13.8**	**+1.2**
MSU	**Marysvale**	**7.15**	**65**	Pn	**Pn**	**19 33 14.2**	**+1.3**
DUG	**Dugway**	**7.47**	**52**	Pn	**Pn**	**19 33 11.0**	**-6.4**
SRU	**San Rafael**	**8.56**	**64**	Pn	**P**	**19 33 31.8**	**-0.9**
HWUT	**Hardware Ranch**	**9.05**	**47**	Pn	**P**	**19 33 38.4**	**-1.1**
WALA	**Waterton Lakes**	**14.11**	**18**	Pn	**P**	**19 34 45.1**	**-2.6**
CN2	**Changchun**	**80.73**	**318**	*e*P	**P**	**19 43 39.5**	**-0.8**
WMQ	**Urumqi**	**96.74**	**340**	*e*P	**P**	**19 44 58.0**	**+0.7**
WMQ				AP	pP	19 45 03.0	+1.5
WMQ				AMB	AMB		
	comp=Z,4.0nm,1.4s						
LZH	**Lanzhou**	**97.47**	**325**	*e*P	**P**	**19 45 02.0**	**+1.2**
LZH				AP	pP	19 45 05.0	0.0
LZH				LR	LR		
	comp=N,129nm,15.3s						
LZH				LR	LR		
	comp=Z,194nm,17.7s						

*IDC **28** 19:52:59.5±0.7,15.93S×172.94W,h73^{km}±6^{km},mb4.2/12,*
mb1 4.4/13,mb1mx4.3/20,MS4.1/7,Ms1 4.1/7,
ms1mx3.9/18,Error ellipse: s-maj=30.0km s-min=12.7km
az=124.0
*NEIC **28** 19:53:00.4±0.4,16.03S×172.85W,mb4.5/6,Error ellipse:*
s-maj=22.9km s-min=10.3km az=139.0
ISC 28 19:52:57.7±0.5**,15.8S**±0.1×**173.0W**±0.1**,h76**^{km}**,**
h76^{km}±2.4^{km}**:pP-P,n94,**σ**0**^{s}**80**/25**,mb4.3**/18**,5C-2D,Tonga**
Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**13.68**	**115**	P	**P**	**19 55 55.7**	**-14**
	13nm,0.3s,baz=239,slow=3.3,SNR=22						
RAR				S	S	19 58 10.6	-29
	2.4nm,0.3s,baz=24,slow=19,SNR=4.3						
RAR				LR	LR	19 59 51.4	
	comp=Z,760nm,21.4s,baz=260,slow=30						
URZ	**Urewera**	**24.01**	**199**	P	**P**	**19 58 06.2**	**-0.1**
	12nm,0.5s,mb4.5,baz=7.9,slow=5.9,SNR=11						
URZ				S	**S**	**20 02 18.2**	**+3.4**
	6.0nm,0.8s,baz=90,slow=2.0,SNR=2.2						
RPZ	**Rata Peaks**	**30.96**	**203**	P	**P**	**19 59 17.3**	**+7.6**
	7.6nm,0.7s,mb4.5,baz=357,slow=1.7,SNR=7.3						
STKA	**Stephens Creek**	**44.15**	**240**	P	**P**	**20 01 01.1**	**+0.5**
	4.3nm,0.8s,mb4.3,baz=79,slow=7.5,SNR=12						
STKA				LR	LR	20 18 27.8	
	comp=Z,239nm,19.1s,baz=26,slow=35						
WB2	**Warramunga Arr**	**50.09**	**257**	*e*P	**P**	**20 01 47.1**	**-0.2**
WRAB	**Tennant Creek**	**50.10**	**257**	*e*P	**P**	**20 01 46.9**	**-0.4**
	5.8nm,0.7s,mb4.6						
WRA	**Warramunga Arr**	**50.11**	**257**	P	**P**	**20 01 47.2**	**-0.2**
	2.5nm,0.7s,mb4.3,baz=92,slow=7.1,SNR=33						
WRA				LR	LR	20 21 28.8	
	comp=Z,329nm,21.0s,baz=270,slow=34						
ASAR	**Alice Springs**	**50.33**	**252**	P	**P**	**20 01 48.5**	**-0.6**
	11nm,0.8s,mb4.8,baz=86,slow=8.2,SNR=81						
ASAR				LR	LR	20 22 33.7	
	comp=Z,236nm,19.2s,baz=197,slow=35						
ASPA	**Alice Springs**	**50.34**	**252**	*e*P	**P**	**20 01 49.0**	**-0.1**
KAKA	**Kakadu**	**52.87**	**266**	*e*P	**P**	**20 02 15.7**	**+7.4**
	10nm,1.0s,mb4.8						
YBH	**Yreka Blue Hor**	**73.69**	**37**	P	**P**	**20 04 24.1**	**-1.0**
	0.9nm,0.5s,mb3.8,baz=180,slow=6.1,SNR=4.6						
YBH				pP	pP	20 04 47.0	+1.4
	4.5nm,1.1s,baz=259,slow=6.9,SNR=2.6						
QSPA	**South Pole Qui**	**74.25**	**180**	*e*P	**P**	**20 04 26.7**	**-0.9**
	6.0nm,0.8s,mb4.4						
TPNV	**Topopah Spring**	**74.89**	**44**	P	**P**	**20 04 32.0**	**-0.1**
	3.7nm,1.0s,mb4.1						
TUC	**Tucson**	**76.36**	**50**	*e*P	**P**	**20 04 40.2**	**-0.4**
	5.5nm,1.2s,mb4.2						
TUC				*e*	pP	20 05 02.0	+0.9
HLID	**Hailey**	**79.70**	**39**	*e*P	**P**	**20 04 58.5**	**-0.2**
	5.4nm,1.0s,mb4.3						
HLID				*e*	pP	20 05 18.4	-1.0
DPW	**Davenport**	**80.01**	**34**	*e*P	**P**	**20 04 59.6**	**-0.7**
TXAR	**Lajitas Array**	**80.53**	**56**	P	**P**	**20 05 03.5**	**0.0**
	0.4nm,0.4s,mb3.6,baz=231,slow=5.8,SNR=3.6						
TXAR				pP	pP	20 05 24.4	+0.2
	0.4nm,0.5s,baz=259,slow=6.4,SNR=2.2						
GDL2	**Guadalupe Moun**	**81.17**	**53**	*e*P	**P**	**20 05 07.2**	**+0.5**
GDL2				*e*	pP	20 05 27.2	-0.2
DLBC	**Dease Lake**	**81.93**	**21**	P	**P**	**20 05 11.7**	**+1.5**
	1.3nm,0.8s,mb3.8,baz=185,slow=23,SNR=2.1						
CHMT	**Chamberlain Mo**	**82.22**	**37**	P	**P**	**20 05 11.5**	**-0.4**
ILAR	**Eielson Array**	**82.76**	**11**	P	**P**	**20 05 13.8**	**-0.5**
	5.0nm,0.7s,mb4.5,baz=218,slow=6.4,SNR=30						
ILAR				pP	pP	20 05 34.5	-0.5
	1.6nm,0.8s,baz=217,slow=6.3,SNR=2.5						
MAW	**Mawson**	**87.54**	**199**	P	**P**	**20 05 39.2**	**+1.4**
	17nm,1.5s,mb4.8,baz=122,slow=13,SNR=6.3						
MAW				pP	pP	20 05 57.9	-0.9
	3.6nm,1.1s,baz=103,slow=10,SNR=3.8						
MAW				LR	LR	20 43 31.0	
	comp=Z,64nm,20.6s,baz=65,slow=35						
INK	**Inuvik**	**88.56**	**14**	P	**P**	**20 05 44.2**	**+1.6**
	5.1nm,1.0s,mb4.5,baz=232,slow=8.9,SNR=3.3						
CMAR	**Chiang Mai Arr**	**93.08**	**288**	P	**P**	**20 06 08.8**	**+4.0**
	2.6nm,1.2s,mb4.5,baz=90,slow=3.6,SNR=10						
CMAR				LR	LR	20 47 49.4	
	comp=Z,49nm,19.7s,baz=303,slow=35						
ULM	**Lac du Bonnet**	**94.01**	**39**	LR	LR	20 45 40.9	
	comp=Z,205nm,18.3s,baz=266,slow=34						
MKAR	**Makanchi Array**	**111.36**	**314**	PKiKP		20 11 25.8	
	1.9nm,1.1s,baz=218,slow=2.0,SNR=3.3						
ARCES	**ARCESS Array B**	**125.05**	**352**	PKP	PKPdf	20 11 49.8	+1.0
	1.5nm,0.7s,baz=34,slow=4.4,SNR=5.2						
MZLS	**Mizel**	**143.22**	**289**	P	PKPbc	20 12 26.0	+4.1
UPC	**Upice**	**144.61**	**350**	*e*PKP	PKPdf	20 12 28.1	+2.8
KOLS	**Kolonicke sedl**	**144.66**	**342**	*e*PKP	PKPdf	20 12 27.6	+2.2
DPC	**Dobruska-Polom**	**144.71**	**350**	*e*PKP	PKPdf	20 12 28.7	+3.2
DPC				LR		20 26 30.0	
	comp=Z,0.3nm,18.5s						
ARSS	**Ar Rass**	**144.76**	**293**	P	PKPdf	20 12 28.7	+2.4
PVCC	**Panska Ves**	**144.81**	**352**	*e*PKP	PKPdf	20 12 29.4	+3.8
PVCC				LR		20 27 20.0	
	comp=Z,0.4nm,21.2s						
OKC	**Ostrava-Krasne**	**144.85**	**347**	*e*PKP	PKPdf	20 12 28.1	+2.4
OKC				LR		20 30 20.0	
	comp=Z,0.3nm,19.9s						
CRVS	**Cervenica-Dubn**	**144.91**	**343**	*e*PKP	PKPdf	20 12 29.5	+3.6
MORC	**Moravsky Berou**	**145.03**	**348**	*e*PKP	PKPdf	20 12 27.7	+1.6
MOX	**Moxa**	**145.04**	**355**	*i* P	PKPdf	20 12 24.4	-1.6
	logA/T=1.3						
MOX				L		20 29 18.0	
MOX	**Moxa**	**145.04**	**355**	*e*P	PKPdf	20 12 24.4	-1.6
TATS	**Tathlith**	**145.06**	**282**	P	PKPdf	20 12 30.8	+3.8
HGN	**Heimansgroeve**	**145.11**	**1**	*e*P	PKPdf	20 12 28.9	+2.8
	8.6nm,1.1s						
PRU	**Pruhonice**	**145.34**	**351**	L		20 27 10.0	
NKC	**Novy Kostel**	**145.36**	**354**	*e*PKP	PKPdf	20 12 30.3	+3.7
NKC				LR		20 26 30.0	
	comp=Z,0.4nm,20.1s						
VRAC	**Vranov**	**145.66**	**349**	PKPbc	PKPbc	20 12 30.2	+2.3
	8.6nm,1.1s,baz=28,slow=5.9,SNR=8.2						
KMBO	**Kilima Mbogo**	**145.69**	**243**	PKPbc	PKPbc	20 12 32.0	+2.9
	4.7nm,1.2s,baz=64,slow=5.5,SNR=5.9						
GIVF	**Givet**	**145.74**	**2**	*e*PKP1	PKPbc	20 12 30.9	+2.8
BAIF	**Baives**	**145.75**	**3**	*e*PKP1	PKPbc	20 12 31.2	+3.0
	40nm,1.0s						
VYHS	**Vyhne**	**145.96**	**346**	*e*PKP	PKPdf	20 12 30.6	+2.9
VYHS				*e*		20 12 42.6	
GRA1	**Grafenberg Arr**	**146.01**	**355**	*e*PKP	PKPdf	20 12 31.2	+3.5
KHC	**Kasperske Hory**	**146.32**	**352**	*e*PKP	PKPdf	20 12 32.7	+4.4
KHC				*e*x	x	20 12 44.0	
KHC				LR		20 25 50.0	
	comp=Z,0.5nm,19.1s						
MLR	**Muntele Rosu**	**146.37**	**336**	PKPbc	PKPbc	20 12 32.7	+2.9
	baz=46,slow=2.5						
FLN	**La Foliniere**	**146.56**	**9**	*e*PKP1	PKPbc	20 12 33.9	+3.8
	16nm,0.7s						
GERES	**GERESS Array B**	**146.58**	**352**	PKPbc	PKPbc	20 12 34.5	+4.4
	0.9nm,0.7s,baz=18,slow=3.1,SNR=32						
BRTR	**Keskin Array B**	**146.69**	**321**	PKPbc	PKPbc	20 12 33.2	+2.5
	6.1nm,0.9s,baz=129,slow=1.1,SNR=23						
SGMF	**Saint Gilles**	**146.69**	**12**	*e*PKP1	PKPbc	20 12 33.2	+2.8
	23nm,1.0s						
LDF	**La Druitiere**	**146.78**	**9**	*e*PKP1	PKPbc	20 12 34.5	+3.9
	28nm,1.0s						
GRR	**Gorron**	**146.86**	**10**	*e*PKP1	PKPbc	20 12 35.0	+4.2
	68nm,1.3s						
QUIF	**Quistinic**	**146.89**	**13**	*e*PKP1	PKPbc	20 12 33.8	+2.9
	31nm,1.1s						
MEZF	**Maizieres J’vi**	**147.34**	**2**	*e*PKP1	PKPdf	20 12 35.9	+5.9
CDF	**Champ du Feu**	**147.47**	**360**	*e*PKP1	PKPdf	20 12 36.3	+6.1
	28nm,1.2s						
MOA	**Molln**	**147.47**	**351⇑**	*i*P	PKPdf	20 12 36.4	+6.2
ARSA	**Arzberg**	**147.84**	**349⇓**	*i*P	PKPdf	20 12 33.3	+2.5
HAU	**Haudompre**	**147.88**	**1**	*e*PKP1	PKPdf	20 12 37.3	+6.4
	19nm,0.9s						
HINF	**Hinteralfeld**	**148.07**	**0**	*e*PKP1	PKPdf	20 12 37.6	+6.4
KBRS	**Khaybar**	**148.29**	**294**	P	PKPdf	20 12 38.4	+6.2
MOTA	**Moosalm**	**148.35**	**355⇑**	*i*P	PKPdf	20 12 37.9	+6.3
KBA	**Koelnbreinsper**	**148.36**	**352⇓**	*i*P	PKPdf	20 12 38.0	+6.3
WTTA	**Wattenberg**	**148.38**	**354⇑**	*i*P	PKPdf	20 12 37.3	+5.6
SQTA	**Sankt Quirin**	**148.47**	**354⇑**	*i*P	PKPdf	20 12 38.2	+6.4
DAVA	**Damuels**	**148.51**	**356⇑**	*i*P	PKPdf	20 12 37.3	+5.4
LOR	**Lormes**	**148.51**	**4**	*e*PKP1	PKPdf	20 12 39.0	+7.1
	34nm,1.2s						
SSF	**Saint Saulge**	**148.69**	**5**	*e*PKP1	PKPdf	20 12 39.5	+7.3
	36nm,1.1s						
MFF	**Saint Martin d**	**148.71**	**9**	*e*PKP1	PKPdf	20 12 39.1	+6.9
	16nm,0.9s						
AVF	**Avril sur Loir**	**148.95**	**5**	*e*PKP1	PKPdf	20 12 39.8	+7.2
	12nm,1.0s						
DAVOX	**Davos**	**149.01**	**356**	PKPbc	PKPdf	20 12 41.0	+8.2
	baz=153,slow=4.5						
SMF	**Signal de Mont**	**149.13**	**4**	*e*PKP1	PKPdf	20 12 40.5	+7.6
	15nm,1.1s						
BGF	**Bois d’Agland**	**149.13**	**6**	*e*PKP1	PKPdf	20 12 40.5	+7.6
	14nm,0.8s						
CABF	**La Chapelle**	**149.26**	**1**	*e*PKP1	PKPdf	20 12 41.6	+8.5
	41nm,1.1s						
TCF	**Toulx Ste Croi**	**149.34**	**6**	*e*PKP1	PKPdf	20 12 40.7	+7.4
RJF	**Les Rejaudoux**	**150.22**	**8**	*e*PKP1	PKPdf	20 12 43.0	+8.3
	27nm,1.2s						
LPL	**La Plagne**	**150.37**	**0**	*e*PKP1	PKPdf	20 12 44.7	+10
	14nm,1.0s						
LPG	**La Plagne**	**150.39**	**0**	*e*PKP1	PKPdf	20 12 44.9	+10
	11nm,0.9s						
LFF	**La Frestale**	**150.47**	**9**	*e*PKP1	PKPdf	20 12 43.6	+8.5
	23nm,0.8s						
CAF	**Calviac**	**150.66**	**7**	*e*PKP1	PKPdf	20 12 44.3	+8.9
	4.7nm,0.7s						
BNI	**Bardonecchia**	**150.83**	**0**	*e*PKPbc	PKPdf	20 12 44.9	+9.2
ORIF	**Oris-en-Rattie**	**150.95**	**2**	*e*PKP1	PKPdf	20 12 45.5	+10
	8.6nm,0.8s						
VIVF	**Saint-Julien-l**	**150.96**	**3**	*e*PKP1	PKPdf	20 12 45.3	+9.5
	19nm,1.0s						
MBDF	**Montbardon**	**151.16**	**0**	*e*PKP1	PKPdf	20 12 45.9	+10
	6.9nm,0.7s						
LASF	**Ste Croix**	**151.69**	**5**	*e*PKP1	PKPdf	20 12 47.1	+10
	13nm,0.9s						
SMRF	**Simiane la Rot**	**151.88**	**2**	*e*PKP1	PKPdf	20 12 47.9	+11
	15nm,0.9s						
SBF	**Sospel**	**152.02**	**359**	*e*PKP1	PKPdf	20 12 48.5	+11
	24nm,1.0s						
ETSF	**Etsaut**	**152.23**	**12**	*e*PKP1	PKPdf	20 12 48.2	+10

	8.7nm,0.7s						
MTLF	**Montolieu**	**152.25**	**7**	*e*PKP1	PKPdf	20 12 48.8	+11
	5.2nm,0.9s						
FRF	**La Foret Royal**	**152.32**	**1**	*e*PKP1	PKPdf	20 12 49.0	+11
LMR	**La Mourre**	**152.55**	**1**	*e*PKP1	PKPdf	20 12 48.4	+10

IDC 28 19:57:09.7±0.9,52.29S×27.02E,mb3.9/8,mb1 4.0/8, mb1mx3.9/15,MS3.9/1,Ms1 3.9/1,ms1mx3.2/16,Error ellipse: s-maj=29.9km s-min=20.8km az=87.0

ISC 28 19:57:09.8±0.8,52.2S±0.1×26.9E±0.3,h10^{km},n8,σ1^{s}08/8, mb3.8/8,MS3.9/1,South of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MAW	**Mawson**	**23.20**	**145**	P	**P**	**20 02 17.2**	**0.0**
	3.6nm,0.9s,mb3.8,baz=304,slow=13,SNR=6.0						
SNAA	**Sanae**	**23.52**	**203**	P	**P**	**20 02 20.9**	**+0.6**
	0.3nm,0.8s,mb2.8,baz=42,slow=9.0,SNR=3.2						
TSUM	**Tsumeb**	**33.76**	**344**	P	**P**	**20 03 55.6**	**+1.9**
	2.0nm,0.6s,mb4.2,baz=158,slow=9.6,SNR=8.7						
KMBO	**Kilima Mbogo**	**51.66**	**13**	P	**P**	**20 06 16.8**	**-2.1**
	0.9nm,0.6s,mb3.9,baz=60,slow=21,SNR=3.5						
KMBO				LR	LR	20 29 21.2	
	comp=Z,108nm,18.9s,MS3.9,baz=41,slow=37						
USHA	**Ushuaia**	**52.42**	**227**	P	**P**	**20 06 22.8**	**-1.3**
	4.8nm,0.8s,mb4.5,baz=347,slow=23,SNR=2.4						
STKA	**Stephens Creek**	**78.70**	**128**	P	**P**	**20 09 13.7**	**+0.2**
	0.4nm,0.3s,mb3.8,baz=169,slow=18,SNR=2.1						
ASAR	**Alice Springs**	**81.37**	**118**	P	**P**	**20 09 28.1**	**+0.1**
	0.6nm,0.6s,mb3.7,baz=208,slow=4.7,SNR=7.8						
WRA	**Warramunga Arr**	**84.60**	**116**	P	**P**	**20 09 44.9**	**+0.3**
	0.6nm,0.7s,mb3.8,baz=214,slow=3.6,SNR=8.3						

PRU 28 20:16:35.7,50.29N×19.05E

WAR 28 20:16:35.6,50.20N×19.13E,ML2.5,Mining Induced

NEIC 28 20:16:35.3±1.7,50.29N×19.03E,h5^{km}±12^{km},ML2.5(VIE), Error ellipse: s-maj=18.3km s-min=9.3km az=178.0

ISC 28 20:16:34.6±0.6,50.20N±0.04×19.00E±0.03,n14,σ1^{s}17/25, 1C,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.51**	**87**	*e*PG	**Pg**	**20 16 44.0**	**-0.9**
OJC				*i* SG	**Sg**	**20 16 50.5**	**-1.2**
OJC	**Ojcow**	**0.51**	**87**	*e*Pg	**Pg**	**20 16 44.1**	**-0.8**
OJC				*i* Sg	**Sg**	**20 16 50.5**	**-1.2**
OKC	**Ostrava-Krasne**	**0.66**	**237**	*e*PG	**Pg**	**20 16 49.8**	**+2.1**
OKC				*e*SG	**Sg**	**20 16 59.7**	**+3.2**
MORC	**Moravsky Berou**	**1.03**	**246**	*e*Pn	**Pn**	**20 16 55.7**	**-0.4**
LIKS	**Likavka**	**1.15**	**176**	*e*PN	**Pn**	**20 16 59.2**	**+1.3**
LIKS				*e*SN	**Sn**	**20 17 14.1**	**-0.5**
NIE	**Niedzica**	**1.16**	**132**	*e*PG	**Pg**	**20 16 57.0**	**-0.7**
NIE				*e*SG	**Sg**	**20 17 13.0**	**-0.1**
VYHS	**Vyhne**	**1.71**	**184**	*i* PN	**Pn**	**20 17 05.5**	**-0.4**
VYHS				*e*SN	**Sn**	**20 17 28.3**	**-0.4**
DPC	**Dobruska-Polom**	**1.72**	**276**	*e*PG	**Pg**	**20 17 06.5**	**-2.5**
DPC				*e*SG	**Sg**	**20 17 31.4**	**-0.6**
	11nm,0.4s						
KSP	**Ksiaz**	**1.84**	**292**	*e*PG	**Pg**	**20 17 12.0**	**+0.6**
KSP				*e*SG	**Sg**	**20 17 37.0**	**+1.0**
CRVS	**Cervenica-Dubn**	**2.06**	**128**	*e*PN	**Pn**	**20 17 13.0**	**+2.1**
CRVS				*e*SN	**Sn**	**20 17 39.1**	**+1.4**
PRU	**Pruhonice**	**2.88**	**268**	*e*SG	**Sg**	**20 18 09.6**	**-0.8**
	3.7nm,0.5s						
KHC	**Kasperske Hory**	**3.68**	**255**	*e*PN	**Pn**	**20 17 33.8**	**-0.2**
KHC				*e*x	x	20 17 40.6	
KHC				*e*SG	**Sg**	**20 18 35.3**	**-1.8**
MOA	**Molln**	**3.90**	**235**	⇑*i*PN	**Pn**	**20 17 37.1**	**0.0**
MOA				*i* SG	**Sg**	**20 18 43.9**	**-0.6**
	2.1nm,0.5s						
CLL	**Collm**	**3.97**	**289**	*e*SG	**Sg**	**20 18 48.0**	**+1.4**

NEIC 28 20:21:03.3,36.32N×27.18E,h29^{km},MD3.2(ATH),After ATH.

ATH 28 20:21:03.3,36.32N×27.18E,h29^{km}±2^{km},MD3.2/6

ISK 28 20:21:04.2,36.32N×26.96E,h52^{km},MD3.4

ISC 28 20:21:02.4±0.9,36.22N±0.03×27.18E±0.04,h4^{km}±6^{km}, n22,σ1^{s}00/31,1C,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NISR	**Nisiros**	**0.40**	**354**	*e*PB	**Pb**	**20 21 10.8**	**-0.8**
KARP	**Karpathos**	**0.67**	**182**	*e*PN	**Pn**	**20 21 18.0**	**-0.3**
KARP				*e*SN	**Sn**	**20 21 30.0**	**+0.8**
ARG	**Arkhangelos**	**0.76**	**90**	*e*PN	**Pn**	**20 21 18.5**	**-1.1**
ARG				*e*SN	**Sn**	**20 21 30.0**	**-1.7**
BDRM	**Kayabasi**	**0.87**	**14**	⇑*i*P	**Pb**	**20 21 19.3**	**-0.4**
BDRM				*i* S	**Sb**	**20 21 32.3**	**+0.7**
MLSB	**Milas**	**1.18**	**24**	PN	**Pn**	**20 21 25.0**	**-0.6**
MLSB				SN	**Sn**	**20 21 40.2**	**-2.0**
YER	**Yerkesik**	**1.27**	**44**	PN	**Pn**	**20 21 27.1**	**+0.2**
YER				SN	**Sn**	**20 21 44.6**	**0.0**
DALT	**Dalyan (Mudla)**	**1.29**	**64**	*e*PN	**Pn**	**20 21 27.9**	**+0.6**
DALT				*e*SN	**Sn**	**20 21 46.4**	**+1.2**
SANT	**Santorini**	**1.40**	**277**	*e*Pn	**Pn**	**20 21 29.0**	**+0.2**
THR1	**Thera Island**	**1.40**	**277**	*e*P	**Pn**	**20 21 29.9**	**+1.1**
THR6	**Thira Island,**	**1.45**	**276**	*e*P	**Pn**	**20 21 28.9**	**-0.6**
THR3	**Thira Island,**	**1.45**	**278**	*e*P	**Pn**	**20 21 29.1**	**-0.4**
THR4	**Thira Island,**	**1.46**	**280**	*e*P	**Pn**	**20 21 30.6**	**+1.0**
THR5	**Thira Island,**	**1.50**	**278**	*e*P	**Pn**	**20 21 29.5**	**-0.6**
AYDN	**Tasoluk**	**1.55**	**21**	*i* P	**Pn**	**20 21 32.6**	**+1.8**
AYDN				*i* S	**Sb**	**20 21 52.6**	**+1.5**
APE	**Apeiranthos**	**1.58**	**303**	*e*PN	**Pn**	**20 21 28.2**	**-3.1**
APE	**Apeiranthos**	**1.58**	**303**	*e*PN	**Pn**	**20 21 31.0**	**-0.3**
NPS	**Neapolis**	**1.59**	**234**	*e*PB	**Pb**	**20 21 32.0**	**0.0**
DNZL	**Cakiroluk**	**2.10**	**45**	*i* P	**Pg**	**20 21 43.7**	**-0.6**
DNZL				*i* S	**Sg**	**20 22 11.7**	**-0.5**
ELL	**Elmali**	**2.26**	**76**	*e*PN	**Pn**	**20 21 43.3**	**+2.2**
MANT	**Manisa**	**2.52**	**25**	*i* P	**Pg**	**20 21 53.0**	**+0.2**
MANT				*i* S	**Sg**	**20 22 27.0**	**+0.6**
VAM	**Vamos**	**2.56**	**252**	*e*PB	**Pb**	**20 21 48.5**	**0.0**
AKS	**Akhisar**	**2.71**	**10**	*e*PN	**Pn**	**20 21 45.9**	**-1.5**

NEIC 28 21:13:03.7±3.6,23.84S×179.87W,h538^{km}±40^{km},mb4.5/4, Error ellipse: s-maj=37.1km s-min=15.7km az=197.0

IDC 28 21:13:04.7±6.2,23.85S×179.91W,h542^{km}±69^{km},mb3.3/6, mb1 3.5/7,mb1mx3.3/13,Error ellipse: s-maj=47.3km s-min=23.3km az=28.0

ISC 28 21:13:00.1±4.5,23.7S±0.1×180.0W±0.2,h495^{km}±55^{km}, n18,σ0^{s}57/14,mb4.0/9,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.78**	**189**	P	**P**	**21 16 08.1**	**-0.3**
	1.1nm,0.3s,baz=14,slow=14,SNR=3.9						
URZ				S	**S**	**21 18 40.7**	**+0.2**
	0.4nm,0.3s,baz=302,slow=20,SNR=4.2						
RPZ	**Rata Peaks**	**21.34**	**198**	P	**P**	**21 17 11.8**	**-0.1**
	5.9nm,0.7s,mb4.3,baz=327,slow=20,SNR=3.6						
CTA	**Charters Tower**	**31.51**	**270**	P	**P**	**21 18 43.3**	**+1.3**
	5.0nm,0.4s,mb4.3,baz=93,slow=9.8,SNR=15						
CTAO	**Charters Tower**	**31.51**	**270**	*e*P	**P**	**21 18 43.0**	**+0.9**
	6.5nm,0.5s,mb4.3						
STKA	**Stephens Creek**	**34.84**	**248**	P	**P**	**21 19 10.9**	**+0.9**
	0.9nm,0.4s,mb3.5,baz=344,slow=24,SNR=2.5						
ASAR	**Alice Springs**	**42.11**	**260**	P	**P**	**21 20 09.4**	**+0.1**
	1.5nm,0.4s,mb3.8,baz=96,slow=7.6,SNR=37						
ASPA	**Alice Springs**	**42.11**	**260**	*e*P	**P**	**21 20 09.6**	**+0.2**
WB2	**Warramunga Arr**	**42.44**	**266**	*e*P	**P**	**21 20 11.4**	**-0.7**
WRAB	**Tennant Creek**	**42.45**	**266**	*e*P	**P**	**21 20 11.4**	**-0.6**
	5.0nm,0.4s,mb4.3						
WRA	**Warramunga Arr**	**42.45**	**266**	P	**P**	**21 20 11.9**	**-0.2**
	1.8nm,0.3s,mb4.0,baz=96,slow=8.4,SNR=105						
FORT	**Forrest**	**46.43**	**249**	*e*P	**P**	**21 20 42.0**	**-1.0**
	27nm,0.5s,mb4.9						
FITZ	**Fitzroy Crossi**	**50.88**	**265**	*e*P	**P**	**21 21 16.8**	**+0.2**
	3.5nm,1.6s,mb3.4						
TXAR	**Lajitas Array**	**90.27**	**58**	P	**P**	**21 25 08.7**	**+0.2**
	0.2nm,0.3s,mb3.4,baz=231,slow=6.9,SNR=4.1						
MKAR	**Makanchi Array**	**112.01**	**313**	PKiKP		21 30 37.5	
	0.4nm,0.8s,baz=230,slow=1.8,SNR=3.1						
ARCES	**ARCESS Array B**	**131.65**	**348**	PKP	PKPdf	21 31 14.1	-1.3
	1.2nm,0.6s,baz=34,slow=3.3,SNR=5.7						
ARCES	**ARCESS Array B**	**131.65**	**348**	PKP	PKPdf	21 31 14.1	-1.3
AKASG	**Malin Array Be**	**144.78**	**327**	PKP	PKPdf	21 31 39.5	+0.2
	0.8nm,0.3s,baz=44,slow=3.9,SNR=9.2						
BRTR	**Keskin Array B**	**147.45**	**307**	PKPbc	PKPdf	21 31 47.9	+3.8
	0.8nm,0.9s,baz=90,slow=2.9,SNR=3.2						
BRTR				PKPab	PKPab	21 31 53.0	-0.5
	0.5nm,0.9s,baz=108,slow=3.9,SNR=3.6						

NIED 28 21:29:00,32.40N×141.90E,h5^{km},Mw3.9 Best double couple: M$_0$8.01×10^{14} NP1:φ$_s$355°,δ56°,λ96°. NP2:φ$_s$165°, δ35°,λ82°.

JMA 28 21:29:28.2±0.4,32.37N×141.86E,h9^{km},M3.6

IDC 28 21:29:33.1±1.4,31.65N×140.07E,mb3.8/4,mb1 4.0/6, mb1mx3.8/21,ML3.9/2,MS2.7/1,Ms1 2.7/1,ms1mx2.6/26, Error ellipse: s-maj=46.1km s-min=18.1km az=75.0

NEIC 28 21:29:34.5±0.9,31.73N×140.08E,h15^{km},mb4.3/4,Error ellipse: s-maj=24.0km s-min=10.2km az=80.0

ISC 28 21:29:30.1±1.0,32.30N±0.05×141.9E±0.1,h39^{km}±11^{km}, n25,σ0^{s}82/31,mb4.1/8,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.94**	**295**	P	**P**	**21 30 01.1**	**-0.2**
JHJ	**Hachijo jima 2**	**1.97**	**295**	Pn	**P**	**21 30 01.2**	**-0.5**
	45nm,0.3s,baz=252,slow=20,SNR=38						
JHJ				Sn	**S**	**21 30 25.4**	**-0.1**
	32nm,0.3s,baz=66,slow=19,SNR=3.3						
BSO1	**Boso 1**	**2.47**	**342**	P	**P**	**21 30 08.4**	**-0.4**
BSO1				*e*S	**S**	**21 30 38.0**	**-0.1**
BSO2	**Boso 2**	**2.63**	**339**	*e*S	**S**	**21 30 42.6**	**+0.6**
BSO3	**Boso 3**	**2.75**	**335**	P	**P**	**21 30 12.4**	**-0.5**
BSO4	**Boso 4**	**2.99**	**334**	P	**P**	**21 30 17.1**	**+0.9**
BSO4				*e*S	**S**	**21 30 51.8**	**+0.7**
JIM2	**Oshima 3**	**3.18**	**320**	*e*S	**S**	**21 30 55.5**	**-0.5**
JOD2	**Odawara 2**	**3.78**	**322**	*e*S	**S**	**21 31 11.0**	**-0.2**
JYN	**Shimob**	**4.24**	**320**	*e*S	**S**	**21 31 24.9**	**+1.9**
JHO	**Hitachi**	**4.44**	**346**	P	**P**	**21 30 35.2**	**-1.6**
JRY	**Ryogami san**	**4.47**	**327**	P	**P**	**21 30 37.4**	**+0.2**
JRY				*e*S	**S**	**21 31 28.6**	**-0.1**
JAG	**Ashikaga**	**4.59**	**334**	P	**P**	**21 30 38.6**	**-0.3**
CBIJ	**Chichi jima**	**5.19**	**177**	Pn	**P**	**21 30 47.2**	**-0.2**
	6.6nm,0.3s,baz=333,slow=16,SNR=14						
CBIJ				LR	LR	21 31 38.7	
	comp=Z,85nm,21.4s,baz=328,slow=26						
CBIJ				Sn	**S**	**21 31 41.5**	**-5.4**
	4.2nm,0.3s,baz=277,slow=23,SNR=3.2						
MAJO	**Matsushiro**	**5.22**	**325**	*e*Pn	**P**	**21 30 49.1**	**+1.3**
MAT	**Matsushiro**	**5.22**	**325**	P	**P**	**21 30 48.2**	**+0.4**
MAT				S	**S**	**21 31 46.4**	**-1.2**
MAT	**Matsushiro**	**5.22**	**325**	*e*P	**P**	**21 30 49.0**	**+1.2**
MAT				*e*S	**S**	**21 31 46.0**	**-1.6**
SONM	**Songino Array**	**30.98**	**310**	P	**P**	**21 35 44.0**	**-1.8**
	0.8nm,0.5s,mb3.8,baz=34,slow=5.2,SNR=2.8						
MKAR	**Makanchi Array**	**47.11**	**306**	P	**P**	**21 38 00.8**	**+0.7**
	2.7nm,1.1s,mb4.1,baz=88,slow=7.8,SNR=7.2						
KURK	**Kurchatov**	**49.27**	**311**	*e*P	**P**	**21 38 16.5**	**-0.3**
	2.6nm,0.8s,mb4.3						
CTAO	**Charters Tower**	**52.26**	**175**	*e*P	**P**	**21 38 41.0**	**+1.2**
	4.5nm,0.9s,mb4.4						
WRAB	**Tennant Creek**	**52.44**	**189**	*e*P	**P**	**21 38 40.8**	**-0.5**
	2.5nm,0.6s,mb4.3						
WRA	**Warramunga Arr**	**52.45**	**189**	P	**P**	**21 38 41.0**	**-0.3**
	1.7nm,0.7s,mb4.1,baz=6.6,slow=7.7,SNR=25						
ZRNK	**Zerenda**	**54.97**	**315**	P	**P**	**21 38 59.3**	**-0.1**
	0.6nm,0.3s,mb4.1						
ASAR	**Alice Springs**	**56.18**	**189**	P	**P**	**21 39 09.2**	**+0.7**
	0.3nm,0.7s,mb3.4,baz=6.5,slow=6.5,SNR=6.3						
BRTR	**Keskin Array B**	**82.32**	**312**	tx	tx	21 42 03.0	
	0.4nm,0.4s,baz=62,slow=6.1,SNR=3.7						

BJI 28 21:32:18.6,15.70S×74.50W,h27^{km},mB5.5,Ms5.6, Msz5.5

IDC 28 21:32:18.2±0.4,15.67S×74.58W,h26^{km}±2^{km},mb4.8/15, mb1 4.8/17,mb1mx4.8/19,ML4.3/2,MS5.4/13,Ms1 5.3/13, ms1mx5.3/14,Error ellipse: s-maj=16.6km s-min=10.1km az=67.0,Putative timing error at ZAL

NEIC 28 21:32:18.7±0.1,15.69S×74.53W,mb5.4/105,MS5.3/126, MW5.7,Error ellipse: s-maj=5.3km s-min=3.4km az=46.0, Moment Tensor Solution. s38 Moment tensor: Scale 10^{17} Nm; M$_{rr}$2.35; M$_{\theta\theta}$-0.09; M$_{\phi\phi}$-2.25; M$_{r\theta}$-0.17; M$_{\theta\phi}$1.60; M$_{\phi r}$-3.08; Best double couple: M$_0$4.2×10^{17} NP1:φ$_s$306°, δ28°,λ44°. NP2:φ$_s$176°,δ71°,λ111°. Principal axes: T 4.08, Plg59°, Azm115°; N .17, Plg20°, Azm349°; P -4.25, Plg23°, Azm250°;

NEIC Felt [III] at Chala.

MOS 28 21:32:18.6±1.0,15.52S×74.65W,h33^{km},mb5.6/36, MS5.2/19 Error ellipse: s-maj=13.0km s-min=6.6km az=113.4

HRVD 28 21:32:18.7±0.2,15.81S×74.94W,h29^{km},MW5.7/71, Centroid moment Tensor Solution. LP body waves: s66,c126;Mantle waves: s71,c144; Half duration: 1^{s}8 Moment tensor: Scale 10^{17}Nm; M$_{rr}$2.51±.06; M$_{\theta\theta}$0.04±.05; M$_{\phi\phi}$-2.55±.06; M$_{r\theta}$0.12±.09; M$_{\theta\phi}$1.79±.04; M$_{\phi r}$-3.80±.15; Best double couple: M$_0$4.89×10^{17} NP1:φ$_s$307°,δ25°,λ46°. NP2:φ$_s$174°,δ72°,λ108°. Principal axes: T 4.67, Plg59°, Azm109°; N .44, Plg17°, Azm349°; P -5.11, Plg25°, Azm250°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

SYO 28 21:32:18.6,15.66S×74.47W,h27^{km},MB5.5,MS5.3

ISC 28 21:32:17.4±0.2,15.61S±0.04×74.58W±0.04,h27^{km}, h27^{km}±.2^{km}:pP-P,n473,σ0^{s}95/290,mb5.3/130,MS5.3/142, 20C-6D,Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARE	**Arequipa**	**3.09**	**106**	⇑*i*P	**Pn**	**21 33 06.4**	**+0.8**
ARE				*e*S	**Sn**	**21 33 38.0**	**-4.1**
NNA	**Nana**	**4.22**	**328**	*e*Pn	**Pn**	**21 33 24.0**	**+2.4**
NNA				*e*S	**Sn**	**21 34 23.2**	**+13**
LPAZ	**La Paz**	**6.24**	**97**	Pn	**Pn**	**21 33 53.4**	**+3.2**
	5.4nm,0.3s,baz=275,slow=11,SNR=112						
LPAZ				Sn	**Sn**	**21 35 10.6**	**+9.2**
	3.1nm,0.3s,baz=240,slow=8.4,SNR=1.9						
LPAZ				LR	LR	21 36 30.7	
	comp=Z,35μm,19.6s,baz=276,slow=40						
LPAZ	**La Paz**	**6.24**	**97**	P	**Pn**	**21 33 53.4**	**+3.2**
LPAZ						21 35 10.6	
LPAZ				pmax	pmax		
	comp=Z,5.0nm,0.3s						
LPAZ				smax			
	comp=N,3.0nm,0.3s						
LPAZ				MLR	MLR		
	comp=Z,35μm,19.6s						
LVC	**Limon Verde**	**8.79**	**143**	*e*P	**P**	**21 34 22.5**	**-3.3**
	comp=Z,107nm,0.6s						
SAML	**Samuel**	**12.95**	**61**	*e*P	**P**	**21 35 20.0**	**-2.6**
	comp=Z,8.2nm,1.6s						
OTAV	**Otavalo**	**16.20**	**346**	P	**P**	**21 36 07.5**	**+2.5**
OTAV				*e*pP		21 36 17.6	
PEL	**Peldehue**	**17.81**	**169**	⇑*i*P	**P**	**21 36 26.5**	**+1.5**
FCH	**Farellones**	**18.06**	**168**	⇑*i*P	**P**	**21 36 28.8**	**+0.5**
CPUP	**Villa Florida**	**19.30**	**126**	P	**P**	**21 36 40.3**	**-2.9**
	comp=Z,0.2nm,0.3s,baz=323,slow=12,SNR=11						
CPUP				LR	LR	21 45 22.4	
	comp=Z,10μm,18.5s,baz=320,slow=41						
ROSC	**El Rosal**	**20.34**	**1**	P	**P**	**21 36 52.8**	**-1.7**
	comp=Z,5.5nm,0.3s,baz=121,slow=21,SNR=2.4						
ROSC				LR	LR	21 45 35.7	
	comp=Z,12μm,18.9s,MS5.3,baz=208,slow=39						
ROSC	**El Rosal**	**20.34**	**1**	P	**P**	**21 36 52.8**	**-1.7**
ROSC				LR	LR	21 45 35.7	
CCHI	**Chillan**	**21.03**	**174**	⇑*i*P		21 37 13.0	
PAYG	**Puerto Ayora**	**21.46**	**312**	P	**P**	**21 37 06.5**	**+0.6**
PAYG				LR	LR		
	comp=Z,8μm,21.0s,MS5.1						
LPA	**La Plata**	**24.35**	**145**	*ce*P	**P**	**21 37 32.0**	**-2.3**
LPA	**La Plata**	**24.35**	**145**	*e*P	**P**	**21 37 35.0**	**+0.7**
LPA				*e*pP		21 37 41.0	
LPA				*e*sP		21 37 46.0	
LPA				*e*S	**S**	**21 41 55.0**	**+6.1**
LPA				*e*sS		21 42 05.0	
LPA				*e*sS		21 42 29.0	
	comp=Z,4μm,20.0s						
SDV	**Santo Domingo**	**24.65**	**9**	*e*P	**P**	**21 37 38.3**	**+1.0**
	comp=Z,182nm,1.1s,mb5.5						
SDV				LR	LR		
	comp=Z,8μm,21.0s,MS5.2						
TRQA	**Tornquist**	**24.98**	**156**	*e*P	**P**	**21 37 38.0**	**-2.3**
	comp=Z,192nm,1.4s,mb5.4						
TRQA				LR	LR		
	comp=Z,8μm,21.0s,MS5.2						
BDFB	**Brasilia**	**25.58**	**94**	P	**P**	**21 37 45.8**	**-0.4**
	comp=Z,34nm,0.8s,mb5.0,baz=271,slow=11,SNR=43						
BDFB				sP	sP	21 37 56.1	-1.7
	comp=Z,69nm,1.2s,baz=285,slow=13,SNR=7.9						
BDFB				LR	LR	21 49 34.2	
	comp=Z,6μm,19.9s,MS5.1,baz=269,slow=40						
BDFB	**Brasilia**	**25.58**	**94**	P	**P**	**21 37 45.8**	**-0.4**
BDFB				*SP	sP	21 37 56.1	-1.7
BDFB				pmax	pmax		
	comp=Z,34nm,0.8s						
BDFB				pmax	pmax		
	comp=N,69nm,1.2s						
BDFB				MLR	MLR		
	comp=Z,6μm,19.9s						
BAO	**Brasilia Array**	**25.61**	**94**	*e*P	**P**	**21 37 46.0**	**-0.4**
BAO				*i*	pP	21 37 55.7	+1.4
BUS	**Buena Vista**	**26.60**	**339**	*e*P	pP	21 38 06.2	+2.6
LCR2	**La Lucha 2**	**26.86**	**339**	*e*P	pP	21 38 07.7	+1.8
URSC	**Urasca**	**26.87**	**340**	*e*P	pP	21 38 07.7	+1.7
LAJ	**Bijagual**	**27.02**	**339**	*e*P	pP	21 38 10.0	+2.6
ICR	**Volcan Irazu**	**27.02**	**340**	*e*P	pP	21 38 10.3	+2.8
CGA2	**Cerro Gallo 2**	**27.28**	**338**	*e*P	pP	21 38 12.2	+2.4
JCR	**Jicaral**	**27.36**	**337**	*e*P	pP	21 38 13.1	+2.6
TRTC	**Tortuguero**	**27.54**	**340**	*e*P	pP	21 38 13.4	+1.2
JTS	**JuntasAbangare**	**27.71**	**338**	pP	pP	21 38 14.5	+0.9
	comp=Z,3.4nm,0.3s,baz=156,slow=4.5,SNR=7.0						
JTS				LR	LR	21 48 47.4	
	comp=Z,10μm,20.4s,MS5.4,baz=133,slow=36						
JTS	**JuntasAbangare**	**27.71**	**338**	PFAKE		21 38 20.0	+14
JTS				LR	LR		
	comp=Z,2μm,21.0s,MS4.8						
CRZC	**La Cruz**	**28.56**	**337**	*e*P	**P**	**21 38 21.6**	**+8.2**
CAM4	**Nova Friburgo**	**30.97**	**107**	(P)	**P**	**21 38 32.6**	**-2.1**
CAM4				*i*	pP	21 38 39.7	-3.1
CAM4				*i*		21 38 51.0	
CAM4	**Nova Friburgo**	**30.97**	**107**	P	**P**	**21 38 32.6**	**-2.1**
CAM4				*i*	pP	21 38 39.7	-3.1
CAM4				*i*		21 38 51.0	
MGP	**Maguayo**	**34.21**	**13**	P	**P**	**21 39 02.3**	**-0.8**
RPN	**Rapa Nui**	**34.22**	**245**	P	**P**	**21 39 03.9**	**+0.8**
	comp=Z,105nm,0.8s,mb5.8						
RPN				LR	LR		
	comp=Z,3μm,22.0s,MS4.9						
SJG	**San Juan**	**34.52**	**14**	P	**P**	**21 39 05.4**	**-0.4**
	comp=Z,4.5nm,0.4s,mb4.8,baz=281,slow=22,SNR=2.5						
SJG				sP	sP	21 39 15.7	-1.7
	comp=Z,31nm,0.8s,baz=234,slow=1.6,SNR=3.3						
SJG	**San Juan**	**34.52**	**14**	P	**P**	**21 39 05.4**	**-0.4**
SJG				*SP	sP	21 39 15.7	-1.6
SJG				pmax	pmax		
	comp=Z,5.0nm,0.4s						
SJG				pmax	pmax		
	comp=N,31nm,0.8s						
SJG	**San Juan**	**34.52**	**14**	P	**P**	**21 39 04.4**	**-1.4**
	comp=N,84nm,1.1s,mb5.6						
SJG				*e*	pP	21 39 12.1	-1.8
SJG				LR	LR		
	comp=Z,5μm,20.0s,MS5.2						
HUMP	**Col San Antoni**	**34.62**	**15**	*e*P	**P**	**21 39 07.0**	**+0.4**
HUMP				*e*	pP	21 39 16.7	+1.9
CBYP	**Canovanas**	**34.75**	**15**	*e*P	**P**	**21 39 07.1**	**-0.6**
TEIG	**Tepich**	**38.07**	**339**	P	**P**	**21 39 34.9**	**-0.7**
	comp=Z,0.0nm,0.3s,baz=312,slow=24,SNR=3.3						
TEIG				pP	pP	21 39 44.1	+0.3
	comp=Z,0.0nm,0.5s,baz=136,slow=24,SNR=1.8						
TEIG	**Tepich**	**38.07**	**339**	P	**P**	**21 39 36.0**	**+0.3**
TEIG				P	pP	21 39 43.8	-0.1
TEIG				sP	sP	21 40 01.3	+14
TEIG				S	**S**	**21 45 27.4**	**+1.2**
TEIG				PcS		21 45 41.0	
EFI	**East Falkland**	**38.33**	**163**	PFAKE		21 39 50.0	+12
EFI				LR	LR		
	comp=Z,848nm,19.0s,MS4.6						
RCBR	**Riachuelo**	**39.16**	**80**	PFAKE		21 40 00.0	+15
RCBR				LR	LR		
	comp=Z,16μm,20.0s,MS5.9						
USHA	**Ushuaia**	**39.43**	**174**	P	**P**	**21 39 45.9**	**-0.8**
	comp=Z,45nm,0.9s,mb5.2,baz=311,slow=3.8,SNR=16						
USHA				sP	sP	21 39 55.7	-2.6
	comp=Z,44nm,1.1s,baz=338,slow=8.7,SNR=5.6						
DWPF	**Disney**	**43.96**	**351**	PFAKE		21 40 40.0	+16
DWPF				LR	LR		
	comp=Z,4μm,22.0s,MS5.3						
BBSR	**BB Station**	**48.64**	**11**	PFAKE		21 41 10.0	+8.9
BBSR				LR	LR		
	comp=Z,1μm,20.0s,MS4.9						
NHSC	**New Hope**	**48.73**	**354**	*e*P	**P**	**21 41 09.9**	**+8.1**
	comp=Z,471nm,1.3s,mb6.4						
NHSC				LR	LR		
	comp=Z,4μm,21.0s,MS5.3						
PMSA	**Palmer Station**	**49.64**	**174**	*e*P	**P**	**21 41 07.1**	**-1.3**
	comp=Z,54nm,1.1s,mb5.5						
PMSA				LR	LR		
	comp=Z,628nm,21.0s,MS4.6						
LRAL	**Lakeview Retre**	**49.80**	**346**	P	**P**	**21 41 08.8**	**-1.3**
	comp=Z,73nm,1.2s,mb5.6						
LRAL				*e*	pP	21 41 17.4	-1.0
LRAL				LR	LR		
	comp=Z,1μm,19.0s,MS5.0						
NATX	**Nacogdoches**	**50.88**	**338**	P	**P**	**21 41 17.2**	**-1.1**
	comp=Z,226nm,1.4s,mb5.9						
NATX				*e*	pP	21 41 27.4	+0.7
MYNC	**Murphy**	**51.21**	**350**	PFAKE		21 41 30.0	+9.3
MYNC				LR	LR		
	comp=Z,2μm,21.0s,MS5.0						
CPCT	**Cooper Cave**	**51.65**	**350**	P	**P**	**21 41 24.3**	**+0.3**
CPCT				*e*	pP	21 41 33.5	+1.1
SWET	**Sewanee**	**51.68**	**348**	*e*P	**P**	**21 41 22.2**	**-2.1**
SWET				*e*	pP	21 41 31.3	-1.3
OXF	**Oxford**	**51.80**	**344**	*e*P	**P**	**21 41 22.5**	**-2.7**
OXF				*e*	pP	21 41 31.9	-1.7
OXF				pmax	pmax		
	comp=Z,190nm,1.5s,mb5.8						
OXF				MLR	MLR		
	comp=Z,1μm,22.0s,MS4.9						
OXF	**Oxford**	**51.80**	**344**	*e*P	**P**	**21 41 22.5**	**-2.7**
	comp=Z,192nm,1.5s,mb5.8						
OXF				*e*	pP	21 41 31.9	-1.7
OXF				LR	LR		
	comp=Z,1μm,22.0s,MS4.9						
JCT	**Junction City**	**51.86**	**332**	*e*P	**P**	**21 41 25.1**	**-0.6**
JCT				*e**PP	pP	21 41 33.1	-1.0
JCT				pmax	pmax		
	comp=Z,73nm,1.3s,mb5.5						
JCT				MLR	MLR		
	comp=Z,1μm,19.0s,MS5.0						
JCT	**Junction City**	**51.86**	**332**	*e*P	**P**	**21 41 25.1**	**-0.6**
	comp=Z,73nm,1.3s,mb5.5						
JCT				*e*pP	pP	21 41 33.0	-1.0
JCT				LR	LR		
	comp=Z,1μm,19.0s,MS4.9						
PTCN	**Pitcairn Islan**	**52.59**	**250**	PFAKE		21 41 40.0	+8.7
PTCN				LR	LR		
	comp=Z,6μm,20.0s,MS5.6						
LTX	**Lajitas**	**52.77**	**328**	PFAKE		21 41 40.0	+7.4
LTX				LR	LR		
	comp=Z,3μm,20.0s,MS5.3						
TXAR	**Lajitas Array**	**52.77**	**328**	P	**P**	**21 41 32.2**	**-0.4**
	comp=Z,6.3nm,1.0s,mb4.5,baz=149,slow=7.3,SNR=30						
TXAR				pP	pP	21 41 40.1	-0.8
	comp=Z,28nm,0.8s,baz=146,slow=6.5,SNR=47						
TXAR				LR	LR	22 02 54.7	
	comp=Z,2μm,19.9s,MS5.2,baz=125,slow=35						
TXAR	**Lajitas Array**	**52.77**	**328**	P	**P**	**21 41 32.2**	**-0.4**
TXAR				pP	pP	21 41 40.1	-0.8
TXAR				LR	LR	22 02 54.7	
BLA	**Blacksburg**	**52.82**	**354**	*e*P	**P**	**21 41 33.3**	**+0.4**
BLA				*e*	pP	21 41 41.0	-0.2
BLA				pmax	pmax		
	comp=Z,44nm,0.9s,mb5.4						
BLA				MLR	MLR		
	comp=Z,4μm,20.0s,MS5.4						
BLA	**Blacksburg**	**52.82**	**354**	*e*P	**P**	**21 41 33.2**	**+0.4**
	comp=Z,44nm,0.9s,mb5.4						
BLA				*e*	pP	21 41 41.0	-0.3
BLA				LR	LR		
	comp=Z,4μm,20.0s,MS5.4						
UALR	**University of**	**52.87**	**342**	*e*P	**P**	**21 41 32.2**	**-1.1**
	comp=Z,168nm,1.4s,mb5.8						
UALR				*e*	pP	21 41 40.0	-1.6
WVT	**Waverly**	**52.96**	**347**	*e*P	**P**	**21 41 31.4**	**-2.5**
WVT				*e*	pP	21 41 39.5	-2.8
WVT				pmax	pmax		
	comp=Z,32nm,1.0s,mb5.2						
WVT				MLR	MLR		
	comp=Z,1μm,20.0s,MS5.0						
WVT	**Waverly**	**52.96**	**347**	*e*P	**P**	**21 41 31.4**	**-2.5**
	comp=Z,32nm,1.0s,mb5.2						

WVT				*e*	pP	21 41 39.5	-2.8
WVT				LR	LR		
	comp=Z,1µm,20.0s,MS5.0						
MIAR	**Mount Ida**	**53.05**	**340**	PFAKE		21 41 50.0	+15
MIAR				LR	LR		
	comp=Z,1µm,21.0s,MS4.9						
CBN	**Corbin**	**53.59**	**357**	PFAKE		21 41 50.0	+12
CBN				LR	LR		
	comp=Z,3µm,22.0s,MS5.3						
WCI	**Wyandotte Cave**	**54.67**	**349**	*e*P	**P**	**21 41 44.8**	**-1.6**
WCI				*e**PP	pP	21 41 53.0	-1.8
WCI				pmax	pmax		
	comp=Z,130nm,0.8s,mb6.0						
WCI				MLR	MLR		
	comp=Z,2µm,20.0s,MS5.2						
WCI	**Wyandotte Cave**	**54.67**	**349**	*e*P	**P**	**21 41 44.8**	**-1.6**
	comp=Z,134nm,0.8s,mb6.0						
WCI				*e*pP	pP	21 41 53.0	-1.8
WCI				LR	LR		
	comp=Z,2µm,20.0s,MS5.2						
WMOK	**Wichita Mounta**	**55.10**	**336**	*e*P	**P**	**21 41 47.8**	**-1.8**
WMOK				*e**PP	pP	21 41 56.2	-1.8
WMOK				pmax	pmax		
	comp=Z,33nm,1.6s,mb5.1						
WMOK				MLR	MLR		
	comp=Z,1µm,21.0s,MS5.0						
WMOK	**Wichita Mounta**	**55.10**	**336**	*e*P	**P**	**21 41 47.8**	**-1.8**
	comp=Z,33nm,1.6s,mb5.1						
WMOK				*e*pP	pP	21 41 56.2	-1.8
WMOK				LR	LR		
	comp=Z,1µm,21.0s,MS5.0						
MCWV	**Mont Chateau**	**55.20**	**355**	PFAKE		21 42 00.0	+10
MCWV				LR	LR		
	comp=Z,3µm,22.0s,MS5.3						
CLNB	**Carlsbad**	**55.26**	**330**	*e*P	**P**	**21 41 50.9**	**+0.1**
CLNB				*e*	pP	21 41 59.3	+0.1
FVM	**French Village**	**55.35**	**345**	*e*P	**P**	**21 41 49.4**	**-2.0**
FVM				*e*	pP	21 41 58.0	-1.7
FVM				pmax	pmax		
	comp=Z,47nm,1.0s,mb5.5						
FVM	**French Village**	**55.35**	**345**	*e*P	**P**	**21 41 49.4**	**-2.0**
	comp=Z,47nm,1.0s,mb5.5						
FVM				*e*	pP	21 41 58.0	-1.8
GDL2	**Guadalupe Moun**	**55.44**	**329**	*e*P	**P**	**21 41 51.7**	**-0.4**
GDL2				*e*	pP	21 42 00.5	-0.1
BLO	**Bloomington**	**55.62**	**349**	*e*P	**P**	**21 41 51.7**	**-1.6**
BLO				*e*	pP	21 42 00.2	-1.5
BLO				pmax	pmax		
	comp=Z,35nm,0.6s,mb5.6						
BLO	**Bloomington**	**55.62**	**349**	*e*P	**P**	**21 41 51.7**	**-1.7**
	comp=Z,35nm,0.6s,mb5.6						
BLO				*e*	pP	21 42 00.2	-1.5
CCM	**Cathedral Cave**	**55.63**	**344**	*e*P	**P**	**21 41 51.7**	**-1.7**
CCM				*e*	pP	21 42 00.1	-1.6
CCM				pmax	pmax		
	comp=Z,62nm,1.3s,mb5.5						
CCM				MLR	MLR		
	comp=Z,2µm,20.0s,MS5.1						
CCM	**Cathedral Cave**	**55.63**	**344**	*e*P	**P**	**21 41 51.7**	**-1.7**
	comp=Z,62nm,1.3s,mb5.5						
CCM				*e*	pP	21 42 00.1	-1.7
CCM				LR	LR		
	comp=Z,2µm,20.0s,MS5.1						
SSPA	**Standing Stone**	**56.04**	**357**	*e*P	**P**	**21 41 55.7**	**-0.6**
	comp=Z,86nm,1.3s,mb5.6						
SSPA				*e*pP	pP	21 42 03.9	-0.8
SSPA				LR	LR		
	comp=Z,2µm,20.0s,MS5.2						
ACSO	**Alum Creek Sta**	**56.10**	**352**	*e*P	**P**	**21 41 55.5**	**-1.2**
	comp=Z,72nm,0.9s,mb5.7						
ACSO				*e*	pP	21 42 03.6	-1.5
ACSO				LR	LR		
	comp=Z,3µm,20.0s,MS5.3						
RKT	**Rikitea**	**57.13**	**252**	*e*S	**S**	**21 49 49.3**	**-6.6**
	comp=Z,524nm,36.8s						
RKT				*e*L		21 54 59.6	
	comp=Z,1µm,41.2s						
RKT				*e*R		21 58 56.1	
BRYW	**Bryant College**	**57.30**	**3**	*e*P	**P**	**21 42 04.5**	**-0.8**
	comp=Z,95nm,0.9s,mb5.8						
BRYW				*e*	pP	21 42 13.3	-0.4
BINY	**Binghamton**	**57.53**	**359**	*e*P	**P**	**21 42 06.4**	**-0.5**
	comp=Z,102nm,1.1s,mb5.8						
BINY				*e*pP	pP	21 42 15.0	-0.4
BINY				*e*	pP	21 42 15.5	+0.1
BINY				LR	LR		
	comp=Z,2µm,21.0s,MS5.2						
WES	**Weston**	**57.78**	**3**	PFAKE		21 42 20.0	+11
WES				LR	LR		
	comp=Z,2µm,20.0s,MS5.2						
HRV	**Harvard--Oak R**	**57.89**	**3**	*e*P	**P**	**21 42 09.0**	**-0.4**
HRV				*e*	pP	21 42 17.8	0.0
HRV				pmax	pmax		
	comp=Z,61nm,1.1s,mb5.5						
HRV				MLR	MLR		
	comp=Z,2µm,20.0s,MS5.2						
HRV	**Harvard--Oak R**	**57.89**	**3**	*e*P	**P**	**21 42 08.9**	**-0.4**
	comp=Z,61nm,1.2s,mb5.5						
HRV				*e*	pP	21 42 17.8	0.0
HRV				LR	LR		
	comp=Z,2µm,20.0s,MS5.2						
BNM	**Barren Site**	**58.13**	**329**	*e*P	**P**	**21 42 10.7**	**-0.5**
BNM				*e*	pP	21 42 19.6	0.0
GENY	**Geneseo**	**58.16**	**357**	P	**P**	**21 42 11.0**	**-0.3**
GENY				*e*	pP	21 42 19.4	-0.3
KSU1	**Kansas State U**	**58.19**	**340**	*e*P	**P**	**21 42 09.9**	**-1.7**
KSU1				*e*	pP	21 42 18.5	-1.5
LPM	**Los Pinos Moun**	**58.26**	**329**	*e*P	**P**	**21 42 12.0**	**-0.1**
LPM				*e*	pP	21 42 20.4	-0.1
LENM	**Lemitar**	**58.32**	**329**	P	**P**	**21 42 13.8**	**+1.3**
LENM				*e*	pP	21 42 20.7	-0.3
LAZ	**Ladron**	**58.59**	**329**	*e*P	**P**	**21 42 14.3**	**-0.1**
LAZ				*e*	pP	21 42 23.2	+0.3
ANMO	**Albuquerque**	**58.69**	**329**	*e*P	**P**	**21 42 14.3**	**-0.8**
ANMO				*e*	pP	21 42 23.1	-0.5
ANMO				pmax	pmax		
	comp=Z,50nm,0.9s						
ANMO				MLR	MLR		
	comp=Z,2µm,20.0s						
ANMO	**Albuquerque**	**58.69**	**329**	*e*P	**P**	**21 42 14.3**	**-0.8**
	comp=Z,50nm,0.9s,mb5.5						
ANMO				*e*	pP	21 42 23.1	-0.5
ANMO				LR	LR		
	comp=Z,2µm,20.0s,MS5.3						
ACCN	**Adirondack Com**	**58.71**	**1**	*e*P	**P**	**21 42 14.8**	**-0.3**
ACCN				*e*	pP	21 42 23.7	+0.1
TRIS	**Tristan da Cun**	**58.73**	**124**	PFAKE		21 42 30.0	+15
TRIS				LR	LR		
	comp=Z,2µm,21.0s,MS5.1						
TUC	**Tucson**	**58.92**	**324**	*e*P	**P**	**21 42 16.3**	**-0.5**
TUC				*e*	pP	21 42 24.9	-0.3
TUC				pmax	pmax		
	comp=Z,28nm,0.8s,mb5.3						
TUC				MLR	MLR		
	comp=Z,3µm,19.0s,MS5.4						
TUC	**Tucson**	**58.92**	**324**	*e*P	**P**	**21 42 16.3**	**-0.4**
	comp=Z,28nm,0.8s,mb5.3						
TUC				*e*	pP	21 42 24.9	-0.4
TUC				LR	LR		
	comp=Z,3µm,19.0s,MS5.4						
HNH	**Hanover**	**59.06**	**2**	P	**P**	**21 42 17.1**	**-0.4**
	comp=Z,3.2nm,1.1s						
HNH				*e*	pP	21 42 26.4	+0.4
NCB	**Newcomb**	**59.29**	**0**	*e*P	**P**	**21 42 18.9**	**-0.2**
	comp=Z,50nm,1.2s,mb5.4						
NCB				*e*	pP	21 42 27.3	-0.4
NCB				LR	LR		
	comp=Z,1µm,21.0s,MS5.1						
LOZ	**Lake Ozonia**	**59.94**	**0**	*e*P	**P**	**21 42 21.8**	**-1.8**
LOZ				*e*	pP	21 42 30.9	-1.2
JFWS	**Jewell Farm**	**59.99**	**347**	PFAKE		21 42 40.0	+16
JFWS				LR	LR		
	comp=Z,2µm,21.0s,MS5.2						
WVL	**Waterville**	**60.05**	**4**	PFAKE		21 42 40.0	+16
WVL				LR	LR		
	comp=Z,8µm,20.0s,MS5.8						
MSNY	**Massena**	**60.32**	**360**	*e*P	**P**	**21 42 25.2**	**-0.9**
EMMW	**East Machias**	**60.38**	**6**	PFAKE		21 42 40.0	+13
EMMW				LR	LR		
	comp=Z,5µm,22.0s,MS5.6						
SDCO	**Great Sand Dun**	**60.51**	**332**	*e*P	**P**	**21 42 27.2**	**-0.4**
	comp=Z,123nm,1.0s,mb6.0						
SDCO				*e*pP	pP	21 42 35.2	-0.8
SDCO				LR	LR		
	comp=Z,2µm,22.0s,MS5.3						
RW3	**Ridgway**	**61.92**	**331**	*e*P	**P**	**21 42 37.3**	**+0.1**
RW3				*e*	pP	21 42 45.6	-0.1
ISCO	**Idaho Springs**	**62.25**	**333**	*e*P	**P**	**21 42 39.1**	**-0.2**
ISCO				*e**PP	pP	21 42 47.1	-0.7
ISCO				pmax	pmax		
	comp=Z,64nm,1.2s,mb5.6						
ISCO				MLR	MLR		
	comp=Z,1µm,21.0s,MS5.1						
ISCO	**Idaho Springs**	**62.25**	**333**	*e*P	**P**	**21 42 39.1**	**-0.2**
	comp=Z,64nm,1.3s,mb5.6						
ISCO				*e*pP	pP	21 42 47.1	-0.8
ISCO				LR	LR		
	comp=Z,1µm,21.0s,MS5.1						
PQI	**Presque Isle**	**62.27**	**5**	PFAKE		21 42 50.0	+11
PQI				LR	LR		
	comp=Z,7µm,19.0s,MS5.9						
BAR	**Barrett**	**62.65**	**320**	*e*P	**P**	**21 42 42.5**	**+0.4**
BAR				*e*	pP	21 42 50.1	-0.5
PFO	**Pinyon Flat Ob**	**63.16**	**321**	*e*P	**P**	**21 42 45.4**	**0.0**
PFO				*e**PP	pP	21 42 54.0	+0.1
PFO				pmax	pmax		
	comp=Z,54nm,0.9s,mb5.7						
PFO				MLR	MLR		
	comp=Z,620nm,22.0s,MS4.7						
PFO	**Pinyon Flat Ob**	**63.16**	**321**	*e*P	**P**	**21 42 45.4**	**0.0**
	comp=Z,54nm,0.9s,mb5.7						
PFO				*e*pP	pP	21 42 54.0	0.0
PFO				LR	LR		
	comp=Z,625nm,22.0s,MS4.7						
NEN	**Nelson**	**63.66**	**324**	*e*P	**P**	**21 42 48.8**	**+0.1**
NEN				*e*	pP	21 42 56.7	-0.5
SRU	**San Rafael**	**63.96**	**329**	*e*P	**P**	**21 42 50.5**	**-0.2**
SRU				*e*	pP	21 42 59.1	-0.1
MSU	**Marysvale**	**64.33**	**328**	*e*P	**P**	**21 42 53.1**	**0.0**
MSU				*e*	pP	21 43 01.7	+0.1
MVU	**Marysvale**	**64.34**	**328**	*e*P	**P**	**21 42 53.9**	**+0.7**
	comp=Z,47nm,1.0s,mb5.5						
MVU				*e*pP	pP	21 43 01.9	+0.3
MVU				LR	LR		
	comp=Z,4µm,19.0s,MS5.6						
TMUT	**Trail Mountain**	**64.44**	**329**	*e*P	**P**	**21 42 54.5**	**+0.7**
TMUT				*e*	pP	21 43 02.8	+0.4
ARUT	**Antelope Range**	**64.45**	**327**	*e*P	**P**	**21 42 55.0**	**+1.2**
ARUT				*e*	pP	21 43 03.4	+1.0
MWC	**Mount Wilson**	**64.55**	**321**	*e*P	**P**	**21 42 55.2**	**+0.6**
MWC				*e*	pP	21 43 02.5	-0.6
EYMN	**Ely**	**65.05**	**348**	PFAKE		21 43 10.0	+12
EYMN				LR	LR		
	comp=Z,4.0nm,20.0s						
MPU	**Maple Canyon**	**65.20**	**329**	*e*P	**P**	**21 42 58.7**	**0.0**
MPU				*e*pP	pP	21 43 07.1	-0.1
RSSD	**Black Hills**	**65.24**	**337**	*e*P	**P**	**21 42 58.6**	**-0.3**
RSSD				*e**PP	pP	21 43 07.0	-0.4
RSSD				pmax	pmax		
	comp=Z,120nm,1.3s,mb5.8						
RSSD				MLR	MLR		
	comp=Z,2µm,22.0s,MS5.2						
RSSD	**Black Hills**	**65.24**	**337**	*e*P	**P**	**21 42 58.6**	**-0.3**
	comp=Z,118nm,1.4s,mb5.7						
RSSD				*e*pP	pP	21 43 07.0	-0.4
RSSD				LR	LR		
	comp=Z,1µm,22.0s,MS5.1						
DAU	**Daniels Canyon**	**65.33**	**330**	*e*P	**P**	**21 43 00.0**	**+0.5**
DAU				*e*	pP	21 43 08.9	+0.9
NLU	**North Lily Min**	**65.38**	**329**	*e*P	**P**	**21 42 59.8**	**0.0**
NLU				*e*	pP	21 43 08.6	+0.2
TPNV	**Topopah Spring**	**65.38**	**324**	*e*P	**P**	**21 43 00.2**	**+0.3**
TPNV				*e**PP	pP	21 43 08.7	+0.3
TPNV				pmax	pmax		
	comp=Z,37nm,0.9s,mb5.4						
TPNV				MLR	MLR		
	comp=Z,2µm,20.0s,MS5.2						
TPNV	**Topopah Spring**	**65.38**	**324**	*e*P	**P**	**21 43 00.2**	**+0.4**
	comp=Z,37nm,0.9s,mb5.4						
TPNV				*e*pP	pP	21 43 08.7	+0.3
TPNV				LR	LR		
	comp=Z,2µm,20.0s,MS5.2						
JLU	**Jordanelle**	**65.57**	**330**	*e*P	**P**	**21 43 01.1**	**+0.1**
JLU				*e*	pP	21 43 09.5	-0.1
DAC	**Darwin (Calif)**	**65.68**	**323**	*e*P	**P**	**21 43 01.7**	**-0.1**
DAC				*e**PP	pP	21 43 10.2	-0.1
DAC				pmax	pmax		
	comp=Z,25nm,1.0s,mb5.2						
DAC				MLR	MLR		
	comp=Z,2µm,20.0s,MS5.3						
DAC	**Darwin (Calif)**	**65.68**	**323**	*e*P	**P**	**21 43 01.7**	**-0.1**
	comp=Z,25nm,1.0s,mb5.2						
DAC				*e*pP	pP	21 43 10.2	-0.1
DAC				LR	LR		
	comp=Z,2µm,20.0s,MS5.3						
CTU	**Camp Tracy**	**65.78**	**330**	*e*P	**P**	**21 43 02.4**	**0.0**
CTU				*e*	pP	21 43 10.8	-0.1
DUG	**Dugway**	**65.93**	**329**	*e*P	**P**	**21 43 03.6**	**+0.3**
	comp=Z,57nm,0.8s,mb5.7						
DUG				*e*pP	pP	21 43 12.0	+0.2
DUG				LR	LR		
	comp=Z,2µm,20.0s,MS5.3						
TCUT	**Toone Canyon**	**65.95**	**330**	*e*P	**P**	**21 43 01.8**	**-1.6**
TCUT				*e*	pP	21 43 11.8	-0.1
BW06	**Boulder Array**	**66.39**	**333**	PFAKE		21 43 20.0	+14
BW06				LR	LR		
	comp=Z,2µm,22.0s,MS5.4						
PDAR	**Pinedale Array**	**66.39**	**333**	P	**P**	**21 43 05.0**	**-1.2**
	comp=Z,4.9nm,1.1s,mb4.5,baz=146,slow=5.3,SNR=27						
PDAR				pP	pP	21 43 13.7	-1.1
	comp=Z,17nm,1.2s,baz=158,slow=4.9,SNR=18						
PDAR				LR	LR	22 12 26.6	
	comp=Z,2µm,21.6s,MS5.3,baz=143,slow=36						
HWUT	**Hardware Ranch**	**66.40**	**331**	*e*P	**P**	**21 43 05.5**	**-0.8**
	comp=Z,89nm,1.1s,mb5.7						
HWUT				*e*pP	pP	21 43 14.3	-0.5
HWUT				LR	LR		
	comp=Z,4µm,20.0s,MS5.6						
BGU	**Big Grassy Mou**	**66.59**	**329**	*e*P	**P**	**21 43 07.1**	**-0.4**
BGU				*e*	pP	21 43 14.8	-1.2
SPUT	**South Promonto**	**66.59**	**330**	*e*P	**P**	**21 43 07.0**	**-0.5**
SPUT				*e*	pP	21 43 15.0	-1.1
SPUT				*e*PP	PP	21 45 35.8	-0.3
TPH	**Tonopah**	**66.72**	**324**	*e*P	**P**	**21 43 08.9**	**+0.5**
TPH				*e**PP	pP	21 43 17.0	+0.1
TPH				pmax	pmax		
	comp=Z,28nm,0.7s,mb5.4						
TPH				MLR	MLR		
	comp=Z,2µm,21.0s,MS5.2						
TPH	**Tonopah**	**66.72**	**324**	*e*P	**P**	**21 43 08.9**	**+0.5**
	comp=Z,28nm,0.7s,mb5.4						
TPH				*e*pP	pP	21 43 17.0	+0.1
TPH				LR	LR		
	comp=Z,2µm,21.0s,MS5.2						
MTUM	**Tungsten Hills**	**66.98**	**323**	*e*P	**P**	**21 43 10.7**	**+0.5**
MTUM				*e*	pP	21 43 18.6	0.0
AHID	**Auburn Hatcher**	**67.08**	**332**	PFAKE		21 43 20.0	+9.4
AHID				LR	LR		
	comp=Z,2µm,22.0s,MS5.3						
HVU	**Hansel Valley**	**67.11**	**330**	*e*P	**P**	**21 43 10.4**	**-0.4**
HVU				*e**PP	pP	21 43 18.5	-0.9
VNA3	**Neumayer Olymp**	**67.34**	**161**	⇑*i*P	**P**	**21 43 12.9**	**+1.1**
VNA3	**Neumayer Olymp**	**67.34**	**161**	⇑*i*	pP	21 43 21.4	+1.1
VNA3	**Neumayer Olymp**	**67.34**	**161**	⇓*i*	sP	21 43 28.5	+5.1
VNA3	**Neumayer Olymp**	**67.34**	**161**	⇑*i*	PcP	21 43 39.2	-0.1
OMM	**Old Mammoth Mi**	**67.41**	**323**	*e*P	**P**	**21 43 13.3**	**+0.4**
OMM				*e*pP	pP	21 43 21.6	+0.3
REDW	**Red Top Meadow**	**67.44**	**332**	*e*P	**P**	**21 43 13.0**	**+0.1**
REDW				*e*	pP	21 43 20.3	-1.1
MNV	**Mina**	**67.49**	**324**	*e*P	**P**	**21 43 13.2**	**-0.1**
MNV				*e*	pP	21 43 21.8	0.0
MNV				pmax	pmax		
	comp=Z,49nm,1.3s,mb5.4						
MNV				MLR	MLR		
	comp=Z,2µm,22.0s,MS5.3						
MNV	**Mina**	**67.49**	**324**	*e*P	**P**	**21 43 13.2**	**-0.1**
	comp=Z,49nm,1.3s,mb5.4						
MNV				*e*	pP	21 43 21.8	0.0
MNV				LR	LR		
	comp=Z,2µm,22.0s,MS5.3						
LOHW	**Long Hollow**	**67.53**	**332**	*e*P	**P**	**21 43 13.0**	**-0.4**
LOHW				*e*	pP	21 43 22.1	+0.1
WUWY	**Wally Ulrich**	**67.53**	**332**	*e*P	**P**	**21 43 13.6**	**+0.2**
WUWY				*e*	pP	21 43 21.2	-0.8
ELK	**Elko**	**67.57**	**328**	*e*P	**P**	**21 43 13.5**	**-0.2**
ELK				*e**PP	pP	21 43 21.7	-0.6
ELK				pmax	pmax		
	comp=Z,73nm,1.4s						
ELK				MLR	MLR		
	comp=Z,4µm,20.0s						
ELK	**Elko**	**67.57**	**328**	*e*P	**P**	**21 43 13.5**	**-0.3**
	comp=Z,73nm,1.4s,mb5.5						
ELK				*e*pP	pP	21 43 21.7	-0.6
ELK				LR	LR		
	comp=Z,4µm,20.0s,MS5.6						
TPAW	**Teton Pass**	**67.58**	**332**	*e*P	**P**	**21 43 13.8**	**0.0**
TPAW				*e*	pP	21 43 22.3	0.0
VNA1	**Neumayer--Stat**	**67.60**	**161**	⇑*i*P	**P**	**21 43 14.4**	**+1.0**
VNA1	**Neumayer--Stat**	**67.60**	**161**	⇑*i*	pP	21 43 23.4	+1.4
VNA1	**Neumayer--Stat**	**67.60**	**161**	⇑*i*	sP	21 43 29.4	+4.4
LRV	**Little Rabbit**	**67.82**	**321**	*e*P	**P**	**21 43 16.8**	**+1.4**
IMW	**Indian Meadow**	**67.90**	**332**	*e*P	**P**	**21 43 15.7**	**-0.1**
IMW				*e*	pP	21 43 24.4	+0.2
VNA2	**Neumayer--Watz**	**67.95**	**161**	⇑*i*P	**P**	**21 43 17.0**	**+1.3**
VNA2	**Neumayer--Watz**	**67.95**	**161**		pP	21 43 25.4	+1.2
VNA2	**Neumayer--Watz**	**67.95**	**161**		sP	21 43 31.9	+4.7
ULM	**Lac du Bonnet**	**68.20**	**345**	P	**P**	**21 43 15.8**	**-1.7**
	comp=Z,17nm,1.2s,mb4.9,baz=137,slow=6.9,SNR=4.3						
ULM				pP	pP	21 43 24.2	-1.8
	comp=Z,66nm,1.3s,baz=151,slow=5.8,SNR=7.1						
ULM				LR	LR	22 15 47.1	
	comp=Z,2µm,21.2s,MS5.3,baz=316,slow=38						
ULM	**Lac du Bonnet**	**68.20**	**345**	*e*P	**P**	**21 43 15.4**	**-2.1**
	comp=Z,106nm,1.2s,mb5.7						
ULM				*e*pP	pP	21 43 23.6	-2.5
ULM				LR	LR		
	comp=Z,3µm,21.0s,MS5.4						
LAO	**LASA Array**	**68.24**	**337**	*e*P	**P**	**21 43 17.4**	**-0.4**
	comp=Z,149nm,1.3s,mb5.9						
LAO				*e*pP	pP	21 43 25.5	-0.8
LAO				LR	LR		
	comp=Z,2µm,22.0s,MS5.2						
YFT	**Old Faithful**	**68.29**	**333**	*e*P	**P**	**21 43 19.9**	**+1.8**
YFT				*e*	pP	21 43 28.6	+1.9
SAO	**San Andreas Ge**	**68.30**	**321**	PFAKE		21 43 30.0	+12
SAO				LR	LR		
	comp=Z,2µm,19.0s,MS5.2						
YNR	**Norris Junctio**	**68.43**	**333**	*e*P	**P**	**21 43 19.1**	**0.0**
CMB	**Columbia Colle**	**68.51**	**323**	*e*P	**P**	**21 43 19.1**	**-0.6**
CMB				pmax	pmax		
	comp=Z,43nm,1.2s,mb5.2						
CMB				MLR	MLR		
	comp=Z,2µm,21.0s,MS5.3						
CMB	**Columbia Colle**	**68.51**	**323**	*e*P	**P**	**21 43 19.1**	**-0.6**
	comp=Z,43nm,1.2s,mb5.3						
CMB				LR	LR		
	comp=Z,2µm,21.0s,MS5.3						
YMR	**Madison River**	**68.52**	**333**	*e*P	**P**	**21 43 20.6**	**+1.0**
YMR				*e*pP	pP	21 43 28.8	+0.6
QLMT	**Earthquake Lak**	**68.85**	**333**	*e*P	**P**	**21 43 22.1**	**+0.4**
QLMT				*e*	pP	21 43 31.4	+1.2
GCMT	**Greycliff**	**68.86**	**334**	*e*P	**P**	**21 43 21.7**	**0.0**
GCMT				*e*	pP	21 43 29.9	-0.3
WCN	**Washoe City**	**69.00**	**324**	*e*P	**P**	**21 43 23.4**	**+0.7**
WCN				*e*	pP	21 43 31.7	+0.5
WCN				pmax	pmax		
	comp=Z,20nm,0.9s,mb5.0						
WCN	**Washoe City**	**69.00**	**324**	*e*P	**P**	**21 43 23.4**	**+0.7**
	comp=Z,20nm,0.9s,mb5.1						
WCN				*e*	pP	21 43 31.7	+0.5
DGMT	**Dagmar**	**69.03**	**339**	*e*P	**P**	**21 43 22.8**	**+0.1**
	comp=Z,145nm,1.0s,mb5.9						
DGMT				*e*	pP	21 43 31.8	+0.6
DGMT				LR	LR		
	comp=Z,1µm,20.0s,MS5.2						
PAHR	**Pah Rah Range**	**69.07**	**324**	*e*P	**P**	**21 43 23.5**	**+0.4**
	comp=Z,66nm,0.8s,mb5.6						
PAHR				*e*	pP	21 43 32.2	+0.6
HLID	**Hailey**	**69.25**	**330**	*e*P	**P**	**21 43 24.4**	**+0.3**
	comp=Z,27nm,0.7s,mb5.3						
HLID				*e*	pP	21 43 33.0	+0.3
HLID				LR	LR		
	comp=Z,2µm,21.0s,MS5.3						
MCMT	**McKenzie Canyo**	**69.48**	**332**	*e*P	**P**	**21 43 26.1**	**+0.5**
SNAA	**Sanae**	**69.56**	**161**	⇑*i*P	**P**	**21 43 24.0**	**-1.6**
SNAA	**Sanae**	**69.56**	**161**	⇑*i*	**P**	**21 43 33.9**	**+8.3**
SNAA	**Sanae**	**69.56**	**161**	⇑*i*	PcP	21 43 50.5	+1.9
SNAA	**Sanae**	**69.56**	**161**	P	**P**	**21 43 24.4**	**-1.2**
	comp=Z,15nm,0.9s,mb5.0,baz=283,slow=5.3,SNR=112						
SNAA				pP	pP	21 43 32.3	-1.8
	comp=Z,13nm,0.8s,baz=247,slow=8.9,SNR=9.7						
SNAA	**Sanae**	**69.56**	**161**	P	**P**	**21 43 24.4**	**-1.2**
SNAA				*PP	pP	21 43 32.3	-1.8
SNAA				pmax	pmax		
	comp=Z,15nm,0.9s						
SNAA				pmax	pmax		
	comp=N,13nm,0.8s						
BOZ	**Bozeman (W)**	**69.58**	**333**	*e*P	**P**	**21 43 25.5**	**-0.6**
BOZ				*e*	pP	21 43 34.0	-0.6
BOZ				pmax	pmax		
	comp=Z,76nm,1.2s,mb5.5						
BOZ				MLR	MLR		
	comp=Z,2µm,22.0s,MS5.3						
BOZ	**Bozeman (W)**	**69.58**	**333**	*e*P	**P**	**21 43 25.5**	**-0.6**
	comp=Z,76nm,1.3s,mb5.5						
BOZ				*e*	pP	21 43 34.0	-0.6
BOZ				LR	LR		
	comp=Z,2µm,22.0s,MS5.3						
BEKR	**Beckwourth**	**69.72**	**324**	*e*P	**P**	**21 43 28.1**	**+1.1**
	comp=Z,26nm,0.9s,mb5.2						
BEKR				*e*	pP	21 43 36.2	+0.7
MEH	**Mehetia**	**69.97**	**256**	*e*P	**P**	**21 43 37.4**	**+8.5**
	comp=Z,40nm,1.1s,mb5.2						
OHCM	**Honcut**	**70.01**	**323**	*e*P	**P**	**21 43 29.5**	**+0.7**
VAH	**Vaihoa**	**70.06**	**259**	*e*P	**P**	**21 43 36.7**	**+7.2**
	comp=Z,114nm,1.3s,mb5.6						
NSHM	**Saint Helena R**	**70.14**	**322**	*e*P	**P**	**21 43 30.9**	**+1.3**
TBI	**Tubuai**	**70.34**	**250**	*e*S	S	21 52 28.9	-11
TBI				*e*R		22 04 37.2	
	comp=Z,4µm,26.2s						
PMOR	**Pomariorio Ree**	**70.36**	**259**	*e*P	**P**	**21 43 38.6**	**+7.3**
	comp=Z,112nm,1.3s,mb5.7						
SCHQ	**Schefferville**	**70.47**	**5**	P	**P**	**21 43 30.7**	**-0.6**
	comp=Z,27nm,1.3s,mb5.0,baz=171,slow=7.9,SNR=4.7						
SCHQ				pP	pP	21 43 39.5	-0.4
	comp=Z,22nm,1.0s,baz=191,slow=5.4,SNR=8.7						
SCHQ				LR	LR	22 15 07.8	
	comp=Z,1µm,21.7s,MS5.2,baz=193,slow=36						
SCHQ	**Schefferville**	**70.47**	**5**	*e*P	**P**	**21 43 30.6**	**-0.7**
	comp=Z,90nm,1.2s,mb5.6						
SCHQ				LR	LR		
	comp=Z,2µm,21.0s,MS5.4						
HRY	**Holter Researc**	**70.50**	**334**	*e*P	**P**	**21 43 31.5**	**-0.2**
HRY				*e*	pP	21 43 40.0	-0.2
HOPS	**Hopland**	**70.72**	**322**	*e*P	**P**	**21 43 34.0**	**+0.8**
	comp=Z,108nm,1.5s,mb5.6						
HOPS				*e*	pP	21 43 42.2	+0.5
HOPS				LR	LR		
	comp=Z,2µm,20.0s,MS5.3						
MOD	**Modoc**	**71.08**	**326**	*e*P	**P**	**21 43 35.8**	**+0.5**
	comp=Z,149nm,1.5s,mb5.7						
MOD				*e*	pP	21 43 43.8	0.0
MOD				LR	LR		
	comp=Z,2µm,22.0s,MS5.3						
TVO	**Taravao**	**71.10**	**256**	*e*P	**P**	**21 43 44.2**	**+8.4**
	comp=Z,126nm,1.3s,mb5.7						
CHMT	**Chamberlain Mo**	**71.27**	**333**	*e*P	**P**	**21 43 36.6**	**+0.3**
PAE	**Paea**	**71.43**	**256**	*e*P	pP	21 43 48.7	+2.4
PPT	**Papeete**	**71.44**	**256**	sP	sP	21 43 48.1	-1.4
	comp=Z,8.8nm,0.3s,baz=212,slow=18,SNR=1.3						
PPT	**Papeete**	**71.44**	**256**	*e*P	**P**	**21 43 46.9**	**+9.0**
	comp=Z,55nm,1.4s,mb5.3						
PPT	**Papeete**	**71.44**	**256**	*e*S	S	21 52 44.5	-8.6
PPT				*e*R		22 05 05.6	
	comp=Z,4µm,23.5s						
WDC	**Whiskeytown Da**	**71.44**	**323**	*e*P	**P**	**21 43 37.0**	**-0.5**
WDC				*e*	pP	21 43 44.6	-1.5
WDC				pmax	pmax		
	comp=Z,19nm,0.7s,mb5.1						
WDC				MLR	MLR		
	comp=Z,940nm,22.0s,MS5.0						
WDC	**Whiskeytown Da**	**71.44**	**323**	*e*P	**P**	**21 43 37.0**	**-0.5**
	comp=Z,19nm,0.7s,mb5.1						
WDC				*e*	pP	21 43 44.6	-1.5
WDC				LR	LR		
	comp=Z,939nm,22.0s,MS5.0						
MSO	**Missoula**	**71.51**	**333**	*e*P	**P**	**21 43 38.4**	**+0.6**
	comp=Z,91nm,1.4s,mb5.5						
MSO				*e*	pP	21 43 46.5	+0.2
MSO				LR	LR		
	comp=Z,1µm,20.0s,MS5.2						
LIC	**Lamto**	**72.19**	**78**	*e*P	**P**	**21 43 40.6**	**-1.8**
	comp=Z,93nm,1.1s,mb5.6						
LIC	**Lamto**	**72.19**	**78**	⇑*i*P	**P**	**21 43 40.7**	**-1.7**

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      comp=Z,38nm,1.1s,mb5.2
YBH   Yreka Blue Hor    72.30 324  P       P       21 43 41.8 -0.8
      comp=Z,6.5nm,1.0s,mb4.5,baz=107,slow=4.9,SNR=7.1
YBH                                pP      pP      21 43 50.3 -0.8
      comp=Z,17nm,0.8s,baz=94,slow=4.0,SNR=15
YBH   Yreka Blue Hor    72.30 324  P       P       21 43 41.8 -0.8
YBH                                *PP     pP      21 43 50.3 -0.8
YBH                                pmax    pmax
      comp=Z,7.0nm,1.0s
YBH                                pmax    pmax
      comp=N,17nm,0.8s
YBH   Yreka Blue Hor    72.30 324  eP      P       21 43 41.3 -1.3
      comp=N,23nm,0.8s,mb5.2
YBH                                e       pP      21 43 50.0 -1.1
YBH                                LR      LR
      comp=Z,1µm,20.0s,MS5.2
KHMM  Horse Mountain    72.32 323  eP      P       21 43 43.4 +0.7
TIC   Toumodi           72.33  78  eP      P       21 43 41.8 -1.4
      comp=Z,121nm,1.1s,mb5.7
DBIC  Dimbokro          72.50  78  P       P       21 43 42.9 -1.3
      comp=Z,27nm,1.0s,mb5.1,baz=238,slow=5.9,SNR=15
DBIC                               sP      sP      21 43 54.0 -1.8
      comp=Z,13nm,0.9s,baz=220,slow=7.9,SNR=6.6
DBIC                               LR      LR      22 14 14.8
      comp=Z,7µm,19.4s,MS6.0,baz=225,slow=35
DBIC  Dimbokro          72.50  78  P       P       21 43 42.9 -1.3
DBIC                               *SP     sP      21 43 54.0 -1.8
DBIC                               pmax    pmax
      comp=Z,27nm,1.0s
DBIC                               pmax    pmax
      comp=N,13nm,0.9s
DBIC                               MLR     MLR
      comp=Z,7µm,19.4s
DBIC  Dimbokro          72.50  78  P       P       21 43 42.9 -1.3
DBIC                               sP      sP      21 43 54.0 -1.8
DBIC                               LR      LR      22 14 14.8
KIC   Kosan Boka        72.51  78  eP      P       21 43 42.9 -1.5
      comp=Z,120nm,0.8s,mb5.9
LNOR  Lincton Mounta    72.82 330  eP      P       21 43 44.9 -0.7
LNOR                               e       pP      21 43 52.7 -1.4
KRMB  Red Mountain      72.84 323  eP      P       21 43 46.7 +0.8
KRMB                               e       pP      21 43 54.8 +0.4
HUMO  Hull Mountain     73.01 325  eP      P       21 43 45.5 -1.2
      comp=Z,10nm,0.8s,mb4.8
HUMO                               LR      LR
      comp=Z,1µm,20.0s,MS5.1
WALA  Waterton Lakes    73.21 334  eP      P       21 43 47.4 -0.4
      comp=Z,87nm,1.4s,mb5.5
WALA                               e       pP      21 43 56.4  0.0
HAWA  Hanford           73.80 329  eP      P       21 43 51.7 +0.4
      comp=Z,104nm,1.3s,mb5.6
HAWA                               LR      LR
      comp=Z,4µm,19.0s,MS5.7
VGB   Gordon Butte      73.81 328  eP      P       21 43 52.3 +1.0
FFC   Flin Flon         73.83 344  PFAKE           21 44 00.0 +8.7
FFC                                LR      LR
      comp=Z,456nm,21.0s,MS4.7
NEW   Newport           74.01 332  eP      P       21 43 52.0 -0.4
NEW                                e       pP      21 44 00.8 -0.2
NEW                                pmax    pmax
      comp=Z,32nm,1.1s
NEW                                MLR     MLR
      comp=Z,2µm,22.0s
NEW   Newport           74.01 332  eP      P       21 43 52.0 -0.5
      comp=Z,32nm,1.1s,mb5.2
NEW                                e       pP      21 44 00.8 -0.2
NEW                                LR      LR
      comp=Z,2µm,22.0s,MS5.4
NVL   N'lazarevskaya    74.20 160⇑eP      P       21 43 52.0 -1.1
NVL                                pmax    pmax
      comp=Z,695nm,3.5s
DPW   Davenport         74.22 331  eP      P       21 43 54.0 +0.3
DPW                                e       pP      21 44 03.0 +0.8
COR   Corvallis         74.50 326  PFAKE           21 44 10.0  +15
COR                                LR      LR
      comp=Z,2µm,20.0s,MS5.4
QSPA  South Pole Qui    74.55 180  eP      P       21 43 54.5 -0.5
      comp=Z,47nm,1.2s,mb5.3
LON   Longmire          75.18 329  P       P       21 43 59.5 +0.3
NLW   Nelson Butte      75.38 330  eP      P       21 44 00.8 +0.5
NLW                                e       pP      21 44 09.0 +0.1
BMW   Boistfort Moun    75.72 328  eP      P       21 44 02.7 +0.4
BMW                                e       pP      21 44 11.3 +0.4
RPW   Rockport          76.20 330  eP      P       21 44 05.0  0.0
RPW                                e       pP      21 44 13.4 -0.2
EDM   Edmonton          76.22 337  eP      P       21 44 04.3 -0.7
GNW   Green Mountain    76.24 329  eP      P       21 44 05.5 +0.2
OCWA  Octopus Mounta    77.05 328  PFAKE           21 44 20.0  +10
OCWA                               LR      LR
      comp=Z,3µm,19.0s,MS5.6
PGC   Sidney            77.28 329  eP      P       21 44 12.8 +1.9
      comp=Z,336nm,1.6s,mb6.0
PGC                                e       pP      21 44 20.7 +1.1
SBA   Scott Base        80.59 191  eP      P       21 44 28.6 +0.1
SBA                                pmax    pmax
      comp=Z,38nm,1.0s,mb5.3
SBA                                MLR     MLR
      comp=Z,3µm,20.0s,MS5.6
SBA   Scott Base        80.59 191  eP      P       21 44 28.6 +0.1
      comp=Z,38nm,1.0s,mb5.3
SBA                                LR      LR
      comp=Z,3µm,20.0s,MS5.6
PTEO  Sao Teotonio      81.32  47  eP      P       21 44 34.1 +1.1
      comp=Z,60nm,1.5s,mb5.3
PTEO                               e-              21 44 45.0
PBEJ  Beja              82.14  47  eP      P       21 44 38.7 +1.4
      comp=Z,32nm,1.4s,mb5.1
PBEJ                               e-              21 44 50.7
PALC  Alcoutim          82.17  48  eP      P       21 44 38.9 +1.5
      comp=Z,30nm,1.4s,mb5.0
PALC                               e-      pP      21 44 48.9 +2.7
EVO   Evora             82.26  47⇑iP      P       21 44 38.5 +0.6
      comp=Z,45nm,1.2s,mb5.0
EVO                                eR
      comp=Z,3µm,21.5s
PTOM  Tomar             82.48  45  eP      P       21 44 39.8 +0.8
      comp=Z,56nm,1.3s,mb5.3
PTOM                               e-              21 44 52.0
EMIN  Mina Concepcio    82.87  48  P       P       21 44 42.1 +1.0
      comp=Z,411nm,3.4s
EMIN                               pP      pP      21 44 51.5 +1.7
EBAD  Badajoz           83.06  47  P       P       21 44 43.2 +1.2
      comp=Z,291nm,3.2s
EBAD                               pP      pP      21 44 52.4 +1.6
ESPR  Espera            83.07  49  P       P       21 44 43.4 +1.2
      comp=Z,211nm,2.4s,mb5.7
PCBR  Castelo Branco    83.22  46  eP      P       21 44 43.1 +0.2
      comp=Z,24nm,1.3s,mb5.1
PCBR                               e-              21 44 55.4
PVIS  Viseu             83.33  45  eP      P       21 44 44.3 +0.9
      comp=Z,46nm,1.4s,mb5.3
PVIS                               e-              21 44 56.2
MTE   Manteigas         83.43  45  eP      P       21 44 44.8 +0.9
      comp=Z,42nm,1.3s,mb5.3
MTE                                e-              21 44 56.7
MTE                                eS      S       21 55 08.3 +6.3
MTE                                eSS     SS      22 00 39.8 +8.8
MTE                                eLQ             22 07 56.9
MTE                                eLR     LR      22 11 45.0
      comp=Z,3µm,18.0s
EMAZ  Mazaricos         83.65  42  P       P       21 44 44.6 -0.4
      comp=Z,15nm,1.3s,mb5.0
EMAZ                               pP      pP      21 44 57.5 +3.8
PVRL  Vila Real         83.71  44  eP      P       21 44 46.1 +0.8
      comp=Z,35nm,1.6s,mb5.2
PVRL                               e-      pP      21 44 55.4 +1.3
EMIJ  Mijas             83.73  49  P       P       21 44 46.2 +0.6
      comp=Z,368nm,5.2s
ELOB  Lobios            83.75  44  P       P       21 44 46.0 +0.5
      comp=Z,205nm,3.3s
SYO   Syowa Base        83.84 161 ⇓P       P       21 44 44.7 -0.7
SYO   Syowa Base        83.84 161 ⇓PcP     PcP     21 44 46.5 -3.3
STS   Santiago          83.89  42  P       P       21 44 48.2 +2.0
      comp=Z,2.7nm,0.7s,mb4.5
YKA   Yellowknife Ar    83.93 343  P       P       21 44 45.3 -0.7
      comp=Z,5.9nm,0.9s,mb4.7,baz=136,slow=5.1,SNR=9.4
YKA                                pP      pP      21 44 53.8 -0.9
      comp=Z,7.8nm,0.8s,baz=138,slow=5.4,SNR=10.0
YKA                                LR      LR      22 27 08.4
      comp=Z,1µm,18.2s,MS5.3,baz=145,slow=39
YKA   Yellowknife Ar    83.93 343  P       P       21 44 45.3 -0.6
YKA                                *PP     pP      21 44 53.8 -0.9
YKA                                pmax    pmax
      comp=Z,6.0nm,0.9s
YKA                                pmax    pmax
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      comp=N,8.0nm,0.8s
YKA                                MLR     MLR
      comp=Z,1µm,18.2s
ELOJ  Sierra Loja       84.43  49  P       P       21 44 50.5 +1.5
      comp=Z,44nm,1.1s,mb5.5
ELOJ                               pP      pP      21 44 59.9 +2.1
ELUQ  Luque             84.51  49  P       P       21 44 51.2 +1.7
      comp=Z,68nm,1.5s,mb5.6
ELUQ                               pP      pP      21 45 00.1 +1.8
EADA  Adamuz            84.54  48  P       P       21 44 50.3 +0.7
      comp=Z,19nm,1.2s,mb5.1
ERUA  La Rua            84.59  43  P       P       21 44 51.2 +1.4
      comp=Z,13nm,1.2s,mb4.9
PBRG  Braganca          84.60  44  eP      P       21 44 51.0 +1.2
      comp=Z,33nm,1.5s,mb5.2
PBRG                               e-              21 45 02.2
ERON  Agron             84.63  49  P       P       21 44 51.6 +1.5
ECAL  Calabor           84.66  44  P       P       21 44 51.4 +1.3
      comp=Z,11nm,0.9s,mb5.0
EQES  Quesada           85.48  49  P       P       21 44 54.8 +0.5
      comp=Z,13nm,1.4s,mb4.9
ESDC  Sonseca Array     85.60  47  P       P       21 44 55.6 +0.8
      comp=Z,3.1nm,0.8s,mb4.6,baz=256,slow=4.4,SNR=20
ESDC                               pP      pP      21 45 03.2 -0.4
      comp=Z,19nm,1.1s,baz=262,slow=4.8,SNR=9.3
ESDC                               sP      sP      21 45 08.0 +1.6
      comp=Z,5.8nm,0.8s,baz=266,slow=3.9,SNR=9.2
ESDC                               LR      LR      22 23 23.6
      comp=Z,2µm,18.2s,MS5.5,baz=245,slow=36
ESDC  Sonseca Array     85.60  47  P       P       21 44 56.0 +1.2
      comp=Z,6.0nm,0.8s,mb4.9
ESDC                               pP      pP      21 45 04.7 +1.1
EVIA  Vianos            86.22  48  P       P       21 45 00.3 +2.3
      comp=Z,6.2nm,0.8s,mb4.9
EVIA                               pP      pP      21 45 08.9 +2.2
SUR   Sutherland        86.22 122  PFAKE           21 45 10.0  +12
SUR                                LR      LR
      comp=Z,604nm,19.0s,MS5.0
DLBC  Dease Lake        86.56 334  eP      P       21 44 59.9 +0.8
TSUM  Tsumeb            86.96 109  eP      P       21 45 01.7 -0.3
      comp=Z,13nm,0.9s,mb5.2
TSUM                               LR      LR
      comp=Z,1µm,21.0s,MS5.3
POHA  Pohakuloa         86.97 291  PFAKE           21 45 10.0 +8.0
POHA                               LR      LR
      comp=Z,1µm,20.0s,MS5.4
ETOR  Torete            87.39  46  P       P       21 45 04.6 +0.9
      comp=Z,14nm,1.1s,mb5.1
ETOR                               pP      pP      21 45 12.7 +0.3
ELAN  Lanestosa         87.42  44  P       P       21 45 03.4 -0.3
      comp=Z,17nm,1.4s,mb5.1
SIT   Sitka             88.09 332  PFAKE           21 45 20.0  +13
SIT                                LR      LR
      comp=Z,2µm,21.0s,MS5.6
SJPF  Ste Jean          88.86  45  eP      P       21 45 11.0 +0.5
      comp=Z,29nm,1.2s,mb5.2
EBR   Ebro Roquetas     89.19  47  ePCP    PcP     21 45 25.0  +11
ETSF  Etsaut            89.22  45  eP      P       21 45 11.9 -0.4
      comp=Z,29nm,1.1s,mb5.2
ROSF  Rostrenen         89.61  39  eP      P       21 45 13.8 -0.2
      comp=Z,85nm,1.4s,mb5.6
BORG  Borgarnes         89.67  20  PFAKE           21 45 30.0  +16
BORG                               LR      LR
      comp=Z,326nm,22.0s,MS4.7
EPF   Esparros          89.89  45  eP      P       21 45 15.9 +0.5
      comp=Z,26nm,1.1s,mb5.2
LFF   La Frestale       90.85  43  eP      P       21 45 19.6 -0.2
      comp=Z,37nm,1.0s,mb5.4
MFF   Saint Martin d    90.88  42  eP      P       21 45 19.7 -0.2
      comp=Z,12nm,0.8s,mb5.0
GRR   Gorron            91.11  40  eP      P       21 45 20.5 -0.4
      comp=Z,33nm,1.0s,mb5.3
SUMG  Summit            91.17  10  eP      P       21 45 21.8 +1.2
      comp=Z,131nm,1.0s,mb6.2
MTLF  Montolieu         91.28  45  eP      P       21 45 21.6 -0.2
      comp=Z,15nm,1.1s,mb4.9
MAW   Mawson            91.44 165  P       P       21 45 21.7 -0.2
      comp=Z,16nm,1.0s,mb5.3,baz=226,slow=5.8,SNR=14
MAW                                LR      LR      22 23 36.5
      comp=Z,1µm,19.1s,MS5.5,baz=227,slow=34
MAW   Mawson            91.44 165  P       P       21 45 21.7 -0.2
MAW                                pmax    pmax
      comp=Z,17nm,1.0s
MAW                                MLR     MLR
      comp=Z,1µm,19.1s
MAW   Mawson            91.44 165  eP      P       21 45 21.3 -0.7
      comp=Z,46nm,1.1s,mb5.7
MAW                                LR      LR
      comp=Z,3µm,19.0s,MS5.7
FLN   La Foliniere      91.48  40  eP      P       21 45 21.4 -1.2
      comp=Z,45nm,1.1s,mb5.4
FLN                                eR
      comp=Z,1µm,21.0s
RJF   Les Rejaudoux     91.50  43  eP      P       21 45 22.4 -0.3
      comp=Z,20nm,1.0s,mb5.1
RJF                                eR
      comp=Z,2µm,20.8s
LDF   La Druitiere      91.64  40  eP      P       21 45 23.0 -0.3
      comp=Z,19nm,0.8s,mb5.2
CAF   Calviac           91.73  44  eP      P       21 45 23.7 -0.1
      comp=Z,21nm,1.1s,mb5.1
TCF   Toulx Ste Croi    92.29  43  eP      P       21 45 26.1 -0.3
      comp=Z,14nm,1.0s,mb4.9
ESK   Eskdalemuir       92.50  33  PFAKE           21 45 40.0  +13
ESK                                LR      LR
      comp=Z,185nm,19.0s,MS4.5
LASF  Ste Croix         92.65  45  eP      P       21 45 28.2 +0.1
BGF   Bois d'Agland     92.80  42  eP      P       21 45 28.5 -0.2
AVF   Avril sur Loir    93.20  42  eP      P       21 45 30.1 -0.5
SSF   Saint Saulge      93.39  42  eP      P       21 45 30.7 -0.7
      comp=Z,21nm,1.3s,mb5.1
DAWY  Dawson            93.43 337  eP      P       21 45 30.8 -0.4
VIVF  Saint-Julien-l    93.45  44  eP      P       21 45 32.1 +0.3
SMF   Signal de Mont    93.47  43  eP      P       21 45 31.5 -0.3
      comp=Z,31nm,1.2s,mb5.3
INK   Inuvik            93.63 341  eP      P       21 45 30.8 -1.2
INK                                pmax    pmax
      comp=Z,21nm,1.0s
INK   Inuvik            93.63 341  eP      P       21 45 30.8 -1.2
      comp=Z,21nm,1.1s,mb5.5
LOR   Lormes            93.69  42  eP      P       21 45 32.3 -0.5
      comp=Z,47nm,1.5s,mb5.4
LOR                                eR
      comp=Z,1µm,18.0s
SMRF  Simiane la Rot    93.79  45  eP      P       21 45 34.2 +0.9
      comp=Z,39nm,1.5s,mb5.3
LMR   La Mourre         94.24  46  eP      P       21 45 35.5 +0.1
      comp=Z,30nm,1.3s,mb5.2
ORIF  Oris-en-Rattie    94.29  45  eP      P       21 45 35.2 -0.4
      comp=Z,18nm,0.9s,mb5.2
ORIF                               eR
      comp=Z,3µm,21.8s
FRF   La Foret Royal    94.41  46  eP      P       21 45 36.4 +0.2
      comp=Z,23nm,1.1s,mb5.2
SNZO  South Karori      94.64 225  PFAKE           21 45 50.0  +13
SNZO                               LR      LR
      comp=Z,1µm,19.0s,MS5.4
DIV   Divide            94.76 333  PFAKE           21 45 50.0  +13
DIV                                LR      LR
      comp=Z,4µm,22.0s,MS5.9
MBDF  Montbardon        94.83  45  eP      P       21 45 38.8 +0.7
      comp=Z,15nm,1.1s,mb5.0
CABF  La Chapelle       94.94  43  eP      P       21 45 38.7 +0.2
LPL   La Plagne         95.04  44  eP      P       21 45 39.9 +0.8
      comp=Z,19nm,1.0s,mb5.2
SBF   Sospel            95.04  46  eP      P       21 45 39.2 +0.1
LPG   La Plagne         95.05  44  eP      P       21 45 40.2 +1.1
      comp=Z,13nm,0.9s,mb5.0
GIVF  Givet             95.19  39  eP      P       21 45 39.6  0.0
      comp=Z,34nm,1.0s,mb5.4
HAU   Haudompre         95.52  42  eP      P       21 45 41.0 -0.2
HAU                                eR
      comp=Z,1µm,21.2s
PGF   Pioggiola         95.77  48  eP      P       21 45 42.5  0.0
HINF  Hinteralfeld      95.79  42  eP      P       21 45 42.0 -0.4
RPZ   Rata Peaks        95.97 222  P       P       21 45 43.2 -0.2
      comp=Z,21nm,1.2s,mb5.5,baz=156,slow=8.0,SNR=3.0
HGN   Heimansgroeve     96.07  39  ePdif   P       21 45 46.3 +2.7
HGN                                ePP     PP      21 49 37.7 -1.0
HGN                                eP              21 52 31.1
      comp=Z,5.8nm,0.9s
HGN                                i x     x       21 52 43.2
      comp=Z,13nm,1.0s
HGN                                eScS    SKS     21 56 23.3 -1.5
HGN                                ePS     PS      21 58 23.2 -2.4
HGN                                ePPS    tx      21 59 24.6
HGN                                eSS     SS      22 03 36.6 +3.9
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HGN                                eSSS    SSS     22 07 30.1  +13
CDF   Champ du Feu      96.23  42  eP      P       21 45 44.2 -0.2
PMR   Palmer            96.44 332  PFAKE           21 46 00.0  +15
PMR                                LR      LR
      comp=Z,2µm,20.0s,MS5.5
ILAR  Eielson Array     96.67 336  PP      PP      21 49 44.8 +1.6
      comp=Z,1.0nm,0.8s,baz=98,slow=6.6,SNR=5.4
FIB   Fire Island       96.76 332  PFAKE           21 46 00.0  +14
FIB                                LR      LR
      comp=Z,879nm,21.0s,MS5.2
KDAK  Kodiak Island     96.80 328  PFAKE           21 46 00.0  +13
KDAK                               LR      LR
      comp=Z,206nm,20.0s,MS4.6
COLA  College           97.09 336  PFAKE           21 46 00.0  +12
COLA                               LR      LR
      comp=Z,1µm,21.0s,MS5.3
MCK   McKinley          97.11 334  PFAKE           21 46 00.0  +12
MCK                                LR      LR
      comp=Z,543nm,19.0s,MS5.0
LSZ   Lusaka            97.79 108  PFAKE           21 46 00.0 +7.8
LSZ                                LR      LR
      comp=Z,3µm,22.0s,MS5.7
CASY  Casey             98.26 182  eP      P       21 45 52.5 -0.7
      comp=Z,11nm,1.0s,mb5.3
CASY                               LR      LR
      comp=Z,1µm,20.0s,MS5.4
GRA1  Grafenberg Arr    99.07  41  eP      P       21 45 58.4 +1.2
      comp=Z,11nm,1.2s,mb5.3
GRF   Grafenberg Arr    99.07  41  eP      P       21 45 58.4 +1.2
GRF                                pmax    pmax
      comp=Z,11nm,1.2s,mb5.3
MOX   Moxa              99.53  40  i P     P       21 46 01.8 +2.5
MOX                                L               22 34 25.0
MOX   Moxa              99.53  40  eP      P       21 46 01.8 +2.5
MOX                                pmax    pmax
      comp=Z,23nm,1.1s,mb5.5
MOX                                MLR     MLR
      comp=Z,900nm,20.0s,MS5.3
NKC   Novy Kostel       99.96  41  ex      x       21 56 53.0
NKC                                eSDIF           21 57 55.4
NKC                                LR              22 33 30.0
      comp=Z,0.9nm,20.1s
KONO  Kongsberg        100.41  31  PFAKE           21 46 10.0 +6.9
KONO                               LR      LR
      comp=Z,919nm,22.0s,MS5.2
KHC   Kasperske Hory   100.45  42  ePDIF   P       21 46 03.5  0.0
KHC                                epP             21 46 13.0
KHC                                eSDIF           21 57 39.3
KHC                                LR              22 33 10.0
      comp=Z,1.0nm,18.9s
KHC   Kasperske Hory   100.45  42  eP      P       21 46 03.5  0.0
KHC                                eS      S       21 57 39.3 +5.2
KHC                                MLR     MLR
      comp=Z,1µm,18.9s,MS5.3
GERES GERESS Array B 100.47  42  P       P       21 46 03.2 -0.4
      comp=Z,0.5nm,0.8s,baz=225,slow=3.8,SNR=6.0
GERES GERESS Array B 100.47  42  P       P       21 46 03.2 -0.4
GERES                              pmax    pmax
      comp=Z,1.0nm,0.9s
CLL   Collm            100.53  40  ePDIF   P       21 46 04.0 +0.2
CLL                                ePP     PP      21 50 12.0 -1.4
CLL                                ePS     PS      21 59 00.0  -12
CLL                                ePPS    PPS     22 00 12.0  +12
CLL                                eSS     tx      22 05 00.0
CLL                                eSSS    SSS     22 08 24.0 -2.1
BRG   Berggiesshubel   101.02  40  eP      P       21 46 07.1 +1.1
BRG                                e               21 50 13.0
BRG                                e               21 59 21.0
BRG                                eSS     SS      22 04 48.0 +6.0
BRG                                pmax    pmax
      comp=Z,10.0nm,1.5s
BRG                                MLR     MLR
      comp=N,370nm,17.0s,MS5.3
BRG                                MLR     MLR
      comp=E,740nm,17.0s,MS5.3
BRG                                MLR     MLR
      comp=Z,1µm,18.4s,MS5.5
BRG   Berggiesshubel   101.02  40  eP      P       21 46 07.1 +1.1
      comp=Z,10nm,1.4s
BRG                                e               21 46 15.6
BRG                                ePP     PP      21 50 13.0 -4.4
BRG                                eSKS    SKS     21 56 50.0 +0.1
BRG                                eS      S       21 57 53.0  +14
BRG                                e               21 59 21.0
BRG                                eSS     SS      22 04 48.0 +6.0
BRG                                LR      LR
      comp=Z,1µm,18.4s,MS5.5
PRU   Pruhonice        101.23  41  ePDIF   P       21 46 06.6 -0.4
PRU                                epP             21 46 17.0
PRU                                ex      x       21 57 03.1
PRU                                eSDIF           21 57 47.3
PRU                                LR              22 35 30.0
      comp=Z,1.0nm,17.0s
PRU   Pruhonice        101.23  41  eP      P       21 46 06.6 -0.4
PRU                                eS      S       21 57 47.3 +6.7
PRU                                MLR     MLR
      comp=Z,1µm,17.0s,MS5.4
PVCC  Panska Ves       101.35  41  ex      x       21 57 01.5
PVCC                               ex      x       21 58 06.0
PVCC                               LR              22 38 00.0
      comp=Z,1.1nm,18.8s
UPC   Upice            102.25  41  ePDIF   Pdif    21 46 12.0 +0.5
UPC                                epP             21 46 21.5
DPC   Dobruska-Polom   102.42  41  ePDIF   Pdif    21 46 13.4 +1.2
DPC                                epP             21 46 22.4
DPC                                ex      x       21 57 01.5
DPC                                eSDIF           21 58 19.4
DPC                                LR              22 34 20.0
      comp=Z,0.9nm,18.2s
DPC   Dobruska-Polom   102.42  41  eP      Pdif    21 46 13.4 +1.2
DPC                                MLR     MLR
      comp=Z,900nm,18.2s,MS5.3
OKC   Ostrava-Krasne   103.50  42  ePDIF   Pdif    21 46 16.3 -0.7
OKC                                ex      x       21 57 11.5
OKC                                ex      x       21 58 27.1
OKC                                LR              22 31 50.0
      comp=Z,0.7nm,20.4s
OKC   Ostrava-Krasne   103.50  42  eP      Pdif    21 46 16.3 -0.7
OKC                                MLR     MLR
      comp=Z,700nm,20.4s,MS5.2
UNV   Unalaska Valle   103.56 322  PFAKE           21 46 30.0  +13
UNV                                LR      LR
      comp=Z,3µm,19.0s,MS5.8
MBAR  Mbarara          104.58  95  PFAKE           21 46 30.0 +7.4
MBAR                               LR      LR
      comp=Z,668nm,21.0s,MS5.2
TNA   Tin City         105.46 334  PFAKE           21 50 50.0
TNA                                LR      LR
      comp=Z,768nm,19.0s,MS5.3
MIDW  Midway           108.30 295  PFAKE           21 51 00.0
MIDW                               LR      LR
      comp=Z,1µm,19.0s,MS5.4
KIS   Kishinev         110.35  45  ePKIKP  PKPdf   21 50 39.0  -13
KIS                                MLR     MLR
      comp=Z,1µm,20.0s,MS5.4
KIS                                MLR     MLR
      comp=Z,900nm,20.0s
AKASG Malin Array Be   110.65  41  PKiKP           21 50 48.2
      comp=Z,0.2nm,0.3s,baz=322,slow=2.2,SNR=4.0
AKASG                              sPKiKP          21 51 00.6
      comp=Z,0.3nm,0.4s,baz=262,slow=4.2,SNR=5.7
AKASG                              PP      PP      21 51 21.5 -7.3
      comp=Z,0.1nm,0.2s,baz=263,slow=7.3,SNR=7.3
AKASG Malin Array Be   110.65  41  i PKIKP PKPdf   21 50 48.3 -3.9
AKASG                              e               21 51 00.6
AKASG                                              21 51 21.5
KMBO  Kilima Mbogo     110.68  97  PFAKE           21 51 00.0 +6.8
KMBO                               LR      LR
      comp=Z,1µm,21.0s,MS5.5
BRTR  Keskin Array B   113.74  53  PKiKP           21 50 53.9
      comp=Z,1.7nm,1.0s,baz=225,slow=1.7,SNR=7.5
BRTR                               sPKiKP          21 51 08.2
      comp=Z,2.1nm,1.0s,baz=207,slow=2.8,SNR=6.3
BRTR                               SKiKP           21 54 28.3
      comp=Z,1.0nm,0.8s,SNR=3.7
BRTR  Keskin Array B   113.74  53  i PKIKP PKPdf   21 50 53.9 -4.7
BRTR                               e               21 51 08.2
BRTR                               pmax    pmax
      comp=Z,2.0nm,1.0s
BRTR                               pmax    pmax
      comp=N,2.0nm,1.0s
BRTR                               pmax    pmax
      comp=N,1.0nm,0.8s
SIM   Simferopol'      114.06  47  P       Pdif    21 47 14.0  +10
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SIM				pmax	pmax		
	comp=Z,37nm,0.9s						
OBN	**Obninsk**	114.75	36	*i* PKIKP	PKPdf	21 50 56.8	-3.3
OBN				*e*		21 51 52.6	
OBN				*e*PS	PS	22 01 31.7	-0.9
OBN				*i* SS	tx	22 08 09.6	
OBN				*e*SSS	SSS	22 11 57.3	-7.6
OBN				pmax	pmax		
	comp=Z,6.0nm,1.1s						
OBN				MLR	MLR		
	comp=Z,800nm,20.0s,MS5.3						
OBN	**Obninsk**	114.75	36	PFAKE		21 51 10.0	+10
OBN				LR	LR		
	comp=Z,221nm,19.0s,MS4.8						
SMY	**Shemya**	115.17	321	PFAKE		21 51 10.0	+9.0
SMY				LR	LR		
	comp=Z,3μm,19.0s,MS5.9						
SOC	**Sochi**	118.16	49	*i* PKIKP	PKPdf	21 51 03.1	-3.9
SOC				*e*		21 52 17.6	
SOC				*e*		22 02 07.6	
SOC				MLR	MLR		
	comp=N,337nm,23.0s,MS5.0						
SOC				MLR	MLR		
	comp=Z,451nm,23.0s,MS5.0						
SOC				MLR	MLR		
	comp=E,298nm,21.0s,MS5.0						
KWAJ	**Kwajalein Atol**	119.00	272	PFAKE		21 51 20.0	+11
KWAJ				LR	LR		
	comp=Z,322nm,22.0s,MS4.9						
KIV	**Kislovodsk**	120.25	48	*i* PKIKP	PKPdf	21 51 07.3	-3.8
KIV				*e*		21 52 29.1	
KIV				*e*SP	SP	22 02 14.2	-5.2
KIV				pmax	pmax		
	comp=Z,5.0nm,1.2s						
KIV				MLR	MLR		
	comp=Z,405nm,19.0s,MS5.1						
KIV				MLR	MLR		
	comp=N,301nm,20.0s,MS5.1						
KIV				MLR	MLR		
	comp=E,332nm,20.0s,MS5.1						
STKA	**Stephens Creek**	121.41	216	*e*PKP	PKPdf	21 51 08.4	-5.3
	comp=E,3.6nm,1.1s						
STKA	**Stephens Creek**	121.41	216	PKP	PKPdf	21 51 08.3	-5.3
	comp=E,2.0nm,0.8s,baz=299,slow=6.3,SNR=4.6						
STKA				pPKP		21 51 17.9	
	comp=E,2.5nm,0.8s,baz=324,slow=3.9,SNR=5.2						
GNI	**Garni**	122.24	52	*i* PKIKP	PKPdf	21 51 12.6	-2.4
GNI				MLR	MLR		
	comp=Z,400nm,22.0s						
GNI	**Garni**	122.24	52	PFAKE		21 51 20.0	+5.0
GNI				LR	LR		
	comp=Z,484nm,20.0s,MS5.2						
TIXI	**Tiksi**	122.25	351	*e*PKIKP	PKPdf	21 51 13.0	-1.3
TIXI				*e*		21 58 21.7	
TIXI				pmax	pmax		
	comp=Z,10.0nm,0.9s						
TIXI	**Tiksi**	122.25	351	PFAKE		21 51 20.0	+5.7
TIXI				LR	LR		
	comp=Z,961nm,21.0s,MS5.4						
PET	**Petropavlovsk**	124.16	324	PFAKE		21 51 30.0	+12
PET				LR	LR		
	comp=Z,561nm,21.0s,MS5.2						
RST	**Umm Al-Ruwaisa**	124.81	65	*e*P	PKPdf	21 51 17.0	-3.4
RST				AMb	AMB	21 51 18.4	
	comp=Z,14nm,0.8s						
MA2	**Magadan**	125.09	334	PFAKE		21 51 30.0	+10
MA2				LR	LR		
	comp=Z,621nm,21.0s,MS5.2						
MIB	**Mutribah**	125.11	64	*e*P	PKPdf	21 51 17.8	-3.1
MIB				AMb	AMB	21 51 20.1	
	comp=Z,18nm,1.0s						
RDF	**Al-Radifah**	125.31	65	*e*P	PKPdf	21 51 16.0	-5.3
RDF				AMb	AMB	21 51 20.0	
	comp=Z,13nm,1.1s						
ARU	**Arti**	126.05	30	*i* PKIKP	PKPdf	21 51 18.3	-3.6
ARU				*i*		21 53 18.8	
ARU				*e*		21 58 19.4	
ARU				*e*PS	PS	22 03 12.8	-0.7
ARU				*e*SS	SS	22 10 09.1	-3.1
ARU				*e*SSS	SSS	22 14 52.7	-1.5
ARU				MLR	MLR		
	comp=Z,500nm,19.0s,MS5.2						
ARU				MLR	MLR		
	comp=N,200nm,18.0s,MS5.1						
ARU				MLR	MLR		
	comp=E,300nm,18.0s,MS5.1						
ARU	**Arti**	126.05	30	*e*PKPdf	PKPdf	21 51 17.7	-4.3
ARU				LR	LR		
	comp=Z,155nm,20.0s,MS4.7						
CTA	**Charters Tower**	126.44	230	*e*PKP	PKPdf	21 51 19.7	-3.9
	comp=Z,9.5nm,0.9s						
CTA	**Charters Tower**	126.44	230	PKP	PKPdf	21 51 19.6	-4.1
	comp=Z,7.2nm,0.9s,baz=302,slow=2.2,SNR=4.1						
CTA				pPKP		21 51 27.9	
	comp=Z,10nm,0.9s,baz=319,slow=2.4,SNR=4.6						
CTA	**Charters Tower**	126.44	230	PKIKP	PKPdf	21 51 19.6	-4.0
CTA						21 51 27.9	
CTA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
CTA				pmax	pmax		
	comp=N,10.0nm,0.9s						
CTAO	**Charters Tower**	126.44	230	PFAKE		21 51 30.0	+6.4
CTAO				LR	LR		
	comp=Z,877nm,19.0s,MS5.5						
SVE	**Sverdlovsk**	126.83	29	⇓*e*PKIKP	PKPdf	21 51 20.0	-3.4
FORT	**Forrest**	128.99	205	*e*PKP	PKPdf	21 51 32.3	+3.9
	comp=Z,33nm,0.9s						
NWAO	**Narrogin (SRO)**	130.43	193	PFAKE		21 51 40.0	+8.9
NWAO				LR	LR		
	comp=Z,565nm,19.0s,MS5.3						
YAK	**Yakutsk**	130.54	345	*i* PKIKP	PKPdf	21 51 26.8	-3.6
YAK				MLR	MLR		
	comp=Z,1μm,25.0s,MS5.5						
YAK	**Yakutsk**	130.54	345	PFAKE		21 51 40.0	+10
YAK				LR	LR		
	comp=Z,1μm,22.0s,MS5.5						
PMG	**Port Moresby**	131.76	242	pPKP		21 51 37.9	
	comp=Z,23nm,1.1s,baz=194,slow=9.9,SNR=2.6						
PMG	**Port Moresby**	131.76	242	PFAKE		21 51 40.0	+6.0
PMG				LR	LR		
	comp=Z,925nm,22.0s,MS5.4						
ASAR	**Alice Springs**	132.05	216	PKP	PKPdf	21 51 29.6	-4.8
	comp=Z,7.2nm,1.0s,baz=145,slow=2.5,SNR=26						
ASAR				pPKP		21 51 37.6	
	comp=Z,14nm,1.0s,baz=146,slow=2.4,SNR=17						
ASAR				SKP		21 55 05.3	
	comp=Z,2.4nm,1.0s,baz=132,slow=7.6,SNR=4.2						
ASPA	**Alice Springs**	132.05	216	*e*PKP	PKPdf	21 51 29.4	-5.0
ASPA				*e*PKS	PKS	21 54 54.1	-11
ZRNK	**Zerenda**	133.01	29	*e*PKIKP	PKPdf	21 51 30.6	-4.8
BRVK	**Borovoye**	133.54	29	PFAKE		21 51 40.0	+3.7
BRVK				LR	LR		
	comp=Z,279nm,20.0s,MS5.0						
WB2	**Warramunga Arr**	134.64	220	*e*PKP	PKPdf	21 51 34.7	-4.6
WB2				*e*PKS	PKS	21 55 03.4	-6.3
WRA	**Warramunga Arr**	134.65	220	PKP	PKPdf	21 51 35.0	-4.3
	comp=Z,4.9nm,0.8s,baz=149,slow=1.8,SNR=27						
WRA				pPKP		21 51 43.4	
	comp=Z,11nm,0.9s,baz=137,slow=1.4,SNR=14						
WRA	**Warramunga Arr**	134.65	220	PKIKP	PKPdf	21 51 35.0	-4.3
WRA						21 51 43.4	
WRA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
WRA				pmax	pmax		
	comp=N,11nm,0.9s						
WRAB	**Tennant Creek**	134.65	220	*e*PKPdf	PKPdf	21 51 34.7	-4.6
WRAB				*e*		21 51 42.8	
WRAB				LR	LR		
	comp=Z,1413μm,19.0s						
YSS	**Yuzh-Sakhalins**	136.02	323	PFAKE		21 51 50.0	+8.9
YSS				LR	LR		
	comp=Z,897nm,20.0s,MS5.5						
NVS	**Novosibirsk**	137.25	19	*e*PKIKP	PKPdf	21 51 35.4	-7.7
NVS				*e*		21 54 26.4	
NVS				pmax	pmax		
	comp=Z,32nm,2.2s						
ERM	**Erimo**	138.26	317	PFAKE		21 51 50.0	+4.7
ERM				LR	LR		
	comp=Z,68nm,20.0s,MS4.4						
ZAL	**Zalesovo**	138.50	18	PKIKP	PKPdf	21 51 43.3	-2.1
ZAL				pmax	pmax		
	comp=Z,18nm,1.0s						
KURK	**Kurchatov**	138.87	26	*e*PKPdf	PKPdf	21 51 42.5	-3.7
KURK				LR	LR		
	comp=Z,248nm,20.0s,MS5.0						
MBWA	**Marble Bar**	140.85	201	PFAKE		21 52 00.0	+9.3
MBWA				LR	LR		
	comp=Z,710nm,19.0s,MS5.4						
FITZ	**Fitzroy Crossi**	141.02	212	*e*PKP	PKPdf	21 51 39.8	-11
	comp=Z,12nm,0.9s						
FITZ				*e*PKS	tx	21 53 54.3	
FITZ	**Fitzroy Crossi**	141.02	212	PKhKP		21 51 39.5	
	comp=Z,4.0nm,0.9s,baz=214,slow=2.5,SNR=4.5						
FITZ				PKP	PKPdf	21 51 46.4	-4.6
	comp=Z,8.3nm,0.9s,baz=187,slow=4.5,SNR=6.7						
FITZ				pPKP		21 51 54.4	
	comp=Z,18nm,1.0s,baz=182,slow=5.5,SNR=8.9						
FITZ	**Fitzroy Crossi**	141.02	212	PKP	PKPdf	21 51 46.4	-4.6
FITZ				pPKP		21 51 54.4	
GUMO	**Guam**	141.81	272	PFAKE		21 52 00.0	+7.6
GUMO				LR	LR		
	comp=Z,1μm,20.0s,MS5.6						
AAK	**Ala-Archa**	142.23	38	PFAKE		21 52 00.0	+7.6
AAK				LR	LR		
	comp=Z,225nm,19.0s,MS5.0						
MKAR	**Makanchi Array**	143.43	27	PKP	PKPdf	21 51 50.0	-4.3
	comp=Z,11nm,1.1s,baz=270,slow=2.4,SNR=9.3						
MKAR	**Makanchi Array**	143.43	27	PKIKP	PKPdf	21 51 50.0	-4.3
MKAR				pmax	pmax		
	comp=Z,11nm,1.1s						
MOY	**Mondy**	143.86	5	*e*PKIKP	PKPdf	21 51 50.4	-4.4
MAJO	**Matsushiro**	144.18	312	*e*PKPdf	PKPdf	21 51 49.9	-6.0
MAJO				*e*		21 51 58.6	
MAJO				LR	LR		
	comp=Z,2μm,21.0s,MS5.9						
MAT	**Matsushiro**	144.18	312	PKP	PKPdf	21 51 48.9	-7.0
MAT	**Matsushiro**	144.18	312	*e*PKP	PKPdf	21 51 49.0	-6.9
MDJ	**Mudanjiang**	144.59	330	PKP	PKPdf	21 51 50.5	-5.9
MDJ				APKP		21 51 59.5	
MDJ				PP	PP	21 55 10.0	-1.9
MDJ				PKS	PKS	21 55 23.3	-2.8
MDJ				SKS	SKS	21 58 57.5	-6.9
MDJ				SS	SS	22 13 58.0	+3.4
MDJ				PP	PP		
	comp=Z,119nm,4.6s						
MDJ				LR	LR		
	comp=N,452nm,24.3s,MS5.3						
MDJ				LR	LR		
	comp=E,354nm,23.3s,MS5.3						
MDJ				LR	LR		
	comp=Z,814nm,21.2s,MS5.5						
KSH	**Kashi**	144.94	41	*e*PKP	PKPdf	21 51 54.8	-2.4
KSH				*e*APKP		21 52 05.0	
KSH				*e*XPKP		21 52 09.3	
KSH				*e*PKS	PKS	21 55 28.8	+2.0
KSH				*e*SKS	SKS	21 58 58.3	-6.8
KSH				PP	PP		
	comp=Z,150nm,5.3s						
ZAK	**Zakamensk**	145.28	2	⇑*i*PKIKP	PKPdf	21 51 53.9	-3.5
ZAK				*e*		21 52 03.1	
ZAK				*e*		21 55 20.9	
JASL	**Jaisalmer**	146.03	65	*e*PKP	PKPdf	21 51 56.1	-3.4
JASL				*e*		21 51 56.4	
CN2	**Changchun**	147.13	333	*e*PKP	PKPdf	21 51 56.8	-4.0
CN2				*e*PP	PP	21 55 32.5	+5.2
CN2				LR	LR		
	comp=N,500nm,21.0s,MS5.5						
CN2				LR	LR		
	comp=E,600nm,21.0s,MS5.5						
CN2				LR	LR		
	comp=Z,1μm,22.0s,MS5.6						
ULN	**Ulaanbaatar**	147.81	358	PFAKE		21 52 10.0	+8.3
ULN				LR	LR		
	comp=Z,663nm,19.0s,MS5.4						
SONM	**Songino Array**	147.86	359	PKP	PKPdf	21 51 58.8	-3.0
	comp=Z,14nm,1.0s,baz=333,slow=2.8,SNR=16						
SONM				PKPbc	PKPdf	21 52 01.2	-0.6
	comp=Z,14nm,1.0s,baz=333,slow=2.8,SNR=14						
SONM				pPKPbc		21 52 10.5	
	comp=Z,38nm,1.1s,baz=335,slow=1.6,SNR=14						
SONM				SKPbc		21 55 36.0	
	comp=Z,2.4nm,0.8s,baz=346,slow=5.1,SNR=4.9						
WMQ	**Urumqi**	148.09	25	PKP	PKPdf	21 51 58.8	-3.5
WMQ				APKP		21 52 09.5	
WMQ				XPKP		21 52 13.0	
WMQ				PP	PP	21 55 34.3	+1.4
WMQ				SKKS		22 02 18.3	
WMQ				PP	PP		
	comp=Z,111nm,11.0s						
WMQ				LR	LR		
	comp=N,772nm,20.6s,MS5.5						
WMQ				LR	LR		
	comp=E,320nm,19.2s,MS5.5						
WMQ				LR	LR		
	comp=Z,830nm,20.6s,MS5.5						
AJM	**Ajmer**	149.39	64	⇓*i*PKP	PKPdf	21 52 01.0	-3.9
SNY	**Shenyang**	149.54	333	⇑PKP	PKPdf	21 52 04.5	-0.2
POO	**Poona**	149.70	80	⇓*i*P	PKPdf	21 52 06.5	+0.9
KAD	**Karad**	150.01	82	*e*	PKPdf	21 51 49.0	-17
KKR	**Kurukshetra**	150.12	56	*e*PKP	PKPdf	21 52 05.0	-1.0
KKR				*e*		21 52 27.9	
	comp=Z,180nm,1.9s						
RTK	**Rohtak**	150.13	58	*e*PKP	PKPdf	21 52 03.6	-2.4
RTK				*e*		21 52 04.8	
	comp=Z,27nm,0.3s						
KUDL	**Kundal**	150.49	60	*e*PKP	PKPdf	21 52 04.0	-2.6
KUDL				*e*		21 52 10.9	
	comp=Z,84nm,0.9s						
KLP	**Kalpa**	150.60	53	*e*PKP	PKPdf	21 52 05.8	-0.9
KLP				*e*		21 52 11.8	
	comp=Z,77nm,1.0s						
NDI	**New Delhi**	150.91	59	*e*PKP	PKPdf	21 52 09.0	+1.8
SONA	**Sohna**	150.94	60	*e*PKP	PKPdf	21 52 03.4	-3.9
SONA				*e*		21 52 11.5	
	comp=Z,22nm,0.6s						
INCN	**Inchon**	151.24	323	PFAKE		21 52 20.0	+13
INCN				LR	LR		
	comp=Z,1μm,22.0s,MS5.6						
AGRA	**Agra**	152.00	61	*e*PKP	PKPdf	21 52 06.2	-2.7
AGRA				*e*		21 52 12.7	
	comp=Z,69nm,0.2s						
JOSI	**Joshimath**	152.04	53	*e*PKP	PKPdf	21 52 05.9	-2.9
BJI	**Beijing**	153.91	341	PKP	PKPdf	21 52 06.0	-5.1
BJI				PP	PP	21 56 07.3	+1.3
BJI				PP	PP		
	comp=Z,431nm,6.3s						
BJI				LR	LR		
	comp=N,694nm,21.7s,MS5.5						
BJI				LR	LR		
	comp=E,519nm,21.7s,MS5.5						
BJI				LR	LR		
	comp=Z,825nm,24.5s,MS5.5						
BJI	**Beijing**	153.91	341	PKP	PKPdf	21 52 06.0	-5.1
BJI				PP	PP	21 56 07.2	+1.2
BJI				SS	SS	22 15 50.9	+13
BJI				LR	LR		
	comp=Z,830nm,24.5s,MS5.5						
HYB	**Hyderabad**	154.19	82	*i* PKP	PKPdf	21 52 09.0	-3.1
HYB				*e*		21 52 17.0	
HYB				*e*PKPAB	PKPab	21 52 30.0	-1.7
HYB				*e*		21 52 42.0	
HYB	**Hyderabad**	154.19	82	*e*P	PKPdf	21 52 09.0	-3.1
CUD	**Cuddapah**	154.24	89	*e*P	PKPdf	21 52 26.7	+14
HHC	**Hu-ho-hao-te**	154.29	349	*e*PKP	PKPdf	21 52 10.3	-1.3
HHC				APKP		21 52 18.3	
HHC				XPKP		21 52 23.0	
HHC				PKS	PKS	21 55 45.0	+5.0
HHC				PP	PP	21 56 05.0	-3.0
HHC				SKS	SKS	21 59 11.5	-5.7
HHC				SKKS		22 02 48.0	
HHC				LR	LR		
	comp=Z,225nm,26.8s,MS4.9						
PALK	**Pallekele**	154.42	106	PFAKE		21 52 20.0	+7.4
PALK				LR	LR		
	comp=Z,226nm,21.0s,MS5.0						
GTA	**Gaotai**	155.79	11	*e*PKP	PKPdf	21 52 11.0	-2.6
GTA				APKP		21 52 24.0	
GTA				PP	PP	21 56 19.3	+3.0
GTA				SKS	SKS	21 59 12.0	-6.8
GTA				SKKS		22 03 01.0	
GTA				SS	SS	22 16 03.3	+4.4
GTA				PP	PP		
	comp=Z,122nm,11.1s						
SSE	**Sheshan**	158.89	320	*e*PKP	PKPdf	21 52 14.5	-3.4
SSE				PP	PP	21 56 39.3	+6.0
SSE				LR	LR		
	comp=N,404nm,26.4s,MS5.2						
SSE				LR	LR		
	comp=E,228nm,26.6s,MS5.2						
SSE				LR	LR		
	comp=Z,612nm,23.5s,MS5.4						
SSE	**Sheshan**	158.89	320	*e*PKP	PKPdf	21 52 14.5	-3.4
SSE				PP	PP	21 56 39.2	+5.9
SSE				SS	SS	22 16 47.4	+15
SSE				LR	LR		
	comp=Z,610nm,23.5s,MS5.4						
LZH	**Lanzhou**	159.56	4	*e*PKP	PKPdf	21 52 14.0	-4.5
LZH				APKP		21 52 23.0	
LZH				XPKP		21 52 25.8	
LZH				*e*PP	PP	21 56 35.3	-1.2
LZH				SKKS		22 03 17.8	
LZH				PP	PP		
	comp=Z,557nm,8.0s						
LZH				LR	LR		
	comp=N,879nm,18.0s						
LZH				LR	LR		
	comp=Z,1μm,20.2s,MS5.8						
LZH	**Lanzhou**	159.56	4	*e*PKP	PKPdf	21 52 14.1	-4.4
LZH				pPKP		21 52 22.9	
LZH				sPKP		21 52 25.8	
NJ2	**Nanjing**	159.56	326	*e*PKP	PKPdf	21 52 14.0	-4.7
NJ2				APKP		21 52 25.0	
NJ2				XPKP		21 52 29.0	
NJ2				PKS	PKS	21 55 47.0	+0.8
NJ2				PP	PP	21 56 37.0	+0.3
NJ2				SKS	SKS	21 59 10.0	-13
NJ2				PPP	PPP	22 00 21.5	+1.7
NJ2				LR	LR		
	comp=Z,1μm,15.1s,MS5.8						
LSA	**Lhasa**	160.79	41	PKP	PKPdf	21 52 18.5	-1.5
XAN	**Xi'an**	161.38	351	PKP	PKPdf	21 52 17.0	-3.4
TATO	**Taipei**	162.29	304	PFAKE		21 52 30.0	+8.4
TATO				LR	LR		
	comp=Z,828nm,19.0s						
SHL	**Shillong**	163.93	50	*e*PKP	PKPdf	21 52 20.0	-3.2
GYA	**Guiyang**	169.14	354	PKP	PKPdf	21 52 24.5	-2.7
GYA				APKP		21 52 35.8	
GYA				XPKP		21 52 39.0	
GYA				PKS	PKS	21 55 55.3	+1.4
GYA				PP	PP		
	comp=Z,360nm,8.4s						
GYA				LR	LR		
	comp=N,580nm,19.8s						
GYA				LR	LR		
	comp=E,640nm,20.0s						
GYA				LR	LR		
	comp=Z,460nm,21.0s						
KMI	**Kunming**	170.21	14	*e*PKP	PKPdf	21 52 23.8	-4.0
KMI				LR	LR		
	comp=N,340nm,22.6s						
KMI				LR	LR		
	comp=E,680nm,20.0s						
KMI				LR	LR		
	comp=Z,750nm,23.5s						
KMI	**Kunming**	170.21	14	*e*PKP	PKPdf	21 52 23.7	-4.1
KMI				PKPab	PKPab	21 53 41.0	0.0
KMI				PP	PP	21 57 26.9	-5.2
KMI				PPP	PPP	22 01 31.8	-5.7
KMI				SKKS		22 04 08.2	
KMI				SS	SS	22 18 15.2	-12
KMI				LR	LR		
	comp=Z,750nm,23.5s						
CMAR	**Chiang Mai Arr**	173.19	65	PKP	PKPdf	21 52 26.2	-3.4
	comp=Z,8.4nm,1.3s,baz=269,slow=1.8,SNR=14						
CMAR				pPKP		21 52 34.8	
	comp=Z,2.0nm,0.9s,baz=310,slow=1.6,SNR=7.0						
CMAR				PKPab	PKPab	21 53 54.1	-0.3
	comp=Z,2.0nm,1.0s,baz=297,slow=5.0,SNR=5.2						
CMAR				pPKPab		21 54 03.0	
	comp=Z,2.2nm,1.2s,baz=326,slow=38,SNR=6.6						
CMAR				sPKPab		21 54 06.2	
	comp=Z,4.9nm,1.0s,baz=292,slow=5.9,SNR=7.5						
CMAR				PP	PP	21 57 45.5	-1.6
	comp=Z,1.0nm,0.9s,baz=290,slow=7.1,SNR=5.2						
QIZ	**Qiongzhong**	174.57	309	PKP	PKPdf	21 52 27.8	-2.2
QIZ				PP	PP	21 58 00.0	+6.0
QIZ				SS	SS	22 19 14.8	+5.2
QIZ				LR	LR		
	comp=E,368nm,27.4s						
QIZ				LR	LR		
	comp=Z,676nm,25.0s						

IDC ***28*** *21:33:34.8±1.1, 23.25S×179.59W, h518^{km}±10^{km},*
mb4.0/16, mb1 4.1/18, mb1mx4.1/20, Error ellipse:
s-maj=15.4km s-min=8.7km az=168.0
BJI ***28*** *21:33:35.9, 23.20S×179.60W, h532^{km}, mB5.1, mb4.4*
NEIC ***28*** *21:33:35.9±1.0, 23.22S×179.58W, h533^{km}±11^{km},*
mb4.7/24, Error ellipse: s-maj=9.2km s-min=7.3km
az=161.0
SYO ***28*** *21:33:36.8, 23.16S×179.66W, h542^{km}, MB4.8*
ISC 28 21:33:35.0±0.8, **23.25S**±0.05×**179.61W**±0.06,
h531^{km}±9^{km}, **h534**^{km}±2.8^{km}**:pP-P, n165,** σ**1**^{s}**02**/72,
mb4.5/35, **11C-6D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	5.91	338	P	**P**	**21 35 12.2**	**-0.5**
	2μm,0.8s,SNR=92						
DZM	**Mont Dzumac**	12.93	272	*e*P	**P**	**21 36 25.5**	**+1.9**
DZM	**Mont Dzumac**	12.93	272	*e*P	**P**	**21 36 25.5**	**+1.9**
NOUC	**Port Laguerre**	13.06	272	*e*P	**P**	**21 36 26.2**	**+1.3**
NOUC	**Port Laguerre**	13.06	272	*e*P	**P**	**21 36 26.2**	**+1.3**
URZ	**Urewera**	15.22	190	P	**P**	**21 36 44.9**	**-1.8**
	7.8nm,0.3s,baz=248,slow=5.4,SNR=28						
URZ				S	**S**	**21 39 22.4**	**+0.9**
	1.6nm,0.3s,baz=159,slow=19,SNR=5.8						
RAR	**Rarotonga**	18.48	88	P	**P**	**21 37 17.9**	**-0.6**
	0.6nm,0.3s,baz=260,slow=11,SNR=3.6						
SNZO	**South Karori**	18.63	194	*e*P	**P**	**21 37 19.9**	**+0.2**
	63nm,0.8s						
QRZ	**Quartz Range**	18.73	199	*e*P	**P**	**21 37 21.8**	**+1.0**
NNZ	**Nelson**	18.86	197	P	**P**	**21 37 22.0**	**0.0**
THZ	**Tophouse**	19.49	197	P	**P**	**21 37 28.3**	**+0.3**
THZ				*e*S	**S**	**21 40 34.7**	**-0.8**
RPZ	**Rata Peaks**	21.82	198	P	**P**	**21 37 48.0**	**-1.5**
	6.3nm,0.5s,mb4.5,baz=1.6,slow=10,SNR=3.2						
PPT	**Papeete**	28.68	84	P	**P**	**21 38 49.1**	**-1.5**
	11nm,0.4s,mb4.9,baz=162,slow=12,SNR=2.9						
CTA	**Charters Tower**	31.84	269	*e*P	**P**	**21 39 18.0**	**+0.4**
	13nm,0.3s,mb4.9						
CTA	**Charters Tower**	31.84	269	P	**P**	**21 39 18.2**	**+0.6**
	17nm,0.3s,mb5.0,baz=99,slow=12,SNR=24						
CTA				PcP	PcP	21 41 53.1	+0.1
	3.7nm,0.8s,baz=47,slow=3.5,SNR=4.5						
CTAO	**Charters Tower**	31.84	269	*e*P	**P**	**21 39 18.1**	**+0.5**
	34nm,0.4s,mb5.2						
TOO	**Toolangi**	33.10	236	*e*P	**P**	**21 39 29.0**	**+0.9**
	6.0nm,0.7s,mb4.2						
TAU	**Tasmania Unive**	33.64	226	*e*P	**P**	**21 39 32.9**	**+0.4**
	19nm,0.7s,mb4.7						
PMG	**Port Moresby**	34.63	288	P	**P**	**21 39 41.3**	**+0.2**
	43nm,0.8s,mb5.0,baz=78,slow=5.9,SNR=9.1						
PMG	**Port Moresby**	34.63	288	⇑*e*P	**P**	**21 39 40.9**	**-0.1**
	49nm,0.7s,mb5.1						
STKA	**Stephens Creek**	35.30	247	*e*P	**P**	**21 39 47.4**	**+0.9**
	8.6nm,0.6s,mb4.5						
STKA	**Stephens Creek**	35.30	247	P	**P**	**21 39 46.8**	**+0.3**
	8.9nm,0.6s,mb4.5,baz=89,slow=9.1,SNR=30						
STKA				PcP	PcP	21 42 02.4	-0.4
	2.6nm,0.8s,baz=76,slow=8.2,SNR=3.9						
ASAR	**Alice Springs**	42.50	260	P	**P**	**21 40 44.8**	**-0.2**
	22nm,0.9s,mb4.7,baz=94,slow=8.1,SNR=139						
ASAR				PcP	PcP	21 42 25.2	-0.7
	2.9nm,0.7s,baz=102,slow=3.3,SNR=7.9						
ASAR				ScP		21 45 28.9	
	1.6nm,0.9s,baz=112,slow=4.9,SNR=4.6						
ASAR				S	**S**	**21 46 28.3**	**-0.9**
	2.8nm,0.7s,baz=98,slow=13,SNR=13						
ASAR				PKiKP		21 49 26.6	
	0.3nm,0.6s,baz=104,slow=1.5,SNR=4.2						
ASPA	**Alice Springs**	42.50	260	*e*P	**P**	**21 40 45.0**	**+0.1**
ASPA				*e*S	**S**	**21 46 28.0**	**-1.3**
WB2	**Warramunga Arr**	42.80	265	*e*P	**P**	**21 40 46.5**	**-0.9**
WB2				*e*S	**S**	**21 46 30.3**	**-3.3**
WRAB	**Tennant Creek**	42.80	265	*e*P	**P**	**21 40 46.5**	**-0.9**
	31nm,0.8s,mb4.9						
WRA	**Warramunga Arr**	42.81	265	P	**P**	**21 40 46.6**	**-0.8**
	6.1nm,0.4s,mb4.5,baz=90,slow=6.0,SNR=385						
WRA				PcP	PcP	21 42 27.1	0.0
	3.4nm,0.8s,baz=101,slow=4.1,SNR=6.3						
WRA				ScP		21 45 30.4	
	6.6nm,1.2s,baz=102,slow=4.1,SNR=6.7						

WRA				S	**S**	**21 46 31.5**	**-2.2**
	5.5nm,1.1s,baz=99,slow=14,SNR=10						
WRA				PKiKP		21 49 27.1	
	0.5nm,0.5s,baz=147,slow=0.3,SNR=6.5						
KAKA	**Kakadu**	**46.65**	**274**	⇓*i*P	**P**	**21 41 20.4**	**+3.1**
	7.3nm,0.3s,mb4.7						
KAKA				*e*S	**S**	**21 47 28.6**	**+1.0**
FORT	**Forrest**	**46.88**	**249**	*e*P	**P**	**21 41 17.7**	**-1.1**
	195nm,0.7s						
FITZ	**Fitzroy Crossi**	**51.24**	**265**	*e*P	**P**	**21 41 50.7**	**-0.7**
	8.4nm,0.6s,mb4.2						
FITZ				*e*S	**S**	**21 48 31.6**	**+1.6**
FITZ	**Fitzroy Crossi**	**51.24**	**265**	P	**P**	**21 41 51.0**	**-0.4**
	9.2nm,0.5s,mb4.3,baz=135,slow=3.9,SNR=36						
SBA	**Scott Base**	**55.04**	**183**	*e*P	**P**	**21 42 19.5**	**+1.7**
	25nm,0.9s,mb4.4						
KLBR	**Kellerberrin**	**55.57**	**247**	*e*P	**P**	**21 42 20.9**	**-1.1**
	29nm,0.7s,mb4.6						
NWAO	**Narrogin (SRO)**	**55.83**	**245**	*e*P	**P**	**21 42 22.6**	**-1.2**
	6.1nm,0.6s,mb4.0						
MBWA	**Marble Bar**	**55.84**	**260**	*e*P	**P**	**21 42 22.2**	**-1.8**
	30nm,0.6s,mb4.7						
MUN	**Mundaring**	**56.82**	**246**	*e*P	**P**	**21 42 29.9**	**-0.7**
	14nm,0.7s,mb4.3						
CASY	**Casey**	**60.85**	**206**	*e*P	**P**	**21 42 56.2**	**-0.9**
	18nm,0.8s,mb4.5						
QSPA	**South Pole Qui**	**66.83**	**180**	*e*P	**P**	**21 43 35.6**	**+0.8**
	41nm,1.1s,mb4.9						
KIWB	**Kanaga Island**	**74.81**	**2**	*e*P	**P**	**21 44 20.8**	**-1.0**
UNV	**Unalaska Valle**	**77.61**	**8**	*e*P	**P**	**21 44 35.2**	**-1.8**
	69nm,0.6s,mb5.2						
MAW	**Mawson**	**78.48**	**200**	P	**P**	**21 44 42.4**	**+0.9**
	8.5nm,0.8s,mb4.1,baz=127,slow=7.4,SNR=28						
MAW	**Mawson**	**78.48**	**200**	*e*P	**P**	**21 44 41.9**	**+0.4**
	27nm,1.0s,mb4.5						
PMSA	**Palmer Station**	**79.36**	**157**	P	**P**	**21 44 46.6**	**+0.4**
	12nm,0.8s,mb4.3						
MDJ	**Mudanjiang**	**81.93**	**326**	P	**P**	**21 45 00.8**	**+1.1**
MDJ				AP	pP	21 46 56.0	+0.5
MDJ				XP	sP	21 47 50.3	+1.4
MDJ				PP	PP	21 48 17.5	-0.3
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.0						
MDJ				AMB	AMB		
	comp=Z,142nm,4.7s						
USHA	**Ushuaia**	**82.65**	**147**	P	**P**	**21 45 03.0**	**-0.2**
	comp=Z,6.5nm,0.9s,mb4.2,baz=351,slow=6.4,SNR=2.7						
YBH	**Yreka Blue Hor**	**83.36**	**39**	P	**P**	**21 45 08.2**	**+1.2**
	comp=Z,5.3nm,0.7s,mb4.2,baz=36,slow=3.9,SNR=3.3						
CN2	**Changchun**	**83.58**	**323**	*e*P	**P**	**21 45 08.5**	**+0.4**
CN2				*e*AP	pP	21 47 05.8	+1.4
CN2				AMB	AMB		
	comp=Z,20nm,1.4s,mb4.5						
CN2				AMB	AMB		
	comp=Z,50nm,4.0s						
SYO	**Syowa Base**	**83.72**	**193**	⇓P	**P**	**21 45 08.6**	**+0.4**
SYO	**Syowa Base**	**83.72**	**193**	⇓PcP	PcP	21 45 10.2	-1.3
SNAA	**Sanae**	**85.31**	**179**	P	**P**	**21 45 16.2**	**+0.4**
	comp=Z,1.7nm,0.8s,mb3.7,baz=202,slow=8.4,SNR=2.9						
SLKM	**Skilak Lake**	**86.82**	**14**	P	**P**	**21 45 23.1**	**-0.1**
SPU	**Mount Spurr**	**87.03**	**13**	*e*P	**P**	**21 45 23.1**	**-1.1**
RMW	**Rattlesnake Mo**	**87.47**	**35**	P	**P**	**21 45 27.1**	**+0.5**
DIV	**Divide**	**88.42**	**16**	*e*P	**P**	**21 45 30.8**	**0.0**
	comp=Z,109nm,1.1s,mb5.5						
KMI	**Kunming**	**89.28**	**298**	*e*P	**P**	**21 45 37.0**	**+1.3**
KMI				AMB	AMB		
	comp=Z,7.0nm,1.2s,mb4.4						
KMI	**Kunming**	**89.28**	**298**	*e*P	**P**	**21 45 37.1**	**+1.4**
	comp=Z,7.0nm,1.2s,mb4.4						
HVU	**Hansel Valley**	**89.42**	**43**	*e*P	**P**	**21 45 36.6**	**+0.6**
SRU	**San Rafael**	**89.49**	**47**	*e*P	**P**	**21 45 36.6**	**+0.3**
CM31	**Chiang Mai Arr**	**89.64**	**290**	*e*P	**P**	**21 45 38.6**	**+1.1**
	comp=Z,3.3nm,0.6s,mb4.3						
CMAR	**Chiang Mai Arr**	**89.64**	**290**	P	**P**	**21 45 39.3**	**+1.8**
	comp=Z,5.2nm,1.1s,mb4.3,baz=111,slow=2.5,SNR=18						
CMAR				PKKPbc		22 03 07.4	
	comp=Z,0.6nm,0.7s,baz=286,slow=4.0,SNR=4.2						
TXAR	**Lajitas Array**	**89.78**	**58**	P	**P**	**21 45 39.3**	**+1.4**
	comp=Z,4.3nm,0.7s,mb4.4,baz=214,slow=6.6,SNR=15						
ILAR	**Eielson Array**	**91.32**	**13**	P	**P**	**21 45 42.7**	**-1.4**
	comp=Z,2.5nm,0.6s,mb4.3,baz=229,slow=5.8,SNR=12						
PDAR	**Pinedale Array**	**91.97**	**44**	P	**P**	**21 45 47.8**	**+0.1**
	comp=Z,4.2nm,0.8s,mb4.5,SNR=5.4						
LZH	**Lanzhou**	**93.26**	**308**	⇓P	**P**	**21 45 54.0**	**+0.3**
LZH				AP	pP	21 47 53.5	+1.3
LZH				XP	sP	21 48 46.8	+2.3
LZH				PP	PP	21 49 49.8	+1.5
LZH				AMB	AMB		
	comp=Z,25nm,1.5s,mb5.0						
LZH	**Lanzhou**	**93.26**	**308**	⇓P	**P**	**21 45 53.9**	**+0.2**
	comp=Z,25nm,1.5s,mb5.0						
LZH				pP	pP	21 47 53.5	+1.3
LZH				sP	sP	21 48 46.8	+2.3
LZH				PP	PP	21 49 49.7	+1.4
PKI	**Pulchoki**	**104.57**	**294**	*e*P		21 50 55.8	
	comp=Z,5.2nm,0.6s						
KKN	**Kakani**	**104.75**	**294**	*e*P		21 50 56.2	
	comp=Z,4.4nm,0.6s						
DMN	**Daman**	**104.84**	**294**	*e*P		21 50 55.9	
	comp=Z,2.7nm,0.5s						
GKN	**Gorkha**	**105.36**	**294**	*e*P		21 50 55.0	
KOLN	**Koldanda**	**106.16**	**294**	*e*P		21 50 58.8	
	comp=Z,7.1nm,1.0s						
MKAR	**Makanchi Array**	**111.98**	**313**	PKiKP		21 51 09.5	
	comp=Z,2.6nm,0.6s,baz=210,slow=1.2,SNR=26						
BRVK	**Borovoye**	**120.25**	**319**	*e*PKPdf	PKPdf	21 51 25.8	+0.6
SCHQ	**Schefferville**	**121.75**	**39**	PKP	PKPdf	21 51 27.9	-0.1
	comp=Z,1.6nm,0.6s,baz=227,slow=14,SNR=3.5						
SCHQ	**Schefferville**	**121.75**	**39**	PKP	PKPdf	21 51 27.9	-0.1
ARCES	**ARCESS Array B**	**131.33**	**349**	PKhKP		21 51 36.6	
	comp=Z,1.6nm,0.6s,baz=279,slow=0.3,SNR=14						
ARCES				PKP	PKPdf	21 51 46.1	+0.1
	comp=Z,5.0nm,0.5s,baz=17,slow=1.1,SNR=26						
ARCES				SKPbc		21 54 23.1	
	comp=Z,2.0nm,0.7s,baz=45,slow=1.7,SNR=5.2						
ARCES	**ARCESS Array B**	**131.33**	**349**	PKP	PKPdf	21 51 46.1	+0.1
ARCES				SKPbc		21 54 23.1	
KMBO	**Kilima Mbogo**	**136.72**	**241**	PKP	PKPdf	21 52 00.6	+3.2
	comp=Z,2.6nm,0.8s,baz=38,slow=5.3,SNR=7.3						
KMBO				SKPbc		21 54 43.5	
	comp=Z,0.7nm,0.6s,baz=336,slow=6.9,SNR=4.6						
KAF	**Kangasniemi**	**137.34**	**342**	*e*p	PKPdf	21 51 50.5	-6.8
	comp=Z,1.1nm,0.4s						
FINES	**FINESS Array B**	**137.95**	**342**	PKhKP		21 51 48.8	
	comp=Z,2.7nm,0.8s,baz=56,slow=4.2,SNR=12						
FINES				PKP	PKPdf	21 51 59.4	+0.9
	comp=Z,5.6nm,0.8s,baz=81,slow=3.3,SNR=15						
FINES				SKPbc		21 54 44.0	
	comp=Z,2.6nm,0.8s,baz=90,slow=5.7,SNR=3.8						
FINES	**FINESS Array B**	**137.95**	**342**	PKP	PKPdf	21 51 59.4	+1.0
FINES				SKPbc		21 54 44.0	
NB2	**NORSAR Subarra**	**141.50**	**352**	PKP		21 52 00.4	
	comp=Z,8.5nm,0.7s,baz=18,slow=3.0						
NOA	**NORSAR Array B**	**141.50**	**352**	PKhKP		21 52 00.8	
	comp=Z,6.1nm,0.6s,baz=16,slow=4.7,SNR=38						
NOA				PKP	PKPdf	21 52 07.9	+3.3
	comp=Z,2.1nm,0.6s,baz=14,slow=3.7,SNR=5.6						
ERZM	**Erzurum**	**141.72**	**305**	*i* P	PKPdf	21 52 04.2	-1.5
LTHS	**Al Lith**	**142.79**	**273**	P	PKPdf	21 52 08.5	+0.4
KELT	**Kelkit**	**143.23**	**307**	*i* P	PKPbc	21 52 08.9	+1.8
ELZG	**Elazig**	**143.84**	**304**	*i* P	PKPbc	21 52 11.2	+2.3
AKASG	**Malin Array Be**	**144.62**	**328**	PKP	PKPdf	21 52 10.7	+0.4
	comp=Z,20nm,0.5s,baz=44,slow=4.1,SNR=151						
AKASG				SKPbc		21 55 01.5	
	comp=Z,1.0nm,0.6s,baz=55,slow=1.8,SNR=5.8						
KBRS	**Khaybar**	**144.63**	**282**	P	PKPdf	21 52 14.2	+3.1
SUW	**Suwalki**	**144.82**	**337**	*e*P	PKPdf	21 52 11.7	+1.1
GZT	**Gaziantep**	**145.20**	**302**	*i* P	PKPdf	21 52 13.9	+2.1
YNBS	**Yanbu‘ al Bahr**	**145.65**	**280**	P	PKPdf	21 52 16.9	+3.9
BOYT	**Boyabat**	**145.96**	**310**	*i* P	PKPdf	21 52 16.5	+3.5
MUD	**Monsted U’grnd**	**146.21**	**351**	*i* P	PKPdf	21 52 14.1	+1.2
	comp=Z,14nm,0.6s						
MUD				*i* S	tx	21 59 13.3	
MUD				*i*		21 59 59.2	
MUD				*e*		22 04 38.2	
	comp=Z,990nm,20.0s						
UMJS	**Umm Lajj**	**146.34**	**281**	P	PKPdf	21 52 18.8	+4.7
BSD	**Bornholm Skovb**	**146.39**	**345**	*i* P	PKPdf	21 52 15.8	+2.6
	comp=Z,40nm,1.2s						
BSD				*e*		21 57 56.9	
	comp=Z,1µm,18.0s						
COBT	**Iskenderun**	**146.41**	**301**	*i* P	PKPdf	21 52 17.3	+3.4
BALT	**Daday**	**146.97**	**311**	*i* P	PKPdf	21 52 07.8	-6.8
TBKS	**Tabuk**	**147.13**	**286**	P	PKPdf	21 52 20.4	+5.2
BRTR	**Keskin Array B**	**147.47**	**308**	PKPbc	PKPdf	21 52 19.9	+4.5
	comp=Z,5.7nm,0.5s,baz=153,slow=5.5,SNR=8.1						
JMQS	**Jabal Moqyreh**	**147.71**	**288**	P	PKPdf	21 52 21.7	+5.6
HMDT	**Nahal Hemdat**	**147.76**	**294**	P	PKPdf	21 52 21.9	+5.8
MMLI	**Mount Malkishu**	**147.82**	**294**	P	PKPdf	21 52 22.1	+5.9
HNTI	**Hanita**	**147.94**	**296**	P	PKPdf	21 52 21.8	+5.4
DRGI	**Dragot**	**147.95**	**293**	P	PKPdf	21 52 22.0	+5.5
MEST	**Erdemli**	**148.04**	**302**	*i* P	PKPdf	21 52 21.5	+5.1
OFRI	**‘Ofer**	**148.16**	**295**	P	PKPdf	21 52 22.2	+5.4
SLTI	**Sal’it**	**148.17**	**294**	P	PKPdf	21 52 22.7	+5.9
ZFRI	**Zfri**	**148.23**	**291**	P	PKPdf	21 52 22.9	+6.0
AYUS	**‘Aynunah**	**148.26**	**286**	P	PKPdf	21 52 23.2	+6.1
KWP	**Kalwaria**	**148.37**	**332**	*e*P	PKPdf	21 52 22.2	+5.7
JMOS	**Jabal al Moall**	**148.38**	**288**	P	PKPdf	21 52 23.6	+6.4
PRNI	**Paran**	**148.39**	**290**	P	PKPdf	21 52 23.3	+6.1
ALWS	**Ilw as Safayha**	**148.41**	**288**	P	PKPdf	21 52 23.7	+6.4
BDAS	**Al Bad‘**	**148.41**	**287**	P	PKPdf	21 52 23.2	+5.9
EIL	**Elat**	**148.49**	**289**	P	PKPdf	21 52 23.6	+6.2
PHNC	**Paralimni**	**148.51**	**299**	⇑P	PKPdf	21 52 23.4	+6.1
MBH	**Mount Berech**	**148.51**	**289**	P	PKPdf	21 52 23.7	+6.3
HAQS	**Haql**	**148.54**	**288**	P	PKPdf	21 52 23.6	+6.1
TAYS	**Tayyib Ism**	**148.61**	**287**	P	PKPdf	21 52 23.8	+6.2
KMTI	**Karmit**	**148.65**	**290**	P	PKPdf	21 52 23.6	+6.0
KZIT	**Kziot**	**148.87**	**292**	P	PKPdf	21 52 24.4	+6.5
DMUB	**Kingscourt**	**148.90**	**8**	*e*P	PKPdf	21 52 23.0	+5.7
HENT	**Hendek**	**148.98**	**312**	*i* P	PKPdf	21 52 23.2	+5.4
RUE	**Ruedersdorf**	**149.07**	**344**	*e*PKPbc	PKPdf	21 52 24.4	+6.9
CSS	**Prodhromos**	**149.08**	**300**	⇑P	PKPdf	21 52 24.3	+6.1
	comp=Z,0.4nm,0.6s						
CSS	**Prodhromos**	**149.08**	**300**	⇑*e*P	PKPdf	21 52 24.3	+6.1
KOLS	**Kolonicke sedl**	**149.08**	**331**	*i* PKP	PKPdf	21 52 25.1	+7.4
KOLS				*e*		21 52 30.3	
DCN	**Croghan**	**149.39**	**9**	⇑*i*P	PKPdf	21 52 23.9	+5.8
CRVS	**Cervenica-Dubn**	**149.46**	**332**	*e*PKP	PKPdf	21 52 25.6	+7.3
SZAC	**Souni-Zanaja**	**149.49**	**299**	⇑P	PKPdf	21 52 25.3	+6.5
DLF	**Lyons Farm**	**149.54**	**8**	⇑*i*P	PKPdf	21 52 24.0	+5.7
ESKT	**Eskisehir**	**149.54**	**309**	*i* P	PKPdf	21 52 25.0	+6.2
ALFC	**Alevga**	**149.62**	**300**	⇑P	PKPdf	21 52 25.1	+6.1
	comp=Z,0.9nm,0.6s						
PPCY	**Paphos**	**149.89**	**300**	⇑P	PKPdf	21 52 26.0	+6.5
OKC	**Ostrava-Krasne**	**150.03**	**337**	*e*PKPbc	PKPdf	21 52 26.0	+6.8
WIT	**Witteveen**	**150.10**	**352**	*e*P	PKPdf	21 52 26.9	+7.7
	comp=Z,211nm,0.8s						
UPC	**Upice**	**150.19**	**340**	*e*PKPbc	PKPdf	21 52 26.4	+7.0
DPC	**Dobruska-Polom**	**150.23**	**339**	*e*PKPbc	PKPdf	21 52 26.8	+7.3
MORC	**Moravsky Berou**	**150.30**	**337**	*e*PKPbc	PKPdf	21 52 26.8	+7.2
CLL	**Collm**	**150.34**	**344**	*e*PKIKP	PKPdf	21 52 21.0	+1.4
CLL				*i* PKP1	PKPdf	21 52 26.9	+7.3
CLL				*i* PKP2	PKPab	21 52 35.6	-0.9
CLL				*i*		21 52 40.2	
CLL				*i*		21 52 42.0	
CLL				*e**PPKP		21 54 31.0	
ISP	**Isparta**	**150.42**	**306**	*e*PKPbc	PKPdf	21 52 26.4	+6.3
PVCC	**Panska Ves**	**150.61**	**341**	*e*PKPbc	PKPdf	21 52 27.5	+7.4
VYHS	**Vyhne**	**150.86**	**334**	*e*PKP	PKPdf	21 52 28.1	+7.6
VYHS				*e*		21 52 38.1	
PSZ	**Piszkesteto**	**150.88**	**333**	⇑*i*	PKPdf	21 52 28.4	+7.9
WTSB	**Winterswijk**	**150.91**	**352**	*e*P	PKPdf	21 52 27.8	+7.3
	comp=Z,75nm,0.5s						
PRU	**Pruhonice**	**151.10**	**341**	*e*PKPbc	PKPdf	21 52 28.6	+7.8
SMOL	**Smolenice**	**151.39**	**336**	*e*PKP	PKPdf	21 52 29.9	+8.7
SMOL				*e*		21 52 40.8	
NKC	**Novy Kostel**	**151.46**	**344**	*e*PKPbc	PKPdf	21 52 29.6	+8.3
ZST	**Bratislava**	**151.78**	**336**	*e*PKP	PKPdf	21 52 30.2	+8.4
ZST				*e*		21 52 42.1	
KHC	**Kasperske Hory**	**152.15**	**341**	*e*PKPbc	PKPdf	21 52 30.5	+8.2
KHC				*e*PKPab	PKPab	21 52 43.0	-1.1
GERES	**GERESS Array B**	**152.37**	**341**	PKP	PKPdf	21 52 23.0	+0.4
	comp=Z,0.5nm,0.8s,baz=225,slow=3.8,SNR=4.7						
GERES				PKPbc	PKPdf	21 52 31.2	+8.6
	comp=Z,4.4nm,0.8s,baz=30,slow=1.9,SNR=25						
GERES				PKPab	PKPab	21 52 44.0	-1.1
	comp=Z,1.9nm,0.6s,baz=32,slow=3.7,SNR=6.8						
KDAG	**Bornova**	**152.55**	**310**	*i* P	PKPdf	21 52 31.0	+7.8
MOA	**Molln**	**153.07**	**339**	⇓*i*P	PKPdf	21 52 30.0	+6.4
MOA				*i*		21 52 47.4	
WTTA	**Wattenberg**	**154.40**	**342**	⇑*i*P	PKPdf	21 52 26.6	+1.2
WTTA				*i*		21 52 36.2	
WTTA				*i*		21 52 53.3	
LOR	**Lormes**	**155.87**	**354**	*e*PKIKP	PKPdf	21 52 28.4	+1.0
	comp=Z,11nm,1.0s						
SSF	**Saint Saulge**	**156.11**	**355**	*e*PKIKP	PKPdf	21 52 28.8	+1.1
	comp=Z,24nm,1.3s						
TCF	**Toulx Ste Croi**	**156.97**	**357**	*e*PKIKP	PKPdf	21 52 29.8	+1.0
	comp=Z,11nm,1.1s						
LPG	**La Plagne**	**157.21**	**348**	*e*PKIKP	PKPdf	21 52 30.7	+1.5
LIC	**Lamto**	**162.28**	**162**	*e*PKIKP	PKPdf	21 52 37.2	+1.6
	comp=Z,33nm,1.0s						
LIC	**Lamto**	**162.28**	**162**	*e*PKIKP	PKPdf	21 52 36.3	+0.7
	comp=Z,42nm,1.0s						
LIC				*e*PKP2	PKPab	21 53 28.8	+0.2
KIC	**Kosan Boka**	**162.50**	**163**	*e*PKIKP	PKPdf	21 52 36.0	+0.2
	comp=Z,57nm,1.0s						
KIC				*e*PKP2	PKPab	21 53 29.7	+0.2
TIC	**Toumodi**	**162.69**	**162**	*e*PKIKP	PKPdf	21 52 36.6	+0.6
	comp=Z,8.7nm,0.2s						
TIC				*e*PKP2	PKPab	21 53 30.5	+0.2
DBIC	**Dimbokro**	**162.76**	**162**	PKP	PKPdf	21 52 36.7	+0.6
	comp=Z,4.5nm,0.7s,baz=158,slow=7.1,SNR=5.6						
DBIC				PKPab	PKPab	21 53 31.0	+0.4
	comp=Z,6.2nm,0.8s,baz=192,slow=5.9,SNR=4.9						
EVO	**Evora**	**163.16**	**23**	*e*PKIKP	PKPdf	21 52 37.9	+2.1
	comp=Z,14nm,0.8s						
ESDC	**Sonseca Array**	**163.22**	**12**	PKPab	PKPab	21 53 31.4	-0.5
	comp=Z,0.8nm,0.6s,baz=346,slow=4.1,SNR=7.2						

ISC 28 22:08:39.9±1.2,44.27N±0.05×17.82E±0.07,h1^{km}±8^{km},n6, σ0^{s}98/13,3C-1D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STON	**Ston**	**1.40**	**184**	*i* Pn	**Pn**	**22 09 05.4**	**-1.3**
STON				*i* Sn	**Sn**	**22 09 26.4**	**+0.3**
DIVS	**Divcibare**	**1.57**	**96**	⇓*i*Pn	**Pn**	**22 09 07.9**	**-1.2**
DIVS				Sg	**Sg**	**22 09 32.8**	**+0.5**
VBY	**Vinica-Bojanci**	**2.20**	**305**	*e*Pn	**Pg**	**22 09 23.9**	**+0.1**
VBY				*e*Sn	**Sn**	**22 09 47.7**	**+1.3**
OBKA	**Obir**	**3.21**	**315**	⇑*i*PN	**Pn**	**22 09 34.1**	**+1.5**
OBKA				*i* SN	**Sn**	**22 10 11.7**	**-0.4**
OBKA				*i* SG	**Sg**	**22 10 25.8**	**-1.1**
	5.5nm,0.6s						
ARSA	**Arzberg**	**3.38**	**332**	⇑*i*PN	**Pn**	**22 09 36.2**	**+1.2**
ARSA				*i* SN	**Sn**	**22 10 15.8**	**-0.6**
MOA	**Molln**	**4.35**	**327**	⇑*i*PN	**Pn**	**22 09 49.6**	**+0.9**
MOA				*i* SN	**Sn**	**22 10 39.7**	**-1.2**

IDC 28 22:54:58.4±1.7,17.49S×174.63W,mb3.8/5,mb1 4.0/5, mb1mx3.9/13,Error ellipse: s-maj=53.1km s-min=32.3km az=138.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**21.92**	**198**	P	P	22 59 53.7	-1.6
	7.9nm,0.8s,baz=5.6,slow=12,SNR=2.4						
STKA	**Stephens Creek**	**41.99**	**242**	P	P	23 02 50.5	-2.6
	0.8nm,0.5s,baz=63,slow=6.7,SNR=3.3						
WRA	**Warramunga Arr**	**48.25**	**259**	P	P	23 03 40.7	-2.7
	0.3nm,0.5s,baz=97,slow=7.1,SNR=10						
ASAR	**Alice Springs**	**48.37**	**254**	P	P	23 03 43.5	-0.7
	1.5nm,0.6s,baz=88,slow=8.6,SNR=16						
PDAR	**Pinedale Array**	**84.60**	**42**	P	P	23 07 34.1	-1.0
	0.5nm,1.1s,baz=207,slow=3.3,SNR=3.8						

DJA 28 23:07:28.5±1.0,7.11S×115.64E,h212^{km}±15^{km},ML4.1/4, 5C-2D,Error ellipse: s-maj=31.5km s-min=15.8km az=169.0,Bali Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KEDI	**Kedomdong**	**1.45**	**161**	⇓*e*Pn	P	23 08 02.3	-0.9
	103nm,0.3s						
KEDI				⇑*e*Sn	S	23 08 28.6	-1.4
KELI	**Kelakatan**	**1.59**	**226**	⇓*e*Pn	P	23 08 04.3	-0.1
	110nm,0.3s						
KELI				⇑*e*Sn	S	23 08 30.7	-1.4
RATI	**Rata**	**1.61**	**184**	⇑*e*Pn	P	23 08 05.2	+0.6
	122nm,0.2s						
RATI				⇑*e*Sn	S	23 08 31.2	-1.2
BUNI	**Buntu Taipa**	**5.78**	**54**	⇑*e*Pn	P	23 08 55.6	+1.8
	42nm,0.2s						

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*NEIC **28** 23:11:08.1,35.12N×4.27W,MG3.4(MDD),After MDD.*

*INMG **28** 23:11:08.9±1.1,34.96N×4.34W,h31^{km},ML1.8,Error ellipse: s-maj=8.0km s-min=3.9km az=24.0*

MDD 28 23:11:08.6±1.9,34.99N×4.28W,h21^{km}±22^{km},mb3.8/2, Error ellipse: s-maj=21.5km s-min=8.1km az=12.0, PRXIMO,Morocco

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EMEL	**Melilla**	**1.13**	**74**	P	Pb	23 11 27.6	-1.6
	SNR=7.9						
EMEL				S	Sb	23 11 43.3	-0.3
	164nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**1.62**	**346**	P	Pn	23 11 33.2	-3.2
	0.8nm,0.2s,SNR=7.9						
EMIJ				S	Sn	23 11 49.6	-7.3
	17nm,0.2s,SNR=7.9						
ERON	**Agron**	**2.06**	**11**	S	Sn	23 12 05.4	-2.7
	4.4nm,0.2s,SNR=8.7						
ELOJ	**Sierra Loja**	**2.16**	**3**	P	Pn	23 11 43.2	-0.9
	0.3nm,0.1s,SNR=7.9						
ELOJ				S	Sn	23 12 08.8	-1.7
	3.7nm,0.4s,SNR=4.0						
ESPR	**Espera**	**2.27**	**326**	P	Pn	23 11 45.9	+0.2
	0.5nm,0.2s,SNR=4.0						
ELUQ	**Luque**	**2.57**	**0**	S	Sn	23 12 18.4	-2.5
	4.7nm,0.2s,SNR=7.9						
EQES	**Quesada**	**2.98**	**19**	P	Pn	23 11 53.9	-1.9
	6.7nm,0.3s,SNR=7.9						
EQES				S	Sn	23 12 26.0	-5.2
	4.3nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**3.18**	**356**	P	Pn	23 11 57.4	-1.3
	0.3nm,0.1s,SNR=6.8						
EADA				S	Sn	23 12 31.7	-4.7
	1.1nm,0.2s						
EMIN	**Mina Concepcio**	**3.38**	**326**	P	Pn	23 11 59.2	-2.2
	0.4nm,0.1s,SNR=11						
EMIN				S	Sn	23 12 35.6	-5.8
	0.6nm,0.2s						
PALC	**Alcoutim**	**3.58**	**315**	*e*Pn	Pn	23 12 01.1	-3.1
PALC				*e*Sn	Sn	23 12 40.7	-5.7
	2.1nm,0.3s						
PALC	**Alcoutim**	**3.58**	**315**	Pn	Pn	23 12 01.1	-3.1
PALC				Sn	Sn	23 12 40.7	-5.7
	1.1nm,0.3s						
PBEJ	**Beja**	**4.19**	**317**	*e*Sn	Sn	23 12 55.7	-6.2
	1.0nm,0.2s						
PBEJ	**Beja**	**4.19**	**317**	Sn	Sn	23 12 55.7	-6.2
	0.5nm,0.2s						
EBAD	**Badajoz**	**4.35**	**331**	P	Pn	23 12 12.5	-2.8
	0.2nm,0.1s,SNR=7.9						
EBAD				S	Sn	23 12 59.8	-6.3
	3.1nm,0.2s,SNR=7.9						
PTEO	**Sao Teotonio**	**4.41**	**307**	*e*Pn	Pn	23 12 13.9	-2.1
PTEO				*e*Sn	Sn	23 13 01.9	-5.5
	1.5nm,0.1s						
PTEO	**Sao Teotonio**	**4.41**	**307**	Pn	Pn	23 12 13.9	-2.1
PTEO				Sn	Sn	23 13 01.9	-5.5
	0.8nm,0.1s						
ESDC	**Sonseca Array**	**4.69**	**3**	P	Pn	23 12 17.5	-2.5
	0.3nm,0.2s,baz=183,slow=12,SNR=7.9						
ESDC				S	Sn	23 13 06.5	-8.0
	0.5nm,0.2s,baz=185,slow=23,SNR=7.9						
PCBR	**Castelo Branco**	**5.47**	**333**	*e*Pn	Pn	23 12 28.4	-2.7
PCBR				*e*Sn	Sn	23 13 25.8	-8.4
	0.8nm,0.3s						
PCBR	**Castelo Branco**	**5.47**	**333**	Pn	Pn	23 12 28.4	-2.7
PCBR				Sn	Sn	23 13 25.8	-8.4
	0.4nm,0.3s						
PBRG	**Braganca**	**7.08**	**345**	*e*Pn	Pn	23 12 50.1	-3.6

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*LDG **28** 23:22:38.1±0.1,42.92N×0.23E,h13^{km},Md1.9/2,Ml1.4/2*

STR 28 23:22:39.1±0.1,42.92N×0.23E,h2^{km}±1^{km},Ml2.0,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EPF	**Esparros**	**0.14**	**36**	*e*Pg	Pg	23 22 42.0	+0.1
EPF				*e*Sg	Sg	23 22 44.2	+0.5
	50nm,0.2s						
RESF	**Ens**	**0.14**	**145**	Pg	Pg	23 22 41.9	0.0
RESF				Sg	Sg	23 22 44.2	+0.5
VIEF	**Viey**	**0.16**	**257**	Pg	Pg	23 22 42.2	0.0
VIEF				Sg	Sg	23 22 44.8	+0.5
LABF	**Labassere**	**0.17**	**318**	Pg	Pg	23 22 42.5	0.0
LABF				Sg	Sg	23 22 45.2	+0.4
ETSF	**Etsaut**	**0.58**	**268**	*e*Pg	Pg	23 22 49.5	-1.2
ETSF				*e*Sg	Sg	23 22 56.9	-1.5
	3.4nm,0.2s						
SJPF	**Ste Jean**	**1.08**	**281**	*e*Pg	Pg	23 22 58.5	-2.3
SJPF				*e*Sg	Sg	23 23 12.5	-2.7
	0.6nm,0.2s						
MTLF	**Montolieu**	**1.52**	**73**	*e*Sg	Sg	23 23 25.7	-3.8
	0.6nm,0.2s						

IDC 29 00:05:34.3±1.7,0.14N×125.96E,mb3.8/4,mb1 3.9/5, mb1mx3.7/16,ML3.3/1,Error ellipse: s-maj=106.0km s-min=24.2km az=67.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.13**	**181**	P	P	00 09 47.2	-2.1
	0.1nm,0.3s,baz=346,slow=17,SNR=3.1						
WRA	**Warramunga Arr**	**21.58**	**158**	P	P	00 10 25.2	-2.6
	1.1nm,0.4s,baz=336,slow=11,SNR=6.2						
ASAR	**Alice Springs**	**24.89**	**162**	P	P	00 10 59.5	-0.8
	1.5nm,0.5s,baz=345,slow=7.6,SNR=14						
STKA	**Stephens Creek**	**35.11**	**157**	P	P	00 12 29.4	-2.1
	0.9nm,0.5s,baz=346,slow=8.3,SNR=3.6						
MKAR	**Makanchi Array**	**60.09**	**327**	P	P	00 15 43.3	-2.4
	0.4nm,0.3s,baz=138,slow=7.5,SNR=5.2						

MAN 29 00:20:21.7,13.12N×123.35E,h1^{km},mb4.2,ML3.0,MS2.8, 1D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PVCP	**Virac**	**0.92**	**59**	*e*P	Pg	00 20 39.2	-0.7
PVCP				*e*S	Sg	00 20 56.5	+4.4
GQP	**Guinayangan**	**1.17**	**312**	*i* P	Pb	00 20 43.0	-1.4
GQP				*e*S	Sb	00 20 59.8	-0.2
CNP	**Catarman**	**1.42**	**115**	*e*P	Pb	00 20 48.7	0.0
CNP				*e*S	Sb	00 21 08.1	+1.0
BOAC	**Boac**	**1.50**	**283**	*e*P	Pn	00 20 50.2	+0.4
BOAC				*e*S	Sb	00 21 12.1	+2.6
LQP	**Lukban**	**2.02**	**299**	⇓*e*P	Pn	00 20 58.3	+1.1
LQP				*e*S	Sn	00 21 21.1	-2.3
POLP	**Polilio Island**	**2.10**	**320**	*e*P	Pn	00 21 01.1	+2.7
POLP				*e*S	Sn	00 21 29.6	+4.0
SJMP	**San Jose**	**2.27**	**253**	*e*P	Pn	00 21 01.8	+0.9
GUIM	**Jordan**	**2.59**	**197**	*e*P	Pn	00 21 05.1	-0.3
BALP	**Baler**	**3.12**	**327**	*e*P	Pn	00 21 12.3	-0.6

MAN 29 00:25:26.7,13.22N×123.38E,h15^{km},mb4.1,ML2.9, MS2.7,1D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PVCP	**Virac**	**0.84**	**63**	*e*P	Pb	00 25 42.5	0.0
PVCP				*e*S	Sb	00 25 57.5	+4.1
GQP	**Guinayangan**	**1.14**	**307**	*e*P	Pb	00 25 46.6	-0.8
GQP				*e*S	Sb	00 26 03.5	+1.7
CNP	**Catarman**	**1.44**	**119**	*e*P	Pn	00 25 51.1	-1.2
CNP				*e*S	Sb	00 26 11.2	+0.6
BOAC	**Boac**	**1.51**	**279**	*e*P	Pn	00 25 52.7	-0.7
BOAC				*e*S	Sb	00 26 15.7	+2.9
OTRP	**Odiongan**	**1.57**	**237**	*e*P	Pn	00 25 54.6	+0.4
LQP	**Lukban**	**2.00**	**297**	⇓*e*P	Pn	00 26 02.0	+1.7
LQP				*e*S	Sn	00 26 24.6	-0.5
POLP	**Polilio Island**	**2.05**	**317**	*e*P	Pn	00 26 06.7	+5.6
POLP				*e*S	Sn	00 26 33.5	+6.9
SJMP	**San Jose**	**2.33**	**251**	*e*P	Pn	00 26 04.8	-0.2
GUIM	**Jordan**	**2.69**	**197**	*e*P	Pn	00 26 08.0	-2.2

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*NIED **29** 00:27:00,21.10N×121.90E,h35^{km},Mw4.4 Best double couple: $M_0$3.94×10^{15} NP1:ϕ_s19°,δ83°,λ71°. NP2:ϕ_s271°, δ20°,λ160°.*

*IDC **29** 00:27:41.5±3.6,20.80N×121.62E,h58^{km}±33^{km},mb4.0/17, mb1 4.2/18,mb1mx4.1/23,ML4.5/1,MS3.4/4,Ms1 3.5/4, ms1mx3.0/25,Error ellipse: s-maj=22.8km s-min=11.3km*

az=66.0

*NEIC **29** 00:27:42.6±1.1,20.84N×121.66E,h67^{km}±11^{km},mb4.6/19, Error ellipse: s-maj=11.8km s-min=5.6km az=63.0*

*BJI **29** 00:27:43.3,21.07N×121.60E,h67^{km},mB4.3,mb4.4, ML4.6,Ms3.9,Msz3.9*

*JMA **29** 00:27:45.6±0.4,21.06N×121.94E,h114^{km},M4.5*

*MAN **29** 00:27:46.1,20.80N×121.63E,h48^{km},mb4.9,ML3.8, MS3.8*

ISC 29 00:27:42.6±0.3,**20.98N**±0.02×**121.72E**±0.04,**h86**^{km}±3^{km}, **n84,**σ**1**^{s}**28**/104,**mb4.4**/32,**1C-7D,Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BBP	**Basco**	**0.58**	**157**	eP	**P**	**00 27 59.0**	**+1.2**
BBP				eS	**S**	**00 28 09.6**	**+0.6**
SGCP	**Mt. Cagua**	**2.74**	**173**	eP	**P**	**00 28 26.3**	**+0.8**
SGCP				eS	**S**	**00 28 56.5**	**-1.0**
PIP	**Pasuquin**	**2.83**	**202**	⇓iP	**P**	**00 28 26.0**	**-0.8**
PIP				i S	**S**	**00 28 58.6**	**-1.4**
APYP	**Conner**	**3.13**	**188**	eP	**P**	**00 28 31.7**	**+0.8**
APYP				eS	**S**	**00 29 05.6**	**-1.7**
CVP	**Callao Caves**	**3.26**	**178**	eP	**P**	**00 28 34.0**	**+1.3**
CVP				eS	**S**	**00 29 12.0**	**+1.5**
ABRA	**Dolores**	**3.44**	**196**	eP	**P**	**00 28 35.6**	**+0.4**
ABRA				eS	**S**	**00 29 14.2**	**-0.9**
HATJ	**Hateruma jima**	**3.62**	**32**	P	**P**	**00 28 38.1**	**+0.4**
HATJ				S	**S**	**00 29 19.1**	**-0.4**
YOJ	**Yonaguni jima**	**3.67**	**19**	P	**P**	**00 28 39.5**	**+1.2**
YOJ				S	**S**	**00 29 20.3**	**-0.3**
IRIF	**Iriomote-Funau**	**3.82**	**29**	P	**P**	**00 28 41.6**	**+1.1**
IRIF				S	**S**	**00 29 24.2**	**-0.3**
JKRS	**Kuro-shima**	**3.87**	**33**	P	**P**	**00 28 42.1**	**+0.9**
JKRS				S	**S**	**00 29 25.5**	**-0.3**
PALP	**Palanan**	**3.95**	**170**	eP	**P**	**00 28 48.5**	**+6.2**
PALP				eS	**S**	**00 29 33.3**	**+5.7**
TATO	**Taipei**	**3.98**	**357**	eP	**P**	**00 28 43.8**	**+1.1**
CAUP	**Cauayan**	**4.01**	**179**	eP	**P**	**00 28 46.5**	**+3.4**
CAUP				eS	**S**	**00 29 30.6**	**+1.4**
JIJ	**Ishigaki jima**	**4.05**	**33**	P	**P**	**00 28 43.8**	**+0.2**
JIJ				S	**S**	**00 29 28.3**	**-1.7**
JTJ	**Tarama**	**4.57**	**36**	P	**P**	**00 28 51.0**	**+0.2**
JTJ				S	**S**	**00 29 41.9**	**-1.1**
BCPH	**Baguio City Da**	**4.70**	**193**	⇓iP	**P**	**00 28 53.6**	**+1.1**
BCPH				i S	**S**	**00 29 44.4**	**-1.8**
BOLP	**Bolinao**	**4.88**	**201**	eP	**P**	**00 28 57.1**	**+2.0**
BOLP				eS	**S**	**00 29 49.0**	**-1.8**
QZH	**Quanzhou**	**4.89**	**324**	⇓iP	**P**	**00 28 52.8**	**-2.4**
QZH				S	**S**	**00 29 44.0**	**-6.9**
QZH				Smax			
	comp=N,390nm,0.3s						
QZH				Smax			
	comp=E,430nm,0.5s						
BALP	**Baler**	**5.21**	**182**	eP	**P**	**00 29 00.2**	**+0.6**
BALP				eS	**S**	**00 29 59.2**	**+0.3**
SCZP	**Santa Cruz**	**5.45**	**199**	eP	**P**	**00 29 08.5**	**+5.7**
SCZP				eS	**S**	**00 30 07.4**	**+2.6**
JKE	**Kume jima 2**	**7.07**	**40**	P	**P**	**00 29 23.6**	**-1.6**
GZH	**Guangzhou**	**8.05**	**287**	P	**P**	**00 29 36.0**	**-2.6**
GZH				Smax			
	comp=N,274nm,0.6s						
GZH				Smax			
	comp=E,221nm,0.7s						
JOW	**Kunigami**	**8.36**	**45**	P	**P**	**00 29 42.2**	**-0.7**
	comp=E,14nm,0.3s,baz=211,slow=10,SNR=11						
JOW				LR	LR	00 33 18.7	
	comp=E,181nm,18.2s,baz=314,slow=39						
QIZ	**Qiongzhong**	**11.33**	**262**	P	**P**	**00 30 22.3**	**-0.8**
QIZ				LR	LR		
	comp=N,269nm,13.5s						
WHN	**Wuhan**	**11.61**	**327**	⇓P	**P**	**00 30 25.3**	**-1.4**
WHN				S	**S**	**00 32 32.0**	**-3.0**
ENH	**Enshi**	**14.39**	**312**	eP	**P**	**00 31 04.1**	**+0.8**
	comp=N,11nm,0.6s						
GYA	**Guiyang**	**14.82**	**294**	P	**P**	**00 31 12.5**	**+3.6**
GYA				S	**S**	**00 33 44.5**	**-6.8**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s						
GYA				LR	LR		
	comp=N,360nm,8.4s						
GYA				LR	LR		
	comp=E,240nm,5.7s						
GYA				LR	LR		
	comp=Z,230nm,6.3s						
CD2	**Chengdu**	**18.92**	**305**	P	**P**	**00 32 01.0**	**+1.9**
BJT	**Baijiatuau**	**19.56**	**347**	eP	**P**	**00 32 05.6**	**-0.5**
	comp=Z,12nm,0.8s						
BJI	**Beijing**	**19.58**	**347**	P	**P**	**00 32 05.5**	**-0.8**
BJI				AMB	AMB		
	comp=Z,15nm,0.7s						
BJI	**Beijing**	**19.58**	**347**	P	**P**	**00 32 05.5**	**-0.8**
	comp=Z,15nm,0.7s						
CMAR	**Chiang Mai Arr**	**21.58**	**267**	P	**P**	**00 32 26.4**	**-0.4**
	comp=Z,7.9nm,1.0s,mb4.0,baz=72,slow=8.8,SNR=17						
CMAR				LR	LR	00 40 50.1	
	comp=Z,40nm,18.4s,baz=70,slow=37						
LZH	**Lanzhou**	**21.70**	**318**	eP	Px	00 32 41.9	
LZH				pP		00 32 51.0	
LZH				sP		00 32 55.1	
PKI	**Pulchoki**	**33.66**	**288**	eP	**P**	**00 34 13.8**	**-3.5**
	comp=Z,14nm,1.1s,mb4.7						
KKN	**Kakani**	**33.78**	**289**	eP	**P**	**00 34 15.3**	**-3.1**
	comp=Z,11nm,0.9s,mb4.7						
DMN	**Daman**	**33.93**	**289**	eP	**P**	**00 34 16.5**	**-3.1**
	comp=Z,3.1nm,0.3s,mb4.6						
GKN	**Gorkha**	**34.37**	**289**	eP	**P**	**00 34 21.4**	**-2.0**
KAKA	**Kakadu**	**35.07**	**162**	eP	**P**	**00 34 31.3**	**+1.8**
	comp=Z,17nm,0.6s,mb5.0						
KOLN	**Koldanda**	**35.27**	**289**	eP	**P**	**00 34 27.8**	**-3.3**
	comp=Z,9.9nm,0.8s,mb4.7						
WAU	**Wau**	**37.35**	**136**	eP	**P**	**00 34 49.5**	**+0.8**
FITZ	**Fitzroy Crossi**	**39.03**	**174**	eP	**P**	**00 35 01.1**	**-1.5**
	comp=Z,3.3nm,0.8s,mb4.2						
FITZ	**Fitzroy Crossi**	**39.03**	**174**	P	**P**	**00 35 01.2**	**-1.3**
	comp=Z,4.3nm,0.6s,mb4.5,baz=2.0,slow=7.9,SNR=32						
PMG	**Port Moresby**	**39.20**	**138**	P	**P**	**00 35 02.0**	**-2.0**
	comp=Z,19nm,0.8s,mb5.0,baz=303,slow=11,SNR=3.9						
HYB	**Hyderabad**	**40.83**	**273**	i P	**P**	**00 35 18.0**	**+0.5**
MKAR	**Makanchi Array**	**41.01**	**318**	P	**P**	**00 35 19.9**	**+1.3**
	comp=Z,1.7nm,0.5s,mb4.2,baz=111,slow=9.7,SNR=16						
WRAB	**Tennant Creek**	**42.49**	**162**	eP	**P**	**00 35 29.6**	**-1.6**
	comp=Z,15nm,0.6s,mb4.9						
WRA	**Warramunga Arr**	**42.50**	**162**	P	**P**	**00 35 29.9**	**-1.3**
	comp=Z,6.8nm,0.4s,mb4.7,baz=344,slow=8.8,SNR=61						
WRA				PcP	PcP	00 37 22.5	-0.7
	comp=Z,0.5nm,0.4s,baz=339,slow=4.0,SNR=5.0						
WB2	**Warramunga Arr**	**42.50**	**162**	⇓iP	**P**	**00 35 29.9**	**-1.4**
WB2				eS	**S**	**00 41 40.5**	**-6.2**
KURK	**Kurchatov**	**44.88**	**322**	eP	**P**	**00 35 50.8**	**+0.7**
	comp=Z,6.7nm,1.0s,mb4.3						
ASAR	**Alice Springs**	**45.93**	**164**	P	**P**	**00 35 58.2**	**-0.6**
	comp=Z,5.9nm,0.6s,mb4.5,baz=341,slow=7.8,SNR=57						
ASAR				PcP	PcP	00 37 34.1	-0.8
	comp=Z,1.2nm,0.8s,baz=0.3,slow=4.5,SNR=4.0						
ASPA	**Alice Springs**	**45.93**	**164**	⇑iP	**P**	**00 35 58.2**	**-0.6**
ASPA				eS	**S**	**00 42 33.6**	**-2.5**
CTA	**Charters Tower**	**47.35**	**148**	eP	**P**	**00 36 10.1**	**+0.1**
	comp=Z,5.5nm,0.6s,mb4.5						
CTAO	**Charters Tower**	**47.35**	**148**	eP	**P**	**00 36 10.2**	**+0.2**
	comp=Z,12nm,0.8s,mb4.7						
BVAR	**Borovoye Array**	**50.48**	**322**	P	**P**	**00 36 33.8**	**+0.1**
	comp=Z,1.2nm,0.5s,mb4.1,baz=109,slow=7.4,SNR=8.8						
BRVK	**Borovoye**	**50.55**	**322**	eP	**P**	**00 36 36.4**	**+2.2**
	comp=Z,4.8nm,0.9s,mb4.5						
ZRNK	**Zerenda**	**51.25**	**322**	eP	**P**	**00 36 39.7**	**+0.2**
	comp=Z,2.6nm,0.7s,mb4.4						
FORT	**Forrest**	**51.82**	**173**	eP	**P**	**00 36 43.0**	**-1.1**
	comp=Z,45nm,0.7s						
KLBR	**Kellerberrin**	**52.41**	**184**	⇓iP	**P**	**00 36 46.9**	**-1.6**
	comp=Z,5.1nm,0.4s,mb4.9						
NWAO	**Narrogin (SRO)**	**53.77**	**185**	eP	**P**	**00 36 57.8**	**-0.8**
	comp=Z,7.2nm,0.9s,mb4.7						
STKA	**Stephens Creek**	**55.90**	**160**	⇓iP	**P**	**00 37 12.9**	**-1.1**
	comp=Z,12nm,0.5s,mb5.2						
STKA	**Stephens Creek**	**55.90**	**160**	P	**P**	**00 37 13.1**	**-1.0**
	comp=Z,17nm,0.6s,mb5.3,baz=338,slow=6.9,SNR=57						
ARU	**Arti**	**57.97**	**324**	eP	**P**	**00 37 27.3**	**-1.0**
	comp=Z,8.1nm,0.6s,mb4.9						
TOO	**Toolangi**	**62.39**	**159**	eP	**P**	**00 37 58.8**	**+0.1**
	comp=Z,3.2nm,0.7s,mb4.5						
RAYN	**Ar Rayn**	**69.78**	**288**	P	**P**	**00 38 46.2**	**+0.2**
	comp=Z,47nm,0.8s,mb5.4,SNR=12						
MZLS	**Mizel**	**69.92**	**289**	P	**P**	**00 38 47.2**	**+0.5**
ARSS	**Ar Rass**	**71.18**	**291**	P	**P**	**00 38 54.8**	**+0.4**
KAMS	**Al Khamasin**	**71.46**	**285**	P	**P**	**00 38 56.0**	**0.0**
ILAR	**Eielson Array**	**71.83**	**27**	P	**P**	**00 39 00.9**	**+3.4**
	comp=Z,0.9nm,0.8s,mb3.6,baz=267,slow=5.5,SNR=7.5						
HILS	**Ha’il**	**72.05**	**293**	D		00 39 00.4	
ARCES	**ARCESS Array B**	**72.69**	**339**	P	**P**	**00 39 03.5**	**+1.1**
	comp=Z,1.7nm,0.8s,mb3.9,baz=85,slow=11,SNR=2.9						
FINES	**FINESS Array B**	**74.46**	**330**	P	**P**	**00 39 14.7**	**+1.7**
	comp=Z,5.5nm,1.2s,mb4.2,baz=63,slow=4.3,SNR=7.7						
FINES				LR	LR	01 16 08.5	
	comp=Z,46nm,18.2s,baz=246,slow=39						
KBRS	**Khaybar**	**74.66**	**292**	P	**P**	**00 39 16.4**	**+1.6**
BRTR	**Keskin Array B**	**75.48**	**307**	P	**P**	**00 39 19.9**	**+0.7**
	comp=Z,0.9nm,1.0s,mb3.5,baz=72,slow=3.9,SNR=4.3						
TBKS	**Tabuk**	**76.30**	**295**	P	**P**	**00 39 25.8**	**+1.7**
JMQS	**Jabal Moqyreh**	**76.67**	**296**	P	**P**	**00 39 27.9**	**+1.7**
AYUS	**‘Aynunah**	**77.39**	**295**	P	**P**	**00 39 31.2**	**+1.0**
BDAS	**Al Bad‘**	**77.46**	**296**	P	**P**	**00 39 30.5**	**-0.1**
TAYS	**Tayyib Ism**	**77.62**	**296**	P	**P**	**00 39 32.9**	**+1.4**
HFS	**Hagfors**	**80.60**	**331**	P	**P**	**00 39 47.7**	**+0.7**
	comp=Z,0.8nm,0.4s,mb3.9,baz=135,slow=4.2,SNR=7.4						
NOA	**NORSAR Array B**	**81.28**	**333**	P	**P**	**00 39 52.8**	**+2.3**
	comp=Z,0.8nm,0.9s,mb3.6,baz=60,slow=3.2,SNR=3.0						
NOA				LR	LR	01 18 37.9	
	comp=Z,39nm,21.8s,baz=50,slow=38						
KMBO	**Kilima Mbogo**	**85.23**	**267**	P	**P**	**00 40 11.3**	**-0.3**
	comp=Z,1.4nm,0.8s,mb3.9,baz=51,slow=12,SNR=5.0						
GERES	**GERESS Array B**	**85.63**	**321**	P	**P**	**00 40 13.1**	**+0.4**
	comp=Z,0.5nm,0.7s,mb3.5,baz=63,slow=6.0,SNR=5.5						
YKA	**Yellowknife Ar**	**85.72**	**23**	P	**P**	**00 40 13.8**	**+1.0**
	comp=Z,1.6nm,0.5s,mb4.2,baz=308,slow=4.7,SNR=6.0						
USHA	**Ushuaia**	**145.34**	**170**	PKPbc	PKPbc	00 47 12.1	+1.5
	comp=Z,4.0nm,0.6s,baz=181,slow=3.7,SNR=5.9						

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*IDC **29** 00:44:59.6±4.6,18.52S×178.24W,h468^{km}±50^{km}, mb3.7/13,mb1 3.9/13,mb1mx3.9/18,Error ellipse: s-maj=23.1km s-min=20.4km az=20.0*

*NEIC **29** 00:45:00.7±3.5,18.51S×178.31W,h481^{km}±37^{km}, mb4.4/10,Error ellipse: s-maj=18.5km s-min=15.7km az=48.0*

ISC 29 00:45:01.0±4.7,**18.5S**±0.2×**178.4W**±0.2,**h495**^{km}±52^{km}, **n57,**σ**0**^{s}**83**/27,**mb4.2**/18,**12C,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**20.05**	**190**	P	**P**	**00 49 00.0**	**-1.0**
	9.6nm,0.7s,baz=104,slow=2.4,SNR=3.4						
ARMA	**Armidale**	**29.64**	**241**	⇑iP	**P**	**00 50 27.8**	**+0.8**
CTA	**Charters Tower**	**33.35**	**261**	⇑iP	**P**	**00 50 59.1**	**+0.5**
	12nm,0.7s,mb4.4						
CTA	**Charters Tower**	**33.35**	**261**	P	**P**	**00 50 59.1**	**+0.5**
	30nm,1.0s,mb4.7,baz=96,slow=11,SNR=16						
CTAO	**Charters Tower**	**33.35**	**261**	eP	**P**	**00 50 59.1**	**+0.4**
	8.5nm,0.5s,mb4.4						
PMG	**Port Moresby**	**34.57**	**280**	P	**P**	**00 51 09.6**	**+0.7**
	17nm,0.8s,mb4.5,baz=60,slow=9.0,SNR=3.7						
STKA	**Stephens Creek**	**38.34**	**242**	⇑iP	**P**	**00 51 41.0**	**+1.2**
	6.1nm,0.4s,mb4.4						
STKA	**Stephens Creek**	**38.34**	**242**	P	**P**	**00 51 41.1**	**+1.3**
	6.8nm,0.3s,mb4.5,baz=88,slow=9.4,SNR=34						
WB2	**Warramunga Arr**	**44.51**	**260**	⇑iP	**P**	**00 52 28.6**	**-0.8**
WRAB	**Tennant Creek**	**44.51**	**260**	eP	**P**	**00 52 28.3**	**-1.1**
	12nm,0.6s,mb4.5						
WRA	**Warramunga Arr**	**44.52**	**260**	P	**P**	**00 52 28.9**	**-0.6**
	7.7nm,0.5s,mb4.3,baz=97,slow=6.6,SNR=76						
ASAR	**Alice Springs**	**44.63**	**255**	P	**P**	**00 52 30.5**	**+0.2**
	43nm,0.5s,mb5.2,baz=90,slow=8.4,SNR=643						
ASAR				PcP	PcP	00 54 03.3	+0.3
	1.2nm,0.5s,baz=98,slow=3.8,SNR=4.4						
ASPA	**Alice Springs**	**44.63**	**255**	⇑iP	**P**	**00 52 30.3**	**0.0**
KAKA	**Kakadu**	**47.62**	**270**	⇑iP	**P**	**00 52 57.3**	**+4.0**
	9.1nm,0.3s,mb4.6						
FORT	**Forrest**	**49.75**	**245**	⇑iP	**P**	**00 53 08.6**	**-0.5**
	94nm,0.6s,mb5.3						
FITZ	**Fitzroy Crossi**	**52.93**	**261**	eP	**P**	**00 53 32.6**	**+0.1**
	6.0nm,0.6s,mb4.1						
FITZ	**Fitzroy Crossi**	**52.93**	**261**	P	**P**	**00 53 32.8**	**+0.3**
	5.4nm,0.5s,mb4.1,baz=131,slow=3.1,SNR=39						
MBWA	**Marble Bar**	**57.93**	**256**	eP	**P**	**00 54 07.0**	**-0.3**
	6.6nm,0.7s,mb4.1						
KLBR	**Kellerberrin**	**58.56**	**244**	eP	**P**	**00 54 11.0**	**-0.4**
	7.9nm,0.5s,mb4.3						
NWAO	**Narrogin (SRO)**	**58.92**	**242**	P	**P**	**00 54 14.1**	**+0.3**
	4.6nm,0.7s,mb4.0,baz=131,slow=9.3,SNR=3.6						
QSPA	**South Pole Qui**	**71.53**	**180**	eP	**P**	**00 55 32.3**	**+0.2**
	3.4nm,0.8s,mb3.9						
MAW	**Mawson**	**83.28**	**200**	P	**P**	**00 56 36.8**	**+1.2**
	0.7nm,0.4s,mb3.5,baz=114,slow=10.0,SNR=4.6						
TXAR	**Lajitas Array**	**86.32**	**58**	P	**P**	**00 56 52.7**	**+1.5**
	1.0nm,0.6s,mb3.6,baz=212,slow=6.1,SNR=12						
TXAR	**Lajitas Array**	**86.32**	**58**	P	**P**	**00 56 52.7**	**+1.5**
ILAR	**Eielson Array**	**86.49**	**13**	P	**P**	**00 56 49.4**	**-1.7**
	1.1nm,0.5s,mb3.7,baz=218,slow=5.0,SNR=12						
PDAR	**Pinedale Array**	**87.80**	**43**	P	**P**	**00 56 58.0**	**+0.1**
	0.5nm,0.5s,mb3.5,baz=256,slow=3.7,SNR=4.6						
SNAA	**Sanae**	**89.98**	**179**	P	**P**	**00 57 06.5**	**-0.9**
	0.3nm,0.7s,mb3.2,baz=220,slow=12,SNR=6.1						
ARCES	**ARCESS Array B**	**126.92**	**350**	PKP	PKPdf	01 03 07.5	+0.1
	0.8nm,0.5s,baz=43,slow=2.7,SNR=9.9						
BRTR	**Keskin Array B**	**145.21**	**314**	PKPbc	PKPbc	01 03 44.1	+1.5
	0.8nm,0.6s,baz=112,slow=2.8,SNR=5.5						
CLL	**Collm**	**146.06**	**347**	i PKP1	PKPbc	01 03 45.8	+1.5
UPC	**Upice**	**146.08**	**343**	ePKP	PKPdf	01 03 46.3	+3.6
DPC	**Dobruska-Polom**	**146.14**	**343**	eP	PKPdf	01 03 46.7	+3.9
BRG	**Berggiesshubel**	**146.26**	**346**	eP	PKPdf	01 03 46.9	+3.9
PVCC	**Panska Ves**	**146.43**	**345**	ePKP	PKPdf	01 03 47.0	+3.7
PRU	**Pruhonice**	**146.94**	**345**	ePKP	PKPdf	01 03 49.0	+4.9
	32nm,2.0s						
KHC	**Kasperske Hory**	**147.97**	**345**	ePKP	PKPdf	01 03 51.6	+5.8
GEC2	**GERESS Array S**	**148.21**	**345**	ePKP	PKPdf	01 03 51.7	+5.5
GERES	**GERESS Array B**	**148.21**	**345**	PKPbc	PKPdf	01 03 52.1	+5.9
	1.4nm,0.5s,baz=20,slow=3.1,SNR=26						
GIVF	**Givet**	**148.39**	**356**	ePKP1	PKPdf	01 03 52.1	+5.6
BAIF	**Baives**	**148.47**	**357**	ePKP1	PKPdf	01 03 52.4	+5.8
	5.2nm,0.6s						
FLN	**La Foliniere**	**149.79**	**3**	ePKP1	PKPdf	01 03 54.6	+5.8
	4.0nm,0.5s						
CDF	**Champ du Feu**	**149.83**	**352**	ePKP1	PKPdf	01 03 55.7	+6.9
	3.8nm,0.6s						
KBA	**Koelnbreinsper**	**149.93**	**344**	⇑iP	PKPdf	01 03 56.1	+7.1
LDF	**La Druitiere**	**149.98**	**2**	ePKP1	PKPdf	01 03 55.4	+6.4
GRR	**Gorron**	**150.15**	**3**	ePKP1	PKPdf	01 03 56.1	+6.8
	4.9nm,0.5s						
WTTA	**Wattenberg**	**150.18**	**346**	⇑iP	PKPdf	01 03 52.5	+3.1
WTTA				i		01 03 56.6	
MOTA	**Moosalm**	**150.22**	**347**	⇑iP	PKPdf	01 03 54.3	+4.8
MOTA				i		01 03 56.7	
SQTA	**Sankt Quirin**	**150.31**	**347**	⇑iP	PKPdf	01 03 54.3	+4.7
SQTA				i		01 03 57.1	
HAU	**Haudompre**	**150.34**	**354**	ePKP1	PKPdf	01 03 56.8	+7.2
HINF	**Hinteralfeld**	**150.47**	**353**	ePKP1	PKPdf	01 03 57.0	+7.2
DAVA	**Damuels**	**150.52**	**348**	⇑iP	PKPdf	01 03 55.6	+5.7
LOR	**Lormes**	**151.28**	**357**	ePKP1	PKPdf	01 03 58.9	+7.9
SSF	**Saint Saulge**	**151.50**	**357**	ePKP1	PKPdf	01 03 59.5	+8.2
	3.7nm,0.5s						
CABF	**La Chapelle**	**151.75**	**353**	ePKP1	PKPdf	01 04 00.5	+8.8
MFF	**Saint Martin d**	**151.97**	**3**	ePKP1	PKPdf	01 04 00.2	+8.2
MBDF	**Montbardon**	**153.52**	**352**	ePKP1	PKPdf	01 04 04.2	+10
	3.3nm,0.7s						
VIVF	**Saint-Julien-l**	**153.62**	**355**	ePKP1	PKPdf	01 04 04.4	+10
	3.3nm,0.7s						

IDC 29 00:58:06.4±38.0,**30.40S**×**176.59W,mb3.8**/3,**mb1 4.0**/3, **mb1mx3.8**/11,**Error ellipse: s-maj=709.0km s-min=183.4km az=98.0,Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**35.66**	**257**	P	P	01 05 06.2	-2.0
	1.1nm,0.5s,baz=94,slow=12,SNR=4.2						
ASAR	**Alice Springs**	**44.32**	**266**	P	P	01 06 18.1	-1.9
	0.3nm,0.5s,baz=108,slow=7.5,SNR=6.9						
WRA	**Warramunga Arr**	**45.31**	**271**	P	P	01 06 26.4	-1.6
	1.1nm,0.5s,baz=111,slow=8.0,SNR=10						

MEX 29 01:23:27.5±0.9,**16.79N**×**95.13W,h70**^{km}±125^{km},**MD3.7, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**1.38**	**223**	i P	P	01 23 49.4	-2.0
HUIG				i S	S	01 24 07.4	-1.8
OXX	**Oaxaca**	**1.56**	**281**	i P	P	01 23 55.0	+1.2
OXX				i S	S	01 24 16.0	+2.8
VHO	**Vista Hermosa**	**1.56**	**281**	i P	P	01 23 51.1	-2.8
VHO				i S	S	01 24 11.2	-2.2

JMA 29 01:50:01.3±0.2,**43.91N**×**147.93E,M3.8,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**1.68**	**252**	P	Pn	01 50 32.2	+0.1
NEM2				eS	Sb	01 50 54.5	+0.1
JRA	**Rausu**	**2.03**	**272**	P	Pn	01 50 37.2	+0.1
JRA				eS	Sn	01 51 03.9	+0.4
JAK	**Akkeshi**	**2.53**	**250**	P	Pn	01 50 44.7	+0.5
JAK				eS	Sn	01 51 16.4	+0.2
JAR	**Ashorobuto**	**3.08**	**260**	P	Pn	01 50 53.1	+0.9
JAR				eS	Sn	01 51 30.9	+0.6
JOB	**Onbets**	**3.15**	**253**	P	Pn	01 50 54.0	+0.9
JCH	**Churui**	**3.58**	**250**	P	Pn	01 50 59.4	+0.2
JCH				eS	Sn	01 51 42.0	-0.8
JNBK	**Urakawa-nobuka**	**4.13**	**249**	P	Pn	01 51 08.1	+1.1

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*MOS **29** 02:00:54.4±1.1,58.79S×25.78W,h33^{km},mb5.0/13,Error ellipse: s-maj=62.9km s-min=14.1km az=106.6*

*NEIC **29** 02:00:58.3±1.3,58.72S×25.46W,h51^{km}±11^{km},mb4.9/18, MS5.0/84,Error ellipse: s-maj=10.4km s-min=6.8km az=224.0*

*HRVD **29** 02:00:58.3±0.1,59.05S×25.18W,h41^{km},MW5.5/72, Centroid moment Tensor Solution. LP body waves: s72,c146;Mantle waves: s71,c137; Half duration: 1^{s}4 Moment tensor: Scale 10^{17}Nm; M$_{rr}$1.82±.04; M$_{\theta\theta}$0.28±.03; M$_{\phi\phi}$-2.11±.03; M$_{r\theta}$-0.45±.04; M$_{\theta\phi}$0.15±.02; M$_{\phi r}$0.61±.03; Best double couple: M$_{0}$2.12×10^{17} NP1:ϕ_s190°,δ38°,λ111°. NP2:ϕ_s344°,δ55°,λ74°. Principal axes: T 2.02, Plg74°, Azm209°; N .2, Plg13°, Azm353°; P -2.22, Plg9°, Azm85°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*SYO **29** 02:00:58.0,58.67S×25.36W,h47^{km},MB5.0,MS5.0*

*BJI **29** 02:00:59.9,58.70S×25.50W,h50^{km},mB5.1,Ms5.1, Msz5.0*

*IDC **29** 02:01:00.1±2.1,58.91S×26.01W,h69^{km}±17^{km},mb4.5/14, mb1 4.5/15,mb1mx4.5/17,MS4.8/14,Ms1 4.8/14, ms1mx4.8/15,Error ellipse: s-maj=18.4km s-min=13.6km az=47.0*

ISC 29 02:00:55.7±2.4,**58.72S**±0.05×**25.5W**±0.1,**h41**^{km}±22^{km}, **h42**^{km}±2.8^{km}**:pP-P,n269,**σ**1**^{s}**19**/77,**mb4.9**/27,**MS5.0**/103, **6C-7D,South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**13.98**	**156**	e	**P**	**02 04 17.5**	**+4.7**
VNA1	**Neumayer--Stat**	**13.98**	**156**	e	**P**	**02 04 19.2**	**+6.4**
VNA1	**Neumayer--Stat**	**13.98**	**156**	e	**P**	**02 04 22.4**	**+10**
VNA1	**Neumayer--Stat**	**13.98**	**156**	e	**P**	**02 04 25.2**	**+12**
VNA1	**Neumayer--Stat**	**13.98**	**156**	e	**P**	**02 04 30.6**	**+18**
VNA1	**Neumayer--Stat**	**13.98**	**156**	⇑iPn	**P**	**02 04 13.8**	**+1.0**
VNA1				e		02 04 17.5	
VNA1				e		02 04 19.2	
VNA1				e		02 04 22.4	
VNA1				e		02 04 25.2	
VNA1				e		02 04 30.6	
VNA1				e		02 06 48.3	
VNA3	**Neumayer Olymp**	**14.17**	**159**	e	**P**	**02 04 19.3**	**+4.1**
VNA3	**Neumayer Olymp**	**14.17**	**159**	e	**P**	**02 04 21.3**	**+6.1**
VNA3	**Neumayer Olymp**	**14.17**	**159**	e	**P**	**02 04 26.3**	**+11**
VNA3	**Neumayer Olymp**	**14.17**	**159**	e	**P**	**02 04 29.0**	**+14**
VNA3	**Neumayer Olymp**	**14.17**	**159**	e	**P**	**02 04 34.6**	**+19**
VNA3	**Neumayer Olymp**	**14.17**	**159**	⇓iPn	**P**	**02 04 15.8**	**+0.6**
VNA3				e		02 04 19.3	
VNA3				e		02 04 21.3	
VNA3				e		02 04 26.3	
VNA3				e		02 04 29.0	
VNA3				e		02 04 34.6	
VNA3				e		02 06 49.8	
VNA2	**Neumayer--Watz**	**14.38**	**156**	e	**P**	**02 04 22.4**	**+4.4**
VNA2	**Neumayer--Watz**	**14.38**	**156**	e	**P**	**02 04 24.3**	**+6.3**
VNA2	**Neumayer--Watz**	**14.38**	**156**	e	**P**	**02 04 29.3**	**+11**
VNA2	**Neumayer--Watz**	**14.38**	**156**	e	**P**	**02 04 32.2**	**+14**
VNA2	**Neumayer--Watz**	**14.38**	**156**	e	**P**	**02 04 37.4**	**+19**
VNA2	**Neumayer--Watz**	**14.38**	**156**	⇑iPn	**P**	**02 04 18.7**	**+0.7**
VNA2				e		02 04 22.4	
VNA2				e		02 04 24.3	
VNA2				e		02 04 29.3	
VNA2				e		02 04 32.2	
VNA2				e		02 04 37.4	
VNA2				e		02 06 53.1	
SNAA	**Sanae**	**15.94**	**154**	e	**P**	**02 04 41.6**	**+3.5**
SNAA	**Sanae**	**15.94**	**154**	e	**P**	**02 04 43.7**	**+5.6**
SNAA	**Sanae**	**15.94**	**154**	e	**P**	**02 04 49.0**	**+11**
SNAA	**Sanae**	**15.94**	**154**	e	**P**	**02 04 51.6**	**+13**
SNAA	**Sanae**	**15.94**	**154**	e	**P**	**02 04 56.5**	**+18**
SNAA	**Sanae**	**15.94**	**154**	P	**P**	**02 04 37.9**	**-0.2**
	3.9nm,0.3s,baz=323,slow=13,SNR=223						
SNAA				S	**S**	**02 07 19.9**	**-13**
	0.6nm,0.3s,baz=351,slow=20,SNR=5.1						
SNAA				LR	LR	02 09 32.7	
	comp=Z,2µm,20.6s,baz=319,slow=32						
SNAA	**Sanae**	**15.94**	**154**	⇑iPn	**P**	**02 04 38.2**	**+0.1**
SNAA				e		02 04 41.6	
SNAA				e		02 04 43.7	
SNAA				e		02 04 49.0	
SNAA				e		02 04 51.6	
SNAA				e		02 04 56.5	
SNAA				e		02 07 21.5	
PMSA	**Palmer Station**	**18.97**	**235**	eP	**P**	**02 05 15.6**	**-0.2**
	32nm,0.8s						
MAIT	**Maitri**	**19.53**	**143**	eP	**P**	**02 05 21.4**	**-0.6**
NVL	**N’lazarevskaya**	**19.56**	**143**	⇑eP	**P**	**02 05 21.0**	**-1.3**
NVL				eS	**S**	**02 08 57.0**	**+1.6**
NVL				pmax	pmax		
	comp=Z,2µm,7.6s						
EFI	**East Falkland**	**19.71**	**277**	eP	**P**	**02 05 24.4**	**+0.3**
	comp=Z,37nm,0.6s						
USHA	**Ushuaia**	**23.53**	**261**	P	**P**	**02 06 01.5**	**-0.8**
	comp=Z,45nm,0.8s,mb5.0,baz=100,slow=8.7,SNR=22						
USHA				LR	LR	02 13 15.1	
	comp=Z,5µm,19.6s,MS5.0,baz=64,slow=32						
SYO	**Syowa Base**	**28.97**	**138**	⇑P	**P**	**02 06 51.5**	**-1.4**
SYO	**Syowa Base**	**28.97**	**138**	⇓pP	pP	02 07 01.1	-2.9
SYO	**Syowa Base**	**28.97**	**138**	⇓sP	sP	02 07 07.0	-2.2
SYO	**Syowa Base**	**28.97**	**138**	⇓PcP	PcP	02 09 59.8	-1.3
TRQA	**Tornquist**	**31.25**	**295**	eP	**P**	**02 07 13.8**	**+0.4**
	comp=Z,16nm,0.8s,mb4.9						
QSPA	**South Pole Qui**	**31.53**	**180**	eP	**P**	**02 07 15.5**	**0.0**
	comp=Z,22nm,0.7s,mb5.1						
QSPA				LR	LR		
	comp=Z,2µm,21.5s,MS4.7						
MAW	**Mawson**	**37.48**	**141**	eP	**P**	**02 08 05.6**	**-0.9**
	comp=Z,22nm,0.7s,mb5.1						
MAW	**Mawson**	**37.48**	**141**	P	**P**	**02 08 05.9**	**-0.7**
	comp=Z,7.1nm,0.6s,mb4.7,baz=228,slow=8.3,SNR=24						
MAW				LR	LR	02 21 30.6	
	comp=Z,2µm,19.9s,MS5.0,baz=246,slow=33						
CAM4	**Nova Friburgo**	**38.33**	**334**	eP	**P**	**02 08 16.4**	**+2.3**
CAM4				i	pP	02 08 26.9	+1.4
CAM4				i	pP	02 08 29.2	+3.7
CAM4				i		02 08 33.8	
CAM4				i		02 08 40.6	
FCH	**Farellones**	**39.05**	**291**	⇑iP	**P**	**02 08 21.4**	**+1.5**
CPUP	**Villa Florida**	**39.26**	**312**	P	**P**	**02 08 20.0**	**-1.8**
	comp=Z,2.6nm,0.5s,mb4.2,baz=160,slow=7.4,SNR=14						
CPUP				LR	LR	02 22 41.8	
	comp=Z,634nm,20.2s,MS4.4,baz=180,slow=33						
SUR	**Sutherland**	**40.58**	**70**	P	**P**	**02 08 35.8**	**+3.1**
	comp=Z,6.5nm,0.7s,mb4.4,baz=159,slow=4.0,SNR=4.3						
SUR	**Sutherland**	**40.58**	**70**	eP	**P**	**02 08 31.6**	**-1.1**
	comp=Z,25nm,0.9s,mb4.8						
SBA	**Scott Base**	**43.48**	**184**	eP	**P**	**02 08 57.5**	**+1.7**
	comp=Z,76nm,1.2s,mb5.3						
BAO	**Brasilia Array**	**46.13**	**329**	eP	**P**	**02 09 18.5**	**+0.7**
BDFB	**Brasilia**	**46.13**	**329**	P	**P**	**02 09 17.7**	**0.0**
	comp=Z,7.8nm,0.4s,mb5.0,baz=168,slow=6.2,SNR=13						
BDFB				LR	LR	02 25 50.2	
	comp=Z,881nm,21.9s,MS4.7,baz=163,slow=32						
MIR	**Mirnyy**	**47.00**	**151**	⇓eP	**P**	**02 09 24.5**	**+0.6**
MIR				pmax	pmax		
	comp=Z,90nm,2.0s,mb5.3						
LVC	**Limon Verde**	**47.43**	**300**	eP	**P**	**02 09 28.5**	**+0.6**
	comp=Z,9.9nm,0.7s,mb4.8						
LVC				LR	LR		

	comp=Z,974nm,20.0s,MS4.8						
TSUM	**Tsumeb**	**50.28**	**57**	*e*P	P	02 09 50.7	+0.7
	comp=Z,24nm,0.7s,mb5.3						
CASY	**Casey**	**51.09**	**159**	*e*P	P	02 09 54.9	-0.6
LPAZ	**La Paz**	**52.66**	**305**	P	P	02 10 07.7	-0.2
	comp=Z,3.7nm,0.6s,mb4.5,baz=179,slow=7.3,SNR=15						
LPAZ	**La Paz**	**52.66**	**305**	P	P	02 10 07.7	-0.2
LPAZ				pmax	pmax		
	comp=Z,4.0nm,0.6s						
RCBR	**Riachuelo**	**53.37**	**347**	*e*P	P	02 10 11.7	-1.5
RCBR				LR	LR		
	comp=Z,785nm,21.0s,MS4.7						
ARE	**Arequipa**	**53.97**	**301**	*e*P	P	02 10 18.0	+0.4
SAML	**Samuel**	**57.32**	**314**	*e*P	P	02 10 38.9	-3.0
	comp=Z,7.0nm,0.8s,mb4.7						
SAML				LR	LR		
	comp=Z,592nm,22.0s,MS4.7						
LSZ	**Lusaka**	**58.57**	**66**	*e*P	P	02 10 50.0	-0.5
	comp=Z,25nm,0.9s,mb5.2						
LSZ				LR	LR		
	comp=Z,2µm,20.0s,MS5.3						
NNA	**Nana**	**60.32**	**298**	PFAKE		02 11 10.0	+7.4
NNA				LR	LR		
	comp=Z,283nm,22.0s,MS4.4						
LIC	**Lamto**	**66.79**	**22**	*e*P	P	02 11 45.1	+0.1
	comp=Z,332nm,1.4s						
KIC	**Kosan Boka**	**66.98**	**23**	*e*P	P	02 11 46.3	+0.1
	comp=Z,484nm,1.3s						
TIC	**Toumodi**	**67.20**	**22**	*e*P	P	02 11 47.7	+0.1
	comp=Z,502nm,1.2s						
DBIC	**Dimbokro**	**67.26**	**22**	P	P	02 11 48.1	+0.1
	comp=Z,19nm,0.9s,mb5.1,baz=170,slow=7.0,SNR=28						
DBIC				LR	LR	02 35 11.8	
	comp=Z,337nm,21.3s,MS4.5,baz=150,slow=30						
OTAV	**Otavalo**	**71.88**	**303**	*e*P	P	02 12 18.9	+2.6
	comp=Z,3.7nm,0.8s,mb4.4						
OTAV				LR	LR		
	comp=Z,546nm,21.0s,MS4.8						
MBAR	**Mbarara**	**72.62**	**61**	*e*P	P	02 12 19.9	-0.8
	comp=Z,72nm,1.7s,mb5.3						
MBAR				LR	LR		
	comp=Z,213nm,19.0s,MS4.4						
ROSC	**El Rosal**	**74.29**	**309**	P	P	02 12 30.7	+0.3
	comp=Z,3.2nm,0.5s,mb4.5,baz=168,slow=22,SNR=2.5						
ROSC				LR	LR	02 45 47.3	
	comp=Z,940nm,21.8s,MS5.0,baz=215,slow=36						
KMBO	**Kilima Mbogo**	**75.20**	**67**	P	P	02 12 38.8	+3.2
	comp=Z,5.6nm,1.2s,mb4.4,baz=196,slow=3.0,SNR=7.5						
KMBO				LR	LR	02 42 54.6	
	comp=Z,1µm,18.8s,MS5.3,baz=13,slow=33						
KMBO	**Kilima Mbogo**	**75.20**	**67**	*e*P	P	02 12 39.8	+4.1
	comp=Z,16nm,1.4s,mb4.8						
KMBO				LR	LR		
	comp=Z,1µm,19.0s,MS5.3						
PAYG	**Puerto Ayora**	**76.56**	**292**	PFAKE		02 12 50.0	+6.6
PAYG				LR	LR		
	comp=Z,1µm,21.0s,MS5.1						
RPZ	**Rata Peaks**	**77.01**	**192**	P	P	02 12 43.8	-1.5
	comp=Z,8.6nm,0.8s,mb4.7,baz=152,slow=21,SNR=3.2						
URZ	**Urewera**	**81.56**	**198**	P	P	02 13 07.9	-2.1
	comp=Z,15nm,0.9s,mb4.9,baz=216,slow=4.5,SNR=3.4						
HUMP	**Col San Antoni**	**83.44**	**322**	*e*P	P	02 13 17.5	-2.5
NWAO	**Narrogin (SRO)**	**83.56**	**149**	LR	LR	02 46 56.8	
	comp=Z,516nm,20.5s,MS4.9,baz=184,slow=33						
NWAO	**Narrogin (SRO)**	**83.56**	**149**	PFAKE		02 13 30.0	+10
NWAO				LR	LR		
	comp=Z,536nm,20.0s,MS4.9						
JTS	**JuntasAbangare**	**83.70**	**302**	PFAKE		02 13 30.0	+8.6
JTS				LR	LR		
	comp=Z,61nm,20.0s,MS4.0						
TOO	**Toolangi**	**83.78**	**173**	*e*P	P	02 13 23.4	+2.1
	comp=Z,9.5nm,0.8s,mb5.0						
MUN	**Mundaring**	**84.18**	**148**	*e*P	P	02 13 23.3	-0.1
	comp=Z,10nm,1.2s,mb4.8						
MUN				*i*	pP	02 13 36.0	+0.1
ADE	**Adelaide**	**85.74**	**167**	P	P	02 13 32.2	+1.1
TBI	**Tubuai**	**86.08**	**230**	*e*S	S	02 24 09.9	+7.2
TBI				*e*L		02 36 57.9	
TBI				*e*R		02 41 00.4	
	comp=Z,1µm,23.0s,baz=157						
FORT	**Forrest**	**88.16**	**157**	*e*P	P	02 13 42.9	0.0
	comp=Z,52nm,0.7s,mb5.9						
FORT				*i*	pP	02 13 56.9	+1.4
STKA	**Stephens Creek**	**89.11**	**169**	*e*P	P	02 13 47.5	0.0
	comp=Z,6.8nm,1.5s,mb4.8						
STKA				*e*	pP	02 13 58.8	-1.2
STKA	**Stephens Creek**	**89.11**	**169**	P	P	02 13 47.7	+0.3
	comp=Z,3.9nm,0.5s,mb5.0,baz=147,slow=5.2,SNR=14						
STKA				LR	LR	02 51 57.8	
	comp=Z,1µm,19.2s,MS5.3,baz=192,slow=34						
PPT	**Papeete**	**91.31**	**232**	*e*S	S	02 24 58.8	+7.7
PPT				*e*L		02 39 08.8	
PPT				*e*R		02 43 19.7	
	comp=Z,893nm,22.5s,baz=159						
TEIG	**Tepich**	**93.95**	**303**	PFAKE		02 14 20.0	+10
TEIG				LR	LR		
	comp=Z,1.0nm,22.0s						
COCO	**West Island**	**95.40**	**124**	PFAKE		02 14 30.0	+13
COCO				LR	LR		
	comp=Z,260nm,19.0s,MS4.7						
MBWA	**Marble Bar**	**95.40**	**148**	PFAKE		02 14 30.0	+13
MBWA				LR	LR		
	comp=Z,691nm,19.0s,MS5.2						
ASPA	**Alice Springs**	**96.17**	**161**	*e*P	P	02 14 19.3	-0.8
ASAR	**Alice Springs**	**96.17**	**161**	P	P	02 14 19.6	-0.5
	comp=Z,3.3nm,0.7s,mb4.9,baz=183,slow=4.1,SNR=47						
ASAR				PKKPbc		02 31 05.7	
	comp=Z,0.8nm,0.4s,baz=22,slow=2.2,SNR=17						
ASAR				LR	LR	02 56 22.6	
	comp=Z,620nm,18.5s,MS5.1,baz=193,slow=35						
BBSR	**BB Station**	**96.44**	**327**	PFAKE		02 14 30.0	+8.9
BBSR				LR	LR		
	comp=Z,432nm,21.0s,MS4.9						
DWPF	**Disney**	**98.13**	**312**	PFAKE		02 14 40.0	+11
DWPF				LR	LR		
	comp=Z,579nm,20.0s,MS5.1						
ESDC	**Sonseca Array**	**99.66**	**17**	LR	LR	02 53 55.6	
	comp=Z,216nm,21.7s,MS4.6,baz=175,slow=32						
FITZ	**Fitzroy Crossi**	**99.86**	**152**	LR	LR	02 58 52.3	
	comp=Z,227nm,18.1s,MS4.7,baz=254,slow=35						
WRA	**Warramunga Arr**	**99.89**	**161**	P	P	02 14 36.3	-0.8
	comp=Z,0.9nm,0.8s,mb4.2,baz=193,slow=4.2,SNR=7.8						
WRA				PKKPbc		02 30 56.8	
	comp=Z,0.6nm,0.4s,baz=358,slow=2.8,SNR=18						
WRA				LR	LR	02 58 10.2	
	comp=Z,903nm,19.1s,MS5.3,baz=185,slow=34						
WRA	**Warramunga Arr**	**99.89**	**161**	P	P	02 14 36.3	-0.7
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
WRA				MLR	MLR		
	comp=Z,903nm,19.2s						
CTAO	**Charters Tower**	**101.20**	**172**	PFAKE		02 14 50.0	+7.0
CTAO				LR	LR		
	comp=Z,1µm,20.0s,MS5.4						
NHSC	**New Hope**	**102.14**	**316**	PFAKE		02 15 00.0	+13
NHSC				LR	LR		
	comp=Z,556nm,20.0s,MS5.1						
PALK	**Pallekele**	**104.59**	**100**	PFAKE		02 15 10.0	+12
PALK				LR	LR		
	comp=Z,160nm,21.0s,MS4.5						
LRAL	**Lakeview Retre**	**104.69**	**310**	PFAKE		02 15 10.0	+12
LRAL				LR	LR		
	comp=Z,554nm,20.0s,MS5.1						
MYNC	**Murphy**	**105.37**	**313**	PFAKE		02 19 30.0	
MYNC				LR	LR		
	comp=Z,280nm,19.0s,MS4.8						
CBN	**Corbin**	**105.75**	**320**	PFAKE		02 19 30.0	
CBN				LR	LR		
	comp=Z,646nm,21.0s,MS5.2						
BLA	**Blacksburg**	**105.91**	**317**	PFAKE		02 19 30.0	
BLA				LR	LR		
	comp=Z,427nm,20.0s,MS5.0						
OXF	**Oxford**	**106.94**	**309**	PFAKE		02 19 30.0	
OXF				LR	LR		
	comp=Z,422nm,22.0s,MS5.0						
HRV	**Harvard--Oak R**	**107.84**	**326**	PFAKE		02 19 30.0	
HRV				LR	LR		
	comp=Z,539nm,19.0s,MS5.1						
MCWV	**Mont Chateau**	**107.90**	**319**	PFAKE		02 19 30.0	
MCWV				LR	LR		
	comp=Z,324nm,20.0s,MS4.9						
JCT	**Junction City**	**107.97**	**299**	PFAKE		02 19 30.0	
JCT				LR	LR		
	comp=Z,239nm,22.0s,MS4.7						
MIAR	**Mount Ida**	**108.69**	**306**	PFAKE		02 19 30.0	
MIAR				LR	LR		
	comp=Z,285nm,20.0s,MS4.8						
EMMW	**East Machias**	**108.74**	**330**	PFAKE		02 19 30.0	
EMMW				LR	LR		
	comp=Z,2µm,21.0s,MS5.7						
LTX	**Lajitas**	**108.80**	**295**	PFAKE		02 19 30.0	
LTX				LR	LR		
	comp=Z,374nm,19.0s,MS5.0						
TXAR	**Lajitas Array**	**108.80**	**295**	PKKPbc		02 30 46.0	
	comp=Z,0.5nm,0.8s,baz=297,slow=2.8,SNR=4.5						
ACSO	**Alum Creek Sta**	**109.51**	**317**	PFAKE		02 19 30.0	
ACSO				LR	LR		
	comp=Z,456nm,19.0s,MS5.1						
NCB	**Newcomb**	**109.97**	**325**	PFAKE		02 19 30.0	
NCB				LR	LR		
	comp=Z,298nm,20.0s,MS4.9						
PQI	**Presque Isle**	**110.71**	**330**	PFAKE		02 19 40.0	+17
PQI				LR	LR		
	comp=Z,3µm,22.0s,MS5.8						
CCM	**Cathedral Cave**	**110.75**	**310**	PFAKE		02 19 40.0	+17
CCM				LR	LR		
	comp=Z,539nm,21.0s,MS5.1						
PMG	**Port Moresby**	**111.85**	**172**	PFAKE		02 19 40.0	+14
PMG				LR	LR		
	comp=Z,646nm,20.0s,MS5.2						
KHC	**Kasperske Hory**	**112.16**	**27**	*e*PKP	PKPdf	02 19 24.0	-1.8
KHC				*e*PP	PP	02 20 10.5	-4.7
GNI	**Garni**	**114.38**	**52**	PFAKE		02 19 40.0	+10
GNI				LR	LR		
	comp=Z,485nm,21.0s,MS5.1						
JFWS	**Jewell Farm**	**114.52**	**313**	PFAKE		02 19 40.0	+9.3
JFWS				LR	LR		
	comp=Z,243nm,19.0s,MS4.8						
TUC	**Tucson**	**114.66**	**292**	*e*PKiKP		02 19 31.0	
ANMO	**Albuquerque**	**114.77**	**297**	PFAKE		02 19 40.0	+8.6
ANMO				LR	LR		
	comp=Z,236nm,20.0s,MS4.8						
ESK	**Eskdalemuir**	**115.08**	**14**	PFAKE		02 19 40.0	+8.6
ESK				LR	LR		
	comp=Z,55nm,19.0s,MS4.2						
SDCO	**Great Sand Dun**	**116.62**	**299**	*e*PKPdf	PKPdf	02 19 35.2	+0.4
SDCO				LR	LR		
	comp=Z,354nm,21.0s,MS5.0						
KIV	**Kislovodsk**	**116.75**	**49**	PFAKE		02 19 50.0	+15
KIV				LR	LR		
	comp=Z,68nm,20.0s,MS4.3						
AKASG	**Malin Array Be**	**117.83**	**36**	PKP	PKPdf	02 19 36.7	-0.1
	comp=Z,0.9nm,0.5s,baz=244,slow=2.3,SNR=5.8						
AKASG	**Malin Array Be**	**117.83**	**36**	PKIKP	PKPdf	02 19 36.7	-0.1
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
SCHQ	**Schefferville**	**117.97**	**334**	PKP	PKPdf	02 19 36.4	-0.6
	comp=Z,2.5nm,0.5s,baz=231,slow=12,SNR=10						
SCHQ	**Schefferville**	**117.97**	**334**	PKP	PKPdf	02 19 36.4	-0.6
SCHQ				LR	LR		
	comp=Z,585nm,20.0s,MS5.2						
ISCO	**Idaho Springs**	**118.34**	**300**	PFAKE		02 19 50.0	+12
ISCO				LR	LR		
	comp=Z,285nm,19.0s,MS4.9						
PV01	**Paradox Valley**	**118.34**	**297**	PKPdf	PKPdf	02 19 41.0	+2.8
PFO	**Pinyon Flat Ob**	**118.50**	**288**	PFAKE		02 19 50.0	+11
PFO				LR	LR		
	comp=Z,89nm,21.0s,MS4.4						
PV10	**Paradox Valley**	**118.76**	**297**	*e*PKPdf	PKPdf	02 19 38.9	0.0
NEN	**Nelson**	**119.34**	**291**	*e*PKPdf	PKPdf	02 19 39.2	-1.0
SRU	**San Rafael**	**120.04**	**296**	PKPdf	PKPdf	02 19 43.7	+2.2
MSU	**Marysvale**	**120.34**	**295**	*e*PKPdf	PKPdf	02 19 43.8	+1.8
MVU	**Marysvale**	**120.35**	**295**	*e*PKPdf	PKPdf	02 19 43.9	+1.9
MVU				LR	LR		
	comp=Z,323nm,22.0s,MS4.9						
TPNV	**Topopah Spring**	**121.06**	**291**	*e*PKPdf	PKPdf	02 19 44.8	+1.4
RSSD	**Black Hills**	**121.13**	**304**	*e*PKPdf	PKPdf	02 19 43.8	+0.4
DAC	**Darwin (Calif)**	**121.19**	**289**	PFAKE		02 20 00.0	+16
DAC				LR	LR		
	comp=Z,276nm,21.0s,MS4.9						
MPU	**Maple Canyon**	**121.28**	**296**	*e*PKPdf	PKPdf	02 19 46.2	+2.4
DAU	**Daniels Canyon**	**121.42**	**297**	*e*PKPdf	PKPdf	02 19 45.5	+1.4
NLU	**North Lily Min**	**121.44**	**296**	*e*PKPdf	PKPdf	02 19 45.1	+1.0
JLU	**Jordanelle**	**121.66**	**297**	*e*PKPdf	PKPdf	02 19 46.0	+1.6
DUG	**Dugway**	**121.97**	**296**	*e*PKPdf	PKPdf	02 19 46.3	+1.2
DUG				LR	LR		
	comp=Z,154nm,19.0s,MS4.7						
TCUT	**Toone Canyon**	**122.04**	**297**	*e*PKPdf	PKPdf	02 19 45.6	+0.4
TPH	**Tonopah**	**122.42**	**291**	*e*PKPdf	PKPdf	02 19 47.3	+1.2
TPH				LR	LR		
	comp=Z,255nm,22.0s,MS4.8						
PDAR	**Pinedale Array**	**122.49**	**300**	PKP	PKPdf	02 19 46.5	+0.4
	comp=Z,0.9nm,0.4s,baz=135,slow=4.7,SNR=12						
BW06	**Boulder Array**	**122.50**	**300**	PFAKE		02 20 00.0	+14
BW06				LR	LR		
	comp=Z,313nm,19.0s,MS5.0						
HWUT	**Hardware Ranch**	**122.50**	**297**	*e*PKPdf	PKPdf	02 19 46.9	+0.8
HWUT				LR	LR		
	comp=Z,333nm,20.0s,MS5.0						
BGU	**Big Grassy Mou**	**122.65**	**296**	*e*PKPdf	PKPdf	02 19 48.3	+1.9
ULM	**Lac du Bonnet**	**122.78**	**314**	PKP	PKPdf	02 19 46.0	-0.5
	comp=Z,4.7nm,0.5s,baz=138,slow=0.8,SNR=4.4						
ULM	**Lac du Bonnet**	**122.78**	**314**	*e*PKPdf	PKPdf	02 19 45.7	-0.8
NB2	**NORSAR Subarra**	**122.80**	**20**	PKPdf	PKPdf	02 19 46.8	+0.6
	comp=Z,1.0nm,0.6s,baz=201,slow=1.9						
NOA	**NORSAR Array B**	**122.80**	**20**	PKP	PKPdf	02 19 46.8	+0.6
	comp=Z,2.2nm,0.7s,baz=198,slow=1.8,SNR=8.2						
NOA	**NORSAR Array B**	**122.80**	**20**	PKIKP	PKPdf	02 19 46.8	+0.6
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
OMM	**Old Mammoth Mi**	**122.93**	**289**	*e*PKPdf	PKPdf	02 19 49.2	+2.2
KOLN	**Koldanda**	**123.15**	**90**	*e*P	PKPdf	02 19 48.1	+0.4
	comp=Z,20nm,0.7s						
MNV	**Mina**	**123.15**	**290**	*e*PKPdf	PKPdf	02 19 49.6	+2.1
MNV				LR	LR		
	comp=Z,346nm,21.0s,MS5.0						
AHID	**Auburn Hatcher**	**123.20**	**299**	PFAKE		02 20 00.0	+13
AHID				LR	LR		
	comp=Z,246nm,20.0s,MS4.9						
CMAR	**Chiang Mai Arr**	**123.28**	**111**	PKP	PKPdf	02 19 49.0	+0.9
	comp=Z,2.9nm,0.7s,baz=233,slow=3.2,SNR=10.0						
CMAR	**Chiang Mai Arr**	**123.28**	**111**	PKIKP	PKPdf	02 19 49.0	+0.8
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ELK	**Elko**	**123.55**	**294**	*e*PKPdf	PKPdf	02 19 50.0	+1.8
ELK				LR	LR		
	comp=Z,297nm,19.0s,MS5.0						
WUWY	**Wally Ulrich**	**123.64**	**299**	*e*PKPdf	PKPdf	02 19 48.8	+0.5
DMN	**Daman**	**123.80**	**92**	*e*P	PKPdf	02 19 48.5	-0.5
	comp=Z,25nm,0.9s						
GKN	**Gorkha**	**123.88**	**91**	*e*P	PKPdf	02 19 45.5	-3.6
	comp=Z,45nm,1.1s						
OBN	**Obninsk**	**123.91**	**38**	PFAKE		02 20 00.0	+11
OBN				LR	LR		
	comp=Z,90nm,22.0s,MS4.4						
PKI	**Pulchoki**	**123.93**	**92**	*e*P	PKPdf	02 19 48.9	-0.3
	comp=Z,39nm,1.1s						
CMB	**Columbia Colle**	**123.94**	**288**	*e*PKPdf	PKPdf	02 19 50.7	+1.7
CMB				LR	LR		
	comp=Z,386nm,21.0s,MS5.0						
IMW	**Indian Meadow**	**124.01**	**300**	*e*PKPdf	PKPdf	02 19 50.2	+1.3
KKN	**Kakani**	**124.04**	**92**	*e*P	PKPdf	02 19 47.1	-2.3
	comp=Z,18nm,0.7s						
LAO	**LASA Array**	**124.11**	**305**	PFAKE		02 20 00.0	+11
LAO				LR	LR		
	comp=Z,540nm,22.0s,MS5.2						
YFT	**Old Faithful**	**124.39**	**300**	*e*PKPdf	PKPdf	02 19 52.5	+2.8
DGMT	**Dagmar**	**124.65**	**308**	*e*PKPdf	PKPdf	02 19 51.2	+1.2
DGMT				LR	LR		
	comp=Z,541nm,22.0s,MS5.2						
GCMT	**Greycliff**	**124.91**	**302**	*e*PKPdf	PKPdf	02 19 52.0	+1.5
QLMT	**Earthquake Lak**	**124.95**	**300**	*e*PKPdf	PKPdf	02 19 53.4	+2.8
HLID	**Hailey**	**125.34**	**297**	PFAKE		02 20 00.0	+8.6
HLID				LR	LR		
	comp=Z,272nm,21.0s,MS4.9						
BEKR	**Beckwourth**	**125.35**	**290**	*e*PKPdf	PKPdf	02 19 53.5	+2.0
NSHM	**Saint Helena R**	**125.42**	**287**	*e*PKPdf	PKPdf	02 19 51.5	-0.2
OHCM	**Honcut**	**125.49**	**289**	*e*PKPdf	PKPdf	02 19 55.0	+3.1
MCMT	**McKenzie Canyo**	**125.59**	**299**	*e*PKPdf	PKPdf	02 19 54.3	+2.4
SHL	**Shillong**	**125.66**	**99**	*e*P	PKPdf	02 19 53.0	+0.5
BOZ	**Bozeman (W)**	**125.67**	**301**	*e*PKPdf	PKPdf	02 19 53.9	+1.9
BOZ				LR	LR		
	comp=Z,257nm,20.0s,MS4.9						
FINES	**FINESS Array B**	**126.32**	**28**	PKP	PKPdf	02 19 53.1	+0.3
	comp=Z,4.5nm,0.5s,baz=155,slow=1.9,SNR=44						
FINES	**FINESS Array B**	**126.32**	**28**	PKIKP	PKPdf	02 19 53.2	+0.4
FINES				pmax	pmax		
	comp=Z,5.0nm,0.5s						
HRY	**Holter Researc**	**126.58**	**301**	*e*PKPdf	PKPdf	02 19 55.5	+1.8
MOD	**Modoc**	**126.88**	**292**	*e*PKPdf	PKPdf	02 19 54.2	-0.2
MOD				LR	LR		
	comp=Z,305nm,21.0s,MS5.0						
KAF	**Kangasniemi**	**126.96**	**28**	*e*p	PKPdf	02 19 53.7	-0.3
	comp=Z,4.2nm,0.6s						
KAF	**Kangasniemi**	**126.96**	**28**	*e*PKIKP	PKPdf	02 19 53.7	-0.3
KAF				pmax	pmax		
	comp=Z,4.0nm,0.6s						
WDC	**Whiskeytown Da**	**126.97**	**289**	*e*PKPdf	PKPdf	02 19 57.5	+2.8
CHMT	**Chamberlain Mo**	**127.36**	**300**	*e*PKPdf	PKPdf	02 19 56.5	+1.3
MSO	**Missoula**	**127.61**	**300**	PFAKE		02 20 10.0	+14
MSO				LR	LR		
	comp=Z,289nm,20.0s,MS5.0						
LSA	**Lhasa**	**128.63**	**96**	PFAKE		02 20 10.0	+12
LSA				LR	LR		
	comp=Z,333nm,20.0s,MS5.0						
HUMO	**Hull Mountain**	**128.70**	**290**	*e*PKPdf	PKPdf	02 20 01.3	+3.3
HUMO				LR	LR		
	comp=Z,420nm,20.0s,MS5.1						
QIZ	**Qiongzhong**	**128.88**	**121**	PFAKE		02 20 10.0	+11
QIZ				LR	LR		
	comp=Z,465nm,21.0s,MS5.2						
FCC	**Fort Churchill**	**128.95**	**321**	*e*PKPdf	PKPdf	02 19 58.5	+0.5
WALA	**Waterton Lakes**	**129.26**	**302**	*e*PKPdf	PKPdf	02 19 59.5	+0.7
HAWA	**Hanford**	**129.87**	**296**	PFAKE		02 20 10.0	+10
HAWA				LR	LR		
	comp=Z,479nm,20.0s,MS5.2						
AAK	**Ala-Archa**	**129.99**	**72**	*e*PKPdf	PKPdf	02 20 00.8	+0.5
AAK				LR	LR		
	comp=Z,175nm,21.0s,MS4.7						
NEW	**Newport**	**130.12**	**299**	PFAKE		02 20 10.0	+10
NEW				LR	LR		
	comp=Z,497nm,22.0s,MS5.2						
DPW	**Davenport**	**130.33**	**298**	*e*PKPdf	PKPdf	02 20 01.7	+0.9
KMI	**Kunming**	**130.78**	**110**	*e*PKP	PKPdf	02 20 05.0	+2.7
KMI				PP	PP	02 22 24.8	+2.0
KMI				SKKS		02 29 11.5	
KMI				SS	SS	02 39 50.0	+4.1
KMI				PP	PP		
	comp=Z,89nm,8.9s						
KMI				LR	LR		
	comp=N,337nm,21.0s,MS5.1						
KMI				LR	LR		
	comp=E,245nm,21.8s,MS5.1						
KMI				LR	LR		
	comp=Z,390nm,21.8s,MS5.1						
KMI	**Kunming**	**130.78**	**110**	*e*PKP	PKPdf	02 20 05.0	+2.7
KMI				PP	PP	02 22 24.7	+1.9
KMI				SKKS		02 29 11.5	
SUMG	**Summit**	**131.31**	**355**	*e*PKPdf	PKPdf	02 20 04.5	+2.4
NLW	**Nelson Butte**	**131.47**	**297**	*e*PKPdf	PKPdf	02 20 03.9	+0.9
BMW	**Boistfort Moun**	**131.68**	**294**	*e*PKPdf	PKPdf	02 20 05.9	+2.5
EDM	**Edmonton**	**132.05**	**306**	*e*PKPdf	PKPdf	02 20 05.7	+1.7
ARU	**Arti**	**132.80**	**49**	*e*PKIKP	PKPdf	02 20 07.5	+2.2
ARU	**Arti**	**132.80**	**49**	*e*PKPdf	PKPdf	02 20 05.4	+0.1
ARU				LR	LR		
	comp=Z,114nm,21.0s,MS4.6						
ARCES	**ARCESS Array B**	**133.09**	**22**	PKhKP		02 19 57.9	
	comp=Z,1.0nm,0.6s,baz=225,slow=1.7,SNR=6.4						
ARCES				PKP	PKPdf	02 20 05.7	+0.1
	comp=Z,2.4nm,0.4s,baz=205,slow=1.6,SNR=18						
ARCES				SKP		02 23 34.4	
	comp=Z,1.8nm,0.6s,baz=225,slow=2.6,SNR=3.6						
ARCES	**ARCESS Array B**	**133.09**	**22**	PKIKP	PKPdf	02 19 57.9	-7.6
ARCES						02 20 05.7	
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ARCES	**ARCESS Array B**	**133.09**	**22**	PKP	PKPdf	02 20 05.7	+0.1
ARCES				SKP		02 23 34.4	
KEV	**Kevo**	**133.56**	**22**	*e*p	PKPdf	02 20 10.8	+4.4
GUMO	**Guam**	**134.38**	**167**	PFAKE		02 20 20.0	+11
GUMO				LR	LR		
	comp=Z,635nm,20.0s,MS5.3						
ZRNK	**Zerenda**	**134.75**	**58**	*e*PKPdf	PKPdf	02 20 11.2	+2.2
BRVK	**Borovoye**	**135.39**	**59**	*e*PKPdf	PKPdf	02 20 12.9	+2.7
BRVK				LR	LR		
	comp=Z,119nm,22.0s,MS4.6						
MKAR	**Makanchi Array**	**136.84**	**73**	PKhKP		02 20 04.6	
	comp=Z,0.8nm,0.7s,baz=225,slow=8.2,SNR=2.8						
MKAR				PKP	PKPdf	02 20 13.8	+0.7
	comp=Z,3.3nm,0.9s,baz=270,slow=1.2,SNR=5.4						
MKAR	**Makanchi Array**	**136.84**	**73**	PKHKP		02 20 04.6	
MKAR						02 20 13.8	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MKAR	**Makanchi Array**	**136.84**	**73**	PKP	PKPdf	02 20 13.8	+0.7
WMQ	**Urumqi**	**137.51**	**80**	*e*PKP	PKPdf	02 20 16.5	+2.1
WMQ				PP	PP	02 23 05.8	+1.4
WMQ				SKKS		02 29 52.3	
WMQ				PP	PP		
	comp=Z,32nm,10.0s						
WMQ				LR	LR		
	comp=N,301nm,26.0s,MS5.1						
WMQ				LR	LR		
	comp=E,352nm,22.4s,MS5.1						
WMQ				LR	LR		
	comp=Z,342nm,24.2s,MS5.0						
KURK	**Kurchatov**	**137.69**	**66**	*e*PKIKP	PKPdf	02 20 13.6	-0.9
KURK	**Kurchatov**	**137.69**	**66**	PFAKE		02 20 30.0	+16
KURK				LR	LR		
	comp=Z,76nm,19.0s,MS4.5						
ENH	**Enshi**	**138.34**	**113**	PFAKE		02 20 30.0	+14
ENH				LR	LR		
	comp=Z,583nm,21.0s,MS5.3						
YKA	**Yellowknife Ar**	**138.73**	**315**	PKP	PKPdf	02 20 16.6	+0.6
	comp=Z,9.1nm,0.5s,baz=138,slow=1.9,SNR=24						
YKA	**Yellowknife Ar**	**138.73**	**315**	PKIKP	PKPdf	02 20 16.6	+0.5
YKA				pmax	pmax		
	comp=Z,9.0nm,0.5s						
YKW3	**Yellowknife Ar**	**138.78**	**315**	*e*PKPdf	PKPdf	02 20 16.9	+0.7
LZH	**Lanzhou**	**140.20**	**102**	⇓PKP	PKPdf	02 20 22.5	+3.0
LZH				*e*PP	PP	02 23 24.8	+3.6
LZH				SS	SS	02 41 41.8	+3.9
LZH				PP	PP		
	comp=Z,115nm,7.8s						
LZH				LR	LR		
	comp=N,145nm,18.0s						
LZH				LR	LR		
	comp=Z,249nm,20.2s,MS5.0						
LZH	**Lanzhou**	**140.20**	**102**	⇓PKP	PKPdf	02 20 22.5	+3.0
LZH				pPKP		02 20 32.4	
LZH				sPKP		02 20 36.0	
LZH				*e*PP	PP	02 23 24.7	+3.5
LZH				SKKS		02 30 41.6	
LZH				SS	SS	02 41 41.7	+3.8
LZH				LR	LR		
	comp=Z,250nm,20.2s,MS5.0						
GTA	**Gaotai**	**140.64**	**95**	*e*PKP	PKPdf	02 20 23.3	+3.2
GTA				PP	PP	02 23 28.0	+4.3
GTA				SKS	SKS	02 27 26.0	+2.0
GTA				SKKS		02 30 11.8	
GTA				SS	SS	02 41 46.3	+3.3
GTA				PP	PP		
	comp=Z,72nm,10.7s						
GTA				LR	LR		
	comp=N,150nm,21.7s,MS4.9						
GTA				LR	LR		
	comp=E,158nm,19.8s,MS4.9						
GTA				LR	LR		
	comp=Z,195nm,19.8s,MS4.9						
RES	**Resolute Bay**	**140.67**	**337**	*e*PKPpre		02 20 14.8	
RES				PKPdf	PKPdf	02 20 21.8	+2.7
XAN	**Xi’an**	**141.14**	**109**	PKP	PKPdf	02 20 27.0	+5.9
NVS	**Novosibirsk**	**142.46**	**64**	*e*PKIKP	PKPdf	02 20 20.6	-2.1
NVS				pmax	pmax		
	comp=Z,71nm,2.3s						
NVS				pmax	pmax		
	comp=N,37nm,2.1s						
NVS				pmax	pmax		
	comp=E,17nm,1.7s						
DLBC	**Dease Lake**	**142.59**	**303**	PKP	PKPdf	02 20 24.8	+2.0
	comp=E,3.3nm,0.9s,baz=226,slow=13,SNR=4.0						
NJ2	**Nanjing**	**144.16**	**122**	*e*PKP	PKPdf	02 20 28.5	+2.2
NJ2				PP	PP	02 23 48.0	+3.0
NJ2				PKS	PKS	02 24 03.0	+2.0
NJ2				SKS	SKS	02 27 32.0	+2.3
NJ2				SKKS		02 30 32.0	
NJ2				LR	LR		

	comp=Z,870nm,27.3s,MS5.4						
SSE	**Sheshan**	**144.35**	**126**	PKP	PKPdf	02 20 27.8	+1.1
SSE				PP	PP	02 23 48.5	+2.3
SSE				LR	LR		
	comp=N,107nm,24.4s,MS4.7						
SSE				LR	LR		
	comp=E,126nm,24.0s,MS4.7						
SSE				LR	LR		
	comp=Z,138nm,24.4s,MS4.6						
TIA	**Tai'an**	**146.84**	**116**	*e*PKP	PKPdf	02 20 35.8	+5.0
HHC	**Hu-ho-hao-te**	**147.75**	**105**	*e*PKP	PKPdf	02 20 37.5	+5.4
HHC				XPKP		02 20 57.5	
HHC				PP	PP	02 24 13.0	+6.8
HHC				SKS	SKS	02 27 40.3	+5.8
HHC				PP	PP		
	comp=Z,84nm,11.9s						
HHC				LR	LR		
	comp=N,133nm,21.4s,MS4.8						
HHC				LR	LR		
	comp=E,128nm,21.4s,MS4.8						
HHC				LR	LR		
	comp=Z,131nm,25.0s,MS4.6						
INK	**Inuvik**	**148.41**	**318**	PKPbc	PKPdf	02 20 37.2	+4.8
	comp=Z,27nm,0.9s,baz=88,slow=2.4,SNR=29						
INK	**Inuvik**	**148.41**	**318**	PKP2	PKPab	02 20 37.2	-4.2
INK				pmax	pmax		
	comp=Z,27nm,0.9s						
INK	**Inuvik**	**148.41**	**318**	*e*PKPbc	PKPdf	02 20 36.7	+4.4
DAWY	**Dawson**	**149.21**	**308**	*e*PKPdf	PKPdf	02 20 35.4	+1.6
DAWY				*e*PKPbc	PKPdf	02 20 39.2	+5.4
MOY	**Mondy**	**149.40**	**80**	*e*PKP2	PKPab	02 20 42.2	-3.7
BJT	**Baijiatuau**	**149.41**	**111**	*e*PKPdf	PKPdf	02 20 36.7	+1.9
BJT				LR	LR		
	comp=Z,343nm,22.0s,MS5.1						
BJI	**Beijing**	**149.43**	**111**	PKP	PKPdf	02 20 37.5	+2.6
BJI				PP	PP	02 24 19.5	+4.2
BJI				SS	SS	02 43 23.0	0.0
BJI				PP	PP		
	comp=Z,180nm,5.2s						
BJI				LR	LR		
	comp=Z,215nm,26.2s,MS4.8						
ZAK	**Zakamensk**	**149.84**	**83**	*e*PKIKP	PKPdf	02 20 35.7	+0.5
ZAK				*e*		02 20 41.8	
SONM	**Songino Array**	**149.91**	**90**	PKPbc	PKPdf	02 20 40.9	+5.5
	comp=Z,11nm,0.8s,baz=207,slow=2.8,SNR=11						
EYAK	**Cordova Ski Ar**	**150.63**	**299**	*e*PKPdf	PKPdf	02 20 37.8	+1.8
DIV	**Divide**	**150.86**	**301**	*e*PKPbc	PKPdf	02 20 45.9	+10
DIV				LR	LR		
	comp=Z,920nm,19.0s,MS5.6						
INCN	**Inchon**	**152.12**	**127**	PFAKE		02 20 50.0	+11
INCN				LR	LR		
	comp=Z,509nm,20.0s,MS5.3						
SML	**Sawmill**	**152.25**	**301**	*e*PKPbc	PKPdf	02 20 46.6	+8.2
ILAR	**Eielson Array**	**152.52**	**308**	PKP	PKPdf	02 20 36.6	-2.1
	comp=Z,0.9nm,0.8s,baz=261,slow=0.9,SNR=7.6						
ILAR				PKPbc	PKPdf	02 20 47.0	+8.3
	comp=Z,20nm,1.0s,baz=156,slow=1.3,SNR=58						
ILAR	**Eielson Array**	**152.52**	**308**	PKIKP	PKPdf	02 20 36.6	-2.1
ILAR						02 20 47.0	
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ILAR				pmax	pmax		
	comp=Z,20nm,1.0s						
PMR	**Palmer**	**152.54**	**300**	*e*PKPbc	PKPdf	02 20 49.3	+10
PMR				LR	LR		
	comp=Z,249nm,20.0s,MS5.0						
SLKM	**Skilak Lake**	**152.66**	**298**	*e*PKPbc	PKPdf	02 20 49.5	+10
KDAK	**Kodiak Island**	**152.72**	**291**	*e*PKPbc	PKPdf	02 20 47.4	+8.2
KDAK				LR	LR		
	comp=Z,120nm,20.0s,MS4.7						
FIB	**Fire Island**	**152.87**	**299**	PFAKE		02 20 50.0	+11
FIB				LR	LR		
	comp=Z,2μm,19.0s,MS5.8						
COLA	**College**	**152.94**	**308**	PFAKE		02 20 50.0	+11
COLA				LR	LR		
	comp=Z,402nm,20.0s,MS5.2						
MCK	**McKinley**	**153.10**	**305**	*e*PKPbc	PKPdf	02 20 48.8	+9.2
MCK				LR	LR		
	comp=Z,200nm,21.0s,MS4.9						
RSO	**Redoubt South**	**153.82**	**297**	*e*PKPbc	PKPdf	02 20 53.1	+12
MAJO	**Matsushiro**	**155.38**	**147**	PFAKE		02 21 00.0	+17
MAJO				LR	LR		
	comp=Z,379nm,21.0s,MS5.2						
MAT	**Matsushiro**	**155.38**	**147**	PKP	PKPdf	02 20 42.0	-1.5
MAT	**Matsushiro**	**155.38**	**147**	*e*PKP	PKPdf	02 20 42.0	-1.5
IMA	**Indian Mountai**	**155.56**	**309**	*e*PKPbc	PKPdf	02 20 55.9	+13
CN2	**Changchun**	**156.74**	**117**	*e*PKP	PKPdf	02 20 47.5	+2.4
CN2				*e*PP	PP	02 24 58.5	+2.1
CN2				PP	PP		
	comp=Z,300nm,6.0s						
CN2				LR	LR		
	comp=Z,400nm,21.0s,MS5.2						
HIA	**Hailar**	**157.74**	**100**	PFAKE		02 21 00.0	+14
HIA				LR	LR		
	comp=Z,519nm,20.0s,MS5.4						
BOD	**Bodaibo**	**158.91**	**75**	*e*PKIKP	PKPdf	02 20 46.6	-0.8
BOD				*e*		02 21 24.7	
MDJ	**Mudanjiang**	**159.25**	**122**	PKP	PKPdf	02 20 50.5	+2.3
MDJ				SS	SS	02 45 14.8	+5.2
MDJ				LR	LR		
	comp=N,126nm,24.4s,MS4.9						
MDJ				LR	LR		
	comp=E,188nm,23.4s,MS4.9						
MDJ				LR	LR		
	comp=Z,224nm,22.4s,MS5.0						
MDJ	**Mudanjiang**	**159.25**	**122**	PFAKE		02 21 00.0	+12
MDJ				LR	LR		
	comp=Z,363nm,20.0s,MS5.2						
ERM	**Erimo**	**161.83**	**152**	PFAKE		02 21 00.0	+9.1
ERM				LR	LR		
	comp=Z,54nm,20.0s						
KLR	**Kul'dur**	**163.68**	**116**	*e*PKIKP	PKPdf	02 21 02.2	+10
YAK	**Yakutsk**	**167.32**	**64**	*e*PKP2	PKPab	02 21 59.4	-2.9
PET	**Petropavlovsk**	**173.83**	**204**	*i* PKIKP	PKPdf	02 20 58.1	-1.0
PET				pmax	pmax		
	comp=Z,192nm,20.8s						
PET	**Petropavlovsk**	**173.83**	**204**	PFAKE		02 21 10.0	+11
PET				LR	LR		
	comp=Z,436nm,20.0s						
MA2	**Magadan**	**177.90**	**64**	*e*PKIKP	PKPdf	02 21 07.7	+7.9
MA2				*e*		02 40 59.4	

*STR **29** 02:07:12.1±4.2, 45.40N×4.51E, h2^{km}±1^{km}, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **29** 02:07:14.5±0.1, 44.96N×3.90E, h17^{km}, Md2.4/2, Ml1.9/7, Error ellipse: s-maj=1.3km s-min=1.2km az=38.0*
ISC 29 02:07:15.7±0.5, **45.01N**±0.03×**3.96E**±0.04, **h17**^{km}, **n20**, σ**1^{s}63**/39, **France**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VIVF	**Saint-Julien-l**	**0.53**	**107**	*e*Pg	**Pb**	**02 07 25.9**	**-0.2**
VIVF				*e*Sg	**Sb**	**02 07 33.2**	**+0.1**
	9.2nm,0.2s						
COLF	**Collangettes**	**0.54**	**340**	Pg	**Pb**	**02 07 25.9**	**-0.4**
COLF				Sg	**Sb**	**02 07 33.5**	**-0.1**
LBL	**Lubilhac**	**0.55**	**294**	Pg	**Pb**	**02 07 25.4**	**-1.1**
LASF	**Ste Croix**	**0.94**	**185**	*e*Pg	**Pb**	**02 07 31.4**	**-1.7**
LASF				*e*Sg	**Sb**	**02 07 43.1**	**-1.9**
	5.3nm,0.2s						
PYM	**Petit Puy Mans**	**1.00**	**318**	Pg	**Pb**	**02 07 34.4**	**+0.2**
AGO	**Saint Agoulin**	**1.20**	**331**	Pg	**Pb**	**02 07 34.4**	**-3.1**
AGO				Sg	**Sb**	**02 07 47.6**	**-4.9**
CAF	**Calviac**	**1.35**	**267**	*e*Pn	**Pn**	**02 07 35.7**	**-4.3**
CAF				*e*Pg	**Pn**	**02 07 39.5**	**-0.5**
CAF				*e*Sg	**Sb**	**02 07 56.1**	**-0.9**
	3.2nm,0.2s						
ORIF	**Oris-en-Rattie**	**1.36**	**93**	*e*Pg	**Pn**	**02 07 40.6**	**+0.5**
SMRF	**Simiane la Rot**	**1.55**	**131**	*e*Pn	**Pn**	**02 07 40.1**	**-2.7**
SMRF				*e*Pg	**Pn**	**02 07 43.7**	**+0.9**
SMRF				*e*Sg	**Sn**	**02 08 04.7**	**+2.1**
	1.9nm,0.3s						
SMF	**Signal de Mont**	**1.64**	**357**	*e*Pn	**Pn**	**02 07 41.7**	**-2.4**
SMF				*e*Pg	**Pn**	**02 07 46.2**	**+2.1**
BGF	**Bois d'Agland**	**1.73**	**334**	*e*Pn	**Pn**	**02 07 42.6**	**-2.8**
BGF				*e*Pg	**Pn**	**02 07 46.9**	**+1.5**
RJF	**Les Rejaudoux**	**1.76**	**281**	*e*Pn	**Pn**	**02 07 42.1**	**-3.7**
RJF				*e*Pg	**Pn**	**02 07 46.4**	**+0.6**
RJF				*e*Sg	**Sn**	**02 08 09.1**	**+1.2**
	3.0nm,0.2s						
TCF	**Toulx Ste Croi**	**1.77**	**317**	*e*Pn	**Pn**	**02 07 42.9**	**-3.1**
TCF				*e*Pg	**Pn**	**02 07 47.7**	**+1.7**
AVF	**Avril sur Loir**	**1.83**	**347**	*e*Pn	**Pn**	**02 07 43.9**	**-2.9**
AVF				*e*Pg	**Pn**	**02 07 48.9**	**+2.1**
LPG	**La Plagne**	**2.03**	**75**	*e*Sg	**Sn**	**02 08 20.6**	**+5.8**
	0.4nm,0.2s						
SSF	**Saint Saulge**	**2.08**	**351**	*e*Pn	**Pn**	**02 07 47.4**	**-2.9**
SSF				*e*Pg	**Pn**	**02 07 54.2**	**+3.9**
MTLF	**Montolieu**	**2.09**	**218**	*e*Pn	**Pn**	**02 07 47.8**	**-2.7**
MTLF				*e*Pg	**Pn**	**02 07 52.0**	**+1.5**
MTLF				*e*Sg	**Sn**	**02 08 18.3**	**+2.0**
	0.9nm,0.2s						
CABF	**La Chapelle**	**2.18**	**42**	*e*Pg	**Pn**	**02 07 56.1**	**+4.2**
LFF	**La Frestale**	**2.29**	**269**	*e*Pg	**Pn**	**02 07 55.8**	**+2.4**
LFF				*e*Sg	**Sn**	**02 08 24.2**	**+2.8**
	3.0nm,0.3s						
EPF	**Esparros**	**3.28**	**234**	*e*Pn	**Pn**	**02 08 02.4**	**-5.1**
EPF				*e*Pg	**Pn**	**02 08 14.0**	**+6.5**

ISC 29 02:11:00.0±0.9, **46.39N**±0.06×**15.10E**±0.07, **n5**, σ**0^{s}16**/7, **2C, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PERS	**Pernice**	**0.24**	**3**	*i* Pg	**Pg**	**02 11 05.1**	**+0.2**
	comp=Z,8.0nm,0.2s						
GROS	**Grobnik**	**0.29**	**76**	*e*Pg	**Pg**	**02 11 05.7**	**0.0**
	comp=Z,4.0nm,0.2s						
OBKA	**Obir**	**0.40**	**287**	⇑*i*PG	**Pg**	**02 11 07.9**	**-0.1**
OBKA				*i* SG	**Sg**	**02 11 13.3**	**0.0**
	comp=Z,6.9nm,0.4s						
LEGS	**Legarje**	**0.47**	**161**	*e*Pg	**Pg**	**02 11 09.4**	**+0.1**
ARSA	**Arzberg**	**0.91**	**19**	⇑*i*PG	**Pg**	**02 11 17.8**	**-0.3**
ARSA				*i* SG	**Sg**	**02 11 30.3**	**+0.1**
	comp=Z,0.9nm,0.3s						

*TIR **29** 02:19:38.9, 42.12N×19.27E, h48^{km}*
*PDG **29** 02:19:39.4±0.2, 42.08N×19.29E, h21^{km}*
*NEIC **29** 02:19:39.4, 42.08N×19.29E, h21^{km}, ML2.7(PDG), ML2.6(ZAG), After PDG.*
ISC 29 02:19:40.4±0.4, **42.06N**±0.03×**19.27E**±0.03, **h20**^{km}±4^{km}, **n20**, σ**1^{s}10**/40, **10C-2D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ULC	**Ulcinj**	**0.10**	**187**	⇑*i*Pg	**Pb**	**02 19 44.1**	**-0.2**
ULC				*e*Sg	**Sb**	**02 19 47.1**	**0.0**
SDA	**Shkodra**	**0.17**	**94**	*e*Pg	**Pb**	**02 19 44.5**	**-0.7**
SDA				*i* Sg	**Sb**	**02 19 47.8**	**-0.7**
BUM	**Brajici-Budva**	**0.36**	**311**	⇑*i*Pg	**Pb**	**02 19 47.4**	**-0.7**
BUM				*e*Sg	**Sb**	**02 19 53.7**	**+0.5**
TTG	**Podgorica**	**0.36**	**359**	⇑*i*Pg	**Pb**	**02 19 46.6**	**-1.5**
TTG				*e*Sg	**Sb**	**02 19 52.6**	**-0.8**
PUK	**Puka**	**0.47**	**92**	*i* Pg	**Pb**	**02 19 49.4**	**-0.5**
PUK				*i* Sg	**Sb**	**02 19 56.5**	**+0.2**
LACI	**Lac**	**0.54**	**142**	*i* Pg	**Pb**	**02 19 51.1**	**0.0**
LACI				*i* Sg	**Sb**	**02 19 59.8**	**+1.4**
BCI	**Bajram Curri**	**0.67**	**63**	*i* Pg	**Pb**	**02 19 52.3**	**-1.0**
BCI				*i* Sg	**Sb**	**02 20 02.4**	**+0.4**
HCY	**Herceg Novi**	**0.69**	**304**	⇑*i*Pg	**Pb**	**02 19 52.6**	**-0.9**
HCY				*e*Sg	**Sb**	**02 20 03.9**	**+1.3**
QSH	**Qafa e Shtames**	**0.72**	**138**	*i* Pg	**Pb**	**02 19 55.0**	**+0.8**
QSH				*i* Sg	**Sb**	**02 20 04.0**	**+0.4**
PVY	**Plav**	**0.75**	**44**	⇑*i*Pg	**Pb**	**02 19 53.2**	**-1.4**
PVY				*e*Sg	**Sb**	**02 20 05.0**	**+0.7**
NKY	**Niksic**	**0.77**	**345**	⇑*i*Pg	**Pb**	**02 19 53.5**	**-1.5**
NKY				*e*Sg	**Sb**	**02 20 05.9**	**+0.9**
TIR	**Tirane**	**0.84**	**148**	*i* Pg	**Pb**	**02 19 56.2**	**-0.1**
TIR				*i* Sg	**Sb**	**02 20 10.6**	**+3.5**
IVA	**Berane**	**0.93**	**30**	⇓*i*Pg	**Pb**	**02 19 56.7**	**-1.0**
IVA				*e*Sg	**Sb**	**02 20 11.5**	**+1.9**
BRY	**Bratogost**	**0.99**	**328**	⇑*i*Pg	**Pb**	**02 19 57.9**	**-0.8**
BRY				*e*Sg	**Sb**	**02 20 14.1**	**+2.7**
UPM	**Unac-Piva**	**1.17**	**347**	⇑*i*Pg	**Pb**	**02 20 00.8**	**-0.9**
UPM				*e*Sg	**Sb**	**02 20 19.0**	**+2.5**
PLE	**Pljevlja**	**1.27**	**4**	⇑*i*Pg	**Pn**	**02 20 02.8**	**-0.4**
PLE				*e*Sg	**Sb**	**02 20 21.3**	**+1.9**
STON	**Ston**	**1.41**	**305**	*i* Pn	**Pn**	**02 20 04.8**	**-0.5**
STON				*i* Sn	**Sn**	**02 20 26.1**	**+2.6**
NVSS	**Nova Varos 2**	**1.48**	**12**	⇑*i*Pg	**Pn**	**02 20 06.5**	**+0.3**
NVSS				Sg	**Sn**	**02 20 24.0**	**-1.2**
DIVS	**Divcibare**	**2.10**	**14**	⇓*i*Pn	**Pn**	**02 20 16.1**	**+0.9**
DIVS				Sg	**Sn**	**02 20 40.9**	**0.0**
NVLJ	**Novalja**	**4.06**	**309**	*i* Pn	**Pn**	**02 20 42.8**	**-0.3**
NVLJ				*i* Sn	**Sn**	**02 21 29.0**	**-1.7**

*IDC **29** 02:30:53.4±2.6, 8.34N×127.99E, mb3.9/3, mb1 4.1/3, mb1mx3.6/17, Error ellipse: s-maj=202.0km s-min=26.8km az=65.0*
ISC 29 02:30:55.0±1.1, **7.95N**±0.08×**127.50E**±0.07, **h10**^{km}, **n9**, σ**1^{s}57**/12, **mb3.8**/3, **2D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BIPH	**Bislig**	**1.15**	**282**	⇓*e*P	**Pb**	**02 31 15.9**	**-0.6**
BIPH				*e*S	**Sb**	**02 31 30.0**	**-1.3**
MATI	**Mati**	**1.58**	**231**	*e*P	**Pn**	**02 31 23.8**	**+0.5**
MATI				*e*S	**Sb**	**02 31 42.5**	**-1.4**
BUTP	**Butuan**	**2.12**	**299**	*e*P	**Pn**	**02 31 34.2**	**+3.3**
BUKP	**Musuan**	**2.42**	**269**	*e*P	**Pn**	**02 31 37.0**	**+1.8**
BUKP				*e*S	**Sn**	**02 32 07.0**	**+1.9**
SCPH	**Surigao**	**2.70**	**313**	⇓*e*P	**Pn**	**02 31 38.8**	**-0.4**
PAGZ	**Pagadian**	**4.08**	**269**	*e*P	**Pn**	**02 32 03.1**	**+4.2**
WRA	**Warramunga Arr**	**28.52**	**166**	P	**P**	**02 36 54.8**	**+1.8**
	0.8nm,0.7s,mb3.6,baz=347,slow=10,SNR=5.6						
STKA	**Stephens Creek**	**41.83**	**162**	P	**P**	**02 38 45.2**	**-1.6**
	0.8nm,0.5s,mb3.6,baz=338,slow=7.3,SNR=4.2						
MKAR	**Makanchi Array**	**54.60**	**323**	P	**P**	**02 40 23.6**	**-2.3**
	2.4nm,0.8s,mb4.3,baz=126,slow=8.4,SNR=8.2						

*FUNV **29** 02:59:22.2, 6.73N×73.24W, h176^{km}, MW3.1*
*IDC **29** 02:59:25.2±2.5, 6.66N×73.04W, h176^{km}±20^{km}, mb3.3/2, mb1 3.6/3, mb1mx3.1/19, Error ellipse: s-maj=56.6km s-min=26.7km az=102.0*
ISC 29 02:59:23.3±0.7, **6.87N**±0.06×**72.98W**±0.06, **h171**^{km}±7^{km}, **n15**, σ**1^{s}01**/21, **mb3.5**/2, **2C-3D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.19**	**34**	⇑*i*P	**P**	**02 59 52.9**	**+1.0**
CAPV				*e*S	**S**	**03 00 15.6**	**+1.6**
VIGV	**El Vigia**	**2.08**	**36**	*e*P	**P**	**03 00 06.9**	**+5.9**
VIGV				*e*S	**S**	**03 00 40.0**	**+10**
ROSC	**El Rosal**	**2.41**	**214**	P	**P**	**03 00 05.0**	**0.0**
	77nm,0.3s,baz=42,slow=7.2,SNR=220						
ROSC				S	**S**	**03 00 35.6**	**-1.3**
	79nm,0.3s,baz=205,slow=23,SNR=9.7						
SOCV	**Socops**	**2.53**	**56**	⇓*i*P	**P**	**03 00 07.6**	**+1.2**
SOCV				*e*S	**S**	**03 00 40.5**	**+0.9**
ELOV	**Elorza**	**3.48**	**88**	⇓*i*P	**P**	**03 00 18.9**	**+0.7**
ELOV				*e*S	**S**	**03 01 00.6**	**+0.2**
VIRV	**Villa del Rosa**	**3.65**	**9**	*i* P	**P**	**03 00 19.9**	**-0.6**
VIRV				*e*S	**S**	**03 01 02.3**	**-2.2**
CURV	**Curarigua**	**4.32**	**44**	⇑*i*P	**P**	**03 00 29.5**	**+0.4**
CURV				*e*S	**S**	**03 01 19.3**	**-0.4**
DABV	**Dabajuro**	**4.65**	**30**	*e*P	**P**	**03 00 33.5**	**+0.3**
DABV				*e*S	**S**	**03 01 26.0**	**-1.3**
BAUV	**El Baul**	**5.31**	**67**	⇓*i*P	**P**	**03 00 41.2**	**-0.8**
BAUV				*e*S	**S**	**03 01 41.4**	**-1.4**
PAYV	**Puerto Ayacuch**	**5.49**	**105**	*i* P	**P**	**03 00 43.5**	**-0.8**
TXAR	**Lajitas Array**	**36.53**	**312**	P	**P**	**03 06 14.9**	**+0.7**
	0.2nm,0.8s,mb2.8,baz=153,slow=8.1,SNR=2.9						
SCHQ	**Schefferville**	**48.08**	**5**	P	**P**	**03 07 48.4**	**+1.2**
	3.3nm,0.5s,mb4.2,baz=192,slow=4.4,SNR=8.1						
MKAR	**Makanchi Array**	**122.23**	**20**	PKP	PKPdf	03 17 59.4	+1.4
	0.2nm,0.6s,baz=271,slow=3.1,SNR=5.4						
ASAR	**Alice Springs**	**149.25**	**234**	PKPbc	PKPdf	03 18 53.2	+5.3
	0.4nm,0.5s,baz=112,slow=3.4,SNR=5.8						
WRA	**Warramunga Arr**	**150.48**	**241**	PKPbc	PKPdf	03 18 56.3	+6.5
	0.3nm,0.3s,baz=108,slow=2.8,SNR=7.1						
WRA				pPKPbc		03 19 39.4	
	0.3nm,0.5s,baz=109,slow=2.6,SNR=2.1						

*NAO **29** 03:39:44.9±7.7, 56.34N×16.76E, h14^{km}±39^{km}, ML2.5*
*BER **29** 03:39:44.9±3.6, 56.20N×16.70E, h21^{km}±30^{km}, ML2.5(NAO)*
ISC 29 03:39:37.1±1.4, **56.1N**±0.1×**17.2E**±0.3, **h10**^{km}, **n5**, σ**1^{s}27**/8, **Baltic Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSD	**Bornholm Skovb**	**1.65**	**233**	*i* P	**Pn**	**03 40 07.1**	**+0.7**
BSD				*i* S	**Sn**	**03 40 27.2**	**-0.6**
HFS	**Hagfors**	**4.42**	**337**	Pn	**Pn**	**03 40 48.4**	**+2.6**
	baz=156,slow=11						
HFS				Pg	**Pg**	**03 40 58.5**	**-6.9**
	baz=162,slow=16						
HFS				Lg		03 41 55.0	
	baz=154,slow=28						
NB2	**NORSAR Subarra**	**5.83**	**330**	Pn	**Pn**	**03 41 05.5**	**-0.3**
NB2				Lg		03 42 38.8	
FIA0	**FINESS Array S**	**7.04**	**37**	Pn	**Pn**	**03 41 26.5**	**+3.7**
	baz=213,slow=14						
FIA0				Sn	**Sn**	**03 42 43.5**	**-0.1**
	baz=226,slow=22						
FIA0				Lg		03 43 25.7	
	baz=232,slow=28						
ARA0	**ARCESS Array S**	**13.95**	**12**	Pn	**P**	**03 42 55.2**	**-1.6**
	baz=195,slow=12						

*IDC **29** 03:41:38.2±0.6, 8.30S×43.98E, mb4.4/16, mb1 4.5/17, mb1mx4.5/21, ML4.4/1, MS4.2/16, Ms1 4.2/16, ms1mx4.1/21, Error ellipse: s-maj=20.7km s-min=14.7km az=61.0*
*BJI **29** 03:41:41.1, 8.40S×43.80E, h32^{km}, mB5.2, mb4.9, Ms5.0, Msz4.6*
*MOS **29** 03:41:41.5±0.7, 8.26S×43.93E, h33^{km}, mb4.7/17, Error ellipse: s-maj=23.9km s-min=8.8km az=99.3*
*NEIC **29** 03:41:43.1±0.2, 8.37S×43.85E, mb4.7/57, Error ellipse: s-maj=7.3km s-min=5.5km az=61.0*
*SYO **29** 03:41:43.3, 8.37S×43.86E, h32^{km}, MB4.7*
ISC 29 03:41:41.6±1.7, **8.37S**±0.04×**43.80E**±0.06, **h35**^{km}±15^{km}, **h33**^{km}±1.8^{km}**:pP-P**, **n196**, σ**1^{s}09**/164, **mb4.7**/77, **MS4.2**/23, **8C-8D, Northwest of Madagascar**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMBO	**Kilima Mbogo**	**9.71**	**317**	Pn	**P**	**03 44 01.3**	**-0.8**
	3.6nm,0.3s,baz=120,slow=13,SNR=31						
KMBO				Sn	**S**	**03 45 46.3**	**-4.8**
	22nm,0.3s,baz=218,slow=23,SNR=11						
KMBO				LR	LR	03 47 39.2	
	comp=Z,1μm,18.9s,baz=116,slow=37						
KMBO	**Kilima Mbogo**	**9.71**	**317**	*e*P	**P**	**03 44 00.7**	**-1.4**
	11nm,0.5s						
MBAR	**Mbarara**	**15.13**	**300**	*e*P	**P**	**03 45 13.8**	**-0.9**
	9.2nm,0.5s						
MBAR				*e*S	**S**	**03 47 52.2**	**-10**
LSZ	**Lusaka**	**16.74**	**244**	*e*P	**P**	**03 45 35.6**	**+0.4**
	38nm,0.7s						
LSZ				*e*S	**S**	**03 48 28.4**	**-11**
DJNS	**Zahran al Janu**	**25.91**	**359**	P	**P**	**03 47 16.5**	**+3.9**
TSUM	**Tsumeb**	**27.60**	**244**	P	**P**	**03 47 29.4**	**+1.3**
	3.4nm,1.1s,mb3.9,baz=359,slow=6.6,SNR=3.3						
TSUM				LR	LR	03 59 06.5	
	comp=Z,2μm,18.3s,MS4.7,baz=7.0,slow=38						
TSUM	**Tsumeb**	**27.60**	**244**	*e*P	**P**	**03 47 29.8**	**+1.8**
	17nm,1.3s,mb4.5						
TSUM				S	Sx	03 52 40.1	
TATS	**Tathlith**	**27.74**	**359**	P	**P**	**03 47 31.8**	**+2.5**
BLJS	**Baljurashi**	**28.16**	**356**	P	**P**	**03 47 37.4**	**+4.3**
SUR	**Sutherland**	**32.02**	**219**	P	**P**	**03 48 04.7**	**-2.5**
	5.3nm,0.8s,mb4.4						
SUR				*e*pP	pP	03 48 15.5	-1.8
YNBS	**Yanbu' al Bahr**	**33.00**	**350**	P	**P**	**03 48 17.6**	**+1.7**
UMJS	**Umm Lajj**	**33.99**	**349**	P	**P**	**03 48 26.4**	**+2.1**
ARSS	**Ar Rass**	**34.05**	**359**	P	**P**	**03 48 26.7**	**+1.8**
KBRS	**Khaybar**	**34.24**	**353**	P	**P**	**03 48 28.1**	**+1.6**
HILS	**Ha'il**	**35.60**	**357**	P	**P**	**03 48 40.6**	**+2.5**
QRN	**Al-Qurain**	**37.11**	**6**	*e*P	**P**	**03 48 52.6**	**+1.7**
QRN				AMb	AMB	03 48 54.6	
	comp=Z,46nm,0.9s,mb5.3						
RDF	**Al-Radifah**	**37.26**	**5**	*e*P	**P**	**03 48 53.7**	**+1.7**
RDF				AMb	AMB	03 48 55.5	
	comp=Z,31nm,1.0s,mb5.1						
TAYS	**Tayyib Ism**	**37.71**	**347**	P	**P**	**03 48 58.2**	**+2.4**
RST	**Umm Al-Ruwaisa**	**37.78**	**5**	*e*P	**P**	**03 48 57.2**	**+0.8**
RST				AMb	AMB	03 48 59.0	
	comp=Z,62nm,0.6s,mb5.5						
JMQS	**Jabal Moqyreh**	**37.82**	**349**	P	**P**	**03 48 59.4**	**+2.6**
MIB	**Mutribah**	**38.11**	**5**	*e*P	**P**	**03 49 01.0**	**+1.9**
MIB				AMb	AMB	03 49 01.8	
	comp=Z,45nm,0.7s,mb5.3						
ASF	**Jabal al Asfar**	**40.85**	**351**	LR	LR	04 07 32.2	
	comp=Z,205nm,18.4s,MS4.0,baz=207,slow=38						
GNI	**Garni**	**48.28**	**1**	LR	LR	04 13 51.9	
	comp=Z,149nm,21.3s,MS3.9,baz=128,slow=40						
GNI	**Garni**	**48.28**	**1**	*i* P	**P**	**03 50 20.0**	**-1.5**
GNI				pmax	pmax		
	comp=Z,34nm,2.1s						
GNI				MLR	MLR		
	comp=Z,200nm,21.0s						
GNI	**Garni**	**48.28**	**1**	*e*P	**P**	**03 50 23.2**	**+1.7**
	comp=Z,13nm,0.9s,mb5.0						
GNI				*e*pP	pP	03 50 33.0	+1.2
BRTR	**Keskin Array B**	**48.77**	**350**	P	**P**	**03 50 25.8**	**+0.5**
	comp=Z,2.5nm,0.9s,mb4.2,baz=173,slow=10.0,SNR=16						
BRTR				LR	LR	04 12 16.3	
	comp=Z,76nm,20.4s,MS3.7,baz=225,slow=38						
BRTR	**Keskin Array B**	**48.77**	**350**	P	**P**	**03 50 25.8**	**+0.5**
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BRTR				MLR	MLR		
	comp=Z,76nm,20.4s						
KIC	**Kosan Boka**	**50.56**	**285**	*e*PKP1	pP	03 50 53.9	+4.2
	comp=Z,197nm,1.7s						
DBIC	**Dimbokro**	**50.76**	**286**	P	**P**	**03 50 42.6**	**+1.8**
	comp=Z,2.5nm,0.7s,mb4.2,baz=78,slow=13,SNR=4.4						
DBIC				LR	LR	04 11 59.5	
	comp=Z,338nm,20.4s,MS4.3,baz=90,slow=36						
DBIC	**Dimbokro**	**50.76**	**286**	P	**P**	**03 50 42.7**	**+1.9**
DBIC				pmax	pmax		
	comp=Z,3.0nm,0.7s						
DBIC				MLR	MLR		
	comp=Z,338nm,20.4s						
LIC	**Lamto**	**50.80**	**285**	*e*PKP1	pP	03 50 54.6	+3.1
	comp=Z,42nm,1.2s						
TIC	**Toumodi**	**50.91**	**286**	*e*PKP1	pP	03 50 53.9	+1.6
	comp=Z,48nm,0.8s						
SOC	**Sochi**	**51.84**	**356**	*e*P	**P**	**03 50 48.1**	**-0.5**
SOC				*e*		03 51 57.2	
SOC				*e*		03 52 43.6	
SOC				*e*S	**S**	**03 58 06.4**	**-0.7**
SOC				*e*PS	PS	03 58 20.5	-0.9
SOC				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.8						
SOC				pmax	pmax		
	comp=N,2.0nm,0.4s						
SOC				pmax	pmax		
	comp=E,2.0nm,0.3s						
KIV	**Kislovodsk**	**52.09**	**359**	*e*P	**P**	**03 50 50.4**	**0.0**
KIV				*e*S	**S**	**03 58 11.9**	**+1.4**
KIV				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.5						
KIV				MLR	MLR		
	comp=Z,98nm,19.0s,MS3.9						
KIV	**Kislovodsk**	**52.09**	**359**	*e*P	**P**	**03 50 50.6**	**+0.2**
	comp=Z,4.4nm,0.5s,mb4.6						
KOLN	**Koldanda**	**52.66**	**46**	*e*P	**P**	**03 50 52.9**	**-2.0**
	comp=Z,26nm,1.2s,mb5.0						
GKN	**Gorkha**	**53.53**	**46**	*e*P	**P**	**03 50 57.5**	**-3.9**
	comp=Z,19nm,0.8s,mb5.1						
DMN	**Daman**	**53.63**	**47**	*e*P	**P**	**03 50 58.9**	**-3.3**
	comp=Z,22nm,0.9s,mb5.1						
PKI	**Pulchoki**	**53.83**	**47**	*e*P	**P**	**03 51 00.3**	**-3.3**
	comp=Z,9.9nm,0.8s,mb4.8						
KKN	**Kakani**	**53.87**	**47**	*e*P	**P**	**03 50 58.7**	**-5.2**
	comp=Z,17nm,0.8s,mb5.0						
AAK	**Ala-Archa**	**57.98**	**26**	*e*P	**P**	**03 51 32.1**	**-1.1**
	comp=Z,22nm,1.4s,mb5.0						
AAK				*e*pP	pP	03 51 43.3	-0.5
AAK				*e*sP	sP	03 51 48.2	+0.4
PKSM	**Moragy**	**58.81**	**340**	⇓*i*P	**P**	**03 51 39.2**	**+0.2**
PGF	**Pioggiola**	**59.80**	**331**	*e*P	**P**	**03 51 45.3**	**-0.6**
	comp=Z,15nm,0.9s,mb4.7						
PSZ	**Piszkesteto**	**59.90**	**342**	*e*P	**P**	**03 51 46.1**	**-0.4**
PDKS	**Podkum**	**60.02**	**337**	*e*P	**P**	**03 51 48.0**	**+0.6**
KOLS	**Kolonicke sedl**	**60.12**	**344**	*e*P	**P**	**03 51 47.9**	**-0.1**
KOLS				*e*		03 52 02.9	
GROS	**Grobnik**	**60.15**	**338**	*e*P	**P**	**03 51 48.7**	**+0.5**
AKASG	**Malin Array Be**	**60.18**	**349**	P	**P**	**03 51 47.2**	**-1.1**
	comp=Z,0.3nm,0.3s,mb3.8,baz=177,slow=5.2,SNR=7.2						

SRO	**Srobarova**	**60.32**	**340**	*e*P	**P**	**03 51 49.6**	**+0.2**
MAW	**Mawson**	**60.53**	**172**	⇓*i*P	**P**	**03 51 50.6**	**+0.1**
	comp=Z,3.4nm,0.6s,mb4.7						
MAW				*e*		03 52 07.1	
MAW	**Mawson**	**60.53**	**172**	P	**P**	**03 51 50.9**	**+0.3**
	comp=Z,4.9nm,0.8s,mb4.7,baz=338,slow=7.4,SNR=23						
MAW				LR	LR	04 14 12.4	
	comp=Z,244nm,21.8s,MS4.3,baz=156,slow=32						
OBKA	**Obir**	**60.55**	**337**	⇑*i*P	**P**	**03 51 51.9**	**+0.9**
	comp=Z,8.6nm,0.9s,mb4.9						
CMAR	**Chiang Mai Arr**	**60.58**	**63**	P	**P**	**03 51 51.0**	**-0.5**
	comp=Z,3.2nm,0.8s,mb4.5,baz=256,slow=7.9,SNR=14						
CMAR				LR	LR	04 17 27.0	
	comp=Z,106nm,18.2s,MS4.0,baz=265,slow=36						
CMAR	**Chiang Mai Arr**	**60.58**	**63**	P	**P**	**03 51 51.0**	**-0.5**
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
CMAR				MLR	MLR		
	comp=Z,106nm,18.2s						
SYO	**Syowa Base**	**60.62**	**182**	⇑P	**P**	**03 51 50.4**	**-0.8**
SYO	**Syowa Base**	**60.62**	**182**	⇑pP	pP	03 51 58.8	-2.9
VYHS	**Vyhne**	**60.74**	**341**	*i* P	**P**	**03 51 52.1**	**-0.1**
VYHS				*e*pP	pP	03 52 01.9	-0.9
ARSA	**Arzberg**	**60.81**	**338**	⇑*i*P	**P**	**03 51 53.4**	**+0.7**
	comp=Z,5.3nm,0.8s,mb4.7						
KBA	**Koelnbreinsper**	**61.49**	**337**	⇑*i*P	**P**	**03 51 57.5**	**+0.2**
	comp=Z,4.4nm,0.8s,mb4.6						
SBF	**Sospel**	**61.55**	**331**	*e*P	**P**	**03 51 57.3**	**-0.4**
LMR	**La Mourre**	**61.61**	**330**	*e*P	**P**	**03 51 58.0**	**-0.1**
	comp=Z,8.0nm,0.9s,mb4.6						
FRF	**La Foret Royal**	**61.71**	**330**	*e*P	**P**	**03 51 58.6**	**-0.2**
	comp=Z,17nm,1.0s,mb4.8						
MOA	**Molln**	**61.77**	**338**	⇑*i*P	**P**	**03 51 59.4**	**+0.2**
	comp=Z,6.5nm,0.9s,mb4.8						
OJC	**Ojcow**	**61.98**	**343**	*e*P	**P**	**03 51 59.6**	**-0.9**
OKC	**Ostrava-Krasne**	**62.14**	**342**	*e*P	**P**	**03 52 01.6**	**0.0**
MORC	**Moravsky Berou**	**62.28**	**341**	*e*P	**P**	**03 52 01.9**	**-0.6**
	comp=Z,12nm,0.9s,mb5.0						
MORC				*e*pP	pP	03 52 12.6	-0.6
MORC				*e*sP	sP	03 52 18.7	+1.4
MBDF	**Montbardon**	**62.51**	**331**	*e*P	**P**	**03 52 04.4**	**+0.3**
	comp=Z,9.6nm,0.7s,mb4.8						
SMRF	**Simiane la Rot**	**62.54**	**330**	*e*P	**P**	**03 52 03.5**	**-0.9**
GERES	**GERESS Array B**	**62.81**	**338**	P	**P**	**03 52 05.3**	**-0.8**
	comp=Z,2.4nm,0.8s,mb4.4,baz=153,slow=6.0,SNR=19						
GERES	**GERESS Array B**	**62.81**	**338**	P	**P**	**03 52 05.3**	**-0.8**
GERES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ORIF	**Oris-en-Rattie**	**63.08**	**331**	*e*P	**P**	**03 52 07.5**	**-0.4**
	comp=Z,4.5nm,0.7s,mb4.4						
ORIF				*e*R			
	comp=Z,127nm,18.5s						
LPG	**La Plagne**	**63.09**	**332**	*e*P	**P**	**03 52 07.4**	**-0.6**
	comp=Z,6.3nm,0.8s,mb4.5						
KHC	**Kasperske Hory**	**63.09**	**338**	*e*P	**P**	**03 52 06.7**	**-1.3**
KHC				*e*x	x	03 52 17.4	
LPL	**La Plagne**	**63.11**	**332**	*e*P	**P**	**03 52 07.6**	**-0.6**
	comp=Z,5.9nm,0.8s,mb4.5						
DPC	**Dobruska-Polom**	**63.17**	**341**	*e*P	**P**	**03 52 08.2**	**-0.3**
DPC				*e*PCP	pP	03 52 19.0	-0.1
UPC	**Upice**	**63.41**	**341**	*e*P	**P**	**03 52 10.1**	**+0.1**
UPC				*e*x	x	03 52 25.8	
EQES	**Quesada**	**63.41**	**320**	P	**P**	**03 52 10.6**	**+0.3**
	comp=Z,16nm,1.1s,mb5.1						
ERON	**Agron**	**63.43**	**319**	P	**P**	**03 52 10.5**	**+0.1**
PRU	**Pruhonice**	**63.47**	**339**	*e*P	**P**	**03 52 10.9**	**+0.5**
LASF	**Ste Croix**	**63.48**	**329**	*e*P	**P**	**03 52 11.1**	**+0.5**
	comp=Z,18nm,1.0s,mb4.8						
OBN	**Obninsk**	**63.54**	**355**	*e*P	**P**	**03 52 08.8**	**-2.0**
OBN				*i*		03 52 26.7	
OBN				*e*		03 54 33.1	
OBN				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.8						
OBN				MLR	MLR		
	comp=Z,100nm,19.0s,MS4.0						
VIVF	**Saint-Julien-l**	**63.62**	**330**	*e*P	**P**	**03 52 11.7**	**+0.2**
ELOJ	**Sierra Loja**	**63.73**	**319**	P	**P**	**03 52 12.2**	**-0.2**
MTLF	**Montolieu**	**63.83**	**327**	*e*P	**P**	**03 52 13.2**	**+0.3**
	comp=Z,21nm,1.2s,mb4.7						
CABF	**La Chapelle**	**64.22**	**332**	*e*P	**P**	**03 52 14.8**	**-0.6**
BRG	**Berggiesshubel**	**64.42**	**340**	*e*P	**P**	**03 52 15.8**	**-0.8**
BRG				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.4						
BRG	**Berggiesshubel**	**64.42**	**340**	*e*P	**P**	**03 52 15.8**	**-0.8**
	comp=Z,5.1nm,1.2s,mb4.4						
ETOR	**Torete**	**64.61**	**323**	P	**P**	**03 52 18.0**	**0.0**
	comp=Z,5.1nm,0.7s,mb4.7						
EPF	**Esparros**	**64.64**	**326**	*e*P	**P**	**03 52 18.6**	**+0.4**
	comp=Z,9.5nm,1.0s,mb4.5						
ESPR	**Espera**	**64.70**	**317**	P	**P**	**03 52 17.5**	**-1.2**
	comp=Z,16nm,1.1s,mb5.0						
MKAR	**Makanchi Array**	**64.72**	**28**	P	**P**	**03 52 17.7**	**-0.9**
	comp=Z,7.1nm,0.6s,mb4.9,baz=216,slow=7.5,SNR=53						
MKAR				LR	LR	04 19 19.5	
	comp=Z,92nm,19.4s,MS4.0,baz=202,slow=35						
ZRNK	**Zerenda**	**64.75**	**17**	*e*P	**P**	**03 52 17.8**	**-0.9**
	comp=Z,7.3nm,1.3s,mb4.5						
ZRNK				*e*pP	pP	03 52 27.1	-2.4
ZRNK				*e*sP	sP	03 52 33.9	+0.5
CAF	**Calviac**	**64.99**	**329**	*e*P	**P**	**03 52 20.9**	**+0.5**
	comp=Z,11nm,0.9s,mb4.6						
CDF	**Champ du Feu**	**65.04**	**334**	*e*P	**P**	**03 52 19.6**	**-1.1**
	comp=Z,4.5nm,0.7s,mb4.3						
ETSF	**Etsaut**	**65.06**	**325**	*e*P	**P**	**03 52 21.7**	**+0.8**
	comp=Z,18nm,1.1s,mb4.7						
MOX	**Moxa**	**65.06**	**338**	*e*P	**P**	**03 52 20.0**	**-0.8**
ESDC	**Sonseca Array**	**65.08**	**321**	P	**P**	**03 52 21.8**	**+0.7**
	comp=Z,5.0nm,0.9s,mb4.5,baz=129,slow=6.1,SNR=9.7						
ESDC				LR	LR	04 23 59.0	
	comp=Z,116nm,18.9s,MS4.1,baz=120,slow=39						
ESDC	**Sonseca Array**	**65.08**	**321**	P	**P**	**03 52 20.4**	**-0.7**
	comp=Z,3.6nm,0.5s,mb4.7						
CLL	**Collm**	**65.11**	**339**	P	**P**	**03 52 20.0**	**-1.0**
CLL	**Collm**	**65.11**	**339**	*e*P	**P**	**03 52 20.0**	**-1.0**
BRVK	**Borovoye**	**65.21**	**17**	*e*P	**P**	**03 52 20.6**	**-1.1**
BRVK				*e*pP	pP	03 52 30.0	-2.4
BRVK				*e*sP	sP	03 52 35.8	-0.6
SMF	**Signal de Mont**	**65.31**	**331**	*e*P	**P**	**03 52 21.6**	**-0.8**
WMQ	**Urumqi**	**65.40**	**34**	*e*P	**P**	**03 52 24.5**	**+1.5**
WMQ				AP	pP	03 52 34.5	+0.7
WMQ				XP	sP	03 52 38.5	+0.8
WMQ				LR	LR		
	comp=Z,69nm,21.0s,MS3.8						
RJF	**Les Rejaudoux**	**65.53**	**329**	*e*P	**P**	**03 52 24.2**	**+0.3**
	comp=Z,25nm,1.2s,mb4.8						
RJF				*e*R			
	comp=Z,171nm,20.0s						
SJPF	**Ste Jean**	**65.57**	**325**	*e*P	**P**	**03 52 24.2**	**+0.1**
	comp=Z,12nm,1.0s,mb4.6						
AVF	**Avril sur Loir**	**65.65**	**331**	*e*P	**P**	**03 52 23.9**	**-0.7**
	comp=Z,11nm,1.0s,mb4.5						
LFF	**La Frestale**	**65.69**	**328**	*e*P	**P**	**03 52 25.3**	**+0.4**
	comp=Z,9.2nm,0.8s,mb4.6						
ARU	**Arti**	**65.72**	**9**	⇓*i*P	**P**	**03 52 23.8**	**-1.0**
ARU				*e*		03 52 54.3	
ARU				*e*		03 54 46.6	
ARU				*e*S	S	04 01 08.4	+1.5
ARU				pmax	pmax		
	comp=Z,18nm,1.2s,mb5.0						
ARU	**Arti**	**65.72**	**9**	*e*P	**P**	**03 52 24.2**	**-0.7**
	comp=Z,26nm,1.3s,mb5.1						
ARU				*e*pP	pP	03 52 33.2	-2.4
ARU				*e*sP	sP	03 52 40.3	+0.8
BGF	**Bois d'Agland**	**65.73**	**330**	*e*P	**P**	**03 52 24.9**	**-0.2**
	comp=Z,5.7nm,0.8s,mb4.3						
LOR	**Lormes**	**65.75**	**331**	*e*P	**P**	**03 52 24.5**	**-0.7**
	comp=Z,6.5nm,0.7s,mb4.5						
LOR				*e*R			
	comp=Z,185nm,23.0s						
SSF	**Saint Saulge**	**65.77**	**331**	*e*P	**P**	**03 52 24.5**	**-0.9**
	comp=Z,11nm,1.1s,mb4.5						
TCF	**Toulx Ste Croi**	**65.86**	**330**	*e*P	**P**	**03 52 26.2**	**+0.3**
	comp=Z,9.7nm,0.9s,mb4.5						
KURK	**Kurchatov**	**66.12**	**23**	*e*P	**P**	**03 52 26.5**	**-1.0**
KURK	**Kurchatov**	**66.12**	**23**	*e*P	**P**	**03 52 26.8**	**-0.7**
KURK				*e*pP	pP	03 52 35.7	-2.7
KURK				*e*sP	sP	03 52 42.3	+0.1
KMI	**Kunming**	**66.32**	**58**	*e*P	**P**	**03 52 31.5**	**+2.3**
KMI				AP	pP	03 52 39.8	-0.2
KMI				AMB	AMB		
	comp=Z,4.0nm,0.7s,mb4.6						
KMI				LR	LR		
	comp=Z,112nm,28.6s,MS3.9						
KMI	**Kunming**	**66.32**	**58**	*e*P	**P**	**03 52 31.5**	**+2.3**
	comp=Z,4.0nm,0.7s,mb4.6						
KMI				pP	pP	03 52 39.7	-0.3
KMI				S	S	04 01 19.4	+4.6
KMI				SS	SS	04 05 36.5	+3.7
KMI				LR	LR		
	comp=Z,110nm,28.6s,MS3.9						
SVE	**Sverdlovsk**	**66.43**	**10**	⇑*e*P	**P**	**03 52 28.8**	**-0.6**
EBAD	**Badajoz**	**66.51**	**319**	P	**P**	**03 52 28.1**	**-2.1**
ELAN	**Lanestosa**	**66.90**	**324**	P	**P**	**03 52 31.2**	**-1.4**
	comp=Z,19nm,1.1s,mb5.0						
EVO	**Evora**	**67.04**	**318**	*e*P	**P**	**03 52 35.1**	**+1.5**
	comp=Z,8.3nm,0.9s,mb4.5						
EVO				*e*R			
	comp=Z,154nm,19.5s						
LDF	**La Druitiere**	**68.59**	**330**	*e*P	**P**	**03 52 42.8**	**-0.3**
FLN	**La Foliniere**	**68.88**	**330**	*e*P	**P**	**03 52 44.0**	**-0.9**
FLN				*e*R			
	comp=Z,137nm,18.2s						
SNAA	**Sanae**	**69.38**	**194**	*e*	pP	03 52 55.6	-2.7
SNAA	**Sanae**	**69.38**	**194**	*e*	pP	03 52 58.5	+0.2
SNAA	**Sanae**	**69.38**	**194**	*e*	PP	03 55 21.1	-2.1
SNAA	**Sanae**	**69.38**	**194**	P	**P**	**03 52 48.3**	**+0.7**
	comp=Z,0.4nm,0.8s,baz=350,slow=13,SNR=3.6						
SNAA	**Sanae**	**69.38**	**194**	⇓*i*P	**P**	**03 52 45.7**	**-1.9**
SNAA				*e*	pP	03 52 55.6	-2.7
SNAA				*e*	pP	03 52 58.5	+0.2
SNAA				*e*		03 55 21.1	
QUIF	**Quistinic**	**69.68**	**328**	*e*P	**P**	**03 52 49.6**	**-0.2**
VNA2	**Neumayer--Watz**	**70.09**	**196**	*e*	PP	03 55 29.0	0.0
VNA2	**Neumayer--Watz**	**70.09**	**196**	⇓*i*P	**P**	**03 52 53.7**	**+1.8**
VNA2				*e*	pP	03 53 03.0	+0.3
VNA2				*e*	pP	03 53 07.2	+4.5
VNA2				*e*		03 55 29.0	
GYA	**Guiyang**	**70.09**	**58**	⇓*i*P	**P**	**03 52 51.3**	**-1.4**
GYA				AP	pP	03 53 02.5	-0.9
GYA				XP	sP	03 53 06.8	-0.5
GYA				PP	PP	03 55 27.3	-2.5
GYA				S	S	04 01 55.5	-4.3
GYA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
GYA				LR	LR		
	comp=N,340nm,16.2s,MS4.8						
GYA				LR	LR		
	comp=E,280nm,16.8s,MS4.8						
GYA				LR	LR		
	comp=Z,460nm,16.0s,MS4.8						
VNA1	**Neumayer--Stat**	**70.17**	**196**	*e*	pP	03 53 02.3	-0.9
VNA1	**Neumayer--Stat**	**70.17**	**196**	*e*	sP	03 53 06.8	-0.3
VNA1	**Neumayer--Stat**	**70.17**	**196**	⇓*i*P	**P**	**03 52 53.7**	**+1.3**
VNA1				*e*	pP	03 53 02.3	-0.9
VNA1				*e*	pP	03 53 06.8	+3.6
VNA3	**Neumayer Olymp**	**70.89**	**196**	*e*	PP	03 55 33.1	-3.1
VNA3	**Neumayer Olymp**	**70.89**	**196**	⇓*i*P	**P**	**03 52 57.5**	**+0.8**
VNA3				*e*	pP	03 53 07.3	-0.2
VNA3				*e*	pP	03 53 11.2	+3.7
VNA3				*e*		03 53 16.9	
VNA3				*e*		03 55 33.1	
FINES	**FINESS Array B**	**70.97**	**351**	P	**P**	**03 52 55.4**	**-2.0**
	comp=Z,5.4nm,0.9s,mb4.5,baz=131,slow=13,SNR=11						
FINES	**FINESS Array B**	**70.97**	**351**	P	**P**	**03 52 55.4**	**-2.0**
FINES				pmax	pmax		
	comp=Z,5.0nm,0.9s						
NVS	**Novosibirsk**	**71.09**	**23**	*e*P	**P**	**03 53 04.5**	**+6.3**
KAF	**Kangasniemi**	**71.58**	**351**	*e*p	**P**	**03 52 59.3**	**-1.7**
	comp=Z,3.4nm,0.5s,mb4.5						
KAF	**Kangasniemi**	**71.58**	**351**	*e*P	**P**	**03 52 59.3**	**-1.7**
KAF				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
LZH	**Lanzhou**	**71.62**	**48**	*e*P	**P**	**03 53 03.5**	**+1.8**
LZH				AP	pP	03 53 13.8	+1.3
LZH				XP	sP	03 53 17.8	+1.4
LZH				PP	PP	03 55 44.5	+1.8
LZH				AMB	AMB		
	comp=Z,21nm,1.5s,mb4.8						
LZH				LR	LR		
	comp=E,175nm,15.0s						
LZH				LR	LR		
	comp=Z,299nm,17.8s,MS4.6						
LZH	**Lanzhou**	**71.62**	**48**	*e*P	**P**	**03 53 03.5**	**+1.8**
	comp=Z,21nm,1.5s,mb4.8						
LZH				pP	pP	03 53 13.7	+1.2
LZH				sP	sP	03 53 17.8	+1.4
LZH				PP	PP	03 55 44.5	+1.8
LZH				LR	LR		
	comp=Z,300nm,17.8s,MS4.6						
ENH	**Enshi**	**73.75**	**55**	P	**P**	**03 53 13.7**	**-0.7**
	comp=Z,17nm,1.3s,mb4.8						
ENH				*e*PcP	PcP	03 53 31.2	+0.9
NB2	**NORSAR Subarra**	**73.78**	**344**	P	**P**	**03 53 12.5**	**-1.5**
	comp=Z,1.9nm,0.8s,mb4.1,baz=135,slow=5.8						
NOA	**NORSAR Array B**	**73.78**	**344**	P	**P**	**03 53 13.9**	**0.0**
	comp=Z,1.9nm,0.7s,mb4.1,baz=149,slow=5.8,SNR=7.8						
NOA				LR	LR	04 25 25.4	
	comp=Z,25nm,20.4s,MS3.5,baz=90,slow=36						
NOA	**NORSAR Array B**	**73.78**	**344**	P	**P**	**03 53 13.9**	**-0.1**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NOA				MLR	MLR		
	comp=Z,25nm,20.4s						
MBWA	**Marble Bar**	**73.95**	**110**	P	**P**	**03 53 14.7**	**-1.1**
XAN	**Xi'an**	**74.63**	**51**	P	**P**	**03 53 19.0**	**-0.5**
XAN				AP	pP	03 53 30.0	-0.3
XAN				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.6						
ARCES	**ARCESS Array B**	**78.75**	**354**	P	**P**	**03 53 42.2**	**+0.2**
	comp=Z,2.6nm,0.7s,mb4.3,baz=158,slow=6.5,SNR=9.7						
ARCES				LR	LR	04 31 39.4	
	comp=Z,119nm,19.6s,MS4.2,baz=199,slow=38						
ARCES	**ARCESS Array B**	**78.75**	**354**	P	**P**	**03 53 42.2**	**+0.3**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ARCES				MLR	MLR		
	comp=Z,119nm,19.6s						
ARCES	**ARCESS Array B**	**78.75**	**354**	P	**P**	**03 53 42.2**	**+0.2**
ARCES				LR	LR	04 31 39.4	
FITZ	**Fitzroy Crossi**	**79.73**	**107**	*e*P	**P**	**03 53 47.8**	**-0.5**
	comp=Z,2.3nm,0.6s,mb4.3						
FITZ				*e*		03 54 04.0	
FITZ	**Fitzroy Crossi**	**79.73**	**107**	P	**P**	**03 53 48.2**	**-0.1**
	comp=Z,3.0nm,0.7s,mb4.4,baz=218,slow=5.2,SNR=9.3						
FORT	**Forrest**	**80.86**	**120**	⇑*i*P	**P**	**03 53 54.2**	**+0.1**
	comp=Z,24nm,0.7s,mb5.2						
QSPA	**South Pole Qui**	**81.70**	**180**	*e*P	**P**	**03 53 58.4**	**+0.9**
	comp=Z,7.6nm,1.0s,mb4.6						
QSPA				LR	LR		
	comp=Z,210nm,21.5s,MS4.5						
BJT	**Baijiatuau**	**82.10**	**48**	*e*P	**P**	**03 54 01.1**	**+0.8**
SSE	**Sheshan**	**83.63**	**57**	*e*P	**P**	**03 54 12.3**	**+3.9**
SSE				AMB	AMB		
	comp=Z,22nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,225nm,4.3s						
SSE	**Sheshan**	**83.63**	**57**	*e*P	**P**	**03 54 12.2**	**+3.8**
	comp=Z,22nm,0.7s,mb5.4						
ASAR	**Alice Springs**	**86.78**	**113**	P	**P**	**03 54 24.1**	**-0.1**
	comp=Z,3.4nm,0.9s,mb4.6,baz=269,slow=4.5,SNR=23						
ASAR				LR	LR	04 27 22.4	
	comp=Z,199nm,19.7s,MS4.5,baz=275,slow=32						
KAKA	**Kakadu**	**86.84**	**102**	*e*P	**P**	**03 54 28.7**	**+4.1**
	comp=Z,10nm,0.9s,mb5.0						
KAKA				*e*		03 54 45.8	
WRA	**Warramunga Arr**	**87.69**	**110**	P	**P**	**03 54 28.4**	**-0.3**
	comp=Z,2.4nm,0.7s,mb4.5,baz=268,slow=2.9,SNR=19						
WRA	**Warramunga Arr**	**87.69**	**110**	P	**P**	**03 54 28.4**	**-0.2**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
WB2	**Warramunga Arr**	**87.70**	**110**	*e*P	**P**	**03 54 28.2**	**-0.5**
WB2				*e*		03 54 45.3	
WRAB	**Tennant Creek**	**87.70**	**110**	*e*P	**P**	**03 54 27.7**	**-0.9**
SBA	**Scott Base**	**88.43**	**170**	P	**P**	**03 54 32.7**	**+1.8**
BDFB	**Brasilia**	**89.51**	**254**	LR	LR	04 32 22.1	
	comp=Z,137nm,18.7s,MS4.4,baz=113,slow=34						
CN2	**Changchun**	**89.75**	**46**	*e*P	**P**	**03 54 39.5**	**+1.6**
STKA	**Stephens Creek**	**92.19**	**122**	*e*P	**P**	**03 54 49.2**	**-0.3**
	comp=Z,4.0nm,2.0s,mb4.4						
STKA				*i*		03 55 05.7	
STKA	**Stephens Creek**	**92.19**	**122**	P	**P**	**03 54 49.5**	**+0.1**
	comp=Z,6.3nm,1.2s,mb4.8,baz=71,slow=7.4,SNR=4.7						
STKA				LR	LR	04 28 46.7	
	comp=Z,216nm,20.3s,MS4.6,baz=205,slow=31						
MDJ	**Mudanjiang**	**92.83**	**45**	P	**P**	**03 54 53.5**	**+1.4**
MDJ				AMB	AMB		
	comp=Z,5.0nm,1.5s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,139nm,4.5s						
CPUP	**Villa Florida**	**96.18**	**242**	LR	LR	04 34 40.5	
	comp=Z,264nm,19.1s,MS4.7,baz=145,slow=33						
TIXI	**Tiksi**	**96.33**	**19**	*e*P	**P**	**03 55 03.1**	**-4.3**
TIXI				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb5.1						
TIXI				MLR	MLR		
	comp=Z,400nm,21.0s,MS4.9						
ILAR	**Eielson Array**	**123.19**	**5**	PKP	PKPdf	04 00 34.9	+0.2
	comp=Z,0.9nm,0.9s,baz=325,slow=3.1,SNR=8.8						
ILAR	**Eielson Array**	**123.19**	**5**	PKIKP	PKPdf	04 00 34.9	+0.2
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
BOZ	**Bozeman (W)**	**137.25**	**335**	*e*sPKPdf		04 01 20.1	
PDAR	**Pinedale Array**	**138.52**	**330**	PKP	PKPdf	04 01 04.7	+0.6
	comp=Z,0.9nm,0.9s,baz=63,slow=3.3,SNR=6.3						
DUG	**Dugway**	**142.06**	**330**	*e*PKPpre		04 01 10.8	
ELK	**Elko**	**142.76**	**333**	*e*PKPpre		04 01 10.0	
MSU	**Marysvale**	**143.01**	**328**	*e*PKPdf	PKPdf	04 01 11.2	-1.0
TXAR	**Lajitas Array**	**143.03**	**309**	PKP	PKPdf	04 01 13.1	+0.5
	comp=Z,0.7nm,0.7s,baz=82,slow=3.1,SNR=11						
MVU	**Marysvale**	**143.03**	**328**	*e*PKPdf	PKPdf	04 01 12.4	+0.2
TRCR	**Troy Canyon**	**144.84**	**331**	*e*PKPdf	PKPdf	04 01 17.7	+2.3
TRCR				*e*sPKPdf		04 01 34.8	
PAHR	**Pah Rah Range**	**145.36**	**337**	*e*PKPdf	PKPdf	04 01 19.4	+3.2
PAHR				*e*sPKPdf		04 01 37.1	
BEKR	**Beckwourth**	**145.59**	**338**	*e*PKPdf	PKPdf	04 01 19.4	+2.7
BEKR				*e*sPKPdf		04 01 36.6	
TPH	**Tonopah**	**145.82**	**333**	*e*PKPdf	PKPdf	04 01 20.4	+3.3
TPH				*e*pPKPdf		04 01 31.8	
TPH				*e*sPKPdf		04 01 37.9	
WCN	**Washoe City**	**145.85**	**337**	*e*PKPdf	PKPdf	04 01 21.0	+3.9
WCN				*e*sPKPdf		04 01 38.3	
MNV	**Mina**	**145.94**	**334**	*e*PKPdf	PKPdf	04 01 20.9	+3.6
MNV				*e*pPKPdf		04 01 32.8	
MNV				*e*sPKPdf		04 01 38.7	
TPNV	**Topopah Spring**	**146.27**	**331**	*e*PKPdf	PKPdf	04 01 20.9	+3.0
TPNV				*e*sPKPdf		04 01 38.6	
OHCM	**Honcut**	**146.46**	**339**	*e*PKPdf	PKPdf	04 01 20.0	+1.8
TUC	**Tucson**	**146.49**	**319**	*e*PKPdf	PKPdf	04 01 22.2	+3.8
NEN	**Nelson**	**146.56**	**327**	*e*PKPdf	PKPdf	04 01 22.6	+4.1
NEN				*e*pPKPdf		04 01 33.9	
NEN				*e*sPKPdf		04 01 39.1	
OMM	**Old Mammoth Mi**	**146.98**	**334**	*e*PKPdf	PKPdf	04 01 23.1	+4.0
MTUM	**Tungsten Hills**	**147.02**	**334**	*e*PKPdf	PKPdf	04 01 24.4	+5.3
MTUM				*e*sPKPdf		04 01 40.5	
LRV	**Little Rabbit**	**148.84**	**336**	*e*PKPbc	PKPdf	04 01 29.6	+7.5

IDC ***29*** *03:44:50.3±1.1, 41.45S×172.71E, mb3.8/4, mb1 4.0/6, mb1mx3.9/11, ML4.1/2, MS3.1/1, Ms1 3.1/1, ms1mx2.3/11, Error ellipse: s-maj=30.8km s-min=25.6km az=113.0*

WEL ***29*** *03:44:51.7±0.1, 41.43S×172.36E, h5^{km}, ML4.8/19, Error ellipse: s-maj=0.7km s-min=0.7km az=90.0, 4.*

WEL Felt between Nelson, West Coast and Wellington, maximum reported intensity MM.

BJI ***29*** *03:44:52.2, 41.40S×172.40E, h12^{km}, mb4.8*

SYO ***29*** *03:44:52.2, 41.44S×172.39E, h12^{km}, MB4.7*

NEIC ***29*** *03:44:52.2, 41.44S×172.39E, h12^{km}, mb4.7/2, ML4.7(WEL), After WEL.*

NEIC Felt at Nelson.

ISC 29 03:44:51.2±0.6**, 41.44S**±0.02×**172.34E**±0.03**, h5**^{km}±4^{km}**,**
n118, σ0^{s}**98**/130**, mb4.2**/7**, 13C-7D, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	 ISC	Time h m s	Res ISC
DSZ	**Denniston Nort**	**0.51**	**232**	⇑PG	**Pg**	**03 45 02.2**	**+0.8**
DSZ				SG	**Sg**	**03 45 09.2**	**+1.1**
DSZ	**Denniston Nort**	**0.51**	**232**	P	**Pg**	**03 45 02.2**	**+0.8**
DSZ				S	**Sg**	**03 45 09.5**	**+1.4**
THZ	**Tophouse**	**0.53**	**128**	⇓PG	**Pg**	**03 45 01.7**	**-0.2**
THZ				SG	**Sg**	**03 45 08.9**	**-0.2**
THZ	**Tophouse**	**0.53**	**128**	P	**Pg**	**03 45 01.7**	**-0.2**
THZ				S	**Sg**	**03 45 08.9**	**-0.2**
QRZ	**Quartz Range**	**0.63**	**13**	⇑P*	**Pb**	**03 45 03.8**	**-0.4**
QRZ				SG	**Sg**	**03 45 12.2**	**-0.1**
QRZ	**Quartz Range**	**0.63**	**13**	P	**Pg**	**03 45 03.8**	**0.0**
QRZ				S	**Sg**	**03 45 12.5**	**+0.3**
NNZ	**Nelson**	**0.81**	**75**	⇑P*	**Pb**	**03 45 06.6**	**-0.9**
NNZ				S*	**Sb**	**03 45 17.1**	**-1.4**
NNZ	**Nelson**	**0.81**	**75**	P	**Pb**	**03 45 06.6**	**-0.8**
BSWZ	**Blackbirch Sta**	**1.19**	**104**	⇓P*	**Pb**	**03 45 14.2**	**+0.4**
BSWZ				S*	**Sb**	**03 45 29.1**	**-0.1**
BSWZ	**Blackbirch Sta**	**1.19**	**104**	P	**Pb**	**03 45 14.2**	**+0.4**
TUWZ	**Tuamarina**	**1.21**	**90**	⇓P*	**Pb**	**03 45 13.3**	**-0.8**
TUWZ				S*	**Sb**	**03 45 30.1**	**+0.2**
KHZ	**Kahutara**	**1.33**	**138**	⇓P*	**Pb**	**03 45 17.3**	**+1.1**
LTZ	**Lake Taylor**	**1.34**	**182**	PN	**Pn**	**03 45 17.6**	**+0.9**
CMWZ	**Cape Campbell**	**1.44**	**103**	PN	**Pn**	**03 45 19.3**	**+1.3**
CMWZ	**Cape Campbell**	**1.44**	**103**	P	**Pn**	**03 45 19.3**	**+1.3**
SNZO	**South Karori**	**1.79**	**87**	PN	**Pn**	**03 45 23.4**	**+0.5**
SNZO				SN	**Sn**	**03 45 45.4**	**-0.8**
SNZO	**South Karori**	**1.79**	**87**	*e*P	**Pn**	**03 45 23.1**	**+0.2**
MRW	**Makara Radio**	**1.79**	**84**	PN	**Pn**	**03 45 23.6**	**+0.6**
MRW				SN	**Sn**	**03 45 45.6**	**-0.7**
WEL	**Wellington**	**1.83**	**86**	PN	**Pn**	**03 45 24.8**	**+1.1**
WEL				SN	**Sn**	**03 45 47.6**	**+0.1**
BHW	**Baring Head**	**1.90**	**90**	PN	**Pn**	**03 45 25.5**	**+0.9**
WVZ	**Waitaha Valley**	**2.02**	**216**	⇑PN	**Pn**	**03 45 25.9**	**-0.5**
KIW	**Kapiti Island**	**2.02**	**74**	⇑PN	**Pn**	**03 45 27.3**	**+1.0**
KIW				SN	**Sn**	**03 45 53.5**	**+1.2**
CAW	**Cannon Point**	**2.08**	**82**	⇑PN	**Pn**	**03 45 28.2**	**+1.0**
CRLZ	**Canterbury Las**	**2.15**	**175**	PN	**Pn**	**03 45 28.0**	**-0.1**
MSWZ	**Moikau Station**	**2.19**	**90**	⇓PN	**Pn**	**03 45 28.7**	**0.0**
MQZ	**McQueen's Vall**	**2.28**	**174**	PN	**Pn**	**03 45 29.2**	**-0.8**
PAWZ	**Paruwai Farm**	**2.32**	**90**	PN	**Pn**	**03 45 30.3**	**-0.3**
MTW	**Mount Morrison**	**2.40**	**84**	⇑PN	**Pn**	**03 45 31.6**	**-0.2**
NRZ	**Ngariki Road**	**2.43**	**31**	⇓PN	**Pn**	**03 45 32.7**	**+0.6**
NWEZ	**Newall Road**	**2.46**	**29**	⇑PN	**Pn**	**03 45 32.9**	**+0.3**
RPZ	**Rata Peaks**	**2.46**	**202**	Pn	**Pn**	**03 45 32.5**	**-0.2**
	34nm,0.3s,baz=341,slow=1.6,SNR=67						
RPZ				Sn	**Sn**	**03 46 12.3**	**+8.8**
	48nm,0.3s,baz=144,slow=14,SNR=10						
RPZ				LR	LR	03 46 49.2	
	comp=Z,368nm,19.1s,baz=142,slow=46						
DFE	**Dawson Falls**	**2.50**	**33**	PN	**Pn**	**03 45 33.7**	**+0.5**
NEZ	**North Egmont**	**2.55**	**32**	PN	**Pn**	**03 45 34.0**	**+0.2**
MRZ	**Mangatainoka R**	**2.57**	**73**	⇑PN	**Pn**	**03 45 34.3**	**+0.1**
PKE	**Pukeiti**	**2.57**	**30**	⇑PN	**Pn**	**03 45 34.6**	**+0.4**
PKE	**Pukeiti**	**2.57**	**30**	P	**Pn**	**03 45 34.6**	**+0.4**
WAZ	**Wanganui**	**2.62**	**51**	PN	**Pn**	**03 45 36.3**	**+1.3**
WAZ	**Wanganui**	**2.62**	**51**	P	**Pn**	**03 45 36.3**	**+1.3**
RAEZ	**Rainy Point**	**2.66**	**37**	PN	**Pn**	**03 45 36.0**	**+0.5**
RAEZ	**Rainy Point**	**2.66**	**37**	P	**Pn**	**03 45 36.1**	**+0.6**
VRZ	**Vera Road**	**2.96**	**39**	⇑PN	**Pn**	**03 45 39.9**	**+0.2**
VRZ	**Vera Road**	**2.96**	**39**	P	**Pn**	**03 45 39.9**	**+0.1**
BFZ	**Birch Farm**	**3.05**	**77**	PN	**Pn**	**03 45 39.9**	**-1.1**
BFZ	**Birch Farm**	**3.05**	**77**	*e*P	**Pn**	**03 45 39.8**	**-1.2**
TSZ	**Takapari Road**	**3.08**	**65**	PN	**Pn**	**03 45 41.9**	**+0.5**
TSZ	**Takapari Road**	**3.08**	**65**	*e*P	**Pn**	**03 45 41.9**	**+0.5**
WNVZ	**Wahianoa**	**3.26**	**51**	⇑PN	**Pn**	**03 45 44.5**	**+0.4**
WNVZ	**Wahianoa**	**3.26**	**51**	P	**Pn**	**03 45 44.6**	**+0.6**
DRZ	**Dome Shelter**	**3.28**	**50**	P	**Pn**	**03 45 45.8**	**+1.5**
MOVZ	**Moawhango**	**3.30**	**53**	PN	**Pn**	**03 45 45.0**	**+0.4**
WPVZ	**Whakapapa**	**3.31**	**49**	PN	**Pn**	**03 45 45.2**	**+0.5**
WPVZ	**Whakapapa**	**3.31**	**49**	P	**Pn**	**03 45 45.2**	**+0.4**
CNZ	**Chateau**	**3.32**	**49**	PN	**Pn**	**03 45 45.3**	**+0.4**
CNZ	**Chateau**	**3.32**	**49**	P	**Pn**	**03 45 45.3**	**+0.4**
TUVZ	**Tukino**	**3.33**	**51**	PN	**Pn**	**03 45 45.4**	**+0.4**
TUVZ	**Tukino**	**3.33**	**51**	P	**Pn**	**03 45 45.8**	**+0.7**
LBZ	**Lake Benmore**	**3.34**	**208**	PN	**Pn**	**03 45 44.1**	**-1.1**
TWVZ	**Taurewa**	**3.35**	**46**	PN	**Pn**	**03 45 45.7**	**+0.5**
TWVZ	**Taurewa**	**3.35**	**46**	P	**Pn**	**03 45 45.8**	**+0.5**
NGZ	**Ngauruhoe**	**3.37**	**49**	PN	**Pn**	**03 45 45.7**	**+0.1**
NGZ	**Ngauruhoe**	**3.37**	**49**	P	**Pn**	**03 45 45.8**	**+0.3**
WTVZ	**West Tongariro**	**3.40**	**48**	PN	**Pn**	**03 45 46.1**	**+0.1**
WTVZ	**West Tongariro**	**3.40**	**48**	P	**Pn**	**03 45 46.2**	**+0.2**
KAVZ	**Karewarewa**	**3.44**	**48**	PN	**Pn**	**03 45 46.8**	**+0.1**
KAVZ	**Karewarewa**	**3.44**	**48**	P	**Pn**	**03 45 46.9**	**+0.3**
MGZ	**Maungaku**	**3.45**	**46**	PN	**Pn**	**03 45 47.0**	**+0.2**
MGZ	**Maungaku**	**3.45**	**46**	P	**Pn**	**03 45 47.0**	**+0.2**
HIZ	**Hauiti**	**3.50**	**34**	⇑PN	**Pn**	**03 45 46.6**	**-0.8**
KATZ	**Kakaramea**	**3.56**	**47**	PN	**Pn**	**03 45 48.3**	**0.0**
KATZ	**Kakaramea**	**3.56**	**47**	P	**Pn**	**03 45 48.4**	**+0.2**
RATZ	**Rangitukua**	**3.68**	**47**	PN	**Pn**	**03 45 49.8**	**-0.1**
RATZ	**Rangitukua**	**3.68**	**47**	P	**Pn**	**03 45 50.3**	**+0.4**
WATZ	**Wairara**	**3.77**	**45**	PN	**Pn**	**03 45 51.3**	**+0.1**
WATZ	**Wairara**	**3.77**	**45**	P	**Pn**	**03 45 51.8**	**+0.6**
ODZ	**Otahua Downs**	**3.81**	**198**	PN	**Pn**	**03 45 50.5**	**-1.3**
ODZ				SN	**Sn**	**03 46 34.2**	**-3.4**
ODZ	**Otahua Downs**	**3.81**	**198**	*e*P	**Pn**	**03 45 50.7**	**-1.1**

BKZ	**Black Stump Fm**	**3.90**	**56**	PN	**Pn**	**03 45 52.2**	**-0.9**
BKZ	**Black Stump Fm**	**3.90**	**56**	*e*P	**Pn**	**03 45 52.1**	**-1.0**
WKZ	**Wanaka**	**4.17**	**215**	PN	**Pn**	**03 45 55.3**	**-1.7**
PATZ	**Paeroa**	**4.29**	**46**	PN	**Pn**	**03 45 59.1**	**+0.5**
PATZ	**Paeroa**	**4.29**	**46**	P	**Pn**	**03 45 59.4**	**+0.7**
UTU	**Utuhina**	**4.41**	**44**	P	**Pn**	**03 46 00.3**	**0.0**
TOZ	**Tahuroa Road**	**4.44**	**34**	PN	**Pn**	**03 45 59.5**	**-1.3**
TOZ	**Tahuroa Road**	**4.44**	**34**	P	**Pn**	**03 45 59.5**	**-1.2**
TAZ	**Tarawera**	**4.53**	**46**	*e*PN	**Pn**	**03 46 02.2**	**+0.1**
TAZ	**Tarawera**	**4.53**	**46**	P	**Pn**	**03 46 02.2**	**+0.1**
EDRZ	**Edgecumbe**	**4.75**	**47**	P	**Pn**	**03 46 05.5**	**+0.3**
MKAZ	**Moumakai**	**4.85**	**28**	PN	**Pn**	**03 46 05.5**	**-1.0**
URZ	**Urewera**	**4.85**	**51**	Pn	**Pn**	**03 46 03.6**	**-3.0**
	7.8nm,0.3s,baz=250,slow=7.8,SNR=25						
URZ				Sn	**Sn**	**03 47 05.0**	**+1.0**
	12nm,0.3s,baz=111,slow=18,SNR=2.8						
URZ	**Urewera**	**4.85**	**51**	PN	**Pn**	**03 46 03.9**	**-2.8**
URZ	**Urewera**	**4.85**	**51**	*e*P	**Pn**	**03 46 03.9**	**-2.7**
TUZ	**Tuapeka**	**4.92**	**203**	*e*PN	**Pn**	**03 46 05.4**	**-2.2**
KAAZ	**Kauri Point**	**4.96**	**23**	P	**Pn**	**03 46 05.4**	**-2.8**
MWZ	**Matawai**	**5.05**	**54**	PN	**Pn**	**03 46 06.5**	**-3.0**
MWZ	**Matawai**	**5.05**	**54**	*e*P	**Pn**	**03 46 06.5**	**-3.0**
MTAZ	**Motutapu**	**5.06**	**24**	PN	**Pn**	**03 46 08.5**	**-1.0**
MTAZ	**Motutapu**	**5.06**	**24**	P	**Pn**	**03 46 08.7**	**-0.8**
MYRZ	**Mayor Island**	**5.14**	**37**	*e*PN	**Pn**	**03 46 08.5**	**-2.1**
KUZ	**Kuaotunu**	**5.37**	**30**	PN	**Pn**	**03 46 12.1**	**-1.9**
KUZ	**Kuaotunu**	**5.37**	**30**	P	**Pn**	**03 46 12.2**	**-1.8**
WCZ	**Waipu Caves**	**5.71**	**17**	PN	**Pn**	**03 46 17.1**	**-1.6**
WCZ	**Waipu Caves**	**5.71**	**17**	P	**Pn**	**03 46 17.1**	**-1.6**
OUZ	**Omahuta**	**6.29**	**9**	PN	**Pn**	**03 46 25.2**	**-1.7**
OUZ	**Omahuta**	**6.29**	**9**	*e*P	**Pn**	**03 46 25.5**	**-1.4**
ASAR	**Alice Springs**	**36.57**	**287**	P	**P**	**03 52 00.3**	**+0.5**
	0.4nm,0.5s,mb3.5,baz=128,slow=8.0,SNR=6.7						
WRA	**Warramunga Arr**	**38.66**	**292**	P	**P**	**03 52 17.4**	**0.0**
	1.7nm,1.1s,mb3.7,baz=127,slow=8.3,SNR=4.6						
FITZ	**Fitzroy Crossi**	**46.05**	**286**	P	**P**	**03 53 19.1**	**+1.4**
	1.5nm,0.9s,mb3.9,baz=124,slow=7.6,SNR=4.3						
QSPA	**South Pole Qui**	**48.69**	**180**	*e*P	**P**	**03 53 40.3**	**+2.7**
	4.0nm,0.8s,mb4.5						
MAW	**Mawson**	**59.14**	**205**	P	**P**	**03 54 53.7**	**-0.9**
	0.7nm,0.5s,mb4.0,baz=135,slow=5.7,SNR=3.3						
SYO	**Syowa Base**	**64.46**	**197**	⇓pP	**P**	**03 55 29.9**	**-0.3**
KMI	**Kunming**	**92.34**	**302**	*e*P	**P**	**03 58 06.3**	**+2.4**
KMI				AMB	AMB		
	comp=Z,5.0nm,1.2s,mb4.7						
KMI	**Kunming**	**92.34**	**302**	*e*P	**P**	**03 58 06.3**	**+2.4**
	comp=Z,5.0nm,1.2s,mb4.7						
MDJ	**Mudanjiang**	**93.85**	**331**	P	**P**	**03 58 11.0**	**+0.6**
MDJ				AMB	AMB		
	comp=Z,3.0nm,0.6s,mb4.9						
CN2	**Changchun**	**94.74**	**328**	*e*P	**P**	**03 58 15.8**	**+1.3**
DBIC	**Dimbokro**	**145.29**	**185**	PKPbc	PKPbc	04 04 28.9	-1.9
	comp=Z,2.7nm,0.7s,baz=46,slow=14,SNR=7.0						
ARCES	**ARCESS Array B**	**146.99**	**339**	PKPbc	PKPbc	04 04 32.8	-0.4
	comp=Z,2.5nm,0.7s,baz=63,slow=2.7,SNR=8.6						
BRTR	**Keskin Array B**	**148.79**	**281**	PKPbc	PKPdf	04 04 40.0	+2.0
	comp=Z,0.4nm,0.5s,baz=135,slow=4.1,SNR=3.4						
FINES	**FINESS Array B**	**151.48**	**326**	PKPbc	PKPdf	04 04 43.6	+2.3
	comp=Z,1.1nm,0.6s,baz=63,slow=4.3,SNR=5.2						

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*NEIC **29** 04:03:36.2±0.5, 51.56N×16.11E, h5^{km}, ML2.9(SZGRF), ML2.8(VIE), ML2.8(FUR), ML2.5(BRG), Error ellipse: s-maj=5.6km s-min=4.4km az=52.0*
*PRU **29** 04:03:37.6, 51.46N×16.09E*
*WAR **29** 04:03:37.8, 51.49N×16.05E, ML2.9, Mining Induced*
*IDC **29** 04:03:38.0±0.7, 51.52N×15.81E, mb1 3.4/7, mb1mx3.3/21, ML3.1/7, Error ellipse: s-maj=12.2km s-min=6.6km az=100.0*
ISC 29 04:03:35.8±0.6, **51.44N**±0.03×**16.03E**±0.03, **n29**, σ1^{s}**25**/58, **1C-3D, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.62**	**164**	*e*PG	**Pg**	**04 03 50.0**	**+1.9**
KSP				*e*SG	**Sg**	**04 03 58.0**	**+1.6**
KSP	**Ksiaz**	**0.62**	**164**	⇓*i*Pg	**Pg**	**04 03 49.9**	**+1.8**
KSP				*e*Sg	**Sg**	**04 03 58.4**	**+2.0**
UPC	**Upice**	**0.93**	**181**	*e*PG	**Pg**	**04 03 55.7**	**+1.3**
DPC	**Dobruska-Polom**	**1.10**	**170**	*e*PG	**Pg**	**04 03 58.6**	**+0.8**
DPC				*e*SG	**Sg**	**04 04 13.5**	**+0.9**
	25nm,0.3s						
PVCC	**Panska Ves**	**1.30**	**226**	*e*PG	**Pg**	**04 04 02.3**	**+0.6**
BRG	**Berggiesshubel**	**1.43**	**248**	*e*Pn	**Pn**	**04 04 03.5**	**+0.4**
BRG				*i* Pg	**Pg**	**04 04 04.9**	**+0.5**
BRG				*i* Sg	**Sg**	**04 04 24.8**	**+1.3**
PRU	**Pruhonice**	**1.73**	**214**	*e*PN	**Pn**	**04 04 08.0**	**+0.6**
PRU				PG	**Pg**	**04 04 09.9**	**-0.5**
PRU				*i* x	x	04 04 14.0	
PRU				*e*x	x	04 04 27.0	
PRU				*e*SG	**Sg**	**04 04 33.1**	**-0.4**
	21nm,0.3s						
CLL	**Collm**	**1.90**	**267**	*i* PN	**Pn**	**04 04 09.9**	**+0.1**
CLL				*i* PG	**Pg**	**04 04 12.5**	**-1.3**
CLL				*i* SG	**Sg**	**04 04 38.4**	**-0.7**
MORC	**Moravsky Berou**	**1.92**	**149**	*e*P	**Pn**	**04 04 10.6**	**+0.6**
GKP	**Gorka Klasztor**	**1.98**	**21**	*e*Pg	**Pg**	**04 04 19.2**	**+3.9**
OKC	**Ostrava-Krasne**	**2.09**	**139**	*e*PG	**Pg**	**04 04 17.3**	**-0.3**
OKC				*e*SG	**Sg**	**04 04 43.1**	**-2.4**
VRAC	**Vranov**	**2.16**	**170**	Pn	**Pn**	**04 04 15.6**	**+2.0**
	1.5nm,0.3s,baz=330,slow=15,SNR=7.0						
VRAC				Pg	**Pg**	**04 04 21.4**	**+2.4**
	2.1nm,0.3s,baz=346,slow=16,SNR=5.3						
VRAC				Lg		04 04 48.2	
	2.6nm,0.3s,baz=254,slow=20,SNR=3.0						
NKC	**Novy Kostel**	**2.57**	**243**	*e*PN	**Pn**	**04 04 20.4**	**+1.0**
NKC				*e*PG	**Pg**	**04 04 27.6**	**+0.5**
NKC				*e*SG	**Sg**	**04 05 02.2**	**+0.8**
OJC	**Ojcow**	**2.68**	**116**	*e*PG	**Pg**	**04 04 27.0**	**-2.3**
OJC				*e*SG	**Sg**	**04 05 04.0**	**-1.1**
OJC	**Ojcow**	**2.68**	**116**	*e*Pg	**Pg**	**04 04 27.5**	**-1.8**
OJC				*e*Sg	**Sg**	**04 05 03.8**	**-1.3**
KHC	**Kasperske Hory**	**2.79**	**215**	*e*PN	**Pn**	**04 04 23.1**	**+0.5**
KHC				*e*PG	**Pg**	**04 04 29.2**	**-2.4**
KHC				*e*SN	**Sn**	**04 04 58.0**	**+0.5**
KHC				*e*SG	**Sg**	**04 05 08.0**	**-0.8**
MOX	**Moxa**	**2.90**	**256**	*i* P	**Pn**	**04 04 24.0**	**0.0**
MOX				Pg	**Pg**	**04 04 32.0**	**-1.7**
MOX				Sg	**Sg**	**04 05 12.0**	**-0.3**
MOX	**Moxa**	**2.90**	**256**	*e*Pn	**Pn**	**04 04 24.0**	**0.0**
MOX				*e*Pg	**Pg**	**04 04 32.3**	**-1.4**
MOX				*e*Sg	**Sg**	**04 05 11.7**	**-0.6**
GEC2	**GERESS Array S**	**3.00**	**211**	*e*Pn	**Pn**	**04 04 27.2**	**+1.7**
GEC2				*e*Sg	**Sg**	**04 05 14.0**	**-1.6**
GERES	**GERESS Array B**	**3.00**	**211**	Pn	**Pn**	**04 04 26.6**	**+1.2**
	1.1nm,0.3s,baz=29,slow=12,SNR=32						
GERES				Pg	**Pg**	**04 04 32.9**	**-2.7**
	2.8nm,0.3s,baz=28,slow=17,SNR=26						
GERES				Sn	**Sn**	**04 05 03.0**	**+0.4**
	1.8nm,0.3s,baz=29,slow=22,SNR=5.5						
GERES				Lg		04 05 12.9	
	3.6nm,0.3s,baz=27,slow=26,SNR=9.8						
WET	**Wettzell**	**3.06**	**223**	*e*Pn	**Pn**	**04 04 27.0**	**+0.7**
WET				*e*Sg	**Sg**	**04 05 15.7**	**-1.9**
MOA	**Molln**	**3.77**	**198**	⇓*i*PN	**Pn**	**04 04 37.2**	**+0.8**
MOA				*i* SG	**Sg**	**04 05 40.7**	**-0.6**
	8.5nm,0.6s						
ARSA	**Arzberg**	**4.20**	**185**	⇓*i*PN	**Pn**	**04 04 43.3**	**+0.7**
ARSA				*i* SG	**Sg**	**04 05 52.4**	**-3.4**
	9.4nm,0.9s						
KBA	**Koelnbreinsper**	**4.70**	**203**	⇑*i*PN	**Pn**	**04 04 50.3**	**+0.6**
KBA				*i* SG	**Sg**	**04 06 10.6**	**-1.8**
	4.7nm,0.5s						
AKASG	**Malin Array Be**	**8.35**	**90**	Pn	**P**	**04 05 38.8**	**-2.1**
	0.7nm,0.3s,baz=278,slow=12,SNR=3.7						
HFS	**Hagfors**	**8.82**	**352**	Pn	**P**	**04 05 42.8**	**-4.7**
	0.0nm,0.3s,baz=168,slow=14,SNR=5.3						
NOA	**NORSAR Array B**	**9.99**	**346**	Pn	**P**	**04 05 58.3**	**-5.2**
	0.1nm,0.3s,baz=168,slow=13,SNR=2.9						
FINES	**FINESS Array B**	**11.45**	**25**	Pn	**P**	**04 06 18.4**	**-5.1**
	0.2nm,0.3s,baz=210,slow=9.7,SNR=5.7						
ARCES	**ARCESS Array B**	**18.70**	**10**	Pn	**P**	**04 07 51.0**	**-6.4**
	0.2nm,0.3s,baz=196,slow=13,SNR=6.5						

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*INMG **29** 04:09:38.5±1.1, 42.42N×8.10W, h20^{km}±21^{km}, ML1.5, Error ellipse: s-maj=2.8km s-min=2.0km az=72.0*
MDD 29 04:09:38.6±0.3, **42.41N×8.09W, mbLg1.6**/11, **1C-2D, Error ellipse: s-maj=3.1km s-min=2.0km az=64.0, PRXIMO, Spain**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EZAM	**Zamans**	**0.52**	**240**	Pg	Pg	04 09 48.1	-0.9
	0.9nm,0.0s,SNR=6.4						
EZAM				Lg		04 09 54.8	
	2.2nm,0.1s,SNR=5.0						
ELOB	**Lobios**	**0.54**	**178**	⇑Pg	Pg	04 09 48.7	-0.7
	2.7nm,0.1s,SNR=18						
ELOB				Lg		04 09 56.0	
	4.0nm,0.1s,SNR=26						
STS	**Santiago**	**0.59**	**324**	⇓Pg	Pg	04 09 50.1	-0.2
	7.6nm,0.1s,SNR=18						
STS				Lg		04 09 56.8	
	13nm,0.2s,SNR=7.9						
ERUA	**La Rua**	**0.70**	**91**	Pg	Pg	04 09 51.4	-1.2
	0.8nm,0.2s,SNR=7.9						
ERUA				Lg		04 10 00.8	
	3.5nm,0.2s,SNR=12						
EMAZ	**Mazaricos**	**0.85**	**310**	⇓Pg	Pg	04 09 53.5	-2.0
	4.0nm,0.1s,SNR=18						
EMAZ				Lg		04 10 04.4	
	4.4nm,0.1s,SNR=21						
ECAL	**Calabor**	**1.11**	**115**	Pg	Pg	04 09 59.0	-1.6
	1.7nm,0.1s,SNR=12						
ECAL				Lg		04 10 13.8	
	4.1nm,0.1s,SNR=5.0						
EPON	**Pontenova**	**1.15**	**37**	Pg	Pg	04 09 58.0	-3.4
	0.8nm,0.1s,SNR=6.1						
EPON				Lg		04 10 12.4	
	2.5nm,0.1s,SNR=5.0						
PVRL	**Vila Real**	**1.17**	**166**	*e*Pg	Pg	04 10 00.0	-1.9
PVRL				*e*Sg	Sg	04 10 15.6	-1.8
	14nm,0.2s						
PVRL	**Vila Real**	**1.17**	**166**	Pg	Pg	04 10 00.0	-1.9
PVRL				Lg		04 10 15.6	
	6.8nm,0.2s						
PBRG	**Braganca**	**1.17**	**121**	*e*Pg	Pg	04 10 00.1	-1.8
PBRG				*e*Sg	Sg	04 10 15.3	-2.2
	4.0nm,0.1s						
PBRG	**Braganca**	**1.17**	**121**	Pg	Pg	04 10 00.1	-1.8
PBRG				Lg		04 10 15.3	
	2.0nm,0.1s						
PVIS	**Viseu**	**1.70**	**175**	*e*Sg	Sg	04 10 31.0	-4.2
	4.1nm,0.1s						
PVIS	**Viseu**	**1.70**	**175**	Lg		04 10 31.0	
	2.0nm,0.1s						
MTE	**Manteigas**	**2.05**	**168**	*e*Sg	Sg	04 10 41.6	-5.2
	2.2nm,0.2s						
MTE	**Manteigas**	**2.05**	**168**	Lg		04 10 41.6	
	1.1nm,0.2s						
EARI	**Arriondas**	**2.29**	**66**	Lg		04 10 50.8	
	0.5nm,0.2s,SNR=4.0						
PCBR	**Castelo Branco**	**2.61**	**170**	*e*Sg	Sg	04 10 59.1	-6.3

IDC 29 04:21:56.0±2.5, **16.38S×173.68W, mb3.9**/4, **mb1 4.1**/4, **mb1mx4.0**/13, **Error ellipse: s-maj=181.0km s-min=32.0km az=149.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**43.32**	**241**	P	P	04 30 00.7	-0.9
	2.5nm,0.7s,baz=91,slow=9.6,SNR=5.9						
WRA	**Warramunga Arr**	**49.36**	**258**	P	P	04 30 47.1	-2.4
	0.3nm,0.4s,baz=97,slow=7.3,SNR=15						
ASAR	**Alice Springs**	**49.56**	**253**	P	P	04 30 48.8	-2.2
	1.1nm,0.4s,baz=90,slow=8.1,SNR=29						
PDAR	**Pinedale Array**	**83.17**	**42**	P	P	04 34 24.4	-1.0
	0.4nm,0.6s,baz=233,slow=4.5,SNR=4.4						

PRE 29 04:29:58.9±1.1, **26.43S×27.37E, h2^{km}, ML3.6, South Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSR	**Koster**	**0.70**	**323**	*e*P	Pg	04 30 12.0	-1.0
KSR				*e*S	Sg	04 30 21.2	-1.2
KSR				*e*		04 30 27.5	
	comp=Z,2μm,0.2s						
SLR	**Silverton**	**1.07**	**50**	*e*P	Pb	04 30 17.3	-2.5
SLR				*e*S	Sb	04 30 32.8	-1.3
SLR				*e*		04 30 35.9	
	comp=Z,2μm,0.3s						
SEK	**Senekal**	**1.90**	**173**	*e*P	Pn	04 30 32.1	-0.5
SEK				*e*S	Sn	04 30 55.8	-1.7
SEK				*e*		04 30 58.1	
	comp=Z,724nm,0.2s						
NWL	**Newcastle**	**2.64**	**120**	*e*S	Sn	04 31 13.5	-2.7
PKA	**Prieska**	**5.20**	**231**	*e*P	Pn	04 31 37.5	+18

IGQ 29 04:35:41.8, 2.74S×79.48W, h19^{km}±7^{km}, mb4.1, 7C-3D, Error ellipse: s-maj=8.7km s-min=2.6km az=58.0, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IGUA	**Igualata**	**1.50**	**34**	⇑P	Pn	04 36 10.4	+2.5
IGUA				S	Sn	04 36 31.4	+4.3
ARRY	**Arrayan**	**1.59**	**40**	⇓P	Pn	04 36 10.7	+1.4
ARRY				S	Sn	04 36 31.9	+2.4
PATA	**Patacocha**	**1.61**	**40**	⇑P	Pn	04 36 11.5	+2.0
PATA				S	Sn	04 36 31.9	+2.0
CUSU	**Cusua**	**1.63**	**38**	⇑P	Pn	04 36 12.0	+2.2
CUSU				S	Sn	04 36 32.6	+2.2
RETU	**Refugio**	**1.64**	**39**	P	Pn	04 36 12.6	+2.7
RETU				S	Sn	04 36 34.3	+3.6
JUIV	**Juive**	**1.65**	**38**	⇓P	Pn	04 36 12.0	+1.9
JUIV				S	Sn	04 36 33.9	+2.9
QIL1	**Quilotoa**	**1.96**	**16**	⇑P	Pn	04 36 16.1	+1.6
QIL1				S	Sn	04 36 41.7	+3.0
HOJA	**Cerro de Hojas**	**1.99**	**327**	P	Pn	04 36 16.2	+1.2
PISA	**Pisayambo**	**2.00**	**33**	⇑P	Pn	04 36 17.4	+2.4
TAMB	**Tambo**	**2.31**	**29**	P	Pn	04 36 22.1	+2.5
NAS1	**Nasa**	**2.32**	**25**	P	Pn	04 36 22.1	+2.4
VC1	**Cotopaxi 1**	**2.34**	**27**	P	Pn	04 36 22.6	+2.6
ANTI	**Antisana**	**2.63**	**30**	P	Pn	04 36 25.5	+1.4
JUA2	**San Juan 2**	**2.66**	**19**	P	Pn	04 36 28.3	+3.8
CGGP	**Crater GGP**	**2.69**	**19**	⇑P	Pn	04 36 27.6	+2.6
GGP	**Refugio Guagua**	**2.70**	**19**	⇑P	Pn	04 36 27.6	+2.6
PINO	**Pino**	**2.71**	**19**	⇓P	Pn	04 36 27.4	+2.1
YANA	**Yana**	**2.76**	**19**	P	Pn	04 36 27.6	+1.6
JOR1	**San Jorge 1**	**2.85**	**17**	P	Pn	04 36 26.5	-0.7
CAYR	**Refugio Cayamb**	**3.11**	**28**	P	Pn	04 36 33.5	+2.6
COTA	**Cotacachi**	**3.26**	**20**	P	Pn	04 36 35.9	+2.8

IDC 29 04:49:56.7±2.2, **7.29S×152.04E, mb3.5**/4, **mb1 3.8**/4, **mb1mx3.8**/12, **MS3.8**/1, **Ms1 3.8**/1, **ms1mx2.7**/16, **Error ellipse: s-maj=115.0km s-min=28.8km az=132.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.28**	**232**	P	P	04 54 45.6	-1.5
	1.0nm,0.7s,baz=57,slow=11,SNR=7.7						
ASAR	**Alice Springs**	**23.83**	**225**	P	P	04 55 11.2	-1.3
	0.9nm,0.8s,baz=67,slow=8.9,SNR=8.7						
FITZ	**Fitzroy Crossi**	**27.86**	**245**	P	P	04 55 48.0	-2.2
	0.8nm,0.5s,baz=78,slow=14,SNR=6.1						
JOW	**Kunigami**	**41.00**	**327**	LR	LR	05 11 54.7	
	comp=Z,143nm,21.9s,baz=306,slow=32						
ILAR	**Eielson Array**	**84.74**	**22**	P	P	05 02 32.7	-0.9
	0.3nm,0.7s,baz=245,slow=5.0,SNR=5.2						

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*IDC **29** 04:55:34.3±0.6, 43.93N×83.40E, mb4.2/16, mb1 4.4/19, mb1mx4.3/23, ML4.4/3, MS3.4/2, Ms1 3.4/2, ms1mx2.6/19, Error ellipse: s-maj=17.7km s-min=9.4km az=60.0*
*LDG **29** 04:55:35.4±0.2, 43.87N×83.29E, h23^{km}, Mb4.5/20, Ms3.3/1, Error ellipse: s-maj=8.4km s-min=5.5km az=73.0*
*BJI **29** 04:55:37.2, 44.01N×83.41E, h22^{km}, mB4.6, mb4.4, ML4.6*
*NEIC **29** 04:55:38.1±0.2, 44.03N×83.41E, mb4.5/28, Error ellipse: s-maj=6.7km s-min=4.8km az=220.0*
*MOS **29** 04:55:38.2±0.9, 44.06N×83.37E, h33^{km}, mb4.6/17, Error ellipse: s-maj=19.5km s-min=9.3km az=117.2*
*NNC **29** 04:55:45.9±1.7, 44.29N×82.61E, h30^{km}±10^{km}, mpv4.4, Error ellipse: s-maj=12.9km s-min=8.2km az=97.0*
ISC 29 04:55:36.0±1.5, **44.01N**±0.05×**83.32E**±0.07, **h21**^{km}±11^{km}, **h22**^{km}±.3^{km}**:pP-P, n101,** σ**0**^{s}**98**/114, **mb4.5**/43, **MS3.6**/5, **19C-4D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**2.88**	**346**	Pn	**Pn**	**04 56 24.6**	**+2.9**
	17nm,0.3s,baz=168,slow=16,SNR=353						
MKAR				Pg	**Pn**	**04 56 30.4**	**+8.7**
	153nm,0.3s,baz=158,slow=18,SNR=79						
MKAR				Sn	**Sn**	**04 56 59.4**	**+3.2**
	135nm,0.3s,baz=165,slow=19,SNR=15						
MKAR				Lg		04 57 06.7	
	236nm,0.3s,baz=158,slow=31,SNR=10						
MKAR				LR	LR	04 57 47.0	
	comp=Z,348nm,21.1s,baz=115,slow=45						
MKAR	**Makanchi Array**	**2.88**	**346**	P	**Pn**	**04 56 24.6**	**+2.8**
MKAR						04 56 59.4	
MKAR				pmax	pmax		
	comp=Z,17nm,0.3s						
MKAR				pmax	pmax		
	comp=Z,153nm,0.3s						
MKAR				smax			
	comp=N,135nm,0.3s						
MKAR				MLR	MLR		
	comp=Z,348nm,21.1s						
MKAR	**Makanchi Array**	**2.88**	**346**	Pn	**Pn**	**04 56 24.6**	**+2.9**
MKAR				Pg	**Pn**	**04 56 30.4**	**+8.7**
MKAR				Sn	**Sn**	**04 56 59.4**	**+3.2**
MKAR				Lg		04 57 06.7	
MKAR				LR	LR	04 57 47.0	
WMQ	**Urumqi**	**3.17**	**92**	P	**Pn**	**04 56 29.0**	**+3.1**
WMQ				SG	**Sn**	**04 57 15.5**	**+12**
WMQ				Smax			
	comp=N,556nm,0.6s						
WMQ				Smax			
	comp=E,366nm,0.8s						
AAA	**Alma-Ata**	**4.68**	**263**	*e*P	**Pn**	**04 57 05.3**	**+18**
AAA				pmax	pmax		
	comp=Z,400nm,0.8s						
FRU	**Bishkek**	**6.44**	**263**	*e*P	**Pn**	**04 57 14.0**	**+1.8**
FRU				pmax	pmax		
	comp=N,520nm,1.4s						
AAK	**Ala-Archa**	**6.58**	**261**	⇑Pn	**Pn**	**04 57 16.3**	**+2.1**
	comp=N,44nm,0.9s						
AAK				⇓Pg	Pn	04 57 36.7	+23
AAK				⇑Lg		04 59 01.0	
	comp=N,107nm,0.7s						
AAK	**Ala-Archa**	**6.58**	**261**	*e*P	**Pn**	**04 57 15.3**	**+1.1**
	comp=N,2.8nm,0.3s						
KURK	**Kurchatov**	**7.43**	**336**	⇑Pn	**Pn**	**04 57 24.9**	**-1.1**
	comp=N,6.5nm,0.7s,baz=166,slow=9.9,SNR=13						
KURK				⇑Pg	Pn	04 57 51.5	+25
	comp=N,15nm,0.3s,baz=176,slow=11,SNR=4.1						
KURK				⇑Sn	**Sn**	**04 58 46.5**	**-4.1**
	comp=N,18nm,0.6s,baz=100,slow=16,SNR=9.2						
KURK				⇓Lg		04 59 28.2	
	comp=N,93nm,0.8s,baz=303,slow=8.1,SNR=9.1						
KURK	**Kurchatov**	**7.43**	**336**	⇑*i*P	**Pn**	**04 57 25.0**	**-1.1**
KURK	**Kurchatov**	**7.43**	**336**	*e*P	**Pn**	**04 57 24.4**	**-1.7**
	comp=N,3.7nm,0.5s						
NVS	**Novosibirsk**	**10.85**	**360**	*e*P	**P**	**04 58 19.3**	**+6.2**
NVS				*e*S	**S**	**05 00 04.5**	**-10**
VOSK	**Vostochnaya**	**11.96**	**321**	⇑Pn	**P**	**04 58 26.6**	**-1.7**
	comp=N,12nm,0.7s						
VOSK				⇑Sn	**S**	**05 00 34.1**	**-8.0**
	comp=N,22nm,0.9s						
VOSK				⇑Lg		05 01 48.5	
	comp=N,45nm,1.0s						
BVA0	**Borovoye Array**	**12.43**	**321**	⇑Pn	**P**	**04 58 33.3**	**-1.2**
	comp=N,1.3nm,0.9s,baz=130,slow=13,SNR=38						
BVA0				⇑Sn	**S**	**05 00 44.8**	**-8.6**
	comp=N,1.3nm,0.7s,baz=132,slow=23,SNR=6.4						
BVA0				⇑Lg		05 02 04.6	
	comp=N,5.5nm,0.8s,baz=117,slow=31,SNR=3.9						
BVAR	**Borovoye Array**	**12.43**	**321**	Pn	**P**	**04 58 32.7**	**-1.8**
	comp=N,2.6nm,0.3s,baz=135,slow=15,SNR=35						
BVAR				Sn	**S**	**05 00 46.1**	**-7.4**
	comp=N,1.8nm,0.3s,baz=125,slow=23,SNR=5.0						
BVAR				Lg		05 02 10.9	
	comp=N,1.3nm,0.3s,baz=147,slow=30,SNR=3.8						
BRVK	**Borovoye**	**12.50**	**321**	P	**P**	**04 58 35.4**	**-0.1**
BRVK	**Borovoye**	**12.50**	**321**	*e*P	**P**	**04 58 34.2**	**-1.3**
	comp=N,7.6nm,0.5s						
ZRNK	**Zerenda**	**13.03**	**318**	⇑Pn	**P**	**04 58 40.7**	**-1.8**
	comp=N,12nm,0.3s						
ZRNK				⇓Sn	**S**	**05 00 58.9**	**-8.9**
	comp=N,17nm,0.8s						
ZRNK				⇑Lg		05 02 21.3	
	comp=N,62nm,1.4s						
ZRNK	**Zerenda**	**13.03**	**318**	*e*P	**P**	**04 58 40.8**	**-1.8**
	comp=N,34nm,0.4s						
GKN	**Gorkha**	**16.00**	**176**	*e*P	**P**	**04 59 20.1**	**-1.4**
	comp=N,9.7nm,0.4s						
GUN	**Gumba**	**16.19**	**172**	*e*P	**P**	**04 59 25.7**	**+1.8**
	comp=N,16nm,0.6s						
KOLN	**Koldanda**	**16.20**	**179**	*e*P	**P**	**04 59 18.3**	**-5.8**
	comp=N,11nm,0.6s						
KKN	**Kakani**	**16.26**	**174**	*e*P	**P**	**04 59 23.8**	**-1.0**
	comp=N,14nm,0.6s						
DMN	**Daman**	**16.43**	**174**	*e*P	**P**	**04 59 23.6**	**-3.3**
	comp=N,8.7nm,0.7s						
PKI	**Pulchoki**	**16.49**	**173**	*e*P	**P**	**04 59 26.1**	**-1.6**
	comp=N,12nm,0.7s						
SONM	**Songino Array**	**16.49**	**68**	Pn	**P**	**04 59 26.8**	**-0.8**
	comp=N,0.8nm,0.3s,baz=48,slow=35,SNR=3.4						
SONM				Lg		05 04 18.3	
	comp=N,0.3nm,0.3s,baz=257,slow=32,SNR=2.5						
SVE	**Sverdlovsk**	**19.21**	**320**	*e*P	**P**	**05 00 00.0**	**-1.1**
ARU	**Arti**	**20.00**	**317**	⇑*i*P	**P**	**05 00 11.0**	**+1.1**
ARU				*e*S	**S**	**05 03 47.3**	**-1.0**
ARU				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ARU				MLR	MLR		
	comp=Z,80nm,17.0s,MS3.1						
ARU				MLR	MLR		
	comp=E,70nm,18.0s						
HHC	**Hu-ho-hao-te**	**21.05**	**89**	*e*P	**P**	**05 00 21.0**	**+0.1**
HHC				AMB	AMB		
	comp=Z,14nm,0.7s,mb4.4						
HHC				AMB	AMB		
	comp=Z,101nm,4.3s						
BOD	**Bodaibo**	**23.52**	**43**	*e*P	**P**	**05 00 45.9**	**+0.8**
GNI	**Garni**	**28.71**	**276**	*e*P	**P**	**05 01 42.5**	**+8.8**
GNI				pmax	pmax		
	comp=Z,4.0nm,0.6s						
SOC	**Sochi**	**31.20**	**285**	*e*P	**P**	**05 02 01.7**	**+5.9**
SOC				*e*		05 02 58.4	
SOC				*e*PPP	PPP	05 03 11.5	-2.4
SOC				*e*S	**S**	**05 06 58.1**	**-1.6**
SOC				*e*SS	SS	05 08 43.6	-2.3
SOC				*e*SSS	SSS	05 09 07.1	-1.0
SOC				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.8						
SOC				pmax	pmax		
	comp=N,7.0nm,0.7s						
SOC				pmax	pmax		
	comp=E,7.0nm,0.6s						
SOC				MLR	MLR		
	comp=Z,83nm,21.0s,MS3.4						
SOC				MLR	MLR		
	comp=N,64nm,18.0s						
SOC				MLR	MLR		
	comp=E,51nm,24.0s						
OBN	**Obninsk**	**31.71**	**307**	*e*P	**P**	**05 02 01.2**	**+1.0**
OBN				*e*		05 03 06.3	
OBN				*i*		05 04 57.6	
OBN				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.5						
OBN				MLR	MLR		
	comp=Z,100nm,16.0s,MS3.6						
TIXI	**Tiksi**	**35.24**	**23**	*e*P	**P**	**05 02 34.7**	**+4.1**
TIXI				*e*SS	SS	05 10 14.8	-4.5
TIXI				pmax	pmax		
	comp=Z,18nm,1.0s,mb5.0						
TIXI				MLR	MLR		
	comp=Z,600nm,18.0s,MS4.4						
AKASG	**Malin Array Be**	**36.54**	**300**	P	**P**	**05 02 41.9**	**+0.1**
	comp=Z,3.0nm,0.8s,mb4.2,baz=67,slow=8.2,SNR=5.4						
AKASG	**Malin Array Be**	**36.54**	**300**	P	**P**	**05 02 41.9**	**+0.1**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BRTR	**Keskin Array B**	**36.79**	**281**	P	**P**	**05 02 45.0**	**+1.0**
	comp=Z,1.8nm,0.5s,mb4.2,baz=83,slow=7.0,SNR=9.0						
BRTR	**Keskin Array B**	**36.79**	**281**	P	**P**	**05 02 45.0**	**+1.0**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
FINES	**FINESS Array B**	**37.37**	**318**	P	**P**	**05 02 49.1**	**+0.6**
	comp=Z,2.2nm,0.7s,mb4.1,baz=102,slow=12,SNR=6.9						
FINES				PcP	PcP	05 05 06.7	-1.2

	comp=Z,0.8nm,0.5s,baz=108,slow=6.0,SNR=3.9						
FINES	**FINESS Array B**	**37.37**	**318**	P	**P**	**05 02 49.2**	**+0.6**
FINES						05 05 06.7	
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ARCES	**ARCESS Array B**	**38.44**	**331**	P	**P**	**05 02 58.5**	**+1.0**
	comp=Z,3.2nm,0.5s,mb4.3,baz=99,slow=7.9,SNR=23						
ARCES	**ARCESS Array B**	**38.44**	**331**	P	**P**	**05 02 58.5**	**+1.0**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.5s						
ISP	**Isparta**	**39.80**	**280**	P	**P**	**05 03 15.6**	**+6.4**
NB2	**NORSAR Subarra**	**44.54**	**319**	P	**P**	**05 03 47.7**	**+0.1**
	comp=Z,4.4nm,0.8s,mb4.3,baz=79,slow=7.9						
NOA	**NORSAR Array B**	**44.54**	**319**	P	**P**	**05 03 48.0**	**+0.4**
	comp=Z,2.7nm,0.6s,mb4.2,baz=78,slow=7.6,SNR=15						
NOA	**NORSAR Array B**	**44.54**	**319**	P	**P**	**05 03 48.0**	**+0.4**
NOA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
BRG	**Berggiesshubel**	**45.84**	**304**	*e*P	**P**	**05 04 06.7**	**+8.7**
BRG				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
BRG	**Berggiesshubel**	**45.84**	**304**	P	**P**	**05 04 06.7**	**+8.7**
	comp=Z,2.7nm,0.8s,mb4.2						
CLL	**Collm**	**46.25**	**305**	⇑P	**P**	**05 04 02.3**	**+1.0**
	comp=Z,logA/T=1.3,mb5.0						
CLL				*i* *PP	pP	05 04 09.5	+1.9
CLL				*i* *SP	sP	05 04 12.9	+2.8
CLL	**Collm**	**46.25**	**305**	⇑*i*P	**P**	**05 04 02.3**	**+1.0**
CLL				*i*		05 04 12.9	
CLL				pmax	pmax		
	comp=Z,12nm,0.6s,mb5.0						
CLL	**Collm**	**46.25**	**305**	⇑*i*P	**P**	**05 04 02.3**	**+1.0**
	comp=Z,12nm,0.6s,mb5.0						
CLL				*i*	pP	05 04 09.5	+1.9
CLL				*i*		05 04 12.9	
GERES	**GERESS Array B**	**46.70**	**302**	P	**P**	**05 04 06.3**	**+1.4**
	comp=Z,0.7nm,0.4s,mb4.0,baz=63,slow=9.0,SNR=8.9						
GERES	**GERESS Array B**	**46.70**	**302**	P	**P**	**05 04 06.3**	**+1.4**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MOX	**Moxa**	**47.30**	**305**	*e*P	**P**	**05 04 10.0**	**+0.4**
GRA1	**Grafenberg Arr**	**47.89**	**304**	*e*P	**P**	**05 04 15.3**	**+1.0**
	comp=Z,8.0nm,0.8s,mb4.8						
GRF	**Grafenberg Arr**	**47.89**	**304**	*e*P	**P**	**05 04 15.3**	**+1.0**
GRF				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
WTTA	**Wattenberg**	**48.59**	**300**	⇑*i*P	**P**	**05 04 20.9**	**+1.2**
	comp=Z,7.9nm,0.5s,mb5.0						
WTTA				*i*	pP	05 04 27.7	+1.6
	comp=Z,11nm,0.6s						
SQTA	**Sankt Quirin**	**48.88**	**301**	⇓*i*P	**P**	**05 04 23.1**	**+1.2**
	comp=Z,8.0nm,0.4s,mb5.1						
PGF	**Pioggiola**	**52.37**	**296**	*e*P	**P**	**05 04 48.8**	**+0.2**
	comp=Z,7.7nm,0.9s,mb4.3						
LPG	**La Plagne**	**52.41**	**300**	*e*P	**P**	**05 04 49.9**	**+1.1**
	comp=Z,25nm,0.5s,mb5.1						
LPG				*e*pP	pP	05 04 56.4	+1.2
LPL	**La Plagne**	**52.41**	**300**	*e*P	**P**	**05 04 49.9**	**+1.1**
	comp=Z,45nm,0.5s,mb5.3						
LPL				*e*pP	pP	05 04 56.4	+1.2
BNI	**Bardonecchia**	**52.66**	**300**	*e*P	**P**	**05 04 51.2**	**+0.5**
	comp=Z,4.1nm,0.5s,mb4.6						
SBF	**Sospel**	**52.74**	**298**	*e*P	**P**	**05 04 51.2**	**-0.2**
	comp=Z,7.5nm,0.5s,mb4.5						
MBDF	**Montbardon**	**52.76**	**299**	*e*P	**P**	**05 04 51.2**	**-0.2**
	comp=Z,8.9nm,0.7s,mb4.5						
ORIF	**Oris-en-Rattie**	**53.22**	**300**	*e*P	**P**	**05 04 54.4**	**-0.5**
	comp=Z,7.4nm,0.5s,mb4.6						
LOR	**Lormes**	**53.35**	**303**	*e*P	**P**	**05 04 56.1**	**+0.3**
SMF	**Signal de Mont**	**53.66**	**303**	*e*P	**P**	**05 04 57.3**	**-0.7**
	comp=Z,5.3nm,0.7s,mb4.3						
SMF				*e*pP	pP	05 05 04.4	0.0
SSF	**Saint Saulge**	**53.66**	**303**	*e*P	**P**	**05 04 57.2**	**-0.9**
	comp=Z,2.1nm,0.6s,mb4.0						
AVF	**Avril sur Loir**	**53.89**	**303**	*e*P	**P**	**05 04 59.0**	**-0.7**
	comp=Z,3.7nm,0.7s,mb4.1						
VIVF	**Saint-Julien-l**	**54.01**	**300**	*e*P	**P**	**05 05 00.7**	**+0.1**
	comp=Z,6.4nm,0.6s,mb4.4						
VIVF				*e*pP	pP	05 05 07.3	+0.3
BGF	**Bois d'Agland**	**54.30**	**303**	*e*P	**P**	**05 05 02.3**	**-0.4**
	comp=Z,8.2nm,0.7s,mb4.5						
TCF	**Toulx Ste Croi**	**54.82**	**303**	*e*P	**P**	**05 05 06.2**	**-0.4**
	comp=Z,7.3nm,0.8s,mb4.5						
TCF				*e*pP	pP	05 05 13.3	+0.3
LASF	**Ste Croix**	**54.90**	**300**	*e*P	**P**	**05 05 07.3**	**+0.1**
	comp=Z,6.4nm,0.7s,mb4.5						
LASF				*e*pP	pP	05 05 14.2	+0.6
CAF	**Calviac**	**55.58**	**302**	*e*P	**P**	**05 05 12.3**	**+0.2**
GRR	**Gorron**	**55.61**	**307**	*e*P	**P**	**05 05 12.1**	**-0.2**
	comp=Z,18nm,0.9s,mb4.8						
RJF	**Les Rejaudoux**	**55.73**	**302**	*e*P	**P**	**05 05 13.1**	**-0.1**
	comp=Z,5.5nm,0.7s,mb4.4						
RJF				*e*pP	pP	05 05 20.2	+0.6
MTLF	**Montolieu**	**56.30**	**300**	*e*P	**P**	**05 05 17.2**	**-0.1**
LFF	**La Frestale**	**56.39**	**302**	*e*P	**P**	**05 05 17.4**	**-0.5**
SGMF	**Saint Gilles**	**56.65**	**307**	*e*P	**P**	**05 05 19.4**	**-0.4**
ROSF	**Rostrenen**	**57.02**	**307**	*e*P	**P**	**05 05 22.0**	**-0.4**
QUIF	**Quistinic**	**57.18**	**307**	*e*P	**P**	**05 05 22.9**	**-0.6**
QUIF				*e*pP	pP	05 05 30.0	0.0
EPF	**Esparros**	**57.63**	**300**	*e*P	**P**	**05 05 26.0**	**-0.7**
	comp=Z,7.1nm,0.5s,mb4.6						
EPF				*e*pP	pP	05 05 32.7	-0.5
ETSF	**Etsaut**	**58.26**	**301**	*e*P	**P**	**05 05 31.2**	**+0.1**
	comp=Z,5.8nm,0.5s,mb4.5						
SJPF	**Ste Jean**	**58.55**	**301**	*e*P	**P**	**05 05 33.5**	**+0.3**
ESDC	**Sonseca Array**	**62.18**	**299**	P	**P**	**05 05 58.1**	**0.0**
	comp=Z,1.5nm,0.4s,mb4.5,baz=49,slow=7.1,SNR=9.1						
INK	**Inuvik**	**64.66**	**14**	P	**P**	**05 06 13.9**	**+0.1**
	comp=Z,3.7nm,0.7s,mb4.5,baz=9.9,slow=9.5,SNR=11						
INK	**Inuvik**	**64.66**	**14**	P	**P**	**05 06 14.0**	**+0.2**
INK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ILAR	**Eielson Array**	**64.69**	**21**	P	**P**	**05 06 13.7**	**-0.4**
	comp=Z,2.0nm,0.7s,mb4.3,baz=320,slow=5.0,SNR=33						
ILAR	**Eielson Array**	**64.69**	**21**	P	**P**	**05 06 13.7**	**-0.3**
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MCK	**McKinley**	**64.95**	**23**	P	**P**	**05 06 15.7**	**0.0**
	comp=Z,9µm,1.2s						
YKA	**Yellowknife Ar**	**72.88**	**9**	P	**P**	**05 07 04.6**	**0.0**
	comp=Z,7.3nm,0.8s,mb4.7,baz=342,slow=6.1,SNR=7.5						
YKA				LR	LR	05 40 33.1	
	comp=Z,35nm,18.4s,MS3.7,baz=110,slow=37						
YKA	**Yellowknife Ar**	**72.88**	**9**	P	**P**	**05 07 04.6**	**0.0**
YKA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
YKA				MLR	MLR		
	comp=Z,35nm,18.4s						
YKA	**Yellowknife Ar**	**72.88**	**9**	P	**P**	**05 07 04.6**	**0.0**
YKA				LR	LR	05 40 33.1	
FITZ	**Fitzroy Crossi**	**72.92**	**138**	P	**P**	**05 07 04.9**	**-0.9**
	comp=Z,0.8nm,0.6s,mb3.9,baz=228,slow=16,SNR=4.5						
SCHQ	**Schefferville**	**78.31**	**343**	P	**P**	**05 07 35.8**	**+0.2**
	comp=Z,2.5nm,0.6s,mb4.3,baz=350,slow=12,SNR=3.3						
WRA	**Warramunga Arr**	**78.91**	**132**	P	**P**	**05 07 39.3**	**-0.3**
	comp=Z,0.8nm,0.5s,mb3.9,baz=338,slow=5.7,SNR=16						
WRA	**Warramunga Arr**	**78.91**	**132**	P	**P**	**05 07 39.3**	**-0.3**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ASAR	**Alice Springs**	**81.74**	**134**	P	**P**	**05 07 54.4**	**-0.1**
	comp=Z,0.5nm,0.5s,mb3.7,baz=326,slow=5.2,SNR=8.5						
DBIC	**Dimbokro**	**84.10**	**274**	P	**P**	**05 08 07.1**	**+0.2**
	comp=Z,1.3nm,0.5s,mb4.3,baz=152,slow=7.7,SNR=6.8						
DBIC	**Dimbokro**	**84.10**	**274**	P	**P**	**05 08 07.1**	**+0.2**
DBIC				pmax	pmax		
	comp=Z,1.0nm,0.5s						
STKA	**Stephens Creek**	**92.35**	**134**	P	**P**	**05 08 45.5**	**-0.6**
	comp=Z,0.8nm,0.6s,mb4.2,baz=281,slow=5.2,SNR=2.3						

JMA 29 04:55:48.0±0.4**, 33.54N**×**136.53E, h430^{km}, M3.5, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JWT	**Wachi**	**1.97**	**332**	P	P	04 56 46.4	-0.6
BSO4	**Boso 4**	**3.47**	**64**	P	P	04 56 57.6	-0.2
BSO3	**Boso 3**	**3.53**	**68**	P	P	04 56 58.3	0.0
JAG	**Ashikaga**	**3.75**	**39**	P	P	04 57 00.6	+0.4
BSO1	**Boso 1**	**3.85**	**72**	P	P	04 57 00.1	-1.1
BSO1				*e*S	S	04 57 57.8	-1.0
JYT	**Yasato**	**4.03**	**47**	P	P	04 57 02.4	-0.4
JHO	**Hitachi**	**4.51**	**46**	P	P	04 57 06.9	-0.4
JHO				*e*S	S	04 58 09.0	-0.7
JFK	**Kawauchi**	**5.21**	**42**	P	P	04 57 14.2	0.0
JFK				*e*S	S	04 58 21.8	-0.2

MAN 29 05:34:13.9, 5.66N×**125.07E, h56^{km}, mb4.5, ML3.3, MS3.2, 1D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**0.44**	**344**	*e*P	P	05 34 27.0	+2.0
GSPH				*i* S	S	05 34 53.0	+20
KCP	**Kidapawan**	**1.34**	**1**	⇓*e*P	P	05 34 38.2	+1.4
KCP				*i* S	S	05 35 15.2	+21
MATI	**Mati**	**1.73**	**43**	*e*P	P	05 34 33.5	-8.8
BUKP	**Musuan**	**2.20**	**360**	*e*P	P	05 34 49.8	+0.9
PAGZ	**Pagadian**	**2.74**	**322**	*e*P	P	05 34 56.6	0.0
IPIL	**Ipil**	**3.26**	**310**	*e*P	P	05 35 03.8	0.0
BUTP	**Butuan**	**3.33**	**9**	*e*P	P	05 35 04.0	-0.8
GUIM	**Jordan**	**5.51**	**334**	*e*P	P	05 35 35.9	+0.5

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*IDC **29** 05:33:59.4±1.0, 2.17N×127.17E, mb4.1/7, mb1 4.3/7, mb1mx4.1/17, Error ellipse: s-maj=63.2km s-min=17.6km az=72.0*

ISC 29 05:34:39.0±0.8**, 1.3N**±0.1×**126.3E**±0.3**, h400^{km}, n12,** σ**0^{s}43**/12**, mb3.6**/6**, 1C, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**15.16**	**157**	*e*P	**P**	**05 37 55.8**	**+0.3**
	15nm,0.6s						
FITZ	**Fitzroy Crossi**	**19.27**	**182**	*e*P	**P**	**05 38 36.6**	**-0.2**
	8.9nm,0.5s						
FITZ	**Fitzroy Crossi**	**19.27**	**182**	P	**P**	**05 38 36.8**	**0.0**
	11nm,0.6s,baz=0.7,slow=6.6,SNR=36						
WRA	**Warramunga Arr**	**22.52**	**160**	P	**P**	**05 39 07.6**	**-0.3**
	8.8nm,0.6s,mb4.4,baz=341,slow=10,SNR=52						
WB2	**Warramunga Arr**	**22.52**	**160**	*e*P	**P**	**05 39 07.7**	**-0.2**
ASAR	**Alice Springs**	**25.88**	**164**	P	**P**	**05 39 38.3**	**0.0**
	1.7nm,0.7s,mb3.6,baz=342,slow=7.0,SNR=22						
ASPA	**Alice Springs**	**25.88**	**164**	*e*P	**P**	**05 39 38.2**	**-0.1**
FORT	**Forrest**	**31.93**	**177**	⇑*i*P	**P**	**05 40 31.3**	**+0.3**
	38nm,0.5s						
STKA	**Stephens Creek**	**36.03**	**158**	P	**P**	**05 41 05.8**	**+0.1**
	4.7nm,1.0s,mb3.8,baz=324,slow=10,SNR=6.6						
MKAR	**Makanchi Array**	**59.32**	**326**	P	**P**	**05 44 01.5**	**-0.9**
	0.8nm,0.5s,mb3.3,baz=114,slow=8.6,SNR=4.9						
BVAR	**Borovoye Array**	**69.13**	**328**	P	**P**	**05 45 05.9**	**+1.0**
	1.4nm,0.8s,mb3.7,baz=117,slow=6.6,SNR=5.9						
ILAR	**Eielson Array**	**87.49**	**25**	P	**P**	**05 46 43.2**	**0.0**
	0.4nm,1.0s,mb3.1,baz=235,slow=8.1,SNR=4.1						

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*NEIC **29** 05:51:40.7, 29.87S×71.75W, h51^{km}, MD3.9(GUC), After GUC.*

GUC 29 05:51:40.7±0.8**, 29.87S**×**71.75W, h51^{km}**±8^{km}**, MD3.9, ML3.7, 4C-2D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LSCH	**La Serena**	**0.44**	**95**	⇓*i*P	P	05 51 51.5	0.0
LSCH				*i* S	S	05 51 59.7	+0.6
LSCH				AMP		05 52 00.1	
	comp=E,2µm,0.5s						
TLL	**Tololo Astrono**	**0.87**	**110**	⇓*i*P	P	05 51 58.1	+1.3
TLL				*i* S	S	05 52 11.0	+2.1
TLL				AMP		05 52 11.4	
	comp=N,2µm,0.2s						
OVCH	**Ovalle**	**0.88**	**147**	⇑*i*P	P	05 51 57.5	+0.6
OVCH				*i* S	S	05 52 09.2	+0.2
OVCH				AMP		05 52 10.1	
	comp=E,2µm,0.4s						
CMCH	**Combarbala**	**1.45**	**154**	⇑*i*P	P	05 52 05.5	+0.4
CMCH				*i* S	S	05 52 23.7	+0.6
CMCH				AMP		05 52 25.0	
	comp=N,7µm,0.6s						
VACH	**Vallenar**	**1.55**	**34**	⇑*i*P	P	05 52 06.1	-0.4
VACH				*i* S	S	05 52 25.8	+0.2
CPCH	**Copiapo**	**2.79**	**26**	*e*P	P	05 52 21.8	-2.2
CPCH				*i* S	S	05 52 54.5	-2.0
CPCH				AMP		05 53 03.5	
	comp=E,1µm,0.1s						
JACH	**Jahuel**	**2.97**	**161**	*e*P	P	05 52 26.4	-0.2
JACH				*i* S	S	05 53 01.0	-0.3
DSCH	**Colegio Aleman**	**3.66**	**164**	*i* S	S	05 53 17.4	-1.2
CLCH	**Cerro Calan**	**3.66**	**164**	*e*P	P	05 52 36.0	-0.4
CLCH				*i* S	S	05 53 16.8	-1.9
FCH	**Farellones**	**3.67**	**161**	*e*P	P	05 52 36.7	+0.4
FCH				*i* S	S	05 53 18.3	-0.5
RCDM	**Rinconada Maip**	**3.70**	**168**	*e*P	P	05 52 36.0	-0.8
RCDM				*i* S	S	05 53 17.0	-2.5
FSR	**Penalolen**	**3.75**	**164**	*i* P	P	05 52 37.3	-0.2
FSR				*i* S	S	05 53 19.1	-1.6
ANTU	**Antumapu**	**3.81**	**166**	*i* S	S	05 53 20.3	-2.0
TACH	**Talagante**	**3.83**	**170**	⇑*i*P	P	05 52 37.8	-0.9
TACH				*i* S	S	05 53 20.8	-2.2
CHCH	**Chadas Angostu**	**4.16**	**167**	*i* P	P	05 52 42.5	-0.8
CHCH				*i* S	S	05 53 28.8	-2.3
CICH	**Cipreses**	**4.58**	**166**	*e*P	P	05 52 48.3	-0.9
SFDO	**San Fernando**	**4.77**	**173**	*i* P	P	05 52 50.5	-1.5
SFDO				*i* S	S	05 53 42.4	-4.2

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*IDC **29** 05:57:36.2±0.9, 7.86N×126.68E, mb3.9/6, mb1 4.0/6, mb1mx3.8/18, Error ellipse: s-maj=73.9km s-min=19.7km az=71.0*

*MAN **29** 05:57:49.9, 7.82N×126.33E, h24^{km}, mb4.2, ML3.0, MS2.8*

ISC 29 05:57:42.6±0.8**, 7.54N**±0.05×**126.90E**±0.06**, h33^{km}, n17,** σ**1^{s}33**/24**, mb3.8**/6**, 3C-2D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BIPH	**Bislig**	**0.83**	**320**	⇓*i*P	**P**	**05 57 59.6**	**+1.8**
BIPH				*i* S	**S**	**05 58 08.7**	**-0.5**
MATI	**Mati**	**0.87**	**227**	*e*P	**P**	**05 58 05.8**	**+7.4**
MATI				*e*S	**S**	**05 58 19.5**	**+9.4**
DMPH	**Davao City--Mi**	**1.46**	**252**	⇑*i*P	**P**	**05 58 13.9**	**+7.1**
DMPH				*i* S	**S**	**05 58 26.8**	**+1.9**
BUKP	**Musuan**	**1.85**	**281**	*e*P	**P**	**05 58 12.8**	**+0.3**
BUKP				*e*S	**S**	**05 58 32.4**	**-2.7**
KCP	**Kidapawan**	**1.88**	**254**	⇓*i*P	**P**	**05 58 14.7**	**+1.9**
KCP				*i* S	**S**	**05 58 34.2**	**-1.4**
BUTP	**Butuan**	**1.90**	**318**	*e*P	**P**	**05 58 14.5**	**+1.3**
BUTP				*e*S	**S**	**05 58 35.7**	**-0.5**
GSPH	**General Santos**	**2.42**	**233**	*e*P	**P**	**05 58 28.0**	**+7.4**
SCPH	**Surigao**	**2.63**	**328**	⇑*e*P	**P**	**05 58 24.9**	**+1.3**
CTBH	**Cotabato--PC H**	**2.65**	**263**	⇑*i*P	**P**	**05 58 24.0**	**+0.1**
CTBH				*i* S	**S**	**05 58 51.4**	**-3.9**
MSLP	**Maasin**	**3.27**	**322**	*e*P	**P**	**05 58 31.2**	**-1.5**
PAGZ	**Pagadian**	**3.50**	**275**	*e*P	**P**	**05 58 35.2**	**-0.8**
WRA	**Warramunga Arr**	**28.27**	**165**	P	**P**	**06 03 34.5**	**-0.8**
	0.2nm,0.4s,mb3.1,baz=345,slow=8.1,SNR=10.0						
ASAR	**Alice Springs**	**31.76**	**168**	P	**P**	**06 04 05.2**	**-1.0**
	0.6nm,0.4s,mb3.8,baz=339,slow=7.5,SNR=12						
ASAR				PcP	PcP	06 06 54.5	-2.7
	0.6nm,0.9s,baz=353,slow=2.9,SNR=5.6						
STKA	**Stephens Creek**	**41.63**	**161**	P	**P**	**06 05 30.1**	**+0.5**
	0.9nm,0.6s,mb3.6,baz=323,slow=17,SNR=3.1						
MKAR	**Makanchi Array**	**54.57**	**324**	P	**P**	**06 07 03.6**	**-6.4**
	2.2nm,0.4s,mb4.5,baz=117,slow=7.3,SNR=31						
ILAR	**Eielson Array**	**81.61**	**26**	P	**P**	**06 09 54.9**	**-3.6**
	0.8nm,1.1s,mb3.6,baz=248,slow=3.6,SNR=4.4						
FINES	**FINESS Array B**	**88.58**	**332**	P	**P**	**06 10 28.8**	**-4.3**
	0.8nm,0.5s,mb4.3,baz=56,slow=5.0,SNR=8.1						

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*HEL **29** 06:33:01.9±0.2, 59.72N×22.29E, ML1.8, ML2.3(UPP), ML2.1(NAO), Explosion*

*IDC **29** 06:33:02.0±1.8, 59.75N×22.47E, mb1 3.0/4, mb1mx2.9/17, ML2.6/4, Error ellipse: s-maj=24.4km s-min=7.4km az=161.0*

*BER **29** 06:33:03.4±4.4, 59.93N×22.42E, h0^{km}±26^{km}, ML2.1(NAO)*

*NAO **29** 06:33:04.4±2.4, 60.15N×22.13E, ML2.1*

ISC 29 06:33:00.9±0.6**, 59.76N**±0.05×**22.28E**±0.05**, n24,** σ**1^{s}06**/41**, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAL	**Aland**	**1.23**	**291**	*e*P	**Pb**	**06 33 23.8**	**-0.8**
AAL				*e*S	**Sb**	**06 33 39.6**	**-1.2**
NRTU	**Norrtaelje**	**1.85**	**269**	*e*P	**Pn**	**06 33 34.8**	**+0.6**
PVF	**Pernaja**	**1.95**	**65**	*e*P	**Pn**	**06 33 35.9**	**+0.2**
PVF				*e*S	**Sn**	**06 33 59.8**	**-1.4**
GRAU	**Graesoe**	**1.96**	**289**	*e*P	**Pn**	**06 33 36.0**	**+0.2**
FLYU	**Flymyra**	**2.24**	**281**	*e*P	**Pn**	**06 33 40.6**	**+0.8**
NYNU	**Nynaeshamn**	**2.32**	**253**	*e*P	**Pn**	**06 33 42.1**	**+1.3**
FIA0	**FINESS Array S**	**2.52**	**46**	*e*P	**Pn**	**06 33 44.5**	**+0.8**
FIA0				*e*S	**Sn**	**06 34 14.7**	**-0.9**
FIA0	**FINESS Array S**	**2.52**	**46**	Pn	**Pn**	**06 33 44.5**	**+0.7**
	baz=227,slow=14						
FIA0				Lg		06 34 16.8	
	baz=232,slow=28						
FIA0				Rg		06 34 28.4	
	baz=213,slow=37						
FINES	**FINESS Array B**	**2.52**	**46**	Pn	**Pn**	**06 33 44.5**	**+0.8**
	0.8nm,0.3s,baz=225,slow=14,SNR=29						
FINES				Sn	**Sn**	**06 34 16.9**	**+1.2**
	3.0nm,0.3s,baz=237,slow=23,SNR=23						
BACU	**Backbrunna**	**2.62**	**274**	*e*P	**Pn**	**06 33 45.7**	**+0.5**
OSTU	**Oestervaala**	**2.63**	**282**	*e*P	**Pn**	**06 33 45.6**	**+0.2**
VSU	**Vasula**	**2.64**	**118**	*e*P	**Pn**	**06 33 45.1**	**-0.3**
VSU				*e*S	**Sn**	**06 34 15.3**	**-3.4**
KEF	**Keuruu**	**2.72**	**26**	*e*P	**Pn**	**06 33 48.4**	**+1.7**
KEF				*e*S	**Sn**	**06 34 21.1**	**+0.3**
VJF	**Virojoki**	**2.75**	**71**	*e*P	**Pn**	**06 33 47.7**	**+0.7**
VJF				*e*S	**Sn**	**06 34 19.8**	**-1.7**
KAF	**Kangasniemi**	**3.07**	**38**	*e*P	**Pn**	**06 33 52.8**	**+1.3**
KAF				*e*S	**Sn**	**06 34 28.9**	**-0.7**
KAF				MSG		06 34 32.7	
	comp=Z,2.2nm,0.2s						
SUF	**Sumiainen**	**3.51**	**31**	*e*P	**Pn**	**06 33 58.2**	**+0.4**
SUF				*e*S	**Sn**	**06 34 40.5**	**-0.1**
SUF				*e*SG	**Sg**	**06 34 50.0**	**-7.7**
SUF				MSG		06 34 52.3	
	comp=Z,2.0nm,0.3s						
HFS	**Hagfors**	**4.34**	**279**	*e*P	**Pn**	**06 34 09.0**	**-0.6**
HFS				*e*SG	**Sg**	**06 35 17.8**	**-7.5**
HFS	**Hagfors**	**4.34**	**279**	Pn	**Pn**	**06 34 10.0**	**+0.4**
	comp=Z,0.0nm,0.3s,baz=98,slow=12,SNR=8.0						
HFS				Pg	**Pg**	**06 34 18.5**	**-8.9**
	comp=Z,0.1nm,0.3s,baz=94,slow=16,SNR=7.1						
HFS				Sn	**Sn**	**06 35 02.7**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=111,slow=25,SNR=2.9						
HFS				Lg		06 35 18.3	
	comp=Z,0.2nm,0.3s,baz=91,slow=32,SNR=7.9						
HFS	**Hagfors**	**4.34**	**279**	Pn	**Pn**	**06 34 09.0**	**-0.6**
	baz=97,slow=10						
HFS				Lg		06 35 17.8	
	baz=93,slow=37						
KJN	**Kajaani**	**5.04**	**28**	*e*P	**Pn**	**06 34 19.3**	**-0.3**
KJN				*e*SB	**Sb**	**06 35 32.2**	**+0.6**
NOA	**NORSAR Array B**	**5.63**	**288**	Pn	**Pn**	**06 34 25.5**	**-2.5**
	comp=Z,0.2nm,0.3s,baz=63,slow=16,SNR=2.3						
NOA				Sn	**Sn**	**06 35 31.5**	**-2.9**
	comp=Z,0.1nm,0.3s,baz=233,slow=9.7,SNR=2.7						
ARA0	**ARCESS Array S**	**9.91**	**7**	Pn	**P**	**06 35 22.1**	**-5.3**
	baz=181,slow=14						
ARA0				Sn	**Sn**	**06 37 06.4**	**-14**
	baz=193,slow=28						
ARA0	**ARCESS Array S**	**9.91**	**7**	*e*P	**P**	**06 35 22.1**	**-5.3**
ARA0				*e*		06 37 06.4	
ARCES	**ARCESS Array B**	**9.91**	**7**	Pn	**P**	**06 35 22.2**	**-5.2**
	comp=Z,0.1nm,0.3s,baz=184,slow=13,SNR=6.9						
ARCES				Sn	**Sn**	**06 37 09.2**	**-11**
	comp=Z,0.1nm,0.3s,baz=193,slow=24,SNR=3.1						

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*IDC **29** 06:34:16.8±4.8, 22.71S×170.88E, mb3.6/2, mb1 3.9/2, mb1mx3.7/9, Error ellipse: s-maj=209.0km s-min=52.0km az=154.0*

ISC 29 06:34:34.4±4.0**, 20.9S**±0.3×**169.5E**±0.3**, h90^{km}**±22^{km}**, n6,** σ**0^{s}14**/7**, mb3.5**/2**, 1C, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.05**	**247**	⇑*e*P	**P**	**06 35 21.6**	**-0.1**
DZM				*e*S	**S**	**06 35 57.3**	**0.0**
NOUC	**Port Laguerre**	**3.19**	**248**	*e*P	**P**	**06 35 23.7**	**+0.1**
NOUC				*e*S	**S**	**06 36 00.7**	**+0.1**
BKM	**Butte a Klehm**	**3.44**	**340**	⇑*i*P	**P**	**06 35 27.1**	**0.0**
WRA	**Warramunga Arr**	**32.91**	**265**	P	**P**	**06 41 02.2**	**-0.1**
	0.2nm,0.5s,mb3.2,baz=101,slow=8.0,SNR=10						
ASAR	**Alice Springs**	**32.98**	**259**	P	**P**	**06 41 03.0**	**+0.1**
	0.8nm,0.5s,mb3.8,baz=95,slow=8.9,SNR=21						
GERES	**GERESS Array B**	**146.07**	**331**	PKPbc	PKPbc	06 54 04.4	+0.5
	2.0nm,0.9s,baz=45,slow=2.8,SNR=7.2						

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*IDC **29** 06:37:43.5±4.0, 13.71N×88.67W, h156^{km}±25^{km}, mb3.9/8, mb1 4.0/8, mb1mx3.8/16, Error ellipse: s-maj=37.5km s-min=34.9km az=51.0*

*CASC **29** 06:37:47.8±2.6, 13.71N×88.94W, h162^{km}±9^{km}, MD4.2, ML4.0, mb4.3(NEIC)*

*NEIC **29** 06:37:48.2±1.0, 13.79N×88.75W, h196^{km}±10^{km}, mb4.3/8, Error ellipse: s-maj=14.9km s-min=7.3km az=59.0*

ISC 29 06:37:46.3±0.3**, 13.94N**±0.08×**88.90W**±0.07**, h172^{km}**±3^{km}**, n55,** σ**1^{s}10**/69**, mb4.2**/8**, 10C-4D, El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LBRS	**Las Brisas**	**0.24**	**215**	⇑*e*P	**P**	**06 38 09.6**	**-0.1**
LFU	**La Fuente**	**0.28**	**228**	⇑*e*P	**P**	**06 38 09.6**	**-0.2**
LCBS	**La Ceiba**	**0.29**	**195**	⇑*e*P	**P**	**06 38 09.2**	**-0.7**
LCBS				*e*S	**S**	**06 38 26.9**	**-1.0**
SNVI	**San Vicente**	**0.33**	**170**	⇑*e*P	**P**	**06 38 09.5**	**-0.5**
SNVI				*e*S	**S**	**06 38 27.4**	**-0.7**
LFRS	**El Faro**	**0.35**	**207**	⇑*e*P	**P**	**06 38 09.5**	**-0.5**
LFRS				*e*S	**S**	**06 38 27.6**	**-0.6**
SNET	**Serv Nac Est T**	**0.41**	**232**	*e*P	**P**	**06 38 09.5**	**-0.7**
SNET				*i*		06 38 10.2	
	comp=Z,3µm,0.5s						
BOQS	**Boqueron**	**0.42**	**241**	⇑*e*P	**P**	**06 38 09.9**	**-0.3**
MTO2	**Montecristo 2**	**0.64**	**316**	⇑*e*P	**P**	**06 38 12.1**	**+0.9**
MTO2				*e*S	**S**	**06 38 31.5**	**+1.1**
CAHU	**Cacacuatique**	**0.69**	**104**	⇓*e*P	**P**	**06 38 12.1**	**+0.6**
CAHU				*e*S	**S**	**06 38 31.5**	**+0.6**
SNJE	**San Jose**	**0.69**	**264**	⇑*i*P	**P**	**06 38 11.4**	**-0.1**
SNJE				*e*S	**S**	**06 38 32.2**	**+1.3**
SBLS	**San Blas**	**0.71**	**262**	⇑*i*P	**P**	**06 38 11.4**	**-0.1**
RTR	**El Retiro**	**0.73**	**267**	⇑*e*P	**P**	**06 38 11.6**	**0.0**
VSM	**San Miguel**	**0.79**	**130**	*e*P	**P**	**06 38 10.1**	**-1.9**
BLLM	**Bellamira**	**0.81**	**127**	⇓*e*P	**P**	**06 38 11.8**	**-0.3**
BLLM				*e*S	**S**	**06 38 36.6**	**+4.6**
CUSS	**Cusmapa**	**1.02**	**268**	⇓*e*P	**P**	**06 38 09.9**	**-3.6**
CNCH	**Conchagua**	**1.23**	**122**	⇓*e*P	**P**	**06 38 15.0**	**-0.4**
CNCH				*e*S	**S**	**06 38 38.1**	**+0.3**
LEON	**Leon**	**2.47**	**128**	*e*P	**P**	**06 38 28.5**	**-0.3**
LEON				*e*S	**S**	**06 38 59.4**	**-2.0**
MIRN	**Miramar**	**2.60**	**125**	*e*P	**P**	**06 38 30.8**	**+0.5**
MIRN				*e*S	**S**	**06 39 03.8**	**-0.4**
MOMJ	**Momotombo**	**2.76**	**123**	*e*P	**P**	**06 38 34.2**	**+2.0**
COPN	**Copaltepe**	**2.85**	**128**	*e*P	**P**	**06 38 33.7**	**+0.4**
COPN				*e*S	**S**	**06 39 05.4**	**-4.0**
APYN	**Apoyeque**	**3.01**	**124**	*e*P	**P**	**06 38 36.8**	**+1.5**
APYN				*e*S	**S**	**06 39 13.1**	**+0.2**
MGAN	**Managua**	**3.14**	**124**	*e*P	**P**	**06 38 38.7**	**+1.7**
MGAN				*e*S	**S**	**06 39 14.2**	**-1.7**
WILN	**Americas 2**	**3.18**	**123**	*e*S	**S**	**06 39 15.6**	**-1.2**
CRUN	**El Crucero**	**3.19**	**127**	*e*P	**P**	**06 38 38.7**	**+1.1**
CRUN				*e*S	**S**	**06 39 17.1**	**0.0**
TICN	**Ticuantepe**	**3.22**	**126**	*e*P	**P**	**06 38 39.0**	**+1.1**
TICN				*e*S	**S**	**06 39 14.7**	**-3.0**
CONN	**Concepcion**	**3.97**	**126**	*e*P	**P**	**06 38 48.0**	**+0.5**
JTS	**JuntasAbangare**	**5.29**	**133**	*e*P	**P**	**06 39 03.7**	**-1.0**
	comp=Z,33nm,0.4s						
JCR	**Jicaral**	**5.50**	**137**	*e*P	**P**	**06 39 08.0**	**+0.6**
CGA2	**Cerro Gallo 2**	**5.83**	**131**	*e*P	**P**	**06 39 12.7**	**+1.0**
PRS1	**Puriscal**	**5.97**	**131**	*e*P	**P**	**06 39 15.6**	**+2.0**
PRS1				*e*S	**S**	**06 40 21.5**	**+0.1**
LCR2	**La Lucha 2**	**6.35**	**131**	*e*P	**P**	**06 39 19.7**	**+1.0**
URSC	**Urasca**	**6.46**	**129**	*e*P	**P**	**06 39 21.5**	**+1.4**
URSC				*e*S	**S**	**06 40 32.4**	**-0.7**
BUS	**Buena Vista**	**6.66**	**130**	*e*P	**P**	**06 39 24.5**	**+1.7**
SDV	**Santo Domingo**	**18.59**	**104**	*e*P	**P**	**06 41 49.2**	**-3.7**
	comp=Z,5.3nm,0.8s						
LRAL	**Lakeview Retre**	**19.09**	**5**	*e*P	**P**	**06 41 58.8**	**+0.8**
	comp=Z,5.3nm,0.7s						
JCT	**Junction City**	**19.29**	**330**	*e*P	**P**	**06 41 59.9**	**-0.1**
	comp=Z,3.8nm,0.6s						
OXF	**Oxford**	**20.49**	**359**	*e*P	**P**	**06 42 12.1**	**-0.1**
	comp=Z,13nm,0.8s						
LTX	**Lajitas**	**20.54**	**321**	*e*P	**P**	**06 42 13.9**	**+1.2**
	comp=Z,6.1nm,0.7s						

TXAR	**Lajitas Array**	**20.54**	**321**	P	**P**	**06 42 14.0**	**+1.3**
	comp=Z,4.2nm,0.6s,baz=139,slow=10,SNR=72						
MIAR	**Mount Ida**	**20.95**	**349**	eP	**P**	**06 42 18.2**	**+1.4**
	comp=Z,6.0nm,0.6s						
SWET	**Sewanee**	**21.35**	**7**	eP	**P**	**06 42 22.0**	**+1.3**
WMOK	**Wichita Mounta**	**22.55**	**338**	eP	**P**	**06 42 34.1**	**+1.6**
CCM	**Cathedral Cave**	**24.11**	**355**	eP	**P**	**06 42 47.7**	**+0.3**
	comp=Z,12nm,0.7s,mb4.5						
SADO	**Sadowa**	**31.83**	**13**	P	**P**	**06 43 55.5**	**-1.5**
	comp=Z,5.9nm,0.5s,mb4.5,baz=212,slow=6.2,SNR=5.3						
ULM	**Lac du Bonnet**	**36.66**	**352**	P	**P**	**06 44 36.0**	**-1.9**
	comp=Z,2.3nm,0.4s,mb4.2,baz=180,slow=5.1,SNR=3.0						
ULM	**Lac du Bonnet**	**36.66**	**352**	P	**P**	**06 44 36.0**	**-1.9**
EDM	**Edmonton**	**43.72**	**339**	eP	**P**	**06 45 35.0**	**-0.9**
SCHQ	**Schefferville**	**44.29**	**18**	P	**P**	**06 45 38.9**	**-1.4**
	comp=Z,4.5nm,0.5s,mb4.4,baz=224,slow=6.7,SNR=11						
YKA	**Yellowknife Ar**	**51.82**	**345**	P	**P**	**06 46 37.1**	**-1.2**
	comp=Z,1.6nm,0.4s,mb4.0,baz=130,slow=8.5,SNR=9.9						
DLBC	**Dease Lake**	**53.97**	**335**	P	**P**	**06 46 53.4**	**-0.9**
	comp=Z,2.1nm,0.6s,mb4.0,baz=137,slow=18,SNR=4.9						
INK	**Inuvik**	**61.37**	**343**	P	**P**	**06 47 44.4**	**-1.5**
	comp=Z,3.1nm,0.8s,mb4.2,baz=164,slow=3.5,SNR=4.6						
ILAR	**Eielson Array**	**64.10**	**336**	P	**P**	**06 48 01.9**	**-2.0**
	comp=Z,0.7nm,0.7s,mb3.6,baz=181,slow=4.9,SNR=6.8						
MAW	**Mawson**	**123.29**	**167**	PKP	PKPdf	06 56 20.2	-2.1
	comp=Z,0.8nm,0.4s,baz=225,slow=2.9,SNR=9.0						
WRA	**Warramunga Arr**	**138.30**	**256**	PKP	PKPdf	06 56 51.6	-0.2
	comp=Z,0.9nm,0.5s,baz=88,slow=2.4,SNR=15						
WRA				SKPbc		07 00 10.6	
	comp=Z,0.3nm,0.6s,baz=89,slow=3.8,SNR=6.1						
ASAR	**Alice Springs**	**138.48**	**250**	PKP	PKPdf	06 56 52.6	+0.5
	comp=Z,0.4nm,0.6s,baz=88,slow=2.1,SNR=5.5						
ASAR				SKPbc		07 00 11.1	
	comp=Z,0.3nm,0.6s,baz=112,slow=3.1,SNR=4.1						

*IDC **29** 06:46:06.7±1.2, 10.77N×142.51E, mb3.7/5, mb1 3.9/5, mb1mx3.8/16, Error ellipse: s-maj=69.8km s-min=23.2km az=96.0*

*NEIC **29** 06:46:16.3±2.0, 9.78N×145.08E, h67^{km}±22^{km}, mb4.5/2, Error ellipse: s-maj=36.9km s-min=14.7km az=97.0*

ISC 29 06:46:13.9±2.7**, 9.8N**±0.1×**145.1E**±0.3**, h64**^{km}±29^{km}**, n10, σ0^{s}87**/11**, mb3.9**/7**, Eastern Caroline Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.78**	**357**	eP	**P**	**06 47 12.3**	**+1.2**
GUMO				eS	**S**	**06 47 53.5**	**-1.2**
WRAB	**Tennant Creek**	**31.38**	**200**	eP	**P**	**06 52 30.1**	**-1.0**
	2.4nm,0.6s,mb4.2						
WB2	**Warramunga Arr**	**31.38**	**200**	eP	**P**	**06 52 30.6**	**-0.5**
WRA	**Warramunga Arr**	**31.39**	**200**	P	**P**	**06 52 30.6**	**-0.6**
	1.5nm,0.7s,mb4.0,baz=14,slow=9.4,SNR=21						
ASAR	**Alice Springs**	**35.01**	**198**	P	**P**	**06 53 03.5**	**+1.1**
	0.5nm,0.6s,mb3.7,baz=17,slow=13,SNR=6.7						
STKA	**Stephens Creek**	**41.57**	**184**	P	**P**	**06 54 03.2**	**+6.2**
	1.4nm,0.9s,mb3.6,baz=318,slow=4.8,SNR=3.5						
STKA	**Stephens Creek**	**41.57**	**184**	P	**P**	**06 54 03.2**	**+6.2**
KMI	**Kunming**	**42.98**	**296**	eP	**P**	**06 54 09.4**	**+0.6**
	14nm,0.7s,mb4.8						
ILAR	**Eielson Array**	**71.89**	**25**	P	**P**	**06 57 32.1**	**+0.3**
	0.3nm,0.6s,mb3.4,baz=240,slow=6.1,SNR=4.9						
BVAR	**Borovoye Array**	**73.04**	**322**	P	**P**	**06 57 25.4**	**-13**
	0.4nm,0.4s,mb3.7,baz=108,slow=9.1,SNR=3.7						

*IDC **29** 06:49:40.6±1.5, 12.32N×144.15E, mb3.7/4, mb1 3.8/4, mb1mx3.7/17, Error ellipse: s-maj=55.5km s-min=29.5km az=96.0*

*NEIC **29** 06:49:46.9±2.2, 12.28N×144.13E, h45^{km}±24^{km}, mb4.2/2, Error ellipse: s-maj=38.2km s-min=17.4km az=96.0*

ISC 29 06:49:45.7±3.1**, 12.2N**±0.2×**144.0E**±0.3**, h51**^{km}±33^{km}**, n7, σ0^{s}55**/8**, mb3.8**/6**, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.57**	**31**	eP	**P**	**06 50 11.2**	**-0.5**
GUMO				eS	**S**	**06 50 31.5**	**+0.5**
WRA	**Warramunga Arr**	**33.37**	**197**	P	**P**	**06 56 21.8**	**+0.3**
	0.3nm,0.7s,mb3.3,baz=20,slow=9.6,SNR=3.0						
MKAR	**Makanchi Array**	**61.90**	**317**	P	**P**	**07 00 02.2**	**0.0**
	0.4nm,0.7s,mb3.7,baz=98,slow=8.6,SNR=3.9						
KURK	**Kurchatov**	**65.09**	**320**	P	**P**	**07 00 22.7**	**-0.5**
	0.9nm,0.5s,mb4.1						
ILAR	**Eielson Array**	**70.13**	**25**	P	**P**	**07 00 54.0**	**-0.4**
	0.3nm,0.6s,mb3.4,baz=257,slow=5.7,SNR=6.4						
BVAR	**Borovoye Array**	**70.48**	**322**	P	**P**	**07 00 57.0**	**+0.2**
	1.6nm,0.4s,mb4.3,baz=109,slow=8.3,SNR=9.1						
BRVK	**Borovoye**	**70.54**	**322**	eP	**P**	**07 00 57.6**	**+0.5**
	1.6nm,0.5s,mb4.2						

*NIED **29** 06:56:00, 26.30N×127.80E, h5^{km}, Mw4.1 Best double couple: M$_0$1.44×10^{15} NP1:φ$_s$33°, δ81°, λ94°. NP2:φ$_s$191°, δ10°, λ68°.*

*JMA **29** 06:56:27.0±0.1, 26.32N×127.83E, h21^{km}±3^{km}, M3.5*

JMA Felt II J1.

*IDC **29** 06:56:29.6±6.4, 25.36N×125.71E, mb3.3/3, mb1 3.5/3, mb1mx3.4/18, Error ellipse: s-maj=360.0km s-min=28.9km az=61.0*

ISC 29 06:56:26.3±0.5**, 26.27N**±0.04×**127.86E**±0.05**, h26**^{km}±4^{km}**, n12, σ0^{s}90**/20**, mb3.3**/3**, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JJT2	**Tamagusuku 2**	**0.16**	**218**	P	**Pb**	**06 56 32.0**	**+0.4**
JJT2				S	**Sb**	**06 56 36.1**	**+0.9**
NAH1	**Naha**	**0.17**	**247**	P	**Pb**	**06 56 31.6**	**0.0**
NAH1				S	**Sb**	**06 56 35.0**	**-0.2**
JAGN	**Aguni-jima**	**0.64**	**300**	P	**Pb**	**06 56 38.6**	**-0.2**
JAGN				S	**Sb**	**06 56 46.9**	**-0.4**
JOW	**Kunigami**	**0.67**	**33**	P	**Pb**	**06 56 39.4**	**+0.1**
JOW				S	**Sb**	**06 56 47.6**	**-0.7**
JIH	**Iheya**	**0.77**	**7**	P	**Pb**	**06 56 41.3**	**+0.3**
JIH				S	**Sb**	**06 56 50.5**	**-0.5**
JKE	**Kume jima 2**	**0.97**	**274**	P	**Pb**	**06 56 43.7**	**-0.6**
JKE				S	**Sb**	**06 56 56.7**	**+0.1**
JTK	**Tokunoshima**	**1.80**	**33**	P	**Pn**	**06 56 57.4**	**+1.2**
JTK				eS	**Sn**	**06 57 20.2**	**+1.8**
JAM	**Amami Oshima**	**2.64**	**36**	P	**Pn**	**06 57 08.9**	**+0.7**
JMZ	**Minamidaito 2**	**3.06**	**98**	P	**Pn**	**06 57 12.8**	**-1.4**
JMZ				eS	**Sn**	**06 57 47.3**	**-3.0**
MKAR	**Makanchi Array**	**41.26**	**312**	P	**P**	**07 04 09.7**	**-1.3**
	0.2nm,0.4s,mb3.1,baz=88,slow=10,SNR=5.0						
WRA	**Warramunga Arr**	**46.36**	**172**	P	**P**	**07 04 52.3**	**-0.2**
	0.3nm,0.5s,mb3.5,baz=349,slow=8.3,SNR=5.7						
ASAR	**Alice Springs**	**49.98**	**173**	P	**P**	**07 05 21.9**	**+1.3**
	0.2nm,0.5s,mb3.4,baz=1.7,slow=14,SNR=5.9						

*NEIC **29** 07:01:24.6, 17.70N×98.41W, h65^{km}, MD3.8(MEX), After MEX.*

MEX 29 07:01:24.4±1.0**, 17.64N×98.42W, h48**^{km}±17^{km}**, MD3.8, Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLIG	**Platanillo**	**1.27**	**306**	eP	P	07 01 44.9	-1.3
PLIG				i S	S	07 02 00.8	-1.6
YAIG	**Yautepec**	**1.36**	**333**	i P	P	07 01 45.3	-2.2
YAIG				i S	S	07 02 01.8	-2.9
PPM	**Popocatepetl**	**1.43**	**352**	i P	P	07 01 47.1	-1.4
PPM				i S	S	07 02 04.3	-2.1
ACX	**Acapulco**	**1.62**	**242**	i P	P	07 01 47.7	-3.4
ACX				i S	S	07 02 10.0	-0.9
IISM	**Ciudad Serdan**	**1.67**	**36**	i P	P	07 01 49.3	-2.5
IISM				i S	S	07 02 10.0	-2.1
VHO	**Vista Hermosa**	**1.71**	**109**	eP	P	07 01 51.7	-0.6
VHO				i S	S	07 02 11.5	-1.5
OXX	**Oaxaca**	**1.71**	**109**	i P	P	07 01 51.0	-1.4
OXX				i S	S	07 02 12.0	-1.2
IIZ	**Mezontepec**	**1.73**	**333**	i P	P	07 01 49.0	-3.6
IIZ				i S	S	07 02 09.0	-4.5

*IDC **29** 07:40:27.7±5.8, 21.23S×170.98E, mb4.2/2, mb1 4.5/2, mb1mx3.9/9, Error ellipse: s-maj=243.0km s-min=56.2km az=151.0*

*NEIC **29** 07:40:55.4±2.2, 21.12S×170.24E, h212^{km}±11^{km}, mb4.0/6, Error ellipse: s-maj=34.6km s-min=16.3km az=215.0*

ISC 29 07:40:53.8±1.7**, 21.07S**±0.09×**170.3E**±0.2**, h215**^{km}±11^{km}**, n16, σ0^{s}65**/20**, mb3.9**/8**, 3C-1D, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.70**	**254**	⇑iP	**P**	**07 41 53.5**	**+0.5**
DZM				eS	**S**	**07 42 38.9**	**0.0**
DZM	**Mont Dzumac**	**3.70**	**254**	⇑iP	**P**	**07 41 53.5**	**+0.5**
DZM				eS	**S**	**07 42 38.9**	**0.0**
NOUC	**Port Laguerre**	**3.83**	**254**	⇑iP	**P**	**07 41 55.1**	**+0.5**
NOUC				eS	**S**	**07 42 41.0**	**-0.7**
NOUC	**Port Laguerre**	**3.83**	**254**	⇑iP	**P**	**07 41 55.1**	**+0.5**
NOUC				eS	**S**	**07 42 41.0**	**-0.8**
BKM	**Butte a Klehm**	**3.88**	**330**	⇑iP	**P**	**07 41 55.1**	**-0.2**
BKM				S	**S**	**07 42 42.7**	**-0.1**
CTAO	**Charters Tower**	**22.50**	**268**	eP	**P**	**07 45 37.8**	**+1.8**
	3.0nm,0.7s,mb3.9						
WB2	**Warramunga Arr**	**33.62**	**265**	⇓iP	**P**	**07 47 15.4**	**-0.5**
WRAB	**Tennant Creek**	**33.62**	**265**	eP	**P**	**07 47 15.0**	**-0.9**
	4.5nm,1.0s,mb4.0						
WRA	**Warramunga Arr**	**33.63**	**265**	P	**P**	**07 47 15.4**	**-0.6**
	1.3nm,0.7s,mb3.6,baz=98,slow=6.7,SNR=30						
ASAR	**Alice Springs**	**33.67**	**259**	P	**P**	**07 47 16.1**	**-0.2**
	4.7nm,0.8s,mb4.1,baz=88,slow=8.8,SNR=81						
ASPA	**Alice Springs**	**33.67**	**259**	eP	**P**	**07 47 16.9**	**+0.5**
FITZ	**Fitzroy Crossi**	**42.05**	**266**	eP	**P**	**07 48 26.9**	**+0.8**
	2.5nm,0.9s,mb3.6						
MBWA	**Marble Bar**	**46.97**	**260**	eP	**P**	**07 49 04.8**	**-0.3**
	8.8nm,0.9s,mb4.1						
SBA	**Scott Base**	**56.86**	**181**	eP	**P**	**07 50 17.2**	**-0.5**
	5.0nm,1.1s,mb4.1						
QSPA	**South Pole Qui**	**69.00**	**180**	eP	**P**	**07 51 37.2**	**0.0**
	1.1nm,0.7s,mb3.6						
GERES	**GERESS Array B**	**146.55**	**332**	PKPbc	PKPbc	08 00 11.9	+2.6
	0.7nm,0.6s,baz=45,slow=1.4,SNR=3.6						

*BYKL **29** 07:41:00.1±0.2, 53.05N×108.05E, h22^{km}±73^{km}*

MOS 29 07:41:03.1±3.9**, 53.10N×108.10E, h10**^{km}**, mb4.0**/1**, 10C-6D, Error ellipse: s-maj=19.5km s-min=9.3km az=117.4, Lake Baykal region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OGRR	**Ongureny**	**0.62**	**331**	⇑iPg	Pg	07 41 12.3	-3.4
	98nm,0.3s						
OGRR				⇓iPg	Pg	07 41 12.3	-3.4
	36nm,0.3s						
OGRR				⇑iPg	Pg	07 41 12.3	-3.4
	82nm,0.3s						
OGRR				eSg	Sg	07 41 21.3	-2.8
OGRR				Pmax			
	128nm,0.1s						
OGRR				Smax			
	915nm,0.2s						
OGRR	**Ongureny**	**0.62**	**331**	ePG	Pg	07 41 12.1	-3.6
OGRR				e		07 41 21.3	
OGRR				pmax	pmax		
	comp=Z,127nm,0.1s						
OGRR				smax			
	comp=E,902nm,0.2s						
TRTB	**Turuntaevo**	**0.92**	**198**	⇓iPg	Pg	07 41 15.6	-5.9
TRTB				ePb	Pb	07 41 18.0	-2.6
TRTB				eSg	Sg	07 41 27.1	-6.7
TRTB				eSb	Sb	07 41 30.7	-2.0
TRTB				max			
	comp=E,165nm,0.3s						
TRTB				max			
	comp=E,377nm,0.3s						
TRG	**Tyrgan**	**1.11**	**253**	⇓iPg	Pg	07 41 19.3	-6.1
TRG				ePb	Pb	07 41 20.6	-3.4
TRG				eSg	Sg	07 41 33.9	-6.4
TRG				max			
	comp=E,142nm,0.2s						
TRG				Smax			
	comp=E,1µm,0.2s						
TRG	**Tyrgan**	**1.11**	**253**	ePG	Pg	07 41 19.3	-6.1
TRG				e		07 41 33.9	
TRG				pmax	pmax		
	comp=Z,147nm,0.1s						
TRG				smax			
	comp=N,1µm,0.2s						
SYVR	**Suvo**	**1.27**	**63**	⇑iPg	Pg	07 41 24.1	-4.4
	comp=N,15nm,0.4s						
SYVR				⇑iPg	Pg	07 41 24.1	-4.4
	comp=N,15nm,0.4s						
SYVR				⇑iPg	Pg	07 41 24.1	-4.4
	comp=N,15nm,0.4s						
SYVR				eSg	Sg	07 41 42.1	-3.3
SYVR				Pmax			
	comp=N,41nm,0.3s						
SYVR				Smax			
	comp=N,460nm,0.4s						
FFNB	**Fofonovo**	**1.33**	**218**	ePg	Pg	07 41 22.9	-6.9
FFNB				eSg	Sg	07 41 40.3	-7.3
FFNB				Pmax			
	comp=N,495nm,0.1s						
FFNB				Smax			
	comp=N,1µm,0.2s						
KAB	**Kabansk**	**1.37**	**221**	ePg	Pg	07 41 23.7	-6.9
KAB				eSg	Sg	07 41 41.2	-7.7
KAB				Pmax			
	comp=N,252nm,0.4s						
KAB				Smax			
	comp=N,858nm,0.6s						
KAB	**Kabansk**	**1.37**	**221**	ePG	Pg	07 41 41.1	+11
HRMR	**Khuramsha**	**1.63**	**206**	⇓iPg	Pg	07 41 28.2	-7.6
HRMR				eSg	Sg	07 41 49.1	-8.5
HRMR				Pmax			
	comp=N,505nm,0.5s						
HRMR				Smax			
	comp=N,2µm,0.4s						
LSTR	**Listvyanka**	**2.35**	**240**	⇑iPn	Pn	07 41 37.6	-4.8
LSTR				⇑iPg	Pg	07 41 41.1	-8.9
LSTR				eSn	Sn	07 42 05.5	-6.0
LSTR				eSg	Sg	07 42 10.9	-10
LSTR				Pmax			
	comp=N,13nm,0.2s						
LSTR				Smax			
	comp=N,128nm,0.6s						
IRK	**Irkutsk**	**2.48**	**251**	eSg	Sg	07 42 14.2	-12
IRK				Smax			
	comp=N,652nm,0.5s						
YLYR	**Ulyunkhan**	**2.54**	**44**	ePn	Pn	07 41 42.1	-3.0
YLYR				⇑iPg	Pg	07 41 45.9	-7.9
YLYR				eSg	Sg	07 42 21.2	-6.4
YLYR				Pmax			
	comp=N,15nm,0.3s						
YLYR				Smax			
	comp=N,101nm,0.7s						
NIZ	**Nizh Angarsk**	**2.81**	**17**	ePn	Pn	07 41 46.8	-2.2
NIZ				ePg	Pg	07 41 51.2	-8.0
NIZ				eSn	Sn	07 42 20.5	-2.7
NIZ				eSg	Sg	07 42 27.8	-8.9
NIZ				Pmax			
	comp=N,9.0nm,0.2s						
NIZ				Smax			
	comp=N,53nm,0.5s						
KMO	**Kumora**	**3.33**	**32**	ePn	Pn	07 41 42.8	-14
KMO				⇓iPg	Pg	07 42 00.7	-8.8
KMO				eSn	Sn	07 42 33.4	-2.9
KMO				eSg	Sg	07 42 44.2	-10
KMO				Pmax			
	comp=N,13nm,0.5s						
KMO				Smax			
	comp=N,53nm,1.4s						
CIT	**Chita**	**3.50**	**106**	ePg	Pg	07 42 02.2	-11
CIT				eSg	Sg	07 42 48.2	-11
CIT				Pmax			
	comp=N,25nm,0.2s						
CIT				Smax			
	comp=N,112nm,0.6s						
CIT	**Chita**	**3.50**	**106**	ePN	Pn	07 42 02.9	+4.2
CIT				e		07 42 48.2	
CIT				pmax	pmax		
	comp=Z,25nm,0.2s						
CIT				smax			
	comp=E,112nm,0.4s						
ARS	**Arshan**	**3.66**	**253**	ePn	Pn	07 41 56.1	-5.0
ARS				ePg	Pg	07 42 04.7	-12
ARS				eSn	Sn	07 42 39.5	-5.4
ARS				eSg	Sg	07 42 51.6	-14
ARS				Pmax			
	comp=E,19nm,0.5s						
ARS				Smax			
	comp=E,806nm,0.6s						
ARS	**Arshan**	**3.66**	**253**	ePN	Pn	07 42 04.4	+3.3
ARS				e		07 42 49.2	
ARS				pmax	pmax		
	comp=Z,21nm,0.3s						
ARS				smax			
	comp=E,574nm,0.5s						
UKT	**Uakit**	**4.03**	**51**	ePg	Pg	07 42 12.4	-11
UKT				eSn	Sn	07 42 50.6	-3.4
UKT				eSg	Sg	07 43 06.5	-11
UKT				Pmax			
	comp=E,3.0nm,0.6s						
UKT				Smax			
	comp=E,55nm,1.1s						
ZAK	**Zakamensk**	**4.05**	**230**	ePn	Pn	07 42 01.9	-4.6
ZAK				ePg	Pg	07 42 12.1	-12
ZAK				eSg	Sg	07 43 04.4	-13
ZAK				Pmax			
	comp=E,3.0nm,0.3s						
ZAK				Smax			
	comp=E,35nm,0.6s						
KPC	**Khapcheranga**	**4.33**	**140**	⇑iPn	Pn	07 42 05.1	-5.4
KPC				⇑iPg	Pg	07 42 18.5	-11
KPC				eSn	Sn	07 42 55.8	-5.9
KPC				eSg	Sg	07 43 13.8	-13
KPC				Pmax			
	comp=E,4.0nm,0.4s						
KPC				Smax			
	comp=E,45nm,0.8s						
MOY	**Mondy**	**4.58**	**255**	ePn	Pn	07 42 11.1	-3.1
MOY				ePg	Pg	07 42 20.8	-14
MOY				eSg	Sg	07 43 19.5	-16
MOY				Pmax			
	comp=E,3.0nm,0.3s						
MOY				Smax			
	comp=E,79nm,1.5s						
ORL	**Orlik**	**5.06**	**267**	⇓iPn	Pn	07 42 17.2	-3.7
ORL				ePg	Pg	07 42 31.4	-13
ORL				e		07 43 15.6	
ORL				eSg	Sg	07 43 36.0	-16
ORL				Pmax			
	comp=E,6.0nm,0.6s						
ORL				Smax			
	comp=E,35nm,0.8s						
BOD	**Bodaibo**	**5.80**	**33**	eSg	Sg	07 44 01.5	-15
CRS	**Chara**	**6.98**	**53**	eSg	Sg	07 44 37.3	-18
CRS				Smax			
	comp=E,42nm,1.9s						
TUP	**Tupik**	**7.15**	**75**	eSg	Sg	07 44 42.6	-19
TUP				Smax			
	comp=E,35nm,0.7s						
TDJR	**Todzha**	**7.32**	**269**	eSg	Sg	07 44 46.2	-21
ARDR	**Aradan**	**8.90**	**273**	eSg	Sg	07 45 35.0	-24

MAN 29 07:42:52.7, 13.75N×123.92E, h7^{km}**, mb4.0, ML2.8, MS2.5, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PVCP	**Virac**	**0.28**	**123**	eP	Pg	07 42 58.9	+0.5
PVCP				eS	Sg	07 43 04.6	+2.5
CNP	**Catarman**	**1.43**	**149**	eP	Pn	07 43 18.2	-0.9
CNP				eS	Sb	07 43 38.7	+1.1
GQP	**Guinayangan**	**1.44**	**276**	i P	Pn	07 43 18.0	-1.3
GQP				eS	Sb	07 43 38.1	+0.2
BOAC	**Boac**	**2.04**	**262**	eP	Pn	07 43 28.8	+0.9
BOAC				eS	Sn	07 43 54.2	+0.4
POLP	**Polilio Island**	**2.15**	**297**	eP	Pn	07 43 29.2	-0.3
POLP				eS	Sn	07 43 57.9	+1.2
LBPH	**Los Banos**	**2.69**	**279**	i P	Pn	07 43 36.4	-0.8

*IDC **29** 07:54:33.0±4.7, 6.73S×130.46E, h57^{km}±43^{km}, mb4.1/7, mb1 4.4/9, mb1mx4.3/12, ML5.0/3, MS2.6/1, Ms1 2.6/1, ms1mx2.3/13, Error ellipse: s-maj=57.7km s-min=18.9km az=67.0, putative timing error on ZAL*

*NEIC **29** 07:54:41.7±1.8, 6.80S×130.29E, h137^{km}±19^{km}, mb4.7/7, Error ellipse: s-maj=25.4km s-min=11.6km az=74.0*

ISC 29 07:54:37.1±2.0**, 7.04S**±0.05×**130.27E**±0.09**, h121**^{km}±21^{km}**, n26, σ1^{s}14**/35**, mb4.7**/14**, 2D, Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.00**	**160**	⇓iP	**P**	**07 56 11.5**	**+6.9**
	254nm,0.3s						
KAKA				eS	**S**	**07 57 18.5**	**+5.9**
FITZ	**Fitzroy Crossi**	**11.88**	**202**	eP	**P**	**07 57 24.9**	**+1.3**
	48nm,0.3s						
FITZ				eS	**S**	**07 59 32.1**	**-2.0**
FITZ	**Fitzroy Crossi**	**11.88**	**202**	P	**P**	**07 57 25.2**	**+1.6**
	29nm,0.3s,baz=21,slow=10.0,SNR=169						
FITZ				S	**S**	**07 59 32.9**	**-1.1**
	14nm,0.3s,baz=149,slow=7.4,SNR=10						
FITZ				LR	LR	08 03 15.4	
	comp=Z,28nm,18.1s,baz=24,slow=43						
WRAB	**Tennant Creek**	**13.41**	**163**	eP	**P**	**07 57 42.5**	**-1.0**
	67nm,0.5s						
WRAB				eS	**S**	**08 00 05.3**	**-4.6**
WRA	**Warramunga Arr**	**13.41**	**163**	P	**P**	**07 57 42.7**	**-0.8**
	3.7nm,0.3s,baz=346,slow=13,SNR=223						
WRA				S	**S**	**08 00 05.9**	**-4.2**
	11nm,0.3s,baz=339,slow=23,SNR=10						
WB2	**Warramunga Arr**	**13.42**	**163**	eP	**P**	**07 57 42.2**	**-1.4**
WB2				eS	**S**	**08 00 09.1**	**-1.1**
ASAR	**Alice Springs**	**16.89**	**168**	P	**P**	**07 58 29.4**	**+1.8**
	8.8nm,0.3s,baz=19,slow=13,SNR=170						
ASAR				S	**S**	**08 01 28.4**	**-1.5**
	2.6nm,0.3s,baz=360,slow=26,SNR=4.1						
ASPA	**Alice Springs**	**16.89**	**168**	eP	**P**	**07 58 29.5**	**+2.0**
ASPA				eS	**S**	**08 01 31.9**	**+2.0**
MBWA	**Marble Bar**	**17.34**	**215**	eP	**P**	**07 58 37.1**	**+4.0**
	15nm,0.5s						
MBWA				eS	**S**	**08 01 40.4**	**+0.3**
FORT	**Forrest**	**23.70**	**185**	eP	**P**	**07 59 43.4**	**+4.6**
	84nm,1.0s,mb5.0						
STKA	**Stephens Creek**	**26.87**	**158**	eP	**P**	**08 00 10.6**	**+2.1**
	2.8nm,0.3s,mb4.3						
STKA				eS		08 05 23.3	
STKA	**Stephens Creek**	**26.87**	**158**	P	**P**	**08 00 10.7**	**+2.2**
	3.8nm,0.4s,mb4.3,baz=340,slow=7.5,SNR=16						
NANT	**Nan**	**38.85**	**312**	⇓P	**P**	**08 01 51.0**	**-1.2**
CMAR	**Chiang Mai Arr**	**39.97**	**310**	P	**P**	**08 02 01.7**	**+0.3**
	3.6nm,0.5s,mb4.5,baz=136,slow=7.2,SNR=19						
CHG	**Chiang Mai**	**40.18**	**310**	P	**P**	**08 02 04.1**	**+1.0**
GUN	**Gumba**	**55.18**	**311**	eP	**P**	**08 03 59.8**	**+0.1**
	32nm,0.4s,mb5.7						
PKI	**Pulchoki**	**55.36**	**310**	eP	**P**	**08 04 00.6**	**-0.4**
	11nm,0.6s,mb5.1						
KKN	**Kakani**	**55.57**	**311**	eP	**P**	**08 04 02.1**	**-0.4**
	18nm,0.6s,mb5.3						
DMN	**Daman**	**55.61**	**310**	eP	**P**	**08 04 02.5**	**-0.3**
	18nm,0.7s,mb5.2						
GKN	**Gorkha**	**56.17**	**310**	eP	**P**	**08 04 06.5**	**-0.3**
	27nm,0.4s,mb5.6						
KOLN	**Koldanda**	**56.84**	**310**	eP	**P**	**08 04 11.6**	**+0.1**
	7.8nm,0.3s,mb5.2						
SONM	**Songino Array**	**58.57**	**341**	P	**P**	**08 04 23.0**	**-0.3**
	1.2nm,0.8s,mb4.0,baz=158,slow=6.7,SNR=4.8						
MKAR	**Makanchi Array**	**68.41**	**327**	P	**P**	**08 05 27.8**	**0.0**
	3.6nm,0.3s,mb4.6,baz=117,slow=7.9,SNR=80						
KURK	**Kurchatov**	**72.69**	**329**	eP	**P**	**08 05 53.1**	**-0.4**
	1.7nm,0.6s,mb4.0						
MAW	**Mawson**	**75.01**	**201**	P	**P**	**08 06 10.2**	**+3.7**
	0.7nm,0.5s,mb3.7,baz=69,slow=4.1,SNR=10						
BVAR	**Borovoye Array**	**78.24**	**328**	P	**P**	**08 06 25.0**	**+0.2**
	1.3nm,0.5s,mb4.0,baz=135,slow=8.4,SNR=5.3						

*NEIC **29** 08:12:09.4±1.9, 24.26S×178.58E, h590^{km}±19^{km}, mb4.6/8, Error ellipse: s-maj=20.2km s-min=17.8km az=107.0*

*IDC **29** 08:12:10.2±2.4, 24.17S×178.51E, h589^{km}±30^{km}, mb3.7/6, mb1 3.9/6, mb1mx3.7/10, Error ellipse: s-maj=66.0km s-min=14.1km az=163.0*

ISC 29 08:12:09.4±1.6**, 24.3S**±0.2×**178.5E**±0.1**, h597**^{km}±20^{km}**, n36, σ0^{s}64**/25**, mb4.4**/11**, 4C, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**11.30**	**279**	⇑iP	**P**	**08 14 41.4**	**+0.2**
NOUC	**Port Laguerre**	**11.43**	**279**	⇑iP	**P**	**08 14 42.7**	**+0.3**
NOUC	**Port Laguerre**	**11.43**	**279**	⇑iP	**P**	**08 14 42.7**	**+0.3**
CTA	**Charters Tower**	**30.11**	**272**	eP	**P**	**08 17 34.2**	**+0.5**
	15nm,0.3s,mb5.1						
CTA	**Charters Tower**	**30.11**	**272**	P	**P**	**08 17 34.2**	**+0.5**
	16nm,0.3s,mb5.1,baz=94,slow=11,SNR=65						

CTAO	Charters Tower	30.11	272	eP	P	08 17 34.0	+0.3
	18nm,0.4s,mb5.0						
TOO	Toolangi	31.09	237	eP	P	08 17 42.0	+0.1
	2.8nm,0.5s,mb4.2						
STKA	Stephens Creek	33.31	248	eP	P	08 18 00.7	+0.2
	4.0nm,0.4s,mb4.4						
STKA	Stephens Creek	33.31	248	P	P	08 18 00.8	+0.2
	4.9nm,0.5s,mb4.4,baz=98,slow=11,SNR=19						
ASAR	Alice Springs	40.62	261	P	P	08 19 00.7	+0.3
	6.3nm,0.6s,mb4.3,baz=91,slow=7.2,SNR=59						
ASAR				ScP		08 23 47.2	
	0.9nm,0.7s,baz=112,slow=4.4,SNR=5.7						
ASAR				S	S	08 24 29.4	+0.1
	0.7nm,0.7s,baz=96,slow=14,SNR=4.4						
ASPA	Alice Springs	40.62	261	e	P	08 19 00.5	+0.1
WB2	Warramunga Arr	41.00	267	⇑iP	P	08 19 03.0	-0.5
WRAB	Tennant Creek	41.01	267	eP	P	08 19 02.6	-0.9
	21nm,0.6s,mb4.8						
WRA	Warramunga Arr	41.01	267	P	P	08 19 03.1	-0.4
	14nm,0.5s,mb4.7,baz=104,slow=8.1,SNR=129						
WRA				S	S	08 24 35.8	+0.8
	1.9nm,0.8s,baz=100,slow=13,SNR=1.8						
FORT	Forrest	44.89	250	eP	P	08 19 32.7	-1.1
	48nm,0.5s,mb5.3						
FITZ	Fitzroy Crossi	49.43	266	eP	P	08 20 08.5	+0.3
	3.1nm,0.9s,mb3.7						
QSPA	South Pole Qui	65.80	180	eP	P	08 21 57.4	-0.4
	3.5nm,0.7s,mb3.9						
QSPA				e		08 26 34.8	
SNAA	Sanae	84.30	180	⇑i	P	08 23 35.2	-4.6
SNAA	Sanae	84.30	180	eP	P	08 23 37.4	-2.3
VNA3	Neumayer Olymp	84.56	177	⇑i	P	08 23 41.9	+0.9
VNA2	Neumayer--Watz	84.97	178		P	08 23 43.7	+0.7
TXAR	Lajitas Array	91.80	59	P	P	08 24 16.6	+0.7
	0.8nm,0.8s,mb3.8,baz=218,slow=6.4,SNR=12						
ILAR	Eielson Array	92.73	14	P	P	08 24 18.6	-0.6
	0.4nm,0.6s,mb3.7,baz=222,slow=5.3,SNR=9.3						
MKAR	Makanchi Array	111.40	313	PKiKP		08 29 37.4	
	0.3nm,0.5s,baz=135,slow=1.6,SNR=3.8						
MKAR	Makanchi Array	111.40	313	PKPdf	PKPdf	08 29 37.4	+1.3
KURK	Kurchatov	114.53	316	eP	PKPdf	08 29 41.8	-0.4
BVAR	Borovoye Array	119.82	319	PKP	PKPdf	08 29 53.7	+1.3
	1.7nm,0.4s,baz=125,slow=3.8,SNR=8.6						
ARCES	ARCESS Array B	131.97	348	PKP	PKPdf	08 30 16.6	+1.3
	1.2nm,0.6s,baz=45,slow=1.7,SNR=11						
FINES	FINESS Array B	138.36	340	PKhKP		08 30 20.4	
	4.5nm,1.2s,baz=36,slow=4.6,SNR=5.0						
FINES				PKP	PKPdf	08 30 28.3	+1.2
	3.6nm,1.1s,baz=117,slow=4.3,SNR=5.9						
NB2	NORSAR Subarra	142.23	350	PKP		08 30 32.4	
	1.7nm,0.6s,baz=15,slow=2.9						
NOA	NORSAR Array B	142.23	350	PKhKP		08 30 32.5	
	3.5nm,0.8s,baz=16,slow=4.8,SNR=9.6						
NOA	NORSAR Array B	142.23	350	PKP	PKPdf	08 30 32.5	-1.4
HFS	Hagfors	142.64	348	PKhKP		08 30 33.5	
	7.1nm,0.4s,baz=72,slow=4.7,SNR=50						
AKASG	Malin Array Be	144.53	326	PKP	PKPdf	08 30 40.0	+1.9
	3.0nm,0.5s,baz=42,slow=3.8,SNR=10						
EKA	Eskdalemuir Ar	148.96	2	PKPbc	PKPdf	08 30 51.9	+6.6
	1.0nm,0.3s,baz=341,slow=2.1,SNR=3.9						
MLR	Muntele Rosu	149.35	321	PKPbc	PKPdf	08 30 51.6	+5.4
	1.1nm,0.4s,baz=176,slow=6.5,SNR=3.8						

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*NNC **29** 08:13:51.1±3.7, 40.03N×81.57E, mpv4.0, Error ellipse: s-maj=187.5km s-min=33.8km az=94.0*

BJI 29 08:13:43.2, 39.42N×82.52E, h12^{km}, ML4.0, 3C, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSH	Kashi	5.07	273	ePG	Pg	08 15 18.3	-6.1
KSH				SG	Sg	08 16 18.3	-14
KSH				Smax			
	comp=N,280nm,0.9s						
KSH				Smax			
	comp=E,270nm,0.4s						
MK31	Makanchi Array	7.37	359	⇑Pn	Pn	08 15 34.6	+1.2
	comp=E,4.5nm,0.3s,baz=186,slow=13						
MK31				⇑Sn	Sn	08 16 56.3	-1.4
	comp=E,14nm,0.7s,baz=184,slow=24						
MK31				⇑Lg		08 17 40.7	
	comp=E,31nm,0.8s,baz=174,slow=28						

WEL 29 08:13:52.0±0.2, 36.34S×179.95E, h33^{km}, ML3.6/3, Error ellipse: s-maj=2.1km s-min=1.3km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.80	227	PN	Pn	08 14 19.8	-1.4
MXZ				SN	Sn	08 14 40.1	-3.0
PUZ	Puketiti	2.20	217	PN	Pn	08 14 25.6	-1.4
PUZ				SN	Sn	08 14 51.1	-2.2
MWZ	Matawai	2.77	223	PN	Pn	08 14 33.4	-1.8
MWZ				SN	Sn	08 15 04.1	-3.9
URZ	Urewera	2.97	229	PN	Pn	08 14 35.9	-2.1
URZ				SN	Sn	08 15 09.4	-3.4
KUZ	Kuaotunu	3.43	262	PN	Pn	08 14 42.4	-2.1
BKZ	Black Stump Fm	3.93	223	PN	Pn	08 14 49.1	-2.6
BKZ				eSN	Sn	08 15 32.1	-5.2
NGZ	Ngauruhoe	4.46	229	PN	Pn	08 14 56.4	-2.8
CNZ	Chateau	4.51	229	ePN	Pn	08 14 57.2	-2.6
WNVZ	Wahianoa	4.56	228	ePN	Pn	08 14 57.8	-2.8

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*NEIC **29** 08:14:52.4, 17.17N×100.50W, h7^{km}, MD4.1(MEX), After MEX.*

*MEX **29** 08:14:53.1±0.9, 17.28N×100.46W, h31^{km}±31^{km}, MD4.1*

ISC 29 08:14:50.5±0.8, 17.24N±0.05×100.49W±0.04, h43^{km}±27^{km}, n22, σ1§15/41, 1D, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ACX	Acapulco	0.66	123	iP	P	08 15 04.1	+0.6
ACX				iS	S	08 15 12.5	-0.6
ACX	Acapulco	0.66	123	eP	P	08 15 04.1	+0.6
ACX				iS	S	08 15 12.5	-0.6
ZIIG	Zihuatanejo	1.00	292	iP	P	08 15 09.7	+1.5
ZIIG				iS	S	08 15 20.7	-0.7
ZIIG	Zihuatanejo	1.00	292	eP	P	08 15 10.0	+1.7
ZIIG				iS	S	08 15 21.4	+0.1
PLIG	Platanillo	1.49	39	⇓iP	P	08 15 15.2	-0.2
PLIG				iS	S	08 15 32.9	-0.8
YAIG	Yautepec	2.11	40	iP	P	08 15 23.3	-0.9
YAIG				iS	S	08 15 47.7	-1.6
YAIG	Yautepec	2.11	40	eP	P	08 15 23.0	-1.2
YAIG				iS	S	08 15 51.0	+1.8
IIZ	Mezontepec	2.28	31	iP	P	08 15 27.8	+1.3
PNIG	Pinotepa	2.42	110	eP	P	08 15 27.8	-0.7
PNIG				iS	S	08 15 57.2	+0.2
UNM	Universidad Na	2.43	31	eP	P	08 15 28.6	-0.1
UNM				iP		08 15 32.0	
UNM				iS	S	08 15 56.9	-0.5
UNM	Universidad Na	2.43	31	eP	P	08 15 28.5	-0.2
UNM				iP		08 15 32.0	
UNM				iS	S	08 16 00.7	+3.4
MOIG	Morelia	2.52	345	eP	P	08 15 30.5	+0.6
MOIG				iS	S	08 15 57.6	-2.0
MOIG	Morelia	2.52	345	eP	P	08 15 31.7	+1.8
MOIG				iS	S	08 16 02.7	+3.1
PPM	Popocatepetl	2.54	44	iP	P	08 15 29.5	-0.8
PPM				iS	S	08 16 03.0	+2.7
PPM	Popocatepetl	2.54	44	iP	P	08 15 29.2	-1.1
PPM				iP		08 15 29.5	
PPM				iS	S	08 16 03.0	+2.7
IISM	Ciudad Serdan	3.44	59	iP	P	08 15 43.8	+0.8
IISM				iS	S	08 16 18.6	-4.3
VHO	Vista Hermosa	3.60	92	iP	P	08 15 45.7	+0.4
VHO				eS	S	08 16 25.3	-1.7
VHO	Vista Hermosa	3.60	92	iP	P	08 15 45.7	+0.4
VHO				eS	S	08 16 28.0	+0.9
OXX	Oaxaca	3.61	92	eP	P	08 15 43.4	-2.0
OXX				iS	S	08 16 27.5	+0.2
OXX	Oaxaca	3.61	92	iP	P	08 15 49.5	+4.1
OXX				eP		08 15 52.2	
SFJM	Santa Fe	4.03	324	eP	P	08 15 51.4	0.0
SFJM				iS	S	08 16 36.5	-1.6
SFJM	Santa Fe	4.03	324	eP	P	08 15 58.8	+7.4
SFJM				iP		08 16 00.8	

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*STR **29** 08:40:39.6±0.2, 49.36N×6.93E, h1^{km}±1^{km}, Ml2.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*NEIC **29** 08:40:39.6, 49.36N×6.93E, h1^{km}, ML3.5(LDG), ML3.0(VIE), ML2.7(STR), After STR.*

*LDG **29** 08:40:39.9±0.1, 49.37N×6.90E, h1^{km}, Md3.2/1, Ml3.5/14, Error ellipse: s-maj=1.4km s-min=1.2km az=107.0, Suspected Mining induced.*

*BGR **29** 08:40:40.0±0.4, 49.36N×6.92E, h1^{km}, ML2.7/7, Error ellipse: s-maj=4.4km s-min=3.3km az=25.0*

*BNS **29** 08:40:40.3±1.2, 49.40N×6.90E, h1^{km}, ML2.6*

ISC 29 08:40:37.3±0.2, 49.36N±0.01×6.92E±0.02, n56, σ1§44/99, 2C-3D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RUP	Ruppelstein	0.36	14	Pg	Pg	08 40 46.6	+2.2
RUP				Sg	Sg	08 40 51.4	+2.2
WLF	Walferdange	0.59	302	ePg	Pg	08 40 51.2	+2.1
	SNR=9.6						
WLF				eSg	Sg	08 40 58.3	+1.3
WLF	Walferdange	0.59	302	eP	Pg	08 40 50.9	+1.8
ABH	Alteburg	0.66	37	Pg	Pg	08 40 51.9	+1.3
ABH				Sg	Sg	08 41 00.6	+1.2
LANF	Langenberg	0.69	123	Pg	Pg	08 40 52.9	+1.8
KTD	Kalmit	0.76	92	Pg	Pg	08 40 54.1	+1.6
BGG	Burgeitz	0.89	17	ePg	Pg	08 40 56.5	+1.4
BGG				eSg	Sg	08 41 08.4	+1.4
	157nm,0.6s						
CDF	Champ du Feu	0.97	166	ePg	Pg	08 40 58.1	+1.4
CDF				ePn	Pn	08 40 59.2	+1.2
CDF				eSg	Sg	08 41 10.8	+1.1
	132nm,0.2s						
WLS	Welschbruch	0.98	163	Pg	Pg	08 40 58.5	+1.5
WLS				Sg	Sg	08 41 11.4	+1.3
ECH	Echery	1.15	172	Pg	Pg	08 41 02.1	+1.8
ECH				Sg	Sg	08 41 16.6	+1.0
RFYF	Reffroy	1.20	233	ePg	Pg	08 41 02.4	+1.1
	baz=52						
RFYF				eSg	Sg	08 41 18.5	+1.2
	190nm,0.2s,baz=46						
STB	Steinbach	1.24	358	ePg	Pg	08 41 02.8	+0.7
STB				eSg	Sg	08 41 18.8	+0.2
	72nm,0.6s						
TOD	Tromm	1.25	78	Pg	Pg	08 41 02.4	+0.1
TOD				Sg	Sg	08 41 20.1	+1.1
LIBD	Limburg	1.29	159	Pg	Pg	08 41 04.9	+1.9
THEF	They Montfort	1.29	209	Pg	Pg	08 41 03.8	+0.8
THEF				Sg	Sg	08 41 21.0	+0.8
KLL	Kalltalsperre	1.35	343	ePg	Pg	08 41 03.9	-0.3
BFO	Black Forest	1.38	137	Pn	Pn	08 41 04.5	+0.6
	319nm,0.6s,SNR=19						
BFO	Black Forest	1.38	137	ePn	Pn	08 41 05.5	+1.6
	SNR=2.2						
BFO				ePg	Pg	08 41 06.4	+1.5
	SNR=18						
BFO				eSg	Sg	08 41 23.7	+0.3
BFO	Black Forest	1.38	137	ePg	Pg	08 41 05.0	+0.1
BFO				eSg	Sg	08 41 24.9	+1.5
HAU	Haudompre	1.40	196	ePn	Pn	08 41 04.8	+0.6
HAU				ePg	Pg	08 41 06.1	+0.8
HAU				eSg	Sg	08 41 23.5	-0.6
	151nm,0.3s						
MEZF	Maizieres J'vi	1.50	236	ePg	Pg	08 41 07.7	+0.4
	baz=56						
MEZF				eSg	Sg	08 41 25.7	-1.6
	106nm,0.4s						
MOF	Molkenrain	1.51	175	Pg	Pg	08 41 08.3	+0.8
HINF	Hinteralfeld	1.54	182	ePg	Pg	08 41 08.8	+0.7
HINF				eSg	Sg	08 41 28.3	-0.3
	140nm,0.2s						
HGN	Heimansgroeve	1.55	336	ePn	Pn	08 41 07.0	+0.8
	4.6nm,0.2s,baz=160						
HGN				iPg	Pg	08 41 08.7	+0.5
	22nm,0.3s						
HGN				eSg	Sg	08 41 27.8	-1.1
GIVF	Givet	1.55	300	ePn	Pn	08 41 07.4	+1.1
GIVF				eSg	Sg	08 41 29.1	+0.1
	171nm,0.7s						
FELD	Feldberg	1.65	154	Pg	Pg	08 41 10.9	+0.8
BAIF	Baives	1.90	293	ePn	Pn	08 41 12.4	+1.2
BAIF				eSg	Sg	08 41 39.8	-0.7
	79nm,0.6s						
BUG	Bochum--Univer	2.10	6	eSg	Sg	08 41 46.2	-1.0
UBBA	Unterbreizbach	2.46	52	eSg	Sg	08 41 58.1	-1.3
WTSB	Winterswijk	2.62	358	eSg	Sg	08 41 58.8	-5.5
CABF	La Chapelle	2.80	192	ePn	Pn	08 41 24.4	+0.2
CABF				eSg	Sg	08 42 07.4	-3.2
	54nm,0.6s						
GRF	Grafenberg Arr	2.82	82	eSg	Sg	08 42 09.2	-2.0
DAVA	Damuels	2.86	135	⇑iPN	Pn	08 41 27.3	+2.3
DAVA				iPG	Pg	08 41 34.9	+0.5
DAVA				iSN	Sn	08 42 00.1	-0.5
DAVA				iSG	Sg	08 42 11.1	-1.4
	12nm,0.5s						
LOR	Lormes	2.92	226	ePn	Pn	08 41 25.5	-0.4
	baz=47						
LOR				eSn	Sn	08 41 59.2	-3.1
	48nm,0.4s						
LOR				eSg	Sg	08 42 10.9	-3.7
	baz=37						
SSF	Saint Saulge	3.24	226	ePn	Pn	08 41 29.8	-0.6
SSF				eSn	Sn	08 42 07.8	-2.5
SSF				eSg	Sg	08 42 20.6	-4.6
	25nm,0.4s						
MOX	Moxa	3.29	65	ePg	Pg	08 41 40.6	-2.4
	SNR=1.9						
MOX				eSg	Sg	08 42 25.3	-1.6
CLZ	Clausthal	3.32	40	eSg	Sg	08 42 25.2	-2.7
SMF	Signal de Mont	3.41	219	ePn	Pn	08 41 32.0	-0.8
SMF				eSn	Sn	08 42 12.0	-2.6
	16nm,0.2s						
MOTA	Moosalm	3.44	124	⇓iPN	Pn	08 41 34.7	+1.5
MOTA				iSN	Sn	08 42 13.2	-2.1
MOTA				iSG	Sg	08 42 28.7	-3.1
	5.3nm,0.5s						
AVF	Avril sur Loir	3.51	224	ePn	Pn	08 41 33.5	-0.7
AVF				eSn	Sn	08 42 13.5	-3.6
	13nm,0.3s						
SQTA	Sankt Quirin	3.57	125	⇑iPN	Pn	08 41 36.5	+1.4
SQTA				iSN	Sn	08 42 16.4	-2.2
SQTA				iSG	Sg	08 42 32.8	-3.4
	7.1nm,0.3s						
NKC	Novy Kostel	3.69	74	ePG	Pg	08 41 47.6	-3.3
NKC				ex	x	08 42 34.9	
TANN	Tannenbergstha	3.73	71	ePg	Pg	08 41 50.8	-1.0
	SNR=2.0						
TANN				eSg	Sg	08 42 38.4	-3.2
WTTA	Wattenberg	3.78	122	⇓iPN	Pn	08 41 39.4	+1.4
WTTA				iSN	Sn	08 42 20.9	-3.0
BGF	Bois d'Agland	3.92	226	ePn	Pn	08 41 39.1	-0.9
BGF				eSn	Sn	08 42 23.3	-4.1
	43nm,0.4s						
CLL	Collm	4.36	61	eSG	Sg	08 43 01.0	-1.3
KHC	Kasperske Hory	4.37	90	ePN	Pn	08 41 46.5	+0.1
KHC				eSN	Sn	08 42 36.2	-2.6
TCF	Toulx Ste Croi	4.42	228	ePn	Pn	08 41 45.9	-1.2
GEC2	GERESS Array S	4.48	94	ePn	Pn	08 41 48.7	+0.6
	SNR=12						
LDF	La Druitiere	4.70	263	ePn	Pn	08 41 49.9	-1.3
KBA	Koelnbreinsper	4.86	116	⇓iPN	Pn	08 41 53.6	+0.2
KBA				iSN	Sn	08 42 47.8	-3.5
FLN	La Foliniere	4.91	266	ePn	Pn	08 41 53.3	-0.8
GRR	Gorron	5.23	262	ePn	Pn	08 41 56.8	-1.8
SGMF	Saint Gilles	6.36	264	ePn	Pn	08 42 12.5	-2.1
ROSF	Rostrenen	6.81	265	ePn	Pn	08 42 18.1	-2.8
QUIF	Quistinic	6.84	262	ePn	Pn	08 42 18.9	-2.5

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*STR **29** 08:45:08.6±0.2, 45.05N×6.57E, h5^{km}±1^{km}, Ml2.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*NEIC **29** 08:45:09.6, 45.03N×6.55E, h2^{km}, MD2.7(ROM), ML2.8(LDG), ML2.7(STR), ML2.7(GEN), After LDG.*

*LDG **29** 08:45:09.6±0.1, 45.03N×6.55E, h2^{km}, Md2.9/3, Ml2.8/15, Error ellipse: s-maj=3.1km s-min=2.1km az=63.0*

*ROM **29** 08:45:10.0±0.2, 45.06N×6.73E, h5^{km}, MD2.7/4, ML2.0/4, Error ellipse: s-maj=2.4km s-min=0.9km az=90.0*

ISC 29 08:45:07.5±0.2, 45.06N±0.01×6.52E±0.02, h6^{km}±2^{km}, n58, σ1§07/110, France

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BNI	Bardonecchia	0.11	93	eP	Pg	08 45 10.8	+0.9
GDM	Grand'Maison	0.32	297	Pg	Pg	08 45 15.2	+1.2
GDM				Sg	Sg	08 45 20.0	+1.6
MBDF	Montbardon	0.38	152	ePg	Pg	08 45 15.4	+0.4
MBDF				eSg	Sg	08 45 20.1	0.0
	133nm,0.2s						
OG22	Abries	0.38	128	Pg	Pg	08 45 15.6	+0.4
OG22				Sg	Sg	08 45 20.9	+0.6
FENE	Fenestrelle	0.38	94	P	Pg	08 45 15.8	+0.6
FENE				S	Sg	08 45 21.0	+0.7
LPG	La Plagne	0.47	20	ePg	Pg	08 45 17.9	+1.0
LPG				eSg	Sg	08 45 23.7	+0.5
	67nm,0.2s						
ORIF	Oris-en-Rattie	0.48	253	ePg	Pg	08 45 17.9	+0.8
ORIF				eSg	Sg	08 45 23.7	+0.2
	149nm,0.2s						
LPL	La Plagne	0.48	18	ePg	Pg	08 45 18.2	+1.0
LPL				eSg	Sg	08 45 25.5	+1.9
	70nm,0.3s						
RSP	Reno Superiore	0.53	79	P	Pg	08 45 18.7	+0.6
RSP				S	Sg	08 45 25.8	+0.7
BHB	Bricherasio	0.57	112	P	Pg	08 45 19.0	+0.1
BHB				S	Sg	08 45 26.6	+0.1
GRN	Grenoble	0.58	289	Pg	Pg	08 45 20.6	+1.5
LSD	Ceresole Reale	0.60	48	P	Pg	08 45 20.0	+0.5
LSD				S	Sg	08 45 28.0	+0.5
SURF	Saint Ours	0.61	160	Pg	Pg	08 45 19.7	-0.1
SURF				Sg	Sg	08 45 28.0	0.0
PZZ	Prazzo	0.69	143	P	Pg	08 45 21.2	-0.1
PZZ				S	Sg	08 45 30.2	-0.3
OCF	Saint Nazaire	0.99	242	Pg	Pg	08 45 28.8	+1.4
OG26	St.-Nazaire-De	0.99	242	Pg	Pg	08 45 28.8	+1.5
STV2	Anna di Valdie	0.99	145	P	Pb	08 45 26.5	-0.2
STV2				S	Sb	08 45 39.3	-0.6
STV	Sta Anna Valdi	0.99	145	P	Pb	08 45 26.6	-0.1
STV				S	Sb	08 45 39.3	-0.6
ENR	Entracque	1.05	142	P	Pb	08 45 27.4	-0.3
ENR				S	Sb	08 45 40.8	-0.7
TOUF	Mont Tournerai	1.17	153	Pg	Pg	08 45 30.1	-0.7
ORO	Oropa	1.18	60	ePG	Pg	08 45 30.5	-0.5
ORO				SG	Sg	08 45 46.9	+0.2
	54nm,0.2s						
ORO	Oropa	1.18	60	ePg	Pg	08 45 30.5	-0.5
ORO				eSg	Sg	08 45 46.9	+0.3
ROB	Roburent	1.23	128	P	Pb	08 45 30.5	-0.2
ROB				S	Sb	08 45 46.2	-0.4
OG05	Jujurieux	1.24	323	Pg	Pg	08 45 33.4	+1.2
OG05				Sg	Sg	08 45 49.5	+0.8
AUTN	L'Aution	1.24	148	Pg	Pg	08 45 31.8	-0.5
AUTN				Sg	Sg	08 45 49.2	+0.3
MVIF	Mont Vial	1.25	159	Pg	Pg	08 45 31.8	-0.6
SMRF	Simiane la Rot	1.28	212	ePg	Pg	08 45 33.9	+0.9
SMRF				eSg	Sg	08 45 50.5	+0.5
	32nm,0.3s						
SAOF	Saorge	1.30	145	Pg	Pg	08 45 32.3	-1.2
SAOF				Sg	Sg	08 45 49.9	-0.9
AURF	Auriere	1.30	154	Pg	Pg	08 45 32.9	-0.6
MONE	Monesi	1.31	138	P	Pb	08 45 31.9	-0.3
MONE				S	Sb	08 45 48.0	-1.2
VIVF	Saint-Julien-l	1.33	262	ePg	Pg	08 45 33.4	-0.7
VIVF				ePn	Pn	08 45 34.4	+1.7
VIVF				eSg	Sg	08 45 53.5	+1.7
	63nm,0.4s						
CALN	Calern	1.33	169	Pg	Pg	08 45 33.6	-0.5
CALN				Sg	Sg	08 45 55.2	+3.3
SBF	Sospel	1.36	151	eSn	Sn	08 45 52.5	+0.9
	37nm,0.3s						
SBF	Sospel	1.36	151	ePn	Pn	08 45 33.9	+0.8
SBF				eSn	Sn	08 45 52.5	+0.9
MCGN	Macugnaga	1.37	48	ePN	Pn	08 45 34.2	+1.0
MCGN				SN	Sn	08 45 52.0	+0.2
	17nm,0.5s						
MCGN	Macugnaga	1.37	48	ePg	Pg	08 45 34.2	-0.6
MCGN				eSg	Sg	08 45 52.0	-1.1
RORO		1.45	130	P	Pn	08 45 33.1	-1.3
RORO				S	Sb	08 45 50.4	-2.8
FIN	Finale Ligure	1.47	125	ePN	Pn	08 45 35.4	+0.7
FIN				SN	Sn	08 45 54.0	-0.4
	19nm,0.4s						
FIN	Finale Ligure	1.47	125	ePn	Pn	08 45 35.4	+0.8
FIN				eSn	Sn	08 45 54.0	-0.4
NEGI	Negi	1.48	145	P	Pn	08 45 33.4	-1.4
FRF	La Foret Royal	1.50	177	ePn	Pn	08 45 36.4	+1.3
FRF				eSg	Sg	08 45 58.6	+1.2
	41nm,0.4s						
IMI	Imperia	1.51	139	ePN	Pn	08 45 36.5	+1.3
IMI				SN	Sn	08 45 55.5	+0.2
	29nm,0.4s						
IMI	Imperia	1.51	139	ePn	Pn	08 45 36.5	+1.3
IMI				eSn	Sn	08 45 55.5	+0.2
PCP	Pian Castagno	1.53	109	P	Pn	08 45 35.3	-0.2
CABF	La Chapelle	1.58	349	ePn	Pn	08 45 38.5	+2.2
CABF				ePg	Pg	08 45 39.5	+0.4
CABF				eSg	Sg	08 45 58.6	-1.6
	13nm,0.3s						
LMR	La Mourre	1.72	180	ePn	Pn	08 45 40.5	+2.2
LMR				eSn	Sn	08 46 01.6	+0.8
LMR				eSg	Sg	08 46 03.6	-1.3
	17nm,0.3s						
LASF	Ste Croix	2.14	244	ePn	Pn	08 45 45.0	+0.7
LASF				ePg	Pg	08 45 49.4	-0.9
LASF				eSn	Sn	08 46 10.3	-1.2
	5.8nm,0.3s						
SMF	Signal de Mont	2.46	311	ePn	Pn	08 45 49.5	+0.7
SMF				ePg	Pg	08 45 56.1	-0.5
SMF				eSg	Sg	08 46 25.8	-3.5
	9.2nm,0.2s						
HINF	Hinteralfeld	2.77	5	eSg	Sg	08 46 38.3	-1.4
	6.5nm,0.4s						
AVF	Avril sur Loir	2.81	309	ePn	Pn	08 45 54.2	+0.4
AVF				ePg	Pg	08 46 02.1	-1.5
AVF				eSg	Sg	08 46 37.3	-3.8
	8.3nm,0.5s						
LOR	Lormes	2.88	321	ePn	Pn	08 45 55.5	+0.6
LOR				eSg	Sg	08 46 40.3	-3.2
	7.5nm,0.4s						
SSF	Saint Saulge	2.90	315	ePn	Pn	08 45 54.3	-0.9
SSF				ePg	Pg	08 46 04.1	-1.4
HAU	Haudompre	2.95	358	ePg	Pg	08 46 04.9	-1.5
HAU				eSg	Sg	08 46 42.9	-2.9
	6.7nm,0.3s						
BGF	Bois d'Agland	2.98	302	ePn	Pn	08 45 56.7	+0.5
BGF				ePg	Pg	08 46 05.0	-1.9
BGF				eSg	Sg	08 46 44.3	-2.3
	13nm,0.3s						
CAF	Calviac	3.17	269	ePn	Pn	08 45 59.5	+0.6
CAF				ePg	Pg	08 46 08.6	-2.1
TCF	Toulx Ste Croi	3.27	294	ePn	Pn	08 46 01.2	+0.9
MTLF	Montolieu	3.54	243	ePn	Pn	08 46 03.6	-0.6
MTLF				ePg	Pg	08 46 15.0	-3.2
RJF	Les Rejaudoux	3.55	276	ePg	Pg	08 46 16.2	-2.2

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*SKO **29** 08:52:58.0, 41.11N×20.74E, h13^{km}*

*PDG **29** 08:53:02.8±0.2, 41.19N×20.30E, h10^{km}±1^{km}*

*NEIC **29** 08:53:02.8, 41.19N×20.30E, h10^{km}, MD2.8(PDG), After PDG.*

*TIR **29** 08:53:03.2, 41.13N×20.13E, h33^{km}, Ml2.1*

ISC 29 08:52:57.6±0.5, 41.19N±0.04×20.69E±0.04, h10^{km}, n17, σ1§48/34, 11C-3D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OHR	Ohrid	0.12	134	⇑iPg	Pg	08 53 00.5	0.0
OHR				⇑iSg	Sg	08 53 02.2	-0.2
OHR				⇓iSg	Sg	08 53 02.2	-0.2
BIA	Bitola	0.51	110	⇑iPg	Pg	08 53 06.9	-1.0
BIA				iSg	Sg	08 53 14.8	0.0
TIR	Tirane	0.64	284	iPg	Pg	08 53 11.5	+1.0
TIR				iSg	Sg	08 53 23.0	+3.9
QSH	Qafa e Shtames	0.68	299	ipg?	Pg	08 53 12.4	+1.2
QSH				iSg	Sg	08 53 24.0	+3.8
LACI	Lac	0.86	301	iPg	Pg	08 53 15.8	+1.0
LACI				iSg	Sg	08 53 28.7	+2.4
SKO	Skopje	0.96	36	ePg	Pg	08 53 17.5	+0.7
SKO				i		08 53 19.4	
SKO				iSg	Sg	08 53 30.3	+0.6
ULC	Ulcinj	1.33	306	⇑iPg	Pn	08 53 23.3	+1.1
ULC				eSg	Sn	08 53 40.9	+0.9
PVY	Plav	1.50	339	⇑iPg	Pg	08 53 29.1	+1.5
PVY				eSg	Sg	08 53 51.3	+3.7
TTG	Podgorica	1.63	320	⇓iPg	Pg	08 53 29.8	-0.4

TTG				*e*Sg	**Sg**	**08 53 52.8**	**+0.7**
BUM	**Brajici-Budva**	**1.74**	**310**	⇑*i*Pg	**Pg**	**08 53 30.7**	**-1.6**
BUM				*e*Sg	**Sg**	**08 53 54.8**	**-0.7**
IVA	**Berane**	**1.78**	**341**	⇑*i*Pn	**Pg**	**08 53 34.1**	**+1.0**
IVA				*e*Sn	**Sg**	**08 53 59.9**	**+3.0**
NKY	**Niksic**	**2.05**	**323**	⇑*i*Pn	**Pg**	**08 53 37.2**	**-1.4**
NKY				*e*Sn	**Sg**	**08 54 05.0**	**-0.9**
HCY	**Herceg Novi**	**2.06**	**308**	⇑*i*Pn	**Pg**	**08 53 36.7**	**-2.1**
HCY				*e*Sn	**Sg**	**08 54 03.9**	**-2.4**
BRY	**Bratogost**	**2.34**	**318**	⇑*i*Pn	**Pg**	**08 53 40.5**	**-3.7**
BRY				*e*Sn	**Sg**	**08 54 11.1**	**-4.3**
PLE	**Pljevlja**	**2.34**	**336**	⇑*i*Pn	**Pg**	**08 53 42.4**	**-1.9**
PLE				*e*Sn	**Sg**	**08 54 13.4**	**-2.2**
UPM	**Unac-Piva**	**2.41**	**327**	⇓*i*Pn	**Pg**	**08 53 43.1**	**-2.5**
UPM				*e*Sn	**Sg**	**08 54 13.7**	**-4.0**
KWP	**Kalwaria**	**8.56**	**9**	*e*P	**P**	**08 55 07.3**	**+2.9**
	58nm,0.5s						

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*SKO **29** 08:53:09.0, 41.11N×20.74E, h12^{km}*

ISC 29 08:53:08.4±1.7**, 41.18N**±0.05×**20.7E**±0.1**, h12**^{km}±13^{km}**, n4, σ0$\overset{s}{.}$88**/9**, 2C-1D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHR	**Ohrid**	**0.11**	**129**	⇑*i*Pg	**Pg**	**08 53 11.5**	**+0.1**
OHR				⇑*i*Sg	**Sg**	**08 53 13.2**	**-0.2**
OHR				⇓*i*Sg	**Sg**	**08 53 13.2**	**-0.2**
BIA	**Bitola**	**0.51**	**108**	*i* Pg	**Pg**	**08 53 17.7**	**-1.0**
BIA				*i* Sg	**Sg**	**08 53 25.8**	**+0.2**
KBN	**Korca**	**0.56**	**172**	*i* Pg	**Pg**	**08 53 18.2**	**-1.5**
KBN				*i* Sg	**Sg**	**08 53 28.7**	**+1.4**
SKO	**Skopje**	**0.97**	**35**	*e*Pg	**Pg**	**08 53 28.9**	**+1.0**
SKO				*i*		08 53 31.3	
SKO				*i* Sg	**Sg**	**08 53 40.9**	**-0.1**

IDC 29 08:54:03.0±45.0**, 16.18S**×**174.61W, mb4.4**/3**, mb1 4.6**/3**, mb1mx4.1**/11**, 1D, Error ellipse: s-maj=857.0km s-min=159.0km az=79.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**42.64**	**240**	*e*P	P	09 02 01.6	-1.4
	1.6nm,0.6s						
STKA	**Stephens Creek**	**42.64**	**240**	P	P	09 02 01.9	-1.1
	3.4nm,0.8s,baz=100,slow=7.8,SNR=12						
WB2	**Warramunga Arr**	**48.53**	**258**	*e*P	P	09 02 47.4	-2.6
WRA	**Warramunga Arr**	**48.54**	**258**	P	P	09 02 48.0	-2.2
	1.1nm,0.5s,baz=95,slow=7.2,SNR=43						
ASAR	**Alice Springs**	**48.77**	**253**	P	P	09 02 49.6	-2.2
	10.0nm,0.5s,baz=88,slow=8.4,SNR=234						
ASPA	**Alice Springs**	**48.77**	**253**	⇓*i*P	P	09 02 49.5	-2.4

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*NAO **29** 08:59:37.5±2.0, 64.85N×30.09E, ML2.4*

*IDC **29** 08:59:37.1±1.7, 64.71N×30.88E, mb1 3.2/4, mb1mx3.1/17, ML3.0/4, Error ellipse: s-maj=21.4km s-min=8.1km az=104.0*

*BER **29** 08:59:38.5±3.4, 64.79N×30.40E, ML2.1, ML2.4(NAO), Suspected explosion*

HEL 29 08:59:36.6±0.3**, 64.81N**×**30.67E, ML2.0, ML2.1**(BER)**, ML2.4**(NAO)**, Explosion, Finland-Karelia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSF	**Maaselka**	**1.30**	**329**	*e*P	Pb	09 00 00.6	-1.0
MSF				*e*S	Sb	09 00 17.6	-1.2
KJN	**Kajaani**	**1.48**	**242**	*e*P	Pn	09 00 02.4	-2.1
KJN				*e*S	Sb	09 00 21.1	-2.7
OUL	**Oulu**	**2.05**	**280**	*e*P	Pn	09 00 12.7	-0.1
OUL				*e*S	Sn	09 00 39.1	-0.3
SUF	**Sumiainen**	**2.91**	**226**	*e*P	Pn	09 00 24.3	-0.6
SUF				*e*S	Sn	09 00 59.8	-1.3
APA0	**Apatity Array**	**2.96**	**17**	Pn	Pn	09 00 25.4	-0.3
	baz=198,slow=14						
APA0				Sn	Sn	09 01 01.9	-0.6
	baz=212,slow=28						
APA0				Lg		09 01 12.2	
	baz=193,slow=37						
APA0	**Apatity Array**	**2.96**	**17**	*e*P	Pn	09 00 25.4	-0.3
APA0				*e*S	Sn	09 01 01.9	-0.6
APA0				*e*		09 01 12.2	
SGF	**Sodankyl**	**3.13**	**329**	*e*P	Pn	09 00 26.9	-1.3
SGF				*e*S	Sn	09 01 04.3	-2.7
SGF				*e*		09 01 18.5	
SGF				MSG		09 01 20.4	
	comp=Z,3.5nm,0.3s						
KAF	**Kangasniemi**	**3.34**	**218**	*e*P	Pn	09 00 30.7	-0.5
KAF				*e*S	Sn	09 01 09.5	-2.6
KAF				*e*SG	Sg	09 01 20.1	-7.7
KAF				MSG		09 01 24.1	
	comp=Z,4.9nm,0.3s						
KEF	**Keuruu**	**3.71**	**227**	*e*P	Pn	09 00 35.4	-1.1
KEF				*e*S	Sn	09 01 16.9	-4.6
FIA0	**FINESS Array S**	**3.97**	**214**	*e*P	Pn	09 00 37.7	-2.4
FIA0				*e*S	Sn	09 01 23.3	-4.8
FIA0	**FINESS Array S**	**3.97**	**214**	Pn	Pn	09 00 37.9	-2.2
	baz=26,slow=14						
FIA0				Pg	Pg	09 00 46.6	-9.2
	baz=34,slow=16						
FIA0				Lg		09 01 37.9	
	baz=33,slow=28						
FINES	**FINESS Array B**	**3.97**	**214**	Pn	Pn	09 00 37.9	-2.2
	comp=Z,0.2nm,0.3s,baz=36,slow=13,SNR=12						
FINES				Pg	Pg	09 00 45.4	-10
	comp=Z,0.6nm,0.3s,baz=31,slow=14,SNR=9.3						
FINES				Sn	Sn	09 01 25.7	-2.4
	comp=Z,0.5nm,0.3s,baz=34,slow=21,SNR=6.4						
FINES				Lg		09 01 38.3	
	comp=Z,2.4nm,0.3s,baz=34,slow=28,SNR=15						
KTK1	**Kautokeino**	**5.13**	**329**	*e*P	Pn	09 00 55.0	-1.6
KTK1				AML	AML	09 02 16.5	
	comp=Z,5.7nm,0.6s						
ARA0	**ARCESS Array S**	**5.15**	**339**	Pn	Pn	09 00 54.2	-2.6
	baz=155,slow=14						
ARA0				Sn	Sn	09 01 52.2	-5.7
	baz=153,slow=28						
ARA0				Lg		09 02 13.1	
	baz=158,slow=37						
ARA0	**ARCESS Array S**	**5.15**	**339**	*e*P	Pn	09 00 54.2	-2.6
ARA0				*e*S	Sn	09 01 52.2	-5.7
ARA0				*e*SG	Sg	09 02 13.1	-15
ARCES	**ARCESS Array B**	**5.15**	**339**	Pn	Pn	09 00 54.6	-2.2
	comp=Z,1.1nm,0.3s,baz=155,slow=13,SNR=84						
ARCES				Sn	Sn	09 01 51.9	-6.1
	comp=Z,1.1nm,0.3s,baz=153,slow=24,SNR=8.0						
ARCES				Lg		09 02 14.1	
	comp=Z,1.2nm,0.3s,baz=152,slow=32,SNR=9.3						
KEV	**Kevo**	**5.17**	**346**	*e*P	Pn	09 00 54.1	-2.9
KEV				*e*S	Sn	09 01 52.0	-6.3
KEV				*e*SG	Sg	09 02 14.3	-14
KIF	**Kilpisjarvi**	**5.72**	**322**	*e*P	Pn	09 01 02.9	-2.0
KIF				*e*S	Sn	09 02 06.8	-5.5
HFS	**Hagfors**	**9.14**	**247**	Pn	P	09 01 47.8	-4.9
	baz=51,slow=12						
HFS				Sn	Sn	09 03 25.6	-12
	baz=59,slow=28						
HFS				Lg		09 04 18.1	
	baz=70,slow=28						
HFS	**Hagfors**	**9.14**	**247**	*e*P	P	09 01 47.8	-4.9
HFS				*e*S	Sn	09 03 25.6	-12
HFS				*e*SG	Sg	09 04 18.1	-23
HFS	**Hagfors**	**9.14**	**247**	Pn	P	09 01 47.5	-5.2
	comp=Z,0.1nm,0.3s,baz=53,slow=13,SNR=7.4						
HFS				Sn	Sn	09 03 25.6	-12
	comp=Z,0.0nm,0.3s,baz=55,slow=23,SNR=3.2						
HFS				Lg		09 04 17.6	
	comp=Z,0.1nm,0.3s,baz=62,slow=25,SNR=4.9						
NOA	**NORSAR Array B**	**9.62**	**256**	Pn	P	09 01 55.0	-4.3
	comp=Z,0.3nm,0.3s,baz=59,slow=14,SNR=2.3						
NOA				Sn	Sn	09 03 37.2	-12
	comp=Z,0.2nm,0.3s,baz=48,slow=12,SNR=2.8						
SPA0	**Spitsbergen Ar**	**14.10**	**348**	Pn	P	09 02 52.6	-6.7
	baz=154,slow=14						
SPA0	**Spitsbergen Ar**	**14.10**	**348**	*e*P	P	09 02 52.6	-6.7

GUC 29 09:38:25.4±0.8**, 32.72S**×**71.77W, h16**^{km}±373^{km}**, MD3.5, ML2.4, 2D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCCH	**Las Cruces**	**0.77**	**167**	*i* P	Pb	09 38 39.5	-0.5
LCCH				*i* S	Sb	09 38 50.0	-0.1
PEL	**Peldehue**	**1.01**	**115**	*e*P	Pb	09 38 43.2	-0.8
PEL				*i* S	Sb	09 38 57.1	+0.3
PEL				AMP		09 38 59.8	
	comp=N,355nm,0.4s						
RCDM	**Rinconada Maip**	**1.12**	**134**	*i* P	Pb	09 38 44.9	-1.0
RCDM				*i* S	Sb	09 38 59.6	-0.4
RCDM				AMP		09 39 03.9	
	comp=E,170nm,0.1s						
TACH	**Talagante**	**1.17**	**143**	*e*P	Pb	09 38 45.8	-0.9
DSCH	**Colegio Aleman**	**1.22**	**124**	*i* P	Pb	09 38 46.5	-1.1
DSCH				*i* S	Sb	09 39 02.8	-0.1
DSCH				AMP		09 39 04.0	
	comp=E,138nm,0.3s						
CLCH	**Cerro Calan**	**1.24**	**123**	⇓*i*P	Pb	09 38 46.9	-1.0
CLCH				*i* S	Sb	09 39 03.3	-0.2
CLCH				AMP		09 39 10.4	
	comp=N,92nm,0.5s						
FCH	**Farellones**	**1.39**	**116**	⇓*i*P	Pn	09 38 49.2	-1.1
FCH				*i* S	Sb	09 39 07.3	-0.4
FCH				AMP		09 39 08.0	
	comp=E,161nm,0.2s						
PCH	**Pirque**	**1.39**	**131**	*i* P	Pn	09 38 50.0	-0.2
PCH				*i* S	Sb	09 39 08.2	+0.4
CMCH	**Combarbala**	**1.67**	**23**	*e*P	Pn	09 38 52.8	-1.5
CMCH				*i* S	Sn	09 39 14.3	-1.3

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*IDC **29** 09:39:46.0±1.4, 15.39N×146.50E, mb3.5/5, mb1 3.7/5, mb1mx3.6/16, Error ellipse: s-maj=51.4km s-min=23.2km az=92.0*

*NEIC **29** 09:39:47.7±1.2, 15.18N×146.31E, h15^{km}, mb4.3/1, Error ellipse: s-maj=36.4km s-min=15.2km az=107.0*

ISC 29 09:39:46.4±1.3**, 15.3N**±0.1×**146.3E**±0.3**, h15**^{km}**, n7, σ1$\overset{s}{.}$03**/7**, mb3.6**/6**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.18**	**219**	*e*P	**Pn**	**09 40 21.7**	**-1.0**
WRA	**Warramunga Arr**	**36.94**	**199**	P	**P**	**09 46 59.7**	**+2.8**
	0.5nm,0.8s,mb3.4,baz=24,slow=9.3,SNR=5.1						
ASAR	**Alice Springs**	**40.58**	**198**	P	**P**	**09 47 27.1**	**-0.1**
	0.3nm,0.8s,mb3.0,baz=28,slow=8.9,SNR=4.9						
SONM	**Songino Array**	**46.15**	**323**	P	**P**	**09 48 12.9**	**+0.9**
	0.8nm,0.6s,mb3.9,baz=143,slow=7.2,SNR=3.6						
MKAR	**Makanchi Array**	**61.22**	**315**	P	**P**	**09 50 03.2**	**+0.3**
	1.0nm,0.5s,mb4.2,baz=90,slow=8.1,SNR=12						
KURK	**Kurchatov**	**64.16**	**319**	*e*P	**P**	**09 50 21.9**	**-0.6**
	1.5nm,0.7s,mb4.1						
ILAR	**Eielson Array**	**66.44**	**25**	P	**P**	**09 50 36.0**	**-0.9**
	0.3nm,0.9s,mb3.3,baz=248,slow=6.2,SNR=4.7						

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*HEL **29** 09:44:01.5±0.2, 59.87N×22.27E, ML1.7, ML2.5(UPP), ML2.0(NAO), Explosion*

*IDC **29** 09:44:01.7±1.7, 59.85N×22.32E, mb1 2.8/4, mb1mx2.8/17, ML2.6/4, Error ellipse: s-maj=22.5km s-min=7.3km az=162.0*

*BER **29** 09:44:01.8±10.0, 59.83N×22.46E, ML2.0(NAO), Suspected explosion*

*NAO **29** 09:44:03.6±2.5, 60.13N×22.18E, ML2.0*

ISC 29 09:44:00.2±0.5**, 59.94N**±0.05×**22.27E**±0.05**, n24, σ1$\overset{s}{.}$31**/44**, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAL	**Aland**	**1.17**	**283**	*e*P	**Pb**	**09 44 22.5**	**-0.4**
AAL				*e*S	**Sb**	**09 44 38.5**	**0.0**
NRTU	**Norrtaelje**	**1.86**	**263**	*e*P	**Pn**	**09 44 33.6**	**+0.1**
PVF	**Pernaja**	**1.89**	**70**	*e*P	**Pn**	**09 44 34.7**	**+0.6**
PVF				*e*S	**Sn**	**09 44 59.0**	**-0.1**
GRAU	**Graesoe**	**1.91**	**284**	*e*P	**Pn**	**09 44 34.6**	**+0.3**
FLYU	**Flymyra**	**2.21**	**277**	*e*P	**Pn**	**09 44 39.0**	**+0.3**
FIA0	**FINESS Array S**	**2.41**	**49**	*e*P	**Pn**	**09 44 43.7**	**+2.2**
FIA0				*e*S	**Sn**	**09 45 12.3**	**+0.2**
FIA0	**FINESS Array S**	**2.41**	**49**	Pn	**Pn**	**09 44 43.3**	**+1.8**
	baz=227,slow=14						
FIA0				Lg		09 45 15.7	
	baz=233,slow=28						
FINES	**FINESS Array B**	**2.41**	**49**	Pn	**Pn**	**09 44 43.4**	**+1.9**
	0.8nm,0.3s,baz=231,slow=13,SNR=32						
FINES				Sn	**Sn**	**09 45 15.8**	**+3.7**
	3.2nm,0.3s,baz=236,slow=25,SNR=25						
KEF	**Keuruu**	**2.57**	**28**	*e*P	**Pn**	**09 44 46.9**	**+3.0**
KEF				*e*S	**Sn**	**09 45 17.1**	**+0.8**
OSTU	**Oestervaala**	**2.59**	**279**	*e*P	**Pn**	**09 44 44.5**	**+0.4**
BACU	**Backbrunna**	**2.60**	**270**	*e*P	**Pn**	**09 44 47.0**	**+2.7**
IGGU	**Iggoen**	**2.63**	**293**	*e*P	**Pn**	**09 44 45.4**	**+0.7**
VJF	**Virojoki**	**2.71**	**75**	*e*P	**Pn**	**09 44 46.2**	**+0.5**
VJF				*e*S	**Sn**	**09 45 17.4**	**-2.2**
VSU	**Vasula**	**2.73**	**121**	*e*S	**Sn**	**09 45 19.4**	**-1.0**
KAF	**Kangasniemi**	**2.94**	**40**	*e*P	**Pn**	**09 44 51.3**	**+2.3**
KAF				*e*SB	**Sb**	**09 45 29.6**	**-0.4**
KAF				MSG		09 45 31.5	
	comp=Z,2.7nm,0.3s						
SUF	**Sumiainen**	**3.36**	**32**	*e*P	**Pn**	**09 44 56.4**	**+1.3**
SUF				*e*S	**Sn**	**09 45 36.0**	**-0.2**
SUF				*e*SB	**Sb**	**09 45 42.5**	**+0.3**
SUF				MSG		09 45 44.1	
	comp=Z,1.0nm,0.2s						
HFS	**Hagfors**	**4.30**	**276**	*e*P	**Pn**	**09 45 08.7**	**+0.2**
HFS				*e*S	**Sn**	**09 45 58.7**	**-1.5**
HFS				*e*SG	**Sg**	**09 46 17.1**	**-6.4**
HFS	**Hagfors**	**4.30**	**276**	Pn	**Pn**	**09 45 08.5**	**0.0**
	comp=Z,0.0nm,0.3s,baz=103,slow=12,SNR=7.2						
HFS				Pg	**Pg**	**09 45 18.0**	**-8.1**
	comp=Z,0.1nm,0.3s,baz=90,slow=15,SNR=5.8						
HFS				Sn	**Sn**	**09 45 59.5**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=94,slow=19,SNR=3.0						
HFS				Lg		09 46 15.5	
	comp=Z,0.2nm,0.3s,baz=96,slow=28,SNR=8.0						
HFS	**Hagfors**	**4.30**	**276**	Pn	**Pn**	**09 45 08.7**	**+0.2**
	baz=106,slow=10						
HFS				Sn	**Sn**	**09 45 58.7**	**-1.5**
	baz=169,slow=37						
HFS				Lg		09 46 17.1	
	baz=100,slow=37						
KJN	**Kajaani**	**4.89**	**29**	*e*P	**Pn**	**09 45 17.4**	**+0.7**
KJN				*e*S	**Sn**	**09 46 13.1**	**-1.8**
KJN				*e*SG	**Sg**	**09 46 33.3**	**-10**
NOA	**NORSAR Array B**	**5.58**	**286**	Pn	**Pn**	**09 45 23.8**	**-2.6**
	comp=Z,0.2nm,0.3s,baz=84,slow=17,SNR=2.7						
NOA				Sn	**Sn**	**09 46 27.3**	**-4.9**
	comp=Z,0.1nm,0.3s,baz=90,slow=14,SNR=2.5						
NOA				Lg		09 46 51.7	
	comp=Z,0.3nm,0.3s,baz=46,slow=25,SNR=2.6						
ARA0	**ARCESS Array S**	**9.73**	**7**	Pn	**P**	**09 46 21.7**	**-2.7**
	baz=188,slow=14						
ARA0				Sn	**Sn**	**09 48 05.0**	**-11**
	baz=189,slow=28						
ARA0	**ARCESS Array S**	**9.73**	**7**	*e*P	**P**	**09 46 21.7**	**-2.7**
ARA0				*e*S	**Sn**	**09 48 05.0**	**-11**
ARCES	**ARCESS Array B**	**9.73**	**7**	Pn	**P**	**09 46 21.8**	**-2.6**
	comp=Z,0.2nm,0.3s,baz=185,slow=13,SNR=7.4						
ARCES				Sn	**Sn**	**09 48 06.9**	**-8.8**
	comp=Z,0.1nm,0.3s,baz=191,slow=23,SNR=2.5						

MAN 29 09:47:58.1, 15.74N×**120.02E, h31**^{km}**, mb4.0, ML2.7, MS2.4, 1C, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCZP	**Santa Cruz**	**0.11**	**288**	*e*P	Pn	09 48 04.7	+1.3
SCZP				*e*S	Sn	09 48 09.2	+2.5
BOLP	**Bolinao**	**0.65**	**351**	*e*P	Pb	09 48 11.5	+0.6
BOLP				*e*S	Sb	09 48 22.1	+2.4
BCPH	**Baguio City Da**	**0.83**	**40**	⇑*i*P	Pn	09 48 13.9	+0.1
BCPH				*i* S	Sb	09 48 25.5	+0.6
BALP	**Baler**	**1.50**	**90**	*e*P	Pn	09 48 23.1	-0.2
BALP				*e*S	Sn	09 48 41.2	-0.7

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*STR **29** 09:49:23.4±0.2, 44.57N×7.02E, h5^{km}±1^{km}, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*NEIC **29** 09:49:23.2, 44.59N×7.02E, h8^{km}, ML2.9(GEN), ML2.7(LDG), ML2.5(STR), After LDG.*

*LDG **29** 09:49:23.2±0.1, 44.59N×7.02E, h8^{km}, Md2.8/1, Ml2.7/10, Error ellipse: s-maj=2.5km s-min=1.4km az=67.0*

ISC 29 09:49:22.4±0.2**, 44.56N**±0.01×**6.96E**±0.02**, h14**^{km}±2^{km}**, n44, σ0$\overset{s}{.}$78**/80**, 1C, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PZZ	**Prazzo**	**0.12**	**120**	P	**Pb**	**09 49 26.4**	**+0.6**
PZZ				S	**Sb**	**09 49 28.4**	**+0.3**
SURF	**Saint Ours**	**0.13**	**233**	Pg	**Pg**	**09 49 26.7**	**+0.6**
SURF				Sg	**Sg**	**09 49 29.0**	**+0.5**
MBDF	**Montbardon**	**0.21**	**321**	*e*Pg	**Pg**	**09 49 27.9**	**+0.5**
MBDF				*e*Sg	**Sg**	**09 49 31.3**	**+0.6**
	367nm,0.2s						
OG22	**Abries**	**0.26**	**358**	Pg	**Pg**	**09 49 28.7**	**+0.5**
OG22				Sg	**Sg**	**09 49 32.4**	**+0.3**
BHB	**Bricherasio**	**0.35**	**38**	P	**Pb**	**09 49 30.3**	**+0.4**
BHB				S	**Sg**	**09 49 34.9**	**0.0**
STV	**Sta Anna Valdi**	**0.41**	**141**	P	**Pb**	**09 49 31.5**	**+0.6**
STV				S	**Sb**	**09 49 36.7**	**0.0**
STV2	**Anna di Valdie**	**0.41**	**140**	P	**Pb**	**09 49 31.3**	**+0.3**
STV2				S	**Sb**	**09 49 36.7**	**0.0**
ENR	**Entracque**	**0.47**	**135**	P	**Pb**	**09 49 32.4**	**+0.5**
ENR				S	**Sb**	**09 49 38.3**	**-0.1**
FENE	**Fenestrelle**	**0.47**	**9**	P	**Pb**	**09 49 32.5**	**+0.5**
FENE				S	**Sb**	**09 49 38.7**	**+0.2**
BNI	**Bardonecchia**	**0.53**	**338**	*e*P	**Pb**	**09 49 33.4**	**+0.4**
TOUF	**Mont Tournerai**	**0.59**	**159**	Pg	**Pg**	**09 49 34.7**	**+0.3**
TOUF				Sg	**Sg**	**09 49 42.6**	**+0.2**
RSP	**Reno Superiore**	**0.63**	**20**	P	**Pb**	**09 49 35.3**	**+0.7**
RSP				S	**Sb**	**09 49 43.1**	**+0.2**
AUTN	**L'Aution**	**0.66**	**149**	Pg	**Pg**	**09 49 36.0**	**+0.2**
AUTN				Sg	**Sg**	**09 49 43.8**	**-0.9**
MVIF	**Mont Vial**	**0.68**	**168**	Pg	**Pg**	**09 49 36.4**	**+0.2**
ROB	**Roburent**	**0.70**	**112**	P	**Pb**	**09 49 36.5**	**+0.6**
ROB				S	**Sb**	**09 49 45.4**	**+0.2**
SAOF	**Saorge**	**0.72**	**143**	Pg	**Pg**	**09 49 37.0**	**0.0**
SAOF				Sg	**Sg**	**09 49 46.0**	**-0.7**
AURF	**Auriere**	**0.72**	**159**	Pg	**Pg**	**09 49 37.3**	**+0.2**
AURF				Sg	**Sg**	**09 49 46.8**	**-0.1**
MONE	**Monesi**	**0.75**	**130**	P	**Pb**	**09 49 37.2**	**+0.5**
MONE				S	**Sb**	**09 49 46.6**	**+0.1**
SBF	**Sospel**	**0.78**	**154**	*e*Pg	**Pg**	**09 49 38.1**	**-0.1**
SBF				*e*Sg	**Sg**	**09 49 48.0**	**-0.7**
	197nm,0.7s						
CALN	**Calern**	**0.81**	**184**	Pg	**Pg**	**09 49 39.5**	**+0.7**
ORIF	**Oris-en-Rattie**	**0.85**	**295**	*e*Pg	**Pg**	**09 49 39.3**	**-0.3**
ORIF				*e*Sg	**Sg**	**09 49 50.0**	**-1.0**
	35nm,0.3s						
NEGI	**Negi**	**0.89**	**143**	P	**Pb**	**09 49 39.9**	**+0.8**
NEGI				S	**Sb**	**09 49 50.7**	**+0.1**
LSD	**Ceresole Reale**	**0.91**	**9**	P	**Pb**	**09 49 40.4**	**+1.0**
IMI	**Imperia**	**0.93**	**134**	⇑*i*Pg	**Pg**	**09 49 40.5**	**-0.7**
LPG	**La Plagne**	**0.95**	**351**	*e*Sg	**Sg**	**09 49 52.9**	**-1.3**
	18nm,0.3s						
LPG	**La Plagne**	**0.95**	**351**	*e*Pn	**Pn**	**09 49 41.4**	**+0.2**
LPG				*e*Sg	**Sg**	**09 49 52.9**	**-1.3**
FIN	**Finale Ligure**	**0.96**	**111**	*e*Pg	**Pg**	**09 49 40.9**	**-0.8**
FIN				*e*Sg	**Sg**	**09 49 53.2**	**-1.6**
LPL	**La Plagne**	**0.97**	**350**	*e*Sg	**Sg**	**09 49 53.3**	**-1.6**
LPL				*e*Sn	**Sn**	**09 49 55.2**	**+0.2**
	20nm,0.3s						
LPL	**La Plagne**	**0.97**	**350**	*e*Pn	**Pn**	**09 49 41.4**	**-0.1**
LPL				*e*Sg	**Sg**	**09 49 53.3**	**-1.6**
LPL				*e*Sn	**Sn**	**09 49 55.2**	**+0.2**
FRF	**La Foret Royal**	**1.03**	**193**	*e*Pn	**Pn**	**09 49 42.4**	**+0.1**
FRF				*e*Sn	**Sn**	**09 49 56.5**	**0.0**
	38nm,0.3s						
PCP	**Pian Castagno**	**1.13**	**90**	P	**Pb**	**09 49 43.6**	**+0.3**
VILF	**Villemus**	**1.14**	**232**	Pg	**Pg**	**09 49 46.4**	**+1.0**
VILF				Sg	**Sg**	**09 50 02.1**	**+1.4**
TAVF	**Tavernes**	**1.15**	**215**	Pg	**Pg**	**09 49 46.3**	**+0.8**
TAVF				Sg	**Sg**	**09 50 01.8**	**+1.0**
SMRF	**Simiane la Rot**	**1.16**	**240**	*e*Pn	**Pn**	**09 49 45.9**	**+1.7**
SMRF				*e*Sg	**Sg**	**09 50 01.0**	**-0.1**
	29nm,0.3s						
LMR	**La Mourre**	**1.27**	**195**	*e*Sn	**Sn**	**09 50 01.5**	**-1.2**
LMR				*e*Sg	**Sg**	**09 50 03.5**	**-1.4**
	11nm,0.2s						
LMR	**La Mourre**	**1.27**	**195**	*e*Pn	**Pn**	**09 49 45.9**	**+0.1**
LMR				*e*Sn	**Sn**	**09 50 01.5**	**-1.2**
LMR				*e*Sg	**Sg**	**09 50 03.5**	**-1.4**
PUYF	**Puyloubier**	**1.37**	**222**	Pg	**Pg**	**09 49 50.4**	**+0.4**
PRAF	**Pradon**	**1.50**	**240**	Pg	**Pg**	**09 49 52.8**	**+0.4**
VIVF	**Saint-Julien-l**	**1.66**	**281**	*e*Pg	**Pg**	**09 49 52.5**	**-3.1**
VIVF				*e*Sg	**Sg**	**09 50 16.3**	**-1.5**
	6.1nm,0.2s						
CABF	**La Chapelle**	**2.14**	**344**	*e*Pg	**Pg**	**09 50 01.0**	**-4.2**
LASF	**Ste Croix**	**2.28**	**259**	*e*Pn	**Pn**	**09 49 58.0**	**-2.3**
LASF				*e*Pg	**Pg**	**09 50 07.6**	**-0.4**
LASF				*e*Sn	**Sn**	**09 50 27.7**	**-0.6**
	1.7nm,0.2s						
PGF	**Pioggiola**	**2.50**	**143**	*e*Pn	**Pn**	**09 50 03.0**	**-0.4**
PGF				*e*Sn	**Sn**	**09 50 32.2**	**-1.7**
	4.9nm,0.2s						
SSF	**Saint Saulge**	**3.48**	**317**	*e*Sg	**Sg**	**09 51 11.9**	**-6.3**
	2.4nm,0.2s						
BGF	**Bois d'Agland**	**3.51**	**306**	*e*Pn	**Pn**	**09 50 17.6**	**-0.2**
BGF				*e*Pg	**Pg**	**09 50 28.7**	**-3.9**

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*IDC **29** 09:51:46.6±0.7, 1.88N×99.32E, mb4.0/10, mb1 4.1/11, mb1mx4.0/17, ML4.3/1, MS3.5/5, Ms1 3.6/5, ms1mx3.3/16, Error ellipse: s-maj=33.4km s-min=16.2km az=55.0*

*NEIC **29** 09:51:55.3±2.7, 1.98N×99.39E, h65^{km}±24^{km}, mb4.4/7, Error ellipse: s-maj=29.0km s-min=10.6km az=58.0*

ISC 29 09:51:53.2±2.9**, 2.0N**±0.1×**99.3E**±0.2**, h63**^{km}±25^{km}**, n26, σ1$\overset{s}{.}$28**/23**, mb4.1**/16**, 1D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLM	**Kuala Lumpur**	**2.56**	**65**	*e*P	**P**	**09 52 34.0**	**+0.7**
IPM	**Ipoh**	**3.06**	**34**	⇓*e*P	**P**	**09 52 40.3**	**-0.1**
	50nm,0.6s						
CMAR	**Chiang Mai Arr**	**16.34**	**359**	Pn	**P**	**09 55 43.6**	**+3.6**
	0.4nm,0.3s,baz=184,slow=13,SNR=7.0						
CMAR				LR	LR	10 02 08.7	
	comp=Z,158nm,18.5s,baz=195,slow=38						
SHL	**Shillong**	**24.48**	**344**	*e*	**P**	**09 57 06.0**	**-1.8**
WRA	**Warramunga Arr**	**40.70**	**124**	P	**P**	**09 59 28.8**	**-0.7**
	4.4nm,0.6s,mb4.3,baz=303,slow=9.3,SNR=63						
WRA				PcP	PcP	10 01 31.7	+1.0
	0.8nm,0.7s,baz=315,slow=2.5,SNR=7.1						
WRA				LR	LR	10 19 26.0	
	comp=Z,51nm,20.8s,baz=185,slow=41						
WRAB	**Tennant Creek**	**40.71**	**124**	*e*P	**P**	**09 59 29.9**	**+0.4**
	7.8nm,0.7s,mb4.5						
WB2	**Warramunga Arr**	**40.72**	**124**	*e*P	**P**	**09 59 29.2**	**-0.4**
ASAR	**Alice Springs**	**42.23**	**129**	P	**P**	**09 59 40.9**	**-1.3**
	0.5nm,0.6s,mb3.3,baz=304,slow=7.4,SNR=7.9						
ASAR				PcP	PcP	10 01 35.9	+0.1
	1.0nm,0.7s,baz=312,slow=2.8,SNR=11						
SONM	**Songino Array**	**46.04**	**7**	P	**P**	**10 00 13.4**	**+0.9**
	0.8nm,0.7s,mb3.7,baz=180,slow=8.6,SNR=3.5						
AAK	**Ala-Archa**	**46.13**	**335**	*e*P	**P**	**10 00 12.2**	**-1.0**
	3.8nm,1.0s,mb4.3						
MKAR	**Makanchi Array**	**47.00**	**344**	P	**P**	**10 00 19.9**	**-0.1**
	2.5nm,1.0s,mb4.1,baz=150,slow=9.8,SNR=8.6						
MKAR				LR	LR	10 20 22.7	
	comp=Z,31nm,20.0s,baz=354,slow=36						
KURK	**Kurchatov**	**51.58**	**343**	*e*P	**P**	**10 00 54.9**	**-0.2**
	3.4nm,0.9s,mb4.3						
STKA	**Stephens Creek**	**52.36**	**134**	*e*P	**P**	**10 01 00.4**	**-0.9**
	1.4nm,0.6s,mb4.1						
STKA	**Stephens Creek**	**52.36**	**134**	P	**P**	**10 00 59.0**	**-2.2**
	2.8nm,0.9s,mb4.2,baz=303,slow=7.2,SNR=7.8						
BVAR	**Borovoye Array**	**56.20**	**339**	P	**P**	**10 01 28.3**	**-0.7**
	1.9nm,0.6s,mb4.3,baz=135,slow=8.4,SNR=12						
BRVK	**Borovoye**	**56.26**	**339**	*e*P	**P**	**10 01 28.3**	**-1.2**
	2.3nm,0.9s,mb4.2						
KMBO	**Kilima Mbogo**	**62.14**	**268**	P	**P**	**10 02 10.2**	**-0.4**
	1.8nm,1.0s,mb4.2,baz=57,slow=16,SNR=5.2						
MAW	**Mawson**	**74.00**	**194**	P	**P**	**10 03 23.1**	**-0.5**
	0.6nm,0.5s,mb3.8,baz=22,slow=9.2,SNR=4.3						
FINES	**FINESS Array B**	**80.26**	**332**	P	**P**	**10 04 00.5**	**+2.0**
	2.3nm,1.0s,mb4.1,baz=108,slow=6.0,SNR=5.5						
FINES	**FINESS Array B**	**80.26**	**332**	P	**P**	**10 04 00.5**	**+2.0**
ARCES	**ARCESS Array B**	**82.48**	**340**	P	**P**	**10 04 12.5**	**+2.5**
	0.6nm,0.6s,mb3.7,baz=90,slow=4.9,SNR=6.4						
ARCES				LR	LR	10 43 51.9	
	comp=Z,66nm,18.1s,baz=33,slow=38						
SBA	**Scott Base**	**87.31**	**169**	*e*P	**P**	**10 04 36.3**	**+2.5**
	11nm,1.6s,mb4.8						
NOA	**NORSAR Array B**	**87.32**	**331**	LR	LR	10 48 52.1	
	comp=Z,27nm,18.4s,baz=180,slow=39						
QSPA	**South Pole Qui**	**91.96**	**180**	*e*P	**P**	**10 04 58.1**	**+2.5**
	1.2nm,0.8s,mb4.3						
TXAR	**Lajitas Array**	**141.84**	**33**	PKP	PKPdf	10 11 18.7	+0.2

	0.2nm,0.6s,slow=0.9,SNR=5.2						
BDFB	Brasilia	145.08	245	PKP	PKPdf	10 11 25.9	+1.4
	11nm,1.3s,baz=139,slow=15,SNR=3.2						

IDC 29 10:07:46.5±1.9, 2.08N×128.11E, mb3.6/4, mb1 3.7/4, mb1mx3.6/14, Error ellipse: s-maj=133.0km s-min=24.8km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.72	165	P	P	10 12 51.6	0.0
	1.5nm,0.7s,baz=344,slow=11,SNR=23						
WB2	Warramunga Arr	22.73	165	eP	P	10 12 51.5	-0.1
ASAR	Alice Springs	26.20	168	P	P	10 13 22.7	-2.3
	0.2nm,0.4s,baz=343,slow=8.0,SNR=3.8						
STKA	Stephens Creek	36.12	160	P	P	10 14 49.2	-3.2
	0.4nm,0.3s,baz=319,slow=9.3,SNR=2.9						
MKAR	Makanchi Array	59.69	325	P	P	10 17 53.2	-2.0
	0.5nm,0.4s,baz=114,slow=7.0,SNR=5.2						

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*IDC **29** 10:20:48.4±2.8, 23.95S×66.73W, h197^{km}±24^{km}, mb3.6/5, mb1 3.9/6, mb1mx3.8/11, Error ellipse: s-maj=29.1km s-min=17.1km az=81.0*
*NEIC **29** 10:20:48.6±0.8, 23.93S×66.73W, h201^{km}±8^{km}, mb4.6/1, Error ellipse: s-maj=11.8km s-min=10.1km az=83.0*
*GUC **29** 10:20:49.3±0.6, 24.03S×67.28W, h230^{km}, ML4.7*
ISC 29 10:20:46.2±1.0, **23.94S**±0.05×**66.8W**±0.1, **h188**^{km}±11^{km}, **n24, σ1^{s}14**/26, **mb4.0**/6, **4C-4D, Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	Limon Verde	2.33	304	⇑iP	P	10 21 32.4	+4.6
LVC				i S	S	10 22 05.9	+5.9
LVC				AMP		10 22 07.3	
	comp=E,2μm,0.4s						
LVC	Limon Verde	2.33	304	⇑iP	P	10 21 31.6	+3.8
LVC				eS	S	10 21 59.7	-0.2
ANCH	Antofagasta	3.29	274	⇑iP	P	10 21 39.5	+0.1
ANCH				i S	S	10 22 18.8	-1.6
ANCH				AMP		10 22 21.4	
	comp=E,499nm,0.2s						
CPN1	Cerro Paranal	3.34	257	⇑iP	P	10 21 42.4	+2.5
CPN1				i S	S	10 22 22.5	+1.2
CPN1				AMP		10 22 25.9	
	comp=E,2μm,0.3s						
CPCH	Copiapo	4.66	222	⇓iP	P	10 21 56.1	-0.5
CPCH				i S	S	10 22 48.8	-2.4
ARE	Arequipa	8.63	329	P	P	10 22 49.0	+0.5
ARE				eS	S	10 24 24.0	-0.2
TRQA	Tornquist	14.67	165	eP	P	10 24 06.5	+0.7
BDFB	Brasilia	19.51	68	P	P	10 25 00.2	-0.8
	comp=E,2.0nm,0.3s,baz=250,slow=11,SNR=26						
BAO	Brasilia Array	19.54	68	P	P	10 25 00.5	-0.8
USHA	Ushuaia	30.88	182	P	P	10 26 45.7	-1.1
	comp=E,3.0nm,0.8s,mb4.1,baz=3.1,slow=14,SNR=2.4						
VNA3	Neumayer Olymp	57.16	161	⇓i	P	10 30 16.0	+0.9
VNA1	Neumayer--Stat	57.35	160	⇓i	P	10 30 19.0	+2.6
VNA2	Neumayer--Watz	57.72	160		P	10 30 19.7	+0.7
SNAA	Sanae	59.36	161	⇓i	P	10 30 27.9	-2.4
SNAA	Sanae	59.36	161	P	P	10 30 29.2	-1.1
	comp=E,0.9nm,0.7s,mb3.7,baz=286,slow=6.7,SNR=14						
SNAA				PcP	PcP	10 31 15.1	-0.9
	comp=E,0.5nm,1.1s,baz=258,slow=3.8,SNR=3.7						
TXAR	Lajitas Array	63.72	324	P	P	10 30 59.9	-0.2
	comp=E,0.2nm,0.5s,mb3.2,baz=148,slow=8.7,SNR=8.0						
QSPA	South Pole Qui	66.27	180	eP	P	10 31 15.6	0.0
	comp=E,7.5nm,0.6s,mb4.7						
MAW	Mawson	81.45	163	P	P	10 32 43.2	+0.1
	comp=E,2.9nm,0.6s,mb4.1,baz=201,slow=6.8,SNR=24						
YKA	Yellowknife Ar	94.12	340	P	P	10 33 43.8	-0.1
	comp=E,1.9nm,0.8s,mb4.2,baz=138,slow=4.7,SNR=4.2						
YKA	Yellowknife Ar	94.12	340	P	P	10 33 43.8	-0.1
ASAR	Alice Springs	128.58	205	PKP	PKPdf	10 39 32.2	+0.7
	comp=E,1.3nm,0.6s,baz=132,slow=1.8,SNR=22						
WRA	Warramunga Arr	131.75	207	PKP	PKPdf	10 39 38.6	+1.0
	comp=E,0.8nm,0.3s,baz=154,slow=2.0,SNR=45						
WRA				SKPbc		10 42 45.1	
	comp=E,0.2nm,0.5s,baz=157,slow=3.8,SNR=5.6						
MKAR	Makanchi Array	146.37	40	PKPbc	PKPbc	10 40 04.7	+0.3
	comp=E,1.7nm,0.6s,baz=308,slow=3.0,SNR=6.7						
MKAR	Makanchi Array	146.37	40	PKPbc	PKPbc	10 40 04.7	+0.3

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*MDD **29** 10:28:14.6±1.0, 43.32N×1.08W, mbLg0.9/4, Error ellipse: s-maj=7.9km s-min=3.4km az=12.0, PRXIMO SIN SOLUCIN*
LDG 29 10:28:14.7±0.6, **42.94N×1.36W, h2**^{km}**, Md2.1**/2, **Ml2.1**/1, **Error ellipse: s-maj=10.7km s-min=3.7km az=41.0, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	Ste Jean	0.20	29	ePg	Pg	10 28 18.8	0.0
SJPF				eSg	Sg	10 28 21.6	+0.1
	20nm,0.4s						
EALK	Alkurruntz	0.30	339	Pg	Pg	10 28 20.3	-0.5
	SNR=7.9						
EALK				Lg		10 28 25.8	
	6.3nm,0.2s,SNR=7.9						
ETSF	Etsaut	0.59	93	ePg	Pg	10 28 24.4	-2.1
ETSF				eSg	Sg	10 28 33.4	-0.9
	2.7nm,0.2s						
EPF	Esparros	1.25	85	ePg	Pg	10 28 39.2	-0.5
EPF				eSg	Sg	10 28 54.5	-1.9
	3.0nm,0.2s						

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*NEIC **29** 10:37:18.2, 51.58N×6.81E, h1^{km}, ML2.9(LDG), After LDG.*
*LDG **29** 10:37:18.2±0.2, 51.58N×6.81E, h1^{km}, Ml2.9/9, Error ellipse: s-maj=2.6km s-min=1.8km az=27.0, Suspected Mining induced.*
*BUG **29** 10:37:18.1, 51.53N×6.80E, h1^{km}, ML1.8*
*BNS **29** 10:37:18.7±0.4, 51.57N×6.84E, h1^{km}, ML2.1*
*BGR **29** 10:37:18.6±0.4, 51.56N×6.76E, h1^{km}, ML2.1/1, Error ellipse: s-maj=5.6km s-min=3.3km az=112.0*
ISC 29 10:37:16.5±0.5, **51.53N**±0.02×**6.62E**±0.05, **n22, σ1^{s}36**/47, **1D, Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BUG	Bochum--Univer	0.42	102	⇓iPg	Pg	10 37 24.8	0.0
BUG				Sg	Sg	10 37 29.8	-0.5
WTSB	Winterswijk	0.45	14	ePg	Pg	10 37 26.0	+0.6
	SNR=9.1						
WTSB				eSg	Sg	10 37 31.8	+0.3
	SNR=9.1						
WTSB	Winterswijk	0.45	14	i Pg	Pg	10 37 25.9	+0.4
	7.8nm,0.3s						
WTSB				i Sg	Sg	10 37 31.8	+0.4
BNS	Bensberg	0.67	148	ePg	Pg	10 37 31.1	+1.3
BNS				eSg	Sg	10 37 39.9	+1.2
HGN	Heimansgroeve	0.88	210	ePg	Pg	10 37 36.4	+2.3
	SNR=12						
HGN				eSg	Sg	10 37 49.3	+3.5
	SNR=18						
HGN	Heimansgroeve	0.88	210	ePn	Pn	10 37 36.7	+0.7
	1.5nm,0.1s,baz=40						
HGN				i Pg	Pg	10 37 37.0	+2.9
	7.8nm,0.1s						
HGN				i Sg	Sg	10 37 49.8	+4.0
KLL	Kalltalsperre	0.91	193	ePg	Pg	10 37 36.6	+2.0
KLL				eSg	Sg	10 37 50.1	+3.4
	69nm,0.3s						
STB	Steinbach	0.95	172	ePg	Pg	10 37 37.2	+1.8
STB				eSg	Sg	10 37 50.2	+2.1
	67nm,0.2s						
IBBN	Ibbenburen	1.05	42	eSg	Sg	10 37 49.6	-1.8
	SNR=2.6						
BGG	Burgeitz	1.40	161	ePg	Pg	10 37 44.0	-0.5
BGG				eSg	Sg	10 38 01.8	-1.4
	36nm,1.0s						
GIVF	Givet	1.83	219	ePn	Pn	10 37 50.7	+1.2
GIVF				ePg	Pg	10 37 54.2	+1.2
GIVF				eSn	Sn	10 38 13.9	+0.2
GIVF				eSg	Sg	10 38 19.4	+2.0
	75nm,0.7s						
WLF	Walferdange	1.89	189	ePn	Pn	10 37 51.6	+1.3
	SNR=0.9						
WLF				eSg	Sg	10 38 19.5	0.0
	SNR=3.7						
BAIF	Baives	2.12	227	ePn	Pn	10 37 54.4	+0.7
BAIF				eSn	Sn	10 38 21.8	+0.6
BAIF				eSg	Sg	10 38 26.3	-1.0
	19nm,0.6s						
RFYF	Reffroy	3.00	195	ePn	Pn	10 38 05.8	-0.4
RFYF				eSg	Sg	10 38 54.5	-1.8
	10nm,0.3s						
CDF	Champ du Feu	3.15	172	ePn	Pn	10 38 07.8	-0.6
CDF				eSg	Sg	10 38 57.3	-4.1
	4.4nm,0.3s						
MEZF	Maizieres J'vi	3.20	199	eSg	Sg	10 39 00.9	-2.0
	12nm,0.5s						
SFTF	Sexfontaines	3.48	198	eSg	Sg	10 39 09.9	-2.6
	9.8nm,0.4s						
LOR	Lormes	4.63	204	ePn	Pn	10 38 28.3	-1.1
LOR				eSn	Sn	10 39 21.2	-3.5
LOR				eSg	Sg	10 39 46.4	-4.3
	3.0nm,0.3s						
SSF	Saint Saulge	4.92	206	ePn	Pn	10 38 32.3	-1.1
SSF				eSn	Sn	10 39 27.6	-4.3
SSF				eSg	Sg	10 39 55.1	-5.1
	4.9nm,0.4s						
LDF	La Druitiere	5.24	239	ePn	Pn	10 38 37.5	-0.5
LDF				eSn	Sn	10 39 36.3	-3.8
BGF	Bois d'Agland	5.56	208	ePn	Pn	10 38 41.2	-1.3
BGF				eSn	Sn	10 39 42.8	-5.3
GRR	Gorron	5.76	240	ePn	Pn	10 38 44.3	-1.0
GRR				eSn	Sn	10 39 48.5	-4.6

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*NIED **29** 10:49:00, 35.30N×136.40E, h35^{km}, Mw3.5 Best double couple: M$_0$1.79×10^{14} NP1:φ$_s$168°, δ52°, λ-93°. NP2: φ$_s$352°, δ38°, λ-87°.*
*JMA **29** 10:49:31.8, 35.28N×136.37E, h38^{km}, M3.3 Broadband fault plane solution: P waves. NP1:φ$_s$161°, δ49°, λ-134°. NP2:φ$_s$37°, δ57°, λ-52°. Principal axes: T Plg5°, Azm101°; N Plg32°, Azm194°; P Plg58°, Azm3°;*
JMA Felt I J1.
ISC 29 10:49:31.9±0.5, **35.27N**±0.03×**136.37E**±0.04, **h37**^{km}±9^{km}, **n11, σ0^{s}26**/22, **4C-2D, Western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JEG	Eigenji	0.13	172	⇓P	P	10 49 38.3	+0.1
JEG				S	S	10 49 42.9	+0.2
JFM	Mihama	0.41	310	⇑P	P	10 49 41.0	-0.3
JFM				S	S	10 49 47.6	-0.3
JGM	Miyama	0.52	33	⇑P	P	10 49 42.7	-0.1
JGM				S	S	10 49 50.4	-0.1
TSUJ	Tsu 2	0.56	176	⇓P	P	10 49 43.1	-0.2
TSUJ				eS	S	10 49 51.3	-0.2
JWT	Wachi	0.79	271	⇑P	P	10 49 46.6	0.0
JWT				S	S	10 49 57.1	-0.3
JHE	Heguri	0.83	223	⇑P	P	10 49 47.3	+0.2
JHE				eS	S	10 49 58.5	+0.2
JIE	Ise	0.92	162	P	P	10 49 48.7	+0.3
JIE				eS	S	10 50 00.9	+0.4
JKG	Kaga	1.01	358	P	P	10 49 49.8	+0.1
JKG				eS	S	10 50 03.3	+0.4
JKY	Yasaka	1.09	290	P	P	10 49 50.9	0.0
JKY				eS	S	10 50 05.7	+0.6
JWY	Kouya	1.22	212	P	P	10 49 52.7	-0.1
JWY				eS	S	10 50 07.9	-0.5
MAT	Matsushiro	1.96	49	P	P	10 50 03.1	-0.3
MAT				S	S	10 50 26.9	-0.1

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*STR **29** 11:01:59.4±0.3, 44.55N×7.00E, h2^{km}±1^{km}, Ml1.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **29** 11:01:59.0±0.2, 44.58N×6.96E, h2^{km}, Md2.1/1, Ml1.7/4, Error ellipse: s-maj=6.4km s-min=2.0km az=80.0*
ISC 29 11:01:58.0±0.6, **44.57N**±0.03×**6.95E**±0.06, **h2**^{km}**, n9, σ0^{s}74**/15, **France**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MBDF	Montbardon	0.21	322	ePg	Pg	11 02 03.4	+1.2
MBDF				eSg	Sg	11 02 06.9	+1.9
	15nm,0.2s						
AUTN	L'Aution	0.66	149	Pg	Pg	11 02 11.5	+0.2
AUTN				Sg	Sg	11 02 20.1	0.0
SAOF	Saorge	0.72	143	Pg	Pg	11 02 12.2	-0.3
SAOF				Sg	Sg	11 02 22.3	+0.2
AURF	Auriere	0.73	158	Pg	Pg	11 02 12.9	+0.3
AURF				Sg	Sg	11 02 22.5	+0.2
ORIF	Oris-en-Rattie	0.84	295	ePg	Pg	11 02 14.8	0.0
ORIF				eSg	Sg	11 02 25.3	-0.8
	3.3nm,0.3s						
LPG	La Plagne	0.94	351	eSg	Sg	11 02 28.7	-0.8
	2.5nm,0.5s						
LPL	La Plagne	0.96	351	eSg	Sg	11 02 29.0	-1.1
	1.5nm,0.2s						
FRF	La Foret Royal	1.03	192	ePg	Pg	11 02 18.6	+0.1
FRF				eSg	Sg	11 02 32.1	-0.1
	4.5nm,0.3s						
LMR	La Mourre	1.27	195	eSg	Sg	11 02 39.6	-0.8
	1.6nm,0.2s						

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*HEL **29** 11:04:10.4±0.1, 59.77N×22.28E, ML1.7, ML2.3(UPP), ML2.2(NAO), Explosion*
*IDC **29** 11:04:11.3±2.0, 59.87N×22.35E, mb1 3.1/3, mb1mx3.0/16, ML2.6/3, Error ellipse: s-maj=25.4km s-min=10.3km az=165.0*
*BER **29** 11:04:11.4±3.2, 59.85N×22.36E, ML2.2(NAO), Suspected explosion*
*NAO **29** 11:04:12.8±2.5, 60.09N×22.19E, ML2.2*
ISC 29 11:04:09.2±0.5, **59.81N**±0.04×**22.32E**±0.05, **n24, σ1^{s}06**/43, **Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AAL	Aland	1.23	289	eP	Pb	11 04 32.1	-0.9
AAL				eS	Sb	11 04 48.1	-1.2
NRTU	Norrtaelje	1.87	268	eP	Pn	11 04 43.3	+0.5
PVF	Pernaja	1.92	66	eP	Pn	11 04 44.2	+0.8
PVF				eS	Sn	11 05 07.5	-1.1
GRAU	Graesoe	1.97	287	eP	Pn	11 04 44.1	-0.1
FLYU	Flymyra	2.25	280	eP	Pn	11 04 48.5	+0.2
FIA0	FINESS Array S	2.47	47	eP	Pn	11 04 53.0	+1.6
FIA0				eS	Sn	11 05 22.6	-0.2
FIA0	FINESS Array S	2.47	47	Pn	Pn	11 04 53.0	+1.6
	baz=228,slow=14						
FIA0				Lg		11 05 25.3	
	baz=232,slow=22						
FINES	FINESS Array B	2.47	47	Pn	Pn	11 04 52.9	+1.5
	0.8nm,0.3s,baz=233,slow=13,SNR=30						
FINES				Sn	Sn	11 05 25.4	+2.7
	3.2nm,0.3s,baz=232,slow=23,SNR=25						
BACU	Backbrunna	2.63	273	eP	Pn	11 04 54.1	+0.5
OSTU	Oestervaala	2.64	281	eP	Pn	11 04 54.0	+0.3
VSU	Vasula	2.64	119	eP	Pn	11 04 54.5	+0.7
VSU				eS	Sn	11 05 25.9	-1.2
KEF	Keuruu	2.67	27	eP	Pn	11 04 56.3	+2.1
KEF				eS	Sn	11 05 28.0	+0.1
IGGU	Iggoen	2.71	295	eP	Pn	11 04 55.0	+0.2
VJF	Virojoki	2.71	72	eP	Pn	11 04 55.2	+0.3
VJF				eS	Sn	11 05 26.6	-2.3
KAF	Kangasniemi	3.02	38	eP	Pn	11 05 00.9	+1.7
KAF				eS	Sn	11 05 36.4	-0.2
KAF				MSG		11 05 41.1	
	comp=Z,2.5nm,0.2s						
FALU	Falun	3.32	285	eP	Pn	11 05 03.8	+0.3
SUF	Sumiainen	3.46	31	eP	Pn	11 05 06.2	+0.8
SUF				eS	Sn	11 05 47.5	-0.1
SUF				eSB	Sb	11 05 54.3	+0.3
SUF				MSG		11 05 54.7	
	comp=Z,1.1nm,0.2s						
HFS	Hagfors	4.35	278	eP	Pn	11 05 18.1	+0.1
HFS				ePG	Pg	11 05 27.3	-8.7
HFS				eSG	Sg	11 06 26.9	-7.2
HFS	Hagfors	4.35	278	Pn	Pn	11 05 18.1	+0.1
	baz=97,slow=9.3						
HFS				Pg	Pg	11 05 27.3	-8.7
	baz=98,slow=18						
HFS				Lg		11 06 26.9	
	baz=102,slow=37						
KJN	Kajaani	4.99	28	eP	Pn	11 05 27.1	0.0
KJN				eS	Sn	11 06 24.1	-2.4
KJN				eSG	Sg	11 06 43.4	-12
NOA	NORSAR Array B	5.64	287	Pn	Pn	11 05 34.6	-1.7
	comp=Z,0.2nm,0.3s,baz=314,slow=18,SNR=2.1						
NOA				Sn	Sn	11 06 37.0	-5.8
	comp=Z,0.2nm,0.3s,baz=273,slow=16,SNR=2.3						
NOA				Lg		11 07 02.3	
	comp=Z,0.3nm,0.3s,baz=34,slow=15,SNR=2.8						
ARA0	ARCESS Array S	9.86	7	Pn	P	11 06 30.8	-4.3
	baz=188,slow=16						
ARA0				Sn	Sn	11 08 16.6	-11
	baz=193,slow=28						
ARA0	ARCESS Array S	9.86	7	eP	P	11 06 30.8	-4.3
ARA0				eS	Sn	11 08 16.6	-11
ARCES	ARCESS Array B	9.86	7	Pn	P	11 06 30.5	-4.6
	comp=Z,0.1nm,0.3s,baz=191,slow=14,SNR=7.9						
ARCES				Sn	Sn	11 08 15.6	-12
	comp=Z,0.1nm,0.3s,baz=184,slow=24,SNR=2.9						

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*NEIC **29** 11:04:58.8, 42.89N×1.40W, h2^{km}, ML2.5(LDG), MN1.7(MDD), After LDG.*
*MDD **29** 11:04:58.4±0.5, 42.85N×1.43W, h4^{km}±11^{km}, mbLg1.6/7, Error ellipse: s-maj=4.0km s-min=3.0km az=25.0, PRXIMO AftershockPLICA*
*LDG **29** 11:04:58.8±0.6, 42.89N×1.40W, h2^{km}, Md2.2/2, Ml2.5/1, Error ellipse: s-maj=10.3km s-min=6.3km az=51.0*
ISC 29 11:04:56.6±0.7, **42.82N**±0.03×**1.47W**±0.04, **h4**^{km}**, n14, σ0^{s}78**/23, **Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	Ste Jean	0.35	31	ePg	Pg	11 05 04.2	+0.5
SJPF				eSg	Sg	11 05 07.0	-1.3
	45nm,0.3s						
EALK	Alkurruntz	0.41	357	Pg	Pg	11 05 05.4	+0.7
	1.4nm,0.1s,SNR=11						
EALK				Lg		11 05 10.9	
	12nm,0.1s,SNR=5.6						
LARF	Larrau	0.42	58	P	Pg	11 05 05.2	+0.1
LARF				S	Sg	11 05 11.4	+0.7
OSSF	Osses	0.47	19	P	Pg	11 05 06.3	+0.3
OSSF				S	Sg	11 05 12.1	-0.2
ORDF	Ordiarp	0.56	45	P	Pg	11 05 08.2	+0.3
ORDF				S	Sg	11 05 15.4	+0.1
ATE	Arette	0.63	64	P	Pg	11 05 09.1	-0.2
ATE				S	Sg	11 05 17.7	0.0
FDAF	Les Forges d'A	0.67	89	S	Sg	11 05 19.5	+0.6
ETSF	Etsaut	0.68	83	ePg	Pg	11 05 09.8	-0.4
ETSF				eSg	Sg	11 05 18.7	-0.6
	8.1nm,0.2s						
LABF	Labassere	1.16	78	S	Sb	11 05 33.7	-0.4
ESAC	San Caprasio	1.32	145	Pg	Pg	11 05 22.6	-0.4
	10nm,0.3s,SNR=7.9						
ESAC				Lg		11 05 40.2	
	12nm,0.2s,SNR=6.8						
EPF	Esparros	1.35	80	ePn	Pn	11 05 22.0	-0.3
EPF				ePg	Pg	11 05 24.6	+1.0
EPF				eSg	Sg	11 05 39.9	-1.7
	8.0nm,0.2s						
ELAN	Lanestosa	1.50	287	Pg	Pg	11 05 26.0	-0.5
	0.8nm,0.2s,SNR=7.9						
ELAN				Lg		11 05 46.8	
	1.6nm,0.3s,SNR=7.9						
SALF	Salau	1.96	91	S	Sn	11 05 58.9	+2.5
ETOR	Torete	2.04	192	Pn	Pn	11 05 32.7	+0.5
	0.6nm,0.2s,SNR=7.9						
ETOR				Pg	Pg	11 05 36.6	-0.8
	0.9nm,0.2s,SNR=7.9						
ETOR				Lg		11 06 01.5	
	4.0nm,0.5s,SNR=7.9						

IDC 29 11:10:16.4±2.9, **6.39S×129.02E, mb4.0**/1, **mb1 4.0**/3, **mb1mx3.7**/11, **ML3.6**/2, **Error ellipse: s-maj=288.0km s-min=30.5km az=68.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.42	160	Pn	P	11 13 41.2	-2.9
	0.4nm,0.3s,baz=333,slow=13,SNR=19						
WRA				Sn	S	11 16 09.3	-17
	0.7nm,0.3s,baz=335,slow=22,SNR=9.0						
ASAR	Alice Springs	17.80	165	P	P	11 14 26.6	-0.8
	0.3nm,0.3s,baz=352,slow=14,SNR=26						
ASAR				S	S	11 17 33.9	-11
	0.1nm,0.3s,baz=346,slow=24,SNR=4.7						
MKAR	Makanchi Array	67.19	327	P	P	11 21 12.4	-2.2
	0.8nm,0.5s,baz=115,slow=8.1,SNR=8.0						

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*GUC **29** 11:25:04.8±0.9, 33.37S×70.18W, h9^{km}±2^{km}, ML4.6*
*NEIC **29** 11:25:05.7±0.3, 33.39S×70.19W, h10^{km}, mb4.6/14, ML4.6(GUC), Error ellipse: s-maj=6.5km s-min=5.1km az=106.0*
NEIC Felt [II] at Santiago.
*SYO **29** 11:25:10.1, 33.14S×69.51W, h40^{km}, MB4.5*
*IDC **29** 11:25:11.9±7.8, 33.35S×69.89W, h57^{km}±69^{km}, mb4.0/5, mb1 4.2/5, mb1mx4.0/10, MS3.5/1, Ms1 3.4/1, ms1mx3.0/11, Error ellipse: s-maj=38.9km s-min=20.9km az=86.0*
ISC 29 11:25:04.2±0.3, **33.36S**±0.03×**70.09W**±0.03, **h10**^{km}**, n57, σ0^{s}98**/59, **mb4.4**/18, **MS3.4**/1, **8C-8D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FCH	Farellones	0.17	283	⇓iP	Pg	11 25 08.2	+0.2
FCH				i S	Sg	11 25 10.9	+0.4
FCH				AMP		11 25 11.3	
	comp=N,183μm,0.4s						
CLCH	Cerro Calan	0.37	265	⇓iP	Pg	11 25 11.7	-0.1
CLCH				i S	Sg	11 25 17.2	+0.2
CLCH				AMP		11 25 18.8	
	comp=E,129μm,0.6s						
PCH	Pirque	0.43	234	⇑iP	Pg	11 25 12.6	-0.5
SAN	Santiago	0.48	259	eP	Pg	11 25 13.4	-0.5
SAN				i S	Sg	11 25 19.7	-0.8
ANTU	Antumapu	0.49	245	⇓iP	Pg	11 25 13.7	-0.6
ANTU				i S	Sg	11 25 20.6	-0.4
ANTU				AMP		11 25 21.6	
	comp=E,87μm,0.4s						
PEL	Peldehue	0.54	294	⇑iP	Pg	11 25 14.7	-0.5
PEL				i S	Sg	11 25 22.5	0.0
PEL				AMP		11 25 23.0	
	comp=N,82μm,0.2s						
RCDM	Rinconada Maip	0.61	258	⇓iP	Pb	11 25 15.9	-0.6
RCDM				i S	Sg	11 25 24.6	0.0
RCDM				AMP		11 25 24.9	
	comp=E,35μm,0.2s						
CHCH	Chadas Angostu	0.73	219	⇑iP	Pb	11 25 17.6	-1.0
TACH	Talagante	0.76	248	⇑iP	Pb	11 25 18.2	-0.8
JACH	Jahuel	0.80	328	⇓iP	Pb	11 25 19.5	-0.2
CACH	El Canelo	0.86	209	⇓iP	Pb	11 25 20.2	-0.5
CICH	Cipreses	0.99	196	⇑iP	Pb	11 25 22.3	-0.6
IHA	Instituto Hidr	1.34	284	eP	Pb	11 25 28.1	-0.9
SFDO	San Fernando	1.46	211	eP	Pn	11 25 30.3	-0.5
TALC	Talca	2.40	212	eP	Pn	11 25 45.6	+1.4
TALC				i S	Sn	11 26 16.1	+2.3
TLL	Tololo Astrono	3.24	349	eP	Pn	11 25 59.8	+3.6
CCHI	Chillan	3.62	206	eP	Pn	11 26 02.4	+0.9
CCHI				i S	Sn	11 26 45.6	+0.9
CCHI				AMP		11 27 04.8	
	comp=E,3μm,0.4s						
TRQA	Tornquist	8.09	128	eP	P	11 27 03.0	-1.6
LVC	Limon Verde	10.76	6	eP	P	11 27 36.8	-4.7
EFI	East Falkland	20.29	158	P	P	11 29 40.1	-2.5
USHA	Ushuaia	21.50	177	P	P	11 29 56.3	+1.3
	comp=E,13nm,0.6s,mb4.4,baz=14,slow=7.2,SNR=9.1						
SAML	Samuel	25.12	16	eP	P	11 30 28.8	-2.1
	comp=E,9.9nm,0.9s,mb4.3						
BDFB	Brasilia	26.64	54	P	P	11 30 43.6	-1.4
	comp=E,4.6nm,0.7s,mb4.1,baz=222,slow=6.3,SNR=4.8						
BDFB				LR	LR	11 41 22.7	
	comp=E,95nm,19.1s,MS3.4,baz=14,slow=37						
VNA3	Neumayer Olymp	49.34	158	⇓i	P	11 33 56.6	+1.5
VNA2	Neumayer--Watz	49.97	158	⇑i	P	11 34 00.9	+0.9
SNAA	Sanae	51.56	158	⇑i	P	11 34 11.0	-1.1
SNAA	Sanae	51.56	158	P	P	11 34 11.3	-0.8
	comp=E,1.3nm,0.8s,mb3.9,baz=292,slow=7.8,SNR=13						
QSPA	South Pole Qui	56.87	180	eP	P	11 34 50.8	-0.1
	comp=E,7.0nm,1.0s,mb4.7						
SYO	Syowa Base	65.86	158	⇑P	P	11 35 50.3	-1.2
SYO	Syowa Base	65.86	158	⇓sP	sP	11 36 04.5	+8.7
JCT	Junction City	69.44	333	eP	P	11 36 14.8	+0.2
	comp=E,3.6nm,0.4s,mb4.7						
SWET	Sewanee	69.82	346	eP	P	11 36 16.1	-0.8
LTX	Lajitas	70.00	329	eP	P	11 36 18.3	+0.3

	comp=E,1.7nm,0.7s,mb4.1						
TXAR	**Lajitas Array**	70.00	329	P	P	11 36 18.1	0.0
	comp=E,1.1nm,0.6s,mb4.0,baz=157,slow=8.8,SNR=18						
WVT	**Waverly**	71.09	345	*e*P	P	11 36 23.1	-1.5
	comp=E,9.7nm,0.7s,mb4.8						
MAW	**Mawson**	73.32	163	*e*P	P	11 36 36.8	-0.4
	comp=E,3.2nm,0.9s,mb4.2						
MAW	**Mawson**	73.32	163	P	P	11 36 37.0	-0.2
	comp=E,5.8nm,1.0s,mb4.5,baz=234,slow=9.2,SNR=11						
CCM	**Cathedral Cave**	73.73	343	*e*P	P	11 36 39.5	-0.7
	comp=E,4.5nm,0.6s,mb4.6						
TPNV	**Topopah Spring**	82.14	324	*e*P	P	11 37 27.9	+1.4
	comp=E,2.8nm,0.8s,mb4.2						
DAC	**Darwin (Calif)**	82.28	323	*e*P	P	11 37 29.1	+1.9
	comp=E,6.7nm,1.2s,mb4.5						
TPH	**Tonopah**	83.50	324	*e*P	P	11 37 35.0	+1.5
	comp=E,3.8nm,0.9s,mb4.4						
HWUT	**Hardware Ranch**	83.79	330	*e*P	P	11 37 35.4	+0.5
	comp=E,3.4nm,0.7s,mb4.6						
MNV	**Mina**	84.23	324	*e*P	P	11 37 38.3	+1.1
	comp=E,3.1nm,1.0s,mb4.4						
ELK	**Elko**	84.69	327	*e*P	P	11 37 40.1	+0.7
	comp=E,6.5nm,1.1s,mb4.7						
REDW	**Red Top Meadow**	84.96	331	*e*P	P	11 37 39.7	-1.0
LOHW	**Long Hollow**	85.07	332	*e*P	P	11 37 41.5	+0.3
TPAW	**Teton Pass**	85.11	331	*e*P	P	11 37 41.6	+0.2
IMW	**Indian Meadow**	85.44	332	*e*P	P	11 37 43.8	+0.7
YMR	**Madison River**	86.10	332	*e*P	P	11 37 47.5	+1.2
MCMT	**McKenzie Canyo**	86.98	331	*e*P	P	11 37 51.5	+0.9
DGMT	**Dagmar**	86.98	338	*e*P	P	11 37 51.3	+0.8
	comp=E,13nm,1.2s,mb5.0						
DPW	**Davenport**	91.63	330	*e*P	P	11 38 12.6	+0.2
WRA	**Warramunga Arr**	122.09	207	PKP	PKPdf	11 44 00.3	-2.4
	comp=E,0.4nm,0.5s,baz=160,slow=1.6,SNR=17						
MKAR	**Makanchi Array**	155.12	49	PKPbc	PKPdf	11 45 06.6	+6.7
	comp=E,0.1nm,0.4s,baz=312,slow=20,SNR=2.7						
MKAR				PKPab	PKPab	11 45 24.1	+0.1
	comp=E,0.5nm,0.6s,baz=304,slow=4.4,SNR=4.8						
MKAR	**Makanchi Array**	155.12	49	PKPbc	PKPdf	11 45 06.6	+6.7
MKAR				PKPab	PKPab	11 45 24.1	+0.1
CMAR	**Chiang Mai Arr**	162.20	144	PKPab	PKPab	11 45 52.8	-2.6
	comp=E,0.4nm,0.6s,baz=250,slow=6.2,SNR=4.2						
LZH	**Lanzhou**	174.32	60	*e*PKP	PKPdf	11 45 13.7	-3.1
LZH				pPKP		11 45 26.2	
LZH				sPKP		11 45 30.6	

*NEIC **29** 11:41:22.3, 33.37S×70.15W, h11^{km}, ML3.5(GUC), After GUC.*

GUC 29 11:41:22.3±0.7**, 33.37S**×**70.15W, h11**^{km}±1^{km}**, MD4.1, ML3.5, 3C-6D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FCH	**Farellones**	0.13	290	⇓*i*P	Pg	11 41 26.3	+0.8
FCH				*i* S	Sg	11 41 29.0	+1.4
FCH				AMP		11 41 29.3	
	comp=N,33μm,0.2s						
CLCH	**Cerro Calan**	0.33	266	⇓*i*P	Pg	11 41 29.8	+0.7
CLCH				*i* S	Sg	11 41 35.2	+1.5
CLCH				AMP		11 41 36.8	
	comp=E,7μm,0.6s						
DSCH	**Colegio Aleman**	0.35	265	*i* P	Pg	11 41 30.1	+0.5
DSCH				*i* S	Sg	11 41 36.3	+1.8
DSCH				AMP		11 41 37.1	
	comp=E,8μm,0.6s						
PCH	**Pirque**	0.40	231	⇑*i*P	Pg	11 41 30.8	+0.3
PCH				*i* S	Sg	11 41 37.1	+1.3
STL	**Santa Lucia**	0.42	261	*e*P	Pg	11 41 31.1	+0.2
STL				*i* S	Sg	11 41 37.9	+1.3
SAN	**Santiago**	0.44	259	*e*P	Pg	11 41 31.6	+0.3
SAN				*i* S	Sg	11 41 38.6	+1.3
ANTU	**Antumapu**	0.45	244	⇓*i*P	Pg	11 41 31.8	+0.2
ANTU				*i* S	Sg	11 41 38.8	+1.0
ANTU				AMP		11 41 39.8	
	comp=E,6μm,0.3s						
PEL	**Peldehue**	0.51	297	*e*P	Pg	11 41 32.4	-0.2
PEL				*i* S	Sg	11 41 40.5	+1.0
PEL				AMP		11 41 40.9	
	comp=N,6μm,0.2s						
RCDM	**Rinconada Maip**	0.56	258	*e*P	Pg	11 41 34.0	+0.3
RCDM				*i* S	Sg	11 41 42.7	+1.3
RCDM				AMP		11 41 43.0	
	comp=E,4μm,0.1s						
CHCH	**Chadas Angostu**	0.70	217	⇑*i*P	Pb	11 41 35.8	-0.3
CHCH				*i* S	Sb	11 41 46.0	+0.5
TACH	**Talagante**	0.72	247	⇑*i*P	Pb	11 41 36.4	0.0
TACH				*i* S	Sb	11 41 46.6	+0.6
JACH	**Jahuel**	0.78	331	⇓*i*P	Pb	11 41 37.5	0.0
JACH				*i* S	Sb	11 41 48.4	+0.5
CACH	**El Canelo**	0.83	207	⇓*i*P	Pb	11 41 38.5	+0.2
CICH	**Cipreses**	0.97	193	⇓*i*P	Pb	11 41 40.3	-0.4
CICH				*i* S	Sb	11 41 53.8	+0.3
LCCH	**Las Cruces**	1.20	265	*e*P	Pb	11 41 44.5	-0.1
LCCH				*i* S	Sb	11 42 00.7	+0.9
IHA	**Instituto Hidr**	1.30	285	*e*P	Pb	11 41 45.5	-0.8
SFDO	**San Fernando**	1.44	210	*e*P	Pn	11 41 48.5	+0.1
SFDO				*i* S	Sb	11 42 07.9	+1.1
TALC	**Talca**	2.37	211	*i* P	Pn	11 42 03.7	+1.9
TALC				*i* S	Sn	11 42 34.1	+3.0

IDC 29 11:52:13.4±1.5**, 21.08S**×**69.92W, mb4.0**/2**, mb1 4.0**/2**, mb1mx3.7**/10**, 1D, Error ellipse: s-maj=85.7km s-min=46.8km az=89.0, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TLL	**Tololo Astrono**	9.09	185	*e*P	Sn	11 56 18.1	+5.0
SNAA	**Sanae**	62.98	161	⇓*i*	P	12 02 41.1	-2.8
SNAA	**Sanae**	62.98	161	P	P	12 02 41.3	-2.6
	0.4nm,0.5s,baz=289,slow=11,SNR=6.4						
MAW	**Mawson**	85.00	164	*e*P	P	12 04 49.9	-1.6
	1.0nm,0.6s						
MAW	**Mawson**	85.00	164	P	P	12 04 49.7	-1.8
	2.6nm,1.2s,baz=209,slow=3.2,SNR=9.5						
ASAR	**Alice Springs**	129.84	209	PKP	PKPdf	12 11 26.1	-1.5
	0.5nm,0.7s,baz=144,slow=2.1,SNR=5.2						
WRA	**Warramunga Arr**	132.83	212	PKP	PKPdf	12 11 32.3	-1.0
	0.4nm,0.6s,baz=160,slow=1.8,SNR=7.9						
MKAR	**Makanchi Array**	145.84	35	PKPbc	PKPbc	12 11 52.5	-2.3
	1.0nm,0.4s,baz=320,slow=2.8,SNR=12						
MKAR				pPKPbc		12 12 29.7	
	1.3nm,1.0s,baz=319,slow=5.0,SNR=4.3						
CMAR	**Chiang Mai Arr**	169.19	102	PKPab	PKPab	12 13 36.7	-0.3
	0.9nm,0.3s,baz=208,slow=9.1,SNR=6.7						

*PRU **29** 12:00:02.9, 51.38N×16.12E*
*WAR **29** 12:00:02.5, 51.45N×16.08E, ML2.6, Mining Induced*
ISC 29 11:59:59.8±1.7**, 51.46N**±0.07×**16.04E**±0.06**, n8, $\sigma 1^{s}19$**/15**, Poland**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	0.64	165	*e*PG	Pg	12 00 14.0	+1.5
KSP				*e*SG	Sg	12 00 22.0	+1.0
UPC	**Upice**	0.95	181	*e*PG	Pg	12 00 19.9	+1.1
UPC				*e*SG	Sg	12 00 31.7	+0.2
DPC	**Dobruska-Polom**	1.12	171	*e*PG	Pg	12 00 22.6	+0.4
DPC				*e*SG	Sg	12 00 37.1	-0.1
	6.2nm,0.2s						
PVCC	**Panska Ves**	1.32	226	*e*PG	Pg	12 00 27.5	+1.4
PVCC				*e*SG	Sg	12 00 44.8	+1.2
PRU	**Pruhonice**	1.75	214	*e*SG	Sg	12 00 57.0	-1.1
	9.5nm,0.4s						
OKC	**Ostrava-Krasne**	2.10	140	*e*PG	Pg	12 00 40.3	-1.5
OKC				*e*SG	Sg	12 01 08.1	-1.8
NKC	**Novy Kostel**	2.59	243	*e*PG	Pg	12 00 50.8	-0.6
NKC				*e*SG	Sg	12 01 24.6	-1.3
KHC	**Kasperske Hory**	2.81	215	*e*SN	Sn	12 01 22.4	+0.4
KHC				*e*SG	Sg	12 01 30.3	-3.2

*HEL **29** 12:02:00.6±0.2, 59.75N×22.29E, ML1.8, ML2.3(UPP), ML2.1(NAO), Explosion*
*BER **29** 12:02:01.6±4.1, 59.86N×22.37E, ML2.1(NAO), Suspected explosion*
*NAO **29** 12:02:02.7±2.5, 60.08N×22.17E, ML2.1*
ISC 29 12:01:59.6±0.6**, 59.79N**±0.05×**22.32E**±0.05**, n19, $\sigma 0^{s}98$**/35**, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAL	**Aland**	1.23	289	*e*P	Pb	12 02 22.6	-0.8
AAL				*e*S	Sb	12 02 38.5	-1.2
NRTU	**Norrtaelje**	1.87	268	*e*P	Pn	12 02 33.7	+0.5
PVF	**Pernaja**	1.93	65	*e*P	Pn	12 02 34.8	+0.9
PVF				*e*S	Sn	12 02 58.5	-0.7
GRAU	**Graesoe**	1.97	288	*e*P	Pn	12 02 34.6	0.0
FLYU	**Flymyra**	2.25	280	*e*P	Pn	12 02 38.9	+0.3
FIA0	**FINESS Array S**	2.48	47	*e*P	Pn	12 02 43.4	+1.4
FIA0				*e*S	Sn	12 03 12.8	-0.6
FIA0	**FINESS Array S**	2.48	47	Pn	Pn	12 02 43.4	+1.5
	baz=227,slow=14						
FIA0				Lg		12 03 15.2	
	baz=238,slow=28						
FIA0				Rg		12 03 30.7	
	baz=224,slow=37						
OSTU	**Oestervaala**	2.64	282	*e*P	Pn	12 02 44.5	+0.3
VSU	**Vasula**	2.64	118	*e*P	Pn	12 02 44.9	+0.7
VSU				*e*S	Sn	12 03 15.7	-1.7
KEF	**Keuruu**	2.69	26	*e*P	Pn	12 02 46.7	+1.8
KEF				*e*S	Sn	12 03 19.6	+1.1
IGGU	**Iggoen**	2.71	296	*e*P	Pn	12 02 45.5	+0.3
VJF	**Virojoki**	2.72	72	*e*P	Pn	12 02 45.4	+0.1
VJF				*e*S	Sn	12 03 18.5	-0.9
KAF	**Kangasniemi**	3.03	38	*e*P	Pn	12 02 51.3	+1.5
KAF				*e*S	Sn	12 03 27.5	+0.2
KAF				MSG		12 03 31.6	
	comp=Z,2.7nm,0.2s						
SUF	**Sumiainen**	3.47	31	*e*P	Pn	12 02 56.5	+0.6
SUF				*e*S	Sn	12 03 37.5	-0.9
SUF				*e*SG	Sg	12 03 48.0	-7.2
SUF				MSG		12 03 51.3	
	comp=Z,1.9nm,0.2s						
HFS	**Hagfors**	4.35	278	*e*P	Pn	12 03 07.7	-0.8
HFS				*e*PG	Pg	12 03 16.8	-10
HFS				*e*SG	Sg	12 04 17.4	-7.0
HFS	**Hagfors**	4.35	278	Pn	Pn	12 03 07.7	-0.8
	baz=97,slow=9.3						
HFS				Pg	Pg	12 03 16.8	-10
	baz=96,slow=16						
HFS				Lg		12 04 17.4	
	baz=70,slow=28						
KJN	**Kajaani**	5.00	28	*e*P	Pn	12 03 17.5	-0.2
KJN				*e*S	Sn	12 04 15.1	-2.0
KJN				*e*SG	Sg	12 04 34.5	-12
ARA0	**ARCESS Array S**	9.88	7	Pn	P	12 04 21.1	-4.6
	baz=182,slow=16						
ARA0				Sn	Sn	12 06 07.6	-11
	baz=191,slow=28						
ARA0	**ARCESS Array S**	9.88	7	*e*P	P	12 04 21.1	-4.6
ARA0				*e*S	Sn	12 06 07.6	-11

*IDC **29** 12:03:01.9±1.1, 33.04N×87.10E, mb3.6/5, mb1 3.8/7, mb1mx3.7/19, ML3.0/1, Error ellipse: s-maj=44.5km s-min=20.1km az=55.0*
*NEIC **29** 12:03:02.5±0.7, 33.12N×86.94E, h10^{km}, mb3.6/3, Error ellipse: s-maj=23.8km s-min=9.5km az=59.0*
ISC 29 12:03:00.1±0.7**, 33.1N**±0.1×**87.1E**±0.2**, h10**^{km}**, n12, $\sigma 1^{s}15$**/13**, mb3.6**/6**, Xizang**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHL	**Shillong**	8.57	149	*e*P	P	12 05 05.0	-2.3
SHL				*e*S	Sn	12 06 44.0	-1.1
MKAR	**Makanchi Array**	14.19	347	Pn	P	12 06 22.3	-0.9
	0.1nm,0.3s,baz=175,slow=13,SNR=6.6						
CMAR	**Chiang Mai Arr**	18.04	141	P	P	12 07 14.3	+1.6
	baz=327,slow=15,SNR=7.0						
KURK	**Kurchatov**	18.70	343	*e*P	P	12 07 19.6	-1.1
	6.4nm,1.3s						
SONM	**Songino Array**	20.75	39	P	P	12 07 43.8	+0.3
	0.9nm,0.8s,baz=238,slow=12,SNR=4.4						
BVAR	**Borovoye Array**	23.27	334	P	P	12 08 12.9	+4.4
	0.4nm,0.5s,mb3.1,baz=143,slow=7.2,SNR=3.2						
BRVK	**Borovoye**	23.33	334	P	P	12 08 09.3	+0.2
	1.0nm,0.7s,mb3.4						
ZRNK	**Zerenda**	23.74	332	*e*P	P	12 08 12.8	-0.3
	0.9nm,0.5s,mb3.5						
MLR	**Muntele Rosu**	47.83	304	P	P	12 11 40.5	+0.8
	3.2nm,0.8s,mb4.4,baz=161,slow=3.8,SNR=5.8						
MLR	**Muntele Rosu**	47.83	304	P	P	12 11 40.5	+0.7
WRA	**Warramunga Arr**	69.40	132	P	P	12 14 10.9	+0.4
	0.8nm,1.0s,mb3.6,baz=325,slow=6.4,SNR=6.2						
ASAR	**Alice Springs**	71.95	135	P	P	12 14 27.9	+2.0
	0.5nm,0.8s,mb3.5,baz=324,slow=6.4,SNR=5.5						

ISC 29 12:25:27.8±0.4**, 44.76N**±0.03×**17.96E**±0.03**, h10**^{km}**, n20, $\sigma 0^{s}98$**/37**, 7C-3D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SISC	**Sisak**	1.33	303	*i* Pg	Pg	12 25 54.7	+0.2
SISC				*i* Sg	Sg	12 26 12.6	+0.2
DIVS	**Divcibare**	1.60	114	⇓*i*Pn	Pn	12 25 56.7	+0.3
DIVS				Sg	Sg	12 26 20.5	-0.5
NVSS	**Nova Varos 2**	1.77	134	⇑*i*Pn	Pn	12 26 01.8	+3.0
NVSS				Sn	Sn	12 26 26.6	+5.1
BEO	**Belgrade**	1.78	87	⇑*i*Pn	Pn	12 25 59.4	+0.5
BEO				Sg	Sg	12 26 26.8	-0.2
STON	**Ston**	1.89	186	*i* Pn	Pn	12 26 00.5	-0.1
STON				*i* Sn	Sn	12 26 23.3	-1.4
BOJS	**Bojanci**	2.06	292	*e*Pn	Pn	12 26 03.6	+0.6
BOJS				*i*		12 26 06.7	
BOJS				*e*Sn	Sn	12 26 31.1	+2.2
	comp=Z,44nm,0.3s						
CRES	**Cresnjevec ost**	2.07	302	*i* Pn	Pn	12 26 03.2	+0.1
GRUS	**Gruza**	2.16	113	⇓*i*P	Pn	12 26 04.7	+0.3
GRUS				Sn	Sn	12 26 39.8	+8.4
NVLJ	**Novalja**	2.21	266	*i* Pn	Pn	12 26 05.2	0.0
NVLJ				*i* Sn	Sn	12 26 32.1	-0.7
SVIS	**Svilajnac**	2.38	100	*e*Pn	Pn	12 26 07.7	+0.2
SVIS				Sn	Sn	12 26 36.9	-0.1
CEY	**Cerknica**	2.68	293	*i* Pn	Pn	12 26 12.3	+0.4
CEY				*i*		12 26 18.3	
PERS	**Pernice**	2.74	314	*i* Pn	Pn	12 26 13.0	+0.3
OBKA	**Obir**	2.97	307	⇑*i*PN	Pn	12 26 16.9	+0.9
OBKA				*i* PG	Pg	12 26 24.2	-2.9
OBKA				*i* SG	Sg	12 27 00.5	-6.2
	comp=Z,17nm,0.5s						
BOLS	**Boljevac**	3.02	106	⇑*i*Pn	Pn	12 26 16.7	+0.1
BOLS				Sn	Sn	12 26 52.7	-0.5
ARSA	**Arzberg**	3.02	327	⇑*i*PN	Pn	12 26 16.5	-0.2
ARSA				*i* SN	Sn	12 26 49.9	-3.4
PSZ	**Piszkesteto**	3.44	22	⇑*e*P	Pn	12 26 23.2	+0.6
PSZ				*e*S	Sn	12 27 03.1	-0.7
VYHS	**Vyhne**	3.79	9	*e*PN	Pn	12 26 28.5	+0.9
VYHS				*e*	Sn	12 27 11.9	-0.8
KBA	**Koelnbreinsper**	3.97	307	⇓*i*PG	Pg	12 26 43.0	-4.2
KBA				*i* SG	Sg	12 27 33.9	-6.2
	comp=Z,2.7nm,0.3s						
MOA	**Molln**	4.02	322	⇑*i*PN	Pn	12 26 29.7	-1.2
MOA				*i* SN	Sn	12 27 14.4	-4.1
CRVS	**Cervenica-Dubn**	4.79	29	*e*PN	Pn	12 26 42.8	+0.9

MAN 29 12:42:06.1, 10.60N×**125.59E, h32**^{km}**, mb3.7, ML2.4, MS1.9, 1C, Leyte**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	0.82	187	⇑*e*P	Pn	12 42 21.2	-0.3
SCPH				*e*S	Sn	12 42 28.2	-4.3
PLP	**Palo**	0.82	313	*e*P	Pn	12 42 21.1	-0.5
PLP				*e*S	Sn	12 42 31.7	-0.9
MSLP	**Maasin**	0.86	237	*e*P	Pn	12 42 23.1	+1.1
MSLP				*e*S	Sn	12 42 34.1	+0.6
BESP	**Borongan**	1.01	351	*e*P	Pn	12 42 24.2	0.0
BESP				*e*S	Sn	12 42 39.7	+2.4

*HEL **29** 12:49:30.1±0.3, 59.81N×22.31E, ML1.7, ML2.4(UPP), ML2.0(NAO), Explosion*
*IDC **29** 12:49:30.7±1.7, 59.85N×22.27E, mb1 2.9/4, mb1mx2.9/17, ML2.6/3, Error ellipse: s-maj=24.2km s-min=8.7km az=161.0*
*BER **29** 12:49:31.2±3.9, 59.89N×22.40E, ML2.0(NAO), Suspected explosion*
*NAO **29** 12:49:33.3±3.0, 60.21N×22.16E, ML2.0*
ISC 29 12:49:28.5±0.6**, 59.82N**±0.05×**22.37E**±0.06**, n25, $\sigma 1^{s}49$**/41**, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAL	**Aland**	1.25	288	*e*P	Pb	12 49 51.6	-1.0
AAL				*e*S	Sb	12 50 07.4	-1.7
PVF	**Pernaja**	1.89	66	*e*P	Pn	12 50 03.6	+1.3
PVF				*e*S	Sn	12 50 24.6	-2.6
NRTU	**Norrtaelje**	1.90	267	*e*P	Pn	12 50 02.7	+0.2
GRAU	**Graesoe**	1.99	287	*e*P	Pn	12 50 03.6	-0.1
FLYU	**Flymyra**	2.28	280	*e*P	Pn	12 50 07.9	+0.1
FIA0	**FINESS Array S**	2.44	47	*e*P	Pn	12 50 12.6	+2.3
FIA0				*e*S	Sn	12 50 40.8	-0.5
FIA0	**FINESS Array S**	2.44	47	Pn	Pn	12 50 12.4	+2.2
	baz=232,slow=14						
FIA0				Lg		12 50 44.4	
	baz=232,slow=22						
FIA0				Rg		12 50 59.4	
	baz=211,slow=28						
FINES	**FINESS Array B**	2.44	47	Pn	Pn	12 50 12.4	+2.1
	0.9nm,0.3s,baz=229,slow=14,SNR=38						
FINES				Sn	Sn	12 50 44.9	+3.6
	3.0nm,0.3s,baz=235,slow=26,SNR=25						
VSU	**Vasula**	2.63	119	*e*S	Sn	12 50 45.3	-0.8
KEF	**Keuruu**	2.65	26	*e*P	Pn	12 50 15.8	+2.6
KEF				*e*S	Sn	12 50 47.2	+0.7
BACU	**Backbrunna**	2.66	273	*e*P	Pn	12 50 16.0	+2.6
OSTU	**Oestervaala**	2.66	281	*e*P	Pn	12 50 13.5	+0.1
VJF	**Virojoki**	2.69	72	*e*P	Pn	12 50 14.5	+0.8
VJF				*e*S	Sn	12 50 44.6	-2.8
IGGU	**Iggoen**	2.73	295	*e*P	Pn	12 50 14.4	+0.1
KAF	**Kangasniemi**	2.99	38	*e*P	Pn	12 50 20.3	+2.2
KAF				*e*S	Sn	12 50 53.9	-1.3
KAF				*e*SB	Sb	12 51 00.3	+0.5
KAF				MSG		12 51 00.7	
	comp=Z,2.0nm,0.3s						
FALU	**Falun**	3.34	284	*e*P	Pn	12 50 23.9	+0.9
SUF	**Sumiainen**	3.43	30	*e*P	Pn	12 50 26.0	+1.7
SUF				*e*S	Sn	12 51 05.3	-1.0
SUF				*e*SB	Sb	12 51 13.4	+0.9
HFS	**Hagfors**	4.37	278	*e*P	Pn	12 50 37.9	+0.2
HFS				*e*SG	Sg	12 51 45.8	-8.3
HFS	**Hagfors**	4.37	278	Pn	Pn	12 50 37.9	+0.2
	comp=Z,0.0nm,0.3s,baz=95,slow=9.3,SNR=7.3						
HFS				Lg		12 51 43.2	
	comp=Z,0.2nm,0.3s,baz=82,slow=22,SNR=7.5						
HFS	**Hagfors**	4.37	278	Pn	Pn	12 50 37.9	+0.2
	baz=102,slow=9.3						
HFS				Lg		12 51 45.8	
	baz=93,slow=37						
KJN	**Kajaani**	4.96	28	*e*P	Pn	12 50 46.9	+0.8
KJN				*e*S	Sn	12 51 41.3	-3.7
KJN				*e*SG	Sg	12 52 01.5	-12
NOA	**NORSAR Array B**	5.66	287	Pn	Pn	12 50 53.2	-2.7
	comp=Z,0.1nm,0.3s,baz=38,slow=18,SNR=2.2						
NOA				Lg		12 52 34.6	
	comp=Z,0.4nm,0.3s,baz=9.9,slow=18,SNR=5.7						
ARA0	**ARCESS Array S**	9.84	6	Pn	P	12 51 48.7	-5.4
	baz=190,slow=14						
ARA0				Sn	Sn	12 53 35.7	-11
	baz=191,slow=28						
ARA0	**ARCESS Array S**	9.84	6	*e*P	P	12 51 48.7	-5.4
ARA0				*e*S	Sn	12 53 35.7	-11
ARCES	**ARCESS Array B**	9.84	6	Pn	P	12 51 50.8	-3.3
	comp=Z,0.1nm,0.3s,baz=185,slow=14,SNR=5.3						
ARCES				Sn	Sn	12 53 36.5	-10
	comp=Z,0.1nm,0.3s,baz=192,slow=22,SNR=2.7						

*STR **29** 13:24:52.6±0.1, 42.86N×0.27W, h5^{km}±1^{km}, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **29** 13:24:52.9, 42.85N×0.27W, h5^{km}, ML2.5(LDG), ML2.4(STR), MN2.2(MDD), After LDG.*
*LDG **29** 13:24:52.9±0.1, 42.85N×0.27W, h5^{km}, Md2.4/2, Ml2.5/3, Error ellipse: s-maj=2.6km s-min=1.0km az=179.0*
*MDD **29** 13:24:53.5±0.3, 42.88N×0.27W, h3^{km}±14^{km}, mbLg1.8/10, Error ellipse: s-maj=3.3km s-min=1.6km az=1.0, PRXIMO*
ISC 29 13:24:52.4±0.4**, 42.88N**±0.04×**0.26W**±0.02**, h5**^{km}±6^{km}**, n27, $\sigma 0^{s}94$**/44**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VIEF	**Viey**	0.21	87	Pg	Pg	13 24 57.1	+0.5
VIEF				Sg	Sg	13 25 00.2	+0.7
VIEF	**Viey**	0.21	87	P	Pg	13 24 57.2	+0.5
VIEF				S	Sg	13 25 00.1	+0.7
REYF	**Montagne du Re**	0.22	333	Pg	Pg	13 24 57.5	+0.6
REYF				Sg	Sg	13 25 01.1	+1.2
REYF	**Montagne du Re**	0.22	333	P	Pg	13 24 57.6	+0.7
REYF				S	Sg	13 25 01.1	+1.2
ETSF	**Etsaut**	0.22	276	*e*Pg	Pg	13 24 57.1	+0.1
ETSF				*e*Sg	Sg	13 25 00.1	+0.1
	41nm,0.2s						
FDAF	**Les Forges d’A**	0.23	256	Pg	Pg	13 24 57.2	0.0
FDAF				Sg	Sg	13 25 00.5	+0.1
FDAF	**Les Forges d’A**	0.23	256	P	Pg	13 24 57.2	+0.1
FDAF				S	Sg	13 25 00.5	+0.1
LABF	**Labassere**	0.30	54	Pg	Pg	13 24 59.2	+0.8
LABF				Sg	Sg	13 25 03.5	+1.1
LABF	**Labassere**	0.30	54	P	Pg	13 24 59.2	+0.7
LABF				S	Sg	13 25 03.6	+1.1
ATE	**Arette**	0.39	303	P	Pg	13 25 00.3	+0.1
ATE				S	Sg	13 25 05.7	+0.2
EPF	**Esparros**	0.47	70	*e*Pg	Pg	13 25 02.1	+0.4
EPF				*e*Sg	Sg	13 25 08.5	+0.5
	31nm,0.2s						
LARF	**Larrau**	0.56	287	Pg	Pg	13 25 03.7	+0.1
ORDF	**Ordiarp**	0.60	304	P	Pg	13 25 04.5	0.0
ORDF				S	Sg	13 25 13.1	+0.6
MELF	**Melles**	0.75	90	Pg	Pg	13 25 07.0	-0.3
MELF				Sg	Sg	13 25 17.4	+0.1
MELF	**Melles**	0.75	90	S	Sg	13 25 17.4	+0.1
SJPF	**Ste Jean**	0.75	289	*e*Pg	Pg	13 25 07.5	+0.1
SJPF				*e*Sg	Sg	13 25 17.0	-0.4
	13nm,0.2s						
OSSF	**Osses**	0.83	298	S	Sg	13 25 19.9	-0.1
EALK	**Alkurruntz**	0.98	291	Pg	Pg	13 25 10.7	-1.2
	0.5nm,0.1s,SNR=7.1						
EALK				Lg		13 25 24.1	
	7.5nm,0.2s,SNR=7.9						
SALF	**Salau**	1.07	96	Pg	Pg	13 25 13.6	-0.2
SALF	**Salau**	1.07	96	P	Pb	13 25 13.5	+0.5
SALF				S	Sb	13 25 27.3	+0.3
ESAC	**San Caprasio**	1.16	188	Pg	Pg	13 25 16.2	+0.6
	7.2nm,0.1s,SNR=9.7						
ESAC				Lg		13 25 32.3	
	68nm,0.2s,SNR=7.9						
EMIR	**Miracle**	1.63	125	Lg		13 25 46.5	
	6.1nm,0.2s,SNR=7.9						
CARF	**Carcanieres**	1.75	94	S	Sn	13 25 48.8	+2.4
EPOB	**Poblet**	1.82	146	Pg	Pg	13 25 27.5	-1.2
	0.5nm,0.1s,SNR=7.9						
EPOB				Lg		13 25 50.4	
	2.3nm,0.1s,SNR=7.9						
MTLF	**Montolieu**	1.87	75	*e*Pg	Pg	13 25 28.1	-1.7
MTLF				*e*Sg	Sg	13 25 51.8	-2.9
	4.3nm,0.3s						
LFF	**La Frestale**	2.19	19	*e*Pg	Pg	13 25 34.6	-1.5
LFF				*e*Sg	Sg	13 26 02.1	-3.1
	8.7nm,0.3s						
LASF	**Ste Croix**	3.23	67	*e*Pn	Pn	13 25 42.8	-1.9
LASF				*e*Sg	Sg	13 26 34.5	-5.3
	3.0nm,0.4s						

*NEIC **29** 13:29:16.5±0.7, 18.02S×178.49W, h600^{km}, mb4.0/5, Error ellipse: s-maj=24.3km s-min=16.3km az=171.0*
*IDC **29** 13:29:20.8±2.5, 17.88S×178.70W, h646^{km}±31^{km}, mb3.0/7, mb1 3.2/7, mb1mx3.2/12, Error ellipse: s-maj=45.7km s-min=15.6km az=157.0*
ISC 29 13:29:18.8±2.8**, 17.9S**±0.2×**178.7W**±0.1**, h644**^{km}±36^{km}**, n18, $\sigma 0^{s}92$**/19**, mb3.6**/10**, 3C, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	33.19	261	P	P	13 35 07.3	+0.5
	1.3nm,0.5s,mb3.7,baz=114,slow=12,SNR=4.1						
CTAO	**Charters Tower**	33.19	261	*e*P	P	13 35 07.4	+0.6
	3.4nm,0.9s,mb3.9						
STKA	**Stephens Creek**	38.39	241	*e*P	P	13 35 49.9	+0.6
	2.1nm,0.5s,mb3.8						
STKA	**Stephens Creek**	38.39	241	P	P	13 35 50.3	+1.0
	2.8nm,0.6s,mb3.9,baz=96,slow=11,SNR=6.7						
WB2	**Warramunga Arr**	44.37	260	*e*P	P	13 36 36.4	-0.2

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	Tennant Creek	44.37	260	eP	P	13 36 36.0	-0.6
	4.2nm,0.6s,mb4.0						
WRA	Warramunga Arr	44.38	260	P	P	13 36 36.5	-0.2
	2.0nm,0.4s,mb3.8,baz=95,slow=7.3,SNR=108						
WRA				S	S	13 42 27.0	0.0
	0.3nm,0.7s,baz=93,slow=10,SNR=4.6						
ASAR	Alice Springs	44.54	254	P	P	13 36 37.9	0.0
	12nm,0.8s,mb4.3,baz=87,slow=8.5,SNR=166						
ASAR				PcP	PcP	13 38 06.3	-0.3
	1.0nm,0.5s,baz=99,slow=3.3,SNR=6.6						
ASAR				S	S	13 42 29.9	+0.7
	0.9nm,0.9s,baz=94,slow=17,SNR=7.5						
ASPA	Alice Springs	44.54	254	eP	P	13 36 37.6	-0.3
KAKA	Kakadu	47.37	269	eP	P	13 37 03.6	+4.2
	3.7nm,0.4s,mb4.1						
QSPA	South Pole Qui	72.11	180	eP	P	13 39 40.2	-0.8
	2.0nm,0.7s,mb3.7						
MAW	Mawson	83.74	200	P	P	13 40 42.4	-0.3
	0.7nm,0.7s,mb3.3,baz=126,slow=8.7,SNR=4.2						
ILAR	Eielson Array	85.98	13	P	P	13 40 52.2	-1.3
	0.2nm,0.5s,mb3.0,baz=211,slow=4.9,SNR=4.5						
TXAR	Lajitas Array	86.23	58	P	P	13 40 58.1	+2.5
	0.1nm,0.4s,mb2.8,baz=233,slow=4.5,SNR=3.5						
SNAA	Sanae	90.57	179	⇑i	P	13 41 13.3	-1.5
VNA3	Neumayer Olymp	90.72	176	⇑i	P	13 41 16.5	+1.0
VNA2	Neumayer--Watz	91.16	177	⇑i	P	13 41 18.1	+0.6
GERES	GERESS Array B	147.58	345	PKPbc	PKPdf	13 47 54.0	+5.6
	0.5nm,0.3s,baz=63,slow=3.0,SNR=5.5						

NIED 29 13:50:00,20.20N×121.90E,h8^{km},Mw4.0 Best double couple: $M_0$9.57×10^{14} NP1:ϕ_s351°,δ80°,λ-147°. NP2: ϕ_s254°,δ57°,λ-12°.

MAN 29 13:50:11.5,20.65N×120.81E,h143^{km},mb4.4,ML3.3, MS3.1

IDC 29 13:50:17.6±0.9,19.97N×121.78E,mb3.8/8,mb1 4.0/8, mb1mx3.9/18,MS3.1/2,Ms1 3.2/2,ms1mx2.9/15,Error ellipse: s-maj=38.1km s-min=18.2km az=66.0

NEIC 29 13:50:23.8±0.5,19.89N×121.70E,h45^{km},mb4.1/1,Error ellipse: s-maj=20.1km s-min=9.9km az=63.0

ISC 29 13:50:23.7±0.6,19.91N±0.05×121.5E±0.1,h58^{km}±7^{km}, n19,$\sigma 1^{s}10$/23,mb3.7/9,MS2.8/1,1D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBP	Basco	0.67	38	eP	P	13 50 37.3	-0.3
BBP				eS	S	13 50 47.8	-0.1
SGCP	Mt. Cagua	1.73	163	eP	P	13 50 55.7	+3.6
SGCP				eS	S	13 51 18.6	+5.5
PIP	Pasuquin	1.79	209	⇓iP	P	13 50 50.9	-2.0
PIP				eS	S	13 51 12.6	-1.9
APYP	Conner	2.06	187	eP	P	13 50 56.5	-0.1
APYP				eS	S	13 51 22.9	+1.9
CVP	Callao Caves	2.21	173	eP	P	13 51 00.0	+1.2
CVP				eS	S	13 51 32.0	+7.0
ABRA	Dolores	2.38	199	eP	P	13 51 01.1	-0.1
CAUP	Cauayan	2.96	174	eP	P	13 51 15.6	+6.2
BALP	Baler	4.15	179	eP	P	13 51 26.4	+0.3
JOW	Kunigami	9.27	41	LR	LR	13 56 13.4	
	comp=Z,154nm,18.7s,baz=294,slow=39						
CMAR	Chiang Mai Arr	21.38	270	P	P	13 55 09.1	+0.8
	1.3nm,1.2s,mb3.1,baz=72,slow=8.8,SNR=4.6						
CMAR				LR	LR	14 03 17.1	
	comp=Z,40nm,19.7s,MS2.8,baz=235,slow=36						
SONM	Songino Array	30.44	340	P	P	13 56 31.8	-1.0
	2.4nm,1.1s,mb3.9,baz=153,slow=11,SNR=5.3						
WRA	Warramunga Arr	41.55	162	P	P	13 58 06.4	-1.0
	2.2nm,0.7s,mb3.9,baz=343,slow=9.0,SNR=15						
WB2	Warramunga Arr	41.55	162	eP	P	13 58 05.9	-1.5
MKAR	Makanchi Array	41.69	319	P	P	13 58 09.4	+1.3
	1.3nm,0.6s,mb3.7,baz=117,slow=11,SNR=5.5						
ASAR	Alice Springs	44.96	164	P	P	13 58 35.0	-0.1
	1.5nm,0.8s,mb3.9,baz=344,slow=7.8,SNR=16						
BVAR	Borovoye Array	51.21	323	P	P	13 59 24.1	+0.9
	0.5nm,0.6s,mb3.6,baz=113,slow=11,SNR=3.8						
BVAR				PcP	PcP	14 00 37.8	-0.2
	1.5nm,0.9s,baz=104,slow=6.1,SNR=5.3						
BRVK	Borovoye	51.28	323	eP	P	13 59 24.1	+0.3
	2.0nm,1.0s,mb4.0						
ILAR	Eielson Array	72.86	27	P	P	14 01 47.3	-0.5
	0.2nm,0.5s,mb3.3,baz=276,slow=4.9,SNR=5.3						
FINES	FINESS Array B	75.29	330	P	P	14 02 02.3	+0.4
	1.6nm,0.9s,mb3.9,baz=90,slow=9.5,SNR=4.1						

IDC 29 13:55:44.4±2.5,3.27S×131.90E,mb3.8/4,mb1 3.9/5, mb1mx3.8/13,ML3.5/1,Error ellipse: s-maj=114.0km s-min=30.1km az=70.0

NEIC 29 13:55:55.8±3.7,3.83S×130.46E,h79^{km}±37^{km},mb4.0/3, Error ellipse: s-maj=53.7km s-min=23.8km az=73.0

ISC 29 13:55:43.3±3.8,3.62S±0.10×131.3E±0.3,h7^{km}±23^{km},n13, $\sigma 1^{s}16$/16,mb3.9/5,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	9.10	173	eP	P	13 58 03.2	+5.2
	7.3nm,0.6s						
KAKA				eS	Sn	13 59 41.5	-0.2
FITZ	Fitzroy Crossi	15.41	200	eP	P	13 59 22.8	-0.2
	6.8nm,1.8s						
WRAB	Tennant Creek	16.50	170	eP	P	13 59 36.6	-0.3
	4.0nm,0.5s						
WRA	Warramunga Arr	16.50	170	Pn	P	13 59 35.2	-1.8
	0.2nm,0.3s,baz=346,slow=13,SNR=12						
WRA				Sn	S	14 02 33.7	-6.4
	0.4nm,0.3s,baz=345,slow=22,SNR=8.3						
ASAR	Alice Springs	20.10	173	P	P	14 00 22.8	+2.3
	2.7nm,0.7s,baz=358,slow=9.4,SNR=14						
ASAR				S	S	14 04 00.9	-0.1
	0.2nm,0.5s,slow=27,SNR=3.9						
ASPA	Alice Springs	20.10	173	eP	P	14 00 21.6	+1.1
CMAR	Chiang Mai Arr	38.65	306	P	P	14 03 13.1	+3.6
	0.4nm,0.5s,mb3.4,baz=139,slow=8.3,SNR=6.0						
CMAR	Chiang Mai Arr	38.65	306	P	P	14 03 13.1	+3.6
MKAR	Makanchi Array	66.13	325	P	P	14 06 33.7	+0.2
	0.9nm,0.6s,mb4.0,baz=124,slow=8.4,SNR=4.4						
MKAR	Makanchi Array	66.13	325	P	P	14 06 33.7	+0.2
KURK	Kurchatov	70.32	328	eP	P	14 06 59.3	-0.3
	2.0nm,0.8s,mb4.1						
BVAR	Borovoye Array	75.90	327	P	P	14 07 33.2	+0.9
	1.2nm,0.8s,mb3.9,baz=117,slow=6.6,SNR=5.9						
BRVK	Borovoye	75.97	327	eP	P	14 07 30.9	-1.8
	1.9nm,0.8s,mb4.1						

STR 29 13:56:06.7±0.1,42.85N×0.26W,h5^{km}±1^{km},Ml2.1,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0

MDD 29 13:56:07.5±0.7,42.85N×0.27W,h1^{km}±74^{km},mbLg0.9/4, Error ellipse: s-maj=5.1km s-min=1.9km az=177.0, PRXIMO

LDG 29 13:56:07.0±0.1,42.84N×0.27W,h2^{km},Md2.0/2,Error ellipse: s-maj=1.9km s-min=0.7km az=174.0,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIEF	Viey	0.22	78	Pg	Pg	13 56 11.3	-0.1
VIEF				Sg	Sg	13 56 14.5	+0.2
VIEF	Viey	0.22	78	P	Pg	13 56 11.5	+0.1
VIEF				S	Sg	13 56 14.5	+0.2
FDAF	Les Forges d'A	0.22	265	Pg	Pg	13 56 11.6	+0.2
FDAF				Sg	Sg	13 56 14.8	+0.4
FDAF	Les Forges d'A	0.22	265	P	Pg	13 56 11.6	+0.2
FDAF				S	Sg	13 56 14.8	+0.4
ETSF	Etsaut	0.22	285	ePg	Pg	13 56 11.4	0.0
ETSF				eSg	Sg	13 56 14.3	-0.1
	11nm,0.2s						
REYF	Montagne du Re	0.25	338	Pg	Pg	13 56 11.8	-0.1
REYF				Sg	Sg	13 56 15.4	+0.1
REYF	Montagne du Re	0.25	338	P	Pg	13 56 11.9	-0.1
REYF				S	Sg	13 56 15.4	+0.2
LABF	Labassere	0.33	50	Pg	Pg	13 56 13.5	0.0
LABF				Sg	Sg	13 56 17.9	0.0
LABF	Labassere	0.33	50	P	Pg	13 56 13.5	0.0
LABF				S	Sg	13 56 17.9	+0.1
ATE	Arette	0.40	308	P	Pg	13 56 14.9	-0.1
ATE				S	Sg	13 56 19.9	-0.5
EPF	Esparros	0.49	67	ePg	Pg	13 56 16.5	-0.2
EPF				eSg	Sg	13 56 22.6	-0.6
	3.3nm,0.2s						
SJPF	Ste Jean	0.75	292	ePg	Pg	13 56 21.1	-0.9
SJPF				eSg	Sg	13 56 31.3	-0.8
	2.5nm,0.2s						
EALK	Alkurruntz	0.98	293	Lg		13 56 38.2	
	2.3nm,0.2s,SNR=7.9						

STR 29 14:23:47.9±0.2,44.40N×7.24E,h5^{km}±1^{km},Ml2.0,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0

LDG 29 14:23:47.4±0.1,44.44N×7.29E,h2^{km},Md2.2/2,Ml2.1/4, Error ellipse: s-maj=3.0km s-min=1.1km az=58.0

ISC 29 14:23:46.9±0.7,44.43N±0.03×7.25E±0.06,h2^{km},n10, $\sigma 0^{s}86$/19,Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SURF	Saint Ours	0.31	279	Pg	Pg	14 23 54.3	+1.2
SURF				Sg	Sg	14 23 59.1	+1.8
TOUF	Mont Tournerai	0.42	180	Pg	Pg	14 23 55.6	+0.4
TOUF				Sg	Sg	14 24 00.8	0.0
MBDF	Montbardon	0.45	311	ePg	Pg	14 23 56.6	+0.8
MBDF				eSg	Sg	14 24 02.5	+0.7
	20nm,0.2s						
AUTN	L'Aution	0.46	163	Pg	Pg	14 23 56.4	+0.4
AUTN				Sg	Sg	14 24 02.6	+0.6
SAOF	Saorge	0.50	153	Pg	Pg	14 23 56.7	-0.1
SAOF				Sg	Sg	14 24 03.5	0.0
SBF	Sospel	0.58	166	ePg	Pg	14 23 58.9	+0.4
SBF				eSg	Sg	14 24 06.1	-0.2
	7.6nm,0.2s						
FRF	La Foret Royal	0.97	207	ePg	Pg	14 24 06.6	+0.3
FRF				eSg	Sg	14 24 18.7	-0.5
	4.5nm,0.2s						
ORIF	Oris-en-Rattie	1.09	297	ePg	Pg	14 24 08.6	0.0
ORIF				eSg	Sg	14 24 21.5	-1.6
	3.0nm,0.2s						
LPG	La Plagne	1.12	342	eSg	Sg	14 24 22.7	-1.5
	2.5nm,0.3s						
LMR	La Mourre	1.22	206	ePg	Pg	14 24 10.0	-1.2
LMR				eSg	Sg	14 24 26.3	-1.2
	5.9nm,0.2s						

WEL 29 14:37:59.1±0.2,37.93S×176.41E,h158^{km}±2^{km},ML3.7/5, 1C-1D,Error ellipse: s-maj=2.4km s-min=2.3km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	0.64	121	PN	P	14 38 22.0	-0.4
URZ				SN	S	14 38 39.8	-0.6
MWZ	Matawai	0.97	115	PN	P	14 38 24.6	+0.1
MWZ				SN	S	14 38 43.8	-0.2
BKZ	Black Stump Fm	1.24	177	⇑PN	P	14 38 26.7	-0.3
BKZ				SN	S	14 38 47.6	-0.9
MGZ	Maungaku	1.27	212	PN	P	14 38 27.5	+0.2
NGZ	Ngauruhoe	1.40	207	PN	P	14 38 28.9	+0.3
CNZ	Chateau	1.44	208	PN	P	14 38 28.7	-0.3
PUZ	Puketiti	1.46	96	PN	P	14 38 28.7	-0.5
PUZ				SN	S	14 38 51.1	-1.4
TUVZ	Tukino	1.47	204	PN	P	14 38 29.1	-0.1
KNZ	Kokohu	1.47	138	PN	P	14 38 29.3	0.0
KNZ				SN	S	14 38 51.5	-1.2
WNVZ	Wahianoa	1.54	204	PN	P	14 38 29.7	-0.3
MXZ	Matakaoa Point	1.54	77	PN	P	14 38 29.7	-0.3
MXZ				SN	S	14 38 53.4	-0.5
MOVZ	Moawhango	1.57	199	PN	P	14 38 29.5	-0.8
PWZ	Pawanui	2.13	171	⇓PN	P	14 38 35.7	-0.9
PWZ				SN	S	14 39 04.6	-0.8
TSZ	Takapari Road	2.16	189	PN	P	14 38 35.5	-1.4
TSZ				SN	S	14 39 03.7	-2.3
BFZ	Birch Farm	2.75	183	PN	P	14 38 42.1	-2.2
BFZ				SN	S	14 39 14.8	-4.1
MRZ	Mangatainoka R	2.81	193	PN	P	14 38 42.3	-2.7
MRZ				SN	S	14 39 16.5	-3.6
KIW	Kapiti Island	3.15	201	PN	P	14 38 46.1	-3.3
KIW				SN	S	14 39 23.9	-4.0
MTW	Mount Morrison	3.30	192	PN	P	14 38 47.6	-3.7
MTW				SN	S	14 39 26.2	-5.2
CAW	Cannon Point	3.34	198	PN	P	14 38 48.1	-3.8
TUWZ	Tuamarina	3.98	208	PN	P	14 38 55.8	-4.3
TUWZ				eSN	S	14 39 41.2	-5.9
NNZ	Nelson	4.04	215	PN	P	14 38 56.3	-4.5
NNZ				SN	S	14 39 43.1	-5.3
QRZ	Quartz Range	4.18	225	SN	S	14 39 46.2	-5.4
THZ	Tophouse	4.69	214	PN	P	14 39 04.5	-4.8
THZ				SN	S	14 39 57.6	-5.9
KHZ	Kahutara	5.00	205	PN	P	14 39 08.6	-4.9
MQZ	McQueen's Vall	6.44	205	SN	S	14 40 33.3	-12

IDC 29 14:48:06.4±11.0,61.82S×152.84E,mb3.8/4,mb1 3.9/4, mb1mx3.9/6,MS3.7/3,Ms1 3.7/3,ms1mx3.5/10,Error ellipse: s-maj=373.0km s-min=29.2km az=99.0,Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	Rata Peaks	21.08	39	LR	LR	14 59 32.3	
	comp=Z,239nm,18.3s,baz=120,slow=32						
URZ	Urewera	27.94	44	LR	LR	15 03 58.5	
	comp=Z,89nm,19.6s,baz=324,slow=34						
STKA	Stephens Creek	30.83	341	P	P	14 54 25.4	-0.5
	1.0nm,0.5s,baz=177,slow=18,SNR=4.3						
MAW	Mawson	35.61	221	P	P	14 55 05.0	-2.0
	4.3nm,1.2s,baz=39,slow=2.0,SNR=5.7						
MAW				LR	LR	15 10 13.6	
	comp=Z,134nm,18.0s,baz=68,slow=37						
ASAR	Alice Springs	40.27	333	P	P	14 55 44.6	-1.8
	0.8nm,0.9s,baz=171,slow=8.8,SNR=6.2						
WRA	Warramunga Arr	43.78	334	P	P	14 56 12.2	-3.0
	0.4nm,0.6s,baz=162,slow=7.2,SNR=7.5						

NEIC 29 14:50:31.5,33.38S×70.13W,h9^{km},mb4.5/3,ML4.4(GUC), After GUC.

NEIC Felt [III] at Santiago, Valparaiso and Vina del Mar; [II] at Limache and Panquehue.

GUC 29 14:50:31.5±0.7,33.38S×70.13W,h9^{km}±1^{km},MD4.4, ML4.4

ISC 29 14:50:31.6±0.8,33.36S±0.03×70.11W±0.05,h9^{km}±4^{km}, n29,$\sigma 0^{s}80$/41,mb4.3/3,12C-7D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FCH	Farellones	0.15	283	⇓iP	Pg	14 50 35.5	+0.4
FCH				i S	Sg	14 50 38.2	+0.7
CLCH	Cerro Calan	0.36	265	⇓iP	Pg	14 50 39.1	+0.1
CLCH				i S	Sg	14 50 44.7	+0.8
CLCH				AMP		14 50 46.2	
	comp=E,74μm,0.6s						
CLCH				AMP		14 50 46.7	
	comp=E,92μm,0.6s						
DSCH	Colegio Aleman	0.39	265	eP	Pg	14 50 39.5	0.0
DSCH				i S	Sg	14 50 45.1	+0.3
DSCH				AMP		14 50 46.8	
	comp=E,91μm,0.7s						
PCH	Pirque	0.42	233	⇑iP	Pg	14 50 40.0	-0.3
SAN	Santiago	0.47	259	⇑iP	Pg	14 50 40.9	-0.2
SAN				i S	Sg	14 50 47.8	+0.3
SAN				AMP		14 50 53.1	
	comp=E,16μm,0.4s						
ANTU	Antumapu	0.48	245	⇓iP	Pg	14 50 41.0	-0.4
ANTU				i S	Sg	14 50 48.0	0.0
ANTU				AMP		14 50 49.0	
	comp=E,58μm,0.4s						
PEL	Peldehue	0.53	294	⇑iP	Pg	14 50 42.1	-0.3
RCDM	Rinconada Maip	0.59	258	eP	Pg	14 50 43.3	-0.4
RCDM				i S	Sg	14 50 52.1	+0.4
RCDM				AMP		14 50 52.5	
	comp=E,22μm,0.1s						
CHCH	Chadas Angostu	0.73	218	eP	Pb	14 50 45.0	-1.0
TACH	Talagante	0.75	247	⇑iP	Pb	14 50 45.6	-0.7
JACH	Jahuel	0.79	329	⇑iP	Pb	14 50 46.8	-0.3
JACH				i S	Sb	14 50 57.4	-0.2
CACH	El Canelo	0.85	208	⇓iP	Pb	14 50 47.7	-0.5
CACH				i S	Sb	14 50 59.7	+0.2
CICH	Cipreses	0.99	195	⇑iP	Pb	14 50 49.6	-0.8
CICH				i S	Sb	14 51 03.4	+0.1
LCCH	Las Cruces	1.23	264	⇑iP	Pb	14 50 53.8	-0.7
LCCH				i S	Sb	14 51 10.5	+0.3
LNV	Longovilo	1.23	241	⇓iP	Pb	14 50 53.3	-1.4
LNV				i S	Sb	14 51 09.8	-0.8
IHA	Instituto Hidr	1.33	284	eP	Pb	14 50 55.4	-0.9
IHA				i S	Sb	14 51 13.3	+0.2
SFDO	San Fernando	1.46	211	eP	Pn	14 50 57.2	-1.0
TALC	Talca	2.39	211	⇑iP	Pn	14 51 13.0	+1.5
TALC				i S	Sn	14 51 43.3	+2.1
TALC				AMP		14 51 50.1	
	comp=E,10μm,0.6s						
TRQA	Tornquist	8.10	128	eP	P	14 52 28.1	-4.2
	comp=E,27nm,0.6s						
SAML	Samuel	25.12	16	eP	P	14 55 59.4	+0.9
	comp=E,10nm,1.0s,mb4.3						
VNA3	Neumayer Olymp	49.35	158	⇑i	P	14 59 25.0	+2.3
VNA3	Neumayer Olymp	49.35	158	⇑i	P	14 59 25.0	+2.3
VNA2	Neumayer--Watz	49.98	158	⇑i	P	14 59 29.0	+1.4
VNA2	Neumayer--Watz	49.98	158	⇑i	P	14 59 29.0	+1.4
SNAA	Sanae	51.57	158	⇓i	P	14 59 39.1	-0.5
SNAA	Sanae	51.57	158	⇓i	P	14 59 39.1	-0.5
QSPA	South Pole Qui	56.87	180	eP	P	15 00 18.1	-0.4
	comp=E,4.6nm,1.0s,mb4.5						
MAW	Mawson	73.33	163	eP	P	15 02 04.7	-0.1
	comp=E,2.9nm,0.8s,mb4.3						
HYB	Hyderabad	147.70	112	i PKP	PKPdf	15 10 18.0	+0.8

IDC 29 14:57:48.3±0.6,0.58S×135.72E,mb5.0/14,mb1 5.0/16, mb1mx5.0/21,ML3.9/2,MS4.4/16,Ms1 4.4/16, ms1mx4.2/20,Error ellipse: s-maj=26.8km s-min=13.1km az=74.0

DJA 29 14:57:50.7±1.5,0.51S×135.98E,h53^{km}±12^{km},mb5.1/2, Error ellipse: s-maj=139.7km s-min=7.1km az=11.0

MOS 29 14:57:51.7±1.5,0.63S×135.63E,h33^{km},mb5.0/10,Error ellipse: s-maj=23.0km s-min=11.1km az=113.7

NEIC 29 14:57:56.5±1.3,0.67S×135.68E,h63^{km}±11^{km},mb4.9/25, Error ellipse: s-maj=10.8km s-min=5.1km az=57.0

NEIC Felt [IV] at Biak.

HRVD 29 14:57:56.5±0.2,0.55S×135.75E,h18^{km},MW5.3/69, Centroid moment Tensor Solution. LP body waves: s57,c98;Mantle waves: s69,c120; Half duration: $1^{s}1$ Moment tensor: Scale 10^{17}Nm; M_{rr}0.69±.02; $M_{\theta\theta}$-0.48±.01; $M_{\phi\phi}$-0.21±.01; $M_{r\theta}$-0.73±.04; $M_{\theta\phi}$0.30±.01; $M_{\phi r}$0.67±.04; Best double couple: $M_0$1.2×10^{17} NP1:ϕ_s116°, δ18°,λ76°. NP2:ϕ_s311°,δ73°,λ94°. Principal axes: T 1.22, Plg62°, Azm228°; N -.03, Plg4°, Azm129°; P -1.19, Plg28°, Azm37°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

BJI 29 14:57:57.0,0.70S×135.70E,h63^{km},mB4.9,mb4.8,Ms4.7, Msz4.4

ISC 29 14:57:55.2±1.3,0.76S±0.03×135.61E±0.06,h66^{km}±11^{km}, n110,$\sigma 1^{s}13$/114,mb4.8/39,6C-8D,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	Sorong	4.35	269	eP	P	14 59 00.5	+0.1
YOMI	Yo Moklole	5.29	111	⇓eP	P	14 59 06.3	-7.1
YOMI				eS	S	15 00 02.5	-11
YOMI	Yo Moklole	5.29	111	ePn	P	14 59 05.9	-7.5
YOMI				eSn	S	15 00 02.5	-11
KAKA	Kakadu	12.29	195	eP	P	15 00 52.5	+3.2
	247nm,0.7s						
KAKA				eS	S	15 03 04.3	-0.9
DAV	Davao City (W)	12.67	308	eP	P	15 01 02.0	+7.5
PMG	Port Moresby	14.35	127	Pn	P	15 01 15.8	-0.7
	0.7nm,0.3s,baz=320,slow=9.6,SNR=5.4						
PMG	Port Moresby	14.35	127	P	P	15 01 15.8	-0.7
PMG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BUNI	Buntu Taipa	15.54	259	⇑eP	P	15 01 38.4	+6.5
NINI	Niniconang	16.25	257	eP	P	15 01 44.6	+3.8
	comp=Z,536nm,1.1s						
NINI	Niniconang	16.25	257	eP	P	15 01 44.5	+3.7
	comp=Z,268nm,1.1s						
TANI	Tanete Lipujan	16.43	260	⇓eP	P	15 01 48.2	+5.1
	comp=Z,85nm,1.3s						
TANI	Tanete Lipujan	16.43	260	eP	P	15 01 47.8	+4.7
	comp=Z,42nm,1.3s						
WRAB	Tennant Creek	19.10	184	eP	P	15 02 13.7	-1.8
	comp=Z,133nm,0.9s						
WB2	Warramunga Arr	19.11	184	⇑iP	P	15 02 14.2	-1.3
WRA	Warramunga Arr	19.11	184	P	P	15 02 14.1	-1.4
	comp=Z,0.7nm,0.3s,baz=7.7,slow=12,SNR=30						
WRA				S	S	15 05 40.3	-2.4
	comp=Z,0.5nm,0.3s,baz=8.8,slow=22,SNR=4.8						
WRA				LR	LR	15 10 14.0	
	comp=Z,1μm,18.5s,baz=10.0,slow=39						
WRA	Warramunga Arr	19.11	184	P	P	15 02 14.1	-1.4
WRA				S	S	15 05 40.3	-2.4
WRA				pmax	pmax		
	comp=Z,1.0nm,0.3s						
WRA				smax			
	comp=Z,1.0nm,0.3s						
WRA				MLR	MLR		
	comp=Z,1μm,18.5s						
FITZ	Fitzroy Crossi	19.83	209	eP	P	15 02 23.3	0.0
	comp=Z,32nm,0.8s						
FITZ				eS	S	15 05 56.9	-1.0
FITZ	Fitzroy Crossi	19.83	209	P	P	15 02 23.4	+0.1
	comp=Z,48nm,1.1s,baz=22,slow=11,SNR=23						
FITZ				S	S	15 05 57.3	-0.6
	comp=Z,13nm,0.8s,baz=109,slow=8.1,SNR=3.5						
FITZ				LR	LR	15 09 58.9	
	comp=Z,581nm,21.6s,baz=59,slow=36						
KKM	Kota Kinabalu	20.51	289	⇓eP	P	15 02 29.7	-0.7
TGY	Tagaytay City	20.71	316	P	P	15 02 33.2	+0.6
	comp=Z,95nm,0.3s,baz=179,slow=7.7,SNR=3.3						
TGY				LR	LR	15 09 42.7	
	comp=Z,592nm,20.8s,baz=108,slow=35						
TGY	Tagaytay City	20.71	316	P	P	15 02 33.2	+0.7
TGY				pmax	pmax		
	comp=Z,95nm,0.4s						
TGY				MLR	MLR		
	comp=Z,592nm,20.8s						
KEDI	Kedomdong	20.88	248	⇓eP	P	15 02 34.0	-0.3
CTA	Charters Tower	21.86	152	eP	P	15 02 44.7	+0.8
	comp=Z,40nm,0.6s,mb4.9						
CTA				eS	S	15 06 47.6	+11
CTA	Charters Tower	21.86	152	P	P	15 02 44.8	+0.9
	comp=Z,51nm,0.6s,mb5.0,baz=326,slow=11,SNR=37						
CTA	Charters Tower	21.86	152	P	P	15 02 44.8	+0.9
CTA				pmax	pmax		
	comp=Z,51nm,0.6s						
CTAO	Charters Tower	21.86	152	eP	P	15 02 44.6	+0.7
	comp=Z,56nm,0.7s,mb5.0						
INGI	Ingas	21.89	248	eP	P	15 02 45.3	+0.9
INGI	Ingas	21.89	248	eP	P	15 02 45.0	+0.6
ASAR	Alice Springs	22.83	184	P	P	15 02 54.0	+0.4
	comp=Z,51nm,0.8s,mb4.9,baz=14,slow=10,SNR=262						
ASAR				LR	LR	15 12 21.9	
	comp=Z,1μm,20.8s,baz=355,slow=38						
ASPA	Alice Springs	22.84	184	eP	P	15 02 54.0	+0.4
ASPA				eS	S	15 07 05.0	+11
MBWA	Marble Bar	25.52	216	eP	P	15 03 20.7	+1.2
	comp=Z,26nm,1.1s,mb4.6						
JOW	Kunigami	28.32	346	LR	LR	15 13 44.0	
	comp=Z,863nm,19.9s,baz=292,slow=34						
CBIJ	Chichi jima	28.40	12	LR	LR	15 12 45.6	
	comp=Z,1μm,19.8s,baz=199,slow=32						
FORT	Forrest	30.71	193	eP	P	15 04 06.0	-0.2
	comp=Z,265nm,0.7s						
STKA	Stephens Creek	31.47	170	P	P	15 04 12.2	-0.6
	comp=Z,52nm,0.5s,mb5.5,baz=344,slow=8.2,SNR=123						
STKA				LR	LR	15 18 07.1	
	comp=Z,2μm,19.6s,baz=348,slow=38						
QIZ	Qiongzhong	32.04	309	P	P	15 04 19.0	+1.0
QIZ				PP	PP	15 05 26.8	+0.7
QIZ				S	S	15 09 18.5	-5.6
QIZ				LR	LR		
	comp=N,558nm,23.8s						
QIZ				LR	LR		
	comp=Z,775nm,18.1s						
ADE	Adelaide	34.16	175	eP	P	15 04 36.9	+0.7
SSE	Sheshan	34.51	338	eP	P	15 04 43.3	+4.1
SSE				S	S	15 09 59.5	-2.7
SSE				AMB	AMB		
	comp=Z,28nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,214nm,5.5s						
SSE				LR	LR		
	comp=N,233nm,21.9s						
SSE				LR	LR		
	comp=E,302nm,22.0s						
SSE				LR	LR		
	comp=Z,432nm,20.8s						
SSE	Sheshan	34.51	338	eP	P	15 04 43.3	+4.1

	comp=Z,28nm,0.7s,mb5.2						
SSE				sP	sP	15 04 55.6	-8.1
SSE				S	**S**	**15 09 59.5**	**-2.7**
SSE				sS		15 10 14.8	
SSE				LR	LR		
	comp=Z,430nm,20.8s						
KLBR	**Kellerberrin**	**35.01**	**207**	*e*P	**P**	**15 04 43.6**	**+0.1**
	comp=Z,13nm,0.7s,mb4.9						
NWAO	**Narrogin (SRO)**	**36.37**	**207**	P	**P**	**15 04 55.9**	**+0.8**
	comp=Z,13nm,0.7s,mb5.0,baz=37,slow=8.7,SNR=14						
NWAO				PcP	PcP	15 07 19.2	+0.6
	comp=Z,6.6nm,0.8s,baz=273,slow=2.6,SNR=3.6						
NWAO	**Narrogin (SRO)**	**36.37**	**207**	P	**P**	**15 04 55.9**	**+0.8**
NWAO						15 07 19.2	
NWAO				pmax	pmax		
	comp=Z,13nm,0.7s						
NWAO				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KKTK	**Khon Kaen**	**36.54**	**299**	P	**P**	**15 04 57.0**	**+0.4**
CNB	**Canberra Magne**	**36.69**	**161**	*e*P	**P**	**15 04 58.4**	**+0.7**
	comp=Z,64nm,1.1s,mb5.5						
TOO	**Toolangi**	**37.75**	**167**	⇓*i*P	**P**	**15 05 08.1**	**+1.6**
	comp=Z,10nm,0.7s,mb4.8						
ENH	**Enshi**	**39.64**	**323**	*e*P	**P**	**15 05 20.2**	**-2.1**
CMAR	**Chiang Mai Arr**	**40.78**	**300**	P	**P**	**15 05 31.9**	**+0.1**
	comp=Z,5.4nm,0.8s,mb4.4,baz=118,slow=6.9,SNR=39						
CMAR				PcP	PcP	15 07 34.1	+1.6
	comp=Z,3.0nm,0.9s,baz=139,slow=2.0,SNR=8.1						
CMAR				LR	LR	15 21 13.2	
	comp=Z,243nm,20.8s,baz=130,slow=34						
CMAR	**Chiang Mai Arr**	**40.78**	**300**	P	**P**	**15 05 32.0**	**+0.2**
CMAR						15 07 34.2	
CMAR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KMI	**Kunming**	**40.91**	**311**	⇓*i*P	**P**	**15 05 33.5**	**+0.7**
KMI				AP	pP	15 05 49.5	+0.2
KMI				XP	sP	15 05 56.8	-0.3
KMI				AMB	AMB		
	comp=Z,13nm,1.1s,mb4.7						
KMI				AMB	AMB		
	comp=Z,60nm,4.8s						
KMI				LR	LR		
	comp=N,325nm,18.4s						
KMI				LR	LR		
	comp=E,388nm,22.8s						
KMI				LR	LR		
	comp=Z,589nm,19.2s						
KMI	**Kunming**	**40.91**	**311**	⇓*i*P	**P**	**15 05 33.6**	**+0.8**
	comp=Z,13nm,1.1s,mb4.7						
KMI				pP	pP	15 05 49.4	+0.1
KMI				sP	sP	15 05 56.8	-0.3
KMI				PP	PP	15 07 02.5	-8.5
KMI				S		15 11 24.7	
KMI				sS		15 11 49.4	
KMI				SS	Sx	15 13 59.8	
KMI				LR	LR		
	comp=Z,590nm,19.2s						
CHG	**Chiang Mai**	**40.93**	**300**	P	**P**	**15 05 40.8**	**+7.8**
XAN	**Xi’an**	**42.73**	**327**	P	**P**	**15 05 47.5**	**-0.2**
XAN				AMB	AMB		
	comp=Z,8.0nm,1.2s,mb4.3						
BJI	**Beijing**	**44.31**	**339**	P	**P**	**15 06 07.0**	**+6.5**
BJI				SS	SS	15 15 45.0	+4.5
BJI				AMB	AMB		
	comp=Z,9.0nm,0.7s,mb4.6						
BJI				LR	LR		
	comp=N,574nm,20.3s						
BJI				LR	LR		
	comp=E,434nm,23.7s						
BJI				LR	LR		
	comp=Z,654nm,21.2s						
BJI	**Beijing**	**44.31**	**339**	P	**P**	**15 06 06.9**	**+6.4**
	comp=Z,9.0nm,0.7s,mb4.6						
BJI				S	**S**	**15 12 19.0**	**-10**
BJI				SS	SS	15 15 45.1	+4.6
BJI				LR	LR		
	comp=Z,650nm,21.2s						
HHC	**Hu-ho-hao-te**	**46.83**	**335**	*e*P	**P**	**15 06 20.0**	**-0.4**
HHC				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
LZH	**Lanzhou**	**47.08**	**324**	⇑P	**P**	**15 06 24.0**	**+1.5**
LZH				PP	PP	15 08 11.5	-1.9
LZH				AMB	AMB		
	comp=Z,39nm,1.2s,mb5.0						
LZH				LR	LR		
	comp=N,317nm,13.0s						
LZH				LR	LR		
	comp=Z,442nm,17.2s						
LZH	**Lanzhou**	**47.08**	**324**	⇑P	**P**	**15 06 24.1**	**+1.6**
	comp=Z,39nm,1.2s,mb5.0						
LZH				pP	pP	15 06 34.2	-5.0
LZH				sP	sP	15 06 38.3	-8.5
LZH				PP	PP	15 08 11.5	-1.9
LZH				LR	LR		
	comp=Z,440nm,17.2s						
KLR	**Kul’dur**	**49.90**	**357**	*e*P	**P**	**15 06 46.2**	**+2.1**
KLR				*e*		15 08 42.5	
KLR				*e*S	**S**	**15 13 48.0**	**+0.1**
KLR				*e*		15 16 27.0	
GTA	**Gaotai**	**51.68**	**325**	*e*P	**P**	**15 06 57.8**	**0.0**
GTA				PP	PP	15 08 57.5	+1.1
GTA				S	**S**	**15 14 14.8**	**+2.2**
GTA				SS	SS	15 17 49.3	+1.7
GTA				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.7						
GTA				AMB	AMB		
	comp=Z,67nm,5.7s						
GTA				LR	LR		
	comp=N,91nm,16.0s						
GTA				LR	LR		
	comp=E,170nm,16.0s						
GTA				LR	LR		
	comp=Z,148nm,23.2s						
LSA	**Lhasa**	**52.09**	**309**	P	**P**	**15 07 03.0**	**+2.1**
RPZ	**Rata Peaks**	**53.15**	**148**	P	**P**	**15 07 08.7**	**-0.1**
	comp=Z,78nm,1.3s,mb5.6,baz=57,slow=3.2,SNR=5.5						
RPZ				LR	LR	15 28 46.6	
	comp=Z,498nm,18.9s,baz=298,slow=35						
URZ	**Urewera**	**53.30**	**139**	P	**P**	**15 07 10.2**	**+0.3**
	comp=Z,11nm,1.0s,mb4.8,baz=231,slow=20,SNR=5.4						
SONM	**Songino Array**	**54.67**	**336**	P	**P**	**15 07 18.8**	**-1.0**
	comp=Z,0.7nm,0.5s,mb3.9,baz=166,slow=5.9,SNR=2.7						
PKI	**Pulchoki**	**55.80**	**304**	*e*P	**P**	**15 07 26.9**	**-1.3**
KKN	**Kakani**	**55.98**	**305**	*e*P	**P**	**15 07 28.7**	**-0.8**
	comp=Z,20nm,1.0s,mb5.1						
DMN	**Daman**	**56.06**	**304**	*e*P	**P**	**15 07 29.4**	**-0.7**
	comp=Z,15nm,0.9s,mb5.0						
GKN	**Gorkha**	**56.59**	**305**	*e*P	**P**	**15 07 33.3**	**-0.6**
PET	**Petropavlovsk**	**56.95**	**16**	*e*P	**P**	**15 07 42.5**	**+6.4**
PET				*e*S	**S**	**15 15 23.0**	**-0.2**
PET				*e*SS	SS	15 19 13.8	+0.1
PET				pmax	pmax		
	comp=N,34nm,12.5s						
PET				pmax	pmax		
	comp=Z,66nm,14.2s						
PET				MLR	MLR		
	comp=Z,179nm,16.0s						
KOLN	**Koldanda**	**57.36**	**304**	*e*P	**P**	**15 07 38.8**	**-0.6**
	comp=Z,26nm,0.9s,mb5.2						
ZAK	**Zakamensk**	**57.94**	**336**	*e*P	**P**	**15 07 40.1**	**-2.9**
ZAK				*e*		15 09 56.6	
HYB	**Hyderabad**	**58.99**	**291**	*i* P	**P**	**15 07 50.5**	**-0.2**
HYB	**Hyderabad**	**58.99**	**291**	*e*P	**P**	**15 07 50.5**	**-0.2**
TRD	**Trivandrum**	**59.16**	**280**	*e*P	**P**	**15 07 49.4**	**-2.6**
BOD	**Bodaibo**	**60.89**	**347**	*e*P	**P**	**15 08 02.8**	**-0.5**
WMQ	**Urumqi**	**61.57**	**322**	P	**P**	**15 08 08.3**	**+0.2**
WMQ				PP	PP	15 10 28.5	+2.1
WMQ				AMB	AMB		
	comp=Z,13nm,0.8s,mb5.0						
WMQ				AMB	AMB		
	comp=Z,39nm,8.7s						
WMQ				LR	LR		
	comp=N,161nm,19.0s						
WMQ				LR	LR		
	comp=E,148nm,21.0s						
WMQ				LR	LR		
	comp=Z,132nm,20.3s						
YAK	**Yakutsk**	**62.78**	**357**	*e*P	**P**	**15 08 14.8**	**-1.1**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
YAK				pmax	pmax		
	comp=N,3.0nm,0.9s						
YAK	**Yakutsk**	**62.78**	**357**	*e*P	**P**	**15 08 14.3**	**-1.6**
	comp=N,24nm,0.9s,mb5.1						
MKAR	**Makanchi Array**	**66.37**	**323**	P	**P**	**15 08 38.3**	**-1.0**
	comp=N,4.6nm,0.7s,mb4.4,baz=108,slow=6.9,SNR=39						
MKAR				LR	LR	15 36 26.3	
	comp=N,141nm,19.7s,baz=236,slow=35						
CASY	**Casey**	**67.77**	**191**	*e*P	**P**	**15 08 48.1**	**+0.4**
	comp=N,17nm,1.0s,mb4.8						
TKM2	**Tokmak 2**	**69.01**	**317**	P	**P**	**15 08 56.3**	**+0.5**
	SNR=7.6						
UCH	**Uchtor**	**69.50**	**316**	P	**P**	**15 09 00.3**	**+1.4**
	SNR=12						
AAK	**Ala-Archa**	**69.66**	**316**	*e*P	**P**	**15 08 59.6**	**-0.2**
	comp=N,11nm,1.3s,mb4.5						
USP	**Ospenovka**	**69.88**	**317**	P	**P**	**15 09 01.9**	**+0.6**
	SNR=7.9						
NVS	**Novosibirsk**	**69.98**	**331**	*i* P	**P**	**15 08 59.5**	**-2.1**
NVS				*i*		15 11 30.9	
NVS				pmax	pmax		
	comp=Z,12nm,1.6s,mb4.5						
NVS				pmax	pmax		
	comp=N,9.0nm,1.3s						
NVS				pmax	pmax		
	comp=E,4.0nm,0.8s						
AML	**Almayashu**	**70.04**	**316**	P	**P**	**15 09 03.4**	**+1.2**
	SNR=26						
EKS2	**Erkin-Say**	**70.16**	**316**	P	**P**	**15 09 03.7**	**+0.8**
	SNR=6.8						
KURK	**Kurchatov**	**70.36**	**326**	*c i*P	**P**	**15 09 03.1**	**-0.8**
KURK	**Kurchatov**	**70.36**	**326**	*e*P	**P**	**15 09 02.4**	**-1.5**
	comp=E,50nm,1.4s,mb5.2						
MIR	**Mirnyy**	**72.15**	**197**	⇓*e*P	**P**	**15 09 16.8**	**+2.4**
MIR				pmax	pmax		
	comp=Z,55nm,1.5s,mb5.2						
PPT	**Papeete**	**75.30**	**108**	*e*S	S	15 19 09.7	+3.3
PPT				*e*SS	SS	15 23 56.1	-3.6
PPT				*e*R		15 32 23.8	
	comp=Z,226nm,22.8s						
TBI	**Tubuai**	**75.87**	**114**	*e*S	S	15 19 16.0	+3.4
TBI				*e*R		15 32 59.5	
	comp=Z,264nm,32.2s						
BVAR	**Borovoye Array**	**75.95**	**326**	P	**P**	**15 09 36.5**	**-0.1**
	comp=Z,17nm,1.1s,mb4.7,baz=117,slow=6.6,SNR=36						
BRVK	**Borovoye**	**76.03**	**326**	*e*P	**P**	**15 09 36.6**	**-0.5**
	comp=Z,13nm,1.0s,mb4.6						
ZRNK	**Zerenda**	**76.72**	**325**	*e*P	**P**	**15 09 40.8**	**-0.2**
	comp=Z,12nm,1.0s,mb4.6						
SBA	**Scott Base**	**78.81**	**174**	*e*P	**P**	**15 09 54.3**	**+2.2**
	comp=Z,7.6nm,1.0s,mb4.5						
MAW	**Mawson**	**82.77**	**202**	*e*P	**P**	**15 10 15.2**	**+2.0**
	comp=Z,8.3nm,1.0s,mb4.5						
MAW	**Mawson**	**82.77**	**202**	P	**P**	**15 10 15.7**	**+2.5**
	comp=Z,9.6nm,0.9s,mb4.6,baz=74,slow=5.2,SNR=19						
MAW				LR	LR	15 44 08.2	
	comp=Z,362nm,20.5s,baz=67,slow=34						
ARU	**Arti**	**83.48**	**327**	⇑*i*P	**P**	**15 10 17.0**	**+0.1**
ARU				*e*		15 13 28.3	
ARU				*e*PPP	PPP	15 15 22.9	-2.9
ARU				*e*S	S	15 20 30.1	-1.6
ARU				*e*SSS	SSS	15 29 28.1	0.0
ARU				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.6						
ARU				MLR	MLR		
	comp=Z,200nm,21.0s						
ARU				MLR	MLR		
	comp=N,100nm,22.0s						
ARU				MLR	MLR		
	comp=E,100nm,20.0s						
ILAR	**Eielson Array**	**85.36**	**25**	P	**P**	**15 10 25.1**	**-1.1**
	comp=E,3.8nm,0.7s,mb4.4,baz=266,slow=4.9,SNR=30						
ILAR	**Eielson Array**	**85.36**	**25**	P	**P**	**15 10 25.1**	**-1.0**
ILAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
RAYN	**Ar Rayn**	**90.40**	**293**	P	**P**	**15 10 52.2**	**+0.9**
	comp=Z,48nm,1.0s,mb5.6,SNR=10.0						
GNI	**Garni**	**91.15**	**310**	LR	LR	15 52 21.1	
	comp=Z,53nm,22.0s,baz=356,slow=36						
ARCES	**ARCESS Array B**	**97.65**	**341**	P	**P**	**15 11 22.9**	**-0.5**
	comp=Z,2.4nm,0.7s,mb4.8,baz=80,slow=7.4,SNR=6.2						
ARCES				LR	LR	16 00 54.1	
	comp=Z,197nm,18.1s,baz=204,slow=39						
ASF	**Jabal al Asfar**	**97.78**	**302**	LR	LR	16 02 19.3	
	comp=Z,74nm,20.4s,baz=232,slow=40						
YKA	**Yellowknife Ar**	**99.72**	**26**	LR	LR	15 52 55.0	
	comp=Z,232nm,21.8s,baz=290,slow=33						
FINES	**FINESS Array B**	**99.91**	**333**	LR	LR	16 01 52.5	
	comp=Z,210nm,18.4s,baz=256,slow=38						
LVC	**Limon Verde**	**146.68**	**136**	*e*PKPab	PKPab	15 17 33.4	-0.5
ROSC	**El Rosal**	**149.83**	**82**	PKPbc	PKPdf	15 17 42.5	+8.4
	comp=Z,9.8nm,0.4s,baz=321,slow=19,SNR=4.5						
LPAZ	**La Paz**	**151.09**	**127**	*e*PKPdf	PKPdf	15 17 39.3	+3.5
LPAZ				*e*PKPbc	PKPdf	15 17 45.7	+10
SDV	**Santo Domingo**	**152.65**	**72**	*e*PKPdf	PKPdf	15 17 41.1	+2.9

GUC 29 15:05:08.2±0.8, 33.38S×70.14W, h10^{km}±1^{km}, MD3.7, ML3.0, 8C-8D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FCH	**Farellones**	**0.14**	**292**	⇓*i*P	Pg	15 05 12.2	+0.6
FCH				*i* S	Sg	15 05 14.9	+1.1
FCH				AMP		15 05 15.1	
	comp=N,15µm,0.2s						
CLCH	**Cerro Calan**	**0.34**	**267**	⇓*i*P	Pg	15 05 15.8	+0.6
CLCH				*i* S	Sg	15 05 21.4	+1.5
CLCH				AMP		15 05 22.6	
	comp=E,3µm,0.7s						
FSR	**Penalolen**	**0.34**	**253**	⇓*i*P	Pg	15 05 15.8	+0.6
FSR				*i* S	Sg	15 05 21.4	+1.4
FSR				AMP		15 05 21.7	
	comp=E,4µm,0.2s						
DSCH	**Colegio Aleman**	**0.36**	**267**	⇑*i*P	Pg	15 05 16.2	+0.5
DSCH				*i* S	Sg	15 05 22.3	+1.6
DSCH				AMP		15 05 23.2	
	comp=E,4µm,0.7s						
PCH	**Pirque**	**0.40**	**233**	⇑*i*P	Pg	15 05 16.7	+0.3
PCH				*i* S	Sg	15 05 22.9	+1.2
STL	**Santa Lucia**	**0.43**	**262**	⇑*i*P	Pg	15 05 17.4	+0.4
STL				*i* S	Sg	15 05 24.0	+1.2
STL				AMP		15 05 24.3	
	comp=N,558nm,0.2s						
ANTU	**Antumapu**	**0.46**	**246**	⇓*i*P	Pg	15 05 17.8	+0.2
ANTU				*i* S	Sg	15 05 24.7	+0.9
ANTU				AMP		15 05 25.7	
	comp=E,3µm,0.3s						
PEL	**Peldehue**	**0.52**	**297**	⇓*i*P	Pg	15 05 19.1	+0.4
PEL				*i* S	Sg	15 05 26.5	+0.8
PUEX	**Pudahuel**	**0.53**	**263**	*i* P	Pg	15 05 19.0	+0.1
PUEX				*i* S	Sg	15 05 27.3	+1.4
PUEX				AMP		15 05 27.7	
	comp=E,3µm,0.2s						
RCDM	**Rinconada Maip**	**0.57**	**259**	⇓*i*P	Pg	15 05 19.9	+0.1
RCDM				*i* S	Sg	15 05 28.6	+1.1
RCDM				AMP		15 05 28.8	
	comp=E,2µm,0.1s						
CHCH	**Chadas Angostu**	**0.70**	**218**	⇑*i*P	Pb	15 05 21.8	-0.2
CHCH				*i* S	Sb	15 05 31.6	+0.2
TACH	**Talagante**	**0.72**	**248**	⇑*i*P	Pb	15 05 22.3	-0.1
TACH				*i* S	Sb	15 05 32.7	+0.6
JACH	**Jahuel**	**0.80**	**331**	⇑*i*P	Pb	15 05 23.6	0.0
JACH				*i* S	Sb	15 05 34.6	+0.4
CACH	**El Canelo**	**0.83**	**208**	⇓*i*P	Pb	15 05 24.4	+0.2
CACH				*i* S	Sb	15 05 36.2	+1.0
CICH	**Cipreses**	**0.97**	**194**	⇑*i*P	Pb	15 05 26.3	-0.3
CICH				*i* S	Sb	15 05 39.6	+0.5
LCCH	**Las Cruces**	**1.20**	**265**	⇑*i*P	Pb	15 05 30.7	+0.1
LCCH				*i* S	Sb	15 05 47.1	+1.1
LNV	**Longovilo**	**1.21**	**241**	⇓*i*P	Pb	15 05 30.1	-0.6
LNV				*i* S	Sb	15 05 46.0	-0.2
SFDO	**San Fernando**	**1.43**	**210**	*e*P	Pn	15 05 34.3	0.0
TALC	**Talca**	**2.36**	**211**	*i* P	Pn	15 05 50.0	+2.3
TALC				*i* S	Sn	15 06 20.0	+3.1

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*TAP **29** 15:32:46.4, 23.01N×121.25E, h3^{km}, ML3.9*
TAP Felt II J at Chenggung.
*JMA **29** 15:32:48.0±0.5, 22.88N×121.41E, h55^{km}, M3.2*

ISC 29 15:32:45.8±0.3, 22.96N±0.02×121.35E±0.02, h3^{km}, n58, $\sigma 1^{s}04$/111, 10C-2D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHKT	**Chengkung**	**0.14**	**5**	⇓*i*P	**Pg**	**15 32 50.3**	**+1.6**
CHKT				S	**Sg**	**15 32 53.4**	**+2.7**
TWG	**Pinlang**	**0.29**	**243**	*i* P	**Pg**	**15 32 52.0**	**+0.4**
TWG				S	**Sg**	**15 32 56.5**	**+0.9**
ELDTW	**Lidau**	**0.39**	**307**	⇑*i*P	**Pg**	**15 32 52.6**	**-1.0**
ELDTW				S	**Sg**	**15 32 57.4**	**-1.3**
TWF1	**Yuli**	**0.40**	**353**	P	**Pg**	**15 32 53.5**	**-0.3**
TWF1				S	**Sg**	**15 32 58.9**	**-0.2**
ECL	**Taimali**	**0.51**	**226**	⇓*i*P	**Pg**	**15 32 55.4**	**-0.7**
ECL				S	**Sg**	**15 33 03.0**	**+0.1**
EHY	**Hungye**	**0.55**	**357**	P	**Pg**	**15 32 56.0**	**-0.8**
EHY				S	**Sg**	**15 33 05.0**	**+0.9**
STYT	**Tauyuan**	**0.59**	**291**	⇑*i*P	**Pg**	**15 32 56.3**	**-1.2**
STYT				S	**Sg**	**15 33 04.1**	**-1.3**
SSD	**Sandimen**	**0.70**	**253**	⇑*i*P	**Pg**	**15 32 58.5**	**-1.3**
SSD				S	**Sg**	**15 33 08.6**	**-0.5**
SGST	**Jiashian**	**0.72**	**280**	⇑*i*P	**Pg**	**15 32 59.8**	**-0.4**
SGST				S	**Sg**	**15 33 10.2**	**+0.3**
TAW	**Tawu**	**0.73**	**215**	*e*P	**Pg**	**15 33 01.8**	**+1.4**
WTP	**Ta-pu**	**0.74**	**293**	⇑*i*P	**Pg**	**15 33 00.0**	**-0.6**
WTP				S	**Sg**	**15 33 09.8**	**-0.6**
ALS	**Alishan**	**0.75**	**318**	⇑*i*P	**Pg**	**15 33 00.1**	**-0.6**
ALS				S	**Sg**	**15 33 09.4**	**-1.4**
CHN1	**Nanshi**	**0.79**	**287**	⇑*i*P	**Pg**	**15 33 01.3**	**-0.4**
CHN1				S	**Sg**	**15 33 12.2**	**-0.1**
CHN4	**Tsaushan**	**0.80**	**300**	⇑*i*P	**Pg**	**15 33 01.3**	**-0.6**
CHN4				S	**Sg**	**15 33 12.4**	**-0.1**
SGLT	**Jiouru**	**0.83**	**254**	*e*P	**Pg**	**15 33 02.5**	**+0.1**
SGLT				S	**Sg**	**15 33 15.4**	**+2.0**
TWK	**Hsinying**	**0.85**	**291**	⇑*i*P	**Pg**	**15 33 02.0**	**-0.9**
TWK				S	**Sg**	**15 33 14.3**	**0.0**
ESL	**Shilin**	**0.86**	**5**	P	**Pg**	**15 33 03.2**	**+0.2**
ESL				S	**Sg**	**15 33 16.1**	**+1.7**
TWM1	**Shoushan**	**0.87**	**261**	*i* P	**Pg**	**15 33 03.5**	**+0.3**
TWM1				S	**Sg**	**15 33 15.7**	**+1.0**
CHN5	**Tsauling**	**0.89**	**316**	⇑*i*P	**Pb**	**15 33 02.8**	**-0.7**
CHN5				S	**Sg**	**15 33 14.2**	**-1.2**
SCZT	**Fangliau**	**0.89**	**230**	P	**Pb**	**15 33 02.7**	**-0.9**
SCZT				S	**Sg**	**15 33 14.9**	**-0.7**
CHY	**Chiayi**	**1.01**	**302**	P	**Pb**	**15 33 05.4**	**-0.2**
CHY				S	**Sb**	**15 33 18.9**	**-0.2**
SMLT	**Sun Moon Lake**	**1.01**	**336**	*e*P	**Pb**	**15 33 05.9**	**+0.3**
SMLT				S	**Sb**	**15 33 20.0**	**+0.8**
WGK	**Gukeng**	**1.03**	**315**	P	**Pb**	**15 33 05.9**	**0.0**
WGK				S	**Sb**	**15 33 19.6**	**0.0**
KAU	**Kaohsiung**	**1.04**	**248**	*e*P	**Pb**	**15 33 06.8**	**+0.7**
KAU				S	**Sb**	**15 33 22.2**	**+2.3**
TAI1	**Yung-k’ang**	**1.04**	**275**	*e*P	**Pb**	**15 33 05.6**	**-0.5**
TAI1				S	**Sb**	**15 33 21.8**	**+1.8**
HWA	**Hwalien**	**1.04**	**13**	*e*P	**Pb**	**15 33 05.6**	**-0.5**
HWA				S	**Sb**	**15 33 22.5**	**+2.4**
TYC	**Yuchr**	**1.05**	**334**	P	**Pb**	**15 33 06.1**	**-0.1**
TYC				S	**Sb**	**15 33 20.2**	**0.0**
SCLT	**Jiali**	**1.09**	**282**	*e*P	**Pb**	**15 33 06.3**	**-0.6**
SCLT				S	**Sb**	**15 33 21.5**	**+0.1**
TWP	**Hsiaoliuchiu**	**1.10**	**237**	*e*P	**Pb**	**15 33 09.6**	**+2.5**
HEN	**Hengchun**	**1.10**	**211**	*e*P	**Pb**	**15 33 08.1**	**+0.9**
HEN				S	**Sb**	**15 33 23.9**	**+2.1**
WNT	**Mingjian**	**1.10**	**326**	P	**Pb**	**15 33 07.5**	**+0.3**
WNT				S	**Sb**	**15 33 21.6**	**-0.2**
CHN8	**Yiju**	**1.12**	**291**	P	**Pb**	**15 33 07.1**	**-0.4**
CHN8				S	**Sb**	**15 33 22.4**	**+0.1**
TWK1	**Hengchun**	**1.13**	**207**	*e*P	**Pb**	**15 33 08.1**	**+0.5**
TWK1				S	**Sb**	**15 33 25.7**	**+3.2**
TWD	**Chiawan**	**1.14**	**11**	P	**Pb**	**15 33 07.8**	**0.0**
TWD				S	**Sb**	**15 33 25.9**	**+3.0**
WSF	**Szhu**	**1.24**	**303**	*e*P	**Pb**	**15 33 08.7**	**-0.9**
WSF				S	**Sb**	**15 33 25.1**	**-0.7**
WTCT	**Ta-ch’eng**	**1.34**	**313**	*e*P	**Pb**	**15 33 10.7**	**-0.5**
WTCT				S	**Sb**	**15 33 27.8**	**-0.7**
TCU	**Taichung**	**1.34**	**332**	*e*P	**Pb**	**15 33 11.6**	**+0.4**
TCU				S	**Sb**	**15 33 28.9**	**+0.3**
NNS	**Nan Shan**	**1.48**	**1**	*e*P	**Pn**	**15 33 11.9**	**-1.5**
NNS				S	**Sb**	**15 33 33.9**	**+1.2**
ENA	**Nanau**	**1.51**	**14**	S	**Sb**	**15 33 35.3**	**+1.7**
NSY	**Sanyi**	**1.55**	**340**	*i* P	**Pn**	**15 33 14.8**	**+0.3**
NSY				S	**Sb**	**15 33 34.9**	**+0.1**
WDGT	**Dungji**	**1.59**	**281**	*e*P	**Pn**	**15 33 12.9**	**-2.1**
WDGT				S	**Sb**	**15 33 31.4**	**-4.5**
ENTT	**Nioudou**	**1.69**	**7**	*e*P	**Pn**	**15 33 15.4**	**-1.0**
ENTT				S	**Sb**	**15 33 39.4**	**+0.6**
NSTT	**Nanjuang**	**1.70**	**349**	*e*P	**Pn**	**15 33 16.7**	**+0.2**
NSTT				S	**Sn**	**15 33 40.1**	**+1.0**
TWC	**Suao**	**1.71**	**15**	P	**Pn**	**15 33 16.8**	**+0.1**
TWC				S	**Sn**	**15 33 40.1**	**+0.8**
NSK	**Sanguang**	**1.71**	**0**	*e*P	**Pn**	**15 33 15.2**	**-1.5**
NSK				S	**Sn**	**15 33 38.8**	**-0.6**
PNG	**Penghu**	**1.76**	**291**	*e*P	**Pn**	**15 33 16.0**	**-1.5**
PNG				S	**Sn**	**15 33 35.9**	**-4.8**
TWE	**Neicheng**	**1.78**	**9**	*e*P	**Pn**	**15 33 18.5**	**+0.8**
TWE				S	**Sn**	**15 33 43.0**	**+1.9**
ILA	**Ilan**	**1.84**	**11**	*e*P	**Pn**	**15 33 19.5**	**+0.9**
ILA				S	**Sn**	**15 33 43.2**	**+0.6**
TWA	**Mucha**	**2.03**	**6**	*e*P	**Pn**	**15 33 24.1**	**+2.8**
TWA				S	**Sn**	**15 33 47.5**	**+0.1**
TAP1	**Taipei**	**2.08**	**4**	*e*P	**Pn**	**15 33 22.0**	**0.0**
TAP1				S	**Sn**	**15 33 49.2**	**+0.5**
TWB1	**Santiao Chiao**	**2.12**	**16**	*e*P	**Pn**	**15 33 22.2**	**-0.5**
YOJ	**Yonaguni jima**	**2.13**	**45**	P	**Pn**	**15 33 22.4**	**-0.4**
YOJ				*e*S	**Sn**	**15 33 47.7**	**-2.5**
TWS1	**Kuangyinshan**	**2.14**	**2**	*e*P	**Pn**	**15 33 23.1**	**+0.2**
TWS1				S	**Sn**	**15 33 51.4**	**+1.2**
NWF	**Wu-fen Shan**	**2.14**	**10**	*e*P	**Pn**	**15 33 22.7**	**-0.2**
NWF				S	**Sn**	**15 33 50.6**	**+0.3**
HATJ	**Hateruma jima**	**2.50**	**64**	*e*S	**Sn**	**15 33 55.6**	**-3.9**
IRIF	**Iriomote-Funau**	**2.58**	**57**	P	**Pn**	**15 33 28.5**	**-0.6**
IRIF				*e*S	**Sn**	**15 34 00.3**	**-1.1**
JIJ	**Ishigaki jima**	**2.92**	**61**	P	**Pn**	**15 33 33.1**	**-0.9**
JIJ				*e*S	**Sn**	**15 34 06.9**	**-3.1**
JTJ	**Tarama**	**3.50**	**61**	P	**Pn**	**15 33 40.8**	**-1.4**
JTJ				*e*S	**Sn**	**15 34 22.0**	**-2.7**

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*JMA **29** 15:42:04.4±0.3, 22.69N×121.45E, h47^{km}, M3.1*
*TAP **29** 15:42:05.2, 23.01N×121.23E, h5^{km}, ML3.7*
TAP Felt II J at Chenggung.

ISC 29 15:42:03.5±0.3, 22.92N±0.02×121.39E±0.02, h5^{km}, n56, $\sigma 1^{s}14$/108, 7C-2D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHKT	**Chengkung**	**0.18**	**353**	⇓*i*P	**Pg**	**15 42 08.9**	**+1.7**
CHKT				S	**Sg**	**15 42 12.0**	**+2.2**
TWG	**Pinlang**	**0.31**	**252**	⇑*i*P	**Pg**	**15 42 10.9**	**+1.2**
TWG				S	**Sg**	**15 42 15.4**	**+1.6**
ELDTW	**Lidau**	**0.44**	**309**	⇑*i*P	**Pg**	**15 42 11.3**	**-1.0**
ELDTW				S	**Sg**	**15 42 16.4**	**-1.8**
TWF1	**Yuli**	**0.44**	**349**	*i* P	**Pg**	**15 42 12.2**	**-0.2**
TWF1				S	**Sg**	**15 42 18.8**	**+0.5**
ECL	**Taimali**	**0.51**	**232**	⇓*i*P	**Pg**	**15 42 14.1**	**+0.3**
ECL				S	**Sg**	**15 42 21.6**	**+0.9**
EHY	**Hungye**	**0.59**	**354**	P	**Pg**	**15 42 14.6**	**-0.8**
EHY				S	**Sg**	**15 42 23.8**	**+0.5**
STYT	**Tauyuan**	**0.63**	**293**	⇑*i*P	**Pg**	**15 42 14.9**	**-1.2**
STYT				S	**Sg**	**15 42 22.8**	**-1.8**
TAW	**Tawu**	**0.72**	**220**	*e*P	**Pg**	**15 42 17.8**	**-0.1**
SSD	**Sandimen**	**0.72**	**257**	P	**Pg**	**15 42 17.0**	**-0.9**
SSD				S	**Sg**	**15 42 27.4**	**-0.1**
SGST	**Jiashian**	**0.76**	**283**	⇑*i*P	**Pg**	**15 42 18.0**	**-0.7**
SGST				S	**Sg**	**15 42 29.0**	**+0.1**
WTP	**Ta-pu**	**0.79**	**295**	*i* P	**Pg**	**15 42 18.1**	**-1.2**
WTP				S	**Sg**	**15 42 28.7**	**-1.0**
ALS	**Alishan**	**0.80**	**318**	⇑*i*P	**Pg**	**15 42 18.3**	**-1.2**
ALS				S	**Sg**	**15 42 28.1**	**-2.1**
CHN1	**Nanshi**	**0.84**	**289**	⇑*i*P	**Pb**	**15 42 19.5**	**-0.7**
CHN1				S	**Sg**	**15 42 30.8**	**-0.7**
SGLT	**Jiouru**	**0.85**	**257**	*e*P	**Pb**	**15 42 21.3**	**+0.9**
SGLT				S	**Sg**	**15 42 34.7**	**+2.9**
CHN4	**Tsaushan**	**0.85**	**301**	⇑*i*P	**Pb**	**15 42 19.5**	**-1.0**
CHN4				S	**Sg**	**15 42 30.8**	**-1.1**
SCZT	**Fangliau**	**0.89**	**233**	P	**Pb**	**15 42 20.9**	**-0.2**
ESL	**Shilin**	**0.90**	**3**	P	**Pb**	**15 42 21.8**	**+0.6**
ESL				S	**Sb**	**15 42 35.0**	**+1.8**
TWM1	**Shoushan**	**0.90**	**264**	*i* P	**Pb**	**15 42 22.2**	**+1.0**
TWM1				S	**Sb**	**15 42 32.9**	**-0.4**
TWK	**Hsinying**	**0.90**	**293**	P	**Pb**	**15 42 20.3**	**-0.9**
TWK				S	**Sb**	**15 42 33.6**	**+0.2**
CHN5	**Tsauling**	**0.94**	**316**	*i* P	**Pb**	**15 42 21.2**	**-0.8**
CHN5				S	**Sb**	**15 42 33.2**	**-1.4**
KAU	**Kaohsiung**	**1.06**	**251**	*e*P	**Pb**	**15 42 24.8**	**+0.8**
KAU				S	**Sb**	**15 42 38.7**	**+0.8**
CHY	**Chiayi**	**1.06**	**303**	*e*P	**Pb**	**15 42 24.1**	**+0.1**

CHY				S	Sb	15 42 37.4	-0.6
SMLT	**Sun Moon Lake**	1.06	335	*e*P	Pb	15 42 23.8	-0.3
SMLT				S	Sb	15 42 38.0	-0.2
TAI1	**Yung-k'ang**	1.08	277	*e*P	Pb	15 42 23.8	-0.5
TAI1				S	Sb	15 42 41.0	+2.5
WGK	**Gukeng**	1.08	315	*e*P	Pb	15 42 24.2	-0.1
WGK				S	Sb	15 42 38.8	+0.2
HEN	**Hengchun**	1.09	214	P	Pb	15 42 27.4	+3.0
HEN				S	Sb	15 42 42.8	+4.0
TYC	**Yuchr**	1.10	334	P	Pb	15 42 24.7	0.0
TYC				S	Sb	15 42 39.1	0.0
TWP	**Hsiaoliuchiu**	1.10	239	*e*P	Pb	15 42 28.3	+3.5
TWK1	**Hengchun**	1.11	209	*e*P	Pb	15 42 26.6	+1.8
TWK1				S	Sb	15 42 43.8	+4.4
SCLT	**Jiali**	1.13	283	*e*P	Pb	15 42 24.7	-0.6
SCLT				S	Sb	15 42 42.2	+2.1
WNT	**Mingjian**	1.16	326	P	Pb	15 42 25.5	-0.1
WNT				S	Sb	15 42 40.8	0.0
CHN8	**Yiju**	1.17	292	*e*P	Pb	15 42 25.4	-0.4
CHN8				S	Sb	15 42 42.0	+0.9
TWD	**Chiawan**	1.18	9	P	Pb	15 42 26.4	+0.5
TWD				S	Sb	15 42 43.5	+2.2
WSF	**Szhu**	1.29	304	*e*P	Pb	15 42 27.7	-0.3
WSF				S	Sb	15 42 44.6	-0.1
WTCT	**Ta-ch'eng**	1.39	313	*e*P	Pb	15 42 29.1	-0.6
WTCT				S	Sb	15 42 46.8	-0.8
TCU	**Taichung**	1.39	332	*e*P	Pb	15 42 29.9	+0.3
TCU				S	Sb	15 42 47.5	-0.1
NNS	**Nan Shan**	1.52	359	*e*P	Pn	15 42 32.0	+0.5
NNS				S	Sb	15 42 52.2	+0.9
ENA	**Nanau**	1.54	12	*e*P	Pn	15 42 31.8	0.0
ENA				S	Sb	15 42 53.9	+2.0
NSY	**Sanyi**	1.60	339	*e*P	Pn	15 42 33.4	+0.7
NSY				S	Sb	15 42 54.9	+1.2
WDGT	**Dungji**	1.63	283	*e*P	Pn	15 42 31.4	-1.7
WDGT				S	Sb	15 42 51.6	-2.9
ENTT	**Nioudou**	1.73	5	*e*P	Pn	15 42 32.5	-1.9
ENTT				S	Sn	15 42 58.4	+1.2
TWC	**Suao**	1.74	14	*e*P	Pn	15 42 34.5	-0.1
TWC				S	Sn	15 42 59.1	+1.7
NSTT	**Nanjuang**	1.75	348	*e*P	Pn	15 42 35.3	+0.6
NSTT				S	Sn	15 42 58.5	+0.8
NSK	**Sanguang**	1.75	359	*e*P	Pn	15 42 33.6	-1.2
NSK				S	Sn	15 42 58.4	+0.5
PNG	**Penghu**	1.81	291	*e*P	Pn	15 42 34.6	-1.0
PNG				S	Sn	15 42 55.5	-3.7
TWE	**Neicheng**	1.82	8	*e*P	Pn	15 42 37.3	+1.5
TWE				S	Sn	15 43 00.6	+1.2
TWA	**Mucha**	2.06	5	*e*P	Pn	15 42 43.6	+4.3
YOJ	**Yonaguni jima**	2.14	44	P	Pn	15 42 40.5	+0.1
YOJ				*e*S	Sn	15 43 06.8	-0.9
TWB1	**Santiao Chiao**	2.15	15	*e*P	Pn	15 42 41.9	+1.3
TWB1				S	Sn	15 43 08.7	+0.6
NWF	**Wu-fen Shan**	2.18	9	*e*P	Pn	15 42 41.8	+0.9
NWF				S	Sn	15 43 09.1	+0.5
TWS1	**Kuangyinshan**	2.18	1	*e*P	Pn	15 42 42.3	+1.4
TWS1				S	Sn	15 43 08.9	+0.3
HATJ	**Hateruma jima**	2.49	62	P	Pn	15 42 44.5	-0.9
HATJ				*e*S	Sn	15 43 14.0	-2.6
IRIF	**Iriomote-Funau**	2.57	56	P	Pn	15 42 46.1	-0.5
IRIF				*e*S	Sn	15 43 17.3	-1.3
JKRS	**Kuro-shima**	2.74	61	P	Pn	15 42 48.0	-1.0
JKRS				*e*S	Sn	15 43 21.2	-1.7
JIJ	**Ishigaki jima**	2.91	60	P	Pn	15 42 50.6	-0.8
JIJ				*e*S	Sn	15 43 24.3	-2.9
JTJ	**Tarama**	3.49	60	P	Pn	15 42 58.5	-1.1
JTJ				*e*S	Sn	15 43 39.8	-2.0

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*MOS **29** 15:42:06.7±1.2, 40.81N×29.02E, h10^{km}, mb3.8/6, Error ellipse: s-maj=9.5km s-min=6.3km az=103.9*
*THE **29** 15:42:07.2, 40.86N×29.08E, h5^{km}, ML4.3*
*ISK **29** 15:42:07.8, 40.79N×29.02E, h14^{km}, MD4.0, ML4.0*
*NEIC **29** 15:42:07.7, 40.78N×29.02E, h12^{km}, mb3.8/2, MD4.0(ATH), ML4.0(ISK), After ISK.*
NEIC Felt at Istanbul.
*IDC **29** 15:42:09.2±2.5, 41.00N×29.15E, mb3.6/5, mb1 3.8/6, mb1mx3.6/18, ML4.6/1, Error ellipse: s-maj=36.5km s-min=23.9km az=53.0*
*ATH **29** 15:42:16.3, 40.58N×27.83E, h5^{km}*
*BUC **29** 15:43:14.5±0.7, 45.11N×26.72E, h36^{km}±4^{km}, Error ellipse: s-maj=13.8km s-min=4.2km az=116.0*
ISC 29 15:42:07.8±0.3, **40.79N**±0.02×**29.00E**±0.02, **h14**^{km}±2^{km}, **n119**, σ**0^{s}98**/143, **mb3.7**/6, **4C-8D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BADT	**Buyukada**	0.11	56	*i* PG	Pg	15 42 11.2	+0.1
BADT	**Buyukada**	0.11	56	Pg	Pg	15 42 10.9	-0.2
ISK	**Istanbul-Kandi**	0.28	9	*i* PG	Pg	15 42 14.2	+0.3
ISK				*i* SG	Sg	15 42 17.9	-0.1
YLV	**Yalova**	0.36	128	*i* PG	Pg	15 42 14.7	-0.7
BGKT	**Bogazkoy**	0.43	336	*i* PG	Pg	15 42 17.0	+0.3
BGKT	**Bogazkoy**	0.43	336	Pg	Pg	15 42 17.0	+0.3
BGKT				Sg	Sg	15 42 23.0	+0.4
HRT	**Hereke**	0.51	86	*i* PG	Pg	15 42 17.9	-0.4
CTT	**Catalca**	0.56	310	*i* PG	Pg	15 42 19.5	+0.3
SILT	**Sile**	0.61	53	*i* PG	Pg	15 42 19.7	-0.5
SILT	**Sile**	0.61	53	Pg	Pg	15 42 19.8	-0.4
ULDT	**Uludag**	0.66	171	*i* P	Pb	15 42 21.2	+0.7
ULDT				*i* S	Sb	15 42 28.7	-0.5
KCT	**Karacabey**	0.72	223	*i* PG	Pg	15 42 22.5	+0.2
KCT	**Karacabey**	0.72	223	Pg	Pg	15 42 22.6	+0.3
SLVT	**Silivri**	0.74	307	*i* PG	Pg	15 42 23.2	+0.4
ORLT	**Orhaneli**	0.75	186	*i* PG	Pg	15 42 23.1	+0.2
EYL	**Eskiyayla**	0.91	104	*i* PG	Pg	15 42 25.2	-0.9
EYL	**Eskiyayla**	0.91	104	Pg	Pg	15 42 24.9	-1.2
BNT	**Bandirma**	0.93	243	*i* PG	Pg	15 42 26.3	-0.2
EDC	**Edincik**	0.97	243	*i* PG	Pg	15 42 26.7	-0.7
CRLT	**Corlu**	1.01	290	*i* PG	Pg	15 42 29.1	+0.9
CRLT	**Corlu**	1.01	290	Pg	Pg	15 42 28.8	+0.6
GPA	**Golpazari**	1.12	116	*i* PN	Pn	15 42 29.8	+0.8
GPA	**Golpazari**	1.12	116	Pn	Pn	15 42 29.7	+0.7
TKR	**Tekirdag**	1.13	281	*i* PN	Pn	15 42 30.1	+0.9
TKR	**Tekirdag**	1.13	281	Pn	Pn	15 42 30.1	+0.9
TKR				Sg	Sg	15 42 46.1	+0.5
DST	**Dursunbey**	1.22	194	*e*PN	Pn	15 42 31.1	+0.7
DST	**Dursunbey**	1.22	194	Pn	Pn	15 42 30.9	+0.5
BTOK	**Tokmak**	1.27	216	*i* P	Pb	15 42 31.8	+0.8
BTOK				*i* S	Sb	15 42 50.9	+3.9
MFT	**Murefte**	1.30	270	PN	Pn	15 42 31.5	-0.2
HENT	**Hendek**	1.44	88	*i* P	Pn	15 42 34.0	+0.3
HENT				*i* S	Sb	15 42 52.7	+0.7
MDU	**Mudurnu**	1.72	100	PN	Pn	15 42 38.3	+0.7
MDU	**Mudurnu**	1.72	100	Pn	Pn	15 42 38.4	+0.8
LPK	**Lapseki**	1.76	257	PN	Pn	15 42 38.3	+0.2
LPK	**Lapseki**	1.76	257	Pn	Pn	15 42 38.2	+0.1
ESKT	**Eskisehir**	1.90	131	PN	Pn	15 42 40.7	+0.4
ESKT	**Eskisehir**	1.90	131	*i* P	Pn	15 42 41.0	+0.7
ESKT				*i* S	Sn	15 43 09.2	+5.1
ESKT	**Eskisehir**	1.90	131	Pn	Pn	15 42 41.3	+1.0
ALT	**Altintas**	1.93	153	*e*PN	Pn	15 42 41.1	+0.4
EDRB	**Edirne**	2.00	303	*e*PN	Pn	15 42 41.9	+0.3
EDRB	**Edirne**	2.00	303	Pn	Pn	15 42 42.3	+0.7
AKS	**Akhisar**	2.12	206	*e*PN	Pn	15 42 43.3	0.0
AKS	**Akhisar**	2.12	206	Pn	Pn	15 42 43.0	-0.3
ALN	**Alexandroupoli**	2.24	274	*e*Pn	Pn	15 42 45.0	-0.1
	comp=Z,25nm,0.5s						
ALN				*e*Sn	Sn	15 43 13.4	+0.6
EZN	**Ezine**	2.26	246	*e*PN	Pn	15 42 45.5	+0.1
EZN	**Ezine**	2.26	246	Pn	Pn	15 42 46.3	+0.9
AYVA	**Ayvalik**	2.31	231	*i* P	Pn	15 42 51.2	+5.2
AYVA				*i* S	Sn	15 43 20.8	+6.3
MANT	**Manisa**	2.32	189	*i* P	Pn	15 42 46.0	-0.2
MANT				*i* S	Sn	15 43 19.8	+5.0
SGKT	**Sivrigoynuk**	2.33	94	*i* P	Pn	15 42 47.6	+1.2
SGKT				*i* S	Sn	15 43 23.7	+8.6
JMB	**Yambol**	2.47	314	*i* P	Pn	15 42 48.8	+0.5
KHL	**Karahalli**	2.50	170	Pn	Pn	15 42 48.3	-0.5
PRK	**Paraskevi**	2.60	235	*e*PN	Pn	15 42 50.2	0.0
RDO	**Rodhopi**	2.65	279	*e*PN	Pn	15 42 50.8	-0.1
KDAG	**Bornova**	2.73	210	*i* P	Pn	15 42 58.4	+6.3
KDAG				*i* S	Sn	15 43 35.2	+10
IZM	**Izmir**	2.74	210	*e*PN	Pn	15 42 51.9	-0.3
IZM	**Izmir**	2.74	210	Pn	Pn	15 42 52.3	+0.1
SAFT	**Safranbolu**	2.83	80	Pn	Pn	15 42 53.9	+0.4
KDZ	**Kurdzhali**	2.83	289	*e*P	Pn	15 42 55.0	+1.4
DIM	**Dimitrovgrad**	2.89	297	*i* P	Pn	15 42 53.8	-0.6
KIZT	**Kizilcal**	2.93	130	PN	Pn	15 42 54.8	-0.1
KIZT	**Kizilcal**	2.93	130	Pn	Pn	15 42 54.6	-0.3
PSN	**Preselentsi**	2.95	348	*e*P	Pn	15 42 53.0	-2.2
ANTO	**Ankara**	3.04	106	Pn	Pn	15 42 57.6	+1.1
LIA	**Limnos Island**	3.05	254	*e*PG	Pn	15 42 55.8	-0.8
DNZL	**Cakiroluk**	3.10	179	*i* P	Pb	15 43 03.3	+1.1
DNZL				*i* S	Sg	15 43 52.7	+1.7
LOS	**Limnos**	3.11	255	*e*Pn	Pn	15 42 56.9	-0.6
LOS				*e*Sn	Sn	15 43 36.0	+1.1
ISP	**Isparta**	3.17	158	*e*PN	Pn	15 42 58.9	+0.6
ISP	**Isparta**	3.17	158	P	Pn	15 42 58.1	-0.2
ISP	**Isparta**	3.17	158	*e*P	Pn	15 42 55.5	-2.8
AYDN	**Tasoluk**	3.24	196	*i* P	Pg	15 43 11.1	-1.5
AYDN				*i* S	Sg	15 43 53.3	-2.6
RZN	**Rozhen**	3.35	287	*i* P	Pn	15 43 00.5	-0.4
SZH	**Strazhica**	3.37	318	*i* P	Pn	15 43 00.0	-1.1
ELDT	**Eldivan**	3.38	94	*i* P	Pn	15 43 01.4	0.0
ELDT				*i* S	Sg	15 43 55.6	-4.9
BALT	**Daday**	3.39	76	*i* P	Pn	15 43 01.7	+0.2
BALT				*i* S	Sn	15 43 51.3	+9.4
CANT	**Cankiri**	3.52	92	Pn	Pn	15 43 03.3	0.0
OUR	**Ouranopolis**	3.85	265	*e*Pn	Pn	15 43 06.4	-1.6
	comp=Z,3.0nm,0.5s						
KAMT	**Kaman**	3.88	110	Pn	Pn	15 43 08.1	-0.4
BDRM	**Kayabasi**	3.91	199	*i* P	Pg	15 43 21.8	-4.1
BDRM				*i* S	Sg	15 44 12.0	-6.1
NVR	**Nevrokopi**	3.92	280	*e*PN	Pn	15 43 08.8	-0.2
PGB	**Panagyurishte**	4.02	297	*i* P	Pn	15 43 10.0	-0.5
MMB	**Musomiste**	4.06	283	⇓*i*P	Pn	15 43 10.5	-0.4
SRS	**Serrai**	4.11	276	*e*Pn	Pn	15 43 10.7	-0.9
BUC1	**Bucharest**	4.18	329	⇑P	Pg	15 43 31.7	+0.5
CTKT	**Corum**	4.41	90	*i* P	Pn	15 43 15.6	-0.3
KKB	**Krupnik**	4.58	286	*i* P	Pn	15 43 18.0	-0.4
APE	**Apeiranthos**	4.60	217	P	Pn	15 43 17.8	-0.8
ISR	**Istrita**	4.69	338	⇓*i*P	Pn	15 43 21.0	+1.1
ISR	**Istrita**	4.69	338	⇓*i*P	Pn	15 43 21.1	+1.2
VTS	**Vitosha**	4.69	294	⇓*i*P	Pn	15 43 19.5	-0.5
BRD	**Bordesti**	4.97	344	⇓*i*P	Pn	15 43 26.3	+2.4
MLR	**Muntele Rosu**	5.20	336	Pn	Pn	15 43 28.0	+0.9
	baz=97,slow=8.1						
MLR				Lg		15 44 55.4	
	5.6nm,0.3s,baz=248,slow=15,SNR=3.0						
MLR	**Muntele Rosu**	5.20	336	⇓P	Pn	15 43 28.3	+1.1
MLR	**Muntele Rosu**	5.20	336	⇓*i*P	Pn	15 43 28.3	+1.1
VRI	**Vrincioaia**	5.34	343	⇑*i*P	Pn	15 43 29.4	+0.3
VRI	**Vrincioaia**	5.34	343	⇑*i*P	Pn	15 43 29.4	+0.3
SIM	**Simferopol'**	5.60	40	⇑*e*P	Pn	15 43 33.5	+0.7
SIM				*e*S	Sn	15 44 33.6	-4.1
SIM				MLR	MLR		
	comp=Z,190nm,17.0s						
SKO	**Skopje**	5.81	284	*e*P	Pn	15 43 42.0	+6.3
KIS	**Kishinev**	6.21	359	*e*P	Pn	15 43 43.0	+1.7
KIS				*i* S	Sn	15 44 43.0	-10
KIS				smax			
	comp=N,400nm,1.4s						
KIS				smax			
	comp=E,500nm,1.0s						
KIS				MLR	MLR		
	comp=Z,500nm,9.0s						
ANN	**Anapa**	7.38	54	*e*P	Pn	15 43 54.7	-3.2
ANN				*e*S	Sn	15 45 14.6	-7.6
ANN				pmax	pmax		
	comp=Z,20nm,0.7s						
ANN				smax			
	comp=N,40nm,1.1s						
ANN				smax			
	comp=E,80nm,1.2s						
LVV	**L'vov**	9.68	341	*i* P	P	15 44 30.4	+0.7
LVV				*e*S	Sn	15 46 14.9	-4.3
AKASG	**Malin Array Be**	9.91	1	Pn	P	15 44 28.8	-4.1
	comp=E,5.2nm,0.3s,baz=185,slow=13,SNR=14						
AKASG				Sn	Sn	15 46 13.3	-12
	comp=E,3.6nm,0.3s,baz=187,slow=22,SNR=4.9						
OBN	**Obninsk**	15.19	17	*e*P	P	15 45 40.7	-2.7
OBN				pmax	pmax		
	comp=Z,13nm,1.0s						
VSU	**Vasula**	17.75	356	P	P	15 46 13.7	-2.2
FINES	**FINESS Array B**	20.76	356	P	P	15 46 48.6	-1.9
	comp=Z,1.9nm,0.5s,baz=160,slow=12,SNR=12						
FINES	**FINESS Array B**	20.76	356	P	P	15 46 48.6	-1.9
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
KAF	**Kangasniemi**	21.41	357	*e*p	P	15 46 52.5	-4.7
	comp=Z,2.2nm,0.6s,mb3.7						
KAF	**Kangasniemi**	21.41	357	*e*P	P	15 46 52.5	-4.7
KAF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.6						
HFS	**Hagfors**	21.57	339	P	P	15 46 57.6	-1.2
	comp=Z,1.0nm,0.6s,mb3.4,baz=159,slow=12,SNR=3.3						
HFS	**Hagfors**	21.57	339	P	P	15 46 57.6	-1.2
HFS				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NB2	**NORSAR Subarra**	23.02	338	P	P	15 47 11.9	-1.1
	comp=Z,3.5nm,0.9s,mb3.8,baz=148,slow=11						
NOA	**NORSAR Array B**	23.02	338	P	P	15 47 12.4	-0.6
	comp=Z,0.9nm,0.6s,mb3.4,baz=156,slow=9.8,SNR=5.1						
NOA	**NORSAR Array B**	23.02	338	P	P	15 47 12.4	-0.6
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ARU	**Arti**	24.77	41	*e*P	P	15 47 27.0	-3.0
ARU				*e*		15 48 01.5	
ARU				*e*S	S	15 51 48.2	-0.7
ARU				*e*SS	SS	15 52 38.9	-7.3
SVE	**Sverdlovsk**	25.98	41	⇓*e*P	P	15 47 42.7	+1.3
SVE				pmax	pmax		
	comp=Z,20nm,1.8s,mb4.3						
ARCES	**ARCESS Array B**	28.87	357	P	P	15 48 10.3	+2.7
	comp=Z,1.8nm,0.8s,mb3.9,baz=186,slow=8.2,SNR=4.5						
ARCES	**ARCESS Array B**	28.87	357	P	P	15 48 10.4	+2.8
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MKAR	**Makanchi Array**	38.31	63	P	P	15 49 29.5	0.0
	comp=Z,0.6nm,0.6s,mb3.5,baz=276,slow=7.9,SNR=3.5						
MKAR	**Makanchi Array**	38.31	63	P	P	15 49 29.5	0.0
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	38.31	63	P	P	15 49 29.5	0.0
SSE	**Sheshan**	71.97	64	*e*P	P	15 53 28.8	-4.0
	comp=Z,27nm,0.7s						

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*BER **29** 16:00:04.6±4.1, 77.11N×18.05E, h15^{km}±128^{km}, ML2.3(NAO)*
NAO 29 15:59:59.0±2.3, **76.99N**×**18.59E, ML2.3, Svalbard region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HSP	**Hornsund**	0.69	273	*e*Pg	Pg	16 00 06.9	-5.8
HSP				*e*Sg	Sg	16 00 09.7	-12
SPA0	**Spitsbergen Ar**	1.29	339	Pn	Pn	16 00 23.2	-1.1
	baz=172,slow=18						
SPA0				Lg		16 00 40.3	
	baz=151,slow=28						
ARA0	**ARCESS Array S**	7.74	162	Sn	Sn	16 03 21.4	-3.8
	baz=359,slow=22						

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*BER **29** 16:04:58.8±3.9, 57.37N×17.15E, ML2.6(NAO), Suspected explosion*
*HEL **29** 16:04:59.0±0.1, 57.63N×17.05E, ML2.2, ML3.0(UPP), ML2.6(NAO), Explosion*
*NAO **29** 16:05:00.6±5.0, 57.62N×17.14E, ML2.6*
*IDC **29** 16:05:01.1±2.2, 57.87N×16.80E, mb1 3.2/4, mb1mx3.2/17, ML3.1/3, Error ellipse: s-maj=22.7km s-min=9.4km az=15.0*
ISC 29 16:04:56.4±0.5, **57.74N**±0.04×**17.17E**±0.06, **n28**, σ**1^{s}49**/47, **Baltic Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GOTU	**Gotland**	0.75	94	*i* P	Pg	16 05 14.1	+2.7
OSKU	**Oskarshamn**	0.80	227	*i* P	Pg	16 05 11.0	-1.4
VIKU	**Vikbolandet**	0.80	342	*i* P	Pg	16 05 15.1	+2.7
LNKU	**Linkoeping**	1.01	299	*e*P	Pb	16 05 17.0	+0.5
EKSU	**Eksjoe**	1.02	261	*e*P	Pb	16 05 15.6	-1.0
NYNU	**Nynaeshamn**	1.34	19	*e*P	Pb	16 05 25.7	+3.6
NYNU				*e*S	Sb	16 05 45.2	+5.6
ESKU	**Eskilstuna**	1.55	345	*e*P	Pn	16 05 28.4	+3.1
BLEU	**Blekinge**	1.62	208	*e*P	Pn	16 05 25.7	-0.7
ASKU	**Askersund**	1.69	314	*e*P	Pn	16 05 29.6	+2.2
NRAU	**Nora**	2.14	330	*e*P	Pn	16 05 38.1	+4.2
DEL	**Delary**	2.21	236	*e*P	Pn	16 05 35.1	+0.3
HFS	**Hagfors**	3.00	325	Pn	Pb	16 05 50.5	0.0
	baz=134,slow=16						
HFS				Sn	Sb	16 06 27.9	0.0
	baz=137,slow=37						
HFS	**Hagfors**	3.00	325	*e*PB	Pb	16 05 50.5	0.0
HFS				*e*SB	Sb	16 06 27.9	0.0
HFS	**Hagfors**	3.00	325	Pn	Pn	16 05 45.6	-0.4
	0.1nm,0.3s,baz=142,slow=16,SNR=19						
HFS				Lg		16 06 28.5	
	0.9nm,0.3s,baz=137,slow=28,SNR=13						
NOA	**NORSAR Array B**	4.49	320	Pn	Pn	16 06 06.9	-0.4
	0.6nm,0.3s,baz=148,slow=12,SNR=3.6						
NOA				Lg		16 07 15.3	
	1.7nm,0.3s,baz=122,slow=14,SNR=5.3						
VSU	**Vasula**	5.12	78	*e*P	Pn	16 06 17.9	+1.7
VSU				*e*S	Sn	16 07 16.8	-0.2
VSU				*e*SG	Sg	16 07 38.7	-8.3
PVF	**Pernaja**	5.28	54	*e*P	Pn	16 06 20.6	+2.1
PVF				*e*S	Sn	16 07 20.4	-0.5
PVF				*e*SG	Sg	16 07 44.0	-8.2
FIA0	**FINESS Array S**	5.85	47	Pn	Pn	16 06 29.1	+2.7
	baz=222,slow=12						
FIA0				Sn	Sn	16 07 36.9	+1.8
	baz=232,slow=22						
FIA0				Lg		16 08 07.5	
	baz=234,slow=28						
FIA0	**FINESS Array S**	5.85	47	*e*P	Pn	16 06 28.2	+1.8
FIA0				*e*S	Sn	16 07 34.2	-0.9
FIA0				*e*SG	Sg	16 08 01.4	-10
FINES	**FINESS Array B**	5.85	47	Pn	Pn	16 06 29.2	+2.8
	0.7nm,0.3s,baz=235,slow=11,SNR=22						
FINES				Sn	Sn	16 07 38.0	+2.9
	0.6nm,0.3s,baz=239,slow=22,SNR=7.8						
FINES				Lg		16 08 03.2	
	0.8nm,0.3s,baz=234,slow=25,SNR=6.3						
KEF	**Keuruu**	5.88	38	*e*S	Sn	16 07 36.2	+0.1
VJF	**Virojoki**	6.03	58	*e*P	Pn	16 06 30.4	+1.4
VJF				*e*S	Sn	16 07 37.5	-2.3
VJF				*e*SG	Sg	16 08 07.9	-9.3
KAF	**Kangasniemi**	6.34	42	*e*P	Pn	16 06 35.4	+1.9
KAF				*e*S	Sn	16 07 46.7	-0.9
KAF				*e*SG	Sg	16 08 18.9	-8.7
KAF				MSG		16 08 24.3	
	comp=Z,1.4nm,0.3s						
SUF	**Sumiainen**	6.70	38	*e*P	Pn	16 06 38.8	+0.4
SUF				*e*S	Sn	16 07 55.6	-0.8
SUF				*e*SG	Sg	16 08 26.6	-13
SUF				MSG		16 08 32.5	
	comp=Z,1.1nm,0.2s						
KJN	**Kajaani**	8.16	34	*e*P	P	16 06 57.8	-1.1
KJN				*e*S	Sn	16 08 29.2	-3.9
KJN				*e*SG	Sg	16 09 12.6	-16
KJN				MSG		16 09 15.5	
	comp=Z,1.3nm,0.3s						
ARA0	**ARCESS Array S**	12.38	14	Pn	P	16 07 54.2	-2.5
	baz=199,slow=14						
ARA0	**ARCESS Array S**	12.38	14	*e*P	P	16 07 54.2	-2.5
ARCES	**ARCESS Array B**	12.38	14	Pn	P	16 07 54.1	-2.5
	comp=Z,0.2nm,0.3s,baz=195,slow=13,SNR=11						

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*NEIC **29** 16:27:34.9±2.1, 4.63S×153.17E, h80^{km}±14^{km}, mb4.5/9, Error ellipse: s-maj=28.1km s-min=13.1km az=103.0*
*IDC **29** 16:27:38.4±7.7, 4.85S×153.13E, h108^{km}±55^{km}, mb3.9/6, mb1 4.0/7, mb1mx3.9/13, MS3.6/2, Ms1 3.6/2, ms1mx2.9/18, Error ellipse: s-maj=62.0km s-min=28.4km az=87.0*
ISC 29 16:27:34.0±2.2, **4.71S**±0.09×**153.2E**±0.2, **h79**^{km}±15^{km}, **n26**, σ**1^{s}11**/25, **mb4.3**/14, **2C, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAB	**Rabaul**	1.11	297	*e*P	P	16 27 54.3	-0.4
PMG	**Port Moresby**	7.56	232	P	P	16 29 24.7	+1.1
	0.9nm,0.3s,baz=40,slow=16,SNR=5.2						
PMG				S	S	16 30 48.2	-0.2
	3.0nm,0.3s,baz=155,slow=19,SNR=4.1						
CTA	**Charters Tower**	16.70	203	LR	LR	16 37 14.9	
	comp=Z,68nm,18.0s,baz=42,slow=35						
KAKA	**Kakadu**	21.98	247	*e*P	P	16 32 26.2	+3.4
	11nm,0.4s,mb4.5						
WRAB	**Tennant Creek**	23.76	229	*e*P	P	16 32 40.5	+0.4
	10nm,0.6s,mb4.3						
WB2	**Warramunga Arr**	23.76	229	⇑*i*P	P	16 32 40.6	+0.5
WRA	**Warramunga Arr**	23.77	229	P	P	16 32 40.7	+0.5
	4.4nm,0.4s,mb4.1,baz=53,slow=9.8,SNR=102						
ASAR	**Alice Springs**	26.46	223	P	P	16 33 04.9	-0.8
	4.1nm,1.0s,mb3.8,baz=57,slow=9.0,SNR=10						
ASPA	**Alice Springs**	26.46	223	*e*P	P	16 33 07.5	+1.8
STKA	**Stephens Creek**	29.12	201	P	P	16 33 27.4	-2.3
	3.5nm,1.1s,mb3.9,baz=16,slow=15,SNR=3.2						
FITZ	**Fitzroy Crossi**	30.01	241	⇑*i*P	P	16 33 35.8	-1.9
	4.9nm,0.8s,mb4.2						
FITZ	**Fitzroy Crossi**	30.01	241	P	P	16 33 36.0	-1.7
	5.5nm,0.7s,mb4.3,baz=128,slow=4.8,SNR=10						
MBWA	**Marble Bar**	36.32	240	*e*P	P	16 34 30.6	-1.5
	24nm,1.3s,mb5.0						
JOW	**Kunigami**	39.53	324	LR	LR	16 48 32.8	
	comp=Z,220nm,19.6s,baz=246,slow=32						
CMAR	**Chiang Mai Arr**	58.16	295	P	P	16 37 22.1	-0.2
	1.4nm,0.7s,mb4.1,baz=109,slow=5.5,SNR=13						
MKAR	**Makanchi Array**	80.49	319	P	P	16 39 38.8	-0.2
	1.7nm,0.7s,mb4.0,baz=93,slow=8.6,SNR=9.4						
TKM2	**Tokmak 2**	84.12	314	P	P	16 39 58.3	+0.6
	SNR=5.8						
KZA	**Kyzart**	84.20	313	P	P	16 39 59.7	+1.5
	SNR=6.2						
CHMS	**Chumysh**	84.75	314	P	P	16 40 00.6	-0.2
	SNR=5.4						
AAK	**Ala-Archa**	84.86	313	P	P	16 40 02.6	+1.1
	SNR=5.8						
AAK	**Ala-Archa**	84.86	313	*e*P	P	16 40 00.8	-0.7
	4.9nm,0.8s,mb4.5						
QSPA	**South Pole Qui**	85.25	180	*e*P	P	16 40 03.3	+0.7
	0.9nm,0.5s,mb4.0						
AML	**Almayashu**	85.35	313	P	P	16 40 05.3	+1.4
	SNR=13						
BRVK	**Borovoye**	89.45	323	*e*P	P	16 40 22.3	-1.0
	3.8nm,0.8s,mb4.5						
ZRNK	**Zerenda**	90.20	323	*e*P	P	16 40 25.2	-1.6
	2.0nm,0.7s,mb4.4						
TUC	**Tucson**	97.61	58	*e*P	P	16 41 01.3	0.0
	1.1nm,0.7s,mb4.5						

IDC 29 16:42:01.3±4.7, **5.80S**×**102.43E, mb3.3**/3, **mb1 3.5**/3, **mb1mx3.4**/14, **Error ellipse: s-maj=222.0km s-min=29.1km az=50.0, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	34.05	117	P	P	16 48 48.0	-1.6
	0.2nm,0.4s,baz=287,slow=10,SNR=5.9						
ASAR	**Alice Springs**	35.11	124	P	P	16 48 56.0	-2.6
	0.1nm,0.6s,baz=305,slow=8.0,SNR=4.3						
MKAR	**Makanchi Array**	55.33	343	P	P	16 51 36.7	-2.5
	0.4nm,0.6s,baz=149,slow=6.4,SNR=4.7						
TXAR	**Lajitas Array**	146.01	43	PKPbc	PKPbc	17 01 43.2	-0.7
	0.6nm,0.5s,baz=229,slow=1.4,SNR=6.1						

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*IDC **29** 16:51:25.3±1.3, 9.47S×78.97W, mb4.1/3, mb1 4.5/3, mb1mx4.2/11, MS3.5/2, Ms1 3.4/2, ms1mx3.2/15, Error ellipse: s-maj=57.9km s-min=43.8km az=70.0*
*NEIC **29** 16:51:35.2±1.4, 9.35S×79.04W, h69^{km}±12^{km}, mb4.4/4, Error ellipse: s-maj=25.0km s-min=7.9km az=76.0*
ISC 29 16:51:34.0±2.1, **9.24S**±0.09×**78.9W**±0.2, **h65**^{km}±19^{km}, **n24**, σ**1^{s}13**/12, **mb4.1**/5, **2C-2D, Near coast of northern Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NNA	**Nana**	3.38	144	*e*P	P	16 52 24.9	-0.8
OTAV	**Otavalo**	9.42	3	*e*P	P	16 53 50.9	+1.5
	10.0nm,0.6s						
ROSC	**El Rosal**	14.72	18	LR	LR	17 01 38.3	
	comp=Z,137nm,19.4s,baz=251,slow=41						
SAML	**Samuel**	15.50	90	*e*P	P	16 55 07.4	-2.8
	27nm,0.9s						
LVC	**Limon Verde**	16.38	145	P	P	16 55 22.2	+1.1
SDV	**Santo Domingo**	19.79	25	*e*P	P	16 56 01.9	+0.1
	4.9nm,0.8s						
BDFB	**Brasilia**	30.78	105	LR	LR	17 10 44.8	
	comp=Z,108nm,20.6s,baz=294,slow=38						
TXAR	**Lajitas Array**	45.18	329	P	P	16 59 46.1	-0.4
	1.2nm,0.8s,mb3.7,baz=146,slow=9.0,SNR=9.8						
TXAR				PcP	PcP	17 01 25.3	-0.9

	0.4nm,0.5s,baz=166,slow=7.3,SNR=4.0						
DUG	Dugway	58.34	330	*e*P	P	17 01 23.9	-1.0
	3.6nm,1.0s,mb4.4						
VNA2	Neumayer--Watz	75.30	161	⇑*i*	P	17 03 13.2	+1.7
VNA2	Neumayer--Watz	75.30	161	⇑*i*	pP	17 03 30.0	+0.6
YKA	Yellowknife Ar	76.65	344	P	P	17 03 17.9	-1.4
	1.9nm,0.6s,mb4.0,baz=136,slow=6.5,SNR=4.3						
SNAA	Sanae	76.90	162	⇓*i*	P	17 03 20.0	-0.6
SNAA	Sanae	76.90	162	⇓*i*	pP	17 03 37.1	-1.4
QSPA	South Pole Qui	80.88	180	*e*P	P	17 03 42.2	+0.1
	6.0nm,1.1s,mb4.3						
ESDC	Sonseca Array	84.44	48	P	P	17 04 02.1	+1.1
	1.3nm,0.6s,mb3.9,baz=259,slow=6.5,SNR=5.7						
STKA	Stephens Creek	123.72	222	PKP	PKPdf	17 10 24.8	-0.3
	0.9nm,0.7s,baz=153,slow=6.8,SNR=3.9						
STKA	Stephens Creek	123.72	222	PKP	PKPdf	17 10 24.8	-0.3
ASAR	Alice Springs	134.22	224	PKP	PKPdf	17 10 45.2	-0.1
	1.1nm,0.8s,baz=121,slow=2.1,SNR=17						
WRAB	Tennant Creek	136.29	228	*e*P	PKPdf	17 10 49.5	+0.3
WRA	Warramunga Arr	136.30	228	PKP	PKPdf	17 10 49.4	+0.2
	1.6nm,0.4s,baz=124,slow=2.0,SNR=21						
MKAR	Makanchi Array	139.28	20	PKP	PKPdf	17 10 54.5	+0.5
	0.5nm,0.5s,baz=312,slow=2.3,SNR=8.6						
BJI	Beijing	146.52	339	P	PKPdf	17 11 07.9	+1.1
CMAR	Chiang Mai Arr	170.59	13	PKPab	PKPab	17 12 52.9	-2.0
	1.9nm,0.9s,baz=337,slow=6.4,SNR=11						

CASC 29 17:03:21.0±2.5**, 10.78N**×**85.84W, h30**^{km}±7^{km}**, MD3.6, 8C-5D, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CRZC	La Cruz	0.30	54	⇓*i*P	Pb	17 03 29.7	+1.3
VCR	Vista de Mar	0.68	162	*e*P	Pb	17 03 33.8	-0.5
CONN	Concepcion	0.81	15	⇓*e*P	Pn	17 03 36.1	-0.3
APON	Apoyo	1.15	349	⇓*e*P	Pn	17 03 41.6	+0.2
APON				*e*S	Sn	17 03 58.8	+2.6
JCR	Jicaral	1.17	142	*e*P	Pn	17 03 40.6	-0.9
JCR				*e*S	Sn	17 03 59.4	+2.8
TICN	Ticuantepe	1.30	343	⇓*e*P	Pn	17 03 44.0	+0.5
TICN				*e*S	Sn	17 04 00.1	+0.1
MGAN	Managua	1.42	344	*e*P	Pn	17 03 45.1	0.0
MGAN				*e*S	Sn	17 04 03.0	+0.1
XAVN	Gruta Xavier	1.44	341	*e*P	Pn	17 03 45.7	+0.2
XAVN				*e*S	Sn	17 04 01.9	-1.6
APYN	Apoyeque	1.53	341	*e*P	Pn	17 03 46.7	0.0
APYN				*e*S	Sn	17 04 06.1	+0.4
CGA2	Cerro Gallo 2	1.55	119	*e*P	Pn	17 03 45.9	-1.1
CGA2				*e*S	Sn	17 04 06.6	+0.3
COPN	Copaltepe	1.58	332	*e*P	Pn	17 03 47.1	-0.2
COPN				*e*S	Sn	17 04 05.4	-1.5
VPS2	Volcan Poas 2	1.68	110	*e*P	Pn	17 03 48.4	-0.5
PRS1	Puriscal	1.70	118	⇑*e*P	Pn	17 03 48.2	-0.9
PRS1				*e*S	Sn	17 04 12.9	+2.8
MOMJ	Momotombo	1.76	337	⇑*e*P	Pn	17 03 49.9	-0.1
MOMJ				*e*S	Sn	17 04 11.4	-0.2
PYTN	Playitas	1.76	353	⇑*i*P	Pn	17 03 49.6	-0.5
PYTN				*e*S	Sn	17 04 11.7	0.0
MIRN	Miramar	1.86	333	⇑*e*P	Pn	17 03 51.4	0.0
MIRN				*e*S	Sn	17 04 13.7	-0.4
CNGN	Cerro Negro	1.91	334	⇑*e*P	Pn	17 03 51.8	-0.3
CNGN				*e*S	Sn	17 04 17.1	+1.8
LAJ	Bijagual	1.92	118	*e*P	Pn	17 03 48.0	-4.3
LEON	Leon	1.93	328	⇓*e*P	Pn	17 03 52.5	+0.1
LEON				*e*S	Sn	17 04 16.1	+0.2
TEL3	Telica 3	2.04	331	⇑*e*P	Pn	17 03 54.1	+0.2
TEL3				*e*S	Sn	17 04 16.5	-2.2
LCR2	La Lucha 2	2.08	119	*e*P	Pn	17 03 53.6	-1.0
LCR2				*e*S	Sn	17 04 24.2	+4.4
TRTC	Tortuguero	2.10	95	⇑*e*P	Pn	17 03 52.4	-2.5
ICR	Volcan Irazu	2.13	112	*e*P	Pn	17 03 54.4	-1.0
URSC	Urasca	2.24	115	⇑*e*P	Pn	17 03 56.0	-0.8
BUS	Buena Vista	2.38	120	*e*P	Pn	17 03 58.2	-0.8

IDC ***29*** *17:08:46.2±19.0, 5.69S×153.89E, h278^{km}±186^{km}, mb3.1/4, mb1 3.2/5, mb1mx3.1/12, Error ellipse: s-maj=89.2km s-min=68.2km az=78.0*

NEIC ***29*** *17:08:46.4±8.0, 5.75S×154.05E, h287^{km}±70^{km}, mb3.8/3, Error ellipse: s-maj=48.1km s-min=26.6km az=55.0*

ISC 29 17:08:41.3±1.8**, 5.7S**±0.2×**154.1E**±0.3**, h250**^{km}**, n9, σ0^{s}51**/9**, mb3.6**/7**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	16.19	207	P	P	17 12 16.6	-0.3
	0.2nm,0.3s,baz=28,slow=15,SNR=2.6						
WRAB	Tennant Creek	23.83	232	*e*P	P	17 13 34.0	+0.6
	2.2nm,0.5s,mb4.0						
WB2	Warramunga Arr	23.84	232	*e*P	P	17 13 34.1	+0.6
WRA	Warramunga Arr	23.85	232	P	P	17 13 34.1	+0.5
	1.8nm,0.8s,mb3.8,baz=57,slow=9.7,SNR=14						
ASAR	Alice Springs	26.38	225	P	P	17 13 56.1	-0.7
	0.4nm,0.5s,mb3.3,baz=56,slow=9.2,SNR=18						
STKA	Stephens Creek	28.54	203	P	P	17 14 16.1	0.0
	1.0nm,0.8s,mb3.5,baz=29,slow=13,SNR=2.5						
FITZ	Fitzroy Crossi	30.38	244	*e*P	P	17 14 31.6	-0.8
	2.8nm,1.0s,mb3.9						
MKAR	Makanchi Array	81.85	319	P	P	17 20 33.9	0.0
	0.2nm,0.4s,mb3.1,baz=89,slow=9.0,SNR=5.8						
QSPA	South Pole Qui	84.25	180	P	P	17 20 45.5	+0.1
	1.0nm,0.6s,mb3.7						

BJI ***29*** *17:10:02.2, 35.94N×120.48W, h14^{km}, mB5.4, mb4.9, Ms4.9, Msz4.6*

IDC ***29*** *17:10:04.9±0.9, 36.05N×120.26W, mb4.6/15, mb1 4.7/18, mb1mx4.7/22, ML4.2/3, MS4.6/18, Ms1 4.6/18, ms1mx4.6/19, Error ellipse: s-maj=24.7km s-min=15.2km az=52.0, PUTATIVE TIMING ERROR AT ZAL*

NEIC ***29*** *17:10:04.0, 35.95N×120.50W, h12^{km}, mb5.0/55, MS4.9/8, MW5.1(BRK), After NCEDC.*

NEIC Felt [IV] at Atascadero, Bradley, Coalinga, King City, Paso Robles, San Miguel and Templeton. Felt in central California from Oakland and San Francisco south as far as Santa Barbara and Ventura.

SYO ***29*** *17:10:04.0, 35.95N×120.50W, h12^{km}, MB5.0, MS4.9*

HRVD ***29*** *17:10:04.0±0.2, 36.00N×120.54W, h12^{km}, MW5.1/71, Centroid moment Tensor Solution. LP body waves: s37,c52;Mantle waves: s71,c124; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.35±.14; $M_{\theta\theta}$-4.75±.13; $M_{\phi\phi}$5.10±.11; $M_{r\theta}$0.00±.35; $M_{\theta\phi}$1.11±.12; $M_{\phi r}$-0.01±.34; Best double couple: $M_0$5.05×10^{16} NP1: ϕ_s231°, δ90°, λ0°. NP2: ϕ_s141°, δ90°, λ180°. Principal axes: T 5.22, Plg0°, Azm96°; N -.35, Plg90°, Azm295°; P -4.87, Plg0°, Azm186°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

MOS ***29*** *17:10:06.2±1.1, 36.35N×120.77W, h10^{km}, mb5.2/16, MS4.8/20 Error ellipse: s-maj=21.9km s-min=10.2km az=83.8*

ISC 29 17:10:04.8±0.3**, 36.10N**±0.04×**120.50W**±0.03**, h12**^{km}**, (h14**^{km}±1.2^{km}**:pP-P), n221, σ1^{s}18**/202**, mb4.9**/69**, MS4.7**/35**, 8C-10D, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LRV	Little Rabbit	0.53	308	⇑*e*P	Pb	17 10 16.5	+0.8
SAO	San Andreas Ge	1.02	311	⇑*e*P	Pb	17 10 23.8	-0.2
CMB	Columbia Colle	1.94	3	⇓*e*Pn	Pn	17 10 38.5	+0.5
OMM	Old Mammoth Mi	1.94	38	*e*Pn	Pn	17 10 39.1	+1.1
MTUM	Tungsten Hills	2.00	50	*e*Pn	Pn	17 10 39.9	+1.0
LKC	Lake Chabot	2.06	323	*e*Pn	Pn	17 10 39.6	-0.3
SAC	San Andreas	2.14	314	*e*Pn	Pn	17 10 39.0	-1.9
DAC	Darwin (Calif)	2.35	85	*e*Pn	Pn	17 10 42.9	-1.2
NSHM	Saint Helena R	2.95	326	*e*Pn	Pn	17 10 51.4	-1.1
MNV	Mina	2.99	38	*e*Pn	Pn	17 10 54.0	+0.9
TPH	Tonopah	3.28	52	*e*Pn	Pn	17 10 57.1	0.0
OHCM	Honcut	3.33	347	*e*Pn	Pn	17 10 57.8	0.0
TPNV	Topopah Spring	3.52	75	*e*Pn	Pn	17 10 60.0	-0.7
HOPS	Hopland	3.54	325	*e*Pn	Pn	17 10 58.5	-2.4
PFO	Pinyon Flat Ob	4.15	126	*e*Pn	Pn	17 11 05.1	-4.5
WDC	Whiskeytown Da	4.76	341	*e*Pn	Pn	17 11 16.7	-1.4
KHMM	Horse Mountain	5.40	333	*e*Pn	Pn	17 11 27.0	-0.3
MOD	Modoc	5.80	1	*e*Pn	Pn	17 11 33.4	+0.5
YBH	Yreka Blue Hor	5.89	344	Pn	Pn	17 11 35.8	+1.7
	1.7nm,0.3s,baz=153,slow=5.1,SNR=58						
YBH				Lg		17 13 07.6	
	1.6nm,0.3s,baz=246,slow=4.5,SNR=4.0						
YBH	Yreka Blue Hor	5.89	344	*e*Pn	Pn	17 11 34.3	+0.2
ARUT	Antelope Range	5.90	71	*e*Pn	Pn	17 11 33.9	-0.4
KRMB	Red Mountain	6.04	335	*e*Pn	Pn	17 11 36.3	+0.1
ELK	Elko	6.21	40	*e*Pn	Pn	17 11 38.7	0.0
KBO	Bosley Butte	6.76	336	*e*Pn	Pn	17 11 44.6	-1.8
HUMO	Hull Mountain	6.78	344	*e*Pn	Pn	17 11 46.5	-0.1
MVU	Marysvale	7.03	68	Pn	Pn	17 11 48.6	-1.6
MSU	Marysvale	7.05	68	*e*Pn	Pn	17 11 48.3	-2.3
DUG	Dugway	7.31	54	Pn	Pn	17 11 53.0	-1.1
KEBM	Edson Butte	7.39	338	Pn	Pn	17 11 54.6	-0.6
BGU	Big Grassy Mou	7.58	48	*e*Pn	Pn	17 11 57.6	-0.3
NLU	North Lily Min	7.68	57	Pn	Pn	17 12 00.8	+1.4
MPU	Maple Canyon	8.01	58	Pn	P	17 12 04.0	0.0
SPUT	South Promonto	8.16	48	*e*Pn	P	17 12 02.2	-3.9
CTU	Camp Tracy	8.26	54	Pn	P	17 12 06.0	-1.4
HVU	Hansel Valley	8.27	44	*e*Pn	P	17 12 08.4	+0.9
JLU	Jordanelle	8.41	55	*e*Pn	P	17 12 11.1	+1.6
DAU	Daniels Canyon	8.45	57	*e*Pn	P	17 12 11.8	+1.8
SRU	San Rafael	8.47	66	*e*Pn	P	17 12 11.7	+1.4
TCUT	Toone Canyon	8.70	52	*e*Pn	P	17 12 14.2	+0.7
COR	Corvallis	8.74	347	*e*Pn	P	17 12 14.7	+0.6
HLID	Hailey	8.80	30	*e*Pn	P	17 12 12.7	-2.2
HWUT	Hardware Ranch	8.88	49	*e*Pn	P	17 12 18.1	+2.1
SSOR	Sweet Springs	8.88	351	Pn	P	17 12 16.9	+0.9
VGB	Gordon Butte	9.41	359	Pn	P	17 12 22.8	-0.6
LNOR	Lincton Mounta	9.91	9	*e*Pn	P	17 12 31.3	+1.1
HAWA	Hanford	10.31	4	Pn	P	17 12 37.0	+1.3
REDW	Red Top Meadow	10.38	43	Pn	P	17 12 36.3	-0.3
TPAW	Teton Pass	10.41	42	Pn	P	17 12 35.5	-1.5
LOHW	Long Hollow	10.68	42	*e*Pn	P	17 12 41.2	+0.5
MOOW	Moose Ponds	10.69	41	*e*Pn	P	17 12 39.9	-1.1
YFT	Old Faithful	11.13	39	Pn	P	17 12 49.0	+2.0
YMR	Madison River	11.22	37	Pn	P	17 12 47.7	-0.5
ANMO	Albuquerque	11.50	92	⇓*e*P	P	17 12 57.2	+5.3
GNW	Green Mountain	11.59	352	*e*Pn	P	17 12 50.8	-2.3
BOZ	Bozeman (W)	11.66	32	Pn	P	17 12 52.6	-1.5
MSO	Missoula	11.79	23	*e*Pn	P	17 12 52.5	-3.4
OCWA	Octopus Mounta	11.96	348	Pn	P	17 12 56.7	-1.5
ISCO	Idaho Springs	12.32	68	Pn	P	17 13 01.9	-1.0
NEW	Newport	12.41	11	*e*Pn	P	17 13 05.1	+0.9
RSSD	Black Hills	14.91	52	Pn	P	17 13 37.3	+0.1
	30nm,1.2s						
LAO	LASA Array	15.03	41	Pn	P	17 13 37.0	-1.7
	71nm,1.2s						
TXAR	Lajitas Array	15.68	111	Pn	P	17 13 48.0	+0.7
	0.3nm,0.3s,baz=282,slow=12,SNR=34						
TXAR				LR	LR	17 20 14.8	
	comp=Z,2µm,18.3s,baz=315,slow=39						
BBB	Bella Bella	16.97	344	Pn	P	17 14 10.9	+7.3
	0.3nm,0.3s,baz=117,slow=18,SNR=3.9						
BBB				LR	LR	17 21 24.8	
	comp=Z,2µm,18.2s,baz=165,slow=40						
DGMT	Dagmar	17.23	39	*e*Pn	P	17 14 08.1	+1.3
	171nm,1.4s						
WMOK	Wichita Mounta	17.75	88	*e*Pn	P	17 14 12.2	-1.3
	44nm,1.5s						
JCT	Junction City	18.18	102	*e*Pn	P	17 14 17.2	-1.6
	34nm,1.1s						
KSU1	Kansas State U	19.15	74	*e*P	P	17 14 28.8	-1.8
NATX	Nacogdoches	21.84	94	*e*P	P	17 14 57.1	-2.1
FFC	Flin Flon	22.59	29	*e*P	P	17 15 04.3	-2.0
	25nm,0.8s,mb4.7						
ULM	Lac du Bonnet	22.72	44	P	P	17 15 08.1	+0.5
	48nm,0.7s,mb5.1,baz=237,slow=9.2,SNR=38						
ULM				LR	LR	17 23 15.9	
	comp=Z,807nm,21.1s,MS4.1,baz=52,slow=35						
UALR	University of	22.95	85	*e*P	P	17 15 09.3	-0.7
	11nm,0.8s,mb4.3						
DLBC	Dease Lake	23.22	347	P	P	17 15 15.5	+3.0
	23nm,0.9s,mb4.6,baz=172,slow=9.9,SNR=21						
DLBC				LR	LR	17 25 24.6	
	comp=Z,2µm,20.3s,MS4.6,baz=158,slow=40						
DLBC	Dease Lake	23.22	347	*e*P	P	17 15 14.2	+1.7
CCM	Cathedral Cave	23.38	76	*e*P	P	17 15 12.4	-1.8
	20nm,0.8s,mb4.6						
HBAR	Harrisburg	24.16	82	P	P	17 15 22.3	+0.5
OXF	Oxford	25.37	84	*e*P	P	17 15 30.3	-3.1
	148nm,1.3s,mb5.4						
WVT	Waverly	26.33	80	*e*P	P	17 15 40.0	-2.3
	7.5nm,0.6s,mb4.4						
YKA	Yellowknife Ar	26.68	6	P	P	17 15 46.2	+1.0
	1.9nm,0.6s,baz=211,slow=8.0,SNR=3.6						
YKA				LR	LR	17 28 15.7	
	comp=Z,2µm,19.2s,baz=205,slow=41						
YKA	Yellowknife Ar	26.68	6	P	P	17 15 46.2	+0.9
YKA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
YKA				MLR	MLR		
	comp=Z,2µm,19.2s						
YKA	Yellowknife Ar	26.68	6	P	P	17 15 46.2	+1.0
YKA				LR	LR	17 28 15.7	
ACSO	Alum Creek Sta	29.64	71	*e*P	P	17 16 09.9	-2.4
	comp=Z,30nm,0.9s,mb5.0						
PMR	Palmer	31.23	334	*e*P	P	17 16 24.9	-1.3
	comp=Z,39nm,1.1s,mb5.2						
SPU	Mount Spurr	32.06	331	P	P	17 16 33.9	+0.4
SADO	Sadowa	32.36	62	P	P	17 16 34.4	-1.8
	comp=Z,6.4nm,0.7s,mb4.6,baz=285,slow=6.4,SNR=4.8						
SADO	Sadowa	32.36	62	P	P	17 16 34.4	-1.8
INK	Inuvik	33.08	351	P	P	17 16 43.3	+1.0
	comp=Z,31nm,1.0s,mb5.2,baz=161,slow=10,SNR=18						
INK	Inuvik	33.08	351	P	P	17 16 43.3	+1.0
INK				pmax	pmax		
	comp=Z,31nm,1.0s						
INK	Inuvik	33.08	351	*e*P	P	17 16 42.5	+0.2
	comp=Z,41nm,1.0s,mb5.3						
COLA	College	33.12	339	*e*P	P	17 16 43.7	+1.1
IMA	Indian Mountai	35.70	338	*e*P	P	17 17 01.3	-3.5
	comp=Z,1.1nm,0.8s						
RES	Resolute Bay	40.57	10	*e*P	P	17 17 44.9	-0.6
	comp=Z,21nm,0.8s,mb4.8						
SCHQ	Schefferville	40.88	45	P	P	17 17 46.8	-1.4
	comp=Z,11nm,0.8s,mb4.5,baz=288,slow=8.6,SNR=6.1						
SCHQ				LR	LR	17 34 51.9	
	comp=Z,913nm,18.0s,MS4.7,baz=298,slow=36						
ROSC	El Rosal	52.54	115	LR	LR	17 44 21.6	
	comp=Z,664nm,18.7s,MS4.7,baz=333,slow=39						
SUMG	Summit	53.62	22	*e*P	P	17 19 27.6	-0.2
	comp=Z,41nm,1.0s,mb5.3						
PET	Petropavlovsk	56.96	315	*e*P	P	17 20 02.4	+10
PET				*e*S	S	17 27 48.8	+4.5
DAG	Danmarks Havn	57.83	15	*i* P	P	17 19 57.0	-1.1
DAG	Danmarks Havn	57.83	15	*e*P	P	17 19 57.0	-1.1
BORG	Borgarnes	61.67	29	LR	LR	17 46 52.8	
	comp=Z,708nm,19.3s,MS4.8,baz=290,slow=36						
TIXI	Tiksi	62.23	340	⇓*e*P	P	17 20 26.7	-1.6
TIXI				pmax	pmax		
	comp=Z,24nm,1.0s,mb5.3						
TIXI				MLR	MLR		
	comp=Z,400nm,20.0s,MS4.6						
JMIC	Jan Mayen	62.95	20	LR	LR	17 49 00.6	
	comp=Z,541nm,19.2s,MS4.7,baz=292,slow=37						
YAK	Yakutsk	67.18	331	⇓*e*P	P	17 21 00.1	-0.4
YAK				pmax	pmax		
	comp=Z,19nm,1.0s,mb5.1						
YAK				MLR	MLR		
	comp=Z,200nm,13.0s,MS4.5						
YAK	Yakutsk	67.18	331	*e*P	P	17 20 58.9	-1.6
	comp=Z,10nm,0.9s,mb4.9						
YSS	Yuzh-Sakhalins	68.77	313	*e*P	P	17 21 14.2	+3.6
ARCES	ARCESS Array B	71.77	12	P	P	17 21 28.6	+0.1
	comp=Z,1.3nm,0.7s,mb3.9,slow=3.6,SNR=6.2						
ARCES				LR	LR	17 54 40.7	
	comp=Z,819nm,19.9s,MS5.0,baz=354,slow=37						
ARCES	ARCESS Array B	71.77	12	P	P	17 21 28.6	+0.1
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ARCES				MLR	MLR		
	comp=Z,819nm,19.9s						
DMUB	Kingscourt	73.68	34	*e*P	P	17 21 39.0	-0.9
DCN	Croghan	73.86	35	*e*P	P	17 21 40.0	-1.0
DLF	Lyons Farm	74.24	35	*e*P	P	17 21 41.0	-2.1
NB2	NORSAR Subarra	75.52	22	P	P	17 21 50.1	-0.2
	comp=Z,13nm,1.2s,mb4.7,baz=320,slow=5.8						
NOA	NORSAR Array B	75.52	22	P	P	17 21 50.4	0.0
	comp=Z,4.0nm,0.8s,mb4.4,baz=321,slow=5.6,SNR=13						
NOA				LR	LR	17 55 31.5	
	comp=Z,340nm,21.4s,MS4.6,baz=305,slow=36						
NOA	NORSAR Array B	75.52	22	P	P	17 21 50.4	+0.1
NOA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
NOA				MLR	MLR		
	comp=Z,340nm,21.4s						
BOD	Bodaibo	75.89	333	*e*P	P	17 21 50.1	-2.4
MDJ	Mudanjiang	77.67	317	P	P	17 21 59.8	-2.9
MDJ				PCP	PcP	17 22 09.3	-4.0
MDJ				PP	PP	17 25 03.0	+3.1
MDJ				S	S	17 31 50.3	-2.8
MDJ				LR	LR		
	comp=N,130nm,36.5s,MS4.0						
MDJ				LR	LR		
	comp=E,44nm,41.4s,MS4.0						
MDJ				LR	LR		
	comp=Z,120nm,21.9s						
KAF	Kangasniemi	78.52	15	*e*p	P	17 22 05.4	-1.6
	comp=Z,0.4nm,0.4s						
ROSF	Rostrenen	79.07	37	*e*P	P	17 22 11.3	+1.0
	comp=Z,44nm,1.3s,mb4.9						
FINES	FINESS Array B	79.07	16	P	P	17 22 10.7	+0.6
	comp=Z,5.2nm,0.8s,mb4.5,slow=7.6,SNR=20						
FINES				LR	LR	17 58 55.8	
	comp=Z,448nm,19.9s,MS4.8,baz=133,slow=37						
FINES	FINESS Array B	79.07	16	P	P	17 22 10.7	+0.6
FINES				pmax	pmax		
	comp=Z,5.0nm,0.8s						
FINES				MLR	MLR		
	comp=Z,448nm,19.9s						
QUIF	Quistinic	79.41	37	*e*P	P	17 22 13.0	+0.8
	comp=Z,24nm,1.1s,mb4.7						
SGMF	Saint Gilles	79.47	37	*e*P	P	17 22 13.5	+1.0
	comp=Z,18nm,1.0s,mb4.7						
FLN	La Foliniere	80.11	36	*e*P	P	17 22 16.3	+0.4
FLN				*e*R			
	comp=Z,563nm,18.5s						
GRR	Gorron	80.20	36	*e*P	P	17 22 17.0	+0.6
	comp=Z,30nm,1.1s,mb4.8						
LDF	La Druitiere	80.40	36	*e*P	P	17 22 18.2	+0.7
	comp=Z,43nm,1.3s,mb4.9						
CN2	Changchun	80.47	318	*e*P	P	17 22 16.5	-1.5
CN2				*e*S	S	17 32 22.0	-0.8
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,200nm,16.0s,MS4.7						
CN2				LR	LR		
	comp=E,200nm,16.0s,MS4.7						
CN2				LR	LR		
	comp=Z,200nm,22.0s						
BAIF	Baives	81.30	32	*e*P	P	17 22 23.0	+0.8
GIVF	Givet	81.53	32	*e*P	P	17 22 24.2	+0.8
MFF	Saint Martin d	81.80	37	*e*P	P	17 22 25.4	+0.6
	comp=Z,28nm,1.1s,mb4.8						
VSU	Vasula	81.89	17	P	P	17 22 26.4	+1.3
MTE	Manteigas	82.10	45	*e*P	P	17 22 26.1	-0.5
	comp=Z,11nm,0.9s,mb4.8						
MEZF	Maizieres J'vi	82.83	33	*e*P	P	17 22 31.0	+0.8
EVO	Evora	83.05	47	*e*P	P	17 22 31.6	+0.1
	comp=Z,17nm,0.9s,mb4.8						
EVO				*e*R			
	comp=Z,331nm,22.0s						
TCF	Toulx Ste Croi	83.16	36	*e*P	P	17 22 32.4	+0.5
	comp=Z,43nm,1.2s,mb5.1						
SSF	Saint Saulge	83.20	35	*e*P	P	17 22 32.7	+0.6
	comp=Z,31nm,1.2s,mb4.9						
LOR	Lormes	83.21	34	*e*P	P	17 22 32.9	+0.8
	comp=Z,65nm,1.4s,mb5.2						
BGF	Bois d'Agland	83.26	35	*e*P	P	17 22 32.9	+0.5
	comp=Z,31nm,0.9s,mb5.0						
AVF	Avril sur Loir	83.33	35	*e*P	P	17 22 33.1	+0.3
	comp=Z,31nm,1.2s,mb4.9						
LFF	La Frestale	83.42	38	*e*P	P	17 22 34.1	+0.8
RJF	Les Rejaudoux	83.54	37	*e*P	P	17 22 34.4	+0.6
	comp=Z,35nm,1.1s,mb5.1						
RJF				*e*R			
	comp=Z,715nm,20.0s						
SMF	Signal de Mont	83.66	35	*e*P	P	17 22 34.7	+0.3
	comp=Z,64nm,1.5s,mb5.2						
SJPF	Ste Jean	83.72	40	*e*P	P	17 22 35.4	+0.6
	comp=Z,11nm,0.9s,mb4.7						
HAU	Haudompre	83.77	33	*e*P	P	17 22 35.6	+0.7
	comp=Z,24nm,1.1s,mb5.0						
HAU				*e*R			
	comp=Z,553nm,19.5s						
CDF	Champ du Feu	83.86	32	*e*P	P	17 22 36.2	+0.8
	comp=Z,14nm,1.0s,mb4.8						
CLL	Collm	83.88	27	⇑P	P	17 22 36.3	+0.9
	comp=Z,logA/T=1.1,mb5.0						
CLL				*i*		17 22 43.6	
CLL	Collm	83.88	27	⇑*i*P	P	17 22 36.3	+0.9
CLL				*i*		17 22 43.6	
CLL				pmax	pmax		
	comp=Z,14nm,1.1s,mb5.0						
CLL				MLR	MLR		
	comp=Z,400nm,17.7s,MS4.8						
CLL	Collm	83.88	27	⇑*i*P	P	17 22 36.3	+0.9
	comp=Z,14nm,1.1s,mb5.0						
CLL				*i*		17 22 43.6	
CLL				LR	LR		
	comp=Z,400nm,17.7s,MS4.8						
MOX	Moxa	83.89	28	*i* P	P	17 22 36.1	+0.6
	comp=Z,logA/T=1.2,mb5.1						
MOX				L		18 04 45.0	
MOX	Moxa	83.89	28	*e*P	P	17 22 36.1	+0.6
MOX				pmax	pmax		
	comp=Z,30nm,1.8s,mb5.1						
MOX				MLR	MLR		
	comp=Z,300nm,19.0s,MS4.7						
MOX	Moxa	83.89	28	*e*P	P	17 22 36.1	+0.6
	comp=Z,30nm,1.8s,mb5.1						
MOX				LR	LR		
	comp=Z,300nm,19.0s,MS4.7						
CAF	Calviac	84.08	37	*e*P	P	17 22 37.2	+0.6
	comp=Z,52nm,1.1s,mb5.3						
HINF	Hinteralfeld	84.14	33	*e*P	P	17 22 37.3	+0.5
	comp=Z,30nm,1.1s,mb5.0						
ETSF	Etsaut	84.21	40	*e*P	P	17 22 38.5	+1.2
	comp=Z,54nm,1.2s,mb5.2						
BFO	Black Forest	84.38	31	*e*P	P	17 22 39.0	+1.0
BFO				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.9						
BFO	Black Forest	84.38	31	*e*P	P	17 22 39.0	+1.0
	comp=Z,10.0nm,1.1s,mb4.9						
GRA1	Grafenberg Arr	84.49	29	*e*P	P	17 22 40.4	+1.9
	comp=Z,40nm,1.4s,mb5.4						
GRA1				LR	LR		
	comp=Z,600nm,19.8s,MS5.0						
GRF	Grafenberg Arr	84.49	29	*e*P	P	17 22 40.4	+1.9
GRF				pmax	pmax		
	comp=Z,40nm,1.4s,mb5.4						
GRF				MLR	MLR		
	comp=Z,600nm,19.8s,MS5.0						
NKC	Novy Kostel	84.53	28	*e*P	P	17 22 39.6	+0.9
NKC				LR		18 00 30.0	
	comp=Z,0.5nm,20.6s						
BRG	Berggiesshubel	84.58	27	*e*P	P	17 22 40.5	+1.6
BRG				*e*		17 22 48.0	
BRG				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.2						
BRG	Berggiesshubel	84.58	27	*e*P	P	17 22 40.5	+1.6
	comp=Z,20nm,1.0s,mb5.2						
BRG				*e*		17 22 48.0	
EPF	Esparros	84.58	39	*e*P	P	17 22 39.9	+0.7
	comp=Z,42nm,1.4s,mb5.1						
ESDC	Sonseca Array	84.62	44	P	P	17 22 40.4	+1.0
	comp=Z,5.2nm,0.7s,mb4.8,baz=312,slow=5.2,SNR=24						
ESDC				LR	LR	17 57 45.1	
	comp=Z,353nm,18.4s,MS4.8,baz=290,slow=34						
CABF	La Chapelle	84.71	34	*e*P	P	17 22 40.6	+0.9
	comp=Z,16nm,0.9s,mb4.8						
SUW	Suwalki	84.93	21	*e*P	P	17 22 40.3	-0.3
	comp=Z,65nm,1.2s,mb5.6						
PVCC	Panska Ves	85.09	27	*e*P	P	17 22 42.8	+1.3
PVCC				LR		18 02 20.0	
	comp=Z,0.4nm,18.8s						
MTLF	Montolieu	85.31	38	*e*P	P	17 22 43.6	+0.8
	comp=Z,35nm,1.2s,mb5.1						
VIVF	Saint-Julien-l	85.38	36	*e*P	P	17 22 43.9	+0.8
PRU	Pruhonice	85.52	27	*e*P	P	17 22 43.3	-0.4
	comp=Z,10nm,1.1s,mb5.0						
PRU				LR		18 00 00.0	
	comp=Z,0.6nm,15.0s						
PRU	Pruhonice	85.52	27	*e*P	P	17 22 43.3	-0.4
PRU				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb5.0						
PRU				MLR	MLR		
	comp=Z,600nm,15.0s,MS5.1						
BDFB	Brasilia	85.54	113	LR	LR	18 07 05.1	
	comp=Z,256nm,18.1s,MS4.7,baz=313,slow=40						
LASF	Ste Croix	85.57	37	*e*P	P	17 22 45.1	+1.0
	comp=Z,20nm,1.2s,mb4.9						

WET	Wettzell	85.58	29	eP	P	17 22 45.6	+1.6
WET				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.9						
WET	Wettzell	85.58	29	eP	P	17 22 45.6	+1.6
	comp=Z,8.0nm,1.1s,mb4.9						
UPC	Upice	85.63	26	eP	P	17 22 44.5	+0.3
ZAK	Zakamensk	85.63	334	eP	P	17 22 43.9	-0.3
LPL	La Plagne	85.84	34	eP	P	17 22 46.5	+1.1
KHC	Kasperske Hory	85.86	28	eP	P	17 22 46.4	+1.0
KHC				ex	x	17 33 24.3	
KHC				LR		17 55 50.0	
	comp=Z,0.7nm,26.1s						
DPC	Dobruska-Polom	85.87	26	eP	P	17 22 46.5	+1.1
DPC				ex	x	17 33 35.6	
DPC				LR		18 02 00.0	
	comp=Z,0.6nm,20.0s						
DPC	Dobruska-Polom	85.87	26	eP	P	17 22 46.5	+1.1
DPC				MLR	MLR		
	comp=Z,600nm,20.0s,MS5.0						
ORIF	Oris-en-Rattie	85.90	35	eP	P	17 22 45.8	+0.1
	comp=Z,5.2nm,0.6s,mb4.6						
ORIF				eR			
	comp=Z,854nm,20.2s						
CPUP	Villa Florida	86.03	127	LR	LR	18 03 10.2	
	comp=Z,133nm,19.5s,MS4.3,baz=360,slow=37						
GEC2	GERESS Array S	86.14	28	eP	P	17 22 48.8	+2.0
GEC2				pmax	pmax		
	comp=Z,24nm,2.0s,mb5.1						
GEC2	GERESS Array S	86.14	28	eP	P	17 22 48.8	+2.0
	comp=Z,24nm,2.0s,mb5.1						
GERES	GERESS Array B	86.14	28	P	P	17 22 48.5	+1.8
	comp=Z,1.2nm,0.8s,mb4.2,baz=326,slow=4.8,SNR=8.2						
GERES	GERESS Array B	86.14	28	P	P	17 22 48.5	+1.7
GERES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MBDF	Montbardon	86.46	35	eP	P	17 22 48.9	+0.5
SONM	Songino Array	86.53	330	P	P	17 22 50.0	+1.3
	comp=Z,2.5nm,0.7s,mb4.6,baz=45,slow=4.1,SNR=2.9						
OKC	Ostrava-Krasne	86.94	25	LR		18 06 20.0	
	comp=Z,0.4nm,16.0s						
OBN	Obninsk	87.05	13	⇓eP	P	17 22 51.6	+0.6
OBN				e		17 26 17.1	
OBN				pmax	pmax		
	comp=Z,13nm,1.3s,mb5.0						
OBN				MLR	MLR		
	comp=Z,500nm,18.0s,MS5.0						
NVS	Novosibirsk	87.16	347	iP	P	17 22 50.0	-1.6
NVS				pmax	pmax		
	comp=N,11nm,1.3s						
NVS				pmax	pmax		
	comp=E,8.0nm,1.3s						
NVS				pmax	pmax		
	comp=Z,14nm,1.3s,mb5.0						
SVE	Sverdlovsk	87.43	359	⇓eP	P	17 22 48.3	-4.6
SVE				pmax	pmax		
	comp=Z,40nm,2.3s,mb5.2						
SVE				MLR	MLR		
	comp=Z,500nm,14.0s,MS5.1						
SVE				MLR	MLR		
	comp=N,300nm,13.0s,MS5.0						
SVE				MLR	MLR		
	comp=E,300nm,13.0s,MS5.0						
ARU	Arti	87.83	1	eP	P	17 22 55.2	+0.4
ARU				e	PP	17 26 21.8	-1.4
ARU				eS	SKS	17 33 20.3	-5.4
ARU				eSP	SP	17 34 36.4	-2.7
ARU				ePS	PS	17 34 45.6	+4.7
ARU				eSS	SS	17 39 22.9	-3.1
ARU				MLR	MLR		
	comp=Z,400nm,19.0s,MS4.8						
ARU				MLR	MLR		
	comp=N,500nm,20.0s,MS5.0						
ARU				MLR	MLR		
	comp=E,70nm,17.0s,MS5.0						
BJI	Beijing	88.04	320	P	P	17 22 54.8	-1.4
BJI				S	S	17 33 43.0	+5.2
BJI				LR	LR		
	comp=N,120nm,15.9s,MS4.5						
BJI				LR	LR		
	comp=E,122nm,16.6s,MS4.5						
BJI				LR	LR		
	comp=Z,150nm,22.2s						
BJI	Beijing	88.04	320	P	P	17 22 54.7	-1.5
BJI				S	S	17 33 42.9	+5.1
BJI				SS	SS	17 39 33.2	+3.7
BJI				LR	LR		
	comp=Z,150nm,22.2s,MS4.4						
AKASG	Malin Array Be	89.55	19	P	P	17 23 02.8	-0.4
	comp=Z,0.4nm,0.3s,mb4.2,baz=326,slow=3.8,SNR=7.5						
AKASG				LR	LR	18 05 22.0	
	comp=Z,386nm,19.6s,MS4.8,baz=310,slow=37						
HHC	Hu-ho-hao-te	89.75	323	eP	P	17 23 07.5	+3.2
HHC				AP	pP	17 23 12.3	+4.3
HHC				XP	sP	17 23 15.3	+6.1
HHC				S	S	17 33 59.0	+5.5
HHC				XS		17 34 09.0	
HHC				AMB	AMB		
	comp=Z,14nm,0.7s,mb5.4						
HHC				AMB	AMB		
	comp=Z,144nm,4.6s						
HHC				LR	LR		
	comp=N,50nm,22.6s,MS4.5						
HHC				LR	LR		
	comp=E,173nm,17.8s,MS4.5						
HHC				LR	LR		
	comp=Z,70nm,16.7s,MS4.2						
BRVK	Borovoye	90.72	354	eP	P	17 23 08.5	+0.1
	comp=Z,13nm,1.1s,mb5.2						
ZRNK	Zerenda	90.94	354	eP	P	17 23 09.8	+0.3
	comp=Z,13nm,1.1s,mb5.2						
SSE	Sheshan	91.61	311	eP	P	17 23 11.0	-2.1
SSE				XP	sP	17 23 20.3	+2.3
SSE				S	S	17 34 09.3	-1.1
SSE				XS		17 34 20.0	
SSE				LR	LR		
	comp=N,37nm,23.0s,MS3.9						
SSE				LR	LR		
	comp=E,42nm,23.8s,MS3.9						
SSE	Sheshan	91.61	311	eP	P	17 23 10.9	-2.2
	comp=E,26nm,0.6s,mb5.7						
SSE				sP	sP	17 23 20.3	+2.3
SSE				S	S	17 34 09.2	-1.2
SSE				sS		17 34 20.1	
SSE				LR	LR		
	comp=Z,60nm,22.7s,MS4.0						
KURK	Kurchatov	91.93	348	⇑eP	P	17 23 14.1	0.0
KURK	Kurchatov	91.93	348	eP	P	17 23 13.8	-0.3
	comp=Z,5.8nm,1.1s,mb4.8						
NJ2	Nanjing	92.34	313	eP	P	17 23 13.5	-3.0
MKAR	Makanchi Array	94.98	345	P	P	17 23 31.1	+2.9
	comp=Z,1.2nm,0.9s,mb4.3,slow=4.9,SNR=3.6						
MKAR				LR	LR	18 12 39.0	
	comp=Z,221nm,19.6s,MS4.6,baz=10,slow=40						
MKAR	Makanchi Array	94.98	345	P	P	17 23 31.1	+2.9
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
MKAR				MLR	MLR		
	comp=Z,221nm,19.6s						
WMQ	Urumqi	96.43	340	eP	P	17 23 34.5	-0.4
WMQ				AP	pP	17 23 39.5	+0.9
WMQ				XP	sP	17 23 41.5	+1.7
WMQ				PP	PP	17 27 31.5	+0.2
WMQ				eS	S	17 34 51.8	+0.2
WMQ				SS	SS	17 41 29.8	+1.0
WMQ				LR	LR		
	comp=N,214nm,24.0s,MS4.6						
WMQ				LR	LR		
	comp=E,116nm,20.2s,MS4.6						
WMQ				LR	LR		
	comp=Z,169nm,22.4s,MS4.5						
LZH	Lanzhou	97.19	325	eP	P	17 23 37.0	-1.6
LZH				AP	pP	17 23 40.8	-1.5
LZH				XP	sP	17 23 42.5	-0.9
LZH				PP	PP	17 27 35.0	-2.6
LZH				LR	LR		
	comp=N,507nm,15.1s						
LZH				LR	LR		
	comp=Z,747nm,17.8s,MS5.2						
LZH	Lanzhou	97.19	325	eP	P	17 23 36.9	-1.7
	comp=Z,25nm,1.5s,mb5.4						
LZH				pP	pP	17 23 40.8	-1.5
LZH				sP	sP	17 23 42.5	-0.9
LZH				PP	PP	17 27 35.1	-2.5
LZH				LR	LR		
	comp=Z,750nm,17.8s,MS5.2						
PMG	Port Moresby	97.35	264	LR	LR	17 59 19.5	
	comp=Z,134nm,20.4s,MS4.4,baz=81,slow=30						
SOC	Sochi	98.68	14	eP	P	17 23 45.5	+0.5
SOC				e		17 27 51.0	
SOC				ePPP	PPP	17 29 50.1	-6.9
SOC				e		17 34 17.3	
SOC				eS	S	17 35 07.0	-3.6
SOC				eSS	SS	17 42 01.2	+0.9
SOC				eSSS	SSS	17 45 49.4	+0.7
SOC				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb5.2						
SOC				pmax	pmax		
	comp=N,3.0nm,0.6s						
SOC				pmax	pmax		
	comp=E,2.0nm,0.3s						
SOC				MLR	MLR		
	comp=Z,495nm,21.0s,MS5.0						
SOC				MLR	MLR		
	comp=N,540nm,24.0s,MS5.1						
SOC				MLR	MLR		
	comp=E,320nm,21.0s,MS5.1						
KIV	Kislovodsk	98.87	12	eP	P	17 23 51.3	+5.4
KMI	Kunming	106.69	320	ePKP		17 28 29.0	
KMI				S		17 36 15.2	
KMI				SS	SS	17 43 43.3	-8.0
KMI				LR	LR		
	comp=Z,80nm,24.8s,MS4.2						
ASAR	Alice Springs	115.71	259	PKP	PKPdf	17 28 49.0	-1.8
	comp=Z,0.9nm,0.8s,baz=55,slow=1.5,SNR=9.5						
FITZ	Fitzroy Crossi	119.52	268	PKP	PKPdf	17 28 59.2	+1.0
	comp=Z,3.1nm,0.8s,baz=350,slow=3.9,SNR=4.5						
QSPA	South Pole Qui	125.92	180	eP	PKPdf	17 29 10.2	+1.1
QSPA				LR	LR		
	comp=Z,110nm,19.9s,MS4.5						
VNA3	Neumayer Olymp	130.40	157	⇑i	PKPdf	17 29 16.6	-1.3
VNA2	Neumayer--Watz	131.18	156	⇑i	PKPdf	17 29 15.9	-3.4
LSZ	Lusaka	145.22	62	ePKP	PKPdf	17 29 43.5	-2.7
SYO	Syowa Base	145.24	168	⇓PKPbc	PKPbc	17 29 40.4	-1.4
SYO	Syowa Base	145.24	168	⇓PKPdf	PKPdf	17 29 41.4	-3.2
SYO	Syowa Base	145.24	168	⇓pPKPbc		17 29 43.0	
SYO	Syowa Base	145.24	168	⇓PKiKP		17 29 44.7	
MAW	Mawson	148.39	182	PKPbc	PKPdf	17 29 50.8	+1.0
	comp=Z,10.0nm,0.8s,baz=200,slow=2.7,SNR=23						
MAW	Mawson	148.39	182	PKIKP	PKPdf	17 29 50.8	+0.9
MAW				pmax	pmax		
	comp=Z,10.0nm,0.8s						

MAN ***29*** *17:16:22.5, 16.77N×120.08E, h1^{km}, mb4.7, ML3.6, MS3.6*
IDC ***29*** *17:16:29.8±4.7, 16.69N×120.74E, h81^{km}±43^{km}, mb3.5/4, mb1 3.6/4, mb1mx3.3/17, ML4.9/1, MS2.9/1, Ms1 2.9/1, ms1mx2.5/20, Error ellipse: s-maj=135.0km s-min=18.8km az=66.0*
ISC 29 17:16:23.3±2.0**, 16.78N**±0.03×**120.15E**±0.06**, h6**^{km}±15^{km}**, n26, σ1^{s}13**/31**, mb3.7**/4**, 3D, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BOLP	Bolinao	0.45	210	eP	Pb	17 16 34.5	+1.3
BCPH	Baguio City Da	0.57	133	⇓iP	Pb	17 16 34.5	-0.7
BCPH				iS	Sb	17 16 42.0	-1.2
SCZP	Santa Cruz	1.02	193	eP	Pb	17 16 42.0	-0.9
ABRA	Dolores	1.02	32	eP	Pb	17 16 43.0	+0.1
ABRA				eS	Sb	17 17 01.9	+5.4
APYP	Conner	1.50	44	eP	Pn	17 16 49.8	-1.0
APYP				eS	Sb	17 17 10.0	-0.4
PIP	Pasuquin	1.60	16	⇓iP	Pn	17 16 53.0	+0.6
PIP				eS	Sn	17 17 14.6	+1.0
CAUP	Cauayan	1.61	84	eP	Pn	17 16 53.5	+1.1
BALP	Baler	1.71	127	eP	Pn	17 16 52.8	-1.1
PALP	Palanan	2.20	82	eP	Pn	17 17 02.2	+1.4
ARP	Angono	2.42	156	eP	Pn	17 17 03.8	-0.2
PAZ	Puerto Azul	2.58	169	eP	Pn	17 17 06.0	-0.3
POLP	Polilio Island	2.67	139	eP	Pn	17 17 12.7	+5.2
TGY	Tagaytay City	2.76	164	P	Pn	17 17 09.6	+0.8
	215nm,0.3s,baz=110,slow=6.0,SNR=15						
TGY				LR	LR	17 18 31.8	
	comp=Z,225nm,20.1s,baz=131,slow=47						
TGY	Tagaytay City	2.76	164	⇓eP	Pn	17 17 11.3	+2.4
LBPH	Los Banos	2.79	159	eP	Pn	17 17 10.3	+1.1
LUBP	Lubang	3.02	178	eP	Pn	17 17 13.7	+1.1
LUBP				eS	Sn	17 17 50.4	+0.9
GQP	Guinayangan	3.61	142	eP	Pn	17 17 20.9	-0.1
BOAC	Boac	3.68	153	eP	Pn	17 17 25.1	+3.1
SJMP	San Jose	4.39	168	eP	Pn	17 17 33.1	+1.1
BUSP	Coron	4.74	179	eP	Pn	17 17 35.8	-1.2
ENPP	El Nido	5.58	187	eP	Pn	17 17 46.7	-2.2
CUYO	Cuyo Island	5.95	172	eP	Pn	17 17 53.3	-0.7
SONM	Songino Array	32.98	343	P	P	17 22 59.4	-1.5
	3.0nm,0.7s,mb4.3,baz=166,slow=5.9,SNR=3.7						
WRA	Warramunga Arr	39.06	159	P	P	17 23 46.7	-6.2
	0.5nm,0.5s,mb3.5,baz=340,slow=9.2,SNR=8.4						
ASAR	Alice Springs	42.38	161	P	P	17 24 14.1	-6.2
	0.5nm,0.4s,mb3.5,baz=339,slow=7.2,SNR=17						
MKAR	Makanchi Array	43.27	322	P	P	17 24 26.4	-0.8
	0.4nm,0.4s,mb3.5,baz=107,slow=10.0,SNR=7.0						

BER ***29*** *17:29:46.6±5.0, 57.22N×17.08E, ML2.5(NAO)*
NAO ***29*** *17:29:49.0±5.3, 57.50N×17.03E, ML2.5*
HEL ***29*** *17:29:50.5±0.3, 57.70N×17.15E, ML2.0, ML3.0(UPP), ML2.5(NAO), Explosion*
IDC ***29*** *17:29:53.5±2.1, 57.95N×16.90E, mb1 3.3/4, mb1mx3.2/17, ML2.8/4, Error ellipse: s-maj=21.6km s-min=9.0km az=13.0*
ISC 29 17:29:46.0±0.7**, 57.64N**±0.04×**17.38E**±0.06**, n31, σ1^{s}68**/50**, Baltic Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GOTU	Gotland	0.64	86	iP	Pg	17 30 04.3	+5.6
OSKU	Oskarshamn	0.82	238	iP	Pg	17 30 01.1	-1.3
OSKU				iS	Sg	17 30 09.7	-3.7
VIKU	Vikbolandet	0.94	338	iP	Pg	17 30 05.2	+0.6
VIKU				iS	Sg	17 30 16.4	-0.7
EKSU	Eksjoe	1.12	267	eP	Pb	17 30 05.8	-2.1
LNKU	Linkoeping	1.16	301	eP	Pb	17 30 07.1	-1.5
NYNU	Nynaeshamn	1.41	13	eP	Pb	17 30 15.7	+2.9
BLEU	Blekinge	1.59	213	eP	Pn	17 30 15.9	+0.4
ESKU	Eskilstuna	1.68	342	eP	Pn	17 30 18.4	+1.7
ASKU	Askersund	1.84	314	eP	Pn	17 30 19.8	+0.7
BACU	Backbrunna	2.22	356	eP	Pn	17 30 28.4	+3.8
UPP	Uppsala	2.23	3	eP	Pn	17 30 29.1	+4.5
NRAU	Nora	2.29	329	eP	Pn	17 30 28.0	+2.5
FLYU	Flymyra	2.51	6	eP	Pn	17 30 32.6	+3.9
OSTU	Oestervaala	2.60	357	eP	Pn	17 30 33.4	+3.5
HFS	Hagfors	3.15	324	Pn	Pn	17 30 39.6	+1.9
	baz=131,slow=14						
HFS				Sn	Sn	17 31 18.2	+1.6
	baz=138,slow=28						
HFS	Hagfors	3.15	324	eP	Pn	17 30 39.6	+1.9
HFS				eS	Sn	17 31 18.2	+1.6
HFS	Hagfors	3.15	324	Pn	Pn	17 30 39.5	+1.7
	0.3nm,0.3s,baz=144,slow=15,SNR=39						
HFS				Lg		17 31 18.0	
	0.9nm,0.3s,baz=139,slow=27,SNR=17						
NOA	NORSAR Array B	4.64	320	Pn	Pn	17 30 58.0	-1.0
	0.3nm,0.3s,baz=4.6,slow=17,SNR=2.4						
NOA				Sn	Sn	17 31 53.7	-0.8
	0.6nm,0.3s,baz=321,slow=21,SNR=3.3						
NOA				Lg		17 32 09.1	
	1.6nm,0.3s,baz=148,slow=18,SNR=6.7						
VSU	Vasula	5.04	77	eSG	Sg	17 32 27.9	-5.8
PVF	Pernaja	5.25	53	eP	Pn	17 31 11.0	+3.4
PVF				eS	Sn	17 32 09.9	0.0
PVF				eSG	Sg	17 32 31.8	-9.0
FIA0	FINESS Array S	5.84	46	eP	Pn	17 31 19.5	+3.6
FIA0				eS	Sn	17 32 24.0	-0.5
FIA0				eSG	Sg	17 32 50.9	-9.4
FIA0				MSG		17 32 56.7	
	comp=Z,1.6nm,0.3s						
FIA0	FINESS Array S	5.84	46	Pn	Pn	17 31 19.3	+3.4
	baz=220,slow=12						
FIA0				Sn	Sn	17 32 27.1	+2.6
	baz=238,slow=22						
FINES	FINESS Array B	5.84	46	Pn	Pn	17 31 19.0	+3.1
	comp=Z,0.4nm,0.3s,baz=228,slow=12,SNR=14						
FINES				Sn	Sn	17 32 27.7	+3.2
	comp=Z,0.5nm,0.3s,baz=238,slow=21,SNR=7.8						
FINES				Lg		17 32 58.0	
	comp=Z,0.9nm,0.3s,baz=244,slow=27,SNR=6.9						
KEF	Keuruu	5.90	37	eP	Pn	17 31 20.2	+3.4
KEF				eS	Sn	17 32 24.7	-1.4
VJF	Virojoki	6.00	57	eP	Pn	17 31 20.8	+2.7
VJF				eS	Sn	17 32 27.6	-0.8
VJF				eSG	Sg	17 32 56.1	-9.5
KAF	Kangasniemi	6.35	41	eP	Pn	17 31 24.7	+1.7
KAF				eS	Sn	17 32 35.1	-2.1
KAF				eSG	Sg	17 33 05.2	-12
KAF				MSG		17 33 09.1	
	comp=Z,0.6nm,0.2s						
SUF	Sumiainen	6.71	37	eP	Pn	17 31 30.6	+2.4
SUF				eS	Sn	17 32 44.9	-1.5
SUF				eSG	Sg	17 33 18.0	-11
SUF				MSG		17 33 22.4	
	comp=Z,1.1nm,0.3s						
KJN	Kajaani	8.19	34	eP	P	17 31 49.0	+0.1
KJN				eS	Sn	17 33 19.4	-3.9
KJN				e		17 33 55.9	
KJN				MSG		17 33 59.0	
	comp=Z,0.9nm,0.3s						
ARA0	ARCESS Array S	12.46	13	Pn	P	17 32 44.9	-2.3
	baz=197,slow=14						
ARA0	ARCESS Array S	12.46	13	eP	P	17 32 44.9	-2.3
ARCES	ARCESS Array B	12.46	13	Pn	P	17 32 44.9	-2.3
	comp=Z,0.1nm,0.3s,baz=198,slow=13,SNR=9.6						

IDC 29 17:39:17.0±2.8**, 7.78S**×**107.70E, mb3.6**/5**, mb1 3.8**/5**, mb1mx3.7**/14**, MS3.9**/1**, Ms1 3.9**/1**, ms1mx3.0**/17**, Error ellipse: s-maj=152.0km s-min=23.5km az=50.0, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	20.25	122	P	P	17 43 54.5	-2.4
	1.9nm,0.8s,baz=270,slow=8.1,SNR=3.7						
WRA	Warramunga Arr	28.50	118	P	P	17 45 13.7	-2.6
	0.2nm,0.3s,baz=289,slow=12,SNR=5.3						
ASAR	Alice Springs	29.68	125	P	P	17 45 25.1	-1.8
	0.4nm,1.0s,baz=302,slow=7.7,SNR=3.9						
CTA	Charters Tower	39.26	112	LR	LR	18 04 26.7	
	comp=Z,147nm,18.5s,baz=47,slow=38						
STKA	Stephens Creek	39.61	132	P	P	17 46 50.5	-1.6
	1.0nm,0.5s,baz=313,slow=9.8,SNR=5.8						
MKAR	Makanchi Array	58.85	340	P	P	17 49 17.4	-2.4
	0.6nm,0.4s,baz=150,slow=7.2,SNR=8.7						

NEIC ***29*** *17:58:32.0±6.2, 5.52S×146.08E, h76^{km}±33^{km}, mb3.9/3, Error ellipse: s-maj=80.7km s-min=39.8km az=207.0*
IDC ***29*** *17:58:39.6±7.5, 6.34S×146.08E, h93^{km}±51^{km}, mb3.6/3, mb1 3.8/6, mb1mx3.6/14, Error ellipse: s-maj=85.1km s-min=45.2km az=44.0*
ISC 29 17:58:41.1±2.5**, 6.5S**±0.2×**145.9E**±0.2**, h99**^{km}±24^{km}**, n15, σ0^{s}44**/16**, mb3.7**/2**, 1C, New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WAU	Wau	1.14	137	⇑iP	P	17 59 03.7	+0.3
PMG	Port Moresby	3.12	157	P	P	17 59 29.0	-0.5
	16nm,0.3s,baz=353,slow=5.0,SNR=110						
PMG				S	S	18 00 06.2	+0.1
	34nm,0.3s,baz=147,slow=21,SNR=24						
PMG	Port Moresby	3.12	157	eP	P	17 59 29.1	-0.5
CTA	Charters Tower	13.50	179	eP	P	18 01 54.6	+4.8
	11nm,0.3s						
CTA	Charters Tower	13.50	179	P	P	18 01 54.4	+4.6
	4.2nm,0.3s,baz=358,slow=14,SNR=62						
CTAO	Charters Tower	13.50	179	eP	P	18 01 54.2	+4.5
	17nm,0.5s						
KAKA	Kakadu	14.69	244	eP	P	18 02 11.1	+6.0
	12nm,0.6s						
WRAB	Tennant Creek	17.45	219	eP	P	18 02 39.5	-0.3
	3.6nm,0.7s						
WB2	Warramunga Arr	17.46	219	eP	P	18 02 39.5	-0.3
WRA	Warramunga Arr	17.47	219	P	P	18 02 40.2	+0.2
	0.4nm,0.3s,baz=42,slow=11,SNR=11						
ASAR	Alice Springs	20.61	213	P	P	18 03 14.7	+0.3
	1.0nm,0.4s,baz=48,slow=9.1,SNR=30						
ASPA	Alice Springs	20.61	213	eP	P	18 03 15.3	+0.9
FITZ	Fitzroy Crossi	22.90	238	eP	P	18 03 37.1	0.0
	3.7nm,0.8s,mb3.8						
FITZ	Fitzroy Crossi	22.90	238	P	P	18 03 36.7	-0.4
	7.7nm,1.0s,mb4.0,baz=52,slow=7.9,SNR=11						
STKA	Stephens Creek	25.56	189	P	P	18 04 02.0	-0.5
	1.9nm,0.9s,mb3.5,baz=7.2,slow=12,SNR=6.0						

MOS ***29*** *18:38:10.2±0.7, 5.74S×77.21W, h33^{km}, mb5.3/20, MS4.5/13, Error ellipse: s-maj=17.4km s-min=12.6km az=66.2*
NEIC ***29*** *18:38:11.1±0.1, 5.60S×77.09W, mb5.2/113, MS4.6/87, ML5.1(LIM), Error ellipse: s-maj=4.4km s-min=2.7km az=222.0*
NEIC Felt [III] at Moyobamba and Rioja.
HRVD ***29*** *18:38:11.1±0.3, 5.50S×76.97W, h36^{km}±1^{km}, MW5.1/60, Centroid moment Tensor Solution. LP body waves: s42,c57;Mantle waves: s60,c87; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.61±.27; $M_{\theta\theta}$-0.66±.20; $M_{\phi\phi}$-3.95±.22; $M_{r\theta}$-2.15±.20; $M_{\theta\phi}$4.13±.14; $M_{\phi r}$1.64±.26; Best double couple: $M_0$6.34×10^{16} NP1:ϕ_s162°,δ35°,λ115°. NP2:ϕ_s313°,δ59°,λ74°. Principal axes: T 5.38, Plg71°, Azm184°; N 1.93, Plg14°, Azm322°; P -7.31, Plg12°, Azm55°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
SYO ***29*** *18:38:11.3, 5.57S×77.10W, h27^{km}, MB5.3, MS4.6*
BJI ***29*** *18:38:12.1, 5.60S×77.10W, h27^{km}, mB5.4, Ms5.0, Msz5.0*
IDC ***29*** *18:38:13.3±3.5, 5.54S×77.04W, h42^{km}±31^{km}, mb4.7/22, mb1 4.7/24, mb1mx4.7/24, ML3.6/2, MS4.5/17, Ms1 4.5/17, ms1mx4.5/20, Error ellipse: s-maj=19.4km s-min=12.7km az=55.0*
ISC 29 18:38:09.6±0.2**, 5.56S**±0.04×**77.16W**±0.03**, h27**^{km}**, h27**^{km}±.4^{km}**:pP-P, n482, σ0^{s}84**/350**, mb5.2**/148**, MS4.6**/103**, 44C-2D, Northern Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OTAV	Otavalo	5.90	347	eP	Pn	18 39 39.3	+1.7
	31nm,0.8s						
NNA	Nana	6.40	177	eP	Pn	18 39 43.6	-1.1
ROSC	El Rosal	10.72	15	P	P	18 40 44.8	+0.1
	3.7nm,0.3s,baz=93,slow=17,SNR=14						
ARE	Arequipa	12.18	153	eP	P	18 41 03.0	-1.5
SAML	Samuel	14.26	104	eP	P	18 41 26.0	-6.2
	3.5nm,2.0s						
SDV	Santo Domingo	15.75	24	eP	P	18 41 50.2	-1.4
	41nm,1.1s						
URSC	Urasca	16.65	337	eP	P	18 42 06.4	+3.4
LCR2	La Lucha 2	16.66	336	eP	P	18 42 07.9	+4.8
ICR	Volcan Irazu	16.80	337	eP		18 42 17.6	
LAJ	Bijagual	16.82	336	eP	P	18 42 14.7	+10
JCR	Jicaral	17.23	333	eP	P	18 42 19.0	+8.7
TRTC	Tortuguero	17.30	338	eP	P	18 42 15.7	+4.4
JTS	JuntasAbangare	17.55	334	P	P	18 42 15.8	+1.5
	0.6nm,0.3s,baz=356,slow=22,SNR=12						
JTS				LR	LR	18 48 19.3	
	comp=Z,1µm,18.5s,baz=141,slow=34						
JTS	JuntasAbangare	17.55	334	eP	P	18 42 16.1	+1.8
	121nm,1.1s						
CRZC	La Cruz	18.43	333	eP	P	18 42 35.7	+10
LVC	Limon Verde	18.73	156	eP	P	18 42 25.3	-3.6
AOPR	Arecibo Observ	25.87	23	eP	P	18 43 41.3	+0.1
SJG	San Juan	25.90	25	P	P	18 43 41.8	+0.3
	38nm,0.6s,mb5.1,baz=236,slow=5.2,SNR=19						
SJG				LR	LR	18 53 54.2	
	comp=Z,778nm,21.6s,MS4.2,baz=241,slow=36						
SJG	San Juan	25.90	25	P	P	18 43 41.8	+0.3
SJG				pmax	pmax		
	comp=Z,38nm,0.6s						
SJG				MLR	MLR		
	comp=Z,778nm,21.6s						
SJG	San Juan	25.90	25	eP	P	18 43 41.1	-0.3
	comp=Z,37nm,0.7s,mb5.0						
SJG				LR	LR		
	comp=Z,2µm,20.0s,MS4.7						
CPD	Cerro la Pandu	25.93	25	eP	P	18 43 41.1	-0.7
HUMP	Col San Antoni	26.05	25	eP	P	18 43 42.5	-0.4
CBYP	Canovanas	26.17	25	eP	P	18 43 43.8	-0.1
CPUP	Villa Florida	28.02	140	P	P	18 43 59.0	-1.8
	comp=Z,17nm,0.8s,mb4.7,baz=342,slow=10,SNR=16						
CPUP				PcP	PcP	18 47 14.3	-1.3
	comp=Z,2.6nm,0.7s,baz=357,slow=14,SNR=3.1						
CPUP	Villa Florida	28.02	140	P	P	18 43 59.0	-1.8
CPUP						18 47 14.3	

CPUP				pmax	pmax		
	comp=Z,17nm,0.8s						
CPUP				pmax	pmax		
	comp=Z,3.0nm,0.7s						
FCH	Farellones	28.36	168	⇑iP	P	18 44 03.4	-0.4
BDFB	Brasilia	30.30	112	P	P	18 44 19.6	-1.8
	comp=Z,12nm,0.9s,mb4.6,baz=287,slow=8.6,SNR=8.0						
BDFB				LR	LR	18 57 07.3	
	comp=Z,1µm,18.7s,MS4.7,baz=96,slow=38						
BDFB	Brasilia	30.30	112	P	P	18 44 19.6	-1.7
BDFB				pmax	pmax		
	comp=Z,12nm,0.9s						
BDFB				MLR	MLR		
	comp=Z,1µm,18.7s						
BAO	Brasilia Array	30.32	112	eP	P	18 44 20.1	-1.4
BAO				i		18 44 31.9	
DWPF	Disney	33.72	353	PFAKE		18 45 00.0	+8.9
DWPF				LR	LR		
	comp=Z,362nm,20.0s,MS4.1						
TRQA	Tornquist	35.18	159	eP	P	18 45 00.0	-3.5
TRQA				LR	LR		
	comp=Z,1µm,20.0s,MS4.7						
NHSC	New Hope	38.55	356	eP	P	18 45 32.7	+0.7
	comp=Z,200nm,1.2s,mb5.7						
NHSC				LR	LR		
	comp=Z,1µm,19.0s,MS4.7						
LRAL	Lakeview Retre	39.50	347	eP	P	18 45 39.3	-0.5
	comp=Z,106nm,1.0s,mb5.5						
LRAL				LR	LR		
	comp=Z,615nm,19.0s,MS4.5						
BBSR	BB Station	39.53	17	PFAKE		18 45 50.0	+10
BBSR				LR	LR		
	comp=Z,673nm,19.0s,MS4.5						
NATX	Nacogdoches	40.69	337	eP	P	18 45 50.7	+1.0
	comp=Z,26nm,0.7s,mb5.0						
RCBR	Riachuelo	41.04	92	PFAKE		18 46 00.0	+7.2
RCBR				LR	LR		
	comp=Z,1µm,22.0s,MS4.8						
CPCT	Cooper Cave	41.37	351	eP	P	18 45 58.0	+2.7
SWET	Sewanee	41.39	349	eP	P	18 45 54.7	-0.6
OXF	Oxford	41.50	345	eP	P	18 45 55.7	-0.6
	comp=Z,131nm,1.5s,mb5.3						
JCT	Junction City	41.88	330	PFAKE		18 46 10.0	+10
JCT				LR	LR		
	comp=Z,148nm,19.0s,MS3.9						
MET	Memphis--Engin	42.21	344	P	P	18 45 59.9	-2.4
UALR	University of	42.59	341	eP	P	18 46 03.9	-1.4
	comp=Z,43nm,0.9s,mb5.2						
BLA	Blacksburg	42.65	356	eP	P	18 46 06.6	+0.8
	comp=Z,32nm,1.0s,mb5.0						
BLA				LR	LR		
	comp=Z,769nm,20.0s,MS4.6						
WVT	Waverly	42.66	347	eP	P	18 46 04.2	-1.6
	comp=Z,46nm,1.2s,mb5.1						
WVT				LR	LR		
	comp=Z,439nm,22.0s,MS4.3						
MIAR	Mount Ida	42.79	340	PFAKE		18 46 20.0	+13
MIAR				LR	LR		
	comp=Z,226nm,19.0s,MS4.1						
HBAR	Harrisburg	42.82	344	eP	P	18 46 06.3	-0.9
PWV	Princeton	42.82	355	eP	P	18 46 07.2	0.0
TXAR	Lajitas Array	43.04	325	P	P	18 46 09.8	+0.8
	comp=Z,4.5nm,0.8s,mb4.3,baz=146,slow=9.0,SNR=32						
TXAR				PcP	PcP	18 47 59.6	+0.1
	comp=Z,4.6nm,0.8s,baz=146,slow=4.5,SNR=6.7						
TXAR				LR	LR	19 03 03.8	
	comp=Z,285nm,20.8s,MS4.2,baz=130,slow=35						
TXAR	Lajitas Array	43.04	325	P	P	18 46 09.8	+0.8
TXAR				PcP	PcP	18 47 59.6	+0.1
TXAR				LR	LR	19 03 03.8	
FWV	Forest Hill	43.05	356	eP	P	18 46 08.4	-0.6
WCI	Wyandotte Cave	44.38	350	eP	P	18 46 18.1	-1.7
	comp=Z,49nm,1.3s,mb5.1						
WCI				epP	pP	18 46 26.7	-1.2
WCI				LR	LR		
	comp=Z,694nm,19.0s,MS4.6						
USIN	University of	44.39	348	eP	P	18 46 18.2	-1.7
WMOK	Wichita Mounta	44.97	335	eP	P	18 46 24.5	-0.1
	comp=Z,68nm,1.2s,mb5.4						
WMOK				LR	LR		
	comp=Z,383nm,21.0s,MS4.3						
FVM	French Village	45.04	345	eP	P	18 46 23.6	-1.6
	comp=Z,74nm,1.1s,mb5.4						
FVM				epP	pP	18 46 31.1	-2.1
CCM	Cathedral Cave	45.32	344	eP	P	18 46 25.8	-1.6
	comp=Z,15nm,0.8s,mb4.9						
CCM				LR	LR		
	comp=Z,279nm,19.0s,MS4.2						
CLNB	Carlsbad	45.40	328	eP	P	18 46 29.0	+0.9
GDL2	Guadalupe Moun	45.61	327	eP	P	18 46 30.7	+0.9
ACSO	Alum Creek Sta	45.87	354	eP	P	18 46 30.9	-0.8
	comp=Z,96nm,1.2s,mb5.6						
ACSO				epP	pP	18 46 39.0	-0.7
ACSO				LR	LR		
	comp=Z,854nm,20.0s,MS4.7						
SSPA	Standing Stone	45.97	359	eP	P	18 46 32.9	+0.4
	comp=Z,76nm,1.2s,mb5.5						
SSPA				e	pP	18 46 41.2	+0.7
ALLY	Alegheny Colle	47.05	357	eP	P	18 46 41.0	0.0
ALLY				epP	pP	18 46 48.6	-0.5
KSU1	Kansas State U	47.94	340	eP	P	18 46 47.5	-0.6
KSU1				e	pP	18 46 56.0	-0.1
WES	Weston	48.01	6	PFAKE		18 47 00.0	+12
WES				LR	LR		
	comp=Z,3µm,21.0s,MS5.3						
GENY	Geneseo	48.10	359	eP	P	18 46 46.8	-2.4
GENY				epP	pP	18 46 56.9	-0.4
BNM	Barren Site	48.32	327	eP	P	18 46 51.6	+0.6
LPM	Los Pinos Moun	48.45	327	eP	P	18 46 52.5	+0.5
EFI	East Falkland	48.63	164	PFAKE		18 47 00.0	+6.9
EFI				LR	LR		
	comp=Z,184nm,20.0s,MS4.1						
ACCN	Adirondack Com	48.81	3	P	P	18 46 55.3	+0.6
ANMO	Albuquerque	48.84	328	c iP	P	18 46 55.7	+0.7
ANMO				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ANMO	Albuquerque	48.84	328	eP	P	18 46 55.8	+0.8
	comp=Z,44nm,1.0s,mb5.4						
ANMO				LR	LR		
	comp=Z,285nm,19.0s,MS4.3						
TUC	Tucson	49.41	322	eP	P	18 46 59.8	+0.4
	comp=Z,12nm,1.0s,mb4.9						
TUC				LR	LR		
	comp=Z,838nm,20.0s,MS4.7						
USHA	Ushuaia	49.63	173	P	P	18 47 00.7	-0.1
	comp=Z,42nm,1.1s,mb5.4,baz=338,slow=5.1,SNR=12						
SADO	Sadowa	50.13	358	P	P	18 47 02.7	-2.1
	comp=Z,6.4nm,0.9s,mb4.7,baz=213,slow=9.4,SNR=3.2						
SADO				LR	LR	19 10 28.2	
	comp=Z,589nm,19.9s,MS4.6,baz=178,slow=39						
SADO	Sadowa	50.13	358	P	P	18 47 02.7	-2.1
SADO				LR	LR	19 10 28.1	
WVL	Waterville	50.34	7	PFAKE		18 47 20.0	+14
WVL				LR	LR		
	comp=Z,10µm,21.0s						
MSNY	Massena	50.37	2	P	P	18 47 05.6	-1.0
SDCO	Great Sand Dun	50.52	331	eP	P	18 47 08.2	+0.4
	comp=Z,84nm,1.2s,mb5.5						
SDCO				e	pP	18 47 16.8	+0.7
SDCO				LR	LR		
	comp=Z,385nm,21.0s,MS4.4						
EMMW	East Machias	50.79	9	PFAKE		18 47 20.0	+10
EMMW				LR	LR		
	comp=Z,4µm,19.0s,MS5.4						
RW3	Ridgway	51.99	329	eP	P	18 47 19.5	+0.5
RW3				e	pP	18 47 28.0	+0.7
ISCO	Idaho Springs	52.20	332	PFAKE		18 47 30.0	+9.4
ISCO				LR	LR		
	comp=Z,254nm,19.0s,MS4.3						
PV01	Paradox Valley	52.36	329	eP	P	18 47 22.2	+0.4
PQI	Presque Isle	52.62	8	PFAKE		18 47 40.0	+16
PQI				LR	LR		
	comp=Z,4µm,19.0s,MS5.5						
PV10	Paradox Valley	52.78	329	eP	P	18 47 24.6	-0.3
PFO	Pinyon Flat Ob	53.85	319	PFAKE		18 47 40.0	+7.2
PFO				LR	LR		
	comp=Z,46nm,21.0s						
LDFC	Landfair	53.94	321	eP	P	18 47 34.4	+1.0
LDFC				e	pP	18 47 43.2	+1.7
SRU	San Rafael	54.10	328	eP	P	18 47 34.7	+0.1
SRU				epP	pP	18 47 41.9	-0.9
NEN	Nelson	54.15	322	eP	P	18 47 34.9	0.0
NEN				epP	pP	18 47 43.7	+0.5
NEN				e		18 47 48.9	
MSU	Marysvale	54.56	326	eP	P	18 47 38.3	+0.3
MSU				epP	pP	18 47 46.9	+0.7
MVU	Marysvale	54.57	326	eP	P	18 47 38.5	+0.5
	comp=Z,62nm,1.6s,mb5.4						
MVU				epP	pP	18 47 47.2	+0.9
MVU				LR	LR		
	comp=Z,527nm,21.0s,MS4.6						
ARUT	Antelope Range	54.76	325	eP	P	18 47 40.1	+0.7
RSSD	Black Hills	55.06	337	eP	P	18 47 41.6	0.0
	comp=Z,49nm,1.3s,mb5.4						
RSSD				epP	pP	18 47 50.3	+0.5
MWC	Mount Wilson	55.28	319	eP	P	18 47 43.3	-0.1
MWC				epP	pP	18 47 52.1	+0.5
DAU	Daniels Canyon	55.44	329	eP	P	18 47 44.9	+0.5
DAU				epP	pP	18 47 53.2	+0.6
NLU	North Lily Min	55.54	328	eP	P	18 47 45.2	+0.1
NLU				epP	pP	18 47 52.3	-1.0
JLU	Jordanelle	55.68	329	eP	P	18 47 46.3	+0.2
JLU				epP	pP	18 47 53.9	-0.4
TPNV	Topopah Spring	55.85	322	eP	P	18 47 47.9	+0.5
	comp=Z,20nm,1.1s,mb5.1						
TPNV				LR	LR		
	comp=Z,459nm,20.0s,MS4.6						
CTU	Camp Tracy	55.90	329	eP	P	18 47 47.9	+0.2
TCUT	Toone Canyon	56.04	329	eP	P	18 47 47.2	-1.4
DUG	Dugway	56.10	327	eP	P	18 47 49.5	+0.3
	comp=Z,77nm,1.5s,mb5.5						
DUG				LR	LR		
	comp=Z,578nm,20.0s,MS4.7						
DAC	Darwin (Calif)	56.25	321	PFAKE		18 48 00.0	+10
DAC				LR	LR		
	comp=Z,396nm,20.0s,MS4.5						
BW06	Boulder Array	56.37	332	PFAKE		18 48 00.0	+9.0
BW06				LR	LR		
	comp=Z,385nm,20.0s,MS4.5						
PDAR	Pinedale Array	56.37	332	P	P	18 47 50.4	-0.7
	comp=Z,6.3nm,0.9s,mb4.7,baz=149,slow=8.6,SNR=49						
PDAR				PcP	PcP	18 48 47.2	-0.6
	comp=Z,4.0nm,0.8s,baz=153,slow=3.3,SNR=4.6						
PDAR				LR	LR	19 12 53.4	
	comp=Z,296nm,18.5s,MS4.4,baz=143,slow=37						
TRCR	Troy Canyon	56.38	324	eP	P	18 47 51.9	+0.7
HWUT	Hardware Ranch	56.48	329	eP	P	18 47 51.4	-0.4
	comp=Z,34nm,1.0s,mb5.3						
HWUT				LR	LR		
	comp=Z,512nm,20.0s,MS4.6						
SPUT	South Promonto	56.71	329	eP	P	18 47 53.1	-0.4
SPUT				epP	pP	18 48 01.2	-0.6
BGU	Big Grassy Mou	56.74	328	eP	P	18 47 53.3	-0.4
AHID	Auburn Hatcher	57.11	331	PFAKE		18 48 10.0	+14
AHID				LR	LR		
	comp=Z,512nm,20.0s,MS4.6						
TPH	Tonopah	57.17	323	eP	P	18 47 55.9	-0.9
	comp=Z,5.4nm,0.8s,mb4.6						
TPH				LR	LR		
	comp=Z,381nm,19.0s,MS4.5						
HVU	Hansel Valley	57.22	329	eP	P	18 47 56.3	-0.8
REDW	Red Top Meadow	57.44	331	eP	P	18 47 57.9	-0.7
LOHW	Long Hollow	57.51	332	eP	P	18 47 57.9	-1.2
MTUM	Tungsten Hills	57.53	321	eP	P	18 47 59.3	-0.1
TPAW	Teton Pass	57.58	331	eP	P	18 47 59.1	-0.6
MOOW	Moose Ponds	57.68	332	eP	P	18 47 58.6	-1.7
ELK	Elko	57.81	326	eP	P	18 48 01.1	-0.2
	comp=Z,26nm,1.2s,mb5.1						
ELK				epP	pP	18 48 09.2	-0.3
ELK				LR	LR		
	comp=Z,525nm,20.0s,MS4.6						
IMW	Indian Meadow	57.88	332	eP	P	18 48 01.3	-0.4
IMW				epP	pP	18 48 09.8	-0.2
ULM	Lac du Bonnet	57.89	346	P	P	18 48 00.0	-1.7
	comp=Z,25nm,0.9s,mb5.2,baz=163,slow=7.2,SNR=14						
ULM				LR	LR	19 17 40.6	
	comp=Z,314nm,18.3s,MS4.5,baz=145,slow=41						
MNV	Mina	57.96	323	eP	P	18 48 02.6	+0.3
MNV				epP	pP	18 48 09.4	-1.2
MNV				LR	LR		
	comp=Z,231nm,20.0s,MS4.3						
OMM	Old Mammoth Mi	57.97	321	eP	P	18 48 02.8	+0.5
LAO	LASA Array	58.05	337	eP	P	18 48 02.2	-0.6
LAO				epP	pP	18 48 10.5	-0.6
NVAR	Mina Array Bea	58.05	322	P	P	18 48 03.4	+0.4
	comp=Z,13nm,0.8s,mb5.0,baz=132,slow=7.8,SNR=54						
NVAR				LR	LR	19 11 33.6	
	comp=Z,217nm,21.7s,MS4.2,baz=155,slow=34						
NVAR				PKP2bc		19 17 54.1	
	comp=Z,0.4nm,0.4s,baz=261,slow=0.3,SNR=7.0						
NVAR	Mina Array Bea	58.05	322	P	P	18 48 03.4	+0.4
NVAR				LR	LR	19 11 33.6	
NVAR				⇑e		19 17 54.1	
YFT	Old Faithful	58.26	332	eP	P	18 48 05.7	+1.4
RKT	Rikitea	58.29	246	eP	P	18 48 07.3	+2.5
	comp=Z,133nm,1.2s,mb5.8						
YNR	Norris Junctio	58.39	332	eP	P	18 48 05.7	+0.5
YMR	Madison River	58.48	332	eP	P	18 48 04.8	-1.1
LRV	Little Rabbit	58.53	319	eP	P	18 48 06.9	+0.6
BMN	Battle Mountai	58.71	325	PFAKE		18 48 20.0	+12
BMN				LR	LR		
	comp=Z,447nm,20.0s,MS4.6						
GCMT	Greycliff	58.76	334	eP	P	18 48 05.8	-2.0
DGMT	Dagmar	58.78	339	eP	P	18 48 08.1	+0.2
	comp=Z,60nm,1.2s,mb5.5						
DGMT				epP	pP	18 48 15.7	-0.5
DGMT				LR	LR		
	comp=Z,341nm,19.0s,MS4.5						
QLMT	Earthquake Lak	58.82	332	eP	P	18 48 08.8	+0.6
QLMT				epP	pP	18 48 15.6	-1.0
SAO	San Andreas Ge	59.01	319	PFAKE		18 48 20.0	+10
SAO				LR	LR		
	comp=Z,342nm,22.0s,MS4.4						
CMB	Columbia Colle	59.09	321	eP	P	18 48 10.0	-0.3
	comp=Z,7.7nm,1.0s,mb4.7						
CMB				LR	LR		
	comp=Z,243nm,19.0s,MS4.3						
HLID	Hailey	59.34	329	eP	P	18 48 11.9	0.0
	comp=Z,25nm,1.1s,mb5.2						
HLID				LR	LR		
	comp=Z,464nm,22.0s,MS4.6						
WCN	Washoe City	59.48	322	eP	P	18 48 13.4	+0.5
	comp=Z,42nm,1.3s,mb5.3						
WCN				epP	pP	18 48 22.0	+0.8
MCMT	McKenzie Canyo	59.49	331	P	P	18 48 10.1	-2.8
BOZ	Bozeman (W)	59.53	333	eP	P	18 48 12.6	-0.6
	comp=Z,55nm,1.2s,mb5.5						
BOZ				LR	LR		
	comp=Z,320nm,21.0s,MS4.4						
PMSA	Palmer Station	59.85	174	eP	P	18 48 14.5	-0.6
	comp=Z,43nm,1.3s,mb5.3						
PMSA				epP	pP	18 48 23.6	+0.2
PMSA				LR	LR		
	comp=Z,300nm,20.0s,MS4.4						
BEKR	Beckwourth	60.20	323	eP	P	18 48 18.2	+0.4
	comp=Z,22nm,1.0s,mb5.1						
BEKR				epP	pP	18 48 26.8	+0.6
HRY	Holter Researc	60.43	333	eP	P	18 48 18.9	-0.3
OHCM	Honcut	60.56	322	eP	P	18 48 20.6	+0.3
OHCM				epP	pP	18 48 28.3	-0.3
SCHQ	Schefferville	60.78	7	P	P	18 48 19.7	-1.8
	comp=Z,14nm,1.1s,mb5.0,baz=202,slow=7.6,SNR=3.0						
SCHQ				LR	LR	19 15 14.9	
	comp=Z,487nm,20.5s,MS4.6,baz=134,slow=37						
CHMT	Chamberlain Mo	61.23	333	eP	P	18 48 24.6	-0.1
MOD	Modoc	61.44	324	eP	P	18 48 25.9	-0.2
	comp=Z,2.7nm,0.6s,mb4.5						
MOD				LR	LR		
	comp=Z,366nm,22.0s,MS4.5						
MSO	Missoula	61.48	332	eP	P	18 48 26.1	-0.3
	comp=Z,62nm,1.5s,mb5.5						
MSO				LR	LR		
	comp=Z,268nm,22.0s,MS4.4						
WDC	Whiskeytown Da	61.96	322	eP	P	18 48 27.4	-2.3
	comp=Z,8.4nm,0.9s,mb4.9						
WDC				epP	pP	18 48 35.5	-2.6
YBH	Yreka Blue Hor	62.75	323	P	P	18 48 34.0	-0.9
	comp=Z,15nm,0.8s,mb5.1,baz=116,slow=4.2,SNR=24						
YBH	Yreka Blue Hor	62.75	323	P	P	18 48 34.0	-1.0
YBH				pmax	pmax		
	comp=Z,15nm,0.8s						
YBH	Yreka Blue Hor	62.75	323	eP	P	18 48 33.6	-1.3
	comp=Z,21nm,1.0s,mb5.2						
YBH				LR	LR		
	comp=Z,326nm,20.0s,MS4.5						
KHMM	Horse Mountain	62.86	322	eP	P	18 48 35.9	+0.2
LNOR	Lincton Mounta	62.93	329	eP	P	18 48 35.6	-0.5
WALA	Waterton Lakes	63.12	334	eP	P	18 48 37.0	-0.3
	comp=Z,21nm,0.9s,mb5.3						
KRMB	Red Mountain	63.35	322	eP	P	18 48 39.3	+0.4
HUMO	Hull Mountain	63.42	324	PFAKE		18 48 50.0	+11
HUMO				LR	LR		
	comp=Z,303nm,21.0s,MS4.5						
FFC	Flin Flon	63.53	344	eP	P	18 48 38.7	-1.2
	comp=Z,59nm,1.4s,mb5.4						
FFC				LR	LR		
	comp=Z,100nm,20.0s,MS4.0						
HAWA	Hanford	63.93	329	PFAKE		18 48 50.0	+7.3
HAWA				LR	LR		
	comp=Z,462nm,19.0s,MS4.7						
NEW	Newport	64.01	331	eP	P	18 48 42.6	-0.6
	comp=Z,28nm,1.0s,mb5.2						
NEW				epP	pP	18 48 51.3	-0.3
NEW				LR	LR		
	comp=Z,546nm,22.0s,MS4.7						
DPW	Davenport	64.26	331	eP	P	18 48 45.5	+0.7
DPW				epP	pP	18 48 53.8	+0.7
NLW	Nelson Butte	65.46	330	eP	P	18 48 52.8	+0.3
EDM	Edmonton	66.03	337	eP	P	18 48 55.0	-1.1
PGC	Sidney	67.41	329	eP	P	18 49 05.3	+0.3
	comp=Z,80nm,1.1s,mb5.7						
PMOR	Pomariorio Ree	70.00	256	eP	P	18 49 21.5	0.0
	comp=Z,70nm,1.0s,mb5.6						
TIAR	Tiarei	71.38	253	eP	P	18 49 29.7	-0.2
	comp=Z,72nm,0.9s,mb5.6						
TBI	Tubuai	71.58	247	eS	S	18 58 58.3	+11
	comp=Z,427nm,31.8s						
TBI				eR		19 11 50.6	
PPT	Papeete	71.60	253	P	P	18 49 32.8	+1.6
	comp=Z,12nm,0.3s,mb5.3,baz=22,slow=7.0,SNR=3.3						
PPT	Papeete	71.60	253	eP	P	18 49 31.5	+0.3
	comp=Z,72nm,1.3s,mb5.4						
PPT				eS	S	18 58 56.5	+9.1
	comp=Z,672nm,33.0s						
PPT				eR		19 12 00.6	
	comp=Z,690nm,23.8s						
PPT	Papeete	71.60	253	P	P	18 49 32.8	+1.6
PPT				pmax	pmax		
	comp=Z,12nm,0.3s						
PAE	Paea	71.61	253	eP	P	18 49 31.4	+0.2
	comp=Z,174nm,1.2s,mb5.8						
BBB	Bella Bella	71.92	330	P	P	18 49 32.7	+0.2
	comp=Z,31nm,1.1s,mb5.2,baz=84,slow=12,SNR=2.4						
BBB	Bella Bella	71.92	330	P	P	18 49 32.7	+0.2
LIC	Lamto	72.94	82	eP	P	18 49 38.6	-0.7
	comp=Z,104nm,1.2s,mb5.7						
LIC	Lamto	72.94	82	eP	P	18 49 38.5	-0.8
	comp=Z,46nm,1.2s,mb5.3						
TIC	Toumodi	73.00	81	eP	P	18 49 39.3	-0.4
	comp=Z,253nm,1.3s,mb6.0						
DBIC	Dimbokro	73.17	81	P	P	18 49 40.0	-0.7
	comp=Z,26nm,0.9s,mb5.2,baz=234,slow=8.2,SNR=18						
DBIC				LR	LR	19 20 42.5	
	comp=Z,1µm,18.3s,MS5.2,baz=230,slow=35						
DBIC	Dimbokro	73.17	81	P	P	18 49 40.0	-0.7
DBIC				pmax	pmax		
	comp=Z,26nm,0.9s						
DBIC				MLR	MLR		
	comp=Z,1µm,18.3s						
KIC	Kosan Boka	73.24	82	eP	P	18 49 40.5	-0.6
	comp=Z,220nm,1.1s,mb6.0						
YKA	Yellowknife Ar	73.64	343	P	P	18 49 41.7	-0.6
	comp=Z,5.1nm,0.8s,mb4.5,baz=135,slow=6.0,SNR=7.4						
YKA				LR	LR	19 25 18.7	
	comp=Z,201nm,19.2s,MS4.4,baz=160,slow=38						
YKA	Yellowknife Ar	73.64	343	P	P	18 49 41.7	-0.7
YKA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
YKA				MLR	MLR		
	comp=Z,201nm,19.2s						
YKA	Yellowknife Ar	73.64	343	P	P	18 49 41.7	-0.6
YKA				LR	LR	19 25 18.7	
PTEO	Sao Teotonio	76.56	49	eP	P	18 49 59.9	+0.3
	comp=Z,42nm,1.6s,mb5.1						
EVO	Evora	77.39	49	eP	P	18 50 03.9	-0.3
	comp=Z,77nm,1.4s,mb5.1						
EVO				eR			
	comp=Z,773nm,22.8s						
PTOM	Tomar	77.43	48	eP	P	18 50 04.6	+0.2
	comp=Z,39nm,1.2s,mb5.2						
PALC	Alcoutim	77.48	50	eP	P	18 50 04.8	+0.1
	comp=Z,27nm,0.9s,mb5.2						
VNA3	Neumayer Olymp	77.63	162	⇑iP	P	18 50 06.6	+1.7
VNA3	Neumayer Olymp	77.63	162	⇑i	pP	18 50 15.3	+1.9
VNA1	Neumayer--Stat	77.87	161	⇑iP	P	18 50 08.5	+2.3
VNA1	Neumayer--Stat	77.87	161	⇑i	pP	18 50 18.0	+3.3
EMAZ	Mazaricos	78.09	44	P	P	18 50 05.9	-2.1
	comp=Z,3.5nm,0.9s,mb4.3						
PVIS	Viseu	78.14	47	eP	P	18 50 08.5	+0.2
	comp=Z,39nm,1.5s,mb5.1						
EMIN	Mina Concepcio	78.18	50	P	P	18 50 08.3	-0.2
	comp=Z,6.9nm,1.2s,mb4.5						
PCBR	Castelo Branco	78.18	48	eP	P	18 50 08.6	+0.1
	comp=Z,21nm,1.6s,mb4.8						
EBAD	Badajoz	78.20	49	P	P	18 50 07.4	-1.3
	comp=Z,4.3nm,0.8s,mb4.4						
VNA2	Neumayer--Watz	78.23	162	⇑iP	P	18 50 10.1	+1.9
VNA2	Neumayer--Watz	78.23	162	⇑i	pP	18 50 18.8	+2.1
VNA2	Neumayer--Watz	78.23	162	⇑i	sP	18 50 22.1	+2.6
MTE	Manteigas	78.30	47	eP	P	18 50 08.7	-0.5
	comp=Z,31nm,1.4s,mb5.0						
MTE	Manteigas	78.30	47	eP	P	18 50 09.0	-0.2
	comp=Z,13nm,0.8s,mb4.9						
STS	Santiago	78.36	44	P	P	18 50 08.3	-1.1
ELOB	Lobios	78.38	45	P	P	18 50 08.8	-0.8
	comp=Z,8.3nm,1.6s,mb4.4						
PVRL	Vila Real	78.44	46	eP	P	18 50 10.1	+0.1
	comp=Z,29nm,1.2s,mb5.1						
ESPR	Espera	78.55	51	P	P	18 50 10.6	0.0
	comp=Z,7.7nm,1.1s,mb4.5						
ERUA	La Rua	79.19	45	P	P	18 50 13.2	-0.9
	comp=Z,12nm,1.3s,mb4.7						
PBRG	Braganca	79.30	46	eP	P	18 50 14.8	+0.2
	comp=Z,29nm,1.4s,mb5.0						
EMIJ	Mijas	79.31	51	P	P	18 50 15.6	+0.8
	comp=Z,14nm,1.0s,mb4.8						
ECAL	Calabor	79.35	46	P	P	18 50 14.2	-0.7
	comp=Z,14nm,1.0s,mb4.8						
EPON	Pontenova	79.48	44	P	P	18 50 14.2	-1.3
	comp=Z,17nm,0.9s,mb5.0						
SNAA	Sanae	79.84	162	⇑iP	P	18 50 16.8	-0.2
SNAA	Sanae	79.84	162	⇑i	pP	18 50 24.9	-0.6
SNAA	Sanae	79.84	162	⇑i	pP	18 50 28.5	+3.0
EADA	Adamuz	79.88	50	P	P	18 50 17.5	-0.3
	comp=Z,7.8nm,1.4s,mb4.5						
ELOJ	Sierra Loja	79.94	51	P	P	18 50 18.7	+0.5
	comp=Z,12nm,1.1s,mb4.7						
ELUQ	Luque	79.96	50	P	P	18 50 18.7	+0.4
ERON	Agron	80.17	51	P	P	18 50 20.1	+0.7
	comp=Z,13nm,0.6s,mb5.0						
ESDC	Sonseca Array	80.73	48	P	P	18 50 23.1	+0.8
	comp=Z,6.3nm,0.9s,mb4.5,baz=262,slow=5.3,SNR=20						
ESDC				LR	LR	19 24 26.5	
	comp=Z,295nm,19.5s,MS4.6,baz=255,slow=34						
ESDC	Sonseca Array	80.73	48	P	P	18 50 22.2	-0.1
EARI	Arriondas	80.82	45	P	P	18 50 21.7	-1.0
	comp=Z,25nm,1.1s,mb5.1						
EQES	Quesada	80.94	50	P	P	18 50 23.8	+0.3
	comp=Z,16nm,0.8s,mb5.0						
EVIA	Vianos	81.57	50	P	P	18 50 27.1	+0.3
	comp=Z,12nm,1.0s,mb4.8						
SUMG	Summit	81.82	11	eP	P	18 50 28.0	+0.6
	comp=Z,39nm,1.1s,mb5.2						
SUMG				epP	pP	18 50 36.4	+0.5
ELAN	Lanestosa	82.05	45	P	P	18 50 28.7	-0.5
	comp=Z,9.5nm,1.0s,mb4.7						
ETOR	Torete	82.44	48	P	P	18 50 30.9	-0.2
	comp=Z,10nm,0.9s,mb4.8						
BST	Brest	83.01	40	⇑eP	P	18 50 34.6	+0.6
DAWY	Dawson	83.25	337	eP	P	18 50 35.1	+0.2
EBEN	Beniarda	83.32	50	P	P	18 50 36.0	+0.2
	comp=Z,29nm,1.3s,mb5.2						
INK	Inuvik	83.36	342	eP	P	18 50 35.6	+0.2
	comp=Z,69nm,1.1s,mb5.6						
INK				epP	pP	18 50 41.7	-2.2
EALK	Alkurruntz	83.41	45	P	P	18 50 35.6	-0.5
	comp=Z,17nm,1.4s,mb4.9						
QUIF	Quistinic	83.48	41	eP	P	18 50 36.8	+0.4
	comp=Z,75nm,1.2s,mb5.3						
EMOS	Mosqueruela	83.50	48	P	P	18 50 36.8	+0.1
	comp=Z,8.8nm,0.8s,mb4.9						
ROSF	Rostrenen	83.53	40	eP	P	18 50 36.9	+0.3
	comp=Z,150nm,1.5s,mb5.6						
SJPF	Ste Jean	83.58	46	eP	P	18 50 37.9	+0.8
	comp=Z,124nm,1.5s,mb5.5						
LARF	Larrau	83.74	46	⇑eP	P	18 50 38.8	+0.9
ESAC	San Caprasio	83.81	47	P	P	18 50 38.0	-0.3

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            comp=Z,24nm,0.8s,mb5.4
SGMF  Saint Gilles      83.96  40  eP      P        18 50 39.2 +0.3
            comp=Z,95nm,1.1s,mb5.5
FDAF  Les Forges d'A    83.99  46⇑eP      P        18 50 40.0 +0.9
ETSF  Etsaut            84.01  46  eP      P        18 50 40.2 +1.0
            comp=Z,50nm,1.2s,mb5.2
REYF  Montagne du Re    84.17  46⇑eP      P        18 50 41.0 +1.0
EBR   Ebro Roquetas     84.32  48  eP      P        18 50 42.3 +1.4
VIEF  Viey              84.42  46⇑eP      P        18 50 42.3 +1.0
MAIT  Maitri            84.43 161  eP      P        18 50 41.3 +0.6
LABF  Labassere         84.50  46⇑eP      P        18 50 42.5 +0.8
QSPA  South Pole Qui    84.54 180  eP      P        18 50 41.4 +0.3
            comp=Z,42nm,1.0s,mb5.5
QSPA                               LR      LR
            comp=Z,180nm,21.3s,MS4.4
RESF  Ens               84.63  46⇑eP      P        18 50 43.6 +1.2
EPF   Esparros          84.68  46  eP      P        18 50 43.5 +0.9
            comp=Z,226nm,1.6s,mb5.8
DIV   Divide            84.72 333  PFAKE            18 50 50.0 +7.7
DIV                                LR      LR
            comp=Z,1µm,20.0s,MS5.3
EPOB  Poblet            84.86  48  P       P        18 50 43.5  0.0
            comp=Z,13nm,1.4s,mb4.9
MELF  Melles            84.95  46⇑eP      P        18 50 44.8 +0.9
GRR   Gorron            85.09  41  eP      P        18 50 44.8 +0.3
            comp=Z,113nm,1.3s,mb5.5
MFF   Saint Martin d    85.14  42  eP      P        18 50 45.1 +0.3
            comp=Z,59nm,1.0s,mb5.3
MLS   Moulis            85.21  46⇑eP      P        18 50 45.8 +0.6
SALF  Salau             85.23  46⇑eP      P        18 50 46.6 +1.2
EMIR  Miracle           85.31  47  P       P        18 50 45.7 -0.1
            comp=Z,20nm,1.0s,mb5.2
LFF   La Frestale       85.38  44  eP      P        18 50 46.4 +0.4
FLN   La Foliniere      85.43  40  eP      P        18 50 46.5 +0.3
            comp=Z,86nm,1.2s,mb5.5
FLN                                eR
            comp=Z,380nm,20.0s
ESK   Eskdalemuir       85.50  33  PFAKE            18 51 00.0  +14
ESK                                LR      LR
            comp=Z,82nm,19.0s,MS4.1
LDF   La Druitiere      85.62  40  eP      P        18 50 47.3 +0.2
            comp=Z,100nm,1.3s,mb5.6
RJF   Les Rejaudoux     85.99  44  eP      P        18 50 49.1  0.0
            comp=Z,91nm,1.3s,mb5.6
RJF                                eR
            comp=Z,352nm,20.2s
MTLF  Montolieu         86.09  46  eP      P        18 50 49.8 +0.2
            comp=Z,76nm,1.4s,mb5.4
FILF  Fillols           86.19  47⇑eP      P        18 50 50.1  0.0
CAF   Calviac           86.30  44  eP      P        18 50 50.5 -0.1
            comp=Z,38nm,1.2s,mb5.2
PMR   Palmer            86.40 333  PFAKE            18 51 00.0 +9.3
PMR                                LR      LR
            comp=Z,286nm,22.0s,MS4.6
EJON  La Jonquera       86.40  47  P       P        18 50 51.9 +0.7
            comp=Z,7.8nm,1.1s,mb4.8
ILAR  Eielson Array     86.51 336  P       P        18 50 51.1  0.0
            comp=Z,9.1nm,0.9s,mb5.0,baz=129,slow=3.5,SNR=50
ILAR                               PP      PP       18 54 12.2 -2.6
            comp=Z,1.6nm,1.1s,baz=108,slow=5.8,SNR=5.3
ILAR  Eielson Array     86.51 336  P       P        18 50 51.1  0.0
ILAR                                                18 54 12.3
ILAR                               pmax    pmax
            comp=Z,9.0nm,1.0s
ILAR                               pmax    pmax
            comp=Z,2.0nm,1.1s
TCF   Toulx Ste Croi    86.67  43  eP      P        18 50 52.2 -0.2
            comp=Z,24nm,1.1s,mb5.0
COLA  College           86.93 336c iP      P        18 50 53.2  0.0
COLA                               pmax    pmax
            comp=Z,16nm,2.1s,mb4.9
COLA                               MLR     MLR
            comp=Z,100nm,6.0s
COLA  College           86.93 336  eP      P        18 50 53.6 +0.4
COLA                               LR      LR
            comp=Z,173nm,22.0s,MS4.4
MCK   McKinley          87.00 335  eP      P        18 50 53.3 -0.2
            comp=Z,14nm,1.1s,mb5.1
MCK                                LR      LR
            comp=Z,194nm,20.0s,MS4.5
PYM   Petit Puy Mans    87.11  44⇑eP      P        18 50 54.8 +0.3
HYF   Humbligny         87.15  42  eP      P        18 50 54.8 +0.1
BGF   Bois d'Agland     87.15  43  eP      P        18 50 54.6 -0.1
            comp=Z,32nm,1.0s,mb5.2
LBL   Lubilhac          87.18  44⇑eP      P        18 50 55.3 +0.4
AGO   Saint Agoulin     87.25  43  eP      P        18 50 55.3 +0.1
LASF  Ste Croix         87.40  45  eP      P        18 50 56.2 +0.2
            comp=Z,19nm,1.0s,mb5.0
AVF   Avril sur Loir    87.54  43  eP      P        18 50 55.8 -0.8
            comp=Z,16nm,0.9s,mb5.0
SPU   Mount Spurr       87.62 332  eP      P        18 50 56.4 -0.2
SSF   Saint Saulge      87.69  42  eP      P        18 50 56.6 -0.7
            comp=Z,24nm,1.0s,mb5.1
RSO   Redoubt South     87.76 331  eP      P        18 50 57.7 +0.4
SMF   Signal de Mont    87.84  43  eP      P        18 50 57.7 -0.3
            comp=Z,39nm,1.0s,mb5.3
LOR   Lormes            87.97  42  eP      P        18 50 57.6 -1.0
            comp=Z,28nm,1.1s,mb5.1
LOR                                eR
            comp=Z,380nm,22.0s
VIVF  Saint-Julien-l    88.11  45  eP      P        18 50 59.8 +0.5
DAG   Danmarks Havn     88.50  11⇑iP      P        18 51 01.4 +0.9
            comp=Z,10nm,1.1s,mb5.0
DAG   Danmarks Havn     88.50  11⇑eP      P        18 51 01.4 +0.9
            comp=Z,10nm,1.1s,mb5.0
SMRF  Simiane la Rot    88.60  46  eP      P        18 51 01.5 -0.2
            comp=Z,22nm,1.1s,mb5.1
BAIF  Baives            88.69  40  eP      P        18 51 01.8 -0.2
ORIF  Oris-en-Rattie    88.96  45  eP      P        18 51 03.8 +0.4
            comp=Z,38nm,1.1s,mb5.3
ORIF                               eR
            comp=Z,665nm,18.8s
MEZF  Maizieres J'vi    88.97  41  eP      P        18 51 03.2 -0.2
GIVF  Givet             89.09  40  eP      P        18 51 03.7 -0.2
LMR   La Mourre         89.17  46  eP      P        18 51 04.7 +0.2
            comp=Z,62nm,1.2s,mb5.5
FRF   La Foret Royal    89.31  46  eP      P        18 51 05.0 -0.1
            comp=Z,52nm,0.9s,mb5.5
CABF  La Chapelle       89.36  43  eP      P        18 51 05.2 -0.1
            comp=Z,47nm,1.0s,mb5.5
CALN  Calern            89.51  46  eP      P        18 51 06.3 +0.3
THEF  They Montfort     89.54  42⇑eP      P        18 51 05.9 -0.2
BNI   Bardonecchia      89.54  45  eP      P        18 51 06.9 +0.7
            comp=Z,14nm,1.0s,mb5.3
MBDF  Montbardon        89.56  45  eP      P        18 51 06.6 +0.3
            comp=Z,23nm,1.1s,mb5.1
RRL   Cesana Torines    89.60  45  P       P        18 51 07.7 +1.3
IMA   Indian Mountai    89.61 337  eP      P        18 51 06.5 +0.5
LPL   La Plagne         89.65  44  eP      P        18 51 07.3 +0.6
            comp=Z,28nm,0.9s,mb5.3
LPG   La Plagne         89.66  44  eP      P        18 51 07.6 +0.9
            comp=Z,40nm,1.0s,mb5.4
MVIF  Mont Vial         89.72  46  eP      P        18 51 07.1 +0.1
HAU   Haudompre         89.75  42  eP      P        18 51 06.2 -0.9
            comp=Z,22nm,1.0s,mb5.1
HAU                                eR
            comp=Z,276nm,22.0s
PZZ   Prazzo            89.76  45  P       P        18 51 07.9 +0.7
FENE  Fenestrelle       89.81  45  P       P        18 51 07.8 +0.4
AURF  Auriere           89.84  46  eP      P        18 51 07.6  0.0
WLF   Walferdange       89.87  40  eP      P        18 51 08.1 +0.6
            comp=Z,35nm,1.0s,mb5.6
STV   Sta Anna Valdi    89.89  46  P       P        18 51 07.9 +0.1
STV2  Anna di Valdie    89.89  46  P       P        18 51 08.0 +0.2
HGN   Heimansgroeve     89.90  39  eP      P        18 51 06.5 -1.2
            comp=Z,13nm,0.9s,mb5.2
HGN   Heimansgroeve     89.90  39  eS      SKS      19 01 40.3 -2.2
SBF   Sospel            89.92  46  eP      P        18 51 07.7 -0.2
            comp=Z,46nm,1.0s,mb5.5
BHB   Bricherasio       89.92  45  P       P        18 51 08.0  0.0
AUTN  L'Aution          89.93  46  eP      P        18 51 08.3 +0.3
LSD   Ceresole Reale    89.93  44  P       P        18 51 08.5 +0.6
RSP   Reno Superiore    89.96  45  P       P        18 51 08.7 +0.5
SAOF  Saorge            90.02  46  eP      P        18 51 08.3 -0.1
HINF  Hinteralfeld      90.06  42  eP      P        18 51 07.5 -1.0
            comp=Z,14nm,1.0s,mb5.0
NEGI  Negi              90.11  46  P       P        18 51 07.3 -1.6
MONE  Monesi            90.17  46  P       P        18 51 08.8 -0.4
IMI   Imperia           90.25  46  P       P        18 51 08.8 -0.7
MOF   Molkenrain        90.25  42⇑eP      P        18 51 08.9 -0.5
ROB   Roburent          90.28  46  P       P        18 51 09.0 -0.7
ECH   Echery            90.32  42⇑eP      P        18 51 09.6 -0.1
TRAV                    90.35  44  P       P        18 51 09.2 -0.8
CDF   Champ du Feu      90.42  42  eP      P        18 51 09.9 -0.3
            comp=Z,31nm,0.9s,mb5.3
RUP   Ruppelstein       90.46  40⇑eP      P        18 51 10.7 +0.4
WLS   Welschbruch       90.47  42⇑eP      P        18 51 10.2 -0.2
FIN   Finale Ligure     90.51  46  P       P        18 51 08.0 -2.7
MCGN  Macugnaga         90.58  44  eP      P        18 51 12.0 +1.0
WTSB  Winterswijk       90.61  38  eP      P        18 51 11.5 +0.5
            comp=Z,14nm,1.4s,mb5.1
PCP   Pian Castagno     90.79  45  P       P        18 51 08.9 -3.1
FELD  Feldberg          90.83  42⇑eP      P        18 51 12.0 -0.1
LANF  Langenberg        90.84  41  eP      P        18 51 12.0 -0.1
PGF   Pioggiola         90.89  48  eP      P        18 51 12.4  0.0
            comp=Z,54nm,1.4s,mb5.4
BFO   Black Forest      91.11  42  eP      P        18 51 13.4 +0.1
BFO                                pmax    pmax
            comp=Z,7.0nm,1.0s,mb5.0
BFO   Black Forest      91.11  42  eP      P        18 51 13.4 +0.1
            comp=Z,7.0nm,1.0s,mb5.0
CODM                    91.70  46  P       P        18 51 09.9 -6.3
ZCCA  Zocca             92.50  46  eP      P        18 51 20.6 +0.7
CSNT  Castellina Chi    92.65  47  eP      P        18 51 21.6 +1.1
TSUM  Tsumeb            92.65 109  LR      LR       19 27 16.6
            comp=Z,161nm,21.5s,MS4.4,baz=246,slow=32
TSUM  Tsumeb            92.65 109  PFAKE            18 51 30.0 +8.9
TSUM                               LR      LR
            comp=Z,724nm,20.0s,MS5.1
CLZ   Clausthal         92.80  38  eP      P        18 51 22.2 +1.2
            comp=Z,29nm,1.6s,mb5.5
BSEG  Bad Segeberg      92.96  36  eP      P        18 51 22.4 +0.7
BSEG                               pmax    pmax
            comp=Z,15nm,1.1s,mb5.3
KONO  Kongsberg         93.11  31  PFAKE            18 51 30.0 +7.8
KONO                               LR      LR
            comp=Z,355nm,22.0s,MS4.8
CTI   Castel Tesino     93.13  44  eP      P        18 51 22.9 +0.3
GRA1  Grafenberg Arr    93.14  41  eP      P        18 51 23.6 +1.0
            comp=Z,22nm,1.7s,mb5.3
GRA1                               epP     pP       18 51 32.3 +1.1
GRA1                               LR      LR
            comp=Z,300nm,20.5s,MS4.7
GRF   Grafenberg Arr    93.14  41  eP      P        18 51 23.6 +1.0
GRF                                *PP     pP       18 51 32.3 +1.1
GRF                                pmax    pmax
            comp=Z,22nm,1.7s,mb5.3
GRF                                MLR     MLR
            comp=Z,300nm,20.5s,MS4.7
MOX   Moxa              93.47  40  i P     P        18 51 25.2 +1.1
            comp=Z,logA/T=1.2,mb5.4
MOX                                L                19 32 57.0
MOX   Moxa              93.47  40  eP      P        18 51 25.2 +1.1
MOX                                pmax    pmax
            comp=Z,26nm,1.8s,mb5.4
MOX                                MLR     MLR
            comp=Z,200nm,20.0s,MS4.6
MOX   Moxa              93.47  40  eP      P        18 51 25.2 +1.1
            comp=Z,26nm,1.8s,mb5.4
MOX                                LR      LR
            comp=Z,200nm,20.0s,MS4.6
SUR   Sutherland        93.75 123  LR      LR       19 31 47.4
            comp=Z,398nm,19.2s,MS4.9,baz=163,slow=34
NKC   Novy Kostel       93.97  40  eP      P        18 51 27.2 +0.8
NKC                                epP     pP       18 51 36.0 +1.0
NKC                                eSKS    SKS      19 02 03.3 -2.5
NKC                                eSP     SP       19 03 50.9 -0.2
NKC                                LR               19 32 30.0
            comp=Z,0.3nm,18.8s
NOA   NORSAR Array B    94.03  29  P       P        18 51 26.6 +0.2
            comp=Z,0.8nm,0.9s,baz=269,slow=4.1,SNR=2.6
NOA                                LR      LR       19 33 16.8
            comp=Z,170nm,18.5s,baz=275,slow=35
NOA   NORSAR Array B    94.03  29  P       P        18 51 26.6 +0.2
NOA                                pmax    pmax
            comp=Z,1.0nm,0.9s
NOA                                MLR     MLR
            comp=Z,170nm,18.5s
PTQR  Pietraquaria      94.09  48  eP      P        18 51 28.3 +1.1
SYO   Syowa Base        94.11 161  ⇑P      P        18 51 24.0 -2.7
SYO   Syowa Base        94.11 161  ⇑PcP    PcP      18 51 26.9 -0.5
SYO   Syowa Base        94.11 161  ⇓pP     pP       18 51 36.0 +0.7
WET   Wettzell          94.18  41  eP      P        18 51 28.0 +0.6
WET                                pmax    pmax
            comp=Z,42nm,2.4s,mb5.4
WET   Wettzell          94.18  41  eP      P        18 51 28.0 +0.6
            comp=Z,42nm,2.4s,mb5.4
SDI   San Donato        94.38  49  eP      P        18 51 29.1 +0.6
CLL   Collm             94.39  39  P       P        18 51 29.0 +0.7
CLL                                e*SP    sP       18 51 38.0 -1.7
CLL   Collm             94.39  39  eP      P        18 51 29.0 +0.7
CLL                                e       pP       18 51 38.0 +1.1
CLL                                MLR     MLR
            comp=Z,300nm,19.7s,MS4.8
KHC   Kasperske Hory    94.64  41  eP      P        18 51 29.8 +0.3
KHC                                epP     pP       18 51 38.0 -0.1
KHC                                eSKS    SKS      19 02 02.8 -6.7
KHC                                eSP     SP       19 03 51.3 -7.2
KHC                                eSS     SS       19 09 09.3 +4.1
KHC                                LR               19 30 40.0
            comp=Z,0.2nm,22.6s
KHC   Kasperske Hory    94.64  41  eP      P        18 51 29.8 +0.3
KHC                                e*PP    pP       18 51 38.0 -0.1
KHC                                e                19 02 02.8
KHC                                eSS     SS       19 09 09.3 +4.1
KHC                                MLR     MLR
            comp=Z,200nm,22.6s,MS4.5
GEC2  GERESS Array S    94.70  42  eP      P        18 51 29.9 +0.1
GEC2                               pmax    pmax
            comp=Z,2.0nm,0.9s,mb4.5
GEC2  GERESS Array S    94.70  42  eP      P        18 51 29.9 +0.1
            comp=Z,2.0nm,0.9s,mb4.5
GERES GERESS Array B    94.70  42  P       P        18 51 29.9  0.0
            comp=Z,1.2nm,0.8s,mb4.3,baz=256,slow=5.5,SNR=8.1
GERES GERESS Array B    94.70  42  P       P        18 51 29.9 +0.1
GERES                              pmax    pmax
            comp=Z,1.0nm,0.9s
JAVS  Javornik          94.80  44  eP      P        18 51 39.1 +8.8
BRG   Berggiesshubel    94.96  39  eP      P        18 51 32.1 +1.1
BRG                                pmax    pmax
            comp=Z,12nm,1.1s,mb5.2
BRG                                MLR     MLR
            comp=N,200nm,19.0s,MS4.8
BRG                                MLR     MLR
            comp=E,230nm,19.0s,MS4.8
BRG                                MLR     MLR
            comp=Z,360nm,18.6s,MS4.9
BRG   Berggiesshubel    94.96  39  eP      P        18 51 32.1 +1.1
            comp=Z,12nm,1.1s,mb5.2
BRG                                LR      LR
            comp=Z,360nm,18.6s,MS4.9
HFS   Hagfors           95.20  30  P       P        18 51 32.0 +0.1
            comp=Z,2.9nm,0.9s,mb4.7,baz=45,slow=17,SNR=3.6
HFS   Hagfors           95.20  30  P       P        18 51 32.0 +0.2
HFS                                pmax    pmax
            comp=Z,3.0nm,1.0s
PRU   Pruhonice         95.31  40  eP      P        18 51 33.2 +0.6
PRU                                epP     pP       18 51 39.8 -1.4
PRU                                ex      x        19 01 50.9
PRU                                eSP     SP       19 04 04.7 -1.1
PRU                                eSS     SS       19 09 17.6 +3.1
PRU                                L                19 28 50.0
PRU   Pruhonice         95.31  40  eP      P        18 51 33.2 +0.6
PRU                                e*PP    pP       18 51 39.8 -1.4
PRU                                eSP     SP       19 04 04.7 -1.1
PRU                                eSS     SS       19 09 17.6 +3.1
PVCC  Panska Ves        95.34  40  eP      P        18 51 33.6 +0.9
PVCC                               epP     pP       18 51 43.0 +1.6
PVCC                               LR               19 33 30.0
            comp=Z,0.4nm,20.4s
SGO   Sicignano         95.44  50  eP      P        18 51 33.8 +0.4
MGR   Morigerati        95.61  50  eP      P        18 51 34.5 +0.2
UPC   Upice             96.26  40  eP      P        18 51 37.8 +0.8
UPC                                epP     pP       18 51 47.0 +1.4
DPC   Dobruska-Polom    96.46  40  eP      P        18 51 38.5 +0.7
DPC                                epP     pP       18 51 47.8 +1.3
DPC                                eSKS    SKS      19 02 17.1 -2.2
DPC                                eSP     SP       19 04 09.3 -9.2
DPC                                eSS     SS       19 09 38.7 +8.0
DPC                                LR               19 30 20.0
            comp=Z,0.3nm,23.2s
DPC   Dobruska-Polom    96.46  40  eP      P        18 51 38.5 +0.7
DPC                                e*PP    pP       18 51 47.8 +1.3
DPC                                e                19 02 17.1
DPC                                eSS     SS       19 09 38.7 +8.0
DPC                                MLR     MLR
            comp=Z,300nm,23.2s,MS4.7
VRAC  Vranov            96.62  41  P       P        18 51 39.4 +0.8
            comp=Z,1.9nm,0.5s,mb4.8,baz=281,slow=8.7,SNR=2.9
ZST   Bratislava        96.94  42  eP      P        18 51 41.0 +0.9
ZST                                e       pP       18 51 49.9 +1.2
MORC  Moravsky Berou    97.24  41  eP      P        18 51 42.6 +1.2
MORC                               epP     pP       18 51 51.8 +1.8
OKC   Ostrava-Krasne    97.63  41  eP      P        18 51 43.4 +0.3
OKC                                epP     pP       18 51 52.7 +0.9
OKC                                eSP     SP       19 04 25.6 -5.2
OKC                                LR               19 33 20.0
            comp=Z,0.3nm,22.3s
VYHS  Vyhne             98.10  42  eP      P        18 51 45.9 +0.6
VYHS                               e       pP       18 51 55.0 +1.1
URZ   Urewera           98.81 230  LR      LR       19 27 34.0
            comp=Z,880nm,19.1s,MS5.3,baz=124,slow=30
ARCES ARCESS Array B    99.60  20  P       P        18 51 50.7 -0.8
            comp=Z,2.9nm,1.0s,mb4.7,baz=315,slow=12,SNR=3.7
ARCES                              LR      LR       19 35 53.3
            comp=Z,110nm,18.8s,MS4.4,baz=27,slow=35
ARCES ARCESS Array B    99.60  20  P       P        18 51 50.7 -0.9
ARCES                              pmax    pmax
            comp=Z,3.0nm,1.0s
ARCES                              MLR     MLR
            comp=Z,110nm,18.8s
ARCES ARCESS Array B    99.60  20  P       P        18 51 50.7 -0.9
ARCES                              LR      LR       19 35 53.2
LSZ   Lusaka           103.24 107  PFAKE            18 52 20.0  +11
LSZ                                LR      LR
            comp=Z,851nm,20.0s,MS5.3
AKASG Malin Array Be   104.64  39  PP      PP       18 56 31.9 -4.8
            comp=Z,0.2nm,0.2s,baz=281,slow=6.4,SNR=4.4
MBAR  Mbarara          107.75  92  PFAKE            18 56 50.0
MBAR                               LR      LR
            comp=Z,180nm,20.0s,MS4.6
OBN   Obninsk          107.99  34  P       Pdif     18 52 29.5 +0.5
OBN                                pmax    pmax
            comp=Z,2.0nm,0.9s
OBN                                MLR     MLR
            comp=Z,200nm,21.0s,MS4.7
OBN   Obninsk          107.99  34  PFAKE            18 56 50.0
OBN                                LR      LR
            comp=Z,64nm,19.0s,MS4.2
CASY  Casey            108.13 183  PFAKE            18 56 50.0
CASY                               LR      LR
            comp=Z,556nm,19.0s,MS5.1
TIXI  Tiksi            112.00 351  PFAKE            18 57 00.0  +13
TIXI                               LR      LR
            comp=Z,252nm,22.0s,MS4.8
KMBO  Kilima Mbogo     114.16  94  PFAKE            18 57 00.0 +7.6
KMBO                               LR      LR
            comp=Z,550nm,21.0s,MS5.1
KIV   Kislovodsk       115.10  44  PFAKE            18 57 00.0 +6.5
KIV                                LR      LR
            comp=Z,31nm,22.0s,MS3.9
WAKE  Wake Island      116.52 289  PFAKE            18 57 10.0  +13
WAKE                               LR      LR
            comp=Z,81µm,21.0s
GNI   Garni            117.70  47  PFAKE            18 57 10.0  +11
GNI                                LR      LR
            comp=Z,84nm,20.0s,MS4.4
ARU   Arti             118.41  26  ePKIKP  PKPdf    18 56 54.9 -4.7
YAK   Yakutsk          120.23 346c iPKIKP  PKPdf    18 56 58.0 -5.0
YAK                                MLR     MLR
            comp=Z,100nm,24.0s,MS4.4
YAK   Yakutsk          120.23 346  PFAKE            18 57 10.0 +7.0
YAK                                LR      LR
            comp=Z,190nm,21.0s,MS4.7
ZRNK  Zerenda          125.23  24  ePKPdf  PKPdf    18 57 09.4 -3.4
ZRNK                               epPKPdf          18 57 17.1
BRVK  Borovoye         125.66  24  ePKPdf  PKPdf    18 57 10.3 -3.4
BRVK                               LR      LR
            comp=Z,61nm,20.0s,MS4.3
YSS   Yuzh-Sakhalins   126.38 327  PFAKE            18 57 20.0 +4.8
YSS                                LR      LR
            comp=Z,170nm,20.0s,MS4.7
BOD   Bodaibo          127.15 353  ePKIKP  PKPdf    18 57 11.3 -5.1
STKA  Stephens Creek   127.58 222  eP      PKPdf    18 57 14.0 -4.0
            comp=Z,4.6nm,0.9s
STKA  Stephens Creek   127.58 222  PKP     PKPdf    18 57 13.3 -4.7
            comp=Z,5.0nm,0.9s,baz=39,slow=1.8,SNR=11
NVS   Novosibirsk      128.38  14  i PKIKP PKPdf    18 57 14.5 -4.4
NVS                                i                18 57 22.6
NVS                                pmax    pmax
            comp=Z,28nm,1.9s
NVS                                pmax    pmax
            comp=N,3.0nm,0.8s
NVS                                pmax    pmax
            comp=E,6.0nm,1.3s
ERM   Erimo            129.03 322  PFAKE            18 57 30.0 +9.5
ERM                                LR      LR
            comp=Z,136nm,22.0s,MS4.6
CTAO  Charters Tower   130.30 238  PFAKE            18 57 30.0 +6.5
CTAO                               LR      LR
            comp=Z,336nm,19.0s,MS5.1
KURK  Kurchatov        130.64  20c iPKIKP  PKPdf    18 57 20.0 -3.3
KURK  Kurchatov        130.64  20  ePKPdf  PKPdf    18 57 20.0 -3.3
KURK                               eSKP             19 00 41.6
KURK                               LR      LR
            comp=Z,59nm,19.0s,MS4.3
PMG   Port Moresby     133.41 252  PFAKE            18 57 40.0  +11
PMG                                LR      LR
            comp=Z,359nm,19.0s,MS5.1
MDJ   Mudanjiang       134.60 333  PKP     PKPdf    18 57 25.8 -5.1
MDJ                                PP      PP       19 00 01.3 -2.1
MDJ                                PP      PP
            comp=Z,60nm,7.2s
MDJ                                LR      LR
            comp=N,60nm,27.0s,MS4.4
MDJ                                LR      LR
            comp=E,64nm,24.9s,MS4.4
MDJ                                LR      LR
            comp=Z,106nm,21.8s,MS4.5
USP   Ospenovka        134.88  29  P       PKPdf    18 57 29.1 -2.4
            SNR=6.2
EKS2  Erkin-Say        134.96  30  P       PKPdf    18 57 29.7 -2.0
            SNR=13
MKAR  Makanchi Array   135.25  20  PKP     PKPdf    18 57 28.5 -3.6
            comp=Z,7.6nm,0.8s,baz=358,slow=2.0,SNR=29
MKAR  Makanchi Array   135.25  20  PKIKP   PKPdf    18 57 28.5 -3.6
MKAR                               pmax    pmax
            comp=Z,8.0nm,0.8s
AML   Almayashu        135.31  31  P       PKPdf    18 57 30.6 -1.7
            SNR=9.8
ZAK   Zakamensk        135.32 360  ePKIKP  PKPdf    18 57 23.8 -8.3
AAK   Ala-Archa        135.34  30  P       PKPdf    18 57 30.4 -2.0
            SNR=6.3
AAK   Ala-Archa        135.34  30  ePKPdf  PKPdf    18 57 29.1 -3.2
AAK                                LR      LR
            comp=Z,54nm,20.0s,MS4.3
UCH   Uchtor           135.65  30  P       PKPdf    18 57 31.6 -1.4
            SNR=7.6
KZA   Kyzart           136.13  30  P       PKPdf    18 57 32.6 -1.2
            SNR=5.8
CN2   Changchun        137.03 336  ePKP    PKPdf    18 57 29.8 -5.5
CN2                                ePP     PP       19 00 16.3 -1.8
CN2                                LR      LR
            comp=N,200nm,16.0s,MS5.1
CN2                                LR      LR
            comp=E,200nm,16.0s,MS5.1
CN2                                LR      LR
            comp=Z,400nm,18.0s,MS5.2
ULN   Ulaanbaatar      137.69 356  PFAKE            18 57 50.0  +13
ULN                                LR      LR
            comp=Z,237nm,21.0s,MS4.9
SONM  Songino Array    137.76 356  PKP     PKPdf    18 57 33.3 -3.3
            comp=Z,7.0nm,0.9s,baz=180,slow=2.5,SNR=5.5
ASAR  Alice Springs    138.02 225  PKhKP            18 57 26.4
            comp=Z,2.9nm,0.8s,baz=144,slow=2.0,SNR=26
ASAR                               PKP     PKPdf    18 57 33.5 -4.3
            comp=Z,5.4nm,0.9s,baz=135,slow=1.7,SNR=19
KSH   Kashi            138.40  32  ePKP    PKPdf    18 57 37.0 -1.1
KSH                                eXPKP            18 57 51.5
KSH                                ePKS    PKS      19 01 11.0 +2.7
KSH                                eSKS    SKS      19 04 41.5 -5.7
WMQ   Urumqi           139.62  17  PKP     PKPdf    18 57 35.0 -5.1
WMQ                                XPKP             18 57 49.5
WMQ                                PP      PP       19 00 34.3 -0.3
WMQ                                SKKS             19 07 20.0
WMQ                                LR      LR
            comp=N,92nm,24.0s,MS4.8
WMQ                                LR      LR
            comp=E,156nm,22.0s,MS4.8
WMQ                                LR      LR
            comp=Z,178nm,22.0s,MS4.8
WB2   Warramunga Arr   139.98 230  eP               18 57 28.6
WRAB  Tennant Creek    139.98 230  ePKPdf           18 57 30.2
WRAB                               LR      LR
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	comp=Z,252nm,21.0s,MS4.9						
WRA	**Warramunga Arr**	**139.99**	**230**	PKhKP		18 57 29.1	
	comp=Z,3.9nm,0.9s,baz=126,slow=2.1,SNR=18						
WRA				PKP	PKPdf	18 57 39.1	-2.4
	comp=Z,4.5nm,0.7s,baz=126,slow=1.9,SNR=18						
WRA	**Warramunga Arr**	**139.99**	**230**	PKHKP		18 57 29.1	
WRA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
WRA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
INCN	**Inchon**	**141.52**	**329**	PFAKE		18 57 50.0	+6.3
INCN				LR	LR		
	comp=Z,192nm,20.0s,MS4.8						
BJI	**Beijing**	**143.63**	**343**	PKP	PKPdf	18 57 41.5	-5.7
BJI				LR	LR		
	comp=Z,214nm,19.2s,MS4.9						
BJI	**Beijing**	**143.63**	**343**	PKP	PKPdf	18 57 41.4	-5.8
BJI				LR	LR		
	comp=Z,210nm,19.2s,MS4.9						
HHC	**Hu-ho-hao-te**	**144.00**	**349**	*e*PKP	PKPdf	18 57 43.3	-4.6
HHC				APKP		18 57 51.5	
HHC				XPKP		18 57 56.8	
HHC				PP	PP	19 01 02.3	+1.3
HHC				PKS	PKS	19 01 17.0	-0.7
HHC				SKS	SKS	19 04 49.0	-7.1
HHC				SKKS		19 07 45.0	
HHC				SS	SS	19 19 45.3	+4.5
HHC				LR	LR		
	comp=N,97nm,25.6s						
HHC				LR	LR		
	comp=E,386nm,18.4s						
HHC				LR	LR		
	comp=Z,166nm,17.3s						
BTO	**Baotou**	**144.51**	**351**	*e*PKP	PKPdf	18 57 44.5	-4.3
KLP	**Kalpa**	**145.37**	**39**	*e*PKP	PKPdf	18 57 48.1	-2.5
KLP				*e*		18 57 49.8	
	comp=Z,123nm,0.9s						
KAKA	**Kakadu**	**145.48**	**238**	*e*P	PKPbc	18 57 51.6	+4.6
	comp=Z,147nm,1.2s						
KKR	**Kurukshetra**	**145.49**	**42**	*e*PKP	PKPdf	18 57 48.0	-2.8
RTK	**Rohtak**	**145.79**	**44**	*e*PKP	PKPdf	18 57 49.3	-2.0
RTK				*e*		18 57 50.5	
	comp=Z,134nm,0.6s						
KHET	**Khetri**	**145.94**	**46**	*e*PKP	PKPdf	18 57 48.7	-3.0
KHET				*e*		18 57 51.2	
	comp=Z,61nm,0.9s						
AJM	**Ajmer**	**145.98**	**49**	*i* PKP	PKPdf	18 57 49.0	-2.8
GTA	**Gaotai**	**146.19**	**4**	PKP	PKPdf	18 57 49.0	-2.7
GTA				APKP		18 57 59.0	
GTA				XPKP		18 58 02.3	
GTA				PP	PP	19 01 19.8	+5.6
GTA				SKKS		19 08 06.0	
GTA				PP	PP		
	comp=Z,52nm,9.1s						
GTA				LR	LR		
	comp=N,90nm,24.7s,MS4.7						
GTA				LR	LR		
	comp=E,127nm,19.8s,MS4.7						
GTA				LR	LR		
	comp=Z,110nm,28.5s						
BHGR	**Bahadurgarh**	**146.36**	**44**	*e*PKP	PKPdf	18 57 49.9	-2.5
KUDL	**Kundal**	**146.38**	**45**	*e*PKP	PKPdf	18 57 49.3	-3.1
KUDL				*e*		18 57 52.2	
	comp=Z,66nm,1.2s						
NDI	**New Delhi**	**146.56**	**44**	*e*PKP	PKPdf	18 57 48.5	-4.2
NDI				*e*		19 09 56.5	
AYAN	**Aya Nagar**	**146.62**	**44**	*e*PKP	PKPdf	18 57 49.5	-3.3
AYAN				*e*		18 57 52.7	
	comp=Z,44nm,1.0s						
KNA	**Kununurra**	**146.73**	**230**	⇑*i*P	PKPbc	18 57 49.5	-0.4
	comp=Z,18nm,0.8s						
SONA	**Sohna**	**146.73**	**44**	*e*PKP	PKPdf	18 57 49.9	-3.1
SONA				*e*		18 57 52.8	
	comp=Z,37nm,1.2s						
TIA	**Tai'an**	**146.79**	**339**	*e*PKP	PKPdf	18 57 49.5	-3.4
JOSI	**Joshimath**	**146.86**	**39**	*e*PKP	PKPdf	18 57 50.9	-2.3
JOSI				*e*		18 57 53.8	
	comp=Z,141nm,0.9s						
ASOR	**Ausora**	**146.89**	**43**	*e*PKP	PKPdf	18 57 51.0	-2.3
AGRA	**Agra**	**147.96**	**45**	*e*PKP	PKPdf	18 57 51.5	-3.5
MBWA	**Marble Bar**	**148.71**	**211**	*e*PKPbc	PKPdf	18 57 55.6	-0.7
MBWA				*e*pPKPbc		18 58 05.1	
MBWA				LR	LR		
	comp=Z,157nm,19.0s,MS4.8						
POO	**Poona**	**148.91**	**63**	⇑*i*PKP	PKPdf	18 57 57.0	+0.3
SSE	**Sheshan**	**149.31**	**328**	*e*PKP	PKPdf	18 57 57.5	+0.4
SSE				PP	PP	19 01 36.3	+4.2
SSE				LR	LR		
	comp=N,33nm,17.1s,MS4.5						
SSE				LR	LR		
	comp=E,59nm,17.1s,MS4.5						
SSE				LR	LR		
	comp=Z,58nm,17.1s,MS4.4						
SSE	**Sheshan**	**149.31**	**328**	*e*PKP	PKPdf	18 57 57.6	+0.5
SSE				PP	PP	19 01 36.3	+4.2
LZH	**Lanzhou**	**149.60**	**358**	⇑PKP	PKPdf	18 57 54.8	-2.6
LZH				APKP		18 58 03.5	
LZH				XPKP		18 58 06.5	
LZH				*e*PP	PP	19 01 35.8	+2.0
LZH				SKKS		19 08 19.8	
LZH				SS	SS	19 20 41.8	-1.7
LZH				PP	PP		
	comp=Z,231nm,7.9s						
LZH				LR	LR		
	comp=N,365nm,18.2s						
LZH				LR	LR		
	comp=Z,597nm,20.1s,MS5.4						
LZH	**Lanzhou**	**149.60**	**358**	⇑PKP	PKPdf	18 57 54.7	-2.7
LZH				pPKP		18 58 03.5	
LZH				sPKP		18 58 06.4	
LZH				PKP	PKPdf	18 58 07.2	+10
LZH				*e*PP	PP	19 01 35.7	+1.9
LZH				SKKS		19 08 19.8	
LZH				SS	SS	19 20 41.7	-1.8
LZH				LR	LR		
	comp=Z,600nm,20.1s,MS5.4						
KAD	**Karad**	**149.63**	**65**	⇑*i*	PKPdf	18 57 59.0	+1.1
NJ2	**Nanjing**	**149.68**	**332**	*e*PKP	PKPdf	18 57 58.0	+0.4
NJ2				PKP2	PKPab	18 58 09.8	+4.9
NJ2				PP	PP	19 01 33.0	-1.4
NJ2				SKS	SKS	19 04 54.0	-10
NJ2				SKKS		19 08 18.0	
NJ2				LR	LR		
	comp=Z,590nm,28.0s,MS5.2						
XAN	**Xi'an**	**151.10**	**350**	PKP	PKPdf	18 57 56.5	-3.2
XAN				APKP		18 58 01.8	
KOLN	**Koldanda**	**151.32**	**37**	*e*P	PKPdf	18 57 57.1	-3.1
	comp=Z,132nm,1.3s						
GKN	**Gorkha**	**151.76**	**36**	*e*P	PKPdf	18 57 57.6	-3.3
	comp=Z,233nm,1.2s						
KKN	**Kakani**	**152.29**	**35**	*e*P	PKPdf	18 57 58.2	-3.5
	comp=Z,162nm,1.3s						
DMN	**Daman**	**152.33**	**36**	*e*P	PKPdf	18 57 58.5	-3.2
	comp=Z,143nm,1.4s						
PKI	**Pulchoki**	**152.53**	**35**	*e*P	PKPdf	18 57 58.6	-3.4
	comp=Z,56nm,1.1s						
WHN	**Wuhan**	**152.89**	**338**	*e*PKP	PKPdf	18 58 00.0	-2.4
HYB	**Hyderabad**	**153.48**	**62**	*i* PKP	PKPdf	18 58 00.0	-3.6
HYB				*e*pPKP		18 58 08.0	
HYB				*e*sPKP		18 58 14.0	
HYB				*e*PKPAB	PKPab	18 58 20.5	-0.7
HYB	**Hyderabad**	**153.48**	**62**	*e*PKP	PKPdf	18 58 00.0	-3.6
HYB				*e*		18 58 08.0	
LSA	**Lhasa**	**153.57**	**23**	PKP	PKPdf	18 58 01.8	-1.6
SHL	**Shillong**	**157.50**	**27**	*e*PKP	PKPdf	18 58 06.0	-2.8
SHL				*e*		19 07 02.0	
PALK	**Pallekele**	**157.93**	**84**	PFAKE		18 58 20.0	+10
PALK				LR	LR		
	comp=Z,89nm,22.0s,MS4.6						
GYA	**Guiyang**	**158.90**	**350**	⇓*i*PKP	PKPdf	18 58 06.8	-3.7
GYA				APKP		18 58 17.0	
GYA				XPKP		18 58 21.5	
GYA				PKP2	PKPab	18 58 42.5	-1.7
GYA				PP	PP		
	comp=Z,450nm,8.9s						
KMI	**Kunming**	**160.54**	**0**	*e*PKP	PKPdf	18 58 08.8	-3.5
KMI				PP	PP	19 02 35.5	+0.8
KMI				SKKS		19 09 19.8	
KMI				SS	SS	19 22 39.8	-1.9
KMI				LR	LR		
	comp=N,113nm,27.2s						
KMI				LR	LR		
	comp=E,118nm,21.7s						
KMI				LR	LR		
	comp=Z,152nm,28.3s						
KMI	**Kunming**	**160.54**	**0**	*e*PKP	PKPdf	18 58 08.7	-3.6
KMI				PP	PP	19 02 35.5	+0.8
KMI				SKKS		19 09 19.8	
KMI				SS	SS	19 22 39.7	-2.0
KMI				LR	LR		
	comp=Z,150nm,28.3s						
COCO	**West Island**	**161.39**	**161**	PFAKE		18 58 20.0	+6.6
COCO				LR	LR		
	comp=Z,429nm,21.0s						
KKTK	**Khon Kaen**	**169.28**	**0**	P	PKPab	18 59 35.0	+5.4

GUC 29 18:46:30.3±0.7, 35.05S×70.62W, h4^{km}±2^{km}, MD3.6, ML3.1, 4C-5D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFDO	**San Fernando**	**0.54**	**323**	⇓*i*P	Pg	18 46 41.3	+0.2
SFDO				*i* S	Sg	18 46 49.6	+1.3
CICH	**Cipreses**	**0.74**	**13**	⇓*i*P	Pg	18 46 43.5	-1.7
CICH				*i* S	Sg	18 46 53.9	-1.2
TALC	**Talca**	**0.90**	**247**	⇑*i*P	Pb	18 46 47.5	-0.7
TALC				*i* S	Sg	18 47 00.9	+0.5
CACH	**El Canelo**	**0.93**	**1**	⇑*i*P	Pb	18 46 47.2	-1.4
CACH				*i* S	Sb	18 47 00.3	-0.8
CHCH	**Chadas Angostu**	**1.11**	**358**	⇑*i*P	Pb	18 46 50.8	-1.0
CHCH				*i* S	Sb	18 47 07.3	+0.8
TACH	**Talagante**	**1.42**	**349**	⇓*i*P	Pn	18 46 55.8	-1.2
TACH				*i* S	Sb	18 47 14.9	-0.4
PCH	**Pirque**	**1.43**	**3**	⇓*i*P	Pn	18 46 56.1	-1.0
PCH				*i* S	Sb	18 47 15.8	+0.2
RCDM	**Rinconada Maip**	**1.56**	**354**	*e*P	Pn	18 46 58.5	-0.6
RCDM				*i* S	Sb	18 47 19.1	-0.4
RCDM				AMP		18 47 21.4	
	comp=E,310nm,0.3s						
CLCH	**Cerro Calan**	**1.65**	**2**	⇑*i*P	Pn	18 47 00.1	-0.2
CLCH				*i* S	Sb	18 47 22.2	+0.1
CLCH				AMP		18 47 26.1	
	comp=E,542nm,0.8s						
LCCH	**Las Cruces**	**1.76**	**333**	⇓*i*P	Pn	18 47 01.6	-0.2
LCCH				*i* S	Sn	18 47 25.2	+0.3
PEL	**Peldehue**	**1.90**	**358**	*e*P	Pn	18 47 04.7	+0.8
PEL				*i* S	Sn	18 47 29.9	+1.4

MAN 29 18:53:33.5, 14.34N×119.82E, h30^{km}, mb3.8, ML2.5, MS2.1, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.72**	**145**	*e*P	Pb	18 53 47.7	+0.1
LUBP				*e*S	Sb	18 54 01.4	+4.1
SJMP	**San Jose**	**2.25**	**146**	*e*P	Pn	18 54 09.0	-0.5
SJMP				*e*S	Sn	18 54 36.6	0.0
BUSP	**Coron**	**2.35**	**171**	*e*P	Pn	18 54 11.1	+0.2
BUSP				*e*S	Sn	18 54 38.7	-0.3

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*HEL **29** 18:55:04.5±0.1, 57.63N×17.04E, ML2.2, ML2.8(UPP), ML2.6(NAO), Explosion*

*IDC **29** 18:55:05.0±2.9, 57.65N×17.06E, mb1 3.1/4, mb1mx3.1/20, ML2.9/4, Error ellipse: s-maj=31.8km s-min=11.3km az=6.0*

*NAO **29** 18:55:05.5±4.5, 57.65N×17.10E, ML2.6*

*BER **29** 18:55:05.8±5.3, 57.55N×17.13E, h0^{km}±38^{km}, ML2.6(NAO)*

ISC 29 18:55:01.4±0.7, 57.54N±0.05×17.27E±0.06, n33, σ1^{s}53/54, Baltic Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GOTU	**Gotland**	**0.71**	**77**	*i* P	**Pg**	**18 55 19.4**	**+3.7**
OSKU	**Oskarshamn**	**0.72**	**242**	*i* P	**Pg**	**18 55 16.3**	**+0.5**
OSKU				*i* S	**Sg**	**18 55 25.2**	**-0.2**
VIKU	**Vikbolandet**	**1.02**	**343**	*i* P	**Pb**	**18 55 20.1**	**-1.4**
EKSU	**Eksjoe**	**1.06**	**273**	*e*P	**Pb**	**18 55 20.9**	**-1.5**
LNKU	**Linkoeping**	**1.17**	**307**	*e*P	**Pb**	**18 55 22.2**	**-2.0**
NYNU	**Nynaeshamn**	**1.52**	**14**	*e*P	**Pn**	**18 55 30.8**	**+0.7**
ESKU	**Eskilstuna**	**1.76**	**345**	*e*P	**Pn**	**18 55 33.5**	**0.0**
ASKU	**Askersund**	**1.88**	**318**	*e*P	**Pn**	**18 55 34.8**	**-0.3**
NRTU	**Norrtaelje**	**2.26**	**18**	*e*P	**Pn**	**18 55 43.1**	**+2.5**
BACU	**Backbrunna**	**2.33**	**358**	*e*P	**Pn**	**18 55 43.5**	**+1.9**
UPP	**Uppsala**	**2.34**	**4**	*e*P	**Pn**	**18 55 44.0**	**+2.3**
NRAU	**Nora**	**2.35**	**331**	*e*P	**Pn**	**18 55 43.0**	**+1.1**
FLYU	**Flymyra**	**2.62**	**7**	*e*P	**Pn**	**18 55 47.6**	**+1.9**
OSTU	**Oestervaala**	**2.70**	**359**	*e*P	**Pn**	**18 55 48.5**	**+1.6**
GRAU	**Graesoe**	**2.88**	**13**	*e*P	**Pn**	**18 55 51.1**	**+1.6**
FALU	**Falun**	**3.06**	**347**	*e*P	**Pn**	**18 55 52.7**	**+0.8**
HFS	**Hagfors**	**3.20**	**326**	Pn	**Pn**	**18 55 54.5**	**+0.6**
	baz=143,slow=12						
HFS				Sn	**Sn**	**18 56 32.9**	**-0.5**
	baz=136,slow=28						
HFS	**Hagfors**	**3.20**	**326**	*e*P	**Pn**	**18 55 54.5**	**+0.6**
HFS				*e*S	**Sn**	**18 56 32.9**	**-0.5**
HFS	**Hagfors**	**3.20**	**326**	Pn	**Pn**	**18 55 54.6**	**+0.6**
	0.3nm,0.3s,baz=146,slow=15,SNR=53						
HFS				Sn	**Sn**	**18 56 32.9**	**-0.5**
	1.0nm,0.3s,baz=144,slow=27,SNR=14						
IGGU	**Iggoen**	**3.35**	**0**	*e*P	**Pn**	**18 55 57.3**	**+1.2**
NOA	**NORSAR Array B**	**4.69**	**321**	Pn	**Pn**	**18 56 13.2**	**-1.9**
	0.3nm,0.3s,baz=148,slow=13,SNR=2.6						
NOA				Sn	**Sn**	**18 57 04.8**	**-6.3**
	0.8nm,0.3s,baz=132,slow=30,SNR=2.9						
NOA				Lg		18 57 23.8	
	1.8nm,0.3s,baz=157,slow=21,SNR=6.1						
VSU	**Vasula**	**5.12**	**76**	*e*P	**Pn**	**18 56 24.8**	**+3.6**
VSU				*e*S	**Sn**	**18 57 22.3**	**+0.4**
VSU				*e*SG	**Sg**	**18 57 44.6**	**-7.3**
PVF	**Pernaja**	**5.36**	**52**	*e*P	**Pn**	**18 56 26.1**	**+1.4**
PVF				*e*S	**Sn**	**18 57 26.3**	**-1.7**
PVF				*e*SG	**Sg**	**18 57 49.8**	**-10**
PVF				MSG		18 57 53.6	
	comp=Z,3.8nm,0.3s						
FIA0	**FINESS Array S**	**5.96**	**45**	*e*P	**Pn**	**18 56 34.6**	**+1.6**
FIA0				*e*S	**Sn**	**18 57 39.5**	**-3.4**
FIA0				*e*SG	**Sg**	**18 58 07.5**	**-12**
FIA0				MSG		18 58 12.6	
	comp=Z,1.7nm,0.3s						
FIA0	**FINESS Array S**	**5.96**	**45**	Pn	**Pn**	**18 56 34.0**	**+1.0**
	baz=219,slow=12						
FIA0				Sn	**Sn**	**18 57 42.1**	**-0.7**
	baz=248,slow=22						
FIA0				Lg		18 58 11.0	
	baz=236,slow=28						
FINES	**FINESS Array B**	**5.96**	**45**	Pn	**Pn**	**18 56 34.1**	**+1.1**
	comp=Z,0.4nm,0.3s,baz=230,slow=11,SNR=23						
FINES				Sn	**Sn**	**18 57 41.7**	**-1.2**
	comp=Z,0.8nm,0.3s,baz=239,slow=22,SNR=8.6						
KEF	**Keuruu**	**6.02**	**36**	*e*P	**Pn**	**18 56 34.6**	**+0.7**
KEF				*e*S	**Sn**	**18 57 39.1**	**-5.4**
VJF	**Virojoki**	**6.10**	**56**	*e*P	**Pn**	**18 56 35.2**	**+0.2**
VJF				*e*S	**Sn**	**18 57 43.3**	**-3.3**
VJF				*e*SG	**Sg**	**18 58 13.3**	**-11**
SUF	**Sumiainen**	**6.83**	**37**	*e*P	**Pn**	**18 56 45.1**	**-0.3**
SUF				*e*S	**Sn**	**18 57 59.0**	**-5.8**
SUF				*e*SG	**Sg**	**18 58 34.1**	**-15**
SUF				MSG		18 58 39.6	
	comp=Z,1.4nm,0.2s						
KJN	**Kajaani**	**8.31**	**33**	*e*P	**P**	**18 57 04.0**	**-2.0**
KJN				*e*S	**Sn**	**18 58 34.8**	**-7.0**
KJN				*e*		18 58 59.2	
KJN				MSG		18 58 60.0	
	comp=Z,1.3nm,0.2s						
ARA0	**ARCESS Array S**	**12.57**	**13**	Pn	**P**	**18 57 59.5**	**-4.7**
	baz=202,slow=14						
ARA0				Sn	**S**	**19 00 13.4**	**-13**
	baz=199,slow=22						
ARA0	**ARCESS Array S**	**12.57**	**13**	*e*P	**P**	**18 57 59.5**	**-4.7**
ARA0				*e*S	**S**	**19 00 13.4**	**-13**
ARCES	**ARCESS Array B**	**12.57**	**13**	Pn	**P**	**18 57 59.2**	**-5.0**
	comp=Z,0.2nm,0.3s,baz=197,slow=13,SNR=19						

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*BJI **29** 19:07:11.5, 6.40S×107.20E, h193^{km}, mb4.5*

*IDC **29** 19:07:11.1±0.9, 6.45S×107.19E, h184^{km}±7^{km}, mb3.8/11, mb1 3.9/11, mb1mx3.8/18, Error ellipse: s-maj=18.6km s-min=8.6km az=49.0*

*NEIC **29** 19:07:11.5±0.4, 6.43S×107.17E, mb4.3/14, Error ellipse: s-maj=15.0km s-min=6.9km az=50.0*

*DJA **29** 19:07:11.1±1.1, 9.59S×107.47E, h2^{km}, MD5.4/4, ML6.0/4, Error ellipse: s-maj=100.4km s-min=23.0km az=171.0*

ISC 29 19:07:07.7±1.1, 6.43S±0.08×107.18E±0.08, h170^{km}±10^{km}, h194^{km}±3.6^{km}:pP-P, n52, σ1^{s}08/57, mb4.4/23, 4C-6D, Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KELI	**Kelakatan**	**7.46**	**104**	*e*Pn	**P**	**19 08 56.4**	**+1.6**
	358nm,0.2s						
KELI	**Kelakatan**	**7.46**	**104**	⇑*e*P	**P**	**19 08 57.9**	**+3.1**
KELI				⇓*e*Sn	**S**	**19 10 11.6**	**-6.7**
KELI	**Kelakatan**	**7.46**	**104**	*e*Pn	**P**	**19 08 56.8**	**+2.0**
INGI	**Ingas**	**8.24**	**107**	⇓*e*Pn	**P**	**19 09 03.6**	**-1.5**
	559nm,0.2s						
INGI	**Ingas**	**8.24**	**107**	⇓*e*P	**P**	**19 09 06.0**	**+0.9**
INGI				⇓*e*Sn	**S**	**19 10 26.0**	**-11**
INGI	**Ingas**	**8.24**	**107**	⇓*e*Pn	**P**	**19 09 04.7**	**-0.4**
RATI	**Rata**	**8.59**	**106**	Pn	**P**	**19 09 08.7**	**-0.9**
	2μm,0.2s						
RATI	**Rata**	**8.59**	**106**	Pn	**P**	**19 09 08.7**	**-0.9**
RATI				*e*Sn	**S**	**19 10 38.8**	**-6.0**
KEDI	**Kedomdong**	**9.09**	**104**	*e*Pn	**P**	**19 09 16.1**	**-0.1**
	382nm,0.3s						
KEDI	**Kedomdong**	**9.09**	**104**	*e*Pn	**P**	**19 09 15.6**	**-0.6**
MBWA	**Marble Bar**	**19.03**	**142**	*e*P	**P**	**19 11 18.4**	**-0.5**
	14nm,1.0s						
FITZ	**Fitzroy Crossi**	**21.42**	**124**	*e*P	**P**	**19 11 44.5**	**+1.5**
	4.2nm,0.6s,mb4.0						
FITZ				*e*S	**S**	**19 15 40.1**	**+15**
FITZ	**Fitzroy Crossi**	**21.42**	**124**	P	**P**	**19 11 44.5**	**+1.5**
	4.5nm,0.6s,mb4.0,baz=292,slow=4.2,SNR=15						
FITZ				S	**S**	**19 15 40.1**	**+15**
	2.9nm,0.6s,baz=180,slow=23,SNR=4.6						
TGY	**Tagaytay City**	**24.54**	**34**	P	**P**	**19 12 12.1**	**-1.1**
	108nm,0.4s,baz=118,slow=17,SNR=2.9						
KAKA	**Kakadu**	**25.62**	**106**	⇑*i*P	**P**	**19 12 28.7**	**+5.4**
	42nm,0.6s,mb5.2						
CMAR	**Chiang Mai Arr**	**26.03**	**342**	P	**P**	**19 12 27.9**	**+0.9**
	1.6nm,0.6s,mb3.8,baz=180,slow=8.9,SNR=14						
CMAR				pP	pP	19 13 06.2	+4.7
	1.4nm,0.9s,baz=177,slow=8.5,SNR=3.3						
CMAR				sP	sP	19 13 25.9	+4.4
	1.9nm,0.9s,baz=175,slow=9.0,SNR=3.6						
CMAR				ScP		19 19 15.4	
	0.7nm,0.8s,baz=197,slow=4.1,SNR=4.9						
MUN	**Mundaring**	**26.78**	**163**	*e*P	**P**	**19 12 32.3**	**-1.5**
	4.9nm,0.6s,mb4.3						
KLBR	**Kellerberrin**	**26.92**	**160**	*e*P	**P**	**19 12 33.4**	**-1.6**
	12nm,0.9s,mb4.5						
NWAO	**Narrogin (SRO)**	**27.97**	**162**	P	**P**	**19 12 42.9**	**-1.7**
	4.4nm,0.6s,mb4.3,baz=333,slow=7.6,SNR=4.7						
NWAO	**Narrogin (SRO)**	**27.97**	**162**	*e*P	**P**	**19 12 42.7**	**-1.9**
	5.8nm,0.8s,mb4.4						
WRA	**Warramunga Arr**	**29.59**	**120**	P	**P**	**19 12 59.1**	**0.0**
	5.5nm,0.8s,mb4.3,baz=301,slow=9.5,SNR=61						
WRA				PcP	PcP	19 15 59.7	+0.1
	0.4nm,0.3s,baz=319,slow=2.2,SNR=5.5						
WRA				S	**S**	**19 17 38.8**	**-1.5**
	1.5nm,0.9s,baz=298,slow=17,SNR=5.0						
WRA				ScP		19 19 25.8	
	1.4nm,0.8s,baz=310,slow=2.9,SNR=7.5						
WRAB	**Tennant Creek**	**29.60**	**120**	*e*P	**P**	**19 12 59.1**	**-0.1**
	13nm,0.9s,mb4.7						
WB2	**Warramunga Arr**	**29.60**	**120**	⇑*i*P	**P**	**19 12 59.1**	**-0.1**
WB2				*e*S	**S**	**19 17 39.1**	**-1.3**
ASPA	**Alice Springs**	**30.87**	**127**	*e*P	**P**	**19 13 10.8**	**+0.4**
ASPA				*e*S	**S**	**19 17 59.4**	**-1.0**
ASAR	**Alice Springs**	**30.88**	**127**	P	**P**	**19 13 11.1**	**+0.7**
	5.2nm,0.8s,mb4.3,baz=306,slow=8.5,SNR=50						
ASAR				S	**S**	**19 17 59.9**	**-0.5**
	9.4nm,1.1s,baz=296,slow=15,SNR=17						
ASAR				ScP		19 19 30.2	
	2.1nm,0.8s,baz=303,slow=3.2,SNR=9.7						
PMG	**Port Moresby**	**39.69**	**97**	P	**P**	**19 14 27.3**	**+2.3**
	78nm,0.8s,mb5.4,baz=275,slow=6.5,SNR=18						
PKI	**Pulchoki**	**39.82**	**329**	*e*P	**P**	**19 14 25.4**	**-0.6**
DMN	**Daman**	**40.01**	**329**	*e*P	**P**	**19 14 27.2**	**-0.3**
	7.1nm,0.9s,mb4.3						
KKN	**Kakani**	**40.06**	**329**	*e*P	**P**	**19 14 27.1**	**-0.9**
CTA	**Charters Tower**	**40.26**	**114**	*e*P	**P**	**19 14 30.2**	**+0.6**
	7.3nm,1.0s,mb4.3						
CTAO	**Charters Tower**	**40.26**	**114**	*e*P	**P**	**19 14 29.1**	**-0.5**
	10nm,1.0s,mb4.4						
GKN	**Gorkha**	**40.57**	**329**	*e*P	**P**	**19 14 31.7**	**-0.4**
	4.6nm,0.4s,mb4.5						
STKA	**Stephens Creek**	**40.89**	**133**	*e*P	**P**	**19 14 36.0**	**+1.3**
	8.6nm,0.6s,mb4.6						
STKA				*e*		19 14 44.7	
STKA				*e*S	**S**	**19 20 33.8**	**+0.9**
STKA	**Stephens Creek**	**40.89**	**133**	P	**P**	**19 14 36.1**	**+1.4**
	11nm,0.7s,mb4.6,baz=312,slow=7.4,SNR=26						
KOLN	**Koldanda**	**40.93**	**327**	*e*P	**P**	**19 14 34.5**	**-0.6**
	11nm,0.7s,mb4.6						
CN2	**Changchun**	**52.66**	**17**	*e*P	**P**	**19 16 07.5**	**+1.0**
CN2				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.8						
MKAR	**Makanchi Array**	**57.41**	**340**	P	**P**	**19 16 39.7**	**-0.9**
	comp=Z,0.8nm,0.5s,mb3.9,baz=156,slow=7.7,SNR=17						
MKAR				pP	pP	19 17 22.8	+2.7
	comp=Z,2.6nm,1.0s,baz=149,slow=7.1,SNR=3.1						
BVAR	**Borovoye Array**	**66.92**	**337**	P	**P**	**19 17 42.9**	**-0.8**
	comp=Z,0.4nm,0.3s,mb3.7,baz=140,slow=12,SNR=4.3						
ZRNK	**Zerenda**	**67.41**	**336**	*e*P	**P**	**19 17 46.2**	**-0.6**
	comp=Z,3.6nm,1.3s,mb4.0						
ZRNK				*e*pP	pP	19 18 33.7	+6.2
MAW	**Mawson**	**67.96**	**197**	P	**P**	**19 17 49.5**	**-0.5**
	comp=Z,3.1nm,0.7s,mb4.1,baz=54,slow=6.3,SNR=12						
MAW	**Mawson**	**67.96**	**197**	*e*P	**P**	**19 17 49.0**	**-0.9**
	comp=Z,3.8nm,0.7s,mb4.2						
GNI	**Garni**	**73.68**	**315**	P	**P**	**19 18 25.1**	**+0.5**
	comp=Z,1.8nm,0.4s,mb4.1,baz=216,slow=16,SNR=3.6						
AKASG	**Malin Array Be**	**87.36**	**321**	P	**P**	**19 19 36.7**	**+0.2**
	comp=Z,1.4nm,0.5s,mb4.0,baz=85,slow=4.5,SNR=5.5						
MLR	**Muntele Rosu**	**88.43**	**316**	P	**P**	**19 19 43.1**	**+1.4**
	comp=Z,16nm,1.2s,mb4.7,baz=123,slow=5.6						
SNAA	**Sanae**	**90.12**	**197**	⇓*i*	**P**	**19 19 50.7**	**+1.7**
VNA2	**Neumayer--Watz**	**91.77**	**197**	⇑*i*	**P**	**19 20 00.2**	**+3.5**
VNA3	**Neumayer Olymp**	**92.29**	**197**		**P**	**19 20 00.7**	**+1.6**
NVAR	**Mina Array Bea**	**128.03**	**45**	PKP	PKPdf	19 25 57.2	+3.3
	comp=Z,0.3nm,0.7s,baz=279,slow=2.3,SNR=3.8						
NVAR	**Mina Array Bea**	**128.03**	**45**	PKP	PKPdf	19 25 57.2	+3.3
TXAR	**Lajitas Array**	**143.06**	**48**	PKP	PKPdf	19 26 22.0	+0.2
	comp=Z,0.8nm,0.8s,baz=270,slow=2.5,SNR=4.1						
CPUP	**Villa Florida**	**144.13**	**204**	PKP	PKPdf	19 26 23.7	0.0
	comp=Z,6.9nm,1.2s,baz=341,slow=3.5,SNR=3.3						
CPUP	**Villa Florida**	**144.13**	**204**	PKP	PKPdf	19 26 23.7	0.0

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*NEIC **29** 19:20:07.7, 37.36S×176.67E, h209^{km}, After WEL.*

WEL 29 19:20:07.4±0.2, 37.31S×176.59E, h206^{km}±2^{km}, ML3.9/7, Error ellipse: s-maj=3.2km s-min=2.7km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**1.03**	**157**	PN	P	19 20 38.1	0.0
URZ				SN	S	19 21 01.7	-0.3
MWZ	**Matawai**	**1.27**	**144**	PN	P	19 20 39.7	-0.3
MWZ				SN	S	19 21 04.3	-0.9
MWZ	**Matawai**	**1.27**	**144**	P	P	19 20 39.7	-0.3
MWZ				S	S	19 21 04.6	-0.6
MXZ	**Matakaoa Point**	**1.39**	**101**	PN	P	19 20 40.7	-0.4
MXZ				SN	S	19 21 06.5	-0.5
MXZ	**Matakaoa Point**	**1.39**	**101**	P	P	19 20 40.8	-0.2
MXZ				S	S	19 21 06.5	-0.5
PUZ	**Puketiti**	**1.53**	**120**	PN	P	19 20 41.8	-0.4
PUZ				SN	S	19 21 08.1	-0.9
BKZ	**Black Stump Fm**	**1.86**	**182**	PN	P	19 20 44.9	-0.4
BKZ				SN	S	19 21 13.8	-0.7
BKZ	**Black Stump Fm**	**1.86**	**182**	P	P	19 20 44.9	-0.4
BKZ				S	S	19 21 13.8	-0.6
MGZ	**Maungaku**	**1.88**	**206**	PN	P	19 20 46.3	+0.7
MGZ	**Maungaku**	**1.88**	**206**	P	P	19 20 46.4	+0.9
KNZ	**Kokohu**	**1.91**	**154**	PN	P	19 20 45.8	-0.1
KNZ				SN	S	19 21 14.4	-0.9
KNZ	**Kokohu**	**1.91**	**154**	P	P	19 20 45.8	0.0
KNZ				S	S	19 21 14.8	-0.6
NGZ	**Ngauruhoe**	**2.02**	**202**	P	P	19 20 47.6	+0.7
CNZ	**Chateau**	**2.06**	**203**	PN	P	19 20 47.4	+0.1
CNZ	**Chateau**	**2.06**	**203**	P	P	19 20 47.6	+0.3
TUVZ	**Tukino**	**2.09**	**200**	*e*PN	P	19 20 47.2	-0.4
TUVZ	**Tukino**	**2.09**	**200**	P	P	19 20 47.8	+0.1
WNVZ	**Wahianoa**	**2.16**	**201**	PN	P	19 20 48.4	0.0
WNVZ	**Wahianoa**	**2.16**	**201**	P	P	19 20 48.5	+0.1
MOVZ	**Moawhango**	**2.20**	**197**	PN	P	19 20 48.1	-0.7
MOVZ	**Moawhango**	**2.20**	**197**	P	P	19 20 48.2	-0.6

PWZ	**Pawanui**	2.73	176	PN	P	19 20 53.6	-1.0
PWZ				SN	S	19 21 29.3	-1.9
PWZ	**Pawanui**	2.73	176	P	P	19 20 53.7	-1.0
TSZ	**Takapari Road**	2.79	190	PN	P	19 20 54.1	-1.3
TSZ				SN	S	19 21 30.5	-2.0
TSZ	**Takapari Road**	2.79	190	P	P	19 20 54.2	-1.2
BFZ	**Birch Farm**	3.38	184	*e*PN	P	19 21 00.0	-2.3
BFZ	**Birch Farm**	3.38	184	P	P	19 21 00.1	-2.3
MRZ	**Mangatainoka R**	3.44	193	PN	P	19 21 00.7	-2.4
MRZ				SN	S	19 21 42.7	-3.5
MRZ	**Mangatainoka R**	3.44	193	P	P	19 21 00.8	-2.3
KIW	**Kapiti Island**	3.78	200	PN	P	19 21 04.6	-2.7
KIW				SN	S	19 21 49.6	-4.0
KIW	**Kapiti Island**	3.78	200	P	P	19 21 04.7	-2.6
MTW	**Mount Morrison**	3.94	192	PN	P	19 21 05.6	-3.6
MTW				SN	S	19 21 52.3	-4.8
MTW	**Mount Morrison**	3.94	192	P	P	19 21 05.9	-3.3
CAW	**Cannon Point**	3.98	197	PN	P	19 21 07.1	-2.6
CAW				*e*SN	S	19 21 54.2	-3.7
CAW	**Cannon Point**	3.98	197	P	P	19 21 07.1	-2.6
TUWZ	**Tuamarina**	4.60	206	PN	P	19 21 14.5	-3.1
NNZ	**Nelson**	4.63	212	PN	P	19 21 15.4	-2.6
NNZ				SN	S	19 22 09.0	-3.6
QRZ	**Quartz Range**	4.73	221	PN	P	19 21 15.9	-3.2
THZ	**Tophouse**	5.28	211	*e*PN	P	19 21 23.4	-2.9
THZ				*e*SN	S	19 22 23.0	-4.5
THZ	**Tophouse**	5.28	211	*e*P	P	19 21 23.5	-2.8
KHZ	**Kahutara**	5.62	204	PN	P	19 21 26.8	-3.8
KHZ	**Kahutara**	5.62	204	*e*P	P	19 21 26.8	-3.7
MQZ	**McQueen's Vall**	7.06	204	*e*SN	S	19 23 00.1	-8.6

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*IDC **29** 19:29:27.6±2.4, 9.89S×112.43E, mb3.7/3, mb1 3.8/4, mb1mx3.6/14, ML3.4/1, Error ellipse: s-maj=120.0km s-min=23.0km az=46.0*

*DJA **29** 19:29:28.9±1.2, 9.79S×112.53E, h2^{km}, ML4.9/4, Error ellipse: s-maj=36.7km s-min=25.5km az=137.0*

ISC 29 19:29:30.9±1.3**, 9.7S**±0.1×**112.6E**±0.1**, h33^{km}, n8, σ0^{s}97**/11**, mb3.6**/3**, 1C-5D, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KELI	**Kelakatan**	2.35	51	⇓*e*Pn	Pn	19 30 08.5	+0.4
	649nm,0.3s						
KELI				⇓*e*Sn	Sn	19 30 35.8	-0.3
INGI	**Ingas**	2.63	71	⇓*e*Pn	Pn	19 30 11.7	-0.4
	400nm,0.2s						
INGI				⇓*e*Sn	Sn	19 30 44.1	+0.9
RATI	**Rata**	3.02	72	⇑*e*Pn	Pn	19 30 17.1	-0.5
	602nm,0.3s						
KEDI	**Kedomdong**	3.64	71	⇓*e*Pn	Pn	19 30 25.9	-0.5
	162nm,0.2s						
FITZ	**Fitzroy Crossi**	15.13	125	Pn	P	19 33 01.7	-2.4
	0.1nm,0.3s,baz=304,slow=7.3,SNR=7.3						
FITZ				Sn	S	19 35 38.0	-13
	0.1nm,0.3s,baz=164,slow=15,SNR=5.5						
WRA	**Warramunga Arr**	23.30	118	P	P	19 34 38.1	+1.2
	0.5nm,0.6s,mb3.1,baz=290,slow=12,SNR=8.0						
ASAR	**Alice Springs**	24.61	127	P	P	19 34 51.0	+1.3
	0.8nm,0.7s,mb3.4,baz=304,slow=8.8,SNR=16						
MKAR	**Makanchi Array**	62.42	337	P	P	19 39 53.0	-0.1
	1.3nm,0.4s,mb4.4,baz=148,slow=7.9,SNR=32						

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*NIED **29** 19:36:00, 28.40N×142.50E, h5^{km}, Mw4.3 Best double couple: $M_0$3.17×10^{15} NP1:ϕ_s235°, δ74°, λ111°. NP2:ϕ_s1°, δ26°, λ39°.*

*IDC **29** 19:36:09.1±0.6, 28.34N×142.70E, mb4.3/12, mb1 4.4/14, mb1mx4.3/23, ML4.1/2, MS3.6/3, Ms1 3.6/3, ms1mx3.1/28, Error ellipse: s-maj=23.8km s-min=12.3km az=96.0*

*BJI **29** 19:36:10.4, 28.30N×142.60E, h21^{km}, mB4.6, mb4.6, Ms4.7*

*JMA **29** 19:36:11.6±0.1, 28.41N×142.50E, h20^{km}, M4.9*

*NEIC **29** 19:36:12.4±3.1, 28.32N×142.63E, h22^{km}±21^{km}, mb4.6/19, MW4.3(NIED), Error ellipse: s-maj=9.4km s-min=7.1km az=102.0*

*MOS **29** 19:36:12.0±1.3, 28.44N×142.78E, h33^{km}, mb4.7/8, Error ellipse: s-maj=23.6km s-min=10.7km az=106.6*

ISC 29 19:36:10.1±1.2**, 28.43N**±0.02×**142.56E**±0.08**, h17^{km}**±8^{km}**, n95, σ1^{s}19**/99**, mb4.5**/33**, MS4.0**/2**, 6C-5D, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	1.37	194	Pn	Pn	19 36 35.5	+0.8
	28nm,0.3s,baz=26,slow=9.3,SNR=13						
CBIJ				Sn	Sn	19 36 52.5	-0.1
	125nm,0.3s,baz=116,slow=23,SNR=21						
CBIJ	**Chichi jima**	1.37	194	P	Pn	19 36 35.5	+0.8
CBIJ				*e*S	Sb	19 36 52.4	+0.3
JHHJ	**Haha-jima-NKT**	1.83	191	S	Sn	19 37 04.9	+0.8
JHJ2	**Mitsune**	5.23	334	S	Sn	19 38 31.0	+0.8
JHJ	**Hachijo jima 2**	5.25	334	Pn	Pn	19 37 31.9	+2.0
	23nm,0.3s,baz=97,slow=23,SNR=5.7						
BSO1	**Boso 1**	6.35	348	P	Pn	19 37 44.7	-0.7
BSO1				*e*S	Sn	19 38 53.6	-4.6
BSO2	**Boso 2**	6.49	347	S	Sn	19 39 01.6	-0.1
BSO3	**Boso 3**	6.59	345	P	Pn	19 37 48.5	-0.2
BSO3				S	Sn	19 39 03.0	-1.2
BSO4	**Boso 4**	6.81	344	S	Sn	19 39 10.7	+1.0
JYO	**Yokosk**	7.21	341	P	Pn	19 38 01.1	+3.7
JOD2	**Odawara 2**	7.42	337	P	Pn	19 38 01.6	+1.1
JYN	**Shimob**	7.83	335	P	Pn	19 38 08.5	+2.4
JHU	**Hanno**	7.90	340	P	Pn	19 38 07.0	-0.2
JHU				*e*S	Sn	19 39 32.4	-4.7
JYT	**Yasato**	8.03	346	P	P	19 38 11.2	+2.3
JRY	**Ryogami san**	8.17	339	P	P	19 38 11.2	+0.3
JRY				S	Sn	19 39 40.6	-3.2
JNT	**Takato**	8.31	334	P	P	19 38 15.4	+2.5
JAG	**Ashikaga**	8.39	343	P	P	19 38 12.7	-1.3
JAG				S	Sn	19 39 43.4	-5.9
JKT	**Katashina**	8.77	342	P	P	19 38 20.2	+1.0
MAJO	**Matsushiro**	8.88	337	*e*P	P	19 38 20.6	-0.1
	20nm,0.5s						
MAT	**Matsushiro**	8.88	337	P	P	19 38 20.6	-0.2
MAT				S	Sn	19 39 59.3	-2.2
MAT	**Matsushiro**	8.88	337	*e*P	P	19 38 21.0	+0.2
	19nm,0.8s						
MAT				*e*S	Sn	19 39 59.0	-2.5
JFT	**Otama**	9.25	349	P	P	19 38 25.0	-0.9
JFY	**Yanaizu**	9.27	346	P	P	19 38 25.4	-0.7
JYS	**Shirataka**	9.98	349	P	P	19 38 34.2	-1.8
JMK	**Ichinoseki**	10.55	354	P	P	19 38 41.9	-1.9
JMK				S	S	19 40 30.1	-12
JOW	**Kunigami**	12.77	266	LR	LR	19 43 31.4	
	comp=Z,171nm,18.7s,baz=311,slow=34						
KS15	**Wonju Array Si**	15.24	310	P	P	19 39 50.8	+4.6
ASAJ	**Asahikawa**	15.65	0	Pn	P	19 39 49.1	-2.5
	1.3nm,0.3s,baz=275,slow=5.4,SNR=8.1						
ASAJ				Sn	S	19 42 32.6	-12
	0.4nm,0.3s,baz=3.3,slow=28,SNR=2.7						
ASAJ				LR	LR	19 47 00.4	
	comp=Z,152nm,19.1s,baz=158,slow=41						
INCN	**Inchon**	16.11	308	*e*P	P	19 40 01.5	+4.0
	12nm,0.7s						
YSS	**Yuzh-Sakhalins**	18.49	0	*e*P	P	19 40 28.5	+1.2
YSS	**Yuzh-Sakhalins**	18.49	0	*e*P	P	19 40 26.5	-0.7
	21nm,1.2s						
MDJ	**Mudanjiang**	19.18	331	P	P	19 40 34.5	-1.1
MDJ				AMB	AMB		
	comp=Z,15nm,0.8s						
MDJ				AMB	AMB		
	comp=Z,64nm,5.1s						
KLR	**Kul'dur**	22.37	341	*e*P	P	19 41 08.2	-0.6
KLR				pmax	pmax		
	comp=Z,28nm,1.6s,mb4.4						
HHC	**Hu-ho-hao-te**	28.20	304	*e*P	P	19 42 03.0	-1.0
HHC				AMB	AMB		
	comp=Z,9.0nm,0.5s,mb4.7						
XAN	**Xi'an**	29.22	290	P	P	19 42 12.0	-1.2
XAN				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.3						
GYA	**Guiyang**	31.85	275	⇑*i*P	P	19 42 36.0	-0.6
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
CD2	**Chengdu**	33.70	284	P	P	19 42 51.8	-0.8
BOD	**Bodaibo**	35.50	334	*e*P	P	19 43 07.3	-0.5
KMI	**Kunming**	35.59	274	*e*P	P	19 43 09.3	+0.4
KMI				AMB	AMB		
	comp=Z,11nm,1.3s,mb4.6						
GTA	**Gaotai**	36.82	299	*e*P	P	19 43 18.8	-0.3
GTA				AMB	AMB		
	comp=Z,2.0nm,1.3s,mb3.8						
ZAK	**Zakamensk**	36.84	317	*e*P	P	19 43 21.0	+1.8
CM31	**Chiang Mai Arr**	41.04	266	*e*P	P	19 43 54.7	+0.3
	comp=Z,3.9nm,0.8s,mb4.1						
CMAR	**Chiang Mai Arr**	41.04	266	P	P	19 43 55.1	+0.7
	comp=Z,1.8nm,0.8s,mb3.8,baz=50,slow=9.2,SNR=13						
CMAR	**Chiang Mai Arr**	41.04	266	P	P	19 43 55.2	+0.8
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
WMQ	**Urumqi**	46.08	305	*e*P	P	19 44 35.0	0.0
WRAB	**Tennant Creek**	48.73	190	*e*P	P	19 44 54.8	-1.3
	comp=Z,54nm,0.9s,mb5.6						
WB2	**Warramunga Arr**	48.74	190	⇓*i*P	P	19 44 55.0	-1.1
WRA	**Warramunga Arr**	48.74	190	P	P	19 44 54.8	-1.4
	comp=Z,21nm,0.7s,mb5.3,baz=13,slow=8.4,SNR=61						
WRA				PcP	PcP	19 46 20.4	-1.1
	comp=Z,1.2nm,0.5s,baz=4.2,slow=3.7,SNR=5.1						
WRA	**Warramunga Arr**	48.74	190	P	P	19 44 54.8	-1.3
WRA						19 46 20.4	
WRA				pmax	pmax		
	comp=Z,21nm,0.7s						
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FITZ	**Fitzroy Crossi**	49.07	201	⇓*i*P	P	19 44 57.9	-0.8
	comp=Z,4.1nm,0.8s,mb4.5						
FITZ	**Fitzroy Crossi**	49.07	201	P	P	19 44 57.7	-1.0
	comp=Z,3.0nm,0.6s,mb4.5,baz=8.9,slow=3.6,SNR=18						
MKAR	**Makanchi Array**	49.89	309	P	P	19 45 04.8	+0.2
	comp=Z,3.4nm,0.5s,mb4.6,baz=90,slow=8.6,SNR=25						
MKAR				PcP	PcP	19 46 26.1	+0.8
	comp=Z,3.3nm,1.0s,baz=74,slow=8.8,SNR=4.8						
MKAR	**Makanchi Array**	49.89	309	P	P	19 45 04.9	+0.2
MKAR						19 46 26.1	
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
MKAR				pmax	pmax		
	comp=Z,3.0nm,1.0s						
PKI	**Pulchoki**	50.05	283	*e*P	P	19 45 06.1	0.0
	comp=Z,2.2nm,0.5s,mb4.5						
KKN	**Kakani**	50.10	284	*e*P	P	19 45 06.7	+0.2
	comp=Z,15nm,1.0s,mb5.0						
DMN	**Daman**	50.30	284	*e*P	P	19 45 08.3	+0.3
	comp=Z,7.0nm,0.7s,mb4.8						
GKN	**Gorkha**	50.60	284	*e*P	P	19 45 10.2	-0.1
	comp=Z,22nm,1.1s,mb5.0						
KOLN	**Koldanda**	51.55	284	*e*P	P	19 45 17.6	+0.1
	comp=Z,10nm,0.7s,mb4.9						
KURK	**Kurchatov**	52.30	314	*c i*P	P	19 45 23.2	+0.4
KURK	**Kurchatov**	52.30	314	*e*P	P	19 45 23.0	+0.1
	comp=Z,34nm,1.0s,mb5.2						
ASAR	**Alice Springs**	52.46	190	P	P	19 45 22.7	-1.8
	comp=Z,1.0nm,0.6s,mb4.0,baz=3.1,slow=5.0,SNR=16						
ASAR				PcP	PcP	19 46 37.0	+1.9
	comp=Z,1.2nm,0.7s,baz=14,slow=3.4,SNR=7.1						
ASPA	**Alice Springs**	52.46	190	*e*P	P	19 45 22.8	-1.7
AAK	**Ala-Archa**	55.78	304	*e*P	P	19 45 47.8	-0.7
	comp=Z,1.9nm,0.7s,mb4.2						
ILAR	**Eielson Array**	56.38	29	P	P	19 45 52.0	-0.6
	comp=Z,3.9nm,1.2s,mb4.3,baz=252,slow=5.8,SNR=7.9						
ILAR	**Eielson Array**	56.38	29	P	P	19 45 52.0	-0.6
ILAR				pmax	pmax		
	comp=Z,4.0nm,1.2s						
BVAR	**Borovoye Array**	57.29	317	P	P	19 45 60.0	+0.7
	comp=Z,12nm,0.6s,mb5.1,baz=95,slow=8.5,SNR=68						
BRVK	**Borovoye**	57.35	317	*e*P	P	19 46 00.3	+0.6
	comp=Z,14nm,0.8s,mb5.1						
ZRNK	**Zerenda**	58.13	317	*e*P	P	19 46 05.5	+0.5
	comp=Z,7.8nm,0.7s,mb4.8						
STKA	**Stephens Creek**	59.98	181	P	P	19 46 15.9	-2.3
	comp=Z,2.8nm,0.8s,mb4.3,baz=338,slow=8.3,SNR=4.1						
INK	**Inuvik**	61.68	25	P	P	19 46 27.4	-1.9
	comp=Z,2.5nm,0.7s,mb4.5,baz=330,slow=3.9,SNR=3.2						
INK	**Inuvik**	61.68	25	P	P	19 46 27.4	-1.9
INK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
INK	**Inuvik**	61.68	25	*e*P	P	19 46 28.4	-0.8
	comp=Z,8.4nm,1.2s,mb4.8						
SVE	**Sverdlovsk**	62.38	322	⇓*e*P	P	19 46 33.2	-0.9
ARU	**Arti**	63.58	322	*e*P	P	19 46 42.1	+0.2
ARU	**Arti**	63.58	322	*e*P	P	19 46 42.0	0.0
	comp=Z,11nm,0.7s,mb5.0						
ARCES	**ARCESS Array B**	72.39	341	P	P	19 47 37.8	+1.0
	comp=Z,4.7nm,0.8s,mb4.5,baz=51,slow=7.8,SNR=6.9						
ARCES	**ARCESS Array B**	72.39	341	P	P	19 47 37.8	+1.0
ARCES				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KIV	**Kislovodsk**	77.38	313	*d i*P	P	19 48 08.6	+2.8
KIV				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.8						
KIV				MLR	MLR		
	comp=Z,100nm,19.0s,MS4.2						
KIV	**Kislovodsk**	77.38	313	*e*P	P	19 48 07.7	+2.0
	comp=Z,12nm,0.8s,mb4.9						
GNI	**Garni**	77.74	309	⇑*e*P	P	19 48 10.0	+2.2
GNI				pmax	pmax		
	comp=Z,9.0nm,1.1s						
NVAR	**Mina Array Bea**	79.43	52	P	P	19 48 17.9	+0.8
	comp=Z,1.2nm,0.7s,mb3.9,baz=286,slow=4.5,SNR=8.5						
ELK	**Elko**	80.41	49	*e*P	P	19 48 24.9	+2.5
	comp=Z,3.0nm,1.2s,mb4.1						
AKASG	**Malin Array Be**	81.74	324	P	P	19 48 29.7	+0.7
	comp=Z,0.9nm,0.5s,mb4.0,baz=50,slow=5.3,SNR=12						
AKASG	**Malin Array Be**	81.74	324	P	P	19 48 29.7	+0.6
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
PDAR	**Pinedale Array**	83.03	45	LR	LR	20 22 07.5	
	comp=Z,45nm,18.6s,MS3.9,baz=72,slow=33						
RAYN	**Ar Rayn**	84.92	294	P	P	19 48 48.9	+3.0
	comp=Z,182nm,0.6s,SNR=10						
PV10	**Paradox Valley**	85.74	48	*e*P	P	19 48 50.5	+0.8
PV01	**Paradox Valley**	86.18	48	P	P	19 48 53.8	+1.9
RW3	**Ridgway**	86.69	48	*e*P	P	19 48 56.0	+1.6
GERES	**GERESS Array B**	90.54	329	P	P	19 49 12.7	+0.3
	comp=Z,0.1nm,0.3s,mb3.6,baz=18,slow=4.2,SNR=4.5						
VNA2	**Neumayer--Watz**	134.26	193	⇑*i*	PKPdf	19 55 33.5	+3.2
VNA2	**Neumayer--Watz**	134.26	193	⇑*i*	PKPdf	19 55 37.9	+7.6
VNA3	**Neumayer Olymp**	134.45	192	⇓*i*	PKPdf	19 55 31.3	+0.6
VNA3	**Neumayer Olymp**	134.45	192	⇑*i*	PKPdf	19 55 35.5	+4.8
SAML	**Samuel**	148.98	56	*e*PKPbc	PKPdf	19 55 58.0	+0.3

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*HEL **29** 19:45:24.8±0.1, 57.60N×17.05E, ML2.3, ML3.0(UPP), ML2.2(BER), Explosion*

*IDC **29** 19:45:24.6±0.9, 57.57N×16.99E, mb3.5/1, mb1 3.3/6, mb1mx3.2/20, ML3.2/5, Error ellipse: s-maj=11.6km s-min=10.3km az=61.0*

*BER **29** 19:45:24.5±4.2, 57.31N×17.02E, h4^{km}±46^{km}, MD3.5, ML2.2, ML2.6(NAO)*

*NAO **29** 19:45:25.1±5.9, 57.54N×17.03E, ML2.6*

ISC 29 19:45:22.3±0.4**, 57.55N**±0.04×**17.18E**±0.05**, n43, σ1^{s}56**/67**, mb3.2**/1**, Baltic Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OSKU	**Oskarshamn**	0.69	239	*i* P	Pg	19 45 36.5	+0.4
OSKU				*i* S	Sg	19 45 44.9	-0.4
GOTU	**Gotland**	0.76	79	*i* P	Pg	19 45 39.8	+2.4
VIKU	**Vikbolandet**	0.99	345	*e*P	Pg	19 45 40.9	-1.1
EKSU	**Eksjoe**	1.01	272	*e*P	Pb	19 45 41.2	-1.3
LNKU	**Linkoeping**	1.12	308	*e*P	Pb	19 45 42.7	-1.6
BLEU	**Blekinge**	1.46	212	*e*P	Pn	19 45 51.3	+1.3
NYNU	**Nynaeshamn**	1.52	16	*e*P	Pn	19 45 51.5	+0.6
ESKU	**Eskilstuna**	1.73	346	*e*P	Pn	19 45 54.1	+0.2
ASKU	**Askersund**	1.83	318	*e*P	Pn	19 45 55.4	+0.1
DEL	**Delary**	2.11	240	*e*P	Pn	19 46 00.6	+1.3
NRTU	**Norrtaelje**	2.26	19	*e*P	Pn	19 46 03.9	+2.4
BACU	**Backbrunna**	2.31	359	*e*P	Pn	19 46 04.1	+1.9
NRAU	**Nora**	2.31	332	*e*P	Pn	19 46 03.5	+1.3
UPP	**Uppsala**	2.32	6	*e*P	Pn	19 46 04.7	+2.3
FLYU	**Flymyra**	2.61	8	*e*P	Pn	19 46 08.3	+1.8
OSTU	**Oestervaala**	2.69	359	*e*P	Pn	19 46 09.3	+1.7
GRAU	**Graesoe**	2.88	14	*e*P	Pn	19 46 12.0	+1.7
AAL	**Aland**	3.01	28	*e*P	Pn	19 46 13.7	+1.5
FALU	**Falun**	3.03	347	*e*P	Pn	19 46 13.3	+0.8
HFS	**Hagfors**	3.16	326	Pn	Pn	19 46 15.4	+1.1
	baz=141,slow=12						
HFS				Sn	Sn	19 46 53.8	+0.5
	baz=126,slow=28						
HFS	**Hagfors**	3.16	326	*e*P	Pn	19 46 15.4	+1.1
HFS				*e*S	Sn	19 46 53.8	+0.5
HFS	**Hagfors**	3.16	326	Pn	Pn	19 46 15.3	+1.0
	0.5nm,0.3s,baz=142,slow=15,SNR=73						
HFS				Sn	Sn	19 46 53.7	+0.4
	1.2nm,0.3s,baz=140,slow=24,SNR=13						
IGGU	**Iggoen**	3.33	1	*e*P	Pn	19 46 18.1	+1.3
NOA	**NORSAR Array B**	4.65	321	Pn	Pn	19 46 33.5	-1.9
	0.6nm,0.3s,baz=146,slow=13,SNR=4.2						
NOA				Sn	Sn	19 47 24.6	-6.3
	1.5nm,0.3s,baz=160,slow=23,SNR=4.4						
VSU	**Vasula**	5.16	76	*e*P	Pn	19 46 44.2	+1.5
VSU				*e*S	Sn	19 47 41.7	-2.2
VSU				*e*SG	Sg	19 48 03.7	-10
PVF	**Pernaja**	5.39	53	*e*P	Pn	19 46 46.6	+0.6
PVF				*e*S	Sn	19 47 45.9	-3.8
PVF				*e*SG	Sg	19 48 08.6	-13
PVF				MSG		19 48 13.2	
	comp=Z,5.4nm,0.3s						
BLS5	**Blasjo**	5.93	293	*e*P	Pn	19 46 52.1	-1.4
BLS5				*e*S	Sn	19 47 55.2	-8.0
BLS5				AML	AML	19 48 28.1	
	comp=Z,5.6nm,0.3s						
FIA0	**FINESS Array S**	5.98	46	Pn	Pn	19 46 55.0	+0.8
	baz=227,slow=12						
FIA0				Sn	Sn	19 48 03.2	-1.1
	baz=222,slow=22						
FIA0	**FINESS Array S**	5.98	46	*e*P	Pn	19 46 55.1	+0.9
FIA0				*e*S	Sn	19 48 00.5	-3.9
FIA0				*e*SG	Sg	19 48 27.7	-14
FIA0				MSG		19 48 28.4	
	comp=Z,2.5nm,0.3s						
FINES	**FINESS Array B**	5.98	46	Pn	Pn	19 46 54.8	+0.6
	comp=Z,1.1nm,0.3s,baz=230,slow=11,SNR=24						
FINES				Sn	Sn	19 48 03.3	-1.0
	comp=Z,0.9nm,0.3s,baz=241,slow=24,SNR=5.2						
ODD1	**Odda**	5.98	298	*e*P	Pn	19 46 51.6	-2.7
ODD1				*e*S	Sn	19 47 54.9	-10
ODD1				AML	AML	19 48 37.6	
	comp=Z,5.8nm,0.3s						
KEF	**Keuruu**	6.03	37	*e*P	Pn	19 46 55.1	+0.2
KEF				*e*S	Sn	19 48 00.9	-4.8
VJF	**Virojoki**	6.13	56	*e*P	Pn	19 46 55.8	-0.6
VJF				*e*S	Sn	19 48 04.5	-3.7
VJF				*e*SB	Sb	19 48 24.7	-0.1
KAF	**Kangasniemi**	6.48	41	*e*P	Pn	19 47 01.6	+0.2
KAF				*e*S	Sn	19 48 11.9	-5.1
KAF				*e*SG	Sg	19 48 43.8	-14
KMY	**Karmoy**	6.50	290	*e*P	Pn	19 46 58.6	-3.0
KMY				*e*S	Sn	19 48 07.8	-9.5
KMY				AML	AML	19 48 44.7	
	comp=Z,3.3nm,0.8s						
SUF	**Sumiainen**	6.84	37	*e*P	Pn	19 47 06.1	-0.4
SUF				*e*S	Sn	19 48 21.5	-4.6
SUF				*e*		19 48 38.5	
SUF				MSG		19 48 42.5	
	comp=Z,1.3nm,0.2s						
BRG	**Berggiesshubel**	6.96	197	*e*Sg	Sn	19 48 21.7	-7.2
KJN	**Kajaani**	8.32	34	*e*P	P	19 47 25.4	-1.7
KJN				*e*S	Sn	19 48 56.9	-6.0
KJN				*e*SB	Sb	19 49 32.3	+4.0
GERES	**GERESS Array B**	8.97	195	Pn	P	19 47 35.4	-0.7
	comp=Z,0.1nm,0.3s,baz=347,slow=13,SNR=3.1						
ARA0	**ARCESS Array S**	12.57	14	Pn	P	19 48 20.0	-5.1
	baz=197,slow=16						
ARA0	**ARCESS Array S**	12.57	14	*e*P	P	19 48 20.0	-5.1
ARCES	**ARCESS Array B**	12.57	14	Pn	P	19 48 20.6	-4.5
	comp=Z,0.3nm,0.3s,baz=198,slow=14,SNR=9.3						
MKAR	**Makanchi Array**	39.84	77	P	P	19 52 59.3	+0.6
	comp=Z,0.2nm,0.3s,mb3.2,baz=313,slow=6.4,SNR=7.4						

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*TAP **29** 19:51:10.2, 24.50N×122.12E, h75^{km}, ML3.0*

JMA 29 19:51:15.9±0.1**, 24.80N**×**122.23E, h73^{km}, M2.0, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	0.79	115	P	P	19 51 32.1	-0.1
YOJ				*e*S	S	19 51 44.0	-0.3
IRIF	**Iriomote-Funau**	1.44	108	P	P	19 51 40.4	-0.3
IRIF				*e*S	S	19 51 58.9	-0.2
HATJ	**Hateruma jima**	1.61	117	*e*S	S	19 52 02.8	-0.2
JKRS	**Kuro-shima**	1.71	109	P	P	19 51 44.4	+0.1
JKRS				*e*S	S	19 52 05.7	+0.4
JIJ	**Ishigaki jima**	1.79	104	P	P	19 51 45.4	0.0
JIJ				*e*S	S	19 52 07.0	-0.2

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*STR **29** 19:57:20.9±0.3, 45.19N×6.33E, h2^{km}±1^{km}, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LDG **29** 19:57:21.8±0.1, 45.20N×6.47E, h2^{km}, Md2.2/2, Ml2.0/3, Error ellipse: s-maj=2.9km s-min=2.0km az=94.0*

ISC 29 19:57:21.0±0.5**, 45.22N**±0.02×**6.39E**±0.04**, h2^{km}, n10, σ0^{s}87**/19**, France**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPG	**La Plagne**	0.38	42	*e*Pg	Pg	19 57 28.8	+0.2
LPG				*e*Sg	Sg	19 57 34.5	+0.8
	10nm,0.3s						
LPL	**La Plagne**	0.39	39	*e*Pg	Pg	19 57 29.0	+0.3
LPL				*e*Sg	Sg	19 57 34.2	+0.4
	12nm,0.2s						
ORIF	**Oris-en-Rattie**	0.47	231	*e*Pg	Pg	19 57 31.0	+0.7
ORIF				*e*Sg	Sg	19 57 37.7	+1.1
	17nm,0.2s						
RSL	**Roselend**	0.50	19	Pg	Pg	19 57 31.2	+0.2
RSL				Sg	Sg	19 57 38.6	+0.9
OG22	**Abries**	0.56	135	Pg	Pg	19 57 31.6	-0.5
OG22				Sg	Sg	19 57 39.7	+0.1
MBDF	**Montbardon**	0.56	151	*e*Pg	Pg	19 57 31.6	-0.6
MBDF				*e*Sg	Sg	19 57 39.1	-0.5
	4.0nm,0.3s						
VIVF	**Saint-Julien-l**	1.27	254	*e*Pg	Pg	19 57 47.2	+0.9
VIVF				*e*Sg	Sg	19 58 04.4	+1.2
	4.4nm,0.3s						
CABF	**La Chapelle**	1.41	352	*e*Pg	Pg	19 57 49.2	0.0
CABF				*e*Sg	Sg	19 58 07.2	-0.8
	1.7nm,0.2s						
FRF	**La Foret Royal**	1.67	174	*e*Pg	Pg	19 57 52.9	-1.3
SMF	**Signal de Mont**	2.28	310	*e*Pg	Pg	19 58 04.9	-1.6
SMF				*e*Sg	Sg	19 58 35.1	-1.8
	1.3nm,0.2s						

ISC 29 20:10:23.9±0.8**, 45.75N**±0.06×**11.95E**±0.06**, h2^{km}, n16, σ0^{s}71**/18**, 10C-2D, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CGRP	**Cima Grappa**	0.16	322	⇓*i*Pg	Pg	20 10 26.3	-0.9
CGRP				*i* Sg	Sg	20 10 34.4	+5.0
CAE	**Caneva**	0.43	53	⇑*e*Pg	Pg	20 10 32.1	-0.3
TEOL	**Teolo**	0.44	206	⇑*e*Pg	Pg	20 10 32.6	0.0
FAU	**Forcella Aurin**	0.48	3	*e*Pg	Pg	20 10 33.4	-0.1
BOO	**Bordano**	0.99	54	⇑*e*Pg	Pg	20 10 44.2	+0.6
PLRO	**Paularo**	1.16	46	Pg	Pg	20 10 46.7	-0.3
ROBS	**Robic**	1.20	65	*i* Pn	Pn	20 10 47.0	-0.6
DRE	**Drenchia**	1.26	70	⇑*e*Pg	Pg	20 10 48.0	-1.1
CADS	**Cadrg**	1.34	68	*i* Pn	Pn	20 10 49.0	-0.6
CADS				*i* Sn	Sn	20 11 08.5	+0.3
	comp=Z,13nm,0.2s						
WTTA	**Wattenberg**	1.53	352	⇑*i*PN	Pn	20 10 52.2	-0.1
WTTA				*i*		20 10 56.2	
WTTA				*i*		20 11 12.3	
WTTA				*i*		20 11 20.4	
SQTA	**Sankt Quirin**	1.56	341	⇓*i*PN	Pn	20 10 52.1	-0.6
SQTA				*i*		20 10 56.5	
SQTA				*i*		20 11 13.0	
SQTA				*i*		20 11 19.2	
WATA	**Walderalm**	1.60	351	⇑*i*PN	Pn	20 10 53.3	-0.1
WATA				*i*		20 11 03.0	
WATA				*i*		20 11 14.2	
WATA				*i*		20 11 27.8	
KBA	**Koelnbreinsper**	1.64	36	⇑*i*PN	Pn	20 10 55.1	+1.1
KBA				*i*		20 11 01.1	
KBA				*i*		20 11 17.8	
KBA				*i*		20 11 23.7	
MOTA	**Moosalm**	1.70	340	⇑*i*PN	Pn	20 10 55.1	+0.4
MOTA				*i*		20 11 03.7	
MOTA				*i*		20 11 17.4	
MOTA				*i*		20 11 23.4	
OBKA	**Obir**	1.96	66	⇑*i*PN	Pn	20 10 59.9	+1.3
OBKA				*i*		20 11 07.9	
OBKA				*i*		20 11 24.9	
OBKA				*i*		20 11 32.4	
DAVA	**Damuels**	2.10	318	⇑*i*PN	Pn	20 11 01.7	+1.2

DAVA				i		20 11 12.2	
DAVA				i		20 11 30.0	
DAVA				i		20 11 35.2	

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*MDD **29** 20:19:02.7±0.3, 42.36N×2.14E, h5^{km}±5^{km}, mbLg1.6/6, Error ellipse: s-maj=3.3km s-min=2.1km az=165.0, PRXIMO AftershockPLICA*

*LDG **29** 20:19:02.6±0.2, 42.36N×2.17E, h4^{km}, Ml1.9/8, Error ellipse: s-maj=3.4km s-min=1.8km az=175.0*

*STR **29** 20:19:03.1±0.7, 42.77N×2.25E, h5^{km}±1^{km}, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 29 20:19:00.5±0.6**, 42.36N**±0.03×**2.18E**±0.03**, h9**^{km}±4^{km}**, n20, σ1^{s}29**/36**, 1C, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VALF	Valcebollere	0.13	289	P	Pg	20 19 04.5	+1.0
VALF				S	Sg	20 19 06.1	+0.6
FILF	Fillols	0.34	55	Pg	Pg	20 19 08.0	+0.4
FILF				Sg	Sg	20 19 12.1	-0.2
FILF	Fillols	0.34	55	P	Pg	20 19 08.0	+0.4
FILF				S	Sg	20 19 12.2	-0.1
CARF	Carcanieres	0.36	351	P	Pg	20 19 09.6	+1.8
CARF				S	Sg	20 19 14.2	+1.5
EJON	La Jonquera	0.53	80	⇑Pg	Pg	20 19 13.1	+1.8
	0.8nm,0.1s,SNR=18						
EJON				Lg		20 19 21.1	
	2.0nm,0.1s,SNR=7.9						
EMIR	Miracle	0.66	228	Pg	Pg	20 19 14.1	+0.3
	1.1nm,0.1s,SNR=7.9						
EMIR				Lg		20 19 23.3	
	5.2nm,0.1s,SNR=7.9						
SALF	Salau	0.83	299	Pg	Pg	20 19 18.1	+0.9
SALF				Sg	Sg	20 19 28.6	+0.2
SALF	Salau	0.83	299	P	Pb	20 19 17.9	+1.2
SALF				S	Sb	20 19 28.4	+0.7
MTLF	Montolieu	0.98	2	ePg	Pg	20 19 20.9	+0.8
MTLF				eSg	Sg	20 19 34.6	+1.4
	3.3nm,0.2s						
MELF	Melles	1.17	296	S	Sb	20 19 38.4	+1.0
EPOB	Poblet	1.30	220	Pg	Pg	20 19 25.9	-0.6
	1.6nm,0.1s,SNR=7.9						
EPOB				Lg		20 19 42.8	
	3.6nm,0.1s,SNR=7.9						
EPF	Esparros	1.51	297	ePn	Pn	20 19 29.2	+1.3
EPF				ePg	Pg	20 19 31.1	+0.4
EPF				eSg	Sg	20 19 50.2	-0.7
	1.5nm,0.2s						
ESAC	San Caprasio	2.07	253	Pg	Pg	20 19 40.8	-1.1
	1.8nm,0.1s,SNR=4.0						
ESAC				Lg		20 20 07.1	
	4.9nm,0.2s,SNR=7.9						
ETSF	Etsaut	2.09	286	ePg	Pg	20 19 41.1	-1.2
ETSF				eSg	Sg	20 20 08.0	-2.2
	2.3nm,0.4s						
LASF	Ste Croix	2.11	35	ePn	Pn	20 19 37.7	+1.3
LASF				ePg	Pg	20 19 41.6	-1.0
LASF				eSg	Sg	20 20 09.3	-1.4
	0.7nm,0.2s						
CAF	Calviac	2.56	358	ePn	Pn	20 19 43.6	+0.6
CAF				ePg	Pg	20 19 50.1	-1.6
CAF				eSg	Sg	20 20 23.3	-2.6
	1.1nm,0.2s						
SJPF	Ste Jean	2.62	288	ePg	Pg	20 19 50.0	-2.8
SJPF				eSg	Sg	20 20 24.2	-3.5
	0.8nm,0.3s						
LFF	La Frestale	2.78	338	eSg	Sg	20 20 30.3	-2.8
	0.9nm,0.2s						
LMR	La Mourre	3.33	72	ePn	Pn	20 19 53.3	-0.5
LMR				eSn	Sn	20 20 31.7	-2.2
	0.6nm,0.2s						
FRF	La Foret Royal	3.49	68	ePn	Pn	20 19 56.3	+0.2

KRSC 29 20:24:33.0±1.1**, 52.58N×159.68E, h16**^{km}±2^{km}**, ML3.8, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.56	22	eP	Pb	20 24 44.9	+1.0
SPN				eS	Sb	20 24 52.6	+1.2
NLC	Nalytchevo	0.63	341	i P	Pb	20 24 46.1	+1.0
NLC				eS	Sb	20 24 55.2	+1.8
RUS	Russkaya	0.73	259	i P	Pb	20 24 48.0	+1.2
RUS				eS	Sb	20 24 58.6	+2.3
PET	Petropavlovsk	0.77	306	i P	Pb	20 24 48.1	+0.6
PET				eS	Sb	20 24 58.6	+1.2
UGLR	Uglovaya	0.82	321	i P	Pb	20 24 49.4	+1.1
UGLR				eS	Sb	20 25 00.7	+1.9
SDLR	Sedlovina	0.85	326	i P	Pb	20 24 49.3	+0.4
SDLR				eS	Sb	20 25 01.0	+1.2
SMAR	Somma	0.87	322	i P	Pb	20 24 49.6	+0.4
SMAR				eS	Sb	20 25 02.5	+2.2
AVH	Avacha	0.89	321	i P	Pb	20 24 50.4	+0.8
AVH				eS	Sb	20 25 02.8	+1.7
KOK	Koryaka	0.95	319	i P	Pb	20 24 51.1	+0.4
KOK				eS	Sb	20 25 02.9	+0.1
GRL	Gorelyy	0.98	269	i P	Pb	20 24 52.3	+1.2
GRL				eS	Sb	20 25 05.6	+1.9
KII	Karymskiy	1.47	355	eP	Pn	20 24 58.5	-0.5
GNL	Ganaly	1.53	318	i P	Pn	20 24 59.9	0.0
GNL				eS	Sb	20 25 19.1	-0.4
APC	Apacha	1.57	284	i P	Pn	20 25 00.8	+0.3
APC				i S	Sn	20 25 22.0	+1.4
APC				Smax			
	110nm,0.7s						
MIPR	Malaya Ipel'ka	1.81	262	i P	Pn	20 25 04.5	+0.5
MIPR				eS	Sn	20 25 28.1	+1.3
PAU	Pauzhetka	2.09	239	eP	Pn	20 25 08.5	+0.5
PAU				eS	Sn	20 25 34.0	+0.1
PAU				Smax			
	200nm,0.5s						
MKZ	Mys Kozlova	2.33	31	eP	Pn	20 25 09.5	-1.8
MKZ				eS	Sn	20 25 36.9	-2.9
TUMR	Tumrok	2.72	6	eP	Pn	20 25 17.1	+0.1
TUMR				eS	Sn	20 25 49.5	-0.3
SKR	Severo-Kuril's	2.92	231	eP	Pn	20 25 17.6	-2.2
SKR				eS	Sn	20 25 52.1	-2.8
KMNR	Kamenistaya	3.20	6	eP	Pn	20 25 24.1	+0.4
KMNR				eS	Sn	20 26 01.9	0.0
ESO	Esso	3.40	351	eP	Pn	20 25 27.2	+0.6
KPT	Kopyto	3.41	5	eP	Pn	20 25 28.2	+1.5
KPT				eS	Sn	20 26 09.5	+2.3
ZLN	Zelenaya	3.51	10	eP	Pn	20 25 28.2	+0.1
ZLN				eS	Sn	20 26 07.4	-2.3
LGNR	Loginova	3.56	9	eP	Pn	20 25 30.5	+1.6
LGNR				eS	Sn	20 26 11.4	+0.4
CIRR	Tsirk	3.60	10	eP	Pn	20 25 29.2	-0.2
CIRR				eS	Sn	20 26 11.2	-0.8
KRSR	Krestovskiy	3.68	8	eP	Pn	20 25 31.1	+0.5
KRSR				eS	Sn	20 26 14.3	+0.2
SRDR	Sredinnyy	3.75	0	P	Pn	20 25 31.7	+0.2
KLY	Klyuchi	3.78	8	eS	Sn	20 26 18.1	+1.4
KBTR	Krutoberegovo	4.07	26	eP	Pn	20 25 35.2	-0.9
KBTR				eS	Sn	20 26 21.4	-2.6
SVLR	Shiveluch	4.11	12	eP	Pn	20 25 38.3	+1.7
SVLR				eS	Sn	20 26 25.1	+0.3
BKI	Bering	4.56	52	eS	Sn	20 26 28.4	-7.8

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*IDC **29** 20:36:11.7±2.6, 16.21S×173.77W, mb3.9/5, mb1 4.2/5, mb1mx4.1/12, MS3.4/3, Ms1 3.4/3, ms1mx3.1/20, Error ellipse: s-maj=145.0km s-min=25.0km az=143.0*

ISC 29 20:36:15.6±2.2**, 16.2S**±0.7×**173.9W**±0.6**, h33**^{km}**, n8, σ0^{s}69**/5**, mb3.9**/5**, MS3.6**/2**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAR	Rarotonga	14.25	113	LR	LR	20 43 36.0	
	comp=Z,76nm,19.3s,baz=2.7,slow=31						
STKA	Stephens Creek	43.23	241	P	P	20 44 16.3	+0.6
	2.8nm,0.9s,mb4.0,baz=81,slow=10,SNR=6.3						
WRA	Warramunga Arr	49.21	257	P	P	20 45 02.7	-0.4
	0.5nm,0.7s,mb3.7,baz=91,slow=7.0,SNR=11						
WRA				LR	LR	21 02 44.9	
	comp=Z,58nm,18.2s,MS3.6,baz=205,slow=32						
ASAR	Alice Springs	49.42	253	P	P	20 45 04.3	-0.3
	1.6nm,0.5s,mb4.3,baz=84,slow=8.4,SNR=20						
ASAR				LR	LR	21 05 19.3	
	comp=Z,61nm,20.2s,MS3.6,baz=7.7,slow=35						
PDAR	Pinedale Array	83.18	42	P	P	20 48 39.5	-0.5
	0.5nm,0.8s,mb3.6,baz=243,slow=3.3,SNR=3.7						
ILAR	Eielson Array	83.34	11	P	P	20 48 40.8	+0.6
	1.0nm,0.8s,mb3.9,baz=220,slow=6.0,SNR=5.5						
BRTR	Keskin Array B	146.49	320	PKPbc	PKPbc	20 55 54.8	+1.2
	0.9nm,0.9s,baz=43,slow=4.7,SNR=3.4						
GERES	GERESS Array B	146.88	351	PKPbc	PKPbc	20 55 54.9	+0.7
	0.2nm,0.5s,baz=304,slow=3.5,SNR=2.4						

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*IDC **29** 20:51:17.9±0.8, 54.83N×160.39W, mb4.4/17, mb1 4.6/21, mb1mx4.5/27, ML4.0/4, MS3.5/12, Ms1 3.5/12, ms1mx3.3/32, Error ellipse: s-maj=23.0km s-min=14.8km az=174.0*

*BJI **29** 20:51:22.7, 55.27N×160.03W, h43^{km}, mB4.7, mb4.8, Ms4.3, Msz4.1*

*NEIC **29** 20:51:25.4±0.3, 54.87N×160.18W, h49^{km}±2^{km}, mb4.6/38, MS3.8/3, ML4.6(AEIC), Error ellipse: s-maj=5.7km s-min=2.2km az=156.0*

*MOS **29** 20:51:26.2±0.9, 55.72N×160.90W, h28^{km}, mb4.8/17, Error ellipse: s-maj=20.0km s-min=8.1km az=93.4*

ISC 29 20:51:23.7±0.4**, 54.84N**±0.04×**160.11W**±0.04**, h49**^{km}±2^{km}**, h20**^{km}±6.4^{km}**:pP-P, n228, σ1^{s}02**/229**, mb4.6**/65**, MS3.6**/17**, 14C-4D, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NAGA	Nagai Island	0.14	354	P	P	20 51 29.6	-1.9
SDPT	Sand Point	0.55	338	P	P	20 51 35.6	0.0
SDPT				S	S	20 51 43.2	-1.0
DOL	Dolgoi Island	1.06	288	P	P	20 51 42.1	-0.3
PS1A	Pavlof South-1	1.10	303	P	P	20 51 43.8	+0.7
PS1A				S	S	20 51 59.9	+2.5
PVV	Pavlof Volcano	1.10	300	P	P	20 51 43.5	+0.5
HAG	Hague Volcano	1.14	296	P	P	20 51 44.2	+0.7
PN6	Pavlof North-6	1.21	301	P	P	20 51 46.1	+1.6
PN6				S	S	20 51 59.9	-0.1
PN7A	Pavlof North-7	1.24	300	P	P	20 51 46.0	+1.1
DRIA	Deer Island	1.25	277	P	P	20 51 44.3	-0.9
DTNA	Dutton South F	1.27	285	P	P	20 51 45.5	0.0
DT1	Dutton Round H	1.28	283	P	P	20 51 45.3	-0.3
BLHA	Black Hill	1.42	309	P	P	20 51 48.7	+1.1
BALA	Baldy Mountain	1.58	284	P	P	20 51 51.1	+1.2
FALS	False Pass	1.91	272	P	P	20 51 54.8	+0.3
FALS				S	S	20 52 20.1	+2.7
ANPB	Aniakchak Plen	2.22	27	P	P	20 52 00.5	+1.6
SSLS	Shishaldin Sou	2.25	268	P	P	20 52 01.0	+1.6
ANPK	Aniakchak Peak	2.30	28	P	P	20 52 01.4	+1.4
WTUG	Tugumak	2.47	272	P	P	20 52 04.0	+1.5
WESN	West Dahl Nort	2.61	266	P	P	20 52 05.2	+0.7
WPOG	Pogromni	2.70	267	P	P	20 52 06.1	+0.3
WESS	West Dahl Sout	2.70	264	P	P	20 52 06.5	+0.7
WFAR	Faris Peak	2.73	266	P	P	20 52 06.7	+0.5
AHB	Akutan Harbor	3.41	260	P	P	20 52 15.8	+0.1
AKLV	Akutan Long Va	3.47	261	P	P	20 52 16.3	-0.4
AKGG	Akutan Green G	3.49	262	P	P	20 52 16.8	-0.1
LVA	Lava Point	3.52	261	P	P	20 52 17.3	0.0
UNV	Unalaska Valle	3.87	258	P	P	20 52 21.6	-0.7
MTBL	Makushin Table	3.94	260	P	P	20 52 22.7	-0.5
MSW	Makushin Switc	4.01	259	P	P	20 52 23.1	-1.1
MSW				S	S	20 53 09.5	-1.0
MCIR	Makushin Cirqu	4.06	260	P	P	20 52 24.7	-0.3
KJL	Kejulik	4.09	36	P	P	20 52 25.2	-0.2
CNTC	Contact Creek	4.16	33	P	P	20 52 26.5	+0.2
CAHL	Cahill	4.18	38	P	P	20 52 26.5	-0.2
CAHL				S	S	20 53 17.8	+2.9
MGLS	Mageik LS	4.29	36	P	P	20 52 27.9	-0.4
KABR	Katmai Barrier	4.36	39	P	P	20 52 28.9	-0.4
KAIC	Katmai Ikaglui	4.60	35	P	P	20 52 32.9	+0.3
KAWH	Katmai	4.61	37	P	P	20 52 31.7	-1.0
KAHC	Katmai Hardscr	4.74	34	P	P	20 52 34.2	-0.4
KAHG	Katmai Hook Gl	4.78	38	P	P	20 52 37.4	+2.2
KAPH	Katmai Pasha	4.93	38	P	P	20 52 36.9	-0.3
OKCE	Okmok Cone E	4.94	257	P	P	20 52 38.5	+1.1
KDAK	Kodiak Island	5.12	52	Pn	P	20 52 37.0	-2.9
	652nm,0.5s,SNR=19						
KDAK	Kodiak Island	5.12	52	P	P	20 52 38.0	-2.0
NIKO	Nikolski	5.50	254	P	P	20 52 44.9	-0.2
IVS	Iliamna South	6.42	33	P	P	20 52 58.4	+0.3
ILIM	Iliamna	6.52	33	P	P	20 53 00.7	+1.3
CNPM	China Poot	6.73	42	P	P	20 53 02.5	0.0
RSO	Redoubt South	6.88	32	eP	P	20 53 05.1	+0.6
NCT	North Crescent	6.91	31	P	P	20 53 05.4	+0.6
BKG	Blockade Glaci	7.51	31	P	P	20 53 13.5	+0.3
SPU	Mount Spurr	7.66	31	eP	P	20 53 15.9	+0.6
SLKM	Skilak Lake	7.77	39	eP	P	20 53 15.8	-0.9
RC01	Rabbit Creek A	8.34	37	P	P	20 53 24.3	-0.4
TT01	Tatalina	8.36	13	P	P	20 53 25.0	0.0
PMR	Palmer	8.90	36	P	P	20 53 32.3	-0.2
EYAK	Cordova Ski Ar	9.57	47	eP	P	20 53 39.1	-2.4
SCM	Sheep Creek Mo	9.70	39	P	P	20 53 41.6	-1.6
DIV	Divide	9.87	45	eP	P	20 53 43.4	-2.2
MCK	McKinley	10.57	28	eP	P	20 53 56.2	+1.1
KIWB	Kanaga Island	10.62	261	P	P	20 53 54.1	-1.7
KIMD	Kanaga Island	10.70	260	P	P	20 53 55.3	-1.6
GLB	Gilahina Butte	10.84	46	P	P	20 53 56.6	-2.2
IM3	Indian Mountai	11.61	13	P	P	20 54 08.3	-0.8
IMA	Indian Mountai	11.70	13	eP	P	20 54 11.1	+0.7
COLA	College	11.77	26	⇑eP	P	20 54 15.9	+4.5
COLA	College	11.77	26	eP	P	20 54 08.6	-2.8
ILAR	Eielson Array	11.95	28	Pn	P	20 54 09.1	-4.6
	0.3nm,0.3s,baz=217,slow=13,SNR=18						
IL1	Eielson Array	11.95	28	P	P	20 54 10.5	-3.2
BCA3	Beaver Creek A	12.50	41	P	P	20 54 19.6	-1.6
DAWY	Dawson	13.95	40	eP	P	20 54 38.5	-1.4
BM3	Burnt Mountain	14.60	24	P	P	20 54 48.6	+0.1
FX1	Attu Island--F	15.85	274	Pn	P	20 55 02.3	-2.4
	3.3nm,0.3s,baz=318,slow=12,SNR=8.2						
FX1	Attu Island--F	15.85	274	P	P	20 55 02.3	-2.4
FX1				pmax	pmax		
	comp=Z,3.0nm,0.3s						
DLBC	Dease Lake	16.86	65	P	P	20 55 18.5	+1.2
	comp=Z,0.1nm,0.3s,baz=265,slow=15,SNR=5.2						
DLBC				LR	LR	21 00 39.2	
	comp=Z,82nm,20.6s,baz=122,slow=33						
DLBC	Dease Lake	16.86	65	eP	P	20 55 18.1	+0.7
INK	Inuvik	18.28	32	P	P	20 55 33.6	-1.4
	comp=Z,1.3nm,0.3s,baz=233,slow=9.4,SNR=11						
INK				LR	LR	21 03 21.3	
	comp=Z,202nm,18.1s,baz=183,slow=39						
INK	Inuvik	18.28	32	P	P	20 55 33.6	-1.4
INK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
INK				MLR	MLR		
	comp=Z,202nm,18.1s						
INK	Inuvik	18.28	32	eP	P	20 55 33.6	-1.4
	comp=Z,22nm,1.0s						
BBB	Bella Bella	19.12	85	LR	LR	21 01 34.4	
	comp=Z,122nm,18.3s,baz=151,slow=32						
PET	Petropavlovsk	24.10	283	⇑iP	P	20 56 35.6	+0.4
PET				pmax	pmax		
	comp=Z,105nm,0.6s,mb5.4						
PET				pmax	pmax		
	comp=N,62nm,0.6s						
PET				MLR	MLR		
	comp=Z,73nm,22.0s,MS3.1						
PET	Petropavlovsk	24.10	283	eP	P	20 56 35.1	-0.1
	comp=Z,33nm,0.4s,mb5.1						
YKA	Yellowknife Ar	24.40	53	P	P	20 56 37.9	-0.2
	comp=Z,2.5nm,0.7s,mb3.8,baz=275,slow=7.5,SNR=4.0						
YKA				LR	LR	21 07 32.5	
	comp=Z,115nm,18.7s,MS3.4,baz=95,slow=40						
YKA	Yellowknife Ar	24.40	53	P	P	20 56 37.9	-0.2
YKA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
YKA				MLR	MLR		
	comp=Z,115nm,18.7s						
YKA	Yellowknife Ar	24.40	53	P	P	20 56 37.9	-0.2
YKA				LR	LR	21 07 32.5	
HLID	Hailey	31.37	92	eP	P	20 57 41.6	0.0
	comp=Z,2.6nm,1.0s,mb4.0						
NVAR	Mina Array Bea	32.48	103	P	P	20 57 52.0	+0.6
	comp=Z,1.1nm,0.8s,mb3.8,baz=296,slow=9.3,SNR=7.1						
NVAR				PcP	PcP	21 00 37.5	-0.2
	comp=Z,2.7nm,1.0s,baz=309,slow=1.7,SNR=7.6						
NVAR				LR	LR	21 08 25.1	
	comp=Z,95nm,21.5s,MS3.5,baz=255,slow=32						
ELK	Elko	32.67	97	eP	P	20 57 53.1	0.0
TIXI	Tiksi	33.56	327	P	P	20 57 58.2	-2.3
TIXI				e		20 59 09.7	
TIXI				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
TIXI				MLR	MLR		
	comp=Z,100nm,17.0s,MS3.6						
DUG	Dugway	34.42	95	eP	P	20 58 08.6	+0.4
	comp=Z,4.2nm,0.8s,mb4.4						
PDAR	Pinedale Array	34.66	89	P	P	20 58 10.1	-0.1
	comp=Z,0.5nm,0.5s,mb3.7,baz=311,slow=5.4,SNR=4.2						
TPNV	Topopah Spring	34.68	103	eP	P	20 58 10.7	+0.2
	comp=Z,4.0nm,0.8s,mb4.4						
YAK	Yakutsk	35.74	311	d iP	P	20 58 16.9	-2.3
YAK				pmax	pmax		
	comp=Z,13nm,0.5s,mb5.1						
YAK				MLR	MLR		
	comp=Z,100nm,18.0s,MS3.6						
SRU	San Rafael	36.46	95	eP	P	20 58 26.0	+0.5
ASAJ	Asahikawa	37.72	278	P	P	20 58 34.5	-1.5
	comp=Z,14nm,0.9s,mb4.7,baz=143,slow=3.3,SNR=5.2						
ASAJ	Asahikawa	37.72	278	P	P	20 58 34.6	-1.4
ASAJ				pmax	pmax		
	comp=Z,14nm,1.0s						
PV10	Paradox Valley	37.82	94	eP	P	20 58 38.2	+1.3
ULM	Lac du Bonnet	38.11	70	LR	LR	21 14 39.0	
	comp=Z,56nm,21.6s,MS3.3,baz=8.7,slow=37						
PV01	Paradox Valley	38.25	94	eP	P	20 58 41.2	+0.7
RW3	Ridgway	38.68	93	P	P	20 58 46.6	+2.5
ANMO	Albuquerque	41.69	96	eP	P	20 59 18.6	+10
BOD	Bodaibo	44.66	311	eP	P	20 59 30.4	-2.3
MDJ	Mudanjiang	44.74	287	P	P	20 59 36.5	+2.9
MDJ				PP	PP	21 01 18.5	-1.0
MDJ				PCP	PcP	21 01 19.5	+3.9
MDJ				S	S	21 06 13.8	+7.5
MDJ				AMB	AMB		
	comp=Z,2.0nm,1.0s,mb3.9						
MDJ				AMB	AMB		
	comp=Z,29nm,4.4s						
MDJ				LR	LR		
	comp=N,10.0nm,18.4s,MS3.4						
MDJ				LR	LR		
	comp=E,45nm,20.9s,MS3.4						
MDJ				LR	LR		
	comp=Z,55nm,19.9s,MS3.5						
MAT	Matsushiro	45.21	273	eP	P	20 59 37.0	-0.4
	comp=Z,13nm,0.8s,mb4.8						
WMOK	Wichita Mounta	46.27	90	P	P	20 59 45.4	-0.4
SUMG	Summit	46.66	21	eP	P	20 59 48.6	+0.2
	comp=Z,13nm,1.0s,mb4.8						
CN2	Changchun	47.55	289	eP	P	20 59 54.0	-1.8
CN2				eAP	pP	21 00 04.0	-5.1
CN2				eS	S	21 06 49.3	+3.0
CN2				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.1						
CN2				AMB	AMB		
	comp=Z,100nm,6.0s						
JCT	Junction City	48.77	94	P	P	21 00 07.1	+1.7
SNY	Shenyang	49.89	288	⇓P	P	21 00 13.8	-0.1
ZAK	Zakamensk	54.27	308	eP	P	21 00 45.1	-1.4
SONM	Songino Array	54.62	304	P	P	21 00 45.5	-3.6
	comp=Z,5.0nm,0.6s,mb4.7,baz=350,slow=7.5,SNR=2.7						
KEV	Kevo	55.61	357	ep	P	21 00 52.3	-3.7
	comp=Z,4.4nm,0.6s,mb4.7						
KEV	Kevo	55.61	357	eP	P	21 00 52.3	-3.7
KEV				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
ARCES	ARCESS Array B	55.87	358	P	P	21 00 55.4	-2.5
	comp=Z,4.2nm,1.0s,mb4.4,baz=27,slow=8.1,SNR=6.5						
ARCES				PcP	PcP	21 01 54.3	-1.8
	comp=Z,2.6nm,0.7s,baz=346,slow=5.0,SNR=5.1						
ARCES				LR	LR	21 25 20.3	
	comp=Z,34nm,18.0s,MS3.5,baz=246,slow=37						
ARCES	ARCESS Array B	55.87	358	P	P	21 00 55.4	-2.5
ARCES						21 01 54.3	
ARCES				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ARCES				MLR	MLR		
	comp=Z,34nm,18.0s						
BORG	Borgarnes	56.62	20	LR	LR	21 25 29.6	
	comp=Z,51nm,19.3s,MS3.6,baz=86,slow=36						
SSE	Sheshan	58.91	281	eP	P	21 01 22.0	+2.1
SSE				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,141nm,5.5s						
SSE	Sheshan	58.91	281	eP	P	21 01 22.0	+2.1
	comp=Z,30nm,0.7s,mb5.4						
KAF	Kangasniemi	63.28	357	ep	P	21 01 46.5	-2.5
	comp=Z,1.1nm,0.4s,mb4.3,baz=0.7,slow=6.3						
KAF	Kangasniemi	63.28	357	eP	P	21 01 46.5	-2.5
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.3						
XAN	Xi'an	63.49	292	P	P	21 01 49.3	-1.5
XAN				AP	pP	21 01 58.3	-6.3
XAN				AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.8						
SVE	Sverdlovsk	63.87	336	⇓eP	P	21 01 51.9	-0.8
FINES	FINESS Array B	63.96	357	P	P	21 01 52.2	-1.0
	comp=Z,4.2nm,0.6s,mb4.6,baz=23,slow=7.2,SNR=18						
FINES				LR	LR	21 28 07.0	
	comp=Z,25nm,19.2s,MS3.4,baz=150,slow=34						
FINES	FINESS Array B	63.96	357	P	P	21 01 52.3	-1.0
FINES				pmax	pmax		
	comp=Z,4.0nm,0.6s						
FINES				MLR	MLR		
	comp=Z,25nm,19.2s						
KURK	Kurchatov	63.97	323	c iP	P	21 01 52.4	-1.1
KURK	Kurchatov	63.97	323	eP	P	21 01 52.2	-1.3
	comp=Z,5.5nm,0.6s,mb4.8						
GTA	Gaotai	64.06	302	P	P	21 01 53.5	-0.8
GTA				PCP	PcP	21 02 28.5	-0.6
GTA				PP	PP	21 04 15.5	-1.8
GTA				S	S	21 10 25.8	+0.2
GTA				SS	SS	21 14 32.5	-4.0
GTA				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.6						
GTA				AMB	AMB		
	comp=Z,25nm,5.3s						
GTA				LR	LR		
	comp=N,62nm,20.9s,MS4.1						
GTA				LR	LR		
	comp=E,100nm,19.0s,MS4.1						
GTA				LR	LR		
	comp=Z,57nm,14.8s,MS3.9						
NB2	NORSAR Subarra	64.26	5	P	P	21 01 54.5	-0.7
	comp=Z,3.8nm,0.7s,mb4.5,baz=356,slow=6.2						
NOA	NORSAR Array B	64.26	5	P	P	21 01 54.8	-0.4
	comp=Z,5.8nm,0.9s,mb4.6,baz=355,slow=6.5,SNR=20						
NOA	NORSAR Array B	64.26	5	P	P	21 01 54.8	-0.4
NOA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
LZH	Lanzhou	64.60	297	⇑P	P	21 01 57.0	-0.8
LZH				PP	PP	21 04 20.5	-1.7
LZH				AMB	AMB		
	comp=Z,31nm,1.5s,mb5.1						
LZH				LR	LR		
	comp=E,196nm,13.5s						
LZH				LR	LR		
	comp=Z,294nm,17.3s,MS4.5						
LZH	Lanzhou	64.60	297	⇑P	P	21 01 57.0	-0.8
	comp=Z,31nm,1.5s,mb5.1						
LZH				pP	pP	21 02 00.5	-11
LZH				sP	sP	21 02 01.7	-16
LZH				PP	PP	21 04 20.5	-1.7
LZH				LR	LR		
	comp=Z,290nm,17.3s,MS4.5						
BVAR	Borovoye Array	64.67	329	P	P	21 01 57.5	-0.6
	comp=Z,12nm,0.6s,mb5.1,baz=37,slow=7.4,SNR=63						
BRVK	Borovoye	64.67	329	eP	P	21 01 57.1	-0.9
	comp=Z,11nm,0.8s,mb4.9						
ARU	Arti	64.70	337	⇑iP	P	21 01 57.0	-1.2
ARU				e		21 02 28.1	
ARU				eS	S	21 10 26.0	-7.1
ARU				e		21 11 45.1	
ARU				eSS	SS	21 14 36.3	-10
ARU				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.9						
MKAR	Makanchi Array	65.89	318	P	P	21 02 04.8	-1.2
	comp=Z,2.7nm,0.7s,mb4.4,baz=49,slow=5.6,SNR=28						
MKAR				LR	LR	21 32 53.5	
	comp=Z,58nm,19.6s,MS3.8,baz=211,slow=38						
MKAR	Makanchi Array	65.89	318	P	P	21 02 04.8	-1.2
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MKAR				MLR	MLR		
	comp=Z,59nm,19.6s						
WMQ	Urumqi	66.13	313	P	P	21 02 06.0	-1.6
WMQ				AP	pP	21 02 17.5	-4.0
WMQ				XP	sP	21 02 19.5	-7.5

WMQ				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.8						
WMQ				LR	LR		
	comp=Z,50nm,20.8s,MS3.7						
CD2	Chengdu	68.66	293	P	P	21 02 23.3	-0.4
CD2				AMB	AMB		
	comp=Z,19nm,0.8s,mb5.1						
OBN	Obninsk	69.56	350	⇑eP	P	21 02 27.6	-1.1
OBN				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
GYA	Guiyang	70.59	288	⇑iP	P	21 02 35.0	-0.5
GYA				S	S	21 11 43.8	-0.4
GYA				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.7						
CHMS	Chumysh	71.94	321	P	P	21 02 43.8	+0.5
	SNR=7.1						
AAK	Ala-Archa	72.35	321	P	P	21 02 46.3	+0.6
	SNR=7.3						
AAK	Ala-Archa	72.35	321	eP	P	21 02 44.9	-0.8
	comp=Z,8.6nm,1.0s,mb4.6						
KZA	Kyzart	72.55	320	P	P	21 02 48.0	+1.1
	SNR=6.0						
EKS2	Erkin-Say	72.59	321	P	P	21 02 47.7	+0.7
	SNR=9.5						
AML	Almayashu	73.08	321	P	P	21 02 51.0	+1.0
	SNR=8.8						
KMI	Kunming	73.79	290	eP	P	21 02 57.8	+3.4
KMI				AMB	AMB		
	comp=Z,5.0nm,1.3s,mb4.3						
KMI	Kunming	73.79	290	eP	P	21 02 57.7	+3.3
	comp=Z,5.0nm,1.3s,mb4.3						
CLL	Collm	74.07	4	P	P	21 02 56.0	+0.5
AKASG	Malin Array Be	74.54	354	P	P	21 02 57.6	-0.6
	comp=Z,2.1nm,0.4s,mb4.4,baz=4.4,slow=5.6,SNR=19						
AKASG	Malin Array Be	74.54	354	P	P	21 02 57.6	-0.7
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.4s						
BRG	Berggiesshubel	74.54	4	eP	P	21 02 59.2	+0.9
BRG				pmax	pmax		
	comp=Z,7.0nm,0.4s,mb4.9						
BRG	Berggiesshubel	74.54	4	eP	P	21 02 59.2	+0.9
	comp=Z,6.7nm,0.3s,mb5.0						
BAIF	Baives	74.65	10	eP	P	21 02 58.8	-0.1
	comp=Z,11nm,0.9s,mb4.5						
MOX	Moxa	74.66	5	i P	P	21 02 59.5	+0.6
MOX	Moxa	74.66	5	eP	P	21 02 59.5	+0.6
PVCC	Panska Ves	74.91	4	eP	P	21 03 00.8	+0.4
UPC	Upice	74.97	3	eP	P	21 03 01.4	+0.6
NKC	Novy Kostel	75.11	5	eP	P	21 03 02.2	+0.6
DPC	Dobruska-Polom	75.14	2	eP	P	21 03 02.4	+0.7
DPC				epP	pP	21 03 07.4	-8.5
FLN	La Foliniere	75.36	14	eP	P	21 03 02.5	-0.5
FLN				eR			
	comp=Z,50nm,18.2s						
PRU	Pruhonice	75.45	4	eP	P	21 03 09.2	+5.7
SGMF	Saint Gilles	75.55	15	eP	P	21 03 04.3	+0.2
LDF	La Druitiere	75.57	14	eP	P	21 03 04.2	0.0
	comp=Z,9.0nm,0.9s,mb4.4						
GRA1	Grafenberg Arr	75.59	6	eP	P	21 03 05.2	+0.9
	comp=Z,6.0nm,1.0s,mb4.5						
GRF	Grafenberg Arr	75.59	6	eP	P	21 03 05.2	+0.9
GRF				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
GRR	Gorron	75.67	14	eP	P	21 03 04.5	-0.3
	comp=Z,14nm,0.7s,mb4.7						
OKC	Ostrava-Krasne	75.69	1	eP	P	21 03 05.6	+0.8
KWP	Kalwaria	75.88	358	eP	P	21 03 06.2	+0.3
KHC	Kasperske Hory	76.27	4	eP	P	21 03 09.0	+0.8
KHC				epP	pP	21 03 14.3	-8.0
MEZF	Maizieres J'vi	76.28	10	eP	P	21 03 07.0	-1.2
GERES	GERESS Array B	76.56	4	P	P	21 03 10.1	+0.3
	comp=Z,1.6nm,0.8s,mb4.0,slow=4.0,SNR=14						
GERES	GERESS Array B	76.56	4	P	P	21 03 10.1	+0.3
GERES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
CDF	Champ du Feu	76.58	9	eP	P	21 03 09.8	-0.1
KOLS	Kolonicke sedl	76.58	358	eP	P	21 03 11.4	+1.5
HAU	Haudompre	76.89	9	eP	P	21 03 11.5	-0.2
HAU				eR			
	comp=Z,40nm,18.5s						
VYHS	Vyhne	77.04	1	i P	P	21 03 13.1	+0.6
VYHS				e		21 03 18.3	
HINF	Hinteralfeld	77.13	9	eP	P	21 03 12.8	-0.2
ZST	Bratislava	77.31	2	eP	P	21 03 14.8	+0.7
LOR	Lormes	77.37	11	eP	P	21 03 14.1	-0.3
	comp=Z,7.9nm,0.8s,mb4.4						
LOR				eR			
	comp=Z,39nm,19.5s						
MFF	Saint Martin d	77.52	14	eP	P	21 03 15.4	+0.2
	comp=Z,18nm,0.8s,mb4.7						
SSF	Saint Saulge	77.53	11	eP	P	21 03 15.0	-0.3
	comp=Z,6.6nm,0.6s,mb4.5						
AVF	Avril sur Loir	77.78	12	eP	P	21 03 16.2	-0.5
	comp=Z,9.6nm,0.8s,mb4.5						
BGF	Bois d'Agland	77.95	12	eP	P	21 03 17.8	+0.2
SMF	Signal de Mont	77.98	11	eP	P	21 03 17.4	-0.4
ARSA	Arzberg	78.22	3	⇑iP	P	21 03 20.1	+1.1
	comp=Z,3.2nm,0.7s,mb4.4						
CABF	La Chapelle	78.25	10	eP	P	21 03 19.4	+0.2
	comp=Z,12nm,1.1s,mb4.4						
KBA	Koelnbreinsper	78.31	5	⇑iP	P	21 03 20.1	+0.6
	comp=Z,7.3nm,1.0s,mb4.6						
OBKA	Obir	78.92	4	⇑iP	P	21 03 23.4	+0.4
	comp=Z,15nm,0.8s,mb5.0						
GROS	Grobnik	79.01	3	i P	P	21 03 24.4	+1.0
ROBS	Robic	79.15	5	i P	P	21 03 24.4	+0.2
CADS	Cadrg	79.17	4	eP	P	21 03 24.6	+0.3
LFF	La Frestale	79.27	14	eP	P	21 03 25.0	+0.1
	comp=Z,13nm,0.8s,mb4.6						
LPL	La Plagne	79.40	9	eP	P	21 03 26.4	+0.8
LPG	La Plagne	79.42	9	eP	P	21 03 26.4	+0.7
CAF	Calviac	79.46	13	eP	P	21 03 25.8	-0.1
KIV	Kislovodsk	79.69	343	c iP	P	21 03 27.9	+0.8
KIV				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
KIV	Kislovodsk	79.69	343	eP	P	21 03 26.8	-0.3
	comp=Z,10nm,0.9s,mb4.8						
VIVF	Saint-Julien-l	79.84	11	eP	P	21 03 28.0	0.0
ORIF	Oris-en-Rattie	79.91	10	eP	P	21 03 28.5	+0.2
ORIF				eR			
	comp=Z,35nm,22.8s						
BOJS	Bojanci	79.95	3	eP	P	21 03 29.2	+0.7
MBDF	Montbardon	80.18	9	eP	P	21 03 30.9	+1.1
	comp=Z,8.5nm,0.8s,mb4.4						
SOC	Sochi	80.51	346	eP	P	21 03 31.8	+0.3
SOC				e		21 03 38.9	
SOC				ePPP	PPP	21 08 22.5	-5.7
SOC				eS	S	21 13 22.8	-10
SOC				e		21 13 36.8	
SOC				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.8						
SOC				pmax	pmax		
	comp=N,14nm,0.9s						
SOC				pmax	pmax		
	comp=E,4.0nm,0.6s						
SOC				MLR	MLR		
	comp=Z,117nm,21.0s,MS4.2						
SOC				MLR	MLR		
	comp=N,79nm,20.0s,MS4.1						
SOC				MLR	MLR		
	comp=E,14nm,16.0s,MS4.1						
KKN	Kakani	80.51	305	eP	P	21 03 31.9	0.0
	comp=E,13nm,0.6s,mb5.0						
LASF	Ste Croix	80.52	12	eP	P	21 03 31.8	+0.2
GKN	Gorkha	80.63	306	eP	P	21 03 32.4	-0.1
	comp=E,23nm,0.8s,mb5.2						
PKI	Pulchoki	80.63	305	eP	P	21 03 32.5	0.0
DMN	Daman	80.74	305	eP	P	21 03 33.4	+0.3
	comp=E,26nm,0.8s,mb5.2						
MTLF	Montolieu	81.04	13	eP	P	21 03 34.6	+0.2
	comp=E,7.6nm,0.9s,mb4.3						
ETSF	Etsaut	81.09	15	eP	P	21 03 35.5	+0.9
	comp=E,15nm,1.0s,mb4.6						
EPF	Esparros	81.09	14	eP	P	21 03 35.0	+0.4
SBF	Sospel	81.10	9	eP	P	21 03 34.7	0.0
CMAR	Chiang Mai Arr	81.23	289	P	P	21 03 35.5	-0.3
	comp=E,5.1nm,0.8s,mb4.5,baz=15,slow=5.5,SNR=38						
CMAR	Chiang Mai Arr	81.23	289	P	P	21 03 35.6	-0.2
CMAR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KOLN	Koldanda	81.31	307	eP	P	21 03 36.2	+0.1
	comp=Z,18nm,0.9s,mb5.0						
GNI	Garni	83.02	341	LR	LR	21 42 30.6	
	comp=Z,29nm,21.9s,MS3.6,baz=347,slow=37						
GNI	Garni	83.02	341	c iP	P	21 03 46.3	+1.7
GNI				pmax	pmax		
	comp=Z,11nm,1.4s						
ESDC	Sonseca Array	83.66	18	P	P	21 03 49.5	+1.7
	comp=Z,6.1nm,0.7s,mb4.8,baz=346,slow=4.6,SNR=27						
BRTR	Keskin Array B	85.07	349	P	P	21 03 55.3	+0.5
	comp=Z,2.1nm,0.6s,mb4.4,baz=54,slow=1.4,SNR=10						
BRTR				LR	LR	21 42 57.5	
	comp=Z,28nm,21.4s,MS3.6,baz=115,slow=36						
BRTR	Keskin Array B	85.07	349	P	P	21 03 55.3	+0.4
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BRTR				MLR	MLR		
	comp=Z,28nm,21.4s						
WRA	Warramunga Arr	92.94	239	P	P	21 04 31.3	-1.3
	comp=Z,1.4nm,0.8s,mb4.5,baz=34,slow=5.8,SNR=12						
WRA	Warramunga Arr	92.94	239	P	P	21 04 31.3	-1.3
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ASAR	Alice Springs	96.30	237	P	P	21 04 46.9	-0.9
	comp=Z,0.6nm,0.6s,mb4.2,baz=34,slow=5.4,SNR=6.6						
TSUM	Tsumeb	144.38	4	PKP	PKPdf	21 10 54.0	-0.2
	comp=Z,5.7nm,0.7s,baz=14,slow=4.0,SNR=16						
TSUM	Tsumeb	144.38	4	PKP	PKPdf	21 10 54.0	-0.2
QSPA	South Pole Qui	144.62	180	ePKP	PKPdf	21 10 52.5	-0.4
VNA3	Neumayer Olymp	159.17	153	⇓iP	PKPdf	21 11 18.7	+4.3
VNA2	Neumayer--Watz	159.95	154	⇑iP	PKPdf	21 11 20.7	+5.4

NAO ***29*** *21:15:23.5±4.4, 57.48N×17.10E, ML2.5*
HEL ***29*** *21:15:23.9±0.1, 57.60N×17.03E, ML1.9, ML3.1(UPP), Explosion*
IDC ***29*** *21:15:28.1±2.0, 57.94N×16.91E, mb1 3.1/4, mb1mx3.1/20, ML2.8/4, Error ellipse: s-maj=19.7km s-min=8.4km az=13.0*
ISC 29 21:15:25.7±1.1**, 57.87N**±0.08×**17.39E**±0.07**, n30,** σ1^{s}**51**/48**, Baltic Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GOTU	Gotland	0.66	106	i P	Pg	21 15 38.9	+0.1
VIKU	Vikbolandet	0.73	330	eP	Pg	21 15 39.8	-0.6
OSKU	Oskarshamn	0.97	227	i P	Pg	21 15 35.6	-10
LNKU	Linkoeping	1.07	290	eP	Pb	21 15 41.7	-5.0
EKSU	Eksjoe	1.16	256	eP	Pb	21 15 40.2	-8.1
NYNU	Nynaeshamn	1.19	15	eP	Pb	21 15 50.4	+1.6
ESKU	Eskilstuna	1.47	339	eP	Pn	21 15 53.1	-0.4
NRTU	Norrtaelje	1.93	19	eP	Pn	21 16 02.8	+2.7
BACU	Backbrunna	2.00	356	eP	Pn	21 16 03.1	+2.0
UPP	Uppsala	2.00	3	eP	Pn	21 16 03.6	+2.4
NRAU	Nora	2.10	325	eP	Pn	21 16 02.6	-0.1
FLYU	Flymyra	2.28	6	eP	Pn	21 16 07.1	+1.9
OSTU	Oestervaala	2.37	357	eP	Pn	21 16 08.1	+1.6
GRAU	Graesoe	2.54	13	eP	Pn	21 16 10.8	+1.9
HFS	Hagfors	2.97	321	Pn	Pn	21 16 14.4	-0.6
	baz=151,slow=18						
HFS				Sn	Sn	21 16 54.2	+2.3
	baz=139,slow=37						
HFS	Hagfors	2.97	321	Pn	Pn	21 16 14.3	-0.7
	0.2nm,0.3s,baz=145,slow=15,SNR=46						
HFS				Sn	Sn	21 16 47.0	-4.9
	0.2nm,0.3s,baz=140,slow=22,SNR=5.9						
HFS				Lg		21 16 53.0	
	0.6nm,0.3s,baz=139,slow=29,SNR=12						
IGGU	Iggoen	3.02	359	eP	Pn	21 16 17.1	+1.4
NOA	NORSAR Array B	4.48	318	Pn	Pn	21 16 32.7	-3.7
	0.3nm,0.3s,baz=146,slow=13,SNR=2.5						
NOA				Sn	Sn	21 17 23.3	-6.8
	0.6nm,0.3s,baz=137,slow=30,SNR=2.9						
NOA				Lg		21 17 43.1	
	1.0nm,0.3s,baz=135,slow=32,SNR=5.7						
VSU	Vasula	4.98	79	eSG	Sg	21 18 03.7	-8.0
PVF	Pernaja	5.11	55	eP	Pn	21 16 46.2	+0.7
PVF				eS	Sn	21 17 47.0	+0.9
PVF				eSG	Sg	21 18 10.1	-5.9
PVF				MSG		21 18 12.2	
	comp=Z,2.1nm,0.2s						
FIA0	FINESS Array S	5.68	47	Pn	Pn	21 16 53.9	+0.5
	baz=236,slow=12						
FIA0				Sn	Sn	21 18 01.6	+1.3
	baz=247,slow=22						
FIA0				Lg		21 18 32.9	
	baz=242,slow=28						
FIA0	FINESS Array S	5.68	47	eP	Pn	21 16 54.5	+1.1
FIA0				eS	Sn	21 17 59.2	-1.1
FIA0				eSG	Sg	21 18 28.4	-6.3
FIA0				MSG		21 18 31.2	
	comp=Z,0.9nm,0.2s						
FINES	FINESS Array B	5.68	47	Pn	Pn	21 16 54.4	+1.0
	comp=Z,0.4nm,0.3s,baz=235,slow=12,SNR=18						
FINES				Sn	Sn	21 18 01.3	+1.0
	comp=Z,0.4nm,0.3s,baz=247,slow=21,SNR=7.2						
FINES				Lg		21 18 32.7	
	comp=Z,0.6nm,0.3s,baz=239,slow=25,SNR=5.8						
KEF	Keuruu	5.71	38	eP	Pn	21 16 55.1	+1.2
KEF				eS	Sn	21 18 01.5	+0.3
VJF	Virojoki	5.87	59	eP	Pn	21 16 55.3	-0.8
VJF				eS	Sn	21 18 04.1	-0.9
VJF				eSG	Sg	21 18 33.1	-7.9
KAF	Kangasniemi	6.17	43	eP	Pn	21 16 59.5	-0.9
KAF				eS	Sn	21 18 11.7	-1.0
KAF				eSG	Sg	21 18 43.6	-7.6
KAF				MSG		21 18 45.0	
	comp=Z,0.5nm,0.2s						
SUF	Sumiainen	6.53	38	eP	Pn	21 17 04.8	-0.6
SUF				eS	Sn	21 18 20.3	-1.2
SUF				eSG	Sg	21 18 53.0	-10
SUF				MSG		21 18 54.4	
	comp=Z,0.5nm,0.2s						
KJN	Kajaani	8.00	34	eP	P	21 17 24.0	-2.0
KJN				eS	Sn	21 18 56.2	-2.1
KJN				eSG	Sg	21 19 39.1	-13
KJN				MSG		21 19 42.5	
	comp=Z,0.8nm,0.2s						
ARA0	ARCESS Array S	12.23	14	Pn	P	21 18 19.1	-5.0
	baz=200,slow=16						
ARCES	ARCESS Array B	12.23	14	Pn	P	21 18 19.1	-4.9
	comp=Z,0.1nm,0.3s,baz=199,slow=13,SNR=9.4						

TAP ***29*** *21:21:02.8, 23.10N×121.42E, h19^{km}, ML3.5*
TAP Felt II J at Chenggung.
JMA ***29*** *21:21:04.7±0.3, 23.10N×121.52E, h56^{km}, M2.8*
ISC 29 21:21:02.8±0.4**, 23.09N**±0.02×**121.49E**±0.02**, h23**^{km}±3^{km}**, n43,** σ**0^{s}82**/75**, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHKT	Chengkung	0.12	275	P	Pb	21 21 07.9	+0.6
CHKT				S	Sb	21 21 10.9	+0.5
TWF1	Yuli	0.32	326	i P	Pb	21 21 09.6	-0.4
TWF1				S	Sb	21 21 14.5	-0.3
EHY	Hungye	0.44	339	i P	Pb	21 21 11.1	-0.8
EHY				S	Sb	21 21 18.9	+0.7
ELDTW	Lidau	0.45	283	i P	Pb	21 21 10.9	-1.1
ELDTW				S	Sb	21 21 16.0	-2.3
TWG	Pinlang	0.47	235	i P	Pb	21 21 12.3	-0.1
TWG				S	Sb	21 21 18.9	0.0
STYT	Tauyuan	0.68	276	i P	Pb	21 21 15.1	-0.8
STYT				S	Sb	21 21 23.5	-1.4
ECL	Taimali	0.70	225	P	Pb	21 21 15.5	-0.7
ESL	Shilin	0.72	356	eP	Pb	21 21 15.7	-0.9
ESL				S	Sb	21 21 27.7	+1.7
ALS	Alishan	0.76	304	i P	Pb	21 21 16.7	-0.5
ALS				S	Sb	21 21 26.4	-0.7
WTP	Ta-pu	0.82	281	i P	Pb	21 21 17.9	-0.4
WTP				S	Sb	21 21 28.8	-0.2
SGST	Jiashian	0.84	270	P	Pb	21 21 18.6	+0.1
SGST				S	Sb	21 21 29.3	-0.1
SSD	Sandimen	0.86	247	eP	Pb	21 21 18.7	-0.3
CHN4	Tsaushan	0.87	288	i P	Pb	21 21 18.9	-0.2
CHN4				S	Sb	21 21 30.8	+0.5
CHN1	Nanshi	0.89	276	P	Pb	21 21 19.3	-0.1
CHN1				S	Sb	21 21 31.4	+0.5
CHN5	Tsauling	0.90	304	i P	Pb	21 21 19.4	-0.2
CHN5				S	Sb	21 21 31.9	+0.7
TWK	Hsinying	0.94	281	eP	Pb	21 21 20.2	-0.1
TWK				S	Sb	21 21 32.5	+0.1
SMLT	Sun Moon Lake	0.96	326	P	Pb	21 21 20.0	-0.6
SMLT				S	Sb	21 21 33.3	+0.4
TWD	Chiawan	0.99	5	eP	Pb	21 21 19.4	-1.7
TWD				S	Sb	21 21 35.1	+1.3
TYC	Yuchr	1.00	324	P	Pb	21 21 21.2	-0.1
TYC				S	Sb	21 21 34.3	+0.3
TWM1	Shoushan	1.02	255	eP	Pb	21 21 22.6	+0.9
WGK	Gukeng	1.04	305	P	Pb	21 21 22.4	+0.4
WGK				S	Sb	21 21 35.5	+0.3
CHY	Chiayi	1.06	293	eP	Pn	21 21 22.8	+0.5
CHY				S	Sb	21 21 36.4	+0.5
SCZT	Fangliau	1.08	229	eP	Pn	21 21 22.4	-0.2
SCZT				S	Sb	21 21 37.1	+0.8
WNT	Mingjian	1.08	317	P	Pn	21 21 22.7	+0.1
WNT				S	Sb	21 21 36.9	+0.5
CHN8	Yiju	1.21	282	S	Sb	21 21 41.0	+1.0
HEN	Hengchun	1.28	213	eP	Pn	21 21 27.1	+1.5
HEN				S	Sn	21 21 42.9	+0.8
WSF	Szhu	1.29	295	S	Sn	21 21 41.8	-0.4
TCU	Taichung	1.29	325	eP	Pn	21 21 25.9	+0.3
TCU				S	Sn	21 21 42.6	+0.3
NNS	Nan Shan	1.35	355	eP	Pn	21 21 25.9	-0.5
NNS				S	Sn	21 21 41.6	-2.2
ENA	Nanau	1.35	10	eP	Pn	21 21 25.3	-1.2
WTCT	Ta-ch'eng	1.35	305	S	Sn	21 21 44.0	+0.1
NSY	Sanyi	1.48	333	eP	Pn	21 21 27.8	-0.5
NSY				S	Sn	21 21 48.6	+1.6
ENTT	Nioudou	1.54	2	eP	Pn	21 21 29.7	+0.5
NSK	Sanguang	1.58	356	eP	Pn	21 21 29.6	-0.2
NSTT	Nanjuang	1.60	344	eP	Pn	21 21 30.4	+0.4
NSTT				S	Sn	21 21 49.5	-0.5
TWE	Neicheng	1.63	6	eP	Pn	21 21 32.7	+2.2
TWE				S	Sn	21 21 52.1	+1.2
PNG	Penghu	1.84	285	S	Sn	21 21 53.7	-2.6
YOJ	Yonaguni jima	1.95	45	eS	Sn	21 21 58.7	-0.3
HATJ	Hateruma jima	2.33	65	P	Pn	21 21 41.0	+0.5
HATJ				eS	Sn	21 22 08.3	-0.4
IRIF	Iriomote-Funau	2.40	58	P	Pn	21 21 42.1	+0.7
IRIF				eS	Sn	21 22 10.5	+0.1
JKRS	Kuro-shima	2.58	63	P	Pn	21 21 44.7	+0.7
JKRS				eS	Sn	21 22 14.4	-0.5
JIJ	Ishigaki jima	2.74	62	P	Pn	21 21 47.0	+0.7
JIJ				eS	Sn	21 22 17.6	-1.5
JTJ	Tarama	3.32	62	P	Pn	21 21 54.6	0.0
JTJ				eS	Sn	21 22 33.4	-0.3

LDG ***29*** *22:17:58.1±0.1, 46.30N×7.42E, h3^{km}, Md2.2/2, Ml2.1/10, Error ellipse: s-maj=3.0km s-min=1.1km az=98.0*
ZUR 29 22:17:57.1, 46.31N×7.35E, h2^{km}**, ML1.6**/9**, 6C-2D, Switzerland**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SENIN	Lac Senin	0.06	325	⇓iPg	Pg	22 17 59.7	+1.3
	25nm,0.1s						
SENIN				eSg	Sg	22 18 00.5	+1.3
	25nm,0.1s						
GRYON	Gryon	0.18	249	⇑iPg	Pg	22 18 01.9	+1.2
	2.7nm,0.2s						
GRYON				i Sg	Sg	22 18 04.7	+1.7
	2.7nm,0.2s						
LKBD	Leukerbad	0.20	69	⇑iPg	Pg	22 18 02.5	+1.3
	11nm,0.2s						
DIX	Grande Dixence	0.24	170	⇓iPg	Pg	22 18 03.5	+1.7
	3.0nm,0.3s						
DIX				i Sg	Sg	22 18 06.9	+1.9
	3.0nm,0.3s						
AIGLE	Aigle	0.28	276	⇑iPg	Pg	22 18 04.0	+1.4
	6.2nm,0.6s						
AIGLE				eSg	Sg	22 18 08.1	+1.8
	6.2nm,0.6s						
SALAN	Lac Salanfe	0.31	237	⇑iPg	Pg	22 18 04.7	+1.4
	2.3nm,0.3s						
SALAN				eSg	Sg	22 18 09.3	+1.8
	2.3nm,0.3s						
WIMIS	Wimmis	0.40	28	⇑iPg	Pg	22 18 06.1	+1.0
	2.4nm,0.6s						
WIMIS				eSg	Sg	22 18 12.8	+2.4
	2.4nm,0.6s						
EMV	Vieux Emosson	0.40	232	⇑iPg	Pg	22 18 06.3	+1.2
	1.7nm,0.3s						
MMK	Mattmark	0.50	121	ePg	Pg	22 18 08.3	+1.2
	0.2nm,0.2s						
LPL	La Plagne	0.91	209	ePg	Pg	22 18 15.7	+0.5
LPL				eSg	Sg	22 18 26.9	-0.4
	2.7nm,0.3s						
LPG	La Plagne	0.92	207	ePg	Pg	22 18 16.0	+0.6
LPG				eSg	Sg	22 18 27.5	-0.1
	4.3nm,0.3s						
CABF	La Chapelle	0.92	289	ePg	Pg	22 18 16.7	+1.2
CABF				eSg	Sg	22 18 30.1	+2.3
	9.8nm,0.3s						
HINF	Hinteralfeld	1.54	347	ePn	Pn	22 18 25.2	-0.5
HINF				ePg	Pg	22 18 27.3	-0.6
HINF				eSg	Sg	22 18 47.4	-1.1
	4.6nm,0.2s						
MBDF	Montbardon	1.64	195	ePg	Pg	22 18 28.6	-1.2
MBDF				eSg	Sg	22 18 50.0	-1.6
	1.5nm,0.3s						
ORIF	Oris-en-Rattie	1.73	217	ePg	Pg	22 18 30.7	-1.0
ORIF				eSg	Sg	22 18 53.4	-1.5
	2.1nm,0.3s						
HAU	Haudompre	1.83	338	ePg	Pg	22 18 32.7	-0.9
HAU				eSg	Sg	22 18 55.8	-2.1
	5.1nm,0.4s						
CDF	Champ du Feu	2.10	359	ePn	Pn	22 18 32.7	-1.0
CDF				eSg	Sg	22 19 05.0	-2.0
	2.2nm,0.3s						
VIVF	Saint-Julien-l	2.38	233	ePn	Pn	22 18 36.6	-1.1
VIVF				ePg	Pg	22 18 42.7	-1.9
VIVF				eSg	Sg	22 19 12.8	-3.5
	3.9nm,0.3s						
SMF	Signal de Mont	2.45	279	eSg	Sg	22 19 16.4	-2.2
	1.5nm,0.2s						

NEIC ***29*** *22:23:05.3±2.6, 3.42S×152.13E, h362^{km}±24^{km}, mb3.8/2, Error ellipse: s-maj=50.1km s-min=21.9km az=115.0*
IDC ***29*** *22:23:08.0±2.6, 3.52S×152.12E, h387^{km}±28^{km}, mb3.3/6, mb1 3.5/6, mb1mx3.3/14, Error ellipse: s-maj=44.9km s-min=14.6km az=120.0*
ISC 29 22:23:05.1±1.7**, 3.5S**±0.2×**152.2E**±0.3**, h375**^{km}±15^{km}**, n11,** σ**0^{s}74**/15**, mb3.6**/7**, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	7.68	220	P	P	22 24 56.6	-0.1
WRAB	Tennant Creek	23.84	225	eP	P	22 27 47.2	-0.5
	3.3nm,0.4s,mb3.9						
WB2	Warramunga Arr	23.85	225	eP	P	22 27 47.7	-0.1
WB2				eS	S	22 31 35.3	+0.2
WRA	Warramunga Arr	23.85	225	P	P	22 27 48.0	+0.1
	1.2nm,0.3s,mb3.6,baz=52,slow=10,SNR=67						
WRA				PcP	PcP	22 31 20.4	+0.5
	0.4nm,0.5s,baz=52,slow=2.1,SNR=6.6						
WRA				S	S	22 31 35.9	+0.6
	0.7nm,1.1s,baz=45,slow=15,SNR=3.1						
ASAR	Alice Springs	26.70	220	P	P	22 28 13.2	-0.4
	1.3nm,0.4s,mb3.6,baz=48,slow=8.1,SNR=14						
ASAR				S	S	22 32 20.2	-0.5
	0.5nm,0.7s,baz=46,slow=14,SNR=4.7						
ASPA	Alice Springs	26.70	220	eP	P	22 28 15.6	+2.1
ASPA				eS	S	22 32 20.1	-0.7
FITZ	Fitzroy Crossi	29.75	239	eP	P	22 28 38.9	-1.5
	1.2nm,0.4s,mb3.5						
FITZ	Fitzroy Crossi	29.75	239	P	P	22 28 40.5	+0.1
	1.6nm,0.5s,mb3.5,baz=39,slow=8.9,SNR=9.6						
STKA	Stephens Creek	29.90	198	P	P	22 28 41.8	+0.2
	3.2nm,1.2s,mb3.4,baz=36,slow=14,SNR=3.6						
MKAR	Makanchi Array	78.97	319	P	P	22 34 30.1	+0.6
	0.9nm,0.8s,mb3.5,baz=102,slow=7.2,SNR=5.1						
ILAR	Eielson Array	81.22	22	P	P	22 34 40.5	-0.5
	0.5nm,0.7s,mb3.4,baz=246,slow=5.1,SNR=4.5						

CASC 29 22:25:05.0±2.2**, 14.02N**×**91.35W, h28**^{km}±8^{km}**, MD3.9, ML4.6, 2C-3D, Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAT	Jato	0.41	316	⇑eP	Pb	22 25 15.4	+1.6
JAT				eS	Sb	22 25 24.9	+5.0
JAT				AML	AML	22 25 25.5	
	comp=E,47μm,0.3s						
FUG	Fuego 3	0.65	49	⇓eP	Pb	22 25 18.1	+0.4
FUG				eS	Sb	22 25 26.4	0.0
PCG	Pacaya	0.81	63	⇑eP	Pb	22 25 20.6	+0.3
PCG				eS	Sb	22 25 32.1	+1.2
TP2	Tecpan 2	0.82	23	⇓eP	Pb	22 25 20.7	+0.1

TP2				*e*S	Sb	22 25 33.5	+2.2
TP2				AML	AML	22 25 35.6	
IXG	**Ixpaco**	**0.88**	**80**	*e*P	Pn	22 25 21.4	-0.1
IXG				*e*S	Sb	22 25 34.2	+1.2
IXG				AML	AML	22 25 41.1	
	comp=E,55µm,0.4s						
NBG	**Las Nubes**	**1.12**	**60⇓**	*e*P	Pn	22 25 25.0	0.0
NBG				*e*S	Sn	22 25 42.0	+2.4
NBG				AML	AML	22 25 44.7	
	comp=N,6µm,0.2s						
RTR	**El Retiro**	**1.66**	**94**	*e*P	Pn	22 25 33.1	+0.4
RTR				*e*S	Sn	22 25 54.6	+1.4
SBLS	**San Blas**	**1.68**	**96**	*e*P	Pn	22 25 32.8	-0.2
SBLS				*e*S	Sn	22 25 55.3	+1.4
SNJE	**San Jose**	**1.70**	**95**	*e*P	Pn	22 25 33.1	-0.2
SNJE				*e*S	Sn	22 25 55.8	+1.5
MTO2	**Montecristo 2**	**1.96**	**79**	*e*P	Pn	22 25 35.5	-1.6
LFRS	**El Faro**	**2.25**	**100**	*e*P	Pn	22 25 40.7	-0.6
LFRS				*e*S	Sn	22 26 07.4	-1.0
LCBS	**La Ceiba**	**2.33**	**99**	*e*P	Pn	22 25 41.2	-1.1
LCBS				*e*S	Sn	22 26 08.8	-1.5
SNVI	**San Vicente**	**2.47**	**99**	*e*P	Pn	22 25 37.0	-7.3
SNVI				*e*S	Sn	22 26 14.3	+0.5

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*PRU **29** 22:32:52.8, 47.26N×10.70E*
*BGR **29** 22:32:52.7±0.5, 47.24N×10.67E, h10^{km}, ML1.8/2, Error ellipse: s-maj=7.8km s-min=4.4km az=168.0*
*LDG **29** 22:33:05.2±0.5, 47.25N×10.09E, h10^{km}, Ml2.4/3, Error ellipse: s-maj=13.3km s-min=6.3km az=55.0*
ISC 29 22:32:51.2±0.5, **47.36N**±0.03×**10.63E**±0.03, **h10^{km}, n18,** σ**1^{s}28**/32, **6C, Austria**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MOTA	**Moosalm**	**0.32**	**92⇑**	*i*PG	**Pg**	**22 32 58.2**	**+0.4**
MOTA				*i* SG	**Sg**	**22 33 03.9**	**+1.7**
	9.5nm,0.1s						
SQTA	**Sankt Quirin**	**0.41**	**109⇑**	*i*PG	**Pg**	**22 32 59.1**	**-0.5**
SQTA				*i* SG	**Sg**	**22 33 05.0**	**-0.3**
	33nm,0.1s						
DAVA	**Damuels**	**0.52**	**262⇑**	*i*PG	**Pg**	**22 33 02.3**	**+0.7**
DAVA				*i* SG	**Sg**	**22 33 11.7**	**+3.1**
	18nm,0.2s						
DAVA	**Damuels**	**0.52**	**262**	*e*Pg	**Pg**	**22 33 02.4**	**+0.7**
DAVA				*e*Sg	**Sg**	**22 33 11.3**	**+2.7**
WATA	**Walderalm**	**0.64**	**92⇑**	*i*PG	**Pg**	**22 33 03.5**	**-0.6**
WATA				*i* SG	**Sg**	**22 33 13.3**	**+0.6**
	8.0nm,0.2s						
WTTA	**Wattenberg**	**0.69**	**97⇑**	*i*PG	**Pg**	**22 33 04.3**	**-0.7**
WTTA				*i* SG	**Sg**	**22 33 14.6**	**+0.3**
	4.2nm,0.2s						
WTTA	**Wattenberg**	**0.69**	**97**	*e*Pg	**Pg**	**22 33 04.3**	**-0.7**
WTTA				*e*Sg	**Sg**	**22 33 15.1**	**+0.8**
WET	**Wettzell**	**2.33**	**39**	*e*Pn	**Pn**	**22 33 31.5**	**+1.3**
WET				*e*Sg	**Sg**	**22 34 08.6**	**-0.4**
GRF	**Grafenberg Arr**	**2.37**	**9**	*e*Sg	**Sg**	**22 34 12.3**	**+2.2**
CDF	**Champ du Feu**	**2.49**	**296**	*e*Pn	**Pg**	**22 33 40.8**	**-0.2**
CDF				*e*Sg	**Sg**	**22 34 14.6**	**+0.4**
	2.2nm,0.2s						
MOA	**Molln**	**2.51**	**77⇑**	*i*PN	**Pg**	**22 33 39.1**	**-2.1**
MOA				*i* SG	**Sg**	**22 34 14.2**	**-0.5**
	1.1nm,0.2s						
GEC2	**GERESS Array S**	**2.54**	**53**	*e*Pg	**Pg**	**22 33 40.4**	**-1.4**
GEC2				*e*Sn	**Sn**	**22 34 06.4**	**+2.0**
HINF	**Hinteralfeld**	**2.60**	**282**	*e*Sg	**Sg**	**22 34 16.7**	**-1.1**
	3.9nm,0.3s						
KHC	**Kasperske Hory**	**2.65**	**47**	*e*PN	**Pg**	**22 33 41.9**	**-2.2**
KHC				*e*SN	**Sn**	**22 34 09.0**	**+1.8**
KHC				*e*SG	**Sg**	**22 34 17.7**	**-1.7**
HAU	**Haudompre**	**2.97**	**284**	*e*Pn	**Pn**	**22 33 45.6**	**+6.3**
HAU				*e*Sg	**Sg**	**22 34 28.4**	**-1.6**
	5.2nm,0.3s						
NKC	**Novy Kostel**	**3.12**	**22**	*e*x	x	22 34 05.5	
NKC				*e*SG	**Sg**	**22 34 34.8**	**-0.2**
LPG	**La Plagne**	**3.27**	**237**	*e*Pn	**Pn**	**22 33 50.2**	**+6.7**
LPL	**La Plagne**	**3.27**	**237**	*e*Pn	**Pn**	**22 33 49.7**	**+6.2**

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*HEL **29** 22:42:56.7±0.1, 57.63N×17.03E, ML2.0, ML2.8(UPP), ML2.9(NAO), Explosion*
*IDC **29** 22:43:01.4±2.2, 58.00N×17.00E, mb1 3.0/4, mb1mx2.9/20, ML2.7/4, Error ellipse: s-maj=23.6km s-min=8.9km az=10.0*
*NAO **29** 22:43:03.3±3.5, 58.22N×17.08E, ML2.9*
*BER **29** 22:43:04.0±4.9, 58.12N×16.97E, ML2.9(NAO)*
ISC 29 22:42:54.6±0.8, **57.57N**±0.07×**17.09E**±0.07, **n33,** σ**1^{s}02**/52, **Baltic Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OSKU	**Oskarshamn**	**0.66**	**235**	*i* P	**Pg**	**22 43 08.5**	**+0.8**
GOTU	**Gotland**	**0.80**	**81**	*i* P	**Pg**	**22 43 11.5**	**+0.8**
VIKU	**Vikbolandet**	**0.96**	**348**	*i* P	**Pg**	**22 43 12.2**	**-1.6**
EKSU	**Eksjoe**	**0.96**	**271**	*e*P	**Pg**	**22 43 13.0**	**-0.8**
LNKU	**Linkoeping**	**1.07**	**308**	*e*P	**Pb**	**22 43 14.2**	**-1.4**
NYNU	**Nynaeshamn**	**1.52**	**18**	*e*P	**Pn**	**22 43 22.7**	**-0.4**
ESKU	**Eskilstuna**	**1.71**	**348**	*e*P	**Pn**	**22 43 25.4**	**-0.4**
ASKU	**Askersund**	**1.79**	**319**	*e*P	**Pn**	**22 43 27.0**	**0.0**
NRTU	**Norrtaelje**	**2.26**	**20**	*e*P	**Pn**	**22 43 35.2**	**+1.4**
NRAU	**Nora**	**2.28**	**333**	*e*P	**Pn**	**22 43 35.0**	**+1.0**
BACU	**Backbrunna**	**2.29**	**0**	*e*P	**Pn**	**22 43 35.5**	**+1.4**
UPP	**Uppsala**	**2.31**	**7**	*e*P	**Pn**	**22 43 36.0**	**+1.5**
FLYU	**Flymyra**	**2.60**	**9**	*e*P	**Pn**	**22 43 39.5**	**+0.9**
OSTU	**Oestervaala**	**2.67**	**0**	*e*P	**Pn**	**22 43 40.4**	**+0.8**
GRAU	**Graesoe**	**2.87**	**15**	*e*P	**Pn**	**22 43 43.0**	**+0.5**
FALU	**Falun**	**3.01**	**348**	*e*P	**Pn**	**22 43 45.0**	**+0.6**
HFS	**Hagfors**	**3.12**	**327**	*e*P	**Pn**	**22 43 46.6**	**+0.6**
HFS				*e*S	**Sn**	**22 44 24.8**	**+0.3**
HFS	**Hagfors**	**3.12**	**327**	Pn	**Pn**	**22 43 46.4**	**+0.4**
	0.2nm,0.3s,baz=138,slow=12,SNR=51						
HFS				Sn	**Sn**	**22 44 16.1**	**-8.4**
	0.1nm,0.3s,baz=128,slow=23,SNR=5.6						
HFS				Lg		22 44 25.2	
	0.8nm,0.3s,baz=141,slow=28,SNR=13						
HFS	**Hagfors**	**3.12**	**327**	Pn	**Pn**	**22 43 46.6**	**+0.6**
	baz=135,slow=12						
HFS				Lg		22 44 24.8	
	baz=148,slow=28						
IGGU	**Iggoen**	**3.32**	**2**	*e*P	**Pn**	**22 43 49.5**	**+0.7**
NOA	**NORSAR Array B**	**4.60**	**322**	Pn	**Pn**	**22 44 05.5**	**-1.6**
	0.2nm,0.3s,baz=124,slow=10,SNR=2.5						
NOA				Pg	**Pb**	**22 44 15.9**	**-0.2**
	0.3nm,0.3s,baz=173,slow=17,SNR=2.8						
NOA				Sn	**Sn**	**22 44 56.0**	**-6.0**
	0.4nm,0.3s,baz=46,slow=26,SNR=3.1						
NOA				Lg		22 45 15.8	
	1.4nm,0.3s,baz=308,slow=28,SNR=8.0						
PVF	**Pernaja**	**5.42**	**53**	*e*P	**Pn**	**22 44 18.6**	**-0.1**
PVF				*e*S	**Sn**	**22 45 19.0**	**-3.6**
PVF				*e*SG	**Sb**	**22 45 41.9**	**+5.5**
PVF				MSG		22 45 45.9	
	comp=Z,2.0nm,0.2s						
FIA0	**FINESS Array S**	**6.00**	**46**	*e*P	**Pn**	**22 44 26.3**	**-0.5**
FIA0				*e*S	**Sn**	**22 45 32.6**	**-4.6**
FIA0				*e*SG	**Sb**	**22 45 59.6**	**+6.4**
FIA0				MSG		22 46 05.4	
	comp=Z,1.5nm,0.3s						
FIA0	**FINESS Array S**	**6.00**	**46**	Pn	**Pn**	**22 44 26.3**	**-0.5**
	baz=219,slow=11						
FIA0				Sn	**Sn**	**22 45 33.2**	**-4.0**
	baz=248,slow=22						
FIA0				Lg		22 45 57.3	
	baz=239,slow=28						
FINES	**FINESS Array B**	**6.00**	**46**	Pn	**Pn**	**22 44 26.6**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=228,slow=12,SNR=15						
FINES				Sn	**Sn**	**22 45 33.1**	**-4.1**
	comp=Z,0.5nm,0.3s,baz=244,slow=21,SNR=6.1						
FINES				Lg		22 46 02.5	
	comp=Z,0.7nm,0.3s,baz=236,slow=28,SNR=5.4						
KEF	**Keuruu**	**6.05**	**37**	*e*P	**Pn**	**22 44 27.6**	**+0.1**
KEF				*e*S	**Sn**	**22 45 31.9**	**-6.5**
VJF	**Virojoki**	**6.16**	**57**	*e*P	**Pn**	**22 44 28.2**	**-0.9**
VJF				*e*S	**Sn**	**22 45 37.1**	**-4.2**
VJF				*e*SG	**Sb**	**22 46 04.3**	**+6.4**
KAF	**Kangasniemi**	**6.50**	**42**	*e*P	**Pn**	**22 44 33.4**	**-0.5**
KAF				*e*S	**Sn**	**22 45 44.2**	**-5.6**
KAF				*e*SG	**Sb**	**22 46 13.8**	**+6.0**
KAF				MSG		22 46 16.6	
	comp=Z,0.8nm,0.3s						
SUF	**Sumiainen**	**6.86**	**37**	*e*P	**Pn**	**22 44 37.9**	**-1.1**
SUF				*e*S	**Sn**	**22 45 52.5**	**-6.2**
SUF				*e*SG	**Sb**	**22 46 24.1**	**+5.9**
SUF				MSG		22 46 27.9	
	comp=Z,0.6nm,0.2s						
KJN	**Kajaani**	**8.34**	**34**	*e*P	**P**	**22 44 56.8**	**-2.7**
KJN				*e*S	**Sn**	**22 46 26.7**	**-8.8**
KJN				*e*SG	**Sb**	**22 47 10.7**	**+10**
ARA0	**ARCESS Array S**	**12.56**	**14**	Pn	**P**	**22 45 50.5**	**-6.7**
	baz=197,slow=14						
ARA0	**ARCESS Array S**	**12.56**	**14**	*e*P	**P**	**22 45 50.5**	**-6.7**
ARCES	**ARCESS Array B**	**12.56**	**14**	Pn	**P**	**22 45 51.9**	**-5.4**
	comp=Z,0.1nm,0.3s,baz=202,slow=13,SNR=13						

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*BJI **29** 22:54:52.2, 35.40N×118.60W, h5^{km}, mB5.0, mb5.1, Ms4.9, Msz4.5*
*IDC **29** 22:54:54.1±0.8, 35.38N×118.63W, mb4.4/11, mb1 4.6/14, mb1mx4.5/22, ML4.5/3, MS4.4/18, Ms1 4.4/18, ms1mx4.3/23, Error ellipse: s-maj=16.7km s-min=11.5km az=90.0*
*NEIC **29** 22:54:54.2, 35.39N×118.62W, h4^{km}, mb5.0/59, MS4.7/10, ML5.0(PAS), After PAS.*
NEIC Felt [V] at Bodfish, Weldon and Woody; [IV] at Arvin, Bakersfield, Caliente, Delano, Kernville, Lake Isabella, Porterville, Shafter, Tehachapi and Wofford Heights. Felt in central and southern California from Sacramento south as far as Los Angeles and Riverside County. Also felt at Las Vegas, Nevada.
*SYO **29** 22:54:54.0, 35.39N×118.62W, h6^{km}, MB5.1, MS4.7*
*HRVD **29** 22:54:54.2±0.3, 35.41N×118.73W, h12^{km}, MW5.0/66, Centroid moment Tensor Solution. LP body waves: s34,c50;Mantle waves: s66,c104; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.92±.13; $M_{\theta\theta}$-2.26±.14; $M_{\phi\phi}$3.18±.11; $M_{r\theta}$0.88±.36; $M_{\theta\phi}$-2.94±.12; $M_{\phi r}$0.96±.34; Best double couple: $M_0$4.26×10^{16} NP1: ϕ_s293°, δ71°, λ-169°. NP2:ϕ_s199°, δ79°, λ-19°. Principal axes: T 4.52, Plg6°, Azm247°; N -.51, Plg68°, Azm352°; P -4.01, Plg21°, Azm155°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **29** 22:54:56.2±1.1, 35.61N×118.51W, h10^{km}, mb4.9/10, MS4.6/16 Error ellipse: s-maj=21.4km s-min=11.8km az=84.5*
ISC 29 22:54:52.8±0.3, **35.35N**±0.03×**118.64W**±0.03, **h4^{km}, n249,** σ**1^{s}02**/224, **mb4.8**/70, **MS4.5**/33, **5C-4D, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MWC	**Mount Wilson**	**1.22**	**157⇓**	*i*P	**Pb**	**22 55 16.9**	**+0.8**
DAC	**Darwin (Calif)**	**1.26**	**42**	*e*P	**Pb**	**22 55 16.4**	**-0.3**
DAC				*e*S	**Sb**	**22 55 31.9**	**-1.4**
MTUM	**Tungsten Hills**	**2.00**	**2**	*e*Pn	**Pn**	**22 55 29.0**	**+1.2**
LRV	**Little Rabbit**	**2.21**	**300**	*e*Pn	**Pn**	**22 55 30.2**	**-0.6**
OMM	**Old Mammoth Mi**	**2.29**	**353⇓**	*i*Pn	**Pn**	**22 55 33.5**	**+1.6**
PFO	**Pinyon Flat Ob**	**2.50**	**133**	*e*Pn	**Pn**	**22 55 34.6**	**-0.4**
TPNV	**Topopah Spring**	**2.51**	**50**	*e*Pn	**Pn**	**22 55 35.0**	**-0.2**
SAO	**San Andreas Ge**	**2.68**	**303**	*e*Pn	**Pn**	**22 55 36.8**	**-0.7**
LDFC	**Landfair**	**2.91**	**94**	*e*Pn	**Pn**	**22 55 38.7**	**-2.0**
TPH	**Tonopah**	**2.95**	**22**	*e*Pn	**Pn**	**22 55 41.5**	**+0.1**
CMB	**Columbia Colle**	**3.03**	**333**	*e*Pn	**Pn**	**22 55 42.1**	**-0.4**
NVAR	**Mina Array Bea**	**3.09**	**5**	Pn	**Pn**	**22 55 44.3**	**+0.9**
	30nm,0.3s,baz=193,slow=16,SNR=329						
NVAR				Lg		22 56 30.6	
	1µm,0.3s,baz=191,slow=34,SNR=15						
NVAR				LR	LR	22 57 03.1	
	comp=Z,6µm,19.2s,baz=180,slow=42						
MNV	**Mina**	**3.10**	**7**	*e*Pn	**Pn**	**22 55 44.4**	**+0.8**
NEN	**Nelson**	**3.12**	**83⇑**	*e*Pn	**Pn**	**22 55 42.5**	**-1.2**
BAR	**Barrett**	**3.12**	**148**	*e*Pn	**Pn**	**22 55 43.6**	**-0.2**
LKC	**Lake Chabot**	**3.65**	**312**	*e*Pn	**Pn**	**22 55 49.9**	**-1.4**
SAC	**San Andreas**	**3.77**	**307**	*e*Pn	**Pn**	**22 55 51.1**	**-1.9**
TRCR	**Troy Canyon**	**3.87**	**38**	*e*Pn	**Pn**	**22 55 53.7**	**-0.7**
WCN	**Washoe City**	**4.05**	**348**	*e*Pn	**Pn**	**22 55 57.9**	**+0.9**
NSHM	**Saint Helena R**	**4.49**	**316**	*e*Pn	**Pn**	**22 56 01.5**	**-1.6**
OHCM	**Honcut**	**4.58**	**331**	*e*Pn	**Pn**	**22 56 03.5**	**-1.0**
BEKR	**Beckwourth**	**4.71**	**344**	*e*Pn	**Pn**	**22 56 06.8**	**+0.4**
ARUT	**Antelope Range**	**4.84**	**58**	*e*Pn	**Pn**	**22 56 07.5**	**-0.8**
HOPS	**Hopland**	**5.08**	**317**	*e*Pn	**Pn**	**22 56 09.6**	**-1.9**
ELK	**Elko**	**6.02**	**25**	*e*Pn	**Pn**	**22 56 24.6**	**-0.2**
MVU	**Marysvale**	**6.04**	**57**	*e*Pn	**Pn**	**22 56 24.7**	**-0.4**
WDC	**Whiskeytown Da**	**6.07**	**331**	*e*Pn	**Pn**	**22 56 23.1**	**-2.4**
MSU	**Marysvale**	**6.07**	**57**	*e*Pn	**Pn**	**22 56 25.3**	**-0.2**
MOD	**Modoc**	**6.67**	**349**	*e*Pn	**Pn**	**22 56 34.3**	**+0.2**
DUG	**Dugway**	**6.69**	**42**	*e*Pn	**Pn**	**22 56 33.4**	**-0.9**
KHMM	**Horse Mountain**	**6.82**	**326**	*e*Pn	**Pn**	**22 56 37.2**	**+1.0**
NLU	**North Lily Min**	**6.95**	**47**	*e*Pn	**Pn**	**22 56 38.5**	**+0.5**
BGU	**Big Grassy Mou**	**7.11**	**37**	*e*Pn	**Pn**	**22 56 39.5**	**-0.7**
TMUT	**Trail Mountain**	**7.12**	**54**	*e*Pn	**Pn**	**22 56 40.6**	**+0.3**
YBH	**Yreka Blue Hor**	**7.13**	**335**	Pn	**Pn**	**22 56 41.7**	**+1.3**
	1.5nm,0.3s,baz=158,slow=7.7,SNR=22						
YBH				Lg		22 58 40.1	
	2.6nm,0.3s,baz=132,slow=13,SNR=6.2						
YBH	**Yreka Blue Hor**	**7.13**	**335**	*e*Pn	**Pn**	**22 56 40.4**	**-0.1**
TUC	**Tucson**	**7.21**	**113**	*e*Pn	**Pn**	**22 56 38.5**	**-3.1**
MPU	**Maple Canyon**	**7.25**	**48**	*e*Pn	**Pn**	**22 56 41.1**	**-1.1**
KRMB	**Red Mountain**	**7.42**	**328**	*e*Pn	**Pn**	**22 56 44.4**	**-0.2**
SRU	**San Rafael**	**7.49**	**57**	*e*Pn	**Pn**	**22 56 44.9**	**-0.6**
CTU	**Camp Tracy**	**7.62**	**43**	*e*Pn	**Pn**	**22 56 46.5**	**-0.8**
SPUT	**South Promonto**	**7.69**	**37**	*e*Pn	**Pn**	**22 56 48.9**	**+0.6**
DAU	**Daniels Canyon**	**7.72**	**47**	*e*Pn	**Pn**	**22 56 50.3**	**+1.5**
JLU	**Jordanelle**	**7.73**	**45**	*e*Pn	**Pn**	**22 56 49.5**	**+0.5**
HVU	**Hansel Valley**	**7.90**	**34**	*e*Pn	**Pn**	**22 56 51.1**	**-0.1**
HUMO	**Hull Mountain**	**7.99**	**336**	*e*Pn	**Pn**	**22 56 52.0**	**-0.5**
TCUT	**Toone Canyon**	**8.10**	**42**	*e*Pn	**P**	**22 56 53.9**	**-0.1**
KBO	**Bosley Butte**	**8.12**	**329**	Pn	**P**	**22 56 53.5**	**-0.9**
PV10	**Paradox Valley**	**8.27**	**66**	*e*Pn	**P**	**22 56 55.5**	**-0.9**
PV01	**Paradox Valley**	**8.55**	**68**	*e*Pn	**P**	**22 56 59.1**	**-1.2**
KEBM	**Edson Butte**	**8.72**	**331**	Pn	**P**	**22 56 60.0**	**-2.7**
HLID	**Hailey**	**8.83**	**20**	*e*Pn	**P**	**22 57 04.6**	**+0.3**
HSO	**Harness Mounta**	**8.86**	**339**	Pn	**P**	**22 57 03.8**	**-0.8**
RW3	**Ridgway**	**9.25**	**69**	*e*Pn	**P**	**22 57 08.3**	**-1.8**
SSOR	**Sweet Springs**	**9.94**	**344**	Pn	**P**	**22 57 19.3**	**-0.2**
ANMO	**Albuquerque**	**9.98**	**89***c*	*i*P	**P**	**22 57 20.9**	**+0.7**
ANMO	**Albuquerque**	**9.98**	**89**	*e*Pn	**P**	**22 57 19.9**	**-0.2**
REDW	**Red Top Meadow**	**10.02**	**35**	*e*Pn	**P**	**22 57 21.4**	**+0.8**
TPAW	**Teton Pass**	**10.07**	**34**	*e*Pn	**P**	**22 57 22.0**	**+0.6**
WUWY	**Wally Ulrich**	**10.21**	**34**	*e*Pn	**P**	**22 57 24.1**	**+0.9**
PDAR	**Pinedale Array**	**10.23**	**41**	Pn	**P**	**22 57 24.5**	**+1.0**
	0.5nm,0.3s,baz=234,slow=13,SNR=95						
PDAR				Lg		23 00 19.4	
	0.6nm,0.3s,baz=225,slow=29,SNR=5.7						
PDAR				LR	LR	23 01 25.6	
	comp=Z,1µm,21.4s,baz=238,slow=38						
LOHW	**Long Hollow**	**10.33**	**35**	*e*Pn	**P**	**22 57 25.5**	**+0.7**
MOOW	**Moose Ponds**	**10.37**	**34**	*e*Pn	**P**	**22 57 26.0**	**+0.6**
IMW	**Indian Meadow**	**10.40**	**32**	*e*Pn	**P**	**22 57 27.0**	**+1.2**
MCMT	**McKenzie Canyo**	**10.46**	**23**	*e*Pn	**P**	**22 57 26.4**	**-0.1**
LNOR	**Lincton Mounta**	**10.52**	**1**	Pn	**P**	**22 57 25.5**	**-1.9**
SDCO	**Great Sand Dun**	**10.84**	**73**	*e*Pn	**P**	**22 57 30.2**	**-1.7**
YFT	**Old Faithful**	**10.89**	**31**	Pn	**P**	**22 57 34.5**	**+2.0**
QLMT	**Earthquake Lak**	**10.96**	**28**	Pn	**P**	**22 57 33.0**	**-0.5**
YMR	**Madison River**	**11.01**	**30**	Pn	**P**	**22 57 30.0**	**-4.2**
HAWA	**Hanford**	**11.06**	**357**	*e*Pn	**P**	**22 57 35.2**	**+0.4**
YNR	**Norris Junctio**	**11.17**	**31**	Pn	**P**	**22 57 37.3**	**+1.0**
ISCO	**Idaho Springs**	**11.25**	**63**	*e*Pn	**P**	**22 57 36.8**	**-0.7**
BOZ	**Bozeman (W)**	**11.59**	**25**	*e*Pn	**P**	**22 57 43.3**	**+1.3**
MSO	**Missoula**	**12.01**	**16**	*e*Pn	**P**	**22 57 46.3**	**-1.4**
CHMT	**Chamberlain Mo**	**12.25**	**18**	*e*Pn	**P**	**22 57 50.2**	**-0.7**
GCMT	**Greycliff**	**12.46**	**30**	*e*Pn	**P**	**22 57 57.8**	**+4.1**
HRY	**Holter Researc**	**12.46**	**22**	*e*Pn	**P**	**22 57 54.1**	**+0.3**
DPW	**Davenport**	**12.52**	**1**	*e*Pn	**P**	**22 57 50.6**	**-4.0**
NLW	**Nelson Butte**	**12.79**	**355**	Pn	**P**	**22 57 56.5**	**-1.6**
NEW	**Newport**	**12.96**	**5**	*e*Pn	**P**	**22 58 02.2**	**+1.8**
WALA	**Waterton Lakes**	**14.14**	**13**	*e*Pn	**P**	**22 58 17.7**	**+1.7**
	106nm,1.3s						
RSSD	**Black Hills**	**14.23**	**48**	*e*Pn	**P**	**22 58 16.6**	**-0.6**
	119nm,1.3s						
LAO	**LASA Array**	**14.69**	**36**	*e*Pn	**P**	**22 58 23.1**	**0.0**
	103nm,0.9s						
CBKS	**Cedar Bluff**	**15.48**	**72**	*e*Pn	**P**	**22 58 34.3**	**+0.7**
	129nm,0.9s						
WMOK	**Wichita Mounta**	**16.28**	**86**	*e*Pn	**P**	**22 58 43.9**	**-0.1**
	142nm,1.5s						
JCT	**Junction City**	**16.54**	**102**	*e*Pn	**P**	**22 58 48.5**	**+1.2**
	203nm,1.9s						
DGMT	**Dagmar**	**16.92**	**35**	*e*Pn	**P**	**22 58 53.4**	**+1.4**
	482nm,1.4s						
KSU1	**Kansas State U**	**17.94**	**71**	*e*Pn	**P**	**22 59 04.7**	**0.0**
BBB	**Bella Bella**	**18.14**	**341**	LR	LR	23 06 46.4	
	comp=Z,660nm,18.9s,baz=166,slow=39						
EDM	**Edmonton**	**18.26**	**10**	*e*Pn	**P**	**22 59 08.3**	**-0.3**
NATX	**Nacogdoches**	**20.29**	**93**	*e*P	**P**	**22 59 31.6**	**-0.8**
	193nm,1.3s						
UALR	**University of**	**21.52**	**84**	*e*P	**P**	**22 59 44.3**	**-0.6**
	33nm,0.9s,mb4.8						
CCM	**Cathedral Cave**	**22.11**	**75**	*e*P	**P**	**22 59 50.8**	**0.0**
	385nm,1.8s,mb5.5						
ULM	**Lac du Bonnet**	**22.26**	**41**	P	**P**	**22 59 51.2**	**-1.0**
	63nm,1.0s,mb5.0,baz=239,slow=9.7,SNR=20						
ULM				LR	LR	23 08 18.8	
	comp=Z,839nm,18.0s,MS4.2,baz=52,slow=36						
ULM	**Lac du Bonnet**	**22.26**	**41**	*e*P	**P**	**22 59 50.4**	**-1.8**
	147nm,0.9s,mb5.4						
FFC	**Flin Flon**	**22.57**	**26**	*e*P	**P**	**22 59 53.7**	**-1.5**
	51nm,0.8s,mb5.0						
FVM	**French Village**	**22.75**	**75**	*e*P	**P**	**22 59 57.3**	**+0.1**
	29nm,0.9s,mb4.7						
SLM	**Saint Louis**	**22.89**	**73**	*e*P	**P**	**22 59 59.0**	**+0.5**
JFWS	**Jewell Farm**	**23.21**	**62**	*e*P	**P**	**23 00 01.5**	**-0.1**
	124nm,1.1s,mb5.2						
OXF	**Oxford**	**23.95**	**83**	*e*P	**P**	**23 00 09.7**	**+0.8**
	68nm,1.1s,mb5.0						
DLBC	**Dease Lake**	**24.31**	**345**	P	**P**	**23 00 13.6**	**+1.4**
	8.1nm,0.9s,mb4.2,baz=156,slow=12,SNR=5.7						
DLBC				LR	LR	23 10 21.2	
	comp=Z,1µm,19.1s,MS4.4,baz=149,slow=38						
USIN	**University of**	**24.93**	**75**	*e*P	**P**	**23 00 18.0**	**-0.3**
	148nm,1.2s,mb5.4						
WVT	**Waverly**	**24.98**	**79**	*e*P	**P**	**23 00 18.9**	**+0.1**
	43nm,1.0s,mb4.9						
BLO	**Bloomington**	**25.77**	**72**	*e*P	**P**	**23 00 25.6**	**-0.7**
	112nm,1.2s,mb5.3						
WCI	**Wyandotte Cave**	**26.00**	**74**	*e*P	**P**	**23 00 28.1**	**-0.3**
	47nm,1.0s,mb5.0						
LRAL	**Lakeview Retre**	**26.22**	**86**	*e*P	**P**	**23 00 29.9**	**-0.6**
	31nm,1.2s,mb4.7						
SWET	**Sewanee**	**26.64**	**81**	*e*P	**P**	**23 00 33.4**	**-1.0**
YKA	**Yellowknife Ar**	**27.29**	**4**	P	**P**	**23 00 40.6**	**+0.6**
	2.3nm,0.6s,mb3.9,baz=186,slow=9.4,SNR=4.1						
YKA				LR	LR	23 12 24.7	
	comp=Z,2µm,18.5s,MS4.6,baz=185,slow=38						
YKA	**Yellowknife Ar**	**27.29**	**4**	P	**P**	**23 00 40.6**	**+0.6**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
YKA				MLR	MLR		
	comp=Z,2µm,18.5s						
CPCT	**Cooper Cave**	**27.74**	**80**	*e*P	**P**	**23 00 46.5**	**+2.1**
ACSO	**Alum Creek Sta**	**28.48**	**69**	*e*P	**P**	**23 00 50.0**	**-1.0**
	comp=Z,152nm,1.6s,mb5.4						
BLA	**Blacksburg**	**30.73**	**75**	*e*P	**P**	**23 01 07.7**	**-3.4**
	comp=Z,42nm,1.0s,mb5.2						
DAWY	**Dawson**	**31.41**	**343**	*e*P	**P**	**23 01 16.1**	**-0.8**
RSO	**Redoubt South**	**33.32**	**330**	P	**P**	**23 01 32.9**	**-0.6**
SPU	**Mount Spurr**	**33.44**	**331**	P	**P**	**23 01 34.2**	**-0.5**
ILAR	**Eielson Array**	**34.00**	**339**	P	**P**	**23 01 39.2**	**-0.3**
	comp=Z,14nm,1.2s,mb4.8,baz=158,slow=7.9,SNR=19						
ILAR	**Eielson Array**	**34.00**	**339**	P	**P**	**23 01 39.2**	**-0.3**
ILAR				pmax	pmax		
	comp=Z,14nm,1.2s						
COLA	**College**	**34.37**	**338**	*e*P	**P**	**23 01 42.3**	**-0.3**
LOZ	**Lake Ozonia**	**34.65**	**61**	*e*P	**P**	**23 01 42.9**	**-2.3**
ACCN	**Adirondack Com**	**35.33**	**63**	*e*P	**P**	**23 01 49.9**	**-1.2**
SCHQ	**Schefferville**	**40.34**	**45**	P	**P**	**23 02 31.7**	**-1.3**
	comp=Z,15nm,0.8s,mb4.8,baz=280,slow=9.2,SNR=9.2						
SCHQ				LR	LR	23 18 49.0	
	comp=Z,437nm,18.8s,MS4.3,baz=273,slow=36						
SCHQ	**Schefferville**	**40.34**	**45**	P	**P**	**23 02 31.7**	**-1.3**
SCHQ				LR	LR	23 18 49.0	
ROSC	**El Rosal**	**50.85**	**116**	LR	LR	23 24 56.2	
	comp=Z,295nm,21.6s,MS4.3,baz=329,slow=35						
OTAV	**Otavalo**	**51.18**	**124**	P	**P**	**23 03 57.0**	**-2.5**
SUMG	**Summit**	**53.76**	**22**	*e*P	**P**	**23 04 17.6**	**-0.4**
	comp=Z,14nm,0.8s,mb4.9						
PET	**Petropavlovsk**	**58.55**	**315**	*e*P	**P**	**23 04 48.4**	**-4.2**
PPT	**Papeete**	**60.25**	**214**	*e*S	**S**	**23 13 27.9**	**+10**
PPT				*e*SS	SS	23 17 14.3	-1.9
PPT				*e*L		23 20 07.1	
PPT				*e*R		23 22 41.1	
	comp=Z,597nm,27.0s,baz=22						
BORG	**Borgarnes**	**61.60**	**29**	LR	LR	23 30 23.4	
	comp=Z,437nm,18.3s,MS4.7,baz=265,slow=35						
JMIC	**Jan Mayen**	**63.13**	**20**	LR	LR	23 32 48.9	
	comp=Z,381nm,18.5s,MS4.6,baz=255,slow=36						
JMIC	**Jan Mayen**	**63.13**	**20**	AMS	AMS	23 31 01.0	
	comp=Z,335nm,19.2s,MS4.5						
TIXI	**Tiksi**	**63.44**	**341⇑**	*e*P	**P**	**23 05 26.5**	**+1.0**
TIXI				pmax	pmax		
	comp=Z,23nm,1.2s,mb5.2						
TIXI				MLR	MLR		
	comp=Z,200nm,19.0s,MS4.3						
TBI	**Tubuai**	**65.27**	**211**	*e*S	S	23 14 27.1	+6.3
TBI				*e*L		23 22 33.4	
TBI				*e*R		23 24 38.0	
	comp=Z,357nm,22.5s,baz=27						
SAML	**Samuel**	**68.35**	**119**	*e*P	**P**	**23 05 54.5**	**-3.3**
	comp=Z,7.8nm,1.3s,mb4.6						
YAK	**Yakutsk**	**68.56**	**332⇑**	*e*P	**P**	**23 06 00.3**	**+2.0**
YAK				pmax	pmax		
	comp=Z,16nm,0.5s,mb5.2						
YAK				MLR	MLR		
	comp=Z,200nm,18.0s,MS4.4						
TRO	**Tromso**	**70.84**	**14**	AMS	AMS	23 37 53.6	
	comp=Z,213nm,20.3s,MS4.4						
ARCES	**ARCESS Array B**	**72.18**	**12**	LR	LR	23 41 11.4	
	comp=Z,325nm,18.5s,MS4.6,baz=219,slow=38						
LVC	**Limon Verde**	**74.45**	**133**	*e*P	**P**	**23 06 34.1**	**-0.1**
NB2	**NORSAR Subarra**	**75.64**	**23**	P	**P**	**23 06 43.0**	**+2.7**
	comp=Z,2.0nm,0.8s,mb4.1,baz=319,slow=5.8						
NOA	**NORSAR Array B**	**75.64**	**23**	P	**P**	**23 06 43.5**	**+3.3**
	comp=Z,1.6nm,0.8s,mb4.0,baz=320,slow=5.7,SNR=8.2						
NOA				LR	LR	23 40 51.8	
	comp=Z,218nm,20.1s,MS4.5,baz=320,slow=36						
NOA	**NORSAR Array B**	**75.64**	**23**	P	**P**	**23 06 43.6**	**+3.3**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NOA				MLR	MLR		
	comp=Z,218nm,20.2s						
KONO	**Kongsberg**	**76.16**	**24**	*e*	tx	23 28 21.3	
KONO				AMS	AMS	23 39 33.4	
	comp=Z,219nm,16.7s,MS4.5						
BOD	**Bodaibo**	**77.23**	**334**	*e*P	**P**	**23 06 47.4**	**-1.9**
KAF	**Kangasniemi**	**78.84**	**16**	*e*p	**P**	**23 06 56.9**	**-1.1**
	comp=Z,1.5nm,0.6s,mb4.1						
KAF	**Kangasniemi**	**78.84**	**16**	*e*P	**P**	**23 06 56.9**	**-1.1**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
MDJ	**Mudanjiang**	**79.25**	**318**	P	**P**	**23 07 00.0**	**-0.6**
MDJ				S	S	23 16 52.0	-8.2
MDJ				SCS	ScS	23 17 24.3	+3.3
MDJ				SS	SS	23 22 07.0	-2.4
MDJ				AMB	AMB		
	comp=Z,61nm,4.9s						
MDJ				LR	LR		
	comp=N,97nm,41.4s,MS3.9						
MDJ				LR	LR		
	comp=E,53nm,42.1s,MS3.9						
MDJ				LR	LR		
	comp=Z,89nm,32.5s						
FINES	**FINESS Array B**	**79.38**	**16**	P	**P**	**23 07 01.7**	**+0.7**
	comp=Z,2.8nm,1.0s,mb4.2,baz=356,slow=4.9,SNR=10.0						
FINES				LR	LR	23 41 30.0	
	comp=Z,377nm,18.3s,MS4.8,baz=328,slow=35						
FINES	**FINESS Array B**	**79.38**	**16**	P	**P**	**23 07 01.7**	**+0.7**
FINES				pmax	pmax		
	comp=Z,3.0nm,1.0s						
FINES				MLR	MLR		
	comp=Z,377nm,18.3s						
FLN	**La Foliniere**	**79.83**	**36**	*e*P	**P**	**23 07 03.8**	**+0.1**
FLN				*e*R			
	comp=Z,294nm,19.0s						
GRR	**Gorron**	**79.91**	**37**	*e*P	**P**	**23 07 04.5**	**+0.4**
LDF	**La Druitiere**	**80.12**	**36**	*e*P	**P**	**23 07 05.3**	**0.0**
ERUA	**La Rua**	**80.51**	**44**	P	**P**	**23 07 07.2**	**-0.3**
	comp=Z,7.7nm,0.8s,mb4.7						
ECAL	**Calabor**	**81.03**	**44**	P	**P**	**23 07 09.3**	**-0.9**
	comp=Z,5.4nm,0.6s,mb4.7						
BAIF	**Baives**	**81.11**	**33**	*e*P	**P**	**23 07 10.9**	**+0.4**
GIVF	**Givet**	**81.36**	**33**	*e*P	**P**	**23 07 11.6**	**-0.1**
MFF	**Saint Martin d**	**81.48**	**38**	*e*P	**P**	**23 07 12.9**	**+0.5**
	comp=Z,13nm,0.9s,mb4.6						
MTE	**Manteigas**	**81.54**	**46**	*e*P	**P**	**23 07 12.6**	**-0.3**
	comp=Z,17nm,1.0s,mb4.9						
CN2	**Changchun**	**82.03**	**319**	*e*P	**P**	**23 07 13.5**	**-1.9**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.0						
EVO	**Evora**	**82.45**	**48**	*e*P	**P**	**23 07 17.2**	**-0.5**
	comp=Z,21nm,0.8s,mb4.8						

EVO				*e*R			
	comp=Z,243nm,20.2s						
TCF	Toulx Ste Croi	82.86	37	*e*P	P	23 07 19.6	-0.1
	comp=Z,8.2nm,0.8s,mb4.5						
EBAD	Badajoz	82.91	47	P	P	23 07 19.0	-1.1
	comp=Z,7.7nm,0.9s,mb4.7						
SSF	Saint Saulge	82.94	36	*e*P	P	23 07 20.3	+0.3
LOR	Lormes	82.96	35	*e*P	P	23 07 20.6	+0.5
	comp=Z,19nm,0.9s,mb4.8						
LOR				*e*R			
	comp=Z,356nm,20.8s						
BGF	Bois d'Agland	82.98	36	*e*P	P	23 07 20.4	+0.1
	comp=Z,9.8nm,0.8s,mb4.6						
AVF	Avril sur Loir	83.06	36	*e*P	P	23 07 20.3	-0.4
	comp=Z,12nm,0.9s,mb4.6						
LFF	La Frestale	83.08	39	*e*P	P	23 07 20.6	-0.2
	comp=Z,7.8nm,0.8s,mb4.5						
RJF	Les Rejaudoux	83.21	38	*e*P	P	23 07 21.6	+0.1
RJF				*e*R			
	comp=Z,343nm,19.8s						
SMF	Signal de Mont	83.40	36	*e*P	P	23 07 22.4	0.0
HAU	Haudompre	83.58	34	*e*P	P	23 07 23.5	+0.3
	comp=Z,11nm,0.8s,mb4.8						
HAU				*e*R			
	comp=Z,341nm,20.0s						
CDF	Champ du Feu	83.69	33	*e*P	P	23 07 24.1	+0.3
	comp=Z,6.6nm,0.7s,mb4.6						
EMIN	Mina Concepcio	83.75	48	P	P	23 07 23.6	-0.8
	comp=Z,36nm,1.7s,mb5.2						
CAF	Calviac	83.76	38	*e*P	P	23 07 24.7	+0.5
	comp=Z,19nm,1.0s,mb4.9						
ETSF	Etsaut	83.81	41	*e*P	P	23 07 25.0	+0.5
	comp=Z,19nm,1.1s,mb4.8						
MOX	Moxa	83.81	29	*i* P	P	23 07 24.5	+0.1
	comp=Z,logA/T=1.0,mb4.9						
MOX				L		23 42 51.0	
MOX	Moxa	83.81	29	*e*P	P	23 07 24.5	+0.1
MOX				pmax	pmax		
	comp=Z,21nm,2.0s,mb4.9						
MOX				MLR	MLR		
	comp=Z,300nm,22.0s,MS4.6						
MOX	Moxa	83.81	29	*e*P	P	23 07 24.5	+0.1
	comp=Z,21nm,2.0s,mb4.9						
MOX				LR	LR		
	comp=Z,300nm,22.0s,MS4.6						
CLL	Collm	83.84	28	P	P	23 07 25.0	+0.5
CLL	Collm	83.84	28	*e*P	P	23 07 25.0	+0.5
BDFB	Brasilia	83.86	114	LR	LR	23 45 51.6	
	comp=Z,146nm,20.3s,MS4.3,baz=189,slow=36						
HINF	Hinteralfeld	83.94	33	*e*P	P	23 07 25.3	+0.2
	comp=Z,20nm,1.2s,mb4.8						
ESDC	Sonseca Array	84.10	45	P	P	23 07 26.8	+0.7
	comp=Z,3.3nm,0.8s,mb4.5,baz=310,slow=5.3,SNR=13						
ESDC				LR	LR	23 45 04.2	
	comp=Z,148nm,18.2s,MS4.4,baz=265,slow=36						
ESDC	Sonseca Array	84.10	45	P	P	23 07 25.8	-0.3
	comp=Z,2.8nm,0.6s,mb4.6						
EPF	Esparros	84.20	40	*e*P	P	23 07 27.0	+0.5
BFO	Black Forest	84.22	32	*e*P	P	23 07 27.0	+0.6
BFO				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.5						
BFO	Black Forest	84.22	32	*e*P	P	23 07 27.0	+0.6
	comp=Z,4.0nm,1.0s,mb4.5						
CPUP	Villa Florida	84.37	128	P	P	23 07 30.1	+2.3
	comp=Z,2.2nm,0.9s,mb4.3,baz=34,slow=6.8,SNR=3.3						
CPUP				LR	LR	23 45 46.8	
	comp=Z,78nm,18.3s,MS4.1,baz=166,slow=36						
CPUP	Villa Florida	84.37	128	P	P	23 07 30.1	+2.3
CPUP				pmax	pmax		
	comp=Z,2.0nm,0.9s						
CPUP				MLR	MLR		
	comp=Z,79nm,18.3s						
GRA1	Grafenberg Arr	84.40	30	*e*P	P	23 07 28.9	+1.6
	comp=Z,28nm,1.5s,mb5.2						
GRA1				LR	LR		
	comp=Z,600nm,20.8s,MS5.0						
GRF	Grafenberg Arr	84.40	30	*e*P	P	23 07 28.9	+1.6
GRF				pmax	pmax		
	comp=Z,28nm,1.5s,mb5.2						
GRF				MLR	MLR		
	comp=Z,600nm,20.8s,MS5.0						
ETOR	Torete	84.42	43	P	P	23 07 27.7	+0.1
	comp=Z,33nm,1.5s,mb5.2						
NKC	Novy Kostel	84.47	29	*e*P	P	23 07 28.0	+0.3
NKC				LR		23 45 30.0	
	comp=Z,0.3nm,18.0s						
BRG	Berggiesshubel	84.55	28	*e*P	P	23 07 29.4	+1.4
BRG				*e*		23 07 33.6	
BRG				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.8						
BRG				MLR	MLR		
	comp=N,430nm,20.2s,MS5.0						
BRG				MLR	MLR		
	comp=E,440nm,20.2s,MS5.0						
BRG				MLR	MLR		
	comp=Z,410nm,29.6s						
BRG	Berggiesshubel	84.55	28	*e*P	P	23 07 29.4	+1.4
	comp=Z,10nm,1.3s,mb4.8						
BRG				*e*		23 07 33.6	
BRG				LR	LR		
	comp=Z,410nm,29.6s,MS4.6						
ESAC	San Caprasio	84.67	42	P	P	23 07 29.2	+0.3
	comp=Z,20nm,0.8s,mb5.3						
EADA	Adamuz	84.74	46	P	P	23 07 29.2	-0.2
	comp=Z,18nm,0.9s,mb5.2						
ESPR	Espera	84.83	48	P	P	23 07 29.5	-0.3
	comp=Z,8.1nm,1.0s,mb4.8						
MTLF	Montolieu	84.96	39	*e*P	P	23 07 30.8	+0.5
	comp=Z,20nm,1.2s,mb4.8						
PVCC	Panska Ves	85.06	28	*e*P	P	23 07 31.1	+0.5
PVCC				LR		23 47 40.0	
	comp=Z,0.3nm,17.0s						
VIVF	Saint-Julien-l	85.10	37	*e*P	P	23 07 31.6	+0.7
	comp=Z,12nm,1.0s,mb4.7						
LASF	Ste Croix	85.26	38	*e*P	P	23 07 32.6	+0.8
	comp=Z,25nm,1.2s,mb4.9						
ELUQ	Luque	85.33	47	P	P	23 07 32.3	+0.1
PRU	Pruhonice	85.48	28	*e*P	P	23 07 36.1	+3.4
PRU				L		23 48 00.0	
LPL	La Plagne	85.60	35	*e*P	P	23 07 34.2	+0.8
EMIR	Miracle	85.61	40	P	P	23 07 32.8	-0.7
	comp=Z,9.2nm,1.0s,mb5.0						
EMOS	Mosqueruela	85.61	42	P	P	23 07 35.2	+1.6
	comp=Z,13nm,1.0s,mb5.1						
LPG	La Plagne	85.62	35	*e*P	P	23 07 34.4	+0.9
UPC	Upice	85.62	27	*e*P	P	23 07 36.8	+3.4
ORIF	Oris-en-Rattie	85.64	36	*e*P	P	23 07 34.3	+0.7
ORIF				*e*R			
	comp=Z,408nm,18.5s						
EVIA	Vianos	85.64	45	P	P	23 07 34.2	+0.4
	comp=Z,9.6nm,0.8s,mb5.1						
ELOJ	Sierra Loja	85.67	47	P	P	23 07 34.2	+0.2
	comp=Z,4.4nm,0.8s,mb4.7						
EMIJ	Mijas	85.69	48	P	P	23 07 35.9	+1.8
	comp=Z,10.0nm,1.0s,mb5.0						
EPOB	Poblet	85.76	41	P	P	23 07 36.1	+1.7
	comp=Z,7.5nm,1.1s,mb4.8						
KHC	Kasperske Hory	85.79	29	*e*P	P	23 07 31.4	-2.9
KHC				LR		23 44 40.0	
	comp=Z,0.3nm,19.0s						
EBR	Ebro Roquetas	85.82	42	*e*Ts		23 07 42.0	
DPC	Dobruska-Polom	85.87	27	*e*P	P	23 07 35.0	+0.4
DPC				LR		23 41 00.0	
	comp=Z,0.4nm,24.4s						
DPC	Dobruska-Polom	85.87	27	*e*P	P	23 07 35.0	+0.4
DPC				LR	LR		
	comp=Z,400nm,24.4s,MS4.7						
EQES	Quesada	85.87	46	P	P	23 07 36.3	+1.3
	comp=Z,10nm,1.1s,mb5.0						
ERON	Agron	85.96	47	P	P	23 07 36.7	+1.2
GERES	GERESS Array B	86.07	29	P	P	23 07 36.4	+0.7
	comp=Z,0.5nm,0.7s,mb3.9,baz=315,slow=1.4,SNR=5.1						
GERES	GERESS Array B	86.07	29	P	P	23 07 36.4	+0.7
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SMRF	Simiane la Rot	86.18	37	*e*P	P	23 07 35.9	-0.5
MBDF	Montbardon	86.20	36	*e*P	P	23 07 36.7	+0.2
OKC	Ostrava-Krasne	86.96	26	LR		23 41 50.0	
	comp=Z,0.2nm,24.0s						
ZAK	Zakamensk	86.96	335	*e*P	P	23 07 42.3	+2.3
OBN	Obninsk	87.42	14	⇑*e*P	P	23 07 43.5	+1.4
OBN				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.9						
OBN				MLR	MLR		
	comp=Z,200nm,16.0s,MS4.6						
ARU	Arti	88.55	2	*e*P	P	23 07 48.1	+0.6
ARU				*e*	PP	23 11 16.5	-1.6
ARU				*e*S	SKS	23 18 15.1	-3.7
ARU				MLR	MLR		
	comp=Z,200nm,23.0s,MS4.5						
ARU				MLR	MLR		
	comp=N,100nm,22.5s,MS4.3						
ARU				MLR	MLR		
	comp=E,100nm,22.0s,MS4.3						
AKASG	Malin Array Be	89.76	20	LR	LR	23 47 06.2	
	comp=E,195nm,19.7s,MS4.5,baz=315,slow=35						
HHC	Hu-ho-hao-te	91.24	324	*e*P	P	23 07 56.8	-3.7
HHC				SKS	SKS	23 18 27.8	-7.5
HHC				S	S	23 18 51.3	-5.9
HHC				SS	SS	23 25 00.5	-4.7
HHC				AMB	AMB		
	comp=Z,13nm,0.5s,mb5.5						
HHC				AMB	AMB		
	comp=Z,84nm,5.8s						
HHC				LR	LR		
	comp=N,119nm,25.6s,MS4.8						
HHC				LR	LR		
	comp=E,430nm,26.8s,MS4.8						
HHC				LR	LR		
	comp=Z,61nm,26.8s,MS3.9						
BVAR	Borovoye Array	91.65	355	P	P	23 08 03.6	+1.6
	comp=Z,0.6nm,0.6s,mb4.1,baz=18,slow=4.6,SNR=7.7						
KURK	Kurchatov	92.97	349	*e*P	P	23 08 09.7	+1.6
SSE	Sheshan	93.24	312	*e*P	P	23 08 08.5	-1.4
SSE				S	S	23 19 11.3	-3.6
SSE				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.5						
SSE				LR	LR		
	comp=N,49nm,19.1s,MS4.2						
SSE				LR	LR		
	comp=E,59nm,19.1s,MS4.2						
SSE				LR	LR		
	comp=Z,40nm,19.5s,MS3.9						
SSE	Sheshan	93.24	312	*e*P	P	23 08 08.5	-1.4
	comp=Z,10.0nm,0.5s,mb5.5						
SSE				sP	sP	23 08 13.2	+1.8
SSE				S	S	23 19 11.3	-3.6
SSE				sS		23 19 17.8	
SSE				LR	LR		
	comp=Z,40nm,19.5s,MS3.9						
MKAR	Makanchi Array	96.09	346	LR	LR	23 56 24.3	
	comp=Z,202nm,19.1s,MS4.6,baz=262,slow=38						
WMQ	Urumqi	97.64	341	*e*P	P	23 08 30.5	+0.8
WMQ				LR	LR		
	comp=N,158nm,21.2s,MS4.6						
WMQ				LR	LR		
	comp=E,184nm,26.0s,MS4.6						
WMQ				LR	LR		
	comp=Z,155nm,21.8s,MS4.5						
LZH	Lanzhou	98.66	326	*e*P	P	23 08 34.3	-0.1
LZH				PP	PP	23 12 37.0	-0.9
LZH				*e*S	S	23 19 59.8	-1.1
LZH				SS	SS	23 26 47.3	-2.9
LZH				LR	LR		
	comp=N,426nm,15.0s						
LZH				LR	LR		
	comp=Z,837nm,18.1s,MS5.3						
LZH	Lanzhou	98.66	326	*e*P	P	23 08 34.2	-0.2
	comp=Z,21nm,1.5s,mb5.5						
LZH				pP	pP	23 08 36.5	+0.9
LZH				sP	sP	23 08 37.2	+1.3
LZH				PP	PP	23 12 37.0	-0.9
LZH				SKS	SKS	23 19 01.8	-14
LZH				*e*S	S	23 19 59.7	-1.2
LZH				SS	SS	23 26 47.3	-2.9
LZH				LR	LR		
	comp=Z,840nm,18.1s,MS5.3						
SOC	Sochi	99.01	16	*e*P	P	23 08 36.3	+0.5
SOC				*e*		23 12 35.6	
SOC				*e*S	S	23 20 01.5	-2.1
SOC				*e*SS	SS	23 27 06.7	+12
SOC				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb5.2						
SOC				pmax	pmax		
	comp=N,15nm,0.9s						
SOC				pmax	pmax		
	comp=E,10.0nm,0.9s						
SOC				MLR	MLR		
	comp=Z,378nm,20.0s,MS4.9						
SOC				MLR	MLR		
	comp=N,212nm,17.0s						
SOC				MLR	MLR		
	comp=E,162nm,24.0s						
KMI	Kunming	108.23	321	*e*PKP		23 13 21.8	
KMI				S		23 21 21.0	
KMI				SS	SS	23 29 01.0	-1.2
KMI				LR	LR		
	comp=Z,60nm,25.9s,MS4.0						
WRA	Warramunga Arr	114.86	262	PKP	PKPdf	23 13 36.3	-1.0
	comp=Z,0.8nm,0.6s,baz=59,slow=2.1,SNR=8.8						
WRA	Warramunga Arr	114.86	262	PKIKP	PKPdf	23 13 36.3	-1.1
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR	Alice Springs	117.05	259	PKP	PKPdf	23 13 40.1	-1.5
	comp=Z,0.9nm,0.8s,baz=44,slow=2.4,SNR=8.0						
QSPA	South Pole Qui	125.17	180	*e*PKP	PKPdf	23 13 56.1	+0.1
QSPA				LR	LR		
	comp=Z,90nm,19.5s,MS4.5						
SYO	Syowa Base	144.17	167	⇓Pdiff	Pdif	23 11 53.0	-1.1
SYO	Syowa Base	144.17	167	⇓pPdiff		23 11 58.0	
LSZ	Lusaka	144.22	65	*e*PKP	PKPdf	23 14 30.6	-2.1
MAW	Mawson	147.68	181	PKPbc	PKPdf	23 14 39.3	+2.3
	comp=Z,18nm,1.1s,baz=209,slow=3.2,SNR=24						
MAW	Mawson	147.68	181	PKIKP	PKPdf	23 14 39.3	+2.2
MAW				pmax	pmax		
	comp=Z,18nm,1.1s						
MAW	Mawson	147.68	181	*e*PKPbc	PKPdf	23 14 38.5	+1.4
BOSA	Boshof	148.77	88	*e*PKPbc	PKPdf	23 14 42.3	+2.2

SVSA 29 23:06:15.2±1.1**,38.51N×26.73W,h10^{km}±5^{km},MD3.5, ML2.0,Error ellipse: s-maj=8.8km s-min=4.6km az=64.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PFAV	Pico das Favas	0.35	306	*e*P	Pg	23 06 21.0	-1.3
PFAV				*i* S	Sg	23 06 25.7	-1.4
	27nm,0.1s						
RIB2	Ribeirinha	0.39	295	*e*S	Sg	23 06 26.9	-1.5
	28nm,0.1s						
PVNV	Vila Nova	0.42	307	*i* S	Sg	23 06 27.6	-2.0
	17nm,0.1s						
ADH	Angra Heroismo	0.42	291	*e*S	Sg	23 06 27.7	-2.0
PPAD	Pico dos Padre	0.48	294	*e*P	Pg	23 06 23.7	-1.2
PPAD				*i* S	Sg	23 06 29.5	-1.9
	40nm,0.1s						
PBIS	Biscoitos	0.48	302	*e*S	Sg	23 06 29.7	-1.9
	14nm,0.2s						
ASBA	Santa Barbara	0.52	295	*i* S	Sg	23 06 30.9	-1.7
	54nm,0.2s						
PSBA	Serra de Santa	0.54	299	*e*P	Pg	23 06 24.4	-1.6
PSBA				*e*S	Sg	23 06 31.1	-2.2
	136nm,0.3s						
PMAN	Manadas	1.07	277	*e*S	Sb	23 06 43.6	-5.8
	25nm,0.3s						
PID	Ribeirinha	1.09	267	*e*-		23 06 44.2	
PGRA	Graciosa	1.11	298	*e*-		23 06 45.9	
ROSA	Rosais	1.21	281	*e*P	Pb	23 06 33.5	-4.2
ROSA				*e*S	Sb	23 06 47.4	-5.8
PICO	Pico	1.33	270	*e*P	Pb	23 06 35.5	-4.4
PICO				*e*S	Sb	23 06 50.4	-6.5
CALA	Caldeira	1.55	273	*e*P	Pn	23 06 38.1	-5.0
CALA				*e*S	Sb	23 06 55.7	-7.5
PCED	Cedros	1.55	275	*e*S	Sb	23 06 55.5	-7.7
	8.1nm,0.3s						

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*BER **29** 23:15:21.8±3.8,57.23N×17.19E,h1^{km}±35^{km},MD3.6, ML2.5(NAO)*

*NAO **29** 23:15:24.1±5.3,57.57N×17.07E,ML2.5*

*HEL **29** 23:15:24.1±0.1,57.62N×17.04E,ML2.1,MD3.6(BER), ML3.1(UPP),Explosion*

*IDC **29** 23:15:25.1±2.3,57.68N×17.01E,mb1 3.4/4, mb1mx3.2/20,ML2.9/4,Error ellipse: s-maj=24.1km s-min=9.4km az=6.0*

*NEIC **29** 23:15:25.1±3.1,57.62N×17.02E,h10^{km},MD3.7(BER), Error ellipse: s-maj=39.6km s-min=14.1km az=173.0*

ISC 29 23:15:21.2±0.5**,57.72N**±0.04×**17.13E**±0.05**,n37,**σ1^{s}**64**/68**, Baltic Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OSKU	Oskarshamn	0.77	227	*i* P	Pg	23 15 35.6	-0.8
OSKU				*i* S	Sg	23 15 45.2	-1.4
GOTU	Gotland	0.78	92	*i* P	Pg	23 15 38.9	+2.3
VIKU	Vikbolandet	0.82	344	*e*P	Pg	23 15 39.8	+2.4
EKSU	Eksjoe	0.99	262	*e*P	Pb	23 15 40.2	-0.7
LNKU	Linkoeping	1.00	301	*e*P	Pb	23 15 41.7	+0.6
BLEU	Blekinge	1.59	207	*e*P	Pn	23 15 50.4	-0.3
NRTU	Norrtaelje	2.11	21	*e*P	Pn	23 16 02.8	+4.6
NRTU				*e*S	Sn	23 16 32.2	+6.7
BACU	Backbrunna	2.14	360	*e*P	Pn	23 16 03.1	+4.5
BACU				*e*S	Sn	23 16 33.0	+6.7
FLYU	Flymyra	2.45	9	*e*P	Pn	23 16 07.1	+4.1
GRAU	Graesoe	2.72	15	*e*P	Pn	23 16 11.0	+4.1
FALU	Falun	2.86	347	*e*P	Pn	23 16 12.3	+3.4
AAL	Aland	2.88	30	*e*P	Pn	23 16 13.4	+4.3
HFS	Hagfors	3.00	325	Pn	Pn	23 16 13.8	+2.9
	baz=142,slow=12						
HFS				Sn	Sn	23 16 52.8	+4.7
	baz=133,slow=28						
HFS	Hagfors	3.00	325	*e*P	Pn	23 16 13.8	+2.9
HFS				*e*S	Sn	23 16 52.8	+4.7
HFS	Hagfors	3.00	325	Pn	Pn	23 16 14.3	+3.4
	0.3nm,0.3s,baz=141,slow=14,SNR=59						
HFS				Sn	Sn	23 16 51.9	+3.7
	0.9nm,0.3s,baz=140,slow=24,SNR=15						
IGGU	Iggoen	3.17	2	*e*P	Pn	23 16 17.1	+3.9
IGGU				*e*S	Sn	23 16 56.9	+4.7
NOA	NORSAR Array B	4.50	320	Pn	Pn	23 16 33.3	+1.2
	0.4nm,0.3s,baz=144,slow=13,SNR=3.0						
NOA				Pg	Pg	23 16 43.1	-7.8
	0.6nm,0.3s,baz=140,slow=18,SNR=3.5						
NOA				Sn	Sn	23 17 23.6	-2.3
	0.8nm,0.3s,baz=137,slow=23,SNR=3.3						
NOA				Lg		23 17 44.5	
	1.6nm,0.3s,baz=140,slow=29,SNR=5.2						
VSU	Vasula	5.15	78	*e*P	Pn	23 16 43.4	+2.0
VSU				*e*S	Sn	23 17 41.1	-1.4
VSU				*e*SG	Sg	23 18 03.9	-8.8
PVF	Pernaja	5.32	54	*e*P	Pn	23 16 46.0	+2.3
PVF				*e*S	Sn	23 17 46.2	-0.4
PVF				*e*SG	Sg	23 18 09.8	-8.4
PVF				MSG		23 18 12.0	
	comp=Z,3.1nm,0.3s						
BLS5	Blasjo	5.84	291	*e*P	Pn	23 16 51.5	+0.5
BLS5				*e*S	Sn	23 17 54.3	-5.4
ODD1	Odda	5.88	296	*e*P	Pn	23 16 50.4	-1.2
FIA0	FINESS Array S	5.88	47	*e*P	Pn	23 16 53.9	+2.2
FIA0				*e*S	Sn	23 17 59.9	-0.9
FIA0				*e*SG	Sg	23 18 27.4	-10
FIA0				MSG		23 18 32.7	
	comp=Z,1.4nm,0.2s						
FIA0	FINESS Array S	5.88	47	Pn	Pn	23 16 54.0	+2.3
	baz=222,slow=12						
FIA0				Sn	Sn	23 17 59.9	-1.0
	baz=248,slow=28						
FINES	FINESS Array B	5.88	47	Pn	Pn	23 16 53.7	+2.0
	comp=Z,0.4nm,0.3s,baz=228,slow=12,SNR=31						
FINES				Sn	Sn	23 18 01.9	+1.1
	comp=Z,0.8nm,0.3s,baz=236,slow=25,SNR=8.5						
FINES				Lg		23 18 30.6	
	comp=Z,0.9nm,0.3s,baz=235,slow=30,SNR=6.0						
KEF	Keuruu	5.92	38	*e*P	Pn	23 16 54.8	+2.6
KEF				*e*S	Sn	23 18 00.6	-1.1
VJF	Virojoki	6.07	58	*e*P	Pn	23 16 55.2	+0.9
VJF				*e*S	Sn	23 18 03.2	-2.2
VJF				*e*SG	Sg	23 18 33.3	-10
KAF	Kangasniemi	6.38	42	*e*P	Pn	23 17 01.3	+2.6
KAF				*e*S	Sn	23 18 11.9	-1.3
KAF				*e*SG	Sg	23 18 42.9	-11
KAF				MSG		23 18 45.4	
	comp=Z,0.9nm,0.2s						
KMY	Karmoy	6.41	288	*e*P	Pn	23 16 57.3	-1.9
KMY				*e*S	Sn	23 18 07.2	-6.8
TRON	Trondheim	6.63	333	*e*P	Pn	23 17 04.3	+2.1
TRON				*e*S	Sn	23 18 19.4	-0.1
SUF	Sumiainen	6.73	38	*e*P	Pn	23 17 05.0	+1.3
SUF				*e*S	Sn	23 18 20.2	-1.8
SUF				*e*SG	Sg	23 18 53.6	-12
SUF				MSG		23 18 59.2	
	comp=Z,1.4nm,0.3s						
MOL	Molde	6.82	320	*e*P	Pn	23 17 05.8	+1.0
MOL				*e*S	Sn	23 18 24.1	-0.1
NSS	Namsos	7.27	342	*e*P	Pn	23 17 11.2	-0.1
NSS				*e*S	Sn	23 18 32.9	-2.7
KJN	Kajaani	8.20	34	*e*P	P	23 17 24.0	-0.3
KJN				*e*S	Sn	23 18 55.5	-3.2
KJN				*e*SG	Sg	23 19 39.1	-15
MOR8	Moi Rana	8.58	353	*e*P	P	23 17 31.3	+1.9
ARA0	ARCESS Array S	12.41	14	Pn	P	23 18 18.4	-3.4
	baz=198,slow=16						
ARA0	ARCESS Array S	12.41	14	*e*P	P	23 18 18.4	-3.4
ARCES	ARCESS Array B	12.41	14	Pn	P	23 18 19.6	-2.2
	comp=Z,0.1nm,0.3s,baz=196,slow=13,SNR=22						

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*IDC **29** 23:52:20.0±8.9,33.32S×179.05W,h48^{km}±89^{km},mb3.6/2, mb1 3.9/3,mb1mx3.7/10,ML3.9/1,MS2.8/1,Ms1 2.8/1, ms1mx2.7/17,Error ellipse: s-maj=77.6km s-min=58.4km az=163.0*

ISC 29 23:52:18.9±3.1**,33.4S**±0.1×**179.0W**±0.3**,h57**^{km}±26^{km}**,n9,** σ0^{s}**87**/10**,mb3.6**/2**,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	Matakaoa Point	4.70	207	*e*P	P	23 53 29.9	+0.8
PUZ	Puketiti	5.17	205	P	P	23 53 34.4	-1.2
PUZ				*e*S	S	23 54 34.9	+0.2
URZ	Urewera	5.79	212	P	P	23 53 43.9	-0.3
	3.5nm,0.3s,baz=313,slow=17,SNR=8.5						
URZ				S	S	23 54 50.3	+0.1
	1.9nm,0.3s,baz=313,slow=18,SNR=3.7						
URZ				LR	LR	23 55 55.2	
	comp=Z,99nm,20.4s,baz=225,slow=37						
URZ	Urewera	5.79	212	P	P	23 53 44.1	-0.1
OUZ	Omahuta	6.41	252	P	P	23 53 53.2	+0.3
ASAR	Alice Springs	42.22	271	P	P	00 00 07.8	-0.3
	0.8nm,0.6s,mb3.5,baz=110,slow=7.3,SNR=10						
WRA	Warramunga Arr	43.48	276	P	P	00 00 17.0	-1.4
	0.9nm,0.5s,mb3.7,baz=116,slow=7.9,SNR=22						
TGY	Tagaytay City	74.21	299	P	P	00 03 53.4	+1.6
	278nm,0.5s,baz=90,slow=16,SNR=5.8						
FINES	FINESS Array B	147.64	338	PKPbc	PKPdf	00 11 56.2	+2.9
	1.1nm,0.7s,baz=63,slow=4.3,SNR=5.7						

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*IDC **30** 00:25:57.5±7.6,13.15N×144.15E,h134^{km}±70^{km}, mb3.8/14,mb1 3.9/14,mb1mx3.9/22,Error ellipse: s-maj=25.5km s-min=13.9km az=76.0*

*BJI **30** 00:25:58.9,13.10N×144.00E,h146^{km},mB4.4,mb4.2*

*NEIC **30** 00:25:59.0±0.8,13.10N×144.05E,h147^{km}±7^{km},mb4.4/16, Error ellipse: s-maj=10.6km s-min=6.8km az=92.0*

ISC 30 00:25:57.0±0.8**,13.09N**±0.06×**143.98E**±0.09**,h140**^{km}±7^{km}**, n39,**σ1^{s}**04**/37**,mb4.2**/30**,South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	Guam	1.00	60	*e*Pg	P	00 26 22.6	+1.7
GUMO				*e*Sg	S	00 26 37.3	-2.0
JOW	Kunigami	20.10	315	P	P	00 30 22.1	+0.4
	19nm,0.6s,baz=146,slow=15,SNR=5.4						
PMG	Port Moresby	22.57	172	P	P	00 30 47.0	+0.8
	12nm,0.9s,mb4.3						
MAJO	Matsushiro	23.93	348	*e*P	P	00 31 00.2	+1.0
	8.3nm,0.6s,mb4.4						
KS15	Wonju Array Si	28.20	332	P	P	00 31 39.9	+1.2
CTA	Charters Tower	33.04	176	P	P	00 32 20.1	-1.2
	1.8nm,0.6s,mb4.0,baz=346,slow=11,SNR=3.0						
CTAO	Charters Tower	33.04	176	P	P	00 32 21.5	+0.2
	2.8nm,0.8s,mb4.0						
MDJ	Mudanjiang	33.75	341	P	P	00 32 27.0	-0.1
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.7s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,70nm,5.0s						
WRAB	Tennant Creek	34.15	196	*e*P	P	00 32 30.7	-0.1
	comp=Z,10nm,0.8s,mb4.6						
WRA	Warramunga Arr	34.16	196	P	P	00 32 30.8	0.0
	comp=Z,4.0nm,0.6s,mb4.3,baz=16,slow=9.3,SNR=52						
CN2	Changchun	34.51	336	*e*P	P	00 32 35.3	+1.8
FITZ	Fitzroy Crossi	35.89	211	P	P	00 32 45.5	0.0

	comp=Z,1.3nm,0.6s,mb3.7,baz=29,slow=7.5,SNR=2.4						
ASAR	**Alice Springs**	**37.83**	**195**	P	**P**	**00 33 02.4**	**+0.7**
	comp=Z,1.1nm,0.5s,mb3.8,baz=19,slow=12,SNR=12						
KMI	**Kunming**	**40.62**	**293**	eP	**P**	**00 33 25.0**	**+0.3**
KMI				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.3						
KMI	**Kunming**	**40.62**	**293**	eP	**P**	**00 33 25.0**	**+0.3**
	comp=Z,6.0nm,0.8s,mb4.3						
MBWA	**Marble Bar**	**41.54**	**215**	P	**P**	**00 33 32.0**	**-0.5**
	comp=Z,1.1nm,0.6s,mb3.7						
CMAR	**Chiang Mai Arr**	**43.59**	**283**	P	**P**	**00 33 49.3**	**+0.2**
	comp=Z,0.8nm,0.4s,mb3.8,baz=99,slow=6.1,SNR=4.1						
CMAR				PcP	PcP	00 35 34.9	+0.2
	comp=Z,0.8nm,0.4s,baz=74,slow=2.6,SNR=4.6						
STKA	**Stephens Creek**	**44.76**	**183**	P	**P**	**00 33 57.8**	**-0.6**
	comp=Z,0.6nm,0.3s,mb3.6,baz=3.4,slow=10,SNR=4.6						
MKAR	**Makanchi Array**	**61.26**	**316**	P	**P**	**00 35 59.2**	**-0.3**
	comp=Z,3.1nm,0.7s,mb4.2,baz=96,slow=8.5,SNR=18						
KURK	**Kurchatov**	**64.42**	**320**	eP	**P**	**00 36 19.1**	**-1.3**
	comp=Z,4.5nm,0.6s,mb4.5						
ILAR	**Eielson Array**	**69.39**	**25**	P	**P**	**00 36 49.0**	**-2.4**
	comp=Z,0.8nm,0.8s,mb3.5,baz=250,slow=5.6,SNR=9.2						
BVAR	**Borovoye Array**	**69.79**	**322**	P	**P**	**00 36 53.4**	**-0.5**
	comp=Z,3.4nm,0.3s,mb4.5,baz=105,slow=8.5,SNR=40						
BRVK	**Borovoye**	**69.86**	**322**	eP	**P**	**00 36 53.8**	**-0.5**
	comp=Z,3.8nm,0.6s,mb4.3						
ZRNK	**Zerenda**	**70.62**	**322**	P	**P**	**00 36 57.7**	**-1.2**
	comp=Z,2.6nm,0.8s,mb4.0						
INK	**Inuvik**	**75.16**	**22**	eP	**P**	**00 37 24.4**	**-0.7**
	comp=Z,6.0nm,1.0s,mb4.2						
YKA	**Yellowknife Ar**	**83.70**	**27**	P	**P**	**00 38 08.9**	**-2.0**
	comp=Z,1.6nm,0.7s,mb3.9,baz=283,slow=5.0,SNR=3.7						
RES	**Resolute Bay**	**85.24**	**13**	P	**P**	**00 38 18.4**	**0.0**
	comp=Z,2.8nm,0.6s,mb4.2						
CMB	**Columbia Colle**	**86.41**	**52**	eP	**P**	**00 38 24.5**	**-0.5**
	comp=Z,2.2nm,0.7s,mb4.0						
ARCES	**ARCESS Array B**	**87.30**	**342**	P	**P**	**00 38 28.5**	**0.0**
	comp=Z,1.4nm,0.8s,mb3.9,baz=37,slow=6.1,SNR=4.5						
NVAR	**Mina Array Bea**	**87.91**	**51**	P	**P**	**00 38 33.6**	**+1.4**
	comp=Z,5.1nm,0.5s,mb4.6,baz=267,slow=4.2,SNR=33						
TPH	**Tonopah**	**88.82**	**51**	eP	**P**	**00 38 37.8**	**+1.3**
	comp=Z,7.5nm,0.6s,mb4.8						
HLID	**Hailey**	**89.31**	**45**	eP	**P**	**00 38 40.1**	**+1.5**
	comp=Z,3.7nm,0.9s,mb4.3						
TPNV	**Topopah Spring**	**89.87**	**52**	eP	**P**	**00 38 42.9**	**+1.4**
	comp=Z,8.1nm,0.7s,mb4.8						
FINES	**FINESS Array B**	**91.25**	**335**	P	**P**	**00 38 46.0**	**-1.3**
	comp=Z,0.6nm,0.5s,mb3.9,baz=76,slow=7.9,SNR=7.7						
HWUT	**Hardware Ranch**	**91.92**	**47**	eP	**P**	**00 38 50.1**	**-0.8**
	comp=Z,4.0nm,1.0s,mb4.4						
PDAR	**Pinedale Array**	**92.93**	**45**	P	**P**	**00 38 56.0**	**+0.5**
	comp=Z,0.9nm,0.6s,mb4.1,baz=277,slow=1.6,SNR=7.3						
KIC	**Kosan Boka**	**143.41**	**300**	eP	PKPbc	00 45 14.6	+0.3
	comp=Z,210nm,2.0s						
TIC	**Toumodi**	**143.50**	**301**	eP	PKPbc	00 45 11.3	-3.3
	comp=Z,8.2nm,0.2s						
LIC	**Lamto**	**143.73**	**300**	eP	PKPbc	00 45 15.5	+0.2
	comp=Z,59nm,1.4s						

IDC 30 00:28:27.2±13.0**, 30.05S**×**178.46W, h177**^{km}±120^{km}**, mb3.2**/2**, mb1 3.4**/3**, mb1mx3.3**/10**, Error ellipse: s-maj=105.0km s-min=60.2km az=11.0, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**8.97**	**203**	P	P	00 30 33.9	-0.3
	0.3nm,0.3s,baz=327,slow=17,SNR=1.8						
URZ				S	S	00 32 12.1	-1.2
	1.2nm,0.3s,baz=212,slow=16,SNR=4.8						
ASAR	**Alice Springs**	**42.73**	**267**	P	P	00 36 07.2	-1.4
	0.4nm,0.4s,baz=105,slow=7.0,SNR=4.4						
WRA	**Warramunga Arr**	**43.69**	**272**	P	P	00 36 14.7	-1.6
	0.5nm,0.4s,baz=110,slow=8.0,SNR=6.4						
FINES	**FINESS Array B**	**144.68**	**340**	PKP	PKPdf	00 47 41.0	-0.8
	0.6nm,0.3s,baz=45,slow=3.9,SNR=12						

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*IDC **30** 00:35:14.1±6.0, 21.00S×178.70W, h575^{km}±69^{km}, mb3.2/8, mb1 3.5/8, mb1mx3.4/13, Error ellipse: s-maj=93.2km s-min=28.7km az=155.0*

*NEIC **30** 00:35:15.3±4.2, 21.01S×178.76W, h590^{km}±49^{km}, mb4.0/7, Error ellipse: s-maj=21.3km s-min=18.0km az=77.0*

ISC 30 00:35:14.2±0.7**, 21.0S**±0.2×**178.8W**±0.1**, h590**^{km}**, n23,** σ**0**^{s}**55**/20**, mb3.8**/12**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**32.70**	**265**	eP	**P**	**00 41 01.7**	**+1.0**
	2.2nm,0.3s,mb4.3						
CTA	**Charters Tower**	**32.70**	**265**	P	**P**	**00 41 01.3**	**+0.6**
	3.3nm,0.3s,mb4.4,baz=90,slow=11,SNR=9.3						
CTAO	**Charters Tower**	**32.70**	**265**	eP	**P**	**00 41 01.2**	**+0.5**
	3.6nm,0.4s,mb4.3						
STKA	**Stephens Creek**	**36.88**	**245**	P	**P**	**00 41 35.5**	**+0.3**
	1.5nm,0.4s,mb3.9,baz=103,slow=11,SNR=5.0						
ASAR	**Alice Springs**	**43.67**	**257**	P	**P**	**00 42 29.8**	**+0.1**
	3.9nm,0.5s,mb4.2,baz=97,slow=7.9,SNR=80						
ASPA	**Alice Springs**	**43.67**	**257**	eP	**P**	**00 42 29.9**	**+0.3**
WB2	**Warramunga Arr**	**43.78**	**263**	eP	**P**	**00 42 30.1**	**-0.4**
WRAB	**Tennant Creek**	**43.78**	**263**	eP	**P**	**00 42 29.7**	**-0.8**
	2.9nm,0.6s,mb4.0						
WRA	**Warramunga Arr**	**43.79**	**263**	P	**P**	**00 42 30.4**	**-0.2**
	1.2nm,0.3s,mb3.9,baz=96,slow=7.4,SNR=49						
KAKA	**Kakadu**	**47.28**	**272**	eP	**P**	**00 43 01.9**	**+4.5**
	11nm,1.4s,mb4.2						
FITZ	**Fitzroy Crossi**	**52.22**	**263**	eP	**P**	**00 43 34.1**	**+0.6**
	6.1nm,1.7s,mb3.6						
FITZ	**Fitzroy Crossi**	**52.22**	**263**	P	**P**	**00 43 33.7**	**+0.2**
	1.2nm,0.7s,mb3.4,baz=88,slow=4.2,SNR=7.4						
MBWA	**Marble Bar**	**57.01**	**258**	eP	**P**	**00 44 06.6**	**-0.2**
	1.8nm,0.5s,mb3.6						
SBA	**Scott Base**	**57.28**	**184**	P	**P**	**00 44 08.3**	**+0.3**
	0.8nm,0.5s,mb3.2						
QSPA	**South Pole Qui**	**69.03**	**180**	eP	**P**	**00 45 22.0**	**-0.6**
NVAR	**Mina Array Bea**	**81.93**	**44**	P	**P**	**00 46 34.7**	**+0.6**
	0.7nm,0.5s,mb3.5,baz=219,slow=7.1,SNR=5.4						
NVAR	**Mina Array Bea**	**81.93**	**44**	P	**P**	**00 46 34.7**	**+0.6**
MCK	**McKinley**	**87.66**	**13**	P	**P**	**00 47 02.0**	**+0.6**
ILAR	**Eielson Array**	**89.01**	**13**	P	**P**	**00 47 06.5**	**-1.2**
	0.4nm,0.5s,mb3.5,baz=215,slow=5.3,SNR=4.6						
PDAR	**Pinedale Array**	**89.87**	**44**	P	**P**	**00 47 12.2**	**0.0**
	0.7nm,0.6s,mb3.7,baz=221,slow=2.9,SNR=6.0						
AKASG	**Malin Array Be**	**143.12**	**330**	PKP	PKPdf	00 53 40.9	-0.3
	2.0nm,0.4s,baz=43,slow=4.2,SNR=19						
BRTR	**Keskin Array B**	**146.64**	**311**	PKPbc	PKPbc	00 53 52.8	+3.1
	0.5nm,0.5s,baz=149,slow=3.8,SNR=3.6						
GERES	**GERESS Array B**	**150.51**	**343**	PKPbc	PKPdf	00 54 01.0	+7.6
	1.1nm,0.9s,slow=1.3,SNR=6.7						

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*NEIC **30** 00:48:38.2, 38.85N×21.16E, h5^{km}, MD3.3(ATH), After ATH.*

*ATH **30** 00:48:38.2, 38.84N×21.16E, h5^{km}, MD3.3/7*

*THE **30** 00:48:39.1, 38.87N×21.17E, h10^{km}, ML3.0*

ISC 30 00:48:38.3±0.8**, 38.86N**±0.03×**21.18E**±0.04**, h2**^{km}±7^{km}**, n26,** σ**0**^{s}**96**/33**, Greece**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LKD	**Levkas**	**0.44**	**249**	ePg	**Pg**	**00 48 46.9**	**-0.2**
LKD				eSg	**Sg**	**00 48 54.5**	**+1.5**
EVR	**Evrytania**	**0.50**	**84**	ePB	**Pb**	**00 48 48.3**	**-1.1**
VLS	**Valsamata**	**0.82**	**214**	ePB	**Pb**	**00 48 52.7**	**-2.3**
VLS				eSB	**Sb**	**00 49 06.2**	**-0.2**
VLS	**Valsamata**	**0.82**	**214**	ePb	**Pb**	**00 48 52.9**	**-2.1**
VLS				eSb	**Sb**	**00 49 06.5**	**+0.1**
JAN	**Janina**	**0.83**	**342**	ePB	**Pb**	**00 48 54.8**	**-0.3**
RLS	**Riolos of Patr**	**0.84**	**164**	ePB	**Pb**	**00 48 54.0**	**-1.2**
AGG	**Agios Georgios**	**0.91**	**80**	ePg	**Pg**	**00 48 56.3**	**-0.3**
	comp=Z,12nm,0.5s						
IGT	**Igoumenitsa**	**0.94**	**316**	ePg	**Pg**	**00 48 56.6**	**-0.4**
IGT				eSg	**Sg**	**00 49 10.2**	**+0.7**
LSK	**Leskovik**	**1.36**	**341**	ePn	**Pn**	**00 49 04.5**	**+0.2**
LSK				i Sn	**Sn**	**00 49 27.2**	**+4.0**
SRN	**Sarande**	**1.36**	**318**	ePn	**Pn**	**00 49 04.1**	**-0.3**
SRN				i Sn	**Sn**	**00 49 24.1**	**+0.8**
KEK	**Kerkira**	**1.36**	**309**	ePB	**Pb**	**00 49 04.0**	**-0.3**
LKR	**Lokris**	**1.44**	**98**	ePB	**Pb**	**00 49 05.9**	**+0.3**
XOR	**Xorichti**	**1.65**	**72**	ePb	**Pb**	**00 49 08.9**	**-0.2**
NEO	**Neokhori**	**1.65**	**74**	ePB	**Pb**	**00 49 09.8**	**+0.6**
ITM	**Ithomi**	**1.78**	**160**	ePN	**Pn**	**00 49 12.2**	**+1.8**
ITM	**Ithomi**	**1.78**	**160**	ePn	**Pn**	**00 49 12.7**	**+2.3**
VLI	**Veliai**	**2.56**	**146**	ePN	**Pn**	**00 49 23.4**	**+1.9**
VLI	**Veliai**	**2.56**	**146**	ePn	**Pn**	**00 49 23.0**	**+1.5**
OUR	**Ouranopolis**	**2.62**	**55**	ePn	**Pn**	**00 49 22.1**	**-0.2**
SRS	**Serrai**	**2.92**	**39**	ePn	**Pn**	**00 49 28.0**	**+1.4**
SLCN	**Sala Consilina**	**4.54**	**291**	ePn	**Pn**	**00 49 49.7**	**0.0**
MRLC	**Muro Lucano**	**4.77**	**295**	ePn	**Pn**	**00 49 52.9**	**-0.1**
STON	**Ston**	**4.79**	**328**	i Pn	**Pn**	**00 49 49.9**	**-3.3**
STON				i Sn	**Sn**	**00 50 41.8**	**-8.5**
SGO	**Sicignano**	**4.83**	**292**	ePn	**Pn**	**00 49 52.9**	**-0.9**
SGG	**Gregorio Mates**	**5.79**	**298**	ePn	**Pn**	**00 50 07.2**	**0.0**
CII	**Carovilli**	**5.98**	**301**	ePn	**Pn**	**00 50 09.3**	**-0.7**

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*IDC **30** 00:57:44.0±1.7, 48.28N×154.70E, mb3.6/8, mb1 3.8/8, mb1mx3.7/23, Error ellipse: s-maj=57.5km s-min=25.2km az=88.0*

*MOS **30** 00:57:49.9±3.0, 48.35N×154.35E, h51^{km}, mb4.0/4, Error ellipse: s-maj=38.1km s-min=16.5km az=71.5*

ISC 30 00:57:45.5±3.9**, 48.3N**±0.1×**154.9E**±0.2**, h24**^{km}±28^{km}**, n15,** σ**0**^{s}**70**/17**, mb3.7**/8**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.50**	**19**	ePN	**Pn**	**00 58 25.9**	**+0.3**
SKR				eS	**Sn**	**00 58 55.4**	**-0.3**
SKR				pmax	pmax		
	comp=N,80nm,0.5s						
SKR				pmax	pmax		
	comp=Z,90nm,0.5s						
SKR				pmax	pmax		
	comp=E,40nm,0.4s						
SKR				smax			
	comp=N,250nm,0.4s						
SKR				smax			
	comp=E,360nm,0.4s						
SKR				smax			
	comp=Z,120nm,0.4s						
PET	**Petropavlovsk**	**5.29**	**26**	ePN	**Pn**	**00 59 15.0**	**+10**
PET				pmax	pmax		
	comp=Z,29nm,0.9s						
PET				MLR	MLR		
	comp=Z,71nm,16.0s						
KUR	**Kuril'sk**	**5.71**	**240**	ePN	**Pn**	**00 59 11.0**	**-0.1**
KUR				eS	**Sn**	**01 00 17.0**	**+0.4**
KUR				smax			
	comp=E,140nm,0.9s						
MKAR	**Makanchi Array**	**47.28**	**297**	P	**P**	**01 06 17.0**	**-1.4**
	comp=E,1.2nm,0.7s,mb4.0,baz=68,slow=7.8,SNR=3.9						
MKAR	**Makanchi Array**	**47.28**	**297**	P	**P**	**01 06 17.0**	**-1.5**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BVAR	**Borovoye Array**	**50.78**	**309**	P	**P**	**01 06 44.7**	**-0.6**
	comp=Z,0.6nm,0.5s,mb3.8,baz=72,slow=9.4,SNR=3.8						
CMAR	**Chiang Mai Arr**	**53.89**	**257**	P	**P**	**01 07 09.4**	**+0.4**
	comp=Z,0.6nm,0.5s,mb3.8,baz=36,slow=8.8,SNR=4.8						
CMAR	**Chiang Mai Arr**	**53.89**	**257**	P	**P**	**01 07 09.4**	**+0.4**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	**FINESS Array B**	**63.12**	**335**	P	**P**	**01 08 13.0**	**+0.1**
	comp=Z,0.7nm,0.6s,mb4.0,baz=45,slow=7.9,SNR=4.2						
FINES	**FINESS Array B**	**63.12**	**335**	P	**P**	**01 08 13.0**	**+0.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA	**NORSAR Array B**	**67.12**	**342**	P	**P**	**01 08 39.4**	**+0.8**
	comp=Z,0.3nm,0.5s,mb3.6,baz=42,slow=6.7,SNR=3.1						
WRA	**Warramunga Arr**	**70.39**	**200**	P	**P**	**01 08 58.4**	**-1.1**
	comp=Z,0.5nm,0.8s,mb3.5,baz=15,slow=6.4,SNR=3.0						
WRA	**Warramunga Arr**	**70.39**	**200**	P	**P**	**01 08 58.4**	**-1.1**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ASAR	**Alice Springs**	**74.08**	**200**	P	**P**	**01 09 21.6**	**+0.4**
	comp=Z,0.2nm,0.4s,mb3.4,baz=14,slow=6.0,SNR=4.8						
GERES	**GERESS Array B**	**77.55**	**335**	P	**P**	**01 09 41.5**	**+1.0**
	comp=Z,0.3nm,0.7s,mb3.4,baz=34,slow=4.8,SNR=5.8						

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*PRU **30** 01:06:33.2, 51.44N×16.14E*

*WAR **30** 01:06:33.6, 51.47N×16.11E, ML2.7, Mining Induced*

ISC 30 01:06:31.9±1.4**, 51.42N**±0.06×**16.04E**±0.07**, n9,** σ**1**^{s}**09**/16**, Poland**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.60**	**165**	ePG	**Pg**	**01 06 45.0**	**+1.1**
KSP				eSG	**Sg**	**01 06 53.0**	**+1.1**
UPC	**Upice**	**0.91**	**181**	ePG	**Pg**	**01 06 51.5**	**+1.3**
DPC	**Dobruska-Polom**	**1.08**	**170**	ePG	**Pg**	**01 06 53.5**	**-0.1**
DPC				eSG	**Sg**	**01 07 08.5**	**+0.5**
	4.9nm,0.2s						
PVCC	**Panska Ves**	**1.29**	**227**	ePG	**Pg**	**01 06 58.4**	**+0.7**
PRU	**Pruhonice**	**1.72**	**214**	PG	**Pg**	**01 07 05.4**	**-0.9**
PRU				i x	x	01 07 08.9	
PRU				i x	x	01 07 21.6	
PRU				SG	**Sg**	**01 07 29.5**	**+0.3**
	3.7nm,0.4s						
CLL	**Collm**	**1.91**	**268**	ePG	**Pg**	**01 07 11.0**	**+1.0**
CLL				eSG	**Sg**	**01 07 35.0**	**-0.5**
OKC	**Ostrava-Krasne**	**2.07**	**139**	eSG	**Sg**	**01 07 38.6**	**-2.4**
NKC	**Novy Kostel**	**2.57**	**244**	ePG	**Pg**	**01 07 22.6**	**-0.6**
NKC				eSG	**Sg**	**01 07 58.3**	**+0.8**
KHC	**Kasperske Hory**	**2.78**	**216**	ePN	**Pn**	**01 07 18.7**	**+0.2**
KHC				ePG	**Pg**	**01 07 25.0**	**-2.5**
KHC				eSG	**Sg**	**01 08 03.3**	**-1.3**

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*IDC **30** 01:07:44.1±2.4, 10.66S×113.77E, mb3.5/4, mb1 3.7/5, mb1mx3.6/15, ML3.2/1, Error ellipse: s-maj=117.0km s-min=21.3km az=46.0*

*DJA **30** 01:07:44.3±1.1, 10.83S×113.85E, h2^{km}, MD5.1/1, ML4.9/2, Error ellipse: s-maj=33.4km s-min=24.1km az=144.0*

*NEIC **30** 01:07:50.9±1.1, 10.45S×114.00E, h40^{km}, mb3.8/1, Error ellipse: s-maj=22.0km s-min=12.8km az=60.0*

ISC 30 01:07:44.4±3.6**, 10.84S**±0.08×**114.0E**±0.1**, h29**^{km}±29^{km}**, n13,** σ**1**^{s}**06**/17**, mb3.5**/5**, 6D, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
INGI	**Ingas**	**2.32**	**30**	⇓ePn	**Pn**	**01 08 21.8**	**+0.3**
	490nm,0.2s						
INGI				⇓eSn	**Sn**	**01 08 48.5**	**-0.9**
RATI	**Rata**	**2.61**	**36**	⇓ePn	**Pn**	**01 08 25.5**	**-0.1**
	682nm,0.3s						
RATI				⇓eSn	**Sn**	**01 08 56.8**	**+0.1**
KELI	**Kelakatan**	**2.66**	**11**	⇓ePn	**Pn**	**01 08 26.1**	**-0.2**
KEDI	**Kedomdong**	**3.16**	**42**	⇓ePn	**Pn**	**01 08 33.8**	**+0.4**
MBWA	**Marble Bar**	**11.66**	**152**	eP	**P**	**01 10 30.4**	**-1.7**
MBWA				eS	**S**	**01 12 32.6**	**-10**
FITZ	**Fitzroy Crossi**	**13.41**	**124**	Pn	**P**	**01 10 58.3**	**+2.9**
	0.1nm,0.3s,baz=286,slow=18,SNR=3.2						
FITZ				Sn	**S**	**01 13 18.0**	**-6.3**
	0.1nm,0.3s,baz=192,slow=22,SNR=3.1						
WRA	**Warramunga Arr**	**21.61**	**117**	P	**P**	**01 12 39.7**	**+5.5**
	0.6nm,0.6s,mb3.2,baz=291,slow=11,SNR=4.7						
WRAB	**Tennant Creek**	**21.61**	**117**	P	**P**	**01 12 40.9**	**+6.6**
	2.1nm,0.6s,mb3.7						
ASAR	**Alice Springs**	**22.88**	**126**	P	**P**	**01 12 51.9**	**+4.9**
	0.6nm,0.8s,mb3.1,baz=303,slow=10,SNR=6.1						
CMAR	**Chiang Mai Arr**	**32.67**	**333**	P	**P**	**01 14 16.4**	**-0.1**
	0.7nm,0.5s,mb3.9,baz=167,slow=8.0,SNR=4.4						
ENH	**Enshi**	**41.10**	**354**	P	**P**	**01 15 30.4**	**+2.9**
MKAR	**Makanchi Array**	**63.98**	**336**	P	**P**	**01 18 17.4**	**0.0**
	0.6nm,0.5s,mb3.9,baz=143,slow=6.0,SNR=6.6						
KURK	**Kurchatov**	**68.58**	**337**	P	**P**	**01 18 46.0**	**-0.6**

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*STR **30** 01:33:01.6±0.2, 44.46N×6.80E, h5^{km}±1^{km}, Ml1.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LDG **30** 01:33:01.3±0.1, 44.49N×6.81E, h5^{km}, Md1.8/1, Ml1.7/5, Error ellipse: s-maj=1.4km s-min=0.8km az=69.0*

ISC 30 01:33:00.3±0.5**, 44.48N**±0.02×**6.79E**±0.04**, h11**^{km}±6^{km}**, n14,** σ**0**^{s}**55**/27**, France**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SURF	**Saint Ours**	**0.02**	**88**	Pg	**Pg**	**01 33 02.8**	**+0.4**
SURF				Sg	**Sg**	**01 33 03.5**	**-0.3**
MBDF	**Montbardon**	**0.25**	**358**	ePg	**Pg**	**01 33 06.5**	**+0.9**
MBDF				eSg	**Sg**	**01 33 10.0**	**+0.8**
	17nm,0.2s						
OG25	**Le Caire**	**0.52**	**258**	Pg	**Pg**	**01 33 11.6**	**+0.7**
TOUF	**Mont Tournerai**	**0.57**	**144**	Pg	**Pg**	**01 33 12.3**	**+0.4**
TOUF				Sg	**Sg**	**01 33 19.8**	**+0.1**
AUTN	**L'Aution**	**0.67**	**136**	Pg	**Pg**	**01 33 14.1**	**+0.3**
AUTN				Sg	**Sg**	**01 33 23.8**	**+1.0**
AURF	**Auriere**	**0.71**	**146**	Pg	**Pg**	**01 33 15.1**	**+0.5**
AURF				Sg	**Sg**	**01 33 23.5**	**-0.7**
SAOF	**Saorge**	**0.74**	**131**	Pg	**Pg**	**01 33 15.3**	**+0.1**
SAOF				Sg	**Sg**	**01 33 24.9**	**-0.3**
SBF	**Sospel**	**0.77**	**143**	ePg	**Pg**	**01 33 15.7**	**-0.2**
SBF				eSg	**Sg**	**01 33 26.0**	**-0.3**
	2.4nm,0.2s						
ORIF	**Oris-en-Rattie**	**0.78**	**304**	ePg	**Pg**	**01 33 15.6**	**-0.4**
ORIF				eSg	**Sg**	**01 33 26.0**	**-0.5**
	1.9nm,0.2s						
FRF	**La Foret Royal**	**0.93**	**186**	ePg	**Pg**	**01 33 18.8**	**-0.1**
FRF				eSg	**Sg**	**01 33 30.8**	**-0.5**
	1.9nm,0.2s						
SMRF	**Simiane la Rot**	**1.01**	**240**	ePn	**Pn**	**01 33 20.9**	**+0.7**
SMRF				eSg	**Sg**	**01 33 34.6**	**+0.6**
	1.9nm,0.2s						
LPG	**La Plagne**	**1.02**	**359**	ePg	**Pg**	**01 33 20.7**	**0.0**
LPG				eSg	**Sg**	**01 33 33.7**	**-0.7**
	0.9nm,0.2s						
LPL	**La Plagne**	**1.04**	**358**	ePg	**Pg**	**01 33 20.8**	**-0.3**
LPL				eSg	**Sg**	**01 33 34.2**	**-0.8**
	0.8nm,0.2s						
LMR	**La Mourre**	**1.16**	**190**	ePg	**Pg**	**01 33 23.4**	**-0.2**
LMR				eSg	**Sg**	**01 33 38.1**	**-1.1**
	3.1nm,0.2s						

IDC 30 01:36:53.5±24.0**, 45.31N**×**149.98E, h174**^{km}±226^{km}**, mb3.0**/6**, mb1 3.3**/6**, mb1mx3.2**/20**, MS3.1**/1**, Ms1 3.1**/1**, ms1mx2.5**/7**, 1C-2D, Error ellipse: s-maj=41.6km s-min=22.4km az=115.0, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAJ	**Asahikawa**	**5.39**	**260**	LR	LR	01 40 21.7	
	comp=Z,183nm,18.5s,baz=61,slow=39						
SONM	**Songino Array**	**29.77**	**291**	pP	pP	01 43 18.9	-2.8
	4.3nm,0.8s,baz=67,slow=11,SNR=3.7						
ILAR	**Eielson Array**	**39.03**	**37**	P	P	01 44 02.7	-1.6
	0.3nm,0.8s,baz=276,slow=9.1,SNR=4.4						
FINES	**FINESS Array B**	**64.39**	**334**	P	P	01 47 10.3	-2.0
	0.5nm,0.5s,baz=22,slow=7.5,SNR=4.1						
NVAR	**Mina Array Bea**	**65.04**	**60**	P	P	01 47 15.5	-1.4
	0.5nm,0.7s,baz=309,slow=5.7,SNR=4.2						
WRA	**Warramunga Arr**	**66.48**	**196**	P	P	01 47 23.9	-2.5
	0.3nm,0.7s,baz=12,slow=6.6,SNR=3.4						
PDAR	**Pinedale Array**	**67.36**	**52**	P	P	01 47 29.6	-1.9
	0.3nm,0.5s,baz=315,slow=2.6,SNR=3.6						
ASAR	**Alice Springs**	**70.19**	**196**	P	P	01 47 47.6	-1.5
	0.3nm,0.6s,baz=5.4,slow=5.6,SNR=3.9						
VNA2	**Neumayer--Watz**	**152.04**	**196**	⇓i	PKPdf	01 56 30.2	+11
VNA3	**Neumayer Olymp**	**152.19**	**194**	⇑i	PKPdf	01 56 28.5	+8.8
VNA1	**Neumayer--Stat**	**152.43**	**195**	⇓i	PKPdf	01 56 29.4	+9.3

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*NIED **30** 01:37:00, 43.30N×146.90E, h35^{km}, Mw4.2 Best double couple: M$_0$1.9×10^{15} NP1:ϕ$_s$18°, δ63°, λ64°. NP2:ϕ$_s$246°, δ37°, λ131°.*

*MOS **30** 01:37:45.2±1.8, 43.23N×146.94E, h33^{km}, mb4.6/5, Error ellipse: s-maj=35.7km s-min=15.2km az=122.9*

*JMA **30** 01:37:46.9±0.4, 43.27N×146.85E, h39^{km}±4^{km}, M4.0*

*SKHL **30** 01:37:47.3±2.0, 43.10N×146.30E, h33^{km}, mb5.7/1*

*IDC **30** 01:37:53.7±3.6, 43.36N×146.53E, h87^{km}±31^{km}, mb3.6/8, mb1 3.8/9, mb1mx3.6/22, MS3.3/2, Ms1 3.4/2, ms1mx2.6/37, Error ellipse: s-maj=27.4km s-min=20.7km az=96.0*

ISC 30 01:37:46.8±1.5**, 43.39N**±0.08×**146.9E**±0.1**, h43**^{km}±12^{km}**, n50,** σ**0**^{s}**90**/37**, mb4.0**/10**, MS3.4**/3**, 10C-9D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**0.86**	**269**	P	**P**	**01 38 02.0**	**-0.6**
NEM2				eS	**S**	**01 38 13.2**	**-1.0**
YUK	**Yuzh-Kuril'sk**	**1.00**	**310**	⇓iP	**P**	**01 38 04.0**	**-0.6**
YUK				⇓iP		01 38 04.0	
YUK				AMB	AMB	01 38 05.5	
	620nm,0.5s						
YUK				AMB	AMB	01 38 05.5	
	420nm,0.5s						
YUK				AMB	AMB	01 38 05.5	
	2µm,0.2s						
YUK				AMB	AMB	01 38 08.0	
	5µm,1.0s						
YUK				i S	**S**	**01 38 16.5**	**-1.4**
YUK				A		01 38 22.0	
	15µm,1.0s						
YUK				A		01 38 22.0	
	8µm,1.0s						
YUK				A		01 38 22.0	
	4µm,0.5s						
YUK	**Yuzh-Kuril'sk**	**1.00**	**310**	⇑iPN	**P**	**01 38 04.0**	**-0.6**
YUK				i S	**S**	**01 38 16.5**	**-1.4**
YUK				pmax	pmax		
	comp=Z,2µm,0.3s						
YUK				pmax	pmax		
	comp=Z,5µm,1.0s						
YUK				smax			
	comp=N,4µm,0.5s						
YUK				smax			
	comp=E,4µm,0.5s						
YUK				smax			
	comp=N,15µm,1.0s						
YUK				smax			
	comp=E,8µm,1.0s						
JRA	**Rausu**	**1.42**	**293**	P	**P**	**01 38 11.0**	**+0.4**
JNK	**Nakash**	**1.62**	**278**	P	**P**	**01 38 12.9**	**-0.5**
JNK				eS	**S**	**01 38 33.2**	**0.0**
JAK	**Akkeshi**	**1.68**	**257**	P	**P**	**01 38 13.9**	**-0.3**
KUR	**Kuril'sk**	**1.96**	**20**	eP	**P**	**01 38 25.0**	**+6.7**
JTKR	**Abashiri--Toko**	**2.26**	**286**	P	**P**	**01 38 23.2**	**+0.6**
JAR	**Ashorobuto**	**2.30**	**269**	P	**P**	**01 38 23.1**	**-0.1**
JAR				eS	**S**	**01 38 51.2**	**+0.8**
JOB	**Onbets**	**2.31**	**259**	P	**P**	**01 38 23.0**	**-0.3**
JMP	**Maruseppu**	**2.66**	**285**	P	**P**	**01 38 29.1**	**+0.9**
JCH	**Churui**	**2.73**	**255**	eS	**S**	**01 39 02.1**	**+0.9**
ASAJ	**Asahikawa**	**3.22**	**285**	P	**P**	**01 38 38.0**	**+1.9**
	comp=E,7.6nm,0.3s,baz=112,slow=13,SNR=12						
ASAJ	**Asahikawa**	**3.22**	**285**	PN	**P**	**01 38 38.1**	**+1.9**
ASAJ				pmax	pmax		
	comp=Z,8.0nm,0.3s						
YSS	**Yuzh-Sakhalins**	**4.62**	**322**	eP	**P**	**01 38 56.8**	**+0.7**
ILAR	**Eielson Array**	**41.88**	**36**	P	**P**	**01 45 37.2**	**+3.4**
	comp=Z,0.9nm,0.9s,mb3.4,baz=276,slow=8.1,SNR=8.4						
ILAR	**Eielson Array**	**41.88**	**36**	P	**P**	**01 45 37.3**	**+3.4**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
MKAR	**Makanchi Array**	**44.61**	**298**	P	**P**	**01 45 55.8**	**-0.5**
	comp=Z,6.7nm,1.1s,mb4.4,baz=77,slow=7.6,SNR=6.3						
MKAR	**Makanchi Array**	**44.61**	**298**	P	**P**	**01 45 55.8**	**-0.5**
MKAR				pmax	pmax		
	comp=Z,7.0nm,1.1s						
CMAR	**Chiang Mai Arr**	**47.27**	**254**	LR	LR	02 07 26.6	
	comp=Z,25nm,21.6s,MS3.1,baz=324,slow=38						
ARCES	**ARCESS Array B**	**59.53**	**340**	LR	LR	02 18 58.7	
	comp=Z,33nm,18.3s,MS3.5,baz=356,slow=42						
WRA	**Warramunga Arr**	**64.07**	**193**	P	**P**	**01 48 17.3**	**-1.3**
	comp=Z,0.9nm,1.1s,mb3.7,baz=12,slow=7.0,SNR=2.9						
WRA	**Warramunga Arr**	**64.07**	**193**	P	**P**	**01 48 17.3**	**-1.3**
WRA				pmax	pmax		
	comp=Z,1.0nm,1.1s						
KAF	**Kangasniemi**	**64.56**	**333**	ep	**P**	**01 48 15.8**	**-5.3**
	comp=Z,1.7nm,0.8s,mb4.1						
KAF	**Kangasniemi**	**64.56**	**333**	eP	**P**	**01 48 15.8**	**-5.3**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
FINES	**FINESS Array B**	**65.12**	**333**	P	**P**	**01 48 24.1**	**-0.7**
	comp=Z,3.0nm,0.7s,mb4.4,baz=44,slow=7.4,SNR=10						
FINES	**FINESS Array B**	**65.12**	**333**	P	**P**	**01 48 24.1**	**-0.7**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ASAR	**Alice Springs**	**67.79**	**193**	P	**P**	**01 48 42.0**	**-0.3**
	comp=Z,0.7nm,0.8s,mb3.7,baz=13,slow=7.4,SNR=6.7						
ASAR				pP	pP	01 48 56.0	+1.1
	comp=Z,0.3nm,0.7s,baz=13,slow=6.3,SNR=3.7						
NVAR	**Mina Array Bea**	**67.91**	**58**	P	**P**	**01 48 43.8**	**+1.0**
	comp=Z,0.4nm,0.7s,mb3.6,baz=297,slow=8.1,SNR=2.8						
NVAR				pP	pP	01 48 59.1	+3.7
	comp=Z,0.8nm,0.8s,baz=288,slow=9.7,SNR=4.3						
NB2	**NORSAR Subarra**	**69.88**	**339**	P	**P**	**01 48 54.1**	**-0.4**
	comp=Z,4.9nm,0.8s,mb4.5,baz=32,slow=6.2						
NOA	**NORSAR Array B**	**69.88**	**339**	P	**P**	**01 48 54.1**	**-0.5**
	comp=Z,4.2nm,0.8s,mb4.4,baz=33,slow=6.1,SNR=18						
NOA	**NORSAR Array B**	**69.88**	**339**	P	**P**	**01 48 54.1**	**-0.4**
NOA				pmax	pmax		

	comp=Z,4.0nm,0.8s						
KIV	**Kislovodsk**	69.88	312	*e*P	P	01 48 56.2	+1.3
KIV				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
KIV				MLR	MLR		
	comp=N,19nm,18.0s						
KIV				MLR	MLR		
	comp=Z,36nm,18.0s,MS3.7						
AKASG	**Malin Array Be**	71.77	324	P	P	01 49 05.2	-1.0
	comp=Z,0.2nm,0.3s,mb3.5,baz=40,slow=5.8,SNR=8.2						
SNAA	**Sanae**	148.06	198	⇓*i*	PKPdf	01 57 30.5	+7.4
SNAA	**Sanae**	148.06	198	⇓*i*	PKPdf	01 57 30.5	+7.4
SNAA	**Sanae**	148.06	198	⇓*i*	PKPdf	01 57 30.5	+7.4
VNA2	**Neumayer--Watz**	149.59	196	⇑*i*	PKPdf	01 57 33.4	+7.9
VNA2	**Neumayer--Watz**	149.59	196	⇑*i*	PKPdf	01 57 33.4	+7.9
VNA2	**Neumayer--Watz**	149.59	196	⇓*i*	PKPdf	01 57 34.2	+8.7
VNA2	**Neumayer--Watz**	149.59	196	⇓*i*	PKPdf	01 57 34.2	+8.7
VNA3	**Neumayer Olymp**	149.78	195	⇑*i*	PKPdf	01 57 29.3	+3.5
VNA3	**Neumayer Olymp**	149.78	195	⇑*i*	PKPdf	01 57 29.3	+3.5
VNA3	**Neumayer Olymp**	149.78	195	⇑*i*	PKPdf	01 57 29.3	+3.5
VNA3	**Neumayer Olymp**	149.78	195	⇑*i*	PKPdf	01 57 35.0	+9.2
VNA3	**Neumayer Olymp**	149.78	195	⇑*i*	PKPdf	01 57 35.0	+9.2
VNA1	**Neumayer--Stat**	149.99	196	⇓*i*	PKPdf	01 57 33.0	+6.8
VNA1	**Neumayer--Stat**	149.99	196	⇓*i*	PKPdf	01 57 33.0	+6.8
VNA1	**Neumayer--Stat**	149.99	196	⇑*i*	PKPdf	01 57 34.0	+7.8
VNA1	**Neumayer--Stat**	149.99	196	⇑*i*	PKPdf	01 57 34.0	+7.8

CASC 30 01:59:22.5±1.5**,13.91N×90.58W,h96^{km}±7^{km},MD3.9, ML4.1,6C-4D,Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IXG	**Ixpaco**	0.29	24	⇑*e*P	P	01 59 36.3	-0.2
IXG				*e*S	S	01 59 47.4	+0.2
IXG				AML	AML	01 59 55.5	
	comp=E,9μm,0.5s						
CUSS	**Cusmapa**	0.61	90	*e*P	P	01 59 38.6	-0.4
CUSS				*e*S	S	01 59 51.0	-0.1
NBG	**Las Nubes**	0.71	18	⇑*e*P	P	01 59 40.4	+0.6
NBG				*e*S	S	01 59 54.3	+1.6
NBG				AML	AML	01 59 57.0	
	comp=E,4μm,0.4s						
RBDL	**Robledal**	0.89	77	*e*P	P	01 59 41.7	+0.1
RTR	**El Retiro**	0.90	91	⇑*e*P	P	01 59 42.2	+0.4
RTR				*e*S	S	01 59 58.7	+2.6
SBLS	**San Blas**	0.93	94	⇓*e*P	P	01 59 42.2	+0.2
SBLS				*e*S	S	01 59 57.6	+0.9
SNJE	**San Jose**	0.94	92	⇓*e*P	P	01 59 42.4	+0.2
SNJE				*e*S	S	01 59 58.7	+1.7
TP2	**Tecpan 2**	0.97	334	⇓*e*P	P	01 59 42.9	+0.4
TP2				*e*S	S	01 59 58.9	+1.5
TP2				AML	AML	02 00 00.4	
	comp=N,9μm,0.5s						
JAT	**Jato**	1.11	292	⇓*e*P	P	01 59 44.0	-0.1
JAT				*e*S	S	02 00 00.9	+0.6
JAT				AML	AML	02 00 02.3	
	comp=N,4μm,0.3s						
BOQS	**Boqueron**	1.27	98	⇑*e*P	P	01 59 46.0	-0.2
BOQS				*e*S	S	02 00 04.4	+0.6
MTO2	**Montecristo 2**	1.27	67	⇑*i*P	P	01 59 46.0	-0.2
MTO2				*e*S	S	02 00 04.8	+0.8
SNET	**Serv Nac Est T**	1.32	100	*i*	P	02 00 09.0	+22
	comp=Z,1μm,0.3s						
LFU	**La Fuente**	1.43	96	*e*P	P	01 59 48.2	+0.1
LFU				*e*S	S	02 00 07.8	+0.8
LBRS	**Las Brisas**	1.50	96	*e*P	P	01 59 49.0	+0.1
LFRS	**El Faro**	1.50	101	*e*P	P	01 59 48.6	-0.3
LFRS				*e*S	S	02 00 10.2	+1.7
LCBS	**La Ceiba**	1.57	99	*e*P	P	01 59 49.6	-0.2
LCBS				*e*S	S	02 00 09.8	-0.3
SNVI	**San Vicente**	1.71	100	⇑*e*P	P	01 59 51.9	+0.2
SNVI				*e*S	S	02 00 14.2	+1.1
BLLM	**Bellamira**	2.32	101	*e*P	P	02 00 03.5	+3.7
CNCH	**Conchagua**	2.74	103	*e*P	P	02 00 05.0	-0.6

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*IDC **30** 02:07:16.0±11.0,27.27N×54.04E,mb3.7/5,mb1 3.8/6, mb1mx3.6/22,ML3.7/1,Error ellipse: s-maj=212.0km s-min=32.4km az=178.0*
*KISR **30** 02:07:18.2±0.8,27.91N×54.16E,h7^{km}±999^{km},ML3.5*
*THR **30** 02:07:26.8±1.1,28.15N×54.13E,h14^{km}±11^{km},ML3.2*
ISC 30 02:07:17.2±0.9**,27.32N**±0.08×**54.00E**±0.05**,h10^{km},n20, σ1^{s}33**/26**,mb3.6**/4**,Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	1.32	317	*e*PG	Pg	02 07 45.6	+2.1
GHIR				AMP		02 08 11.5	
	comp=E,902nm,0.5s						
GHIR				AMP		02 08 15.8	
	comp=N,780nm,0.6s						
KRBR	**Kerman**	3.60	42	*e*PN	Pn	02 08 15.7	+1.5
KRBR				*e*SG	Sn	02 08 58.4	+1.2
KRBR				AMP		02 09 14.8	
	comp=N,58nm,0.4s						
KRBR				AMP		02 09 16.3	
	comp=E,68nm,0.5s						
NASN	**Na'in**	5.56	350	*e*PN	Pn	02 08 41.3	-0.8
QRN	**Al-Qurain**	5.56	286	*e*P	Pn	02 08 43.9	+1.8
QRN				*e*S	Sn	02 09 47.2	+0.4
KBD	**Kabd**	5.87	290	*e*P	Pn	02 08 46.9	+0.5
RDF	**Al-Radifah**	5.92	287	*e*P	Pn	02 08 49.1	+2.0
RDF				*e*S	Sn	02 09 55.8	0.0
RDF				AML	AML	02 09 58.9	
	comp=Z,9.9nm,0.4s						
UMR	**Umm Al-Rimmam**	5.97	293	*e*P	Pn	02 08 48.9	+1.1
MIB	**Mutribah**	6.36	294	*e*P	Pn	02 08 53.6	+0.3
MIB				*e*S	Sn	02 10 04.4	-2.4
MIB				AML	AML	02 10 08.3	
	comp=Z,19nm,0.5s						
ASAO	**Ashtian**	7.98	336	*e*PN	Pn	02 09 15.2	-0.8
MZLS	**Mizel**	8.58	250	P	P	02 09 25.3	+0.9
MZLS				S	Sn	02 10 59.1	-3.2
ARSS	**Ar Rass**	9.74	264	P	P	02 09 40.1	-0.4
AFFS	**'Afif**	10.48	254	P	P	02 09 51.5	+0.8
AFFS				S	S	02 11 45.7	-3.6
HILS	**Ha'il**	10.86	273	P	P	02 09 54.7	-1.0
KBRS	**Khaybar**	13.28	267	P	P	02 10 29.9	+1.4
ASF	**Jabal al Asfar**	15.62	292	Pn	P	02 10 56.8	-2.3
	comp=Z,0.3nm,0.3s,baz=288,slow=17,SNR=4.4						
BRTR	**Keskin Array B**	20.95	311	P	P	02 12 02.5	-0.1
	comp=Z,1.6nm,0.9s,baz=130,slow=12,SNR=4.6						
BVAR	**Borovoye Array**	28.43	21	P	P	02 13 12.3	-1.6
	comp=Z,0.3nm,0.3s,mb3.3,baz=202,slow=7.8,SNR=4.6						
MKAR	**Makanchi Array**	29.55	41	P	P	02 13 22.8	-1.3
	comp=Z,1.3nm,1.0s,mb3.6,baz=241,slow=9.4,SNR=2.8						
FINES	**FINESS Array B**	38.92	339	P	P	02 14 43.4	-1.2
	comp=Z,0.4nm,0.5s,mb3.5,baz=143,slow=9.5,SNR=7.4						
ARCES	**ARCESS Array B**	45.39	346	P	P	02 15 35.8	-1.4
	comp=Z,3.3nm,1.1s,mb4.1,baz=146,slow=9.8,SNR=3.7						

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*HEL **30** 02:29:36.2±0.2,67.82N×20.15E,ML1.7,ML1.0(UPP), ML1.5(BER),Explosion*
*BER **30** 02:29:36.9±4.4,67.80N×20.17E,ML1.5,Suspected explosion*
ISC 30 02:29:35.1±0.5**,67.81N**±0.03×**20.14E**±0.08**,n14,σ1^{s}03**/22**, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NIKU	**Nikkaluokta**	0.42	278	*i* P	Pg	02 29 43.3	-0.2
NIKU				*i* S	Sg	02 29 50.0	+0.9
DUNU	**Dundret**	0.71	166	*i* P	Pg	02 29 48.6	-0.7
DUNU				*i* S	Sg	02 29 58.1	-0.7
MASU	**Masugnsbyn**	0.80	116	*i* P	Pg	02 29 50.1	-0.9
KIF	**Kilpisjarvi**	1.22	11	*e*P	Pb	02 29 59.2	+0.4
KIF				*e*S	Sb	02 30 13.8	-1.2
KTK1	**Kautokeino**	1.66	42	*e*P	Pn	02 30 05.7	0.0
KTK1				*e*SN	Sn	02 30 30.0	+1.9
KTK1				AML	AML	02 30 32.8	
	comp=Z,5.6nm,0.3s						
TRO	**Tromso**	1.88	347	*e*P	Pn	02 30 08.1	-0.7
TRO				*e*SN	Sn	02 30 33.9	+0.3
TRO				AML	AML	02 30 35.8	
	comp=Z,5.1nm,0.6s						
SGF	**Sodankyl**	2.47	96	*e*P	Pn	02 30 18.2	+1.0
SGF				*e*S	Sn	02 30 49.0	+0.4
SGF				MSG		02 30 55.0	
	comp=Z,2.4nm,0.3s						
LOF	**Lofoten**	2.51	280	*e*	Sg	02 30 58.1	-0.5
LOF	**Lofoten**	2.51	280	*e*Sg	Sg	02 30 58.1	-0.5
MELS	**Mels**	2.66	252	*e*	Sn	02 30 58.3	+4.9
MOR8	**Moi Rana**	2.78	236	*e*SG	Sg	02 30 58.9	-8.7
MOR8				AML	AML	02 31 00.9	
	comp=Z,7.8nm,0.5s						
KEV	**Kevo**	3.17	49	*e*P	Pn	02 30 27.5	+0.3
KEV				*e*S	Sn	02 31 04.1	-2.2
KEV				MSG		02 31 13.8	
	comp=Z,2.0nm,0.3s						
OUL	**Oulu**	3.58	137	*e*P	Pn	02 30 35.3	+2.2
OUL				*e*SG	Sg	02 31 29.5	-4.9
NSS	**Namsos**	4.67	229	*e*SG	Sg	02 32 00.7	-10
NSS				AML	AML	02 32 02.7	
	comp=Z,1.8nm,0.3s						

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*NEIC **30** 02:43:32.9,32.68S×71.66W,h36^{km},MD3.5(GUC),After GUC.*
GUC 30 02:43:32.9±0.8**,32.68S×71.66W,h36^{km}±4^{km},MD3.5, ML2.6,1C-1D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LCCH	**Las Cruces**	0.80	175	⇑*i*P	P	02 43 47.7	0.0
LCCH				*i* S	S	02 43 59.0	+0.3
JACH	**Jahuel**	0.90	91	*i* P	P	02 43 50.1	+0.9
JACH				*i* S	S	02 44 02.1	+1.0
RCDM	**Rinconada Maip**	1.08	139	*e*P	P	02 43 52.9	+1.1
RCDM				*i* S	S	02 44 07.3	+1.5
RCDM				AMP		02 44 13.8	
	comp=E,130nm,0.1s						
TACH	**Talagante**	1.15	148	*e*P	P	02 43 53.7	+1.0
TACH				*i* S	S	02 44 08.9	+1.5
CLCH	**Cerro Calan**	1.19	128	*e*P	P	02 43 53.9	+0.6
CLCH				*i* S	S	02 44 10.3	+1.9
CLCH				AMP		02 44 12.8	
	comp=N,142nm,0.4s						
FCH	**Farellones**	1.32	120	⇓*i*P	P	02 43 56.3	+1.0
FCH				*i* S	S	02 44 14.5	+2.6
FCH				AMP		02 44 15.7	
	comp=E,141nm,0.2s						
CMCH	**Combarbala**	1.60	21	*e*P	P	02 44 00.4	+1.2
CMCH				*i* S	S	02 44 20.8	+2.0
CMCH				AMP		02 44 26.0	
	comp=E,375nm,0.6s						
SFDO	**San Fernando**	2.01	165	*e*P	P	02 44 05.5	+0.5
SFDO				*i* S	S	02 44 30.9	+1.8

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*NEIC **30** 03:10:05.0,16.45N×94.33W,h93^{km},MD3.8(MEX),After MEX.*
MEX 30 03:10:03.7±1.2**,16.54N×94.37W,h113^{km}±18^{km},MD3.8, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	0.74	318	*i* P	P	03 10 21.8	-1.1
CMIG				*i* S	S	03 10 35.1	-2.1
TUIG	**Tuzandepetl**	1.49	358	*i* P	P	03 10 27.4	-3.6
TUIG				*i* S	S	03 10 49.3	-2.2
HUIG	**Huatulco**	1.83	246	*i* P	P	03 10 32.6	-2.6
HUIG				*i* S	S	03 10 56.9	-2.0
CCIG	**Comitan**	2.16	96	*e*P	P	03 10 38.7	-0.7
CCIG				*i* S	S	03 11 04.7	-1.6
CCIG	**Comitan**	2.16	96	*e*P	P	03 10 38.7	-0.7
CCIG				*i* S	S	03 11 03.1	-3.2
OXX	**Oaxaca**	2.32	284	*i* P	P	03 10 42.2	+0.7
OXX				*i* S	S	03 11 09.8	-0.2
VHO	**Vista Hermosa**	2.32	284	*i* P	P	03 10 41.4	-0.3
VHO				*i* S	S	03 11 10.1	0.0
VHO	**Vista Hermosa**	2.32	284	*i* P	P	03 10 41.4	-0.3
VHO				*i* S	S	03 11 09.2	-1.0

JMA 30 03:27:08.5±0.1**,38.46N×142.16E,h50^{km}±1^{km},M3.6, 1C-5D,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIO	**Ouri**	0.64	270	⇓P	P	03 27 21.6	+0.1
JIO				S	S	03 27 30.5	-0.5
OFUJ	**Ofunato**	0.73	328	⇓P	P	03 27 22.8	+0.1
OFUJ				S	S	03 27 33.2	+0.1
JMK	**Ichinoseki**	0.88	304	⇓P	P	03 27 24.9	+0.1
JMK				S	S	03 27 36.8	-0.1
JOU	**Okura**	1.18	266	P	P	03 27 28.9	0.0
JOU				*e*S	S	03 27 43.8	-0.3
JOM	**Ohasama**	1.22	326	⇓P	P	03 27 29.6	+0.2
JOM				*e*S	S	03 27 44.9	-0.2
JMM	**Marumori**	1.23	242	⇑P	P	03 27 29.0	-0.6
JMM				*e*S	S	03 27 44.0	-1.4
JYK	**Kaneyama**	1.48	289	⇓P	P	03 27 33.2	-0.1
JYK				*e*S	S	03 27 51.2	-0.5
JFK	**Kawauchi**	1.49	223	P	P	03 27 32.6	-0.8
JFK				S	S	03 27 50.5	-1.4

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*JMA **30** 03:29:38.1±0.4,24.04N×121.08E,h92^{km},M3.0*
TAP 30 03:29:39.2,23.93N×121.13E,h12^{km}±1^{km},ML3.6, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	1.80	72	P	Pn	03 30 08.3	-2.0
YOJ				S	Sn	03 30 30.9	-2.3
IRIF	**Iriomote-Funau**	2.41	80	P	Pn	03 30 16.7	-2.4
IRIF				S	Sn	03 30 46.0	-2.8
HATJ	**Hateruma jima**	2.45	87	P	Pn	03 30 17.1	-2.6
HATJ				S	Sn	03 30 48.0	-1.8
JKRS	**Kuro-shima**	2.65	83	P	Pn	03 30 20.5	-2.0
JKRS				S	Sn	03 30 53.5	-1.4
JIJ	**Ishigaki jima**	2.79	80	P	Pn	03 30 21.5	-3.0
JIJ				S	Sn	03 30 54.1	-4.2
JTJ	**Tarama**	3.33	77	P	Pn	03 30 29.5	-2.8
JTJ				S	Sn	03 31 08.3	-3.9

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*PRU **30** 03:32:39.9,51.44N×16.11E*
*WAR **30** 03:32:39.5,51.50N×16.09E,ML2.7,Mining Induced*
ISC 30 03:32:38.3±1.2**,51.44N**±0.05×**16.02E**±0.06**,n9,σ1^{s}09**/19**, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	**Ksiaz**	0.62	164	*e*PG	Pg	03 32 52.0	+1.4
KSP				*e*SG	Sg	03 33 01.0	+2.1
UPC	**Upice**	0.93	180	*e*PG	Pg	03 32 57.8	+1.0
DPC	**Dobruska-Polom**	1.10	170	*e*PG	Pg	03 33 00.4	+0.1
DPC				*e*SG	Sg	03 33 15.5	+0.5
PVCC	**Panska Ves**	1.29	226	*e*PG	Pg	03 33 05.0	+0.9
PRU	**Pruhonice**	1.73	214	*e*PG	Pg	03 33 11.6	-1.2
PRU				*i* x	x	03 33 14.0	
PRU				*e*x	x	03 33 29.0	
PRU				*e*SG	Sg	03 33 35.0	-0.8
	5.4nm,0.4s						
CLL	**Collm**	1.90	267	*i* PN	Pn	03 33 12.2	0.0
CLL				*i* PG	Pg	03 33 15.2	-0.9
CLL				*i*		03 33 19.2	
CLL				*e*SG	Sg	03 33 43.0	+1.6
OKC	**Ostrava-Krasne**	2.10	139	*e*PG	Pg	03 33 19.9	-0.2
OKC				*e*SG	Sg	03 33 46.6	-1.5
NKC	**Novy Kostel**	2.56	243	*e*PG	Pg	03 33 28.6	-0.9
NKC				*e*SG	Sg	03 34 04.4	+0.7
KHC	**Kasperske Hory**	2.79	215	*e*PN	Pn	03 33 25.5	+0.5
KHC				*e*PG	Pg	03 33 31.8	-2.2
KHC				*e*SN	Sn	03 34 00.0	+0.2
KHC				*e*SG	Sg	03 34 09.8	-1.3

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*LEDBW **30** 03:33:50.4±0.2,47.64N×7.74E,h15^{km}±1^{km},ML1.5,Error ellipse: s-maj=6.0km s-min=2.0km az=72.0*
*LDG **30** 03:33:50.1±0.1,47.63N×7.73E,h2^{km},Md1.9/1,Ml1.8/4, Error ellipse: s-maj=1.8km s-min=1.0km az=96.0*
*ZUR **30** 03:33:50.3,47.63N×7.74E,h16^{km},ML1.1/7*
ISC 30 03:33:50.5±0.4**,47.64N**±0.03×**7.74E**±0.04**,h16^{km},n14, σ0^{s}54**/23**,7C,Switzerland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SULZ	**Sulz-Cheisache**	0.28	113	⇑*i*Pg	Pb	03 33 56.3	-0.3
	0.9nm,0.4s						
SULZ				*i* Sg	Sb	03 34 00.4	-0.3
	0.9nm,0.4s						
BALST	**Balsthal**	0.30	186	⇑*i*Pg	Pb	03 33 56.6	-0.5
	1.1nm,0.3s						
BALST				*e*Sg	Sb	03 34 01.2	-0.3
	1.1nm,0.3s						
KIZ	**Kirchzarten**	0.34	21	⇑*i*P	Pb	03 33 57.4	-0.3
KIZ				*i* S	Sb	03 34 02.4	-0.2
KIZ				S	Sb	03 34 04.2	+1.5
BOURR	**Bourrignon**	0.42	235	⇑*i*Pg	Pb	03 33 58.8	-0.3
SLE	**Schleitheim**	0.53	75	⇑*i*Pg	Pb	03 34 00.6	-0.3
	0.7nm,0.2s						
FLACH	**Flaach**	0.56	96	⇑*i*Pg	Pb	03 34 01.4	-0.1
	0.6nm,0.2s						
HINF	**Hinteralfeld**	0.62	287	*e*Pg	Pb	03 34 02.0	-0.5
HINF				*e*Sg	Sb	03 34 10.2	-0.6
	6.4nm,0.2s						
TRULL	**Truellikon**	0.64	89	*e*Pg	Pb	03 34 02.9	+0.1
	1.7nm,0.6s						
STEIN	**Stein am Rhein**	0.77	87	⇑*i*Pg	Pb	03 34 05.0	0.0
	2.3nm,1.2s						
SISB	**Singen-Sch Ber**	0.83	86	⇑*e*P	Pb	03 34 06.0	0.0
SISB				S	Sb	03 34 17.5	+0.7
CDF	**Champ du Feu**	0.84	338	*e*Pg	Pb	03 34 06.0	-0.2
CDF				*e*Sg	Sb	03 34 16.8	-0.1
	1.3nm,0.2s						
HAU	**Haudompre**	1.01	292	*e*Pg	Pb	03 34 09.1	0.0
HAU				*e*Sg	Sb	03 34 22.0	+0.1
	2.6nm,0.2s						
CABF	**La Chapelle**	1.52	228	*e*Pg	Pn	03 34 18.5	+1.2
CABF				*e*Sg	Sb	03 34 37.7	+0.9
	0.7nm,0.2s						
MEZF	**Maizieres J'vi**	2.00	297	*e*Sg	Sn	03 34 52.9	+3.9
	1.0nm,0.2s						

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*STR **30** 04:04:05.2±0.2,42.32N×2.14E,h5^{km}±1^{km},Ml2.6,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **30** 04:04:05.2,42.32N×2.14E,h5^{km},ML2.8(LDG), ML2.6(STR),ML2.0(MRB),MN2.3(MDD),After STR.*
*MDD **30** 04:04:05.9±0.2,42.33N×2.16E,h1^{km}±3^{km},mbLg2.2/22, Error ellipse: s-maj=1.8km s-min=1.6km az=0.0,PRXIMO AftershockPLICA*
*LDG **30** 04:04:05.9±0.2,42.34N×2.14E,h7^{km},Md3.0/1,Ml2.8/18, Error ellipse: s-maj=3.1km s-min=1.8km az=160.0*
ISC 30 04:04:04.1±0.3**,42.37N**±0.02×**2.20E**±0.02**,h9^{km}±2^{km},n70, σ1^{s}42**/131**,2C,Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBRU	**Bruguera**	0.08	191	Pg	Pg	04 04 06.6	+0.2
CBRU				Lg		04 04 07.6	
	97nm,0.1s						
CBRU	**Bruguera**	0.08	191	Pg	Pg	04 04 06.6	+0.2
CBRU				Sg	Sg	04 04 07.7	-0.2
VALF	**Valcebollere**	0.14	285	Pg	Pg	04 04 07.9	+0.6
VALF				Sg	Sg	04 04 09.6	+0.1
VALF	**Valcebollere**	0.14	285	P	Pg	04 04 08.0	+0.6
VALF				S	Sg	04 04 09.7	+0.2
CLLI	**Llivia**	0.20	304	Pg	Pg	04 04 09.3	+0.8
CLLI				Lg		04 04 12.2	
	131nm,0.1s						
CLLI	**Llivia**	0.20	304	Pg	Pg	04 04 09.3	+0.9
CLLI				Sg	Sg	04 04 12.2	+0.9
FILF	**Fillols**	0.33	54	Pg	Pg	04 04 11.2	+0.3
FILF				Sg	Sg	04 04 15.7	+0.3
FILF	**Fillols**	0.33	54	P	Pg	04 04 11.3	+0.4
FILF				S	Sg	04 04 15.5	+0.2
CARF	**Carcanieres**	0.36	348	P	Pg	04 04 13.1	+1.7
CARF				S	Sg	04 04 18.1	+1.9
EJON	**La Jonquera**	0.52	81	Pg	Pg	04 04 16.1	+1.6
	2.1nm,0.1s,SNR=26						
EJON				Lg		04 04 23.7	
	30nm,0.2s,SNR=39						
SJAF	**Saint Jean de**	0.52	77	Pg	Pg	04 04 15.9	+1.3
SJAF	**Saint Jean de**	0.52	77	P	Pg	04 04 15.9	+1.3
SJAF				S	Sg	04 04 23.6	+2.1
LPEF	**Le Peyrat**	0.62	340	Pg	Pg	04 04 17.9	+1.3
LPEF				Sg	Sg	04 04 27.2	+2.2
LPEF	**Le Peyrat**	0.62	340	P	Pg	04 04 18.0	+1.4
LPEF				S	Sg	04 04 27.2	+2.2
LRDF	**Laroque-de-Fa**	0.62	23	Pg	Pg	04 04 18.3	+1.7
LRDF				Sg	Sg	04 04 28.0	+3.0
LRDF	**Laroque-de-Fa**	0.62	23	P	Pg	04 04 18.2	+1.5
LRDF				S	Sg	04 04 28.2	+3.2
CORG	**Organya**	0.67	259	Pg	Pg	04 04 17.1	-0.5
CORG	**Organya**	0.67	259	Pg	Pg	04 04 17.1	-0.5
EMIR	**Miracle**	0.68	228	⇑Pg	Pg	04 04 17.3	-0.4
	8.2nm,0.1s,SNR=18						
EMIR				Lg		04 04 26.2	
	47nm,0.3s,SNR=5.0						
GRBF	**Gourbit**	0.68	314	P	Pb	04 04 18.1	+0.4
CSOR	**Sort**	0.79	271	Pg	Pg	04 04 19.6	-0.4
CSOR				Sg	Sg	04 04 30.1	-0.5
SALF	**Salau**	0.84	298	Pg	Pg	04 04 21.1	0.0
SALF				Sg	Sg	04 04 31.9	-0.5
SALF	**Salau**	0.84	298	P	Pb	04 04 21.1	+0.5
SALF				S	Sb	04 04 32.0	+0.2
MTLF	**Montolieu**	0.97	1	*e*Pg	Pg	04 04 24.3	+0.7
MTLF				*e*Sg	Sg	04 04 37.7	+1.0
	29nm,0.2s						
MLS	**Moulis**	1.01	306	Pg	Pg	04 04 24.5	+0.2
MLS				Sg	Sg	04 04 37.8	0.0
MLS	**Moulis**	1.01	306	P	Pb	04 04 24.7	+1.3
MLS				S	Sb	04 04 37.9	+1.4
MELF	**Melles**	1.18	296	Pg	Pg	04 04 27.3	-0.4
MELF				Sg	Sg	04 04 42.7	-0.8
MELF	**Melles**	1.18	296	P	Pb	04 04 27.4	+1.1
MELF				S	Sb	04 04 42.9	+1.4
CAVN	**Les Avellanes**	1.18	246	Pg	Pg	04 04 26.6	-1.2
CAVN				Sg	Sg	04 04 42.5	-1.1
EPOB	**Poblet**	1.31	220	⇑Pg	Pg	04 04 28.8	-1.6
	16nm,0.1s,SNR=18						
EPOB				Lg		04 04 46.1	
	24nm,0.1s,SNR=17						
CGAR	**Garraf**	1.34	217	Pg	Pg	04 04 25.4	-5.5
CGAR				Sg	Sg	04 04 39.3	-9.4
RESF	**Ens**	1.45	288	Pg	Pg	04 04 33.7	+0.7
RESF				Sg	Sg	04 04 54.3	+2.0
RESF	**Ens**	1.45	288	P	Pn	04 04 33.9	+3.2
RESF				S	Sb	04 04 52.1	+2.9
EPF	**Esparros**	1.52	296	*e*Pn	Pn	04 04 32.6	+0.8
EPF				*e*Pg	Pg	04 04 34.7	+0.1
EPF				*e*Sn	Sn	04 04 50.9	-1.0
EPF				*e*Sg	Sg	04 04 54.0	-0.9
	23nm,0.3s						
VIEF	**Viey**	1.69	289	Pg	Pg	04 04 36.7	-1.2
VIEF	**Viey**	1.69	289	P	Pn	04 04 36.7	+2.6
VIEF				S	Sn	04 05 00.1	+4.1
LABF	**Labassere**	1.71	294	Pg	Pg	04 04 37.3	-1.0
LABF	**Labassere**	1.71	294	P	Pn	04 04 37.4	+3.0
LABF				S	Sn	04 04 58.9	+2.3
EBR	**Ebro Roquetas**	2.01	220	*e*P*	Pb	04 04 42.7	+2.3
EBR				*e*S*	Sb	04 05 07.5	+2.0
REYF	**Montagne du Re**	2.04	291	S	Sn	04 05 10.6	+5.7
ESAC	**San Caprasio**	2.09	253	Pn	Pn	04 04 41.0	+1.1
	4.5nm,0.1s,SNR=11						
ESAC				Pg	Pg	04 04 43.6	-2.3
	15nm,0.3s,SNR=7.9						
ESAC				Sn	Sn	04 05 05.4	-0.9
	8.8nm,0.1s,SNR=7.9						
ESAC				Lg		04 05 10.9	
	33nm,0.2s,SNR=7.9						
FDAF	**Les Forges d'A**	2.09	283	S	Sn	04 05 11.7	+5.4
LASF	**Ste Croix**	2.09	35	*e*Pn	Pn	04 04 39.9	0.0
LASF				*e*Sg	Sg	04 05 12.5	-1.4
	8.8nm,0.3s						
ETSF	**Etsaut**	2.11	286	*e*Pg	Pg	04 04 44.5	-1.7
ETSF				*e*Sn	Sn	04 05 04.8	-1.8
ETSF				*e*Sg	Sg	04 05 11.8	-2.5
	24nm,0.3s						
ATE	**Arette**	2.26	290	S	Sn	04 05 14.6	+4.1
LARF	**Larrau**	2.44	287	S	Sn	04 05 22.4	+7.1
CAF	**Calviac**	2.56	358	*e*Pn	Pn	04 04 46.9	+0.3
CAF				*e*Pg	Pg	04 04 53.6	-1.7
CAF				*e*Sn	Sn	04 05 17.4	-0.8
CAF				*e*Sg	Sg	04 05 26.1	-3.3
	14nm,0.3s						
SJPF	**Ste Jean**	2.63	288	*e*Pg	Pg	04 04 53.7	-3.0
SJPF				*e*Sg	Sg	04 05 27.2	-4.6
	7.6nm,0.3s						
LFF	**La Frestale**	2.78	338	*e*Pn	Pn	04 04 51.3	+1.6
LFF				*e*Pg	Pg	04 04 58.2	-1.5
LFF				*e*Sn	Sn	04 05 22.6	-1.2

LFF				*e*Sg	Sg	04 05 33.6	-3.2
	21nm,0.3s						
EMOS	Mosqueruela	2.84	226	Pn	Pn	04 04 51.4	+0.8
	0.8nm,0.3s,SNR=7.9						
EMOS				Pg	Pg	04 04 57.9	-2.9
	4.1nm,0.3s,SNR=7.9						
EMOS				Sn	Sn	04 05 24.3	-0.9
	4.0nm,0.5s,SNR=7.9						
EMOS				Lg		04 05 34.8	
	5.5nm,0.4s,SNR=7.9						
EALK	Alkurruntz	2.86	289	Pn	Pn	04 04 54.2	+3.3
	2.7nm,0.4s,SNR=7.9						
EALK				Sn	Sn	04 05 28.7	+2.9
	7.9nm,0.5s,SNR=4.0						
EALK				Lg		04 05 39.7	
	10nm,0.4s,SNR=7.9						
SMRF	Simiane la Rot	2.94	56	*e*Pn	Pn	04 04 53.9	+1.8
RJF	Les Rejaudoux	2.98	351	*e*Pn	Pn	04 04 52.4	-0.1
RJF				*e*Pg	Pg	04 05 01.4	-2.2
RJF				*e*Sn	Sn	04 05 26.4	-2.4
RJF				*e*Sg	Sg	04 05 40.1	-3.2
	4.3nm,0.2s						
VIVF	Saint-Julien-l	3.07	35	*e*Pn	Pn	04 04 53.8	0.0
VIVF				*e*Pg	Pg	04 05 02.5	-2.9
VIVF				*e*Sn	Sn	04 05 29.9	-1.2
VIVF				*e*Sg	Sg	04 05 43.8	-2.5
	6.4nm,0.4s						
LMR	La Mourre	3.31	72	*e*Pn	Pn	04 04 57.9	+0.6
LMR				*e*Sn	Sn	04 05 36.1	-1.1
	2.4nm,0.2s						
EIBI	Ibiza	3.40	191	Pn	Pn	04 04 57.5	-1.0
	2.2nm,0.4s,SNR=7.9						
EIBI				Sn	Sn	04 05 34.8	-4.7
	6.2nm,0.5s,SNR=7.9						
FRF	La Foret Royal	3.47	68	*e*Pn	Pn	04 05 00.0	+0.4
FRF				*e*Sn	Sn	04 05 39.7	-1.6
	2.9nm,0.3s						
ETOR	Torete	3.55	246	Pn	Pn	04 05 01.6	+1.0
	0.9nm,0.2s,SNR=8.6						
ETOR				Sn	Sn	04 05 40.6	-2.5
	3.1nm,0.3s,SNR=7.9						
ETOR				Lg		04 05 57.4	
	1.9nm,0.3s,SNR=5.0						
TCF	Toulx Ste Croi	3.92	0	*e*Pg	Pg	04 05 18.1	-4.3
TCF				*e*Sg	Sg	04 06 07.6	-7.1
	4.9nm,0.3s						
SBF	Sospel	4.11	67	*e*Sg	Sg	04 06 17.3	-3.8
	4.1nm,0.4s						
BGF	Bois d’Agland	4.22	6	*e*Pg	Pg	04 05 24.6	-3.7
BGF				*e*Sg	Sg	04 06 18.7	-5.8
	15nm,0.4s						
ELAN	Lanestosa	4.24	284	Pn	Pn	04 05 12.3	+1.9
	2.8nm,0.3s,SNR=4.0						
ELAN				Sn	Sn	04 06 00.9	+0.2
	1.6nm,0.3s,SNR=4.0						
SMF	Signal de Mont	4.44	15	*e*Sg	Sg	04 06 25.6	-6.2
	2.1nm,0.3s						
AVF	Avril sur Loir	4.50	10	*e*Sg	Sg	04 06 27.8	-6.1
	1.7nm,0.3s						
MFF	Saint Martin d	4.56	339	*e*Pn	Pn	04 05 15.3	+0.4
MFF				*e*Sn	Sn	04 06 05.3	-3.4
MFF				*e*Sg	Sg	04 06 28.6	-7.2
	3.4nm,0.4s						
ESDC	Sonseca Array	5.38	242	Pn	Pn	04 05 25.2	-1.5
	0.4nm,0.1s,SNR=7.9						
EARI	Arriondas	5.53	282	Pn	Pn	04 05 29.2	+0.5
	5.8nm,0.8s,SNR=4.0						
EARI				Sn	Sn	04 06 29.3	-3.9
	5.7nm,0.8s,SNR=4.0						
LDF	La Druitiere	6.44	346	*e*Pn	Pn	04 05 40.6	-0.9
QUIF	Quistinic	6.72	327	*e*Pn	Pn	04 05 44.9	-0.6
ROSF	Rostrenen	7.11	329	*e*Pn	Pn	04 05 50.3	-0.6

WEL 30 04:22:39.5±0.5**, 37.67S×179.49E, h33^{km}, ML3.7**/3**, Error ellipse: s-maj=7.3km s-min=4.6km az=0.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	Puketiti	1.06	247	PN	Pn	04 22 57.3	-0.9
PUZ				SN	Sn	04 23 10.8	-1.1
PUZ				SN	Sn	04 23 10.8	-1.1
MWZ	Matawai	1.69	246	PN	Pn	04 23 05.9	-1.3
MWZ				SN	Sn	04 23 25.8	-2.1
MWZ				SN	Sn	04 23 26.0	-1.9
KNZ	Kokohu	1.97	226	PN	Pn	04 23 10.2	-1.0
URZ	Urewera	1.98	252	PN	Pn	04 23 10.7	-0.6
URZ				SN	Sn	04 23 33.3	-1.8
URZ				SN	Sn	04 23 33.4	-1.7
PWZ	Pawanui	3.13	220	PN	Pn	04 23 23.9	-3.9
BFZ	Birch Farm	3.93	219	PN	Pn	04 23 35.4	-3.7

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*NAO **30** 04:50:24.5±5.0, 57.53N×17.06E, ML2.6*

*HEL **30** 04:50:25.3±0.1, 57.62N×17.00E, ML2.3, ML3.3(UPP), Explosion*

*IDC **30** 04:50:30.5±2.2, 58.08N×16.99E, mb1 3.2/4, mb1mx3.1/20, ML2.9/4, Error ellipse: s-maj=23.4km s-min=9.0km az=10.0*

ISC 30 04:50:22.7±0.4**, 57.58N**±0.04×**17.22E**±0.06**, n31,** σ**1$\overset{s}{.}$46**/47**, Baltic Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OSKU	Oskarshamn	0.72	238	*i* P	Pg	04 50 36.7	-0.4
OSKU				*i* S	Sg	04 50 46.2	-0.5
GOTU	Gotland	0.73	81	*i* P	Pg	04 50 40.3	+2.9
VIKU	Vikbolandet	0.96	344	*i* P	Pg	04 50 40.8	-1.1
EKSU	Eksjoe	1.03	270	*e*P	Pb	04 50 41.3	-1.9
LNKU	Linkoeping	1.12	306	*e*P	Pb	04 50 42.7	-1.9
NYNU	Nynaeshamn	1.49	16	*e*P	Pn	04 50 51.4	+0.6
BLEU	Blekinge	1.50	212	*e*P	Pn	04 50 51.5	+0.6
ASKU	Askersund	1.82	317	*e*P	Pn	04 50 55.5	-0.2
DEL	Delary	2.14	240	*e*P	Pn	04 51 00.7	+0.5
NRTU	Norrtaelje	2.23	19	*e*P	Pn	04 51 03.9	+2.5
NRTU				*e*S	Sn	04 51 33.6	+3.6
BACU	Backbrunna	2.28	359	*e*P	Pn	04 51 04.1	+1.9
NRAU	Nora	2.30	331	*e*P	Pn	04 51 03.6	+1.2
FLYU	Flymyra	2.58	7	*e*P	Pn	04 51 08.7	+2.3
BSD	Bornholm Skovb	2.79	208	*i* P	Pn	04 51 09.7	+0.3
BSD				*i* S	Sn	04 51 43.0	-1.2
GRAU	Graesoe	2.84	13	*e*P	Pn	04 51 12.1	+1.8
FALU	Falun	3.01	347	*e*P	Pn	04 51 13.4	+0.8
HFS	Hagfors	3.15	326	Pn	Pn	04 51 15.0	+0.5
	baz=136,slow=11						
HFS				Sn	Sn	04 51 53.4	+0.1
	baz=129,slow=22						
HFS	Hagfors	3.15	326	Pn	Pn	04 51 15.3	+0.8
	0.3nm,0.3s,baz=141,slow=14,SNR=44						
HFS				Lg		04 51 53.3	
	0.9nm,0.3s,baz=141,slow=28,SNR=15						
IGGU	Iggoen	3.30	1	*e*P	Pn	04 51 18.1	+1.4
NOA	NORSAR Array B	4.63	321	Pn	Pn	04 51 33.5	-2.1
	0.4nm,0.3s,baz=108,slow=15,SNR=2.8						
NOA				Sn	Sn	04 52 23.7	-7.3
	0.8nm,0.3s,baz=132,slow=29,SNR=2.9						
NOA				Lg		04 52 41.3	
	1.6nm,0.3s,baz=141,slow=15,SNR=6.4						
PVF	Pernaja	5.36	53	*e*P	Pn	04 51 46.6	+0.7
PVF				*e*S	Sn	04 52 46.7	-2.5
PVF				*e*SG	Sg	04 53 09.3	-12
PVF				MSG		04 53 13.0	
	comp=Z,3.5nm,0.3s						
FIA0	FINESS Array S	5.94	46	Pn	Pn	04 51 54.3	+0.2
	baz=218,slow=12						
FIA0				Sn	Sn	04 53 03.0	-0.9
	baz=246,slow=28						
FIA0	FINESS Array S	5.94	46	*e*P	Pn	04 51 55.2	+1.1
FIA0				*e*S	Sn	04 53 02.4	-1.5
FIA0				MSG		04 53 37.1	
	comp=Z,3.0nm,0.3s						
FINES	FINESS Array B	5.94	46	Pn	Pn	04 51 54.9	+0.8
	comp=Z,0.5nm,0.3s,baz=234,slow=12,SNR=24						
FINES				Sn	Sn	04 53 02.7	-1.2
	comp=Z,0.8nm,0.3s,baz=238,slow=21,SNR=9.7						
FINES				Lg		04 53 27.0	
	comp=Z,0.6nm,0.3s,baz=236,slow=22,SNR=3.9						
KEF	Keuruu	6.00	37	*e*P	Pn	04 51 55.7	+0.8
KEF				*e*S	Sn	04 53 02.1	-3.1
KEF				MSG		04 53 31.4	
	comp=Z,1.6nm,0.2s						
VJF	Virojoki	6.10	57	*e*P	Pn	04 51 56.5	+0.1
VJF				*e*S	Sn	04 53 04.7	-3.2
VAF	Ylistaro	6.11	24	*e*P	Pn	04 51 58.4	+1.9
VAF				*e*S	Sn	04 53 05.8	-2.2
KAF	Kangasniemi	6.45	41	*e*P	Pn	04 52 01.7	+0.5
KAF				*e*S	Sn	04 53 14.2	-2.3
SUF	Sumiainen	6.81	37	*e*P	Pn	04 52 06.2	-0.2
SUF				*e*S	Sn	04 53 21.4	-4.2
SUF				MSG		04 54 00.2	
	comp=Z,1.7nm,0.2s						
ARA0	ARCESS Array S	12.53	14	Pn	P	04 53 19.8	-5.2
	baz=196,slow=14						
ARA0				Sn	S	04 55 36.8	-10
	baz=207,slow=28						
ARCES	ARCESS Array B	12.53	14	Pn	P	04 53 19.6	-5.4
	comp=Z,0.1nm,0.3s,baz=197,slow=13,SNR=21						

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*STR **30** 04:51:04.5±0.4, 42.33N×2.14E, h5^{km}±1^{km}, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*NEIC **30** 04:51:04.5, 42.33N×2.14E, h5^{km}, ML2.7(STR), ML2.5(LDG), MN2.0(MDD), After STR.*

*LDG **30** 04:51:04.6±0.2, 42.32N×2.17E, h7^{km}, Md2.5/1, Ml2.5/9, Error ellipse: s-maj=3.5km s-min=2.1km az=149.0*

*MDD **30** 04:51:05.1±0.2, 42.33N×2.16E, h0^{km}±7^{km}, mbLg1.9/14, Error ellipse: s-maj=2.0km s-min=1.9km az=61.0, PRXIMO AftershockPLICA*

ISC 30 04:51:03.7±0.5**, 42.34N**±0.03×**2.16E**±0.03**, h5^{km}**±**4^{km}, n36,** σ**1$\overset{s}{.}$05**/60**, 1C, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBRU	Bruguera	0.05	166	Pg	Pg	04 51 05.8	+0.8
CBRU				Lg		04 51 06.9	
	388nm,0.1s						
VALF	Valcebollere	0.13	302	Pg	Pg	04 51 07.1	+0.8
VALF				Sg	Sg	04 51 08.9	+0.8
VALF	Valcebollere	0.13	302	P	Pg	04 51 07.2	+0.9
CLLI	Llivia	0.20	316	Pg	Pg	04 51 08.6	+0.8
CLLI				Lg		04 51 11.5	
	54nm,0.1s						
FILF	Fillols	0.37	52	Pg	Pg	04 51 10.5	-0.6
FILF				Sg	Sg	04 51 15.0	-1.1
FILF	Fillols	0.37	52	P	Pg	04 51 10.6	-0.5
FILF				S	Sg	04 51 14.8	-1.2
CARF	Carcanieres	0.38	354	P	Pg	04 51 12.3	+1.0
CARF				S	Sg	04 51 17.4	+0.9
EJON	La Jonquera	0.55	78	Pg	Pg	04 51 15.4	+0.7
	1.6nm,0.1s,SNR=12						
EJON				Lg		04 51 23.0	
	15nm,0.2s,SNR=5.0						
SJAF	Saint Jean de	0.55	74	P	Pg	04 51 15.3	+0.6
SJAF				S	Sg	04 51 23.0	+0.9
EMIR	Miracle	0.63	229	⇑Pg	Pg	04 51 16.4	+0.1
	4.3nm,0.1s,SNR=18						
EMIR				Lg		04 51 25.7	
	23nm,0.3s,SNR=5.0						
CORG	Organya	0.64	261	Pg	Pg	04 51 16.8	+0.4
LPEF	Le Peyrat	0.64	343	Pg	Pg	04 51 17.2	+0.7
LPEF				Sg	Sg	04 51 26.1	+1.0
LPEF	Le Peyrat	0.64	343	P	Pg	04 51 17.3	+0.8
LPEF				S	Sg	04 51 26.3	+1.2
LRDF	Laroque-de-Fa	0.66	25	Pg	Pg	04 51 17.5	+0.6
LRDF				Sg	Sg	04 51 27.3	+1.5
LRDF	Laroque-de-Fa	0.66	25	P	Pg	04 51 17.6	+0.6
LRDF				S	Sg	04 51 27.4	+1.6
SALF	Salau	0.84	301	Pg	Pg	04 51 20.4	0.0
SALF				Sg	Sg	04 51 31.2	-0.3
SALF	Salau	0.84	301	P	Pb	04 51 20.2	-0.1
SALF				S	Sg	04 51 31.1	-0.4
MLS	Moulis	1.00	309	S	Sb	04 51 37.0	+0.5
MTLF	Montolieu	1.01	2	*e*Pg	Pg	04 51 23.6	-0.2
MTLF				*e*Pn	Pn	04 51 24.7	+0.4
MTLF				*e*Sg	Sg	04 51 37.4	+0.2
	11nm,0.2s						
MTLF	Montolieu	1.01	2	Pg	Pg	04 51 23.6	-0.2
MTLF				Lg		04 51 37.4	
	5.3nm,0.2s						
MELF	Melles	1.17	298	Pg	Pg	04 51 27.0	0.0
MELF				Sg	Sg	04 51 42.2	-0.4
MELF	Melles	1.17	298	P	Pb	04 51 27.1	+1.1
MELF				S	Sb	04 51 42.1	+0.8
EPOB	Poblet	1.27	220	Pg	Pg	04 51 28.3	-0.8
	3.4nm,0.1s,SNR=31						
EPOB				Lg		04 51 45.0	
	13nm,0.1s,SNR=7.9						
EPOB	Poblet	1.27	220	Pg	Pg	04 51 28.3	-0.8
EPOB				Lg		04 51 45.0	
RESF	Ens	1.43	290	S	Sb	04 51 53.5	+4.7
EPF	Esparros	1.51	298	*e*Pn	Pn	04 51 32.0	+0.4
EPF				*e*Pg	Pg	04 51 34.2	+0.3
EPF				*e*Sg	Sg	04 51 53.4	-0.7
	8.2nm,0.2s						
ESAC	San Caprasio	2.06	254	Pn	Pn	04 51 40.9	+1.6
	4.0nm,0.2s,SNR=7.9						
ESAC				Lg		04 52 09.5	
	14nm,0.2s,SNR=10						
ETSF	Etsaut	2.09	287	*e*Pg	Pg	04 51 44.1	-1.2
ETSF				*e*Sg	Sg	04 52 10.8	-2.4
	10.0nm,0.3s						
LASF	Ste Croix	2.14	35	*e*Pn	Pn	04 51 40.5	0.0
LASF				*e*Pg	Pg	04 51 44.3	-2.0
LASF				*e*Sg	Sg	04 52 12.3	-2.5
	3.2nm,0.3s						
CAF	Calviac	2.59	358	*e*Pn	Pn	04 51 46.1	-0.9
CAF				*e*Pg	Pg	04 51 52.7	-2.7
CAF				*e*Sg	Sg	04 52 26.1	-3.8
	5.3nm,0.3s						
SJPF	Ste Jean	2.62	288	*e*Pg	Pg	04 51 53.7	-2.2
SJPF				*e*Sg	Sg	04 52 27.1	-3.6
	1.7nm,0.2s						
EMOS	Mosqueruela	2.80	226	Lg		04 52 34.5	
	1.5nm,0.3s,SNR=5.0						
LFF	La Frestale	2.80	339	*e*Pn	Pn	04 51 50.2	+0.2
LFF				*e*Sg	Sg	04 52 33.0	-3.9
	11nm,0.3s						
VIVF	Saint-Julien-l	3.11	35	*e*Sg	Sg	04 52 42.6	-4.6
	2.8nm,0.4s						
ETOR	Torete	3.51	246	Sn	Sn	04 52 42.2	-0.3
	0.9nm,0.2s,SNR=5.0						
ETOR				Lg		04 52 57.8	
	0.9nm,0.3s,SNR=5.0						
FRF	La Foret Royal	3.51	68	*e*Pn	Pn	04 51 59.4	-0.7
FRF				*e*Sn	Sn	04 52 38.6	-4.0
	1.2nm,0.2s						

IDC 30 05:01:19.8±12.0**, 6.63S×127.99E, h345^{km}**±154^{km}**, mb3.3**/1**, mb1 3.1**/4**, mb1mx3.0**/13**, Error ellipse: s-maj=83.8km s-min=54.2km az=37.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.63	191	P	P	05 03 56.7	-1.6
	0.1nm,0.3s,baz=11,slow=10,SNR=8.5						
FITZ				S	S	05 06 07.0	+3.3
	0.2nm,0.3s,baz=192,slow=13,SNR=3.1						
WRA	Warramunga Arr	14.60	156	P	P	05 04 29.8	-3.1
	0.5nm,0.3s,baz=326,slow=12,SNR=26						
ASAR	Alice Springs	17.87	162	P	P	05 05 05.7	-1.4
	0.2nm,0.3s,baz=344,slow=12,SNR=15						
MKAR	Makanchi Array	66.83	328	P	P	05 11 35.3	-1.6
	1.8nm,1.1s,baz=140,slow=5.5,SNR=6.4						

NEIC 30 05:02:27.2, 35.95N×120.51W, h10^{km}, ML3.5(NCEDC)**, 1C, After NCEDC., Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LRV	Little Rabbit	0.63	319	⇑*i*P	Pb	05 02 39.6	-0.1
SAO	San Andreas Ge	1.11	317	*e*P	Pb	05 02 47.0	-1.1
OMM	Old Mammoth Mi	2.06	36	*e*Pn	Pn	05 03 02.4	+0.1
CMB	Columbia Colle	2.08	3	*e*Pn	Pn	05 03 01.9	-0.7
MTUM	Tungsten Hills	2.10	48	*e*Pn	Pn	05 03 02.8	-0.1
LKC	Lake Chabot	2.18	325	*e*Pn	Pn	05 03 02.5	-1.5
SAC	San Andreas	2.24	317	*e*Pn	Pn	05 03 03.4	-1.4
DAC	Darwin (Calif)	2.38	81	*e*Pn	Pn	05 03 06.8	-0.1
MWC	Mount Wilson	2.65	130	*e*Pn	Pn	05 03 09.2	-1.6
NSHM	Saint Helena R	3.06	327	Pn	Pn	05 03 14.1	-2.5
MNV	Mina	3.11	36	*e*Pn	Pn	05 03 18.6	+1.3
TPH	Tonopah	3.37	50	*e*Pn	Pn	05 03 20.1	-1.0
WCN	Washoe City	3.40	10	*e*Pn	Pn	05 03 19.2	-2.2
OHCM	Honcut	3.46	347	*e*Pn	Pn	05 03 21.7	-0.6
TPNV	Topopah Spring	3.57	73	*e*Pn	Pn	05 03 22.8	-1.1
PAHR	Pah Rah Range	3.85	13	Pn	Pn	05 03 32.0	+4.2
BEKR	Beckwourth	3.91	2	*e*Pn	Pn	05 03 28.6	0.0
PFO	Pinyon Flat Ob	4.07	124	*e*Pn	Pn	05 03 28.8	-2.2
LDFC	Landfair	4.49	100	Pn	Pn	05 03 34.9	-2.0
BAR	Barrett	4.55	135	*e*Pn	Pn	05 03 35.2	-2.6
TRCR	Troy Canyon	4.60	57	Pn	Pn	05 03 35.7	-2.8
NEN	Nelson	4.61	92	Pn	Pn	05 03 35.9	-2.8
ARUT	Antelope Range	5.95	70	Pn	Pn	05 03 57.7	+0.1

IDC 30 05:03:54.2±3.2**, 30.02S×138.80E, mb1 3.2**/3**, mb1mx3.2**/10**, ML2.6**/3**, Error ellipse: s-maj=102.0km s-min=15.6km az=47.0, South Australia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	3.03	128	Pn	Pn	05 04 44.2	-0.1
	0.3nm,0.3s,baz=312,slow=15,SNR=4.9						
STKA				Sn	Sn	05 05 20.1	-1.8
	1.3nm,0.3s,baz=307,slow=17,SNR=6.0						
STKA				Lg		05 05 29.9	
	2.1nm,0.3s,baz=227,slow=20,SNR=5.3						
ASAR	Alice Springs	7.69	324	Pn	Pn	05 05 47.4	-2.8
	0.1nm,0.3s,baz=148,slow=12,SNR=6.5						
ASAR				Sn	Sn	05 07 14.7	-4.4
	0.1nm,0.3s,baz=152,slow=22,SNR=3.5						
ASAR				Lg		05 08 12.3	
	0.1nm,0.3s,baz=155,slow=30,SNR=4.5						
WRA	Warramunga Arr	10.82	337	Pn	P	05 06 31.8	-1.7
	0.1nm,0.3s,baz=156,slow=13,SNR=3.5						
WRA				Sn	S	05 08 31.1	-5.4
	baz=162,slow=24,SNR=3.1						

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*BER **30** 05:22:18.5±4.4, 78.30N×8.12E, ML2.8(NAO)*

NAO 30 05:22:14.7±5.0**, 78.46N×7.76E, ML2.8, Svalbard region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPA0	Spitsbergen Ar	1.78	95	Pn	Pn	05 22 46.2	-0.7
	baz=267,slow=11						
SPA0				Lg		05 23 11.0	
	baz=263,slow=28						
HSP	Hornsund	2.21	127	*e*P	Pn	05 22 51.6	-1.6
HSP				*e*S	Sn	05 23 17.7	-4.0
ARA0	ARCESS Array S	10.14	142	Pn	P	05 24 40.4	-4.0
	baz=334,slow=11						
ARA0				Sn	S	05 26 29.0	-11
	baz=346,slow=28						

JMA 30 05:55:36.7±0.4**, 31.42N×141.11E, h75^{km}, M3.6, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	2.01	327	*e*S	S	05 56 33.9	+0.7
BSO3	Boso 3	3.41	352	P	P	05 56 28.7	-0.1
JIM2	Oshima 3	3.58	337	P	P	05 56 31.0	-0.2
JIM2				*e*S	S	05 57 12.7	+0.3
TATJ	Tateyama 2	3.74	344	P	P	05 56 34.1	+0.6
JAG	Ashikaga	5.18	345	P	P	05 56 52.6	-0.7
JAG				*e*S	S	05 57 50.7	-1.7
JHO	Hitachi	5.20	355	P	P	05 56 53.1	-0.5
JHO				*e*S	S	05 57 49.9	-2.9

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*HEL **30** 06:05:01.3±0.1, 57.64N×17.02E, ML2.1, ML3.3(UPP), ML2.5(NAO), Explosion*

*BER **30** 06:05:02.9±5.5, 57.59N×17.18E, ML2.5(NAO)*

*NAO **30** 06:05:03.0±4.6, 57.71N×17.15E, ML2.5*

*IDC **30** 06:05:06.9±2.0, 58.08N×17.03E, mb1 3.3/4, mb1mx3.2/20, ML2.8/4, Error ellipse: s-maj=20.2km s-min=8.3km az=11.0*

ISC 30 06:04:58.9±0.4**, 57.67N**±0.03×**17.17E**±0.05**, n29,** σ**1$\overset{s}{.}$48**/51**, Baltic Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OSKU	Oskarshamn	0.74	231	*i* P	Pg	06 05 13.1	-0.7
OSKU				*i* S	Sg	06 05 22.0	-1.7
GOTU	Gotland	0.76	88	*i* P	Pg	06 05 16.3	+2.3
VIKU	Vikbolandet	0.87	344	*i* P	Pg	06 05 16.9	+0.5
VIKU				*i* S	Sg	06 05 28.0	0.0
EKSU	Eksjoe	1.01	265	*e*P	Pb	06 05 17.7	-1.2
LNKU	Linkoeping	1.05	303	*e*P	Pb	06 05 19.0	-0.6
NYNU	Nynaeshamn	1.41	18	*e*P	Pb	06 05 27.5	+1.6
ESKU	Eskilstuna	1.62	346	*e*P	Pn	06 05 30.2	+1.3
ESKU				*e*S	Sb	06 05 51.0	+0.6
ASKU	Askersund	1.75	316	*e*P	Pn	06 05 31.7	+1.1
ASKU				*e*S	Sn	06 05 53.4	-0.5
BACU	Backbrunna	2.19	359	*e*P	Pn	06 05 40.1	+3.0
NRAU	Nora	2.21	331	*e*P	Pn	06 05 39.8	+2.5
OSTU	Oestervaala	2.57	360	*e*P	Pn	06 05 45.6	+3.1
BSD	Bornholm Skovb	2.85	207	*i* P	Pn	06 05 46.8	+0.4
BSD				*e*S	Sn	06 06 21.6	-0.3
HFS	Hagfors	3.06	325	Pn	Pn	06 05 51.3	+1.9
	baz=141,slow=11						
HFS				Sn	Sb	06 06 29.7	-2.4
	baz=159,slow=28						
HFS	Hagfors	3.06	325	*e*P	Pn	06 05 51.3	+1.9
HFS				*e*SB	Sb	06 06 29.7	-2.4
HFS	Hagfors	3.06	325	Pn	Pn	06 05 51.4	+1.9
	0.2nm,0.3s,baz=140,slow=15,SNR=43						
HFS				Lg		06 06 29.6	
	0.7nm,0.3s,baz=148,slow=23,SNR=13						
NOA	NORSAR Array B	4.55	321	Pn	Pn	06 06 11.0	+0.3
	0.3nm,0.3s,baz=161,slow=17,SNR=2.4						
NOA				Sn	Sn	06 07 01.4	-3.7
	0.5nm,0.3s,baz=126,slow=13,SNR=2.8						
NOA				Lg		06 07 18.2	
	1.2nm,0.3s,baz=5.1,slow=14,SNR=6.8						
VSU	Vasula	5.14	77	*e*P	Pn	06 06 20.3	+1.3
VSU				*e*S	Sn	06 07 18.9	-1.1
VSU				*e*SG	Sg	06 07 40.5	-10
PVF	Pernaja	5.33	54	*e*P	Pn	06 06 23.2	+1.5
PVF				*e*S	Sn	06 07 23.6	-1.1
PVF				MSG		06 07 50.5	
	comp=Z,2.6nm,0.2s						
FIA0	FINESS Array S	5.90	46	Pn	Pn	06 06 31.1	+1.3
	baz=221,slow=12						
FIA0				Sn	Sn	06 07 37.8	-1.3
	baz=240,slow=22						
FIA0				Lg		06 08 06.0	
	baz=247,slow=28						
FIA0	FINESS Array S	5.90	46	*e*P	Pn	06 06 31.4	+1.6
FIA0				*e*S	Sn	06 07 38.0	-1.1
FIA0				MSG		06 08 11.8	
	comp=Z,1.9nm,0.2s						
FINES	FINESS Array B	5.90	46	Pn	Pn	06 06 30.6	+0.9
	comp=Z,0.3nm,0.3s,baz=230,slow=11,SNR=14						
FINES				Sn	Sn	06 07 38.2	-0.9
	comp=Z,0.4nm,0.3s,baz=242,slow=20,SNR=4.3						
FINES				Lg		06 08 04.3	
	comp=Z,0.6nm,0.3s,baz=240,slow=27,SNR=4.6						
KEF	Keuruu	5.95	37	*e*P	Pn	06 06 31.4	+1.0
KEF				*e*S	Sn	06 07 38.2	-2.0
KEF				MSG		06 08 10.1	
	comp=Z,0.9nm,0.2s						
VAF	Ylistaro	6.04	25	*e*P	Pn	06 06 34.0	+2.2
VAF				*e*S	Sn	06 07 41.5	-1.1
VJF	Virojoki	6.08	57	*e*P	Pn	06 06 31.9	-0.3
VJF				*e*S	Sn	06 07 40.5	-3.0
KAF	Kangasniemi	6.40	42	*e*P	Pn	06 06 37.6	+0.7
KAF				*e*S	Sn	06 07 49.2	-2.4
SUF	Sumiainen	6.76	38	*e*P	Pn	06 06 42.1	+0.2
SUF				*e*S	Sn	06 07 55.9	-4.6
SUF				MSG		06 08 37.2	
	comp=Z,1.1nm,0.3s						
ARA0	ARCESS Array S	12.46	14	Pn	P	06 07 56.5	-3.7
	baz=202,slow=14						
ARA0				Sn	S	06 10 09.4	-12
	baz=192,slow=28						
ARA0	ARCESS Array S	12.46	14	*e*P	P	06 07 56.5	-3.7
ARA0				*e*S	S	06 10 09.4	-12
ARCES	ARCESS Array B	12.46	14	Pn	P	06 07 56.3	-3.9
	comp=Z,0.1nm,0.3s,baz=199,slow=13,SNR=10						
ARCES				Sn	S	06 10 06.3	-15
	comp=Z,0.1nm,0.3s,baz=208,slow=25,SNR=2.7						

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*IDC **30** 06:57:49.9±4.5, 6.54S×129.76E, h237^{km}±48^{km}, mb3.5/6, mb1 3.7/9, mb1mx3.6/15, Error ellipse: s-maj=42.1km s-min=14.9km az=61.0*

*NEIC **30** 06:57:51.0±2.8, 6.65S×129.57E, h249^{km}±30^{km}, mb3.9/4, Error ellipse: s-maj=23.1km s-min=12.4km az=45.0*

ISC 30 06:57:43.6±3.1**, 6.5S**±0.1×**130.1E**±0.2**, h205**^{km}±32^{km}**, n14, σ1^{s}07**/18**, mb3.8**/8**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	12.30	200	P	P	07 00 34.3	+1.2
	1.5nm,0.3s,baz=26,slow=8.9,SNR=32						
FITZ				S	S	07 02 45.8	-0.7
	2.0nm,0.3s,baz=176,slow=20,SNR=7.6						
WRAB	Tennant Creek	13.96	163	eP	P	07 00 52.9	-1.1
	32nm,0.8s						
WRAB				eS	S	07 03 20.0	-4.2
WRA	Warramunga Arr	13.97	163	P	P	07 00 53.1	-0.9
	1.0nm,0.3s,baz=343,slow=13,SNR=30						
WRA				S	S	07 03 21.5	-2.9
	2.2nm,0.3s,baz=343,slow=22,SNR=9.5						
ASAR	Alice Springs	17.44	168	P	P	07 01 38.2	+2.6
	1.8nm,0.3s,baz=350,slow=10,SNR=136						
ASAR				S	S	07 04 48.5	+7.4
	0.6nm,0.3s,baz=353,slow=27,SNR=7.1						
CTA	Charters Tower	20.69	132	P	P	07 02 15.8	+6.8
	3.6nm,0.9s,baz=308,slow=12,SNR=2.4						
CTAO	Charters Tower	20.69	132	P	P	07 02 16.0	+7.0
STKA	Stephens Creek	27.42	158	P	P	07 03 13.9	+1.5
	2.5nm,0.7s,mb4.0,baz=329,slow=6.9,SNR=7.6						
CMAR	Chiang Mai Arr	39.49	309	P	P	07 04 56.5	+0.4
	1.1nm,0.5s,mb3.6,baz=141,slow=8.3,SNR=5.4						
SONM	Songino Array	58.02	341	P	P	07 07 16.4	-0.7
	1.2nm,0.8s,mb3.6,baz=153,slow=6.4,SNR=3.6						
MKAR	Makanchi Array	67.87	327	P	P	07 08 22.1	+0.2
	3.8nm,0.5s,mb4.3,baz=124,slow=7.8,SNR=37						
KURK	Kurchatov	72.16	329	eP	P	07 08 47.0	-0.6
	1.4nm,0.7s,mb3.7						
MAW	Mawson	75.42	201	P	P	07 09 05.7	-0.6
	3.1nm,1.2s,mb3.8						
BVAR	Borovoye Array	77.70	328	P	P	07 09 19.2	+0.1
	0.8nm,0.9s,mb3.4,baz=143,slow=7.2,SNR=3.6						
BRVK	Borovoye	77.78	328	eP	P	07 09 19.3	-0.2
	2.0nm,1.1s,mb3.7						

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*HEL **30** 07:03:05.7±0.3, 59.62N×22.41E, ML2.0, ML2.4(UPP), ML2.2(NAO), Explosion*

*BER **30** 07:03:05.6±4.1, 59.75N×22.44E, ML2.2(NAO), Suspected explosion*

*IDC **30** 07:03:07.0±1.5, 59.88N×22.26E, mb1 2.9/4, mb1mx2.9/20, ML2.5/3, Error ellipse: s-maj=19.9km s-min=7.4km az=162.0*

*NAO **30** 07:03:08.0±2.5, 60.04N×22.19E, ML2.2*

ISC 30 07:03:05.0±0.6**, 59.70N**±0.06×**22.33E**±0.07**, n26, σ0^{s}99**/43**, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AAL	Aland	1.27	293	eP	Pb	07 03 28.0	-1.5
AAL				eS	Sb	07 03 43.2	-3.0
NRTU	Norrtaelje	1.87	271	eP	Pn	07 03 39.1	+0.6
PVF	Pernaja	1.96	63	eP	Pn	07 03 40.0	+0.1
PVF				eS	Sn	07 04 04.2	-1.3
PVF				MSG		07 04 08.6	
	comp=Z,8.9nm,0.1s						
GRAU	Graesoe	2.00	290	eP	Pn	07 03 40.0	-0.4
FLYU	Flymyra	2.28	283	eP	Pn	07 03 44.5	+0.1
NYNU	Nynaeshamn	2.32	254	eP	Pn	07 03 46.2	+1.2
FIA0	FINESS Array S	2.55	45	eP	Pn	07 03 48.5	+0.3
FIA0				eS	Sn	07 04 19.8	-0.6
FIA0				MSG		07 04 22.6	
	comp=Z,6.0nm,0.1s						
FIA0	FINESS Array S	2.55	45	Pn	Pn	07 03 48.8	+0.5
	baz=231,slow=14						
FIA0				Lg		07 04 20.8	
	baz=231,slow=22						
FIA0				Rg		07 04 36.6	
	baz=209,slow=37						
FINES	FINESS Array B	2.55	45	Pn	Pn	07 03 48.5	+0.3
	comp=Z,1.1nm,0.3s,baz=228,slow=14,SNR=41						
FINES				Sn	Sn	07 04 20.6	+0.2
	comp=Z,3.4nm,0.3s,baz=236,slow=23,SNR=22						
FINES				Rg		07 04 36.1	
	comp=Z,9.5nm,0.9s,baz=224,slow=46,SNR=8.5						
BACU	Backbrunna	2.64	276	eP	Pn	07 03 50.0	+0.4
VJF	Virojoki	2.75	70	eP	Pn	07 03 50.2	-0.9
VJF				eS	Sn	07 04 24.4	-1.2
KEF	Keuruu	2.77	26	eP	Pn	07 03 52.3	+0.9
KEF				eS	Sn	07 04 26.2	+0.2
ESKU	Eskilstuna	3.06	264	eP	Pn	07 03 56.4	+0.8
ESKU				eS	Sn	07 04 34.2	+0.8
KAF	Kangasniemi	3.10	37	eP	Pn	07 03 57.1	+0.9
KAF				eS	Sn	07 04 35.0	+0.4
VIKU	Vikbolandet	3.14	250	eP	Pn	07 03 57.2	+0.5
VAF	Ylistaro	3.36	3	eP	Pn	07 04 00.7	+0.9
VAF				eS	Sn	07 04 42.6	+1.6
SUF	Sumiainen	3.55	30	eP	Pn	07 04 02.3	-0.2
SUF				eS	Sn	07 04 45.9	+0.1
LNKU	Linkoeping	3.83	250	eP	Pn	07 04 07.5	+1.0
ASKU	Askersund	3.93	261	eP	Pn	07 04 07.5	-0.4
HFS	Hagfors	4.37	279	eP	Pn	07 04 13.1	-1.0
HFS				ePB	Pb	07 04 21.8	-0.7
HFS				eSG	Sg	07 05 22.9	-7.5
HFS	Hagfors	4.37	279	Pn	Pn	07 04 13.7	-0.4
	comp=Z,0.0nm,0.3s,baz=100,slow=10,SNR=11						
HFS				Pg	Pg	07 04 21.7	-10
	comp=Z,0.1nm,0.3s,baz=95,slow=18,SNR=6.2						
HFS				Lg		07 05 19.9	
	comp=Z,0.2nm,0.3s,baz=90,slow=28,SNR=8.0						
HFS	Hagfors	4.37	279	Pn	Pn	07 04 13.1	-1.0
	baz=94,slow=9.3						
HFS				Pg	Pb	07 04 21.8	-0.7
	baz=99,slow=22						
HFS				Lg		07 05 22.9	
	baz=103,slow=37						
NOA	NORSAR Array B	5.67	288	Pn	Pn	07 04 29.9	-2.7
	comp=Z,0.2nm,0.3s,baz=92,slow=14,SNR=2.4						
NOA				Sn	Sn	07 05 33.5	-5.9
	comp=Z,0.2nm,0.3s,baz=117,slow=23,SNR=2.6						
NOA				Lg		07 05 59.1	
	comp=Z,0.5nm,0.3s,baz=98,slow=15,SNR=4.1						
ARA0	ARCESS Array S	9.97	6	Pn	P	07 05 26.5	-5.8
	baz=188,slow=16						
ARA0				Sn	Sn	07 07 12.7	-14
	baz=189,slow=28						
ARA0	ARCESS Array S	9.97	6	eP	P	07 05 26.5	-5.8
ARA0				e		07 07 12.7	
ARCES	ARCESS Array B	9.97	6	Pn	P	07 05 26.3	-6.0
	baz=185,slow=14,SNR=6.2						
ARCES				Sn	Sn	07 07 13.1	-13
	comp=Z,0.1nm,0.3s,baz=191,slow=23,SNR=2.7						
ARCES				Lg		07 08 14.3	
	comp=Z,0.2nm,0.3s,baz=186,slow=27,SNR=3.5						

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*IDC **30** 07:47:34.5±2.8, 23.35S×179.89W, h570^{km}±33^{km}, mb3.1/8, mb1 3.2/8, mb1mx3.2/12, Error ellipse: s-maj=27.0km s-min=15.6km az=161.0*

*NEIC **30** 07:47:36.3±2.8, 23.39S×179.97W, h593^{km}±32^{km}, mb3.8/6, Error ellipse: s-maj=17.0km s-min=13.9km az=65.0*

ISC 30 07:47:33.4±2.9**, 23.4S**±0.1×**180.0W**±0.1**, h570**^{km}±36^{km}**, n22, σ0^{s}56**/17**, mb3.7**/14**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RPZ	Rata Peaks	21.60	198	P	P	07 51 44.1	-0.1
	11nm,0.7s,mb4.6,baz=348,slow=17,SNR=6.0						
CTA	Charters Tower	31.51	269	P	P	07 53 12.0	+1.0
	4.7nm,0.5s,mb4.3,baz=96,slow=11,SNR=8.4						
CTAO	Charters Tower	31.51	269	eP	P	07 53 11.6	+0.6
	4.0nm,0.5s,mb4.2						
STKA	Stephens Creek	34.95	247	P	P	07 53 40.3	+0.6
	1.5nm,0.5s,mb3.8,baz=49,slow=6.7,SNR=6.7						
ASAR	Alice Springs	42.15	260	P	P	07 54 38.4	+0.2
	1.0nm,0.7s,mb3.5,baz=100,slow=7.1,SNR=11						
ASAR				S	S	08 00 18.8	+0.5
	0.5nm,0.6s,baz=99,slow=14,SNR=6.6						
WB2	Warramunga Arr	42.46	266	eP	P	07 54 40.5	-0.2
WRAB	Tennant Creek	42.47	266	eP	P	07 54 40.1	-0.6
	2.2nm,0.7s,mb3.8						
WRA	Warramunga Arr	42.48	266	P	P	07 54 40.4	-0.4
	0.6nm,0.3s,mb3.6,baz=95,slow=8.4,SNR=53						
MBWA	Marble Bar	55.49	260	P	P	07 56 16.5	-0.7
	2.7nm,0.5s,mb3.7						
QSPA	South Pole Qui	66.71	180	eP	P	07 57 29.9	+0.5
	1.8nm,0.7s,mb3.7						
MAW	Mawson	78.25	200	P	P	07 58 35.6	+0.2
	0.7nm,0.6s,mb3.2,baz=129,slow=3.1,SNR=4.3						
NVAR	Mina Array Bea	84.35	44	P	P	07 59 06.7	-0.4
	0.7nm,0.8s,mb3.2,baz=225,slow=5.1						
SNAA	Sanae	85.19	179	eP	P	07 59 09.6	-0.9
	0.7nm,0.5s,mb3.5						
HLID	Hailey	89.68	41	eP	P	07 59 33.2	+1.0
	2.2nm,1.1s,mb3.9						
ILAR	Eielson Array	91.51	14	P	P	07 59 39.5	-0.6
	0.2nm,0.7s,mb3.3,baz=226,slow=6.7,SNR=4.7						
PDAR	Pinedale Array	92.29	44	P	P	07 59 44.5	+0.3
	0.2nm,0.7s,mb3.3,baz=270,slow=4.4,SNR=3.5						
ARCES	ARCESS Array B	131.38	348	PKP	PKPdf	08 05 41.4	+0.6
	1.6nm,0.8s,baz=90,slow=3.6,SNR=5.7						
NOA	NORSAR Array B	141.57	351	PKhKP		08 05 55.6	
	0.9nm,0.7s,baz=9.1,slow=2.3,SNR=3.8						
HFS	Hagfors	142.04	349	PKhKP		08 05 57.5	
	5.4nm,0.5s,baz=63,slow=3.3,SNR=32						
AKASG	Malin Array Be	144.55	328	PKP	PKPdf	08 06 05.9	+1.1
	1.7nm,0.4s,baz=42,slow=3.7,SNR=11						
BRTR	Keskin Array B	147.28	308	PKPbc	PKPdf	08 06 15.0	+5.2
	0.9nm,0.5s,baz=104,slow=3.2,SNR=3.3						
EKA	Eskdalemuir Ar	147.99	3	PKPbc	PKPdf	08 06 15.2	+4.7
	0.9nm,0.4s,baz=340,slow=2.5,SNR=6.5						

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*HEL **30** 08:04:18.8±0.3, 59.69N×22.32E, ML1.9, ML2.4(UPP), ML2.2(NAO), Explosion*

*IDC **30** 08:04:20.2±1.6, 59.91N×22.18E, mb1 2.9/4, mb1mx2.9/20, ML2.7/3, Error ellipse: s-maj=22.2km s-min=7.6km az=162.0*

*BER **30** 08:04:20.4±6.7, 59.88N×22.43E, ML2.2(NAO), Suspected explosion*

*NAO **30** 08:04:22.5±2.9, 60.16N×22.23E, ML2.2*

ISC 30 08:04:18.0±0.6**, 59.74N**±0.05×**22.31E**±0.06**, n24, σ0^{s}90**/38**, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AAL	Aland	1.25	292	eP	Pb	08 04 40.7	-1.4
AAL				eS	Sb	08 04 56.9	-1.6
NRTU	Norrtaelje	1.86	270	eP	Pn	08 04 51.7	+0.3
PVF	Pernaja	1.96	64	eP	Pn	08 04 52.7	0.0
PVF				eS	Sn	08 05 17.3	-1.0
PVF				MSG		08 05 21.3	
	comp=Z,7.1nm,0.1s						
GRAU	Graesoe	1.98	289	eP	Pn	08 04 52.7	-0.4
GRAU				eS	Sn	08 05 19.1	+0.1
FLYU	Flymyra	2.26	282	eP	Pn	08 04 57.1	-0.1
NYNU	Nynaeshamn	2.32	253	eP	Pn	08 04 58.9	+0.9
NYNU				eS	Sn	08 05 29.4	+1.7
FIA0	FINESS Array S	2.53	46	eP	Pn	08 05 01.2	+0.3
FIA0				eS	Sn	08 05 32.6	-0.4
FIA0				MSG		08 05 38.8	
	comp=Z,4.3nm,0.1s						
FIA0	FINESS Array S	2.53	46	Pn	Pn	08 05 01.5	+0.5
	baz=229,slow=14						
FIA0				Lg		08 05 33.6	
	baz=231,slow=22						
FIA0				Rg		08 05 48.8	
	baz=208,slow=37						
FINES	FINESS Array B	2.53	46	Pn	Pn	08 05 01.4	+0.5
	comp=Z,1.0nm,0.3s,baz=232,slow=13,SNR=41						
FINES				Sn	Sn	08 05 34.0	+1.0
	comp=Z,3.2nm,0.3s,baz=238,slow=23,SNR=22						
FINES				Rg		08 05 49.2	
	comp=Z,14nm,1.0s,baz=215,slow=30,SNR=7.6						
BACU	Backbrunna	2.63	275	eP	Pn	08 05 02.6	+0.2
KEF	Keuruu	2.74	26	eP	Pn	08 05 04.8	+0.8
KEF				eS	Sn	08 05 39.0	+0.6
VJF	Virojoki	2.75	71	eP	Pn	08 05 02.9	-1.1
VJF				eS	Sn	08 05 37.4	-1.1
KAF	Kangasniemi	3.08	38	eP	Pn	08 05 09.6	+0.8
KAF				eS	Sn	08 05 47.6	+0.6
VAF	Ylistaro	3.32	3	eP	Pn	08 05 13.5	+1.3
VAF				eS	Sn	08 05 53.2	+0.1
SUF	Sumiainen	3.52	30	eP	Pn	08 05 14.6	-0.5
SUF				eS	Sn	08 05 58.5	+0.3
NRAU	Nora	3.69	271	eP	Pn	08 05 18.1	+0.6
OSKU	Oskarshamn	4.14	235	eP	Pn	08 05 24.1	+0.3
HFS	Hagfors	4.35	279	eP	Pn	08 05 26.8	-0.1
HFS	Hagfors	4.35	279	Pn	Pn	08 05 26.2	-0.7
	comp=Z,0.0nm,0.3s,baz=100,slow=12,SNR=8.3						
HFS				Pg	Pg	08 05 35.2	-10
	comp=Z,0.1nm,0.3s,baz=92,slow=15,SNR=5.8						
HFS				Lg		08 06 30.7	
	comp=Z,0.2nm,0.3s,baz=98,slow=30,SNR=6.7						
HFS	Hagfors	4.35	279	Pn	Pn	08 05 26.8	-0.1
	baz=134,slow=12						
NOA	NORSAR Array B	5.65	288	Pn	Pn	08 05 42.6	-2.7
	comp=Z,0.2nm,0.3s,baz=82,slow=12,SNR=2.1						
NOA				Lg		08 07 11.3	
	comp=Z,0.4nm,0.3s,baz=56,slow=20,SNR=3.4						
ARA0	ARCESS Array S	9.93	7	Pn	P	08 06 39.2	-5.7
	baz=183,slow=14						
ARA0				Sn	Sn	08 08 24.1	-14
	baz=191,slow=28						
ARA0				Lg		08 09 21.0	
	baz=176,slow=37						
ARA0	ARCESS Array S	9.93	7	eP	P	08 06 39.2	-5.7
ARA0				e		08 08 24.1	
ARA0				e		08 09 21.0	
ARCES	ARCESS Array B	9.93	7	Pn	P	08 06 39.9	-5.0
	comp=Z,0.1nm,0.3s,baz=184,slow=13,SNR=9.7						
ARCES				Sn	Sn	08 08 25.2	-13
	comp=Z,0.1nm,0.3s,baz=191,slow=23,SNR=3.2						

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*THE **30** 08:12:14.7, 38.31N×22.31E, h4^{km}, ML3.1*

*NEIC **30** 08:12:14.4, 38.33N×22.17E, h10^{km}, MD3.2(ATH), After ATH.*

*ATH **30** 08:12:14.4, 38.33N×22.17E, h10^{km}±1^{km}, MD3.2/10*

ISC 30 08:12:14.8±0.6**, 38.33N**±0.03×**22.19E**±0.05**, h10**^{km}**, n17, σ0^{s}98**/23**, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EVR	Evrytania	0.66	333	ePB	Pb	08 12 27.0	-0.9
AGG	Agios Georgios	0.70	9	ePg	Pg	08 12 27.4	-1.5
	comp=Z,19nm,0.3s						
AGG				eSg	Sg	08 12 38.8	+0.5
MKIT	Kithairon Oros	0.86	99	ePG	Pg	08 12 30.5	-1.4
NSAL	Nisos Salamina	1.09	112	ePN	Pn	08 12 35.5	-0.5
ITM	Ithomi	1.17	190	ePB	Pb	08 12 36.5	0.0
NAIG	Nisos Aigina	1.17	119	ePB	Pb	08 12 37.0	+0.3
MPAR	Parnis Oros	1.23	98	ePB	Pb	08 12 38.0	+0.3
MPAR				eSB	Sb	08 12 54.5	+1.1
LKD	Levkas	1.26	288	ePb	Pb	08 12 39.2	+1.0
	comp=Z,5.5nm,0.5s						
LKD				eSb	Sb	08 12 58.9	+4.5
NEO	Neokhori	1.27	39	ePB	Pb	08 12 38.5	+0.2
NEO				eSB	Sb	08 12 56.0	+1.5
VLS	Valsamata	1.27	264	ePB	Pb	08 12 38.2	-0.1
XOR	Xorichti	1.30	37	ePb	Pb	08 12 38.4	-0.4
XOR				eSb	Sb	08 12 55.9	+0.5
PTL	Penteli	1.35	101	ePN	Pn	08 12 39.0	-0.7
VLI	Veliai	1.71	159	ePN	Pn	08 12 46.5	+1.6
LIT	Litokhoron	1.79	7	ePb	Pb	08 12 46.2	-0.9
PAIG	Paliouri	1.97	36	ePb	Pb	08 12 47.2	-3.1
OUR	Ouranopolis	2.44	34	ePn	Pn	08 12 54.2	-1.1
FNA	Florina	2.53	346	ePn	Pn	08 12 57.1	+0.5
FNA				eSn	Sn	08 13 29.1	+1.2

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*KISR **30** 08:19:15.9±1.3, 26.95N×53.82E, h11^{km}±999^{km}, ML3.4*

*IDC **30** 08:19:21.4±19.0, 28.31N×54.16E, mb3.7/4, mb1 3.8/4, mb1mx3.6/20, Error ellipse: s-maj=392.0km s-min=43.5km az=3.0*

ISC 30 08:19:16.6±2.5**, 27.7N**±0.4×**54.01E**±0.07**, h10**^{km}**, n7, σ0^{s}89**/10**, mb3.7**/3**, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
QRN	Al-Qurain	5.48	283	eP	Pn	08 20 41.3	+0.9
QRN				eS	Sn	08 21 42.7	-1.4
QRN				AML	AML	08 21 44.7	
	comp=Z,20nm,0.2s						
RDF	Al-Radifah	5.83	284	eP	Pn	08 20 44.7	-0.6
RDF				AML	AML	08 21 52.2	
	comp=Z,11nm,0.3s						
RDF				eS	Sn	08 21 52.3	-0.7
MIB	Mutribah	6.23	292	eP	Pn	08 20 52.4	+1.5
MIB				AML	AML	08 22 03.6	
	comp=Z,9.6nm,0.5s						
MIB				eS	Sn	08 22 03.8	+0.8
BRTR	Keskin Array B	20.73	311	P	P	08 24 00.6	+0.7
	comp=Z,1.0nm,0.7s,baz=124,slow=8.9,SNR=4.3						
MKAR	Makanchi Array	29.28	42	P	P	08 25 20.4	-0.7
	comp=Z,0.5nm,0.5s,mb3.5,baz=270,slow=4.3,SNR=2.5						
FINES	FINESS Array B	38.59	339	P	P	08 26 40.8	-0.5
	comp=Z,1.3nm,0.7s,mb3.8,baz=153,slow=13,SNR=6.2						
ARCES	ARCESS Array B	45.05	346	P	P	08 27 34.0	0.0
	comp=Z,2.4nm,1.0s,mb4.0,baz=140,slow=7.0,SNR=4.9						

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*NAO **30** 08:30:05.2±4.7, 57.42N×17.05E, ML2.7*

*BER **30** 08:30:05.4±4.8, 57.32N×17.17E, ML2.7(NAO), Suspected explosion*

*HEL **30** 08:30:07.8±0.3, 57.64N×16.98E, ML2.3, ML3.1(UPP), ML2.7(NAO), Explosion*

*IDC **30** 08:30:09.5±2.9, 57.83N×16.96E, mb1 3.2/3, mb1mx3.1/19, ML3.2/3, Error ellipse: s-maj=30.2km s-min=10.8km az=8.0*

ISC 30 08:30:05.0±0.6**, 57.62N**±0.04×**17.23E**±0.06**, n26, σ1^{s}43**/46**, Baltic Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VIKU	Vikbolandet	0.93	342	i P	Pg	08 30 23.1	-0.3
VIKU				i S	Sg	08 30 34.5	-1.3
LNKU	Linkoeping	1.10	304	eP	Pb	08 30 25.0	-1.6
NYNU	Nynaeshamn	1.44	16	eP	Pn	08 30 33.6	+1.2
ESKU	Eskilstuna	1.67	345	eP	Pn	08 30 36.4	+0.7
ESKU				eS	Sb	08 30 57.3	-0.6
ASKU	Askersund	1.80	316	eP	Pn	08 30 37.6	+0.1
ASKU				eS	Sn	08 31 00.1	-1.3
BACU	Backbrunna	2.24	358	eP	Pn	08 30 46.3	+2.5
UPP	Uppsala	2.25	5	eP	Pn	08 30 47.0	+3.0
NRAU	Nora	2.27	330	eP	Pn	08 30 45.8	+1.6
OSTU	Oestervaala	2.62	359	eP	Pn	08 30 51.4	+2.2
BSD	Bornholm Skovb	2.83	208	i P	Pn	08 30 51.7	-0.5
BSD				i		08 30 59.8	
BSD				i S	Sn	08 31 25.5	-2.0
BSD				i		08 31 38.6	
HFS	Hagfors	3.12	325	Pn	Pn	08 30 56.9	+0.5
	baz=134,slow=11						
HFS				Sn	Sn	08 31 36.2	+1.4
	baz=129,slow=37						
HFS	Hagfors	3.12	325	eP	Pn	08 30 56.9	+0.5
HFS				eSB	Sn	08 31 36.2	+1.4
NOA	NORSAR Array B	4.61	321	Pn	Pn	08 31 15.7	-1.9
	0.6nm,0.3s,baz=142,slow=12,SNR=2.7						
NOA				Sn	Sn	08 32 06.8	-5.8
	1.1nm,0.3s,baz=135,slow=24,SNR=3.1						
NOA				Lg		08 32 25.8	
	2.4nm,0.3s,baz=132,slow=25,SNR=6.0						
VSU	Vasula	5.12	77	eSB	Sb	08 32 45.0	+7.1
PVF	Pernaja	5.33	53	eP	Pn	08 31 29.4	+1.7
PVF				eS	Sn	08 32 29.3	-1.4
PVF				eSG	Sg	08 32 52.2	-10
PVF				MSG		08 32 55.2	
	comp=Z,3.8nm,0.2s						
FIA0	FINESS Array S	5.91	46	Pn	Pn	08 31 36.2	+0.3
	baz=220,slow=14						
FIA0				Sn	Sn	08 32 44.8	-0.5
	baz=245,slow=28						
FIA0	FINESS Array S	5.91	46	eP	Pn	08 31 37.6	+1.7
FIA0				eS	Sn	08 32 44.8	-0.4
FIA0				MSG		08 33 19.3	
	comp=Z,3.2nm,0.2s						
FINES	FINESS Array B	5.91	46	Pn	Pn	08 31 37.1	+1.2
	comp=Z,0.6nm,0.3s,baz=229,slow=11,SNR=23						
FINES				Sn	Sn	08 32 44.7	-0.5
	comp=Z,0.8nm,0.3s,baz=242,slow=23,SNR=9.6						
FINES				Lg		08 33 13.1	
	comp=Z,1.5nm,0.3s,baz=238,slow=29,SNR=7.1						
KEF	Keuruu	5.96	37	eP	Pn	08 31 37.4	+0.8
KEF				eS	Sn	08 32 45.5	-1.0
VAF	Ylistaro	6.07	24	eP	Pn	08 31 40.5	+2.4
VAF				eS	Sn	08 32 48.2	-1.0
VJF	Virojoki	6.07	57	eP	Pn	08 31 39.1	+0.9
VJF				eS	Sn	08 32 47.0	-2.3
KAF	Kangasniemi	6.41	42	eP	Pn	08 31 44.0	+1.0
KAF				eS	Sn	08 32 56.2	-1.6
KAF				MSG		08 33 33.1	
	comp=Z,1.7nm,0.2s						
SUF	Sumiainen	6.77	37	eP	Pn	08 31 48.5	+0.5
SUF				eS	Sn	08 33 03.6	-3.2
SUF				MSG		08 33 42.6	
	comp=Z,2.0nm,0.2s						
ARA0	ARCESS Array S	12.49	14	Pn	P	08 33 02.4	-4.3
	baz=198,slow=14						
ARA0				Sn	S	08 35 19.6	-8.2
	baz=194,slow=22						
ARA0	ARCESS Array S	12.49	14	eP	P	08 33 02.4	-4.3
ARA0				eS	S	08 35 19.6	-8.2
ARCES	ARCESS Array B	12.49	14	Pn	P	08 33 02.1	-4.6
	comp=Z,0.2nm,0.3s,baz=196,slow=13,SNR=20						
ARCES				Sn	S	08 35 19.2	-8.6
	comp=Z,0.1nm,0.3s,baz=208,slow=23,SNR=2.8						

IDC 30 08:35:43.8±2.2**, 5.86S**×**151.52E, mb3.3**/3**, mb1 3.7**/3**, mb1mx3.5**/12**, Error ellipse: s-maj=156.0km s-min=30.1km az=127.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.79	228	P	P	08 40 37.4	-2.0
	0.6nm,0.4s,baz=54,slow=9.8,SNR=12						
ASAR	Alice Springs	24.51	222	P	P	08 41 05.3	-0.9
	1.0nm,0.8s,baz=53,slow=9.1,SNR=13						
ILAR	Eielson Array	83.62	22	P	P	08 48 13.8	-1.3
	0.1nm,0.5s,baz=253,slow=5.6,SNR=4.8						

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*IDC **30** 08:43:25.7±4.3, 11.42S×116.35E, mb3.6/2, mb1 4.0/4, mb1mx3.7/13, ML4.0/2, Error ellipse: s-maj=271.0km s-min=24.3km az=46.0*

*NEIC **30** 08:43:30.5±4.1, 11.04S×116.73E, h21^{km}±36^{km}, mb4.1/2, Error ellipse: s-maj=17.7km s-min=7.8km az=53.0*

*DJA **30** 08:43:32.5±1.0, 11.09S×116.36E, h2^{km}, MD5.4/4, ML4.9/4, Error ellipse: s-maj=27.7km s-min=19.9km az=83.0*

ISC 30 08:43:30.7±1.5**, 11.07S**±0.10×**116.7E**±0.1**, h47**^{km}±23^{km}**, n15, σ1^{s}02**/19**, mb4.0**/1**, 2C-6D, South of Sumbawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RATI	Rata	2.59	334⇑	ePn	P	08 44 11.3	+0.1
	334nm,0.2s						
RATI			⇓	eSn	S	08 44 40.1	-1.6
KEDI	Kedomdong	2.63	348⇑	ePn	P	08 44 13.2	+1.5
	500nm,0.2s						
KEDI			⇓	eSn	S	08 44 43.9	+1.3
INGI	Ingas	2.70	326⇓	ePn	P	08 44 12.4	-0.3
	1μm,0.2s						
INGI			⇓	eSn	S	08 44 41.1	-3.3
KELI	Kelakatan	3.56	323⇓	ePn	P	08 44 25.1	+0.2
	351nm,0.2s						
KELI			⇓	eSn	S	08 44 52.3	-14
MBWA	Marble Bar	10.45	164	ePn	P	08 45 52.2	-8.6
MBWA				eSn	Sx	08 47 34.9	
FITZ	Fitzroy Crossi	11.13	130	eP	P	08 46 04.5	-5.6
	3.3nm,0.5s						
FITZ				eS	Sx	08 48 00.8	
FITZ	Fitzroy Crossi	11.13	130	Pn	P	08 46 04.8	-5.3
	1.1nm,0.3s,baz=342,slow=11,SNR=25						
FITZ				Sn	Sx	08 47 59.2	
	0.6nm,0.3s,baz=172,slow=12,SNR=6.4						
WRA	Warramunga Arr	19.15	120	P	P	08 47 51.8	-1.2
	0.3nm,0.3s,baz=290,slow=13,SNR=29						
WRAB	Tennant Creek	19.16	120	eP	P	08 47 52.7	-0.3
	3.4nm,0.6s						
WRAB				eS	Sx	08 51 10.2	
WB2	Warramunga Arr	19.16	120	eP	P	08 47 52.6	-0.5
WB2				eS	Sx	08 51 11.1	
KLBR	Kellerberrin	20.44	177	eP	P	08 48 06.4	-0.3
	24nm,1.2s						
KLBR				eS	Sx	08 51 33.6	
ASAR	Alice Springs	20.64	130	P	P	08 48 08.9	+0.1
	0.9nm,0.6s,baz=302,slow=10.0,SNR=13						
NWAO	Narrogin (SRO)	21.76	179	P	P	08 48 21.5	+1.5
MKAR	Makanchi Array	65.30	335	P	P	08 54 10.6	+0.6
	0.6nm,0.4s,mb4.0,baz=153,slow=8.1,SNR=7.7						
MKAR	Makanchi Array	65.30	335	P	P	08 54 10.6	+0.6

WEL 30 09:02:18.1±0.6, 36.84S×177.46E, h218^{km}±6^{km}, ML3.7/1, Error ellipse: s-maj=8.2km s-min=6.8km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**1.38**	**153**	PN	P	09 02 52.3	-0.5
PUZ				SN	S	09 03 19.1	-0.6
URZ	**Urewera**	**1.44**	**191**	PN	P	09 02 53.0	-0.3
URZ				SN	S	09 03 20.2	-0.3
MWZ	**Matawai**	**1.49**	**178**	PN	P	09 02 53.5	-0.2
MWZ				SN	S	09 03 20.9	-0.3
KNZ	**Kokohu**	**2.18**	**176**	PN	P	09 03 00.1	0.0
KNZ				SN	S	09 03 30.7	-2.0

IDC 30 09:23:27.1±30.0, 4.37N×127.12E, mb3.5/3, mb1 3.7/3, mb1mx3.4/17, Error ellipse: s-maj=508.0km s-min=165.4km az=161.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.18**	**164**	P	P	09 28 54.5	-1.5
	0.2nm,0.3s,baz=344,slow=10,SNR=10						
ASAR	**Alice Springs**	**28.64**	**167**	P	P	09 29 25.8	-1.9
	0.3nm,0.6s,baz=351,slow=8.1,SNR=4.1						
STKA	**Stephens Creek**	**38.59**	**160**	P	P	09 30 51.9	-1.9
	0.7nm,0.5s,baz=336,slow=10.0,SNR=3.0						

HEL ***30*** *09:39:28.9±0.2, 59.68N×22.34E, ML2.0, ML2.5(UPP), ML2.2(NAO), Explosion*
IDC ***30*** *09:39:29.4±1.9, 59.78N×22.37E, mb1 3.0/4, mb1mx2.9/20, ML2.6/4, Error ellipse: s-maj=26.1km s-min=7.9km az=160.0*
BER ***30*** *09:39:30.7±3.1, 59.90N×22.39E, ML2.2(NAO), Suspected explosion*
NAO ***30*** *09:39:31.7±2.7, 60.09N×22.21E, ML2.2*
ISC 30 09:39:28.0±0.6, 59.73N±0.05×22.29E±0.06, n23, σ0^{s}.84/39, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AAL	**Aland**	**1.24**	**292**	*e*P	**Pb**	**09 39 51.0**	**-1.0**
AAL				*e*S	**Sb**	**09 40 07.4**	**-1.0**
NRTU	**Norrtaelje**	**1.86**	**270**	*e*P	**Pn**	**09 40 02.0**	**+0.6**
PVF	**Pernaja**	**1.97**	**64**	*e*P	**Pn**	**09 40 02.9**	**0.0**
PVF				*e*S	**Sn**	**09 40 27.4**	**-1.2**
PVF				MSG		09 40 31.6	
	comp=Z,7.9nm,0.1s						
GRAU	**Graesoe**	**1.98**	**290**	*e*P	**Pn**	**09 40 03.5**	**+0.4**
GRAU				*e*S	**Sn**	**09 40 30.1**	**+1.1**
NYNU	**Nynaeshamn**	**2.31**	**254**	*e*P	**Pn**	**09 40 09.1**	**+1.3**
FIA0	**FINESS Array S**	**2.54**	**46**	*e*P	**Pn**	**09 40 11.4**	**+0.2**
FIA0				*e*S	**Sn**	**09 40 43.5**	**+0.3**
FIA0				MSG		09 40 45.5	
	comp=Z,5.4nm,0.1s						
FIA0	**FINESS Array S**	**2.54**	**46**	Pn	**Pn**	**09 40 11.7**	**+0.6**
	baz=231,slow=14						
FIA0				Lg		09 40 43.7	
	baz=231,slow=22						
FIA0				Rg		09 40 58.5	
	baz=216,slow=37						
FINES	**FINESS Array B**	**2.54**	**46**	Pn	**Pn**	**09 40 11.7**	**+0.6**
	comp=Z,0.9nm,0.3s,baz=227,slow=14,SNR=34						
FINES				Sn	**Sn**	**09 40 44.2**	**+1.0**
	comp=Z,3.1nm,0.3s,baz=238,slow=23,SNR=23						
FINES				Rg		09 40 59.2	
	comp=Z,13nm,1.0s,baz=211,slow=29,SNR=7.4						
IGGU	**Iggoen**	**2.73**	**297**	*e*P	**Pn**	**09 40 13.7**	**-0.1**
KEF	**Keuruu**	**2.75**	**26**	*e*P	**Pn**	**09 40 15.1**	**+0.9**
KEF				*e*S	**Sn**	**09 40 48.9**	**+0.3**
VJF	**Virojoki**	**2.76**	**71**	*e*P	**Pn**	**09 40 13.7**	**-0.5**
VJF				*e*P		09 40 13.7	
VJF				*e*S	**Sn**	**09 40 47.5**	**-1.2**
KAF	**Kangasniemi**	**3.09**	**38**	*e*P	**Pn**	**09 40 19.5**	**+0.5**
KAF				*e*S	**Sn**	**09 40 57.9**	**+0.7**
VIKU	**Vikbolandet**	**3.13**	**249**	*e*P	**Pn**	**09 40 20.3**	**+0.7**
VAF	**Ylistaro**	**3.33**	**3**	*e*P	**Pn**	**09 40 23.1**	**+0.7**
VAF				*e*S	**Sn**	**09 41 03.4**	**+0.1**
SUF	**Sumiainen**	**3.54**	**30**	*e*P	**Pn**	**09 40 24.9**	**-0.4**
SUF				*e*S	**Sn**	**09 41 08.3**	**-0.2**
OSKU	**Oskarshamn**	**4.13**	**235**	*e*P	**Pn**	**09 40 34.0**	**+0.3**
HFS	**Hagfors**	**4.34**	**279**	*e*P	**Pn**	**09 40 36.7**	**-0.1**
HFS				*e*SG	**Sg**	**09 41 44.8**	**-7.9**
HFS	**Hagfors**	**4.34**	**279**	Pn	**Pn**	**09 40 36.9**	**+0.1**
	comp=Z,0.0nm,0.3s,baz=100,slow=11,SNR=9.6						
HFS				Pg	**Pg**	**09 40 45.1**	**-10**
	comp=Z,0.1nm,0.3s,baz=96,slow=16,SNR=5.9						
HFS				Sn	**Sn**	**09 41 27.7**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=111,slow=32,SNR=2.6						
HFS				Lg		09 41 45.0	
	comp=Z,0.2nm,0.3s,baz=96,slow=28,SNR=8.4						
HFS	**Hagfors**	**4.34**	**279**	Pn	**Pn**	**09 40 36.7**	**-0.1**
	baz=96,slow=9.3						
HFS				Lg		09 41 44.8	
	baz=82,slow=28						
NOA	**NORSAR Array B**	**5.65**	**288**	Pn	**Pn**	**09 40 52.5**	**-2.8**
	comp=Z,0.2nm,0.3s,baz=100,slow=15,SNR=2.2						
NOA				Lg		09 42 21.6	
	comp=Z,0.4nm,0.3s,baz=158,slow=15,SNR=3.1						
ARA0	**ARCESS Array S**	**9.94**	**7**	Pn	**P**	**09 41 49.5**	**-5.6**
	baz=184,slow=16						
ARA0				Sn	**Sn**	**09 43 35.6**	**-13**
	baz=191,slow=28						
ARA0	**ARCESS Array S**	**9.94**	**7**	*e*P	**P**	**09 41 49.5**	**-5.6**
ARA0				*e*S	**Sn**	**09 43 35.6**	**-13**
ARCES	**ARCESS Array B**	**9.94**	**7**	Pn	**P**	**09 41 49.8**	**-5.3**
	comp=Z,0.2nm,0.3s,baz=186,slow=14,SNR=10						
ARCES				Sn	**Sn**	**09 43 35.8**	**-13**
	comp=Z,0.1nm,0.3s,baz=189,slow=24,SNR=2.8						

ISK ***30*** *09:42:29.4, 39.64N×38.51E, h5^{km}, MD4.3, ML4.3*
MOS ***30*** *09:42:30.0±2.2, 39.61N×38.57E, h10^{km}, mb4.3/7, Error ellipse: s-maj=11.5km s-min=7.6km az=94.3*
NEIC ***30*** *09:42:32.7±0.4, 39.61N×38.63E, h15^{km}, mb4.3/19, Error ellipse: s-maj=8.7km s-min=6.2km az=179.0*
IDC ***30*** *09:42:34.0±1.1, 39.67N×38.17E, mb4.0/6, mb1 4.1/11, mb1mx3.9/25, ML4.1/4, MS3.3/8, Ms1 3.3/8, ms1mx3.0/23, Error ellipse: s-maj=19.2km s-min=14.8km az=24.0*
ISC 30 09:42:31.1±0.3, 39.63N±0.03×38.54E±0.03, h5^{km}, n98, σ1^{s}.34/101, mb4.1/25, MS3.2/6, 5C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PTK	**Pertek**	**0.99**	**138**	*i* PG	**Pg**	**09 42 49.7**	**-1.2**
PTK				*i* SG	**Sg**	**09 43 04.9**	**+0.8**
EZC	**Erzincan**	**0.99**	**83**	*i* PG	**Pn**	**09 42 42.9**	**-8.7**
GUMT	**Gumushane**	**1.10**	**41**	PN	**Pn**	**09 42 50.9**	**-2.2**
SVSK	**Karacayir**	**1.22**	**284**	PN	**Pn**	**09 42 52.5**	**-2.3**
SVSK	**Karacayir**	**1.22**	**284**	Pn	**Pn**	**09 42 52.7**	**-2.1**
SVSK				Sg	**Sg**	**09 43 10.7**	**-1.0**
MYA	**Malataya**	**1.30**	**184**	*i* PN	**Pn**	**09 42 54.7**	**-1.2**
MYA	**Malataya**	**1.30**	**184**	Pn	**Pn**	**09 42 55.0**	**-0.9**
TOKT	**Tokat**	**1.68**	**295**	PN	**Pn**	**09 43 01.2**	**-0.1**
TOKT	**Tokat**	**1.68**	**295**	Pn	**Pn**	**09 43 00.5**	**-0.8**
BINT	**Bingol**	**1.69**	**116**	*i* PN	**Pn**	**09 43 02.4**	**+0.9**
BINT	**Bingol**	**1.69**	**116**	Pn	**Pn**	**09 43 01.6**	**+0.1**
DIY	**Diyarbakir**	**2.17**	**142**	*e*PN	**Pn**	**09 43 08.7**	**+0.3**
DIY	**Diyarbakir**	**2.17**	**142**	Pn	**Pn**	**09 43 08.6**	**+0.2**
EZM	**Erzurum**	**2.20**	**82**	PN	**Pn**	**09 43 09.0**	**+0.3**
BNN	**Bunyan**	**2.23**	**251**	*e*PN	**Pn**	**09 43 09.0**	**-0.2**
BNN	**Bunyan**	**2.23**	**251**	Pn	**Pn**	**09 43 08.6**	**-0.6**
VRT	**Varto**	**2.37**	**101**	*e*PN	**Pn**	**09 43 11.5**	**+0.2**
VRT	**Varto**	**2.37**	**101**	Pn	**Pn**	**09 43 11.4**	**+0.1**
YOZ	**Yozgat**	**2.48**	**271**	PN	**Pn**	**09 43 12.7**	**-0.1**
YOZ	**Yozgat**	**2.48**	**271**	Pn	**Pn**	**09 43 12.2**	**-0.6**
GAZ	**Gaziantep**	**2.66**	**203**	PN	**Pn**	**09 43 15.3**	**-0.1**
NIG	**Nigde**	**3.42**	**245**	Pn	**Pn**	**09 43 25.5**	**-0.6**
TOS	**Tosya**	**3.73**	**294**	Pn	**Pn**	**09 43 29.6**	**-0.9**
KAMT	**Kaman**	**3.74**	**268**	Pn	**Pn**	**09 43 30.0**	**-0.7**
BRTR	**Keskin Array B**	**3.78**	**273**	Pn	**Pn**	**09 43 30.3**	**-1.0**
	13nm,0.3s,baz=104,slow=14,SNR=272						
BRTR				Lg		09 44 26.2	
	baz=65,slow=21,SNR=2.7						
BRTR	**Keskin Array B**	**3.78**	**273**	P	**Pn**	**09 43 30.3**	**-1.0**
BRTR				pmax	pmax		
	comp=Z,13nm,0.3s						
HTY	**Hatay**	**3.98**	**209**	Pn	**Pn**	**09 43 34.3**	**+0.2**
SOC	**Sochi**	**4.05**	**12**	*i* P	**Pn**	**09 43 35.8**	**+0.6**
SOC				*e*S	**Sn**	**09 44 23.9**	**+0.3**
SOC				pmax	pmax		
	comp=Z,62nm,0.6s						
SOC				pmax	pmax		
	comp=N,43nm,0.7s						
SOC				pmax	pmax		
	comp=E,20nm,0.4s						
SOC				MLR	MLR		
	comp=Z,231nm,15.0s						
SOC				MLR	MLR		
	comp=N,193nm,13.0s						
SOC				MLR	MLR		
	comp=E,622nm,13.0s						
GNI	**Garni**	**4.80**	**82**	*e*P	**Pn**	**09 43 42.2**	**-3.6**
GNI	**Garni**	**4.80**	**82**	*e*Pn	**Pn**	**09 43 52.8**	**+7.0**
ANN	**Anapa**	**5.24**	**351**	*e*P	**Pn**	**09 43 54.5**	**+2.6**
ANN				*e*S	**Sn**	**09 44 56.2**	**+2.7**
ANN				pmax	pmax		
	comp=Z,10.0nm,0.5s						
ANN				MLR	MLR		
	comp=Z,210nm,14.0s						
ANN				MLR	MLR		
	comp=N,570nm,17.0s						
ANN				MLR	MLR		
	comp=E,240nm,14.0s						
KIV	**Kislovodsk**	**5.32**	**34**	*e*P	**Pn**	**09 43 49.5**	**-3.7**
KIV				*e*S	**Sn**	**09 44 55.0**	**-0.7**
KIV				MLR	MLR		
	comp=Z,163nm,17.0s						
KIV	**Kislovodsk**	**5.32**	**34**	*e*Pn	**Pn**	**09 43 55.1**	**+1.9**
	comp=Z,23nm,0.6s						
SIM	**Simferopol’**	**6.25**	**330**	P	**Pn**	**09 44 18.0**	**+12**
SIM				pmax	pmax		
	comp=Z,20nm,0.7s						
GOF	**Gofitskoye**	**6.37**	**30**	*e*P	**Pn**	**09 44 08.0**	**+0.1**
GOF				*i* S	**Sn**	**09 45 20.0**	**-1.9**
GOF				pmax	pmax		
	comp=Z,30nm,1.1s						
GOF				smax			
	comp=N,210nm,1.4s						
ISP	**Isparta**	**6.52**	**257**	P	**Pn**	**09 44 05.2**	**-4.9**
ISP	**Isparta**	**6.52**	**257**	*e*Pn	**Pn**	**09 44 08.8**	**-1.3**
ASF	**Jabal al Asfar**	**7.56**	**191**	Pn	**Pn**	**09 44 25.0**	**+0.4**
	comp=N,0.8nm,0.3s,baz=308,slow=2.6,SNR=5.0						
ASF				Lg		09 46 35.2	
	comp=N,0.8nm,0.3s,baz=236,slow=12,SNR=3.6						
MLR	**Muntele Rosu**	**10.98**	**306**	Pn	**P**	**09 45 09.7**	**-2.1**
	comp=N,0.6nm,0.3s,baz=206,slow=19,SNR=4.8						
MLR				LR	LR	09 50 30.2	
	comp=N,113nm,18.9s,baz=332,slow=44						
MLR	**Muntele Rosu**	**10.98**	**306**	P	**P**	**09 45 09.7**	**-2.1**
MLR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MLR				MLR	MLR		
	comp=Z,113nm,18.9s						
AKASG	**Malin Array Be**	**12.86**	**332**	Pn	**P**	**09 45 32.8**	**-4.4**
	comp=Z,1.4nm,0.3s,baz=138,slow=14,SNR=12						
AKASG	**Malin Array Be**	**12.86**	**332**	P	**P**	**09 45 32.8**	**-4.5**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
OBN	**Obninsk**	**15.55**	**356**	*e*P	**P**	**09 46 09.0**	**-3.5**
OBN				pmax	pmax		
	comp=Z,6.0nm,0.5s						
OBN				MLR	MLR		
	comp=Z,100nm,18.0s						
PKSM	**Moragy**	**15.97**	**301**	⇑*e*P	**P**	**09 46 27.6**	**+10**
DPC	**Dobruska-Polom**	**18.95**	**312**	*e*P	**P**	**09 47 00.2**	**+5.0**
VAE	**Valguarnera**	**18.98**	**271**	LR	LR	09 55 05.0	
	comp=Z,183nm,18.2s,baz=276,slow=40						
GERES	**GERESS Array B**	**19.96**	**306**	P	**P**	**09 47 05.5**	**-1.3**
	baz=119,slow=10,SNR=2.5						
KHC	**Kasperske Hory**	**20.13**	**306**	*e*P	**P**	**09 47 10.5**	**+1.9**
KHC	**Kasperske Hory**	**20.13**	**306**	*e*P	**P**	**09 47 13.5**	**+4.9**
KHC	**Kasperske Hory**	**20.13**	**306**	*e*P	**P**	**09 47 13.5**	**+4.9**
VSU	**Vasula**	**20.32**	**342**	P	**P**	**09 47 06.1**	**-4.4**
NKC	**Novy Kostel**	**21.19**	**309**	*e*P	**P**	**09 47 21.3**	**+1.7**
CLL	**Collm**	**21.26**	**312**	⇑P	**P**	**09 47 21.3**	**+1.0**
	comp=Z,logA/T=1.1,mb4.2						
CLL	**Collm**	**21.26**	**312**	⇑*i*P	**P**	**09 47 21.3**	**+1.0**
CLL				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.2						
CLL	**Collm**	**21.26**	**312**	⇑*i*P	**P**	**09 47 21.3**	**+1.0**
	comp=Z,11nm,0.9s,mb4.2						
ARU	**Arti**	**21.36**	**31**	⇑*i*P	**P**	**09 47 17.5**	**-3.8**
ARU				*e*S	**S**	**09 51 17.9**	**+4.0**
ARU				*e*SS	SS	09 51 42.7	-5.3
ARU				pmax	pmax		
	comp=Z,27nm,1.5s,mb4.4						
ARU	**Arti**	**21.36**	**31**	*e*P	**P**	**09 47 17.1**	**-4.2**
	comp=Z,47nm,1.6s,mb4.6						
PGF	**Pioggiola**	**22.40**	**287**	*e*P	**P**	**09 47 35.1**	**+3.3**
FINES	**FINESS Array B**	**23.15**	**345**	P	**P**	**09 47 42.3**	**+3.4**
	comp=Z,6.1nm,0.7s,mb4.1,baz=149,slow=11,SNR=13						
FINES				LR	LR	09 56 11.9	
	comp=Z,30nm,19.7s,MS2.7,baz=332,slow=36						
FINES	**FINESS Array B**	**23.15**	**345**	P	**P**	**09 47 42.3**	**+3.4**
FINES				pmax	pmax		
	comp=Z,6.0nm,0.7s						
FINES				MLR	MLR		
	comp=Z,30nm,19.7s						
KAF	**Kangasniemi**	**23.72**	**346**	*e*p	**P**	**09 47 35.4**	**-9.0**
MBDF	**Montbardon**	**23.99**	**293**	*e*P	**P**	**09 47 48.8**	**+1.6**
	comp=Z,20nm,1.0s,mb4.2						
CDF	**Champ du Feu**	**24.00**	**302**	*e*P	**P**	**09 47 45.2**	**-2.0**
LPG	**La Plagne**	**24.04**	**295**	*e*P	**P**	**09 47 48.7**	**+1.1**
	comp=Z,14nm,0.7s,mb4.2						
LPL	**La Plagne**	**24.05**	**295**	*e*P	**P**	**09 47 48.4**	**+0.6**
BNI	**Bardonecchia**	**24.07**	**293**	*e*P	**P**	**09 47 46.2**	**-1.8**
	comp=Z,7.8nm,0.8s,mb4.2						
LMR	**La Mourre**	**24.20**	**289**	*e*P	**P**	**09 47 51.0**	**+1.7**
CABF	**La Chapelle**	**24.57**	**297**	*e*P	**P**	**09 47 51.1**	**-1.7**
	comp=Z,19nm,0.8s,mb4.4						
ORIF	**Oris-en-Rattie**	**24.63**	**293**	*e*P	**P**	**09 47 54.6**	**+1.1**
	comp=Z,6.0nm,0.8s,mb3.9						
ORIF				*e*R			
	comp=Z,56nm,22.5s						
ZRNK	**Zerenda**	**24.70**	**47**	*e*P	**P**	**09 47 53.8**	**-0.2**
	comp=Z,5.3nm,0.8s,mb4.1						
SMRF	**Simiane la Rot**	**24.86**	**291**	*e*P	**P**	**09 47 57.1**	**+1.5**
	comp=Z,9.5nm,0.9s,mb4.0						
BRVK	**Borovoye**	**25.46**	**48**	P	**P**	**09 47 59.3**	**-1.9**
	comp=Z,3.5nm,0.6s,mb4.1						
VIVF	**Saint-Julien-l**	**25.49**	**293**	*e*P	**P**	**09 48 02.0**	**+0.4**
	comp=Z,3.5nm,0.5s,mb3.8						
BVAR	**Borovoye Array**	**25.51**	**48**	P	**P**	**09 48 06.9**	**+5.2**
	comp=Z,2.3nm,0.8s,mb3.8,baz=233,slow=7.4,SNR=7.8						
HFS	**Hagfors**	**25.75**	**331**	P	**P**	**09 48 05.1**	**+1.3**
	comp=Z,5.4nm,0.7s,mb4.2,baz=130,slow=12,SNR=8.0						
HFS	**Hagfors**	**25.75**	**331**	P	**P**	**09 48 05.1**	**+1.2**
HFS				pmax	pmax		
	comp=Z,5.0nm,0.7s						
LASF	**Ste Croix**	**26.09**	**291**	*e*P	**P**	**09 48 08.8**	**+1.6**
SMF	**Signal de Mont**	**26.12**	**297**	*e*P	**P**	**09 48 07.7**	**+0.3**
	comp=Z,18nm,1.1s,mb4.2						
LOR	**Lormes**	**26.14**	**298**	*e*P	**P**	**09 48 07.1**	**-0.6**
	comp=Z,10nm,0.9s,mb4.1						
LOR				*e*R			
	comp=Z,50nm,18.5s						
SSF	**Saint Saulge**	**26.37**	**298**	*e*P	**P**	**09 48 09.3**	**-0.5**
	comp=Z,3.6nm,0.5s,mb3.9						
AVF	**Avril sur Loir**	**26.46**	**297**	*e*P	**P**	**09 48 11.5**	**+0.9**
	comp=Z,22nm,1.2s,mb4.3						
NOA	**NORSAR Array B**	**27.27**	**331**	P	**P**	**09 48 17.8**	**-0.1**
	comp=Z,1.2nm,1.0s,mb3.4,baz=110,slow=9.4,SNR=2.5						
NOA				LR	LR	10 00 55.1	
	comp=Z,35nm,19.8s,MS2.9,baz=120,slow=41						
NOA	**NORSAR Array B**	**27.27**	**331**	P	**P**	**09 48 17.8**	**-0.1**
NOA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
NOA				MLR	MLR		
	comp=Z,35nm,19.8s						
MTLF	**Montolieu**	**27.32**	**290**	*e*P	**P**	**09 48 20.7**	**+2.2**
ETSF	**Etsaut**	**29.39**	**289**	*e*P	**P**	**09 48 39.6**	**+2.4**
KURK	**Kurchatov**	**30.00**	**55**	*e*P	**P**	**09 48 40.4**	**-2.2**
KURK	**Kurchatov**	**30.00**	**55**	*e*P	**P**	**09 48 40.5**	**-2.1**
	comp=Z,8.3nm,1.1s,mb4.4						
ARCES	**ARCESS Array B**	**30.76**	**351**	LR	LR	10 01 19.9	
	comp=Z,55nm,18.9s,MS3.2,baz=1.2,slow=37						
EKA	**Eskdalemuir Ar**	**31.70**	**314**	P	**P**	**09 48 57.6**	**+0.1**
	comp=Z,1.1nm,0.6s,mb3.9,baz=100,slow=9.3,SNR=3.8						
EKA	**Eskdalemuir Ar**	**31.70**	**314**	P	**P**	**09 48 57.6**	**+0.1**
EKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ESK	**Eskdalemuir**	**31.72**	**314**	P	**P**	**09 48 49.8**	**-8.0**
	comp=Z,8.2nm,0.8s,mb4.6						
MKAR	**Makanchi Array**	**32.35**	**63**	LR	LR	10 05 05.0	
	comp=Z,30nm,18.1s,MS3.0,baz=21,slow=42						
ESLA	**Sonseca Array**	**32.50**	**284**	P	**P**	**09 48 59.8**	**-4.9**
	comp=Z,1.5nm,0.9s,mb3.8						
BOD	**Bodaibo**	**50.19**	**42**	*e*P	**P**	**09 51 25.8**	**-3.5**
CMAR	**Chiang Mai Arr**	**55.81**	**94**	P	**P**	**09 52 13.9**	**+2.2**
	comp=Z,0.9nm,0.4s,mb4.2,baz=306,slow=7.8,SNR=3.2						
CMAR				LR	LR	10 19 26.3	
	comp=Z,22nm,20.7s,MS3.2,baz=325,slow=39						
CMAR	**Chiang Mai Arr**	**55.81**	**94**	P	**P**	**09 52 13.9**	**+2.2**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
CMAR				MLR	MLR		
	comp=Z,22nm,20.7s						
SSE	**Sheshan**	**65.72**	**69**	*e*P	**P**	**09 53 13.7**	**-5.2**
	comp=Z,16nm,0.7s,mb5.2						
PDAR	**Pinedale Array**	**93.04**	**337**	LR	LR	10 40 50.4	
	comp=Z,39nm,18.6s,MS3.9,baz=261,slow=38						

IDC ***30*** *09:55:00.3±0.7, 52.40N×171.22W, mb4.2/9, mb1 4.4/11, mb1mx4.1/26, ML3.7/2, MS3.2/2, Ms1 3.2/2, ms1mx2.6/26, Error ellipse: s-maj=28.2km s-min=11.2km az=177.0*
BJI ***30*** *09:55:06.4, 52.70N×171.30W, h40^{km}, mB4.5, mb4.3, Ms4.2, Msz4.0*
NEIC ***30*** *09:55:06.5±0.4, 52.67N×171.28W, h41^{km}±4^{km}, mb4.1/7, ML4.1(AEIC), Error ellipse: s-maj=12.2km s-min=3.4km az=164.0*
ISC 30 09:55:05.4±0.5, 52.76N±0.08×171.34W±0.05, h45^{km}±4^{km}, n68, σ0^{s}.92/71, mb4.2/22, MS3.5/3, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NIKO	**Nikolski**	**1.52**	**81**	P	**P**	**09 55 27.6**	**-3.0**
ATKA	**Atka Island**	**1.84**	**253**	P	**P**	**09 55 34.9**	**-0.2**
OKCE	**Okmok Cone E**	**2.02**	**70**	P	**P**	**09 55 37.9**	**+0.2**
OKCD	**Okmok Cone D**	**2.06**	**70**	P	**P**	**09 55 38.0**	**-0.2**
OKER	**East Rim**	**2.10**	**69**	P	**P**	**09 55 38.8**	**0.0**
MGOD	**Makushin Gods**	**2.87**	**67**	P	**P**	**09 55 49.2**	**-0.7**
MCIR	**Makushin Cirqu**	**2.92**	**64**	P	**P**	**09 55 51.1**	**+0.6**
GSIG	**Igitkin Island**	**2.92**	**256**	P	**P**	**09 55 50.3**	**-0.2**
MSW	**Makushin Switc**	**2.96**	**65**	P	**P**	**09 55 50.9**	**-0.2**
GSMY	**Great Sitkin M**	**2.98**	**258**	P	**P**	**09 55 51.5**	**+0.1**
GSMY				S	**S**	**09 56 29.8**	**+3.7**
MNAT	**Makushin Natee**	**3.01**	**66**	P	**P**	**09 55 51.5**	**-0.3**
GSTD	**Great Sitkin T**	**3.03**	**258**	P	**P**	**09 55 52.4**	**+0.3**
MTBL	**Makushin Table**	**3.04**	**65**	P	**P**	**09 55 52.6**	**+0.4**
UNV	**Unalaska Valle**	**3.10**	**68**	P	**P**	**09 55 52.2**	**-0.8**
UNV				S	**S**	**09 56 33.3**	**+4.2**
ADAG	**Mount Adagdak**	**3.32**	**258**	P	**P**	**09 55 57.0**	**+0.9**
ADAG				S	**S**	**09 56 38.5**	**+3.7**
LVA	**Lava Point**	**3.46**	**64**	P	**P**	**09 55 58.7**	**+0.5**
AKGG	**Akutan Green G**	**3.50**	**64**	P	**P**	**09 55 59.2**	**+0.4**
KIWB	**Kanaga Island**	**3.68**	**258**	P	**P**	**09 56 01.2**	**-0.1**
KIKV	**Kanaga Island**	**3.69**	**258**	P	**P**	**09 56 01.8**	**+0.4**
KIMD	**Kanaga Island**	**3.76**	**257**	P	**P**	**09 56 02.6**	**+0.2**
WESN	**West Dahl Nort**	**4.41**	**63**	P	**P**	**09 56 11.8**	**+0.2**
FX1	**Attu Island--F**	**9.39**	**277**	Pn	**P**	**09 57 19.0**	**-1.9**
	1.3nm,0.3s,baz=98,slow=7.1,SNR=6.4						
FX1				Sn	**S**	**09 59 06.5**	**+0.3**
	0.5nm,0.3s,baz=254,slow=22,SNR=2.1						
RSO	**Redoubt South**	**12.78**	**46**	P	**P**	**09 58 06.9**	**+0.2**
SLKM	**Skilak Lake**	**13.92**	**48**	P	**P**	**09 58 19.0**	**-2.5**
ILAR	**Eielson Array**	**17.32**	**37**	P	**P**	**09 59 06.5**	**+1.5**
	0.2nm,0.3s,baz=232,slow=10,SNR=18						
DAWY	**Dawson**	**19.95**	**43**	P	**P**	**09 59 34.3**	**-1.6**
INK	**Inuvik**	**23.69**	**35**	P	**P**	**10 00 15.2**	**+2.0**
	1.7nm,0.5s,mb3.7,baz=238,slow=7.2,SNR=9.2						
INK				LR	LR	10 11 05.7	
	comp=Z,75nm,18.1s,MS3.2,baz=302,slow=40						
INK	**Inuvik**	**23.69**	**35**	P	**P**	**10 00 13.1**	**-0.1**
DLBC	**Dease Lake**	**23.72**	**60**	P	**P**	**10 00 13.7**	**+0.2**
	1.9nm,0.7s,mb3.6,baz=355,slow=12,SNR=6.3						
DLBC				LR	LR	10 08 52.9	
	comp=Z,36nm,18.9s,MS2.9,baz=120,slow=35						
NEW	**Newport**	**34.08**	**75**	*e*P	**P**	**10 01 47.1**	**-0.1**
	5.9nm,0.7s,mb4.6						
MOD	**Modoc**	**35.54**	**87**	*e*P	**P**	**10 01 58.8**	**-1.0**
	1.8nm,0.8s,mb4.0						
HLID	**Hailey**	**38.15**	**80**	*e*P	**P**	**10 02 21.8**	**+0.2**
	1.5nm,0.7s,mb3.8						
MCMT	**McKenzie Canyo**	**38.37**	**78**	*e*P	**P**	**10 02 23.4**	**-0.1**
MDJ	**Mudanjiang**	**38.84**	**282**	P	**P**	**10 02 25.3**	**-2.0**
MDJ				AMB	AMB		
	comp=Z,6.0nm,1.5s,mb4.1						
MDJ				AMB	AMB		
	comp=Z,69nm,6.1s						
NVAR	**Mina Array Bea**	**38.87**	**90**	P	**P**	**10 02 28.4**	**+0.7**
	comp=Z,3.2nm,0.9s,mb4.1,baz=299,slow=7.2,SNR=9.7						
NVAR				PcP	PcP	10 04 38.8	+0.1
	comp=Z,0.5nm,0.7s,baz=252,slow=2.9,SNR=3.6						
NVAR				ScP		10 08 25.6	
	comp=Z,0.6nm,0.8s,baz=315,slow=3.8,SNR=4.6						
ELK	**Elko**	**39.30**	**85**	*e*P	**P**	**10 02 31.2**	**0.0**
	comp=Z,3.0nm,0.8s,mb4.1						
MTUM	**Tungsten Hills**	**39.40**	**91**	*e*P	**P**	**10 02 33.9**	**+1.8**
TPNV	**Topopah Spring**	**41.07**	**90**	*e*P	**P**	**10 02 45.9**	**0.0**
	comp=Z,4.9nm,0.9s,mb4.1						
DUG	**Dugway**	**41.10**	**84**	*e*P	**P**	**10 02 46.2**	**+0.1**
	comp=Z,4.2nm,1.0s,mb4.0						
LAO	**LASA Array**	**41.23**	**71**	*e*P	**P**	**10 02 47.6**	**+0.5**
BW06	**Boulder Array**	**41.50**	**78**	*e*P	**P**	**10 02 48.1**	**-1.2**
	comp=Z,3.8nm,0.8s,mb4.1						
PDAR	**Pinedale Array**	**41.50**	**78**	P	**P**	**10 02 49.9**	**+0.6**
	comp=Z,4.0nm,0.8s,mb4.1,baz=315,slow=5.5,SNR=15						
NLU	**North Lily Min**	**41.69**	**83**	*e*P	**P**	**10 02 51.2**	**+0.3**
CN2	**Changchun**	**41.75**	**284**	*e*P	**P**	**10 02 51.5**	**+0.1**
DAU	**Daniels Canyon**	**41.90**	**82**	*e*P	**P**	**10 02 53.5**	**+0.8**
LDFC	**Landfair**	**42.99**	**91**	*e*P	**P**	**10 03 03.5**	**+1.8**
PV10	**Paradox Valley**	**44.52**	**83**	*e*P	**P**	**10 03 14.0**	**+0.1**
PV01	**Paradox Valley**	**44.96**	**83**	*e*P	**P**	**10 03 17.4**	**0.0**
RW3	**Ridgway**	**45.41**	**82**	*e*P	**P**	**10 03 21.7**	**+0.6**
SDCO	**Great Sand Dun**	**47.05**	**81**	*e*P	**P**	**10 03 33.8**	**-0.3**
	comp=Z,1.2nm,0.8s,mb3.9						
LAZ	**Ladron**	**48.29**	**86**	*e*P	**P**	**10 03 44.4**	**+0.6**
ANMO	**Albuquerque**	**48.33**	**85**	P	**P**	**10 03 44.2**	**+0.1**
SONM	**Songino Array**	**50.06**	**299**	P	**P**	**10 03 57.9**	**+0.7**
	comp=Z,0.4nm,0.6s,mb3.6,baz=46,slow=6.8,SNR=2.7						
SONM				PcP	PcP	10 05 16.8	+0.1
	comp=Z,0.8nm,0.7s,baz=56,slow=4.5,SNR=4.1						
SSE	**Sheshan**	**52.57**	**274**	*e*P	**P**	**10 04 15.0**	**-1.3**
SSE				AMB	AMB		
	comp=Z,12nm,0.7s,mb4.9						
SSE				AMB	AMB		
	comp=Z,80nm,7.3s						
WMOK	**Wichita Mounta**	**53.09**	**79**	*e*P	**P**	**10 04 19.0**	**-1.2**
NJ2	**Nanjing**	**53.31**	**276**	*e*P	**P**	**10 04 22.5**	**+0.6**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
LZH	**Lanzhou**	**59.33**	**290**	*e*P	**P**	**10 05 05.0**	**+0.2**
LZH				PP	PP	10 07 15.0	-2.9
LZH				AMB	AMB		
	comp=Z,25nm,1.5s,mb5.0						
LZH				LR	LR		
	comp=E,191nm,13.0s						
LZH				LR	LR		
	comp=Z,243nm,17.2s,MS4.4						
PWV	**Princeton**	**61.50**	**65**	*e*P	**P**	**10 05 19.8**	**+0.2**
WMQ	**Urumqi**	**62.34**	**307**	*e*P	**P**	**10 05 26.5**	**+1.4**
WMQ				AMB	AMB		
	comp=Z,4.0nm,1.4s,mb4.4						
BRVK	**Borovoye**	**62.69**	**323**	P	**P**	**10 05 25.2**	**-2.1**
ZRNK	**Zerenda**	**63.23**	**324**	*e*P	**P**	**10 05 32.1**	**+1.1**
ARU	**Arti**	**63.71**	**332**	P	**P**	**10 05 33.9**	**0.0**
CMAR	**Chiang Mai Arr**	**75.36**	**281**	P	**P**	**10 06 45.9**	**+0.2**
	comp=Z,3.0nm,0.7s,mb4.3,baz=27,slow=6.7,SNR=14						
WRAB	**Tennant Creek**	**86.31**	**230**	P	**P**	**10 07 42.2**	**-1.3**
WRA	**Warramunga Arr**	**86.32**	**230**	P	**P**	**10 07 41.6**	**-1.9**
	comp=Z,1.1nm,0.7s,mb4.2,baz=32,slow=5.8,SNR=12						
FITZ	**Fitzroy Crossi**	**89.03**	**238**	P	**P**	**10 07 57.0**	**+0.4**
	comp=Z,2.5nm,0.8s,mb4.6,baz=349,slow=5.2,SNR=4.1						
ASAR	**Alice Springs**	**89.74**	**228**	P	**P**	**10 07 59.2**	**-0.7**
	comp=Z,3.2nm,0.7s,mb4.8,baz=31,slow=4.7,SNR=44						
MAW	**Mawson**	**150.43**	**219**	PKPbc	PKPdf	10 14 51.2	+6.3
	comp=Z,1.5nm,0.7s,baz=104,slow=3.2,SNR=5.7						

STR ***30*** *10:06:15.0±0.1, 44.41N×7.06E, h5^{km}±1^{km}, Ml2.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
NEIC ***30*** *10:06:15.0, 44.41N×7.06E, h5^{km}, ML3.0(LDG), ML3.0(GEN), ML2.6(STR), After STR.*
LDG ***30*** *10:06:15.0±0.1, 44.39N×7.02E, h4^{km}, Md2.8/1, Ml3.0/11, Error ellipse: s-maj=1.5km s-min=0.8km az=69.0*
ISC 30 10:06:13.8±0.2, 44.39N±0.01×7.01E±0.02, h13^{km}±2^{km},

n44,σ0^{s}87/87,1C,Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PZZ	Prazzo	0.13	29	P	Pg	10 06 17.7	+0.4
PZZ				S	Sg	10 06 19.7	0.0
SURF	Saint Ours	0.17	304	Pg	Pg	10 06 18.9	+1.0
SURF				Sg	Sg	10 06 22.0	+1.4
STV	Sta Anna Valdi	0.27	122	P	Pg	10 06 19.7	0.0
STV				S	Sg	10 06 23.3	-0.2
STV2	Anna di Valdie	0.27	122	P	Pg	10 06 19.7	0.0
STV2				S	Sg	10 06 23.3	-0.2
ENR	Entracque	0.34	118	P	Pg	10 06 20.9	0.0
ENR				S	Sg	10 06 25.3	-0.3
MBDF	Montbardon	0.38	333	ePg	Pg	10 06 22.3	+0.6
MBDF				eSg	Sg	10 06 28.2	+1.2
	182nm,0.2s						
TOUF	Mont Tournerai	0.41	155	Pg	Pg	10 06 23.0	+0.7
OG22	Abries	0.44	354	Pg	Pg	10 06 23.0	+0.2
OG22				Sg	Sg	10 06 29.3	+0.4
BHB	Bricherasio	0.49	22	P	Pb	10 06 23.8	0.0
BHB				S	Sg	10 06 30.1	-0.5
AUTN	L'Aution	0.49	142	Pg	Pg	10 06 24.4	+0.5
AUTN				Sg	Sg	10 06 30.8	+0.1
MVIF	Mont Vial	0.50	168	Pg	Pg	10 06 24.8	+0.7
AURF	Auriere	0.55	155	Pg	Pg	10 06 25.5	+0.5
AURF				Sg	Sg	10 06 33.2	+0.7
RRL	Cesana Torines	0.56	343	P	Pb	10 06 25.6	+0.6
RRL				S	Sb	10 06 33.0	+0.5
SAOF	Saorge	0.56	135	Pg	Pg	10 06 25.5	+0.2
SAOF				Sg	Sg	10 06 32.5	-0.4
SBF	Sospel	0.61	150	ePg	Pg	10 06 26.5	+0.3
SBF				eSg	Sg	10 06 33.8	-0.6
	83nm,0.2s						
MONE	Monesi	0.62	120	P	Pb	10 06 26.2	+0.2
MONE				S	Sb	10 06 34.1	-0.2
ROB	Roburent	0.62	98	P	Pb	10 06 26.4	+0.3
ROB				S	Sb	10 06 34.3	-0.2
CALN	Calern	0.64	188	Pg	Pg	10 06 27.8	+1.0
CALN				Sg	Sg	10 06 36.6	+1.1
FENE	Fenestrelle	0.64	3	P	Pb	10 06 26.8	+0.4
FENE				S	Sb	10 06 35.2	+0.2
REVF	Revere	0.70	158	Pg	Pg	10 06 28.3	+0.4
BNI	Bardonecchia	0.70	341	ePn	Pn	10 06 27.0	-2.3
BNI				eSn	Sn	10 06 37.0	-3.0
NEGI	Negi	0.74	137	P	Pb	10 06 28.5	+0.5
NEGI				S	Sb	10 06 37.8	+0.1
RSP	Reno Superiore	0.78	13	P	Pb	10 06 29.2	+0.4
RSP				S	Sb	10 06 39.3	+0.2
IMI	Imperia	0.79	127	ePg	Pg	10 06 29.5	-0.3
IMI				eSg	Sg	10 06 39.9	-0.6
RORO		0.81	110	P	Pb	10 06 29.6	+0.3
RORO				S	Sb	10 06 40.0	+0.2
FRF	La Foret Royal	0.87	198	ePg	Pg	10 06 31.7	+0.4
FRF				eSg	Sg	10 06 42.4	-0.5
	150nm,0.2s						
FIN	Finale Ligure	0.88	101	⇑iPg	Pg	10 06 30.8	-0.7
FIN				eSg	Sg	10 06 42.0	-1.3
ORIF	Oris-en-Rattie	0.96	304	ePg	Pg	10 06 33.3	+0.1
ORIF				ePn	Pn	10 06 33.7	+0.7
ORIF				eSg	Sg	10 06 45.6	-0.6
ORIF				eSn	Sn	10 06 47.2	+0.6
	26nm,0.2s						
LSD	Ceresole Reale	1.07	5	P	Pb	10 06 34.7	+0.9
LSD				S	Sb	10 06 48.2	+0.7
PCP	Pian Castagno	1.11	81	P	Pb	10 06 34.9	+0.5
PCP				S	Sb	10 06 48.3	-0.3
SMRF	Simiane la Rot	1.11	249	ePg	Pg	10 06 35.8	-0.3
SMRF				eP		10 06 37.3	
SMRF				eSg	Sg	10 06 50.4	-0.6
	52nm,0.2s						
LMR	La Mourre	1.11	199	ePg	Pg	10 06 36.1	-0.1
LMR				eSg	Sg	10 06 50.0	-1.1
	86nm,0.3s						
LPG	La Plagne	1.12	351	ePn	Pn	10 06 36.0	+0.7
LPG				ePg	Pg	10 06 36.5	+0.1
LPG				eSn	Sn	10 06 50.5	-0.1
	37nm,0.3s						
LPL	La Plagne	1.15	350	ePn	Pn	10 06 36.4	+0.8
LPL				ePg	Pg	10 06 36.9	+0.1
LPL				eSg	Sg	10 06 51.5	-0.7
	30nm,0.2s						
OCF	Saint Nazaire	1.24	279	Pg	Pg	10 06 40.0	+1.4
OG26	St.-Nazaire-De	1.24	279	Pg	Pg	10 06 40.0	+1.4
TRAV		1.24	25	P	Pb	10 06 36.3	-0.4
MCGN	Macugnaga	1.72	23	ePg	Pg	10 06 48.0	-0.2
MCGN				eSg	Sg	10 07 09.9	-1.2
VIVF	Saint-Julien-l	1.73	286	ePn	Pn	10 06 45.5	+1.5
VIVF				ePg	Pg	10 06 46.5	-2.0
VIVF				eSn	Sn	10 07 05.7	-0.4
VIVF				eSg	Sg	10 07 09.8	-1.9
	11nm,0.3s						
LASF	Ste Croix	2.29	263	ePg	Pg	10 06 58.0	-1.5
LASF				eSg	Sg	10 07 26.8	-3.3
	12nm,0.4s						
CABF	La Chapelle	2.32	344	ePg	Pg	10 06 58.5	-1.6
CABF				eSg	Sg	10 07 28.2	-2.8
	9.6nm,0.5s						
PGF	Pioggiola	2.34	141	ePn	Pn	10 06 52.9	+0.2
PGF				eSn	Sn	10 07 19.6	-1.9
	16nm,0.2s						
MTLF	Montolieu	3.62	255	ePg	Pg	10 07 19.7	-6.4
HAU	Haudompre	3.65	353	eP	Pn	10 07 13.1	+1.8
HAU				eSn	Sn	10 07 51.2	-3.4
	4.1nm,0.3s						

MAN 30 10:11:10.7,8.79N×122.46E,h14^{km},mb4.0,ML2.7,MS2.4, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DCPH	Dipolog City	0.90	103	eP	Pb	10 11 27.2	-0.4
SNPH	Sibulan	0.94	54	i P	Pb	10 11 27.9	-0.4
IPIL	Ipil	1.00	174	eP	Pb	10 11 28.8	-0.5
IPIL				eS	Sb	10 11 40.4	-1.8
PAGZ	Pagadian	1.31	136	eP	Pb	10 11 33.6	-0.9
GUIM	Jordan	1.83	4	eP	Pn	10 11 41.6	-0.5

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*HEL **30** 10:20:09.7±0.4,59.70N×22.31E,ML1.9,ML2.0(UPP), ML2.1(NAO),Explosion*

*IDC **30** 10:20:10.5±2.1,59.84N×22.28E,mb1 3.0/3, mb1mx2.9/19,ML2.7/3,Error ellipse: s-maj=26.5km s-min=9.4km az=167.0*

*NAO **30** 10:20:12.8±2.7,60.13N×22.17E,ML2.1*

*BER **30** 10:20:12.1±3.2,59.95N×22.34E,ML2.1(NAO), Suspected explosion*

ISC 30 10:20:08.6±0.8**,59.72N**±0.06×**22.28E**±0.06**,n26,**σ**1^{s}00**/39**, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AAL	Aland	1.24	293	eP	Pb	10 20 31.8	-0.8
NRTU	Norrtaelje	1.85	270	eS	Sn	10 21 07.7	+1.3
PVF	Pernaja	1.97	64	eP	Pn	10 20 43.7	+0.1
PVF				eS	Sn	10 21 08.6	-0.8
PVF				MSG		10 21 12.4	
	comp=Z,6.6nm,0.1s						
GRAU	Graesoe	1.98	290	eP	Pn	10 20 44.3	+0.6
GRAU				eS	Sn	10 21 09.2	-0.3
NYNU	Nynaeshamn	2.31	254	eP	Pn	10 20 50.4	+2.0
FIA0	FINESS Array S	2.55	46	eP	Pn	10 20 52.5	+0.7
FIA0				eS	Sn	10 21 24.5	+0.4
FIA0				MSG		10 21 26.4	
	comp=Z,5.0nm,0.1s						
FIA0	FINESS Array S	2.55	46	Pn	Pn	10 20 52.6	+0.7
	baz=229,slow=14						
FIA0				Lg		10 21 24.6	
	baz=232,slow=28						
FIA0				Rg		10 21 39.5	
	baz=216,slow=37						
FINES	FINESS Array B	2.55	46	Pn	Pn	10 20 52.6	+0.7
	comp=Z,0.9nm,0.3s,baz=232,slow=13,SNR=30						
FINES				Sn	Sn	10 21 25.1	+1.1
	comp=Z,3.0nm,0.3s,baz=237,slow=22,SNR=22						
FINES				Rg		10 21 41.3	
	comp=Z,12nm,1.0s,baz=220,slow=32,SNR=7.5						
IGGU	Iggoen	2.73	297	eP	Pn	10 20 54.8	+0.4
KEF	Keuruu	2.76	26	eP	Pn	10 20 55.9	+1.0
KEF				eS	Sn	10 21 30.1	+0.7
VJF	Virojoki	2.76	71	eP	Pn	10 20 54.6	-0.4
VJF				eS	Sn	10 21 28.6	-1.0
KAF	Kangasniemi	3.10	38	eP	Pn	10 21 00.6	+0.8
KAF				eS	Sn	10 21 39.0	+0.9
VAF	Ylistaro	3.34	3	eP	Pn	10 21 04.0	+0.9
VAF				eS	Sn	10 21 45.2	+1.2
SUF	Sumiainen	3.54	30	eP	Pn	10 21 05.7	-0.3
SUF				eS	Sn	10 21 49.9	+0.6
UMAU	Umeaa	4.24	350	eP	Pn	10 21 15.5	-0.5
HFS	Hagfors	4.34	279	eP	Pn	10 21 17.5	+0.1
HFS				eSG	Sg	10 22 26.1	-7.1
HFS	Hagfors	4.34	279	Pn	Pn	10 21 17.5	+0.1
	baz=97,slow=9.3						
HFS				Lg		10 22 26.1	
	baz=94,slow=37						
BREU	Bredtraesk	4.54	339	eP	Pn	10 21 19.9	-0.3
BURU	Burvik	4.90	355	eP	Pn	10 21 23.6	-1.6
SVAU	Svanoeiden	4.95	346	eP	Pn	10 21 24.9	-1.2
NOA	NORSAR Array B	5.65	288	Pn	Pn	10 21 34.2	-1.6
	comp=Z,0.2nm,0.3s,baz=71,slow=8.8,SNR=2.2						
NOA				Sn	Sn	10 22 36.8	-5.6
	comp=Z,0.1nm,0.3s,baz=357,slow=19,SNR=2.3						
NOA				Lg		10 23 02.4	
	comp=Z,0.3nm,0.3s,baz=50,slow=13,SNR=3.2						
LILU	Lilltraesk	5.70	350	eP	Pn	10 21 34.9	-1.6
SJUU	Sjulsmark	5.81	357	eP	Pn	10 21 36.3	-1.9
ARA0	ARCESS Array S	9.95	7	Pn	P	10 22 30.0	-5.7
	baz=180,slow=16						
ARA0				Sn	Sn	10 24 14.5	-15
	baz=191,slow=28						
ARA0	ARCESS Array S	9.95	7	eP	P	10 22 30.0	-5.7
ARA0				e		10 24 14.5	
ARCES	ARCESS Array B	9.95	7	Pn	P	10 22 30.0	-5.7
	comp=Z,0.1nm,0.3s,baz=183,slow=14,SNR=7.5						
ARCES				Sn	Sn	10 24 16.8	-13
	comp=Z,0.2nm,0.3s,baz=191,slow=24,SNR=2.8						

IDC 30 10:24:00.6±7.5**,18.73S×177.86W,mb3.3**/3**,mb1 3.6**/3**, mb1mx3.5**/12**,Error ellipse: s-maj=327.0km s-min=40.0km az=143.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	45.01	260	P	P	10 32 18.5	-1.5
	0.2nm,0.3s,baz=96,slow=7.7,SNR=7.4						
ASAR	Alice Springs	45.08	255	P	P	10 32 18.4	-2.1
	0.3nm,0.7s,baz=96,slow=8.3,SNR=6.4						
ILAR	Eielson Array	86.56	13	P	P	10 36 45.2	-1.3
	0.1nm,0.6s,baz=229,slow=7.4,SNR=4.1						

WEL 30 10:24:17.5±0.7**,35.58S×178.95E,h232**^{km}±15^{km}**,ML3.7**/4**, Error ellipse: s-maj=15.7km s-min=15.7km az=90.0,Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	2.04	194	PN	P	10 24 58.2	-1.1
MXZ				SN	S	10 25 29.7	-1.8
PUZ	Puketiti	2.55	192	PN	P	10 25 04.2	-0.2
PUZ				SN	S	10 25 39.4	-1.4
MWZ	Matawai	2.97	202	PN	P	10 25 08.8	-0.3
MWZ				SN	S	10 25 48.5	-0.6
URZ	Urewera	3.05	208	PN	P	10 25 08.4	-1.6
URZ				SN	S	10 25 50.6	0.0
KNZ	Kokohu	3.58	196	PN	P	10 25 15.4	-0.7
PWZ	Pawanui	4.74	200	PN	P	10 25 28.6	-1.5
CAW	Cannon Point	6.30	208	PN	P	10 25 47.3	-2.5
TUWZ	Tuamarina	7.03	212	PN	P	10 25 55.8	-3.3
TUWZ				SN	S	10 27 14.6	-3.9
THZ	Tophouse	7.77	216	PN	P	10 26 05.8	-2.8
KHZ	Kahutara	8.02	210	PN	P	10 26 08.8	-2.9
MQZ	McQueen's Vall	9.45	209	SN	S	10 28 07.9	-6.2

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*NIC **30** 10:31:30.4±0.3,36.99N×31.25E,h25^{km},mb4.2,ML3.8, MW3.3*

*ISK **30** 10:31:32.2,35.89N×30.76E,h74^{km},MD3.6,ML3.5*

*IDC **30** 10:31:33.7±3.4,35.96N×30.56E,h62^{km}±26^{km},mb3.7/3, mb1 3.7/6,mb1mx3.4/20,ML3.5/3,Error ellipse: s-maj=48.3km s-min=12.4km az=149.0*

*NEIC **30** 10:31:34.0±0.7,35.89N×30.64E,h70^{km}±13^{km},Error ellipse: s-maj=13.6km s-min=8.1km az=57.0*

ISC 30 10:31:32.8±0.4**,35.89N**±0.03×**30.66E**±0.05**,h80**^{km}±8^{km}**, n47,**σ**1^{s}20**/57**,mb3.8**/3**,1D,Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ELL	Elmali	1.05	325	i PN	P	10 31 51.9	-0.8
ELL				i SN	S	10 32 08.5	+0.9
BCK	Bucak	1.57	358	i PN	P	10 31 59.6	+0.1
PPCY	Paphos	1.70	126	⇓P	P	10 32 04.6	+3.3
PPCY				S	S	10 32 28.4	+6.2
ALFC	Alevga	1.74	114	P	P	10 32 01.2	-0.6
	27nm,0.2s						
ALFC				S	S	10 32 28.3	+5.2
HDMB	Hadim	1.82	53	PN	P	10 32 02.3	-0.5
HDMB				SN	S	10 32 22.9	-2.0
DALT	Dalyan (Mudla)	1.86	299	PN	P	10 32 03.6	+0.3
ISP	Isparta	1.95	356	ePN	P	10 32 04.3	-0.3
ISP	Isparta	1.95	356	ePn	P	10 32 05.8	+1.1
ISP				eSn	S	10 32 31.1	+3.0
LEF	Lefka	1.97	112	ePN	P	10 32 04.5	-0.4
SZAC	Souni-Zanaja	2.14	121	P	P	10 32 09.8	+2.6
	10nm,0.3s						
SZAC				S	S	10 32 40.5	+7.8
DNZL	Cakiroluk	2.22	325	i P	P	10 32 17.2	+8.9
DENT	Denizli	2.27	325	ePN	P	10 32 09.8	+0.7
CSS	Prodhromos	2.37	112	P	P	10 32 10.1	-0.3
	3.8nm,0.3s						
CSS				S	S	10 32 40.7	+2.3
KONT	Konya--Tatoy	2.46	33	ePN	P	10 32 11.0	-0.7
IKL	Isikli	2.47	81	ePN	P	10 32 11.3	-0.6
BDRM	Kayabasi	2.85	295	i P	P	10 32 09.1	-8.1
AYDN	Tasoluk	2.85	309	i P	P	10 32 25.6	+8.5
MEST	Erdemli	2.90	75	i P	P	10 32 18.1	+0.3
MANT	Manisa	3.09	328	i P	P	10 32 22.7	+2.2
KIZT	Kizilcal	3.14	18	ePN	P	10 32 21.0	-0.2
ESKT	Eskisehir	3.63	2	ePN	P	10 32 27.2	-0.7
ESKT	Eskisehir	3.63	2	i P	P	10 32 27.4	-0.5
NIG	Nigde	3.86	54	ePN	P	10 32 30.7	-0.4
KAMT	Kaman	4.23	34	ePN	P	10 32 35.4	-0.9
AVNT	Avonos	4.41	48	i P	P	10 32 42.0	+3.2
ULDT	Uludag	4.41	345	i P	P	10 32 37.9	-0.9
HTY	Hatay	4.44	85	ePN	P	10 32 38.0	-1.3
BRTR	Keskin Array B	4.50	31	P	P	10 32 38.9	-1.1
	0.7nm,0.3s,baz=205,slow=16,SNR=19						
BRTR				S	S	10 33 30.7	-0.7
	1.2nm,0.3s,baz=25,slow=12,SNR=5.8						
COBT	Iskenderun	4.57	80	i P	P	10 32 40.9	-0.1
HNTI	Hanita	4.66	126	Pn	P	10 32 43.6	+1.3
HNTI				Sn	S	10 33 29.9	-5.6
IDI	Anoyia	4.74	264	P	P	10 32 43.2	-0.2
	5.4nm,0.3s,baz=88,slow=13,SNR=24						
IDI				S	S	10 33 34.4	-3.2
	5.4nm,0.3s,baz=285,slow=16,SNR=5.5						
HAF	Haifa	4.76	129	Pn	P	10 32 42.8	-0.8
SGKT	Sivrigoynuk	4.80	13	i P	P	10 32 44.6	+0.4
OFRI	'Ofer	4.84	131	Pn	P	10 32 46.3	+1.5
MMLI	Mount Malkishu	5.24	130	Pn	P	10 32 50.0	-0.2
HMDT	Nahal Hemdat	5.43	131	Pn	P	10 32 52.1	-0.6
GZT	Gaziantep	5.74	73	i P	P	10 32 58.9	+1.9
DRGI	Dragot	5.82	136	Pn	P	10 32 59.2	+1.0
KZIT	Kziot	5.87	147	Pn	P	10 32 57.4	-1.4
ASF	Jabal al Asfar	6.37	124	S	S	10 34 23.6	+5.9
	0.7nm,0.3s,baz=119,slow=22,SNR=3.1						
PRNI	Paran	6.62	145	Pn	P	10 33 07.5	-1.8
MBH	Mount Berech	7.05	148	Pn	P	10 33 13.9	-1.5
AKASG	Malin Array Be	14.84	356	P	P	10 35 03.7	+4.4
	0.3nm,0.3s,baz=176,slow=10,SNR=6.9						
FINES	FINESS Array B	25.74	355	P	P	10 36 57.2	+0.1
	1.4nm,0.5s,mb3.6,baz=153,slow=9.3,SNR=6.7						
FINES	FINESS Array B	25.74	355	P	P	10 36 57.2	+0.1
ARCES	ARCESS Array B	33.82	357	P	P	10 38 08.9	+0.1
	2.6nm,0.8s,mb4.1,baz=180,slow=8.5,SNR=4.8						
MKAR	Makanchi Array	39.61	58	P	P	10 38 59.4	+1.6
	0.6nm,0.7s,mb3.6,baz=288,slow=4.6,SNR=3.4						

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*NIED **30** 10:33:00,26.50N×129.00E,h23^{km},Mw3.7 Best double couple: M$_0$4.16×10^{14} NP1:ϕ_s354°,δ80°,λ-127°. NP2: ϕ_s252°,δ38°,λ-16°.*

JMA 30 10:33:52.4±0.2**,26.51N×128.95E,h41**^{km}±4^{km}**,M3.6, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JOW	Kunigami	0.68	298	P	P	10 34 05.8	+0.1
JOW				S	S	10 34 14.8	-0.5
JIH	Iheya	1.02	301	P	P	10 34 11.0	+0.6
JIH				S	S	10 34 24.0	+0.2
JJT2	Tamagusuku 2	1.14	251	P	P	10 34 12.4	+0.3
JJT2				eS	S	10 34 26.9	+0.1
NAH1	Naha	1.17	255	P	P	10 34 12.8	+0.3
NAH1				eS	S	10 34 27.3	-0.3
JTK	Tokunoshima	1.27	0	P	P	10 34 14.4	+0.4
JTK				eS	S	10 34 29.4	-0.8
JAGN	Aguni-jima	1.53	273	P	P	10 34 18.2	+0.4
JAGN				eS	S	10 34 36.0	-0.7
JKE	Kume jima 2	1.95	265	P	P	10 34 23.1	-0.6
JKE				eS	S	10 34 46.3	-0.8
JAM	Amami Oshima	1.98	17	P	P	10 34 24.1	0.0
JAM				eS	S	10 34 47.4	-0.5
JZK	Kikaishima	2.01	27	P	P	10 34 25.2	+0.6
JZK				eS	S	10 34 50.2	+1.5
JMZ	Minamidaito 2	2.15	108	P	P	10 34 25.6	-1.0
JMZ				S	S	10 34 48.8	-3.4
JNN	Nakanoshima	3.42	14	P	P	10 34 43.9	-0.7
JNN				eS	S	10 35 24.5	+0.1
JOGS	Gusukube	3.64	242	P	P	10 34 46.7	-1.1
JOGS				eS	S	10 35 27.1	-3.0
JTJ	Tarama	4.26	245	P	P	10 34 54.3	-2.3
JTJ				eS	S	10 35 40.2	-5.5
JIJ	Ishigaki jima	4.84	245	P	P	10 35 01.5	-3.3
JIJ				eS	S	10 35 52.5	-7.8
JKRS	Kuro-shima	5.01	244	P	P	10 35 04.1	-3.0
IRIF	Iriomote-Funau	5.19	246	P	P	10 35 06.2	-3.5

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*NEIC **30** 10:40:34.2,30.54S×72.17W,h37^{km},MD3.9(GUC),After GUC.*

GUC 30 10:40:34.2±0.7**,30.54S×72.17W,h37**^{km}±4^{km}**,MD3.9, ML3.8,3C-1D,Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LSCH	La Serena	1.02	52	⇑iP	P	10 40 52.5	+0.3
LSCH				i S	S	10 41 06.5	+0.9
LSCH				AMP		10 41 13.5	
	comp=E,1µm,0.5s						
CMCH	Combarbala	1.19	122	⇓iP	P	10 40 55.5	+1.0
CMCH				i S	S	10 41 11.4	+1.6
CMCH				AMP		10 41 14.6	
	comp=N,6µm,0.6s						
TLL	Tololo Astrono	1.24	73	⇑iP	P	10 40 56.4	+1.1
TLL				i S	S	10 41 13.6	+2.5
TLL				AMP		10 41 17.3	
	comp=N,3µm,0.6s						
VACH	Vallenar	2.32	33	i P	P	10 41 21.4	+11
VACH				i S	S	10 41 49.3	+11
VACH				AMP		10 41 54.1	
	comp=N,809nm,0.4s						
PEL	Peldehue	2.89	154	i P	P	10 41 18.9	0.0
PEL				i S	S	10 41 52.9	+0.1
PEL				AMP		10 42 16.9	
	comp=N,551nm,0.7s						
CLCH	Cerro Calan	3.17	154	i P	P	10 41 22.9	0.0
CLCH				i S	S	10 42 00.0	+0.2
CLCH				AMP		10 42 19.0	
	comp=E,359nm,0.6s						
FCH	Farellones	3.21	151	⇑iP	P	10 41 24.5	+1.1
FCH				i S	S	10 42 02.3	+1.4
FCH				AMP		10 42 23.0	
	comp=E,116nm,0.7s						

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*NAO **30** 10:53:51.8±3.0,60.90N×29.04E,ML2.5*

*HEL **30** 10:53:53.5±0.3,60.94N×29.05E,ML2.0,ML2.5(NAO), Explosion*

*BER **30** 10:53:53.9±2.9,60.92N×28.98E,ML2.5(NAO), Suspected explosion*

*IDC **30** 10:53:55.0±1.8,61.02N×28.89E,mb1 3.3/3, mb1mx3.1/18,ML2.9/3,Error ellipse: s-maj=16.0km s-min=10.1km az=157.0*

ISC 30 10:53:49.3±1.3**,60.89N**±0.05×**29.3E**±0.1**,n16,**σ**1^{s}37**/30**, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VJF	Virojoki	0.91	248	eP	Pg	10 54 08.4	+0.8
VJF				eS	Sg	10 54 19.4	-0.4
FIA0	FINESS Array S	1.64	291	Pn	Pn	10 54 19.6	0.0
	baz=110,slow=16						
FIA0				Lg		10 54 40.6	
	baz=107,slow=28						
FIA0				Rg		10 54 48.5	
	baz=114,slow=37						
FIA0	FINESS Array S	1.64	291	eP	Pn	10 54 20.1	+0.5
FIA0				eS	Sb	10 54 40.1	-1.3
FINES	FINESS Array B	1.64	291	Pg	Pg	10 54 19.6	-2.5
	2.8nm,0.3s,baz=110,slow=17,SNR=86						
FINES				Lg		10 54 40.0	
	6.5nm,0.3s,baz=103,slow=30,SNR=14						
FINES				Sn	Sn	10 54 43.0	+1.3
	11nm,0.3s,baz=108,slow=26,SNR=28						
FINES				Rg		10 54 47.8	
	20nm,0.6s,baz=106,slow=34,SNR=24						
PVF	Pernaja	1.71	260	eP	Pn	10 54 21.7	+1.1
PVF				eS	Sb	10 54 43.4	0.0
KAF	Kangasniemi	1.88	312	eP	Pn	10 54 24.4	+1.4
KAF				eS	Sn	10 54 47.0	-0.7
KAF				MSG		10 54 50.1	
	comp=Z,8.3nm,0.1s						
SUF	Sumiainen	2.36	322	eP	Pn	10 54 32.3	+2.5
SUF				eS	Sn	10 55 00.9	+1.0
SUF				MSG		10 55 05.3	
	comp=Z,4.7nm,0.1s						
KEF	Keuruu	2.46	303	eP	Pn	10 54 33.7	+2.3
KEF				eS	Sn	10 55 03.0	+0.4
KEF				MSG		10 55 07.6	
	comp=Z,5.2nm,0.1s						
KJN	Kajaani	3.29	348	eP	Pn	10 54 45.3	+2.2
KJN				eS	Sn	10 55 23.1	-0.4
KJN				MSG		10 55 29.4	
	comp=Z,6.8nm,0.2s						
HFS	Hagfors	7.72	271	eP	Pn	10 55 44.8	-0.9
HFS				eS	Sn	10 57 05.9	-9.1
HFS	Hagfors	7.72	271	Pn	Pn	10 55 44.8	-1.0
	comp=Z,0.1nm,0.3s,baz=83,slow=12,SNR=6.7						
HFS				Sn	Sn	10 57 08.0	-7.0
	comp=Z,0.1nm,0.3s,baz=82,slow=22,SNR=3.8						
HFS				Lg		10 57 48.8	
	comp=Z,0.1nm,0.3s,baz=79,slow=31,SNR=3.4						
HFS	Hagfors	7.72	271	Pn	Pn	10 55 44.8	-0.9
	baz=97,slow=11						
HFS				Sn	Sn	10 57 05.9	-9.1
	baz=82,slow=28						
NOA	NORSAR Array B	8.78	279	Pn	P	10 55 58.8	-1.6
	comp=Z,0.2nm,0.3s,baz=170,slow=9.5,SNR=2.7						
NOA				Lg		10 58 23.3	
	comp=Z,0.3nm,0.3s,baz=141,slow=21,SNR=2.9						
ARA0	ARCESS Array S	8.82	351	Pn	P	10 55 59.3	-1.8
	baz=164,slow=12						
ARA0				Sn	Sn	10 57 34.3	-8.0
	baz=168,slow=28						
ARA0	ARCESS Array S	8.82	351	eP	P	10 55 59.3	-1.8
ARA0				eS	Sn	10 57 34.3	-8.0
ARCES	ARCESS Array B	8.82	351	Pn	P	10 55 59.1	-1.9
	comp=Z,0.1nm,0.3s,baz=171,slow=13,SNR=16						
ARCES				Sn	Sn	10 57 33.3	-9.1
	comp=Z,0.1nm,0.3s,baz=173,slow=23,SNR=3.5						

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*HEL **30** 11:05:50.4±0.3,59.64N×22.34E,ML2.0,ML2.3(UPP), ML2.1(NAO),Explosion*

*IDC **30** 11:05:52.5±1.6,59.93N×22.18E,mb1 2.9/4, mb1mx2.8/19,ML2.5/4,Error ellipse: s-maj=22.1km s-min=7.6km az=162.0*

*NAO **30** 11:05:53.8±2.4,60.13N×22.18E,ML2.1*

*BER **30** 11:05:53.1±2.9,59.95N×22.35E,ML2.1(NAO), Suspected explosion*

ISC 30 11:05:49.8±0.7**,59.72N**±0.06×**22.29E**±0.06**,n25,**σ**0^{s}89**/38**, Baltic States - Belarus - Northwestern Russia**

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

AAL	Aland	1.24	293	eP	Pb	11 06 12.7	-1.1
AAL				eS	Sb	11 06 28.6	-1.7
NRTU	Norrtaelje	1.85	270	eP	Pn	11 06 23.8	+0.7
PVF	Pernaja	1.97	64	eP	Pn	11 06 24.6	-0.1
PVF				eS	Sn	11 06 49.5	-1.1
PVF				MSG		11 06 53.4	
	comp=Z,8.2nm,0.1s						
GRAU	Graesoe	1.98	290	eP	Pn	11 06 24.7	-0.2
NYNU	Nynaeshamn	2.31	254	eP	Pn	11 06 30.8	+1.2
UPP	Uppsala	2.36	275	eP	Pn	11 06 30.9	+0.5
FIA0	FINESS Array S	2.55	46	eP	Pn	11 06 33.4	+0.4
FIA0				eS	Sn	11 07 05.6	+0.4
FIA0				MSG		11 07 07.3	
	comp=Z,5.3nm,0.1s						
FIA0	FINESS Array S	2.55	46	Pn	Pn	11 06 33.6	+0.5
	baz=227,slow=14						
FIA0				Lg		11 07 05.5	
	baz=231,slow=28						
FIA0				Rg		11 07 20.4	
	baz=220,slow=37						
FINES	FINESS Array B	2.55	46	Pn	Pn	11 06 33.5	+0.4
	comp=Z,0.9nm,0.3s,baz=230,slow=14,SNR=39						
FINES				Sn	Sn	11 07 06.0	+0.8
	comp=Z,2.9nm,0.3s,baz=237,slow=22,SNR=24						
FINES				Rg		11 07 21.2	
	comp=Z,14nm,1.0s,baz=216,slow=33,SNR=7.6						
BACU	Backbrunna	2.62	275	eP	Pn	11 06 34.6	+0.5
OSTU	Oestervaala	2.64	283	eP	Pn	11 06 34.6	+0.2
IGGU	Iggoen	2.73	297	eP	Pn	11 06 35.6	-0.1
KEF	Keuruu	2.76	26	eP	Pn	11 06 36.8	+0.7
KEF				eS	Sn	11 07 11.1	+0.5
VJF	Virojoki	2.76	70	eP	Pn	11 06 35.5	-0.6
VJF				eS	Sn	11 07 08.9	-1.7
KAF	Kangasniemi	3.10	38	eP	Pn	11 06 41.7	+0.7
KAF				eS	Sn	11 07 20.0	+0.7
FALU	Falun	3.33	286	eP	Pn	11 06 45.0	+0.9
VAF	Ylistaro	3.34	3	eP	Pn	11 06 45.5	+1.1
VAF				eS	Sn	11 07 25.0	-0.3
SUF	Sumiainen	3.54	30	eP	Pn	11 06 46.7	-0.5
SUF				eS	Sn	11 07 30.6	+0.2
HFS	Hagfors	4.34	279	eP	Pn	11 06 59.0	+0.4
HFS				eSG	Sg	11 08 06.5	-8.0
HFS	Hagfors	4.34	279	Pn	Pn	11 06 58.4	-0.3
	comp=Z,0.0nm,0.3s,baz=102,slow=12,SNR=10						
HFS				Pg	Pg	11 07 07.8	-8.7
	comp=Z,0.1nm,0.3s,baz=96,slow=16,SNR=6.2						
HFS				Lg		11 08 02.3	
	comp=Z,0.2nm,0.3s,baz=101,slow=30,SNR=8.2						
HFS	Hagfors	4.34	279	Pn	Pn	11 06 59.0	+0.4
	baz=99,slow=10						
HFS				Lg		11 08 06.5	
	baz=86,slow=28						
NOA	NORSAR Array B	5.65	288	Pn	Pn	11 07 14.7	-2.4
	comp=Z,0.1nm,0.3s,baz=85,slow=17,SNR=2.0						
NOA				Lg		11 08 43.2	
	comp=Z,0.3nm,0.3s,baz=63,slow=16,SNR=3.4						
ARA0	ARCESS Array S	9.95	7	Pn	P	11 08 11.2	-5.7
	baz=182,slow=16						
ARA0				Sn	Sn	11 09 55.9	-15
	baz=189,slow=28						
ARA0	ARCESS Array S	9.95	7	eP	P	11 08 11.2	-5.7
ARA0				e		11 09 55.9	
ARCES	ARCESS Array B	9.95	7	Pn	P	11 08 11.9	-5.0
	comp=Z,0.1nm,0.3s,baz=184,slow=14,SNR=9.3						
ARCES				Sn	Sn	11 09 56.7	-14
	comp=Z,0.2nm,0.3s,baz=190,slow=25,SNR=2.7						

*STR **30** 11:27:03.2±0.2, 48.02N×7.28E, $h10^{km}\pm1^{km}$, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LEDBW **30** 11:27:03.7±0.2, 48.00N×7.34E, $h8^{km}\pm3^{km}$, ML1.9, Error ellipse: s-maj=2.0km s-min=2.0km az=5.0*

*NEIC **30** 11:27:04.0, 48.01N×7.31E, $h6^{km}$, ML2.6(LDG), ML2.1(STR), After LDG.*

*LDG **30** 11:27:04.0±0.1, 48.01N×7.31E, $h6^{km}$, Md2.6/2, Ml2.6/1, Error ellipse: s-maj=1.4km s-min=1.0km az=144.0*

*BGR **30** 11:27:04.2±0.3, 48.01N×7.33E, $h7^{km}$, ML1.2/1, Error ellipse: s-maj=3.3km s-min=2.2km az=143.0*

ISC 30 11:27:03.2±0.4, **48.00N**±0.02×**7.34E**±0.02, **$h7^{km}\pm6^{km}$, n31, $\sigma0^{s}.70$**/52, **5C-3D, Switzerland**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MOF	Molkenrain	0.20	223	⇑ePg	Pg	11 27 08.0	+0.5
MOF				Sg	Sg	11 27 10.9	+0.7
MOF	Molkenrain	0.20	223	Pg	Pg	11 27 07.8	+0.4
MOF				Sg	Sg	11 27 10.5	+0.3
LIBD	Limburg	0.24	49	⇑iPg	Pg	11 27 08.9	+0.8
LIBD				i Sg	Sg	11 27 12.5	+1.1
ECH	Echery	0.25	332	⇓iPg	Pg	11 27 08.7	+0.3
ECH				i Sg	Sg	11 27 12.1	+0.3
ECH	Echery	0.25	332	Pg	Pg	11 27 08.5	+0.1
ECH				Sg	Sg	11 27 11.9	+0.1
HINF	Hinteralfeld	0.37	241	ePg	Pg	11 27 10.7	-0.1
HINF				eSg	Sg	11 27 15.7	-0.1
	67nm,0.2s						
KIZ	Kirchzarten	0.39	96	⇑iPg	Pg	11 27 11.4	+0.2
KIZ				i Sg	Sg	11 27 16.6	+0.1
KIZ				SmS		11 27 20.8	
WLS	Welschbruch	0.42	2	Pg	Pg	11 27 12.0	+0.4
WLS	Welschbruch	0.42	2	Pg	Pg	11 27 11.6	-0.1
CDF	Champ du Feu	0.42	355	ePg	Pg	11 27 11.8	+0.1
CDF				eSg	Sg	11 27 17.4	+0.1
	37nm,0.3s						
FELD	Feldberg	0.47	105	Pg	Pg	11 27 13.0	+0.4
BBS	Basel-Blauen	0.55	168	Pg	Pg	11 27 14.5	+0.3
HAU	Haudompre	0.66	271	ePg	Pg	11 27 16.4	-0.1
HAU				eSg	Sg	11 27 25.3	-0.1
	27nm,0.3s						
LOMF	Lomont	0.73	208	Pg	Pg	11 27 18.2	+0.3
LOMF				eSg	Sg	11 27 28.2	+0.5
	SNR=3.4						
LOMF				SmS		11 27 30.0	
LOMF	Lomont	0.73	208	P	Pg	11 27 18.2	+0.3
LOMF				S	Sb	11 27 30.0	+2.2
LOMF	Lomont	0.73	208	Pg	Pg	11 27 18.4	+0.5
LOMF				Sg	Sg	11 27 27.9	+0.2
BFO	Black Forest	0.74	63	⇑ePg	Pb	11 27 17.7	-0.3
BFO				i PmP		11 27 18.6	
BFO				eSg	Sg	11 27 27.9	-0.2
	SNR=1.9						
BFO				SmS		11 27 29.6	
BFO	Black Forest	0.74	63	⇑eP	Pb	11 27 17.7	-0.3
BFO				i P		11 27 18.6	
BFO				S	Sb	11 27 29.6	+1.5
THEF	They Montfort	0.93	285	eSg	Sg	11 27 34.3	-0.1
	SNR=3.7						
THEF	They Montfort	0.93	285	Pg	Pg	11 27 20.2	-1.7
SPAK	Spaichingen	0.98	83	ePg	Pg	11 27 22.7	-0.2
	SNR=1.7						
SPAK				Sg	Sg	11 27 36.5	+0.6
SPAK	Spaichingen	0.98	83	Pg	Pg	11 27 22.6	-0.2
SISB	Singen-Sch Ber	1.14	105	ePg	Pg	11 27 26.0	0.0
SISB				PmP		11 27 27.5	
SISB				Sg	Sg	11 27 41.7	+0.5
SISB	Singen-Sch Ber	1.14	105	eP	Pg	11 27 26.0	0.0
SISB				S	Sg	11 27 41.7	+0.5
LBG	Lerchenberg	1.18	55	Sg	Sg	11 27 41.9	-0.7
GUT	Gutenstein	1.20	86	⇓iPg	Pg	11 27 26.6	-0.6
GUT				PmP		11 27 26.8	
GUT				eSg	Sg	11 27 42.4	-0.8
GUT	Gutenstein	1.20	86	⇓iPG	Pg	11 27 26.6	-0.6
GUT				eSG	Sg	11 27 42.4	-0.7
BUCH	Bad Urach	1.42	71	Pg	Pg	11 27 31.2	-0.4
BUCH				Sg	Sg	11 27 49.8	-0.8
CABF	La Chapelle	1.63	212	ePn	Pn	11 27 31.6	-0.9
CABF				eSg	Sg	11 27 56.1	-1.3
	8.7nm,0.3s						
UBR	Uberruh	1.89	99	Sg	Sg	11 28 05.1	-1.2
SIND	Sindeldorf	2.02	47	Sg	Sg	11 28 10.6	-0.1

MAN 30 11:54:06.5, 18.94N×121.14E, $h13^{km}$, mb4.5, ML3.4, MS3.3, 2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PIP	Pasuquin	0.78	219	⇓iP	Pb	11 54 21.7	+0.1
PIP				i S	Sb	11 54 34.9	+3.1
APYP	Conner	1.07	175	eP	Pb	11 54 26.7	+0.2
SGCP	Mt. Cagua	1.10	129	eP	Pb	11 54 26.3	-0.7
SGCP				eS	Sb	11 54 43.1	+2.0
ABRA	Dolores	1.34	198	eP	Pn	11 54 35.1	+4.0
CVP	Callao Caves	1.39	152	⇓eP	Pn	11 54 31.0	-0.7
CVP				i S	Sb	11 54 51.0	+1.6
CAUP	Cauayan	2.09	162	eP	Pn	11 54 44.2	+2.5

*HEL **30** 11:55:59.5±0.2, 59.67N×22.31E, ML1.9, ML2.4(UPP), ML2.1(NAO), Explosion*

*BER **30** 11:55:59.7±3.9, 59.79N×22.46E, ML2.1(NAO), Suspected explosion*

*IDC **30** 11:56:01.2±1.6, 59.92N×22.27E, mb1 2.8/4, mb1mx2.8/20, ML2.5/4, Error ellipse: s-maj=22.3km s-min=7.6km az=162.0*

*NAO **30** 11:56:02.1±2.8, 60.08N×22.20E, ML2.1*

ISC 30 11:55:58.3±0.5, **59.70N**±0.05×**22.32E**±0.05, **n25, $\sigma0^{s}.91$**/41, **Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAL	Aland	1.27	293	eP	Pb	11 56 21.4	-1.3
AAL				eS	Sb	11 56 37.8	-1.7
NRTU	Norrtaelje	1.87	271	eP	Pn	11 56 32.5	+0.7
PVF	Pernaja	1.96	63	eP	Pn	11 56 33.3	+0.1
PVF				eS	Sn	11 56 57.9	-1.0
PVF				MSG		11 57 02.1	
	comp=Z,7.4nm,0.1s						
GRAU	Graesoe	2.00	290	eS	Sn	11 57 00.6	+0.8
FLYU	Flymyra	2.27	283	eP	Pn	11 56 37.8	+0.2
NYNU	Nynaeshamn	2.32	254	eP	Pn	11 56 39.6	+1.3
UPP	Uppsala	2.38	276	eP	Pn	11 56 39.9	+0.7
FIA0	FINESS Array S	2.55	45	eP	Pn	11 56 42.4	+0.8
FIA0				eS	Sn	11 57 14.7	+0.9
FIA0				MSG		11 57 17.1	
	comp=Z,4.8nm,0.1s						
FIA0	FINESS Array S	2.55	45	Pn	Pn	11 56 42.2	+0.6
	baz=227,slow=14						
FIA0				Lg		11 57 14.7	
	baz=234,slow=28						
FIA0				Rg		11 57 28.4	
	baz=217,slow=37						
FINES	FINESS Array B	2.55	45	Pn	Pn	11 56 42.2	+0.7
	comp=Z,0.9nm,0.3s,baz=230,slow=14,SNR=33						
FINES				Sn	Sn	11 57 14.8	+1.0
	comp=Z,2.9nm,0.3s,baz=237,slow=22,SNR=24						
FINES				Rg		11 57 30.5	
	comp=Z,14nm,1.0s,baz=216,slow=33,SNR=8.6						
VSU	Vasula	2.59	117	ePB	Pb	11 56 44.3	-1.2
BACU	Backbrunna	2.64	276	eP	Pn	11 56 43.4	+0.5
VJF	Virojoki	2.75	70	eP	Pn	11 56 44.4	0.0
VJF				eS	Sn	11 57 17.9	-1.0
KEF	Keuruu	2.77	26	eP	Pn	11 56 45.7	+1.0
KEF				eS	Sn	11 57 19.9	+0.5
KAF	Kangasniemi	3.11	37	eP	Pn	11 56 50.4	+0.9
KAF				eS	Sn	11 57 28.4	+0.5
VAF	Ylistaro	3.36	3	eP	Pn	11 56 54.1	+1.1
VAF				eS	Sn	11 57 33.1	-1.2
SUF	Sumiainen	3.55	30	eP	Pn	11 56 55.6	-0.2
SUF				eS	Sn	11 57 38.8	-0.4
HFS	Hagfors	4.36	279	eP	Pn	11 57 07.3	-0.1
HFS				ePG	Pg	11 57 16.3	-9.1
HFS				eSG	Sg	11 58 16.3	-7.3
HFS	Hagfors	4.36	279	Pn	Pn	11 57 07.4	0.0
	comp=Z,0.0nm,0.3s,baz=102,slow=12,SNR=9.0						
HFS				Pg	Pg	11 57 16.7	-8.7
	comp=Z,0.1nm,0.3s,baz=95,slow=16,SNR=6.7						
HFS				Lg		11 58 16.0	
	comp=Z,0.2nm,0.3s,baz=98,slow=30,SNR=8.2						
HFS	Hagfors	4.36	279	Pn	Pn	11 57 07.3	-0.1
	baz=94,slow=9.3						
HFS				Pg	Pg	11 57 16.3	-9.1
	baz=101,slow=18						
HFS				Lg		11 58 16.3	
	baz=104,slow=37						
BLEU	Blekinge	4.85	228	eP	Pn	11 57 14.3	0.0
NOA	NORSAR Array B	5.67	288	Pn	Pn	11 57 23.9	-2.0
	comp=Z,0.2nm,0.3s,baz=72,slow=8.8,SNR=2.6						
NOA				Lg		11 58 52.5	
	comp=Z,0.4nm,0.3s,baz=301,slow=24,SNR=3.1						
ARA0	ARCESS Array S	9.97	6	Pn	P	11 58 20.0	-5.7
	baz=181,slow=16						
ARA0				Sn	Sn	12 00 06.5	-13
	baz=190,slow=28						
ARA0	ARCESS Array S	9.97	6	eP	P	11 58 20.0	-5.7
ARA0				eS	Sn	12 00 06.5	-13
ARCES	ARCESS Array B	9.97	6	Pn	P	11 58 20.7	-4.9
	comp=Z,0.1nm,0.3s,baz=184,slow=13,SNR=6.9						
ARCES				Sn	Sn	12 00 05.7	-14
	comp=Z,0.1nm,0.3s,baz=191,slow=23,SNR=2.9						

*NAO **30** 12:03:35.1±4.3, 59.46N×4.81E, ML2.5*

*BER **30** 12:03:40.6±4.1, 60.08N×4.73E, MD2.0, ML1.8, ML2.5(NAO), Suspected explosion*

ISC 30 12:03:39.1±0.9, **60.08N**±0.03×**4.8E**±0.1, **n13, $\sigma1^{s}.23$**/22, **1C, Southern Norway**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EGD	Espegrend	0.29	49	⇑iP	Pg	12 03 45.8	+0.9
EGD				AML	AML	12 03 54.2	
	comp=Z,107nm,0.5s						
BER	Bergen	0.41	42	eP	Pg	12 03 47.6	+0.3
BER				AML	AML	12 03 58.1	
	comp=Z,71nm,0.5s						
RUND	Rundenannen	0.44	41	eP	Pg	12 03 48.5	+0.5
KMY	Karmoy	0.90	165	eP	Pg	12 03 56.5	-0.6
KMY				eS	Sg	12 04 11.0	+1.9
KMY				AML	AML	12 04 14.0	
	comp=Z,37nm,0.4s						
ODD1	Odda	0.94	100	eP	Pg	12 03 56.7	-1.2
ODD1				eS	Sg	12 04 10.1	-0.3
ODD1				AML	AML	12 04 16.8	
	comp=Z,38nm,0.5s						
SUE	Sulen	0.98	359	eP	Pb	12 03 57.5	-1.1
SUE				eS	Sg	12 04 12.2	+0.5
SUE				AML	AML	12 04 13.9	
	comp=Z,76nm,0.1s						
BLS5	Blasjo	1.07	127	eP	Pb	12 04 00.7	+0.5
BLS5				eS	Sb	12 04 15.8	+1.2
HYA	Hoyanger	1.29	32	eP	Pb	12 04 04.1	+0.1
HYA				eS	Sb	12 04 22.6	+1.7
HYA				AML	AML	12 04 25.2	
	comp=Z,30nm,0.7s						
FOO	Floro	1.53	5	eP	Pn	12 04 07.0	-0.8
FOO				eS	Sb	12 04 28.2	+0.4
FOO				AML	AML	12 04 28.8	
	comp=Z,12nm,0.2s						
SNART	Snartemo	2.15	143	eP	Pn	12 04 17.7	+1.1
SNART				eSg	Sg	12 04 47.0	-3.5
MOL	Molde	2.83	27	ePg	Pg	12 04 29.8	-5.9
MOL				AML	AML	12 05 20.1	
	comp=Z,4.1nm,0.6s						
NB2	NORSAR Subarra	3.32	70	Pn	Pn	12 04 31.1	-2.2
NB2				Pg	Pg	12 04 38.0	-7.3
NB2				Lg		12 05 26.9	
HFS	Hagfors	4.46	85	Pn	Pn	12 04 46.6	-2.9
	baz=260,slow=12						
HFS				Sn	Sn	12 05 38.4	-4.6
	baz=258,slow=37						
HFS				Lg		12 05 57.7	
	baz=263,slow=28						

*NAO **30** 12:10:17.1±7.6, 59.81N×4.66E, $h10^{km}\pm38^{km}$, ML2.5*

*BER **30** 12:10:19.5±3.9, 60.09N×4.57E, MD2.2, ML2.0, ML2.5(NAO), Suspected explosion*

ISC 30 12:10:16.9±1.1, **60.07N**±0.03×**4.5E**±0.1, **n12, $\sigma0^{s}.98$**/20, **1C, Southern Norway**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EGD	Espegrend	0.42	61	⇑iP	Pg	12 10 24.4	-0.8
BER	Bergen	0.52	53	eP	Pg	12 10 26.5	-0.8
RUND	Rundenannen	0.55	51	eP	Pg	12 10 27.3	-0.7
RUND				eS	Sg	12 10 35.7	+0.3
KMY	Karmoy	0.94	156	eP	Pg	12 10 35.0	-0.7
KMY				eS	Sg	12 10 49.5	+1.2
KMY				AML	AML	12 10 54.9	
	comp=Z,45nm,0.5s						
SUE	Sulen	1.00	7	eP	Pb	12 10 36.5	-0.3
SUE				eS	Sg	12 10 51.9	+1.8
BLS5	Blasjo	1.19	122	eP	Pb	12 10 39.5	-0.5
BLS5				eS	Sb	12 10 56.3	+0.5
BLS5				AML	AML	12 11 00.0	
	comp=Z,58nm,0.3s						
HYA	Hoyanger	1.38	36	eP	Pb	12 10 42.9	-0.4
HYA				eS	Sb	12 11 02.1	+0.8
HYA				AML	AML	12 11 05.2	
	comp=Z,31nm,0.4s						
FOO	Floro	1.55	10	eP	Pn	12 10 45.9	-0.1
SNART	Snartemo	2.23	140	eP	Pn	12 10 55.8	+0.2
SNART				eS	Sn	12 11 25.2	+0.9
SNART				AML	AML	12 11 31.9	
	comp=Z,47nm,0.3s						
MOL	Molde	2.91	29	eP	Pn	12 11 08.6	+3.3
NB2	NORSAR Subarra	3.46	71	Pn	Pn	12 11 11.4	-1.7
NB2				Pg	Pg	12 11 19.6	-6.3
NB2				Lg		12 12 05.7	
HFS	Hagfors	4.61	85	Pn	Pn	12 11 25.6	-3.9
	baz=266,slow=16						
HFS				Sn	Sn	12 12 18.2	-6.3
	baz=276,slow=28						
HFS				Lg		12 12 41.0	
	baz=268,slow=28						

*MAN **30** 12:13:01, 15.37N×119.80E, $h36^{km}$, mb5.0, ML3.9, MS4.0*

MAN Intensity III Clark Air Base Intensity I Quezon City.

*IDC **30** 12:13:05.6±1.7, 15.25N×120.16E, $h107^{km}\pm17^{km}$, mb3.6/10, mb1 3.7/10, mb1mx3.6/19, MS3.0/1, Ms1 3.2/1, ms1mx2.4/19, Error ellipse: s-maj=35.3km s-min=15.1km az=61.0*

*NEIC **30** 12:13:05.6±1.0, 15.26N×120.19E, $h107^{km}\pm9^{km}$, mb4.2/1, Error ellipse: s-maj=16.7km s-min=8.0km az=57.0*

NEIC Felt [III PIVS] at Clark Field and [I PIVS] at Quezon City.

ISC 30 12:13:01.2±0.5, **15.38N**±0.03×**119.89E**±0.06, **$h71^{km}\pm5^{km}$, n41, $\sigma1^{s}.24$**/50, **mb3.8**/10, **2C-4D, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCZP	Santa Cruz	0.40	3	eP	P	12 13 12.1	-1.2
SCZP				eS	S	12 13 19.2	-3.2
BOLP	Bolinao	1.00	1	eP	P	12 13 19.4	-0.7
BOLP				eS	S	12 13 32.2	-1.8
BCPH	Baguio City Da	1.20	33	⇑iP	P	12 13 22.3	-0.3
BCPH				i S	S	12 13 38.5	-0.1
TGY	Tagaytay City	1.62	141	P	P	12 13 30.7	+2.3
TGY				S	S	12 13 53.4	+5.1
TGY	Tagaytay City	1.62	141	⇓iP	P	12 13 30.5	+2.2
TGY				i S	S	12 13 43.0	-5.4
BALP	Baler	1.66	77	eP	P	12 13 28.8	-0.2
LUBP	Lubang	1.67	168	eP	P	12 13 29.4	+0.3
LUBP	Lubang	1.67	168	eP	P	12 13 29.4	+0.3
LQP	Lukban	2.03	128	⇓iP	P	12 13 34.7	+0.8
LQP				i S	S	12 13 56.6	-1.5
POLP	Polilio Island	2.08	108	eP	P	12 13 35.0	+0.3
ABRA	Dolores	2.39	19	eP	P	12 13 38.7	-0.4
CAUP	Cauayan	2.42	50	eP	P	12 13 40.2	+0.7
BOAC	Boac	2.68	135	eP	P	12 13 44.1	+0.9
APYP	Conner	2.79	27	eP	P	12 13 45.4	+0.7
GQP	Guinayangan	2.87	120	⇑eP	P	12 13 46.0	+0.2
GQP				i S	S	12 14 18.6	-0.6
PALP	Palanan	2.96	55	eP	P	12 13 49.4	+2.4
CVP	Callao Caves	2.96	38	⇓iP	P	12 13 47.0	-0.1
CVP				i S	S	12 14 27.0	+5.4
PIP	Pasuquin	3.01	13	⇓iP	P	12 13 52.5	+4.7
PIP				i S	S	12 14 28.0	+5.1
SJMP	San Jose	3.13	157	eP	P	12 13 50.9	+1.4
BUSP	Coron	3.37	175	eP	P	12 13 52.9	+0.1
OTRP	Odiongan	3.64	145	eP	P	12 13 57.9	+1.3
ENPP	El Nido	4.17	186	eP	P	12 14 03.3	-0.6
PVCP	Virac	4.49	113	eP	P	12 14 08.8	+0.4
BBP	Basco	5.41	21	eP	P	12 14 22.4	+1.3
CM31	Chiang Mai Arr	20.27	282	P	P	12 17 36.8	+3.2
CMAR	Chiang Mai Arr	20.27	282	P	P	12 17 36.2	+2.7
	3.8nm,0.9s,baz=90,slow=8.7,SNR=24						
CMAR				LR	LR	12 25 43.0	
	comp=Z,45nm,21.7s,baz=105,slow=37						
SONM	Songino Array	34.24	344	P	P	12 19 41.7	-0.5
	0.5nm,0.6s,mb3.6,baz=163,slow=9.5,SNR=4.8						
MBWA	Marble Bar	36.31	180	eP	P	12 19 57.4	-2.7
WRAB	Tennant Creek	37.86	157	eP	P	12 20 11.8	-1.1
WRA	Warramunga Arr	37.86	158	P	P	12 20 10.0	-3.0
	0.9nm,0.4s,mb4.0,baz=337,slow=9.1,SNR=47						
WB2	Warramunga Arr	37.87	158	eP	P	12 20 10.2	-2.9
ASAR	Alice Springs	41.15	160	P	P	12 20 37.8	-2.4
	1.0nm,0.4s,mb4.0,baz=337,slow=6.8,SNR=21						
MKAR	Makanchi Array	44.23	323	P	P	12 21 05.9	+0.8
	1.3nm,0.8s,mb3.7,baz=122,slow=11,SNR=4.7						
KURK	Kurchatov	48.37	326	P	P	12 21 33.5	-4.2
	2.5nm,0.6s,mb4.2						
ARCES	ARCESS Array B	77.25	339	P	P	12 24 49.5	+0.5
	3.2nm,0.8s,mb4.1,baz=80,slow=7.4,SNR=3.8						
ARCES	ARCESS Array B	77.25	339	P	P	12 24 49.5	+0.5
ILAR	Eielson Array	77.59	26	P	P	12 24 50.2	-0.7
	0.2nm,0.8s,mb2.9,baz=254,slow=4.8,SNR=4.6						
FINES	FINESS Array B	78.45	331	P	P	12 24 56.2	+0.5
	0.8nm,0.6s,mb3.7,baz=72,slow=6.0,SNR=8.6						
FINES	FINESS Array B	78.45	331	P	P	12 24 56.2	+0.5
HFS	Hagfors	84.64	331	P	P	12 25 28.5	+0.5
	0.8nm,0.5s,mb3.9,slow=1.4,SNR=4.9						
NOA	NORSAR Array B	85.42	332	P	P	12 25 31.9	+0.1
	0.7nm,0.7s,mb3.7,baz=65,slow=5.3,SNR=3.3						

*IDC **30** 12:26:26.1±43.0, 14.06S×178.21E, mb3.9/3, mb1 4.1/3, mb1mx3.8/12, Error ellipse: s-maj=767.0km s-min=144.0km az=72.0*

ISC 30 12:28:07.0±2.7, **18.1S**±0.2×**167.3E**±0.4, **$h62^{km}\pm56^{km}$, n8, $\sigma0^{s}.69$**/11, **mb3.9**/4, **1C, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BKM	Butte a Klehm	1.01	65	⇑iP	P	12 28 24.6	-0.9
BKM				S	S	12 28 39.7	+0.5
DZM	Mont Dzumac	4.03	191	⇑iP	P	12 29 07.4	-0.3
DZM				eS	S	12 29 53.0	-1.1
NOUC	Port Laguerre	4.08	193	⇑iP	P	12 29 09.0	+0.5
NOUC				eS	S	12 29 56.6	+1.2
STKA	Stephens Creek	26.94	235	P	P	12 33 44.0	-0.6
	1.8nm,0.6s,mb3.8,baz=26,slow=9.9,SNR=4.1						
WB2	Warramunga Arr	31.17	261	eP	P	12 34 22.9	+0.4
WRA	Warramunga Arr	31.18	261	P	P	12 34 22.1	-0.5
	0.3nm,0.4s,mb3.5,baz=87,slow=8.4,SNR=15						
ASAR	Alice Springs	31.63	254	P	P	12 34 26.4	-0.1
	1.4nm,0.5s,mb4.1,baz=84,slow=8.7,SNR=23						
FITZ	Fitzroy Crossi	39.53	263	eP	P	12 35 34.3	+0.7
	1.9nm,0.6s,mb4.0						

*BER **30** 12:36:34.6±4.0, 59.94N×25.64E, ML2.3(NAO), Suspected explosion*

*NAO **30** 12:36:35.5±4.5, 60.08N×25.32E, ML2.3*

*HEL **30** 12:36:38.0±0.1, 60.17N×25.22E, ML1.7, ML2.0(UPP), ML2.3(NAO), Explosion*

ISC 30 12:36:36.8±0.5, **60.18N**±0.03×**25.25E**±0.06, **n22, $\sigma0^{s}.73$**/35, **Finland**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PVF	Pernaja	0.48	39	eP	Pg	12 36 46.6	+0.2
PVF				eS	Sg	12 36 52.9	+0.2
VJF	Virojoki	1.20	71	eP	Pb	12 36 59.5	-0.7
VJF				eS	Sb	12 37 15.8	-0.3
FIA0	FINESS Array S	1.33	17	eP	Pb	12 37 02.1	-0.3
FIA0				eS	Sb	12 37 19.7	-0.3
FIA0	FINESS Array S	1.33	17	Pn	Pn	12 37 02.0	-0.7
	baz=187,slow=18						
FIA0				Lg		12 37 19.2	
	baz=194,slow=28						
VSU	Vasula	1.88	155	eP	Pn	12 37 11.7	+1.1
VSU				eS	Sn	12 37 35.1	-0.3
KEF	Keuruu	2.00	355	eP	Pn	12 37 14.0	+1.7
KEF				eS	Sn	12 37 38.7	+0.2
KEF				MSG		12 37 41.1	
	comp=Z,4.6nm,0.1s						
KAF	Kangasniemi	2.01	14	eP	Pn	12 37 13.8	+1.4
KAF				eS	Sn	12 37 38.6	0.0
KAF				MSG		12 37 43.3	
	comp=Z,3.1nm,0.1s						
SUF	Sumiainen	2.59	9	ePB	Pb	12 37 22.8	-1.0
SUF				eSB	Sb	12 37 56.1	-0.2
SUF				MSG		12 37 57.5	
	comp=Z,1.6nm,0.1s						
AAL	Aland	2.63	272	eP	Pn	12 37 21.4	+0.2

AAL				*e*S	**Sn**	**12 37 45.8**	**-8.4**
VAF	**Ylistaro**	**3.13**	**338**	*e*P	**Pn**	**12 37 29.5**	**+1.2**
VAF				*e*S	**Sn**	**12 38 07.0**	**+0.1**
GRAU	**Graesoe**	**3.35**	**276**	*e*P	**Pn**	**12 37 30.7**	**-0.8**
NRTU	**Norrtaelje**	**3.37**	**264**	*e*P	**Pn**	**12 37 31.9**	**+0.1**
FLYU	**Flymyra**	**3.68**	**272**	*e*P	**Pn**	**12 37 35.6**	**-0.6**
NYNU	**Nynaeshamn**	**3.87**	**255**	*e*P	**Pn**	**12 37 39.9**	**+1.1**
IGGU	**Iggoen**	**3.98**	**284**	*e*P	**Pn**	**12 37 39.5**	**-1.0**
OSTU	**Oestervaala**	**4.05**	**274**	*e*P	**Pn**	**12 37 41.0**	**-0.4**
BACU	**Backbrunna**	**4.10**	**269**	*e*P	**Pn**	**12 37 42.1**	**-0.1**
ARNU	**Arnoeviken**	**4.13**	**295**	*e*P	**Pn**	**12 37 42.4**	**-0.2**
HFS	**Hagfors**	**5.77**	**275**	Pn	**Pn**	**12 38 01.6**	**-4.2**
	baz=108,slow=8.6						
HFS				Sn	**Sn**	**12 39 08.5**	**-5.2**
	baz=81,slow=37						
HFS	**Hagfors**	**5.77**	**275**	*e*P	**Pn**	**12 38 01.6**	**-4.2**
HFS				*e*S	**Sn**	**12 39 08.5**	**-5.2**
ARA0	**ARCESS Array S**	**9.40**	**1**	Pn	**P**	**12 38 52.1**	**-4.4**
	baz=179,slow=12						
ARA0				Sn	**Sn**	**12 40 38.1**	**-6.1**
	baz=179,slow=28						
ARA0	**ARCESS Array S**	**9.40**	**1**	*e*P	**P**	**12 38 52.1**	**-4.4**
ARA0				*e*S	**Sn**	**12 40 38.1**	**-6.1**

MAN 30 12:46:22.1, 12.58N×123.54E, h9^{km}, mb3.5, ML2.2, MS1.8, 1C-2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMPH	**Masbate**	**0.24**	**160**	⇑*e*P	Pg	12 46 27.8	+0.7
MMPH				*i* S	Sg	12 46 32.3	+2.0
CNP	**Catarman**	**1.10**	**94**	*e*P	Pb	12 46 42.6	-0.2
PVCP	**Virac**	**1.17**	**31**	*e*P	Pb	12 46 42.8	-1.2
PVCP				*e*S	Sb	12 46 58.6	-0.5
RCP	**Roxas**	**1.28**	**218**	⇓*e*P	Pb	12 46 45.3	-0.6
RCP				*e*S	Sb	12 47 03.4	+1.1
OTRP	**Odiongan**	**1.50**	**262**	*e*P	Pn	12 46 48.4	-1.0
GQP	**Guinayangan**	**1.69**	**321**	⇓*e*P	Pn	12 46 51.2	-0.8
LQP	**Lukban**	**2.47**	**308**	*e*P	Pn	12 47 03.8	+0.6

IGQ 30 12:46:25.7, 1.04S×78.32W, h15^{km}±1^{km}, mb4.0, 14C-8D, Error ellipse: s-maj=1.1km s-min=0.6km az=10.7, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PISA	**Pisayambo**	**0.06**	**255**	⇓P	Pb	12 46 29.2	+1.0
MARY	**Rancho Maria**	**0.35**	**332**	⇓P	Pb	12 46 33.4	+0.3
TAMB	**Tambo**	**0.35**	**353**	⇑P	Pb	12 46 33.3	+0.3
JUIV	**Juive**	**0.40**	**200**	⇑P	Pb	12 46 34.1	+0.1
JUIV				S	Sb	12 46 39.8	+0.1
VC1	**Cotopaxi 1**	**0.41**	**349**	⇑P	Pb	12 46 34.5	+0.4
ULBA	**Ulba**	**0.41**	**192**	⇑P	Pb	12 46 34.1	0.0
RETU	**Refugio**	**0.42**	**197**	⇑P	Pb	12 46 34.7	+0.3
CUSU	**Cusua**	**0.43**	**201**	⇑P	Pb	12 46 34.6	+0.2
NAS1	**Nasa**	**0.43**	**339**	⇑P	Pb	12 46 35.2	+0.6
PATA	**Patacocha**	**0.47**	**193**	⇑P	Pb	12 46 35.5	+0.4
ARRY	**Arrayan**	**0.48**	**196**	⇑P	Pb	12 46 35.2	-0.1
IGUA	**Igualata**	**0.55**	**215**	⇑P	Pb	12 46 37.2	+0.8
ANTI	**Antisana**	**0.61**	**15**	⇑P	Pb	12 46 37.4	-0.1
QIL1	**Quilotoa**	**0.64**	**288**	⇓P	Pb	12 46 38.9	+0.9
QIL1				S	Sb	12 46 48.3	+1.8
JUA2	**San Juan 2**	**0.87**	**341**	P	Pb	12 46 43.0	+1.0
GGP	**Refugio Guagua**	**0.90**	**343**	⇓P	Pb	12 46 43.6	+1.1
CGGP	**Crater GGP**	**0.91**	**342**	⇓P	Pb	12 46 43.8	+1.2
CGGP				S	Sb	12 46 57.0	+2.8
PINO	**Pino**	**0.92**	**342**	⇓P	Pb	12 46 43.5	+0.7
YANA	**Yana**	**0.95**	**345**	⇑P	Pb	12 46 44.1	+0.7
YANA				S	Sb	12 46 56.6	+1.1
EPALM	**Reventador vol**	**1.02**	**36**	⇑P	Pb	12 46 45.4	+0.9
EPALM				S	Sb	12 46 58.8	+1.4
JOR1	**San Jorge 1**	**1.08**	**343**	⇑P	Pb	12 46 42.9	-2.7
JOR1				S	Sb	12 46 54.5	-4.9
CAYR	**Refugio Cayamb**	**1.10**	**17**	⇓P	Pb	12 46 46.9	+1.0
CAYR				S	Sb	12 47 01.4	+1.6
CAYA	**Cayambe**	**1.16**	**17**	P	Pb	12 46 47.9	+1.1
CONE	**Cono NE Rev Vo**	**1.18**	**35**	⇓P	Pb	12 46 48.5	+1.2
CONE				S	Sb	12 47 04.6	+2.3
COTA	**Cotacachi**	**1.37**	**359**	P	Pn	12 46 52.8	+2.3

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*NEIC **30** 12:48:36.9, 35.20S×72.55W, ML3.3(GUC), After GUC.*

GUC 30 12:48:36.9±0.6, 35.20S×72.55W, MD3.4, ML3.3, 3C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.77**	**105**	*i* P	Pg	12 48 52.6	+0.2
TALC				*i* S	Sg	12 49 04.5	+1.8
TALC				AMP		12 49 06.0	
	comp=E,4μm,0.1s						
SFDO	**San Fernando**	**1.39**	**66**	*i* P	Pb	12 49 02.1	-1.3
SFDO				*i* S	Sb	12 49 22.1	+0.5
CCHI	**Chillan**	**1.45**	**165**	*i* P	Pn	12 49 03.4	-1.1
CCHI				*i* S	Sb	12 49 23.6	+0.1
CCHI				AMP		12 49 30.5	
	comp=N,445nm,0.5s						
CACH	**El Canelo**	**1.94**	**57**	⇑*i*P	Pn	12 49 11.6	+0.2
CACH				*e*S	Sn	12 49 38.1	+1.4
CICH	**Cipreses**	**1.96**	**64**	⇑*i*P	Pn	12 49 12.0	+0.3
CICH				*i* S	Sn	12 49 38.3	+1.0
CHCH	**Chadas Angostu**	**2.01**	**52**	*e*P	Pn	12 49 12.5	+0.1
CHCH				*i* S	Sn	12 49 39.3	+0.6
TACH	**Talagante**	**2.04**	**41**	*i* P	Pn	12 49 12.8	-0.1
TACH				⇓*i*S	Sn	12 49 40.1	+0.8
PCH	**Pirque**	**2.30**	**47**	*e*P	Pn	12 49 17.6	+1.0
PCH				*i* S	Sn	12 49 47.6	+1.5
SAN	**Santiago**	**2.34**	**42**	AMP		12 49 57.8	
	comp=E,438nm,0.4s						
FCH	**Farellones**	**2.64**	**46**	⇑*i*P	Pn	12 49 22.3	+0.8
FCH				*i* S	Sn	12 49 57.4	+2.6
FCH				AMP		12 50 03.1	
	comp=E,66nm,0.1s						

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*IDC **30** 12:49:56.5±1.1, 32.14N×130.96E, h107^{km}±6^{km}, mb3.4/5, mb1 3.5/6, mb1mx3.3/23, Error ellipse: s-maj=30.5km s-min=12.3km az=97.0*

*JMA **30** 12:49:57.9±0.1, 32.21N×131.05E, h107^{km}±1^{km}, M3.4*

ISC 30 12:49:56.0±0.6, 32.12N±0.06×131.0E±0.1, h116^{km}±4^{km}, n11, σ1^{s}02/16, mb3.6/5, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTZ	**Takazaki**	**0.24**	**160**	P	**P**	**12 50 13.2**	**+0.8**
JTZ				S	**S**	**12 50 24.9**	**+0.2**
JIU2	**Izumi 2**	**0.45**	**341**	P	**P**	**12 50 13.9**	**+0.5**
JIU2				S	**S**	**12 50 25.5**	**-1.0**
JTSN	**Tsuno**	**0.45**	**74**	P	**P**	**12 50 13.8**	**+0.4**
JTSN				S	**S**	**12 50 26.0**	**-0.5**
JNU	**Nakatsue**	**1.00**	**355**	P	**P**	**12 50 18.4**	**+0.3**
	56nm,0.3s,baz=119,slow=3.0,SNR=49						
JNU				S	**S**	**12 50 33.5**	**-1.1**
	104nm,0.3s,baz=231,slow=42,SNR=34						
JSJ	**Shimokoshiki**	**1.17**	**248**	P	**P**	**12 50 21.8**	**+1.9**
JOW	**Kunigami**	**5.78**	**205**	P	**P**	**12 51 21.6**	**+0.9**
	1.1nm,0.3s,baz=62,slow=26,SNR=5.1						
JOW				S	**S**	**12 52 24.4**	**-1.8**
SONM	**Songino Array**	**24.38**	**317**	P	**P**	**12 55 04.7**	**+0.4**
	0.9nm,0.5s,mb3.4,baz=130,slow=9.6,SNR=7.6						
MKAR	**Makanchi Array**	**39.71**	**306**	P	**P**	**12 57 18.6**	**+0.2**
	1.6nm,0.5s,mb4.1,baz=91,slow=10,SNR=21						
ASAR	**Alice Springs**	**55.54**	**177**	P	**P**	**12 59 20.3**	**-1.4**
	0.2nm,0.5s,mb3.4,baz=11,slow=14,SNR=4.3						
FINES	**FINESS Array B**	**68.95**	**330**	P	**P**	**13 00 48.7**	**-1.5**
	0.7nm,0.4s,mb3.8,baz=64,slow=5.3,SNR=11						
NVAR	**Mina Array Bea**	**84.73**	**48**	P	**P**	**13 02 19.6**	**+1.5**
	0.3nm,0.5s,mb3.4,baz=291,slow=7.7,SNR=4.1						

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*NIED **30** 12:57:00, 33.00N×136.90E, h11^{km}, Mw3.8 Best double couple: M$_0$5.6×10^{14} NP1:ϕ_s54°, δ57°, λ59°. NP2:ϕ_s281°, δ44°, λ128°.*

*IDC **30** 12:57:45.7±1.5, 32.84N×137.02E, mb3.5/3, mb1 3.7/4, mb1mx3.5/23, ML3.2/1, MS2.9/1, Ms1 2.9/1, ms1mx2.2/26, Error ellipse: s-maj=38.9km s-min=30.0km az=41.0*

*JMA **30** 12:57:48.3±0.1, 33.02N×136.93E, h38^{km}, M4.1*

JMA Felt I J1.

ISC 30 12:57:48.1±0.8, 33.00N±0.05×136.97E±0.03, h39^{km}±13^{km}, n22, σ0^{s}81/37, mb3.5/3, 12D, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK01	**Tokai 1**	**0.92**	**34**	P	**P**	**12 58 05.0**	**+0.3**
TK01				*e*S	**S**	**12 58 17.0**	**+0.1**
TK02	**Tokai 2**	**1.15**	**35**	⇓P	**P**	**12 58 08.3**	**+0.4**
TK02				*e*S	**S**	**12 58 21.7**	**-1.0**
JWZ	**Kozaga**	**1.17**	**297**	⇓P	**P**	**12 58 08.1**	**-0.1**
JWZ				*e*S	**S**	**12 58 21.8**	**-1.5**
JIE	**Ise**	**1.40**	**351**	⇓P	**P**	**12 58 12.3**	**+0.7**
JIE				*e*S	**S**	**12 58 29.8**	**+0.7**
TK04	**Tokai 4**	**1.57**	**29**	⇓P	**P**	**12 58 14.6**	**+0.6**
TK04				*e*S	**S**	**12 58 33.6**	**+0.2**
JWM	**Minabe**	**1.59**	**303**	⇓P	**P**	**12 58 14.3**	**+0.1**
JWM				*e*S	**S**	**12 58 32.2**	**-1.6**
JWY	**Kouya**	**1.67**	**317**	⇓P	**P**	**12 58 16.1**	**+0.7**
JWY				*e*S	**S**	**12 58 35.6**	**-0.1**
TSUJ	**Tsu 2**	**1.76**	**345**	⇓P	**P**	**12 58 17.3**	**+0.6**
TSUJ				*e*S	**S**	**12 58 38.7**	**+0.6**
JHE	**Heguri**	**1.96**	**327**	⇓P	**P**	**12 58 20.2**	**+0.7**
JHE				*e*S	**S**	**12 58 43.0**	**-0.1**
JAJ2	**Tsuna**	**2.24**	**310**	P	**P**	**12 58 24.1**	**+0.6**
JAJ2				*e*S	**S**	**12 58 49.5**	**-0.6**
JAI	**Aioi**	**2.25**	**291**	⇓P	**P**	**12 58 23.7**	**+0.1**
JAI				*e*S	**S**	**12 58 48.7**	**-1.6**
SHZ3	**Shizuoka 3**	**2.30**	**26**	⇓P	**P**	**12 58 24.5**	**+0.1**
SHZ3				*e*S	**S**	**12 58 50.6**	**-1.2**
JHJ	**Hachijo jima 2**	**2.37**	**86**	Pn	**P**	**12 58 25.9**	**+0.6**
	13nm,0.3s,baz=46,slow=23,SNR=1.9						
JHJ				Sn	**S**	**12 58 52.6**	**-0.8**
	54nm,0.3s,baz=345,slow=22,SNR=7.3						
JHJ2	**Mitsune**	**2.40**	**87**	*e*S	**S**	**12 58 52.6**	**-1.5**
JWT	**Wachi**	**2.62**	**331**	⇓P	**P**	**12 58 29.6**	**+0.7**
JWT				*e*S	**S**	**12 58 59.7**	**-0.1**
JIM2	**Oshima 3**	**2.67**	**49**	P	**P**	**12 58 30.7**	**+1.0**
JIM2				*e*S	**S**	**12 59 00.1**	**-1.0**
JGM	**Miyama**	**2.70**	**356**	⇓P	**P**	**12 58 30.7**	**+0.6**
MAT	**Matsushiro**	**3.68**	**16**	P	**P**	**12 58 44.3**	**+0.4**
MAT				S	**S**	**12 59 26.4**	**-0.3**
ASAJ	**Asahikawa**	**11.94**	**20**	LR	LR	13 05 40.5	
	comp=Z,54nm,20.2s,baz=313,slow=39						
MKAR	**Makanchi Array**	**43.31**	**305**	P	**P**	**13 05 50.1**	**+2.4**
	1.1nm,0.6s,mb3.8,baz=84,slow=11,SNR=8.9						
WRA	**Warramunga Arr**	**52.70**	**183**	P	**P**	**13 07 01.0**	**-0.2**
	0.4nm,0.8s,mb3.4,baz=359,slow=7.8,SNR=5.0						
ASAR	**Alice Springs**	**56.42**	**183**	P	**P**	**13 07 27.9**	**-0.4**
	0.3nm,0.9s,mb3.3,baz=9.5,slow=11,SNR=2.8						

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*HEL **30** 13:04:36.5±0.2, 59.63N×22.28E, ML2.0, ML2.4(UPP), ML2.2(NAO), Explosion*

*NAO **30** 13:04:40.5±1.4, 60.28N×21.93E, ML2.2*

*BER **30** 13:04:40.4±5.0, 60.03N×22.13E, ML2.2(NAO), Suspected explosion*

ISC 30 13:04:35.4±0.7, 59.61N±0.06×22.27E±0.06, n21, σ1^{s}02/34, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAL	**Aland**	**1.28**	**298**	*e*P	**Pb**	**13 04 59.1**	**-1.1**
AAL				*e*S	**Sb**	**13 05 15.7**	**-1.3**
NRTU	**Norrtaelje**	**1.85**	**274**	*e*P	**Pn**	**13 05 09.0**	**+0.4**
GRAU	**Graesoe**	**2.01**	**293**	*e*P	**Pn**	**13 05 10.8**	**-0.2**
PVF	**Pernaja**	**2.03**	**61**	*e*P	**Pn**	**13 05 11.3**	**0.0**
PVF				*e*S	**Sn**	**13 05 36.4**	**-1.4**
PVF				MSG		13 05 41.3	
	comp=Z,8.4nm,0.1s						
NYNU	**Nynaeshamn**	**2.27**	**256**	*e*P	**Pn**	**13 05 15.9**	**+1.2**
FLYU	**Flymyra**	**2.27**	**285**	*e*P	**Pn**	**13 05 14.8**	**+0.1**
BACU	**Backbrunna**	**2.62**	**278**	*e*P	**Pn**	**13 05 20.8**	**+1.0**
FIA0	**FINESS Array S**	**2.64**	**44**	*e*P	**Pn**	**13 05 20.2**	**+0.3**
FIA0				*e*S	**Sn**	**13 05 53.0**	**-0.1**
FIA0				MSG		13 05 56.3	
	comp=Z,6.1nm,0.1s						
FIA0	**FINESS Array S**	**2.64**	**44**	Pn	**Pn**	**13 05 20.2**	**+0.3**
	baz=228,slow=14						
FIA0				Lg		13 05 53.9	
	baz=246,slow=28						
OSTU	**Oestervaala**	**2.66**	**286**	*e*P	**Pn**	**13 05 20.6**	**+0.3**
GOTU	**Gotland**	**2.73**	**227**	*e*P	**Pn**	**13 05 22.3**	**+1.0**
IGGU	**Iggoen**	**2.78**	**299**	*e*P	**Pn**	**13 05 21.9**	**0.0**
VJF	**Virojoki**	**2.81**	**68**	*e*P	**Pn**	**13 05 21.0**	**-1.4**
VJF				*e*S	**Sn**	**13 05 55.8**	**-1.8**
KEF	**Keuruu**	**2.87**	**25**	*e*P	**Pn**	**13 05 24.4**	**+1.2**
KEF				*e*S	**Sn**	**13 05 60.0**	**+1.0**
ESKU	**Eskilstuna**	**3.03**	**265**	*e*P	**Pn**	**13 05 26.2**	**+0.7**
ARNU	**Arnoeviken**	**3.19**	**313**	*e*P	**Pn**	**13 05 27.5**	**-0.4**
KAF	**Kangasniemi**	**3.20**	**36**	*e*P	**Pn**	**13 05 27.8**	**-0.2**
KAF				*e*S	**Sn**	**13 06 08.0**	**+0.7**
VAF	**Ylistaro**	**3.46**	**3**	*e*P	**Pn**	**13 05 34.3**	**+2.7**
VAF				*e*SG	**Sg**	**13 06 23.4**	**-7.1**
SUF	**Sumiainen**	**3.65**	**29**	*e*P	**Pn**	**13 05 33.9**	**-0.4**
SUF				*e*S	**Sn**	**13 06 19.8**	**+1.1**
HFS	**Hagfors**	**4.36**	**281**	*e*P	**Pn**	**13 05 43.7**	**-0.7**
HFS				*e*PG	**Pg**	**13 05 53.5**	**-8.8**
HFS				*e*S	**Sn**	**13 06 34.1**	**-2.5**
HFS				*e*SG	**Sg**	**13 06 50.3**	**-10**
HFS	**Hagfors**	**4.36**	**281**	Pn	**Pn**	**13 05 43.7**	**-0.7**
	baz=110,slow=11						
HFS				Pg	**Pg**	**13 05 53.5**	**-8.8**
	baz=72,slow=18						
HFS				Sn	**Sn**	**13 06 34.1**	**-2.5**
HFS				Lg		13 06 50.3	
	baz=86,slow=37						

IDC 30 13:06:51.4±3.3, 32.07N×84.47E, mb4.1/3, mb1 4.1/4, mb1mx3.6/19, ML3.2/1, MS2.3/1, Ms1 2.5/1, ms1mx2.0/19, Error ellipse: s-maj=259.0km s-min=35.1km az=28.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**18.82**	**133**	P	P	13 11 12.1	-2.7
	0.0nm,0.3s,baz=321,slow=12,SNR=5.0						
CMAR				LR	LR	13 18 12.3	
	comp=Z,9.0nm,18.4s,baz=75,slow=36						
WRA	**Warramunga Arr**	**70.39**	**130**	P	P	13 18 07.6	-1.8
	1.4nm,0.6s,baz=324,slow=6.3,SNR=34						
WB2	**Warramunga Arr**	**70.40**	**130**	*e*P	P	13 18 07.7	-1.8
ASAR	**Alice Springs**	**72.83**	**133**	P	P	13 18 22.2	-1.8
	0.4nm,0.5s,baz=315,slow=5.8,SNR=15						
DBIC	**Dimbokro**	**85.94**	**275**	P	P	13 19 33.7	-1.4
	3.9nm,1.0s,baz=72,slow=6.4,SNR=4.1						

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*BJI **30** 13:09:01.9, 42.90N×1.50W, h2^{km}, mb4.8, Msz4.5*

*IDC **30** 13:09:06.0±0.8, 42.90N×1.61W, mb3.9/13, mb1 4.1/20, mb1mx4.0/28, ML4.2/6, MS2.9/3, Ms1 2.9/3, ms1mx2.3/24, Error ellipse: s-maj=20.2km s-min=13.7km az=145.0*

*NEIC **30** 13:09:06.0±0.7, 42.87N×1.53W, h2^{km}±5^{km}, mb4.3/6, ML4.4(STR), MN3.8(MDD), Error ellipse: s-maj=3.6km s-min=2.9km az=144.0*

NEIC Felt [III] at Lerruz, Lizoain, Nagore, Otano and Pamplona; [II] at Donostia-San Sebastian and Zarautz, Spain.

*ZUR_RM **30** 13:09:05, 42.87N×1.53W, h6^{km}, Mw4.1/21, Moment Tensor Solution. s21 Moment tensor: Scale 10^{15}Nm; M$_{rr}$-1.17; M$_{\theta\theta}$1.12; M$_{\phi\phi}$0.05; M$_{r\theta}$0.74; M$_{\theta\phi}$-0.23; M$_{\phi r}$-0.05; Best double couple: M$_0$1.38×10^{15} NP1:ϕ_s277°, δ61°, λ-94°. NP2:ϕ_s105°, δ29°, λ-83°. Principal axes: T 1.378, Plg16°, Azm10°; N .013, Plg3°, Azm279°; P -1.391, Plg73°, Azm178°;*

*STR **30** 13:09:05.9±0.8, 42.77N×1.45W, h10^{km}±1^{km}, Ml5.2 Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*CSEM **30** 13:09:06.1, 42.72N×1.53W, h2^{km}, ML4.6*

*IAG **30** 13:09:06, 42.86N×1.53W, h8^{km}, Mw4.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M$_{rr}$-1.12; M$_{\theta\theta}$1.12; M$_{\phi\phi}$0.00; M$_{r\theta}$-0.19; M$_{\theta\phi}$-0.21; M$_{\phi r}$0.20; Best double couple: M$_0$1.17×10^{15} NP1:ϕ_s108°, δ51°, λ-79°. NP2:ϕ_s272°, δ40°, λ258°. Principal axes: T 1.17, Plg6°, Azm191°; N .0107, Plg8°, Azm282°; P -1.18, Plg80°, Azm65°;*

*MDD **30** 13:09:07.5±0.2, 42.84N×1.44W, h6^{km}±2^{km}, mbLg3.9/43 Error ellipse: s-maj=2.0km s-min=1.5km az=154.0, PRXIMO III-IV S AGOITZ UNCITI III-IV NAGORE III PAMPLONA OTANO MONREAL II-III URTASUN II DONOSTIA-SAN N ZARAUTZ*

MDD EMS: IV IN URROZ.

*MOS **30** 13:09:07.3±1.4, 43.11N×1.39W, h10^{km}, mb3.9/8, Error ellipse: s-maj=22.2km s-min=8.2km az=54.7*

*INMG **30** 13:09:07.5±1.2, 42.82N×1.44W, h4^{km}±3^{km}, ML4.0, Error ellipse: s-maj=2.4km s-min=1.7km az=63.0*

*LDG **30** 13:09:08.3±0.1, 42.87N×1.45W, h7^{km}, Md3.8/3, Ml4.6/40, Error ellipse: s-maj=2.3km s-min=1.5km az=141.0*

*IGIL **30** 13:09:09.2, 42.70N×1.50W, h0^{km}, ML4.0*

ISC 30 13:09:04.5±0.3, 42.90N±0.01×1.58W±0.01, h10^{km}±2^{km}, n275, σ1^{s}41/469, mb4.0/22, MS3.1/3, 12C-6D, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EXPA	**Pamplona**	**0.10**	**200**	Pg	**Sg**	**13 09 10.1**	**+1.2**
	SNR=7.9						
EXPA				Lg		13 09 13.0	
	SNR=7.9						
EALK	**Alkurruntz**	**0.32**	**10**	⇑Pg	**Sg**	**13 09 14.7**	**-0.9**
	2μm,0.4s,SNR=18						
EALK				Lg		13 09 20.5	
	6μm,0.4s,SNR=7.9						
SJPF	**Ste Jean**	**0.33**	**51**	*e*Pg	**Pg**	**13 09 13.5**	**+2.1**
SJPF				*e*Sg	**Sg**	**13 09 16.3**	**+0.3**
	7μm,0.2s						
OSSF	**Osses**	**0.42**	**33**	Pg	**Pg**	**13 09 15.4**	**+2.3**
OSSF	**Osses**	**0.42**	**33**	P	**Pg**	**13 09 15.5**	**+2.3**
OSSF				S	**Sg**	**13 09 21.6**	**+2.7**
LARF	**Larrau**	**0.46**	**73**	Pg	**Pg**	**13 09 14.3**	**+0.5**
LARF				Sg	**Sg**	**13 09 21.5**	**+1.6**
LARF	**Larrau**	**0.46**	**73**	P	**Pg**	**13 09 14.4**	**+0.6**
LARF				S	**Sg**	**13 09 20.8**	**+0.8**
ORDF	**Ordiarp**	**0.56**	**57**	Pg	**Pg**	**13 09 17.2**	**+1.3**
ORDF	**Ordiarp**	**0.56**	**57**	P	**Pg**	**13 09 17.2**	**+1.3**
ORDF				S	**Sg**	**13 09 24.8**	**+1.2**
ATE	**Arette**	**0.67**	**74**	P	**Pb**	**13 09 18.2**	**+0.4**
ATE				S	**Sb**	**13 09 27.1**	**+0.2**
FDAF	**Les Forges d’A**	**0.75**	**96**	Pg	**Pg**	**13 09 18.6**	**-1.0**
FDAF	**Les Forges d’A**	**0.75**	**96**	P	**Pb**	**13 09 18.6**	**-0.5**
FDAF				S	**Sb**	**13 09 28.6**	**-0.6**
ETSF	**Etsaut**	**0.75**	**90**	*e*Pg	**Pg**	**13 09 18.9**	**-0.7**
ETSF				*e*Sg	**Sg**	**13 09 28.0**	**-1.6**
	6μm,0.4s						
REYF	**Montagne du Re**	**0.89**	**79**	Pg	**Pg**	**13 09 21.5**	**-0.8**
REYF	**Montagne du Re**	**0.89**	**79**	P	**Pb**	**13 09 21.5**	**0.0**
REYF				S	**Sb**	**13 09 33.0**	**-0.1**
VIEF	**Viey**	**1.18**	**90**	Pg	**Pg**	**13 09 26.9**	**-1.2**
VIEF	**Viey**	**1.18**	**90**	P	**Pb**	**13 09 26.2**	**-0.2**
VIEF				S	**Sb**	**13 09 41.5**	**-0.1**
LABF	**Labassere**	**1.22**	**83**	Pg	**Pg**	**13 09 27.8**	**-1.2**
LABF				Sg	**Sg**	**13 09 43.4**	**-1.9**
LABF	**Labassere**	**1.22**	**83**	P	**Pb**	**13 09 27.5**	**+0.3**
LABF				S	**Sb**	**13 09 42.9**	**+0.1**
ELAN	**Lanestosa**	**1.40**	**284**	⇑Pg	**Pg**	**13 09 34.8**	**+2.4**
	226nm,0.2s,SNR=18						
ELAN				Lg		13 09 56.2	
	647nm,0.3s,SNR=7.9						
ELAN	**Lanestosa**	**1.40**	**284**	⇓Pn	**Pn**	**13 09 34.9**	**+4.7**
ELAN				Lg		13 09 56.2	
RESF	**Ens**	**1.41**	**93**	Pg	**Pg**	**13 09 31.0**	**-1.8**
RESF	**Ens**	**1.41**	**93**	P	**Pn**	**13 09 30.4**	**+0.1**
RESF				S	**Sb**	**13 09 48.8**	**+0.4**
EPF	**Esparros**	**1.42**	**84**	*e*Pn	**Pn**	**13 09 31.1**	**+0.7**
EPF				*e*Pg	**Pg**	**13 09 33.5**	**+0.7**
EPF				*e*Sg	**Sg**	**13 09 50.8**	**-0.9**
	2μm,0.2s						
ESAC	**San Caprasio**	**1.44**	**145**	⇑Pg	**Pg**	**13 09 31.0**	**-2.3**
	4μm,0.2s,SNR=18						
ESAC				Lg		13 09 49.6	
	6μm,0.3s,SNR=7.9						
MELF	**Melles**	**1.72**	**90**	Pn	**Pn**	**13 09 37.4**	**+2.7**
MELF	**Melles**	**1.72**	**90**	P	**Pn**	**13 09 36.5**	**+1.7**
MELF				S	**Sn**	**13 09 58.5**	**+1.6**
MLS	**Moulis**	**1.96**	**88**	Pn	**Pn**	**13 09 41.7**	**+3.5**
MLS				Sg	**Sg**	**13 10 07.2**	**-2.8**
MLS	**Moulis**	**1.96**	**88**	P	**Pn**	**13 09 40.0**	**+1.7**
MLS				S	**Sn**	**13 10 04.5**	**+1.3**
SALF	**Salau**	**2.04**	**93**	Pn	**Pn**	**13 09 41.2**	**+1.9**
SALF				Sg	**Sg**	**13 10 08.3**	**-4.2**
SALF	**Salau**	**2.04**	**93**	P	**Pn**	**13 09 41.6**	**+2.3**
SALF				S	**Sn**	**13 10 08.3**	**+3.3**
ETOR	**Torete**	**2.11**	**190**	⇑Pn	**Pn**	**13 09 41.9**	**+1.6**
	118nm,0.2s,SNR=18						
ETOR				Pg	**Pg**	**13 09 44.7**	**-2.1**
	1μm,0.4s,SNR=7.9						
ETOR				Sn	**Sn**	**13 10 08.3**	**+1.4**
	885nm,0.4s,SNR=7.9						
ETOR	**Torete**	**2.11**	**190**	⇑Pn	**Pn**	**13 09 41.9**	**+1.6**
ETOR				Lg		13 10 10.2	
GRBF	**Gourbit**	**2.29**	**91**	P	**Pn**	**13 09 45.2**	**+2.3**
EMIR	**Miracle**	**2.50**	**112**	Pn	**Pn**	**13 09 46.3**	**+0.3**
	3.5nm,0.1s,SNR=16						
EMIR				Pg	**Pg**	**13 09 50.8**	**-3.7**
	44nm,0.1s,SNR=7.9						
EMIR				Lg		13 10 23.2	
	808nm,0.4s,SNR=7.9						
EPOB	**Poblet**	**2.51**	**127**	Pn	**Pn**	**13 09 45.3**	**-0.8**
	12nm,0.2s,SNR=7.9						
EPOB				Pg	**Pg**	**13 09 50.7**	**-4.0**
	88nm,0.2s,SNR=7.9						
EPOB				Sn	**Sn**	**13 10 13.8**	**-3.2**
	25nm,0.1s,SNR=7.9						
EPOB				Lg		13 10 20.5	
	456nm,0.4s,SNR=7.9						
LPEF	**Le Peyrat**	**2.56**	**88**	Pn	**Pn**	**13 09 49.3**	**+2.5**
LPEF				Sg	**Sg**	**13 10 23.1**	**-6.7**
LPEF	**Le Peyrat**	**2.56**	**88**	P	**Pn**	**13 09 49.1**	**+2.4**
LPEF				S	**Sn**	**13 10 22.7**	**+4.4**
EBR	**Ebro Roquetas**	**2.59**	**143**	*e*PN	**Pn**	**13 09 47.7**	**+0.4**
EBR				*i* PG	**Pg**	**13 09 54.3**	**-2.0**
EBR				*i* S*	**Sb**	**13 10 24.0**	**+1.3**
LFF	**La Frestale**	**2.64**	**39**	*e*Pn	**Pn**	**13 09 48.5**	**+0.6**
LFF				*e*Sn	**Sn**	**13 10 18.9**	**-1.3**
LFF				*e*Sg	**Sg**	**13 10 27.7**	**-4.6**
	1μm,0.6s						
EMOS	**Mosqueruela**	**2.67**	**162**	Pn	**Pn**	**13 09 49.1**	**+0.8**
	0.9nm,0.2s,SNR=34						
EMOS				Pg	**Pg**	**13 09 54.0**	**-3.8**
	90nm,0.4s,SNR=7.9						
EMOS				Sn	**Sn**	**13 10 20.9**	**-0.1**
	216nm,0.4s,SNR=4.0						
EMOS				Lg		13 10 28.8	
	533nm,0.5s,SNR=7.9						
EMOS	**Mosqueruela**	**2.67**	**162**	Pn	**Pn**	**13 09 49.1**	**+0.8**
EMOS				Pg	**Pg**	**13 09 54.0**	**-3.8**
EMOS				Lg		13 10 28.3	
EARI	**Arriondas**	**2.69**	**280**	Pn	**Pn**	**13 09 52.6**	**+4.1**
	11nm,0.2s,SNR=7.9						
EARI				Pg	**Pg**	**13 09 59.8**	**+1.6**
	28nm,0.4s,SNR=7.9						
EARI				Sn	**Sn**	**13 10 25.0**	**+3.5**
	168nm,0.6s,SNR=7.9						
EARI				Lg		13 10 35.7	
	275nm,0.6s,SNR=7.9						
VALF	**Valcebollere**	**2.70**	**99**	Pn	**Pn**	**13 09 50.3**	**+1.5**
VALF				Sg	**Sg**	**13 10 29.7**	**-4.7**
VALF	**Valcebollere**	**2.70**	**99**	P	**Pn**	**13 09 50.4**	**+1.6**
VALF				S	**Sn**	**13 10 26.9**	**+5.0**
CARF	**Carcanieres**	**2.72**	**93**	P	**Pn**	**13 09 51.7**	**+2.7**
CARF				S	**Sn**	**13 10 28.4**	**+6.2**
MTLF	**Montolieu**	**2.81**	**80**	*e*Pn	**Pn**	**13 09 51.3**	**+0.9**
MTLF				*e*Pg	**Pg**	**13 09 58.7**	**-2.0**
MTLF				*e*Sn	**Sn**	**13 10 23.4**	**-1.3**
	496nm,0.5s						
LRDF	**Laroque-de-Fa**	**3.02**	**88**	Pn	**Pn**	**13 09 55.0**	**+1.6**
LRDF	**Laroque-de-Fa**	**3.02**	**88**	P	**Pn**	**13 09 54.8**	**+1.4**
LRDF				S	**Sn**	**13 10 33.4**	**+3.3**
OLEF	**Ile d’Oleron**	**3.04**	**3**	Pn	**Pn**	**13 09 56.4**	**+2.7**
FILF	**Fillols**	**3.07**	**95**	Pn	**Pn**	**13 09 54.4**	**+0.4**
FILF				Sg	**Sg**	**13 10 36.8**	**-10**
FILF	**Fillols**	**3.07**	**95**	P	**Pn**	**13 09 54.3**	**+0.3**
FILF				S	**Sn**	**13 10 37.7**	**+6.6**
RJF	**Les Rejaudoux**	**3.28**	**42**	*e*Pn	**Pn**	**13 09 56.8**	**-0.1**
RJF				*e*Sn	**Sn**	**13 10 34.8**	**-1.6**
	722nm,0.4s						
SJAF	**Saint Jean de**	**3.32**	**96**	Pn	**Pn**	**13 09 58.4**	**+0.9**
SJAF	**Saint Jean de**	**3.32**	**96**	P	**Pn**	**13 09 58.5**	**+1.0**
CAF	**Calviac**	**3.32**	**51**	*e*Pn	**Pn**	**13 09 57.5**	**-0.1**
CAF				*e*Sn	**Sn**	**13 10 35.2**	**-2.3**
	1μm,0.4s						
EJON	**La Jonquera**	**3.33**	**96**	Pn	**Pn**	**13 09 58.6**	**+1.0**
	0.3nm,0.3s,SNR=24						
EJON				Pg	**Pg**	**13 10 06.4**	**-4.5**
	34nm,0.4s,SNR=7.9						

EJON				Sn	**Sn**	**13 10 35.1**	**-2.5**
	13nm,0.2s,SNR=4.0						
EJON				Lg		13 10 48.2	
	220nm,0.5s,SNR=7.9						
EJON	**La Jonquera**	**3.33**	**96**	Pn	**Pn**	**13 09 58.6**	**+1.0**
EJON				Pg	**Pg**	**13 10 07.0**	**-4.0**
EJON				Lg		13 10 48.2	
LRYF	**La Roche-sur-Y**	**3.67**	**0**	Pn	**Pn**	**13 10 04.9**	**+2.3**
ESDC	**Sonseca Array**	**3.69**	**210**	Pn	**Pn**	**13 10 03.2**	**+0.3**
	16nm,0.3s,baz=36,slow=14,SNR=72						
ESDC				Pg	**Pg**	**13 10 15.4**	**-2.8**
	67nm,0.3s,baz=37,slow=18,SNR=58						
ESDC				Sn	**Sn**	**13 10 45.7**	**-1.2**
	48nm,0.3s,baz=38,slow=24,SNR=5.9						
ESDC				Lg		13 11 03.0	
	62nm,0.3s,baz=26,slow=28,SNR=4.9						
ESDC	**Sonseca Array**	**3.69**	**210**	⇑Pn	**Pn**	**13 10 03.1**	**+0.3**
	38nm,0.2s,baz=39,slow=13,SNR=18						
ESDC				Pg	**Pg**	**13 10 15.1**	**-3.1**
	205nm,0.6s,baz=32,slow=17,SNR=7.9						
ESDC				Sn	**Sn**	**13 10 46.4**	**-0.6**
	66nm,0.3s,baz=38,slow=25,SNR=7.9						
ESDC				Lg		13 11 03.2	
	46nm,0.3s,baz=33,slow=29,SNR=7.9						
ESDC	**Sonseca Array**	**3.69**	**210**	⇑Pn	**Pn**	**13 10 03.1**	**+0.3**
ESDC				Pg	**Pg**	**13 10 13.9**	**-4.3**
ESDC				Sn	**Sn**	**13 10 44.7**	**-2.2**
ESDC				Lg		13 11 03.1	
ESLA	**Sonseca Array**	**3.69**	**210**	*e*Pn	**Pn**	**13 10 02.9**	**0.0**
ESLA				*e*Pg	**Pg**	**13 10 15.1**	**-3.1**
LCHF	**La Chataignera**	**3.81**	**9**	Pn	**Pn**	**13 10 06.7**	**+2.1**
MFF	**Saint Martin d**	**3.84**	**15**	*e*Pn	**Pn**	**13 10 05.5**	**+0.6**
MFF				*e*Pg	**Pg**	**13 10 17.9**	**-3.2**
MFF				*e*Sn	**Sn**	**13 10 49.1**	**-1.5**
	382nm,0.5s						
FRNF	**Fournols**	**3.88**	**49**	Pn	**Pn**	**13 10 04.8**	**-0.7**
ECAL	**Calabor**	**3.94**	**258**	⇓Pn	**Pn**	**13 10 08.7**	**+2.4**
	42nm,0.2s,SNR=18						
ECAL				Sn	**Sn**	**13 10 53.8**	**+0.7**
	143nm,0.5s,SNR=7.9						
ECAL				Lg		13 11 15.8	
	298nm,0.3s,SNR=7.9						
ECAL	**Calabor**	**3.94**	**258**	Pn	**Pn**	**13 10 08.7**	**+2.4**
ECAL				Sn	**Sn**	**13 10 53.8**	**+0.7**
ECAL				Lg		13 11 14.3	
PBRG	**Braganca**	**3.98**	**256**	*e*Pn	**Pn**	**13 10 09.1**	**+2.1**
PBRG				*e*Sn	**Sn**	**13 10 55.6**	**+1.4**
PBRG				*e*Sg	**Sg**	**13 11 15.9**	**-1.1**
	190nm,0.7s						
PBRG	**Braganca**	**3.98**	**256**	Pn	**Pn**	**13 10 09.1**	**+2.1**
PBRG				Sn	**Sn**	**13 10 55.6**	**+1.4**
PBRG				Lg		13 11 15.9	
	95nm,0.7s						
EPON	**Pontenova**	**4.10**	**278**	Pn	**Pn**	**13 10 11.9**	**+3.2**
	68nm,0.5s,SNR=109						
EPON				Sn	**Sn**	**13 11 00.1**	**+2.8**
	12nm,0.2s,SNR=7.9						
EPON				Lg		13 11 21.4	
	57nm,0.3s,SNR=7.9						
EPON	**Pontenova**	**4.10**	**278**	Pn	**Pn**	**13 10 12.2**	**+3.5**
EPON				Sn	**Sn**	**13 11 00.1**	**+2.8**
EPON				Lg		13 11 20.9	
LASF	**Ste Croix**	**4.13**	**72**	*e*Pn	**Pn**	**13 10 08.6**	**-0.4**
LASF				*e*Sn	**Sn**	**13 10 55.0**	**-2.9**
	1µm,0.6s						
LASF				*e*Sg	**Sg**	**13 11 16.1**	**-5.8**
ERUA	**La Rua**	**4.13**	**265**	Pn	**Pn**	**13 10 11.7**	**+2.5**
	82nm,0.2s,SNR=80						
ERUA				Sn	**Sn**	**13 10 58.1**	**0.0**
	SNR=7.9						
ERUA				Lg		13 11 23.1	
	148nm,0.5s,SNR=7.9						
ERUA	**La Rua**	**4.13**	**265**	Pn	**Pn**	**13 10 11.7**	**+2.5**
ERUA				Sn	**Sn**	**13 11 00.3**	**+2.2**
ERUA				Lg		13 11 21.9	
LBL	**Lubilhac**	**4.18**	**55**	Pn	**Pn**	**13 10 10.2**	**+0.3**
EVIA	**Vianos**	**4.32**	**190**	Pn	**Pn**	**13 10 10.7**	**-1.1**
	181nm,0.3s,SNR=7.9						
EVIA				Pg	**Pg**	**13 10 26.7**	**-4.1**
	251nm,0.5s,SNR=7.9						
EVIA				Lg		13 11 23.0	
	646nm,0.6s,SNR=7.9						
EVIA	**Vianos**	**4.32**	**190**	Pn	**Pn**	**13 10 10.7**	**-1.1**
EVIA				Lg		13 11 23.0	
EBEN	**Beniarda**	**4.32**	**166**	Pn	**Pn**	**13 10 11.0**	**-0.7**
	4.1nm,0.2s,SNR=34						
EBEN				Pg	**Pg**	**13 10 23.9**	**-6.8**
	100nm,0.7s,SNR=7.9						
EBEN				Lg		13 11 22.6	
	82nm,0.5s,SNR=7.9						
EBEN	**Beniarda**	**4.32**	**166**	Pn	**Pn**	**13 10 11.1**	**-0.7**
EBEN				Pg	**Pg**	**13 10 23.9**	**-6.8**
EBEN				Lg		13 11 21.1	
TCF	**Toulx Ste Croi**	**4.33**	**37**	*e*Pn	**Pn**	**13 10 10.8**	**-1.2**
TCF				*e*Sn	**Sn**	**13 10 58.9**	**-4.2**
	389nm,0.4s						
PYM	**Petit Puy Mans**	**4.35**	**48**	Pn	**Pn**	**13 10 12.8**	**+0.6**
EIBI	**Ibiza**	**4.46**	**149**	Pn	**Pn**	**13 10 11.5**	**-2.3**
	10nm,0.3s,SNR=7.9						
EIBI				Pg	**Pg**	**13 10 29.4**	**-4.2**
	SNR=7.9						
EIBI				Sn	**Sn**	**13 10 59.5**	**-6.9**
	85nm,0.6s,SNR=7.9						
EIBI				Lg		13 11 24.0	
	24nm,0.3s,SNR=7.9						
EIBI	**Ibiza**	**4.46**	**149**	Pn	**Pn**	**13 10 11.5**	**-2.3**
EIBI				Sn	**Sn**	**13 10 59.5**	**-6.9**
EIBI				Lg		13 11 24.0	
COLF	**Collangettes**	**4.60**	**54**	Pn	**Pn**	**13 10 14.9**	**-0.9**
PLDF	**La Plantade**	**4.82**	**49**	Pn	**Pn**	**13 10 18.7**	**-0.2**
BGF	**Bois d'Agland**	**4.83**	**39**	*e*Pn	**Pn**	**13 10 17.6**	**-1.4**
BGF				*e*Sn	**Sn**	**13 11 12.3**	**-3.3**
BGF				*e*Sg	**Sg**	**13 11 37.2**	**-8.0**
	533nm,0.4s						
PVRL	**Vila Real**	**4.85**	**252**	*e*Pn	**Pn**	**13 10 20.8**	**+1.5**
PVRL				*e*Sn	**Sn**	**13 11 15.4**	**-0.8**
PVRL				*e*Sg	**Sg**	**13 11 39.9**	**-6.0**
	154nm,0.3s						
PVRL	**Vila Real**	**4.85**	**252**	Pn	**Pn**	**13 10 20.8**	**+1.5**
PVRL				Sn	**Sn**	**13 11 15.4**	**-0.8**
PVRL				Lg		13 11 39.9	
	77nm,0.3s						
ELOB	**Lobios**	**4.91**	**260**	Pn	**Pn**	**13 10 21.5**	**+1.3**
	SNR=7.9						
ELOB				Sn	**Sn**	**13 11 17.0**	**-0.8**
	SNR=7.9						
ELOB				Lg		13 11 47.3	
	54nm,0.5s,SNR=7.9						
ELOB	**Lobios**	**4.91**	**260**	Pn	**Pn**	**13 10 21.5**	**+1.3**
ELOB				Sn	**Sn**	**13 11 17.0**	**-0.8**
ELOB				Lg		13 11 45.4	
VIVF	**Saint-Julien-l**	**4.92**	**65**	*e*Pn	**Pn**	**13 10 19.5**	**-0.8**
VIVF				*e*Sn	**Sn**	**13 11 13.6**	**-4.4**
	298nm,0.6s						
PRAF	**Pradon**	**5.00**	**77**	Pn	**Pn**	**13 10 21.7**	**+0.2**
EMUR	**La Murta**	**5.06**	**177**	Pn	**Pn**	**13 10 22.4**	**+0.1**
	16nm,0.3s,SNR=12						
EMUR				Pg	**Pg**	**13 10 39.4**	**-6.2**
	74nm,0.6s,SNR=7.9						
EMUR				Sn	**Sn**	**13 11 18.1**	**-3.5**
	SNR=4.0						
EMUR				Lg		13 11 44.8	
	92nm,0.5s,SNR=4.0						
MTE	**Manteigas**	**5.12**	**243**	*e*Pn	**Pn**	**13 10 23.5**	**+0.4**
MTE				*e*Sn	**Sn**	**13 11 21.3**	**-1.7**
MTE				*e*Sg	**Sg**	**13 11 49.2**	**-5.8**
	218nm,0.6s						
MTE	**Manteigas**	**5.12**	**243**	Pn	**Pn**	**13 10 23.5**	**+0.4**
MTE				Sn	**Sn**	**13 11 21.3**	**-1.7**
MTE				Lg		13 11 49.2	
	109nm,0.6s						
MTE	**Manteigas**	**5.12**	**243**	*e*Pn	**Pn**	**13 10 23.2**	**+0.1**
	9.8nm,0.3s						
MTE				*e*Pg	**Pg**	**13 10 42.7**	**-4.0**
MTE				*e*Sb	**Sb**	**13 11 37.2**	**+1.1**
MTE				*e*Sg	**Sg**	**13 11 47.9**	**-7.1**
STS	**Santiago**	**5.12**	**272**	Pn	**Pn**	**13 10 25.4**	**+2.3**
	12nm,0.3s,SNR=7.4						
STS				Sn	**Sn**	**13 11 23.4**	**+0.3**
	SNR=7.9						
STS				Lg		13 11 53.5	
	30nm,0.5s,SNR=7.9						
STS	**Santiago**	**5.12**	**272**	Pn	**Pn**	**13 10 25.4**	**+2.3**
STS				Sn	**Sn**	**13 11 21.1**	**-2.0**
STS				Lg		13 11 53.5	
QUIF	**Quistinic**	**5.14**	**348**	*e*Pn	**Pn**	**13 10 24.8**	**+1.5**
QUIF				*e*Pg	**Pg**	**13 10 45.0**	**-2.0**
QUIF				*e*Sn	**Sn**	**13 11 20.9**	**-2.5**
	106nm,0.4s						
TREF	**Trevaresse**	**5.14**	**80**	Pn	**Pn**	**13 10 23.4**	**+0.1**
PVIS	**Viseu**	**5.20**	**247**	*e*Pn	**Pn**	**13 10 24.9**	**+0.6**
PVIS				*e*Sn	**Sn**	**13 11 22.3**	**-2.7**
PVIS				*e*Sg	**Sg**	**13 11 50.2**	**-7.5**
	135nm,0.9s						
PVIS	**Viseu**	**5.20**	**247**	Pn	**Pn**	**13 10 24.9**	**+0.6**
PVIS				Sn	**Sn**	**13 11 22.3**	**-2.7**
PVIS				Lg		13 11 50.2	
	67nm,0.9s						
EQES	**Quesada**	**5.22**	**193**	Pn	**Pn**	**13 10 23.3**	**-1.3**
	64nm,0.5s,SNR=7.9						
EQES				Pg	**Pg**	**13 10 41.9**	**-6.9**
	205nm,0.5s,SNR=7.9						
EQES				Lg		13 11 50.0	
	152nm,0.7s,SNR=7.9						
EQES	**Quesada**	**5.22**	**193**	Pn	**Pn**	**13 10 24.8**	**+0.2**
EQES				Pg	**Pg**	**13 10 41.9**	**-6.9**
EQES				Lg		13 11 50.0	
AVF	**Avril sur Loir**	**5.23**	**40**	*e*Pn	**Pn**	**13 10 24.2**	**-0.5**
AVF				*e*Pg	**Pg**	**13 10 42.5**	**-6.5**
AVF				*e*Sn	**Sn**	**13 11 20.7**	**-5.2**
	479nm,0.7s						
EADA	**Adamuz**	**5.25**	**207**	Pn	**Pn**	**13 10 24.2**	**-0.8**
	25nm,0.4s,SNR=7.9						
EADA				Pg	**Pg**	**13 10 45.5**	**-3.9**
	78nm,0.8s,SNR=7.9						
EADA				Sn	**Sn**	**13 11 21.8**	**-4.5**
	SNR=7.9						
EADA				Lg		13 11 52.4	
	148nm,0.5s,SNR=7.9						
EADA	**Adamuz**	**5.25**	**207**	Pn	**Pn**	**13 10 24.4**	**-0.6**
EADA				Pg	**Pg**	**13 10 43.7**	**-5.6**
EADA				Sn	**Sn**	**13 11 21.8**	**-4.5**
EADA				Lg		13 11 52.4	
OCF	**Saint Nazaire**	**5.26**	**69**	Pn	**Pn**	**13 10 25.3**	**+0.2**
OG26	**St.-Nazaire-De**	**5.26**	**69**	Pn	**Pn**	**13 10 25.3**	**+0.2**
HYF	**Humbligny**	**5.29**	**33**	*e*Pn	**Pn**	**13 10 25.8**	**+0.3**
HYF				*e*Sn	**Sn**	**13 11 23.0**	**-4.2**
SMRF	**Simiane la Rot**	**5.32**	**76**	*e*Pn	**Pn**	**13 10 26.0**	**+0.1**
SMRF				*e*Sn	**Sn**	**13 11 23.7**	**-4.3**
SMRF				*e*Sg	**Sg**	**13 11 53.3**	**-8.3**
	292nm,0.9s						
BERF	**Bertagne**	**5.34**	**83**	Pn	**Pn**	**13 10 26.5**	**+0.3**
PUYF	**Puyloubier**	**5.36**	**81**	Pn	**Pn**	**13 10 26.3**	**-0.2**
SMF	**Signal de Mont**	**5.37**	**44**	*e*Pn	**Pn**	**13 10 25.0**	**-1.7**
SMF				*e*Sn	**Sn**	**13 11 24.8**	**-4.6**
	172nm,0.6s						
PCBR	**Castelo Branco**	**5.39**	**237**	*e*Pn	**Pn**	**13 10 27.5**	**+0.6**
PCBR				*e*Sn	**Sn**	**13 11 27.2**	**-2.6**
PCBR				*e*Sg	**Sg**	**13 11 58.3**	**-5.7**
	152nm,0.4s						
PCBR	**Castelo Branco**	**5.39**	**237**	Pn	**Pn**	**13 10 27.5**	**+0.6**
PCBR				Sn	**Sn**	**13 11 27.2**	**-2.6**
PCBR				Lg		13 11 58.3	
	76nm,0.4s						
SGMF	**Saint Gilles**	**5.39**	**353**	*e*Pn	**Pn**	**13 10 27.9**	**+0.9**
SGMF				*e*Sn	**Sn**	**13 11 25.5**	**-4.4**
SGMF				*e*Sg	**Sg**	**13 11 58.3**	**-5.8**
	204nm,0.7s						
VILF	**Villemus**	**5.40**	**77**	Pn	**Pn**	**13 10 28.9**	**+1.8**
EMAZ	**Mazaricos**	**5.43**	**273**	⇓Pn	**Pn**	**13 10 29.0**	**+1.5**
	SNR=18						
EMAZ				Sn	**Sn**	**13 11 28.5**	**-2.3**
	SNR=7.9						
EMAZ				Lg		13 12 04.9	
	39nm,0.4s,SNR=7.9						
EMAZ	**Mazaricos**	**5.43**	**273**	Pn	**Pn**	**13 10 29.1**	**+1.6**
EMAZ				Sn	**Sn**	**13 11 28.5**	**-2.3**
EMAZ				Lg		13 12 04.1	
SSF	**Saint Saulge**	**5.50**	**39**	*e*Pn	**Pn**	**13 10 26.7**	**-1.8**
SSF				*e*Sn	**Sn**	**13 11 27.2**	**-5.4**
	234nm,0.5s						
SSF				*e*Sg	**Sg**	**13 11 59.1**	**-8.6**
GRR	**Gorron**	**5.51**	**5**	*e*Pn	**Pn**	**13 10 29.0**	**+0.4**
GRR				*e*Sn	**Sn**	**13 11 28.8**	**-4.0**
	303nm,0.5s						
ROSF	**Rostrenen**	**5.56**	**348**	*e*Pn	**Pn**	**13 10 30.1**	**+0.8**
ROSF				*e*Sn	**Sn**	**13 11 30.7**	**-3.4**
	81nm,0.4s						
TAVF	**Tavernes**	**5.62**	**80**	Pn	**Pn**	**13 10 30.2**	**0.0**
ELUQ	**Luque**	**5.72**	**202**	Pn	**Pn**	**13 10 31.9**	**+0.3**
	20nm,0.2s,SNR=25						
ELUQ				Lg		13 12 12.3	
	SNR=7.9						
ELUQ	**Luque**	**5.72**	**202**	Pn	**Pn**	**13 10 31.9**	**+0.3**
ELUQ				Lg		13 12 07.3	
ORIF	**Oris-en-Rattie**	**5.75**	**67**	*e*Pn	**Pn**	**13 10 32.0**	**0.0**
ORIF				*e*Sn	**Sn**	**13 11 33.2**	**-5.7**
	185nm,0.6s						
GRN	**Grenoble**	**5.77**	**64**	Pn	**Pn**	**13 10 33.3**	**+1.0**
LDF	**La Druitiere**	**5.78**	**10**	*e*Pn	**Pn**	**13 10 32.6**	**+0.2**
LDF				*e*Sn	**Sn**	**13 11 35.7**	**-3.9**
	80nm,0.4s						
LOR	**Lormes**	**5.82**	**40**	*e*Pn	**Pn**	**13 10 31.2**	**-1.8**
	baz=224						
LOR				*e*Sn	**Sn**	**13 11 34.1**	**-6.4**
LOR				*e*Sg	**Sg**	**13 12 09.6**	**-8.6**
	212nm,0.7s						
EBAD	**Badajoz**	**5.84**	**227**	Pn	**Pn**	**13 10 33.0**	**-0.4**
	SNR=7.9						
EBAD				Sn	**Sn**	**13 11 38.7**	**-2.5**
	22nm,0.2s,SNR=7.9						
EBAD				Lg		13 12 12.6	
	114nm,1.4s,SNR=7.9						
EBAD	**Badajoz**	**5.84**	**227**	Pn	**Pn**	**13 10 33.0**	**-0.3**
EBAD				Sn	**Sn**	**13 11 38.7**	**-2.5**
EBAD				Lg		13 12 13.7	
FLN	**La Foliniere**	**5.91**	**7**	*e*Pn	**Pn**	**13 10 34.5**	**+0.3**
FLN				*e*Sn	**Sn**	**13 11 37.8**	**-5.0**
FLN				*e*Sg	**Sg**	**13 12 13.2**	**-8.1**
	234nm,0.7s						
LMR	**La Mourre**	**5.94**	**83**	*e*Pn	**Pn**	**13 10 35.3**	**+0.7**
LMR				*e*Sn	**Sn**	**13 11 38.5**	**-5.0**
	91nm,0.7s						
FRF	**La Foret Royal**	**6.05**	**81**	*e*Pn	**Pn**	**13 10 36.0**	**-0.2**
FRF				*e*Sn	**Sn**	**13 11 41.4**	**-4.8**
	72nm,0.5s						
ELOJ	**Sierra Loja**	**6.08**	**200**	Pn	**Pn**	**13 10 36.9**	**+0.2**
	24nm,0.5s,SNR=32						
ELOJ				Sn	**Sn**	**13 11 42.0**	**-5.0**
	12nm,0.5s,SNR=7.9						
ELOJ				Lg		13 12 19.6	
	18nm,1.0s,SNR=7.9						
ELOJ	**Sierra Loja**	**6.08**	**200**	Pn	**Pn**	**13 10 36.9**	**+0.2**
ELOJ				Sn	**Sn**	**13 11 43.0**	**-4.0**
ELOJ				Lg		13 12 19.6	
PTOM	**Tomar**	**6.10**	**240**	*e*Pn	**Pn**	**13 10 37.3**	**+0.3**
PTOM				*e*Sn	**Sn**	**13 11 45.7**	**-2.0**
PTOM				*e*Sg	**Sg**	**13 12 21.6**	**-6.1**
	185nm,0.3s						
PTOM	**Tomar**	**6.10**	**240**	Pn	**Pn**	**13 10 37.3**	**+0.3**
PTOM				Sn	**Sn**	**13 11 45.7**	**-2.0**
PTOM				Lg		13 12 21.6	
	92nm,0.3s						
ERON	**Agron**	**6.12**	**197**	Pn	**Pn**	**13 10 37.7**	**+0.4**
	29nm,0.3s,SNR=26						
ERON				Pg	**Pg**	**13 11 01.2**	**-5.6**
	53nm,0.5s,SNR=7.9						
ERON				Sn	**Sn**	**13 11 43.5**	**-4.6**
	5.1nm,0.2s,SNR=7.9						
ERON				Lg		13 12 20.4	
	38nm,0.6s,SNR=7.9						
ERON	**Agron**	**6.12**	**197**	Pn	**Pn**	**13 10 37.7**	**+0.4**
ERON				Sn	**Sn**	**13 11 43.5**	**-4.6**
ERON				Lg		13 12 20.4	
CALN	**Calern**	**6.24**	**79**	Pn	**Pn**	**13 10 39.2**	**+0.3**
SURF	**Saint Ours**	**6.29**	**73**	Pn	**Pn**	**13 10 40.2**	**+0.6**
MBDF	**Montbardon**	**6.31**	**70**	*e*Pn	**Pn**	**13 10 40.4**	**+0.5**
MBDF				*e*Sn	**Sn**	**13 11 44.9**	**-7.9**
	81nm,0.6s						
BNI	**Bardonecchia**	**6.33**	**67**	*e*Pn	**Pn**	**13 10 39.5**	**-0.7**
	15nm,0.6s						
BNI				*e*Sn	**Sn**	**13 11 50.0**	**-3.5**
RRL	**Cesana Torines**	**6.37**	**69**	P	**Pn**	**13 10 41.4**	**+0.7**
EMIN	**Mina Concepcio**	**6.44**	**219**	Pn	**Pn**	**13 10 40.8**	**-0.9**
	6.2nm,0.2s,SNR=7.9						
EMIN				Sn	**Sn**	**13 11 50.3**	**-5.7**
	23nm,0.6s,SNR=7.9						
EMIN				Lg		13 12 31.6	
	82nm,0.9s,SNR=7.9						
ALMR	**Almeirim**	**6.48**	**237**	*e*P	**Pn**	**13 10 42.6**	**+0.3**
ALMR				*e*S	**Sn**	**13 11 50.6**	**-6.4**
ALMR				*e*S	**Sn**	**13 11 50.7**	**-6.4**
ALMR				AML	AML	13 11 56.4	
	comp=N,175nm,0.8s						
ALMR	**Almeirim**	**6.48**	**237**	*e*P	**Pn**	**13 10 42.6**	**+0.3**
ALMR				*e*S	**Sn**	**13 11 50.6**	**-6.5**
PZZ	**Prazzo**	**6.49**	**73**	P	**Pn**	**13 10 43.1**	**+0.6**
LPL	**La Plagne**	**6.52**	**64**	*e*Pn	**Pn**	**13 10 42.9**	**0.0**
LPL				*e*Sn	**Sn**	**13 11 50.8**	**-7.2**
	comp=N,47nm,0.6s						
TOUF	**Mont Tournerai**	**6.52**	**77**	Pn	**Pn**	**13 10 41.9**	**-1.0**
LPG	**La Plagne**	**6.53**	**64**	*e*Pn	**Pn**	**13 10 43.5**	**+0.6**
LPG				*e*Sn	**Sn**	**13 11 50.8**	**-7.4**
	comp=N,68nm,0.5s						
EVO	**Evora**	**6.55**	**230**	*e*Pn	**Pn**	**13 10 43.5**	**+0.2**
EVO				*e*Sn	**Sn**	**13 11 52.7**	**-6.2**
EVO				*e*Sg	**Sg**	**13 12 35.4**	**-7.3**
	comp=N,231nm,0.7s						
AURF	**Auriere**	**6.56**	**78**	Pn	**Pn**	**13 10 43.4**	**-0.1**
FENE	**Fenestrelle**	**6.59**	**68**	P	**Pn**	**13 10 43.3**	**-0.6**
CABF	**La Chapelle**	**6.60**	**53**	*e*Pn	**Pn**	**13 10 43.2**	**-0.7**
CABF				*e*Sn	**Sn**	**13 11 55.2**	**-4.8**
CABF				*e*Sg	**Sg**	**13 12 35.8**	**-8.3**
	comp=N,336nm,0.9s						
STV	**Sta Anna Valdi**	**6.61**	**75**	P	**Pn**	**13 10 44.9**	**+0.9**
SBF	**Sospel**	**6.64**	**79**	*e*Pn	**Pn**	**13 10 44.6**	**+0.1**
SBF				*e*Pg	**Pg**	**13 11 09.5**	**-7.5**
SBF				*e*Sn	**Sn**	**13 11 57.2**	**-3.8**
	comp=N,84nm,0.5s						
AUTN	**L'Aution**	**6.65**	**77**	Pn	**Pn**	**13 10 44.5**	**-0.1**
ENR	**Entracque**	**6.67**	**76**	P	**Pn**	**13 10 45.5**	**+0.5**
LIJA	**Lijar**	**6.67**	**207**	P	**Pn**	**13 10 45.7**	**+0.7**
LIJA				S	**Sn**	**13 11 59.3**	**-2.6**
BHB	**Bricherasio**	**6.68**	**70**	P	**Pn**	**13 10 45.3**	**+0.2**
SAOF	**Saorge**	**6.74**	**78**	Pn	**Pn**	**13 10 46.2**	**+0.3**
MOE	**Montemor**	**6.75**	**232**	*e*Pn	**Pn**	**13 10 45.6**	**-0.5**
MOE				*e*Sn	**Sn**	**13 12 00.4**	**-3.5**
MOE				*e*Sg	**Sg**	**13 12 40.3**	**-9.0**
RSP	**Reno Superiore**	**6.75**	**68**	P	**Pn**	**13 10 47.0**	**+0.8**
LSD	**Ceresole Reale**	**6.78**	**65**	P	**Pn**	**13 10 46.6**	**+0.1**
EMIJ	**Mijas**	**6.79**	**202**	Pn	**Pn**	**13 10 46.8**	**+0.1**
	comp=N,7.0nm,0.2s,SNR=7.9						
EMIJ				Sn	**Sn**	**13 11 59.6**	**-5.2**
	comp=N,10nm,0.3s,SNR=7.9						
EMIJ				Lg		13 12 42.6	
	comp=N,41nm,0.6s,SNR=7.9						
NEGI	**Negi**	**6.83**	**79**	P	**Pn**	**13 10 48.1**	**+0.9**
ESPR	**Espera**	**6.87**	**210**	Pn	**Pn**	**13 10 47.9**	**+0.1**
	comp=N,7.3nm,0.4s,SNR=11						
ESPR				Sn	**Sn**	**13 12 00.1**	**-6.6**
	comp=N,4.4nm,0.3s,SNR=7.9						
ESPR				Lg		13 12 46.4	
	comp=N,42nm,0.6s,SNR=7.9						
MONE	**Monesi**	**6.89**	**77**	P	**Pn**	**13 10 48.7**	**+0.6**
IMI	**Imperia**	**6.97**	**78**	*e*Pn	**Pn**	**13 10 51.8**	**+2.6**
REAL	**Reales**	**7.00**	**205**	P	**Pn**	**13 10 50.1**	**+0.5**
ROB	**Roburent**	**7.00**	**75**	P	**Pn**	**13 10 51.5**	**+1.9**
SFTF	**Sexfontaines**	**7.05**	**39**	*e*Pn	**Pn**	**13 10 49.6**	**-0.7**
SFTF				*e*Sn	**Sn**	**13 12 03.5**	**-7.7**
SFTF				*e*Sg	**Sg**	**13 12 48.3**	**-11**
	comp=N,430nm,1.2s						
PALC	**Alcoutim**	**7.06**	**222**	*e*Pn	**Pn**	**13 10 49.3**	**-1.2**
PALC				*e*Sn	**Sn**	**13 12 06.0**	**-5.6**
LIS	**Lisbon**	**7.10**	**236**	*e*P	**Pn**	**13 10 50.1**	**-1.0**
LIS				*e*S	**Sn**	**13 12 04.8**	**-7.9**
LIS				*e*S	**Sn**	**13 12 05.0**	**-7.7**
LIS				AML	AML	13 12 07.3	
	comp=N,102nm,0.3s						
RORO		**7.12**	**77**	P	**Pn**	**13 10 51.9**	**+0.6**
DIX	**Grande Dixence**	**7.17**	**61**	⇑P	**Pn**	**13 10 53.8**	**+1.8**
FIN	**Finale Ligure**	**7.23**	**76**	*e*Pn	**Pn**	**13 10 54.3**	**+1.5**
MEZF	**Maizieres J'vi**	**7.27**	**37**	*e*Pn	**Pn**	**13 10 50.5**	**-2.9**
	baz=219						
MEZF				*e*Sn	**Sn**	**13 12 08.9**	**-7.9**
MEZF				*e*Sg	**Sg**	**13 12 51.8**	**-15**
	comp=N,203nm,0.7s						
ORO	**Oropa**	**7.38**	**65**	*e*Pn	**Pn**	**13 10 57.7**	**+2.7**
LOMF	**Lomont**	**7.42**	**50**	Pn	**Pn**	**13 10 56.9**	**+1.4**
MCGN	**Macugnaga**	**7.50**	**63**	*e*Pn	**Pn**	**13 10 58.8**	**+2.2**
MCGN				*e*Sn	**Sn**	**13 12 22.2**	**-0.3**
MMK	**Mattmark**	**7.52**	**62**	⇑P	**Pn**	**13 10 59.0**	**+2.1**
PCP	**Pian Castagno**	**7.52**	**74**	P	**Pn**	**13 10 57.8**	**+1.0**
THEF	**They Montfort**	**7.52**	**42**	Pn	**Pn**	**13 10 55.1**	**-1.7**
HAU	**Haudompre**	**7.55**	**45**	*e*Pn	**Pn**	**13 10 55.3**	**-2.1**
HAU				*e*Sn	**Sn**	**13 12 16.5**	**-7.4**
HAU				*e*Sg	**Sg**	**13 13 03.8**	**-12**
	comp=N,74nm,0.5s						
RFYF	**Reffroy**	**7.55**	**38**	*e*Pn	**Pn**	**13 10 56.7**	**-0.7**
	baz=221						
RFYF				*e*Sn	**Sn**	**13 12 17.0**	**-6.9**
RFYF				*e*Sg	**Sg**	**13 13 01.8**	**-14**
	comp=N,131nm,0.6s						
PTEO	**Sao Teotonio**	**7.65**	**228**	*e*Pn	**Pn**	**13 10 57.3**	**-1.4**
PTEO				*e*Sg	**Sg**	**13 13 08.9**	**-10**
	comp=N,89nm,1.0s						
PTEO	**Sao Teotonio**	**7.65**	**228**	Pn	**Pn**	**13 10 57.3**	**-1.4**
PTEO				Lg		13 13 08.9	
	comp=N,45nm,1.0s						
HINF	**Hinteralfeld**	**7.71**	**47**	*e*Pn	**Pn**	**13 10 57.1**	**-2.4**
HINF				*e*Sn	**Sn**	**13 12 20.2**	**-7.5**
HINF				*e*Sg	**Sg**	**13 13 07.7**	**-13**
	comp=N,153nm,1.1s						
PGF	**Pioggiola**	**7.80**	**89**	*e*Pn	**Pn**	**13 10 58.3**	**-2.5**
PGF				*e*Sn	**Sn**	**13 12 24.2**	**-5.8**
	comp=N,31nm,0.4s						
MOF	**Molkenrain**	**7.88**	**48**	Pn	**Pn**	**13 10 58.0**	**-3.9**
VAI	**Varese**	**7.98**	**65**	*e*Pn	**Pn**	**13 11 05.1**	**+1.8**
VAI				*e*Sn	**Sn**	**13 12 32.2**	**-2.4**
BAIF	**Baives**	**8.19**	**27**	*e*Pn	**P**	**13 11 04.1**	**-2.2**
BAIF				*e*Pg	Px	13 11 40.7	
BAIF				*e*Sn	**Sn**	**13 12 32.3**	**-7.6**
	comp=N,122nm,0.7s						
CDF	**Champ du Feu**	**8.29**	**45**	*e*Pn	**P**	**13 11 04.1**	**-3.6**
CDF				*e*Sn	**Sn**	**13 12 33.8**	**-8.6**
CDF				*e*Sg	**Sg**	**13 13 24.0**	**-17**
	comp=N,83nm,0.7s						
GIVF	**Givet**	**8.44**	**29**	*e*Pn	**P**	**13 11 08.4**	**-1.4**
GIVF				*e*Pg	Px	13 11 43.7	
GIVF				*e*Sn	**Sn**	**13 12 38.3**	**-7.8**
	comp=N,123nm,0.5s						
WLF	**Walferdange**	**8.62**	**36**	*e*Pn	**P**	**13 11 10.7**	**-1.5**
WLF				*e*Sn	**Sn**	**13 12 43.0**	**-7.5**
BFO	**Black Forest**	**8.81**	**49**	*e*Pn	**P**	**13 11 12.2**	**-2.7**
BFO				*e*Sn	**Sn**	**13 12 51.0**	**-4.2**
DAVOX	**Davos**	**9.02**	**61**	Pn	**P**	**13 11 19.8**	**+2.1**
	comp=N,1.8nm,0.3s,baz=263,slow=15,SNR=8.6						
DAVOX				Sn	**Sn**	**13 13 00.2**	**-0.1**
	comp=N,1.5nm,0.3s,baz=0.8,slow=16,SNR=4.6						
DAVOX				Lg		13 13 53.9	
	comp=N,0.5nm,0.3s,baz=331,slow=20,SNR=3.6						
DAVOX	**Davos**	**9.02**	**61**	Pn	**P**	**13 11 19.8**	**+2.1**
DAVOX				Sn	**Sn**	**13 13 00.2**	**-0.1**
DAVOX				Lg		13 13 53.9	
DAVA	**Damuels**	**9.21**	**58**	⇑*i*PN	**P**	**13 11 20.9**	**+0.5**
DAVA				*i* SN	**Sn**	**13 12 59.1**	**-6.1**
HGN	**Heimansgroeve**	**9.39**	**31**	*i* Pn	**P**	**13 11 21.8**	**-1.2**
HGN				*i* Sn	**Sn**	**13 13 04.1**	**-5.5**
STU	**Stuttgart**	**9.53**	**48**	Pn	**P**	**13 11 21.8**	**-3.0**
CRE	**Caprese Michel**	**9.90**	**81**	*e*Pn	**P**	**13 11 32.3**	**+2.4**
MOTA	**Moosalm**	**10.00**	**59**	⇓*i*PN	**P**	**13 11 32.7**	**+1.5**
MOTA				*i* SN	**Sn**	**13 13 18.3**	**-6.3**
SQTA	**Sankt Quirin**	**10.02**	**60**	⇑*i*PN	**P**	**13 11 33.5**	**+2.0**
SQTA				*i* SN	**S**	**13 13 18.5**	**-6.6**
WATA	**Walderalm**	**10.30**	**60**	⇑*i*PN	**P**	**13 11 36.9**	**+1.6**
WATA				*i* SN	**S**	**13 13 25.5**	**-6.3**
WTTA	**Wattenberg**	**10.31**	**60**	⇓*i*PN	**P**	**13 11 36.9**	**+1.4**
WTTA				*i* SN	**S**	**13 13 26.4**	**-5.8**
WTSB	**Winterswijk**	**10.69**	**29**	*i* Sn	**S**	**13 13 32.8**	**-8.5**
DLF	**Lyons Farm**	**10.91**	**344**	*e*P	**P**	**13 11 44.7**	**+1.1**
DCN	**Croghan**	**11.11**	**342**	*e*P	**P**	**13 11 47.2**	**+0.8**
GRA1	**Grafenberg Arr**	**11.15**	**48**	*e*Pn	**P**	**13 11 47.8**	**+0.9**
GRA1				*e*Sg	Sx	13 15 10.7	
GRF	**Grafenberg Arr**	**11.15**	**48**	*e*P	**P**	**13 11 47.8**	**+0.9**
NKC	**Novy Kostel**	**12.11**	**48**	*e*P	**P**	**13 11 59.6**	**-0.3**
GERES	**GERESS Array B**	**12.19**	**56**	Pn	**P**	**13 12 00.6**	**-0.4**
	comp=N,0.9nm,0.3s,baz=248,slow=14,SNR=10.0						
GERES				Sn	**S**	**13 14 11.5**	**-6.4**
	comp=N,3.0nm,0.3s,baz=266,slow=21,SNR=17						
GERES	**GERESS Array B**	**12.19**	**56**	P	**P**	**13 12 00.6**	**-0.4**
GERES						13 14 11.5	
GERES				pmax	pmax		
	comp=Z,1.0nm,0.3s						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GERES				smax			
	comp=N,3.0nm,0.3s						
KHC	**Kasperske Hory**	12.23	54	*e*P	P	13 12 02.9	+1.3
KHC				*e*x	x	13 14 13.9	
KHC				L		13 17 00.0	
	comp=N,0.3nm,8.9s						
ESK	**Eskdalemuir**	12.47	356	*e*P	P	13 12 03.4	-1.3
ESK				*e*S	S	13 14 11.8	-13
EKA	**Eskdalemuir Ar**	12.48	356	Pn	P	13 12 03.6	-1.4
	comp=N,0.9nm,0.3s,baz=177,slow=14,SNR=14						
EKA				Sn	S	13 14 17.9	-7.2
	comp=N,0.8nm,0.3s,baz=174,slow=25,SNR=4.1						
EKA	**Eskdalemuir Ar**	12.48	356	P	P	13 12 03.6	-1.4
EKA						13 14 17.9	
EKA				pmax	pmax		
	comp=Z,1.0nm,0.3s						
EKA				smax			
	comp=N,1.0nm,0.3s						
CLL	**Collm**	12.99	45	*e*S	S	13 14 44.0	+6.6
PRU	**Pruhonice**	13.17	52	*e*P	P	13 12 20.8	+6.7
PRU				L		13 17 40.0	
	comp=N,0.3nm,6.0s						
BRG	**Berggiesshubel**	13.26	48	*e*P	P	13 12 20.0	+4.8
BRG				pmax	pmax		
	comp=Z,6.0nm,1.2s						
BRG	**Berggiesshubel**	13.26	48	P	P	13 12 20.0	+4.8
	comp=Z,6.3nm,1.2s						
PVCC	**Panska Ves**	13.43	50	L		13 17 40.0	
	comp=Z,0.3nm,7.4s						
DPC	**Dobruska-Polom**	14.36	53	L		13 18 20.0	
	comp=Z,0.3nm,7.0s						
RGN	**Rugen**	15.21	35	P	P	13 12 43.9	+3.2
	comp=Z,220nm,1.1s						
OKC	**Ostrava-Krasne**	15.26	56	*e*P	P	13 12 48.5	+7.1
OKC				L		13 19 00.0	
	comp=Z,0.3nm,7.6s						
HFS	**Hagfors**	19.61	23	P	P	13 13 36.1	+0.6
	comp=Z,0.1nm,0.3s,baz=207,slow=9.9,SNR=6.1						
HFS				S	S	13 17 06.3	-4.3
	comp=Z,0.1nm,0.3s,baz=220,slow=23,SNR=4.0						
NOA	**NORSAR Array B**	19.73	19	P	P	13 13 38.7	+1.8
	comp=Z,0.1nm,0.3s,baz=207,slow=11,SNR=3.0						
NOA				S	S	13 17 07.5	-5.8
	comp=Z,0.1nm,0.3s,baz=305,slow=21,SNR=3.0						
NOA				LR	LR	13 21 35.2	
	comp=Z,22nm,18.8s,baz=215,slow=38						
MLR	**Muntele Rosu**	19.87	73	P	P	13 13 38.2	-0.2
	comp=Z,0.2nm,0.3s,baz=243,slow=24,SNR=1.8						
IDI	**Anoyia**	21.85	101	P	P	13 14 00.9	+2.0
	comp=Z,6.3nm,0.9s,mb4.0,baz=320,slow=16,SNR=2.6						
AKASG	**Malin Array Be**	22.36	59	P	P	13 13 59.0	-4.9
	comp=Z,1.7nm,0.6s,mb3.6,baz=252,slow=11,SNR=5.1						
AKASG	**Malin Array Be**	22.36	59	P	P	13 13 59.0	-4.9
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
VSU	**Vasula**	23.50	39	P	P	13 14 18.4	+3.5
FINES	**FINESS Array B**	24.82	32	P	P	13 14 28.6	+0.9
	comp=Z,2.5nm,0.7s,mb3.9,baz=248,slow=10,SNR=11						
FINES				LR	LR	13 24 06.3	
	comp=Z,19nm,20.8s,MS2.6,baz=344,slow=36						
FINES	**FINESS Array B**	24.82	32	P	P	13 14 28.6	+0.9
FINES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
FINES				MLR	MLR		
	comp=Z,19nm,20.8s						
KAF	**Kangasniemi**	25.31	31	*e*p	P	13 14 31.9	-0.4
	comp=Z,1.1nm,0.7s,mb3.5						
KAF	**Kangasniemi**	25.31	31	*e*P	P	13 14 31.9	-0.4
KAF				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.5						
BRTR	**Keskin Array B**	26.52	85	P	P	13 14 45.0	+1.1
	comp=Z,0.7nm,0.5s,mb3.4,baz=288,slow=7.8,SNR=4.2						
BRTR	**Keskin Array B**	26.52	85	P	P	13 14 45.0	+1.1
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
OBN	**Obninsk**	27.48	50	P	P	13 14 53.2	+0.8
SOC	**Sochi**	29.87	74	*e*P	P	13 15 16.2	+2.1
SOC				*e*		13 16 22.0	
SOC				*e*SS	SS	13 21 40.4	-5.0
SOC				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.6						
SOC				pmax	pmax		
	comp=N,196nm,0.4s						
SOC				pmax	pmax		
	comp=E,6.0nm,0.7s						
SOC				MLR	MLR		
	comp=Z,282nm,39.0s,MS3.6						
SOC				MLR	MLR		
	comp=N,225nm,34.0s						
SOC				MLR	MLR		
	comp=E,64nm,21.0s						
ARCES	**ARCESS Array B**	30.11	19	P	P	13 15 15.9	-0.1
	comp=E,5.8nm,0.9s,mb4.3,baz=220,slow=9.5,SNR=7.7						
ARCES				LR	LR	13 26 31.6	
	comp=E,36nm,18.6s,MS3.0,baz=92,slow=35						
ARCES	**ARCESS Array B**	30.11	19	P	P	13 15 15.9	-0.1
ARCES				pmax	pmax		
	comp=Z,6.0nm,0.9s						
ARCES				MLR	MLR		
	comp=Z,36nm,18.6s						
ARE0	**ARCESS Array S**	30.11	19	*e*P	P	13 15 14.2	-1.8
KIV	**Kislovodsk**	31.88	73	*e*P	P	13 15 30.3	-1.5
KIV				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.3						
SUMG	**Summit**	34.52	341	P	P	13 15 56.0	+1.4
ARU	**Arti**	39.89	49	⇓*i*P	P	13 16 40.2	+0.4
ARU				*e*		13 18 12.6	
ARU				*e*PPP	PPP	13 18 39.0	-1.6
ARU				*e*		13 18 42.8	
ARU				*e*S	S	13 22 47.0	+2.6
ARU				*e*SSS	SSS	13 26 11.4	+1.6
ARU				*e*		13 26 43.1	
ARU				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.2						
ARU	**Arti**	39.89	49	*e*P	P	13 16 39.4	-0.5
	comp=Z,6.3nm,0.9s,mb4.3						
SCHQ	**Schefferville**	43.01	310	P	P	13 17 06.0	+0.7
	comp=Z,3.1nm,0.7s,mb4.1,baz=45,slow=17,SNR=3.1						
ZRNK	**Zerenda**	46.54	52	*e*P	P	13 17 34.3	+0.7
	comp=Z,3.1nm,0.8s,mb4.3						
BRVK	**Borovoye**	47.24	51	P	P	13 17 40.1	+0.9
	comp=Z,3.4nm,0.9s,mb4.3						
BVAR	**Borovoye Array**	47.31	51	P	P	13 17 40.7	+0.9
	comp=Z,1.4nm,0.7s,mb4.0,baz=281,slow=7.6,SNR=9.2						
KURK	**Kurchatov**	52.91	52	*e*P	P	13 18 22.1	-0.5
	comp=Z,2.9nm,0.9s,mb4.2						
AAK	**Ala-Archa**	53.97	62	*e*P	P	13 18 30.3	-0.1
	comp=Z,3.8nm,1.1s,mb4.2						
ZAL	**Zalesovo**	54.94	46	P	P	13 18 39.2	+1.8
	comp=Z,0.9nm,0.4s,mb4.2,baz=120,slow=6.5,SNR=4.1						
ZAL	**Zalesovo**	54.94	46	P	P	13 18 39.3	+1.9
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR	**Makanchi Array**	56.85	55	P	P	13 18 53.6	+2.2
	comp=Z,0.8nm,0.7s,mb3.9,baz=262,slow=8.6,SNR=4.5						
MKAR	**Makanchi Array**	56.85	55	P	P	13 18 53.6	+2.2
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WMQ	**Urumqi**	61.66	55	*e*P	P	13 19 25.3	+0.7
WMQ				AP	pP	13 19 30.3	+2.5
WMQ				XP	sP	13 19 32.3	+3.4
WMQ				AMB	AMB		
	comp=Z,5.0nm,1.2s,mb4.5						
ILAR	**Eielson Array**	69.27	345	P	P	13 20 15.6	+2.4
	comp=Z,0.6nm,1.0s,mb3.5,baz=25,slow=7.2,SNR=4.4						
ILAR	**Eielson Array**	69.27	345	P	P	13 20 15.6	+2.4
ILAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
PDAR	**Pinedale Array**	73.03	313	P	P	13 20 37.3	+1.2
	comp=Z,0.5nm,0.8s,mb3.5,baz=11,slow=9.2,SNR=3.1						
NVAR	**Mina Array Bea**	80.77	315	P	P	13 21 22.2	+2.9
	comp=Z,0.5nm,0.7s,mb3.5,baz=68,slow=4.2,SNR=4.0						
CN2	**Changchun**	81.52	36	*e*P	P	13 21 22.8	-0.4
MDJ	**Mudanjiang**	82.57	33	P	P	13 21 27.5	-1.1
CMAR	**Chiang Mai Arr**	85.06	70	P	P	13 21 43.3	+1.5
	comp=Z,0.6nm,0.7s,mb3.8,baz=310,slow=32,SNR=3.6						
CMAR	**Chiang Mai Arr**	85.06	70	P	P	13 21 43.3	+1.5
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NJ2	**Nanjing**	87.58	47	*e*P	P	13 21 51.5	-2.4
NJ2				AP	pP	13 22 02.3	+5.1
NJ2				XP	sP	13 22 06.0	+7.8
NJ2				PP	PP	13 25 19.8	-1.7
NJ2				S	S	13 32 30.0	-3.6
NJ2				XS		13 32 47.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s						
NJ2				LR	LR		
	comp=Z,130nm,14.7s						
SSE	**Sheshan**	89.57	46	*e*P	P	13 22 03.0	-0.4
SSE	**Sheshan**	89.57	46	*e*P	P	13 22 02.9	-0.5
	comp=Z,18nm,0.7s						

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*LDG **30** 13:22:16.1±2.5, 42.89N×1.46W, h15^{km}, Md2.0/2, Ml1.9/1, Error ellipse: s-maj=48.1km s-min=25.8km az=50.0*

MDD 30 13:22:17.8±1.1**, 42.89N×1.36W, mbLg0.9**/4**, Error ellipse: s-maj=8.2km s-min=3.4km az=39.0, PRXIMO AftershockPLICA, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	0.24	23	*e*Pg	Pg	13 22 22.3	-0.4
SJPF				*e*Sg	Sg	13 22 25.2	-0.8
	13nm,0.2s						
EALK	**Alkurruntz**	0.35	341	Pg	Pg	13 22 23.8	-1.1
	SNR=7.9						
EALK				Lg		13 22 29.8	
	5.6nm,0.1s,SNR=7.9						
ETSF	**Etsaut**	0.58	89	*e*Pg	Pg	13 22 27.7	-1.8
ETSF				*e*Sg	Sg	13 22 36.8	-0.5
	3.1nm,0.2s						
EPF	**Esparros**	1.25	83	*e*Pg	Pg	13 22 42.3	-0.5
EPF				*e*Sg	Sg	13 22 59.5	0.0
	2.0nm,0.2s						

GUC 30 13:27:14.4±0.7**, 32.69S×71.69W, h30^{km}**±9^{km}**, MD3.5, ML2.4, 2D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JACH	**Jahuel**	0.93	90	*i* P	Pn	13 27 31.3	-0.1
RCDM	**Rinconada Maip**	1.09	137	*e*P	Pn	13 27 33.8	0.0
RCDM				*i* S	Sn	13 27 48.5	+0.5
RCDM				AMP		13 27 52.2	
	comp=E,222nm,0.2s						
TACH	**Talagante**	1.15	147	*e*P	Pn	13 27 34.6	0.0
TACH				*i* S	Sn	13 27 49.8	+0.3
CLCH	**Cerro Calan**	1.20	126	*e*P	Pn	13 27 35.7	+0.3
CLCH				*i* S	Sn	13 27 52.2	+1.5
CLCH				AMP		13 27 55.8	
	comp=E,144nm,0.5s						
FCH	**Farellones**	1.34	119	⇓*i*P	Pn	13 27 38.1	+0.8
FCH				*e*P		13 27 38.2	
FCH				*i* S	Sn	13 27 56.3	+2.0
FCH				*i* S	Sn	13 27 56.3	+2.1
FCH				AMP		13 27 58.0	
	comp=N,135nm,0.1s						
PCH	**Pirque**	1.36	134	⇓*i*P	Pn	13 27 38.4	+0.8
PCH				*e*S	Sn	13 27 55.9	+1.2
CHCH	**Chadas Angostu**	1.52	145	*e*P	Pn	13 27 40.7	+0.9
CICH	**Cipreses**	1.94	147	*e*P	Pn	13 27 47.6	+1.6
SFDO	**San Fernando**	2.00	164	*e*P	Pn	13 27 47.0	+0.2

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*IDC **30** 13:27:50.2±5.2, 5.16S×133.38E, mb3.5/1, mb1 4.1/4, mb1mx3.8/12, ML3.8/3, MS3.1/1, Ms1 3.1/1, ms1mx2.7/6, Error ellipse: s-maj=138.0km s-min=32.5km az=72.0*

*NEIC **30** 13:27:56.8±1.6, 5.32S×133.25E, h45^{km}, mb4.1/2, Error ellipse: s-maj=31.6km s-min=17.8km az=62.0*

ISC 30 13:27:55.1±3.3**, 5.3S**±0.1×**133.4E**±0.2**, h47^{km}**±35^{km}**, n7, σ1^{s}07**/10**, mb3.2**/1**, Aru Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	14.56	176	*e*P	P	13 31 19.8	-0.2
	5.4nm,0.7s						
WRAB				*e*S	S	13 33 51.7	-9.0
WRA	**Warramunga Arr**	14.57	176	Pn	P	13 31 18.7	-1.5
	0.3nm,0.3s,baz=352,slow=13,SNR=33						
WRA				Sn	S	13 33 53.8	-7.2
	0.8nm,0.3s,baz=356,slow=23,SNR=10						
FITZ	**Fitzroy Crossi**	14.78	210	Pn	P	13 31 23.5	+0.5
	1.1nm,0.3s,baz=26,slow=8.6,SNR=36						
ASAR	**Alice Springs**	18.25	178	Pn	P	13 32 07.2	+0.5
	0.4nm,0.3s,baz=356,slow=11,SNR=24						
ASAR				Sn	S	13 35 24.9	-0.5
	0.2nm,0.3s,baz=354,slow=27,SNR=6.2						
ASAR				LR	LR	13 40 12.0	
	comp=Z,60nm,18.5s,baz=346,slow=40						
CTAO	**Charters Tower**	19.30	141	P	P	13 32 20.1	+1.0
	6.2nm,0.9s						
MBWA	**Marble Bar**	20.57	219	*e*P	P	13 32 35.5	+2.9
	17nm,1.1s						
CMAR	**Chiang Mai Arr**	41.35	306	P	P	13 35 37.5	-1.0
	0.5nm,0.7s,mb3.2,baz=131,slow=7.0,SNR=4.6						

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*LDG **30** 13:28:01.5±2.5, 42.90N×1.46W, h15^{km}, Md2.0/2, Ml1.8/1, Error ellipse: s-maj=48.2km s-min=26.4km az=50.0*

MDD 30 13:28:03.5±1.1**, 42.90N×1.35W, mbLg0.9**/3**, Error ellipse: s-maj=8.0km s-min=3.4km az=38.0, PRXIMO AftershockPLICA, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	0.23	23	*e*Pg	Pg	13 28 07.7	-0.4
SJPF				*e*Sg	Sg	13 28 10.3	-0.8
	9.9nm,0.2s						
EALK	**Alkurruntz**	0.34	340	Pg	Pg	13 28 09.2	-1.0
	SNR=7.9						
EALK				Lg		13 28 15.0	
	8.2nm,0.2s,SNR=7.9						
ETSF	**Etsaut**	0.58	90	*e*Pg	Pg	13 28 13.2	-1.9
ETSF				*e*Sg	Sg	13 28 22.3	-0.5
	2.6nm,0.2s						
EPF	**Esparros**	1.24	84	*e*Pg	Pg	13 28 27.7	-0.7
EPF				*e*Sg	Sg	13 28 45.1	+0.2
	1.8nm,0.2s						

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*STR **30** 13:33:39.3±0.6, 42.83N×1.49W, h2^{km}±1^{km}, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*MDD **30** 13:33:40.7±0.9, 42.85N×1.40W, mbLg1.3/4, Error ellipse: s-maj=6.4km s-min=3.4km az=41.0, PRXIMO AftershockPLICA*

*LDG **30** 13:33:40.8±1.0, 42.90N×1.45W, h2^{km}, Md2.2/2, Ml2.3/1, Error ellipse: s-maj=16.2km s-min=8.2km az=48.0*

ISC 30 13:33:39.5±1.7**, 42.84N**±0.07×**1.43W**±0.08**, h2^{km}, n8, σ0^{s}51**/13**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	0.31	29	*e*Pg	Pg	13 33 46.1	+0.3
SJPF				*e*Sg	Sg	13 33 48.9	-1.1
	17nm,0.2s						
LARF	**Larrau**	0.38	58	Pg	Pg	13 33 47.1	0.0
LARF				Sg	Sg	13 33 53.3	+1.1
EALK	**Alkurruntz**	0.39	352	Pg	Pg	13 33 47.6	+0.4
	SNR=7.9						
EALK				Lg		13 33 53.5	
	8.5nm,0.1s,SNR=7.9						
OSSF	**Osses**	0.44	16	Pg	Pg	13 33 48.1	-0.1
OSSF				Sg	Sg	13 33 54.2	+0.2
ATE	**Arette**	0.59	65	P	Pg	13 33 51.0	-0.2
ATE				S	Sg	13 33 59.1	-0.1
ETSF	**Etsaut**	0.64	84	*e*Pg	Pg	13 33 51.6	-0.7
ETSF				*e*Sg	Sg	13 34 00.8	-0.1
	6.2nm,0.3s						
EPF	**Esparros**	1.31	81	*e*Pg	Pg	13 34 06.1	+0.4
EPF				*e*Sg	Sg	13 34 23.3	0.0
	5.5nm,0.3s						
ESAC	**San Caprasio**	1.32	147	Lg		13 34 22.4	
	6.7nm,0.2s,SNR=4.0						

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*ISK **30** 13:37:18.3, 39.94N×40.78E, h5^{km}, MD3.5, ML3.4*

ISC 30 13:37:19.8±0.5**, 39.95N**±0.04×**40.79E**±0.04**, h5^{km}, n19, σ0^{s}97**/25**, 3C, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EZM	**Erzurum**	0.44	95	*i* PG	Pg	13 37 28.0	-0.7
ERZM	**Erzurum**	0.44	95	*i* P	Pg	13 37 27.9	-0.8
ERZM				*i* S	Sg	13 37 38.1	+3.5
EZC	**Erzincan**	0.78	255	*i* PN	Pn	13 37 40.7	+3.6
VRT	**Varto**	0.99	145	*i* PG	Pg	13 37 38.4	-1.3
VRT				*i* SG	Sg	13 37 53.4	+0.4
BINT	**Bingol**	1.09	192	*i* PN	Pn	13 37 39.7	-2.0
BINT				*i* SN	Sn	13 37 56.6	-0.7
GUMT	**Gumushane**	1.13	297	*i* PN	Pn	13 37 41.1	-1.0
GUMT				*i* SN	Sn	13 37 57.6	-0.6
KELT	**Kelkit**	1.20	280	⇑*i*P	Pb	13 37 41.8	-0.7
KELT				*i* S	Sb	13 37 59.8	+1.6
BCA	**Borcka**	1.62	23	*i* PN	Pn	13 37 49.3	0.0
BTMT	**Batman**	1.83	163	*i* PN	Pn	13 37 52.7	+0.4
KARS	**Kars**	1.88	69	PN	Pn	13 37 53.2	+0.3
ELZG	**Elazig**	2.02	225	⇑*i*P	Pn	13 37 55.0	+0.1
BEST	**Besiri**	2.09	170	⇑*i*P	Pn	13 37 57.8	+1.9
BEST				*i* S	Sn	13 38 26.7	+4.2
DIY	**Diyarbakir**	2.10	192	PN	Pn	13 37 56.0	0.0
VANB	**Van**	2.43	123	*e*PN	Pn	13 38 01.0	+0.3
MYA	**Malataya**	2.45	229	*e*PN	Pn	13 38 00.9	-0.2
SVSK	**Karacayir**	2.92	271	*e*PN	Pn	13 38 08.2	+0.5
GNI	**Garni**	3.04	85	*e*PN	Pn	13 38 10.0	+0.5
GAZ	**Gaziantep**	3.94	226	*e*PN	Pn	13 38 23.0	+0.7
BNN	**Bunyan**	3.98	256	*e*PN	Pn	13 38 22.8	-0.1

CASC 30 13:46:42.0±2.2**, 13.88N×87.86W, h184^{km}**±25^{km}**, MD3.7, 2D, Honduras**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CAHU	**Cacacuatique**	0.36	253	*e*P	P	13 47 08.1	+1.0
BLLM	**Bellamira**	0.57	221	*e*P	P	13 47 07.6	-0.4
CNCH	**Conchagua**	0.60	178	*e*P	P	13 47 07.3	-0.7
SNVI	**San Vicente**	0.99	255	*e*P	P	13 47 10.5	+0.3
LCBS	**La Ceiba**	1.11	259	⇓*e*P	P	13 47 11.6	+0.4
LCBS				*e*S	S	13 47 34.4	+0.6
LFRS	**El Faro**	1.20	258	⇓*i*P	P	13 47 11.4	-0.5
LFRS				*e*S	S	13 47 35.4	+0.3
SBLS	**San Blas**	1.72	269	*e*P	P	13 47 16.5	-0.3
SBLS				*e*S	S	13 47 46.4	+2.8
JCR	**Jicaral**	4.82	146	*e*P	P	13 47 54.1	-0.4
LCR2	**La Lucha 2**	5.58	137	*e*P	P	13 48 07.8	+3.5
BUS	**Buena Vista**	5.88	137	*e*P	P	13 48 11.2	+3.0

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*STR **30** 13:53:41.4±0.9, 42.85N×1.38W, h5^{km}±1^{km}, Ml2.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*NEIC **30** 13:53:41.4, 42.85N×1.38W, h5^{km}, ML3.1(LDG), ML2.9(STR), MN2.5(MDD), After STR.*

*MDD **30** 13:53:41.3±0.3, 42.85N×1.42W, h6^{km}±3^{km}, mbLg2.5/13, Error ellipse: s-maj=2.7km s-min=2.1km az=31.0, PRXIMO AftershockPLICA*

*LDG **30** 13:53:41.4±0.4, 42.85N×1.43W, h7^{km}, Md3.1/3, Ml3.1/15, Error ellipse: s-maj=7.3km s-min=4.2km az=39.0*

ISC 30 13:53:39.3±0.4**, 42.87N**±0.02×**1.46W**±0.02**, h13^{km}**±2^{km}**, n56, σ1^{s}27**/106**, 1C, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	0.30	35	*e*Pg	Pg	13 53 47.0	+1.3
SJPF				*e*Sg	Sg	13 53 50.1	+0.1
	309nm,0.2s						
EALK	**Alkurruntz**	0.36	354	⇑Pg	Pg	13 53 48.2	+1.5
	18nm,0.2s,SNR=18						
EALK				Lg		13 53 53.8	
	220nm,0.2s,SNR=7.9						
LARF	**Larrau**	0.39	63	Pg	Pg	13 53 47.8	+0.5
LARF				Sg	Sg	13 53 53.8	+1.1
LARF	**Larrau**	0.39	63	P	Pg	13 53 47.9	+0.6
LARF				S	Sg	13 53 54.1	+1.4
OSSF	**Osses**	0.42	20	Pg	Pg	13 53 49.0	+1.1
OSSF				Sg	Sg	13 53 54.9	+1.2
OSSF	**Osses**	0.42	20	P	Pg	13 53 49.0	+1.1
OSSF				S	Sg	13 53 55.0	+1.3
ORDF	**Ordiarp**	0.52	48	Pg	Pg	13 53 50.7	+0.8
ORDF				Sg	Sg	13 53 58.3	+1.4
ORDF	**Ordiarp**	0.52	48	P	Pb	13 53 50.7	+1.0
ORDF				S	Sb	13 53 58.3	+1.5
ATE	**Arette**	0.60	68	P	Pb	13 53 51.7	+0.6
ATE				S	Sb	13 54 00.3	+1.2
FDAF	**Les Forges d'A**	0.66	94	Pg	Pg	13 53 52.2	-0.4
FDAF				Sg	Sg	13 54 02.1	+0.6
FDAF	**Les Forges d'A**	0.66	94	P	Pb	13 53 52.6	+0.5
FDAF				S	Sb	13 54 02.3	+1.4
ETSF	**Etsaut**	0.66	87	*e*Pg	Pg	13 53 52.4	-0.3
ETSF				*e*Sg	Sg	13 54 01.5	-0.2
	102nm,0.3s						
REYF	**Montagne du Re**	0.81	75	Pg	Pg	13 53 55.1	-0.5
REYF				Sg	Sg	13 54 06.6	+0.1
REYF	**Montagne du Re**	0.81	75	P	Pb	13 53 55.2	+0.5
REYF				S	Sb	13 54 06.6	+1.3
VIEF	**Viey**	1.09	89	Pg	Pg	13 53 59.7	-1.5
VIEF				Sg	Sg	13 54 15.6	-0.2
VIEF	**Viey**	1.09	89	P	Pb	13 53 59.9	+0.4
VIEF				S	Sb	13 54 15.4	+2.0
LABF	**Labassere**	1.14	80	Pg	Pg	13 54 01.5	-0.6
LABF				Sg	Sg	13 54 17.2	-0.2
LABF	**Labassere**	1.14	80	P	Pb	13 54 01.4	+1.1
LABF				S	Sb	13 54 16.9	+2.1
EPF	**Esparros**	1.33	82	*e*Pn	Pn	13 54 04.6	+0.9
EPF				*e*Pg	Pg	13 54 07.0	+1.1
EPF				*e*Sg	Sg	13 54 24.2	+0.4
	71nm,0.2s						
ESAC	**San Caprasio**	1.36	147	Pg	Pg	13 54 05.3	-1.2
	68nm,0.3s,SNR=29						
ESAC				Lg		13 54 23.4	
	100nm,0.2s						
ELAN	**Lanestosa**	1.49	285	Pg	Pg	13 54 09.1	-0.1
	3.6nm,0.1s,SNR=7.9						
ELAN				Lg		13 54 30.3	
	9.7nm,0.4s,SNR=7.9						
MELF	**Melles**	1.63	89	Pg	Pg	13 54 10.7	-1.2
MELF				Sg	Sg	13 54 32.1	-1.6
MELF	**Melles**	1.63	89	P	Pn	13 54 10.1	+2.1
MELF				S	Sn	13 54 32.2	+3.3
MLS	**Moulis**	1.88	86	S	Sn	13 54 39.4	+4.2
SALF	**Salau**	1.95	92	Pg	Pg	13 54 15.6	-2.7
SALF				Sg	Sg	13 54 41.8	-2.6
SALF	**Salau**	1.95	92	P	Pn	13 54 15.4	+2.9
SALF				S	Sn	13 54 41.5	+4.4
ETOR	**Torete**	2.09	192	Pn	Pn	13 54 15.7	+1.1
	3.9nm,0.2s,SNR=21						
ETOR				Pg	Pg	13 54 20.2	-0.9
	4.3nm,0.2s						
ETOR				Sn	Sn	13 54 41.4	+0.8
	16nm,0.4s,SNR=7.9						
ETOR				Lg		13 54 46.7	
	21nm,0.2s,SNR=7.9						
GRBF	**Gourbit**	2.20	90	P	Pn	13 54 19.8	+3.6
EMIR	**Miracle**	2.41	112	Pg	Pg	13 54 24.5	-2.9
	1.0nm,0.3s,SNR=6.0						
EMIR				Lg		13 54 56.3	
	31nm,0.3s,SNR=5.0						
EPOB	**Poblet**	2.42	128	Pn	Pn	13 54 19.0	-0.2
	0.3nm,0.1s,SNR=7.9						
EPOB				Pg	Pg	13 54 24.0	-3.6
	0.6nm,0.1s,SNR=7.0						
EPOB				Sn	Sn	13 54 47.3	-1.6
	0.0nm,0.0s,SNR=5.0						
EPOB				Lg		13 54 53.9	
	8.4nm,0.2s,SNR=7.9						
EBR	**Ebro Roquetas**	2.51	144	*e*S*	Sb	13 55 00.0	+5.3
EMOS	**Mosqueruela**	2.61	163	Pn	Pn	13 54 22.3	+0.4
	SNR=4.0						
EMOS				Pg	Pg	13 54 27.2	-4.2
	3.5nm,0.2s,SNR=7.9						
EMOS				Sn	Sn	13 54 54.6	+0.9
	4.1nm,0.2s,SNR=4.0						
EMOS				Lg		13 55 06.1	
	SNR=7.9						
VALF	**Valcebollere**	2.61	99	Pn	Pn	13 54 25.7	+3.8
VALF	**Valcebollere**	2.61	99	P	Pg	13 54 29.5	-1.9
VALF				S	Sg	13 55 00.9	-5.2
LFF	**La Frestale**	2.61	37	*e*Pn	Pn	13 54 22.1	+0.1
LFF				*e*Sn	Sn	13 54 52.5	-1.4
LFF				*e*Sg	Sg	13 55 01.0	-5.3
	31nm,0.5s						
CARF	**Carcanieres**	2.63	92	P	Pg	13 54 29.0	-2.8
CARF				S	Sg	13 55 02.0	-4.9
MTLF	**Montolieu**	2.73	79	*e*Pn	Pn	13 54 24.8	+1.1
MTLF				*e*Pg	Pg	13 54 32.3	-1.6
MTLF				*e*Sn	Sn	13 54 57.0	+0.1
	15nm,0.4s						
EARI	**Arriondas**	2.78	280	Pn	Pn	13 54 25.8	+1.4
	0.2nm,0.4s,SNR=5.5						
EARI				Pg	Pg	13 54 34.4	-0.4
	0.4nm,0.3s,SNR=7.9						

EARI				Sn	**Sn**	**13 54 59.3**	**+1.1**
	2.7nm,0.2s,SNR=7.9						
EARI				Lg		13 55 11.9	
	4.6nm,0.4s,SNR=5.0						
FILF	**Fillols**	**2.98**	**95**	P	**Pn**	**13 54 28.6**	**+1.4**
FILF				S	**Sn**	**13 55 04.2**	**+1.1**
SJAF	**Saint Jean de**	**3.22**	**95**	S	**Sn**	**13 55 18.0**	**+8.6**
EJON	**La Jonquera**	**3.23**	**96**	Lg		13 55 22.3	
	5.3nm,0.2s,SNR=7.9						
RJF	**Les Rejaudoux**	**3.25**	**40**	*e*Pn	**Pn**	**13 54 31.0**	**0.0**
RJF				*e*Sn	**Sn**	**13 55 08.4**	**-1.5**
	21nm,0.3s						
CAF	**Calviac**	**3.28**	**50**	*e*Pn	**Pn**	**13 54 30.9**	**-0.5**
CAF				*e*Sn	**Sn**	**13 55 08.5**	**-2.1**
	19nm,0.4s						
MFF	**Saint Martin d**	**3.85**	**14**	*e*Pn	**Pn**	**13 54 39.4**	**-0.2**
MFF				*e*Sn	**Sn**	**13 55 22.7**	**-2.5**
	4.5nm,0.2s						
ECAL	**Calabor**	**4.02**	**258**	Pn	**Pn**	**13 54 42.4**	**+0.5**
	1.5nm,0.2s,SNR=7.9						
ECAL				Sn	**Sn**	**13 55 28.5**	**-0.9**
	SNR=7.9						
ECAL				Lg		13 55 45.7	
	7.5nm,0.3s,SNR=7.9						
LASF	**Ste Croix**	**4.05**	**71**	*e*Pn	**Pn**	**13 54 42.5**	**0.0**
LASF				*e*Sn	**Sn**	**13 55 28.8**	**-1.6**
	23nm,0.5s						
EPON	**Pontenova**	**4.19**	**278**	Sn	**Sn**	**13 55 33.6**	**-0.3**
	SNR=7.9						
EVIA	**Vianos**	**4.30**	**191**	Pn	**Pn**	**13 54 46.5**	**+0.6**
	4.6nm,0.3s,SNR=7.9						
EVIA				Lg		13 55 57.5	
	SNR=7.9						
TCF	**Toulx Ste Croi**	**4.31**	**36**	*e*Pn	**Pn**	**13 54 44.3**	**-1.8**
TCF				*e*Sn	**Sn**	**13 55 32.6**	**-4.2**
	7.9nm,0.4s						
BGF	**Bois d'Agland**	**4.80**	**38**	*e*Pn	**Pn**	**13 54 51.6**	**-1.5**
BGF				*e*Sn	**Sn**	**13 55 45.8**	**-3.4**
	28nm,0.4s						
VIVF	**Saint-Julien-l**	**4.86**	**64**	*e*Pn	**Pn**	**13 54 53.2**	**-0.7**
VIVF				*e*Sn	**Sn**	**13 55 47.4**	**-3.3**
	4.9nm,0.3s						
QUIF	**Quistinic**	**5.19**	**347**	*e*Pn	**Pn**	**13 54 58.4**	**-0.2**
QUIF				*e*Sn	**Sn**	**13 55 54.2**	**-4.9**
	4.8nm,0.4s						
AVF	**Avril sur Loir**	**5.21**	**39**	*e*Pn	**Pn**	**13 54 58.0**	**-0.8**
AVF				*e*Sn	**Sn**	**13 55 54.3**	**-5.1**
	4.4nm,0.3s						
SMRF	**Simiane la Rot**	**5.24**	**75**	*e*Pn	**Pn**	**13 54 59.6**	**+0.3**
SMRF				*e*Sn	**Sn**	**13 55 57.2**	**-3.1**
	4.7nm,0.5s						
EADA	**Adamuz**	**5.26**	**208**	Pn	**Pn**	**13 54 58.7**	**-0.9**
	1.3nm,0.2s,SNR=9.7						
EADA				Sn	**Sn**	**13 55 55.1**	**-5.6**
	1.8nm,0.4s,SNR=5.0						
EADA				Lg		13 56 27.6	
	SNR=7.9						
SSF	**Saint Saulge**	**5.48**	**38**	*e*Pn	**Pn**	**13 55 00.3**	**-2.3**
SSF				*e*Sn	**Sn**	**13 56 00.8**	**-5.4**
	5.3nm,0.4s						

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*HEL **30** 14:01:43.4±0.3,59.59N×22.35E,ML2.1,ML2.6(UPP), ML2.2(NAO),Explosion*
*BER **30** 14:01:46.9±4.5,59.99N×22.28E,ML2.2(NAO), Suspected explosion*
*NAO **30** 14:01:47.4±2.2,60.16N×22.15E,ML2.2*
ISC 30 14:01:43.1±0.8**,59.70N**±0.07×**22.30E**±0.06**,n19,**σ**0^{s}68**/30**,**
Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAL	**Aland**	**1.26**	**294**	*e*P	**Pb**	**14 02 06.1**	**-1.2**
AAL				*e*S	**Sb**	**14 02 21.9**	**-2.0**
NRTU	**Norrtaelje**	**1.86**	**271**	*e*P	**Pn**	**14 02 17.2**	**+0.7**
NRTU				*e*S	**Sn**	**14 02 41.6**	**+0.7**
PVF	**Pernaja**	**1.98**	**63**	*e*P	**Pn**	**14 02 18.1**	**-0.1**
PVF				*e*S	**Sn**	**14 02 43.2**	**-0.8**
PVF				MSG		14 02 46.4	
	comp=Z,8.4nm,0.1s						
GRAU	**Graesoe**	**1.99**	**290**	*e*P	**Pn**	**14 02 18.1**	**-0.2**
FLYU	**Flymyra**	**2.26**	**283**	*e*P	**Pn**	**14 02 22.4**	**+0.2**
FIA0	**FINESS Array S**	**2.56**	**45**	*e*P	**Pn**	**14 02 26.8**	**+0.3**
FIA0				*e*S	**Sn**	**14 02 59.2**	**+0.4**
FIA0				MSG		14 03 01.6	
	comp=Z,7.8nm,0.1s						
FIA0	**FINESS Array S**	**2.56**	**45**	Pn	**Pn**	**14 02 27.0**	**+0.4**
	baz=232,slow=14						
FIA0				Lg		14 02 59.2	
	baz=230,slow=22						
FIA0				Rg		14 03 14.2	
	baz=222,slow=37						
BACU	**Backbrunna**	**2.63**	**276**	*e*P	**Pn**	**14 02 28.1**	**+0.7**
OSTU	**Oestervaala**	**2.65**	**284**	*e*P	**Pn**	**14 02 28.0**	**+0.2**
IGGU	**Iggoen**	**2.75**	**298**	*e*P	**Pn**	**14 02 29.0**	**-0.2**
VJF	**Virojoki**	**2.77**	**70**	*e*P	**Pn**	**14 02 28.9**	**-0.6**
VJF				*e*S	**Sn**	**14 03 03.1**	**-0.9**
KEF	**Keuruu**	**2.78**	**26**	*e*P	**Pn**	**14 02 30.3**	**+0.7**
KEF				*e*S	**Sn**	**14 03 04.6**	**+0.2**
KAF	**Kangasniemi**	**3.12**	**37**	*e*P	**Pn**	**14 02 35.0**	**+0.5**
KAF				*e*S	**Sn**	**14 03 13.2**	**+0.3**
VAF	**Ylistaro**	**3.36**	**3**	*e*P	**Pn**	**14 02 38.5**	**+0.5**
VAF				*e*S	**Sn**	**14 03 19.3**	**+0.1**
SUF	**Sumiainen**	**3.56**	**30**	*e*P	**Pn**	**14 02 39.9**	**-0.8**
SUF				*e*S	**Sn**	**14 03 24.8**	**+0.6**
HFS	**Hagfors**	**4.35**	**279**	*e*P	**Pn**	**14 02 52.5**	**+0.5**
HFS				*e*SG	**Sg**	**14 03 58.9**	**-9.1**
HFS	**Hagfors**	**4.35**	**279**	Pn	**Pn**	**14 02 52.5**	**+0.5**
	baz=95,slow=10						
HFS				Lg		14 03 58.9	
	baz=90,slow=28						
ARA0	**ARCESS Array S**	**9.97**	**7**	Pn	**P**	**14 04 04.7**	**-5.9**
	baz=180,slow=16						
ARA0				Sn	**Sn**	**14 05 48.9**	**-16**
	baz=219,slow=37						
ARA0	**ARCESS Array S**	**9.97**	**7**	*e*P	**P**	**14 04 04.7**	**-5.9**
ARA0				*e*		14 05 48.9	

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*LDG **30** 14:26:27.8±2.6,42.89N×1.47W,h15^{km},Md2.0/2,Ml2.1/1, Error ellipse: s-maj=49.6km s-min=27.5km az=50.0*
MDD 30 14:26:29.4±1.0**,42.89N**×**1.38W,mbLg0.8**/3**,Error ellipse: s-maj=7.6km s-min=3.7km az=35.0,PRXIMO AftershockPLICA,Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJPF	**Ste Jean**	**0.25**	**27**	*e*Pg	Pg	14 26 34.1	-0.3
SJPF				*e*Sg	Sg	14 26 37.0	-0.7
	12nm,0.3s						
EALK	**Alkurruntz**	**0.34**	**344**	Pg	Pg	14 26 35.6	-0.7
	6.5nm,0.4s,SNR=11						
EALK				Lg		14 26 41.1	
	12nm,1.2s,SNR=5.0						
ETSF	**Etsaut**	**0.60**	**89**	*e*Pg	Pg	14 26 39.5	-1.9
ETSF				*e*Sg	Sg	14 26 48.7	-0.7
	1.7nm,0.2s						
EPF	**Esparros**	**1.27**	**83**	*e*Pg	Pg	14 26 54.1	-0.6
EPF				*e*Sg	Sg	14 27 11.6	0.0
	2.7nm,0.2s						

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*TAP **30** 14:26:54.1,24.93N×122.23E,h49^{km},ML2.1*
JMA 30 14:26:36.8±0.2**,24.97N**×**122.96E,h119^{km},M1.9,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.51**	**175**	P	P	14 26 54.8	0.0
IRIF	**Iriomote-Funau**	**0.94**	**132**	P	P	14 26 58.2	-0.3
IRIF				*e*S	S	14 27 14.9	+0.2
HATJ	**Hateruma jima**	**1.19**	**140**	*e*S	S	14 27 19.5	+0.2
JKRS	**Kuro-shima**	**1.20**	**127**	P	P	14 27 01.2	0.0
JKRS				*e*S	S	14 27 19.3	-0.2
JIJ	**Ishigaki jima**	**1.23**	**119**	P	P	14 27 01.1	-0.5
JIJ				S	S	14 27 18.9	-1.2
JTJ	**Tarama**	**1.62**	**101**	P	P	14 27 06.2	+0.2
JTJ				*e*S	S	14 27 27.7	-0.3

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*STR **30** 14:41:38.9±0.4,42.88N×1.47W,h5^{km}±1^{km},Ml2.3,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD 30 14:41:39.8±0.6**,42.87N**×**1.45W,mbLg1.8**/3**,Error ellipse: s-maj=4.4km s-min=3.2km az=58.0,PRXIMO AftershockPLICA,Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EALK	**Alkurruntz**	**0.35**	**353**	Pg	Pg	14 41 46.4	-0.4
	1.0nm,0.1s,SNR=7.9						
EALK				Lg		14 41 51.2	
	18nm,0.2s,SNR=7.9						
LARF	**Larrau**	**0.38**	**63**	Pg	Pg	14 41 46.4	-0.9
LARF				Sg	Sg	14 41 52.2	-0.1
OSSF	**Osses**	**0.41**	**19**	Pg	Pg	14 41 47.1	-0.8
OSSF				Sg	Sg	14 41 52.5	-0.9
ORDF	**Ordiarp**	**0.51**	**47**	Pg	Pg	14 41 49.0	-0.9
ORDF				Sg	Sg	14 41 56.4	-0.3
ATE	**Arette**	**0.59**	**68**	P	Pg	14 41 50.2	-1.4
ATE				S	Sg	14 41 58.6	-0.7
FDAF	**Les Forges d'A**	**0.65**	**94**	P	Pg	14 41 51.4	-1.3
FDAF				S	Sg	14 42 01.1	-0.3
LABF	**Labassere**	**1.13**	**80**	S	Sb	14 42 15.3	-1.6
ESAC	**San Caprasio**	**1.36**	**147**	Pg	Pg	14 42 04.1	-2.8
	7.5nm,0.2s,SNR=7.9						
ESAC				Lg		14 42 21.5	
	16nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**1.50**	**285**	Lg		14 42 27.8	
	1.6nm,0.1s,SNR=7.9						
SALF	**Salau**	**1.94**	**92**	S	Sn	14 42 40.3	+0.5
ETOR	**Torete**	**2.10**	**193**	Pn	Pn	14 42 14.8	-1.7
	0.0nm,0.2s,SNR=7.9						
ETOR				Sn	Sn	14 42 42.0	-1.8
	2.2nm,0.3s,SNR=7.9						
EPOB	**Poblet**	**2.41**	**128**	Pn	Pn	14 42 20.4	-0.7
	2.0nm,0.4s,SNR=7.9						
EPOB				Sn	Sn	14 42 50.5	-1.3
	0.4nm,0.4s,SNR=7.9						

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*TIF **30** 14:48:34.7,42.91N×46.48E,h15^{km},Mpv4.3*
*MOS **30** 14:48:39.4±0.9,43.34N×45.77E,h10^{km},mb4.0/1,Error ellipse: s-maj=21.9km s-min=9.7km az=131.3*
ISC 30 14:48:40.0±0.7**,43.43N**±0.05×**45.82E**±0.04**,h10^{km},n13,** σ**1^{s}49**/24**,3C-3D,Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DLMR	**Dylym**	**0.69**	**121**	⇑*i*PG	**Pg**	**14 48 53.0**	**-0.9**
DLMR				*e*S	**Sb**	**14 49 05.0**	**+2.0**
DLMR				pmax	pmax		
	comp=Z,881nm,0.8s						
BTLR	**Botlikh**	**0.82**	**159**	⇑*i*PG	**Pg**	**14 48 53.6**	**-2.9**
BTLR				*e*S	**Sb**	**14 49 06.0**	**-0.8**
DBC	**Dubki**	**0.84**	**119**	⇓*i*PG	**Pg**	**14 48 55.0**	**-2.0**
DBC				*i* S	**Sb**	**14 49 09.0**	**+1.6**
DBC				pmax	pmax		
	comp=Z,475nm,0.3s						
BUJR	**Buynaksk**	**1.12**	**122**	⇓*i*PG	**Pg**	**14 49 01.5**	**-0.9**
BUJR				*e*S	**Sb**	**14 49 21.0**	**+5.5**
BUJR				pmax	pmax		
	comp=Z,482nm,0.2s						
ARKR	**Arakani**	**1.20**	**134**	⇓*i*PG	**Pg**	**14 49 00.3**	**-3.6**
ARKR				*i* S	**Sb**	**14 49 19.0**	**+1.4**
ARKR				pmax	pmax		
	comp=Z,114nm,0.4s						
MAK	**Makhachkala**	**1.32**	**110**	*e*PG	**Pg**	**14 49 04.0**	**-2.4**
MAK				*i*		14 49 25.8	
MAK				pmax	pmax		
	comp=Z,204nm,0.7s						
MAK				smax			
	comp=N,4μm,1.0s						
MAK				smax			
	comp=E,3μm,1.0s						
DUS	**Dusheti**	**1.57**	**212**	⇑*i*P	**Pn**	**14 49 06.4**	**-1.8**
DUS				*i* S	**Sb**	**14 49 30.2**	**+1.6**
SGKR	**Sergokala**	**1.66**	**125**	*e*PN	**Pn**	**14 49 09.0**	**-0.4**
SGKR				*e*S	**Sn**	**14 49 33.0**	**+2.0**
TI2	**Plekhanov**	**1.87**	**205**	*e*PN	**Pn**	**14 49 11.2**	**-1.3**
TI2				*e*S	**Sn**	**14 49 37.0**	**+0.7**
TI2				pmax	pmax		
	comp=Z,250nm,0.4s						
TI2				smax			
	comp=E,500nm,1.0s						
TBLG	**Delisi**	**1.88**	**206**	*e*P	**Pn**	**14 49 11.2**	**-1.3**
TBLG				*e*S	**Sn**	**14 49 37.0**	**+0.5**
AKT	**Akhty**	**2.41**	**143**	*i* PN	**Pn**	**14 49 21.0**	**+0.9**
AKT				*e*S	**Sn**	**14 49 54.0**	**+4.0**
AKT				pmax	pmax		
	comp=Z,48nm,0.4s						
GOF	**Gofitskoye**	**2.58**	**310**	*e*PN	**Pn**	**14 49 23.0**	**+0.4**
GOF				*i* S	**Sn**	**14 49 56.5**	**+2.2**
GOF				pmax	pmax		
	comp=Z,20nm,1.0s						
GOF				smax			
	comp=N,420nm,1.4s						
AKH	**Akhalkalaki**	**2.66**	**221**	*i* S	**Sn**	**14 50 00.9**	**+4.7**

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*STR **30** 14:49:00.7±0.4,42.86N×1.42W,h5^{km}±1^{km},Ml2.3,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*MDD **30** 14:49:01.4±0.6,42.85N×1.40W,h2^{km}±14^{km},mbLg2.0/2, Error ellipse: s-maj=4.8km s-min=3.8km az=48.0,PRXIMO AftershockPLICA*
ISC 30 14:48:59.9±0.7**,42.82N**±0.04×**1.42W**±0.08**,h2^{km},n11,** σ**0^{s}40**/19**,Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LARF	**Larrau**	**0.39**	**56**	Pg	**Pg**	**14 49 07.7**	**+0.1**
LARF				Sg	**Sg**	**14 49 13.4**	**+0.6**
LARF	**Larrau**	**0.39**	**56**	P	**Pg**	**14 49 07.8**	**+0.2**
LARF				S	**Sg**	**14 49 13.4**	**+0.7**
EALK	**Alkurruntz**	**0.40**	**351**	Pg	**Pg**	**14 49 08.0**	**+0.1**
	1.4nm,0.1s,SNR=7.9						
EALK				Lg		14 49 13.7	
	21nm,0.2s,SNR=7.9						
OSSF	**Osses**	**0.45**	**15**	Pg	**Pg**	**14 49 08.7**	**-0.2**
OSSF				Sg	**Sg**	**14 49 14.7**	**-0.2**
OSSF	**Osses**	**0.45**	**15**	P	**Pg**	**14 49 08.8**	**-0.1**
OSSF				S	**Sg**	**14 49 14.6**	**-0.3**
ORDF	**Ordiarp**	**0.53**	**42**	Pg	**Pg**	**14 49 10.6**	**+0.1**
ORDF				Sg	**Sg**	**14 49 17.2**	**-0.4**
ORDF	**Ordiarp**	**0.53**	**42**	P	**Pg**	**14 49 10.6**	**+0.1**
ORDF				S	**Sg**	**14 49 17.2**	**-0.4**
ATE	**Arette**	**0.59**	**63**	P	**Pg**	**14 49 12.0**	**+0.3**
ATE				S	**Sg**	**14 49 19.6**	**-0.1**
ESAC	**San Caprasio**	**1.30**	**147**	Pg	**Pg**	**14 49 24.9**	**-1.0**
	7.7nm,0.3s,SNR=7.9						
ESAC				Lg		14 49 43.4	
	13nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**1.53**	**286**	Lg		14 49 50.2	
	SNR=7.9						
ETOR	**Torete**	**2.05**	**194**	Pn	**Pn**	**14 49 35.9**	**0.0**
	0.3nm,0.2s,SNR=7.9						
ETOR				Pg	**Pg**	**14 49 41.1**	**+0.2**
	SNR=7.9						
ETOR				Sn	**Sn**	**14 50 02.8**	**+0.4**
	1.6nm,0.2s,SNR=7.9						

IDC 30 14:54:33.4±56.0**,19.12S**×**178.87W,mb3.9**/3**,mb1 4.1**/3**, mb1mx3.7**/11**,Error ellipse: s-maj=1021.0km s-min=154.2km az=81.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**37.68**	**242**	P	P	15 01 51.1	-1.2
	0.7nm,0.6s,baz=90,slow=12,SNR=3.7						
WB2	**Warramunga Arr**	**43.98**	**261**	*e*P	P	15 02 42.7	-1.8
WRA	**Warramunga Arr**	**43.99**	**261**	P	P	15 02 42.9	-1.7
	0.8nm,0.4s,baz=97,slow=7.6,SNR=89						
ASAR	**Alice Springs**	**44.05**	**255**	P	P	15 02 42.9	-2.2
	2.5nm,0.9s,baz=98,slow=7.6,SNR=27						

MAN 30 14:58:45.2,15.18N×**122.22E,h14^{km},mb4.0,ML2.8, MS2.5,Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
POLP	**Polilio Island**	**0.52**	**212**	*e*P	Pb	14 58 55.0	-0.7
POLP				*e*S	Sb	14 59 03.6	+0.9
BALP	**Baler**	**0.84**	**312**	*e*P	Pb	14 59 01.1	+0.1
BALP				*e*S	Sb	14 59 14.9	+3.0
LQP	**Lukban**	**1.25**	**212**	*e*P	Pb	14 59 07.6	-0.5
GQP	**Guinayangan**	**1.28**	**170**	*e*P	Pb	14 59 22.9	+14
CAUP	**Cauayan**	**1.80**	**348**	*e*P	Pn	14 59 14.2	-2.0
PVCP	**Virac**	**2.44**	**130**	*e*P	Pn	14 59 25.3	-0.1

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*IDC **30** 15:25:07.9±0.7,2.91N×95.93E,mb4.4/12,mb1 4.5/13, mb1mx4.4/17,ML4.0/1,MS3.6/5,Ms1 3.7/5,ms1mx3.2/18, Error ellipse: s-maj=42.5km s-min=15.0km az=52.0*
*MOS **30** 15:25:10.9±1.4,2.90N×95.84E,h33^{km},mb4.8/13,Error ellipse: s-maj=28.4km s-min=11.4km az=107.8*
*SYO **30** 15:25:18.9,3.20N×96.26E,h92^{km},MB4.6*
*BJI **30** 15:25:19.7,2.90N×96.15E,h123^{km},mB4.7,mb4.5*
*NEIC **30** 15:25:20.8±1.6,3.12N×96.23E,h107^{km}±14^{km},mb4.5/24, Error ellipse: s-maj=12.9km s-min=7.3km az=48.0*
ISC 30 15:25:19.4±1.2**,3.04N**±0.05×**96.23E**±0.06**,h109^{km}**±11^{km}**, h105^{km}**±3.5^{km}**:pP-P,n85,**σ**1^{s}07**/84**,mb4.5**/43**,3C-3D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IPM	**Ipoh**	**5.03**	**72**	⇑*e*P	**P**	**15 26 33.8**	**-0.1**
CMAR	**Chiang Mai Arr**	**15.55**	**10**	Pn	**P**	**15 28 54.2**	**+0.3**
	0.2nm,0.3s,baz=199,slow=11,SNR=13						
CMAR				LR	LR	15 35 34.8	
	comp=Z,214nm,18.2s,baz=195,slow=40						
PALK	**Pallekele**	**16.02**	**286**	*e*P	**P**	**15 28 58.6**	**-1.1**
	18nm,1.1s						
HYB	**Hyderabad**	**22.47**	**311**	*i* P	**P**	**15 30 12.0**	**+1.7**
SHL	**Shillong**	**22.78**	**350**	*e*P	**P**	**15 30 12.0**	**-1.4**
KMI	**Kunming**	**22.83**	**15**	*e*P	**P**	**15 30 12.8**	**-1.1**
KMI				XP		15 30 51.8	
KMI				S	**S**	**15 34 10.8**	**-0.3**
KMI				XS		15 34 53.0	
KMI				SS	SS	15 35 05.5	+1.7
KMI				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb3.9						
KMI				AMB	AMB		
	comp=Z,72nm,4.1s						
KMI				LR	LR		
	comp=N,244nm,17.3s						
KMI				LR	LR		
	comp=E,152nm,17.3s						
KMI				LR	LR		
	comp=Z,274nm,18.3s						
KMI	**Kunming**	**22.83**	**15**	*e*P	**P**	**15 30 12.8**	**-1.1**
	comp=Z,6.0nm,1.0s,mb3.9						
KMI				pP		15 30 34.0	
KMI				sP		15 30 51.8	
KMI				S	**S**	**15 34 10.8**	**-0.3**
KMI				sS		15 34 53.0	
KMI				SS	SS	15 35 05.4	+1.6
KMI				LR	LR		
	comp=Z,270nm,18.3s						
PKI	**Pulchoki**	**26.49**	**338**	*e*P	**P**	**15 30 48.7**	**+0.2**
	comp=Z,15nm,0.9s,mb4.4						
KKN	**Kakani**	**26.74**	**338**	*e*P	**P**	**15 30 50.5**	**-0.3**
	comp=Z,26nm,0.9s,mb4.8						
LSA	**Lhasa**	**26.95**	**350**	P	**P**	**15 30 52.5**	**-0.2**
GKN	**Gorkha**	**27.18**	**337**	*e*P	**P**	**15 30 54.8**	**0.0**
	comp=Z,22nm,0.7s,mb4.8						
KOLN	**Koldanda**	**27.39**	**335**	*e*P	**P**	**15 30 56.6**	**-0.1**
	comp=Z,30nm,0.8s,mb4.9						
MBWA	**Marble Bar**	**33.30**	**137**	*e*P	**P**	**15 31 49.0**	**+0.1**
	comp=Z,15nm,1.1s,mb4.7						
NJ2	**Nanjing**	**35.85**	**34**	*e*P	**P**	**15 32 10.8**	**+0.3**
NJ2				AP	pP	15 32 33.3	-2.1
NJ2				PP	PP	15 33 31.0	-4.1
NJ2				S	**S**	**15 37 40.0**	**+0.5**
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.3						
NJ2				LR	LR		
	comp=N,340nm,13.7s						
NJ2				LR	LR		
	comp=E,130nm,14.7s						
NJ2				LR	LR		
	comp=Z,120nm,18.0s						
GTA	**Gaotai**	**36.35**	**5**	*e*P	**P**	**15 32 15.0**	**+0.4**
GTA				AMB	AMB		
	comp=Z,2.0nm,1.1s,mb4.0						
GTA				AMB	AMB		
	comp=Z,17nm,5.7s						
GTA				LR	LR		
	comp=N,23nm,15.2s						
GTA				LR	LR		
	comp=E,32nm,18.3s						
GTA				LR	LR		
	comp=Z,51nm,14.8s						
SSE	**Sheshan**	**36.51**	**37**	*e*P	**P**	**15 32 14.8**	**-1.3**
SSE				PP	PP	15 33 38.3	-4.7
SSE				S	**S**	**15 37 44.5**	**-5.1**
SSE				AMB	AMB		
	comp=Z,21nm,0.9s,mb5.1						
SSE				AMB	AMB		
	comp=Z,58nm,4.7s						
SSE				LR	LR		
	comp=N,27nm,22.8s						
SSE				LR	LR		
	comp=E,45nm,22.8s						
SSE				LR	LR		
	comp=Z,68nm,19.4s						
SSE	**Sheshan**	**36.51**	**37**	*e*P	**P**	**15 32 14.8**	**-1.3**
	comp=Z,21nm,0.9s,mb5.1						
SSE				sP	sP	15 32 51.1	-2.9
SSE				PP	PP	15 33 38.2	-4.8
SSE				S	**S**	**15 37 44.4**	**-5.2**
SSE				sS		15 38 21.4	
SSE				SS	SS	15 40 39.7	+18
SSE				LR	LR		
	comp=Z,70nm,19.4s						
BJT	**Baijiatuau**	**41.00**	**24**	P	**P**	**15 32 55.7**	**+2.5**
	comp=Z,14nm,0.8s,mb4.8						
WMQ	**Urumqi**	**41.31**	**351**	*e*P	**P**	**15 32 55.3**	**-0.4**
WMQ				AP	pP	15 33 20.5	-0.4
WMQ				XP	sP	15 33 33.5	-0.3
WMQ				AMB	AMB		
	comp=Z,7.0nm,1.2s,mb4.4						
WMQ				LR	LR		
	comp=Z,28nm,17.2s						
ULHL	**Ulahol**	**42.93**	**338**	P	**P**	**15 33 10.3**	**+1.3**
	SNR=8.9						
KZA	**Kyzart**	**43.17**	**337**	P	**P**	**15 33 12.0**	**+1.0**
	SNR=5.2						
UCH	**Uchtor**	**43.58**	**337**	P	**P**	**15 33 15.8**	**+1.5**
	SNR=14						
TKM2	**Tokmak 2**	**43.76**	**338**	P	**P**	**15 33 16.8**	**+1.1**
	SNR=7.2						
KBK	**Karagaybulak**	**43.78**	**337**	P	**P**	**15 33 17.6**	**+1.8**
	SNR=6.4						
AML	**Almayashu**	**43.84**	**336**	P	**P**	**15 33 17.7**	**+1.4**
	SNR=14						
WRA	**Warramunga Arr**	**43.84**	**123**	P	**P**	**15 33 17.2**	**+0.5**
	comp=Z,3.9nm,0.6s,mb4.3,baz=300,slow=9.2,SNR=52						
WRA				PcP	PcP	15 35 03.0	+1.2
	comp=Z,0.5nm,0.6s,baz=307,slow=2.8,SNR=5.3						
WRA				LR	LR	15 52 32.2	
	comp=Z,40nm,19.8s,baz=265,slow=37						
WRA	**Warramunga Arr**	**43.84**	**123**	P	**P**	**15 33 17.2**	**+0.5**
WRA						15 35 03.0	
WRA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA				MLR	MLR		
	comp=Z,40nm,19.8s						
WRAB	**Tennant Creek**	**43.84**	**123**	*e*P	**P**	**15 33 17.0**	**+0.3**
	comp=Z,7.5nm,0.7s,mb4.5						
WB2	**Warramunga Arr**	**43.85**	**123**	*e*P	**P**	**15 33 17.1**	**+0.3**
AAK	**Ala-Archa**	**43.93**	**337**	*e*P	**P**	**15 33 17.0**	**-0.2**
	comp=Z,7.0nm,1.0s,mb4.3						
USP	**Ospenovka**	**44.47**	**337**	P	**P**	**15 33 22.3**	**+0.8**
	SNR=13						
KS15	**Wonju Array Si**	**44.89**	**36**	P	**P**	**15 33 21.7**	**-3.2**
MKAR	**Makanchi Array**	**45.23**	**347**	P	**P**	**15 33 27.4**	**0.0**
	comp=Z,22nm,0.9s,mb4.9,baz=158,slow=7.9,SNR=48						
MKAR				LR	LR	15 54 57.0	
	comp=Z,40nm,18.9s,baz=194,slow=40						
MKAR	**Makanchi Array**	**45.23**	**347**	P	**P**	**15 33 27.5**	**0.0**
MKAR				pmax	pmax		
	comp=Z,22nm,0.9s						
MKAR				MLR	MLR		
	comp=Z,40nm,18.9s						
ASPA	**Alice Springs**	**45.28**	**128**	*e*P	**P**	**15 33 28.8**	**+0.7**
ASAR	**Alice Springs**	**45.28**	**128**	P	**P**	**15 33 28.6**	**+0.5**
	comp=Z,2.7nm,0.8s,mb4.0,baz=300,slow=8.0,SNR=38						
ASAR				PcP	PcP	15 35 08.2	+1.5
	comp=Z,0.6nm,0.7s,baz=305,slow=2.9,SNR=5.0						
SONM	**Songino Array**	**45.48**	**10**	P	**P**	**15 33 30.5**	**+1.1**

	comp=Z,8.0nm,0.7s,mb4.5,baz=190,slow=8.4,SNR=62						
SONM				PcP	PcP	15 35 08.8	+1.8
	comp=Z,1.9nm,0.8s,baz=178,slow=4.8,SNR=4.7						
ZAK	Zakamensk	47.55	6	eP	P	15 33 46.5	+0.9
CN2	Changchun	48.13	28	eP	P	15 33 50.3	0.0
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.6						
KURK	Kurchatov	49.77	345	d iP	P	15 34 02.7	-0.1
KURK	Kurchatov	49.77	345	eP	P	15 34 02.0	-0.8
	comp=Z,7.3nm,0.9s,mb4.6						
MDJ	Mudanjiang	50.76	30	P	P	15 34 09.0	-1.4
MDJ				AP	pP	15 34 35.0	-1.4
MDJ				S	S	15 41 15.8	-0.2
MDJ				XS		15 42 02.5	
MDJ				AMB	AMB		
	comp=Z,7.0nm,2.0s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,75nm,4.8s						
MDJ				LR	LR		
	comp=N,32nm,19.1s						
MDJ				LR	LR		
	comp=E,18nm,18.4s						
MDJ				LR	LR		
	comp=Z,30nm,18.0s						
PMG	Port Moresby	52.23	104	eP	P	15 34 22.4	+0.5
	comp=Z,8.7nm,0.7s,mb4.9						
NVS	Novosibirsk	52.71	351	i P	P	15 34 23.9	-1.0
NVS				e		15 34 39.5	
NVS				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.7						
NVS				pmax	pmax		
	comp=N,7.0nm,1.0s						
NVS				pmax	pmax		
	comp=E,5.0nm,1.2s						
CTA	Charters Tower	54.20	117	LR	LR	15 57 52.4	
	comp=E,70nm,19.9s,baz=169,slow=36						
CTAO	Charters Tower	54.20	117	eP	P	15 34 35.0	-1.3
	comp=E,3.2nm,0.8s,mb4.4						
BVAR	Borovoye Array	54.20	341	P	P	15 34 35.5	-0.3
	comp=E,4.5nm,0.8s,mb4.6,baz=143,slow=7.4,SNR=28						
BRVK	Borovoye	54.27	341	eP	P	15 34 33.1	-3.2
	comp=E,4.6nm,0.8s,mb4.6						
ZRNK	Zerenda	54.60	340	eP	P	15 34 37.8	-1.0
	comp=E,4.5nm,0.8s,mb4.5						
STKA	Stephens Creek	55.31	133	P	P	15 34 44.5	+0.3
	comp=E,1.0nm,0.4s,mb4.2,baz=302,slow=11,SNR=3.2						
ARU	Arti	61.12	337	eP	P	15 35 23.4	-0.9
KIV	Kislovodsk	62.29	319	eP	P	15 35 28.6	-3.7
KIV				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
KIV				MLR	MLR		
	comp=Z,11nm,18.0s						
KIV				MLR	MLR		
	comp=N,4.0nm,19.0s						
KIV				MLR	MLR		
	comp=E,12nm,17.0s						
YAK	Yakutsk	63.94	17	eP	P	15 35 42.9	0.0
YAK				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
YAK	Yakutsk	63.94	17	eP	P	15 35 41.8	-1.1
	comp=Z,18nm,1.2s,mb4.8						
ANN	Anapa	66.08	318	eP	P	15 36 08.3	+11
ANN				pmax	pmax		
	comp=Z,70nm,1.7s,mb5.2						
BRTR	Keskin Array B	67.16	312	P	P	15 36 02.9	-1.1
	comp=Z,1.7nm,0.8s,mb3.9,baz=129,slow=7.9,SNR=7.2						
BRTR	Keskin Array B	67.16	312	P	P	15 36 02.9	-1.0
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
LSZ	Lusaka	69.72	253	eP	P	15 36 20.2	+0.2
	comp=Z,1.9nm,0.8s,mb4.0						
MA2	Magadan	70.11	26	P	P	15 36 19.2	-2.5
	comp=Z,23nm,1.1s,mb4.9						
OBN	Obninsk	70.55	328	c eP	P	15 36 24.6	+0.2
OBN				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.8						
AKASG	Malin Array Be	73.22	322	P	P	15 36 39.6	-0.7
	comp=Z,2.3nm,0.6s,mb4.2,baz=91,slow=4.7,SNR=13						
AKASG	Malin Array Be	73.22	322	P	P	15 36 39.6	-0.6
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BOSA	Boshof	74.86	239	eP	P	15 36 49.9	-0.3
	comp=Z,2.4nm,0.7s,mb4.0						
FINES	FINESS Array B	77.93	332	P	P	15 37 07.1	+0.4
	comp=Z,3.6nm,0.6s,mb4.3,baz=99,slow=7.7,SNR=14						
FINES	FINESS Array B	77.93	332	P	P	15 37 07.1	+0.4
FINES				pmax	pmax		
	comp=Z,4.0nm,0.6s						
KAF	Kangasniemi	78.01	333	ep	P	15 37 04.8	-2.4
	comp=Z,3.3nm,0.7s,mb4.2						
KAF	Kangasniemi	78.01	333	eP	P	15 37 04.8	-2.4
KAF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.1						
SUR	Sutherland	79.36	236	P	P	15 37 12.6	-2.5
	comp=Z,26nm,1.2s,mb4.9						
ARCES	ARCESS Array B	80.48	340	P	P	15 37 21.7	+1.3
	comp=Z,2.7nm,0.5s,mb4.3,baz=95,slow=5.3,SNR=30						
ARCES	ARCESS Array B	80.48	340	P	P	15 37 21.7	+1.3
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.5s						
RPZ	Rata Peaks	81.19	135	LR	LR	16 10 30.7	
	comp=Z,101nm,21.7s,baz=241,slow=34						
SYO	Syowa Base	81.44	198	⇑P	P	15 37 25.8	+0.3
SYO	Syowa Base	81.44	198	⇓PcP	PcP	15 37 30.2	-1.3
SYO	Syowa Base	81.44	198	⇓pP	pP	15 37 51.1	-2.6
GERES	GERESS Array B	82.80	319	P	P	15 37 34.0	+1.2
	comp=Z,2.9nm,1.0s,mb4.1,baz=104,slow=5.5,SNR=16						
GERES	GERESS Array B	82.80	319	P	P	15 37 34.0	+1.2
GERES				pmax	pmax		
	comp=Z,3.0nm,1.0s						
MOX	Moxa	84.24	320	eP	P	15 37 38.0	-2.0
GRA1	Grafenberg Arr	84.46	319	eP	P	15 37 42.3	+1.2
	comp=Z,9.0nm,1.4s,mb4.4						
GRF	Grafenberg Arr	84.46	319	eP	P	15 37 42.3	+1.2
GRF				pmax	pmax		
	comp=Z,9.0nm,1.4s,mb4.4						
NB2	NORSAR Subarra	84.93	331	P	P	15 37 44.4	+1.2
	comp=Z,0.7nm,0.7s,mb3.7,baz=97,slow=4.6						
NOA	NORSAR Array B	84.93	331	P	P	15 37 44.6	+1.4
	comp=Z,1.9nm,0.9s,mb4.0,baz=100,slow=5.4,SNR=4.5						
NOA	NORSAR Array B	84.93	331	P	P	15 37 44.7	+1.5
NOA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
CPUP	Villa Florida	145.66	225	PKPbc	PKPbc	15 44 48.7	+2.2
	comp=Z,1.4nm,0.6s,baz=190,slow=3.0,SNR=3.8						
CPUP	Villa Florida	145.66	225	PKIKP	PKPdf	15 44 48.7	+3.0
CPUP				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CPUP	Villa Florida	145.66	225	PKPbc	PKPbc	15 44 48.7	+2.2

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*IDC **30** 15:51:50.1±1.1, 16.30S×173.75W, mb4.0/6, mb1 4.3/6, mb1mx4.0/13, Error ellipse: s-maj=51.3km s-min=21.2km az=140.0*

ISC 30 15:51:53.8±1.0**, 16.2S**±0.3×**173.9W**±0.2**, h33**^{km}**, n6, σ0ˢ35**/6**, mb4.0**/6**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	23.33	198	P	P	15 56 59.9	-0.1
	11nm,0.6s,mb4.5,baz=353,slow=6.2,SNR=15						
STKA	Stephens Creek	43.23	241	P	P	15 59 54.4	+0.5
	3.4nm,1.0s,mb4.0,baz=59,slow=9.6,SNR=8.1						
WRA	Warramunga Arr	49.22	257	P	P	16 00 41.1	-0.2
	0.2nm,0.5s,mb3.5,baz=97,slow=7.2,SNR=9.6						
ASAR	Alice Springs	49.43	253	P	P	16 00 42.8	-0.2
	2.3nm,0.6s,mb4.4,baz=88,slow=8.5,SNR=47						
NVAR	Mina Array Bea	75.25	42	P	P	16 03 35.5	+0.2
	0.4nm,0.8s,mb3.4,baz=225,slow=10,SNR=3.0						
PDAR	Pinedale Array	83.18	42	P	P	16 04 18.0	-0.1
	2.3nm,1.1s,mb4.1,baz=236,slow=3.3,SNR=6.1						

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*STR **30** 15:54:27.5±0.2, 42.85N×1.46W, h5^{km}±1^{km}, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LDG **30** 15:54:27.7±0.6, 42.86N×1.49W, h3^{km}, Md2.3/3, Ml2.2/1, Error ellipse: s-maj=9.9km s-min=6.4km az=51.0*

*MDD **30** 15:54:28.3±0.6, 42.85N×1.42W, h2^{km}±12^{km}, mbLg1.2/5, Error ellipse: s-maj=4.9km s-min=2.3km az=41.0, PRXIMO AftershockPLICA*

ISC 30 15:54:26.8±1.1**, 42.82N**±0.05×**1.44W**±0.07**, h3**^{km}±13^{km}**, n10, σ0ˢ48**/18**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	Ste Jean	0.34	29	ePg	Pg	15 54 33.9	+0.4
SJPF				eSg	Sg	15 54 36.7	-1.3
	19nm,0.3s						
LARF	Larrau	0.40	57	Pg	Pg	15 54 35.2	+0.4
LARF				Sg	Sg	15 54 40.8	+0.7
EALK	Alkurruntz	0.40	353	Pg	Pg	15 54 35.2	+0.3
	4.3nm,0.4s,SNR=13						
EALK				Lg		15 54 40.6	
	10nm,0.4s,SNR=16						
OSSF	Osses	0.46	17	Pg	Pg	15 54 35.8	-0.1
OSSF				Sg	Sg	15 54 42.0	0.0
ORDF	Ordiarp	0.54	43	Pg	Pg	15 54 37.7	+0.1
ORDF				Sg	Sg	15 54 45.0	+0.1
ATE	Arette	0.61	64	P	Pg	15 54 38.9	0.0
ATE				S	Sg	15 54 47.2	+0.2
ETSF	Etsaut	0.66	83	ePg	Pg	15 54 39.5	-0.4
ETSF				eSg	Sg	15 54 48.4	-0.2
	4.8nm,0.3s						
ESAC	San Caprasio	1.31	146	Pg	Pg	15 54 52.2	-0.8
	SNR=7.9						
ESAC				Lg		15 55 09.3	
	16nm,0.5s,SNR=6.7						
EPF	Esparros	1.33	80	ePn	Pn	15 54 51.5	-0.7
EPF				ePg	Pg	15 54 53.8	+0.5
EPF				eSg	Sg	15 55 11.1	+0.1
	4.0nm,0.2s						
ETOR	Torete	2.05	193	Sn	Sn	15 55 29.2	+0.4
	SNR=7.9						

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*NEIC **30** 16:42:15.1±1.1, 35.27N×68.77E, h35^{km}, mb3.8/3, Error ellipse: s-maj=32.5km s-min=11.6km az=220.0*

*IDC **30** 16:42:34.4±17.0, 36.29N×69.30E, h185^{km}±158^{km}, mb3.2/5, mb1 3.2/7, mb1mx3.0/20, ML3.5/2, Error ellipse: s-maj=113.0km s-min=21.5km az=28.0*

*NNC **30** 16:42:51.8±11.0, 38.86N×69.92E, mpv3.5, Error ellipse: s-maj=137.4km s-min=74.3km az=168.0*

ISC 30 16:42:12.7±4.2**, 35.9N**±0.1×**69.3E**±0.2**, h15**^{km}±31^{km}**, n19, σ0ˢ94**/21**, mb3.6**/5**, 2C-2D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AAK	Ala-Archa	7.88	29	⇑Pn	Pn	16 44 10.1	+0.6
	3.4nm,0.5s						
AAK				⇑Lg		16 45 35.1	
	10nm,0.7s						
KOLN	Koldanda	14.58	120	eP	P	16 45 42.6	+2.2
	5.6nm,0.6s						
KOLN				eS	S	16 48 22.4	-0.2
MKAR	Makanchi Array	14.63	38	P	P	16 45 49.5	+8.5
	0.1nm,0.3s,baz=213,slow=11,SNR=6.1						
GKN	Gorkha	15.19	117	eP	P	16 45 48.7	+0.4
	7.2nm,0.3s						
GKN				eS	S	16 48 33.1	-3.8
DMN	Daman	15.76	117	eP	P	16 45 55.3	-0.4
KKN	Kakani	15.78	116	eP	P	16 45 54.7	-1.3
PKI	Pulchoki	16.00	117	eP	P	16 45 58.6	-0.2
	12nm,0.7s						
VOSK	Vostochnaya	16.91	4	⇓P	P	16 46 10.0	-0.1
	4.6nm,2.1s						
ZRNK	Zerenda	17.09	359	⇓P	P	16 46 11.5	-1.0
	1.7nm,1.1s,baz=178,slow=11						
BVA0	Borovoye Array	17.18	2	P	P	16 46 13.7	+0.1
	baz=172,slow=10,SNR=6.6						
BVAR	Borovoye Array	17.18	2	P	P	16 46 15.4	+1.7
	0.3nm,0.3s,baz=180,slow=12,SNR=7.1						
AKASG	Malin Array Be	32.28	310	P	P	16 48 42.7	-0.1
	0.3nm,0.2s,mb3.7,baz=90,slow=6.7,SNR=6.7						
FINES	FINESS Array B	37.26	327	P	P	16 49 25.2	-0.1
	1.0nm,0.8s,mb3.7,baz=111,slow=12,SNR=3.1						
FINES	FINESS Array B	37.26	327	P	P	16 49 25.2	-0.1
NB2	NORSAR Subarra	44.07	324	P	P	16 50 20.6	-0.7
	0.6nm,0.4s,mb3.7,baz=99,slow=7.9						
NOA	NORSAR Array B	44.07	324	P	P	16 50 20.9	-0.4
	0.8nm,0.5s,mb3.8,baz=107,slow=7.6,SNR=5.2						
NOA	NORSAR Array B	44.07	324	P	P	16 50 20.9	-0.4
WRA	Warramunga Arr	82.84	121	P	P	16 54 38.8	+0.7
	0.4nm,0.9s,mb3.5,baz=328,slow=4.7,SNR=4.7						
ASAR	Alice Springs	85.03	124	P	P	16 54 50.8	+1.7
	0.2nm,0.5s,mb3.5,baz=311,slow=4.8,SNR=4.9						

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*MDD **30** 16:47:44.0±1.0, 42.89N×1.36W, mbLg0.9/4, Error ellipse: s-maj=8.0km s-min=3.5km az=41.0, PRXIMO AftershockPLICA*

LDG 30 16:47:42.4±1.6**, 42.85N**×**1.47W, h2**^{km}**, Md2.3**/3**, Ml2.0**/1**, Error ellipse: s-maj=29.5km s-min=18.8km az=58.0, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	Ste Jean	0.32	34	ePg	Pg	16 47 48.6	-0.1
SJPF				eSg	Sg	16 47 51.3	-1.6
	16nm,0.3s						
EALK	Alkurruntz	0.37	356	Pg	Pg	16 47 50.0	+0.2
	SNR=7.9						
EALK				Lg		16 47 55.8	
	4.5nm,0.2s,SNR=7.9						
ETSF	Etsaut	0.67	86	ePg	Pg	16 47 54.0	-1.8
ETSF				eSg	Sg	16 48 03.2	-1.5
	5.1nm,0.4s						
EPF	Esparros	1.34	82	ePn	Pn	16 48 06.2	-1.9
EPF				ePg	Pg	16 48 08.5	-0.6
EPF				eSg	Sg	16 48 26.0	-1.0
	2.6nm,0.2s						

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*IDC **30** 16:48:05.0±0.9, 28.95S×176.20W, mb4.7/9, mb1 4.9/11, mb1mx4.9/13, ML4.7/2, MS4.8/7, Ms1 4.8/7, ms1mx4.7/13, Error ellipse: s-maj=35.8km s-min=18.1km az=148.0*

*BJI **30** 16:48:10.8, 28.30S×176.50W, h33^{km}, mB5.2, mb5.1, Ms5.2, Msz4.8*

*NEIC **30** 16:48:11.8±0.2, 28.32S×176.49W, mb5.2/33, MS4.9/23, Error ellipse: s-maj=9.8km s-min=5.8km az=153.0*

*MOS **30** 16:48:11.9±1.9, 28.38S×176.69W, h33^{km}, mb4.8/11, MS4.8/8, Error ellipse: s-maj=24.9km s-min=21.0km az=37.1*

*HRVD **30** 16:48:11.8±0.3, 28.40S×175.89W, h12^{km}, MW5.1/56, Centroid moment Tensor Solution. LP body waves: s28,c38;Mantle waves: s56,c78; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.95±.13; $M_{\theta\theta}$-0.77±.13; $M_{\phi\phi}$2.72±.09; $M_{r\theta}$2.42±.39; $M_{\theta\phi}$-0.06±.09; $M_{\phi r}$-4.64±.29; Best double couple: $M_0$5.77×10^{16} NP1:ϕ_s207°,δ17°,λ-39°. NP2:ϕ_s334°,δ79°,λ-103°. Principal axes: T 5.86, Plg33°, Azm76°; N -.18, Plg13°, Azm337°; P -5.68, Plg54°, Azm228°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*SYO **30** 16:48:11.9, 28.30S×176.50W, h34^{km}, MB5.3, MS4.9*

ISC 30 16:48:09.2±0.2**, 28.98S**±0.04×**176.36W**±0.06**, h34**^{km}**, h34**^{km}±1.8^{km}**:pP-P, n198, σ1ˢ16**/123**, mb5.1**/41**, MS4.9**/38**, 16C-6D, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	1.39	258	eP	P	16 48 37.6	+5.2
PUZ	Puketiti	10.12	205	P	P	16 50 30.6	-4.6
PUZ				S	S	16 52 29.2	+0.5
MWZ	Matawai	10.63	207	P	P	16 50 37.9	-4.3
MWZ				S	S	16 52 41.6	+0.5
URZ	Urewera	10.74	209	Pn	P	16 50 41.5	-2.2
	3.8nm,0.3s,baz=284,slow=4.0,SNR=16						
URZ				Sn	S	16 52 43.9	+0.2
	7.8nm,0.3s,baz=341,slow=20,SNR=13						
URZ	Urewera	10.74	209	P	P	16 50 39.5	-4.1
BKZ	Black Stump Fm	11.76	208	P	P	16 50 52.6	-4.9
BKZ				S	S	16 53 07.5	-1.1
PWZ	Pawanui	12.36	205	P	P	16 51 00.8	-4.7
PWZ				S	S	16 53 20.4	-2.6
MRZ	Mangatainoka R	13.40	207	S	S	16 53 43.7	-4.3
SNZO	South Karori	14.30	208	eP	P	16 51 33.8	+2.6
SNZO				eS	S	16 54 04.5	-5.0
THZ	Tophouse	15.46	212	S	S	16 54 33.5	-3.1
RAR	Rarotonga	16.88	66	Pn	P	16 51 55.4	-9.1
RAR				LR	LR	16 57 11.1	
	comp=Z,2μm,21.9s,baz=113,slow=33						
DZM	Mont Dzumac	16.97	290	eP	P	16 52 07.4	+1.9
NOUC	Port Laguerre	17.07	290	eP	P	16 52 08.8	+2.0
RPZ	Rata Peaks	17.83	211	P	P	16 52 14.6	-1.6
	3.3nm,0.3s,baz=108,slow=15,SNR=15						
RPZ				S	S	16 55 24.8	-6.4
	1.1nm,0.3s,baz=300,slow=20,SNR=5.9						
TOO	Toolangi	32.85	245	eP	P	16 54 44.5	+2.6
	9.0nm,0.9s,mb4.7						
CTA	Charters Tower	35.03	276	eP	P	16 55 01.1	+0.3
	9.5nm,0.6s,mb4.9						
CTA	Charters Tower	35.03	276	P	P	16 55 00.6	-0.2
	8.3nm,0.5s,mb5.0,baz=94,slow=11,SNR=18						
CTA	Charters Tower	35.03	276	P	P	16 55 00.6	-0.2
CTA				pmax	pmax		
	comp=Z,8.0nm,0.5s						
CTAO	Charters Tower	35.03	276	eP	P	16 55 00.3	-0.5
	comp=Z,16nm,0.8s,mb5.0						
CTAO				LR	LR		
	comp=Z,1μm,21.0s,MS4.7						
STKA	Stephens Creek	36.21	255	eP	P	16 55 12.5	+1.8
	comp=Z,13nm,0.6s,mb5.0						
STKA	Stephens Creek	36.21	255	P	P	16 55 12.3	+1.5
	comp=Z,11nm,0.7s,mb4.9,baz=90,slow=8.4,SNR=30						
STKA				LR	LR	17 09 52.8	
	comp=Z,2μm,18.6s,MS5.0,baz=75,slow=36						
PMG	Port Moresby	39.34	292	P	P	16 55 36.8	-0.2
	comp=Z,23nm,1.0s,mb4.9						
PMG	Port Moresby	39.34	292	P	P	16 55 36.8	-0.2
PMG				pmax	pmax		
	comp=Z,23nm,1.0s						
PMG	Port Moresby	39.34	292	eP	P	16 55 36.3	-0.8
	comp=Z,38nm,1.1s,mb5.0						
PMG				LR	LR		
	comp=Z,967nm,22.0s,MS4.6						
WAU	Wau	40.89	294	eP	P	16 55 48.6	-1.3
ASAR	Alice Springs	44.64	265	P	P	16 56 20.0	-0.4
	comp=Z,14nm,1.2s,mb4.7,baz=98,slow=6.2,SNR=50						
ASAR				S	S	17 02 48.2	-5.5
	comp=Z,2.3nm,1.4s,baz=117,slow=12,SNR=2.8						
ASAR				LR	LR	17 15 20.6	
	comp=Z,1μm,18.2s,MS4.8,baz=109,slow=36						
ASPA	Alice Springs	44.64	265	eP	P	16 56 20.3	-0.1
ASPA				eS	S	17 02 53.8	+0.1
WB2	Warramunga Arr	45.49	270	⇑iP	P	16 56 26.9	-0.4
WB2				eS	S	17 03 02.0	-4.0
WB2				eSCS	ScS	17 06 25.2	+6.9
WRAB	Tennant Creek	45.49	270	eP	P	16 56 25.7	-1.6
	comp=Z,34nm,0.9s,mb5.2						
WRAB				LR	LR		
	comp=Z,308nm,20.0s,MS4.2						
WRA	Warramunga Arr	45.50	270	P	P	16 56 26.7	-0.6
	comp=Z,5.2nm,0.5s,mb4.7,baz=108,slow=6.3,SNR=110						
WRA				S	S	17 03 02.0	-4.1
	comp=Z,1.7nm,1.2s,baz=107,slow=14,SNR=4.3						
WRA				LR	LR	17 15 31.5	
	comp=Z,610nm,18.1s,MS4.6,baz=110,slow=36						
WRA	Warramunga Arr	45.50	270	P	P	16 56 26.7	-0.7
WRA				S	S	17 03 02.0	-4.1
WRA				pmax	pmax		
	comp=Z,5.0nm,0.5s						
WRA				smax			
	comp=Z,2.0nm,1.2s						
WRA				MLR	MLR		
	comp=Z,610nm,18.1s						
DRV	Dumont d'Urvil	46.00	202	P	P	16 56 33.0	+2.3
DRV	Dumont d'Urvil	46.00	202	PP	PP	16 58 25.0	+6.3
DRV				S	S	17 03 27.0	+14
FORT	Forrest	47.81	253	eP	P	16 56 45.4	0.0
	comp=Z,112nm,0.8s,mb5.9						
SBA	Scott Base	49.56	185	eP	P	16 57 05.0	+6.7
	comp=Z,48nm,1.2s,mb5.4						
SBA				LR	LR		
	comp=Z,826nm,20.0s,MS4.7						
KAKA	Kakadu	50.17	278	eP	P	16 57 07.2	+3.4
	comp=Z,4.0nm,0.5s,mb4.7						
FITZ	Fitzroy Crossi	53.81	268	eP	P	16 57 31.2	+0.1
	comp=Z,14nm,1.1s,mb4.8						
CASY	Casey	57.06	207	eP	P	16 57 57.6	+3.7
	comp=Z,93nm,1.3s,mb5.7						
MBWA	Marble Bar	57.82	262	eP	P	16 57 59.9	+0.1
	comp=Z,23nm,1.1s,mb5.1						
MIR	Mirnyy	64.03	206	κeP	P	16 58 45.6	+4.4
MIR				e		16 59 16.2	
MIR				e		17 01 16.0	
MIR				ePPP	PPP	17 02 44.0	+8.0
MIR				eS	S	17 07 25.0	+11
MIR				pmax	pmax		
	comp=Z,160nm,1.8s,mb5.8						
MIR				pmax	pmax		
	comp=Z,900nm,5.6s						
MIR				smax			
	comp=N,700nm,5.6s						
MIR				smax			
	comp=E,500nm,9.0s						
MIR				MLR	MLR		
	comp=Z,1μm,16.0s,MS5.1						
PMSA	Palmer Station	72.97	156	eP	P	16 59 40.0	+3.5
	comp=Z,32nm,1.3s,mb5.1						
PMSA				epP	pP	16 59 50.4	+3.3
MAW	Mawson	74.13	200	eP	P	16 59 47.7	+4.4
	comp=Z,15nm,1.1s,mb4.8						
MAW	Mawson	74.13	200	P	P	16 59 47.7	+4.4
	comp=Z,18nm,1.4s,mb4.8,baz=125,slow=8.1,SNR=8.5						
MAW				LR	LR	17 33 14.1	
	comp=Z,782nm,18.1s,MS5.0,baz=113,slow=36						
MAW	Mawson	74.13	200	P	P	16 59 47.7	+4.4
MAW				pmax	pmax		
	comp=Z,18nm,1.4s						
MAW				MLR	MLR		
	comp=Z,782nm,18.1s						
MAJO	Matsushiro	77.91	324	eP	P	17 00 02.5	-2.8
	comp=Z,16nm,0.9s,mb5.0						
MAJO				epP	pP	17 00 12.9	-3.0
MAT	Matsushiro	77.91	324	P	P	17 00 02.2	-3.2
MAT				S	S	17 09 47.8	-7.0
MAT	Matsushiro	77.91	324	eP	P	17 00 02.0	-3.4
	comp=Z,6.7nm,0.6s,mb4.8						
MAT				eS	S	17 09 48.0	-6.8
SYO	Syowa Base	78.81	192	⇑P	P	17 00 12.8	+3.1
SYO	Syowa Base	78.81	192	⇑PcP	PcP	17 00 20.4	+1.7
SYO	Syowa Base	78.81	192	⇑pP	pP	17 00 24.0	+3.7
SYO	Syowa Base	78.81	192	⇑sP	sP	17 00 28.1	+4.1
SNAA	Sanae	79.53	178	⇓iP	P	17 00 17.1	+3.6
SNAA	Sanae	79.53	178	⇑i	PcP	17 00 25.0	+3.3
SNAA	Sanae	79.53	178	⇑i	pP	17 00 28.8	+4.7
SNAA	Sanae	79.53	178	⇑i	sP	17 00 32.6	+4.7
SNAA	Sanae	79.53	178			17 05 48.2	
SNAA	Sanae	79.53	178	S	S	17 10 19.1	+7.9
VNA3	Neumayer Olymp	79.62	176	⇓iP	P	17 00 20.0	+6.0
VNA3	Neumayer Olymp	79.62	176		pP	17 00 27.0	+2.4
VNA3	Neumayer Olymp	79.62	176	⇑i	sP	17 00 31.4	+3.0
VNA3	Neumayer Olymp	79.62	176	⇑i		17 05 48.8	
VNA3	Neumayer Olymp	79.62	176		tx	17 05 59.7	
VNA2	Neumayer--Watz	80.07	176	⇑iP	P	17 00 23.3	+6.9
VNA2	Neumayer--Watz	80.07	176	⇑i	pP	17 00 30.1	+3.0
VNA2	Neumayer--Watz	80.07	176	⇑i	sP	17 00 34.2	+3.4
VNA2	Neumayer--Watz	80.07	176	⇑i		17 05 51.6	
VNA2	Neumayer--Watz	80.07	176		tx	17 06 02.7	
VNA1	Neumayer--Stat	80.29	176	⇓iP	P	17 00 24.4	+6.8
VNA1	Neumayer--Stat	80.29	176		pP	17 00 31.4	+3.1
VNA1	Neumayer--Stat	80.29	176	⇑i	sP	17 00 35.0	+3.0
VNA1	Neumayer--Stat	80.29	176			17 05 52.5	
YSS	Yuzh-Sakhalins	84.11	333	eP	P	17 00 36.8	-0.9
YSS				S	S	17 10 58.0	-0.5
YSS				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.4						
YSS	Yuzh-Sakhalins	84.11	333	eP	P	17 00 34.3	-3.4
	comp=Z,43nm,1.2s,mb5.5						
YSS				LR	LR		
	comp=Z,394nm,20.0s,MS4.8						
SSE	Sheshan	84.27	310	eP	P	17 00 38.8	-0.1
SSE				AP	pP	17 00 47.3	-2.4
SSE				XP	sP	17 00 50.5	-2.8
SSE				S	S	17 11 02.0	+1.6
SSE				XS		17 11 17.5	
SSE				SS	SS	17 16 26.0	-7.2
SSE				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,147nm,10.7s						
SSE				LR	LR		
	comp=N,110nm,34.3s,MS4.2						
SSE				LR	LR		
	comp=E,122nm,34.3s,MS4.2						
SSE				LR	LR		
	comp=Z,79nm,25.2s						
SSE	Sheshan	84.27	310	eP	P	17 00 38.8	-0.1
	comp=Z,20nm,0.7s,mb5.4						
SSE				PcP	PcP	17 00 42.9	-0.2
SSE				pP	pP	17 00 47.3	-2.4
SSE				sP	sP	17 00 50.6	-2.7

SSE				S	S	17 11 02.0	+1.6
SSE				sS		17 11 17.4	
SSE				SS	SS	17 16 26.0	-7.2
SSE				LR	LR		
	comp=Z,80nm,25.2s,MS4.0						
PET	**Petropavlovsk**	**84.51**	**345**	*e*P	**P**	**17 00 38.5**	**-1.1**
PET				*e*S	S	17 10 57.9	-4.4
PET	**Petropavlovsk**	**84.51**	**345**	*e*P	**P**	**17 00 36.4**	**-3.2**
CMB	**Columbia Colle**	**84.75**	**41**	*e*P	**P**	**17 00 40.9**	**-0.3**
	comp=Z,20nm,1.2s,mb5.1						
CMB				*e*pP	pP	17 00 52.7	+0.8
CMB				LR	LR		
	comp=Z,1µm,19.0s,MS5.3						
OHCM	**Honcut**	**85.03**	**40**	*e*P	**P**	**17 00 42.2**	**-0.3**
OMM	**Old Mammoth Mi**	**85.28**	**42**	*e*P	**P**	**17 00 43.8**	**0.0**
WDC	**Whiskeytown Da**	**85.31**	**38**	*e*P	**P**	**17 00 43.1**	**-0.8**
	comp=Z,47nm,1.5s,mb5.4						
MTUM	**Tungsten Hills**	**85.36**	**43**	*e*P	**P**	**17 00 43.1**	**-1.1**
QIZ	**Qiongzhong**	**85.69**	**294**	P	**P**	**17 00 46.0**	**-0.2**
QIZ				S	S	17 11 13.8	-0.9
QIZ				XS		17 11 35.5	
QIZ				AMB	AMB		
	comp=Z,171nm,7.8s						
LDFC	**Landfair**	**85.99**	**46**	*e*P	**P**	**17 00 47.7**	**+0.3**
NVAR	**Mina Array Bea**	**86.23**	**42**	P	**P**	**17 00 48.2**	**-0.2**
	comp=Z,5.2nm,1.1s,mb4.7,baz=209,slow=4.5,SNR=21						
MNV	**Mina**	**86.32**	**42**	*e*P	**P**	**17 00 48.3**	**-0.5**
	comp=Z,31nm,1.4s,mb5.3						
MNV				LR	LR		
	comp=Z,1µm,19.0s,MS5.4						
NJ2	**Nanjing**	**86.42**	**310**	*e*P	**P**	**17 00 49.5**	**0.0**
NJ2				AP	pP	17 01 02.8	+2.5
NJ2				XP	sP	17 01 07.5	+3.6
NJ2				PP	PP	17 04 11.5	-1.6
NJ2				S	S	17 11 17.0	-4.4
NJ2				XS		17 11 39.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.3						
NJ2				LR	LR		
	comp=N,560nm,22.5s,MS5.0						
NJ2				LR	LR		
	comp=E,380nm,24.9s,MS5.0						
NJ2				LR	LR		
	comp=Z,160nm,24.1s,MS4.3						
TPNV	**Topopah Spring**	**86.48**	**44**	*e*P	**P**	**17 00 49.6**	**-0.1**
	comp=Z,40nm,1.4s,mb5.5						
TPNV				LR	LR		
	comp=Z,947nm,20.0s,MS5.2						
NEN	**Nelson**	**86.52**	**46**	*e*P	**P**	**17 00 49.9**	**0.0**
TUC	**Tucson**	**87.11**	**51**	*e*P	**P**	**17 00 53.3**	**+0.4**
	comp=Z,35nm,1.5s,mb5.4						
MDJ	**Mudanjiang**	**88.28**	**325**	P	**P**	**17 00 57.3**	**-0.9**
MDJ				AP	pP	17 01 06.8	-2.2
MDJ				XP	sP	17 01 10.5	-2.1
MDJ				PP	PP	17 04 22.8	-5.4
MDJ				S	S	17 11 43.0	+4.3
MDJ				XS		17 11 54.0	
MDJ				AMB	AMB		
	comp=Z,201nm,4.7s						
MDJ				LR	LR		
	comp=N,227nm,16.7s,MS4.8						
MDJ				LR	LR		
	comp=E,227nm,18.0s,MS4.8						
MDJ				LR	LR		
	comp=Z,411nm,19.9s,MS4.8						
ARUT	**Antelope Range**	**88.74**	**45**	*e*P	**P**	**17 00 59.9**	**-0.7**
TRQA	**Tornquist**	**89.41**	**134**	*e*P	**P**	**17 01 06.5**	**+2.7**
	comp=Z,65nm,1.6s,mb5.7						
TRQA				LR	LR		
	comp=Z,588nm,19.0s,MS5.0						
ELK	**Elko**	**89.53**	**42**	*e*P	**P**	**17 01 03.3**	**-0.9**
	comp=Z,9.0nm,1.3s,mb4.9						
CN2	**Changchun**	**89.89**	**322**	*e*P	**P**	**17 01 06.3**	**+0.4**
CN2				*e*AP	pP	17 01 17.8	+1.1
CN2				*e*S	S	17 11 52.5	-1.1
CN2				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb5.1						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,300nm,19.0s,MS4.8						
CN2				LR	LR		
	comp=E,200nm,19.0s,MS4.8						
CN2				LR	LR		
	comp=Z,400nm,21.0s,MS4.8						
MSU	**Marysvale**	**89.97**	**45**	*e*P	**P**	**17 01 06.8**	**+0.4**
TIA	**Tai'an**	**90.06**	**312**	*e*P	**P**	**17 01 07.0**	**+0.1**
KLR	**Kul'dur**	**90.54**	**329**	*e*P	**P**	**17 01 05.6**	**-3.2**
KLR				MLR	MLR		
	comp=E,700nm,20.0s						
BNM	**Barren Site**	**91.01**	**51**	*e*P	**P**	**17 01 10.8**	**-0.6**
BNM				*e*pP	pP	17 01 22.7	+0.4
TMUT	**Trail Mountain**	**91.05**	**45**	*e*P	**P**	**17 01 10.2**	**-1.3**
LPM	**Los Pinos Moun**	**91.10**	**51**	P	**P**	**17 01 06.3**	**-5.5**
SRU	**San Rafael**	**91.36**	**45**	*e*P	**P**	**17 01 12.7**	**-0.2**
ANMO	**Albuquerque**	**91.58**	**51**	*e*P	**P**	**17 01 14.9**	**+0.9**
ANMO	**Albuquerque**	**91.58**	**51**	*e*P	**P**	**17 01 14.1**	**+0.2**
	comp=E,21nm,1.8s,mb5.2						
ANMO				*e*pP	pP	17 01 25.7	+0.9
ANMO				LR	LR		
	comp=Z,659nm,20.0s,MS5.1						
HVU	**Hansel Valley**	**91.62**	**42**	*e*P	**P**	**17 01 14.8**	**+0.7**
HVU				*e*pP	pP	17 01 25.7	+0.8
DAU	**Daniels Canyon**	**91.69**	**44**	*e*P	**P**	**17 01 14.9**	**+0.6**
HLID	**Hailey**	**91.80**	**40**	PFAKE		17 01 30.0	+15
HLID				LR	LR		
	comp=Z,581nm,20.0s,MS5.0						
TCUT	**Toone Canyon**	**92.03**	**43**	*e*P	**P**	**17 01 15.3**	**-0.6**
TCUT				*e*pP	pP	17 01 26.4	-0.4
HWUT	**Hardware Ranch**	**92.23**	**43**	*e*P	**P**	**17 01 17.1**	**+0.3**
	comp=Z,31nm,1.7s,mb5.4						
HWUT				*e*pP	pP	17 01 25.9	-1.8
DPW	**Davenport**	**92.58**	**35**	*e*P	**P**	**17 01 18.2**	**-0.1**
RW3	**Ridgway**	**92.65**	**47**	*e*P	**P**	**17 01 19.8**	**+1.0**
RW3				*e*pP	pP	17 01 30.3	+0.6
BJI	**Beijing**	**92.93**	**315**	P	**P**	**17 01 28.8**	**+8.8**
	comp=Z,8.0nm,1.4s,mb5.0						
BJI				SKS	SKS	17 11 50.9	+1.3
BJI				S	S	17 12 25.7	+5.2
LVC	**Limon Verde**	**93.35**	**118**	*e*P	**P**	**17 01 23.6**	**+1.3**
	comp=Z,31nm,1.4s,mb5.5						
NEW	**Newport**	**93.39**	**35**	PFAKE		17 01 30.0	+8.1
NEW				LR	LR		
	comp=Z,1µm,19.0s,MS5.4						
MCMT	**McKenzie Canyo**	**93.47**	**40**	*e*P	**P**	**17 01 21.8**	**-0.6**
SDCO	**Great Sand Dun**	**93.79**	**49**	*e*P	**P**	**17 01 25.6**	**+1.7**
	comp=Z,4.9nm,1.2s,mb4.8						
SDCO				LR	LR		
	comp=Z,678nm,19.0s,MS5.1						
IMW	**Indian Meadow**	**93.99**	**41**	*e*P	**P**	**17 01 24.0**	**-0.7**
LOHW	**Long Hollow**	**94.01**	**42**	*e*P	**P**	**17 01 24.9**	**+0.1**
LOHW				*e*pP	pP	17 01 40.5	+4.8
PDAR	**Pinedale Array**	**94.12**	**43**	P	**P**	**17 01 25.4**	**+0.1**
	comp=Z,1.3nm,1.0s,mb4.3,baz=225,slow=2.1,SNR=6.0						
PDAR				LR	LR	17 39 38.8	
	comp=Z,775nm,18.7s,MS5.2,baz=255,slow=33						
QLMT	**Earthquake Lak**	**94.27**	**40**	*e*P	**P**	**17 01 26.3**	**+0.3**
CMAR	**Chiang Mai Arr**	**94.29**	**289**	P	**P**	**17 01 28.4**	**+1.7**
	comp=Z,1.7nm,0.9s,mb4.5,baz=133,slow=3.6,SNR=9.4						
CMAR	**Chiang Mai Arr**	**94.29**	**289**	P	**P**	**17 01 28.4**	**+1.7**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
YFT	**Old Faithful**	**94.38**	**41**	P	**P**	**17 01 26.1**	**-0.4**
KMI	**Kunming**	**94.47**	**296**	*e*P	**P**	**17 01 27.5**	**+0.1**
KMI				AP	pP	17 01 36.5	-1.7
KMI				XP	sP	17 01 41.0	-0.7
KMI				PP	PP	17 05 12.3	-5.4
KMI				SKS	SKS	17 11 57.5	-0.9
KMI				S	S	17 12 34.8	+0.7
KMI				XS		17 12 52.0	
KMI				SS	SS	17 18 54.3	-6.6
KMI				AMB	AMB		
	comp=Z,3.0nm,0.9s,mb4.7						
KMI				LR	LR		
	comp=N,118nm,17.7s,MS4.6						
KMI				LR	LR		
	comp=E,145nm,19.1s,MS4.6						
KMI				LR	LR		
	comp=Z,137nm,21.9s,MS4.4						
KMI	**Kunming**	**94.47**	**296**	*e*P	**P**	**17 01 27.4**	**0.0**
	comp=Z,3.0nm,0.9s,mb4.7						
KMI				pP	pP	17 01 36.6	-1.6
KMI				sP	sP	17 01 41.0	-0.7
KMI				PP	PP	17 05 12.2	-5.5
KMI				SKS	SKS	17 11 57.6	-0.8
KMI				S	S	17 12 34.8	+0.7
KMI				sS		17 12 52.1	
KMI				SS	SS	17 18 54.3	-6.6
KMI				LR	LR		
	comp=Z,140nm,21.9s,MS4.4						
BOZ	**Bozeman (W)**	**94.65**	**40**	*e*P	**P**	**17 01 27.6**	**-0.1**
	comp=Z,18nm,1.3s,mb5.3						
ILAR	**Eielson Array**	**96.23**	**12**	P	**P**	**17 01 33.5**	**-0.9**
	comp=Z,1.1nm,0.7s,mb4.4,baz=219,slow=5.3,SNR=9.5						
ILAR	**Eielson Array**	**96.23**	**12**	P	**P**	**17 01 33.5**	**-0.9**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
CD2	**Chengdu**	**96.55**	**302**	*e*P	**P**	**17 01 38.3**	**+1.6**
WMOK	**Wichita Mounta**	**96.79**	**54**	PFAKE		17 01 50.0	+12
WMOK				LR	LR		
	comp=Z,611nm,19.0s,MS5.1						
OTAV	**Otavalo**	**97.04**	**94**	PFAKE		17 01 50.0	+11
OTAV				LR	LR		
	comp=Z,179nm,20.0s,MS4.5						
LZH	**Lanzhou**	**99.03**	**306**	*e*P	**P**	**17 01 48.8**	**+1.0**
LZH				AP	pP	17 01 59.5	+0.8
LZH				XP	sP	17 02 03.8	+1.6
LZH				PP	PP	17 05 52.5	+0.1
LZH				AMB	AMB		
	comp=Z,25nm,1.5s,mb5.5						
LZH				LR	LR		
	comp=E,438nm,15.2s						
LZH				LR	LR		
	comp=Z,598nm,17.7s,MS5.1						
LZH	**Lanzhou**	**99.03**	**306**	*e*P	**P**	**17 01 48.7**	**+0.9**
	comp=Z,25nm,1.5s,mb5.5						
LZH				pP	pP	17 01 59.5	+0.8
LZH				sP	sP	17 02 03.7	+1.5
LZH				PP	PP	17 05 52.6	+0.2
LZH				LR	LR		
	comp=Z,600nm,17.7s,MS5.1						
CPUP	**Villa Florida**	**99.73**	**127**	LR	LR	17 40 30.5	
	comp=Z,284nm,18.7s,MS4.8,baz=251,slow=32						
PALK	**Pallekele**	**104.79**	**270**	PFAKE		17 02 30.0	+16
PALK				LR	LR		
	comp=Z,104nm,19.0s,MS4.4						
SAML	**Samuel**	**105.44**	**110**	PFAKE		17 06 40.0	
SAML				LR	LR		
	comp=Z,751nm,19.0s,MS5.3						
SDV	**Santo Domingo**	**107.98**	**90**	PFAKE		17 06 50.0	
SDV				LR	LR		
	comp=Z,269nm,19.0s,MS4.8						
SUR	**Sutherland**	**116.84**	**196**	PFAKE		17 07 10.0	+20
SUR				LR	LR		
	comp=Z,179nm,20.0s,MS4.7						
MKAR	**Makanchi Array**	**117.95**	**310**	PKP	PKPdf	17 06 53.2	+1.1
	comp=Z,0.7nm,0.5s,baz=189,slow=1.4,SNR=9.6						
MKAR	**Makanchi Array**	**117.95**	**310**	PKIKP	PKPdf	17 06 53.3	+1.1
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KURK	**Kurchatov**	**121.09**	**314**	*i* PKIKP	PKPdf	17 07 00.2	+1.9
BVAR	**Borovoye Array**	**126.37**	**316**	PKP	PKPdf	17 07 08.4	+0.1
	comp=Z,0.7nm,0.4s,baz=135,slow=2.1,SNR=7.2						
BRVK	**Borovoye**	**126.44**	**316**	*e*PKPdf	PKPdf	17 07 08.6	+0.1
ZRNK	**Zerenda**	**127.21**	**316**	*e*PKPdf	PKPdf	17 07 10.6	+0.6
LSZ	**Lusaka**	**130.02**	**212**	PFAKE		17 07 30.0	+14
LSZ				LR	LR		
	comp=Z,431nm,19.0s,MS5.2						
SVE	**Sverdlovsk**	**131.68**	**322**	⇓*i*PKHKP		17 07 08.0	
SVE				*e*		17 19 40.0	
SVE				*e*SS	SS	17 27 35.0	+23
SVE				MLR	MLR		
	comp=E,200nm,18.0s						
SVE				MLR	MLR		
	comp=Z,400nm,18.0s,MS5.2						
ARU	**Arti**	**132.88**	**322**	*i* PKIKP	PKPdf	17 07 23.1	+2.4
ARU				*e*		17 09 44.2	
ARU				MLR	MLR		
	comp=Z,200nm,18.0s,MS4.9						
ARU				MLR	MLR		
	comp=N,80nm,19.0s,MS4.9						
ARU				MLR	MLR		
	comp=E,200nm,19.0s,MS4.9						
ARCES	**ARCESS Array B**	**137.49**	**349**	PKP	PKPdf	17 07 31.8	+3.0
	comp=E,3.9nm,0.8s,baz=18,slow=3.8,SNR=5.7						
ARCES	**ARCESS Array B**	**137.49**	**349**	PKIKP	PKPdf	17 07 31.8	+2.9
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KAF	**Kangasniemi**	**143.66**	**342**	*e*p	PKPbc	17 07 26.4	-12
FINES	**FINESS Array B**	**144.28**	**342**	PKP	PKPdf	17 07 39.9	-1.0
	comp=Z,1.5nm,0.4s,baz=51,slow=3.7,SNR=28						
FINES	**FINESS Array B**	**144.28**	**342**	PKIKP	PKPdf	17 07 39.9	-1.0
FINES				pmax	pmax		
	comp=Z,2.0nm,0.4s						
GNI	**Garni**	**144.65**	**299**	*e*P	PKPbc	17 07 42.9	+0.8
GNI	**Garni**	**144.65**	**299**	*i* PKIKP	PKPdf	17 07 45.9	+3.7
GNI	**Garni**	**144.65**	**299**	*e*PKP	PKPdf	17 07 45.9	+3.7
OBN	**Obninsk**	**144.79**	**327**	*i* PKIKP	PKPdf	17 07 43.6	+1.6
OBN				*e*SS	SS	17 29 37.9	-8.3
OBN				pmax	pmax		
	comp=Z,59nm,3.0s						
OBN				MLR	MLR		
	comp=Z,100nm,21.0s,MS4.6						
OBN	**Obninsk**	**144.79**	**327**	*e*PKP	PKPdf	17 07 43.6	+1.6
OBN				LR	LR		
	comp=Z,100nm,21.0s,MS4.6						
KIV	**Kislovodsk**	**145.57**	**306**	*i* PKIKP	PKPdf	17 07 45.5	+1.8
KIV				*e*		17 14 48.4	
KIV				*e*SS	SS	17 29 44.9	-10
KIV				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KIV				pmax	pmax		
	comp=E,3.0nm,0.6s						
KIV	**Kislovodsk**	**145.57**	**306**	⇑*i*P	PKPdf	17 07 46.3	+2.6
VANB	**Van**	**145.82**	**297**	*e*P	PKPdf	17 07 45.6	+1.3
VSU	**Vasula**	**146.48**	**338**	*e*PKP	PKPdf	17 07 47.7	+2.9
BCA	**Borcka**	**146.83**	**302**	*e*P	PKPdf	17 07 53.0	+7.1
VRT	**Varto**	**147.22**	**298**	*e*P	PKPdf	17 07 52.2	+5.5
EZM	**Erzurum**	**147.26**	**300**	*e*P	PKPdf	17 07 54.2	+7.5
BTMT	**Batman**	**147.34**	**296**	*e*P	PKPdf	17 07 47.1	+0.2
NB2	**NORSAR Subarra**	**147.54**	**353**	PKP		17 07 50.2	
	comp=E,19nm,1.2s,baz=10.0,slow=3.1						
NOA	**NORSAR Array B**	**147.54**	**353**	PKPbc	PKPdf	17 07 50.2	+3.8
	comp=E,5.4nm,0.7s,baz=13,slow=4.5,SNR=22						
NOA	**NORSAR Array B**	**147.54**	**353**	PKIKP	PKPdf	17 07 50.2	+3.7
NOA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
NOA	**NORSAR Array B**	**147.54**	**353**	PKPbc	PKPdf	17 07 50.2	+3.8
NAO01	**NORSAR Array S**	**147.76**	**353**	*e*PKPdf	PKPdf	17 07 46.9	+0.1
EZC	**Erzincan**	**148.46**	**300**	*e*P	PKPdf	17 07 55.9	+7.3
ANN	**Anapa**	**148.97**	**310**	*i* PKHKP		17 07 49.6	
ANN				pmax	pmax		
	comp=Z,40nm,1.3s						
MNK	**Minsk**	**149.06**	**332**	*e*PKP2	PKPab	17 07 54.0	-5.6
MYA	**Malataya**	**149.73**	**297**	*e*P	PKPdf	17 08 00.0	+9.3
SVSK	**Karacayir**	**150.56**	**301**	*e*P	PKPdf	17 07 57.5	+5.6
GAZ	**Gaziantep**	**150.82**	**295**	*e*P	PKPdf	17 08 05.3	+13
AKASG	**Malin Array Be**	**150.99**	**326**	PKPbc	PKPdf	17 07 59.5	+7.2
	comp=Z,12nm,0.9s,baz=46,slow=2.6,SNR=25						
AKASG	**Malin Array Be**	**150.99**	**326**	PKIKP	PKPdf	17 07 59.5	+7.3
AKASG				pmax	pmax		
	comp=Z,12nm,0.9s						
SUW	**Suwalki**	**151.21**	**336**	*e*PKIKP	PKPdf	17 08 00.0	+7.6
BRTR	**Keskin Array B**	**153.13**	**301**	PKPbc	PKPdf	17 08 04.8	+9.2
	comp=Z,1.2nm,0.8s,baz=135,slow=3.5,SNR=5.4						
BRTR	**Keskin Array B**	**153.13**	**301**	PKIKP	PKPdf	17 08 04.9	+9.2
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
LVV	**L'vov**	**154.05**	**329**	*e*PKP2	PKPab	17 08 20.3	-0.4
LVV				MLR	MLR		
	comp=Z,440nm,24.0s,MS5.2						
LVV				MLR	MLR		
	comp=N,190nm,21.0s,MS4.9						
LVV				MLR	MLR		
	comp=E,80nm,22.0s,MS4.9						
CSS	**Prodhromos**	**154.17**	**291**	*e*PKPab	PKPab	17 08 21.4	-0.3
KSP	**Ksiaz**	**156.17**	**340**	*e*PKPdf	PKPdf	17 08 02.2	+2.9
KSP				*e*pPKPdf		17 08 13.2	
KSP				*e*PKPab	PKPab	17 08 29.0	-0.6
KSP				*e*SS	SS	17 31 50.0	-2.3
UPC	**Upice**	**156.55**	**340**	*e*PKPab	PKPab	17 08 33.5	+2.2
DPC	**Dobruska-Polom**	**156.59**	**339**	*e*PKPab	PKPab	17 08 30.7	-0.8
DPC				*e*pPKP		17 08 42.8	
CLL	**Collm**	**156.61**	**345**	*e*PKP2	PKPab	17 08 27.0	-4.5
CLL				*e*		17 08 49.0	
BRG	**Berggiesshubel**	**156.79**	**343**	*e*PKIKP	PKPdf	17 08 08.3	+8.1
BRG				*e*		17 08 26.5	
BRG				pmax	pmax		
	comp=Z,41nm,2.2s						
PVCC	**Panska Ves**	**156.94**	**342**	*e*PKPab	PKPab	17 08 39.0	+6.0
PRU	**Pruhonice**	**157.44**	**341**	*e*pPKP		17 08 16.8	
PRU				*e*PKPab	PKPab	17 08 43.9	+8.8
MOX	**Moxa**	**157.54**	**347**	*i* P	PKPdf	17 08 09.3	+8.1
MOX				PKP2	PKPab	17 08 40.0	+4.5
MOX				L		17 33 05.0	
MOX	**Moxa**	**157.54**	**347**	*e*PKIKP	PKPdf	17 08 09.3	+8.1
MOX				MLR	MLR		
	comp=Z,200nm,19.0s,MS5.0						
MOX	**Moxa**	**157.54**	**347**	*e*PKP	PKPdf	17 08 09.3	+8.1
MOX				*e*PKPab	PKPab	17 08 40.0	+4.5
MOX				LR	LR		
	comp=Z,200nm,19.0s,MS5.0						
NKC	**Novy Kostel**	**157.75**	**345**	*e*PKPab	PKPab	17 08 40.6	+4.2
KHC	**Kasperske Hory**	**158.48**	**342**	*e*PKPab	PKPab	17 08 38.9	-0.8
GRF	**Grafenberg Arr**	**158.52**	**346**	*e*PKP2	PKPab	17 08 37.4	-2.4
WET	**Wettzell**	**158.66**	**343**	*e*PKP2	PKPab	17 08 40.1	-0.3
GEC2	**GERESS Array S**	**158.71**	**341**	*e*PKP2	PKPab	17 08 41.3	+0.7

MEX 30 17:11:14.2±0.4**,15.63N**×**96.37W,h22**^{km}±124^{km}**,MD3.6,**
Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.29**	**62**	*i* P	Pb	17 11 19.7	-1.1
HUIG				*i* S	Sb	17 11 24.2	-1.0
VHO	**Vista Hermosa**	**1.47**	**346**	*i* P	Pn	17 11 36.7	-3.0
VHO				*i* S	Sn	17 11 54.3	-4.2

DJA 30 17:12:53.1±1.1**,2.07S**×**118.09E,h100**^{km}**,MD4.4**/3**,**
ML5.1/4**,6D,Error ellipse: s-maj=41.2km s-min=27.0km**
az=44.0,Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TANI	**Tanete Lipujan**	**1.87**	**136**	⇓*e*Pn	P	17 13 22.8	-1.7
	2µm,0.3s						
TANI				⇓*e*Sn	S	17 13 42.5	-5.2
BUNI	**Buntu Taipa**	**2.73**	**125**	⇓*e*Pn	P	17 13 36.2	0.0
	515nm,0.4s						
BUNI				⇓*e*Sn	S	17 14 06.5	-2.0
NINI	**Niniconang**	**2.87**	**145**	⇓*e*Pn	P	17 13 38.2	+0.2
	125nm,0.3s						
NINI				⇓*e*Sn	S	17 14 10.0	-1.8

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*NEIC **30** 18:05:56.7±0.5, 43.66N×105.22W, ML3.3, Error ellipse: s-maj=7.9km s-min=5.7km az=134.0, Suspected Mining explosion.*

NEIC 75 km [45 miles] SSE of Gillette.

*IDC **30** 18:05:57.6±1.6, 44.02N×105.79W, mb4.1/1, mb1 3.9/4, mb1mx3.6/20, ML3.3/3, Error ellipse: s-maj=56.8km s-min=8.4km az=146.0*

ISC 30 18:05:54.9±0.6**,43.67N**±0.04×**105.21W**±0.07**,n39,**
σ**1**^{s}**39**/41**,mb4.3**/1**,Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.96**	**61**	*e*Pg	**Pg**	**18 06 15.9**	**+1.7**
LAO	**LASA Array**	**3.11**	**347**	*e*Pn	**Pn**	**18 06 46.4**	**+0.3**
BW06	**Boulder Array**	**3.30**	**256**	*e*Pn	**Pn**	**18 06 50.0**	**+1.0**
PDAR	**Pinedale Array**	**3.30**	**256**	Pn	**Pn**	**18 06 50.1**	**+1.2**
	2.9nm,0.3s,baz=72,slow=15,SNR=39						
PDAR				Pg	**Pg**	**18 06 56.2**	**-4.6**
	6.4nm,0.3s,baz=72,slow=20,SNR=33						
PDAR				Lg		18 07 30.8	
	2.5nm,0.3s,baz=75,slow=17,SNR=3.9						
GCMT	**Greycliff**	**3.82**	**305**	*e*Pn	**Pn**	**18 06 56.5**	**+0.2**
GCMT				*e*Sn	**Sn**	**18 07 33.6**	**-9.0**
ISCO	**Idaho Springs**	**3.87**	**185**	*e*Pn	**Pn**	**18 06 56.9**	**-0.1**
LOHW	**Long Hollow**	**3.92**	**271**	*e*Pn	**Pn**	**18 06 51.1**	**-6.5**
MOOW	**Moose Ponds**	**4.01**	**273**	*e*Pn	**Pn**	**18 06 59.3**	**+0.3**
WUWY	**Wally Ulrich**	**4.02**	**270**	*e*Pn	**Pn**	**18 07 01.1**	**+1.9**
YNR	**Norris Junctio**	**4.07**	**287**	P	**Pn**	**18 06 58.7**	**-1.1**
REDW	**Red Top Meadow**	**4.11**	**268**	*e*Pn	**Pn**	**18 07 01.7**	**+1.2**
YFT	**Old Faithful**	**4.13**	**283**	*e*P	**Pn**	**18 07 03.5**	**+2.9**
IMW	**Indian Meadow**	**4.16**	**275**	*e*Pn	**Pn**	**18 07 01.9**	**+0.8**
TPAW	**Teton Pass**	**4.17**	**270**	*e*Pn	**Pn**	**18 07 01.6**	**+0.3**
YMR	**Madison River**	**4.26**	**286**	Pn	**Pn**	**18 06 59.3**	**-3.2**
AHID	**Auburn Hatcher**	**4.40**	**260**	P	**Pn**	**18 07 07.1**	**+2.6**
QLMT	**Earthquake Lak**	**4.62**	**287**	*e*Pn	**Pn**	**18 07 07.2**	**-0.4**
DGMT	**Dagmar**	**4.86**	**8**	*e*Pn	**Pn**	**18 07 12.0**	**+1.0**
BOZ	**Bozeman (W)**	**4.99**	**296**	*e*Pn	**Pn**	**18 07 11.2**	**-1.6**
HWUT	**Hardware Ranch**	**5.12**	**248**	*e*Pn	**Pn**	**18 07 12.4**	**-2.2**
TCUT	**Toone Canyon**	**5.25**	**243**	*e*Pn	**Pn**	**18 07 14.7**	**-1.8**
DAU	**Daniels Canyon**	**5.55**	**236**	*e*Pn	**Pn**	**18 07 23.8**	**+3.0**
HRY	**Holter Researc**	**5.58**	**305**	*e*Pn	**Pn**	**18 07 20.8**	**-0.4**
CTU	**Camp Tracy**	**5.69**	**241**	Pn	**Pn**	**18 07 21.8**	**-1.0**
RW3	**Ridgway**	**5.72**	**200**	*e*Pn	**Pn**	**18 07 26.4**	**+3.1**
HVU	**Hansel Valley**	**5.88**	**254**	*e*Pn	**Pn**	**18 07 24.3**	**-1.1**
SDCO	**Great Sand Dun**	**5.92**	**182**	*e*Pn	**Pn**	**18 07 25.2**	**-0.7**
PV10	**Paradox Valley**	**6.02**	**210**	*e*Pn	**Pn**	**18 07 30.1**	**+2.6**
MPU	**Maple Canyon**	**6.03**	**235**	*e*Pn	**Pn**	**18 07 26.0**	**-1.5**
SRU	**San Rafael**	**6.05**	**223**	*e*Pn	**Pn**	**18 07 27.9**	**0.0**
PV01	**Paradox Valley**	**6.08**	**206**	*e*Pn	**Pn**	**18 07 25.3**	**-3.0**
TMUT	**Trail Mountain**	**6.27**	**228**	*e*Pn	**Pn**	**18 07 31.8**	**+0.8**
DUG	**Dugway**	**6.64**	**241**	*e*Pn	**Pn**	**18 07 36.2**	**0.0**
HLID	**Hailey**	**6.68**	**272**	*e*Pn	**Pn**	**18 07 37.2**	**+0.5**
MSU	**Marysvale**	**7.36**	**228**	*e*Pn	**Pn**	**18 07 46.3**	**0.0**
ULM	**Lac du Bonnet**	**9.17**	**41**	Pn	**P**	**18 08 09.4**	**-2.1**
	1.2nm,0.3s,baz=251,slow=13,SNR=4.5						
ULM				Lg		18 10 40.1	
	0.7nm,0.3s,baz=281,slow=18,SNR=2.7						
WMOK	**Wichita Mounta**	**10.21**	**149**	*e*P	**P**	**18 08 33.4**	**+7.5**
NVAR	**Mina Array Bea**	**11.18**	**247**	Pn	**P**	**18 08 37.8**	**-1.3**
	0.1nm,0.3s,baz=55,slow=14,SNR=3.3						
ARCES	**ARCESS Array B**	**61.47**	**18**	P	**P**	**18 16 13.8**	**-1.3**
	1.4nm,0.6s,mb4.3,baz=338,slow=6.5,SNR=9.0						

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*STR **30** 18:11:34.6±0.4, 42.84N×1.46W, h5^{km}±1^{km}, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*MDD **30** 18:11:35.9±0.7, 42.86N×1.41W, h2^{km}±12^{km}, mbLg1.1/5, Error ellipse: s-maj=5.2km s-min=3.2km az=47.0, PRXIMO*

*LDG **30** 18:11:35.1±0.7, 42.87N×1.48W, h5^{km}, Md2.3/3, Ml2.1/1, Error ellipse: s-maj=11.4km s-min=7.7km az=56.0*

ISC 30 18:11:34.9±0.8**,42.85N**±0.03×**1.42W**±0.06**,h2**^{km}**,n10,**
σ**0**^{s}**84**/19**,Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	**0.30**	**28**	*e*Pg	**Pg**	**18 11 41.2**	**+0.3**
SJPF				*e*Sg	**Sg**	**18 11 43.9**	**-1.0**
	16nm,0.2s						
LARF	**Larrau**	**0.37**	**59**	Pg	**Pg**	**18 11 42.1**	**-0.2**
LARF				Sg	**Sg**	**18 11 48.4**	**+1.2**
EALK	**Alkurruntz**	**0.38**	**350**	Pg	**Pg**	**18 11 42.1**	**-0.3**
	SNR=7.9						
EALK				Lg		18 11 48.7	
	5.9nm,0.2s,SNR=7.9						
OSSF	**Osses**	**0.42**	**15**	Pg	**Pg**	**18 11 43.2**	**-0.2**
OSSF				Sg	**Sg**	**18 11 49.4**	**+0.4**
ORDF	**Ordiarp**	**0.51**	**44**	Pg	**Pg**	**18 11 45.2**	**+0.1**
ORDF				Sg	**Sg**	**18 11 52.3**	**+0.5**
ATE	**Arette**	**0.58**	**65**	P	**Pg**	**18 11 46.4**	**-0.1**
ATE				S	**Sg**	**18 11 54.5**	**+0.4**
ETSF	**Etsaut**	**0.63**	**85**	*e*Pg	**Pg**	**18 11 46.6**	**-0.9**
ETSF				*e*Sg	**Sg**	**18 11 55.8**	**-0.1**
	4.1nm,0.3s						
EPF	**Esparros**	**1.30**	**81**	*e*Pn	**Pn**	**18 11 58.5**	**-1.6**
EPF				*e*Pg	**Pg**	**18 12 01.2**	**+0.3**
EPF				*e*Sg	**Sg**	**18 12 18.7**	**+0.4**
	3.1nm,0.2s						
ESAC	**San Caprasio**	**1.33**	**148**	Pg	**Pg**	**18 11 59.9**	**-1.5**
	3.8nm,0.2s,SNR=7.9						
ESAC				Lg		18 12 18.6	
	5.5nm,0.3s,SNR=7.9						
ETOR	**Torete**	**2.08**	**193**	Pn	**Pn**	**18 12 13.6**	**+2.3**
	SNR=7.9						
ETOR				Sn	**Sn**	**18 12 38.5**	**+0.4**
	SNR=7.9						

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*IDC **30** 18:27:20.9±13.0, 36.27N×78.51E, h114^{km}±137^{km}, mb3.4/3, mb1 3.4/4, mb1mx3.1/19, ML3.3/1, Error ellipse: s-maj=223.0km s-min=98.6km az=109.0*

*NNC **30** 18:27:21.5±9.2, 36.76N×79.25E, mpv3.6, Error ellipse: s-maj=97.1km s-min=36.9km az=25.0*

ISC 30 18:27:15.2±0.7**,35.99N**±0.06×**78.8E**±0.2**,h100^{km},n11, σ1^{s}00**/14**,mb3.7**/3**,3C,Eastern Kashmir**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AAK	Ala-Archa	7.42	335	⇑Pn	P	18 29 02.8	+0.4
	1.6nm,0.4s						
AAK				⇑Sn	S	18 30 25.4	-0.1
	8.3nm,1.2s						
KOLN	Koldanda	9.16	152	*e*P	P	18 29 25.0	-0.9
	2.2nm,0.2s						
GKN	Gorkha	9.39	146	*e*P	P	18 29 29.6	+0.6
	7.6nm,0.3s						
KKN	Kakani	9.87	144	*e*P	P	18 29 36.5	+1.1
	2.1nm,0.2s						
DMN	Daman	9.94	145	*e*P	P	18 29 35.2	-1.2
PKI	Pulchoki	10.11	144	*e*P	P	18 29 38.7	0.0
	3.2nm,0.2s						
MK31	Makanchi Array	11.11	13	Pn	P	18 29 53.5	+1.4
	9.8nm,1.2s,baz=198,slow=14,SNR=9.3						
MK31				⇑Sn	S	18 31 49.5	-5.4
	7.3nm,1.1s,baz=199,slow=24,SNR=7.5						
MKAR	Makanchi Array	11.11	13	P	P	18 29 53.6	+1.5
	0.2nm,0.3s,baz=186,slow=14,SNR=9.9						
MKAR				S	S	18 31 53.1	-1.7
	0.4nm,0.3s,baz=204,slow=27,SNR=8.7						
FINES	FINESS Array B	41.48	325	P	P	18 34 53.5	+0.1
	0.6nm,0.6s,mb3.6,baz=112,slow=10,SNR=7.2						
ARCES	ARCESS Array B	44.09	336	P	P	18 35 14.8	+0.4
	2.7nm,1.0s,mb4.0,baz=90,slow=7.3,SNR=6.7						
NOA	NORSAR Array B	48.57	323	P	P	18 35 48.4	-1.4
	0.6nm,0.7s,mb3.6,baz=90,slow=7.4,SNR=3.2						

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*IDC **30** 18:48:06.0±0.8,30.15S×177.64W,mb4.9/6,mb1 4.9/8, mb1mx4.8/15,ML4.1/2,MS4.0/12,Ms1 4.0/12, ms1mx3.8/21,Error ellipse: s-maj=29.3km s-min=23.9km az=109.0*

*MOS **30** 18:48:11.0±1.8,30.22S×178.01W,h33^{km},mb5.1/7,Error ellipse: s-maj=36.5km s-min=27.4km az=90.0*

*SYO **30** 18:48:18.4,30.05S×177.92W,h95^{km},MB5.0*

*BJI **30** 18:48:20.4,29.79S×178.11W,h105^{km},mB4.8,mb4.9*

*NEIC **30** 18:48:21.0±2.8,30.13S×177.86W,h117^{km}±23^{km}, mb5.0/19,Error ellipse: s-maj=15.6km s-min=13.2km az=170.0*

*HRVD **30** 18:48:21.0±0.8,30.20S×177.46W,h56^{km}±3^{km},MW4.8/19, Centroid moment Tensor Solution. LP body waves: s14,c14;Mantle waves: s19,c28; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M$_{rr}$1.58±.22; M$_{\theta\theta}$0.10±.17; M$_{\phi\phi}$-1.68±.14; M$_{r\theta}$-0.23±.10; M$_{\theta\phi}$-0.17±.11; M$_{\phi r}$0.50±.09; Best double couple: M$_0$1.73×10^{16} NP1:φ$_s$195°,δ38°,λ106°. NP2:φ$_s$356°,δ54°,λ78°. Principal axes: T 1.69, Plg77°, Azm225°; N .07, Plg9°, Azm3°; P -1.77, Plg8°, Azm94°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 30 18:48:10.7±0.6**,30.46S**±0.04×**178.0W**±0.1**,h33^{km},n130, σ1^{s}27**/74**,mb5.1**/26**,MS4.0**/14**,16C-3D,Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	7.72	203	P	P	18 50 02.2	-1.4
PUZ	Puketiti	8.21	201	P	P	18 50 09.5	-0.8
PUZ				S	S	18 51 42.3	-0.6
OUZ	Omahuta	8.53	234	P	P	18 50 23.6	+8.8
MWZ	Matawai	8.69	204	P	P	18 50 13.9	-3.1
URZ	Urewera	8.77	206	Pn	P	18 50 17.4	-0.8
	1.4nm,0.3s,baz=12,slow=22,SNR=15						
URZ				Sn	Sn	18 51 58.5	+1.4
	12nm,0.3s,baz=168,slow=7.2,SNR=17						
URZ	Urewera	8.77	206	P	P	18 50 16.4	-1.8
KNZ	Kokohu	9.26	202	P	P	18 50 22.0	-2.9
KNZ				S	S	18 52 08.7	-0.3
MRZ	Mangatainoka R	11.45	205	S	S	18 52 56.0	-6.6
KIW	Kapiti Island	11.87	207	P	P	18 50 56.1	-4.5
KIW				S	S	18 53 06.8	-6.2
MRW	Makara Radio	12.27	207	S	S	18 53 16.8	-5.8
THZ	Tophouse	13.46	211	P	P	18 51 20.1	-1.7
RPZ	Rata Peaks	15.84	210	Pn	P	18 51 53.8	+1.0
	1.0nm,0.3s,slow=8.1,SNR=5.4						
RPZ				Sn	S	18 54 38.3	-8.9
	0.8nm,0.3s,baz=232,slow=23,SNR=3.2						
DZM	Mont Dzumac	16.27	297	*e*P	P	18 52 04.6	+6.3
NOUC	Port Laguerre	16.36	297	*e*P	P	18 52 04.5	+5.0
NOUC	Port Laguerre	16.36	297	*e*P	P	18 52 04.5	+5.0
RAR	Rarotonga	18.78	65	*e*P	P	18 52 27.2	-2.5
TAU	Tasmania Unive	30.26	236	*e*P	P	18 54 21.1	+0.4
	23nm,0.9s,mb4.9						
TOO	Toolangi	30.96	247	*e*P	P	18 54 29.7	+2.7
	11nm,0.7s,mb4.8						
CTA	Charters Tower	33.83	279	*e*P	P	18 54 54.2	+2.1
	53nm,0.4s,mb5.8						
CTA	Charters Tower	33.83	279	LR	LR	19 07 30.9	
	comp=Z,259nm,18.2s,MS4.0,baz=92,slow=34						
CTAO	Charters Tower	33.83	279	⇑*i*P	P	18 54 54.1	+1.9
	70nm,0.5s,mb5.8						
CTAO				*e*		18 55 19.4	
STKA	Stephens Creek	34.48	257	⇑*i*P	P	18 55 00.5	+2.8
	38nm,0.8s,mb5.4						
STKA	Stephens Creek	34.48	257	P	P	18 55 00.4	+2.7
	48nm,0.7s,mb5.5,baz=95,slow=9.5,SNR=116						
STKA				LR	LR	19 07 15.8	
	comp=Z,229nm,18.4s,MS4.0,baz=25,slow=33						
PMG	Port Moresby	38.65	295	LR	LR	19 07 58.9	
	comp=Z,178nm,19.9s,MS3.9,baz=325,slow=31						
ASAR	Alice Springs	43.12	267	P	P	18 56 10.1	+0.2
	15nm,0.4s,mb5.0,baz=105,slow=7.1,SNR=246						
ASAR				ScP		19 01 53.0	
	1.2nm,0.8s,baz=100,slow=5.5,SNR=5.3						
ASAR				LR	LR	19 13 37.8	
	comp=Z,151nm,18.2s,MS3.9,baz=120,slow=35						
ASPA	Alice Springs	43.13	267	⇑*i*P	P	18 56 10.1	+0.2
WB2	Warramunga Arr	44.11	272	*e*P	P	18 56 17.9	0.0
WB2				*e*S	S	19 02 46.7	-1.2
WRAB	Tennant Creek	44.11	272	P	P	18 56 18.0	+0.1
	377nm,0.4s,SNR=41						
WRAB	Tennant Creek	44.11	272	*e*P	P	18 56 17.5	-0.4
	73nm,0.7s,mb5.5						
WRA	Warramunga Arr	44.12	272	P	P	18 56 17.9	-0.1
	37nm,0.5s,mb5.4,baz=110,slow=8.1,SNR=843						
WRA				LR	LR	19 13 26.1	
	comp=Z,157nm,18.2s,MS4.0,baz=120,slow=34						
WRA	Warramunga Arr	44.12	272	P	P	18 56 17.9	0.0
WRA				pmax	pmax		
	comp=Z,37nm,0.5s						
WRA				MLR	MLR		
	comp=Z,157nm,18.2s						
FORT	Forrest	46.05	255	⇑*i*P	P	18 56 33.3	+0.1
	comp=Z,90nm,0.7s,mb5.8						
SBA	Scott Base	47.98	184	*e*P	P	18 56 52.4	+4.6
	comp=Z,15nm,0.8s,mb5.1						
KAKA	Kakadu	49.00	280	*e*P	P	18 57 01.0	+4.5
	comp=Z,10nm,0.6s,mb5.0						
FITZ	Fitzroy Crossi	52.38	270	*e*P	P	18 57 21.6	-0.4
	comp=Z,11nm,0.6s,mb5.0						
FITZ	Fitzroy Crossi	52.38	270	LR	LR	19 18 26.3	
	comp=Z,61nm,19.8s,MS3.6,baz=153,slow=35						
NWAO	Narrogin (SRO)	54.39	249	LR	LR	19 16 05.6	
	comp=Z,103nm,21.4s,MS3.9,baz=316,slow=31						
CASY	Casey	55.09	208	*e*P	P	18 57 41.9	+0.5
	comp=Z,14nm,0.6s,mb5.2						
MBWA	Marble Bar	56.24	264	*e*P	P	18 57 48.7	-1.6
	comp=Z,12nm,0.8s,mb5.0						
QSPA	South Pole Qui	59.65	180	*e*P	P	18 58 16.1	+2.6
	comp=Z,42nm,0.9s,mb5.5						
MIR	Mirnyy	62.08	207	⇑*e*P	P	18 58 30.6	+0.5
MIR				pmax	pmax		
	comp=Z,30nm,1.1s,mb5.3						
MAW	Mawson	72.26	201	*e*P	P	18 59 35.6	+1.6
	comp=Z,6.2nm,0.8s,mb4.6						
MAW				*e*PP	PP	19 02 25.8	+9.2
MAW	Mawson	72.26	201	P	P	18 59 35.6	+1.6
	comp=Z,6.9nm,0.7s,mb4.7,baz=118,slow=7.7,SNR=21						
MAW				LR	LR	19 29 50.4	
	comp=Z,106nm,20.0s,MS4.1,baz=234,slow=34						
MAW	Mawson	72.26	201	P	P	18 59 35.6	+1.6
MAW				pmax	pmax		
	comp=Z,7.0nm,0.7s						
MAW				MLR	MLR		
	comp=Z,106nm,20.0s						
SYO	Syowa Base	77.06	193	⇓P	P	19 00 03.2	+1.5
SYO	Syowa Base	77.06	193	⇓PcP	PcP	19 00 09.7	-3.1
SYO	Syowa Base	77.06	193	⇑pP	pP	19 00 24.9	+13
SYO	Syowa Base	77.06	193	⇑PP	PP	19 02 54.6	-2.1
SNAA	Sanae	78.09	178	⇓*i*P	P	19 00 08.5	+1.2
SNAA	Sanae	78.09	178	⇑*i*	P	19 00 15.5	+8.2
SNAA	Sanae	78.09	178		P	19 00 17.9	+11
SNAA	Sanae	78.09	178	P	P	19 00 08.3	+0.9
	comp=Z,0.9nm,0.5s,mb4.0,baz=186,slow=3.5,SNR=11						
SNAA	Sanae	78.09	178	P	P	19 00 08.3	+1.0
SNAA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
VNA3	Neumayer Olymp	78.24	176	⇑*i*P	P	19 00 11.8	+3.7
VNA3	Neumayer Olymp	78.24	176	⇑*i*	P	19 00 20.1	+12
VNA3	Neumayer Olymp	78.24	176	⇑*i*	P	19 00 22.4	+14
MAJO	Matsushiro	78.30	325	P	P	19 00 09.6	+0.4
	comp=Z,10nm,0.9s,mb4.8						
VNA2	Neumayer--Watz	78.68	177	⇑*i*P	P	19 00 14.6	+4.1
VNA2	Neumayer--Watz	78.68	177	⇑*i*	P	19 00 21.0	+10
VNA2	Neumayer--Watz	78.68	177	⇑*i*	P	19 00 24.1	+14
VNA1	Neumayer--Stat	78.91	177	P	P	19 00 16.9	+5.1
VNA1	Neumayer--Stat	78.91	177	⇑*i*	P	19 00 23.2	+11
SSE	Sheshan	84.16	311	*e*P	P	19 00 39.5	-0.6
SSE				AMB	AMB		
	comp=Z,19nm,0.6s,mb5.4						
SSE				AMB	AMB		
	comp=Z,58nm,4.0s						
SSE	Sheshan	84.16	311	*e*P	P	19 00 39.5	-0.6
	comp=Z,19nm,0.6s,mb5.4						
PET	Petropavlovsk	85.59	346	*e*P	P	19 00 43.3	-3.3
PET				pmax	pmax		
	comp=Z,53nm,1.9s,mb5.5						
NJ2	Nanjing	86.30	311	*e*P	P	19 00 50.3	-0.3
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.6						
NVAR	Mina Array Bea	88.27	43	LR	LR	19 30 26.7	
	comp=Z,65nm,19.4s,MS4.1,baz=255,slow=29						
MDJ	Mudanjiang	88.69	326	P	P	19 01 01.3	-0.5
MDJ				AMB	AMB		
	comp=Z,37nm,4.2s						
MDJ				LR	LR		
	comp=N,35nm,35.2s,MS3.9						
MDJ				LR	LR		
	comp=E,78nm,37.4s,MS3.9						
MDJ				LR	LR		
	comp=Z,77nm,31.3s						
DL2	Dalian	89.01	317	*e*P	P	19 01 01.8	-1.7
CN2	Changchun	90.20	323	*e*P	P	19 01 08.3	-0.7
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb5.2						
ENH	Enshi	91.65	304	P	P	19 01 16.1	0.0
	comp=Z,5.9nm,0.8s,mb5.0						
CM31	Chiang Mai Arr	93.44	289	P	P	19 01 21.5	-3.0
	comp=Z,2.0nm,0.7s,mb4.7						
CMAR	Chiang Mai Arr	93.44	289	P	P	19 01 24.6	+0.1
	comp=Z,0.6nm,0.7s,mb4.1,baz=143,slow=3.3,SNR=4.5						
CMAR	Chiang Mai Arr	93.44	289	P	P	19 01 24.6	+0.1
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KMI	Kunming	93.87	297	*e*P	P	19 01 26.5	+0.2
KMI				AP	pP	19 01 51.8	+15
KMI				XP	sP	19 02 02.3	+22
KMI				S	S	19 12 25.0	-5.7
KMI				XS		19 13 08.8	
KMI				SS	SS	19 18 50.0	-4.2
KMI				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.8						
KMI				AMB	AMB		
	comp=Z,78nm,3.8s						
KMI				LR	LR		
	comp=Z,48nm,35.1s,MS3.7						
KMI	Kunming	93.87	297	*e*P	P	19 01 26.6	+0.3
	comp=Z,4.0nm,1.0s,mb4.8						
KMI				pP	pP	19 01 51.7	+15
KMI				sP	sP	19 02 02.2	+22
KMI				S	S	19 12 24.9	-5.8
KMI				sS		19 13 08.8	
KMI				SS	SS	19 18 50.1	-4.1
KMI				LR	LR		
	comp=Z,50nm,35.1s,MS3.7						
PDAR	Pinedale Array	96.17	44	LR	LR	19 33 51.4	
	comp=Z,74nm,20.9s,MS4.1,baz=341,slow=29						
DLBC	Dease Lake	97.17	23	LR	LR	19 38 28.8	
	comp=Z,99nm,18.0s,MS4.3,baz=107,slow=31						
LPAZ	La Paz	98.10	114	LR	LR	19 36 30.9	
	comp=Z,124nm,18.3s,MS4.4,baz=321,slow=30						
MKAR	Makanchi Array	117.83	310	PKP	PKPdf	19 06 53.4	-0.2
	comp=Z,1.9nm,0.9s,baz=179,slow=0.7,SNR=7.8						
MKAR	Makanchi Array	117.83	310	PKIKP	PKPdf	19 06 53.4	-0.2
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MKAR	Makanchi Array	117.83	310	PKP	PKPdf	19 06 53.4	-0.2
KURK	Kurchatov	121.11	314	*i* PKIKP	PKPdf	19 06 59.1	-0.8
AAK	Ala-Archa	122.16	304	*e*PKPdf	PKPdf	19 07 01.3	-0.9
BVAR	Borovoye Array	126.46	316	PKP	PKPdf	19 07 09.5	-0.6
	comp=Z,6.6nm,0.7s,baz=90,slow=1.5,SNR=35						
BRVK	Borovoye	126.53	316	*e*PKPdf	PKPdf	19 07 09.8	-0.5
ZRNK	Zerenda	127.29	316	*e*PKPdf	PKPdf	19 07 11.3	-0.5
ARU	Arti	133.15	321	*i* PKIKP	PKPdf	19 07 23.0	+0.2
ARU				*e*	PP	19 09 46.6	-6.7
ARCES	ARCESS Array B	138.65	348	PKhKP		19 07 24.5	
	comp=Z,8.1nm,1.1s,baz=63,slow=4.0,SNR=4.2						
ARCES	ARCESS Array B	138.65	348	PKHKP		19 07 24.5	
ARCES				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KAF	Kangasniemi	144.61	340	*e*p	PKPbc	19 07 39.8	-3.1
	comp=Z,1.1nm,0.4s,baz=40,slow=3.3						
KAF	Kangasniemi	144.61	340	*e*PKHKP		19 07 39.8	
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	FINESS Array B	145.21	340	PKP	PKPdf	19 07 43.3	-0.9
	comp=Z,26nm,0.6s,baz=61,slow=3.6,SNR=77						
FINES	FINESS Array B	145.21	340	PKIKP	PKPdf	19 07 43.3	-0.9
FINES				pmax	pmax		
	comp=Z,26nm,0.6s						
OBN	Obninsk	145.23	325	*i* PKP2	PKPab	19 07 43.9	-2.3
OBN				pmax	pmax		
	comp=Z,23nm,0.8s						
OBN	Obninsk	145.23	325	*e*PKPdf	PKPdf	19 07 42.8	-1.6
KIV	Kislovodsk	145.28	304	*e*PKIKP	PKPdf	19 07 45.0	+0.1
KIV				pmax	pmax		
	comp=Z,7.0nm,0.8s						
VSU	Vasula	147.29	336	PKHKP		19 07 46.5	
SOC	Sochi	147.46	304	*e*PKP2	PKPab	19 07 51.4	-3.8
SOC				pmax	pmax		
	comp=Z,15nm,0.7s						
SOC				pmax	pmax		
	comp=N,14nm,1.0s						
SOC				pmax	pmax		
	comp=E,10.0nm,0.7s						
NB2	NORSAR Subarra	148.82	351	PKP		19 07 53.9	
	comp=E,10nm,0.8s,baz=12,slow=2.7						
NB2	NORSAR Subarra	148.82	351	⇑PKPab	PKPdf	19 07 53.9	+3.7
NOA	NORSAR Array B	148.82	351	PKPbc	PKPdf	19 07 53.9	+3.7
	comp=E,7.1nm,0.7s,baz=16,slow=4.3,SNR=26						
NOA	NORSAR Array B	148.82	351	PKIKP	PKPdf	19 07 53.9	+3.7
NOA				pmax	pmax		
	comp=Z,7.0nm,0.7s						
NAO01	NORSAR Array S	149.05	352	*e*PKPbc	PKPdf	19 07 54.9	+4.4
AKASG	Malin Array Be	151.36	323	PKPbc	PKPdf	19 08 00.3	+5.9
	comp=Z,11nm,0.6s,baz=48,slow=2.8,SNR=47						
AKASG	Malin Array Be	151.36	323	PKIKP	PKPdf	19 08 00.3	+5.9
AKASG				pmax	pmax		
	comp=Z,11nm,0.6s						
BRTR	Keskin Array B	152.65	298	PKPbc	PKPdf	19 08 04.5	+7.8
	comp=Z,15nm,1.3s,baz=135,slow=3.5,SNR=14						
BRTR	Keskin Array B	152.65	298	PKIKP	PKPdf	19 08 04.5	+7.8
BRTR				pmax	pmax		
	comp=Z,15nm,1.3s						
CSS	Prodhromos	153.34	288	*e*PKPbc	PKPdf	19 08 04.8	+7.0
CLL	Collm	157.63	342	*i* PKP2	PKPab	19 08 34.1	-3.5
PRU	Pruhonice	158.34	338	*e*PKPab	PKPab	19 08 38.7	-1.9
KHC	Kasperske Hory	159.39	338	*e*PKPab	PKPab	19 08 43.5	-1.7
GERES	GERESS Array B	159.60	337	PKP	PKPdf	19 08 06.6	+1.2
	comp=Z,0.2nm,0.6s,baz=90,slow=1.3,SNR=3.6						
GERES				PKPab	PKPab	19 08 44.4	-1.7
	comp=Z,0.9nm,0.6s,baz=45,slow=2.8,SNR=5.8						
GERES	GERESS Array B	159.60	337	PKIKP	PKPdf	19 08 06.6	+1.2
GERES						19 08 44.4	
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BAIF	Baives	160.36	356	*e*PKP2	PKPab	19 08 44.9	-4.4
CDF	Champ du Feu	161.63	349	*e*PKP2	PKPab	19 08 50.4	-4.5
	comp=Z,6.4nm,0.9s						
MEZF	Maizieres J’vi	161.84	354	*e*PKP2	PKPab	19 08 51.4	-4.4
LOR	Lormes	163.16	356	*e*PKP2	PKPab	19 08 58.1	-3.5
SSF	Saint Saulge	163.38	356	*e*PKP2	PKPab	19 08 58.3	-4.3
	comp=Z,19nm,1.0s						
AVF	Avril sur Loir	163.66	357	*e*PKP2	PKPab	19 09 00.5	-3.3
	comp=Z,11nm,1.1s						
SMF	Signal de Mont	163.78	356	*e*PKP2	PKPab	19 08 59.9	-4.4
	comp=Z,25nm,1.0s						
TCF	Toulx Ste Croi	164.20	360	*e*PKP2	PKPab	19 09 01.7	-4.5
LPL	La Plagne	164.52	348	*e*PKP2	PKPab	19 09 04.0	-3.6
	comp=Z,8.2nm,1.0s						
LPG	La Plagne	164.54	347	*e*PKP2	PKPab	19 09 04.3	-3.4
	comp=Z,15nm,1.1s						
ORIF	Oris-en-Rattie	165.25	349	*e*PKP2	PKPab	19 09 07.1	-3.7
	comp=Z,9.7nm,0.9s						
VIVF	Saint-Julien-l	165.48	352	*e*PKP2	PKPab	19 09 07.9	-3.9
	comp=Z,12nm,1.0s						
LASF	Ste Croix	166.33	354	*e*PKP2	PKPab	19 09 12.0	-3.5
SJPF	Ste Jean	167.11	11	*e*PKP2	PKPab	19 09 14.7	-4.2
MTLF	Montolieu	167.15	359	*e*PKP2	PKPab	19 09 15.1	-4.0
	comp=Z,4.1nm,0.8s						
ETSF	Etsaut	167.42	9	*e*PKP2	PKPab	19 09 16.8	-3.5

DJA 30 18:50:58.5±0.8**,8.44S**×**115.87E,h21^{km},MD5.0**/2**,2C-6D, Error ellipse: s-maj=42.2km s-min=6.1km az=165.0,Bali region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEDI	Kedomdong	0.24	101	⇑*i*Pn	Pn	18 51 03.7	-2.8
	786nm,0.2s						
KEDI				⇓*e*Sn	Sn	18 51 07.0	-4.6
RATI	Rata	0.44	230	⇓*e*Pn	Pn	18 51 06.5	-2.9
	784nm,0.2s						
RATI	Rata	0.44	230	⇓*e*Pg	Pb	18 51 07.3	-0.2
RATI				⇓*e*Sn	Sn	18 51 13.0	-3.7
INGI	Ingas	0.81	243	⇑*e*Pn	Pn	18 51 12.2	-2.5
INGI	Ingas	0.81	243	⇓*e*Pg	Pb	18 51 12.7	-1.1
INGI				⇓*e*Sn	Sn	18 51 21.5	-4.6

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*IDC **30** 18:52:35.5±0.8,55.07S×127.02W,mb4.2/6,mb1 4.4/6, mb1mx4.3/13,MS3.9/6,Ms1 3.9/6,ms1mx3.7/18,Error ellipse: s-maj=36.5km s-min=22.9km az=178.0*

*NEIC **30** 18:52:36.5±0.5,54.72S×127.17W,h10^{km},mb4.8/8,Error ellipse: s-maj=15.3km s-min=12.7km az=164.0*

*SYO **30** 18:52:36.1,54.68S×127.22W,h10^{km},MB4.8*

ISC 30 18:52:34.7±0.7**,54.8S**±0.1×**127.1W**±0.2**,h10^{km},n40, σ1^{s}04**/27**,mb4.6**/13**,MS3.9**/6**,7C-4D,Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SBA	Scott Base	32.21	201	*e*P	P	18 59 05.1	+0.6
	22nm,1.4s,mb4.8						
QSPA	South Pole Qui	35.42	180	*e*P	P	18 59 32.2	+0.1
	46nm,1.3s,mb5.2						
TBI	Tubuai	35.53	323	*e*L		18 58 39.1	
TBI				*e*R		18 59 54.7	
	402nm,24.8s,baz=232						
RPZ	Rata Peaks	40.58	259	LR	LR	19 12 06.7	
	comp=Z,205nm,20.7s,MS4.0,baz=173,slow=29						
URZ	Urewera	40.62	270	LR	LR	19 12 30.8	
	comp=Z,187nm,21.3s,MS3.9,baz=100,slow=29						
PPT	Papeete	40.94	326	*e*L		18 59 43.9	
PPT				*e*R		19 01 12.3	
	436nm,26.0s,baz=238						
RAR	Rarotonga	41.55	311	LR	LR	19 14 39.2	
	comp=Z,71nm,18.2s,MS3.6,baz=117,slow=32						
VNA3	Neumayer Olymp	46.79	157	⇓*i*P	P	19 01 06.8	+1.5
VNA3	Neumayer Olymp	46.79	157	⇓*i*P	P	19 01 06.8	+1.5
VNA2	Neumayer--Watz	47.53	157	⇑*i*P	P	19 01 12.4	+1.1
VNA2	Neumayer--Watz	47.53	157	⇑*i*P	P	19 01 12.4	+1.1
VNA1	Neumayer--Stat	47.54	157	⇑*i*P	P	19 01 13.1	+1.8
VNA1	Neumayer--Stat	47.54	157	⇑*i*P	P	19 01 13.1	+1.8
SNAA	Sanae	47.95	159	⇑*i*P	P	19 01 12.8	-1.7
SNAA	Sanae	47.95	159	⇑*i*P	P	19 01 12.8	-1.7
SNAA	Sanae	47.95	159	P	P	19 01 13.1	-1.4
	1.8nm,0.9s,mb4.1,baz=245,slow=5.8,SNR=4.4						
SNAA				LR	LR	19 21 30.0	
	comp=Z,40nm,19.2s,MS3.4,baz=176,slow=36						
CASY	Casey	51.70	206	P	P	19 01 42.7	-0.6
	12nm,1.2s,mb4.7						
TAU	Tasmania Unive	54.15	245	P	P	19 02 07.1	+5.4
	47nm,1.2s,mb5.3						
SYO	Syowa Base	56.16	174	⇑P	P	19 02 13.6	-2.4
SYO	Syowa Base	56.16	174	⇓pP	pP	19 02 19.8	+0.7
SYO	Syowa Base	56.16	174	⇓sP	sP	19 02 20.5	+0.2
CPUP	Villa Florida	57.36	90	P	P	19 02 24.6	-0.7
	2.2nm,0.9s,mb4.2,baz=311,slow=1.8,SNR=3.0						
CPUP				LR	LR	19 23 46.8	
	comp=Z,303nm,18.1s,MS4.4,baz=316,slow=33						
MAW	Mawson	57.73	185	P	P	19 02 25.2	-2.0
	3.4nm,1.0s,mb4.3,baz=203,slow=9.4,SNR=5.7						
MAW	Mawson	57.73	185	*e*P	P	19 02 26.2	-1.0
	12nm,1.2s,mb4.8						
MAW				*e*	pP	19 02 31.3	+0.9
LPAZ	La Paz	59.07	74	P	P	19 02 38.0	+0.8
	6.0nm,1.3s,mb4.5,baz=7.9,slow=2.4,SNR=5.4						
OTAV	Otavalo	67.70	54	P	P	19 03 43.2	+8.9
	11nm,1.6s,mb4.7						
SAML	Samuel	67.81	73	*e*P	P	19 03 34.3	-0.6
	6.2nm,1.2s,mb4.5						
CTA	Charters Tower	71.93	261	LR	LR	19 29 42.2	
	comp=Z,80nm,21.1s,MS4.0,baz=310,slow=31						
ASAR	Alice Springs	75.98	249	P	P	19 04 23.6	+0.1
	1.6nm,0.8s,mb4.0,baz=148,slow=6.2,SNR=10						
WB2	Warramunga Arr	78.74	252	*e*PKPdf	P	19 04 39.0	+0.3
WB2	Warramunga Arr	78.74	252	*e*PKIKP	P	19 04 39.0	+0.3
WRA	Warramunga Arr	78.74	252	P	P	19 04 38.7	0.0
	5.1nm,1.2s,mb4.3,baz=145,slow=4.9,SNR=12						
WRAB	Tennant Creek	78.75	252	*e*P	P	19 04 38.8	0.0
	10nm,1.1s,mb4.7						
FITZ	Fitzroy Crossi	84.94	246	*e*PKPdf	P	19 05 11.6	+0.5
FITZ	Fitzroy Crossi	84.94	246	*e*PKIKP	P	19 05 11.6	+0.5
SONM	Songino Array	146.56	281	PKPbc	PKPbc	19 12 17.8	+2.8
	5.4nm,1.1s,baz=153,slow=2.8,SNR=15						
GERES	GERESS Array B	155.30	88	PKP	PKPdf	19 12 28.9	-0.9
	0.3nm,0.7s,slow=1.3,SNR=4.4						
BRTR	Keskin Array B	160.17	131	PKPab	PKPab	19 13 15.1	-0.7
	0.8nm,0.8s,baz=180,slow=6.2,SNR=5.6						
ZAL	Zalesovo	161.47	281	PKPab	PKPab	19 13 23.1	+2.2
	1.7nm,1.0s,baz=261,slow=8.4,SNR=8.5						
BVAR	Borovoye Array	169.53	268	PKPab	PKPab	19 13 56.9	+0.9
	0.8nm,0.8s,baz=135,slow=4.2,SNR=5.7						

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*BJI **30** 18:54:26.8,36.00N×120.50W,h10^{km},mB5.2,mb5.1, Ms4.9,Msz4.6*

*NEIC **30** 18:54:28.9,35.99N×120.54W,h10^{km},mb4.9/26,MS4.8/5, MW4.9(BRK),After NCEDC.*

NEIC Felt [V] at San Miguel; [IV] at Avenal, Coalinga and Templeton; [III] at Arroyo Grande, Atascadero, Cambria, Carmel, Fresno, Grover Beach, King City, Kingsburg, Lemoore, Los Osos, Madera, Monterey, Morro Bay, Oceano, Paso Robles, Salinas, San Luis Obispo and Visalia.

*HRVD **30** 18:54:28.9±0.4,36.02N×120.57W,h12^{km},MW5.0/61, Centroid moment Tensor Solution. LP body waves: s21,c27;Mantle waves: s61,c104; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M$_{rr}$-0.13±.12; M$_{\theta\theta}$-3.02±.11; M$_{\phi\phi}$3.16±.10; M$_{r\theta}$0.91±.31; M$_{\theta\phi}$0.54±.12; M$_{\phi r}$0.24±.31; Best double couple: M$_0$3.28×10^{16} NP1: φ$_s$321°,δ75°,λ-173°. NP2:φ$_s$229°,δ83°,λ-15°. Principal axes: T 3.24, Plg6°, Azm276°; N .09, Plg73°, Azm25°; P -3.32, Plg16°, Azm184°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*IDC **30** 18:54:29.2±0.8,36.03N×120.43W,mb4.4/16,mb1 4.5/20, mb1mx4.5/26,ML4.5/3,MS4.4/14,Ms1 4.4/14, ms1mx4.3/17 Error ellipse: s-maj=14.7km s-min=11.1km az=70.0*

*MOS **30** 18:54:30.6±1.3,36.15N×120.46W,h10^{km},mb4.8/13, MS4.6/10,Error ellipse: s-maj=21.9km s-min=12.0km az=90.3*

ISC 30 18:54:29.7±0.4**,36.10N**±0.04×**120.46W**±0.04**,h10^{km}, (h23^{km}**±5.7^{km}**:pP-P),n212,**σ**1^{s}23**/199**,mb4.7**/45**,MS4.5**/25**, 2C-3D,Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LRV	Little Rabbit	0.55	306	⇑*e*P	Pg	18 54 40.5	-0.4
SAO	San Andreas Ge	1.03	310	*e*P	Pb	18 54 48.2	-1.0
OMM	Old Mammoth Mi	1.92	38	*e*Pn	Pn	18 55 03.8	+1.1
CMB	Columbia Colle	1.93	2	*e*Pn	Pn	18 55 03.0	+0.1
MTUM	Tungsten Hills	1.97	50	*e*Pn	Pn	18 55 04.9	+1.4
LKC	Lake Chabot	2.08	322	*e*Pn	Pn	18 55 03.7	-1.3

SAC	San Andreas	2.15	314	ePn	Pn	18 55 03.1	-3.0
DAC	Darwin (Calif)	2.33	85	ePn	Pn	18 55 08.0	-0.7
MWC	Mount Wilson	2.72	133	ePn	Pn	18 55 11.4	-2.8
NVAR	Mina Array Bea	2.89	36	Pn	Pn	18 55 17.9	+1.2
	26nm,0.3s,baz=218,slow=15,SNR=290						
NVAR				Lg		18 56 00.9	
	143nm,0.3s,baz=270,slow=40,SNR=3.9						
NVAR				LR	LR	18 56 44.8	
	comp=Z,387nm,18.6s,baz=290,slow=46						
NSHM	Saint Helena R	2.96	325	ePn	Pn	18 55 15.5	-2.1
MNV	Mina	2.97	38	ePn	Pn	18 55 18.7	+1.0
WCN	Washoe City	3.24	10	ePn	Pn	18 55 22.6	+0.9
TPH	Tonopah	3.25	52	ePn	Pn	18 55 22.4	+0.6
OHCM	Honcut	3.33	346	ePn	Pn	18 55 22.3	-0.5
TPNV	Topopah Spring	3.50	75	ePn	Pn	18 55 25.3	0.0
HOPS	Hopland	3.55	325	ePn	Pn	18 55 23.6	-2.4
PAHR	Pah Rah Range	3.70	13	ePn	Pn	18 55 29.1	+1.0
BEKR	Beckwourth	3.76	1	ePn	Pn	18 55 29.4	+0.5
PFO	Pinyon Flat Ob	4.13	126	Pn	Pn	18 55 31.8	-2.5
	2μm,0.5s,SNR=47						
PFO	Pinyon Flat Ob	4.13	126	ePn	Pn	18 55 31.0	-3.2
LDFC	Landfair	4.48	102	ePn	Pn	18 55 35.1	-4.1
TRCR	Troy Canyon	4.49	59	ePn	Pn	18 55 39.4	0.0
NEN	Nelson	4.59	94	ePn	Pn	18 55 38.3	-2.5
BAR	Barrett	4.63	136	ePn	Pn	18 55 37.3	-4.1
WDC	Whiskeytown Da	4.76	341	ePn	Pn	18 55 41.1	-2.1
BMN	Battle Mountai	5.02	30	ePn	Pn	18 55 47.0	+0.1
KHMM	Horse Mountain	5.41	333	ePn	Pn	18 55 52.2	-0.1
MOD	Modoc	5.79	1	ePn	Pn	18 55 58.0	+0.2
ARUT	Antelope Range	5.87	71	ePn	Pn	18 55 58.3	-0.6
YBH	Yreka Blue Hor	5.89	343	Pn	Pn	18 55 59.0	-0.1
	2.8nm,0.3s,baz=185,slow=5.4,SNR=22						
YBH				Sn	Sn	18 57 09.9	+2.5
	1.9nm,0.3s,baz=181,slow=3.6,SNR=4.2						
YBH				Lg		18 57 36.4	
	0.7nm,0.3s,baz=50,slow=9.8,SNR=4.8						
YBH	Yreka Blue Hor	5.89	343	ePn	Pn	18 55 58.0	-1.1
	13nm,0.8s						
KRMB	Red Mountain	6.04	335	ePn	Pn	18 56 00.3	-1.0
ELK	Elko	6.19	40	ePn	Pn	18 56 03.2	-0.2
KBO	Bosley Butte	6.76	336	ePn	Pn	18 56 10.7	-0.8
HUMO	Hull Mountain	6.78	344	ePn	Pn	18 56 10.5	-1.1
MVU	Marysvale	7.00	68	ePn	Pn	18 56 14.9	+0.1
MSU	Marysvale	7.03	68	ePn	Pn	18 56 15.4	+0.2
DUG	Dugway	7.28	54	ePn	Pn	18 56 19.9	+1.2
KEBM	Edson Butte	7.39	337	ePn	Pn	18 56 20.1	-0.2
BGU	Big Grassy Mou	7.56	48	ePn	Pn	18 56 22.7	+0.1
NLU	North Lily Min	7.66	57	Pn	Pn	18 56 23.3	-0.6
HSO	Harness Mounta	7.68	346	ePn	Pn	18 56 24.3	-0.1
MPU	Maple Canyon	7.99	58	ePn	P	18 56 27.5	-1.0
TMUT	Trail Mountain	8.00	64	ePn	P	18 56 29.5	+0.7
SPUT	South Promonto	8.14	48	Pn	P	18 56 28.8	-1.9
CTU	Camp Tracy	8.23	54	ePn	P	18 56 29.2	-2.8
HVU	Hansel Valley	8.24	44	ePn	P	18 56 31.9	-0.3
JLU	Jordanelle	8.38	55	ePn	P	18 56 34.7	+0.6
DAU	Daniels Canyon	8.42	57	ePn	P	18 56 35.8	+1.1
SRU	San Rafael	8.44	66	ePn	P	18 56 32.9	-2.0
TCUT	Toone Canyon	8.68	52	ePn	P	18 56 38.0	-0.2
HLID	Hailey	8.78	30	ePn	P	18 56 36.1	-3.6
HWUT	Hardware Ranch	8.85	49	ePn	P	18 56 39.9	-0.7
TUC	Tucson	8.86	112	ePn	P	18 56 35.7	-5.1
SSOR	Sweet Springs	8.87	351	Pn	P	18 56 39.4	-1.6
PV10	Paradox Valley	9.39	73	ePn	P	18 56 46.8	-1.3
VGB	Gordon Butte	9.41	359	ePn	P	18 56 46.5	-1.8
LNOR	Lincton Mounta	9.90	9	Pn	P	18 56 55.2	+0.2
HAWA	Hanford	10.30	4	ePn	P	18 56 57.7	-2.9
TPAW	Teton Pass	10.39	42	Pn	P	18 56 57.4	-4.3
RW3	Ridgway	10.42	74	ePn	P	18 57 02.1	-0.1
MCMT	McKenzie Canyo	10.46	31	Pn	P	18 57 02.0	-0.8
MOOW	Moose Ponds	10.67	41	Pn	P	18 57 02.9	-2.7
PDAR	Pinedale Array	10.74	48	Pn	P	18 57 09.8	+3.2
	baz=219,slow=13,SNR=1.8						
PDAR				Lg		19 00 05.4	
	0.1nm,0.3s,baz=230,slow=20,SNR=2.7						
PDAR				LR	LR	19 01 19.7	
	comp=Z,1μm,18.9s,baz=247,slow=38						
QLMT	Earthquake Lak	11.10	35	Pn	P	18 57 11.4	0.0
LENM	Lemitar	11.21	96	Pn	P	18 57 12.9	-0.2
YNR	Norris Junctio	11.38	38	ePn	P	18 57 13.9	-1.3
LPM	Los Pinos Moun	11.46	95	Pn	P	18 57 17.6	+1.2
ANMO	Albuquerque	11.47	92	eP	P	18 57 18.6	+2.0
ANMO	Albuquerque	11.47	92	Pn	P	18 57 15.1	-1.5
BNM	Barren Site	11.50	96	Pn	P	18 57 16.6	-0.4
GNW	Green Mountain	11.59	352	Pn	P	18 57 10.1	-8.0
BOZ	Bozeman (W)	11.64	32	Pn	P	18 57 18.4	-0.4
MSO	Missoula	11.77	22	ePn	P	18 57 20.2	-0.5
DPW	Davenport	11.88	7	Pn	P	18 57 23.0	+1.0
CHMT	Chamberlain Mo	12.07	24	ePn	P	18 57 24.8	+0.2
SDCO	Great Sand Dun	12.09	78	Pn	P	18 57 22.6	-2.4
NEW	Newport	12.40	10	ePn	P	18 57 27.8	-1.2
HRY	Holter Researc	12.41	29	ePn	P	18 57 27.2	-2.1
GCMT	Greycliff	12.65	37	ePn	P	18 57 34.0	+1.6
PGC	Sidney	12.73	351	ePn	P	18 57 33.0	-0.4
WALA	Waterton Lakes	13.81	18	ePn	P	18 57 47.8	+0.1
	34nm,0.8s						
GDL2	Guadalupe Moun	13.89	102	Pn	P	18 57 47.6	-1.2
TXAR	Lajitas Array	15.66	111	Pn	P	18 58 13.2	+1.3
	0.4nm,0.3s,baz=284,slow=11,SNR=13						
BBB	Bella Bella	16.97	344	LR	LR	19 05 48.5	
	comp=Z,928nm,18.5s,baz=166,slow=40						
DGMT	Dagmar	17.21	39	ePn	P	18 58 32.6	+1.1
	73nm,1.4s						
WMOK	Wichita Mounta	17.73	88	ePn	P	18 58 37.0	-1.1
	5.0nm,0.6s						
EDM	Edmonton	17.83	14	ePn	P	18 58 39.5	+0.1
JCT	Junction City	18.15	102	ePn	P	18 58 42.4	-1.1
	20nm,0.9s						
KSU1	Kansas State U	19.12	74	eP	P	18 58 53.3	-1.9
NATX	Nacogdoches	21.82	94	eP	P	18 59 22.7	-1.2
ULM	Lac du Bonnet	22.70	44	P	P	18 59 32.5	+0.1
	18nm,0.6s,mb4.7,baz=232,slow=9.0,SNR=17						
ULM				LR	LR	19 07 40.5	
	comp=Z,501nm,20.8s,MS3.9,baz=51,slow=35						
ULM	Lac du Bonnet	22.70	44	eP	P	18 59 31.6	-0.8
	22nm,0.6s,mb4.8						
DLBC	Dease Lake	23.22	347	P	P	18 59 40.5	+3.0
	21nm,1.1s,mb4.5,baz=180,slow=9.5,SNR=12						
DLBC				LR	LR	19 10 09.1	
	comp=Z,1μm,18.9s,MS4.4,baz=24,slow=40						
DLBC	Dease Lake	23.22	347	eP	P	18 59 39.6	+2.2
CCM	Cathedral Cave	23.35	76	eP	P	18 59 37.9	-1.0
	22nm,1.3s,mb4.4						
OXF	Oxford	25.34	84	eP	P	18 59 57.2	-1.0
YKA	Yellowknife Ar	26.67	6	P	P	19 00 11.5	+1.3
	1.3nm,0.6s,mb3.6,baz=204,slow=7.3,SNR=3.6						
YKA				LR	LR	19 12 38.9	
	comp=Z,1μm,19.0s,MS4.4,baz=205,slow=41						
YKA	Yellowknife Ar	26.67	6	P	P	19 00 11.5	+1.3
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA				MLR	MLR		
	comp=Z,1μm,19.0s						
YKA	Yellowknife Ar	26.67	6	P	P	19 00 11.5	+1.3
YKA				LR	LR	19 12 38.9	
SWET	Sewanee	27.99	82	eP	P	19 00 22.5	0.0
CPCT	Cooper Cave	29.07	81	P	P	19 00 33.7	+1.5
DAWY	Dawson	30.26	344	eP	P	19 00 42.5	-0.1
PWV	Princeton	31.46	76	eP	P	19 00 53.8	+0.3
FWV	Forest Hill	31.61	75	P	P	19 00 50.9	-3.8
BLA	Blacksburg	31.98	76	P	P	19 00 58.4	+0.4
	comp=Z,12nm,0.6s,mb4.9						
SPU	Mount Spurr	32.07	331	eP	P	19 00 55.6	-2.9
SADO	Sadowa	32.33	62	P	P	19 00 59.5	-1.5
	comp=Z,5.0nm,0.6s,mb4.5,baz=271,slow=8.5,SNR=3.2						
ILAR	Eielson Array	32.77	339	P	P	19 01 04.8	+0.2
	comp=Z,2.7nm,0.6s,mb4.3,baz=157,slow=8.9,SNR=22						
ILAR	Eielson Array	32.77	339	P	P	19 01 04.8	+0.2
ILAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
INK	Inuvik	33.08	351	P	P	19 01 07.6	+0.3
	comp=Z,22nm,1.2s,mb5.0,baz=158,slow=11,SNR=8.5						
INK	Inuvik	33.08	351	P	P	19 01 07.6	+0.3
INK				pmax	pmax		
	comp=Z,22nm,1.2s						
INK	Inuvik	33.08	351	eP	P	19 01 05.3	-2.0
	comp=Z,21nm,1.1s,mb5.0						
COLA	College	33.12	339	eP	P	19 01 09.0	+1.3
COLA				pmax	pmax		
	comp=Z,2.0nm,1.6s,mb3.8						
IMA	Indian Mountai	35.71	337	eP	P	19 01 28.5	-1.4
	comp=Z,58nm,1.1s,mb5.4						
RES	Resolute Bay	40.56	10	eP	P	19 02 10.6	+0.2
	comp=Z,15nm,1.1s,mb4.5						
SCHQ	Schefferville	40.86	45	P	P	19 02 13.8	+0.8
	comp=Z,5.1nm,0.7s,mb4.3,baz=261,slow=11,SNR=4.1						
SCHQ				LR	LR	19 19 08.3	
	comp=Z,384nm,18.7s,MS4.3,baz=297,slow=36						
SCHQ	Schefferville	40.86	45	P	P	19 02 13.8	+0.8
SCHQ				LR	LR	19 19 08.3	
FRB	Frobisher Bay	41.62	32	P	P	19 02 20.0	+1.0
	comp=Z,23nm,0.9s,mb4.8,baz=207,slow=8.5,SNR=3.3						
FRB	Frobisher Bay	41.62	32	P	P	19 02 20.0	+1.0
FRB				pmax	pmax		
	comp=Z,23nm,1.0s						
ROSC	El Rosal	52.52	115	LR	LR	19 28 47.7	
	comp=Z,438nm,19.4s,MS4.5,baz=9.1,slow=39						
SUMG	Summit	53.61	22	eP	P	19 03 51.4	-1.3
	comp=Z,24nm,1.1s,mb5.0						
PET	Petropavlovsk	56.97	315	eP	P	19 04 19.3	+1.9
PET				eS	S	19 12 15.6	+6.0
PET				MLR	MLR		
	comp=Z,101nm,21.0s,MS3.9						
YAK	Yakutsk	67.19	331	eP	P	19 05 24.6	-0.9
YAK				pmax	pmax		
	comp=Z,12nm,1.4s,mb4.7						
YAK				MLR	MLR		
	comp=Z,100nm,19.0s,MS4.0						
YAK	Yakutsk	67.19	331	eP	P	19 05 23.8	-1.8
ARCES	ARCESS Array B	71.75	12	P	P	19 05 54.2	+0.8
	comp=Z,3.6nm,0.8s,mb4.3,slow=6.1,SNR=3.6						
ARCES				LR	LR	19 39 04.5	
	comp=Z,503nm,20.2s,MS4.8,baz=117,slow=37						
ARCES	ARCESS Array B	71.75	12	P	P	19 05 54.2	+0.8
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ARCES				MLR	MLR		
	comp=Z,503nm,20.3s						
ARCES	ARCESS Array B	71.75	12	P	P	19 05 54.2	+0.8
ARCES				LR	LR	19 39 04.5	
LPAZ	La Paz	71.84	127	P	P	19 05 53.9	-0.9
	comp=Z,1.5nm,0.6s,mb4.1,baz=41,slow=1.4,SNR=7.7						
LPAZ	La Paz	71.84	127	P	P	19 05 53.9	-0.9
LPAZ				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NB2	NORSAR Subarra	75.50	22	P	P	19 06 14.6	-0.7
	comp=Z,1.1nm,0.6s,mb4.0,baz=322,slow=5.8						
NB2	NORSAR Subarra	75.50	22	P	P	19 06 14.6	-0.7
	comp=Z,1.1nm,0.6s,mb4.0						
NOA	NORSAR Array B	75.50	22	P	P	19 06 15.9	+0.7
	comp=Z,1.3nm,0.6s,mb4.0,baz=323,slow=5.6,SNR=8.9						
NOA				LR	LR	19 39 55.2	
	comp=Z,226nm,20.9s,MS4.5,baz=305,slow=36						
NOA	NORSAR Array B	75.50	22	P	P	19 06 16.0	+0.7
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA				MLR	MLR		
	comp=Z,226nm,21.0s						
BOD	Bodaibo	75.89	333	eP	P	19 06 07.2	-10
MDJ	Mudanjiang	77.68	317	P	P	19 06 23.5	-4.3
MDJ				AMB	AMB		
	comp=Z,9.0nm,1.8s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,66nm,5.8s						
MDJ				LR	LR		
	comp=N,92nm,38.3s						
MDJ				LR	LR		
	comp=E,56nm,27.2s						
MDJ				LR	LR		
	comp=Z,67nm,20.6s						
KAF	Kangasniemi	78.51	15	ep	P	19 06 30.5	-1.5
	comp=Z,2.8nm,0.6s,mb4.4						
KAF	Kangasniemi	78.51	15	eP	P	19 06 30.5	-1.5
KAF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
ROSF	Rostrenen	79.05	37	eP	P	19 06 36.8	+1.6
FINES	FINESS Array B	79.06	16	P	P	19 06 34.9	-0.1
	comp=Z,2.4nm,0.6s,mb4.3,baz=0.3,slow=4.7,SNR=22						
FINES				LR	LR	19 43 29.7	
	comp=Z,327nm,19.7s,MS4.7,baz=141,slow=37						
FINES	FINESS Array B	79.06	16	P	P	19 06 34.9	-0.1
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
FINES				MLR	MLR		
	comp=Z,327nm,19.7s						
FINES	FINESS Array B	79.06	16	P	P	19 06 34.9	-0.1
FINES				LR	LR	19 43 29.7	
QUIF	Quistinic	79.38	37	eP	P	19 06 37.9	+0.8
GRR	Gorron	80.18	36	eP	P	19 06 42.6	+1.3
CN2	Changchun	80.48	318	eP	P	19 06 39.8	-3.3
CN2				eAP	pP	19 06 50.0	+3.6
CN2				eS	S	19 16 45.3	-2.8
CN2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.0						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,200nm,12.0s,MS4.8						
CN2				LR	LR		
	comp=E,200nm,12.0s,MS4.8						
CN2				LR	LR		
	comp=Z,200nm,15.0s,MS4.6						
BAIF	Baives	81.28	32	eP	P	19 06 48.2	+1.1
MFF	Saint Martin d	81.78	37	eP	P	19 06 51.2	+1.4
EVO	Evora	83.03	47	eP	P	19 06 56.1	-0.3
	comp=Z,7.7nm,0.7s,mb4.5						
EVO				eR			
	comp=Z,194nm,23.0s						
TCF	Toulx Ste Croi	83.14	36	eP	P	19 06 57.8	+1.0
	comp=Z,18nm,1.0s,mb4.8						
SSF	Saint Saulge	83.18	35	eP	P	19 06 58.0	+1.0
LOR	Lormes	83.19	35	eP	P	19 06 58.3	+1.2
LOR				eR			
	comp=Z,506nm,17.8s						
BGF	Bois d'Agland	83.24	36	eP	P	19 06 58.3	+0.9
	comp=Z,17nm,0.9s,mb4.8						
AVF	Avril sur Loir	83.31	35	eP	P	19 06 58.5	+0.8
	comp=Z,14nm,1.0s,mb4.7						
RJF	Les Rejaudoux	83.52	37	eP	P	19 06 59.8	+1.1
RJF				eR			
	comp=Z,491nm,20.0s						
SMF	Signal de Mont	83.64	35	eP	P	19 07 00.2	+0.8
SJPF	Ste Jean	83.69	40	eP	P	19 07 00.2	+0.5
HAU	Haudompre	83.75	33	eP	P	19 07 01.2	+1.3
HAU				eR			
	comp=Z,332nm,19.5s						
CDF	Champ du Feu	83.84	32	eP	P	19 07 01.6	+1.3
CLL	Collm	83.86	27	P	P	19 07 01.2	+0.9
	comp=Z,logA/T=1.0,mb4.9						
CLL				e		19 07 15.0	
CLL				e		19 07 24.0	
CLL	Collm	83.86	27	iP	P	19 07 01.2	+0.9
CLL				pmax	pmax		
	comp=Z,13nm,1.4s,mb4.9						
CLL				MLR	MLR		
	comp=Z,300nm,22.8s,MS4.6						
CLL	Collm	83.86	27	iP	P	19 07 01.2	+0.9
	comp=Z,13nm,1.4s,mb4.9						
CLL				e		19 07 15.0	
CLL				LR	LR		
	comp=Z,300nm,22.8s,MS4.6						
MOX	Moxa	83.87	28	iP	P	19 07 01.4	+1.0
	comp=Z,logA/T=0.9,mb4.8						
MOX				L		19 46 33.0	
MOX	Moxa	83.87	28	eP	P	19 07 01.4	+1.0
MOX				pmax	pmax		
	comp=Z,12nm,1.5s,mb4.8						
MOX				MLR	MLR		
	comp=Z,300nm,18.0s,MS4.7						
MOX	Moxa	83.87	28	eP	P	19 07 01.4	+1.0
	comp=Z,12nm,1.5s,mb4.8						
MOX				LR	LR		
	comp=Z,300nm,18.0s,MS4.7						
CAF	Calviac	84.06	37	eP	P	19 07 02.6	+1.1
	comp=Z,38nm,1.3s,mb5.1						
HINF	Hinteralfeld	84.12	33	eP	P	19 07 02.7	+1.0
ETSF	Etsaut	84.19	40	eP	P	19 07 03.9	+1.7
	comp=Z,19nm,0.9s,mb4.9						
GRA1	Grafenberg Arr	84.47	29	eP	P	19 07 05.5	+2.0
	comp=Z,10.0nm,1.2s,mb4.8						
GRA1				LR	LR		
	comp=Z,400nm,19.5s,MS4.8						
GRF	Grafenberg Arr	84.47	29	eP	P	19 07 05.5	+2.0
GRF				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.8						
GRF				MLR	MLR		
	comp=Z,400nm,19.5s,MS4.8						
BRG	Berggiesshubel	84.56	27	eP	P	19 07 04.5	+0.6
BRG				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.8						
BRG	Berggiesshubel	84.56	27	eP	P	19 07 04.5	+0.6
	comp=Z,8.2nm,0.9s,mb4.9						
EPF	Esparros	84.56	39	eP	P	19 07 05.4	+1.3
ESDC	Sonseca Array	84.60	44	P	P	19 07 04.8	+0.5
	comp=Z,2.0nm,0.6s,mb4.4,baz=313,slow=5.3,SNR=12						
SUW	Suwalki	84.92	21	eP	P	19 07 06.1	+0.5
SUW				MLR	MLR		
	comp=Z,400nm,21.2s,MS4.8						
SUW	Suwalki	84.92	21	eP	P	19 07 06.1	+0.5
SUW				e		19 08 02.1	
MTLF	Montolieu	85.29	38	eP	P	19 07 08.6	+0.9
	comp=Z,3.3nm,0.6s,mb4.3						
VIVF	Saint-Julien-l	85.36	36	eP	P	19 07 09.3	+1.3
LASF	Ste Croix	85.55	37	eP	P	19 07 10.6	+1.6
	comp=Z,9.4nm,0.9s,mb4.7						
ZAK	Zakamensk	85.64	334	eP	P	19 07 00.7	-8.6
LPL	La Plagne	85.82	34	eP	P	19 07 12.3	+2.0
LPG	La Plagne	85.84	34	eP	P	19 07 12.7	+2.3
ORIF	Oris-en-Rattie	85.88	35	eP	P	19 07 12.7	+2.1
	comp=Z,7.7nm,0.9s,mb4.6						
ORIF				eR			
	comp=Z,470nm,19.8s						
CPUP	Villa Florida	86.01	127	LR	LR	19 47 01.6	
	comp=Z,73nm,18.6s,MS4.1,baz=351,slow=37						
GERES	GERESS Array B	86.12	28	P	P	19 07 12.3	+0.6
	comp=Z,0.6nm,0.8s,mb3.9,slow=5.3,SNR=5.5						
GERES	GERESS Array B	86.12	28	P	P	19 07 12.3	+0.6
GERES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MBDF	Montbardon	86.44	35	eP	P	19 07 14.3	+0.9
	comp=Z,14nm,1.1s,mb4.8						
SONM	Songino Array	86.54	330	P	P	19 07 13.6	-0.2
	comp=Z,1.1nm,0.6s,mb4.3,baz=22,slow=4.2,SNR=9.3						
LMR	La Mourre	87.38	36	eP	P	19 07 18.0	0.0
	comp=Z,30nm,1.2s,mb5.1						
ZAL	Zalesovo	87.70	345	P	P	19 07 20.2	+0.9
	comp=Z,1.0nm,0.4s,mb4.4,baz=16,slow=4.0,SNR=4.4						
ZAL				LR	LR	19 49 39.2	
	comp=Z,245nm,20.2s,MS4.6,baz=3.2,slow=38						
ZAL	Zalesovo	87.70	345	eP	P	19 07 20.3	+1.0
AKASG	Malin Array Be	89.53	19	LR	LR	19 49 45.5	
	comp=Z,233nm,19.0s,MS4.6,baz=340,slow=37						
SSE	Sheshan	91.63	311	eP	P	19 07 31.8	-6.4
SSE				S	S	19 18 27.5	-8.3
SSE				AMB	AMB		
	comp=Z,21nm,0.8s,mb5.5						
SSE				AMB	AMB		
	comp=Z,52nm,8.1s						
SSE				LR	LR		
	comp=N,32nm,23.1s,MS4.0						
SSE				LR	LR		
	comp=E,57nm,23.1s,MS4.0						
SSE				LR	LR		
	comp=Z,44nm,23.8s,MS3.8						
SSE	Sheshan	91.63	311	eP	P	19 07 31.7	-6.5
	comp=Z,21nm,0.8s,mb5.5						
SSE				S	S	19 18 27.4	-8.4
SSE				sS		19 18 32.5	
SSE				SS	SS	19 24 54.2	+8.2
SSE				LR	LR		
	comp=Z,40nm,23.8s,MS3.8						
KURK	Kurchatov	91.93	348	eP	P	19 07 38.5	-0.6
NJ2	Nanjing	92.36	313	eP	P	19 07 37.3	-4.3
NJ2				AP	pP	19 07 47.8	+2.9
NJ2				PP	PP	19 11 20.3	-4.7
NJ2				LR	LR		
	comp=N,710nm,24.0s,MS5.3						
NJ2				LR	LR		
	comp=E,1μm,28.0s,MS5.3						
NJ2				LR	LR		
	comp=Z,250nm,25.0s,MS4.6						
MKAR	Makanchi Array	94.98	345	LR	LR	19 57 03.4	
	comp=Z,125nm,20.2s,MS4.4,baz=12,slow=40						
SIM	Simferopol'	96.11	18	P	P	19 08 03.0	+4.5
SIM				pmax	pmax		
	comp=Z,14nm,0.6s,mb5.6						
SIM				MLR	MLR		
	comp=Z,410nm,18.9s,MS4.9						
WMQ	Urumqi	96.43	340	eP	P	19 07 58.0	-2.0
WMQ				AP	pP	19 08 03.0	-0.3
WMQ				AMB	AMB		
	comp=Z,12nm,1.0s,mb5.3						
WMQ				LR	LR		
	comp=E,148nm,22.0s						
WMQ				LR	LR		
	comp=Z,109nm,22.0s,MS4.3						
ANN	Anapa	97.02	16	eP	P	19 07 58.7	-3.9
ANN				pmax	pmax		
	comp=Z,50nm,1.0s						
ANN				MLR	MLR		
	comp=Z,270nm,17.0s,MS4.8						
ANN				MLR	MLR		
	comp=N,360nm,18.0s,MS5.0						
ANN				MLR	MLR		
	comp=E,220nm,18.0s,MS5.0						
LZH	Lanzhou	97.20	325	eP	P	19 07 59.5	-4.1
LZH				PP	PP	19 11 57.8	-4.9
LZH				SKS	SKS	19 18 35.0	-10
LZH				eS	S	19 19 18.5	-5.1
LZH				SS	SS	19 25 58.5	-6.5
LZH				AMB	AMB		
	comp=Z,22nm,1.5s,mb5.4						
LZH				AMB	AMB		
	comp=Z,113nm,6.8s						
LZH				LR	LR		
	comp=N,416nm,15.3s						
LZH				LR	LR		
	comp=Z,727nm,18.4s,MS5.2						
LZH	Lanzhou	97.20	325	eP	P	19 07 59.6	-4.0
	comp=Z,22nm,1.5s,mb5.4						
LZH				pP	pP	19 08 02.8	-4.2
LZH				sP	sP	19 08 04.1	-4.0
LZH				PP	PP	19 11 57.8	-4.9
LZH				SKS	SKS	19 18 35.0	-10
LZH				eS	S	19 19 18.5	-5.1
LZH				SS	SS	19 25 58.6	-6.4
LZH				LR	LR		
	comp=Z,730nm,18.4s,MS5.2						
LIC	Lamto	106.42	69	eP	Pdif	19 08 43.4	-1.9
	comp=Z,76nm,1.5s						
ASAR	Alice Springs	115.74	259	PKP	PKPdf	19 13 14.3	-1.4
	comp=Z,0.5nm,0.8s,baz=53,slow=2.3,SNR=3.8						
SNAA	Sanae	132.48	158	⇓iP	Pdif	19 10 33.8	-4.7
SNAA	Sanae	132.48	158	⇓iP	Pdif	19 10 33.8	-4.7
LSZ	Lusaka	145.19	62	ePKP	PKPdf	19 14 08.5	-2.5
SYO	Syowa Base	145.24	168	⇓PP	PKPdf	19 14 05.7	-3.8
SYO	Syowa Base	145.24	168	⇑P	PKPbc	19 14 11.2	+4.3
MAW	Mawson	148.40	182	eP	PKPdf	19 14 15.1	+0.3
	comp=Z,3.5nm,0.6s						
MAW	Mawson	148.40	182	PKPbc	PKPdf	19 14 15.3	+0.5
	comp=Z,3.9nm,0.7s,baz=258,slow=3.2,SNR=14						
MAW	Mawson	148.40	182	PKIKP	PKPdf	19 14 15.3	+0.5
MAW				pmax	pmax		
	comp=Z,4.0nm,0.7s						

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*BJI **30** 18:58:33.8, 18.10S×178.20W, h582^{km}, mB4.2, mb3.9*

*NEIC **30** 18:58:33.9±3.5, 18.06S×178.19W, h582^{km}±41^{km}, mb4.2/17, Error ellipse: s-maj=20.3km s-min=15.9km az=76.0*

*SYO **30** 18:58:33.6, 18.10S×178.23W, h580^{km}, MB4.2*

*IDC **30** 18:58:43.2±2.0, 17.80S×178.69W, h675^{km}±24^{km}, mb3.5/9, mb1 3.6/9, mb1mx3.5/16, Error ellipse: s-maj=22.5km s-min=13.3km az=170.0*

ISC 30 18:58:39.8±2.0**, 17.9S**±0.1×**178.6W**±0.1**, h656**^{km}±26^{km}**, n44,** $\sigma 1^{s}00$/37**, mb4.1**/21**, 2C-6D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	Charters Tower	33.25	260	eP	P	19 04 28.3	+0.6
	7.0nm,0.8s,mb4.2						
CTA	Charters Tower	33.25	260	P	P	19 04 28.4	+0.7
	7.3nm,0.7s,mb4.3,baz=97,slow=11,SNR=8.6						
CTAO	Charters Tower	33.25	260	eP	P	19 04 27.8	+0.1
	5.5nm,0.6s,mb4.3						
PMG	Port Moresby	34.25	280	P	P	19 04 37.8	+1.8
	24nm,0.8s,mb4.8,baz=68,slow=7.0,SNR=8.2						
PMG				S	S	19 09 18.3	-2.7
	12nm,0.4s,baz=17,slow=4.8,SNR=17						
PMG	Port Moresby	34.25	280	eP	P	19 04 36.0	0.0
	27nm,0.8s,mb4.8						
STKA	Stephens Creek	38.48	241	⇓iP	P	19 05 11.0	+0.6
	2.6nm,0.5s,mb3.9						
STKA	Stephens Creek	38.48	241	P	P	19 05 11.1	+0.8
	5.3nm,0.7s,mb4.1,baz=92,slow=10,SNR=11						

WB2	Warramunga Arr	44.43	260	⇓*i*P	P	19 05 56.8	-0.6
WB2				*e*S	S	19 11 46.4	-1.0
WRAB	Tennant Creek	44.43	260	P	P	19 05 56.0	-1.4
	85nm,0.5s,mb5.3,SNR=14						
WRAB	Tennant Creek	44.43	260	*e*P	P	19 05 56.8	-0.6
	13nm,0.6s,mb4.5						
WRA	Warramunga Arr	44.44	260	P	P	19 05 57.0	-0.5
	5.6nm,0.3s,mb4.3,baz=93,slow=7.5,SNR=289						
WRA				PcP	PcP	19 07 26.0	-0.3
	1.0nm,0.4s,baz=89,slow=4.1,SNR=5.3						
WRA				S	S	19 11 46.4	-1.2
	1.2nm,0.9s,baz=100,slow=13,SNR=6.2						
ASAR	Alice Springs	44.61	254	P	P	19 05 58.8	+0.1
	29nm,0.8s,mb4.7,baz=87,slow=8.6,SNR=366						
ASAR				PcP	PcP	19 07 25.9	-0.9
	2.3nm,0.5s,baz=97,slow=4.4,SNR=7.9						
ASAR				S	S	19 11 50.4	+0.5
	1.7nm,0.8s,baz=91,slow=17,SNR=11						
ASPA	Alice Springs	44.61	254	⇓*i*P	P	19 05 58.7	0.0
ASPA				*e*S	S	19 11 50.9	+1.0
KAKA	Kakadu	47.42	269	⇓*i*P	P	19 06 24.5	+4.5
	15nm,0.4s,mb4.7						
GUMO	Guam	47.68	309	P	P	19 06 22.4	+0.5
	5.9nm,0.4s,mb4.3						
FORT	Forrest	49.84	245	*e*P	P	19 06 36.8	-0.9
	40nm,0.9s,mb4.7						
FITZ	Fitzroy Crossi	52.83	261	⇓*i*P	P	19 06 59.2	0.0
	2.3nm,0.5s,mb3.7						
MBWA	Marble Bar	57.89	256	*e*P	P	19 07 33.5	-0.4
	6.8nm,0.6s,mb4.0						
MUN	Mundaring	59.97	243	*e*P	P	19 07 47.5	0.0
	5.5nm,0.6s,mb3.9						
MAJO	Matsushiro	67.74	323	*e*P	P	19 08 36.1	-0.1
	5.4nm,0.5s,mb4.1						
QSPA	South Pole Qui	72.20	180	*e*P	P	19 09 01.3	-0.3
	2.0nm,0.7s,mb3.7						
CMB	Columbia Colle	77.94	43	P	P	19 09 31.4	-2.5
	2.0nm,0.4s,mb4.0						
MDJ	Mudanjiang	78.02	325	P	P	19 09 35.8	+1.6
MDJ				AMB	AMB		
	comp=Z,8.0nm,1.8s,mb4.0						
MDJ				AMB	AMB		
	comp=Z,50nm,4.5s						
MDJ	Mudanjiang	78.02	325	P	P	19 09 35.8	+1.6
	comp=Z,5.6nm,0.8s,mb4.2						
TPNV	Topopah Spring	80.13	46	P	P	19 09 45.2	-0.2
	comp=Z,1.5nm,0.8s,mb3.5						
MAW	Mawson	83.84	200	P	P	19 10 03.1	-0.1
	comp=Z,0.8nm,0.5s,mb3.5,baz=139,slow=5.6,SNR=4.9						
MAW	Mawson	83.84	200	*e*P	P	19 10 02.8	-0.5
	comp=Z,1.7nm,0.7s,mb3.7						
ENH	Enshi	84.07	304	*e*P	P	19 10 06.4	+1.1
	comp=Z,9.7nm,0.8s,mb4.4						
ILAR	Eielson Array	85.88	13	P	P	19 10 12.0	-1.1
	comp=Z,0.5nm,0.5s,mb3.4,baz=215,slow=4.7,SNR=6.5						
CMAR	Chiang Mai Arr	88.67	290	P	P	19 10 29.2	+2.0
	comp=Z,1.9nm,0.9s,mb3.8,baz=111,slow=2.7,SNR=11						
SYO	Syowa Base	89.16	193	⇓PcP	PcP	19 10 27.8	-1.5
VNA3	Neumayer Olymp	90.81	176	⇑*i*P	P	19 10 37.6	+1.7
VNA3	Neumayer Olymp	90.81	176	⇑*i*P	P	19 10 37.6	+1.7
MKAR	Makanchi Array	108.95	314	PKiKP		19 15 57.5	
	comp=Z,0.6nm,0.5s,baz=153,slow=2.7,SNR=10						
BVAR	Borovoye Array	116.67	321	PKP	PKPdf	19 16 12.1	+0.8
	comp=Z,1.3nm,0.4s,baz=129,slow=2.3,SNR=11						
ARCES	ARCESS Array B	126.22	350	PKP	PKPdf	19 16 29.7	+0.5
	comp=Z,2.6nm,0.7s,SNR=7.7						
FINES	FINESS Array B	133.08	344	PKP	PKPdf	19 16 42.5	-0.1
	comp=Z,1.0nm,0.7s,baz=90,slow=3.8,SNR=3.9						
BRTR	Keskin Array B	144.60	315	PKP	PKPdf	19 17 06.3	+2.7
	comp=Z,2.5nm,0.6s,baz=135,slow=3.5,SNR=14						
ASF	Jabal al Asfar	144.97	301	PKP	PKPdf	19 17 07.5	+3.0
	comp=Z,1.3nm,0.4s,baz=50,slow=3.9,SNR=4.8						
CLL	Collm	145.36	347	*i* PKP1	PKPbc	19 17 07.8	+2.0
CLL				*i*		19 17 12.9	
MBAR	Mbarara	145.78	241	*e*PKPdf	PKPdf	19 17 06.2	-0.3
PRU	Pruhonice	146.24	345	*e*PKPbc	PKPbc	19 17 10.6	+2.6
KHC	Kasperske Hory	147.27	345	*e*PKPbc	PKPdf	19 17 12.5	+4.7
GERES	GERESS Array B	147.50	345	PKPbc	PKPdf	19 17 13.5	+5.3
	comp=Z,3.9nm,0.8s,baz=24,slow=3.2,SNR=27						

JMA ***30*** *19:09:12.0±0.1, 25.24N×124.56E, h106^{km}±3^{km}, M3.2*

IDC ***30*** *19:09:14.8±8.0, 25.61N×124.92E, h146^{km}±97^{km}, mb3.1/3, mb1 3.2/4, mb1mx2.9/23, Error ellipse: s-maj=96.1km s-min=21.5km az=57.0*

ISC 30 19:09:10.5±0.6**, 25.31N**±0.07×**124.58E**±0.06**, h111**^{km}±6^{km}**, n16, σ0^{s}81**/28**, mb3.5**/3**, Northeast of Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTJ	Tarama	0.68	171	P	P	19 09 29.4	+0.5
JTJ				S	S	19 09 42.4	-0.5
JMJ	Miyako jima 2	0.82	127	P	P	19 09 30.8	+0.6
JMJ				S	S	19 09 45.0	0.0
JOGS	Gusukube	0.93	126	P	P	19 09 32.2	+0.8
JOGS				S	S	19 09 47.3	+0.3
JIJ	Ishigaki jima	1.02	203	P	P	19 09 32.3	0.0
JIJ				*e*S	S	19 09 47.3	-1.4
JKRS	Kuro-shima	1.19	206	P	P	19 09 34.4	+0.2
JKRS				S	S	19 09 51.2	-0.8
IRIF	Iriomote-Funau	1.24	219	P	P	19 09 34.8	0.0
IRIF				S	S	19 09 52.3	-0.7
HATJ	Hateruma jima	1.44	210	P	P	19 09 37.3	+0.2
HATJ				*e*S	S	19 09 57.1	+0.1
YOJ	Yonaguni jima	1.66	240	P	P	19 09 40.8	+1.1
YOJ				*e*S	S	19 10 02.6	+0.9
JKE	Kume jima 2	2.23	63	P	P	19 09 48.2	+1.1
JKE				*e*S	S	19 10 15.9	+1.3
JAGN	Aguni-jima	2.71	62	P	P	19 09 52.0	-1.6
JAGN				*e*S	S	19 10 25.7	-0.4
JOW	Kunigami	3.65	65	P	P	19 10 05.8	-0.5
	1.1nm,0.3s,baz=154,slow=7.2,SNR=9.9						
JOW				S	S	19 10 44.9	-3.9
JOW	Kunigami	3.65	65	P	P	19 10 05.8	-0.5
JOW				*e*S	S	19 10 48.1	-0.7
JTK	Tokunoshima	4.62	57	P	P	19 10 18.3	-1.2
MKAR	Makanchi Array	39.74	314	P	P	19 16 33.0	-0.5
	0.5nm,0.5s,mb3.6,baz=90,slow=9.7,SNR=8.6						
WRA	Warramunga Arr	45.97	167	P	P	19 17 24.0	-0.4
	0.2nm,0.4s,mb3.2,baz=348,slow=8.9,SNR=4.7						
ASAR	Alice Springs	49.52	169	P	P	19 17 53.2	+1.3
	0.4nm,0.6s,mb3.5,baz=351,slow=12,SNR=9.6						

STR ***30*** *19:22:43.6±0.2, 44.32N×7.44E, h5^{km}±1^{km}, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG ***30*** *19:22:43.3±0.1, 44.34N×7.47E, h2^{km}, Md2.3/3, Ml2.0/9, Error ellipse: s-maj=2.4km s-min=1.0km az=73.0*

ISC 30 19:22:42.8±0.5**, 44.34N**±0.02×**7.37E**±0.05**, h5**^{km}**, n19, σ0^{s}98**/35**, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TOUF	Mont Tournerai	0.34	195	Pg	Pg	19 22 50.5	+0.9
AUTN	L'Aution	0.34	173	Pg	Pg	19 22 50.5	+0.7
AUTN				Sg	Sg	19 22 54.6	+0.2
SAOF	Saorge	0.38	159	Pg	Pg	19 22 50.8	+0.4
SAOF				Sg	Sg	19 22 55.1	-0.3
SURF	Saint Ours	0.42	290	Pg	Pg	19 22 53.0	+1.7
AURF	Auriere	0.45	184	Pg	Pg	19 22 52.5	+0.6
AURF				Sg	Sg	19 22 58.1	+0.2
MVIF	Mont Vial	0.47	200	Pg	Pg	19 22 53.0	+0.8
MVIF				Sg	Sg	19 22 59.3	+0.8
SBF	Sospel	0.48	174	*e*Pg	Pg	19 22 52.8	+0.4
SBF				*e*Sg	Sg	19 22 58.2	-0.6
	66nm,0.4s						
OG22	Abries	0.57	328	Pg	Pg	19 22 55.2	+0.9
OG22				Sg	Sg	19 23 03.3	+1.4
MBDF	Montbardon	0.58	312	*e*Pg	Pg	19 22 55.5	+1.1
MBDF				*e*Sg	Sg	19 23 03.8	+1.7
	16nm,0.2s						
CALN	Calern	0.68	211	Pg	Pg	19 22 57.2	+0.8
FRF	La Foret Royal	0.94	214	*e*Pg	Pg	19 23 01.4	-0.1
FRF				*e*Sg	Sg	19 23 13.4	-0.6
	7.8nm,0.2s						
LMR	La Mourre	1.18	212	*e*Pg	Pg	19 23 05.8	-0.6
LMR				*e*Sg	Sg	19 23 21.4	-0.8
	16nm,0.3s						
ORIF	Oris-en-Rattie	1.21	299	*e*Pg	Pg	19 23 07.4	+0.4
ORIF				*e*Sg	Sg	19 23 22.9	-0.3
	2.4nm,0.2s						
LPG	La Plagne	1.24	339	*e*Pg	Pg	19 23 06.5	-1.1
LPG				*e*Sg	Sg	19 23 23.4	-0.7
	1.4nm,0.2s						
LPL	La Plagne	1.26	339	*e*Pg	Pg	19 23 07.5	-0.5
LPL				*e*Sg	Sg	19 23 23.8	-1.1
	0.9nm,0.2s						
SMRF	Simiane la Rot	1.34	255	*e*Pg	Pg	19 23 10.1	+0.5
SMRF				*e*Sg	Sg	19 23 27.9	+0.4
	5.3nm,0.4s						
VIVF	Saint-Julien-l	2.00	286	*e*Pn	Pn	19 23 17.5	-0.1
VIVF				*e*Sn	Sn	19 23 41.6	-1.6
	0.6nm,0.2s						
PGF	Pioggiola	2.15	146	*e*Pn	Pn	19 23 17.5	-2.3
PGF				*e*Sn	Sn	19 23 42.0	-5.1
	1.7nm,0.3s						
LASF	Ste Croix	2.54	265	*e*Pn	Pn	19 23 23.8	-1.6
LASF				*e*Sn	Sn	19 23 54.7	-2.4
	1.1nm,0.4s						

RSPR 30 20:14:08.9, 19.23N×64.72W, h123^{km}±16^{km}**, MD3.6**/6**, MD3.6**/6**, 10C, Virgin Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBYP	Canovanas	1.44	229	⇑*e*P	P	20 14 34.5	-1.8
CBYP	Canovanas	1.44	229	*e*S	S	20 14 56.5	-0.5
HUMP	Col San Antoni	1.52	225	⇑*e*P	P	20 14 36.0	-1.2
HUMP	Col San Antoni	1.52	225	*e*S	S	20 14 59.0	+0.3
CPD	Cerro la Pandu	1.64	224	⇑*e*P	P	20 14 38.2	-0.4
CPD	Cerro la Pandu	1.64	224	*e*S	S	20 15 00.7	-0.4
CSB	Colonia Sabana	1.65	236	⇑*e*P	P	20 14 37.4	-1.3
CSB				*e*S	S	20 15 00.5	-0.8
SJG	San Juan	1.75	231	⇑*e*P	P	20 14 39.8	-0.1
SJG	San Juan	1.75	231	*e*S	S	20 15 02.4	-1.0
CELP	Cerrillos	2.11	237	⇑*e*P	P	20 14 43.6	-0.7
CELP				*e*S	S	20 15 09.8	-1.3
AOPR	Arecibo Observ	2.12	246	⇑*e*P	P	20 14 43.5	-0.9
AOPR	Arecibo Observ	2.12	246	*e*S	S	20 15 11.6	+0.3
PORP	Portuguez	2.16	238	⇑*e*P	P	20 14 44.2	-0.8
LRS	Lares	2.22	246	⇑*e*P	P	20 14 45.9	+0.1
LSP	Las Mesas	2.48	245	⇑*e*P	P	20 14 49.2	0.0
LSP	Las Mesas	2.48	245	*e*S	S	20 15 18.9	-0.8

WAR ***30*** *20:36:41.8, 51.56N×16.01E, ML2.7, Mining Induced*

PRU ***30*** *20:36:42.4, 51.51N×16.00E*

NEIC ***30*** *20:36:45.9±2.1, 51.32N×15.70E, h5^{km}, ML2.7(VIE), Error ellipse: s-maj=24.7km s-min=11.0km az=197.0*

ISC 30 20:36:40.1±0.9**, 51.51N**±0.04×**15.99E**±0.04**, n16, σ1^{s}31**/36**, 1C, Poland**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	Ksiaz	0.69	164	*e*PG	Pg	20 36 55.0	+1.1
KSP				*e*SG	Sg	20 37 05.0	+1.9
KSP	Ksiaz	0.69	164	*e*Pg	Pg	20 36 55.4	+1.5
KSP				*e*Sg	Sg	20 37 05.1	+2.0
KSP				*e*		20 37 08.9	
UPC	Upice	1.00	179	*e*PG	Pg	20 37 01.6	+1.5
DPC	Dobruska-Polom	1.18	170	*e*PG	Pg	20 37 04.1	+0.5
DPC				*e*SG	Sg	20 37 19.9	+0.6
	78nm,0.8s						
DPC	Dobruska-Polom	1.18	170	*e*Pg	Pg	20 37 04.1	+0.5
DPC				*e*Sg	Sg	20 37 19.9	+0.6
PVCC	Panska Ves	1.33	223	*e*PG	Pg	20 37 07.2	+0.6
PVCC				*e*SG	Sg	20 37 26.0	+1.7
BRG	Berggiesshubel	1.44	245	*e*Pn	Pn	20 37 08.5	+1.1
BRG				*i* Pg	Pg	20 37 09.1	+0.4
BRG				*i* Sg	Sg	20 37 29.0	+1.1
PRU	Pruhonice	1.78	212	*e*PG	Pg	20 37 14.7	-0.9
PRU				*i* x	x	20 37 17.6	
PRU				*e*SG	Sg	20 37 38.4	-0.8
	11nm,0.4s						
CLL	Collm	1.88	265	*i* PN	Pn	20 37 13.5	-0.3
CLL				*i* PG	Pg	20 37 16.8	-0.8
CLL				*i*		20 37 20.5	
CLL				*e*SG	Sg	20 37 42.0	-0.7
CLL	Collm	1.88	265	*i* Pn	Pn	20 37 13.5	-0.3
CLL				*i* Pg	Pg	20 37 16.8	-0.8
CLL				*e*Sg	Sg	20 37 42.0	-0.7
OKC	Ostrava-Krasne	2.16	140	*e*SG	Sg	20 37 50.5	-1.6
NKC	Novy Kostel	2.58	242	*e*PN	Pn	20 37 24.7	+0.9
NKC				*e*PG	Pg	20 37 30.9	-0.7
NKC				*e*SG	Sg	20 38 05.2	-0.8
OJC	Ojcow	2.74	117	*e*PG	Pg	20 37 34.0	-0.7
OJC				*e*SG	Sg	20 38 10.0	-1.2
OJC	Ojcow	2.74	117	*e*Pg	Pg	20 37 34.2	-0.5
OJC				*e*Sg	Sg	20 38 09.6	-1.6
KHC	Kasperske Hory	2.83	214	*e*PN	Pn	20 37 30.5	+3.0
KHC				*e*PG	Pg	20 37 34.6	-2.1
KHC				*e*SN	Sn	20 38 00.0	-2.8
KHC				*e*SG	Sg	20 38 11.9	-2.6
MOA	Molln	3.83	198	⇑*i*PN	Pn	20 37 43.5	+2.0
MOA				*i* SG	Sg	20 38 46.8	-0.7
	2.7nm,0.4s						

IDC 30 21:06:10.5±52.0**, 17.72S**×**175.44W, mb4.0**/3**, mb1 4.2**/3**, mb1mx3.8**/13**, 1C, Error ellipse: s-maj=978.0km s-min=166.9km az=80.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	Stephens Creek	41.20	242	P	P	21 13 58.0	-0.7
	1.0nm,0.6s,baz=63,slow=8.3,SNR=4.9						
WB2	Warramunga Arr	47.43	259	*e*P	P	21 14 46.6	-2.5
WRA	Warramunga Arr	47.45	259	P	P	21 14 47.0	-2.2
	1.3nm,0.7s,baz=97,slow=8.0,SNR=30						
ASAR	Alice Springs	47.56	254	P	P	21 14 47.8	-2.3
	2.3nm,0.7s,baz=88,slow=8.4,SNR=24						
VNA3	Neumayer Olymp	90.72	175		P	21 19 19.5	+3.4
VNA2	Neumayer--Watz	91.20	176	⇑*i*	P	21 19 21.2	+2.9
VNA1	Neumayer--Stat	91.41	176		P	21 19 15.4	-3.8

BEO ***30*** *21:31:52.4±0.2, 43.88N×19.68E, h16^{km}*

PDG ***30*** *21:31:55.0±0.2, 43.78N×19.63E, h8^{km}*

NEIC ***30*** *21:31:55.0, 43.78N×19.63E, h8^{km}, MD2.5(PDG), After PDG.*

ISC 30 21:31:54.1±0.6**, 43.93N**±0.04×**19.67E**±0.05**, h16**^{km}**, n16, σ1^{s}34**/32**, 5C-7D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DIVS	Divcibare	0.29	54	⇑*i*Pg	Pb	21 31 59.6	-0.9
DIVS				Sg	Sb	21 32 04.0	-0.8
NVSS	Nova Varos 2	0.42	177	⇓*i*Pg	Pb	21 32 01.8	-0.8
NVSS				Sg	Sb	21 32 07.5	-0.9
PLE	Pljevlja	0.63	199	⇓*i*Pg	Pb	21 32 04.1	-2.1
PLE				*e*Sg	Sb	21 32 11.7	-2.7
GRUS	Gruza	0.76	92	⇓*i*Pg	Pb	21 32 08.0	-0.4
GRUS				Sg	Sb	21 32 19.6	+1.4
UPM	Unac-Piva	0.91	218	⇓*i*Pg	Pb	21 32 09.3	-1.7
UPM				*e*Sg	Sb	21 32 22.1	-0.6
BEO	Belgrade	1.06	32	⇑*i*Pn	Pn	21 32 14.4	+0.2
BEO				Sg	Sb	21 32 30.7	+3.7
IVA	Berane	1.07	171	⇓*i*Pg	Pb	21 32 12.4	-1.3
IVA				*e*Sg	Sb	21 32 26.4	-0.8
SVIS	Svilajnac	1.18	71	⇑*i*Pg	Pb	21 32 15.9	+0.3
SVIS				Sg	Sb	21 32 31.9	+1.4
NKY	Niksic	1.22	204	*e*Pg	Pb	21 32 14.6	-1.6
NKY				*e*Sg	Sb	21 32 31.8	+0.3
BRY	Bratogost	1.31	219	⇑*i*Pg	Pn	21 32 16.2	-1.7
BRY				*e*Sg	Sb	21 32 35.6	+1.3
PVY	Plav	1.35	170	⇓*i*Pg	Pn	21 32 17.2	-1.2
PVY				*e*Sg	Sb	21 32 36.4	+1.0
TTG	Podgorica	1.52	191	⇓*i*Pg	Pn	21 32 19.9	-1.0
TTG				*e*Sg	Sn	21 32 41.8	+1.3
HCY	Herceg Novi	1.71	210	*e*Pg	Pn	21 32 24.5	+1.0
HCY				*e*Sg	Sn	21 32 47.6	+2.5
BUM	Brajici-Budva	1.72	199	⇑*i*Pg	Pn	21 32 24.3	+0.6
BUM				*e*Sg	Sn	21 32 48.0	+2.6
STON	Ston	1.78	234	*i* Pn	Pn	21 32 24.7	+0.2
STON				*i* Sn	Sn	21 32 49.3	+2.4
ULC	Ulcinj	1.99	189	*e*Pn	Pn	21 32 27.9	+0.4
ULC				*e*Sn	Sn	21 32 54.2	+2.1

NIED ***30*** *21:40:00, 33.10N×137.10E, h14^{km}, Mw4.1 Best double couple: M$_0$1.42×10^{15} NP1:φ$_s$230°, δ50°, λ61°. NP2:φ$_s$91°, δ48°, λ119°.*

IDC ***30*** *21:40:10.6±0.7, 33.05N×137.14E, mb4.0/13, mb1 4.1/15, mb1mx4.1/26, ML3.7/2, MS2.9/2, Ms1 3.0/2, ms1mx2.7/26, Error ellipse: s-maj=22.0km s-min=16.9km az=67.0*

NEIC ***30*** *21:40:12.7±3.6, 33.03N×137.21E, h15^{km}±21^{km}, mb4.4/11, Error ellipse: s-maj=10.8km s-min=7.8km az=134.0*

JMA ***30*** *21:40:12.9±0.2, 33.09N×137.11E, h32^{km}, M4.0*

JMA Felt I J1.

BJI ***30*** *21:40:14.0, 32.61N×136.86E, h13^{km}, mB4.6, mb4.1*

ISC 30 21:40:13.0±0.9**, 33.12N**±0.03×**137.12E**±0.03**, h28**^{km}±6^{km}**, n54, σ1^{s}03**/71**, mb4.1**/22**, MS2.9**/1**, 1C-10D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TK01	Tokai 1	0.76	31	P	Pb	21 40 27.2	-0.4
TK01				*e*S	Sb	21 40 38.5	+0.9
TK02	Tokai 2	0.99	33	⇓P	Pn	21 40 31.4	+0.3
TK02				*e*S	Sb	21 40 42.3	-1.7
JWZ	Kozaga	1.25	290	⇓P	Pn	21 40 34.4	-0.4
JWZ				*e*S	Sn	21 40 49.1	-1.7
TK03	Tokai 3	1.26	34	P	Pn	21 40 35.1	+0.1
TK03				*e*S	Sn	21 40 51.3	+0.1
JIE	Ise	1.32	345	⇓P	Pn	21 40 36.5	+0.6
JIE				S	Sn	21 40 53.6	+1.0
TK04	Tokai 4	1.42	26	⇓P	Pn	21 40 37.7	+0.5
TK04				S	Sn	21 40 55.4	+0.3
JWM	Minabe	1.65	297	⇓P	Pn	21 40 40.4	-0.1
JWM				*e*S	Sn	21 40 59.6	-1.3
JWY	Kouya	1.68	311	⇓P	Pn	21 40 41.5	+0.4
JWY				*e*S	Sn	21 41 01.3	-0.6
TSUJ	Tsu 2	1.69	340	⇓P	Pn	21 40 41.7	+0.5
TSUJ				S	Sn	21 41 02.2	+0.1
JHE	Heguri	1.94	323	⇓P	Pn	21 40 45.4	+0.6
JHE				S	Sn	21 41 08.2	-0.3
SHZ3	Shizuoka 3	2.15	25	P	Pn	21 40 47.5	-0.2
SHZ3				*e*S	Sn	21 41 12.3	-1.4
JHJ	Hachijo jima 2	2.24	89	Pn	Pn	21 40 49.5	+0.6
	21nm,0.3s,baz=227,slow=20,SNR=2.9						
JHJ				Sn	Sn	21 41 15.1	-0.8
	55nm,0.3s,baz=65,slow=21,SNR=8.5						
JHJ2	Mitsune	2.26	89	P	Pn	21 40 49.4	0.0
JHJ2				*e*S	Sn	21 41 14.1	-2.5
JAI	Aioi	2.33	288	P	Pn	21 40 50.2	-0.1
JAI				*e*S	Sn	21 41 16.2	-2.1
JIM2	Oshima 3	2.50	50	S	Sn	21 41 21.3	-1.3
JWT	Wachi	2.59	327	⇓P	Pn	21 40 54.6	+0.6
JWT				*e*S	Sn	21 41 24.0	-0.9
JGM	Miyama	2.60	353	⇓P	Pn	21 40 54.8	+0.6
JGM				S	Sn	21 41 25.2	+0.1
JYN	Shimob	2.65	26	P	Pn	21 40 55.1	+0.2
JOD2	Odawara 2	2.69	37	P	Pn	21 40 56.6	+1.1
JOD2				S	Sn	21 41 26.4	-1.1
MAJO	Matsushiro	3.54	14	*e*Pn	Pn	21 41 08.4	+0.9
MAT	Matsushiro	3.54	14	P	Pn	21 41 07.7	+0.2
MAT				S	Sn	21 41 48.4	-0.4
MAT	Matsushiro	3.54	14	*e*P	Pn	21 41 08.0	+0.5
MAT				*e*S	Sn	21 41 48.0	-0.8
JNU	Nakatsue	5.24	272	Pn	Pn	21 41 31.0	-0.6
	4.2nm,0.3s,baz=146,slow=0.8,SNR=3.7						
JNU				Sn	Sn	21 42 28.8	-3.0
KS15	Wonju Array Si	8.70	302	P	P	21 42 18.8	-1.3
ASAJ	Asahikawa	11.79	20	LR	LR	21 48 04.6	
	comp=Z,58nm,21.2s,baz=143,slow=40						
CN2	Changchun	14.04	323	*e*P	P	21 43 40.0	+7.8
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s						
BJT	Baijiatuau	18.16	298	P	P	21 44 27.0	+2.1
	comp=Z,11nm,0.8s						
HIA	Hailar	20.69	326	*e*P	P	21 44 56.4	+3.0
	comp=Z,10nm,1.1s						
HIA				*e*		21 45 06.8	
ENH	Enshi	23.66	271	*e*P	P	21 45 24.4	+1.5
	comp=Z,12nm,0.9s,mb4.3						
SONM	Songino Array	27.39	312	P	P	21 45 59.0	+1.1
	comp=Z,0.5nm,0.9s,mb3.0,baz=129,slow=9.2,SNR=3.6						
CMAR	Chiang Mai Arr	37.12	256	P	P	21 47 23.0	-0.1
	comp=Z,0.5nm,0.4s,mb3.7,baz=49,slow=8.5,SNR=5.2						
CMAR				LR	LR	22 04 50.0	
	comp=Z,16nm,18.0s,MS2.9,baz=241,slow=40						
MKAR	Makanchi Array	43.35	305	P	P	21 48 15.8	+1.6
	comp=Z,0.8nm,0.7s,mb3.5,baz=93,slow=10,SNR=4.0						
ZRNK	Zerenda	51.52	314	*e*P	P	21 49 18.2	0.0
	comp=Z,2.5nm,1.0s,mb4.1						
WRAB	Tennant Creek	52.81	183	P	P	21 49 23.6	-4.7
	comp=Z,11nm,1.3s,mb4.6						
WRA	Warramunga Arr	52.82	183	P	P	21 49 26.7	-1.7
	comp=Z,1.4nm,0.8s,mb3.9,baz=360,slow=7.5,SNR=9.4						
COLA	College	54.25	31	*e*P	P	21 49 47.0	+8.7
	comp=Z,4.9nm,0.7s,mb4.5						
ASAR	Alice Springs	56.55	184	P	P	21 49 54.6	-0.9
	comp=Z,0.7nm,0.8s,mb3.8,baz=10,slow=10,SNR=8.0						
ARU	Arti	57.00	320	P	P	21 49 58.3	0.0
	comp=Z,4.0nm,1.0s,mb4.4						
INK	Inuvik	59.45	26	P	P	21 50 15.1	-0.1
	comp=Z,1.5nm,0.6s,mb4.2,baz=344,slow=12,SNR=4.1						
STKA	Stephens Creek	64.78	176	P	P	21 50 50.5	-0.8
	comp=Z,1.9nm,0.7s,mb4.2,baz=336,slow=6.6,SNR=8.5						
RES	Resolute Bay	67.24	13	P	P	21 51 05.0	-1.4
	comp=Z,17nm,1.4s,mb4.9						
FINES	FINESS Array B	70.61	332	P	P	21 51 27.3	-0.1
	comp=Z,1.1nm,0.9s,mb3.8,baz=90,slow=5.7,SNR=8.0						
FINES	FINESS Array B	70.61	332	P	P	21 51 27.3	-0.1
SUMG	Summit	74.55	359	*e*P	P	21 51 52.5	+2.1
	comp=Z,4.9nm,1.0s,mb4.4						
AKASG	Malin Array Be	75.19	321	P	P	21 51 54.6	+0.2
	comp=Z,3.1nm,0.8s,mb4.3,baz=50,slow=6.5,SNR=9.7						
NOA	NORSAR Array B	76.38	336	P	P	21 52 01.7	+0.7
	comp=Z,1.1nm,0.9s,mb3.8,baz=44,slow=5.4,SNR=4.0						
BRTR	Keskin Array B	78.74	310	P	P	21 52 15.8	+1.4
	comp=Z,2.6nm,1.1s,mb4.1,baz=72,slow=3.9,SNR=5.9						
HLID	Hailey	79.62	45	P	P	21 52 23.9	+4.7
	comp=Z,7.0nm,1.4s,mb4.4						
TPNV	Topopah Spring	82.36	51	P	P	21 52 33.1	-0.5
	comp=Z,2.1nm,0.7s,mb4.2						
CLL	Collm	82.66	328	P	P	21 52 36.1	+1.2
GERES	GERESS Array B	84.10	326	P	P	21 52 43.2	+0.9
	comp=Z,1.0nm,0.7s,mb4.0,baz=37,slow=6.7,SNR=9.9						
TXAR	Lajitas Array	95.32	50	P	P	21 53 37.6	+1.7
	comp=Z,1.1nm,0.7s,mb4.4,baz=297,slow=2.8,SNR=5.1						
VNA2	Neumayer--Watz	137.58	196		PKPdf	21 59 39.0	+0.5
VNA3	Neumayer Olymp	137.87	195	⇑*i*	PKPdf	21 59 35.5	-3.6

IDC ***30*** *22:23:04.5±1.8, 0.61S×135.80E, mb3.8/5, mb1 4.0/6, mb1mx3.8/17, ML3.6/1, Error ellipse: s-maj=77.2km s-min=21.0km az=80.0*

NEIC ***30*** *22:23:12.5±0.9, 0.83S×134.85E, h35^{km}, mb4.0/3, Error ellipse: s-maj=25.3km s-min=13.6km az=69.0*

ISC 30 22:23:24.1±3.6**, 1.0S**±0.1×**135.4E**±0.2**, h181**^{km}±36^{km}**, n14, σ0^{s}86**/14**, mb3.7**/5**, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	Kakadu	11.95	194	*e*P	P	22 26 09.0	-0.7
	15nm,0.8s						
PMG	Port Moresby	14.38	126	P	P	22 26 41.1	+0.6
	16nm,1.0s						
WRAB	Tennant Creek	18.80	183	*e*P	P	22 27 31.8	-0.3
	7.8nm,0.9s						
WB2	Warramunga Arr	18.81	183	*e*P	P	22 27 31.7	-0.6
WRA	Warramunga Arr	18.81	183	P	P	22 27 31.6	-0.7
	0.2nm,0.3s,baz=360,slow=11,SNR=4.8						
FITZ	Fitzroy Crossi	19.46	209	*e*P	P	22 27 41.4	+2.4
	3.5nm,0.6s						
FITZ	Fitzroy Crossi	19.46	209	P	P	22 27 41.3	+2.3
	3.6nm,0.6s,baz=20,slow=13,SNR=11						
ASAR	Alice Springs	22.53	184	P	P	22 28 10.4	+0.9
	3.2nm,0.9s,mb3.8,baz=14,slow=10,SNR=24						
STKA	Stephens Creek	31.23	170	P	P	22 29 28.3	-0.5
	3.4nm,0.9s,mb4.1,baz=331,slow=9.1,SNR=6.9						
STKA	Stephens Creek	31.23	170	P	P	22 29 28.3	-0.5
MKAR	Makanchi Array	66.45	323	P	P	22 33 56.2	+0.1
	0.5nm,0.6s,mb3.5,baz=104,slow=8.8,SNR=3.1						
MKAR	Makanchi Array	66.45	323	P	P	22 33 56.2	+0.1
KURK	Kurchatov	70.45	326	P	P	22 34 25.6	+5.0
	2.3nm,0.8s,mb4.0						
BVAR	Borovoye Array	76.05	326	P	P	22 34 52.7	-0.4
	0.4nm,0.8s,mb3.1,baz=90,slow=8.6,SNR=2.2						
BVAR				pP	PcP	22 35 00.4	-4.5
	1.0nm,0.8s,baz=135,slow=6.1,SNR=4.8						

STR ***30*** *22:27:13.1±0.3, 42.34N×2.14E, h5^{km}±1^{km}, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

MDD ***30*** *22:27:13.9±0.3, 42.34N×2.15E, h1^{km}±7^{km}, mbLg1.5/9,* *Error ellipse: s-maj=3.0km s-min=1.8km az=166.0, PRXIMO AftershockPLICA*

*LDG **30** 22:27:13.8±0.2, 42.36N×2.15E, h4^{km}, Md2.4/3, Ml2.0/8, Error ellipse: s-maj=4.7km s-min=2.4km az=172.0*

ISC 30 22:27:12.2±0.5**, 42.36N**±0.03×**2.16E**±0.03**, h6**^{km}±5^{km}**, n28, σ1**^{s}**30**/50**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VALF	Valcebollere	0.11	294	Pg	Pg	22 27 15.8	+1.1
VALF				Sg	Sg	22 27 17.4	+1.0
VALF	Valcebollere	0.11	294	P	Pg	22 27 15.8	+1.1
VALF				S	Sg	22 27 17.4	+1.1
FILF	Fillols	0.36	55	Pg	Pg	22 27 19.1	-0.4
FILF				Sg	Sg	22 27 23.5	-0.9
FILF	Fillols	0.36	55	P	Pg	22 27 19.2	-0.3
FILF				S	Sg	22 27 23.3	-1.1
CARF	Carcanieres	0.36	354	Pg	Pg	22 27 20.8	+1.3
CARF				Sg	Sg	22 27 26.2	+1.8
CARF	Carcanieres	0.36	354	P	Pg	22 27 20.8	+1.3
CARF				S	Sg	22 27 26.3	+1.9
EJON	La Jonquera	0.55	80	Pg	Pg	22 27 24.4	+1.2
	2.0nm,0.7s,SNR=6.9						
EJON				Lg		22 27 31.8	
	3.5nm,0.3s,SNR=36						
SJAF	Saint Jean de	0.55	76	Pg	Pg	22 27 23.8	+0.5
SJAF	Saint Jean de	0.55	76	P	Pg	22 27 23.9	+0.6
SJAF				S	Sg	22 27 31.6	+0.9
EMIR	Miracle	0.65	227	Pg	Pg	22 27 25.2	+0.1
	2.1nm,0.3s,SNR=11						
EMIR				Lg		22 27 34.5	
	5.2nm,0.2s,SNR=7.6						
LRDF	Laroque-de-Fa	0.65	26	Pg	Pg	22 27 26.5	+1.3
LRDF	Laroque-de-Fa	0.65	26	P	Pg	22 27 26.6	+1.4
LRDF				S	Sg	22 27 36.0	+2.2
SALF	Salau	0.82	300	Pg	Pg	22 27 29.0	+0.3
SALF	Salau	0.82	300	P	Pb	22 27 28.8	+0.3
SALF				S	Sg	22 27 39.8	+0.2
MTLF	Montolieu	0.98	3	ePg	Pg	22 27 32.2	+0.3
MTLF				eSg	Sg	22 27 46.1	+1.0
	2.2nm,0.2s						
MELF	Melles	1.15	297	P	Pb	22 27 35.0	+0.8
MELF				S	Sb	22 27 49.9	+0.6
EPOB	Poblet	1.29	219	Pg	Pg	22 27 36.9	-1.0
	1.8nm,0.3s,SNR=19						
EPOB				Lg		22 27 53.7	
	4.9nm,0.1s,SNR=12						
EPF	Esparros	1.50	297	ePn	Pn	22 27 40.7	+0.9
EPF				ePg	Pg	22 27 42.8	+0.6
EPF				eSg	Sg	22 28 00.1	-2.1
	2.4nm,0.2s						
ESAC	San Caprasio	2.06	253	Pn	Pn	22 27 48.8	+1.0
	1.6nm,0.2s,SNR=7.9						
ESAC				Pg	Pg	22 27 53.6	+0.3
	2.9nm,0.1s,SNR=7.9						
ESAC				Lg		22 28 19.3	
	10nm,0.3s,SNR=7.9						
ETSF	Etsaut	2.08	286	ePg	Pg	22 27 52.4	-1.3
ETSF				eSg	Sg	22 28 19.2	-2.2
	2.4nm,0.3s						
LASF	Ste Croix	2.12	35	ePn	Pn	22 27 49.8	+1.1
LASF				ePg	Pg	22 27 53.2	-1.4
LASF				eSg	Sg	22 28 20.9	-1.9
	2.3nm,0.4s						
CAF	Calviac	2.57	359	ePn	Pn	22 27 55.1	0.0
CAF				ePg	Pg	22 28 01.3	-2.2
CAF				eSg	Sg	22 28 34.4	-3.4
	1.3nm,0.2s						
SJPF	Ste Jean	2.60	288	ePg	Pg	22 28 01.5	-2.7
SJPF				eSg	Sg	22 28 34.5	-4.5
	1.2nm,0.4s						
LFF	La Frestale	2.78	339	eSg	Sg	22 28 39.6	-5.2
VIVF	Saint-Julien-l	3.10	35	ePg	Pg	22 28 10.8	-3.2
VIVF				eSg	Sg	22 28 50.4	-4.9
	0.9nm,0.2s						
LMR	La Mourre	3.35	72	ePn	Pn	22 28 04.8	-1.4
LMR				eSn	Sn	22 28 43.2	-3.5
	0.4nm,0.3s						
FRF	La Foret Royal	3.51	68	ePn	Pn	22 28 07.9	-0.6
ETOR	Torete	3.51	245	Pn	Pn	22 28 09.6	+1.0
	0.7nm,0.2s,SNR=7.9						
ETOR				Lg		22 29 06.5	
	2.4nm,0.5s,SNR=7.9						

WEL 30 22:35:36.3±0.4**, 36.81S×177.32E, h200**^{km}±4^{km}**, ML3.6**/1**, Error ellipse: s-maj=4.9km s-min=3.9km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	Urewera	1.46	186	PN	P	22 36 09.9	-0.2
URZ				SN	S	22 36 35.8	-0.3
PUZ	Puketiti	1.47	150	PN	P	22 36 09.6	-0.6
PUZ				SN	S	22 36 34.7	-1.5
MWZ	Matawai	1.53	174	PN	P	22 36 10.5	-0.3
MWZ				SN	S	22 36 37.0	-0.2
KNZ	Kokohu	2.23	173	PN	P	22 36 17.3	-0.3
KNZ				SN	S	22 36 49.0	-0.6
BKZ	Black Stump Fm	2.44	195	PN	P	22 36 19.6	-0.5
BKZ				SN	S	22 36 52.7	-1.2

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*IDC **30** 22:41:14.7±2.2, 51.40N×174.77E, mb3.9/5, mb1 4.1/5, mb1mx3.6/24, Error ellipse: s-maj=67.0km s-min=17.6km az=41.0*

ISC 30 22:41:16.2±7.2**, 51.4N**±0.3×**174.6E**±0.5**, h25**^{km}±48^{km}**, n6, σ0**^{s}**12**/7**, mb4.0**/5**, Near Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FX1	Attu Island--F	1.75	329	Pn	Pn	22 41 45.5	0.0
	20nm,0.3s,baz=162,slow=5.7,SNR=42						
FX1				Sn	Sn	22 42 07.2	0.0
	43nm,0.3s,baz=340,slow=9.8,SNR=18						
PDAR	Pinedale Array	50.17	68	P	P	22 50 11.4	0.0
	1.0nm,0.9s,mb3.8,baz=315,slow=2.1,SNR=5.9						
ARCES	ARCESS Array B	57.29	348	P	P	22 51 03.5	-0.1
	1.5nm,0.7s,mb4.1,baz=31,slow=7.1,SNR=5.0						
BVAR	Borovoye Array	58.14	316	P	P	22 51 09.6	0.0
	0.9nm,0.5s,mb4.1,baz=63,slow=6.4,SNR=7.5						
FINES	FINESS Array B	64.75	344	P	P	22 51 53.9	-0.1
	1.1nm,0.8s,mb4.0,baz=31,slow=11,SNR=4.6						
NOA	NORSAR Array B	67.14	351	P	P	22 52 09.4	+0.2
	1.0nm,0.8s,mb3.9,baz=12,slow=6.2,SNR=4.3						

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*STR **30** 22:43:15.1±0.0, 43.35N×0.71W, h5^{km}±1^{km}, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LDG **30** 22:43:15.7±0.7, 42.89N×1.45W, h5^{km}, Md2.2/3, Ml1.9/1, Error ellipse: s-maj=11.9km s-min=6.8km az=53.0*

*MDD **30** 22:43:16.2±0.6, 42.88N×1.39W, h6^{km}±13^{km}, mbLg1.0/5, Error ellipse: s-maj=5.5km s-min=3.2km az=34.0, PRXIMO AftershockPLICA*

ISC 30 22:43:14.3±0.9**, 42.85N**±0.06×**1.44W**±0.06**, h10**^{km}±14^{km}**, n8, σ0**^{s}**61**/14**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJPF	Ste Jean	0.31	31	ePg	Pg	22 43 21.2	+0.5
SJPF				eSg	Sg	22 43 23.9	-1.2
	7.5nm,0.2s						
EALK	Alkurruntz	0.38	353	Pg	Pg	22 43 22.9	+1.0
	SNR=7.9						
EALK				Lg		22 43 28.1	
	6.0nm,0.2s,SNR=7.9						
LARF	Larrau	0.39	60	Pg	Pg	22 43 22.5	+0.3
LARF				Sg	Sg	22 43 27.9	+0.4
OSSF	Osses	0.43	18	Pg	Pg	22 43 23.2	+0.2
OSSF				Sg	Sg	22 43 29.2	+0.3
ETSF	Etsaut	0.65	85	ePg	Pg	22 43 26.6	-0.8
ETSF				eSg	Sg	22 43 35.7	-0.5
	3.7nm,0.3s						
EPF	Esparros	1.32	81	ePn	Pn	22 43 38.8	0.0
EPF				ePg	Pg	22 43 41.1	+0.4
EPF				eSg	Sg	22 43 58.3	-0.1
	4.8nm,0.5s						
ESAC	San Caprasio	1.34	147	Pg	Pg	22 43 41.5	+0.5
	SNR=7.9						
ESAC				Lg		22 43 58.1	
	2.1nm,0.2s,SNR=7.9						
ELAN	Lanestosa	1.51	285	Pg	Pg	22 43 43.4	-1.0
	SNR=4.0						
ELAN				Lg		22 44 05.3	
	0.2nm,0.1s,SNR=4.0						

IDC 30 22:50:04.8±6.7**, 17.23S×177.06W, mb3.8**/3**, mb1 4.1**/3**, mb1mx3.8**/13**, Error ellipse: s-maj=312.0km s-min=33.6km az=143.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	46.02	259	P	P	22 58 29.8	-2.4
	0.3nm,0.6s,baz=97,slow=7.2,SNR=3.4						
ASAR	Alice Springs	46.22	254	P	P	22 58 32.0	-1.6
	2.3nm,0.7s,baz=89,slow=8.1,SNR=26						
ILAR	Eielson Array	84.94	12	P	P	23 02 40.1	-2.5
	0.5nm,0.5s,baz=226,slow=6.0,SNR=6.4						
GERES	GERESS Array B	147.27	347	PKPbc	PKPdf	23 09 51.7	+2.1
	0.3nm,0.6s,baz=34,slow=3.5,SNR=4.1						

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*LJU **30** 23:04:07.9, 45.30N×14.50E, h7^{km}, ML1.8*

*NEIC **30** 23:04:09.9, 45.29N×14.37E, h5^{km}, MD2.8(ROM), ML2.5(VIE), After ROM.*

*ROM **30** 23:04:09.8±0.8, 45.29N×14.37E, h5^{km}, MD2.8/4, ML2.0/3, Error ellipse: s-maj=9.5km s-min=3.8km az=90.0*

ISC 30 23:04:07.9±0.5**, 45.29N**±0.02×**14.51E**±0.03**, h7**^{km}**, n29, σ1**^{s}**12**/54**, 3C-2D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KNDS	Knezji Dol	0.25	338	⇑iPg	Pg	23 04 12.9	-0.1
KNDS				i Sg	Sg	23 04 16.9	+0.4
	comp=Z,121nm,0.1s						
CEY	Cerknica	0.45	352	i Pg	Pg	23 04 16.1	-0.8
CEY				i Sg	Sg	23 04 23.4	+0.4
	comp=Z,66nm,0.2s						
VISS	Visnje	0.56	24	i Pg	Pg	23 04 18.6	-0.5
VISS				i Sg	Sg	23 04 27.0	+0.3
	comp=Z,21nm,0.2s						
BOJS	Bojanci	0.56	68	i Pg	Pg	23 04 18.4	-0.8
BOJS				i Sg	Sg	23 04 27.0	+0.3
	comp=Z,10.0nm,0.1s						
TRI	Trieste	0.67	309	ePG	Pg	23 04 21.9	+0.6
TRI				SG	Sg	23 04 31.3	+1.0
	comp=Z,44nm,0.4s						
TRI	Trieste	0.67	309	ePg	Pg	23 04 21.9	+0.6
TRI				eSg	Sg	23 04 31.3	+1.0
JAVS	Javornik	0.68	332	i Pg	Pg	23 04 20.3	-1.2
JAVS				i Sg	Sg	23 04 30.8	+0.2
	comp=Z,21nm,0.2s						
NVLJ	Novalja	0.77	161	i Pg	Pg	23 04 22.5	-0.8
NVLJ				i Sg	Sg	23 04 34.9	+1.2
CRES	Cresnjevec ost	0.85	51	i Pg	Pg	23 04 25.0	+0.1
CRES				i Sg	Sg	23 04 38.0	+1.7
	comp=Z,10.0nm,0.2s						
PDKS	Podkum	0.86	23	i Pg	Pg	23 04 24.8	-0.2
PDKS				i Sg	Sg	23 04 35.7	-0.8
	comp=Z,23nm,0.1s						
LEGS	Legarje	0.87	40	i Pg	Pg	23 04 24.6	-0.6
LEGS				i Sg	Sg	23 04 36.9	+0.1
	comp=Z,23nm,0.2s						
GCIS	Gornji Cirnik	0.96	53	i Pg	Pg	23 04 27.8	+0.7
GCIS				i Sg	Sg	23 04 41.4	+1.6
	comp=Z,8.0nm,0.2s						
GOLS	Golise	1.06	47	i Pg	Pg	23 04 29.2	+0.1
GOLS				i Sg	Sg	23 04 45.0	+1.7
	comp=Z,18nm,0.2s						
DRE	Drenchia	1.07	326	ePg	Pg	23 04 27.3	-2.0
CADS	Cadrg	1.08	330	i Pg	Pg	23 04 27.6	-1.9
CADS				i Sg	Sg	23 04 44.5	+0.6
	comp=Z,10.0nm,0.1s						
OBKA	Obir	1.22	1	⇓iPG	Pg	23 04 31.6	-0.6
OBKA				i SG	Sg	23 04 48.7	+0.3
	comp=Z,15nm,0.3s						
BAD	Bernadia	1.30	317	ePg	Pg	23 04 32.9	-0.9
BAD				eSg	Sg	23 04 51.5	+0.5
GMNA	Gemona	1.33	318	ePN	Pn	23 04 34.3	+1.4
GMNA				SN	Sn	23 04 54.4	+3.4
	comp=Z,34nm,0.3s						
GMNA	Gemona	1.33	318	ePg	Pg	23 04 34.3	-0.1
GMNA				eSg	Sg	23 04 54.4	+2.3
GROS	Grobnik	1.36	30	i Pg	Pg	23 04 34.4	-0.6
GROS				i Sg	Sg	23 04 53.0	-0.1
	comp=Z,10.0nm,0.3s						
LSR	Lussari	1.37	330	⇑ePg	Pg	23 04 34.0	-1.2
LSR				eSg	Sg	23 04 55.1	+1.6
PTCC	Patocco-Chiusa	1.38	324	ePN	Pn	23 04 34.1	+0.5
PTCC				SN	Sn	23 04 54.1	+1.9
	comp=Z,14nm,0.3s						
PTCC	Patocco-Chiusa	1.38	324	ePg	Pg	23 04 34.1	-1.3
PTCC				eSg	Sg	23 04 54.1	+0.3
FVI	Forni Avoltri	1.78	318	ePN	Pn	23 04 41.0	+1.7
	comp=Z,18nm,0.3s						
FVI	Forni Avoltri	1.78	318	ePg	Pg	23 04 41.0	-2.4
KBA	Koelnbreinsper	1.96	336	⇑iPG	Pg	23 04 45.0	-2.1
KBA				i SG	Sg	23 05 12.3	-0.9
	comp=Z,6.2nm,0.3s						
FSSB	Fossombrone	2.03	218	ePN	Pn	23 04 43.8	+0.9
	comp=Z,11nm,0.3s						
FSSB	Fossombrone	2.03	218	ePn	Pn	23 04 43.8	+0.9
ARSA	Arzberg	2.08	19	⇓iPN	Pn	23 04 43.1	-0.6
ARSA				i PG	Pg	23 04 48.0	-1.4
ARSA				i SG	Sg	23 05 14.4	-2.7
	comp=Z,1.6nm,0.3s						

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*TAP **30** 23:05:54.7, 24.43N×121.79E, h14^{km}±1^{km}, ML3.2*

TAP Felt IV J at Nanau, I J at Suao, II J at Nanshan.

*JMA **30** 23:05:54.9±0.3, 24.94N×121.87E, h32^{km}, M2.3*

ISC 30 23:05:54.6±0.5**, 24.40N**±0.02×**121.89E**±0.03**, h4**^{km}±4^{km}**, n35, σ0**^{s}**87**/54**, 4C-4D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ENA	Nanau	0.14	282	⇑iP	Pg	23 05 58.1	+0.7
ENA				S	Sg	23 05 59.7	+0.4
TWC	Suao	0.21	351	⇑iP	Pg	23 05 59.8	+0.9
TWC				S	Sg	23 06 02.5	+0.7
ENTT	Nioudou	0.38	309	⇓iP	Pg	23 06 02.3	+0.1
ENTT				S	Sg	23 06 06.5	-0.7
TWE	Neicheng	0.38	328	⇓iP	Pg	23 06 02.5	+0.3
TWE				S	Sg	23 06 06.7	-0.5
ILA	Ilan	0.39	341	eP	Pg	23 06 01.9	-0.4
ILA				S	Sg	23 06 08.2	+0.7
TWD	Chiawan	0.41	220	⇑iP	Pg	23 06 02.9	-0.1
TWD				S	Sg	23 06 08.3	-0.2
NNS	Nan Shan	0.47	275	⇑iP	Pg	23 06 03.8	-0.3
NNS				S	Sg	23 06 09.1	-1.2
HWA	Hwalien	0.49	211	eP	Pg	23 06 05.0	+0.5
NSK	Sanguang	0.55	300	⇓iP	Pg	23 06 05.4	-0.4
NSK				S	Sg	23 06 11.8	-1.3
TWB1	Santiao Chiao	0.61	9	P	Pg	23 06 07.0	+0.1
TWB1				S	Sg	23 06 14.9	-0.2
TWA	Mucha	0.64	335	P	Pg	23 06 07.4	-0.1
TWA				S	Sg	23 06 15.4	-0.6
NWF	Wu-fen Shan	0.68	352	⇓iP	Pg	23 06 08.6	+0.4
NWF				S	Sg	23 06 16.8	-0.4
ESL	Shilin	0.72	215	eP	Pg	23 06 08.0	-0.9
TAP1	Taipei	0.72	333	eP	Pg	23 06 09.5	+0.6
TWS1	Kuangyinshan	0.82	329	eP	Pb	23 06 11.4	+0.3
TWS1				S	Sg	23 06 23.0	+1.1
NSTT	Nanjuang	0.84	286	eP	Pb	23 06 10.7	-0.7
NSTT				S	Sg	23 06 20.5	-2.1
TWY	Chenhua	0.91	343	eP	Pb	23 06 13.0	+0.4
TWY				S	Sb	23 06 25.3	+0.5
NSY	Sanyi	1.03	271	eP	Pb	23 06 14.7	+0.1
YOJ	Yonaguni jima	1.03	86	P	Pb	23 06 14.9	+0.3
YOJ				eS	Sb	23 06 29.7	+1.5
EHY	Hungye	1.03	210	eP	Pb	23 06 13.9	-0.7
SMLT	Sun Moon Lake	1.04	240	eP	Pb	23 06 14.3	-0.5
TYC	Yuchr	1.06	243	eP	Pb	23 06 14.5	-0.7
TYC				S	Sb	23 06 28.1	-1.1
TCU	Taichung	1.13	257	eP	Pb	23 06 17.8	+1.3
TWF1	Yuli	1.17	207	eP	Pb	23 06 16.2	-0.9
ALS	Alishan	1.33	228	eP	Pb	23 06 19.8	0.0
CHN5	Tsauling	1.36	234	eP	Pb	23 06 21.0	+0.6
CHN5				S	Sb	23 06 40.3	+2.2
ELDTW	Lidau	1.45	214	eP	Pn	23 06 22.1	+0.4
CHN4	Tsaushan	1.58	229	eP	Pn	23 06 25.4	+1.9
STYT	Tauyuan	1.61	220	eP	Pn	23 06 24.1	+0.1
WTP	Ta-pu	1.64	226	eP	Pn	23 06 24.9	+0.6
IRIF	Iriomote-Funau	1.68	92	S	Sn	23 06 45.8	-1.5
TWK	Hsinying	1.71	229	eP	Pn	23 06 26.4	+1.0
CHN1	Nanshi	1.73	226	eP	Pn	23 06 27.3	+1.5
JKRS	Kuro-shima	1.94	94	P	Pn	23 06 28.8	0.0
JKRS				S	Sn	23 06 53.0	-0.9
JIJ	Ishigaki jima	2.06	91	P	Pn	23 06 29.9	-0.5
JIJ				eS	Sn	23 06 54.5	-2.3

IDC 30 23:06:29.8±2.5**, 12.07S×175.91W, mb3.8**/3**, mb1 4.2**/3**, mb1mx3.8**/13**, Error ellipse: s-maj=304.0km s-min=30.2km az=151.0, Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	Alice Springs	48.91	249	P	P	23 15 17.9	-1.9
	3.7nm,1.0s,baz=86,slow=8.1,SNR=22						
NVAR	Mina Array Bea	73.56	44	P	P	23 18 04.4	-2.4
	0.3nm,0.5s,baz=215,slow=8.1,SNR=3.6						
TXAR	Lajitas Array	80.84	57	P	P	23 18 47.0	-0.5
	0.7nm,1.0s,baz=252,slow=4.0,SNR=4.9						

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*ISK **30** 23:18:20.0, 36.87N×27.65E, h9^{km}, MD3.5, ML3.5*

*ATH **30** 23:18:20.9, 36.91N×27.76E, h24^{km}±2^{km}, MD3.4/7*

*NEIC **30** 23:18:22.5, 36.89N×27.57E, h8^{km}, MD3.4(ATH), After ATH.*

ISC 30 23:18:21.0±0.7**, 36.87N**±0.03×**27.67E**±0.04**, h11**^{km}±5^{km}**, n35, σ0**^{s}**88**/42**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDRM	Kayabasi	0.27	317	i P	Pg	23 18 27.0	+0.3
BDRM				i S	Sg	23 18 31.6	+1.1
MLSB	Milas	0.43	11	i PG	Pg	23 18 29.2	-0.7
MLSB				i SG	Sg	23 18 35.9	+0.1
NISR	Nisiros	0.51	240	ePN	Pn	23 18 32.3	-1.5
NISR				eSN	Sn	23 18 41.5	-1.0
NISR	Nisiros	0.51	240	ePb	Pb	23 18 32.0	+0.5
YER	Yerkesik	0.55	61	i PG	Pg	23 18 31.4	-0.9
ARG	Arkhangelos	0.75	151	ePb	Pb	23 18 36.0	+0.5
ARG				eSb	Sb	23 18 49.5	+4.1
DALT	Dalyan (Mudla)	0.78	97	i PG	Pg	23 18 35.8	-0.9
AYDN	Tasoluk	0.81	12	i P	Pb	23 18 36.5	-0.1
AYDN				i S	Sb	23 18 47.1	-0.1
SMG	Samos	1.07	322	ePN	Pn	23 18 41.9	0.0
SMG	Samos	1.07	322	ePn	Pn	23 18 42.0	+0.1
DNZL	Cakiroluk	1.37	53	i P	Pn	23 18 46.4	+0.3
DNZL				i S	Sb	23 19 06.5	+3.0
KARP	Karpathos	1.38	198	ePN	Pn	23 18 47.2	+0.9
KARP	Karpathos	1.38	198	ePn	Pn	23 18 47.0	+0.7
DENT	Denizli	1.40	50	PN	Pn	23 18 47.0	+0.5
IZM	Izmir	1.56	348	PN	Pn	23 18 48.6	-0.3
KDAG	Bornova	1.56	348	i P	Pn	23 18 48.6	-0.4
KDAG				i S	Sb	23 19 12.8	+3.5
KSL	Kastellorizon	1.70	114	ePn	Pn	23 18 56.5	+5.7
APE	Apeiranthos	1.73	277	ePN	Pn	23 18 51.1	-0.2
APE	Apeiranthos	1.73	277	ePN	Pn	23 18 52.9	+1.6
APE	Apeiranthos	1.73	277	ePb	Pb	23 18 54.0	+1.7
ELL	Elmali	1.80	93	ePN	Pn	23 18 52.7	+0.4
THR4	Thira Island,	1.88	258	eP	Pn	23 18 57.9	+4.5
THR3	Thira Island,	1.89	257	eP	Pn	23 18 59.1	+5.6
THR6	Thira Island,	1.90	255	eP	Pn	23 18 59.7	+5.9
THR5	Thira Island,	1.93	257	eP	Pn	23 18 58.3	+4.2
AKS	Akhisar	2.01	3	PN	Pn	23 18 54.6	-0.7
NPS	Neapolis	2.31	227	ePB	Pb	23 19 01.2	-1.2
BCK	Bucak	2.40	75	ePN	Pn	23 19 01.3	+0.4
PRK	Paraskevi	2.62	335	ePN	Pn	23 19 03.5	-0.5
DST	Dursunbey	2.83	15	ePN	Pn	23 19 06.1	-1.0
ALT	Altintas	2.91	41	ePN	Pn	23 19 07.7	-0.5
KCT	Karacabey	3.43	9	ePN	Pn	23 19 15.1	-0.5
HDMB	Hadim	3.86	87	ePN	Pn	23 19 22.4	+0.8
KIZT	Kizilcal	3.89	58	ePN	Pn	23 19 22.0	0.0
YLV	Yalova	3.92	19	ePN	Pn	23 19 22.2	-0.4

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*IDC **30** 23:22:35.7±0.9, 1.42N×125.70E, mb4.2/8, mb1 4.3/9, mb1mx4.1/17, ML4.1/1, MS3.0/4, Ms1 3.1/4, ms1mx2.8/22, Error ellipse: s-maj=111.0km s-min=14.8km az=69.0*

*NEIC **30** 23:22:45.8±3.6, 1.38N×125.78E, h85^{km}±37^{km}, mb4.4/9, Error ellipse: s-maj=33.6km s-min=10.7km az=76.0*

ISC 30 23:22:43.6±5.3**, 1.4N**±0.1×**125.8E**±0.3**, h81**^{km}±52^{km}**, n25, σ0**^{s}**89**/22**, mb4.3**/16**, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TGY	Tagaytay City	13.47	339	LR	LR	23 31 59.3	
	comp=Z,79nm,18.3s,baz=325,slow=42						
KAKA	Kakadu	15.50	155	eP	P	23 26 20.8	+1.9
	16nm,0.6s						
FITZ	Fitzroy Crossi	19.41	180	eP	P	23 27 04.9	-1.1
FITZ	Fitzroy Crossi	19.41	180	P	P	23 27 03.8	-2.2
	0.4nm,0.3s,baz=353,slow=11,SNR=9.5						
WRAB	Tennant Creek	22.84	159	P	P	23 27 40.2	-0.5
	114nm,0.7s,mb5.3,SNR=32						
WRAB	Tennant Creek	22.84	159	eP	P	23 27 40.6	-0.1
	40nm,1.0s,mb4.7						
WRA	Warramunga Arr	22.84	159	P	P	23 27 40.4	-0.4
	6.9nm,0.4s,mb4.4,baz=338,slow=9.8,SNR=48						
WB2	Warramunga Arr	22.85	159	eP	P	23 27 40.5	-0.3
MBWA	Marble Bar	23.22	194	eP	P	23 27 45.0	+0.7
	12nm,1.0s,mb4.2						
ASAR	Alice Springs	26.17	163	P	P	23 28 12.2	-0.2
	3.6nm,0.6s,mb4.0,baz=344,slow=7.7,SNR=36						
ASAR				PcP	PcP	23 31 39.2	+1.1
	0.7nm,0.4s,baz=352,slow=2.3,SNR=7.0						
ASPA	Alice Springs	26.17	163	eP	P	23 28 12.0	-0.4
CTA	Charters Tower	29.34	138	LR	LR	23 41 02.6	
	comp=Z,38nm,18.1s,baz=47,slow=38						
CMAR	Chiang Mai Arr	31.29	304	LR	LR	23 41 01.9	
	comp=Z,13nm,20.5s,baz=289,slow=35						
ENH	Enshi	32.59	333	P	P	23 29 09.2	-0.4
	9.4nm,0.9s,mb4.6						
STKA	Stephens Creek	36.37	157	P	P	23 29 42.0	+0.1
	9.2nm,0.6s,mb4.9,baz=326,slow=8.6,SNR=25						
HIA	Hailar	47.93	355	P	P	23 31 16.0	+0.3
	14nm,1.5s,mb4.6						
SONM	Songino Array	49.18	343	P	P	23 31 25.4	0.0
	0.6nm,0.5s,mb3.8,baz=160,slow=6.7,SNR=7.4						
MKAR	Makanchi Array	58.91	326	P	P	23 32 36.4	-0.2
	1.2nm,0.6s,mb4.1,baz=122,slow=8.0,SNR=12						
MKAR				LR	LR	23 57 56.6	
	comp=Z,15nm,18.1s,baz=189,slow=36						
ZAL	Zalesovo	62.21	334	P	P	23 32 59.0	+0.2
	0.7nm,0.3s,mb4.1,baz=270,slow=5.1,SNR=4.9						
KURK	Kurchatov	63.17	329	eP	P	23 33 04.2	-1.2
	4.7nm,0.9s,mb4.4						
BVAR	Borovoye Array	68.73	328	P	P	23 33 40.4	-0.3
	0.6nm,0.6s,mb3.6,baz=146,slow=5.3,SNR=4.9						
BRVK	Borovoye	68.80	328	eP	P	23 33 41.0	-0.1
	1.9nm,0.8s,mb4.0						
ZRNK	Zerenda	69.44	327	eP	P	23 33 44.5	-0.5
	3.3nm,0.8s,mb4.2						
KMBO	Kilima Mbogo	88.56	269	P	P	23 35 30.9	+1.5
	3.3nm,1.1s,mb4.3						
FINES	FINESS Array B	93.39	332	P	P	23 35 53.8	+3.1
	0.6nm,0.6s,mb4.1,baz=27,slow=4.3,SNR=4.2						

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*STR **30** 23:29:26.4±0.1, 42.85N×1.46W, h5^{km}±1^{km}, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LDG **30** 23:29:26.3±0.5, 42.87N×1.51W, h3^{km}, Md2.3/3, Ml1.9/5, Error ellipse: s-maj=7.2km s-min=5.9km az=56.0*

MDD 30 23:29:27.1±0.4**, 42.85N×1.41W, h5**^{km}±6^{km}**, mbLg1.5**/9**, Error ellipse: s-maj=3.2km s-min=2.6km az=33.0, PRXIMO AftershockPLICA, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJPF	Ste Jean	0.30	27	ePg	Pg	23 29 32.8	-0.4
SJPF				eSg	Sg	23 29 35.5	-1.7
	20nm,0.2s						
LARF	Larrau	0.37	58	Pg	Pg	23 29 34.1	-0.4
LARF				Sg	Sg	23 29 39.9	+0.5
EALK	Alkurruntz	0.38	350	Pg	Pg	23 29 34.1	-0.6
	1.4nm,0.1s,SNR=26						
EALK				Lg		23 29 40.3	
	57nm,0.6s,SNR=6.6						
OSSF	Osses	0.43	15	Pg	Pg	23 29 34.8	-0.8
OSSF				Sg	Sg	23 29 40.9	-0.4
ORDF	Ordiarp	0.51	43	Pg	Pg	23 29 36.6	-0.7
ORDF				Sg	Sg	23 29 43.9	-0.2
ATE	Arette	0.58	65	P	Pg	23 29 37.7	-0.9
ATE				S	Sg	23 29 46.2	-0.1
ETSF	Etsaut	0.63	85	ePg	Pg	23 29 38.2	-1.5
ETSF				eSg	Sg	23 29 47.3	-0.8

	7.3nm,0.4s						
EPF	**Esparros**	**1.30**	**81**	*e*Pn	Pn	23 29 50.4	-1.5
EPF				*e*Pg	Pg	23 29 52.9	-0.2
EPF				*e*Sg	Sg	23 30 10.1	-0.3
	4.2nm,0.2s						
ESAC	**San Caprasio**	**1.32**	**148**	Pg	Pg	23 29 51.1	-2.4
	8.2nm,0.2s,SNR=6.4						
ESAC				Lg		23 30 09.2	
	17nm,0.3s,SNR=4.5						
ELAN	**Lanestosa**	**1.53**	**285**	Pg	Pg	23 29 55.1	-2.5
	0.3nm,0.1s,SNR=7.9						
ELAN				Lg		23 30 16.2	
	3.0nm,0.4s,SNR=7.9						
ETOR	**Torete**	**2.08**	**194**	Pn	Pn	23 30 02.0	-1.0
	0.6nm,0.2s,SNR=7.9						
ETOR				Pg	Pg	23 30 05.6	-3.0
	0.9nm,0.3s,SNR=7.9						
ETOR				Sn	Sn	23 30 27.5	-2.1
	1.2nm,0.5s,SNR=4.0						
ETOR				Lg		23 30 32.8	
	7.7nm,0.9s,SNR=7.9						
EPOB	**Poblet**	**2.38**	**128**	Pg	Pg	23 30 09.1	-5.5
	0.3nm,0.2s,SNR=7.9						
EPOB				Lg		23 30 42.1	
	2.9nm,0.7s,SNR=7.9						
EMOS	**Mosqueruela**	**2.58**	**164**	Pg	Pg	23 30 13.3	-5.3
	0.3nm,0.3s,SNR=4.0						
EMOS				Lg		23 30 48.7	
	2.0nm,0.5s,SNR=7.9						
MTLF	**Montolieu**	**2.71**	**78**	*e*Pn	Pn	23 30 10.5	-1.5
MTLF				*e*Pg	Pg	23 30 18.0	-3.1
MTLF				*e*Sn	Sn	23 30 42.8	-2.7
	0.4nm,0.3s						
RJF	**Les Rejaudoux**	**3.24**	**40**	*e*Pn	Pn	23 30 16.1	-3.5
RJF				*e*Sn	Sn	23 30 53.9	-5.2
	0.6nm,0.2s						
CAF	**Calviac**	**3.26**	**49**	*e*Pn	Pn	23 30 16.8	-3.1
CAF				*e*Sn	Sn	23 30 54.1	-5.6
	0.7nm,0.2s						

CASC 30 23:35:38.0±1.7**, 12.40N**×**87.93W, h34**^{km}±11^{km}**, MD3.5,**
6C-1D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	 ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.87**	**6**⇑	*e*P	P	23 35 54.1	+0.3
CNCH				*e*S	S	23 36 06.9	+1.4
CRIN	**San Cristobal**	**0.91**	**71**	*e*P	P	23 35 55.3	+1.0
CRIN				*e*S	S	23 36 08.1	+1.7
LEON	**Leon**	**1.01**	**89**⇑	*e*P	P	23 35 55.7	-0.1
LEON				*e*S	S	23 36 08.6	-0.5
TEL3	**Telica 3**	**1.07**	**81**⇑	*e*P	P	23 35 56.8	+0.2
VSM	**San Miguel**	**1.07**	**342**	*e*P	P	23 35 57.4	+0.6
VSM				*e*S	S	23 36 12.5	+1.8
BLLM	**Bellamira**	**1.08**	**344**	*e*P	P	23 35 56.7	-0.1
BLLM				*e*S	S	23 36 11.8	+1.1
MIRN	**Miramar**	**1.19**	**88**⇑	*e*P	P	23 35 58.3	0.0
MIRN				*e*S	S	23 36 13.1	-0.5
CNGN	**Cerro Negro**	**1.20**	**85**⇑	*e*P	P	23 35 58.4	-0.2
COPN	**Copaltepe**	**1.32**	**99**⇑	*e*P	P	23 36 00.4	+0.1
COPN				*e*S	S	23 36 17.1	+0.1
MOMJ	**Momotombo**	**1.35**	**90**⇓	*e*P	P	23 36 00.8	0.0
MOMJ				*e*S	S	23 36 18.1	+0.3
CAHU	**Cacacuatique**	**1.39**	**349**	*e*P	P	23 36 01.6	+0.3
CAHU				*e*S	S	23 36 19.9	+1.3
SNVI	**San Vicente**	**1.50**	**324**	*e*P	P	23 36 03.8	+1.0
SNVI				*e*S	S	23 36 21.1	-0.3
APYN	**Apoyeque**	**1.55**	**96**	*e*P	P	23 36 03.3	-0.2
APYN				*e*S	S	23 36 22.4	-0.3
XAVN	**Gruta Xavier**	**1.58**	**99**	*e*P	P	23 36 04.9	+0.8
LCBS	**La Ceiba**	**1.61**	**321**	*e*P	P	23 36 04.8	+0.3
LCBS				*e*S	S	23 36 23.2	-1.0
LFRS	**El Faro**	**1.64**	**318**	*e*P	P	23 36 05.0	+0.1
LFRS				*e*S	S	23 36 24.7	-0.3
MGAN	**Managua**	**1.66**	**99**	*e*P	P	23 36 04.6	-0.6
MGAN				*e*S	S	23 36 25.1	-0.4
TICN	**Ticuantepe**	**1.70**	**102**	*e*P	P	23 36 06.3	+0.6
TICN				*e*S	S	23 36 25.8	-0.7
LFU	**La Fuente**	**1.77**	**319**	*e*P	P	23 36 07.1	+0.5
BOQS	**Boqueron**	**1.87**	**315**	*e*P	P	23 36 08.2	+0.1
BOQS				*e*S	S	23 36 30.8	+0.1

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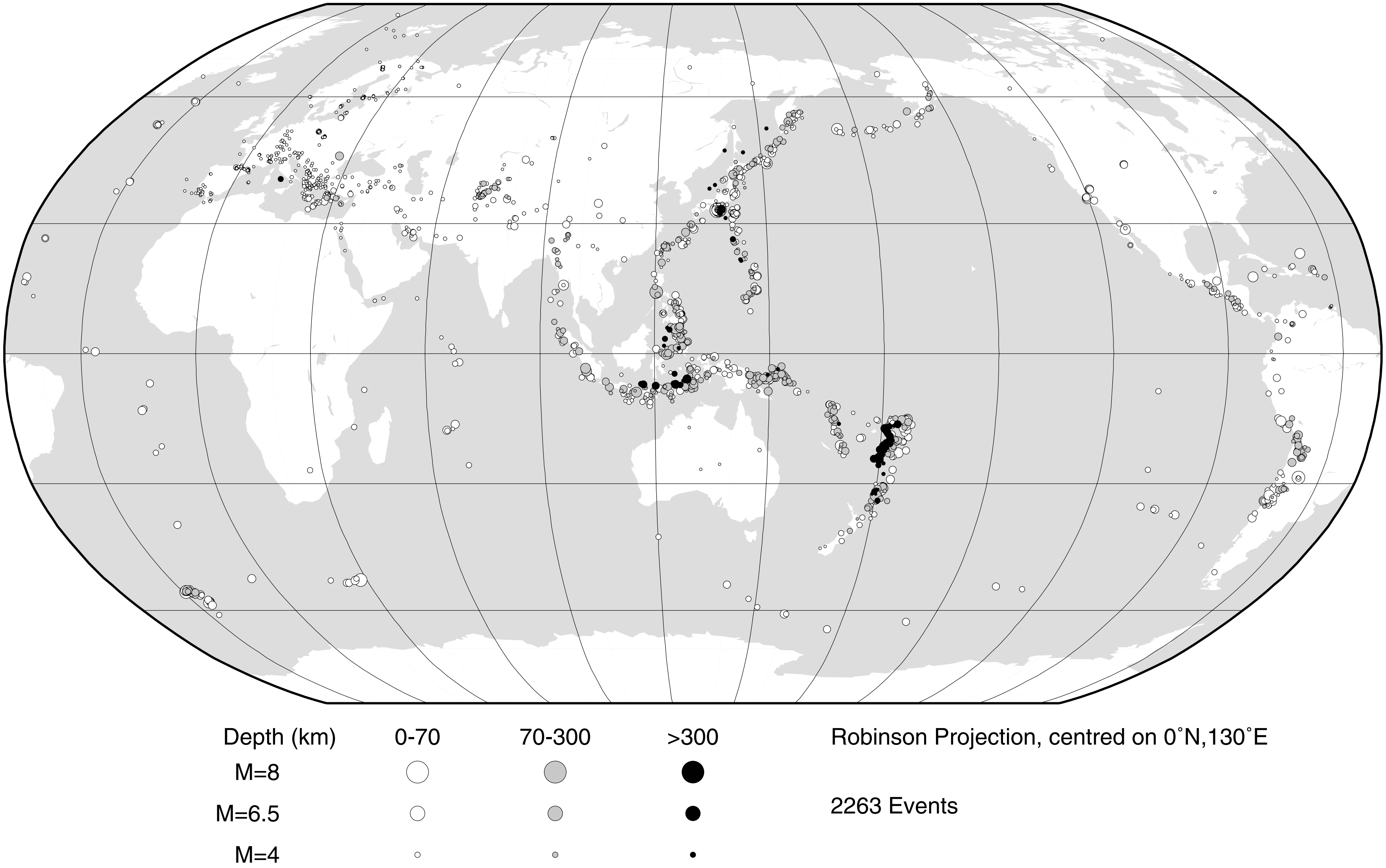
*IDC **30** 23:38:58.4±1.2, 45.69N×147.43E, mb3.8/4, mb1 4.0/4, mb1mx3.5/23, MS3.1/2, Ms1 3.1/2, ms1mx2.7/26, Error ellipse: s-maj=54.8km s-min=26.5km az=110.0*
*JMA **30** 23:39:18.5±0.4, 44.87N×148.31E, h164*^{km}*, M4.0*
ISC 30 23:39:16.7±1.0**, 44.7N**±0.2×**148.1E**±0.2**, h226**^{km}±12^{km}**,**
n15, σ**0**^{s}**84**/21**, mb3.4**/4**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	 ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**2.21**	**232**	P	**P**	**23 39 59.1**	**-0.6**
NEM2				*e*S	**S**	**23 40 30.6**	**-2.3**
JRA	**Rausu**	**2.31**	**251**	P	**P**	**23 40 00.3**	**-0.5**
JNK	**Nakash**	**2.72**	**246**	P	**P**	**23 40 05.3**	**+0.2**
JAK	**Akkeshi**	**3.04**	**236**	P	**P**	**23 40 09.3**	**+0.6**
JAK				*e*S	**S**	**23 40 48.7**	**-0.3**
JTKR	**Abashiri--Toko**	**3.13**	**257**	P	**P**	**23 40 09.9**	**+0.1**
JTKR				*e*S	**S**	**23 40 50.9**	**0.0**
JAR	**Ashorobuto**	**3.47**	**247**	P	**P**	**23 40 15.2**	**+1.5**
JCH	**Churui**	**4.07**	**240**	P	**P**	**23 40 22.0**	**+1.1**
JCH				*e*S	**S**	**23 41 11.0**	**+0.3**
JNBK	**Urakawa-nobuka**	**4.63**	**240**	P	**P**	**23 40 28.5**	**+0.7**
JNBK				*e*S	**S**	**23 41 22.8**	**-0.2**
JKB	**Kayabe**	**5.92**	**244**	P	**P**	**23 40 45.0**	**+0.9**
JKB				*e*S	**S**	**23 41 52.6**	**+0.5**
JOT	**Ohata**	**6.19**	**240**	P	**P**	**23 40 47.8**	**+0.3**
JOT				*e*S	**S**	**23 41 56.8**	**-1.4**
ILAR	**Eielson Array**	**40.27**	**37**	P	**P**	**23 46 32.8**	**0.0**
	0.5nm,0.5s,mb3.2,baz=282,slow=8.3,SNR=6.3						
INK	**Inuvik**	**45.19**	**31**	P	**P**	**23 47 11.9**	**-0.2**
	0.8nm,0.4s,mb3.4,baz=260,slow=6.1,SNR=5.6						
YKA	**Yellowknife Ar**	**54.58**	**34**	LR	LR	00 14 24.6	
	comp=Z,17nm,19.0s,baz=220,slow=39						
FINES	**FINESS Array B**	**64.31**	**333**	P	**P**	**23 49 28.1**	**-1.3**
	1.2nm,0.8s,mb3.6,baz=56,slow=5.0,SNR=7.1						
FINES				LR	LR	00 17 28.4	
	comp=Z,16nm,18.7s,baz=323,slow=36						
ASAR	**Alice Springs**	**69.31**	**194**	P	**P**	**23 50 12.4**	**+11**
	0.5nm,0.5s,mb3.4,baz=11,slow=5.7,SNR=9.3						

PRE 30 23:59:23.0±0.6**, 26.39S**×**29.24E, ML3.6, Explosion,**
South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	 ISC	Time h m s	Res ISC
SLR	**Silverton**	**1.08**	**307**	*e*P	Pb	23 59 42.7	-1.5
SLR				*e*S	Sb	23 59 56.6	-2.2
SLR				*e*		00 00 02.1	
	comp=Z,911nm,0.4s						
NWL	**Newcastle**	**1.47**	**155**	*e*P	Pn	23 59 49.4	-1.4
NWL				*e*S	Sb	00 00 05.5	-4.6
KSR	**Koster**	**2.17**	**283**	*e*P	Pn	23 59 59.9	-0.9
KSR				*e*S	Sn	00 00 27.1	-1.8
KSR				*e*		00 00 29.6	
	comp=Z,730nm,0.2s						

ISC Computed Locations for September 2004



Robinson Projection, centred on 0˚N,130˚E

2263 Events